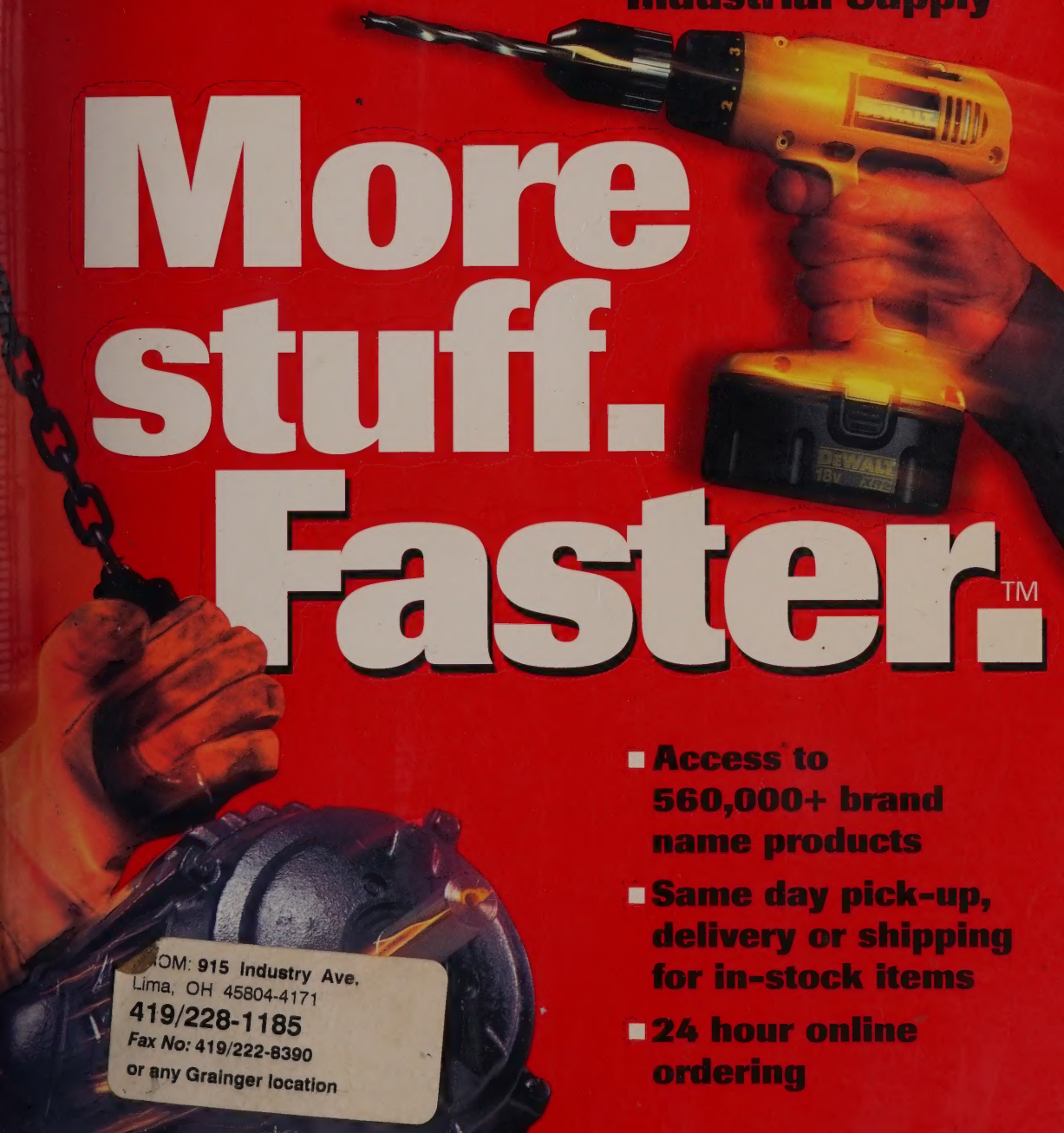
# GRAINGER®

**Industrial Supply**

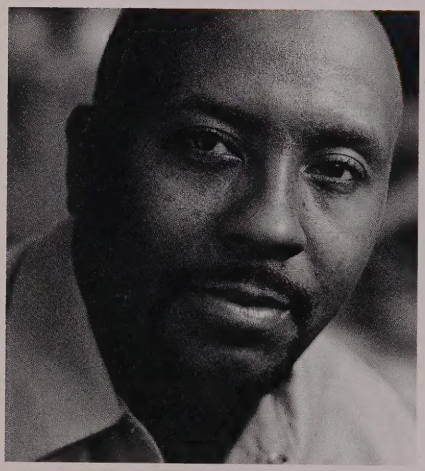


# More stuff. Faster.™

- **Access to 560,000+ brand name products**
- **Same day pick-up, delivery or shipping for in-stock items**
- **24 hour online ordering**


OM: 915 Industry Ave.
Lima, OH 45804-4171
419/228-1185
Fax No: 419/222-8390
or any Grainger location

# Only Grainger.



"Grainger makes it easy."
*– Sam Binion*
*Maintenance Mechanic*

## Access to 560,000+ brand name products.

*This Catalog is just the beginning; you can get a lot mo*
*from Grainger through our extended supply network*
*– more brand name maintenance products and*
*OEM repair parts than anyone else.* *See pages A2 & A3.*

## Same day availabilit at over 350 locations.

*You can find America's leading industrial supplier close*
*to your business and stocked with thousands of products*
*ready for same day pick-up, delivery or shipping.*

*See pages A4 & A5.*

## plus More ways to make running your business easier.

*See pages A6 & A7.*



# GRAINGER Industrial Supply

**OOK FOR HESE SYMBOLS HROUGHOUT HE CATALOG:**

eplacement parts vailable for this item nd manufacturer.

New

ne of more than 9,500 ew items we've added this catalog.

epair, installation, odification, or field agnostics available for ese items.

ese products are nufactured by a nority, woman, or abled-owned siness.

energy efficient ducts, look for the ergy-Right" symbol , then the lightning next to the stock ber.

ed warranty, , and freight s are on the page ite the inside cover.

W.W. Grainger, Inc.
NGER. is a d trademark W. Grainger, Inc.


| CATEGORY | PAGE |
|---|---|
| AC General Purpose Motors & Drives | 3 |
| Heating/Cooling & Fan/Blower Motors | 55 |
| Definite Purpose Motors | 120 |
| DC Motors & Motor Accessories | 184 |
| Power Transmission | 206 |
| Electrical Distribution | 363 |
| Electric Controls | 441 |
| Electrical Supplies | 587 |
| Test Instruments | 737 |
| Communication Equipment | 897 |
| Lighting | 913 |
| Hand Tools/Power Tools | 1190 |
| Shop Machinery/Welding | 1497 |
| Metalworking & Shop Supplies | 1588 |
| Cleaning Supplies & Equipment | 1835 |
| Paint & Painting Equipment | 1962 |
| Storage Equipment | 2005 |
| Business Equipment | 2098 |
| Material Handling | 2119 |
| Safety & Security Equipment | 2329 |
| Outdoor Equipment | 2664 |
| Auto Shop | 2704 |
| Engines/Generators | 2731 |
| Chemical & Lubrication Equipment | 2741 |
| Hydraulics | 2791 |
| Air Compressors | 2849 |
| Pneumatics | 2896 |
| Plumbing | 3043 |
| Pumps | 3119 |
| HVAC Controls | 3293 |
| Heating Equipment | 3375 |
| AC/Refrigeration | 3441 |
| Air Treatment | 3507 |
| Fans | 3541 |
| Ventilators/Blowers | 3613 |
| Terminology & Technical Data | 3674 |
| Stock Number/Page Number Guide | 3712 |

Cross Reference & Selection Guide 3823 | Manufacturers' Replacement Parts 3827 | National Brand Index 3831 | Product Index 3879

# Access to Only Grainger.

# 560,000+ brand name products.

## with

***Thousands Of New Products.***

You'll find great new stuff in every category—plus new brands like Bell & Gossett® pumps and Westward® hand tools. You'll also find new lower prices on thousands of the products you use most.

***Thousands More Beyond The Book.***

Look in this Catalog for our most popular products or go online to **grainger.com** to find more. Your branch can also access many additional products from some of our best known brands.

***Trusted Brands.***

You can take quality for granted when you buy from Grainger. We carry close to 1,000 manufacturers – the names you know and trust.

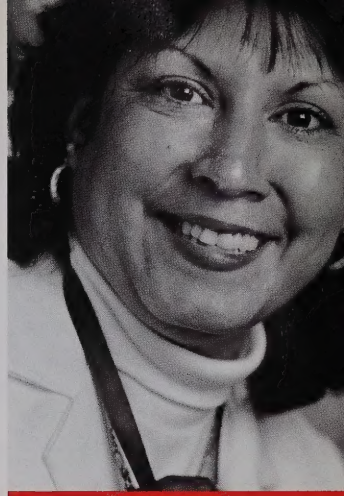
***Genuine OEM Parts.***

Call 1-800-323-0620 day or night for OEM parts for your Grainger products and more. Grainger Parts can directly supply you with parts from over 550 manufacturers. See pages 3827–3830 for details.

***We started wi motors more than 70 years ago, and we haven't stopp adding new product categories since. Today, we're not onl America's leading industrial supplier, we lead the way in lighting.***





**"If we need to replace or add something, I call my Grainger branch. When repair is an option, Grainger Parts is my source. I can count on them for just about anything."**

*– Maria Angela Rodarte*
*Maintenance Buyer*

# Only Grainger.

# Same day pick-up, delivery or shipping for in-stock items.

## plus

***350+ locations.***

Phone or fax ahead with your order—or just walk in. Your local branch has many products on display and stocks thousands of the most used items in your area.




***Person to person service.***

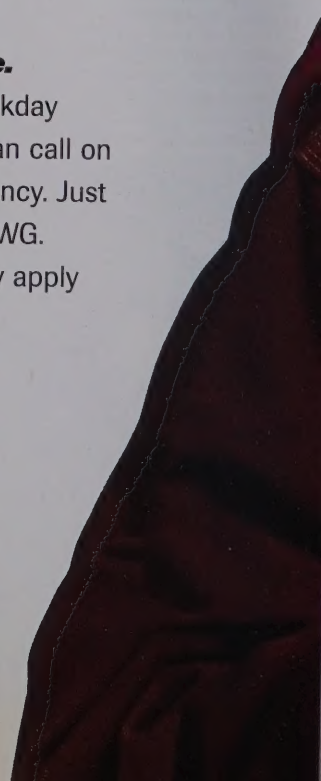
Whether you're talking to a customer service associate at your branch—or a dedicated Grainger sales rep at your site—you can expect help with everything from product selection to product services.

***24 hour online ordering.***

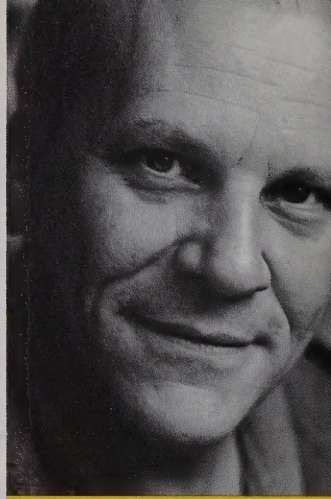
It's fast and easy to order on **grainger.com** and easy to check on availability of products at your branch plus access your own contract or volume prices – right from your desktop – 24 hours a day, 7 days a week.

***Emergency service.***

Even after regular weekday business hours, you can call on Grainger in an emergency. Just phone 1-800-CALL-WWG. A nominal $50 fee may apply to open your branch.



*Did you know we're* ***America's*** *leading safety supplier? Head to toe, floor to ceiling, our complete brand name safety line protects your people and property.*



**"Grainger works for me on any shift, any time. During the day, I use the phone to place my orders. After regular hours, I'm on their Web site."**

*– Mike Doyle*
*Facility Manager*

# Only Grainger.

# More ways to make running your business plus easier.

***$1,000 instant credit.***
We make it easy to do business with Grainger from the start. A new Grainger account and credit line can be opened instantly subject to our policies.




***Easy ordering by phone, fax, in person or online.***
You can place your Grainger order 24 hours a day. Contact your local branch during regular weekday hours or visit us at **grainger.com** anytime.

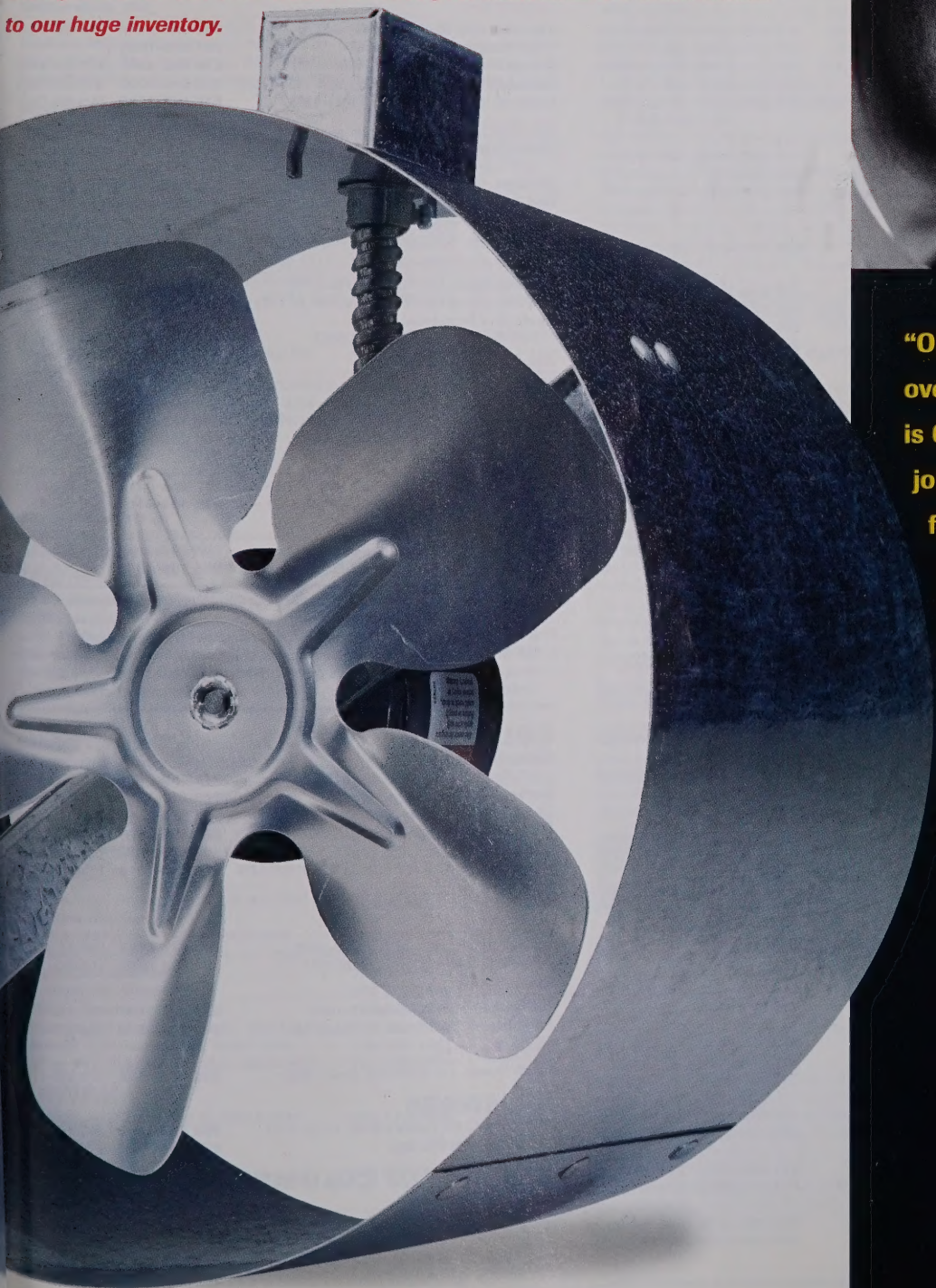
***One year limited warranty.***
Our warranty is one of the best in the business. At our option, we'll repair or replace any defective product for a full year after purchase. See page 4010 for details.

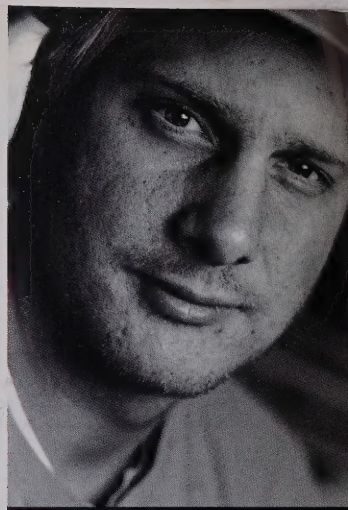
***No minimum orders.***
Your business is always welcome at Grainger whether you need an entire heating system or a pack of AAA batteries. Expect maximum service at your branch and no minimums.

***Hassle-free returns.***
Without a restocking charge, your branch will credit or refund any item or help you select a replacement.



*You can get more from* ***America's leading HVAC distributor.*** *Your Grainger branch can even cross-reference your manufacturer's stock number to our huge inventory.*





**"Our jobs are all over town…and so is Grainger. They're johnny-on-the-spot for troubleshooting. I get 90% of our electrical stuff from them and 100% satisfaction."**

*– Arnie Arntzen*
*Supervisor/Electrician*




## ALABAMA

| | Phone | Fax |
|---|---|---|
| **Birmingham,** 185 W. Oxmoor Rd., 35209-6331 | **205 942-6741** | 205 942-7956 |
| **Birmingham,** 3735 First Ave. N., 35222-1358 | **205 254-9050** | 205 254-9065 |
| **Huntsville,** 1912 Jordan Lane NW., 35816-1542 | **205 830-2150** | 205 830-0280 |
| **Mobile,** 1236 N. Beltline Hwy., 36617-1586 | **334 476-8880** | 334 471-1211 |
| **Montgomery,** 541 George Todd Dr., 36117-2233 | **334 270-0707** | 334 270-0614 |

## ALASKA

| | | |
|---|---|---|
| **Anchorage,** 6240 B St., 99518-1727 | **907 562-5400** | 907 562-2072 |
| ***Outside Southeast Alaska*** | **800 478-4781** | – |
| ***Servicing Southeast Alaska from Seattle*** | **800 245-6316** | – |

## ARIZONA

| | | |
|---|---|---|
| **Tucson,** 3415 S. Dodge, 85713-5434 | **520 745-8200** | 520 748-7716 |
| ***Phoenix Area*** | | |
| **Phoenix,** 3231 W. Virginia Ave., 85009-1568 | **602 269-3115** | 602 272-5765 |
| **Phoenix,** 2002 W. Rose Garden Ln., 85027-2630 | **602 581-0017** | 602 581-0686 |
| **Phoenix,** 3120 E. Washington St. 85034-9143 | **602 273-9143** | 602 267-9107 |
| **Tempe,** 2223 S. Wilson St., 85282-2000 | **602 966-9797** | 602 968-4801 |

## ARKANSAS

| | | |
|---|---|---|
| **Fort Smith,** 3807 Planters Rd., 72908-8461 | **501 646-6091** | 501 646-5926 |
| **Jonesboro,** 5304 E. Highland Dr., 72401-6803 | **870 972-8677** | 870 932-8030 |
| **Little Rock,** 6100 Murray St., 72209-8528 | **501 568-7800** | 501 568-4783 |
| **Springdale,** 1205 S. Old Missouri Rd., 72764-1152 | **501 756-2999** | 501 756-0013 |

## CALIFORNIA*

| | | |
|---|---|---|
| ***Central Valley Area*** | | |
| **Bakersfield,** 3900 Easton Dr., 93309-1020 | **805 327-4651** | 805 322-4153 |
| **Ceres,** 1910 Rockefeller Dr., 95307-9295 | **209 541-1905** | 209 541-1895 |
| **Fresno,** 1335 Tuolumne St., 93706-2002 | **209 233-5707** | 209 485-0642 |
| ***Visalia Number*** | **209 635-2524** | – |
| **Redding,** 5080 Caterpillar Dr., 96003-1412 | **916 246-9112** | 916 243-5276 |
| ***Chico Number*** | **916 899-0103** | – |
| **Stockton,** 2501 Stagecoach Rd., 95215-7909 | **209 466-2036** | 209 466-0126 |
| **West Sacramento,** 3691 Industrial Blvd., 95691-3479 | **916 372-7800** | 916 371-9376 |
| ***Inland Empire Area*** | | |
| **Riverside,** 1151 E. Columbia Ave., 92507-2113 | **909 787-1960** | 909 788-2203 |
| ***San Bernardino Number*** | **909 825-9600** | – |
| **Pomona,** 1500 E. First St., 91766-2331 | **909 623-0746** | 909 623-9608 |
| ***Los Angeles Number*** | **818 339-1291** | – |
| ***Greater Los Angeles (Orange County) Area*** | | |
| **Anaheim,** 310 E. Ball Rd., 92805-4787 | **714 776-8514** | 714 758-8912 |
| **Westminster,** 7546 Garden Grove Blvd., 92683-2332 | **714 893-3144** | 714 895-5230 |
| **Irvine,** 11 Hughes, 92618-1902 | **949 859-3830** | 949 768-5796 |
| **Santa Ana,** 1511 E. Edinger Ave., 92705-4907 | **714 541-6617** | 714 541-6129 |
| ***Los Angeles Area*** | | |
| **Commerce,** 2000 S. Tubeway Ave., 90040-1671 | **213 726-6990** | 213 726-2749 |
| ***Los Angeles Number*** | **213 972-0103** | – |
| **Compton,** 1050 W. Walnut St., 90220-5194 | **310 604-0182** | 310 603-0017 |
| ***Greater Los Angeles (Orange County) Number*** | **714 827-5360** | – |
| **Glendale,** 1100 Air Way 91201-2404 | **818 956-5522** | 818 241-1408 |
| ***Los Angeles Number*** | **213 617-3000** | – |
| **Inglewood/LAX,** 10804 S. La Cienega Blvd., 90304-1113 | **310 327-7370** | 310 327-7753 |
| **Irwindale,** 12780 Schabarum Ave. 91706-6801 | **626 337-7668** | 626 962-1176 |
| **Long Beach,** 724 W. Cowles St. 90813-1431 | **562 495-8495** | 562 491-5667 |
| **Los Angeles/Downtown,** 2211 East Olympic Blvd., 90021-2521 | **213 624-8733** | 213 624-7663 |
| **Northridge,** 8930 Winnetka Ave., 91324-3234 | **818 341-2808** | 818 341-4857 |
| **Santa Fe Springs,** 10712 Bloomfield Ave., 90670-3260 | **562 944-4628** | 562 944-5499 |
| **Van Nuys,** 15330 Oxnard St., 91411-2505 | **818 994-9918** | 818 908-1491 |

## CALIFORNIA (continued)

| | | |
|---|---|---|
| ***Monterey Area*** | | |
| **Salinas,** 1334 Dayton St., 93901-4416 | **408 757-0991** | 408 422-7008 |
| ***Oakland Area*** | | |
| **Concord,** 2288 Pike Ct., 94520-1251 | **925 686-6654** | 925 686-6827 |
| ***Fairfield/Vacaville Number*** | **707 425-1060** | – |
| **Emeryville,** 4250 Hollis St., 94608-3508 | **510 653-7200** | 510 420-0785 |
| **Hayward,** 1617 Industrial Pkwy. West, 94544-7042 | **510 670-1095** | 510 670-1098 |
| **Oakland,** 7801 Capwell Dr., 94621-4685 | **510 638-1100** | 510 632-0836 |
| ***San Diego Area*** | ***Ordering 619 442-9822*** | *619 442-1569* |
| **Chula Vista,** 1670 Brandywine Ave., Suite C, 91911-6021 | **619 482-3060** | 619 482-7022 |
| **El Cajon,** 1080 N. Magnolia, 92020-1214 | **619 442-9822** | 619 442-1569 |
| **San Diego,** 8001 Raytheon Rd., 92111-1608 Telex: 753-143, Cable Code WW Grainger | **619 278-5120** | 619 278-5382 |
| **San Marcos,** 1321 Linda Vista Dr., 92069-3804 | **619 471-0400** | 619 471-0297 |
| ***San Francisco Area*** | | |
| **San Francisco,** 201 11 St.., 94103-3715 | **415 864-4700** | 415 863-8985 |
| **San Francisco,** 1275 Evans Ave., 94124-1717 | **415 285-7200** | 415 826-1012 |
| **South San Francisco,** 1430 San Mateo Ave., 94080-6503 | **650 588-8521** | 650 588-8334 |
| ***San Jose Area*** | | |
| **Mountain View,** 441 Clyde Ave., 94043-2209 | **650 964-5900** | 650 964-6710 |
| **San Carlos,** 401 Quarry Rd., 94070-6218 | **650 591-7200** | 650 591-2794 |
| **San Jose,** 2261 Ringwood Ave., 95131-1744 | **408 432-8200** | 408 432-7315 |
| **San Jose,** 1701 S. 7th St., 95112-6000 | **408 286-5373** | 408 286-0107 |
| ***Santa Rosa Area*** | | |
| **Rohnert Park,** 5760 Commerce Blvd., 94928-1627 | **707 584-9211** | 707 584-8868 |
| **San Rafael,** 3195 Kerner Blvd., 94901-5121 | **415 459-4112** | 415 454-6572 |
| ***Ventura Area*** | | |
| **Camarillo,** 930 Via Alondra, 93012-8047 | **805 388-7076** | 805 388-1798 |
| NEW **San Luis Obispo,** 205 Higuera St., 93401-5051 | **805 786-4880** | 805 786-4888 |

(*) California Proposition 65 Information The State of California requires that certain warnings be given concerning products subject to Proposition 65. For products listed on pages with a ❶ or ❷ the following warnings apply: ❶ Warning: this product contains a product known to the State of California to cause cancer. ❷ Warning: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

## COLORADO

| | | |
|---|---|---|
| **Colorado Springs,** 610 Pope's Bluff Trl., 80907-3512 | **719 598-9500** | 719 598-0059 |
| **Denver,** 95 S. Tejon St., 80223-1251 | **303 733-8777** | 303 744-7646 |
| **Denver,** 4885 Paris St., 80239-2811 | **303 371-2360** | 303 375-0864 |
| **Fort Collins,** 4531 Innovation Dr., 80525-3406 | **970 223-2100** | 970 223-1818 |
| ***Denver Number*** | **303 623-6596** | – |
| **Grand Junction,** 2412 F Road Unit 6, 81505-1228 | **970 256-1016** | 970 256-0878 |

## CONNECTICUT

| | | |
|---|---|---|
| ***Bridgeport Area*** | | |
| **Milford,** 100 Research Dr., 06460-2898 | **203 877-8881** | 203 877-0796 |
| **Stamford,** 339 West Ave., 06902-6313 | **203 323-0005** | 203 323-2869 |
| ***Hartford Area*** | | |
| **Hartford,** 75 Maxim Rd., 06114-1605 | **860 525-1967** | 860 522-0741 |
| **Southington,** 50 Graham Pl., 06489-1511 | **860 276-9992** | 860 276-1156 |
| ***New Haven Area*** | | |
| **North Haven,** 124 Universal, 06473-3630 | **203 777-2087** | 203 865-4259 |

## DELAWARE

| | | |
|---|---|---|
| **New Castle,** 117 Quigley Blvd., 19720-4103 | **302 322-1840** | 302 322-7976 |
| ***Philadelphia Number*** | **215 227-3030** | – |

## DISTRICT OF COLUMBIA

| | | |
|---|---|---|
| ***Baltimore Area*** | | |
| **Baltimore,** 8820 Citation Rd., 21221-3198 | **410 391-9000** | 410 686-3726 |
| **Baltimore,** 7209 Rutherford Rd., 21244-2766 | **410 298-6600** | 410 265-7582 |
| **Baltimore,** 2100 Haines St., 21230-3602 | **410 234-0184** | 410 783-9387 |
| **Timonium,** 2032 Greenspring Dr., 21093-4120 | **410 560-1330** | 410 560-0264 |

## DISTRICT OF COLUMBIA (continued)

| | Phone | Fax |
|---|---|---|
| ***Washington Area*** | | |
| **Falls Church, VA,** 2947 Gallows Rd., 22042-1024 | **703 698-1503** | 703 698-7880 |
| **Gaithersburg, MD,** 16820 Oakmont Ave., 20877-4109 | **301 869-0011** | 301 670-9239 |
| **Lanham, MD,** 4748 Forbes Blvd., 20706-4302 | **301 459-7780** | 301 459-0396 |
| **Silver Spring, MD,** 2600 Pittman Dr., 20910-1817 | **301 587-2211** | 301 585-0972 |
| **Springfield, VA,** 7400 Boston Blvd., 22153-3134 | **703 644-8500** | 703 644-8513 |

## FLORIDA

| | | |
|---|---|---|
| **Daytona Beach,** 843 Bill France Blvd., 32117-5110 | **904 274-5050** | 904 274-2255 |
| **Ft. Lauderdale,** 6781 NW 17th Ave., 33309-1521 | **954 524-4374** | 954 971-3117 |
| ***Pompano Number*** | **954 971-4750** | – |
| **Fort Myers,** 12431 Metro Pkwy., 33912-1316 | **941 768-5999** | 941 768-5359 |
| ***Naples Number*** | **813 649-6655** | – |
| **Jacksonville,** 720 Suemac Rd., 32254-2793 | **904 781-8350** | 904 786-5953 |
| **Jacksonville,** 8450 Phillips Hwy. S., 32256-8205 | **904 636-8896** | 904 733-8701 |
| **Pembroke Park,** 2757 S. Park Rd., 33009-3817 | **954 987-9801** | 954 987-9276 |
| **Pensacola,** 4405 N. Palafox St., 32505-2922 | **850 435-4771** | 850 435-8957 |
| **Tallahassee,** 3924 W. Pensacola St., 32304-2838 | **904 575-4137** | 904 575-1764 |
| **West Melbourne,** 101 S. Wickham Rd., 32904-1131 | **407 951-1985** | 407 951-2003 |
| **West Palm Beach,** 1800 Florida Mango Rd., 33409-6486 | **561 684-6895** | 561 686-1066 |
| ***Miami Area*** | | |
| **Hialeah,** 7200 NW 37th Ave., 33147-5838 | **305 693-0959** | 305 691-0196 |
| **Miami,** 2255 NW 89th Pl., 33172-2428 Telex: 807139, Export-305 591-2512 | **305 594-0587** | 305 592-2751 |
| **Miami,** 10900 SW Quail Roost Dr., 33157-6824 | **305 253-5563** | 305 253-3375 |
| ***Orlando Area*** | | |
| **Altamonte Springs,** 1001 Douglas Ave., 32714-2029 | **407 682-6567** | 407 862-9034 |
| **Orlando,** 4180 LB McLeod Rd., 32811-5695 | **407 843-3220** | 407 422-2233 |
| ***Tampa Area*** | | |
| **Clearwater,** 12579 49th St. N, 33762-4313 | **727 573-1777** | 727 573-1997 |
| **Sarasota,** 6685 Whitfield Industrial Ave., 34243-4012 | **941 753-3904** | 941 755-7969 |
| **Tampa,** 2322 Cypress St., 33609-1755 | **813 253-5316** | 813 251-0235 |
| **Tampa,** 1820 Tampa East Blvd., 33619-3052 | **813 622-7223** | 813 622-7876 |
| ***Brooksville Number*** | **904 754-3099** | – |
| ***Lakeland/Polk County Number*** | **813 686-1380** | – |

## GEORGIA

| | | |
|---|---|---|
| **Athens,** 1205 Commerce Rd., 30607-1011 | **706 546-0595** | 706 546-1277 |
| **Augusta,** 1516 Gordon Hwy., 30906-2006 | **706 560-0808** | 706 560-9002 |
| **Columbus,** 1200 10th Ave., 31901-2621 | **706 324-3026** | 706 324-2306 |
| **Dalton,** 708 S. Spencer St., 30721-3323 | **706 275-0511** | 706 278-0669 |
| **Macon,** 2048 Paul Walsh Dr. 31206-3190 | **912 781-4941** | 912 784-9593 |
| **Savannah,** 1200 W. Bay St., 31401-0001 | **912 236-5668** | 912 236-5078 |
| ***Atlanta Area*** | | |
| **Atlanta,** 3430 Empire Blvd. SW, 30354-2695 | **404 762-9202** | 404 762-6901 |
| ***Atlanta Number*** | **404 762-8151** | – |
| **Atlanta,** 1721 Marietta Blvd., 30318-3646 | **404 355-1984** | 404 355-6110 |
| **Marietta,** 2255 Northwest Pkwy. S.E., 30067-8729 | **770 955-8758** | 770 955-1195 |
| ***Carrollton Number*** | **770 834-9925** | – |
| ***Cartersville Number*** | **770 387-1505** | – |
| ***Rome Number*** | **706 232-1800** | – |
| **Norcross,** 2105 Nancy Hanks Dr., 30071-2959 | **770 263-7150** | 770 449-3620 |
| **Roswell,** 1455 Hembree Rd., 30076-3849 | **770 475-1487** | 770 442-9069 |
| **Tucker,** 3417 Lawrenceville Hwy., 30084-5024 | **770 496-9994** | 770 938-6142 |

## HAWAII

| | | |
|---|---|---|
| **Honolulu,** 4397 Lawehana St., 96818-3138 | **808 423-0028** | 808 423-0031 |

## IDAHO

| | | |
|---|---|---|
| **Boise,** 5576 Irving St., 83706-1288 | **208 377-2801** | 208 375-0869 |

## ILLINOIS

| | | |
|---|---|---|
| **Decatur,** 2550 Federal Dr., 62526-2163 | **217 875-7511** | 217 875-0868 |
| **Peoria,** 1017 SW. Jefferson, 61605-3948 | **309 672-2900** | 309 672-2157 |
| **Rockford,** 2974 Eastrock Dr., 61109-1766 | **815 229-0313** | 815 229-2034 |

## ILLINOIS (continued)

| | Phone | Fax |
|---|---|---|
| ***Chicago Area*** | | |
| **Addison,** 1545 Fullerton, 60101-3017 | **630 953-9933** | 630 953-2975 |
| **Alsip (Worth),** 6001 W. 115th St., 60803-2240 | **708 396-1900** | 708 385-6650 |
| ***Chicago Number*** | **773 928-1912** | – |
| ***Kankakee Number*** | **815 933-8293** | – |
| **Arlington Heights,** 475 E. Algonquin Rd., 60005-4620 | **847 593-1330** | 847 439-0971 |
| **Bellwood,** 20 Davis Dr. 60104-1092 | **708 544-3130** | 708 544-6136 |
| ***Chicago Number*** | **773 378-6834** | – |
| **Burr Ridge,** 7591 Brush Hill Rd., 60521-5871 | **630 323-0255** | 630 323-0188 |
| ***Joliet Number*** | **815 723-2020** | – |
| **Chicago,** 6450 S. Austin Ave., 60638-5352 | **773 586-0244** | 773 586-0126 |
| **Chicago,** 2221 N. Elston, 60614-2905 | **773 486-9933** | 773 486-1365 |
| **Chicago,** 820 N. Orleans 60610-3051 | **312 988-9088** | 312 988-9286 |
| **Chicago,** 737 S. Des Plaines, 60607-3697 | **312 923-9933** | 312 922-3355 |
| **Chicago,** 2738 W. Fulton St., 60612-2090 | **773 638-0536** | 773 638-6620 |
| **Downers Grove,** 2701 Ogden Ave. 60515-1704 | **630 810-9933** | 630 810-0496 |
| ***DeKalb Number*** | **815-434-3434** | – |
| **Franklin Park,** 3240 Manheim Rd., 60131-1532 | **847 451-6955** | 847 451-6944 |
| **Gary, IN** 1701 Cline Ave., 46406-2225 | **219 944-7137** | 219 944-1136 |
| ***Chicago Number*** | **773 734-2581** | – |
| **Morton Grove,** 8045 River Dr., 60053-2651 | **847 965-7600** | 847 965-3479 |
| ***Chicago Number*** | **773 775-8220** | – |
| **Schaumburg,** 1251 Basswood Rd., 60173-4528 | **847 310-9933** | 847 310-9706 |
| **Waukegan,** 3585 W. Sunset Ave., 60087-3217 | **847 263-9933** | 847 263-0280 |
| **Wheeling,** 1200 S. Wolf Rd., 60090-6442 | **847 541-8040** | 847 541-9486 |
| **Wood Dale,** 905 Sivert, 60191-1210 | **630 860-9933** | 630 860-9567 |

## INDIANA

| | | |
|---|---|---|
| **Columbus,** 21 N. National Rd., 47201-7828 | **812 376-0878** | 812 376-7540 |
| **Elkhart,** 58300 State Rd.19, 46517-9413 | **219 296-7595** | 219 294-3592 |
| **Evansville,** 837 N. Congress Ave., 47715-2483 | **812 479-0261** | 812 479-1237 |
| **Ft. Wayne,** 5002 Speedway Dr., 46825-5245 | **219 484-9565** | 219 483-0311 |
| **Gary,** 1701 Cline Ave., 46406-2225 | **219 944-7137** | 219 944-1136 |
| ***Chicago Number*** | **312 734-2581** | – |
| **Jasper,** 1139 S. State Rd. 162, 47546-8435 | **812 482-9571** | 812 482-1190 |
| **Muncie,** 800 W. Willard St., 47302-2282 | **765 741-8100** | 765 289-3205 |
| **South Bend,** 1750 Commerce Dr., 46628-1565 | **219 287-2351** | 219 287-5187 |
| ***Indianapolis Area*** | ***Ordering 317 842-8895*** | *317 842-6124* |
| **Downtown,** 1819 W. 16th St., 46202-2084 | **317 632-8341** | 317 634-0713 |
| **Castleton,** 9210 Corporation Dr., 46256-1017 | **317 842-2304** | 317 842-2314 |

## IOWA

| | | |
|---|---|---|
| **Cedar Rapids,** 715 33rd Ave., SW., 52404-3924 | **319 366-7174** | 319 362-4858 |
| **Davenport,** 961 E. 53rd St., 52807-2613 | **319 391-6015** | 319 386-7500 |
| **Des Moines,** 1811 E. Sheridan Ave., 50316-1803 | **515 266-3460** | 515 266-6936 |
| **Sioux City,** 2500 Highway 75 North, 51105-2441 | **712 255-3548** | 712 255-0847 |

## KANSAS

| | | |
|---|---|---|
| **Lenexa,** 14790 W. 99th St., 66215-1109 | **913 492-8550** | 913 492-7024 |
| **Topeka,** 241 SW. 32nd Terrace, 66611-2295 | **785 267-1860** | 785 266-7356 |
| **Wichita,** 1920 S. West St., 67213-1108 | **316 945-5101** | 316 945-0900 |

## KENTUCKY

| | | |
|---|---|---|
| **Independence,** 231 Mt. Zion Rd., 41051-9401 | **606 371-3984** | 606 371-1029 |
| **Lexington,** 1351 Georgetown Rd., 40511-1012 | **606 252-2302** | 606 253-3063 |
| **Louisville/Downtown,** 333 Preston St., 40202-1503 | **Opening February 1999** | |
| **Louisville,** 1901 Plantside Dr., 40299-1919 | **502 499-0001** | 502 491-4285 |

## LOUISIANA

| | | |
|---|---|---|
| **Baton Rouge,** 8188 Tom Dr., 70815-8046 | **504 923-0215** | 504 923-2168 |
| **Lafayette,** 1508 Eraste Landry Rd., 70506-1989 | **318 237-0507** | 318 234-0415 |
| **New Orleans,** 825 Distributors Row, 70123-3274 | **504 733-9742** | 504 733-9891 |
| **New Orleans,** 601 S. Galvez St., 70119-7517 | **504 822-7600** | 504 822-7300 |
| **Shreveport,** 5126 Hollywood Ave., 71109-7794 | **318 635-9120** | 318 635-7149 |
| **Sulphur,** 299 S. Cities Service Hwy., Unit A, 70663-6403 | **318 439-9926** | 318 533-0020 |
| **West Monroe,** 500 Thomas Rd., 71292-9454 | **318 324-0404** | 318 324-1004 |




## TENNESSEE *(continued)*

| | Phone | Fax |
|---|---|---|
| **Johnson City,** 3105 Hanover Rd., 37604-1430 | **423 282-4044** | 615 282-8744 |
| **Knoxville,** 6500 Baum Dr., 37919-7343 | **423 588-2956** | 615 584-0324 |
| **Memphis,** 1901 Nonconnah Blvd., 38132-2106 | **901 396-9740** | 901 396-1617 |
| **Memphis,** 6225 Shelby Oaks Dr., 38134-7400 | **901 372-7570** | 901 372-6904 |
| **Nashville,** 1938 Elm Tree Dr., 37210-3718 | **615 885-0332** | 615 889-2462 |
| **Nashville,** 1021 Charlotte Ave., 37203-3405 | **615 255-2012** | 615 255-0311 |

## TEXAS

| | | |
|---|---|---|
| **Amarillo,** 5807 Canyon Dr., 79110-3026 | **806 355-4884** | 806 355-5466 |
| **Austin,** 9315 Neils Thompson Dr., 78758-7649 | **512 837-7440** | 512 837-2041 |
| NEW **Austin, South,** 5810 Trade Center Dr., 78744-3426 | **512 837-7440** | 512 837-2041 |
| **Beaumont,** 125 Sawyer St., 77702-2216 | **409 838-3716** | 409 832-8353 |
| **Corpus Christi,** 430 Sunbelt Dr., 78408-2411 | **512 289-9201** | 512 289-7943 |
| **El Paso,** 1400 Lomaland Dr., 79935-4701 | **915 598-1180** | 915 598-1170 |
| **Laredo,** 8201 Killam Industrial Blvd., 78041-1815 | **210 717-0050** | 210 717-2421 |
| **Longview,** 1507 W. Cotton St., 75604-5522 | **903 758-5125** | 903 758-1218 |
| **Lubbock,** 502 E. 40th St., 79404-2816 | **806 747-3594** | 806 747-1974 |
| **Mc Allen,** 921 E. Pecan Blvd., 78501-2419 | **956 682-6321** | 956 682-9121 |
| **Midland,** 4110 S County Rd. 1276, 79706-3042 | **915 561-8655** | 915 561-8779 |
| ***Abilene Number*** | **915 695-8808** | – |
| ***San Angelo Number*** | **915 655-5594** | – |
| **San Antonio,** 5011 Rittiman Rd., 78218-4638 | **210 654-4020** | 210 654-0114 |
| **San Antonio,** 4924 NW. Loop 410, 78229-5312 | **210 521-7861** | 210 521-8602 |
| **Waco,** 6901 Imperial Dr., 76712-6813 | **254 751-1415** | 254 751-1763 |
| **Wichita Falls,** 113 Henrietta St., 76301-7024 | **940 767-1781** | 940 767-2810 |

### *Dallas-Ft. Worth Area*

| | | |
|---|---|---|
| **Dallas,** 1520 Round Table Dr., 75247-3576 | **214 637-2380** | 214 631-4597 |
| **Dallas,** 2500 Pacific Ave., 75226-1411 | **214 748-4600** | 214 748-8751 |
| **Farmers Branch,** 4501 Alpha Rd., 75244-4509 | **972 991-1561** | 972 991-6190 |
| **Ft. Worth,** 5000 Northeast Pkwy., 76106-1894 | **817 625-2131** | 817 625-1372 |
| **Garland,** 2701 W. Kingsley Rd., 75041-2406 | **972 278-8110** | 972 278-5014 |
| **Grand Prairie,** 1401 Post & Paddock Rd., 75050-1274 | **972 988-3321** | 972 988-6013 |
| **Plano,** 2601 E. Plano Pkwy., 75074-7416 | **972 423-2127** | 972 423-6358 |
| **Redbird,** 4242 Platinum Way, 75237-1618 | **214 330-4714** | 214 330-6054 |

### *Houston Area*

| | | |
|---|---|---|
| **Houston,** 4545 Darien St., 77028-5965 | **713 675-2544** | 713 673-4267 |
| **Houston,** 8200 Pinemont Dr., 77040-6520 | **713 462-1551** | 713 462-7676 |
| **Houston,** 7777 Parnell St., 77021-6093 | **713 748-8280** | 713 748-1510 |
| **Houston,** 15100 Grand Point Dr., 77090-6300 | **281 876-1180** | 281 874-0954 |
| **Houston,** 6050 Southwest Hwy., 77057-7514 | **713 783-9012** | 713 784-1848 |
| **Houston,** 3232 Harrisburg, 77003-2436 | **713 225-4106** | 713 229-0417 |
| **Stafford,** 3900 Greenbriar Dr., 77477-3997 | **281 240-4444** | 281 240-2101 |

## UTAH

| | | |
|---|---|---|
| **Ogden,** 2958 S. 1900 W., 84401-3228 | **801 393-1942** | 801 392-1918 |
| NEW **Orem,** 570 E. 1300 South., 84058 | **Opening February 1999** | |
| **Salt Lake City,** 2775 S. 9th, W., 84119-2480 | **801 972-1340** | 801 972-9381 |

## VERMONT

| | | |
|---|---|---|
| **South Burlington,** 140 Shunpike Rd., 05403-9797 | **802 658-4988** | 802 658-2560 |

## VIRGINIA

| | | |
|---|---|---|
| **Falls Church,** 2947 Gallows Rd., 22042-1024 | **703 698-1503** | 703 698-7880 |
| **Newport News,** 809 Middle Ground Blvd., 23606-4209 | **804 873-7600** | 804 873-3505 |
| **Norfolk,** 1401 Sewells Point Rd., 23502-2057 | **804 855-3153** | 804 855-9542 |
| **Richmond,** 2424 Magnolia Ct., 23223-2332 | **804 649-0731** | 804 788-4187 |
| **Roanoke,** 821 5th St., NE., 24016-2125 | **540 982-3543** | 540 342-2622 |
| ***Lynchburg Number*** | **804 846-0315** | – |
| ***Harrisonburg Number*** | **540 434-6326** | – |
| ***Christiansburg Number*** | **540 552-0302** | – |
| **Springfield,** 7400 Boston Blvd., 22153-3134 | **703 644-8500** | 703 644-8513 |

## WASHINGTON

| | | |
|---|---|---|
| **Pasco,** 3306 W. Marie St., 99301-3899 | **509 545-5065** | 509 547-6574 |
| **Spokane,** East 5706 Broadway Ave., 99212-0912 | **509 535-9882** | 509 535-9519 |

## WASHINGTON *(continued)*

| | Phone | Fax |
|---|---|---|
| ***Seattle Area*** | | |
| NEW **Bellevue,** 2221 120th Ave., NE, 98005 | **425 643-7754** | 425 485-4690 |
| **Everett,** 3115 Pacific Ave., 98201 | **425 303-8851** | 425 303-9509 |
| **Fife,** 4606 Pacific Hwy., E., 98424-1898 | **253 922-2268** | 253 922-7827 |
| **Seattle-Tukwila,** 6725 Todd Blvd., 98188-4771 | **425 251-5030** | 425 251-5324 |
| **Seattle Downtown,** 4930 3rd Ave., S., 98134-2308 | **206 767-4500** | 206 767-2524 |

## WEST VIRGINIA

| | | |
|---|---|---|
| **Charleston,** 3000 7th Ave., W., 25312-1731 | **304 744-1383** | 304 744-3159 |
| ***Huntington Number*** | **304 523-4231** | – |

## WISCONSIN

| | | |
|---|---|---|
| **Appleton,** 600 N. Lynndale 54914-3021 | **414 731-9515** | 414 731-1554 |
| **Green Bay,** 751 Morris Ave., 54304-4558 | **414 497-2225** | 414 497-1494 |
| **Madison,** 501 Atlas Ave., 53714-3166 | **608 221-3861** | 608 221-9818 |
| **Racine,** 3711 S. Memorial Dr., 53403-3865 | **414 554-6887** | 414 554-8737 |
| **Wausau,** 4455 Stewart Ave., 54401-3866 | **715 848-2131** | 715 848-3738 |
| ***Milwaukee Area*** | | |
| **Milwaukee,** 5819 N. 117th St., 53225-2207 | **414 353-7400** | 414 353-7459 |
| **Milwaukee,** 202 N. Jackson St., 53202-5903 | **414 223-4677** | 414 278-5838 |
| **Oak Creek,** 7025 S. 10th St., 53154-1462 | **414 762-4422** | 414 762-3260 |
| **Waukesha,** N21 W23020 Watertown Rd., 53188-1001 | **414 547-4430** | 414 547-2898 |

## WYOMING

| | | |
|---|---|---|
| **Casper,** 1110 Wilkins Circle., 82601-1331 | **307 577-5797** | 307 237-4008 |

## INTERNATIONAL LOCATIONS

## CANADA

ACKLANDS GRAINGER
Over 200 Branches Across Canada
Main Warehouse

| | | |
|---|---|---|
| **Edmonton Distribution Center** 11708-167 St, Edmonton, Alberta T5M 3Z2 | **403 453-3071** | 403 454-3332 |
| **Toronto Distribution Center** 90 W. Beaver Creek Rd., Richmond Hill, Ontario L4B 1E7 | **905 731-5516** | 905 731-9677 |

## MEXICO

MEXICO–GRAINGER, S.A. DE C.V.

### *Monterrey Area (Dial 011 Prefix and Country Code 52 if Calling from U.S.)*

| | | |
|---|---|---|
| **Apodaca, N.L.,** Aristoteles No. 118, Kalos Industrial Park, 66600 | **8 386-3666** | 8 386-3667 |

## PUERTO RICO

PUERTO RICO–GRAINGER CARIBE, INC.

| | | |
|---|---|---|
| Calle Tabonuco Edificio No.2 San Patricio **Guaynabo**, 00968-3011 | **787 792-2990** | 787 792-6565 |
| NEW Centro Regional de Distribution de Mayaguez Centro Comercial Alturas Bldg.4 Avendia Algarrabo **Mayaguez,** 00680-6318 | **787 265-2240** | 787 792-6565 |



## EXPORT SERVICES

Calling from outside the U.S.? No matter where in the world your business or plant is located, our dedicated world-class Export Team can handle your international order. They'll provide you with complete export documentation, expert packing, and accurate international shipping information. For details, email us at www.grainger.com or contact:

| | | |
|---|---|---|
| **Canada** (within Canada toll-free) | **1 800 633 8487** | |
| **Mexico** | **95-956-717-0050** | *fax* 95-956-717-2421 |
| (within Mexico toll-free) | **01-800-718-2666** | |
| **Caribbean** | **305 591-2512** | *fax* 305 592-9458 |
| **Central & South America** | **305 591-2512** | *fax* 305 592-9458 |
| **Africa, Europe, Middle East, India, & Bermuda** | **847 965-7662** | *fax* 847 965-7608 |
| **Asia and the Pacific** | **510 638-0955** | *fax* 510 638-2582 |
| **Puerto Rico** | **1 800-842-9107** | *fax* 787 792-6565 |

# Check out cool stuff from the hot GRAINGER® Racing Team.



**Leather Racing Jacket**
*page A14*




**Pit Crew Hat**
*page A15*

GRAINGER Racing™



## Leather Racing Jacket

Checkered flag pattern on upper back and arms sets you apart from the crowd. Two outside slash pockets, inside breast pocket and warm polyester fiberfill lining.

| Size | Model No. | Stock No. | Each |
|---|---|---|---|
| **M** | GR810502 | **4MK91** | **$295.00** |
| **L** | GR810503 | **4MK92** | **295.00** |
| **XL** | GR810504 | **4MK93** | **295.00** |
| **XXL** | GR810505 | **4MK94** | **295.00** |







## Race Truck Decal

Full color image of the No. 50 Grainger truck. Measures 6" x 4". Adheres to clean, smooth surfaces. No adhesive necessary.

**No. 4MK88** . . . . . **$0.96**




## Replica Truck

**1:64 scale** die-cast metal body truck. Fully-detailed collectible replica includes Greg Biffle trading card.

**No. 4MM42** . . . . . **$3.95**

**1:24 scale** die cast metal-bodied truck is a fully-detailed replica of the No. 50 Grainger Racing Truck. Manufactured by Racing Champions. Recommended for ages 6 and up.

**No. 4MM43** . . . . . **$19.95**

GRAINGER Racing

## Racing Lapel Pin

Collectible pin measures 1" x 1-1/4". Military clutch back stays firmly in place.

**No. 4MK89** . . . . . **$2.95**

## Wraparound Sunglasses

Black nylon lenses offer 100% UV400 protection. Matte black acrylic frame is lightweight, yet impact resistant.

**No. 4MK87** . . . . . **$7.95**



## White Polo Shirt

100% cotton short sleeve pique polo keeps you cool and comfortable at trackside. Banded sleeves feature Dayton, Speedaire and Teel logos. Grainger Racing logo is embroidered on left chest.

| Size | Stock No. | Each |
|---|---|---|
| M | 4MM33 | $34.50 |
| L | 4MM32 | 34.50 |
| XL | 4MM34 | 34.50 |
| XXL | 4MM35 | 35.50 |




## Pit Crew Hat

Perfect for work or play and fully adjustable with plastic snap back closure. Black and red bill; black, white and red crown.

**No. 4MM24 . . . . . $7.50**




## White Pocket Tee Shirt

Comfortable 100% cotton short sleeve "Tee" sports Grainger racing logo on breast pocket, Greg Biffle signature and colorful catalog/race truck graphics on back of shirt.

| Size | Stock No | Each |
|---|---|---|
| L | 4MM26 | $14.95 |
| XL | 4MM27 | 14.95 |
| XXL | 4MM28 | 15.95 |

## Insulated Commuter Mug

In your car or at the track, this spill-proof mug keeps drinks hot or cold. Hearty 16 oz. size features 2-color Grainger Racing logo on both sides.

**No. 4MK90 . . . $6.50**






## Grainger Racing Cap

Velcro back closure on this heavy, brushed twill material. Black bill with white crown featuring Grainger Racing logo. Also includes Dayton, Speedaire and Teel racing sponsor logos.

**No. 4MM23 .... $12.00**

## Black Lightweight Jacket

Nylon jacket has zip-up front, elastic cuffs and bottom, and slash pockets with red piping. Features embroidered Grainger Racing logo on left hand chest.

| Size | Stock No. | Each |
|---|---|---|
| M | 4MM40 | $79.95 |
| L | 4MM39 | 79.95 |
| XL | 4MM41 | 79.95 |







## Grainger Signature Cap

Split red and black bill with #50 emblazoned in white. Black, red and white crown highlights Greg Biffle signature and Grainger corporate logo with Racing insignia.

**No. 4MM25 .... $14.50**




## Denim Oxford Shirt

Heavy denim long-sleeved shirt is cream-colored with button down collar. Has Grainger Racing logo embroidered over left breast pocket.

| Size | Stock No. | Each |
|---|---|---|
| M | 4MM37 | $41.95 |
| L | 4MM36 | 41.95 |
| XL | 4MM38 | 41.95 |

# MOTOR SELECTION INFORMATION

## SELECTING AC (ALTERNATING CURRENT) INDUCTION MOTORS

**See Electric Motor Terminology Section on pages 3520, 3521, and 3514 for detailed information.**

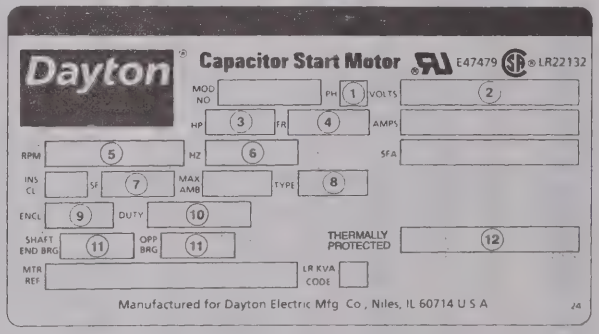
Motors are used in a wide variety of applications. In some applications more than one motor design would work well. In others, an exact replacement cannot be found but a similar motor with slight differences in mechanical and electrical characteristics will provide reliable operation. The following selection guide is designed to help you choose the correct motor for your application.

**Follow these 4 Easy Steps to Choose Your Motor:**

## STEP 1: GATHER MOTOR INFORMATION

You will need the following information to properly select a motor. If you are replacing a motor, much of the information can be found on the existing motor nameplate. See the sample nameplate below.

① **Phase—Either single (1) or three (3).** Match exactly.
② **Voltage.** Match exactly.
③ **Horsepower (HP)—Very small motors are often rated in watts.** Choose an equal or next higher HP.
④ **Physical Size/Frame.** Match exactly.
⑤ **Speed (RPM).** Match within 5%.
⑥ **Frequency (Hz).** Match exactly.
⑦ **Service Factor.** Choose motor of equal or greater number.
⑧ **Type:** See below.
⑨ **Enclosure.** See below.
⑩ **Duty Cycle.** If current motor is intermittent duty, you may upgrade to continuous. Air-over must be installed in the airstream.
⑪ **Bearing Type—Sleeve or Ball.** Match exactly.
⑫ **Thermal Protection.** See Thermal Protection Information on page 6.




## STEP 2: DETERMINE THE RIGHT CATALOG SECTION

**By your application:** Many of our motors are listed by application such as fan, pump, blower, compressor, etc. You will find these applications under "Motors" in the Product Index in the back of the Catalog. Turn to the specific page or section to find your motor. If your application is not listed in the index, choose your motor by its characteristics.

**By the characteristics:** Motor type, horsepower, speed, and enclosure. Grainger carries general purpose motors designed for reliable use on a wide variety of applications. They are grouped in two categories: Industrial and Commercial. There is considerable overlap in applications which can use either motor. In general, Industrial motors are more rugged than Commercial motors, but cost more.

**Industrial Motors** are designed for mechanical loads (also effective for air moving) and for hard-to-start applications such as conveyors, belt-driven equipment, machine tools, and reciprocating pumps. These motors feature ball bearings to handle heavier radial and axial loads and heavier construction for industrial applications.

**Commercial Motors** are designed mostly for air moving and other light to medium duty applications, such as fans and centrifugal pumps, small tools, and office equipment.

### MOTOR TYPES

| Type | Starting Torque as Percent of Full-Load Torque | Comparative Efficiency | Comparative Cost | Typical Uses |
|---|---|---|---|---|
| **Shaded Pole** | Very Low 50-100% | Low | Low | Small direct-drive fans and blowers |
| **Permanent Split Capacitor (PSC)** | Low 75-150% | Moderate | Low to Moderate | Direct-drive fans and blowers |
| **Split-Phase** | Low to Moderate 130-170% | Moderate | Moderate | Belt-drive and direct-drive fans and blowers, small tools, centrifugal pumps, and appliances |
| **Capacitor Start** | Moderate to High 200-400% | Moderate to High | Moderate to High | Pumps, compressors, tools conveyors, farm equipment, and industrial ventilators |
| **Three-Phase** | Moderate to High 200-300% | High | Moderate | Applications where 3-phase power is available |

### ENCLOSURE TYPES

| Enclosure Type | How Can I Tell? | Where Do I Use This Enclosure? |
|---|---|---|
| **Open/Dripproof** | Ventilation holes in shell and/or endshield. | Clean, dry, non-hazardous environments. |
| **Enclosed** | No ventilation holes in shell or endshield. | Dirty, moist, non-hazardous environments. |
| **Hazardous Location** | Enclosed. Must have a UL Hazardous location nameplate on motor frame. | Designed for use in hazardous environments as defined by National Electrical Code (NEC) classifications. NEC Class and Group are designated on UL Hazardous Location nameplate mounted on motor. |

## STEP 3: FIND THE RIGHT PAGE

Motors are arranged in each section as follows: 1st by type/application; 2nd by enclosure or special features within that type. Example: When looking for an Industrial 3-Phase TEFC motor, first turn to the Industrial section, then find 3-phase motor pages, then turn to TEFC pages.

## STEP 4: SELECT SPECIFIC MOTOR

Match all of the information you have gathered in Step 1.

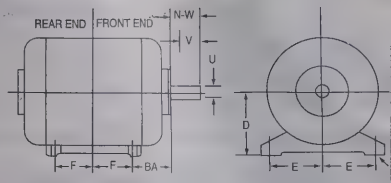
**See Electric Motor Terminology Section on pages 3520, 3521, and 3514 for detailed information.**

# MOTOR DIMENSIONS FOR NEMA FRAMES

Standardized motor dimensions as established by the National Electrical Manufacturers Association (NEMA) are tabulated below and apply to all base-mounted motors listed herein which carry a NEMA frame designation.

| NEMA Frame | All Dimensions in Inches | | | | | | | | Key | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | D* | 2E | 2F | BA | H | N-W | U | V§ Min. | Wide | Thick | Long |
| 42 | 2⅝ | 3½ | 1¹¹⁄₁₆ | 2¼ | 9/32 slot | 1⅛ | 3/8 | — | — | 3/64 flat | — |
| 48 | 3 | 4¼ | 2¾ | 2½ | 11/32 slot | 1½ | 1/2 | — | — | 3/64 flat | — |
| 48H | 3 | 4¼ | 4¾ | 2½ | 11/32 slot | 1½ | 1/2 | — | — | 3/64 flat | — |
| 56 | 3½ | 4⅞ | 3 | 2¾ | 11/32 slot | 1⅞† | 5/8† | — | 3/16† | 3/16† | 1⅜‡ |
| 56H | 3½ | 4⅞ | 3&5‡ | 2¾ | 11/32 slot | 1⅞† | 5/8† | — | 3/16† | 3/16† | 1⅜‡ |
| 56HZ | 3½ | ** | ** | ** | ** | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 66 | 4⅛ | 5⅞ | 5 | 3⅛ | 13/32 slot | 2¼ | 3/4 | — | 3/16 | 3/16 | 1⅞ |
| 143T | 3½ | 5½ | 4 | 2¼ | 11/32 dia. | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 145T | 3½ | 5½ | 5 | 2¼ | | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 146AT | 3½ | 5½ | 5½ | 2¾ | | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 148AT | 3½ | 5½ | 7 | 2¾ | 11/32 dia. | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 149AT | 3½ | 5½ | 8 | 2¾ | | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 1412AT | 3½ | 5½ | 11 | 2¾ | | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 182 | 4½ | 7½ | 4½ | 2¾ | | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 184 | 4½ | 7½ | 5½ | 2¾ | 13/32 dia. | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 182T | 4½ | 7½ | 4½ | 2¾ | | 2¾ | 1⅛ | 2½ | 1/4 | 1/4 | 1¾ |
| 184T | 4½ | 7½ | 5½ | 2¾ | | 2¾ | 1⅛ | 2½ | 1/4 | 1/4 | 1¾ |
| 182AT | 4½ | 7½ | 4½ | 2¾ | | 2¼ | 1⅛ | 2 | 1/4 | 1/4 | 1⅜ |
| L182ACY | 4½ | 7½ | 4½ | 2¾ | | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| L182AT | 4½ | 7½ | 4½ | 2¾ | | 2¼ | 1⅛ | 2 | 1/4 | 1/4 | 1⅜ |
| 186ACY | 4½ | 7½ | 7 | 2¾ | 13/32 dia. | 2¼ | 7/8 | 2 | 3/16 | 3/16 | 1⅜ |
| 186AT | 4½ | 7½ | 7 | 2¾ | | 2¼ | 1⅛ | 2 | 1/4 | 1/4 | 1⅜ |
| L186AT | 4½ | 7½ | 7 | 2¾ | | 2¼ | 1⅛ | 2 | 1/4 | 1/4 | 1⅜ |
| 189AT | 4½ | 7½ | 10 | 2¾ | | 2¼ | 1⅛ | 2 | 1/4 | 1/4 | 1⅜ |
| 203# | 5 | 8 | 5½ | 3⅛ | 13/32 dia. | 2¼ | 3/4 | 2 | 3/16 | 3/16 | 1⅜ |
| 204# | 5 | 8 | 6½ | 3⅛ | | 2¼ | 3/4 | 2 | 3/16 | 3/16 | 1⅜ |
| 213 | 5¼ | 8½ | 5½ | 3½ | | 3 | 1⅛ | 2¾ | 1/4 | 1/4 | 2 |
| 215 | 5¼ | 8½ | 7 | 3½ | 13/32 dia. | 3 | 1⅛ | 2¾ | 1/4 | 1/4 | 2 |
| 213T | 5¼ | 8½ | 5½ | 3½ | | 3⅜ | 1⅜ | 3⅛ | 5/16 | 5/16 | 2⅜ |
| 215T | 5¼ | 8½ | 7 | 3½ | | 3⅜ | 1⅜ | 3⅛ | 5/16 | 5/16 | 2⅜ |
| 219AT | 5¼ | 8½ | 11 | 3½ | 13/32 dia. | 2¾ | 1⅜ | 2½ | 5/16 | 5/16 | 1¾ |
| 2110AT | 5¼ | 8½ | 12½ | 3½ | | 2¾ | 1⅜ | 2½ | 5/16 | 5/16 | 1¾ |
| 224# | 5½ | 9 | 6¾ | 3½ | 13/32 dia. | 3 | 1 | 2¾ | 1/4 | 1/4 | 2 |
| 225# | 5½ | 9 | 7½ | 3½ | | 3 | 1 | 2¾ | 1/4 | 1/4 | 2 |
| 254# | 6¼ | 10 | 8¼ | 4¼ | 21/32 dia. | 3⅜ | 1⅛ | 3⅛ | 1/4 | 1/4 | 2⅜ |
| 254U | 6¼ | 10 | 8¼ | 4¼ | | 3¾ | 1⅜ | 3½ | 5/16 | 5/16 | 2¾ |
| 256U | 6¼ | 10 | 10 | 4¼ | 17/32 dia. | 3¾ | 1⅜ | 3½ | 5/16 | 5/16 | 2¾ |
| 254T | 6¼ | 10 | 8¼ | 4¼ | | 4 | 1⅝ | 3⅜ | 3/8 | 3/8 | 2⅞ |
| 256T | 6¼ | 10 | 10 | 4¼ | | 4 | 1⅝ | 3¾ | 3/8 | 3/8 | 2⅞ |
| 284# | 7 | 11 | 9½ | 4¾ | 21/32 dia. | 3¾ | 1¼ | 3½ | 1/4 | 1/4 | 2¾ |
| 284U | 7 | 11 | 9½ | 4¾ | | 4⅞ | 1⅝ | 4⅝ | 3/8 | 3/8 | 3¾ |
| 286U | 7 | 11 | 11 | 4¾ | | 4⅞ | 1⅝ | 4⅝ | 3/8 | 3/8 | 3¾ |
| 284T | 7 | 11 | 9½ | 4¾ | 17/32 dia. | 4⅝ | 1⅞ | 4⅜ | 1/2 | 1/2 | 3¼ |
| 286T | 7 | 11 | 11 | 4¾ | | 4⅝ | 1⅞ | 4⅜ | 1/2 | 1/2 | 3¼ |
| 284TS | 7 | 11 | 9½ | 4¾ | | 3¼ | 1⅝ | 3 | 3/8 | 3/8 | 1⅞ |
| 286TS | 7 | 11 | 11 | 4¾ | | 3¼ | 1⅝ | 3 | 3/8 | 3/8 | 1⅞ |
| 324# | 8 | 12½ | 10½ | 5¼ | 21/32 dia. | 4⅞ | 1⅝ | 4⅝ | 3/8 | 3/8 | 3¾ |
| 326# | 8 | 12½ | 12 | 5¼ | | 4⅞ | 1⅝ | 4⅝ | 3/8 | 3/8 | 3¾ |
| 324U | 8 | 12½ | 10½ | 5¼ | | 5⅛ | 1⅞ | 5⅜ | 1/2 | 1/2 | 4¼ |
| 326U | 8 | 12½ | 12 | 5¼ | | 5⅛ | 1⅞ | 5⅜ | 1/2 | 1/2 | 4¼ |
| 324T | 8 | 12½ | 10½ | 5¼ | 21/32 dia. | 5¼ | 2⅛ | 5 | 1/2 | 1/2 | 3⅞ |
| 326T | 8 | 12½ | 12 | 5¼ | | 5¼ | 2⅛ | 5 | 1/2 | 1/2 | 3⅞ |
| 324TS | 8 | 12½ | 10½ | 5¼ | | 3¾◇ | 1⅞◇ | 3½◇ | 1/2 | 1/2 | 2◇ |
| 326TS | 8 | 12½ | 12 | 5¼ | | 3¾◇ | 1⅞◇ | 3½◇ | 1/2 | 1/2 | 2◇ |
| 364# | 9 | 14 | 11¼ | 5⅞ | 21/32 dia. | 5⅝ | 1⅞ | 5⅜ | 1/2 | 1/2 | 4¼ |
| 364S# | 9 | 14 | 11¼ | 5⅞ | | 3¼ | 1⅝ | 3 | 3/8 | 3/8 | 1⅞ |
| 365# | 9 | 14 | 12½ | 5⅞ | | 5⅝ | 1⅞ | 5⅜ | 1/2 | 1/2 | 4¼ |
| 364U | 9 | 14 | 11¼ | 5⅞ | 21/32 dia. | 6⅛ | 2⅛ | 6⅛ | 1/2 | 1/2 | 5 |
| 365U | 9 | 14 | 12¼ | 5⅞ | | 6⅛ | 2⅛ | 6⅛ | 1/2 | 1/2 | 5 |

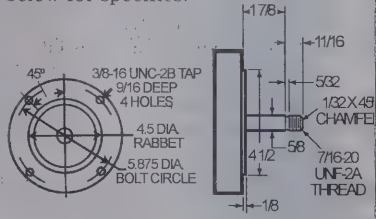
(*) Dimension D will never be greater than the above values on rigid mount motors, but it may be less so that shims up to 1/32" thick (1/16" on 364U and 365U frames) may be required for certain machines. (‡) Dayton motors designated 56H have two sets of 2F mounting holes—3 and 5". (◇) Standard short shaft for direct-drive applications. (#) Discontinued NEMA frame. (**) Base of Dayton 56HZ frame motors has holes and slots to match NEMA 56, 56H, 143T and 145T mounting dimensions. (†) Certain NEMA 56Z frame motors have 1/2" dia. x 11/2" long shaft with 3/64" flat. These exceptions are noted in this catalog. (§) Dimension "V" is shaft length available for coupling, pinion or pulley hub—this is a minimum value.




## NEMA C and J-FACE MOUNT DIMENSIONS

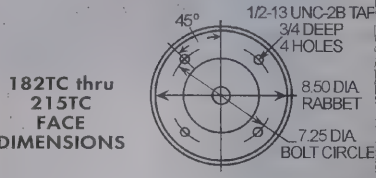
Mounting dimensions of the 56J face are exactly the same as the NEMA 56C, 143TC and 145TC faces.

56J face has a threaded shaft of stainless steel while all others have a keyed steel shaft. See illustrations and table below for specifics.




**56C, 56J, 143TC and 145TC FACE DIMENSIONS**

**56J SHAFT**




**182TC thru 215TC FACE DIMENSIONS**

| NEMA Face | Shaft Dia. (U) | Shaft Long (N-W) | Rabbet Dia. | Bolt Circle Dia. |
|---|---|---|---|---|
| 42C | 3/8" | 1⅛ | 3" | 3¾ |
| 48C | 1/2 | 1⅛ | 3 | 3¾ |
| 56C | 5/8 | 1⅞ | 4½ | 5⅞ |
| 56J | 5/8 | 2⁹⁄₁₆ | 4½ | 5⅞ |
| 143TC & 145TC | 7/8 | 2¼ | 4½ | 5⅞ |
| 146ATC & 1412ATC | 7/8 | 2¼ | 4½ | 5⅞ |
| 182TC & 184TC | 1⅛ | 2¾ | 8½ | 7¼ |
| 186ATC & 189ATC | 1⅛ | 2¼ | 8½ | 7¼ |
| 213TC & 215TC | 1⅜ | 3⅜ | 8½ | 7¼ |
| 219ATC & 2110ATC | 1⅜ | 2¾ | 8½ | 7¼ |
| 254TC & 256TC | 1⅞ | 4 | 8½ | 7¼ |
| 284TC & 286TC | 1⅞ | 4⅝ | 10½ | 9 |
| L182ACY & 186ACY | 7/8 | 2¼ | 4½ | 5⅞ |

CONTINUED ON NEXT PAGE

# MOTOR DIMENSIONS FOR NEMA FRAMES

## MOTOR DIMENSIONAL CHART (Cont.)

Standardized motor dimensions as established by the National Electrical Manufacturers Association (NEMA) are tabulated below and apply to all base-mounted motors listed herein which carry a NEMA frame designation.

| NEMA Frame | All Dimensions in Inches | | | | | | | | Key | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | D* | 2E | 2F | BA | H | N-W | U | V§ Min. | Wide | Thick | Long |
| 364T | 9 | 14 | 11¼ | 5⅞ | 21/32 dia. | 5⅞ | 2⅜ | 5⅞ | 5/8 | 5/8 | 4¼ |
| 365T | 9 | 14 | 12¼ | 5⅞ | | 5⅞ | 2⅜ | 5⅞ | 5/8 | 5/8 | 4¼ |
| 364TS | 9 | 14 | 11¼ | 5⅞ | | 3⅜ᴬ | 1⅞ᴬ | 3½ᴬ | 1/2 | 1/2 | 2ᴬ |
| 365TS | 9 | 14 | 12¼ | 5⅞ | | 3⅜ᴬ | 1⅞ᴬ | 3½ᴬ | 1/2 | 1/2 | 2ᴬ |
| 404T | 10 | 16 | 12¼ | 6⅝ | 13/16 dia. | 7¼ | 2⅞ | 7 | 3/4 | 3/4 | 5⅝ |
| 405T | 10 | 16 | 13¾ | 6⅝ | | 7¼ | 2⅞ | 7 | 3/4 | 3/4 | 5⅝ |
| 404TS | 10 | 16 | 12¼ | 6⅝ | | 4¼ᴬ | 2⅛ᴬ | 4ᴬ | 1/2 | 1/2 | 2¾ᴬ |
| 405TS | 10 | 16 | 13¾ | 6⅝ | | 4¼ᴬ | 2⅛ᴬ | 4ᴬ | 1/2 | 1/2 | 2¾ᴬ |
| 404U | 10 | 16 | 12¼ | 6⅝ | | 7⅛ | 2⅜ | 6⅞ | 5/8 | 5/8 | 5½ |
| 405U | 10 | 16 | 13¾ | 6⅝ | | 7⅛ | 2⅜ | 6⅞ | 5/8 | 5/8 | 5½ |
| 444T | 11 | 18 | 14½ | 7½ | 13/16 dia. | 8½ | 3⅜ | 8¼ | 7/8 | 7/8 | 6⅞ |
| 445T, 447T§§ | 11 | 18 | 16½ | 7½ | | 8½ | 3⅜ | 8½ | 7/8 | 7/8 | 6⅞ |
| 444TS, 447TS§§ | 11 | 18 | 14½ | 7½ | | 4¾ᴬ | 2⅜ᴬ | 4½ᴬ | 5/8 | 5/8 | 3ᴬ |
| 445TS | 11 | 18 | 16½ | 7½ | | 4¾ᴬ | 2⅜ᴬ | 4½ᴬ | 5/8 | 5/8 | 3ᴬ |
| 444U | 11 | 18 | 14½ | 7½ | 13/16 dia. | 8⅝ | 2⅞ | 8⅜ | 3/4 | 3/4 | 7 |
| 445U | 11 | 18 | 16½ | 7½ | | 8⅝ | 2⅞ | 8⅜ | 3/4 | 3/4 | 7 |
| 449T | 11 | 18 | 25 | 7½ | | 8½ | 3⅜ | 8¼ | 7/8 | 7/8 | 6⅞ |
| 449TS | 11 | 18 | 25 | 7½ | | 4¾ᴬ | 2⅜ᴬ | 4½ᴬ | 5/8 | 5/8 | 3ᴬ |

(*) Dimension "D" will never be greater than the above values on rigid mount motors, but it may be less so that shims up to 1/32" thick (1/16" on 364U and 365U frames) may be required for certain machines.
(‡) Dayton motors designated 56H have two sets of 2F mounting holes—3" and 5".
(ᴬ) Standard short shaft for direct-drive applications.
(#) Discontinued NEMA frame.
(**) Base of Dayton 56HZ frame motors has holes and slots to match NEMA 56, 56H, 143T and 145T mounting dimensions.
(†) Certain NEMA 56Z frame motors have 1/2" dia. x 1½" long shaft with 3/64" flat. These exceptions are noted in this catalog.
(§) Dimension "V" is shaft length available for coupling, pinion or pulley hub—this is a minimum value.
(§§) The 2F dimension is 20.

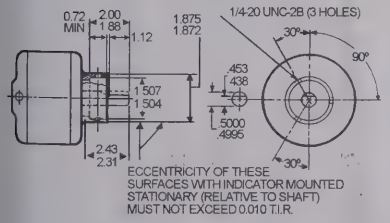
## QUALITY MOTORS

Electric motors listed in this catalog are engineered for maximum performance and are manufactured to the dimensional and performance standards established by National Electrical Manufacturers Association (NEMA). Fact labels on cartons give full specifications.

### UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

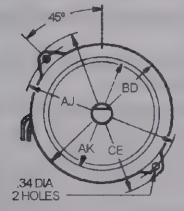
## NEMA 48K & 56K HUB DIMENSIONS SUMP PUMP MOTORS



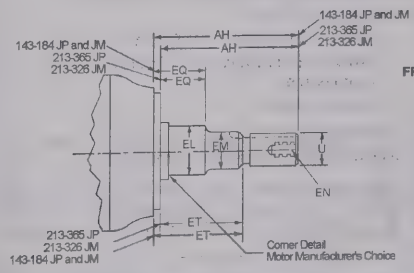

## NEMA 48M, 48N and 56N FLANGE MOUNT DIMENSIONS

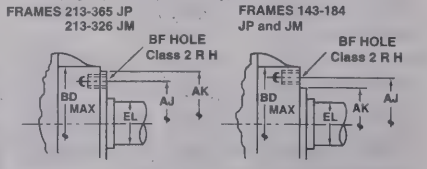
### OIL BURNER MOTORS

| | 48M | 48N 56N |
|---|---|---|
| AJ | 6¾" | 7¼" |
| BD | 6¼ max. | 7 max. |
| AK | 5½ | 6⅜ |
| CE | 7¾ max. | 8¼ max. |




## CLOSE-COUPLED PUMP SHAFT DIMENSIONS




| Frame Designations | Dimensions (Inches) U | EL | EM | EN | EQ | ET | AH | AJ | AK | BD | BF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143JM/145JM | 7/8 | 1⅝ | 1 | 3/8-16 x 3/4 | 5/8 | 2⅞ | 4¼ | 5⅞ | 4½ | 6⅝ | 3/8-16 |
| 143JP/145JP | 7/8 | 1⅝ | 1 | 3/8-16 x 3/4 | 1⁹/₁₆ | 5¹⁵/₁₆ | 7⅝ | 5⅞ | 4½ | 6⅝ | 3/8-16 |
| 182JM/184JM | 7/8 | 1¼ | 1 | 3/8-16 x 3/4 | 5/8 | 2⅞ | 4¼ | 5⅞ | 4½ | 6⅝ | 3/8-16 |
| 182JP/184JP | 7/8 | 1¼ | 1 | 3/8-16 x 3/4 | 1⁹/₁₆ | 5¹⁵/₁₆ | 7⅝ | 5⅞ | 4½ | 6⅝ | 3/8-16 |
| 213JM/215JM | 7/8 | 1¼ | 1 | 3/8-16 x 3/4 | 5/8 | 2⅞ | 4¼ | 7¼ | 8½ | 9 | 1/2-13 |
| 213JP/215JP | 1¼ | 1¾ | 1⅜ | 1/2-13 x 1 | 2⅜ | 5⅞ | 8⅛ | 7¼ | 8½ | 9 | 1/2-13 |

### NEMA LETTER DESIGNATIONS FOLLOWING FRAME NUMBER

**C** Face mount; see previous page.
**H** Has 2F dimension larger than same frame without H suffix.
**J** Face mount for jet pumps; see above.
**K** Has hub for sump pump mounting; see at right for dimensions.
**M, N** Flange mount for oil burner; see column at left.
**T, U** Integral HP motor dimension standards set by NEMA in 1964 and 1953.
**Y** Non-standard mounting; see manufacturer's drawing for mounting dimensions.
**Z** Non-standard shaft (NW, U dimensions).

# MOTOR REGULATORY INFORMATION

## THERMAL PROTECTION INFORMATION

Motors that start automatically (e.g. thermostat controlled) and are located out of operator sight, must be protected against dangerous overheating due to failure-to-start or overloading. This protection may be a separate overcurrent device (e.g. motor starter) complying with Article 430 of the National Electrical Code (NEC), a thermally protected motor (internal motor protection), or an impedance protected motor.

Motors with automatic reset thermal protection MUST NOT b used where automatic or otherwise unexpected starting of th motor could be hazardous. Applications where automatic restart ing could be hazardous include compressors, conveyors, powe tools, farm equipment, and some fans and blowers. Where such hazard exists, always use a manual reset thermally protecte motor.

## UL 507 STANDARD

Any motor used in fan product, such as bathroom exhaust fans, wall-insert fans, ceiling insert fans, attic exhaust fans, whole house fans, and duct fans, etc., which are built into or within the building structure and which are likely to operate unattended or in situations in which the operator may not detect a locked rotor (stalled motor) condition must have either a manual reset thermal protector or a thermal cut-off (one-shot) device.

Range hoods, circulating fans, pedestal fans, and ceiling sus pended fans are not included. Agricultural fans are included i they are built into the building structure and are likely to operat unattended or in situations in which the person operating the fa may not detect a locked rotor (stalled motor) condition.

## ENERGY POLICY ACT of 1992 (EPACT 92) AND NATURAL RESOURCES OF CANADA

### What is the Energy Policy Act (EPACT) of 1992?

The Energy Policy Act of 1992 took effect in October of 1997 and requires most general purpose, three-phase induction motors manufactured for sale in the United States rated 1 through 200 horsepower meet minimum efficiency standards. EPACT was written into law to increase the availability of energy efficient motors for many end-use applications. In addition to efficiency standards, EPACT requires specific testing and labeling procedures be administered by all motor manufacturers.

EPACT applies to each motor manufactured alone or as a component of another piece of equipment after October 24, 1997. Existing motors and those manufactured prior to the October date are not governed by EPACT. Motors installed or in stock at end-use facilities are unaffected.

### Which Electric Motor Designs Are Required to Meet EPACT 92?

- Three Phase
- 1-200 HP
- General Purpose
- 56Hz-440T frames
- Operating on 230 or 460 volts
- 60 Hz power
- Open Dripproof (OPDP) Enclosures
- Totally Enclosed Fan Cooled (TEFC) enclosure
- Severe duty

**See Following Pages For Motors that Meet EPACT 92 Requirements**

**Op Dripproof14, 15, 26, 28, 144 & 152**
**TEFC . . . . 18, 19, 29, 30, 32, 37 & 38**
**Severe Duty . . . 33, 34, 35 & 36, & 39**

### Electric Motor Efficiency Levels Prescribed in EPACT '92

| Motor HP | Nominal Full-Load Efficiency | | | | | |
|---|---|---|---|---|---|---|
| | Open Motors RPM | | | Enclosed Motors RPM | | |
| | 1200 | 1800 | 3600 | 1200 | 1800 | 3600 |
| 1 | 80.0 | 82.5 | — | 80.0 | 82.5 | 75.5 |
| 1.5 | 84.0 | 84.0 | 82.5 | 85.5 | 84.0 | 82.5 |
| 2 | 85.5 | 84.0 | 84.0 | 86.5 | 84.0 | 84.0 |
| 3 | 86.5 | 86.5 | 84.0 | 87.5 | 87.5 | 85.5 |
| 5 | 87.5 | 87.5 | 85.5 | 87.5 | 87.5 | 87.5 |
| 7.5 | 88.5 | 88.5 | 87.5 | 89.5 | 89.5 | 88.5 |
| 10 | 90.2 | 89.5 | 88.5 | 89.5 | 89.5 | 89.5 |
| 15 | 90.2 | 91.0 | 89.5 | 90.2 | 91.0 | 90.2 |
| 20 | 91.0 | 91.0 | 90.2 | 90.2 | 91.0 | 90.2 |
| 25 | 91.7 | 91.7 | 91.0 | 91.7 | 92.4 | 91.0 |
| 30 | 92.4 | 92.4 | 91.0 | 91.7 | 92.4 | 91.0 |
| 40 | 93.0 | 93.0 | 91.7 | 93.0 | 93.0 | 91.7 |
| 50 | 93.0 | 93.0 | 92.4 | 93.0 | 93.0 | 92.4 |
| 60 | 93.6 | 93.6 | 93.0 | 93.6 | 93.6 | 93.0 |
| 75 | 93.6 | 94.1 | 93.0 | 93.6 | 94.1 | 93.0 |
| 100 | 94.1 | 94.1 | 93.0 | 94.1 | 94.5 | 93.6 |
| 125 | 94.1 | 94.5 | 93.6 | 94.1 | 94.5 | 94.5 |
| 150 | 94.5 | 95.0 | 93.6 | 95.0 | 95.0 | 94.5 |
| 200 | 94.5 | 95.0 | 94.5 | 95.0 | 95.0 | 95.0 |

## PREMIUM EFFICIENCY vs. STANDARD EFFICIENCY

$$\text{Annual Savings} = 0.746 \times HP \times L \times C \times N \left(\frac{100}{E_1} - \frac{100}{E_2}\right)$$

HP = Motor Horsepower
L = Percent Load Divided by 100
C = Energy Cost, Dollars per Kilowatt Hour
N = Running Time, Hours per Year
$E_1$ = Efficiency (%) of Standard Efficiency Motor
$E_2$ = Efficiency (%) of Standard Efficiency Motor

### Lower Operating Cost:

If you operate a 25 HP premium efficiency motor at full load f 24 hours a day (8760 hours per year) and your cost per kilowa hour is 9 cents, you can save $532.00 annually. This comparison based on a premium efficiency motor with a 94.1 efficiency ra ing vs. a high efficiency motor with a 91.0 efficiency rating.

**Increased efficiency leads to lower operating temperatures, resulting in longer life.**

**Cooler Operation:** The life of an insulation system doubles for ea 10°C reduction in operating temperature.

**Longer Bearing Life:** The lower the temperature, the longer t bearing grease will last.

# CAPACITOR-START OPEN DRIPPROOF MOTORS



- **Rigid welded base**
- **Copper windings**
- **1.15 to 1.35 service factor**
- **NEMA 56HZ frame motors have 7/8 x 2¼" shaft and mounting base holes/slots to match Nema 56, 56H, 143T, and 145T frame motors**

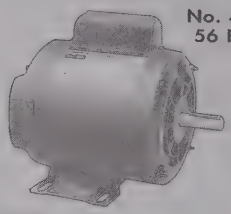
**Typical Uses:** Air compressors, machinery, pumps, blowers, and other industrial equipment.
**Type:** Capacitor-start
**Bearings:** Ball
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

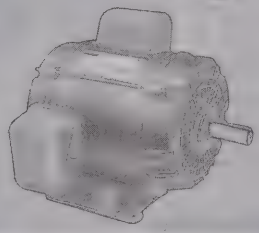
Dayton®

E47479

Replacement Parts Available 1-800-323-0620™



No. 4K852
56 Frame



No. 5K953
182T Frame

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 56 | None | 115/230 | 7.6/3.8 | 1.35 | A | 4K852 | $163.00 | $119.50 | 20.0 |
| | 1725 | 56 | Auto | 115/230 | 7.6/3.8 | 1.35 | A | 5K115 | 167.00 | 122.25 | 20.0 |
| | 1140 | 56 | None | 115/230 | 7.3/3.7 | 1.35 | A | 5K118 | 219.00 | 160.75 | 26.0 |
| 1/2 | 1725 | 48 | None | 115/230 | 9.0/4.5 | 1.25 | A | 6K178 | 187.00 | 136.65 | 21.0 |
| | 1725 | 56 | None | 115/230 | 9.6/4.8 | 1.25 | A | 4K855 | 187.00 | 124.45 | 22.0 |
| | 1725 | 56 | Auto | 115/230 | 9.6/4.8 | 1.25 | A | 5K116 | 197.00 | 124.45 | 21.0 |
| | 1725 | 56 | Manual | 115/230 | 9.6/4.8 | 1.25 | A | 5K696 | 207.00 | 151.75 | 22.0 |
| | 1725 | 56H | Manual | 115/230 | 9.2/4.6 | 1.25 | A | 6K198* | 207.00 | 158.50 | 32.0 |
| | 1140 | 56 | None | 115/230 | 10.4/5.2 | 1.25 | A | 5K617 | 336.00 | 246.25 | 34.0 |
| 3/4 | 1725 | 56 | None | 115/230 | 12.4/6.2 | 1.25 | A | 4K858 | 231.00 | 144.10 | 27.0 |
| | 1725 | 56 | Auto | 115/230 | 12.4/6.2 | 1.25 | A | 5K117 | 241.00 | 146.90 | 26.0 |
| | 1725 | 56 | Manual | 115/230 | 12.4/6.2 | 1.25 | A | 5K694 | 247.00 | 181.00 | 27.0 |
| | 1725 | 56H | Manual | 115/230 | 11.4/5.7 | 1.25 | A | 6K200* | 247.00 | 189.00 | 34.0 |
| | 1725 | 66 | Auto | 115/230 | 11.4/5.7 | 1.25 | A | 5K417 | 306.00 | 234.50 | 30.0 |
| | 1140 | 56H | None | 115/230 | 11.6/5.8 | 1.25 | A | 6K949† | 388.00 | 260.25 | 38.0 |
| 1 | 1725 | 56H | None | 115/230 | 13.6/6.8 | 1.25 | B | 5K921 | 255.00 | 165.25 | 28.0 |
| | 1725 | 56H | Manual | 115/230 | 13.6/6.8 | 1.25 | B | 6K699 | 287.00 | 194.75 | 28.0 |
| | 1725 | 56H | Auto | 115/230 | 13.6/6.8 | 1.25 | B | 6K148 | 262.00 | 169.50 | 28.0 |
| | 1725 | 56HZ | None | 115/230 | 13.6/6.8 | 1.25 | B | 6K271 | 312.00 | 228.75 | 32.0 |
| | 1725 | 56HZ | Manual | 115/230 | 13.6/6.8 | 1.25 | B | 6K424 | 325.00 | 238.50 | 32.0 |
| | 1725 | 66 | None | 115/230 | 15.0/7.5 | 1.25 | A | 6K204* | 345.00 | 264.00 | 44.0 |
| | 1725 | 66 | Manual | 115/230 | 15.0/7.5 | 1.25 | A | 6K205* | 358.00 | 274.00 | 44.0 |
| | 1725 | 143T | None | 115/230 | 13.6/6.8 | 1.25 | B | 6K825 | 214.00 | 194.75 | 33.0 |
| | 1740 | 182 | None | 115/230 | 14.4/7.2 | 1.25 | A | 5K480 | 304.00 | 264.75 | 41.0 |
| 1½ | 3450 | 143T | None | 115/230 | 17.5/8.8 | 1.15 | B | 6K630# | 212.00 | 193.00 | 31.0 |
| | 1725 | 56H | None | 115/230 | 20.4/10.2 | 1.15 | B | 5K923 | 309.00 | 194.00 | 37.0 |
| | 1725 | 56H | Auto | 115/230 | 20.4/10.2 | 1.15 | B | 6K305 | 316.00 | 199.00 | 37.0 |
| | 1725 | 56HZ | None | 115/230 | 20.4/10.2 | 1.15 | B | 6K272 | 394.00 | 288.50 | 38.0 |
| | 1725 | 56HZ | Manual | 115/230 | 20.4/10.2 | 1.15 | B | 6K422 | 407.00 | 298.50 | 39.0 |
| | 1725 | 145T | None | 115/230 | 20.4/10.2 | 1.15 | B | 6K826 | 313.00 | 200.00 | 39.0 |
| | 1740 | 184 | None | 115/230 | 22.0/11.0 | 1.20 | A | 5K481 | 345.00 | 300.25 | 49.0 |
| 2 | 3450 | 145T | None | 115/230 | 22.4/11.2 | 1.15 | B | 6K631# | 250.00 | 237.25 | 36.0 |
| | 1725 | 56H | None | 115/230 | 21.4/10.7 | 1.15 | B | 1K064‡ | 365.00 | 279.50 | 40.0 |
| | 1725 | 56HZ | None | 115/230 | 21.4/10.7 | 1.15 | B | 6K393† | 466.00 | 219.50 | 42.0 |
| | 1725 | 56HZ | Manual | 115/230 | 21.4/10.7 | 1.15 | B | 6K972† | 480.00 | 352.25 | 42.0 |
| | 1730 | 182T | None | 115/230 | 23.2/11.6 | 1.15 | B | 5K953 | 367.00 | 259.25 | 52.0 |
| | 1740 | 213 | None | 115/230 | 24.6/12.3 | 1.20 | A | 5K482 | 438.00 | 380.50 | 58.0 |
| 3 | 3500 | 182T | None | 115/230 | 32.0/16.0 | 1.15 | B | 6K632# | 429.00 | 295.25 | 78.0 |
| | 1735 | 184T | None | 115/230 | 38.0/19.0 | 1.15 | B | 5K675 | 444.00 | 278.25 | 70.0 |
| | 1740 | 215 | None | 115/230 | 35.6/17.8 | 1.15 | A | 5K483 | 553.00 | 480.50 | 86.0 |
| 5 | 3520 | 184T | None | 230 | 19.6 | 1.15 | B | 6K633‡# | 512.00 | 351.25 | 83.0 |
| | 1740 | 184T | None | 230 | 23.0 | 1.15 | B | 6K854† | 509.00 | 333.00 | 83.0 |
| | 1740 | 213T | None | 230 | 22.0 | 1.15 | B | 5K676† | 595.00 | 435.50 | 100.0 |
| | 1740 | 215 | None | 230 | 22.0 | 1.15 | A | 5K484† | 733.00 | 637.50 | 102.0 |
| 7½ | 3480 | 213T | None | 230 | 30.3 | 1.15 | B | 6K634‡# | 791.00 | 544.00 | 136.0 |
| | 1730 | 215T | None | 230 | 35.5 | 1.15 | B | 5K677† | 784.00 | 488.25 | 124.0 |
| 10 | 3500 | 215T | None | 230 | 40.0 | 1.15 | B | 6K628‡# | 1033.00 | 687.00 | 168.0 |
| | 1740 | 215T | None | 230 | 42.2 | 1.15 | B | 6K100† | 973.00 | 692.50 | 144.0 |

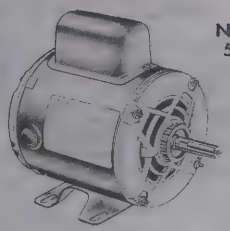
(*) Cast-iron endshields, double dipped windings, black finish. (‡) Capacitor-start, capacitor run. (#) Enclosed shaft endshield.

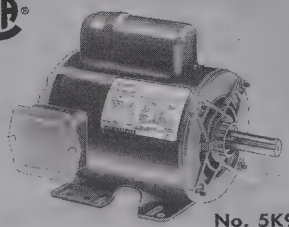
# CAPACITOR-START OPEN DRIPPROOF MOTORS

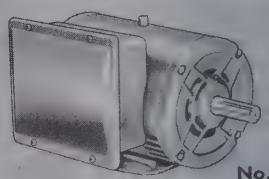
**Typical Uses:** Air compressors, machinery, pumps, blowers, and other heavy-duty, hard-starting equipment.
**Type:** Capacitor-start
**Bearings:** Ball
**Mounting:** Rigid welded base
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

E47479

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.


No. 3K172
56 Frame


No. 5K995
143T Frame


No. 6K026
184T Frame

**Replacement Parts Available**
**1-800-323-0620**

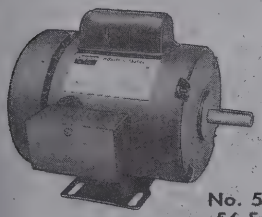
| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1725 | 48 | None | 115/230 | 5.2/2.6 | 1.35 | B | C147 | **2K532** | $158.00 | **$98.25** | 16.0 |
| | 1725 | 48 | Auto | 115/230 | 5.2/2.6 | 1.35 | B | C148 | **2K533** | 167.00 | **101.15** | 16.0 |
| **1/3** | 1725 | 48 | None | 115/230 | 6.6/3.3 | 1.35 | B | C153 | **1D059**† | 168.00 | **104.90** | 18.0 |
| | 1725 | 48 | Auto | 115/230 | 6.6/3.3 | 1.35 | B | C154 | **1D060**† | 177.00 | **109.70** | 18.0 |
| | 1725 | 56 | None | 115/208-230 | 6.6/3.4-3.3 | 1.35 | B | C158 | **2K539**† | 188.00 | **113.85** | 17.0 |
| | 1725 | 56 | Auto | 115/230 | 6.0/3.0 | 1.35 | B | C159 | **3K170**† | 197.00 | **119.55** | 17.0 |
| | 1140 | 56 | None | 115/230 | 8.6/4.3 | 1.35 | B | C1252 | **2K542** | 255.00 | **157.00** | 28.0 |
| **1/2** | 3450 | 48 | None | 115/230 | 7.6/3.8 | 1.25 | B | C162 | **1D061** | 152.00 | **94.75** | 17.0 |
| | 3450 | 56 | Manual | 115/230 | 7.4/3.7 | 1.25 | B | C1474 | **3K171** | 166.00 | **104.40** | 16.0 |
| | 1725 | 48 | None | 115/230 | 9.2/4.6 | 1.25 | B | C164 | **2K546** | 215.00 | **132.90** | 19.0 |
| | 1725 | 56 | None | 115/208-230 | 8.8/4.2-4.4 | 1.25 | B | C167 | **2K548** | 215.00 | **126.70** | 21.0 |
| | 1725 | 56 | Auto | 115/230 | 8.8/4.4 | 1.25 | B | C168 | **3K172** | 228.00 | **127.95** | 19.0 |
| | 1725 | 56 | Manual | 115/230 | 8.8/4.4 | 1.25 | B | C169 | **2K549** | 240.00 | **133.40** | 21.0 |
| | 1140 | 56 | None | 115/230 | 9.4/4.7 | 1.25 | B | C1263 | **2K551** | 388.00 | **233.25** | 39.0 |
| **3/4** | 3450 | 56 | None | 115/230 | 10.2/5.1 | 1.25 | B | C171 | **1D062** | 194.00 | **121.20** | 21.0 |
| | 3450 | 56 | Manual | 115/230 | 10.2/5.1 | 1.25 | A | C1475 | **3K173** | 200.00 | **125.40** | 19.0 |
| | 1725 | 56 | None | 115/208-230 | 13.2/6.2-6.6 | 1.25 | B | C175 | **2K554** | 267.00 | **149.35** | 23.0 |
| | 1725 | 56 | Auto | 115/230 | 13.2/6.6 | 1.25 | B | C176 | **3K174** | 278.00 | **152.50** | 26.0 |
| | 1725 | 56 | Manual | 115/230 | 13.2/6.6 | 1.25 | B | C177 | **2K555** | 286.00 | **161.50** | 23.0 |
| | 1140 | 56 | None | 115/230 | 12.6/6.3 | 1.15 | B | C178 | **2K558*** | 449.00 | **269.00** | 41.0 |
| **1** | 3450 | 56 | None | 115/208-230 | 12.4/6.4-6.2 | 1.25 | B | C179 | **1D063** | 209.00 | **129.60** | 24.0 |
| | 3450 | 56 | Auto | 115/208-230 | 12.4/6.5-6.2 | 1.25 | B | C180 | **1D064** | 220.00 | **134.35** | 24.0 |
| | 3450 | 56 | Manual | 115/230 | 12.4/6.2 | 1.25 | B | C1476 | **3K175** | 225.00 | **141.25** | 21.0 |
| | 1725 | 56 | None | 115/208-230 | 13.6/6.7-6.8 | 1.15 | B | C181 | **2K526** | 291.00 | **172.25** | 29.0 |
| | 1725 | 56 | Manual | 115/230 | 13.6/6.8 | 1.15 | B | C1480 | **3VF56** | 180.00 | **107.95** | 30.0 |
| | 1725 | 56 | Auto | 115/230 | 13.6/6.8 | 1.15 | B | C182 | **3K176** | 298.00 | **175.75** | 34.0 |
| | 1725 | 143T | None | 115/208-230 | 13.6/6.7-6.8 | 1.15 | B | C188 | **5K995** | 295.00 | **174.75** | 37.0 |
| | 1140 | 56H | None | 115/230 | 12.6/6.3 | 1.15 | B | C183 | **2K529*** | 599.00 | **359.25** | 49.0 |
| **1½** | 3450 | 56 | None | 115/230 | 16.8/8.4 | 1.15 | B | C184 | **2K559** | 280.00 | **173.50** | 32.0 |
| | 3450 | 56 | Manual | 115/230 | 16.8/8.4 | 1.15 | B | C1477 | **3K177** | 299.00 | **184.75** | 32.0 |
| | 1725 | 56H | None | 115/208-230 | 18.2/9.1-9.1 | 1.15 | B | C185 | **2K560*** | 358.00 | **201.75** | 35.0 |
| | 1725 | 56H | Auto | 115/230 | 18.2/9.1 | 1.15 | B | C186 | **2K561*** | 366.00 | **206.00** | 32.0 |
| | 1725 | 145T | None | 115/208-230 | 18.2/9.1-9.1 | 1.15 | B | C191 | **5K997*** | 358.00 | **205.00** | 43.0 |
| **2** | 3450 | 56 | None | 115/230 | 21.2/10.6 | 1.15 | B | C187 | **2K524** | 372.00 | **202.00** | 39.0 |
| | 1725 | 56HZ | None | 115/208-230 | 22.0/11.6-11.0 | 1.15 | B | C193 | **5K645*** | 389.00 | **227.00** | 46.0 |
| | 1725 | 56HZ | Auto | 115/230 | 22.0/11.0 | 1.15 | B | C381 | **2K527*** | 423.00 | **231.25** | 54.0 |
| **3** | 3450 | 145T | None | 115/230 | 29.4/14.7 | 1.15 | B | C194 | **2K525*** | 446.00 | **253.25** | 50.0 |
| | 3490 | 182T | None | 115/230 | 28.2/14.1 | 1.15 | B | N769 | **2K496** | 429.00 | **284.25** | 70.0 |
| | 1730 | 184T | None | 115/230 | 31.0/15.5 | 1.15 | B | N770 | **5K999** | 444.00 | **293.75** | 106.0 |
| **5** | 3500 | 184T | None | 230 | 20.0 | 1.15 | B | N771 | **2K497*** | 512.00 | **339.00** | 90.0 |
| | 1725 | 184T | None | 230 | 21.0 | 1.15 | F | N772 | **6K026*** | 509.00 | **337.25** | 81.0 |
| **7½** | 3510 | 215T | None | 230 | 29.6 | 1.15 | B | N773 | **2K500*** | 791.00 | **523.50** | 154.0 |
| | 1735 | 215T | None | 230 | 35.3 | 1.15 | B | N774 | **2K501** | 784.00 | **519.00** | 156.0 |
| **10** | 3500 | 215T | None | 230 | 40.3 | 1.15 | B | N775 | **2K498*** | 999.00 | **661.50** | 147.0 |

(*) Capacitor-start, capacitor-run. (†) 50/60 Hz operation.

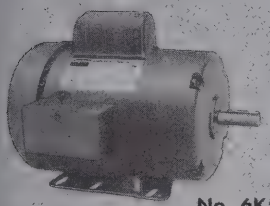
# CAPACITOR-START TEFC MOTORS

Dayton

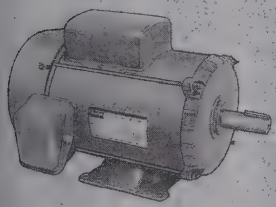
E47479



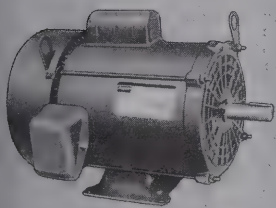
No. 5K262
56 Frame



No. 6K562
56H Frame



No. 6K146
184T Frame



No. 5K487
213 Frame

**Replacement Parts Available**
**1-800-323-0620**

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

- **Rigid welded base and copper windings**
- **NEMA 56HZ frame motors have 7/8 x 2¼" shaft and mounting base holes/slots to match NEMA 56, 56H, 143T, and 145T frame motors**

**Typical Uses:** Dependable operation in **noncombustible** dusty, dirty areas on pumps, air compressors, machinery, fans, blowers, tools, and conveyors.

**Type:** Capacitor-start
**Bearings:** Ball
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | S.F. | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 1725 | 42 | None | 115/230 | 4.0/2.0 | 1.0 | B | 1K060 | $139.00 | $106.10 | 17.0 |
| 1/6 | 1725 | 42 | None | 115/230 | 4.2/2.1 | 1.0 | B | 1K061 | 151.00 | 115.50 | 17.0 |
| 1/4 | 1725 | 42 | None | 115/230 | 5.4/2.7 | 1.0 | B | 1K062 | 158.00 | 120.90 | 18.0 |
| | 1725 | 48 | Auto | 115/230 | 4.6/2.3 | 1.0 | A | 5K191 | 166.00 | 121.00 | 18.0 |
| | 1725 | 56 | None | 115/230 | 5.8/2.9 | 1.15 | A | 5K262 | 158.00 | 115.75 | 18.0 |
| | 1725 | 56 | Auto | 115/230 | 5.8/2.9 | 1.15 | A | 5K263 | 166.00 | 121.00 | 18.0 |
| 1/3 | 3450 | 48 | Auto | 115/230 | 5.2/2.6 | 1.0 | A | 6K481 | 149.00 | 109.05 | 20.0 |
| | 1725 | 42 | None | 115/230 | 7.0/3.5 | 1.0 | B | 1K063 | 175.00 | 134.15 | 20.0 |
| | 1725 | 48 | Auto | 115/230 | 5.8/2.9 | 1.0 | A | 5K192 | 183.00 | 133.70 | 20.0 |
| | 1725 | 56 | None | 115/230 | 6.6/3.3 | 1.15 | A | 4K936 | 175.00 | 128.45 | 20.0 |
| | 1725 | 56 | Auto | 115/230 | 6.6/3.3 | 1.15 | A | 5K121 | 183.00 | 133.70 | 21.0 |
| | 1725 | 56 | Manual | 115/230 | 6.6/3.3 | 1.15 | A | 5K636 | 189.00 | 138.15 | 21.0 |
| | 1725 | 56 | Auto | 115/208-230 | 7.2/3.4-3.6 | 1.15 | B | 6K306 | 187.00 | 135.30 | 21.0 |
| | 1140 | 56 | None | 115/230 | 7.3/3.7 | 1.0 | B | 5K502 | 252.00 | 184.75 | 27.0 |
| 1/2 | 3450 | 48 | Auto | 115/230 | 7.2/3.6 | 1.0 | A | 6K482 | 168.00 | 128.75 | 20.0 |
| | 3450 | 56 | Manual | 115/230 | 8.0/4.0 | 1.0 | B | 6K184 | 170.00 | 130.25 | 21.0 |
| | 1725 | 48 | None | 115/230 | 8.4/4.2 | 1.0 | B | 6K177 | 216.00 | 158.50 | 22.0 |
| | 1725 | 48 | Auto | 115/230 | 8.4/4.2 | 1.0 | B | 5K193 | 223.00 | 164.00 | 20.0 |
| | 1725 | 56 | None | 115/230 | 9.0/4.5 | 1.15 | B | 6K937 | 207.00 | 139.25 | 23.0 |
| | 1725 | 56 | Auto | 115/230 | 9.0/4.5 | 1.15 | B | 6K122 | 224.00 | 143.85 | 23.0 |
| | 1725 | 56 | Manual | 115/230 | 9.0/4.5 | 1.15 | B | 6K637 | 219.00 | 168.00 | 23.0 |
| | 1725 | 56 | Auto | 115/208-230 | 9.2/4.4-4.6 | 1.15 | B | 6K307 | 228.00 | 166.25 | 25.0 |
| | 1140 | 56 | None | 115/230 | 10.4/5.2 | 1.0 | B | 5K672 | 359.00 | 263.25 | 37.0 |
| 3/4 | 3450 | 56 | Auto | 115/230 | 9.8/4.9 | 1.0 | A | 6K483 | 187.00 | 136.60 | 26.0 |
| | 3450 | 56 | Manual | 115/230 | 9.8/4.9 | 1.0 | A | 6K358 | 189.00 | 138.10 | 26.0 |
| | 1725 | 56 | None | 115/230 | 11.4/5.7 | 1.15 | B | 6K938 | 247.00 | 166.25 | 28.0 |
| | 1725 | 56 | Auto | 115/230 | 11.4/5.7 | 1.15 | B | 6K123 | 273.00 | 194.50 | 28.0 |
| | 1725 | 56 | Auto | 115/230 | 11.4/5.7 | 1.0 | B | 3ZP87 | 242.00 | 175.50 | 28.0 |
| | 1725 | 56 | Manual | 115/230 | 11.4/5.7 | 1.15 | B | 6K639 | 259.00 | 198.50 | 26.0 |
| | 1725 | 56 | Auto | 115/208-230 | 11.6/5.8-5.8 | 1.15 | B | 6K308 | 277.00 | 201.25 | 28.0 |
| 1 | 3450 | 56 | Auto | 115/230 | 12.0/6.0 | 1.0 | A | 6K484 | 232.00 | 168.25 | 28.0 |
| | 3450 | 56 | Manual | 115/230 | 12.0/6.0 | 1.0 | A | 5K960 | 238.00 | 163.25 | 28.0 |
| | 1725 | 56H | None | 115/230 | 14.0/7.0 | 1.15 | B | 1K065 | 283.00 | 207.25 | 33.0 |
| | 1725 | 56H | Auto | 115/230 | 14.0/7.0 | 1.15 | B | 6K562 | 307.00 | 210.50 | 33.0 |
| | 1725 | 56H | Manual | 115/230 | 14.0/7.0 | 1.15 | B | 6K640 | 296.00 | 217.25 | 33.0 |
| | 1725 | 56H | Auto | 115/208-230 | 14.6/7.4-7.3 | 1.0 | B | 6K309 | 311.00 | 226.00 | 33.0 |
| | 1725 | 56HZ | None | 115/230 | 14.0/7.0 | 1.15 | B | 6K407 | 343.00 | 251.25 | 33.0 |
| | 1725 | 56HZ | Manual | 115/230 | 14.0/7.0 | 1.15 | B | 6K418 | 357.00 | 261.50 | 36.0 |
| | 1725 | 143T | None | 115/230 | 14.0/7.0 | 1.15 | B | 6K827 | 275.00 | 205.50 | 34.0 |
| | 1725 | 66 | Auto | 115/230 | 13.6/6.8 | 1.0 | B | 6K124 | 358.00 | 274.00 | 35.0 |
| | 1740 | 182 | None | 115/230 | 13.8/6.9 | 1.0 | A | 5K485 | 328.00 | 285.00 | 49.0 |
| 1½ | 3450 | 56H | Manual | 115/230 | 16.4/8.2 | 1.0 | B | 6K338 | 323.00 | 199.00 | 34.0 |
| | 3500 | 143T | None | 115/230 | 16.4/8.2 | 1.0 | B | 3K300 | 321.00 | 214.75 | 34.0 |
| | 1725 | 56H | Auto | 115/230 | 16.2/8.1 | 1.15 | B | 5K565 * | 364.00 | 266.75 | 41.0 |
| | 1725 | 56H | Auto | 115/230 | 16.2/8.1 | 1.0 | B | 3ZP88 * | 315.00 | 228.25 | 41.0 |
| | 1725 | 56H | Manual | 115/230 | 16.2/8.1 | 1.15 | B | 5K641 * | 337.00 | 247.00 | 41.0 |
| | 1725 | 56H | None | 115/230 | 16.2/8.1 | 1.15 | B | 1K066 * | 321.00 | 235.50 | 41.0 |
| | 1725 | 56HZ | None | 115/230 | 16.2/8.1 | 1.15 | B | 6K419 * | 424.00 | 236.75 | 41.0 |
| | 1725 | 56HZ | Manual | 115/230 | 16.2/8.1 | 1.15 | B | 6K420 * | 438.00 | 320.75 | 41.0 |
| | 1725 | 145T | None | 115/230 | 16.2/8.1 | 1.15 | B | 6K828 * | 326.00 | 243.50 | 41.0 |
| | 1740 | 184 | None | 115/230 | 18.4/9.2 | 1.0 | A | 5K486 * | 392.00 | 340.50 | 56.0 |
| 2 | 3450 | 56H | Manual | 115/230 | 20.4/10.2 | 1.0 | B | 5K961 | 379.00 | 231.75 | 41.0 |
| | 3500 | 145T | None | 115/230 | 18.8/9.4 | 1.0 | B | 3K344 | 389.00 | 259.25 | 41.0 |
| | 1725 | 56H | None | 115/230 | 19.0/9.5 | 1.0 | B | 1K067 * | 492.00 | 360.25 | 54.0 |
| | 1740 | 182T | None | 115/230 | 23.6/11.8 | 1.0 | B | 5K966 * | 416.00 | 279.75 | 57.0 |
| | 1740 | 213 | None | 115/230 | 24.0/12.0 | 1.0 | A | 5K487 | 482.00 | 419.50 | 80.0 |
| 3 | 3500 | 182T | None | 115/230 | 32.0/16.0 | 1.0 | B | 6K145 | 465.00 | 303.50 | 77.0 |
| | 1740 | 184T | None | 115/230 | 30.0/15.0 | 1.0 | B | 5K967 | 496.00 | 329.75 | 79.0 |
| | 1730 | 215 | None | 115/230 | 33.6/16.8 | 1.0 | A | 5K488 * | 727.00 | 632.50 | 100.0 |
| 5 | 3505 | 184T | None | 230 | 19.6 | 1.0 | B | 6K146 * | 624.00 | 410.25 | 88.0 |
| | 1730 | 213T | None | 230 | 23.0 | 1.0 | B | 5K968 * | 562.00 | 456.75 | 106.0 |
| | 1745 | 215 | None | 230 | 20.0 | 1.0 | A | 5K489 * | 832.00 | 722.50 | 120.0 |
| 7½ | 3480 | 213T | None | 230 | 30.3 | 1.0 | B | 6K179 * | 827.00 | 538.50 | 132.0 |
| | 1740 | 215T | None | 230 | 30.0 | 1.0 | B | 6K176 * | 841.00 | 545.50 | 136.0 |

(*) Capacitor-start, capacitor-run.

# CAPACITOR-START TEFC MOTORS

- **Cast-iron construction on 182T, 184T, and 215T frames**

**Typical Uses:** Dependable operation in **non-combustible** dusty, dirty areas on air compressors, pumps, machinery, fans, blowers, tools, and conveyors.

**Type:** Capacitor-start

**Bearings:** Prelubricated ball

**Mounting:** Rigid welded base

**Enclosure:** TEFC

**Ambient:** 40°C

**Duty:** Continuous

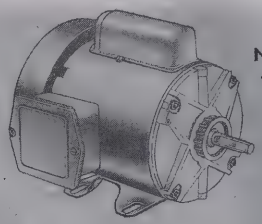
**Rotation:** CW/CCW

**Finish:** Gray

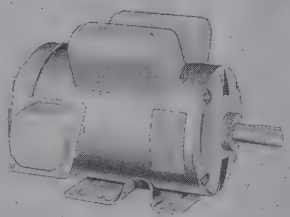
**Brand:** GE

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

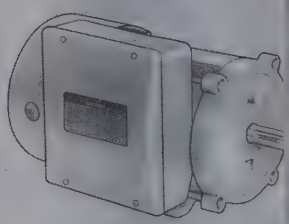
E47088



No. 2K577
48 Frame



No. 3K235
56H Frame



No. 3K156
184T Frame

Replacement Parts Available
1-800-323-0620

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/6** | 850 | 56 | None | 115/230 | 5.6/2.8 | 1.0 | B | C248 | **2K575** | $408.00 | **$245.25** | 31. |
| **1/4** | 1725 | 48 | Auto | 115/230 | 5.4/2.7 | 1.0 | B | C243 | **3K160** | 191.00 | **117.30** | 15. |
| | 1725 | 48 | None | 115/230 | 5.4/2.7 | 1.0 | B | C242 | **2K577** | 183.00 | **112.75** | 18. |
| | 1725 | 56 | Auto | 115/230 | 5.4/2.7 | 1.0 | B | C251 | **2K579** | 191.00 | **119.70** | 17. |
| | 1725 | 56 | None | 115/230 | 5.4/2.7 | 1.0 | B | C250 | **2K578** | 183.00 | **114.65** | 17. |
| | 1140 | 56 | None | 115/230 | 6.2/3.1 | 1.0 | B | C252 | **2K581** | 278.00 | **167.25** | 27. |
| **1/3** | 3450 | 48 | None | 115/230 | 5.6/2.8 | 1.0 | B | C244 | **2K582** | 164.00 | **102.35** | 17. |
| | 3450 | 56 | None | 115/230 | 5.6/2.8 | 1.0 | A | C253 | **2K583** | 164.00 | **102.35** | 17. |
| | 1725 | 56 | Auto | 115/230 | 5.6/2.8 | 1.15 | B | C255 | **3K225** | 211.00 | **129.45** | 20. |
| | 1725 | 56 | None | 115/230 | 6.0/3.0 | 1.0 | B | C254 | **2K584** | 203.00 | **124.80** | 19. |
| | 1140 | 56 | None | 115/230 | 8.6/4.3 | 1.0 | B | C257 | **2K587** | 292.00 | **178.50** | 31. |
| **1/2** | 3450 | 48 | Auto | 115/230 | 7.4/3.7 | 1.0 | A | C245 | **2K588** | 195.00 | **122.00** | 19. |
| | 3450 | 56 | Auto | 115/230 | 7.4/3.7 | 1.0 | B | C259 | **3K228** | 195.00 | **122.00** | 20. |
| | 3450 | 56 | None | 115/230 | 7.4/3.7 | 1.0 | B | C258 | **2K589** | 186.00 | **116.35** | 20. |
| | 1725 | 48 | None | 115/230 | 8.2/4.1 | 1.0 | B | C260 | **2K590** | 250.00 | **150.25** | 23. |
| | 1725 | 56 | Auto | 115/230 | 8.6/4.3 | 1.15 | B | C262 | **3K227** | 260.00 | **148.35** | 22. |
| | 1725 | 56 | None | 115/208-230 | 8.6/4.1-4.3 | 1.15 | B | C261 | **2K591** | 240.00 | **144.20** | 21. |
| | 1140 | 56 | None | 115/230 | 9.4/4.7 | 1.0 | A | C264 | **2K593** | 416.00 | **240.00** | 39. |
| **3/4** | 3450 | 56 | Auto | 115/230 | 9.8/4.9 | 1.0 | B | C266 | **3K230** | 215.00 | **134.45** | 22. |
| | 3450 | 56 | Manual | 115/230 | 9.8/4.9 | 1.0 | B | C267 | **2K596** | 218.00 | **136.70** | 23. |
| | 3450 | 56 | None | 115/230 | 9.8/4.9 | 1.0 | B | C265 | **2K595** | 208.00 | **130.45** | 23. |
| | 1725 | 56 | Auto | 115/230 | 11.0/5.5 | 1.0 | B | C269 | **3K229** | 316.00 | **177.25** | 34. |
| | 1725 | 56 | None | 115/208-230 | 11.0/5.4-5.5 | 1.15 | B | C268 | **2K597** | 286.00 | **172.50** | 31. |
| | 1140 | 56 | None | 115/230 | 10.6/5.3 | 1.0 | B | C271 | **2K599*** | 480.00 | **287.75** | 43. |
| **1** | 3450 | 56 | Auto | 115/230 | 13.4/6.7 | 1.0 | B | C273 | **3K234** | 271.00 | **161.75** | 30. |
| | 3450 | 56 | Manual | 115/230 | 13.4/6.7 | 1.0 | B | C274 | **2K601** | 275.00 | **166.50** | 30. |
| | 3450 | 56 | None | 115/230 | 13.4/6.7 | 1.0 | B | C272 | **2K600** | 268.00 | **161.50** | 29. |
| | 1725 | 56 | Auto | 115/230 | 13.2/6.6 | 1.0 | B | C276 | **3K231** | 330.00 | **198.25** | 41. |
| | 1725 | 56 | None | 115/230 | 13.2/6.6 | 1.15 | B | C275 | **2K602** | 327.00 | **196.25** | 38. |
| | 1725 | 143T | None | 115/230 | 13.2/6.6 | 1.0 | B | C295 | **2K604** | 327.00 | **196.25** | 38. |
| **1 1/2** | 3450 | 56 | Auto | 115/230 | 16.4/8.2 | 1.0 | B | C279 | **3K239** | 371.00 | **203.25** | 37. |
| | 3450 | 56 | Manual | 115/230 | 16.4/8.2 | 1.0 | B | C280 | **2K606** | 375.00 | **206.75** | 39. |
| | 1725 | 56H | Auto | 115/230 | 14.8/7.4 | 1.0 | B | C282 | **3K235*** | 422.00 | **230.50** | 49. |
| | 1725 | 56H | None | 115/208-230 | 14.8/7.9-7.4 | 1.15 | B | C281 | **2K607*** | 371.00 | **202.25** | 47. |
| | 1725 | 145T | None | 115/208-230 | 14.8/7.9-7.4 | 1.0 | B | C297 | **3K152*** | 371.00 | **229.00** | 49. |
| **2** | 3450 | 56 | Manual | 115/230 | 17.8/8.9 | 1.0 | B | C284 | **2K609*** | 440.00 | **241.00** | 42. |
| | 1730 | 182T | None | 115/230 | 24.0/12.0 | 1.0 | F | N777 | **3K155** | 416.00 | **275.50** | 90. |
| **3** | 3460 | 182T | None | 115/230 | 25.8/12.9 | 1.0 | F | N778 | **2K567** | 465.00 | **307.75** | 86. |
| | 1730 | 184T | None | 115/230 | 30.0/15.0 | 1.0 | F | N779 | **3K156** | 496.00 | **328.25** | 98. |
| **5** | 3490 | 184T | None | 230 | 20.5 | 1.0 | F | N780 | **2K568*** | 624.00 | **413.25** | 96. |
| | 1730 | 184T | None | 230 | 21.5 | 1.0 | F | N781 | **3K159*** | 562.00 | **372.00** | 106. |
| **7 1/2** | 3505 | 215T | None | 230 | 33.3 | 1.0 | F | N782 | **2K569*** | 827.00 | **547.50** | 153. |
| | 1740 | 215T | None | 230 | 34.0 | 1.0 | F | N783 | **2K570*** | 841.00 | **556.50** | 168. |
| **10** | 1735 | 215T | None | 230 | 44.0 | 1.0 | F | N785 | **2K566** | 1035.00 | **685.00** | 204. |

(*) Capacitor-start, capacitor-run.

# HIGH EFFICIENCY CAPACITOR-START MOTORS

- **Copper windings**
- **High efficiency**

**Typical Uses:** General purpose applications including air compressors, conveyors, fans, blowers, machine tools, pumps, and other industrial equipment.

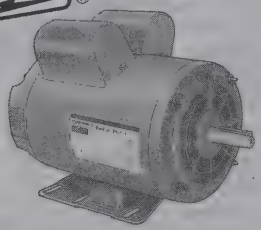
**Type:** Capacitor-start, capacitor-run
**Bearings:** Double-shielded ball
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton Wattrimmer

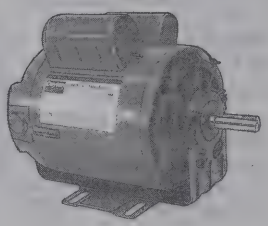
E47479

LR22132

ENERGY RIGHT®



No. 4K762
56H Frame
Rigid Base



No. 4K708
56 Frame
Cradle Base

Replacement Parts Available 1-800-323-0620

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF** | | | | | | | | | | | | |
| 1/4 | 1725 | 56 | None | OPDP | 115/230 | 2.8/1.4 | 1.35 | Cradle | ✓4K700 | $157.00 | **$120.05** | 21.0 |
| | 1725 | 56 | Auto | OPDP | 115/230 | 2.8/1.4 | 1.35 | Cradle | ✓4K101 | 165.00 | **126.30** | 24.0 |
| 1/3 | 1725 | 56 | None | OPDP | 115/230 | 3.8/1.9 | 1.35 | Cradle | ✓4K708 | 186.00 | **141.90** | 23.0 |
| | 1725 | 56 | Auto | OPDP | 115/230 | 3.8/1.9 | 1.35 | Cradle | ✓4K102 | 194.00 | **148.15** | 25.0 |
| 1/2 | 1725 | 56 | None | OPDP | 115/230 | 5.5/2.7 | 1.25 | Cradle | ✓4K715 | 214.00 | **164.00** | 28.0 |
| | 1725 | 56 | Auto | OPDP | 115/230 | 5.5/2.7 | 1.25 | Cradle | ✓4K103 | 222.00 | **170.25** | 28.0 |
| 3/4 | 1725 | 56 | None | OPDP | 115/230 | 8.2/4.1 | 1.25 | Cradle | ✓4K750 | 262.00 | **200.50** | 32.0 |
| | 1725 | 56 | Auto | OPDP | 115/230 | 8.2/4.1 | 1.25 | Cradle | ✓4K104 | 270.00 | **207.00** | 31.0 |
| 1 | 1725 | 56 | None | OPDP | 115/230 | 9.2/4.6 | 1.25 | Cradle | ✓4K757 | 283.00 | **216.25** | 37.0 |
| | 1725 | 56 | Auto | OPDP | 115/230 | 9.2/4.6 | 1.25 | Cradle | ✓4K105 | 291.00 | **222.25** | 38.0 |
| 1½ | 1725 | 56H | None | OPDP | 115/230 | 14.0/7.0 | 1.15 | Rigid | ✓4K762 | 346.00 | **265.00** | 36.0 |
| | 1725 | 56H | Auto | OPDP | 115/230 | 14.0/7.0 | 1.15 | Rigid | ✓4K106 | 348.00 | **266.25** | 36.0 |
| 2 | 1740 | 56H | None | OPDP | 115/230 | 19.4/9.7 | 1.15 | Rigid | ✓4K774 | 392.00 | **299.75** | 42.0 |
| | 1740 | 56H | Auto | OPDP | 115/230 | 19.4/9.7 | 1.15 | Rigid | ✓4K107 | 390.00 | **298.50** | 41.0 |
| **TENV AND TEFC** | | | | | | | | | | | | |
| 1/3 | 1725 | 56 | None | TENV | 115/230 | 3.8/1.9 | 1.0 | Rigid | ✓4K763 | 193.00 | **147.40** | 23.0 |
| | 1725 | 56 | Auto | TENV | 115/230 | 3.8/1.9 | 1.0 | Rigid | ✓4K095 | 201.00 | **154.00** | 23.0 |
| 1/2 | 1725 | 56 | None | TENV | 115/230 | 5.5/2.7 | 1.0 | Rigid | ✓4K764 | 227.00 | **174.25** | 26.0 |
| | 1725 | 56 | Auto | TENV | 115/230 | 5.5/2.7 | 1.0 | Rigid | ✓4K096 | 247.00 | **189.25** | 28.0 |
| 3/4 | 1725 | 56 | None | TENV | 115/230 | 7.6/3.8 | 1.0 | Rigid | ✓4K765 | 271.00 | **207.75** | 35.0 |
| | 1725 | 56 | Auto | TENV | 115/230 | 7.6/3.8 | 1.0 | Rigid | ✓4K097 | 300.00 | **230.00** | 37.0 |
| 1 | 1725 | 56H | None | TEFC | 115/230 | 9.2/4.6 | 1.0 | Rigid | ✓4K766 | 310.00 | **237.50** | 38.0 |
| | 1725 | 56H | Auto | TEFC | 115/230 | 9.2/4.6 | 1.0 | Rigid | ✓4K098 | 338.00 | **258.50** | 38.0 |
| 1½ | 1725 | 56H | None | TEFC | 115/230 | 14.0/7.0 | 1.0 | Rigid | ✓4K767 | 353.00 | **270.50** | 41.0 |
| | 1725 | 56H | Auto | TEFC | 115/230 | 14.0/7.0 | 1.0 | Rigid | ✓4K099 | 400.00 | **306.00** | 41.0 |

(✓) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## PREMIUM EFFICIENCY vs. STANDARD EFFICIENCY

$$\text{Annual Savings} = 0.746 \times HP \times L \times C \times N \left(\frac{100}{E_1} - \frac{100}{E_2}\right)$$

HP = Motor Horsepower
L = Percent Load Divided by 100
C = Eneergy Cost, Dollars per Kilowatt Hour
N = Running Time, Hours per Year
$E_1$ = Efficiency (%) of Standard Efficiency Motor
$E_2$ = Efficiency (%) of Standard Efficiency Motor

### Lower Operating Cost:

If you operate a 25 HP premium efficiency motor at full load for 24 hours a day (8760 hours per year) and your cost per kilowatt hour is 9 cents, you can save $532.00 annually. This comparison is based on a premium efficiency motor with a 94.1 efficiency rating vs. a standard efficiency motor with a 91.0 efficiency rating.

### Increased efficiency leads to lower operating temperatures, resulting in longer life.

**Cooler Operation:** The life of an insulation system doubles for each 10°C reduction in operating temperature.

**Longer Bearing Life:** The lower the temperature, the longer the bearing grease will last.

GENERAL PURPOSE INDUSTRIAL MOTORS

# 3-PHASE HIGH EFFICIENCY MOTORS

- NEMA 56HZ frame motors have 7/8 x 2¼" shaft and mounting base holes/slots to match NEMA 56, 56H, 143T, and 145T frame motors
- NEMA Design B
- Two year warranty
- Open dripproof and TEFC models
- 56HZ, 143T and 145T frames meet efficiency for Energy Policy Act of 1992

**Typical Uses:** Pumps, blowers, machine tools, air compressors, and other industrial applications where 3-phase power is available.

**Bearings:** Double-shielded ball

**Mounting:** Rigid welded

**Thermal Protection:** None

**Windings:** Copper

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

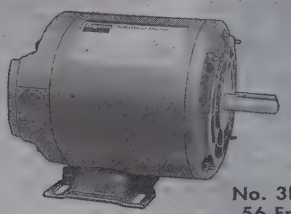
**Finish:** Gray

**Brand:** Dayton

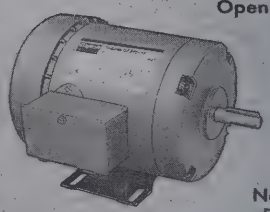
Dayton®

E47479

New



No. 3N040
56 Frame
Open Dripproof



No. 2N864
56 Frame
TEFC

**Replacement Parts Available**
**1-800-323-0620**

**Modification & Service Available**
**Contact Your Local Branch**

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

## OPEN DRIPPROOF MOTORS

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725/1425 | 56 | 208-220/440* | 1.2-1.4/0.7 | 1.35 | 66.0 | A | 2N101 | $156.00 | $119.35 | 15.0 |
| | 1140/950 | 56 | 208-220/440* | 1.4-1.5/0.8 | 1.35 | 62.0 | A | 2N878 | 232.00 | 177.25 | 17.0 |
| 1/3 | 3450 | 48 | 230/460‡ | 1.4/0.7 | 1.35 | 64.0 | B | 3N851 | 134.00 | 102.25 | 17.0 |
| | 3450/2850 | 56 | 208-220/440* | 1.4-1.5/0.8 | 1.35 | 64.0 | A | 3N589 | 151.00 | 115.50 | 16.0 |
| | 1725 | 56 | 230/460‡ | 1.8/0.9 | 1.35 | 62.0 | B | 3N040 | 152.00 | 107.10 | 17.0 |
| | 1725/1425 | 56 | 208-220/440* | 1.4-1.4/0.7 | 1.35 | 66.0 | A | 2N102 | 169.00 | 108.80 | 18.0 |
| | 1140/950 | 56 | 208-220/440* | 1.7-1.8/0.9 | 1.35 | 70.0 | A | 2N879 | 241.00 | 184.50 | 23.0 |
| | 1140 | 56 | 575 | 0.6 | 1.35 | 77.0 | B | 2R996 | 245.00 | 180.25 | 23.0 |
| 1/2 | 3450 | 48 | 230/460‡ | 1.8/0.9 | 1.25 | 70.0 | B | 3N852 | 142.00 | 108.45 | 18.0 |
| | 3450/2850 | 56 | 208-220/440* | 2.3-2.5/1.2 | 1.25 | 62.0 | B | 3N590 | 159.00 | 121.70 | 19.0 |
| | 1725 | 56 | 230/460‡ | 2.0/1.0 | 1.25 | 72.0 | B | 3N041 | 177.00 | 120.40 | 21.0 |
| | 1725/1425 | 56 | 208-220/440* | 2.0-2.0/1.0 | 1.25 | 72.0 | A | 2N103 | 195.00 | 120.40 | 20.0 |
| | 1725 | 56 | 575 | 1.0 | 1.25 | 64.0 | B | 3GC90 | 165.00 | 121.80 | 21.0 |
| | 1140/950 | 56 | 208-220/440* | 2.1-2.2/1.1 | 1.25 | 72.0 | A | 2N880 | 264.00 | 202.50 | 25.0 |
| 3/4 | 3450 | 48 | 230/460‡ | 2.4/1.2 | 1.25 | 74.0 | B | 3N853 | 169.00 | 129.50 | 18.0 |
| | 3450 | 56 | 208-220/440* | 2.8-3.0/1.5 | 1.25 | 70.0 | A | 3N591 | 187.00 | 142.75 | 20.0 |
| | 1725 | 56 | 230/460‡ | 2.8/1.4 | 1.25 | 78.5 | B | 3N042 | 198.00 | 133.15 | 23.0 |
| | 1725/1425 | 56 | 208-220/440* | 2.7-2.8/1.4 | 1.25 | 78.5 | A | 2N104 | 215.00 | 138.50 | 23.0 |
| | 1725 | 56 | 575 | 1.3 | 1.25 | 72.0 | B | 2R998 | 184.00 | 135.35 | 23.0 |
| | 1140/950 | 56H | 208-220/440* | 3.0-3.0/1.5 | 1.25 | 74.0 | A | 3N316 | 285.00 | 178.50 | 30.0 |
| | 1140 | 143T | 208-230/460 | 3.4-3.5/1.7 | 1.15 | 75.5 | B | 2Z001 | 247.00 | 182.50 | 33.0 |
| 1 | 3450 | 56 | 208-220/440 | 3.7-3.8/1.9 | 1.25 | 77.0 | B | 3ZP90 | 189.00 | 137.20 | 22.0 |
| | 3450 | 56 | 208-230/460 | 3.4-3.2/1.6 | 1.25 | 77.0 | A | 3N178 | 216.00 | 165.50 | 22.0 |
| | 3450 | 56HZ | 208-220/440* | 3.7-3.8/1.9 | 1.25 | 77.0 | B | 2Z007 | 194.00 | 142.90 | 22.0 |
| | 1725/1425 | 56 | 208-220/440* | 3.4-3.4/1.7 | 1.25 | 78.5 | A | 3N012 | 232.00 | 141.80 | 26.0 |
| | 1725 | 56H | 230/460‡ | 3.6/1.8 | 1.15 | 78.5 | B | 3N043 | 208.00 | 159.50 | 23.0 |
| | 1725 | 56HZ | 208-230/460* | 4.0-3.8/1.9 | 1.15 | 82.5 | B | New 4LX01 | 252.00 | 193.00 | 28.0 |
| | 1725 | 56H | 575 | 1.6 | 1.15 | 84.0 | B | 2Z028 | 207.00 | 153.00 | 26.0 |
| | 1140 | 56H | 208-230/460 | 4.2-4.3/2.2 | 1.15 | 75.5 | B | 2Z036 | 288.00 | 212.25 | 34.0 |
| | 1140 | 56HZ | 208-230/460* | 4.0-4.0/2.0 | 1.15 | 80.0 | B | New 4LX03 | 259.00 | 200.50 | 32.0 |
| 1½ | 3450/2850 | 56 | 208-220/440* | 4.8-4.6/2.3 | 1.15 | 77.0 | A | 3N592 | 259.00 | 198.50 | 26.0 |
| | 3450 | 56HZ | 208-220/460* | 4.6-4.3/2.1 | 1.15 | 82.5 | B | New 4LW62 | 218.00 | 169.00 | 30.0 |
| | 1725 | 56H | 230/460‡ | 4.8/2.4 | 1.15 | 80.0 | B | 3N044 | 244.00 | 164.25 | 32.0 |
| | 1725/1425 | 56H | 208-220/440* | 5.0-5.0/2.5 | 1.20 | 78.5 | B | 3N013 | 267.00 | 164.25 | 33.0 |
| | 1725 | 56H | 575 | 1.9 | 1.15 | 84.0 | B | 2Z049 | 205.00 | 151.75 | 33.0 |
| | 1725 | 56HZ | 208-230/460* | 5.0-4.9/2.5 | 1.15 | 84.0 | B | New 4LW97 | 279.00 | 180.75 | 34.0 |
| | 1140 | 56H | 208-230/460 | 6.2-6.3/3.1 | 1.15 | 80.0 | B | 2Z143 | 328.00 | 241.50 | 33.0 |
| | 1140 | 56HZ | 208-230/460* | 6.2-6.3/3.2 | 1.15 | 85.5 | B | New 4LW99 | 296.00 | 229.00 | 38.0 |

(*) 50 Hz operation at rated HP on 190/380V. (‡) Operable on 50 Hz, 190/380V at 5/6 of 60 Hz HP and speed (1.0 SF). (✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

# 3-PHASE HIGH EFFICIENCY MOTORS

## DAYTON 3-PHASE OPEN DRIPPROOF MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 3450/2850 | 56H | 280-220/440* | 6.2-6.2/3.1 | 1.15 | 81.5 | A | ✓ **3N593** | $275.00 | **$211.00** | 33.0 |
| | 3450 | 56HZ | 208-230/460* | 6.0-5.5/2.8 | 1.15 | 84.0 | B | ***New*** **4LW65** | 259.00 | **200.00** | 33.0 |
| | 1725 | 56H | 230/460‡ | 6.4/3.2 | 1.15 | 80.0 | B | ✓ **3N693** | 245.00 | **170.50** | 34.0 |
| | 1725 | 56H | 575 | 2.5 | 1.15 | 84.0 | B | ✓ **2Z219** | 245.00 | **181.00** | 34.0 |
| | 1725 | 56HZ | 208-230/460* | 6.6-6.6/3.3 | 1.15 | 85.5 | B | ***New*** **4LX06** | 306.00 | **253.75** | 36.0 |
| **3** | 3450 | 56H | 575 | 3.3 | 1.15 | 84.0 | B | ✓ **2Z248** | 281.00 | **208.25** | 36.0 |
| | 3450 | 56HZ | 208-230/460 | 9.2-8.7/4.3 | 1.15 | 84.0 | B | ✓ **2Z267** | 282.00 | **207.50** | 36.0 |
| | 3450 | 145T | 230/460‡ | 8.7/4.3 | 1.15 | 84.0 | B | ✓ **3ZP89** | 273.00 | **197.75** | 36.0 |
| | 1725 | 56HZ | 208-230/460* | 9.7-9.4/4.6 | 1.15 | 86.5 | B | ***New*** **4LX07** | 320.00 | **245.75** | 41.0 |
| | 1725 | 145T | 208-230/460 | 9.7-9.4/4.6 | 1.15 | 86.5 | B | ✓ **2Z276** | 262.00 | **194.75** | 41.0 |

## TOTALLY ENCLOSED FAN-COOLED MOTORS

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1725 | 42 | 208-220/440* | 1.0-1.0/0.5 | 1.0 | 66.0 | B | ✓ **3N843** | $171.00 | **$131.05** | 17.0 |
| | 1725 | 48 | 230/460‡ | 1.3/0.7 | 1.0 | 66.0 | B | ✓ **3N349 #** | 154.00 | **117.80** | 17.0 |
| | 1725/1425 | 56 | 208-220/440* | 1.2-1.4/0.7 | 1.0 | 66.0 | A | ✓ **2N863** | 171.00 | **112.95** | 17.0 |
| | 1140 | 56 | 208-230/460 | 1.4-1.4/0.7 | 1.15 | 75.5 | B | ✓ **2Z323** | 223.00 | **163.50** | 17.0 |
| **1/3** | 3450 | 48 | 230/460‡ | 1.4/0.7 | 1.0 | 64.0 | B | ✓ **3N854 #** | 143.00 | **109.20** | 18.0 |
| | 1725 | 42 | 208-220/440* | 1.3-1.3/0.7 | 1.0 | 70.0 | B | ✓ **3N844** | 189.00 | **144.30** | 19.0 |
| | 1725 | 48 | 230/460‡ | 1.3/0.6 | 1.0 | 72.0 | B | ✓ **3N350 #** | 171.00 | **131.05** | 18.0 |
| | 1725/1425 | 56 | 208-220/440* | 1.5-1.6/0.8 | 1.0 | 66.0 | A | ✓ **2N864** | 189.00 | **123.45** | 19.0 |
| | 1725 | 56 | 575 | 0.7 | 1.15 | 64.0 | B | ✓ **3GC86** | 164.00 | **121.90** | 28.0 |
| | 1140/950 | 56 | 208-220/440* | 1.7-1.8/0.9 | 1.0 | 70.0 | A | ✓ **2N925** | 265.00 | **203.00** | 23.0 |
| **1/2** | 3450 | 48 | 230/460‡ | 1.8/0.9 | 1.0 | 70.0 | B | ✓ **3N855** | 165.00 | **126.45** | 18.0 |
| | 3450 | 56 | 208-220/440* | 2.2-2.3/1.2 | 1.0 | 66.0 | A | ✓ **3N442** | 183.00 | **139.65** | 20.0 |
| | 3450 | 56 | 575 | 0.8 | 1.15 | 66.0 | B | ✓ **2Z347** | 167.00 | **123.60** | 20.0 |
| | 1725 | 48 | 230/460‡ | 1.9/1.0 | 1.0 | 74.0 | B | ✓ **3N351** | 202.00 | **154.75** | 18.0 |
| | 1725/1425 | 56 | 208-220/440* | 2.0-2.0/1.0 | 1.0 | 72.0 | A | ✓ **2N865** | 219.00 | **134.65** | 21.0 |
| | 1725 | 56 | 575 | 1.0 | 1.15 | 64.0 | B | ✓ **3GC88** | 187.00 | **137.65** | 21.0 |
| | 1140/950 | 56 | 208-220/440* | 2.1-2.2/1.1 | 1.0 | 72.0 | A | ✓ **2N926** | 285.00 | **218.00** | 26.0 |
| | 1140 | 56 | 575 | 0.9 | 1.15 | 70.0 | B | ✓ **2Z380** | 271.00 | **199.50** | 26.0 |
| **3/4** | 3450 | 48 | 230/460‡ | 2.4/1.2 | 1.0 | 74.0 | B | ✓ **3N856** | 182.00 | **138.90** | 22.0 |
| | 3450 | 56 | 208-220/440* | 2.8-2.9/1.5 | 1.0 | 70.0 | A | ✓ **3N443** | 199.00 | **152.25** | 22.0 |
| | 3450 | 56 | 575 | 1.0 | 1.15 | 74.0 | B | ✓ **2Z500** | 186.00 | **136.50** | 22.0 |
| | 1725 | 48 | 230/460‡ | 3.0/1.5 | 1.0 | 77.0 | B | ✓ **3N352** | 217.00 | **166.50** | 22.0 |
| | 1725/1425 | 56 | 208-220/440* | 2.7-2.8/1.4 | 1.0 | 78.5 | A | ✓ **2N866** | 235.00 | **145.35** | 24.0 |
| | 1725 | 56 | 575 | 1.3 | 1.15 | 72.0 | B | ✓ **3GC91** | 201.00 | **148.20** | 24.0 |
| | 1140/950 | 56H | 208-220/440‡ | 3.0-3.0/1.5 | 1.0 | 74.0 | B | ✓ **3N427** | 273.00 | **209.75** | 30.0 |
| | 1140 | 143T | 208-230/460 | 3.4-3.5/1.7 | 1.15 | 75.5 | B | ✓ **2Z657** | 277.00 | **204.50** | 30.0 |
| | 1140 | 143T | 575 | 1.3 | 1.15 | 75.5 | B | ✓ **2Z828** | 277.00 | **204.50** | 30.0 |
| **1** | 3450 | 56 | 208-220/440* | 3.4-3.4/1.7 | 1.0 | 74.0 | B | ✓ **3N317** | 238.00 | **164.25** | 23.0 |
| | 3450 | 56HZ | 208-230/460 | 3.4-3.2/1.6 | 1.15 | 77.0 | B | ✓ **2Z939** | 218.00 | **159.00** | 23.0 |
| | 3450 | 56 | 575 | 1.3 | 1.15 | 75.5 | B | ✓ **2Z937** | 218.00 | **160.25** | 23.0 |
| | 1725 | 56HZ | 208-230/460* | 4.0-3.8/1.9 | 1.15 | 82.5 | B | ***New*** **4LX02** | 284.00 | **227.25** | 28.0 |
| | 1725/1425 | 56H | 208-220/440* | 3.4-3.4/1.7 | 1.0 | 78.5 | A | ✓ **3N017** | 250.00 | **154.25** | 29.0 |
| | 1725 | 56H | 575 | 1.6 | 1.15 | 84.0 | B | ✓ **2Z981** | 210.00 | **155.25** | 29.0 |
| | 1140 | 56H | 208-230/460 | 4.2-4.3/2.2 | 1.15 | 77.0 | B | ✓ **3GC39** | 282.00 | **207.25** | 32.0 |
| | 1140 | 56HZ | 208-230/460* | 4.0-4.0/2.0 | 1.15 | 80.0 | B | ***New*** **4LX04** | 282.00 | **225.25** | 32.0 |
| **1½** | 3450/2850 | 56H | 208-220/440* | 4.8-4.6/2.3 | 1.0 | 77.0 | B | ✓ **3N444** | 261.00 | **200.00** | 30.0 |
| | 3450 | 56HZ | 208-230/460* | 4.6-4.3/2.1 | 1.15 | 82.5 | B | ***New*** **4LW63** | 233.00 | **180.75** | 30.0 |
| | 3450 | 143T | 575 | 1.7 | 1.15 | 82.5 | B | ✓ **3GC42** | 233.00 | **172.00** | 30.0 |
| | 1725 | 56H | 208-220/440* | 5.0-5.02.5 | 1.0 | 78.5 | B | ✓ **3N018** | 265.00 | **166.50** | 34.0 |
| | 1725 | 145T | 575 | 1.9 | 1.15 | 84.0 | B | ✓ **3GC43** | 218.00 | **162.00** | 34.0 |
| | 1725 | 56HZ | 208-230/460* | 5.0-4.9/2.5 | 1.15 | 84.0 | B | ***New*** **4LW98** | 308.00 | **247.25** | 34.0 |
| | 1140 | 56H | 208-230/460 | 5.4/2.7 | 1.15 | 80.0 | B | ✓ **3GC81** | 322.00 | **235.25** | 16.0 |
| **2** | 3450/2850 | 56H | 208-220/440* | 6.2-6.2/3.1 | 1.0 | 77.0 | B | ✓ **3N445** | 287.00 | **219.75** | 33.0 |
| | 3450 | 56HZ | 208-230/460* | 6.0-5.5/2.8 | 1.15 | 84.0 | B | ***New*** **4LW66** | 268.00 | **210.25** | 33.0 |
| | 3450 | 145T | 208-230/460 | 6.0-5.5/2.8 | 1.15 | 84.0 | B | ✓ **3GC84** | 268.00 | **197.75** | 35.0 |
| | 3450 | 145T | 575 | 2.2 | 1.15 | 84.0 | B | ✓ **3GC45** | 268.00 | **197.75** | 33.0 |
| | 1725 | 56H | 208-220/440‡ | 6.2-6.2/3.1 | 1.0 | 80.0 | B | ✓ **3N486** | 250.00 | **174.50** | 36.0 |
| | 1725 | 145T | 575 | 2.4 | 1.15 | 84.0 | B | ✓ **3GC46** | 231.00 | **171.25** | 36.0 |
| | 1725 | 56HZ | 208-230/460* | 6.6-6.6/3.3 | 1.15 | 85.5 | B | ***New*** **4LX05** | 338.00 | **279.75** | 36.0 |
| **3** | 3450 | 56HZ | 208-230/460 | 8.7-7.9/4.0 | 1.15 | 86.5 | F | ✓ **3GC47** | 307.00 | **227.00** | 41.0 |
| | 3450 | 145T | 575 | 3.2 | 1.15 | 86.5 | F | ✓ **3GC48** | 307.00 | **226.50** | 37.0 |
| | 3450 | 145T | 208-230/460* | 8.7-7.9/4.0 | 1.15 | 85.5 | F | ***New*** **4LW68** | 294.00 | **238.75** | 37.0 |

(*) Operable on 50 Hz at 208-220/440V or 190/380V at 5/6 of 60 Hz speed and full HP. (‡) Operable on 50 Hz at 190/380V, at 5/6 of 60 Hz HP and speed.
(#) TENV (✓) Denotes energy efficient product.

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# 3-PHASE FEDERAL EFFICIENCY OPEN DRIPPROOF MOTORS

- Meets NEMA MG1 Part 30 inverter duty use at 10:1 variable torque and 2:1 constant torque speed range
- Increased efficiency leads to lower operating cost
- 100% copper windings
- Motors run cool for increased life
- 12 leads, WYE Start-Delta Run capable on 254T frame and larger
- Usable on 50Hz 190/380V at rated HP and 1.0 service factor
- Class F insulation system, Class B rise at service factor
- Two-year warranty

**Typical Uses:** Premium efficiency performance on pumps, fans, blowers, and other industrial equipment.

**Bearings:** Double-shielded ball

**Mounting:** Rigid welded base

**Thermal Protection:** None

**Windings:** Copper

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** Gray

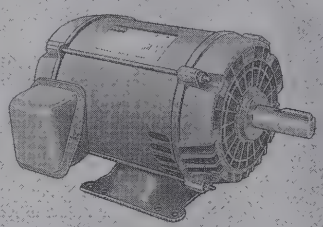
**Brand:** Dayton

**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

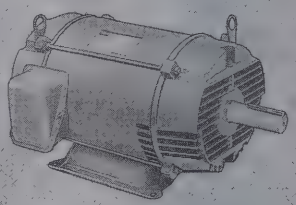
Dayton® Wattrimmer

**The Energy Policy Act of 1992**
The motor products in this offering, frame sizes 143T through 449T, meet/exceed the EPACT 92 legislative efficiency levels.
For details of EPACT legislation, see page 6.

E47479



No. 3KW37
184T Frame



No. 3KW49
256T Frame

Replacement Parts Available
1-800-323-0620

Modification & Service Available
Contact Your Local Branch

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame* | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1740 | 143T | 208-230/460 | 3.1-3.0/1.5 | 1.15 | 82.5 | RS | F | 3KW25 | $224.00 | $152.25 | 30.0 |
| | 1150 | 145T | 208-230/460 | 3.8-3.8/1.9 | 1.15 | 80.0 | RS | F | 3KW26 | 289.00 | 212.50 | 35.0 |
| 1½ | 3495 | 143T | 208-230/460 | 4.3-4.0/2.0 | 1.15 | 82.5 | RS | F | 3KW27 | 246.00 | 178.25 | 30.0 |
| | 1740 | 145T | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | RS | F | 3KW28 | 246.00 | 162.25 | 35.0 |
| | 1170 | 182T | 208-230/460 | 5.5-5.2/2.6 | 1.15 | 84.0 | RS | F | 3KW29 | 305.00 | 222.25 | 50.0 |
| 2 | 3495 | 145T | 208-230/460 | 5.5-5.2/2.6 | 1.15 | 84.0 | RS | F | 3KW30 | 289.00 | 209.75 | 35.0 |
| | 1740 | 145T | 208-230/460 | 6.0-6.0/3.0 | 1.15 | 84.0 | RS | F | 3KW31 | 271.00 | 177.00 | 35.0 |
| | 1170 | 184T | 208-230/460 | 7.2-7.0/3.5 | 1.15 | 85.5 | RS | F | 3KW32 | 312.00 | 227.75 | 60.0 |
| 3 | 3475 | 145T | 208-230/460 | 8.3-7.6/3.8 | 1.15 | 84.0 | RS | F | 3KW33 | 325.00 | 230.25 | 35.0 |
| | 1765 | 182T | 208-230/460 | 8.7-8.4/4.2 | 1.15 | 86.5 | RS | F | 3KW34 | 290.00 | 190.50 | 50.0 |
| | 1175 | 213T | 208-230/460 | 9.7-9.2/4.6 | 1.15 | 86.5 | RS | F | 3KW35 | 432.00 | 317.00 | 90.0 |
| 5 | 3495 | 182T | 208-230/460 | 14.0-12.8/6.4 | 1.15 | 85.5 | RS | F | 3KW36 | 378.00 | 262.00 | 50.0 |
| | 1755 | 184T | 208-230/460 | 14.2-13.0/6.5 | 1.15 | 87.5 | RS | F | 3KW37 | 327.00 | 217.00 | 60.0 |
| | 1170 | 215T | 208-230/460 | 15.6-14.6/7.3 | 1.15 | 87.5 | RS | F | 3KW38 | 599.00 | 436.50 | 100.0 |
| 7½ | 3490 | 184T | 208-230/460 | 20.3-18.3/9.1 | 1.15 | 87.5 | RS | F | 3KW39 | 451.00 | 307.50 | 60.0 |
| | 1760 | 213T | 208-230/460 | 20.9-19.2/9.6 | 1.15 | 88.5 | RS | F | 3KW40 | 492.00 | 308.25 | 90.0 |
| | 1165 | 254T | 208-230/460 | 20.7-18.8/9.4 | 1.15 | 88.5 | RS | F | 3KW41 | 744.00 | 558.50 | 150.0 |
| 10 | 3500 | 213T | 208-230/460 | 27.4-25.4/12.7 | 1.15 | 88.5 | RS | F | 3KW42 | 581.00 | 405.75 | 90.0 |
| | 1760 | 215T | 208-230/460 | 27.2-24.6/12.3 | 1.15 | 89.5 | RS | F | 3KW43 | 593.00 | 377.00 | 100.0 |
| | 1165 | 256T | 208-230/460 | 27.0-24.4/12.2 | 1.15 | 90.2 | RS | F | 3KW44 | 864.00 | 647.00 | 160.0 |
| 15 | 3485 | 215T | 208-230/460 | 40.3-36.4/18.2 | 1.15 | 89.5 | RS | F | 3KW45 | 768.00 | 522.50 | 100.0 |
| | 1770 | 254T | 208-230/460 | 40.5-38.0/19.0 | 1.15 | 91.0 | RS | F | 3KW46 | 815.00 | 552.00 | 150.0 |
| | 1180 | 284T | 208-230/460 | 41.3-37.6/18.8 | 1.15 | 90.2 | RS | F | 3KW47 | 1104.00 | 824.00 | 225.0 |
| 20 | 3530 | 254T | 208-230/460 | 54.0-47.2/23.6 | 1.15 | 90.2 | RS | F | 3KW48 | 903.00 | 648.50 | 150.0 |
| | 1765 | 256T | 208-230/460 | 55.0-49.8/24.9 | 1.15 | 91.0 | RS | F | 3KW49 | 944.00 | 658.50 | 160.0 |
| | 1180 | 286T | 208-230/460 | 55.0-50.0/25.0 | 1.15 | 91.0 | RS | F | 3KW50 | 1416.00 | 1056.00 | 275.0 |
| 25 | 3530 | 256T | 208-230/460 | 66.0-58.0/29.0 | 1.15 | 91.0 | RS | F | 3KW51 | 1101.00 | 755.00 | 160.0 |
| | 1775 | 284T | 208-230/460 | 63.0-61.0/30.5 | 1.15 | 91.7 | RS | F | 3KW52 | 1112.00 | 810.50 | 225.0 |
| | 1185 | 324T | 208-230/460 | 66.3-59.4/29.7 | 1.15 | 91.7 | RS | F | 3KW53 | 1662.00 | 1248.00 | 420.0 |
| 30 | 3555 | 284TS | 208-230/460 | 79.6-69.8/34.9 | 1.15 | 91.0 | RS | F | 3KW54 | 1251.00 | 934.00 | 225.0 |
| | 1775 | 286T | 208-230/460 | 79.0-71.0/35.5 | 1.15 | 92.4 | RS | F | 3KW55 | 1299.00 | 920.50 | 250.0 |
| | 1180 | 326T | 208-230/460 | 80.0-70.0/35.0 | 1.15 | 92.4 | RS | F | 3KW56 | 1852.00 | 1385.00 | 460.0 |
| 40 | 3540 | 286TS | 208-230/460 | 104.0-90.2/45.0 | 1.15 | 91.7 | RS | F | 3KW57 | 1702.00 | 1196.00 | 275.0 |
| | 1780 | 324T | 208-230/460 | 102.0-92.0/46.0 | 1.15 | 93.0 | RS | F | 3KW58 | 1591.00 | 1167.00 | 385.0 |
| | 1190 | 364T | 230/460 | 94.0/47.0 | 1.15 | 93.0 | CI | F | 3KW62 | 2616.00 | 1998.00 | 580.0 |

(*) RS = Rolled Steel; CI = Cast Iron. (✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE



We're the driving force in the motor business.

## DAYTON 3-PHASE OPEN DRIPPROOF FEDERAL EFFICIENCY MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame* | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 3555 | 324TS | 208-230/460 | 130.0-116.0/58.0 | 1.15 | 92.4 | RS | F | **3KW59** | $2061.00 | **$1712.00** | 385.0 |
| | 1775 | 326T | 208-230/460 | 128.0-116.0/58.0 | 1.15 | 93.0 | RS | F | **3KW60** | 1856.00 | **1385.00** | 420.0 |
| | 1190 | 365T | 230/460 | 116.0/58.0 | 1.15 | 93.0 | CI | F | **3KW63** | 3108.00 | **2334.00** | 600.0 |
| **60** | 3550 | 326TS | 230/460 | 140.0/70.0 | 1.15 | 93.6 | RS | F | **3KW61** | 2470.00 | **1733.00** | 460.0 |
| | 1785 | 364T | 230/460 | 138.0/69.0 | 1.15 | 93.6 | CI | F | **3KW64** | 2284.00 | **1635.00** | 580.0 |
| | 1190 | 404T | 208-230/460 | 154.0-136.0/68.0 | 1.15 | 93.0 | CI | F | **3KW65** | 3592.00 | **2721.00** | 750.0 |
| **75** | 3570 | 364TS | 230/460 | 172.0/86.0 | 1.15 | 93.0 | CI | F | **3KW66** | 3129.00 | **2298.00** | 580.0 |
| | 1785 | 365T | 230/460 | 172.0/86.0 | 1.15 | 94.1 | CI | F | **3KW67** | 2906.00 | **2056.00** | 600.0 |
| | 1190 | 405T | 230/460 | 174.0/87.0 | 1.15 | 93.6 | CI | F | **3KW68** | 4317.00 | **3240.00** | 800.0 |
| **100** | 3565 | 365TS | 230/460 | 223.0/113.0 | 1.15 | 93.0 | CI | F | **3KW69** | 4302.00 | **2830.00** | 600.0 |
| | 1785 | 404T | 230/460 | 228.0/114.0 | 1.15 | 94.1 | CI | F | **3KW70** | 3744.00 | **2567.00** | 750.0 |
| | 1185 | 444T | 230/460 | 244.0/122.0 | 1.15 | 94.1 | CI | F | **3KW71** | 5470.00 | **4103.00** | 1100.0 |
| **125** | 3565 | 404TS | 460 | 137.0 | 1.15 | 93.6 | CI | F | **3KW72** | 5292.00 | **3617.00** | 750.0 |
| | 1780 | 405T | 460 | 141.0 | 1.15 | 94.5 | CI | F | **3KW73** | 4306.00 | **3042.00** | 800.0 |
| | 1185 | 445T | 460 | 153.0 | 1.15 | 94.1 | CI | F | **3KW74** | 6654.00 | **5039.00** | 1200.0 |
| **150** | 3560 | 405TS | 460 | 165.0 | 1.15 | 93.6 | CI | F | **3KW75** | 6845.00 | **4568.00** | 800.0 |
| | 1785 | 444T | 460 | 167.0 | 1.15 | 95.0 | CI | F | **3KW76** | 6192.00 | **4394.00** | 1100.0 |
| | 1190 | 445T | 460 | 187.0 | 1.15 | 94.5 | CI | F | **3KW77** | 7114.00 | **5585.00** | 1200.0 |
| **200** | 3560 | 444TS | 460 | 226.0 | 1.15 | 94.5 | CI | F | **3KW78** | 9000.00 | **6664.00** | 1100.0 |
| | 1785 | 445T | 460 | 229.0 | 1.15 | 95.0 | CI | F | **3KW79** | 7549.00 | **5552.00** | 1200.0 |
| | 1185 | 445T | 460 | 233.0 | 1.15 | 94.5 | CI | F | **3KW80** | 9574.00 | **6854.00** | 1200.0 |
| **250** | 3560 | 445TS | 460 | 282.0 | 1.15 | 94.5 | CI | F | **3KW81** | 10784.00 | **7969.00** | 1200.0 |
| | 1785 | 445T | 460 | 278.0 | 1.15 | 95.4 | CI | F | **3KW82** | 9528.00 | **7455.00** | 1200.0 |
| | 1185 | 447T | 460 | 284.0 | 1.15 | 95.4 | CI | F | **3KW83** | 10546.00 | **7929.00** | 1700.0 |
| **300** | 3560 | 445TS | 460 | 328.0 | 1.15 | 95.0 | CI | F | **3KW84** | 13310.00 | **9285.00** | 1200.0 |
| | 1780 | 447T | 460 | 329.0 | 1.15 | 95.4 | CI | F | **3KW85** | 12540.00 | **8145.00** | 1700.0 |
| | 1185 | 449T | 460 | 349.0 | 1.15 | 94.1 | CI | F | **3KW86** | 12246.00 | **9208.00** | 2000.0 |
| **350** | 3565 | 447TS | 460 | 379.0 | 1.15 | 95.0 | CI | F | **3KW87** | 14506.00 | **10634.00** | 1700.0 |
| | 1780 | 447T | 460 | 385.0 | 1.15 | 95.4 | CI | F | **3KW88** | 11665.00 | **8990.00** | 1700.0 |
| **400** | 3560 | 447TS | 460 | 428.0 | 1.15 | 95.4 | CI | F | **3KW89** | 16506.00 | **12100.00** | 1700.0 |
| | 1780 | 449TM | 460 | 443.0 | 1.15 | 95.4 | CI | F | **3KW90** | 13750.00 | **9541.00** | 2000.0 |

(*) RS = Rolled Steel; CI = Cast Iron. (✓) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## BUSHING AND BEARING TOOLS

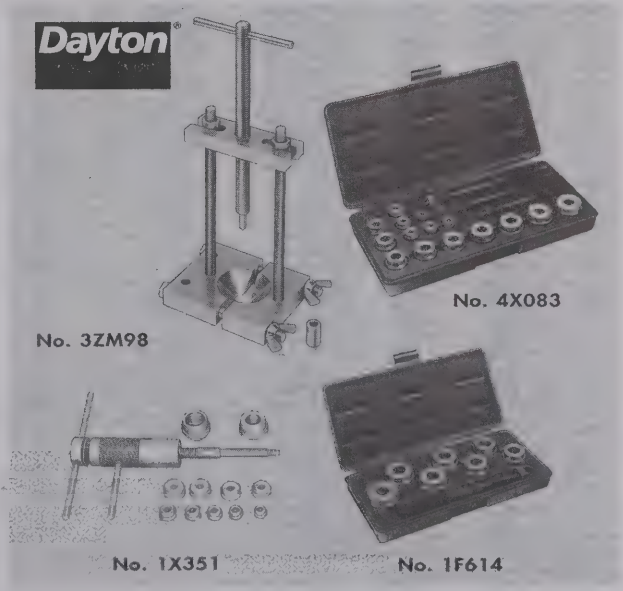
- **All parts plated**
- **Durable molded plastic carrying case included**

**Bushing Driver Sets** removes or inserts internal bushings and bearings in various equipment. Sizes marked on each adapter. No. 4X083 has 3 drivers and 16 adapters for 3/8 to 1¼" I.D. and 7/16 to 1⅜" O.D. No. 1F614 has 1 driver and 7 adapters for 1⁵⁄₁₆" I.D. and 1¾" I.D. and 1⁷⁄₁₆ to 1⅞" O.D.

**Bearing Tool Set No. 1X351** removes or inserts any sleeve motor bearing or bushing. Exerts even pressure to eliminate broken bearings or end bells. Removes frozen bushings without peening the bushing end, scratching, or marring. Has 9 adapters for 1/2 to 1" I.D. (in 1/16" increments) x 1⅛" maximum O.D.

**Portable Arbor Press No. 3ZM98** removes or inserts various press-fit components from shafting such as bushings, bearings, commutators, fan blades, and seals. Adjustable base has circular pocket that provides complete 360° surface contact for even distribution of pressure which eliminates damage to shafts and parts. Tool can be held-in-hand, bolted or clamped to workbench, or mounted in vise. Size range: 1/2 to 2⅜" O.D.

| Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Bushing Driver Set** | **4X083** | $58.22 | **$49.75** | 3.5 |
| **Bushing Driver Set** | **1F614** | 62.65 | **51.95** | 6.0 |
| **Bearing Tool Set** | **1X351** | 66.79 | **62.65** | 3.8 |
| **Portable Arbor Press** | **3ZM98** | 55.00 | **29.70** | 4.3 |



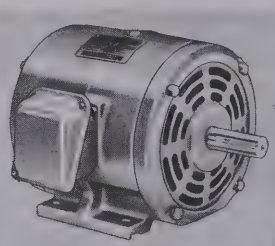
# GENERAL PURPOSE INDUSTRIAL MOTORS

# 3-PHASE HIGH EFFICIENCY OPEN DRIPPROOF MOTORS

**Typical Uses:** Pumps, fans, blowers, air compressors, conveyors, machinery, and other industrial equipment. Designed for general purpose applications with moderate to high starting torques in dry, clean, well-ventilated areas.

- **143T through 449T frame meet or exceed legislated energy standards (EPACT)**
- **EPACT Motors have improved cooling that results in longer life and lower operating costs**
- **All-copper windings**

**Bearings:** Ball, regreasable on 320-440 frames
**Mounting:** Rigid
**Thermal Protection:** None
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous **Rotation:** CW/CCW
**Finish:** Gray or black **Brand:** GE



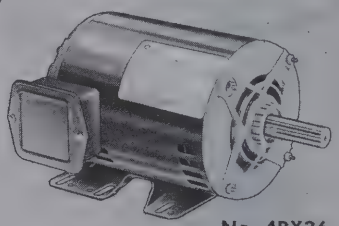
New

No. 4RX39
182T Frame

E47088

Replacement Parts Available
1-800-323-0620

Modification & Service Available
Contact Your Local Branch



No. 4RX36
56 Frame

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame | GE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1725 | 48 | 208-230/460 | 1.3-1.4/0.7 | 1.35 | 62.7* | RS | K111 | ✓ **4N579** | $160.00 | **$100.40** | 14.0 |
| **1/3** | 3450 | 48 | 208-230/460 | 1.5-1.8/0.9 | 1.35 | 61.9* | RS | K113 | ✓ **4N581** | 155.00 | **96.80** | 14.0 |
| | 1725 | 48 | 208-230/460 | 1.5-1.6/0.8 | 1.35 | 66.5* | RS | K527 | ✓ **4N583** | 164.00 | **102.35** | 15.0 |
| | 1725 | 56 | 208-230/460 | 1.5-1.6/0.8 | 1.35 | 66.0* | RS | K114 | ✓ **3N527** | 176.00 | **110.65** | 20.0 |
| | 1140 | 56 | 230/460 | 1.8/0.9 | 1.35 | 67.9* | RS | K385 | ✓ **4N584** | 259.00 | **156.25** | 20.0 |
| **1/2** | 3450 | 48 | 208-230/460 | 2.0-2.0/1.0 | 1.25 | 65.9* | RS | K115 | ✓ **4N585** | 164.00 | **102.35** | 15.0 |
| | 1725 | 56 | 208-230/460 | 2. 3-2.2/1.1 | 1.25 | 69.0* | RS | K116 | ✓ **3N528** | 205.00 | **125.70** | 15.0 |
| | 1725 | 56 | 575 | 0.9 | 1.25 | 69.8* | RS | K387 | ✓ **4N589** | 205.00 | **127.70** | 17.0 |
| | 1140 | 56 | 208-230/460 | 2.6-2.6/1.3 | 1.25 | 69.9* | RS | K117 | ✓ **4N592** | 286.00 | **172.50** | 24.0 |
| **3/4** | 3450 | 56 | 208-230/460 | 2.6-2.6/1.3 | 1.25 | 74.0* | RS | K118 | ✓ **3N530** | 196.00 | **120.80** | 18.0 |
| | 1725 | 56 | 208-230/460 | 3.3-3.0/1.5 | 1.25 | 72.0* | RS | K119 | ✓ **3N529** | 229.00 | **139.05** | 20.0 |
| | 1725 | 56 | 575 | 1.3 | 1.25 | 73.4* | RS | K392 | ✓ **4N595** | 229.00 | **141.05** | 20.0 |
| | 1140 | 56 | 208-230/460 | 2.9-2.8/1.4 | 1.15 | 76.1* | RS | K120 | ✓ **4N596** | 309.00 | **185.25** | 29.0 |
| | 850 | 145T | 230/460 | 3.4/1.7 | 1.15 | 72.1 | RS | K402 | ✓ **4N593** | 509.00 | **305.25** | 44.0 |
| **1** | 3450 | 56 | 208-230/460 | 3.3-3.2/1.6 | 1.25 | 77.0* | RS | K121 | ✓ **3N532** | 222.00 | **133.00** | 19.0 |
| | 1725 | 56 | 208-230/460 | 3.6-3.8/1.9 | 1.15 | 75.0* | RS | K122 | ✓ **3N531** | 241.00 | **140.50** | 25.0 |
| | 1725 | 56 | 208-230/460 | 3.7-3.2/1.6 | 1.15 | 80.7 | RS | K2069 | ✓ **4TF11** | 300.00 | **180.75** | 29.0 |
| | 1725 | 143T | 208-230/460 | 3.7-3.2/1.6 | 1.15 | 80.4 | RS | K2005 | ***New* 4RX36** | 266.00 | **150.50** | 29.0 |
| | 1140 | 56H | 208-230/460 | 3.7-3.8/1.9 | 1.15 | 76.3* | RS | K393 | ***New* 4N603** | 329.00 | **189.25** | 34.0 |
| **1½** | 3450 | 56 | 230/460 | 4.4/2.2 | 1.15 | 79.4* | RS | K124 | ✓ **3N534** | 273.00 | **163.50** | 24.0 |
| | 3450 | 143T | 208-230/460 | 5.0-4.8/2.4 | 1.15 | 82.5 | RS | K2001 | ***New* 4RX37** | 292.00 | **176.50** | 44.0 |
| | 1725 | 56H | 208-230/460 | 5.8-5.6/2.8 | 1.15 | 77.0* | RS | K125 | ✓ **3N533** | 282.00 | **162.25** | 32.0 |
| | 3450 | 143T | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | RS | K2006 | ***New* 4RX38** | 341.00 | **160.75** | 40.0 |
| | 1170 | 182T | 230/460 | 4.6/2.3 | 1.15 | 84.0 | CI | S2501 | ***New* 4RX39** | 377.00 | **211.00** | 100.0 |
| **2** | 3450 | 56 | 208-230/460 | 6.6-6.0/3.0 | 1.15 | 80.5* | RS | K126 | **4N606** | 298.00 | **178.75** | 30.0 |
| | 3450 | 145T | 208-230/460 | 6.0-6.0/3.0 | 1.15 | 84.0 | RS | K2002 | ***New* 4RX40** | 341.00 | **207.75** | 29.0 |
| | 1725 | 145T | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | RS | K2007 | ***New* 4RX41** | 316.00 | **175.25** | 44.0 |
| | 1725 | 145T | 575 | 2.3 | 1.15 | 84.0 | RS | K2010 | ***New* 4RX42** | 292.00 | **162.25** | 44.0 |
| | 1170 | 184T | 230/460 | 6.2/3.1 | 1.15 | 85.5 | CI | S2502 | ***New* 4RX43** | 430.00 | **225.50** | 106.0 |
| **3** | 3450 | 145T | 208-230/460 | 8.9-802/4.1 | 1.15 | 84.0 | RS | K2003 | ***New* 4RX45** | 373.00 | **219.75** | 38.0 |
| | 1750 | 182T | 230/460 | 7.9/3.9 | 1.15 | 86.5 | CI | S2504 | ***New* 4RX48** | 326.00 | **188.50** | 88.0 |
| | 1750 | 182T | 200 | 9.0 | 1.15 | 86.5 | CI | S2506 | ***New* 4RX47** | 326.00 | **188.50** | 94.0 |
| | 1750 | 182T | 575 | 3.2 | 1.15 | 86.5 | CI | S2505 | ***New* 4RX49** | 326.00 | **188.50** | 88.0 |
| | 1165 | 213T | 230/460 | 8.6/4.3 | 1.15 | 86.5 | CI | S2507 | ***New* 4RX50** | 575.00 | **313.75** | 148.0 |
| | 1165 | 213T | 575 | 3.5 | 1.15 | 86.5 | CI | S2508 | ***New* 4RX51** | 575.00 | **313.75** | 148.0 |
| **5** | 3450 | 145T | 230/460 | 13.0/6.5 | 1.00 | 85.5 | RS | K2004 | ***New* 4RX52** | 406.00 | **243.50** | 54.0 |
| | 3470 | 182T | 230/460 | 12.2/6.01 | 1.15 | 85.5 | CI | S2503 | ***New* 4RX53** | 483.00 | **259.25** | 81.0 |
| | 3470 | 182T | 575 | 4.9 | 1.15 | 85.5 | CI | S2552 | ***New* 4RX54** | 483.00 | **259.25** | 81.0 |
| | 1740 | 184T | 230/460 | 12.6/6.3 | 1.15 | 85.5 | CI | S2511 | ***New* 4RX56** | 395.00 | **215.00** | 106.0 |
| | 1740 | 184T | 200 | 14.4 | 1.15 | 87.5 | CI | S2513 | ***New* 4RX55** | 395.00 | **215.00** | 99.0 |
| | 1740 | 184T | 575 | 5.0 | 1.15 | 87.5 | CI | S2512 | ***New* 4RX57** | 395.00 | **215.00** | 106.0 |
| | 1155 | 215T | 230/460 | 14.0/7.0 | 1.15 | 87.5 | CI | S2514 | ***New* 4RX58** | 719.00 | **432.00** | 176.0 |
| | 1155 | 215T | 575 | 5.6 | 1.15 | 87.5 | CI | S2515 | ***New* 4RX59** | 719.00 | **432.00** | 176.0 |
| **7½** | 3465 | 184T | 230/460 | 18.0/9.0 | 1.15 | 87.5 | CI | S2509 | ***New* 4RX60** | 598.00 | **346.25** | 114.0 |
| | 3460 | 184T | 575 | 7.2 | 1.15 | 87.5 | CI | S2510 | ***New* 4RX61** | 598.00 | **346.25** | 110.0 |
| | 1755 | 213T | 230/460 | 18.6/9.3 | 1.15 | 88.5 | CI | S2518 | ***New* 4RX63** | 542.00 | **305.00** | 158.0 |
| | 1755 | 213T | 575 | 7.5 | 1.15 | 88.5 | CI | S2519 | ***New* 4RX64** | 542.00 | **305.00** | 158.0 |
| | 1755 | 213T | 200 | 21.4 | 1.15 | 88.5 | CI | S2520 | ***New* 4RX62** | 542.00 | **305.00** | 158.0 |
| | 1165 | 254T | 230/460 | 19.8/9.9 | 1.15 | 88.5 | CI | S2521 | ***New* 4RX65** | 936.00 | **552.50** | 231.0 |
| | 1165 | 254T | 575 | 7.9 | 1.15 | 88.5 | CI | S2522 | ***New* 4RX66** | 936.00 | **552.50** | 231.0 |

(*) Average efficiency, not NEMA nominal efficiency. (†) RS = Rolled Steel, CI=Cast Iron.
(✓)Denotes energy efficient product.

CONTINUED ON NEXT PAGE



*We're the driving force in the motor business.*

# 3-PHASE HIGH EFFICIENCY OPEN DRIPPROOF MOTORS



## GE 3-PHASE OPEN DRIPPROOF MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame* | GE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 3500 | 213T | 230/460 | 24.0/12.0 | 1.15 | 88.5 | CI | S2516 | ✓ **New 4RX67** | $745.00 | **$401.50** | 166.0 |
| | 3500 | 213T | 575 | 14.4 | 1.15 | 88.5 | CI | S2517 | ✓ **New 4RX68** | 745.00 | **401.50** | 120.0 |
| | 1750 | 215T | 230/460 | 23.8/11.9 | 1.15 | 89.5 | CI | S2525 | ✓ **New 4RX70** | 655.00 | **373.00** | 187.0 |
| | 1750 | 215T | 200 | 40.3 | 1.15 | 89.5 | CI | S2527 | ✓ **New 4RX69** | 655.00 | **373.00** | 187.0 |
| | 1750 | 215T | 575 | 14.1 | 1.15 | 89.5 | CI | S2526 | ✓ **New 4RX71** | 655.00 | **373.00** | 187.0 |
| | 1170 | 256T | 230/460 | 25.8/12.9 | 1.15 | 90.2 | CI | S2528 | ✓ **New 4RX72** | 1099.00 | **639.00** | 267.0 |
| | 1170 | 256T | 575 | 10.4 | 1.15 | 90.2 | CI | S2529 | ✓ **New 4RX73** | 1099.00 | **639.00** | 267.0 |
| **15** | 3495 | 215T | 230/460 | 36.0/18.0 | 1.15 | 89.5 | CI | S2523 | ✓ **New 4RX74** | 943.00 | **569.00** | 220.0 |
| | 3495 | 215T | 575 | 14.4 | 1.15 | 89.5 | CI | S2524 | ✓ **New 4RX75** | 943.00 | **569.00** | 220.0 |
| | 1755 | 254T | 230/460 | 35.2/17.6 | 1.15 | 91.0 | CI | S2532 | ✓ **New 4RX77** | 868.00 | **546.50** | 268.0 |
| | 1755 | 254T | 200 | 40.3 | 1.15 | 91.0 | CI | S2534 | ✓ **New 4RX76** | 868.00 | **546.50** | 251.0 |
| | 1755 | 254T | 575 | 14.1 | 1.15 | 91.0 | CI | S2533 | ✓ **New 4RX78** | 868.00 | **546.50** | 246.0 |
| | 1175 | 284T | 575 | 15.3 | 1.15 | 90.2 | CI | S2536 | ✓ **New 4RX80** | 1415.00 | **815.50** | 398.0 |
| | 1175 | 258T | 230/460 | 38.2/19.1 | 1.15 | 90.2 | CI | S2535 | ✓ **New 4RX79** | 1415.00 | **815.50** | 398.0 |
| **20** | 3530 | 254T | 230/460 | 45.4/22.7 | 1.15 | 90.2 | CI | S2530 | ✓ **New 4RX81** | 1111.00 | **641.50** | 286.0 |
| | 3530 | 254T | 575 | 18.2 | 1.15 | 90.2 | CI | S2531 | ✓ **New 4RX82** | 1111.00 | **641.50** | 286.0 |
| | 1750 | 256T | 230/460 | 46.2/23.1 | 1.15 | 91.0 | CI | S2539 | ✓ **New 4RX84** | 1063.00 | **651.50** | 293.0 |
| | 1750 | 256T | 200 | 53.2 | 1.15 | 91.0 | CI | S2541 | ✓ **New 4RX83** | 1063.00 | **651.50** | 293.0 |
| | 1745 | 256T | 575 | 18.6 | 1.15 | 91.0 | CI | S2540 | ✓ **New 4RX85** | 1063.00 | **651.50** | 293.0 |
| | 1175 | 286T | 230/460 | 50.0/25.0 | 1.15 | 91.0 | CI | S2542 | ✓ **New 4RX86** | 1736.00 | **1045.00** | 428.0 |
| **25** | 3535 | 256T | 230/460 | 56.0/28.0 | 1.15 | 91.0 | CI | S2537 | ✓ **New 4RX87** | 1358.00 | **747.00** | 286.0 |
| | 3535 | 256T | 575 | 22.4 | 1.15 | 91.0 | CI | S2538 | ✓ **New 4RX88** | 1358.00 | **747.00** | 286.0 |
| | 1760 | 284T | 230/460 | 60.0/30.0 | 1.15 | 91.7 | CI | S2544 | ✓ **New 4RX90** | 1235.00 | **802.00** | 385.0 |
| | 1760 | 284T | 200 | 69.4 | 1.15 | 91.7 | CI | S2546 | ✓ **New 4RX89** | 1235.00 | **802.00** | 385.0 |
| | 1760 | 284T | 575 | 24.0 | 1.15 | 91.7 | CI | S2545 | ✓ **New 4RX91** | 1235.00 | **802.00** | 385.0 |
| | 1175 | 324T | 230/460 | 63.2/31.6 | 1.15 | 91.7 | CI | S2127 | ✓ **New 4RX92** | 2530.00 | **1376.00** | 640.0 |
| **30** | 3540 | 284TS | 230/460 | 67.8/33.9 | 1.15 | 91.0 | CI | S2543 | ✓ **New 4RX93** | 1619.00 | **924.00** | 404.0 |
| | 1765 | 286T | 230/460 | 71.2/35.6 | 1.15 | 92.4 | CI | S2549 | ✓ **New 4RX95** | 1439.00 | **911.00** | 428.0 |
| | 1765 | 286T | 200 | 81.7 | 1.15 | 92.4 | CI | S2551 | ✓ **New 4RX94** | 1439.00 | **911.00** | 428.0 |
| | 1765 | 286T | 575 | 28.5 | 1.15 | 92.4 | CI | S2550 | ✓ **New 4RX96** | 1439.00 | **911.00** | 428.0 |
| | 1175 | 326T | 230/460 | 73.8/36.9 | 1.15 | 92.4 | CI | S2128 | ✓ **New 4RX97** | 2886.00 | **1570.00** | 680.0 |
| **40** | 3535 | 286TS | 230/460 | 89.0/44.6 | 1.15 | 91.7 | CI | S2547 | ✓ **New 4RX99** | 2072.00 | **1133.00** | 440.0 |
| | 3525 | 286TS | 200 | 101.0 | 1.15 | 91.7 | CI | S2548 | ✓ **New 4RX98** | 2072.00 | **1133.00** | 440.0 |
| | 1770 | 324T | 230/460 | 97.8/48.9 | 1.15 | 93.0 | CI | S2130 | ✓ **New 4RZ02** | 2442.00 | **1385.00** | 620.0 |
| | 1770 | 324T | 200 | 112.0 | 1.15 | 93.0 | CI | S2129 | ✓ **New 4RZ01** | 2442.00 | **1385.00** | 650.0 |
| | 1770 | 324T | 575 | 39.1 | 1.15 | 93.0 | CI | S2187 | ✓ **New 4RZ03** | 2442.00 | **1385.00** | 600.0 |
| | 1185 | 364T | 460 | 48.5 | 1.15 | 93.0 | CI | S2131 | ✓ **New 4RZ04** | 3958.00 | **2243.00** | 940.0 |
| **50** | 3545 | 324TS | 230/460 | 123.0/61.5 | 1.15 | 92.4 | CI | S2132 | ✓ **New 4RZ05** | 3016.00 | **2115.00** | 600.0 |
| | 1765 | 326T | 230/460 | 122.2/61.1 | 1.15 | 93.0 | CI | S2133 | ✓ **New 4RZ06** | 2771.00 | **1660.00** | 550.0 |
| | 1765 | 326TS | 230/460 | 122.2/61.1 | 1.15 | 93.0 | CI | S2134 | ✓ **New 4RZ08** | 2771.00 | **1660.00** | 680.0 |
| | 1765 | 326T | 575 | 48.9 | 1.15 | 93.0 | CI | S2188 | ✓ **New 4RZ07** | 2771.00 | **1660.00** | 680.0 |
| | 1185 | 365T | 460 | 61.0 | 1.15 | 93.0 | CI | S2135 | ✓ **New 4RZ09** | 4403.00 | **2586.00** | 960.0 |
| **60** | 3550 | 326TS | 230/460 | 145.6/72.8 | 1.15 | 93.0 | CI | S2136 | ✓ **New 4RZ10** | 3429.00 | **2032.00** | 630.0 |
| | 1775 | 364T | 230/460 | 147.4/73.7 | 1.15 | 93.6 | CI | S2137 | ✓ **New 4RZ11** | 3674.00 | **2113.00** | 930.0 |
| | 1775 | 364TS | 230/460 | 147.4/73.7 | 1.15 | 93.6 | CI | S2138 | ✓ **New 4RZ13** | 3674.00 | **2113.00** | 690.0 |
| | 1775 | 364T | 575 | 59.3 | 1.15 | 93.6 | CI | S2189 | ✓ **New 4RZ12** | 3674.00 | **2113.00** | 930.0 |
| | 1185 | 404T | 460 | 69.8 | 1.15 | 93.6 | CI | S2139 | ✓ **New 4RZ14** | 5393.00 | **3196.00** | 1360.0 |
| **75** | 3555 | 364TS | 230/460 | 181.0/90.5 | 1.15 | 93.0 | CI | S2140 | ✓ **New 4RZ15** | 4573.00 | **2836.00** | 900.0 |
| | 1775 | 365T | 230/460 | 180.0/90.0 | 1.15 | 94.1 | CI | S2141 | ✓ **New 4RZ16** | 4137.00 | **2351.00** | 990.0 |
| | 1775 | 365TS | 230/460 | 180.0/90.0 | 1.15 | 94.1 | CI | S2142 | ✓ **New 4RZ18** | 4137.00 | **2351.00** | 990.0 |
| | 1775 | 365T | 575 | 72.4 | 1.15 | 94.1 | CI | S2190 | ✓ **New 4RZ17** | 4137.00 | **2351.00** | 990.0 |
| | 1185 | 405T | 460 | 86.7 | 1.15 | 93.6 | CI | S2143 | ✓ **New 4RZ19** | 6423.00 | **3770.00** | 1400.0 |
| **100** | 3550 | 365TS | 230/460 | 238.0/119.0 | 1.15 | 93.0 | CI | S2144 | ✓ **New 4RZ20** | 5527.00 | **2917.00** | 920.0 |
| | 1780 | 404T | 230/460 | 232.0/116.0 | 1.15 | 94.1 | CI | S2145 | ✓ **New 4RZ21** | 5440.00 | **2996.00** | 1048.0 |
| | 1780 | 404TS | 230/460 | 232.0/116.0 | 1.15 | 94.1 | CI | S2146 | ✓ **New 4RZ23** | 5440.00 | **2996.00** | 1370.0 |
| | 1780 | 404T | 575 | 93.0 | 1.15 | 94.1 | CI | S2191 | ✓ **New 4RZ22** | 5440.00 | **2996.00** | 1370.0 |
| | 1190 | 444T | 460 | 116.0 | 1.15 | 94.1 | CI | S2147 | ✓ **New 4RZ24** | 8135.00 | **4772.00** | 1710.0 |
| **125** | 3565 | 404TS | 460 | 139.0 | 1.15 | 93.6 | CI | S2148 | ✓ **New 4RZ25** | 7407.00 | **4275.00** | 1360.0 |
| | 1780 | 405T | 460 | 143.0 | 1.15 | 94.5 | CI | S2149 | ✓ **New 4RZ26** | 6318.00 | **3586.00** | 1410.0 |
| | 1780 | 405TS | 460 | 143.0 | 1.15 | 94.5 | CI | S2150 | ✓ **New 4RZ28** | 6318.00 | **3586.00** | 1410.0 |
| | 1780 | 405T | 575 | 113.0 | 1.15 | 94.5 | CI | S2192 | ✓ **New 4RZ27** | 6318.00 | **3586.00** | 1410.0 |
| | 1185 | 445T | 460 | 144.0 | 1.15 | 94.1 | CI | S2151 | ✓ **New 4RZ29** | 9989.00 | **5918.00** | 1780.0 |
| **150** | 3560 | 405TS | 460 | 164.0 | 1.15 | 93.6 | CI | S2152 | ✓ **New 4RZ30** | 9091.00 | **5396.00** | 1400.0 |
| | 1785 | 444T | 460 | 169.0 | 1.15 | 95.0 | CI | S2153 | ✓ **New 4RZ31** | 8419.00 | **4799.00** | 1710.0 |
| | 1785 | 444TS | 460 | 169.0 | 1.15 | 95.0 | CI | S2154 | ✓ **New 4RZ33** | 8419.00 | **4799.00** | 1710.0 |
| | 1785 | 444T | 460 | 136.0 | 1.15 | 95.0 | CI | S2193 | ✓ **New 4RZ32** | 8419.00 | **4799.00** | 1710.0 |
| | 1190 | 447T | 460 | 167.0 | 1.15 | 94.5 | CI | S2155 | ✓ **New 4RZ34** | 11390.00 | **6790.00** | 2350.0 |
| **200** | 3570 | 444TS | 460 | 217.0 | 1.15 | 94.5 | CI | S2156 | ✓ **New 4RZ35** | 15714.00 | **9334.00** | 1750.0 |
| | 1785 | 445T | 460 | 226.0 | 1.15 | 95.0 | CI | S2157 | ✓ **New 4RZ36** | 11082.00 | **6220.00** | 1790.0 |
| | 1785 | 445TS | 460 | 226.0 | 1.15 | 95.0 | CI | S2158 | ✓ **New 4RZ37** | 11082.00 | **6220.00** | 1790.0 |
| **250** | 3750 | 445TS | 460 | 284.0 | 1.15 | 93.6 | CI | S129 | ✓ **5N955** | 13241.00 | **8767.00** | 1750.0 |
| **300** | 3750 | 449TS | 575 | 254.0 | 1.15 | 95.0 | CI | S3398 | ✓ **5N957** | 19894.00 | **13187.00** | 1500.0 |
| | 1785 | 449T | 460 | 342.0 | 1.15 | 95.4 | CI | S3381 | ✓ **5N958** | 17730.00 | **11737.00** | 2350.0 |
| | 1780 | 449T | 575 | 270.0 | 1.15 | 95.0 | CI | S3384 | ✓ **5N959** | 17730.00 | **11749.00** | 1598.0 |
| **400** | 1785 | 449T | 575 | 351.0 | 1.15 | 95.8 | CI | S3399 | ✓ **5N962** | 19233.00 | **12746.00** | 1697.0 |
| **450** | 3570 | 449TS | 575 | 377.0 | 1.15 | 95.4 | CI | S3390 | ✓ **5N964** | 20551.00 | **13619.00** | 1770.0 |

(*) RS = Rolled Steel; CI = Cast Iron. (✓) Denotes energy efficient product.

# 3-PHASE FEDERAL EFFICIENCY TEFC MOTORS

- Meets NEMA MGI Part 30 inveter duty use at 10:1 variable torque and 2:1 constant torque speed range
- Increased efficiency leads to lower operating cost
- Motors run cooler, resulting in increased life
- 100% copper windings
- 12 leads, WYE Start-Delta Run capable on 254T frame and larger
- Usable on 50Hz 190/380V at rated HP at 1.0 service factor
- Class F insulation system, Class B rise at full load (60 Hz)
- Two-year warranty

**Typical Uses:** Premium efficiency performance on air compressors, conveyors, fans, blowers, machine tools, pumps, and other industrial equipment. For use in **non-combustible**, dusty, dirty environments where 3-phase power is available.

**Bearings:** Double-shielded ball on 56 thru 360 frame. Open ball with filler caps on 400 thru 440 frame. Regreasable 250 thru 440 frame.

**Mounting:** Rigid welded or solid base

**Thermal Protection:** None

**Windings:** Copper **Ambient:** 40°C

**Duty:** Continuous **Rotation:** CW/CCW

**Finish:** Gray **Brand:** Dayton

Dayton® Wattrimmer

ENERGY RIGHT®

**CAUTION:** **Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

E47479

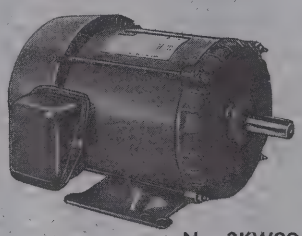
LR6153

CE

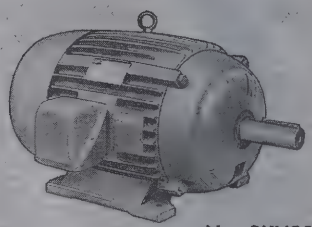
**The Energy Policy Act of 1992**

**The motor products in this offering, frame sizes 143T through 449T, meet/exceed the EPACT 92 legislative efficiency levels.**

**For details of EPACT legislation, see page 6.**



No. 3KW99
182T Frame



No. 3KV93
286T Frame

**Kits for cast-iron motors are available on page 19.**

**Replacement Parts Available**
**1-800-323-0620**

**Modification & Service Available**
**Contact Your Local Branch**

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame* | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1735 | 143T | 208-230/460 | 3.1-3.0/1.5 | 1.15 | 82.5 | RS | F | 3KW91 | $260.00 | $157.50 | 45.0 |
| | 1735 | 143T | 208-230/460 | 3.1-3.0/1.5 | 1.15 | 82.5 | RS† | F | 3KV68 | 260.00 | 178.00 | 45.0 |
| | 1145 | 145T | 208-230/460 | 3.7-3.6/1.8 | 1.15 | 80.0 | RS | F | 3KW92 | 325.00 | 222.00 | 50.0 |
| | 1145 | 145T | 208-230/460 | 3.7-3.6/1.8 | 1.15 | 80.0 | RS† | F | 3KV69 | 325.00 | 222.00 | 50.0 |
| 1½ | 3490 | 143T | 208-230/460 | 4.2-4.0/2.0 | 1.15 | 82.5 | RS | F | 3KW93 | 268.00 | 184.50 | 50.0 |
| | 3480 | 143T | 208-230/460 | 4.2-4.0/2.0 | 1.15 | 82.5 | RS† | F | 3KV70 | 268.00 | 186.00 | 50.0 |
| | 1740 | 145T | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | RS | F | 3KW94 | 289.00 | 170.75 | 50.0 |
| | 1740 | 145T | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | RS† | F | 3KV71 | 289.00 | 186.00 | 50.0 |
| | 1175 | 182T | 208-230/460 | 5.6-5.6/2.8 | 1.15 | 85.5 | RS | F | 3KW95 | 336.00 | 240.50 | 55.0 |
| | 1175 | 182T | 208-230/460 | 4.9-4.8/2.4 | 1.15 | 85.5 | CI | F | 3KV72 | 336.00 | 242.00 | 70.0 |
| 2 | 3485 | 145T | 208-230/460 | 5.6-5.0/2.5 | 1.15 | 84.0 | RS | F | 3KW96 | 311.00 | 201.75 | 50.0 |
| | 3485 | 145T | 208-230/460 | 5.5-5.0/2.5 | 1.15 | 84.0 | RS† | F | 3KV73 | 311.00 | 211.75 | 50.0 |
| | 1735 | 145T | 208-230/460 | 6.0-5.8/2.9 | 1.15 | 84.0 | RS | F | 3KW97 | 318.00 | 192.00 | 50.0 |
| | 1730 | 145T | 208-230/460 | 6.1-5.8/2.9 | 1.15 | 84.0 | RS† | F | 3KV74 | 318.00 | 195.75 | 50.0 |
| | 1170 | 184T | 208-230/460 | 7.2-7.0/3.5 | 1.15 | 86.5 | RS | F | 3KW98 | 368.00 | 254.75 | 60.0 |
| | 1170 | 184T | 208-230/460 | 6.3-6.2/3.1 | 1.15 | 86.5 | CI | F | 3KV75 | 368.00 | 266.50 | 100.0 |
| 3 | 3525 | 182T | 208-230/460 | 8.6-8.0/4.0 | 1.15 | 85.5 | RS | F | 3KW99 | 351.00 | 243.25 | 50.0 |
| | 3530 | 182T | 208-230/460 | 8.5-8.0/4.0 | 1.15 | 85.5 | CI | F | 3KV76 | 351.00 | 245.75 | 75.0 |
| | 1765 | 182T | 208-230/460 | 8.6-8.0/4.0 | 1.15 | 87.5 | RS | F | 3KX01 | 341.00 | 224.00 | 55.0 |
| | 1765 | 182T | 208-230/460 | 8.6-8.0/4.0 | 1.15 | 87.5 | CI | F | 3KV77 | 352.00 | 238.00 | 75.0 |
| | 1175 | 213T | 208-230/460 | 9.6-9.0/4.5 | 1.15 | 87.5 | RS | F | 3KX02 | 488.00 | 345.75 | 80.0 |
| | 1170 | 213T | 208-230/460 | 9.5-9.0/4.5 | 1.15 | 87.5 | CI | F | 3KV78 | 488.00 | 363.00 | 140.0 |
| 5 | 3505 | 184T | 208-230/460 | 13.7-12.2/6.1 | 1.15 | 87.5 | RS | F | 3KX03 | 434.00 | 294.75 | 65.0 |
| | 3510 | 184T | 208-230/460 | 13.6-12.2/6.1 | 1.15 | 87.5 | CI | F | 3KV79 | 434.00 | 308.25 | 105.0 |
| | 1745 | 184T | 208-230/460 | 14.2-12.8/6.4 | 1.15 | 87.5 | RS | F | 3KX04 | 396.00 | 260.25 | 75.0 |
| | 1750 | 184T | 208-230/460 | 14.1-12.8/6.4 | 1.15 | 87.5 | CI | F | 3KV80 | 396.00 | 272.00 | 105.0 |
| | 1170 | 215T | 208-230/460 | 15.6-14.4/7.2 | 1.15 | 87.5 | RS | F | 3KX05 | 702.00 | 479.50 | 115.0 |
| | 1165 | 215T | 208-230/460 | 15.4-14.6/7.3 | 1.15 | 87.5 | CI | F | 3KV81 | 702.00 | 501.00 | 180.0 |
| 7½ | 3510 | 213T | 208-230/460 | 20.5-18.4/9.2 | 1.15 | 88.5 | RS | F | 3KX06 | 568.00 | 393.50 | 85.0 |
| | 3515 | 213T | 208-230/460 | 20.4-18.4/9.2 | 1.15 | 88.5 | CI | F | 3KV82 | 569.00 | 414.25 | 160.0 |
| | 1760 | 213T | 208-230/460 | 20.3-18.6/9.3 | 1.15 | 89.5 | RS | F | 3KX07 | 924.00 | 314.75 | 90.0 |
| | 1760 | 213T | 208-230/460 | 20.5-19.0/9.5 | 1.15 | 89.5 | CI | F | 3KV83 | 568.00 | 395.00 | 160.0 |
| | 1170 | 254T | 208-230/460 | 20.5-19.0/9.5 | 1.15 | 89.5 | CI | F | 3KV84 | 924.00 | 645.50 | 260.0 |
| 10 | 3495 | 215T | 208-230/460 | 26.5-23.6/11.8 | 1.15 | 89.5 | RS | F | 3KX08 | 681.00 | 465.25 | 105.0 |
| | 3505 | 215T | 208-230/460 | 26.7-23.8/11.9 | 1.15 | 89.5 | CI | F | 3KV85 | 681.00 | 488.00 | 175.0 |
| | 1755 | 215T | 208-230/460 | 27.0-24.4/12.2 | 1.15 | 89.5 | RS | F | 3KX09 | 706.00 | 382.75 | 125.0 |
| | 1755 | 215T | 208-230/460 | 27.2-25.0/12.5 | 1.15 | 89.5 | CI | F | 3KV86 | 706.00 | 483.50 | 175.0 |
| | 1165 | 256T | 208-230/460 | 27.3-24.6/12.3 | 1.15 | 89.5 | CI | F | 3KV87 | 1177.00 | 802.50 | 300.0 |

(*) RS = Rolled Steel; CI = Cast Iron. (†) Cast-iron endshield.
(🍃) Denotes energy efficient product.

CONTINUED ON NEXT PAGE



We're the driving force in the motor business.

## DAYTON 3-PHASE FEDERAL EFFICIENCY TEFC MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame* | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15** | 3540 | 254T | 208-230/460 | 39.6-35.2/17.6 | 1.15 | 90.2 | CI | F | **3KV88** | $893.00 | **$657.00** | 280.0 |
| | 1770 | 254T | 208-230/460 | 40.6-37.0/18.5 | 1.15 | 91.0 | CI | F | **3KV89** | 908.00 | **649.50** | 280.0 |
| | 1175 | 284T | 208-230/460 | 41.6-37.6/18.8 | 1.15 | 90.2 | CI | F | **3KV90** | 1589.00 | **1123.00** | 340.0 |
| **20** | 3530 | 256T | 208-230/460 | 53.3-46.8/23.4 | 1.15 | 90.2 | CI | F | **3KV91** | 1208.00 | **834.00** | 300.0 |
| | 1765 | 256T | 208-230/460 | 54.0-49.0/24.5 | 1.15 | 91.0 | CI | F | **3KV92** | 1148.00 | **806.00** | 300.0 |
| | 1175 | 286T | 208-230/460 | 55.0-49.4/24.7 | 1.15 | 90.2 | CI | F | **3KV93** | 1932.00 | **1334.00** | 390.0 |
| **25** | 3555 | 284TS | 208-230/460 | 66.2-59.0/29.5 | 1.15 | 91.0 | CI | F | **3KV94** | 1484.00 | **1047.00** | 340.0 |
| | 1775 | 284T | 208-230/460 | 61.5-59.8/29.9 | 1.15 | 92.4 | CI | F | **3KV95** | 1378.00 | **1007.00** | 340.0 |
| | 1180 | 324T | 230/460 | 59.6/29.8 | 1.15 | 91.7 | CI | F | **3KV96** | 2303.00 | **1672.00** | 530.0 |
| **30** | 3555 | 286TS | 208-230/460 | 78.4-70.4/35.2 | 1.15 | 91.0 | CI | F | **3KV97** | 1636.00 | **1120.00** | 390.0 |
| | 1775 | 286T | 208-230/460 | 77.7-71.4/35.7 | 1.15 | 92.4 | CI | F | **3KV98** | 1673.00 | **1273.00** | 390.0 |
| | 1180 | 326T | 230/460 | 71.2/35.6 | 1.15 | 91.7 | CI | F | **3KV99** | 2811.00 | **1842.00** | 590.0 |
| **40** | 3550 | 324TS | 230/460 | 92.2/46.1 | 1.15 | 91.7 | CI | F | **3KW01** | 2108.00 | **1558.00** | 530.0 |
| | 1775 | 324T | 230/460 | 92.0/46.0 | 1.15 | 93.0 | CI | F | **3KW02** | 2125.00 | **1464.00** | 530.0 |
| | 1175 | 364T | 230/460 | 91.4/45.7 | 1.15 | 93.0 | CI | F | **3KW03** | 3595.00 | **2804.00** | 750.0 |
| **50** | 3550 | 326TS | 230/460 | 112.0/56.0 | 1.15 | 92.4 | CI | F | **3KW04** | 2924.00 | **1902.00** | 590.0 |
| | 1775 | 326T | 230/460 | 116.0/58.0 | 1.15 | 93.0 | CI | F | **3KW05** | 2736.00 | **1636.00** | 590.0 |
| | 1175 | 365T | 230/460 | 116.0/58.0 | 1.15 | 93.0 | CI | F | **3KW06** | 4197.00 | **3265.00** | 800.0 |
| **60** | 3555 | 364TS | 230/460 | 138.0/69.0 | 1.15 | 93.0 | CI | F | **3KW07** | 4183.00 | **2897.00** | 750.0 |
| | 1780 | 364T | 230/460 | 140.0/70.0 | 1.15 | 93.6 | CI | F | **3KW08** | 4014.00 | **2618.00** | 764.0 |
| | 1190 | 404T | 230/460 | 164.0/82.0 | 1.15 | 93.6 | CI | F | **3KW09** | 4850.00 | **3782.00** | 1000.0 |
| **75** | 3560 | 365TS | 230/460 | 168.0/84.0 | 1.15 | 93.0 | CI | F | **3KW10** | 4980.00 | **3614.00** | 800.0 |
| | 1780 | 365T | 230/460 | 172.0/86.0 | 1.15 | 94.1 | CI | F | **3KW11** | 5131.00 | **3137.00** | 800.0 |
| | 1190 | 405T | 230/460 | 180.0/90.0 | 1.15 | 93.6 | CI | F | **3KW12** | 5829.00 | **4817.00** | 1200.0 |
| **100** | 3560 | 405TS | 230/460 | 222.0/111.0 | 1.15 | 93.6 | CI | F | **3KW13** | 6720.00 | **4361.00** | 1200.0 |
| | 1780 | 405T | 230/460 | 228.0/114.0 | 1.15 | 94.5 | CI | F | **3KW14** | 6188.00 | **4092.00** | 1200.0 |
| | 1185 | 444T | 230/460 | 256.0/128.0 | 1.15 | 94.1 | CI | F | **3KW15** | 8204.00 | **6365.00** | 1400.0 |
| **125** | 3565 | 444TS | 460 | 145.0 | 1.15 | 94.5 | CI | F | **3KW16** | 9368.00 | **6796.00** | 1400.0 |
| | 1780 | 444T | 460 | 148.0 | 1.15 | 94.5 | CI | F | **3KW17** | 7982.00 | **5354.00** | 1400.0 |
| | 1185 | 445T | 460 | 151.0 | 1.15 | 94.1 | CI | F | **3KW18** | 9982.00 | **7543.00** | 1500.0 |
| **150** | 3565 | 445TS | 460 | 168.0 | 1.15 | 94.5 | CI | F | **3KW19** | 11220.00 | **8215.00** | 1500.0 |
| | 1780 | 445T | 460 | 174.0 | 1.15 | 95.0 | CI | F | **3KW20** | 9708.00 | **6493.00** | 1500.0 |
| | 1185 | 447T | 460 | 181.0 | 1.15 | 95.0 | CI | F | **3KW21** | 10994.00 | **8367.00** | 1900.0 |
| **200** | 3565 | 447TS | 460 | 221.0 | 1.15 | 95.0 | CI | F | **3KW22** | 14020.00 | **8572.00** | 1900.0 |
| | 1780 | 447T | 460 | 229.0 | 1.15 | 95.0 | CI | F | **3KW23** | 11794.00 | **7752.00** | 1900.0 |
| | 1190 | 449T | 460 | 225.0 | 1.15 | 95.0 | CI | F | **3KW24** | 14360.00 | **10336.00** | 1700.0 |

(*) CI = Cast Iron. (↝) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.**

## KITS FOR CAST-IRON MOTORS

Found On Pages 18, 19, 29, and 30

### C-FLANGE KITS

| For NEMA Frames: | Rabbet Dia. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **143/145T*** | 4½ | **6A479** | $60.00 | **$44.45** | 6.5 |
| **182/184T** | 4½ | **6A480** | 80.00 | **59.25** | 9.8 |
| **182/184T** | 8½ | **6A481** | 80.00 | **59.20** | 14.0 |
| **213/215T** | 8½ | **6A482** | 95.00 | **70.25** | 17.0 |
| **254/256T** | 8½ | **6A483** | 120.00 | **88.75** | 25.0 |
| **284/286T** | 10½ | **6A484** | 140.00 | **103.50** | 32.0 |

### CAST-IRON SEVERE DUTY FAN COVER & CONDUIT

| For NEMA Frames: | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **143/145T*** | **6A474** | $88.00 | **$65.20** | 7.0 |
| **182/184T** | **6A475** | 97.00 | **71.80** | 14.0 |
| **213/215T** | **6A476** | 132.00 | **97.70** | 20.0 |
| **254/256T** | **6A477** | 176.00 | **130.20** | 35.0 |
| **284/286T** | **6A478** | 197.00 | **145.70** | 43.0 |

(*) 140 frame motors feature rolled steel construction.

### KITS FIT THESE CAST-IRON MOTORS

| KIT Nos. | No. 6A479 No. 6A474 | No. 6A480 No. 6A481 No. 6A475 | No. 6A482 No. 6A476 | No. 6A483 No. 6A477 | No. 6A484 No. 6A478 |
|---|---|---|---|---|---|
| MOTORS THAT FIT | 3KV68 3N747<br>3KV69 3N748<br>3KV70 3N756<br>3KV71 4FN57<br>3KV73 4FN58<br>3KV74 4FN59<br>3N729 4FN60<br>3N730 4FN62<br>3N731 4FN63 | 3KV72 3N750<br>3KV75 3N757<br>3KV76 4FN61<br>3KV77 4FN64<br>3KV79 4FN65<br>3KV80 4FN66<br>3N732 4FN68<br>3N733 4FN69<br>3N749 | 3KV78 3N752<br>3KV81 3N758<br>3KV82 3N759<br>3KV83 4FN67<br>3KV85 4FN70<br>3KV86 4FN71<br>3N734 4FN72<br>3N735 4FN74<br>3N751 4FN75 | 3KV84 3N754<br>3KV88 4FN73<br>3KV89 4FN76<br>3KV91 4FN77<br>3KV92 4FN78<br>3N736 4FN79<br>3N737 4FN80<br>3N753 | 3KV90 3KV97<br>3KV93 3KV98<br>3KV94 3N738<br>3KV95 3N739<br>3N755 |

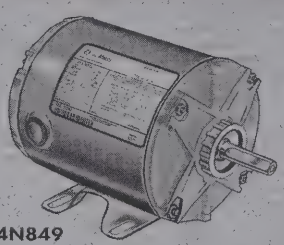
# GENERAL PURPOSE INDUSTRIAL MOTORS

# 3-PHASE HIGH EFFICIENCY TEFC MOTORS

- **140 frames and larger meet or exceed legislated energy standards (EPACT)**
- **Higher efficiency results in lower operating costs**
- **EPACT Motors have improved cooling that results in longer life**
- **Copper windings**

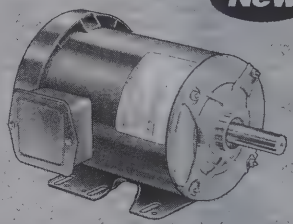
**Typical Uses:** Pumps, fans, blowers, air compressors, conveyors, and other industrial equipment. Designed for general purpose applications in dirty or dusty areas with moderate to high starting torques.
**Bearings:** Ball regreasable on 320-440 frame
**Enclosure:** TEFC
**Mounting:** Rigid
**Ambient:** 40°C
**Protection:** None
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

E47088



No. 4N849
48 Frame

New



No. 4RZ41
143T Frame

ENERGY RIGHT®

Replacement Parts Available
1-800-323-0620

**CAUTION:** **Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps @ Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | Frame* | GE Stock No. | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 48 | 208-230/460 | 1.3-1.4/0.7 | 1.0 | 62.7† | B | RS | K151 | ✓ | **4N820** | $178.00 | **$111.20** | 16.0 |
| | 1725 | 48 | 230/460 | 1.2/0.6 | 1.0 | 67.5† | B | RS | K194 | ✓ | **4N849*** | 201.00 | **126.00** | 16.0 |
| | 1725 | 48 | 575 | 0.6 | 1.0 | 61.3† | B | RS | K418 | ✓ | **4N821** | 188.00 | **117.45** | 16.0 |
| | 1725 | 56 | 208-230/460 | 1.1-1.2/0.6 | 1.0 | 66.0† | B | RS | K439 | ✓ | **4N822*** | 178.00 | **111.20** | 16.0 |
| | 1140 | 56 | 230/460 | 1.4/0.7 | 1.0 | 66.0† | A | RS | K321 | ✓ | **4N823** | 265.00 | **162.00** | 19.0 |
| 1/3 | 3450 | 48 | 208-230/460 | 1.5-1.8/0.9 | 1.0 | 61.9† | B | RS | K153 | ✓ | **4N824** | 176.00 | **110.65** | 16.0 |
| | 1725 | 56 | 208-230/460 | 1.5-1.5/0.8 | 1.0 | 66.0† | B | RS | K154 | ✓ | **3N535** | 199.00 | **124.80** | 16.0 |
| | 1725 | 56 | 208-230/460 | 1.3-1.4/0.7 | 1.0 | 68.8† | B | RS | K196 | ✓ | **4N851*** | 250.00 | **150.25** | 17.0 |
| | 1140 | 56 | 230/460 | 1.8/0.9 | 1.0 | 67.9† | B | RS | K155 | ✓ | **4N826** | 287.00 | **173.00** | 22.0 |
| 1/2 | 3450 | 48 | 208-230/460 | 2.0-2.0/1.0 | 1.0 | 69.9† | B | RS | K156 | ✓ | **4N827** | 191.00 | **119.70** | 18.0 |
| | 3450 | 56 | 208-230/460 | 2.0-2.0/1.0 | 1.0 | 69.0† | B | RS | K157 | ✓ | **3N537** | 191.00 | **119.70** | 18.0 |
| | 1725 | 56 | 208-230/460 | 2.1-2.2/1.1 | 1.0 | 69.0† | B | RS | K158 | ✓ | **3N536** | 234.00 | **141.90** | 18.0 |
| | 1725 | 56 | 230/460 | 2.0/1.0 | 1.0 | 73.9† | B | RS | K197 | ✓ | **4N853*** | 278.00 | **167.50** | 23.0 |
| | 1725 | 56 | 575 | 0.9 | 1.0 | 69.8† | B | RS | K426 | ✓ | **4N829** | 234.00 | **132.10** | 21.0 |
| | 1140 | 56 | 230/460 | 2.6/1.3 | 1.0 | 69.9† | B | RS | K159 | ✓ | **4N831** | 309.00 | **203.75** | 27.0 |
| 3/4 | 3450 | 56 | 208-230/460 | 2.6-2.6/1.3 | 1.0 | 76.0† | B | RS | K160 | ✓ | **3N539** | 210.00 | **131.55** | 22.0 |
| | 1725 | 56 | 208-230/460 | 2.8-2.8/1.4 | 1.0 | 76.0† | B | RS | K161 | ✓ | **3N538** | 251.00 | **153.75** | 23.0 |
| | 1725 | 56 | 208-230/460 | 2.4-2.4/1.2 | 1.0 | 78.5† | B | RS | K198 | ✓ | **4N854*** | 286.00 | **172.50** | 32.0 |
| | 1725 | 56 | 575 | 1.3 | 1.0 | 73.4† | B | RS | K421 | ✓ | **4N833** | 251.00 | **154.25** | 21.0 |
| | 1140 | 56 | 230/460 | 3.0/1.5 | 1.0 | 76.1† | B | RS | K162 | ✓ | **4N835** | 316.00 | **190.25** | 30.0 |
| | 1200 | 143T | 230/460 | 2.9/1.45 | 1.15 | 82.5 | F | CI | S212 | ✓ | ***New*4RZ38** | 394.00 | **248.00** | 44.0 |
| 1 | 3450 | 56 | 208-230/460 | 3.2-3.0/1.5 | 1.0 | 80.0† | B | RS | K163 | ✓ | **3N541** | 248.00 | **144.25** | 24.0 |
| | 3450 | 56 | 575 | 1.2 | 1.0 | 78.6† | B | RS | K532 | ✓ | **4N836** | 248.00 | **148.75** | 25.0 |
| | 1725 | 56 | 208-230/460 | 3.6-3.8/1.9 | 1.0 | 72.0† | B | RS | K164 | ✓ | **3N540** | 262.00 | **153.50** | 27.0 |
| | 1725 | 56 | 575 | 1.7 | 1.0 | 73.1† | B | RS | K424 | ✓ | **4N838** | 262.00 | **153.75** | 26.0 |
| | 1725 | 56 | 208-230/460 | 3.7-3.2/1.6 | 1.15 | 80.7 | F | RS | K2064 | ✓ | ***New*4RZ42** | 326.00 | **188.50** | 29.0 |
| | 1725 | 143T | 208-230/460 | 3.7-3.2/1.6 | 1.15 | 82.5 | F | RS | K2012 | ✓ | ***New*4RZ39** | 331.00 | **191.50** | 29.0 |
| | 1745 | 143T | 230/460 | 1.9/1.45 | 1.15 | 82.5 | F | CI | S211 | ✓ | ***New*4RZ40** | 288.00 | **176.25** | 53.0 |
| | 1725 | 143T | 575 | 1.2 | 1.15 | 82.5 | F | RS | K2013 | ✓ | ***New*4RZ41** | 288.00 | **176.25** | 29.0 |
| | 1140 | 56H | 230/460 | 3.6/1.8 | 1.0 | 78.3† | B | RS | K165 | ✓ | **4N841** | 321.00 | **196.25** | 40.0 |
| | 1150 | 145T | 230/460 | 3.3/1.65 | 1.15 | 80.0 | F | CI | S216 | ✓ | ***New*4RZ43** | 411.00 | **219.75** | 59.0 |
| 1½ | 3450 | 56 | 208-230/460 | 5.0-4.8/2.4 | 1.15 | 79.0† | B | RS | K166 | ✓ | **3N543** | 275.00 | **162.25** | 26.0 |
| | 3465 | 143T | 230/460 | 4.0/2.0 | 1.15 | 82.5 | F | CI | S210 | ✓ | ***New*4RZ44** | 336.00 | **184.25** | 50.0 |
| | 1725 | 56H | 208-230/460 | 4.9-4.8/2.4 | 1.0 | 80.0† | B | RS | K167 | ✓ | **3N542** | 274.00 | **165.00** | 41.0 |
| | 1725 | 145T | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | F | RS | K2014 | ✓ | ***New*4RZ45** | 364.00 | **184.00** | 40.0 |
| | 1730 | 145T | 230/460 | 4.1/2.05 | 1.15 | 84.0 | F | CI | S214 | ✓ | ***New*4RZ46** | 313.00 | **184.25** | 57.0 |
| | 1725 | 145T | 575 | 1.8 | 1.15 | 84.0 | F | RS | K2015 | ✓ | ***New*4RZ47** | 318.00 | **184.25** | 40.0 |
| | 1175 | 182T | 230/460 | 5.0/2.5 | 1.15 | 85.5 | F | CI | S220 | ✓ | ***New*4RZ48** | 423.00 | **250.50** | 88.0 |
| 2 | 3450 | 56 | 230/460 | 5.2/2.6 | 1.15 | 81.7† | B | RS | K168 | ✓ | **3N564** | 304.00 | **180.75** | 40.0 |
| | 3450 | 145T | 208-230/460 | 5.8-5.4/2.7 | 1.15 | 86.5 | F | RS | K2049 | ✓ | ***New*4RZ49** | 406.00 | **239.75** | 35.0 |
| | 3465 | 145T | 230/460 | 5.1/2.6 | 1.15 | 84.0 | F | CI | S213 | ✓ | ***New*4RZ50** | 440.00 | **228.25** | 58.0 |
| | 1725 | 145T | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | F | RS | K2016 | ✓ | ***New*4RZ51** | 402.00 | **238.25** | 44.0 |
| | 1730 | 145T | 230/460 | 5.5/2.75 | 1.15 | 84.0 | F | CI | S215 | ✓ | ***New*4RZ52** | 345.00 | **193.75** | 62.0 |
| | 1725 | 145T | 575 | 2.3 | 1.15 | 84.0 | F | RS | K2017 | ✓ | ***New*4RZ53** | 340.00 | **181.75** | 44.0 |
| | 1175 | 184T | 230/460 | 6.4/3.2 | 1.15 | 86.5 | F | CI | S226 | ✓ | ***New*4RZ54** | 466.00 | **263.75** | 111.0 |

(†) Average efficiency, not NEMA nominal efficiency. (*) RS = Rolled Steel ; CI = Cast Iron. (#) TENV.
(✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY



*We're the driving force in the motor business.*

## GE 3-PHASE TEFC MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps @ Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | Frame* | GE Stock No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3450 | 145T | 230/460 | 8.0/4.0 | 1.0 | 84.0 | F | RS | K2011 | 4RX44 | $390.00 | **$228.00** | 54.0 |
| | 3500 | 182T | 230/460 | 7.2/3.6 | 1.15 | 85.5 | F | CI | S221 | 4RZ55 | 443.00 | **243.25** | 80.0 |
| | 1750 | 182T | 230/460 | 7.6/3.8 | 1.15 | 87.5 | F | CI | S219 | 4RZ57 | 386.00 | **235.50** | 82.0 |
| | 1750 | 182T | 200 | 8.7 | 1.15 | 87.5 | F | CI | S218 | 4RZ56 | 386.00 | **235.50** | 80.0 |
| | 1755 | 182T | 575 | 3.1 | 1.15 | 87.5 | F | CI | S217 | 4RZ58 | 386.00 | **235.50** | 90.0 |
| | 1165 | 213T | 230/460 | 8.8/4.4 | 1.15 | 87.5 | F | CI | S234 | 4RZ59 | 623.00 | **359.25** | 148.0 |
| | 1165 | 213T | 575 | 3.5 | 1.15 | 87.5 | F | CI | S233 | 4RZ60 | 623.00 | **359.25** | 135.0 |
| 5 | 3480 | 184T | 230/460 | 11.8/5.9 | 1.15 | 87.5 | F | CI | S227 | 4RZ61 | 549.00 | **305.00** | 121.0 |
| | 3485 | 184T | 575 | 4.7 | 1.15 | 87.5 | F | CI | S222 | 4RZ62 | 549.00 | **305.00** | 92.0 |
| | 1745 | 184T | 230/460 | 12.4/6.2 | 1.15 | 87.5 | F | CI | S225 | 4RZ64 | 451.00 | **269.25** | 110.0 |
| | 1745 | 184T | 200 | 14.3 | 1.15 | 87.5 | F | CI | S224 | 4RZ63 | 451.00 | **269.25** | 110.0 |
| | 1745 | 184T | 575 | 5.0 | 1.15 | 87.5 | F | CI | S223 | 4RZ65 | 451.00 | **269.25** | 100.0 |
| | 1155 | 215T | 230/460 | 13.4/6.7 | 1.15 | 87.5 | F | CI | S241 | 4RZ66 | 914.00 | **496.00** | 170.0 |
| | 1160 | 215T | 575 | 5.5 | 1.2 | 87.5 | F | CI | S240 | 4RZ67 | 914.00 | **496.00** | 174.0 |
| 7.5 | 3520 | 213T | 230/460 | 17.8/8.9 | 1.15 | 88.5 | F | CI | S229 | 4RZ68 | 719.00 | **409.75** | 150.0 |
| | 3515 | 213T | 575 | 7.1 | 1.15 | 88.5 | F | CI | S228 | 4RZ69 | 719.00 | **409.75** | 159.0 |
| | 1755 | 213T | 230/460 | 18.2/9.1 | 1.15 | 89.5 | F | CI | S231 | 4RZ71 | 643.00 | **390.75** | 170.0 |
| | 1755 | 213T | 200 | 20.9 | 1.15 | 89.5 | F | CI | S232 | 4RZ70 | 643.00 | **390.75** | 150.0 |
| | 1755 | 213T | 575 | 7.3 | 1.15 | 89.5 | F | CI | S230 | 4RZ72 | 643.00 | **390.75** | 174.0 |
| | 1170 | 254T | 230/460 | 19.4/9.7 | 1.15 | 89.5 | F | CI | S248 | 4RZ73 | 1235.00 | **638.50** | 252.0 |
| | 1170 | 254T | 575 | 7.7 | 1.15 | 89.5 | F | CI | S247 | 4RZ74 | 1235.00 | **638.50** | 250.0 |
| 10 | 3515 | 215T | 230/460 | 23.2/11.6 | 1.15 | 89.5 | F | CI | S236 | 4RZ75 | 861.00 | **483.00** | 200.0 |
| | 3510 | 215T | 575 | 9.3 | 1.15 | 89.5 | F | CI | S235 | 4RZ76 | 861.00 | **483.00** | 194.0 |
| | 1755 | 215T | 230/460 | 23.8/11.9 | 1.15 | 89.5 | F | CI | S238 | 4RZ78 | 771.00 | **478.50** | 199.0 |
| | 1755 | 215T | 200 | 27.2 | 1.15 | 89.5 | F | CI | S239 | 4RZ77 | 771.00 | **478.50** | 199.0 |
| | 1750 | 215T | 575 | 9.4 | 1.15 | 89.5 | F | CI | S237 | 4RZ79 | 771.00 | **478.50** | 199.0 |
| | 1165 | 256T | 230/460 | 25.8/12.9 | 1.15 | 89.5 | F | CI | S255 | 4RZ80 | 1453.00 | **794.00** | 250.0 |
| | 1165 | 256T | 575 | 10.3 | 1.15 | 89.5 | F | CI | S254 | 4RZ81 | 1453.00 | **794.00** | 250.0 |
| 15 | 3530 | 254T | 230/460 | 33.6/18.8 | 1.15 | 90.2 | F | CI | S243 | 4RZ82 | 1185.00 | **650.00** | 282.0 |
| | 3550 | 254T | 575 | 13.6 | 1.15 | 90.2 | F | CI | S242 | 4RZ83 | 1185.00 | **650.00** | 282.0 |
| | 1760 | 254T | 230/460 | 34.8/17.4 | 1.15 | 91.0 | F | CI | S245 | 4RZ85 | 1078.00 | **642.50** | 306.0 |
| | 1760 | 254T | 200 | 39.7 | 1.15 | 91.0 | F | CI | S246 | 4RZ84 | 1078.00 | **642.50** | 308.0 |
| | 1760 | 254T | 575 | 13.9 | 1.15 | 91.0 | F | CI | S244 | 4RZ86 | 1078.00 | **642.50** | 308.0 |
| | 1175 | 284T | 230/460 | 37.4/18.7 | 1.15 | 90.2 | F | CI | S261 | 4RZ87 | 1924.00 | **1111.00** | 396.0 |
| | 1175 | 284T | 575 | 15.0 | 1.15 | 90.2 | F | CI | S260 | 4RZ88 | 1924.00 | **1111.00** | 423.0 |
| 20 | 3525 | 256T | 230/460 | 44.4/22.2 | 1.15 | 90.2 | F | CI | S250 | 4RZ89 | 1425.00 | **825.50** | 330.0 |
| | 3530 | 256T | 575 | 17.8 | 1.15 | 90.2 | F | CI | S249 | 4RZ90 | 1425.00 | **825.50** | 315.0 |
| | 1755 | 256T | 230/460 | 46.0/23.0 | 1.15 | 91.0 | F | CI | S252 | 4RZ92 | 1345.00 | **797.50** | 352.0 |
| | 1755 | 256T | 200 | 66.6 | 1.15 | 92.4 | F | CI | S253 | 4RZ91 | 1345.00 | **797.50** | 230.0 |
| | 1170 | 286T | 230/460 | 50.0/25.0 | 1.15 | 90.2 | F | CI | S267 | 4RZ94 | 2344.00 | **1320.00** | 440.0 |
| | 1755 | 256T | 575 | 18.3 | 1.15 | 91.0 | F | CI | S251 | 4RZ93 | 1345.00 | **797.50** | 352.0 |
| 25 | 3540 | 284TS | 230/460 | 55.6/27.8 | 1.15 | 91.0 | F | CI | S256 | 4RZ95 | 1785.00 | **1036.00** | 404.0 |
| | 1765 | 284T | 230/460 | 58.0/29.0 | 1.15 | 92.4 | F | CI | S258 | 4RZ97 | 1571.00 | **996.50** | 457.0 |
| | 1765 | 284T | 200 | 79.4 | 1.15 | 92.4 | F | CI | S259 | 4RZ96 | 1571.00 | **996.50** | 443.0 |
| | 1765 | 284T | 575 | 23.3 | 1.15 | 92.4 | F | CI | S257 | 4RZ98 | 1571.00 | **996.50** | 454.0 |
| | 1180 | 324T | 230/460 | 63.8/31.9 | 1.15 | 91.7 | F | CI | S279 | 4RZ99 | 3192.00 | **1655.00** | 626.0 |
| | 1180 | 324TS | 230/460 | 63.8/31.9 | 1.15 | 91.7 | F | CI | S278 | 4TC01 | 3192.00 | **1655.00** | 625.0 |
| 30 | 3555 | 286TS | 230/460 | 66.8/33.4 | 1.15 | 91.0 | F | CI | S262 | 4TC03 | 2109.00 | **1108.00** | 400.0 |
| | 3540 | 286TS | 200 | 76.3 | 1.15 | 91.0 | F | CI | S263 | 4TC02 | 2109.00 | **1108.00** | 488.0 |
| | 1765 | 286T | 230/460 | 69.0/34.5 | 1.15 | 92.4 | F | CI | S265 | 4TC05 | 1934.00 | **1260.00** | 494.0 |
| | 1765 | 286T | 200 | 79.4 | 1.15 | 92.4 | F | CI | S266 | 4TC04 | 1934.00 | **1260.00** | 507.0 |
| | 1765 | 286T | 575 | 27.6 | 1.15 | 92.4 | F | CI | S264 | 4TC06 | 1934.00 | **1260.00** | 507.0 |
| | 1180 | 326T | 230/460 | 73.9/36.9 | 1.15 | 91.7 | F | CI | S280 | 4TC07 | 3676.00 | **1823.00** | 763.0 |
| 40 | 3545 | 324T | 230/460 | 89.2/44.6 | 1.15 | 91.7 | F | CI | S282 | 4TC08 | 2886.00 | **1657.00** | 788.0 |
| | 3545 | 324TS | 230/460 | 89.2/44.6 | 1.15 | 91.7 | F | CI | S281 | 4TC09 | 2886.00 | **1657.00** | 788.0 |
| | 1770 | 324T | 230/460 | 91.0/45.5 | 1.15 | 93.0 | F | CI | S283 | 4TC10 | 2596.00 | **1530.00** | 776.0 |
| | 1775 | 324T | 575 | 36.5 | 1.15 | 93.0 | F | CI | S284 | 4TC11 | 2596.00 | **1530.00** | 776.0 |
| | 1185 | 364T | 230/460 | 100.0/50.0 | 1.15 | 93.0 | F | CI | S285 | 4TC12 | 5204.00 | **3034.00** | 932.0 |
| 50 | 3555 | 326T | 230/460 | 109.4/54.5 | 1.15 | 92.4 | F | CI | S287 | 4TC13 | 3638.00 | **2022.00** | 788.0 |
| | 3555 | 326TS | 230/460 | 109.4/54.4 | 1.15 | 92.4 | F | CI | S286 | 4TC14 | 3638.00 | **2022.00** | 788.0 |
| | 1765 | 326T | 230/460 | 114.4/57.3 | 1.15 | 93.0 | F | CI | S289 | 4TC15 | 3248.00 | **1704.00** | 803.0 |
| | 1765 | 326TS | 230/460 | 114.4/57.2 | 1.15 | 93.0 | F | CI | S288 | 4TC17 | 3248.00 | **1704.00** | 803.0 |
| | 1770 | 326T | 575 | 46.1 | 1.15 | 93.0 | F | CI | S290 | 4TC16 | 3248.00 | **1704.00** | 803.0 |
| | 1180 | 365T | 230/460 | 126.0/62.9 | 1.15 | 93.0 | F | CI | S291 | 4TC18 | 6073.00 | **3531.00** | 1001.0 |
| 60 | 3550 | 364TS | 230/460 | 133.4/66.7 | 1.15 | 93.0 | F | CI | S292 | 4TC19 | 5427.00 | **3161.00** | 935.0 |
| | 1780 | 364T | 230/460 | 136.4/68.2 | 1.15 | 93.6 | F | CI | S295 | 4TC20 | 4830.00 | **2727.00** | 932.0 |
| | 1780 | 364TS | 230/460 | 136.4/68.2 | 1.15 | 93.6 | F | CI | S293 | 4TC23 | 4830.00 | **2697.00** | 928.0 |
| | 1780 | 364T | 460 | 68.2 | 1.15 | 93.6 | F | CI | S294 | 4TC21 | 4830.00 | **2727.00** | 932.0 |
| | 1780 | 364T | 575 | 56.2 | 1.15 | 93.0 | F | CI | S296 | 4TC22 | 4830.00 | **2727.00** | 932.0 |
| | 1190 | 404T | 460 | 70.1 | 1.15 | 93.6 | F | CI | S2330 | 4TC24 | 7027.00 | **4095.00** | 1400.0 |
| | 1190 | 404T | 575 | 56.1 | 1.15 | 93.6 | F | CI | S2159 | 4TC25 | 7027.00 | **4095.00** | 1430.0 |

(*) RS = Rolled Steel; CI = Cast Iron. (✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

## GE 3-PHASE TEFC MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps @ Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | Frame* | GE Stock No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 3560 | 365TS | 230/460 | 166.6/83.3 | 1.15 | 93.0 | F | CI | S297 | 4TC26 | $6463.00 | $3748.00 | 992.0 |
| | 1780 | 365T | 230/460 | 173.4/86.7 | 1.15 | 94.1 | F | CI | S298 | 4TC27 | 6034.00 | 3424.00 | 927.0 |
| | 1185 | 405T | 460 | 89.3 | 1.15 | 93.6 | F | CI | S2332 | 4TC29 | 8596.00 | 4770.00 | 1430.0 |
| | 1185 | 405T | 575 | 71.0 | 1.15 | 93.6 | F | CI | S2160 | 4TC30 | 8596.00 | 4962.00 | 1450.0 |
| 100 | 3565 | 405TS | 230/460 | 218.0/109.0 | 1.15 | 93.6 | F | CI | S2101 | 4TC31 | 8199.00 | 4400.00 | 1470.0 |
| | 3565 | 405TS | 575 | 87.4 | 1.15 | 93.6 | F | CI | S2161 | 4TC32 | 8199.00 | 4400.00 | 1470.0 |
| | 1780 | 405T | 230/460 | 220.0/110.0 | 1.15 | 94.5 | F | CI | S2102 | 4TC33 | 7543.00 | 4408.00 | 1168.0 |
| | 1780 | 405TS | 230/460 | 220.0/110.0 | 1.15 | 94.5 | F | CI | S2103 | 4TC35 | 7543.00 | 4408.00 | 1450.0 |
| | 1780 | 405T | 575 | 88.0 | 1.15 | 94.5 | F | CI | S2162 | 4TC34 | 7543.00 | 4408.00 | 1450.0 |
| | 1190 | 444T | 460 | 115.0 | 1.15 | 94.1 | F | CI | S2104 | 4TC36 | 11477.00 | 5623.00 | 1850.0 |
| | 1190 | 444T | 575 | 92.5 | 1.15 | 94.1 | F | CI | S2163 | 4TC37 | 11477.00 | 5623.00 | 1850.0 |
| 125 | 3570 | 444TS | 460 | 136.0 | 1.15 | 94.5 | F | CI | S2105 | 4TC38 | 11378.00 | 6567.00 | 1710.0 |
| | 3570 | 444TS | 575 | 109.0 | 1.15 | 94.5 | F | CI | S2164 | 4TC39 | 11378.00 | 6567.00 | 1790.0 |
| | 1785 | 444T | 460 | 138.0 | 1.15 | 94.5 | F | CI | S2106 | 4TC40 | 10614.00 | 5744.00 | 1740.0 |
| | 1785 | 444TS | 460 | 138.0 | 1.15 | 94.5 | F | CI | S2107 | 4TC42 | 10614.00 | 5744.00 | 1740.0 |
| | 1785 | 444T | 575 | 110.0 | 1.15 | 94.5 | F | CI | S2165 | 4TC41 | 10614.00 | 5744.00 | 1740.0 |
| | 1185 | 445T | 460 | 144.0 | 1.15 | 94.1 | F | CI | S2108 | 4TC43 | 13706.00 | 7929.00 | 1890.0 |
| | 1185 | 445T | 575 | 115.0 | 1.15 | 94.1 | F | CI | S2166 | 4TC44 | 13706.00 | 7929.00 | 1890.0 |
| 150 | 3570 | 445TS | 460 | 163.0 | 1.15 | 94.5 | F | CI | S2109 | 4TC45 | 14214.00 | 8210.00 | 1920.0 |
| | 3570 | 445TS | 575 | 129.0 | 1.15 | 94.5 | F | CI | S2167 | 4TC46 | 14214.00 | 8210.00 | 1920.0 |
| | 1785 | 445T | 460 | 162.0 | 1.15 | 95.0 | F | CI | S2110 | 4TC47 | 12388.00 | 7192.00 | 1880.0 |
| | 1785 | 445TS | 460 | 162.0 | 1.15 | 95.0 | F | CI | S2111 | 4TC49 | 12388.00 | 7192.00 | 1880.0 |
| | 1785 | 445T | 575 | 129.0 | 1.15 | 95.0 | F | CI | S2168 | 4TC48 | 12388.00 | 7192.00 | 1880.0 |
| | 1190 | 447T | 460 | 171.0 | 1.15 | 95.0 | F | CI | S2112 | 4TC50 | 16173.00 | 9103.00 | 2550.0 |
| | 1190 | 447T | 575 | 137.0 | 1.15 | 95.0 | F | CI | S2169 | 4TC51 | 16173.00 | 9103.00 | 2550.0 |
| 200 | 3575 | 447TS | 460 | 210.0 | 1.15 | 95.0 | F | CI | S2113 | 4TC52 | 18562.00 | 9852.00 | 2620.0 |
| | 3580 | 447TS | 575 | 168.0 | 1.15 | 95.0 | F | CI | S2170 | 4TC53 | 18562.00 | 9543.00 | 2620.0 |
| | 1785 | 447T | 460 | 230.0 | 1.15 | 95.0 | F | CI | S2114 | 4TC54 | 15150.00 | 9117.00 | 2470.0 |
| | 1785 | 447TS | 460 | 230.0 | 1.15 | 95.0 | F | CI | S2115 | 4TC56 | 15150.00 | 9117.00 | 2470.0 |
| | 1785 | 447T | 575 | 185.0 | 1.15 | 95.0 | F | CI | S2171 | 4TC55 | 15150.00 | 9117.00 | 2470.0 |
| | 1190 | 449T | 460 | 227.0 | 1.15 | 95.0 | F | CI | S2335 | 4TC57 | 20046.00 | 11556.00 | 2730.0 |
| | 1190 | 449T | 575 | 182.0 | 1.15 | 95.0 | F | CI | S2172 | 4TC58 | 20046.00 | 11556.00 | 2730.0 |
| 250 | 1780 | 449TS | 460 | 278.0 | 1.0 | 95.0 | F | CI | S917 | 5N893 | 15503.00 | 10263.00 | 2050.0 |
| | 1780 | 449TS | 460 | 278.0 | 1.0 | 95.0 | F | CI | S916 | 5N894 | 15051.00 | 9964.00 | 2050.0 |

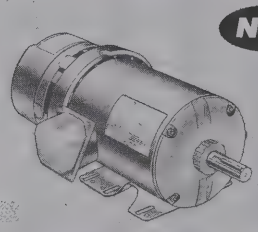
(*) RS = Rolled Steel; CI = Cast Iron. (✓) Denotes energy efficient product.

## GE BRAND, 3-PHASE BRAKE MOTORS

**Typical Uses:** For applications requiring braking and holding action at standstill such as conveyors, index mechanisms, machine tools, and commercial and industrial overhead doors.

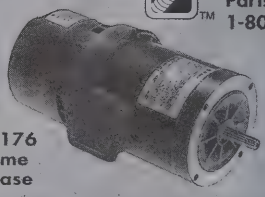
**Service Factor:** 1.0
**Bearings:** Ball
**Thermal Protection:** None
**Frame:** Rolled Steel
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Brake Voltage:** 230/460
**Finish:** Gray
**Brand:** GE

E47088



No. 5N176
56 Frame
Rigid Base

New



Replacement Parts Available 1-800-323-0620

No. 5N167
56C Frame
No Base

| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | NEMA Nominal Efficiency | Brake Rating Ft.-Lbs. | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RIGID BASE** | | | | | | | | | | | | | |
| 1/2 | 1725 | 56 | TENV | 230/460 | 1.8/0.9 | 67.6 | 3 | B | K456 | 5N171 | $511.00 | $319.75 | 30.0 |
| | 1140 | 56 | TEFC | 230/460 | 2.6/1.3 | 68.4 | 3 | B | K526 | 5N172 | 705.00 | 441.00 | 27.0 |
| 3/4 | 1725 | 56 | TENV | 230/460 | 2.4/1.0 | 72.9 | 3 | B | K458 | 5N173 | 597.00 | 372.75 | 33.0 |
| 1 | 1725 | 56 | TENV | 230/460 | 3.0/1.5 | 75.8 | 3 | B | K459 | 5N174 | 693.00 | 433.75 | 36.0 |
| | 1725 | 143T | TENV | 230/460 | 3.0/1.5 | 75.8 | 3 | B | K461 | 5N175 | 693.00 | 433.75 | 38.0 |
| 2 | 1725 | 145T | TEFC | 230/460 | 6.6/3.3 | 77.9 | 6 | B | K464 | 5N176 | 798.00 | 485.00 | 38.0 |
| | 1725 | 145T | TEFC | 230/460 | 5.8/2.9 | 83.5 | 6 | B | K2045 | New 4TD99 | 894.00 | 505.50 | 44.0 |
| **C-FACE, NO BASE** | | | | | | | | | | | | | |
| 1/2 | 1725 | 56C | TENV | 230/460 | 1.8/0.9 | 67.6 | 3 | B | K457 | 5N167 | 523.00 | 327.75 | 31.0 |
| 3/4 | 1725 | 56C | TENV | 230/460 | 2.4/1.0 | 72.9 | 3 | B | K460 | 5N168 | 611.00 | 382.50 | 34.0 |
| 1 | 1725 | 143TC | TENV | 230/460 | 3.0/1.5 | 82.1 | 3 | B | K462 | 5N169 | 706.00 | 441.75 | 37.0 |
| 2 | 1725 | 145TC | TEFC | 230/460 | 6.6/3.3 | 77.9 | 6 | B | K466 | 5N170 | 813.00 | 509.50 | 47.0 |
| 2 | 1725 | 145TC | TEFC | 230/460 | 5.8/2.9 | 83.5 | 6 | B | K2046 | New 4TF01 | 911.00 | 514.00 | 44.0 |

# 3-PHASE HIGH EFFICIENCY TEFC MOTORS

GENERAL PURPOSE INDUSTRIAL MOTORS

- Meets Nema MG1 Part 30 inverter duty use at 10:1 variable torque and 2:1 constant torque speed range
- Meets NEMA MGI Part 30 inverter duty use at 10:1 variable torque and 2:1 constant torque speed range
- Fully complies with EPACT 92 efficiency standards
- NEMA service factor of 1.25 provides a reserve margin for intermittent overloading or fluctuating (high/low) voltage conditions
- Dual voltage ratings suitable for Part Wind Start on lower voltage
- Usable on 50Hz 190/380V at rated HP and 1.0 service factor
- "CE" mark on nameplate
- 143T/145T frame motors include C-face at no additional cost
- C-face, canopy cap, and brake kits, available below, increase mechanical flexibility

**Typical Uses:** Cooler, more efficient performance on pumps, blowers, air compressors, and farm equipment operating in **non-combustible** dusty, dirty areas.

**Bearings:** Double-shielded, prelubricated ball

**Mounting:** Rigid removable base on 180 frame and above; rigid welded base on 140 frame

**Insulation Class:** F

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** Gray enamel

**Brand:** USEM

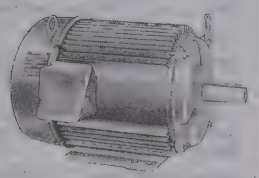
**Construction:** 140 frames are rolled steel, 180 frames & up are aluminum

ENERGY RIGHT®

New

UNIMOUNT®

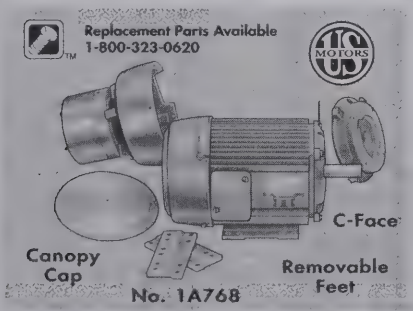
143T and 145T Frames Include C-Face



No. 4LX20

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | NEMA Nominal Efficiency | Service Factor | USEM Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1735 | 143TC | 208-230/460 | 3.1-3.0/1.5 | 82.5 | 1.25 | R465 | ✓4LX08 | $260.00 | **$174.00** | 30.0 |
| | 1145 | 145TC | 208-230/460 | 3.7-3.6/1.8 | 80.0 | 1.25 | R474 | ✓4LX09 | 325.00 | **217.25** | 35.0 |
| 1½ | 3480 | 143TC | 208-230/460 | 4.3-3.9/1.9 | 82.5 | 1.25 | R459 | ✓4LX10 | 268.00 | **182.50** | 29.0 |
| | 1740 | 145TC | 208-230/460 | 4.6-4.3/2.2 | 84.0 | 1.25 | R468 | ✓4LX11 | 289.00 | **193.00** | 30.0 |
| | 1175 | 182T | 208-230/460 | 5.6-5.5/2.8 | 85.5 | 1.25 | T699 | ✓4LX12 | 334.00 | **236.75** | 60.0 |
| 2 | 3485 | 145TC | 208-230/460 | 5.6-5.1/2.5 | 84.0 | 1.25 | R462 | ✓4LX13 | 311.00 | **212.00** | 30.0 |
| | 1730 | 145TC | 208-230/460 | 6.1-5.9/2.9 | 84.0 | 1.25 | R471 | ✓4LX14 | 318.00 | **212.50** | 31.0 |
| | 1170 | 184T | 208-230/460 | 7.2-7.1/3.5 | 86.5 | 1.25 | T711 | ✓4LX15 | 368.00 | **261.25** | 70.0 |
| 3 | 3465 | 182T | 208-230/460 | 8.7-8.0/4.0 | 85.5 | 1.25 | T727 | ✓4LX16 | 351.00 | **249.50** | 49.0 |
| | 1765 | 182T | 208-230/460 | 8.7-8.1/4.0 | 87.5 | 1.25 | T731 | ✓4LX17 | 340.00 | **242.00** | 54.0 |
| | 1175 | 213T | 208-230/460 | 9.7-9.1/4.5 | 87.5 | 1.25 | T735 | ✓4LX18 | 488.00 | **345.75** | 85.0 |
| 5 | 3510 | 184T | 208-230/460 | 13.8-12.3/6.1 | 87.5 | 1.25 | T743 | ✓4LX19 | 434.00 | **307.75** | 70.0 |
| | 1750 | 184T | 208-230/460* | 14.2-12.8/6.4 | 87.5 | 1.25 | T747 | ✓4LX20 | 396.00 | **280.75** | 63.0 |
| | 1170 | 215T | 208-230/460 | 15.6-14.5/7.3 | 87.5 | 1.25 | T751 | ✓4LX21 | 702.00 | **497.75** | 133.0 |
| 7½ | 3515 | 213T | 208-230/460 | 20.4-18.4/9.2 | 88.5 | 1.25 | T759 | ✓4LX22 | 568.00 | **403.25** | 85.0 |
| | 1760 | 213T | 208-230/460 | 20.6-18.8/9.4 | 89.5 | 1.25 | T763 | ✓4LX40 | 568.00 | **401.75** | 100.0 |
| | 1170 | 254T | 208-230/460 | 20.8-18.8/9.4 | 89.5 | 1.25 | T767 | ✓4LX23 | 924.00 | **660.00** | 200.0 |
| 10 | 3505 | 215T | 208-230/460 | 26.7-23.8/11.9 | 89.5 | 1.25 | T775 | ✓4LX24 | 663.00 | **483.00** | 130.0 |
| | 1755 | 215T | 208-230/460 | 27.2-24.6/12.3 | 89.5 | 1.25 | T779 | ✓4LX25 | 688.00 | **501.00** | 123.0 |
| | 1165 | 256T | 208-230/460 | 27.5-25.0/12.5 | 89.5 | 1.25 | T783 | ✓4LX36 | 1177.00 | **842.50** | 250.0 |
| 15 | 3540 | 254T | 208-230/460 | 40.0-35.0/17.7 | 90.2 | 1.25 | T787 | ✓4LX37 | 920.00 | **658.50** | 208.0 |
| | 1770 | 254T | 208-230/460 | 41.0-37.0/18.5 | 91.0 | 1.25 | T791 | ✓4LX26 | 933.00 | **661.50** | 202.0 |
| 20 | 3525 | 256T | 208-230/460 | 53.0-47.0/23.4 | 91.0 | 1.25 | T795 | ✓4LX38 | 1208.00 | **864.50** | 247.0 |
| | 1765 | 256T | 208-230/460 | 54.0-49.0/24.3 | 91.0 | 1.25 | T799 | ✓4LX27 | 1148.00 | **836.00** | 235.0 |
| 25 | 3520 | 284T | 208-230/460 | 65.0-57.0/28.7 | 91.0 | 1.25 | T803 | ✓4LX39 | 1458.00 | **1043.00** | 290.0 |
| | 1770 | 284T | 208-230/460 | 67.0-59.0/29.6 | 92.4 | 1.25 | T811 | ✓4LX28 | 1353.00 | **1003.00** | 258.0 |
| 30 | 1765 | 286T | 208-230/460 | 80.0-72.0/36.0 | 92.4 | 1.25 | T819 | ✓4LX29 | 1643.00 | **1221.00** | 270.0 |

(✓) Denotes energy efficient product.




## CONVERSION KITS FOR ABOVE MOTORS

| Nema Frame | C-FACE KITS Stock No. | List | Each | Shpg. Wt. | CANOPY CAP KITS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 143T to 145T | — | — | — | — | 1A770 | $20.00 | **$14.80** | 0.9 |
| 182T to 184T | 1A768 | $45.00 | **$33.35** | 2.0 | 1A771 | 25.00 | **18.50** | 1.1 |
| 213T to 215T | 1A769 | 55.00 | **40.75** | 3.0 | 1A772 | 30.00 | **22.20** | 1.4 |
| 254T to 256T | 4A329 | 80.00 | **59.25** | 9.0 | — | — | — | — |
| 284T to 286T | 4A330 | 90.00 | **66.55** | 25.0 | — | — | — | — |

## NOMINAL STATIC TORQUE BRAKES

For 143T and 145T frames. Manual release lever, 13" leads. 4 7/16" overall length, 6 5/8" diameter. Gray. Dayton brand.

| Nominal Static Torque Ft.-Lbs. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3 | 3M360 | $253.00 | **$192.00** | 8.0 |
| 6 | 2Z871 | 325.00 | **246.25** | 8.0 |

**CAUTION: Not for fans in unattended areas.**

Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.

# GENERAL PURPOSE INDUSTRIAL MOTORS

# 3-PHASE HIGH EFFICIENCY SEVERE DUTY MOTORS

- Energy efficient motors meet or exceed legislated energy standard for the United States and Canada (EPACT)
- Higher efficiency results in lower operating costs
- EPACT motors have improved cooling that results in longer life
- All copper windings
- Oversized gasketed conduit box for ease of installation and connection
- Rigid cast iron frame, conduit box, and fan cover are resistant to harsh environments
- Suitable for 65°C Ambient at 1.0 service factor

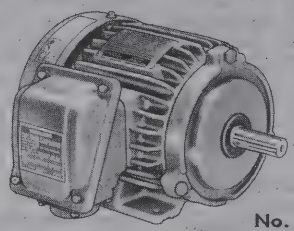
**Typical Uses:** Designed for general purpose applications in the most severe (non-explosive) areas with moderate to high starting torques.

**Bearings:** Ball bearings, double shielded on 140-280 frame, regreasable on 320-440 frame motors
**Mounting:** Rigid
**Enclosure:** TEFC—Severe Duty
**Thermal Protection:** None
**Insulation:** Class F
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

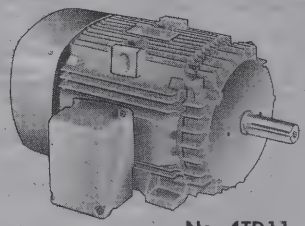
E47088

ENERGY RIGHT®

New



No. 4TC60
143T Frame



No. 4TD11
324T Frame

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

**Replacement Parts Available**
**1-800-323-0620**

**Modification & Service Available**
**Contact Your Local Branch**

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | GE Stock No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 1200 | 143T | 230/460 | 3.0/1.5 | 1.15 | 79.5 | S2272 | ✓ 4TC59 | $508.00 | $293.50 | 48.0 |
| 1 | 1745 | 143T | 230/460 | 1.9/1.45 | 1.15 | 82.5 | S2271 | ✓ 4TC60 | 447.00 | 259.00 | 48.0 |
| | 1745 | 143T | 575 | 1.2 | 1.15 | 82.5 | S2270 | ✓ 4TC61 | 447.00 | 259.00 | 44.0 |
| | 1150 | 145T | 230/460 | 3.3/1.65 | 1.15 | 80.0 | S2280 | ✓ 4TC62 | 530.00 | 268.25 | 57.0 |
| | 1150 | 145T | 575 | 1.3 | 1.15 | 80.0 | S2279 | ✓ 4TC63 | 530.00 | 269.50 | 59.0 |
| 1½ | 3465 | 143T | 230/460 | 4.0/2.0 | 1.15 | 82.5 | S2269 | ✓ 4TC64 | 433.00 | 250.75 | 53.0 |
| | 3465 | 143T | 575 | 1.6 | 1.15 | 82.5 | S2268 | ✓ 4TC65 | 433.00 | 250.75 | 62.0 |
| | 1730 | 145T | 230/460 | 4.1/2.05 | 1.15 | 84.0 | S2276 | ✓ 4TC67 | 488.00 | 276.75 | 55.0 |
| | 1730 | 145T | 575 | 1.6 | 1.15 | 84.0 | S2275 | ✓ 4TC68 | 488.00 | 276.75 | 57.0 |
| | 1175 | 182T | 230/460 | 5.0/2.5 | 1.15 | 85.5 | S2283 | ✓ 4TC69 | 584.00 | 343.75 | 91.0 |
| 2 | 3465 | 145T | 230/460 | 5.1/2.6 | 1.15 | 84.0 | S2274 | ✓ 4TC70 | 567.00 | 309.75 | 58.0 |
| | 3465 | 145T | 575 | 2.0 | 1.15 | 84.0 | S2273 | ✓ 4TC71 | 567.00 | 308.50 | 47.0 |
| | 1730 | 145T | 230/460 | 5.5/2.75 | 1.15 | 84.0 | S2277 | ✓ 4TC73 | 512.00 | 291.75 | 60.0 |
| | 1800 | 145T | 575 | 2.2 | 1.15 | 84.0 | S2278 | ✓ 4TC74 | 512.00 | 291.75 | 62.0 |
| | 1175 | 184T | 230/460 | 6.4/3.2 | 1.15 | 86.5 | S2286 | ✓ 4TC75 | 653.00 | 440.25 | 113.0 |
| 3 | 3500 | 182T | 230/460 | 7.2/3.6 | 1.15 | 85.5 | S2281 | ✓ 4TC76 | 619.00 | 320.00 | 91.0 |
| | 1750 | 182T | 230/460 | 7.6/3.8 | 1.15 | 87.5 | S2282 | ✓ 4TC77 | 564.00 | 374.00 | 91.0 |
| | 1755 | 182T | 575 | 3.1 | 1.15 | 87.5 | S2367 | ✓ 4TC78 | 564.00 | 374.00 | 91.0 |
| | 1165 | 213T | 230/460 | 8.8/4.4 | 1.15 | 87.5 | S2289 | ✓ 4TC79 | 797.00 | 485.00 | 172.0 |
| 5 | 3480 | 184T | 230/460 | 11.8/5.9 | 1.15 | 87.5 | S2284 | ✓ 4TC80 | 745.00 | 410.75 | 120.0 |
| | 3485 | 184T | 575 | 4.7 | 1.15 | 87.5 | S2368 | ✓ 4TC81 | 745.00 | 410.50 | 120.0 |
| | 1745 | 184T | 230/460 | 12.4/6.2 | 1.15 | 87.5 | S2285 | ✓ 4TC82 | 660.00 | 393.75 | 113.0 |
| | 1745 | 184T | 575 | 5.0 | 1.15 | 87.5 | S2369 | ✓ 4TC83 | 660.00 | 393.75 | 113.0 |
| | 1155 | 215T | 230/460 | 13.4/6.7 | 1.15 | 87.5 | S2292 | ✓ 4TC84 | 1121.00 | 718.00 | 206.0 |
| 7½ | 3520 | 213T | 230/460 | 17.8/8.9 | 1.15 | 88.5 | S2287 | ✓ 4TC85 | 900.00 | 453.25 | 172.0 |
| | 1755 | 213T | 230/460 | 18.2/9.1 | 1.15 | 89.5 | S2288 | ✓ 4TC86 | 895.00 | 450.50 | 186.0 |
| | 1755 | 213T | 575 | 7.3 | 1.15 | 89.5 | S2370 | ✓ 4TC87 | 895.00 | 450.50 | 186.0 |
| | 1170 | 254T | 230/460 | 19.4/9.7 | 1.15 | 89.5 | S2295 | ✓ 4TC88 | 1491.00 | 953.50 | 295.0 |

(✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

# 3-PHASE HIGH EFFICIENCY SEVERE DUTY MOTORS

## GE 3-PHASE SEVERE DUTY MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | GE Stock No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 3515 | 215T | 230/460 | 23.2/11.6 | 1.15 | 89.5 | S2290 | ✓4TC89 | $1051.00 | $661.00 | 206.0 |
| | 1755 | 215T | 230/460 | 23.8/11.9 | 1.15 | 89.5 | S2291 | ✓4TC90 | 1078.00 | 604.50 | 206.0 |
| | 1750 | 215T | 575 | 9.4 | 1.15 | 89.5 | S2371 | ✓4TC91 | 1078.00 | 604.50 | 214.0 |
| | 1165 | 256T | 230/460 | 25.8/12.9 | 1.15 | 89.5 | S2298 | ✓4TC92 | 1822.00 | 1167.00 | 270.0 |
| 15 | 3530 | 254T | 230/460 | 33.6/18.8 | 1.15 | 90.2 | S2293 | ✓4TC93 | 1444.00 | 926.00 | 296.0 |
| | 1760 | 254T | 230/460 | 34.8/17.4 | 1.15 | 91.0 | S2294 | ✓4TC94 | 1420.00 | 835.50 | 295.0 |
| | 1760 | 254T | 575 | 13.9 | 1.15 | 91.0 | S2372 | ✓4TC95 | 1420.00 | 835.50 | 230.0 |
| | 1175 | 284T | 230/460 | 37.4/18.7 | 1.15 | 90.2 | S2301 | ✓4TC96 | 2417.00 | 1566.00 | 454.0 |
| 20 | 3525 | 256T | 230/460 | 44.4/22.2 | 1.15 | 90.2 | S2296 | ✓4TC97 | 1790.00 | 1111.00 | 340.0 |
| | 1755 | 256T | 230/460 | 46.0/23.0 | 1.15 | 91.0 | S2297 | ✓4TC98 | 1769.00 | 1067.00 | 340.0 |
| | 1755 | 256T | 575 | 18.3 | 1.15 | 91.0 | S2373 | ✓4TC99 | 1769.00 | 1067.00 | 340.0 |
| | 1170 | 286T | 230/460 | 50.0/25.0 | 1.15 | 90.2 | S2304 | ✓4TD01 | 2944.00 | 1960.00 | 523.0 |
| 25 | 3540 | 284TS | 230/460 | 55.6/27.8 | 1.15 | 91.0 | S2299 | ✓4TD02 | 2207.00 | 1387.00 | 454.0 |
| | 1765 | 284T | 230/460 | 58.0/29.0 | 1.15 | 92.4 | S2300 | ✓4TD03 | 2108.00 | 1267.00 | 480.0 |
| | 1765 | 284T | 575 | 23.3 | 1.15 | 92.4 | S2374 | ✓4TD04 | 2108.00 | 1267.00 | 454.0 |
| | 1180 | 324T | 230/460 | 63.8/31.9 | 1.15 | 91.7 | S2322 | ✓4TD05 | 3801.00 | 2201.00 | 640.0 |
| 30 | 3550 | 286TS | 230/460 | 66.8/33.4 | 1.15 | 91.0 | S2302 | ✓4TD06 | 2576.00 | 1759.00 | 523.0 |
| | 1765 | 286T | 230/460 | 69.0/34.5 | 1.15 | 92.4 | S2303 | ✓4TD07 | 2450.00 | 1449.00 | 523.0 |
| | 1765 | 286T | 575 | 27.6 | 1.15 | 92.4 | S2375 | ✓4TD08 | 2450.00 | 1449.00 | 523.0 |
| | 1180 | 326T | 230/460 | 73.9/36.9 | 1.15 | 91.7 | S2324 | ✓4TD09 | 4378.00 | 2456.00 | 680.0 |
| 40 | 3545 | 324TS | 230/460 | 89.2/44.6 | 1.15 | 91.7 | S2321 | ✓4TD10 | 3446.00 | 1856.00 | 788.0 |
| | 1770 | 324T | 230/460 | 91.0/45.5 | 1.15 | 93.0 | S2315 | ✓4TD11 | 3312.00 | 1797.00 | 776.0 |
| | 1185 | 364T | 460 | 50.0 | 1.15 | 93.0 | S2327 | ✓4TD12 | 5865.00 | 3134.00 | 932.0 |
| 50 | 3555 | 326TS | 230/460 | 109.4/54.4 | 1.15 | 92.4 | S2323 | ✓4TD13 | 4375.00 | 2431.00 | 630.0 |
| | 1765 | 326TS | 230/460 | 114.4/57.2 | 1.15 | 93.0 | S2316 | ✓4TD15 | 4067.00 | 1919.00 | 680.0 |
| | 1765 | 326T | 230/460 | 114.4/57.2 | 1.15 | 93.0 | S2317 | ✓4TD14 | 4067.00 | 1919.00 | 680.0 |
| | 1180 | 365T | 460 | 62.9 | 1.15 | 93.0 | S2329 | ✓4TD16 | 6685.00 | 3459.00 | 960.0 |
| 60 | 3550 | 364TS | 230/460 | 133.4/66.7 | 1.15 | 93.0 | S2326 | ✓4TD17 | 5929.00 | 3444.00 | 935.0 |
| | 1780 | 364TS | 230/460 | 136.4/68.2 | 1.15 | 93.6 | S2318 | ✓4TD19 | 5664.00 | 3183.00 | 932.0 |
| | 1780 | 364T | 230/460 | 136.4/68.2 | 1.15 | 93.6 | S2319 | ✓4TD18 | 5664.00 | 3183.00 | 932.0 |
| | 1190 | 404T | 460 | 70.1 | 1.15 | 93.6 | S2331 | ✓4TD20 | 7891.00 | 4491.00 | 940.0 |
| | 1190 | 404T | 575 | 56.1 | 1.15 | 93.6 | S2173 | ✓4TD21 | 5929.00 | 3482.00 | 1430.0 |
| 75 | 3560 | 365TS | 230/460 | 166.6/83.3 | 1.15 | 93.0 | S2328 | ✓4TD22 | 7391.00 | 4316.00 | 992.0 |
| | 1780 | 365T | 230/460 | 177.0/88.3 | 1.15 | 92.4 | S2320 | ✓4TD23 | 7088.00 | 3967.00 | 990.0 |
| | 1185 | 405T | 460 | 89.3 | 1.15 | 93.6 | S2333 | ✓4TD24 | 9422.00 | 4620.00 | 1430.0 |
| | 1185 | 405T | 575 | 71.0 | 1.15 | 93.6 | S2174 | ✓4TD25 | 9422.00 | 4620.00 | 1430.0 |
| 100 | 3565 | 405TS | 460 | 109.0 | 1.15 | 93.6 | S2116 | ✓4TD26 | 9905.00 | 7272.00 | 1470.0 |
| | 3565 | 405TS | 575 | 87.4 | 1.15 | 93.6 | S2175 | ✓4TD27 | 9905.00 | 7272.00 | 1470.0 |
| | 1780 | 405T | 460 | 110.0 | 1.15 | 94.5 | S2117 | ✓4TD28 | 9140.00 | 5146.00 | 1450.0 |
| | 1780 | 405T | 575 | 88.0 | 1.15 | 94.5 | S2176 | ✓4TD29 | 9140.00 | 5146.00 | 1450.0 |
| | 1190 | 444T | 460 | 115.0 | 1.15 | 94.1 | S2118 | ✓4TD30 | 12607.00 | 8391.00 | 1850.0 |
| | 1190 | 444T | 575 | 92.5 | 1.15 | 94.1 | S2177 | ✓4TD31 | 12607.00 | 8391.00 | 1850.0 |
| 125 | 3570 | 444TS | 460 | 136.0 | 1.15 | 94.5 | S2334 | ✓4TD32 | 12947.00 | 7517.00 | 1790.0 |
| | 3570 | 444TS | 575 | 109.0 | 1.15 | 94.5 | S2178 | ✓4TD33 | 12947.00 | 7517.00 | 1790.0 |
| | 1785 | 444T | 460 | 138.0 | 1.15 | 94.5 | S2119 | ✓4TD34 | 12031.00 | 6993.00 | 1740.0 |
| | 1785 | 444T | 575 | 110.0 | 1.15 | 94.5 | S2179 | ✓4TD35 | 12031.00 | 6993.00 | 1740.0 |
| | 1185 | 445T | 460 | 144.0 | 1.15 | 94.1 | S2120 | ✓4TD36 | 15076.00 | 8159.00 | 1890.0 |
| | 1185 | 445T | 575 | 115.0 | 1.15 | 94.1 | S2180 | ✓4TD37 | 15076.00 | 8159.00 | 1890.0 |
| 150 | 3570 | 445TS | 460 | 163.0 | 1.15 | 94.5 | S2121 | ✓4TD38 | 15630.00 | 8670.00 | 1920.0 |
| | 3570 | 445TS | 575 | 129.0 | 1.15 | 94.5 | S2181 | ✓4TD39 | 15630.00 | 8670.00 | 1920.0 |
| | 1785 | 445T | 460 | 162.0 | 1.15 | 95.0 | S2122 | ✓4TD40 | 13678.00 | 7902.00 | 1880.0 |
| | 1785 | 445T | 575 | 129.0 | 1.15 | 95.0 | S2182 | ✓4TD41 | 13678.00 | 7902.00 | 1880.0 |
| | 1190 | 447T | 460 | 171.0 | 1.15 | 95.0 | S2123 | ✓4TD42 | 17323.00 | 8572.00 | 2550.0 |
| | 1190 | 447T | 575 | 137.0 | 1.15 | 95.0 | S2183 | ✓4TD43 | 17323.00 | 8572.00 | 2550.0 |
| 200 | 3575 | 447TS | 460 | 210.0 | 1.15 | 95.0 | S2124 | ✓4TD44 | 19241.00 | 9842.00 | 2620.0 |
| | 3580 | 447TS | 575 | 168.0 | 1.15 | 95.0 | S2184 | ✓4TD45 | 19241.00 | 9842.00 | 2620.0 |
| | 1785 | 447T | 460 | 230.0 | 1.15 | 95.0 | S2125 | ✓4TD46 | 17055.00 | 9658.00 | 2470.0 |
| | 1785 | 447T | 575 | 185.0 | 1.15 | 95.0 | S2185 | ✓4TD47 | 17055.00 | 9658.00 | 2470.0 |
| | 1190 | 449T | 460 | 227.0 | 1.15 | 95.0 | S2126 | ✓4TD48 | 20649.00 | 12082.00 | 2730.0 |
| | 1190 | 449T | 575 | 182.0 | 1.15 | 95.0 | S2186 | ✓4TD49 | 20649.00 | 12082.00 | 2730.0 |
| 250 | 1780 | 449T | 460 | 270.0 | 1.15 | 95.0 | S439 | ✓4N716 | 16648.00 | 11020.00 | 2300.0 |

(✓) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# 3-PHASE PREMIUM EFFICIENCY OPEN DRIPPROOF MOTORS

- 143T frames and larger meet NEMA MG1 Part 31 inverter duty use at 10:1 variable torque and 4:1 constant torque speed range
- Qualify for utility rebate programs
- Increased efficiency leads to lower operating cost and longer life
- 143T frame and larger motors feature Class F insulation system, Class B rise at service factor
- Two-year warranty
- 1.15 to 1.35 service factors provide a reserve margin for intermittent overloading or fluctuating (high/low) voltage conditions

**Typical Uses:** Premium efficiency performance on pumps, fans, blowers, and other industrial equipment.

**Bearings:** Double-shielded ball; open ball with filler caps on 400 frames. Regreasable on frames 250 and larger.

**Mounting:** Rigid welded base
**Thermal Protection:** None
**Windings:** Copper
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

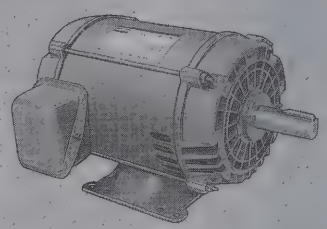
Dayton® Wattrimmer®

ENERGY RIGHT®

E47479

**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

**The Energy Policy Act of 1992**
**The motor products in this offering, frame sizes 143T through 449T, meet/exceed the EPACT 92 legislative efficiency levels.**
For details of EPACT legislation, see page 6.



No. 5N305
184T Frame

**Replacement Parts Available**
**1-800-323-0620**

**Modification & Service Available**
**Contact Your Local Branch**

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame† | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 56 | 230/460 | 0.8/0.4 | 1.35 | 77.0 | RS | B | 3N639 | $152.00 | $116.20 | 21.0 |
| 1/3 | 1725 | 56 | 230/460 | 1.1/0.6 | 1.35 | 80.0 | RS | B | 3N640 | 166.00 | 127.15 | 21.0 |
| 1/2 | 1725 | 56 | 230/460 | 1.6/0.8 | 1.25 | 81.5 | RS | B | 3N641 | 195.00 | 149.00 | 24.0 |
| 3/4 | 1725 | 56 | 230/460 | 2.3/1.2 | 1.25 | 81.5 | RS | B | 3N642 | 217.00 | 166.50 | 26.0 |
| 1 | 1725 | 56 | 230/460 | 3.1/1.6 | 1.15 | 84.0 | RS | B | 3N643 | 228.00 | 175.00 | 29.0 |
| | 1750 | 143T | 208-230/460 | 3.3-3.2/1.6 | 1.15 | 85.5 | RS | B | 5N300 | 211.00 | 165.75 | 40.0 |
| | 1150 | 145T | 208-230/460 | 3.9-4.0/2.0 | 1.15 | 81.5 | RS | B | 5N301 | 271.00 | 203.50 | 45.0 |
| 1½ | 1725 | 56H | 230/460 | 4.2/2.1 | 1.15 | 85.5 | RS | B | 3N644 | 267.00 | 205.00 | 36.0 |
| | 1745 | 145T | 208-230/460 | 4.8-4.6/2.3 | 1.15 | 86.5 | RS | B | 5N302 | 230.00 | 172.75 | 45.0 |
| | 1170 | 182T | 230/460* | 5.0/2.5 | 1.15 | 86.5 | RS | B | 5N303 | 298.00 | 233.75 | 80.0 |
| 2 | 1725 | 56H | 230/460 | 5.7/2.9 | 1.15 | 84.0 | RS | B | 3N645 | 269.00 | 206.50 | 39.0 |
| | 1735 | 145T | 208-230/460 | 6.1-5.8/2.9 | 1.15 | 86.5 | RS | B | 5N304 | 254.00 | 190.75 | 55.0 |
| | 1170 | 184T | 230/460* | 6.6/3.3 | 1.15 | 87.5 | RS | B | 5N305 | 383.00 | 287.50 | 65.0 |
| 3 | 1765 | 182T | 230/460* | 8.2/4.1 | 1.15 | 90.2 | RS | B | 5N306 | 264.00 | 207.00 | 65.0 |
| | 1170 | 213T | 230/460* | 9.2/4.6 | 1.15 | 89.5 | RS | B | 5N307 | 514.00 | 385.25 | 120.0 |
| 5 | 3510 | 182T | 230/460* | 12.6/6.3 | 1.15 | 89.5 | RS | B | 5N308 | 370.00 | 266.75 | 75.0 |
| | 1755 | 184T | 230/460* | 13.4/6.7 | 1.15 | 89.5 | RS | B | 5N309 | 370.00 | 266.75 | 70.0 |
| | 1165 | 215T | 230/460* | 14.8/7.4 | 1.15 | 89.5 | RS | B | 5N310 | 643.00 | 462.75 | 135.0 |
| 7½ | 3495 | 184T | 230/460* | 18.8/9.4 | 1.15 | 89.5 | RS | B | 5N311‡ | 533.00 | 384.00 | 80.0 |
| | 1760 | 213T | 230/460* | 19.0/9.5 | 1.15 | 91.7 | RS | B | 5N312 | 538.00 | 387.50 | 115.0 |
| | 1180 | 254T | 230/460* | 20.2/10.1 | 1.15 | 91.7 | RS | B | 5N313‡ | 839.00 | 604.00 | 220.0 |
| 10 | 3500 | 213T | 230/460* | 25.0/12.5 | 1.15 | 90.2 | RS | B | 5N314 | 665.00 | 479.25 | 110.0 |
| | 1755 | 215T | 230/460* | 25.4/12.7 | 1.15 | 91.7 | RS | B | 5N315 | 650.00 | 468.00 | 140.0 |
| | 1175 | 256T | 230/460* | 26.0/13.0 | 1.15 | 91.7 | RS | B | 5N316‡ | 981.00 | 705.50 | 250.0 |
| 15 | 3490 | 215T | 230/460* | 36.8/18.4 | 1.15 | 91.0 | RS | B | 5N317 | 842.00 | 607.00 | 135.0 |
| | 1770 | 254T | 230/460* | 38.0/19.0 | 1.15 | 93.0 | RS | B | 5N318 | 864.00 | 622.50 | 205.0 |
| | 1180 | 284T | 230/460* | 38.0/19.8 | 1.15 | 92.4 | RS | B | 5N319 | 1263.00 | 909.00 | 295.0 |
| 20 | 3545 | 254T | 230/460* | 48.0/24.0 | 1.15 | 92.4 | RS | B | 5N320‡ | 993.00 | 715.50 | 195.0 |
| | 1770 | 256T | 230/460* | 49.6/24.8 | 1.15 | 93.6 | RS | B | 5N321 | 1055.00 | 759.50 | 275.0 |
| | 1180 | 286T | 230/460* | 50.0/25.0 | 1.15 | 92.4 | RS | B | 5N322 | 1549.00 | 1115.00 | 320.0 |
| 25 | 3545 | 256T | 230/460* | 59.0/29.5 | 1.15 | 93.0 | RS | B | 5N323‡ | 1212.00 | 873.00 | 240.0 |
| | 1775 | 284T | 230/460* | 60.0/30.0 | 1.15 | 94.1 | RS | B | 5N324 | 1226.00 | 882.00 | 335.0 |
| | 1180 | 324T | 230/460* | 60.0/30.0 | 1.15 | 93.6 | RS | B | 5N325 | 1838.00 | 1322.00 | 460.0 |
| 30 | 3560 | 284TS | 230/460* | 69.4/34.7 | 1.15 | 93.6 | RS | B | 5N326 | 1446.00 | 1041.00 | 335.0 |
| | 1775 | 286T | 230/460* | 71.0/35.5 | 1.15 | 94.1 | RS | B | 5N327 | 1425.00 | 1025.00 | 395.0 |
| | 1180 | 326T | 230/460 | 71.4/35.7 | 1.15 | 93.6 | RS | B | 5N328 | 2103.00 | 1515.00 | 505.0 |
| 40 | 3565 | 286TS | 230/460* | 92.0/46.0 | 1.15 | 94.1 | RS | B | 5N329‡ | 1850.00 | 1333.00 | 390.0 |
| | 1775 | 324T | 230/460 | 94.0/47.0 | 1.15 | 94.5 | RS | B | 5N330 | 1772.00 | 1275.00 | 450.0 |
| | 1190 | 364T | 460 | 47.1 | 1.15 | 94.5 | CI | B | 5N331 | 3091.00 | 2225.00 | 695.0 |
| 50 | 3560 | 324TS | 230/460 | 120.0/60.0 | 1.15 | 93.6 | RS | B | 5N332 | 2199.00 | 1583.00 | 420.0 |
| | 1775 | 326T | 230/460 | 117.0/58.5 | 1.15 | 94.5 | RS | B | 5N333 | 2066.00 | 1488.00 | 485.0 |
| | 1185 | 365T | 460 | 58.9 | 1.15 | 94.5 | CI | B | 5N334 | 3610.00 | 2598.00 | 730.0 |

(*) Usable on 200V at 1.0 service factor. (†) RS = Rolled Steel construction; CI = Cast-Iron construction.
(‡) NEMA design A; all others NEMA design B. (✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

## DAYTON PREMIUM EFFICIENCY MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame† | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **60** | 3555 | 326TS | 230/460 | 140.0/70.0 | 1.15 | 94.1 | RS | B | ✓**5N335**‡ | $2500.00 | **$1799.00** | 545.0 |
| | 1780 | 364T | 230/460 | 142.0/71.0 | 1.15 | 95.4 | CI | B | ✓**5N336** | 2532.00 | **1821.00** | 665.0 |
| | 1185 | 404T | 460 | 70.2 | 1.15 | 95.0 | CI | B | ✓**5N337** | 4212.00 | **3030.00** | 960.0 |
| **75** | 3560 | 364TS | 230/460 | 176.0/88.0 | 1.15 | 94.1 | CI | B | ✓**5N338** | 3333.00 | **2400.00** | 625.0 |
| | 1785 | 365T | 230/460 | 174.0/87.0 | 1.15 | 95.0 | CI | B | ✓**5N339** | 3084.00 | **2219.00** | 755.0 |
| | 1185 | 405T | 460 | 87.7 | 1.15 | 95.0 | CI | B | ✓**5N340** | 5015.00 | **3609.00** | 1035.0 |
| **100** | 3560 | 365TS | 230/460 | 230.0/115.0 | 1.15 | 94.5 | CI | B | ✓**5N341** | 4378.00 | **3152.00** | 700.0 |
| | 1780 | 404T | 230/460 | 230.0/115.0 | 1.15 | 95.8 | CI | B | ✓**5N342** | 3933.00 | **2828.00** | 955.0 |
| | 1185 | 444T | 460 | 124.0 | 1.15 | 95.4 | CI | B | ✓**5N343** | 6352.00 | **4569.00** | 1395.0 |
| **125** | 3560 | 404TS | 460 | 140.0 | 1.15 | 95.0 | CI | B | ✓**5N344** | 5447.00 | **3921.00** | 930.0 |
| | 1780 | 405T | 460 | 141.0 | 1.15 | 95.4 | CI | B | ✓**5N345** | 4709.00 | **3388.00** | 1065.0 |
| | 1185 | 445T | 460 | 155.0 | 1.15 | 95.4 | CI | B | ✓**5N346** | 7800.00 | **5612.00** | 1530.0 |
| **150** | 3555 | 405TS | 460 | 168.0 | 1.15 | 94.5 | CI | B | ✓**5N347** | 6626.00 | **4771.00** | 975.0 |
| | 1785 | 444T | 460 | 172.0 | 1.15 | 96.2 | CI | B | ✓**5N348**‡ | 6801.00 | **4893.00** | 1395.0 |
| | 1185 | 445T | 460 | 190.0 | 1.15 | 95.8 | CI | B | ✓**5N349** | 8647.00 | **6221.00** | 1670.0 |
| **200** | 3555 | 444TS | 460 | 234.0 | 1.15 | 95.0 | CI | B | ✓**5N350** | 10307.00 | **7422.00** | 1290.0 |
| | 1780 | 445T | 460 | 237.0 | 1.15 | 96.2 | CI | B | ✓**5N351** | 8592.00 | **6184.00** | 1525.0 |
| | 1185 | 447T | 460 | 250.0 | 1.15 | 95.4 | CI | B | ✓**5N352** | 10608.00 | **7634.00** | 1940.0 |
| **250** | 3560 | 445TS | 460 | 288.0 | 1.15 | 95.4 | CI | B | ✓**5N353** | 12323.00 | **8876.00** | 1380.0 |
| | 1780 | 447T | 460 | 293.0 | 1.15 | 96.2 | CI | B | ✓**5N354** | 12701.00 | **9142.00** | 2095.0 |

(†) RS = Rolled Steel; CI = Cast-Iron. (‡) NEMA design A; all others are NEMA design B. (✓) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## GE BRAND, PREMIUM EFFICIENCY ODP MOTORS

- **Qualify for efficiency rebates**
- **Two-year warranty**

**Typical Uses:** Premium efficiency performance on pumps, fans, blowers, and other industrial equipment in dry, clean, well-ventilated areas.

**Bearings:** Ball

**Thermal Protection:** None

**Insulation Class:** F

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** Beige

**Brand:** GE Energy $aver

ENERGY SAVER MOTOR

E47479

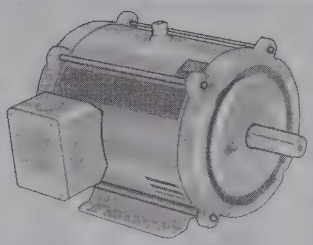
**Replacement Parts Available**
**1-800-323-0620**

**Repair Service Available**
**Contact Your Local Branch**

**The Energy Policy Act of 1992**

**The motor products in this offering, frame sizes 143T through 449T, meet/exceed the EPACT 92 legislative efficiency levels.**

For details of EPACT legislation, see page 6.



No. 3N889
182T Frame

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame† | Base | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 1725 | 56 | 208-230/460 | 1.8-1.8/0.9 | 1.25 | 75.2* | RS | Rigid | E12D4 | ✓**3N883** | $291.00 | **$153.75** | 22.0 |
| **3/4** | 1725 | 56 | 208-230/460 | 2.5-2.4/1.2 | 1.25 | 78.0* | RS | Rigid | E34D4 | ✓**3N884** | 325.00 | **172.50** | 25.0 |
| **1** | 1725 | 56 | 208-230/460 | 3.2-3.0/1.5 | 1.15 | 78.3* | RS | Rigid | E10D4 | ✓**3N885** | 316.00 | **181.50** | 35.0 |
| | 1725 | 143T | 208-230/460 | 3.2-3.0/1.5 | 1.15 | 84.0 | RS | Rigid | E10D2 | ✓**3N886** | 316.00 | **183.75** | 40.0 |
| **1 1/2** | 1160 | 182T | 230/460† | 4.8/2.4 | 1.15 | 85.5 | CI | Rigid | E8707 | ✓**3N922** | 354.00 | **246.25** | 54.0 |
| **2** | 1165 | 184T | 230/460† | 6.4/3.2 | 1.15 | 86.5 | CI | Rigid | E8710 | ✓**3N923** | 438.00 | **280.25** | 82.0 |
| **3** | 1750 | 182T | 230/460† | 8.0/4.0 | 1.15 | 87.5 | CI | Rigid | E820 | ✓**3N889** | 361.00 | **230.00** | 78.0 |
| | 1750 | 182T | 200 | 9.2 | 1.15 | 87.5 | CI | Rigid | E8714 | ✓**4N860** | 361.00 | **230.00** | 80.0 |
| | 1750 | 182T | 575 | 3.2 | 1.15 | 87.5 | CI | Rigid | E8635 | ✓**5N618** | 361.00 | **220.50** | 70.0 |
| | 1160 | 213T | 230/460† | 8.8/4.4 | 1.15 | 87.5 | CI | Rigid | E8011 | ✓**3N924** | 539.00 | **374.50** | 150.0 |
| **5** | 3460 | 182T | 230/460† | 12.2/6.1 | 1.15 | 87.5 | CI | Rigid | E821 | ✓**3N906** | 493.00 | **314.75** | 82.0 |
| | 1740 | 184T | 230/460† | 12.6/6.3 | 1.15 | 88.5 | CI | Rigid | E822 | ✓**3N890** | 453.00 | **314.75** | 80.0 |
| | 1740 | 184T | 200 | 14.5 | 1.15 | 88.5 | CI | Rigid | E8716 | ✓**4N861** | 493.00 | **314.75** | 85.0 |
| | 1740 | 184T | 575 | 5.0 | 1.15 | 88.5 | CI | Rigid | E8808 | ✓**5N622** | 493.00 | **301.75** | 76.0 |
| | 1155 | 215T | 230/460† | 14.2/7.1 | 1.15 | 88.5 | CI | Rigid | E8012 | ✓**3N925** | 735.00 | **468.50** | 156.0 |

(*) Average efficiency, not NEMA nominal efficiency. (†) Usable on 200V at 1.0 service factor.
(‡) RS = Rolled Steel construction; CI = Cast-Iron construction. (✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

# 3-PHASE PREMIUM EFFICIENCY OPEN DRIPPROOF MOTORS

## GE PREMIUM EFFICIENCY MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame‡ | Base | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7½ | 3450 | 184T | 230/460† | 18.0/9.0 | 1.15 | 88.5 | CI | Rigid | E823 | 3N907 | $609.00 | $390.00 | 87.0 |
| | 1755 | 213T | 230/460† | 18.4/9.2 | 1.15 | 91.0 | CI | Rigid | E830 | 3N891 | 564.00 | 392.00 | 145.0 |
| | 1755 | 213T | 200 | 21.2 | 1.15 | 91.0 | CI | Rigid | E8729 | 4N862 | 615.00 | 392.00 | 148.0 |
| | 1755 | 213T | 575 | 7.4 | 1.15 | 91.0 | CI | Rigid | E8640 | 5N624 | 615.00 | 375.25 | 112.0 |
| | 1165 | 254T | 230/460† | 20.0/10.0 | 1.15 | 89.5 | CI | Rigid | E8013 | 3N926 | 878.00 | 610.50 | 268.0 |
| 10 | 3490 | 213T | 230/460† | 24.0/12.0 | 1.15 | 90.2 | CI | Rigid | E850 | 3N908 | 699.00 | 485.75 | 152.0 |
| | 1750 | 215T | 230/460† | 23.6/11.8 | 1.15 | 91.0 | CI | Rigid | E831 | 3N892 | 682.00 | 474.00 | 156.0 |
| | 1750 | 215T | 200 | 27.1 | 1.15 | 91.0 | CI | Rigid | E8734 | 4N855 | 743.00 | 474.00 | 156.0 |
| | 1750 | 215T | 575 | 9.4 | 1.15 | 91.0 | CI | Rigid | E8643 | 5N627 | 743.00 | 453.75 | 122.0 |
| | 1170 | 256T | 230/460† | 26.4/13.2 | 1.15 | 90.2 | CI | Rigid | E8014 | 3N927 | 1121.00 | 716.00 | 280.0 |
| 15 | 3475 | 215T | 230/460† | 36.4/18.2 | 1.15 | 90.2 | CI | Rigid | E851 | 3N909 | 884.00 | 614.50 | 174.0 |
| | 1755 | 254T | 230/460† | 35.6/17.8 | 1.15 | 91.7 | CI | Rigid | E832 | 3N893 | 987.00 | 630.00 | 292.0 |
| | 1755 | 254T | 200 | 40.9 | 1.15 | 91.7 | CI | Rigid | E8744 | 4N856 | 987.00 | 630.00 | 292.0 |
| | 1755 | 254T | 575 | 14.2 | 1.15 | 91.7 | CI | Rigid | E8646 | 5N630 | 987.00 | 603.00 | 255.0 |
| | 1175 | 284T | 230/460† | 37.6/18.8 | 1.15 | 92.4 | CI | Rigid | E8015 | 3N928 | 1471.00 | 922.50 | 426.0 |
| 20 | 3520 | 254T | 230/460† | 45.6/22.8 | 1.15 | 91.0 | CI | Rigid | E852 | 3N910 | 1135.00 | 724.00 | 258.0 |
| | 1755 | 256T | 230/460† | 46.6/23.3 | 1.15 | 92.4 | CI | Rigid | E833 | 3N894 | 1206.00 | 770.00 | 320.0 |
| | 1755 | 256T | 200 | 53.6 | 1.15 | 92.4 | CI | Rigid | E8754 | 4N857 | 1206.00 | 770.00 | 318.0 |
| | 1755 | 256T | 575 | 18.6 | 1.15 | 92.4 | CI | Rigid | E8649 | 5N633 | 1206.00 | 770.00 | 307.0 |
| | 1175 | 286T | 230/460† | 49.6/24.8 | 1.15 | 92.4 | CI | Rigid | E8017 | 3N929 | 1627.00 | 1131.00 | 471.0 |
| 25 | 3525 | 256T | 230/460† | 56.0/28.0 | 1.15 | 92.4 | CI | Rigid | E853 | 3N911 | 1385.00 | 885.00 | 298.0 |
| | 1760 | 284T | 230/460† | 59.6/29.8 | 1.15 | 93.6 | CI | Rigid | E834 | 3N895 | 1401.00 | 894.50 | 430.0 |
| | 1760 | 284T | 200 | 68.5 | 1.15 | 93.6 | CI | Rigid | E8757 | 4N858 | 1401.00 | 894.50 | 426.0 |
| | 1760 | 284T | 575 | 23.8 | 1.15 | 93.6 | CI | Rigid | E8652 | 5N636 | 1401.00 | 894.50 | 395.0 |
| | 1175 | 324T | 230/460 | 67.6/33.8 | 1.15 | 93.6 | CI | Rigid | E9019 | 5N920 | 2371.00 | 1567.00 | 600.0 |
| 30 | 3540 | 284TS | 230/460† | 67.0/33.5 | 1.15 | 93.0 | CI | Rigid | E854 | 3N912 | 1653.00 | 1055.00 | 406.0 |
| | 1765 | 286T | 230/460† | 70.6/35.3 | 1.15 | 93.6 | CI | Rigid | E835 | 3N896 | 1629.00 | 1041.00 | 430.0 |
| | 1765 | 286T | 200 | 81.2 | 1.15 | 93.6 | CI | Rigid | E8763 | 4N859 | 1629.00 | 1041.00 | 428.0 |
| | 1765 | 286T | 575 | 28.2 | 1.15 | 93.6 | CI | Rigid | E8654 | 5N638 | 1629.00 | 1041.00 | 450.0 |
| | 1180 | 326T | 230/460 | 80.6/40.3 | 1.15 | 93.6 | CI | Rigid | E9022 | 5N921 | 2704.00 | 1787.00 | 610.0 |
| 40 | 3540 | 286TS | 230/460† | 88.0/44.0 | 1.15 | 93.6 | CI | Rigid | E855 | 3N913 | 1942.00 | 1350.00 | 404.0 |
| | 1780 | 324T | 575 | 38.7 | 1.15 | 94.5 | CI | Rigid | E9310 | 3VF95 | 2726.00 | 1799.00 | 700.0 |
| | 1775 | 324T | 230/460 | 98.0/49.0 | 1.15 | 95.0 | CI | Rigid | E936 | 5N922 | 2289.00 | 1512.00 | 610.0 |
| | 1185 | 364T | 460 | 52.5 | 1.15 | 94.5 | CI | Rigid | E9024 | 5N923 | 3709.00 | 2449.00 | 1000.0 |
| 50 | 3540 | 324TS | 230/460 | 122.2/61.1 | 1.15 | 94.1 | CI | Rigid | E956 | 5N924 | 2827.00 | 1869.00 | 570.0 |
| | 1780 | 326TS | 230/460 | 121.6/60.8 | 1.15 | 94.5 | CI | Rigid | E9254 | 3VF94 | 3093.00 | 2032.00 | 730.0 |
| | 1780 | 326T | 575 | 49.0 | 1.15 | 94.5 | CI | Rigid | E9320 | 3VF96 | 3093.00 | 2032.00 | 730.0 |
| | 1775 | 326T | 230/460 | 122.6/61.3 | 1.15 | 95.0 | CI | Rigid | E937 | 5N925 | 2597.00 | 1716.00 | 615.0 |
| | 1185 | 365T | 460 | 65.7 | 1.15 | 94.5 | CI | Rigid | E9026 | 5N926 | 4126.00 | 2727.00 | 840.0 |
| 60 | 3540 | 326TS | 230/460 | 143.4/71.7 | 1.15 | 94.5 | CI | Rigid | E957 | 5N927 | 3214.00 | 2124.00 | 575.0 |
| | 1800 | 364T | 575 | 57.0 | 1.15 | 95.4 | CI | Rigid | E9330 | 3VF97 | 4101.00 | 2707.00 | 1060.0 |
| | 1780 | 364T | 230/460 | 145.6/72.8 | 1.15 | 95.4 | CI | Rigid | E9381 | 5N928 | 3443.00 | 2275.00 | 890.0 |
| | 1190 | 404T | 460 | 68.4 | 1.15 | 95.0 | CI | Rigid | E9029 | 5N929 | 5054.00 | 3337.00 | 1490.0 |
| 75 | 3555 | 364TS | 230/460 | 181.4/90.7 | 1.15 | 95.0 | CI | Rigid | E958 | 5N930 | 4285.00 | 2831.00 | 910.0 |
| | 1780 | 365T | 575 | 72.5 | 1.15 | 95.4 | CI | Rigid | E9825 | 3VG11 | 4618.00 | 3028.00 | 1060.0 |
| | 1780 | 365T | 230/460 | 180.8/90.4 | 1.15 | 95.4 | CI | Rigid | E9391 | 5N931 | 3877.00 | 2561.00 | 885.0 |
| | 1190 | 405T | 460 | 85.5 | 1.15 | 95.4 | CI | Rigid | E9032 | 5N932 | 6018.00 | 3976.00 | 1250.0 |
| 100 | 3550 | 365TS | 230/460 | 234.0/117.0 | 1.15 | 95.0 | CI | Rigid | E959 | 5N933 | 5179.00 | 3422.00 | 940.0 |
| | 1790 | 404T | 575 | 90.6 | 1.15 | 95.4 | CI | Rigid | E9340 | 3VF98 | 6072.00 | 4006.00 | 1560.0 |
| | 1790 | 404T | 230/460 | 226.0/113.0 | 1.15 | 95.4 | CI | Rigid | E9401 | 5N934 | 5097.00 | 3367.00 | 1294.0 |
| | 1790 | 404TS | 230/460 | 226.0/113.0 | 1.15 | 95.4 | CI | Rigid | E9257 | 5N935 | 5250.00 | 3466.00 | 1286.0 |
| | 1190 | 444T | 460 | 112.0 | 1.15 | 95.4 | CI | Rigid | E9034 | 5N936 | 7622.00 | 5032.00 | 1980.0 |
| 125 | 3570 | 404TS | 460 | 137.0 | 1.15 | 95.0 | CI | Rigid | E9501 | 5N937 | 6941.00 | 4585.00 | 1470.0 |
| | 1780 | 405T | 460 | 134.0 | 1.15 | 95.4 | CI | Rigid | E941 | 5N938 | 5920.00 | 3911.00 | 1250.0 |
| | 1190 | 445T | 460 | 140.0 | 1.15 | 95.4 | CI | Rigid | E9036 | 5N939 | 9360.00 | 6183.00 | 2050.0 |
| 150 | 3565 | 405TS | 460 | 165.0 | 1.15 | 94.5 | CI | Rigid | E9502 | 5N940 | 8519.00 | 5629.00 | 1470.0 |
| | 1790 | 444T | 575 | 134.0 | 1.15 | 96.2 | CI | Rigid | E9350 | 3VF99 | 9398.00 | 6140.00 | 2020.0 |
| | 1790 | 444T | 460 | 168.0 | 1.15 | 96.2 | CI | Rigid | E942 | 5N941 | 7889.00 | 5209.00 | 2020.0 |
| | 1790 | 444TS | 460 | 168.0 | 1.15 | 96.2 | CI | Rigid | E9259 | 5N942 | 8142.00 | 5376.00 | 2020.0 |
| 200 | 3575 | 444TS | 460 | 217.0 | 1.15 | 95.0 | CI | Rigid | E9503 | 5N944 | 14724.00 | 9733.00 | 1990.0 |
| | 1785 | 445T | 460 | 215.0 | 1.15 | 95.8 | CI | Rigid | E943 | 5N945 | 10384.00 | 6860.00 | 2050.0 |
| 250 | 3575 | 445TS | 460 | 278.0 | 1.15 | 95.4 | CI | Rigid | E9504 | 5N947 | 17604.00 | 11638.00 | 1980.0 |
| | 1790 | 449T | 460 | 274.0 | 1.15 | 96.2 | CI | Rigid | E9272 | 5N948 | 16148.00 | 10669.00 | 2830.0 |

(†) Usable on 200V at 1.0 service factor. (‡) RS = Rolled Steel; CI = Cast-Iron. (✓) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

**NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY**

# 3-PHASE PREMIUM EFFICIENCY TEFC MOTORS

- 143T frames and larger meet NEMA MG1 Part 31 inverter duty use at 10:1 variable torque and 4:1 constant torque speed range
- 143T frames and larger feature Class F insulation system, Class B rise at full load
- Premium efficiency motors qualify for utility rebate programs
- Increased efficiency leads to lower operating cost
- Motors run cooler resulting in increased life
- 100% copper windings
- Two-year warranty

**Typical Uses:** Premium efficiency performance on air compressors, conveyors, fans, blowers, machine tools, pumps, and other industrial equipment. For use in **non-combustible**, dusty, dirty environments where 3-phase power is available.

**Bearings:** Double-shielded ball on 56 thru 360 frame. Open ball with filler caps on 400 thru 440 frame. Regreasable 250 thru 440 frame.

**Mounting:** Rigid welded or solid base

**Thermal Protection:** None

**Windings:** Copper

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW (except Nos. 5N282, 5N285, 5N291, and 5N292 are CCW facing shaft end)

**Finish:** Gray

**Brand:** Dayton

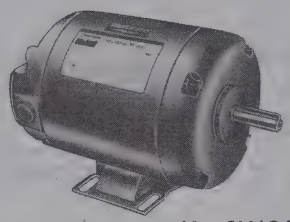
**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Dayton® Wattrimmer

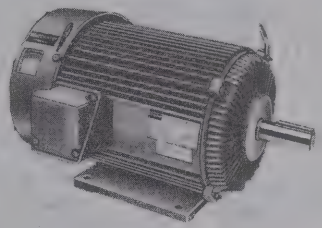
ENERGY RIGHT®

**The Energy Policy Act of 1992**
The motor products in this offering, frame sizes 143T through 449T, meet/exceed the EPACT 92 legislative efficiency levels.
For details of EPACT legislation, see page 6.

E47479

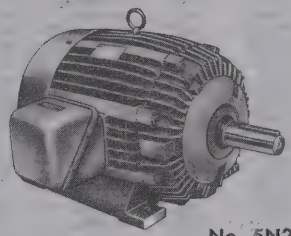


No. 3N694
56 Frame



No. 5N256
Aluminum Frame

Kits for cast-iron motors are available on page 19



No. 5N272
Cast-Iron Frame

Replacement Parts Available™
1-800-323-0620

Modification & Service Available™
Contact Your Local Branch

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame# | Ins. Class | | Stock No. | | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 56 | 230/460 | 1.1/0.6 | 1.0 | 80.0 | RS | B | ✓ | 3N694 | † | $188.00 | $143.50 | 23.0 |
| 1/2 | 1725 | 56 | 230/460 | 1.6/0.8 | 1.0 | 81.5 | RS | B | ✓ | 3N695 | † | 221.00 | 169.75 | 25.0 |
| 3/4 | 1725 | 56 | 230/460 | 2.3/1.2 | 1.0 | 81.5 | RS | B | ✓ | 3N696 | † | 239.00 | 183.00 | 27.0 |
| 1 | 1725 | 56H | 230/460 | 3.1/1.6 | 1.0 | 84.0 | RS | B | ✓ | 3N697 | † | 249.00 | 190.75 | 32.0 |
| | 1740 | 143T | 208-230/460 | 3.2-3.0/1.5 | 1.15 | 86.5 | RS | F | ✓ | 5N293 | | 286.00 | 204.00 | 40.0 |
| | 1740 | 143T | 230/460 | 3.0/1.5 | 1.15 | 86.5 | RS-I | F | ✓ | 4FN57 | | 300.00 | 213.00 | 65.0 |
| | 1150 | 145T | 208-230/460 | 4.0-3.9/2.0 | 1.15 | 82.5 | RS | F | ✓ | 5N242 | | 356.00 | 253.75 | 40.0 |
| | 1150 | 145T | 230/460 | 3.6/1.8 | 1.15 | 82.5 | RS-I | F | ✓ | 4FN58 | | 374.00 | 264.25 | 70.0 |
| 1½ | 3500 | 143T | 208-230/460 | 4.5-4.0/2.0 | 1.15 | 84.0 | RS | F | ✓ | 5N243 | | 293.00 | 209.00 | 35.0 |
| | 3510 | 143T | 230/460 | 4.2/2.1 | 1.15 | 84.0 | RS-I | F | ✓ | 4FN59 | | 308.00 | 218.50 | 65.0 |
| | 1740 | 56H | 230/460 | 4.2/2.1 | 1.0 | 85.5 | RS | B | ✓ | 3N698 | | 265.00 | 203.00 | 34.0 |
| | 1740 | 145T | 208-230/460 | 4.8-4.5/2.3 | 1.15 | 86.5 | RS | F | ✓ | 5N294 | | 315.00 | 224.50 | 40.0 |
| | 1740 | 145T | 230/460 | 4.6/2.3 | 1.15 | 86.5 | RS-I | F | ✓ | 4FN60 | | 331.00 | 234.75 | 70.0 |
| | 1170 | 182T | 230/460* | 5.0/2.5 | 1.15 | 87.5 | AL | F | ✓ | 5N244 | | 380.00 | 271.00 | 60.0 |
| | 1170 | 182T | 230/460 | 5.0/2.5 | 1.15 | 86.5 | CI | F | ✓ | 4FN61 | ‡ | 399.00 | 284.50 | 100.0 |
| 2 | 3495 | 145T | 208-230/460 | 5.6-5.0/2.5 | 1.15 | 86.5 | RS | F | ✓ | 5N245 | | 341.00 | 243.25 | 40.0 |
| | 3490 | 145T | 230/460 | 5.2/2.6 | 1.15 | 86.5 | RS-I | F | ✓ | 4FN62 | | 358.00 | 253.25 | 70.0 |
| | 1730 | 145T | 208-230/460 | 6.3-5.8/2.5 | 1.15 | 86.5 | RS | F | ✓ | 5N295 | | 342.00 | 243.75 | 45.0 |
| | 1730 | 145T | 230/460 | 6.0/3.0 | 1.15 | 86.5 | RS-I | F | ✓ | 4FN63 | | 359.00 | 254.00 | 70.0 |
| | 1170 | 184T | 230/460* | 6.6/3.3 | 1.15 | 87.5 | AL | F | ✓ | 5N246 | | 420.00 | 299.25 | 70.0 |
| | 1170 | 184T | 230/460 | 6.4/3.2 | 1.15 | 87.5 | CI | F | ✓ | 4FN64 | ‡ | 441.00 | 314.50 | 110.0 |
| 3 | 3535 | 182T | 230/460* | 8.0/4.0 | 1.15 | 88.5 | AL | F | ✓ | 5N247 | | 400.00 | 285.25 | 60.0 |
| | 3530 | 182T | 230/460 | 8.0/4.0 | 1.15 | 88.5 | CI | F | ✓ | 4FN65 | ‡ | 420.00 | 299.00 | 100.0 |
| | 1760 | 182T | 230/460* | 8.1/4.1 | 1.15 | 89.5 | AL | F | ✓ | 5N296 | | 393.00 | 280.25 | 60.0 |
| | 1760 | 182T | 230/460 | 8.2/4.1 | 1.15 | 89.5 | CI | F | ✓ | 4FN66 | ‡ | 413.00 | 294.25 | 100.0 |
| | 1170 | 213T | 230/460* | 9.4/4.7 | 1.15 | 89.5 | AL | F | ✓ | 5N248 | | 559.00 | 398.25 | 110.0 |
| | 1180 | 213T | 230/460 | 9.0/4.5 | 1.15 | 89.5 | CI | F | ✓ | 4FN67 | ‡ | 587.00 | 419.75 | 160.0 |

(*) Usable on 200V at 1.0 service factor. (†) TENV, all others are TEFC. (‡) Not regreaseable. (††) NEMA design A; all others are NEMA design B.
(#) RS = Rolled Steel; RS-I = Rolled Steel with cast-iron brackets; AL = Aluminum; CI = Cast-Iron.
(✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

# 3-PHASE PREMIUM EFFICIENCY TEFC MOTORS

## DAYTON WATTRIMMER PREMIUM EFFICIENCY MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame# | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 3515 | 184T | 230/460* | 12.6/6.3 | 1.15 | 89.5 | AL | F | ✓ 5N249 | $495.00 | $352.75 | 70.0 |
| | 3515 | 184T | 230/460 | 12.6/6.3 | 1.15 | 89.5 | CI | F | ✓ 4FN68 ‡ | 520.00 | 368.75 | 110.0 |
| | 1750 | 184T | 230/460* | 13.2/6.6 | 1.15 | 90.2 | AL | F | ✓ 5N297 | 448.00 | 319.25 | 70.0 |
| | 1750 | 184T | 230/460 | 13.0/6.5 | 1.15 | 90.2 | CI | F | ✓ 4FN69 ‡ | 470.00 | 334.25 | 110.0 |
| | 1165 | 215T | 230/460* | 14.8/7.4 | 1.15 | 90.2 | AL | F | ✓ 5N250 | 822.00 | 586.00 | 135.0 |
| | 1170 | 215T | 230/460 | 14.4/7.2 | 1.15 | 90.2 | CI | F | ✓ 4FN70 ‡ | 863.00 | 611.50 | 175.0 |
| 7½ | 3525 | 213T | 230/460* | 18.6/9.3 | 1.15 | 91.7 | AL | F | ✓ 5N251 | 647.00 | 461.00 | 122.0 |
| | 3525 | 213T | 230/460 | 18.6/9.3 | 1.15 | 91.7 | CI | F | ✓ 4FN71 ‡ | 679.00 | 483.00 | 160.0 |
| | 1760 | 213T | 230/460* | 19.0/9.5 | 1.15 | 91.7 | AL | F | ✓ 5N298 | 647.00 | 461.00 | 110.0 |
| | 1760 | 213T | 230/460 | 18.6/9.3 | 1.15 | 91.7 | CI | F | ✓ 4FN72 ‡ | 679.00 | 483.00 | 160.0 |
| | 1175 | 254T | 230/460* | 20.2/10.1 | 1.15 | 91.7 | AL | F | ✓ 5N252 †† | 1110.00 | 791.00 | 200.0 |
| | 1175 | 254T | 230/460 | 20.2/10.1 | 1.15 | 91.7 | CI | F | ✓ 4FN73 | 1166.00 | 832.00 | 300.0 |
| 10 | 3515 | 215T | 230/460* | 24.6/12.3 | 1.15 | 91.7 | AL | F | ✓ 5N253 | 763.00 | 544.00 | 125.0 |
| | 3510 | 215T | 230/460 | 24.6/12.3 | 1.15 | 91.7 | CI | F | ✓ 4FN74 ‡ | 801.00 | 568.50 | 175.0 |
| | 1755 | 215T | 230/460* | 24.8/12.4 | 1.15 | 91.7 | AL | F | ✓ 5N299 | 780.00 | 556.00 | 135.0 |
| | 1760 | 215T | 230/460 | 24.2/12.1 | 1.15 | 91.7 | CI | F | ✓ 4FN75 ‡ | 819.00 | 581.00 | 175.0 |
| | 1170 | 256T | 230/460* | 25.2/12.6 | 1.15 | 91.7 | AL | F | ✓ 5N254 †† | 1304.00 | 929.00 | 250.0 |
| | 1170 | 256T | 230/460 | 25.2/12.6 | 1.15 | 91.7 | CI | F | ✓ 4FN76 | 1369.00 | 975.50 | 340.0 |
| 15 | 3545 | 254T | 230/460* | 36.2/18.1 | 1.15 | 91.7 | AL | F | ✓ 5N255 †† | 1047.00 | 746.00 | 185.0 |
| | 3545 | 254T | 230/460 | 36.2/18.1 | 1.15 | 91.7 | CI | F | ✓ 4FN77 | 1099.00 | 786.00 | 300.0 |
| | 1770 | 254T | 230/460* | 38.0/19.0 | 1.15 | 93.0 | AL | F | ✓ 5N256 | 1042.00 | 742.50 | 240.0 |
| | 1770 | 254T | 230/460 | 37.6/18.8 | 1.15 | 93.0 | CI | F | ✓ 4FN78 | 1147.00 | 819.00 | 300.0 |
| | 1175 | 284T | 230/460* | 39.0/19.5 | 1.15 | 92.4 | CI | F | ✓ 5N257 †† | 1730.00 | 1232.00 | 420.0 |
| 20 | 3545 | 256T | 230/460* | 47.2/23.6 | 1.15 | 92.4 | AL | F | ✓ 5N258 †† | 1262.00 | 899.00 | 220.0 |
| | 3545 | 256T | 230/460 | 47.2/23.6 | 1.15 | 92.4 | CI | F | ✓ 4FN79 | 1325.00 | 946.50 | 350.0 |
| | 1770 | 256T | 230/460* | 49.0/24.5 | 1.15 | 93.0 | AL | F | ✓ 5N259 | 1268.00 | 903.00 | 240.0 |
| | 1770 | 256T | 230/460 | 48.4/24.2 | 1.15 | 93.6 | CI | F | ✓ 4FN80 | 1331.00 | 951.50 | 360.0 |
| | 1175 | 286T | 230/460* | 51.6/25.8 | 1.15 | 92.4 | CI | F | ✓ 5N260 †† | 2105.00 | 1500.00 | 410.0 |
| 25 | 3560 | 284TS | 230/460* | 61.4/30.7 | 1.15 | 92.4 | CI | F | ✓ 5N261 | 1574.00 | 1121.00 | 360.0 |
| | 1775 | 284T | 230/460* | 60.4/30.2 | 1.15 | 93.6 | CI | F | ✓ 5N262 | 1542.00 | 1099.00 | 395.0 |
| | 1180 | 324T | 230/460 | 60.4/30.2 | 1.15 | 93.0 | CI | F | ✓ 5N263 | 2555.00 | 1819.00 | 586.0 |
| 30 | 3550 | 286TS | 230/460* | 69.6/34.8 | 1.15 | 92.4 | CI | F | ✓ 5N264 | 1861.00 | 1326.00 | 415.0 |
| | 1775 | 286T | 230/460* | 71.0/35.5 | 1.15 | 94.1 | CI | F | ✓ 5N265 | 1824.00 | 1299.00 | 450.0 |
| | 1180 | 326T | 230/460 | 71.4/35.7 | 1.15 | 93.6 | CI | F | ✓ 5N266 | 2928.00 | 2086.00 | 663.0 |
| 40 | 3565 | 324TS | 230/460 | 94.6/47.3 | 1.15 | 93.6 | CI | F | ✓ 5N267 †† | 2412.00 | 1718.00 | 585.0 |
| | 1775 | 324T | 230/460 | 95.0/47.5 | 1.15 | 94.1 | CI | F | ✓ 5N268 | 2340.00 | 1666.00 | 576.0 |
| | 1185 | 364T | 460 | 48.0 | 1.15 | 94.5 | CI | F | ✓ 5N269 | 4155.00 | 2960.00 | 803.0 |
| 50 | 3545 | 326TS | 230/460 | 115.0/57.5 | 1.15 | 93.0 | CI | F | ✓ 5N270 | 3106.00 | 2212.00 | 644.0 |
| | 1775 | 326T | 230/460 | 115.0/57.5 | 1.15 | 94.1 | CI | F | ✓ 5N271 | 2881.00 | 2052.00 | 690.0 |
| | 1185 | 365T | 460 | 60.0 | 1.15 | 94.5 | CI | F | ✓ 5N272 | 4848.00 | 3453.00 | 877.0 |
| 60 | 3560 | 364TS | 230/460 | 139.2/69.6 | 1.15 | 93.6 | CI | F | ✓ 5N273 | 4227.00 | 3011.00 | 790.0 |
| | 1780 | 364T | 230/460 | 145.0/72.5 | 1.15 | 95.0 | CI | F | ✓ 5N274 | 4284.00 | 3051.00 | 773.0 |
| | 1185 | 404T | 460 | 72.5 | 1.15 | 94.5 | CI | F | ✓ 5N275 | 5739.00 | 4086.00 | 1210.0 |
| 75 | 3560 | 365TS | 230/460 | 171.6/85.8 | 1.15 | 94.1 | CI | F | ✓ 5N276 | 5324.00 | 3792.00 | 835.0 |
| | 1780 | 365T | 230/460 | 172.0/86.0 | 1.15 | 95.4 | CI | F | ✓ 5N277 | 5520.00 | 3932.00 | 900.0 |
| | 1185 | 405T | 460 | 90.0 | 1.15 | 95.0 | CI | F | ✓ 5N278 | 6863.00 | 4887.00 | 1300.0 |
| 100 | 3565 | 405TS | 230/460 | 226.0/113.0 | 1.15 | 94.1 | CI | F | ✓ 5N279 †† | 7115.00 | 5068.00 | 1240.0 |
| | 1780 | 405T | 230/460 | 232.0/116.0 | 1.15 | 95.4 | CI | F | ✓ 5N280 | 6775.00 | 4825.00 | 1300.0 |
| | 1185 | 444T | 460 | 127.0 | 1.15 | 95.4 | CI | F | ✓ 5N281 | 9607.00 | 6842.00 | 1715.0 |
| 125 | 3570 | 444TS | 460 | 147.5 | 1.15 | 94.5 | CI | F | ✓ 5N282 ** | 10263.00 | 7309.00 | 1750.0 |
| | 1775 | 444T | 460 | 144.0 | 1.15 | 95.4 | CI | F | ✓ 5N283 | 9531.00 | 6787.00 | 1790.0 |
| | 1185 | 445T | 460 | 150.0 | 1.15 | 95.8 | CI | F | ✓ 5N284 | 11056.00 | 7874.00 | 1925.0 |
| 150 | 3555 | 445TS | 460 | 174.0 | 1.15 | 94.5 | CI | F | ✓ 5N285 ** | 12329.00 | 8782.00 | 1815.0 |
| | 1780 | 445T | 460 | 170.0 | 1.15 | 95.8 | CI | F | ✓ 5N286 | 11123.00 | 7922.00 | 1845.0 |
| | 1185 | 447T | 460 | 178.0 | 1.15 | 96.2 | CI | F | ✓ 5N287 | 12909.00 | 9193.00 | 2310.0 |
| 200 | 3560 | 447TS | 460 | 226.0 | 1.15 | 95.0 | CI | F | ✓ 5N288 | 15596.00 | 11109.00 | 2145.0 |
| | 1780 | 447T | 460 | 224.0 | 1.15 | 96.2 | CI | F | ✓ 5N289 | 13369.00 | 9521.00 | 2200.0 |
| | 1185 | 449T | 460 | 225.0 | 1.15 | 95.8 | CI | F | ✓ 5N290 | 16000.00 | 11395.00 | 2500.0 |
| 250 | 3570 | 449TS | 460 | 269.0 | 1.15 | 95.4 | CI | F | ✓ 5N291 ** | 19925.00 | 14194.00 | 2600.0 |
| | 1785 | 449T | 460 | 275.0 | 1.15 | 96.2 | CI | F | ✓ 5N292 ** | 16771.00 | 11945.00 | 2600.0 |

(*) Usable on 200V at 1.0 service factor. (††) NEMA design A; all others are NEMA design B. (#) AL = Aluminum; CI = Cast-Iron.
(‡) Not regreaseable. (**) CCW facing shaft. (✓) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# 3-PHASE PREMIUM EFFICIENCY TEFC MOTORS

- **Qualify for efficiency rebates**
- **Two-year warranty**

**Typical Uses:** Premium efficiency performance on air compressors, conveyors, fans, blowers, machine tools, pumps, and other moderate to hard-starting equipment in **noncombustible** dusty, dirty environments where 3-phase power is available.

**Bearings:** Ball
**Mounting:** Rigid
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW (except Nos. 5N999 and 6N034 are CCW facing shaft)
**Finish:** Beige
**Brand:** GE

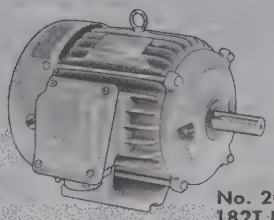
**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

ENERGY SAVER MOTOR

**The Energy Policy Act of 1992**
**The motor products in this offering, frame sizes 143T through 449T, meet/exceed the EPACT 92 legislative efficiency levels.**
For details of EPACT legislation, see page 6.

Modification & Service Available
Contact Your Local Branch

Replacement Parts Available
1-800-323-0620



No. 2G667
182T Frame

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame** | Ins. Class | Base | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1725 | 56 | 208-230/460 | 3.2-3.0/1.5 | 1.15 | 78.3* | RS | B | Rigid | E10F1 | **3N940** | $368.00 | **$197.25** | 39.0 |
| | 1745 | 143T | 575 | 1.1 | 1.15 | 86.5 | CI | F | Rigid | E411 | **3VF87** | 400.00 | **250.00** | 64.0 |
| | 1745 | 143T | 230/460 | 2.8/1.4 | 1.15 | 86.5 | CI | F | Rigid | E401 | **3VF81** | 400.00 | **250.00** | 64.0 |
| | 1725 | 143T | 208-230/460 | 3.2-3.0/1.5 | 1.15 | 84.0 | RS | B | Rigid | E10F2 | **3N941** | 372.00 | **194.25** | 40.0 |
| | 1150 | 145T | 575 | 1.4 | 1.15 | 85.5 | CI | F | Rigid | E412 | **3VF88** | 489.00 | **303.75** | 66.0 |
| | 1150 | 145T | 230/460 | 3.4/1.7 | 1.15 | 85.5 | CI | F | Rigid | E403 | **3VF82** | 489.00 | **303.75** | 66.0 |
| **1½** | 3455 | 143T | 575 | 1.6 | 1.15 | 85.5 | CI | F | Rigid | E413 | **3VF89** | 390.00 | **244.00** | 64.0 |
| | 3455 | 143T | 230/460 | 4.0/2.0 | 1.15 | 85.5 | CI | F | Rigid | E403 | **3VF83** | 390.00 | **244.00** | 64.0 |
| | 1730 | 145T | 575 | 1.7 | 1.15 | 86.5 | CI | F | Rigid | E414 | **3VF90** | 439.00 | **273.75** | 66.0 |
| | 1730 | 145T | 230/460 | 4.2/2.1 | 1.15 | 86.5 | CI | F | Rigid | E404 | **3VF84** | 439.00 | **273.75** | 66.0 |
| | 1170 | 182T | 230/460† | 4.9/2.5 | 1.15 | 86.5 | CI | F | Rigid | E824 | **2G655** | 420.00 | **277.50** | 90.0 |
| | 1170 | 182T | 575 | 1.8 | 1.15 | 86.5 | CI | F | Rigid | E8656 | **2G657** | 420.00 | **277.50** | 90.0 |
| **2** | 1730 | 145T | 575 | 2.1 | 1.15 | 86.5 | CI | F | Rigid | E415 | **3VF91** | 508.00 | **315.25** | 66.0 |
| | 1730 | 145T | 575 | 2.2 | 1.15 | 86.5 | CI | F | Rigid | E416 | **3VF92** | 459.00 | **285.75** | 66.0 |
| | 3480 | 145T | 230/460 | 5.2/2.6 | 1.15 | 86.5 | CI | F | Rigid | E405 | **3VF85** | 508.00 | **315.25** | 66.0 |
| | 1730 | 145T | 230/460 | 5.6/2.8 | 1.15 | 86.5 | CI | F | Rigid | E406 | **3VF86** | 459.00 | **285.75** | 66.0 |
| | 1165 | 184T | 230/460† | 6.3/3.2 | 1.15 | 87.5 | CI | F | Rigid | E825 | **2G659** | 464.00 | **307.00** | 101.0 |
| | 1165 | 184T | 575 | 2.5 | 1.15 | 87.5 | CI | F | Rigid | E8657 | **2G661** | 464.00 | **307.00** | 101.0 |
| **3** | 3520 | 182T | 230/460† | 7.2/3.6 | 1.15 | 87.5 | CI | F | Rigid | E826 | **2G663** | 442.00 | **292.50** | 90.0 |
| | 1765 | 182T | 230/460† | 7.6/3.8 | 1.15 | 88.5 | CI | F | Rigid | E827 | **2G667** | 455.00 | **301.50** | 95.0 |
| | 1765 | 182T | 575 | 3.0 | 1.15 | 88.5 | CI | F | Rigid | E868 | **2G669** | 455.00 | **301.50** | 95.0 |
| | 1175 | 213T | 230/460† | 8.3/4.2 | 1.15 | 88.5 | CI | F | Rigid | E8211 | **2G671** | 618.00 | **408.50** | 139.0 |
| | 1175 | 213T | 575 | 3.3 | 1.15 | 88.5 | CI | F | Rigid | E8709 | **2G673** | 618.00 | **408.50** | 139.0 |
| **5** | 3480 | 184T | 230/460† | 11.4/5.7 | 1.15 | 89.5 | CI | F | Rigid | E828 | **2G675** | 547.00 | **362.00** | 106.0 |
| | 3480 | 184T | 575 | 4.6 | 1.15 | 89.5 | CI | F | Rigid | E8659 | **2G677** | 547.00 | **362.25** | 106.0 |
| | 1750 | 184T | 230/460† | 12.3/6.2 | 1.15 | 89.5 | CI | F | Rigid | E829 | **2G679** | 495.00 | **327.50** | 114.0 |
| | 1750 | 184T | 575 | 4.9 | 1.15 | 89.5 | CI | F | Rigid | E8809 | **2G681** | 495.00 | **327.50** | 114.0 |
| | 1155 | 215T | 230/460† | 13.3/6.7 | 1.15 | 89.5 | CI | F | Rigid | E8212 | **2G683** | 908.00 | **600.50** | 165.0 |
| | 1155 | 215T | 575 | 5.3 | 1.15 | 89.5 | CI | F | Rigid | E8721 | **2G685** | 908.00 | **600.50** | 165.0 |
| **7½** | 3510 | 213T | 230/460† | 17.4/8.7 | 1.15 | 91.0 | CI | F | Rigid | E880 | **2G687** | 715.00 | **472.75** | 156.0 |
| | 3510 | 213T | 575 | 7.0 | 1.15 | 91.0 | CI | F | Rigid | E8810 | **2G689** | 715.00 | **472.50** | 156.0 |
| | 1755 | 213T | 230/460† | 18.0/9.0 | 1.15 | 91.7 | CI | F | Rigid | E860 | **2G691** | 715.00 | **472.00** | 167.0 |
| | 1755 | 213T | 575 | 7.2 | 1.15 | 91.7 | CI | F | Rigid | E8727 | **2G693** | 715.00 | **472.00** | 167.0 |
| | 1170 | 254T | 230/460† | 19.0/9.5 | 1.15 | 91.7 | CI | F | Rigid | E8213 | **2G695** | 1227.00 | **811.50** | 257.0 |
| | 1170 | 254T | 575 | 7.6 | 1.15 | 91.7 | CI | F | Rigid | E8660 | **2G697** | 1227.00 | **811.50** | 259.0 |
| **10** | 3510 | 215T | 230/460† | 23.0/11.5 | 1.15 | 91.7 | CI | F | Rigid | E881 | **2G699** | 857.00 | **566.50** | 183.0 |
| | 3510 | 215T | 575 | 9.2 | 1.15 | 91.7 | CI | F | Rigid | E8850 | **2G701** | 857.00 | **550.00** | 183.0 |
| | 1755 | 215T | 230/460† | 23.5/11.8 | 1.15 | 91.7 | CI | F | Rigid | E861 | **2G703** | 861.00 | **569.50** | 189.0 |
| | 1755 | 215T | 575 | 9.4 | 1.15 | 91.7 | CI | F | Rigid | E8739 | **2G705** | 861.00 | **570.00** | 189.0 |
| | 1170 | 256T | 230/460† | 25.4/12.7 | 1.15 | 91.7 | CI | F | Rigid | E8214 | **2G707** | 1441.00 | **953.00** | 295.0 |
| | 1170 | 256T | 575 | 10.2 | 1.15 | 91.7 | CI | F | Rigid | E8670 | **2G709** | 1441.00 | **953.00** | 295.0 |
| **15** | 3525 | 254T | 230/460† | 33.3/16.7 | 1.15 | 91.7 | CI | F | Rigid | E882 | **2G711** | 1176.00 | **777.50** | 282.0 |
| | 3525 | 254T | 575 | 13.3 | 1.15 | 91.7 | CI | F | Rigid | E8811 | **2G713** | 1176.00 | **777.50** | 282.0 |
| | 1765 | 254T | 230/460† | 34.5/17.3 | 1.15 | 92.4 | CI | F | Rigid | E862 | **2G715** | 1152.00 | **761.50** | 288.0 |
| | 1765 | 254T | 575 | 13.8 | 1.15 | 92.4 | CI | F | Rigid | E8747 | **2G717** | 1152.00 | **761.50** | 288.0 |
| | 1175 | 284T | 230/460† | 37.0/18.5 | 1.15 | 91.7 | CI | F | Rigid | E8215 | **2G719** | 1911.00 | **1264.00** | 414.0 |
| | 1175 | 284T | 575 | 14.8 | 1.15 | 91.7 | CI | F | Rigid | E8690 | **2G721** | 1911.00 | **1264.00** | 414.0 |

(*) Average efficiency, not NEMA nominal efficiency. (†) Usable on 200V at 1.0 service factor.
(**) RS = Rolled Steel; CI = Cast-Iron. (✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

# 3-PHASE PREMIUM EFFICIENCY TEFC MOTORS

## GE PREMIUM EFFICIENCY MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame** | Ins. Class | Base | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 3520 | 256T | 230/460† | 44.5/22.3 | 1.15 | 92.4 | CI | F | Rigid | E883 | ✓**2G723** | $1415.00 | **$935.50** | 315.0 |
| | 3520 | 256T | 575 | 17.8 | 1.15 | 92.4 | CI | F | Rigid | E8812 | ✓**2G725** | 1415.00 | **935.50** | 315.0 |
| | 1765 | 256T | 230/460† | 45.5/22.8 | 1.15 | 93.0 | CI | F | Rigid | E863 | ✓**2G727** | 1401.00 | **926.00** | 332.0 |
| | 1765 | 256T | 575 | 18.2 | 1.15 | 93.0 | CI | F | Rigid | E8756 | ✓**2G729** | 1401.00 | **926.00** | 332.0 |
| | 1170 | 286T | 230/460† | 49.0/24.5 | 1.15 | 92.4 | CI | F | Rigid | E8217 | ✓**2G731** | 2326.00 | **1538.00** | 473.0 |
| | 1170 | 286T | 575 | 19.6 | 1.15 | 92.4 | CI | F | Rigid | E8692 | ✓**2G733** | 2326.00 | **1538.00** | 473.0 |
| **25** | 3545 | 284TS | 230/460† | 55.5/27.8 | 1.15 | 93.0 | CI | F | Rigid | E884 | ✓**2G735** | 1771.00 | **1172.00** | 418.0 |
| | 3545 | 284TS | 575 | 22.2 | 1.15 | 93.0 | CI | F | Rigid | E8813 | ✓**2G737** | 1771.00 | **1172.00** | 418.0 |
| | 1765 | 284T | 230/460† | 58.0/29.0 | 1.15 | 93.6 | CI | F | Rigid | E864 | ✓**2G739** | 1704.00 | **1127.00** | 429.0 |
| | 1765 | 284T | 575 | 23.3 | 1.15 | 93.6 | CI | F | Rigid | E8762 | ✓**2G741** | 1704.00 | **1127.00** | 429.0 |
| | 1180 | 324T | 230/460† | 60.4/30.2 | 1.15 | 93.0 | CI | F | Rigid | E9219 | ✓**5N976** | 3169.00 | **2094.00** | 595.0 |
| **30** | 3545 | 286TS | 230/460† | 67.0/33.5 | 1.15 | 93.0 | CI | F | Rigid | E885 | ✓**2G743** | 2093.00 | **1384.00** | 455.0 |
| | 3545 | 286TS | 575 | 26.8 | 1.15 | 93.0 | CI | F | Rigid | E8814 | ✓**2G745** | 2093.00 | **1384.00** | 455.0 |
| | 1765 | 286T | 230/460† | 69.0/34.5 | 1.15 | 93.6 | CI | F | Rigid | E865 | ✓**2G747** | 2016.00 | **1333.00** | 475.0 |
| | 1765 | 286T | 575 | 27.6 | 1.15 | 93.6 | CI | F | Rigid | E8815 | ✓**2G749** | 2016.00 | **1333.00** | 475.0 |
| | 1180 | 326T | 230/460 | 72.4/36.2 | 1.15 | 93.0 | CI | F | Rigid | E9222 | ✓**5N977** | 3648.00 | **2411.00** | 740.0 |
| **40** | 3560 | 324TS | 230/460 | 98.2/49.1 | 1.15 | 93.6 | CI | F | Rigid | E986 | ✓**5N978** | 2864.00 | **1893.00** | 570.0 |
| | 1780 | 324T | 230/460 | 96.8/48.4 | 1.15 | 94.5 | CI | F | Rigid | E966 | ✓**5N979** | 2741.00 | **1811.00** | 605.0 |
| | 1780 | 324T | 575 | 38.7 | 1.15 | 94.5 | CI | F | Rigid | E9819 | ✓**5N980** | 2741.00 | **1811.00** | 620.0 |
| | 1185 | 364T | 460 | 46.5 | 1.15 | 94.1 | CI | F | Rigid | E9224 | ✓**5N981** | 5165.00 | **3412.00** | 1040.0 |
| **50** | 3560 | 326TS | 230/460 | 115.4/57.7 | 1.15 | 94.5 | CI | F | Rigid | E987 | ✓**5N982** | 3612.00 | **2388.00** | 565.0 |
| | 1780 | 326T | 230/460 | 121.0/60.5 | 1.15 | 94.5 | CI | F | Rigid | E967 | ✓**5N983** | 3223.00 | **2131.00** | 605.0 |
| | 1775 | 326T | 575 | 48.4 | 1.15 | 94.5 | CI | F | Rigid | E9822 | ✓**5N984** | 3223.00 | **2131.00** | 610.0 |
| | 1185 | 365T | 460 | 58.5 | 1.15 | 93.6 | CI | F | Rigid | E9226 | ✓**5N985** | 6026.00 | **3981.00** | 1080.0 |
| **60** | 3560 | 364TS | 230/460 | 138.4/69.2 | 1.15 | 95.0 | CI | F | Rigid | E988 | ✓**5N986** | 5386.00 | **3561.00** | 810.0 |
| | 1780 | 364T | 230/460 | 141.8/70.9 | 1.15 | 95.0 | CI | F | Rigid | E9681 | ✓**5N987** | 4793.00 | **3168.00** | 905.0 |
| | 1780 | 364T | 575 | 56.7 | 1.15 | 95.0 | CI | F | Rigid | E9824 | ✓**5N988** | 4793.00 | **3167.00** | 1030.0 |
| | 1190 | 404T | 460 | 68.8 | 1.15 | 94.5 | CI | F | Rigid | E9228 | ✓**5N989** | 6971.00 | **4606.00** | 1490.0 |
| **75** | 3560 | 365TS | 230/460 | 169.4/84.7 | 1.15 | 95.4 | CI | F | Rigid | E989 | ✓**5N990** | 6412.00 | **4240.00** | 835.0 |
| | 1780 | 365T | 230/460 | 177.2/88.6 | 1.15 | 95.0 | CI | F | Rigid | E9691 | ✓**5N991** | 6283.00 | **4153.00** | 905.0 |
| | 1780 | 365T | 575 | 70.9 | 1.15 | 95.0 | CI | F | Rigid | E9826 | ✓**5N992** | 6283.00 | **4152.00** | 1070.0 |
| | 1190 | 405T | 460 | 85.9 | 1.15 | 95.0 | CI | F | Rigid | E9231 | ✓**5N993** | 8531.00 | **5637.00** | 1550.0 |
| **100** | 3570 | 405TS | 230/460 | 218.0/109.0 | 1.15 | 93.6 | CI | F | Rigid | E9505 | ✓**5N994** | 8137.00 | **5378.00** | 1212.0 |
| | 1790 | 405T | 230/460 | 226.0/113.0 | 1.15 | 95.0 | CI | F | Rigid | E9701 | ✓**5N995** | 7486.00 | **4948.00** | 1304.0 |
| | 1790 | 405TS | 230/460 | 226.0/113.0 | 1.15 | 95.0 | CI | F | Rigid | E9358 | ✓**5N996** | 7711.00 | **5095.00** | 1560.0 |
| | 1790 | 405T | 575 | 91.6 | 1.15 | 95.0 | CI | F | Rigid | E9827 | ✓**5N997** | 7486.00 | **4946.00** | 1560.0 |
| | 1190 | 444T | 460 | 113.0 | 1.15 | 95.0 | CI | F | Rigid | E9233 | ✓**5N998** | 11387.00 | **7524.00** | 1980.0 |
| **125** | 3575 | 444TS | 460 | 135.0 | 1.15 | 94.5 | CI | F | Rigid | E9506 | ✓**5N999**# | 11291.00 | **7461.00** | 1990.0 |
| | 1785 | 444T | 460 | 134.0 | 1.15 | 95.4 | CI | F | Rigid | E971 | ✓**6N032** | 10532.00 | **6958.00** | 2050.0 |
| **150** | 3575 | 445TS | 460 | 162.0 | 1.0 | 94.5 | CI | F | Rigid | E9507 | ✓**6N034**# | 14102.00 | **9321.00** | 1990.0 |
| | 1790 | 445T | 460 | 168.0 | 1.15 | 95.8 | CI | F | Rigid | E972 | ✓**6N035** | 12291.00 | **8123.00** | 2020.0 |
| | 1790 | 445TS | 460 | 168.0 | 1.15 | 95.8 | CI | F | Rigid | E9371 | ✓**6N036** | 12659.00 | **8366.00** | 2020.0 |
| | 1190 | 449T | 460 | 168.0 | 1.15 | 95.8 | CI | F | Rigid | E9237 | ✓**6N037** | 16047.00 | **10602.00** | 2790.0 |
| **200** | 3580 | 447TS | 460 | 210.0 | 1.15 | 95.0 | CI | F | Rigid | E9960 | ✓**3VG21** | 21941.00 | **14019.00** | 2650.0 |
| | 1785 | 447T | 460 | 227.0 | 1.15 | 95.8 | CI | F | Rigid | E9957 | ✓**3VG18** | 17906.00 | **11515.00** | 2650.0 |
| | 1190 | 449T | 460 | 225.0 | 1.15 | 95.4 | CI | F | Rigid | E9239 | ✓**6N040** | 19889.00 | **13145.00** | 2820.0 |
| **250** | 3575 | 449TS | 460 | 267.0 | 1.0 | 95.0 | CI | F | Rigid | E9509 | ✓**6N041** | 23117.00 | **15283.00** | 2630.0 |
| | 1785 | 449T | 460 | 282.0 | 1.15 | 96.2 | CI | F | Rigid | E9380 | ✓**6N042** | 18532.00 | **12247.00** | 2830.0 |

(†) Usable on 200V at 1.0 service factor. (**) CI = Cast-Iron construction. (#) CCW rotation (facing shaft) only. (✓) Denotes energy efficient product.

## UL LISTING AND CSA CERTIFICATION

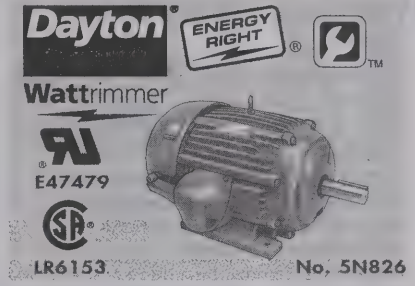
When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# 3-PHASE PREMIUM EFFICIENCY SEVERE DUTY MOTORS



- These motors meet or exceed the EPACT 92 legislated efficiency levels, see page 6 for details
- Class F insulation system, Class B rise at full load
- Meets NEMA MG1 Part 31 inverter duty use at 10:1 variable torque and 4:1 constant torque speed range
- Complete cast-iron construction on 180 frame and above; rolled steel on 140 frames
- 100% copper windings
- Bearing caps supplied on 180 frame and above
- Three-year warranty

**Typical Uses:** Pumps, fans, blowers, compressors, conveyors, and in chemical and processing industries with high humidity, acidic, alkali, or dirty conditions.
**Bearings:** Regreasable double-shielded ball thru 360 frame, open ball on 400 thru 440 frame.
**Mounting:** Rigid
**Enclosure:** TEFC
**Thermal Protection:** None
**Ambient:** 40°C at 1.15 SF; 65°C at 1.0 SF
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton




| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Nominal Efficiency | Ins. Class | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1740 | 143T | CW/CCW | 230/460 | 3.0/1.5 | 1.15 | 85.5 | F | ✓ | 5N795 | $362.00 | $261.50 | 65.0 |
| | 1150 | 145T | CW/CCW | 230/460 | 3.9/2.0 | 1.15 | 82.6 | F | ✓ | 5N796 | 449.00 | 324.00 | 70.0 |
| 1½ | 3500 | 143T | CW/CCW | 230/460 | 4.0/2.0 | 1.15 | 84.0 | F | ✓ | 5N797 | 387.00 | 279.50 | 46.0 |
| | 1740 | 145T | CW/CCW | 230/460 | 4.5/2.3 | 1.15 | 86.5 | F | ✓ | 5N798 | 402.00 | 290.25 | 70.0 |
| | 1170 | 182T | CW/CCW | 230/460 | 5.0/2.5 | 1.15 | 86.5 | F | ✓ | 5N799 | 507.00 | 365.75 | 100.0 |
| 2 | 3490 | 145T | CW/CCW | 230/460 | 5.2/2.6 | 1.15 | 86.5 | F | ✓ | 5N800 | 463.00 | 334.25 | 70.0 |
| | 1730 | 145T | CW/CCW | 230/460 | 5.8/2.9 | 1.15 | 86.5 | F | ✓ | 5N801 | 442.00 | 319.25 | 70.0 |
| | 1170 | 184T | CW/CCW | 230/460 | 6.6/3.3 | 1.15 | 87.5 | F | ✓ | 5N802 | 566.00 | 408.75 | 110.0 |
| 3 | 3530 | 182T | CW/CCW | 230/460 | 8.0/4.0 | 1.15 | 88.5 | F | ✓ | 5N803 | 522.00 | 376.75 | 100.0 |
| | 1760 | 182T | CW/CCW | 230/460 | 8.1/4.1 | 1.15 | 89.5 | F | ✓ | 5N804 | 490.00 | 353.25 | 100.0 |
| | 1175 | 213T | CW/CCW | 230/460 | 9.4/4.7 | 1.15 | 89.5 | F | ✓ | 5N805 | 691.00 | 498.75 | 165.0 |
| 5 | 3515 | 184T | CW/CCW | 230/460 | 12.6/6.3 | 1.15 | 89.5 | F | ✓ | 5N806 | 646.00 | 466.00 | 110.0 |
| | 1750 | 184T | CW/CCW | 230/460 | 13.0/6.5 | 1.15 | 90.2 | F | ✓ | 5N807 | 573.00 | 413.50 | 110.0 |
| | 1165 | 215T | CW/CCW | 230/460 | 15.0/7.5 | 1.15 | 90.2 | F | ✓ | 5N808 | 973.00 | 702.00 | 135.0 |
| 7½ | 3525 | 213T | CW/CCW | 230/460 | 18.6/9.3 | 1.15 | 91.7 | F | ✓ | 5N809 * | 781.00 | 564.00 | 160.0 |
| | 1760 | 213T | CW/CCW | 230/460 | 19.0/9.5 | 1.15 | 91.7 | F | ✓ | 5N810 | 776.00 | 559.50 | 160.0 |
| | 1175 | 254T | CW/CCW | 230/460 | 20.2/10.1 | 1.15 | 91.7 | F | ✓ | 5N811 * | 1293.00 | 932.50 | 220.0 |
| 10 | 3510 | 215T | CW/CCW | 230/460 | 24.6/12.3 | 1.15 | 91.7 | F | ✓ | 5N812 | 913.00 | 659.00 | 150.0 |
| | 1755 | 215T | CW/CCW | 230/460 | 24.8/12.4 | 1.15 | 91.0 | F | ✓ | 5N813 | 935.00 | 675.00 | 150.0 |
| | 1170 | 256T | CW/CCW | 230/460 | 25.2/12.6 | 1.15 | 91.7 | F | ✓ | 5N814 * | 1580.00 | 1140.00 | 360.0 |
| 15 | 3545 | 254T | CW/CCW | 230/460 | 36.2/18.1 | 1.15 | 91.7 | F | ✓ | 5N815 | 1254.00 | 905.00 | 300.0 |
| | 1770 | 254T | CW/CCW | 230/460 | 38.0/19.0 | 1.15 | 91.7 | F | ✓ | 5N816 | 1232.00 | 888.50 | 300.0 |
| | 1180 | 284T | CW/CCW | 230/460 | 39.0/19.5 | 1.15 | 92.4 | F | ✓ | 5N817 * | 2096.00 | 1512.00 | 380.0 |
| 20 | 3545 | 256T | CW/CCW | 230/460 | 47.2/23.6 | 1.15 | 92.4 | F | ✓ | 5N818 * | 1553.00 | 1120.00 | 360.0 |
| | 1770 | 256T | CW/CCW | 230/460 | 49.0/24.5 | 1.15 | 93.0 | F | ✓ | 5N819 | 1535.00 | 1109.00 | 360.0 |
| | 1175 | 286T | CW/CCW | 230/460 | 51.6/25.8 | 1.15 | 92.4 | F | ✓ | 5N820 * | 2554.00 | 1843.00 | 410.0 |
| 25 | 3560 | 284TS | CW/CCW | 460 | 30.7 | 1.15 | 92.4 | F | ✓ | 5N821 * | 1914.00 | 1382.00 | 380.0 |
| | 1775 | 284T | CW/CCW | 460 | 30.2 | 1.15 | 93.6 | F | ✓ | 5N822 | 1828.00 | 1319.00 | 380.0 |
| | 1180 | 324T | CW/CCW | 460 | 30.2 | 1.15 | 93.0 | F | ✓ | 5N823 | 3096.00 | 2233.00 | 575.0 |
| 30 | 3550 | 286TS | CW/CCW | 460 | 34.8 | 1.15 | 92.4 | F | ✓ | 5N824 | 2235.00 | 1612.00 | 410.0 |
| | 1775 | 286T | CW/CCW | 460 | 35.5 | 1.15 | 94.1 | F | ✓ | 5N825 | 2125.00 | 1533.00 | 625.0 |
| | 1180 | 326T | CW/CCW | 460 | 35.7 | 1.15 | 93.6 | F | ✓ | 5N826 | 3566.00 | 2571.00 | 625.0 |
| 40 | 3565 | 324TS | CW/CCW | 460 | 47.3 | 1.15 | 93.6 | F | ✓ | 5N827 * | 2948.00 | 2126.00 | 625.0 |
| | 1775 | 324T | CW/CCW | 460 | 47.5 | 1.15 | 94.1 | F | ✓ | 5N828 | 2823.00 | 2036.00 | 575.0 |
| | 1185 | 364T | CW/CCW | 460 | 48.0 | 1.15 | 94.5 | F | ✓ | 5N829 | 4833.00 | 3485.00 | 800.0 |
| 50 | 3545 | 326TS | CW/CCW | 460 | 57.7 | 1.15 | 93.0 | F | ✓ | 5N830 | 3814.00 | 2750.00 | 625.0 |
| | 1775 | 326T | CW/CCW | 460 | 57.5 | 1.15 | 94.1 | F | ✓ | 5N831 | 3467.00 | 2501.00 | 625.0 |
| | 1185 | 365T | CW/CCW | 460 | 60.0 | 1.15 | 94.5 | F | ✓ | 5N832 | 5549.00 | 4000.00 | 910.0 |
| 60 | 3560 | 364TS | CW/CCW | 460 | 69.6 | 1.15 | 93.6 | F | ✓ | 5N833 * | 5017.00 | 3616.00 | 800.0 |
| | 1780 | 364T | CW/CCW | 460 | 72.5 | 1.15 | 95.0 | F | ✓ | 5N834 * | 4974.00 | 3586.00 | 800.0 |
| | 1185 | 404T | CW/CCW | 460 | 72.5 | 1.15 | 94.5 | F | ✓ | 5N835 | 6502.00 | 4687.00 | 1160.0 |
| 75 | 3565 | 365TS | CW/CCW | 460 | 85.8 | 1.15 | 94.1 | F | ✓ | 5N836 * | 6300.00 | 4543.00 | 910.0 |
| | 1780 | 365T | CW/CCW | 460 | 86.0 | 1.15 | 95.4 | F | ✓ | 5N837 | 6305.00 | 4546.00 | 910.0 |
| | 1185 | 405T | CW/CCW | 460 | 90.0 | 1.15 | 95.0 | F | ✓ | 5N838 | 7655.00 | 5518.00 | 1300.0 |
| 100 | 3565 | 405TS | CW/CCW | 460 | 113.0 | 1.15 | 94.1 | F | ✓ | 5N839 * | 8442.00 | 6085.00 | 1300.0 |
| | 1780 | 405T | CW/CCW | 460 | 116.0 | 1.15 | 95.4 | F | ✓ | 5N840 | 7790.00 | 5616.00 | 1300.0 |
| | 1185 | 444T | CW/CCW | 460 | 121.0 | 1.15 | 95.4 | F | ✓ | 5N841 | 10462.00 | 7540.00 | 1675.0 |
| 125 | 3570 | 444TS | CW | 460 | 147.5 | 1.15 | 94.5 | F | ✓ | 5N842 | 11035.00 | 7954.00 | 1675.0 |
| | 1775 | 444T | CW/CCW | 460 | 144.0 | 1.15 | 95.4 | F | ✓ | 5N843 | 10255.00 | 7392.00 | 1675.0 |
| | 1185 | 445T | CW/CCW | 460 | 150.0 | 1.15 | 95.8 | F | ✓ | 5N844 | 12850.00 | 9261.00 | 2120.0 |
| 150 | 3555 | 445TS | CW | 460 | 174.0 | 1.15 | 94.5 | F | ✓ | 5N845 | 13257.00 | 9556.00 | 2120.0 |
| | 1780 | 445T | CW/CCW | 460 | 170.0 | 1.15 | 95.8 | F | ✓ | 5N846 | 11922.00 | 8593.00 | 2120.0 |
| | 1185 | 447T | CW/CCW | 460 | 185.0 | 1.15 | 96.2 | F | ✓ | 5N847 * | 14377.00 | 10363.00 | 2350.0 |
| 200 | 3560 | 447TS | CW/CCW | 460 | 226.0 | 1.15 | 95.0 | F | ✓ | 5N848 | 16770.00 | 12087.00 | 2120.0 |
| | 1780 | 447T | CW/CCW | 460 | 224.0 | 1.15 | 96.2 | F | ✓ | 5N849 | 14501.00 | 10451.00 | 2120.0 |
| | 1185 | 449T | CW/CCW | 460 | 225.0 | 1.15 | 95.8 | F | ✓ | 5N850 | 17600.00 | 12685.00 | 2350.0 |
| 250 | 3570 | 449TS | CCW | 460 | 269.0 | 1.15 | 95.4 | F | ✓ | 5N851 * | 21150.00 | 15244.00 | 2350.0 |
| | 1785 | 449T | CCW | 460 | 275.0 | 1.15 | 96.2 | F | ✓ | 5N852 | 18192.00 | 13112.00 | 2350.0 |

(*) NEMA design A; all others are NEMA design B. (✓) Denotes energy efficient product.

**CAUTION: Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

# 3-PHASE PREMIUM EFFICIENCY SEVERE DUTY MOTORS

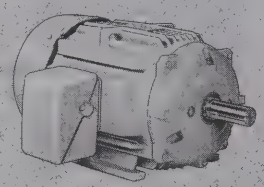
- Energy $aver premium efficiency designs
- Suitable for 40°C ambient at 1.15 service factor and 65°C at 1.0 service factor
- Designed for high humidity, acidic, alkali, or dirty (nonexplosive) conditions
- Cast-iron frames and endshields
- Qualify for efficiency rebates
- Supplied with grease fittings
- Three-year warranty

**Typical Uses:** Pumps, fans, blowers, air compressors, conveyors, machinery, and other industrial equipment.
**Bearings:** Ball
**Mounting:** Rigid base
**Enclosure:** TEFC
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Beige
**Brand:** GE

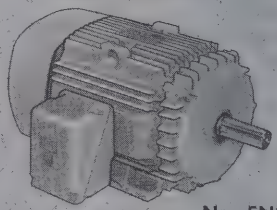
ENERGY $AVER MOTOR

E47088

**The Energy Policy Act of 1992**
The motor products in this offering, frame sizes 143T through 449T, meet/exceed the EPACT 92 legislative efficiency levels.
For details of EPACT legislation, see page 6.



NO. 5N030
184T Frame



No. 5N007
324T Frame

Replacement Parts Available
1-800-323-0620

Modification & Service Available
Contact Your Local Branch

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 870 | 182T | CW/CCW | 230/460† | 4.0/2.0 | 1.15 | 80.0 | F | E9871 | ✓5N017 | $714.00 | **$472.00** | 116.0 |
| | 870 | 182T | CW/CCW | 460 | 2.0 | 1.15 | 80.0 | F | E9887 | ✓5N019 | 714.00 | **472.00** | 100.0 |
| | 870 | 182T | CW/CCW | 575 | 1.6 | 1.15 | 80.0 | F | E9872 | ✓5N018 | 714.00 | **472.00** | 116.0 |
| 1 1/2 | 1170 | 182T | CW/CCW | 230/460† | 4.6/2.3 | 1.15 | 87.5 | F | E9702 | ✓4N893 | 560.00 | **370.00** | 138.0 |
| | 1170 | 182T | CW/CCW | 460 | 2.3 | 1.15 | 87.5 | F | E9943 | ✓5N024 | 560.00 | **370.25** | 110.0 |
| | 1170 | 182T | CW/CCW | 575 | 1.8 | 1.15 | 87.5 | F | E9703 | ✓5N023 | 560.00 | **370.00** | 134.0 |
| | 860 | 184T | CW/CCW | 230/460 | 5.6/2.8 | 1.15 | 81.5 | F | E9873 | ✓5N020 | 844.00 | **558.50** | 126.0 |
| | 860 | 184T | CW/CCW | 460 | 2.8 | 1.15 | 81.5 | F | E9888 | ✓5N022 | 844.00 | **558.50** | 124.0 |
| | 860 | 184T | CW/CCW | 575 | 2.3 | 1.15 | 81.5 | F | E9874 | ✓5N021 | 844.00 | **558.50** | 124.0 |
| 2 | 1165 | 184T | CW/CCW | 230/460† | 5.8/2.9 | 1.15 | 87.5 | F | E9074 | ✓5N028 | 626.00 | **413.75** | 136.0 |
| | 1165 | 184T | CW/CCW | 460 | 2.9 | 1.15 | 87.5 | F | E9944 | ✓5N030 | 626.00 | **413.75** | 132.0 |
| | 1165 | 184T | CW/CCW | 575 | 2.4 | 1.15 | 87.5 | F | E9706 | ✓5N029 | 626.00 | **413.75** | 134.0 |
| | 875 | 213T | CW/CCW | 230/460† | 7.0/3.5 | 1.15 | 86.5 | F | E9875 | ✓5N026 | 1089.00 | **720.00** | 171.0 |
| | 875 | 213T | CW/CCW | 460 | 3.5 | 1.15 | 86.5 | F | E9705 | ✓5N025 | 1089.00 | **719.50** | 214.0 |
| | 875 | 213T | CW/CCW | 575 | 2.8 | 1.15 | 86.5 | F | E9876 | ✓5N027 | 1089.00 | **720.00** | 186.0 |
| 3 | 3515 | 182T | CW/CCW | 230/460† | 7.4/3.7 | 1.15 | 88.5 | F | E9713 | ✓5N070‡ | 594.00 | **392.75** | 126.0 |
| | 3515 | 182T | CW/CCW | 460 | 3.7 | 1.15 | 88.5 | F | E9939 | ✓5N072‡ | 594.00 | **392.75** | 120.0 |
| | 3520 | 182T | CW/CCW | 575 | 3.0 | 1.15 | 88.5 | F | E9715 | ✓5N071 | 594.00 | **392.75** | 124.0 |
| | 1765 | 182T | CW/CCW | 230/460† | 8.0/4.0 | 1.15 | 89.5 | F | E241 | ✓5N034 | 541.00 | **357.50** | 126.0 |
| | 1765 | 182T | CW/CCW | 460 | 4.0 | 1.15 | 89.5 | F | E9941 | ✓5N036 | 541.00 | **357.50** | 118.0 |
| | 1765 | 182T | CW/CCW | 575 | 3.2 | 1.15 | 89.5 | F | E9711 | ✓5N035 | 541.00 | **357.50** | 126.0 |
| | 1175 | 213T | CW/CCW | 230/460 | 8.4/4.2 | 1.15 | 89.5 | F | E9142 | ✓5N038 | 764.00 | **505.00** | 200.0 |
| | 1175 | 213T | CW/CCW | 460 | 4.2 | 1.15 | 89.5 | F | E9111 | ✓5N037 | 764.00 | **504.50** | 221.0 |
| | 1175 | 213T | CW/CCW | 575 | 3.4 | 1.15 | 89.5 | F | E9712 | ✓5N039 | 764.00 | **505.00** | 192.0 |
| | 870 | 215T | CW/CCW | 230/460† | 10.4/5.2 | 1.15 | 86.5 | F | E9877 | ✓5N032 | 1403.00 | **928.50** | 206.0 |
| | 870 | 215T | CW/CCW | 460 | 5.2 | 1.15 | 86.5 | F | E9708 | ✓5N031 | 1403.00 | **928.00** | 210.0 |
| | 870 | 215T | CW/CCW | 575 | 4.1 | 1.15 | 86.5 | F | E9878 | ✓5N033 | 1403.00 | **928.00** | 214.0 |
| 5 | 3515 | 184T | CW/CCW | 230/460† | 12.0/6.0 | 1.15 | 89.5 | F | E240 | ✓5N043 | 714.00 | **471.75** | 139.0 |
| | 3515 | 184T | CW/CCW | 460 | 6.0 | 1.15 | 89.5 | F | E9940 | ✓5N045 | 714.00 | **471.75** | 138.0 |
| | 3515 | 184T | CW/CCW | 575 | 4.8 | 1.15 | 89.5 | F | E9722 | ✓5N044 | 714.00 | **471.75** | 141.0 |
| | 1755 | 184T | CW/CCW | 230/460† | 12.6/6.3 | 1.15 | 90.2 | F | E242 | ✓5N046 | 633.00 | **418.25** | 138.0 |
| | 1755 | 184T | CW/CCW | 460 | 6.3 | 1.15 | 90.2 | F | E9942 | ✓5N048 | 633.00 | **418.25** | 138.0 |
| | 1755 | 184T | CW/CCW | 575 | 5.1 | 1.15 | 90.2 | F | E9718 | ✓5N047 | 633.00 | **418.25** | 113.0 |
| | 1170 | 215T | CW/CCW | 230/460† | 13.8/6.9 | 1.15 | 89.5 | F | E9143 | ✓5N050 | 1075.00 | **710.50** | 226.0 |
| | 1170 | 215T | CW/CCW | 460 | 6.9 | 1.15 | 89.5 | F | E9112 | ✓5N049 | 1075.00 | **710.50** | 224.0 |
| | 1170 | 215T | CW/CCW | 575 | 5.6 | 1.15 | 89.5 | F | E9717 | ✓5N051 | 1075.00 | **710.50** | 224.0 |
| | 880 | 254T | CW/CCW | 230/460† | 14.8/7.4 | 1.15 | 89.5 | F | E9879 | ✓5N041 | 1937.00 | **1282.00** | 313.0 |
| | 880 | 254T | CW/CCW | 460 | 7.4 | 1.15 | 89.5 | F | E9719 | ✓5N040 | 1937.00 | **1282.00** | 323.0 |
| | 880 | 254T | CW/CCW | 575 | 6.1 | 1.15 | 89.5 | F | E9880 | ✓5N042 | 1937.00 | **1281.00** | 336.0 |

(†) Usable on 200V at 1.0 service factor. (‡) TENV. (✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

**CAUTION: Not for fans in unattended areas.**
Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.

## GE 3-PHASE PREMIUM EFFICIENCY SEVERE DUTY MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7½ | 3535 | 213T | CW/CCW | 230/460† | 17.4/8.7 | 1.15 | 91.7 | F | E9144 | 5N055 | $863.00 | $570.50 | 232.0 |
| | 3535 | 213T | CW/CCW | 460 | 8.7 | 1.15 | 91.7 | F | E990 | 5N057 | 863.00 | 570.50 | 232.0 |
| | 3520 | 213T | CW/CCW | 575 | 7.0 | 1.15 | 91.7 | F | E9728 | 5N056 | 863.00 | 570.50 | 228.0 |
| | 1765 | 213T | CW/CCW | 230/460 | 18.8/9.4 | 1.15 | 91.7 | F | E9145 | 5N058 | 858.00 | 567.50 | 192.0 |
| | 1765 | 213T | CW/CCW | 460 | 9.4 | 1.15 | 91.7 | F | E9911 | 5N060 | 858.00 | 567.50 | 208.0 |
| | 1765 | 213T | CW/CCW | 575 | 7.5 | 1.15 | 91.7 | F | E9730 | 5N059 | 858.00 | 567.50 | 210.0 |
| | 1180 | 254T | CW/CCW | 230/460† | 21.4/10.7 | 1.15 | 91.7 | F | E9146 | 5N062 | 1429.00 | 944.00 | 347.0 |
| | 1180 | 254T | CW/CCW | 460 | 10.7 | 1.15 | 91.7 | F | E9113 | 5N061 | 1429.00 | 944.00 | 347.0 |
| | 1180 | 254T | CW/CCW | 575 | 8.5 | 1.15 | 91.7 | F | E9726 | 5N237 | 1429.00 | 944.00 | 336.0 |
| | 875 | 256T | CW/CCW | 230/460† | 21.8/10.9 | 1.15 | 89.5 | F | E9881 | 5N053 | 2452.00 | 1622.00 | 395.0 |
| | 875 | 256T | CW/CCW | 460 | 10.9 | 1.15 | 89.5 | F | E9724 | 5N052 | 2452.00 | 1622.00 | 425.0 |
| | 875 | 256T | CW/CCW | 575 | 8.8 | 1.15 | 89.5 | F | E9882 | 5N054 | 2452.00 | 1622.00 | 343.0 |
| 10 | 3530 | 215T | CW/CCW | 230/460† | 23.2/11.6 | 1.15 | 91.7 | F | E9147 | 4N913 | 1008.00 | 666.00 | 230.0 |
| | 3530 | 215T | CW/CCW | 460 | 11.6 | 1.15 | 91.7 | F | E991 | 4N940 | 1008.00 | 666.00 | 226.0 |
| | 3530 | 215T | CW/CCW | 575 | 9.3 | 1.15 | 91.7 | F | E9733 | 4N925 | 1008.00 | 666.00 | 232.0 |
| | 1765 | 215T | CW/CCW | 230/460† | 25.4/12.7 | 1.15 | 91.7 | F | E9148 | 4N949 | 1034.00 | 683.50 | 218.0 |
| | 1765 | 215T | CW/CCW | 460 | 12.7 | 1.15 | 91.7 | F | E9912 | 4N969 | 1034.00 | 683.50 | 216.0 |
| | 1765 | 215T | CW/CCW | 575 | 10.2 | 1.15 | 91.7 | F | E9738 | 4N956 | 1034.00 | 683.50 | 220.0 |
| | 1175 | 256T | CW/CCW | 230/460† | 28.6/14.3 | 1.15 | 91.7 | F | E9149 | 5N004 | 1746.00 | 1155.00 | 317.0 |
| | 1175 | 256T | CW/CCW | 460 | 14.3 | 1.15 | 91.7 | F | E9114 | 4N990 | 1746.00 | 1154.00 | 373.0 |
| | 1175 | 256T | CW/CCW | 575 | 11.6 | 1.15 | 91.7 | F | E9737 | 5N009 | 1746.00 | 1154.00 | 378.0 |
| | 885 | 284T | CW/CCW | 230/460† | 26.6/13.3 | 1.15 | 91.0 | F | E9883 | 4N909 | 2906.00 | 1921.00 | 438.0 |
| | 885 | 284T | CW/CCW | 460 | 13.3 | 1.15 | 91.0 | F | E9736 | 4N898 | 2906.00 | 1921.00 | 435.0 |
| | 885 | 284T | CW/CCW | 575 | 10.7 | 1.15 | 91.0 | F | E9884 | 4N910 | 2906.00 | 1921.00 | 493.0 |
| 15 | 3545 | 254T | CW/CCW | 230/460† | 34.6/17.3 | 1.15 | 91.7 | F | E9150 | 4N914 | 1385.00 | 915.00 | 383.0 |
| | 3545 | 254T | CW/CCW | 460 | 17.3 | 1.15 | 91.7 | F | E992 | 4N941 | 1385.00 | 915.00 | 398.0 |
| | 3545 | 254T | CW/CCW | 575 | 13.9 | 1.15 | 91.7 | F | E9741 | 4N926 | 1385.00 | 915.00 | 380.0 |
| | 1770 | 254T | CW/CCW | 230/460† | 37.0/18.5 | 1.15 | 92.4 | F | E9151 | 4N950 | 1361.00 | 899.00 | 384.0 |
| | 1770 | 254T | CW/CCW | 460 | 18.5 | 1.15 | 92.4 | F | E9913 | 4N970 | 1361.00 | 899.00 | 382.0 |
| | 1770 | 254T | CW/CCW | 575 | 15.0 | 1.15 | 92.4 | F | E9745 | 4N957 | 1361.00 | 899.00 | 370.0 |
| | 1180 | 284T | CW/CCW | 230/460† | 40.2/20.1 | 1.15 | 91.7 | F | E9152 | 5N005 | 2316.00 | 1531.00 | 533.0 |
| | 1180 | 284T | CW/CCW | 460 | 20.1 | 1.15 | 91.7 | F | E9115 | 4N991 | 2316.00 | 1531.00 | 558.0 |
| | 1180 | 284T | CW/CCW | 575 | 16.1 | 1.15 | 91.7 | F | E9746 | 5N010 | 2316.00 | 1531.00 | 562.0 |
| | 880 | 286T | CW/CCW | 230/460† | 39.6/19.8 | 1.15 | 91.0 | F | E9885 | 4N911 | 3798.00 | 2512.00 | 465.0 |
| | 880 | 286T | CW/CCW | 460 | 19.7 | 1.15 | 91.0 | F | E9742 | 4N899 | 3798.00 | 2512.00 | 510.0 |
| | 880 | 286T | CW/CCW | 575 | 15.6 | 1.15 | 91.0 | F | E9886 | 4N912 | 3798.00 | 2512.00 | 544.0 |
| 20 | 3540 | 256T | CW/CCW | 230/460† | 45.0/22.5 | 1.15 | 92.4 | F | E9153 | 4N915 | 1716.00 | 1135.00 | 426.0 |
| | 3540 | 256T | CW/CCW | 460 | 22.5 | 1.15 | 92.4 | F | E993 | 4N942 | 1716.00 | 1135.00 | 430.0 |
| | 3535 | 256T | CW/CCW | 575 | 18.0 | 1.15 | 92.4 | F | E9749 | 4N927 | 1716.00 | 1135.00 | 459.0 |
| | 1770 | 256T | CW/CCW | 230/460† | 49.2/24.6 | 1.15 | 93.0 | F | E9154 | 4N951 | 1696.00 | 1121.00 | 395.0 |
| | 1770 | 256T | CW/CCW | 460 | 24.6 | 1.15 | 93.0 | F | E9914 | 4N971 | 1696.00 | 1121.00 | 414.0 |
| | 1770 | 256T | CW/CCW | 575 | 19.5 | 1.15 | 93.0 | F | E9751 | 4N958 | 1696.00 | 1121.00 | 395.0 |
| | 1175 | 286T | CW/CCW | 230/460† | 53.4/26.7 | 1.15 | 92.4 | F | E9155 | 5N006 | 2822.00 | 1866.00 | 544.0 |
| | 1175 | 286T | CW/CCW | 460 | 26.7 | 1.15 | 92.4 | F | E9117 | 4N992 | 2822.00 | 1866.00 | 561.0 |
| | 1175 | 286T | CW/CCW | 575 | 21.5 | 1.15 | 92.4 | F | E9755 | 5N011 | 2822.00 | 1866.00 | 560.0 |
| | 885 | 324T | CW/CCW | 460 | 26.8 | 1.15 | 91.7 | F | E9748 | 3VG10 | 5594.00 | 3463.00 | 690.0 |
| 25 | 3560 | 284TS | CW/CCW | 230/460† | 55.8/27.9 | 1.15 | 92.4 | F | E9156 | 4N916 | 2115.00 | 1398.00 | 542.0 |
| | 3560 | 284TS | CW/CCW | 460 | 27.9 | 1.15 | 92.4 | F | E994 | 4N943 | 2115.00 | 1398.00 | 536.0 |
| | 3560 | 284TS | CW/CCW | 575 | 22.3 | 1.15 | 92.4 | F | E9838 | 4N934 | 2115.00 | 1398.00 | 493.0 |
| | 1770 | 284T | CW/CCW | 230/460† | 60.0/30.0 | 1.15 | 93.6 | F | E9157 | 4N952 | 2020.00 | 1335.00 | 562.0 |
| | 1770 | 284T | CW/CCW | 460 | 30.0 | 1.15 | 93.6 | F | E9935 | 4N988 | 2020.00 | 1335.00 | 559.0 |
| | 1775 | 284T | CW/CCW | 575 | 24.0 | 1.15 | 93.6 | F | E9759 | 4N959 | 2020.00 | 1335.00 | 556.0 |
| | 1180 | 324T | CW/CCW | 230/460 | 60.4/30.2 | 1.15 | 93.0 | F | E9158 | 5N007 | 3643.00 | 2408.00 | 680.0 |
| | 1180 | 324T | CW/CCW | 460 | 30.2 | 1.15 | 93.0 | F | E9119 | 4N993 | 3643.00 | 2408.00 | 685.0 |
| | 1180 | 324T | CW/CCW | 575 | 24.2 | 1.15 | 93.0 | F | E9758 | 5N012 | 3643.00 | 2408.00 | 650.0 |
| | 885 | 326T | CW/CCW | 460 | 32.8 | 1.15 | 91.7 | F | E9761 | 4N900 | 5751.00 | 3803.00 | 668.0 |
| 30 | 3555 | 286TS | CW/CCW | 230/460† | 66.8/33.4 | 1.15 | 92.4 | F | E9159 | 4N917 | 2469.00 | 1632.00 | 534.0 |
| | 3555 | 286TS | CW/CCW | 460 | 33.4 | 1.15 | 92.4 | F | E995 | 4N944 | 2469.00 | 1632.00 | 544.0 |
| | 3555 | 286TS | CW/CCW | 575 | 26.7 | 1.15 | 92.4 | F | E9828 | 4N930 | 2469.00 | 1632.00 | 544.0 |
| | 1770 | 286T | CW/CCW | 230/460† | 72.4/36.2 | 1.15 | 93.6 | F | E9160 | 4N953 | 2348.00 | 1552.00 | 556.0 |
| | 1770 | 286T | CW/CCW | 460 | 36.2 | 1.15 | 93.6 | F | E9937 | 4N989 | 2348.00 | 1552.00 | 556.0 |
| | 1770 | 286T | CW/CCW | 575 | 29.0 | 1.15 | 93.6 | F | E9764 | 4N960 | 2348.00 | 1552.00 | 544.0 |
| | 1180 | 326T | CW/CCW | 230/460 | 72.4/36.2 | 1.15 | 93.0 | F | E9161 | 5N008 | 4196.00 | 2773.00 | 705.0 |
| | 1180 | 326T | CW/CCW | 460 | 36.2 | 1.15 | 93.0 | F | E9122 | 4N994 | 4196.00 | 2773.00 | 710.0 |
| | 1175 | 326T | CW/CCW | 575 | 29.0 | 1.15 | 93.0 | F | E9834 | 5N013 | 4196.00 | 2773.00 | 680.0 |
| | 890 | 364T | CW/CCW | 460 | 39.2 | 1.15 | 93.6 | F | E9767 | 4N901 | 6763.00 | 4471.00 | 892.0 |

(†) Usable on 200V at 1.0 service factor. (✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## GE 3-PHASE PREMIUM EFFICIENCY SEVERE DUTY MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **40** | 3565 | 324TS | CW/CCW | 230/460 | 87.4/43.7 | 1.15 | 93.0 | F | E9162 | ✓**4N918** | $3303.00 | **$2183.00** | 685.0 |
| | 3565 | 324T | CW/CCW | 460 | 43.7 | 1.15 | 93.0 | F | E9820 | ✓**4N928** | 3303.00 | **2183.00** | 660.0 |
| | 3565 | 324TS | CW/CCW | 460 | 43.7 | 1.15 | 93.0 | F | E996 | ✓**4N945** | 3303.00 | **2183.00** | 660.0 |
| | 3565 | 324TS | CW/CCW | 575 | 35.0 | 1.15 | 93.0 | F | E9829 | ✓**4N931** | 3303.00 | **2183.00** | 685.0 |
| | 1780 | 324T | CW/CCW | 230/460 | 91.0/45.5 | 1.15 | 94.1 | F | E9163 | ✓**4N954** | 3174.00 | **2098.00** | 675.0 |
| | 1780 | 324T | CW/CCW | 460 | 45.5 | 1.15 | 94.1 | F | E9915 | ✓**4N972** | 3174.00 | **2098.00** | 690.0 |
| | 1780 | 324TS | CW/CCW | 460 | 45.5 | 1.15 | 94.1 | F | E9916 | ✓**4N973** | 3269.00 | **2160.00** | 692.0 |
| | 1780 | 324T | CW/CCW | 575 | 36.4 | 1.15 | 94.1 | F | E9768 | ✓**4N962** | 3174.00 | **2098.00** | 695.0 |
| | 1185 | 364T | CW/CCW | 460 | 46.5 | 1.15 | 94.1 | F | E9124 | ✓**4N995** | 5620.00 | **3715.00** | 927.0 |
| | 1185 | 364T | CW/CCW | 575 | 37.2 | 1.15 | 94.1 | F | E9835 | ✓**5N014** | 5620.00 | **3715.00** | 925.0 |
| | 890 | 365T | CW/CCW | 460 | 53.3 | 1.15 | 93.0 | F | E9770 | ✓**4N902** | 8034.00 | **5312.00** | 914.0 |
| | 890 | 365T | CW/CCW | 575 | 42.6 | 1.15 | 93.0 | F | E9534 | ✓**5N671** | 8034.00 | **5312.00** | 925.0 |
| **50** | 3555 | 326TS | CW/CCW | 230/460 | 109.4/54.7 | 1.15 | 93.0 | F | E9164 | ✓**4N919** | 4193.00 | **2772.00** | 664.0 |
| | 3555 | 326T | CW/CCW | 460 | 54.7 | 1.15 | 93.0 | F | E9823 | ✓**4N929** | 4193.00 | **2772.00** | 665.0 |
| | 3556 | 326TS | CW/CCW | 460 | 54.7 | 1.15 | 93.0 | F | E997 | ✓**4N946** | 4193.00 | **2772.00** | 655.0 |
| | 3555 | 326TS | CW/CCW | 575 | 46.3 | 1.15 | 94.5 | F | E9839 | ✓**3VG12** | 4995.00 | **3204.00** | 680.0 |
| | 1780 | 326T | CW/CCW | 230/460 | 115.0/57.5 | 1.15 | 94.1 | F | E9165 | ✓**4N955** | 3898.00 | **2577.00** | 710.0 |
| | 1775 | 326T | CW/CCW | 460 | 57.5 | 1.15 | 94.1 | F | E9917 | ✓**4N974** | 3898.00 | **2577.00** | 686.0 |
| | 1775 | 326TS | CW/CCW | 460 | 57.5 | 1.15 | 94.1 | F | E9918 | ✓**4N975** | 4015.00 | **2655.00** | 697.0 |
| | 1775 | 326T | CW/CCW | 575 | 46.0 | 1.15 | 94.1 | F | E9765 | ✓**4N961** | 3898.00 | **2577.00** | 710.0 |
| | 1185 | 365T | CW/CCW | 460 | 58.5 | 1.15 | 93.6 | F | E9126 | ✓**4N996** | 6407.00 | **4236.00** | 990.0 |
| | 1185 | 365T | CW/CCW | 575 | 46.8 | 1.15 | 93.6 | F | E9775 | ✓**5N015** | 6407.00 | **4236.00** | 960.0 |
| | 890 | 404T | CW/CCW | 460 | 59.6 | 1.15 | 93.6 | F | E9773 | ✓**4N903** | 9664.00 | **6389.00** | 1342.0 |
| | 890 | 404T | CW/CCW | 575 | 47.6 | 1.15 | 93.6 | F | E9535 | ✓**5N672** | 9664.00 | **6391.00** | 980.0 |
| **60** | 3565 | 364TS | CW/CCW | 460 | 65.2 | 1.15 | 94.1 | F | E998 | ✓**4N947** | 5682.00 | **3756.00** | 950.0 |
| | 3565 | 364TS | CW/CCW | 575 | 54.1 | 1.15 | 95.0 | F | E9847 | ✓**3VG13** | 6768.00 | **4345.00** | 950.0 |
| | 1785 | 364T | CW/CCW | 460 | 68.7 | 1.15 | 95.0 | F | E9919 | ✓**4N976** | 5428.00 | **3587.00** | 954.0 |
| | 1785 | 364TS | CW/CCW | 460 | 68.7 | 1.15 | 95.0 | F | E9921 | ✓**4N977** | 5592.00 | **3696.00** | 965.0 |
| | 1785 | 364T | CW/CCW | 575 | 55.0 | 1.15 | 95.0 | F | E9776 | ✓**4N963** | 5428.00 | **3587.00** | 1000.0 |
| | 1190 | 404T | CW/CCW | 460 | 68.8 | 1.15 | 94.5 | F | E9128 | ✓**4N997** | 7562.00 | **4997.00** | 1285.0 |
| | 1190 | 404T | CW/CCW | 575 | 55.7 | 1.15 | 94.5 | F | E9837 | ✓**5N674** | 7562.00 | **4999.00** | 980.0 |
| | 885 | 405T | CW/CCW | 460 | 71.8 | 1.15 | 93.6 | F | E9778 | ✓**4N904** | 11169.00 | **7385.00** | 1389.0 |
| | 885 | 405T | CW/CCW | 575 | 57.5 | 1.15 | 93.6 | F | E9536 | ✓**5N673** | 11169.00 | **7383.00** | 1600.0 |
| **75** | 3565 | 365TS | CW/CCW | 460 | 81.1 | 1.15 | 94.5 | F | E999 | ✓**4N948** | 7083.00 | **4682.00** | 990.0 |
| | 3565 | 365TS | CW/CCW | 575 | 64.9 | 1.15 | 94.5 | F | E9830 | ✓**4N932** | 7083.00 | **4682.00** | 1025.0 |
| | 1785 | 365T | CW/CCW | 460 | 86.9 | 1.15 | 95.0 | F | E9922 | ✓**4N978** | 6793.00 | **4490.00** | 1010.0 |
| | 1785 | 365TS | CW/CCW | 460 | 86.9 | 1.15 | 95.0 | F | E9923 | ✓**4N979** | 6996.00 | **4625.00** | 964.0 |
| | 1785 | 365T | CW/CCW | 575 | 69.5 | 1.15 | 95.0 | F | E9781 | ✓**4N965** | 6793.00 | **4490.00** | 1025.0 |
| | 1190 | 405T | CW/CCW | 460 | 85.9 | 1.15 | 95.0 | F | E9131 | ✓**4N998** | 9029.00 | **5967.00** | 1420.0 |
| | 1190 | 405T | CW/CCW | 575 | 68.7 | 1.15 | 95.0 | F | E9868 | ✓**5N675** | 9029.00 | **5966.00** | 1600.0 |
| | 885 | 444T | CW/CCW | 460 | 90.0 | 1.15 | 94.1 | F | E9780 | ✓**4N905** | 14875.00 | **9834.00** | 1856.0 |
| | 885 | 444T | CW/CCW | 575 | 72.0 | 1.15 | 94.1 | F | E9537 | ✓**5N676** | 14875.00 | **9834.00** | 1750.0 |
| **100** | 3570 | 405TS | CW/CCW | 460 | 109.0 | 1.15 | 93.6 | F | E9510 | ✓**4N920** | 9492.00 | **6274.00** | 1389.0 |
| | 3565 | 405TS | CW/CCW | 575 | 87.4 | 1.15 | 93.6 | F | E9831 | ✓**4N933** | 9492.00 | **6273.00** | 1600.0 |
| | 1790 | 405T | CW/CCW | 460 | 113.0 | 1.15 | 95.0 | F | E9924 | ✓**4N980** | 8759.00 | **5788.00** | 1455.0 |
| | 1790 | 405TS | CW/CCW | 460 | 113.0 | 1.15 | 95.0 | F | E9925 | ✓**4N981** | 9021.00 | **5962.00** | 1435.0 |
| | 1790 | 405T | CW/CCW | 575 | 91.6 | 1.15 | 95.0 | F | E9779 | ✓**4N964** | 8759.00 | **5787.00** | 1600.0 |
| | 1190 | 444T | CW/CCW | 460 | 113.0 | 1.15 | 95.0 | F | E9133 | ✓**4N999** | 12081.00 | **7984.00** | 1854.0 |
| | 1190 | 444T | CW/CCW | 575 | 90.6 | 1.15 | 95.0 | F | E9846 | ✓**5N677** | 12081.00 | **7985.00** | 1748.0 |
| | 885 | 445T | CW/CCW | 460 | 121.0 | 1.15 | 94.1 | F | E9782 | ✓**4N906** | 18711.00 | **12373.00** | 1846.0 |
| **125** | 3575 | 444TS | CCW | 460 | 135.0 | 1.15 | 94.5 | F | E9511 | ✓**4N921** | 12407.00 | **8201.00** | 1766.0 |
| | 3575 | 444TS | CW/CCW | 575 | 108.0 | 1.15 | 94.5 | F | E9538 | ✓**5N678** | 12407.00 | **8201.00** | 1750.0 |
| | 1785 | 444T | CW/CCW | 460 | 135.0 | 1.15 | 95.4 | F | E9926 | ✓**4N982** | 11530.00 | **7620.00** | 1746.0 |
| | 1785 | 444TS | CW/CCW | 460 | 135.0 | 1.15 | 95.4 | F | E9927 | ✓**4N983** | 11876.00 | **7850.00** | 1698.0 |
| | 1785 | 444T | CW/CCW | 575 | 108.0 | 1.15 | 95.4 | F | E9832 | ✓**5N679** | 11530.00 | **7620.00** | 1750.0 |
| | 1190 | 445T | CW/CCW | 460 | 141.0 | 1.15 | 95.0 | F | E9135 | ✓**5N001** | 14448.00 | **9551.00** | 2000.0 |
| | 1190 | 445T | CW/CCW | 575 | 113.0 | 1.15 | 95.0 | F | E9870 | ✓**3VG15** | 17211.00 | **10993.00** | 2050.0 |
| | 885 | 449T | CW/CCW | 460 | 148.0 | 1.15 | 94.5 | F | E9784 | ✓**4N907** | 21708.00 | **14350.00** | 2650.0 |
| **150** | 3575 | 445TS | CCW | 460 | 162.0 | 1.0 | 94.5 | F | E9512 | ✓**4N922** | 14978.00 | **9901.00** | 2000.0 |
| | 3575 | 445TS | CW/CCW | 460 | 164.0 | 1.15 | 93.0 | F | E9844 | ✓**4N939** | 14978.00 | **9612.00** | 2000.0 |
| | 1790 | 445T | CW/CCW | 460 | 168.0 | 1.15 | 95.8 | F | E9928 | ✓**4N984** | 13108.00 | **8664.00** | 2000.0 |
| | 1790 | 445TS | CW/CCW | 460 | 168.0 | 1.15 | 95.8 | F | E9929 | ✓**4N985** | 13503.00 | **8924.00** | 2000.0 |
| | 1790 | 445T | CW/CCW | 575 | 134.0 | 1.15 | 95.8 | F | E9854 | ✓**5N680** | 13108.00 | **8664.00** | 2000.0 |
| | 1190 | 449T | CW/CCW | 460 | 168.0 | 1.15 | 95.8 | F | E9137 | ✓**5N002** | 16601.00 | **10971.00** | 2566.0 |
| | 1190 | 449T | CW/CCW | 575 | 134.0 | 1.15 | 95.8 | F | E9869 | ✓**5N681** | 16601.00 | **10970.00** | 2650.0 |
| | 885 | 449T | CW/CCW | 460 | 178.0 | 1.15 | 94.5 | F | E9785 | ✓**4N908** | 24527.00 | **16217.00** | 2536.0 |
| **200** | 1190 | 449LL | CW/CCW | 460 | 226.0 | 1.15 | 95.4 | F | E9141 | ✓**3VF93** | 23573.00 | **15053.00** | 2790.0 |
| | 1190 | 449T | CW/CCW | 460 | 226.0 | 1.15 | 95.4 | F | E9139 | ✓**5N003** | 19788.00 | **13079.00** | 2650.0 |
| | 1190 | 449T | CW/CCW | 575 | 179.0 | 1.15 | 95.4 | F | E9845 | ✓**5N682** | 19788.00 | **13079.00** | 2650.0 |
| **250** | 3575 | 449TS | CW/CCW | 460 | 273.0 | 1.0 | 95.4 | F | E9514 | ✓**4N924** | 23838.00 | **15762.00** | 2428.0 |
| | 1785 | 449T | CW/CCW | 460 | 275.0 | 1.15 | 96.2 | F | E9933 | ✓**4N987** | 19448.00 | **12855.00** | 2650.0 |
| | 1785 | 449T | CW/CCW | 575 | 226.0 | 1.15 | 96.2 | F | E9851 | ✓**3VG14** | 23168.00 | **14803.00** | 2800.0 |

(✓) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

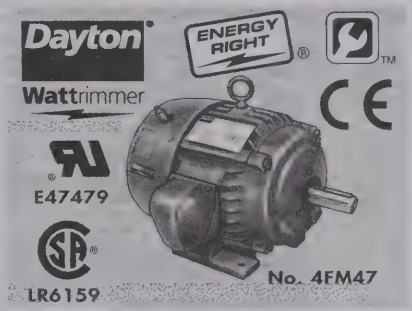
Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.

# 3-PHASE PREMIUM EFFICIENCY IEEE 841 MOTORS



- "Inverter Grade" insulation fully complies with NEMA MG1 Part 31 specifications
- 10:1 variable torque; 5:1 constant torque speed range
- Meet all IEEE-841-1994 specifications
- Cast-iron construction
- Precision balanced rotors—<.08 in./sec. vibration
- "VBX" INPRO/SEAL on the drive end provides superior protection against contaminants
- All bearings are re-greasable
- Five-year warranty
- These motors meet or exceed the EPACT 92 legislated efficiency levels, see page 6 for details

**Typical Uses:** Designed for applications in petro-chemical, pulp and paper, mining, processing, and waste treatment industries.
**Mounting:** Bolted base on 140 frame; cast feet on 180 frame and above
**Enclosure:** TEFC
**Ambient:** 40°C at 1.15 SF; 65°C at 1.0 SF
**Thermal Protection:** None
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Bearings | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1740 | 143T | 460 | 1.5 | 1.15 | 86.5 | Ball | F | ✓4FM20 | $434.00 | **$325.00** | 65.0 |
| | 1740 | 143T | 575 | 1.2 | 1.15 | 86.5 | Ball | F | ✓4FM88 | 434.00 | **325.00** | 65.0 |
| | 1150 | 145T | 460 | 2.0 | 1.15 | 82.5 | Ball | F | ✓4FM21 | 539.00 | **402.50** | 70.0 |
| | 1150 | 145T | 575 | 1.6 | 1.15 | 82.5 | Ball | F | ✓4FM89 | 539.00 | **402.50** | 70.0 |
| 1½ | 3500 | 143T | 460 | 2.0 | 1.15 | 84.0 | Ball | F | ✓4FM22 | 464.00 | **347.25** | 65.0 |
| | 3500 | 143T | 575 | 1.6 | 1.15 | 84.0 | Ball | F | ✓4FM90 | 464.00 | **347.25** | 65.0 |
| | 1740 | 145T | 460 | 2.3 | 1.15 | 86.5 | Ball | F | ✓4FM23 | 482.00 | **360.75** | 70.0 |
| | 1740 | 145T | 575 | 1.8 | 1.15 | 86.5 | Ball | F | ✓4FM91 | 482.00 | **360.75** | 70.0 |
| | 1170 | 182T | 460 | 2.5 | 1.15 | 86.5 | Ball | F | ✓4FM24 | 608.00 | **456.25** | 100.0 |
| | 1170 | 182T | 575 | 2.0 | 1.15 | 86.5 | Ball | F | ✓4FM92 | 608.00 | **456.25** | 100.0 |
| 2 | 3490 | 145T | 460 | 2.6 | 1.15 | 86.5 | Ball | F | ✓4FM25 | 556.00 | **415.00** | 70.0 |
| | 3495 | 145T | 575 | 2.1 | 1.15 | 86.5 | Ball | F | ✓4FM93 | 556.00 | **415.00** | 70.0 |
| | 1730 | 145T | 460 | 2.9 | 1.15 | 86.5 | Ball | F | ✓4FM26 | 530.00 | **396.00** | 70.0 |
| | 1730 | 145T | 575 | 2.3 | 1.15 | 86.5 | Ball | F | ✓4FM94 | 530.00 | **396.00** | 70.0 |
| | 1170 | 184T | 460 | 3.3 | 1.15 | 87.5 | Ball | F | ✓4FM27 | 679.00 | **509.50** | 110.0 |
| | 1170 | 184T | 575 | 2.6 | 1.15 | 87.5 | Ball | F | ✓4FM95 | 679.00 | **509.50** | 110.0 |
| 3 | 3530 | 182T | 460 | 4.0 | 1.15 | 88.5 | Ball | F | ✓4FM28 | 626.00 | **469.25** | 100.0 |
| | 3530 | 182T | 575 | 3.2 | 1.15 | 88.5 | Ball | F | ✓4FM96 | 626.00 | **469.25** | 100.0 |
| | 1760 | 182T | 460 | 4.1 | 1.15 | 89.5 | Ball | F | ✓4FM29 | 588.00 | **441.50** | 100.0 |
| | 1760 | 182T | 575 | 3.3 | 1.15 | 89.5 | Ball | F | ✓4FM97 | 588.00 | **441.50** | 100.0 |
| | 1175 | 213T | 460 | 4.7 | 1.15 | 89.5 | Ball | F | ✓4FM30 | 829.00 | **624.50** | 160.0 |
| | 1175 | 213T | 575 | 3.6 | 1.15 | 89.5 | Ball | F | ✓4FM98 | 829.00 | **624.50** | 160.0 |
| 5 | 3515 | 184T | 460 | 6.3 | 1.15 | 89.5 | Ball | F | ✓4FM31 | 775.00 | **580.00** | 110.0 |
| | 3515 | 184T | 575 | 5.0 | 1.15 | 89.5 | Ball | F | ✓4FM99 | 775.00 | **580.00** | 110.0 |
| | 1750 | 184T | 460 | 6.5 | 1.15 | 90.2 | Ball | F | ✓4FM32 | 688.00 | **516.50** | 110.0 |
| | 1755 | 184T | 575 | 5.2 | 1.15 | 90.2 | Ball | F | ✓4FN01 | 688.00 | **516.50** | 110.0 |
| | 1165 | 215T | 460 | 7.5 | 1.15 | 90.2 | Ball | F | ✓4FM33 | 1168.00 | **875.00** | 175.0 |
| | 1170 | 215T | 575 | 5.7 | 1.15 | 90.2 | Ball | F | ✓4FN02 | 1168.00 | **875.00** | 175.0 |
| 7½ | 3495 | 213T | 460 | 9.2 | 1.15 | 89.5 | Ball | F | ✓4FM34 | 937.00 | **704.00** | 160.0 |
| | 3495 | 213T | 575 | 7.6 | 1.15 | 89.5 | Ball | F | ✓4FN03 | 937.00 | **704.00** | 160.0 |
| | 1760 | 213T | 460 | 9.5 | 1.15 | 91.7 | Ball | F | ✓4FM35 | 931.00 | **699.50** | 160.0 |
| | 1760 | 213T | 575 | 7.5 | 1.15 | 91.7 | Ball | F | ✓4FN04 | 931.00 | **699.50** | 160.0 |
| | 1175 | 254T | 460 | 9.8 | 1.15 | 91.0 | Ball | F | ✓4FM36 | 1552.00 | **1169.00** | 300.0 |
| | 1170 | 254T | 575 | 7.6 | 1.15 | 91.0 | Ball | F | ✓4FN05 | 1552.00 | **1169.00** | 300.0 |
| 10 | 3510 | 215T | 460 | 12.3 | 1.15 | 91.7 | Ball | F | ✓4FM37 | 1096.00 | **822.00** | 175.0 |
| | 3510 | 215T | 575 | 9.6 | 1.15 | 91.7 | Ball | F | ✓4FN06 | 1096.00 | **822.00** | 175.0 |
| | 1755 | 215T | 460 | 12.4 | 1.15 | 91.7 | Ball | F | ✓4FM38 | 1122.00 | **841.00** | 175.0 |
| | 1755 | 215T | 575 | 9.8 | 1.15 | 91.7 | Ball | F | ✓4FN07 | 1122.00 | **841.00** | 175.0 |
| | 1170 | 254T | 460 | 12.7 | 1.15 | 91.0 | Ball | F | ✓4FM39 | 1896.00 | **1425.00** | 340.0 |
| | 1170 | 254T | 575 | 9.9 | 1.15 | 91.0 | Ball | F | ✓4FN08 | 1896.00 | **1425.00** | 340.0 |
| 15 | 3530 | 254T | 460 | 17.8 | 1.15 | 90.2 | Ball | F | ✓4FM40 | 1505.00 | **1135.00** | 300.0 |
| | 3530 | 254T | 575 | 14.6 | 1.15 | 90.2 | Ball | F | ✓4FN09 | 1505.00 | **1135.00** | 300.0 |
| | 1770 | 254T | 460 | 19.0 | 1.15 | 93.0 | Ball | F | ✓4FM41 | 1478.00 | **1115.00** | 300.0 |
| | 1770 | 254T | 575 | 14.9 | 1.15 | 93.0 | Ball | F | ✓4FN10 | 1478.00 | **1115.00** | 300.0 |
| | 1175 | 284T | 460 | 19.3 | 1.15 | 91.7 | Ball | F | ✓4FM42 | 2515.00 | **1883.00** | 380.0 |
| | 1180 | 284T | 575 | 15.4 | 1.15 | 91.7 | Ball | F | ✓4FN11 | 2515.00 | **1883.00** | 380.0 |
| 20 | 3525 | 256T | 460 | 23.6 | 1.15 | 90.2 | Ball | F | ✓4FM43 | 1864.00 | **1403.00** | 350.0 |
| | 3520 | 256T | 575 | 19.1 | 1.15 | 90.2 | Ball | F | ✓4FN12 | 1864.00 | **1403.00** | 350.0 |
| | 1770 | 256T | 460 | 24.5 | 1.15 | 93.0 | Ball | F | ✓4FM44 | 1842.00 | **1389.00** | 360.0 |
| | 1770 | 256T | 575 | 19.6 | 1.15 | 93.0 | Ball | F | ✓4FN13 | 1842.00 | **1389.00** | 360.0 |
| | 1175 | 286T | 460 | 25.3 | 1.15 | 91.0 | Ball | F | ✓4FM45 | 3065.00 | **2290.00** | 410.0 |
| | 1175 | 286T | 575 | 20.2 | 1.15 | 91.0 | Ball | F | ✓4FN14 | 3065.00 | **2290.00** | 410.0 |
| 25 | 3550 | 284TS | 460 | 29.3 | 1.15 | 91.7 | Ball | F | ✓4FM46 | 2297.00 | **1721.00** | 350.0 |
| | 3550 | 284TS | 575 | 24.2 | 1.15 | 91.7 | Ball | F | ✓4FN15 | 2297.00 | **1721.00** | 350.0 |
| | 1775 | 284T | 460 | 30.2 | 1.15 | 93.6 | Ball | F | ✓4FM47 | 2194.00 | **1650.00** | 390.0 |
| | 1770 | 284T | 575 | 24.1 | 1.15 | 93.6 | Ball | F | ✓4FN16 | 2194.00 | **1650.00** | 390.0 |
| | 1180 | 324T | 460 | 30.2 | 1.15 | 93.0 | Ball | F | ✓4FM48 | 3715.00 | **2786.00** | 600.0 |
| | 1180 | 324T | 575 | 24.5 | 1.15 | 93.0 | Ball | F | ✓4FN17 | 3715.00 | **2786.00** | 600.0 |

(✓) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

**CAUTION: Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## DAYTON 3-PHASE PREMIUM EFFICIENCY IEEE 841 MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Bearings | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 3550 | 286TS | 460 | 34.8 | 1.15 | 92.4 | Ball | F | 4FM49 | $2682.00 | $2008.00 | 400.0 |
| | 3550 | 286TS | 575 | 28.2 | 1.15 | 92.4 | Ball | F | 4FN18 | 2682.00 | 2008.00 | 400.0 |
| | 1775 | 286T | 460 | 35.5 | 1.15 | 94.1 | Ball | F | 4FM50 | 2550.00 | 1915.00 | 440.0 |
| | 1770 | 286T | 575 | 28.4 | 1.15 | 94.1 | Ball | F | 4FN19 | 2550.00 | 1915.00 | 440.0 |
| | 1180 | 326T | 460 | 35.7 | 1.15 | 93.6 | Ball | F | 4FM51 | 4279.00 | 3207.00 | 675.0 |
| | 1180 | 326T | 575 | 28.8 | 1.15 | 93.6 | Ball | F | 4FN20 | 4279.00 | 3207.00 | 675.0 |
| 40 | 3550 | 324TS | 460 | 46.0 | 1.15 | 92.4 | Ball | F | 4FM52 | 3538.00 | 2652.00 | 560.0 |
| | 3550 | 324TS | 575 | 37.6 | 1.15 | 92.4 | Ball | F | 4FN21 | 3538.00 | 2652.00 | 560.0 |
| | 1775 | 324T | 460 | 47.5 | 1.15 | 94.1 | Ball | F | 4FM53 | 3388.00 | 2546.00 | 600.0 |
| | 1775 | 324T | 575 | 38.0 | 1.15 | 94.1 | Ball | F | 4FN22 | 3388.00 | 2546.00 | 600.0 |
| | 1185 | 364T | 460 | 48.0 | 1.15 | 94.5 | Ball | F | 4FM54 | 5800.00 | 4343.00 | 875.0 |
| | 1185 | 364T | 575 | 38.0 | 1.15 | 94.5 | Ball | F | 4FN23 | 5800.00 | 4343.00 | 875.0 |
| 50 | 3545 | 326TS | 460 | 57.7 | 1.15 | 93.0 | Ball | F | 4FM55 | 4577.00 | 3421.00 | 625.0 |
| | 3540 | 326TS | 575 | 46.0 | 1.15 | 93.0 | Ball | F | 4FN24 | 4577.00 | 3421.00 | 625.0 |
| | 1775 | 326T | 460 | 57.5 | 1.15 | 94.1 | Ball | F | 4FM56 | 4160.00 | 3114.00 | 610.0 |
| | 1770 | 326T | 575 | 46.0 | 1.15 | 94.1 | Ball | F | 4FN25 | 4160.00 | 3114.00 | 610.0 |
| | 1185 | 365T | 460 | 60.0 | 1.15 | 94.5 | Ball | F | 4FM57 | 6659.00 | 4975.00 | 900.0 |
| | 1185 | 365T | 575 | 48.0 | 1.15 | 94.5 | Ball | F | 4FN26 | 6659.00 | 4975.00 | 900.0 |
| 60 | 3560 | 364TS | 460 | 68.0 | 1.15 | 93.0 | Ball | F | 4FM58 | 6020.00 | 4492.00 | 750.0 |
| | 3560 | 364TS | 575 | 55.0 | 1.15 | 93.0 | Ball | F | 4FN27 | 6020.00 | 4492.00 | 750.0 |
| | 1780 | 364T | 460 | 70.0 | 1.15 | 94.5 | Ball | F | 4FM59 | 5969.00 | 4462.00 | 825.0 |
| | 1780 | 364T | 575 | 56.0 | 1.15 | 94.5 | Ball | F | 4FN28 | 5969.00 | 4462.00 | 825.0 |
| | 1780 | 364TS | 460 | 70.0 | 1.15 | 94.5 | Ball | F | 4FM60 | 5969.00 | 4460.00 | 810.0 |
| | 1780 | 364TS | 575 | 56.0 | 1.15 | 94.5 | Ball | F | 4FN29 | 5969.00 | 4460.00 | 810.0 |
| | 1185 | 404T | 460 | 72.5 | 1.15 | 94.5 | Ball | F | 4FM61 | 7802.00 | 5840.00 | 1160.0 |
| | 1185 | 404T | 575 | 58.0 | 1.15 | 94.5 | Ball | F | 4FN30 | 7802.00 | 5840.00 | 1160.0 |
| 75 | 3550 | 365TS | 460 | 84.0 | 1.15 | 93.6 | Ball | F | 4FM62 | 7560.00 | 5629.00 | 830.0 |
| | 3550 | 365TS | 575 | 69.0 | 1.15 | 93.6 | Ball | F | 4FN31 | 7560.00 | 5629.00 | 830.0 |
| | 1780 | 365T | 460 | 86.0 | 1.15 | 95.4 | Ball | F | 4FM63 | 7566.00 | 5641.00 | 910.0 |
| | 1780 | 365T | 575 | 69.0 | 1.15 | 95.4 | Ball | F | 4FN32 | 7566.00 | 5641.00 | 910.0 |
| | 1780 | 365TS | 460 | 86.0 | 1.15 | 95.4 | Ball | F | 4FM64 | 7566.00 | 5640.00 | 900.0 |
| | 1780 | 365TS | 575 | 69.0 | 1.15 | 95.4 | Ball | F | 4FN33 | 7566.00 | 5640.00 | 900.0 |
| | 1185 | 405T | 460 | 90.0 | 1.15 | 95.0 | Ball | F | 4FM65 | 9186.00 | 6869.00 | 1300.0 |
| | 1185 | 405T | 575 | 72.0 | 1.15 | 95.0 | Ball | F | 4FN34 | 9186.00 | 6869.00 | 1300.0 |
| 100 | 3560 | 405TS | 460 | 113.0 | 1.15 | 93.6 | Ball | F | 4FM66 | 10130.00 | 7547.00 | 1160.0 |
| | 3560 | 405TS | 575 | 89.0 | 1.15 | 93.6 | Ball | F | 4FN35 | 10130.00 | 7547.00 | 1160.0 |
| | 1780 | 405T | 460 | 116.0 | 1.15 | 95.4 | Roller | F | 4FM67 | 9348.00 | 6982.00 | 1250.0 |
| | 1780 | 405T | 575 | 93.0 | 1.15 | 95.4 | Roller | F | 4FN36 | 9348.00 | 6982.00 | 1250.0 |
| | 1780 | 405T | 460 | 116.0 | 1.15 | 95.4 | Ball | F | 4FM68 | 9348.00 | 6982.00 | 1250.0 |
| | 1780 | 405T | 575 | 93.0 | 1.15 | 95.4 | Ball | F | 4FN37 | 9348.00 | 6982.00 | 1250.0 |
| | 1780 | 405TS | 460 | 116.0 | 1.15 | 95.4 | Ball | F | 4FM69 | 9348.00 | 6977.00 | 1200.0 |
| | 1780 | 405TS | 575 | 93.0 | 1.15 | 95.4 | Ball | F | 4FN38 | 9348.00 | 6977.00 | 1200.0 |
| | 1185 | 444T | 460 | 121.0 | 1.15 | 95.4 | Ball | F | 4FM70 | 12554.00 | 9375.00 | 1660.0 |
| | 1185 | 444T | 575 | 99.0 | 1.15 | 95.4 | Ball | F | 4FN39 | 12554.00 | 9375.00 | 1660.0 |
| | 1185 | 444T | 460 | 121.0 | 1.15 | 95.4 | Roller | F | 4FM71 | 12554.00 | 9375.00 | 1660.0 |
| | 1185 | 444T | 575 | 99.0 | 1.15 | 95.4 | Roller | F | 4FN40 | 12554.00 | 9375.00 | 1660.0 |
| 125 | 3565 | 444TS | 460 | 150.0 | 1.15 | 94.5 | Ball | F | 4FM72 | 13242.00 | 9873.00 | 1590.0 |
| | 3565 | 444TS | 575 | 120.0 | 1.15 | 94.5 | Ball | F | 4FN41 | 13242.00 | 9873.00 | 1590.0 |
| | 1775 | 444T | 460 | 144.0 | 1.15 | 95.4 | Roller | F | 4FM73 | 12306.00 | 9195.00 | 1675.0 |
| | 1780 | 444T | 575 | 119.0 | 1.15 | 95.4 | Roller | F | 4FN42 | 12306.00 | 9195.00 | 1675.0 |
| | 1775 | 444T | 460 | 144.0 | 1.15 | 95.4 | Ball | F | 4FM74 | 12306.00 | 9195.00 | 1675.0 |
| | 1780 | 444T | 575 | 119.0 | 1.15 | 95.4 | Ball | F | 4FN43 | 12306.00 | 9195.00 | 1675.0 |
| | 1775 | 444TS | 460 | 144.0 | 1.15 | 95.4 | Ball | F | 4FM75 | 12306.00 | 9197.00 | 1690.0 |
| | 1780 | 444TS | 575 | 119.0 | 1.15 | 95.4 | Ball | F | 4FN44 | 12306.00 | 9197.00 | 1690.0 |
| | 1185 | 445T | 460 | 150.0 | 1.15 | 95.8 | Ball | F | 4FM76 | 15420.00 | 11486.00 | 1750.0 |
| | 1185 | 445T | 575 | 123.0 | 1.15 | 95.8 | Ball | F | 4FN45 | 15420.00 | 11486.00 | 1750.0 |
| | 1185 | 445T | 460 | 150.0 | 1.15 | 95.8 | Roller | F | 4FM77 | 15420.00 | 11486.00 | 1750.0 |
| | 1185 | 445T | 575 | 123.0 | 1.15 | 95.8 | Roller | F | 4FN46 | 15420.00 | 11486.00 | 1750.0 |
| 150 | 3565 | 445TS | 460 | 173.0 | 1.15 | 94.5 | Ball | F | 4FM78 | 15908.00 | 11834.00 | 1650.0 |
| | 3565 | 445TS | 575 | 138.0 | 1.15 | 94.5 | Ball | F | 4FN47 | 15908.00 | 11834.00 | 1650.0 |
| | 1780 | 445T | 460 | 170.0 | 1.15 | 95.8 | Roller | F | 4FM79 | 14306.00 | 10672.00 | 1780.0 |
| | 1780 | 445T | 575 | 140.0 | 1.15 | 95.8 | Roller | F | 4FN48 | 14306.00 | 10672.00 | 1780.0 |
| | 1780 | 445T | 460 | 170.0 | 1.15 | 95.8 | Ball | F | 4FM80 | 14306.00 | 10672.00 | 1780.0 |
| | 1780 | 445T | 575 | 140.0 | 1.15 | 95.8 | Ball | F | 4FN49 | 14306.00 | 10672.00 | 1780.0 |
| | 1780 | 445TS | 460 | 170.0 | 1.15 | 95.8 | Ball | F | 4FM81 | 14306.00 | 10668.00 | 1730.0 |
| | 1780 | 445TS | 575 | 140.0 | 1.15 | 95.8 | Ball | F | 4FN50 | 14306.00 | 10668.00 | 1730.0 |
| | 1185 | 447T | 460 | 180.0 | 1.15 | 96.2 | Ball | F | 4FM82 | 17252.00 | 12865.00 | 2100.0 |
| | 1185 | 447T | 575 | 148.0 | 1.15 | 96.2 | Ball | F | 4FN51 | 17252.00 | 12865.00 | 2100.0 |
| | 1185 | 447T | 460 | 180.0 | 1.15 | 96.2 | Roller | F | 4FM83 | 17252.00 | 12865.00 | 2100.0 |
| | 1185 | 447T | 575 | 148.0 | 1.15 | 96.2 | Roller | F | 4FN52 | 17252.00 | 12865.00 | 2100.0 |
| 200 | 3555 | 447TS | 460 | 226.0 | 1.15 | 95.0 | Ball | F | 4FM84 | 20124.00 | 14956.00 | 1950.0 |
| | 3555 | 447TS | 575 | 181.0 | 1.15 | 95.0 | Ball | F | 4FN53 | 20124.00 | 14956.00 | 1950.0 |
| | 1780 | 447T | 460 | 224.0 | 1.15 | 96.2 | Roller | F | 4FM85 | 17401.00 | 12976.00 | 2120.0 |
| | 1780 | 447T | 575 | 186.0 | 1.15 | 96.2 | Roller | F | 4FN54 | 17401.00 | 12976.00 | 2120.0 |
| | 1780 | 447T | 460 | 224.0 | 1.15 | 96.2 | Ball | F | 4FM86 | 17401.00 | 12976.00 | 2120.0 |
| | 1780 | 447T | 575 | 186.0 | 1.15 | 96.2 | Ball | F | 4FN55 | 17401.00 | 12976.00 | 2120.0 |
| | 1780 | 447TS | 460 | 224.0 | 1.15 | 96.2 | Ball | F | 4FM87 | 17401.00 | 12971.00 | 2070.0 |
| | 1780 | 447TS | 575 | 186.0 | 1.15 | 96.2 | Ball | F | 4FN56 | 17401.00 | 12971.00 | 2070.0 |

(✓) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.

# 3-PHASE INVERTER-DUTY OPEN DRIPPROOF AND TEFC MOTORS

- Inverter-grade insulation systems provide dielectric strength to withstand waveform stress
- High performance matches speed/torque requirements for increased system flexibility
- Incorporates premium efficiency designs
- Meets NEMA MG1 Part 31 inverter-duty use at 10:1 variable torque and 5:1 constant torque speed range
- 100% copper windings
- Two-year warranty

**Typical Uses:** Used in adjustable speed applications found in pumps and other air moving devices.

**Bearings:** Double-shielded ball, regreasable on 250 frame and larger

**Mounting:** Rolled steel frames have rigid welded mounting; cast-iron frames have cast feet

**Thermal Protection:** Thermostat

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

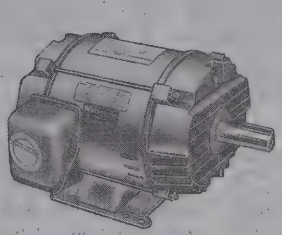
**Finish:** Gray

**Brand:** Dayton

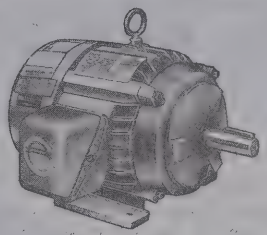
Dayton®

E47479

**The Energy Policy Act of 1992**
The motor products in this offering, frame sizes 143T through 449T, meet/exceed the EPACT 92 legislative efficiency levels.
For details of EPACT legislation, see page 6.



No. 5N788
184T Frame
Open Dripproof



No. 5N776
182T Frame
TEFC

Replacement Parts Available
1-800-323-0620™

Modification & Service Available
Contact Your Local Branch™

| HP | Nameplate RPM | Nema Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | RPM Range | Service Factor | Nema Nominal Efficiency | Frame* | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF** | | | | | | | | | | | | | |
| **1** | 1755 | 143T | 230/460 | 3.3/1.6 | 1800-180 | 1.15 | 84.0 | RS | F | **5N784** | $426.00 | **$369.25** | 40.0 |
| **1½** | 1745 | 145T | 230/460 | 4.6/2.3 | 1800-180 | 1.15 | 85.5 | RS | F | **5N785** | 445.00 | **386.00** | 34.0 |
| **2** | 1745 | 145T | 230/460 | 6.1/3.1 | 1800-180 | 1.15 | 86.5 | RS | F | **5N786** | 469.00 | **406.50** | 45.0 |
| **3** | 1750 | 182T | 230/460 | 8.6/4.3 | 1800-180 | 1.15 | 86.5 | RS | F | **5N787** | 488.00 | **423.25** | 50.0 |
| **5** | 1740 | 184T | 230/460 | 13.8/6.9 | 1800-180 | 1.15 | 87.5 | RS | F | **5N788** | 595.00 | **516.00** | 60.0 |
| **7½** | 1755 | 213T | 230/460 | 20.0/10.0 | 1800-180 | 1.15 | 90.7 | RS | F | **5N789** | 795.00 | **689.50** | 90.0 |
| **10** | 1755 | 215T | 230/460 | 26.4/13.2 | 1800-180 | 1.15 | 90.2 | RS | F | **5N790** | 907.00 | **786.00** | 100.0 |
| **15** | 1750 | 254T | 230/460 | 39.8/19.9 | 1800-180 | 1.15 | 90.2 | RS | F | **5N791** | 1160.00 | **1005.00** | 220.0 |
| **20** | 1760 | 256T | 230/460 | 51.0/25.5 | 1800-180 | 1.15 | 91.0 | RS | F | **5N792** | 1350.00 | **1170.00** | 230.0 |
| **25** | 1775 | 284T | 230/460 | 60.0/30.0 | 1800-180 | 1.15 | 93.6 | RS | F | **5N793** | 1586.00 | **1374.00** | 350.0 |
| **30** | 1775 | 286T | 230/460 | 72.0/36.0 | 1800-180 | 1.15 | 94.1 | RS | F | **5N794** | 1783.00 | **1545.00** | 350.0 |
| **TEFC** | | | | | | | | | | | | | |
| **1** | 1740 | 143T | 230/460 | 2.9/1.5 | 1800-180 | 1.15 | 85.5 | RS | F | **5N773** | 564.00 | **489.00** | 50.0 |
| **1½** | 1740 | 145T | 230/460 | 4.4/2.2 | 1800-180 | 1.15 | 85.5 | RS | F | **5N774** | 583.00 | **505.50** | 46.0 |
| **2** | 1730 | 145T | 230/460 | 5.8/2.9 | 1800-180 | 1.15 | 85.5 | RS | F | **5N775** | 605.00 | **524.50** | 50.0 |
| **3** | 1760 | 182T | 230/460 | 8.4/4.2 | 1800-180 | 1.15 | 87.5 | CI | F | **5N776** | 657.00 | **570.00** | 95.0 |
| **5** | 1745 | 184T | 230/460 | 13.2/6.6 | 1800-180 | 1.15 | 88.5 | CI | F | **5N777** | 719.00 | **623.50** | 100.0 |
| **7½** | 1760 | 213T | 230/460 | 19.2/9.6 | 1800-180 | 1.15 | 91.0 | CI | F | **5N778** | 848.00 | **735.00** | 110.0 |
| **10** | 1755 | 215T | 230/460 | 25.0/12.5 | 1800-180 | 1.15 | 91.0 | CI | F | **5N779** | 979.00 | **849.00** | 125.0 |
| **15** | 1770 | 254T | 230/460 | 38.6/19.3 | 1800-180 | 1.15 | 92.4 | CI | F | **5N780** | 1412.00 | **1224.00** | 230.0 |
| **20** | 1770 | 256T | 230/460 | 50.0/25.0 | 1800-180 | 1.15 | 93.0 | CI | F | **5N781** | 1581.00 | **1370.00** | 230.0 |
| **25** | 1770 | 284T | 230/460 | 63.0/31.5 | 1800-180 | 1.15 | 93.0 | CI | F | **5N782** | 1893.00 | **1641.00** | 290.0 |
| **30** | 1770 | 286T | 230/460 | 72.0/36.0 | 1800-180 | 1.15 | 93.6 | CI | F | **5N783** | 2188.00 | **1897.00** | 290.0 |

(*) RS = Rolled Steel construction; CI = Cast-Iron construction.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

AC DRIVES

# AC ADJUSTABLE FREQUENCY DRIVES

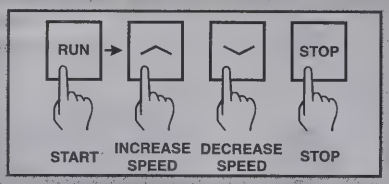
- High starting torque (up to 200%)
- UL Listed electronic motor overload
- Compact size
- Digital keypad (remote mountable)
- LED display
- Up to 16 preset speeds
- "S" curve accel/decel
- Torque limiting
- Easy return to factory settings
- 3-Wire START/STOP control
- Program protection (lock out)

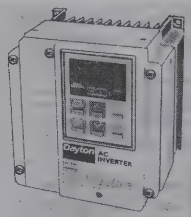
Dayton®

UL® E84642

CSA® 80755

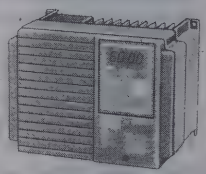
**SIMPLE OPERATION**



No. 4RF82

New



No. 3HX74

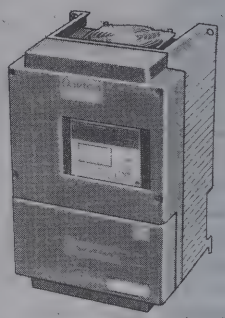
**Typical Uses:** Variable speed operation of three-phase motors on pumps, fans, blowers, conveyors, machine tools, and other industrial equipment. **NEMA 1 and NEMA 4 units are not for use in combustible areas. NEMA 1 units should not be used in dusty or wet environments.**

Advanced IGBT "torque vector" PWM control method optimizes motor torque at any frequency. This high performance feature is selectable via the motor auto tuning torque vector functions (except 2M530 thru 2M535).

LED digital display provides indication for running or reference frequency, output current, output voltage, motor synchronous or machine speed

Additional liquid crystal display on Nos. 2M530 thru 2M535 aids in programming, diagnostics, and monitoring.

**Output Volts:** Three-phase, output volts are same as voltage input; Hz adjustable with 60 Hz factory preset limit.



No. 2M530

**Enclosure:** NEMA 1 and NEMA 4

**Protection:**
Ground Fault Protection (inverter only)
Overcurrent
Overvoltage
Undervoltage
Instantaneous Power Failure
Inverter Heatsink Overheating
External Alarm
Short-circuit for Output Terminal
Motor Overload (electronic thermal or relay trip)

**Advanced Programming:**
Output Frequency
Volts/Hz
Torque Boost
Accel/Decel Time
Volt Limit
DC Braking
Auto Restart
Frequency Bias and Gain
Multi-frequency Settings
Digital and Analog Outputs
Slip Compensation
Current Limiting
Jump Frequency
Automatic Acceleration/Deceleration
Sensorless Torque Vector

## KEYPAD EXTENSION CABLES For All Dayton Units

| Cable Length | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| 2 Meters | 2G649 | $99.30 | 1.0 |
| 5 | 2G651 | 199.00 | 1.0 |
| 10 | 2G653 | 248.25 | 1.0 |

| Motor Output HP | Maximum Output Amps | Dimensions (In.) H | W | D | NEMA 1 Stock No. | List | Each | New! NEMA 4 Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **INPUT SINGLE-PHASE, 200-240 VOLTS AC, 60/50 Hz** | | | | | | | | | | | |
| 1/4 | 1.3 | 6⅛ | 4⅛ | 3⅛ | 3KV65 | $623.63 | $542.50 | 4RG40 | $740.00 | $733.50 | 2.8 |
| 1/2 | 2.5 | 6⅛ | 4⅛ | 4¼ | 3KV67 | 692.93 | 603.00 | 4RG42 | 805.00 | 798.00 | 4.4 |
| 1 | 4.0 | 6⅛ | 5½ | 4¼ | 3KV62 | 822.04 | 715.00 | 4RF78 | 925.00 | 917.00 | 4.7 |
| 2 | 7.0 | 6⅛ | 7⅛ | 5¼ | 3KV63 | 912.06 | 793.50 | 4RF81 | 1035.00 | 1026.00 | 6.9 |
| 3 | 10.0 | 6⅛ | 7⅛ | 5¼ | 3KV64 | 1015.70 | 883.50 | 4RF84 | 1135.00 | 1125.00 | 7.1 |
| **INPUT THREE-PHASE, 200-230 VOLTS AC, 60/50 Hz** | | | | | | | | | | | |
| 1/4 | 1.3 | 6⅛ | 4⅛ | 3⅛ | 3HX70 | 479.42 | 417.00 | 4RG41 | 685.00 | 679.00 | 2.7 |
| 1/2 | 2.5 | 6⅛ | 4⅛ | 3½ | 3HX71 | 519.69 | 452.00 | 4RG43 | 760.00 | 753.00 | 3.2 |
| 1 | 4.0 | 6⅛ | 4⅛ | 4¼ | 3HX72 | 606.46 | 527.50 | 4RF79 | 795.00 | 788.00 | 3.8 |
| 2 | 7.0 | 6⅛ | 5½ | 4¼ | 3HX73 | 791.83 | 689.00 | 4RF82 | 920.00 | 912.00 | 5.2 |
| 3 | 10.0 | 6⅛ | 7⅛ | 5¼ | 3HX74 | 865.86 | 753.00 | 4RF85 | 980.00 | 971.50 | 6.9 |
| 5 | 16.5 | 6⅛ | 7⅛ | 5⅞ | 3HX75 | 1094.47 | 952.00 | 4RF87 | 1175.00 | 1165.00 | 8.0 |
| **INPUT THREE-PHASE, 380-480 VOLTS AC, 60/50 Hz** | | | | | | | | | | | |
| 1/2 | 1.4 | 6⅛ | 5½ | 4¼ | 3KV66 | 801.31 | 697.00 | 4RG44 | 910.00 | 902.00 | 4.7 |
| 1 | 2.1 | 6⅛ | 5½ | 4¾ | 3HX76 | 1100.00 | 735.50 | 4RF80 | 950.00 | 941.50 | 4.8 |
| 2 | 3.7 | 6⅛ | 7⅛ | 5¼ | 3HX77 | 1210.00 | 893.50 | 4RF83 | 1185.00 | 1175.00 | 6.9 |
| 3 | 5.3 | 6⅛ | 7⅛ | 5¼ | 3HX78 | 1350.00 | 972.00 | 4RF86 | 1270.00 | 1259.00 | 6.9 |
| 5 | 8.7 | 6⅛ | 7⅛ | 5⅞ | 3HX79 | 1650.00 | 1183.00 | 4RF88 | 1490.00 | 1476.00 | 8.1 |
| 7½ | 13.0 | 15 | 9½ | 8½ | 2M530 | 2233.96 | 1943.00 | — | — | — | 27.0 |
| 10 | 18.0 | 15 | 9½ | 8½ | 2M531 | 2781.20 | 2419.00 | — | — | — | 27.0 |
| 15 | 24.0 | 17¾ | 10⅛ | 8⅝ | 2M532 | 3494.27 | 3039.00 | — | — | — | 35.0 |
| 20 | 30.0 | 17¾ | 10⅛ | 8⅝ | 2M533 | 4444.24 | 3865.00 | — | — | — | 36.0 |
| 25 | 39.0 | 21⅝ | 10⅛ | 8⅝ | 2M534 | 5404.87 | 4700.00 | — | — | — | 44.0 |
| 30 | 45.0 | 21⅝ | 10⅛ | 8⅝ | 2M535 | 6481.58 | 5637.00 | — | — | — | 44.0 |

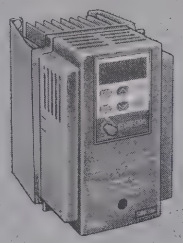


We're the driving force in the motor business.

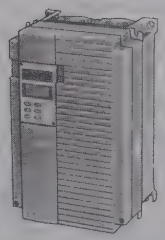
# AC ADJUSTABLE FREQUENCY DRIVES

**FUJI ELECTRIC** **New**

- **Simple, easy-to-use programming for application flexibility**
- **Self-diagnostics provide shut-off protection and fault failure message**
- **Quick response time provides reliable operation against load fluctuations**


No. 4RG30


No. 5U192


No. 5U201

**Typical Uses:** Designed to provide variable speed operation on AC three-phase motors used to power pumps, fans, blowers, conveyors, and other industrial equipment. **Not for use in combustible, dusty, or wet environments.**

Both single-phase and three-phase designs feature IGBT transistors, electronic automatic reset thermal pretection, and DC and dynamic braking capabilities.

**Nos. 4RG30 thru 4RG39 FVR-C9S AC drives™**, manufactured by Fuji Electric and marketed by GE Fuji Electric, are fully equipped with over 30 configurable motor control functions in a lightweight, compact housing. Designed for use in fans and conveyors, as well as other applications. Units require only power and motor connections to the built-in terminal block for use. Easy-to-follow programming and output frequency settings can be adjusted using the LED keypad panel. Each unit also has a standard frequency setting POT mounted on the face of the drive for quick adjustments. Use these drives even in areas where there are noise-level restrictions. UL and CSA rated.

**Nos. 5U192 thru 5U201 and 4RG15 thru 4RG29 AF-300E$™** offer 95 functions for more advanced applications in higher horsepowers while still offering simple programmability.

| Motor Output HP* | Rated Output Amps* | Dimensions (In.) H | W | D | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **INPUT SINGLE-PHASE, 200-240 VOLTS AC, 50/60 Hz** | | | | | | | | | |
| **1/4** | 1.2 | 5.7 | 4.1 | 3.7 | D5569 | ***New*4RG30** | $372.00 | **$348.50** | 1.5 |
| **1/2** | 2.1 | 5.7 | 4.1 | 3.9 | D5570 | ***New*4RG31** | 404.00 | **378.75** | 1.6 |
| **1** | 3.7 | 5.7 | 4.1 | 4.9 | D5571 | ***New*4RG32** | 425.00 | **399.00** | 1.9 |
| **2** | 6.4 | 7.4 | 7.4 | 6.5 | D5572 | ***New*4RG33** | 474.00 | **444.25** | 3.9 |
| **INPUT THREE-PHASE, 200-230 VOLTS AC, 50/60 Hz** | | | | | | | | | |
| **1/4** | 1.4 | 7.4 | 7.4 | 6.5 | D5574 | ***New*4RG34** | 296.00 | **277.75** | 4.0 |
| **1/2** | 2.5 | 7.4 | 7.4 | 6.5 | D5575 | ***New*4RG35** | 328.00 | **308.00** | 6.0 |
| **1** | 4.0 | 5.7 | 4.1 | 4.9 | D5576 | ***New*4RG36** | 388.00 | **363.75** | 1.9 |
| **2** | 7.0 | 5.7 | 4.1 | 4.9 | D5577 | ***New*4RG37** | 512.00 | **479.50** | 1.9 |
| **3** | 10.0 | 5.7 | 4.1 | 6.5 | D5578 | ***New*4RG38** | 561.00 | **525.50** | 2.4 |
| **5** | 16.5 | 9.9 | 7.5 | 6.1 | D5579 | ***New*4RG39** | 717.00 | **672.00** | 4.2 |
| **INPUT THREE-PHASE, 200-230 VOLTS AC, 50/60 Hz** | | | | | | | | | |
| **1/2** | 3.0 | 7.3 | 12.1 | 6.4 | D5501 | ***New*4RG15** | 810.00 | **803.00** | 7.3 |
| **1** | 5.0 | 7.3 | 12.1 | 6.4 | D5502 | ***New*4RG16** | 860.00 | **852.50** | 7.3 |
| **2** | 8.0 | 7.8 | 12.7 | 7.9 | D5503 | ***New*4RG17** | 920.00 | **912.50** | 10.0 |
| **3** | 11.0 | 7.8 | 12.7 | 7.9 | D5504 | ***New*4RG18** | 990.00 | **982.00** | 10.0 |
| **5** | 17.0 | 7.8 | 12.7 | 7.9 | D5505 | ***New*4RG19** | 1220.00 | **1210.00** | 10.0 |
| **7½** | 25.0 | 11.3 | 13.1 | 11.3 | D5506 | ***New*4RG20** | 1520.00 | **1507.00** | 15.0 |
| **10** | 33.0 | 11.3 | 13.1 | 11.3 | D5507 | ***New*4RG21** | 1850.00 | **1834.00** | 15.0 |
| **15** | 46.0 | 11.3 | 18.7 | 12.8 | D5508 | ***New*4RG22** | 2475.00 | **2454.00** | 28.0 |
| **20** | 59.0 | 11.3 | 18.7 | 12.8 | D5509 | ***New*4RG23** | 3120.00 | **3093.00** | 28.0 |
| **25** | 74.0 | 11.3 | 18.7 | 12.8 | D5510 | ***New*4RG24** | 3705.00 | **3672.00** | 29.0 |
| **30** | 87.0 | 11.3 | 18.7 | 12.8 | D5511 | ***New*4RG25** | 4300.00 | **4262.00** | 29.0 |
| **INPUT THREE-PHASE, 380-480 VOLTS AC, 50/60 Hz** | | | | | | | | | |
| **1** | 2.5 | 10.24 | 5.91 | 5.71 | D5512 | **5U192** | 1297.02 | **1128.00** | 9.0 |
| **2** | 3.7 | 10.24 | 5.91 | 5.71 | D5513 | **5U193** | 1391.78 | **1211.00** | 9.0 |
| **3** | 5.5 | 10.24 | 5.91 | 5.71 | D5514 | **5U194** | 1497.20 | **1302.00** | 9.0 |
| **5** | 9.0 | 10.24 | 5.91 | 5.71 | D5515 | **5U195** | 1838.34 | **1599.00** | 9.0 |
| **7½** | 13.0 | 10.24 | 8.65 | 7.68 | D5516 | **5U196** | 2297.93 | **1999.00** | 14.0 |
| **10** | 18.0 | 10.24 | 8.65 | 7.68 | D5517 | **5U197** | 2798.97 | **2434.00** | 14.0 |
| **15** | 24.0 | 15.75 | 9.84 | 7.68 | D5518 | **5U198** | 3741.83 | **3254.00** | 25.0 |
| **20** | 30.0 | 15.75 | 9.84 | 7.68 | D5519 | **5U199** | 4713.12 | **4099.00** | 25.0 |
| **25** | 39.0 | 15.75 | 9.84 | 7.68 | D5520 | **5U200** | 5596.76 | **4867.00** | 27.0 |
| **30** | 45.0 | 15.75 | 9.84 | 7.68 | D5521 | **5U201** | 6492.24 | **5646.00** | 27.0 |
| **35** | 45.0 | 21.7 | 42.9 | 20.9 | D5522 | ***New*4RG26** | 6350.00 | **6304.00** | 165.0 |
| **40** | 60.0 | 21.7 | 42.9 | 20.9 | D5523 | ***New*4RG27** | 7050.00 | **6997.00** | 165.0 |
| **50** | 75.0 | 21.7 | 42.9 | 20.9 | D5524 | ***New*4RG28** | 8560.00 | **8493.00** | 167.0 |
| **60** | 91.0 | 21.7 | 42.9 | 20.9 | D5525 | ***New*4RG29** | 9955.00 | **9874.00** | 176.0 |

(*) Constant torque ratings.

**Enclosure:** NEMA 1

**Protection: All Units**

Stall
Overcurrent
Overvoltage
Undervoltage
Inverter overheating (external fault-overload relay trip)

**Voltage Requirements:**

**Nos. 4RG30 thru 4RG33**
Input: Single-phase, 200-240V, 50/60 Hz (1/4-2HP)
Output: Three-phase, 3-wire, 200-240V

**Nos. 4RG34 thru 4RG39**
Input: Three-phase, 200-230V, 50/60 Hz, (1/4-5HP)
Output: Three-phase, 3-wire, 200-230V

**Nos. 4RG15 thru 4RG25**
Input: Three-phase, 200-230V, 50-60 Hz
Output: Three-phase, 3-wire, 200-230V

**Nos. 5U192 thru 5U201 and 4RG26 thru 4RG29**

Input: Three Phase, 380-480V, 50-60Hz

Output: Three Phase, 3-wire, 380-480V

**Selectable Functions: All Units**

Operating Method/Frequency Setting
Base and Top Frequency
Maximum Output Frequency
Torque Boost
Fault Memory
DC Braking
Accelerator/Decelerator
Multi-Frequency Settings
Motor Sound Adjustment

**Addt'l Functions: Nos. 5U192-5U201 and 4RG26-4RG29**

Removable Keypad
Maximum Output Voltage
Slip Compensation
Motoring & Braking Torque Limit Adj.
Sensorless Torque Vector Control
Jump Frequency
Automatic/Deceleration Time Selection
2-Wire/3-Wire Control Selection
Automatic Pattern Operation
Selectable Drive Output Indication for Frequency, Current, Torque and Power

# AC ADJUSTABLE FREQUENCY INTELLIGENT BYPASS PANELS

- **Isolation contactor**
- **Built-in AC line reactor**
- **Line-side circuit breaker**
- **150% starting torque**

**GE Fuji Electric intelligent bypass panels** create a seamless integrated, adjustable frequency drive system. These panels include all the essential hardware in a single, easy-to-use package. Engineered for long-lasting performance and ease of operation, panels feature field-tested General Electric products with a reputation for efficiency and versatility. All AF-300E$ panels include C-2000™ switches, relays, and contactors. Panels also have Spectra RMS™ solid state circuit breakers from General Electric and feature a factory programmed GE Fanuc Series 90™ Micro PLC. UL and UL-C Listed.

**Typical Uses:** Designed to serve manned or unmanned conveyor, pump, HVAC, and other applications. Easily configure the panel for energy efficient motor operation and manual or automatic transfer of the applied motor from the drive power supply to the AC line in the event of a drive fault. Not for use in combustible, wet, or dusty environments.

**Enclosure:** NEMA 1.

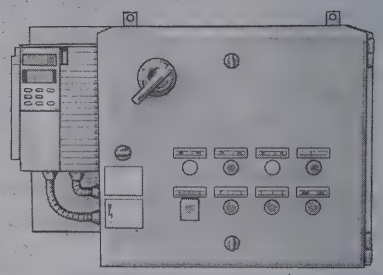
**Protection:** Over current, under voltage, over voltage, thermal overload.

**Selectable Functions:** Frequency setting, Torque boost, Jump frequencies, Motor sound adjustment, Base and top frequencies, Slip compensation, Sensorless torque vector control, 2-wire/3-wire control, Automatic deceleration time.

**Mounting:** Wall-mount, except 4RG14 is floor-mount.

FUJI ELECTRIC

New



No. 4RF91

| VT* HP | CT* HP | Dimensions (In.) W | H | L | VT Max. Cont. Current | CT Max. Cont. Current | GE Stock No. | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **THREE-PHASE 230 VOLTS AC** | | | | | | | | | | | |
| **1/2** | 1/2 | 40 | 20 | 32.5 | 2.2 | 2.2 | 6KE$12GF50G1JA2X | **4RF89** | $2872.00 | **$2861.00** | 160.0 |
| **1** | 1 | 40 | 20 | 32.5 | 4.2 | 4.2 | 6KE$12G001G1LA2X | **4RF90** | 2872.00 | **2861.00** | 160.0 |
| **2** | 2 | 40 | 20 | 32.5 | 8.0 | 8.0 | 6KE$12G002G1MA2X | **4RF91** | 3068.00 | **3054.00** | 160.0 |
| **3** | 3 | 40 | 20 | 32.5 | 11.0 | 11.0 | 6KE$12G003G1NA2X | **4RF92** | 3374.00 | **3358.00** | 165.0 |
| **5** | 5 | 40 | 20 | 32.5 | 16.0 | 16.0 | 6KE$12G005G1PA2X | **4RF93** | 3828.00 | **3808.00** | 178.0 |
| **7.5** | 7.5 | 40 | 20 | 32.5 | 25.0 | 25.0 | 6KE$12G007G1UA2X | **4RF94** | 4487.00 | **4461.00** | 179.0 |
| **10** | 7.5 | 40 | 20 | 32.5 | 29.0 | N/A | 6KE$12G010G1VA2X | **4RF95** | 5625.00 | **5594.00** | 241.0 |
| **15** | 10 | 40 | 20 | 32.5 | 42.0 | 33.0 | 6KE$12G015G2EA2X | **4RF96** | 6436.00 | **6402.00** | 285.0 |
| **20** | 15 | 40 | 20 | 32.5 | 55.0 | 46.0 | 6KE$12G020G2GA2X | **4RF97** | 8728.00 | **8670.00** | 275.0 |
| **25** | 20 | 40 | 20 | 32.5 | 68.0 | 59.0 | 6KE$12G025G2JA2X | **4RF98** | 9990.00 | **9919.00** | 280.0 |
| **30** | 25 | 40 | 20 | 32.5 | 80.0 | 74.0 | 6KE$12G030G2JA2X | **4RF99** | 2872.00 | **2861.00** | 160.0 |
| **THREE-PHASE 460 VOLTS AC** | | | | | | | | | | | |
| **1** | 1 | 45 | 20 | 47.5 | 2.1 | 2.1 | 6KE$14G001G1JA2X | **4RG01** | 3102.00 | **3088.00** | 165.0 |
| **2** | 2 | 45 | 20 | 47.5 | 3.7 | 3.7 | 6KE$14G002G1KA2X | **4RG02** | 3102.00 | **3088.00** | 165.0 |
| **3** | 3 | 45 | 20 | 47.5 | 5.5 | 5.5 | 6KE$14G003G1LA2X | **4RG03** | 3305.00 | **3289.00** | 165.0 |
| **5** | 5 | 45 | 20 | 47.5 | 8.0 | 8.0 | 6KE$14G005G1MA2X | **4RG04** | 3668.00 | **3649.00** | 167.0 |
| **7.5** | 7.5 | 45 | 20 | 47.5 | 12.0 | 12.0 | 6KE$14G007G1NA2X | **4RG05** | 3968.00 | **3946.00** | 167.0 |
| **10** | 7.5 | 45 | 20 | 47.5 | 16.0 | N/A | 6KE$14G010G1PA2X | **4RG06** | 4262.00 | **4239.00** | 180.0 |
| **15** | 10 | 45 | 20 | 47.5 | 23.0 | 18.0 | 6KE$14G015G1TA2X | **4RG07** | 5133.00 | **5102.00** | 188.0 |
| **20** | 15 | 45 | 20 | 47.5 | 30.0 | 24.0 | 6KE$14G020G1VA2X | **4RG08** | 6005.00 | **5968.00** | 220.0 |
| **25** | 20 | 45 | 20 | 47.5 | 35.0 | 30.0 | 6KE$14G025G2EA2X | **4RG09** | 6868.00 | **6823.00** | 224.0 |
| **30** | 25 | 45 | 20 | 47.5 | 44.0 | 39.0 | 6KE$14G030G2EA2X | **4RG10** | 7902.00 | **7847.00** | 230.0 |
| **40** | 30 | 45 | 20 | 47.5 | 52.0 | 45.0 | 6KE$14G040G2GA2X | **4RG11** | 9235.00 | **9177.00** | 330.0 |
| **50** | 40 | 45 | 20 | 47.5 | 66.0 | 60.0 | 6KE$14G050G2HA2X | **4RG12** | 11184.00 | **11109.00** | 357.0 |
| **60** | 50 | 45 | 20 | 47.5 | 77.0 | 75.0 | 6KE$14G060G2JA2X | **4RG13** | 13388.00 | **13294.00** | 375.0 |
| **75** | 60 | 45 | 20 | 47.5 | 96.0 | 91.0 | 6KE$14G075G2LB2X | **4RG14** | 15581.00 | **15468.00** | 410.0 |

* VT= Variable Torque. CT=Constant Torque

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# AC ADJUSTABLE FREQUENCY DRIVES

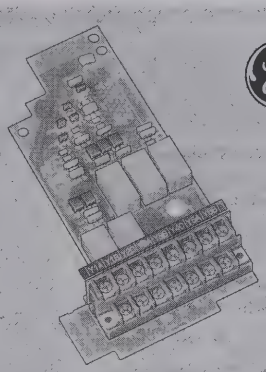
## INVERTER ACCESSORIES

**Relay unit** for Stock Nos. 5U192 thru 5U201, and 4RG15 thru 4RG29 convert open collector outputs to relay outputs for interface to existing plant equipment.

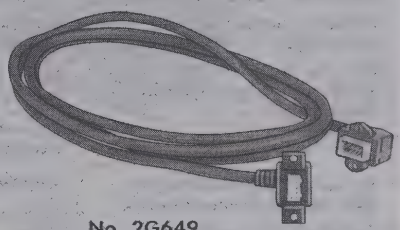
| No. of Relay Outputs | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 5 | A3270 | 2G647 | $496.50 | $451.25 | 1.0 |

**Keypad extension cables** for Stock Nos. 5U181 thru 5U201, and 4RG15 thru 4RG29 for remote mounting provide full operation functionality for removable inverter keypads.

| Cable Lengths | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 Meter | A3240 | 2G649 | $100.80 | $91.60 | 1.0 |
| 5 Meter | A3241 | 2G651 | 217.65 | 198.00 | 1.0 |
| 10 Meter | A3242 | 2G653 | 260.00 | 236.25 | 1.0 |



No. 2G647



No. 2G649

## AC INVERTERS

- **Sensorless flux vector control**
- **100% torque at 1Hz (1.5% rated speed)**
- **Compact size for added space savings**
- **Meet UL and CSA approval**
- **"CE" marked to meet European directives**
- **Output frequency: 0.5 to 320Hz**
- **Motor protection offered by dynamic calculation of connected motor I2t**
- **Auto tune and self-testing built in**

TYPICAL USES: Variable speed operation of three-phase motors with single phase and three phase input. Sensorless flux vector control automatically calculates optimum motor performance for low-speed, high-starting torque applications. Designed to increase energy savings in material handling, packaging, HVAC, and pump applications. Eliminates the need for mechanical controllers.

**Protection:**

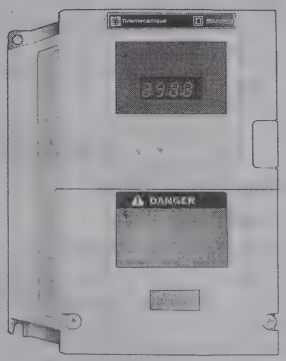
Overbreaking
Overvoltage
Motor thermal overload
Drive thermal overload
Undervoltage

**Selectable Functions:**

Sensorless flux vector
Constant torque
Variable torque
Motor thermal protection
Switching frequency
Ramp up/ramp down
Controlled stop
Preset speeds
Fast stop
Catch on the fly
Built-in PI control
Automatic DC injection braking
Auto restart
PC connection
Loss of follower reference
Input/output assignment
Keypad lockout

SQUARE D
GROUPE SCHNEIDER

New




No. 4VM53

| Motor Output (HP) | Maximum Output (Amps) | Dimensions (In.) H | W | D | Square D Stock No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **INPUT SINGLE PHASE, 208-230 VOLTS AC, 50/60HZ** | | | | | | | | | |
| 1/2 | 2.1 | 4.4 | 7.16 | 4.76 | ATV18U09M2 | 4VM53 | $458.00 | $439.75 | 2.3 |
| 1 | 3.6 | 4.4 | 7.16 | 4.76 | ATV18U18M2 | 4VM54 | 513.00 | 492.50 | 3.3 |
| 2 | 6.8 | 5.86 | 7.24 | 6.18 | ATV18U29M2 | 4VM55 | 608.00 | 584.00 | 4.6 |
| 3 | 9.6 | 7.28 | 8.46 | 6.18 | ATV18U41M2 | 4VM56 | 644.00 | 618.50 | 6.2 |
| **INPUT THREE PHASE, 208-230 VOLTS AC, 50/60HZ** | | | | | | | | | |
| 5 | 16.4 | 7.28 | 8.46 | 6.18 | ATV18U72M2 | 4VM57 | 1017.00 | 976.50 | 7.3 |
| 7½ | 22 | 8.26 | 11.81 | 6.69 | ATV18U90M2 | 4VM58 | 1340.00 | 1287.00 | 17.0 |
| 10 | 28 | 8.26 | 11.81 | 6.69 | ATV18D12M2 | 4VM59 | 1629.00 | 1564.00 | 17.0 |
| **INPUT THREE PHASE, 380-460 VOLTS AC, 50/60HZ** | | | | | | | | | |
| 1 | 2.1 | 5.89 | 7.24 | 6.18 | ATV18U18N4U | 4VM60 | 719.00 | 690.50 | 4.4 |
| 2 | 3.7 | 5.86 | 7.24 | 6.18 | ATV18U29N4U | 4VM61 | 810.00 | 778.00 | 4.6 |
| 3 | 5.3 | 7.28 | 8.46 | 6.18 | ATV18U41N4U | 4VM62 | 886.00 | 851.00 | 6.8 |
| 5 | 9.2 | 7.28 | 8.46 | 6.18 | ATV18U72N4U | 4VM63 | 1136.00 | 1091.00 | 7.3 |
| 7½ | 11.8 | 8.26 | 11.81 | 6.69 | ATV18U90N4U | 4VM64 | 1492.00 | 1433.00 | 18.0 |
| 10 | 16 | 8.26 | 11.81 | 6.69 | ATV18D12N4U | 4VM65 | 1853.00 | 1779.00 | 18.0 |
| 15 | 22 | 9.64 | 16.35 | 7.48 | ATV18D16N4U | 4VM66 | 2328.00 | 2235.00 | 26.0 |
| 20 | 29.3 | 9.64 | 15.35 | 7.48 | ATV18D23N4U | 4VM67 | 2832.00 | 2719.00 | 26.0 |

# AC ADJUSTABLE FREQUENCY DRIVES AND CAPACITOR-START U-FRAME MOTORS

## AC INVERTERS

Boston Gear ACX and BCX controllers provide a wide range of adjustable speed control of conventional AC motors. Utilizing state of the art microprocessors, surface mount technology, and IGBT power devices, these controllers combine the proper balance of drive features, performance, and economy.

**ACX—Full Featured Model**

- Small, compact NEMA 1 enclosure
- Easy to program and operate from integral digital keypad
- 90 programming parameters
- Password protected with user defined security code
- External isolated analog reference (0-10VDC, 4-20 mA)
- Economical
- 3 digit LED display
- Two-year warranty

**BCX—Basic Model**

- Compact, low profile NEMA 1 enclosure
- Drive set up via pot adjustments
- Adjustable acceleration/deceleration
- Capable of line starting
- Two status LED's indicate power on and fault codes
- Speed pot included
- Low cost
- Two-year warranty




No. 3ZP98 No. 3ZR01

| Max. Motor Output HP | Rated Output Amps | Dimensions (Inches) H | W | D | Boston Gear Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **INPUT THREE-PHASE, 208/230 VOLTS AC, 50/60 Hz** | | | | | | | | | |
| 1/6 - 1/3 | 2.0 | 5.53 | 2.94 | 4.68 | ACX2003 | **3ZP98** | $450.00 | **$384.00** | 2.0 |
| 1/2 - 1 | 4.0 | 5.53 | 2.94 | 4.68 | ACX2010 | **3ZP99** | 473.00 | **403.50** | 2.0 |
| 1/6 - 1/3 | 2.0 | 5.53 | 2.94 | 3.50 | BCX2003 | **3ZR01** | 308.00 | **262.50** | 2.0 |
| 1/2 - 1 | 4.0 | 5.53 | 2.94 | 3.50 | BCX2010 | **3ZR02** | 331.00 | **282.25** | 2.0 |

## CAPACITOR-START OPEN DRIPPROOF AND TEFC U-FRAME MOTORS

- Rigid welded base
- Copper windings

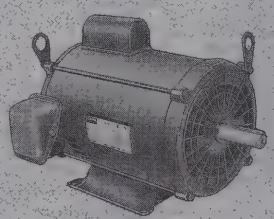
**Typical Uses:** Air compressors, machinery, pumps, blowers, and other industrial equipment. TEFC models provide dependable operation in **non-combustible** dusty, dirty areas.

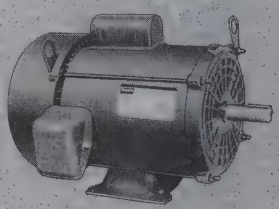
**Type:** Capacitor-start
**Bearings:** Ball
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Dayton®

E47479 LR6153





Replacement Parts Available 1-800-323-0620

No. 5K483
215 Frame
Rigid Welded Base

No. 5K487
213 Frame
Rigid Welded Base

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF** | | | | | | | | | | | |
| 1 | 1740 | 182 | None | 115/230 | 14.4/7.2 | 1.25 | A | **5K480** | $304.00 | **$264.75** | 41.0 |
| 1 1/2 | 1740 | 184 | None | 115/230 | 22.0/11.0 | 1.20 | A | **5K481** | 345.00 | **300.25** | 49.0 |
| 2 | 1740 | 213 | None | 115/230 | 24.6/12.3 | 1.20 | A | **5K482** | 438.00 | **380.50** | 58.0 |
| 3 | 1740 | 215 | None | 115/230 | 35.6/17.8 | 1.15 | A | **5K483** | 553.00 | **480.50** | 86.0 |
| 5 | 1740 | 215 | None | 230 | 22.0 | 1.15 | A | **5K484†** | 733.00 | **637.50** | 102.0 |
| **TEFC** | | | | | | | | | | | |
| 1 | 1740 | 182 | None | 115/230 | 13.8/6.9 | 1.0 | A | **5K485** | 328.00 | **285.00** | 49.0 |
| 1 1/2 | 1740 | 184 | None | 115/230 | 18.4/9.2 | 1.0 | A | **5K486** | 392.00 | **340.50** | 56.0 |
| 2 | 1740 | 213 | None | 115/230 | 24.0/12.0 | 1.0 | A | **5K487** | 482.00 | **419.50** | 80.0 |
| 3 | 1730 | 215 | None | 115/230 | 33.6/16.8 | 1.0 | A | **5K488†** | 727.00 | **632.50** | 100.0 |
| 5 | 1745 | 215 | None | 230 | 20.0 | 1.0 | A | **5K489†** | 832.00 | **722.50** | 120.0 |

(†) Capacitor-start, capacitor-run.

# 3-PHASE U-FRAME MOTORS

## 3-PHASE OPEN DRIPPROOF U-FRAME MOTORS

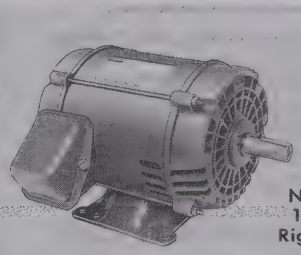
- **NEMA design B**

**Typical Uses:** Pumps, blowers, machine tools, air compressors, and industrial applications where 3-phase power is available.

**Replacement Parts Available 1-800-323-0620**

**Bearings:** Double-shielded ball
**Mounting:** Rigid welded
**Thermal Protection:** None
**Windings:** Copper
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton®
E47479



No. 2N988
184 Frame
Rigid Welded Base

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz* | Full-Load Amps at Nameplate Volts | Service Factor | Nominal Efficiency | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1760 | 182 | 208-220/440 | 3.7-3.6/1.8 | 1.25 | 81.5 | A | **2N980** | $316.00 | **$251.00** | 45.0 |
| 1 | 1160 | 184 | 208-220/440 | 4.4-4.2/2.1 | 1.25 | 78.5 | A | **2N988** | 304.00 | **235.25** | 45.0 |
| 1½ | 3515 | 182 | 208-220/440 | 4.8-4.6/2.3 | 1.20 | 80.0 | A | **2N995** | 348.00 | **269.50** | 45.0 |
| 1½ | 1755 | 184 | 208-220/440 | 5.1-5.0/2.5 | 1.20 | 82.5 | A | **2N981** | 349.00 | **261.25** | 50.0 |
| 1½ | 1140 | 184 | 208-220/440 | 5.6-5.4/2.7 | 1.15 | 77.0 | A | **2N989** | 357.00 | **276.50** | 50.0 |
| 2 | 3510 | 184 | 208-220/440 | 6.2-6.0/3.0 | 1.20 | 81.5 | A | **2N996** | 380.00 | **301.75** | 50.0 |
| 2 | 1750 | 184 | 208-220/440 | 6.3-6.2/3.1 | 1.20 | 84.0 | A | **2N982** | 379.00 | **275.00** | 55.0 |
| 2 | 1145 | 213 | 208-220/440 | 7.3-7.2/3.6 | 1.15 | 81.5 | A | **2N990** | 350.00 | **270.75** | 75.0 |
| 3 | 3500 | 184 | 208-220/440 | 9.1-8.6/4.3 | 1.15 | 82.5 | A | **2N997** | 389.00 | **345.50** | 55.0 |
| 3 | 1750 | 213 | 208-220/440 | 9.1-8.8/4.4 | 1.15 | 85.5 | A | **2N983** | 489.00 | **346.00** | 75.0 |
| 3 | 1170 | 215 | 208-220/440 | 10.2-10.0/5.0 | 1.15 | 86.5 | A | **2N991** | 461.00 | **356.50** | 80.0 |
| 5 | 3500 | 213 | 208-220/440 | 13.8-13.2/6.6 | 1.15 | 86.5 | A | **2N998** | 537.00 | **383.00** | 75.0 |
| 5 | 1755 | 215 | 208-220/440 | 14.5-13.8/6.9 | 1.15 | 86.5 | A | **2N984** | 532.00 | **422.00** | 93.0 |
| 5 | 1165 | 254U | 208-220/440 | 16.5-16.0/8.0 | 1.15 | 87.5 | A | **2N992** | 586.00 | **453.00** | 124.0 |
| 7½ | 3520 | 215 | 208-220/440 | 20.8-19.8/9.9 | 1.15 | 88.5 | A | **2N999** | 577.00 | **420.00** | 85.0 |
| 7½ | 1745 | 254U | 208-220/440 | 21.5-20.2/10.1 | 1.15 | 87.5 | A | **2N985** | 937.00 | **652.50** | 118.0 |
| 10 | 3510 | 254U | 208-220/440 | 27.0-25.6/12.8 | 1.15 | 89.5 | A | **3N003** | 592.00 | **457.75** | 125.0 |
| 10 | 1740 | 256U | 208-220/440 | 28.0-26.8/13.4 | 1.15 | 87.5 | A | **2N986** | 1014.00 | **788.50** | 142.0 |

(*) 50 Hz operable at rated voltage and 190/380V at 5/6 of 60 Hz speed and full HP.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.**

## 3-PHASE TEFC U-FRAME MOTORS

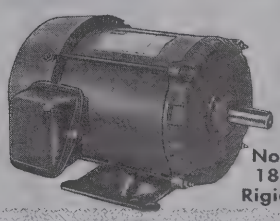
- **NEMA design B**

**Typical Uses:** Cool and efficient performance on pumps, blowers, air compressors, machine tools, conveyors, and other equipment operating in non-combustible dusty, dirty areas.

**Replacement Parts Available 1-800-323-0620**

**Bearings:** Double-shielded ball
**Mounting:** Rigid welded
**Thermal Protection:** None
**Windings:** Copper
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton®
E47479
LR6153



No. 2N933
182 Frame
Rigid Welded Base

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Nominal Efficiency | Frame* | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1755 | 182 | 208-220/440 | 3.7-3.6/1.8 | 1.0 | 78.5 | RS | A | **2N933** | $345.00 | **$272.75** | 45.0 |
| 1 | 1155 | 184 | 208-220/440 | 4.1-4.0/2.0 | 1.0 | 77.0 | RS | A | **2N941** | 388.00 | **307.50** | 45.0 |
| 1½ | 3510 | 182 | 208-220/440 | 4.9-4.8/2.4 | 1.0 | 78.5 | RS | A | **2N946** | 359.00 | **285.50** | 45.0 |
| 1½ | 1750 | 184 | 208-220/440 | 5.1-5.0/2.5 | 1.0 | 80.0 | RS | A | **2N934** | 386.00 | **306.25** | 50.0 |
| 1½ | 1140 | 184 | 208-220/440 | 5.6-5.4/2.7 | 1.0 | 77.0 | RS | A | **2N942** | 396.00 | **329.25** | 50.0 |
| 2 | 3500 | 184 | 208-220/440 | 6.2-6.0/3.0 | 1.0 | 80.0 | RS | A | **2N947** | 386.00 | **306.25** | 50.0 |
| 2 | 1760 | 184 | 208-220/440 | 6.4-6.2/3.1 | 1.0 | 82.5 | RS | A | **2N935** | 421.00 | **333.75** | 60.0 |
| 2 | 1145 | 213 | 208-220/440 | 7.3-7.2/3.6 | 1.0 | 80.0 | RS | A | **2N943** | 470.00 | **372.00** | 73.0 |
| 3 | 3510 | 184 | 208-220/440 | 8.9-8.6/4.3 | 1.0 | 82.5 | RS | A | **2N948** | 337.00 | **267.00** | 60.0 |
| 3 | 1755 | 213 | 208-220/440 | 9.2-9.0/4.5 | 1.0 | 84.0 | RS | A | **2N936** | 521.00 | **360.50** | 62.0 |
| 3 | 1170 | 215 | 208-220/440 | 10.7-10.6/5.3 | 1.0 | 84.0 | RS | A | **2N944** | 500.00 | **419.75** | 80.0 |
| 5 | 3490 | 213 | 208-220/440 | 14.2-13.4/6.7 | 1.0 | 85.5 | RS | A | **2N949** | 589.00 | **467.50** | 69.0 |
| 5 | 1760 | 215 | 208-220/440 | 14.7-14.4/7.2 | 1.0 | 86.5 | RS | A | **2N937** | 575.00 | **455.00** | 98.0 |
| 5 | 1165 | 254U | 208-220/440 | 17.0-16.6/8.3 | 1.0 | 86.5 | RS | A | **2N945** | 944.00 | **821.50** | 132.0 |
| 7½ | 1760 | 254U | 208-220/440 | 21.0-20.2/10.1 | 1.0 | 88.5 | RS | A | **2N938** | 667.00 | **548.50** | 137.0 |

(*) RS = Rolled Steel construction.

# 3-PHASE PREMIUM EFFICIENCY U-FRAME AUTOMOTIVE DUTY MOTORS

- **Super U-frame designs offer the highest efficiencies available today**
- **Meets General Motors 7EQ, 7EHQ, Ford EMI, and Chrysler NPEM 100 automotive duty specifications**
- **Motors are designed to operate well below insulation system limits, resulting in increased life expectancy**
- **Low noise and vibration levels**
- **Meet "special" balance limits for automotive industry levels**
- **Cast-iron construction on 180 frame and above**
- **Two-year warranty**
- **Meets NEMA MG1 Part 31 inverter duty use at 10:1 variable torque and 4:1 constant torque speed range**

**CAUTION:** Refer to page 6 for proper thermal protection and other motor selection information.

**Typical Uses:** For a wide variety of applications where change-out to T-frame motors is cumbersome and difficult. Efficiency ratings will qualify for many rebate programs while not requiring added conversion costs.

Designed to meet automotive manufacturers' specifications, these motors feature rugged construction and advanced electrical design. Ideal for use in industrial, commercial, and institutional applications that need U-frame dimensions.

**Bearings:** Double-shielded ball

**Mounting:** Rigid base

**Enclosure:** TENV and TEFC

**Thermal Protection:** None

**Ambient:** 65°C

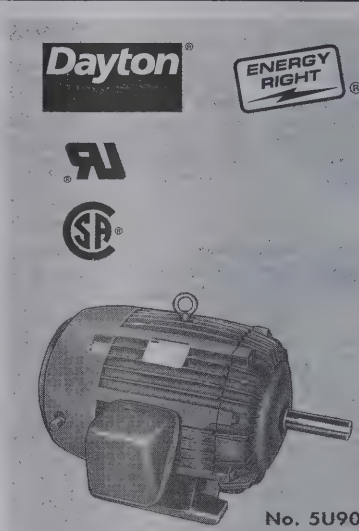
**Duty:** Continuous

**Finish:** Gray

**Brand:** Dayton

**Replacement Parts Available**
**1-800-323-0620**

**Repair Service Available**
**Contact Your Local Branch**



No. 5U909
364U Frame
Rigid Base

| HP | Nameplate RPM | NEMA Frame | Rotation | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame* | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 56 | CW/CCW | 230/460 | 1.0/0.5 | 1.0 | 72.0 | RS | B | 5U864† | $269.00 | **$235.50** | 47.0 |
| | 1140 | 56 | CW/CCW | 230/460 | 1.5/0.8 | 1.0 | 64.0 | RS | B | 5U865† | 335.00 | **292.50** | 45.0 |
| 1/3 | 3450 | 56 | CW/CCW | 230/460 | 1.1/0.6 | 1.0 | 70.0 | RS | B | 5U866† | 228.00 | **199.75** | 17.0 |
| | 1725 | 56 | CW/CCW | 230/460 | 1.1/0.6 | 1.0 | 75.5 | RS | B | 5U867† | 277.00 | **242.75** | 47.0 |
| | 1140 | 56 | CW/CCW | 230/460 | 1.3/0.6 | 1.0 | 70.0 | RS | B | 5U868 | 351.00 | **307.25** | 45.0 |
| 1/2 | 3450 | 56 | CW/CCW | 230/460 | 1.5/0.8 | 1.0 | 84.0 | RS | B | 5U869† | 261.00 | **228.25** | 27.0 |
| | 1725 | 56 | CW/CCW | 230/460 | 1.7/0.9 | 1.0 | 80.0 | RS | B | 5U870† | 304.00 | **265.75** | 47.0 |
| | 1140 | 56 | CW/CCW | 230/460 | 2.0/1.0 | 1.0 | 72.0 | RS | B | 5U871 | 379.00 | **332.00** | 47.0 |
| 3/4 | 3450 | 56 | CW/CCW | 230/460 | 2.4/1.2 | 1.0 | 74.0 | RS | B | 5U872 | 282.00 | **246.50** | 27.0 |
| | 1725 | 56 | CW/CCW | 230/460 | 2.6/1.3 | 1.0 | 75.5 | RS | B | 5U873 | 330.00 | **289.00** | 49.0 |
| 1 | 3450 | 56 | CW/CCW | 230/460 | 3.2/1.6 | 1.0 | 77.0 | RS | B | 5U874 | 310.00 | **271.25** | 47.0 |
| | 1770 | 182 | CW/CCW | 460 | 1.4 | 1.0 | 89.5 | CI | B | 5U875† | 389.00 | **338.00** | 85.0 |
| | 1175 | 184 | CW/CCW | 460 | 1.5 | 1.0 | 88.5 | CI | B | 5U876† | 463.00 | **413.00** | 85.0 |
| 1 1/2 | 3515 | 182 | CW/CCW | 460 | 2.5 | 1.0 | 81.5 | CI | B | 5U877 | 324.00 | **289.00** | 85.0 |
| | 1770 | 184 | CW/CCW | 460 | 2.0 | 1.0 | 90.2 | CI | B | 5U878† | 406.00 | **362.00** | 100.0 |
| | 1175 | 184 | CW/CCW | 460 | 2.3 | 1.0 | 88.5 | CI | B | 5U879 | 511.00 | **455.75** | 100.0 |
| 2 | 3515 | 184 | CW/CCW | 460 | 3.2 | 1.0 | 78.5 | CI | B | 5U880 | 358.00 | **319.25** | 100.0 |
| | 1765 | 184 | CW/CCW | 460 | 2.7 | 1.0 | 90.2 | CI | B | 5U881 | 428.00 | **381.75** | 100.0 |
| | 1180 | 213 | CW/CCW | 460 | 3.0 | 1.0 | 90.2 | CI | B | 5U882 | 566.00 | **504.50** | 150.0 |
| 3 | 3510 | 184 | CW/CCW | 460 | 4.4 | 1.0 | 85.5 | CI | B | 5U883 | 406.00 | **362.00** | 100.0 |
| | 1775 | 213 | CW/CCW | 460 | 3.7 | 1.0 | 91.7 | CI | B | 5U884 | 492.00 | **438.75** | 150.0 |
| | 1175 | 215 | CW/CCW | 460 | 4.2 | 1.0 | 91.0 | CI | B | 5U885 | 701.00 | **625.00** | 160.0 |
| | 880 | 254U | CW/CCW | 460 | 4.9 | 1.0 | 86.5 | CI | B | 5U886 | 886.00 | **790.00** | 300.0 |
| 5 | 3515 | 213 | CW/CCW | 460 | 7.1 | 1.0 | 86.5 | CI | B | 5U887 | 482.00 | **429.75** | 150.0 |
| | 1770 | 215 | CW/CCW | 460 | 6.1 | 1.0 | 92.4 | CI | B | 5U888 | 652.00 | **581.50** | 160.0 |
| | 1175 | 254U | CW/CCW | 460 | 6.1 | 1.0 | 91.0 | CI | B | 5U889 | 975.00 | **869.50** | 300.0 |
| | 875 | 256U | CW/CCW | 460 | 7.6 | 1.0 | 87.5 | CI | B | 5U890 | 1198.00 | **1068.00** | 340.0 |
| 7 1/2 | 3510 | 215 | CW/CCW | 460 | 9.5 | 1.0 | 87.5 | CI | B | 5U891 | 586.00 | **522.50** | 160.0 |
| | 1780 | 254U | CW/CCW | 460 | 8.9 | 1.0 | 93.6 | CI | B | 5U892 | 857.00 | **763.50** | 300.0 |
| | 1170 | 256U | CW/CCW | 460 | 9.0 | 1.0 | 91.7 | CI | B | 5U893 | 1246.00 | **1111.00** | 340.0 |
| | 880 | 284U | CW/CCW | 460 | 11.3 | 1.0 | 88.5 | CI | B | 5U894 | 1528.00 | **1362.00** | 380.0 |
| 10 | 3535 | 254U | CW/CCW | 460 | 12.4 | 1.0 | 88.5 | CI | B | 5U895 | 702.00 | **625.50** | 300.0 |
| | 1775 | 256U | CW/CCW | 460 | 11.7 | 1.0 | 93.6 | CI | B | 5U896 | 1041.00 | **928.00** | 340.0 |
| | 1180 | 284U | CW/CCW | 460 | 12.2 | 1.0 | 92.4 | CI | B | 5U897 | 1527.00 | **1361.00** | 380.0 |
| | 880 | 286U | CW/CCW | 460 | 15.2 | 1.0 | 88.5 | CI | B | 5U898 | 1796.00 | **1602.00** | 400.0 |
| 15 | 3535 | 256U | CW/CCW | 460 | 17.9 | 1.0 | 90.2 | CI | B | 5U899 | 894.00 | **797.00** | 340.0 |
| | 1775 | 284U | CW/CCW | 460 | 18.2 | 1.0 | 93.6 | CI | B | 5U900 | 1430.00 | **1275.00** | 380.0 |
| | 1180 | 324U | CW/CCW | 460 | 17.8 | 1.0 | 93.0 | CI | B | 5U901 | 2056.00 | **1833.00** | 560.0 |
| | 880 | 326U | CW/CCW | 460 | 21.1 | 1.0 | 89.5 | CI | B | 5U902 | 2388.00 | **2129.00** | 600.0 |

(*) RS = Rolled Steel construction; CI = Cast-Iron construction. (†) TENV. (↝) Denotes energy efficient product.

CONTINUED ON NEXT PAGE

# 3-PHASE PREMIUM EFFICIENCY U-FRAME AUTOMOTIVE DUTY MOTORS

## DAYTON 3-PHASE PREMIUM EFFICIENCY U-FRAME MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Rotation | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame* | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 3540 | 286U | CW/CCW | 460 | 23.5 | 1.0 | 89.5 | CI | B | ✓**5U903** | $1216.00 | **$1084.00** | 400.0 |
| | 1775 | 286U | CW/CCW | 460 | 22.8 | 1.0 | 93.6 | CI | B | ✓**5U904** | 1756.00 | **1566.00** | 400.0 |
| | 1175 | 326U | CW/CCW | 460 | 23.5 | 1.0 | 93.0 | CI | B | ✓**5U905** | 2513.00 | **2240.00** | 600.0 |
| | 880 | 364U | CW/CCW | 460 | 26.4 | 1.0 | 90.2 | CI | B | ✓**5U906** | 2894.00 | **2579.00** | 800.0 |
| **25** | 3535 | 324US | CW/CCW | 460 | 29.9 | 1.0 | 91.0 | CI | B | ✓**5U907** | 1560.00 | **1391.00** | 560.0 |
| | 1775 | 324U | CW/CCW | 460 | 28.3 | 1.0 | 94.1 | CI | B | ✓**5U908** | 2198.00 | **1959.00** | 560.0 |
| | 1190 | 364U | CW/CCW | 460 | 28.9 | 1.0 | 94.1 | CI | B | ✓**5U909** | 3034.00 | **2705.00** | 800.0 |
| | 880 | 365U | CW/CCW | 460 | 33.0 | 1.0 | 90.2 | CI | B | ✓**5U910** | 3392.00 | **3024.00** | 880.0 |
| **30** | 3550 | 326US | CW/CCW | 460 | 35.2 | 1.0 | 91.0 | CI | B | ✓**5U911** | 1882.00 | **1677.00** | 600.0 |
| | 1780 | 326U | CW/CCW | 460 | 33.7 | 1.0 | 94.5 | CI | B | ✓**5U912** | 2568.00 | **2290.00** | 600.0 |
| | 1185 | 365U | CW/CCW | 460 | 34.6 | 1.0 | 94.5 | CI | B | ✓**5U913** | 3433.00 | **3059.00** | 880.0 |
| | 890 | 404U | CW/CCW | 460 | 40.3 | 1.0 | 91.7 | CI | B | ✓**5U914** | 4016.00 | **3580.00** | 1100.0 |
| **40** | 3535 | 364US | CW/CCW | 460 | 46.4 | 1.0 | 91.7 | CI | B | ✓**5U915** | 2456.00 | **2188.00** | 800.0 |
| | 1785 | 364U | CW/CCW | 460 | 45.1 | 1.0 | 95.0 | CI | B | ✓**5U916** | 3386.00 | **3019.00** | 800.0 |
| | 1185 | 404U | CW/CCW | 460 | 46.0 | 1.0 | 94.5 | CI | B | ✓**5U917** | 4422.00 | **3942.00** | 1100.0 |
| | 890 | 405U | CW/CCW | 460 | 52.9 | 1.0 | 92.4 | CI | B | ✓**5U918** | 4916.00 | **4381.00** | 1250.0 |
| **50** | 3550 | 365US | CW/CCW | 460 | 57.7 | 1.0 | 92.4 | CI | B | ✓**5U919** | 3100.00 | **2764.00** | 880.0 |
| | 1780 | 365U | CW/CCW | 460 | 56.1 | 1.0 | 95.0 | CI | B | ✓**5U920** | 3972.00 | **3541.00** | 880.0 |
| | 1190 | 405U | CW/CCW | 460 | 58.0 | 1.0 | 94.5 | CI | B | ✓**5U921** | 5108.00 | **4552.00** | 1250.0 |
| **60** | 3545 | 405US | CW/CCW | 460 | 69.4 | 1.0 | 92.4 | CI | B | ✓**5U922** | 3688.00 | **3286.00** | 1250.0 |
| | 1780 | 405U | CW/CCW | 460 | 67.5 | 1.0 | 95.0 | CI | B | ✓**5U923** | 4932.00 | **4396.00** | 1250.0 |
| | 1185 | 444U | CW/CCW | 460 | 68.0 | 1.0 | 94.5 | CI | B | ✓**5U924** | 5997.00 | **5345.00** | 1450.0 |
| **75** | 1780 | 444U | CW/CCW | 460 | 82.3 | 1.0 | 95.0 | CI | B | ✓**5U925** | 6083.00 | **5422.00** | 1450.0 |
| | 1185 | 445U | CW/CCW | 460 | 84.1 | 1.0 | 95.0 | CI | B | ✓**5U926** | 7111.00 | **6338.00** | 1550.0 |
| **100** | 1780 | 445U | CW/CCW | 460 | 111.0 | 1.0 | 95.4 | CI | B | ✓**5U927** | 7561.00 | **6740.00** | 1550.0 |
| **125** | 1185 | 5004G | CW/CCW | 460 | 147.0 | 1.0 | 93.0 | CI | B | ✓**5U928** | 13310.00 | **11863.00** | 2700.0 |
| **150** | 1785 | 5004G | CW/CCW | 460 | 168.0 | 1.0 | 94.5 | CI | B | ✓**5U929** | 12740.00 | **11355.00** | 2700.0 |
| | 1185 | 5004G | CW/CCW | 460 | 175.0 | 1.0 | 93.6 | CI | B | ✓**5U930** | 14410.00 | **12844.00** | 2700.0 |
| **200** | 1785 | 5004G | CW/CCW | 460 | 231.0 | 1.0 | 94.5 | CI | B | ✓**5U931** | 14740.00 | **13139.00** | 2700.0 |
| **250** | 1780 | 5008G | CW/CCW | 460 | 275.0 | 1.0 | 94.5 | CI | B | ✓**5U932** | 17930.00 | **15983.00** | 3000.0 |

(*) CI = Cast-Iron construction. (✓) Denotes energy efficient product.

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.

**Replacement Parts Available**
**1-800-323-0620**

**Modification & Service Available**
**Contact Your Local Branch**

## GRAINGER STOCKS A BROAD LINE OF DAYTON AND GE MOTORS

**Top Performance.** Dayton motors are built to exceed industry standards such as NEMA (National Electrical Manufacturers Association). Used as a replacement motor in a wide variety of applications, each Dayton motor must outperform the best motor it may be called upon to replace, hence "best of the best" performance. You can be confident that the Dayton motor will work as well as, or better than, the motor you are replacing.

**Clearly Identified.** Dayton motors are clearly identified by full fact carton labels and nameplates with wiring diagrams. Maintenance and installation instructions appear in every motor carton.

**Broad Line Offering.** Dayton offers one of the broadest lines of motors in the industry. One brand can be used for nearly all your motor replacement needs.

**Time Proven Performance.** Established in 1937, Dayton has grown to be one of the most dependable names in the motor industry.

**National Recognition.** GE is considered the leading national brand motor with the largest installed customer base. The GE brand is widely known for quality and reliability.

**Clearly Identified.** GE motors are clearly identified by full fact carton labels and nameplates. Easy-to-read wiring diagrams are included.

**Premium Efficiency Leader.** GE has long been recognized as an industry leader in premium efficiency motors with a wide variety of ratings and types to suit many applications.

**Heritage of Excellence.** General Electric is one of the pioneers in the electrical industry with a proud 100 year history dating back to the time of founder Thomas Edison.

**Broad Line Offering.** Grainger now offers over 2400 stock GE brand motors including AC and DC motors from 1/370 HP to 450 HP in Energy $aver™ and standard efficiency designs including severe duty, explosion proof, farm duty, HVAC, and many others.

## THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.

Our branches are conveniently located and stocked with commonly used items from this catalog. If you need it now, call Grainger. To find the branch nearest you, check the Branch Locations listing in the front of this catalog.

# CAPACITOR-START OPEN DRIPPROOF MOTORS

**Typical Uses:** Fans, blowers, pumps, and commercial machinery

**Type:** Capacitor-start

**Bearings:** All-angle sleeve or double-shielded ball

**Ambient:** 40°C

**Duty:** Continuous

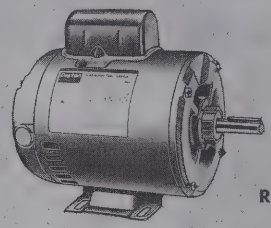
**Rotation:** CW/CCW

**Finish:** Gray

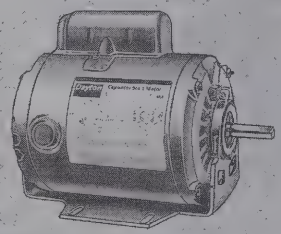
**Brand:** Dayton

Dayton®

E47479



No. 5K456
56 Frame
Rigid Welded Base



No. 5K989
48 Frame
Cradle Base

**Replacement Parts Available**
**1-800-323-0620**

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Insulation Class | Mounting | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 48 | Auto | 115/230 | 6.2/3.1 | 1.35 | Sleeve | A | Rigid | **6K971** | $137.00 | **$104.45** | 16.0 |
| | 1725 | 48 | Auto | 115/230 | 6.2/3.1 | 1.35 | Sleeve | A | Cradle | **6K438** | 139.00 | **106.05** | 16.0 |
| | 1725 | 48 | None | 115 | 6.3 | 1.0 | Sleeve | A | Rigid | **6K902** | 120.00 | **92.05** | 14.0 |
| | 1725 | 48 | Auto | 115 | 6.3 | 1.0 | Sleeve | A | Rigid | **6K912** | 124.00 | **95.15** | 15.0 |
| | 1725 | 48 | None | 115 | 6.3 | 1.0 | Sleeve | A | Cradle | **5K989** | 122.00 | **93.55** | 15.0 |
| | 1725 | 48 | Auto | 115 | 6.3 | 1.0 | Sleeve | A | Cradle | **6K924** | 126.00 | **96.65** | 15.0 |
| | 1725 | 56 | Auto | 115/230 | 6.2/3.1 | 1.35 | Sleeve | B | Rigid | **3K201** | 137.00 | **104.45** | 15.0 |
| | 1725 | 56 | Auto | 115/230 | 6.2/3.1 | 1.35 | Sleeve | B | Cradle | **3K202** | 139.00 | **106.05** | 18.0 |
| | 1725 | 56 | Manual | 115 | 6.0 | 1.0 | Sleeve | A | Rigid | **5K598** | 131.00 | **99.80** | 16.0 |
| | 1725 | 56 | None | 115 | 6.0 | 1.0 | Sleeve | A | Cradle | **5K441** | 122.00 | **93.55** | 17.0 |
| | 1140 | 56 | None | 115/230 | 6.2/3.1 | 1.0 | Sleeve | A | Rigid | **5K440** | 196.00 | **149.70** | 21.0 |
| 1/3 | 3450 | 48 | Auto | 115/230 | 6.8/3.4 | 1.35 | Sleeve | B | Rigid | **4K132** | 120.00 | **92.05** | 17.0 |
| | 3450 | 56 | Auto | 115/230 | 6.4/3.2 | 1.35 | Ball | A | Cradle | **6K326** | 131.00 | **99.80** | 19.0 |
| | 1725 | 48 | Auto | 115/230 | 6.2/3.1 | 1.35 | Sleeve | A | Rigid | **6K973** | 163.00 | **124.70** | 18.0 |
| | 1725 | 48 | Auto | 115/230 | 6.2/3.1 | 1.35 | Sleeve | A | Cradle | **6K490** | 165.00 | **126.30** | 19.0 |
| | 1725 | 48 | None | 115/230 | 6.8/3.4 | 1.0 | Sleeve | A | Rigid | **6K241** | 132.00 | **100.60** | 16.0 |
| | 1725 | 48 | Auto | 115/230 | 6.8/3.4 | 1.0 | Sleeve | A | Rigid | **6K243** | 140.00 | **106.80** | 16.0 |
| | 1725 | 48 | Auto | 115/230 | 6.8/3.4 | 1.0 | Ball | A | Rigid | **4K928** | 148.00 | **113.05** | 17.0 |
| | 1725 | 48 | None | 115/230 | 6.8/3.4 | 1.0 | Sleeve | A | Cradle | **5K991** | 134.00 | **102.15** | 16.0 |
| | 1725 | 48 | Auto | 115/230 | 6.8/3.4 | 1.0 | Sleeve | A | Cradle | **6K244** | 142.00 | **108.40** | 17.0 |
| | 1725 | 48 | Auto | 115/230 | 6.8/3.4 | 1.0 | Ball | A | Cradle | **4K929** | 150.00 | **114.55** | 18.0 |
| | 1725 | 48 | None | 115/230 | 6.8/3.4 | 1.0 | Ball | A | Cradle | **6K927** | 142.00 | **108.40** | 17.0 |
| | 1725 | 56 | Auto | 115/230 | 7.6/3.8 | 1.35 | Ball | A | Cradle | **6K366** | 172.00 | **131.75** | 20.0 |
| | 1725 | 56 | None | 115/230 | 7.6/3.8 | 1.35 | Ball | A | Cradle | **4K853** | 165.00 | **126.30** | 21.0 |
| | 1725 | 56 | Auto | 115 | 6.8 | 1.0 | Sleeve | A | Rigid | **5K443** | 130.00 | **99.00** | 18.0 |
| | 1725 | 56 | None | 115/230 | 6.8/3.4 | 1.0 | Sleeve | A | Rigid | **5K445** | 130.00 | **99.00** | 17.0 |
| | 1725 | 56 | Manual | 115/230 | 6.8/3.4 | 1.0 | Ball | A | Rigid | **5K599** | 152.00 | **116.20** | 18.0 |
| | 1725 | 56 | None | 115/230 | 6.8/3.4 | 1.0 | Sleeve | A | Cradle | **5K446** | 134.00 | **102.15** | 19.0 |
| | 1725 | 56 | Auto | 115 | 6.8 | 1.0 | Sleeve | A | Cradle | **5K444** | 132.00 | **100.60** | 19.0 |
| | 1725 | 56 | Manual | 115/230 | 6.8/3.4 | 1.0 | Sleeve | A | Cradle | **5K447** | 144.00 | **109.95** | 19.0 |
| | 1725 | 56 | None | 115/230 | 6.8/3.4 | 1.0 | Ball | A | Cradle | **5K448** | 142.00 | **108.40** | 19.0 |
| | 1140 | 56 | None | 115/230 | 7.4/3.7 | 1.0 | Sleeve | B | Rigid | **5K442** | 198.00 | **151.25** | 23.0 |
| 1/2 | 3450 | 48 | Auto | 115/230 | 8.9/4.5 | 1.25 | Sleeve | B | Rigid | **4K131** | 133.00 | **101.35** | 18.0 |
| | 3450 | 48 | None | 115/230 | 9.8/4.9 | 1.0 | Sleeve | A | Rigid | **5K683** | 117.00 | **89.70** | 18.0 |
| | 3450 | 48 | Manual | 115/230 | 9.8/4.9 | 1.0 | Sleeve | A | Rigid | **6K361** | 126.00 | **96.65** | 18.0 |
| | 3450 | 56 | Auto | 115/230 | 8.0/4.0 | 1.25 | Ball | A | Cradle | **6K345** | 143.00 | **109.10** | 21.0 |
| | 1725 | 48 | Auto | 115/230 | 8.4/4.2 | 1.0 | Sleeve | A | Rigid | **5K987** | 175.00 | **134.10** | 21.0 |
| | 1725 | 48 | None | 115/230 | 8.4/4.2 | 1.0 | Ball | A | Rigid | **6K958** | 175.00 | **134.10** | 22.0 |
| | 1725 | 48 | None | 115/230 | 8.4/4.2 | 1.0 | Sleeve | A | Cradle | **6K951** | 169.00 | **129.40** | 22.0 |
| | 1725 | 48 | Auto | 115/230 | 8.4/4.2 | 1.0 | Sleeve | A | Cradle | **6K245** | 177.00 | **135.65** | 21.0 |
| | 1725 | 48 | Auto | 115/230 | 8.4/4.2 | 1.0 | Ball | A | Cradle | **6K965** | 185.00 | **122.65** | 22.0 |

CONTINUED ON NEXT PAGE



We're the driving force in the motor business.

## DAYTON CAPACITOR-START OPEN DRIPPROOF MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Insulation Class | Mounting | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1725 | 56 | Auto | 115/230 | 9.0/4.5 | 1.25 | Sleeve | B | Rigid | 3K211 | $189.00 | $144.25 | 20.0 |
| | 1725 | 56 | Auto | 115/230 | 9.0/4.5 | 1.25 | Sleeve | B | Cradle | 3K213 | 191.00 | 136.95 | 20.0 |
| | 1725 | 56 | None | 115/230 | 9.0/4.5 | 1.25 | Ball | A | Cradle | 4K856 | 189.00 | 144.25 | 22.0 |
| | 1725 | 56 | Auto | 115/230 | 9.0/4.5 | 1.25 | Ball | A | Cradle | 3K199 | 199.00 | 126.50 | 21.0 |
| | 1725 | 56 | None | 115 | 8.2 | 1.0 | Sleeve | A | Rigid | 5K449 | 167.00 | 127.85 | 21.0 |
| | 1725 | 56 | None | 115/230 | 8.2/4.1 | 1.0 | Sleeve | A | Rigid | 5K451 | 159.00 | 121.65 | 21.0 |
| | 1725 | 56 | Auto | 115 | 8.2 | 1.0 | Sleeve | A | Rigid | 5K450 | 175.00 | 134.10 | 21.0 |
| | 1725 | 56 | Manual | 115/230 | 8.2/4.1 | 1.0 | Ball | A | Rigid | 5K455 | 185.00 | 141.10 | 21.0 |
| | 1725 | 56 | Auto | 115 | 8.2 | 1.0 | Sleeve | A | Cradle | 5K504 | 177.00 | 135.65 | 21.0 |
| | 1725 | 56 | Auto | 115/230 | 8.2/4.1 | 1.0 | Sleeve | A | Cradle | 5K453 | 188.00 | 143.45 | 21.0 |
| | 1725 | 56 | None | 115/230 | 8.2/4.1 | 1.0 | Sleeve | A | Cradle | 5K452 | 161.00 | 123.20 | 21.0 |
| | 1725 | 56 | None | 115/230 | 8.2/4.1 | 1.0 | Ball | A | Cradle | 5K454 | 176.00 | 134.90 | 21.0 |
| | 1725 | 56 | Auto | 115/230 | 8.2/4.1 | 1.0 | Ball | A | Cradle | 6K397 | 187.00 | 128.35 | 21.0 |
| 3/4 | 3450 | 48 | None | 115/230 | 11.8/5.9 | 1.0 | Sleeve | A | Rigid | 5K684 | 146.00 | 111.50 | 18.0 |
| | 3450 | 48 | Manual | 115/230 | 11.8/5.9 | 1.0 | Sleeve | A | Rigid | 6K370 | 156.00 | 119.30 | 19.0 |
| | 3450 | 56 | Auto | 115/230 | 10.5/5.3 | 1.25 | Sleeve | B | Rigid | 4K130 | 173.00 | 132.50 | 21.0 |
| | 3450 | 56 | Auto | 115/230 | 9.8/4.9 | 1.25 | Ball | A | Cradle | 6K346 | 175.00 | 134.10 | 24.0 |
| | 1725 | 56 | Auto | 115/230 | 11.6/5.8 | 1.25 | Sleeve | B | Rigid | 3K218 | 233.00 | 178.00 | 28.0 |
| | 1725 | 56 | Auto | 115/230 | 11.6/5.8 | 1.25 | Sleeve | B | Cradle | 3K224 | 235.00 | 150.25 | 28.0 |
| | 1725 | 56 | None | 115/230 | 11.4/5.7 | 1.25 | Ball | A | Cradle | 4K859 | 233.00 | 145.90 | 27.0 |
| | 1725 | 56 | Auto | 115/230 | 11.4/5.7 | 1.25 | Ball | A | Cradle | 6K376 | 243.00 | 147.90 | 29.0 |
| | 1725 | 56 | None | 115 | 11.6 | 1.0 | Sleeve | A | Rigid | 5K456 | 203.00 | 155.50 | 26.0 |
| | 1725 | 56 | None | 115/230 | 11.6/5.8 | 1.0 | Sleeve | A | Rigid | 5K457 | 211.00 | 161.50 | 24.0 |
| | 1725 | 56 | Auto | 115 | 11.6 | 1.0 | Sleeve | A | Rigid | 5K982 | 207.00 | 158.50 | 24.0 |
| | 1725 | 56 | Auto | 115 | 11.6 | 1.0 | Ball | A | Rigid | 6K236 | 215.00 | 164.75 | 24.0 |
| | 1725 | 56 | None | 115/230 | 11.6/5.8 | 1.0 | Ball | A | Rigid | 6K519 | 219.00 | 168.00 | 24.0 |
| | 1725 | 56 | Manual | 115/230 | 11.6/5.8 | 1.0 | Ball | A | Rigid | 5K460 | 230.00 | 175.75 | 24.0 |
| | 1725 | 56 | None | 115/230 | 11.6/5.8 | 1.0 | Sleeve | A | Cradle | 5K458 | 213.00 | 163.25 | 25.0 |
| | 1725 | 56 | Auto | 115/230 | 11.6/5.8 | 1.0 | Sleeve | A | Cradle | 5K459 | 219.00 | 168.00 | 26.0 |
| | 1725 | 56 | Auto | 115/230 | 11.6/5.8 | 1.0 | Ball | A | Cradle | 6K759 | 227.00 | 174.00 | 25.0 |
| 1 | 3450 | 56 | Auto | 115/230 | 13.8/6.9 | 1.25 | Sleeve | B | Rigid | 4K129 | 202.00 | 154.75 | 25.0 |
| | 3450 | 56 | Auto | 115/230 | 17.8/8.9 | 1.25 | Ball | B | Cradle | 6K347 | 196.00 | 149.65 | 25.0 |
| | 3450 | 56 | None | 115/230 | 13.4/6.7 | 1.0 | Ball | A | Rigid | 6K232 | 184.00 | 140.25 | 31.0 |
| | 3450 | 56 | Manual | 115/230 | 13.4/6.7 | 1.0 | Ball | A | Rigid | 6K385 | 194.00 | 148.15 | 30.0 |
| | 1725 | 66 | Auto | 115/230 | 13.6/6.8 | 1.0 | Ball | A | Rigid | 4K996 | 325.00 | 248.75 | 33.0 |
| | 1725 | 56 | None | 115/230 | 13.6/6.8 | 1.25 | Ball | A | Cradle | 5K922 | 238.00 | 167.00 | 32.0 |
| | 1725 | 56 | Auto | 115/230 | 13.6/6.8 | 1.25 | Ball | B | Cradle | 6K321 | 260.00 | 168.50 | 32.0 |
| | 1725 | 56 | None | 115/230 | 14.8/7.4 | 1.0 | Sleeve | A | Rigid | 5K431 | 227.00 | 174.00 | 30.0 |
| | 1725 | 56 | Auto | 115/230 | 14.8/7.4 | 1.0 | Ball | A | Rigid | 6K237 | 246.00 | 188.00 | 30.0 |
| | 1725 | 56 | None | 115/230 | 14.8/7.4 | 1.0 | Sleeve | A | Cradle | 5K432 | 230.00 | 175.50 | 31.0 |
| | 1725 | 56 | Auto | 115/230 | 14.8/7.4 | 1.0 | Sleeve | A | Cradle | 6K246 | 240.00 | 183.50 | 31.0 |
| | 1725 | 56 | Auto | 115/230 | 14.8/7.4 | 1.0 | Ball | A | Cradle | 6K760 | 245.00 | 187.25 | 32.0 |
| 1 1/2 | 3450 | 56 | Auto | 115/230 | 17.5/8.8 | 1.15 | Ball | B | Cradle | 6K365 | 251.00 | 196.00 | 28.0 |
| | 3450 | 56 | None | 115/230 | 18.8/9.4 | 1.0 | Ball | A | Rigid | 6K284* | 227.00 | 174.00 | 32.0 |
| | 3450 | 56 | Manual | 115/230 | 18.8/9.4 | 1.0 | Ball | A | Rigid | 6K614* | 244.00 | 186.50 | 32.0 |
| | 3450 | 66 | Manual | 115/230 | 16.4/8.2 | 1.0 | Ball | B | Rigid | 5K242 | 332.00 | 253.75 | 35.0 |
| | 1725 | 56 | Auto | 115/230 | 20.4/10.2 | 1.15 | Ball | B | Cradle | 6K324 | 318.00 | 200.00 | 39.0 |
| | 1725 | 56 | None | 115/230 | 20.0/10.0 | 1.0 | Ball | B | Rigid | 6K162† | 294.00 | 224.75 | 38.0 |
| 2 | 3450 | 56 | Auto | 115/230 | 21.6/10.8 | 1.15 | Ball | B | Cradle | 6K805 | 336.00 | 257.00 | 37.0 |
| | 3450 | 56 | None | 115/230 | 22.0/11.0 | 1.0 | Ball | B | Rigid | 6K138* | 303.00 | 232.00 | 36.0 |
| | 3450 | 56 | Manual | 115/230 | 22.0/11.0 | 1.0 | Ball | B | Rigid | 6K652* | 319.00 | 244.50 | 36.0 |

(*) Side mounted conduit box. (†) Rigid cradle base; similar to cradle base except does not have rubber rings on endshield.

**CAUTION: Not for fans in unattended areas.**

Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.

Browning
Dayton
MANY BRANDS OF POWER TRANSMISSION COMPONENTS AVAILABLE
NTN
VIBCO
U S TSUBAKI
WINSMITH HIGH QUALITY SPEED REDUCERS
Boston Gear
MOTORS
Stearns® Brakes, Clutches and Clutch-Brakes

# CAPACITOR-START OPEN DRIPPROOF MOTORS

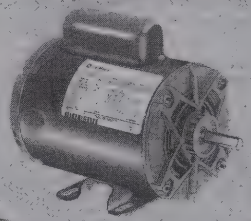
**Typical Uses:** Fans, blowers, pumps, and commercial machinery.
**Type:** Capacitor-start
**Bearings:** Sleeve or ball
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

Replacement Parts Available
1-800-323-0620

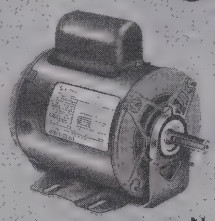
**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

E47088

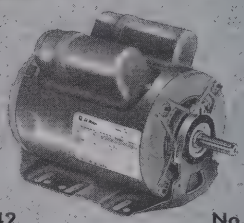
LR56189



No. 2K530
48 Frame
Rigid Welded Base



No. 3K142
56 Frame
Cradle Base



No. 3K147
56H Frame
Cradle Base

## SINGLE SPEED

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 48 | Auto | 115 | 5.2 | 1.35 | Sleeve | Cradle | C201 | **2K504** | $160.00 | **$93.50** | 15.0 |
| | 1725 | 48 | None | 115 | 5.2 | 1.35 | Sleeve | Cradle | C200 | **4K588** | 151.00 | **91.05** | 16.0 |
| | 1725 | 48 | Auto | 115/230 | 5.2/2.6 | 1.35 | Sleeve | Rigid | C145 | **2K530** | 158.00 | **94.70** | 16.0 |
| | 1725 | 48 | Auto | 115/230 | 5.2/2.6 | 1.35 | Sleeve | Cradle | C203 | **3K148** | 166.00 | **97.15** | 15.0 |
| | 1725 | 48 | None | 115/230 | 5.2/2.6 | 1.35 | Sleeve | Cradle | C202 | **2K505** | 160.00 | **94.70** | 17.0 |
| | 1140 | 56 | Auto | 115/230 | 6.8/3.4 | 1.35 | Ball | Cradle | C544 | **2K507** | 261.00 | **163.50** | 25.0 |
| 1/3 | 3450 | 48 | Auto | 115/230 | 6.8/3.4 | 1.35 | Ball | Cradle | C208 | **1D065** | 148.00 | **92.45** | 16.0 |
| | 1725 | 48 | Auto | 115/230 | 6.6/3.3 | 1.0 | Sleeve | Cradle | C129 | **3K054** | 166.00 | **94.20** | 16.0 |
| | 1725/1425 | 48 | Auto | 115/230 | 6.6/3.3 | 1.35 | Ball | Cradle | C210 | **1D067‡** | 179.00 | **111.00** | 18.0 |
| | 1725/1425 | 48 | None | 115/208-230 | 6.6/3.3 | 1.35 | Ball | Cradle | C209 | **1D066‡** | 170.00 | **105.40** | 18.0 |
| | 1725 | 56 | Manual | 115/208-230 | 6.6/3.3 | 1.0 | Ball | Rigid | C105 | **2K484** | 203.00 | **128.35** | 15.0 |
| | 1725/1425 | 56 | Auto | 115/208-230 | 6.6/3.3 | 1.35 | Ball | Cradle | C216 | **2K511‡** | 210.00 | **125.60** | 18.0 |
| | 1725/1425 | 56 | None | 115/208-230 | 6.6/3.3 | 1.35 | Ball | Cradle | C215 | **2K510‡** | 191.00 | **117.95** | 18.0 |
| | 1140 | 56 | Auto | 115/230 | 8.6/4.3 | 1.35 | Ball | Cradle | C548 | **2K514** | 265.00 | **165.00** | 35.0 |
| | 1140 | 56 | None | 115/230 | 8.6/4.3 | 1.35 | Ball | Cradle | C1258 | **2K513** | 257.00 | **159.75** | 33.0 |
| 1/2 | 3450 | 48 | None | 115/230 | 7.6/3.8 | 1.25 | Ball | Cradle | C219 | **1D068** | 154.00 | **95.50** | 15.0 |
| | 1725 | 48 | Auto | 115/230 | 8.6/4.3 | 1.0 | Ball | Cradle | C133 | **1D057** | 223.00 | **126.95** | 19.0 |
| | 1725 | 56 | Auto | 115/230 | 8.6/4.3 | 1.0 | Ball | Cradle | C136 | **3K060** | 225.00 | **135.90** | 18.0 |
| | 1725 | 56Z† | None | 115/230 | 8.6/4.3 | 1.0 | Ball | Rigid | C393 | **1D070** | 218.00 | **120.55** | 18.0 |
| | 1725 | 56 | None | 115/230 | 9.2/4.6 | 1.25 | Ball | Cradle | C415 | **2K773** | 258.00 | **132.35** | 21.0 |
| | 1725 | 56 | Auto | 115/230 | 8.8/4.4 | 1.25 | Ball | Cradle | C223 | **3K142** | 231.00 | **131.85** | 19.0 |
| | 1725 | 56 | None | 115/208-230 | 8.8/4.2-4.4 | 1.25 | Ball | Cradle | C221 | **6K186** | 209.00 | **126.75** | 20.0 |
| | 1140 | 56 | Auto | 115/230 | 9.4/4.7 | 1.25 | Ball | Cradle | C552 | **2K517** | 398.00 | **242.00** | 41.0 |
| | 1140 | 56 | None | 115/230 | 9.4/4.7 | 1.25 | Ball | Cradle | C1264 | **2K516** | 390.00 | **237.00** | 41.0 |
| 3/4 | 3450 | 48 | None | 115/230 | 11.2/5.6 | 1.0 | Ball | Rigid | C111 | **1D056** | 185.00 | **115.55** | 19.0 |
| | 3450 | 48Z† | None | 115/230 | 11.2/5.6 | 1.0 | Ball | Rigid | C394 | **1D071** | 188.00 | **116.65** | 18.0 |
| | 1725 | 56 | Auto | 115/230 | 13.2/6.6 | 1.25 | Ball | Cradle | C231 | **3K143** | 280.00 | **156.00** | 26.0 |
| | 1725 | 56 | None | 115/208-230 | 13.2/6.2-6.6 | 1.25 | Ball | Cradle | C230 | **2K519** | 269.00 | **153.25** | 23.0 |
| | 1725 | 56 | None | 115/208-230 | 11.4/5.6-5.7 | 1.25 | Ball | Cradle/Stud | C417 | **2K774** | 316.00 | **153.25** | 30.0 |
| | 1140 | 56 | None | 115/230 | 12.6/6.3 | 1.15 | Ball | Cradle | C232 | **2K520*** | 451.00 | **273.25** | 43.0 |
| 1 | 3450 | 56Z† | None | 115/230 | 13.4/6.7 | 1.0 | Ball | Rigid | C449 | **1D074** | 224.00 | **132.85** | 20.0 |
| | 1725 | 56 | Auto | 115/230 | 15.0/7.5 | 1.15 | Ball | Cradle | C636 | **3K064** | 299.00 | **181.50** | 32.0 |
| | 1725 | 56 | Auto | 115/230 | 13.6/6.8 | 1.15 | Ball | Cradle | C236 | **3K144** | 301.00 | **176.25** | 34.0 |
| | 1725 | 56 | None | 115/208-230 | 13.6/6.7-6.8 | 1.15 | Ball | Cradle | C235 | **2K502** | 293.00 | **177.50** | 29.0 |
| 1 1/2 | 1725 | 56H | Auto | 115/230 | 18.2/9.1 | 1.15 | Ball | Cradle | C239 | **3K147*** | 368.00 | **206.75** | 46.0 |

## TWO SPEED

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 1/4 | 1725/1140 | 56 | None | 115 | 10.6/6.4 | 1.25 | Ball | Cradle/Stud | C420 | **2K776*** | $370.00 | **$225.00** | 33.0 |
| 1 | 1/3 | 1725/1140 | 56 | None | 115 | 12.0/7.0 | 1.15 | Ball | Cradle/Stud | C475 | **2K778*** | 406.00 | **246.25** | 40.0 |
| | 1/3 | 1725/1140 | 56 | None | 208-230 | 5.3-5.4/3.6-3.9 | 1.15 | Ball | Cradle/Stud | C476 | **2K779*** | 415.00 | **251.75** | 40.0 |

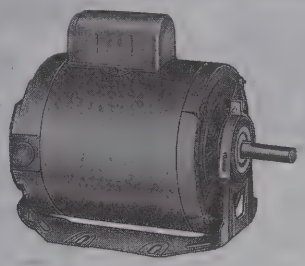
(*) Capacitor-start, capacitor-run. (‡) 50/60 Hz operation.
(†) Double shafted. 48Z Double shaft extension 1 1/2" long x 1/2" diameter with flat each end. 56Z Double shaft extension 1 7/8" long x 5/8" diameter with keyway each end.

# CAPACITOR-START OPEN DRIPPROOF AND TEFC MOTORS

## A.O. SMITH BRAND, OPEN DRIPPROOF

**Typical Uses:** Fans, blowers, pumps, and commercial machinery
**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Mounting:** Cradle
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** A.O. Smith

A.O. SMITH



No. 5K308
48 Frame
Cradle Base

Replacement Parts Available
1-800-323-0620

### CRADLE BASE

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate | Bearings | Service Factor | A.O. Smith Style No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | 1725 | 48 | 115 | 7.0 | Sleeve | 1.0 | 316P298 | **5K308** | $142.00 | **$115.20** | 16.0 |
| **1/2** | 1725 | 56 | 115/230 | 9.0/4.5 | Ball | 1.0 | 317P063 | **6K085** | 200.00 | **162.00** | 19.0 |
| **1** | 1725/1140* | 56 | 230 | 6.8 | Sleeve | 1.0 | 311P397 | **6K137** | 392.00 | **317.25** | 34.0 |

(*) 1/3 HP at 1140 RPM.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

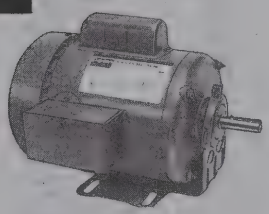
## DAYTON AND GE BRAND, TEFC

**Typical Uses:** Fans, blowers, pumps, and commercial machinery
**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Mounting:** Cradle
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton and GE

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

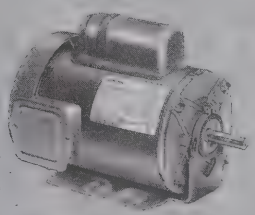
Dayton

E47479



NO. 5K411
56 Frame
Cradle Base

E47088



NO. 2K574
56 Frame
Cradle Base

Replacement Parts Available
1-800-323-0620

### DAYTON BRAND

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1725 | 56 | Auto | 115/230 | 5.6/2.8 | 1.0 | Ball | A | **5K410** | $167.00 | **$127.85** | 20.0 |
| **1/3** | 1725 | 56 | Auto | 115/230 | 7.6/3.8 | 1.0 | Ball | B | **5K411** | 185.00 | **141.10** | 22.0 |
| **1/2** | 1725 | 56 | Auto | 115/230 | 9.0/4.5 | 1.0 | Ball | B | **6K477** | 226.00 | **173.25** | 26.0 |
| **3/4** | 1725 | 56 | Auto | 115/230 | 11.4/5.7 | 1.0 | Ball | B | **6K478** | 275.00 | **210.75** | 30.0 |
| **1** | 1725 | 56 | Auto | 115/230 | 13.6/6.8 | 1.0 | Ball | B | **6K810** | 309.00 | **236.50** | 34.0 |

### GE BRAND

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1725 | 48 | None | 115/230 | 5.4/2.7 | 1.0 | Ball | B | C247 | **1D069** | $187.00 | **$116.10** | 17.0 |
| **1/2** | 1725 | 56 | Auto | 115/230 | 8.2/4.1 | 1.0 | Ball | B | C289 | **2K572** | 262.00 | **163.50** | 25.0 |
| **3/4** | 1725 | 56 | Auto | 115/230 | 11.6/5.8 | 1.0 | Ball | B | C806 | **2K573** | 323.00 | **196.50** | 35.0 |
| **1** | 1725 | 56 | Auto | 115/230 | 13.2/6.6 | 1.0 | Ball | B | C292 | **2K574** | 358.00 | **217.00** | 42.0 |

# SPLIT-PHASE OPEN DRIPPROOF MOTORS

- **NEMA 42 frame is supplied with a relay instead of centrifugal switch (relay mounting clip also included)**

**Typical Uses:** Fans, blowers, conveyors, tools, pumps, reducers, and similar moderate-starting torque applications. NEMA 42 frame is more frequently used on business machines, vending machines, printing equipment, door openers, and other applications where a small, compact motor is required.

**Type:** Split-phase
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

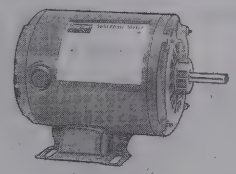
**Replacement Parts Available**
**1-800-323-0620**

Dayton®

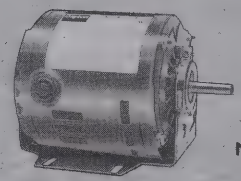
E47479

LR2459

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.



No. 5K279
56Z Frame
Rigid Base



No. 5K914
48 Frame
Cradle Base

## SINGLE SPEED

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Mounting | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/12 | 1725 | 42 | None | 115 | 3.0 | 1.4 | Ball | B | Cradle | 3/8 x 1⅛ | **6K402** | $116.00 | **$83.85** | 8.8 |
| 1/6 | 1140 | 56Z* | None | 115 | 4.6 | 1.35 | Sleeve | A | Cradle | 1/2 x 1½ | **5K559** #† | 155.00 | **111.70** | 18.0 |
| 1/4 | 1725 | 56Z* | None | 115 | 5.4 | 1.0 | Sleeve | A | Rigid | 1/2 x 1½ | **5K279** | 100.00 | **72.10** | 15.0 |
| | 1725 | 48 | None | 115 | 5.4 | 1.0 | Sleeve | A | Rigid‡ | 1/2 x 1½ | **5K911** | 100.00 | **72.10** | 14.0 |
| | 1725 | 48 | Auto | 115 | 5.4 | 1.0 | Sleeve | A | Rigid‡ | 1/2 x 1½ | **6K718** | 108.00 | **77.95** | 14.0 |
| | 1725 | 48 | None | 115 | 5.4 | 1.0 | Sleeve | A | Cradle | 1/2 x 1½ | **5K914** # | 106.00 | **76.45** | 14.0 |
| | 1725 | 48 | None | 115 | 5.4 | 1.0 | Ball | A | Cradle | 1/2 x 1½ | **6K716** | 114.00 | **82.35** | 14.0 |
| | 1725 | 56Z* | None | 115 | 5.7 | 1.0 | Ball | A | Cradle | 1/2 x 1½ | **6K731** | 114.00 | **82.35** | 15.0 |
| | 1725 | 56Z* | None | 115 | 5.4 | 1.0 | Sleeve | A | Cradle | 1/2 x 1½ | **5K280** | 106.00 | **76.45** | 15.0 |
| 1/3 | 3450 | 48 | None | 115 | 6.6 | 1.0 | Sleeve | A | Rigid‡ | 1/2 x 1½ | **5K586** | 106.00 | **77.45** | 14.0 |
| | 1725 | 48 | Auto | 230 | 3.0 | 1.0 | Sleeve | A | Rigid‡ | 1/2 x 1½ | **5K602** | 124.00 | **89.70** | 15.0 |
| | 1725 | 48 | Auto | 115 | 6.0 | 1.0 | Sleeve | A | Rigid‡ | 1/2 x 1½ | **5K601** | 116.00 | **83.80** | 15.0 |
| | 1725 | 48 | None | 115 | 6.8 | 1.0 | Sleeve | A | Rigid‡ | 1/2 x 1½ | **5K916** | 112.00 | **64.60** | 14.0 |
| | 1725 | 48 | None | 115 | 6.8 | 1.0 | Ball | A | Rigid‡ | 1/2 x 1½ | **6K782** | 120.00 | **86.80** | 15.0 |
| | 1725 | 48 | None | 115 | 6.8 | 1.0 | Sleeve | A | Cradle | 1/2 x 1½ | **5K917** | 114.00 | **65.80** | 14.0 |
| | 1725 | 48 | None | 115 | 6.8 | 1.0 | Ball | A | Cradle | 1/2 x 1½ | **6K725** | 122.00 | **88.25** | 14.0 |
| | 1725 | 56Z* | None | 115 | 6.0 | 1.0 | Sleeve | A | Rigid | 1/2 x 1½ | **5K281** | 112.00 | **71.40** | 15.0 |
| | 1725 | 56Z* | Auto | 115 | 6.0 | 1.0 | Sleeve | A | Rigid | 1/2 x 1½ | **6K761** | 116.00 | **83.80** | 15.0 |
| | 1725 | 56Z* | Auto | 115 | 6.0 | 1.0 | Ball | A | Rigid | 1/2 x 1½ | **5K412** | 124.00 | **89.70** | 15.0 |
| | 1725 | 56Z* | None | 115 | 6.0 | 1.0 | Ball | A | Cradle | 1/2 x 1½ | **6K755** | 122.00 | **88.25** | 16.0 |
| | 1725 | 56Z* | None | 115 | 6.0 | 1.0 | Sleeve | A | Cradle | 1/2 x 1½ | **5K534** | 108.00 | **77.95** | 14.0 |
| 1/2 | 3450 | 48 | None | 115 | 8.6 | 1.0 | Sleeve | A | Rigid‡ | 1/2 x 1½ | **6K844** | 137.00 | **99.35** | 16.0 |
| | 1725 | 48 | None | 115 | 8.8 | 1.0 | Sleeve | A | Rigid | 1/2 x 1½ | **5K984** | 140.00 | **100.70** | 18.0 |
| | 1725 | 48 | None | 115 | 8.8 | 1.0 | Sleeve | A | Cradle | 1/2 x 1½ | **6K763** | 144.00 | **103.65** | 18.0 |
| | 1725 | 48 | None | 115 | 8.8 | 1.0 | Ball | A | Cradle | 1/2 x 1½ | **6K764** | 154.00 | **111.00** | 18.0 |
| | 1725 | 56 | None | 115 | 8.6 | 1.0 | Sleeve | A | Rigid | 5/8 x 1⅞ | **5K433** | 140.00 | **100.70** | 20.0 |
| | 1725 | 56 | None | 115 | 8.6 | 1.0 | Ball | A | Rigid | 5/8 x 1⅞ | **6K784** | 148.00 | **106.55** | 19.0 |
| | 1725 | 56 | Manual | 115 | 8.6 | 1.0 | Ball | B | Rigid | 5/8 x 1⅞ | **5K597** | 158.00 | **113.95** | 20.0 |
| | 1725 | 56 | None | 230 | 4.6 | 1.0 | Sleeve | A | Cradle | 5/8 x 1⅞ | **5K288** | 152.00 | **109.50** | 20.0 |
| | 1725 | 56 | None | 115 | 8.6 | 1.0 | Ball | A | Cradle | 5/8 x 1⅞ | **6K775** | 150.00 | **108.10** | 20.0 |
| | 1725 | 56 | None | 115 | 8.6 | 1.0 | Sleeve | A | Cradle | 5/8 x 1⅞ | **5K283** | 144.00 | **103.65** | 20.0 |
| | 1725 | 56Z* | None | 115 | 8.1 | 1.0 | Sleeve | A | Cradle | 1/2 x 1½ | **4K913** | 144.00 | **103.65** | 17.0 |

## TWO SPEED#

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Mounting | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1/8 | 1725/1140 | 48Y** | None | 115 | 5.2/4.2 | 1.0 | Sleeve | A | Cradle | 1/2 x 1¹/₂ | **5K671** | $141.00 | **$101.45** | 17.0 |
| | 1/8 | 1725/1140 | 56Z† | None | 115 | 5.2/3.6 | 1.0 | Sleeve | A | Cradle | 1/2 x 1¹/₂ | **5K574** | 141.00 | **101.45** | 16.0 |
| 1/3 | 1/6 | 1725/1140 | 56Z† | None | 115 | 6.8/4.5 | 1.0 | Sleeve | A | Cradle | 1/2 x 1¹/₂ | **5K554** | 155.00 | **111.70** | 21.0 |
| 1/2 | 1/4 | 1725/1140 | 56 | None | 115 | 9.2/6.0 | 1.0 | Sleeve | A | Cradle | 5/8 x 1⅞ | **5K423** | 200.00 | **144.05** | 23.0 |
| | 1/4 | 1725/1140 | 56 | None | 230 | 4.6/3.0 | 1.0 | Sleeve | A | Cradle | 5/8 x 1⅞ | **5K556** | 208.00 | **149.95** | 23.0 |

(*) Have nonstandard 1/2" diameter shaft with flat. (#) Two-speed switch No. 2X605 available, see page 3622.
(**) NEMA 48Y frame cradles are notched for mounting in place of 48 or 56 frame cradle.
(†) Supplied with 5/8" diameter shaft bushing . (‡) Ridgid cradle base; similar to cradle base except does not have rubber rings on endshield



We're the driving force in the motor business.

# SPLIT-PHASE OPEN DRIPPROOF MOTORS

**GENERAL PURPOSE COMMERCIAL MOTORS**

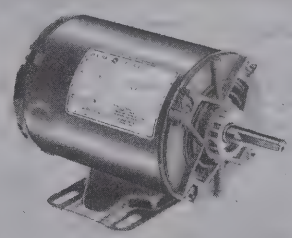
**Typical Uses:** Commercial fans, ventilation fans, blowers, and other belt-driven air-moving applications.

**Type:** Split-phase
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

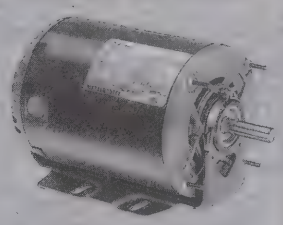
E47479

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Replacement Parts Available 1-800-323-0620



No. 2K687
56 Frame
Rigid Welded Base



No. 2K702
56 Frame
Cradle Base

## SINGLE SPEED

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Mounting | Shaft Dimensions (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/12 | 1725/1425 | 42 | 115** | 2.1 | 1.0 | Sleeve | A | Cradle | 3/8 x 1½ | 0089 | **5K594** | $174.00 | **$111.05** | 10.0 |
| 1/6 | 1725 | 48 | 115 | 3.9 | 1.35 | Sleeve | B | Cradle | 1/2 x 1½ | 4304 | **6K507** | 107.00 | **60.80** | 12.0 |
| | 1725 | 48Z | 115 | 3.9 | 1.35 | Ball | B | Cradle/Stud | 1/2 x 1⅞ | H156 | **3K115** | 123.00 | **73.90** | 12.0 |
| | 1140 | 48 | 115 | 4.0 | 1.35 | Sleeve | B | Cradle/Stud | 1/2 x 1½ | H695 | **1K085** | 168.00 | **101.95** | 23.0 |
| | 1140 | 48Z | 115 | 4.0 | 1.35 | Ball | B | Cradle/Stud | 1/2 x 1⅞ | H158 | **2K697** | 183.00 | **115.75** | 19.0 |
| | 850 | 56 | 115 | 6.1 | 1.35 | Ball | B | Cradle/Stud | 5/8 x 1⅞ | H620 | **2K699** | 336.00 | **203.50** | 29.0 |
| 1/4 | 1725 | 48 | 115 | 5.6 | 1.35 | Ball | B | Rigid | 1/2 x 1½ | H239 | **2K684** | 128.00 | **79.45** | 14.0 |
| | 1725 | 48 | 115 | 5.1 | 1.35 | Sleeve | B | Cradle | 1/2 x 1½ | 4355 | **6K569** | 116.00 | **63.90** | 13.0 |
| | 1725 | 48 | 230 | 2.5 | 1.35 | Sleeve | B | Cradle | 1/2 x 1½ | 4360 | **2K690** | 123.00 | **70.50** | 17.0 |
| | 1725 | 48 | 115 | 5.7 | 1.0 | Sleeve | B | Rigid | 1/2 x 1½ | 4351 | **5K524** | 107.00 | **59.05** | 12.0 |
| | 1725 | 48 | 115 | 5.7 | 1.0 | Sleeve | B | Cradle | 1/2 x 1½ | 4352 | **5K525** | 111.00 | **62.05** | 12.0 |
| | 1725 | 48Z | 115 | 5.1 | 1.15 | Ball | B | Rigid | 1/2 x 2¼ | H901 | **5M590** # | 83.00 | **52.05** | 13.0 |
| | 1725 | 48Z | 115 | 5.1 | 1.35 | Ball | B | Cradle/Stud | 1/2 x 1⅞ | H160 | **3K118** | 131.00 | **80.95** | 14.0 |
| | 1725 | 56Z* | 115 | 5.7 | 1.0 | Sleeve | B | Cradle | 1/2 x 1½ | 4359 | **3K086** | 113.00 | **68.55** | 13.0 |
| | 1140 | 56 | 115 | 5.6 | 1.35 | Ball | B | Cradle/Stud | 5/8 x 1⅞ | H162 | **2K700** | 240.00 | **145.55** | 27.0 |
| | 850 | 56 | 115 | 6.9 | 1.25 | Ball | B | Cradle/Stud | 5/8 x 1⅞ | H296 | **2K698** | 411.00 | **249.25** | 35.0 |
| 1/3 | 3450 | 48 | 115 | 5.6 | 1.35 | Ball | B | Cradle | 1/2 x 1½ | H114 | **1D078** | 123.00 | **76.70** | 15.0 |
| | 1725 | 48 | 115 | 6.8 | 1.0 | Ball | B | Rigid | 1/2 x 1½ | H229 | **2K683** | 135.00 | **83.85** | 15.0 |
| | 1725 | 48 | 115 | 6.2 | 1.0 | Sleeve | B | Rigid | 1/2 x 1½ | 4368 | **6K185** | 117.00 | **65.70** | 14.0 |
| | 1725 | 48 | 115 | 6.2 | 1.0 | Sleeve | B | Cradle | 1/2 x 1½ | 4369 | **5K527** | 121.00 | **68.10** | 14.0 |
| | 1725 | 48 | 230 | 3.3 | 1.0 | Sleeve | B | Rigid | 1/2 x 1½ | 4373 | **2K685** | 126.00 | **73.50** | 16.0 |
| | 1725 | 48 | 230 | 3.3 | 1.0 | Sleeve | B | Cradle | 1/2 x 1½ | 4371 | **5K310** | 130.00 | **74.75** | 15.0 |
| | 1725 | 48Z | 115 | 6.2 | 1.35 | Ball | B | Cradle/Stud | 1/2 x 1⅞ | H164 | **3K120** | 153.00 | **91.65** | 16.0 |
| | 1725 | 48Z | 230 | 3.3 | 1.35 | Ball | B | Cradle/Stud | 1/2 x 1⅞ | H166 | **2K701** | 160.00 | **96.45** | 16.0 |
| | 1725 | 48Z | 115 | 6.2 | 1.0 | Sleeve | B | Rigid | 1/2 x 1⅞ | 4376 | **2K686** | 123.00 | **69.90** | 15.0 |
| | 1725 | 48Z | 115 | 5.5 | 1.15 | Ball | B | Rigid | 1/2 x 2¼ | H903 | **5M592** # | 90.00 | **56.40** | 14.0 |
| | 1725 | 56Z* | 115 | 6.2 | 1.0 | Sleeve | B | Rigid | 1/2 x 1½ | 4372 | **3K087** † | 119.00 | **72.10** | 15.0 |
| | 1725 | 56Z* | 115 | 6.2 | 1.0 | Sleeve | B | Cradle | 1/2 x 1½ | 4377 | **6K947** | 124.00 | **68.10** | 14.0 |
| | 1140 | 56 | 115 | 7.0 | 1.35 | Ball | B | Cradle/Stud | 5/8 x 1⅞ | H168 | **2K702** | 278.00 | **169.25** | 31.0 |
| 1/2 | 1725 | 48 | 115 | 8.3 | 1.0 | Ball | B | Rigid | 1/2 x 1½ | H696 | **3VG26** | 186.00 | **109.85** | 16.0 |
| | 1725 | 56 | 115 | 9.3 | 1.25 | Ball | B | Cradle/Stud | 5/8 x 1⅞ | H286 | **3K122** | 209.00 | **108.30** | 18.0 |
| | 1725 | 56 | 115 | 8.3 | 1.0 | Ball | B | Rigid | 5/8 x 1⅞ | H230 | **2K687** | 168.00 | **106.60** | 17.0 |
| | 1725 | 56 | 115 | 8.3 | 1.0 | Ball | B | Cradle | 5/8 x 1⅞ | 4386 | **1D038** | 161.00 | **99.85** | 18.0 |
| | 1725 | 56 | 230 | 4.2 | 1.0 | Ball | B | Cradle | 5/8 x 1⅞ | 4387 | **1D039** | 169.00 | **104.85** | 18.0 |
| | 1725 | 56Z | 115 | 7.3 | 1.15 | Ball | B | Rigid | 5/8 x 2¼ | H905 | **5M594** # | 106.00 | **66.40** | 15.0 |
| 3/4 | 1725 | 56 | 115 | 11.4 | 1.0 | Ball | B | Cradle | 5/8 x 1⅞ | 4422 | **1D043** | 197.00 | **122.30** | 21.0 |
| | 1725 | 56 | 115 | 10.5 | 1.15 | Ball | B | Rigid | 5/8 x 2¼ | H907 | **5M596** # | 130.00 | **81.45** | 17.0 |

## TWO SPEED‡, CRADLE BASE

| HP at High RPM | HP at Low RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Mounting | Shaft Dimensions (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/6 | 1/18 | 1725/1140 | 48 | 115 | 3.4/1.9 | 1.35 | Sleeve | B | Cradle | 1/2 x 1½ | 4322 | **2K704** | $141.00 | **$85.00** | 17.0 |
| 1/6 | 1/18 | 1725/1140 | 48Z | 115 | 3.4/1.9 | 1.35 | Ball | B | Cradle/Stud | 1/2 x 1⅞ | H169 | **2K705** | 159.00 | **96.50** | 17.0 |
| 1/4 | 1/12 | 1725/1140 | 48Z | 115 | 4.2/2.7 | 1.35 | Ball | B | Cradle/Stud | 1/2 x 1⅞ | H171 | **2K706** | 183.00 | **115.35** | 19.0 |
| 1/4 | 1/10 | 1140/850 | 56 | 115 | 5.8/3.6 | 1.35 | Ball | B | Cradle/Stud | 5/8 x 1⅞ | H300 | **2K707** | 353.00 | **214.50** | 33.0 |
| 1/3 | 1/9 | 1725/1140 | 48 | 115 | 6.3/3.1 | 1.0 | Sleeve | B | Cradle/Stud | 1/2 x 1½ | 4396 | **2K708** | 170.00 | **102.55** | 19.0 |
| 1/3 | 1/9 | 1725/1140 | 56 | 115 | 5.7/3.2 | 1.35 | Ball | B | Cradle/Stud | 5/8 x 1⅞ | H173 | **2K709** | 232.00 | **142.85** | 25.0 |
| 1/2 | 1/6 | 1725/1140 | 56 | 115 | 8.4/4.8 | 1.0 | Ball | B | Cradle | 5/8 x 1⅞ | H130 | **1D080** | 218.00 | **135.85** | 24.0 |
| 1/2 | 1/6 | 1725/1140 | 56 | 115 | 8.0/4.2 | 1.25 | Ball | B | Cradle/Stud | 5/8 x 1⅞ | H175 | **2K711** | 293.00 | **175.75** | 29.0 |
| 1/2 | 1/6 | 1725/1140 | 56 | 230 | 3.8/1.9 | 1.25 | Ball | B | Cradle/Stud | 5/8 x 1⅞ | H275 | **2K712** | 301.00 | **182.50** | 29.0 |

(*) Supplied with 5/8" diameter shaft bushing. (**) 60/50 Hz. (†) Double shaft extension 1/2" dia. x 11/2" long, with flat each end.
(‡) Two-speed switch No. 2X605 available, see page 3622. (#) Galvanized steel endshields.

# SPLIT-PHASE TEFC MOTORS

## DAYTON BRAND, SPLIT-PHASE TEFC MOTORS

- **Large conduit box for easy wiring**

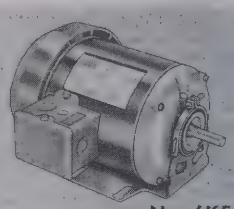
**Typical Uses:** Dependable operation in **non-combustible** dusty, dirty areas on pumps, machinery, fans, blowers, conveyors, and other moderate-starting torque applications.

**Type:** Split-phase

**Bearings:** All-angle sleeve or double-shielded ball
**Service Factor:** 1.0
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton®

E47479 LR2459



No. 6K517

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Mounting | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE SPEED** | | | | | | | | | | | | | | |
| **1/4** | — | 1725 | 48 | None | 115 | 4.4 | 1.0 | Sleeve | A | Cradle | **6K517** | $133.00 | **$95.55** | 17.0 |
| **1/3** | — | 1725 | 48 | None | 115 | 5.5 | 1.0 | Sleeve | A | Cradle | **6K572** | 151.00 | **108.80** | 20.0 |
| **1/2** | — | 1725 | 56 | None | 115 | 8.6 | 1.0 | Ball | A | Rigid | **5K596** | 216.00 | **156.00** | 23.0 |
| **TWO SPEED†** | | | | | | | | | | | | | | |
| **1/2** | **1/4** | 1725/1140 | 56 | None | 115 | 8.3/6.3 | 1.0 | Ball | A | Rigid | **5K618** | 294.00 | **212.00** | 26.0 |

(†) Two-speed switch No. 2X605 available, see page 3623

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## GE BRAND, SPLIT-PHASE TEFC MOTORS

- **Large conduit box for easy wiring**

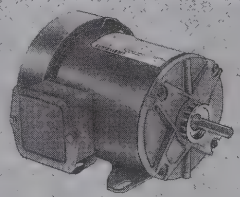
**Typical Uses:** Dependable operation in **non-combustible** dusty, dirty areas on pumps, machinery, fans, blowers, conveyors, and other moderate-starting torque applications.

**Type:** Split-phase

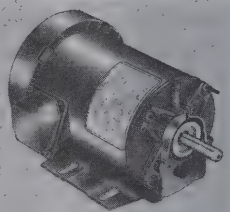
**Bearings:** Prelubricated ball for heavy radial and thrust loads

**Service Factor:** 1.0
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

E47479



No. 3K349
48 Frame, Rigid Welded



No. 2K755
56 Frame, Cradle Base

### SINGLE SPEED

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Ins. Class | Mounting | Shaft Dimensions (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/8** | 1140 | 48 | 115 | 3.8 | Ball | B | Cradle/Stud | 1/2 x 1 1/2 | H177 | **2K746** | $190.00 | **$119.75** | 18.0 |
| **1/6** | 1725 | 48 | 115 | 4.0 | Ball | B | Rigid | 1/2 x 1 1/2 | H116 | **3K349** | 147.00 | **91.10** | 14.0 |
| | 1725 | 48 | 115 | 4.0 | Ball | B | Cradle/Stud | 1/2 x 1 1/2 | H178 | **2K747** | 150.00 | **95.15** | 11.0 |
| | 1140 | 48 | 115 | 4.0 | Ball | B | Rigid | 1/2 x 1 1/2 | H118 | **2K693** | 205.00 | **129.50** | 21.0 |
| | 1140 | 48 | 115 | 4.0 | Ball | B | Cradle/Stud | 1/2 x 1 1/2 | H233 | **2K749** | 209.00 | **132.40** | 19.0 |
| **1/4** | 1725 | 48 | 115 | 5.1 | Ball | B | Rigid | 1/2 x 1 1/2 | H120 | **3K359** | 155.00 | **96.35** | 17.0 |
| | 1725 | 48 | 115 | 5.1 | Ball | B | Cradle/Stud | 1/2 x 1 1/2 | H181 | **2K750** | 159.00 | **101.80** | 16.0 |
| | 1140 | 56 | 115 | 5.6 | Ball | B | Cradle/Stud | 5/8 x 1 7/8 | H182 | **2K751** | 266.00 | **161.25** | 30.0 |
| **1/3** | 3450 | 48 | 115 | 6.4 | Ball | B | Rigid | 1/2 x 1 1/2 | H123 | **2K695** | 157.00 | **99.80** | 11.0 |
| | 1725 | 56 | 115 | 5.9 | Ball | B | Cradle/Stud | 5/8 x 1 7/8 | H185 | **2K753** | 196.00 | **123.80** | 17.0 |
| | 1140 | 56 | 115 | 7.0 | Ball | B | Cradle/Stud | 5/8 x 1 7/8 | H186 | **2K754** | 305.00 | **185.25** | 31.0 |
| **1/2** | 1725 | 56 | 115 | 8.5 | Ball | B | Cradle/Stud | 5/8 x 1 7/8 | H187 | **2K755** | 235.00 | **144.20** | 23.0 |
| | 1140 | 56 | 115 | 9.0 | Ball | B | Cradle/Stud | 5/8 x 1 7/8 | H188 | **2K756** | 388.00 | **236.00** | 40.0 |

### TWO SPEED†

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Ins. Class | Mounting | Shaft Dimensions (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | **1/12** | 1725/1140 | 48 | 115 | 4.2/2.7 | Ball | B | Cradle/Stud | 1/2 x 1 1/2 | H189 | **2K757** | $209.00 | **$132.40** | 22.0 |
| **1/3** | **1/10** | 1725/1140 | 56 | 115 | 5.7/3.2 | Ball | B | Cradle/Stud | 5/8 x 1 7/8 | H190 | **2K758** | 258.00 | **164.50** | 27.0 |
| **1/2** | **1/6** | 1725/1140 | 56 | 115 | 8.0/4.2 | Ball | A | Cradle/Stud | 5/8 x 1 7/8 | H191 | **2K759** | 319.00 | **193.50** | 31.0 |
| **1/2** | **1/6** | 1725/1140 | 56 | 230 | 3.8/1.9 | Ball | A | Cradle/Stud | 5/8 x 1 7/8 | H293 | **2K760** | 327.00 | **198.25** | 25.0 |

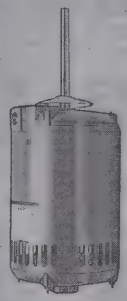
(†) Two-speed switch No. 2X605 available, see page 3623

# 3-PHASE AND PSC COMMERCIAL CONDENSER FAN AND BLOWER MOTORS

## 3-PHASE COMMERCIAL CONDENSER FAN MOTORS

**Typical Uses:** New and replacement use in 5 to 10 ton and larger commercial outdoor condensers.
**Special Features:** Shaft end is enclosed for shaft-up mounting. Dual voltage. Shaft has flat and keyway 90° apart to fit all commonly used fan blades. Water slinger on shaft.
**Type:** 3-phase
**Bearings:** Ball
**Mounting:** Fit into most existing OEM belly bands. Enclosed shaft endshield for shaft-up mounting.
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** Dayton 60°C; GE 65°C
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton and GE

E47479



No. 3N496

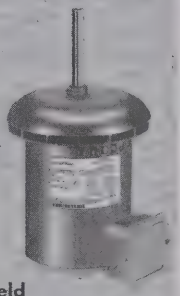
E47088



No. 5U263
Includes Voltage Change Device



Voltage Change Device



No. 4N013
Includes Rainshield

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Efficiency | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Mfr's. Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DAYTON BRAND, STANDARD EFFICIENCY** | | | | | | | | | | | | | |
| **3/4** | 1140 | 56YZ | 208-230/460 | 3.6/1.8 | Standard | 6 3/8 | 5/8 x 6 | 10 5/8 | — | **3N496** | $288.00 | **$190.75** | 28.0 |
| **1** | 1140 | 56YZ | 208-230/460 | 4.8/2.4 | Standard | 6 3/8 | 5/8 x 6 | 11 13/16 | — | **3N469** | 347.00 | **206.75** | 32.0 |
| **1 1/2** | 1140 | 56YZ | 208-230/460 | 7.1/3.6 | Standard | 6 3/8 | 5/8 x 6 | 11 13/16 | — | **3N470** | 381.00 | **252.00** | 36.0 |
| **GE BRAND, HIGH EFFICIENCY WITH VOLTAGE CHANGE DEVICE** | | | | | | | | | | | | | |
| **1/2** | 1140 | 56YZ | 208-230/460 | 2.4/1.2 | High | 6 3/8 | 5/8 x 6 | 8 29/32 | K578 | ✓**3N760** | 291.00 | **206.00** | 28.0 |
| **3/4** | 1140 | 56YZ | 208-230/460 | 3.4/1.7 | High | 6 3/8 | 5/8 x 6 | 9 0/16 | K378 | ✓**3N646** | 304.00 | **217.50** | 30.0 |
| **1** | 1140 | 56YZ | 208-230/460 | 3.6/1.8 | High | 6 3/8 | 5/8 x 6 | 10 1/8 | K379 | ✓**3N647** | 338.00 | **241.50** | 35.0 |
| **1** | 1140 | 56HZ | 208-230/460 | 4.0/2.0 | High | 6 3/8 | 5/8 x 6 | 10 | K1485 | ✓**5M598**† | 344.00 | **215.75** | 38.0 |
| **1** | 850 | 56YZ | 208-230/460 | 5.2/2.6 | High | 6 3/8 | 5/8 x 6 | 10 5/8 | K1482 | ✓**5U263** | 406.00 | **279.00** | 44.0 |
| **1 1/2** | 1140 | 56YZ | 208-230/460 | 5.0/2.5 | High | 6 3/8 | 5/8 x 6 | 11 3/8 | K380 | ✓**3N648** | 370.00 | **258.75** | 43.0 |
| **1 1/2** | 1140 | 56HZ | 208-230/460 | 5.0/2.5 | High | 6 3/8 | 5/8 x 6 | 10 3/4 | K1486 | ✓**5M599**† | 376.00 | **235.75** | 38.0 |
| **2** | 1140 | 56Z | 208-230/460 | 5.2/2.6 | High | 6 3/8 | 5/8 x 6 | 12 | K1482 | ✓**3VG41** † | 459.00 | **272.25** | 49.0 |
| **GE BRAND, STANDARD EFFICIENCY WITH RAINSHIELD** | | | | | | | | | | | | | |
| **1/2** | 1140 | 48Z | 200-230/460 | 2.6/1.3 | Standard | 5 5/8 | 1/2 x 4 3/4 | 8 13/32 | K1403 | **4N012** | 318.00 | **216.75** | 20.0 |
| **3/4** | 1140 | 48Z | 200-230/460 | 3.8/1.9 | Standard | 5 5/8 | 5/8 x 5 13/64 | 8 29/32 | K1404 | **4N013** | 337.00 | **207.25** | 23.0 |

(†) Motors have rigid welded base. (✓) Denotes energy efficient product.

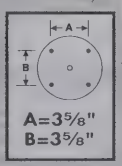
**CAUTION: Refer to page 6 for information on UL 507, proper thermal protection, and other motor regulatory information.**

## SINGLE-PHASE 460 VOLT PSC COMMERCIAL BLOWER MOTORS

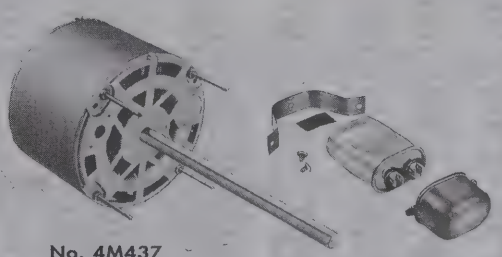
**Typical Uses:** High efficiency performance in furnace blowers and other shaft-mounted air-over fan and blower equipment.
**Special Features:** 370V capacitor kit included. 60/50 Hz operational.
**Type:** Permanent split capacitor
**Bearings:** Ball
**Mounting:** 3/4" studs
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**NEMA Frame:** 48YZ (GE 39 frame)
**Insulation Class:** A
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

ENERGY SAVER MOTOR

E46035




A=3 5/8"
B=3 5/8"



No. 4M437

### GE BRAND, HIGH EFFICIENCY PSC

| HP | Nameplate RPM | NEMA Frame | Volts 60/50 Hz | Full-Load Amps at Nameplate Volts | Efficiency | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1625/2-Spd | 48YZ | 460 | 0.8 | High | 5 5/8 | 1/2 x 6 | 5 5/8 | 3470 | ✓**4M437** | $216.00 | **$135.20** | 13.0 |
| **1/3** | 1075/2-Spd | 48YZ | 460 | 1.1 | High | 5 5/8 | 1/2 x 6 | 5 5/8 | 3280 | ✓**4M438** | 248.00 | **155.50** | 15.0 |
| **1/2** | 1625/2-Spd | 48YZ | 460 | 1.7 | High | 5 5/8 | 1/2 x 6 | 6 3/8 | 3490 | ✓**4M439** | 249.00 | **156.25** | 19.0 |
| **3/4** | 1075/2-Spd | 48YZ | 460 | 2.1 | High | 5 5/8 | 1/2 x 6 | 6 3/8 | 3290 | ✓**4M440** | 256.00 | **160.50** | 19.0 |

(✓) Denotes energy efficient product.

# SINGLE-PHASE COMMERCIAL PSC CONDENSER FAN MOTORS

**Typical Uses:** New and replacement use in 5 ton or larger commercial outdoor condensers. Also used in commercial and industrial coolers, furnaces, and other shaft-mounted fan and blower equipment.

**Special Features:** Dual voltage on most ratings. Water slinger on shaft. Drive end is enclosed for shaft-up mounting. Shaft designed to fit all commonly used fan blades.

**Type:** Permanent split capacitor
**Bearings:** Double-shielded ball
**Shaft:** 1/2" dia. shafts have flat; 5/8" dia. shafts have flat and keyway 90° apart
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Rotation:** CW/CCW
**Brand:** Dayton and GE

### DAYTON FEATURES

**High Efficiency:** Includes resilient rings for mounting in existing base and with studs for mounting from shaft endshield. Capacitor available separately.

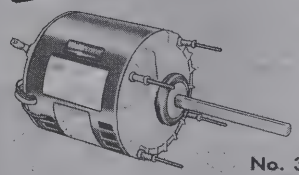
**Standard Efficiency:** Internal conduit box for enclosed wiring connections.

**Cradle Units** feature capacitor mounting hardware and internal conduit box.

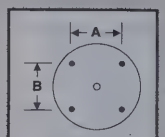
### GE FEATURES

Includes resilient rings for mounting in existing base and with studs for mounting from shaft endshield. Shaft flat and keyway 90° apart. Capacitor available separately.

Dayton Wattrimmer
E47479



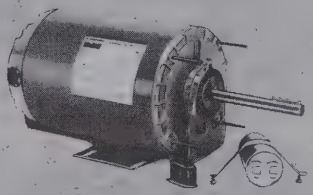
No. 3M868




56 Frame
A = 4 3/16"
B = 4 3/16"

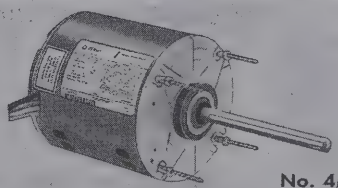
**CAUTION:** **Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Dayton
E47479



No. 3M998
Cradle Base

ENERGY SAVER MOTOR
E47088



No. 4M124

| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mtg. Rings OC (In.) | Shaft Dimens. (In.) Dia. x L | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Capacitor Req'd. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DAYTON BRAND, HIGH EFFICIENCY, 2½ " RESILIENT RING MOUNT** | | | | | | | | | | | | | | |
| 1/2 | 825 | 56YZ | Open | 230 | 3.4 | 7 7/16 | 5/8 x 4 | 7 7/8 | ✓3M867 | $319.00 | **$230.25** | 27.0 | 5M006 | $6.60 |
| 3/4 | 1075 | 56YZ | Open | 230/460 | 4.0/2.0 | 7 7/16 | 5/8 x 6 | 7 7/8 | ✓3M868 | 283.00 | **203.25** | 29.0 | 5M006 | 6.60 |
| 1 | 1075 | 56YZ | Open | 230/460 | 5.3/2.6 | 8 3/16 | 5/8 x 6 | 8 5/8 | ✓3M869 | 312.00 | **230.25** | 31.0 | 5M007 | 7.95 |
| **DAYTON BRAND, 2¼" RESILIENT RING, CRADLE BASE** | | | | | | | | | | | | | | |
| 1/3 | 1075 | 48YZ | TEAO | 208-230/460 | 2.3-2.2/1.1 | 6½ | 1/2 x 5 | 7 | 3M996 | 170.00 | **130.20** | 17.0 | Included | |
| 1/2 | 1075 | 48YZ | TEAO | 208-230/460 | 3.0-2.8/1.4 | 6½ | 1/2 x 5 | 7 | 3M997 | 197.00 | **150.50** | 21.0 | Included | |
| 3/4 | 1075 | 48YZ | Open | 208-230/460 | 5.2-4.7/2.4 | 7 | 1/2 x 5 | 7½ | 4M001 | 218.00 | **167.25** | 23.0 | Included | |
| 1 | 1075 | 56Z | TEAO | 208-230/460 | 5.6-5.1/2.6 | 10½ | 5/8 x 5 | 10 7/8 | 3M998 | 309.00 | **236.25** | 40.0 | Included | |
| 1½ | 1075 | 56Z | TEAO | 208-230/460 | 8.5-7.6/3.8 | 11 | 5/8 x 5 | 11 3/8 | 3M999 | 328.00 | **251.25** | 44.0 | Included | |
| **DAYTON BRAND, 2½" RESILIENT RING MOUNT** | | | | | | | | | | | | | | |
| 1/2 | 1075 | 48YZ* | TEAO | 208-230/460 | 3.2-3.1/1.6 | 7 3/8 | 1/2 x 5 | 7 3/4 | 4M228 | 176.00 | **134.85** | 20.0 | 5M006 | 6.60 |
| 3/4 | 1075 | 48YZ* | TEAO | 208-230/460 | 4.8-4.6/2.3 | 8 3/8 | 1/2 x 5 | 8 1/4 | 4M229 | 197.00 | **150.50** | 22.0 | 5M007 | 7.95 |
| 1 | 1075 | 56YZ | TEAO | 208-230/460 | 5.5-5.1/2.6 | 10 3/8 | 5/8 x 5 | 10 7/8 | 4M264 | 289.00 | **225.25** | 40.0 | 5M009 | 11.28 |
| 1½ | 1075 | 56YZ | TEAO | 208-230/460 | 8.5-7.6/3.8 | 10 7/8 | 5/8 x 5 | 10 7/8 | 4M265 | 308.00 | **235.50** | 43.0 | 5M010 | 12.01 |

## GE BRAND, HIGH EFFICIENCY, 2¼ " RESILIENT RING MOUNT

| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mtg. Rings OC (In.) | Shaft Dimens. (In.) Dia. x L | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Capacitor Req'd. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1075 | 56Z | OPAO | 208-230/460 | 3.2-3.0/1.5 | 7 7/32 | 5/8 x 6 | 7 11/16 | P242 | ✓4M124 | $283.00 | **$195.75** | 26.0 | 6X656 | $5.96 |
| | 825 | 56Z | OPAO | 115/208-230 | 6.2/3.8-3.1 | 7 7/32 | 5/8 x 4 | 7 11/16 | P245 | ✓4M125 | 352.00 | **236.75** | 25.0 | 6X656 | 5.96 |
| 3/4 | 1075 | 56Z | OPAO | 208-230/460 | 4.9-3.8/1.9 | 7 7/32 | 5/8 x 6 | 7 11/16 | P243 | ✓4M126 | 311.00 | **208.75** | 29.0 | 6X656 | 5.96 |
| | 825 | 56Z | OPAO | 208-230 | 5.8-5.6 | 8 1/32 | 5/8 x 6 | 8 1/2 | P246 | ✓4M127 | 383.00 | **256.50** | 31.0 | 6X656 | 5.96 |
| 1 | 1075 | 56Z | OPAO | 208-230/460 | 6.3-5.0/2.5 | 8 1/32 | 5/8 x 6 | 8 1/2 | P244 | ✓4M128 | 345.00 | **231.00** | 34.0 | 6X657 | 7.16 |

(*) 48YZ NEMA frames have 2¼" resilient ring diameters. (✓) Denotes energy efficient product.



*Bring us your application, we'll deliver the motor.*

# COMMERCIAL AND RESIDENTIAL PSC CONDENSER/HEAT PUMP FAN MOTORS

- Quick reversing leads
- Water slinger on shaft
- Sleeve or double-shielded ball bearings
- 60°C ambient on some standard efficiency models for high temperature environments
- Standard or high efficiency

**Commercial Duty Motors:** Feature higher starting torque than residential duty motors and offer universal replacement. Cooler running temperature ensures longer life performance. Motors include two flats on shaft, 90° apart.

**Typical Uses:** Outdoor air conditioner condensers, refrigeration condensers, and 2-speed models used on heat pumps.

**Shaft Position:**

**Shaft Up**—Shaft endshield and shell are totally enclosed. 3/4" studs on shaft endshield. Opposite endshield open.

**Shaft Up/Down**—Both endshields are totally enclosed with removable drain plugs on each endshield for maximum protection. Can be mounted vertically or horizontally.

**Type:** Permanent split capacitor

**Bearings:** All-angle sleeve or double-shielded ball

**Service Factor:** 1.0

**Thermal Protection:** Auto

**NEMA Frame:** 48YZ (No. 3M295 is 56Z)

**Body Dia.:** 5⅝" (No. 3M295 is 6¾")

**Shaft Dia.:** 1/2 x 6" (No. 3M995 is 1/2 x 5")

**Ambient:** 40°C or 60°C

**Duty:** Continuous air-over

**Rotation:** CW/CCW

**Capacitor:** Required

**Finish:** Gray

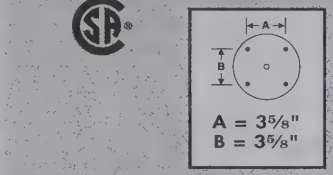
**Brand:** Dayton

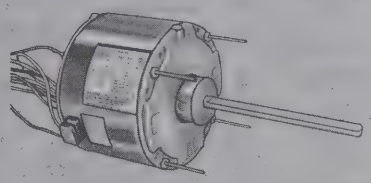
**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Dayton®

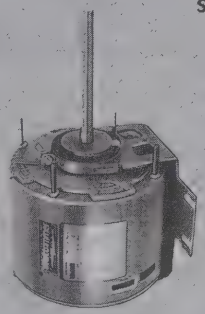
ENERGY RIGHT®

E47479



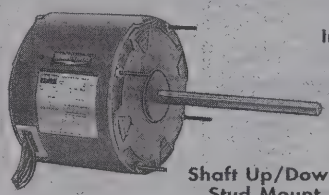



Shaft Up
Stud Mount





Shaft Up
Cradle Base
Includes Capacitor and
Mounting Hardware



Shaft Up/Down
Stud Mount

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ambient (°C) | Bearings | Ins. Class | Mounting Shaft Position | Mount Type | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Capacitor Req'd. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMMERCIAL DUTY, HIGH EFFICIENCY** | | | | | | | | | | | | | | | |
| **1/6** | 1075/2-Spd | 230 | 1.0 | 40 | Sleeve | B | Up | Stud | 5 3/16 | ✓ **3M839** | $98.00 | **$70.65** | 11.0 | 5M003 | $4.47 |
| **1/4** | 1075/2-Spd | 208-230 | 1.8 | 40 | Ball | B | Up/Down | Stud | 4 1/2 | ✓ **4M060** | 120.00 | **87.20** | 12.0 | 5M003 | 4.47 |
| | 1075/2-Spd | 230 | 1.8 | 40 | Sleeve | B | Up/Down | Stud | 4 1/2 | ✓ **3M927** | 104.00 | **75.45** | 12.0 | 5M003 | 4.47 |
| | 1075 | 230 | 1.7 | 40 | Ball | B | Up/Down | Stud | 4 5/8 | ✓ **4M048** | 116.00 | **88.85** | 13.0 | 5M003 | 4.47 |
| | 1075 | 230 | 1.7 | 40 | Sleeve | B | Up/Down | Stud | 4 6/8 | ✓ **3M766** | 100.00 | **81.95** | 13.0 | 5M003 | 4.47 |
| | 1075 | 230 | 1.9 | 40 | Sleeve | B | Up | Cradle | 5 7/16 | ✓ **3M990** | 139.00 | **106.05** | 14.0 | Included | |
| | 1075 | 230 | 1.7 | 40 | Sleeve | A | Up | Stud | 5 11/16 | ✓ **3M666 #** | 97.00 | **74.10** | 14.0 | 5M004 | 5.13 |
| **1/3** | 1625 | 208-230 | 2.0-1.8 | 60 | Sleeve | B | Up | Cradle | 5 7/16 | ✓ **3M265*** | 138.00 | **98.35** | 16.0 | Included | |
| | 1075/2-Spd | 208-230 | 2.6 | 60 | Ball | B | Up/Down | Stud | 4 15/16 | ✓ **4M061** | 125.00 | **90.70** | 16.0 | 5M005 | 5.51 |
| | 1075/2-Spd | 208-230 | 2.6 | 60 | Sleeve | B | Up/Down | Stud | 4 15/16 | ✓ **3M928** | 109.00 | **78.90** | 17.0 | 5M005 | 5.51 |
| | 1075 | 208-230 | 2.2-2.0 | 60 | Ball | B | Up | Cradle | 5 11/16 | ✓ **3M217*** | 147.00 | **112.30** | 16.0 | Included | |
| | 1075 | 208-230 | 2.2-2.0 | 40 | Ball | B | Up/Down | Stud | 5 1/8 | ✓ **4M049*** | 121.00 | **92.80** | 14.0 | 5M005 | 5.51 |
| | 825 | 208-230 | 2.1-2.1 | 60 | Ball | B | Up/Down | Stud | 5 7/8 | ✓ **4M262*** | 152.00 | **88.90** | 19.0 | 5M006 | 6.60 |

(✓) Denotes energy efficient product. (*) 39" Long leads. (#) Single flat on leads.

CONTINUED ON NEXT PAGE

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS.
SEE PAGES AT BACK OF CATALOG

# COMMERCIAL AND RESIDENTIAL PSC AND SHADED POLE CONDENSER FAN MOTORS

## DAYTON CONDENSER/HEAT PUMP FAN MOTORS (Cont.)

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ambient (°C) | Bearings | Ins. Class | Mounting Shaft Position | Mount Type | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Capacitor Req'd. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMMERCIAL DUTY, HIGH EFFICIENCY (Cont.)** | | | | | | | | | | | | | | | |
| 1/2 | 1075/2-Spd | 230 | 3.3 | 40 | Ball | B | Up/Down | Stud | 5 3/4 | **4M062** | $139.00 | **$100.75** | 20.0 | 5M006 | $6.60 |
| | 1075/2-Spd | 230 | 3.3 | 40 | Sleeve | B | Up/Down | Stud | 5 3/4 | **3M929** | 122.00 | **88.35** | 20.0 | 5M006 | 6.60 |
| | 1075 | 230 | 3.0 | 40 | Ball | B | Up/Down | Stud | 5 5/8 | **4M050** | 135.00 | **102.90** | 19.0 | 5M006 | 6.60 |
| | 1075 | 230 | 3.0 | 40 | Sleeve | B | Up/Down | Stud | 5 5/8 | **3M768** | 118.00 | **90.45** | 18.0 | 5M006 | 6.60 |
| | 1075 | 230 | 3.1 | 40 | Ball | B | Up | Cradle | 6 7/8 | **3M994** | 179.00 | **136.45** | 20.0 | Included | |
| | 1075 | 230 | 3.1 | 40 | Sleeve | B | Up | Cradle | 7 1/16 | **3M993** | 150.00 | **114.55** | 20.0 | Included | |
| | 825 | 230 | 2.8 | 40 | Ball | B | Up | Stud | 6 5/8 | **3M765** | 175.00 | **127.20** | 20.0 | 5M007 | 7.95 |
| 3/4 | 1075/2-Spd | 230 | 4.1 | 40 | Ball | B | Up | Stud | 7 1/16 | **3M769** | 150.00 | **108.40** | 21.0 | 5M008 | 9.45 |
| | 1075 | 230 | 4.4 | 40 | Ball | B | Up | Stud | 6 7/16 | **3M922** | 146.00 | **111.50** | 19.0 | 5M007 | 7.95 |
| **COMMERCIAL DUTY, STANDARD EFFICIENCY** | | | | | | | | | | | | | | | |
| 1/10 | 825 | 208-230 | 1.0 | 60 | Sleeve | B | Up/Down | Stud | 4 3/8 | **4M223** | 109.00 | **78.95** | 12.0 | 5M001 | 4.33 |
| 1/8 | 825 | 208-230 | 0.8 | 60 | Sleeve | B | Up/Down | Stud | 4 5/8 | **4M224** | 111.00 | **80.70** | 13.0 | 5M003 | 4.47 |
| 1/16 | 1075 | 208-230 | 1.4 | 60 | Sleeve | B | Up/Down | Stud | 4 3/8 | **4M261** | 67.00 | **45.40** | 11.0 | 5M001 | 4.33 |
| | 825 | 208-230 | 1.0 | 60 | Sleeve | B | Up/Down | Stud | 4 5/8 | **4M225** | 115.00 | **77.75** | 14.0 | 5M003 | 4.47 |
| 1/4 | 1075 | 230 | 1.9 | 40 | Sleeve | A | Up | Cradle | 5 11/16 | **3M226** | 139.00 | **106.05** | 14.0 | Mounted | |
| | 1075 | 208-230 | 1.8 | 40 | Ball | B | Up | Stud | 5 5/16 | **4M242** | 80.00 | **65.25** | 13.0 | 5M003 | 4.47 |
| | 1075 | 208-230 | 1.7 | 60 | Sleeve | B | Up/Down | Stud | 4 5/8 | **4M205** | 83.00 | **45.00** | 13.0 | 5M003 | 4.47 |
| | 825 | 208-230 | 2.0 | 60 | Sleeve | B | Up/Down | Stud | 4 7/8 | **4M226** | 135.00 | **84.25** | 15.0 | 5M003 | 4.47 |
| 1/3 | 1075 | 208-230 | 2.4 | 40 | Ball | B | Up | Stud | 5 11/16 | **4M243** | 85.00 | **62.00** | 15.0 | 5M005 | 5.51 |
| | 1075 | 208-230 | 2.1 | 60 | Sleeve | B | Up/Down | Stud | 5 1/8 | **4M206** | 89.00 | **45.90** | 13.0 | 5M005 | 5.51 |
| | 825 | 208-230 | 2.1-2.0 | 60 | Sleeve | B | Up | Cradle | 6 15/16 | **3M224*** | 160.00 | **122.35** | 20.0 | Included | |
| 1/2 | 1075 | 230 | 3.3 | 40 | Sleeve | A | Up | Cradle | 5 15/16 | **3M221** | 163.00 | **108.65** | 17.0 | Included | |
| | 1075 | 208-230 | 2.9-2.8 | 40 | Ball | B | Up | Stud | 6 3/16 | **4M244** | 93.00 | **70.20** | 8.0 | 5M006 | 6.60 |
| | 1075 | 208-230 | 2.9 | 60 | Sleeve | B | Up/Down | Stud | 5 5/8 | **4M207** | 97.00 | **53.30** | 18.0 | 5M005 | 5.51 |
| | 825 | 208-230 | 2.8 | 60 | Sleeve | B | Up/Down | Stud | 6 3/8 | **4M263** | 180.00 | **107.80** | 22.0 | 5M007 | 7.95 |
| | 825 | 230 | 3.6 | 40 | Ball | A | Up | Cradle | 7 5/8 | **3M295** | 237.00 | **179.75** | 29.0 | Mounted | |
| 3/4 | 1075 | 208-230 | 5.1 | 40 | Ball | B | Up | Stud | 6 15/16 | **4M245** | 109.00 | **88.25** | 23.0 | 5M006 | 6.60 |
| | 1075 | 208-230 | 4.5 | 60 | Sleeve | B | Up/Down | Stud | 5 1/8 | **4M208** | 117.00 | **66.80** | 13.0 | 5M006 | 6.60 |
| **RESIDENTIAL DUTY, STANDARD EFFICIENCY** | | | | | | | | | | | | | | | |
| 1/4 | 1075 | 208-230 | 2.0-1.8 | 40 | Sleeve | B | Up | Stud | 5 1/16 | **4M172** | 79.00 | **42.60** | 13.0 | 5M003 | 4.47 |
| 1/3 | 1075 | 208-230 | 2.6-2.4 | 40 | Sleeve | B | Up | Stud | 5 11/16 | **4M173** | 86.00 | **43.90** | 15.0 | 5M005 | 5.51 |
| 1/2 | 1075 | 208-230 | 2.9-2.8 | 40 | Sleeve | B | Up | Stud | 6 3/16 | **4M174** | 94.00 | **50.00** | 18.0 | 5M006 | 6.60 |
| 3/4 | 1075 | 208-230 | 5.5-5.1 | 40 | Sleeve | B | Up | Stud | 6 15/16 | **4M175** | 114.00 | **67.75** | 23.0 | 5M006 | 6.60 |

(*) 39" Long leads. (✓) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## SHADED POLE CONDENSER FAN MOTORS

**Typical Uses:** Refrigeration condensers and central air conditioning outdoor condensers; also suited for a wide variety of other air-moving applications such as unit heaters, ventilators, and blowers.

**Special Features:** Includes BX connector

**Type:** Shaded pole

**Bearings:** All-angle sleeve

**Mounting:** Cradle base

**Service Factor:** 1.0

**Enclosure:** Open air-over

**Thermal Protection:** Auto

**Insulation Class:** B

**NEMA Frame:** 42

**Body Diameter:** 5"

**Shaft Dimensions:** 1/2 x 2 1/2"

**Ambient:** 40°C

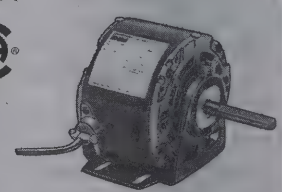
**Duty:** Continuous air-over

**Rotation:** CCW facing shaft

**Finish:** Gray

**Brand:** Dayton

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Resilient Base Mtg. Holes OC (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/10 | 1550 | 115 | 5.2 | 1 11/16 x 3 1/2 | 4 7/16 | **6M028** | $93.00 | **$67.65** | 7.9 |
| 1/10 | 1550 | 230 | 2.6 | 1 11/16 x 3 1/2 | 4 7/16 | **4M017** | 94.00 | **71.80** | 8.0 |
| 1/6 | 1550 | 115 | 6.1 | 1 11/16 x 3 1/2 | 5 | **6M029** | 102.00 | **74.80** | 10.0 |
| 1/6 | 1550 | 230 | 2.7 | 1 11/16 x 3 1/2 | 4 15/16 | **4M016** | 104.00 | **79.60** | 9.9 |



No. 6M028

**ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY**

Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items. See Index under Energy Saving Products.



*Bring us your application, we'll deliver the motor.*

# COMMERCIAL AND RESIDENTIAL PSC CONDENSER/HEAT PUMP FAN MOTORS



**Commercial Duty Motors:** Feature higher starting torque than residential duty motors and offer universal replacement. Cooler running temperature ensures longer life performance. Motors include two flats on shaft, 90° apart.

**Typical Uses:** Outdoor air conditioner condensers, refrigeration condensers. Two-speed models used on heat pumps.

**Type:** Permanent split capacitor

**Bearings:** All-angle sleeve or prelubricated ball

**Service Factor:** 1.0

**Thermal Protection:** Auto

**NEMA Frame:** 48YZ (or GE 39)

**Body Diameter:** 5⅝"

**Shaft Dimensions:** 1/2 x 6"

**Duty:** Continuous air-over

**Rotation:** CW/CCW (except No. 4M342 is CW)

**Capacitor:** Required

**Finish:** Gray

**Brand:** GE

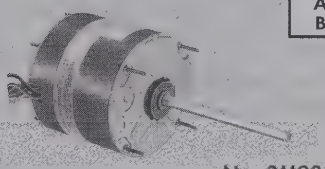
**Shaft Up**—Shaft endshield is enclosed and shell is totally enclosed. Minimum 1/2" studs on shaft endshield. Opposite endshield open.

**Shaft Down**—Endshield opposite shaft is enclosed. Drain hole in shaft end for drain condensation.

**Shaft Up/Down**—Both endshields are totally enclosed with removable drain plugs on each for maximum protection. Minimum 1/2" studs on both endshields. Mount vertically or horizontally.

ENERGY SAVER MOTOR

E47479




No. 3M934
Shaft Up/Down

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ambient (°C) | Bearings | Ins. Class | Mounting Shaft Position | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMMERCIAL DUTY, HIGH EFFICIENCY, STUD MOUNTED** | | | | | | | | | | | | | | | |
| **1/6** | 1075/2-Spd | 208-230 | 1.0 | 40 | Sleeve | A | Up/Down | 4½ | 3227 | **4M316** | $123.00 | **$77.05** | 11.0 | 6X653 | $4.16 |
| | 825 | 208-230 | 1.0 | 40 | Ball | B | Up | 4 13/16 | 3200 | **4M279** | 141.00 | **88.30** | 12.0 | 6X653 | 4.16 |
| **1/4** | 1075/2-Spd | 208-230 | 1.6 | 40 | Ball | A | Up/Down | 4 15/16 | 3428 | **4M129** | 148.00 | **92.65** | 14.0 | 6X653 | 4.16 |
| | 1075/2-Spd | 208-230 | 1.6 | 40 | Sleeve | A | Up/Down | 5 | 3228 | **3M933** | 128.00 | **80.15** | 14.0 | 6X653 | 4.16 |
| | 1075 | 208-230* | 1.5 | 40 | Sleeve | A | Down | 5 | 3084 | **3M717** | 166.00 | **103.90** | 14.0 | 6X653 | 4.16 |
| | 825 | 208-230 | 1.5 | 40 | Ball | B | Up | 5 5/16 | 3040 | **4M280** | 165.00 | **103.30** | 14.0 | 6X655 | 4.99 |
| **1/3** | 1075/2-Spd | 208-230 | 2.4 | 40 | Ball | A | Up/Down | 5½ | 3429 | **4M130** | 154.00 | **96.45** | 16.0 | 6X655 | 4.99 |
| | 1075/2-Spd | 208-230 | 2.4 | 40 | Sleeve | B | Up/Down | 5½ | 3229 | **3M934** | 134.00 | **83.90** | 16.0 | 6X655 | 4.99 |
| | 1075 | 208-230* | 2.1 | 40 | Sleeve | A | Down | 5½ | 3085 | **3M718** | 177.00 | **110.80** | 16.0 | 6X655 | 4.99 |
| | 825 | 208-230 | 2.2 | 40 | Ball | B | Up | 6⅞ | 3026 | **3M795** | 182.00 | **113.95** | 18.0 | 6X656 | 5.96 |
| | 825 | 115 | 5.0 | 40 | Ball | B | Up | 6⅞ | 3049 | **4M281** | 163.00 | **102.05** | 18.0 | 6X658 | 8.17 |
| **1/2** | 1075/2-Spd | 208-230 | 3.8 | 40 | Ball | A | Up/Down | 6 | 3430 | **4M131** | 171.00 | **107.05** | 18.0 | 6X656 | 5.96 |
| | 1075/2-Spd | 208-230 | 3.8 | 40 | Sleeve | A | Up/Down | 6 | 3230 | **3M935** | 150.00 | **93.90** | 18.0 | 6X656 | 5.96 |
| | 1075/2-Spd | 208-230* | 3.5 | 40 | Ball | A | Up | 6⅜ | 3032 | **3M798** | 166.00 | **103.90** | 17.8 | 6X656 | 5.96 |
| | 1075 | 208-230* | 3.1 | 40 | Sleeve | A | Down | 6 | 3086 | **3M719** | 198.00 | **123.95** | 18.0 | 6X656 | 5.96 |
| **3/4** | 1075/2-Spd | 208-230 | 4.7 | 40 | Ball | A | Up/Down | 6 7/16 | 3431 | **4M132** | 188.00 | **117.70** | 20.0 | 6X658 | 8.17 |
| **COMMERCIAL DUTY, STANDARD EFFICIENCY, STUD MOUNTED** | | | | | | | | | | | | | | | |
| **1/10** | 825 | 208-230* | 0.8 | 60 | Ball | B | Up/Down | 4 5/16 | 3201 | **4M313** | 128.00 | **83.90** | 11.0 | 6X653 | 4.16 |
| **1/8** | 825 | 208-230* | 1.1 | 60 | Ball | B | Up/Down | 4 5/16 | 3202 | **4M314** | 132.00 | **85.75** | 12.0 | 6X653 | 4.16 |
| **1/6** | 1075 | 208-230 | 1.0 | 40 | Sleeve | B | Up/Down | 4 11/16 | 3727 | **2G645** | 77.00 | **48.25** | 14.0 | 6X653 | 4.16 |
| | 825 | 208-230 | 1.0 | 40 | Ball | B | Up/Down | 6 3/32 | 3203 | **1X063** | 137.00 | **82.65** | 17.0 | 6X653 | 4.16 |
| **1/4** | 1075 | 208-230 | 1.8 | 60 | Ball | B | Up/Down | 4 5/16 | 3732 | **4M236** | 100.00 | **62.60** | 13.0 | 6X653 | 4.16 |
| | 1075 | 208-230 | 1.8 | 60 | Sleeve | B | Up/Down | 5⅛ | 3728 | **4M105** | 81.00 | **47.70** | 12.0 | 6X653 | 4.16 |
| | 1075 | 460 | 0.9 | 40 | Ball | B | Up/Down | 4 5/16 | 3736 | **5M587** | 140.00 | **87.75** | 12.0 | 6X653 | 4.16 |
| | 825 | 208-230 | 1.5 | 40 | Ball | B | Up/Down | 5 13/16 | 3204 | **2G639** | 143.00 | **89.55** | 19.0 | 6X655 | 4.99 |
| **1/3** | 1075 | 208-230 | 2.3 | 60 | Ball | B | Up/Down | 4 5/8 | 3733 | **4M237** | 107.00 | **66.95** | 16.0 | 6X655 | 4.99 |
| | 1075 | 208-230 | 2.3 | 60 | Sleeve | B | Up/Down | 4 15/16 | 3729 | **4M106** | 87.00 | **48.50** | 15.0 | 6X655 | 4.99 |
| | 1075 | 460 | 1.3 | 60 | Ball | B | Up/Down | 5¾ | 3737 | **5M588** | 147.00 | **92.10** | 15.0 | 6X655 | 4.99 |
| | 825 | 208-230 | 2.2 | 40 | Ball | B | Up/Down | 5¾ | 3205 | **2G641** | 151.00 | **94.55** | 23.0 | 6X656 | 5.96 |
| **1/2** | 1075 | 208-230 | 2.8 | 40 | Ball | B | Up/Down | 5⅝ | 3734 | **4M238** | 115.00 | **71.95** | 18.0 | 6X656 | 5.96 |
| | 1075 | 208-230 | 2.8 | 60 | Sleeve | B | Up/Down | 5 11/16 | 3730 | **4M107** | 95.00 | **56.55** | 16.0 | 6X656 | 5.96 |
| **3/4** | 1075 | 208-230 | 3.9 | 40 | Ball | B | Up/Down | 6 | 3735 | **4M239** | 134.00 | **83.90** | 20.0 | 6X656 | 5.96 |
| | 1075 | 208-230 | 3.9 | 40 | Sleeve | B | Up/Down | 6 9/16 | 3731 | **4M108** | 115.00 | **71.00** | 20.0 | 6X656 | 5.96 |
| | 1075 | 460 | 2.0 | 40 | Ball | B | Up/Down | 6 3/4 | 3739 | **5M589** | 174.00 | **109.00** | 24.0 | 6X656 | 5.96 |
| **1** | 1075 | 200-230/460 | 6.8/3.4 | 65 | Ball | B | Up/Down | 12 7/16 | P190 | **4M342** | 329.00 | **220.00** | 43.0 | 6X661 | 11.87 |
| **RESIDENTIAL DUTY, STANDARD EFFICIENCY, STUD MOUNTED** | | | | | | | | | | | | | | | |
| **1/6** | 1075 | 208-230 | 0.9 | 60 | Sleeve | B | Up | 4⅝ | 3327 | **4M230** | 73.00 | **46.35** | 11.0 | 6X653 | 4.16 |
| **1/4** | 1075 | 208-230 | 1.8 | 60 | Sleeve | B | Up | 5 1/16 | 3328 | **4M231** | 77.00 | **47.30** | 13.0 | 6X653 | 4.16 |
| **1/3** | 1075 | 208-230 | 2.4 | 60 | Sleeve | B | Up | 5⅜ | 3329 | **4M232** | 84.00 | **51.30** | 15.0 | 6X655 | 4.99 |
| **1/2** | 1075 | 208-230 | 3.6 | 60 | Sleeve | A | Up | 5⅞ | 3330 | **4M233** | 92.00 | **59.75** | 18.0 | 6X656 | 5.96 |
| **3/4** | 1075 | 208-230 | 5.1 | 40 | Sleeve | B | Up | 6⅝ | 3331 | **4M234** | 112.00 | **72.00** | 19.0 | 6X656 | 5.96 |

(*) 60/50 Hz. (†) Features rainshield, 5/8 x 4" shaft, open enclosure, 6¾" body diameter, and band mount. (✓) Denotes energy efficient product.

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS.
SEE PAGES AT BACK OF CATALOG

# ROOM AIR CONDITIONER MOTORS

**Typical Uses:** Room air conditioners and through-the-wall units. Also adaptable to other shaft-mounted fan and blower applications.

**Special Features:** All models have capacitor mounting holes in shell except No. 4M320.

**Type:** Permanent split capacitor

**Bearings:** All-angle sleeve (except No. 4M320 is ball)

**Mounting:**

A Stud mount has four studs on lead end

B Cradle with four studs

C Resilient ring opposite lead end with four studs on lead end. Includes length adapter kit.

**Enclosure:** Open air-over (except No. 4M320 is open dripproof)

**Service Factor:** 1.0

**Thermal Protection:** Auto

**NEMA Frame:** 42YZ, 5" dia. (GE 29 frame); 48YZ, 5⅝" dia. (GE 39 frame); 56YZ, 6⅜" dia.

**Ambient:** 40°C

**Duty:** Continuous air-over

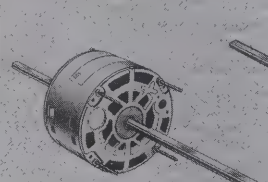
**Finish:** Gray

**Brand:** GE

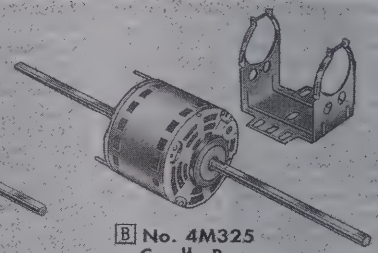
ENERGY SAVER MOTOR



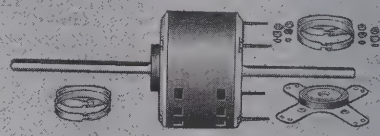

See Chart Below for Dimensions



A No. 4M321 Stud Mount



B No. 4M325 Cradle Base



C No. 3M782 Resilient Rings and Studs Includes Adapter Kit

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

## PSC, HIGH EFFICIENCY

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Lead End | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mtg. Style | Studs OC (In.) A & B | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x L | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Capacitor Req'd. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/15** | 1075/4-Spd | 42YZ | CCW | 115 | 1.4 | B | 3¼ | 5 | 1/2 x 10½ & 10½ | 5 | 2830 | **4M325** | $129.00 | **$82.35** | 10.0 | 6X653 | $4.16 |
| **1/10** | 1625/4-Spd | 42YZ | CCW | 115 | 1.3 | B | 3¼ | 5 | 1/2 x 8 & 8 | 5½ | 2835 | **4M326** | 126.00 | **80.40** | 11.0 | 6X653 | 4.16 |
| | 1075/4-Spd | 42YZ | CCW | 115* | 1.9 | B | 3¼ | 5 | 1/2 x 8 & 8 | 5¼ | 2831 | **4M327** | 134.00 | **85.55** | 10.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 115* | 1.2 | C | 3⅝ | 5⅝ | 1/2 x 7 & 9 | 4 | 3631 | **4M324** | 110.00 | **68.90** | 13.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 208-230* | 0.8 | C | 3⅝ | 5⅝ | 1/2 x 7 & 9 | 4 | 3632 | **4M333** | 113.00 | **70.80** | 11.0 | 6X651 | 3.74 |
| **1/8** | 1075/4-Spd | 42YZ | CCW | 115 | 2.7 | B | 3¼ | 5 | 1/2 x 10 & 10 | 5½ | 2832 | **4M328** | 138.00 | **88.10** | 11.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 115* | 1.8 | C | 3⅝ | 5⅝ | 1/2 x 7 & 9 | 4 | 3641 | **3M782** | 110.00 | **68.90** | 11.0 | 6X653 | 4.16 |
| | 1075/4-Spd | 42YZ | CCW | 208-230 | 1.1 | B | 3¼ | 5 | 1/2 x 10 & 10 | 5½ | 2836 | **4M329** | 140.00 | **89.35** | 11.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 208-230* | 0.8 | C | 3⅝ | 5⅝ | 1/2 x 7 & 9 | 4 | 3642 | **4M334** | 113.00 | **70.80** | 11.0 | 6X653 | 4.16 |
| **1/6** | 1625/4-Spd | 42YZ | CCW | 115* | 2.1 | B | 3¼ | 5 | 1/2 x 8 & 8 | 5¾ | 2837 | **4M330** | 138.00 | **88.10** | 10.0 | 6X653 | 4.16 |
| | 1625/3-Spd | 48YZ | CCW | 115* | 2.0 | C | 3⅝ | 5⅝ | 1/2 x 7 & 8¾ | 4 7/16 | 3851 | **4M335** | 137.00 | **85.75** | 11.0 | 6X653 | 4.16 |
| | 1625/3-Spd | 48YZ | CCW | 208-230* | 0.9 | C | 3⅝ | 5⅝ | 1/2 x 7 & 8¾ | 4 7/16 | 3852 | **4M336** | 139.00 | **87.05** | 11.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 115* | 2.4 | C | 3⅝ | 5⅝ | 1/2 x 7 & 8¾ | 3 3/16 | 3651 | **3M783** | 110.00 | **68.90** | 12.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 208-230* | 1.0 | C | 3⅝ | 5⅝ | 1/2 x 7 & 8¾ | 3 3/16 | 3652 | **3M784** | 113.00 | **70.80** | 11.0 | 6X653 | 4.16 |
| **1/5** | 1625/3-Spd | 48YZ | CCW | 208-230* | 1.1 | C | 3⅝ | 5⅝ | 1/2 x 8½ & 7 | 4 7/16 | 3862 | **4M337** | 139.00 | **87.05** | 11.0 | 6X653 | 4.16 |
| **1/4** | 1625/3-Spd | 48YZ | CCW | 115* | 2.9 | C | 3⅝ | 5⅝ | 1/2 x 7 & 8¼ | 4 11/16 | 3871 | **4M338** | 150.00 | **93.90** | 13.0 | 6X653 | 4.16 |
| | 1625/3-Spd | 48YZ | CCW | 208-230* | 1.2 | C | 3⅝ | 5⅝ | 1/2 x 7 & 8¼ | 4 11/16 | 3872 | **4M339** | 152.00 | **95.15** | 13.0 | 6X653 | 4.16 |
| | 1075/4-Spd | 42YZ | CCW | 115* | 4.7 | B | 3¼ | 5 | 1/2 x 8 & 8 | 6½ | 2833 | **4M331** | 156.00 | **99.50** | 14.0 | 6X653 | 4.16 |
| | 1075/4-Spd | 42YZ | CCW | 208-230* | 2.1 | B | 3¼ | 5 | 1/2 x 8 & 8 | 6½ | 2834 | **4M332** | 158.00 | **100.80** | 15.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 115* | 3.7 | C | 3⅝ | 5⅝ | 1/2 x 8 & 7½ | 4 7/16 | 3671 | **4M171** | 120.00 | **75.10** | 14.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 208-230* | 1.7 | A | 3⅝ | 5⅝ | 1/2 x 8½ & 7½ | 4 | 3676 | **4M165** | 100.00 | **62.60** | 15.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 208-230* | 1.7 | C | 3⅝ | 5⅝ | 1/2 x 8 & 7½ | 4 7/16 | 3672 | **3M785** | 119.00 | **74.55** | 13.0 | 6X653 | 4.16 |
| | 825/3-Spd | 48YZ | CCW | 208-230 | 1.9 | C | 3⅝ | 5⅝ | 1/2 x 7 & 7¼ | 5 11/16 | 3094 | **4M322** | 185.00 | **115.80** | 17.0 | 6X653 | 4.16 |
| **1/3** | 1625/3-Spd | 48YZ | CCW | 115* | 4.1 | C | 3⅝ | 5⅝ | 1/2 x 6½ & 8¼ | 5 3/16 | 3881 | **4M340** | 156.00 | **97.65** | 15.0 | 6X653 | 4.16 |
| | 1625/3-Spd | 48YZ | CCW | 208-230* | 1.9 | C | 3⅝ | 5⅝ | 1/2 x 6½ & 8¼ | 5 3/16 | 3882 | **3M788** | 158.00 | **98.90** | 14.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 115* | 5.1 | C | 3⅝ | 5⅝ | 1/2 x 7½ & 7¼ | 5 | 3681 | **3M786** | 129.00 | **80.80** | 16.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 208-230* | 2.5 | C | 3⅝ | 5⅝ | 1/2 x 7½ & 7¼ | 5 3/16 | 3682 | **3M787** | 128.00 | **80.15** | 15.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 208-230* | 2.5 | A | 3⅝ | 5⅝ | 1/2 x 7¾ & 7 7/16 | 4¾ | 3686 | **4M166** | 105.00 | **65.75** | 15.0 | 6X653 | 4.16 |
| | 1075/2-Spd | 48YZ | CCW | 208-230* | 2.4 | A | 3⅝ | 5⅝ | 1/2 x 6½ & 9 1/16 | 6⅜ | 3091 | **4M343** | 121.00 | **75.80** | 15.0 | 6X653 | 4.16 |
| | 825/3-Spd | 48YZ | CCW | 208-230 | 2.8 | C | 3⅝ | 5⅝ | 1/2 x 7 & 7¼ | 5 11/16 | 3103 | **4M323** | 198.00 | **123.95** | 19.0 | 6X653 | 4.16 |
| **1/2** | 1625/3-Spd | 48YZ | CCW | 115* | 6.4 | C | 3⅝ | 5⅝ | 1/2 x 7 & 7½ | 5½ | 3891 | **4M341** | 171.00 | **107.05** | 17.0 | 6X653 | 4.16 |
| | 1625/3-Spd | 48YZ | CCW | 208-230* | 3.0 | C | 3⅝ | 5⅝ | 1/2 x 7 & 7½ | 5½ | 3892 | **3M790** | 173.00 | **108.35** | 17.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CCW | 115* | 7.3 | C | 3⅝ | 5⅝ | 1/2 x 7 & 7¼ | 5 11/16 | 3691 | **4M170** | 151.00 | **94.55** | 19.0 | 6X656 | 5.96 |
| | 1075/3-Spd | 48YZ | CCW | 208-230* | 3.5 | C | 3⅝ | 5⅝ | 1/2 x 7 & 7¼ | 5 11/16 | 3692 | **3M789** | 149.00 | **93.30** | 19.0 | 6X655 | 4.99 |
| | 1075/2-Spd | 48YZ | CCW | 208-230 | 3.8 | B | 3⅝ | 5⅝ | 1/2 x 8 & 8⅝ | 6 15/32 | 3092 | **4M318** | 141.00 | **88.25** | 19.0 | 6X653 | 4.16 |
| **3/4** | 1625/3-Spd | 48YZ | CCW | 208-230* | 3.9 | C | 3⅝ | 5⅝ | 1/2 x 7 & 7 | 6 | 3898 | **3M792** | 202.00 | **126.45** | 20.0 | 6X655 | 4.99 |
| | 1075/3-Spd | 48YZ | CCW | 208-230 | 5.0 | C | 3⅝ | 5⅝ | 1/2 x 7 & 7¼ | 5 11/16 | 3698 | **3M791** | 197.00 | **123.30** | 20.0 | 6X655 | 4.99 |
| | 1075 | 56YZ | CW/CCW | 200-230 | 3.8 | B | 4⅛ | 6⅜ | 5/8 x 6¾ & 6¾ | 10 | P233 | **4M320**† | 378.00 | **253.25** | 33.0 | 6X656 | 5.96 |

(*) 60/50 Hz operation. (†) Standard efficiency. (✓) Denotes energy efficient product.

TERMINOLOGY AND TECHNICAL DATA
See Pages at back of Catalog



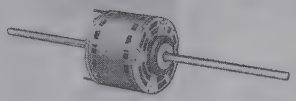
*Bring us your application, we'll deliver the motor.*

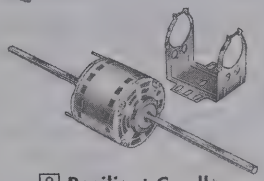
# ROOM AIR CONDITIONER MOTORS

**Typical Uses:** Room air conditioners, evaporative coolers, remote fan coil units, and other shaft-mounted fan and blower applications.
**Type:** Shaded pole
**Bearings:** All-angle sleeve
**Mounting:**
[A] Resilient ring mount with four 10-32 tapped holes
[B] Resilient rings with four extended studs and length adapter kit
[C] Cradle base with four studs
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**NEMA Frame:** 42YZ, 5" dia (GE 29 frame); 48YZ, 5⅝" dia (GE 39 frame)
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CCW facing lead end
**Finish:** Gray enamel
**Brand:** GE

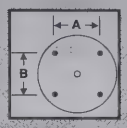
E46035


[A] Resilient Ring


[B] Resilient Ring with Length Adapter Kit


[C] Resilient Cradle

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.




| OC Dimensions in Inches for: | A | B |
|---|---|---|
| 5" Dia. 1000 & 1050 RPM<br>5 Dia. 1500 & 1550 RPM | 2⅝<br>3¼ | 3¼<br>3¼ |
| 5⅝ Dia. 1050 RPM<br>5⅞ Dia. 1550 RPM | 3<br>3⅞ | 4¼<br>3⅝ |

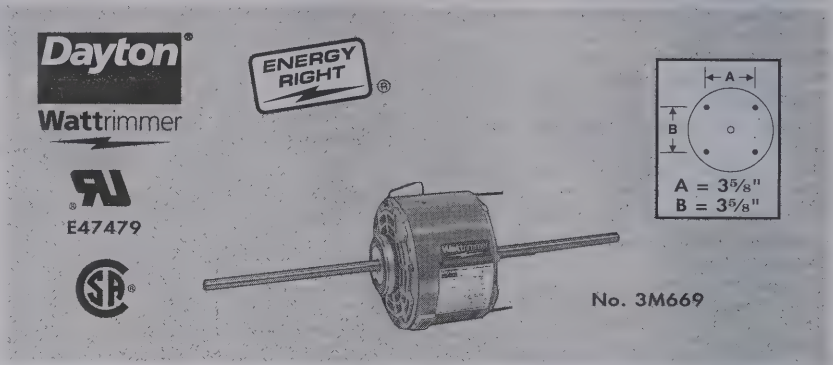
| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | Mount Style | Body Dia. (In.) | 2¼" Dia. Resilient Ring OC (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/35** | 1050/4-Spd | 115 | 2.0 | B | C | 5 | 4 3/16† | 1/2 x 8 Each | 4 13/16 | 2811 | **4M365** | $118.00 | **$75.30** | 8.5 |
| **1/20** | 1550 | 115/208-230* | 3.5/1.7 | A | A | 5 | 4 15/16 | 3/8 x 5 & 4 13/16 | 5 1/2 | 2934 | **4M394** | 248.00 | **158.50** | 6.8 |
| | 1050/3-Spd | 115 | 2.5 | A | B | 5 | 3 3/4 | 1/2 x 8 & 7 13/16 | 4 3/16 | 3M686 | **3M686** | 129.00 | **82.35** | 8.2 |
| | 1050 | 115/208-230* | 3.0/1.5 | A | A | 5 | 4 15/16 | 3/8 x 5 & 4 13/16 | 5 1/2 | 2935 | **4M395** | 284.00 | **181.75** | 6.6 |
| **1/15** | 1550 | 115/208-230* | 3.2/1.6 | A | A | 5 | 5 3/16 | 3/8 x 5 & 4 13/16 | 5 13/16 | 2937 | **4M396** | 275.00 | **175.75** | 7.8 |
| | 1050/4-Spd | 115 | 2.5 | B | C | 5 | 4 3/16† | 3/8 x 8 Each | 4 13/16 | 2847 | **4M366** | 121.00 | **77.20** | 8.0 |
| | 1050 | 115/208-230 | 4.0/2.0 | A | A | 5 | 5 3/16 | 3/8 x 5 & 4 13/16 | 5 13/16 | 2936 | **4M397** | 284.00 | **181.75** | 7.6 |
| | 1000/4-Spd | 115* | 2.7 | A | B | 5 | 3 15/16 | 1/2 x 10 1/2 & 10 9/16 | 4 3/8 | 2904 | **3M369** | 115.00 | **73.40** | 8.3 |
| | 1000/4-Spd | 208/230* | 1.4 | A | B | 5 | 3 15/16 | 1/2 x 10 1/2 & 10 9/16 | 4 3/8 | 2905 | **3M373** | 117.00 | **74.70** | 8.0 |
| | 1000/4-Spd | 115* | 2.7 | A | B | 5 | 3 | 3/8 x 8 Each | 4 | 2912 | **5U115** | 116.00 | **74.05** | 10.0 |
| **1/12** | 1500/3-Spd | 115* | 4.1 | A | B | 5 | 3 15/16 | 3/8 x 6 & 6 1/16 | 4 5/16 | 2917 | **3M371** | 108.00 | **68.95** | 9.0 |
| | 1500/3-Spd | 115* | 4.1 | A | B | 5 | 3 15/16 | 1/2 x 6 3/4 & 6 13/16 | 4 5/16 | 2906 | **3M372** | 107.00 | **68.30** | 8.1 |
| | 1050/3-Spd | 115 | 4.1 | A | B | 5 | 3 11/16 | 1/2 x 8 & 7 13/16 | 4 3/16 | 3M687 | **3M687** | 132.00 | **84.30** | 8.1 |
| | 1050 | 115/208-230* | 3.6/1.8 | A | A | 5 | 5 2/16 | 3/8 x 5 & 4 13/16 | 5 13/16 | 2028 | **4M398** | 321.00 | **205.00** | 9.0 |
| **1/10** | 1550/4-Spd | 115 | 3.3 | B | C | 5 | 4 11/16† | 1/2 x 8 Each | 5 3/16 | 2813 | **4M267** | 115.00 | **73.35** | 10.0 |
| | 1550/4-Spd | 115 | 3.3 | B | C | 5 | 4 11/16† | 3/8 x 8 Each | 5 3/16 | 2848 | **4M268** | 116.00 | **74.05** | 10.0 |
| | 1550/4-Spd | 208-230 | 1.8 | B | C | 5 | 4 11/16† | 3/8 x 8 Each | 5 5/16 | 2849 | **4M367** | 119.00 | **76.00** | 9.6 |
| | 1550 | 115/208-230* | 4.0/2.0 | A | A | 5 | 6 3/16 | 3/8 x 5 & 5 1/16 | 6 11/16 | 2939 | **4M399** | 291.00 | **186.00** | 9.1 |
| | 1050/4-Spd | 115 | 3.8 | B | C | 5 | 4 7/16† | 1/2 x 8 Each | 4 7/8 | 2814 | **4M269** | 126.00 | **80.40** | 10.0 |
| | 1000/5-Spd | 115 | 4.5 | A | B | 5 | 3 | 3/8 x 10 1/2 & 6 1/2 | 4 | 2910 | **5U114** | 123.00 | **78.50** | 10.0 |
| | 1000/5-Spd | 115 | 4.5 | A | B | 5 | 3 | 1/2 x 8 Each | 4 | 2901 | **5U111** | 122.00 | **77.90** | 10.0 |
| | 1050/5-Spd | 115 | 3.4 | A | A | 5 | 3 7/8 | 1/2 x 10 Each | 4 13/32 | 2089 | **3UT82** | 105.00 | **61.55** | 9.0 |
| | 1050/5-Spd | 115 | 3.2 | A | B | 5 | 3 7/8 | 3/8 x 8 Each | 4 13/32 | 2093 | **3UT88** | 105.00 | **61.45** | 8.0 |
| | 1000/5-Spd | 208-230 | 2.3 | A | B | 5 | 3 | 1/2 x 10 1/2 & 6 1/2 | 4 | 2909 | **5U113** | 126.00 | **80.40** | 10.0 |
| | 1050/3-Spd | 115 | 4.5 | A | B | 5 5/8 | — | 1/2 x 7 1/2 & 8 1/2 | 4 | 3531 | **4M415** | 171.00 | **107.10** | 11.0 |
| | 1050/3-Spd | 208-230* | 1.9 | A | B | 5 5/8 | — | 1/2 x 7 1/2 & 8 1/2 | 4 | 3532 | **4M416** | 174.00 | **109.00** | 11.0 |
| | 1050 | 115/208-230* | 4.0/2.0 | A | A | 5 | 5 7/16 | 3/8 x 5 & 5 1/16 | 6 | 2938 | **4M400** | 307.00 | **196.25** | 8.5 |
| | 1000/5-Spd | 115 | 4.5 | A | B | 5 | 3 15/16 | 1/2 x 10 & 9 13/16 | 4 7/16 | 3M688 | **3M688** | 143.00 | **91.30** | 9.7 |
| **1/8** | 1550/4-Spd | 115 | 4.1 | B | C | 5 | 4 15/16† | 1/2 x 8 Each | 5 1/2 | 2815 | **4M368** | 125.00 | **79.75** | 11.0 |
| | 1550/4-Spd | 115 | 4.1 | B | C | 5 | 4 15/16† | 3/8 x 8 Each | 5 1/2 | 2850 | **4M270** | 126.00 | **80.40** | 10.0 |
| | 1550/3-Spd | 115* | 4.5 | A | B | 5 5/8 | — | 1/2 x 8 1/2 & 7 1/4 | 4 3/16 | 3741 | **4M417** | 172.00 | **107.70** | 11.0 |
| | 1550/3-Spd | 208-230* | 2.2 | A | B | 5 5/8 | — | 1/2 x 8 1/2 & 7 1/4 | 4 3/16 | 3742 | **4M418** | 176.00 | **110.20** | 11.0 |
| | 1500/3-Spd | 115* | 5.5 | A | B | 5 | 4 3/16† | 3/8 x 8 & 8 1/16 | 4 11/16 | 2915 | **3M374** | 118.00 | **75.30** | 9.8 |
| | 1050/4-Spd | 115 | 4.4 | B | C | 5 | 4 15/16† | 1/2 x 10 Each | 5 1/2 | 2816 | **4M369** | 134.00 | **85.55** | 12.0 |
| | 1050/3-Spd | 115 | 4.5 | A | B | 5 5/8 | — | 1/2 x 8 1/2 & 7 1/4 | 4 3/16 | 3541 | **4M419** | 176.00 | **110.20** | 12.0 |
| | 1050/3-Spd | 208-230* | 2.2 | A | B | 5 5/8 | — | 1/2 x 8 1/2 & 7 1/4 | 4 3/16 | 3542 | **4M420** | 179.00 | **112.10** | 12.0 |
| **1/6** | 1550/4-Spd | 115 | 4.8 | B | C | 5 | 4 15/16† | 1/2 x 8 Each | 5 1/2 | 2817 | **4M370** | 129.00 | **82.35** | 11.0 |
| | 1550/3-Spd | 115* | 5.0 | A | B | 5 5/8 | — | 1/2 x 7 & 8 1/2 | 4 1/2 | 3751 | **4M421** | 177.00 | **110.80** | 13.0 |
| | 1550/3-Spd | 208-230* | 2.5 | A | B | 5 5/8 | — | 1/2 x 7 & 8 1/2 | 4 1/2 | 3752 | **4M422** | 182.00 | **113.95** | 13.0 |
| | 1050/4-Spd | 115 | 6.8 | B | C | 5 | 4 15/16† | 1/2 x 8 Each | 5 1/2 | 2818 | **4M371** | 139.00 | **88.70** | 11.0 |
| | 1050/3-Spd | 115 | 5.8 | A | B | 5 5/8 | — | 1/2 x 7 & 8 1/2 | 4 1/2 | 3551 | **4M423** | 183.00 | **114.55** | 14.0 |
| | 1050/3-Spd | 208-230* | 2.8 | A | B | 5 5/8 | — | 1/2 x 7 & 8 1/2 | 4 1/2 | 3552 | **4M424** | 185.00 | **115.80** | 14.0 |
| | 1000/3-Spd | 230 | 3.3 | A | B | 5 | 4 7/16 | 1/2 x 10 & 9 13/16 | 4 15/16 | 3M689 | **3M689** | 147.00 | **93.80** | 12.0 |
| **1/4** | 1550/3-Spd | 115* | 7.5 | A | B | 5 5/8 | — | 1/2 x 7 1/2 Each | 5 | 3771 | **4M425** | 188.00 | **117.70** | 15.0 |
| | 1550/3-Spd | 208-230* | 3.7 | A | B | 5 5/8 | — | 1/2 x 7 1/2 Each | 5 | 3772 | **4M426** | 190.00 | **118.95** | 16.0 |
| | 1050/4-Spd | 115 | 8.5 | A | C | 5 | 5 15/16 | 1/2 x 8 Each | 6 1/2 | 2819 | **4M372** | 157.00 | **100.15** | 15.0 |
| | 1050/3-Spd | 115 | 9.2 | A | B | 5 5/8 | — | 1/2 x 8 1/2 & 6 1/2 | 5 | 3571 | **4M427** | 198.00 | **123.95** | 16.0 |
| | 1050/3-Spd | 208-230* | 4.7 | A | B | 5 5/8 | — | 1/2 x 8 1/2 & 6 1/2 | 5 | 3572 | **4M428** | 201.00 | **125.85** | 16.0 |

(*) 60/50 Hz. (†) 2½" Diameter resilient rings.

# ROOM AIR CONDITIONER MOTORS

## DAYTON BRAND, PSC, HIGH EFFICIENCY

**Typical Uses:** High efficiency performance in room air conditioners and fan coils. Also adaptable to other shaft-mounted fan and blower applications.
**Special Features:** Capacitor mounting holes in shell. Double shaft.
**Type:** Permanent split capacitor
**Bearings:** All-angle sleeve
**Mounting:** Resilient ring on lead-end endshield; four studs out opposite endshield
**Service Factor:** 1.0
**Enclosure:** Open air-over
**Thermal Protection:** Auto
**NEMA Frame:** 48YZ
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CCW facing lead end
**Finish:** Gray
**Brand:** Dayton



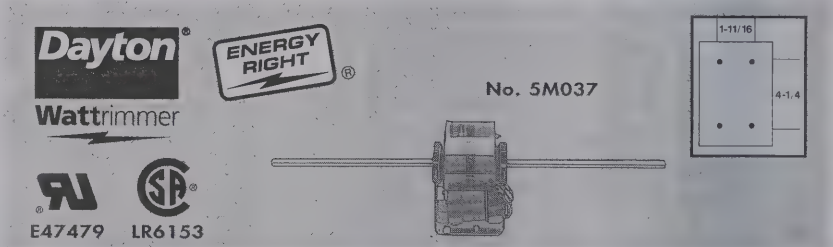

### RESILIENT RING BASE

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | Body Dia. (In.) | Shaft Dimensions Dia. x Length (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Capacitor Req'd. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/6** | 1075/3-Spd | 230 | 1.0 | A | 5⅝ | 1/2 x 7 ea | 4⅜ | **3M669** | $92.00 | **$72.65** | 11.0 | 5M004 | $5.13 |
| **1/4** | 1625/3-Spd | 115 | 3.1 | A | 5⅝ | 1/2 x 7 | 4⅞ | **3M878** | 84.00 | **66.85** | 12.0 | 5M005 | 5.51 |
| | 1625/3-Spd | 230 | 1.6 | A | 5⅝ | 1/2 x 7 | 4⅝ | **3M672** | 107.00 | **81.90** | 12.0 | 5M004 | 5.13 |
| | 1075/3-Spd | 115 | 3.4 | A | 5⅝ | 1/2 x 7 | 5⅛ | **3M877** | 90.00 | **72.70** | 14.0 | 5M006 | 6.60 |
| | 1075/3-Spd | 230 | 1.4 | A | 5⅝ | 1/2 x 7 | 5⅛ | **3M670** | 92.00 | **71.75** | 15.0 | 5M006 | 6.60 |
| | 1075/3-Spd | 277 | 1.5 | A | 5⅝ | 1/2 x 7¾† | 4⅞ | **3M930** | 149.00 | **113.85** | 14.0 | 5M003 | 4.47 |
| **1/3** | 1625/3-Spd | 230 | 1.9 | A | 5⅝ | 1/2 x 7 | 4⅞ | **3M673** | 129.00 | **98.25** | 14.0 | 5M005 | 5.51 |
| | 1075/3-Spd | 115 | 4.4 | A | 5⅝ | 1/2 x 7 | 5⅜ | **3M879** | 105.00 | **75.60** | 16.0 | 5M006 | 6.60 |
| | 1075/3-Spd | 230 | 1.9 | A | 5⅝ | 1/2 x 7 | 5⅜ | **3M671** | 107.00 | **75.40** | 16.0 | 5M006 | 6.60 |
| **1/2** | 1625/3-Spd | 230 | 2.7 | A | 5⅝ | 1/2 x 7 | 5⅜ | **3M904** | 141.00 | **101.90** | 17.0 | 5M005 | 5.51 |
| | 1075/3-Spd | 230 | 2.9 | B | 5⅝ | 1/2 x 7 | 5⅜ | **3M880** | 124.00 | **87.75** | 17.0 | 5M006 | 6.60 |
| **3/4** | 1625/3-Spd | 230 | 3.9 | B | 5⅝ | 1/2 x 7 | 5⅞ | **3M905** | 164.00 | **118.95** | 20.0 | 5M006 | 6.60 |

(†) Second shaft dimension: 1/2 x 7½". (✓) Denotes energy efficient product.

## DAYTON BRAND, PSC, HIGH EFFICIENCY

**Typical Uses:** High efficiency performance in fan coil heating/air conditioning, furnace blowers, unit heaters, and other shaft-mounted fan/blower applications.
**Special Features:** Mounted capacitor with protective boot. Double shaft.
**Type:** Permanent split capacitor
**Bearings:** All-angle sleeve
**Mounting:** Cradle base
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B
**NEMA Frame:** 42YZ
**Body Diameter:** 5"
**Shaft Dimensions:** 1/2 x 9¼" each with full flat
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CCW facing lead end
**Finish:** Gray enamel
**Brand:** Dayton




**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

### CRADLE BASE WITH MOUNTED CAPACITOR

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/25** | 1625/3-Spd | 115 | 0.7 | 4⅜ | **5M037** | $123.76 | **$95.45** | 9.2 |
| | 1075/3-Spd | 115 | 0.8 | 4⅜ | **5M038** | 111.28 | **85.85** | 9.2 |
| **1/10** | 1625/3-Spd | 115 | 1.2 | 5 | **5M039** | 128.96 | **99.45** | 12.0 |
| | 1075/3-Spd | 115 | 1.4 | 5 | **5M040** | 116.48 | **89.90** | 12.0 |
| | 1625/3-Spd | 208-230* | 0.6 | 5 | **5M041** | 132.08 | **101.85** | 12.0 |
| | 1075/3-Spd | 208-230* | 0.6 | 5 | **5M042** | 119.60 | **92.30** | 12.0 |
| **1/8** | 1625/3-Spd | 115 | 1.5 | 5⅜16 | **5M043** | 134.16 | **103.45** | 13.0 |
| | 1075/3-Spd | 115 | 1.7 | 5⅜16 | **5M044** | 121.68 | **93.85** | 13.0 |
| **1/6** | 1625/3-Spd | 115 | 1.8 | 5½ | **5M045** | 139.36 | **107.55** | 15.0 |
| | 1075/3-Spd | 115 | 2.5 | 5½ | **5M046** | 126.88 | **97.85** | 15.0 |
| | 1625/3-Spd | 208-230* | 0.8 | 5½ | **5M047** | 142.48 | **109.90** | 15.0 |
| | 1075/3-Spd | 208-230* | 1.1 | 5½ | **5M048** | 130.00 | **100.25** | 15.0 |

(*) 60/50 Hz. (✓) Denotes energy efficient product.



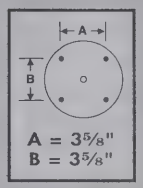
*Bring us your application, we'll deliver the motor.*

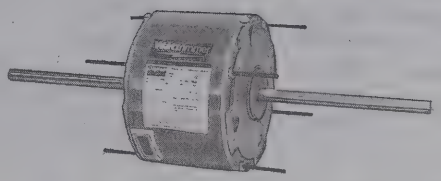
## PSC, HIGH EFFICIENCY, TEAO, UNIVERSAL OEM REPLACEMENT

**Typical Uses:** High efficiency performance as universal replacements for original motors used in specific brands of air conditioners, fan coil units, and unit heaters. Also used for resilient ring, base, or band-mounted fan and blower applications.
**Special Features:** Contractor friendly. Studs are 1½" at both ends. Each shaft is 1/2 x 6" long. Capacitor mounting holes in shell, 26" color-coded leads.
**Type:** Permanent split capacitor
**Bearings:** All-angle sleeve
**Service Factor:** 1.0
**Enclosure:** Totally enclosed air-over
**Thermal Protection:** Auto
**Insulation Class:** A (except No. 4M022 is B)
**NEMA Frame:** 48YZ
**Body Diameter:** 5⅝"
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CCW facing lead end
**Finish:** Gray
**Brand:** Dayton

Dayton® Wattrimmer® ENERGY RIGHT®

E47479



No. 4M019

| Equipment Manufacturer | HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Amana, Friedrich, Frigidaire, GE, Philco, Whirlpool | 1/8 | 1075/3-Spd | 115 | 2.1 | 3½ | ✓4M019 | $129.00 | $98.30 | 12.0 | 5M003 | $4.47 |
| Amana, Friedrich, GE | 1/8 | 1075/3-Spd | 230 | 0.9 | 3½ | ✓4M020 | 132.00 | 100.60 | 12.0 | 5M003 | 4.47 |
| Addison, Belding (Gibson), Emerson Quiet Kool, Frigidaire, GE | 1/5 | 1075/3-Spd | 208-230 | 1.4 | 3¾ | ✓4M022 | 140.00 | 106.80 | 12.0 | 5M003 | 4.47 |
| Addison, Whirlpool | 1/4 | 1075/3-Spd | 208-230 | 1.9 | 4 | ✓4M023 | 144.00 | 109.95 | 14.0 | 5M003 | 4.47 |
| Friedrich, Frigidaire, Rheem, Whirlpool | 1/3 | 1075/3-Spd | 208-230 | 2.5 | 4½ | ✓4M024 | 153.00 | 116.90 | 16.0 | 5M003 | 4.47 |

(✓) Denotes energy efficient product.

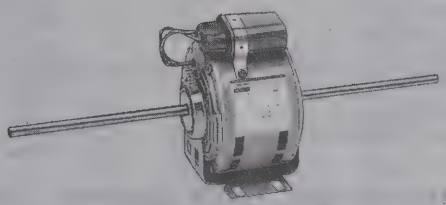
## PSC, OPEN AIR-OVER, 2 AND 3 SPEED

**Typical Uses:** Room air conditioners, fan coil console units, packaged heat pumps, and other double shaft and shaft-mounted fan and blower applications.
**Special Features:** Supplied with capacitor and resilient mounting base.
**Type:** Permanent split capacitor
**Bearings:** All-angle sleeve
**Mounting:** Cradle base
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** A
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Gray
**Brand:** Dayton

Dayton®

E47479

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.



No. 3M375

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Rotation Facing Lead End | Body Dia. (In.) | Resilient Base Mounting Holes OC (In.) | Shaft Dimensions (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/6 | 1625/2-Spd | 48YZ | 115 | 2.9 | CCW | 5⅝ | 1 11/16 x 4¾ | 1/2 x 7 | 4 11/16 | 3M375 | $90.00 | $68.60 | 12.0 |
| | 1625/2-Spd | 48YZ | 230 | 1.5 | CCW | 5⅝ | 1 11/16 x 4¾ | 1/2 x 7 | 4 11/16 | 3M376 | 92.00 | 70.15 | 11.0 |
| | 1075/3-Spd | 48YZ | 115 | 2.3 | CW/CCW | 5 | 1 11/16 x 4¾ | 1/2 x 7 | 4 15/16 | 3M166 | 124.00 | 95.15 | 12.0 |
| | 1075/3-Spd | 48YZ | 230 | 1.2 | CW/CCW | 5 | 1 11/16 x 4¾ | 1/2 x 7 | 4 15/16 | 3M167 | 126.00 | 96.70 | 11.0 |
| 1/4 | 1625/2-Spd | 48YZ | 115 | 3.6 | CCW | 5⅝ | 1 11/16 x 4¾ | 1/2 x 7 | 4 15/16 | 3M064 | 102.00 | 77.95 | 13.0 |
| | 1625/2-Spd | 48YZ | 230 | 1.8 | CCW | 5⅝ | 1 11/16 x 4¾ | 1/2 x 7 | 4 15/16 | 3M065 | 104.00 | 79.60 | 12.0 |
| | 1075/2-Spd | 48YZ | 115 | 4.4 | CCW | 5⅝ | 1 11/16 x 4¾ | 1/2 x 7 | 5 7/16 | 3M008 | 96.00 | 73.30 | 15.0 |
| | 1075/2-Spd | 48YZ | 230 | 2.2 | CCW | 5⅝ | 1 11/16 x 4¾ | 1/2 x 7 | 5 7/16 | 3M009 | 98.00 | 74.90 | 15.0 |
| 1/3 | 1625/3-Spd | 48YZ | 230 | 2.0 | CCW | 5⅝ | 1 11/16 x 4¾ | 1/2 x 7 | 5 7/16 | 3M377 | 99.00 | 75.60 | 14.0 |
| | 1075/3-Spd | 48YZ | 230 | 2.5 | CCW | 5⅝ | 1 11/16 x 4¾ | 1/2 x 7 | 5 11/16 | 3M378 | 108.00 | 82.65 | 18.0 |
| 1/2 | 1075/2-Spd | 48YZ | 230 | 3.3 | CCW | 5⅝ | 1 11/16 x 4¾ | 1/2 x 7 | 5 15/16 | 3M178 | 120.00 | 92.00 | 18.0 |

# ROOM AIR CONDITIONER MOTORS

## PSC, OPEN AND TEAO, 2 AND 3 SPEED

**Typical Uses:** Open motor is replacement for Frigidaire, Carrier, and Keeprite room air conditioners and is supplied with three mounting brackets welded to body. TEAO motor is replacement for Whirlpool, Sears, and Quiet Kool room air conditioners and is supplied with studs for mounting from either endshield.

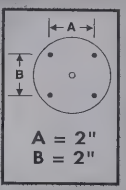
**Special Features:** Capacitor and mounting hardware available separately. Double shaft.

**Type:** Permanent split capacitor

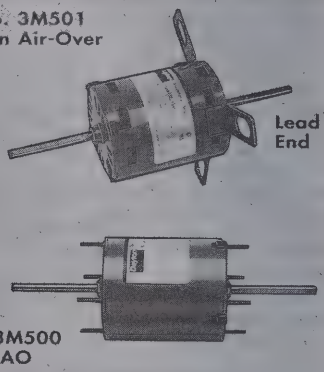
**Bearings:** All-angle sleeve
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B
**Body Diameter:** 3.3"
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Gray enamel
**Brand:** Dayton

Dayton

E47479 6319




**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.




| HP | Nameplate RPM | Rotation Facing Lead End | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Shaft Dimensions Dia. x L (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd Stock No. | Capacitor Req'd Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/20** | 1625/2-Spd | CCW | OPAO | 115 | 1.0 | 5/16 x 2 3/4 | 4 1/2 | **3M501** | $75.92 | **$58.65** | 4.2 | 5M003 | $4.47 |
| **1/15** | 1625/3-Spd | CCW | TEAO | 115 | 1.1 | 5/16 x 2 9/16 | 4 1/4 | **3M500** | 73.84 | **57.05** | 4.4 | 5M001 | 4.33 |

## PSC, OPEN AIR-OVER, 3 SPEED

**Typical Uses:** Fan coil heating/air conditioning console units for brands such as Nesbitt, U.S. Radiator and American Standard. Also adaptable to other shaft-mounted fan and blower applications.

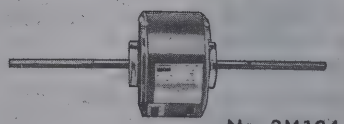
**Special Features:** Variable capacitor/load performance capability (see table below). Capacitor and mounting hardware available separately.

**Type:** Permanent split capacitor
**HP:** 1/15
**Nameplate RPM:** 1075/3-Speed
**Volts 60 Hz:** 115
**Full-Load Amps:** 1.0
**Bearings:** All-angle sleeve
**Mounting:** Resilient ring, 2 1/2" dia., 3 15/16" OC
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** A
**NEMA Frame:** 48YZ
**Body Diameter:** 5 5/8"
**Shaft Dimensions:** 1/2 x 6" each
**Length Less Shaft:** 4 7/16"
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CCW facing lead end
**Finish:** Gray
**Brand:** Dayton

**No. 3M134.** Shpg. wt. 8.7 lbs. List .....$107.00.
Each .....$81.95

Dayton

E47479




### CAPACITORS

| Size 370V | Blower Wheels | Load | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3 Mfd** | Single | Light | **5M001** | **$4.33** | 0.3 |
| **4 Mfd** | Double | Normal | **5M002** | **4.39** | 0.3 |
| **5 Mfd** | Triple | Heavy | **5M003** | **4.47** | 0.4 |

## SHADED POLE, OPEN AIR-OVER, 3 AND 4 SPEED, 4.4" DIA.

**Typical Uses:** Fan coil console-type units where coolant or heat is pumped to the console from a central system. Also adaptable to other shaft-mounted blower applications.

**Type:** Shaded pole
**Bearings:** All-angle sleeve
**Mounting:** Resilient ring
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** A
**Body Diameter:** 4.4"
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CCW facing lead end
**Finish:** Gray enamel
**Brand:** Dayton

Dayton

E47479 LR6153




| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | 2 1/2" Dia. Resilient Rings OC (In.) | Shaft Dimensions Dia. x L (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/25** | 1550/3-Spd | 115 | 1.4 | 3 15/16 | 3/8 x 7 | 4 3/8 | **4M295** | $86.32 | **$66.65** | 6.0 |
| **1/20** | 1550/3-Spd | 115 | 1.9 | 3 15/16 | 1/2 x 7 | 4 3/8 | **4M296** | 90.48 | **69.85** | 6.0 |
| **1/15** | 1550/3-Spd | 115 | 2.4 | 3 15/16 | 1/2 x 7 | 4 3/8 | **4M297** | 93.60 | **72.25** | 6.5 |
| **1/10** | 1550/3-Spd | 115 | 3.5 | 4 3/8 | 3/8 x 7 | 4 7/8 | **4M161** | 94.64 | **73.05** | 6.5 |
| | 1550/3-Spd | 115 | 3.5 | 4 1/4 | 1/2 x 7 | 4 7/8 | **4M162** | 94.64 | **73.05** | 6.5 |
| **1/8** | 1550/4-Spd | 115 | 4.1 | 4 1/2 | 1/2 x 7 | 4 15/16 | **4M163** | 102.96 | **79.45** | 7.4 |
| **1/6** | 1550/4-Spd | 115 | 5.4 | 5 | 1/2 x 6 5/8 | 5 7/16 | **4M164** | 107.12 | **82.70** | 9.3 |

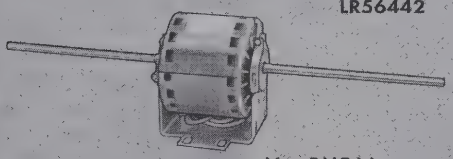


*Need reliable fan and blower motors? You've come to the right place.*

# ROOM AIR CONDITIONER MOTORS

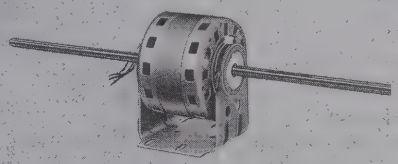
## SHADED POLE AND PSC, OPEN AIR-OVER, 2, 3, 4 AND 5 SPEED

Dayton® E47479 LR56442



No. 3M966

A.O. SMITH E46993 LR5072



No. 3M721

**Typical Uses:** Fan coil heating/air conditioning console units. Also adaptable to other shaft-mounted fan and blower applications.

**Type:** Shaded pole

**Bearings:** All-angle sleeve

**Mounting:** Cradle base

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Insulation Class:** Dayton, B; A.O. Smith, A

**Body Diameter:** 5"

**Ambient:** 40°C

**Duty:** Continuous air-over

**Finish:** Dayton, gray; A.O. Smith, black

**Brand:** Dayton and A.O. Smith

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Lead End | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Resil. Base Mounting Holes OC (In.) | Shaft Dimensions Dia. x Length (In.) | Length Less Shaft (In.) | Mfr's Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DAYTON BRAND, SHADED POLE** | | | | | | | | | | | | | |
| **1/10** | 1550/3-Spd | 42YZ | CCW | 115 | 3.8 | 1 11/16 x 3 3/4 | 1/2 x 8 3/8 | 5 1/4 | — | **3M966** | $96.00 | **$74.95** | 12.0 |
| | 1050/5-Spd | 42YZ | CW | 115 | 4.8 | 1 11/16 x 3 3/4 | 3/8 x 8 | 5 | — | **4M037** | 80.00 | **60.85** | 9.0 |
| | 1050/5-Spd | 42YZ | CW | 115 | 4.8 | 1 11/16 x 3 3/4 | 1/2 x 10 | 5 | — | **4M038** | 80.00 | **60.85** | 9.0 |
| | 1050/4-Spd | 42YZ | CCW | 115 | 4.8 | 1 11/16 x 3 3/4 | 1/2 x 8 3/8 | 5 1/4 | — | **3M965** | 102.00 | **77.95** | 13.0 |
| | 1050/4-Spd | 42YZ | CCW | 277 | 1.6 | 1 11/16 x 3 3/4 | 1/2 x 8 3/8 | 5 1/4 | — | **3M967** | 106.00 | **88.35** | 13.0 |
| | 1050/2-Spd | 42YZ | CCW | 115 | 3.7 | 1 11/16 x 3 1/2 | 1/2 x 4 1/4 | 4 15/16 | — | **3M592** | 87.00 | **66.30** | 10.0 |
| | 1050/2-Spd | 42YZ | CCW | 230 | 2.0 | 1 11/16 x 3 1/2 | 1/2 x 4 1/2 | 4 15/16 | — | **3M593** | 88.00 | **67.10** | 10.0 |
| | 1050 | 42YZ | CCW | 115 | 3.7 | 1 11/16 x 3 1/2 | 1/2 x 4 1/2 | 4 15/16 | — | **3M590** | 81.00 | **61.65** | 11.0 |
| **1/6** | 1050/2-Spd | 42YZ | CCW | 115 | 5.7 | 1 11/16 x 4 3/4 | 1/2 x 7 | 5 3/16 | — | **3M018** | 131.00 | **99.85** | 12.0 |
| | 1050/2-Spd | 42YZ | CCW | 230 | 2.8 | 1 11/16 x 4 3/4 | 1/2 x 7 | 5 3/16 | — | **3M019** | 133.00 | **101.35** | 14.0 |
| **A.O. SMITH BRAND, SHADED POLE AND PSC** | | | | | | | | | | | | | |
| **1/10** | 1550/3-Spd | 42YZ | CCW | 115 | 3.5 | 1 11/16 x 3 1/2 | 1/2 x 8 3/8 | 4 7/16 | 322P116 | **3M721** | 94.00 | **74.85** | 12.0 |
| | 1550/3-Spd | 42YZ | CCW | 208-230 | 1.8 | 1 11/16 x 3 1/2 | 1/2 x 8 3/8 | 4 7/16 | 322P218 | **3M748** | 104.00 | **82.75** | 12.0 |
| | 1075/4-Spd | 42YZ | CCW | 115 | 1.7 | 1 11/16 x 3 1/2 | 1/2 x 8 3/8 | 4 7/16 | 322P482 | **3M771**† | 124.00 | **98.65** | 11.0 |
| | 1050/4-Spd | 42YZ | CCW | 115 | 3.4 | 1 11/16 x 3 1/2 | 1/2 x 9 3/4 | 4 7/16 | 322P288 | **3M720** | 100.00 | **84.35** | 11.0 |
| | 1050/4-Spd | 42YZ | CCW | 208-230 | 1.6 | 1 11/16 x 3 1/2 | 1/2 x 8 3/8 | 4 7/16 | 322P073 | **3M747** | 109.00 | **86.70** | 10.0 |
| | 1050/4-Spd | 42YZ | CCW | 277 | 1.3 | 1 11/16 x 3 1/2 | 1/2 x 8 3/8 | 4 7/16 | 322P226 | **3M864** | 104.00 | **85.95** | 12.0 |

(†) PSC, requires No. 6X653 5 MFD, 370 VAC capacitor.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

**NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY.**

# 265-277 VOLT FAN OR BLOWER MOTORS AND HALO MOUNT OEM REPLACEMENT MOTORS

**Typical Uses:** Direct-drive furnace blowers, unit heaters, air conditioners, and many other shaft-mounted fan and blower applications for use in textile industry, hotels, and other institutional setting where 277 volt power is commonly found.

**Type:** Permanent split capacitor or shaded pole.

**Bearing:** Sleeve

**Enclosure:** Open air-over

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Insulation Class:** A

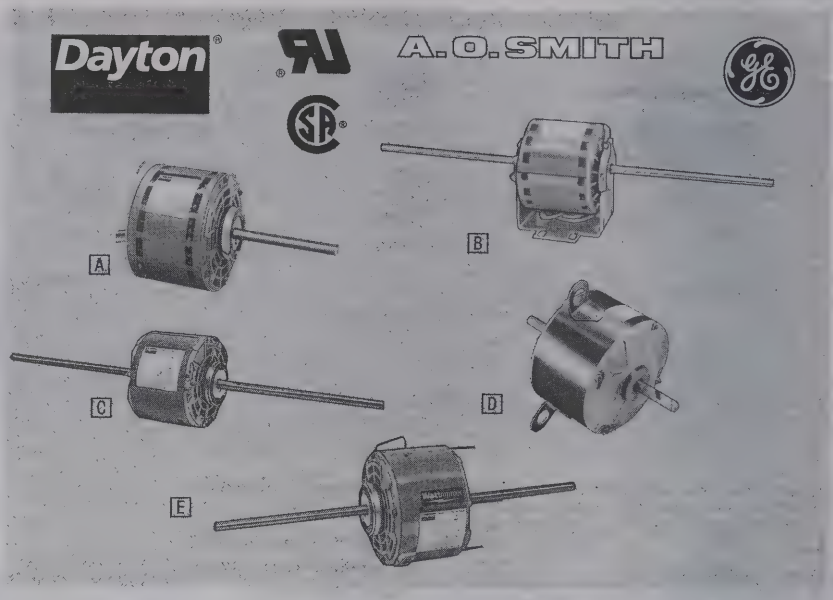
**Ambient:** 40°C

**Duty:** Continuous air-over

**Finish:** Dayton and GE grey; A.O. Smith, black

**Brands:** Dayton, GE, and A.O. Smith

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.




| HP | Key | Nameplate RPM | NEMA Frame | Rotation | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mount Style | Shaft Dimensions (In.) Dia. X Length | Length Less Shaft (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PSC, SINGLE SHAFT BLOWER MOTORS** | | | | | | | | | | | | | | | | | |
| **1/4** | A | 1075/3-Spd | 48YZ | CW/VFSE | 277 | 2.0 | 2½" Dia. Ring | 1/2 x 5 | 5⅜ | Dayton | — | **3M712** | $117.00 | **$89.70** | 13.0 | 5M002 | $4.39 |
| **1/3** | A | 1075/3-Spd | 48YZ | CW/VFSE | 277 | 2.2 | 2½" Dia. Ring | 1/2 x 5 | 5⅜ | Dayton | — | **3M713** | 125.00 | **95.95** | 14.0 | 5M002 | 4.39 |
| **1/2** | A | 1075/3-Spd | 48YZ | CW/VFSE | 277 | 3.4 | 2½" Dia. Ring | 1/2 x 5 | 5⅞ | Dayton | — | **3M714** | 142.00 | **108.40** | 15.0 | 5M004 | 5.13 |
| **SHADED POLE, DOUBLE SHAFT FAN AND BLOWER MOTORS** | | | | | | | | | | | | | | | | | |
| **1/10** | B | 1050/4-Spd | 42YZ | CCW/VFLE | 277 | 1.6 | Cradle | 1/2 x 8⅜ & 8⅜ | 5⅜6 | Dayton | — | **3M967** | 106.00 | **88.35** | 13.0 | None | |
| | B | 1050/4-Spd | 42YZ | CCW/VFLE | 277 | 1.3 | Cradle | 1/2 x 8⅜ & 8⅜ | 4⅞6 | A.O. Smith | 322P226 | **3M864** | 104.00 | **85.95** | 12.0 | None | |
| **PSC, DOUBLE SHAFT FAN AND BLOWER MOTORS** | | | | | | | | | | | | | | | | | |
| **1/8** | C | 1075/3-Spd | 42YZ | CCW/VFLE | 277 | 0.8 | 2¼" Dia. Ring | 1/2 x 8½ & 8½ | 4⅜ | Dayton | — | **3M883** | 108.00 | **82.70** | 9.0 | 5M003 | 4.47 |
| **1/5** | D | 1075/3-Spd | 42YZ | CW/VFLE | 265 | 1.3 | Lug | 1/2 x 2 & 2 | 4¼6 | GE | 3077 | **4M551** | 123.00 | **91.40** | 11.0 | 5M002 | 4.39 |
| **1/4** | E | 1075/3-Spd | 42YZ | CCW/VFLE | 277 | 1.5 | 2½" Ring/Stud | 1/2 x 7¾ & 7½ | 4⅞ | Dayton | — | **3M930** | 149.00 | **113.85** | 14.0 | 5M003 | 4.47 |

**CAUTION: Not for fans in unattended areas.**
**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## A.O. SMITH BRAND, HALO MOUNT, PSC, DIRECT OEM REPLACEMENT MOTORS

**Typical Uses:** Original equipment replacement motor for many Halo mount room air conditioner designs (See Original Equipment Motor Replacement Guide).

**Type:** Permanent split capacitor

**Bearing:** All-angle sleeve

**Enclosure:** TEAO

**Service Factor:** 1.0

**Thermal Protection:** Auto

**NEMA Frame:** 42

**Ambient:** 40°C

**Duty:** Continuous air-over

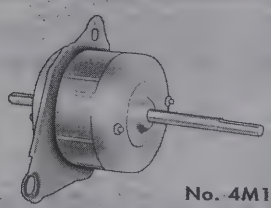
**Rotation:** CCW at lead end

**Finish:** Black epoxy

**Brand:** A.O. Smith

A.O.SMITH

E47479 LR22132



No. 4M148

| HP | Nameplate RPM | Volts* 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | Shaft Dimensions (In.) Dia. x L | A.O. Smith Model | Stock No. | List | Less Cap Each | Shpg. Wt. | Capacitor Required† Stock No. | Capacitor Required† Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1330/2-Spd | 230 | 1.9 | B | 1/2 x 2½ | OWW4514 | **4M148** | $126.00 | **$100.25** | 9.9 | 6X653 | $4.16 |
| **1/3** | 1450/3-Spd | 230 | 2.5 | A | 1/2 x 4⅞ | OWW4515 | **4M149** | 139.00 | **110.55** | 12.0 | 6X654 | 4.64 |

(*) Motors designed to operate on 208V. (†) No. 4M148 requires a 7.5 MFD capacitor on 208V.



*Bring us your application, we'll deliver the motor.*

# HIGH EFFICIENCY PSC DIRECT-DRIVE FURNACE BLOWER MOTORS

**Typical Uses:** High efficiency performance on furnace blowers and other air-over shaft-mounted fan and blower equipment.

**Type:** Permanent split capacitor

**Bearings:** All-angle sleeve (except No. 3M881 has ball)

**Mounting:** 2½" diameter resilient rings

[A] Includes flexible mounting bracket and capacitor mounting hardware. Capacitor mounting holes in shell.

[B] Includes 4 mounting studs and capacitor with mounting hardware. Capacitor mounting holes in shell.

[C] Resilient ring.

[D] Resilient ring with studs.

**Enclosure:** Open air-over

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Insulation Class:** A (except Nos. 3M857 and 3M881 are B)

**NEMA Frame:** 48YZ

**Body Diameter:** 5⅝"

**Ambient:** 40°C

**Duty:** Continuous air-over

**Finish:** Gray enamel

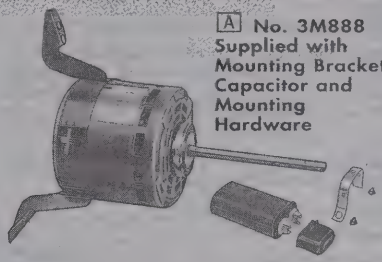
**Brand:** Dayton

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

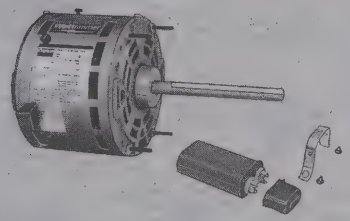
Dayton Wattrimmer

ENERGY RIGHT®

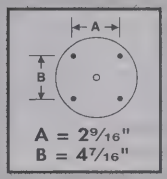
E47479

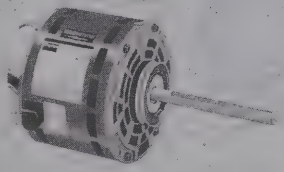


[A] No. 3M888 Supplied with Mounting Bracket, Capacitor and Mounting Hardware

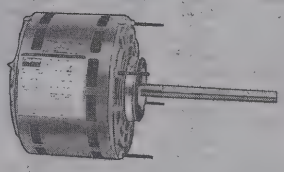


[B] No. 4M043 Terminal Plugs for Reversing Rotation Capacitor and Mounting Hardware Included

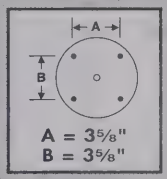


[C] No. 3M882 Resilient Ring Mount



[D] No. 3M846 Resilient Ring with Four Studs




| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mount Style | 2½" Dia. Resilient Rings OC (In.) | Shaft Dimensions Dia. x Length (In.) | Length Less Shaft (In.) | Rotation Facing Shaft End | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd Stock No. | Capacitor Req'd Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/6** | 1075/4-Spd | 115 | 2.2 | A | 4⅝ | 1/2 x 6 | 5⅜16 | CW/CCW | ✓**3M885** | $131.00 | **$99.85** | 12.0 | Included | |
| | 1075/3-Spd | 115 | 2.3 | C | 4¹¹⁄₁₆ | 1/2 x 5 | 5⅜16 | CW/CCW | ✓**3M882** | 92.00 | **70.15** | 11.0 | 5M003 | $4.47 |
| | 1075/3-Spd | 230 | 1.1 | C | 4¹¹⁄₁₆ | 1/2 x 5 | 5⅜16 | CW/CCW | ✓**3M902** | 94.00 | **71.80** | 10.0 | 5M003 | 4.47 |
| | 1075 | 230 | 1.1 | D | 4⁷⁄₁₆ | 1/2 x 5 | 4¹⁵⁄₁₆ | CW | ✓**3M846** | 86.00 | **65.50** | 10.0 | 5M003 | 4.47 |
| **1/4** | 1625/3-Spd | 115 | 2.8 | C | 4¹¹⁄₁₆ | 1/2 x 5 | 5⅜16 | CW/CCW | ✓**3M896** | 114.00 | **90.75** | 11.0 | 5M006 | 6.60 |
| | 1075/4-Spd | 115 | 3.8 | A | 4⅞ | 1/2 x 6 | 5⅞16 | CW/CCW | ✓**3M886** | 139.00 | **106.05** | 17.0 | Included | |
| | 1075/3-Spd | 115 | 3.8 | B | 5⅜ | 1/2 x 5 | 5¹⁵⁄₁₆ | CW/CCW | ✓**4M043** | 135.00 | **65.30** | 13.0 | Included | |
| | 1075/3-Spd | 115 | 3.8 | C | 4¹⁵⁄₁₆ | 1/2 x 5 | 5⅞16 | CW/CCW | ✓**3M851** | 95.00 | **65.40** | 12.0 | 5M003 | 4.47 |
| | 1075/3-Spd | 230 | 1.7 | C | 4¹⁵⁄₁₆ | 1/2 x 5 | 5⅞16 | CW/CCW | ✓**3M852** | 97.00 | **66.60** | 13.0 | 5M003 | 4.47 |
| | 1075 | 115 | 3.8 | D | 4¹¹⁄₁₆ | 1/2 x 5 | 5⅜16 | CW/CCW | ✓**3M954** | 92.00 | **72.20** | 12.0 | 5M003 | 4.47 |
| | 1075 | 230 | 1.8 | D | 4¹¹⁄₁₆ | 1/2 x 5 | 5⅜16 | CW/CCW | ✓**3M955** | 94.00 | **73.85** | 12.0 | 5M003 | 4.47 |
| **1/3** | 1625/3-Spd | 115 | 3.8 | C | 4¹⁵⁄₁₆ | 1/2 x 5 | 5⅞16 | CW/CCW | ✓**3M897** | 119.00 | **91.20** | 13.0 | 5M008 | 9.45 |
| | 1075/4-Spd | 115 | 4.6 | A | 5¼ | 1/2 x 6 | 5¹¹⁄₁₆ | CW/CCW | ✓**3M887** | 147.00 | **112.30** | 17.0 | Included | |
| | 1075/3-Spd | 115 | 4.6 | B | 5⅜ | 1/2 x 5 | 5¹⁵⁄₁₆ | CW/CCW | ✓**3M865** | 143.00 | **69.95** | 14.0 | Included | |
| | 1075/3-Spd | 115 | 4.6 | C | 5⅞16 | 1/2 x 5 | 5¹⁵⁄₁₆ | CW/CCW | ✓**3M853** | 100.00 | **68.95** | 16.0 | 5M005 | 5.51 |
| | 1075/3-Spd | 230 | 2.2 | B | 5¼ | 1/2 x 5 | 5¹¹⁄₁₆ | CW/CCW | ✓**3M866** | 145.00 | **70.10** | 14.0 | Included | |
| | 1075/3-Spd | 230 | 2.2 | C | 5⅜16 | 1/2 x 5 | 5¹¹⁄₁₆ | CW/CCW | ✓**3M854** | 102.00 | **70.10** | 14.0 | 5M004 | 5.13 |
| | 1075 | 115 | 5.6 | D | 5⅜16 | 1/2 x 5 | 5¹¹⁄₁₆ | CW/CCW | ✓**3M956** | 98.00 | **74.90** | 13.0 | 5M003 | 4.47 |
| | 1075 | 230 | 2.2 | D | 5⅜16 | 1/2 x 5 | 5¹¹⁄₁₆ | CW/CCW | ✓**3M957** | 100.00 | **78.70** | 13.0 | 5M003 | 4.47 |
| | 825 | 230 | 2.0 | C | 5¹¹⁄₁₆ | 1/2 x 5 | 6⅜16 | CW/CCW | ✓**3M881** | 126.00 | **96.65** | 15.0 | 5M005 | 5.51 |
| **1/2** | 1625/3-Spd | 115 | 5.8 | C | 5¹¹⁄₁₆ | 1/2 x 5 | 6⅜16 | CW/CCW | ✓**3M898** | 130.00 | **99.00** | 16.0 | 5M008 | 9.45 |
| | 1075/4-Spd | 115 | 7.6 | A | 5⅞16 | 1/2 x 6 | 5¹⁵⁄₁₆ | CW/CCW | ✓**3M888** | 163.00 | **124.70** | 16.0 | Included | |
| | 1075/3-Spd | 115 | 7.1 | C | 5¹⁵⁄₁₆ | 1/2 x 5 | 6⅞16 | CW/CCW | ✓**3M855** | 112.00 | **74.90** | 17.0 | 5M005 | 5.51 |
| | 1075/3-Spd | 230 | 3.1 | B | 5⅝ | 1/2 x 5 | 6⅜16 | CW/CCW | ✓**4M059** | 161.00 | **78.30** | 18.0 | Included | |
| | 1075/3-Spd | 230 | 3.1 | C | 5¹¹⁄₁₆ | 1/2 x 5 | 6⅜16 | CW/CCW | ✓**3M856** | 114.00 | **78.30** | 17.0 | 5M005 | 5.51 |
| | 1075 | 230 | 3.3 | D | 5¹¹⁄₁₆ | 1/2 x 5 | 6⅜16 | CW | ✓**3M903** | 106.00 | **87.45** | 17.0 | 5M005 | 5.51 |
| **3/4** | 1075/3-Spd | 115 | 9.5 | C | 6⅞16 | 1/2 x 5 | 6¹⁵⁄₁₆ | CW/CCW | ✓**3M857** | 153.00 | **99.85** | 21.0 | 5M007 | 7.95 |
| | 1075/3-Spd | 230 | 4.3 | C | 6⅞16 | 1/2 x 5 | 6¹⁵⁄₁₆ | CW/CCW | ✓**3M858** | 155.00 | **106.55** | 18.0 | 5M006 | 6.60 |

(✓) Denotes energy efficient product.

# HIGH EFFICIENCY PSC DIRECT-DRIVE FURNACE BLOWER MOTORS

**Typical Uses:** High efficiency performance in furnace blowers. Also for other air-over shaft-mounted fans and blowers.

**Special Features:** Capacitor and mounting hardware available separately. Capacitor mounting holes in shell. Quick reversing leads on CW/CCW models.

**Type:** Permanent split capacitor

**Bearings:** All-angle sleeve (except Nos. 4M356 and 4M357 are ball)

**Enclosure:** Open air-over

**Service Factor:** 1.0

**Thermal Protection:** Auto

**NEMA Frame:** 42YZ, 5" dia. (GE 29 frame); 48YZ, 5⅝" dia. (GE 39 frame); 56YZ, 6¾" dia.

**Ambient:** 40°C

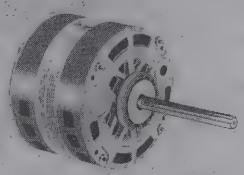
**Duty:** Continuous air-over

**Finish:** Gray

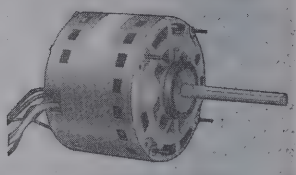
**Brand:** GE

ENERGY SAVER MOTOR

E46035

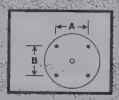


A Resilient Ring Mounting Style



B Resilient Ring with Studs Mounting Style

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.




| Diameter (In.) | A (In.) | B (In.) |
|---|---|---|
| 5 | 3¼ | 3¼ |
| 5⅝ | 3⅝ | 3⅝ |
| 6⅜ | 4⅛ | 4⅛ |

| HP | Nameplate RPM | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mount Style | Body Dia. (In.) | 2¼" Dia. Resilient Rings OC (In.) | Shaft Dimens. (In.) | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/30 | 1075/3-Spd | CW/CCW† | 115 | 0.6 | B | 5 | 4 7/16 | 1/2 x 8 | 4 7/8 | 2840 | 4M401 # | $119.00 | $76.00 | 9.9 | 6X653 | $4.16 |
| 1/8 | 1075/3-Spd | CW/CCW† | 115 | 2.5 | B | 5 | 4 15/16 | 1/2 x 4 | 5 3/8 | 2824 | 4M402 | 119.00 | 76.00 | 9.0 | 6X653 | 4.16 |
| | 1075 | CW/CCW | 115 | 2.6 | B | 5 | 4 15/16 | 1/2 x 4 | 5 3/8 | 2820 | 4M344 | 110.00 | 70.15 | 8.6 | 6X653 | 4.16 |
| 1/6 | 1625 | CW | 208-230* | 0.9 | A | 5 5/8 | 4 3/16 | 1/2 x 4 | 4 5/8 | 3452 | 4M408 | 145.00 | 90.75 | 9.6 | 6X653 | 4.16 |
| | 1075 | CW/CCW† | 115 | 3.0 | B | 5 | 5 5/16 | 1/2 x 4 | 5 11/16 | 2821 | 4M345 | 113.00 | 72.10 | 9.7 | 6X653 | 4.16 |
| | 1075 | CW | 115* | 2.3 | A | 5 5/8 | 4 3/16 | 1/2 x 4 | 4 5/8 | 3251 | 4M409 | 132.00 | 82.70 | 9.8 | 6X653 | 4.16 |
| | 1075 | CW | 208-230* | 0.9 | A | 5 5/8 | 4 3/16 | 1/2 x 4 | 4 5/8 | 3252 | 3M804 | 134.00 | 83.90 | 9.7 | 6X653 | 4.16 |
| 1/5 | 1075/3-Spd | CW/CCW† | 115 | 3.5 | B | 5 | 5 7/16 | 1/2 x 4 | 5 7/8 | 2825 | 4M403 | 126.00 | 80.40 | 11.0 | 6X653 | 4.16 |
| | 1075/3-Spd | CW/CCW† | 208-230 | 1.7 | B | 5 | 5 7/16 | 1/2 x 4 | 5 7/8 | 2826 | 4M404 | 128.00 | 81.70 | 11.0 | 6X653 | 4.16 |
| | 1075 | CW/CCW | 115 | 3.5 | B | 5 | 5 7/16 | 1/2 x 4 | 5 7/8 | 2822 | 4M346 | 119.00 | 76.00 | 11.0 | 6X653 | 4.16 |
| 1/4 | 1625/3-Spd | CW/CCW† | 115* | 2.7 | B | 5 5/8 | 4 11/16 | 1/2 x 4 | 5 1/8 | 3992 | 4M133 | 153.00 | 95.80 | 11.0 | 6X656 | 5.96 |
| | 1625/3-Spd | CW/CCW† | 208-230* | 1.2 | B | 5 5/8 | 4 11/16 | 1/2 x 4 | 5 1/8 | 3993 | 4M134 | 155.00 | 97.05 | 11.0 | 6X653 | 4.16 |
| | 1625 | CW | 115* | 3.2 | A | 5 5/8 | 4 11/16 | 1/2 x 4 | 5 1/8 | 3471 | 4M411 | 148.00 | 92.65 | 11.0 | 6X653 | 4.16 |
| | 1625 | CW | 208-230* | 1.4 | A | 5 5/8 | 4 11/16 | 1/2 x 4 | 5 1/8 | 3472 | 3M808 | 143.00 | 89.60 | 11.0 | 6X653 | 4.16 |
| | 1075/3-Spd | CW/CCW† | 115 | 3.7 | B | 5 5/8 | 5 5/16 | 1/2 x 4 | 5 5/8 | 3983 | 3M813 | 111.00 | 69.50 | 13.0 | 6X655 | 4.99 |
| | 1075/3-Spd | CW/CCW† | 115 | 4.8 | B | 5 | 5 11/16 | 1/2 x 4 | 6 3/16 | 2827 | 4M405 | 138.00 | 88.10 | 12.0 | 6X653 | 4.16 |
| | 1075/3-Spd | CW/CCW† | 208-230 | 2.2 | B | 5 | 5 11/16 | 1/2 x 4 | 6 3/16 | 2828 | 4M406 | 140.00 | 89.35 | 12.0 | 6X653 | 4.16 |
| | 1075/3-Spd | CW/CCW† | 208-230* | 1.7 | B | 5 5/8 | 5 3/16 | 1/2 x 4 | 5 5/8 | 3984 | 3M814 | 113.00 | 70.80 | 12.0 | 6X653 | 4.16 |
| | 1075 | CW/CCW | 115 | 4.7 | B | 5 | 5 11/16 | 1/2 x 4 | 6 3/16 | 2823 | 4M347 | 132.00 | 84.25 | 12.0 | 6X653 | 4.16 |
| | 1075 | CW | 115* | 3.5 | A | 5 5/8 | 4 7/16 | 1/2 x 4 | 4 7/8 | 3271 | 3M805 | 140.00 | 87.65 | 11.0 | 6X653 | 4.16 |
| | 1075 | CW | 208-230* | 1.5 | A | 5 5/8 | 4 7/16 | 1/2 x 4 | 4 7/8 | 3272 | 3M806 | 143.00 | 89.60 | 11.0 | 6X653 | 4.16 |
| 1/3 | 1625/3-Spd | CW/CCW† | 115* | 3.9 | B | 5 5/8 | 5 3/16 | 1/2 x 4 | 5 5/8 | 3994 | 4M135 | 159.00 | 92.10 | 13.0 | 6X658 | 8.17 |
| | 1625/3-Spd | CW/CCW† | 208-230* | 1.9 | B | 5 5/8 | 5 3/16 | 1/2 x 4 | 5 5/8 | 3995 | 4M136 | 161.00 | 100.80 | 13.0 | 6X653 | 4.16 |
| | 1625 | CW | 115* | 4.7 | A | 5 5/8 | 5 3/16 | 1/2 x 4 | 5 5/8 | 3481 | 4M412 | 156.00 | 97.65 | 12.0 | 6X653 | 4.16 |
| | 1625 | CW | 208-230* | 2.2 | A | 5 5/8 | 5 3/16 | 1/2 x 4 | 5 5/8 | 3482 | 4M413 | 158.00 | 98.95 | 12.0 | 6X653 | 4.16 |
| | 1075/3-Spd | CW/CCW† | 115 | 5.8 | B | 5 | 5 11/16 | 1/2 x 4 | 6 3/16 | 2829 | 4M407 | 153.00 | 97.65 | 13.0 | 6X658 | 8.17 |
| | 1075/3-Spd | CW/CCW† | 115 | 4.9 | B | 5 5/8 | 5 3/16 | 1/2 x 4 | 5 5/8 | 3985 | 3M815 | 117.00 | 73.25 | 16.0 | 6X655 | 4.99 |
| | 1075/3-Spd | CW/CCW† | 208-230* | 2.5 | B | 5 5/8 | 5 3/16 | 1/2 x 4 | 5 5/8 | 3986 | 3M816 | 119.00 | 74.55 | 14.0 | 6X653 | 4.16 |
| | 1075 | CW | 115* | 5.0 | A | 5 5/8 | 5 5/16 | 1/2 x 4 | 5 5/8 | 3281 | 3M809 | 152.00 | 95.15 | 14.0 | 6X653 | 4.16 |
| | 1075 | CW | 208-230* | 2.4 | A | 5 5/8 | 5 3/16 | 1/2 x 4 | 5 5/8 | 3282 | 3M810 | 154.00 | 96.45 | 13.0 | 6X653 | 4.16 |
| 1/2 | 1625/3-Spd | CW/CCW† | 115* | 6.0 | B | 5 5/8 | 5 7/16 | 1/2 x 4 | 5 7/8 | 3996 | 4M137 | 172.00 | 107.70 | 16.0 | 6X658 | 8.17 |
| | 1625/3-Spd | CW/CCW† | 208-230* | 2.8 | B | 5 5/8 | 5 7/16 | 1/2 x 4 | 5 7/8 | 3997 | 4M138 | 174.00 | 108.95 | 16.0 | 6X655 | 4.99 |
| | 1075/3-Spd | CW/CCW† | 115* | 7.3 | B | 5 5/8 | 5 11/16 | 1/2 x 4 | 6 1/8 | 3987 | 3M817 | 131.00 | 79.65 | 18.0 | 6X656 | 5.96 |
| | 1075/3-Spd | CW/CCW† | 208-230* | 3.5 | B | 5 5/8 | 5 11/16 | 1/2 x 4 | 6 1/8 | 3988 | 3M818 | 133.00 | 83.25 | 19.0 | 6X655 | 4.99 |
| | 1075 | CW | 208-230* | 3.4 | A | 5 5/8 | 5 11/16 | 1/2 x 4 | 6 1/8 | 3292 | 3M812 | 176.00 | 110.15 | 17.0 | 6X655 | 4.99 |
| 3/4 | 1625/3-Spd | CW/CCW† | 115* | 8.5 | B | 5 5/8 | 5 15/16 | 1/2 x 4 | 6 3/8 | 3998 | 4M139 | 190.00 | 118.95 | 18.0 | 6X658 | 8.17 |
| | 1625/3-Spd | CW/CCW† | 208-230* | 4.0 | A | 5 5/8 | 5 15/16 | 1/2 x 4 | 6 3/8 | 3999 | 4M140 | 192.00 | 120.25 | 18.0 | 6X655 | 4.99 |
| | 1075/3-Spd | CW/CCW† | 115 | 10.3 | B | 5 5/8 | 5 11/16 | 1/2 x 4 | 6 1/8 | 3989 | 3M819 | 179.00 | 106.10 | 19.0 | 6X658 | 8.17 |
| | 1075/3-Spd | CW/CCW† | 208-230 | 4.8 | B | 5 5/8 | 5 11/16 | 1/2 x 4 | 6 1/8 | 3990 | 3M820 | 181.00 | 113.25 | 17.0 | 6X656 | 5.96 |
| | 1075 | CW | 115 | 9.0 | B | 5 5/8 | 5 29/32 | 1/2 x 2 1/2 | 6 7/16 | 3275 | 3UT97 | 167.00 | 98.35 | 18.0 | 6X664 | 20.50 |
| 1 | 1075/3-Spd | CW/CCW | 115 | 10.8 | B | 6 3/8 | 9 1/16‡ | 5/8 x 6 | 9 9/16 | P184 | 4M356 | 355.00 | 217.25 | 35.0 | 6X658 | 8.17 |
| | 1075/3-Spd | CW/CCW | 200-230 | 5.0 | B | 6 3/8 | 9 1/16‡ | 5/8 x 6 | 9 9/16 | P185 | 4M357 | 355.00 | 240.25 | 43.0 | 6X657 | 7.16 |

(*) 60/50 Hz. (†) Three-speed CW/CCW motors include split ring to increase resilient ring diameter from 2¼ to 2½". (✓) Denotes energy efficient product.
(‡) 2½" diameter resilient rings. (#) Includes cradle base and length adapter kit.

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**Our branches are conveniently located and stocked with commonly used items from this catalog. If you need it now, call Grainger. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# COMMERCIAL AND RESIDENTIAL DUTY DIRECT-DRIVE BLOWER MOTORS

- **Quick reversing leads on CW/CCW models**
- **Capacitor and mounting hardware available separately**
- **Capacitor mounting holes in shell**

**Commercial Duty Motors:** Feature higher starting torque than residential duty motors and offer universal replacement. Cooler running temperature ensures longer life-performance.

**Typical Uses:** Direct-drive furnace blowers, unit heaters, air conditioners, and many other shaft-mounted fan and blower applications.

**Type:** Permanent split capacitor

**Bearings:** All-angle sleeve

**Mounting:** Resilient ring

**Enclosure:** Open air-over

**Service Factor:** 1.0

**Thermal Protection:** Auto

**NEMA Frame:** 48YZ

**Body Diameter:** 5⅝"

**Ambient:** 40°C

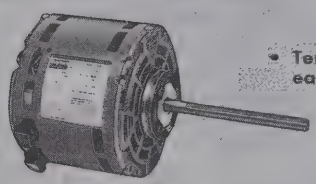
**Duty:** Continuous air-over

**Finish:** Gray enamel

**Brand:** Dayton

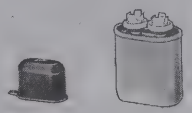
Dayton®

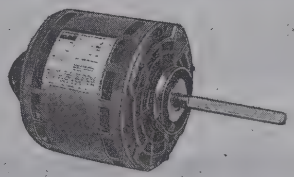
E47479



• Terminal block for easy speed selection

No. 3M087





No. 4M994

| HP | Nameplate RPM | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | 2½" Dia. Resilient Rings OC (In.) | Shaft Dimensions Dia. x Length (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMMERCIAL DUTY, STANDARD EFFICIENCY** | | | | | | | | | | | | | | |
| **1/4** | 1075/4-Spd | CW/CCW | 115 | 4.6 | A | 4 15/16 | 1/2 x 5 | 5 7/16 | **3M087** | $125.00 | **$95.95** | 14.0 | Included | |
| | 1075/3-Spd | CW | 277 | 2.0 | A | 4 15/16 | 1/2 x 5 | 5 7/16 | **3M712** | 117.00 | **89.70** | 13.0 | 5M002 | $4.39 |
| **1/3** | 1075/4-Spd | CW | 115 | 6.5 | A | 4 7/8 | 1/2 x 5 | 5 5/16 | **3M118** | 114.00 | **87.35** | 14.0 | 5M002 | 4.39 |
| | 1075/3-Spd | CW | 277 | 2.2 | A | 5 3/16 | 1/2 x 5 | 5 11/16 | **3M713** | 125.00 | **95.95** | 14.0 | 5M002 | 4.39 |
| **1/2** | 1075/4-Spd | CW | 115 | 8.0 | A | 5 3/16 | 1/2 x 5 | 5 11/16 | **3M142** | 131.00 | **99.80** | 14.0 | 5M003 | 4.47 |
| | 1075/3-Spd | CW | 277 | 3.4 | A | 5 3/16 | 1/2 x 5 | 5 15/16 | **3M714** | 142.00 | **108.40** | 15.0 | 5M004 | 5.13 |
| **3/4** | 1075/4-Spd | CW | 115 | 11.0 | B | 6 7/16 | 1/2 x 5 | 6 15/16 | **3M300** | 164.00 | **125.55** | 18.0 | 5M006 | 6.60 |
| | 1075/4-Spd | CW | 230 | 5.5 | A | 6 7/16 | 1/2 x 5 | 6 15/16 | **3M222** | 166.00 | **127.10** | 18.0 | 5M005 | 5.51 |
| **RESIDENTIAL DUTY, STANDARD EFFICIENCY** | | | | | | | | | | | | | | |
| **1/4** | 1075/3-Spd | CW/CCW | 115 | 4.2 | B | 4 7/8 | 1/2 x 4 | 5 3/16 | **4M096** | 90.00 | **42.75** | 12.0 | 5M003 | 4.47 |
| | 1075/3-Spd | CW/CCW | 208-230 | 2.0 | B | 4 7/8 | 1/2 x 4 | 5 3/16 | **4M097** | 92.00 | **43.80** | 14.0 | 5M003 | 4.47 |
| **1/3** | 1075/3-Spd | CW/CCW | 115 | 6.2 | B | 5 1/8 | 1/2 x 4 | 5 11/16 | **4M098** | 94.00 | **45.00** | 15.0 | 5M003 | 4.47 |
| | 1075/3-Spd | CW/CCW | 208-230 | 2.9 | B | 5 1/8 | 1/2 x 4 | 5 11/16 | **4M099** | 96.00 | **46.25** | 14.0 | 5M003 | 4.47 |
| **1/2** | 1075/3-Spd | CW/CCW | 115 | 9.0 | B | 6 1/8 | 1/2 x 4 | 6 7/16 | **4M100** | 113.00 | **52.95** | 19.0 | 5M003 | 4.47 |
| | 1075/3-Spd | CW/CCW | 208-230 | 4.2 | B | 5 7/8 | 1/2 x 4 | 6 3/16 | **4M101** | 115.00 | **54.15** | 18.0 | 5M003 | 4.47 |
| **3/4** | 1075/3-Spd | CW/CCW | 115 | 9.1 | B | 6 1/8 | 1/2 x 4 | 6 7/16 | **4M183** | 153.00 | **74.05** | 20.0 | 5M008 | 9.45 |
| | 1075/3-Spd | CW/CCW | 208-230 | 4.6 | B | 6 1/8 | 1/2 x 4 | 6 7/16 | **4M184** | 155.00 | **75.15** | 19.0 | 5M006 | 6.60 |

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**Our branches are conveniently located and stocked with commonly used items from this catalog. If you need it now, call Grainger. To find the branch nearest you, check the Branch Locations listing in the front of this catalog.**

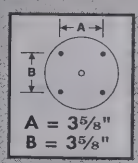
# DIRECT-DRIVE FURNACE BLOWER MOTORS

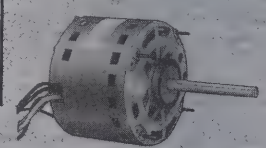
## RESIDENTIAL DUTY DIRECT-DRIVE FURNACE BLOWER MOTORS

- **Quick reversing leads**
- **Capacitor and mounting hardware available separately**
- **Capacitor mounting holes in shell**

**Typical Uses:** Direct-drive furnace blowers, unit heaters, air conditioners, and many other shaft-mounted fan and blower applications.
**Type:** Permanent split capacitor
**Bearings:** All-angle sleeve
**Mounting:** Resilient ring with studs
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**NEMA Frame:** 48YZ (GE 39 frame)
**Body Diameter:** 5⅝"
**Shaft Dimensions:** 1/2 x 4"
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

E46035
LR551298
LR4383



No. 4M583

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | 2¼" Dia. Resilient Rings OC* (In.) | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Capacitor Req'd. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RESIDENTIAL DUTY, STANDARD EFFICIENCY, THREE SPEED** | | | | | | | | | | | | | |
| **1/4** | 1075-3-Spd | 115 | 4.2 | B | 4 11/16 | 5⅛ | 3583 | **4M583** | $88.00 | **$50.50** | 12.0 | 6X653 | $4.16 |
| | 1075-3-Spd | 208-230 | 2.0 | B | 4 11/16 | 5⅛ | 3584 | **4M584** | 90.00 | **51.70** | 12.0 | 6X653 | 4.16 |
| **1/3** | 1075-3-Spd | 115 | 6.2 | B | 4 15/16 | 5⅜ | 3585 | **4M585** | 92.00 | **53.10** | 15.0 | 6X653 | 4.16 |
| | 1075-3-Spd | 208-230 | 2.7 | B | 4 15/16 | 5⅜ | 3586 | **4M586** | 94.00 | **54.55** | 15.0 | 6X653 | 4.16 |
| **1/2** | 1075-3-Spd | 115 | 9.0 | B | 5 15/16 | 6⅜ | 3587 | **4M587** | 111.00 | **62.45** | 19.0 | 6X653 | 4.16 |
| | 1075-3-Spd | 208-230 | 4.3 | B | 5 15/16 | 6⅛ | 3588 | **4M588** | 113.00 | **63.95** | 19.0 | 6X653 | 4.16 |
| **3/4** | 1075-3-Spd | 115 | 11.2 | B | 5 15/16 | 6⅜ | 3589 | **4M589** | 150.00 | **87.35** | 20.0 | 6X658 | 8.17 |
| | 1075-3-Spd | 208-230 | 5.0 | B | 5 15/16 | 6 | 3590 | **4M590** | 152.00 | **88.75** | 20.0 | 6X656 | 5.96 |
| **RESIDENTIAL DUTY, STANDARD EFFICIENCY, TWO SPEED** | | | | | | | | | | | | | |
| **1/4** | 1075-2-Spd | 115 | 4.2 | B | 4 11/16 | 5⅛ | 3383 | **4M383** | 84.00 | **48.95** | 12.0 | 6X653 | 4.16 |
| | 1075-2-Spd | 208-230# | 2.0 | B | 4 11/16 | 5⅛ | 3384 | **4M384** | 86.00 | **50.10** | 11.0 | 6X653 | 4.16 |
| **1/3** | 1075-2-Spd | 115 | 6.2 | B | 4 15/16 | 5⅜ | 3385 | **4M385** | 89.00 | **51.45** | 14.0 | 6X653 | 4.16 |
| | 1075-2-Spd | 208-230# | 2.9 | B | 4 15/16 | 5⅜ | 3386 | **4M386** | 91.00 | **52.90** | 14.0 | 6X653 | 4.16 |
| **1/2** | 1075-2-Spd | 115# | 9.0 | B | 5 15/16 | 6⅜ | 3387 | **4M387** | 104.00 | **59.30** | 18.0 | 6X653 | 4.16 |
| | 1075-2-Spd | 208-230# | 4.3 | B | 5 11/16 | 6⅛ | 3388 | **4M388** | 106.00 | **60.70** | 17.0 | 6X653 | 4.16 |
| **3/4** | 1075-2-Spd | 115 | 10.3 | B | 5 15/16 | 6⅜ | 3389 | **4M389** | 140.00 | **84.85** | 19.0 | 6X658 | 8.17 |
| | 1075-2-Spd | 208-230 | 5.2 | B | 5 15/16 | 6⅜ | 3390 | **4M390** | 142.00 | **86.15** | 19.0 | 6X656 | 5.96 |

(*) Ring kit furnished to provide both 2¼ and 2½" diameters. (#) 60/50 Hz operation.

## PSC, OPEN AIR-OVER, 4 SPEED

**Contractor Friendly Features**

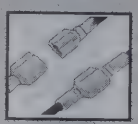
- **Versatile, strong, easy to install and adjust**
- **Four speeds with external speed selection**
- **Resilient mounting rings**
- **Quick reversing leads**
- **Fine-tune air delivery and rotation without major reconnection**
- **Four ratings replace 85% of all motors found in residential furnaces; no need for expensive one-on-one replacements**

**Typical Uses:** Wide variety of air-moving uses such as direct-drive furnace blowers, unit heaters, air conditioners, air handlers, and many other shaft-mounted fan and blower applications.

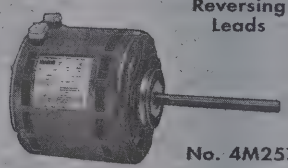
**Special Features:** Unique method of quick and easy speed selection. Quick reversing leads. Capacitor sold separately.
**Type:** Permanent split capacitor
**Bearings:** All-angle sleeve
**Mounting:** Resilient rings or belly band
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B
**NEMA Frame:** 48YZ
**Body Diameter:** 5⅝"
**Shaft Dimensions:** 1/2 x 5"
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Dayton®
E47479



Quick Reversing Leads



No. 4M257

**Motor can be wired for 2 of 4 speeds to accommodate winter/summer modes. To change speeds, simply move external plugs to the desired settings. Simple reconnection eliminates need for major rewiring.**

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | 2½" Dia. Resilient Rings OC (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1075/4-Spd | 115 | 3.8 | 5 7/16 | 5⅞ | **4M257** | $87.00 | **$68.20** | 14.0 | 5M003 | $4.47 |
| **1/3** | 1075/4-Spd | 115 | 4.6 | 6 | 6⅜ | **4M258** | 92.00 | **72.15** | 17.0 | 5M005 | 5.51 |
| **1/2** | 1075/4-Spd | 115 | 7.1 | 6 9/16 | 6⅝ | **4M259** | 105.00 | **82.60** | 19.0 | 5M005 | 5.51 |
| **3/4** | 1075/4-Spd | 115 | 10.8 | 6 7/8 | 7⅜ | **4M260** | 144.00 | **113.05** | 22.0 | 5M007 | 7.95 |



*Bring us your application, we'll deliver the motor.*

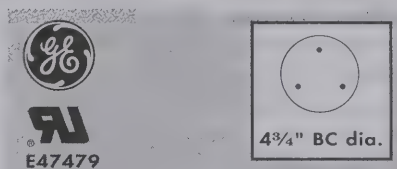
# HIGH EFFICIENCY PSC AND SHADED POLE DIRECT-DRIVE FURNACE BLOWER MOTORS

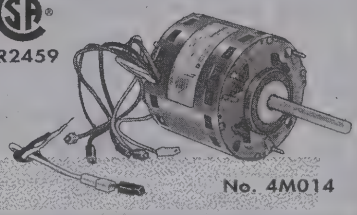
## GE BRAND, SHADED POLE, OPEN AIR-OVER, 4 SPEED

**Typical Uses:** Furnace blowers. Also used for other air-over shaft-mounted fan and blower equipment.
**Special Features:** Capacitor and mounting hardware for PSC models available separately. Capacitor mpounting holes in shell.
**Type:** Permanent split ccapacitor or shaded pole
**Bearings:** All-angle sleeve
**Mounting:** Resilient rings and studs (except No. 3M862 has resilient rings only)
**Service Factor:** 1.0
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** PSC models are CW/CCW; shaded pole models are CW facing shaft
**Finish:** Gray

E47479

LR2459





No. 4M014

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Shaft Dimensions (Inches) Dia. x Length | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/5** | 1050/4-Spd | 115 | 8.3 | 1/2 x 3½ | 5⅛ | 2985 | **4M014** | $111.00 | **$73.25** | 11.0 |
| | 1050/3-Spd | 115 | 6.1 | 1/2 x 4 | 5⅜ | 2881 | **3UT90** | 119.00 | **64.45** | 10.0 |
| | 1050/3-Spd | 230 | 3.7 | 1/2 x 31/2 | 51/8 | 2986 | **4M015** | 112.00 | **73.95** | 11.0 |
| **1/4** | 1050/3-Spd | 115 | 8.4 | 1/2 x 4 | 5¹¹⁄₁₆ | 2882 | **3UT93** | 136.00 | **79.60** | 10.0 |

**CAUTION: Not for fans in attended areas.**
**Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.**

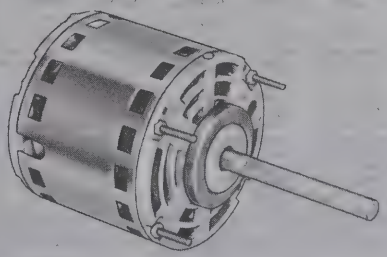
## GE BRAND, 115 AND 208-230 VOLT

**Typical Uses:** Furnace blowers. Also used for other air-over shaft-mounted fan and blower equipment.
**Special Features:** Capacitor and mounting hardware for PSC models available separately. Capacitor mpounting holes in shell.
**Type:** Permanent split ccapacitor or shaded pole
**Bearings:** All-angle sleeve
**Mounting:** Resilient rings and studs (except No. 3M862 has resilient rings only)
**Service Factor:** 1.0
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** PSC models are CW/CCW; shaded pole models are CW facing shaft
**Finish:** Gray

E46035

ENERGY SAVER MOTOR





No. 3M860

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | Body Dia. (In.) | 2½" Dia. Resilient Rings OC (Inches) | Shaft Dimensions (Inches) | Length Less Shaft (In.) | Rotation Facing Shaft | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HIGH EFFICIENCY PSC** | | | | | | | | | | | | | | |
| **1/5** | 1075/3-Spd | 42YZ | 115 | 3.8 | B | 5 | 4⅝ | 1/2 x 5 | 5 | CW/CCW | ✓ **3M710** † | $113.00 | **$74.55** | 10.0 |
| | 1075/3-Spd | 42YZ | 208-230 | 1.4 | B | 5 | 4⅝ | 1/2 x 5 | 5 | CW/CCW | ✓ **3M711** † | 116.00 | **76.55** | 10.0 |
| **SHADED POLE** | | | | | | | | | | | | | | |
| **1/8** | 1050 | 42YZ | 115 | 5.2 | B | 5 | 4⅛ | 1/2 x 5 | 4⁷⁄₁₆ | CW | **3M860** | 85.00 | **56.10** | 8.0 |
| | 1050 | 42YZ | 208-230 | 2.6 | B | 5 | 4⅛ | 1/2 x 5 | 4⁷⁄₁₆ | CW | **3M861** | 92.00 | **60.75** | 9.0 |
| **1/5** | 1050/4-Spd | 42YZ | 115 | 6.5 | B | 5 | 4⅝ | 1/2 x 2⅛ | 5 | CW | **3M021** | 108.00 | **81.75** | 11.0 |
| | 1050/3-Spd | 42YZ | 115 | 6.5 | B | 5 | 4⅝ | 1/2 x 5 | 5 | CW | **3M648** | 95.00 | **71.90** | 11.0 |
| | 1050/3-Spd | 42YZ | 208-230 | 3.2 | B | 5 | 4⅝ | 1/2 x 5 | 5 | CW | **3M649** | 104.00 | **78.70** | 10.0 |
| | 1050 | 42YZ | 115 | 6.0 | B | 5 | 4⅛ | 1/2 x 5 | 4⁷⁄₁₆ | CW | **3M862** * | 90.00 | **59.40** | 9.0 |

(*) Two studs, not extended. (†) Requires No. 6X655 capacitor. (✓) Denotes energy efficient product.

# DIRECT-DRIVE FURNACE BLOWER MOTORS

- **Welded bracket**
- **Quiet operation**
- **Quick reversing leads on PSC models**

**Typical Uses:** Exceptionally quiet operation on shaft-mounted blowers with 9 or 10" diameter wheels.

**Special Features:** Torsion-flex mounting effectively isolates and prevents torsional vibrations from reaching the blower housing and causing noise. Capacitor and mounting hardware available separately for PSC motors.

**Type:** Permanent split capacitor or shaded pole

**Bearings:** All-angle sleeve

**Mounting:** Three torsion-flex mounting brackets welded to motor shell

**Enclosure:** Open air-over

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Insulation Class:** PSC models are B; shaded pole models are A

**NEMA Frame:** 42YZ, 5" dia. (GE 29 frame); 48YZ, 5⅝" dia. (GE 39 frame)

**Ambient:** 40°C

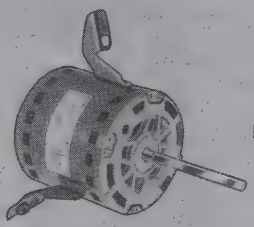
**Duty:** Continuous air-over

**Rotation:** PSC models are CW/CCW with quick reversing leads; shaded pole models are CW facing shaft

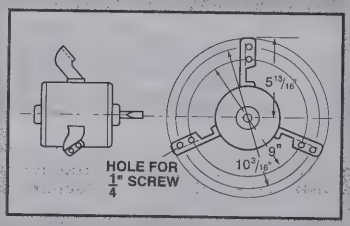
**Finish:** Gray

**Brand:** GE

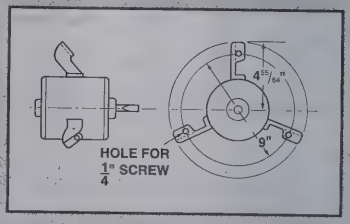
E46035



No. 4M448




PSC Models




Shaded Pole Models

## PSC

| HP | Nameplate RPM | NEMA Frame | Rotation | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x L | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/6** | 1075/3-Spd | 48YZ | CW/CCW | 115 | 2.5 | B | 5⅝ | 1/2 x 5 | 4 1/16 | 3782 | **4M448** | $106.00 | **$66.35** | 12.0 | 6X653 | $4.16 |
| **1/4** | 1075/4-Spd | 48YZ | CW/CCW | 115 | 4.2 | B | 5⅝ | 1/2 x 5 | 5⅛ | 0090 | **3M977** | 125.00 | **78.25** | 13.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CW/CCW | 208-230* | 1.7 | B | 5⅝ | 1/2 x 5 | 4 5/16 | 3784 | **4M450** | 124.00 | **77.70** | 13.0 | 6X653 | 4.16 |
| **1/3** | 1075/4-Spd | 48YZ | CW/CCW | 115 | 6.4 | B | 5⅝ | 1/2 x 5 | 5⅞ | 0091 | **3M874** | 132.00 | **82.65** | 17.0 | 6X653 | 4.16 |
| | 1075/3-Spd | 48YZ | CW/CCW | 208-230* | 2.5 | B | 5⅝ | 1/2 x 5 | 4 13/16 | 3786 | **4M452** | 132.00 | **82.65** | 15.0 | 6X653 | 4.16 |
| **1/2** | 1075/4-Spd | 48YZ | CW/CCW | 115 | 9.2 | B | 5⅝ | 1/2 x 5 | 6⅛ | 0092 | **3M875** | 148.00 | **92.65** | 17.0 | 6X655 | 4.99 |
| | 1075/3-Spd | 48YZ | CW/CCW | 208-230* | 3.5 | B | 5⅝ | 1/2 x 5 | 5 5/16 | 3788 | **4M454** | 148.00 | **92.65** | 18.0 | 6X655 | 4.99 |
| **3/4** | 1075/4-Spd | 48YZ | CW/CCW | 115 | 11.2 | B | 5⅝ | 1/2 x 5 | 6⅝ | 0093 | **3M876** | 201.00 | **125.80** | 18.0 | 6X658 | 8.17 |
| | 1075/3-Spd | 48YZ | CW/CCW | 208-230 | 4.8 | B | 5⅝ | 1/2 x 5 | 5⅝ | 3790 | **4M456** | 201.00 | **125.80** | 20.0 | 6X656 | 5.96 |

## SHADED POLE

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft† | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x L | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/10** | 1050/3-Spd | 42YZ | CW | 115 | 3.6 | A | 5 | 1/2 x 4 5/8 | 4 1/2 | 2781 | **4M373** | $95.00 | **$60.65** | 9.7 |
| **1/6** | 1050/3-Spd | 42YZ | CW | 115 | 5.3 | A | 5 | 1/2 x 4 5/8 | 4 1/2 | 2782 | **4M374** | 106.00 | **67.65** | 10.0 |
| | 1050 | 42YZ | CW | 115 | 5.8 | A | 5 | 1/2 x 3 1/2 | 4⅝ | 0002 | **3M872** | 106.00 | **67.65** | 11.0 |
| **1/4** | 1050/3-Spd | 42YZ | CW | 115 | 8.2 | A | 5 | 1/2 x 4 5/8 | 5 5/16 | 2783 | **4M375** | 126.00 | **80.35** | 13.0 |
| | 1050 | 42YZ | CW | 115 | 8.9 | A | 5 | 1/2 x 4 1/2 | 5⅜ | 0040 | **3M873** | 119.00 | **76.00** | 12.0 |

(*) 60/50 Hz operational. (†) GE motors are nameplated rotation viewing lead end.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

gojo® Rubbermaid®

MANY BRANDS OF MAINTENANCE EQUIPMENT AVAILABLE

UNITED RECEPTACLE INC. DOVER®

# DIRECT-DRIVE FAN AND BLOWER MOTORS

**Typical Uses:** Furnace blowers, unit heaters, air circulators, and fans.

**Type:** Shaded pole or permanent split capacitor

**Bearings:** All-angle sleeve

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Body Diameter:** NEMA frame 42YZ, 5"; NEMA frame 48YZ, 5⅝"

**Ambient:** 40°C

**Duty:** Continuous air-over

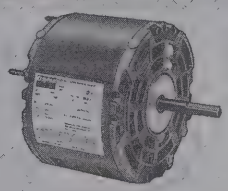
**Rotation:** CW facing shaft

**Finish:** Gray enamel

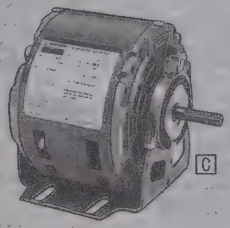
**Brand:** Dayton

Dayton®

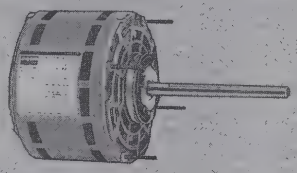
E47479



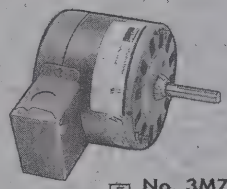
A No. 3M586 Stud Mount



C No. 3M589 Cradle Base

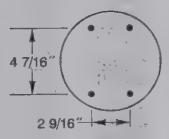


D No. 1D168 Ring and Stud

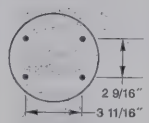


E No. 3M727 5.0 Cu.-In. Junction Box

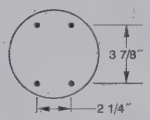
## MOUNTING PATTERNS



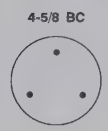

Stud, Fig. 1



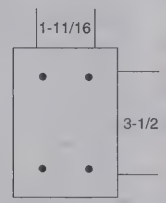

Stud, Fig. 2




Stud, Fig. 3




Stud, Fig. 4




Base, Fig. 5

| HP | Key | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mounting Pattern Figure | Mounting Stud Location# | 2½" Dia. Resilient Rings OC (In.) | Shaft Dimensions Dia. x Length (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, OPEN AIR-OVER** | | | | | | | | | | | | | | |
| **1/15** | A | 1050/2-Spd | 42YZ | 115 | 3.0 | 3 | OSE | — | 3/8 x 1 7/8 | 3 5/16 | **3M583** | $66.00 | **$50.70** | 8.0 |
| | A | 1050 | 42YZ | 115 | 2.8 | 3 | OSE | — | 3/8 x 1 7/8 | 3 5/16 | **3M586** | 63.00 | **48.35** | 8.0 |
| | C | 1050 | 42YZ | 115 | 2.8 | 5 | — | — | 3/8 x 1 5/16 | 4 7/16 | **3M589** | 71.00 | **54.60** | 9.0 |
| **1/10** | A | 1050 | 42YZ | 115 | 3.7 | 3 | OSE | — | 3/8 x 1 7/8 | 3 13/16 | **3M585** | 66.00 | **50.70** | 10.0 |
| **1/8** | D | 1050 | 42YZ | 115 | 5.5 | 2 | SE | 5 | 1/2 x 5 | 5 1/4 | **4M176** | 75.00 | **57.70** | 11.0 |
| **1/6** | D | 1050 | 42YZ | 115 | 5.9 | 2 | SE | 4 3/4 | 1/2 x 3 | 5 1/8 | **3M601** | 81.00 | **61.65** | 11.0 |
| | E | 1050 | 42YZ | 115 | 5.6 | 4 | SE | — | 1/2 x 1 7/8 | 4 1/2 | **3M727*** | 87.36 | **67.40** | 10.0 |
| **1/5** | D | 1050/3-Spd | 42YZ | 115 | 7.3 | 2 | SE | 5 1/2 | 1/2 x 5 | 5 7/8 | **4M177** | 87.00 | **66.25** | 12.0 |
| | D | 1050/3-Spd | 42YZ | 208-230 | 3.9 | 2 | SE | 5 1/2 | 1/2 x 5 | 5 7/8 | **4M178** | 89.00 | **67.85** | 12.0 |
| | D | 1050 | 42YZ | 115 | 7.1 | 2 | SE | 5 1/4 | 1/2 x 2 1/4 | 5 7/16 | **3M392** | 82.00 | **62.40** | 12.0 |
| **1/4** | D | 1050 | 42YZ | 115 | 8.9 | 2 | SE | 5 3/4 | 1/2 x 2 5/8 | 6 1/8 | **3M393** | 96.00 | **73.30** | 12.0 |
| **SHADED POLE, TOTALLY ENCLOSED AIR-OVER** | | | | | | | | | | | | | | |
| **1/15** | A | 1050 | 42YZ | 115 | 2.6 | 3 | SE | — | 1/2 x 2 9/16 | 3 13/16 | **3M582*** | 72.00 | **55.35** | 10.0 |
| | C | 1050 | 42YZ | 115 | 2.6 | 5 | — | — | 1/2 x 2 9/16 | 4 15/16 | **3M588** | 83.00 | **63.15** | 10.0 |
| **PSC, OPEN AIR-OVER** | | | | | | | | | | | | | | |
| **1/4** | D | 1075/3-Spd | 48YZ | 115 | 4.8 | 1 | SE | 4 7/8 | 1/2 x 5 | 5 1/8 | **1D168‡** | 107.00 | **77.85** | 12.0 |
| | D | 1075 | 48YZ | 115 | 4.0 | 1 | SE | 4 5/8 | 1/2 x 2 1/2 | 5 1/8 | **1D167‡** | 106.00 | **77.15** | 12.0 |
| **1/3** | D | 1075/3-Spd | 48YZ | 115 | 6.7 | 1 | SE | 5 1/8 | 1/2 x 5 | 5 5/8 | **1D169‡** | 121.00 | **88.25** | 13.0 |

(*) Has 5.0 cu.-in. junction box.
(‡) Supplied with 5mfd 370VAC capacitor. (#) SE = Shaft End; OSE = Opposite Shaft End.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

# DIRECT-DRIVE FAN AND BLOWER MOTORS

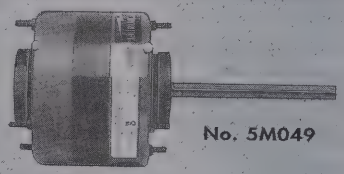
## DAYTON BRAND, PSC, HIGH EFFICIENCY

**Typical Uses:** High efficiency performance in furnace blower, unit heater, ventilators, and other shaft-mounted fan and blower applications.
**Special Features:** Sturdy steel case with open lamination design.
**Type:** Permanent split capacitor
**Bearings:** All-angle, self-aligning sleeve
**Mounting:** Resilient rings with studs
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B
**NEMA Frame:** 42YZ
**Body Diameter:** 5"
**Shaft Dimensions:** 1/2 x 5¼" with full flat
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray enamel
**Brand:** Dayton

Dayton® Wattrimmer® ENERGY RIGHT®

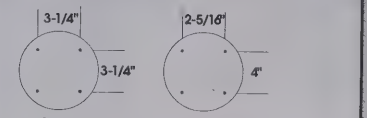
E47479

51327



No. 5M049

**MOUNTING PATTERNS**




Stud, Fig. 1 Stud, Fig. 2

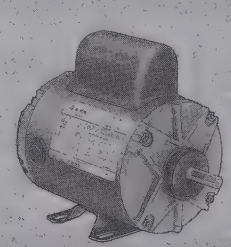
| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mounting Pattern Figure | Stud Location† | 2½" Dia. Resilient Rings OC (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd Stock No. | Capacitor Req'd Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/10 | 1625/3-Spd | 115 | 1.2 | 1 | BE | 4 3/16 | 5 | 5M049 | $132.08 | $86.05 | 8.5 | 5M003 | $4.47 |
| | 1075/3-Spd | 115 | 1.4 | 2 | BE | 4 3/16 | 5 | 5M050 | 121.68 | 79.30 | 8.5 | 5M003 | 4.47 |
| | 1625/3-Spd | 208-230* | 0.6 | 1 | BE | 4 3/16 | 5 | 5M051 | 135.20 | 88.10 | 8.5 | 5M003 | 4.47 |
| | 1075/3-Spd | 208-230* | 0.6 | 2 | BE | 4 3/16 | 5 | 5M052 | 124.80 | 81.30 | 8.5 | 5M003 | 4.47 |
| 1/8 | 1625/3-Spd | 115 | 1.5 | 1 | BE | 4 7/8 | 5 5/16 | 5M053 | 137.28 | 89.50 | 9.5 | 5M003 | 4.47 |
| | 1075/3-Spd | 115 | 1.7 | 2 | BE | 4 7/8 | 5 5/16 | 5M054 | 126.88 | 82.70 | 9.5 | 5M003 | 4.47 |
| 1/6 | 1625/3-Spd | 115 | 1.8 | 1 | BE | 5 1/16 | 5½ | 5M055 | 142.48 | 92.80 | 11.0 | 5M003 | 4.47 |
| | 1075/3-Spd | 115 | 2.5 | 2 | BE | 5 1/16 | 5½ | 5M056 | 132.08 | 86.05 | 11.0 | 5M003 | 4.47 |
| 1/4 | 1625/3-Spd | 115 | 2.8 | 1 | BE | 5½ | 6 | 5M057 | 147.68 | 96.20 | 13.0 | 5M005 | 5.51 |
| | 1075/3-Spd | 115 | 3.8 | 2 | BE | 5½ | 6 | 5M058 | 137.28 | 89.45 | 13.0 | 5M005 | 5.51 |
| | 1625/3-Spd | 208-230* | 1.2 | 1 | BE | 5½ | 6 | 5M059 | 150.80 | 98.25 | 13.0 | 5M003 | 4.47 |
| | 1075/3-Spd | 208-230* | 1.3 | 2 | BE | 5½ | 6 | 5M060 | 142.48 | 92.80 | 13.0 | 5M003 | 4.47 |

(*) 60/50 Hz. (†) BE = Both Ends. (✓) Denotes energy efficient product.

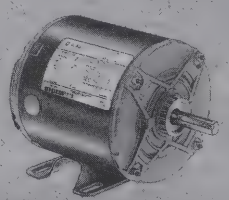
**CAUTION: Not for fans in attended areas.**
**Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.**

## GE BRAND, PSC, HIGH EFFICIENCY & 3-PHASE TRANSFORMER COOLING FAN MOTORS

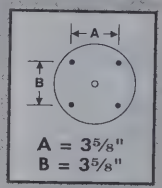
**Typical Uses:** Specifically designed for use on outdoor transformer cooling fans.
**Special Features:** Stainless steel shaft and 60/50 Hz operation.
**Type:** Permanent split capacitor
**Bearings:** Double-sealed ball bearings
**Mounting:** Rigid welded base on Nos. 5U267 and 5M600; rigid welded base with studs on No. 5U268
**Enclosure:** TEAO
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 65°C
**Duty:** Continuous air-over
**Rotation:** CCW facing shaft
**Finish:** Gray
**Brand:** GE



No. 5U267



No. 5M600




| HP | Nameplate RPM at 60 Hz | Nameplate RPM at 50 Hz | NEMA Frame | Volts 60/50 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Body Dia. (In.) | Shaft Dimensions Dia. x Length (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PSC** | | | | | | | | | | | | | |
| 1/20 | 1625 | 1350 | 48Z* | 115/200-230 | 1.5/0.8-0.7 | 1.5 | 5⅝ | 1/2 x 2 1/2 | P240 | 5U267 | $203.00 | $145.45 | 12.0 |
| 1/3 | 1075 | 900 | 56Z* | 115/200-230 | 4.4/2.2-2.1 | 1.5 | 5⅝ | 1/2 x 2 | P241 | 5U268 | 285.00 | 197.25 | 20.0 |
| **3-PHASE** | | | | | | | | | | | | | |
| 1/3 | 1140 | 950 | 56 | 200-230/460 | 2.1-2.0/1.0 | 1.5 | 6 7/16 | 5/8 x 1 7/8 | K1487 | 5M600 | 399.00 | 261.75 | 27.0 |

(*) Has nonstandard 1/2" diameter shaft with flat. (✓) Denotes energy efficient product.

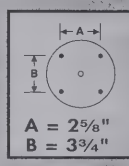


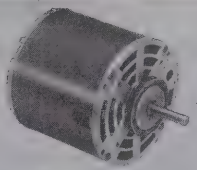
*Bring us your application, we'll deliver the motor.*

# DIRECT-DRIVE FAN AND BLOWER MOTORS

**Typical Uses:** Room air conditioners, unit heaters, condensers, furnace blowers, and a wide range of other shaft-mounted fan and blower equipment.
**Special Features:** Operable on 60/50 Hz.
**Type:** Shaded pole
**Bearings:** All-angle sleeve
**Mounting:**
[A] Resilient rings and four No. 10-32 holes
[B] Resilient rings and 3/4" studs
[C] Resilient rings
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** A (except Nos. 4M288, 4M430, 4M434, 4M467, and 4M469 are B)
**NEMA Frame:** 42YZ, 5" dia. (GE 21/29 frame); 48YZ, 5⅝" dia. (GE 39 frame)
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Gray
**Brand:** GE

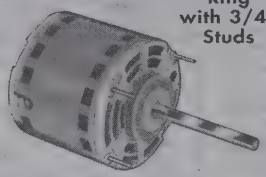
E46035

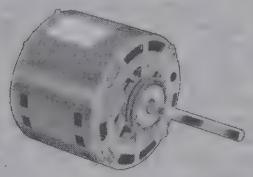



[A] Resilient Ring with Holes

[B] Resilient Ring with 3/4" Studs





[C] Resilient Ring

**CAUTION:** **Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft‡ | Volts 60/50 Hz | Full-Load Amps at Nameplate Volts | Mount Style | Body Dia.(In.) | 2¼" Dia. Resilient Rings OC (In.) | Shaft Dimensions Dia. x L (In.) | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/20** | 1550 | 42YZ | CCW | 115/230 | 2.6/1.3 | A | 5 | 5 | 3/8 x 1½ | 5⅝ | 2331 | **3M463** | $135.00 | **$86.20** | 6.0 |
| | 1550 | 42YZ | CW | 115/230 | 2.6/1.3 | A | 5 | 5 | 3/8 x 1½ | 5⅝ | 2341 | **3M456** | 135.00 | **86.20** | 6.0 |
| | 1050 | 42YZ | CCW | 115/230 | 3.2/1.6 | A | 5 | 5 | 3/8 x 1½ | 5⅝ | 2311 | **4M457** | 165.00 | **105.30** | 5.8 |
| | 1050 | 42YZ | CW | 115/230 | 3.2/1.6 | A | 5 | 5 | 3/8 x 1½ | 5⅝ | 2321 | **4M458** | 165.00 | **105.30** | 6.0 |
| **1/15** | 1550 | 42YZ | CW | 115/230 | 2.8/1.4 | A | 5 | 5 3/16 | 3/8 x 1½ | 5 13/16 | 2241 | **3M458** | 147.00 | **93.80** | 7.0 |
| | 1550 | 42YZ | CCW | 208-230 | 1.6 | A | 5 | 4 13/16 | 1/2 x 1½ | 5⅜ | 2003 | **4M461** | 163.00 | **104.05** | 7.8 |
| | 1550 | 42YZ | CCW | 115/230 | 2.8/1.4 | A | 5 | 5 3/16 | 3/8 x 1½ | 5 13/16 | 2232 | **3M470** | 150.00 | **95.70** | 7.0 |
| | 1050 | 42YZ | CW | 115/208-230 | 4.0/2.0 | A | 5 | 5 3/16 | 3/8 x 1½ | 5 13/16 | 2223 | **4M463** | 193.00 | **123.20** | 7.0 |
| **1/10** | 1550 | 42YZ | CW | 115/230 | 4.6/2.3 | A | 5 | 5 7/16 | 3/8 x 1½ | 6⅛ | 2141 | **3M461** | 152.00 | **97.00** | 7.9 |
| | 1550 | 42YZ | CCW | 115/230 | 4.6/2.3 | A | 5 | 5 7/16 | 3/8 x 1½ | 6⅛ | 2132 | **3M467** | 154.00 | **98.35** | 8.2 |
| | 1550 | 42YZ | CW | 208-230 | 2.1 | A | 5 | 5 7/16 | 3/8 x 1½ | 6⅛ | 2142 | **3M462** | 154.00 | **98.35** | 9.0 |
| | 1050/3-Spd | 48YZ | CW | 115 | 3.9 | C | 5⅝ | 3 11/16* | 1/2 x 4 | 4⅛ | 3931 | **4M433** | 129.00 | **80.80** | 8.0 |
| | 1050 | 42YZ | CW | 115/230 | 5.0/2.5 | A | 5 | 5 7/16 | 3/8 x 2 | 6⅛ | 2121 | **3M460** | 177.00 | **112.95** | 7.6 |
| | 1050 | 42YZ | CCW | 115/208-230 | 4.0/2.0 | A | 5 | 5 7/16 | 3/8 x 2 | 6⅛ | 2113 | **3M466** | 180.00 | **114.85** | 7.6 |
| **1/8** | 1550 | 48YZ | CW | 115/230 | 4.6/2.3 | C | 5⅝ | 4 3/16 | 1/2 x 4 | 4⅝ | 3341 | **4M464** | 120.00 | **75.10** | 9.6 |
| | 1550 | 48YZ | CCW | 208-230 | 2.2 | C | 5⅝ | 4 3/16 | 1/2 x 4 | 4⅝ | 3344 | **4M466** | 125.00 | **78.25** | 9.6 |
| | 1050/3-Spd | 42YZ | CW | 115† | 4.3 | B | 5 | 4 15/16* | 1/2 x 4 | 5⅜ | 2806 | **4M434** | 97.00 | **61.95** | 9.2 |
| | 1050/3-Spd | 48YZ | CW | 115 | 5.4 | C | 5⅝ | 3 15/16* | 1/2 x 4 | 4⅜ | 3941 | **3M430** | 133.00 | **83.30** | 9.9 |
| | 1050 | 42YZ | CW | 115† | 4.3 | B | 5 | 4 15/16* | 1/2 x 4 | 5⅜ | 2802 | **4M467** | 93.00 | **59.35** | 9.3 |
| | 1050 | 48YZ | CW | 115/230 | 4.6/2.3 | C | 5⅝ | 4 3/16 | 1/2 x 4 | 4⅝ | 3141 | **3M429** | 126.00 | **78.85** | 11.0 |
| **1/6** | 1550 | 48YZ | CW | 115/230 | 5.8/2.9 | C | 5⅝ | 4 7/16 | 1/2 x 4 | 4⅞ | 3352 | **3M401** | 131.00 | **82.00** | 11.0 |
| | 1050/3-Spd | 42YZ | CW | 115† | 6.3 | B | 5 | 4 15/16* | 1/2 x 4 | 5 7/16 | 2807 | **4M288** | 97.00 | **61.95** | 9.0 |
| | 1050 | 42YZ | CW | 115† | 5.8 | B | 5 | 4 15/16* | 1/2 x 4 | 5⅜ | 2803 | **4M469** | 93.00 | **59.35** | 9.4 |
| | 1050 | 48YZ | CW | 115/230 | 5.8/2.9 | C | 5⅝ | 4 7/16 | 1/2 x 4 | 4⅞ | 3151 | **3M402** | 133.00 | **83.30** | 12.0 |
| **1/5** | 1050/3-Spd | 42YZ | CW | 115† | 7.4 | B | 5 | 5 7/16* | 1/2 x 4 | 5 15/16 | 2808 | **4M289** | 107.00 | **68.30** | 11.0 |
| | 1050/3-Spd | 48YZ | CW | 115 | 6.8 | C | 5⅝ | 4 3/16* | 1/2 x 4 | 4⅝ | 3961 | **3M412** | 140.00 | **87.65** | 11.0 |
| | 1050/3-Spd | 42YZ | CW | 208-230† | 3.5 | B | 5 | 5 7/16* | 1/2 x 4 | 5⅞ | 2842 | **4M435** | 109.00 | **69.60** | 11.0 |
| | 1050 | 42YZ | CW | 115† | 6.5 | B | 5 | 5 3/16* | 1/2 x 4 | 5 11/16 | 2804 | **4M430** | 103.00 | **65.75** | 11.0 |
| **1/4** | 1550 | 48YZ | CW | 115/230 | 7.6/3.8 | C | 5⅝ | 4 15/16 | 1/2 x 4 | 5⅞ | 3372 | **3M404** | 141.00 | **88.30** | 14.0 |
| | 1050/3-Spd | 42YZ | CW | 115† | 8.6 | B | 5 | 5 7/16* | 1/2 x 4 | 5 15/16 | 2809 | **4M290** | 120.00 | **76.55** | 12.0 |
| | 1050/3-Spd | 48YZ | CW | 115 | 9.0 | C | 5⅝ | 4 15/16* | 1/2 x 4 | 5⅜ | 3971 | **3M413** | 157.00 | **98.30** | 15.0 |
| | 1050 | 42YZ | CW | 115† | 9.4 | B | 5 | 5 7/16* | 1/2 x 4 | 5⅞ | 2805 | **4M432** | 113.00 | **72.10** | 11.0 |
| | 1050 | 48YZ | CW | 115/230 | 9.4/4.7 | C | 5⅝ | 4 15/16 | 1/2 x 4 | 5⅜ | 3171 | **3M405** | 148.00 | **92.65** | 14.0 |
| **1/3** | 1050/3-Spd | 42YZ | CW | 115† | 11.0 | B | 5 | 5 7/16* | 1/2 x 4 | 5⅞ | 2810 | **4M436** | 135.00 | **86.15** | 11.0 |

(*) 2½" diameter resilient rings. (†) 60 Hz only. (‡) GE motors are nameplated rotation viewing end opposite shaft.


## DESK SPACE AT A PREMIUM?

## USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog.**

**The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# DRAFT BOOSTERS AND MOBILE HOME BLOWER MOTORS

## DRAFT BOOSTER SWITCH MOTORS, SINGLE SPEED

- **Single Pole, Single Throw switch configuration**
- **120VA at 120VAC-pilot duty**
- **16" Auxiliary leads on all but No. 1D090**

Typical Uses: Replacements for draft booster and flue exhaust switch motors in specific brands of furnaces, such as Adams, Roberts Gordon, Wayne Home, J. Zink, Coleman, and Carrier.

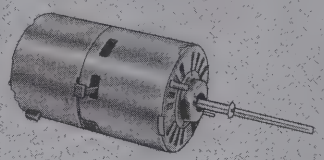
Also used on other shaft-mounted blower applications where auxiliary equipment needs to be turned on/off when motor develops full operating speed or when motor is deenergized and speed drops (switch not available on No. 1D090).

**Special Features:** Includes centrifugal safety switch on all but No. 1D090

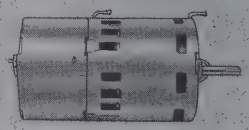
**Type:** Shaded pole or permanent split capacitor

**Service Factor:** 1.0
**Body Diameter:** 3.3"
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray enamel
**Brand:** Dayton

Dayton®
E47479
36496

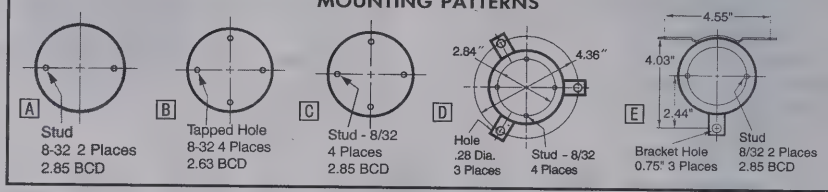


No. 3M892
Stud Mount



No. 3M891
Hole Mount

### MOUNTING PATTERNS




| HP | Nameplate RPM | Rotation Facing Shaft | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mounting Patterns | Bearings | Ins. Class | Shaft Dimensions Dia. x L (In.) | Approximate Switch RPM Contact | Approximate Switch RPM Break | Stock No. | | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE SWITCH MOTOR, OPEN AIR-OVER, STUD MOUNT** | | | | | | | | | | | | | | | | |
| **1/60** | 3000 | CCW | Auto | 115 | 0.8 | A | Sleeve | A | 5/16 x 1 | 2600 | 800 | **3M893** | | $55.12 | **$42.15** | 2.7 |
| **1/35** | 3000 | CW | Auto | 208/230 | 0.7 | A | Sleeve | B | 1/4 x 3 1/2 | 2500 | 800 | **3M892** | * | 72.80 | **56.05** | 3.7 |
| **1/25** | 3200 | CW | Auto | 115 | 1.75 | A | Ball | A | 5/16 x 1 | 2500 | 800 | **3M895** | | 71.76 | **55.35** | 4.0 |
| **1/15** | 3000 | CW | Auto | 208/230 | 1.1/1.0 | C | Ball | B | 1/4 x 2 3/4 | 2500 | 800 | **1D091** | | 84.24 | **62.00** | 5.0 |
| **1/15** | 3000 | CW | Auto | 115/230 | 2.0/1.0 | C | Ball | B | 1/4 x 2 3/4 | 2500 | 800 | **1D092** | | 84.24 | **62.00** | 5.0 |
| **1/30** | 3000 | CCW | Auto | 115/230 | 1.3/0.7 | A | Ball | B | 1/4 x 2 3/4 | 2500 | 800 | **1D093** | | 82.16 | **60.45** | 3.8 |
| **1/15** | 3000 | CCW | Auto | 115/230 | 2.0/1.0 | C | Ball | B | 1/4 x 2 3/4 | 2500 | 800 | **1D094** | | 84.24 | **62.00** | 5.0 |
| **SHADED POLE SWITCH MOTOR, OPEN FAN COOLED, 4 HOLE MOUNT** | | | | | | | | | | | | | | | | |
| **1/180** | 3000 | CW | Impedance† | 115 | 0.5 | B | Sleeve | A | 5/16 x 1 1/4 | 1500 | 400 | **3M891** | | 65.52 | **50.05** | 2.9 |
| **SHADED POLE MOTOR, OPEN AIR-OVER, BRACKET MOUNT** | | | | | | | | | | | | | | | | |
| **1/30** | 3000 | CW | Auto | 115 | 1.5 | E | Sleeve | B | 5/16 x 2 1/4 | No Switch | | **1D090** | | 71.76 | **52.80** | 3.0 |
| **PSC SWITCH MOTOR, OPEN AIR-OVER, BRACKET MOUNT** | | | | | | | | | | | | | | | | |
| **1/9** | 3000 | CW/CCW | Auto | 230 | 0.7 | D | Ball | A | 1/4 x 3 3/4 | 2000 | 1700 | **1D089** | | 126.88 | **93.40** | 5.7 |

(*) Includes 5/16" diameter shaft bushing. (†) UL Recognized E40077.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## MOBILE HOME FURNACE BLOWER MOTORS

**Typical Uses:** Replacements for original equipment motor in mobile home furnaces.
**Special Features:** Nos. 3M663 and 3M665 are used in Coleman furnaces; resilient rings not supplied since motors are generally mounted in original belly band. No. 3M664 is for Lear-Siegler furnaces; resilient rings supplied for mounting in existing base.
**Type:** Shaded pole
**Bearings:** All-angle, self-aligning sleeve
**Enclosure:** Open air-over

**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** A
**NEMA Frame:** 42YZ
**Body Diameter:** 5"
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW facing shaft
**Finish:** Gray enamel
**Brand:** Dayton

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Shaft Dimensions Dia. x L (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/12** | 1050 | 115 | 3.1 | 1/2 x 2 1/2 | 4 | **4M221** | $67.60 | **$52.25** | 5.2 |
| **1/10** | 1050† | 115 | 4.2 | 1/2 x 2 1/2 | 4 5/8 | **3M663** | 72.80 | **56.25** | 6.1 |
| **1/8** | 1050 | 115 | 5.1 | 1/2 x 2 1/4 | 4 1/4 | **3M664*** | 84.24 | **65.00** | 7.6 |
| **1/6** | 1050† | 115 | 7.1 | 1/2 x 2 1/2 | 5 | **3M665** | 83.20 | **64.25** | 7.5 |

(*) 2 1/2" Diameter resilient rings are 3 7/8" on center. (†) Operates at 860 RPM in OEM application.

Dayton®
E47479
34751

**For use in Coleman and Lear-Siegler furnaces.**



No. 4M221



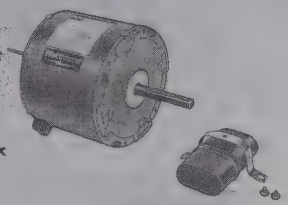
*Bring us your application, we'll deliver the motor.*

# UNIT HEATER BLOWER MOTORS

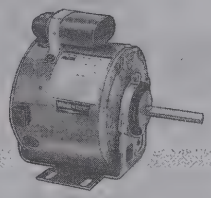
Dayton® ENERGY RIGHT® E47479 CSA®

Wattrimmer

**A No. 3M828 Stud Mount**
- Studs from opposite shaft end
- Holes for BX connector and mounting conduit box

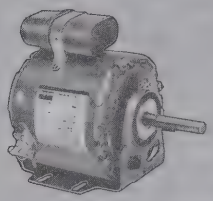


**B No. 3M829**
**Resilient Cradle Mount**
- Mounted capacitor
- Holes for BX connector and mounting conduit box

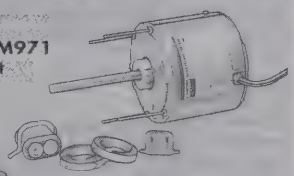


Dayton®

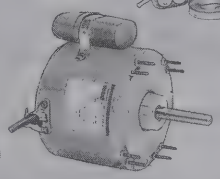
**C No. 3M658**
**Stud Mount with Capacitor**
- Supplied with BX connector and mounting studs



**D No. 3M971**
**Stud Mount**



**E No. 3M899**
**Stud Mount**
- Supplied with capacitor, BX connector, and SJO cord



**Typical Uses:** Unit heaters and other shaft-mounted fan and blower equipment in dusty, dirty, **noncombustible** environments. Capacitor included.

**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B
**NEMA Frame:** 48YZ, 5⅝" dia.; 42YZ, 5" dia.
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Gray enamel
**Brand:** Dayton

## MOUNTING PATTERNS

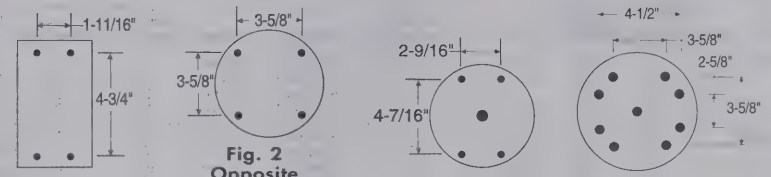



Fig. 1 | Fig. 2 Opposite Shaft End | Fig. 3 | Fig. 4

| HP | Key | Nameplate RPM | NEMA Frame | Rotation Facing Shaft End | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Efficiency | Bearings | Mounting Pattern | Body Dia. (In.) | Shaft Dim. (In.) Dia. x L | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PSC TOTALLY ENCLOSED AIR-OVER CRADLE MOUNT** | | | | | | | | | | | | | | | | |
| **1/8** | C | 1075 | 42YZ | CW | 115 | 2.3 | Standard | Sleeve | * | 5 | 1/2 x 2¼ | 5⁷/₁₆ | **3M657** | $122.00 | **$93.55** | 12.0 |
| **1/6** | B | 1075 | 48YZ | CW/CCW | 115 | 2.3 | High | Sleeve | 1 | 5⅝ | 1/2 x 2¾ | 5¹¹/₁₆ | ↗**3M829** | 130.00 | **99.00** | 11.0 |
| | C | 1075 | 48YZ | CW | 115 | 2.6 | Standard | Sleeve | 1/4 | 5⅝ | 1/2 x 2⅜ | 5⁷/₁₆ | **3M658** | 136.00 | **103.75** | 13.0 |
| **1/3** | B | 1075 | 48YZ | CW/CCW | 115 | 4.2 | High | Sleeve | 1 | 5⅝ | 1/2 x 2¾ | 5¹⁵/₁₆ | ↗**3M835** | 150.00 | **114.55** | 18.0 |
| | C | 1075 | 48YZ | CW | 115 | 5.0 | Standard | Sleeve | 1/4 | 5⅝ | 1/2 x 2⅜ | 5⁹/₁₆ | **3M659** | 152.00 | **116.20** | 16.0 |
| | B | 1075 | 48YZ | CW/CCW | 230 | 1.8 | High | Sleeve | 1 | 5⅝ | 1/2 x 2¾ | 5¹⁵/₁₆ | ↗**3M837** | 152.00 | **116.20** | 17.0 |
| **PSC TOTALLY ENCLOSED AIR-OVER STUD MOUNT** | | | | | | | | | | | | | | | | |
| **1/6** | E | 1075 | 48YZ | CW | 115 | 2.6 | Standard | Ball | 4 | 5⅝ | 1/2 x 2½ | 5⅜ | **3M899** | 137.00 | **104.50** | 10.0 |
| | A | 1075 | 48YZ | CW/CCW | 115 | 2.3 | High | Ball | 2 | 5⅝ | 1/2 x 2¾ | 4⁹/₁₆ | ↗**4M044** | 118.00 | **90.50** | 9.5 |
| | A | 1075 | 48YZ | CW/CCW | 115 | 2.3 | High | Sleeve | 2 | 5⅝ | 1/2 x 2¾ | 4⁹/₁₆ | ↗**3M828** | 110.00 | **84.25** | 9.5 |
| **1/4** | E | 1075 | 48YZ | CW | 115 | 3.6 | Standard | Ball | 4 | 5⅝ | 1/2 x 2½ | 6⅛ | **3M970** | 145.00 | **110.75** | 14.0 |
| | A | 1075 | 48YZ | CW/CCW | 115 | 3.4 | High | Ball | 2 | 5⅝ | 1/2 x 2¾ | 4⁹/₁₆ | ↗**4M045** | 126.00 | **96.65** | 14.0 |
| | A | 1075 | 48YZ | CW/CCW | 115 | 3.4 | High | Sleeve | 2 | 5⅝ | 1/2 x 2¾ | 4⁹/₁₆ | ↗**3M832** | 118.00 | **90.45** | 14.0 |
| **1/3** | D | 1075/2-Spd | 48YZ | CW/CCW | 115 | 4.6 | Standard | Ball | 3 | 5⅝ | 1/2 x 5 | 6 | **3M971** | 162.00 | **124.00** | 15.0 |
| | D | 1075/2-Spd | 48YZ | CW/CCW | 230 | 2.4 | Standard | Ball | 3 | 5⅝ | 1/2 x 5 | 5¾ | **3M901** | 164.00 | **125.55** | 15.0 |
| | E | 1075 | 48YZ | CW | 115 | 5.1 | Standard | Ball | 4 | 5⅝ | 1/2 x 2½ | 6⅛ | **3M900** | 153.00 | **116.90** | 14.0 |
| | A | 1075 | 48YZ | CW/CCW | 115 | 4.2 | High | Ball | 2 | 5⅝ | 1/2 x 2¾ | 4¹³/₁₆ | ↗**4M046** | 135.00 | **102.95** | 15.0 |
| | A | 1075 | 48YZ | CW/CCW | 115 | 4.2 | High | Sleeve | 2 | 5⅝ | 1/2 x 2¾ | 4¹³/₁₆ | ↗**3M834** | 126.00 | **96.65** | 15.0 |
| | A | 1075 | 48YZ | CW/CCW | 230 | 1.8 | High | Sleeve | 2 | 5⅝ | 1/2 x 2¾ | 4¹³/₁₆ | ↗**3M836** | 129.00 | **98.25** | 15.0 |

(*) Three stud; 4⁷/₁₆" bolt circle. (↗) Denotes energy efficient product.

**CAUTION: Not for fans in attended areas.**
**Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.**

# UNIT HEATER BLOWER MOTORS AND HOT WATER CIRCULATOR PUMP MOTORS

## GE BRAND, PSC UNIT HEATER BLOWER MOTORS

**Typical Uses:** Unit heaters and other shaft-mounted fan and blower equipment in dusty, dirty, **noncombustible** environments.
**Special Features:** Operable on 60/50 Hz.
**Type:** Permanent split capacitor
**Bearings:** Prelubricated ball or sleeve
**Mounting:**
A Resilient ring with holes
B Resilient ring with studs, capacitor and length adapter kit included
C Cradle base with studs. Capacitor, and mounting kit included. Mounting base holes are 1⅞ x 4¹³⁄₁₆"
**Enclosure:** TEAO
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** A
**Body Diameter:** 42YZ, 5" dia. (GE 29 frame); 48YZ, 5⅝" dia. (GE 39 frame)
**Shaft Dimensions:** 42YZ, 3/8 x 1½"; 48YZ, 1/2 x 5"
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

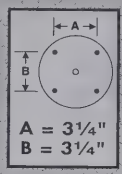
**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

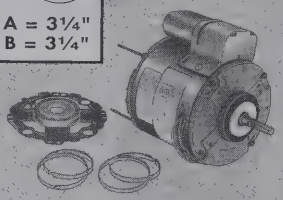
ENERGY SAVER MOTOR

E46035

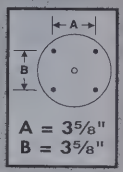


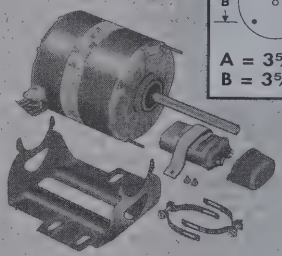
A No. 4M444 Resilient Ring with Holes



B No. 4M442 Capacitor and Length Adapter Kit Included



C No. 3M802 Cradle Base with Capacitor

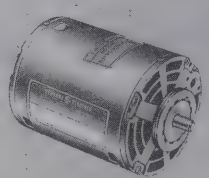
| HP | Key | Nameplate RPM | NEMA Frame | Volts 60/50 Hz | Full-Load Amps at Nameplate Volts | Efficiency | Bearings | 2¼" Dia. Resilient Rings OC (In.) | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Capacitor Req'd. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/15 | B | 1550 | 42YZ | 115 | 1.3 | Standard | Sleeve | 4 13/16 | 5⅝ | 2925 | 3M691 | $183.00 | $116.85 | 9.2 | Included | |
| | B | 1550 | 42YZ | 208-230 | 0.7 | Standard | Sleeve | 4 15/16 | 5⅝ | 2950 | 4M442 | 218.00 | 139.20 | 9.1 | Included | |
| | B | 1050 | 42YZ | 115 | 1.6 | Standard | Sleeve | 4 15/16 | 5⅝ | 2926 | 3M690 | 210.00 | 134.05 | 8.3 | Included | |
| | B | 1050 | 42YZ | 208-230 | 0.7 | Standard | Sleeve | 4 15/16 | 5⅝ | 2952 | 4M443 | 251.00 | 160.25 | 9.4 | Included | |
| 1/12 | A | 1550 | 42YZ | 115 | 1.6 | Standard | Sleeve | 6 7/16 | 7 | 2927 | 4M444 | 223.00 | 142.30 | 9.8 | 6X653 | $4.16 |
| | A | 1550 | 42YZ | 208-230 | 0.7 | Standard | Sleeve | 6 7/16 | 7 | 2953 | 4M446 | 235.00 | 150.00 | 9.9 | 6X653 | 4.16 |
| | A | 1050 | 42YZ | 115 | 1.9 | Standard | Sleeve | 6 7/16 | 7 | 2928 | 4M445 | 247.00 | 157.75 | 9.5 | 6X653 | 4.16 |
| | A | 1050 | 42YZ | 208-230 | 0.7 | Standard | Sleeve | 6 7/16 | 7 | 2954 | 4M447 | 258.00 | 165.00 | 10.0 | 6X653 | 4.16 |
| 1/6 | C | 1075 | 48YZ | 115 | 2.2 | High | Ball | 4 11/16 | 5⅛ | 3206 | ↝3M800 | 158.00 | 98.95 | 12.0 | Included | |
| 1/4 | C | 1075 | 48YZ | 115 | 3.3 | High | Ball | 4 15/16 | 5⅝ | 3208 | ↝3M801 | 171.00 | 107.05 | 17.0 | Included | |
| | C | 1075 | 48YZ | 208-230 | 1.4 | High | Ball | 4 15/16 | 5⅝ | 3210 | ↝4M441 | 173.00 | 108.35 | 15.0 | Included | |
| 1/3 | C | 1075 | 48YZ | 115 | 5.0 | High | Ball | 5 15/16 | 6⅜ | 3212 | ↝3M802 | 183.00 | 114.55 | 21.0 | Included | |
| | C | 1075 | 48YZ | 208-230 | 2.0 | High | Ball | 5 15/16 | 6⅜ | 3214 | ↝3M803 | 185.00 | 115.80 | 20.0 | Included | |

(↝) Denotes energy efficient product.

## OEM REPLACEMENT HOT WATER CIRCULATOR PUMP MOTORS

**Typical Uses:** Replace original equipment motors on hot water circulator pumps from Bell & Gossett, Armstrong, Teel, and Taco. Also for other close coupled pump applications.
**Type:** Split-phase
**Enclosure:** Open dripproof
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** GE

E47479 LR2459



No. 6K996

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Mounting | Rings OC (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE, 60 Hz** | | | | | | | | | | | | | | | |
| 1/12 | 1725 | 48YZ | CW | Auto | 115 | 2.1 | 1.4 | Sleeve | Ring | 5 15/16 | 4722 | 6K996 | $135.00 | $85.90 | 9.1 |
| 1/8 | 1725 | 48YZ | CW | Auto | 115 | 2.6 | 1.4 | Sleeve | Ring | 7 | 4404 | 6K998 | 146.00 | 98.05 | 11.0 |

NOTE: No. 6K996 has round shaft; No. 6K998 has flat shaft.



Bring us your application, we'll deliver the motor.

# HOT WATER CIRCULATOR PUMP MOTORS

**Typical Uses:** Exact replacement motors complete with mounting brackets to replace specific motors on Bell & Gossett, Armstrong, and Teel brand circulator pumps.

Certain models require a coupler assembly for proper Bell & Gossett replacement. See page 3274 for coupling ordering information.

**Special Features:** All units have exact performance and mechanical interchangeability with the OEM motor.

**Type:** Split-phase, capacitor-start, or 3-phase

**Mounting:** Resilient bracket, ring, and C-face

**Enclosure:** Open dripproof

**Ambient:** 50°C, except Nos. 3N850 and 3N824 are 40°C

**Duty:** Continuous

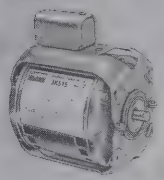
**Finish:** Red or gray enamel

**Brand:** Dayton

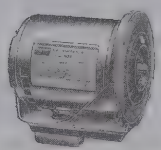
**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Dayton®

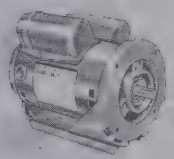
Replacement Parts Available 1-800-323-0620™



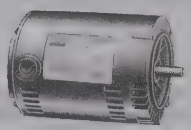
A No. 3K515



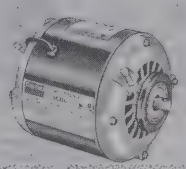
B No. 3K517



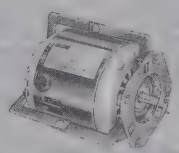
C No. 3K519



D No. 3N850



E No. 3K350



F No. 6K509

## CIRCULATOR PUMP MOTOR CROSS-REFERENCE GUIDE

| Bell & Gossett | Armstrong | Teel | Stock No. |
|---|---|---|---|
| * | 817025-253 | 2P610 | 1N792 |
| * | 817025-153 | 2P433 | 1N793 |
| * | 817005-053 | 1P900, 1P901, 1P902, 2P432, 2P609 | 1N794 |
| * | 805316-053 | 1P899, 1P903 | 1N795 |
| 111034 | 805316-010 | 1P899, 1P903 | 3K515 |
| 111036 | 817025-001 | 1P900, 1P902, 2P432, 2P609 | 3K516 |
| 111040 | 817025-007 | 2P433 | 3K518 |
| 111044† | 811757-001 | 2P435, 2P612 | 3K519 |
| 111046 | 831001-083 | 3P720 | 3N850 |
| 111047† | 811757-002 | 2P436 | 3K522 |
| 111049 | 831012-083 | 2P611 | 3N824 |
| 111061 | 817025-005 | — | 3K520 |
| 169035 | 816141-001 | 2P434 | 3K517 |
| 169038 | 816141-002 | 2P610 | 3K521 |
| 169090 | 816676-069 | 3P701 | 3N825 |
| 169092 | 816678-069 | 3P702 | 3N826 |

(*) 50 Hz applications.
(†) Requires No. 1R465 coupler assembly for proper Bell & Gossett replacement.

**See Cross-Reference Information on page opposite inside back cover.**

| HP | Key | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Thermal Protection | Volts | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Mounting | Bolt Circle (In.) | Rings OC (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE, 60 Hz** | | | | | | | | | | | | | | | | |
| **1/12** | A | 1725 | 48YZ | CW | Auto | 115 | 2.5 | 1.75 | Sleeve | Bracket | 4⅝ | — | **3K515** | $155.00 | **$108.35** | 10.0 |
| **1/12** | E | 1725 | 48YZ | CW/CCW | Auto | 115 | 2.2 | 1.4 | Sleeve | Ring | — | 5 15/16 | **3K439** | 102.00 | **78.00** | 9.0 |
| **1/12** | E | 1725 | 48YZ | CW | Auto | 115 | 2.8 | 1.0 | Sleeve | Ring | — | 5⅞ | **3K350** | 102.00 | **78.00** | 8.0 |
| **1/8** | F | 1725 | 48YZ | CW/CCW | Auto | 115 | 2.7 | 1.0 | Sleeve | Bracket | 4⅝ | — | **6K509** | 125.00 | **95.95** | 12.0 |
| **1/6** | A | 1725 | 48YZ | CW | Auto | 115 | 3.6 | 1.75 | Sleeve | Bracket | 5 | — | **3K516** | 234.00 | **180.00** | 14.0 |
| **1/6** | A | 1725 | 48YZ | CW | Auto | 115 | 3.6 | 1.75 | Sleeve | Bracket | 4⅝ | — | **3K520** | 250.00 | **180.00** | 13.0 |
| **1/6** | E | 1725 | 48YZ | CW/CCW | Auto | 115 | 3.5 | 1.35 | Sleeve | Ring | — | 7⅝ | **6K521**† | 125.00 | **95.95** | 12.0 |
| **1/6** | E | 1725 | 48YZ | CW/CCW | Auto | 115 | 3.5 | 1.0 | Sleeve | Ring | — | 7 11/16-9⅛ | **6K864** | 125.00 | **95.95** | 14.0 |
| **1/4** | B | 1725 | 48YZ | CCW | Auto | 115 | 5.0 | 1.25 | Sleeve | Bracket | 5⅞ | — | **3K517** | 348.00 | **274.75** | 15.0 |
| **1/4** | A | 1725 | 48YZ | CW | Auto | 115 | 5.0 | 1.25 | Sleeve | Bracket | 5 | — | **3K518** | 369.00 | **275.00** | 15.0 |
| **1/3** | B | 1725 | 48YZ | CCW | Auto | 115 | 5.4 | 1.3 | Sleeve | Bracket | 5⅞ | — | **3K521** | 499.00 | **354.25** | 15.0 |
| **SPLIT-PHASE, 50 Hz** | | | | | | | | | | | | | | | | |
| **1/12** | A | 1725 | 48YZ | CW | Auto | 220 | 1.2 | 1.0 | Sleeve | Bracket | 4⅝ | — | **1N795** | 159.00 | **115.85** | 12.0 |
| **1/6** | A | 1725 | 48YZ | CW | Auto | 220 | 2.3 | 1.0 | Sleeve | Bracket | 5 | — | **1N794** | 237.00 | **173.00** | 14.0 |
| **1/4** | B | 1725 | 48YZ | CW | Auto | 220 | 2.8 | 1.0 | Sleeve | Bracket | 5 | — | **1N793** | 375.00 | **273.50** | 16.0 |
| **1/3** | B | 1725 | 48YZ | CW | Auto | 220 | 3.5 | 1.0 | Sleeve | Bracket | 5⅞ | — | **1N792** | 470.00 | **342.50** | 16.0 |
| **CAPACITOR-START, 60 Hz** | | | | | | | | | | | | | | | | |
| **1/2** | C | 1725 | 56YZ | CCW | Auto | 115/208-230 | 5.8/2.8-2.9 | 1.5 | Sleeve | Bracket | 5⅞ | — | **3K519*** | 640.00 | **475.50** | 33.0 |
| **3/4** | C | 1725 | 56YZ | CCW | Auto | 115/208-230 | 5.8/4.5-4.4 | 1.5 | Sleeve | Bracket | 5⅞ | — | **3K522*** | 728.00 | **514.00** | 27.0 |
| **3-PHASE, 60 Hz** | | | | | | | | | | | | | | | | |
| **1/2** | D | 1725 | 56YZ | CW/CCW | None | 208-230/460 | 2.3-2.4/1.2 | 1.5 | Ball | C-Face | 5⅞ | — | **3N850*** | 640.00 | **506.50** | 21.0 |
| **3/4** | D | 1725 | 56YZ | CW/CCW | None | 208-230/460 | 2.9-3.0/1.5 | 1.5 | Ball | C-Face | 5⅞ | — | **3N824*** | 728.00 | **565.00** | 23.0 |
| **1** | D | 1725 | 56YZ | CW/CCW | None | 208-230/460 | 3.5-3.6/1.8 | 1.4 | Ball | C-Face | 5⅞ | — | **3N825*** | 738.00 | **575.00** | 25.0 |
| **1½** | D | 1725 | 56YZ | CW/CCW | None | 208-230/460 | 4.8-4.8/2.4 | 1.35 | Ball | C-Face | 5⅞ | — | **3N826*** | 822.00 | **639.50** | 28.0 |

(†) No. 6K521 fits old style bracket. (*) Coupling assembly required for proper Bell & Gossett replacement; see page 3274.
NOTE: To ensure correct motor selection, measure the bolt circle of old unit.

# FLANGE-MOUNT OIL BURNER MOTORS

**Typical Uses:** NEMA oil burner flange for direct-coupling to domestic oil burners. Also widely used for replacements in applications where a NEMA 48M, 48N, or 56N flange mounting is required.

**Special Features:** Dayton and GE models feature quick-change reversing terminals.

**Type:** Split-phase or capacitor-start

**Service Factor:** 1.0

**Thermal Protection:** Manual reset

**Ambient:** 40°C

**Duty:** Continuous

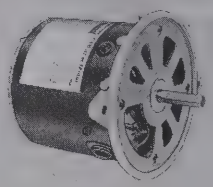
**Rotation:** CW/CCW (except No. 3K036 is CCW facing shaft)

**Finish:** Black

**Brand:** Dayton and GE

Dayton

E47479

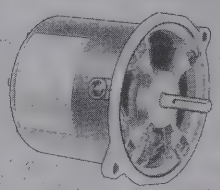


No. 6K042
Typical NEMA 48N Flange

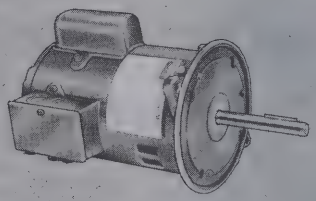


Removable Face Plate Included With No. 5K500

E47088

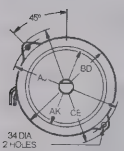


No. 6K532



No. 3K721

### NEMA 48M, 48N and 56N FLANGE MOUNT DIMENSIONS




### OIL BURNER MOTORS

| | 48M | 48N 56N |
|---|---|---|
| AJ | 6 3/4" | 7 1/4" |
| BD | 6 1/4 max. | 7 max. |
| AK | 5 1/2 | 6 3/8 |
| CE | 7 3/4 max. | 8 1/4 max. |

| HP | Nameplate RPM | NEMA Flange | Enclosure When Mounted | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DAYTON BRAND, SPLIT-PHASE AND CAPACITOR-START, VENTILATED FLANGE** | | | | | | | | | | | | | |
| 1/8 | 1725 | 48N | Totally Enclosed | 115 | 2.8 | 1.0 | Sleeve | B | 1/2 x 2 | **6K042** | $91.00 | **$50.55** | 11.0 |
| 1/7 | 3450 | 48M | Totally Enclosed | 115 | 2.8 | 1.0 | Sleeve | A | 1/2 x 2 | **3K036**[*†] | 97.00 | **58.00** | 15.0 |
| 1/7 | 3450 | 48M | Totally Enclosed | 115 | 2.8 | 1.0 | Sleeve | A | 1/2 x 2 | **6K149**[*] | 95.00 | **46.60** | 8.7 |
| 1/4 | 3450 | 48N | Totally Enclosed | 115 | 3.5 | 1.0 | Sleeve | A | 1/2 x 2 | **6K315** | 118.00 | **67.85** | 16.0 |
| 1/3 | 3450 | 48N | Totally Enclosed | 115 | 4.9 | 1.0 | Sleeve | B | 1/2 x 2 | **6K705** | 140.00 | **82.40** | 17.0 |
| 1/2 | 3450 | 48N | Open Dripproof | 115/230 | 7.6/3.8 | 1.0 | Sleeve | B | 5/8 x 4 1/8 | **3K721**[‡] | 200.00 | **126.20** | 20.0 |
| **DAYTON BRAND, SPLIT-PHASE, VENTILATED/NONVENTILATED FLANGE** | | | | | | | | | | | | | |
| 1/8 | 1725 | 48N | Totally Enclosed | 115 | 2.6 | 1.0 | Sleeve | A | 1/2 x 2 | **5K500** | 91.00 | **50.55** | 11.0 |
| 1/6 | 1725 | 48N | Totally Enclosed | 115 | 3.1 | 1.0 | Sleeve | B | 1/2 x 2 | **5K501** | 90.00 | **50.20** | 15.0 |
| **DAYTON BRAND, SPLIT-PHASE, NONVENTILATED FLANGE** | | | | | | | | | | | | | |
| 1/4 | 1725 | 56N | Totally Enclosed | 115 | 4.1 | 1.0 | Sleeve | B | 1/2 x 2 | **6K711** | 126.00 | **83.20** | 20.0 |
| 1/3 | 1725 | 56N | Totally Enclosed | 115 | 4.8 | 1.0 | Sleeve | A | 1/2 x 2 | **6K865** | 147.00 | **95.70** | 27.0 |

| HP | Nameplate RPM | NEMA Flange | Enclosure When Mounted | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Shaft Dimensions (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GE BRAND, SPLIT-PHASE, VENTILATED FLANGE** | | | | | | | | | | | | | | |
| 1/8 | 3450 | 48N | Totally Enclosed | 115 | 2.4 | 1.0 | Sleeve | B | 1/2 x 1 7/8 | 4773 | **5K722** | $84.00 | **$55.40** | 12.0 |
| | 1725 | 48N | Totally Enclosed | 115 | 2.9 | 1.0 | Sleeve | B | 1/2 x 1 7/8 | 4782 | **6K532** | 88.00 | **51.45** | 10.0 |
| 1/7 | 3450 | 48M | Totally Enclosed | 115 | 2.4 | 1.0 | Sleeve | A | 1/2 x 1 7/8 | 4779 | **5K723**[*] | 84.00 | **50.60** | 9.0 |
| 1/6 | 1725 | 48N | Totally Enclosed | 115 | 3.3 | 1.0 | Sleeve | B | 1/2 x 1 7/8 | 4784 | **6K543** | 92.00 | **53.65** | 11.0 |
| 1/4 | 3450 | 48N | Totally Enclosed | 115 | 4.1 | 1.0 | Sleeve | B | 1/2 x 1 7/8 | 4785 | **5K724** | 121.00 | **72.20** | 12.0 |
| | 1725 | 48N | Totally Enclosed | 115 | 4.1 | 1.0 | Sleeve | B | 1/2 x 1 7/8 | 4786 | **6K544** | 121.00 | **80.40** | 12.0 |
| 1/3 | 3450 | 48N | Totally Enclosed | 115 | 4.9 | 1.0 | Sleeve | B | 1/2 x 1 7/8 | 4774 | **5K725** | 144.00 | **87.55** | 13.0 |
| | 1725 | 48N | Totally Enclosed | 115 | 4.8 | 1.0 | Sleeve | B | 1/2 x 1 7/8 | 4787 | **6K545** | 144.00 | **84.65** | 13.0 |
| **GE BRAND, CAPACITOR-START, VENTILATED FLANGE** | | | | | | | | | | | | | | |
| 1/3 | 3450 | 48N | Open Dripproof | 115/230 | 6.0/3.0 | 1.35 | Ball | B | 1/2 x 1 7/8 | 4788 | **6K546** | 181.00 | **109.25** | 14.0 |
| 1/2 | 3450 | 48N | Open Dripproof | 115/230 | 8.2/4.1 | 1.25 | Ball | B | 1/2 x 1 7/8 | 4781 | **6K547** | 193.00 | **126.65** | 16.0 |

(*) 24" long #18 SO, 2-conductor cord out of shell at 11 o'clock position. (†) No. 3K036 is a direct replacement for Beckett. (‡) Capacitor-start.

**CAUTION: Not for fans in unattended areas.**

Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.

# EVAPORATIVE COOLER MOTORS

## SPLIT-PHASE, MOISTURE-RESISTANT, SINGLE, 2, AND 3 SPEED

**Typical Uses:** Evaporative coolers, pumps, and other devices in high moisture environments.

**Special Features:** Moisture-resistant features include corrosion-resistant rotor core, internally and externally painted shell, finished hardware, and nylon actuator bracket.

**Type:** Split-phase

**Bearings:** All-angle sleeve

**Mounting:** Cradle base

**Enclosure:** Open dripproof

**Ambient:** 40°C

**Insulation Class:** B

**Thermal Protection:** Auto

**Duty:** Continuous

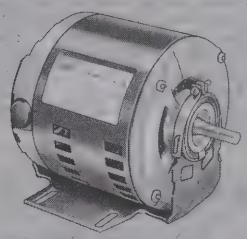
**Rotation:** CW/CCW

**Finish:** Gray

**Brand:** Dayton

Dayton®

E47479 LR2459



No. 6K066

| HP at 1725 RPM | HP at 1140 RPM | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | NEMA Frame | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/3 | — | 1725 | 115 | 6.6 | 56Z* | **6K298** | $120.00 | **$72.80** | 17.0 |
| | 1/6 | 1725/1140‡ | 115 | 6.8/4.5 | 56Z* | **6K066** | 161.00 | **92.30** | 20.0 |
| 1/2 | — | 1725 | 115 | 8.5 | 56Z* | **6K069** | 150.00 | **85.30** | 19.0 |
| | 1/4 | 1725/1140‡ | 115 | 9.2/6.0 | 56Z* | **6K203** | 206.00 | **106.55** | 22.0 |
| | 1/4 | 1725/1140/850† | 115 | 8.9/6.3/3.2 | 56Z* | **6K737** | 220.00 | **127.95** | 22.0 |
| 3/4 | — | 1725 | 115 | 11.9 | 56 | **6K222** | 213.00 | **115.20** | 21.0 |
| | 1/3 | 1725/1140‡ | 115 | 11.4/7.0 | 56 | **6K214** | 286.00 | **142.10** | 27.0 |

(*) NEMA 56Z frame motors have nonstandard 1/2" dia. shaft with flat and are supplied with 5/8" dia. shaft bushing.
(†) 1/12 HP at 850 RPM. (‡) Two-speed switch No. 2X605 available, see page 3622.

**CAUTION: Not for fans in unattended areas.**
**Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.**

## SPLIT-PHASE AND CAPACITOR-START, SINGLE AND 2 SPEED

**Typical Uses:** Evaporative cooler fans and blowers. Use on other applications voids warranty.

**Special Features:** All copper windings. Corrosion resistant internal parts. Thrubolts on endshields facilitate easy access for servicing internal components.

**Type:** Split-phase or capacitor start

**Bearings:** All-angle sleeve

**Enclosure:** Open dripproof

**Thermal Protection:** Auto

**Insulation Class:** B

**Ambient:** 40°C

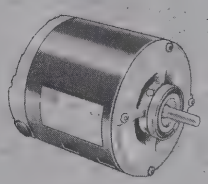
**Duty:** Continuous

**Finish:** Gray

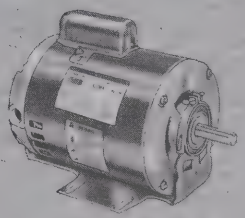
**Brand:** Dayton

Dayton®

E47479 LR2459



No. 3K301
All Copper Windings



No. 3K308

| HP at 1725 RPM | HP at 1140 RPM | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate | NEMA Frame* | Rotation† | 2½" Dia. Resilient Rings OC (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE, RESILIENT RING MOUNTING, SINGLE AND TWO SPEED** | | | | | | | | | | | |
| 1/3 | — | 1725 | 115 | 6.0 | 56Z | CW | 7⅛ | **3K301** | $116.00 | **$49.90** | 19.0 |
| | 1/9 | 1725/1140‡ | 115 | 6.4/3.7 | 56Z | CW | 7⅛ | **3K302** | 157.00 | **56.65** | 16.0 |
| 1/2 | — | 1725 | 115 | 7.9 | 56Z | CW | 7⅛ | **3K303** | 146.00 | **56.20** | 18.0 |
| | 1/6 | 1725/1140‡ | 115 | 8.2/4.3 | 56Z | CW | 7⅛ | **3K304** | 202.00 | **63.35** | 16.0 |
| 1/2 | — | 1725 | 230 | 4.8 | 56Z | CW | 7⅛ | **2K797** | 119.00 | **72.10** | 18.0 |
| | 1/6 | 1725/1140‡ | 230 | 4.5 | 56Z | CW | 7⅛ | **3K309** | 210.00 | **75.05** | 18.0 |
| 3/4 | — | 1725 | 115 | 11.0 | 56Z | CW | 7⅛ | **3K305** | 209.00 | **70.35** | 20.0 |
| | 1/6 | 1725/1140‡ | 115 | 10.9/5.1 | 56Z | CW | 7⅛ | **3K306** | 282.00 | **90.20** | 19.0 |
| 3/4 | — | 1725 | 230 | 5.4 | 56Z | CW | 7⅛ | **2K798** | 232.00 | **77.30** | 20.0 |
| | 1/6 | 1725/1140‡ | 230 | 5.5 | 56Z | CW | 7⅛ | **3K310** | 290.00 | **116.00** | 18.0 |
| **CAPACITOR-START, CRADLE BASE, TWO SPEED‡** | | | | | | | | | | | |
| 1 | 1/3 | 1725/1140 | 115 | 15.0/7.2 | 56 | CW/CCW | — | **3K308** | $400.00 | **$152.00** | 32.0 |
| | | 1725/1140 | 230 | 7.0/3.7 | 56 | CW/CCW | — | **3K307** | 406.00 | **163.25** | 32.0 |

(*) NEMA 56Z frame motors have nonstandard 1/2" dia. shaft with flat. (†) Facing shaft end. (‡) Two-speed switch No. 2X605 available, see page 3622.

# DIRECT OEM REPLACEMENT MOTORS

Here, and on the next 11 pages, you will find OEM replacement motors listed alphabetically by OEM and then horsepower. All motors feature automatic thermal protection (except Nos. 4M246 and 4M247 are impedance protected). All are recognized by UL for construction: Dayton E47479 and GE E46035 under the Motor Component Recognition Program. CSA Certified. 40°C ambient. Gray finish.

## Abbreviation Glossary

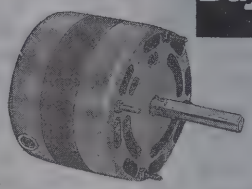
| | |
|---|---|
| TEAO | Totally Enclosed Air-Over |
| OPAO | Open Air-Over |
| CW | Clockwise |
| CCW | Counterclockwise |
| VFLE | View Facing Lead End |
| VFSE | View Facing Shaft End |

## OEM REPLACEMENT INDEX


| Brand | Page No. |
|---|---|
| Acme Engineering | 83,109 |
| Adams | 76 |
| Addison | 83,109 |
| Air-King | 118 |
| AMC | 83,109 |
| American Air Filter | 83,109 |
| American Standard | 64, 66, 85 |
| Arkla | 84, 66, 85 |
| Armstrong | 79 |
| Aubrey | 118 |
| Bell & Gossett | 79 |
| Bemis | 112 |
| Bohn | 83, 109 |
| Borg Warner | 92, 93 |
| Broan | 66, 84, 85, 112, 118 |
| Bryant | 66, 84, 85 |
| Carrier | 87 |
| Chrysler | 83,109 |
| Coldspot | 83,109 |
| Coleman | 76, 86, 87 |
| Copeland | 86, 87 |
| Day & Night | 66, 85 |
| Dunham Bush | 83,109 |
| Emerson | 112, 118 |
| Fasco | 83, 86, 87, 109 |
| Fedders | 83, 86, 87, 109 |
| First Company | 86, 87 |
| Friedrich | 86, 87 |
| Frigidaire | 88, 89,92, 93 |
| G & S | 83,109 |
| GE | 88, 89 |
| Gibson | 83, 109 |
| Gibson-Belding | 88, 89 |
| Goodman | 88, 89 |
| Gordon | 76 |
| Hill Refrigeration | 88, 89 |
| Hotpoint | 83,109 |
| Hussman | 88, 89 |
| Intertherm | 88, 89 |
| J. Zink | 76 |
| Jenn-Air | 88, 89 |
| Kelvinator | 83, 88, 89, 109 |
| Kramer-Trenton | 88, 89 |
| Lakewood | 112 |
| Lear-Siegler | 76 |
| Lennox | 90, 91 |
| Martin | 112 |
| Miami-Carey | 112 |
| Modine | 83,109 |
| Nesbitt | 64, 83, 109 |
| Nutone | 112, 118 |
| Patton | 112 |
| Penncrest | 83, 109 |
| Penn Ventilator | 90, 91, 112 |
| Philco | 83, 109 |
| Quiet Kool | 83, 109 |
| Rheem/Ruud | 83, 86, 87, 90-93 ,109 |
| Roberts | 76 |
| Sears | 92, 93 |
| Singer | 66, 83, 84, 85, 109 |
| Taco | 79 |
| Teel | 79 |
| Trane | 83, 92, 93, 109 |
| U.S. Radiator | 64 |
| Wayne Home | 76 |
| Westinghouse | 92, 93 |
| Whirlpool | 92, 93 |
| Wizard | 83, 109 |
| York | 83, 86, 87, 92, 93, 109 |

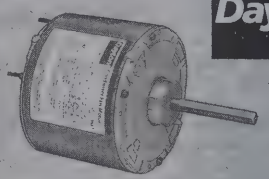

OEM REPLACEMENT INDEX

Brand ..... Page No.



A No. 4M222
Shaded pole roof ventilator and fan motor

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.



B No. 4M002
PSC condenser fan motor

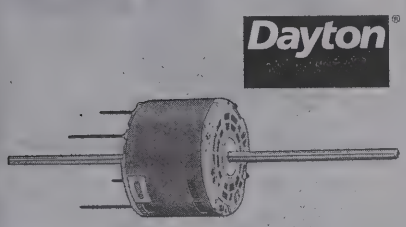
## SPECIFICATIONS AND

| Key | OEM Motor | Replaces | HP | Nameplate RPM | Volts | Hz | Full-Load Amps at Nameplate Volts |
|---|---|---|---|---|---|---|---|
| A | Acme Engineering | Fasco D119 | 1/11 | 1500/3-Spd | 115 | 60 | 3.4 |
| B | Addison, Rheem, Day & Night | 8101-193; 8101-279; F55BWM-1119; K55EBC-2608; F54CKY-1397; F55CDR-1259; F55CSH-1352; K55ERC-3004; 19906-01-02; 1847-01-05; 18471-01-05; and Emerson K8537 | 1/5 | 1075/2-Spd | 230 | 60 | 1.4 |
| C | AMC, Chrysler, Coldspot, Emerson, Gibson, Hotpoint, Kelvinator, Penncrest, Philco, Quiet Kool, Wizard | Marathon X217; Fasco D855; S88-421; and Emerson RAK7024 | 1/3 | 1365/3-Spd | 230 | 60 | 2.7 |
| D | AMC, Chrysler, Coldspot, Emerson, Gibson, Hotpoint, Kelvinator, Penncrest, Philco, Quiet Kool, Wizard | Emerson RAK 7091 | 1/3 | 1300/4-Spd | 230 | 60 | 3.2 |
| E | American Air Filter | GE 3134; 5KCP39KGB909T; 5KCP36KG317S; 5KCP36KG583S; 5KCP36KG246S; 5KCP38PG200S | 1/8 | 700 | 115 | 60/50 | 2.0 |
| F | American Standard | GE 3114; 5KCP39HG7728S; 5KCP39HG3692S | 1/3 | 1075 | 230 | 60 | 3.3 |
| G | American Standard, Bohn, Carrier, Dunham, Bush, Fedders, Nesbitt, Singer, Trane, York | Fasco D291; GE 2362; 5KCP29CK4534T; Universal 362 | 1/10 | 1075/4-Spd | 115 | 60 | 1.7 |
| H | American Standard, Dunham Bush, Fedders, Modine, Nesbitt, Singer, Trane, York | Fasco D293; GE 5KSP29BK2649T; Universal 93 | 1/10 | 1050/5-Spd | 115 | 60 | 4.8 |
| H | American Standard, Dunham Bush, Fedders, Modine, Nesbitt, Singer, Trane, York | Fasco D289; GE KSP29BK2660S; 2089; Universal 89 | 1/10 | 1050/5-Spd | 115 | 60 | 4.8 |

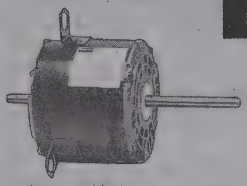


*Bring us your application, we'll deliver the motor.*

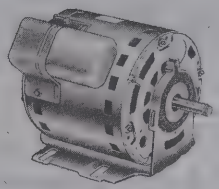
# DIRECT OEM REPLACEMENT MOTORS



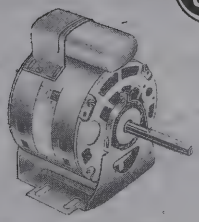
C No. 3M822
PSC air conditioner fan motor



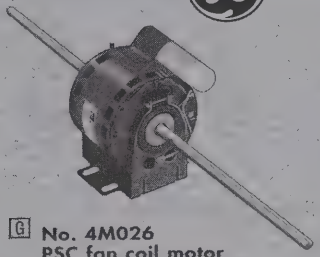
D No. 3M823
PSC air conditioner fan motor



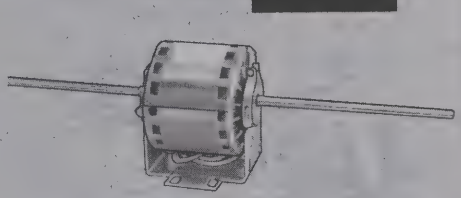
E No. 4M535
PSC fan and blower motor



F No. 4M536
PSC room air conditioner motor



G No. 4M026
PSC fan coil motor



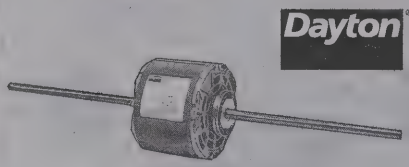
H No. 4M037
Shaded pole fan coil motor

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

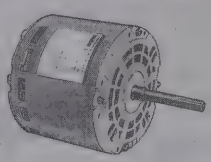
## ORDERING DATA

| Key | Bearings | Mounting | Encl. | NEMA Frame | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Rotation | Brand | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Ball | Stud | OPAO | — | 4 3/8 | 1/2 x 2 5/8 | 3 3/8 | CCW-VFSE | Dayton | 4M222 | $108.16 | $83.40 | 6.5 | None | |
| B | Sleeve | Stud | TEAO | 48YZ | 5 3/8 | 1/2 x 3 1/4 | 4 13/16 | CW-VFSE | Dayton | 4M002 | 114.00 | 87.35 | 13.0 | 5M003 | 4.47 |
| C | Sleeve | Stud | OPAO | 48YZ | 5 5/8 | 1/2 x 8 ea | 4 5/16 | CCW-VFLE | Dayton | 3M822 | 133.00 | 101.35 | 12.0 | 5M003 | 4.47 |
| D | Sleeve | Lug | OPAO | 48YZ | 5 5/8 | 1/2 x 2 & 4 3/16 | 3 9/16 | CCW-VFLE | Dayton | 3M823 | 137.00 | 104.45 | 14.0 | 5M003 | 4.47 |
| E | Sleeve | Cradle | OPAO | 48YZ | 5 5/8 | 1/2 x 1 1/2 | 6 13/32 | CCW-VFSE | GE (3134) | 4M535 | 142.00 | 88.90 | 16.0 | Included | |
| F | Sleeve | Cradle | OPAO | 48YZ | 5 5/8 | 1/2 x 3 1/4 | 5 3/32 | CW-VFSE | GE (3114) | 4M536 | 162.00 | 101.45 | 15.0 | Included | |
| G | Sleeve | Cradle | OPAO | 42YZ | 5 | 1/2 x 9 9/16 & 10 1/2 | 4 29/32 | CW-VFLE | GE (2362) | 4M026 | 147.00 | 93.80 | 10.0 | Included | |
| H | Sleeve | Cradle | OPAO | 42YZ | 5 | 3/8 x 8 ea | 4 29/32 | CW-VFLE | Dayton | 4M037 | 80.00 | 60.85 | 9.0 | None | |
| H | Sleeve | Cradle | OPAO | 42YZ | 5 | 1/2 x 10 ea | 5 1/8 | CW-VFLE | Dayton | 4M038 | 80.00 | 60.85 | 9.0 | None | |

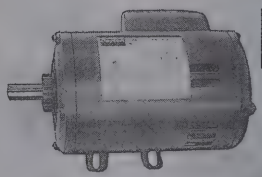
# DIRECT OEM REPLACEMENT MOTORS



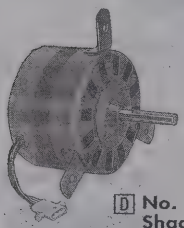
[A] No. 3M883
PSC air conditioner fan motor



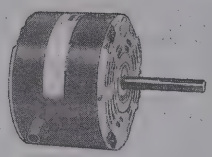
[B] No. 4M141
PSC condenser fan motor



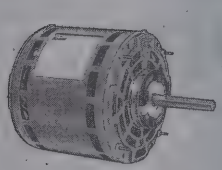
[C] No. 4K038 Capacitor-start gas air conditioner solution pump motor



[D] No. 4M248
Shaded pole fan and blower motor



[E] No. 4M984
Shaded pole attic fan motor



[F] No. 3M884
PSC furnace blower motor



[G] No. 4M283
PSC condenser fan motor

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

For Additional Information About Motors on This Spread See Page 82

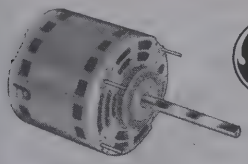
## SPECIFICATIONS AND

| Key | OEM Motor | Replaces | HP | Nameplate RPM | Volts | Hz | Full-Load Amps at Nameplate Volts |
|---|---|---|---|---|---|---|---|
| A | American Standard, Singer | EWDQ-5790; K47HY-605; Emerson RAK1012 | 1/8 | 1075/3-Spd | 277 | 60 | 0.8 |
| B | Arkla | B14506-393; B14506-363; 0KB1038; K234Z; Fasco D795 | 1/3 | 825 | 115 | 60 | 4.5 |
| B | Arkla | B14506-396; B14506-354; 0KB1058; K8075 | 1/2 | 825 | 230 | 60 | 2.9 |
| C | Arkla | 1450-275; OKA1052; K2649 | 1/2 | 3450 | 115 | 60 | 7.0 |
| C | Arkla | 14506-259; OKA1072; Emerson K2650 | 3/4 | 3450 | 230 | 60 | 3.7 |
| D | Broan | 365; 99-08-0178; Fasco 7151-3160 | 1/12 | 1050 | 115 | 60 | 2.9 |
| E | Broan | Broan 99080238; McMillan A0510B2157; A0510B2006 | 1/15 | 950 | 115 | 60 | 3.7 |
| E | Broan | Broan 99080237; McMillan A0510B2159; A0510B2055 | 1/12 | 1000 | 115 | 60 | 4.0 |
| E | Broan | Broan 99080239; McMillan A0510B2158; A0510B2019 | 1/10 | 1100 | 115 | 60 | 4.2 |
| F | Bryant Furnace | 62814-05; Emerson K1410 | 1/3 | 1075/4-Spd | 115 | 60 | 5.3 |
| G | Carrier | GE 3160; 5KCP39CGA677S; 5KCP39CGP031S; Carrier HC37MLT02B | 1/6 | 1075/2-Spd | 208-230 | 60 | 1.2 |
| H | Carrier, Day & Night | GE 2981; 5KSP29KK1818T | 1/5 | 1030/4-Spd | 115 | 60 | 7.6 |
| J | Carrier | HC39VL-701; Emerson K1552 | 1/4 | 1075 | 208-230 | 60 | 2.1 |
| K | Carrier | GE 3158; 5KCP39FGP028S; 5KCP39FGG262S; Carrier HC39VL701B | 1/4 | 1075 | 230 | 60 | 2.1 |
| L | Carrier | GE 3159; KCP39HGD797S; 5KCP39HGP029S; Carrier HC39ML706 | 1/3 | 1075/2-Spd | 208-230 | 60 | 2.3 |
| M | Carrier, Bryant | Emerson K55XLKK5918; Fasco D803; GE 3066; 5KCP39KGB703S; GE 5KCP39JGJ997T; A.O. Smith OCA1036; Carrier HC41VB701 | 1/3 | 1075/2-Spd | 230 | 60 | 3.1 |
| N | Carrier, Day & Night | Carrier PS2126-2; Fasco D845; GE 3123; 5KCP39HG7611S; GE 5KCP39HGA2026T; 3KCP39HGA206T; Marathon X226 | 1/3 | 1075/2-Spd | 230 | 60 | 2.8 |
| P | Carrier | GE 3161; 5KCP39HGP030S; 5KCP39HG9866S | 1/3 | 1075 | 208-230 | 60 | 2.8 |



*Bring us your application, we'll deliver the motor.*

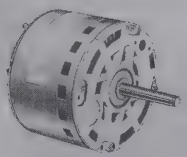
# DIRECT OEM REPLACEMENT MOTORS



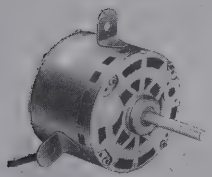
H No. 4M547
Shaded pole condenser fan motor



J No. 3M821
PSC condenser fan motor



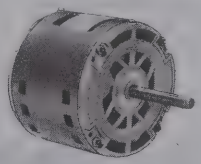
K No. 4M537
PSC condenser fan motor



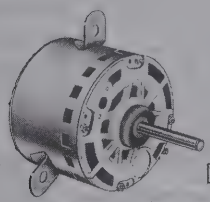
L No. 4M282
PSC condenser fan motor



M No. 4M034
PSC condenser fan motor



N No. 4M032
PSC condenser fan motor



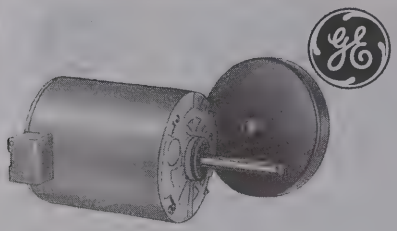
P No. 4M538
PSC condenser fan motor

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

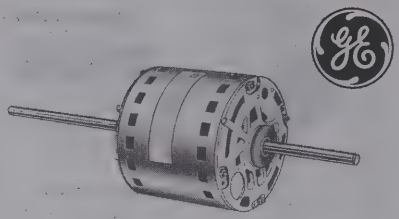
## ORDERING DATA

| Key | Bearings | Mounting | Encl. | NEMA Frame | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Rotation | Brand | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Sleeve | Ring, 2¼" dia, 4¼" OC | OPAO | 42YZ | 5 | 1/2 x 8½ ea | 4⅝ | CCW-VFLE | Dayton | **3M883** | $108.00 | **$82.70** | 9.0 | 5M003 | $4.47 |
| B | Ball | Band | OPAO | 48Y | 5⅝ | 1/2 x 3 9/16 | 4 9/16 | CW-VFSE | Dayton | **4M141** | 150.00 | **114.60** | 14.0 | 5M003 | 4.47 |
| B | Ball | Band | OPAO | 48Y | 5⅝ | 1/2 x 3⅞ | 5 1/16 | CW-VFSE | Dayton | **3M824** | 170.00 | **130.20** | 16.0 | 5M007 | 7.95 |
| C | Ball | Rigid | OPDPF | 48YZ | 5⅝ | 5/8 x 1½ | 9 5/16 | CW-VFSE | Dayton | **4K038** | 176.00 | **134.90** | 20.0 | Included | |
| C | Ball | Rigid | OPDPF | 48YZ | 5⅝ | 5/8 x 1½ | 9 5/16 | CW-VFSE | Dayton | **4K039** | 214.00 | **164.00** | 21.0 | Included | |
| D | Sleeve | Lug 6¾" dia, BC | OPAO | 42YZ | 5 | 1/2 x 2¼ | 4 3/16 | CW-VFSE | Dayton | **4M248** | 81.12 | **62.65** | 6.2 | None | |
| E | Sleeve | Band | OPAO | — | 5⅛ | 1/2 x 3 | 3 9/16 | CW-VFSE | Dayton | **4M984** | 71.76 | **55.35** | 6.0 | None | |
| E | Sleeve | Band | OPAO | — | 5⅛ | 1/2 x 3 | 3 9/16 | CW-VFSE | Dayton | **4M985** | 74.88 | **57.75** | 6.0 | None | |
| E | Sleeve | Band | OPAO | — | 5⅛ | 1/2 x 2 11/16 | 4 1/16 | CW-VFSE | Dayton | **4M986** | 76.96 | **59.40** | 6.0 | None | |
| F | Sleeve | Ring | OPAO | 48YZ | 5⅝ | 1/2 x 2½ | 5⅞ | CW/CCW | Dayton | **3M884** | 137.00 | **104.45** | 14.0 | 5M005 | 5.51 |
| G | Sleeve | Lug | OPAO | 48YZ | 5⅝ | 1/2 x 2 13/16 | 4 19/32 | CW-VFSE | GE (3160) | **4M283** | 108.00 | **67.65** | 12.0 | 6X652 | 4.62 |
| H | Sleeve | Ring/Stud | OPAO | 48YZ | 5 | 1/2 x 3½ | 5 1/16 | CW-VFSE | GE (2981) | **4M547** | 90.00 | **57.45** | 10.0 | None | |
| J | Sleeve | Band | OPAO | 48YZ | 5⅝ | 1/2 x 2¾ | 4⅜ | CW-VFSE | Dayton | **3M821** | 119.00 | **91.20** | 12.0 | 5M003 | 4.47 |
| K | Sleeve | Band | OPAO | 48YZ | 5⅝ | 1/2 x 2¾ | 4½ | CW-VFSE | GE (3158) | **4M537** | 115.00 | **72.00** | 11.0 | 6X653 | 4.16 |
| L | Sleeve | Lug | OPAO | 48YZ | 5⅝ | 1/2 x 3 | 5 1/16 | CW-VFSE | GE (3159) | **4M282** | 133.00 | **83.30** | 13.0 | 6X652 | 4.62 |
| M | Sleeve | Lug | OPAO | 48YZ | 5⅝ | 1/2 x 3 | 5 19/32 | CW/CCW | GE (3066) | **4M034** | 146.00 | **91.40** | 14.0 | 6X653 | 4.16 |
| N | Sleeve | Band | OPAO | 48YZ | 5⅝ | 1/2 x 3 | 4 5/16 | CCW-VFSE | GE (3123) | **4M032** | 141.00 | **88.35** | 13.0 | 6X653 | 4.16 |
| P | Sleeve | Lug | OPAO | 48YZ | 5⅝ | 1/2 x 3 | 3 3/32 | CW-VFSE | GE (3161) | **4M538** | 122.00 | **76.40** | 14.0 | 6X653 | 4.16 |

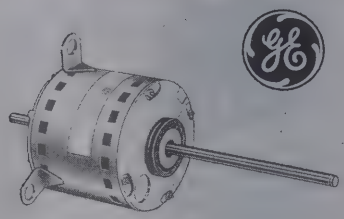
# DIRECT OEM REPLACEMENT MOTORS



A No. 3M610
PSC air conditioner and refrigeration condenser fan motor



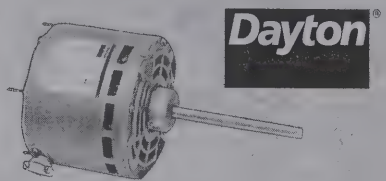
B No. 4M539
PSC air handler motor



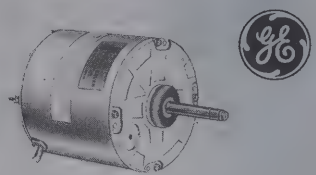
C No. 4M543
PSC condenser fan motor



D No. 3M925
PSC condenser fan motor



E No. 4M004
PSC condenser fan motor



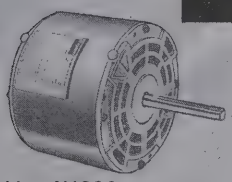
F No. 4M548
Shaded pole condenser fan motor

For Additional Information About Motors on This Spread See Page 82

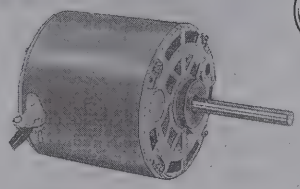
**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

## SPECIFICATIONS AND

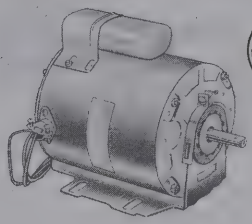
| Key | OEM Motor | Replaces | HP | Nameplate RPM | Volts | Hz | Full-Load Amps at Nameplate Volts |
|---|---|---|---|---|---|---|---|
| A | Carrier | Carrier HC445L230; GE 3132; 5KCP39PG190S; 5KCP39PG361S; 5KCP39PGC138S; Universal 655; Fasco D804 | 1/2 | 1075 | 208-230 | 60/50 | 4.0 |
| B | Carrier | GE 3162; 5KCP39NGP032S; 5KCP39NGJ515S; 5KCP39NG0129CS; Carrier HC435Z115A, HC435Z116 | 1/2 | 1075/4-Spd | 115 | 60 | 7.7 |
| C | Carrier | GE 5KCP39MGP041S; 5KCP39MGB284S | 1/2 | 1075/3-Spd | 208-230 | 60 | 2.9 |
| D | Coleman, Friedrich, G&S, Rheem, York | Emerson K8008 | 1/3 | 1075/2-Spd | 230 | 60 | 2.2 |
| E | Coleman, Friedrich, G&S, Rheem, York | Emerson K8009 | 1/4 | 1075/2-Spd | 230 | 60 | 2.0 |
| F | Copeland | GE 3051; 5KSP39FG4144S | 1/6 | 1550 | 230 | 60 | 2.6 |
| G | Copeland | 050-0238-00; K55BZY-1439; 5KCP39GG3537S; Emerson K6124 | 1/4 | 1550 | 230 | 60 | 2.1 |
| H | Copeland | GE 3005; 5KCP39PG3224S; 5KCP39PG915S; 5KCP39PGC092S; Universal 558 | 1/3 | 825 | 230 | 60 | 2.4 |
| J | Copeland | GE 3124; 5KCP39KGB906T; 5KCP32KG175S; 5KCP32KG259S; 5KCP39KGB906S | 1/3 | 1625 | 230 | 60/50 | 3.2 |
| K | Fedders | Fasco D1016; GE 2090; 5KCP29GK4566T; Universal 515 | 1/4 | 1100 | 230 | 60 | 1.6 |
| L | Fedders | S199-00011-001; S199-00011-002; K63TXMR1109; 5KCP45PG133T; Emerson K2328 | 3/4 | 1075 | 208-230 | 60 | 4.0 |
| M | First Company | GE 2984; 5KSP29HK1672S; 5KCP29FK630S; 5KCP29FK6552S | 1/5 | 1550/3-Spd | 208-230 | 60 | 2.1 |
| N | Friedrich | GE 3056; 5KCP39LGK010S; 5KCP39LGK010T; 5KCP39LGM011T; 5KCP39MGB109S; 5KCP39MG9679S; 5KCP39MG7145S; 5KCP39LGC720S; 5KCP39LGD804S; 5KCP39KGE992S; 5KCP39MG9096T; Fasco D868; Friedrich 610-714-13; Universal 118 | 1/3 | 1075/5-Spd | 230 | 60 | 1.9 |



G No. 4M003
PSC condenser fan motor



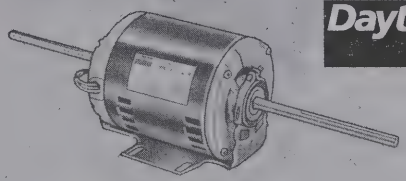
H No. 3M611
PSC air conditioner and refrigeration condenser fan motor



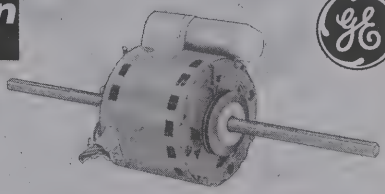
J No. 4M549
PSC outdoor fan and blower motor



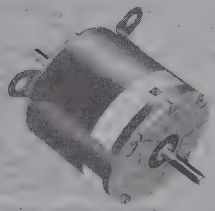
K No. 4M028
PSC condenser fan motor



L No. 3M825
PSC air conditioner motor



M No. 4M182
PSC fan coil motor



N No. 4M031
PSC room air conditioner motor

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

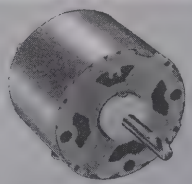
## ORDERING DATA

| Key | Bearings | Mounting | Encl. | NEMA Frame | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Rotation | Brand | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Ball | Band | OPAO | 48YZ | 5⅝ | 1/2 x 3½ | 7 19/32 | CW-VFSE | GE (3132) | **3M610** | $167.00 | **$104.50** | 20.0 | 6X655 | $4.99 |
| B | Sleeve | Band | OPAO | 48YZ | 5⅝ | 1/2 x 3¾ & 7¼ | 6 9/16 | CCW-VFLE | GE (3162) | **4M539** | 157.00 | **98.30** | 18.0 | 6X655 | 4.99 |
| C | Sleeve | Lug | OPAO | 48YZ | 5⅝ | 1/2 x 7 & 2 13/16 | 5½ | CCW-VFLE | GE (3166) | **4M543** | 140.00 | **87.65** | 17.0 | 4M875 | 7.14 |
| D | Sleeve | Stud | OPAO | 48YZ | 5⅝ | 1/2 x 5 | 4 13/16 | CW/CCW | Dayton | **3M925** | 132.00 | **100.60** | 12.0 | 5M003 | 4.47 |
| E | Sleeve | Stud | OPAO | 48YZ | 5⅝ | 1/2 x 5 | 4 13/16 | CW/CCW | Dayton | **4M004** | 123.00 | **94.35** | 12.0 | 5M003 | 4.47 |
| F | Sleeve | Band | OPAO | 48YZ | 5⅝ | 1/2 x 2½ | 4 29/32 | CCW-VFSE | GE (3051) | **4M548** | 128.00 | **80.15** | 11.0 | None | |
| G | Sleeve | Band | OPAO | 48YZ | 5⅝ | 1/2 x 3 | 4 1/16 | CCW-VFSE | Dayton | **4M003** | 120.00 | **92.05** | 13.0 | Included | |
| H | Ball | Band | OPAO | 48YZ | 5⅝ | 1/2 x 3½ | 5 11/16 | CCW-VFSE | GE (3005) | **3M611** | 157.00 | **98.30** | 18.0 | 6X657 | 7.16 |
| J | Sleeve | Cradle | OPAO | 48YZ | 5⅝ | 1/2 x 1½ | 7 13/32 | CCW-VFSE | GE (3124) | **4M549** | 162.00 | **101.45** | 18.0 | Included | |
| K | Sleeve | Ring | OPAO | 42YZ | 5 | 1/2 x 3½ | 5 13/32 | CW-VFSE | GE (2090) | **4M028** | 138.00 | **88.10** | 9.0 | 6X653 | 4.16 |
| L | Sleeve | Cradle | OPAO | 56Z | 6⅜ | 5/8 x 7⅝ ea | 8⅞ | CCW-VFLE | Dayton | **3M825** | 257.00 | **196.75** | 34.0 | 5M006 | 6.60 |
| M | Sleeve | Ring | OPAO | 42YZ | 5 | 1/2 x 6 ea | 4 29/32 | CCW-VFLE | GE (2984) | **4M182** | 150.00 | **95.70** | 9.5 | Included | |
| N | Sleeve | Lug | TEAO | 48YZ | 5⅝ | 1/2 x 2½ & 2¼ | 5 9/32 | CCW-VFLE | GE (3056) | **4M031** | 148.00 | **92.65** | 15.0 | 6X653 | 4.16 |

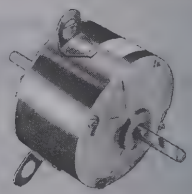
# DIRECT OEM REPLACEMENT MOTORS



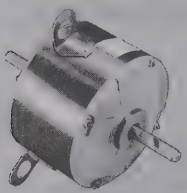
A No. 4M035
PSC room air conditioner motor



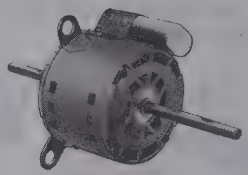
B No. 4M013
Shaded pole refrigeration condenser fan motor



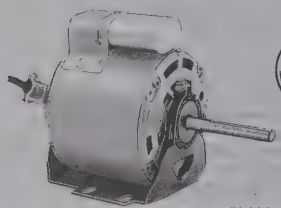
C No. 4M551
PSC room air conditioner motor



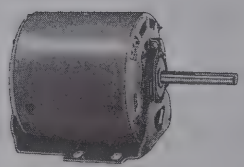
D No. 4M552
PSC room air conditioner motor



E No. 4M029
PSC room air conditioner motor



F No. 3M612
PSC air conditioner and refrigeration condenser motor



G No. 4M012
PSC air conditioner and refrigeration condenser motor

For Additional Information About Motors on This Spread See Page 82

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

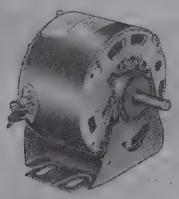
## SPECIFICATIONS AND

| Key | OEM Motor | Replaces | HP | Nameplate RPM | Volts | Hz | Full-Load Amps at Nameplate Volts |
|---|---|---|---|---|---|---|---|
| A | Frigidaire | Emerson K4340; Fasco D891; GE 3593; 5KCP39HG9762S; 5KCP39HGA857T; 5KCP39HGR678S | 1/3 | 1420/3-Spd | 230 | 60 | 3.0 |
| B | GE | GE 2742; 5KSP29DK1728S; 5KSP29FK2458S; 5KSP29FK2763T; 21A135217P01; Universal 492; 598 | 1/8 | 1550 | 230 | 60 | 1.9 |
| C | GE | GE 3077; 5KCP39DGK013T; 5KCP39EG5967S; 21B503152 | 1/5 | 1075/3-Spd | 265 | 60 | 1.3 |
| D | GE | GE 3078; 5KCP39DGK014S; 5KCP39EG5480S; 2AB502151 | 1/5 | 1075/4-Spd | 230 | 60 | 1.5 |
| E | Gibson-Belding, Kelvinator | Fasco D852; Franklin 80431; GE 5KCP39DGK136T; 3068 | 1/5 | 1075/3-Spd | 230 | 60 | 1.3 |
| F | Hill Refrigeration | GE 3001; 5KCP39KG1369S; Fasco D801; Universal 160 | 1/3 | 1625 | 208-230 | 60/50 | 2.9 |
| G | Hill Refrigeration | GE 3067; 5KCP39PGC030S; 5KCP39PGC910S; Hill PP19162G; A.O. Smith OHR1106 | 1 | 1075 | 208-230 | 60 | 7.1/6.4 |
| H | Hussman | GE 3011; 5KSP39DG4220S | 1/8 | 1550 | 230 | 60 | 2.1 |
| J | Hussman | GE 3057; 5KSP39FG4771S; Fasco D807; Universal 174 | 1/6 | 1550 | 208-230 | 60 | 2.5 |
| K | Hussman | GE 3009; 5KCP39GG3611AS; Fasco D805; A.O. Smith OHS1016 | 1/5 | 1075 | 230 | 60 | 1.7 |
| L | Hussman | GE 3012; 5KCP39GG5606S | 1/5 | 1075 | 208-230 | 60 | 1.7 |
| M | Intertherm | Fasco D871; GE 3105; 3594; 5KCP39PG502S; 5KCP39PG577T; 5KCP39PGH508T; GE 5KCP39PGL5725; Universal 428 | 1 | 1625 | 230 | 60 | 6.4 |
| N | Jenn Air | 07704D | 1/12 | 1450 | 115 | 60 | 3.1 |
| P | Kramer Trenton | GE 3128; 5KCP39KGC100T; 5KCP35KG144S; 5KCP35KG554S | 1/4 | 1075 | 115/208-230 | 60/50 | 3.4/1.7 |

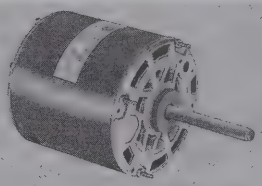


*Bring us your application, we'll deliver the motor.*

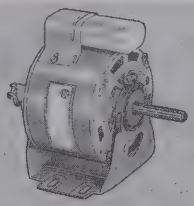
# DIRECT OEM REPLACEMENT MOTORS



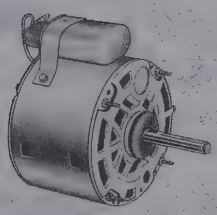
H No. 4M554
Shaded pole condenser fan motor



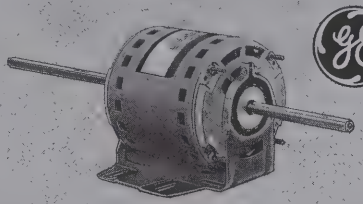
J No. 4M039
Shaded pole refrigeration condenser fan motor



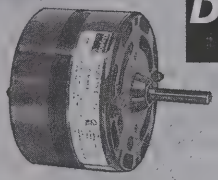
K No. 3M684
PSC air conditioner and refrigeration condenser fan motor



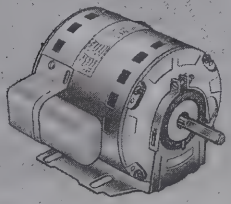
L No. 4M555
PSC condenser fan motor



M No. 4M036
PSC room air conditioner, refrigeration condenser motor



N No. 4M191
Shaded pole exhaust fan motor



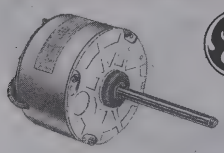
P No. 4M556
PSC condenser fan motor

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

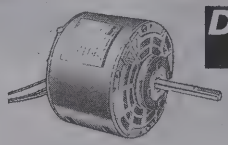
## ORDERING DATA

| Key | Bearings | Mounting | Encl. | NEMA Frame | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Rotation | Brand | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Sleeve | Ring | OPAO | 48YZ | 5 5/8 | 1/2 x 3 5/8 & 2 | 5 11/16 | CCW-VFLE | GE (3593) | 4M035 | $157.00 | $98.30 | 13.0 | 6X653 | $4.16 |
| B | Sleeve | Band | OPAO | 42YZ | 5 | 1/2 x 2 1/2 | 4 19/32 | CW-VFSE | GE (2742) | 4M013 | 84.00 | 53.65 | 8.0 | None | |
| C | Sleeve | Lug | OPAO | 48YZ | 5 5/8 | 1/2 x 2 & 2 1/8 | 4 11/16 | CW-VFLE | GE (3077) | 4M551 | 123.00 | 91.40 | 11.0 | 6X652 | 4.62 |
| D | Sleeve | Lug | OPAO | 48YZ | 5 5/8 | 1/2 x 2 & 2 1/8 | 4 11/16 | CW-VFLE | GE (3078) | 4M552 | 140.00 | 94.55 | 11.0 | 6X652 | 4.62 |
| E | Sleeve | Lug | OPAO | 48YZ | 5 5/8 | 1/2 x 4 11/16 ea. | 4 5/16 | CCW-VFLE | GE (3068) | 4M029 | 157.00 | 98.30 | 13.0 | Included | |
| F | Sleeve | Cradle | OPAO | 48YZ | 5 5/8 | 1/2 x 3 1/2 | 5 15/32 | CCW-VFSE | GE (3001) | 3M612 | 148.00 | 92.65 | 17.0 | Included | |
| G | Ball | Cradle | OPAO | 48YZ | 5 5/8 | 1/2 x 3 1/4 | 6 13/32 | CW-VFSE | GE (3067) | 4M012 | 250.00 | 156.75 | 21.0 | 6X658 | 8.17 |
| H | Sleeve | Cradle | OPAO | 48YZ | 5 5/8 | 1/2 x 1 1/2 | 4 13/32 | CCW-VFSE | GE (3011) | 4M554 | 141.00 | 88.30 | 13.0 | None | |
| J | Sleeve | Stud | OPAO | 48YZ | 5 5/8 | 1/2 x 1 1/2 | 4 29/32 | CCW-VFSE | GE (3057) | 4M039 | 139.00 | 87.05 | 13.0 | None | |
| K | Sleeve | Cradle | OPAO | 48YZ | 5 5/8 | 1/2 x 2 1/2 | 4 29/32 | CCW-VFSE | GE (3009) | 3M684 | 151.00 | 94.55 | 13.0 | Included | |
| L | Sleeve | Stud | OPAO | 48YZ | 5 5/8 | 1/2 x 2 1/2 | 4 29/32 | CCW-VFSE | GE (3012) | 4M555 | 154.00 | 96.45 | 12.0 | Included | |
| M | Ball | Cradle | OPAO | 56Z | 6 1/8 | 1/2 x 5 & 9 1/8 | 6 11/32 | CW-VFLE | GE (3594) | 4M036 | 228.00 | 142.75 | 21.0 | 6X655 | 4.99 |
| N | Sleeve | Band | OPAO | --- | 4 3/8 | 3/8 x 1 1/2 | 3 9/16 | CCW-VFSE | Dayton | 4M191 | 78.00 | 60.20 | 4.2 | None | |
| P | Ball | Cradle | OPAO | 48YZ | 5 5/8 | 1/2 x 2 | 6 13/32 | CW-VFSE | GE (3128) | 4M556 | 164.00 | 102.70 | 16.0 | Included | |

# DIRECT OEM REPLACEMENT MOTORS



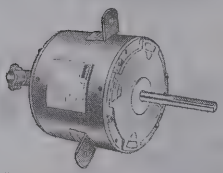
A No. 4M557
PSC condenser fan motor



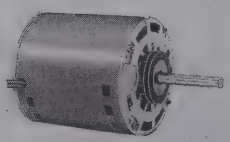
B No. 3M926
PSC condenser fan motor



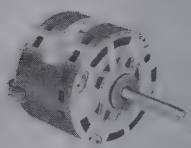
C No. 3M613
PSC air conditioner, refrigeration condenser fan motor



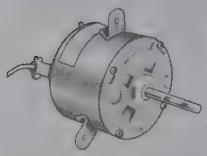
D No. 3M923
PSC condenser fan motor



E No. 4M030
PSC condenser fan motor

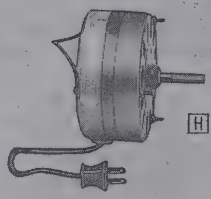


F No. 4M010 PSC direct-drive furnace blower motor

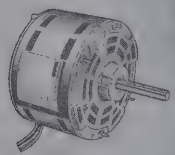


G No. 4M033
PSC condenser fan motor

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.



H No. 4M247
Shaded pole fan and ventilation motor



J No. 4M150
PSC condenser fan motor

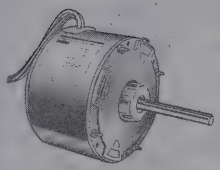
## SPECIFICATIONS AND

| Key | OEM Motor | Replaces | HP | Nameplate RPM | Volts | Hz | Full-Load Amps at Nameplate Volts |
|---|---|---|---|---|---|---|---|
| A | Lennox | GE 3215; 5KCP39CGP070S; 5KCP39CGM718S; Lennox 47F9901 | 1/6 | 1075 | 208-230 | 60 | 1.0 |
| B | Lennox | Lennox P-8-2702; K55BWE1351; S3004; Fasco D814; Johnstone S88261; Emerson K8054; GE 3004 | 1/4 | 1075 | 230 | 60 | 1.9 |
| C | Lennox | Lennox P-8-9080; GE 3050; 5KCP39PG3490S; 5KCP39PG9701S; Marathon X209; Johnstone S-87-957; Fasco D2017; D2817; Universal 117 | 1/3 | 825 | 230 | 60 | 3.2 |
| D | Lennox | Lennox P-8-8041; K55FCM3264; OLG1036; 5KCP39HGD766T; 3041; HD9530S; Fasco D816; Emerson K7994 | 1/3 | 1050 | 230 | 60 | 2.2 |
| E | Lennox | GE 3501; 3591; 5KCP39NGC119S; 5KCP39NGL571S | 1/3 | 825 | 230 | 60 | 2.5 |
| F | Lennox | GE 3087; 5KCP39HG9546S; 5KCP39HGK020T; Lennox P-8-8609 | 1/3 | 1075/4-Spd | 208-230 | 60 | 2.3 |
| F | Lennox | GE 3082; 5KCP39HG9174S; P-8-7505; K55HXENB8874; Fasco 7126-0107; D812; Marathon 48A11650; Johnstone S88-257; Universal 565 | 1/3 | 1075/4-Spd | 115 | 60 | 6.0 |
| G | Lennox | Lennox P-8-8041; S-3044; Fasco D816; GE 3592; 5KCP39HG9530S; GE 5KCP39HGR677S; 5KCP39HGD766T; Marathon X227; Universal 681 | 1/3 | 1075 | 230 | 60 | 2.2 |
| H | Penn Ventilator | Penn Z-6; Fasco D340 | 1/40 | 1050 | 115 | 60 | 0.9 |
| H | Penn Ventilator | Penn Z-8; Fasco D1036 | 1/20 | 1050 | 115 | 60 | 2.0 |
| J | Rheem / Ruud | Rheem 51-20671-01; F55HXCWT-1579; Johnstone S88263; Emerson K3484 | 1/8 | 1075 | 230 | 60 | 1.0 |
| K | Rheem / Ruud | GE 3222; 5KCP39BGN253S; 5KCP39BGP085S; Rheem 51-21853-01 | 1/6 | 1075 | 208-230 | 60 | 0.9 |
| L | Rheem / Ruud | Rheem 51-20675-01; Emerson KA55HXMPT-6557 | 1/6 | 1075 | 208-230 | 60 | 0.9 |
| M | Rheem / Ruud | Rheem 51-20682-01; Emerson KA55HXMPZ-6560 | 1/5 | 1075 | 208-230 | 60 | 1.3 |
| N | Rheem / Ruud | GE 3220; 5KCP39CGN409S; 5KCP39CGK082S; 5KCP39CGP088S; Rheem 51-21833-01; 21853-82 | 1/5 | 1075 | 208-230 | 60 | 1.0 |
| P | Rheem / Ruud | Rheem 51-20550-01; Emerson K1549; KA55HXJYZ-5490 | 1/4 | 1075/3-Spd | 115 | 60 | 4.3 |
| Q | Rheem / Ruud | GE 5KCP39FGN407S; 5KCP39FGK074S; 5KCP39FGP087S; 3221; Rheem 21853-83; 51-21838-01 | 1/3 | 1075 | 208-230 | 60 | 2.0 |
| R | Rheem / Ruud | Rheem 51-21189-01; Emerson KA55HZRGR-7898 | 1/3 | 1075 | 208-230 | 60 | 2.0 |

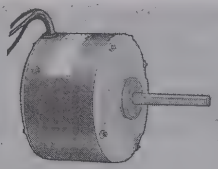


*Bring us your application, we'll deliver the motor.*

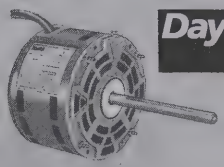
# DIRECT OEM REPLACEMENT MOTORS



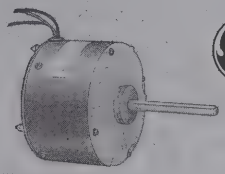
M No. 4M110 PSC outdoor condenser motor



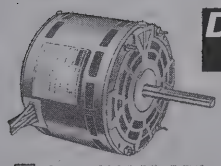
K No. 4M284 PSC condenser fan motor



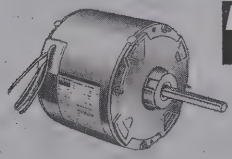
L No. 4M109 PSC outdoor condenser fan motor



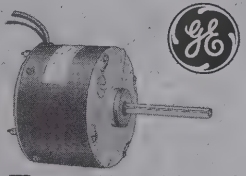
N No. 4M285 PSC condenser fan motor



P No. 4M151 PSC direct-drive blower motor



R No. 4M111 PSC outdoor condenser motor



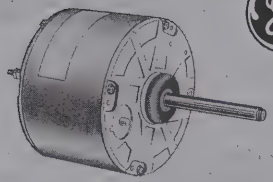
Q No. 4M286 PSC condenser fan motor

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

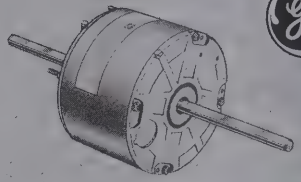
## ORDERING DATA

| Key | Bearings | Mounting | Encl. | NEMA Frame | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Rotation | Brand | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Sleeve | Band | TEAO | 48YZ | 5⅝ | 1/2 x 5 | 4 | CW-VFSE | GE (3215) | 4M557 | $101.00 | $63.25 | 9.7 | 6X653 | $4.16 |
| B | Sleeve | Ring | OPAO | 48YZ | 5⅝ | 1/2 x 3 | 4 7/8 | CW-VFSE | Dayton | 3M926 | 112.00 | 85.75 | 11.0 | 5M002 | 4.39 |
| C | Sleeve | Ring | OPAO | 48YZ | 5⅝ | 1/2 x 3 | 6 29/32 | CW-VFSE | GE (3050) | 3M613 | 147.00 | 92.00 | 18.0 | 6X652 | 4.62 |
| D | Sleeve | Lug | TEAO | 48YZ | 5⅝ | 1/2 x 3¾ | 4 9/16 | CW-VFSE | Dayton | 3M923 | 136.00 | 103.70 | 15.0 | 5M003 | 4.47 |
| E | Ball | Ring | OPAO | 48YZ | 5⅝ | 1/2 x 3 | 6 29/32 | CW-VFSE | GE (3591) | 4M030 | 190.00 | 118.95 | 16.0 | 6X652 | 4.62 |
| F | Sleeve | Ring | OPAO | 48YZ | 5⅝ | 1/2 x 2½ | 5 13/32 | CW-VFSE | GE (3087) | 4M010 | 154.00 | 96.45 | 13.0 | 6X653 | 4.16 |
| F | Sleeve | Ring | OPAO | 48YZ | 5⅝ | 1/2 x 2½ | 5 3/32 | CW-VFSE | GE (3082) | 4M169 | 151.00 | 94.60 | 9.5 | 6X653 | 4.16 |
| G | Sleeve | Lug | TEAO | 48YZ | 5⅝ | 1/2 x 3¼ | 5 3/32 | CW-VFSE | GE (3592) | 4M033 | 135.00 | 84.55 | 13.0 | 6X653 | 4.16 |
| H | Sleeve | Stud | OPAO | 42YZ | 5 | 3/8 x 1½ | 3¼ | CW-VFSE | Dayton | 4M246 | 69.68 | 53.85 | 4.5 | None | |
| H | Sleeve | Stud | OPAO | 42YZ | 5 | 3/8 x 1 11/16 | 3¼ | CW-VFSE | Dayton | 4M247 | 74.88 | 57.80 | 4.5 | None | |
| J | Sleeve | Stud | OPAO | 48Y | 5⅝ | 1/2 x 4 | 4 1/16 | CW-VFSE | Dayton | 4M150 | 122.00 | 77.95 | 11.0 | 5M003 | 4.47 |
| K | Sleeve | 1/4" studs & holes | TEAO | 48YZ | 5⅝ | 1/2 x 3 3/16 | 4 3/16 | CW-VFSE | GE (3222) | 4M284 | 96.00 | 60.15 | 12.0 | 6X651 | 3.74 |
| L | Sleeve | Stud | OPAO | 48YZ | 5⅝ | 1/2 x 4 13/16 | 3 9/16 | CW-VFSE | Dayton | 4M109 | 102.00 | 78.00 | 9.2 | 5M001 | 4.33 |
| M | Sleeve | Stud | OPAO | 48YZ | 5⅝ | 1/2 x 3¼ | 4 1/16 | CW-VFSE | Dayton | 4M110 | 107.00 | 81.90 | 10.0 | 5M001 | 4.33 |
| N | Sleeve | 1/4" studs & holes | TEAO | 48YZ | 5⅝ | 1/2 x 4 | 4 3/16 | CW-VFSE | GE (3220) | 4M285 | 126.00 | 78.85 | 12.0 | 6X651 | 3.74 |
| P | Sleeve | Stud | OPAO | 48Y | 5⅝ | 1/2 x 3 | 4 5/16 | CW-VFSE | Dayton | 4M151 | 112.00 | 85.65 | 13.0 | 5M003 | 4.47 |
| Q | Sleeve | 1/4" studs & holes | TEAO | 48YZ | 5⅝ | 1/2 x 4 | 4 1/2 | CW-VFSE | GE (3221) | 4M286 | 141.00 | 88.30 | 11.0 | 6X653 | 4.16 |
| R | Sleeve | Stud | TEAO | 48YZ | 5⅝ | 1/2 x 2¾ | 4 13/16 | CW-VFSE | Dayton | 4M111 | 138.00 | 87.80 | 13.0 | 5M003 | 4.47 |

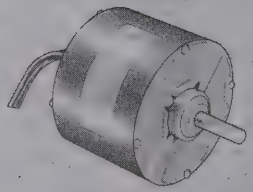
# DIRECT OEM REPLACEMENT MOTORS



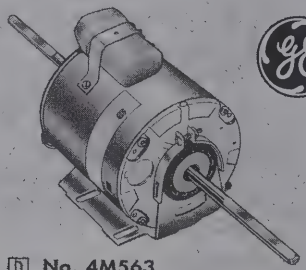
A No. 4M559
PSC condenser fan motor



B No. 3M487
Delco Inside/Out PSC
room air conditioner motor



C No. 4M168
PSC small commercial
condenser motor



D No. 4M563
PSC outdoor condenser
fan motor

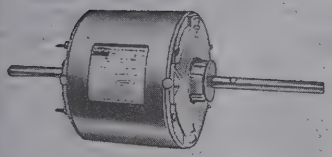
**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

## SPECIFICATIONS AND

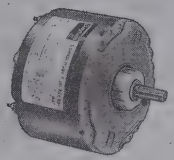
| Key | OEM Motor | Replaces | HP | Nameplate RPM | Volts | Hz | Full-Load Amps at Nameplate Volts |
|---|---|---|---|---|---|---|---|
| A | Rheem/Ruud | GE 3154; 5KCP39FGN329T; 5KCP39FGK786S; 5KCP39GGE879S; A.O. Smith ORM1036; Rheem 21185-11; 21185-01; 51-21185-11; Universal 444 | 1/3 | 1075 | 208-230 | 60 | 1.8 |
| B | Sears/Whirlpool | GE 3070; 5KCP39GGB158T; 5KCP39GGA332S | 1/3 | 1075/3-Spd | 208-230 | 60/50 | 1.9 |
| C | Trane/GE | GE 5KCP29BK4074S; 5KCP29CK4629S; 5KSP29DK1728S; 5KSP29FK2458AS; Trane 21A131098P01; 21A135055P01; 21A120676P01; 21A135217P01; GE WW94X236; WW94X381; Fasco D1050 | 1/6 | 1650 | 200-230 | 60 | 0.9 |
| D | Westinghouse | GE 3122; 5KCP39GGB907T; 5KCP32GG167S; 5KCP32GG210S; 5KCP32GG258S | 1/3 | 1625 | 208-240/220 | 60/50 | 2.5 |
| E | Whirlpool | 997346; K55RGM-7901; Emerson RAK8558 | 1/3 | 1075/3-Spd | 230 | 60 | 1.9 |
| F | York | GE 5KCP39BGP931S; York 024-25100-000 | 1/8 | 1075 | 208-230 | 60/50 | 0.8 |
| G | York (Borg Warner) | Emerson F47HXBGM927; K1124; Fasco D1042; GE 5KCP29GK4685T | 1/5 | 1075 | 230 | 60 | 1.4 |
| H | York (Borg Warner) | Emerson F47HXBGM927; K1124; Fasco D1042; GE 2091; 5KCP29GK4685T | 1/5 | 1075 | 208-230 | 60/50 | 1.3 |
| F | York | GE 5KCP39JFP984S; York 024-25119-000 | 1/4 | 850 | 208-230 | 60/50 | 1.6 |
| J | York | GE 5KCP39NGP941S; York 024-25113-001 | 1/2 | 1110 | 115 | 60 | 8.8 |
| F | York | GE 5KCP39LGN418S; Marathon W48A11T388; York 024-24110-001 | 1/2 | 1090 | 208-230 | 60 | 2.3 |
| J | York | GE 5KCP39PGN812S; A.O. Smith F48SU6V15; York 024-23238-000 | 1 | 1075/3-Spd | 115 | 60 | 13.0 |



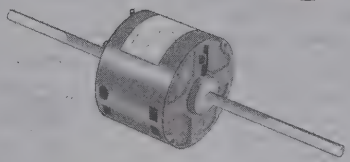
*Bring us your application, we'll deliver the motor.*



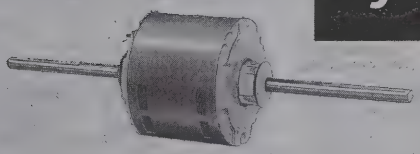
E No. 4M005
PSC air conditioner fan motor



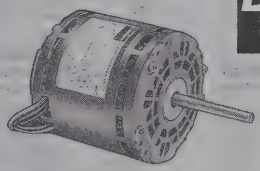
F No. 1D209
PSC condenser fan motor



G No. 4M027
PSC room air conditioner motor



H No. 4M152
PSC room air conditioner motor



J No. 1D207
PSC blower motor

For Additional Information About Motors on This Spread See page 82

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

## ORDERING DATA

| Key | Bearings | Mounting | Encl. | NEMA Frame | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Rotation | Brand | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Sleeve | Stud | TEAO | 48YZ | 5 5/8 | 1/2 x 3 3/4 | 4 1/2 | CW-VFSE | GE (3154) | **4M559** | $101.00 | **$63.25** | 12.0 | 6X653 | $4.16 |
| B | Sleeve | Stud | OPAO | 48YZ | 5 5/8 | 1/2 x 4 3/4 & 5 5/16 | 4 3/32 | CCW-VFLE | GE (3070) | **3M487** | 157.00 | **98.30** | 13.0 | 6X653 | 4.16 |
| C | Sleeve | Band | TEAO | 42YZ | 5 | 1/2 x 1 3/4 | 4 3/32 | CW-VFSE | GE | **4M168** | 120.00 | **76.55** | 8.0 | 6X652 | 4.62 |
| D | Sleeve | Cradle | OPAO | 48YZ | 5 5/8 | 1/2 x 6 & 6 5/8 | 6 29/32 | CCW-VFLE | GE (3122) | **4M563** | 167.00 | **104.55** | 16.0 | Included | |
| E | Sleeve | Stud | TEAO | 48YZ | 5 5/8 | 1/2 x 4 9/16 & 3 3/1 | 5 1/16 | CCW-VFLE | Dayton | **4M005** | 137.00 | **99.30** | 15.0 | 5M003 | 4.47 |
| F | Sleeve | Stud | TEAO | 48Y | 5 5/8 | 1/2 x 1 5/16 | 4 1/16 | CCW-VFSE | Dayton | **1D210** | 130.00 | **103.10** | 9.0 | 5M002 | 4.39 |
| G | Sleeve | Band | OPAO | 42YZ | 5 | 1/2 x 5 5/16 ea | 4 29/32 | CW-VFLE | GE (2091) | **4M027** | 135.00 | **86.15** | 11.0 | 6X653 | 4.16 |
| H | Sleeve | Band | OPAO | 42YZ | 5 | 1/2 x 5 5/8 ea | 5 1/8 | CW-VFLE | Dayton | **4M152** | 104.00 | **86.95** | 14.0 | 5M003 | 4.47 |
| F | Sleeve | Stud | TEAO | 48Y | 5 5/8 | 1/2 x 2 3/1 | 4 13/16 | CCW-VFSE | Dayton | **1D211** | 134.00 | **106.30** | 13.0 | 5M003 | 4.47 |
| J | Sleeve | Band | OPAO | 48Y | 5 5/8 | 1/2 x 4 1/2 | 4 13/16 | CW-VFSE | Dayton | **1D208** | 155.00 | **123.35** | 15.0 | 5M006 | 6.60 |
| F | Sleeve | Stud | TEAO | 48Y | 5 5/8 | 1/2 x 3 1/2 | 4 13/16 | CCW-VFSE | Dayton | **1D209** | 141.00 | **112.00** | 15.0 | 5M005 | 5.51 |
| J | Sleeve | Band | OPAO | 48Y | 5 5/8 | 1/2 x 3 1/2 | 6 1/16 | CW-VFSE | Dayton | **1D207** | 176.00 | **140.40** | 21.0 | 5M008 | 9.45 |

# 3-PHASE COMMERCIAL ROOFTOP BELT-DRIVE FAN AND BLOWER MOTORS

## 3-PHASE OPEN DRIPPROOF, RIGID WELDED BASE

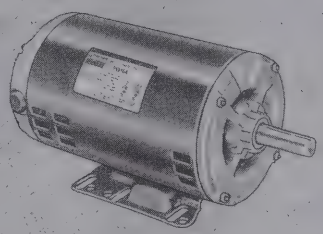
### CONTRACTOR FRIENDLY™ FEATURES

- **Three posts replace line leads for quick and easy wiring**
- **Quick voltage change plugs change voltage without major reconnection**
- **Copper windings**

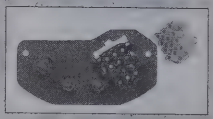
**Typical Uses:** New and replacement use in 5 to 15 ton and larger commercial outdoor condensers.
**Special Features:** Quick voltage changing plug for ease of installation. Dual voltage. Water slinger on shaft.
**Type:** 3-phase
**Bearings:** Sealed ball
**Mounting:** Rigid welded base
**Enclosure:** Open dripproof
**Thermal: Protection:** Auto
**Insulation:** Class: B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton®

E47479



No. 3N816



Quick Voltage Changing Plugs

Replacement Parts Available 1-800-323-0620™

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Length Less Shaft (In.) | Shaft Dimensions Dia. x Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1725 | 56 | 208-230/460 | 3.3-3.4/1.7 | 1.15 | 10 | 5/8 x 1⅞ | **3N813** | $281.00 | **$209.25** | 24.0 |
| 1½ | 1725 | 56H | 208-230/460 | 5.2-5.2/2.6 | 1.15 | 10½ | 5/8 x 1⅞ | **3N814** | 303.00 | **225.75** | 27.0 |
| 2 | 1725 | 56H | 208-230/460 | 6.6-6.8/3.5 | 1.15 | 10¾ | 5/8 x 1⅞ | **3N815** | 334.00 | **248.25** | 29.0 |
| 3 | 1725 | 143T | 208-230/460 | 8.8-8.8/4.4 | 1.15 | 11¼ | 7/8 x 2¼ | **3N816** | 373.00 | **278.00** | 45.0 |

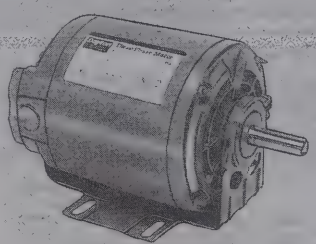
## 3-PHASE OPEN DRIPPROOF, CRADLE BASE

- **NEMA service factors up to 1.35 provide a reserve margin for intermittent overloading or fluctuating (high/low) voltage conditions**
- **Operable on 60/50 Hz at same HP rating and service factor**
- **NEMA design B**

**Typical Uses:** Pumps, fans, blowers, machine tools, air compressors, and other moderate to hard-starting applications where 3-phase power is available.
**Type:** 3-phase
**Bearings:** Double-shielded ball
**Mounting:** Cradle base
**Enclosure:** Open dripproof
**Windings:** Copper
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton®

E47479



No. 3N026

Replacement Parts Available 1-800-323-0620™

**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

| HP | Nameplate RPM at: 60 Hz | 50 Hz | NEMA Frame | Thermal Protection | Volts 60/50 Hz* | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 1425 | 56 | None | 208-220/440 | 1.5-1.6/0.8 | 1.35 | 66.0 | A | **3N026** | $171.00 | **$131.05** | 18.0 |
| 1/2 | 3450 | 2850 | 56 | Auto | 208-220/440 | 2.3-2.5/1.2 | 1.25 | 66.0 | B | **3N634** | 169.00 | **129.40** | 20.0 |
| 1/2 | 1725 | 1425 | 56 | None | 208-220/440 | 2.0-2.0/1.0 | 1.25 | 72.0 | A | **3N027** | 197.00 | **144.85** | 22.0 |
| 3/4 | 3450 | 2850 | 56 | Auto | 208-220/440 | 2.8-3.0/1.5 | 1.25 | 70.0 | A | **3N635** | 197.00 | **150.50** | 21.0 |
| 3/4 | 1725 | 1425 | 56 | None | 208-220/440 | 2.8-2.7/1.4 | 1.25 | 77.0 | A | **3N487** | 207.00 | **153.00** | 23.0 |
| 1 | 3450 | 2850 | 56 | Auto | 208-220/440 | 3.5-3.6/1.8 | 1.25 | 77.0 | A | **3N636** | 225.00 | **172.50** | 23.0 |
| 1 | 1725 | 1425 | 56 | None | 208-220/440 | 3.4-3.4/1.7 | 1.25 | 78.5 | A | **3N488** | 236.00 | **168.50** | 26.0 |
| 1½ | 3450 | 2850 | 56 | Auto | 208-220/440 | 4.8-4.6/2.3 | 1.15 | 77.0 | A | **3N637** | 268.00 | **205.50** | 28.0 |
| 1½ | 1725 | 1425 | 56 | None | 208-220/440 | 5.0-5.0/2.5 | 1.20 | 81.5 | A | **3N489** | 278.00 | **213.00** | 33.0 |
| 2 | 3450 | 2850 | 56 | Auto | 208-220/440 | 6.2-6.2/3.1 | 1.15 | 81.5 | B | **3N638** | 310.00 | **219.50** | 31.0 |

(*) Operable on 50 Hz, 190/380V, at 50 Hz RPM.

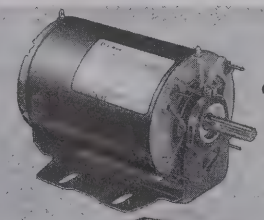
# 3-PHASE BELT-DRIVE FAN AND BLOWER MOTORS

**Typical Uses:** Designed for commercial and industrial fans, air handlers, exhaust fans, blowers, and other air-moving applications.

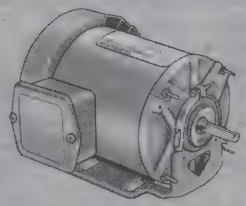
**Special Features:** Cast aluminum endshields.

**Type:** 3-phase
**Bearings:** Ball
**Thermal Protection:** None
**Insulation Class:** B (except No. 4N049 is Class A)
**Ambient:** 40°C (except No. 4N011 is 65°C)
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

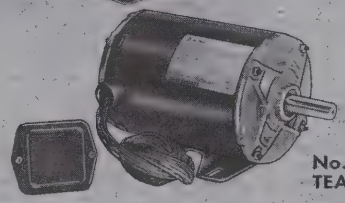
**Replacement Parts Available**
**1-800-323-0620**



No. 4N028 Open Dripproof Cradle Base with Studs



No. 4N001 TEFC Cradle Base with Studs



No. 4N011 TEAO Rigid Base

## OPEN DRIPPROOF

| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60Hz | Full-Load Amps At Nameplate Volts | Service Factor | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 48Z* | Op Dp | 230/460 | 1.4/0.7 | 1.35 | Cradle/Stud | K275 | **4N025** | $166.00 | **$119.55** | 14.0 |
| 1/2 | 1725 | 56 | Op Dp | 203-230/460 | 2.1-2.2/1.1 | 1.25 | Cradle/Stud | K381 | **4N026** | 216.00 | **154.50** | 19.0 |
| 3/4 | 1725 | 56 | Op Dp | 230/460 | 2.8/1.4 | 1.25 | Cradle/Stud | K277 | **4N028** | 241.00 | **170.25** | 21.0 |
| 1 | 1725 | 56 | Op Dp | 208-230/460 | 3.4-3.2/1.6 | 1.15 | Cradle/Stud | K278 | **4N029** | 253.00 | **176.00** | 24.0 |

## OPEN DRIPPROOF, TWO SPEED

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Enclosure | Volts 60Hz | Full-Load Amps At Nameplate Volts | Service Factor | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1/6 | 1725/1140 | 56 | Op Dp | 200-230 | 2.4-2.8/1.5-1.7 | 1.25 | Cradle/Stud | K544 | **4N047** | $346.00 | **$239.50** | 26.0 |
| | | 1725/1140 | 56 | Op Dp | 460 | 1.1/0.6 | 1.25 | Cradle/Stud | K546 | **4N049** | 346.00 | **239.25** | 25.0 |
| 3/4 | 1/4 | 1725/1140 | 56 | Op Dp | 200-230 | 2.8-3.0/1.6-1.8 | 1.25 | Cradle/Stud | K279 | **4N050** | 411.00 | **284.50** | 32.0 |
| | | 1725/1140 | 56 | Op Dp | 460 | 1.3/0.7 | 1.25 | Cradle/Stud | K280 | **4N052** | 411.00 | **284.50** | 33.0 |
| 1 | 1/3 | 1725/1140 | 56 | Op Dp | 200-230 | 4.0-4.2/2.2-2.4 | 1.15 | Cradle/Stud | K518 | **4N053** | 427.00 | **295.50** | 37.0 |
| | | 1725/1140 | 56 | Op Dp | 460 | 1.8/1.1 | 1.15 | Cradle/Stud | K519 | **4N055** | 427.00 | **295.50** | 38.0 |
| 1 1/2 | 1/2 | 1725/1140 | 56H | Op Dp | 200-230 | 5.0-5.3/2.8-3.1 | 1.15 | Cradle/Stud | K520 | **4N056** | 454.00 | **314.75** | 48.0 |
| | | 1725/1140 | 56H | Op Dp | 460 | 2.3/1.4 | 1.15 | Cradle/Stud | K549 | **4N058** | 454.00 | **314.75** | 47.0 |

## TOTALLY ENCLOSED

| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60Hz | Full-Load Amps At Nameplate Volts | Service Factor | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 48 | TEFC | 230/460 | 1.4/0.7 | 1.0 | Cradle/Stud | K538 | **4N001** | $214.00 | **$153.50** | 16.0 |
| | 1725 | 48 | TEAO | 230/460 | 1.4/0.7 | 1.0 | Cradle/Stud | K281 | **4N003** | 175.00 | **125.95** | 14.0 |
| | 1140 | 56 | TEAO | 230/460 | 1.4/0.7 | 1.0 | Cradle/Stud | K282 | **4N004** | 279.00 | **193.75** | 18.0 |
| 1/3 | 1725 | 48 | TEAO | 230/460 | 1.5/0.8 | 1.0 | Cradle/Stud | K283 | **4N005** | 197.00 | **141.05** | 15.0 |
| 1/2 | 1140 | 56 | TEFC | 208-230/460 | 3.4-3.2/1.6 | 1.0 | Cradle/Stud | K541 | **4N002** | 354.00 | **245.00** | 28.0 |
| | 1725 | 56 | TEAO | 208-230/460 | 2.3-2.2/1.1 | 1.0 | Cradle/Stud | K284 | **4N006** | 229.00 | **162.00** | 18.0 |
| | 1140 | 56 | TEAO | 208-230/460 | 2.6-2.6/1.3 | 1.0 | Cradle/Stud | K285 | **4N007** | 328.00 | **227.00** | 26.0 |
| 3/4 | 1725 | 56 | TEAO | 208-230/460 | 3.3-3.0/1.5 | 1.0 | Cradle/Stud | K286 | **4N009** | 275.00 | **182.50** | 21.0 |
| 1 | 1725 | 56 | TEAO | 208-230/460 | 3.6-3.8/1.9 | 1.0 | Cradle/Stud | K525 | **4N010** | 258.00 | **183.25** | 27.0 |
| 2 | 1725 | 145T | TEAO | 208-230/460 | 6.5-6.6/3.3 | 1.0 | Rigid | K1396 | **4N011**† | 413.00 | **286.00** | 33.0 |

(*) Nonstandard 1⅞" shaft. (†) Designed for 65°C ambient, 30" leads out 3/4-14 conduit adapter welded to shell at 3 o'clock position. Conduit box furninshed with motor.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

FAN/BLOWER MOTORS

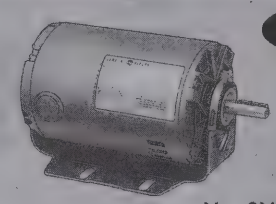
# BELT-DRIVE FAN AND BLOWER MOTORS

## GE 3-PHASE, AUTOMATIC THERMAL PROTECTION

**Typical Uses:** Commercial and industrial air handlers, exhaust fans and blowers.

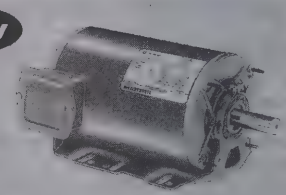
**Type:** 3-phase
**Bearings:** Ball
**Enclosure:** Open dripproof
**Thermal Protection:** Auto

**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE



No. 3N845

New



No. 4N022

| HP | Nameplate RPM | NEMA Frame | Volts 60Hz | Full-load Amps at Nameplate Volts | Service Factor | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1725 | 56 | 208-230/460 | 2.1-2.2/1.1 | 1.25 | Cradle/Studs | K1408 | **3N845** | $251.00 | **$194.00** | 19.0 |
| 3/4 | 3450 | 56 | 208-230/460 | 2.6-2.6/1.3 | 1.25 | Cradle | K1409 | **4N016** | 249.00 | **188.00** | 17.0 |
| 3/4 | 1725 | 56 | 208-230/460 | 2.8-2.8/1.4 | 1.25 | Cradle/Studs | K1410 | **3N846** | 273.00 | **209.75** | 22.0 |
| 1 | 3450 | 56 | 208-230/460 | 3.3-3.2/1.6 | 1.25 | Cradle | K1411 | **4N017** | 270.00 | **205.75** | 22.0 |
| 1 | 1725 | 56 | 208-230/460 | 3.4-3.2/1.6 | 1.15 | Cradle/Studs | K1412 | **3N847** | 286.00 | **220.00** | 25.0 |
| 1½ | 3450 | 56H | 208-230/460 | 5.0-4.8/2.4 | 1.15 | Cradle/Studs | K1413 | **4N018** | 304.00 | **234.00** | 24.0 |
| 1½ | 1725 | 145T | 208-230/460 | 4.6-4.4/2.2 | 1.15 | Cradle | K2030 | ***New* 4TD95** | 388.00 | **286.50** | 40.0 |
| 1½ | 1725 | 56H | 208-230/460 | 5.1-5.0/2.5 | 1.15 | Cradle/Studs | K1415 | **3N848** | 302.00 | **233.25** | 33.0 |
| 2 | 3450 | 56H | 208-230/460 | 6.6-6.0/3.0 | 1.15 | Cradle/Studs | K1416 | **4N020** | 355.00 | **264.75** | 32.0 |
| 2 | 1725 | 145T | 208-230/460 | 6.2-5.8/2.9 | 1.15 | Cradle | K2040 | ***New* 4TD96** | 407.00 | **293.00** | 44.0 |
| 2 | 1725 | 56H | 208-230/460 | 6.5-6.6/3. | 1.15 | Cradle/Studs | K1418 | **3N849** | 347.00 | **266.75** | 41.0 |
| 3 | 3450 | 145T | 208-230/460 | 8.9-8.2/4.1 | 1.15 | Cradle/Studs | K2037 | ***New* 4TD97** | 452.00 | **317.25** | 44.0 |
| 5 | 3450 | 145T | 230/460 | 13.0/6.5 | 1.0 | Cradle/Studs | K2038 | ***New* 4TD98** † | 513.00 | **376.75** | 44.0 |

(‡) 16 cu.-in. conduit box.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL 507 Standard, proper thermal protection, and other motor selection information.**

## CAPACITOR-START, OPEN DRIPPROOF, SINGLE AND 2 SPEED

- **Quick connect terminals**
- **Electrically reversible**
- **Copper windings**
- **Tri-voltage models operate on all three voltage systems without de-rating**

**Typical Uses:** Designed for use on exhaust fans, belt-driven industrial blowers, and ventilators that require higher starting torque, lower starting amps, and smooth, quiet starting and running characteristics.

**Special Features:** Single speed motors meet NEMA performance requirements at all voltages.

Two speed models are specifically designed for diminishing torque, air-moving applications, such as belted or direct-drive fans and blowers.

**Type:** Capacitor-start

**Bearings:** All-angle sleeve or double-shielded ball

**Mounting:** Cradle base

**Thermal Protection:** Auto

**Ambient:** 40°C

**Duty:** Continuous

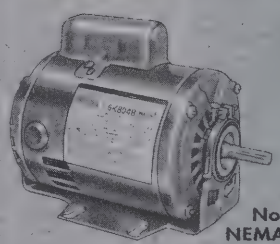
**Rotation:** CW/CCW

**Finish:** Gray

**Brand:** Dayton

Dayton®

E47479



No. 6K804
NEMA 48 Frame

### SINGLE SPEED

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 3450 | 48 | 115/208-230 | 4.0-4.3 | 1.25 | Sleeve | A | **6K804** | $155.00 | **$95.45** | 17.0 |
| 3/4 | 3450 | 56 | 115/208-230 | 9.2/5.0-4.7 | 1.25 | Sleeve | A | **5K900** | 202.00 | **127.60** | 21.0 |
| 1 | 3450 | 56 | 115/208-230 | 11.6/5.8-5.8 | 1.25 | Sleeve | A | **5K901** | 235.00 | **150.50** | 24.0 |
| 1 | 1725 | 56 | 115/208-230 | 14.0/7.2-7.0 | 1.15 | Sleeve | A | **6K157** | 318.00 | **174.50** | 30.0 |
| 1½ | 3450 | 56 | 115/208-230 | 17.0/9.2-8.5 | 1.15 | Ball | A | **6K830** | 324.00 | **212.75** | 33.0 |

### TWO SPEED

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1/4 | 1725/1140 | 56 | 115 | 9.2/6.0 | 1.0 | Sleeve | A | **5K529** | $220.00 | **$158.25** | 26.0 |
| 3/4 | 1/3 | 1725/1140 | 56 | 115 | 11.4/7.7 | 1.0 | Sleeve | B | **6K050** | 357.00 | **248.50** | 30.0 |
| 3/4 | 1/3 | 1725/1140 | 56 | 230 | 5.9/3.8 | 1.0 | Sleeve | B | **6K051** | 365.00 | **254.00** | 27.0 |
| 1 | 1/3 | 1725/1140 | 56 | 230 | 7.2/3.8 | 1.0 | Sleeve | B | **6K054** | 406.00 | **302.50** | 33.0 |

# BELT-DRIVE FAN AND BLOWER MOTORS

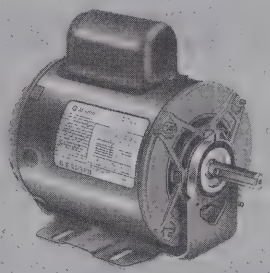
**Typical Uses:** Belt-drive furnace blowers, exhaust fans, circulating fans, and other similar belt-driven applications where a motor with smooth, quiet starting and running characteristics is desired.

**Special Features:** Single speed motors meet NEMA performance requirements at 115/208-230V, 60 Hz and are capable of operating on a 208V system. Serv-S-Line® models have studs that extend out shaft endshield for mounting fan guard.

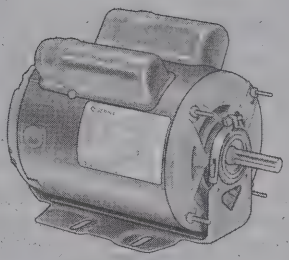
Two speed models are specifically designed for diminishing torque, air-moving applications, such as belted or direct-drive fans and blowers.

**Type:** Capacitor-start, single phase
**Bearings:** Prelubricated ball
**Enclosure:** Open dripproof
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

E47088



No. 3K094
56 Frame



No. 2K264
Serv-S-Line®
Cradle Base with Studs

**Replacement Parts Available**
**1-800-323-0620**

## SINGLE SPEED

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 3450 | 48 | 115/208-230* | 8.2/4.5-4.1 | 1.25 | Cradle | 1/2 x 1 1/2 | C1152 | **3K092** | $157.00 | **$113.00** | 20.0 |
| | 3450 | 48Z | 115/230* | 7.4/3.7 | 1.25 | Cradle/Stud | 1/2 x 2 1/4 | 4799 | **2K250** | 183.00 | **130.75** | 17.0 |
| | 1725 | 56 | 115/208-230* | 8.6/4.1-4.3 | 1.25 | Cradle/Stud | 5/8 x 1 7/8 | C1153 | **3K093** | 225.00 | **140.15** | 19.0 |
| 3/4 | 3450 | 48 | 115/208-230* | 10.0/5.5-5.0 | 1.25 | Cradle | 1/2 x 1 1/2 | C1154 | **2K253** | 201.00 | **144.15** | 18.0 |
| | 3450 | 56 | 115/208-230* | 10.0/5.5-5.0 | 1.25 | Cradle | 5/8 x 1 7/8 | C1155 | **3K094** | 205.00 | **146.75** | 21.0 |
| | 3450 | 56Z | 115/230* | 9.8/4.9 | 1.25 | Cradle/Stud | 1/2 x 2 1/4 | 4800 | **2K254** | 234.00 | **166.25** | 22.0 |
| | 1725 | 56 | 115/230 | 13.2/6.6 | 1.0 | Cradle/Stud | 5/8 x 1 7/8 | C1483 | **3VF58** | 307.00 | **181.50** | 25.0 |
| | 1725 | 56 | 115/208-230 | 13.3/6.5-6.0 | 1.25 | Cradle/Stud | 5/8 x 1 7/8 | C1156 | **3K095** | 278.00 | **164.75** | 30.0 |
| | 1725 | 56Z | 115/208-230* | 11.4/5.6-5.7 | 1.25 | Cradle/Stud | 5/8 x 2 1/4 | 4686 | **6K563** | 326.00 | **184.00** | 27.0 |
| 1 | 3450 | 56 | 115/208-230* | 13.4/7.4-6.7 | 1.25 | Cradle | 5/8 x 1 7/8 | C1157 | **3K096** | 239.00 | **171.00** | 23.0 |
| | 3450 | 56Z | 115/230* | 12.4/6.2 | 1.25 | Cradle/Stud | 5/8 x 2 1/4 | 4801 | **2K257** | 269.00 | **186.75** | 25.0 |
| | 1725 | 56 | 115/208-230 | 14.7/7.2-7.4 | 1.15 | Cradle | 5/8 x 1 7/8 | C1158 | **3K097** | 319.00 | **191.25** | 30.0 |
| | 1725 | 56Z | 115/208-230* | 14.4/7.2-7.2 | 1.15 | Cradle/Stud | 5/8 x 2 1/4 | 4688 | **6K767** | 358.00 | **209.00** | 35.0 |
| 1 1/2 | 3450 | 56H | 115/208-230 | 19.6/10.8-9.8 | 1.15 | Cradle | 5/8 x 1 7/8 | C1159 | **3K098** | 312.00 | **209.00** | 33.0 |
| | 1725 | 56H | 115/208-230 | 16.4/8.4-8.2 | 1.15 | Cradle | 5/8 x 1 7/8 | C1160 | **2K258†** | 364.00 | **239.00** | 35.0 |
| 2 | 3450 | 56H | 115/208-230 | 19.6/10.8-9.8 | 1.20 | Cradle | 5/8 x 1 7/8 | C1161 | **3K099†** | 392.00 | **255.50** | 37.0 |
| | 1725 | 56H | 115/208-230 | 22.0/10.9-11.0 | 1.15 | Cradle | 5/8 x 1 7/8 | C1162 | **2K259†** | 512.00 | **274.25** | 58.0 |

## TWO SPEED

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1/6 | 1725/1140 | 56 | 115 | 8.2/3.9 | 1.25 | Cradle/Stud | 5/8 x 1 7/8 | C419 | **2K261** | $346.00 | **$239.50** | 31.0 |
| 3/4 | 1/4 | 1725/1140 | 56 | 115 | 10.6/6.4 | 1.25 | Cradle/Stud | 5/8 x 1 7/8 | C474 | **2K264‡** | 378.00 | **261.75** | 40.0 |
| | | 1725/1140 | 56 | 230 | 4.5/3.2 | 1.25 | Cradle/Stud | 5/8 x 1 7/8 | C486 | **2K267†** | 386.00 | **266.50** | 42.0 |
| 1 | 1/3 | 1725/1140 | 56 | 115 | 13.8/8.4 | 1.15 | Cradle/Stud | 5/8 x 1 7/8 | C1478 | **3K083†** | 415.00 | **287.25** | 43.0 |
| | | 1725/1140 | 56 | 230 | 6.9/4.2 | 1.15 | Cradle/Stud | 5/8 x 1 7/8 | C1479 | **3K084†** | 423.00 | **292.75** | 43.0 |

(*) Usable on 200V at 1.0 service factor. (†) Capacitor-start, capacitor-run.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

### LIBRARY OF TECHNICAL MANUALS

Helpful reference books for the tradesman, student, and homeowner. Topics cover electricity, electric motors, welding, plumbing, refrigeration, air conditioning, pneumatics, hydraulics, and much more. See Index under Books, Technical.

# SPLIT-PHASE BELT-DRIVE FAN AND BLOWER MOTORS

**Typical Uses:** Fans, blowers, whole-house fans, air circulators, and air coolers where a quiet running motor is required.

**Special Features:** NEMA service factors of 1.25 to 1.4 are needed when intermittent overloading or fluctuating (high/low) voltage conditions may occur.

NEMA 42 frame is supplied with a relay and relay mounting clip instead of centrifugal switch.

NEMA 48Y frame cradles are notched for mounting in place of 48 or 56 frame cradle.

NEMA 56Z frame motors feature 1/2 x 1½" shaft with flat and are supplied with a 5/8" diameter shaft bushing.

Two speed models are specifically designed for diminishing torque, air-moving applications, such as belted or direct-drive fans and blowers.

**Commercial Duty Motors:** Feature higher starting torque than residential duty motors. Cooler running temperature ensures longer life performances.

**Type:** Split-phase, single phase

**Bearings:** All-angle sleeve or double-shielded ball

**Mounting:** Cradle base

**Thermal Protection:** Auto

**Shaft Diameters:** NEMA 42, 3/8"; NEMA 48, 1/2", NEMA 56, 5/8"

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** Gray except Nos. 3K771, 6K778, and 3K772, which are black

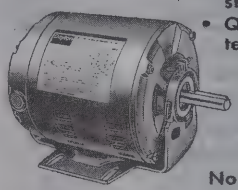
**Brand:** Dayton

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Dayton®

E47479

- Heavy 12 gauge steel base
- Quick connect terminal board



No. 5K416

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Shaft Dimensions (Inches) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE, OPEN DRIPPROOF, COMMERCIAL DUTY** | | | | | | | | | | | | |
| **1/12** | 1725 | 42 | 115 | 2.9 | 1.4 | Ball | B | 3/8 x 1¼ | **4K133#** | $114.00 | **$82.20** | 8.8 |
| **1/6** | 1725 | 48 | 115 | 3.5 | 1.35 | Sleeve | B | 1/2 x 1½ | **6K551** | 106.00 | **61.20** | 13.0 |
| | 1725 | 48 | 115/230 | 3.6/1.8 | 1.35 | Ball | B | 1/2 x 1½ | **3K613** | 124.00 | **69.95** | 15.0 |
| **1/4** | 1725 | 48 | 115 | 4.6 | 1.35 | Sleeve | B | 1/2 x 1½ | **6K553** | 114.00 | **64.35** | 15.0 |
| | 1725 | 48 | 115 | 5.4 | 1.0 | Sleeve | A | 1/2 x 1½ | **5K915** | 110.00 | **61.95** | 14.0 |
| | 1725 | 48 | 115/230 | 4.6/2.3 | 1.35 | Ball | B | 1/2 x 1½ | **3K614** | 131.00 | **72.20** | 15.0 |
| | 1725 | 48Y | 115 | 4.4 | 1.35 | Sleeve | A | 1/2 x 1½ | **5K907** | 114.00 | **79.00** | 15.0 |
| | 1725 | 48Y | 115/208-230 | 5.2/2.6 | 1.35 | Sleeve | B | 1/2 x 1½ | **3K091†** | 122.00 | **84.65** | 15.0 |
| | 1725 | 48Z | 115 | 4.7 | 1.35 | Ball | B | 1/2 x 1⅞ | **3ZP92** | 136.00 | **98.55** | 15.0 |
| | 1725 | 56Z | 115 | 5.4 | 1.0 | Ball | A | 1/2 x 1½ | **6K722†** | 118.00 | **91.45** | 15.0 |
| | 1725 | 56Z | 115 | 4.4 | 1.35 | Sleeve | A | 1/2 x 1½ | **5K977†** | 114.00 | **80.85** | 16.0 |
| | 1725 | 56Z | 115 | 5.4 | 1.0 | Sleeve | A | 1/2 x 1½ | **5K220†** | 110.00 | **79.65** | 15.0 |
| | 1725 | 56 | 115 | 4.4 | 1.35 | Sleeve | A | 5/8 x 1½ | **5K260** | 114.00 | **79.00** | 16.0 |
| **1/3** | 1725 | 48 | 115 | 6.8 | 1.0 | Ball | A | 1/2 x 1½ | **6K744** | 126.00 | **98.90** | 15.0 |
| | 1725 | 48 | 115 | 6.0 | 1.35 | Sleeve | B | 1/2 x 1½ | **6K570** | 133.00 | **95.95** | 16.0 |
| | 1725 | 48 | 115 | 6.8 | 1.0 | Sleeve | A | 1/2 x 1½ | **5K918** | 118.00 | **67.80** | 14.0 |
| | 1725 | 48 | 115 | 6.3 | 1.0 | Sleeve | B | 1/2 x 1½ | **3K384‡** | 120.00 | **83.20** | 14.0 |
| | 1725 | 48 | 115 | 6.5 | 1.35 | Ball | B | 1/2 x 1½ | **3ZP93** | 137.00 | **98.95** | 17.0 |
| | 1725 | 48 | 230 | 3.1 | 1.35 | Ball | B | 1/2 x 1½ | **3ZP94** | 146.00 | **105.80** | 17.0 |
| | 1725 | 48 | 115/230 | 6.0/3.0 | 1.35 | Ball | B | 1/2 x 1½ | **3K615** | 149.00 | **93.55** | 17.0 |
| | 1725 | 48Y | 230 | 2.8 | 1.35 | Sleeve | A | 1/2 x 1½ | **6K717** | 141.00 | **97.30** | 17.0 |
| | 1725 | 48Y | 115/208-230 | 6.6/3.1-3.3 | 1.35 | Sleeve | B | 1/2 x 1½ | **4K252†** | 141.00 | **97.30** | 19.0 |
| | 1725 | 56Z | 115 | 6.0 | 1.0 | Ball | A | 1/2 x 1½ | **5K413†** | 126.00 | **99.20** | 18.0 |
| | 1725 | 56Z | 115 | 5.8 | 1.35 | Sleeve | A | 1/2 x 1½ | **6K030†** | 133.00 | **93.85** | 17.0 |
| | 1725 | 56Z | 115 | 6.0 | 1.0 | Sleeve | A | 1/2 x 1½ | **5K221†** | 118.00 | **87.40** | 18.0 |
| | 1725 | 56 | 115 | 5.8 | 1.35 | Sleeve | A | 5/8 x 1⅞ | **5K261** | 133.00 | **91.60** | 19.0 |
| **1/2** | 1725 | 48 | 115 | 7.4 | 1.25 | Sleeve | B | 1/2 x 1½ | **6K589** | 186.00 | **106.55** | 19.0 |
| | 1725 | 48 | 115 | 8.8 | 1.0 | Sleeve | A | 1/2 x 1½ | **6K768** | 148.00 | **108.45** | 18.0 |
| | 1725 | 48 | 115/230 | 7.6/3.8 | 1.25 | Ball | B | 1/2 x 1½ | **3K616** | 202.00 | **134.40** | 20.0 |
| | 1725 | 48Y | 115/208-230 | 8.6/4.2-4.3 | 1.25 | Sleeve | B | 1/2 x 1½ | **4K259†** | 194.00 | **113.25** | 21.0 |
| | 1725 | 56 | 115 | 7.4 | 1.25 | Ball | B | 5/8 x 1⅞ | **3ZP95** | 169.00 | **122.40** | 20.0 |
| | 1725 | 56 | 230 | 3.8 | 1.25 | Ball | B | 5/8 x 1⅞ | **3ZP96** | 180.00 | **130.60** | 20.0 |
| | 1725 | 56Z | 115 | 7.0 | 1.25 | Sleeve | A | 1/2 x 1½ | **5K258†** | 186.00 | **119.55** | 20.0 |
| | 1725 | 56 | 115 | 8.6 | 1.0 | Ball | B | 5/8 x 1⅞ | **6K780** | 158.00 | **107.10** | 20.0 |
| | 1725 | 56 | 115 | 8.3 | 1.25 | Sleeve | A | 5/8 x 1⅞ | **5K416** | 186.00 | **105.50** | 20.0 |
| | 1725 | 56 | 115 | 8.6 | 1.0 | Sleeve | B | 5/8 x 1⅞ | **6K845** | 148.00 | **108.45** | 20.0 |
| | 1725 | 56 | 230 | 4.4 | 1.25 | Sleeve | A | 5/8 x 1⅞ | **6K729** | 194.00 | **133.95** | 21.0 |
| **3/4** | 1725 | 56 | 115 | 11.5 | 1.0 | Ball | B | 5/8 x 1⅞ | **3ZP97** | 197.00 | **142.55** | 23.0 |
| | 1725 | 56 | 115/230 | 11.4/5.7 | 1.25 | Ball | B | 5/8 x 1⅞ | **3K617** | 243.00 | **136.95** | 23.0 |
| | 1725 | 56 | 115/230 | 11.2/5.6 | 1.25 | Sleeve | A | 5/8 x 1⅞ | **6K624** | 235.00 | **167.50** | 24.0 |

(†) Supplied with 5/8" dia. shaft bushing. (‡) Shaft extends from lead end. (#) CSA Certified (CR9862).

CONTINUED ON NEXT PAGE

**ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY**
Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items.
See Index under Energy Saving Products.

# SPLIT-PHASE BELT-DRIVE MOTORS AND WHOLE-HOUSE/MOBILE FAN MOTORS

## DAYTON BELT-DRIVE FAN AND BLOWER MOTORS (Cont.)

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Insulation Class | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE, OPEN DRIPPROOF, RESIDENTIAL DUTY** | | | | | | | | | | | | | |
| **1/4** | — | 1725 | 48Y | 115 | 5.3 | 1.35 | Sleeve | A | 1/2 x 1 1/2 | **3K771†** | $111.00 | **$44.90** | 13.0 |
| **1/3** | — | 1725 | 48Y | 115 | 6.6 | 1.35 | Sleeve | A | 1/2 x 1 1/2 | **6K778†** | 123.00 | **49.00** | 16.0 |
| **1/2** | — | 1725 | 48Y | 115 | 8.5 | 1.25 | Sleeve | B | 1/2 x 1 1/2 | **3K772†** | 164.00 | **67.35** | 19.0 |
| **3/4** | — | 1725 | 56 | 115 | 11.0 | 1.0 | Sleeve | B | 5/8 x 1 7/8 | **1D170** | 189.00 | **123.60** | 17.0 |
| **TWO-SPEED‡, COMMERCIAL DUTY** | | | | | | | | | | | | | |
| **1/4** | **1/8** | 1725/1140 | 56Z* | 115 | 5.2/3.6 | 1.0 | Sleeve | B | 1/2 x 1 1/2 | **6K425** | 147.00 | **101.55** | 17.0 |
| **1/3** | **1/6** | 1725/1140 | 56Z* | 115 | 6.8/4.5 | 1.0 | Sleeve | A | 1/2 x 1 1/2 | **6K426** | 161.00 | **111.40** | 20.0 |
| | | 1725/1140 | 56 | 115 | 6.8/4.5 | 1.35 | Sleeve | A | 5/8 x 1 7/8 | **5K654** | 206.00 | **142.40** | 21.0 |
| **1/2** | **1/4** | 1725/1140 | 56 | 115 | 9.2/6.0 | 1.0 | Sleeve | A | 5/8 x 1 7/8 | **5K620** | 206.00 | **142.40** | 22.0 |
| | | 1725/1140 | 56 | 115 | 9.2/6.0 | 1.25 | Sleeve | A | 5/8 x 1 7/8 | **6K394** | 263.00 | **182.50** | 24.0 |
| **TWO-SPEED‡, REVERSIBLE, CONNECTED CCW (Canadian Standard)** | | | | | | | | | | | | | |
| **1/4** | **1/8** | 1725/1140 | 56Z | 115 | 5.1/2.5 | 1.0 | Sleeve | B | 1/2 x 1 1/2 | **4FG37** | 116.00 | **94.90** | 15.0 |
| **1/3** | **1/6** | 1725/1140 | 56Z | 115 | 6.4/4.0 | 1.0 | Sleeve | B | 1/2 x 1 1/2 | **4FG38** | 126.00 | **110.55** | 15.0 |
| **1/2** | **1/6** | 1725/1140 | 56Z | 115 | 8.7/5.1 | 1.0 | Sleeve | B | 1/2 x 1 1/2 | **4FG39** | 183.00 | **157.50** | 15.0 |

(*) Has extended studs out shaft endshield for mounting fan guard. 4 3/16" OC. (†) Supplied with 5/8" dia. shaft bushing. (‡) Two-speed switch No. 2X605 available on page 3622.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## WHOLE-HOUSE/MOBILE FAN MOTORS

- **Quick connect terminal board for easy wiring on 1/3 HP models**
- **Heavy-duty 12 gauge steel base**

**Typical Uses:** Replacement of original single and two speed belt-drive motors. Also suitable for use in other belt-drive fan and blower applications.

**Special Features:** On 48 frame models, shaft extends from lead end so motor can be mounted and wired without lead interference that may occur in some fans.

Two speed models are specifically designed for diminishing torque, air-moving applications, such as belted or direct-drive fans and blowers. Two-speed switch No. 2X605 available, see page 3622.

**Type:** Split-phase, single phase

**Bearings:** All-angle sleeve or double-shielded ball

**Mounting:** Cradle base

**Enclosure:** Open dripproof

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Ambient:** 40°C

**Duty:** Nos. 3K384, 3K386, and 3K371 are continuous; **No. 3K372 is continuous air-over**

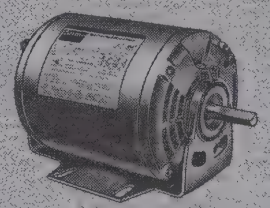
**Rotation:** CW/CCW

**Finish:** Gray

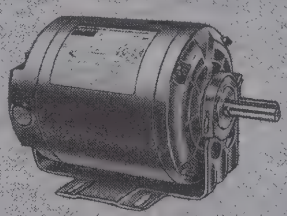
**Brand:** Dayton

Dayton®

E47479



No. 3K384
48 Frame
Shaft Extension
from Lead End



No. 3K372
For Use in High Volume, Heavy-Duty Mobile Air Circulators Found in Factories, Warehouses and Garages

Replacement Parts Available
1-800-323-0620™

### SINGLE-SPEED

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Insulation Class | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | 1725 | 48 | 115 | 6.3 | Sleeve | B | 1/2 x 1 1/2 | **3K384** | $120.00 | **$83.20** | 14.0 |

### TWO-SPEED

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Insulation Class | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | 32 Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | **1/9** | 1725/1140 | 48 | 115 | 7.1/3.7 | Sleeve | B | 1/2 x 1 1/2 | **3K386** | $161.00 | **$111.40** | 21.0 |
| **1/3** | **1/9** | 1725/1140 | 48 | 115 | 7.1/3.7 | Ball | B | 1/2 x 1 1/2 | **3K371** | 177.00 | **132.00** | 21.0 |
| **1/2** | **1/4** | 1725/1140 | 56 | 115 | 7.8/4.5 | Ball | B | 5/8 x 1 7/8 | **3K372** | 222.00 | **165.50** | 21.0 |

# SPLIT-PHASE BELT-DRIVE FAN AND BLOWER MOTORS

**Typical Uses:** Belt-drive furnace blowers, exhaust and circulating fans, and air coolers.

**Special Features:** NEMA 42 frame includes relay. NEMA 48Z frame has 1/2 x 1⅞" shaft. NEMA 48Y frame has cradle base with holes and slots to match mounting dimensions of either NEMA 48 or 56. Also supplied with 5/8" dia. shaft bushing. NEMA 56Z frame has nonstandard 1/2" dia. shaft with flat and is supplied with 5/8" dia. shaft bushing.

Two speed models are specifically designed for diminishing torque, air-moving applications, such as belted or direct-drive fans and blowers.

**Commercial Duty Motors:** Feature higher starting torque than residential duty motors and offer universal replacement. Cooler running temperature ensures longer life expectancy.

**Type:** Split-phase, single phase

**Thermal Protection:** Auto

**Insulation Class:** B

**Ambient:** 40°C

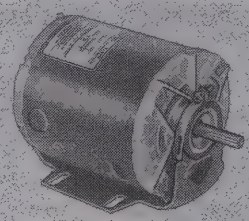
**Duty:** Continuous

**Rotation:** CW/CCW

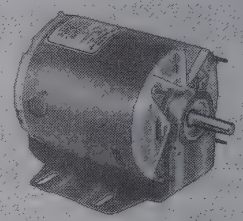
**Finish:** Gray

**Brand:** GE

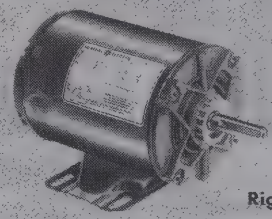
**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.



No. 6K647
Cradle Base



No. 2K270
Cradle Base with Studs



No. 2K280
Rigid Welded Base

Replacement Parts Available
1-800-323-0620

| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Mounting | Shaft Dim. (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE-SPEED, COMMERCIAL** | | | | | | | | | | | | | | |
| **1/12** | 1725 | 42 | Op Dpf | 115† | 2.1 | 1.4 | Sleeve | Cradle | 3/8 x 1⅛ | — | **3K403**‡ | $183.00 | **$116.85** | 10.0 |
| | 1140 | 48Z | Op Dpf | 115 | 2.4 | 1.4 | Ball | Cradle/Stud | 1/2 x 1⅞ | H152 | **2K270** | 155.00 | **110.75** | 15.0 |
| **1/8** | 1140 | 48Z | Op Dpf | 115 | 3.8 | 1.4 | Ball | Cradle/Stud | 1/2 x 1⅞ | H154 | **2K275** | 171.00 | **122.20** | 16.0 |
| | 850 | 56 | Op Dpf | 115 | 4.6 | 1.4 | Ball | Cradle/Stud | 5/8 x 1⅞ | H155 | **2K277** | 303.00 | **209.25** | 24.0 |
| **1/6** | 1725 | 48 | Op Dpf | 115 | 3.9 | 1.35 | Sleeve | Rigid | 1/2 x 1½ | 4349 | **2K280** | 109.00 | **68.80** | 11.0 |
| | 1725 | 48 | Op Dpf | 115 | 3.9 | 1.35 | Sleeve | Cradle | 1/2 x 1½ | 4314 | **6K566** | 114.00 | **71.55** | 12.0 |
| | 1725 | 48Z | Op Dpf | 115 | 3.9 | 1.35 | Ball | Cradle/Stud | 1/2 x 1⅞ | H157 | **3K116** | 130.00 | **88.70** | 12.0 |
| | 1725 | 56Z | Op Dpf | 115 | 3.9 | 1.35 | Sleeve | Cradle | 1/2 x 1⅞ | 4350 | **2K292** | 116.00 | **72.95** | 12.0 |
| | 1140 | 48Z | Op Dpf | 115 | 4.0 | 1.35 | Ball | Cradle/Stud | 1/2 x 1⅞ | H159 | **3K117** | 190.00 | **135.75** | 21.0 |
| **1/4** | 1725 | 48 | Op Dpf | 115 | 5.1 | 1.35 | Sleeve | Cradle | 1/2 x 1½ | 4305 | **6K576** | 109.00 | **75.65** | 13.0 |
| | 1725 | 48 | Op Dpf | 115 | 5.1 | 1.35 | Sleeve | Rigid | 1/2 x 1½ | 4362 | **2K290** | 118.00 | **72.30** | 13.0 |
| | 1725 | 48 | Op Dpf | 115 | 5.7 | 1.0 | Sleeve | Cradle | 1/2 x 1½ | 4301 | **6K461** | 118.00 | **72.95** | 12.0 |
| | 1725 | 48Y | Op Dpf | 115 | 5.1 | 1.35 | Ball | Cradle/Stud | 1/2 x 1½ | H701 | **3VG31** | 97.00 | **55.80** | 12.0 |
| | 1725 | 56Z | Op Dpf | 115 | 5.1 | 1.35 | Sleeve | Cradle | 1/2 x 1⅞ | 4363 | **6K689** | 124.00 | **83.25** | 13.0 |
| | 1725 | 56Z | Op Dpf | 115 | 5.7 | 1.0 | Sleeve | Cradle | 1/2 x 1½ | 4364 | **2K293** | 120.00 | **80.45** | 13.0 |
| | 1725 | 48Z | Op Dpf | 115/230 | 5.0/2.5 | 1.35 | Ball | Cradle/Stud | 1/2 x 2¼ | 4680 | **6K555** | 141.00 | **99.50** | 13.0 |
| | 1725 | 48Z | Op Dpf | 115 | 5.1 | 1.15 | Ball | Rigid | 1/2 x 2¼ | H902 | **5M591**# | 87.00 | **54.50** | 13.0 |
| | 1140 | 56 | Op Dpf | 115 | 5.6 | 1.35 | Ball | Cradle/Stud | 5/8 x 1⅞ | H163 | **2K299** | 247.00 | **170.00** | 25.0 |
| **1/3** | 3450 | 48Z | Op Dpf | 115/230 | 6.8/3.4 | 1.35 | Ball | Cradle/Stud | 1/2 x 2¼ | 4798 | **2K304** | 143.00 | **102.65** | 15.0 |
| | 1725 | 48 | Op Dpf | 115 | 5.6 | 1.35 | Ball | Cradle | 1/2 x 1½ | 4308 | **1D033** | 148.00 | **99.95** | 14.0 |
| | 1725 | 48 | Op Dpf | 115 | 6.2 | 1.0 | Sleeve | Cradle | 1/2 x 1½ | 4310 | **6K647** | 128.00 | **79.90** | 14.0 |
| | 1725 | 48 | Op Dpf | 115 | 6.2 | 1.0 | Sleeve | Rigid | 1/2 x 1½ | 4380 | **6K646** | 123.00 | **70.45** | 15.0 |
| | 1725 | 48Y | Op Dpf | 115 | 6.6 | 1.35 | Sleeve | Cradle | 1/2 x 1½ | H711 | **3VG36** | 104.00 | **59.90** | 14.0 |
| | 1725 | 48Y | Op Dpf | 115 | 7.7 | 1.35 | Ball | Cradle | 1/2 x 1½ | H700 | **3VG30** | 182.00 | **104.10** | 18.0 |
| | 1725 | 48Z | Op Dpf | 115 | 6.2 | 1.35 | Ball | Cradle/Stud | 1/2 x 1⅞ | H165 | **3K121** | 159.00 | **108.10** | 16.0 |
| | 1725 | 56Z | Op Dpf | 115 | 6.2 | 1.0 | Sleeve | Cradle | 1/2 x 1½ | 4381 | **2K309** | 130.00 | **88.05** | 15.0 |
| | 1725 | 48 | Op Dpf | 230 | 3.1 | 1.35 | Ball | Cradle | 1/2 x 1½ | 4309 | **1D034** | 157.00 | **106.85** | 15.0 |
| | 1725 | 48 | Op Dpf | 230 | 3.3 | 1.0 | Sleeve | Cradle | 1/2 x 1½ | 4311 | **6K653** | 139.00 | **88.20** | 14.0 |
| | 1725 | 48Z | Op Dpf | 230 | 3.3 | 1.35 | Ball | Cradle/Stud | 1/2 x 1⅞ | H167 | **2K313** | 169.00 | **115.80** | 16.0 |
| | 1725 | 48Z | Op Dpf | 115 | 5.5 | 1.15 | Ball | Rigid | 1/2 x 2¼ | H904 | **5M593**# | 94.00 | **58.95** | 14.0 |
| | 1725 | 56Z | Op Dpf | 115/230* | 6.2/3.1 | 1.35 | Ball | Cradle/Stud | 1/2 x 2¼ | 4682 | **6K560** | 159.00 | **112.15** | 17.0 |
| | 1140 | 56 | Op Dpf | 115/230 | 7.0/3.5 | 1.35 | Ball | Cradle/Stud | 5/8 x 1⅞ | H621 | **2K314** | 289.00 | **200.25** | 32.0 |

(*) Usable on 200V at 1.0 service factor. (†) 60/50 Hz. (‡) Includes relay. (#) Galvanized steel endshield.

CONTINUED ON NEXT PAGE



*Need reliable fan and blower motors? You've come to the right place.*

# SPLIT-PHASE BELT-DRIVE FAN AND BLOWER MOTORS

## GE SPLIT-PHASE BELT-DRIVE FAN AND BLOWER MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Mounting | Shaft Dim. (In.) Dia. x L | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE-SPEED, COMMERCIAL** | | | | | | | | | | | | | | |
| **1/2** | 1725 | 56 | Op Dp | 115 | 8.3 | 1.0 | Ball | Cradle | 5/8 x 1 7/8 | 4601 | **1D044** | $168.00 | **$117.05** | 18.0 |
| | 1725 | 56Z | Op Dp | 115 | 8.3 | 1.0 | Ball | Cradle/Stud | 1/2 x 1 1/2 | 4778 | **1D055** | 168.00 | **115.75** | 20.0 |
| | 1725 | 56 | Op Dp | 115 | 8.9 | 1.25 | Ball | Cradle/Stud | 5/8 x 1 7/8 | H248 | **3K123** | 216.00 | **125.80** | 18.0 |
| | 1725 | 48 | Op Dp | 115 | 7.1 | 1.25 | Ball | Cradle/Stud | 1/2 x 1 1/2 | H694 | **1D088** | 205.00 | **123.75** | 20.0 |
| | 1725 | 48Z | Op Dp | 115 | 7.9 | 1.0 | Ball | Cradle/Stud | 1/2 x 2 1/4 | H710 | **3VG35** | 179.00 | **105.70** | 15.0 |
| | 1725 | 56Z | Op Dp | 115 | 7.3 | 1.15 | Ball | Rigid/Stud | 5/8 x 2 1/4 | H906 | **5M595**# | 110.00 | **68.95** | 15.0 |
| | 1725 | 56 | Op Dp | 230 | 4.5 | 1.25 | Ball | Cradle | 5/8 x 1 7/8 | 4393 | **1D042** | 212.00 | **131.85** | 19.0 |
| | 1725 | 56 | Op Dp | 230 | 4.2 | 1.0 | Ball | Cradle | 5/8 x 1 7/8 | 4602 | **1D045** | 176.00 | **123.95** | 19.0 |
| | 1725 | 56Z | Op Dp | 115/230 | 8.9/4.5 | 1.25 | Ball | Cradle/Stud | 1/2 x 2 1/4 | 4684 | **6K561** | 216.00 | **126.85** | 18.0 |
| | 1140 | 56 | Op Dp | 115 | 9.0 | 1.25 | Ball | Cradle/Stud | 5/8 x 1 7/8 | H298 | **2K326** | 369.00 | **255.25** | 39.0 |
| **3/4** | 1725 | 56 | Op Dp | 115 | 11.4 | 1.0 | Ball | Cradle | 5/8 x 1 7/8 | 4338 | **1D035** | 204.00 | **143.95** | 21.0 |
| | | 56Z | Op Dp | 115 | 10.5 | 1.15 | Ball | Rigid/Stud | 5/8 x 2 1/4 | H908 | **5M597**# | 134.00 | **83.95** | 17.0 |
| **SINGLE-SPEED, RESIDENTIAL** | | | | | | | | | | | | | | |
| **1/4** | 1725 | 48Y | Open | 115 | 5.1 | 1.35 | Sleeve | Cradle | 1/2 x 1 1/2 | 4701 | **3K110** | 87.00 | **49.30** | 13.0 |
| **1/3** | 1725 | 48Y | Open | 115 | 6.6 | 1.35 | Sleeve | Cradle | 1/2 x 1 1/2 | 4706 | **3K111** | 93.00 | **53.20** | 15.0 |
| **1/2** | 1725 | 48Y | Open | 115 | 7.9 | 1.25 | Ball | Cradle | 1/2 x 1 1/2 | 4708 | **1D046** | 124.00 | **72.40** | 17.0 |

| HP at 1725 RPM | 1140 RPM | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Mounting | Shaft Dim. (In.) Dia. x L | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TWO-SPEED†, COMMERCIAL** | | | | | | | | | | | | | | | |
| **1/6** | **1/18** | 1725/1140 | 48 | Op Dp | 115 | 3.4/1.9 | 1.35 | Sleeve | Cradle | 1/2 x 1 1/2 | 4389 | **2K278** | $149.00 | **$103.30** | 16.0 |
| | | 1725/1140 | 48Z | Op Dp | 115 | 3.4/1.9 | 1.35 | Ball | Cradle/Stud | 1/2 x 1 7/8 | H170 | **2K279** | 167.00 | **115.75** | 16.0 |
| **1/4** | **1/12** | 1725/1140 | 48 | Op Dp | 115 | 4.2/2.7 | 1.35 | Sleeve | Cradle/Stud | 1/2 x 1 1/2 | 4399 | **3K597** | 173.00 | **119.20** | 18.0 |
| | | 1725/1140 | 48Z | Op Dp | 115 | 4.2/2.7 | 1.35 | Ball | Cradle/Stud | 1/2 x 1 7/8 | H172 | **2K287** | 190.00 | **135.75** | 20.0 |
| | | 1725/1140 | 48 | Op Dp | 230 | 2.1/1.3 | 1.35 | Sleeve | Cradle | 1/2 x 1 1/2 | 4412 | **2K228** | 181.00 | **128.05** | 21.0 |
| | | 1725/1140 | 56Z | Op Dp | 115 | 5.2/2.8 | 1.0 | Ball | Cradle/Stud | 1/2 x 2 | H704 | **3VG32** | 176.00 | **100.65** | 17.0 |
| **1/3** | **1/8** | 1725/1140 | 56Z | Op Dp | 115 | 6.0/3.8 | 1.0 | Ball | Cradle/Stud | 1/2 x 2 | H706 | **3VG34** | 202.00 | **115.50** | 19.0 |
| **1/3** | **1/9** | 1725/1140 | 48 | Op Dp | 115 | 6.3/3.1 | 1.0 | Sleeve | Cradle/Stud | 1/2 x 1 1/2 | 4319 | **6K514** | 178.00 | **107.40** | 21.0 |
| **1/3** | **1/9** | 1725/1140 | 56 | Op Dp | 115 | 5.7/3.2 | 1.35 | Ball | Cradle/Stud | 5/8 x 1 7/8 | H174 | **2K305** | 239.00 | **170.25** | 25.0 |
| **1/3** | **1/15** | 1725/850 | 56Z | Op Dp | 115 | 4.7/2.6 | 1.0 | Ball | Cradle/Stud | 1/2 x 2 | H705 | **3VG33** | 307.00 | **175.75** | 29.0 |
| **1/2** | **1/6** | 1725/1140 | 56 | Op Dp | 115 | 8.4/4.8 | 1.0 | Ball | Cradle/Stud | 5/8 x 1 7/8 | H131 | **1D081*** | 225.00 | **159.50** | 21.0 |
| | | 1725/1140 | 56 | Op Dp | 115 | 8.0/4.2 | 1.25 | Ball | Cradle/Stud | 5/8 x 1 7/8 | H176 | **2K318** | 299.00 | **207.25** | 29.0 |
| | | 1725/1140 | 56 | Op Dp | 230 | 4.1/2.4 | 1.0 | Ball | Cradle/Stud | 5/8 x 1 7/8 | H133 | **1D082*** | 235.00 | **166.75** | 21.0 |

(*) Duty: air-over. (†) Two-speed switch No. 2X605 available, see page 3622. (#) Galvanized steel endshields.

## HIGH EFFICIENCY SPLIT-PHASE START/CAPACITOR-RUN, OPEN DRIPPROOF, SINGLE SPEED

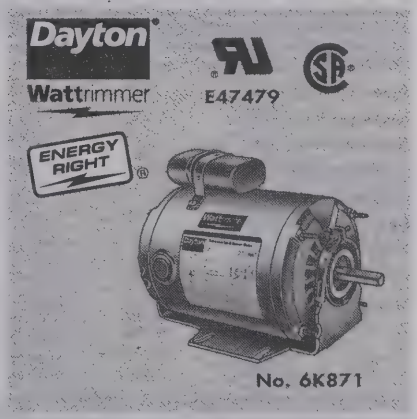
**Typical Uses:** High efficiency performance in furnace blowers, and other belt-driven fan and blower applications. All models have the starting torque of split-phase motors but use less electricity when running because they are capacitor-run.
**Special Features:** Studs extend out shaft endshield for mounting to fan guard. Capacitor included.
**Type:** Split-phase start/capacitor run

**Bearings:** All-angle sleeve
**Mounting:** Cradle base
**Thermal Protection:** Auto
**Insulation Class:** A
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

**CAUTION:** **Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1725 | 48Y* | 115 | 3.2 | 1.35 | ✓**6K870** | $135.00 | **$93.30** | 16.0 |
| **1/3** | 1725 | 48Y* | 115 | 4.1 | 1.35 | ✓**6K871** | 153.00 | **105.75** | 19.0 |
| **1/2** | 1725 | 56Z† | 115 | 5.2 | 1.25 | ✓**6K872** | 206.00 | **142.40** | 25.0 |
| **3/4** | 1725 | 56 | 115 | 9.0 | 1.25 | ✓**6K857** | 261.00 | **181.00** | 25.0 |

(*) NEMA 48Y frame motors have cradle base with holes and slots to match mounting dimensions of either NEMA 48 or 56 frame. (✓) Denotes energy efficient product.
(†) NEMA 56Z frame motor has nonstandard 1/2" dia. shaft with flat and is supplied with 5/8" dia. shaft bushing.



No. 6K871

### ESTIMATED YEARLY POWER COST SAVINGS for HEATING/COOLING

**Dayton Wattrimmer Compared to Standard Fan and Blower Motor**

| HP | Average Expected Watts Saved | Typical‡ Hrs. Usage per Year | SAVINGS PER YEAR at 5¢ per KwH | at 8¢ per KwH | at 10¢ per KwH | at 12¢ per KwH |
|---|---|---|---|---|---|---|
| 1/4 | 60 | 2400 | $8.64 | $11.52 | $14.40 | $17.28 |
| 1/3 | 86 | 2400 | 12.38 | 16.51 | 20.64 | 24.77 |
| 1/2 | 82 | 2400 | 11.81 | 15.74 | 19.68 | 23.62 |
| 3/4 | 88 | 2400 | 12.67 | 16.90 | 21.12 | 25.34 |

(‡) Hours will vary depending on weather and personal preference.

# SPLIT-PHASE BELT-DRIVE FAN AND BLOWER MOTORS

## SPLIT-PHASE, OPEN DRIPPROOF, ADJUSTABLE MOUNTING RING

**Typical Uses:** Replacing NEMA 48 and 56 frame belt-driven furnace blower motors.

**Special Features:** Designed with the contractor in mind. Adjustable resilient mounting rings can be varied as much as 1 1/16" to fit most existing base lengths. All models have extra features shown for maximum flexibility on field service calls.

**Type:** Split-phase

**Bearings:** All-angle sleeve

**Thermal Protection:** Auto

**Insulation Class:** B

**NEMA Frame:** 48Y

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** Gray

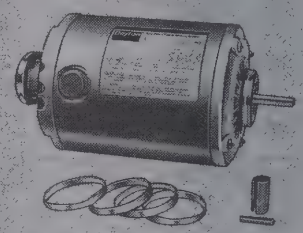
**Brand:** Dayton



**CONTRACTOR FRIENDLY™ FEATURES**

- **Adjustable mounting ring. Align shaft end resilient ring and adjust other resilient ring along extended hub until it matches length of old motor.**
- **Adjustable ring diameters. Supplied with 2½" diameter rings. If 2¼" diameter is required, remove snap-on split bands (included).**
- **Adjustable shaft diameters. Motor has 1/2" dia. shaft with flat. For 5/8" dia. use shaft adapter with key (included).**

Dayton® E47479



No. 6K895

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Resilient Mounting Rings OC (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 115 | 5.1 | 1.35 | 6 7/16 to 7 1/2 | 8 | 6K890 | $93.00 | $59.85 | 12.0 |
| 1/3 | 1725 | 115 | 5.5 | 1.35 | 6 15/16 to 8 | 8 1/2 | 6K892 | 100.00 | 71.60 | 16.0 |
| 1/2 | 1725 | 115 | 8.0 | 1.25 | 7 15/16 to 9 | 9 1/2 | 6K895 | 186.00 | 83.75 | 17.0 |

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.**

## SPLIT-PHASE, OPEN DRIPPROOF, PDQ ADJUSTABLE MOUNTING RING

**Typical Uses:** Replacing NEMA 48 and 56 frame belt-driven furnace blower motors.

**Special Features:** Distance between resilient mounting rings can be varied as much as 1¼" to fit most existing base lengths. All models have extra features shown for maximum flexibility on field service calls.

**Type:** Split-phase

**Bearings:** Ball

**Thermal Protection:** Auto

**Insulation Class:** B

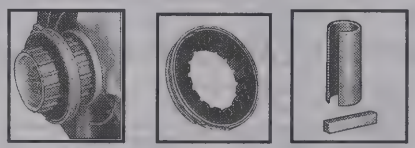
**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

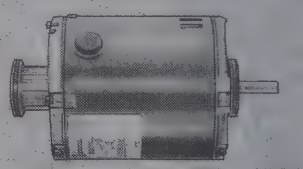
**Finish:** Gray

**Brand:** GE



- **Adjustable mounting ring. Align shaft end resilient ring and adjust other resilient ring along extended hub until it matches length of old motor.**
- **Two ring diameters. Supplied with 2½" diameter rings. If 2¼" diameter is required, remove snap-on split bands (included).**
- **Two shaft diameters. Motor has 1/2" diameter shaft with flat. For 5/8" diameter use shaft adapter with key (included).**

GE E47088



No. 1D047

**Replacement Parts Available 1-800-323-0620**

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Resilient Mounting Rings OC (In.) | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 48Y | 115 | 5.0 | 1.35 | 6 5/16 to 7 5/8 | 8 | 4730 | 1D047 | $87.00 | $64.75 | 12.0 |
| 1/4 | 1725 | 48Y | 115 | 5.1 | 1.35 | 6 17/32 | 8 13/16 | 4733 | 3UV04 | 110.00 | 63.05 | 12.0 |
| 1/3 | 1725 | 48Y | 115 | 5.8 | 1.35 | 7 1/16 to 8 5/16 | 8 11/16 | 4731 | 1D048 | 93.00 | 78.20 | 15.0 |
| 1/3 | 1725 | 48Y | 115 | 6.6 | 1.35 | 6 25/32 | 9 | 4734 | 3UV05 | 118.00 | 67.35 | 10.0 |
| 1/3 | 1725 | 48Y | 230 | 3.1 | 1.35 | 7 1/16 to 8 5/16 | 8 11/16 | 4738 | 1D050 | 153.00 | 116.70 | 15.0 |
| 1/2 | 1725 | 48Y | 115 | 7.9 | 1.25 | 7 1/8 to 8 3/4 | 9 1/16 | 4732 | 1D049 | 124.00 | 94.25 | 17.0 |
| 1/2 | 1725 | 48Y | 115 | 7.9 | 1.25 | 7 1/32 | 9 9/16 | 4735 | 3UV06 | 155.00 | 88.65 | 15.0 |
| 1/2 | 1725 | 48Y | 230 | 4.0 | 1.25 | 7 3/8 to 8 3/4 | 9 9/16 | 4739 | 1D051 | 191.00 | 142.10 | 19.0 |

# FACE-MOUNTED FAN MOTORS

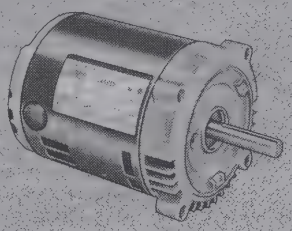
- **Dayton models provide direct replacement in many Jenn-Air and similar commercial kitchen exhaust ventilators**
- **NEMA service factors up to 1.4 provide a reserve margin for applications where intermittent overloading or fluctuating (high/low) voltage conditions may occur**

**Typical Uses:** Exhaust ventilators in commercial cooking areas and other moderate-starting torque equipment that can be directly connected to a NEMA 56CZ face-mounted motor. **(Not intended for power transmission applications.)**

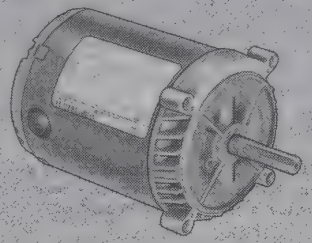
**Type:** Split-phase
**Bearings:** Double-shielded ball
**Enclosure:** Open dripproof
**Thermal Protection:** Auto
**NEMA Frame:** 56CZ
**Shaft Dimensions:** 5/8 x 2 7/16"
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton and GE

Dayton®

E47479



No. 3K493



No. 2K294

Replacement Parts Available
1-800-323-0620™

## DAYTON BRAND, SINGLE SPEED

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/12 | 850 | 115 | 3.2 | 1.4 | A | 3K604 | $247.00 | $181.50 | 24.0 |
| 1/8 | 1140 | 115 | 3.8 | 1.4 | A | 3K474 | 172.00 | 126.55 | 17.0 |
| 1/6 | 1140 | 115 | 4.8 | 1.35 | A | 3K479 | 192.00 | 140.70 | 17.0 |
| 1/4 | 1725 | 115 | 5.3 | 1.35 | A | 3K493 | 137.00 | 104.80 | 13.0 |
| | 1140 | 115 | 5.4 | 1.35 | A | 3K492 | 247.00 | 181.50 | 24.0 |
| | 850 | 115 | 6.9 | 1.35 | B | 3K491 | 413.00 | 303.50 | 30.0 |
| 1/3 | 1725 | 115 | 6.6 | 1.35 | A | 3K497 | 162.00 | 119.00 | 15.0 |
| | 850 | 115 | 9.6 | 1.0 | B | 3K496 | 414.00 | 332.50 | 36.0 |

## DAYTON BRAND, TWO SPEED†

| HP at 1725 RPM | HP at 1140 RPM | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1/12 | 1725/1140 | 115 | 4.6/2.4 | 1.35 | B | 3K494 | $184.00 | $140.80 | 17.0 |
| 1/3 | 1/9 | 1725/1140 | 115 | 5.8/4.2 | 1.35 | B | 3K495 | 228.00 | 183.50 | 20.0 |
| 1/2 | 1/6 | 1725/1140 | 115 | 8.2/4.1 | 1.25 | B | 3K498 | 298.00 | 219.00 | 22.0 |

## GE BRAND, SINGLE SPEED

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/12 | 850 | 115 | 3.2 | 1.4 | B | H278 | 2K271 | $253.00 | $153.25 | 20.0 |
| 1/8 | 1140 | 115 | 3.8 | 1.4 | A | H287 | 2K276 | 177.00 | 112.35 | 15.0 |
| 1/6 | 1140 | 115 | 4.0 | 1.35 | B | H210 | 2K286 | 197.00 | 124.35 | 19.0 |
| 1/4 | 1725 | 115 | 4.4 | 1.35 | B | H213 | 2K294 | 147.00 | 92.65 | 13.0 |
| | 1140 | 115 | 5.6 | 1.35 | B | H215 | 2K300 | 253.00 | 150.75 | 23.0 |
| | 850 | 115 | 6.9 | 1.35 | B | H288 | 2K301 | 424.00 | 257.00 | 32.0 |
| 1/3 | 1725 | 115 | 5.4 | 1.35 | B | H218 | 2K308 | 167.00 | 105.10 | 14.0 |
| | 850 | 115 | 9.2 | 1.35 | B | H280 | 3VG25 | 492.00 | 290.50 | 40.0 |

## GE BRAND, TWO SPEED†

| HP at 1725 RPM | HP at 1140 RPM | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1/6 | 1725/1140 | 115 | 8.0/4.2 | 1.25 | B | H282 | 2K317 | $305.00 | $185.25 | 27.0 |

(†) Two-speed switch No. 2X605 available, see page 3622.

**CAUTION: Not for fans in unattended areas.**

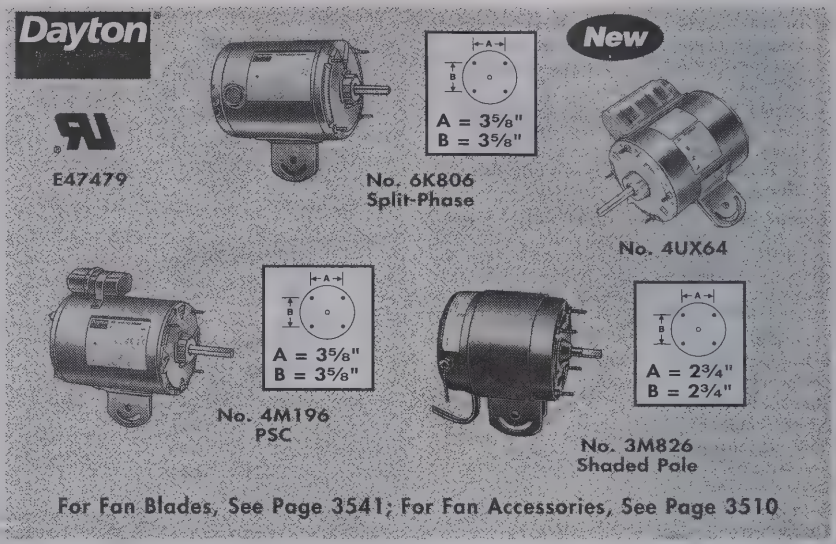
**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

# YOKE-MOUNTED FAN MOTORS

**Typical Uses:** Air circulators where motor is mounted directly to fan column. Supplied with durable Dayton yoke-type welded bracket or strap. Studs for mounting fan guard directly to shaft endshield. Also used on exhaust fans, unit heaters, and other air-moving applications.
**Type:** Split-phase, permanent split capacitor, and shaded pole
**Bearings:** All-angle sleeve or double-shielded ball
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Duty:** Continuous air-over
**Finish:** Gray
**Brand:** Dayton
**Voltage:** All motors are 115 volts, except No. 6K411 which is 115/230V.

**CAUTION: Motor overload could result if the fan blade is not correctly matched to the motor's HP and RPM rating.**

**CAUTION**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.




For Fan Blades, See Page 3541; For Fan Accessories, See Page 3510

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Enclosure | 10' Cord & Pull Chain Switch | Full-Load Amps at Nameplate Volts | Ambient | Bearing | Ins. Class | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x L | Overall Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADE POLE, YOKE-TYPE TAB** | | | | | | | | | | | | | | | | |
| 1/15 | 1550/2-Spd | — | CW | OPAO | Yes | 2.3 | 40 | Sleeve | A | 4⅛ | 3/8 x 1⅜ | 7.28 | 3M827 | $98.80 | $76.20 | 7.0 |
| | 1550 | — | CW | OPAO | Yes | 2.3 | 40 | Sleeve | A | 4⅛ | 3/8 x 1¼ | 6.83 | 3M826 | 84.24 | 65.00 | 6.0 |
| | 1550/2-Spd | 42YZ | CW | OPAO | Yes | 2.5 | 40 | Sleeve | A | 5 | 3/8 x 2⅜ | 7.94 | New 4UX56 * | 96.00 | 74.55 | 24.0 |
| **PSC, YOKE-TYPE WELDED TAB, CAPACITOR INCLUDED** | | | | | | | | | | | | | | | | |
| 1/10 | 1100/2-Spd | 42YZ | CW | OPAO | Yes | 1.7 | 40 | Sleeve | B | 5 | 1/2 x 2⅞ | 8.45 | New 4UX57 * | 94.00 | 72.55 | 24.0 |
| 1/4 | 1100/2-Spd | 48YZ | CW | TEAO | Yes | 2.0 | 40 | Sleeve | B | 5⅝ | 1/2 x 3 | 9.06 | New 4UX62 * | 143.00 | 110.45 | 19.0 |
| | 1100/2-Spd | 48YZ | CW | TEAO | Yes | 2.0 | 40 | Ball | B | 5⅝ | 1/2 x 3 | 9.06 | New 4UX61 | 171.00 | 132.40 | 19.0 |
| | 1075/2-Spd | 48YZ | CW/CCW | TEAO | No | 4.3 | 40 | Sleeve | A | 5⅝ | 1/2 x 2½ | 10.94 | 3M504 | 146.00 | 112.50 | 16.0 |
| | 1075/2-Spd | 48YZ | CW/CCW | TEAO | No | 4.2 | 40 | Ball | A | 5⅝ | 1/2 x 2½ | 10.52 | 4M196 | 162.00 | 125.25 | 15.0 |
| | 1075/2-Spd | 48YZ | CW/CCW | TEAO | No | 3.9 | 60 | Sleeve | B | 5⅝ | 1/2 x 2½ | 10.94 | 1D171 | 171.00 | 125.25 | 21.0 |
| | 1075/2-Spd | 48YZ | CW | OPAO | Yes | 4.6 | 40 | Ball | B | 5⅝ | 1/2 x 3⅝ | 10.19 | New 4UX60 | 146.00 | 113.15 | 19.0 |
| 1/3 | 825 | 48YZ | CW | TEAO | Yes | 4.5 | 40 | Sleeve | B | 5⅝ | 1/2 x 2⅜ | 9.81 | New 4UX64 | 165.00 | 127.60 | 18.0 |
| | 1075/2-Spd | 48YZ | CW/CCW | TEAO | No | 5.3 | 40 | Sleeve | B | 5⅝ | 1/2 x 2½ | 10.94 | 3M469 | 146.00 | 112.00 | 18.0 |
| 1/2 | 825 | 48YZ | CW | TEAO | No | 6.4 | 40 | Ball | B | 5⅝ | 5/8 x 1⅜ | 9.97 | New 4UX59 | 124.00 | 96.20 | 19.0 |
| | 1075/2-Spd | 48YZ | CW/CCW | TEAO | No | 7.2 | 40 | Sleeve | B | 5⅝ | 5/8 x 2½ | 11.19 | 3M505 | 174.00 | 134.50 | 24.0 |
| | 1100/2-Spd | 48YZ | CW | TEAO | Yes | 5.8 | 40 | Sleeve | B | 5⅝ | 5/8 x 3⅛ | 10.36 | New 4UX63 | 166.00 | 128.25 | 18.0 |
| | 1075/2-Spd | 48YZ | CW/CCW | TEAO | No | 7.2 | 40 | Ball | B | 5⅝ | 5/8 x 2½ | 10.77 | 4M197 | 191.00 | 147.20 | 23.0 |
| | 1075/2-Spd | 48YZ | CW | TEAO | Yes | 7.1 | 40 | Ball | B | 5⅝ | 5/8 x 2½ | 10.23 | New 4UX58 | 168.00 | 129.70 | 18.0 |
| | 1075/2-Spd | 56YZ | CW/CCW | TEAO | No | 5.7 | 60 | Sleeve | B | 6⅜ | 5/8 x 2½ | 11.57 | 1D172 | 266.00 | 194.50 | 32.0 |
| **SPLIT-PHASE, YOKE-TYPE WELDED TAB** | | | | | | | | | | | | | | | | |
| 1/4 | 1725 | 48YZ | CW/CCW | OPAO | No | 4.6 | 40 | Sleeve | A | 5⅝ | 1/2 x 2 | 10.44 | 6K403 | 108.00 | 83.45 | 13.0 |
| | 1725 | 48YZ | CW | DPAO | Yes | 4.5 | 40 | Sleeve | B | 5⅝ | 5/8 x 2 | 9.89 | New 4UX66 | 100.00 | 77.45 | 24.0 |
| | 1725 | 48YZ | CW/CCW | TEAO | No | 4.5 | 40 | Sleeve | A | 5⅝ | 1/2 x 2 | 10.44 | 6K406 | 122.00 | 94.55 | 15.0 |
| | 1725 | 48YZ | CW | TEAO | Yes | 4.5 | 40 | Sleeve | B | 5⅝ | 5/8 x 2 | 9.89 | New 4UX67 | 115.00 | 88.85 | 14.0 |
| | 1725 | 48YZ | CW/CCW | TEAO | No | 4.5 | 40 | Ball | A | 5⅝ | 1/2 x 2 | 9.81 | 6K806 | 139.00 | 107.20 | 14.0 |
| 1/3 | 1725 | 48YZ | CW/CCW | OPAO | No | 6.3 | 40 | Sleeve | A | 5⅝ | 1/2 x 2 | 10.02 | 6K410 | 131.00 | 100.80 | 18.0 |
| | 1725 | 48YZ | CW | OPAO | Yes | 6.3 | 40 | Sleeve | B | 5⅝ | 5/8 x 2 | 9.92 | New 4UX68 | 124.00 | 95.50 | 14.0 |
| | 1725 | 48YZ | CW/CCW | TEAO | No | 5.0 | 40 | Sleeve | A | 5⅝ | 1/2 x 2 | 10.44 | 6K807 | 141.00 | 108.50 | 18.0 |
| 1/2 | 1725 | 48YZ | CW/CCW | OPAO | No | 8.3 | 40 | Sleeve | A | 5⅝ | 5/8 x 2 | 10.44 | 6K405 | 148.00 | 114.15 | 17.0 |
| | 1725 | 48YZ | CW | OPDP | Yes | 8.3 | 40 | Sleeve | B | 5⅝ | 5/8 x 2 | 9.89 | New 4UX65 | 139.00 | 107.40 | 17.0 |
| | 1725 | 48YZ | CW/CCW | TEAO | No | 6.6 | 40 | Sleeve | A | 5⅝ | 5/8 x 2 | 10.69 | 6K809 | 194.00 | 149.60 | 22.0 |
| | 1725 | 48YZ | CW/CCW | TEAO | No | 6.9/3.5 | 40 | Ball | A | 5⅝ | 5/8 x 2 | 10.27 | 6K411 | 219.00 | 169.75 | 18.0 |

(*) 3.16 stud center distance.

**DON'T DELAY... ORDER FROM GRAINGER NOW!**
Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

# FAN MOTORS

## OSCILLATING AIR CIRCULATOR MOTORS

**Typical Uses:** No. 4C354 is for use on Dayton 20 and 24" oscillating fans. No. 5C040 is for use on Dayton 30" oscillating fans.

**Special Features:** Hardened metal precision gearing and durable clutch assembly. Four extended studs 3⅝" OC for mounting guard. 10 ft., 3-conductor cord with grounding type molded plug. 90 or 45° sweep or to blow straight. Two-speed pull chain switch.

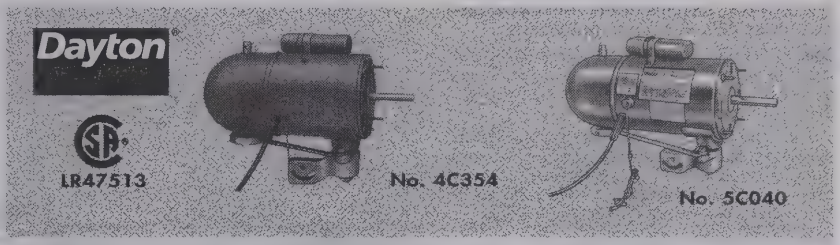
**Motor Type:** Permanent split capacitor

**Enclosure:** TEAO

**Thermal Protection:** Auto

**Finish:** Gray

**Brand:** Dayton




| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Shaft Dia. (In.) | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1075/2 Spd | 115 | 4.4 | 1/2 | B | **4C354** | $283.00 | **$209.00** | 22.0 |
| 1/2 | 1075/2 Spd | 115 | 6.0 | 5/8 | B | **5C040** | 305.00 | **225.50** | 31.0 |

## CENTRIFUGAL DIRECT DRIVE FAN MOTORS

**Typical Uses:** Direct replacements for Dayton direct drive upblast and downblast centrifugal roof and wall ventilators.

**Motor Type:** Permanent split capacitor and shaded pole

**Bearings:** Ball

**Mounting:** Stud

**Enclosure:** Open

**Thermal Protection:** Auto

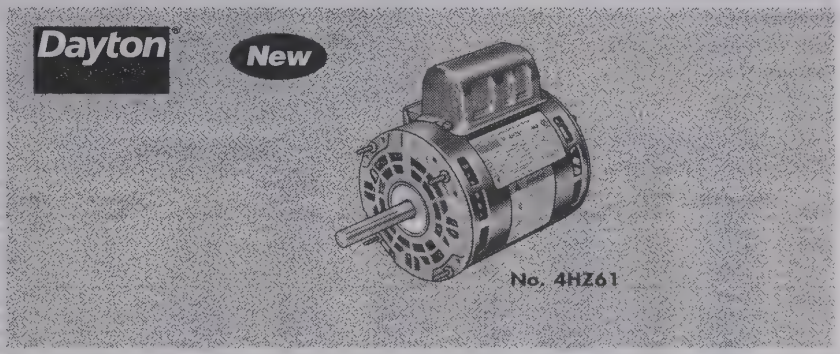
**Ambient:** 40° C

**Duty:** Continuous

**Rotation:** CCW facing shaft

**Finish:** Gray

**Brand:** Dayton




### DIRECT DRIVE CENTRIFUGAL FAN MOTORS

| HP | Nameplate RPM at 60 Hz | Fan SKU | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Thermal Protection | Fan Diameter (In.) | Shaft Diameter (In.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/25** | 1550 | 4HZ32, 4HZ34, 4HZ18<br>4HZ33, 4HZ35, 4HZ19 | 3.3 Dia. | 115 | 1.5 | Auto | 8.0 | 5/16 x 3¼ | **4HZ66** | $166.00 | **$99.40** | 4.0 |
| **1/12** | 850 | 4HZ36, 4HZ38, 4HZ20<br>4HZ40, 4HZ42, 4HZ22 | 48YZ | 115 | 1.7 | Auto | 10.5 | 1/2 x 3<br>5/8 x 3 | **4HZ62** | 188.00 | **112.50** | 9.0 |
| | | 4HZ44, 4HZ46, 4HZ24 | 48YZ | 115 | 1.8 | Auto | 13.5 | 5/8 x 3 | **4HZ64** | 188.00 | **112.50** | 9.0 |
| **1/6** | 1650 | 4HZ37, 4HZ39, 4HZ21 | 48YZ | 115 | 2.3 | Auto | 10.5 | 1/2 x 3 | **4HZ60** | 171.00 | **102.25** | 14.0 |
| | 850 | 4HZ48, 4HZ50, 4HZ26 | 48YZ | 115 | 2.4 | Auto | 15.0 | 5/8 x 3 | **4HZ68** | 173.00 | **103.60** | 14.0 |
| **1/4** | 850 | 4HZ52, 4HZ54, 4HZ28 | 48YZ | 115 | 3.6 | Auto | 16.6 | 5/8 x 3 | **4HZ65** | 280.00 | **167.75** | 13.0 |
| **1/3** | 1650 | 4HZ41, 4HZ43, 4HZ23 | 48YZ | 115 | 4.0 | Auto | 12.25 | 1/2 x 3 | **4HZ67** | 294.00 | **176.25** | 14.0 |
| | 1100 | 4HZ49, 4HZ51, 4HZ27 | 48YZ | 115 | 4.4 | Auto | 15.0 | 5/8 x 3 | **4HZ69** | 302.00 | **181.00** | 15.0 |
| | 850 | 4HZ56, 4HZ58, 4HZ30 | 48YZ | 115 | 4.4 | Auto | 18.25 | 5/8 x 3 | **4HZ70** | 313.00 | **187.75** | 15.0 |
| **1/2** | 1100 | 4HZ53, 4HZ55, 4HZ29 | 48YZ | 115/230 | 6.2/3.1 | Auto | 16.6 | 5/8 x 3 | **4HZ61** | 306.00 | **183.25** | 21.0 |
| | 1650 | 4HZ45, 4HZ47, 4HZ25 | 48YZ | 115/230 | 6.2/3.1 | Auto | 13.5 | 5/8 x 3 | **4HZ63** | 339.00 | **203.00** | 18.0 |
| **3/4** | 1100 | 4HZ57, 4HZ59, 4HZ31 | 48YZ | 115/230 | 8.4/4.2 | Auto | 18.25 | 5/8 x 3 | **4HZ71** | 473.00 | **283.25** | 21.0 |

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## ORDER DIRECT FROM GRAINGER

You can order directly from Grainger, call your local branch and place an order.
To find the branch nearest you, check the Branch Listing in the front of this catalog.
You can pick your order up or we'll ship it today.

# BELT-DRIVE FAN AND DIRECT-DRIVE FAN MOTORS

## DAYTON SPLIT-PHASE

**Typical Uses:** Exhaust fans, air circulators, and other air-over fan applications.

**Special Features:** Extended studs for mounting fan guard on shaft endshield. Totally enclosed construction for use in dusty or dirty environments.

Two speed models are specifically designed for diminishing torque, air-moving applications, such as belted or direct-drive fans and blowers. Two-speed switch No. 2X605 is available, see page 3561.

**Type:** Split-phase

**Bearings:** All-angle sleeve or double-shielded ball

**Mounting:** Cradle base with studs

**Enclosure:** TEAO

**Service Factor:** 1.0 (except Nos. 6K687 and 6K691 are 1.35)

**Thermal Protection:** Auto

**Ambient:** 40°C

**Duty:** Continuous air-over

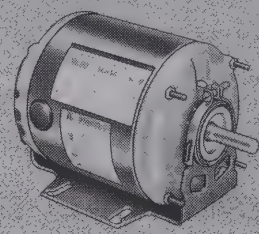
**Rotation:** CW/CCW

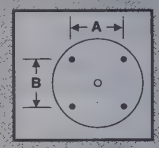
**Finish:** Gray

**Brand:** Dayton

Dayton®

E47479






Replacement Parts Available 1-800-323-0620

### SINGLE SPEED

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Square Stud Pattern (In.) | Bearings | Insulation Class | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/6 | 1140 | 48Y* | Auto | 115 | 4.1 | 3⅝ | Sleeve | B | 1/2 x 1½ | 6K688 | $162.00 | $110.50 | 18.0 |
| | 1140 | 56Z | None | 115 | 4.6 | 4 | Sleeve | A | 1/2 x 1½ | 4K650 | 162.00 | 110.55 | 18.0 |
| | 1140 | 56Z | Auto | 115 | 4.6 | 4 | Sleeve | B | 1/2 x 1½ | 1K139 | 162.00 | 110.55 | 18.0 |
| 1/4 | 1725 | 48 | None | 115 | 4.5 | 3⅝ | Ball | B | 1/2 x 1½ | 3ZP91 | 112.00 | 81.00 | 16.0 |
| | 1725 | 48Y* | Auto | 115 | 4.8 | 3⅝ | Sleeve | B | 1/2 x 1½ | 6K665 | 114.00 | 77.80 | 15.0 |
| | 1725 | 48Y* | Auto | 115 | 4.8 | 3⅝ | Ball | B | 1/2 x 1½ | 3K355 | 129.00 | 87.50 | 15.0 |
| | 1725 | 56Z | None | 115 | 4.7 | 4 | Sleeve | A | 1/2 x 1½ | 4K638 | 114.00 | 77.80 | 16.0 |
| | 1725 | 56Z | Auto | 115 | 4.7 | 4 | Sleeve | B | 1/2 x 1½ | 1K140 | 118.00 | 80.60 | 16.0 |
| | 1725 | 56Z | None | 115 | 4.3 | 3⅝ | Ball | A | 1/2 x 1½ | 6K167 | 129.00 | 74.50 | 16.0 |
| | 1725 | 56Z | Auto | 115 | 4.3 | 3⅝ | Ball | B | 1/2 x 1½ | 1K141 | 129.00 | 87.55 | 16.0 |
| | 1725 | 56 | Auto | 115/230 | 4.4/2.2 | 4 | Ball | B | 5/8 x 1⅞ | 6K687 | 151.00 | 115.75 | 18.0 |
| | 1140 | 48Y* | Auto | 115 | 6.1 | 3⅝ | Sleeve | B | 1/2 x 1½ | 6K692 | 217.00 | 148.05 | 26.0 |
| | 1140 | 56Z | None | 115 | 6.0 | 4 | Sleeve | A | 1/2 x 1½ | 5K523 | 217.00 | 137.70 | 21.0 |
| | 1140 | 56Z | Auto | 115 | 6.0 | 4 | Sleeve | B | 1/2 x 1½ | 1K142 | 217.00 | 148.10 | 21.0 |
| 1/3 | 1725 | 48Y* | Auto | 115 | 5.2 | 3⅝ | Sleeve | B | 1/2 x 1½ | 6K666 | 138.00 | 96.55 | 19.0 |
| | 1725 | 48Y* | Auto | 115 | 5.2 | 3⅝ | Ball | B | 1/2 x 1½ | 3K356 | 149.00 | 103.40 | 21.0 |
| | 1725 | 56Z | None | 115 | 5.5 | 4 | Sleeve | A | 1/2 x 1½ | 5K019 | 138.00 | 96.55 | 20.0 |
| | 1725 | 56Z | Auto | 115 | 5.5 | 4 | Sleeve | A | 1/2 x 1½ | 6K312 | 143.00 | 96.50 | 18.0 |
| | 1725 | 56Z | None | 115 | 5.5 | 4 | Ball | A | 1/2 x 1½ | 6K083 | 149.00 | 103.15 | 19.0 |
| | 1725 | 56Z | Auto | 115 | 5.5 | 4 | Ball | B | 1/2 x 1½ | 1K143 | 149.00 | 103.40 | 19.0 |
| | 1725 | 56Z | None | 230 | 2.8 | 4 | Sleeve | A | 1/2 x 1½ | 5K670 | 140.00 | 96.40 | 20.0 |
| | 1725 | 56Z | Auto | 230 | 2.8 | 4 | Sleeve | B | 1/2 x 1½ | 1K144 | 140.00 | 95.20 | 20.0 |
| | 1725 | 56 | Auto | 115/230 | 5.2/2.6 | 4 | Ball | B | 5/8 x 1⅞ | 6K691 | 169.00 | 129.85 | 19.0 |
| 1/2 | 1725 | 56 | None | 115 | 7.0 | 4 | Sleeve | A | 5/8 x 1⅞ | 5K401 | 190.00 | 124.70 | 27.0 |
| | 1725 | 56 | Auto | 115 | 6.5 | 3⅝ | Sleeve | B | 5/8 x 1⅞ | 6K667 | 188.00 | 127.80 | 26.0 |
| | 1725 | 56 | None | 115 | 7.0 | 4 | Ball | A | 5/8 x 1⅞ | 6K084 | 204.00 | 138.90 | 27.0 |
| | 1725 | 56 | Auto | 115 | 6.5 | 4 | Ball | B | 5/8 x 1⅞ | 3K357 | 204.00 | 156.75 | 26.0 |
| | 1725 | 56 | None | 230 | 3.6 | 4 | Sleeve | A | 5/8 x 1⅞ | 6K129 | 198.00 | 149.15 | 26.0 |

### TWO SPEED

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate RPM | Square Stud Pattern (In.) | Bearings | Insulation Class | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1/12 | 1725/1140 | 48Y* | Auto | 115 | 4.6/2.5 | 3⅝ | Ball | B | 1/2 x 1½ | 3K006 | $180.00 | $137.60 | 19.0 |
| 1/4 | 1/12 | 1725/1140 | 56Z | None | 115 | 4.7/3.2 | 4 | Sleeve | A | 1/2 x 1½ | 5K547 | 161.00 | 107.40 | 23.0 |
| 1/4 | 1/12 | 1725/1140 | 56Z | Auto | 115 | 4.7/3.2 | 4 | Sleeve | B | 1/2 x 1½ | 1K145 | 163.00 | 111.35 | 23.0 |
| 1/3 | 1/9 | 1725/1140 | 56Z | None | 115 | 6.0/3.8 | 4 | Sleeve | A | 1/2 x 1½ | 5K557 | 210.00 | 161.25 | 23.0 |
| 1/3 | 1/9 | 1725/1140 | 56Z | Auto | 115 | 6.4/4.5 | 4 | Sleeve | B | 1/2 x 1½ | 1K146 | 210.00 | 143.20 | 23.0 |

(*) NEMA 48Y frame motors have cradle base with holes and slots to match mounting dimensions of either NEMA 48 or 56 frame.

**CAUTION: Not for fans in unattended areas.**

Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.

# BELT-DRIVE FAN AND DIRECT-DRIVE FAN MOTORS

## GE SPLIT-PHASE

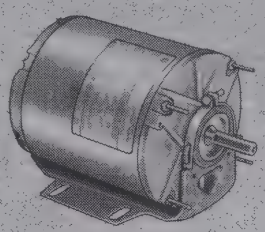
**Typical Uses:** Exhaust fans, air circulators, and other air-over fan applications.

**Special Features:** Supplied with extended studs for mounting fan guard from shaft endshield.

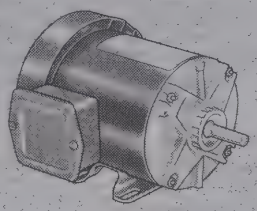
**Type:** Split-phase
**Bearings:** Double-shielded ball.
**Service Factor:** 1.0
**Ambient:** 40°C
**Duty:** Continuous air-over or fan-cooled
**Finish:** Gray
**Brand:** GE

E47088

LR39028



No. 2K734



No. 2K291

Replacement Parts Available
1-800-323-0620

### SINGLE-SPEED

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Square Stud Pattern (In.) | Ins. Class | Mounting | Shaft Dim. (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/6 | 1725 | 48 | None | TEAO | 115 | 3.5 | 3⅝ | B | Cradle | 1/2 x 1½ | H195 | 2K734 | $123.00 | $77.95 | 14.0 |
| | 1725 | 48 | Auto | TEAO | 115 | 3.5 | 3⅝ | B | Cradle | 1/2 x 1½ | H196 | 2K281 | 130.00 | 81.20 | 19.0 |
| | 1725 | 48 | Auto | TEFC | 115 | 4.0 | 3⅝ | A | Cradle | 1/2 x 1½ | H291 | 1D084 | 158.00 | 112.05 | 15.0 |
| | 1140 | 48 | None | TEAO | 115 | 3.7 | 3⅝ | B | Cradle | 1/2 x 1½ | H197 | 2K735 | 183.00 | 115.80 | 17.0 |
| | 1140 | 48 | Auto | TEAO | 115 | 3.7 | 3⅝ | B | Cradle | 1/2 x 1½ | H198 | 3K726 | 190.00 | 119.75 | 17.0 |
| 1/4 | 1725 | 48 | None | TEAO | 115 | 5.1 | 3⅝ | B | Cradle | 1/2 x 1½ | H134 | 2K737 | 131.00 | 81.80 | 13.0 |
| | 1725 | 48 | Auto | TEFC | 115 | 5.1 | 3⅝ | B | Cradle | 1/2 x 1½ | H234 | 3K389 | 166.00 | 103.40 | 17.0 |
| | 1725 | 48 | Auto | TEFC | 115 | 5.1 | 3⅝ | B | Rigid‡ | 1/2 x 1½ | H121 | 2K291 | 162.00 | 100.45 | 15.0 |
| | 1725 | 48 | Auto | TEAO | 115 | 5.1 | 3⅝ | B | Cradle | 1/2 x 1½ | H135 | 3K010 | 141.00 | 87.50 | 15.0 |
| | 1725 | 48Z | Auto | TEAO | 115 | 5.1 | 3⅝ | B | Cradle/Stud | 1/2 x 2¼ | H697 | 3VG27 | 160.00 | 94.50 | 13.0 |
| | 1725 | 48 | Auto | TEAO | 230 | 2.3 | 3⅝ | B | Cradle | 1/2 x 1½ | H277 | 2K296 | 149.00 | 94.60 | 16.0 |
| | 1725 | 48 | Auto | TEFC | 230 | 2.7 | 3⅝ | B | Rigid‡ | 1/2 x 1½ | H243 | 2K298 | 171.00 | 107.80 | 15.0 |
| | 1140 | 56 | None | TEAO | 115 | 5.6 | 4⅜16 | B | Cradle | 5/8 x 1⅞ | H136 | 2K738 | 240.00 | 146.30 | 24.0 |
| | 1140 | 56 | Auto | TEAO | 115 | 5.6 | 4⅜16 | B | Cradle | 5/8 x 1⅞ | H137 | 3K743 | 247.00 | 149.35 | 26.0 |
| 1/3 | 3450 | 48 | Auto | TEFC | 115 | 6.4 | 3⅝ | B | Rigid‡ | 1/2 x 1½ | H124 | 2K302 | 164.00 | 103.40 | 15.0 |
| | 1725 | 48 | None | TEAO | 115 | 6.2 | 3⅝ | B | Cradle | 1/2 x 1½ | H138 | 2K740 | 153.00 | 96.50 | 15.0 |
| | 1725 | 48 | Auto | TEAO | 115 | 6.2 | 3⅝ | B | Cradle | 1/2 x 1½ | H139 | 3K013 | 159.00 | 100.25 | 18.0 |
| | 1725 | 48Z | Auto | TEAO | 115 | 6.2 | 3⅝ | B | Cradle/Stud | 1/2 x 2¼ | H698 | 3VG28 | 180.00 | 106.25 | 15.0 |
| | 1725 | 56 | Auto | TEFC | 115 | 5.9 | 3⅝ | B | Cradle | 5/8 x 1⅞ | H236 | 2K307 | 203.00 | 128.35 | 19.0 |
| | 1725 | 48 | None | TEAO | 230 | 2.7 | 3⅝ | B | Cradle | 1/2 x 1½ | H140 | 2K741 | 160.00 | 101.45 | 18.0 |
| | 1725 | 48 | Auto | TEAO | 230 | 2.7 | 3⅝ | B | Cradle | 1/2 x 1½ | H141 | 3K747 | 169.00 | 105.10 | 18.0 |
| | 1140 | 56 | Auto | TEAO | 115/230 | 7.0/3.5 | 4⅜16 | B | Cradle/Stud | 5/8 x 1⅞ | H699 | 3VG29 | 317.00 | 187.75 | 31.0 |
| | 1140 | 56 | None | TEAO | 115/230 | 7.0/3.5 | 4⅜16 | B | Cradle | 5/8 x 1⅞ | H142 | 2K742 | 278.00 | 169.25 | 27.0 |
| 1/2 | 1725 | 56 | None | TEAO | 115 | 8.0 | 3⅝ | B | Cradle | 5/8 x 1⅞ | H143 | 2K743 | 209.00 | 130.20 | 22.0 |
| | 1725 | 56 | None | TEAO | 115/208-230 | 8.0/4.0-4.0 | 4⅜16 | B | Cradle | 5/8 x 1⅞ | H276 | 2K744 | 218.00 | 137.15 | 22.0 |
| | 1725 | 56 | Auto | TEAO | 115/230 | 8.0/4.0 | 4⅜16 | B | Cradle | 5/8 x 1⅞ | H247 | 3K023 | 227.00 | 141.35 | 22.0 |

### TWO-SPEED

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Thermal Protection | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Square Stud Pattern (In.) | Ins. Class | Mounting | Shaft Dim. (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1/12 | 1725/1140 | 48 | None | TEAO | 115 | 4.2/2.7 | 3⅝ | B | Cradle | 1/2 x 1½ | H203 | 1D083 | $173.00 | $117.35 | 20.0 |

(‡) Rigid welded base without studs.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## DON'T FORGET THE BACK OF THE BOOK!
## MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this Catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# BELT-DRIVE FAN AND DIRECT-DRIVE FAN MOTORS

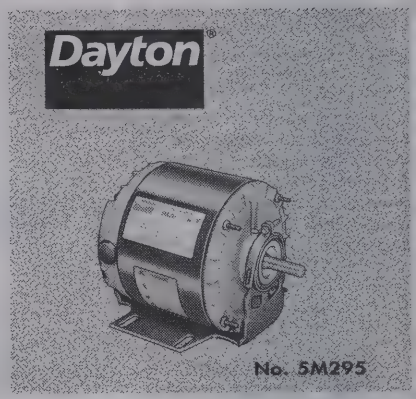
## SPLIT-PHASE, MANUAL RESET THERMAL PROTECTION

- **UL507 Compliant, for use in fans and blowers in unattended areas**

**Typical Uses:** For use in wall-insert fans, in-wall fans, ceiling fans, attic exhaust fans, whole house fans, duct fans, and other air-over direct drive fan applications mounted in unattended, hard-to-reach locations. These motors include a manual reset protector for use in applications which are likely to operate unattended or in situations in which a locked rotor condition may go undetected. Motors meet Underwriter Laboratories specifications for use in unattended areas.

**Special Features:** Supplied with extended studs for mounting fan guard on shaft endshield. Totally enclosed construction for dusty or dirty environments.

**Type:** Split-phase
**Bearing:** All-angle sleeve or double-shielded ball
**Mounting:** Cradle/stud
**Enclosure:** TEAO
**Ambient:** 40°C
**Service Factor:** 1.0
**Thermal Protection:** Manual reset
**Insulation Class:** A
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton



No. 5M295

### SINGLE SPEED

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Square Stud Pattern (In.) | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/6 | 1140 | 56Z | 115 | 4.6 | Sleeve | 4 | 1/2 x 1 7/8 | 5M294 | $162.00 | $110.55 | 26.0 |
| 1/4 | 1725 | 56Z | 115 | 4.8 | Sleeve | 4 | 1/2 x 1 7/8 | 5M295 | 114.00 | 77.80 | 18.0 |
| | 1725 | 56Z | 115 | 4.8 | Ball | 3 5/8 | 1/2 x 1 7/8 | 5M293 | 129.00 | 87.50 | 28.0 |
| | 1140 | 56Z | 115 | 6.0 | Sleeve | 4 | 1/2 x 1 7/8 | 5M296 | 217.00 | 141.00 | 21.0 |
| 1/3 | 1725 | 56Z | 115 | 5.5 | Sleeve | 4 | 1/2 x 1 7/8 | 5M297 | 138.00 | 96.55 | 19.0 |
| | 1725 | 56Z | 115 | 5.5 | Ball | 4 | 1/2 x 1 7/8 | 5M298 | 149.00 | 103.15 | 20.0 |
| | 1725 | 56Z | 230 | 2.8 | Sleeve | 4 | 1/2 x 1 7/8 | 5M299 | 140.00 | 96.40 | 21.0 |
| 1/2 | 1725 | 56 | 115 | 7.0 | Sleeve | 4 | 5/8 x 1 7/8 | 5M300 | 190.00 | 145.45 | 28.0 |
| | 1725 | 56 | 115 | 7.0 | Ball | 4 | 5/8 x 1 7/8 | 5M301 | 204.00 | 138.90 | 26.0 |
| | 1725 | 56 | 230 | 3.6 | Sleeve | 4 | 5/8 x 1 7/8 | 5M302 | 198.00 | 149.15 | 28.0 |

### TWO SPEED†

| HP at: 1725 RPM | HP at: 1140 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Square Stud Pattern (In.) | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1/12 | 1725/1140 | 56Z | 115 | 4.7/3.2 | Sleeve | 4 | 1/2 x 1 7/8 | 5M303 | $161.00 | $109.25 | 52.0 |
| 1/3 | 1/9 | 1725/1140 | 56Z | 115 | 6.0/3.8 | Sleeve | 4 | 1/2 x 1 7/8 | 5M304 | 210.00 | 161.25 | 25.0 |

(†) Two-speed switch No. 2X605 is available, see page 3622.

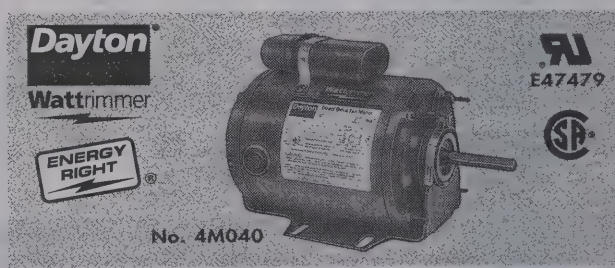
## DIRECT-DRIVE FAN MOTORS

- **Supplied with mounted capacitor**
- **1/2" studs for mounting fan guard on 48 frame**

**Typical Uses:** Exhaust and poultry fans, air circulators, and other equipment operating in dusty, dirty, noncombustible environments. High efficiency or standard.

**Special Features:** Terminal board on all 48 frame. Large internal conduit box on 56 frame.

**Type:** Permanent split capacitor
**Mounting:** Resilient cradle base
**Enclosure:** TEAO (No. 3M742 is TENV)
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Gray
**Brand:** Dayton



No. 4M040

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft End | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Efficiency | Bearings | Ins. Class | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1075/2-Spd | 48Z | CW/CCW | 115 | 3.3 | Standard | Sleeve | A | 1/2 x 2 1/2 | 7 7/8 | 3M340 | $143.00 | $109.10 | 17.0 |
| | 1075 | 48Z | CW/CCW | 115 | 3.6 | Standard | Sleeve | A | 1/2 x 2 1/2 | 7 3/8 | 3M339 | 138.00 | 105.25 | 16.0 |
| 1/4 | 1075 | 48Z | CW/CCW | 115 | 3.4 | High | Ball | B | 1/2 x 2 1/2 | 7 7/8 | ✓4M042 | 154.00 | 117.75 | 16.0 |
| 1/3 | 1075 | 48Z | CW/CCW | 115 | 4.6 | High | Sleeve | A | 1/2 x 2 1/2 | 7 15/16 | ✓4M041 | 146.00 | 111.50 | 18.0 |
| 1/2 | 1075 | 48Z | CW/CCW | 115 | 7.0 | High | Sleeve | B | 1/2 x 2 1/2 | 8 3/8 | ✓4M040 | 162.00 | 123.95 | 21.0 |
| 3/4 | 1075 | 56 | CW | 115/230 | 9.2/4.6 | High | Ball | B | 5/8 x 1 7/8 | 9 7/16 | ✓3M742 | 266.00 | 203.75 | 31.0 |

(✓) Denotes energy efficient product.


*Need reliable fan and blower motors? You've come to the right place.*

# 4.4" DIAMETER FAN AND BLOWER MOTORS

- **Sturdy steel construction**
- **Bearings surrounded by Permawick® lubrication**
- **Stators press-fitted into a rugged steel sleeve**

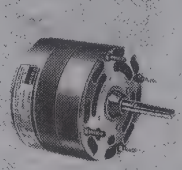
**Typical Uses:** New and replacement use on a wide range of small fan and blower applications.

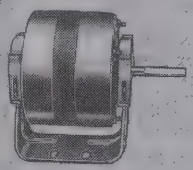
**Type:** Shaded pole
**Bearings:** All-angle, self-aligning sleeve (except No. 4M222 has ball bearings)
**Mounting:** Studs for mounting from shaft endshield or attaching fan guard and cradle base.
**Enclosure:** Open or TEAO
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Air-over or fan-cooled
**Finish:** Gray
**Brand:** Dayton

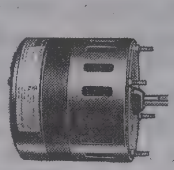
Dayton®

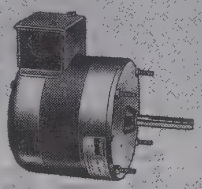
E47479

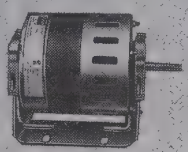
34751

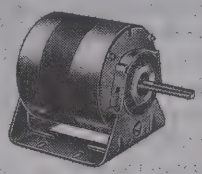

A


B

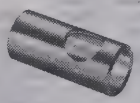

C


D


E


F

## ADAPTER BUSHING



**3/8" I.D. x 1/2" O.D. adapter bushing** for adapting 3/8" diameter shaft to 1/2" diameter. Has plated finish and hole for set screw, 1⅛" long. Dayton brand.

**No. 6X452.** Shpg. wt. 0.1 lbs. List $5.50. Each ..... **$3.14**

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

## MOUNTING PATTERNS

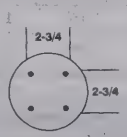


Fig. 1
Studs, Shaft End

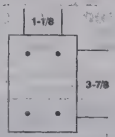


Fig. 2
Base

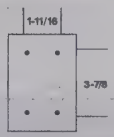


Fig. 3
Base

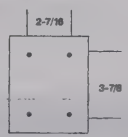


Fig. 4
Base

| HP | Key | Nameplate RPM | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Insulation Class | Mounting | Mounting Pattern Figure | Shaft Dimen. (In.) Dia. x Length | Length Less Shaft (In.) | Stock No. | | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, OPEN AIR-OVER, SINGLE SPEED** | | | | | | | | | | | | | | | |
| **1/15** | A | 1550 | CW | 115 | 2.3 | A | Studs | 1 | 3/8 x 2 | 3½ | **3M569** | | $55.12 | **$42.60** | 4.8 |
| | A | 1550 | CW | 115 | 2.3 | A | Studs | 1 | 3/8 x 1¼ | 5½ | **3M826** | * | 84.24 | **65.00** | 6.0 |
| | B | 1550 | CW | 115 | 2.3 | A | Cradle | 2 | 3/8 x 2 | 4½ | **3M577** | | 66.56 | **51.40** | 6.0 |
| | B | 1550 | CW | 230 | 1.3 | A | Cradle | 2 | 3/8 x 2 | 4½ | **3M578** | | 66.56 | **51.40** | 5.9 |
| **1/10** | A | 1550 | CW | 115 | 3.5 | B | Studs | 1 | 3/8 x 2 | 4 | **3M059** | | 68.64 | **52.95** | 6.8 |
| | A | 1550 | CW | 115 | 3.1 | A | Studs | 1 | 3/8 x 2 | 4⅜ | **3M574** | | 67.60 | **52.25** | 6.8 |
| **SHADED POLE, OPEN AIR-OVER, TWO SPEED** | | | | | | | | | | | | | | | |
| **1/15** | A | 1550/2-Spd | CW | 115 | 2.6 | A | Studs | 1 | 3/8 x 2 | 3¾ | **3M571** | † | 65.52 | **50.60** | 6.4 |
| | A | 1550/2-Spd | CW | 115 | 2.3 | A | Studs | 1 | 3/8 x 1⅜ | 5½ | **3M827** | * | 98.80 | **76.20** | 7.0 |
| **1/10** | A | 1550/2-Spd | CW | 115 | 3.5 | A | Studs | 1 | 3/8 x 2 | 4 | **3M779** | ‡ | 80.08 | **61.85** | 6.0 |
| **SHADED POLE, OPEN AIR-OVER, THREE SPEED** | | | | | | | | | | | | | | | |
| **1/11** | A | 1550/3-Spd | CCW | 115 | 3.4 | A | Studs | 1 | 1/2 x 2⅝ | 3⅜ | **4M222** | # | 108.16 | **83.40** | 6.5 |
| **SHADED POLE, OPEN FAN-COOLED, SINGLE SPEED** | | | | | | | | | | | | | | | |
| **1/15** | C | 1550 | CW | 115 | 2.8 | A | Studs | 1 | 3/8 x 2 | 4⅜ | **3M573** | | 60.32 | **46.65** | 5.1 |
| **1/10** | C | 1550 | CW | 115 | 3.3 | A | Studs | 1 | 3/8 x 2 | 5 | **3M576** | ‡ | 71.76 | **55.35** | 7.2 |
| | E | 1550 | CW | 115 | 3.3 | A | Cradle | 4 | 3/8 x 2 | 5¾ | **3M580** | | 81.12 | **62.65** | 8.0 |
| **SHADED POLE, TEAO, SINGLE SPEED** | | | | | | | | | | | | | | | |
| **1/20** | — | 1550 | CW | 115 | 2.2 | A | Studs | 1 | 3/8 x 2 | 4 | **3M567** | | 61.36 | **47.40** | 6.7 |
| | D | 1550 | CW | 115 | 2.2 | A | Studs | 1 | 3/8 x 2 | 4 | **3M568** | ‡ | 64.48 | **49.80** | 6.8 |
| | F | 1550 | CW | 115 | 2.2 | A | Cradle | 3 | 3/8 x 2 | 5 | **3M581** | | 73.84 | **57.00** | 7.8 |

(*) Includes 10 ft. 18 ga. 3-cond. cord with plug; also motor-mounted pull-chain On-Off switch (No. 3M826) or motor-mounted pull-chain two-speed switch (No. 3M827). Yoke mounted strap included. (†) Use with No. 2W333, 16/3# 10 ft. SJ cord with SPDT feed-thru switch. (‡) Has 5.0 cubic inch junction box. (#) Ball bearings.

# 3.3" DIAMETER FAN AND BLOWER MOTORS

## SHADED POLE, OPEN OR TEAO, MECHANICALLY REVERSIBLE, SINGLE SPEED

- **Contractor Friendly™ Features**
- **Mechanically reversible**
- **OEM and replacement use for a wide variety of air-moving applications**

**Typical Uses:** Designed with the contractor in mind for increased versatility and wide range of air-moving applications.

**Special Features:** Unique design for reversing the rotation of the motor shaft. Easily removable clips enable quick removal of motor endshield allowing the rotor to be reversed, thereby changing the rotation. A specially designed stator/rotor ensures nameplate performance in either direction.

**Type:** Shaded pole

**Bearings:** All-angle, self-aligning sleeve

**Mounting:** Stud, 3/4" on both endshields

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Insulation Class:** A

**Ambient:** 40°C

**Duty:** Continuous air-over

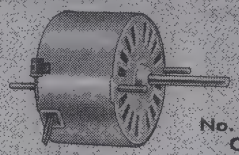
**Finish:** Gray

**Brand:** Dayton

Dayton

E47479

6319



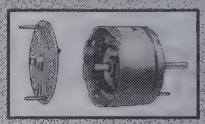
No. 4M213
Open
Enclosure

MOUNTING PATTERN




Fig. 1

**Endshield is easily removed allowing rotor and shaft to be rotated, thereby reversing rotation of motor.**



| HP | Nameplate RPM | Rotation* | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Mounting Pattern | Mounting Location† | Shaft Dimens. Dia. x L (In.) | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN AIR-OVER, SINGLE SPEED** | | | | | | | | | | | | |
| **1/100** | 1550 | CW/CCW | 115 | 0.6 | 1 | BE | 1/4 x 2 | 2 3/8 | **4M213** | $29.12 | **$23.81** | 2.0 |
| **1/70** | 1550 | CW/CCW | 115 | 0.7 | 1 | BE | 1/4 x 2 | 2 3/8 | **4M214** | 30.16 | **24.66** | 2.3 |
| **1/50** | 1550 | CW/CCW | 115 | 0.8 | 1 | BE | 1/4 x 2 | 2 3/4 | **4M215** | 33.28 | **26.10** | 2.5 |
| **TOTALLY ENCLOSED AIR-OVER, SINGLE SPEED** | | | | | | | | | | | | |
| **1/100** | 1550 | CW/CCW | 115 | 0.6 | 1 | BE | 1/4 x 2 | 2 3/8 | **4M216** | 30.16 | **23.60** | 2.0 |
| **1/70** | 1550 | CW/CCW | 115 | 0.7 | 1 | BE | 1/4 x 2 | 2 3/4 | **4M217** | 33.28 | **26.10** | 3.6 |
| **1/40** | 1550 | CW/CCW | 115 | 1.0 | 1 | BE | 5/16 x 2 | 3" | **4M218** | 36.40 | **28.60** | 3.3 |

(*) Motors are set up CW rotation facing shaft end (welded end). (†) BE=Both Ends.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

### DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

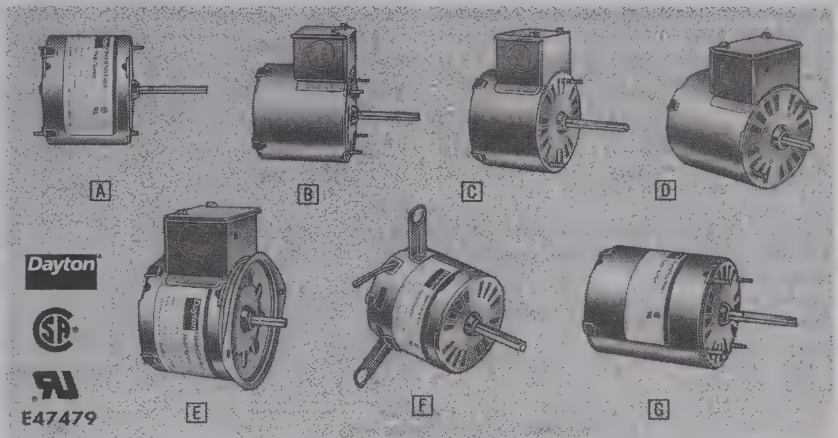
# 3.3" DIAMETER FAN AND BLOWER MOTORS

## SHADED POLE, OPEN AIR-OVER, SINGLE AND 2 SPEED

- **Sturdy all-steel construction**
- **Bearings surrounded by Permawick® lubrication**
- **Stators press-fitted into a rugged steel sleeve**

**Typical Uses:** OEM and replacement use in a wide variety of air-over fan and blower applications such as bathroom fans and rangehoods.

**Type:** Shaded pole
**Mounting:** Stud, lug, or flange
**Bearings:** All-angle, self-aligning sleeve
**Enclosure:** Open air-over
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Gray enamel
**Brand:** Dayton




**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

### MOUNTING PATTERNS

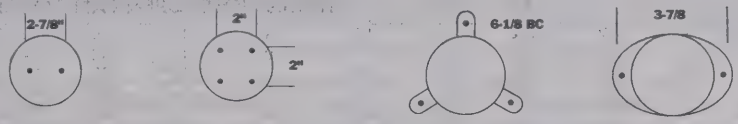



Fig. 1, Stud | Fig. 2, Stud | Fig. 3, Lug | Fig. 4, Flange

| HP | Key | Nameplate RPM | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | Mounting Pattern | Mounting Location# | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE SPEED** | | | | | | | | | | | | | | |
| **1/125** | E | 3000 | CCW | 115 | 0.4 | B | 4 | — | 1/4 x 1 | 2 3/8 | **4M298** | $41.60 | **$32.30** | 3.0 |
| **1/100** | A | 3000 | CW | 115 | 0.6 | A | 1 | BE | 1/4 x 2 | 2 3/4 | **3M537** | 28.08 | **21.30** | 2.1 |
| | A | 1550 | CW | 115 | 0.7 | A | 1 | SE | 1/4 x 2 | 2 5/8 | **3M534** | 27.04 | **21.15** | 2.0 |
| | A | 1550 | CCW | 115 | 0.7 | A | 1 | SE | 1/4 x 2 | 2 5/8 | **3M535** | 27.04 | **21.15** | 1.9 |
| | A | 1550 | CW | 115 | 0.7 | A | 1 | BE | 1/4 x 2 | 2 3/8 | **3M536** | 27.04 | **21.15** | 1.9 |
| **1/70** | A | 3000 | CW | 115 | 0.9 | A | 1 | SE | 1/4 x 2 | 3 | **3M540** | 31.20 | **23.82** | 2.5 |
| | A | 3000 | CW | 115 | 0.9 | A | 1 | OSE | 1/4 x 2 | 3 | **3M541**†† | 32.24 | **24.78** | 2.5 |
| | A | 1550 | CW | 115 | 0.8 | A | 1 | BE | 1/4 x 2 | 2 3/8 | **3M538** | 28.08 | **21.97** | 2.2 |
| | A | 1550 | CCW | 115 | 0.8 | A | 1 | BE | 1/4 x 2 | 2 3/8 | **3M539** | 28.08 | **21.97** | 2.2 |
| **1/50** | A | 3000 | CW | 115 | 0.9 | A | 1 | SE | 1/4 x 2 | 3 | **3M729** | 31.20 | **23.81** | 2.5 |
| | A | 1550 | CW | 115 | 0.9 | A | 1 | BE | 1/4 x 2 | 2 3/4 | **3M542** | 30.16 | **23.60** | 2.5 |
| | C | 1550 | CW | 230 | 0.6 | A | 1 | SE | 5/16 x 2 | 2 3/4 | **3M726**‡ | 43.68 | **34.25** | 2.7 |
| **1/40** | A | 3000 | CW | 115 | 1.2 | A | 1 | BE | 1/4 x 2 | 3 1/8 | **3M545** | 32.24 | **24.30** | 2.8 |
| | C | 3000 | CW | 115 | 1.3 | A | 1 | SE | 1/4 x 2 | 3 | **3M728**‡ | 37.44 | **28.80** | 2.9 |
| | C | 3000 | CW* | 115 | 1.1 | A | 1 | BE | 1/4 x 2 ea* | 3 1/8 | **3M730**‡ | 35.36 | **27.25** | 2.5 |
| | A | 1550 | CW | 115 | 1.1 | A | 1 | BE | 5/16 x 2 | 2 3/4 | **3M543** | 30.16 | **23.60** | 2.5 |
| | A | 1550 | CCW | 115 | 1.1 | A | 1 | BE | 5/16 x 2 | 2 3/4 | **3M544** | 30.16 | **23.60** | 2.5 |
| | C | 1550 | CW | 115 | 1.1 | A | 1 | SE | 5/16 x 2 | 2 3/4 | **3M722**‡ | 41.60 | **32.65** | 2.8 |
| | C | 1550 | CCW* | 115 | 1.1 | A | 1 | BE | 5/16 x 2 ea* | 3 3/4 | **3M724**‡ | 49.92 | **39.15** | 4.0 |
| **1/30** | C | 3000 | CW | 230 | 0.6 | A | 1 | SE | 5/16 x 2 | 3 3/8 | **3M725**‡ | 44.72 | **34.60** | 3.6 |
| | C | 3000 | CW | 115** | 1.2 | A | 1 | SE | 5/16 x 2 | 3 1/2 | **3M777**‡ | 44.72 | **34.60** | 3.4 |
| | G | 1550 | CW | 115 | 1.3 | A | 2 | BE | 5/16 x 2 | 3 | **3M546** | 34.32 | **26.95** | 3.2 |
| **1/25** | D | 3000 | CW | 115 | 1.4 | B | 1 | SE | 1/4 x 1 | 3 3/8 | **4M300** | 49.92 | **38.60** | 3.6 |
| **1/20** | G | 1550 | CW | 115 | 1.7 | A | 2 | BE | 5/16 x 2 | 3 7/16 | **3M547** | 37.44 | **29.40** | 3.6 |
| | B | 1550 | CW | 115 | 1.9 | A | 2 | SE | 5/16 x 2 | 3 1/4 | **3M778**‡ | 46.80 | **36.70** | 3.8 |
| | G | 1550 | CW* | 115 | 2.0 | A | 2 | BE | 5/16 x 2 ea* | 3 1/2 | **3M083** | 45.76 | **35.85** | 3.6 |
| **1/15** | G | 3000 | CW | 115 | 2.4 | A | 2 | SE | 5/16 x 2 | 3 7/8 | **3M548** | 37.44 | **29.15** | 3.8 |
| | F | 1550 | CCW | 115 | 2.9 | B | 3 | — | 5/16 x 1 3/4 | 3 | **4M301** | 45.76 | **35.85** | 3.8 |
| **TWO SPEED** | | | | | | | | | | | | | | |
| **1/30** | A | 1550/2-Spd | CW | 115 | 1.4 | A | 2 | SE | 5/16 x 2 | 3 | **3M549**† | 37.96 | **29.80** | 3.2 |

(*) Double shaft motor. Rotation viewed facing lead end. (†) Use with No. 2W333, 16/3# 10-ft. SJ cord with SPDT feed-thru switch. (‡) Has 5.0 cubic-inch junction box.
(#) SE = Shaft End; OSE = Opposite Shaft End; BE = Both Ends. (††) Has short cord set. (**) 60/50 Hz.

# 3.3" DIAMETER FAN AND BLOWER MOTORS AND KITCHEN EXHAUST FAN MOTORS

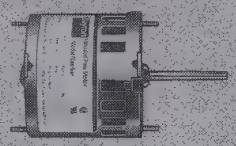
## SHADED POLE AND PSC, OPEN FAN-COOLED OR OPEN AIR-OVER, SINGLE SPEED

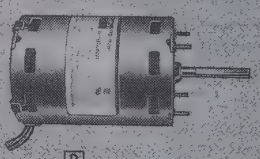
- **Open fan-cooled motors have internal fan for mechanical duty applications**
- **Sturdy all-steel construction**

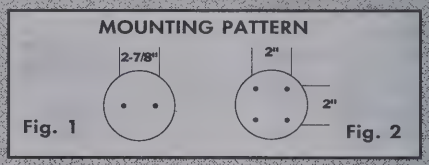
**Typical Uses:** OEM and replacement use in a wide variety of fan and blower applications. Internal fan in open fan-cooled motors makes them suitable for mechanical duty applications such as pumps, diaphragm compressors, laboratory equipment and business machines.

**Type:** Shaded pole
**Bearings:** All-angle, self-aligning sleeve
**Mounting:** Studs on one or both endshields
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton

Dayton
E47479
6319


A


B




| HP | Key | Nameplate RPM | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Insulation Class | Mounting Pattern | Mounting Location‡ | Shaft Dimens. (In.) Dia. x L | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, OPEN FAN-COOLED** | | | | | | | | | | | | | | |
| **1/100** | A | 1550 | CW | 115 | 0.7 | A | 1 | BE | 1/4 x 2 | 3 1/4 | **3M558** | $29.12 | **$22.78** | 2.1 |
| **1/70** | A | 3000 | CW | 115* | 0.7 | B | 1 | SE | 1/4 x 1 1/8 | 3 7/16 | **4M299** # | 42.64 | **32.75** | 2.5 |
| | A | 1550 | CW | 115 | 0.8 | A | 1 | BE | 1/4 x 2 | 3 5/8 | **3M560** | 33.28 | **26.10** | 2.9 |
| | A | 1550 | CCW | 115 | 0.8 | A | 1 | BE | 1/4 x 2 | 3 5/8 | **3M561** | 33.28 | **26.10** | 2.6 |
| **1/40** | A | 1550 | CW | 115 | 1.0 | A | 1 | BE | 5/16 x 2 | 3 15/16 | **3M562** | 37.44 | **29.40** | 3.3 |
| | A | 1550 | CCW | 115 | 1.0 | A | 1 | BE | 5/16 x 2 | 3 15/16 | **3M563** | 37.44 | **29.40** | 3.3 |
| **PERMANENT SPLIT CAPACITOR, OPEN AIR-OVER** | | | | | | | | | | | | | | |
| **1/15** | B | 1625 | CW | 115* | 1.0 | B | 2 | SE | 5/16 x 2 | 4 7/8 | **3M499** † | 61.36 | **48.10** | 5.3 |

(*) Also operable on 50 Hz at 5/6 of 60 Hz speed and HP. (†) Stock No. 6X652 capacitor is required. (‡) BE = Both Ends; SE = Shaft End. (#) Has conduit box.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

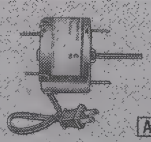
## SHADED POLE, TEAO OR OPEN, SINGLE SPEED, VENTILATION/KITCHEN EXHAUST FAN MOTORS

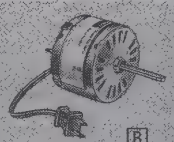
- **Cordset and plug included**

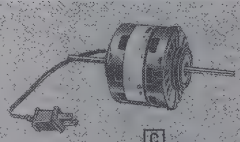
**Typical Uses:** Residential and commercial vent fans manufactured by Broan, Nutone, Penn Ventilator, Miami-Carey, Martin, Patton, Lakewood, Fasco, Bemis, and others. TEAO models are for use in dirty, dusty, noncombustible environments.

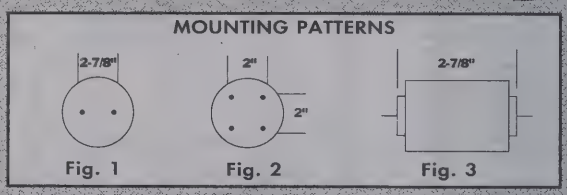
**Type:** Shaded pole
**Bearings:** All-angle, self-aligning sleeve
**Mounting:** Stud (except No. 4M195 is resilient ring and has double shaft)
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Body Diameter:** 3.3"
**Ambient:** 40°C
**Finish:** Gray
**Brand:** Dayton

Dayton
E47479
LR6319


A


B


C



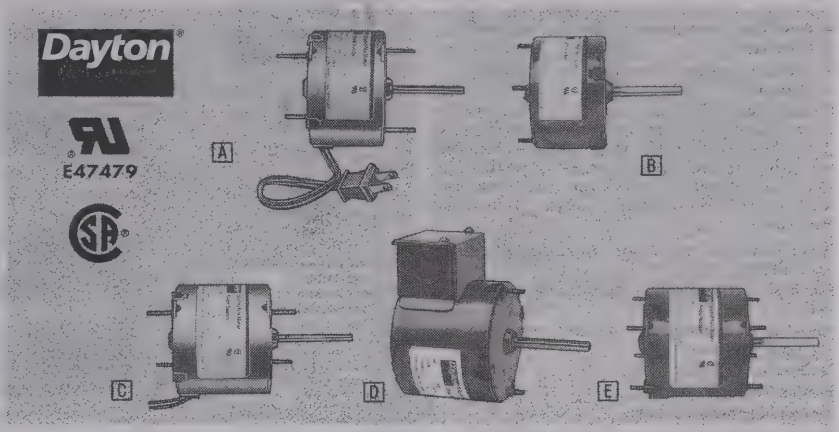

| HP | Key | Nameplate RPM | Rotation Facing Shaft | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | Mounting Pattern | Mounting Location† | Shaft Dimens. (In.) Dia. x L | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/100** | A | 1550 | CW | TEAO | 115 | 0.7 | A | 1 | BE | 1/4 x 2 | 2 3/8 | **3M552** | $29.12 | **$22.78** | 2.0 |
| | A | 1550 | CCW | TEAO | 115 | 0.7 | A | 1 | BE | 1/4 x 2 | 2 3/8 | **3M660** | 29.12 | **22.78** | 2.0 |
| | B | 1550 | CCW | Open | 115 | 0.5 | B | 2 | OSE | 1/4 x 2 | 2 3/8 | **4M192** | 31.20 | **24.41** | 2.0 |
| **1/50** | B | 1550 | CCW | Open | 115 | 0.9 | B | 2 | OSE | 1/4 x 2 | 2 3/8 | **4M193** | 32.24 | **25.25** | 2.0 |
| **1/25** | A | 1550 | CW | TEAO | 115 | 1.4 | B | 2 | OSE | 1/4 x 2 | 3 | **4M194** | 38.48 | **30.20** | 3.3 |
| | C | 1550 | CW* | Open | 115 | 1.6 | B | 3 | BE | 1/4 x 2 ea | 2 3/4 | **4M195** | 39.52 | **31.05** | 2.7 |

(*) CW lead end. (†) BE = Both Ends; OSE = Opposite Shaft End.

# 3.3" DIAMETER FAN AND BLOWER MOTORS

- **Designed to operate in dirty, dusty, noncombustible environments**

**Typical Uses:** OEM and replacement use in a wide variety of fan and blower applications.
**Type:** Shaded pole
**Bearings:** All-angle, self-aligning sleeve
**Mounting:** Studs on one or both endshields
**Enclosure:** TEAO
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Gray
**Brand:** Dayton




**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

**MOUNTING PATTERNS**




Fig. 1, Stud

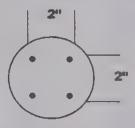



Fig. 2, Stud

| HP | Key | Nameplate RPM | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Insulation Class | Mounting Pattern Figure | Mounting Location‡ | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, SINGLE SPEED** | | | | | | | | | | | | | | |
| **1/100** | A | 3000 | CW | 115 | 0.7 | B | 1 | BE | 1/4 x 2 | 3 1/8 | **4M198*** | $31.20 | **$23.90** | 2.5 |
| | A | 1550 | CW | 115 | 0.7 | A | 1 | BE | 1/4 x 2 | 2 3/8 | **3M552*** | 29.12 | **22.78** | 2.0 |
| | A | 1550 | CCW | 115 | 0.7 | A | 1 | BE | 1/4 x 2 | 2 3/8 | **3M660*** | 29.12 | **22.78** | 2.0 |
| | C | 1550 | CCW | 115 | 0.7 | A | 2 | OSE | 5/16 x 2 | 2 3/8 | **3M723** | 31.20 | **24.41** | 2.0 |
| **1/70** | B | 3000 | CW | 115 | 0.7 | B | 1 | BE | 1/4 x 2 1/4 | 3 1/8 | **4M091** | 34.32 | **26.00** | 2.8 |
| | B | 3000 | CCW | 115 | 0.7 | B | 1 | BE | 1/4 x 2 1/4 | 3 1/8 | **4M092** | 34.32 | **26.00** | 2.8 |
| | B | 1550 | CW | 115 | 0.7 | A | 1 | BE | 1/4 x 2 | 2 3/4 | **3M554** | 31.20 | **24.41** | 2.8 |
| | B | 1550 | CCW | 115 | 0.7 | A | 1 | BE | 1/4 x 2 | 2 3/4 | **3M661** | 31.20 | **24.41** | 2.6 |
| **1/40** | B | 3000 | CCW | 115 | 1.0 | B | 1 | BE | 1/4 x 2 1/4 | 3 1/4 | **4M093** | 35.36 | **27.35** | 2.9 |
| | B | 1550 | CW | 115 | 1.1 | A | 1 | BE | 5/16 x 2 | 3 | **3M555** | 34.32 | **26.95** | 3.3 |
| | B | 1550 | CCW | 115 | 1.1 | A | 1 | BE | 5/16 x 2 | 3 | **3M662** | 34.32 | **26.95** | 3.3 |
| | D | 1550 | CW | 115 | 1.1 | A | 1 | SE | 5/16 x 2 | 3 | **3M556†** | 38.48 | **30.20** | 3.4 |
| **1/30** | B | 3000 | CW | 115 | 1.2 | B | 1 | BE | 1/4 x 2 1/4 | 3 1/2 | **4M094** | 37.44 | **28.90** | 3.0 |
| | B | 1550 | CCW | 115 | 1.1 | B | 1 | BE | 5/16 x 2 1/4 | 3 1/4 | **4M199** | 38.48 | **30.20** | 3.8 |
| | E | 1550 | CW | 115 | 1.1 | A | 2 | BE | 5/16 x 2 | 3 1/4 | **3M557** | 37.44 | **29.40** | 3.7 |
| **SHADED POLE, TWO SPEED** | | | | | | | | | | | | | | |
| **1/70** | B | 3000/2-Spd | CW | 115 | 0.8 | B | 1 | BE | 1/4 x 2 1/4 | 3 | **4M200** | 38.48 | **29.45** | 2.5 |
| | B | 1550/2-Spd | CW | 115 | 0.7 | B | 1 | BE | 1/4 x 2 1/4 | 2 3/8 | **4M201** | 40.56 | **31.80** | 2.2 |
| **1/50** | B | 3000/2-Spd | CW | 115 | 0.9 | B | 1 | BE | 1/4 x 2 1/4 | 3 1/4 | **4M095** | 40.56 | **31.05** | 2.8 |

(*) Includes cordset and plug. (†) Has 5.0 cubic-inch junction box. (‡) BE = Both Ends; OSE = Opposite Shaft End; SE = Shaft End.

## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# 3.3" DIAMETER FAN AND BLOWER MOTORS

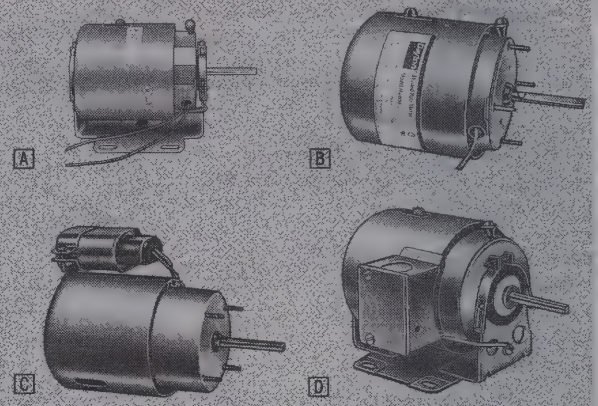
- **Sturdy all-steel construction**
- **Bearings surrounded by Permawick® lubrication**
- **Stators press-fitted into sturdy steel sleeve**

**Typical Uses:** OEM and replacement use in a wide variety of fan and blower applications. Internal fan makes these motors suitable for mechanical duty applications such as pumps, diaphragm compressors, laboratory equipment, and business machines.

**Type:** Shaded pole or permanent split capacitor
**Bearings:** All-angle, self-aligning sleeve or ball
**Mounting:** Cradle base or stud (see mounting patterns below)
**Enclosure:** TEFC
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Body Diameter:** 4" including fan shroud
**Shaft Dimensions:** 5/16 x 2"
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton

Dayton

E47479




**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

## MOUNTING PATTERNS

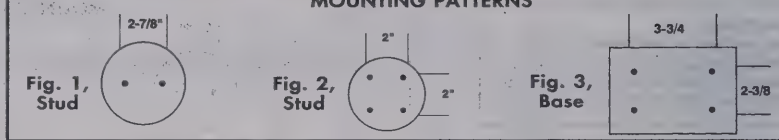



Fig. 1, Stud
Fig. 2, Stud
Fig. 3, Base

| HP | Key | Nameplate RPM | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Insulation Class | Mounting Pattern | Mounting Location‡ | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, CRADLE BASE** | | | | | | | | | | | | | | |
| **1/20** | A | 1550 | CW | 115 | 2.0 | Sleeve | A | 3 | — | 5⁵/₁₆ | **5K002** | $65.52 | **$51.35** | 5.6 |
| | D | 1550 | CW | 115 | 2.0 | Sleeve | A | 3 | — | 5⁵/₁₆ | **5K006** | 70.72 | **55.40** | 5.8 |
| **1/15** | D | 1550 | CW | 115 | 2.3 | Sleeve | A | 3 | — | 5⁵/₁₆ | **3M364** | 71.76 | **56.25** | 6.7 |
| **SHADED POLE, STUD MOUNT** | | | | | | | | | | | | | | |
| **1/25** | B | 3000 | CW | 115 | 1.6 | Sleeve | B | 2 | SE | 4⁵/₈ | **4M202**# | 52.00 | **40.05** | 4.5 |
| | B | 1550 | CW | 115 | 1.5 | Sleeve | B | 2 | SE | 4¹/₂ | **4M203** | 54.08 | **42.40** | 4.3 |
| **1/20** | B | 3000 | CW | 115 | 1.6 | Sleeve | A | 2 | SE | 4¹/₂ | **3M069** | 53.04 | **40.95** | 4.4 |
| | B | 1550 | CW | 115 | 2.0 | Sleeve | A | 2 | SE | 4¹/₂ | **5K001** | 57.20 | **44.85** | 4.6 |
| | B | 1550 | CW | 115 | 2.0 | Ball | A | 2 | SE | 4¹/₂ | **5K004** | 72.80 | **57.05** | 4.7 |
| | B | 1550 | CCW | 115 | 1.8 | Ball | A | 2 | SE | 4¹/₂ | **3M290** | 72.80 | **57.05** | 4.6 |
| | B | 1550 | CW | 230 | 1.0 | Sleeve | A | 2 | SE | 4¹/₂ | **5K003** | 59.28 | **46.45** | 4.5 |
| | B | 1550 | CW | 230 | 0.9 | Ball | A | 2 | SE | 4¹/₂ | **3M001** | 75.92 | **59.50** | 3.9 |
| **1/15** | B | 3000 | CW | 115 | 1.8 | Sleeve | B | 2 | SE | 5¹/₄ | **4M204**# | 58.24 | **44.80** | 5.5 |
| | B | 1550 | CCW | 115 | 2.3 | Sleeve | A | 1 | SE | 5¹/₁₆ | **3M291** | 58.24 | **45.65** | 5.6 |
| | B | 1550 | CW | 115 | 2.3 | Sleeve | A | 2 | SE | 5 | **3M363** | 59.28 | **46.45** | 4.9 |
| **PSC, STUD MOUNT** | | | | | | | | | | | | | | |
| **1/8** | C | 3000 | CW/CCW | 115 | 1.8 | Sleeve | A | 2 | SE | 5³/₈ | **3M292**† | 78.00 | **69.55** | 6.0 |
| | C | 3000 | CW/CCW | 230* | 0.9 | Sleeve | B | 2 | SE | 5³/₄ | **4M090**† | 86.32 | **72.40** | 6.0 |

(*) Also operable on 50 Hz at 5/6 of 60 Hz rated speed and HP. (†) Capacitor included. (‡) SE = Shaft End. (#) Auto-thermal protection.

## ECM™ ELECTRONICALLY COMMUTATED MOTOR

**Typical Uses:** Designed for direct drop-in replacement of conventional unit bearing motors. Ultra-high efficiency, up to three times greater than standard unit bearing designs.
**Special Features:** Labyrinth water slinger, extended temperature range, improved reliability, low operating temperature, design flexibility, and two-year warranty.
**Type:** Brushless DC
**Mounting:** Three #8-32 threads, three places, 2.812" diameter
**Finish:** Black
**Brand:** GE



| Rated Output Watts | HP | Nameplate RPM | Rotation Facing Shaft End | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Ins. Class | Shaft Type | Overall Dimensions (In.) | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9** | 1/83 | 1650 | CCW | TEAO | 115 | 0.4 | Sleeve | B | 1/4-20 Threaded | 4.51H x 3.0W x 4.0D | 3¹/₂ | 5443 | **3UV07** | $96.00 | **$55.75** | 3.0 |
| **16** | 1/47 | 1850 | CCW | TEAO | 115 | 0.3 | Sleeve | B | 1/4-20 Threaded | 4.51H x 3.0W x 4.0D | 3¹/₂ | 5444 | **3UV12** | 103.00 | **59.75** | 3.0 |



*Need reliable fan and blower motors? You've come to the right place.*

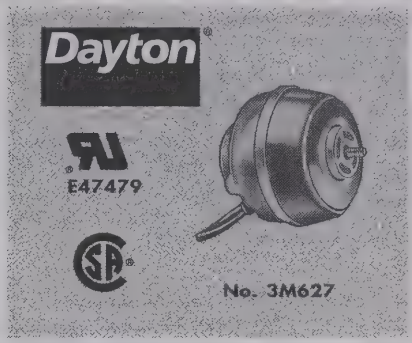
## DAYTON BRAND, SHADED POLE

- **Aluminum housing**

**Typical Uses:** Refrigerator and freezer fans, commercial refrigeration equipment, room and hood ventilators, room heaters, evaporative coolers, humidifiers, dehumidifiers, and other equipment having 6 to 10" hubless fan blades.

**Special Features:** Precision machined die-cast aluminum housing. Pre-oiled using large capacity felt wicking system. Kit included in carton contains vibration dampener, speed nut, and four No. 8-36 mounting screws, except No. 3M627 which requires only three screws (included).

**Type:** Shaded pole
**Mounting:** All-angle. Four tapped No. 8-36 mounting holes 2 13/16" OC at lead end and rigid foot base (except 2 watt model).
**Enclosure:** TEAO
**Service Factor:** 1.0
**Insulation Class:** A
**Body Diameter:** 3½"
**Shaft Dimensions:** 1/4-20 x 7/16" threaded
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Gray
**Brand:** Dayton
**CSA Certified:** 9 thru 16 watt models only




| Rated Output Watts | HP | Nameplate RPM | Rotation Facing Shaft End | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1/370 | 1550 | CCW | Impedance | 115* | 0.3 | 3 1/16 | 3M627 | $21.00 | $13.81 | 1.9 |
| 4 | 1/185 | 1550 | CCW | Impedance | 115* | 0.5 | 3 1/16 | 3M628 | 24.00 | 15.77 | 1.9 |
| | 1/185 | 1550 | CW | Impedance | 115* | 0.5 | 3 1/16 | 3M629 | 24.00 | 15.77 | 1.9 |
| 5 | 1/150 | 1550 | CCW | Impedance | 115* | 0.5 | 3 1/16 | 3M890 | 26.00 | 16.43 | 2.0 |
| | 1/150 | 1550 | CW | Impedance | 115* | 0.5 | 3 1/16 | 3M889 | 26.00 | 16.43 | 2.3 |
| 6 | 1/125 | 1550 | CCW | Impedance | 115* | 0.6 | 3½ | 3M630 | 27.00 | 17.10 | 2.5 |
| | 1/125 | 1550 | CW | Impedance | 115* | 0.6 | 3½ | 3M631 | 27.00 | 17.10 | 2.5 |
| 9 | 1/83 | 1550 | CCW | Auto | 115 | 0.8 | 3½ | 3M632 | 28.00 | 17.75 | 2.5 |
| | 1/83 | 1550 | CW | Auto | 115 | 0.8 | 3½ | 3M633 | 28.00 | 17.75 | 2.5 |
| | 1/83 | 1550 | CCW | Auto | 230 | 0.4 | 3½ | 3M634 | 30.00 | 19.06 | 2.5 |
| | 1/83 | 1550 | CW | Auto | 230 | 0.4 | 3½ | 3M635 | 30.00 | 19.06 | 2.5 |
| 16 | 1/47 | 1550 | CCW | Auto | 115 | 1.1 | 3 13/16 | 3M636 | 36.00 | 23.00 | 3.2 |
| | 1/47 | 1550 | CW | Auto | 115 | 1.1 | 3 13/16 | 3M637 | 36.00 | 23.00 | 3.2 |
| | 1/47 | 1550 | CCW | Auto | 230 | 0.6 | 3 13/16 | 3M638 | 39.00 | 24.99 | 3.2 |
| | 1/47 | 1550 | CW | Auto | 230 | 0.6 | 3 13/16 | 3M639 | 39.00 | 24.99 | 3.2 |

(*) Operable on 50 Hz.

**CAUTION: Not for fans in unattended areas. Refer to page 6 for UL Standard and motor selection information.**

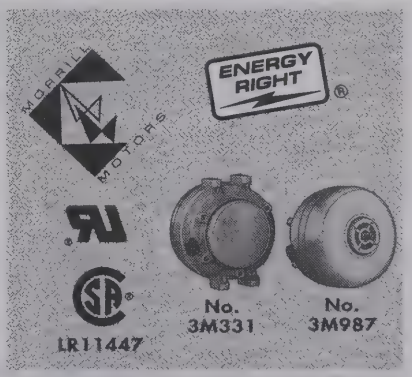
## MORRILL MOTORS BRAND, HIGH EFFICIENCY, SHADED POLE

- **Aluminum housing**

**Typical Uses:** Domestic refrigerator and freezer fans, commercial refrigeration equipment, room and hood ventilators, room heaters, evaporative coolers, humidifiers, dehumidifiers, and on other equipment having 6 to 10" fan blades.

**Special Features:** High efficiency design. Precision machined die-cast aluminum housing. Positive flow lubrication system with large pre-oiled felt wick reservoir and hardened motor shaft for long life without re-oiling. Kit in carton contains speed nut and four No. 8-36 thread-forming mounting screws. Vibration dampeners pre-assembled on motor.

**Type:** Shaded pole
**Mounting:** Horizontal or vertical shaft-up. Five mounting holes, 2½" OC at lead end and two rigid foot bases, top and bottom, with four mounting holes (except 2-watt model).
**Enclosure:** TEAO
**Threaded Shaft Dimensions:** 1/4-20 x 3/8"
**Insulation Class:** B
**Body Diameter:** 3½"
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Unpainted aluminum
**Brand:** Morrill
**UL Recognized:** E81645 or E81653




| Rated Output Watts | HP | Nameplate RPM | Rotation Facing Shaft End | Nameplate Rotation (facing lead end*) | Thermal Protection | Volts 50 / 60 Hz | Full-Load Amps at Nameplate Volts | Length Less Shaft (In.) | Morrill Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1/370 | 1550 | CCW | CW | Impedance | 115 | 0.2 | 3 | SP-BB2H1775A | 3M987† | $21.00 | $14.93 | 1.6 |
| 5 | 1/150 | 1550 | CW | CCW | Impedance | 115 | 0.3 | 3 | SP-B5HUEMR1 | 3M331 | 27.00 | 19.21 | 1.9 |
| | 1/150 | 1550 | CCW | CW | Impedance | 115 | 0.3 | 3 | SP-B5HUEM1 | 3M332 | 27.00 | 18.46 | 1.6 |
| 6 | 1/125 | 1550 | CW | CCW | Impedance | 115 | 0.4 | 3 | SP-B6HUEMR1 | 3M333 | 29.00 | 20.61 | 2.3 |
| | 1/125 | 1550 | CCW | CW | Impedance | 115 | 0.4 | 3 | SP-B6HUEM1 | 3M334 | 29.00 | 20.61 | 2.2 |
| 9 | 1/83 | 1550 | CW | CCW | Auto | 115 | 0.5 | 3½ | SP-B9HUEMR1 | 3M335 | 30.00 | 21.29 | 2.2 |
| | 1/83 | 1550 | CCW | CW | Auto | 115 | 0.5 | 3½ | SP-B9HUEM1 | 3M336 | 30.00 | 21.29 | 2.2 |
| | 1/83 | 1550 | CW | CCW | Auto | 230 | 0.3 | 3½ | SP-B9HUEMR2 | 3M337 | 31.00 | 22.03 | 1.9 |
| | 1/83 | 1550 | CCW | CW | Auto | 230 | 0.3 | 3½ | SP-B9HUEM2 | 3M338 | 31.00 | 22.03 | 2.2 |

(†) Has no rigid foot base and three No. 8-36 mounting holes on rear endshield. (✓) Denotes energy efficient product.
**(*) Morrill motors are nameplated rotation facing lead end.**

# UNIT BEARING MOTORS

**Typical Uses:** Domestic refrigerator and freezer fans, commercial refrigeration equipment, room and hood ventilators, room heaters, evaporative coolers, humidifiers, dehumidifiers and other equipment having 7 to 10" hubless fan blades.

**Special Features:** Precision machined, cast-iron or aluminum housings. Pre-oiled for long use without re-oiling.

**Mounting:** All-angle. Three No. 8-36 mounting holes 2½" OC at lead end and rigid foot base (except 2 watt models)

**Mounting Brackets Available, See page 201.**

**Type:** Shaded pole or permanent split capacitor

**Enclosure:** TEAO

**Service Factor:** 1.0

**Thermal Protection:** 2 thru 9 watt and 4M530, impedance; 16 watt models, auto

**Body Diameter:** 3½" (GE 51 frame)

**Shaft Dimensions:** 1/4-20 x 1/2" threaded shafts

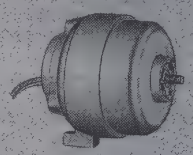
**Ambient:** 50°C

**Duty:** Continuous air-over

**Finish:** Black (Nos. 4M235, 3M394 are natural finish)

**Brand:** GE

E46035



No. 4M501
Aluminum Housing

| Rated Output Watts | HP | Nameplate RPM | Rotation Facing Shaft End | Nameplate Rotation (facing lead end†) | Volts 60 / 50 Hz | Full-Load Amps at Nameplate Volts | Insulation Class | Shaft Type | Length Less Shaft | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, ALUMINUM HOUSING** | | | | | | | | | | | | | | |
| 2 | 1/370 | 1550 | CCW | CW | 115 | 0.1 | A | Threaded | 2⅞" | 5108 | **4M235*** | $26.00 | **$17.09** | 2.0 |
| | 1/370 | 1550 | CCW | CW | 115 | 0.3 | A | Threaded | 2⅞ | 5109 | **3M394** | 20.00 | **13.80** | 1.8 |
| 2.5 | 1/300 | 1000‡ | CCW | CW | 115 | 0.3 | A | Threaded | 2⅞ | 5113 | **4M501** | 27.00 | **17.75** | 1.9 |
| 4 | 1/185 | 1550 | CCW | CW | 115 | 0.3 | A | Threaded | 2⅞ | 5213 | **4M502** | 24.00 | **15.79** | 1.9 |
| | 1/185 | 1550 | CW | CCW | 115 | 0.3 | A | Threaded | 2⅞ | 5214 | **4M503** | 24.00 | **15.79** | 1.9 |
| | 1/185 | 1550 | CCW | CW | 230 | 0.2 | A | Threaded | 2⅞ | 5223 | **4M504** | 26.00 | **17.09** | 1.9 |
| | 1/185 | 1550 | CW | CCW | 230 | 0.2 | A | Threaded | 2⅞ | 5224 | **4M505** | 26.00 | **17.09** | 2.1 |
| 6 | 1/125 | 1550 | CCW | CW | 115 | 0.4 | B | Threaded | 3⅜ | 5313 | **4M506** | 26.00 | **17.09** | 2.3 |
| | 1/125 | 1550 | CW | CCW | 115 | 0.4 | B | Threaded | 3⅜ | 5314 | **4M507** | 26.00 | **17.09** | 2.3 |
| 9 | 1/83 | 1550 | CCW | CW | 115 | 0.6 | B | Threaded | 3⅜ | 5413 | **4M508** | 27.00 | **17.75** | 2.3 |
| | 1/83 | 1550 | CW | CCW | 115 | 0.6 | B | Threaded | 3⅜ | 5414 | **4M509** | 27.00 | **17.75** | 2.3 |
| | 1/83 | 1550 | CCW | CW | 230 | 0.3 | B | Threaded | 3⅜ | 5423 | **4M510** | 29.00 | **19.07** | 3.0 |
| | 1/83 | 1550 | CW | CCW | 230 | 0.3 | B | Threaded | 3⅜ | 5424 | **4M511** | 29.00 | **19.07** | 2.3 |
| 16 | 1/47 | 1550 | CCW | CW | 115 | 1.0 | A | Threaded | 3⅝ | 5813 | **4M512** | 35.00 | **23.03** | 3.0 |
| | 1/47 | 1550 | CW | CCW | 115 | 1.0 | A | Threaded | 3⅝ | 5814 | **4M513** | 35.00 | **23.03** | 3.0 |
| | 1/47 | 1550 | CCW | CW | 230 | 0.5 | A | Threaded | 3⅝ | 5823 | **4M514** | 37.00 | **24.31** | 3.1 |
| | 1/47 | 1550 | CW | CCW | 230 | 0.5 | A | Threaded | 3⅝ | 5824 | **4M515** | 37.00 | **24.31** | 3.0 |
| **SHADED POLE, CAST-IRON HOUSING** | | | | | | | | | | | | | | |
| 2.5 | 1/300 | 1000‡ | CCW | CW | 115 | 0.3 | A | Threaded | 2⅞ | 5111 | **3M472** | 29.00 | **19.07** | 2.5 |
| 4 | 1/185 | 1550 | CCW | CW | 115 | 0.3 | A | Threaded | 2⅞ | 5211 | **3M274** | 27.00 | **17.75** | 2.5 |
| | 1/185 | 1550 | CW | CCW | 115 | 0.3 | A | Threaded | 2⅞ | 5212 | **3M275** | 27.00 | **17.75** | 2.5 |
| | 1/185 | 1550 | CCW | CW | 230 | 0.2 | A | Threaded | 2⅞ | 5221 | **4M521** | 29.00 | **18.99** | 2.5 |
| | 1/185 | 1550 | CW | CCW | 230 | 0.2 | A | Threaded | 2⅞ | 5222 | **4M522** | 29.00 | **19.07** | 2.8 |
| 6 | 1/125 | 1550 | CCW | CW | 115 | 0.4 | B | Threaded | 3⅜ | 5311 | **3M270** | 29.00 | **19.07** | 3.3 |
| | 1/125 | 1550 | CW | CCW | 115 | 0.4 | B | Threaded | 3⅜ | 5312 | **3M269** | 29.00 | **19.07** | 3.3 |
| 9 | 1/83 | 1550 | CCW | CW | 115 | 0.6 | B | Threaded | 3⅜ | 5411 | **3M285** | 30.00 | **19.72** | 3.3 |
| | 1/83 | 1550 | CW | CCW | 115 | 0.6 | B | Threaded | 3⅜ | 5412 | **3M284** | 30.00 | **19.72** | 3.3 |
| | 1/83 | 1550 | CCW | CW | 230 | 0.3 | B | Threaded | 3⅜ | 5421 | **3M286** | 32.00 | **21.05** | 3.3 |
| | 1/83 | 1550 | CW | CCW | 230 | 0.3 | B | Threaded | 3⅜ | 5422 | **3M283** | 32.00 | **21.05** | 3.3 |
| 16 | 1/47 | 1550 | CCW | CW | 115 | 1.0 | A | Threaded | 3½ | 5811 | **3M473** | 40.00 | **26.35** | 4.0 |
| | 1/47 | 1550 | CW | CCW | 115 | 1.0 | A | Threaded | 3½ | 5812 | **3M475** | 40.00 | **26.35** | 4.0 |
| | 1/47 | 1550 | CCW | CW | 230 | 0.5 | A | Threaded | 3½ | 5821 | **3M474** | 42.00 | **27.70** | 4.0 |
| | 1/47 | 1550 | CW | CCW | 230 | 0.5 | A | Threaded | 3½ | 5822 | **3M476** | 42.00 | **27.70** | 4.0 |

| Rated Output Watts | HP | Nameplate RPM | Rotation Facing Shaft End | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Ins. Class | Shaft Type | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd Stock No. | Capacitor Req'd Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PSC, CAST-IRON HOUSING** | | | | | | | | | | | | | | | |
| 4 | 1/185 | 1550 | CW/CCW | 115 | 0.2 | A | Threaded | 3⅜ | 5114 | **4M528** | $58.00 | **$38.25** | 4.0 | 6X650 | $4.16 |
| 6 | 1/125 | 1550 | CW/CCW | 115 | 0.2 | B | Threaded | 3⅜ | 5116 | **4M529** | 65.00 | **42.80** | 3.6 | 6X650 | 4.16 |
| 9 | 1/83 | 1550 | CW/CCW | 115 | 0.3 | B | Threaded | 3⅜ | 5117 | **4M530** | 66.00 | **43.50** | 3.6 | 6X651 | 3.74 |
| 16 | 1/47 | 1550 | CW/CCW | 115 | 0.6 | A | Threaded | 3⅜ | 5118 | **4M531** | 75.00 | **49.35** | 3.4 | 6X654 | 4.64 |

(*) Includes special grounding provision and is an OEM replacement of 3-pin leadless unit bearing motors found in GE and Hotpoint brand refrigerators.
(‡) RPM at rated load, no load RPM is approximately 1550. **(†) GE motors are nameplated rotation viewing lead end.**

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# UNIT BEARING MOTORS

## GE BRAND, SHADED POLE

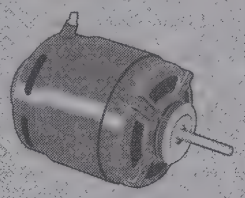
**Typical Uses:** Room air conditioners, fans, air coolers, unit heaters, condenser units, and other air-over motor applications.

**Type:** Shaded pole

**Mounting:** All-angle, resilient ring and four No. 8-32 holes 2⅞" bolt circle for shaft end mounting. Nos. 3M179, 3M183, 3M186, 3M187, and 3M189 are hole mount only. Bases and accessories available on pages 200 and 202.

**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** A
**Body Diameter:** 4" (GE 11 frame)
**Ambient:** 50°C
**Duty:** Continuous air-over
**Finish:** Unpainted
**UL Recognized:** Thermal protection (E27885); insulation system (E37513); and construction (E46035)

E46035



No. 3M986

| Watts | HP | Mil. HP | Nameplate RPM | Rotation Facing Shaft End | Rotation Facing Lead End* | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | 1¾" Dia. Resil. Rings OC (In.) | Shaft Dimens. (In.) | Length Less Shaft (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 1/40 | 25 | 1550 | CCW | CW | Open | 115 | 1.3 | 4½ | 5/16 x 1¼ | 4 13/16 | 1531 | **3M170** | $119.00 | **$76.00** | 4.0 |
| | | | 1550 | CW | CCW | Open | 115 | 1.3 | 4½ | 5/16 x 1¼ | 4 13/16 | 1541 | **3M171** | 119.00 | **76.00** | 4.2 |
| | | | 1550 | CW | CCW | TEAO | 115 | 1.3 | 4½ | 5/16 x 1¼ | 4 13/16 | 1009 | **3M172** | 157.00 | **100.20** | 4.0 |
| | | | 1550 | CCW | CW | Open | 208-230 | 0.6 | 4½ | 5/16 x 1¼ | 4 13/16 | 1532 | **3M175** | 121.00 | **77.20** | 4.2 |
| | | | 1550 | CW | CCW | Open | 208-230 | 0.6 | 4½ | 5/16 x 1¼ | 4 13/16 | 1542 | **3M176** | 121.00 | **77.25** | 4.0 |
| | | | 1550 | CW | CCW | TEFC | 115/208-230 | 1.3/0.6 | 5½ | 5/16 x 1¼ | 5⅞ | 1012 | **3M173** | 186.00 | **118.75** | 4.5 |
| | | | 1550 | CCW | CW | TEAO | 115/208-230 | 1.3/0.6 | 4½ | 5/16 x 1¼ | 4 13/16 | 1011 | **3M174** | 176.00 | **112.35** | 4.2 |
| **25** | 1/30 | 35 | 1550 | CW | CCW | Open | 115 | 1.6 | 4½ | 5/16 x 1¼ | 4 13/16 | 1007 | **3M177** | 158.00 | **100.85** | 4.0 |
| | | | 1550 | CCW | CW | Open | 115 | 1.7 | 4⅝ | 5/16 x 1¼ | 5 1/16 | 1431 | **3M114** | 129.00 | **82.35** | 4.3 |
| | | | 1550 | CW | CCW | Open | 115 | 1.7 | 4⅝ | 5/16 x 1¼ | 5 1/16 | 1441 | **3M116** | 129.00 | **82.35** | 4.8 |
| | | | 1550 | CW | CCW | TEFC | 115 | 1.7 | — | 5/16 x 1¼ | 5 11/16 | 1013 | **3M179** | 161.00 | **102.75** | 4.5 |
| | | | 1550 | CCW | C W | Open | 208-230 | 0.9 | 4⅝ | 5/16 x 1¼ | 5 1/16 | 1432 | **3M115** | 132.00 | **84.30** | 4.5 |
| | | | 1550 | CW | CCW | Open | 208-230 | 0.9 | 4⅝ | 5/16 x 1¼ | 5 1/16 | 1442 | **3M117** | 132.00 | **84.30** | 4.5 |
| | | | 1550 | CCW | CW | Open | 208-230 | 0.8 | — | 5/16 x 1¼ | 3 15/16 | 1006 | **3M183** | 165.00 | **105.35** | 4.1 |
| | | | 1550 | CCW | CW | TEFC | 115/208-230 | 1.7/0.9 | 5 13/16 | 5/16 x 1¼ | 6⅛ | 1020 | **3M180** | 197.00 | **125.75** | 5.1 |
| | | | 1550 | CW | CCW | TEFC | 115/208-230 | 1.7/0.9 | 5 13/16 | 5/16 x 1¼ | 6⅛ | 1021 | **3M181** | 197.00 | **125.75** | 5.0 |
| **35** | 1/20 | 50 | 1550 | CCW | CW | Open | 115 | 2.2 | 4¾ | 5/16 x 2 | 5 1/16 | 1331 | **3M184** | 147.00 | **93.80** | 4.5 |
| | | | 1550 | CW | CCW | Open | 115 | 2.2 | 4¾ | 5/16 x 2 | 5 1/16 | 1341 | **3M185** | 147.00 | **93.80** | 5.0 |
| | | | 1550 | CW | CCW | Open | 115 | 2.2 | — | 5/16 x 1¼ | 4 13/16 | 1017 | **3M186** | 150.00 | **95.70** | 4.5 |
| | | | 1550 | CCW | CW | Open | 208-230 | 1.1 | 4⅝ | 5/16 x 2 | 5 1/16 | 1332 | **3M952** | 150.00 | **95.70** | 4.5 |
| | | | 1550 | CW | CCW | Open | 208-230 | 1.1 | 4⅝ | 5/16 x 2 | 5 1/16 | 1342 | **3M188** | 150.00 | **95.70** | 4.5 |
| | | | 1550 | CCW | CW | Open | 208-230 | 1.1 | — | 5/16 x 1¼ | 4 13/16 | 1016 | **3M189** | 171.00 | **109.15** | 4.5 |
| | | | 1550 | CW | CCW | TEFC | 115/208-230 | 2.2/1.1 | — | 5/16 x 1¼ | 5 15/16 | 1019 | **3M187** | 193.00 | **123.20** | 5.0 |
| **50** | 1/15 | 67 | 1550 | CCW | CW | Open | 208-230† | 1.2 | 5 | 5/16 x 1½ | 5⅜ | 1232 | **3M986** | 157.00 | **100.20** | 5.3 |

(*) GE motors are nameplated rotation viewing lead end. (†) 60/50 Hz.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## EMS BRAND, SHADED POLE

**Typical Uses:** Commercial refrigeration fans, refrigerated vending machines, ice makers, drink dispensers, condensing units, room heaters, environmental cabinets, and other equipment having 7 to 12" fan blades.

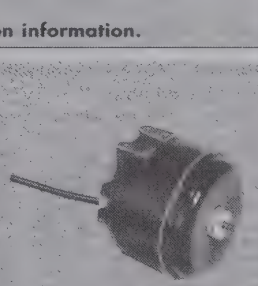
**Special Features:** Precision machined cast-iron housing. Pre-oiled felt wick for extended use without re-oiling. Nos. 4M159 and 4M160 have flat shafts; all others have threaded.

**Type:** Shaded pole
**Mounting:** Horizontal; rigid foot base

**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** A (E129192)
**Body Diameter:** 3⅞"
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CCW view facing shaft end CW-nameplate rotation facing lead end (EM&S motors are nameplate rotation viewing lead end)
**Finish:** Black enamel
**UL Recognized:** Thermal protection (E128044) and construction (E131620)

E131620

LR89283



No. 4M153

| Rated Output Watts | HP | Nameplate RPM | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Shaft Dimensions Dia. x Length (In.) | Length Less Shaft (In.) | EMS Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16** | 1/47 | 1500 | TEAO | 115 | 0.8 | 1/4 x 1/2 | 3½ | ESP-L16EM1 | **4M153** | $59.55 | **$44.70** | 4.0 |
| | 1/47 | 1500 | TEAO | 230 | 0.4 | 1/4 x 1/2 | 3½ | ESP-L16EM2 | **4M154** | 65.69 | **49.20** | 4.0 |
| **25** | 1/30 | 1500 | TEAO | 115 | 1.1 | 1/4 x 1/2 | 3½ | ESP-L25EM1 | **4M155** | 73.26 | **54.90** | 4.5 |
| | 1/30 | 1500 | TEAO | 230 | 0.6 | 1/4 x 1/2 | 3½ | ESP-L25EM2 | **4M156** | 75.39 | **56.45** | 4.5 |
| **35** | 1/22 | 1500 | TEAO | 115 | 1.4 | 1/4 x 1/2 | 3½ | ESP-L35EM1 | **4M157** | 76.73 | **57.50** | 4.5 |
| | 1/22 | 1500 | TEAO | 230 | 0.7 | 1/4 x 1/2 | 3½ | ESP-L35EM2 | **4M158** | 77.62 | **58.15** | 4.5 |
| **50** | 1/15 | 1500 | Op AO | 115 | 1.7 | 3/8 x 1½ | 3¾ | ESP-OL50EM1 | **4M159** | 80.55 | **60.35** | 6.3 |
| | 1/15 | 1500 | Op AO | 230 | 0.9 | 3/8 x 1½ | 3¾ | ESP-OL50EM2 | **4M160** | 83.82 | **63.75** | 5.8 |

# C-FRAME MOTORS

## SHADED POLE, C-FRAME (3" HIGH), OPEN AIR-OVER, SINGLE AND TWO SPEED

**Typical Uses:** Small fans and blowers found in bathroom ventilators, rangehoods, electric heaters, hair dryers, slide projectors, air cleaners, humidifiers and refrigeration equipment. Ball bearing models are designed for extended life in temperature-sensitive applications such as business machine cooling systems, audio visual equipment, and wood burning stoves.

**Special Features:** Coils are bobbin-wound for uniformity and are wrapped with flame retardant material.

**Type:** Shaded pole

**Bearings:** Sleeve type are sintered bronze with large felt wick oil reservoir; ball bearings are permanently lubricated and double-shielded. All have zinc die-cast bearing brackets.

**Mounting:** Studs from shaft end, two 9/64" dia. mounting holes on each side of stator 1 7/8" OC. All-angle.

**Service Factor:** 1.0

**Ambient:** 40°C

**Duty:** Continuous air-over

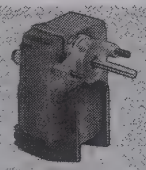
**Rotation:** CW facing shaft

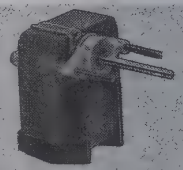
**Brand:** Dayton

**UL Recognized:** (E47479) for construction; (E40077) for impedance protection; (E37403) for thermal protection

CAUTION:
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Dayton
E47479 20432


No. 4M067
Sleeve Bearing Model


No. 4M077
Ball Bearing Model

| HP | Nameplate RPM | Thermal Protection | Volts 60 Hz | Full-Load Amps | Stack Size (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SLEEVE BEARING, CLASS B INSULATION** | | | | | | | | | | | |
| **1/500** | 3000 | Impedance | 115 | 0.26 | 3/8 | 3/16 x 1 | 1 3/8 | **4M067** | $11.55 | **$10.33** | 0.8 |
| **1/250** | 3000 | Impedance | 115 | 0.32 | 1/2 | 3/16 x 1 | 1 7/16 | **4M068** | 12.10 | **10.62** | 1.0 |
| | 3000 | Impedance | 230 | 0.15 | 1/2 | 3/16 x 1 | 1 7/16 | **4M069** | 12.43 | **10.89** | 0.9 |
| **1/150** | 3000 | Impedance | 115 | 0.43 | 5/8 | 3/16 x 1 | 1 9/16 | **4M070** | 12.87 | **11.36** | 1.2 |
| | 3000 | Impedance | 230 | 0.21 | 5/8 | 3/16 x 1 | 1 9/16 | **4M071** | 13.20 | **11.59** | 1.2 |
| **1/100** | 3000 | Impedance | 115 | 0.47 | 7/8 | 3/16 x 1 | 1 13/16 | **4M072** | 16.50 | **13.71** | 1.6 |
| **1/70** | 3000 | Auto | 115 | 0.88 | 7/8 | 3/16 x 1 | 1 13/16 | **4M073** | 17.93 | **15.93** | 1.6 |
| | 3000 | Auto | 230 | 0.44 | 7/8 | 3/16 x 1 | 1 13/16 | **4M074** | 18.26 | **16.17** | 1.5 |
| | 3000/2-Spd | Auto | 115 | 0.76 | 7/8 | 3/16 x 1 | 1 13/16 | **4M075** | 18.37 | **16.24** | 1.5 |
| **1/40** | 3000 | Auto | 115 | 1.10 | 1 1/2 | 1/4 x 1 | 2 7/16 | **4M076** | 22.33 | **19.74** | 2.5 |
| **1/20** | 3000 | Auto | 115 | 2.90 | 2 | 1/4 x 1 | 3 | **5M064** | 30.80 | **26.50** | 3.5 |
| **BALL BEARING, CLASS B INSULATION** | | | | | | | | | | | |
| **1/250** | 3000 | Impedance | 115 | 0.42 | 1/2 | 3/16 x 2 | 1 7/16 | **4M077** | 22.44 | **20.03** | 1.0 |
| **1/150** | 3000 | Impedance | 115 | 0.51 | 5/8 | 3/16 x 2 | 1 9/16 | **4M078** | 23.98 | **21.23** | 1.3 |
| **1/70** | 3000 | Auto | 115 | 0.88 | 7/8 | 3/16 x 2 | 1 13/16 | **4M079** | 28.49 | **25.20** | 1.7 |
| **1/40** | 3000 | Auto | 115 | 1.10 | 1 1/2 | 1/4 x 2 | 2 7/16 | **4M080** | 33.77 | **29.85** | 2.7 |

## SHADED POLE, C-FRAME (3" HIGH), OPEN AIR-OVER, OEM REPLACEMENT

**Typical Uses:** OEM replacement motors in popular kitchen and bath vent fans manufactured by Broan, Nutone, Aubrey, and Fasco.

**Special Features:** Short cordset with two prong male plug. Bobbin-wound coil is wrapped with flame retardant material.

**Type:** Shaded pole

**Bearings:** Bronze sleeve with large felt wick oil reservoir.

**Mounting:** All-angle

**Thermal Protection:** Impedance (except Nos. 4M180 and 4M209 have one shot protection)

**Insulation Class:** B

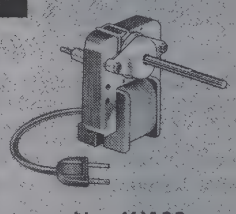
**Ambient:** 40°C

**Duty:** Continuous air-over

**Brand:** Dayton

| OEM Mfr. | OEM Part No. | HP | Nameplate RPM | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps | Stack Size (In.) | Shaft Dimens. (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nutone | C65878 | 1/150 | 2800 | CCW | 115 | 0.78 | 1/2 | 7/32 x 1 3/4 | **4M209** | $19.47 | **$17.24** | 1.0 |
| Fasco | 0648-0027 | 1/125 | 2750 | CW | 115 | 0.74 | 1/2 | 3/16 x 1 1/8 | **4M212** | 16.17 | **14.34** | 1.0 |
| Nutone, Air-King | Various | 1/150 | 2750 | CW | 115 | 0.47 | 5/8 | 7/32 x 2 3/8 | **4M180** | 17.60 | **15.61** | 1.3 |
| Broan | 99080207 | 1/150 | 2800 | CCW | 115 | 0.66 | 5/8 | 3/16 x 1 5/16 | **4M210** | 16.83 | **14.47** | 1.2 |
| Aubrey | 2200-02 | 1/150 | 2850 | CW | 115 | 0.68 | 5/8 | 3/16 x 1 5/16 | **4M211** | 16.50 | **14.57** | 1.1 |

Dayton
E47479 20432


No. 4M180

## SHADED POLE, C-FRAME (3" HIGH), OPEN AIR-OVER

**Typical Uses:** Direct replacement for Carrier high efficiency combustion furnaces.

**Special Features:** Plug provides exact interchange ability with the OEM motor. Double shaft extension.

**Type:** Shaded pole

**Bearings:** Ball

**Mounting:** Hole

**Service Factor:** 1.0

**Ambient:** 40°C

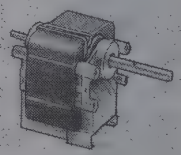
**Rotation:** CW view facing lead end

**Brand:** Dayton

**UL Recognized:** (E47479) for construction; (E37403) for thermal protection

| HP | Nameplate RPM | Thermal Protection | Volts 60 Hz | Full-Load Amps | Stack Size (In.) | Shaft Dimensions (In.) Dia. x Length | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/40** | 3200 | Auto | 120 | 2.50 | 1 1/2 | 7/32 x 3/4, 5/16 x 2 | 2 1/2 | **5M065** | $45.76 | **$34.85** | 3.1 |
| **1/40** | 3200 | Auto | 230 | 1.40 | 1 1/2 | 7/32 x 3/4, 5/16 x 2 | 2 1/2 | **5M066** | 46.80 | **36.10** | 3.0 |

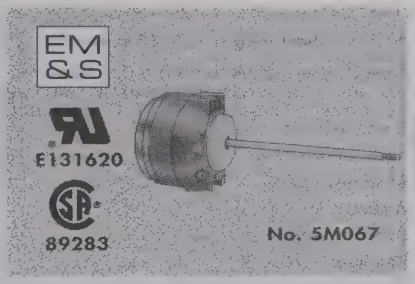
Dayton
E47479 20432


No. 5M065

# UNIT BEARING WATER AGITATOR AND VENTILATION/REFRIGERATION MOTORS

## UNIT BEARING WATER AGITATOR MOTORS

**Typical Uses:** Direct replacements on ice bank beverage dispensers.
**Special Features:** Cast-iron unit bearing construction with machined 420 stainless steel shaft. Original equipment on Cornelius, Lancer, Alco, Wilshire, Booth, K-Way, and Multiplex. Eleven #8-36 mounting screws included.
**Type:** Shaded pole
**Mounting:** Rigid foot base, vertical shaft down
**Enclosure:** Totally enclosed
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** A (E129192)
**Body Diameter:** 3⅞"
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CCW view facing shaft end
**Finish:** Black enamel
**Brand:** Electric Motors and Specialties
**UL Recognized:** E131620 for construction; E128044 for thermal protection




| Watts | Nameplate RPM | Volts 60/50 Hz | Full-Load Amps at Nameplate Volts | Shaft Dimensions Dia. x Length | EMS Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **15** | 1500 | 115 | 0.60 | 5/16 x 7" w/1/4-20 thread | ESPL15EM-JR1B1 | **5M067** | $95.00 | **$71.35** | 5.0 |
| | 1500 | 115 | 0.60 | 5/16 x 5" w/1" flat | ESPL15EM-JR1B2 | **5M068** | 92.00 | **68.85** | 4.9 |

**CAUTION: Not for fans in unattended areas.** **Refer to page 6 for UL507 Standard and other motor regulatory information.**

# VENTILATION/REFRIGERATION MOTORS

## UNIVERSAL EVAPORATOR FAN MOTOR KIT

**Typical Uses:** Replaces hundreds of OEM motors as well as GEM EM-240 Series, MARS #90999, SUPCO, #SM-999, and Acme-Miami AM-4240 Series C-frame with 3" overall height.
**Special Features:** Includes all necessary hardware, adapters, brackets, and installation instructions. 2" break-off shaft.
**Type:** Shaded pole.
**Bearings:** Sleeve
**Enclosure:** Open air-over
**Duty:** Continuous

## UNIVERSAL REFRIGERATION FAN MOTOR KIT

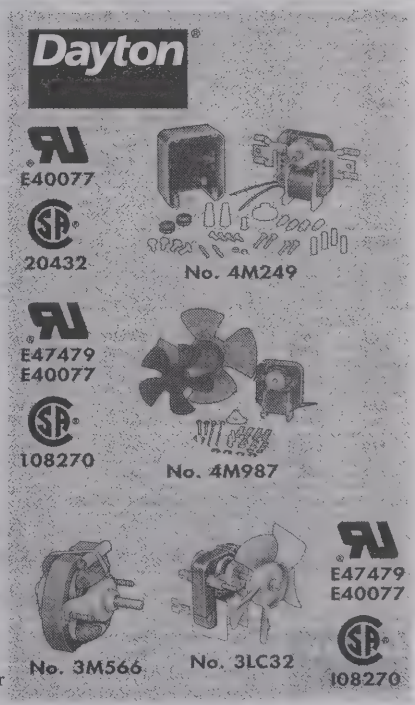
**Typical Uses:** Replace hundreds of standard C-frame motors as well as 3.3, 3.5, and 4" diameter motors.
**Special Features:** Contains 4 and 5½" fan blades, hub adapter, screws, H-brackets, washers, and wire nuts for a wide variety of mountings.
**Approvals:** UL Recognized Component (E47479); UL Impedance Protected (E40077); CSA Certified (108270).
**Type:** Shaded pole
**Bearings:** Bronze sleeve
**Enclosure:** Open air-over
**Duty:** Continuous air-over

## UNCASED SMALL FAN MOTOR

**Typical Uses:** For small fans and blowers in bathroom ventilators, rangehoods, electric hair dryers, heaters, slide projectors, air cleaners, humidifiers, and refrigeration equipment.
**Special Features:** Two pole construction.
**Type:** Shaded pole
**Bearings:** All-angle, self-aligning sleeve
**Mounting:** Stud on shaft end, 2⅞" OC
**Overall Length:** 2⅛"
**Ambient:** 40°C
**Duty:** Continuous air-over

## EVAPORATOR FAN MOTOR FOR CHOICE BRAND VENDING MACHINES

**Typical Uses:** OEM replacement for evaporator fan motor in Choice brand vending machines.
**Special Features:** Two double male electrical terminals, new fan blade, and front mount. Studs 1⅞" OC.
**Approvals:** UL Recognized Component (E47479); UL Impedance Protected (E40077); CSA Certified (108270)
**Type:** Shaded pole
**Bearings:** All-angle sleeve
**Mounting:** Front mount
**Ambient:** 40°C
**Duty:** Continuous air-over




| HP | Nameplate RPM | Rotation Facing Shaft End | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **UNIVERSAL EVAPORATOR FAN MOTOR KIT** | | | | | | | | | | | | |
| **1/250** | 3000 | Mechanically Reversible | Impedance | 115 | 0.32 | 1.0 | A | 1/8 x 2 | **4M249** | $27.94 | **$24.62** | 1.5 |
| **UNIVERSAL REFRIGERATION FAN MOTOR KIT** | | | | | | | | | | | | |
| **1/135** | 3000 | Mechanically Reversible | Impedance | 115 | 0.35 | 1.0 | B | 3/16 x 1⅜ | **4M987** | 23.50 | **19.84** | 1.5 |
| **UNCASED SMALL FAN MOTOR** | | | | | | | | | | | | |
| **1/70** | 3000 | CW | Auto | 115 | 1.00 | 1.0 | A | 1/4 x 2 | **3M566** | 27.04 | **20.64** | 1.7 |
| **EVAPORATOR FAN MOTOR FOR CHOICE BRAND VENDING MACHINES** | | | | | | | | | | | | |
| **1/150** | 3000 | CCW | Impedance | 115 | 0.45 | 1.0 | B | 3/8 x 1½ | **3LC32** | 26.25 | **23.82** | 1.3 |

# SPLIT-PHASE C-FACE MOTORS

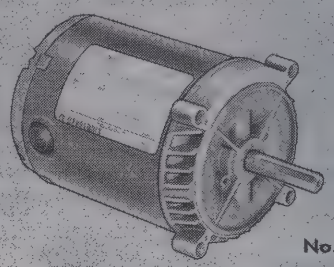
- **2¼" shaft length x 5/8" diameter**

**Typical Uses:** Commercial fans, blowers, and other air-moving applications that can be directly mounted to a C-face end-mounted motor.

**Type:** Split-phase
**Bearings:** Ball
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

E47088

Replacement Parts Available 1-800-323-0620™



No. 2K713

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF, SINGLE SPEED, NO BASE** | | | | | | | | | | | | |
| **1/12** | 1140 | 56CZ | None | 115 | 2.4 | 1.40 | B | H204 | **2K713** | $155.00 | **$97.70** | 14.0 |
| | 850 | 56CZ | None | 115 | 3.2 | 1.40 | B | H205 | **2K714** | 247.00 | **149.30** | 19.0 |
| **1/8** | 1140 | 56CZ | None | 115 | 3.8 | 1.40 | B | H206 | **2K715** | 170.00 | **107.20** | 16.0 |
| | 850 | 56CZ | None | 115 | 4.6 | 1.40 | B | H207 | **2K716** | 303.00 | **183.25** | 21.0 |
| **1/6** | 1725 | 56CZ | None | 115 | 4.2 | 1.35 | B | H208 | **2K717** | 130.00 | **80.00** | 12.0 |
| | 1140 | 56CZ | None | 115 | 4.0 | 1.35 | B | H209 | **2K718** | 190.00 | **119.75** | 19.0 |
| | 850 | 56CZ | None | 115 | 6.1 | 1.35 | B | H211 | **2K719** | 340.00 | **205.50** | 31.0 |
| **1/4** | 1725 | 56CZ | None | 115 | 5.6 | 1.35 | B | H212 | **2K720** | 140.00 | **88.85** | 13.0 |
| | 1140 | 56CZ | None | 115 | 5.6 | 1.35 | B | H214 | **2K721** | 247.00 | **146.95** | 23.0 |
| **1/3** | 1725 | 56CZ | None | 115 | 6.6 | 1.35 | B | H217 | **2K723** | 159.00 | **100.25** | 15.0 |
| | 1140 | 56CZ | None | 115 | 7.0 | 1.35 | B | H219 | **2K724** | 286.00 | **177.25** | 31.0 |
| **1/2** | 1725 | 56CZ | None | 115 | 8.7 | 1.25 | B | H290 | **2K726** | 215.00 | **117.25** | 17.0 |
| | 1140 | 56CZ | None | 115 | 9.0 | 1.25 | B | H221 | **2K727** | 368.00 | **205.25** | 37.0 |

**OPEN DRIPPROOF, TWO SPEED†, NO BASE**

| HP at High RPM | HP at Low RPM | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/6** | **1/15** | 1140/850 | 56CZ | None | 115 | 4.2/2.9 | 1.35 | B | H222 | **2K728** | $296.00 | **$180.00** | 27.0 |
| **1/4** | **1/12** | 1725/1140 | 56CZ | None | 115 | 4.2/2.7 | 1.35 | B | H223 | **2K729** | 190.00 | **118.45** | 19.0 |
| | **1/10** | 1140/850 | 56CZ | None | 115 | 5.8/3.6 | 1.35 | B | H224 | **2K730** | 360.00 | **219.00** | 31.0 |
| **1/3** | **1/10** | 1725/1140 | 56CZ | None | 115 | 5.7/3.2 | 1.35 | B | H225 | **2K731** | 238.00 | **147.75** | 25.0 |
| **1/2** | **1/6** | 1725/1140 | 56CZ | None | 115 | 8.0/4.2 | 1.25 | B | H226 | **2K732** | 298.00 | **181.00** | 27.0 |

(†) Two-speed switch No. 2X605 is available, see page 3622.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## GRAINGER STOCKS A BROAD LINE OF DAYTON AND GE MOTORS

**Top Performance.** Dayton motors are built to exceed industry standards such as NEMA (National Electrical Manufacturers Association). Used as a replacement motor in a wide variety of applications, each Dayton motor must outperform the best motor it may be called upon to replace, hence "best of the best" performance. You can be confident that the Dayton motor will work as well as, or better than, the motor you are replacing.

**Clearly Identified.** Dayton motors are clearly identified by full fact carton labels and nameplates with wiring diagrams. Maintenance and installation instructions appear in every motor carton.

**Broad Line Offering.** Dayton offers one of the broadest lines of motors in the industry. One brand can be used for nearly all your motor replacement needs.

**Time Proven Performance.** Established in 1937, Dayton has grown to be one of the most dependable names in the motor industry.

**Broad Line Offering.** Grainger now offers over 2400 stock GE brand motors including AC and DC motors from 1/370 HP to 450 HP in Energy $aver™ and standard efficiency designs including severe duty, explosion proof, farm duty, HVAC, and many others.

**National Recognition.** GE is considered the leading national brand motor with the largest installed customer base. The GE brand is widely known for quality and reliability.

**Clearly Identified.** GE motors are clearly identified by full fact carton labels and nameplates. Easy-to-read wiring diagrams are included.

**Premium Efficiency Leader.** GE has long been recognized as an industry leader in premium efficiency motors with a wide variety of ratings and types to suit many applications.

**Heritage of Excellence.** General Electric is one of the pioneers in the electrical industry with a proud 100 year history dating back to the time of founder Thomas Edison.

# CAPACITOR-START C-FACE MOTORS



- **Copper windings**
- **Removable base on 145TC and larger frame sizes**
- **Service factors up to 1.35**

**Typical Uses:** For powering industrial and commercial pumps, speed reducers, blowers, machine tools, and other equipment that can be directly connected to an end-mounted motor.

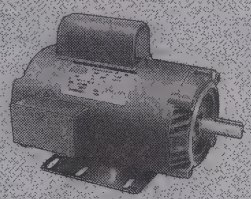
**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

**Replacement Parts Available**
**1-800-323-0620**

Dayton

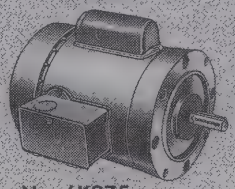
E47479

**CAUTION:** **Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.



No. 4K812
Open Dripproof
with Removable Rigid Base

50 Hz Models Available, See Index



No. 6K975
TEFC, 56C Face

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF, NO BASE** | | | | | | | | | | | |
| **1/4** | 1725 | 56C | None | 115/230 | 5.2/2.6 | 1.35 | A | **6K974** | $146.00 | **$111.55** | 17.0 |
| **1/3** | 1725 | 56C | None | 115/230 | 7.6/3.8 | 1.35 | A | **5K339** | 173.00 | **118.15** | 18.0 |
| **1/3** | 1725 | 56C | Auto | 115/230 | 7.6/3.8 | 1.35 | A | **6K005** | 181.00 | **138.10** | 19.0 |
| **1/2** | 1725 | 56C | None | 115/230 | 9.0/4.5 | 1.25 | A | **5K340** | 197.00 | **134.15** | 21.0 |
| **3/4** | 1725 | 56C | None | 115/230 | 12.4/6.2 | 1.25 | A | **5K435** | 238.00 | **163.25** | 25.0 |
| **1** | 1725 | 56C | None | 115/230 | 13.6/6.8 | 1.15 | A | **5K673** | 265.00 | **203.00** | 30.0 |
| **1 1/2** | 1725 | 56C | None | 115/230 | 20.4/10.2 | 1.15 | B | **1K073** | 305.00 | **233.50** | 37.0 |
| **2** | 1725 | 56C | None | 115/230 | 21.4/10.7 | 1.15 | B | **1K074*** | 374.00 | **286.75** | 40.0 |
| **OPEN DRIPPROOF, RIGID WELDED BASE** | | | | | | | | | | | |
| **1/3** | 1725 | 56C | None | 115/230 | 7.6/3.8 | 1.35 | A | **5K109** | 190.00 | **145.05** | 20.0 |
| **1/2** | 1725 | 56C | None | 115/230 | 9.0/4.5 | 1.25 | A | **5K110** | 216.00 | **165.50** | 22.0 |
| **3/4** | 1725 | 56C | None | 115/230 | 12.4/6.2 | 1.25 | A | **1K084** | 248.00 | **190.00** | 28.0 |
| **OPEN DRIPPROOF, REMOVABLE BASE** | | | | | | | | | | | |
| **1** | 1740 | 145TC† | None | 115/230 | 14.4/7.2 | 1.15 | B | **4K811** | 233.00 | **218.75** | 40.0 |
| **1 1/2** | 1740 | 145TC† | None | 115/230 | 20.4/10.2 | 1.15 | B | **4K812** | 289.00 | **271.75** | 43.0 |
| **2** | 1740 | 182TC† | None | 115/230 | 25.6/12.8 | 1.15 | B | **4K813** | 320.00 | **304.75** | 64.0 |
| **3** | 3500 | 182TC† | None | 115/230 | 32.0/16.0 | 1.15 | B | **4K814** | 451.00 | **430.00** | 72.0 |
| **3** | 1740 | 184TC† | None | 115/230 | 33.0/16.5 | 1.15 | B | **4K815** | 433.00 | **413.00** | 86.0 |
| **TEFC, NO BASE** | | | | | | | | | | | |
| **1/8** | 1725 | 42CZ# | None | 115/230 | 4.0/2.0 | 1.0 | B | **1K056** | 157.00 | **120.10** | 18.0 |
| **1/6** | 1725 | 42CZ# | None | 115/230 | 4.2/2.1 | 1.0 | B | **1K057** | 161.00 | **123.30** | 18.0 |
| **1/4** | 1725 | 42CZ# | None | 115/230 | 5.2/2.6 | 1.0 | B | **1K058** | 169.00 | **129.45** | 22.0 |
| | 1725 | 56C | None | 115/230 | 5.8/2.9 | 1.15 | A | **6K975** | 169.00 | **129.50** | 18.0 |
| **1/3** | 3450 | 56C | Auto | 115/230 | 6.4/3.2 | 1.0 | A | **6K181** | 153.00 | **113.95** | 19.0 |
| | 1725 | 42CZ# | None | 115/230 | 7.0/3.5 | 1.0 | B | **1K059** | 186.00 | **141.95** | 23.0 |
| | 1725 | 56C | None | 115/230 | 7.2/3.6 | 1.15 | A | **5K341** | 186.00 | **125.65** | 20.0 |
| **1/2** | 3450 | 56C | Auto | 115/230 | 8.0/4.0 | 1.0 | A | **6K182** | 171.00 | **127.70** | 21.0 |
| | 1725 | 56C | None | 115/230 | 9.0/4.5 | 1.15 | B | **6K342** | 217.00 | **145.10** | 22.0 |
| **3/4** | 3450 | 56C | Auto | 115/230 | 9.8/4.9 | 1.0 | A | **6K831** | 198.00 | **147.40** | 26.0 |
| | 1725 | 56C | None | 115/230 | 11.4/5.7 | 1.15 | B | **6K436** | 257.00 | **171.75** | 28.0 |
| **1** | 3450 | 56C | Auto | 115/230 | 12.0/6.0 | 1.0 | A | **6K197** | 244.00 | **159.25** | 27.0 |
| | 1725 | 56C | None | 115/230 | 14.0/7.0 | 1.15 | B | **6K674** | 294.00 | **197.00** | 32.0 |
| **1 1/2** | 3450 | 56C | Auto | 115/230 | 15.6/7.8 | 1.0 | A | **6K832** | 295.00 | **220.00** | 38.0 |
| | 1725 | 56C | None | 115/230 | 16.2/8.1 | 1.15 | B | **6K702*** | 333.00 | **254.25** | 40.0 |
| **2** | 1725 | 56C | None | 115/230 | 19.0/9.5 | 1.0 | B | **1K075*** | 501.00 | **383.50** | 40.0 |
| **TEFC, RIGID WELDED BASE** | | | | | | | | | | | |
| **1/3** | 3450 | 56C | Auto | 115/230 | 6.4/3.2 | 1.0 | A | **1K076** | 157.00 | **120.10** | 20.0 |
| | 1725 | 56C | None | 115/230 | 6.8/3.4 | 1.0 | A | **1K077** | 189.00 | **144.30** | 21.0 |
| **1/2** | 3450 | 56C | Auto | 115/230 | 8.0/4.0 | 1.0 | A | **1K078** | 181.00 | **138.10** | 22.0 |
| | 1725 | 56C | None | 115/230 | 9.0/4.5 | 1.0 | B | **1K079** | 227.00 | **174.25** | 23.0 |
| **3/4** | 3450 | 56C | Auto | 115/230 | 9.8/4.9 | 1.0 | A | **1K080** | 202.00 | **154.75** | 28.0 |
| | 1725 | 56C | None | 115/230 | 11.2/5.6 | 1.0 | B | **1K081** | 272.00 | **208.50** | 29.0 |
| **1** | 3450 | 56C | None | 115/230 | 12.0/6.0 | 1.0 | B | **3K348** | 223.00 | **171.25** | 29.0 |
| | 1725 | 56HC | None | 115/230 | 14.0/7.5 | 1.0 | B | **6K045** | 309.00 | **207.50** | 33.0 |
| **1 1/2** | 1725 | 56HC | None | 115/230 | 17.6/8.8 | 1.0 | B | **1K082*** | 366.00 | **280.25** | 41.0 |
| **2** | 1725 | 56HC | None | 115/230 | 19.0/9.5 | 1.0 | B | **1K083*** | 504.00 | **385.75** | 43.0 |

(*) Capacitor-start, capacitor-run. (†) Removable base. (#) 42CZ frame motors have 1/2 x 11/8" shaft with key. NOTE: All TEFC and T-frame models supplied with conduit box.

# CAPACITOR-START C-FACE MOTORS

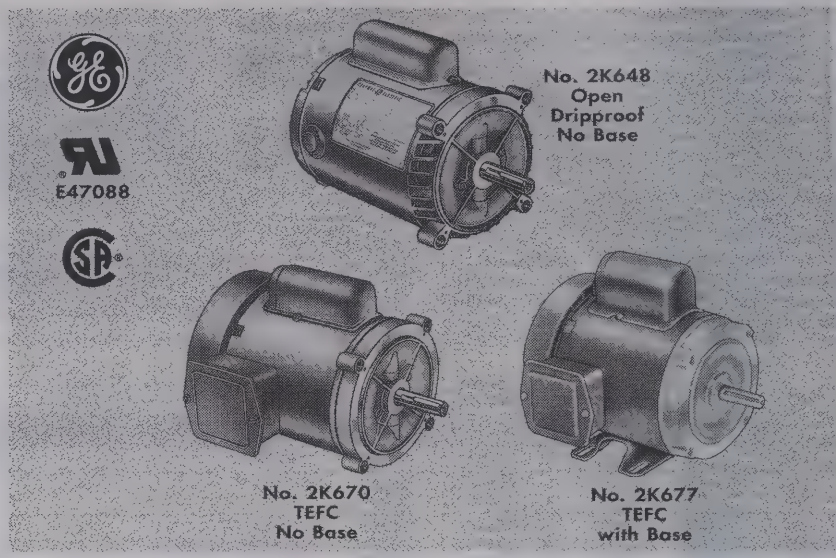
**Typical Uses:** For powering industrial and commercial pumps, speed reducers, machine tools, and other equipment that can be directly connected to a NEMA 56C face end-mounted motor.

**Type:** Capacitor-start
**Bearings:** Ball
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** GE

**Replacement Parts Available**
**1-800-323-0620**

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

E47088




| HP | Nameplate RPM | NEMA Frame | Rotation Facing Lead End | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF, NO BASE** | | | | | | | | | | | | | |
| 1/4 | 1725 | 56C | CW/CCW | None | 115/208-230 | 5.2/2.7-2.6 | 1.35 | B | C1296 | **3K070** | $166.00 | **$103.50** | 15.0 |
| | 1725 | 56C | CW/CCW | Auto | 115/230 | 5.2/2.6 | 1.35 | B | C354 | **2K648** | 173.00 | **106.35** | 16.0 |
| 1/3 | 1725 | 56C | CW/CCW | None | 115/208-230 | 6.6/3.4-3.3 | 1.35 | B | C355 | **3K071** | 201.00 | **120.80** | 16.0 |
| | 1725 | 56C | CW/CCW | Auto | 115/230 | 6.6/3.3 | 1.35 | B | C356 | **2K649** | 209.00 | **124.90** | 19.0 |
| | 1725 | 56J‡ | CCW | Auto | 115/230 | 6.6/3.3 | 1.35 | B | C683 | **2K650** | 219.00 | **136.70** | 17.0 |
| 1/2 | 1725 | 56C | CW/CCW | None | 115/208-230 | 8.8/4.2-4.4 | 1.25 | B | C358 | **3K072** | 228.00 | **135.45** | 19.0 |
| | 1725 | 56C | CW/CCW | Auto | 115/230 | 8.8/4.4 | 1.25 | B | C359 | **2K651** | 237.00 | **134.45** | 21.0 |
| | 1140 | 56C | CW/CCW | None | 115/230 | 9.4/4.7 | 1.25 | B | C1422 | **2K646** | 416.00 | **250.25** | 40.0 |
| 3/4 | 1725 | 56C | CW/CCW | None | 115/208-230 | 13.2/6.2-6.6 | 1.25 | B | C361 | **3K073** | 275.00 | **166.00** | 25.0 |
| | 1725 | 56C | CW/CCW | Auto | 115/230 | 13.2/6.6 | 1.25 | B | C362 | **2K653** | 283.00 | **171.25** | 23.0 |
| | 1725 | 56J‡ | CCW | Auto | 115/230 | 13.2/6.6 | 1.25 | B | C685 | **2K654** | 309.00 | **193.25** | 23.0 |
| | 1140 | 56C | CW/CCW | None | 115/230 | 12.6/6.3 | 1.15 | B | C1412 | **2K645*** | 452.00 | **271.00** | 39.0 |
| 1 | 1725 | 56C | CW/CCW | None | 115/208-230 | 13.8/7.2-6.9 | 1.15 | B | C1297 | **3K074** | 319.00 | **191.50** | 32.0 |
| | 1725 | 56C | CW/CCW | Auto | 115/230 | 13.6/6.8 | 1.15 | B | C363 | **2K655** | 323.00 | **194.25** | 29.0 |
| **TEFC, NO BASE** | | | | | | | | | | | | | |
| 1/6 | 1725 | 56C | CW/CCW | None | 115 | 4.0 | 1.0 | B | H244 | **2K668†** | 186.00 | **113.05** | 14.0 |
| 1/4 | 1725 | 56C | CW/CCW | None | 115/230 | 5.4/2.7 | 1.0 | B | C366 | **2K670** | 196.00 | **117.25** | 19.0 |
| | 1140 | 56C | CW/CCW | None | 115/230 | 6.2/3.1 | 1.0 | B | C1423 | **2K667** | 288.00 | **173.50** | 27.0 |
| 1/3 | 3450 | 56C | CW/CCW | None | 115/230 | 5.6/2.8 | 1.15 | B | C1419 | **2K663** | 175.00 | **110.10** | 17.0 |
| | 1725 | 56C | CW/CCW | None | 115/230 | 6.0/3.0 | 1.0 | B | C367 | **3K015** | 214.00 | **129.80** | 18.0 |
| 1/2 | 1725 | 56C | CW/CCW | None | 115/230 | 8.6/4.3 | 1.15 | B | C368 | **3K016** | 251.00 | **150.50** | 23.0 |
| | 1140 | 56C | CW/CCW | None | 115/230 | 9.4/4.7 | 1.0 | B | C1404 | **2K666** | 444.00 | **266.75** | 38.0 |
| 3/4 | 1725 | 56C | CW/CCW | None | 115/230 | 11.0/5.5 | 1.0 | B | C369 | **3K017** | 297.00 | **178.50** | 32.0 |
| 1 | 1725 | 56C | CW/CCW | None | 115/230 | 13.2/6.6 | 1.0 | B | C370 | **3K018** | 340.00 | **203.00** | 39.0 |
| 1 1/2 | 3450 | 56C | CW/CCW | None | 115/230 | 16.4/8.2 | 1.0 | B | C1424 | **2K665** | 347.00 | **208.25** | 35.0 |
| | 1725 | 56C | CW/CCW | None | 115/208-230 | 14.8/7.4 | 1.0 | B | C371 | **3K020*** | 430.00 | **251.25** | 46.0 |
| 2 | 3450 | 56C | CW/CCW | None | 115/230 | 17.8/8.9 | 1.15 | B | C1407 | **2K661*** | 435.00 | **261.50** | 40.0 |
| **TEFC, RIGID WELDED BASE** | | | | | | | | | | | | | |
| 1/3 | 1725 | 56C | CW/CCW | None | 115/230 | 6.0/3.0 | 1.0 | B | C1405 | **2K674** | 227.00 | **135.40** | 19.0 |
| 1/2 | 1725 | 56C | CW/CCW | None | 115/230 | 8.6/4.3 | 1.0 | B | C375 | **2K677** | 264.00 | **155.50** | 21.0 |
| | 3450 | 56C | CW/CCW | None | 115/230 | 7.4/3.7 | 1.25 | B | C1420 | **2K664** | 197.00 | **123.10** | 19.0 |
| 3/4 | 3450 | 56C | CW/CCW | None | 115/230 | 9.8/4.9 | 1.0 | B | C1411 | **2K671** | 240.00 | **147.95** | 22.0 |
| | 1725 | 56C | CW/CCW | None | 115/230 | 11.6/5.8 | 1.0 | B | C1425 | **2K676** | 327.00 | **184.00** | 33.0 |
| 1 | 3450 | 56C | CW/CCW | None | 115/230 | 13.4/6.7 | 1.0 | B | C1426 | **2K673** | 268.00 | **163.00** | 29.0 |
| | 1725 | 56C | CW/CCW | None | 115/230 | 13.2/6.6 | 1.0 | B | C376 | **2K678** | 358.00 | **215.50** | 39.0 |

(*) Capacitor-start, capacitor-run. (†) Split-phase. (‡) 56J frame motors have threaded shaft.

# 3-PHASE OPEN DRIPPROOF C-FACE MOTORS



- **Industrial duty**
- **T-frame models are NEMA Design B**

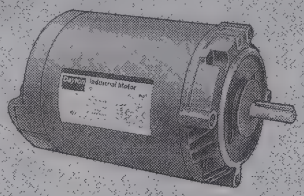
**Typical Uses:** Pumps, speed reducers, machine tools, and other equipment that can be directly connected to a NEMA C-face end-mounted motor where 3-phase power is available.

**Type:** 3-phase
**Bearings:** Double-shielded ball
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

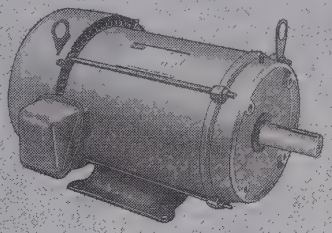
**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

Dayton® New

E47479



No. 3N028
Open Dripproof
No Base



No. 3N348
TEFC with
Rigid Base

Replacement Parts Available
1-800-323-0620

| HP | Nameplate RPM at 60 Hz | Nameplate RPM at 50 Hz | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF, NO BASE** | | | | | | | | | | | | |
| 1/4 | 1725 | 1425 | 56C | 208-220/440* | 1.2-1.4/0.7 | 1.35 | 66.0 | B | 3N874 | $158.00 | $120.90 | 17.0 |
| | 1140 | — | 56C | 208-230/460 | 1.4-1.4/0.7 | 1.35 | 76.0 | B | 1Z934 | 205.00 | 151.00 | 17.0 |
| 1/3 | 3450 | — | 56C | 208-230/460 | 1.4-1.4/0.7 | 1.35 | 64.0 | B | 1Z946 | 138.00 | 101.55 | 16.0 |
| | 1725 | 1425 | 56C | 208-220/440* | 1.5-1.6/0.8 | 1.35 | 66.0 | A | 2N913 | 165.00 | 104.50 | 18.0 |
| | 1140 | — | 56C | 208-230/460 | 1.7-1.8/0.9 | 1.15 | 77.0 | B | 1Z948 | 222.00 | 164.25 | 23.0 |
| 1/2 | 3450 | — | 56C | 208-230/460 | 1.8-1.8/0.9 | 1.25 | 70.0 | B | 1Z955 | 145.00 | 106.95 | 19.0 |
| | 1725 | 1425 | 56C | 208-220/440* | 2.0-2.0/1.0 | 1.25 | 72.0 | A | 2N914 | 189.00 | 120.40 | 20.0 |
| | 1140 | — | 56C | 208-230/460 | 2.2-2.3/1.1 | 1.25 | 70.0 | B | 2R950 | 254.00 | 186.50 | 25.0 |
| 3/4 | 3450 | — | 56C | 208-230/460 | 2.6-2.4/1.2 | 1.25 | 76.0 | B | 1Z958 | 172.00 | 126.75 | 20.0 |
| | 1725 | 1425 | 56C | 208-220/440* | 2.7-2.8/1.4 | 1.25 | 78.5 | A | 2N923 | 209.00 | 136.70 | 22.0 |
| | 1140 | — | 56C | 208-230/460 | 3.4-3.5/1.7 | 1.15 | 76.0 | B | 1Z972 | 274.00 | 201.75 | 30.0 |
| | 1140 | — | 143TC | 208-230/460 | 3.4-3.5/1.7 | 1.15 | 76.0 | B | 1Z976 | 274.00 | 201.75 | 30.0 |
| 1 | 3450 | — | 56C | 208-230/460 | 3.7-3.8/1.9 | 1.25 | 77.0 | B | 1Z983 | 198.00 | 145.55 | 23.0 |
| | 1725 | 1425 | 56C | 208-220/440* | 3.6-3.6/1.8 | 1.15 | 78.5 | A | 3N028 | 208.00 | 144.85 | 26.0 |
| | 1740 | — | 143TC | 230/460# | 3.9/1.9 | 1.15 | 77.0 | B | 3N869 | 232.00 | 152.25 | 25.0 |
| 1 1/2 | 3450 | — | 56C | 208-230/460 | 4.8-4.4/2.2 | 1.15 | 78.5 | B | 1Z997 | 230.00 | 169.00 | 26.0 |
| | 3450 | — | 143TC | 208-230/460 | 4.6-4.3/2.1 | 1.15 | 82.5 | B | 1Z995 | 231.00 | 170.00 | 30.0 |
| | 1725 | 1425 | 56C | 208-220/440* | 4.6-4.6/2.3 | 1.15 | 82.0 | B | 3N875 | 260.00 | 169.50 | 30.0 |
| | 1740 | — | 145TC | 230/460# | 5.0/2.5 | 1.15 | 80.0 | B | 3N870 | 245.00 | 159.50 | 30.0 |
| 2 | 3450 | — | 56C | 208-230/460 | 6.2-6.0/3.0 | 1.15 | 81.5 | B | 2R920 | 265.00 | 195.75 | 33.0 |
| | 3450 | — | 145TC | 208-230/460 | 6.2-6.0/3.0 | 1.15 | 84.0 | B | 2R918 | 269.00 | 199.00 | 35.0 |
| | 1725 | — | 56C | 230/460# | 6.4/3.2 | 1.15 | 80.0 | B | 3N871 | 260.00 | 181.75 | 34.0 |
| | 1740 | — | 145TC | 230/460# | 6.4/3.2 | 1.15 | 80.0 | B | 3N872 | 263.00 | 170.50 | 34.0 |
| 3 | 3450 | — | 145TC | 208-230/460 | 9.2-8.7/4.3 | 1.15 | 84.0 | B | 2R922 | 286.00 | 210.75 | 36.0 |
| | 1725 | — | 143TC | 208-230/460 | 9.7-9.4/4.6 | 1.15 | 86.5 | B | 2R924 | 299.00 | 220.75 | 41.0 |
| **OPEN DRIPPROOF, RIGID BASE** | | | | | | | | | | | | |
| 1/3 | 3450 | — | 56C | 208-230/460 | 1.4-1.4/0.7 | 1.35 | 64.0 | B | 1Z867 | 154.00 | 113.00 | 16.0 |
| | 1725 | — | 56C | 208-230/460 | 1.5-1.7/0.8 | 1.35 | 62.0 | B | 1Z874 | 163.00 | 120.20 | 18.0 |
| 1/2 | 3450 | — | 56C | 208-230/460 | 1.8-1.8/0.9 | 1.25 | 70.0 | B | 1Z876 | 156.00 | 115.25 | 19.0 |
| | 1725 | — | 56C | 208-230/460 | 2.3-2.4/1.2 | 1.25 | 68.0 | B | 3GC89 | 187.00 | 136.90 | 20.0 |
| 3/4 | 1725 | — | 56C | 208-230/460 | 3.0-3.1/1.6 | 1.25 | 77.0 | B | 1Z881 | 206.00 | 151.25 | 23.0 |
| 1 | 1725 | — | 56HC | 208-230/460 | 4.0-3.8/1.9 | 1.15 | 82.5 | B | 1Z897 | 223.00 | 164.25 | 26.0 |
| | 1725 | — | 143TC | 208-230/460 | 3.5-3.4/1.7 | 1.15 | 82.5 | B | 1Z883 | 223.00 | 164.25 | 26.0 |
| 1 1/2 | 3450 | — | 56C | 208-230/460 | 4.8-4.4/2.2 | 1.15 | 78.5 | B | 1Z899 | 282.00 | 207.25 | 26.0 |
| | 3450 | — | 143TC | 208-230/460 | 4.6-4.3/2.1 | 1.15 | 82.5 | B | 1Z901 | 284.00 | 208.75 | 30.0 |
| | 1725 | — | 56HC | 208-230/460 | 5.0-4.9/2.5 | 1.15 | 84.0 | B | 1Z911 | 251.00 | 185.50 | 33.0 |
| | 1725 | — | 145TC | 208-230/460 | 5.0-4.9/2.5 | 1.15 | 84.0 | B | 1Z905 | 236.00 | 174.25 | 35.0 |
| 2 | 3450 | — | 56C | 208-230/460 | 6.2-6.0/3.0 | 1.15 | 81.5 | B | 1Z914 | 299.00 | 220.25 | 35.0 |
| | 1725 | — | 56HC | 208-230/460 | 6.6-6.3/3.3 | 1.15 | 84.0 | B | 1Z916 | 252.00 | 186.25 | 34.0 |
| | 1725 | — | 145TC | 208-230/460 | 6.6-6.6/3.3 | 1.15 | 84.0 | B | 1Z918 | 252.00 | 186.75 | 38.0 |
| 3 | 3450 | — | 145TC | 208-230/460 | 9.2-8.7/4.3 | 1.15 | 84.0 | B | 1Z920 | 301.00 | 221.50 | 36.0 |
| | 1725 | — | 145TC | 208-230/460 | 9.7-9.4/4.6 | 1.15 | 86.5 | B | 1Z924 | 287.00 | 211.75 | 41.0 |

(*) 50 Hz operation at rated voltage and 190/380V at 5/6 of 60 Hz speed.
(#) Operable at 50 Hz, 190/380V, at 5/6 of 60 Hz HP and speed (1.0 service factor).

CONTINUED ON NEXT PAGE

# 3-PHASE TEFC C-FACE MOTORS

## DAYTON 3-PHASE C-FACE MOTORS (Cont.)

| HP | Nameplate RPM at 60 Hz | Nameplate RPM at 50 Hz | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TEFC, NO BASE** | | | | | | | | | | | | |
| 1/4 | 1725 | 1425 | 42CZ† | 208-220/440* | 1.0-1.0/0.5 | 1.0 | 66.0 | B | **3N841** | $165.00 | **$126.45** | 17.0 |
| | 1725 | 1425 | 56C | 208-220/440* | 1.2-1.4/0.7 | 1.0 | 66.0 | B | **3N876** | 165.00 | **126.45** | 18.0 |
| | 1140 | — | 56C | 208-230/460 | 1.4-1.4/0.7 | 1.15 | 76.0 | B | **2R970** | 242.00 | **176.75** | 17.0 |
| 1/3 | 3450 | — | 56C | 208-230/460 | 1.4-1.3/0.7 | 1.15 | 74.0 | B | **2R972** | 155.00 | **114.45** | 18.0 |
| | 1725 | 1425 | 42CZ† | 208-220/440* | 1.3-1.3/0.7 | 1.0 | 70.0 | B | **3N842** | 173.00 | **132.60** | 20.0 |
| | 1725 | 1425 | 56C | 208-220/440* | 1.5-1.6/0.8 | 1.0 | 74.0 | A | **2N915** | 191.00 | **118.00** | 18.0 |
| | 1140 | — | 56C | 208-230/460 | 1.6-1.6/0.8 | 1.15 | 77.0 | B | **2R974** | 260.00 | **190.75** | 23.0 |
| 1/2 | 3450 | 2850 | 56C | 208-220/440* | 2.2-2.3/1.2 | 1.0 | 66.0 | A | **3N471** | 165.00 | **123.10** | 20.0 |
| | 1725 | 1425 | 56C | 208-220/440* | 2.0-2.0/1.0 | 1.0 | 72.0 | A | **2N916** | 221.00 | **140.80** | 22.0 |
| | 1140 | — | 56C | 208-230/460 | 2.2-2.3/1.1 | 1.15 | 70.0 | B | **2R976** | 281.00 | **205.75** | 26.0 |
| 3/4 | 3450 | 2850 | 56C | 208-220/440* | 2.8-2.9/1.5 | 1.0 | 68.0 | B | **3N472** | 182.00 | **135.30** | 22.0 |
| | 1725 | 1425 | 56C | 208-220/440* | 2.7-2.8/1.4 | 1.0 | 78.5 | A | **2N924** | 235.00 | **148.95** | 25.0 |
| | 1140 | — | 56C | 208-230/460 | 3.4-3.5/1.7 | 1.15 | 76.0 | B | **2R978** | 294.00 | **215.75** | 30.0 |
| | 1140 | — | 143TC | 208-230/460 | 3.4-3.5/1.7 | 1.15 | 76.0 | B | **2R980** | 294.00 | **215.75** | 30.0 |
| 1 | 3450 | 2850 | 56C | 208-220/440* | 3.4-3.4/1.7 | 1.0 | 74.0 | A | **3N237** | 214.00 | **159.75** | 23.0 |
| | 1725 | 1425 | 56C | 230/460* | 3.3/1.6 | 1.0 | 80.0 | B | **3N087** | 233.00 | **160.50** | 29.0 |
| | 1725 | — | 143TC | 208-230/460 | 4.0-3.8/1.9 | 1.15 | 82.5 | B | **2R982** | 230.00 | **158.75** | 29.0 |
| | 1140 | — | 56C | 208-230/460 | 4.2-4.3/2.2 | 1.15 | 77.0 | B | **2R984** | 288.00 | **212.00** | 32.0 |
| 1½ | 3450 | 2850 | 56C | 208-220/440* | 4.8-4.6/2.3 | 1.0 | 77.0 | B | **3N473** | 227.00 | **170.00** | 30.0 |
| | 3450 | — | 143TC | 208-230/460 | 4.6-4.3/2.2 | 1.15 | 82.5 | B | **2R986** | 239.00 | **176.25** | 30.0 |
| | 1725 | 1425 | 56C | 230/460* | 4.6/2.3 | 1.0 | 81.5 | A | **3N265** | 240.00 | **169.50** | 33.0 |
| | 1725 | — | 145TC | 208-230/460 | 5.0-4.9/2.5 | 1.15 | 84.0 | B | **2R988** | 237.00 | **174.75** | 34.0 |
| | 1140 | — | 56C | 230/460 | 5.4/2.7 | 1.15 | 80.0 | B | **3GC83** | 328.00 | **241.50** | 34.0 |
| 2 | 3450 | 2850 | 56C | 208-220/440* | 6.2-6.2/3.1 | 1.0 | 77.0 | B | **3N238** | 263.00 | **196.50** | 32.0 |
| | 3450 | — | 145TC | 208-230/460 | 6.0-5.5/2.8 | 1.15 | 84.0 | B | **2R990** | 274.00 | **202.00** | 33.0 |
| | 1725 | — | 56C | 230/460# | 6.4/3.2 | 1.0 | 80.0 | B | **3N266** | 256.00 | **196.00** | 34.0 |
| | 1725 | — | 145TC | 208-230/460 | 6.6-6.6/3.3 | 1.15 | 84.0 | B | **2R992** | 252.00 | **186.50** | 36.0 |
| 3 | 3450 | — | 56C | 230/460# | 8.0/4.0 | 1.0 | 82.0 | B | **3N649** | 333.00 | **248.00** | 37.0 |
| | 3450 | — | 145TC | 208-230/460 | 8.7-7.9/4.0 | 1.15 | 85.5 | F | **2R994** | 286.00 | **210.25** | 33.0 |
| | 1725 | — | 56C | 230/460# | 9.4/4.7 | 1.0 | 82.5 | F | **3N650** | 332.00 | **253.75** | 42.0 |
| **TEFC, WITH RIGID BASE** | | | | | | | | | | | | |
| 1/3 | 1725 | — | 56C | 208-230/460 | 1.7-1.8/0.9 | 1.15 | 62.0 | B | **3GC85** | 183.00 | **134.30** | 19.0 |
| 1/2 | 3450 | — | 56C | 208-230/460 | 2.3-2.6/1.3 | 1.15 | 64.0 | B | **2R926** | 181.00 | **132.45** | 20.0 |
| | 1725 | — | 56C | 208-230/460 | 2.1-2.2/1.1 | 1.15 | 68.0 | B | **3GC87** | 212.00 | **156.25** | 21.0 |
| | 1140 | — | 56C | 208-230/460 | 2.2-2.3/1.1 | 1.15 | 70.0 | B | **2R928** | 283.00 | **207.75** | 26.0 |
| 3/4 | 3450 | — | 56C | 208-230/460 | 2.7-2.6/1.3 | 1.15 | 75.5 | B | **2R930** | 196.00 | **144.15** | 22.0 |
| | 1725 | — | 56C | 230/460# | 2.6/1.3 | 1.0 | 75.5 | B | **3N873** | 228.00 | **175.00** | 26.0 |
| | 1140 | — | 56C | 208-230/460 | 3.4-3.5/1.7 | 1.15 | 75.5 | B | **2R932** | 295.00 | **214.75** | 10.0 |
| 1 | 3450 | — | 56C | 208-230/460 | 3.3-3.2/1.6 | 1.15 | 75.5 | B | **2R934** | 231.00 | **168.75** | 11.0 |
| | 1740 | — | 143TC | 208-230/460* | 4.0-3.8/1.9 | 1.15 | 82.5 | B | ***New* 4LW86** | 254.00 | **204.75** | 28.0 |
| | 1725 | 1425 | 56C | 230/460# | 3.3/1.6 | 1.0 | 80.0 | B | **3N446** | 244.00 | **186.75** | 28.0 |
| | 1140 | — | 56C | 208-230/460 | 4.2-4.3/2.2 | 1.15 | 77.0 | B | **2R936** | 301.00 | **221.00** | 32.0 |
| 1½ | 3450 | — | 56C | 208-230/460 | 4.8-4.4/2.2 | 1.15 | 78.5 | B | **2R938** | 259.00 | **190.75** | 30.0 |
| | 3450 | — | 143TC | 208-230/460 | 4.6-4.3/2.1 | 1.15 | 82.5 | B | **2R940** | 259.00 | **190.75** | 30.0 |
| | 1740 | — | 145TC | 208-230/460* | 5.0-4.9/2.5 | 1.15 | 84.0 | B | ***New* 4LW89** | 270.00 | **208.00** | 34.0 |
| | 1725 | — | 56C | 208-230/460 | 5.0-4.9/2.5 | 1.15 | 82.5 | B | **2R942** | 255.00 | **188.25** | 34.0 |
| 2 | 3450 | 2850 | 56HC | 208-220/440 | 6.2-6.2/3.1 | 1.0 | 77.0 | B | **3N447** | 298.00 | **228.00** | 35.0 |
| | 3450 | — | 145TC | 208-230/460 | 6.0-5.5/2.8 | 1.15 | 84.0 | B | **2R944** | 286.00 | **230.50** | 33.0 |
| | 1725 | — | 145TC | 208-230/460 | 6.6-6.6/3.3 | 1.15 | 84.0 | B | **2R946** | 264.00 | **195.50** | 36.0 |
| 3 | 3450 | — | 145TC | 208-230/460 | 8.7-7.9/4.0 | 1.15 | 85.5 | F | **2R948** | 325.00 | **239.25** | 37.0 |
| | 1740 | — | 182TC | 230/460# | 9.2/4.6 | 1.15 | 87.5 | B | ***New* 4LX33** | 355.00 | **293.50** | 55.0 |
| 5 | 1740 | — | 184TC | 230/460# | 13.8/6.9 | 1.15 | 87.5 | B | ***New* 4LX34** | 399.00 | **330.00** | 75.0 |
| 7½ | 1740 | — | 213TC | 230/460# | 20.4/10.2 | 1.15 | 89.5 | B | ***New* 4LX35** | 519.00 | **429.00** | 95.0 |
| 10 | 1755 | — | 215TC | 230/460# | 25.2/12.6 | 1.15 | 90.2 | B | **3N348** | 183.00 | **465.25** | 110.0 |

(*) 50 Hz operation at rated voltage and 190/380V at 5/6 of 60 Hz speed. (#) Operable at 50 Hz, 190/380V, at 5/6 of 60 Hz HP and speed (1.0 service factor).
(†) 42CZ frame motors have 1/2 x 1⅛" shaft with key.

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

Check your frequently-ordered product categories for line extensions and new product offerings.
Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.

# 3-PHASE OPEN DRIPPROOF C-FACE MOTORS

## HIGH EFFICIENCY MOTORS

**Typical Uses:** Designed for use on commercial and industrial pumps, centrifugal and hydraulic pumps, machine tools, speed reducers, and other equipment requiring NEMA C-face mounting configuration.

**Bearings:** Ball bearings, double shielded.

**Enclosure:** Open dripproof

**Mounting:** C-face

**Insulation Class:** B

**Ambient:** 40 degrees C

**Protection:** None

**Duty:** Continuous

**Rotation:** CW/CCW

**Frame:** Rolled steel

**Finish:** Gray

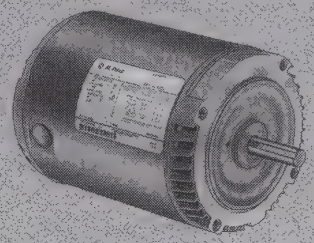
**Brand:** GE

**Replacement Parts Available**
**1-800-323-0620**

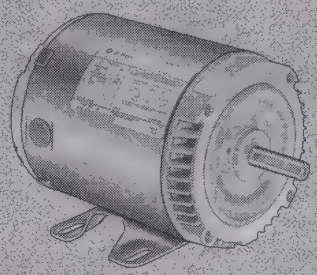
**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

New

E47088



No. 3N684
56C Frame
No Base



No. 5N793
56C Frame
Rigid Base

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NO BASE** | | | | | | | | | | | | |
| **1/4** | 1725 | 56C | 208-230/460 | 1.3-1.4/0.7 | 1.35 | 62.7 | B | K247 | **5N112** | $163.00 | **$101.80** | 15.0 |
| **1/3** | 1725 | 56C | 208-230/460 | 1.5-1.6/0.8 | 1.35 | 66.5 | B | K248 | **5N113** | 178.00 | **111.20** | 15.0 |
| **1/2** | 1725 | 56C | 208-230/460 | 2.1-2.2/1.1 | 1.25 | 69.0 | B | K249 | **3N683** | 205.00 | **128.20** | 18.0 |
| | 1140 | 56C | 208-230/460 | 2.2-2.2/1.1 | 1.25 | 73.4 | B | K1299 | **5N965** | 289.00 | **173.50** | 27.0 |
| **3/4** | 1725 | 56C | 208-230/460 | 2.8-2.8/1.4 | 1.25 | 74.0 | B | K250 | **3N684** | 229.00 | **142.95** | 20.0 |
| | 1140 | 56C | 208-230/460 | 2.9-2.8/1.4 | 1.15 | 76.1 | B | K1300 | **5N966** | 312.00 | **187.00** | 31.0 |
| | 1140 | 143TC | 208-230/460 | 2.9-2.8/1.4 | 1.15 | 76.1 | B | K1301 | **5N967** | 320.00 | **191.75** | 31.0 |
| **1** | 1725 | 56C | 208-230/460 | 3.4-3.2/1.6 | 1.15 | 78.0 | B | K251 | **3N685** | 248.00 | **152.50** | 21.0 |
| | 1140 | 145TC | 208-230/460 | 3.9-4.0/2.0 | 1.15 | 80.0 | B | K2024 | ***New*4TD51** | 351.00 | **208.25** | 35.0 |
| **1½** | 3450 | 143TC | 208-230/460 | 5.0-4.8/2.4 | 1.15 | 82.5 | B | K2018 | ***New*4TD52** | 287.00 | **167.25** | 27.0 |
| | 1725 | 56C | 208-230/460 | 5.8-5.6/2.8 | 1.15 | 75.2 | B | K521 | **5N131** | 274.00 | **170.00** | 30.0 |
| **2** | 3450 | 145TC | 208-230/460 | 6.6-6.0/3.0 | 1.15 | 84.0 | B | K2019 | ***New*4TD54** | 353.00 | **205.50** | 29.0 |
| **3** | 3450 | 145TC | 208-230/460 | 8.9-8.2/4.1 | 1.15 | 84.0 | B | K2020 | ***New*4TD56** | 383.00 | **221.50** | 38.0 |
| **RIGID BASE** | | | | | | | | | | | | |
| **1/3** | 1725 | 56C | 208-230/460 | 2.0-1.8/0.9 | 1.35 | 66.3 | B | K1305 | **5N972** | 191.00 | **119.20** | 17.0 |
| **1/2** | 3450 | 56C | 208-230/460 | 2.2-2.5/1.3 | 1.6 | 65.5 | B | K1306 | **5N973** | 177.00 | **111.10** | 20.0 |
| | 1725 | 56C | 208-230/460 | 2.7-2.4/1.2 | 1.25 | 69.9 | B | K1307 | **5N974** | 216.00 | **135.55** | 22.0 |
| **3/4** | 1725 | 56C | 208-230/460 | 3.3-3.0/1.5 | 1.25 | 74.4 | B | K1308 | **5N975** | 243.00 | **148.35** | 24.0 |
| **1** | 1725 | 143TC | 208-230/460 | 3.7-3.2/1.6 | 1.15 | 82.5 | B | K2021 | ***New*4TD50** | 282.00 | **164.25** | 29.0 |
| **1½** | 1725 | 145TC | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | B | K2022 | ***New*4TD53** | 331.00 | **188.75** | 40.0 |
| **2** | 3450 | 56C | 208-230/460 | 6.6-6.0/3.0 | 1.15 | 80.5 | B | K1311 | **6N045** | 345.00 | **185.25** | 28.0 |
| | 1725 | 145TC | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | B | K2023 | ***New*4TD55** | 333.00 | **193.00** | 44.0 |

### ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

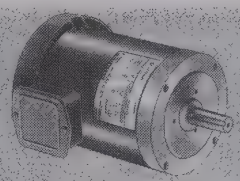
DEFINITE PURPOSE MOTORS

# 3-PHASE TEFC C-FACE MOTORS

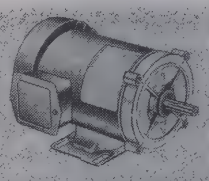
**Typical Uses:** Designed for use on commercial and industrial pumps, centrifugal and hydraulic pumps, machine tools, speed reducers, and other equipment requiring NEMA C-face mounting configuration.
**Bearings:** Ball bearings, double shielded, regreaseable on 320-360 frame motors
**Enclosure:** TEFC
**Ambient:** 40°C
**Protection:** None
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray, black
**Mounting:** C-Face
**Brand:** GE

- **Energy efficient motors meet or exceed US and Canadian energy standard**
- **Higher efficiency results in lower operating costs and improved cooling for longer life**
- **All copper windings**

E47088



No. 5N120
143TC Frame No Base



No. 5N115
56C Frame Rigid Base

New

Replacement Parts Available
1-800-323-0620

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame (#) | Ins. Class | GE Stock No. | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NO BASE** | | | | | | | | | | | | | | |
| 1/4 | 1725 | 56C | 208-230/460 | 1.3-1.4/0.7 | 1.0 | 62.7* | RS | B | K252 | | **5N114** | $191.00 | **$119.70** | 19.0 |
| | 1140 | 56C | 208-230/460 | 1.5-1.4/0.7 | 1.35 | 66.5* | RS | B | K1314 | | **6N047** | 294.00 | **175.50** | 21.0 |
| 1/3 | 1725 | 56C | 208-230/460 | 1.5-1.6/0.8 | 1.0 | 66.0* | RS | B | K253 | | **3N686** | 201.00 | **125.95** | 18.0 |
| | 1725 | 56C | 575 | 0.6 | 1.0 | 66.8* | RS | A | K522 | | **5N132** | 201.00 | **125.95** | 19.0 |
| | 1140 | 56C | 208-230/460 | 2.4-2.2/1.1 | 1.35 | 64.0* | RS | B | K1315 | | **6N048** | 297.00 | **178.50** | 22.0 |
| 1/2 | 1725 | 56C | 208-230/460 | 2.1-2.2/1.1 | 1.0 | 69.0* | RS | B | K254 | | **3N687** | 237.00 | **147.30** | 19.0 |
| | 1725 | 56C | 575 | 0.9 | 1.0 | 69.8* | RS | B | K469 | | **5N123** | 237.00 | **147.90** | 18.0 |
| | 1140 | 56C | 208-230/460 | 2.2-2.2/1.1 | 1.25 | 73.4* | RS | B | K1316 | | **6N049** | 321.00 | **192.75** | 27.0 |
| 3/4 | 1725 | 56C | 208-230/460 | 2.8-2.8/1.4 | 1.0 | 74.0* | RS | B | K255 | | **3N688** | 251.00 | **156.75** | 21.0 |
| | 1725 | 56C | 575 | 1.3 | 1.0 | 73.4* | RS | B | K523 | | **5N133** | 251.00 | **156.75** | 21.0 |
| | 1140 | 56C | 208-230/460 | 2.85-2.8/1.4 | 1.15 | 76.1* | RS | B | K1317 | | **6N050** | 335.00 | **196.50** | 31.0 |
| | 1140 | 143TC | 208-230/460 | 2.85-2.8/1.4 | 1.15 | 76.1 | RS | B | K1318 | | **6N051** | 338.00 | **199.50** | 31.0 |
| 1 | 1725 | 56C | 208-230/460 | 3.6-3.8/1.9 | 1.0 | 76.3* | RS | B | K256 | | **3N689** | 269.00 | **164.75** | 28.0 |
| | 1725 | 56C | 575 | 1.7 | 1.0 | 73.1* | RS | B | K524 | | **5N134** | 269.00 | **167.00** | 23.0 |
| | 1725 | 143TC | 208-230/460 | 3.7-3.2/1.6 | 1.15 | 82.5 | RS | B | K2029 | *New* | **4TD57** | 297.00 | **176.25** | 29.0 |
| | 1140 | 145TC | 208-230/460 | 3.9-4.0/2.0 | 1.15 | 80.0 | RS | B | K2035 | *New* | **4TD60** | 359.00 | **213.25** | 35.0 |
| 1 1/2 | 3450 | 143TC | 208-230/460 | 5.0-4.8/2.4 | 1.15 | 82.5 | RS | B | K2025 | *New* | **4TD64** | 350.00 | **197.00** | 31.0 |
| | 1725 | 56C | 208-230/460 | 4.9-4.8/2.4 | 1.0 | 82.0* | RS | B | K257 | | **3N690** | 277.00 | **174.50** | 33.0 |
| | 1725 | 145TC | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | RS | B | K2048 | *New* | **4TD66** | 356.00 | **198.75** | 40.0 |
| 2 | 3450 | 145TC | 208-230/460 | 6.6-6.0/3.0 | 1.15 | 84.0 | RS | B | K2027 | *New* | **4TD70** | 405.00 | **232.25** | 29.0 |
| | 1725 | 145TC | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | RS | B | K2033 | *New* | **4TD72** | 367.00 | **204.50** | 44.0 |
| **RIGID BASE** | | | | | | | | | | | | | | |
| 1/3 | 1725 | 56C | 208-230/460 | 2.0-1.8/0.9 | 1.35 | 66.3* | RS | B | K1322 | | **6N055** | 214.00 | **133.55** | 20.0 |
| 1/2 | 3450 | 56C | 208-230/460 | 2.2-2.5/1.3 | 1.25 | 65.5* | RS | B | K1323 | | **6N056** | 205.00 | **128.20** | 20.0 |
| | 1725 | 56C | 208-230/460 | 2.7-2.4/1.2 | 1.25 | 69.9* | RS | B | K1324 | | **6N057** | 249.00 | **153.25** | 23.0 |
| | 1140 | 56C | 208-230/460 | 2.2-2.2/1.1 | 1.25 | 73.4* | RS | B | K1325 | | **6N058** | 324.00 | **195.00** | 25.0 |
| 3/4 | 3450 | 56C | 208-230/460 | 2.6-2.6/1.3 | 1.25 | 73.6* | RS | B | K499 | | **5N126** | 222.00 | **139.00** | 17.0 |
| | 1725 | 56C | 208-230/460 | 2.8-2.8/1.4 | 1.25 | 76.7* | RS | B | K258 | | **5N115** | 265.00 | **160.75** | 19.0 |
| | 1140 | 56C | 208-230/460 | 2.9-2.8/1.4 | 1.15 | 76.1* | RS | B | K1326 | | **6N059** | 343.00 | **200.00** | 29.0 |
| 1 | 3450 | 56C | 208-230/460 | 3.2-3.0/1.5 | 1.25 | 78.7* | RS | B | K500 | | **5N127** | 264.00 | **161.75** | 24.0 |
| | 1725 | 56C | 208-230/460 | 3.6-3.8/1.9 | 1.25 | 75.8* | RS | B | K259 | | **5N116** | 282.00 | **170.50** | 29.0 |
| | 1725 | 143TC | 208-230/460 | 3.7-3.2/1.6 | 1.25 | 82.5 | RS | B | K2032 | *New* | **4TD59** | 304.00 | **180.25** | 29.0 |
| | 1800 | 143TC | 230/460 | 1.9/1.45 | 1.15 | 82.5 | CI | F | S2211 | *New* | **4TD58** | 363.00 | **226.50** | 53.0 |
| | 1140 | 145TC | 208-230/460 | 3.9-4.0/2.0 | 1.15 | 80.0 | RS | B | K2036 | *New* | **4TD61** | 368.00 | **218.75** | 35.0 |
| | 1200 | 145TC | 230/460 | 3.3/1.65 | 1.15 | 80.0 | CI | F | S2216 | *New* | **4TD62** | 432.00 | **270.00** | 62.0 |
| 1 1/2 | 3450 | 56C | 208-230/460 | 5.0-4.8/2.4 | 1.15 | 79.2* | RS | B | K1328 | | **6N061** | 296.00 | **183.00** | 24.0 |
| | 3450 | 143TC | 208-230/460 | 5.0-4.8/2.4 | 1.15 | 82.5 | RS | B | K2026 | *New* | **4TD63** | 364.00 | **208.50** | 31.0 |
| | 1725 | 56C | 208-230/460 | 4.9-4.8/2.4 | 1.0 | 76.9* | RS | B | K260 | | **5N117** | 289.00 | **181.75** | 35.0 |
| | 3600 | 143TC | 230/460 | 4.0/2.0 | 1.15 | 82.5 | CI | F | S2210 | *New* | **4TD65** | 353.00 | **199.25** | 53.0 |
| | 1725 | 145TC | 208-230/460 | 4.6-4.4/2.2 | 1.25 | 84.0 | RS | B | K2031 | *New* | **4TD68** | 345.00 | **195.00** | 40.0 |
| | 1800 | 145TC | 230/460 | 4.1/2.05 | 1.15 | 84.0 | CI | F | S2214 | *New* | **4TD67** | 397.00 | **235.50** | 62.0 |
| 2 | 3450 | 56C | 230/460 | 5.2/2.6 | 1.0 | 81.7* | RS | B | K501 | | **5N128** | 315.00 | **194.75** | 30.0 |
| | 3450 | 145TC | 208-230/460 | 6.6-6.0/3.0 | 1.15 | 86.5 | RS | B | K2028 | *New* | **4TD69** | 412.00 | **235.75** | 29.0 |
| | 3600 | 145TC | 230/460 | 5.1/2.6 | 1.15 | 84.5 | CI | F | S2213 | *New* | **4TD71** | 462.00 | **279.00** | 62.0 |
| | 1725 | 145TC | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | RS | B | K2034 | *New* | **4TD73** | 379.00 | **211.00** | 44.0 |
| | 1800 | 145TC | 230/460 | 5.5/2.75 | 1.15 | 84.0 | CI | F | S2215 | *New* | **4TD74** | 417.00 | **243.25** | 62.0 |
| 3 | 3500 | 182TC | 230/460 | 7.2/3.6 | 1.15 | 85.5 | CI | F | S2221 | *New* | **4TD75** | 487.00 | **288.75** | 80.0 |
| | 1755 | 182TCY | 230/460 | 7.6/3.8 | 1.15 | 88.5 | CI | F | E9540 | | **3VG01** | 608.00 | **380.25** | 99.0 |
| | 1750 | 182TC | 230/460 | 7.6/3.8 | 1.15 | 87.5 | CI | F | S2219 | *New* | **4TD76** | 424.00 | **253.00** | 80.0 |
| 5 | 3480 | 184TC | 230/460 | 11.8/5.9 | 1.15 | 87.5 | CI | F | S2227 | *New* | **4TD77** | 604.00 | **355.75** | 124.0 |
| | 1750 | 184TCY | 230/460 | 12.3/6.2 | 1.15 | 89.5 | CI | F | E9543 | | **3VG02** | 651.00 | **409.25** | 121.0 |
| | 1745 | 184TC | 230/460 | 12.4/6.2 | 1.15 | 87.5 | CI | F | S2225 | *New* | **4TD78** | 497.00 | **291.75** | 124.0 |

(*) Average efficiency, not NEMA nominal efficiency. (†) TENV. (‡) Nonconforming NEMA "BA" dimension. (#) RS=Rolled steel, CI=Cast Iron.

# 3-PHASE TEFC C-FACE MOTORS

## GE 3-PHASE TEFC C-FACE MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Frame | Ins. Class | GE Stock No. | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RIGID BASE** | | | | | | | | | | | | | | |
| **7.5** | 3520 | 213TC | 230/460 | 17.8/8.9 | 1.15 | 88.5 | CI | F | S2229 | *New* | **4TD79** | $776.00 | **$454.50** | 150.0 |
| | 1755 | 213TCY | 230/460 | 18.0/9.0 | 1.15 | 91.5 | CI | F | E9546 | | **3VG03** ‡ | 939.00 | **593.50** | 194.0 |
| | 1755 | 213TC | 230/460 | 18.2/9.1 | 1.15 | 89.5 | CI | F | S2231 | *New* | **4TD80** | 694.00 | **408.00** | 150.0 |
| **10** | 3515 | 215TC | 230/460 | 23.2/11.6 | 1.15 | 89.5 | CI | F | S2236 | *New* | **4TD81** | 921.00 | **534.50** | 150.0 |
| | 1755 | 215TCY | 230/460 | 23.5/11.8 | 1.15 | 91.7 | CI | F | E9549 | | **3VG04** ‡ | 1103.00 | **695.50** | 220.0 |
| | 1755 | 215TC | 230/460 | 23.8/11.9 | 1.15 | 89.5 | CI | F | S2238 | *New* | **4TD82** | 825.00 | **476.00** | 150.0 |
| **15** | 3530 | 254TC | 230/460 | 33.6/18.8 | 1.15 | 90.2 | CI | F | S2243 | *New* | **4TD83** | 1268.00 | **720.50** | 264.0 |
| | 1765 | 254TCY | 230/460 | 34.5/17.3 | 1.15 | 92.4 | CI | F | E9552 | | **3VG05** ‡ | 1473.00 | **934.00** | 328.0 |
| | 1760 | 254TC | 230/460 | 34.8/17.4 | 1.15 | 91.0 | CI | F | S2245 | *New* | **4TD84** | 1154.00 | **654.00** | 316.0 |
| **20** | 3520 | 256TCY | 230/460 | 44.5/22.3 | 1.15 | 92.4 | CI | F | E9554 | | **3VG06** ‡ | 1817.00 | **1153.00** | 410.0 |
| | 3525 | 256TC | 200 | 51.1 | 1.15 | 90.2 | CI | F | S2250 | *New* | **4TD85** | 1511.00 | **850.50** | 330.0 |
| | 1765 | 256TCY | 230/460 | 45.5/22.8 | 1.15 | 93.0 | CI | F | E9555 | | **3VG07** ‡ | 1755.00 | **1104.00** | 328.0 |
| | 1755 | 256TC | 230/460 | 46.0/23.0 | 1.15 | 91.0 | CI | F | S2252 | *New* | **4TD86** | 1426.00 | **795.00** | 340.0 |
| **25** | 3540 | 284TSC | 230/460 | 55.6/27.8 | 1.15 | 91.0 | CI | F | S2256 | *New* | **4TD87** | 1892.00 | **1072.00** | 404.0 |
| | 1765 | 284TC | 230/460 | 58.0/29.0 | 1.15 | 93.6 | CI | F | E9558 | | **3VG08** | 2134.00 | **1353.00** | 473.0 |
| | 1765 | 284TC | 230/460 | 58.0/29.0 | 1.15 | 92.4 | CI | F | S2258 | *New* | **4TD88** | 1665.00 | **938.50** | 472.0 |
| **30** | 3550 | 286TSC | 230/460 | 66.8/33.4 | 1.15 | 91.0 | CI | F | S2262 | *New* | **4TD89** | 2235.00 | **1252.00** | 523.0 |
| | 1765 | 286TC | 230/460 | 69.0/34.5 | 1.15 | 93.6 | CI | F | E9561 | | **3VG09** | 2520.00 | **1641.00** | 506.0 |
| | 1765 | 286TC | 230/460 | 69.0/34.5 | 1.15 | 92.4 | CI | F | S2265 | *New* | **4TD90** | 2050.00 | **1170.00** | 578.0 |
| **40** | 1800 | 324TC | 230/460 | 91.0/45.5 | 1.15 | 93.0 | CI | F | S2340 | *New* | **4TD91** | 2900.00 | **1653.00** | 803.0 |
| **50** | 1770 | 326TC | 230/460 | 114.4/57.2 | 1.15 | 93.0 | CI | F | S2341 | *New* | **4TD92** | 3410.00 | **1922.00** | 803.0 |
| **60** | 1765 | 364TC | 230/460 | 136.4/68.2 | 1.15 | 93.0 | CI | F | S2342 | *New* | **4TD93** | 5071.00 | **2807.00** | 834.0 |
| **75** | 1780 | 365TC | 230/460 | 173.4/86.7 | 1.15 | 94.1 | CI | F | S2343 | *New* | **4TD94** | 6648.00 | **3669.00** | 1019.0 |
| | 1780 | 365TC | 575 | 69.1 | 1.15 | 94.1 | CI | F | S299 | | **4TC28** | 6034.00 | **3424.00** | 1001.0 |

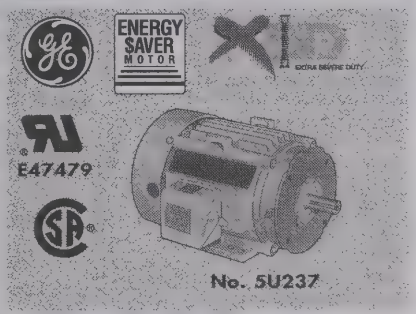
(‡) Nonconforming NEMA "BA" dimension. (‡) CI=Cast iron.

## GE BRAND, 3-PHASE TEFC C-FACE PREMIUM EFFICIENCY SEVERE DUTY MOTORS

- **For high humidity, acidic, alkali, or dirty (nonexplosive) conditions**
- **Efficiencies meet most utility rebate program requirements**
- **NEMA Design B**
- **Includes grease fittings**
- **Suitable fo 40°C ambient at 1.15 service factor; 65°C at 1.0 service factor**
- **Cast-iron construction**
- **Three-year warranty**

**Typical Uses:** Pumps, conveyors, speed reducers, blowers, machine tools, and equipment that can be directly connected to a NEMA C-face end-mounted motor.

**Type:** 3-phase
**Bearings:** Ball
**Mounting:** NEMA C-face with rigid base
**Enclosure:** TEFC; No. 5U241 is TENV
**Thermal Protection:** None
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Beige
**Brand:** GE




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1½** | 1170 | 182TC | 460 | 2.3 | 1.15 | 87.5 | F | E9946 | ✓**5U242** | $644.00 | **$425.75** | 135.0 |
| **2** | 1165 | 184TC | 460 | 2.9 | 1.15 | 87.5 | F | E9948 | ✓**5U244** | 710.00 | **469.25** | 145.0 |
| **3** | 3515 | 182TC | 460 | 3.7 | 1.15 | 88.5 | F | E9945 | ✓**5U241** | 660.00 | **436.25** | 135.0 |
| | 1765 | 182TC | 460 | 4.0 | 1.15 | 89.5 | F | 9889E | ✓**4N890** | 626.00 | **413.75** | 135.0 |
| | 1175 | 213TC | 460 | 4.2 | 1.15 | 89.5 | F | E9950 | ✓**5U246** | 848.00 | **560.00** | 230.0 |
| **5** | 3515 | 184TC | 460 | 6.0 | 1.15 | 89.5 | F | E9947 | ✓**5U243** | 798.00 | **527.50** | 145.0 |
| | 1755 | 184TC | 460 | 6.3 | 1.15 | 90.2 | F | 9890E | ✓**4N891** | 717.00 | **474.00** | 145.0 |
| | 1170 | 215TC | 460 | 6.9 | 1.15 | 89.5 | F | E9952 | ✓**5U248** | 1159.00 | **766.00** | 230.0 |
| **7½** | 3535 | 213TC | 460 | 8.7 | 1.15 | 91.7 | F | E9949 | ✓**5U245** | 947.00 | **626.00** | 220.0 |
| | 1765 | 213TC | 460 | 9.4 | 1.15 | 91.7 | F | 9891E | ✓**4N892** | 942.00 | **622.50** | 220.0 |
| | 1180 | 254TC | 460 | 10.7 | 1.15 | 91.7 | F | E9954 | ✓**5U250** | 1538.00 | **1017.00** | 350.0 |
| **10** | 3530 | 215TC | 460 | 11.6 | 1.15 | 91.7 | F | E9951 | ✓**5U247** | 1093.00 | **722.50** | 230.0 |
| | 1765 | 215TC | 460 | 12.7 | 1.15 | 91.7 | F | E9892 | ✓**4N885** | 1117.00 | **739.00** | 230.0 |
| | 1175 | 256TC | 460 | 12.8 | 1.15 | 91.7 | F | E9956 | ✓**5U252** | 1855.00 | **1226.00** | 410.0 |
| **15** | 3545 | 254TC | 460 | 17.3 | 1.15 | 91.7 | F | E9953 | ✓**5U249** | 1495.00 | **987.50** | 350.0 |
| | 1770 | 254TC | 460 | 18.7 | 1.15 | 92.4 | F | 9893E | ✓**4N886** | 1471.00 | **971.50** | 391.0 |
| | 1180 | 284TC | 460 | 18.2 | 1.15 | 91.7 | F | E9901 | ✓**5U237** | 2470.00 | **1633.00** | 460.0 |
| **20** | 3540 | 256TC | 460 | 22.5 | 1.15 | 92.4 | F | E9955 | ✓**5U251** | 1825.00 | **1207.00** | 410.0 |
| | 1770 | 256TC | 460 | 24.6 | 1.15 | 93.0 | F | E9894 | ✓**4N887** | 1805.00 | **1193.00** | 415.0 |
| | 1175 | 286TC | 460 | 24.1 | 1.15 | 91.7 | F | E9902 | ✓**5U238** | 2977.00 | **1968.00** | 510.0 |
| **25** | 3555 | 284TSC | 460 | 27.9 | 1.15 | 92.4 | F | E9903 | ✓**5U239** | 2269.00 | **1500.00** | 460.0 |
| | 1770 | 284TC | 460 | 30.0 | 1.15 | 93.6 | F | E9895 | ✓**4N888** | 2174.00 | **1436.00** | 560.0 |
| **30** | 3545 | 286TSC | 460 | 33.2 | 1.15 | 92.4 | F | E9904 | ✓**5U240** | 2624.00 | **1734.00** | 510.0 |
| | 1770 | 286TC | 460 | 36.2 | 1.15 | 93.6 | F | E9896 | ✓**4N889** | 2503.00 | **1654.00** | 585.0 |

(✓) Denotes energy efficient product.

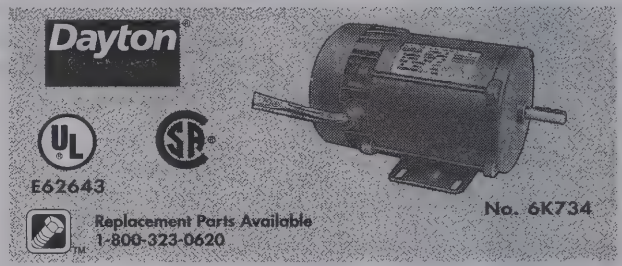
# SPLIT-PHASE HAZARDOUS LOCATION MOTORS

## DAYTON BRAND, TENV AND TEFC HAZARDOUS LOCATION MOTORS

**Typical Uses:** Listed by UL for use in Class I, Group C, D and Class II, Groups E, F, and G hazardous locations such as dry cleaning and dyeing plants, paint and varnish factories, flour and feed mills, grain elevators, coal and coke plants, and other locations that require a motor to meet the National Electrical Code for hazardous locations.

**Leads:** 24" thru 3/4-14 NPT nipple

**Type:** Split-phase
**Bearings:** Double-shielded ball for heavy radial and thrust loads
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Temperature Code:** T3B
**Brand:** Dayton
**Conduit Box:** Optional; order No. 4X788 separately




| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Insulation Class | Mounting | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 56 | TENV | 115 | 4.5 | Ball | B | Rigid | **6K734** | $275.00 | **$198.75** | 27.0 |
| 1/3 | 1725 | 56 | TEFC | 115 | 6.4 | Ball | B | Rigid | **6K738** | 306.00 | **220.75** | 25.0 |

## GE BRAND, TENV HAZARDOUS LOCATION MOTORS

**Typical Uses:** Listed by UL for use in Class I, Group D and Class II, Groups E, F, and G hazardous locations such as dry cleaning and dyeing plants, paint and varnish factories, flour and feed mills, grain elevators, coal and coke plants, and other locations that require a motor to meet the National Electrical Code for hazardous locations.

**Type:** Split-phase
**Bearings:** Double-shielded, prelubricated ball for heavy radial and thrust loads
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Insulation Class | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/12 | 1725 | 48 | 115 | 1.9 | Ball | A | Rigid | H125 | **2K626** | $312.00 | **$172.00** | 16.0 |
| 1/8 | 1140 | 48 | 115 | 3.0 | Ball | A | Rigid | H126 | **2K627** | 353.00 | **195.00** | 22.0 |
| 1/6 | 1725 | 48 | 115 | 3.3 | Ball | A | Rigid | H127 | **3K797** | 312.00 | **188.75** | 19.0 |
| | 1140 | 56 | 115 | 4.0 | Ball | A | Rigid | H128 | **2K628** | 413.00 | **227.75** | 38.0 |
| 1/4 | 1725 | 48 | 115 | 4.4 | Ball | A | Rigid | H129 | **3K799** | 320.00 | **195.75** | 22.0 |

## GE BRAND, TENV AND TEFC C-FACE HAZARDOUS LOCATION MOTORS

- **2¼" shaft length x 5/8" diameter**

**Typical Uses:** Listed by UL for use in Class I, Group D and Class II, Groups E, F, and G hazardous locations such as dry cleaning and dyeing plants, paint and varnish factories, flour and feed mills, grain elevators, coal and coke plants, and in commercial fans, blowers, and other air-moving applications that can be directly mounted to a C-face end-mounted motor.

**Type:** Split-phase
**Bearings:** Ball
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE




| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Insulation Class | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 1140 | 56CZ | TENV | 115 | 3.0 | A | C-Face | H301 | **2K780** | $365.00 | **$217.00** | 21.0 |
| 1/6 | 1140 | 56CZ | TENV | 115 | 4.0 | A | C-Face | H302 | **2K781** | 425.00 | **252.75** | 25.0 |
| 1/4 | 1140 | 56CZ | TEFC | 115 | 5.6 | A | C-Face | H303 | **2K782** | 461.00 | **274.00** | 34.0 |
| 1/2 | 1140 | 56CZ | TEFC | 115 | 9.0 | A | C-Face | H304 | **2K783** | 587.00 | **349.50** | 45.0 |

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

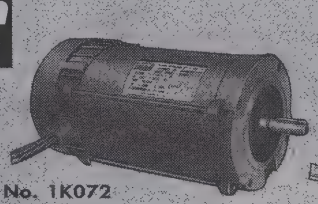
# CAPACITOR-START HAZARDOUS LOCATION MOTORS

- **Rigid welded base or C-face**
- **Double-shielded ball bearings**
- **Copper windings**

**Typical Uses:** Listed by UL for use in Class I, Groups C and D and Class II, Groups E, F, and G hazardous locations in dry cleaning and dyeing plants, paint and varnish factories, flour and feed mills, grain elevators, coal and coke plants and other locations that require a motor to meet the National Electric Code for hazardous locations.
**Leads:** 24" thru 3/4"-14 NPT nipple
**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Enclosure:** Hazardous location
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Temperature Code:** T3B
**Finish:** Gray
**Brand:** Dayton
**Conduit Box:** Optional, order No. 4X788

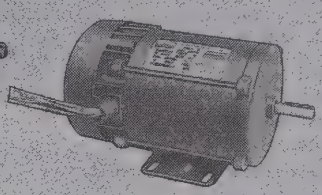
Dayton®

E62643



No. 1K072
56C Face
No Base

New



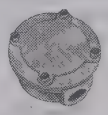
No. 6K109
56 Frame
Rigid Welded Base

Replacement Parts Avc
1-800-323-0620™

## CONDUIT BOX

For use with Dayton brand 56 frame hazardous location motors. Has hole for self-tapping grounding screw.UL Listed.Gray finish.

**No. 4X788.** Shpg. wt. 1.6 lbs. List $34.00. Each.....$29.90



| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C-FACE, NO BASE** | | | | | | | | | | | | |
| **1/3** | 3450 | 56C | CW/CCW | Haz-TEFC | 115/230 | 7.6/3.8 | 1.0 | B | **1K068** | $297.00 | **$227.25** | 25.0 |
| | 1725 | 56C | CW/CCW | Haz-TEFC | 115/230 | 7.6/3.8 | 1.0 | B | **6K330** | 342.00 | **261.50** | 27.0 |
| **1/2** | 3450 | 56C | CW/CCW | Haz-TEFC | 115/230 | 8.0/4.0 | 1.0 | B | **1K069** | 329.00 | **252.25** | 27.0 |
| | 1725 | 56C | CW/CCW | Haz-TEFC | 115/230 | 9.0/4.5 | 1.0 | B | **6K333** | 378.00 | **289.75** | 30.0 |
| **3/4** | 3450 | 56C | CW/CCW | Haz-TEFC | 115/230 | 9.8/4.9 | 1.0 | B | **1K070** | 351.00 | **268.75** | 32.0 |
| | 1725 | 56C | CW/CCW | Haz-TEFC | 115/230 | 11.4/5.7 | 1.0 | B | **6K728** | 421.00 | **322.75** | 36.0 |
| **1** | 3450 | 56C | CW/CCW | Haz-TEFC | 115/230 | 12.0/6.0 | 1.0 | B | **1K071** | 378.00 | **289.50** | 41.0 |
| | 1725 | 56C | CW/CCW | Haz-TEFC | 115/230 | 13.6/6.8 | 1.0 | B | **1K072** | 477.00 | **365.25** | 41.0 |
| **RIGID WELDED BASE** | | | | | | | | | | | | |
| **1/4** | 1725 | 56 | CW/CCW | Haz-TENV | 115/230 | 4.5/2.3 | 1.0 | B | **6K034** | 252.00 | **193.00** | 28.0 |
| **1/3** | 3450 | 56 | CW/CCW | Haz-TEFC | 115/230 | 7.6/3.8 | 1.0 | B | **6K109** | 221.00 | **169.75** | 27.0 |
| | 1725 | 56 | CW/CCW | Haz-TEFC | 115/230 | 7.6/3.8 | 1.0 | B | **6K036** | 310.00 | **237.50** | 27.0 |
| **1/2** | 3450 | 56 | CW/CCW | Haz-TEFC | 115/230 | 8.0/4.0 | 1.0 | B | **6K110** | 294.00 | **225.00** | 30.0 |
| | 1725 | 56 | CW/CCW | Haz-TEFC | 115/230 | 9.0/4.5 | 1.0 | B | **6K039** | 342.00 | **261.50** | 30.0 |
| **3/4** | 3450 | 56 | CW/CCW | Haz-TEFC | 115/230 | 9.8/4.9 | 1.0 | B | **6K111** | 333.00 | **254.25** | 36.0 |
| | 1725 | 56 | CW/CCW | Haz-TEFC | 115/230 | 11.4/5.7 | 1.0 | B | **6K040** | 402.00 | **271.50** | 36.0 |
| **1** | 3450 | 56 | CW/CCW | Haz-TEFC | 115/230 | 12.0/6.0 | 1.0 | B | **6K112** | 359.00 | **274.75** | 41.0 |
| | 1725 | 56H | CW/CCW | Haz-TEFC | 115/230 | 13.6/6.8 | 1.0 | B | **6K041** | 458.00 | **290.75** | 41.0 |
| **1½** | 1725 | 56H | CW/CCW | Haz-TEFC | 115/230 | 15.0/7.5 | 1.0 | B | ***New*** **4HZ72** | 512.00 | **307.00** | 25.0 |

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## TEMPERATURE CODE

In addition to the identification of the class, group and division, it is necessary as well to obtain the temperature code or maximum surface temperature for the explosion-proof motor. This code or temperature indicates the maximum surface temperature for all conditions including burnout, overload, single phasing, and locked rotor. The maximum surface temperature or "T" code must be identified on the nameplate.

**TEMPERATURE IDENTIFICATION NUMBERS**

| "T" Number (T-Code On Nameplate) | Maximum Temperature (For All Conditions) | | "T" Number (T-Code On Nameplate) | Maximum Temperature (For All Conditions) | |
|---|---|---|---|---|---|
| T1 | 450°C | 842°F | T3A | 180°C | 356°F |
| T2 | 300°C | 572°F | T3B | 165°C | 329°F |
| T2A | 280°C | 536°F | T3C | 160°C | 320°F |
| T2B | 260°C | 500°F | T4 | 135°C | 275°F |
| T2C | 230°C | 446°F | T4A | 120°C | 248°F |
| T2D | 215°C | 419°F | T5 | 100°C | 212°F |
| T3 | 200°C | 392°F | T6 | 85°C | 185°F |

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# CAPACITOR-START HAZARDOUS LOCATION MOTORS

- **Rigid welded base or C-face**
- **Ball bearings**

**Typical Uses:** Listed by UL for use in Class I, Group D and Class II, Groups E, F, and G hazardous locations in dry cleaning and dyeing plants, paint and varnish factories, flour and feed mills, grain elevators, coal and coke plants and other locations that require a motor to meet the National Electric Code for hazardous locations.

**Type:** Capacitor-start

**Bearings:** Ball

**Enclosure:** Hazardous location

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Ambient:** 40°C

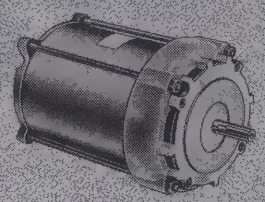
**Duty:** Continuous

**Finish:** Gray

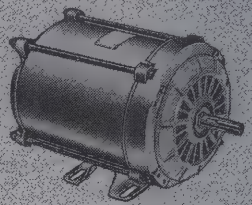
**Brand:** GE

E25899

LR56411



No. 2K621
56C Face
No Base



No. 2K633
56 Frame
Rigid Base

Replacement Parts Available
1-800-323-0620

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft End | Volts 60 Hz | Enclosure | Full-Load Amps at Nameplate Volts | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C-FACE, NO BASE** | | | | | | | | | | | | |
| **1/4** | 1725 | 56C | CW/CCW | 115/230 | Haz-TENV | 4.2/2.1 | A | C377 | **2K620** | $381.00 | **$230.25** | 23.0 |
| **1/3** | 1725 | 56C | CW/CCW | 115/230 | Haz-TEFC | 6.2/3.1 | A | C378 | **2K621** | 407.00 | **255.50** | 31.0 |
| **1/2** | 3450 | 56C | CW/CCW | 115/230 | Haz-TEFC | 8.4/4.2 | A | C1003 | **2K622** | 392.00 | **246.00** | 29.0 |
| | 3450 | 56J | CW/CCW | 115/230 | Haz-TEFC | 8.4/4.2 | A | C1037 | **2K623** | 430.00 | **270.50** | 29.0 |
| | 1725 | 56C | CW/CCW | 115/230 | Haz-TEFC | 7.8/3.9 | A | C379 | **2K624** | 452.00 | **276.75** | 35.0 |
| **3/4** | 1725 | 56C | CW/CCW | 115/230 | Haz-TEFC | 10.8/5.4 | A | C380 | **2K625** | 502.00 | **295.25** | 38.0 |
| **RIGID WELDED BASE** | | | | | | | | | | | | |
| **1/4** | 1725 | 48 | CW/CCW | 115/230 | Haz-TENV | 4.2/2.1 | A | C303 | **3K793** | 301.00 | **189.50** | 24.0 |
| | 1140 | 56 | CW/CCW | 115 | Haz-TEFC | 5.8 | A | C304 | **2K629** | 494.00 | **290.50** | 34.0 |
| | 1140 | 56 | CW/CCW | 115/230 | Haz-TEFC | 6.2/3.1 | A | C506 | **2K630** | 503.00 | **296.00** | 30.0 |
| **1/3** | 1725 | 56 | CW/CCW | 115/230 | Haz-TEFC | 6.2/3.1 | A | C305 | **3K794** | 370.00 | **232.75** | 26.0 |
| | 1140 | 56 | CW/CCW | 115/230 | Haz-TEFC | 8.6/4.3 | A | C306 | **2K632** | 525.00 | **308.75** | 35.0 |
| **1/2** | 3450 | 56 | CW/CCW | 115/230 | Haz-TEFC | 8.4/4.2 | A | C307 | **2K633** | 350.00 | **220.25** | 24.0 |
| | 1725 | 56 | CW/CCW | 115/230 | Haz-TEFC | 7.8/3.9 | A | C308 | **3K795** | 407.00 | **254.50** | 30.0 |
| | 1140 | 56 | CW/CCW | 115/230 | Haz-TEFC | 9.4/4.7 | A | C309 | **2K635** | 605.00 | **356.50** | 42.0 |
| **3/4** | 1725 | 56 | CW/CCW | 115/230 | Haz-TEFC | 10.8/5.4 | A | C311 | **3K796** | 479.00 | **281.00** | 35.0 |
| **1** | 1725 | 56 | CW/CCW | 115/230 | Haz-TEFC | 13.2/6.6 | A | C312 | **2K636** | 546.00 | **299.50** | 42.0 |

## GRAINGER STOCKS A BROAD LINE OF DAYTON AND GE MOTORS

**Top Performance.** Dayton motors are built to exceed industry standards such as NEMA (National Electrical Manufacturers Association). Used as a replacement motor in a wide variety of applications, each Dayton motor must outperform the best motor it may be called upon to replace, hence "best of the best" performance. You can be confident that the Dayton motor will work as well as, or better than, the motor you are replacing.

**Clearly Identified.** Dayton motors are clearly identified by full fact carton labels and nameplates with wiring diagrams. Maintenance and installation instructions appear in every motor carton.

**Broad Line Offering.** Dayton offers one of the broadest lines of motors in the industry. One brand can be used for nearly all your motor replacement needs.

**Time Proven Performance.** Established in 1937, Dayton has grown to be one of the most dependable names in the motor industry.

**Broad Line Offering.** Grainger now offers over 2400 stock GE brand motors including AC and DC motors from 1/370 HP to 450 HP in Energy $aver™ and standard efficiency designs including severe duty, explosion proof, farm duty, HVAC, and many others.

**National Recognition.** GE is considered the leading national brand motor with the largest installed customer base. The GE brand is widely known for quality and reliability.

**Clearly Identified.** GE motors are clearly identified by full fact carton labels and nameplates. Easy-to-read wiring diagrams are included.

**Premium Efficiency Leader.** GE has long been recognized as an industry leader in premium efficiency motors with a wide variety of ratings and types to suit many applications.

**Heritage of Excellence.** General Electric is one of the pioneers in the electrical industry with a proud 100 year history dating back to the time of founder Thomas Edison.

**HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG**

# 3-PHASE HAZARDOUS LOCATION MOTORS

- **UL Listed (E62643) for use in designated hazardous locations**
- **T-frame models have built-in temperature-sensing switch with leads brought out. When properly wired to the external control circuit, maximum frame temperature is limited as required by UL and the NEC**
- **Hazardous location conduit box is supplied with all T-frame models; conduit box (No. 4X788) is sold separately for NEMA 56 and 56H frame models**
- **NEMA Design B**

**Typical Uses:** To power fans, blowers, pumps, and air compressors in locations such as dry cleaning plants, paint and varnish factories, flour and feed mills, coal or coke plants, grain elevators, and other locations that require a motor to meet the National Electrical Code for hazardous locations.

**Type:** 3-phase

**Bearings:** Double-shielded ball

**Enclosure:** Hazardous location, TEFC

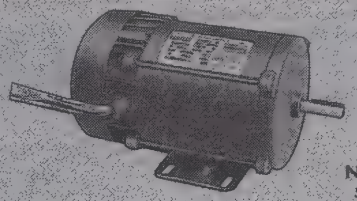
**Thermal Protection:** Auto on NEMA 56 and 56H frames; 143 thru 215 frames have thermostat (T-Stat)

**Windings:** Copper
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Temperature Code:** T3B
**Finish:** Gray
**Brand:** Dayton

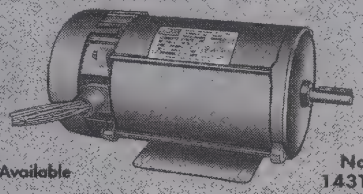
Dayton®

UL® E62643

CSA®



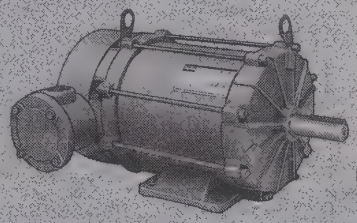
No. 3N367
56 Frame



No. 3N332
143T thru 184T Frame

Replacement Parts Available
1-800-323-0620™

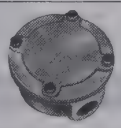
**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.



No. 3N330
213T/215T Frame

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **ROLLED STEEL CONSTRUCTION, RIGID WELDED BASE CLASS I, GROUPS C, D AND CLASS II, GROUPS E, F, AND G** | | | | | | | | | | |
| **1/3** | 1725/1425 | 56 | 230/460* | 1.7/0.8 | 1.0 | 66.0 | **3N367** | $375.00 | **$287.25** | 24.0 |
| | 1140 | 56 | 208-230/460 | 1.7-1.8/0.9 | 1.15 | 70.0 | **3GC69** | 461.00 | **336.50** | 24.0 |
| **1/2** | 3450 | 56 | 208-230/460 | 2.3-2.6/1.3 | 1.15 | 64.0 | **3GC70** | 367.00 | **269.00** | 27.0 |
| | 1725/1425 | 56 | 230/460* | 2.0/1.0 | 1.0 | 72.0 | **3N368** | 398.00 | **304.50** | 27.0 |
| | 1140 | 56 | 208-230/460 | 2.2-2.4/1.2 | 1.15 | 75.5 | **3GC71** | 488.00 | **355.75** | 27.0 |
| **3/4** | 3450 | 56 | 208-230/460 | 2.8-2.7/1.3 | 1.15 | 81.5 | **3GC72** | 384.00 | **281.50** | 31.0 |
| | 1725/1425 | 56 | 230/460* | 2.5/1.3 | 1.0 | 77.0 | **3N369** | 406.00 | **311.00** | 31.0 |
| | 1140 | 56 | 208-230/460 | 3.2-3.5/1.7 | 1.15 | 77.0 | **3GC74** | 518.00 | **378.50** | 31.0 |
| | 1140 | 143T | 208-230/460 | 3.2-3.5/1.7 | 1.15 | 77.0 | **3GC73** | 518.00 | **378.50** | 31.0 |
| **1** | 3450 | 56 | 208-230/460 | 3.4-3.2/1.6 | 1.15 | 77.0 | **3GC75** | 405.00 | **297.25** | 38.0 |
| | 1740 | 143T | 230/460 | 3.6/1.8 | 1.0 | 78.5 | **3N332** | 404.00 | **309.50** | 38.0 |
| | 1725 | 56H | 230/460 | 3.6/1.8 | 1.0 | 78.5 | **3N370** | 422.00 | **323.50** | 33.0 |
| | 1140 | 56H | 208-230/460 | 4.0-4.1/2.1 | 1.15 | 80.0 | **3GC76** | 518.00 | **378.75** | 33.0 |
| **1½** | 3450 | 145T | 230/460 | 4.4/2.2 | 1.0 | 78.5 | **3N567** | 396.00 | **303.00** | 40.0 |
| | 1740 | 145T | 230/460 | 4.8/2.4 | 1.0 | 80.0 | **3N333** | 417.00 | **319.50** | 44.0 |
| | 1725 | 56H | 230/460 | 4.8/2.4 | 1.0 | 80.0 | **3N371** | 458.00 | **350.50** | 36.0 |
| **2** | 3450 | 145T | 230/460 | 6.0/3.0 | 1.0 | 80.0 | **3N568** | 414.00 | **317.00** | 47.0 |
| | 1725 | 56H | 208-230/460 | 6.5-6.3/3.1 | 1.15 | 82.5 | **3GC77** | 514.00 | **377.25** | 49.0 |
| | 1740 | 145T | 230/460 | 6.3/3.1 | 1.0 | 82.5 | **3N334** | 457.00 | **349.75** | 49.0 |
| **3** | 3450 | 145T | 230/460 | 6.7/3.4 | 1.0 | 85.5 | **3GC78** | 513.00 | **375.75** | 39.0 |
| **3** | 1740 | 182T | 230/460 | 8.4/4.2 | 1.0 | 82.5 | **3N291** † | 489.00 | **382.00** | 87.0 |
| **5** | 1750 | 184T | 230/460 | 12.8/6.4 | 1.0 | 88.5 | **3N329** † | 593.00 | **463.00** | 108.0 |
| **7½** | 1740 | 213T | 230/460 | 20.2/10.1 | 1.0 | 87.5 | **3N330** † | 748.00 | **584.00** | 161.0 |
| **10** | 1740 | 215T | 230/460 | 26.0/13.0 | 1.0 | 90.2 | **3N331** † | 823.00 | **643.00** | 178.0 |

(*) Operable on 50 Hz 230/460V at 5/6 rated HP and speed at 1.0 service factor. (†) Class I, Group D only.



## CONDUIT BOX FOR HAZARDOUS LOCATION MOTORS

For use on Dayton brand 56 frame hazardous location motors. Has hole for self-tapping grounding screw. Easily installed. UL Listed. Gray finish.

**No. 4X788.** Shpg. wt. 1.6 lbs. List $34.00.....Each $29.90

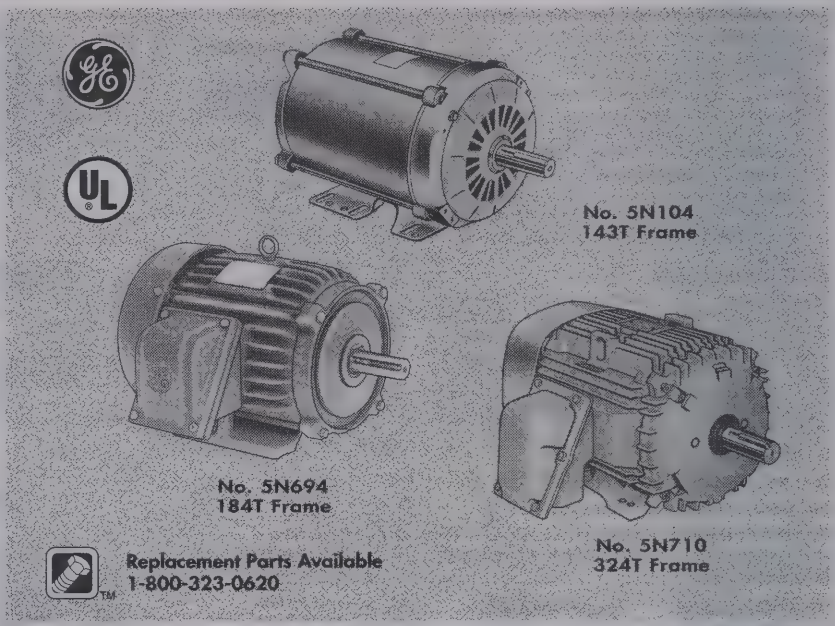
# 3-PHASE HAZARDOUS LOCATION MOTORS

- **Thermostat (T-Stat) models have built-in temperature-sensing switch with leads brought out. When properly wired to the external control circuit, maximum frame temperature is limited as required by UL and the NEC**
- **NEMA Design B**
- **180 frame and above supplied with grease fittings**

**Typical Uses:** To power fans, blowers, pumps, and air compressors in dry cleaning plants, paint and varnish factories, flour and feed mills, coal or coke plants, grain elevators, and other locations that require a motor to meet the National Electrical Code for hazardous locations.

**Type:** 3-phase
**Bearings:** Ball
**Mounting:** Rigid
**Enclosure:** Hazardous location, TEFC
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.




**Replacement Parts Available**
**1-800-323-0620**

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BASE MOUNTED—CLASS I, GROUP D; CLASS II, GROUPS E, F, AND G, ROLLED STEEL CONSTRUCTION** | | | | | | | | | | | | | |
| **1/4** | 1725 | 48 | Auto | 230/460 | 1.2/0.6 | 1.0 | 68.9 | A | K199 | **5N092** | $310.00 | **$194.75** | 19.0 |
| **1/3** | 1725 | 56 | Auto | 230/460 | 1.2/0.6 | 1.0 | 74.9 | A | K200 | **5N093**† | 448.00 | **261.50** | 23.0 |
| | 1140 | 56 | Auto | 230/460 | 2.2/1.1 | 1.0 | 63.8 | A | K201 | **5N094**† | 541.00 | **318.75** | 25.0 |
| **1/2** | 1725 | 56 | Auto | 230/460 | 2.4/1.2 | 1.0 | 67.6 | A | K203 | **5N095** | 474.00 | **286.00** | 25.0 |
| | 1725 | 56 | Auto | 200 | 2.7 | 1.0 | 68.4 | A | K533 | **5N096** | 474.00 | **286.00** | 24.0 |
| | 1140 | 56 | Auto | 230/460 | 2.6/1.3 | 1.0 | 69.9 | A | K204 | **5N097** | 571.00 | **336.25** | 34.0 |
| **3/4** | 1725 | 56 | Auto | 230/460 | 3.0/1.5 | 1.0 | 72.9 | A | K206 | **5N098** | 484.00 | **296.25** | 27.0 |
| | 1725 | 56 | Auto | 200 | 3.5 | 1.0 | 73.0 | A | K534 | **5N099** | 484.00 | **296.25** | 27.0 |
| | 1140 | 56 | Auto | 230/460 | 3.4/1.7 | 1.0 | 72.2 | A | K207 | **5N100** | 607.00 | **357.25** | 36.0 |
| | 1140 | 143T | Auto | 230/460 | 3.4/1.7 | 1.0 | 72.2 | A | K580 | **5N101** | 607.00 | **359.50** | 37.0 |
| **1** | 3450 | 56 | Auto | 230/460 | 3.4/1.7 | 1.0 | 78.3 | A | K208 | **5N102** | 483.00 | **284.25** | 27.0 |
| | 1725 | 56 | Auto | 230/460 | 3.6/1.8 | 1.0 | 75.4 | A | K209 | **5N103** | 503.00 | **308.00** | 33.0 |
| | 1725 | 143T | Auto | 230/460 | 3.6/1.8 | 1.0 | 75.4 | A | K579 | **5N104** | 503.00 | **302.75** | 35.0 |
| | 1140 | 56H | Auto | 230/460 | 3.6/1.8 | 1.0 | 78.3 | B | K535 | **5N106** | 616.00 | **368.25** | 40.0 |
| | 1140 | 145T | T-Stat | 230/460 | 3.6/1.8 | 1.0 | 78.3 | B | K298 | **5N105** | 616.00 | **372.00** | 40.0 |
| **1½** | 3450 | 143T | T-Stat | 230/460 | 4.2/2.1 | 1.0 | 81.3 | A | K299 | **5N107** | 485.00 | **288.25** | 35.0 |
| | 1725 | 56H | Auto | 230/460 | 5.0/2.5 | 1.0 | 75.2 | B | K536 | **5N109** | 546.00 | **328.75** | 33.0 |
| | 1725 | 145T | T-Stat | 230/460 | 5.0/2.5 | 1.0 | 75.2 | B | K211 | **5N108** | 546.00 | **332.50** | 34.0 |
| **2** | 3450 | 145T | T-Stat | 230/460 | 5.2/2.6 | 1.0 | 81.7 | B | K301 | **5N110*** | 767.00 | **451.00** | 39.0 |
| | 1725 | 145T | T-Stat | 230/460 | 6.2/3.1 | 1.0 | 77.9 | B | K212 | **5N111*** | 560.00 | **332.25** | 42.0 |
| **BASE MOUNTED—CLASS I, GROUP D; CLASS II, GROUPS F AND G, CAST-IRON CONSTRUCTION** | | | | | | | | | | | | | |
| **1½** | 1165 | 182T | T-Stat | 230/460 | 4.8/2.4 | 1.15 | 75.5 | B | K581 | **5N688** | 613.00 | **428.00** | 11.0 |
| **2** | 1155 | 184T | T-Stat | 230/460 | 6.2/3.1 | 1.15 | 80.0 | B | K582 | **5N689** | 686.00 | **481.75** | 11.0 |
| **3** | 3520 | 182T | T-Stat | 230/460 | 8.0/4.0 | 1.15 | 78.5 | B | K303 | **5N690** | 652.00 | **455.75** | 11.0 |
| | 1760 | 182T | T-Stat | 230/460 | 8.4/4.2 | 1.15 | 84.0 | B | K213 | **5N691** | 661.00 | **460.75** | 9.9 |
| | 1170 | 213T | T-Stat | 230/460 | 8.8/4.4 | 1.15 | 85.5 | B | S3231 | **5N692** | 884.00 | **622.50** | 18.0 |
| **5** | 3520 | 184T | T-Stat | 230/460 | 12.2/6.1 | 1.15 | 82.5 | B | K304 | **5N693** | 794.00 | **553.50** | 12.0 |
| | 1745 | 184T | T-Stat | 230/460 | 12.6/6.3 | 1.15 | 85.5 | B | K214 | **5N694** | 764.00 | **533.50** | 12.0 |
| | 1160 | 215T | T-Stat | 230/460 | 14.2/7.1 | 1.15 | 84.0 | B | S3239 | **5N695** | 1171.00 | **818.00** | 20.0 |
| **7½** | 3525 | 213T | T-Stat | 230/460 | 18.6/9.3 | 1.15 | 84.0 | B | S531 | **5N696** | 1029.00 | **720.50** | 20.0 |
| | 1745 | 213T | T-Stat | 230/460 | 18.2/9.1 | 1.15 | 86.5 | B | S501 | **5N697** | 1094.00 | **765.00** | 20.0 |
| | 1170 | 254T | T-Stat | 230/460 | 19.2/9.6 | 1.15 | 86.5 | B | S3246 | **5N698** | 1484.00 | **1046.00** | 31.0 |

(*) Class I, Group D; Class II, Groups E and F only. (†) TENV.

CONTINUED ON NEXT PAGE

# 3-PHASE HAZARDOUS LOCATION MOTORS

## GE 3-PHASE HAZARDOUS LOCATION MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BASE MOUNTED—CLASS I, GROUP D; CLASS II, GROUPS F AND G CAST-IRON CONSTRUCTION** | | | | | | | | | | | | | |
| **10** | 3520 | 215T | T-Stat | 230/460 | 24.2/12.1 | 1.15 | 85.5 | B | S533 | **5N699** | $1150.00 | **$803.50** | 180.0 |
| | 1740 | 215T | T-Stat | 230/460 | 23.6/11.8 | 1.15 | 87.5 | B | S502 | **5N700** | 1270.00 | **885.00** | 180.0 |
| | 1170 | 256T | T-Stat | 230/460 | 25.4/12.7 | 1.15 | 87.5 | B | S534 | **5N701** | 1823.00 | **1278.00** | 308.0 |
| **15** | 3550 | 254T | T-Stat | 230/460 | 35.4/17.7 | 1.15 | 86.5 | B | S535 | **5N702** | 1463.00 | **1032.00** | 283.0 |
| | 1765 | 254T | T-Stat | 230/460 | 35.0/17.5 | 1.15 | 88.5 | B | S503 | **5N703** | 1724.00 | **1208.00** | 283.0 |
| | 1175 | 284T | T-Stat | 230/460 | 38.4/19.2 | 1.15 | 88.5 | B | S536 | **5N704** | 2484.00 | **1736.00** | 404.0 |
| **20** | 3545 | 256T | T-Stat | 230/460 | 46.2/23.1 | 1.15 | 88.5 | B | S537 | **5N705** | 1943.00 | **1359.00** | 308.0 |
| | 1760 | 256T | T-Stat | 230/460 | 45.8/22.4 | 1.15 | 90.2 | B | S504 | **5N706** | 2012.00 | **1405.00** | 308.0 |
| | 1175 | 286T | T-Stat | 230/460 | 48.6/24.3 | 1.15 | 90.2 | B | S538 | **5N707** | 2947.00 | **2161.00** | 437.0 |
| **25** | 3545 | 284TS | T-Stat | 230/460 | 58.2/29.1 | 1.15 | 88.5 | B | S539 | **5N708** | 2419.00 | **1694.00** | 404.0 |
| | 1770 | 284T | T-Stat | 230/460 | 58.6/29.3 | 1.15 | 90.2 | B | S505 | **5N709** | 2527.00 | **1767.00** | 404.0 |
| | 1175 | 324T | T-Stat | 230/460 | 64.6/32.3 | 1.0 | 89.5 | B | S540 | **5N710** | 3386.00 | **2241.00** | 603.0 |
| **30** | 3545 | 284TS | T-Stat | 230/460 | 69.8/34.7 | 1.15 | 88.5 | B | S541 | **5N711** | 2853.00 | **1993.00** | 437.0 |
| | 1770 | 286T | T-Stat | 230/460 | 69.2/34.6 | 1.15 | 90.2 | B | S506 | **5N712** | 2947.00 | **2056.00** | 437.0 |
| | 1175 | 326T | T-Stat | 230/460 | 75.4/37.7 | 1.0 | 90.2 | B | S542 | **5N713** | 4444.00 | **2942.00** | 663.0 |
| **40** | 3560 | 324TS | T-Stat | 230/460 | 90.2/45.1 | 1.0 | 90.2 | B | S543 | **5N714** | 3588.00 | **2374.00** | 685.0 |
| | 1775 | 324T | T-Stat | 230/460 | 103.2/51.6 | 1.0 | 90.2 | B | S507 | **5N715** | 3597.00 | **2379.00** | 685.0 |
| | 1180 | 364T | T-Stat | 230/460 | 95.4/47.7 | 1.15 | 90.2 | B | S903 | **5N086** | 5757.00 | **3809.00** | 970.0 |
| **50** | 3560 | 326TS | T-Stat | 230/460 | 113.0/56.5 | 1.0 | 91.0 | B | S545 | **5N716** | 4306.00 | **2851.00** | 710.0 |
| | 1775 | 326T | T-Stat | 230/460 | 119.4/59.7 | 1.0 | 91.7 | B | S508 | **5N717** | 3992.00 | **2641.00** | 710.0 |
| | 1175 | 365T | T-Stat | 230/460 | 118.0/59.0 | 1.15 | 91.7 | B | S904 | **5N718** | 6274.00 | **4151.00** | 1040.0 |
| **60** | 3525 | 364TS | T-Stat | 230/460 | 134.0/67.0 | 1.15 | 89.5 | B | S905 | **5N073** | 6558.00 | **4212.00** | 966.0 |
| | 1765 | 364T | T-Stat | 230/460 | 138.0/69.0 | 1.15 | 93.0 | B | S906 | **5N077** | 5761.00 | **3698.00** | 1000.0 |
| | 1185 | 404T | T-Stat | 460 | 74.1 | 1.0 | 92.4 | B | S549 | **5N082** | 7686.00 | **5086.00** | 1266.0 |
| **75** | 3540 | 365TS | T-Stat | 230/460 | 166.0/83.0 | 1.15 | 91.0 | B | S907 | **5N074** | 8649.00 | **5727.00** | 1030.0 |
| | 1770 | 365T | T-Stat | 230/460 | 173.0/86.5 | 1.15 | 94.1 | B | S908 | **5N078** | 6728.00 | **4455.00** | 1062.0 |
| | 1185 | 405T | T-Stat | 460 | 90.3 | 1.0 | 93.0 | F | S582 | **5N083** | 8942.00 | **5919.00** | 1356.0 |
| **100** | 3570 | 405TS | T-Stat | 460 | 111.0 | 1.0 | 92.4 | F | S583 | **5N075** | 10409.00 | **6892.00** | 1363.0 |
| | 1780 | 405T | T-Stat | 460 | 111.0 | 1.0 | 94.1 | F | S584 | **5N079** | 9830.00 | **6507.00** | 1438.0 |
| | 1190 | 444T | T-Stat | 460 | 114.0 | 1.0 | 93.6 | F | S585 | **5N084** | 13541.00 | **8965.00** | 1889.0 |
| **125** | 1785 | 444T | T-Stat | 460 | 143.0 | 1.0 | 92.4 | B | S587 | **5N080** | 13416.00 | **8881.00** | 1817.0 |
| | 1190 | 445T | T-Stat | 460 | 144.0 | 1.0 | 94.1 | F | S588 | **5N085** | 13614.00 | **9012.00** | 1896.0 |
| **150** | 3575 | 445TS | T-Stat | 460 | 166.0 | 1.0 | 92.4 | F | S589 | **5N076** | 16721.00 | **11074.00** | 1944.0 |
| | 1785 | 445T | T-Stat | 460 | 163.0 | 1.0 | 94.5 | F | S590 | **5N081** | 14333.00 | **9492.00** | 1748.0 |
| **NEMA C-FACE MOUNTED—CLASS I, GROUP D; CLASS II, GROUPS E, F, AND G, ROLLED STEEL CONSTRUCTION** | | | | | | | | | | | | | |
| **1/3** | 1725 | 56C | Auto | 230/460 | 1.2/0.6 | 1.0 | 74.9 | A | K325 | **5N087**† | 484.00 | **273.75** | 23.0 |
| **1/2** | 1725 | 56C | Auto | 230/460 | 2.4/1.2 | 1.0 | 67.6 | A | K326 | **5N088** | 511.00 | **302.75** | 29.0 |
| **3/4** | 1725 | 56C | Auto | 230/460 | 3.0/1.5 | 1.0 | 72.9 | B | K484 | **5N089** | 520.00 | **318.50** | 34.0 |
| **1** | 1725 | 56C | Auto | 230/460 | 3.6/1.8 | 1.0 | 75.4 | B | K485 | **5N090** | 554.00 | **337.75** | 38.0 |
| **1½** | 1725 | 56C | Auto | 230/460 | 5.0/2.5 | 1.0 | 75.2 | B | K486 | **5N091** | 596.00 | **351.00** | 37.0 |

(†) TENV.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## NATIONAL ELECTRICAL CODE EXPLOSIVE ATMOSPHERE CLASSIFICATIONS

Certain locations are hazardous because the atmosphere does or may contain gas, vapor or dust in explosive quantities. The National Electrical Code (NEC) divides these locations into classes and Groups according to the type of explosive agent which may be present. Listed are some of the agents in each classification. For complete list, see NFPA (National Fire Protection Association) publication 497M.

Underwriters' Laboratories tests motors and other devices for safety in explosive atmospheres, and publishes a list of those meeting its standards for each class and Group.

Use of UL Listed devices does not necessarily make an installation conform to the NEC or local codes. Consult Chapter 5 of the NEC, local building codes, OSHA requirements and insurance inspectors for detailed data as to proper procedures. This catalog does not contain any motors designed for Class I, Groups A, B, and C atmospheres.

### CLASS I

**Group A:** Acetylene

**Group B:** Butadiene, ethylene oxide, hydrogen, propylene oxide, manufactured gases containing more than 30% hydrogen by volume.

**Group C:** Acetaldehyde, cyclopropane, diethyl ether, ethylene.

**Group D:** Acetone, acrylonitrile, ammonia, benzene, butane, ethanol, ethylene dichloride, gasoline, hexane, isoprene, methane (natural gas), methanol, naphtha, propane, propylene, styrene, toluene, vinyl chloride, xylene.

### CLASS II

**Group E:** Aluminum, magnesium and other metal dusts with similar characteristics

**Group F:** Carbon black, coke or coal dust

**Group G:** Flour, starch or grain dust

### CLASS III

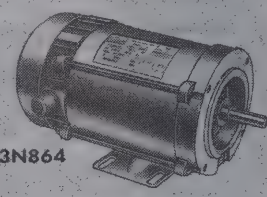
Easily ignitable fibers, such as rayon, cotton sisal, hemp, cocoa fiber, oakum, excelsior and other materials of similar nature.

# 3-PHASE C-FACE HAZARDOUS LOCATION MOTORS

- **UL Listed (E62643) for use in Class I Group C, D and Class II Group E, F, &G hazardous locations**
- **T-frame models have built-in temperature-sensing switch with leads brough out. When properly wired to the external control circuit, maximum frame temperature is limited as required by UL and the NEC**
- **Hazardous location conduit box is supplied with T-frame models; conduit box (No. 4X788) is sold separately for NEMA 56 models**
- **NEMA Design B**

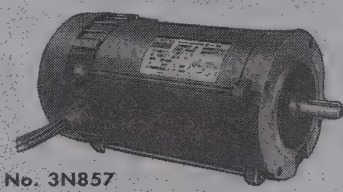
**Typical Uses:** To power fans, blowers, pumps, and air compressors in locations such as dry cleaning plants, paint and varnish factories, flour and feed mills, coal or coke plants, grain elevators, and other locations that require a motor to meet the National Electrical Code for hazardous locations.

**Type:** 3-phase
**Bearings:** Double-shielded ball
**Enclosure:** Hazardous location, TEFC
**Windings:** Copper
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Thermal Protection:** Auto or Thermostat (T-Stat)
**Temperature Code:** T3B
**Finish:** Gray
**Brand:** Dayton





No. 3N864


No. 3N857

E62643

**Replacement Parts Available 1-800-323-0620**

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Efficiency | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RIGID WELDED BASE** | | | | | | | | | | | |
| **1/3** | 1725/1425 | 56C | Auto | 230/460† | 1.7/0.8 | 1.0 | 66.0 | **3N863** | $409.00 | **$313.00** | 25.0 |
| **1/2** | 3450 | 56C | Auto | 208-230/460 | 2.3-2.6/1.3 | 1.15 | 64.0 | **3GC60** | 403.00 | **295.00** | 28.0 |
| | 1725/1425 | 56C | Auto | 230/460† | 2.0/1.0 | 1.0 | 76.0 | **3N864** | 430.00 | **329.50** | 28.0 |
| **3/4** | 3450 | 56C | Auto | 208-230/460 | 2.8-2.7/1.3 | 1.15 | 81.5 | **3GC61** | 416.00 | **304.75** | 32.0 |
| | 1725/1425 | 56C | Auto | 230/460† | 2.5/1.3 | 1.0 | 77.0 | **3N865** | 439.00 | **335.75** | 32.0 |
| | 1725 | 145TC | T-Stat | 208-230/460 | 2.6-2.5/1.3 | 1.15 | 77.0 | **3GC62** | 446.00 | **326.00** | 32.0 |
| **1** | 3450 | 56C | Auto | 208-230/460 | 3.4-3.2/1.6 | 1.15 | 77.0 | **3GC63** | 436.00 | **319.25** | 34.0 |
| | 1725 | 56C | Auto | 230/460 | 3.6/1.8 | 1.0 | 78.5 | **3N866** | 465.00 | **356.00** | 34.0 |
| | 1725 | 145TC | T-Stat | 208-230/460 | 3.3-3.2/1.6 | 1.15 | 84.0 | **3GC80** | 474.00 | **347.50** | 37.0 |
| **1 1/2** | 3450 | 56C | Auto | 208-230/460 | 4.6-4.3/2.1 | 1.15 | 82.5 | **3GC64** | 495.00 | **362.00** | 37.0 |
| | 1725 | 56HC | Auto | 230/460 | 4.8/2.4 | 1.0 | 80.0 | **3N867** | 501.00 | **383.50** | 37.0 |
| | 1725 | 145TC | T-Stat | 208-230/460 | 4.9-4.7/2.3 | 1.15 | 84.0 | **3GC65** | 507.00 | **371.00** | 37.0 |
| **2** | 3450 | 56C | Auto | 208-230/460 | 6.0-5.5/2.8 | 1.15 | 84.0 | **3GC66** | 490.00 | **358.75** | 42.0 |
| | 1725 | 56HC | T-Stat | 230/460 | 6.3/3.1 | 1.0 | 82.5 | **3N868** | 532.00 | **407.50** | 42.0 |
| | 1725 | 145TC | T-Stat | 208-230/460 | 6.2-5.9/2.9 | 1.15 | 84.0 | **3GC67** | 547.00 | **400.75** | 42.0 |
| **3** | 3450 | 145TC | T-Stat | 230/460 | 6.7/3.4 | 1.0 | 85.5 | **3GC68** | 615.00 | **449.75** | 42.0 |
| **NO BASE** | | | | | | | | | | | |
| **1/3** | 1725/1425 | 56C | Auto | 230/460† | 1.7/0.8 | 1.0 | 66.0 | **3N857** | 406.00 | **311.00** | 24.0 |
| **1/2** | 3450 | 56C | Auto | 208-230/460 | 2.3-2.6/1.3 | 1.15 | 64.0 | **3GC49** | 400.00 | **292.25** | 27.0 |
| | 1725/1425 | 56C | Auto | 230/460† | 2.0/1.0 | 1.0 | 72.0 | **3N858** | 428.00 | **328.00** | 27.0 |
| | 1140 | 56C | Auto | 208-230/460 | 2.2-2.4/1.2 | 1.15 | 75.5 | **3GC50** | 508.00 | **370.75** | 27.0 |
| **3/4** | 3450 | 56C | Auto | 208-230/460 | 2.8-2.7/1.3 | 1.15 | 81.5 | **3GC51** | 413.00 | **302.25** | 31.0 |
| | 1725/1425 | 56C | Auto | 230/460† | 2.5/1.3 | 1.0 | 77.0 | **3N859** | 437.00 | **334.25** | 31.0 |
| | 1140 | 56C | Auto | 208-230/460 | 3.2-3.5/1.7 | 1.15 | 77.0 | **3GC52** | 532.00 | **388.75** | 31.0 |
| **1** | 3450 | 56C | Auto | 208-230/460 | 3.4-3.2/1.6 | 1.15 | 77.0 | **3GC53** | 431.00 | **315.75** | 33.0 |
| | 1725 | 56C | Auto | 230/460 | 3.6/1.8 | 1.0 | 78.5 | **3N860** | 465.00 | **356.00** | 33.0 |
| | 1725 | 143TC | T-Stat | 208-230/460 | 3.3-3.2/1.6 | 1.15 | 84.0 | **3GC79** | 465.00 | **341.00** | 37.0 |
| | 1140 | 56C | Auto | 208-230/460 | 4.0-4.1/2.1 | 1.15 | 80.0 | **3GC54** | 561.00 | **410.00** | 33.0 |
| **1 1/2** | 3450 | 143TC | T-Stat | 208-230/460 | 4.6-4.3/2.1 | 1.15 | 82.5 | **3GC55** | 491.00 | **358.75** | 36.0 |
| | 1725 | 56C | Auto | 230/460 | 4.8/2.4 | 1.0 | 80.0 | **3N861** | 501.00 | **383.50** | 36.0 |
| | 1725 | 143TC | T-Stat | 208-230/460 | 4.9-4.7/2.3 | 1.15 | 84.0 | **3GC56** | 502.00 | **367.00** | 36.0 |
| **2** | 3450 | 56C | Auto | 208-230/460 | 6.0-5.5/2.8 | 1.15 | 84.0 | **3GC57** | 485.00 | **355.50** | 41.0 |
| | 1725 | 56C | T-Stat | 230/460 | 6.3/3.1 | 1.0 | 82.5 | **3N862** | 532.00 | **407.50** | 41.0 |
| | 1725 | 145TC | T-Stat | 208-230/460 | 6.2-5.9/2.9 | 1.15 | 84.0 | **3GC58** | 542.00 | **397.00** | 41.0 |
| **3** | 3450 | 145TC | T-Stat | 230/460 | 6.7/3.4 | 1.0 | 85.5 | **3GC59** | 611.00 | **446.25** | 41.0 |

(†) Operable on 50 Hz, 230/460V at 5/6 rated speed.

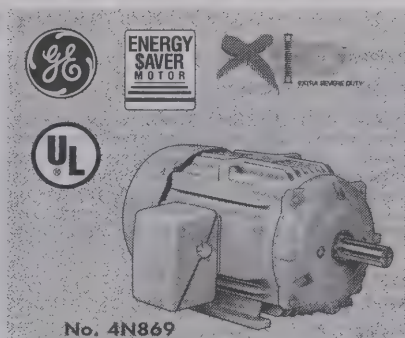
# 3-PHASE HAZARDOUS LOCATION PREMIUM EFFICIENCY MOTORS

## SEVERE DUTY

- **Listed by UL (E125132) for use in Class I, Group D and Class II, Groups F and G hazardous locations**
- **Motors have built-in temperature-sensing switch with leads brought out. When properly wired to the external control circuit, maximum frame temperature is limited as required by UL and the NEC**
- **Premium efficiency motors meet most utility rebate program requirements**
- **NEMA Design B**
- **Cast-iron construction**
- **Supplied with grease fittings**
- **Three-year warranty**

**Typical Uses:** To power fans, blowers pumps and air compressors in dry cleaning plants, paint and varnish factories, grain elevators, and other locations that require a motor to meet the National Electrical Code for hazardous locations.

**Type:** 3-phase
**Bearings:** Ball
**Enclosure:** Hazardous location, TEFC
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Beige
**Brand:** GE



No. 4N869

## BASE MOUNTED—CLASS I, GROUP D; CLASS II, GROUPS F AND G

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 1170 | 182T | 230/460 | 4.6/2.3 | 1.15 | 86.5 | F | E9601 | ↗5N719 | $1032.00 | **$683.00** | 90.0 |
| | 1175 | 182T | 575 | 2.0 | 1.15 | 87.5 | F | E9602 | ↗5N720 | 1032.00 | **683.00** | 90.0 |
| 2 | 1170 | 184T | 230/460 | 6.6/3.3 | 1.15 | 86.5 | F | E9603 | ↗5N721 | 1324.00 | **876.50** | 130.0 |
| | 1170 | 184T | 575 | 2.6 | 1.15 | 86.5 | F | E9604 | ↗5N722 | 1324.00 | **876.50** | 130.0 |
| 3 | 3540 | 182T | 230/460 | 8.0/4.0 | 1.15 | 86.5 | F | E9605 | ↗5N723 | 1354.00 | **896.50** | 100.0 |
| | 3450 | 182T | 575 | 3.2 | 1.15 | 86.5 | F | E9606 | ↗5N724 | 1354.00 | **896.50** | 100.0 |
| | 1765 | 182T | 230/460 | 8.2/4.1 | 1.15 | 89.5 | F | E9607 | ↗5N725 | 1202.00 | **796.00** | 95.0 |
| | 1765 | 182T | 575 | 3.3 | 1.15 | 89.5 | F | E9608 | ↗5N726 | 1202.00 | **796.00** | 95.0 |
| | 1175 | 213T | 230/460 | 8.6/4.3 | 1.15 | 90.2 | F | E9678 | ↗4N880 | 1566.00 | **1037.00** | 165.0 |
| | 1180 | 213T | 575 | 3.5 | 1.15 | 90.2 | F | E9610 | ↗5N727 | 1566.00 | **1037.00** | 200.0 |
| 5 | 3525 | 184T | 230/460 | 14.0/7.0 | 1.15 | 87.5 | F | E9611 | ↗5N728 | 1409.00 | **932.50** | 130.0 |
| | 3525 | 184T | 575 | 5.6 | 1.15 | 87.5 | F | E9612 | ↗5N729 | 1409.00 | **932.50** | 130.0 |
| | 1745 | 184T | 230/460 | 13.2/6.6 | 1.15 | 87.5 | F | E9613 | ↗5N730 | 1326.00 | **878.00** | 130.0 |
| | 1745 | 184T | 575 | 5.3 | 1.15 | 87.5 | F | E9614 | ↗5N731 | 1326.00 | **878.00** | 130.0 |
| | 1170 | 215T | 230/460 | 14.0/7.0 | 1.15 | 90.2 | F | E9679 | ↗4N881 | 1746.00 | **1155.00** | 210.0 |
| | 1170 | 215T | 575 | 5.7 | 1.15 | 90.2 | F | E9616 | ↗5N732 | 1746.00 | **1155.00** | 220.0 |
| 7½ | 3535 | 213T | 230/460 | 17.4/8.7 | 1.15 | 90.2 | F | E9661 | ↗4N882 | 1630.00 | **1079.00** | 175.0 |
| | 3535 | 213T | 575 | 7.0 | 1.15 | 90.2 | F | E9617 | ↗5N733 | 1630.00 | **1079.00** | 200.0 |
| | 1755 | 213T | 230/460 | 17.8/8.9 | 1.15 | 91.0 | F | E9669 | ↗4N883 | 1735.00 | **1148.00** | 205.0 |
| | 1755 | 213T | 575 | 7.1 | 1.15 | 91.0 | F | E9618 | ↗5N734 | 1735.00 | **1148.00** | 200.0 |
| | 1175 | 254T | 230/460 | 19.6/9.8 | 1.15 | 91.0 | F | E9680 | ↗4N884 | 2304.00 | **1525.00** | 328.0 |
| | 1175 | 254T | 575 | 7.9 | 1.15 | 91.0 | F | E9619 | ↗5N735 | 2304.00 | **1525.00** | 315.0 |
| 10 | 3525 | 215T | 230/460 | 22.8/11.4 | 1.15 | 91.0 | F | E9662 | ↗4N865 | 1730.00 | **1145.00** | 220.0 |
| | 3530 | 215T | 575 | 9.2 | 1.15 | 91.0 | F | E9620 | ↗5N736 | 1730.00 | **1145.00** | 220.0 |
| | 1750 | 215T | 230/460 | 23.8/11.9 | 1.15 | 91.0 | F | E9671 | ↗4N869 | 1795.00 | **1188.00** | 165.0 |
| | 1750 | 215TS | 575 | 9.5 | 1.15 | 91.0 | F | E9621 | ↗5N737 | 1795.00 | **1188.00** | 220.0 |
| | 1175 | 256T | 230/460 | 25.6/12.8 | 1.15 | 91.7 | F | E9686 | ↗4N877 | 2700.00 | **1787.00** | 360.0 |
| | 1170 | 256T | 575 | 10.1 | 1.15 | 91.7 | F | E9622 | ↗5N738 | 2700.00 | **1787.00** | 350.0 |
| 15 | 3555 | 254T | 230/460 | 34.4/17.2 | 1.15 | 91.0 | F | E9663 | ↗4N866 | 2250.00 | **1488.00** | 357.0 |
| | 3555 | 254T | 575 | 13.8 | 1.15 | 91.0 | F | E9623 | ↗5N739 | 2250.00 | **1488.00** | 315.0 |
| | 1770 | 254T | 230/460 | 36.4/18.2 | 1.15 | 92.4 | F | E9672 | ↗4N868 | 2220.00 | **1468.00** | 353.0 |
| | 1770 | 254T | 575 | 14.5 | 1.15 | 92.4 | F | E9624 | ↗5N740 | 2220.00 | **1468.00** | 315.0 |
| | 1180 | 284T | 230/460 | 36.4/18.2 | 1.15 | 91.7 | F | E9682 | ↗4N875 | 3867.00 | **2557.00** | 477.0 |
| | 1180 | 284T | 575 | 14.5 | 1.15 | 91.7 | F | E9625 | ↗5N741 | 3867.00 | **2558.00** | 460.0 |
| 20 | 3550 | 256T | 230/460 | 45.2/22.6 | 1.15 | 91.7 | F | E9664 | ↗4N867 | 2663.00 | **1761.00** | 374.0 |
| | 3555 | 256T | 575 | 18.1 | 1.15 | 91.7 | F | E9626 | ↗5N742 | 2663.00 | **1762.00** | 350.0 |
| | 1770 | 256T | 230/460 | 47.2/23.6 | 1.15 | 93.0 | F | E9673 | ↗4N870 | 2639.00 | **1746.00** | 382.0 |
| | 1770 | 256T | 575 | 18.9 | 1.15 | 93.0 | F | E9627 | ↗5N743 | 2639.00 | **1746.00** | 350.0 |
| | 1175 | 286T | 230/460 | 48.2/24.1 | 1.15 | 91.7 | F | E9683 | ↗4N876 | 4232.00 | **2798.00** | 528.0 |
| | 1175 | 286T | 575 | 19.3 | 1.15 | 91.7 | F | E9628 | ↗5N744 | 4232.00 | **2798.00** | 510.0 |
| 25 | 3555 | 284TS | 230/460 | 55.8/27.9 | 1.15 | 92.4 | F | E9665 | ↗5N746 | 3348.00 | **2214.00** | 350.0 |
| | 3555 | 284TS | 575 | 22.3 | 1.15 | 92.4 | F | E9629 | ↗5N745 | 3348.00 | **2214.00** | 430.0 |
| | 1775 | 284T | 230/460 | 57.6/28.8 | 1.15 | 93.6 | F | E9674 | ↗4N872 | 3743.00 | **2475.00** | 517.0 |
| | 1775 | 284T | 575 | 23.0 | 1.15 | 93.6 | F | E9630 | ↗5N747 | 3743.00 | **2476.00** | 460.0 |
| 30 | 3545 | 286TS | 230/460 | 66.4/33.2 | 1.15 | 92.4 | F | E9666 | ↗5N748 | 3791.00 | **2508.00** | 480.0 |
| | 3550 | 286TS | 575 | 26.7 | 1.15 | 92.4 | F | E9631 | ↗5N749 | 3791.00 | **2508.00** | 480.0 |
| | 1775 | 286T | 230/460 | 69.0/34.5 | 1.15 | 93.6 | F | E9675 | ↗4N873 | 3784.00 | **2502.00** | 523.0 |
| | 1775 | 286T | 575 | 27.6 | 1.15 | 93.6 | F | E9632 | ↗5N750 | 3784.00 | **2502.00** | 510.0 |
| | 1180 | 326T | 230/460 | 72.4/36.2 | 1.15 | 93.0 | F | E9685 | ↗4N879 | 8044.00 | **5320.00** | 701.0 |
| 40 | 1780 | 324T | 230/460 | 91.0/45.5 | 1.15 | 94.1 | F | E9676 | ↗4N874 | 4183.00 | **2764.00** | 740.0 |
| 50 | 1775 | 326T | 230/460 | 115.0/57.5 | 1.15 | 94.1 | F | E9677 | ↗4N871 | 4964.00 | **3281.00** | 752.0 |

(↗) Denotes energy efficient product.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

# CAPACITOR-START 50 Hz MOTORS

## DAYTON BRAND, 50 Hz MOTORS

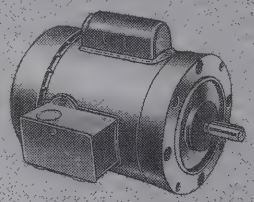
- **Copper windings**
- **50 Hz operation**

**Typical Uses:** Machinery, air compressors, conveyors, fans, blowers, machine tools, pumps, and industrial equipment in **non-combustible** dusty, dirty environments. 56 C-face end-mounted models are for use on commercial pumps, speed reducers, and other equipment designed for direct connection.

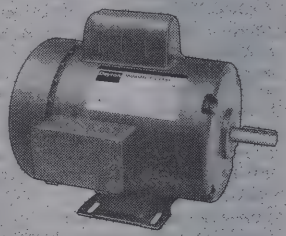
**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton

E47479



No. 6K950
NEMA 56C



No. 6K472
NEMA 56

Replacement Parts Available
1-800-323-0620

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 50 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **TEFC, C-FACE, NO BASE** | | | | | | | | | | | |
| 1/3 | 1425 | 56C | None | 110/220 | 7.4/3.7 | 1.15 | B | **6K950** | $234.00 | **$179.25** | 22.0 |
| 1/2 | 1425 | 56C | None | 110/220 | 8.4/4.2 | 1.15 | B | **6K952** | 256.00 | **196.25** | 26.0 |
| 3/4 | 1425 | 56C | None | 110/220 | 12.2/6.1 | 1.0 | B | **6K959** | 294.00 | **225.00** | 36.0 |
| **TEFC, RIGID WELDED BASE** | | | | | | | | | | | |
| 1/3 | 1425 | 56 | None | 110/220 | 7.4/3.7 | 1.15 | B | **6K472** | 224.00 | **172.00** | 23.0 |
| 1/2 | 1425 | 56 | None | 110/220 | 8.4/4.2 | 1.15 | B | **6K408** | 249.00 | **190.75** | 28.0 |
| 3/4 | 1425 | 56 | None | 110/220 | 12.2/6.1 | 1.0 | B | **6K473** | 303.00 | **232.25** | 32.0 |
| 1 | 1425 | 56H | None | 110/220 | 14.0/7.0 | 1.0 | B | **6K409** | 343.00 | **262.25** | 40.0 |

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

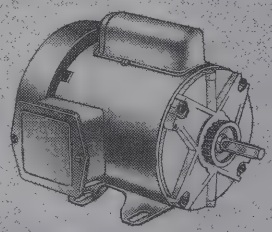
## GE BRAND, 50 Hz MOTORS

**Typical Uses:** Machinery, air compressors, conveyors, fans and blowers, and other industrial equipment.

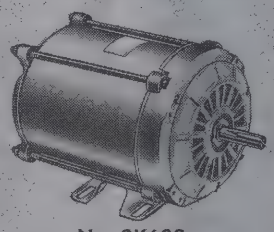
**Type:** Capacitor-start
**Bearings:** Ball
**Mounting:** Rigid welded base
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

E47479

Nos. 2K631 and 2K634



No. 2K580
TEFC



No. 2K633
Hazardous Location

Replacement Parts Available
1-800-323-0620

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Enclosure | Volts 50 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TEFC** | | | | | | | | | | | | | |
| 1/4 | 1425 | 48 | None | TEFC | 110/220 | 5.4/2.7 | 1.0 | B | C462 | **2K580** | $203.00 | **$127.10** | 18.0 |
| **HAZARDOUS LOCATION, UL CLASS I, GROUP D; CLASS II, GROUPS E, F AND G** | | | | | | | | | | | | | |
| 1/3 | 1425 | 56 | Auto | TEFC | 110/220 | 6.2/3.1 | 1.0 | A | C470 | **2K631** | 390.00 | **238.75** | 27.0 |
| 1/2 | 1425 | 56 | Auto | TEFC | 110/220 | 8.4/4.2 | 1.0 | A | C471 | **2K634** | 428.00 | **252.00** | 33.0 |

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS.
SEE PAGES AT BACK OF CATALOG

# CAPACITOR-START AND SPLIT-PHASE 50 Hz MOTORS

## GE BRAND, CAPACITOR-START AND SPLIT-PHASE

**Typical Uses:** Fans, blowers, pumps, and commercial machinery.

**Type:** Capacitor-start and split-phase

**Ambient:** 40°C

**Duty:** Continuous

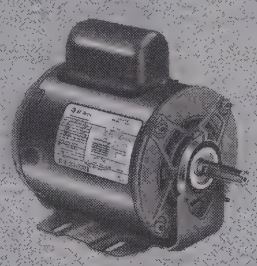
**Rotation:** CW/CCW

**Finish:** Gray

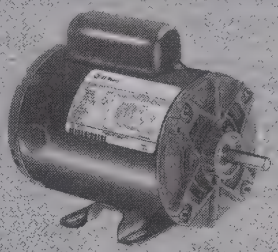
**Brand:** GE

E47088

Replacement Parts Available
1-800-323-0620



Cradle Base



Rigid Base

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 50 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CAPACITOR-START, OPEN DRIPPROOF** | | | | | | | | | | | | | | |
| **1/4** | 1425 | 48 | None | 110/220 | 5.6/2.8 | 1.35 | Ball | B | Rigid | C431 | **1D072** | $174.00 | **$107.90** | 17.0 |
| | 1425 | 48 | Auto | 110/220 | 5.6/2.8 | 1.35 | Ball | B | Cradle | C460 | **1D077** | 177.00 | **109.95** | 18.0 |
| **1/3** | 1425 | 56 | Auto | 110/220 | 7.4/3.7 | 1.35 | Ball | B | Cradle | C457 | **1D075** | 216.00 | **133.85** | 20.0 |
| **1/2** | 2850 | 48 | None | 110/220 | 7.8/3.9 | 1.25 | Ball | B | Rigid | C459 | **1D076** | 189.00 | **117.20** | 20.0 |
| | 1425 | 56 | Auto | 110/220 | 9.2/4.6 | 1.25 | Ball | B | Cradle | C439 | **1D073** | 280.00 | **160.75** | 24.0 |
| **3/4** | 1425 | 56 | Auto | 110/220 | 12.2/6.1 | 1.25 | Ball | B | Cradle | C1187 | **3K879** | 339.00 | **194.00** | 35.0 |
| **SPLIT-PHASE, OPEN DRIPPROOF** | | | | | | | | | | | | | | |
| **1/4** | 1425 | 48 | Auto | 110/220 | 5.2/2.6 | 1.0 | Ball | A | Rigid | H689 | **1D085** | 144.00 | **89.65** | 15.0 |
| | 1425 | 48 | None | 220 | 3.4 | 1.0 | Sleeve | B | Cradle/Stud | H645 | **3K101** | 149.00 | **87.90** | 16.0 |
| | 1425 | 56Z | Auto | 110/220 | 5.2/2.6 | 1.0 | Ball | A | Cradle | H690 | **3K003** | 148.00 | **90.55** | 16.0 |
| **1/3** | 1425 | 48 | Auto | 110/220 | 7.0/3.5 | 1.0 | Ball | B | Rigid | H691 | **1D086** | 155.00 | **96.10** | 16.0 |
| | 1425 | 56Z* | Auto | 110/220 | 7.0/3.5 | 1.0 | Ball | A | Cradle | H692 | **3K004** | 159.00 | **100.85** | 17.0 |
| **1/2** | 1425 | 56 | Auto | 110/220 | 9.2/4.6 | 1.0 | Ball | B | Cradle | H693 | **1D087** | 178.00 | **110.50** | 20.0 |

(*) NEMA 56Z frame motors have nonstandard 1/2" diameter shaft with flat.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## GE BRAND, CAPACITOR-START, CAPACITOR-RUN, 60/50 Hz, CRADLE BASE

**Typical Uses:** High efficiency performance on pumps, blowers, air compressors, machinery, and other heavy-duty, hard-starting equipment.

**Special Features:** NEMA service factors provide a reserve margin for applications where intermittent overloading or fluctuating (high/low) voltage conditions may occur. Dual capacitors.

**Volts:** 60/50 Hz Energy $aver™ models are 100-120/200-240 volts

**Bearings:** Ball

**Enclosure:** Open dripproof

**Insulation Class:** B

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** Gray

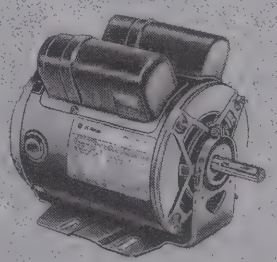
**Brand:** GE

Replacement Parts Available
1-800-323-0620

ENERGY SAVER MOTOR

E47479

LR22132



No. 1K101

| HP | Nameplate RPM at 60 Hz | Nameplate RPM at 50 Hz | NEMA Frame | Thermal Protection | Volts 60/50 Hz* | Full-Load Amps at Nameplate Volts | Service Factor | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | 1725 | 1425 | 56 | Auto | 100-120/200-240 | 4.0-3.8/2.0-1.9 | 1.35 | E254 | ✓ **1K101** | $211.00 | **$133.50** | 24.0 |
| **1/2** | 1725 | 1425 | 56 | Auto | 100-120/200-240 | 5.8-5.6/2.9-2.8 | 1.25 | E263 | ✓ **1K103** | 252.00 | **160.00** | 27.0 |
| **3/4** | 1725 | 1425 | 56 | Auto | 100-120/200-240 | 9.0-8.8/4.5-4.4 | 1.25 | E272 | ✓ **1K105** | 324.00 | **202.50** | 31.0 |
| **1** | 1725 | 1425 | 56H | Auto | 100-120/200-240 | 11.8-11.4/5.9-5.7 | 1.15 | E281 | ✓ **1K107** | 364.00 | **220.75** | 40.0 |

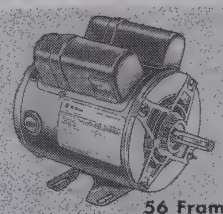
(*) Suitable for 50 Hz operation at nameplate HP and service factor. (✓) Denotes energy efficient product.

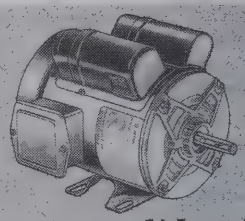
# CAPACITOR-START PREMIUM EFFICIENCY MOTORS

## CAPACITOR-START, CAPACITOR-RUN, RIGID WELDED BASE, 60/50 Hz MOTORS

**Typical Uses:** Air compressors, conveyors, fans, blowers, machine tools, pumps, and other heavy-duty, hard-starting equipment.
**Bearings:** Ball
**Volts:** 100-120/200-240 at 60 Hz and 50 Hz
**Thermal Protection:** None
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

ENERGY SAVER MOTOR
E47088 LR56411


56 Frame Open Dripproof


56 Frame TEFC

| HP | Nameplate RPM at 60 Hz | Nameplate RPM at 50 Hz | NEMA Frame | Thermal Protection | Volts 60/50 Hz* | Full-Load Amps at Nameplate Volts 60 Hz | Service Factor | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF** | | | | | | | | | | | | |
| **1/3** | 1725 | 1425 | 56 | None | 100-120/200-240 | 4.0-3.8/2.0-1.9 | 1.35 | E253 | ✓**1K100** | $205.00 | **$128.15** | 23.0 |
| **1/2** | 1725 | 1425 | 56 | None | 100-120/200-240 | 5.8-5.6/2.9-2.8 | 1.25 | E262 | ✓**1K102** | 240.00 | **150.50** | 26.0 |
| **3/4** | 1725 | 1425 | 56 | None | 100-120/200-240 | 9.0-8.8/4.5-4.4 | 1.25 | E271 | ✓**1K104** | 312.00 | **193.00** | 30.0 |
| **1** | 1725 | 1425 | 56 | None | 100-120/200-240 | 11.8-11.4/5.9-5.7 | 1.15 | E280 | ✓**1K106** | 353.00 | **212.50** | 39.0 |
| **TEFC** | | | | | | | | | | | | |
| **1/3** | 1725 | 1425 | 56 | None | 100-120/200-240 | 4.0-3.8/2.0-1.9 | 1.35 | E258 | ✓**1K108** | 246.00 | **153.75** | 23.0 |
| **1/2** | 1725 | 1425 | 56 | None | 100-120/200-240 | 5.8-5.6/2.9-2.8 | 1.25 | E267 | ✓**1K109** | 289.00 | **178.50** | 27.0 |
| **3/4** | 1725 | 1425 | 56 | None | 100-120/200-240 | 9.0-8.8/4.5-4.4 | 1.25 | E276 | ✓**1K110** | 344.00 | **206.50** | 31.0 |
| **1** | 1725 | 1425 | 56 | None | 100-120/200-240 | 11.8-11.4/5.9-5.7 | 1.25 | E285 | ✓**1K111** | 395.00 | **236.75** | 40.0 |

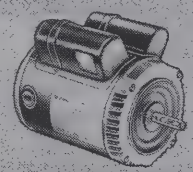
(*) Suitable for 50 Hz operation at nameplate HP and service factor. (✓) Denotes energy efficient product.

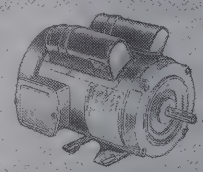
## CAPACITOR-START, CAPACITOR-RUN, C-FACE, 60/50 Hz MOTORS

**Typical Uses:** Industrial and commercial pumps, speed reducers, blowers, machine tools, and other equipment that can be directly connected to an end-mounted motor.
**Bearings:** Ball
**Volts:** 100-120/200-240 at 60 Hz and 50 Hz
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

ENERGY SAVER MOTOR
E47088

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.


No. 1K113 56C Frame Open Dripproof, No Base


No. 1K132 56C Frame TEFC Rigid Welded Base

| HP | Nameplate RPM at 60 Hz | Nameplate RPM at 50 Hz | NEMA Frame | Thermal Protection | Volts 60/50 Hz* | Full-Load Amps at Nameplate Volts 60 Hz | Service Factor | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF, NO BASE** | | | | | | | | | | | | |
| **1/3** | 1725 | 1425 | 56C | None | 100-120/200-240 | 4.0-3.8/2.0-1.9 | 1.35 | E251 | ✓**1K113** | $243.00 | **$152.75** | 23.0 |
| **1/2** | 1725 | 1425 | 56C | None | 100-120/200-240 | 5.8-5.6/2.9-2.8 | 1.25 | E260 | ✓**1K116** | 277.00 | **174.50** | 27.0 |
| **3/4** | 1725 | 1425 | 56C | None | 100-120/200-240 | 9.0-8.8/4.5-4.4 | 1.25 | E269 | ✓**1K119** | 333.00 | **200.25** | 29.0 |
| **1** | 1725 | 1425 | 56C | None | 100-120/200-240 | 11.8-11.4/5.9-5.7 | 1.15 | E278 | ✓**1K122** | 384.00 | **230.25** | 37.0 |
| **OPEN DRIPPROOF, RIGID WELDED BASE** | | | | | | | | | | | | |
| **1/3** | 1725 | 1425 | 56C | Manual | 100-120/200-240 | 4.0-3.8/2.0-1.9 | 1.35 | E250 | ✓**1K112** | 257.00 | **161.25** | 24.0 |
| **1/3** | 1725 | 1425 | 56C | Auto | 100-120/200-240 | 4.0-3.8/2.0-1.9 | 1.35 | E252 | ✓**1K114** | 254.00 | **159.25** | 23.0 |
| **1/2** | 1725 | 1425 | 56C | Manual | 100-120/200-240 | 5.8-5.6/2.9-2.8 | 1.25 | E259 | ✓**1K115** | 292.00 | **183.75** | 27.0 |
| **1/2** | 1725 | 1425 | 56C | Auto | 100-120/200-240 | 5.8-5.6/2.9-2.8 | 1.25 | E261 | ✓**1K117** | 289.00 | **181.75** | 27.0 |
| **3/4** | 1725 | 1425 | 56C | Manual | 100-120/200-240 | 9.0-8.8/4.5-4.4 | 1.25 | E268 | ✓**1K118** | 347.00 | **208.25** | 30.0 |
| **3/4** | 1725 | 1425 | 56C | Auto | 100-120/200-240 | 9.0-8.8/4.5-4.4 | 1.25 | E270 | ✓**1K120** | 344.00 | **206.50** | 30.0 |
| **1** | 1725 | 1425 | 56C | Manual | 100-120/200-240 | 11.8-11.4/5.9-5.7 | 1.15 | E277 | ✓**1K121** | 398.00 | **239.00** | 40.0 |
| **1** | 1725 | 1425 | 56C | Auto | 100-120/200-240 | 11.8-11.4/5.9-5.7 | 1.15 | E279 | ✓**1K123** | 395.00 | **236.75** | 39.0 |
| **TEFC, NO BASE** | | | | | | | | | | | | |
| **1/3** | 1725 | 1425 | 56C | None | 100-120/200-240 | 4.0-3.8/2.0-1.9 | 1.35 | E256 | ✓**1K125** | 260.00 | **164.25** | 23.0 |
| **1/2** | 1725 | 1425 | 56C | None | 100-120/200-240 | 5.8-5.6/2.9-2.8 | 1.25 | E265 | ✓**1K128** | 303.00 | **187.25** | 27.0 |
| **3/4** | 1725 | 1425 | 56C | None | 100-120/200-240 | 9.0-8.8/4.5-4.4 | 1.25 | E274 | ✓**1K131** | 358.00 | **214.50** | 31.0 |
| **1** | 1725 | 1425 | 56C | None | 100-120/200-240 | 11.8-11.4/5.9-5.7 | 1.15 | E283 | ✓**1K134** | 410.00 | **246.00** | 40.0 |
| **TEFC, RIGID WELDED BASE** | | | | | | | | | | | | |
| **1/3** | 1725 | 1425 | 56C | Manual | 100-120/200-240 | 4.0-3.8/2.0-1.9 | 1.35 | E255 | ✓**1K124** | 274.00 | **172.00** | 23.0 |
| **1/3** | 1725 | 1425 | 56C | Auto | 100-120/200-240 | 4.0-3.8/2.0-1.9 | 1.35 | E257 | ✓**1K126** | 272.00 | **170.50** | 23.0 |
| **1/2** | 1725 | 1425 | 56C | Manual | 100-120/200-240 | 5.8-5.6/2.9-2.8 | 1.25 | E264 | ✓**1K127** | 317.00 | **194.00** | 27.0 |
| **1/2** | 1725 | 1425 | 56C | Auto | 100-120/200-240 | 5.8-5.6/2.9-2.8 | 1.25 | E266 | ✓**1K129** | 314.00 | **193.00** | 27.0 |
| **3/4** | 1725 | 1425 | 56C | Manual | 100-120/200-240 | 9.0-8.8/4.5-4.4 | 1.25 | E273 | ✓**1K130** | 373.00 | **223.75** | 31.0 |
| **3/4** | 1725 | 1425 | 56C | Auto | 100-120/200-240 | 9.0-8.8/4.5-4.4 | 1.25 | E275 | ✓**1K132** | 370.00 | **220.00** | 31.0 |
| **1** | 1725 | 1425 | 56C | Manual | 100-120/200-240 | 11.8-11.4/5.9-5.7 | 1.15 | E282 | ✓**1K133** | 425.00 | **254.75** | 40.0 |
| **1** | 1725 | 1425 | 56C | Auto | 100-120/200-240 | 11.8-11.4/5.9-5.7 | 1.15 | E284 | ✓**1K135** | 422.00 | **253.00** | 40.0 |

(*) Suitable for 50 Hz operation at nameplate HP and service factor. (✓) Denotes energy efficient product.

# 3-PHASE 60/50 Hz MOTORS

## DAYTON BRAND, 3-PHASE

- **NEMA service factors provide a reserve margin for intermittent overloading or fluctuating (high/low) voltage conditions**
- **NEMA Design B**

**Typical Uses:** Designed for operating industrial-type sewing machine clutches. Also used for other belt-driven applications where 3-phase power is supplied.

**Bearings:** Double-shielded ball

**Mounting:** Cradle base

**Enclosure:** Open dripproof

**Windings:** Copper

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

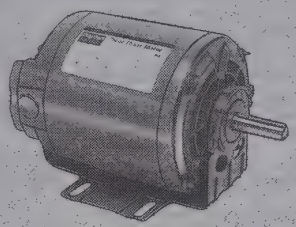
**Finish:** Gray

**Brand:** Dayton

Dayton

E47479

LR22132



No. 3N026

Replacement Parts Available 1-800-323-0620™

| HP | Nameplate RPM at: 60 Hz | 50 Hz | NEMA Frame | Thermal Protection | Volts 60/50 Hz* | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | 1725 | 1425 | 56 | None | 208-220/440 | 1.5-1.6/0.8 | 1.35 | 66.0 | A | **3N026** | $171.00 | **$131.05** | 18.0 |
| **1/2** | 3450 | 2850 | 56 | Auto | 208-220/440 | 2.3-2.5/1.2 | 1.25 | 66.0 | B | **3N634** | 169.00 | **129.40** | 20.0 |
| **1/2** | 1725 | 1425 | 56 | None | 208-220/440 | 2.0-2.0/1.0 | 1.25 | 72.0 | A | **3N027** | 197.00 | **144.85** | 22.0 |
| **3/4** | 3450 | 2850 | 56 | Auto | 208-220/440 | 2.8-3.0/1.5 | 1.25 | 70.0 | A | **3N635** | 197.00 | **150.50** | 21.0 |
| **3/4** | 1725 | 1425 | 56 | None | 208-220/440 | 2.7-2.8/1.4 | 1.25 | 77.0 | A | **3N487** | 207.00 | **153.00** | 23.0 |
| **1** | 3450 | 2850 | 56 | Auto | 208-220/440 | 3.5-3.6/1.8 | 1.25 | 77.0 | A | **3N636** | 225.00 | **172.50** | 23.0 |
| **1** | 1725 | 1425 | 56 | None | 208-220/440 | 3.4-3.4/1.7 | 1.25 | 78.5 | A | **3N488** | 236.00 | **168.50** | 26.0 |
| **1 1/2** | 3450 | 2850 | 56 | Auto | 208-220/440 | 4.8-4.6/2.3 | 1.15 | 78.5 | A | **3N637** | 268.00 | **205.50** | 28.0 |
| **1 1/2** | 1725 | 1425 | 56 | None | 208-220/440 | 4.9-4.8/2.4 | 1.20 | 81.5 | A | **3N489** | 278.00 | **213.00** | 33.0 |
| **2** | 3450 | 2850 | 56 | Auto | 208-220/440 | 6.2-6.2/3.1 | 1.15 | 81.5 | B | **3N638** | 310.00 | **219.50** | 31.0 |

(*) Operable on 50 Hz, 190/380V, at 50 Hz RPM.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## GE BRAND, 50 Hz MOTORS

**Typical Uses:** Pumps, fans, blowers, air compressors, conveyors, machinery, and other industrial equipment.

**Type:** 3-phase

**Bearings:** Ball

**Mounting:** Rigid

**Enclosure:** Open dripproof

**Ambient:** 40°C

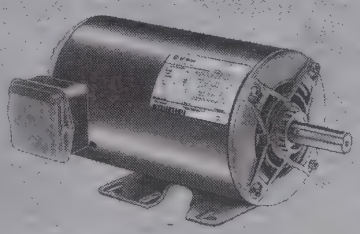
**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** Gray

**Brand:** GE

E47088



No. 4N601

Replacement Parts Available 1-800-323-0620™

### OPEN DRIPPROOF

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 50 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 1425 | 56 | None | 220/380 | 2.3/1.3 | 1.25 | B | K318 | **4N590** | $264.00 | **$146.30** | 19.0 |
| **1** | 1425 | 143T | None | 220/380 | 3.5/2.0 | 1.15 | B | K404 | **4N601** | 305.00 | **174.00** | 31.0 |
| **1 1/2** | 1425 | 145T | None | 220/380 | 4.9/2.8 | 1.15 | B | K408 | **4N605** | 324.00 | **190.00** | 36.0 |
| **2** | 1425 | 145T | None | 220/380 | 6.4/3.7 | 1.15 | B | K319 | **4N609** | 363.00 | **203.50** | 39.0 |

# INSTANT REVERSE MOTORS

## DAYTON BRAND

- **Reversing device is built into motor, no relay required**
- **Maximum cycling rate 5 times per minute**

**Typical Uses:** Mechanical doors, gates, hospital beds, hoists, and other equipment that require remote control instant reversibility. 5-Wire hook up.

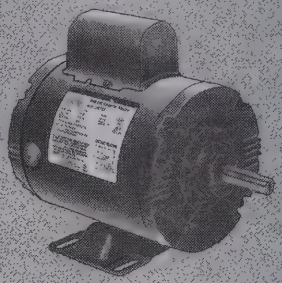
**NOTE:** No. 2X469 DPDT toggle switch with On/Off/On action is recommended for controlling these motors. Order No. 2X469 separately from page 558

**Type:** Capacitor-start
**Bearings:** Prelubricated, double-shielded ball
**Mounting:** Rigid welded base
**Enclosure:** Open dripproof
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** Instant reverse
**Finish:** Gray
**Brand:** Dayton

Dayton®

E47479

Replacement Parts Available 1-800-323-0620™



No. 6K415

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full Load Amps at Nameplate Volts | Service Factor | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 56 | Manual | 115 | 6.4 | 1.25 | B | **6K415** | $234.00 | **$168.00** | 18.0 |
| 1/2 | 1725 | 56 | Manual | 115 | 8.0 | 1.25 | B | **6K388** | 270.00 | **194.00** | 23.0 |
| 3/4 | 1725 | 56 | Manual | 115 | 12.0 | 1.15 | B | **6K880** | 314.00 | **225.50** | 27.0 |

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## GE BRAND

- **Solid state switch**
- **Extended thru bolts**

**Typical Uses:** Designed for door operators, machine tools, cranes, hoists, gates, and any other equipment requiring remote control instant reversibility.

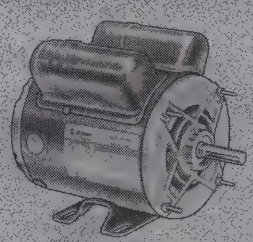
**NOTE:** No. 2X594 3PDT toggle switch with On/Off/On action is recommended for controlling these motors (except Nos. 5U177 and 3VG46). Order No. 2X594 separately from page 520.

**Type:** Capacitor-start and PSC
**Bearings:** Ball
**Mounting:** Rigid welded base with studs
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** Instant reverse
**Finish:** Gray
**Brand:** GE

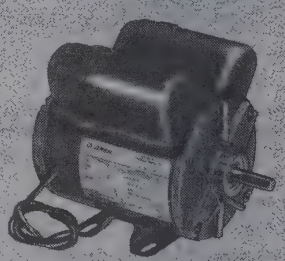
E47088

LR53924

Replacement Parts Available 1-800-323-0620™



No. 5U167



No. 3VG46

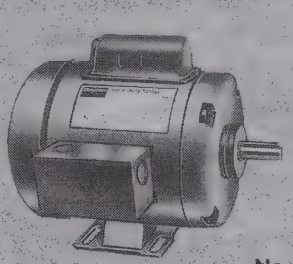
| HP | Nameplate RPM | NEMA Frame | Enclosure | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | GE Stock No. | No. of Wires | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 48 | OpDp | None | 115 | 5.2 | 1.35 | C382 | 4 | **5U178** | $188.00 | **$118.65** | 14.0 |
| 1/3 | 1725 | 56 | OpDp | None | 115 | 6.3 | 1.35 | C383 | 4 | **5U179** | 227.00 | **143.90** | 15.0 |
| 1/3 | 1725 | 56 | OpDp | Manual | 115 | 6.3 | 1.35 | C384 | 5 | **5U180** | 231.00 | **146.15** | 15.0 |
| 1/2 | 1625 | 48 | TENV | Auto | 115 | 5.8 | 1.0 | P247 | 3 | **3VG46** * | 225.00 | **132.80** | 18.0 |
| 1/2 | 1725 | 56 | OpDp | None | 115/230 | 8.6/4.3 | 1.25 | C1458 | 6 | **5U166** | 245.00 | **155.50** | 21.0 |
| 1/2 | 1725 | 56 | OpDp | Manual | 115/230 | 8.6/4.3 | 1.25 | C1459 | 7 | **5U167** | 258.00 | **164.50** | 21.0 |
| 3/4 | 1725 | 56 | OpDp | None | 115/230 | 13.2/6.6 | 1.25 | C1460 | 6 | **5U168** | 295.00 | **184.00** | 25.0 |
| 3/4 | 1725 | 56 | OpDp | Manual | 115/230 | 13.2/6.6 | 1.25 | C1461 | 7 | **5U169** | 307.00 | **190.25** | 25.0 |
| 3/4 | 1725 | 56 | TEFC | Manual | 115/230 | 11.0/5.5 | 1.0 | C1489 | 7 | **3VF64** | 400.00 | **236.00** | 31.0 |
| 1 | 1725 | 56 | OpDp | None | 115/230 | 13.6/6.8 | 1.15 | C1469 | 6 | **5U177** | 381.00 | **231.00** | 31.0 |

(*) PSC design, use 2X466 SPDT switch.

## HIGH TORQUE, DAYTON BRAND

- Made in USA
- Heavy-duty design provides dependable service for severe farm applications
- Gasketed capacitor covers, conduit box, and shaft slingers provide added protection against dirt and moisture
- Sealed ball bearings on 56 and 140 frames; double-shielded ball on 180 and 210 frames with moisture-resistant grease effective at temperatures to -40°F to help provide long life
- All copper windings

**Type:** Capacitor-start and capacitor-start/capacitor-run
**Bearings:** Ball
**Mounting:** Rigid welded base
**Enclosure:** TEFC
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Green
**Brand:** Dayton




| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 56 | Manual | 115/230 | 6.6/3.3 | 1.15 | B | 5/8 x 1 7/8 | 6K710 | $212.00 | $104.40 | 21.0 |
| 1/2 | 1725 | 56 | Auto | 115/230 | 9.0/4.5 | 1.15 | B | 5/8 x 1 7/8 | 6K592 | 222.00 | 116.00 | 23.0 |
| | 1725 | 56 | Manual | 115/230 | 9.0/4.5 | 1.15 | B | 5/8 x 1 7/8 | 6K714 | 228.00 | 108.65 | 23.0 |
| 3/4 | 1725 | 56 | Auto | 115/230 | 11.4/5.7 | 1.15 | B | 5/8 x 1 7/8 | 6K619 | 265.00 | 138.60 | 28.0 |
| | 1725 | 56 | Manual | 115/230 | 11.4/5.7 | 1.15 | B | 5/8 x 1 7/8 | 6K719 | 271.00 | 132.80 | 28.0 |
| 1 | 1725 | 56 | Auto | 115/230 | 14.0/7.0 | 1.15 | B | 5/8 x 1 7/8 | 6K622 | 286.00 | 148.95 | 31.0 |
| | 1725 | 56H | Manual | 115/230 | 14.0/7.0 | 1.15 | B | 5/8 x 1 7/8 | 6K727 | 292.00 | 148.05 | 32.0 |
| 1 1/2 | 1740 | 145T | Manual | 115/230 | 16.2/8.1 | 1.15 | B | 7/8 x 2 1/4 | 6K311* | 384.00 | 176.75 | 41.0 |
| | 1725 | 56H | Manual | 115/230 | 16.2/8.1 | 1.15 | B | 5/8 x 1 7/8 | 6K740* | 374.00 | 176.75 | 41.0 |
| 2 | 1740 | 182T | Manual | 115/230 | 23.6/11.8 | 1.0 | B | 1 1/8 x 2 3/4 | 6K313 | 490.00 | 260.25 | 59.0 |
| | 1725 | 56HZ | Manual | 115/230 | 19.0/9.5 | 1.0 | B | 7/8 x 2 1/4 | 4K090* | 430.00 | 224.75 | 40.0 |
| 3 | 1740 | 184T | Manual | 230 | 14.5 | 1.0 | B | 1 1/8 x 2 3/4 | 6K610* | 600.00 | 298.00 | 75.0 |
| 5 | 1740 | 184T | Manual | 230 | 22.0 | 1.0 | F | 1 1/8 x 2 3/4 | 6K847* | 772.00 | 365.25 | 87.0 |
| | 1730 | 213T | Manual | 230 | 23.0 | 1.0 | B | 1 3/8 x 3 3/8 | 6K130* | 835.00 | 445.00 | 107.0 |
| 7 1/2 | 1740 | 215T | Manual | 230 | 30.0 | 1.0 | F | 1 3/8 x 3 3/8 | 6K969* | 1095.00 | 483.50 | 136.0 |
| 10 | 1730 | 215T | Manual | 230 | 38.0 | 1.0 | F | 1 3/8 x 3 3/8 | 6K970* | 1357.00 | 678.00 | 162.0 |

(*) Capacitor-start/capacitor-run.

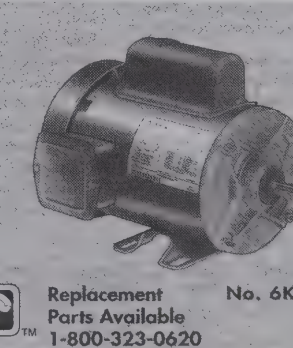
**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## HIGH TORQUE, GE BRAND

- Designed to meet the severe conditions of farm use
- Gasketed capacitor cover and conduit box and shaft slinger provide added protection
- Sealed ball bearings and moisture-resistant grease effective at temperatures to -40°F

**Type:** Capacitor-start and capacitor-start/capacitor-run
**Bearings:** Ball
**Mounting:** Rigid welded base
**Enclosure:** TEFC
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE




| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Shaft Dimensions (In.) Dia. x Length | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 56 | Manual | 115/230 | 7.8/3.9 | 1.0 | 5/8 x 1 7/8 | B | F13E1 | 6K840 | $160.00 | $125.20 | 20.0 |
| 1/2 | 1725 | 56 | Manual | 115/230 | 9.0/4.5 | 1.0 | 5/8 x 1 7/8 | B | F12E1 | 6K841 | 175.00 | 135.80 | 24.0 |
| 3/4 | 1725 | 56 | Manual | 115/230 | 11.0/5.5 | 1.0 | 5/8 x 1 7/8 | B | F34E1 | 6K842 | 209.00 | 159.75 | 34.0 |
| 1 | 1725 | 56 | Manual | 115/230 | 13.2/6.6 | 1.0 | 5/8 x 1 7/8 | B | F10E1 | 6K843 | 228.00 | 173.00 | 41.0 |
| 1 1/2 | 1725 | 145T | Manual | 115/230 | 14.8/7.4 | 1.0 | 7/8 x 2 1/4 | B | F15E1 | 6K812* | 301.00 | 227.25 | 47.0 |
| | 1725 | 56H | Manual | 115/230 | 14.8/7.4 | 1.0 | 5/8 x 1 7/8 | B | F100 | 6K851* | 287.00 | 222.50 | 50.0 |
| 2 | 1730 | 182TZ | Manual | 230 | 11.4 | 1.0 | 7/8 x 2 3/4 | F | F787 | 6K813 | 439.00 | 333.00 | 90.0 |
| 3 | 1720 | 184TZ | Manual | 230 | 15.6 | 1.0 | 1 1/8 x 3 | F | N789 | 6K814 | 551.00 | 409.00 | 100.0 |
| 5 | 1730 | 184TZ | Manual | 230 | 22.0 | 1.0 | 1 1/8 x 3 1/4 | F | N792 | 6K815* | 624.00 | 488.75 | 115.0 |

(*) Capacitor-start/capacitor-run.

# FARM DUTY MOTORS

## EXTRA HIGH TORQUE, DAYTON BRAND

- Made in USA
- Extra high torque motors have typical starting torque 300-400% of full-load torque
- Gasketed capacitor cover and conduit box and shaft slinger provide added protection
- Sealed ball bearings on 140 frames; double-shielded ball on 180 and 210 frames with moisture-resistant grease effective at temperature to -40°F to provide long life
- Regreasable shaft bearings on 182 frame and above

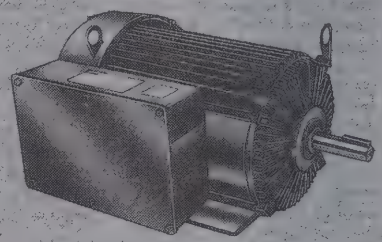
**Typical Uses:** Designed for severe farm applications which require motors to start under fully loaded conditions. Used in conveyors, silo unloaders, barn cleaners, compressors, and manure pumps.

**Type:** Capacitor-start and capacitor-start/capacitor-run
**Bearings:** Ball
**Mounting:** Rigid welded base
**Enclosure:** TEFC
**Thermal Protection:** Manual
**Insulation Class:** F
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Green
**Brand:** Dayton

Dayton® Made in U.S.A.

E47479

Replacement Parts Available 1-800-323-0620™



No. 6K883

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1725 | 143T | 115/230 | 15.0/7.5 | 1.15 | 7/8 x 2¼ | **6K994** | $347.00 | **$200.50** | 48.0 |
| 1½ | 1725 | 143T | 115/230 | 19.2/9.6 | 1.15 | 7/8 x 2¼ | **6K886*** | 465.00 | **269.00** | 50.0 |
| 2 | 1740 | 182TZ | 115/230 | 25.6/12.8 | 1.15 | 7/8 x 2¾ | **6K887** | 588.00 | **328.00** | 80.0 |
| 3 | 1760 | 184T | 230 | 17.0 | 1.15 | 1⅛ x 2⅞ | **6K881*** | 654.00 | **375.25** | 85.0 |
| 5 | 1740 | 184T | 230 | 24.0 | 1.15 | 1⅛ x 2⅞ | **6K882*** | 819.00 | **487.00** | 93.0 |
| | 1725 | 215TZ | 230 | 29.0 | 1.15 | 1⅛ x 3⅜ | **6K883** | 905.00 | **522.00** | 122.0 |
| 7½ | 1710 | 215TZ | 230 | 36.0 | 1.15 | 1⅛ x 3⅜ | **6K884*** | 1215.00 | **684.00** | 150.0 |
| 10 | 1725 | 215T | 230 | 43.0 | 1.15 | 1⅜ x 3⅜ | **6K885*** | 1494.00 | **849.00** | 155.0 |

(*) Capacitor-start/capacitor-run. All others capacitor-start/induction-run.

## EXTRA HIGH TORQUE, GE BRAND

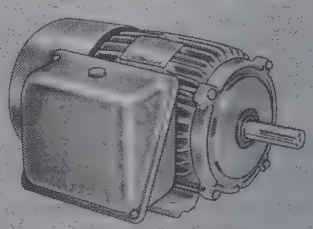
- Extra high torque motors have typical starting torque 300-400% of full-load torque
- Breakdown torque rating 285% of full-load torque
- Gasketed capacitor cover and conduit box and shaft slinger provide added protection
- Cast-iron frame

**Typical Uses:** Designed for severe farm applications which require motors to start under fully loaded conditions.

**Type:** Capacitor-start/capacitor-run
**Bearings:** Ball
**Mounting:** Rigid base
**Enclosure:** TEFC
**Insulation Class:** F
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

E47088

Replacement Parts Available 1-800-323-0620™



No. 6K818

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Shaft Dimensions (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1735 | 182TZ | Manual | 230 | 11.4 | 1.15 | 7/8 x 2¾ | F786 | **2K343** | $455.00 | **$349.75** | 92.0 |
| 3 | 1750 | 184TZ | Manual | 230 | 18.1 | 1.15 | 1⅛ x 3 | F788 | **2K344** | 571.00 | **424.00** | 104.0 |
| 5 | 1740 | 184TZ | Manual | 230 | 21.8 | 1.15 | 1⅛ x 3¼ | F790 | **2K345** | 657.00 | **514.50** | 113.0 |
| | 1750 | 215TZ | Manual | 230 | 22.6 | 1.0 | 1⅛ x 3¼ | F791 | **6K816** | 701.00 | **556.00** | 191.0 |
| 7½ | 1735 | 215TZ | Manual | 230 | 36.0 | 1.0 | 1⅛ x 3¼ | F793 | **6K817** | 935.00 | **729.00** | 184.0 |
| | 1735 | 215TZ | Manual | 230 | 36.0 | 1.0 | 1⅜ x 3⅜ | F798 | **2K347** | 935.00 | **729.50** | 182.0 |
| 10 | 1730 | 215TZ | Manual | 230 | 38.0 | 1.0 | 1⅛ x 3¼ | F794 | **2K346** | 999.00 | **903.50** | 210.0 |
| | 1730 | 215TZ | Manual | 230 | 38.0 | 1.0 | 1⅜ x 3⅜ | F795 | **6K818** | 999.00 | **904.00** | 186.0 |

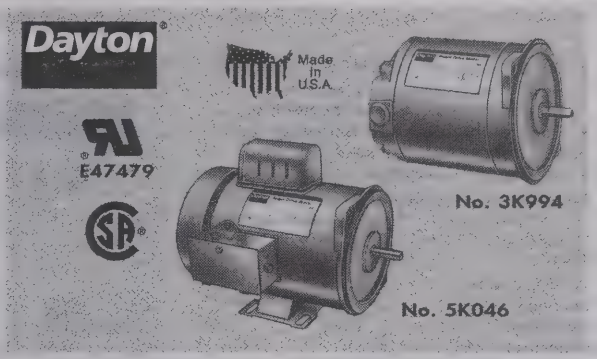
### IF YOU'RE IN A BIND, CALL GRAINGER

If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

## POULTRY FEED AUGER DRIVE MOTORS

- For new and replacement use on poultry feed auger-drive systems
- Special mounting flange assembles easily to auger systems manufactured by GSI, Cumberland, Chore-Time, and others
- Special guard on rotary switch protects against high-speed back-drive condition
- Capacitor-start models have shaft extensions out fan guard for hand cranking
- All copper windings

**Type:** Split-phase and capacitor-start
**Bearings:** Ball
**Mounting:** Flange and base
**Enclosure:** TEFC and TENV
**Thermal Protection:** Manual
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts 60 Hz | 50 Hz | Service Factor | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE, TENV, NO BASE** | | | | | | | | | | | |
| **1/3** | 1725/1425 | 56YZ | 115/230 | 5.2/2.6 | 6.0/3.0 | 1.0 | 1/2 x 1 3/4 | **3K994**† | $206.00 | **$133.85** | 27.0 |
| **SPLIT-PHASE, TENV, RIGID BASE** | | | | | | | | | | | |
| **1/8** | 1725 | 56YZ | 115/230 | 3.0/1.5 | — | 1.0 | 1/2 x 1 3/4 | **5K041** | 184.00 | **119.35** | 23.0 |
| **1/4** | 1725/1425 | 56YZ | 115/230 | 4.4/2.2 | 5.2/2.6 | 1.0 | 1/2 x 1 3/4 | **5K042**† | 192.00 | **124.65** | 24.0 |
| **1/3** | 1725/1425 | 56YZ | 115/230 | 5.2/2.6 | 6.0/3.0 | 1.0 | 1/2 x 1 3/4 | **5K043**† | 210.00 | **137.00** | 27.0 |
| **CAPACITOR-START, TEFC, NO BASE** | | | | | | | | | | | |
| **1/2** | 1725/1425 | 56YZ | 115/230 | 8.0/4.0 | 9.6/4.8 | 1.0 | 1/2 x 1 3/4 | **3K995**† | 297.00 | **193.75** | 30.0 |
| **3/4** | 1725/1425 | 56YZ | 115/230 | 10.6/5.3 | 11.8/5.9 | 1.0 | 1/2 x 1 3/4 | **3K996**† | 327.00 | **213.00** | 32.0 |
| **CAPACITOR-START, TEFC, RIGID BASE** | | | | | | | | | | | |
| **1/2** | 1725/1425 | 56YZ | 115/230 | 8.0/4.0 | 9.6/4.8 | 1.0 | 1/2 x 1 3/4 | **5K044**† | 301.00 | **196.00** | 26.0 |
| **3/4** | 1725/1425 | 56YZ | 115/230 | 10.6/5.3 | 11.8/5.9 | 1.0 | 1/2 x 1 3/4 | **5K046**† | 332.00 | **216.00** | 32.0 |
| **1** | 1725 | 56Y | 115/230 | 14.0/7.0 | — | 1.15 | 5/8 x 2 1/8 | **4K997** | 367.00 | **238.50** | 36.0 |
| **1 1/2** | 1725 | 56Y | 115/230 | 16.2/8.1 | — | 1.15 | 5/8 x 2 1/8 | **4K998*** | 412.00 | **268.50** | 45.0 |

(*) Capacitor-start/capacitor-run. (†) Operable at 50 Hz.

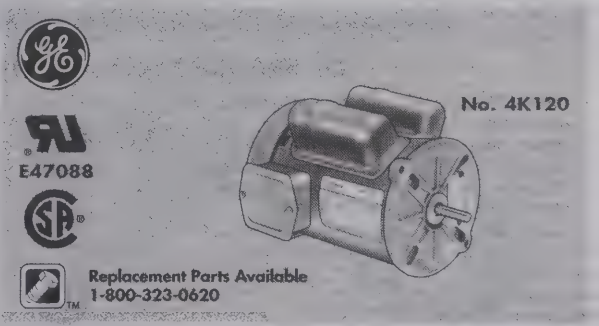
**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## POULTRY FEED AUGER DRIVE MOTORS

- For new and replacement use on poultry feed auger drive systems
- Special guard on rotary switch protects against high-speed back-drive condition
- Special mounting flange assembles directly to gearbox
- Capacitor-start models have shaft extensions out fan guard for hand cranking
- Suitable replacement for OEM equipment

**Type:** Split-phase, capacitor-start and capacitor-start capacitor-run
**Bearings:** Ball
**Mounting:** Flange
**Enclosure:** TEFC and TENV
**Thermal Protection:** Manual
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Shaft Dimensions (In.) Dia. x L | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE, TENV, NO BASE** | | | | | | | | | | | |
| **1/3** | 1725 | 48NZ | 115/230 | 5.30/2.70 | 1.0 | 1/2 x 1 13/16 | H646 | **4K118** | $160.00 | **$137.60** | 22.0 |
| **CAPACITOR-START, TEFC, NO BASE** | | | | | | | | | | | |
| **1/3** | 1725 | 56NY | 115/208-230 | 5.8/2.9 | 1.0 | 1/2 x 1 13/16 | C1291 | **2K350*** | 190.00 | **134.90** | 21.0 |
| **1/2** | 1725 | 56NY | 115/208-230 | 8.4/4.0-4.2 | 1.0 | 1/2 x 1 13/16 | C1292 | **4K119*** | 216.00 | **194.75** | 27.0 |
| **3/4** | 1725 | 56NY | 115/208-230 | 8.4/4.5-4.2 | 1.0 | 1/2 x 1 13/16 | C1293 | **4K120***‡ | 248.00 | **224.25** | 35.0 |
| **1** | 1725 | 56NY | 115/208-230 | 10.8/6.0-5.4 | 1.0 | 5/8 x 1 7/8 | C1294 | **4K121***†‡ | 304.00 | **241.75** | 41.0 |
| **1 1/2** | 1725 | 56NY | 115/208-230 | 14.8/7.9-7.4 | 1.0 | 5/8 x 1 7/8 | C1295 | **2K351**†‡ | 433.00 | **279.50** | 42.0 |

(*) 50/60 Hz. (†) Flat and keyway. (‡) Capacitor-start, capacitor-run.

# FARM DUTY MOTORS

## 3-PHASE AUGER MOTORS

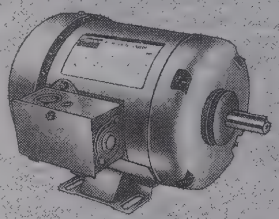
- **T frame models are NEMA design B**
- **Gasketed conduit box and shaft slinger provide added protection**
- **Double-shielded ball bearings with low temperature grease**
- **All copper windings**

**Typical Uses:** For driving air compressors, conveyors, augers, pumps and other farm equipment where 3-phase power is available.

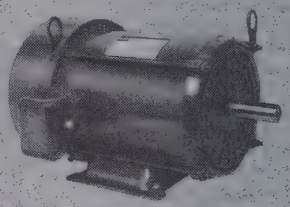
**Type:** 3-phase
**Bearings:** Ball
**Mounting:** Rigid base
**Enclosure:** TEFC
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Green
**Brand:** Dayton

Dayton® Made in U.S.A. New

E47479



No. 3N625



No. 3N341

Replacement Parts Available 1-800-323-0620

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 56 | Manual | 230/460 | 1.7/0.8 | 1.15 | 66.0 | 3N625 | $204.00 | $129.65 | 18.0 |
| 1/2 | 1725 | 56 | Manual | 230/460 | 2.1/1.0 | 1.15 | 70.0 | 3N626 | 222.00 | 141.50 | 21.0 |
| 3/4 | 1725 | 56 | Manual | 230/460 | 2.6/1.3 | 1.15 | 77.0* | 3N627 | 256.00 | 163.00 | 23.0 |
| 1 | 1725 | 143T | None | 208-230/460 | 4.0-3.8/1.9 | 1.15 | 82.5 | *New* 4LW94 | 260.00 | 173.25 | 28.0 |
| | 1725 | 56 | Manual | 230/460 | 3.6/1.8 | 1.15 | 78.5* | 3N628 | 266.00 | 169.75 | 25.0 |
| 1½ | 1725 | 145T | None | 208-230/460 | 5.0-4.9/2.5 | 1.15 | 84.0 | *New* 4LW95 | 293.00 | 195.25 | 34.0 |
| | 1725 | 56H | Manual | 230/460 | 4.8/2.4 | 1.15 | 80.0* | 3N629 | 299.00 | 190.25 | 30.0 |
| 2 | 1740 | 145T | None | 208-230/460 | 6.6-6.6/3.3 | 1.15 | 85.5 | *New* 4LW96 | 317.00 | 218.50 | 36.0 |
| 3 | 1740 | 182T | None | 230/460 | 9.2/4.6 | 1.15 | 87.5 | *New* 4LX30 | 311.00 | 275.25 | 55.0 |
| 5 | 1740 | 184T | None | 230/460 | 13.8/6.9 | 1.15 | 87.5 | *New* 4LX31 | 476.00 | 312.75 | 75.0 |
| 7½ | 1755 | 213T | None | 230/460 | 20.4/10.2 | 1.15 | 89.5 | *New* 4LX32 | 625.00 | 410.75 | 90.0 |
| 10 | 1755 | 215T | None | 230/460 | 25.2/12.6 | 1.0 | 90.2 | 3N341 | 747.00 | 455.50 | 127.0 |

(*) Average efficiency, not NEMA nominal efficiency.

**CAUTION: Not for fans in unattended areas.**

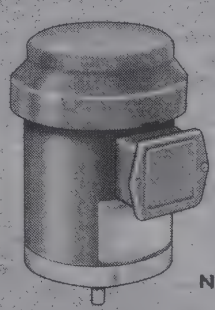
**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## GE BRAND, 3-PHASE CENTER PIVOT IRRIGATION MOTORS

- **NEMA 56 C-face assembles directly to geardrive**
- **Drain holes in shaft endshield**
- **Rainshield helps resist corrosion from the high moisture and chemical environment of irrigation systems**

**Typical Uses:** Designed specifically for powering center pivot irrigation systems.

**Type:** 3-phase
**Bearings:** Ball
**Mounting:** C-face
**Enclosure:** TEFC
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE



No. 4N061

Replacement Parts Available 1-800-323-0620

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60/50 Hz | Full-Load Amps at Nameplate Volts | Service Factor | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1725/1425 | 56CZ* | Auto | 460/380 | 1.8/1.9 | 1.0 | K1476 | 4N061 | $241.00 | $172.50 | 33.0 |
| 1½ | 1725/1425 | 56CZ* | Auto | 460/380 | 2.6/3.0 | 1.0 | K1438 | 4N060 | 273.00 | 195.50 | 35.0 |

(*) 5/8" diameter x 1⅞" shaft.

# FARM DUTY MOTORS

## DIRECT-DRIVE POULTRY FAN MOTOR

- **Cup shaped slinger and gasket capacitor cover provide added protection against dust and dirt**
- **Sealed ball bearings**
- **Corrosion-resistant bearing caps**
- **All copper windings**

**Typical Uses:** Direct-drive exhaust and ventilation fans operating in poultry and livestock houses. Direct replacement for Dayton direct-drive poultry fans.

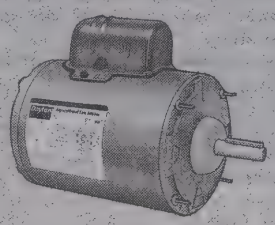
**Type:** Single phase and three-phase
**Bearings:** Ball
**Enclosure:** TEAO
**Thermal Protection:** None; Auto on No. 4M644
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Finish:** Gray enamel
**Brand:** Dayton

Dayton®

E47479

LR47513

Replacement Parts Available
1-800-323-0620™



No. 4M250

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) Dia. x Length | Rotation Facing Shaft | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE PHASE** | | | | | | | | | | | | |
| **1/2** | 850 | 48YZ | 115/230 | 6.0/3.0 | 1.25 | Stud | 5/8 x 2⅝ | CW | **4M250** * | $204.00 | **$134.65** | 22.0 |
| **1** | 850 | 56YZ | 230 | 5.2 | 1.0 | Face | 3/4 x 3¼ | CW | **4M644** # | 386.00 | **251.50** | 37.0 |
| **THREE PHASE** | | | | | | | | | | | | |
| **1** | 850 | 56YZ | 440-460 | 2.0 | 1.0 | Face | 3/4 x 3¼ | CW/CCW | **3XK38** † | 352.00 | **266.25** | 24.0 |

(*) Replacement motor for Dayton poultry fans Nos. 3C675, 4B045, 4B046, 4B052, 4B047, 5C962; 6B001, and motor No. 9K960.
(#) Replacement motor for Dayton poultry fans Nos. 3F519, 3F521, 4B049, 4B050, 4B051, and motor No. 9K964.
(†) Replacement motor for Dayton poultry fan No. 6E840 and motor No. 9K985.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## PSC ADJUSTABLE SPEED MOTORS

- **Shaft slinger and gasketed conduit box and capacitor cover provide added protection against moisture and dirt**
- **Designed for adjustable speed operation with optional solid state Triac-type controller No. 4C929 at 115V or No. 4C931 at 230V**
- **All copper windings**
- **Supplied with 5/8" bushing**

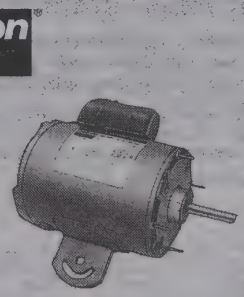
**Typical Uses:** Exhaust fans operating in livestock confinements, or other dusty, dirty noncombustible environments. Not intended for mechanical applications.

**Type:** Permanent split capacitor
**Bearings:** Ball
**Enclosure:** TEAO
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

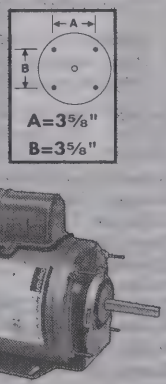
Dayton®

E47479

LR47513



No. 4M254
Yoke Mount




No. 4M251
Cradle Base

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **YOKE MOUNT WITH EXTENDED STUDS** | | | | | | | | | | | |
| **1/4** | 1700 | 48YZ | 115/230 | 3.4/1.7 | 1.0 | Yoke | 1/2 x 2½ | **4M254** | $194.00 | **$110.85** | 17.0 |
| **1/3** | 1700 | 48YZ | 115/230 | 3.8/1.9 | 1.0 | Yoke | 1/2 x 2½ | **4M255** | 215.00 | **123.05** | 20.0 |
| **1/2** | 1700 | 48YZ | 115/230 | 5.0/2.5 | 1.0 | Yoke | 1/2 x 2½ | **4M256** | 233.00 | **133.10** | 24.0 |
| **CRADLE BASE WITH EXTENDED STUDS** | | | | | | | | | | | |
| **1/4** | 1700 | 48YZ | 115/230 | 3.4/1.7 | 1.0 | Cradle | 1/2 x 2½ | **4M251** | 196.00 | **112.00** | 17.0 |
| **1/3** | 1700 | 48YZ | 115/230 | 3.8/1.9 | 1.0 | Cradle | 1/2 x 2½ | **4M252** | 217.00 | **124.15** | 20.0 |
| **1/2** | 1700 | 48YZ | 115/230 | 5.0/2.5 | 1.0 | Cradle | 1/2 x 2½ | **4M253** | 235.00 | **134.40** | 25.0 |

# FARM DUTY MOTORS

## SPLIT-PHASE AGRICULTURAL FAN MOTORS

- **Gasketed conduit boxes and shaft slinger help protect against water and dirt**
- **Dual voltage ratings and reversible rotation provide added interchangeability in a variety of fan applications**
- **All copper windings**
- **No. 6K791 has extended fan bolts for fan guard mounting**

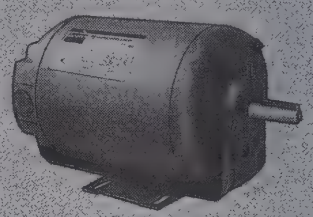
**Typical Uses:** Exhaust fans operating in poultry and livestock houses. Also used for other fan and blower applications in locations with a dusty, dirty, **noncombustible** environment.

**Type:** Split-phase
**Bearings:** Double-shielded ball
**Enclosure:** TEAO
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton® Made in U.S.A.

E47479

LR22132



No. 6K771

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | 1725 | 56 | 115/230 | 5.0/2.5 | 1.25 | Rigid | 5/8 x 1 7/8 | **4K087** | $177.00 | **$104.55** | 23.0 |
| **1/2** | 1725 | 56 | 115/230 | 7.0/3.5 | 1.25 | Rigid | 5/8 x 1 7/8 | **6K770** | 202.00 | **118.90** | 24.0 |
| | 1725 | 56 | 115/230 | 7.0/3.5 | 1.25 | Cradle | 5/8 x 1 7/8 | **6K771** | 200.00 | **117.75** | 25.0 |
| | 1725 | 56 | 115/230 | 7.6/3.8 | 1.25 | Cradle | 5/8 x 1 7/8 | **6K791** | 200.00 | **114.65** | 28.0 |
| **3/4** | 1725 | 56 | 115/230 | 9.8/4.9 | 1.25 | Rigid | 5/8 x 1 7/8 | **4K088** | 253.00 | **149.05** | 28.0 |
| **1** | 1725 | 56 | 115/230 | 12.6/6.3 | 1.25 | Rigid | 5/8 x 1 7/8 | **4K089** | 270.00 | **159.25** | 32.0 |

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## SPLIT-PHASE START/CAPACITOR-RUN AGRICULTURAL FAN MOTORS

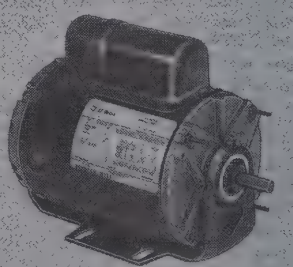
- **Designed to run efficiently in agricultural environments**
- **Dual voltage ratings and reversible rotation provide added interchangeability in a variety of fan applications**

**Typical Uses:** Exhaust fans operating in poultry and livestock houses. Also used for other fan and blower applications in locations with a dusty, dirty, **noncombustible** environment.

**Type:** Split-phase start/capacitor-run
**Bearings:** Ball
**Enclosure:** TEAO
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

E47088

LR56189



No. 2K348

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) Dia. x L | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1725 | 48 | 115/208-230 | 3.0/1.6-1.5 | 1.0 | Cradle/Stud | 1/2 x 1 1/2 | H649 | **2K349** | $205.00 | **$132.30** | 18.0 |
| **1/3** | 1725 | 48 | 115/208-230 | 4.1/2.0 | 1.0 | Cradle/Stud | 1/2 x 1 1/2 | H648 | **2K348** | 234.00 | **146.45** | 20.0 |

### SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

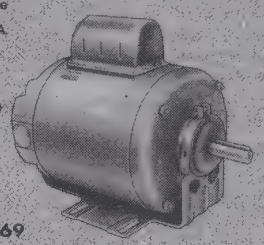
**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of the Catalog.**

## HIGH EFFICIENCY AGRICULTURAL FAN MOTORS

- High efficiency performance for use in poultry and livestock fans
- Shaft slinger, gasketed capacitor cover, and conduit box cover provide added protection against dirt and moisture
- Can be used to drive fans and blowers in other dusty/ dirty noncombustible environments
- All copper windings

**Type:** Split-phase/capacitor-run and capacitor-start/capacitor-run
**Bearings:** Double-shielded ball
**Enclosure:** TEAO
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton Wattrimmer
Made in U.S.A.
ENERGY RIGHT®
E47479
LR22132



No. 6K869

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE START AND CAPACITOR-RUN** | | | | | | | | | | | |
| **1/2** | 1725 | 56 | 230 | 2.3 | 1.25 | Rigid | 5/8 x 1⅞ | ✓ **3K663** | $233.00 | **$136.00** | 27.0 |
| | 1725 | 56 | 230 | 2.3 | 1.25 | Cradle | 5/8 x 1⅞ | ✓ **6K869** | 238.00 | **139.10** | 32.0 |
| | 1725 | 56 | 115/208-230 | 5.0/2.7-2.5 | 1.25 | Cradle | 5/8 x 1⅞ | ✓ **4K123** | 211.00 | **111.70** | 27.0 |
| **CAPACITOR-START, CAPACITOR-RUN** | | | | | | | | | | | |
| **1** | 1725 | 56 | 115/230 | 8.4/4.2 | 1.15 | Rigid | 5/8 x 1⅞ | ✓ **3K993** | 306.00 | **159.00** | 27.0 |
| | 1725 | 56 | 115/230 | 10.3/5.2 | 1.15 | Cradle | 5/8 x 1⅞ | ✓ **4K124** | 308.00 | **164.25** | 25.0 |

(✓) Denotes energy efficient product.

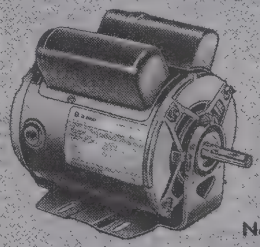
**CAUTION: Not for fans in unattended areas.**
**Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.**

## HIGH EFFICIENCY AGRICULTURAL FAN MOTORS

- High efficiency performance for use in poultry and livestock fans
- Gasketed capacitor cover and conduit box provide added protection against dirt and moisture
- Can be used to drive fans and blowers in other dusty/ dirty noncombustible environments

**Type:** Split-phase start/capacitor-run and capacitor-start/capacitor-run
**Bearings:** Ball
**Enclosure:** TEAO, except No. 3K051 is TENV
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

ENERGY SAVER MOTOR
E47088
LR53924



No. 3K988

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) Dia. x L | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE START AND CAPACITOR-RUN** | | | | | | | | | | | | |
| **1/2** | 1725 | 56 | 115/208-230 | 5.2/2.7-2.6 | 1.3 | Cradle | 5/8 x 1⅞ | H647 | ✓ **3K051** | $241.00 | **$153.75** | 21.0 |
| **CAPACITOR-START, CAPACITOR-RUN** | | | | | | | | | | | | |
| **3/4** | 1725 | 56 | 115/208-230 | 8.2/4.1 | 1.0 | Cradle | 5/8 x 1⅞ | C1303 | ✓ **3K988** | 248.00 | **164.50** | 27.0 |
| **1** | 1725 | 56 | 115/208-230* | 11.4/5.7 | 1.0 | Cradle | 5/8 x 1⅞ | C1302 | ✓ **3K989** | 260.00 | **170.50** | 27.0 |

(*) 60/50 Hz. (✓) Denotes energy efficient product.

## MOTOR PROTECTION

Motors that start automatically (eg. thermostat controlled), that are located remotely or unattended, or that are out-of-sight of the operator, must be protected against dangerous overheating due to failure-to-start or overloading. This protection may be a separate overcurrent device (eg. motor starter) complying with Article 430 of the National Electrical Code (NEC), a thermally protected motor (integral motor protection), or an impedance protected motor.

Motors with automatic reset thermal protection MUST NOT be used where automatic or otherwise unexpected starting of the motor could be hazardous. Where such a hazard exists, always use a Manual-Reset thermally protected motor. Applications where automatic restarting could be hazardous include compressors, conveyors, power tools, farm equipment, and some fans and blowers.

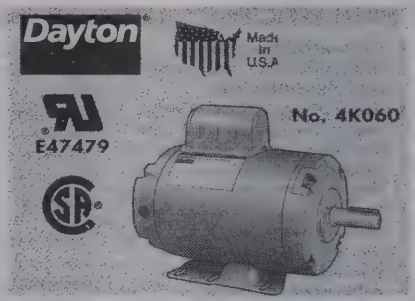
# FARM DUTY MOTORS

## AERATION FAN MOTORS

- 1/2 to 3 HP
- Keyed shaft drilled on center 1" deep and tapped 1/4-20"-UNC for fan mounting
- Nos. 4K055 and 4K057 have shafts with flats
- Sealed ball bearings
- All copper windings

**Typical Uses:** Replacement in tube axial fan grain aeration systems made by Dynavent, Farm Fan, Aero-Vent, and other manufacturers.

**Type:** Capacitor-start
**Bearings:** Ball
**Mounting:** Rigid welded base
**Enclosure:** TEAO
**Thermal Protection:** Auto
**Ambient:** 50°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | Shaft Dimensions (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 3450 | 48 | 115/230 | 7.4/3.7 | 1.0 | B | 1/2 x 1 1/2 | 4K055 | $192.00 | $127.25 | 16.0 |
| | 3450 | 56Z | 115/230 | 9.0/4.5 | 1.0 | B | 5/8 x 2 1/4 | 4K056 | 196.00 | 130.70 | 20.0 |
| 3/4 | 3450 | 48 | 115/230 | 10.6/5.3 | 1.0 | B | 1/2 x 1 1/2 | 4K057 | 202.00 | 134.90 | 21.0 |
| | 3450 | 56Z | 115/230 | 10.4/5.2 | 1.0 | B | 5/8 x 2 1/4 | 4K058 | 206.00 | 137.90 | 25.0 |
| 1 | 3450 | 56Z | 115/230 | 11.4/5.7 | 1.0 | B | 5/8 x 2 1/4 | 4K059 | 241.00 | 153.50 | 29.0 |
| 1 1/2 | 3450 | 143T | 115/230 | 16.4/8.2 | 1.0 | F | 7/8 x 2 1/4 | 4K060 | 275.00 | 183.00 | 33.0 |
| 2 | 3450 | 143T | 115/230 | 20.8/10.4 | 1.0 | F | 7/8 x 2 1/4 | 4K061 | 316.00 | 208.50 | 42.0 |
| 3 | 3450 | 145T | 230 | 14.5 | 1.0 | F | 7/8 x 2 1/4 | 4K062* | 352.00 | 224.25 | 42.0 |

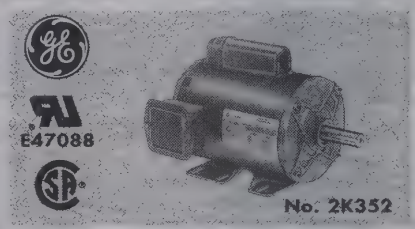
(*) Capacitor-start/capacitor-run.

## AERATION FAN MOTORS

- 3/4 to 3 HP
- TEAO design protects against dust, dirt, and other contaminants

**Typical Uses:** Replacement in tube axial fan grain aeration systems made by Dynavent, Farm Fan, Aero-Vent, and other manufacturers.

**Type:** Capacitor-start
**Bearings:** Ball
**Mounting:** Rigid welded base
**Enclosure:** TEAO
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Shaft Dimensions (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 3450 | 56 | 115/230 | 9.8/4.9 | 1.0 | 5/8 x 1 7/8 | C1467 | 5U175 | $199.00 | $139.90 | 18.0 |
| 1 | 3450 | 56 | 115/230 | 13.4/6.7 | 1.0 | 5/8 x 1 7/8 | C1468 | 5U176 | 235.00 | 156.00 | 29.0 |
| 1 1/2 | 3450 | 143T | 115/230 | 16.4/8.2 | 1.0 | 7/8 x 2 1/4 | C1273 | 2K352 | 253.00 | 186.00 | 35.0 |
| 2 | 3450 | 145T | 115/230 | 17.8/8.9 | 1.0 | 7/8 x 2 1/4 | C1274 | 2K353* | 271.00 | 211.25 | 40.0 |
| 3 | 3450 | 145T | 230 | 13.2 | 1.0 | 7/8 x 2 1/4 | C1275 | 2K354* | 312.00 | 227.75 | 50.0 |

(*) Capacitor-start/capacitor-run.

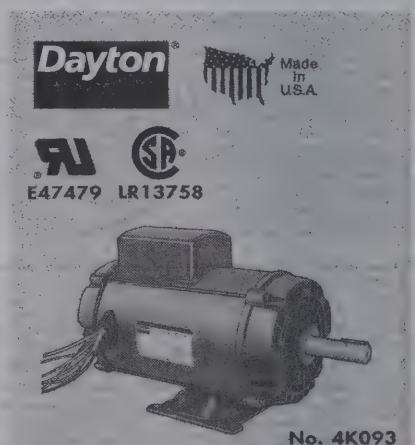
## CROP DRYER MOTORS

- Special service factor design provides reserve margin that allows individual models to replace motors in a range of HP ratings
- Keyed shaft drilled on center 1" deep and tapped 1/4"-20 UNC for fan mounting
- Thermostat thermal protection
- Extra long 40" leads
- All copper windings
- No. 4K094 has capacitor mounted separately

**Typical Uses:** Replacement in air-over fan crop dryers where axial fan is mounted directly to the motor shaft.

**Type:** Capacitor-start/capacitor-run
**Bearings:** Shielded ball
**Mounting:** Rigid welded base
**Enclosure:** Open dripproof
**Service Factor:** 1.0
**Thermal Protection:** Thermostat (T-Stat)
**Insulation Class:** F
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Green
**Brand:** Dayton

**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.




| HP Range | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Shaft Dimensions Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 5-7 | 3480 | 184TZ | 230 | 21.0-30.0 | 1 1/8 x 3 1/4" | 4K092 | $634.00 | $370.75 | 92.0 |
| 7 1/2-9 | 3490 | 184TZ | 230 | 30.0-36.0 | 1 1/8 x 3 1/4 | 4K093 | 747.00 | 436.50 | 102.0 |
| 10-12 | 3480 | 215TZ | 230 | 40.0-47.0 | 1 1/8 x 3 1/8 | 4K094 | 1138.00 | 666.00 | 156.0 |

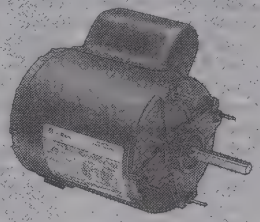
## HATCHERY/INCUBATOR FAN MOTOR

- **1" Extended clamp screws for fan shroud mounting**
- **Shaft diameter 1/2" x 2½" long with full length flat**
- **Capacitor mounted on the motor**
- **Centrifugal switch for tripping alarm circuit if motor stops**
- **Shaft slinger to prevent dirt and moisture entering bearing system**

**Typical Uses:** Designed for use in Jamesway and Chickmaster hatchers.

**Type:** Permanent split capacitor
**Bearings:** Double sealed ball
**Enclosure:** TEAO
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW facing shaft
**Finish:** Gray
**Brand:** GE

E47088



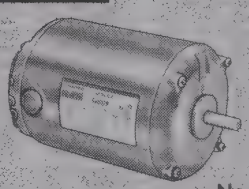
| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | 1725 | 48Z | 115/230 | 4.0/2.0 | 1.0 | P239 | **5U266** | $220.00 | **$161.50** | 14.0 |

## HATCHERY/SETTER MOTORS

- **Shaft slinger**
- **Shaft diameter 1/2" x 1½" long**
- **Doubled sealed ball bearings**

**Typical Uses:** Designed for uses in Chickmaster hatchers and setters.

**Type:** PSC
**Enclosure:** TEAO
**Insulation Class:** A
**Ambient:** 40°C
**Duty:** Continuous air-over
**Service Factor:** 1.0
**Finish:** Gray
**Brand:** Dayton



No. 5M079

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Thermal Protection | Volts 60/50 Hz | Full-Load Amps at Nameplate Volts | Mounting | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1625/1350 | 48YZ | CW | Auto | 230 | 1.4 | Hub/Stud | **5M078** | $196.00 | **$165.50** | 6.0 | 5M003 | $4.47 |
| **1/2** | 1725/1425 | 48YZ | CW/CCW | Manual | 115/230 | 5.0/2.5 | Band | **5M079** | 235.00 | **204.50** | 6.0 | 5M007 | 7.95 |

## DUST-TIGHT MOTORS

- **External die-cast aluminum fan on shaft end helps keep dirt from obstructing operation**
- **Double-sealed bearing on shaft end double-shielded bearing opposite shaft end**
- **All copper windings**

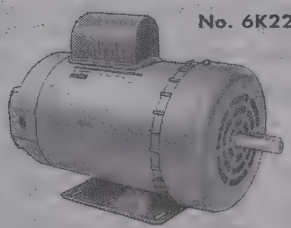
**Typical Uses:** Designed for use on farms to power conveyors, tools, pumps, blowers, and other equipment in dusty, dirty areas. Not for use where explosion-proof motors are required.

**Type:** Capacitor-start
**Bearings:** Ball
**Mounting:** Rigid welded base
**Enclosure:** TEFC
**Thermal Protection:** Manual
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Made In U.S.A.

E47479 LR22132

No. 6K223



| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 1725 | 56H | 115/230 | 9.0/4.5 | 1.0 | B | **6K327** | $267.00 | **$202.50** | 25.0 |
| **3/4** | 1725 | 56H | 115/230 | 11.4/5.7 | 1.0 | B | **6K377** | 318.00 | **241.50** | 30.0 |
| **1** | 1725 | 56H | 115/230 | 13.6/6.8 | 1.0 | B | **6K223** | 347.00 | **242.75** | 33.0 |
| **1½** | 1725 | 56H | 115/230 | 17.6/8.8 | 1.0 | B | **6K981** * | 432.00 | **328.00** | 42.0 |

(*) Capacitor-start/capacitor-run.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.**

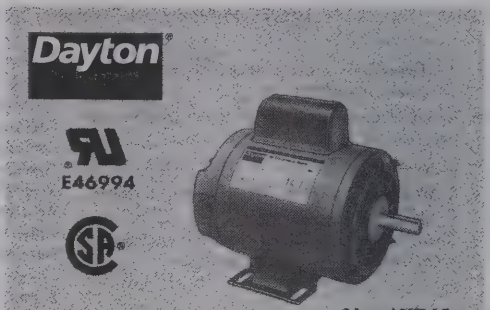
# AIR COMPRESSOR MOTORS

## DAYTON BRAND

- **Heavy-duty designs for use on compressors used by contractors and other demanding environments**
- **Light-duty designs for use on compressors in less demanding environments such as residential and commercial use**
- **Light-duty designs up to 2 HP operate on 15 amp branch circuit, suitable for residential applications**
- **Electrical characteristics are designed to provide high breakdown torque to ensure dependable service**
- **Mechanical features are designed to provide long life in high tension, belt-type loads which typically shorten motor life**

**Typical Uses:** New and direct replacements for belt-drive air compressors such as Dayton, Speedaire, Champion, Campbell Hausfeld, Sanborn, and others.

**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Mounting:** Rigid welded base
**Enclosure:** Open dripproof
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Black
**Brand:** Dayton




No. 6K748

**NOTE: Use on other applications voids warranty.**

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HEAVY DUTY** | | | | | | | | | | | | | |
| **1/2** | 3450 | 56 | CW/CCW | Manual | 115/230 | 9.8/4.9 | 1.25 | B | 5/8 x 1 7/8 | **6K745†** | $149.00 | **$109.50** | 18.0 |
| **3/4** | 3450 | 56 | CW/CCW | Manual | 115/230 | 10.6/5.3 | 1.25 | B | 5/8 x 1 7/8 | **6K748†** | 174.00 | **128.20** | 20.0 |
| **1** | 3450 | 56 | CW/CCW | Manual | 115/230 | 17.8/8.9 | 1.15 | B | 5/8 x 1 7/8 | **6K754†** | 190.00 | **139.50** | 24.0 |
| **1 1/2** | 3450 | 56 | CW/CCW | Manual | 115/230 | 18.2/9.1 | 1.15 | B | 5/8 x 1 7/8 | **6K765†** | 215.00 | **158.50** | 29.0 |
| **2** | 3450 | 56 | CW/CCW | Manual | 115/230 | 22.0/11.0 | 1.15 | B | 5/8 x 1 7/8 | **6K773†** | 224.00 | **165.25** | 30.0 |
| **3** | 3450 | 56 | CW/CCW | Manual | 230 | 16.0 | 1.0 | B | 5/8 x 1 7/8 | **6K779†** | 256.00 | **188.25** | 37.0 |
| **3** | 1740 | 184T | CW/CCW | None | 230 | 17.0 | 1.15 | F | 1 1/8 x 2 3/4 | **6K756†** | 395.00 | **296.00** | 65.0 |
| **5** | 3450 | 143T | CW/CCW | Manual | 230 | 21.0 | 1.0 | B | 7/8 x 2 1/4 | **6K794*†** | 325.00 | **239.50** | 43.0 |
| **5** | 1740 | 184T | CW/CCW | None | 230 | 23.5 | 1.15 | F | 1 1/8 x 2 3/4 | **6K757*** | 463.00 | **347.25** | 75.0 |
| **7 1/2** | 3490 | 184T | CW/CCW | T-Stat | 230 | 30.0 | 1.15 | F | 1 1/8 x 2 3/4 | **4FN97*** | 821.00 | **410.50** | 102.0 |
| **COMMERCIAL LIGHT DUTY** | | | | | | | | | | | | | |
| **1/2** | 3450 | 56 | CCW | Manual | 115/230 | 9.0/4.5 | 1.0 | B | 5/8 x 1 7/8 | **4FG46*** | 138.00 | **96.80** | 20.0 |
| **3/4** | 3450 | 56 | CCW | Manual | 115/230 | 10.5/5.3 | 1.0 | B | 5/8 x 1 7/8 | **4FG47*** | 149.00 | **102.55** | 22.0 |
| **1** | 3450 | 56 | CCW | Manual | 115/230 | 15.0/7.5 | 1.0 | B | 5/8 x 1 7/8 | **4FG48*** | 170.00 | **104.35** | 24.0 |
| **1 1/2** | 3450 | 56 | CCW | Manual | 115/230 | 15.0/7.5 | 1.0 | B | 5/8 x 1 7/8 | **4FG49*** | 191.00 | **120.25** | 26.0 |
| **2** | 3450 | 56 | CCW | Manual | 115/230 | 15.0/7.5 | 1.0 | B | 5/8 x 1 7/8 | **4FG50*** | 203.00 | **134.15** | 28.0 |
| **3** | 3450 | 56 | CCW | Manual | 208-230 | 15.0/15.0 | 1.0 | B | 5/8 x 1 7/8 | **4FG51*** | 223.00 | **147.35** | 32.0 |
| **5** | 3450 | 56HZ | CCW | Manual | 230 | 21.0 | 1.0 | B | 7/8 x 2 1/4 | **4FG52*** | 324.00 | **202.75** | 34.0 |

(*) Capacitor-start/capacitor-run. (†) All copper windings. (#) Mounting holes slotted to match 56, 56H, 143T, and 145T frames.

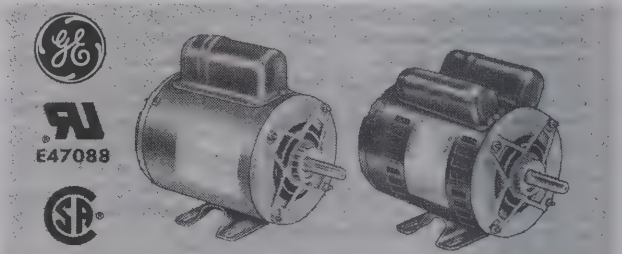
**CAUTION: Refer to page 6 proper thermal protection, and other motor selection information.**

## GE BRAND, COMMERCIAL DUTY

- **For commercial air compressor applications**
- **Bearing systems designed to provide long life**

**Typical Uses:** Direct replacement on selected air compressor applications including Dayton, Campbell-Hausfeld, Sanborn, and others. Use on other applications voids warranty.

**Type:** Capacitor-start
**Mounting:** Rigid welded base
**Enclosure:** Open
**Thermal Protection:** Manual or auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Compressor
**Rotation:** CCW facing shaft end
**Finish:** Black
**Brand:** GE




No. 3K785 No. 3K787

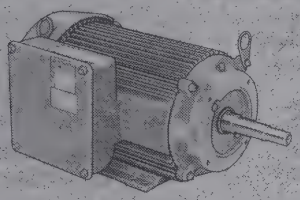
| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 3450 | 56 | Manual | 115 | 11.5 | 1.0 | Ball | 9031 | **3K781** | $135.00 | **$94.80** | 23.0 |
| | 1725 | 56 | Auto | 115 | 8.8 | 1.0 | Ball | 9029 | **3K782** | 137.00 | **96.10** | 23.0 |
| **3/4** | 3450 | 56 | Manual | 115 | 12.5 | 1.0 | Ball | 9032 | **3K783** | 146.00 | **102.45** | 23.0 |
| | 1725 | 56 | Auto | 115 | 10.5 | 1.0 | Ball | 9030 | **3K784** | 148.00 | **103.90** | 23.0 |
| **1** | 3450 | 56 | Manual | 115/230 | 16.0/8.0 | 1.0 | Ball | 9033 | **3K785** | 167.00 | **117.20** | 26.0 |
| **1 1/2** | 3450 | 56 | Manual | 115/230 | 19.0/9.5 | 1.0 | Ball | 9034 | **3K786** | 187.00 | **131.20** | 26.0 |
| **2** | 3450 | 56 | Manual | 115/230 | 15.0/7.5 | 1.0 | Ball | 9035 | **3K787*** | 199.00 | **139.65** | 29.0 |
| **3** | 3450 | 56 | Manual | 230 | 13.1 | 1.0 | Ball | 9036 | **3K788*** | 219.00 | **153.75** | 29.0 |
| **5** | 3450 | 56 | Manual | 230 | 21.0 | 1.0 | Ball | 9038 | **3K790*** | 318.00 | **223.50** | 35.0 |

(*) Capacitor-start/capacitor-run.

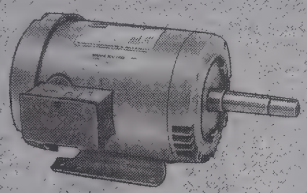
# CLOSE-COUPLED PUMP MOTORS

Dayton®

E47479 LR6153



No. 4FN81



No. 3N787

- **Oversized ball bearings with locked end shaft construction**
- **140 frame, rigid welded base; 182 thru 215 frame bolted base**
- **All 3-phase models listed usable on 50 Hz, 190/380V, 1.0 service factor**
- **All copper windings**

**Typical Uses:** Centrifugal close-coupled pumps where the pump impeller is mounted directly to the motor shaft using a JM or JP shaft.

**Type:** Single and 3-phase

**Bearings:** Ball

**Mounting:** Face with base

**Enclosure:** TEFC

**Thermal Protection:** None

**Insulation Class:** F

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** Gray

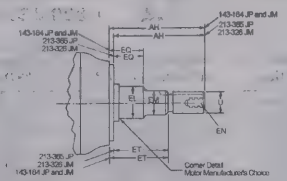
**Brand:** Dayton

**Replacement Parts Available**
**1-800-323-0620**

**CAUTION:**
**Not for fans in unattended areas.**
Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Nom. Eff'cy | SF | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE PHASE, JM SHAFT** | | | | | | | | | | |
| **3** | 3500 | 184JM | 115/230 | 32.0/16.0 | — | 1.15 | **4FN81** | $526.00 | **$457.50** | 80.0 |
| | 1740 | 184JM | 115/230 | 30.0/15.0 | — | 1.15 | **4FN82** | 626.00 | **544.00** | 75.0 |
| **5** | 3505 | 184JM | 230 | 19.6 | — | 1.15 | **4FN83** | 711.00 | **618.00** | 90.0 |
| | 1730 | 215JM | 230 | 23.0 | — | 1.15 | **4FN84** | 761.00 | **661.50** | 125.0 |
| **7½** | 3480 | 215JM | 230 | 30.3 | — | 1.15 | **4FN85** | 738.00 | **642.00** | 140.0 |
| | 1725 | 215JM | 230 | 33.5 | — | 1.15 | **4FN86** | 899.00 | **781.50** | 150.0 |
| **10** | 3500 | 215JM | 230 | 40.0 | — | 1.15 | **4FN87** | 1023.00 | **889.50** | 170.0 |
| | 1725 | 215JM | 230 | 43.0 | — | 1.15 | **4FN88** | 1092.00 | **949.50** | 155.0 |
| **SINGLE PHASE, JP SHAFT** | | | | | | | | | | |
| **3** | 3500 | 184JP | 115/230 | 32.0/16.0 | — | 1.15 | **4FN89** | 526.00 | **457.50** | 80.0 |
| | 1740 | 184JP | 115/230 | 30.0/15.0 | — | 1.15 | **4FN90** | 626.00 | **544.00** | 75.0 |
| **5** | 3505 | 184JP | 230 | 19.6 | — | 1.15 | **4FN91** | 711.00 | **618.00** | 90.0 |
| | 1730 | 215JP | 230 | 23.0 | — | 1.15 | **4FN92** | 761.00 | **661.50** | 125.0 |
| **7½** | 3480 | 215JP | 230 | 30.3 | — | 1.15 | **4FN93** | 738.00 | **642.00** | 140.0 |
| | 1725 | 215JP | 230 | 33.5 | — | 1.15 | **4FN94** | 899.00 | **781.50** | 150.0 |
| **10** | 3500 | 215JP | 230 | 40.0 | — | 1.15 | **4FN95** | 1023.00 | **889.50** | 170.0 |
| | 1725 | 215JP | 230 | 43.0 | — | 1.15 | **4FN96** | 1092.00 | **949.50** | 155.0 |
| **3-PHASE, JM SHAFT** | | | | | | | | | | |
| **1** | 1750 | 143JM | 208-230/460 | 3.6-3.6/1.8 | 80.0 | 1.25 | **3N787** | 226.00 | **196.75** | 30.0 |
| **1½** | 3450 | 143JM | 208-230/460 | 4.5-4.2/2.1 | 78.5 | 1.25 | **3N788** | 266.00 | **231.00** | 30.0 |
| | 1730 | 145JM | 208-230/460 | 5.1-5.0/2.5 | 80.0 | 1.25 | **3N789** | 247.00 | **214.75** | 35.0 |
| **2** | 3465 | 145JM | 208-230/460 | 6.0-5.4/2.7 | 80.0 | 1.25 | **3N790** | 287.00 | **249.25** | 35.0 |
| | 1725 | 145JM | 208-230/460 | 6.5-6.2/3.1 | 82.5 | 1.25 | **3N791** | 259.00 | **225.00** | 35.0 |
| **3** | 3460 | 145JM | 208-230/460 | 8.5-7.6/3.8 | 84.0 | 1.15 | **3N792** | 295.00 | **256.50** | 40.0 |
| | 1750 | 182JM | 208-230/460 | 9.3-9.0/4.5 | 84.0 | 1.25 | **3N793** | 300.00 | **261.25** | 50.0 |
| **5** | 3485 | 184JM | 208-230/460 | 14.4-12.8/6.4 | 85.5 | 1.25 | **3N794** | 391.00 | **340.25** | 50.0 |
| | 1740 | 184JM | 208-230/460 | 15.0-13.6/6.8 | 85.5 | 1.25 | **3N795** | 391.00 | **340.00** | 75.0 |
| **7½** | 3465 | 184JM | 208-230/460 | 22.0-19.2/9.6 | 85.5 | 1.15 | **3N796** | 430.00 | **374.25** | 75.0 |
| | 1750 | 213JM | 208-230/460 | 22.4-20.6/10.3 | 86.5 | 1.25 | **3N797** | 556.00 | **483.50** | 100.0 |
| **10** | 3495 | 215JM | 208-230/460 | 27.6-24.4/12.2 | 88.5 | 1.25 | **3N798** | 596.00 | **518.00** | 110.0 |
| | 1755 | 215JM | 208-230/460 | 28.9-27.2/13.6 | 88.5 | 1.25 | **3N799** | 666.00 | **579.00** | 115.0 |
| **3-PHASE, JP SHAFT** | | | | | | | | | | |
| **1** | 1750 | 143JP | 208-230/460 | 3.6-3.6/1.8 | 80.0 | 1.25 | **3N800** | 226.00 | **196.75** | 30.0 |
| **1½** | 3450 | 143JP | 208-230/460 | 4.5-4.2/2.1 | 78.5 | 1.25 | **3N801** | 266.00 | **231.00** | 30.0 |
| | 1730 | 145JP | 208-230/460 | 5.1-5.0/2.5 | 80.0 | 1.25 | **3N802** | 247.00 | **214.75** | 35.0 |
| **2** | 3465 | 145JP | 208-230/460 | 6.0-5.4/2.7 | 80.0 | 1.25 | **3N803** | 287.00 | **249.25** | 35.0 |
| | 1725 | 145JP | 208-230/460 | 6.5-6.2/3.1 | 82.5 | 1.25 | **3N804** | 259.00 | **225.00** | 35.0 |
| **3** | 3460 | 145JP | 208-230/460 | 8.5-7.6/3.8 | 84.0 | 1.15 | **3N805** | 295.00 | **256.50** | 40.0 |
| | 1750 | 182JP | 208-230/460 | 9.3-9.0/4.5 | 84.0 | 1.25 | **3N806** | 300.00 | **261.25** | 50.0 |
| **5** | 3485 | 184JP | 208-230/460 | 14.4-12.8/6.4 | 85.5 | 1.25 | **3N807** | 391.00 | **340.25** | 50.0 |
| | 1740 | 184JP | 208-230/460 | 15.0-13.6/6.8 | 85.5 | 1.25 | **3N808** | 391.00 | **340.00** | 75.0 |
| **7½** | 3465 | 184JP | 208-230/460 | 22.0-19.2/9.6 | 85.5 | 1.15 | **3N809** | 430.00 | **374.25** | 75.0 |
| | 1750 | 213JP | 208-230/460 | 22.4-20.6/10.3 | 86.5 | 1.25 | **3N810** | 556.00 | **483.50** | 100.0 |
| **10** | 3495 | 215JP | 208-230/460 | 27.6-24.4/12.2 | 88.5 | 1.25 | **3N811** | 596.00 | **518.00** | 110.0 |
| | 1755 | 215JP | 208-230/460 | 28.9-27.2/13.6 | 88.5 | 1.25 | **3N812** | 666.00 | **579.00** | 115.0 |

## CLOSE-COUPLED PUMP SHAFT DIMENSIONS




| Frame Designations | Dimensions (Inches) U | EL | EM | EN | EQ | ET | AH | AJ | AK | BD | BF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 143JM/145JM | 7/8 | 1 5/32 | 1 | 3/8-16 x 3/4 | 5/8 | 2 7/8 | 4 1/4 | 5 7/8 | 4 1/2 | 6 5/8 | 3/8-16 |
| 143JP/145JP | 7/8 | 1 5/32 | 1 | 3/8-16 x 3/4 | 1 9/16 | 5 15/16 | 7 5/16 | 5 7/8 | 4 1/2 | 6 5/8 | 3/8-16 |
| 182JM/184JM | 7/8 | 1 1/4 | 1 | 3/8-16 x 3/4 | 5/8 | 2 7/8 | 4 1/4 | 5 7/8 | 4 1/2 | 6 5/8 | 3/8-16 |
| 182JP/184JP | 7/8 | 1 1/4 | 1 | 3/8-16 x 3/4 | 1 9/16 | 5 15/16 | 7 5/16 | 5 7/8 | 4 1/2 | 6 5/8 | 3/8-16 |
| 213JM/215JM | 7/8 | 1 1/4 | 1 | 3/8-16 x 3/4 | 5/8 | 2 7/8 | 4 1/4 | 7 1/4 | 8 1/2 | 9 | 1/2-13 |
| 213JP/215JP | 1 1/4 | 1 3/4 | 1 3/8 | 1/2-13 x 1 | 2 3/8 | 5 7/8 | 8 1/8 | 7 1/4 | 8 1/2 | 9 | 1/2-13 |

# PRESSURE WASHER AND CAR WASH MOTORS

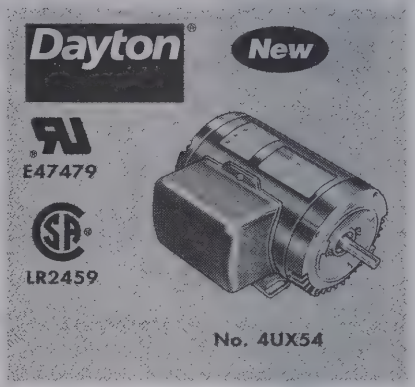
## PRESSURE WASHER PUMP MOTORS

- NEMA service factors provide reserve margin
- Water slinger on shaft helps protect bearing
- Double shielded 203 ball bearings
- Dual voltage
- All copper windings

**Typical Uses:** For new and replacement use in both hot and cold water high pressure washer applications. Corrosion-resistant features to protect against the harsh conditions of this application.

**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Enclosure:** Open dripproof
**Thermal Protection:** Manual
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Replacement Parts Available
1-800-323-0620




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 1725 | 56 | 115/230 | 11.8/5.9 | 1.25 | Rigid | 6K502 | $278.00 | $192.75 | 24.0 |
| 1 | 1725 | 56 | 115/230 | 14.0/7.0 | 1.25 | Rigid | 6K503 | 305.00 | 211.25 | 28.0 |
| 1½ | 1725 | 56 | 115/230 | 14.8/7.4 | 1.20 | Rigid | 6K504 * | 346.00 | 239.50 | 32.0 |
| 1½ | 3450 | 56CY† | 115/230 | 12.5/6.4 | 1.15 | C-Face/Base | New 4UX69 | 340.00 | 262.00 | 30.0 |
| 2 | 3450 | 56C | 115/230 | 16.7/8.4 | 1.15 | C-Face/Base | New 4UX54 | 437.00 | 337.25 | 31.0 |
| 3 | 3450 | 56C | 208-230 | 12.7-11.9 | 1.15 | C-Face/Base | New 4UX39 | 458.00 | 352.75 | 31.0 |
| 5 | 3450 | 56HCZ | 208-230 | 22.0-21.5 | 1.15 | C-Face/Base | New 4UX55 | 486.00 | 374.75 | 31.0 |

(*) Capacitor-start, capacitor-run with run capacitor mounted externally. (†) Nonconforming NEMA "BA" design.

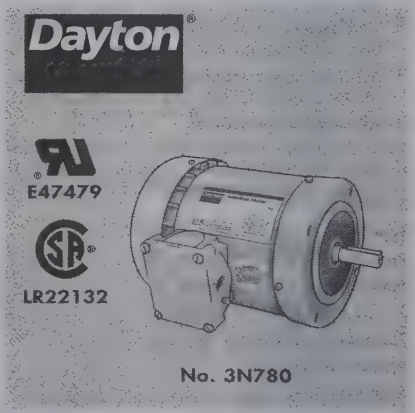
## WET ENVIRONMENT/CAR WASH MOTORS

- No. 416 stainless steel shaft with lip seals at both ends
- Double gasketed cast aluminum conduit box with drain holes and plugs
- Double-dipped and baked copper windings
- Cast-iron C-face with four drain holes and plugs
- Durable gray epoxy finish on outside with stainless steel hardware

**Typical Uses:** For extended life in car washes or other wet environments where the motor is constantly exposed to water, chemicals, and harsh detergent.

**Type:** 3-phase
**Bearings:** Sealed ball with moisture-resistant grease
**Mounting:** C-face, no base
**Enclosure:** TEFC
**Thermal Protection:** Thermostat
Insulation Class: F
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Replacement Parts Available
1-800-323-0620




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Nominal Efficiency | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1725 | 56C | 230/460 | 2.1/1.0 | 1.15 | C-Face | 70.0 | 3N780 | $275.00 | $201.50 | 26.0 |
| 3/4 | 1725 | 56C | 230/460 | 2.6/1.3 | 1.15 | C-Face | 77.0 | 3N781 | 303.00 | 221.75 | 34.0 |
| 1 | 1725 | 56C | 230/460 | 3.6/1.8 | 1.15 | C-Face | 78.5 | 3N782 | 310.00 | 226.75 | 37.0 |
| 1½ | 1725 | 56C | 230/460 | 4.8/2.4 | 1.15 | C-Face | 80.0 | 3N783 | 338.00 | 247.00 | 39.0 |
| 2 | 1725 | 56C | 230/460 | 6.4/3.2 | 1.0 | C-Face | 80.0 | 3N784 | 367.00 | 268.75 | 43.0 |

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**Our branches are conveniently located and stocked with commonly used items from this catalog. If you need it now, call Grainger. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# PAINT-FREE WASHDOWN MOTORS

## PAINT-FREE WASH DOWN MOTORS

- **"VBX" INPRO/SEAL® bearing isolator on drive end provides protection against water and contaminants**
- **300 Series stainless steel shaft, frame and base**
- **Double-contact, double-sealed ball bearings with rust-preventative grease provide added protection against dirt and moisture**
- **T-type drains**
- **Oversized, laser etched nameplate**
- **Nitrile gasket on conduit box prevents moisture and chemicals from entering the motor**
- **Paint-free cast aluminum endshields and conduit box**
- **Double-dipped and baked copper windings**

**Typical Uses:** For extended life on equipment in food, beverage, or chemical processing plants where motor is constantly exposed to high pressure washdowns or other high humidity or wet environments.

**Type:** 3-Phase

**Bearings:** Double-sealed ball with moisture-resistant and rust-inhibitive grease

**Mounting:** C-Face with base

**Enclosure:** TENV

**Thermal Protection:** None

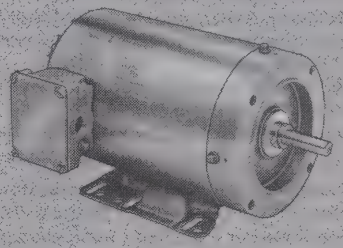
**Insulation Class:** F

Dayton®

New

E47479

LR22132



Replacement Parts Available™ 1-800-323-0620

No. 4LW77

**Ambient:** 40°C

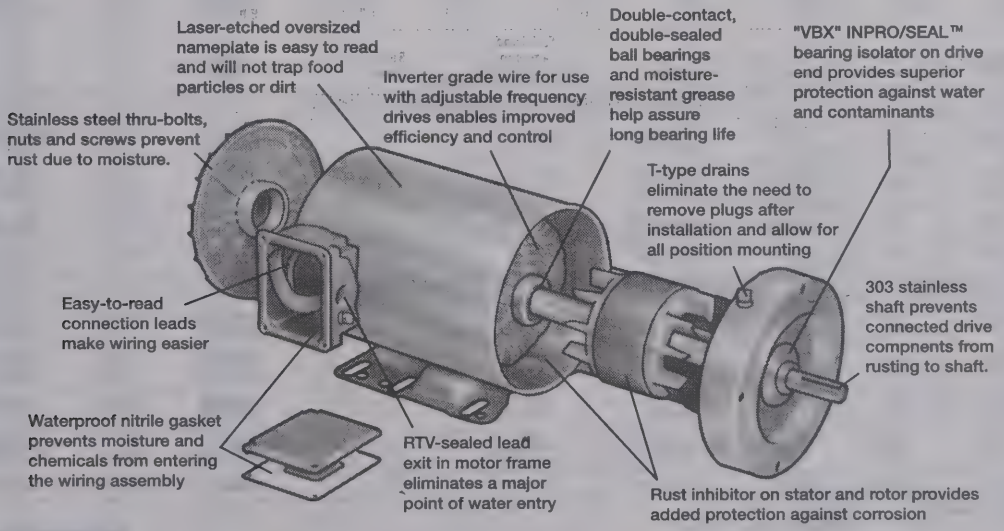
**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** None

**Brand:** Dayton

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Nominal Efficiency | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 1725 | 56HC | 208-230/460 | 2.0-1.9/0.9 | 1.15 | 78.5 | **4LW77** | $357.00 | **$249.50** | 30.0 |
| **3/4** | 1725 | 56HC | 208-230/460 | 2.8-2.7/1.3 | 1.15 | 80.0 | **4LW79** | 392.00 | **273.50** | 31.0 |
| **1** | 1725 | 56HC | 208-230/460 | 3.5-3.4/1.7 | 1.15 | 85.5 | **4LW78** | 401.00 | **279.75** | 32.0 |
| | 1725 | 145TC | 208-230/460 | 3.5-3.4/1.7 | 1.15 | 85.5 | **4LW81** | 401.00 | **279.75** | 32.0 |
| **1½** | 1725 | 56HC | 208-230/460 | 4.9-4.8/2.4 | 1.15 | 87.5 | **4LW80** | 435.00 | **303.75** | 33.0 |
| | 1725 | 145TC | 208-230/460 | 4.9-4.8/2.4 | 1.15 | 87.5 | **4LW82** | 435.00 | **303.75** | 33.0 |



# WASHDOWN MOTORS

- **USDA approved corrosion-resistant white epoxy primer and paint**
- **Interior of all parts treated with rust inhibitor providing additional protection against moisture and corrosion**
- **Stainless steel drain plugs allow for easy drainage of condensation and moisture**
- **Double-contact, double-sealed ball bearings with rust-preventative grease provide added protection against dirt and moisture**
- **White nitrile gasket material prevents moisture and chemicals from entering motor**
- **Double-dipped and baked copper windings**
- **No. 303 stainless steel shaft with V-ring rotating seal**
- **Complies with BISSC, 2A Dairy Standard and NEMA definition MG1-1.26.5 standard for waterproof motors**

**Typical Uses:** For extended life on equipment in food, beverage, or chemical processing plants where motor is constantly exposed to high pressure washdowns or other high humidity or wet environments.

**Type:** Permanent split capacitor, capacitor-start, and 3-phase
**Bearings:** Double-sealed ball with moisture-resistant and rust-inhibitive grease
**Mounting:** Face, base, or yoke
**Enclosure:** TENV, TEFC, or TEAO
**Thermal Protection:** Thermostat (T-Stat) on 3-phase and capacitor-start; auto on PSC motors
**Ambient:** 40°C
**Insulation Class:** F
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** White epoxy
**Brand:** Dayton

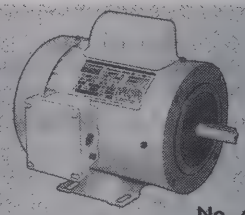
**CAUTION:** Refer to page 6 for proper thermal protection and other motor selection information.

Dayton®

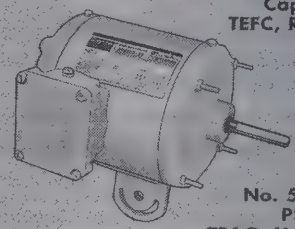
E47479

LR22132

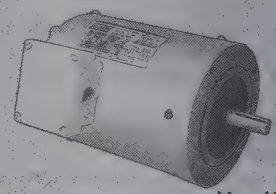
New



No. 4K260
Cap-Start
TEFC, Rigid Base



No. 5M062
PSC
TEAO, Yoke Mount



No. 6N023
3-Phase
TENV, No Base

Replacement Parts Available
1-800-323-0620

## PSC, TEAO, YOKE MOUNT

| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1700 | 56YZ | TEAO | 115/230 | 3.2/1.6 | 1.0 | 1/2 x 2½ | **5M063** | $226.00 | **$164.50** | 20.0 |
| 1/3 | 1700 | 56YZ | TEAO | 115/230 | 4.4/2.2 | 1.0 | 1/2 x 2½ | **5M062** | 238.00 | **173.00** | 16.0 |
| 1/2 | 1700 | 56YZ | TEAO | 115/230 | 5.6/2.8 | 1.0 | 5/8 x 2½ | **5M061** | 255.00 | **185.50** | 18.0 |

| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CAPACITOR-START, NO BASE, C-FACE** | | | | | | | | | | |
| 1/2 | 3450 | 56C | TENV | 115/208-230 | 6.6/3.4-3.3 | 1.15 | **5M285** | $289.00 | **$210.00** | 43.0 |
| | 1725 | 56C | TENV | 115/208-230 | 8.2/4.0-4.1 | 1.15 | **5M290** | 287.00 | **208.75** | 34.0 |
| 3/4 | 3450 | 56C | TENV | 115/208-230 | 8.8/4.6-4.4 | 1.15 | **5M286** | 304.00 | **221.25** | 30.0 |
| | 1725 | 56C | TENV | 115/208-230 | 9.2/4.7-4.6 | 1.15 | **5M292** | 302.00 | **219.75** | 41.0 |
| 1 | 3450 | 56C | TENV | 115/208-230 | 9.5/5.3-4.7 | 1.15 | **5M287** | 346.00 | **251.50** | 34.0 |
| | 1725 | 56C | TENV | 115/208-230 | 11.3/5.8-5.7 | 1.0 | **5M291** | 359.00 | **261.25** | 24.0 |
| 2 | 1725 | 56C | TEFC | 115/230 | 19.0/9.5 | 1.15 | **5M284** * | 592.00 | **430.25** | 25.0 |
| **CAPACITOR-START, RIGID WELDED BASE, C-FACE** | | | | | | | | | | |
| 1/2 | 3450 | 56C | TENV | 115/208-230 | 6.6/3.4-3.3 | 1.15 | **5M288** | 295.00 | **214.50** | 40.0 |
| | 1725 | 56C | TEFC | 115/230 | 10.0/5.0 | 1.15 | **4K260** | 275.00 | **200.50** | 26.0 |
| 3/4 | 3450 | 56C | TENV | 115/208-230 | 8.8/4.6-4.4 | 1.15 | **5M289** | 298.00 | **216.75** | 35.0 |
| | 1725 | 56C | TEFC | 115/230 | 11.8/5.9 | 1.15 | **4K261** | 311.00 | **226.25** | 34.0 |
| 1 | 3450 | 56C | TEFC | 115/230 | 12.0/6.0 | 1.15 | **4K999** | 351.00 | **255.00** | 31.0 |
| | 1725 | 56HC | TEFC | 115/230 | 13.6/6.8 | 1.15 | **4K262** | 367.00 | **267.00** | 37.0 |
| 1½ | 3450 | 56HC | TEFC | 115/230 | 15.6/7.8 | 1.15 | **4KC00** | 459.00 | **333.50** | 42.0 |
| | 1725 | 56HC | TEFC | 115/230 | 14.0/7.0 | 1.15 | **4K263** * | 457.00 | **332.25** | 39.0 |
| 2 | 1725 | 56HC | TEFC | 115/230 | 19.0/9.5 | 1.0 | **4K264** * | 602.00 | **437.25** | 48.0 |

(*) Capacitor-start/capacitor-run.

CONTINUED ON NEXT PAGE

# WASHDOWN AND FEATHER PICKER MOTORS



| HP | Nameplate RPM | NEMA Frame | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Nominal Efficiency | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3-PHASE, NO BASE, C-FACE** | | | | | | | | | | | |
| 1/3 | 1725 | 56C | TENV | 208-230/460 | 1.3-1.2/0.6 | 1.35 | 78.5 | **5M282** | $306.00 | **$222.75** | 32.0 |
| 1/2 | 1725 | 56C | TENV | 230/460 | 1.6/0.8 | 1.15 | 80.0 | **6N023** | 318.00 | **231.50** | 29.0 |
| | 1725 | 56C | TEFC | 230/460 | 2.1/1.0 | 1.15† | 70.0 | **3N827** | 279.00 | **203.25** | 26.0 |
| | 1725 | 145TC | TENV | 230/460 | 1.6/0.8 | 1.15 | 80.0 | **6N027** | 326.00 | **237.25** | 29.0 |
| 3/4 | 3450 | 56C | TENV | 208-230/460 | 2.4-2.2/1.1 | 1.15 | 77.0 | **5M269** | 309.00 | **225.00** | 23.0 |
| | 1725 | 56C | TENV | 230/460 | 2.4/1.2 | 1.15 | 82.5 | **6N022** | 348.00 | **252.75** | 33.0 |
| | 1725 | 56C | TEFC | 230/460 | 2.6/1.3 | 1.15† | 77.0 | **3N828** | 309.00 | **225.00** | 34.0 |
| | 1725 | 145TC | TENV | 230/460 | 2.4/1.2 | 1.15 | 82.5 | **6N026** | 356.00 | **259.00** | 33.0 |
| 1 | 3450 | 56C | TENV | 208-230/460 | 3.2-3.0/1.5 | 1.15 | 82.5 | **5M270** | 395.00 | **287.25** | 22.0 |
| | 1725 | 56C | TENV | 230/460 | 3.2/1.6 | 1.15 | 84.0 | **6N020** | 355.00 | **258.50** | 35.0 |
| | 1725 | 56C | TEFC | 230/460 | 3.6/1.8 | 1.15† | 78.5 | **3N829** | 316.00 | **230.00** | 37.0 |
| | 1725 | 145TC | TENV | 230/460 | 3.2/1.6 | 1.15 | 84.0 | **6N024** | 363.00 | **264.25** | 35.0 |
| | 1725 | 143TC | TEFC | 230/460 | 3.6/1.8 | 1.15† | 78.5 | **3N830** | 324.00 | **236.00** | 37.0 |
| 1 1/2 | 3450 | 56C | TENV | 208-230/460 | 4.7-4.6/2.3 | 1.15 | 85.5 | **5M271** | 395.00 | **287.25** | 26.0 |
| | 1725 | 56C | TENV | 230/460 | 4.2/2.1 | 1.0 | 86.5 | **6N021** | 383.00 | **277.75** | 45.0 |
| | 1725 | 56C | TEFC | 230/460 | 4.8/2.4 | 1.15† | 80.0 | **3N831** | 344.00 | **250.00** | 39.0 |
| | 1725 | 145TC | TENV | 230/460 | 4.2/2.1 | 1.0 | 86.5 | **6N025** | 391.00 | **284.25** | 45.0 |
| | 1725 | 145TC | TEFC | 230/460 | 4.8/2.4 | 1.15† | 80.0 | **3N832** | 352.00 | **256.25** | 39.0 |
| 2 | 3450 | 56C | TEFC | 230/460 | 5.2/2.6 | 1.0 | 82.5 | **5M280** | 375.00 | **273.25** | 42.0 |
| | 1725 | 56C | TEFC | 230/460 | 6.4/3.2 | 1.0 | 80.0 | **3N833** | 371.00 | **270.00** | 43.0 |
| | 1725 | 145TC | TEFC | 230/460 | 6.4/3.2 | 1.0 | 80.0 | **3N834** | 379.00 | **275.75** | 43.0 |
| 3 | 3450 | 56C | TEFC | 230/460 | 7.5/3.8 | 1.0 | 82.5 | **5M281** | 444.00 | **322.75** | 25.0 |
| **3-PHASE, RIGID WELDED BASE, C-FACE** | | | | | | | | | | | |
| 1/2 | 3450 | 56C | TENV | 208-230/460 | 1.8-1.7/0.9 | 1.15 | 75.5 | **5M264** | 253.00 | **184.25** | 24.0 |
| | 3450 | 56C | TEFC | 230/460 | 2.0/1.0 | 1.15† | 68.0 | **3N835** | 253.00 | **184.25** | 18.0 |
| | 1725 | 56C | TENV | 208-230/460 | 1.6-1.6/0.8 | 1.15 | 81.5 | **5M256** | 286.00 | **208.00** | 33.0 |
| | 1725 | 56C | TEFC | 230/460 | 2.1/1.0 | 1.15† | 70.0 | **3N771** | 286.00 | **207.75** | 26.0 |
| | 1725 | 145TC | TENV | 208-230/460 | 1.6-1.6/0.8 | 1.15 | 81.5 | **5M261** | 286.00 | **208.00** | 39.0 |
| | 1140 | 145TC | TEFC | 208-230/460 | 2.2-2.2/1.1 | 1.15 | 72.0 | **5M272** | 357.00 | **259.75** | 26.0 |
| 3/4 | 3450 | 56C | TENV | 208-230/460 | 2.4-2.2/1.1 | 1.15 | 77.0 | **5M265** | 260.00 | **189.25** | 24.0 |
| | 3450 | 56C | TEFC | 230/460 | 2.6/1.3 | 1.15† | 74.0 | **3N836** | 260.00 | **189.25** | 22.0 |
| | 1725 | 56C | TENV | 208-230/460 | 2.5-2.4/1.2 | 1.15 | 82.5 | **5M257** | 313.00 | **227.75** | 34.0 |
| | 1725 | 56C | TEFC | 230/460 | 2.6/1.3 | 1.15† | 77.0 | **3N772** | 313.00 | **227.50** | 34.0 |
| | 1725 | 145TC | TENV | 208-230/460 | 2.5-2.4/1.2 | 1.15 | 82.5 | **5M253** | 313.00 | **227.75** | 30.0 |
| | 1725 | 143TC | TEFC | 230/460 | 2.6/1.3 | 1.15 | 80.0 | **5M252** | 313.00 | **227.75** | 30.0 |
| | 1140 | 145TC | TEFC | 208-230/460 | 3.3-3.4/1.7 | 1.15 | 75.5 | **5M273** | 383.00 | **278.25** | 41.0 |
| 1 | 3450 | 56C | TENV | 208-230/460 | 3.2-3.0/1.5 | 1.15 | 82.5 | **5M266** | 304.00 | **221.25** | 35.0 |
| | 3450 | 56C | TEFC | 230/460 | 3.2/1.6 | 1.15† | 74.0 | **3N837** | 304.00 | **221.00** | 28.0 |
| | 1725 | 56C | TENV | 208-230/460 | 3.3-3.2/1.6 | 1.15 | 84.0 | **5M259** | 320.00 | **233.25** | 29.0 |
| | 1725 | 56C | TEFC | 230/460 | 3.6/1.8 | 1.15† | 78.5 | **3N773** | 320.00 | **233.25** | 37.0 |
| | 1725 | 145TC | TENV | 208-230/460 | 3.3-3.2/1.6 | 1.15 | 84.0 | **5M255** | 320.00 | **233.25** | 43.0 |
| | 1725 | 143TC | TEFC | 208-230/460 | 3.4-3.2/1.6 | 1.15 | 84.0 | ***New* 4LW69** * | 348.00 | **252.75** | 30.0 |
| | 1140 | 145TC | TEFC | 208-230/460 | 3.9-4.0/2.0 | 1.15 | 80.0 | ***New* 4LW75** * | 388.00 | **305.25** | 34.0 |
| 1 1/2 | 3450 | 56C | TENV | 208-230/460 | 4.7-4.6/2.3 | 1.15 | 85.5 | **5M267** | 352.00 | **256.25** | 40.0 |
| | 3450 | 56C | TEFC | 208-230/460 | 4.7-4.4/2.2 | 1.15† | 81.5 | **5M277** | 352.00 | **256.25** | 24.0 |
| | 3450 | 145TC | TENV | 208-230/460 | 4.7-4.6/2.3 | 1.15 | 85.5 | **5M268** | 352.00 | **256.25** | 25.0 |
| | 1725 | 56C | TENV | 208-230/460 | 4.7-4.2/2.1 | 1.0 | 86.5 | **5M258** | 348.00 | **253.00** | 31.0 |
| | 1725 | 56HC | TEFC | 230/460 | 4.8/2.4 | 1.15† | 80.0 | **3N774** | 348.00 | **252.75** | 39.0 |
| | 1725 | 145TC | TENV | 208-230/460 | 4.7-4.2/2.1 | 1.0 | 86.5 | **5M254** | 348.00 | **253.00** | 35.0 |
| | 1725 | 145TC | TEFC | 208-230/460 | 4.7-4.4/2.2 | 1.15 | 84.0 | ***New* 4LW70** * | 348.00 | **275.00** | 38.0 |
| 2 | 3450 | 56HC | TEFC | 230/460 | 5.2/2.6 | 1.0 | 82.5 | **3N838** | 378.00 | **275.25** | 37.0 |
| | 3450 | 145TC | TEFC | 208-230/460 | 6.0-5.8/2.8 | 1.15 | 84.0 | ***New* 4LW67** * | 378.00 | **295.75** | 35.0 |
| | 1725 | 56HC | TEFC | 230/460 | 6.4/3.2 | 1.0 | 80.0 | **3N775** | 377.00 | **274.50** | 43.0 |
| | 1725 | 145TC | TEFC | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | ***New* 4LW71** * | 377.00 | **298.25** | 38.0 |
| 3 | 3450 | 145TC | TEFC | 208-230/460 | 8.8-7.9/4.0 | 1.15 | 85.5 | **3N839** | 448.00 | **325.50** | 46.0 |
| 3 | 1740 | 182TC | TEFC | 208-230/460 | 9.4-9.2/4.6 | 1.15 | 87.5 | ***New* 4RR19** | 580.00 | **417.00** | 55.0 |
| 5 | 1740 | 184TC | TEFC | 208-230/460 | 14.6-13.8/6.9 | 1.15 | 87.5 | ***New* 4RR20** * | 655.00 | **472.00** | 75.0 |
| 7 1/2 | 1755 | 213TC | TEFC | 208-230/460 | 21.8-20.4/10.2 | 1.15 | 89.5 | ***New* 4RR21** * | 736.00 | **575.00** | 90.0 |
| 10 | 1755 | 215TC | TEFC | 230/460 | 25.2/12.6 | 1.0 | 90.2 | **3N779** | 796.00 | **585.00** | 136.0 |
| **3-PHASE, RIGID WELDED BASE** | | | | | | | | | | | |
| 1/3 | 1725 | 56 | TENV | 208-230/460 | 1.3-1.2/0.6 | 1.35 | 78.5 | **5M283** | 291.00 | **211.50** | 36.0 |
| 1/2 | 1725 | 56 | TENV | 230/460 | 1.6/0.8 | 1.15 | 81.5 | **6N031** | 316.00 | **230.00** | 29.0 |
| 3/4 | 1725 | 56 | TENV | 230/460 | 2.4/1.2 | 1.15 | 82.5 | **6N030** | 346.00 | **251.50** | 33.0 |
| 3/4 | 1140 | 143T | TEFC | 208-230/460 | 3.3-3.4/1.7 | 1.15 | 75.5 | **5M275** | 365.00 | **265.75** | 35.0 |
| 1 | 3450 | 56 | TEFC | 208-230/460 | 3.3-3.2/1.6 | 1.15 | 74.0 | **5M279** | 278.00 | **202.50** | 25.0 |
| | 1725 | 56 | TENV | 230/460 | 3.2/1.6 | 1.15 | 84.0 | **6N029** | 353.00 | **256.75** | 35.0 |
| | 1140 | 145T | TEFC | 208-230/460 | 3.9-4.0/2.0 | 1.15 | 80.0 | ***New* 4LW76** * | 386.00 | **302.50** | 34.0 |
| 1 1/2 | 1725 | 56H | TENV | 230/460 | 4.2/2.1 | 1.0 | 86.5 | **6N028** | 380.00 | **276.50** | 45.0 |
| 2 | 1725 | 145T | TEFC | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | ***New* 4LW72** * | 369.00 | **289.75** | 38.0 |
| **FEATHER PICKER MOTORS (Conduit Box Located at 12:00) 3-PHASE, RIGID WELDED BASE** | | | | | | | | | | | |
| 2 | 1725 | 145T | TEFC | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | ***New* 4LW73** * | 369.00 | **289.75** | 38.0 |
| 2 | 1725 | 145TC | TEFC | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | ***New* 4LW74** * | 377.00 | **298.00** | 38.0 |
| 3 | 1725 | 145T | TEFC | 208-230/460 | 10.6-11.2/5.6 | 1.0 | 82.5 | ***New* 4LW83** * | 397.00 | **309.00** | 43.0 |

(†) Operable at 1425 RPM, 190/380V, 50 Hz, 1.0 service factor. (*) Meet efficiency for Energy Policy Act of 1992.

DEFINITE PURPOSE MOTORS

# WASHDOWN MOTORS

- Double-dipped and baked copper windings
- No. 303 stainless steel shaft with V-ring seal
- USDA approved white paint to meet sanitary requirements
- 3-phase motors feature Energy Saver design
- Full protective neoprene gaskets on conduit box, capacitor covers, and lead entry
- Easily removed plugs permit drainage of condensation

**Typical Uses:** For extended life in food, beverage, or chemical processing plants where motor is constantly exposed to high pressure washdowns or other high humidity or wet environments.

**Type:** Capacitor-start or 3-phase

**Bearings:** Double-sealed ball

**Thermal Protection:** None

**Insulation Class:** F

**Ambient:** 40°C

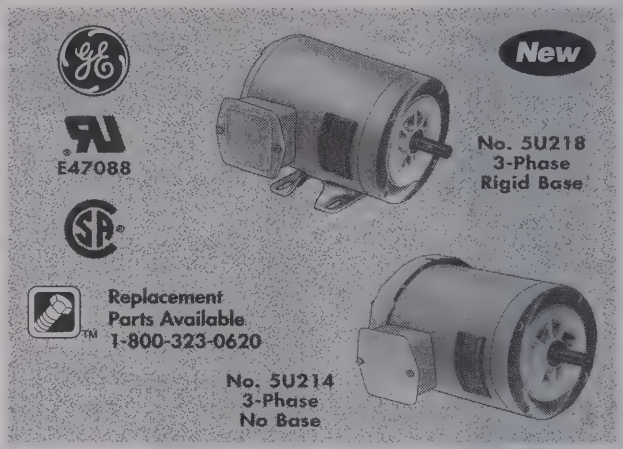
**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** White

**Brand:** GE

**CAUTION: Not for fans in unattended areas.** Refer to page 6 for UL507 Standard, proper thermal protection, and other motor selection information.




| HP | Nameplate RPM at 60/50 Hz | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Nominal Efficiency | Mounting | GE Stock No. | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CAPACITOR-START, TEFC** | | | | | | | | | | | | | |
| 1/2 | 1725 | 56C | 115/208-230 | 7.8/3.9-3.9 | 1.25 | — | Face/Base | C1285 | | **5U129** | $295.00 | **$200.50** | 27.0 |
| 3/4 | 1725 | 56C | 115/208-230 | 11.6/5.8-5.8 | 1.25 | — | Face/Base | C1286 | | **5U130** | 332.00 | **225.00** | 33.0 |
| 1 | 3450 | 56C | 115/208-230 | 12.0/6.0-6.0 | 1.25 | — | Face/Base | C1287 | | **5U131** | 376.00 | **255.00** | 29.0 |
| | 1725 | 56C | 115/208-230 | 13.2/6.6-6.6 | 1.15 | — | Face/Base | C1288 | | **5U132** | 393.00 | **266.50** | 40.0 |
| 1 1/2 | 3450 | 56C | 115/208-230 | 16.0/8.0-8.0 | 1.15 | — | Face/Base | C1289 | | **5U133** | 492.00 | **319.50** | 35.0 |
| | 1725 | 56C | 115/208-230 | 14.8/7.4-7.4 | 1.15 | — | Face/Base | C1290 | | **5U134*** | 490.00 | **332.50** | 49.0 |
| **3-PHASE, TENV** | | | | | | | | | | | | | |
| 1/3 | 1725/1425 | 56 | 208-230/460 | 1.6-1.6/0.8 | 1.35 | 75.5 | Rigid | E286 | | **5U202** | 285.00 | **192.25** | 20.0 |
| 1/2 | 1725/1425 | 56 | 208-230/460 | 2.0-2.0/1.0 | 1.25 | 77.0 | Rigid | E287 | | **5U203** | 300.00 | **199.75** | 22.0 |
| 3/4 | 1725/1425 | 56 | 208-230/460 | 2.4-2.4/1.2 | 1.25 | 80.0 | Rigid | E288 | | **5U204** | 329.00 | **219.50** | 31.0 |
| 1 | 1725/1425 | 143T | 208-230/460 | 2.8-2.8/1.4 | 1.15 | 82.5 | Rigid | E290 | | **5U206** | 349.00 | **235.25** | 44.0 |
| 1/2 | 1725/1425 | 56C | 208-230/460 | 2.0-2.0/1.0 | 1.25 | 77.0 | C-Face | E294 | | **5U210** | 299.00 | **201.75** | 22.0 |
| 3/4 | 1725/1425 | 56C | 208-230/460 | 2.4-2.4/1.2 | 1.25 | 80.0 | C-Face | E295 | | **5U211** | 330.00 | **222.25** | 31.0 |
| 1 | 1725/1425 | 56C | 208-230/460 | 2.8-2.8/1.4 | 1.15 | 82.5 | C-Face | E296 | | **5U212** | 339.00 | **229.00** | 44.0 |
| | 1725/1425 | 145TC | 208-230/460 | 2.8-2.8/1.4 | 1.15 | 82.5 | C-Face | E297 | | **5U213** | 348.00 | **235.50** | 44.0 |
| 1/2 | 3450/2850 | 56C | 208-230/460 | 1.8-1.8/0.9 | 1.25 | 75.5 | Face/Base | E302 | | **5U218** | 250.00 | **169.75** | 24.0 |
| | 1725/1425 | 56C | 208-230/460 | 2.0-2.0/1.0 | 1.25 | 77.0 | Face/Base | E303 | | **5U219** | 305.00 | **203.75** | 22.0 |
| | 1725 | 56C | 575 | 0.8 | 1.25 | 77.0 | Face/Base | E304 | | **5U220** | 305.00 | **203.75** | 22.0 |
| 3/4 | 3450/2850 | 56C | 208-230/460 | 2.2-2.2/1.1 | 1.25 | 78.5 | Face/Base | E305 | | **5U221** | 278.00 | **188.50** | 31.0 |
| | 1725/1425 | 56C | 208-230/460 | 2.4-2.4/1.2 | 1.25 | 80.0 | Face/Base | E306 | | **5U222** | 336.00 | **226.25** | 31.0 |
| | 1725 | 56C | 575 | 1.0 | 1.25 | 80.0 | Face/Base | E307 | | **5U223** | 336.00 | **226.25** | 31.0 |
| 1 | 3450/2850 | 56C | 208-230/460 | 3.2-3.2/1.6 | 1.25 | 80.0 | Face/Base | E308 | | **5U224** | 325.00 | **220.75** | 40.0 |
| | 1725/1425 | 56C | 208-230/460 | 2.8-2.8/1.4 | 1.15 | 82.5 | Face/Base | E309 | | **5U225** | 344.00 | **233.75** | 44.0 |
| | 1725/1425 | 145TC | 208-230/460 | 2.8-2.8/1.4 | 1.15 | 82.5 | Face/Base | E310 | | **5U226** | 354.00 | **240.00** | 44.0 |
| | 1725 | 56C | 575 | 1.2 | 1.15 | 82.5 | Face/Base | E311 | | **5U227** | 344.00 | **233.75** | 44.0 |
| **3-PHASE, TEFC** | | | | | | | | | | | | | |
| 3/4 | 1140 | 143T | 208-230/460 | 2.8-2.8/1.4 | 1.15 | 80.0 | Rigid | E289 | | **5U205** | 453.00 | **294.25** | 40.0 |
| 1 | 1140/950 | 145T | 208-230/460 | 3.9-4.0/2.0 | 1.15 | 80.0 | Rigid | K2051 | *New* | **4TF02** | 520.00 | **334.00** | 35.0 |
| 1 1/2 | 1725/1425 | 145T | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | Rigid | K2052 | *New* | **4TC66** | 413.00 | **249.25** | 40.0 |
| 2 | 1725/1425 | 145T | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | Rigid | K2053 | *New* | **4TC72** | 449.00 | **270.75** | 44.0 |
| 3 | 1765 | 182T | 230/460 | 7.8/3.9 | 1.15 | 87.5 | Rigid | S2380 | *New* | **4TF03** | 760.00 | **521.00** | 120.0 |
| 5 | 1755 | 184T | 230/460 | 12.2/6.1 | 1.15 | 87.5 | Rigid | S2381 | *New* | **4TF04** | 869.00 | **594.50** | 130.0 |
| 1 1/2 | 1725/1425 | 56C | 208-230/460 | 4.4-4.4/2.2 | 1.15 | 82.5 | C-Face | E298 | | **5U214** | 368.00 | **250.00** | 54.0 |
| | 1725/1425 | 145TC | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | C-Face | K2055 | *New* | **4TF05** | 416.00 | **269.50** | 40.0 |
| 2 | 1725/1425 | 56C | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | C-Face | K2066 | *New* | **4TF08** | 439.00 | **245.00** | 44.0 |
| | 1725/1425 | 145TC | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | C-Face | K2056 | *New* | **4TF06** | 448.00 | **250.00** | 44.0 |
| 3 | 1765 | 182TC | 230/460 | 7.8/3.9 | 1.15 | 87.5 | C-Face | S2393 | *New* | **4TF09** | 754.00 | **448.75** | 120.0 |
| 5 | 1755 | 184TC | 230/460 | 12.2/6.1 | 1.15 | 87.5 | C-Face | S2395 | *New* | **4TF10** | 854.00 | **501.00** | 130.0 |
| 1 1/2 | 3450/2850 | 56C | 208-230/460 | 4.2-4.2/2.1 | 1.15 | 81.5 | Face/Base | E312 | | **5U228** | 375.00 | **254.00** | 31.0 |
| | 1725/1425 | 145TC | 208-230/460 | 4.6-4.4/2.2 | 1.15 | 84.0 | Face/Base | K2058 | *New* | **4TF12** | 422.00 | **253.50** | 40.0 |
| | 1725 | 145TC | 575 | 1.8 | 1.15 | 84.0 | Face/Base | K2059 | *New* | **4TF13** | 422.00 | **253.50** | 40.0 |
| 2 | 3450/2850 | 145TC | 208-230/460 | 5.4-5.4/2.7 | 1.15 | 84.0 | Face/Base | E316 | | **5U232** | 413.00 | **271.75** | 44.0 |
| | 1725 | 56C | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | Face/Base | K2065 | *New* | **4TF07** | 444.00 | **247.75** | 44.0 |
| | 1725/1425 | 145TC | 208-230/460 | 6.2-5.8/2.9 | 1.15 | 84.0 | Face/Base | K2061 | *New* | **4TF14** | 456.00 | **275.00** | 44.0 |
| | 1725 | 145TC | 575 | 2.3 | 1.15 | 84.0 | Face/Base | K2062 | *New* | **4TF15** | 456.00 | **275.00** | 44.0 |
| 3 | 3450/2850 | 145TC | 208-230/460 | 8.8-8.0/4.0 | 1.15 | 85.5 | Face/Base | K2063 | *New* | **4RX46** | 529.00 | **311.75** | 54.0 |
| 5 | 1765 | 182TC | 230/460 | 7.8/3.9 | 1.15 | 87.5 | Face/Base | S2384 | *New* | **4TF16** | 823.00 | **512.00** | 120.0 |
| | 1755 | 184TC | 230/460 | 12.2/6.1 | 1.15 | 87.5 | Face/Base | S2386 | *New* | **4TF17** | 931.00 | **578.50** | 130.0 |
| | 1755 | 184TC | 575 | 4.9 | 1.15 | 87.5 | Face/Base | S2387 | *New* | **4TF18** | 931.00 | **578.50** | 130.0 |

(*) Capacitor-start/capacitor-run.

# CAPACITOR-START INDUSTRIAL PUMP MOTORS

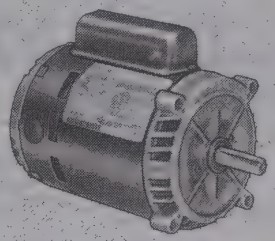
## GE BRAND, OPEN DRIPPROOF, NO BASE

- **Shaft slinger and gasketed conduit box protect against moisture and contaminants**
- **56C frame steel keyed shaft**
- **56J frame stainless steel shaft 7/16"-20 UNF-2A threaded 11/16" from end**

**Typical Uses:** Industrial and commercial pumps and centrifugal and hydraulic industrial compressors requiring NEMA 56C or 56J face mounting.

**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Mounting:** Face
**Enclosure:** Open dripproof
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** GE

E47088



No. 4K109

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 3450 | 56C | CW/CCW | 115/208-230 | 6.4/3.2 | 1.75 | B | C328 | **4K108** | $146.00 | **$92.65** | 14.0 |
| | 3450 | 56J | CCW | 115/208-230 | 6.4/3.2 | 1.75 | B | C329 | **2K366** | 149.00 | **95.25** | 16.0 |
| 1/2 | 3450 | 56C | CW/CCW | 115/230 | 7.6/3.8 | 1.6 | B | C330 | **4K109** | 158.00 | **101.05** | 15.0 |
| | 3450 | 56J | CCW | 115/230 | 7.6/3.8 | 1.6 | B | C331 | **2K367** | 162.00 | **102.80** | 17.0 |
| 3/4 | 3450 | 56C | CW/CCW | 115/230 | 11.2/5.6 | 1.5 | B | C332 | **4K110** | 187.00 | **118.90** | 19.0 |
| | 3450 | 56J | CCW | 115/230 | 11.2/5.6 | 1.5 | B | C333 | **2K368** | 190.00 | **120.60** | 19.0 |
| | 2850 | 56C | CW/CCW | 110/220† | 9.8/4.9 | 1.5 | B | C732 | **2K386** | 213.00 | **135.55** | 24.0 |
| 1 | 3450 | 56C | CW/CCW | 115/230 | 13.2/6.6 | 1.4 | B | C334 | **4K111** | 208.00 | **132.05** | 23.0 |
| | 3450 | 56J | CCW | 115/230 | 13.2/6.6 | 1.4 | B | C335 | **2K369** | 212.00 | **134.95** | 22.0 |
| 1½ | 3450 | 56C | CW/CCW | 115/230 | 18.4/9.2 | 1.3 | B | C336 | **4K112** | 287.00 | **183.50** | 30.0 |
| | 3450 | 56J | CCW | 115/230 | 18.4/9.2 | 1.3 | B | C337 | **2K370** | 292.00 | **185.50** | 30.0 |
| 2 | 3450 | 56C | CW/CCW | 115/230 | 21.2/11.6 | 1.2 | B | C338 | **4K113** | 356.00 | **226.50** | 37.0 |
| | 3450 | 56J | CCW | 115/230 | 21.2/11.6 | 1.2 | B | C339 | **2K371** | 369.00 | **235.50** | 38.0 |
| 3 | 3450 | 56C | CW/CCW | 115/230 | 28.8/14.4 | 1.15 | B | C340 | **4K114*** | 388.00 | **247.25** | 50.0 |
| | 3450 | 56J | CCW | 115/230 | 28.8/14.4 | 1.15 | B | C341 | **2K372*** | 398.00 | **253.75** | 49.0 |

(*) Capacitor-start/capacitor-run; includes 16 cubic inch oversized conduit box. (†) Motor is rated 50 Hz.

**CAUTION: Refer to page 6 for proper thermal protection, and other motor selection information.**

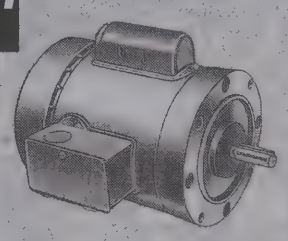
## DAYTON BRAND, TEFC, NO BASE

- **Externally located capacitor**
- **Shaft slinger, gasketed cover, and conduit box protect against dirt and moisture**
- **56C frame steel keyed shaft; 56J frame stainless steel shaft 7/16"-20 UNF-2A RH threaded 11/16" from end**
- **All copper windings**

**Typical Uses:** Jet pumps, industrial/centrifugal pumps, and other equipment requiring NEMA 56C or 56J mounting.

**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Mounting:** Face
**Enclosure:** TEFC
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton

E47479



No. 6K181

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 3450 | 56C | CW/CCW | 115/230 | 6.4/3.2 | 1.0 | A | **6K181** | $153.00 | **$113.95** | 19.0 |
| | 3450 | 56J | CCW | 115/230 | 6.4/3.2 | 1.0 | A | **6K596** | 165.00 | **123.10** | 19.0 |
| 1/2 | 3450 | 56C | CW/CCW | 115/230 | 8.0/4.0 | 1.0 | A | **6K182** | 171.00 | **127.70** | 21.0 |
| | 3450 | 56J | CCW | 115/230 | 8.0/4.0 | 1.0 | A | **6K597** | 184.00 | **136.80** | 21.0 |
| 3/4 | 3450 | 56C | CW/CCW | 115/230 | 9.8/4.9 | 1.0 | A | **6K831** | 198.00 | **147.40** | 26.0 |
| | 3450 | 56J | CCW | 115/230 | 9.8/4.9 | 1.0 | A | **6K598** | 210.00 | **156.75** | 26.0 |
| 1 | 3450 | 56C | CW/CCW | 115/230 | 12.0/6.0 | 1.0 | A | **6K197** | 244.00 | **159.25** | 27.0 |
| | 3450 | 56J | CCW | 115/230 | 12.0/6.0 | 1.0 | A | **6K599** | 256.00 | **191.00** | 27.0 |
| 1½ | 3450 | 56C | CW/CCW | 115/230 | 15.6/7.8 | 1.0 | A | **6K832** | 295.00 | **220.00** | 38.0 |
| | 3450 | 56J | CCW | 115/230 | 15.6/7.8 | 1.0 | A | **6K600** | 307.00 | **228.75** | 38.0 |

# CAPACITOR-START AND 3-PHASE, INDUSTRIAL PUMP MOTORS

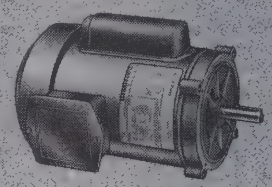
## GE BRAND, TEFC, CAPACITOR-START

- **56C frame steel keyed shaft; 56J frame with stainless steel shaft with 7/16"-20 UNF-2A threaded 11/16" from end**
- **Shaft slinger and gasketed conduit box protects against moisture and contaminants**

**Typical Uses:** Industrial and commercial pumps, and centrifugal and hydraulic industrial compressors requiring NEMA 56C or 56J face mounting.

**Type:** Capacitor-start
**Bearings:** Double-shielded ball
**Enclosure:** TEFC
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** GE

E47088



No. 2K376

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NO BASE** | | | | | | | | | | | | |
| 1/2 | 3450 | 56C | CW/CCW | 115/230 | 7.4/3.7 | 1.15 | B | C349 | **2K376** | $199.00 | **$126.95** | 19.0 |
| 1/2 | 3450 | 56J | CCW | 115/230 | 7.4/3.7 | 1.15 | B | C465 | **2K382** | 219.00 | **139.05** | 19.0 |
| 1/2 | 1725 | 56C | CW/CCW | 115/230 | 8.2/4.1 | 1.0 | B | C446 | **2K381** | 251.00 | **155.50** | 24.0 |
| 3/4 | 3450 | 56C | CW/CCW | 115/230 | 9.8/4.9 | 1.0 | B | C847 | **2K388** | 233.00 | **147.90** | 24.0 |
| 1 | 3450 | 56C | CW/CCW | 115/230 | 13.4/6.7 | 1.15 | B | C351 | **2K377** | 257.00 | **163.75** | 29.0 |
| 1 | 3450 | 56J | CCW | 115/230 | 13.4/6.7 | 1.15 | B | C352 | **2K378** | 250.00 | **159.50** | 29.0 |
| 1 1/2 | 3450 | 56C | CW/CCW | 115/230 | 16.4/8.2 | 1.0 | B | C855 | **2K389** | 312.00 | **199.00** | 37.0 |
| 2 | 3450 | 56C | CW/CCW | 115/230 | 17.8/8.9 | 1.15 | B | C466 | **2K383** | 382.00 | **243.50** | 42.0 |
| 2 | 3450 | 56J | CCW | 115/230 | 17.8/8.9 | 1.0 | B | C878 | **2K390** | 376.00 | **239.00** | 41.0 |
| **WITH BASE** | | | | | | | | | | | | |
| 1/2 | 3450 | 56C | CW/CCW | 115/230 | 7.4/3.7 | 1.25 | B | C444 | **2K379** | 195.00 | **124.10** | 20.0 |
| 1 | 3450 | 56C | CW/CCW | 115/230 | 13.4/6.7 | 1.0 | B | C445 | **2K380** | 262.00 | **167.25** | 30.0 |

(*) Capacitor-start/capacitor-run.

**CAUTION: Refer to page 6 for proper thermal protection and other motor selection information.**

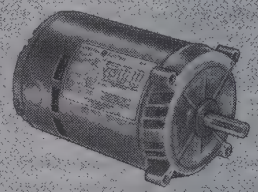
## GE BRAND, OPEN DRIPPROOF, 3-PHASE

- **56C frame steel keyed shaft; 56J frame with stainless steel shaft with 7/16"-20 UNF-2A threaded 11/16" from end**
- **Shaft slinger and gasketed conduit box protects against moisture and contamination**

**Typical Uses:** Industrial and commercial pumps, and centrifugal and hydraulic industrial compressors requiring NEMA 56C or 56J face mounting.

**Type:** 3-phase
**Bearings:** Double-shielded ball
**Enclosure:** Open dripproof
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** GE

E47088



No. 3N818

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NO BASE** | | | | | | | | | | | | |
| 1/3 | 3450 | 56C | CW/CCW | 208-230/460 | 1.5-1.8/0.9 | 1.75 | B | K215 | **3N817** | $157.00 | **$100.45** | 13.0 |
| 1/3 | 3450 | 56J | CW/CCW | 208-230/460 | 1.5-1.8/0.9 | 1.75 | B | K748 | **4N087** | 162.00 | **102.80** | 13.0 |
| 1/2 | 3450 | 56C | CW/CCW | 208-230/460 | 2.0-2.0/1.0 | 1.60 | B | K216 | **3N818** | 166.00 | **106.20** | 15.0 |
| 1/2 | 3450 | 56J | CW/CCW | 208-230/460 | 2.0-2.0/1.0 | 1.60 | B | K217 | **4N062** | 184.00 | **117.15** | 15.0 |
| 1/2 | 1725 | 56J | CW/CCW | 208-230/460 | 2.1-2.2/1.1 | 1.25 | B | K553 | **4N085** | 247.00 | **157.25** | 18.0 |
| 3/4 | 3450 | 56C | CW/CCW | 208-230/460 | 2.6-2.6/1.3 | 1.50 | B | K218 | **3N819** | 199.00 | **126.95** | 17.0 |
| 3/4 | 3450 | 56J | CW/CCW | 208-230/460 | 2.6-2.6/1.3 | 1.50 | B | K219 | **4N063** | 201.00 | **127.55** | 17.0 |
| 3/4 | 1725 | 56J | CW/CCW | 208-230/460 | 2.8-2.8/1.4 | 1.25 | B | K555 | **4N086** | 291.00 | **185.00** | 19.0 |
| 1 | 3450 | 56C | CW/CCW | 208-230/460 | 3.3-3.2/1.6 | 1.40 | B | K220 | **3N820** | 225.00 | **143.10** | 20.0 |
| 1 | 3450 | 56J | CW/CCW | 208-230/460 | 3.3-3.2/1.6 | 1.40 | B | K221 | **4N064** | 232.00 | **147.25** | 20.0 |
| 1 | 1725 | 56J | CW/CCW | 208-230/460 | 3.4-3.2/1.6 | 1.15 | B | K750 | **4N089** | 301.00 | **192.00** | 21.0 |
| 1 1/2 | 3450 | 56C | CW/CCW | 208-230/460 | 5.0-4.8/2.4 | 1.30 | B | K222 | **3N821** | 250.00 | **159.50** | 25.0 |
| 1 1/2 | 3450 | 56J | CW/CCW | 208-230/460 | 5.0-4.8/2.4 | 1.30 | B | K223 | **4N065** | 292.00 | **185.50** | 26.0 |
| 1 1/2 | 1725 | 56J | CW/CCW | 208-230/460 | 5.8-5.6/2.8 | 1.15 | B | K751 | **4N090** | 332.00 | **211.50** | 28.0 |
| 2 | 3450 | 56C | CW/CCW | 208-230/460 | 6.6-6.0/3.0 | 1.20 | B | K224 | **3N822** | 303.00 | **193.25** | 30.0 |
| 2 | 3450 | 56J | CW/CCW | 208-230/460 | 6.6-6.0/3.0 | 1.20 | B | K225 | **4N066** | 347.00 | **220.75** | 30.0 |
| 3 | 3450 | 56C | CW/CCW | 208-230/460 | 8.9-8.2/4.1 | 1.15 | B | K226 | **3N823** | 329.00 | **209.25** | 36.0 |
| 3 | 3450 | 56J | CW/CCW | 208-230/460 | 8.9-8.2/4.1 | 1.15 | B | K227 | **4N067** | 411.00 | **261.25** | 37.0 |
| **WITH BASE** | | | | | | | | | | | | |
| 3/4 | 3450 | 56J | CW/CCW | 208-230/460 | 2.6-2.6/1.3 | 1.50 | B | K1483 | **5U264** | 205.00 | **138.30** | 17.0 |
| 1 1/2 | 3450 | 56J | CW/CCW | 208-230/460 | 4.8-4.8/2.4 | 1.30 | B | K1484 | **5U265** | 296.00 | **200.00** | 25.0 |

(*) Motors should be connected for CCW rotation facing shaft.

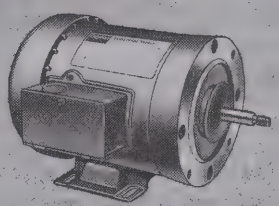
# 3-PHASE INDUSTRIAL PUMP MOTORS

## DAYTON BRAND, 3-PHASE, TEFC

- **Shaft slinger and gasketed conduit box protect against dirt and moisture**
- **56C frame steel keyed shaft; 56J frame stainless steel shaft 7/16"-20 UNF-2A RH threaded 11/16" from end**
- **Operable on 50 Hz**
- **All copper windings**

**Typical Uses:** Jet pumps, industrial/centrifugal pumps, and equipment requiring NEMA 56C or 56J mounting.
**Type:** 3-phase
**Bearings:** Double-shielded ball
**Mounting:** Face/base
**Enclosure:** TEFC
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton

Dayton®
E47479



No. 3N680

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NO BASE** | | | | | | | | | | | |
| **1/2** | 3450/2850 | 56C | CW/CCW | 208-220/440 | 2.2-2.3/1.2 | 1.0 | A | **3N471*** | $165.00 | **$123.10** | 20.0 |
| | 3450/2850 | 56J | CW/CCW | 208-220/440 | 2.2-2.3/1.2 | 1.0 | A | **3N723*** | 177.00 | **132.20** | 20.0 |
| **3/4** | 3450/2850 | 56C | CW/CCW | 208-220/440 | 2.8-2.9/1.5 | 1.0 | B | **3N472*** | 182.00 | **135.30** | 22.0 |
| | 3450/2850 | 56J | CCW | 208-220/440 | 2.8-2.9/1.5 | 1.0 | B | **3N724*** | 194.00 | **144.35** | 22.0 |
| **1** | 3450/2850 | 56C | CW/CCW | 208-220/440 | 3.4-3.4/1.7 | 1.0 | A | **3N237*** | 214.00 | **159.75** | 23.0 |
| | 3450/2850 | 56J | CCW | 208-220/440 | 3.4-3.4/1.7 | 1.0 | A | **3N725*** | 226.00 | **169.25** | 23.0 |
| **1 1/2** | 3450/2850 | 56C | CW/CCW | 208-220/440 | 4.8-4.6/2.3 | 1.0 | B | **3N473*** | 227.00 | **170.00** | 30.0 |
| | 3450/2850 | 56J | CCW | 208-220/440 | 4.8-4.6/2.3 | 1.0 | B | **3N726*** | 240.00 | **179.25** | 30.0 |
| **2** | 3450/2850 | 56C | CW/CCW | 208-220/440 | 6.2-6.2/3.1 | 1.0 | B | **3N238*** | 263.00 | **196.50** | 32.0 |
| | 3450/2850 | 56J | CCW | 208-220/440 | 6.2-6.2/3.1 | 1.0 | B | **3N727*** | 275.00 | **205.75** | 32.0 |
| **3** | 3450 | 56C | CW/CCW | 230/460 | 8.0/4.0 | 1.0 | B | **3N649†** | 333.00 | **248.00** | 37.0 |
| | 3450 | 56J | CCW | 230/460 | 8.0/4.0 | 1.0 | B | **3N728†** | 345.00 | **257.25** | 37.0 |
| **WITH BASE** | | | | | | | | | | | |
| **1/2** | 3450/2850 | 56J | CCW | 208-220/440 | 2.2-2.3/1.1 | 1.0 | A | **3N680*** | 182.00 | **135.30** | 21.0 |
| **3/4** | 3450/2850 | 56J | CCW | 208-220/440 | 2.6-2.5/1.3 | 1.0 | B | **3N234*** | 198.00 | **147.40** | 21.0 |
| **1** | 3450/2850 | 56J | CCW | 208-220/440 | 3.4-3.2/1.6 | 1.0 | A | **3N235*** | 231.00 | **172.00** | 23.0 |
| **1 1/2** | 3450/2850 | 56J | CCW | 208-220/440 | 4.8-4.6/2.3 | 1.0 | B | **3N236*** | 244.00 | **182.00** | 29.0 |
| **2** | 3450/2850 | 56J | CCW | 208-220/440 | 6.2-6.2/3.1 | 1.0 | B | **3N681*** | 279.00 | **208.50** | 33.0 |
| **3** | 3450 | 56J | CCW | 230/460 | 8.0/4.0 | 1.0 | B | **3N682†** | 349.00 | **260.25** | 41.0 |

(*) Operable on 50 Hz, 220/440V. (†) Operable on 50 Hz, 190/380V at 5/6 of 60 Hz HP and speed.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

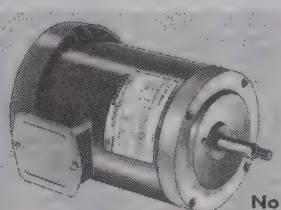
## GE BRAND, 3-PHASE, TEFC

- **56C frame steel keyed shaft; 56J frame stainless steel shaft 7/16"-20 UNF-2A RH threaded 11/16" from end**

**Typical Uses:** Industrial and commercial pumps, and centrifugal and hydraulic industrial compressors requiring NEMA 56C or 56J face mounting.

**Type:** 3-phase
**Bearings:** Double-shielded ball
**Mounting:** Face
**Enclosure:** TEFC
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** GE

E47088



No. 4N076

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Ins. Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NO BASE** | | | | | | | | | | | | |
| **1/3** | 3450 | 56C | CW/CCW | 208-230/460 | 1.5-1.8/.9 | 1.0 | B | K228 | **4N068** | $177.00 | **$112.55** | 16.0 |
| **1/2** | 3450 | 56C | CW/CCW | 208-230/460 | 2.0-2.0/1.0 | 1.0 | B | K229 | **4N069** | 191.00 | **121.70** | 19.0 |
| | 3450 | 56J | CW/CCW | 208-230/460 | 2.0-2.0/1.0 | 1.0 | B | K230 | **4N070*** | 208.00 | **132.05** | 17.0 |
| | 1725 | 56J | CW/CCW | 208-230/460 | 2.1-2.2/1.1 | 1.0 | B | K550 | **4N084*** | 250.00 | **159.50** | 20.0 |
| **3/4** | 3450 | 56C | CW/CCW | 208-230/460 | 2.6-2.6/1.3 | 1.0 | B | K231 | **4N071** | 210.00 | **133.25** | 19.0 |
| | 3450 | 56J | CW/CCW | 208-230/460 | 2.6-2.6/1.3 | 1.0 | B | K232 | **4N072*** | 228.00 | **144.85** | 20.0 |
| **1** | 3450 | 56C | CW/CCW | 208-230/460 | 3.2-3.0/1.5 | 1.0 | B | K233 | **4N073** | 250.00 | **159.50** | 24.0 |
| | 3450 | 56J | CW/CCW | 208-230/460 | 3.2-3.0/1.5 | 1.0 | B | K234 | **4N074*** | 262.00 | **167.25** | 25.0 |
| **1 1/2** | 3450 | 56C | CW/CCW | 208-230/460 | 5.0-4.8/2.4 | 1.0 | B | K235 | **4N075** | 273.00 | **173.75** | 26.0 |
| | 3450 | 56J | CW/CCW | 208-230/460 | 5.0-4.8/2.4 | 1.0 | B | K236 | **4N076*** | 282.00 | **179.50** | 26.0 |
| **2** | 3450 | 56C | CW/CCW | 230/460 | 5.2/2.6 | 1.0 | B | K237 | **4N077** | 311.00 | **198.50** | 36.0 |
| | 3450 | 56J | CW/CCW | 230/460 | 5.2/2.6 | 1.0 | B | K238 | **4N078*** | 319.00 | **203.75** | 36.0 |
| **3** | 3450 | 56C | CW/CCW | 230/460 | 8.0/4.0 | 1.0 | B | K239 | **4N079** | 357.00 | **227.00** | 48.0 |
| | 3450 | 56J | CW/CCW | 230/460 | 8.0/4.0 | 1.0 | B | K240 | **4N080*** | 387.00 | **246.75** | 49.0 |
| **WITH BASE** | | | | | | | | | | | | |
| **1** | 3450 | 56J | CW/CCW | 208-230/460 | 3.2-3.0/1.5 | 1.0 | B | K245 | **4N082*** | 267.00 | **170.50** | 25.0 |
| **1 1/2** | 3450 | 56J | CW/CCW | 208-230/460 | 5.0-4.8/2.4 | 1.0 | B | K246 | **4N083*** | 282.00 | **179.50** | 27.0 |

(*) Motors should be connected for CCW rotation facing shaft.

# JET PUMP MOTORS

- **NEMA service factors up to 1.85 provide reserve margin for intermittent overloading**
- **NEMA 56C frame carbon steel shaft with key**
- **NEMA 56J frame stainless steel shaft 7/16"-20 UNF-2A RH threaded 11/16" from end**
- **Locked shaft end ball bearing provides maximum thrust capacity**

**Typical Uses:** Jet pump water systems, centrifugal pumps, and other applications requiring NEMA 56C or 56J mounting face.

**Type:** Capacitor-start

**Mounting:** Horizontal or vertical, shaft down.

**Enclosure:** Open dripproof

**Thermal Protection:** Auto

**Ambient:** 40°C

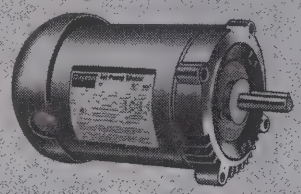
**Duty:** Continuous

**Finish:** Gray

**Brand:** Dayton

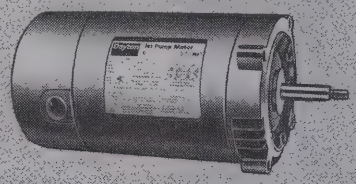
Dayton®

E47479



No. 5K955
56C Frame

Must match service factor and HP for proper replacement.



No. 3K979
56J Frame



Two-Compartment Design Features Rear Canopy Opening for Easy Access

| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NEMA 56C FRAME** | | | | | | | | | | | | |
| 1/3 | 3450 | 56C | CW/CCW | 115/230 | 6.3/3.2 | 1.85 | Ball | A | **5K955#** | $115.00 | **$93.85** | 16.0 |
| | 3450 | 56C | CW/CCW | 115/230 | 6.4/3.2 | 1.75 | Ball/Sleeve | B | **3K801†** | 107.00 | **87.50** | 15.0 |
| | 3450 | 56C | CW/CCW | 115/230* | 6.4/3.2 | 1.75 | Ball | B | **3K932†** | 115.00 | **93.85** | 16.0 |
| 1/2 | 3450 | 56C | CW/CCW | 115/230 | 8.0/4.0 | 1.65 | Ball | A | **5K657#** | 131.00 | **102.40** | 17.0 |
| | 3450 | 56C | CW/CCW | 115/230 | 8.6/4.3 | 1.6 | Ball/Sleeve | B | **3K803†** | 122.00 | **95.95** | 17.0 |
| | 3450 | 56C | CW/CCW | 115/230* | 8.6/4.3 | 1.65 | Ball | B | **3K954†** | 131.00 | **102.35** | 18.0 |
| 3/4 | 3450 | 56C | CW/CCW | 115/230 | 10.5/5.2 | 1.5 | Ball | A | **5K658#** | 153.00 | **120.60** | 21.0 |
| | 3450 | 56C | CW/CCW | 115/230 | 11.0/5.5 | 1.5 | Ball/Sleeve | B | **3K805†** | 145.00 | **114.50** | 19.0 |
| | 3450 | 56C | CW/CCW | 115/230* | 11.0/5.5 | 1.5 | Ball | B | **3K964†** | 153.00 | **120.60** | 21.0 |
| 1 | 3450 | 56C | CW/CCW | 115/230 | 12.0/6.0 | 1.4 | Ball | A | **5K659#** | 170.00 | **134.65** | 24.0 |
| | 3450 | 56C | CW/CCW | 115/230 | 13.4/6.7 | 1.4 | Ball/Sleeve | B | **3K807†** | 162.00 | **128.30** | 22.0 |
| | 3450 | 56C | CW/CCW | 115/230 | 13.4/6.7 | 1.4 | Ball | B | **3K976†** | 170.00 | **134.65** | 23.0 |
| 1 1/2 | 3450 | 56C | CW/CCW | 115/230 | 17.0/8.5 | 1.3 | Ball/Sleeve | B | **3K809†** | 224.00 | **163.50** | 26.0 |
| | 3450 | 56C | CW/CCW | 115/230 | 17.0/8.5 | 1.3 | Ball | B | **3K978†** | 233.00 | **169.75** | 27.0 |
| **NEMA 56J FRAME** | | | | | | | | | | | | |
| 1/3 | 3450 | 56J | CCW | 115/230 | 6.0/3.0 | 1.85 | Ball | A | **5K956#** | 118.00 | **95.85** | 18.0 |
| | 3450 | 56J | CCW | 115/230 | 6.4/3.2 | 1.75 | Ball/Sleeve | B | **3K802†** | 110.00 | **89.35** | 15.0 |
| | 3450 | 56J | CCW | 115/230* | 6.4/3.2 | 1.75 | Ball | B | **3K979†** | 118.00 | **95.85** | 16.0 |
| 1/2 | 3450 | 56J | CCW | 115/230 | 8.0/4.0 | 1.65 | Ball | A | **5K660#** | 133.00 | **104.35** | 18.0 |
| | 3450 | 56J | CCW | 115/230 | 8.6/4.3 | 1.6 | Ball/Sleeve | B | **3K804†** | 124.00 | **98.10** | 16.0 |
| | 3450 | 56J | CCW | 115/230* | 8.6/4.3 | 1.65 | Ball | B | **3K980†** | 133.00 | **104.35** | 18.0 |
| 3/4 | 3450 | 56J | CCW | 115/230 | 10.5/5.2 | 1.5 | Ball/Sleeve | B | **6K706#** | 148.00 | **116.30** | 21.0 |
| | 3450 | 56J | CCW | 115/230 | 10.5/5.2 | 1.5 | Ball | A | **5K661#** | 156.00 | **122.75** | 21.0 |
| | 3450 | 56J | CCW | 115/230 | 11.0/5.5 | 1.5 | Ball/Sleeve | B | **3K806†** | 148.00 | **116.30** | 19.0 |
| | 3450 | 56J | CCW | 115/230* | 11.0/5.5 | 1.5 | Ball | B | **3K983†** | 156.00 | **122.75** | 21.0 |
| 1 | 3450 | 56J | CCW | 115/230 | 12.0/6.0 | 1.4 | Ball | A | **5K662#** | 173.00 | **136.80** | 24.0 |
| | 3450 | 56J | CCW | 115/230 | 13.4/6.7 | 1.4 | Ball/Sleeve | B | **3K808†** | 165.00 | **130.45** | 22.0 |
| | 3450 | 56J | CCW | 115/230 | 13.4/6.7 | 1.4 | Ball | B | **3K985†** | 173.00 | **136.80** | 23.0 |
| 1 1/2 | 3450 | 56J | CCW | 115/230 | 17.0/8.5 | 1.3 | Ball/Sleeve | B | **3K810†** | 235.00 | **171.00** | 26.0 |
| | 3450 | 56J | CCW | 115/230 | 17.0/8.5 | 1.3 | Ball | B | **3K986†** | 243.00 | **185.75** | 27.0 |

(*) Operable at 50 Hz at rated HP and service factor, 110/220V, 2850 RPM. (#) Rainshield included for vertical mounting. (†) Two-compartment design.

**CAUTION: Refer to page 6 proper thermal protection and other motor selection information.**

# JET PUMP MOTORS

- **Two-compartment design protects components**
- **Enlarged/easy terminal lead**
- **56C frames have 416 stainless steel shaft**
- **56J frame have stainless steel shaft 7/16"-20 UNF-2A RH threaded 11/16" from end; square flange are 1/2"-20 UNF-2A RH threaded 1/2" from end**
- **Locked double-sealed ball bearings**
- **Voltage change plug for mistake-free voltage connection**
- **1/2 and 2 HP motors are capacitor-start, capacitor-run**

**Typical Uses:** Jet pump water systems, centrifugal pumps, and other applications requiring NEMA 56C or 56J mounting faces.

**Type:** Capacitor-start and split-phase

**Bearings:** Ball

**Mounting:** Horizontal or vertical, shaft down. Dripproof when mounted horizontally only. Rainshield needed for vertical dripproof applications (not included).

**Enclosure:** Open dripproof

**Insulation Class:** B

**Thermal Protection:** Auto

**Ambient:** 50°C (except Nos. 2K403 and 2K404 are 40°C)

**Duty:** Continuous

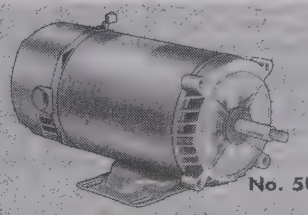
**Rotation:** CCW facing shaft

**Finish:** Black

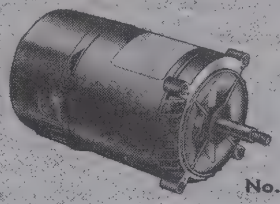
**Brand:** GE

**Replacement Parts Available**
**1-800-323-0620**

E47088

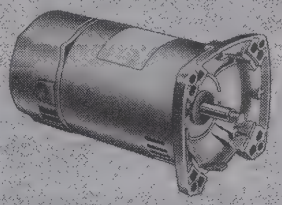


No. 5U170

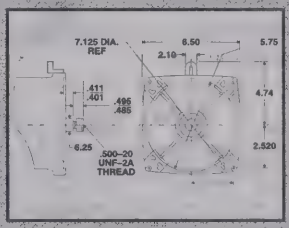


No. 2K410

**Must match service factor and HP for proper replacement.**



No. 2K403




| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Efficiency | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NEMA 56C FRAME** | | | | | | | | | | | |
| 1/3 | 3450 | 56C | 115 | 6.2 | 1.75 | Standard | H439 | **2K409*** | $124.00 | **$81.00** | 13.0 |
| 1/3 | 3450 | 56C | 115/230 | 6.2/3.1 | 1.75 | Standard | C1081 | **2K391** | 137.00 | **90.85** | 13.0 |
| 1/2 | 3450 | 56C | 115/230 | 8.2/4.1 | 1.60 | Standard | C1082 | **2K392** | 143.00 | **93.45** | 15.0 |
| 3/4 | 3450 | 56C | 115/230 | 12.2/6.1 | 1.50 | Standard | C1083 | **2K393** | 160.00 | **106.10** | 18.0 |
| 1 | 3450 | 56C | 115/230 | 14.2/7.1 | 1.40 | Standard | C1084 | **2K394** | 183.00 | **119.55** | 21.0 |
| 1 1/2 | 3450 | 56C | 115/230 | 15.8/7.9 | 1.30 | High | C1085 | **2K395†** | 243.00 | **161.75** | 27.0 |
| 2 | 3450 | 56C | 115/230 | 19.2/9.6 | 1.20 | High | C1086 | **2K396†** | 296.00 | **193.25** | 29.0 |
| **NEMA 56J FRAME** | | | | | | | | | | | |
| 1/3 | 3450 | 56J | 115 | 6.2 | 1.75 | Standard | H440 | **2K410*** | 127.00 | **83.90** | 13.0 |
| 1/3 | 3450 | 56J | 115/230 | 6.2/3.1 | 1.75 | Standard | C1087 | **2K397** | 141.00 | **93.40** | 13.0 |
| 1/2 | 3450 | 56J | 115/230 | 8.2/4.1 | 1.60 | Standard | C1088 | **2K398** | 147.00 | **97.25** | 15.0 |
| 3/4 | 3450 | 56J | 115/230 | 12.2/6.1 | 1.50 | Standard | C1089 | **2K399** | 164.00 | **108.65** | 18.0 |
| 1 | 3450 | 56J | 115/230 | 14.2/7.1 | 1.40 | Standard | C1090 | **2K400** | 187.00 | **122.05** | 21.0 |
| 1 1/2 | 3450 | 56J | 115/230 | 15.8/7.9 | 1.30 | High | C1091 | **2K401†** | 247.00 | **161.75** | 26.0 |
| 2 | 3450 | 56J | 115/230 | 19.2/9.6 | 1.20 | High | C1092 | **2K402†** | 300.00 | **196.00** | 29.0 |
| **NEMA 56J FRAME WITH BASE** | | | | | | | | | | | |
| 1/3 | 3450 | 56J | 115 | 6.2 | 1.75 | Standard | H685 | **5U259*** | 131.00 | **84.10** | 13.0 |
| 1/2 | 3450 | 56J | 115/230 | 8.2/4.1 | 1.60 | Standard | C1462 | **5U170** | 151.00 | **98.40** | 15.0 |
| 3/4 | 3450 | 56J | 115/230 | 12.2/6.1 | 1.50 | Standard | C1463 | **5U171** | 169.00 | **110.25** | 17.0 |
| 1 | 3450 | 56J | 115/230 | 14.2/7.1 | 1.40 | Standard | C1464 | **5U172** | 191.00 | **126.40** | 19.0 |
| 1 1/2 | 3450 | 56J | 115/230 | 15.8/7.9 | 1.30 | High | C1465 | **5U173†** | 251.00 | **166.75** | 21.0 |
| 2 | 3450 | 56J | 115/230 | 19.2/9.6 | 1.20 | High | C1466 | **5U174†** | 304.00 | **198.75** | 23.0 |
| **SQUARE FLANGE** | | | | | | | | | | | |
| 1/3 | 3450 | 56Z | 115/230 | 6.4/3.2 | 1.95 | Standard | C1168 | **2K403** | 141.00 | **93.40** | 16.0 |
| 1/2 | 3450 | 56Z | 115/230 | 10.8/5.4 | 1.90 | Standard | C1169 | **2K404** | 142.00 | **94.00** | 17.0 |
| 3/4 | 3450 | 56Z | 115/230 | 12.6/6.3 | 1.65 | Standard | C1170 | **2K405** | 148.00 | **96.60** | 22.0 |
| 1 | 3450 | 56Z | 115/230 | 16.4/8.2 | 1.65 | Standard | C1171 | **2K406** | 169.00 | **110.25** | 27.0 |
| 1 1/2 | 3450 | 56Z | 230 | 7.6 | 1.50 | High | C1172 | **2K407†** | 193.00 | **125.85** | 30.0 |
| 2 | 3450 | 56Z | 230 | 8.7 | 1.30 | High | C1173 | **2K408†** | 256.00 | **167.25** | 29.0 |

(*) Split-phase. (†) Capacitor-start, capacitor-run.

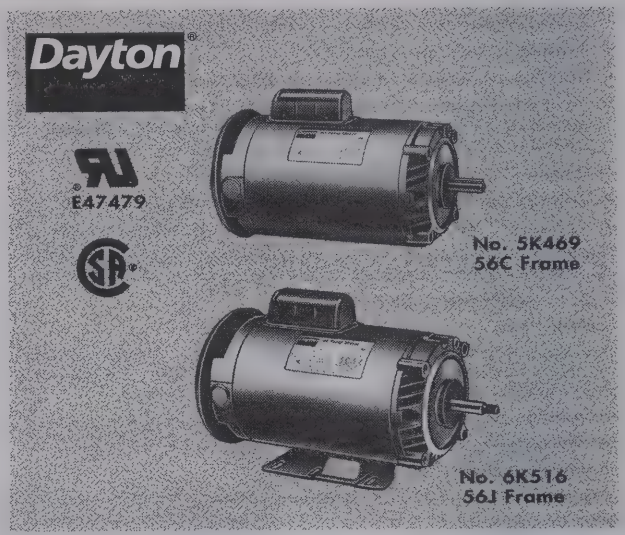
**CAUTION: Refer to page 6 for proper thermal protection and other motor selection information.**

# JET PUMP MOTORS

- **NEMA service factors up to 1.85 provide reserve margin for intermittent overloading**
- **NEMA 56C frame carbon steel shaft with key**
- **56J frame with 416 stainless steel shaft 7/16"-20 UNF-2A RH threaded 11/16" from end**
- **Locked shaft end bearings provide maximum thrust capability**
- **Rainshield included for vertical mounting**
- **All copper windings**

**Typical Uses:** Jet pump water systems, centrifugal pumps and other applications that require a NEMA 56J mounting face.
**Type:** Split-phase, capacitor-start, and 3-phase
**Mounting:** Horizontal or vertical, shaft down
**Enclosure:** Open dripproof
**Thermal Protection:** Auto (except 3-phase motors are none)
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton

**Replacement Parts Available**
**1-800-323-0620**




| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Bearings | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPLIT-PHASE WITH BASE** | | | | | | | | | | | | |
| 1/3 | 3450 | 56J | CCW | 115 | 7.0 | 1.75 | Ball | B | **6K578** | $135.00 | **$93.10** | 17.0 |
| **CAPACITOR-START WITH NO BASE** | | | | | | | | | | | | |
| 1/3 | 3450 | 56C | CW/CCW | 115/230 | 6.4/3.2 | 1.85 | Ball/Sleeve | A | **6K571**# | 107.00 | **87.50** | 16.0 |
| 1/3 | 3450 | 56J | CCW | 115/230 | 6.5/3.3 | 1.85 | Ball/Sleeve | B | **6K695**# | 110.00 | **89.35** | 16.0 |
| 1/2 | 3450 | 56C | CW/CCW | 115/230 | 8.0/4.0 | 1.6 | Ball/Sleeve | B | **6K575**# | 122.00 | **95.95** | 20.0 |
| 1/2 | 3450 | 56C | CW/CCW | 115/230 | 8.0/4.0 | 1.6 | Ball | B | **6K573**# | 131.00 | **102.35** | 20.0 |
| 1/2 | 3450 | 56J | CCW | 115/230 | 8.0/4.0 | 1.6 | Ball/Sleeve | B | **6K704**# | 124.00 | **98.10** | 20.0 |
| 3/4 | 3450 | 56C | CW/CCW | 115/230 | 10.5/5.2 | 1.5 | Ball/Sleeve | B | **6K635**# | 145.00 | **110.20** | 21.0 |
| 1 | 3450 | 56C | CW/CCW | 115/230 | 12.0/6.0 | 1.4 | Ball/Sleeve | B | **6K690**# | 162.00 | **128.35** | 24.0 |
| 1 | 3450 | 56J | CCW | 115/230 | 12.0/6.0 | 1.4 | Ball/Sleeve | B | **6K709**# | 165.00 | **130.45** | 23.0 |
| 1 1/2 | 3450 | 56C | CW/CCW | 115/230 | 15.8/7.9 | 1.3 | Ball | B | **5K469** | 233.00 | **169.75** | 28.0 |
| 1 1/2 | 3450 | 56J | CCW | 115/230 | 15.8/7.9 | 1.3 | Ball | B | **5K475** | 235.00 | **171.00** | 28.0 |
| 2 | 3450 | 56C | CW/CCW | 115/230 | 21.0/10.5 | 1.3 | Ball | B | **5K470** | 309.00 | **225.25** | 34.0 |
| 2 | 3450 | 56J | CCW | 115/230 | 21.0/10.5 | 1.3 | Ball | B | **5K476** | 321.00 | **210.75** | 34.0 |
| **CAPACITOR-START WITH BASE** | | | | | | | | | | | | |
| 1/2 | 3450 | 56J | CCW | 115/230 | 9.0/4.5 | 1.65 | Ball | B | **6K580**# | 155.00 | **107.25** | 20.0 |
| 3/4 | 3450 | 56J | CCW | 115/230 | 10.5/5.2 | 1.5 | Ball | B | **6K581**# | 182.00 | **125.60** | 21.0 |
| 1 | 3450 | 56J | CCW | 115/230 | 12.0/6.0 | 1.4 | Ball | B | **6K582**# | 202.00 | **139.65** | 23.0 |
| 1 1/2 | 3450 | 56J | CCW | 115/230 | 15.8/7.9 | 1.3 | Ball | B | **6K516** | 271.00 | **187.75** | 29.0 |
| 2 | 3450 | 56J | CCW | 115/230 | 21.0/10.5 | 1.3 | Ball | B | **4K122** | 332.00 | **229.50** | 34.0 |
| **3-PHASE WITH BASE** | | | | | | | | | | | | |
| 3/4 | 3450/2850 | 56J | CW/CCW | 208-220/440 | 2.6-2.5/1.3 | 1.5 | Ball | A | **3N088*** | 192.00 | **132.60** | 22.0 |
| 1 1/2 | 3450/2850 | 56J | CW/CCW | 208-220/440 | 4.8-4.6/2.3 | 1.3 | Ball | A | **3N090*** | 296.00 | **205.00** | 30.0 |

(*) Operable on 50 Hz, 220/440V at 5/6 of 60 Hz HP and speed. (#) Internal capacitor.

**CAUTION: Refer to page 6 forproper thermal protection and other motor selection information.**

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

# SQUARE FLANGE SWIMMING POOL PUMP MOTORS

- All copper windings
- Unique reverse air flow design minimizes corrosive elements on the shaft end
- Easy access two-compartment design
- Convenient 12 and 3 o'clock conduit fittings
- Rust-resistant stainless steel right hand threaded shaft; special sealer on rotor inhibits rust in off-season
- Large body diameter to improve heat dissipation
- Dichromate-plated bearing lock tabs allow easier bearing removal, eliminate need for plate alignment and reduce corrosion
- 1081 Approvable

**Typical Uses:** In-ground swimming pool pumps. Square flange is designed for direct replacement of many popular pumps.

**Type:** Capacitor-start

**Bearings:** Ball

**Mounting:** Flange

**Enclosure:** Open dripproof

**Thermal Protection:** Auto

**Insulation Class:** B

**Ambient:** 40°C or 50°C

**Duty:** Continuous

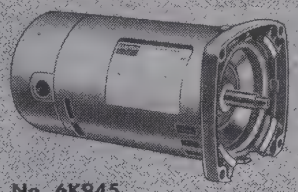
**Rotation:** CCW facing shaft

**Finish:** Black

**Brand:** Dayton

Dayton®

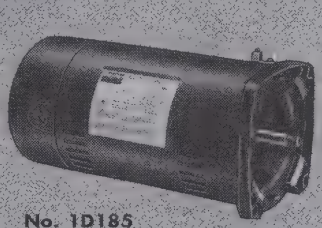
E47088



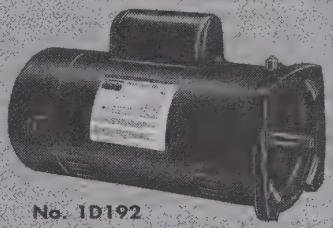
No. 6K945



Rear Canopy Access



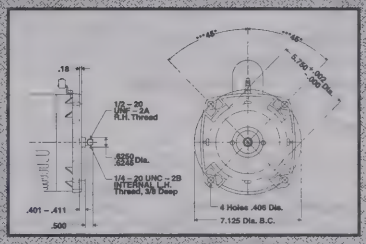
No. 1D185



No. 1D192

**Must match service factor and HP for proper replacement.**

Replacement Parts Available
1-800-323-0620




| HP at: 3450 RPM | HP at: 1725 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Efficiency | Ambient | Body Diameter (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | — | 3450 | 48YZ | 115/230 | 6.4/3.2 | 1.95 | High | 40°C | 5⅝ | **6K945** | $152.00 | **$105.10** | 16.0 |
| 1/2 | — | 3450 | 48YZ | 115/230 | 8.6/4.3 | 1.9 | High | 40°C | 5⅝ | **6K946** | 163.00 | **110.65** | 19.0 |
| 3/4 | 1/10 | 3450/1725 | 56YZ | 115 | 9.8/4.1 | 1.65 | Standard | 50°C | 6⅜ | **1D186** | 284.00 | **186.00** | 28.0 |
| | 1/10 | 3450/1725 | 56YZ | 230 | 5.5/2.0 | 1.65 | Standard | 50°C | 6⅜ | **1D187** | 277.00 | **182.00** | 32.0 |
| | — | 3450 | 48YZ | 115/230 | 11.2/5.6 | 1.65 | High | 40°C | 5⅝ | **6K398** | 188.00 | **126.70** | 21.0 |
| | — | 3450 | 56YZ | 115/230 | 10.6/5.3 | 1.27 | High | 50°C | 6⅜ | **1D188** | 161.00 | **107.05** | 26.0 |
| 1 | 1/8 | 3450/1725 | 56YZ | 230 | 6.6/2.5 | 1.65 | Standard | 50°C | 6⅜ | **1D184** | 307.00 | **204.50** | 37.0 |
| | — | 3450 | 56YZ | 115/230 | 12.8/6.4 | 1.65 | High | 40°C | 5⅝ | **6K421** | 219.00 | **145.60** | 28.0 |
| | — | 3450 | 56YZ | 115/230 | 12.5/6.3 | 1.25 | High | 50°C | 6⅜ | **1D189** | 185.00 | **122.70** | 28.0 |
| 1½ | 1/5 | 3450/1725 | 56YZ | 230 | 6.8/3.3 | 1.5 | Standard | 50°C | 6⅜ | **1D182*** | 341.00 | **223.50** | 35.0 |
| | — | 3450 | 56YZ | 115/230 | 17.0/8.5 | 1.5 | High | 40°C | 6⅜ | **6K494** | 302.00 | **209.00** | 34.0 |
| | — | 3450 | 56YZ | 115/230 | 16.5/8.3 | 1.1 | High | 50°C | 6⅜ | **1D185** | 212.00 | **142.00** | 28.0 |
| 2 | 1/4 | 3450/1725 | 56YZ | 230 | 8.0/3.1 | 1.3 | Standard | 50°C | 6⅜ | **1D183*** | 390.00 | **255.50** | 40.0 |
| | — | 3450 | 56YZ | 115/230 | 21.0/10.5 | 1.3 | High | 40°C | 6⅜ | **6K495** | 357.00 | **247.25** | 35.0 |
| | — | 3450 | 56YZ | 115/230 | 18.7/8.8 | 1.1 | High | 50°C | 6⅜ | **1D191*** | 259.00 | **170.00** | 36.0 |
| 2½ | — | 3450 | 56YZ | 230 | 10.0 | 1.04 | High | 50°C | 6⅜ | **1D192*** | 321.00 | **210.75** | 39.0 |
| 3 | — | 3450 | 56YZ | 208-230 | 12.9-11.7 | 1.15 | High | 50°C | 6⅜ | **1D190*** | 373.00 | **244.75** | 40.0 |

(*) Capacitor-start, capacitor-run.

**CAUTION:** For proper thermal protection and other motor selection information refer to page 6.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

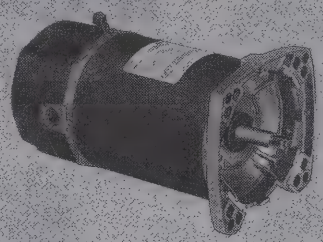
# SQUARE FLANGE SWIMMING POOL PUMP MOTORS

- **Two-compartment design protects components**
- **Enlarged terminal lead routing area**
- **NEMA 56YZ frame with special 303 stainless threaded shaft 1/2"-20 UNF-2A RH threaded 1/2" from end**
- **Encapsulated voltage change plug design for mistake-free voltage connection**
- **Locked double-sealed ball bearings**
- **1081 approvable**

**Typical Uses:** Swimming pool pump applications only. Square flange NEMA 56YZ frame mounting with 48 frame motor diameter allows motors to be used as direct replacement on selected pumps.

**Type:** Capacitor-start or PSC
**Bearings:** Ball
**Mounting:** Flange, horizontal or vertical shaft down
**Enclosure:** Open dripproof
**Thermal Protection:** Auto
**Insulation Class:** B
**NEMA Frame:** 56YZ on capacitor start; 56Y on PSC
**Ambient:** 50°C
**Duty:** Continuous
**Rotation:** CCW facing shaft
**Finish:** Black
**Brand:** GE

E47088

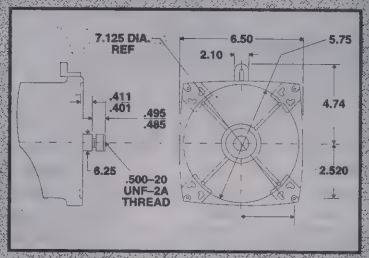


No. 5U124



Rear Canopy Access

**Must match service factor and HP for proper replacement.**




| HP at: 3450 RPM | HP at: 1725 RPM | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Efficiency | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CAPACITOR START, NEMA 56YZ** | | | | | | | | | | | |
| 1/3 | — | 3450 | 115/230 | 5.7/3.8 | 1.95 | Standard | C1484 | **3VF59** | $166.00 | **$105.60** | 15.0 |
| 1/2 | — | 3450 | 115/230 | 6.0/3.0 | 1.90 | High | C1446 | **5U158** * | 177.00 | **122.50** | 27.0 |
| | — | 3450 | 115/230 | 9.8/4.9 | 1.90 | Standard | C1304 | **2K442** | 158.00 | **118.40** | 18.0 |
| | — | 3450 | 115/230 | 7.6/3.8 | 1.30 | Standard | C1243 | **3K030** | 152.00 | **105.35** | 19.0 |
| 3/4 | 1/10 | 3450/1725 | 115 | 9.0/2.5 | 1.65 | High | C1450 | **5U162** * | 302.00 | **209.00** | 31.0 |
| | 1/10 | 3450/1725 | 230 | 5.6/1.3 | 1.65 | Standard | C1310 | **5U137** | 295.00 | **205.25** | 31.0 |
| | — | 3450 | 115/230 | 8.4/4.2 | 1.65 | High | C1447 | **5U159** * | 203.00 | **140.20** | 31.0 |
| | — | 3450 | 115/230 | 10.4/5.2 | 1.65 | Standard | C1305 | **2K443** | 181.00 | **135.25** | 24.0 |
| | — | 3450 | 115/230 | 10.4/5.2 | 1.27 | Standard | C1244 | **5U124** | 158.00 | **109.15** | 25.0 |
| 1 | 1/8 | 3450/1725 | 230 | 7.0/1.6 | 1.65 | Standard | C1311 | **5U138** | 301.00 | **208.50** | 31.0 |
| | — | 3450 | 115/230 | 10.2/5.1 | 1.65 | High | C1448 | **5U160** * | 233.00 | **161.50** | 35.0 |
| | — | 3450 | 115/230 | 16.2/8.1 | 1.65 | Standard | C1306 | **2K444** | 208.00 | **155.75** | 29.0 |
| | — | 3450 | 115/230 | 12.2/6.1 | 1.25 | Standard | C1245 | **3K032** | 181.00 | **124.15** | 24.0 |
| 1 1/2 | 1/5 | 3450/1725 | 230 | 7.0/2.2 | 1.50 | High | C1312 | **5U139** * | 363.00 | **251.75** | 35.0 |
| | — | 3450 | 115/230 | 14.3/7.1 | 1.50 | High | C1307 | **5U135** * | 276.00 | **206.50** | 40.0 |
| | — | 3450 | 115/230 | 17.5/8.8 | 1.10 | Standard | C1246 | **5U125** | 208.00 | **144.05** | 31.0 |
| 2 | 1/4 | 3450/1725 | 230 | 8.7/2.9 | 1.30 | High | C1313 | **5U140** * | 416.00 | **279.50** | 40.0 |
| | — | 3450 | 230 | 8.8 | 1.30 | High | C1308 | **5U136** * | 343.00 | **243.75** | 40.0 |
| | — | 3450 | 230 | 9.4 | 1.10 | High | C1247 | **5U126** * | 276.00 | **185.50** | 40.0 |
| 2 1/2 | — | 3450 | 230 | 10.8 | 1.04 | High | C1284 | **5U128** * | 343.00 | **237.50** | 40.0 |
| 3 | — | 3450 | 230 | 13.0 | 1.15 | High | C1449 | **5U161** * | 398.00 | **276.50** | 49.0 |
| | — | 3450 | 230 | 13.0 | 1.0 | High | C1445 | **5U157** * | 398.00 | **276.50** | 49.0 |
| **PSC, NEMA 56Y** | | | | | | | | | | | |
| 1/2 | — | 3450 | 115/230 | 8.4/4.2 | 1.95 | Standard | P711 | **3VG57** | 155.00 | **99.20** | 19.0 |
| 3/4 | — | 3450 | 115/230 | 9.6/4.8 | 1.65 | Standard | P712 | **3VG58** | 178.00 | **113.80** | 21.0 |
| 1 | — | 3450 | 115/230 | 12.0/6.0 | 1.65 | Standard | P713 | **3VG59** | 205.00 | **130.95** | 23.0 |
| 1 1/2 | — | 3450 | 115/230 | 15.2/7.6 | 1.5 | Standard | P714 | **3VG60** | 272.00 | **174.00** | 31.0 |
| 2 | — | 3450 | 230 | 9.1 | 1.3 | Standard | P715 | **3VG61** | 338.00 | **216.00** | 36.0 |

(↝) Denotes energy efficient product. (*) Capacitor-start, capacitor-run.

**CAUTION: Refer to page 6 for proper thermal protection and other motor selection information.**

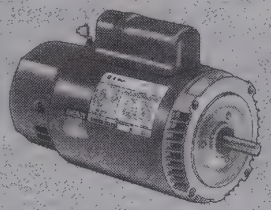
# SWIMMING POOL PUMP MOTORS

- **Two-compartment design protects components**
- **Encapsulated voltage change plug design for mistake-free voltage connection**
- **56C frame 303 stainless steel shaft; 56J frame 303 stainless steel shaft 7/16"-20 UNF-2A RH threaded 11/16" from end**
- **Enlarged/easy terminal lead routing**
- **Locked double-sealed ball bearings**
- **Easy access to shaft to hold impeller**
- **1081 approvable**

**Typical Uses:** In-ground and above ground swimming pool and hot tub pumps. Also used on jet and centrifugal pumps and similar applications requiring a NEMA 56C or 56J face mounting.

**Type:** Capacitor-start or PSC
**Bearings:** Ball
**Mounting:** Face, horizontal or vertical, shaft down
**Enclosure:** Open drip-proof
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 50°C
**Duty:** Continuous
**Rotation:** CCW facing shaft
**Finish:** Black
**Brand:** GE

E47088



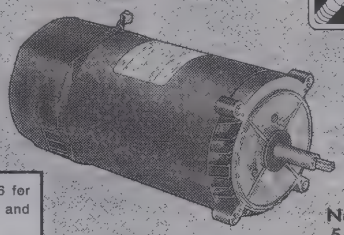
No. 5U117
56C Frame



Rear Canopy Opens for Easy Access

Replacement Parts Available
1-800-323-0620

Must match service factor and HP for proper replacement



No. 5U119
56J Frame

**CAUTION:** Refer to page 6 for proper thermal protection and other selection information.

| HP at: 3450 RPM | HP at: 1750 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Efficiency | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NEMA 56C FRAME** | | | | | | | | | | | | |
| 1/2 | 1/16 | 3450/1725 | 56C | 115 | 7.4/2.4 | 1.65 | Standard | C1103 | **2K422** | $272.00 | **$198.25** | 21.0 |
| | — | 3450 | 56C | 115/230 | 7.4/2.7 | 1.60 | Standard | C1093 | **2K411** | 152.00 | **119.85** | 18.0 |
| | — | 3450 | 56C | 115/230 | 5.9/3.0 | 1.90 | Standard | C1485 | **3VF60** | 185.00 | **117.95** | 19.0 |
| 3/4 | 1/10 | 3450/1725 | 56C | 115 | 10.0/3.4 | 1.50 | Standard | C1104 | **2K423** | 278.00 | **203.25** | 20.0 |
| | 1/10 | 3450/1725 | 56C | 230 | 4.7/1.7 | 1.50 | Standard | C1105 | **2K424** | 280.00 | **204.50** | 20.0 |
| | — | 3450 | 56C | 115/230 | 7.6/3.8 | 1.65 | High | C1436 | **5U151*** | 189.00 | **130.75** | 19.0 |
| | — | 3450 | 56C | 115/230 | 9.8/4.9 | 1.50 | Standard | C1094 | **2K412** | 172.00 | **134.75** | 20.0 |
| 1 | 1/8 | 3450/1725 | 56C | 230 | 6.0/1.8 | 1.40 | Standard | C1106 | **2K425** | 286.00 | **208.50** | 28.0 |
| | — | 3450 | 56C | 115/230 | 10.2/5.1 | 1.65 | Standard | C1095 | **5U116*** | 196.00 | **146.45** | 35.0 |
| | — | 3450 | 56C | 115/230 | 10.2/5.1 | 1.65 | High | C1487 | **3VF62** | 215.00 | **138.55** | 35.0 |
| 1 1/2 | 1/5 | 3450/1725 | 56C | 230 | 7.0/2.2 | 1.50 | High | C1107 | **5U122*** | 335.00 | **232.25** | 35.0 |
| | — | 3450 | 56C | 115/230 | 14.8/7.4 | 1.50 | High | C1096 | **5U117*** | 261.00 | **195.50** | 40.0 |
| 2 | 1/4 | 3450/1725 | 56C | 230 | 8.7/2.9 | 1.30 | High | C1442 | **5U155*** | 471.00 | **316.25** | 40.0 |
| | — | 3450 | 56C | 230 | 8.8 | 1.30 | High | C1097 | **5U118*** | 319.00 | **226.25** | 40.0 |
| 3 | — | 3450 | 56C | 230 | 13.0 | 1.15 | High | C1439 | **5U153*** | 388.00 | **269.25** | 49.0 |
| **NEMA 56J FRAME** | | | | | | | | | | | | |
| 1/2 | 1/16 | 3450/1725 | 56J | 115 | 7.4/2.4 | 1.65 | Standard | C1108 | **2K427** | 277.00 | **201.75** | 21.0 |
| | — | 3450 | 56J | 115/230 | 7.4/2.7 | 1.60 | Standard | C1098 | **2K417** | 157.00 | **123.40** | 18.0 |
| | — | 3450 | 56J | 115/230 | 5.9/3.0 | 1.90 | High | C1486 | **3VF61** | 191.00 | **121.70** | 19.0 |
| 3/4 | 1/10 | 3450/1725 | 56J | 115 | 10.0/3.4 | 1.50 | Standard | C1109 | **2K428** | 283.00 | **205.75** | 24.0 |
| | 1/10 | 3450/1725 | 56J | 230 | 4.7/1.7 | 1.50 | Standard | C1110 | **2K429** | 285.00 | **207.75** | 24.0 |
| | — | 3450 | 56J | 115/230 | 7.5/3.8 | 1.65 | High | C1437 | **5U152*** | 194.00 | **134.55** | 19.0 |
| | — | 3450 | 56J | 115/230 | 9.9/4.9 | 1.50 | Standard | C1099 | **2K418** | 177.00 | **139.00** | 20.0 |
| | — | 3450 | 56J | 115/230 | 9.8/4.9 | 1.00 | Standard | C1321 | **5U144** | 157.00 | **108.60** | 15.0 |
| 1 | 1/8 | 3450/1725 | 56J | 230 | 6.0/1.8 | 1.40 | Standard | C1111 | **2K430** | 291.00 | **211.50** | 28.0 |
| | — | 3450 | 56J | 115/230 | 10.6/5.3 | 1.65 | Standard | C1100 | **5U119*** | 201.00 | **151.25** | 35.0 |
| | — | 3450 | 56J | 115/230 | 12.7/6.3 | 1.00 | Standard | C1318 | **5U141** | 177.00 | **122.55** | 19.0 |
| | — | 3450 | 56J | 115/230 | 10.2/5.1 | 1.65 | High | C1488 | **3VF63** | 220.00 | **141.70** | 35.0 |
| 1 1/2 | 1/5 | 3450/1725 | 56J | 230 | 7.0/2.2 | 1.50 | Standard | C1112 | **5U123*** | 340.00 | **236.00** | 35.0 |
| | — | 3450 | 56J | 115/230 | 14.8/7.4 | 1.50 | High | C1101 | **5U120*** | 266.00 | **199.00** | 40.0 |
| | — | 3450 | 56J | 115/230 | 15.8/7.9 | 1.00 | Standard | C1319 | **5U142*** | 202.00 | **139.65** | 21.0 |
| 2 | — | 3450 | 56J | 230 | 8.8 | 1.30 | High | C1102 | **5U121*** | 325.00 | **230.75** | 40.0 |
| | — | 3450 | 56J | 115/230 | 19.2/9.6 | 1.00 | Standard | C1320 | **5U143*** | 267.00 | **179.50** | 23.0 |
| 2 | 1/4 | 3450/1725 | 56J | 230 | 8.7/2.9 | 1.30 | High | C1443 | **3UV17** | 519.00 | **320.75** | 40.0 |
| 3 | — | 3450 | 56J | 230 | 13.0 | 1.15 | High | C1440 | **5U154*** | 393.00 | **272.50** | 49.0 |

(*) Capacitor-start, capacitor-run.

CONTINUED ON NEXT PAGE

# SWIMMING POOL PUMP MOTORS

## GE SWIMMING POOL PUMP MOTORS (Cont.)

GE SWIMMING POOL PUMP MOTORS (Cont.)

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Efficiency | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **PSC NEMA 56C** | | | | | | | | | | | |
| 1/2 | 3450 | 56C | 115/230 | 8.4/4.2 | 1.6 | Standard | P701 | **3VG47** | $149.00 | **$95.30** | 18.0 |
| 3/4 | 3450 | 56C | 115/230 | 9.6/4.8 | 1.5 | Standard | P702 | **3VG48** | 169.00 | **108.05** | 20.0 |
| 1 | 3450 | 56C | 115/230 | 12.0/6.0 | 1.4 | Standard | P703 | **3VG49** | 176.00 | **112.65** | 22.0 |
| 1 1/2 | 3450 | 56C | 115/230 | 15.2/7.6 | 1.3 | Standard | P704 | **3VG50** | 257.00 | **164.50** | 30.0 |
| 2 | 3450 | 56C | 230 | 9.1 | 1.2 | Standard | P705 | **3VG51** | 315.00 | **201.25** | 35.0 |
| **PSC NEMA 56J** | | | | | | | | | | | |
| 1/2 | 3450 | 56J | 115/230 | 8.4/4.2 | 1.6 | Standard | P706 | **3VG52** | 154.00 | **98.45** | 18.0 |
| 3/4 | 3450 | 56J | 115/230 | 9.6/4.8 | 1.5 | Standard | P707 | **3VG53** | 174.00 | **111.20** | 20.0 |
| 1 | 3450 | 56J | 115/230 | 12.0/6.0 | 1.4 | Standard | P708 | **3VG54** | 181.00 | **115.80** | 22.0 |
| 1 1/2 | 3450 | 56J | 115/230 | 15.2/7.6 | 1.3 | Standard | P709 | **3VG55** | 262.00 | **167.50** | 30.0 |
| 2 | 3450 | 56J | 230 | 9.1 | 1.2 | Standard | P710 | **3VG56** | 320.00 | **204.50** | 35.0 |

## CAST-IRON FLANGE SWIMMING POOL PUMP MOTORS

- **Cast-iron flange provides maximum protection against effects of pool chemicals**
- **NEMA service factors up to 1.6 provide reserve margin for intermittent overloading**
- **Copper windings have moisture-resistant insulation**
- **56C frame steel shaft with key; 56J frame stainless steel shaft 7/16"-20 UNF-2A RH threaded 11/16" from end**
- **Easy access two-compartment design**
- **1081 approvable**

**Typical Uses:** In-ground and above ground swimming pool and hot tub pumps. Also used on jet and centrifugal pumps and similar applications requiring a NEMA 56C or 56J face mounting.
**Type:** Capacitor-start
**Bearings:** Double-sealed ball
**Mounting:** Face, horizontal or vertical, shaft down
**Enclosure:** Open dripproof
**Ambient:** 50°C
**Insulation Class:** B
**Thermal Protection:** Auto
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton




| HP | Nameplate RPM | NEMA Frame | Rotation | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **NEMA 56C FRAME WITH KEYED SHAFT** | | | | | | | | | | |
| 1/2 | 3450 | 56C | CW/CCW | 115/230 | 8.0/4.0 | 1.6 | **6K247** | $169.00 | **$117.05** | 21.0 |
| 3/4 | 3450 | 56C | CW/CCW | 115/230 | 11.0/5.5 | 1.5 | **6K248** | 196.00 | **135.40** | 25.0 |
| 1 | 3450 | 56C | CW/CCW | 115/230 | 13.4/6.7 | 1.4 | **6K249** | 216.00 | **149.50** | 28.0 |
| 1 1/2 | 3450 | 56C | CW/CCW | 115/230 | 15.8/7.9 | 1.3 | **6K266** | 292.00 | **201.75** | 36.0 |
| 2 | 3450 | 56C | CW/CCW | 115/230 | 21.0/10.5 | 1.3 | **6K336** | 357.00 | **247.00** | 44.0 |
| **NEMA 56J FRAME WITH THREADED SHAFT** | | | | | | | | | | |
| 1/2 | 3450 | 56J | CCW | 115/230 | 8.0/4.0 | 1.6 | **6K250** | 175.00 | **121.30** | 21.0 |
| 3/4 | 3450 | 56J | CCW | 115/230 | 11.0/5.5 | 1.5 | **6K255** | 202.00 | **139.65** | 25.0 |
| 1 | 3450 | 56J | CCW | 115/230 | 13.4/6.7 | 1.4 | **6K256** | 222.00 | **154.00** | 28.0 |
| 1 1/2 | 3450 | 56J | CCW | 115/230 | 15.8/7.9 | 1.3 | **6K267** | 304.00 | **210.50** | 36.0 |
| 2 | 3450 | 56J | CCW | 115/230 | 21.0/10.5 | 1.3 | **6K337** | 369.00 | **255.50** | 44.0 |

**CAUTION: Refer to page 6 for proper thermal protection and other motor selection information.**

# ALUMINUM FLANGE SWIMMING POOL PUMP MOTORS

- **Unique reverse air flow design minimizes corrosive elements on the shaft end**
- **Easy access two-compartment design is contractor friendly**
- **Dichromate-plated bearing lock tabs allow easier bearing removal, eliminate need for plate alignment and reduce corrosion**
- **Rust resistant 416 stainless steel shaft; special sealer on rotor inhibits rust in off-season**
- **Large 6⅜" barrel diameter to improve heat dissipation**
- **All copper windings**
- **1081 approvable**

**Typical Uses:** In-ground swimming pool and hot tub pumps. Designed for ease of direct replacement of many popular pumps.

**Type:** Capacitor-start

**Bearings:** Double-sealed ball

**Mounting:** Face, horizontal or vertical shaft down

**Enclosure:** Open dripproof

**Thermal Protection:** Auto

**Insulation Class:** B

**Ambient:** 50°C

**Duty:** Continuous

**Rotation:** CCW facing shaf

**Finish:** Black

**Brand:** Dayton




| HP at: 3450 RPM | HP at: 1725 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Efficiency | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NEMA 56C FRAME WITH KEYED SHAFT** | | | | | | | | | | | |
| 3/4 | 1/10 | 3450/1725 | 56C | 230 | 5.2/2.1 | 1.5 | Standard | **1D178** | $286.00 | **$199.25** | 28.0 |
| | — | 3450 | 56C | 115/208-230 | 7.8/4.4-3.9 | 1.5 | High | **1D177** * | 177.00 | **129.05** | 27.0 |
| 1 | 1/8 | 3450/1725 | 56C | 230 | 6.1/2.1 | 1.4 | Standard | **1D179** | 292.00 | **203.50** | 30.0 |
| | — | 3450 | 56C | 115/208-230 | 10.4/5.6-5.1 | 1.4 | High | **1D176** * | 205.00 | **144.20** | 28.0 |
| 1½ | 1/5 | 3450/1725 | 56C | 230 | 7.0/3.4 | 1.3 | Standard | **1D174** * | 314.00 | **214.25** | 33.0 |
| | — | 3450 | 56C | 115/208-230 | 14.3/8.0-7.5 | 1.3 | High | **1D173** * | 264.00 | **186.50** | 30.0 |
| 2 | 1/4 | 3450/1725 | 56C | 230 | 8.1/3.2 | 1.3 | Standard | **1D175** * | 480.00 | **319.50** | 41.0 |
| | — | 3450 | 56C | 208-230 | 9.6-9.0 | 1.3 | High | **1D181** * | 329.00 | **227.75** | 34.0 |
| 3 | — | 3450 | 56C | 208-230 | 12.9-11.7 | 1.15 | High | **1D180** * | 396.00 | **263.25** | 39.0 |
| **NEMA 56J FRAME WITH THREADED SHAFT** | | | | | | | | | | | |
| 3/4 | 1/10 | 3450/1725 | 56J | 230 | 5.2/2.1 | 1.5 | Standard | **1D196** | 291.00 | **202.75** | 27.0 |
| | — | 3450 | 56J | 115/208-230 | 7.8/4.4-3.9 | 1.5 | High | **1D198** * | 198.00 | **135.15** | 27.0 |
| | — | 3450 | 56J | 115/230 | 10.4/5.2 | 1.0 | Standard | **1D204** | 177.00 | **130.85** | 23.0 |
| 1 | 1/8 | 3450/1725 | 56J | 208-230 | 6.1/2.1 | 1.4 | Standard | **1D197** | 297.00 | **207.00** | 30.0 |
| | — | 3450 | 56J | 115/208-230 | 10.4/5.6-5.1 | 1.4 | High | **1D195** * | 205.00 | **146.65** | 28.0 |
| | — | 3450 | 56J | 115/230 | 13.8/6.9 | 1.0 | Standard | **1D200** | 181.00 | **120.00** | 24.0 |
| 1½ | 1/5 | 3450/1725 | 56J | 230 | 7.0/3.4 | 1.3 | Standard | **1D199** * | 325.00 | **221.75** | 34.0 |
| | — | 3450 | 56J | 115/208-230 | 14.3/8.0-7.5 | 1.3 | High | **1D193** * | 251.00 | **171.50** | 30.0 |
| | — | 3450 | 56J | 115/230 | 16.2/8.1 | 1.0 | Standard | **1D201** | 236.00 | **160.75** | 26.0 |
| 2 | 1/4 | 3450/1725 | 56J | 230 | 8.0/3.1 | 1.3 | Standard | **1D194** * | 469.00 | **320.50** | 41.0 |
| | — | 3450 | 56J | 208-230 | 9.6-9.0 | 1.3 | High | **1D206** * | 332.00 | **220.50** | 34.0 |
| | — | 3450 | 56J | 115/230 | 19.8/9.9 | 1.0 | Standard | **1D202** | 333.00 | **230.25** | 32.0 |
| 2½ | — | 3450 | 56J | 230 | 10.5 | 1.0 | Standard | **1D203** * | 332.00 | **226.00** | 33.0 |
| 3 | — | 3450 | 56J | 208-230 | 12.9-11.7 | 1.15 | High | **1D205** * | 401.00 | **273.75** | 39.0 |

(*) Capacitor-start, capacitor-run.

# SPA AND WHIRLPOOL PUMP MOTORS

## DAYTON BRAND, SPA AND WHIRLPOOL BATH AND ABOVE GROUND POOL MOTORS

- **Easy access two-compartment design**
- **Convenient 12 or 3 o'clock conduit fittings**
- **Rust-resistant 1/2" dia. shaft 3/8"-16 UNC-2A RH threaded 9/16" from end**
- **1081 and 1795 approvable**

**Typical Uses:** On pumps for spas, whirlpools, hot and jetted tubs. Sturdy 14 gauge slotted base on three inch centers. Replaces many popular spa and tub pump motors.

**Type:** Capacitor-start and split-phase

**Mounting:** Rigid base with four 8-32 extended thru-bolts

**Enclosure:** Open dripproof

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Insulation Class:** B

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CCW facing shaft

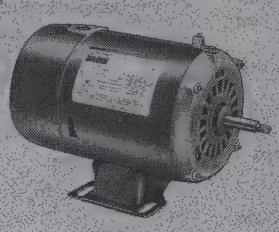
**Finish:** Black

**Brand:** Dayton

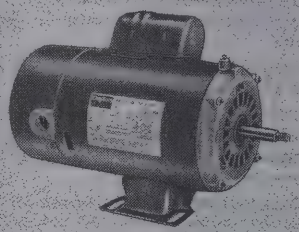
Dayton®

E47479

9862

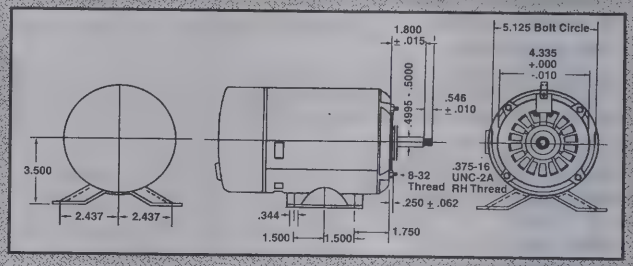


No. 1D158
Split-Phase Motor



No. 1D163
Capacitor-Start Motor

**Must match service factor and HP for proper replacement.**




| HP at: 3450 RPM | HP at: 1725 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Comments* | Bearing Shaft/Rear | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE SPEED** | | | | | | | | | | | |
| 1/2 | — | 3450 | 56Z | 115 | 8.3 | 1,4 | Ball/Sleeve | **1D160** | $163.00 | **$106.90** | 14.0 |
| 3/4 | — | 3450 | 56Z | 115 | 10.2 | 1,4 | Ball/Sleeve | **1D158** | 138.00 | **90.20** | 17.0 |
| | — | 3450 | 56Z | 115 | 10.2 | 4 | Ball/Sleeve | **1D161** | 189.00 | **123.60** | 17.0 |
| 1 | — | 3450 | 56Z | 115 | 12.5 | 1,4 | Ball/Sleeve | **1D157** | 152.00 | **99.60** | 19.0 |
| | — | 3450 | 56Z | 115 | 12.5 | 4 | Ball/Sleeve | **1D162** | 214.00 | **140.25** | 20.0 |
| 1½ | — | 3450 | 56Z | 115/230 | 17.0/8.6 | 1,5 | Ball/Ball | **1D154** | 255.00 | **167.25** | 24.0 |
| **TWO SPEED** | | | | | | | | | | | |
| 3/4 | 1/10 | 3450/1725 | 56Z | 115 | 9.6/3.1 | 4 | Ball | **1D159** | 179.00 | **116.90** | 20.0 |
| 1 | 1/8 | 3450/1725 | 56Z | 115 | 10.3/2.9 | 3, 5 | Ball/Ball | **1D155** | 260.00 | **170.75** | 26.0 |
| | 1/8 | 3450/1725 | 56Z | 115 | 10.3/3.8 | 2, 3, 5 | Ball/Ball | **1D156** | 273.00 | **179.50** | 22.0 |
| 1½ | 1/8 | 3450/1725 | 56Z | 115 | 13.6/3.6 | 2, 5 | Ball/Ball | **1D165** | 306.00 | **200.50** | 30.0 |
| | | 3450/1725 | 56Z | 115 | 15.4/4.3 | 5 | Ball/Ball | **1D163** | 281.00 | **184.00** | 29.0 |
| | | 3450/1725 | 56Z | 230 | 7.5/2.2 | 5 | Ball/Ball | **1D164** | 303.00 | **198.75** | 26.0 |
| 2 | 1/4 | 3450/1725 | 56Z | 230 | 9.5/3.0 | 2, 5 | Ball/Ball | **1D166** | 326.00 | **214.00** | 30.0 |

(*) Comments: 1) Conduit at 12:00. 2) Low starting amp design. 3) Internal capacitor. 4) Split-phase. 5) Capacitor-start.

## ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY

Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items. See Index under Energy Saving Products.

## GE BRAND, ABOVE GROUND POOL/SPA PUMP MOTORS

- **Two-compartment design protects components**
- **Slinger on shaft**
- **416 stainless steel shaft 1/2" dia. 3/8"-16 UNC-2A RH threaded 9/16" from end**
- **Locked double-sealed ball bearings**
- **1081 approvable**

**Typical Uses:** Used on pumps for spas, hot tubs, above ground pools, and jetted bathtubs.

**Type:** Capacitor-start and split phase

**Bearings:** Ball

**Mounting:** Rigid base with four 8-32 extended thru-bolts

**Enclosure:** Open dripproof

**Service Factor:** 1.0

**Thermal Protection:** Auto

**Insulation Class:** B

**Ambient:** 50°C

**Duty:** Continuous

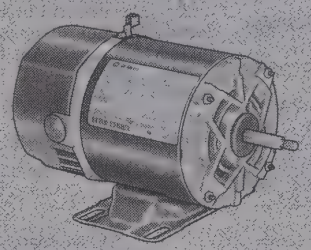
**Rotation:** CCW facing shaft, nonreversible, except No. 3VG40

**Finish:** Black

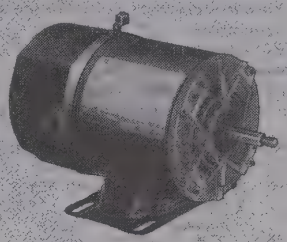
**Brand:** GE

E47088

LR53924

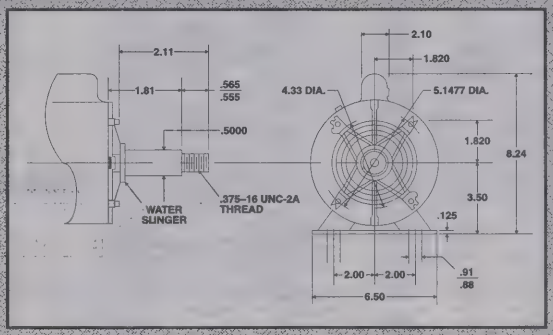


No. 5U147



No. 3UV24

**Must match service factor and HP for proper replacement.**




| HP at: 3450 RPM | HP at: 1725 RPM | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Efficiency | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 1/10 | 3450/1725 | 56Y | 115 | 8.8/2.6 | Standard | C1322 | **5U145** | $180.00 | **$120.45** | 18.0 |
| | 1/10 | 3450/1725 | 56Y | 115 | 8.8/2.6 | Standard | C1902 | **3VF66** | 167.00 | **106.60** | 18.0 |
| | 1/10 | 3450/1725 | 56Y | 230 | 4.4/1.3 | Standard | C1457 | **5U165** | 183.00 | **130.15** | 18.0 |
| | — | 3450 | 56Y | 115 | 9.9 | Standard | H909 | **3VG38**† | 124.00 | **79.35** | 15.0 |
| | — | 3450 | 56Y | 115/230 | 9.0/4.5 | Standard | C1453 | **3UV24** | 170.00 | **109.70** | 15.0 |
| 1 | 1/8 | 3450/1725 | 56Y | 115 | 11.9/3.3 | Standard | C1323 | **5U146** | 202.00 | **143.30** | 20.0 |
| | 1/8 | 3450/1725 | 56Y | 115 | 11.9/3.3 | Standard | C1903 | **3VF67** | 204.77 | **108.25** | 20.0 |
| | 1/8 | 3450/1725 | 56Y | 230 | 5.8/1.9 | Standard | C1324 | **5U147** | 205.00 | **145.90** | 20.0 |
| | — | 3450 | 48Y | 115 | 10.0 | Standard | H911 | **3VG40**†‡ | 124.00 | **79.25** | 18.0 |
| | — | 3450 | 56Y | 115 | 11.6 | Standard | H910 | **3VG39**† | 137.00 | **87.85** | 18.0 |
| | — | 3450 | 56Y | 115/230 | 11.7/5.9 | Standard | C1454 | **3VF55** | 180.00 | **114.70** | 18.0 |
| 1½ | 1/5 | 3450/1725 | 56Y | 230 | 7.0/2.6 | High | C1326 | **5U149*** | 232.00 | **165.00** | 21.0 |
| | — | 3450 | 56Y | 230 | 8.6 | Standard | C1901 | **3VF65** | 154.00 | **98.90** | 22.0 |
| | — | 3450 | 56Y | 115/230 | 14.4/7.2 | High | C1455 | **5U163*** | 184.00 | **123.55** | 21.0 |
| 2 | 1/4 | 3450/1725 | 56Y | 230 | 8.8/2.6 | High | C1327 | **5U150*** | 248.00 | **176.50** | 23.0 |
| | — | 3450 | 56Y | 230 | 8.5 | High | C1456 | **5U164*** | 204.00 | **137.00** | 23.0 |

(*) Capacitor-start, capacitor-run.(†) Split phase. (‡) CW rotation facing shaft.

**CAUTION: Refer to page 6 for proper thermal protection and other motor selection information.**

## ORDER DIRECT FROM GRAINGER

You can order directly from Grainger, call your local branch and place an order.
To find the branch nearest you, check the Branch Listing in the front of this catalog.
You can pick your order up or we'll ship it today.

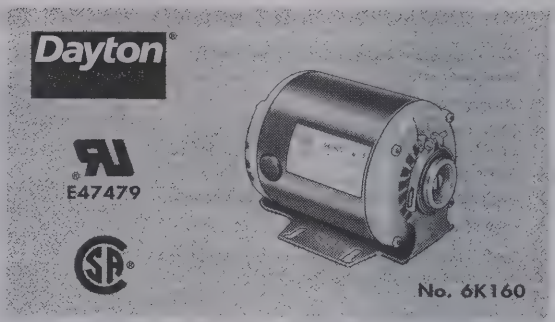
# CARBONATOR PUMP MOTORS

## DAYTON BRAND

- **Direct replacements for most carbonator pump motors**
- **1144 shaft steel**
- **Sleeve bearings suitable for all-angle operation**
- **Reversible rotation by easy reconnection**

**Typical Uses:** Specially designed endshield has extended hub and short, slotted 5/8" dia. shaft for close coupling carbonator pump to motor. Also used for liquid transfer pumps, vending machine pumps, and other close-coupled pump applications.

**Type:** Split-phase
**Bearings:** Sleeve
**Mounting:** Extended hub and cradle or rigid base
**Enclosure:** Open dripproof
**Thermal Protection:** Auto
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton




| HP | Nameplate RPM 60 Hz | 50 Hz | NEMA Frame | Volts 60 Hz | Full Load Amps at 60 Hz | 50 Hz | Service Factor | Insulation Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CRADLE BASE** | | | | | | | | | | | | |
| **1/4** | 1725 | 1425 | 48YZ | 115/230* | 4.8/2.4 | 6.0/3.0 | 1.0 | B | **6K160** | $96.00 | **$69.65** | 14.0 |
| | 1725 | — | 48YZ | 115 | 5.0 | — | 1.0 | B | **4FG41** | 77.00 | **58.80** | 15.0 |
| | 1725 | 1425 | 48YZ | 200-240* | 2.3-2.3 | 2.5-3.0 | 1.0 | B | **4FG40** | 92.00 | **61.90** | 15.0 |
| **1/3** | 1725 | 1425 | 48YZ | 115/230* | 6.0/3.0 | 7.2/3.6 | 1.0 | B | **5K887** | 100.00 | **72.60** | 15.0 |
| | 1725 | — | 48YZ | 115 | 6.5 | — | 1.0 | B | **4FG42** | 80.00 | **62.35** | 15.0 |
| | 1725 | — | 48YZ | 230 | 3.2 | — | 1.0 | B | **4FG43** | 95.00 | **65.45** | 15.0 |
| **1/2** | 1725 | 1425 | 48YZ | 115/230* | 7.6/3.8 | 9.0/4.5 | 1.0 | B | **3K090** | 136.00 | **105.35** | 18.0 |
| | 1725 | — | 48YZ | 115 | 7.8 | — | 1.0 | B | **4FG44** | 107.00 | **65.85** | 15.0 |
| | 1725 | — | 48YZ | 230 | 4.0 | — | 1.0 | B | **4FG45** | 128.00 | **69.00** | 15.0 |
| **RIGID BASE** | | | | | | | | | | | | |
| **1/4** | 1725 | — | 48YZ | 115 | 5.0 | — | 1.0 | B | **2R952** | 72.00 | **57.45** | 15.0 |
| | 1725 | 1425 | 48YZ | 200-240* | 2.2-2.2 | 2.4-2.4 | 1.0 | B | **2R954** | 89.00 | **60.55** | 15.0 |
| | 1725 | 1425 | 48YZ | 100-120/200-240* | 4.3-4.3/2.2-2.2 | 4.6-5.5/2.6-2.7 | 1.0 | B | **2R956** | 93.00 | **68.55** | 15.0 |
| **1/3** | 1725 | — | 48YZ | 115 | 6.5 | — | 1.0 | B | **2R958** | 77.00 | **61.00** | 15.0 |
| | 1725 | — | 48YZ | 230 | 3.2 | — | 1.0 | B | **2R960** | 93.00 | **64.15** | 15.0 |
| | 1725 | 1425 | 48YZ | 100-120/200-240* | 5.5-5.7/2.7-3.0 | 6.2-7.8/3.1-3.9 | 1.0 | B | **2R962** | 97.00 | **72.35** | 15.0 |
| **1/2** | 1725 | — | 48YZ | 115 | 7.8 | — | 1.0 | B | **2R964** | 112.00 | **64.55** | 15.0 |
| | 1725 | — | 48YZ | 230 | 4.0 | — | 1.0 | B | **2R966** | 128.00 | **67.65** | 15.0 |
| | 1725 | 1425 | 48YZ | 100-120/200-240* | 7.6-7.2/3.7-3.6 | 8.0-9.1/4.0-4.6 | 1.0 | B | **2R968** | 133.00 | **103.55** | 15.0 |

(*) Motor designed for 50 or 60 Hz operation.

**CAUTION: Not for fans in unattended areas.**

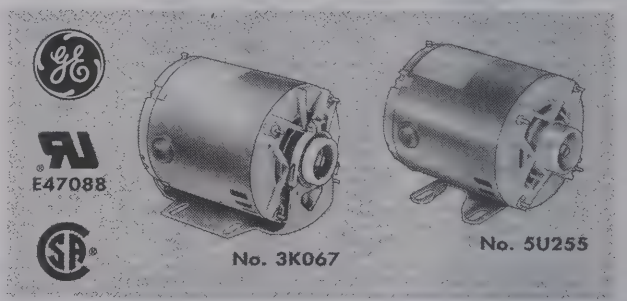
**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## GE BRAND

- **Threaded conduit hole**
- **Reversible rotation by easy reconnection**

**Typical Uses:** Specially designed endshield has extended hub and short, slotted 1/2" diameter shaft for close coupling the carbonator pump to the motor. Also used for liquid transfer pumps, vending machine pumps, and other close-coupled pump applications.

**Type:** Split-phase
**Mounting:** Extended hub and cradle base with studs
**Enclosure:** Open dripproof
**Service Factor:** 1.0
**Thermal Protection:** Auto
**NEMA Frame:** 48Y
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE




| HP | Nameplate RPM 60 Hz | 50 Hz | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearing | Mounting | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1725 | — | 115 | 5.0 | Sleeve | Cradle/Studs | 4725 | **3K067** | $96.00 | **$56.95** | 13.0 |
| | 1725 | — | 115 | 5.0 | Sleeve | Rigid/Studs | H679 | **5U253** | 92.00 | **56.00** | 13.0 |
| | 1725 | 1425 | 230-240* | 2.3/2.4 | Sleeve | Cradle/Studs | H451 | **2K458** | 109.00 | **67.80** | 14.0 |
| **1/3** | 1725 | 1425 | 100-120/200-240* | 5.5-5.6/2.7-2.8 | Ball | Cradle/Studs | H683 | **5U257** | 132.00 | **69.95** | 14.0 |
| | 1725 | 1425 | 100-120/200-240* | 5.5-5.6/2.7-2.8 | Sleeve | Rigid/Studs | H681 | **5U255** | 120.00 | **67.85** | 14.0 |
| | 1725 | — | 115 | 6.1 | Ball | Cradle/Studs | H682 | **5U256** | 109.00 | **64.95** | 14.0 |
| | 1725 | — | 115 | 5.6 | Sleeve | Rigid/Studs | H680 | **5U254** | 96.00 | **60.85** | 14.0 |
| | 1725 | — | 115 | 5.6 | Sleeve | Cradle/Studs | 4406 | **3K068** | 100.00 | **61.70** | 14.0 |
| | 1725 | 1425 | 100-120/200-240* | 5.5-5.6/2.7-2.8 | Sleeve | Rigid/Studs | H712 | **3VG37†** | 135.00 | **86.15** | 14.0 |
| | 1725 | — | 220-240 | 2.7 | Sleeve | Cradle/Studs | H450 | **2K457** | 114.00 | **70.75** | 11.0 |
| | 1725 | 1425 | 100-120/200-240* | 5.5-5.6/2.7-2.8 | Sleeve | Cradle/Studs | 4805 | **3K987** | 124.00 | **74.45** | 15.0 |
| **1/2** | 1725 | 1425 | 100-120/200-240* | 7.1-7.2/3.4-3.6 | Ball | Cradle/Studs | H684 | **5U258** | 148.00 | **111.25** | 17.0 |

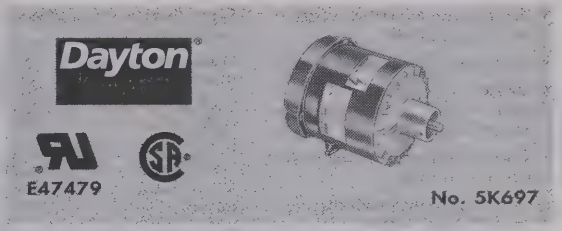
(*) Motor designed for 50 or 60 Hz operation. (†) Double shaft—1/2 x 1.50" rear extension.

## DAYTON BRAND, SUMP PUMP MOTOR

**Typical Uses:** Direct replacements for OEM supplied motor on sump pumps. Shaft endshield has extended hub for mounting directly on 1½ or 1¾" OD pump support columns.

Use on other applications, such as glass washers, voids warranty.

**Type:** Split-phase
**Mounting:** Hub
**Service Factor:** 1.0
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Black
**Brand:** Dayton




| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Thermal Protection | Enclosure | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Ins. Class | Hub Dimension (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 48Y | CW/CCW | Auto | OpDp | 115 | 5.7 | Sleeve | B | 1½ | **6K287*** | $98.00 | **$75.00** | 12.0 |
| | 1725 | 56YZ | CW/CCW | Auto | OpDp | 115 | 5.9 | Sleeve | A | 1½ | **5K343** | 98.00 | **71.50** | 13.0 |
| | 1725 | 56YZ | CCW | Auto | TEFC | 115 | 6.8 | Ball | B | 1¾ | **5K697** | 188.00 | **137.05** | 17.0 |

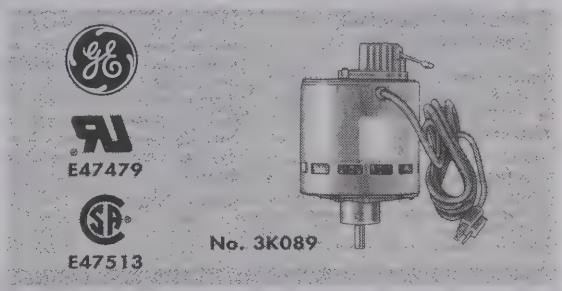
(*) Includes float-type switch and 8 ft. 3-conductor cord.

## GE BRAND, SUMP PUMP MOTOR

**Typical Uses:** Direct replacements for OEM supplied motor on sump pumps. Shaft endshield has extended hub for mounting directly on 1½" OD pump support columns.

Use on other applications, such as glass washers, voids warranty.

**Type:** Split-phase
**Bearings:** Sleeve
**Mounting:** Hub
**Enclosure:** Open
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Black
**Brand:** GE




| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Hub Dimension (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 48K | CW | 115 | 5.7 | 1½ | H642 | **3K089*** | $104.00 | **$72.60** | 12.0 |

(*) Includes float-type switch and 8 ft. 3-conductor cord.

## DAYTON BRAND, GLASS WASHER MOTOR

- **Gasketed conduit box**
- **Drain hole in shaft end endshield**
- **Double-sealed ball bearings with moisture-resistant grease**
- **Note: recommended for use with GFCI switch motor control No. 5Z974**

**Typical Uses:** Replacement on most OEM glass washers.

**Type:** Split-phase
**Bearings:** Ball
**Mounting:** Vertical shaft down on metal standpipe
**Enclosure:** TENV
**Service Factor:** 1.0
**Thermal Protection:** None
**Insulation Class:** A
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton




| HP | Nameplate RPM | NEMA Frame | Rotation Facing Shaft | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 56YZ | CW/CCW | 115 | 4.8 | **4K091** | $176.00 | **$109.50** | 25.0 |

**CAUTION:** Refer to page 6 for proper thermal protection and other motor selection information.

MANY BRANDS OF POWER TOOLS AVAILABLE

Milwaukee® BLACK&DECKER® PORTER-CABLE SKIL WILTON®

# SINGLE-PHASE SUBMERSIBLE PUMP MOTORS

- **Corrosion-resistant stainless steel shell**
- **Hermetically sealed stator**
- **Water lubricated carbon sleeve and kingsbury-type thrust bearings**
- **Built-in lightning protection on 4" motors**
- **Lubricant replenishing filtered check valve**
- **Pressure equalizing diaphragm**
- **Replaceable motor lead wire assembly**
- **Splined, stainless steel shaft**
- **UL Recognized (E79319); ANSI/NSF Certified (MH18335/FDNP)**

**Typical Uses:** Motors manufactured for dependable operation in wells with 4" or 6" inside diameter or larger.

**CAUTION:**
Refer to page 6 for proper thermal protection and other motor selection information.

**Type:** 2-wire split-phase; 3-wire capacitor-start

**Mounting:** NEMA mounting dimensions

**Enclosure:** TENV sealed watertight

**Duty:** Continuous in 86°F (30°C) water at 1/4 ft./sec. for 4" motors, 1/2 ft./sec. for 6" motors.

**Rotation:** CCW facing shaft end

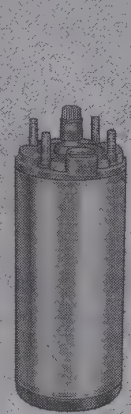
**Lead Wire Assembly:** 1/3 thru 2 HP motors include 48" assembly; 3 thru 5 HP 4" motors include 100" assembly; all 6" motors include 150" assembly. All lead wire assemblies include a ground wire.

**Control Boxes:** Use either a CSIR or CSCR control box. CSCR control boxes feature a reduction of noise, maximum service amps, and a run capacitor for higher efficiency. Deluxe CSCR box includes magnetic contactor. Recommended for water systems that utilize a pressure switch.

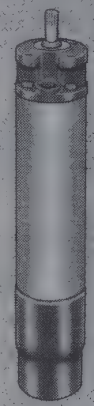
**Brand:** Franklin

E79319

4" LR 9862
6" LR54766



No. 1D121
4" Pump Motor



No. 1D095
6" Pump Motor

## SINGLE-PHASE SUBMERSIBLE PUMP MOTORS

| HP | Wire | Nameplate RPM | Volts 60 Hz | Rated Amps | Service Factor | Max S.F. Amps | Thrust Rating Lbs. | Thermal Protection | Franklin Model | Stock No. | List | Each | Shpg. Wt. | Required CONTROL BOX Control Box Type | Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4" SUBMERSIBLE PUMP MOTORS** | | | | | | | | | | | | | | | | |
| 1/3 | 3 | 3450 | 115 | 8.0 | 1.75 | 9.2 | 300 | Auto† | 214 50290 | **1D128** | $258.00 | **$193.75** | 16.0 | CSIR | **4P840** | **$46.90** |
| | 3 | 3450 | 230 | 4.0 | 1.75 | 4.6 | 300 | Auto† | 214 50390 | **1D129** | 258.00 | **193.75** | 16.0 | CSIR | **4P841** | **46.85** |
| | 2 | 3450 | 115 | 8.0 | 1.75 | 9.2 | 300 | Auto† | 244 50290 | **1D121** | 301.00 | **225.75** | 16.0 | — | — | — |
| | 2 | 3450 | 230 | 4.0 | 1.75 | 4.6 | 300 | Auto† | 244 50390 | **1D122** | 301.00 | **225.75** | 16.0 | — | — | — |
| 1/2 | 3 | 3450 | 115 | 10.0 | 1.60 | 12.0 | 300 | Auto† | 214 50490 | **1D130** | 245.00 | **184.25** | 18.0 | CSIR | **4P842** | **48.30** |
| | 3 | 3450 | 230 | 5.0 | 1.60 | 6.0 | 300 | Auto† | 214 50590 | **1D131** | 245.00 | **184.25** | 18.0 | CSIR | **1D146** | **47.55** |
| | 3 | 3450 | 230 | 3.5 | 1.60 | 4.3 | 300 | Auto† | 214 50590 | **1D131** | 245.00 | **184.25** | 18.0 | CSCR | **4P843** | **70.25** |
| | 2 | 3450 | 115 | 10.0 | 1.60 | 12.0 | 300 | Auto† | 244 50490 | **1D123** | 290.00 | **217.00** | 18.0 | — | — | — |
| | 2 | 3450 | 230 | 5.0 | 1.60 | 6.0 | 300 | Auto† | 244 50590 | **1D124** | 290.00 | **217.00** | 18.0 | — | — | — |
| 3/4 | 3 | 3450 | 230 | 6.8 | 1.50 | 8.0 | 300 | Auto† | 214 50790 | **1D132** | 294.00 | **220.25** | 21.0 | CSIR | **1D147** | **51.05** |
| | 3 | 3450 | 230 | 4.8 | 1.50 | 5.7 | 300 | Auto† | 214 50790 | **1D132** | 294.00 | **220.25** | 21.0 | CSCR | **4P844** | **75.90** |
| | 2 | 3450 | 230 | 6.8 | 1.50 | 8.0 | 300 | Auto† | 244 50790 | **1D125** | 349.00 | **262.00** | 21.0 | — | — | — |
| 1 | 3 | 3450 | 230 | 8.2 | 1.40 | 9.8 | 650 | Auto† | 214 50890 | **1D133** | 306.00 | **230.00** | 24.0 | CSIR | **1D145** | **51.75** |
| | 3 | 3450 | 230 | 5.9 | 1.40 | 7.0 | 650 | Auto† | 214 50890 | **1D133** | 306.00 | **230.00** | 24.0 | CSCR | **4P845** | **77.35** |
| | 2 | 3450 | 230 | 8.2 | 1.40 | 9.8 | 650 | Auto† | 244 50890 | **1D126** | 375.00 | **281.00** | 23.0 | — | — | — |
| 1 1/2 | 3 | 3450 | 230 | 10.0 | 1.30 | 11.5 | 650 | Manual‡ | 224 30092 | **1D134** | 392.00 | **294.25** | 27.0 | CSCR | **4P846** | **89.20** |
| | 2 | 3450 | 230 | 10.6 | 1.30 | 13.1 | 650 | Auto† | 244 30990 | **1D127** | 489.00 | **366.50** | 30.0 | — | — | — |
| 2 | 3 | 3450 | 230 | 10.0 | 1.25 | 13.2 | 650 | Manual‡ | 224 30192 | **3K990** | 470.00 | **352.50** | 30.0 | CSCR | **2PC15** | **121.05** |
| | 3 | 3450 | 230 | 10.0 | 1.25 | 13.2 | 650 | Manual‡ | 224 30192 | **3K990** | 470.00 | **352.50** | 30.0 | Deluxe CSCR* | **1D152** | **167.75** |
| 3 | 3 | 3450 | 230 | 14.0 | 1.15 | 17.0 | 1500 | Manual‡ | 224 30283 | **3K991** | 823.00 | **617.50** | 52.0 | CSCR | **2PC16** | **149.15** |
| | 3 | 3450 | 230 | 14.0 | 1.15 | 17.0 | 1500 | Manual‡ | 224 30283 | **3K991** | 823.00 | **617.50** | 52.0 | Deluxe CSCR* | **1D151** | **185.00** |
| 5 | 3 | 3450 | 230 | 23.0 | 1.15 | 27.5 | 1500 | Manual‡ | 224 30383 | **3K992** | 1012.00 | **759.50** | 61.0 | CSCR | **1D153** | **224.25** |
| | 3 | 3450 | 230 | 23.0 | 1.15 | 27.5 | 1500 | Manual‡ | 224 30383 | **3K992** | 1012.00 | **759.50** | 61.0 | Deluxe CSCR* | **2PC17** | **247.25** |
| **6" SUBMERSIBLE PUMP MOTORS** | | | | | | | | | | | | | | | | |
| 5 | 3 | 3450 | 230 | 23.0 | 1.15 | 27.5 | 1500 | Manual‡ | 226 11090 | **1D095** | 1296.00 | **971.50** | 105.0 | CSCR | **1D153** | **224.25** |
| | 3 | 3450 | 230 | 23.0 | 1.15 | 27.5 | 1500 | Manual‡ | 226 11090 | **1D095** | 1296.00 | **971.50** | 105.0 | Deluxe CSCR* | **2PC17** | **247.25** |
| 7 1/2 | 3 | 3450 | 230 | 36.5 | 1.15 | 42.1 | 1500 | Manual‡ | 226 11190 | **1D097** | 1526.00 | **1145.00** | 120.0 | Deluxe CSCR* | **1D148** | **336.25** |
| 10 | 3 | 3450 | 230 | 44.0 | 1.15 | 51.0 | 3500 | Manual‡ | 226 11290 | **1D119** | 1714.00 | **1288.00** | 135.0 | Deluxe CSCR* | **1D149** | **495.25** |
| 15 | 3 | 3450 | 230 | 62.0 | 1.15 | 75.0 | 3500 | Manual‡ | 226 11390 | **1D120** | 2227.00 | **1668.00** | 146.0 | Deluxe CSCR* | **1D150** | **780.50** |

(*) Deluxe box includes magnetic contactor. Recommended for water systems that utilize a pressure switch.
(†) Automatic thermal protection in motor. (‡) Manual reset thermal protection in control box.

# 3-PHASE SUBMERSIBLE PUMP MOTORS



- **Corrosion-resistant stainless steel shell**
- **Hermetically sealed stator**
- **Water lubricated carbon sleeve and kingsbury-type thrust bearings**
- **Lubricant replenishing filtered check valve**
- **Pressure equalizing diaphragm**
- **Replaceable motor lead wire assembly**
- **Splined, stainless steel shaft**
- **UL Recognized (E79319); ANSI/NSF Certified (MH18335/FDNP)**

**Typical Uses:** Motors manufactured for operation in wells with 4 or 6" or larger inside dia.

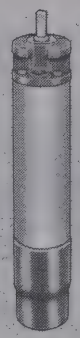
**Type:** 3-wire, 3-phase
**Mounting:** NEMA mounting dimensions
**Enclosure:** TENV sealed watertight
**Duty:** Continuous in 86°F (30°C) water at 1/4 ft./sec. for 4" motors; 1/2 ft./sec. for 6" motors
**Rotation:** Must run CCW facing shaft when combined with pump for maximum pump pressure and capacity
**Lead Wire Assembly:** 1½ - 2 HP motors include 48" assembly; 3 thru 7½ HP 4" motors include 100" assembly; all 6" motors include 150" assembly. All lead wire assemblies include a ground wire.
**Brand:** Franklin

E79319

4" LR9862
6" LR54766



No. 1D139
4" Pump Motor



No. 1D115
6" Pump Motor

## 3-PHASE SUBMERSIBLE PUMP MOTORS

| HP | Nameplate RPM | Volts 60 Hz | Rated Amps | Service Factor | Max S.F. Amps | Thrust Rating Lbs. | Franklin Model | Stock No. | List | Each | Shpg. Wt. | Required MAGNETIC STARTER Stock No. | Required MAGNETIC STARTER Each | Required OVERLOAD RELAY Set* | Required OVERLOAD RELAY Max.* | Required OVERLOAD RELAY Stock No. | Required OVERLOAD RELAY Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4" SUBMERSIBLE PUMP MOTORS** | | | | | | | | | | | | | | | | | |
| 1½ | 3450 | 200 | 5.8 | 1.30 | 6.8 | 650 | 234 50492 | **1D135** | $352.00 | **$264.25** | 24.0 | **4B891** | **$84.00** | 6.81 | 7.4 | **4B858** | **$55.40** |
| | 3450 | 230 | 5.0 | 1.30 | 5.9 | 650 | 234 51492 | **1D136** | 352.00 | **264.00** | 23.0 | **4B891** | **84.00** | 5.89 | 6.4 | **4B858** | **55.40** |
| | 3450 | 460 | 2.5 | 1.30 | 3.0 | 650 | 234 52494 | **1D137** | 352.00 | **264.00** | 23.0 | **4B891** | **84.00** | 2.94 | 3.2 | **4B860** | **53.55** |
| 2 | 3450 | 200 | 7.7 | 1.25 | 9.3 | 650 | 234 30592 | **1D138** | 408.00 | **306.25** | 28.0 | **4B889** | **106.15** | 8.46 | 9.2 | **4B857** | **55.40** |
| | 3450 | 230 | 6.7 | 1.25 | 8.1 | 650 | 234 31592 | **3N877** | 408.00 | **306.00** | 28.0 | **4B891** | **84.00** | 7.36 | 8.0 | **4B857** | **55.40** |
| | 3450 | 460 | 3.4 | 1.25 | 4.1 | 650 | 234 32594 | **3N878** | 408.00 | **306.00** | 28.0 | **4B891** | **84.00** | 3.68 | 4.0 | **4B860** | **53.55** |
| 3 | 3450 | 200 | 10.9 | 1.15 | 12.5 | 1500 | 234 30683 | **1D139** | 730.00 | **548.50** | 44.0 | **4B889** | **106.15** | 11.2 | 12.2 | **4B856** | **55.40** |
| | 3450 | 230 | 9.5 | 1.15 | 10.9 | 1500 | 234 31683 | **3N879** | 730.00 | **548.50** | 43.0 | **4B889** | **106.15** | 9.75 | 10.6 | **4B856** | **55.40** |
| | 3450 | 460 | 4.8 | 1.15 | 5.5 | 1500 | 234 32683 | **3N880** | 730.00 | **548.50** | 43.0 | **4B891** | **84.00** | 4.88 | 5.3 | **4B859** | **53.55** |
| 5 | 3450 | 200 | 18.3 | 1.15 | 20.5 | 1500 | 234 30783 | **1D140** | 916.00 | **686.50** | 55.0 | **4B884** | **134.80** | 18.4 | 20.0 | **4B854** | **55.40** |
| | 3450 | 230 | 15.9 | 1.15 | 17.8 | 1500 | 234 31783 | **3N881** | 916.00 | **686.50** | 53.0 | **4B884** | **134.80** | 16.0 | 17.4 | **4B855** | **55.40** |
| | 3450 | 460 | 8.0 | 1.15 | 8.9 | 1500 | 234 32783 | **3N882** | 916.00 | **686.50** | 53.0 | **4B891** | **84.00** | 8.0 | 8.7 | **4B857** | **55.40** |
| 7½ | 3450 | 200 | 26.5 | 1.15 | 30.5 | 1500 | 234 30883 | **1D141** | 1131.00 | **848.00** | 70.0 | **4B882** | **153.25** | 27.0 | 29.3 | **4B853** | **65.55** |
| | 3450 | 230 | 23.0 | 1.15 | 26.4 | 1500 | 234 31883 | **1D142** | 1131.00 | **848.00** | 70.0 | **4B882** | **153.25** | 23.5 | 25.5 | **4B853** | **65.55** |
| | 3450 | 460 | 11.5 | 1.15 | 13.2 | 1500 | 234 32883 | **1D143** | 1131.00 | **848.00** | 70.0 | **4B887** | **120.95** | 11.8 | 12.8 | **4B856** | **55.40** |
| **6" SUBMERSIBLE PUMP MOTORS** | | | | | | | | | | | | | | | | | |
| 5 | 3450 | 200 | 17.5 | 1.15 | 19.1 | 1500 | 236 65090 | **1D115** | 1231.00 | **923.00** | 90.0 | **4B884** | **134.80** | 18.4 | 20.0 | **4B854** | **55.40** |
| | 3450 | 230 | 15.0 | 1.15 | 16.6 | 1500 | 236 60090 | **1D116** | 1231.00 | **923.00** | 90.0 | **4B887** | **120.95** | 16.0 | 17.4 | **4B855** | **55.40** |
| | 3450 | 460 | 7.5 | 1.15 | 8.3 | 1500 | 236 61090 | **1D117** | 1231.00 | **923.00** | 90.0 | **4B891** | **84.00** | 8.0 | 8.7 | **4B857** | **55.40** |
| 7½ | 3450 | 200 | 25.1 | 1.15 | 28.3 | 1500 | 236 65190 | **1D110** | 1438.00 | **1079.00** | 95.0 | **4B882** | **153.25** | 27.0 | 29.3 | **4B853** | **65.55** |
| | 3450 | 230 | 21.8 | 1.15 | 24.6 | 1500 | 236 60190 | **1D096** | 1438.00 | **1079.00** | 95.0 | **4B884** | **134.80** | 23.5 | 25.5 | **4B853** | **65.55** |
| | 3450 | 460 | 10.9 | 1.15 | 12.3 | 1500 | 236 61190 | **1D103** | 1438.00 | **1079.00** | 95.0 | **4B889** | **106.15** | 11.8 | 12.8 | **4B856** | **55.40** |
| 10 | 3450 | 200 | 32.7 | 1.15 | 37.0 | 3500 | 236 65290 | **1D111** | 1612.00 | **1209.00** | 105.0 | **4B880** | **195.00** | 34.0 | 37.0 | **4B851** | **95.10** |
| | 3450 | 230 | 28.4 | 1.15 | 32.2 | 3500 | 236 60290 | **1D098** | 1612.00 | **1209.00** | 105.0 | **4B880** | **195.00** | 29.6 | 32.2 | **4B851** | **95.10** |
| | 3450 | 460 | 14.2 | 1.15 | 16.1 | 3500 | 236 61290 | **1D102** | 1612.00 | **1209.00** | 105.0 | **4B887** | **120.95** | 14.8 | 16.1 | **4B855** | **55.40** |
| 15 | 3450 | 200 | 47.8 | 1.15 | 54.5 | 3500 | 236 65390 | **1D112** | 1859.00 | **1392.00** | 120.0 | **4B879** | **208.75** | 50.1 | 54.5 | **4B849** | **95.10** |
| | 3450 | 230 | 41.6 | 1.15 | 47.4 | 3500 | 236 60390 | **1D099** | 1859.00 | **1392.00** | 120.0 | **4B879** | **208.75** | 43.6 | 47.4 | **4B850** | **95.10** |
| | 3450 | 460 | 20.8 | 1.15 | 23.7 | 3500 | 236 61390 | **1D104** | 1859.00 | **1392.00** | 120.0 | **4B884** | **134.80** | 21.8 | 23.7 | **4B854** | **55.40** |
| 20 | 3450 | 200 | 61.9 | 1.15 | 69.7 | 3500 | 236 65490 | **1D113** | 2286.00 | **1715.00** | 135.0 | **4B875** | **324.00** | 64.1 | 69.7 | **4B848** | **113.55** |
| | 3450 | 230 | 53.8 | 1.15 | 60.6 | 3500 | 236 60490 | **1D100** | 2286.00 | **1715.00** | 135.0 | **4B875** | **324.00** | 55.8 | 60.6 | **4B849** | **95.10** |
| | 3450 | 460 | 26.9 | 1.15 | 30.3 | 3500 | 236 61490 | **1D105** | 2286.00 | **1715.00** | 135.0 | **4B880** | **195.00** | 27.9 | 30.3 | **4B853** | **65.55** |
| 25 | 3450 | 200 | 77.1 | 1.15 | 86.3 | 3500 | 236 65590 | **1D114** | 2660.00 | **1993.00** | 148.0 | — | — | 79.4 | 86.3 | — | **113.55** |
| | 3450 | 230 | 67.0 | 1.15 | 75.0 | 3500 | 236 60590 | **1D101** | 2660.00 | **1993.00** | 148.0 | **4B875** | **324.00** | 69.0 | 75.0 | **4B847** | **113.55** |
| | 3450 | 460 | 33.5 | 1.15 | 37.5 | 3500 | 236 61590 | **1D106** | 2660.00 | **1993.00** | 148.0 | **4B880** | **195.00** | 34.5 | 37.5 | **4B851** | **95.10** |
| 30 | 3450 | 230 | 79.0 | 1.15 | 90.4 | 3500 | 236 60690 | **1D107** | 3084.00 | **2310.00** | 162.0 | — | — | 83.2 | 90.4 | — | **113.55** |
| | 3450 | 460 | 39.5 | 1.15 | 45.2 | 3500 | 236 61690 | **1D108** | 3084.00 | **2310.00** | 162.0 | **4B878** | **208.75** | 41.6 | 45.2 | **4B850** | **95.10** |
| 40 | 3450 | 460 | 53.5 | 1.15 | 62.0 | 3500 | 236 61760 | **1D109** | 3710.00 | **2783.00** | 195.0 | **4B889** | **106.15** | 57.0 | 62.0 | **4B849** | **95.10** |
| 50 | 3450 | 460 | 67.7 | 1.15 | 77.0 | 3500 | 236 61860 | **1D118** | 4726.00 | **3542.00** | 310.0 | **4B875** | **324.00** | 70.8 | 77.0 | **4B847** | **113.55** |
| 60 | 3450 | 460 | 80.5 | 1.15 | 91.0 | 3500 | 236 61960 | **1D144** | 5627.00 | **4215.00** | 340.0 | — | — | 83.7 | 91.0 | — | — |

(*) Adjustable overload relay amp settings apply to approved types listed. Relay adjustment should be set at the specified SET amps, and only if tripping occurs with amps in all line measured to within nameplate maximum amps should the setting be increased, not to exceed the MAX. value shown.

**CAUTION:** **Refer to page 6 for proper thermal protection and other motor selection information.**

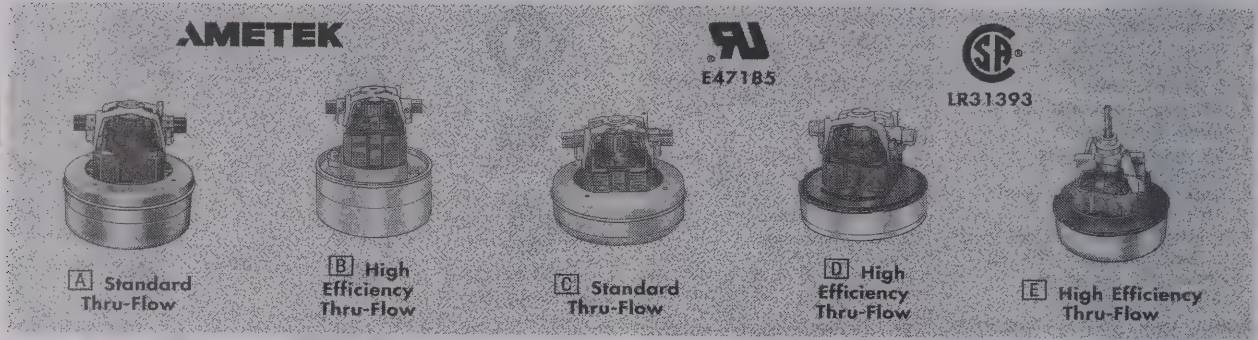
# AC/DC VACUUM MOTORS

## 5.7 INCH DIAMETER THRU-FLOW VACUUM MOTORS/BLOWERS

AMETEK

E47185

LR31393



A Standard Thru-Flow | B High Efficiency Thru-Flow | C Standard Thru-Flow | D High Efficiency Thru-Flow | E High Efficiency Thru-Flow

**Applications:** For replacing motors in canister vacuums, utility vacuums, spas, sprayer/foggers, air samplers, and commercial vacuums. For dry, clean air installations only.

**Features:** Permanently lubricated bearings. Copper windings.
**Mounting:** All position
**Enclosure:** Open
**Insulation Class:** A

**Ambient:** 40°C
**Duty:** Intermittent
**Average Life:** 500 hours
**Brand:** Ametek

| Style | Dia. (In.) | Blower Stages | Volts 50/60 Hz | Max. Amps | Thermal Protection | Bearings | Overall Ht. (In.) | Vacuum (In. $H_2O$ Sealed) | CFM (2" Orifice) | Max. Air Watts | Special Features* | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5.7 | 2 | 120 | 10.6 | None | Ball/Ball | 5 15/16 | 114.4 | 101.3 | 365 | 1 | 116432-00 | **2M422** | $83.00 | **$71.80** | 5.1 |
| A | 5.7 | 2 | 120 | 9.0 | Auto | Ball/Slv | 6 | 100.0 | 104.0 | 323 | 1 | 116671-50 | **4M898** | 84.00 | **72.65** | 6.1 |
| A | 5.7 | 2 | 120 | 8.8 | None | Ball/Ball | 5 15/16 | 106.9 | 107.0 | 316 | 1, 3 | 116227-00 | **2M199** | 93.00 | **80.40** | 5.5 |
| A | 5.7 | 2 | 120 | 8.0 | Auto | Ball/Slv | 5 13/16 | 92.0 | 99.0 | 257 | 1 | 115744 | **2M198** | 85.00 | **73.55** | 5.0 |
| A | 5.7 | 2 | 120 | 8.0 | None | Ball/Ball | 5 9/16 | 92.0 | 99.0 | 257 | 1 | 115750 | **2M262** | 81.00 | **70.05** | 4.9 |
| A | 5.7 | 2 | 120 | 7.7 | Auto | Ball/Ball | 5 9/16 | 90.2 | 94.0 | 241 | 1 | 116457-00 | **2M420** | 72.00 | **62.25** | 4.2 |
| A | 5.7 | 2 | 120 | 8.0 | None | Ball/Slv | 5 9/16 | 92.0 | 99.0 | 260 | 1 | 115737 | **2M263** | 74.00 | **64.00** | 4.9 |
| A | 5.7 | 2 | 120 | 8.2 | None | Ball/Ball | 5 9/16 | 91.2 | 95.0 | 245 | 1 | 116311-01 | **2M192** | 66.00 | **57.10** | 4.9 |
| A | 5.7 | 2 | 120 | 7.7 | Auto | Ball/Slv | 5 9/16 | 90.2 | 94.0 | 241 | 1 | 116669-50 | **2M421** | 66.00 | **57.10** | 4.2 |
| A | 5.7 | 2 | 120 | 7.7 | None | Ball/Slv | 5 9/16 | 90.2 | 94.0 | 241 | 1 | 116311-00 | **4M896** | 59.00 | **51.05** | 5.2 |
| A | 5.7 | 2 | 120 | 7.7 | None | Ball/Slv | 5 7/16 | 90.2 | 94.0 | 241 | 2 | 116883-50 | **2M193** | 56.00 | **48.50** | 4.9 |
| A | 5.7 | 2 | 240 | 5.1 | Auto | Ball/Ball | 6 1/2 | 98.9 | 119.0 | 345 | 1 | 116604-00 | **4M900** | 93.00 | **80.40** | 5.8 |
| A | 5.7 | 2 | 220 | 5.8 | None | Ball/Ball | 6 1/16 | 93.7 | 113.0 | 291 | 1 | 116111-00 | **4M901** | 93.00 | **80.40** | 5.7 |
| A | 5.7 | 2 | 240 | 4.0 | None | Ball/Slv | 5 13/16 | 87.8 | 102.0 | 248 | 1 | 116312-00 | **2M423** | 69.00 | **59.65** | 4.2 |
| A | 5.7 | 2 | 240 | 4.0 | Auto | Ball/Slv | 5 9/16 | 87.8 | 102.0 | 248 | 1 | 116670-50 | **2M424** | 75.00 | **64.85** | 4.1 |
| A | 5.7 | 2 | 240 | 4.7 | None | Ball/Ball | 6 1/16 | 98.3 | 112.3 | 346 | 1 | 116343-00 | **4M902** | 85.00 | **73.55** | 7.0 |
| A | 5.7 | 2 | 220 | 3.5 | None | Ball/Slv | 5 9/16 | 78.0 | 89.0 | 196 | 1 | 115756 | **2M182** | 84.00 | **72.65** | 4.9 |
| A | 5.7 | 2 | 100 | 12.2 | None | Ball/Ball | 6 1/16 | 96.3 | 112.0 | 361 | 1 | 116831-00 | **4M906** | 76.00 | **65.75** | 8.0 |
| A | 5.7 | 2 | 24† | 15.7 | None | Ball/Ball | 5 9/16 | 47.9 | 65.4 | 90 | 1 | 116846-00 | **4M899** | 158.00 | **136.55** | 5.4 |
| B | 5.7 | 2 | 120 | 10.8 | None | Ball/Ball | 6 3/16 | 100.4 | 122.0 | 447 | 1 | 115923 | **4M903** | 93.00 | **80.40** | 5.4 |
| B | 5.7 | 2 | 120 | 9.5 | None | Ball/Slv | 5 13/16 | 96.4 | 115.0 | 356 | 1 | 115982 | **4M982** | 77.00 | **66.60** | 5.4 |
| B | 5.7 | 2 | 120 | 9.5 | None | Ball/Ball | 5 13/16 | 96.4 | 115.0 | 356 | 1 | 116146-00 | **2M186** | 90.00 | **77.85** | 5.0 |
| B | 5.7 | 2 | 120 | 9.5 | Auto | Ball/Ball | 5 13/16 | 96.4 | 115.0 | 356 | 1 | 116884-49 | **4M905** | 87.00 | **75.20** | 5.4 |
| C | 5.7 | 1 | 120 | 6.8 | Auto | Ball/Slv | 4 1/2 | 63.0 | 112.0 | 190 | 1 | 116455-50 | **2M425** | 53.00 | **45.85** | 3.0 |
| C | 5.7 | 1 | 120 | 6.8 | None | Ball/Slv | 4 1/2 | 63.0 | 112.0 | 190 | 1 | 116309-00 | **2M194** | 45.00 | **38.95** | 4.4 |
| C | 5.7 | 1 | 120 | 6.8 | None | Ball/Slv | 4 1/2 | 63.0 | 112.0 | 189 | 2 | 116881-50 | **4M911** | 47.00 | **40.70** | 4.0 |
| C | 5.7 | 1 | 120 | 6.4 | None | Ball/Slv | 4 1/2 | 57.4 | 107.0 | 177 | 1 | 115717 | **2M264** | 59.00 | **51.05** | 4.4 |
| C | 5.7 | 1 | 240 | 3.8 | Auto | Ball/Slv | 4 13/16 | 61.7 | 113.0 | 197 | 1 | 116668-50 | **2M427** | 62.00 | **53.70** | 3.1 |
| C | 5.7 | 1 | 220 | 3.8 | None | Ball/Slv | 4 1/2 | 61.7 | 113.0 | 198 | 1 | 116310-00 | **2M426** | 54.00 | **46.70** | 3.1 |
| C | 5.7 | 1 | 240 | 4.2 | None | Ball/Slv | 4 13/16 | 69.2 | 120.0 | 235 | 2 | 116882-50 | **4M909** | 54.00 | **46.70** | 6.0 |
| D | 5.7 | 1 | 120 | 6.9 | None | Ball/Slv | 4 1/2 | 60.6 | 123.0 | 227 | 2 | 116297-00 | **2M203** | 56.00 | **48.50** | 3.5 |
| E | 5.1 | 1 | 120 | 7.2 | None | Ball | 5 13/16 | 73.3 | 116.0 | 282 | 2, 4, 3 | 116983-00 | **4M970** | 78.00 | **67.45** | 5.0 |
| E | 5.1 | 1 | 120 | 6.4 | None | Ball | 6 3/16 | 64.9 | 113.3 | 259 | 2, 4 | 116988-00 | **4M972** | 70.00 | **60.55** | 4.0 |
| E | 5.1 | 1 | 120 | 6.0 | None | Ball | 6 3/16 | 64.8 | 108.8 | 234 | 2, 4 | 117135-00 | **4M973** | 64.00 | **55.35** | 5.0 |
| A | 4.8 | 2 | 120 | 6.0 | None | Ball/Slv | 5 1/16 | 76.3 | 85.8 | 171 | 1 | 116148-00 | **4M974** | 95.00 | **82.20** | 3.5 |
| A | 4.3 | 2 | 120 | 7.5 | None | Ball/Ball | 6 13/16 | 70.8 | 92.5 | 177 | 1 | 116378-00 | **4M975** | 89.00 | **77.00** | 5.0 |
| C | 4.3 | 1 | 120 | 5.3 | None | Ball/Slv | 4 9/16 | 43.9 | 79.2 | 86 | 1 | 116377-00 | **4M976** | 51.00 | **44.10** | 3.5 |

(*) Special Features: (1) Metal mounting brackets; (2) Thermoset brackets; (3) Two speed; (4) Shaft extension. (†) DC Volts

## REPLACEMENT BRUSH MECHANISMS

For Nos. 2M182, 2M192 thru 2M195, 2M198, 2M199, 2M201, 2M203, 2M265, 2M266, 2M267, and 2M420 thru 2M433.
**No. 1R236.** Shpg. wt. 0.1 lbs. List $6.30. Per Pair ..... **$5.89**

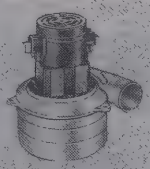
For Nos. 2M414 thru 2M419.
**No. 1R454.** Shpg. wt. 0.1 lbs. List $25.65. Per Pair ..... **$15.79**

For Nos. 2M173, 2M174, 2M178, 2M187, 2M188, and 2M202.
**No. 1R420.** Shpg. wt. 0.1 lbs. List $8.00. Per Pair ..... **$8.00**

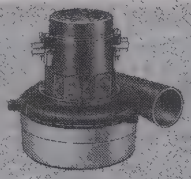
For No. 2M179.
**No. 1R450.** Shpg. wt. 0.1 lbs. List $20.00. Per Pair ..... **$12.11**

# 5.7 INCH DIAMETER BYPASS AC/DC VACUUM MOTORS/BLOWERS





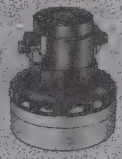
A
No. 4M921
Tangential Discharge



B
No. 2M430
Tangential Discharge

AMETEK

E47479 LR31393 (except Nos. 4M941 & 2M190)



C
No. 2M266 Acustek®
Peripheral Discharge



D
No. 2M195
Peripheral Discharge



E No. 4M957
Peripheral Discharge

**Applications:** Central, carwash, and utility vacuums; steam carpet cleaners; commercial/industrial vac systems; wet/dry uses.

**Features:** Permanently lubricated bearings. Acustek® models up to 10 dB quieter. Copper windings. All position mounting. Open enclosure. Class A insulation. No thermal protection. 40°C Ambient. Intermittent duty. 500 hours average life.

| Style | Blower Stages | Volts 50/60 Hz | Max. Amps | Bearings | Overall Ht. (In.) | Vacuum (In. $H_2O$ Sealed) | CFM (2" Orifice) | Max. Air Watts | Special Features* | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3 | 120 | 13.5 | Ball | 8 1/16 | 137.1 | 101.2 | 485 | 1, 3, 8 | 116765-13 | 4M921 | $153.00 | $132.30 | 7.6 |
| A | 3 | 120 | 13.5 | Ball | 8 1/16 | 137.1 | 101.2 | 485 | 1, 8 | 116765-00 | 4M922 | 147.00 | 127.10 | 7.6 |
| B | 3 | 120 | 10.7 | Ball | 7 13/16 | 117.4 | 99.0 | 368 | 2, 3 | 116565-13 | 4M923 | 143.00 | 123.60 | 7.0 |
| B | 3 | 120 | 10.7 | Ball | 7 13/16 | 117.4 | 99.0 | 368 | 2 | 116565-00 | 4M925 | 134.00 | 115.80 | 6.8 |
| B | 3 | 240 | 5.2 | Ball | 7 13/16 | 115.5 | 93.0 | 345 | 2 | 116859-00 | 4M944 | 139.00 | 120.15 | 3.9 |
| B | 3 | 120 | 10.7 | Ball | 7 13/16 | 117.4 | 99.0 | 386 | 2, 3, 5 | 116565-29 | 4M924 | 149.00 | 128.75 | 7.1 |
| B | 3 | 24† | 21.5 | Ball | 7 13/16 | 67.6 | 69.0 | 142 | 2, 3 | 116515-13 | 4M919 | 160.00 | 138.30 | 6.7 |
| B | 3 | 36† | 17.9 | Ball | 7 13/16 | 74.0 | 76.0 | 185 | 2, 3 | 116513-13 | 4M918 | 157.00 | 135.75 | 6.6 |
| B | 3 | 36† | 17.9 | Ball | 7 13/16 | 74.0 | 76.0 | 185 | 2, 3, 4 | 116513-32 | 4M920 | 159.00 | 137.45 | 7.4 |
| B | 2 | 120 | 11.7 | Ball | 7 | 106.7 | 112.0 | 404 | 2, 3 | 116472-13 | 4M937 | 122.00 | 105.50 | 6.4 |
| B | 2 | 120 | 11.7 | Ball | 7 | 106.7 | 112.0 | 404 | 2 | 116472-00 | 2M432 | 110.00 | 95.10 | 5.0 |
| B | 2 | 120 | 9.9 | Ball | 7 | 92.5 | 97.4 | 301 | 2, 3, 7 | 116474-37 | 4M983 | 109.00 | 94.25 | 6.4 |
| B | 2 | 120 | 9.9 | Ball | 7 | 92.5 | 97.4 | 301 | 2, 7 | 116474-00 | 4M938 | 104.00 | 89.95 | 9.0 |
| B | 2 | 120 | 9.8 | Ball | 6 1/2 | 92.5 | 101.0 | 298 | 2, 3 | 116114-00 | 4M939 | 118.00 | 102.05 | 5.7 |
| B | 2 | 120 | 9.0 | Ball | 6 1/2 | 91.3 | 104.0 | 300 | 2 | 116207-00 | 2M201 | 110.00 | 95.10 | 5.0 |
| B | 2 | 120 | 8.0 | Ball | 6 1/16 | 88.1 | 96.0 | 289 | 1 | 115894 | 4M926 | 106.00 | 91.65 | 5.6 |
| B | 2 | 120 | 8.0 | Ball | 6 1/16 | 88.1 | 96.0 | 289 | 2 | 116210-50 | 4M927 | 105.00 | 90.80 | 5.6 |
| B | 2 | 120 | 8.2 | Ball | 6 1/2 | 88.2 | 105.5 | 285 | 2, 4 | 116210-85 | 4M928 | 111.00 | 95.95 | 5.6 |
| B | 2 | 120 | 8.6 | Ball | 6 1/2 | 81.8 | 97.0 | 248 | 2, 3 | 116392-00 | 2M430 | 88.00 | 76.10 | 4.6 |
| B | 2 | 120 | 8.6 | Ball | 6 1/2 | 81.8 | 97.0 | 250 | 2 | 116392-01 | 4M929 | 86.00 | 74.35 | 5.3 |
| B | 2 | 240 | 4.6 | Ball | 6 15/16 | 86.8 | 96.0 | 269 | 2 | 116213-00 | 4M935 | 126.00 | 108.90 | 5.9 |
| B | 2 | 220 | 6.7 | Ball | 7 | 100.5 | 126.3 | 413 | 2 | 116353-00 | 4M936 | 124.00 | 107.25 | 5.9 |
| B | 2 | 240 | 4.4 | Ball | 6 15/16 | 87.5 | 108.0 | 317 | 2, 3 | 116420-13 | 4M934 | 102.00 | 88.20 | 6.0 |
| B | 2 | 100 | 12.5 | Ball | 7 | 96.9 | 108.1 | 358 | 2 | 117160-13 | 4M940 | 114.00 | 98.55 | 7.0 |
| B | 2 | 24† | 14.4 | Ball | 6 5/16 | 43.6 | 66.4 | 98 | 2, 3 | 116157-00 | 4M933 | 180.00 | 155.75 | 5.5 |
| B | 2 | 36† | 15.1 | Ball | 6 15/16 | 62.8 | 77.0 | 161 | 2, 3 | 116409-13 | 4M931 | 145.00 | 125.35 | 7.0 |
| B | 2 | 36† | 10.8 | Ball | 6 1/2 | 47.3 | 71.0 | 113 | 2, 3 | 116158-01 | 4M932 | 173.00 | 149.50 | 5.8 |
| B | 2 | 36† | 10.8 | Ball | 6 1/2 | 47.3 | 71.0 | 113 | 2, 3, 4 | 116158-00 | 4M930 | 188.00 | 162.50 | 5.2 |
| B | 1 | 120 | 5.7 | Ball/Sleeve | 4 7/16 | 47.8 | 93.0 | 157 | 1 | 116520-50 | 4M941 | 64.00 | 55.35 | 4.2 |
| C | 3 | 120 | 11.1 | Ball | 7 13/16 | 119.6 | 100.0 | 382 | 2, 3 | 116764-13 | 4M914 | 142.00 | 122.80 | 7.1 |
| C | 3 | 240 | 5.2 | Ball | 7 13/16 | 112.2 | 96.0 | 346 | 2, 3 | 116945-13 | 4M913 | 147.00 | 127.10 | 7.1 |
| C | 2 | 120 | 11.3 | Ball | 6 15/16 | 107.1 | 110.0 | 387 | 2, 3 | 116763-13 | 2M433 | 120.00 | 103.70 | 5.3 |
| C | 2 | 120 | 9.2 | Ball | 6 1/2 | 91.5 | 103.0 | 293 | 2, 3 | 116758-13 | 2M267 | 90.00 | 77.85 | 4.9 |
| C | 2 | 120 | 9.2 | Ball | 6 1/2 | 91.5 | 102.0 | 293 | 2, 3, 6 | 116025-13 | 4M916 | 90.00 | 77.85 | 5.8 |
| C | 2 | 120 | 7.9 | Ball | 6 1/2 | 84.9 | 97.0 | 255 | 2, 3 | 116757-13 | 2M266 | 81.00 | 70.05 | 4.9 |
| C | 2 | 120 | 7.9 | Ball | 6 1/2 | 84.9 | 97.0 | 255 | 2, 3, 6 | 116024-13 | 4M917 | 82.00 | 70.90 | 5.7 |
| C | 2 | 240 | 4.9 | Ball | 7 | 95.2 | 111.0 | 362 | 2, 3 | 116296-13 | 4M915 | 103.00 | 89.05 | 5.6 |
| D | 3 | 120 | 10.7 | Ball | 7 13/16 | 117.4 | 99.0 | 368 | 2, 7 | 116566-13 | 4M945 | 138.00 | 119.30 | 6.9 |
| D | 3 | 24† | 21.0 | Ball | 7 13/16 | 67.2 | 69.0 | 142 | 2, 3, 7 | 116514-13 | 4M943 | 156.00 | 134.85 | 6.7 |
| D | 3 | 36† | 17.9 | Ball | 7 13/16 | 74.0 | 76.0 | 185 | 2, 3, 7 | 116512-13 | 4M942 | 153.00 | 132.30 | 6.8 |
| D | 2 | 120 | 11.7 | Ball | 7 | 106.7 | 112.0 | 404 | 2, 3 | 116471-13 | 4M953 | 117.00 | 101.15 | 6.1 |
| D | 2 | 120 | 11.7 | Ball | 7 | 106.7 | 112.0 | 404 | 2 | 116471-00 | 2M431 | 106.00 | 91.65 | 4.9 |
| D | 2 | 120 | 9.1 | Ball | 5 15/16 | 91.3 | 104.0 | 300 | 2 | 116212-00 | 4M954 | 109.00 | 94.25 | 5.5 |
| D | 2 | 120 | 9.1 | Ball | 6 15/16 | 93.2 | 101.0 | 332 | 2 | 116448-00 | 4M955 | 95.00 | 82.20 | 6.0 |
| D | 2 | 120 | 9.0 | Ball/Sleeve | 6 5/16 | 90.3 | 100.0 | 313 | 2 | 116493-50 | 4M949 | 79.00 | 68.35 | 5.2 |
| D | 2 | 120 | 8.0 | Ball/Sleeve | 6 5/16 | 88.1 | 96.0 | 292 | 2 | 115757-P | 2M265 | 88.00 | 76.10 | 4.9 |
| D | 2 | 120 | 8.0 | Ball | 6 5/16 | 84.3 | 94.0 | 274 | 2 | 116336-01 | 2M429 | 72.00 | 62.25 | 4.2 |
| D | 2 | 120 | 8.0 | Ball/Sleeve | 6 5/16 | 84.3 | 94.0 | 274 | 2 | 116336-00 | 2M195 | 72.00 | 62.25 | 4.9 |
| D | 2 | 240 | 5.7 | Ball | 7 | 97.8 | 107.0 | 389 | 2 | 116354-00 | 4M951 | 113.00 | 97.75 | 5.8 |
| D | 2 | 240 | 4.9 | Ball | 7 | 95.4 | 112.0 | 360 | 2, 3, 6 | 116036-13 | 4M952 | 101.00 | 87.35 | 6.2 |
| D | 2 | 240 | 3.3 | Ball/Sleeve | 6 5/16 | 67.6 | 82.0 | 185 | 2 | 116125-00 | 4M946 | 83.00 | 71.80 | 5.2 |
| D | 2 | 240 | 3.2 | Ball/Sleeve | 6 5/16 | 69.0 | 82.0 | 211 | 2 | 115752 | 4M948 | 97.00 | 83.85 | 5.4 |
| D | 2 | 100 | 12.5 | Ball | 6 15/16 | 96.9 | 108.1 | 358 | 2, 3 | 116658-13 | 4M956 | 116.00 | 100.30 | 8.0 |
| D | 2 | 24† | 14.4 | Ball | 6 1/2 | 43.6 | 66.4 | 98 | 2, 3 | 116155-00 | 2M189 | 163.00 | 140.90 | 5.4 |
| D | 2 | 36† | 15.1 | Ball | 7 9/16 | 62.0 | 77.0 | 163 | 2, 3 | 116406-13 | 4M950 | 140.00 | 121.00 | 6.1 |
| D | 2 | 36† | 10.8 | Ball | 6 1/2 | 47.3 | 70.7 | 113 | 2, 3 | 116156-00 | 2M190 | 156.00 | 134.85 | 5.0 |
| E | 1 | 120 | 7.0 | Ball/Sleeve | 5 3/16 | 49.5 | 133.0 | 291 | 2 | 116196-00 | 4M960 | 71.00 | 61.45 | 4.4 |
| E | 1 | 120 | 5.7 | Ball/Sleeve | 5 1/16 | 50.1 | 95.0 | 188 | 2 | 116325-00 | 2M428 | 56.00 | 48.50 | 2.8 |
| E | 1 | 240 | 3.3 | Ball/Sleeve | 6 3/16 | 50.8 | 99.0 | 201 | 2 | 116271-00 | 4M957 | 68.00 | 58.85 | 4.3 |
| E | 1 | 240 | 3.8 | Ball/Sleeve | 5 3/16 | 46.9 | 137.0 | 264 | 2 | 116340-00 | 4M958 | 73.00 | 63.15 | 6.0 |
| E | 1 | 220 | 3.8 | Ball/Sleeve | 5 3/16 | 45.9 | 129.0 | 255 | 2 | 115977 | 4M959 | 79.00 | 68.35 | 4.5 |

(*) Special Features: (1) Metal mounting brackets; (2) Thermoset brackets; (3) Air sealed bearing protection; (4) 1 7/8" inlet; (5) 1 1/2" inlet; (6) Double insulated; (7) Special fans (tapered). (8) High air flow for restricted ventilating conditions. (†) DC Volts.

# INDUSTRIAL/COMMERCIAL VACUUM MOTORS

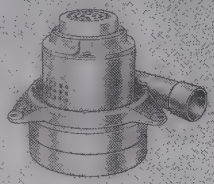
## 7.2 INCH DIAMETER BYPASS VACUUM MOTORS/BLOWERS

AMETEK

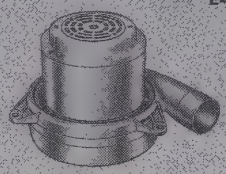
E47185

LR31393 (except No. 3HV26)

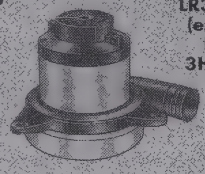
FOR REPLACEMENT BRUSH MECHANISMS, SEE PAGE 174



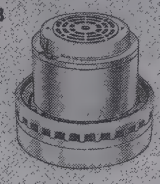
A No. 2M188 Tangential Discharge



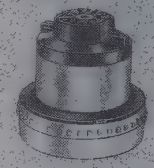
B No. 2M174 Tangential Discharge



C No. 2M416 Tangential Discharge



D No. 2M173 Peripheral Discharge



E No. 2M414 Peripheral Discharge

- **Tangential or peripheral air discharge**
- **Copper windings**

**Typical Applications:** Central vacuums, steam carpet cleaners, carwash vacuums, and commercial/industrial vacuum systems.

**NOTE:** Thru flow vacuum motors are to be used in dry applications only. Bypass motors should not come in contact with foam, liquids, or moisture laden air. Applications should be designed to protect the motor's fan system, housing, and electric components.

**Bearings:** Ball
**Mounting:** All position
**Enclosure:** Open
**Thermal Protection:** None
**Insulation Class:** A
**Ambient:** 40°C
**Duty:** Intermittent
**Average Life:** 700 hours
**Brand:** Ametek

| Style | Blower Stages | Volts 50/60 Hz | Max. Amps | Overall Ht. (In.) | Vacuum (in $H_2O$ Sealed) | CFM (2" Orifice) | Max. Air Watts | Special Features* | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3 | 120 | 13.8 | 7 59/64 | 134.0 | 92.0 | 403 | 1, 3 | 116103-00 | 2M188 | $256.00 | $221.75 | 10.0 |
| A | 3 | 120 | 13.8 | 8 59/64 | 134.0 | 92.0 | 403 | 1, 3, 4 | 116161-00 | 4M884 | 269.00 | 232.75 | 10.0 |
| A | 3 | 120 | 12.6 | 7 23/32 | 134.0 | 94.0 | 438 | 1 | 116119-00 | 2M202 | 230.00 | 199.00 | 11.0 |
| C | 3 | 120 | 12.7 | 8 5/8 | 134.0 | 94.0 | 406 | 2, 3 | 117507-13 | 4M885 | 216.00 | 187.00 | 11.0 |
| C | 3 | 120 | 12.7 | 8 5/8 | 134.0 | 94.0 | 406 | 2 | 117507-00 | 2M419 | 196.00 | 170.00 | 9.0 |
| D | 3 | 120 | 14.7 | 7 13/16 | 131.4 | 105.0 | 447 | 1, 3 | 116118-00 | 4M891 | 250.00 | 216.50 | 10.0 |
| E | 3 | 120 | 12.0 | 8 5/8 | 134.5 | 92.0 | 395 | 2 | 117511-00 | 2M415 | 205.00 | 177.50 | 9.0 |
| A | 3 | 120 | 14.0 | 8 7/8 | 145.9 | 102.5 | 530 | 1 | 117500-12 | 3HV25 | 331.00 | 199.00 | 11.0 |
| C | 3 | 230 | 6.2 | 8 5/8 | 131.0 | 86.0 | 392 | 2 | 117741-00 | 4M882 | 212.00 | 183.50 | 11.0 |
| A | 3 | 220 | 5.5 | 8 59/64 | 106.0 | 87.0 | 306 | 1, 3 | 116136-00 | 4M883 | 281.00 | 243.25 | 10.0 |
| A | 3 | 240 | 7.0 | 8 7/8 | 145.6 | 103.2 | 511 | 1 | 117502-12 | 3HV26 | 339.00 | 204.50 | 11.0 |
| A | 2 | 120 | 12.7 | 6 13/16 | 110.1 | 105.4 | 392 | 1, 3 | 115937 | 2M178 | 235.00 | 203.50 | 9.5 |
| A | 2 | 220 | 5.5 | 6 13/16 | 95.0 | 98.9 | 308 | 1, 3 | 115950 | 4M888 | 261.00 | 226.00 | 9.6 |
| B | 2 | 120 | 13.0 | 6 1/16 | 110.0 | 102.7 | 384 | 1 | 115384 | 2M174 | 202.00 | 174.75 | 8.9 |
| B | 2 | 240 | 5.9 | 6 3/16 | 109.6 | 101.2 | 356 | 1 | 115684 | 4M887 | 242.00 | 209.50 | 9.3 |
| C | 2 | 120 | 12.8 | 7 11/16 | 123.0 | 110.0 | 455 | 2, 3 | 117467-13 | 4M889 | 204.00 | 176.75 | 10.0 |
| C | 2 | 120 | 12.8 | 7 11/16 | 123.0 | 110.0 | 455 | 2 | 117467-00 | 2M418 | 185.00 | 160.00 | 8.3 |
| C | 2 | 120 | 12.8 | 7 11/16 | 123.0 | 110.0 | 437 | 2, 3 | 117465-13 | 2M417 | 207.00 | 179.25 | 7.7 |
| C | 2 | 120 | 12.8 | 7 11/16 | 123.0 | 110.0 | 437 | 2 | 117465-00 | 2M416 | 186.00 | 161.00 | 7.5 |
| C | 2 | 240 | 6.1 | 7 11/16 | 114.8 | 108.1 | 440 | 2, 3 | 117157-13 | 4M886 | 202.00 | 174.75 | 10.0 |
| C | 2 | 100 | 14.3 | 7 5/16 | 114.9 | 104.1 | 415 | 2, 3 | 117917-13 | 4M890 | 206.00 | 178.25 | 9.3 |
| D | 2 | 240 | 5.7 | 6 3/16 | 97.2 | 107.3 | 324 | 1 | 115519 | 4M892 | 234.00 | 202.75 | 9.3 |
| D | 2 | 220 | 5.5 | 6 13/16 | 88.7 | 104.8 | 301 | 1, 3 | 115963 | 4M893 | 252.00 | 218.00 | 9.3 |
| D | 2 | 120 | 13.0 | 6 13/16 | 106.1 | 116.4 | 401 | 1, 3 | 115962 | 2M187 | 230.00 | 199.00 | 8.5 |
| D | 2 | 120 | 13.0 | 6 3/16 | 110.0 | 102.7 | 384 | 1 | 115330 | 2M173 | 195.00 | 168.75 | 8.5 |
| E | 2 | 120 | 12.9 | 7 5/16 | 113.3 | 104.0 | 407 | 2 | 117508-00 | 2M414 | 166.00 | 143.50 | 8.5 |
| E | 2 | 120 | 10.9 | 7 3/4 | 109.1 | 97.8 | 386 | 2 | 117560-01 | 4M894 | 228.00 | 197.50 | 9.2 |

(*) Special Features: (1) Metal mounting brackets; (2) Thermoset brackets; (3) Air sealed bearing protection; (4) 2-inch inlet.

**CAUTION: Not for fans in unattended areas.**

**Refer to page 6 for UL Standard, proper thermal protection, and other motor selection information.**

## 7.5 INCH DIAMETER INDUSTRIAL/COMMERCIAL VACUUM MOTORS/BLOWERS

**Applications:** Commercial vacuums, dental evacuators, hopper loaders, and material handling and transfer systems.

**Features:** Permanently lubricated ball bearings, peripheral discharge, long life design, and copper windings.

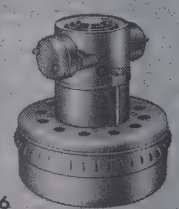
**Bearings:** Ball
**Mounting:** All position
**Enclosure:** Open
**Thermal Protection:** None
**Insulation Class:** A (except Nos. 4M880 and 4M878 are Class B)
**Ambient:** 40°C
**Duty:** Intermittent
**Average Life:** 1000 hours
**Brand:** Ametek

| Blower Stages | Volts 50/60 Hz | Max. Amps | Overall Ht. (In.) | Vacuum (In. $H_2O$ Sealed) | CFM (2" Orifice) | Max. Air Watts | Spec. Feat.* | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 120 | 11.6 | 97/16 | 88.2 | 126.0 | 360 | — | 114787 | 2M179 | $405.00 | $350.25 | 12.0 |
| 3 | 220 | 5.2 | 97/16 | 84.2 | 122.0 | 354 | — | 114789 | 4M877 | 497.00 | 429.75 | 13.0 |
| 3 | 42‡ | 30.0 | 97/16 | 87.9 | 126.0 | 360 | — | 115419 | 4M876 | 589.00 | 509.50 | 13.0 |
| 2 | 120 | 10.6 | 85/16 | 73.4 | 131.0 | 329 | — | 114786 | 4M881 | 401.00 | 347.00 | 11.0 |
| 2 | 220 | 4.8 | 85/16 | 70.2 | 146.0 | 329 | — | 114788 | 4M879 | 475.00 | 411.00 | 12.0 |
| 2 | 115 | 10.0 | 101/4 | 69.6 | 132.0 | 315 | 1 | 114586 | 4M880 | 1455.00 | 1260.00 | 16.0 |
| 2 | 230 | 5.0 | 101/4 | 61.2 | 123.0 | 299 | 1 | 114589 | 4M878 | 1537.00 | 1330.00 | 11.0 |

(*) Special Features: (1) Hazardous duty Class I Group D; Class II Groups E, F, and G. (‡) DC Volts.

AMETEK

E47185 LR31393



No. 4M876

## 5.7 INCH DIAMETER BRUSHLESS BLOWERS

- 50/60 Hz with continuous, long life operation
- Tangential discharge
- Aluminum construction
- Centrifugal fan system
- Brushless DC motor drive
- Low noise to power ratio
- Adjustable air performance
- Pressure or vacuum applications
- Compact size
- Air intake and exhaust tube
- Mechanical control features a built-in potentiometer
- Electronic control requires a remote 0-10 volt DC signal (not included)

**Typical Applications:** Business machines, computer peripherals, material handling, air samplers/evacuators, packaging equipment, photographic equipment, and medical equipment.

**Bearings:** Ball

**Mounting:** All position

**Enclosure:** Open

**Thermal Protection:** Auto

**Insulation Class:** A

**Ambient:** 40°C

**Brand:** Ametek

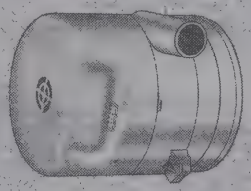
AMETEK

E94403

LR43448

TÜV Rheinland

a571008/EN60950



No. 4M961

Replacement Parts Available 1-800-323-0620

| Watts | Blower Stages | Volts 60 Hz | Max. Amps | Overall Height (In.) | Vacuum (In. $H_2O$ Sealed) | CFM | Control | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 250 | 1 | 120 | 5.0 | 5⅞ | 34.0 | 72.0 | Mechanical | 116634-03 | 4M965 | $619.00 | $402.00 | 6.0 |
| 250 | 1 | 120 | 5.0 | 5⅞ | 34.0 | 72.0 | Electronic | 116640-02 | 4M968 | 623.00 | 404.50 | 5.0 |
| 250 | 1 | 120 | 5.0 | 6⅛ | 28.0 | 120.0 | Mechanical | 116637-03 | 4M966 | 628.00 | 408.00 | 5.5 |
| 250 | 1 | 120 | 5.0 | 6⅛ | 28.0 | 120.0 | Electronic | 116643-03 | 4M967 | 633.00 | 411.25 | 4.9 |
| 250 | 2 | 120 | 5.0 | 7⅛ | 49.0 | 90.0 | Mechanical | 116636-03 | 4M963 | 648.00 | 421.25 | 7.0 |
| 250 | 2 | 120 | 5.0 | 7⅛ | 49.0 | 90.0 | Electronic | 116642-03 | 4M964 | 653.00 | 424.00 | 5.3 |
| 250 | 3 | 120 | 5.2 | 7⅝ | 75.0 | 50.0 | Mechanical | 116632-06 | 4M961 | 654.00 | 424.75 | 6.5 |
| 250 | 3 | 120 | 5.2 | 7⅝ | 75.0 | 50.0 | Electronic | 116638-08 | 4M962 | 658.00 | 427.25 | 6.0 |
| 400 | 1 | 240 | 4.5 | 5⅞ | 26.0 | 74.0 | Mechanical | 117634-01 | 3HV28 | 692.00 | 449.50 | 5.0 |
| 400 | 1 | 240 | 4.5 | 5⅞ | 26.0 | 74.0 | Electronic | 117640-01 | 3HV33 | 696.00 | 452.50 | 5.0 |
| 400 | 1 | 240 | 4.5 | 6⅛ | 25.0 | 115.0 | Mechanical | 117637-01 | 3HV31 | 702.00 | 456.25 | 5.0 |
| 400 | 1 | 240 | 4.5 | 6⅛ | 25.0 | 115.0 | Electronic | 117643-02 | 3HV36 | 708.00 | 460.00 | 5.0 |
| 400 | 2 | 240 | 4.5 | 7⅛ | 39.0 | 100.0 | Mechanical | 117636-01 | 3HV30 | 725.00 | 471.25 | 5.0 |
| 400 | 2 | 240 | 4.5 | 7⅛ | 39.0 | 100.0 | Electronic | 117642-02 | 3HV35 | 730.00 | 474.25 | 5.0 |
| 400 | 3 | 240 | 4.5 | 7⅝ | 50.0 | 86.0 | Mechanical | 117635-03 | 3HV29 | 724.00 | 470.50 | 5.0 |
| 400 | 3 | 240 | 4.5 | 7⅝ | 50.0 | 86.0 | Electronic | 117641-01 | 3HV34 | 748.00 | 486.25 | 5.0 |
| 400 | 3 | 240 | 4.5 | 7⅝ | 60.0 | 58.0 | Mechanical | 117632-02 | 3HV27 | 731.00 | 475.00 | 5.0 |
| 400 | 3 | 240 | 4.5 | 7⅝ | 60.0 | 58.0 | Electronic | 117638-03 | 3HV32 | 736.00 | 478.00 | 5.0 |
| 800 | 1 | 120 | 9.5 | 6⅛ | 36.0 | 140.0 | Mechanical | 119102-01 | 3HV44 | 918.00 | 597.00 | 5.0 |
| 800 | 1 | 120 | 9.5 | 6⅛ | 36.0 | 140.0 | Electronic | 119101-01 | 3HV43 | 921.00 | 599.00 | 5.0 |
| 800 | 2 | 120 | 9.5 | 7¼ | 56.0 | 107.0 | Mechanical | 119104-01 | 3HV46 | 924.00 | 601.00 | 5.0 |
| 800 | 2 | 120 | 9.5 | 7¼ | 56.0 | 107.0 | Electronic | 119103-01 | 3HV45 | 927.00 | 603.00 | 5.0 |
| 800 | 3 | 120 | 9.0 | 7⅝ | 85.0 | 68.0 | Mechanical | 117418-01 | 3HV24 | 949.00 | 617.00 | 5.0 |
| 800 | 3 | 120 | 9.0 | 7⅝ | 85.0 | 68.0 | Electronic | 117417-01 | 3HV23 | 949.00 | 617.00 | 5.0 |
| 1200 | 1 | 240 | 10.5 | 6⅛ | 46.0 | 176.0 | Mechanical | 119152-02 | 3HV48 | 960.00 | 624.00 | 5.0 |
| 1200 | 1 | 240 | 10.5 | 6⅛ | 46.0 | 176.0 | Electronic | 119151-01 | 3HV47 | 933.00 | 606.50 | 5.0 |
| 1200 | 2 | 240 | 10.5 | 7¼ | 80.0 | 137.0 | Mechanical | 119154-01 | 3HV50 | 965.00 | 627.00 | 5.0 |
| 1200 | 2 | 240 | 10.5 | 7¼ | 80.0 | 137.0 | Electronic | 119153-01 | 3HV49 | 936.00 | 608.50 | 5.0 |
| 1200 | 3 | 240 | 10.5 | 7⅝ | 118.0 | 85.0 | Mechanical | 117416-01 | 3HV22 | 997.00 | 648.00 | 5.0 |
| 1200 | 3 | 240 | 10.5 | 7⅝ | 118.0 | 85.0 | Electronic | 117415-01 | 3HV21 | 997.00 | 648.00 | 5.0 |

DANGER
CONFINED SPACE
ENTER BY PERMIT ONLY

CONFINED SPACE SAFETY SIGNS AVAILABLE.
See Index Under Signs.

DANGER
CONFINED SPACE
ENTER BY PERMIT ONLY

DANGER
PERMIT-REQUIRED CONFINED SPACE DO NOT ENTER

DANGER
CONFINED SPACE
ENTER BY PERMIT ONLY

# BRUSHLESS BLOWERS AND MOTORS, CONTROLLERS, AND POWER NOZZLE MOTORS

## 12 AND 24 VOLT BRUSHLESS DC BLOWERS

- Tangential discharge
- 5.0 and 5.7" diameters
- Brushless DC motor drive
- Aluminum fan end bracket
- Centrifugal fan system
- Air intake and exhaust tube
- Nos.3HV18 and 3HV19 require controller No. 3HV53; No. 3HV20 requires controller No. 3HV51

**Typical Applications:** Business machines, computer peripherals, material handling, air samplers/evacuators, packaging equipment, photographic equipment, and medical equipment.

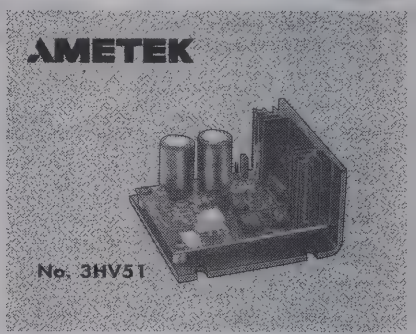
| Dia. (In.) | Blower Stages | DC Volts | Max. Amps | Overall Height (In.) | Max. Pressure (In. H2O Sealed) | CFM | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5.7** | 3 | 24 | 5.0 | 5 9/16 | 22.0 | 38.0 | 116450-01 | **3HV18** | $410.00 | **$266.00** | 5.0 |
| **5.7** | 1 | 24 | 5.0 | 3 9/32 | 9.2 | 47.0 | 116521-02 | **3HV19** | 384.00 | **249.50** | 5.0 |
| **5.0** | 1 | 12 | 5.0 | 3 | 12.2 | 32.0 | 117007-02 | **3HV20** | 270.00 | **175.00** | 3.0 |




## BLOWER AND MOTOR CONTROLLERS

- Nos. 3HV51 and 3HV53 are blower controllers; No. 3HV52 is a motor controller
- Adjustable by built-in mechanical potentiometer or remote 0-5 volt DC input (not provided)
- High efficiency MOSFET drive
- Current limit protection
- 18" cable supplied
- Forward/reverse rotation
- Closed loop speed control
- Internal supply for hall effects
- Anodized heat sink chassis mount

| DC Volts | Description | Max. Amps | For Use With | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **12V** | Blower controller | 5 | 3HV20 | 48063-01 | **3HV51** | $304.00 | **$197.25** | 2.0 |
| **24V** | Blower controller | 10 | 3HV18 & 3HV19 | 48070-01 | **3HV53** | 351.00 | **227.75** | 2.0 |
| **24V** | Motor controller | 10 | 24 Volt Motors Below | 48067-01 | **3HV52** | 351.00 | **237.50** | 2.0 |




## 24 VOLT BRUSHLESS DC MOTORS

- Rare earth, neodymium-iron-boron magnets
- Requires motor control, No. 3HV52
- 8 pole/12 slot construction

**Typical Applications:** Cartridge/reel-to-reel tape drives, business machines, pump/compressor, medical instrumentation, robotics, and machine tools.

| Body Dia. (In.) | Cont. Power HP | Nom. RPM | Cont. Torque (Oz./In.) | Max. Amps | Stack (In.) | Std. Hall Effect Commutation | Height (In.) | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.5** | — | — | — | 5 | 0.50 | 120° | 3 3/32 | 119000-01 | **3HV37** | $224.00 | **$145.25** | 2.0 |
| **2.5** | 0.143 | 4228 | 34 | 10 | 1.25 | 120° | 3 19/32 | 119003-01 | **3HV38** | 242.00 | **157.00** | 2.0 |
| **2.5** | 0.137 | 2002 | 69 | 10 | 2.50 | 120° | 6 | 119008-01 | **3HV39** | 304.00 | **197.25** | 2.0 |
| **3.55** | 0.081 | 3715 | 22 | 5 | 0.50 | 60° | 3 1/4 | 119050-01 | **3HV40** | 255.00 | **165.75** | 2.0 |
| **3.55** | 0.165 | 2641 | 68 | 10 | 1.25 | 60° | 3 3/4 | 119053-01 | **3HV41** | 284.00 | **184.75** | 2.0 |
| **3.55** | 0.159 | 1214 | 132 | 10 | 2.50 | 60° | 6 1/8 | 119058-01 | **3HV42** | 366.00 | **237.75** | 2.0 |

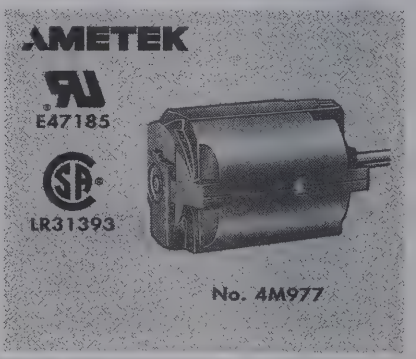



## POWER NOZZLE MOTORS

**Typical Applications:** Suitable for motorized brush drive power head replacements
**Features:** Thermoset plastic housing, threaded mounting inverts, and thermal cutoff protector
**Bearings:** Ball/Sleeve
**Mounting:** 2.25" OC tapped #8-32; No. 4M978 10-32
**Enclosure:** Open
**Thermal Protecton:** One time non-reset
**Insulation Class:** A
**Ambient:** 40°C
**Duty:** Intermittent
**Rotation:** CCW facing shaft
**Average Life:** 200 hours

| HP | RPM | Volts 60 Hz | Input Watts | Shaft Dimens. (In.) | Overall Length (In.) | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **0.15** | 19,500 | 120 | 480 | .315 x 1.18 | 4.68 | 118154-54 | **4M979** | $40.00 | **$26.95** | 1.6 |
| **0.16** | 20,000 | 120 | 240 | .315 x 0.88 | 4.38 | 118155-54 | **4M977** | 40.00 | **26.95** | 1.6 |
| **0.12** | 15,000 | 120 | 300 | .315 x 0.88 | 4.38 | 118157-54 | **4M978** | 40.00 | **26.95** | 1.6 |
| **0.09** | 12,000 | 120 | 240 | .315 x 1.09* | 4.59 | 118158-54 | **4M980** | 60.00 | **43.65** | 3.0 |

(*) Cogged shaft extension.



# UNIVERSAL TYPE AC/DC MOTORS



**Typical Uses:** Appliances, power tools, outdoor equipment, food processing equipment, gearmotors, blowers, pumps, and other applications where high horsepower output and small size are required. Series wound. Full-load speeds shown are adjustable with proper speed control. Average brush life approximately 300 hours, depending on application.

**Enclosure:** Open
**Service Factor:** 1.0
**Thermal Protection:** None
**Windings:** Copper
**Ambient:** 40°C
**Rotation:** CW or CCW (non-reversible)
**Finish:** Gray enamel
**Approval:** UL Recognized (E47479)
**Brand:** Dayton

### A & B 2¾" DIA., SINGLE SHAFT

**Mounting:** Side mounted motors have two tapped #10-32 holes, 2 3/16" OC on one or both sides; No. 2M066 has base with 2 3/16 x 2 7/16" OC; **Special Features:** No. 2M277 has externally replaceable brushes for extended motor life.

### C 3" DIA., SINGLE SHAFT

**Mounting:** Stud, two threaded studs extended out shaft endshield, 2 7/16" OC; **CSA Certified:** 83496

### D 3⅝" DIA., SINGLE SHAFT

**Mounting:** Stud with two threaded studs extending out shaft endshield, 2 7/16"; **CSA Certified:** 83496

### E 3½ x 3¾" RECTANGULAR, SINGLE SHAFT

**Mounting:** Bottom with four tapped #10-32 holes, 2 x 2 13/16" OC

### F 3⅞" DIA., SINGLE SHAFT

**Mounting:** Face with four tapped #10-32 3¼ OC 90° apart; **Special Features:** External brushes for long motor life in industrial applications; **CSA Certfied:** 87989




| HP | Key | Nameplate RPM | Rotation Facing Shaft End | Volts 60 Hz | Full-Load Amps | Bearings | Ins. Class | Body Dia. (In.) | Shaft Dimensions (In.) Dia. x L | Length Less Shaft (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/15 | A | 5000 | CCW | 115 | 1.2 | Sleeve | A | 2 3/4 | 1/4 x 1 ea | 4 7/16 | **2M066*** | $42.92 | **$40.30** | 2.2 |
| 1/15 | B | 5000 | CCW | 115 | 1.2 | Sleeve | A | 2 3/4 | 1/4 x 3/4 | 4 7/16 | **2M033*** | 35.33 | **33.40** | 2.0 |
| 1/15 | B | 5000 | CCW | 115 | 1.2 | Sleeve | A | 2 3/4 | 1/4 x 3/4 | 4 7/16 | **2M277*** | 39.37 | **37.05** | 2.0 |
| 1/15 | B | 5000 | CW | 115 | 1.2 | Sleeve | A | 2 3/4 | 1/4 x 3/4 | 4 7/16 | **2M034*** | 35.33 | **33.40** | 2.0 |
| 1/15 | B | 5000 | CCW | 115 | 1.2 | Ball | A | 2 3/4 | 5/16 x 7/8 | 4 7/16 | **2M057*** | 54.53 | **50.30** | 2.0 |
| 1/10 | B | 8000 | CCW | 115 | 1.5 | Ball | A | 2 3/4 | 1/4 x 7/8 | 4 7/16 | **2M037*** | 63.62 | **58.70** | 2.3 |
| 1/7 | C | 10,000 | CCW | 115 | 2.0 | Sleeve | F | 3 | 5/16 x 1 | 3 9/16 | **2M144*** | 88.39 | **82.40** | 2.2 |
| 1/5 | D | 10,000 | CCW | 115 | 2.9 | Sleeve | F | 3 3/8 | 5/16 x 1 | 5 1/2 | **2M139*** | 66.14 | **60.40** | 2.8 |
| 1/2 | E | 10,000 | CCW | 115 | 6.3 | Ball | A | 3 1/2 x 3 3/4 | 3/8 x 1 1/4 | 7 7/16 | **2M145†** | 139.36 | **128.40** | 7.5 |
| 1 | F | 10,000 | CCW | 115 | 12.1 | Ball | A | 3 7/8 | 7/16 x 1 1/4 | 9 1/32 | **2M191** | 202.47 | **185.75** | 10.0 |

(*) Can be used with No. 4X796 speed control. (†) Can be used with No. 4X797 speed control.

## DAYTON CARBON BRUSH AND COPPER COIL SPRING REPLACEMENTS

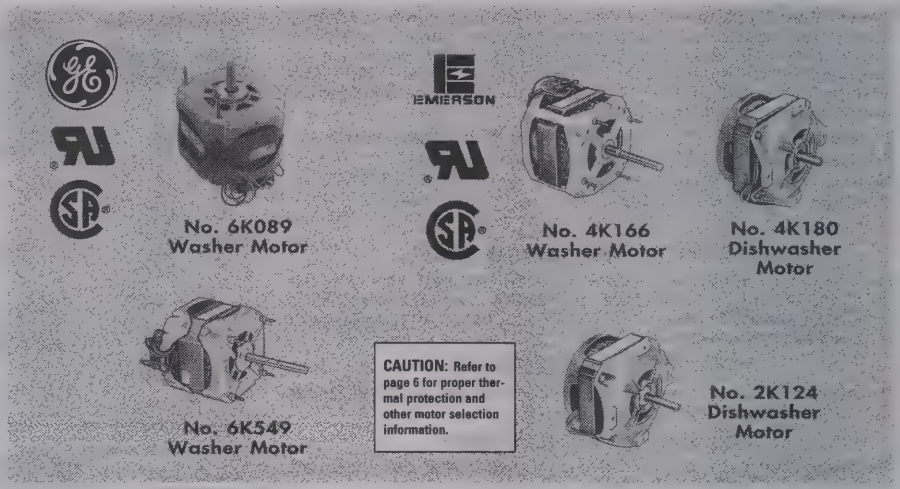
| Replacements for: | CARBON BRUSH REPLACEMENTS | | | | COPPER COIL SPRING REPLACEMENTS | | | |
|---|---|---|---|---|---|---|---|---|
| | Stock No. | Qty. / Pkg. | List | Each / Pkg. | Stock No. | Qty. / Pkg. | List | Each / Pkg. |
| **2M033, 2M034, 2M037, 2M057, 2M066, and 2M276, Original Motors** | **1R205** | 12 | $8.40 | **$5.53** | **1R206** | 12 | $6.80 | **$4.45** |
| **2M033A, 2M034A, 2M037A, 2M057B, and 2M066A New Motors** | **1R389** | 12 | 10.60 | **7.02** | **1R390** | 12 | 7.75 | **5.09** |
| **2M144 Motor** | **1R394** | 2 | 11.90 | **7.88** | — | — | — | |
| **2M277 Motor** | **1R410** | 6 | 24.00 | **20.21** | — | — | — | |
| **2M145 Motor** | **1R393** | 2 | 12.00 | **7.91** | CARBON BRUSHES AND COPPER COIL SPRINGS | | | |
| **2M191 Motor** | — | — | — | — | **1R473** | 2 | 11.60 | **7.65** |
| **2M275 Motor** | — | — | — | — | **1R474** | 2 | 10.00 | **7.35** |

## TECHNICAL REFERENCE LITERATURE

Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics
See Index under Books.

# AUTOMATIC WASHER AND DISHWASHER REPLACEMENT MOTORS

**Typical Uses:** For replacing factory-installed motors in specific brands of home washer and dishwasher appliances. Use on other applications voids warranty.
**Special Features:** Shaft and mounting dimensions are comparable to the original motor for easy replacement. Terminal switch is connected to motor in location convenient for installation. Wiring instructions included in carton; installation kit also included where required.
**Type:** Split-phase & Capacitor start
**Volts:** 115
**Bearings:** Sleeve
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B (except for 6K839 & 3K364 are F)
**Ambient:** 40°C
**Duty:** Continuous
**Windings:** Copper
**Brand:** Emerson and GE




## AUTOMATIC WASHER MOTORS

| Replaces Original Motor In: | Industry No. | HP | Nameplate RPM | Rotation Facing Shaft End | Full-Load Amps | Overall Dimens. (In.) Dia. x Length | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GE BRAND, SINGLE AND TWO SPEED** | | | | | | | | | | | |
| General Electric | 4109 | 1/2 | 1725 | Rev | 8.5 | 5 29/32 | 6 41/64 | **6K629** | $99.00 | **$56.10** | 13.0 |
| | 4110 | 1/2 | 1725 | Rev | 8.5 | 5 29/32 | 6 41/64 | **6K669*** | 110.00 | **62.35** | 13.0 |
| (Mfr's. DB75S) | 4216 | 1/3 | 1725 | Rev | 6.8 | 5 29/32 | 6 41/64 | **3K019** | 120.00 | **68.00** | 13.0 |
| Norge, Signature | 4007 | 3/4 | 1725/1140 | Rev | 11.0/9.0 | 5 29/32 | 7 7/8 | **6K839** | 132.00 | **74.80** | 16.0 |
| | 4212 | 3/4 | 1725/1140 | Rev | 11.0/9.0 | 5 29/32 | 7 21/64 | **3K069** | 129.00 | **73.10** | 17.0 |
| Speed Queen | 4121 | 1/2 | 1725/1140 | Rev | 8.7/8.0 | 5 29/32 | 10 1/4 | **6K549** | 115.00 | **65.15** | 15.0 |
| | 4010 | 1/2 | 1725/1140 | Rev | 9.4/7.0 | 5 29/32 | 9 32/64 | **3K079** | 128.00 | **72.55** | 16.0 |
| Whirlpool, Kenmore | 4091 | 1/2 | 1725/1140 | CW | 8.4/7.0 | 5 29/32 | 8 43/64 | **6K089** | 90.00 | **51.00** | 16.0 |
| White-Westinghouse "CPA" | 9019 | 1/2 | 1725/1140 | Rev | 9.1/7.8 | 5 29/32 | 10 3/4 | **3K364#** | 150.00 | **85.00** | 17.0 |
| **EMERSON BRAND, TWO SPEED** | | | | | | | | | | | |
| Speed Queen | 4121 | 1/2 | 1725/1140 | Rev | 9.2/8.5 | 6 1/8 | 10 1/2 | **4K166** | 117.00 | **80.95** | 16.0 |
| Admiral, Easy, Franklin, Gibson Hamilton and Kelvinator | 9007 | 1/2 | 1725/1140 | Rev | 9.0/8.2 | 6 1/8 | 8 3/4 | **4K190#** | 147.00 | **88.10** | 17.0 |
| Whirlpool, Kenmore | 4091 | 1/2 | 1725/1140 | CW | 9.8/8.7 | 6 1/8 | 9 1/2 | **4K161** | 93.00 | **64.05** | 18.0 |
| Maytag | 9018-4061 | 1/2 | 1725/1140 | Rev | 8.5/8.2 | 6 1/8 | 9 1/8 | **2K174** | 148.00 | **73.80** | 18.0 |
| Speed Queen | — | 1/2 | 1725/1140 | Rev | 9.8/8.2 | 6 1/8 | 9 7/8 | **2K184** | 145.00 | **72.45** | 18.0 |
| Frigidaire | — | 1/2 | 1725/1140 | Rev | 9.3/8.0 | 6 1/8 | 8 1/2 | **2K175** | 152.00 | **76.00** | 19.0 |
| Norge | — | 3/4 | 1725/1140 | Rev | 10.8/8.9 | 6 1/8 | 7 1/2 | **2K185** | 143.00 | **71.50** | 17.0 |
| **EMERSON BRAND, SINGLE SPEED** | | | | | | | | | | | |
| Whirlpool, Kenmore | 4061 | 1/2 | 1725 | CW | 8.8 | 6 1/8 | 8 1/2 | **2K177** | 148.00 | **73.80** | 17.0 |

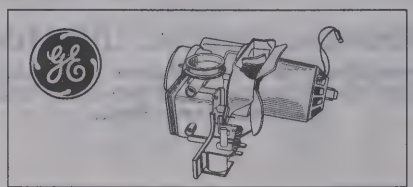
## AUTOMATIC DISHWASHER MOTORS

| Replaces Original Motor In: | Industry No. | HP | Nameplate RPM | Rotation Facing Shaft End | Full-Load Amps | Overall Dimens. (In.) Dia. x Length | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EMERSON BRAND, SINGLE SPEED** | | | | | | | | | | | |
| D & M‡ Frigidaire | 4093‡ | 1/3 | 3450 | Rev | 6.5 | 6 19/64 | 5 9/16 | **4K180*** | $66.00 | **$45.75** | 9.2 |
| | — | 1/3 | 3450 | Rev | 5.3 | 6 5/16 | 5 7/8 | **2K124** | 122.00 | **61.05** | 9.0 |

(‡) Includes Admiral, Caloric, Chambers, Frigidaire, Gaffers & Sattler, Gibson, Kelvinator, Kenmore, Magic Chef, Modern Maid, Norge, Philco, Preway, Roper & Westinghouse. (‡) Used on dishwashers built after 1966. (*) Includes relay. (#) Capacitor start.

**Replacement Motor/Pump Assembly** for GE, Hotpoint, and RCA dishwashers. Fits most models from 1970 to current models. GE brand (WD26X0077).

**No. 4527925.** Available at Grainger Parts Operation; call 1-800-323-0620.



TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

## DRYER REPLACEMENT MOTORS

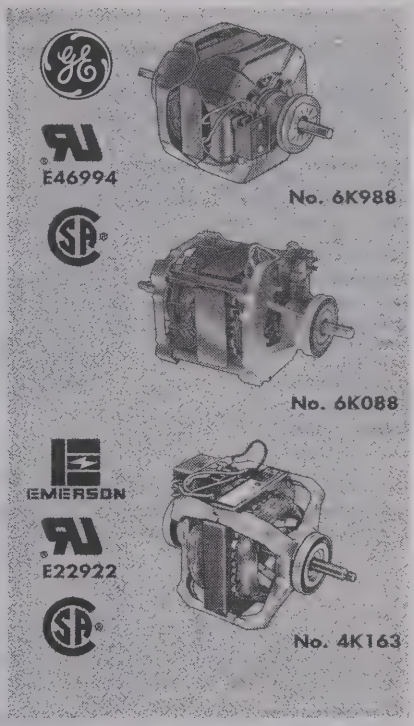
**Typical Uses:** For replacing factory-installed motors in specific brands of home laundry appliances. Use on other applications voids warranty.

**Special Features:** Shaft and mounting dimensions are comparable to the original motor for easy replacement. Terminal switch is connected to motor in location convenient for installation. Wiring instructions included in carton; installation kit also included where required.

**Bearings:** Sleeve
**Volts:** 115
**Service Factor:** 1.0
**Thermal Protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous
**Brand:** Emerson and GE
**UL File Nos.:** GE E46994 and Emerson E22922

| Replaces Original Motor In: | Industry No. | HP | Nameplate RPM | Rotation Facing Lead End | Full-Load Amps | Overall Dimens. (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **GE BRAND, SPLIT-PHASE, DOUBLE SHAFT** | | | | | | | | | | |
| General Electric | 4056 | 1/3 | 1725 | CW | 6.4 | 5 29/32 x 10 9/16 | 6K988 | $117.00 | $66.30 | 12.0 |
| Speed Queen (Mfr's. 52697) | 4105 | 1/4 | 1725 | CW | 5.4 | 5 1/32 x 8 3/4 | 6K548 | 109.00 | 61.75 | 9.5 |
| White-Westinghouse | 9006 | 1/4 | 1725 | CCW | 4.8 | 5 29/32 x 10 5/32 | 6K568 | 108.00 | 61.20 | 8.0 |
| **GE BRAND, CAPACITOR-START, DOUBLE SHAFT** | | | | | | | | | | |
| Norge, Signature | 4015 | 1/2 | 1725 | CW | 7.4 | 5 29/32 x 8 15/16 | 6K758 | 108.00 | 61.20 | 15.0 |
| **EMERSON BRAND, SPLIT-PHASE, DOUBLE SHAFT** | | | | | | | | | | |
| Maytag | 4067 | 1/4 | 1725 | CW | 6.0 | 5 1/4 x 9 1/2 | 2K120 * | 141.00 | 70.25 | 12.0 |
| Maytag | 4128 | 1/4 | 1725 | CW | 5.4 | 5 1/4 x 9 1/2 | 2K149 | 141.00 | 70.25 | 12.0 |
| Speed Queen | 4213 | 1/4 | 1725 | CW | 5.4 | 5 1/4 x 9 9/16 | 4K163 | 103.00 | 61.75 | 12.0 |
| Frigidaire | 4214 | 1/4 | 1725 | CW | 6.0 | 5 1/4 x 10 7/8 | 2K123 | 142.00 | 70.95 | 11.0 |
| Gibson, Admiral, Kelvinator | 4094 | 1/4 | 1725 | CCW | 5.2 | 5 1/4 x 10 | 2K125 | 156.00 | 78.25 | 12.0 |
| White-Westinghouse | — | 1/4 | 1725 | CCW | 4.2 | 5 1/4 x 10 1/2 | 2K159 | 123.00 | 61.90 | 9.5 |
| Admiral, Gibson, Frigidaire, Easy, Kelvinator | — | 1/3 | 1725 | CCW | 6.4 | 5 1/4 x 9 1/3 | 4K183 | 157.00 | 94.25 | 11.0 |
| GE, Hotpoint | 4128 | 1/3 | 1725 | CW | 6.4 | 5 1/4 x 10 9/16 | 2K153 | 132.00 | 52.10 | 12.0 |
| Kenmore, Whirlpool | 4096 | 1/3 | 1725 | CCW | 5.9 | 5 1/4 x 9 13/16 | 4K070 | 73.00 | 50.70 | 10.0 |
| Norge | 4017-4098 | 1/2 | 1725 | Rev. | 8.2 | 5 3/4 x 9 3/4 | 2K015 | 111.00 | 55.70 | 15.0 |

(*) Single shaft design.




## COMMERCIAL WASHER AND DRYER REPLACEMENT MOTORS

**Typical Uses:** Built specifically for replacement use on commercial dryers manufactured by Cissel, Huebsch, and washers by Speed Queen.

**Special Features:** Dual voltage on capacitor models. 3/4" dia. shaft bushing included with No. 3K038.

**Bearings:** Prelubricated ball, 2K181 has sleeve

**Mounting:** Cradle, except No. 2K181

**Enclosure:** Open dripproof

**Thermal Protection:** Auto (except No. 3K038 has none)

**Windings:** Copper
**Insulation Class:** B (except Dayton models have A)
**NEMA Frame:** 56Z
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW facing shaft (except No. 2K145 and 2K181 are CW/CCW)
**Finish:** Gray
**Brand:** Dayton, GE, and Emerson
**UL File Nos.:** Dayton E47479; GE E47088; and Emerson E22922

**CAUTION:** Refer to page 6 for proper thermal protection and other motor selection information.

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at 115V | Full-Load Amps at 230V | Service Factor | Shaft Dimensions (In.) Dia. x Length | Industry No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **DAYTON BRAND, CAPACITOR-START, DRYER, HUEBSCH** | | | | | | | | | | | |
| 1/3 | 1725 | 115/230 | 7.0 | 3.5 | 1.35 | 5/8 x 5 9/16 | 4048 | 4K136 | $197.00 | $123.10 | 21.0 |
| 1/2 | 1725 | 115/230 | 9.2 | 4.6 | 1.25 | 3/4 x 5 1/2 | 4014 | 6K135 | 274.00 | 129.85 | 26.0 |
| **GE BRAND, SPLIT-PHASE, DRYER, HUEBSCH** | | | | | | | | | | | |
| 1/3 | 1725 | 115 | 5.5 | — | 1.35 | 5/8 x 5 9/16 | 4050 | 3K038 | 171.00 | 97.60 | 19.0 |
| **EMERSON BRAND, SPLIT-PHASE, AUTOMATIC WASHER, SPEED QUEEN** | | | | | | | | | | | |
| 1/2 | 1725/1140 | 115 | 9.2 | — | 1.0 | 1/2 x 3 3/4 | — | 2K181 | 186.00 | 92.85 | 12.0 |
| **EMERSON BRAND, SPLIT-PHASE, DRYER, REVERSIBLE, CISSEL** | | | | | | | | | | | |
| 1/3 | 1725 | 115 | 5.9 | — | 1.0 | 5/8 x 1 7/8 | — | 2K145 | 154.00 | 77.05 | 12.0 |



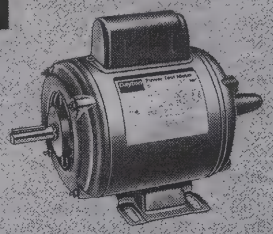
# POWER TOOL AND VIBRATOR MOTORS

## DAYTON BRAND, POWER TOOL MOTORS

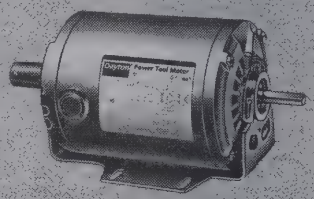
- **CW/CCW rotation by easy reconnection**
- **Suitable for all position mounting**
- **Ball bearing designs are double-shielded**

**Typical Uses:** High speed moderate starting torque woodworking and metal-working tools; wood lathes, sanders, grinders, table saws, planers and other applications where maximum HP load will not exceed nameplate rating.
**Enclosure:** Open dripproof
**Service Factor:** 1.0
**Insulation Class:** A
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton

Dayton®
E47479



No. 4K141



No. 5K600

| HP | Nameplate RPM | NEMA Frame | Thermal Protection | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Bearings | Shaft Dimensions (In.) Dia. x Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CAPACITOR-START, DOUBLE SHAFT, RIGID WELDED BASE** | | | | | | | | | | | |
| **1/2** | 3450 | 56 | Manual | 115/230 | 8.0/4.0 | Ball | 5/8 x 1⅞ ea. | **4K141** | $206.00 | **$144.75** | 19.0 |
| | 3450 | 56 | None | 115/230 | 8.0/4.0 | Ball | 5/8 x 1⅞ ea. | **5K285** | 192.00 | **134.65** | 19.0 |
| | 1725 | 56 | Manual | 115/230 | 9.0/4.5 | Ball | 5/8 x 1⅞ ea. | **4K142** | 231.00 | **162.25** | 19.0 |
| | 1725 | 56 | None | 115/230 | 9.0/4.5 | Ball | 5/8 x 1⅞ ea. | **4K781** | 216.00 | **152.00** | 22.0 |
| **3/4** | 3450 | 56 | Manual | 115/230 | 9.8/4.9 | Ball | 5/8 x 1⅞ ea. | **4K143** | 237.00 | **166.50** | 25.0 |
| | 3450 | 56 | None | 115/230 | 9.8/4.9 | Ball | 5/8 x 1⅞ ea. | **5K286** | 222.00 | **156.50** | 25.0 |
| | 1725 | 56 | Manual | 115/230 | 11.4/5.7 | Ball | 5/8 x 1⅞ ea. | **4K144** | 267.00 | **187.75** | 27.0 |
| | 1725 | 56 | None | 115/230 | 11.4/5.7 | Ball | 5/8 x 1⅞ ea. | **4K783** | 253.00 | **177.75** | 26.0 |
| **1** | 3450 | 56 | Manual | 115/230 | 14.4/7.2 | Ball | 5/8 x 1⅞ ea. | **4K145** | 253.00 | **177.75** | 24.0 |
| | 1725 | 56 | Manual | 115/230 | 13.6/6.8 | Ball | 5/8 x 1⅞ ea. | **4K146** | 295.00 | **207.25** | 30.0 |
| **CAPACITOR-START, DOUBLE SHAFT, RIGID CRADLE BASE** | | | | | | | | | | | |
| **1** | 3450 | 56Z | Manual | 115/230 | 14.0/7.0 | Ball | 1/2 x 1 9/16 & 5/8 x 1⅞ | **6K720*** | 306.00 | **223.50** | 27.0 |
| **CAPACITOR-START, SINGLE SHAFT, RIGID WELDED BASE** | | | | | | | | | | | |
| **1½** | 3450 | 66 | Manual | 115/230 | 16.4/8.2 | Ball | 3/4 x 2¼ | **5K242** | 332.00 | **253.75** | 35.0 |
| **SPLIT-PHASE, DOUBLE SHAFT, RIGID CRADLE BASE** | | | | | | | | | | | |
| **1/3** | 3450 | 48 | None | 115 | 6.6 | Sleeve | 1/2 x 1½ x 1/2 | **5K600** | 112.00 | **81.70** | 14.0 |
| **1/2** | 3450 | 48 | None | 115 | 8.6 | Sleeve | 1/2 x 1½ x 1/2 | **6K866** | 142.00 | **103.85** | 15.0 |
| **SPLIT-PHASE, SINGLE SHAFT, RIGID CRADLE BASE** | | | | | | | | | | | |
| **1/3** | 3450 | 48 | None | 115 | 6.6 | Sleeve | 1/2 x 1½ | **5K586** | 106.00 | **77.45** | 14.0 |
| **1/2** | 3450 | 48 | None | 115 | 8.6 | Sleeve | 1/2 x 1½ | **6K844** | 137.00 | **99.35** | 16.0 |

(*) Equipped with On/Off switch on shell and 6 ft. 3-conductor cord set.

**CAUTION: Refer to page 6 for proper thermal protection and other motor selection information.**

## VIBRATOR MOTORS

**Typical Uses:** For use with optional No. 2C703 strap-type mounting base in a wide range of furniture, industrial, and lab applications where ventilation is not impeded.

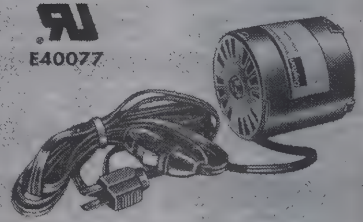
**Special Features:** No exposed moving parts. Equipped with 10 ft. 3-conductor cord set and in-line On/Off switch.

**Type:** Shaded pole
**HP:** 1/200
**Nameplate RPM:** 1550
**Volts:** 115, 60 Hz
**Full-Load Amps:** 0.5
**Bearings:** Sleeve
**Mounting:** Base
**Enclosure:** Open
**Service Factor:** 1.0
**Thermal Protection:** Impedance
**Windings:** Copper
**Insulation Class:** A
**Dimensions:** 3½" long x 3 5/16" dia.
**Ambient:** 40°C
**Finish:** Black enamel
**Brand:** Dayton

**No. 3M564.** Shpg. wt. 2.7 lbs. List .....$43.68.
Each ..... **$33.80**

**No. 2C703.** Strap-Type Base with bolt mounting holes 7/8 x 3" OC.
Shpg. wt. 0.4 lbs. List ..... $15.01.
Each ..... **$8.99**

Dayton®
E40077



## DAYTON BRAND, 3-PHASE

- **NEMA service factors provide a reserve margin for intermittent overloading or fluctuating (high/low) voltage conditions**
- **NEMA design B**

**Typical Uses:** Designed for operating industrial-type sewing machine clutches. Also used for other belt-driven applications where 3-phase power is supplied.

**Bearings:** Double-shielded ball

**Mounting:** Cradle base

**Enclosure:** Open dripproof

**Windings:** Copper

**Ambient:** 40°C

**Duty:** Continuous

**Rotation:** CW/CCW

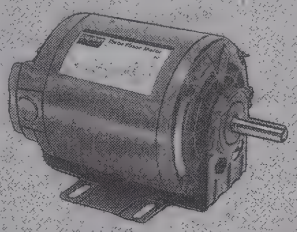
**Finish:** Gray

**Brand:** Dayton

Dayton®

E47479

LR22132



No. 3N026

| HP | Nameplate RPM at: 60 Hz | 50 Hz | NEMA Frame | Thermal Protection | Volts 60/50 Hz* | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 1425 | 56 | None | 208-220/440 | 1.5-1.6/0.8 | 1.35 | 66.0 | A | **3N026** | $171.00 | **$131.05** | 18.0 |

(*) Operable on 50 Hz, 190/380V, at 50 Hz RPM.

**CAUTION:** Refer to page 6 for UL Standard, proper thermal protection and other motor selection information.

## GE BRAND, SPLIT-PHASE

- **All-angle sleeve bearings**

**Typical Uses:** Designed for operating industrial-type sewing machine clutches. Also used for other belt-driven applications where maximum HP load will not exceed nameplate rating.

**Type:** Split-phase

**Bearings:** Sleeve

**Mounting:** Cradle base

**Enclosure:** Open dripproof

**Thermal Protection:** None

**Insulation Class:** B

**Ambient:** 40°C

**Duty:** Continuous

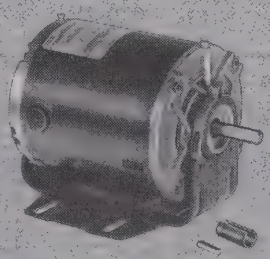
**Rotation:** CW/CCW

**Finish:** Gray

**Brand:** GE

E47088

LR53924



No. 6K947

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Shaft Dimensions (In.) Dia. x Length | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 56Z | 115 | 6.2 | 1.0 | 1/2 x 1 1/2 | 4377 | **6K947** | $124.00 | **$68.10** | 14.0 |

## MOTOR PULLEY REPLACEMENT FOR DOMESTIC SEWING MACHINES

- **Machined from steel bar stock**
- **With socket set screw**
- **Plated finish**

| Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Motor Pulley, 7/8" Dia., 1/4" Bore** | **1X459** | $3.61 | **$2.80** | 0.1 |

Dayton®



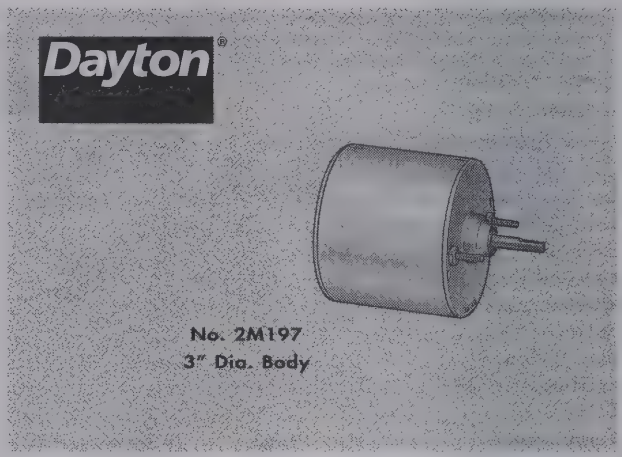
# 6 & 12VDC MOTORS AND 90VDC 42CZ FACE MOTORS

## 6 AND 12 VOLT DC MOTORS

**Typical Uses:** Mobile home, RV and trailer range hoods, ventilators and pumps, marine pumps and ventilators, automobile and truck heaters, coolers, air conditioners, and other applications requiring 6 or 12VDC supply power.

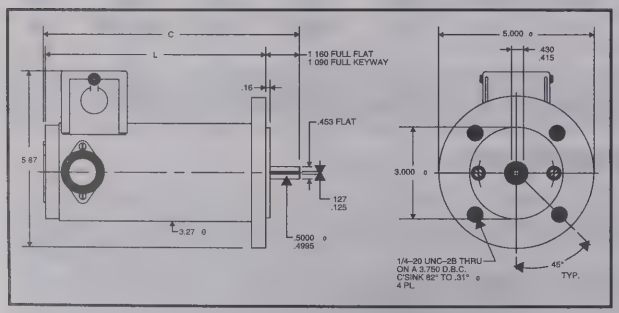
**Special Features:** Elimination of field wound stator allows improved efficiency and cooler operation.

**Type:** Permanent magnet
**HP:** 1/35
**Nameplate RPM:** 2350
**F/L Amps:** No. 2M196, 6.75; No. 2M197, 3.70
**Bearings:** Self-aligning sleeve
**Mounting:** 1/2" long studs, 2 5/16" OC
**Enclosure:** TENV
**Shaft Dimensions:** 1/4 x 1"
**Overall Length:** 4 7/8"
**Duty:** Continuous
**Rotation:** CW/CCW
**Body Diameter:** 3"
**Finish:** Zinc plated
**Brand:** Dayton

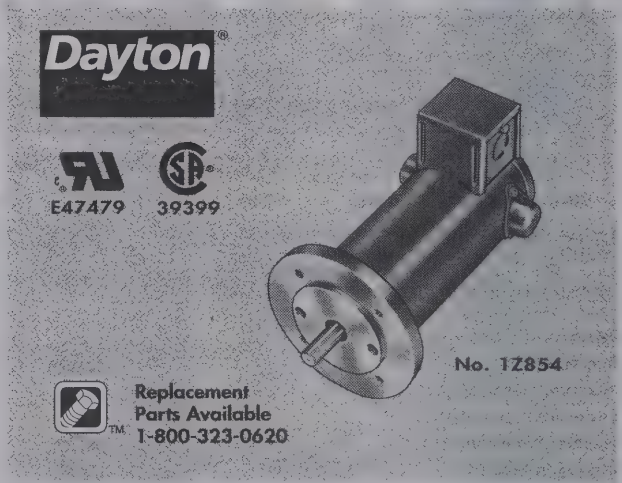



| Volts DC | Stock No. | List | Each | Lots 20 | Shpg. Wt. |
|---|---|---|---|---|---|
| 6 | **2M196** | $30.13 | **$21.96** | **$20.87** | 2.3 |
| 12 | **2M197** | 30.13 | **21.96** | **20.87** | 2.3 |

## 90VDC, TENV, 42CZ FACE MOTORS




**Type:** Permanent magnet
**Bearings:** Ball
**Mounting:** NEMA 42CZ
**Brushes:** Externally replaceable
**Shaft:** 1/2" diameter
**Rotation:** CW/CCW
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Service Factor:** 1.0
**Finish:** Gray
**Brand:** Dayton
**Controller:** Recommended for use with Dayton Speed Control, No. 1Z808 (not included)



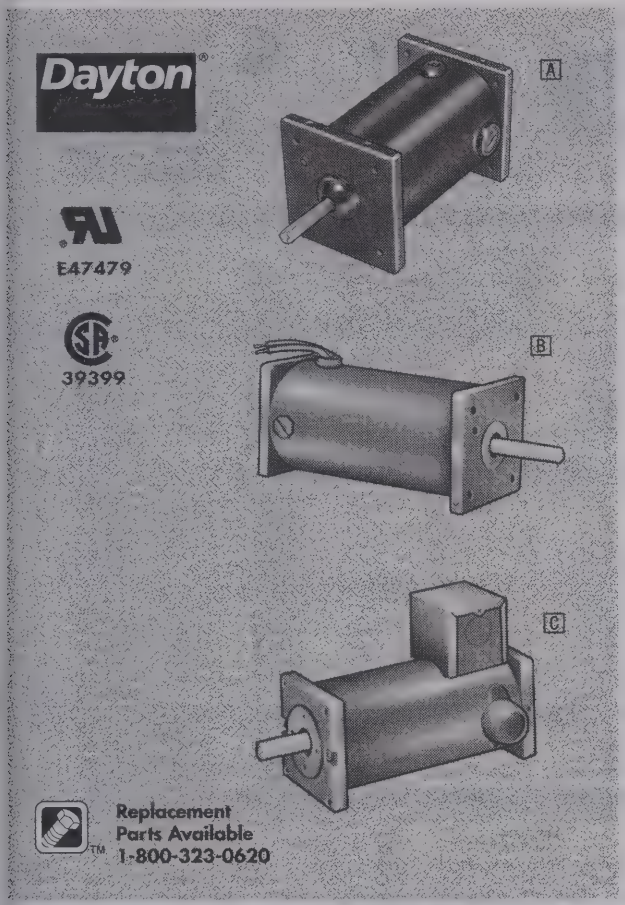

| HP | Nameplate RPM | Dimensions (In.) Length (C) | Length (L) | Full-Load Amps at 90 VDC | Full-Load Torque (In.-Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/8** | 1750 | 7.89 | 6.89 | 1.5 | 4.38 | **1Z854** | $233.00 | **$150.75** | 11.0 |
| **1/6** | 1750 | 8.89 | 7.89 | 1.8 | 5.63 | **1Z856** | 245.00 | **158.50** | 12.0 |

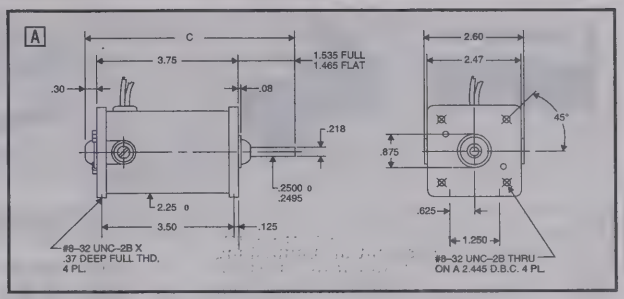

## DESK SPACE AT A PREMIUM?

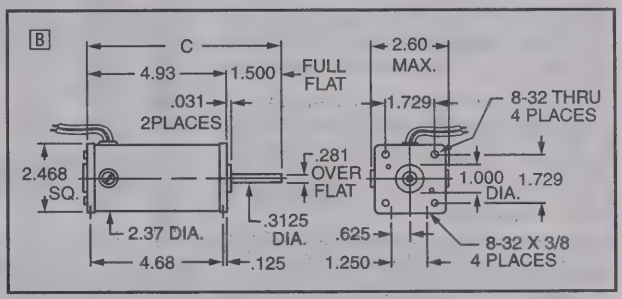
### USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

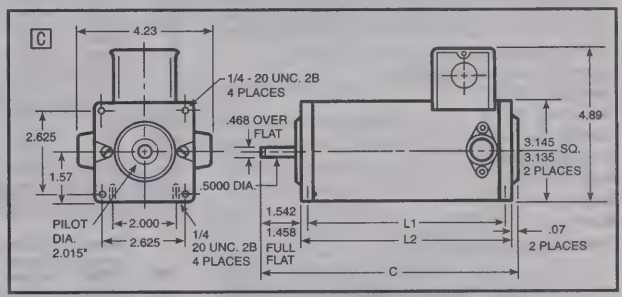
Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# PERMANENT MAGNET DC MOTORS




**Typical Applications:** Low voltage machines, pumps, fans, chemical feeders, and other applications.

**Special Features:** Externally replaceable brushes

**Type:** DC permanent magnet

**Bearings:** Ball

**Mounting:** All-position face and base

**Enclosure:** TENV

**Ambient:** 40°C

**Windings:** Copper

**Service Factor:** 1.0

**Insulation Class:** B

**Duty:** Continuous

**Rotation:** CW/CCW

**Finish:** Gray

**Brand:** Dayton

**Controller:** Recommended for use with Dayton speed control, No. 1Z802 at 12VDC or No. IZ805 at 24 VDC and No. IZ808 on 90VDC units (not included)

## 12/24 VDC, TENV

| Fig. | HP at 12VDC | HP at 24VDC | Nameplate RPM at 12VDC | Nameplate RPM at 24VDC | Full-Load Torque In.-Lbs. | Dimensions (In.) Overall Length (C) | L1 | L2 | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/44 | 1/18 | 1800 | 4300 | 0.81 | 5.55 | 3.50 | — | 2.4 | **1Z835** | $117.00 | **$76.40** | 2.8 |
| B | 1/20 | 1/9 | 1750 | 4000 | 1.81 | 6.44 | — | — | 5.1 | **4Z145** | 117.00 | **80.80** | 4.0 |
| C | 1/14 | 1/6 | 1750 | 4200 | 2.56 | 6.41 | 4.42 | 4.89 | 6.9 | **4Z144** | 178.00 | **120.25** | 6.3 |
| C | 1/7 | 1/4 | 1750 | 3900 | 5.63 | 8.41 | 6.42 | 6.89 | 14.0 | **4Z143** | 181.00 | **139.30** | 8.9 |
| C | 1/6 | 1/3 | 1800 | 4200 | 6.38 | 9.41 | 7.42 | 7.89 | 16.5 | **4Z529** | 201.00 | **155.50** | 10.0 |

## 90 VDC, TENV*

| Key | HP | Nameplate RPM | Dimensions (In.) Overall Length (C) | L1 | L2 | Full-Load Amps | Full-Load Torque In.-Lbs. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/53 | 2500 | 5.55 | — | — | 0.26 | 0.50 | **1Z837** | $117.00 | **$76.40** | 2.8 |
| B | 1/27 | 1800 | 6.44 | — | — | 0.5 | 1.30 | **4Z142** | 117.00 | **81.10** | 3.5 |
| C | 1/18 | 1800 | 6.81 | 4.42 | 4.89 | 0.75 | 1.95 | **4Z141** | 179.00 | **132.65** | 6.3 |
| C | 1/8 | 1800 | 8.41 | 6.42 | 6.89 | 1.5 | 4.38 | **4Z140** | 187.00 | **139.15** | 9.1 |
| C | 1/6 | 1800 | 9.50 | 7.42 | 7.89 | 1.8 | 5.63 | **4Z528** | 201.00 | **155.50** | 10.0 |

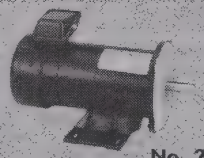
## 180 VDC, TENV*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 1/14 | 2350 | 6.41 | 4.42 | 4.89 | 0.41 | 1.95 | **1Z840** | 187.00 | **119.75** | 6.5 |
| C | 1/8 | 1800 | 8.41 | 6.42 | 6.89 | 0.68 | 4.38 | **1Z842** | 190.00 | **124.40** | 9.0 |
| C | 1/6 | 1800 | 9.50 | 7.42 | 7.89 | 0.90 | 5.63 | **1Z851** | 210.00 | **138.40** | 10.0 |

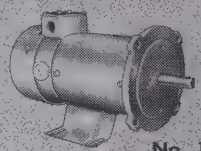
(*) Use with proper control listed on nearby page or with other DC rectified power sources matched to voltage (providing Form Factor does not exceed 1.3).

# PERMANENT MAGNET DC MOTORS

Dayton®



No. 2M168



No. 1F640

E47479

39033 (Except Nos. 1F646, 1F650, 1Z854 & 1Z856)

Replacement Parts Available 1-800-323-0620

**Typical Uses:** Designed for use with 90 or 180V speed controllers or NEMA type K DC power supplies on constant or diminishing torque applications. Applications include drives for conveyors, food packaging, and processing machinery.

Motors have a 10-32, 1/2" deep tapped hole on the fan end shaft. This hole can be used to mount No. 6Z392 pulse generator (see page 194).

All Dayton and GE 56 frame models have a removable base. GE 148ATC and 1412ATC are footless. Bases available on page 190. All Dayton models and GE Nos. 2M501 thru 2M508 are performance matched with Dayton and Dart speed controllers on pages 192 and 193.

**Dayton Approvals:** UL Recognized (E47479); CSA Certified (39033) except Nos. 1F646, 1F650, 1Z854, and 1Z856.

**GE Approvals:** 56 frame UL Recognized (E47088), CSA Certified (LR56410); 148, 149, and 1412 frames UL Recognized (E79538) only.

**Type:** Permanent magnet
**Bearings:** Ball
**Mounting:** Face
**Service Factor:** 1.0
**Insulation Class:** F
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Brand:** Dayton and GE

## DAYTON BRAND PERMANENT MAGNET DC MOTORS

| HP | Nameplate RPM | Full-Load Torque (In.-Lbs.) | Enclosure | Full-Load Amps at Nameplate Volts | NEMA Frame | Overall Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **90 VDC MOTORS** | | | | | | | | | | |
| 1/8 | 1750 | 4.38 | TENV | 1.5 | 42CZ | 7⅛ | 1Z854 | $233.00 | $150.75 | 11.0 |
| 1/6 | 1750 | 5.63 | TENV | 1.8 | 42CZ | 8⅛ | 1Z856 | 245.00 | 158.50 | 12.0 |
| 1/4 | 1725 | 9.1 | TEFC | 3.0 | 56C | 10 7/16 | 2M167 | 314.00 | 187.00 | 17.0 |
| 1/3 | 1725 | 12.2 | TEFC | 3.5 | 56C | 10 13/16 | 2M509 | 359.00 | 213.25 | 18.0 |
| 1/2 | 1725 | 18.3 | TEFC | 5.5 | 56C | 12¾ | 2M168 | 377.00 | 223.25 | 25.0 |
| 3/4 | 1725 | 27.4 | TEFC | 8.2 | 56C | 14¾ | 2M169 | 490.00 | 280.50 | 32.0 |
| 1 | 1725 | 36.5 | TEFC | 10.0 | 56C | 16¾ | 2M170 | 593.00 | 355.00 | 38.0 |
| **90 VDC WASHDOWN MOTORS** | | | | | | | | | | |
| 1/4 | 1725 | 9.1 | TEFC | 3.0 | 56C | 10 7/16 | 1F654 | 429.09 | 283.25 | 17.0 |
| 1/3 | 1725 | 12.2 | TEFC | 3.5 | 56C | 10 13/16 | 1F652 | 461.25 | 304.50 | 18.0 |
| 1/2 | 1725 | 18.3 | TEFC | 5.4 | 56C | 12¾ | 1F650 | 493.80 | 326.00 | 25.0 |
| 3/4 | 1725 | 27.4 | TEFC | 8.0 | 56C | 14¾ | 1F646 | 578.70 | 382.00 | 32.0 |
| 1 | 1725 | 36.5 | TEFC | 10.0 | 56C | 16¾ | 1F642 | 693.00 | 457.50 | 38.0 |
| **180 VDC MOTORS** | | | | | | | | | | |
| 1/2 | 1725 | 18.3 | TEFC | 2.8 | 56C | 12¾ | 4Z524 | 377.00 | 215.75 | 25.0 |
| 3/4 | 1725 | 27.4 | TEFC | 4.1 | 56C | 14¾ | 4Z525 | 490.00 | 280.75 | 28.0 |
| 1 | 1725 | 36.5 | TEFC | 5.3 | 56C | 16¾ | 4Z378 | 593.00 | 355.00 | 38.0 |
| 1½ | 1750 | 54.0 | TEFC | 8.0 | 143/145TC | 17¾ | 4Z379 | 1320.00 | 573.50 | 76.0 |
| 2 | 1750 | 72.0 | TEFC | 10.9 | 143/145TC | 18¾ | 4Z380 | 1579.00 | 663.50 | 82.0 |
| 3 | 1750 | 108.0 | TEFC | 15.0 | 143/145TC | 22¼ | 6Z791 | 2027.00 | 884.00 | 95.0 |
| **180 VDC WASHDOWN MOTORS** | | | | | | | | | | |
| 1/2 | 1725 | 18.3 | TEFC | 2.8 | 56C | 12¾ | 1F648 | 493.80 | 326.00 | 25.0 |
| 3/4 | 1725 | 27.4 | TEFC | 3.5 | 56C | 14¾ | 1F644 | 578.70 | 382.00 | 32.0 |
| 1 | 1725 | 36.5 | TEFC | 5.0 | 56C | 16¾ | 1F640 | 693.00 | 457.50 | 38.0 |

## GE BRAND PERMANENT MAGNET DC MOTORS

| HP | Nameplate RPM | Full-Load Torque (In.-Lbs.) | Enclosure | Full-Load Amps at Nameplate Volts | NEMA Frame | Overall Length (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **90 VDC MOTORS** | | | | | | | | | | | |
| 1/4 | 1725 | 9.1 | TENV | 2.8 | 56C | 10.53 | D273 | 2M501 * | $293.00 | $193.50 | 21.0 |
| 1/3 | 1725 | 12.2 | TENV | 3.6 | 56C | 11.53 | D274 | 2M502 * | 335.00 | 220.75 | 26.0 |
| 1/2 | 2500 | 12.6 | TEFC | 5.5 | 56C | 12.91 | D285 | 3VF70 * | 259.15 | 220.00 | 29.0 |
| 1/2 | 1725 | 18.3 | TEFC | 5.5 | 56C | 12.91 | D275 | 2M503 * | 350.00 | 231.25 | 29.0 |
| 3/4 | 2500 | 18.9 | TEFC | 8.0 | 56C | 14.91 | D287 | 3VF72 * | 298.85 | 254.25 | 36.0 |
| 3/4 | 1725 | 27.4 | TEFC | 8.0 | 56C | 14.91 | D277 | 2M504 * | 440.00 | 290.25 | 39.0 |
| 1 | 2500 | 25.2 | TEFC | 10.7 | 56C | 14.91 | D289 | 3VF74 * | 354.75 | 302.25 | 40.0 |
| 1 | 1725 | 36.5 | TEFC | 10.7 | 56C | 14.91 | D279 | 2M505 * | 556.00 | 367.50 | 44.0 |
| **180 VDC MOTORS** | | | | | | | | | | | |
| 1/4 | 1725 | 9.1 | TENV | 2.8 | 56C | 10.53 | D283 | 3VF68 * | 225.75 | 192.50 | 19.0 |
| 1/3 | 1725 | 12.2 | TENV | 3.6 | 56C | 12.53 | D284 | 3VF69 * | 259.15 | 220.00 | 25.0 |
| 1/2 | 2500 | 12.6 | TEFC | 5.5 | 56C | 12.91 | D286 | 3VF71 * | 259.15 | 220.00 | 29.0 |
| 1/2 | 1725 | 18.3 | TEFC | 2.8 | 56C | 12.91 | D276 | 2M507 * | 338.00 | 223.50 | 29.0 |
| 3/4 | 2500 | 18.9 | TEFC | 8.0 | 56C | 14.91 | D288 | 3VF73 * | 298.85 | 254.25 | 36.0 |
| 3/4 | 1725 | 27.4 | TEFC | 4.0 | 56C | 14.91 | D278 | 2M508 * | 440.00 | 290.50 | 39.0 |
| 1 | 2500 | 25.2 | TEFC | 10.7 | 56C | 14.91 | D290 | 3VF75 * | 354.75 | 302.25 | 40.0 |
| 1 | 1725 | 36.5 | TEFC | 5.3 | 56C | 14.91 | D280 | 2M506 * | 556.00 | 367.50 | 44.0 |
| 1 | 1150 | 54.8 | TEFC | 5.0 | 148ATC | 16.86 | D313 | 4M705 † | 1080.00 | 718.50 | 78.0 |
| 1½ | 2500 | 37.8 | TEFC | 7.5 | 148ATC | 16.86 | D314 | 4M710 † | 1080.00 | 718.00 | 67.0 |
| 1½ | 1750 | 54.0 | TEFC | 7.1 | 148ATC | 16.86 | D315 | 4M709 † | 1080.00 | 715.00 | 79.0 |
| 1½ | 1150 | 82.2 | TEFC | 7.2 | 1412ATC | 20.73 | D316 | 4M708 † | 1344.00 | 894.00 | 115.0 |
| 2 | 2500 | 50.4 | TEFC | 9.8 | 148ATC | 16.86 | D317 | 4M713 † | 1080.00 | 817.50 | 77.0 |
| 2 | 1750 | 72.0 | TEFC | 9.8 | 149ATC | 17.98 | D318 | 4M712 † | 1192.00 | 789.50 | 90.0 |
| 2 | 1150 | 109.6 | TEFC | 9.8 | 1412ATC | 20.73 | D319 | 4M711 † | 1459.00 | 970.00 | 115.0 |
| 3 | 2500 | 75.6 | TEFC | 14.5 | 1412ATC | 20.73 | D320 | 4M715 † | 1459.00 | 1090.00 | 115.0 |
| 3 | 1750 | 108.0 | TEFC | 14.5 | 1412ATC | 20.73 | D321 | 4M714 † | 1459.00 | 972.00 | 115.0 |

(*) Has 3/8" dia. hole 1/2" deep, drilled on opposite drive shaft to accommodate a tach mounting kit and includes a 10-32 adapter to allow use with pulse generator, No. 6Z392, on page 201
(†) Has 1/2" dia. shaft 1/2" long on opposite drive shaft to accommodate No. 6Z557 tach mounting kit.

No. 2M501



No. 4M713

56, 148, 149, & 1412 Frames

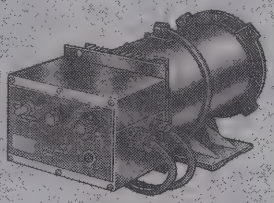
56 Frame Only

Replacement Parts Available 1-800-323-0620

# PERMANENT MAGNET DC MOTORS WITH MATCHED SPEED CONTROLS

## 90 & 180 VDC PERMANENT MAGNET MOTORS

Dayton®



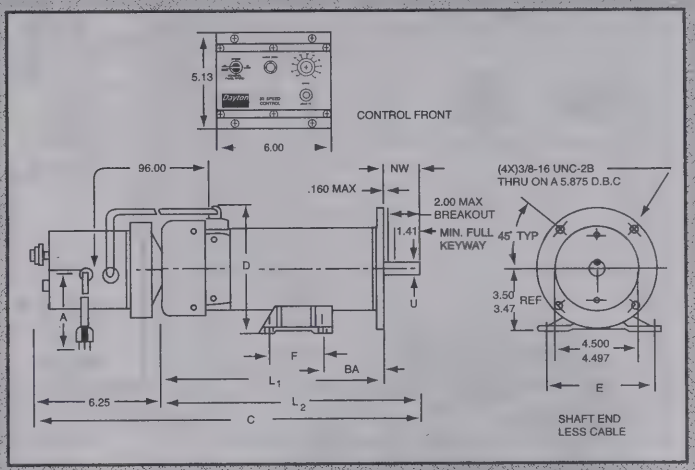
E165942

C E165942

**No. 4Z248 1/4 HP Motor and Mounted Speed Controller**

**8-Ft., 3-conductor cordset plugs into standard AC outlet**

Replacement Parts Available 1-800-323-0620™




**Provided with Mounted Speed Control**

**Order right-angle or parallel shaft speed reducer separately**

**Typical Uses:** Packaging equipment, pumps, fans, blowers, conveyors, and other constant or diminishing torque applications. Not for constant HP, cyclic load, or rapid reversing applications.

**Special Features:** Permanent magnet DC motor has matched speed controller mounted to end bracket of motor. Control has eight-foot, 3-conductor cordset for plugging into standard AC receptacle (no wiring required). Controller supplies DC power to motor through an additional eight-foot, 3-conductor cordset between motor and controller. Allows remote mounting of controller when removed from motor end bracket. External access to motor brushes.

**Input Voltage:** 115 VAC, 60/50 Hz on Nos. 4Z248, 1F800, 1F796, 2Z846, and 1F798; 230V, 60/50 Hz on No. 4Z226, 1F802 and 1F804 (requires 250V, 20A receptacle)

**Bearings:** Prelubricated ball

**Mounting:** C-face with removable rigid base

**Enclosure:** Motor, TEFC; control, NEMA 4/12

**Ambient:** 40°C

**Service Factor:** 1.0

**Insulation Class:** F

**Duty:** Continuous

**Rotation:** CW/CCW

**Brand:** Dayton

### SPEED CONTROL FEATURES

**Speed Regulation:** Within 5% of nameplate RPM
**Full-Wave Rectification**
**Min. and Max. Speed Adjustable**
**Current/Torque Limit:** Built-in (adjustable)
**IR Compensation:** Built-in (fixed)
**Soft Start Acceleration**
**Transient and Surge Protection**
**Control Circuitry on One Printed Board**
**Control Protection:** Fused
**Forward On/Off/Reverse On Switch**
**Power-On Indicator Light**
**NEMA 4/12 Enclosure**
**UL Listed for USA and Canada (E165942)**

### SPECIFICATIONS

| Max. HP | Stock No. | Max. Output Torque at all Speeds, (In.-Lbs.) | CONTINUOUS DUTY HP AT SET SPEED | | | | | | | | | | Controller Speed Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2500 RPM | 2100 RPM | 1725 RPM | 1300 RPM | 900 RPM | 500 RPM | 125 RPM | 85 RPM | 50 RPM | 35 RPM | |
| 1/4 | 4Z248 | 9.1 | — | — | 0.250 | 0.188 | 0.130 | 0.072 | 0.018 | 0.012 | 0.007 | 0.005 | 50 to 1 |
| 1/2 | 1F800 | 16.2 | — | — | 0.500 | 0.376 | 0.260 | 0.144 | 0.036 | 0.024 | 0.013 | 0.009 | 50 to 1 |
| 3/4 | 2Z846 | 18.9 | 0.750 | 0.630 | 0.517 | 0.390 | 0.270 | 0.150 | 0.037 | 0.025 | 0.015 | — | 50 to 1 |
| 3/4 | 1F796 | 27.2 | — | — | 0.750 | 0.565 | 0.391 | 0.217 | 0.054 | 0.037 | 0.022 | 0.015 | 50 to 1 |
| 1 | 1F798 | 36.5 | — | — | 1.000 | 0.753 | 0.521 | 0.290 | 0.072 | 0.049 | 0.029 | 0.020 | 50 to 1 |
| 1½ | 4Z226 | 37.8 | 1.500 | 1.260 | 1.034 | 0.780 | 0.540 | 0.300 | 0.075 | 0.051 | 0.030 | — | 50 to 1 |
| 1½ | 1F802 | 54.8 | — | — | 1.500 | 1.130 | 0.782 | 0.435 | 0.108 | 0.074 | 0.043 | 0.030 | 50 to 1 |
| 2 | 1F804 | 73.0 | — | — | 2.000 | 1.150 | 1.040 | 0.579 | 0.145 | 0.098 | 0.058 | 0.041 | 50 to 1 |

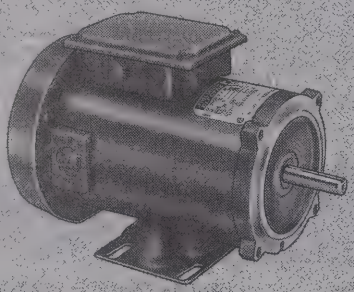
### ORDERING DATA

| Max. HP | Name-plate RPM | NEMA Frame | Input Volts AC, 60 / 50 Hz | Armature Volts DC | Full-Load Amps | Dimensions (Inches) A | D | E | F | BA | L1 | L2 | C | NW | U | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1725 | 56C | 115 | 90 | 4.2 | 111.0 | 6.85 | 4.875 | 3.0 | 2.56 | 8.25 | 10.8 | 17.05 | 2.085 | 0.625 | **4Z248** | $525.00 | **$470.00** | 22.0 |
| **1/2** | 1725 | 56C | 115 | 90 | 5.4 | 111.0 | 6.85 | 4.875 | 3.0 | 2.56 | 10.56 | 12.6 | 18.89 | 2.085 | 0.625 | **1F800** | 538.00 | **480.25** | 21.0 |
| **3/4** | 2500 | 56C | 115 | 90 | 11.0 | 111.0 | 6.85 | 4.875 | 3.0 | 2.56 | 10.50 | 12.8 | 19.05 | 2.085 | 0.625 | **2Z846** | 655.00 | **586.50** | 29.0 |
| **3/4** | 1725 | 56C | 115 | 90 | 8.1 | 111.0 | 6.85 | 4.875 | 3.0 | 2.56 | 12.56 | 14.6 | 20.89 | 2.085 | 0.625 | **1F796** | 645.00 | **576.00** | 39.0 |
| **1** | 1725 | 56C | 115 | 90 | 10.6 | 89.0 | 6.85 | 4.875 | 3.0 | 2.56 | 14.56 | 16.6 | 22.89 | 2.085 | 0.625 | **1F798** | 928.00 | **829.50** | 44.0 |
| **1½** | 2500 | 56HC | 230 | 180 | 11.0 | 89.0 | 8.00 | 4.875 | 4.0 | 2.88 | 14.20 | 16.3 | 22.60 | 2.085 | 0.625 | **4Z226** | 1055.00 | **945.50** | 62.0 |
| **1½** | 1750 | 143TC | 230 | 180 | 8.2 | 89.0 | 8.00 | 5.500 | 4.0 | 2.88 | 15.80 | 18.0 | 24.20 | 2.145 | 0.875 | **1F802** | 1158.00 | **1033.00** | 72.0 |
| **2** | 1750 | 143TC | 230 | 180 | 11.6 | 89.0 | 8.00 | 5.500 | 4.0 | 2.88 | 16.80 | 19.0 | 25.20 | 2.145 | 0.875 | **1F804** | 1399.00 | **1250.00** | 80.0 |

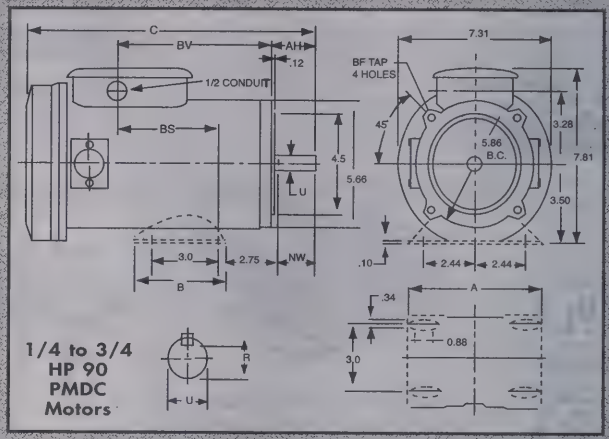
# 90 AND 180V PMDC MOTORS

RELIANCE ELECTRIC

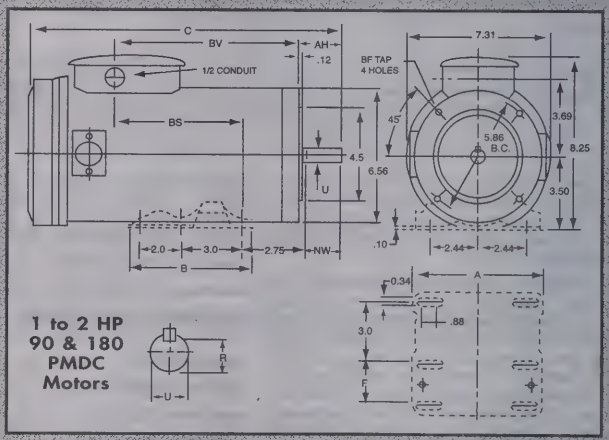
E54825 LR40567



No. 2H545




1/4 to 3/4 HP 90 PMDC Motors




1 to 2 HP 90 & 180 PMDC Motors

- **TEFC design provides constant torque in full 20:1 speed range with freewheeling diode for cooler running and longer life**
- **Feature extended brush life, low maintenance, and reduced downtime**
- **Disassembly for brush inspection eliminated with new cartridge design using brass inserts and stainless steel springs**

**Typical Uses:** Conveyors and packaging equipment, exercise equipment, pumps, fans, blowers, and other constant or diminishing torque applications.

**Bearings:** Permanently lubricated double-shielded ball
**Mounting:** NEMA 56C face with base
**Service Factor:** 1.0
**Insulation Class:** F
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Blue-green

## SPECIFICATIONS AND ORDERING DATA

| HP | Arm. Volts DC | Name-plate RPM | Full-Load Amps | Frame | Reliance Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 90 | 1750 | 2.7 | SE56C | T56S1001 | **2H543** | $454.67 | **$338.75** | 20.0 |
| **1/3** | 90 | 1750 | 3.7 | SE56C | T56S1003 | **2H545** | 461.27 | **350.75** | 20.0 |
| **1/2** | 90 | 1750 | 5.2 | ME56C | T56S1005 | **2H547** | 514.63 | **394.25** | 25.0 |
| **3/4** | 90 | 1750 | 7.6 | LE56C | T56S1009 | **2H549** | 650.85 | **487.50** | 34.0 |
| **1** | 90 | 1750 | 9.4 | MF56HC | T56S1011 | **2H551** | 825.15 | **589.00** | 45.0 |
| **1** | 180 | 1750 | 4.7 | MF56HC | T56S1013 | **2H553** | 825.15 | **589.00** | 45.0 |
| **1½** | 180 | 1750 | 7.0 | LF56HCZ | T56S1014 | **2H557** | 1805.68 | **1142.00** | 55.0 |
| **2** | 180 | 1750 | 9.4 | LF56HCZ | T56S1015 | **2H559** | 2197.07 | **1363.00** | 55.0 |

## DIMENSIONS

| Stock Nos. | Dimensions (In.) | | | | | | | | | Key | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | BV | BS | AH | NW | U | R | Sq. | Lgth. |
| 2H543, 2H545 | 6.38 | 4.10 | 12.06 | 6.06 | 3.50 | 2.06 | 1.88 | 0.625 | 0.517 | 0.19 | 1.25 |
| 2H547 | 6.38 | 4.10 | 13.06 | 7.06 | 4.50 | 2.06 | 1.88 | 0.625 | 0.517 | 0.19 | 1.25 |
| 2H549 | 6.38 | 4.10 | 15.06 | 9.06 | 6.50 | 2.06 | 1.88 | 0.625 | 0.517 | 0.19 | 1.25 |
| 2H551, 2H553 | 6.62 | 5.88 | 16.56 | 10.50 | 7.94 | 2.06 | 1.88 | 0.625 | 0.517 | 0.19 | 1.25 |
| 2H557, 2H599 | 6.62 | 5.88 | 18.12 | 12.00 | 9.44 | 2.12 | 1.94 | 0.875 | 0.771 | 0.19 | 1.38 |



*We deliver the products that deliver the power.*

## 90V AND 180V MOTOR/CONTROL COMBINATIONS

Dayton®

DART CONTROLS, INC.

**Performance-matched combinations** of Dayton permanent magnet 90V DC motors with Dayton and Dart controls DC/SCR speed controls are provided at right. For more detailed specifications, the motors and speed controls indicated at right are listed on nearby pages.

**How to use**: Locate motor by stock number in the left hand column. To the right will be the stock numbers for that item combined with different controllers. See column heading for the specific control desired. Note that this is not an exhaustive list.

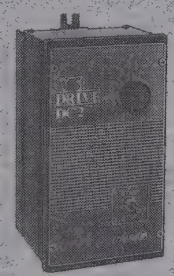
| MOTOR SPECIFICATIONS | | | | MOTOR AND CONTROL COMBINATIONS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Stock No. | Name-plate RPM | Full-Load Torque In.-Lbs. | HP | Combination Stock No. | Each | Combination Stock No. | Each | Combination Stock No. | Each | Shpg. Wt. |
| **90 VDC MOTORS** | | | | **No. 4Z827 Control** | | **No. 4Z527 Control** | | **No. 4Z828 Control** | | |
| 4Z142 | 1800 | 1.3 | 1/27 | 7Z857 | $183.50 | 7Z861 | $193.00 | 7Z865 | $274.50 | 6.0 |
| 4Z141 | 1800 | 1.95 | 1/18 | 7Z858 | 183.00 | 7Z862 | 192.75 | 7Z866 | 274.00 | 8.8 |
| 4Z140 | 1800 | 4.38 | 1/8 | 7Z859 | 189.25 | 7Z863 | 199.00 | 7Z867 | 280.25 | 11.6 |
| 4Z528 | 1800 | 5.63 | 1/6 | 7Z860 | 201.50 | 7Z864 | 208.75 | 7Z868 | 290.25 | 12.5 |
| **90 VDC MOTORS** | | | | **No. 5X412 Control** | | **No. 6X165 Control** | | **No. 2M510 Control** | | |
| 4Z142 | 1800 | 1.3 | 1/27 | 7Z701 | 242.75 | 7Z581 | 464.75 | 7Z219 | 142.10 | 4.2 |
| 4Z141 | 1800 | 1.95 | 1/18 | 7Z702 | 242.25 | 7Z580 | 464.00 | 7Z220 | 194.75 | 7.0 |
| 4Z140 | 1800 | 4.38 | 1/8 | 7Z703 | 248.25 | 7Z579 | 470.25 | 7Z221 | 200.75 | 9.8 |
| 4Z528 | 1800 | 5.63 | 1/6 | 7Z793 | 258.50 | 7Z019 | 480.50 | 7Z222 | 211.00 | 10.7 |
| **90 VDC MOTORS** | | | | **No. 5X485 Control** | | **No. 2M171 Control** | | **No. 4Z829 Control** | | |
| 2M167 | 1725 | 9.1 | 1/4 | 7M005 | 519.50 | 7M001 | 606.50 | 7Z869 | 699.00 | 23.8 |
| 2M168 | 1725 | 18.3 | 1/2 | 7M006 | 556.00 | 7M002 | 643.00 | 7Z870 | 735.00 | 31.8 |
| 2M169 | 1725 | 27.4 | 3/4 | 7M007 | 613.00 | 7M003 | 700.00 | 7Z871 | 792.50 | 38.8 |
| 2M170 | 1725 | 36.5 | 1 | — | | 7M004 | 774.00 | 7Z872 | 867.00 | 44.8 |
| **180 VDC MOTORS** | | | | **No. 4Z377 Control** | | **No. 6Z386 Control** | | **No. 2M510 Control** | | |
| 4Z524 | 1725 | 18.3 | 1/2 | 7Z784 | 591.50 | 7Z223 | 408.25 | 7Z225 | 282.50 | 25.7 |
| 4Z525 | 1725 | 27.4 | 3/4 | 7Z785 | 656.50 | 7Z224 | 473.25 | 7Z226 | 347.25 | 28.7 |
| **180 VDC MOTORS** | | | | **No. 4Z377 Control** | | **No. 6Z386 Control** | | **No. 6Z812 Control** | | |
| 4Z378 | 1725 | 36.5 | 1 | 7Z751 | 730.00 | 7Z227 | 548.00 | — | — | 40.0 |
| 4Z379 | 1725 | 54.0 | 1½ | 7Z752 | 978.00 | 7Z274 | 795.50 | — | — | 78.0 |
| 4Z380 | 1725 | 72.0 | 2 | 7Z753 | 1074.00 | 7Z275 | 889.50 | — | — | 84.0 |
| 6Z791 | 1725 | 108.0 | 3 | — | — | — | — | 7Z276 | 1671.00 | 107.0 |

## ADJUSTABLE DC CONTROLS FOR PM AND SHUNT WOUND MOTORS

RELIANCE ELECTRIC

E59092 E59092

For Use With PMDC Motors on Facing Page or Shunt Wound DC Motors



- ±10% rated voltage
- AC frequency: 48 to 62 Hz
- All circuitry packaged on a single accessible surface mount circuit board
- Armature voltage or motor driven DC tachometer feedback
- Complete application adjustments
- Must be used with power disconnect switch between controller and power supply
- Built-in surge suppressor
- Relay in control circuit prevents automatic restarting after power outage

**Typical Uses:** For use with permanent magnet DC motors on facing page, or shunt wound DC motors, in a variety of constant or diminishing torque applications requiring wide range adjustable speed control. These include conveyors, assembly lines, packaging, food processing, exercise, silk screening, mixing, and photo processing equipment.

DC2 V★S® drives feature adjustable minimum (0 to 50%)/maximum (50 to 100%) speed, IR drop compensation (5 to 10%) and current limit (10 to 150%). Internal jumper reconnections match the drive incoming power (115 or 230VAC, 50 or 60 Hz) and select motor horsepower (1/4 thru 2), desired feedback, armature voltage or motor driven DC tachometer.

Power cube contains all semiconductors. Speed regulation with 95% load change: voltage feedback 2-5%, with 20:1 constant torque; tachometer feedback 1%, with 30:1 constant torque. (Separately adjustable accel/decel rates of 0.3 to 40 seconds.)

Full-wave, half-control power conversion with back diode. Built-in half wave field supply for operation of wound field motors.

NEMA/UL Type 12K construction. 0°C to 40°C ambient, up to 3300 feet (1000 meters) in elevation. 1.0 service factor. UL Listed for USA and Canada (E59092) and IEC classified. Black finish. Reliance® brand.

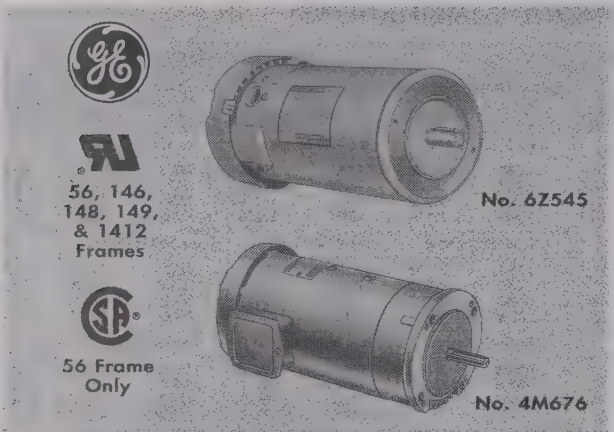
| | 115 VAC Input—90 VDC Output | | | | | | 230 VAC Input—180 VDC Output | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HP | Max AC Amps# | Input KVA | Rated Armature Volts | Rated Armature Amps | Avail. Field Volts | Avail. Field Amps | Max AC Amps# | Input KVA | Rated Armature Volts | Rated Armature Amps | Avail. Field Volts | Avail. Field Amps |
| 1/4 | 3.1 | .36 | 90 | 2.5 | 50 | 2.0 | — | — | — | — | — | — |
| 1/3 | 4.2 | .48 | 90 | 3.7 | 50 | 2.0 | — | — | — | — | — | — |
| 1/2 | 6.2 | .71 | 90 | 5.0 | 50 | 2.0 | 3.1 | .71 | 180 | 2.5 | 100 | 2.0 |
| 3/4 | 9.4 | 1.0 | 90 | 7.5 | 50 | 2.0 | 4.7 | 1.0 | 180 | 3.7 | 100 | 2.0 |
| 1 | 12.5 | 1.4 | 90 | 10.0 | 50 | 2.0 | 6.2 | 1.4 | 180 | 5.0 | 100 | 2.0 |
| 1½ | — | — | — | — | — | — | 9.4 | 2.2 | 180 | 7.5 | 100 | 2.0 |
| 2 | — | — | — | — | — | — | 12.5 | 2.9 | 180 | 10.0 | 100 | 2.0 |

(#) Includes motor field current.

| Specific Control Features | HP | Input Volts AC 60/50 Hz | Output Volts DC | Reliance Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Standard** | 1/4-2 | 115/230 | 90/180 | DC2-70 | **6Z801** | $582.29 | **$512.50** | 7.0 |
| **Standard, Switch Rev, Dynamic Braking†** | 1/4-2 | 115/230 | 90/180 | DC2-71 | **6Z802** | 759.28 | **667.50** | 7.0 |
| **Standard, Isolated Process Interface** | 1/4-2 | 115/230 | 90/180 | DC2-72 | **6Z803** | 715.11 | **628.50** | 7.0 |

(†) Not to be used with motor driven DC tachometer feedback.

# WOUND FIELD DC MOTORS



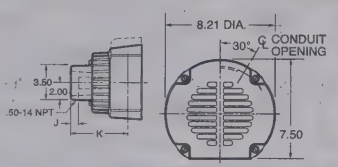

**Typical Uses:** Conveyors, wire feeders, photo, food and paper processing, printing, factories and textile mills, and other constant or diminishing torque applications with NEMA Type K DC power supplies.

**Special Features:** Smooth operation at low speeds. C-face all-angle mounting. Continuous rated torque to 5% base speed (when used with properly matched controller with free-wheeling diode).

**Type:** Shunt wound
**Bearings:** Ball
**Mounting:** C-face (foot optional, except on 56C frame)
**Ambient:** 40°C
**Service Factor:** 1.0
**Insulation Class:** F
**Duty:** Continuous
**Rotation:** CW/CCW
**UL Recognized:** 56 frame (E47088); 146, 148, 149, and 1412 frames (E79538)
**CSA Certified:** 56 frame (LR56410)
**Finish:** Gray
**Brand:** GE

**TACHOMETER MOUNTING KIT**

| Type | Dimensions (In.) J | K |
|---|---|---|
| PY | 0.63 | 9.85 |
| Servo Tek | 0.74 | 5.40 |




## 140 FRAME ACCESSSORY KITS

| Type | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Flush Foot** | A562 | **6Z554** | $27.00 | **$18.74** | 1.4 |
| **Pedestal Foot** | A563 | **6Z555** | 86.00 | **59.75** | 4.0 |
| **Thermostat** | A564 | **6Z556** | 86.00 | **59.80** | 1.0 |
| **PY Tach Mounting Kit†** | A565 | **6Z557** | 334.00 | **232.50** | 3.3 |
| **Servo-Tek Tach Mounting Kit†** | A568 | **6Z558** | 334.00 | **232.50** | 3.3 |

(†) Tachometer not included, see page 195. No. 6Z557 also works with 180 frames.

**Replacement Parts Available**
**1-800-323-0620**

| HP | Name-plate RPM | NEMA Frame | Rabbet Dia. (In.) | Arm. Volts DC | Field Volts VDC | Full-Load Amps at Nameplate Volts | Inertia WK² Ft.-Lbs. | Full-Load Torque In.-Lbs. | Overall Length (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN DRIPPROOF FULLY GUARDED** | | | | | | | | | | | | | | |
| **1** | 1750 | L182ACY | 4½ | 180 | 200/100 | 4.9 | 0.28 | 36.0 | 15.26 | D402 | **4M716** | $1417.00 | **$899.00** | 120.0 |
| **1½** | 1750 | L182ACY | 4½ | 180 | 200/100 | 7.3 | 0.28 | 54.0 | 15.26 | D536 | **4M717** | 1559.00 | **988.00** | 107.0 |
| **2** | 1750 | 186ACY | 4½ | 180 | 200/100 | 9.4 | 0.45 | 72.0 | 16.76 | D406 | **4M718** | 2001.00 | **1268.00** | 130.0 |
| **2** | 1750 | 186ATC | 8½ | 180 | 200/100 | 9.4 | 0.45 | 72.0 | 16.76 | D537 | **4M719** | 2001.00 | **1268.00** | 92.0 |
| **3** | 1750 | 186ACY | 4½ | 180 | 200/100 | 14.4 | 0.45 | 108.0 | 16.76 | D538 | **4M720**‡ | 2001.00 | **1268.00** | 105.0 |
| **3** | 1750 | L186ATC | 8½ | 180 | 200/100 | 14.4 | 0.45 | 108.0 | 18.76 | D539 | **4M721** | 2972.00 | **1812.00** | 138.0 |
| **5** | 1750 | L186ATC | 8½ | 180 | 200/100 | 24.1 | 0.67 | 180.1 | 18.76 | D414 | **4M724*** | 3751.00 | **2379.00** | 148.0 |
| **5** | 1750 | 219ATC | 8½ | 180 | 200/100 | 23.7 | 1.49 | 180.1 | 25.22 | D428 | **4M723** | 4063.00 | **2574.00** | 245.0 |
| **TOTALLY ENCLOSED FAN COOLED** | | | | | | | | | | | | | | |
| **1/4** | 1725 | 56C# | 4½ | 90 | 100 | 2.8 | 0.038 | 9.1 | 11.2 | D115 | **4M701**† | 587.00 | **367.75** | 24.0 |
| **1/3** | 1725 | 56C# | 4½ | 90 | 100 | 3.6 | 0.058 | 12.2 | 11.9 | D167 | **4M678**† | 649.00 | **406.25** | 29.0 |
| **1/2** | 1725 | 56C# | 4½ | 90 | 100 | 5.0 | 0.082 | 18.3 | 13.9 | D116 | **4M702**† | 768.00 | **481.25** | 40.0 |
| **1/2** | 1725 | 56C# | 4½ | 180 | 200 | 2.6 | 0.082 | 18.3 | 13.9 | D169 | **4M703**† | 785.00 | **491.25** | 42.0 |
| **3/4** | 1725 | 56C# | 4½ | 90 | 100 | 8.4 | 0.10 | 27.4 | 15.9 | D117 | **4M675** | 867.00 | **543.00** | 54.0 |
| **3/4** | 1725 | 56C# | 4½ | 180 | 200 | 3.8 | 0.10 | 27.4 | 15.9 | D135 | **4M676** | 884.00 | **553.50** | 55.0 |
| **1** | 2500 | 146ATC | 4½ | 180 | 200/100 | 5.3 | 0.14 | 25.2 | 15.61 | D300 | **6Z545** | 793.00 | **503.00** | 62.0 |
| **1** | 1725 | 56C# | 4½ | 180 | 200 | 5.1 | 0.10 | 36.5 | 15.9 | D118 | **4M677** | 1008.00 | **631.00** | 56.0 |
| **1** | 1750 | 146ATC | 4½ | 180 | 200/100 | 5.1 | 0.14 | 36.0 | 15.61 | D301 | **6Z544** | 811.00 | **514.50** | 56.0 |
| **1** | 1750 | L182ACY | 4½ | 180 | 200/100 | 5.0 | 0.28 | 36.0 | 15.26 | D401 | **4M726**† | 1873.00 | **1188.00** | 92.0 |
| **1** | 1750 | L182ATC | 8½ | 180 | 200/100 | 5.0 | 0.28 | 36.0 | 15.26 | D400 | **4M725**† | 1873.00 | **1188.00** | 102.0 |
| **1** | 1150 | 148ATC | 4½ | 180 | 200/100 | 5.0 | 0.18 | 54.8 | 16.86 | D302 | **6Z543** | 949.00 | **565.00** | 69.0 |
| **1½** | 2500 | 148ATC | 4½ | 180 | 200/100 | 7.5 | 0.18 | 37.8 | 16.86 | D303 | **6Z548** | 959.00 | **608.00** | 69.0 |
| **1½** | 1750 | 148ATC | 4½ | 180 | 200/100 | 7.3 | 0.18 | 54.0 | 16.86 | D304 | **6Z547** | 976.00 | **619.00** | 59.0 |
| **1½** | 1750 | 186ACY | 4½ | 180 | 200/100 | 7.3 | 0.45 | 54.0 | 16.76 | D405 | **4M727**† | 2049.00 | **1299.00** | 102.0 |
| **1½** | 1750 | 186ATC | 8½ | 180 | 200/100 | 7.3 | 0.45 | 54.0 | 16.76 | D540 | **4M722**‡ | 2049.00 | **1299.00** | 140.0 |
| **1½** | 1150 | 1412ATC | 4½ | 180 | 200/100 | 7.0 | 0.32 | 82.2 | 20.73 | D305 | **6Z546** | 1237.00 | **784.50** | 105.0 |
| **2** | 2500 | 148ATC | 4½ | 180 | 200/100 | 9.8 | 0.18 | 50.4 | 16.86 | D306 | **6Z551** | 1150.00 | **729.00** | 69.0 |
| **2** | 1750 | 149ATC | 4½ | 180 | 200/100 | 9.5 | 0.23 | 72.0 | 17.98 | D307 | **6Z550** | 1168.00 | **741.00** | 69.0 |
| **2** | 1750 | L186ACY | 4½ | 180 | 200/100 | 9.5 | 0.67 | 72.0 | 18.76 | D412 | **4M728**‡ | 2409.00 | **1528.00** | 128.0 |
| **2** | 1750 | L186ATC | 8½ | 180 | 200/100 | 9.5 | 0.67 | 72.0 | 18.76 | D411 | **4M729**† | 2409.00 | **1528.00** | 128.0 |
| **2** | 1150 | 1412ATC | 4½ | 180 | 200/100 | 9.5 | 0.32 | 109.6 | 20.73 | D308 | **6Z549** | 1481.00 | **938.50** | 100.0 |
| **3** | 2500 | 1412ATC | 4½ | 180 | 200/100 | 14.5 | 0.32 | 75.6 | 20.73 | D309 | **6Z553** | 1481.00 | **939.00** | 104.0 |
| **3** | 1750 | 1412ATC | 4½ | 180 | 200/100 | 14.0 | 0.32 | 108.0 | 20.73 | D310 | **6Z552** | 1499.00 | **949.50** | 93.0 |
| **3** | 1750 | 189ACY | 4½ | 180 | 200/100 | 13.9 | 0.77 | 108.0 | 20.76 | D555 | **4M731**† | 3060.00 | **1939.00** | 165.0 |
| **3** | 1750 | 189ATC | 8½ | 180 | 200/100 | 13.9 | 0.77 | 108.0 | 20.76 | D419 | **4M730**‡ | 3060.00 | **1939.00** | 162.0 |
| **5** | 1750 | 2110ATC | 8½ | 180 | 200/100 | 23.0 | 1.71 | 180.1 | 26.72 | D431 | **4M732**† | 5009.00 | **3175.00** | 289.0 |

(*) Blower ventilated. (†) TENV. (‡) Suitable for constant torque to 60% of base speed. (#) No base.

# SPEED CONTROLS FOR PERMANENT MAGNET DC MOTORS AND GEARMOTORS

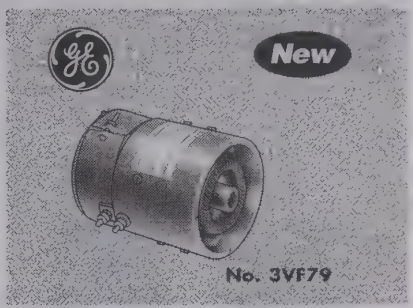
## ELECTRIC VEHICLE SERIES MOTORS

**Applications**

These motors and controls are designed for golf carts, utility vehicles, and other similar applications and require a minimum of adjustment and fine-tuning after installation. Partial motors for replacement of OEM units.

- **19T spline female shaft extension for mating with Dana H30 axles**

**Bearings:** Ball
**Enclosure:** TENV
**Thermal Protection:** None
**Mounting:** Flange




| HP | RPM | Volts | Torque (Oz.-Ft.) | Duty (Min.) | Overall Length | Full Load Amps @ NP Volts | GE Model No. | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 2800 | 36 | 60.0 | 60 | 8.4 | 48.6 | D294 | **3VF76** | $976.00 | **$573.50** | 56.0 |
| **2.5** | 3300 | 36 | 63.7 | 60 | 8.9 | 67.0 | D295 | **3VF77** | 1022.00 | **600.00** | 58.0 |
| **2.5** | 3300 | 48 | 65.5 | 60 | 9.2 | 42.6 | D296 | **3VF78** | 1022.00 | **600.00** | 58.0 |
| **4** | 4400 | 36 | 76.4 | 30 | 8.9 | 99.8 | D297 | **3VF79** | 1473.00 | **865.00** | 65.0 |
| **4** | 4400 | 48 | 76.4 | 60 | 8.9 | 78.5 | D298 | **3VF80** | 1473.00 | **865.00** | 65.0 |

## PULSE WIDTH MODULATED (PWM)

**STANDARD FEATURES**

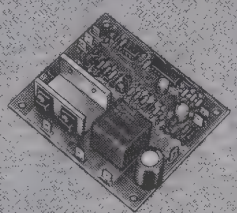
- **Speed pot included**
- **FET PWM design**
- **Fixed current limit**
- **Board or chassis mount**
- **Pot loss protection—output voltage goes to zero if speed pot leads break**
- **Fixed acceleration (1 to 3 second "soft start")**
- **Single direction operation**

These controls feature high efficiency PWM designs resulting in cooler motor operation and longer brush life. For use with DC motors and gearmotors on constant or diminishing torque applications requiring wide range adjustable speed control. These include medical, packaging, office, laboratory, conveyor, and food processing equipment. Not intended for constant HP applications which include saws and drill presses. Do not use in close proximity to high capacitive discharge electrical circuits, such as welding equipment.

Dayton®

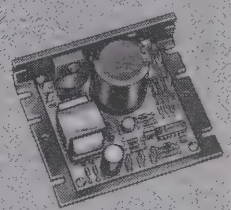
**Nos. 1Z802 and 1Z805**

- **15 ampere rating**
- **Reverse battery polarity protection**
- **On/Off control voltage relay**



**No. 1Z808**

- **Full wave power supply**
- **Transient voltage protection**
- **3 ampere rating**
- **Adjustable maximum speed**

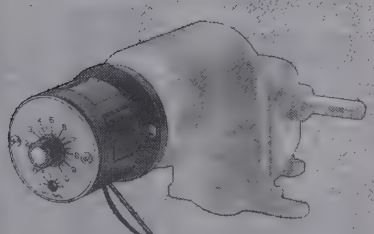


| Type | Max. HP | Input Volts | Armature Volts DC | Speed Range | Dimensions (In.) W | L | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Board** | 1/7 | 12 DC | 12 DC | 20:1 | 3.50 | 4.00 | 1.25 | **1Z802** | $240.00 | **$137.90** | 0.6 |
| **Board** | 1/4 | 24 DC | 24 DC | 20:1 | 3.50 | 4.00 | 1.25 | **1Z805** | 240.00 | **137.90** | 0.6 |
| **Chassis** | 1/5 | 115 AC | 90 DC * | 20:1 | 3.64 | 4.30 | 2.00 | **1Z808** | 425.00 | **243.75** | 0.6 |

(*) Capable of 130 VDC operation.

## DIRECT MOUNT GEARMOTOR SPEED CONTROL

Dayton®



- **Mounts directly to many Dayton permanent magnet DC gearmotors**
- **Can be panel mounted for use with many other 90V PMDC gearmotors**
- **Ideal for applications that require convenient speed adjustment right at the gearmotor**
- **Eliminates need to run long wires from controller to gearmotor, offering streamlined, compact drive package**
- **Full wave unfiltered control with freewheeling diode**
- **Made of strong Noryl plastic**
- **Adjustments: On-Off speed knob and current limit (0.2-4.0 amps) and min./max. speed**
- **Adaptable to Von Weise models VW07, VW31, VW33, VW62, VW80, VW83, VW94, VW88, VW89 using 90 VDC permanent magnet motors**

| Input Volts (50/60 Hz) | HP Range | Arm. Volts | Constant Torque Speed Range | Speed Reg. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **115** | 1/35-1/6 | 90 | 15:1 | 10-30% | **6A191** | $75.00 | **$63.00** | 0.5 |

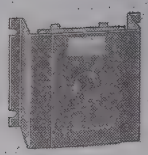
### GEARMOTOR/MOTOR COMPATIBILITY

| Mounts Directly to Rear of Nos.: | | Mounts Remotely with Panel to Nos.: | | |
|---|---|---|---|---|
| 2H522, 2H524, 2H526 | 4Z530 thru 4Z533 | 6A192 thru 6A194 | 4Z128 thru 4Z134 | 4Z381 thru 4Z383 |
| 2H528, 2H530, 2H532, 2H534, 2H537, 2H539, 2H455, 2H457, 2H459, 2H461, 2H463, 2H465, 2H467, 2H469, 2H471, 2H473, 2H475, 2H477 | 4Z534 thru 4Z539 | 1L491 | 4Z135 thru 4Z138 | 4Z528 |
| | 4Z723 thru 4Z728 | 1L492 | 4Z140 thru 4Z142 | 6Z910 thru 6Z916 |

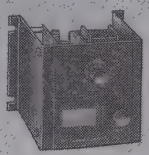
# DC SPEED CONTROLS FOR 90V AND 180V MOTORS AND GEARMOTORS

Dayton

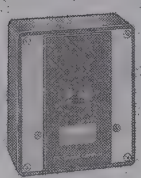
E165942 E165942



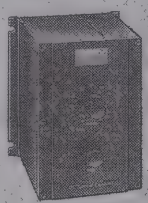
A



B



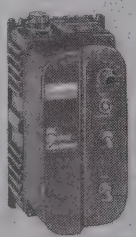
C



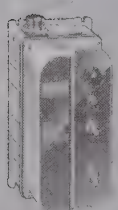
D



E



F



G Washdown



H

**ALL MODELS FEATURE:**

- Adjustable maximum/minimum speed
- Fused control protection
- Run/stop switch
- Metal enclosures (except Nos. 4Z527 and 6Z812 are phenolic)
- Built-in transient and surge suppression
- Performance matched to Dayton and GE PMDC motors
- Single-phase, 60/50 Hz input
- All models are UL Listed for USA and Canada (E165942)

Solid state speed controls convert 115 or 230 VAC input to full wave DC power for speed control of permanent magnet (90 and 180 VDC armature) motors and gearmotors. Some controls can also control shunt wound DC motors.

For constant or diminishing torque applications requiring adjustable speed control over a wide range. Not intended for constant HP applications such as saws and drill presses or in close proximity of high capacitive discharge electrical circuits such as welding equipment. Black finish (except Nos. 1F794 and 1F792 are white epoxy washdown duty). Dayton brand.

## ADDITIONAL FEATURES

| Stock No. | IR Comp. | Current / Torque Limit | "Power On" Light | Arm. VDC | Shunt Wound Field VDC | Compatible with Tach‡ Feedback | Dynamic Braking | Additional Switches (On/Off Stand.) |
|---|---|---|---|---|---|---|---|---|
| 4Z827 | Fixed | None | No | 90 | N/A | — | No | None |
| 4Z828 | Fixed | None | No | 90 | N/A | — | No | None |
| 4Z527 | Fixed | None | No | 90 | N/A | — | No | None |
| 5X412 | Fixed | None | No | 90 | N/A | — | No | None |
| 5X485 | Adj. | Adj. | Yes | 90 | 100 | Yes | No | None |
| 6X165 | Adj. | Adj. | Yes | 90 | 100 | Yes | Yes# | Fwd/Rev |
| 2M171 | Adj. | Adj. | Yes | 90 | 100 | Yes | Yes# | Fwd/Rev |
| 4Z829* | Adj. | Adj. | Yes | 90 | 100 | Yes | Yes# | Fwd/Rev |
| 1F794 | Adj. | Adj. | Yes | 90 | 100 | Yes | Yes# | Fwd/Rev |
| 4Z377 | Adj. | Adj. | Yes | 180 | 200 | Yes | No | None |
| 6Z812† | Adj. | Adj. | Yes | 180 | 200/100 | Yes | Yes†† | Fwd/Stop/JOG†† |
| 1F792 | Adj. | Adj. | Yes | 180 | 200 | Yes | Yes# | Fwd/Rev |

(*) External speed adjust interfacing accepts 0-10V, or 1 to 5, 4 to 20, 10 to 50 mA signals with offset.
(†) Includes control circuit to prevent restart of drive after interruption of AC power. Adjustable acceleration and deceleration. Provision to allow converting to a torque control. (††) With No. 6Z813.
,221(‡) See tachometer generators on page 195. (#) Braking kit included; installation voids UL.

## SPECIFICATIONS AND ORDERING INFORMATION

| Key | HP Range | Input Volts | Constant Torque Speed Regulation % Speed Range | Nameplate RPM | Enclosure (In.) Type | H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONTROL WITH OUTPUT FOR 90VDC ARM. PM MOTORS** | | | | | | | | | | | | |
| A | 1/50-1/6 | 115 | 10:1 | 10-30 | Chassis | 4 | 4 | 2 | 4Z827 | $65.00 | $58.05 | 1.0 |
| B | 1/35-1/6 | 115 | 10:1 | 10 | Chassis | 4 1/4 | 4 | 4 1/4 | 4Z828 | 114.00 | 102.30 | 2.5 |
| C | 1/50-1/6 | 115 | 10:1 | 10-30 | NEMA 1 | 5 | 4 1/4 | 1 7/8 | 4Z527 | 77.00 | 68.20 | 0.8 |
| D | 1/35-1/6 | 115 | 10:1 | 10 | NEMA 1 | 6 | 4 | 4 5/16 | 5X412 | 134.00 | 120.35 | 3.7 |
| E | 1/4-1 | 115 | 50:1 | 2 | NEMA 4/12 | 9 1/2 | 5 | 5 1/2 | 5X485 | 391.00 | 350.00 | 6.0 |
| F | 1/35-1/6 | 115 | 50:1 | 2 | NEMA 4/12 | 9 1/2 | 5 | 5 1/2 | 6X165 | 395.00 | 354.00 | 5.1 |
| F | 1/8-1 | 115 | 50:1 | 2 | NEMA 4/12 | 9 1/2 | 5 | 5 1/2 | 2M171 | 445.00 | 398.75 | 5.3 |
| F | 1/8-1 | 115 | 50:1 | 2 | NEMA 4/12 | 9 1/2 | 5 | 5 1/2 | 4Z829 | 602.00 | 539.50 | 6.8 |
| G | 1/8-1 | 115 | 50:1 | 2 | NEMA 4/12 | 9 1/2 | 5 | 5 1/2 | 1F794 | 445.00 | 398.75 | 9.0 |
| **CONTROL WITH OUTPUT FOR 180VDC ARM. PM MOTORS** | | | | | | | | | | | | |
| E | 1/3-2 | 230 | 50:1 | 2 | NEMA 4/12 | 9 1/2 | 5 | 5 1/2 | 4Z377 | 442.00 | 395.50 | 5.0 |
| G | 1/3-2 | 230 | 50:1 | 2 | NEMA 4/12 | 9 1/2 | 5 | 5 1/2 | 1F792 | 445.00 | 398.75 | 9.0 |
| H | 1/3-5 | 230 | 50:1 | 2 | NEMA 4/12 | 12 1/8 | 9 | 9 9/16 | 6Z812 | 874.00 | 782.50 | 12.0 |

## MAGNETIC REVERSING KIT FOR No. 6Z812

Provides full armature reversing using forward and reverse contactors mounted on a printed circuit board. Also disconnects motor armature from control when motor is stopped, meeting electrical code requirements for an "M" contactor.

Includes an antiplugging circuit and an auxiliary form A contact rated for 5 amps at 115VAC or 30VDC. 3-5 HP range. Forward reverse toggle switch for selecting motor rotation. Operable on 230VAC only, 180V armature. Dynamic braking option included.

**No. 6Z813.** Shpg. wt. 3.3 lbs. List .....$426.00.
Each .....**$381.75**

Dayton

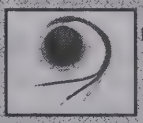
E165942

E165942



# DC VARIABLE SPEED CONTROLS

DART CONTROLS, INC.



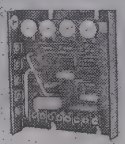
Nos. 6Z387, 6Z385, and 2M510 include speed pot, knob, and dial plate.



**No. 6Z387, Chassis 1/4 to 2 HP**
**ADDITIONAL FEATURES**
- Adj. linear accel. and decel.
- Packaged gentron bridge
- Dual Voltage
- Two AC fuses
- C-UL Recognized (E78180(N)



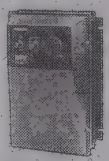
**No. 6Z385, Chassis 1/8 to 2 HP**
**ADDITIONAL FEATURES**
- Adj. linear accel.
- One AC fuse
- Packaged gentron bridge
- Dual voltage
- UL Recognized (E78180)
- CSA Certified (LR85877)



**No. 2M510, Chassis 1/8 to 1 HP**
**ADDITIONAL FEATURES**
- 200% overload for 1 minute
- Dual voltage
- UL Recognized (E78180)
- CSA Certified (LR85877)
- European Compliance-C.E.Mark



**No. 6Z388, Enclosed, NEMA 4/12, 1/4 to 2 HP**
**ADDITIONAL FEATURES**
- Power interrupt relay
- Adj. linear accel. and decel.
- Packaged gentron bridge
- Two AC fuses
- Dual Voltage
- C-UL Recognized (E78180(N)



**No. 2M511, Enclosed, NEMA 4/12, 1/8 to 1 HP**
**ADDITIONAL FEATURES**
- Reverse manual or electric
- Power interrupt relay
- Dynamic brake
- Two AC fuses
- Adj. linear accel. and decel.



**No. 6Z386, Enclosed, NEMA 4/12, 1/8 to 2 HP**
**ADDITIONAL FEATURES**
- Adj. linear accel.
- One AC fuse
- Packaged gentron bridge
- Dual voltage
- UL Recognized (E78180)
- CSA Certified (LR85877)

## STANDARD FEATURES

- Operable on 60 or 50 Hz
- 1% speed regulation over constant torque speed range
- Adjustable minimum/maximum speed
- Adjustable current limit
- Line voltage compensation
- Transient voltage protection
- Free wheeling diode
- Inhibit capability
- HP adjustable by internal trim pot
- Barrier terminal strip
- Shunt field (1 amp max; 100 VDC for 120 VAC in; 200 VDC for 240 VAC in)
- DC tach follower capability
- DC tach feedback capability: 3 V/K
- Full wave power supply
- 100% full load tested
- Operate on 60 Hz at ±10% rated line voltage
- Chassis units are supplied with speed pot, knob, and dial plate

DC speed controls for use with DC motors and gearmotors on constant or diminishing torque applications requiring wide range adjustable speed control. These include conveyors, assembly lines, packaging, food processing, silk screening, and photo processing equipment. Not intended for constant HP applications which include saws and drill presses. Do not use in close proximity to high capacitive discharge electrical circuits such as welding equipment. UL Recognized (E78180). Dart brand.

| Type | HP* | Input Volts at 60 Hz | Output to PM DC Motor | Speed Range | Dimensions (In.) W | L | D | Dart Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chassis | 1/8-1 † | 120/240 | 90/180 VDC | 50:1 | 3.625 | 4.25 | 1.3 | 125DV-C-K | **2M510** | $100.55 | **$73.25** | 0.7 |
| Enclosed | 1/8-2 | 120/240 | 90/180 VDC | 50:1 | 5.53 | 7.43 | 3.55 | 253G-200E | **6Z386** | 290.34 | **211.50** | 2.0 |
| Chassis | 1/8-2 | 120/240 | 90/180 VDC | 50:1 | 5.53 | 7.00 | 1.63 | 253G-200C | **6Z385** | 224.68 | **164.00** | 1.5 |
| Enclosed | 1/8-1 | 120 | 90 VDC | 50:1 | 6.75 | 10.75 | 4.75 | 530-BRE-36MA | **2M511** | 666.57 | **485.75** | 4.3 |
| Enclosed | 1/8-2 | 120/240 | 90/180 VDC | 50:1 | 6.75 | 10.75 | 4.75 | 530-BRE | **6Z388** | 555.75 | **405.25** | 3.6 |
| Chassis | 1/8-2 | 120/240 | 90/180 VDC | 50:1 | 6.75 | 9.00 | 2.00 | 530BC | **6Z387** | 493.00 | **359.75** | 2.3 |

(*) 1/8-1 HP at 90 VDC; 1/4-2 HP at 180 VDC. (†) 1/8-1/2 HP at 90V DC; 1/8-1 HP at 180V DC; or extended capacity up to 1 and 2 HP with auxiliary heat sink.

## FIELD PROGRAMMABLE CLOSED LOOP DC VARIABLE SPEED CONTROL

DART CONTROLS, INC. E78180 LR85877

Field Programmability Allows User to Customize Control to Specific Application



- Microprocessor based with non-volatile memory
- Displays include RPM, FPM, GPM, rate or process time
- Digital closed loop accuracy
- Adjustable Min./Max. set speed
- Master or follower modes of operation
- Decimal point selection
- Large 1/2" digital display
- Operable on 60 or 50 Hz
- 1/8 DIN panel mount

For use on 90V PMDC motors and gearmotors, rated to 1/3 HP, requiring long term accuracy and repeatable speed settings. Accepts 120 VAC, 60/50 Hz input. Closed loop accuracy of ±1/2 RPM when used with pulse generator. Screw-type terminal strip for easy installation. Sturdy aluminum construction. Speed range: 25:1. Dart brand (MD10P)*.

**No. 1XC92.** Shpg. wt. 1.2 lbs. List.....$582.00.
Each.....**$424.25**

(*) Requires No. 6Z392 pulse generator or equivalent.

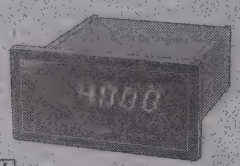
# DIGITAL TACHOMETERS, PULSE GENERATOR, AND SPEED CONTROLS

## FIELD PROGRAMMABLE DIGITAL TACHOMETER AND PULSE GENERATOR

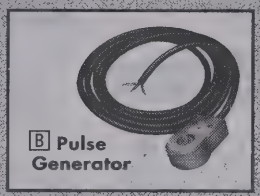
DART CONTROLS, INC.

**TACHOMETER FEATURES**

- Input voltage: 120V, 50 or 60 Hz
- Field programmable
- Four digit LED display (1/2 in.)
- Wire clamp terminal strip connnectors
- Accepts a variety of 5V TTL inputs: Hall effect, proximity (inductive) and photoelectric



A



B Pulse Generator

Compact in size, sturdy aluminum construction. Field programmable rate based display. Four digit .58" LED display. Wire clamp terminal strip for easy connections. Operates on 5 volt square wave pulse supplied by No. 6Z392 pulse generator or equivalent. Input voltage: 120V, 60 Hz. –10° to 45°C ambient. ±10% rated line voltage. Dart brand.

A **No. 6Z390 Tachometer/Ratemeter** converts input pulses to engineering units (RPM, Gal./Min., Ft./Sec., etc.)

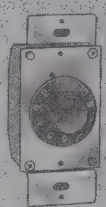
B **No. 6Z392 Pulse Generator** provides 5 volt square wave pulse with frequency proportional to shaft RPM of unit to which it is mounted. Standard features include stainless steel ball bearing, compact housing of molded Monsanto "Santoprene" plastic rubber, and 6 ft. rubber-jacketed output cablewith 3-wire 18AWG conductors (red wire-+VDC supply input; black wire-common; white wire: signal). Operating temperature range: -10°C to +45°C. PU-E Series pick-up mounts directly on shaft being monitored using single 10-32 screw. Maximum shaft speed is 5000 RPM.

| Key | Dart Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| A | DM4004 | **6Z390** | $272.20 | **$198.75** | 1.1 |
| B | PU-2E | **6Z392** | 71.40 | **53.40** | 0.5 |

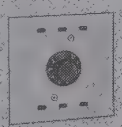
## SPEED CONTROLS FOR UNIVERSAL TYPE AC/DC MOTORS

Dayton

E165942



No. 4X796



No. 4X797

- Use only with 115V AC/DC universal brush-type motors
- Clockwise turn of dial permits control of motor speed from 20 to 100% of full speed
- Typical uses are gearmotors, power tools, sewing machines, grinders, blowers, and pumps
- Input 115 VAC (±10%) 60 or 50 Hz
- Mount in panels or directly into standard "handy" boxes (handy box not included)
- No. 4X796 uses single gang wall plate; No. 4X797 uses double gang wall plate (wall plates not included)
- Controls are not intended for shaded pole, PSC, split-phase, capacitor-start, or PMDC motors
- Instructions furnished
- UL Recognized (E165942)

| Max. Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 5 | **4X796** | $30.00 | **$28.05** | 0.3 |
| 10 | **4X797** | 37.00 | **33.15** | 0.4 |

Boston Gear



## DOUBLE C-FACE DC TACHOMETER GENERATORS

- Self-contained design producing linear output voltage in direct proportion to actual motor speed
- Provides 35 VDC/1000 RPM output suitable for use with tach feedback for DC controls
- Mounting configuration designed for mounting between a C-face motor and a flanged speed reducer
- Not intended for overhung loads on the output shaft

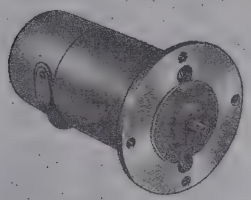
| Voltage Output 1000/RPM | Max. Speed RPM | For Motor Series | Input Shaft Dia. | Output Shaft Dia. | Temperature Constant Per Degree F | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **35 VDC** | 2000 | 56C | .6257/.6252 | .6245/.6250 | .04 Volts | **1F806** | $900.00 | **$830.50** | 7.0 |
| **35 VDC** | 2000 | 140TC-180TC | .8757/.8752 | .8745/.8750 | .04 Volts | **1F808** | 968.00 | **893.50** | 7.0 |

## LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

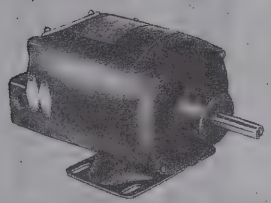
Check your frequently-ordered product categories for line extensions and new product offerings.
Look for the "New Products" header at the top of the page and
the "New" designation next to the stock number.

# TACHOMETER GENERATORS

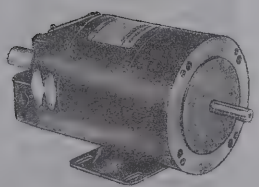
E47088 LR56189



No. 4M655



No. 4M687



No. 4M685

**Tachometer Generator** is a generator mechanically coupled to a rotating machine whose main function is to generate a voltage, the magnitude or frequency of which is used either to determine the speed of rotation or the common shaft or to supply a signal to a control circuit to provide speed regulation.

**Typical Uses:** Speed indication on a variety of mill drives, machine tools, paper machines, and industrial machines.

**Special Features:** Hazardous location models have built-in temperature-sensing switch with leads brought out. When properly wired to the external control circuit, maximum frame temperature is limited as required by UL and the NEC.

**Bearings:** Ball

**Enclosure:** TENV

**Insulation Class:** A

**Duty:** Continuous

**Rotation:** CW/CCW or reversing service

**Field:** Alnico magnets

**Finish:** Gray

## GE PY59 FRAME DESIGN

| Speed Range | Poles | Volts Per 1000 RPM | GE Frame | Output | Ambient | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **PY TACH ADAPTER KIT MOUNT** | | | | | | | | | | |
| 400-5000 | 4 | 28 | 59 | AC | 40°C | D120 | **4M652** | $362.00 | **$226.75** | 5.0 |
| 100-5000 | 2 | 50 | 59 | DC | 40°C | D123 | **4M655*** | 1004.00 | **628.50** | 6.0 |
| 100-5000 | 2 | 50 | 59 | DC | 40°C | D251 | **4M657*** | 875.00 | **548.00** | 6.0 |
| 100-5000 | 2 | 50 | 59 | DC | 40°C | D252 | **4M658** | 1004.00 | **628.50** | 8.0 |
| 100-2500 | 2 | 100 | 59 | DC | 40°C | D122 | **4M659** | 1004.00 | **628.50** | 6.0 |
| 100-2500 | 2 | 100 | 59 | DC | 40°C | D250 | **4M661** | 875.00 | **548.00** | 8.0 |
| **BASE MOUNT** | | | | | | | | | | |
| 400-5000 | 4 | 20 | 59 | AC | 40°C | D246 | **4M654** | 483.00 | **303.00** | 4.5 |
| 400-5000 | 4 | 28 | 59 | AC | 40°C | D121 | **4M653** | 344.00 | **215.75** | 4.5 |
| 100-5000 | 2 | 50 | 59 | DC | 40°C | D125 | **4M656*** | 1004.00 | **628.50** | 7.0 |
| 100-2500 | 2 | 100 | 59 | DC | 40°C | D124 | **4M660** | 1004.00 | **628.50** | 8.0 |

(*) Reversing service up to 2500 RPM maximum.

## GE BC42 and BC46 DC DESIGN SINGLE SHAFT

| Speed Range | Poles | Volts Per 1000 RPM | GE Frame | Ambient | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **NEMA 56 C-FACE MOUNT** | | | | | | | | | |
| 100-5000 | 2 | 50 | BC46 | 65°C | D130 | **4M683** | $3332.00 | **$2085.00** | 39.0 |
| 100-5000 | 2 | 50 | BC42 | 65°C | D141 | **4M684** | 1902.00 | **1192.00** | 30.0 |
| 100-3600 | 2 | 100 | BC46 | 65°C | D131 | **4M688** | 3332.00 | **2085.00** | 40.0 |
| 100-2750 | 2 | 100 | BC42 | 65°C | D142 | **4M692** | 1902.00 | **1192.00** | 28.0 |
| **NEMA 56 BASE MOUNT** | | | | | | | | | |
| 100-5000 | 2 | 50 | BC42 | 65°C | D126 | **4M681** | 1881.00 | **1179.00** | 25.0 |
| 100-5000 | 2 | 50 | BC46 | 65°C | D127 | **4M682** | 3311.00 | **2073.00** | 36.0 |
| 100-3600 | 2 | 100 | BC46 | 65°C | D128 | **4M687** | 3311.00 | **2073.00** | 37.0 |
| 100-2750 | 2 | 100 | BC42 | 65°C | D136 | **4M691** | 1881.00 | **1179.00** | 25.0 |
| 100-1800 | 2 | 200 | BC46 | 65°C | D138 | **4M695** | 3311.00 | **2073.00** | 35.0 |
| 100-1375 | 2 | 200 | BC42 | 65°C | D137 | **4M697** | 1881.00 | **1179.00** | 27.0 |

## HAZARDOUS LOCATION—CLASS I, GROUP D; CLASS II, GROUPS E, F, & G

| Speed Range | Poles | Volts Per 1000 RPM | GE Frame | Ambient | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **NEMA 56 C-FACE MOUNT** | | | | | | | | | |
| 100-5000 | 2 | 50 | BC42 | 65°C | D267 | **4M666** | $2579.00 | **$1616.00** | 38.0 |
| 100-2750 | 2 | 100 | BC42 | 65°C | D268 | **4M700** | 2579.00 | **1616.00** | 39.0 |
| **NEMA 56 BASE MOUNT** | | | | | | | | | |
| 100-5000 | 2 | 50 | BC42 | 65°C | D255 | **4M667** | 2565.00 | **1606.00** | 33.0 |
| 100-2750 | 2 | 100 | BC42 | 65°C | D256 | **4M668** | 2565.00 | **1606.00** | 33.0 |

## GE BC42 and BC46 DC DESIGN DOUBLE SHAFT EXTENSION†

| Speed Range | Poles | Volts Per 1000 RPM | GE Frame | Ambient | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **NEMA 56 C-FACE MOUNT WITH REMOVABLE BASE** | | | | | | | | | |
| 100-5000 | 2 | 50 | BC46 | 65°C | D144 | **4M685** | $3432.00 | **$2149.00** | 40.0 |
| 100-5000 | 2 | 50 | BC42 | 65°C | D149 | **4M686** ‡ | 2004.00 | **1255.00** | 30.0 |
| 100-3600 | 2 | 100 | BC46 | 65°C | D132 | **4M689** ‡ | 3432.00 | **2149.00** | 42.0 |
| 100-2750 | 2 | 100 | BC42 | 65°C | D143 | **4M693** | 2004.00 | **1255.00** | 33.0 |
| 100-1800 | 2 | 200 | BC46 | 65°C | D133 | **4M694** | 3432.00 | **2149.00** | 42.0 |
| **NEMA 56 BASE MOUNT** | | | | | | | | | |
| 100-3600 | 2 | 100 | BC46 | 65°C | D139 | **4M690** | 3347.00 | **2097.00** | 37.0 |
| 100-1800 | 2 | 200 | BC46 | 65°C | D140 | **4M696** | 3347.00 | **2097.00** | 37.0 |

(†) Double shaft extension is 1 7/8" long x 5/8" diameter with keyway each end. (‡) Include base.

**ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY**
Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items. See Index under Energy Saving Products.

# MOTOR-START CAPACITORS AND ACCESSORIES

## PHILIPS

**Functionally Equivalent with:***

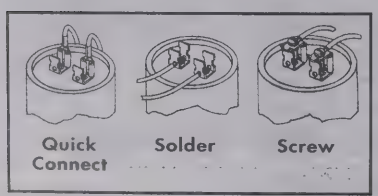
| | | |
|---|---|---|
| GE or Sprague | AB, 29A, 19A, 9A | Series |
| Philips | 3535, 3534, 35F, 3530 | Series |
| CDE | ETW Series | |
| Mallory | PSU Series | |
| Aero M | PSA, PSB Series | |

(*) Specific performance may vary between brands. If critical, review all specifications prior to purchase.



**Rated 3-Second Start, 20 Starts Per Hour, 50/60 Hz**

**TRIPLE TERMINAL STYLE**




**(Uses optional screw terminal No. 6X578 listed below.)**

AC electrolytic capacitors are designed for normal intermittent service on single-phase motor starting applications. Maximum Power Factor (PF) is 10%. They also meet or exceed Electronic Industries Association (EIA) Standard RS-463-type 2. Container is plastic to provide an effective seal against moisture. Dual terminals for either solder, 1/4" female quick-connect connections, or screw. Individually cartoned. Philips brand.

| MFD Rating | Overall Dimensions (In.) Diameter | Length | Philips Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **110-125 VAC, 50/60 Hz, ELECTROLYTIC CAPACITORS** | | | | | | | |
| **88 - 106** | 1 7/16 | 2 3/4 | 3534B1A0088A110A9 | **1A567** | $5.00 | **$3.22** | 0.2 |
| **108 - 130** | 1 7/16 | 2 3/4 | 3534B1A0108A110B1 | **4X058** | 6.00 | **3.32** | 0.2 |
| **130 - 156** | 1 7/16 | 2 3/4 | 3534B1A0130A110A7 | **4X059** | 6.00 | **3.44** | 0.2 |
| **145 - 174** | 1 7/16 | 2 3/4 | 3534B1A0145A110B5 | **4X060** | 6.00 | **4.15** | 0.2 |
| **161 - 193** | 1 7/16 | 2 3/4 | 3534B1A0161A110C1 | **4X061** | 6.00 | **3.67** | 0.2 |
| **189 - 227** | 1 7/16 | 2 3/4 | 3534B1A0189A110B6 | **4X062** | 7.00 | **3.91** | 0.2 |
| **216 - 259** | 1 7/16 | 3 3/8 | 3534B2A0216A110A9 | **4X063** | 7.00 | **4.23** | 0.3 |
| **233 - 280** | 1 7/16 | 3 3/8 | 3534B2A0233A110B1 | **4X064** | 7.00 | **4.28** | 0.2 |
| **243 - 292** | 1 7/16 | 3 3/8 | 3534B2A0243A110B2 | **4X065** | 7.00 | **4.46** | 0.3 |
| **270 - 324** | 1 7/16 | 3 3/8 | 3534B2A0270A110B8 | **1A568** | 8.00 | **4.56** | 0.2 |
| **324 - 389** | 1 7/16 | 3 3/8 | 3534B2A0324A110A6 | **4X066** | 8.00 | **4.92** | 0.2 |
| **340 - 408** | 1 13/16 | 3 3/8 | 3534B4A0340A110B3 | **4X067** | 9.00 | **5.35** | 0.3 |
| **378 - 454** | 1 13/16 | 3 3/8 | 3534B4A0378A110B1 | **4X068** | 9.00 | **5.64** | 0.3 |
| **400 - 480** | 1 13/16 | 3 3/8 | 3534B4A0400A110B3 | **1A569** | 9.00 | **5.75** | 0.3 |
| **430 - 516** | 1 13/16 | 3 3/8 | 3534B4A0430A110B2 | **4X069** | 10.00 | **6.02** | 0.3 |
| **460 - 553** | 1 13/16 | 4 3/8 | 3534B5A0460A110A3 | **4X070** | 10.00 | **6.28** | 0.4 |
| **540 - 648** | 1 13/16 | 4 3/8 | 3534B5A0540A110A7 | **4X071** | 11.00 | **6.95** | 0.5 |
| **590 - 708** | 1 13/16 | 4 3/8 | 3534B5A0590A110A3 | **5X673** | 12.00 | **8.04** | 0.5 |
| **708 - 850** | 1 13/16 | 4 3/8 | 3534B5A0708A110A3 | **1A570** | 14.00 | **9.17** | 0.5 |
| **815 - 978** | 1 13/16 | 4 3/8 | 3534B5A0815A110A4 | **5X674** | 15.00 | **9.47** | 0.5 |
| **1000 - 1200** | 2 1/16 | 4 3/8 | 3534B7A1000A110A3 | **1A571** | 18.00 | **11.25** | 0.7 |
| **220-250 VAC, 50/60 Hz, ELECTROLYTIC CAPACITORS** | | | | | | | |
| **43 - 53** | 1 7/16 | 3 3/8 | 3534B2A0043A220A6 | **5M075** | 8.00 | **5.16** | 0.3 |
| **53 - 64** | 1 7/16 | 3 3/8 | 3534B2A0053A220A7 | **4X653** | 9.00 | **5.73** | 0.2 |
| **64 - 77** | 1 7/16 | 3 3/8 | 3534B2A0064A220A3 | **4X654** | 10.00 | **5.90** | 0.3 |
| **88 - 106** | 1 13/16 | 3 3/8 | 3534B4A0088A220A6 | **6X627** | 11.00 | **7.35** | 0.4 |
| **108 - 130** | 1 13/16 | 3 3/8 | 3534B4A0108A220A9 | **4X655** | 11.00 | **6.85** | 0.5 |
| **124 - 149** | 1 13/16 | 4 3/8 | 3534B5A0124A220A5 | **4X656** | 12.00 | **7.72** | 0.4 |
| **130 - 154** | 1 13/16 | 4 3/8 | 3534B5A0130A220A5 | **4X657** | 13.00 | **8.01** | 0.5 |
| **145 - 174** | 2 1/16 | 3 3/8 | 3534B6A0145A220A5 | **4X658** | 13.00 | **8.20** | 0.4 |
| **161 - 193** | 2 1/16 | 3 3/8 | 3534B6A0161A220A2 | **4X659** | 14.00 | **8.75** | 0.4 |
| **216 - 259** | 2 1/16 | 4 3/8 | 3534B7A0216A220A7 | **4X660** | 17.00 | **10.53** | 0.5 |
| **233 - 280** | 2 1/16 | 4 3/8 | 3534B7A0233A220A6 | **4X661** | 18.00 | **11.19** | 0.5 |
| **270 - 324** | 2 1/16 | 4 3/8 | 3534B7A0270A220A6 | **4X662** | 19.00 | **12.23** | 0.6 |
| **330 VAC, 50/60 Hz, ELECTROLYTIC CAPACITORS** | | | | | | | |
| **53 - 64** | 1 13/16 | 3 3/8 | 3534B4A0053A330C3 | **5X565** | 12.00 | **7.43** | 0.4 |
| **64 - 77** | 1 13/16 | 3 3/8 | 3534B4A0064A330B8 | **5X566** | 12.00 | **7.50** | 0.4 |
| **72 - 86** | 2 1/16 | 3 3/8 | 3534B6A0072A330A2 | **5X567** | 13.00 | **8.30** | 0.4 |
| **88 - 106** | 2 1/16 | 3 3/8 | 3534B6A0088A330D3 | **5X568** | 15.00 | **9.23** | 0.4 |
| **108 - 130** | 2 1/16 | 3 3/8 | 3534B6A0108A330A2 | **5X569** | 17.00 | **10.37** | 0.4 |
| **124 - 149** | 2 1/16 | 4 3/8 | 3534B7A0124A330D5 | **5X570** | 18.00 | **11.01** | 0.6 |
| **130 - 156** | 2 1/16 | 4 3/8 | 3534B7A0130A330D1 | **5X571** | 19.00 | **12.12** | 0.5 |
| **145 - 174** | 2 1/16 | 4 3/8 | 3534B7A0145A330B8 | **5X572** | 20.00 | **12.51** | 0.6 |
| **161 - 193** | 2 1/16 | 4 3/8 | 3534B7A0161A330A4 | **5X573** | 22.00 | **13.73** | 0.6 |
| **189 - 227** | 2 9/16 | 4 3/8 | 3534B8A0189A330D5 | **5M074** | 27.00 | **17.30** | 0.8 |

## Aerovox




### 15,000 OHM, 2 WATT RESISTOR

When soldered across the terminals of an electrolytic motor-start capacitor, resistor bleeds off the electrical charge that is stored as the relay or starting switch contacts open and the capacitor is disconnected from the line. Helps prevent contact points from arcing and welding closed on rapid-cycling applications. Comes in packages of 10 resistors. Aerovox brand.

**No. 6X181.** Shpg. wt. 0.1 lbs. List.....$4.45. Each.....**$3.47**

## 3M




### 1/4" SCREW TERMINAL

Convert 1/4" quick connect terminals of all capacitors listed above to screw-type terminals. Includes 6-32 screw. 25/64" long. Comes in boxes of 100. 3M brand.

**No. 6X578.** Shpg. wt. 0.4 lbs. List.....$19.47. Each **$15.59**; Lots 5.....**$13.22**

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

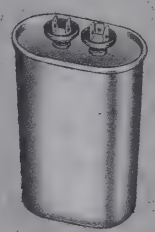
**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# MOTOR-RUN CAPACITORS

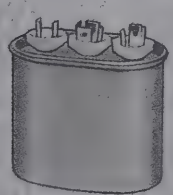
## GE OVAL CAPACITORS

For applications such as air conditioners and refrigerators. Operate in temperatures of -40°F to 156°F (-40°C to 70°C) with microfarad values within ±6% of nominal rating. Hermetically sealed aluminum case with turnplate steel cover. 1/4" male quick-connect terminals. Phenolic insulating bushings. UL Recognized pressure sensitive interrupters for maximum 10,000 amp fault currents. Individually cartoned.

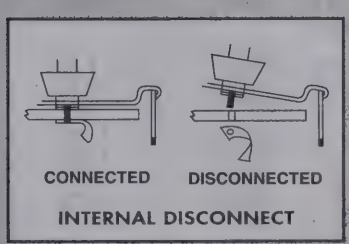
E7793



No. 6X650



No. 4X760
Dual Rated
Capacitor




| MFD Rating | Dimensions (In.) Depth | Width | Height | E.I.A. UL Base | GE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **370 VAC OVAL** | | | | | | | | | |
| **2** | 1 5/16 | 2 3/16 | 2 1/8 | A | 97F5502BX | **6X650*** | $5.35 | **$4.16** | 0.3 |
| **3** | 1 5/16 | 2 3/16 | 2 1/8 | A | 97F5503BX | **6X651*** | 5.35 | **3.74** | 0.3 |
| **4** | 1 5/16 | 2 3/16 | 2 1/8 | A | 97F5704BX | **6X652*** | 5.35 | **4.62** | 0.3 |
| **5** | 1 5/16 | 2 3/16 | 2 1/8 | A | 97F5705BX | **6X653*** | 5.35 | **4.16** | 0.4 |
| **6** | 1 5/16 | 2 3/16 | 2 1/8 | A | 97F5706BX | **6X654*** | 5.95 | **4.64** | 0.2 |
| **7.5** | 1 5/16 | 2 3/16 | 2 7/8 | A | 97F9001BX | **6X655*** | 6.40 | **4.99** | 0.5 |
| **10** | 1 5/16 | 2 3/16 | 2 7/8 | A | 97F9002BX | **6X656*** | 7.65 | **5.96** | 0.4 |
| **12.5** | 1 5/16 | 2 3/16 | 3 7/8 | A | 97F9003BX | **6X657*** | 9.20 | **7.16** | 0.5 |
| **15** | 1 15/16 | 2 15/16 | 2 1/8 | C | 97F9121BX | **6X658†** | 10.50 | **8.17** | 1.0 |
| **17.5** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9601BX | **6X659†** | 12.80 | **9.96** | 1.0 |
| **20** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9603BX | **6X660†** | 13.65 | **10.61** | 0.6 |
| **25** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9607BX | **6X661†** | 15.25 | **11.87** | 0.6 |
| **30** | 1 15/16 | 2 15/16 | 3 7/8 | C | 97F9609BX | **6X662†** | 17.20 | **13.39** | 0.8 |
| **35** | 1 15/16 | 2 15/16 | 3 7/8 | C | 97F9612BX | **6X663‡** | 18.40 | **14.33** | 0.8 |
| **40** | 1 15/16 | 2 15/16 | 3 7/8 | C | 97F9615BX | **6X664‡** | 20.50 | **15.97** | 0.9 |
| **45** | 2 | 3 1/16 | 2 7/8 | D | 97F9618BX | **5X432** | 23.15 | **18.03** | 1.1 |
| **50** | 2 | 3 1/16 | 2 7/8 | D | 97F9622BX | **5X433** | 24.70 | **19.23** | 1.0 |
| **15/5** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9437BX | **4X760** | 16.30 | **12.69** | 0.6 |
| **17.5/5** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F5474BX | **4X762** | 17.00 | **13.24** | 0.6 |
| **20/5** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9673BX | **4X764** | 17.35 | **13.51** | 0.5 |
| **25/5** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9675BX | **4X766** | 19.65 | **15.31** | 1.0 |
| **30/5** | 1 15/16 | 2 15/16 | 3 7/8 | C | 97F9681BX | **4X767** | 21.20 | **16.51** | 0.7 |
| **35/5** | 1 15/16 | 2 15/16 | 3 7/8 | C | 97F9796BX | **4X768** | 22.20 | **17.29** | 1.0 |
| **440 VAC OVAL** | | | | | | | | | |
| **4** | 1 5/16 | 2 3/16 | 2 7/8 | A | 97F5337BX | **4M988** | 6.30 | **4.50** | 0.2 |
| **5** | 1 5/16 | 2 3/16 | 2 7/8 | A | 97F5339BX | **4M989** | 6.80 | **4.86** | 0.2 |
| **6** | 1 5/16 | 2 3/16 | 2 7/8 | A | 97F5436BX | **4M990** | 7.50 | **5.36** | 0.2 |
| **7.5** | 1 5/16 | 2 3/16 | 2 7/8 | A | 97F9036BX | **4M875** | 10.00 | **7.14** | 0.4 |
| **10** | 1 5/16 | 2 3/16 | 3 7/8 | A | 97F5300BX | **6X665*** | 10.55 | **8.22** | 0.8 |
| **15** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9627BX | **6X666†** | 14.10 | **10.98** | 0.8 |
| **17.5** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9629BX | **6X667†** | 14.90 | **11.61** | 0.6 |
| **20** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9631BX | **6X668†** | 16.15 | **12.58** | 0.6 |
| **25** | 1 15/16 | 2 15/16 | 2 7/8 | C | 97F9633BX | **6X669†** | 18.40 | **12.90** | 1.0 |
| **30** | 1 15/16 | 2 15/16 | 3 7/8 | C | 97F9637BX | **6X670‡** | 20.90 | **16.28** | 0.8 |
| **35** | 1 15/16 | 2 15/16 | 3 7/8 | C | 97F9638BX | **6X671‡** | 23.15 | **18.02** | 0.8 |
| **40** | 1 15/16 | 2 15/16 | 3 7/8 | C | 97F9641BX | **6X672‡** | 25.40 | **19.78** | 1.0 |
| **45** | 2 | 3 1/16 | 3 7/8 | D | 97F9644BX | **5X434** | 27.50 | **21.41** | 1.0 |
| **50** | 2 | 3 1/16 | 3 7/8 | D | 97F5320BX | **4X758** | 30.65 | **23.90** | 1.0 |
| **55** | 2 | 3 1/16 | 4 3/4 | D | 97F9084BX | **5X435** | 34.85 | **27.20** | 1.0 |

UL recognized by type number—(*) Type P921, (†) Type P923, (‡) Type P924.

## OVAL OR ROUND CAPACITOR ACCESSORIES

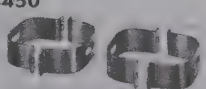


Mounting Kit



Terminal Cap

E31176 LR58450



Mounting Strap

**For 2 thru 12.5 MFD @ 370VAC and 10 MFD @ 440VAC capacitors.**

### MOUNTING KITS

| Description | Configuration | Pkg. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Mounting Kit*** | Oval | 1 | **3M533** | $2.86 | **$2.20** | 0.1 |
| **Terminal Cap** | Oval | 4 | **3X685** | 2.75 | **2.27** | 0.3 |
| **Mounting Strap** | Oval | 4 | **3X684** | 2.40 | **2.18** | 0.3 |
| **Terminal Cap** | Round | 4 | **4M308** | 2.75 | **2.27** | 0.2 |
| **Mounting Strap** | Round | 4 | **4M309** | 2.40 | **2.16** | 0.1 |

(*) Mounting kit includes mounting base, terminal cap, screws and locking nut.

# MOTOR-RUN CAPACITORS

## AEROMET II® ROUND CAPACITORS

E51176

LR58450



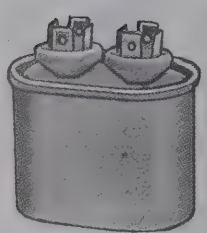
For mounting kits, see page 197

- Noncorrosive plastic case
- Self-clearing to insure performance
- Uses environmentally compatible and biodegradable Supernol® fluid to prolong life
- Metallized polypropylene film dielectric
- Ambient operating temperature range -40°C to 70°C within ±10% of nominal rating
- Built to EIA Standard RS456A
- UL Class 94V-2 and 746C for direct support of live electrical parts. Also UL E51176 and CSA LR58450

| MFD Rating | Round/ Base (In.) | Height (In.) | E.I.A. UL Base | Aerovox Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **370 VAC ROUND** | | | | | | | | |
| **3** | 1½ | 2⅝ | MM | M22P3703M00 | **4M303** | $5.35 | **$4.37** | 0.3 |
| **4** | 1½ | 2⅝ | MM | M22P3704M00 | **4M304** | 5.35 | **4.37** | 0.3 |
| **5** | 1½ | 2⅝ | MM | M22P3705M00 | **5A022** | 5.35 | **4.37** | 0.2 |
| **6** | 1½ | 2⅝ | MM | M22P3706M00 | **4M306** | 5.95 | **4.82** | 0.4 |
| **7.5** | 1½ | 2⅝ | MM | M22P3707N00 | **5A023** | 6.40 | **5.24** | 0.2 |
| **10** | 1½ | 3⅛ | MM | M22P3710M00 | **5A024** | 7.65 | **6.28** | 0.2 |
| **12.5** | 1½ | 3⅛ | PP | M22P3712N00 | **4M312** | 9.20 | **7.50** | 0.4 |
| **15** | 1¾ | 2⅝ | PP | M22P3715M00 | **4M315** | 10.50 | **8.82** | 0.5 |
| **17.5** | 1¾ | 3⅛ | PP | M22P3717N00 | **4M317** | 12.80 | **10.98** | 0.6 |

## SUPERMET® OVAL CAPACITORS

E51176



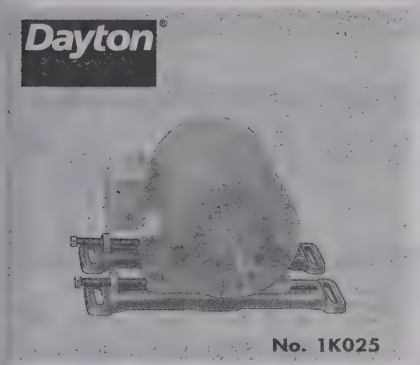
For mounting kits, see page 197

- Corrosive resistant metal case
- Self-clearing to insure performance
- Uses environmentally compatible and biodegradable Supernol® fluid to prolong life
- Metallized polypropylene film dielectric
- Ambient operating temperature range -40°C to 70°C within ±10% of nominal rating
- Built to EIA Standard RS456A
- UL Class 94V-2 and 746C for direct support of live electrical parts. Also UL E51176 and CSA LR58450

| MFD Rating | Dimensions (In.) Depth | Width | Height | E.I.A. UL Base | Aerovox Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **370 VAC OVAL** | | | | | | | | | |
| **2** | 1 5/16 | 2 3/16 | 1 9/16 | A | Z50P3702M | **4M999** | $5.35 | **$4.39** | 0.3 |
| **3** | 1 5/16 | 2 3/16 | 1 9/16 | A | Z50P3703M | **5M001** | 5.35 | **4.33** | 0.3 |
| **4** | 1 5/16 | 2 3/16 | 1 9/16 | A | Z50P3704M | **5M002** | 5.35 | **4.39** | 0.3 |
| **5** | 1 5/16 | 2 3/16 | 1 9/16 | A | Z50P3705M | **5M003** | 5.35 | **4.47** | 0.4 |
| **6** | 1 5/16 | 2 3/16 | 2 3/16 | A | Z50P3706M | **5M004** | 5.95 | **5.13** | 0.4 |
| **7.5** | 1 5/16 | 2 3/16 | 2 3/16 | A | Z50P3707N | **5M005** | 6.40 | **5.51** | 0.2 |
| **10** | 1 5/16 | 2 3/16 | 2 3/4 | A | Z50P3710M | **5M006** | 7.65 | **6.60** | 0.4 |
| **12.5** | 1 5/16 | 2 3/16 | 3 1/4 | A | Z50P3712N | **5M007** | 9.20 | **7.95** | 0.5 |
| **15** | 1 5/16 | 2 3/16 | 3 3/4 | A | Z50P3715M | **5M008** | 10.50 | **9.45** | 0.5 |
| **17.5** | 1 5/16 | 2 3/16 | 4 1/4 | A | Z64P3717N | **5M009** | 12.80 | **11.28** | 0.6 |
| **20** | 1 5/16 | 2 5/16 | 2 3/16 | C | Z64P3720M | **5M010** | 13.65 | **12.01** | 0.6 |
| **25** | 1 5/16 | 2 5/16 | 2 3/4 | C | Z64P3725M | **5M011** | 15.25 | **13.19** | 0.6 |
| **30** | 1 5/16 | 2 5/16 | 3 1/4 | C | Z64P3730M | **5M012** | 17.20 | **14.88** | 0.8 |
| **35** | 1 5/16 | 2 5/16 | 3 1/4 | C | Z64P3735M | **5M013** | 18.40 | **16.18** | 0.8 |
| **40** | 1 5/16 | 2 5/16 | 3 3/4 | C | Z64P3740M | **5M014** | 20.50 | **17.72** | 0.8 |
| **45** | 1 5/16 | 2 5/16 | 4 1/4 | C | Z64P3745M | **5M015** | 23.15 | **20.36** | 1.1 |
| **50** | 1 5/16 | 2 5/16 | 4 1/4 | C | Z64P3750M | **5M016** | 24.70 | **21.69** | 1.0 |
| **60** | 2 | 3 1/16 | 3 1/4 | D | Z62P3760M | **5M076** | 25.85 | **23.71** | 0.8 |
| **80** | 2 | 3 1/16 | 3 1/4 | D | Z62P3780M | **5M077** | 33.00 | **28.90** | 0.8 |
| **15/5** | 1 5/16 | 2 5/16 | 2 3/16 | C | Z64P3720W | **5M017** | 16.30 | **14.05** | 0.5 |
| **17.5/5** | 1 5/16 | 2 5/16 | 2 3/16 | C | Z64P3722W | **5M018** | 17.00 | **14.71** | 0.6 |
| **20/5** | 1 5/16 | 2 5/16 | 2 3/16 | C | Z64P3725W | **5M019** | 17.35 | **14.97** | 0.5 |
| **25/5** | 1 5/16 | 2 5/16 | 2 3/4 | C | Z64P3730W | **5M020** | 19.65 | **16.99** | 0.5 |
| **30/5** | 1 5/16 | 2 5/16 | 3 1/4 | C | Z64P3735W | **5M021** | 21.20 | **18.30** | 0.5 |
| **35/5** | 1 5/16 | 2 5/16 | 3 1/4 | C | Z64P3740W | **5M022** | 22.20 | **19.00** | 0.5 |
| **440 VAC OVAL** | | | | | | | | | |
| **4** | 1 5/16 | 2 3/16 | 2 3/16 | A | Z50P4404M | **5M023** | 6.30 | **4.97** | 0.2 |
| **5** | 1 5/16 | 2 3/16 | 2 3/16 | A | Z50P4405M | **5M024** | 6.80 | **5.39** | 0.2 |
| **6** | 1 5/16 | 2 3/16 | 2 3/4 | A | Z50P4406M | **5M025** | 7.50 | **5.78** | 0.2 |
| **10** | 1 5/16 | 2 3/16 | 3 1/4 | A | Z50P4410M | **5M026** | 10.55 | **9.07** | 0.3 |
| **15** | 1 5/16 | 2 5/16 | 2 3/4 | C | Z64P4415M | **5M027** | 14.10 | **11.81** | 0.8 |
| **17.5** | 1 5/16 | 2 5/16 | 2 3/4 | C | Z64P4417N | **5M028** | 14.90 | **12.50** | 0.8 |
| **20** | 1 5/16 | 2 5/16 | 2 3/4 | C | Z64P4420M | **5M029** | 16.15 | **13.55** | 0.5 |
| **25** | 1 5/16 | 2 5/16 | 3 1/4 | C | Z64P4425M | **5M030** | 18.40 | **15.44** | 1.0 |
| **30** | 1 5/16 | 2 5/16 | 3 3/4 | C | Z64P4430M | **5M031** | 20.90 | **17.54** | 0.8 |
| **35** | 1 5/16 | 2 5/16 | 4 1/4 | C | Z64P4435M | **5M032** | 23.15 | **19.79** | 0.8 |
| **40** | 2 | 3 1/16 | 2 3/4 | D | Z62P4440M | **5M033** | 25.40 | **21.96** | 1.0 |
| **45** | 2 | 3 1/16 | 3 1/4 | D | Z62P4445M | **5M034** | 27.50 | **23.73** | 0.9 |
| **50** | 2 | 3 1/16 | 3 1/4 | D | Z62P4450M | **5M035** | 30.65 | **25.85** | 1.0 |
| **55** | 2 | 3 1/16 | 3 3/4 | D | Z62P4455M | **5M036** | 34.85 | **29.25** | 1.0 |

# MOUNTING BASES AND RAILS

## CAST-IRON MOTOR MOUNTING RAILS



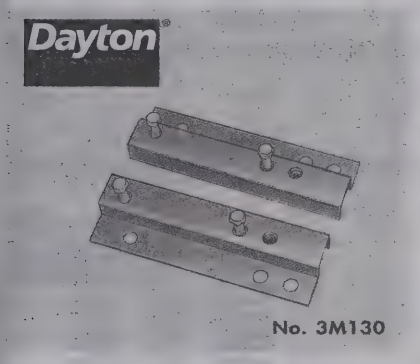
No. 1K025

**For floor-mounting NEMA 56 frame and all larger size motors.**

Slotted ends on all models. Adjusting screw, hardware included. Cast finish. Dayton brand.

| For NEMA Frames | Overall Dimensions (In.) H | W | L | Stock No. | List | Each Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 56, 66<br>143T, 145T | 3/4<br>3/4 | 2¼<br>2¼ | 10⅞<br>10⅞ | **1K025** | $35.44 | **$28.50** | 4.6 |
| 182T-215T<br>182-215 | 7/8<br>7/8 | 3⅛<br>3⅛ | 15½<br>15½ | **3K343** | 42.93 | **31.40** | 7.4 |
| 254T-286T<br>254U-286U | 1<br>1 | 4¼<br>4¼ | 18½<br>18½ | **1K027** | 56.06 | **46.65** | 12.0 |
| 324T, 326T<br>324U,326U | 1⅛<br>1⅛ | 4½<br>4½ | 24⅛<br>24⅛ | **1K028** | 75.38 | **61.70** | 21.0 |
| 364T<br>364U | 1⅛<br>1⅛ | 4½<br>4½ | 30¾<br>30¾ | **1K029** | 107.69 | **86.85** | 29.0 |

## ADAPT-O-MOUNTS



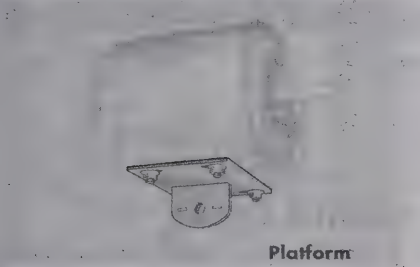
No. 3M130

**Convert mounting dimensions of original NEMA and NEMA U frame motors to NEMA T frame motors. Available in 5 sizes for adapting from NEMA 182 thru NEMA 326U motors, to NEMA 143T thru 286T motors.**

Adapt-O-Mounts compensate for the difference in mounting hole locations and shaft height; they do not alter the motor axial center lines or end of shaft extension. Corrosion-resistant gray primer finish. Zinc-plated bolts included. Motor mounting holes have nuts welded on base for easy installation. Not for ceiling or side-wall installations. Gray finish. Dayton brand.

| CONVERTS From NEMA U Frames | To NEMA T Frames | Adapt-O-Mount Dimensions (In.) Height | Width | Length | Stock No. | List | Each Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **182 or 184** | **143T or 145T** | 1 | 2¼ | 7½ | **3M130** | $22.00 | **$14.63** | 2.1 |
| **213 or 215** | **182T or 184T** | 3/4 | 1⅞ | 9½ | **3M131** | 31.00 | **22.79** | 2.7 |
| **254U or 256U** | **213T or 215T** | 1 | 2½ | 13 | **3M132** | 43.00 | **27.40** | 4.7 |
| **284U or 286U** | **254T or 256T** | 3/4 | 2½ | 14½ | **3M367** | 61.00 | **36.85** | 7.2 |
| **324U or 326U** | **284T or 286T** | 1 | 3 | 16 | **3M368** | 85.00 | **52.35** | 11.0 |

## AIR CIRCULATOR MOTOR MOUNTING BASES


Platform

Mounts permit fast, easy assembly of air circulator head to pedestal, wall/ceiling or suspension brackets. Design also allows mounting OSHA-compliance guards to motor thru-bolts without modification to guard. All bases have 3/8" mounting hole in yoke. Constructed of heavy-gauge steel with baked-on gray enamel finish.

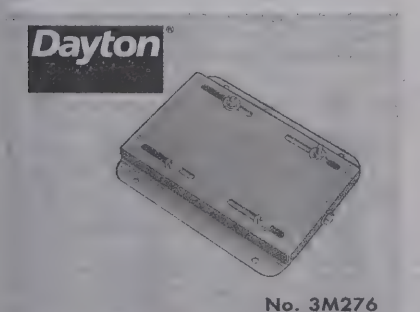
**Platform mount.** For 48 and 56 frame, rigid base motors. 4⅛ x 5⅛" platform. Punched 11/32" slotted motor mounting holes. Motor mounting bolts listed below.

**Motor mounting bolts.** Set of four 5/16"-18 x 5/8" long carriage bolts.

**No. 2C294.** Shpg. wt. 0.2 lbs. List.....$8.38. Each.....**$2.63**

| Mount Type | For use with Dayton Motor Type: | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Platform** | 48, 56 Frame, Rigid Base, 4⅛ x 5⅛" | **1C386** | $7.70 | **$4.54** | **$4.09** | 1.0 |

## ADJUSTABLE STEEL MOTOR BASES



No. 3M276

**Simplify floor-mounting and belt tension adjustment on NEMA 56 thru 215T and U frame motors.**

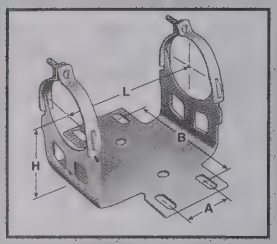
One-piece steel mounting bases have single adjusting bolt to position mounted motor for proper belt tension during initial installation and at later maintenance checks. Four motor mounting bolts included. Not for ceiling or sidewall installations. Gray finish. Dayton brand.

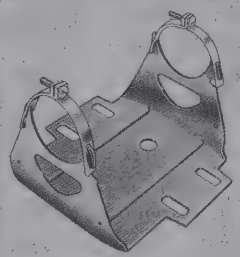
| For Nema Frame | Base Dimensions (In.) Height | Width | Length | Bolt Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **56** | 1⅛ | 6½ | 10⅝ | 5/16 | **3M276** | $28.00 | **$15.66** | 3.3 |
| **143T** | 1⅛ | 7½ | 10½ | 5/16 | **3M277** | 34.00 | **19.17** | 4.7 |
| **145T** | 1⅛ | 8½ | 10½ | 5/16 | **3M278** | 34.00 | **19.55** | 5.6 |
| **182T, 182** | 1½ | 9½ | 12¾ | 3/8 | **3M279** | 44.00 | **24.84** | 9.0 |
| **184T, 184** | 1½ | 10½ | 12¾ | 3/8 | **3M280** | 45.00 | **25.45** | 9.8 |
| **213T, 213** | 1¾ | 11 | 15 | 3/8 | **3M281** | 53.00 | **30.05** | 14.0 |
| **215T, 215** | 1¾ | 12½ | 15 | 3/8 | **3M282** | 56.00 | **32.00** | 15.0 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

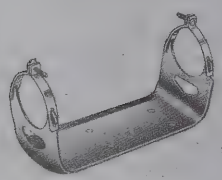
# MOTOR MOUNTING BASES

Dayton® GE

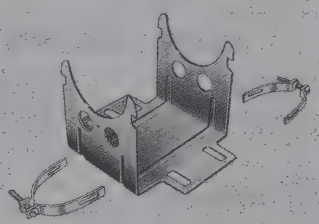


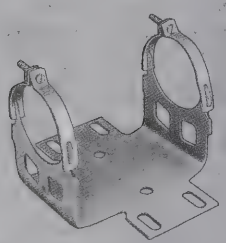
No. 4M750



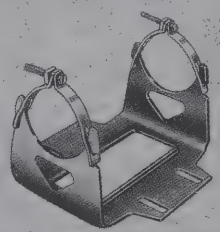
No. 4M739



No. 4M736



No. 3M490



No. 4M754

Used to mount shaded pole and PSC motors in direct-drive heating and air conditioning motors. Includes set of clamps (except No. 2W345).

## FOR 4" DIA. (GE 11 FRAME) MOTORS WITH 1¾" RINGS

| Mounting Holes OC (In.) A | B | Construction | Length (In.) | Shaft Height (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2⅜ | 1⅛ | Open, TENV | 4½ | 2¼ | A438 | **4M739** | $12.00 | **$5.29** | 0.3 |
| 2⅜ | 1⅛ | TEFC | 5½ | 2¼ | A440 | **4M740** | 12.00 | **5.29** | 0.3 |
| 2⅜ | 1⅛ | Open, TENV | 4¾ | 2¼ | A439 | **4M741** | 12.00 | **5.29** | 0.3 |
| 2⅜ | 1⅛ | TEFC | 5¾ | 2¼ | A441 | **4M742** | 12.00 | **5.29** | 0.3 |

## FOR 5" DIA. (NEMA 42 FRAME) MOTORS WITH 2¼" RESILIENT RINGS

| Mounting Holes OC (In.) A | B | Length (In.) | Shaft Height (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 11/16 | 3 11/16 | 5½ | 2⅝ | A449 | **4M750** | $12.00 | **$5.29** | 1.2 |
| 1 11/16 | 3 11/16 | 5⅜ | 2⅝ | A495 | **4M645** | 12.00 | **5.14** | 1.2 |
| 1 11/16 | 3 11/16 | 5⅜ | 2⅝ | A451 | **4M646** | 12.00 | **5.29** | 1.2 |
| 1 11/16 | 3¾ | 6½ | 2⅝ | A453 | **4M733** | 12.00 | **5.29** | 1.2 |
| 1 11/16 | 3¾ | 5¼ | 3½ | A455 | **4M736** | 10.00 | **5.29** | 1.2 |

## FOR EVAPORATIVE COOLER MOTORS (NEMA 56 FRAME) W/ 2½" RINGS

| Mounting Holes OC (In.) A | B | Length (In.) | Shaft Height (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3 | 4⅞ | 7 7/16 | 3½ | — | **2W345** | $11.00 | **$5.61** | 1.5 |

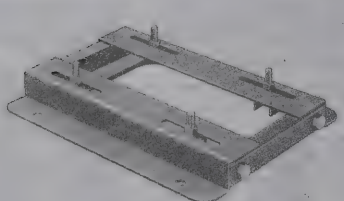
## FOR 5⅝" DIA. (GE 39 FRAME) MOTORS WITH 2¼" RINGS

| Mounting Holes OC (In.) A | B | Length (In.) | Shaft Height (In.) | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 11/16 | 4⅞ | 4¼ | 3½ | A468 | **4M754** | $18.00 | **$8.17** | 2.0 |
| 1 11/16 | 4⅞ | 4⅜ | 3½ | A469 | **4M755** | 18.00 | **8.17** | 2.0 |
| 1 11/16 | 4⅞ | 4⅝ | 3½ | A470 | **4M756** | 18.00 | **8.17** | 1.5 |
| 1 11/16 | 4⅞ | 4⅞ | 3½ | A471 | **4M757** | 18.00 | **8.18** | 2.0 |
| 1 11/16 | 4⅞ | 5⅛ | 3½ | A472 | **4M758** | 18.00 | **8.17** | 1.5 |
| 1 11/16 | 4⅞ | 5⅜ | 3½ | A473 | **4M759** | 18.00 | **8.17** | 2.0 |
| 1 11/16 | 4⅞ | 5⅝ | 3½ | A474 | **4M760** | 18.00 | **8.17** | 1.8 |
| 1 11/16 | 4⅞ | 6 1/16 | 3½ | A476 | **4M761** | 18.00 | **8.17** | 1.8 |
| 1 11/16 | 4⅞ | 6⅝ | 3½ | A475 | **4M762** | 18.00 | **8.17** | 2.0 |

## FOR 5⅝" DIA. (NEMA 48 FRAME) MOTORS WITH 2½" RINGS

| Mounting Holes OC (In.) A | B | Length (In.) | Shaft Height (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 11/16 | 4¾ | 4½ | 3 | **3M490** | $8.00 | **$6.24** | 1.1 |
| 1 11/16 | 4¾ | 5¼ | 3 | **3M491** | 8.00 | **6.24** | 1.0 |
| 1 11/16 | 4¾ | 5½ | 3 | **3M492** | 8.00 | **6.24** | 1.0 |
| 1 11/16 | 4¾ | 4¾ | 3 | **3M493** | 8.00 | **6.24** | 1.0 |
| 1 11/16 | 4¾ | 4 15/16 | 3 | **3M494** | 8.00 | **6.24** | 1.0 |

Dayton®



No. 2M512

## ADJUSTABLE STEEL MOTOR BASES

**Simplify floor-mounting and belt tension adjustment on NEMA 254 thru 449 frame motors.**

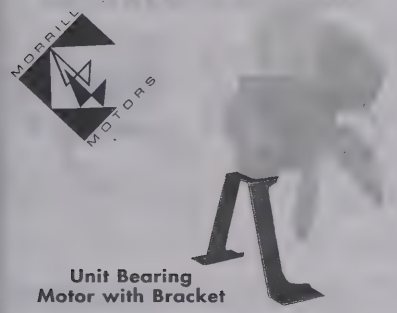
Fabricated steel mounting bases have two adjusting bolts to position mounted motor for proper belt tension during initial installation and at later maintenance checks. Gussets are standard on 404 frames and above. Four motor mounting bolts included. Not for ceiling or sidewall installations. Gray finish. Dayton brand.

| For NEMA Frame* | Base Dimensions (In.) Height | Width | Length | Bolt Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **254** | 2 | 15⅛ | 17¾ | 1/2 | **2M512** | $99.00 | **$56.50** | 19.0 |
| **256** | 2 | 16⅞ | 17¾ | 1/2 | **2M513** | 99.00 | **56.50** | 18.0 |
| **284** | 2 | 16⅞ | 19¾ | 1/2 | **2M514** | 109.00 | **62.20** | 24.0 |
| **286** | 2 | 18⅜ | 19¾ | 1/2 | **2M515** | 109.00 | **62.20** | 22.0 |
| **324** | 2½ | 19¼ | 22¾ | 5/8 | **2M516** | 144.00 | **82.10** | 30.0 |
| **326** | 2½ | 20¾ | 22¾ | 5/8 | **2M517** | 144.00 | **82.10** | 31.0 |
| **364** | 2½ | 20½ | 25½ | 5/8 | **2M518** | 187.00 | **106.15** | 45.0 |
| **365** | 2½ | 21½ | 25½ | 5/8 | **2M519** | 187.00 | **106.15** | 46.0 |
| **404** | 3 | 22⅜ | 28¾ | 3/4 | **2M520** | 274.00 | **155.75** | 55.0 |
| **405** | 3 | 23⅞ | 28¾ | 3/4 | **2M521** | 274.00 | **155.75** | 56.0 |
| **444** | 3 | 24⅝ | 31¼ | 3/4 | **2M522** | 393.00 | **223.75** | 74.0 |
| **445** | 3 | 26⅝ | 31¼ | 3/4 | **2M523** | 393.00 | **223.75** | 75.0 |
| **447** | 3 | 30⅛ | 31¼ | 3/4 | **2M524** | 393.00 | **223.75** | 89.0 |
| **449** | 3 | 35⅛ | 31¼ | 3/4 | **2M525** | 417.00 | **237.00** | 95.0 |

(*) May also be used if the motor frame is succeeded by S, T, TS, U, US or any letter combination as long as the motor complies with NEMA.

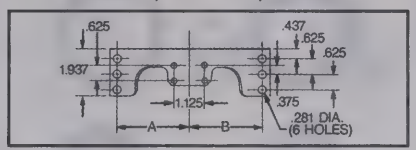
# MOUNTING BRACKETS, MOTOR BASE, AND RUBBER MOUNTS

## MOUNTING BRACKETS FOR UNIT BEARING MOTORS




Unit Bearing Motor with Bracket

MOUNTING DIMENSIONS (TOP VIEW)




Used to foot-mount all major brands of unit bearing motors with leads at 6, 9, and 12 o'clock positions. Constructed of .058" galvanized steel for strength and stability. Vibration dampening design. Morrill Motors brand.

| Motor Shaft Height (In.) | Bracket Height (In.) | Distance Between Hole Centerlines (In.) A | B | Morrill Motors Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **4.125** | 2.20 | 3.0 | 3.0 | B412SBG58 | **1C898** | $3.00 | **$1.98** | 0.2 |
| **4.562** | 2.64 | 3.0 | 3.0 | B456SBG58 | **1C899** | 3.00 | **1.98** | 0.1 |
| **5.375** | 3.45 | 3.0 | 3.0 | B537SBG58 | **1C900** | 3.00 | **1.98** | 0.2 |
| **5.375** | 3.45 | 2.44 | 3.56 | B537SUG58 | **1C901** | 3.00 | **1.98** | 0.2 |
| **6.250** | 4.33 | 3.0 | 3.0 | B625SBG58 | **1C902** | 4.00 | **2.46** | 0.3 |

## MOTOR BASE

Dayton

**For Dayton 3.3" diameter motors and all unit bearing motors**

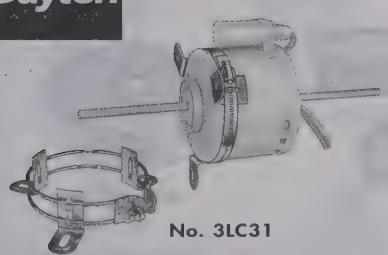


Stud-mounts up to 1/10 HP, shaded pole motors on slotted plate. For all Dayton 3.3" dia. motors as well as Dayton and GE unit bearing motors. 4⅜" dia. and 5⅜" maximum shaft height. Double-slotted feet.

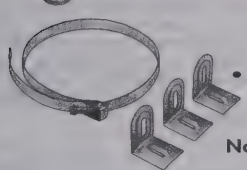
**No. 1C897.** Shpg. wt. 0.8 lbs. List $6.00.
Each ..... $5.00

## MOUNTING BRACKETS

Dayton



No. 3LC31



- Lock-on hangers

No. 3M133

- **Lug mounting kit for 48 frame (5½ to 5⅝" dia.) motors**
- **Solid double wire construction**
- **Lock-on hangers**
- **Tightening screw with lockwasher for extra security**
- **Three 1¾" lugs with 3/8 x 1" slots**

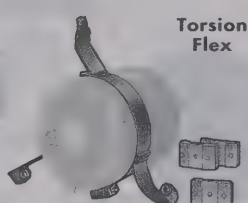
**No. 3LC31.** Lug Ring. Shpg. wt. 0.9 lbs. List $12.60. Each ..... $11.40

- **Lug mounting kit for 3 to 7" dia. motors**
- **Stainless steel band mount**
- **Three slide-on 1½" hangers**
- **1/4 x 7/8" slots, expandable to 3/4 x 1⁵⁄₁₆"**

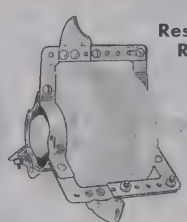
**No. 3M133.** Adjustable Mounting Bracket. Shpg. wt. 0.5 lbs. List $12.40. Each ..... $10.40

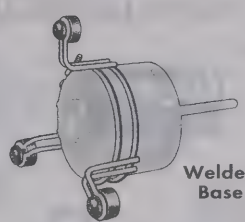
## MOTOR MOUNTING BRACKETS FOR 9 TO 12" DIA. BLOWER HOUSINGS

Torsion Flex



Resilient Ring





Welded Base

**Torsion-flex bracket** is designed to effectively isolate and prevent torsional vibrations from reaching blower housing and causing noise. Fits NEMA 42 (5" dia.) and 48 (5⅝" dia.) frame motors; metal inserts are supplied for adapting bracket to NEMA 42 frame. No pre-assembly; bracket clamps to motor shell. Instructions included.

**Resilient ring-mounted bracket** fits NEMA 48 frame motors with 2½" dia. resilient rings. Adjustable to fit rings 3½ to 6⅛" on center. Hardware included.

**Welded 3-ring brackets** include adjustable motor bracket with 3 welded rings and rubber grommets for mounting to blower housing.

| Fits Blower Wheel Dia. (In.) | Bracket | Fits NEMA Frame (Motor Size) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **9 or 10** | Torsion Flex | 42/48 | **5X247** | $13.00 | **$10.92** | 1.6 |
| **12** | Resilient Ring | 48 | **4C266** | 32.87 | **19.68** | 2.0 |
| **9** | Welded Rings | 42 | **3M146** | 16.35 | **9.80** | 1.0 |
| **10** | Welded Rings | 48 | **3M147** | 16.35 | **9.80** | 3.0 |

## RUBBER MOUNTS

Used on fans, blowers, compressors, pumps, etc., to reduce noise. Not recommended for suspended load applications.

Natural rubber isolators are chemically bonded to steel. Fasten between motor and rails or base. Karman Rubber brand.

| Pad Size Dia. (In.) | Screw Size | Karman Rubber Model | Stock No. | Each | Lots 10 |
|---|---|---|---|---|---|
| 3/4 x 1 | 1/4-20 x 1/2 | K47 | 3CC03 | $1.63 | $1.50 |
| 3/4 x 2 | 3/8-16 x 1⅛ | K75 | 3CC07 | 4.04 | 3.71 |

## ADAPTER BRACKET

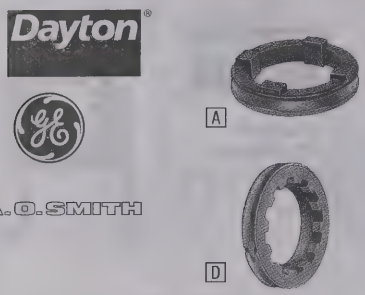


For 3.3" diameter motors (GE 51 frame). For resilient or solid mount 2⁵⁄₁₆" radius.

**No. 4M738.** GE (A418). Shpg. wt. 0.1 lbs. List $5.00. Each ..... $2.42

# MOUNTING RINGS, LENGTH ADAPTERS, RAINSHIELDS AND FIBRE WASHERS

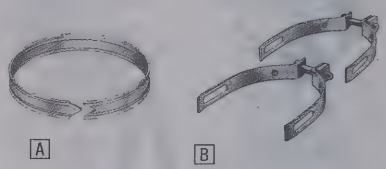
## MOTOR MOUNTING RINGS




**2½ and 2¼" OD resilient mount rubber rings** reduce vibration and are designed to replace mounting rings on NEMA 48 and 56 frame resilient ring mounted motors. Two rings per bag.

| For NEMA Frames | Key | Brand | OD (In.) | ID (In.) | Thick (In.) | Mfr's Model | Stock No. | List | Each Bag | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **48** | A | Dayton | 2¼ | 1½ | 1/2 | — | **3M143** | $11.03 | **$6.61** | 0.1 |
| | E | GE | 2¼ | 1 11/16 | 7/16 | A494 | **4M737** | 7.00 | **6.26** | 0.1 |
| | E | GE | 2½ | 1 11/16 | 7/16 | A493 | **4M751** | 7.00 | **6.26** | 0.2 |
| | D | GE | 2½ | 1 11/16 | 7/16 | A460 | **4M752** | 7.00 | **6.26** | 0.2 |
| **48 & 56** | B | A.O. Smith | 2½ | 1 9/16 | 3/8 | 1014B28H01 | **2X456** | 7.00 | **6.69** | 0.1 |
| **56** | F | Dayton | 2¼ | 1 11/16 | 1/2 | — | **5M073** | 7.00 | **6.52** | 0.1 |
| **56** | C | Dayton | 2½ | 1 7/8 | 7/16 | — | **2X284** | 7.00 | **6.53** | 0.1 |

## MOTOR MOUNT SPLIT RING ADAPTERS AND LATCHES



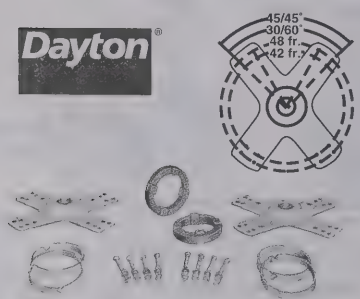

**A Motor mount split ring adapters.** Overlapping aluminum split ring adapters enlarge 2¼" dia. resilient frame mounting rings to 2½" dia. Two overlapping rings required for each side of motor. Sold in packages of 4 rings. GE brand.

**No. 1A682.** Shpg. wt. 0.2 lbs. List $4.00.
Each pkg. ..... **$2.87**

**B Mounting Latches.** Fasten motor to cradle.

**No. 2X234.** Shpg. wt. 0.1 lbs. List $4.20.
Each pkg. ..... **$3.37**

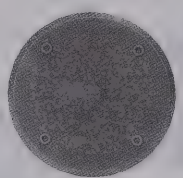
## MOTOR LENGTH ADAPTER



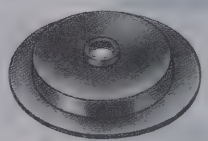

Kit includes 2 length adapter brackets with holes to match thru-bolts on NEMA 42 and 48 frames with 30/60° or 45/45° configuration—plus 2 resilient mounting rings, 4 split rings, 8 bolts with nuts for lengthening motor to fit existing mounting base, and instructions. Dayton brand.

**No. 5X399.** Shpg. wt. 0.8 lbs. List $16.00.
Each ..... **$12.63**

## MOTOR RAINSHIELDS



**No. 4M219**



**No. 4M753**

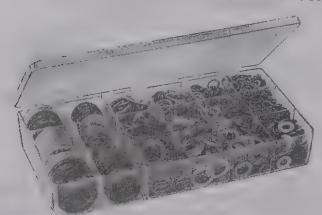
Designed for open motors mounted shaft up or shaft down in outdoor condenser units to prevent water from migrating down to motor.

Disc type rainshield protects motor in condensing units and other outdoor applications.

Heavy-duty nylon construction resists heat and ultraviolet rays. Internal cooling vanes help reduce motor temperature on Dayton models. Removable center plug for shaft-up or shaft-down mounting on Dayton models. Gray color (Dayton), black (GE). Dayton and GE brands.

| Bore ID (In.) | Diameter (In.) | Brand | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2** | 3 5/8 | GE | A483 | **4M753** | $7.00 | **$5.79** | 0.1 |
| | 6 3/4 | Dayton | — | **4M219** | 5.00 | **4.49** | 0.1 |
| **5/8** | 6 3/4 | Dayton | — | **4M220** | 5.00 | **4.48** | 0.2 |

## FIBRE WASHER KIT FOR ELECTRIC MOTORS



Kit includes 48 sizes of fibre washers, 3/32" to 15/16" bores. For taking end-play out of motors, and 1001 other repair uses. Handy, hinged lid, clear plastic box. Provides a generous supply for service and craftsmen. Fibre Materials brand.

**No. 1X348.** Shpg. wt. 0.7 lbs. List $30.15.
Each **$24.10**; Lots 3 ..... **$22.91**

### A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

## STATIONARY AND ROTATING SWITCHES

Dayton® For Capacitor Motors


A


B


C


D


E

### STATIONARY TYPE

| Key | NEMA Frame | AC Voltage | Motor Speed RPM at 60Hz † | Mounting Holes OC | Contacts | Use w/Rotating Switch No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 56, 66 | 115/230 | 3450/1725 | 3 holes | 1 pair | 4X421 | **4X416** | 21.00 | **13.50** | 0.1 |
| B | 56, 66, 143, 145 | 115/230 | 3450/1725 | 2 1/16 | 1 pair | 4X422 | **4X418** | 5.00 | **3.99** | 0.2 |
| C | 56, 66, 143, 145 | 115/230 | 3450/1725 | 2 1/16 | 2 pair | 4X422 | **1A852** | 7.00 | **5.47** | 0.2 |

### ROTATING TYPE

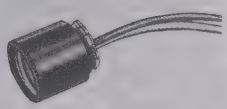
| Key | NEMA Frame | Motor Speed RPM | Carrier Bore ID (Shaft) (In.) | Spool OD (In.) | No. of Weights | Use w/Stationary Switch No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| D | 56, 66 | 3450 | 3/4 | — | — | 4X416 | **4X421** | 16.00 | **9.50** | 0.1 |
| E | 56, 66, 143, 145 | 3450/1725 | 55/64 | 2 17/32 | 6 | 4X418, 1A852 | **4X422** | 6.00 | **4.89** | 0.2 |

(†) For motor also operable at 50 Hz at 5/6 of 60 speed

## MOTOR FUSE BULB HOLDER

Varia Manufacturing Inc

SUPPLIER DIVERSITY™ Women-Owned Business



As fuse holder, mounts in motor's conduit box knockout to provide overload and short circuit protection for single phase FHP motors. Use time delay plug fuse matched to motor's full load current. As bulb holder, mounts in 7/8" dia. hole, or any 1/2" conduit knockout. Offset threaded extension for tight locations. Body made of heat and impact resistant, high dielectric nylon plastic. Black.

**No. 2X637.** Shpg. wt. 0.1 lbs. List $2.66.
Each **$2.17**; Lots 10 ..... **$2.07**

## MOTOR SWITCH MOUNTING BOXES

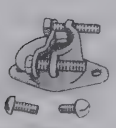




For use on NEMA 48 Frame Dayton, General Electric and Westinghouse Motors; NEMA 56 Frame 1/8 to 3/4 HP Westinghouse Motors; and NEMA 56 Frame 1/8 to 1/3 HP General Electric Motors. Gray enamel finish.

| Key | NEMA Frame | Fits Motor Brand | Mounting Holes OC (In.) | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 48 | Some Dayton, GE, A.O. Smith | 2 1/2 | 1 3/4 | 1 | 1 3/4 | **2X660** | $5.00 | **$4.10** | 0.1 |
| B | 56 | Some Dayton Motors | 2 1/2 | 1 1/2 | 1 1/8 | 1 3/4 | **1X499** | 4.00 | **2.75** | 0.1 |

## BX CONNECTORS


A

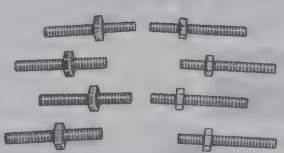

B


C

For 4 and 5" diameter 11 frame GE motors. Connectors furnished with two, self-tapping mounting screws.

| Key | Conduit Size and Use | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 3/8" and 5/16" leads out endshield | A436 | **4M743** | $6.00 | **$4.97** | 0.1 |
| B | 3/8" and 5/16" leads out shell | A437 | **4M744** | 6.00 | **4.97** | 0.1 |
| C | Rt.-angle connector, 3/8" and 5/16" leads out endshield | A442 | **4M745** | 6.00 | **4.97** | 0.1 |

## MOUNTING STUDS



For end mounting. Length 1 3/8". Set of 4.

| (4) Studs w/Nut | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **8-32** | A443 | **4M748** | $3.00 | **$2.53** | 0.2 |
| **10-32** | A448 | **4M734** | 3.00 | **2.53** | 0.2 |


A No. 4M746


B No. 4M747

## CONDUIT BOXES

For 4 and 5" diameter 11 frame GE motors. Furnished with three self-tapping screws: two for mounting conduit box and one for assembling cover.

| Key | Use | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Leads out endshield | A444 | **4M746** | $6.00 | **$4.97** | 0.2 |
| B | Leads out shell | A445 | **4M747** | 6.00 | **4.97** | 0.2 |

## 7 1/2" EXTENDED THRU MOTOR BOLTS

Set of four bolts with hex spinlock nuts. May be required on motors supplied without extended thru bolts. 10-32 thread. Fits NEMA 56 frame motors.

**No. 4C124.** Shpg. wt. 0.2 lbs. List $10.24.
Set of 4 ..... **$3.67▲**

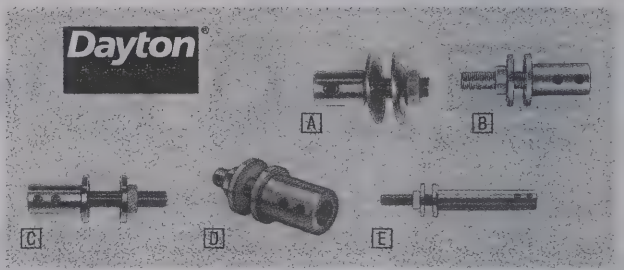
(▲) Net price, not subject to discounts.

# MOTOR SHAFT ARBORS, KEYLESS CHUCKS, MANDRELS, ADAPTER, AND EXPTENSION KIT

## FRACTIONAL HP MOTOR SHAFT ARBORS

- **Wide selection of sizes and styles**
- **Right-hand and left-hand threads available**
- **Machined from solid bar stock**

Used to mount various buffing and finishing wheels on electric motors. Arbors lock securely to shaft with socket set screws. Hex nut and flanged washers included. All components are zinc-plated. Right-hand thread for CCW rotation facing shaft; left-hand thread for CW rotation facing shaft. Models with 1/2"-20 right-hand thread can be used with Dayton keyless chucks (see below) to drive various shank-mounted power tool accessories.




### FRACTIONAL HP MOTOR SHAFT ARBORS

| Key | Style | Fits Shaft Dia. (In.) | Thread | Max. Wheel Width (In.) | Washer Dia. (In.) | Thread Length (In.) | OAL (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Small | 1/4 | 3/8-24RH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN04 | $5.41 | $3.50 | 0.2 |
| | | 5/16 | 3/8-24RH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN05 | 5.41 | 3.50 | 0.2 |
| | | 3/8 | 3/8-24RH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN06 | 5.41 | 3.50 | 0.2 |
| | | 1/4 | 3/8-24LH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN09 | 5.41 | 3.50 | 0.2 |
| | | 5/16 | 3/8-24LH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN10 | 5.41 | 3.50 | 0.2 |
| | | 3/8 | 3/8-24LH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN11 | 5.41 | 3.50 | 0.2 |
| B | Standard | 1/2 | 1/2-20RH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 6L104 | 5.46 | 4.02 | 0.4 |
| | | 5/8 | 1/2-20RH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 3ZN17 | 6.98 | 4.50 | 0.5 |
| | | 1/2 | 1/2-20LH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 6L106 | 5.46 | 4.02 | 0.4 |
| | | 5/8 | 1/2-20LH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 3ZN14 | 6.98 | 4.50 | 0.5 |
| C | Standard for Wider Wheels | 3/8 | 1/2-20RH | 2 | 1 1/2 | 2 5/8 | 4 1/4 | 3ZN03 | 7.75 | 5.00 | 0.5 |
| | | 1/2 | 1/2-20RH | 2 | 1 1/2 | 2 5/8 | 4 1/4 | 3ZN07 | 7.75 | 5.00 | 0.5 |
| | | 5/8 | 1/2-20RH | 2 | 1 1/2 | 2 5/8 | 4 1/4 | 3ZN08 | 7.75 | 5.00 | 0.5 |
| D | 3/16" Keyway | 5/8 | 1/2-20RH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 6L105 | 9.10 | 6.71 | 0.5 |
| | | 5/8 | 1/2-20LH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 6L107 | 9.10 | 6.71 | 0.5 |
| E | Extra-Long | 1/2 | 1/2-20RH | 1 5/8 | 1 1/2 | 2 1/4 | 6 1/4 | 3ZN15 | 12.26 | 7.90 | 0.8 |
| | | 5/8 | 1/2-20RH | 1 5/8 | 1 1/2 | 2 1/4 | 6 1/4 | 3ZN16 | 12.26 | 7.90 | 0.8 |
| | | 1/2 | 1/2-20LH | 1 5/8 | 1 1/2 | 2 1/4 | 6 1/4 | 3ZN12 | 12.26 | 7.90 | 0.8 |
| | | 5/8 | 1/2-20LH | 1 5/8 | 1 1/2 | 2 1/4 | 6 1/4 | 3ZN13 | 12.26 | 7.90 | 0.8 |

NOTE: Washers included are machined flange except for "Small" style which are stamped flanged.

## KEYLESS CHUCKS For Motor Arbors

Dayton®



**No. 1F610 Motor Shaft Arbor Not Included**

Use to drive flexible shafts, wire brushes, sanders, drill bits, and other shank-mounted power tool accessories. Mounts on 1/2"-20 RH shaft, see Dayton motor shaft arbors in chart above and mandrel No. 6L098. Jaws are spring-loaded; to open/close turn chuck by hand. Use only on shafts which turn CCW as viewed from the shaft end of the motor. Machined from cold-rolled steel with plated finish.

| Capacity | Fits Shaft | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0-1/4" | 1/2"-20 RH | 1F612 | $9.05 | 0.2 |
| 0-1/2" | 1/2"-20 RH | 1F610 | 12.53 | 0.6 |

## 1/4" DIA. SHAFT ADAPTER



For 3½" dia. unit bearing motors. Provides 1/4" dia. x 1"L shaft for using standard fan blade on 1/4"-20 RH threaded shaft (GE 51 frame) unit bearing motors. Socket set screw secures adapter on threaded shaft.

**No. 4X098.** Shpg. wt. 0.1 lbs. List.....$5.36. Each.....**$3.49**

## SHAFT EXTENDER KIT

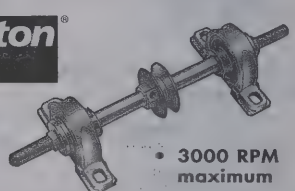


For use when additional shaft length of 2½" is required. Adapts to 3/8" dia. shaft. Extension is 2½" OAL in 3 sections: 3/8" OD x 1⅝"L, 5/16" OD (shoulder) x 1/2"L with threaded end #10-24 x 3/8"L. Coupling is 3/8" ID x 1/2" OD x 1⅛" OAL with two #5-40 socket set screws.

**No. 4M735.** Shpg. wt. 0.2 lbs. List.....$16.00. Each.....**$12.86**

## HEAVY-DUTY BALL BEARING MANDRELS

Dayton®



- **3000 RPM maximum**

- **Precision setscrew-type ball bearing pillow blocks in die-cast housings are pre-lubricated and sealed for maintenance-free operation**
- **Will take up to 1½" thick buffing/finishing wheels**
- **Suitable for jackshaft applications**
- **Uses A or 4L type V-belt**
- **Includes hex nut and two machined flange washers (1½" OD) for each end**
- **Components are plated to resist rust**

| Drive Shaft (In.) | Threaded Ends RH | Threaded Ends LH | OD Pulley (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5/8 x 12 | 1/2-20 | 1/2-20 | 2 | 6L098 | $50.40 | $35.55 | 3.3 |
| 3/4 x 12 | 5/8-11 | 5/8-11 | 2 | 6L099 | 50.40 | 35.60 | 3.6 |



*Motor installation or repair — we have the accessories to do the job right.*

## COMMUTATOR MAINTENANCE PRODUCTS RESURFACERS

**GRADES:**

**Medium (M)**—For general use, high mica, small ridges, and burns.

**Finish (F)**—For use after medium grade, for periodic application and for removing small burns and ridges immediately after their appearance.

**Polish (P)**—Very fine grade (220 aggregate grain) for burnish finish.

**SIZE:**

Size is always written length x width x thickness (working face area of x depth of stone). For handle types, handle is mounted parallel to the first dimension. Always use a resurfacer with the largest face possible (length x width). Thickness should be governed by clearance around commutator or ring.

**HOW TO USE:**

The resurfacer is simply pressed against the commutator and moved slowly from side to side in the direction of the commutator bars, with the machine running no load at full speed. Centrifugal stresses are thus the same as in normal operation, and the commutator is finished with every segment in true operating condition. On low voltage machines, such as traction motors, the resurfacing may be done with the machine running full load.

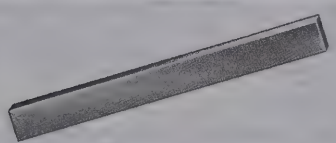
## SMALL MOTOR-TYPE RESURFACER



Comes with medium grade of stone on one end and a finish grade on the other. Length of handle is 10". An extremely useful tool for use on small fractional horsepower motors. Ideal brand (80-012A).

**No. 3GD74.** Shpg. wt. 0.1 lbs. List $25.73. Each.....**$17.23**

## PENCIL-TYPE RESURFACER



Used for fans or signal motors, auto generators, locomotive headlight motors, and other fractional HP motors. Ideal brand.

| Size (In.) L x W x D | Grade | Ideal Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 5/8 x 3/8 x 6 | Medium | 80-075M | 3GD76 | $15.43 | $10.36 | 0.1 |
| 5/8 x 3/8 x 6 | Finish | 80-075F | 3GD75 | 15.43 | 10.36 | 0.1 |
| 5/8 x 3/8 x 6 | Polish | 80-075P | 3GD77 | 15.43 | 10.36 | 0.1 |

### ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

## BRUSH SEATER AND COMMUTATOR CLEANER




Gentle-acting abrasive is very effective for seating carbon brushes and cleaning commutators and slip rings. Made of soft, loosely bound grain that produces a scouring effect as it is held against the commutator. The abrasive wears away sufficiently for self-cleaning, but does not remove or scratch the copper. Often called a "chalk" stone because of its color and chalk-like texture. Ideal brand.

| Size (In.) L x W x D | Grade | Ideal Model | Stock No. | Each Pkg. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 x 1/4 x 4 1/4 | Medium | 23-001M | 3GD63 | $27.65 | 12 | 0.2 |
| 1/2 x 1/4 x 4 3/4 | Medium | 23-002M | 3GD64 | 15.45 | 6 | 0.2 |
| 3/8 x 3/8 x 4 3/4 | Medium | 23-003M | 3GD65 | 12.79 | 4 | 0.2 |
| 1/2 x 3/8 x 4 3/4 | Medium | 23-004M | 3GD66 | 13.33 | 4 | 0.2 |
| 1/2 x 1/2 x 4 3/4 | Medium | 23-005M | 3GD67 | 9.45 | 2 | 0.2 |
| 5/8 x 1/2 x 4 3/4 | Medium | 23-006M | 3GD68 | 9.88 | 2 | 0.2 |
| 1 1/8 x 5/8 x 4 3/4 | Medium | 23-008M | 3GD69 | 6.55 | 1 | 0.2 |
| 1/2 x 1 x 4 3/4 | Medium | 23-027M | 3GD71 | 6.83 | 1 | 0.1 |
| 1 x 1 x 4 3/4 | Soft | 23-035S | 3GD72 | 28.50 | 4 | 1.1 |
| 1 1/8 x 5/8 x 4 3/4 | Soft | 23-008S | 3GD70 | 6.55 | 1 | 0.2 |
| 2 x 1 x 4 3/4 | Soft | 23-036S | 3GD73 | 23.84 | 2 | 1.1 |

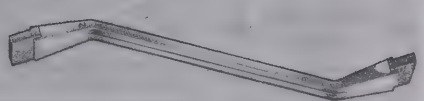
## POWR-POLISH™ FLEXIBLE ABRASIVE



Flexible abrasive cleaner for hundreds of cleaning and polishing jobs. This fine-grain, non-dusting abrasive is held together by a flexible bond. Serves as both commutator cleaner and burnisher. Removes dirt and grease while imparting a super-finish surface. Non-conductive and non-loading. Ideal brand.

| Size (In.) L x W x D | Ideal Model | Stock No. | Each Pkg. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/8 x 1 x 5 | 82-006 | 3GD78 | $24.74 | 4 | 0.1 |
| 3/8 x 1/2 x 5 | 82-001 | 3GD79 | 24.69 | 4 | 0.1 |
| 3/8 x 3/4 x 5 | 82-002 | 3GD80 | 33.30 | 4 | 0.1 |
| 5/8 x 1 x 5 | 82-003 | 3GD82 | 19.36 | 2 | 0.2 |
| 1 x 2 x 5 | 82-004 | 3GD83 | 19.63 | 1 | 0.7 |

## COMMUTATOR SMOOTHIE® RESURFACING TOOL



For smoothing commutators of auto generators, starting motors, and other similar equipment. Consists of an 8½" plastic handle with a 5/16 x 7/8 x 11/16" resurfacer on each end. One resurfacer is polish grade and the other is finish grade. Handle is properly bent to reach into any motor frame. Both the resurfacing material and handle are non-conducting. Ideal brand (80-033).

**No. 3GD81.** Shpg. wt. 0.1 lbs. List $19.74. Each.....**$13.12**

# GEARMOTOR SELECTION GUIDE



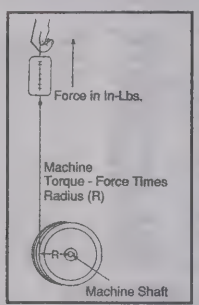
## SELECTING A GEARMOTOR

A gearmotor is an electro/mechanical device using an electric motor to drive a geartrain encased in a housing. Geartrain reduces output speed while increasing available torque. Gearmotors are designed to move an object in a given direction and at a rate of speed (RPM) while providing required twisting force (torque). Selection should be easier once output performance requirements are identified. It is critical to know the speed and torque requirements of load to be driven. Unusual loads or harsh environments must be considered before a driving device is selected. Horsepower is *not* a factor in selecting a standard gearmotor, since each gearmotor was predesigned for a specific performance level. For some applications, more detailed design criteria may be required.

## MECHANICAL CONSIDERATIONS

Speed

Torque




| From | Into | Multiply By |
|---|---|---|
| In. -Lb. | Ft.-Lb. | 0.0833 |
| Ft.-Lb. | In. -Lb. | 12 |
| In. -Oz. | In. -Lb. | 0.0625 |
| In. -Lb. | In. -Oz. | 16 |

**Speed.** How fast should equipment or object move? Output speeds are available from less than 1/2 RPM (revolution per minute) to nearly 300 RPM, depending on motor type and gear ratios. Based on your application, you may need to consider whether additional modified speeds will be produced through sheaves or sprocket type drive systems before determining gearmotor output speed.

**Start Torque** provides initial power to get things moving. On large conveyers, starting torque requirement may be high while a small rotating display cabinet may require very little torque to overcome resistance. Small gearmotors typically have "start" and "run" torque specifications shown due to their lower overall output capabilities. Starting torque ratings can be lower than maximum running torque ratings. Heavier duty gearmotors are usually only rated for their full-load (running) torque capability since starting torque is relatively high.

**Running Torque** (Full Load) is the continuous twisting force to keep things moving after initial start and must maintain power under all variable load situations to provide adequate service. Running torque listed in the catalog are maximum torque available for safe, continuous operation. Frequent starts and stops will require use of starting torque more frequently. This could result in excessive heat build-up, causing premature motor failure.

### HOW TO MEASURE TORQUE

**CAUTION: Disconnect Power Before Proceeding**

Torque required to drive a machine may be measured by using a flat grooved pulley, a cord and a spring scale. Pulley must be rigidly attached to machine's drive shaft, with cord wrapped several times around pulley. Do not allow cord to overlap. The other end is tied to the scale. When the scale is pulled, it will turn the pulley. When the pulley first starts to turn, the scale will register starting force required in pounds.

Force registered on scale, in pounds, when multiplied by radius of pulley, in inches, yields the starting torque, in in.-lbs. required by machine. If torque characteristics of machine vary during its operating cycle, torque must be determined at the point in the cycle where it is the greatest. Radius is measured from the center of machine shaft to center of cord.

If pulley can be turned (by pulling on cord) at a rate equal to normal speed of driven equipment, an indication of running torque can be obtained. If load of machine is almost entirely due to friction, running requirement will be essentially the same regardless of speed. However, if load is primarily the result of inertia or windage (air drag), characteristics of the inertia or windage elements must be known.

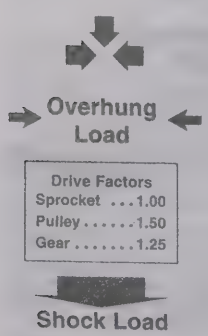
## ELECTRICAL CONSIDERATIONS

Before you can select the best gearmotor for your application, you need to identify your intended power supply capability. AC and DC input gearmotors from 12 VDC to 460 VAC are available. This chart provides typical characteristics of different motor types as a guide for your selection.

| Type | Starting Torque | Reversible | Speed Controllable* | Features |
|---|---|---|---|---|
| **Synchronous** | Low | Yes | No | Exact RPM output-good for timing and positioning applications |
| **Shaded Pole** | Low | No | No | Rugged, relative low cost |
| **PSC** | Medium | Yes | No | Reversible, quiet operation |
| **Split phase** | Med./High | Yes | No | Fairly high start torque |
| **Capacitor-Start** | High | Yes | No | Heavy duty start-ups, dual voltage |
| **Three Phase** | High | Yes | No | Simple, reliable, high start power and efficiency |
| **Perm. Mag. (12-180VDC)** | High | Yes | Yes | Speed controllable, high start torque |
| **Universal AC/DC** | High | Yes | Yes | Speed controllable, relatively low cost, simple operation |

(*) Performance matched speed controls are available for many catalog gearmotor listings.

## LOADS




A load is any and all driven items connected to and driven by the gearmotor output shaft. Not all loads that gearmotors get coupled to have steady speed and torque requirements. Some loads demand power surges from gearmotor during running cycle. This can be abusive to gears. Also, environmental conditions and space restrictions need to be taken into account. Two types of loads that require careful consideration before selecting a gearmotor are:

**Overhung Load (OHL)** is the perpendicular force pushing against the side of an output shaft. This force is either from weight hanging on output shaft or from a sprocket, pulley or gear being used on shaft. Every gearmotor has a OHL specification which *should not be exceeded.* Use following formula to calculate OHL if you plan to use a sprocket, pulley, gear or any weight will be suspended directly on shaft.

$$\frac{\text{Full-Load Torque (Requirement of Gearmotor)} \times 2}{\text{Pitch Dia. of Sprocket, Pulley or Gear}} = \text{Lbs. of load on center of gearmotor output shaft}$$

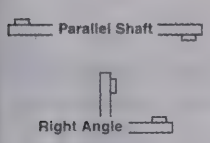
Multiply pounds of load (obtained from formula) by correct drive factor shown to determine actual OHL ratings in pounds on center output shaft. Catalog OHL ratings are measured on shaft diameter away from gearbox face on output shaft of reducers.

**Shock Load.** Some applications subject gearmotors to loads that transmit shock or abrupt peak loads back to gearmotor. Shock load can create peak loads several times greater than gearmotor torque rating. For example, when a heavy object accidentally is dropped on a running conveyor, this causes shock to gears and may even break them. Gearmotor does not recognize shock load as a warning sign and will try to put out even higher power, possibly exceeding its own gear strength. Be sure gearmotor is rated high enough to handle maximum anticipated shock load conditions.



We deliver the products that deliver the power.

# GEARMOTOR SELECTION GUIDE




## GEARS/MATERIAL

**Parallel Shaft** models include helical and spur gear designs. First stage gears are typically helical for low noise and of phenolic, nylon or steel material. Subsequent gears are usually metallic (sintered of hardened cut steel) as required by performance level designed into gearmotor. Parallel shaft gearmotors offer high efficiency in compact packages.

**Right Angle** models include predominantly worm type which are precision machined from steel. Worm wheel in usually bronze, but may be phenolic or cast iron. Right angle gearmotors tend to be of heavier construction, handle higher shock loads, and run quieter than comparably sized parallel shaft designs, but often less efficiently.

## APPLICATION FORMULAS

| To Obtain | Having | Formula |
|---|---|---|
| Velocity (V) Feet Per Minute | Pitch Dia. of Sheave or Sprocket—Inches and Revolutions Per Minute (RPM) | $V = 0.2618 \times D \times RPM$ |
| Revolutions Per Minute (RPM) | Velocity (V) Feet Per Minute and Pitch Dia. (D) of Sheave or Sprocket—Inches | $RPM = \frac{V}{0.2618 \times D}$ |
| Pitch Dia. (D) of Sheave or Sprocket | Velocity (V) Feet Per Minute and Revolutions Per Minute (RPM) | $D = \frac{V}{0.2618 \times RPM}$ |
| Torque (T) In.-Lbs. | Force (W) Lbs. and Radius (R) Inches | $T = W \times R$ |
| Horsepower (HP) | Force (W) Lbs. and Velocity (V) Feet Per Minute | $HP = \frac{W \times V}{33000}$ |
| Horsepower (HP) | Torque (T) In.-Lbs. and Revolutions Per Minute (RPM) | $HP = \frac{T \times RPM}{63025}$ |
| Torque (T) | Horsepower (HP) and Revolutions Per Minute (RPM) | $T = \frac{63025 \times HP}{RPM}$ |
| Force (W) Lbs. | Horsepower (HP) and Velocity (V) Feet Per Minute | $W = \frac{33000 \times HP}{V}$ |
| Revolutions Per Minute (RPM) | Horsepower (HP) and Torque (T) In.-Lbs. | $RPM = \frac{63025 \times HP}{T}$ |



## THE FINAL STEP

The Gearmotor Selection Guide is sorted by AC and DC input, then categorized by lower to highest RPM. Within each design you will have different torque ratings to select from. While this guide was designed to assist in selection of a suitable gearmotor for your application, it is not possible to identify every particular condition you may encounter in actual use.

# AC GEARMOTOR SELECTION GUIDE

| Name-plate RPM | F/L Torque In.-Lbs. [In.-Oz.] | Input HP | Volts 60 Hz | Volts 50 Hz | Shaft Config. | Motor Type | Motor Enclo-sure | Mounting | Rota-tion | Thermal Protec-tion | Speed Control-able? | Brake Adapt-able? | Stock No. | Ref. Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.9** | 50 | 1/250 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | **1L449** | 228 |
| **1** | [150] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6Z535** | 226 |
| **1** | [200] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6A173** | 226 |
| **1** | [290] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | Imp. | No | No | **6Z131** | 226 |
| **1** | 42 | 1/100 | 115 | 115 | Par. | PSC | OpFC | Face | Rev | None | No | Yes | **4Z451** | 231 |
| **1** | 50 | 1/400 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **2Z804** | 227 |
| **1** | 50 | 1/250 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **3M095** | 228 |
| **1** | 100 | 1/100 | 115 | 115 | Par. | Shaded Pole | OpFC | Face | CW | Auto | No | No | **2L001** | 229 |
| **1** | 100 | 1/100 | 115 | 115 | Par. | Shaded Pole | OpFC | Face | CW | Auto | No | No | **4LL05** | 228 |
| **1** | 3000 | 1/15 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Face | Rev | None | No | No | **1L570** | 244 |
| **1.2** | 100 | 1/80 | 115 | 110 | Par. | PSC | Open | Face/Base | Rev | None | No | Yes | **6Z073** | 234 |
| **1.2** | 100 | 1/80 | 230 | 220 | Par. | PSC | Vented | Face/Base | Rev | None | No | Yes | **1L532** | 234 |
| **1.3** | 250 | 1/50 | 115/230 | 115/230 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L554** | 249 |
| **2** | [131] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6Z536** | 226 |
| **2** | [174] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6A174** | 226 |
| **2** | [233] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | Imp. | No | No | **6A185** | 226 |
| **2** | 25 | 1/400 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **2Z805** | 227 |
| **2** | 113 | 1/10 | 115 | — | Par. | Shaded Pole | Open | Face/Base | CW | None | No | Std. | **1L490** | 232 |
| **2** | 113 | 1/20 | 115 | — | Par. | Shaded Pole | TEFC | Face/Base | CW | None | No | No | **3M125** | 235 |
| **2** | 1900 | 1/12 | 115/230 | 110/220 | Par. Sh. | PSC | TEFC | Face | Rev | None | No | No | **1L571** | 244 |
| **2.3** | 100 | 1/80 | 115 | 110 | Par. | PSC | Open | Face/Base | Rev | None | No | Yes | **6Z074** | 234 |
| **2.3** | 100 | 1/80 | 230 | 220 | Par. | PSC | Vented | Face/Base | Rev | None | No | Yes | **1L525** | 234 |
| **2.8** | 250 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | **1L486** | 225 |
| **2.8** | 250 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | **2Z797** | 225 |
| **3** | 200 | 1/20 | 115/230 | 115/230 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L555** | 249 |
| **3.3** | 18 | 1/250 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | **1L452** | 227 |
| **3.5** | 50 | 1/250 | 115/230 | 115/230 | Par. Sh. | PSC | TENV | Face | Rev | None | No | No | **1L548** | 233 |
| **4** | [110] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6Z537** | 226 |
| **4** | [152] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6A175** | 226 |
| **4** | [218] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | Imp. | No | No | **6Z132** | 226 |
| **4** | 18 | 1/250 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **3M098** | 227 |
| **4** | 26 | 1/100 | 115 | 115 | Par. | PSC | OpFC | Face | Rev | None | No | Yes | **4Z452** | 231 |
| **4** | 30 | 1/100 | 115 | 115 | Par. | PSC | OpFC | Face | Rev | None | No | No | **2Z813** | 230 |
| **4** | 130 | 1/90 | 115 | 115 | Par. | Shaded Pole | OpFC | Face | CW | Auto | No | No | **6Z906** | 229 |
| **4** | 134 | 1/20 | 115/230 | 115/230 | Par. | PSC | TENV | Face | Rev | None | No | No | **2H604** | 236 |
| **4** | 200 | 1/40 | 115 | — | Par. | Shaded Pole | TEFC | Face/Base | CW | None | No | Yes | **3M326** | 237 |
| **4.5** | 100 | 1/80 | 115 | 110 | Par. | PSC | Open | Face/Base | Rev | None | No | Yes | **6Z075** | 234 |
| **4.5** | 100 | 1/80 | 230 | 220 | Par. | PSC | Vented | Face/Base | Rev | None | No | Yes | **1L522** | 234 |
| **5** | 72 | 1/60 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | **1L462** | 232 |
| **5** | 120 | 1/60 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | **1L457** | 229 |
| **5** | 215 | 1/10 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L493** | 249 |

# AC GEARMOTOR SELECTION GUIDE

| Name-plate RPM | F/L Torque In.-Lbs. [In.-Oz.] | Input HP | Volts 60 Hz | Volts 50 Hz | Shaft Config. | Motor Type | Motor Enclo-sure | Mounting | Rota-tion | Thermal Protec-tion | Speed Control-able? | Brake Adapt-able? | Stock No. | Ref. Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.2 | 150 | 1/20 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | 1L506 | 249 |
| 5.4 | 1087 | 1/4 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | 6Z399 | 245 |
| 5.6 | 200 | 1/14 | 115/230 | 115/230 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | 1L556 | 249 |
| 5.8 | 30 | 1/100 | — | 220-240 | Par. | Shaded Pole | OpFC | Face | CW | None | No | Std. | 1L464 | 231 |
| 5.8 | 30 | 1/100 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | Std. | 1L463 | 231 |
| 5.8 | 35 | 1/100 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | 1L450 | 228 |
| 6 | [105] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | 6A188 | 226 |
| 6 | [140] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | 6A176 | 226 |
| 6 | [210] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | Imp. | No | No | 6A186 | 226 |
| 6 | 22.5 | 1/330 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | 2Z806 | 227 |
| 6 | 72 | 1/60 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | Imp. | No | Yes | 4Z148 | 232 |
| 6 | 100 | 1/100 | 115 | 115 | Par. | Shaded Pole | OpFC | Face | CW | Auto | No | No | 4LL06 | 228 |
| 6 | 113 | 1/20 | 115 | — | Par. | Shaded Pole | TEFC | Face/Base | CW | None | No | No | 3M126 | 235 |
| 6 | 113 | 1/10 | 115 | — | Par. | Shaded Pole | OpFC | Face/Base | CW | None | No | No | 3M135 | 232 |
| 6 | 113 | 1/10 | 115 | — | Par. | Shaded Pole | Open | Face/Base | CW | None | No | Std. | 1L489 | 232 |
| 6 | 120 | 1/60 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | None | No | No | 3M104 | 229 |
| 6 | 150 | 1/85 | 115 | 115 | Par. | Shaded Pole | OpFC | Face | CW | Auto | No | No | 6Z907 | 229 |
| 6 | 200 | 1/40 | 115 | — | Par. | Shaded Pole | TEFC | Face/Base | CW | None | No | Yes | 3M327 | 237 |
| 6 | 500 | 1/15 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 2H417 | 238 |
| 6 | 500 | 1/15 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 2H431 | 238 |
| 6 | 600 | 1/4 | 115 | — | Par. | Split Phase | OpDpf | Base | Rev | None | No | No | 5K933 | 243 |
| 6 | 600 | 1/12 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Base | Rev | None | No | Yes | 1L572 | 240 |
| 6 | 600 | 1/12 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Face | Rev | None | No | Yes | 1L565 | 241 |
| 6 | 710 | 1/6 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | No | 2H616 | 241 |
| 6 | 1100 | 1/4 | 115/230 | 110/220 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 1L510 | 244 |
| 6 | 1500 | 1/5 | 115 | — | Par. Sh. | Split Phase | Open | Face | Rev | None | No | No | 2H479 | 242 |
| 6.7 | 162 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | 1L485 | 225 |
| 6.7 | 162 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | 2Z798 | 225 |
| 7 | 18 | 1/100 | 115 | 115 | Par. | PSC | OpFC | Face | Rev | None | No | Yes | 4Z453 | 231 |
| 7 | 30 | 1/100 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | Yes | 3M231 | 220 |
| 7 | 30 | 1/100 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | Yes | 3M287 | 220 |
| 7 | 35 | 1/100 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | 3M096 | 228 |
| 7 | 50 | 1/125 | 115/230 | 115/230 | Par. Sh. | PSC | TENV | Face | Rev | None | No | No | 1L549 | 233 |
| 8 | 320 | 1/12 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev | None | No | Yes | 6Z816 | 239 |
| 8 | 500 | 1/10 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 2H433 | 238 |
| 8 | 700 | 1/8 | 115 | — | Par. Sh. | Split Phase | Open | Face | CCW | None | No | No | 1L563 | 242 |
| 8 | 974 | 1/4 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | 6Z400 | 245 |
| 8 | 1400 | 1/4 | 115 | — | Par. Sh. | Split Phase | Open | Face | Rev | None | No | No | 2H481 | 242 |
| 8.3 | 65 | 1/60 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | 1L456 | 229 |
| 8.8 | 76 | 1/80 | 115 | 110 | Par. | PSC | Open | Face/Base | Rev | None | No | Yes | 6Z076 | 234 |
| 8.8 | 76 | 1/80 | 230 | 220 | Par. | PSC | Vented | Face/Base | Rev | None | No | Yes | 1L519 | 234 |
| 9 | 200 | 1/16 | 115/230 | 115/230 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | 1L557 | 249 |
| 10 | [88] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | 6A189 | 226 |
| 10 | [126] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | 6A177 | 226 |
| 10 | [180] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | Imp. | No | No | 6Z133 | 226 |
| 10 | 26 | 1/100 | 115 | 115 | Par. | PSC | OpFC | Face | Rev | None | No | No | 3M154 | 230 |
| 10 | 65 | 1/60 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | None | No | No | 3M103 | 229 |
| 10 | 150 | 1/20 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | 1L508 | 249 |
| 10 | 215 | 1/10 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | 1L494 | 249 |
| 10 | 500 | 1/10 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 2H419 | 238 |
| 10 | 500 | 1/10 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 2H435 | 238 |
| 11.9 | 700 | 1/6 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | No | 2H614 | 241 |
| 12 | [73] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | 6Z539 | 226 |
| 12 | 11 | 1/100 | 115 | — | Par. | PSC | OpFC | Face | Rev | None | No | No | 4Z454 | 231 |
| 12 | 25.7 | 1/135 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | 2Z807 | 227 |
| 12 | 50 | 1/85 | 115 | 115 | Par. | Shaded Pole | OpFC | Face | CW | Auto | No | No | 4LL07 | 228 |
| 12 | 113 | 1/20 | 115 | — | Par. | Shaded Pole | TEFC | Face/Base | CW | None | No | No | 3M127 | 235 |
| 12 | 113 | 1/10 | 115 | — | Par. | Shaded Pole | Open | Face/Base | CW | None | No | Std. | 1L488 | 232 |
| 12 | 113 | 1/10 | 115 | — | Par. | Shaded Pole | OpFC | Face/Base | CW | None | No | No | 3M136 | 232 |
| 12 | 400 | 1/14 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Base | Rev | None | No | Yes | 3M103 | 249 |
| 12 | 400 | 1/14 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Face | Rev | None | No | Yes | 1L566 | 241 |
| 12 | 500 | 1/10 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 2H437 | 238 |
| 12 | 600 | 1/4 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev | None | No | No | 5K934 | 243 |
| 12 | 992 | 1/4 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev | None | No | Yes | 6K351 | 245 |
| 12 | 1000 | 1/4 | 115 | — | Par. Sh. | Split Phase | Open | Face | Rev | None | No | No | 2H483 | 242 |
| 12 | 1100 | 1/4 | 115/230 | 110/220 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 1L509 | 244 |
| 12.8 | 110 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | 1L484 | 225 |
| 12.8 | 110 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | 2Z799 | 225 |
| 13 | 500 | 1/8 | 115 | — | Par. Sh. | Split Phase | Open | Face | CCW | None | No | No | 1L564 | 242 |
| 13.5 | 200 | 1/15 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev | None | No | Yes | 2Z817 | 237 |
| 13.5 | 200 | 1/20 | 115 | — | Par. | Shaded Pole | TEFC | Face/Base | CW | None | No | Yes | 3M328 | 237 |
| 13.5 | 350 | 1/12 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev | None | No | Yes | 6K325 | 237 |
| 14 | 67 | 1/60 | 115 | — | Par. | PSC | TENV | Face | Rev | None | No | Yes | 4Z062 | 233 |
| 14.2 | 630 | 1/6 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | No | 2H612 | 241 |
| 15 | 202 | 1/15 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev | None | No | Yes | 4Z518 | 239 |
| 15 | 340 | 110 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 2H421 | 238 |
| 15 | 500 | 1/8 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | 2H439 | 238 |
| 16 | 13 | 1/100 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | 1L453 | 228 |
| 16 | 385 | 1/6 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev | None | No | Yes | 6Z817 | 239 |
| 16.7 | 100 | 1/20 | 115 | 110 | Par. | PSC | Open | Face/Base | Rev | None | No | Yes | 6Z077 | 234 |
| 16.7 | 100 | 1/20 | 115 | — | Par. | PSC | TENV | Face/Base | Rev | None | No | Yes | 6Z081 | 234 |
| 16.7 | 100 | 1/20 | 230 | 220 | Par. | PSC | TENV | Face/Base | Rev | None | No | Yes | 1L527 | 234 |
| 16.7 | 100 | 1/20 | 230 | 220-240 | Par. | PSC | Vented | Face/Base | Rev | None | No | Yes | 1L526 | 234 |
| 17 | 131 | 1/20 | 115/230 | 115/230 | Par. | PSC | TENV | Face | Rev | None | No | No | 2H602 | 236 |



We deliver the products that deliver the power.

# AC GEARMOTOR SELECTION GUIDE

| Name-plate RPM | F/L Torque In.-Lbs. [In.-Oz.] | Input HP | Volts 60 Hz | Volts 50 Hz | Shaft Config. | Motor Type | Motor Enclo-sure | Mounting | Rota-tion | Thermal Protec-tion | Speed Control-lable? | Brake Adapt-able? | Stock No. | Ref. Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 11 | 1/100 | 115 | 115 | Par. | PSC | OpFC | Face | Rev | None | No | No | **4Z455** | 231 |
| **18** | 13 | 1/100 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **3M099** | 228 |
| **18** | 550 | 1/4 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev | None | No | No | **5K935** | 243 |
| **18** | 800 | 1/4 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6Z401** | 245 |
| **18** | 1017 | 1/3 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6Z402** | 245 |
| **18** | 1017 | 1/3 | 208-230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **6Z404** | 245 |
| **19** | 250 | 1/12 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Base | Rev | None | No | Yes | **1L574** | 240 |
| **19** | 250 | 1/12 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Face | Rev | None | No | Yes | **1L567** | 241 |
| **20** | 140 | 1/20 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L507** | 249 |
| **20** | 200 | 1/10 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L495** | 249 |
| **20** | [44] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6Z540** | 226 |
| **20** | 13 | 1/100 | 115 | 115 | Par. | PSC | OpFC | Face | Rev | None | No | No | **3M153** | 230 |
| **20** | 15.2 | 1/120 | 115 | — | Par. | Shaded Pole | Open | Face | CW | None | No | No | **2Z808** | 227 |
| **20** | 500 | 1/5 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | **2H441** | 238 |
| **21** | 9.25 | 1/100 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | **1L454** | 228 |
| **21** | 13 | 1/70 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | Std. | **1L468** | 230 |
| **21** | 13 | 1/70 | — | 220-240 | Par. | Shaded Pole | OpFC | Face | CW | None | No | Std. | **1L466** | 230 |
| **21** | 21 | 1/60 | — | 220-240 | Par. | Shaded Pole | OpFC | Face | CW | None | No | No | **1L461** | 232 |
| **21** | 21.5 | 1/60 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | **1L458** | 229 |
| **21** | 100 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | **1L483** | 225 |
| **21** | 100 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | **2Z800** | 225 |
| **21** | 100 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | **2Z801** | 225 |
| **21** | 170 | 1/12 | 115/230 | 115/230 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L558** | 249 |
| **22** | 1105 | 1/2 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6Z403** | 245 |
| **22** | 1105 | 1/2 | 208-230/460 | — | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **6Z405** | 245 |
| **25** | 6 | 1/100 | 115 | 115 | Par. | PSC | OpFC | Face | Rev | None | No | Yes | **4Z456** | 231 |
| **25** | 9.25 | 1/100 | 115 | 115 | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **3M100** | 228 |
| **25** | 13 | 1/70 | 115 | — | Par | Shaded Pole | Open | Face | CW | Imp. | No | Yes | **3M102** | 230 |
| **25** | 13 | 1/70 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | Imp. | No | Yes | **3M257** | 230 |
| **25** | 21 | 1/60 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | None | No | Yes | **4Z149** | 232 |
| **25** | 21.5 | 1/60 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | None | No | No | **4Z146** | 229 |
| **25** | 45 | 1/85 | 115 | 115 | Par. | Shaded Pole | OpFC | Face | CW | Auto | No | No | **6Z908** | 229 |
| **27** | 75 | 1/15 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L536** | 248 |
| **27** | 275 | 1/6 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6K328** | 237 |
| **27** | 500 | 1/4 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6K352** | 245 |
| **27** | 700 | 1/3 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6K396** | 245 |
| **27** | 700 | 1/3 | 208-230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z384** | 245 |
| **28** | 50 | 1/25 | 115 | 115 | Par. | PSC | TENV | Face | Rev | None | No | Yes | **4Z063** | 233 |
| **28** | 140 | 1/4 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L501** | 248 |
| **28** | 175 | 1/15 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Base | Rev | None | No | Yes | **1L575** | 240 |
| **28** | 175 | 1/12 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Face | Rev | None | No | Yes | **1L568** | 241 |
| **29** | 7 | 1/100 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | **1L455** | 228 |
| **29** | 85 | 1/8 | 115 | 105 | Rt. Ang. | PSC | TENV | Base | Rev | None | No | Yes | **4Z721** | 247 |
| **29** | 150 | 1/13 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Face | Rev | None | No | Yes | **1L586** | 235 |
| **29** | 185 | 1/10 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | **2H423** | 238 |
| **30** | [29] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6A190** | 226 |
| **30** | [64] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | Imp. | No | No | **6Z134** | 226 |
| **30** | [77] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6A178** | 226 |
| **30** | 7.5 | 1/100 | 115 | — | Par. | PSC | OpFC | Face | Rev | None | No | No | **2Z814** | 230 |
| **30** | 11.6 | 1/120 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **2Z809** | 227 |
| **30** | 42 | 1/20 | 115 | — | Par. | Shaded Pole | TEFC | Face/Base | CW | None | No | No | **3M128** | 235 |
| **30** | 113 | 1/10 | 115 | — | Par. | Shaded Pole | OpFC | Face/Base | CW | None | No | No | **3M137** | 232 |
| **30** | 113 | 1/10 | 115 | — | Par. | Shaded Pole | OpFC | Face/Base | CW | None | No | Yes | **3M158** | 232 |
| **30** | 125 | 1/15 | 115 | — | Par. | Shaded Pole | TEFC | Face/Base | CW | None | No | Yes | **3M329** | 237 |
| **30** | 125 | 1/15 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev | None | No | Yes | **6K303** | 237 |
| **30** | 135 | 1/15 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev | None | No | Yes | **4Z519** | 239 |
| **30** | 278 | 1/6 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev | None | No | No | **6Z818** | 239 |
| **30** | 381 | 1/3 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **5K535** | 250 |
| **30** | 400 | 1/4 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev | None | No | No | **5K939** | 243 |
| **30** | 680 | 1/2 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **5K539** | 250 |
| **30** | 680 | 1/2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **3N169** | 251 |
| **30** | 800 | 1/2 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev | None | No | No | **2Z794** | 243 |
| **30** | 1310 | 3/4 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z893** | 251 |
| **30** | 1740 | 1 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **3N298** | 251 |
| **30** | 2100 | 1 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z886** | 246 |
| **30** | 4200 | 2 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | No | **3Z950** | 246 |
| **31** | 360 | 1/5 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | **2H444** | 238 |
| **31** | 660 | 1/2 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | No | **2H610** | 241 |
| **32.7** | 96 | 1/20 | 115 | 110 | Par. | PSC | Open | Face/Base | Rev | None | No | Yes | **6Z078** | 234 |
| **32.7** | 96 | 1/20 | 115 | — | Par. | PSC | TENV | Face/Base | Rev | None | No | Yes | **6Z082** | 234 |
| **32.7** | 96 | 1/20 | 230 | 220-240 | Par. | PSC | Vented | Face/Base | Rev | None | No | Yes | **1L524** | 234 |
| **32.7** | 96 | 1/20 | 230 | 220 | Par. | PSC | TENV | Face/Base | Rev | None | No | Yes | **1L523** | 234 |
| **33** | 165 | 1/10 | 115 | 115 | Par. | PSC | Open | Face | Rev | None | No | No | **2H600** | 236 |
| **35** | 4 | 1/100 | 115 | 115 | Par. | PSC | OpFC | Face | Rev | None | No | Yes | **4Z457** | 231 |
| **35** | 7 | 1/100 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **3M101** | 228 |
| **35** | 50 | 1/25 | 115/230 | 115/230 | Par. Sh. | PSC | TENV | Face | Rev | None | No | No | **1L550** | 233 |
| **36** | 185 | 1/4 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L502** | 248 |
| **37** | 586 | 1/2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4FG28** | 251 |
| **37** | 855 | 3/4 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4FG31** | 251 |
| **37** | 1455 | 1 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4FG34** | 251 |
| **39** | 89 | 1/12 | 115/230 | 115/230 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L559** | 249 |
| **40** | 210 | 1/6 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev | None | No | Yes | **6Z819** | 239 |
| **40** | 225 | 1/6 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev | None | No | Yes | **6K329** | 237 |
| **40** | 330 | 1/4 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev | None | No | No | **5K941** | 243 |
| **40** | 450 | 1/3 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **2Z842** | 245 |
| **40** | 450 | 1/3 | 208-230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z385** | 245 |
| **40** | 700 | 1/2 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6K375** | 245 |
| **40** | 700 | 1/2 | 208-230/460 | — | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z390** | 245 |

# AC GEARMOTOR SELECTION GUIDE

| Name-plate RPM | F/L Torque In.-Lbs. [In.-Oz.] | Input HP | Volts 60 Hz | Volts 50 Hz | Shaft Config. | Motor Type | Motor Enclo-sure | Mounting | Rota-tion | Thermal Protec-tion | Speed Control-lable? | Brake Adapt-able? | Stock No. | Ref. Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **41** | 4 | 1/100 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | **1L451** | 228 |
| **41** | 57 | 1/15 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L538** | 248 |
| **42** | 6 | 1/70 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | Std. | **1L465** | 230 |
| **42** | 6 | 1/70 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | Std. | **1L467** | 230 |
| **42** | 12 | 1/60 | — | 220-240 | Par. | Shaded Pole | Open | Face | CW | None | No | No | **1L459** | 229 |
| **42** | 12 | 1/60 | — | 220-240 | Par. | Shaded Pole | OpFC | Face | CW | None | No | No | **1L460** | 232 |
| **42** | 125 | 1/10 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | **2H425** | 238 |
| **43** | 21 | 1/12 | 115 | 105 | Rt. Ang. | PSC | TENV | Base | Rev | None | No | Yes | **4Z277** | 247 |
| **43** | 55 | 1/20 | 115 | 105 | Rt. Ang. | PSC | TENV | Base | Rev | None | No | Yes | **4Z280** | 247 |
| **43** | 77 | 1/8 | 115 | 105 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **4Z283** | 247 |
| **43** | 265 | 1/5 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | **2H446** | 238 |
| **45** | 92 | 1/15 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev | None | No | Yes | **4Z520** | 239 |
| **45** | 299 | 1/3 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **5K536** | 250 |
| **45** | 438 | 1/3 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev | None | No | No | **2Z847** | 240 |
| **45** | 456 | 1/2 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **5K540** | 250 |
| **45** | 507 | 1/2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **3N170** | 251 |
| **45** | 743 | 3/4 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **5K544** | 250 |
| **45** | 743 | 3/4 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z894** | 251 |
| **45** | 966 | 1 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **3N176** | 251 |
| **45** | 1400 | 1 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **2Z872** | 246 |
| **45** | 2410 | 2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **3N299** | 251 |
| **45** | 2801 | 2 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z888** | 246 |
| **45** | 4202 | 3 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | No | **3Z951** | 246 |
| **48** | 100 | 1/12 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Base | Rev | None | No | Yes | **1L576** | 240 |
| **50** | 4 | 1/100 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **3M097** | 228 |
| **50** | 6 | 1/70 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | Imp. | No | Yes | **3M258** | 230 |
| **50** | 6 | 1/70 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | Imp. | No | Yes | **3M288** | 230 |
| **50** | 12 | 1/60 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | None | No | No | **4Z147** | 229 |
| **50** | 12 | 1/60 | 115 | — | Par. | Shaded Pole | OpFC | Face | CW | None | No | Yes | **4Z150** | 232 |
| **50** | 25 | 1/45 | 115 | 115 | Par. | Shaded Pole | OpFC | Face | CW | Auto | No | No | **6Z909** | 229 |
| **50** | 45 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | **1L482** | 225 |
| **50** | 45 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev | None | Yes, 4X796 | No | **2Z802** | 225 |
| **54** | 45 | 1/15 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L535** | 248 |
| **54** | 30 | 1/25 | 115 | 115 | Par. | PSC | TENV | Face | Rev | None | No | Yes | **4Z064** | 233 |
| **55** | 2.6 | 1/100 | 115 | — | Par. | PSC | OpFC | Face | Rev | None | No | Yes | **4Z458** | 231 |
| **55** | 140 | 1/4 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **1L503** | 248 |
| **56** | 254 | 1/3 | 115/230 | 115/230 | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **4FG22** | 250 |
| **56** | 390 | 1/2 | 115/230 | 115/230 | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **4FG24** | 250 |
| **56** | 428 | 1/2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4FG29** | 251 |
| **56** | 633 | 3/4 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **4FG26** | 250 |
| **56** | 633 | 3/4 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4FG32** | 251 |
| **56** | 835 | 1 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4FG35** | 251 |
| **57** | 68 | 1/8 | 115 | 105 | Rt. Ang. | PSC | TEFC | Base | Rev | None | No | Yes | **4Z722** | 247 |
| **57** | 85 | 1/13 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Face | Rev | None | No | Yes | **1L587** | 235 |
| **60** | [16] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6Z541** | 226 |
| **60** | [32] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | Imp. | No | No | **6Z135** | 226 |
| **60** | [77] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev | None | No | No | **6A179** | 226 |
| **60** | 4 | 1/100 | 115 | — | Par. | PSC | OpFC | Face | Rev | None | No | No | **2Z829** | 230 |
| **60** | 4.7 | 1/120 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **2Z810** | 227 |
| **60** | 59 | 1/10 | 115 | — | Par. | Shaded Pole | OpFC | Face/Base | CW | None | No | No | **3M138** | 232 |
| **60** | 59 | 1/10 | 115 | — | Par. | Shaded Pole | Open | Face/Base | CW | None | No | Std. | **1L487** | 232 |
| **60** | 93 | 1/10 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | **2H427** | 238 |
| **60** | 150 | 1/6 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev | None | No | Yes | **6K331** | 237 |
| **60** | 157 | 1/6 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev | None | No | Yes | **6Z820** | 239 |
| **60** | 200 | 1/4 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev | None | No | No | **5K940** | 243 |
| **60** | 240 | 1/4 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6K353** | 245 |
| **60** | 320 | 1/3 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6K369** | 245 |
| **60** | 320 | 1/3 | 208-230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z386** | 245 |
| **60** | 400 | 1/2 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev | None | No | No | **2Z795** | 243 |
| **60** | 480 | 1/2 | 115 | — | Par. | Split Phase | TEFC | Base | Rev | None | No | Yes | **6K583** | 245 |
| **60** | 480 | 1/2 | 208-230/460 | — | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z391** | 245 |
| **60** | 490 | 1/2 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | No | **2H608** | 241 |
| **63** | 49 | 1/20 | 115 | 110 | Par. | PSC | Open | Face/Base | Rev | None | No | Yes | **6Z079** | 234 |
| **63** | 49 | 1/20 | 115 | — | Par. | PSC | TENV | Face/Base | Rev | None | No | Yes | **6Z083** | 234 |
| **63** | 49 | 1/20 | 230 | 220-240 | Par. | PSC | Vented | Face/Base | Rev | None | No | Yes | **1L521** | 234 |
| **63** | 49 | 1/20 | 230 | 220 | Par. | PSC | TENV | Face/Base | Rev | None | No | Yes | **1L520** | 234 |
| **63** | 77 | 1/10 | 115 | 115 | Par. | PSC | Open | Face | Rev | None | No | No | **2H598** | 236 |
| **63** | 180 | 1/5 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev | None | No | Yes | **2H449** | 238 |
| **67** | 30 | 1/25 | 115/230 | 115/230 | Par. Sh. | PSC | TENV | Face | Rev | None | No | No | **1L551** | 233 |
| **67.5** | 55 | 1/15 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev | None | No | Yes | **2Z818** | 237 |
| **67.5** | 55 | 1/15 | 115 | — | Par. | Shaded Pole | TEFC | Face/Base | CW | None | No | Yes | **3M330** | 237 |
| **68** | 222 | 1/3 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **5K537** | 250 |
| **68** | 344 | 1/2 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **5K541** | 250 |
| **68** | 367 | 1/2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **3N171** | 251 |
| **68** | 537 | 3/4 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev | None | No | No | **5K545** | 250 |
| **68** | 537 | 3/4 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z895** | 251 |
| **68** | 796 | 1 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **3N173** | 251 |
| **68** | 927 | 1 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z887** | 246 |
| **68** | 1570 | 2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **3N300** | 251 |
| **68** | 1854 | 2 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | Yes | **4Z889** | 246 |
| **68** | 2781 | 3 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev | None | No | No | **4Z890** | 246 |
| **70** | 61 | 1/15 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev | None | No | Yes | **4Z521** | 239 |
| **80** | 33 | 1/15 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev. | None | No | Yes | **1L534** | 248 |
| **80** | 185 | 1/4 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev. | None | No | Yes | **1L504** | 248 |

# AC GEARMOTOR SELECTION GUIDE

| Nameplate RPM | F/L Torque In.-Lbs. [In.-Oz.] | Input HP | Volts 60 Hz | Volts 50 Hz | Shaft Config. | Motor Type | Motor Enclosure | Mounting | Rotation | Thermal Protection | Speed Controllable? | Brake Adaptable? | Stock No. | Ref. Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **84** | 189 | 1/3 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev. | None | No | No | **4FG23** | 250 |
| **84** | 292 | 1/2 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev. | None | No | No | **4FG25** | 250 |
| **84** | 456 | 3/4 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev. | None | No | No | **4FG27** | 250 |
| **84** | 308 | 1/2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **4FG30** | 251 |
| **84** | 456 | 3/4 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **4FG33** | 251 |
| **84** | 605 | 1 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **4FG36** | 251 |
| **85** | 345 | 1/2 | 115/230 | — | Par. | PSC | TEFC | Face | Rev. | None | No | No | **2H606** | 241 |
| **86** | 22 | 1/20 | 115 | 105 | Rt. Ang. | PSC | TENV | Base | Rev. | None | No | Yes | **4Z276** | 247 |
| **86** | 41 | 1/12 | 115 | 105 | Rt. Ang. | PSC | TENV | Base | Rev. | None | No | Yes | **4Z279** | 247 |
| **86** | 55 | 1/8 | 115 | 105 | Rt. Ang. | PSC | TEFC | Base | Rev. | None | No | Yes | **4Z282** | 247 |
| **86** | 55 | 1/13 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Face | Rev. | None | No | Yes | **1L588** | 235 |
| **89** | 219 | 1/3 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev. | None | No | No | **2Z848** | 240 |
| **90** | 100 | 1/6 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev. | None | No | Yes | **6K332** | 237 |
| **90** | 100 | 1/6 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev. | None | No | Yes | **6Z821** | 239 |
| **90** | 150 | 1/4 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev. | None | No | No | **6K993** | 243 |
| **90** | 220 | 1/3 | 115 | — | Par. | Split Phase | TEFC | Base | Rev. | None | No | Yes | **2Z843** | 245 |
| **90** | 220 | 1/3 | 208-230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **4Z387** | 250 |
| **90** | 287 | 1/2 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev. | None | No | No | **2Z796** | 243 |
| **90** | 320 | 1/2 | 208-230/460 | — | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **4Z392** | 245 |
| **90** | 320 | 1/2 | 115 | — | Par. | Split Phase | TEFC | Base | Rev. | None | No | Yes | **6K383** | 245 |
| **91** | 130 | 1/5 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev. | None | No | Yes | **2H451** | 238 |
| **95** | 20 | 1/25 | 115 | 115 | Par. | PSC | TENV | Face | Rev. | None | No | Yes | **4Z065** | 233 |
| **95** | 30 | 1/20 | 115 | 110 | Par. | PSC | Open | Face/Base | Rev. | None | No | Yes | **6A195** | 234 |
| **95** | 30 | 1/20 | 115 | 110 | Par. | PSC | TENV | Face/Base | Rev. | None | No | Yes | **6A197** | 234 |
| **95** | 30 | 1/20 | 230 | 220-240 | Par. | PSC | Vented | Face/Base | Rev. | None | No | Yes | **1L518** | 234 |
| **95** | 30 | 1/20 | 230 | 220 | Par. | PSC | TENV | Face/Base | Rev. | None | No | Yes | **1L517** | 234 |
| **97** | 43 | 1/15 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev. | None | No | Yes | **4Z522** | 239 |
| **98** | 1.5 | 1/100 | 115 | — | Par. | PSC | OpFC | Face | Rev. | None | No | Yes | **4Z459** | 231 |
| **100** | 2 | — | 115 | 115 | Par. | PSC | OpFC | Face | Rev. | None | No | No | **2Z830** | 230 |
| **100** | 27 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev. | None | Yes, 4X796 | No | **1L481** | 225 |
| **100** | 27 | 1/15 | 115 | 115 | Rt. Ang. | AC/DC | Vented | Base | Rev. | None | Yes, 4X796 | No | **2Z803** | 225 |
| **100** | 38 | 1/15 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev. | None | No | Yes | **2Z841** | 237 |
| **100** | 163 | 1/3 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev. | None | No | No | **5K538** | 250 |
| **100** | 254 | 1/2 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev. | None | No | No | **5K542** | 250 |
| **100** | 265 | 1/2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **3N172** | 251 |
| **100** | 394 | 3/4 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev. | None | No | No | **5K546** | 250 |
| **100** | 394 | 3/4 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **4Z896** | 251 |
| **100** | 522 | 1 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **3N174** | 251 |
| **100** | 630 | 1 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **2Z873** | 246 |
| **100** | 1260 | 2 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **2Z876** | 246 |
| **100** | 1891 | 3 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev. | None | No | No | **4Z891** | 246 |
| **107** | 20 | 1/20 | 115/230 | 115/230 | Par. Sh. | PSC | TENV | Face | Rev. | None | No | No | **1L552** | 233 |
| **120** | [8] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev. | None | No | No | **6Z542** | 226 |
| **120** | [20] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev. | Imp. | No | No | **6A180** | 226 |
| **120** | [29] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev. | None | No | No | **6A187** | 226 |
| **120** | 2.7 | 1/120 | 115 | — | Par. | Shaded Pole | Open | Face | CW | Imp. | No | No | **2Z811** | 227 |
| **120** | 100 | 1/4 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev. | None | No | No | **5K942** | 243 |
| **124** | 14 | 1/25 | 115 | 115 | Par. | PSC | TENV | Face | Rev. | None | No | Yes | **4Z612** | 233 |
| **124** | 25 | 1/20 | 115 | 105 | Par. | PSC | Open | Face/Base | Rev. | None | No | Yes | **6Z080** | 234 |
| **124** | 25 | 1/20 | 115 | — | Par. | PSC | TENV | Face/Base | Rev. | None | No | Yes | **6Z084** | 234 |
| **124** | 25 | 1/20 | 230 | 220-240 | Par. | PSC | Vented | Face/Base | Rev. | None | No | Yes | **1L531** | 234 |
| **124** | 25 | 1/20 | 230 | 220 | Par. | PSC | TENV | Face/Base | Rev. | None | No | Yes | **1L530** | 234 |
| **124** | 47 | 1/10 | 115 | 115 | Par. | PSC | Open | Face | Rev. | None | No | No | **2H596** | 236 |
| **135** | 65 | 1/6 | 115 | — | Par. | Split Phase | TEFC | Face/Base | Rev. | None | No | Yes | **6K334** | 237 |
| **135** | 100 | 1/4 | 115 | — | Par. | Split Phase | TEFC | Base | Rev. | None | No | Yes | **6K354** | 245 |
| **135** | 215 | 1/2 | 115 | — | Par. | Split Phase | TEFC | Base | Rev. | None | No | Yes | **6K506** | 245 |
| **135** | 215 | 1/2 | 208-230/460 | — | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **4Z393** | 245 |
| **139** | 30 | 1/15 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev. | None | No | Yes | **4Z523** | 239 |
| **154** | 12 | 1/25 | 115 | 115 | Par. | PSC | TENV | Face | Rev. | None | No | Yes | **4Z613** | 233 |
| **154** | 20 | 1/20 | 115 | — | Par. | PSC | TENV | Face/Base | Rev. | None | No | Yes | **6A196** | 234 |
| **154** | 20 | 1/20 | 115 | 110 | Par. | PSC | Open | Face/Base | Rev. | None | No | Yes | **6A198** | 234 |
| **154** | 20 | 1/20 | 230 | 220-240 | Par. | PSC | Vented | Face/Base | Rev. | None | No | Yes | **1L529** | 234 |
| **154** | 20 | 1/20 | 230 | 220 | Par. | PSC | Vented | Face/Base | Rev. | None | No | Yes | **1L528** | 234 |
| **155** | 173 | 1/2 | 115/230 | — | Rt. Ang. | Cap Start | TEFC | Base | Rev. | None | No | No | **5K919** | 250 |
| **155** | 30 | 1/12 | 115/230 | 115/230 | Par. Sh. | PSC | TEFC | Face | Rev. | None | No | Yes | **1L589** | 235 |
| **155** | 36 | 1/10 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev. | None | No | Yes | **2H429** | 238 |
| **155** | 269 | 3/4 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **4Z897** | 251 |
| **155** | 357 | 1 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **3N175** | 251 |
| **155** | 711 | 2 | 230/460 | 190/380 | Rt. Ang. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **3N301** | 251 |
| **156** | 60 | 1/6 | 115/230 | 110/220 | Par. | PSC | TEFC | Face/Base | Rev. | None | No | Yes | **6Z822** | 239 |
| **156** | 77 | 1/5 | 115/230 | 115/230 | Par. | PSC | TEFC | Face | Rev. | None | No | Yes | **2H453** | 238 |
| **157** | 20 | 1/15 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev. | None | No | Yes | **1L533** | 248 |
| **157** | 125 | 1/3 | 115 | — | Par. | Split Phase | TEFC | Base | Rev. | None | No | Yes | **2Z844** | 245 |
| **157** | 125 | 1/3 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev. | None | No | No | **2Z849** | 240 |
| **157** | 125 | 1/3 | 208-230/460 | 220/440 | Par. | 3-Phase | Op Dpf | Base | Rev. | None | No | No | **2Z851** | 240 |
| **157** | 125 | 1/3 | 208-230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **4Z388** | 245 |
| **160** | 62 | 1/4 | 115/230 | 110/220 | Rt. Ang. | PSC | TEFC | Base | Rev. | None | No | Yes | **1L505** | 248 |
| **173** | 13 | 1/20 | 115 | 110 | Rt. Ang. | PSC | TENV | Base | Rev. | None | No | Yes | **4Z275** | 247 |
| **173** | 23 | 1/20 | 115 | 110 | Rt. Ang. | PSC | TENV | Base | Rev. | None | No | Yes | **4Z278** | 247 |
| **173** | 31 | 1/8 | 115 | 110 | Rt. Ang. | PSC | TEFC | Base | Rev. | None | No | Yes | **4Z281** | 247 |
| **185** | 12 | 1/20 | 115/230 | 115/230 | Par. Sh. | PSC | TENV | Face | Rev. | None | No | No | **1L553** | 233 |
| **190** | 332 | 1 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **2Z874** | 246 |
| **190** | 663 | 2 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | **2Z877** | 246 |
| **190** | 995 | 3 | 230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev. | None | No | No | **4Z892** | 246 |

# AC & DC GEARMOTOR GUIDE

## AC GEARMOTOR SELECTION GUIDE

| Name-plate RPM | F/L Torque In.-Lbs. (In.-Oz.) | Input HP | Volts 60 Hz | 50 Hz | Shaft Config. | Motor Type | Motor Enclo-sure | Mounting | Rota-tion | Thermal Protec-tion | Speed Control-lable? | Brake Adapt-able? | Stock No. | Ref. Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 1.18 | 1/120 | 115 | — | Par. | Shaded Pole | Open | Face | CW | None | No | No | 2Z812 | 227 |
| 200 | 5 | 1/45 | 115 | 115 | Par. | Shaded Pole | OpFC | Face | CW | Auto | No | No | 4LL08 | 228 |
| 288 | 69 | 1/3 | 115 | — | Par. | Split Phase | Op Dpf | Base | Rev. | None | No | No | 2Z850 | 240 |
| 288 | 70 | 1/3 | 115 | — | Par. | Split Phase | TEFC | Base | Rev. | None | No | Yes | 2Z845 | 245 |
| 288 | 70 | 1/3 | 208-230/460 | 190/380 | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | 4Z389 | 245 |
| 288 | 100 | 1/2 | 208-230/460 | — | Par. | 3-Phase | TEFC | Base | Rev. | None | No | Yes | 4Z394 | 245 |
| 300 | [2] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev. | None | No | No | 6Z533 | 226 |
| 300 | [6] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev. | None | No | No | 6A182 | 226 |
| 300 | [8.75] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev. | None | No | No | 6A184 | 226 |
| 360 | [6] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev. | None | No | No | 6A181 | 226 |
| 360 | 3.3 | 1/45 | 115 | 115 | Par. | Synchronous | OpFC | Face | CW | Auto | No | No | 4LL09 | 228 |
| 600 | [2.3] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev. | None | No | No | 6Z534 | 226 |
| 600 | [5.5] | — | 115 | — | Par. | Synchronous | Encl | Face | Rev. | None | No | No | 6A183 | 226 |

## DC GEARMOTOR SELECTION GUIDE

| Name-plate RPM | F/L Torque In.-Lbs. [In.-Oz.] | Input HP | Volts | Shaft Config. | Enclo-sure | Mounting | Rota-tion | Thermal Protec-tion | Brake Adapt-able? | Stock No. | Ref. Page |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.45 | 50 | 1/2800 | 12 | Par. | Vented | Face | Rev. | None | No | 2L003 | 215 |
| 0.45 | 50 | 1/1200 | 12 | Par. | TENV | Face | Rev. | None | No | 4Z832 | 215 |
| 1 | [237] | — | 90 | Par. | TENV | Face | Rev. | None | No | 4FM10 | 216 |
| 1.3 | 710 | 1/20 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H594 | 222 |
| 1.5 | 25 | 1/1000 | 12 | Par. | TENV | Face | Rev. | None | No | 4Z833 | 215 |
| 1.5 | 46 | 1/900 | 12 | Par. | Vented | Face | Rev. | None | No | 2L004 | 215 |
| 2 | [206] | — | 90 | Par. | TENV | Face | Rev. | None | No | 4FM11 | 216 |
| 2.6 | 100 | 1/40 | 90 | Par. | TENV | Face/Base | Rev. | None | No | 6Z910 | 216 |
| 3 | [190] | — | 90 | Par. | TENV | Face | Rev. | None | No | 4FM12 | 216 |
| 3.2 | 340 | 1/12 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | 4Z723 | 225 |
| 3.4 | 30 | 1/400 | 12 | Par. | TENV | Face | Rev. | None | No | 4Z834 | 215 |
| 3.4 | 44 | 1/425 | 12 | Par. | Vented | Face | Rev. | None | No | 2L005 | 215 |
| 4.5 | 38 | 1/200 | 12 | Par. | TENV | Face | Rev. | None | No | 4Z835 | 215 |
| 4.5 | 43 | 1/325 | 12 | Par. | Vented | Face | Rev. | None | No | 2L006 | 215 |
| 5 | 100 | 1/40 | 90 | Par. | TENV | Face/Base | Rev. | None | No | 6Z911 | 217 |
| 5 | 134 | 1/20 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H569 | 217 |
| 5 | 227 | 1/20 | 90 | Par. | TENV | Face/Base | Rev. | None | No | 6A193 | 220 |
| 5 | 215 | 1/10 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | 1L491 | 224 |
| 6 | [166] | — | 90 | Par. | TENV | Face | Rev. | None | No | 4FM13 | 216 |
| 6 | 50 | 1/30 | 12 | Par. | TENV | Face | Rev. | None | No | 1L480 | 216 |
| 6 | 177 | 1/12 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | 4Z724 | 225 |
| 6 | 500 | 1/10 | 12 | Par. | TENV | Base | Rev. | None | No | 1L474 | 221 |
| 6 | 500 | 1/15 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H455 | 222 |
| 6 | 500 | 1/15 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H467 | 222 |
| 6.5 | 710 | 1/6 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H592 | 222 |
| 6.5 | 500 | 1/15 | 90 | Par. | TENV | Base | Rev. | None | No | 4Z530 | 221 |
| 7 | 50 | 1/100 | 90 | Par. | TENV | Face | Rev. | None | No | 4Z534 | 216 |
| 7 | 125 | 1/50 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | 2H522 | 218 |
| 8 | 1087 | 1/4 | 90 | Par. | TENV | Base | Rev. | None | No | 6Z406 | 223 |
| 8.75 | 35 | 1/120 | 12 | Par. | TENV | Face | Rev. | None | No | 4Z836 | 215 |
| 8.75 | 41 | 1/175 | 12 | Par. | Vented | Face | Rev. | None | No | 2L007 | 215 |
| 9 | 100 | 1/40 | 90 | Par. | TENV | Face/Base | Rev. | None | No | 6Z912 | 217 |
| 9 | 150 | 1/20 | 90 | Par. | TENV | Face/Base | Rev. | None | No | 6A194 | 220 |
| 9.2 | 50 | 1/30 | 12 | Par. | TENV | Face | Rev. | None | No | 1L479 | 216 |
| 9.9 | 228 | 1/12 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | 4Z725 | 225 |
| 10 | [150] | — | 90 | Par. | TENV | Face | Rev. | None | No | 4FM14 | 216 |
| 11 | 50 | 1/75 | 90 | Par. | TENV | Face | Rev. | None | No | 4Z535 | 216 |
| 12 | 40 | 1/125 | 12 | Par. | Vented | Face | Rev. | None | No | 2L008 | 215 |
| 12 | 40 | 1/90 | 12 | Par. | TENV | Face | Rev. | None | No | 4Z837 | 215 |
| 12 | 250 | 1/10 | 12 | Par. | TENV | Base | Rev. | None | No | 1L473 | 221 |
| 12 | 350 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H457 | 222 |
| 12 | 350 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H469 | 222 |
| 13 | 125 | 1/25 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | 2H524 | 218 |
| 13 | 250 | 1/15 | 90 | Par. | TENV | Base | Rev. | None | No | 4Z531 | 221 |
| 13 | 660 | 1/6 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H590 | 222 |
| 13 | 960 | 1/4 | 90 | Par. | TENV | Base | Rev. | None | No | 6Z407 | 223 |
| 15 | 570 | 1/6 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H588 | 222 |
| 17 | 16 | 1/160 | 12 | Par. | TENV | Face | Rev. | None | No | 4Z838 | 215 |
| 17 | 30 | 1/125 | 12 | Par. | Vented | Face | Rev. | None | No | 2L009 | 215 |
| 18 | 150 | 1/20 | 90 | Par. | TENV | Face/Base | Rev. | None | No | 4Z134 | 220 |
| 20 | 100 | 1/20 | 90 | Par. | TENV | Face/Base | Rev. | None | No | 6Z913 | 217 |
| 20 | 131 | 1/20 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | 2H567 | 217 |
| 20 | 150 | 1/10 | 12 | Par. | TENV | Base | Rev. | None | No | 1L472 | 221 |
| 20 | 727 | 1/4 | 90 | Par. | TENV | Base | Rev. | None | No | 6Z408 | 223 |
| 20 | 1112 | 1/2 | 90 | Par. | TEFC | Base | Rev. | None | No | 6Z413 | 223 |
| 21 | 50 | 1/30 | 90 | Par. | TENV | Face | Rev. | None | No | 4Z536 | 216 |
| 21 | 50 | 1/30 | 12 | Par. | TENV | Face | Rev. | None | No | 1L478 | 216 |
| 21 | 150 | 1/15 | 90 | Par. | TENV | Base | Rev. | None | No | 4Z532 | 221 |
| 22 | 200 | 1/10 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | 1L492 | 224 |
| 23.5 | 102 | 1/12 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | 4Z726 | 225 |
| 24 | 280 | 1/8 | 90 | Par. | TENV | Face/Base | Rev. | None | No | 4Z130 | 220 |
| 25 | 15 | 1/160 | 12 | Par. | TENV | Face | Rev. | None | No | 4Z839 | 215 |
| 25 | 20 | 1/125 | 12 | Par. | Vented | Face | Rev. | None | No | 2L010 | 215 |

# DC GEARMOTOR SELECTION GUIDE

| Name-plate RPM | F/L Torque In.-Lbs. [In.-Oz.] | Input HP | Volts | Shaft Config. | Enclo-sure | Mounting | Rota-tion | Thermal Protec-tion | Brake Adapt-able? | Stock No. | Ref. Page |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **29** | 156 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H459** | 222 |
| **29** | 156 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H471** | 222 |
| **30** | [69.0] | — | 90 | Par. | TENV | Face | Rev. | None | No | **4FM15** | 216 |
| **30** | 102 | 1/8 | 90 | Par. | TENV | Base | Rev. | None | No | **4Z138** | 224 |
| **30** | 125 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H532** | 218 |
| **30** | 140 | 1/4 | 90 | Rt. Ang. | TEFC | Base | Rev. | None | No | **1L496** | 224 |
| **30** | 254 | 1/8 | 24 | Par. | TENV | Face/Base | Rev. | None | No | **1L848** | 219 |
| **31** | 244 | 1/8 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **4Z383** | 220 |
| **32** | 40 | 1/30 | 12 | Par. | TENV | Face | Rev. | None | No | **4Z537** | 216 |
| **32** | 40 | 1/30 | 12 | Par. | TENV | Face | Rev. | None | No | **1L477** | 216 |
| **32** | 115 | 1/12 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | **2H526** | 218 |
| **33** | 660 | 1/2 | 90 | Par. Sh. | TEFC | Face | Rev. | None | No | **2H585** | 222 |
| **34** | 82 | 1/20 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **6Z414** | 223 |
| **34** | 822 | 1/2 | 90 | Par. | TEFC | Base | Rev. | None | No | **4Z133** | 220 |
| **37** | 50 | 1/14 | 12 | Rt. Ang. | TENV | Base | Rev. | None | No | **1Z810** | 223 |
| **37** | 74 | 1/20 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **6Z914** | 217 |
| **37** | 150 | 1/10 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H565** | 217 |
| **40** | 75 | 1/8 | 12 | Par. | TENV | Base | Rev. | None | No | **1L471** | 221 |
| **40** | 88 | 1/8 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | **6A192** | 224 |
| **40** | 160 | 1/4 | 90 | Rt. Ang. | TEFC | Base | Rev. | None | No | **1L497** | 224 |
| **40** | 353 | 1/4 | 90 | Par. | TENV | Base | Rev. | None | No | **6Z409** | 223 |
| **40** | 705 | 1/2 | 90 | Par. | TEFC | Base | Rev. | None | No | **6Z415** | 223 |
| **42** | 75 | 1/15 | 90 | Par. | TENV | Base | Rev. | None | No | **4Z533** | 221 |
| **42** | 275 | 1/4 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | **2H579** | 219 |
| **43** | 105 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H461** | 222 |
| **43** | 105 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H473** | 222 |
| **45** | 56 | 1/12 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | **4Z727** | 225 |
| **48** | 60 | 1/14 | 12 | Rt. Ang. | TENV | Base | Rev. | None | No | **1Z812** | 223 |
| **50** | 10 | 1/125 | 12 | Par. | Vented | Face | Rev. | None | No | **2L011** | 215 |
| **50** | 10 | 1/90 | 12 | Par. | TENV | Face | Rev. | None | No | **4Z840** | 215 |
| **50** | 26 | 1/30 | 12 | Par. | TENV | Face | Rev. | None | No | **1L476** | 216 |
| **50** | 26 | 1/30 | 90 | Par. | TENV | Face | Rev. | None | No | **4Z538** | 216 |
| **51** | 55 | 1/20 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **4Z132** | 220 |
| **54** | 130 | 1/8 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **4Z129** | 220 |
| **60** | [35.0] | — | 90 | Par. | TENV | Face | Rev. | None | No | **4FM16** | 216 |
| **60** | 74 | 1/8 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | **4Z137** | 224 |
| **60** | 75 | 1/8 | 12 | Par. | TENV | Base | Rev. | None | No | **1L470** | 221 |
| **60** | 120 | 1/4 | 90 | Rt. Ang. | TEFC | Base | Rev. | None | No | **1L498** | 224 |
| **60** | 238 | 1/4 | 90 | Par. | TENV | Base | Rev. | None | No | **6Z410** | 223 |
| **60** | 476 | 1/2 | 90 | Par. | TEFC | Base | Rev. | None | No | **6Z416** | 223 |
| **61** | 60 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H534** | 218 |
| **61** | 78 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H463** | 222 |
| **61** | 78 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H475** | 222 |
| **61** | 113 | 1/8 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **4Z382** | 220 |
| **62** | 60 | 1/12 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | **2H528** | 218 |
| **62** | 227 | 1/4 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | **2H577** | 219 |
| **65** | 445 | 1/2 | 90 | Par. Sh. | TEFC | Face | Rev. | None | No | **2H583** | 222 |
| **71** | 40 | 1/20 | 90 | Par. | TENV | Face | Rev. | None | No | **6Z915** | 217 |
| **71** | 82 | 1/10 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H563** | 217 |
| **84** | 40 | 1/14 | 12 | Rt. Ang. | TENV | Base | Rev. | None | No | **1Z814** | 223 |
| **87** | 45 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H537** | 218 |
| **89** | 34 | 1/10 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | **4Z728** | 225 |
| **90** | 50 | 1/8 | 12 | Par. | TENV | Base | Rev. | None | No | **1L469** | 221 |
| **90** | 59 | 1/8 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | **4Z136** | 224 |
| **90** | 95 | 1/4 | 90 | Rt. Ang. | TEFC | Base | Rev. | None | No | **1L499** | 224 |
| **90** | 160 | 1/4 | 90 | Par. | TENV | Base | Rev. | None | No | **6Z411** | 223 |
| **90** | 320 | 1/2 | 90 | Par. | TEFC | Base | Rev. | None | No | **6Z417** | 223 |
| **92** | 77 | 1/8 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **4Z381** | 220 |
| **92** | 315 | 1/2 | 90 | Par. Sh. | TEFC | Face | Rev. | None | No | **2H581** | 222 |
| **95** | 153 | 1/4 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | **2H575** | 219 |
| **102** | 12 | 1/30 | 12 | Par. | TENV | Face | Rev. | None | No | **1L475** | 216 |
| **102** | 13 | 1/30 | 90 | Par. | TENV | Face | Rev. | None | No | **4Z539** | 216 |
| **109** | 27 | 1/20 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **4Z131** | 220 |
| **115** | 35 | 1/12 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | **2H530** | 218 |
| **116** | 34 | 1/14 | 12 | Rt. Ang. | TENV | Base | Rev. | None | No | **1Z816** | 223 |
| **118** | 30 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H539** | 218 |
| **139** | 20.4 | 1/20 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **6Z916** | 217 |
| **139** | 42 | 1/10 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H561** | 217 |
| **146** | 101 | 1/4 | 90 | Par. | TENV | Base | Rev. | None | No | **6Z412** | 223 |
| **146** | 202 | 1/2 | 90 | Par. | TEFC | Base | Rev. | None | No | **6Z418** | 223 |
| **157** | 30 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H465** | 222 |
| **157** | 30 | 1/12 | 90 | Par. Sh. | TENV | Face | Rev. | None | No | **2H477** | 222 |
| **100** | [22.5] | — | 90 | Par. | TENV | Face | Rev. | None | No | **4FM17** | 216 |
| **167** | 43 | 1/8 | 90 | Par. | TENV | Face/Base | Rev. | None | No | **4Z128** | 220 |
| **170** | 85 | 1/4 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | **2H573** | 219 |
| **172** | 24 | 1/14 | 12 | Rt. Ang. | TENV | Base | Rev. | None | No | **1Z818** | 223 |
| **180** | 36 | 1/8 | 90 | Rt. Ang. | TENV | Base | Rev. | None | No | **4Z135** | 224 |
| **180** | 55 | 1/4 | 90 | Rt. Ang. | TEFC | Base | Rev. | None | No | **1L500** | 224 |
| **200** | [10.0] | — | 90 | Par. | TENV | Face | Rev. | None | No | **4FM18** | 216 |
| **300** | [7.0] | — | 90 | Par. | TENV | Face | Rev. | None | No | **4FM19** | 216 |
| **350** | 40 | 1/4 | 90 | Par. Sh. | TENV | Face/Base | Rev. | None | No | **2H571** | 219 |

**NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY**

# 90V DC/SCR CONTROL/GEARMOTOR COMBINATIONS

| GEARMOTOR SPECIFICATIONS | | | | GEARMOTOR AND CONTROL COMBINATIONS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stock No. | Nameplate RPM | F/L Torque In.-Lbs. | HP | Combination Stock No. | Each | Combination Stock No. | Each | Combination Stock No. | Each | Combination Stock No. | Each | Combination Stock No. | Each | Shpg. Wt. |
| **90 VDC PARALLEL GEARMOTORS** | | | | **No. 4Z827 Control** | | **No. 4Z527 Control** | | **No. 4Z828 Control** | | **No. 5X412 Control** | | **No. 6Z386 Controller** | | |
| 4Z128 | 167 | 43 | 1/8 | 7Z925 | $317.75 | 7Z945 | $327.25 | 7Z965 | $408.25 | 7Z704 | $376.75 | 7Z277 | $455.25 | 15.0 |
| 4Z381 | 92 | 77 | 1/8 | 7Z926 | 317.75 | 7Z946 | 327.25 | 7Z966 | 408.25 | 7Z745 | 376.75 | 7Z278 | 455.25 | 15.0 |
| 4Z382 | 61 | 113 | 1/8 | 7Z927 | 317.75 | 7Z947 | 327.25 | 7Z967 | 408.25 | 7Z746 | 376.75 | 7Z279 | 455.25 | 15.0 |
| 4Z129 | 54 | 130 | 1/8 | 7Z928 | 317.50 | 7Z948 | 327.25 | 7Z968 | 408.00 | 7Z705 | 376.50 | 7Z280 | 455.00 | 14.0 |
| 4Z383 | 31 | 244 | 1/8 | 7Z929 | 340.75 | 7Z949 | 350.25 | 7Z969 | 431.50 | 7Z747 | 399.75 | 7Z281 | 478.75 | 15.0 |
| 4Z130 | 24 | 280 | 1/8 | 7Z930 | 340.75 | 7Z950 | 350.25 | 7Z970 | 431.50 | 7Z706 | 399.75 | 7Z282 | 478.75 | 15.0 |
| 4Z131 | 109 | 27 | 1/20 | 7Z931 | 390.00 | 7Z951 | 400.25 | 7Z971 | 432.25 | 7Z707 | 347.00 | 7Z283 | 425.50 | 9.1 |
| 4Z132 | 51 | 55 | 1/20 | 7Z932 | 390.00 | 7Z952 | 400.25 | 7Z972 | 432.25 | 7Z708 | 347.00 | 7Z284 | 425.50 | 10.1 |
| 4Z133 | 34 | 82 | 1/20 | 7Z933 | 390.00 | 7Z953 | 400.25 | 7Z973 | 432.25 | 7Z709 | 347.00 | 7Z285 | 425.50 | 10.5 |
| 4Z134 | 18 | 150 | 1/20 | 7Z934 | 390.00 | 7Z954 | 400.25 | 7Z974 | 432.25 | 7Z710 | 347.00 | 7Z286 | 425.50 | 10.7 |

| Stock No. | Nameplate RPM | F/L Torque In.-Lbs. | HP | Combination Stock No. | Each | Combination Stock No. | Each | Combination Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **90 VDC PARALLEL GEARMOTORS** | | | | **No. 4Z827 Control** | | **No. 4Z527 Control** | | **No. 4Z828 Control** | | |
| 4Z530 | 6.5 | 500 | 1/15 | 7Z935 | $279.00 | 7Z955 | $288.25 | 7Z975 | $320.75 | 14.5 |
| 4Z531 | 13 | 250 | 1/15 | 7Z936 | 279.00 | 7Z956 | 288.25 | 7Z976 | 320.75 | 14.5 |
| 4Z532 | 21 | 150 | 1/15 | 7Z937 | 279.00 | 7Z957 | 288.25 | 7Z977 | 320.75 | 14.5 |
| 4Z533 | 42 | 75 | 1/15 | 7Z938 | 279.00 | 7Z958 | 288.25 | 7Z978 | 320.75 | 14.5 |
| 4Z534 | 7 | 50 | 1/30 | 7Z939 | 147.10 | 7Z959 | 157.00 | 7Z979 | 188.75 | 6.2 |
| 4Z535 | 11 | 50 | 1/30 | 7Z940 | 147.10 | 7Z960 | 157.00 | 7Z980 | 188.75 | 6.1 |
| 4Z536 | 21 | 50 | 1/30 | 7Z941 | 147.10 | 7Z961 | 157.00 | 7Z981 | 188.75 | 6.2 |
| 4Z537 | 32 | 40 | 1/30 | 7Z942 | 147.10 | 7Z962 | 157.00 | 7Z982 | 188.75 | 5.9 |
| 4Z538 | 50 | 26 | 1/30 | 7Z943 | 147.10 | 7Z963 | 157.00 | 7Z983 | 188.75 | 5.9 |
| 4Z539 | 102 | 13 | 1/30 | 7Z944 | 147.10 | 7Z964 | 157.00 | 7Z984 | 188.75 | 5.9 |
| **90 VDC PARALLEL GEARMOTORS** | | | | **No. 2M510 Control** | | **No. 6Z386 Control** | | **No. 5X485 Control** | | |
| 6Z406 | 8 | 1087 | 1/4 | 7Z316 | 538.00 | 7Z336 | 663.50 | 7Z349 | 804.00 | 38.0 |
| 6Z407 | 13 | 960 | 1/4 | 7Z317 | 538.00 | 7Z337 | 663.50 | 7Z350 | 804.00 | 38.0 |
| 6Z408 | 20 | 727 | 1/4 | 7Z318 | 538.00 | 7Z338 | 663.50 | 7Z351 | 804.00 | 38.0 |
| 6Z409 | 40 | 353 | 1/4 | 7Z320 | 538.00 | 7Z339 | 663.50 | 7Z352 | 804.00 | 38.0 |
| 6Z410 | 60 | 238 | 1/4 | 7Z322 | 538.00 | 7Z340 | 663.50 | 7Z353 | 804.00 | 38.0 |
| 6Z411 | 90 | 160 | 1/4 | 7Z324 | 538.00 | 7Z341 | 663.50 | 7Z354 | 804.00 | 38.0 |
| 6Z412 | 146 | 101 | 1/4 | 7Z325 | 538.00 | 7Z342 | 663.50 | 7Z355 | 804.00 | 38.0 |
| 6Z413 | 20 | 1112 | 1/2 | 7Z326 | 577.50 | 7Z343 | 703.50 | 7Z356 | 843.50 | 46.0 |
| 6Z414 | 34 | 822 | 1/2 | 7Z331 | 577.50 | 7Z344 | 703.50 | 7Z357 | 843.50 | 46.0 |
| 6Z415 | 40 | 705 | 1/2 | 7Z332 | 577.50 | 7Z345 | 703.50 | 7Z365 | 843.50 | 46.0 |
| 6Z416 | 60 | 476 | 1/2 | 7Z333 | 577.50 | 7Z346 | 703.50 | 7Z366 | 843.50 | 46.0 |
| 6Z417 | 90 | 320 | 1/2 | 7Z334 | 577.50 | 7Z347 | 703.50 | 7Z360 | 843.50 | 46.0 |
| 6Z418 | 146 | 202 | 1/2 | 7Z335 | 577.50 | 7Z348 | 703.50 | 7Z361 | 843.50 | 43.0 |

| Stock No. | Nameplate RPM | F/L Torque In.-Lbs. | HP | Combination Stock No. | Each | Combination Stock No. | Each | Combination Stock No. | Each | Combination Stock No. | Each | Combination Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **90 VDC RIGHT-ANGLE GEARMOTORS** | | | | **No. 4Z827 Control** | | **No. 4Z527 Control** | | **No. 4Z828 Control** | | **No. 5X412 Control** | | **No. 2M510 Control** | | |
| 4Z135 | 180 | 36 | 1/8 | 7Z875 | $388.00 | 7Z885 | $397.50 | 7Z895 | $430.00 | 7Z711 | $447.50 | 7Z287 | $399.50 | 17.5 |
| 4Z136 | 90 | 59 | 1/8 | 7Z876 | 388.00 | 7Z886 | 397.50 | 7Z896 | 430.00 | 7Z712 | 447.50 | 7Z288 | 399.50 | 16.5 |
| 4Z137 | 60 | 74 | 1/8 | 7Z877 | 388.00 | 7Z887 | 397.50 | 7Z897 | 430.00 | 7Z713 | 447.50 | 7Z289 | 399.50 | 17.5 |
| 4Z138 | 30 | 102 | 1/8 | 7Z878 | 388.00 | 7Z888 | 397.50 | 7Z898 | 430.00 | 7Z714 | 447.50 | 7Z290 | 399.50 | 16.5 |

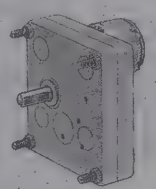
| Stock No. | Nameplate RPM | F/L Torque In.-Lbs. | HP | Combination Stock No. | Each | Combination Stock No. | Each | Combination Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **90 VDC RIGHT- ANGLE GEARMOTORS** | | | | **No. 4Z827 Control** | | **No. 4Z527 Control** | | **No. 2M510 Control** | | |
| 4Z723 | 3.2 | 340 | 1/12 | 7Z879 | $259.25 | 7Z889 | $269.25 | 7Z291 | $270.75 | 10.7 |
| 4Z724 | 6.0 | 177 | 1/12 | 7Z880 | 259.25 | 7Z890 | 269.25 | 7Z292 | 270.75 | 10.7 |
| 4Z725 | 9.9 | 228 | 1/12 | 7Z881 | 259.25 | 7Z891 | 269.25 | 7Z293 | 270.75 | 10.7 |
| 4Z726 | 23.5 | 102 | 1/12 | 7Z882 | 259.25 | 7Z892 | 269.25 | 7Z294 | 270.75 | 10.7 |
| 4Z727 | 45.0 | 56 | 1/12 | 7Z883 | 259.25 | 7Z893 | 269.25 | 7Z295 | 270.75 | 10.7 |
| 4Z728 | 89.0 | 34 | 1/10 | 7Z884 | 259.25 | 7Z894 | 269.25 | 7Z296 | 270.75 | 10.7 |
| **90 VDC RIGHT-ANGLE GEARMOTORS** | | | | **No. 4Z828 Control** | | **No. 5X412 Control** | | **No. 6Z386 Control** | | |
| 4Z723 | 3.2 | 340 | 1/12 | 7Z899 | 300.50 | 7Z909 | 317.50 | 7Z297 | 394.25 | 12.0 |
| 4Z724 | 6.0 | 177 | 1/12 | 7Z900 | 300.50 | 7Z910 | 317.50 | 7Z298 | 394.25 | 12.0 |
| 4Z725 | 9.9 | 228 | 1/12 | 7Z901 | 300.50 | 7Z911 | 317.50 | 7Z299 | 394.25 | 12.0 |
| 4Z726 | 23.5 | 102 | 1/12 | 7Z902 | 300.50 | 7Z912 | 317.50 | 7Z300 | 394.25 | 12.0 |
| 4Z727 | 45.0 | 56 | 1/12 | 7Z903 | 300.50 | 7Z913 | 317.50 | 7Z310 | 394.25 | 12.0 |
| 4Z728 | 89.0 | 34 | 1/10 | 7Z904 | 300.50 | 7Z914 | 317.50 | 7Z311 | 394.25 | 12.0 |



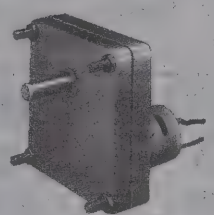
We deliver the products that deliver the power.

# 12 VDC PERMANENT MAGNET PARALLEL SHAFT GEARMOTORS

Dayton®



A

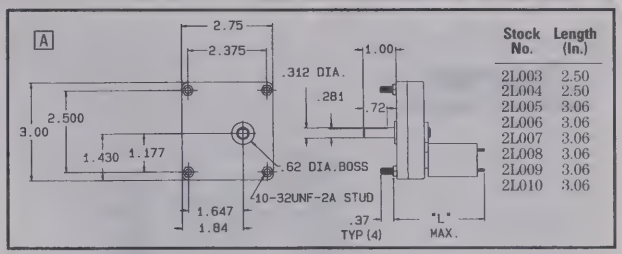


B

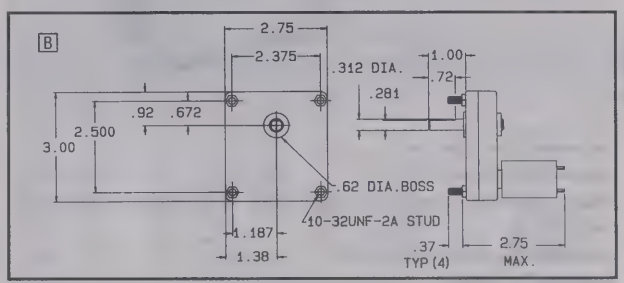
**Gearcase**: Zinc die-cast
**Lubrication**: Grease filled
**Gears**: Spur, delrin and steel
**Bearings**: Bronze sleeve on both case and motor

**Mounting**: All position
**Rotation**: Reversible
**Thermal Protection**: None
**Ambient**: 40°C
**Duty**: Continuous
**Warranty**: 2 Year

**PARTS AVAILABLE FOR MANY DC GEARMOTORS, CALL 1-800-323-0620**



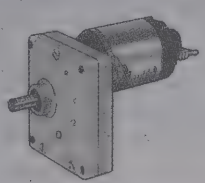

| Stock No. | Length (In.) |
|---|---|
| 2L003 | 2.50 |
| 2L004 | 2.50 |
| 2L005 | 3.06 |
| 2L006 | 3.06 |
| 2L007 | 3.06 |
| 2L008 | 3.06 |
| 2L009 | 3.06 |
| 2L010 | 3.06 |




## 12 VDC PERMANENT MAGNET

| Key | Name-plate RPM | F/L Torque In.-Lbs. | Overhung Load Lbs. | Input HP | F/L Amps at 12 VDC | Gear Ratio | Stock No. | List | Each | Shp. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0.45 | 50 | 30 | 1/2800 | 0.10 | 7189:1 | **2L003** | $43.12 | **$39.20** | 1.2 |
| A | 1.5 | 46 | 29 | 1/900 | 0.30 | 1636:1 | **2L004** | 43.12 | **39.20** | 1.1 |
| A | 3.4 | 44 | 28 | 1/425 | 0.50 | 1176:1 | **2L005** | 41.47 | **37.70** | 1.1 |
| A | 4.5 | 43 | 27 | 1/325 | 0.70 | 1217:1 | **2L006** | 39.27 | **35.70** | 1.1 |
| A | 8.75 | 41 | 26 | 1/175 | 1.00 | 524:1 | **2L007** | 39.27 | **35.70** | 1.1 |
| A | 12.0 | 40 | 24 | 1/125 | 1.30 | 603:1 | **2L008** | 39.27 | **35.70** | 1.1 |
| A | 17.0 | 30 | 21 | 1/125 | 1.40 | 394:1 | **2L009** | 35.03 | **31.85** | 1.1 |
| A | 25.0 | 20 | 18 | 1/125 | 1.30 | 270:1 | **2L010** | 35.03 | **31.85** | 1.1 |
| B | 50.0 | 10 | 15 | 1/125 | 1.10 | 146:1 | **2L011** | 35.03 | **31.85** | 1.1 |

Dayton®



**Gearcase**: Zinc die-cast
**Lubrication**: Grease filled
**Gears**: Spur
**Bearings**: Porous bronze sleeve on both case and motor
**Mounting**: All position

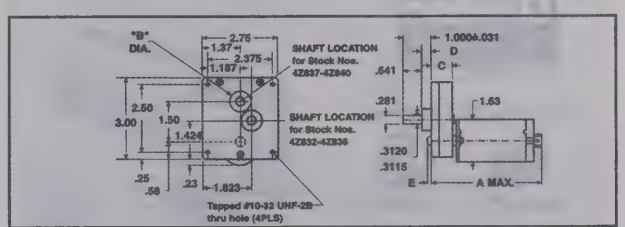
**Rotation**: Reversible
**Thermal Protection**: None
**Brushes**: Externally replaceable
**Ambient**: 25°C
**Duty**: Continuous
**Warranty**: 2 Year

**FOR DC GEARMOTOR SELECTION 212 AND 213**

**A WIDE VARIETY OF BEARINGS IS AVAILABE, SEE PAGES 327 THRU 346**

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch.**




## 12 VDC PERMANENT MAGNET

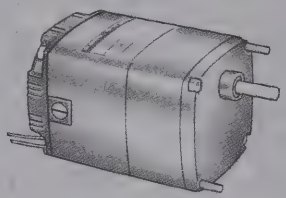
| Name Plate RPM | F/L Torque In.-Lbs. | Overhung Load Lbs. | Input HP | F/L Amps at 12 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **.045** | 50 | 40 | 1/1200 | 0.30 | 2420:1 | **4Z832** | $101.04 | **$53.70** | 1.5 |
| **1.5** | 25 | 40 | 1/1000 | 0.33 | 871.5:1 | **4Z833** | 101.04 | **53.70** | 1.5 |
| **3.4** | 30 | 40 | 1/400 | 0.60 | 580:1 | **4Z834** | 101.04 | **53.70** | 1.5 |
| **4.5** | 38 | 46 | 1/200 | 0.90 | 580:1 | **4Z835** | 101.04 | **53.70** | 1.5 |
| **8.75** | 35 | 46 | 1/120 | 1.10 | 267.5:1 | **4Z836** | 101.04 | **53.70** | 1.5 |
| **12.0** | 40 | 46 | 1/90 | 1.70 | 191.6:1 | **4Z837** | 101.04 | **53.70** | 1.5 |
| **17.0** | 16 | 13 | 1/160 | 1.10 | 135:1 | **4Z838** | 101.04 | **53.70** | 1.5 |
| **25.0** | 15 | 13 | 1/160 | 1.25 | 95.7:1 | **4Z839** | 101.04 | **53.70** | 1.5 |
| **50.0** | 10 | 13 | 1/90 | 1.60 | 45.4:1 | **4Z840** | 101.04 | **53.70** | 1.5 |

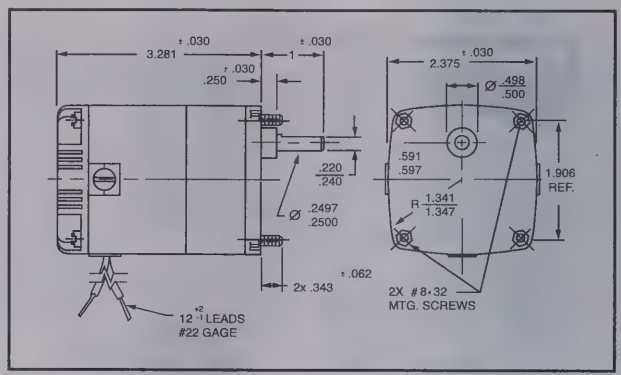
## SPECIFICATIONS

| Stock No. | Dimensions (In.) A | B | C | D | E |
|---|---|---|---|---|---|
| 4Z832 | 3.60 | .78 | .80 | .33 | NA |
| 4Z833 | 3.60 | .78 | .80 | .33 | NA |
| 4Z834 | 3.85 | .78 | .80 | .33 | NA |
| 4Z835 | 3.85 | .78 | .80 | .33 | NA |
| 4Z836 | 4.22 | .78 | .80 | .33 | NA |
| 4Z837 | 4.60 | .78 | .80 | .33 | NA |
| 4Z838 | 3.95 | .60 | .54 | .19 | .13 |
| 4Z839 | 4.33 | .60 | .54 | .19 | .13 |
| 4Z840 | 4.33 | .60 | .54 | .19 | .13 |

# 90 VDC PERMANENT MAGNET PARALLEL SHAFT GEARMOTORS

hurst
INSTRUMENT MOTORS






**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Hardened steel; 1st stage helical, subsequent stages spur
**Seals:** None
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 1 Year
**Input Power:** 2¼ watts at full load and 90 VDC
**Controller:** Use with Dayton controller, No. 6A191 (not included)

## 90 VDC PERMANENT MAGNET TENV

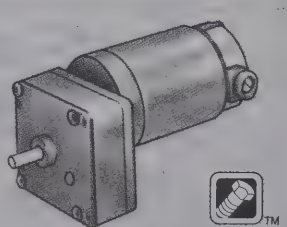
| Name-plate RPM | Max. Torque Oz.-In. | Ratio | Hurst Part No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **300** | 7.0 | 6:1 | KD3402-010 | **4FM19** | $176.18 | **$140.30** | 2.3 |
| **200** | 10.0 | 9:1 | KD3402-009 | **4FM18** | 176.18 | **140.30** | 2.3 |
| **100** | 22.5 | 18:1 | KD3402-008 | **4FM17** | 176.18 | **140.30** | 2.3 |
| **60** | 35.0 | 30:1 | KD3402-007 | **4FM16** | 176.18 | **140.30** | 2.3 |
| **30** | 69.0 | 60:1 | KD3402-006 | **4FM15** | 176.18 | **140.30** | 2.3 |
| **10** | 150.0 | 180:1 | KD3402-005 | **4FM14** | 182.43 | **145.05** | 2.3 |
| **6** | 166.0 | 300:1 | KD3402-004 | **4FM13** | 182.43 | **145.05** | 2.3 |
| **3** | 190.0 | 600:1 | KD3402-003 | **4FM12** | 189.00 | **150.50** | 2.3 |
| **2** | 206.0 | 900:1 | KD3402-002 | **4FM11** | 189.00 | **150.50** | 2.3 |
| **1** | 237.0 | 1800:1 | KD3402-001 | **4FM10** | 189.00 | **150.50** | 2.3 |

**HURST REVERSIBLE SYNCHRONOUS MOTORS AND GEARMOTORS ALSO AVAILABLE, SEE PAGE 226**

Dayton®

For 90 VDC Models

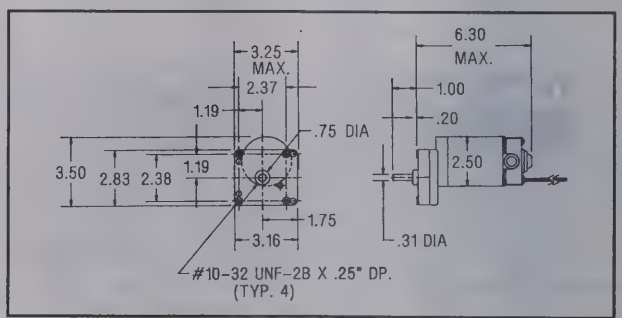
E47479 42492



**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Heat-treated steel and acetal
**Bearings:** Porous bronze sleeve on both case and motor
**Seals:** O-ring type on output shaft
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

**NOTE: FOR 90V DC MODELS ONLY, SPEED CONTROL NO. 64191 MOUNTS DIRECTLY TO REAR OF THESE MODELS**

**PARTS AVAILABLE FOR MANY DC GEARMOTORS, CALL 1-800-323-0620**




| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-Hung Load Lbs. | Input HP | Full-Load Amps at Nameplate Volts | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **12 VDC PERMANENT MAGNET TENV** | | | | | | | | | |
| **6** | 50 | 50 | 1/30 | 2.1 | 482:1 | **1L480** | $129.00 | **$103.75** | 3.7 |
| **9.2** | 50 | 50 | 1/30 | 2.3 | 314:1 | **1L479** | 129.00 | **103.75** | 3.7 |
| **21** | 50 | 50 | 1/30 | 3.0 | 161:1 | **1L478** | 129.00 | **103.75** | 3.7 |
| **32** | 40 | 50 | 1/30 | 3.5 | 98:1 | **1L477** | 129.00 | **103.75** | 3.7 |
| **50** | 26 | 50 | 1/30 | 3.5 | 63:1 | **1L476** | 129.00 | **103.75** | 3.7 |
| **102** | 13 | 50 | 1/30 | 3.5 | 31:1 | **1L475** | 129.00 | **103.75** | 3.0 |
| **90 VDC PERMANENT MAGNET TENV** | | | | | | | | | |
| **7** | 50 | 50 | 1/30 | 0.20 | 482:1 | **4Z534** | 124.00 | **99.75** | 3.7 |
| **11** | 50 | 50 | 1/30 | 0.25 | 314:1 | **4Z535** | 124.00 | **99.75** | 3.6 |
| **21** | 50 | 50 | 1/30 | 0.35 | 161:1 | **4Z536** | 124.00 | **99.75** | 3.7 |
| **32** | 43 | 50 | 1/30 | 0.42 | 98:1 | **4Z537** | 124.00 | **99.75** | 3.4 |
| **50** | 26 | 50 | 1/30 | 0.42 | 63:1 | **4Z538** | 124.00 | **99.75** | 3.4 |
| **102** | 13 | 50 | 1/30 | 0.42 | 31:1 | **4Z539** | 124.00 | **99.75** | 3.4 |

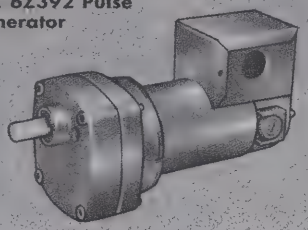
# 90 VDC PERMANENT MAGNET PARALLEL SHAFT GEARMOTORS

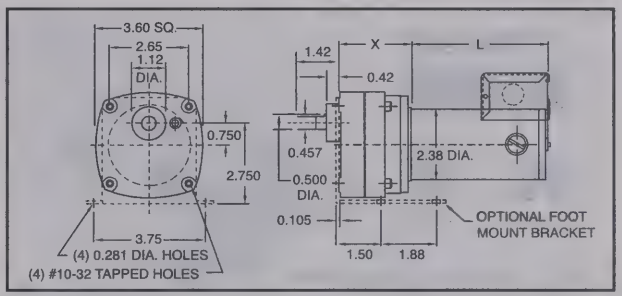
Dayton

- 10-32 Tapped hole for No. 6Z392 Pulse Generator

E47479

E47479






**Gearcase:** Die-cast aluminum
**Lubrication:** Permanent heavy fluid gear oil
**Gears:** 1st stage steel, helical; subsequent stages steel or heat-treated powdered metal spur
**Bearings:** Needle on case output shaft; ball on motor
**Seals:** Spring-loaded lip-type neoprene on input and output shafts

**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

**PARTS AVAILABLE FOR MANY DC GEARMOTORS, CALL 1-800-323-0620**

## 90 VDC PERMANENT MAGNET TENV

| Name-plate RPM | F/L Torque In.-Lbs. | Overhung Load Lbs. | Input HP | F/L Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **2.6** | 100 | 90 | 1/40 | 0.36 | 702:1 | **6Z910** | $252.00 | **$202.00** | 6.0 |
| **5** | 100 | 90 | 1/40 | 0.36 | 362:1 | **6Z911** | 252.00 | **202.00** | 6.0 |
| **9** | 100 | 90 | 1/40 | 0.36 | 185.5:1 | **6Z912** | 252.00 | **202.00** | 6.0 |
| **20** | 100 | 90 | 1/20 | 0.6 | 95.5:1 | **6Z913** | 252.00 | **202.00** | 6.0 |
| **37** | 74 | 90 | 1/20 | 0.6 | 49:1 | **6Z914** | 252.00 | **202.00** | 6.0 |
| **71** | 40 | 90 | 1/20 | 0.6 | 25.2:1 | **6Z915** | 252.00 | **202.00** | 6.0 |
| **139** | 20.4 | 90 | 1/20 | 0.6 | 12.9:1 | **6Z916** | 252.00 | **202.00** | 6.0 |

## SPECIFICATIONS

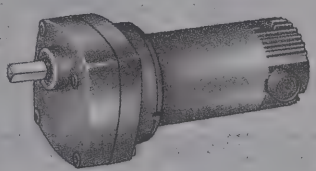
| Stock No. | L (In.) | X (In.) | Stock No. | L (In.) | X (In.) |
|---|---|---|---|---|---|
| 6Z910 | 5.44 | 2.45 | 6Z914 | 4.69 | 3.15 |
| 6Z911 | 5.44 | 2.45 | 6Z915 | 4.69 | 3.15 |
| 6Z912 | 5.44 | 2.45 | 6Z916 | 4.69 | 3.15 |
| 6Z913 | 5.44 | 2.45 | | | |

Dayton

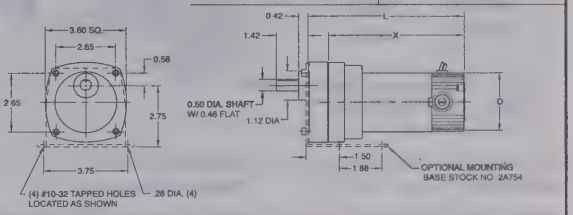
- 10-32 Tapped hole for No. 6Z392 Pulse Generator

E47479

Replacement Parts Available 1-800-323-0620



| Stock No. | Dim. (In.) L | X | D | Stock No. | Dim. (In.) L | X | D |
|---|---|---|---|---|---|---|---|
| 2H569 | 7.64 | 6.06 | 2.58 | 2H563 | 8.78 | 7.94 | 3.15 |
| 2H567 | 6.94 | 6.06 | 2.58 | 2H561 | 8.78 | 7.94 | 3.15 |
| 2H565 | 8.78 | 7.94 | 3.15 | | | | |




**Gearcase:** Die-cast aluminum
**Lubrication:** Permanent heavy fluid gear oil
**Gears:** Hardened steel; 1st stage helical, subsequent stages spur
**Bearings:** Needle throughout with thrust balls on case; ball on motor
**Seals:** Spring-loaded lip-type on input and output seals

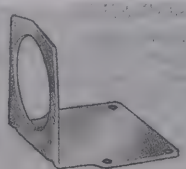
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

## 90 VDC PERMANENT MAGNET TENV

| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load (Lbs.) | Input HP | Full-Load Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5** | 134 | 115 | 1/20 | 0.24 | 362:1 | **2H569** † | $374.00 | **$273.50** | 7.3 |
| **20** | 131 | 150 | 1/20 | 0.44 | 96:1 | **2H567** † | 374.00 | **273.50** | 6.9 |
| **37** | 150 | 130 | 1/10 | 1.07A | 49:1 | **2H565** # | 374.00 | **273.50** | 11.0 |
| **71** | 82 | 230 | 1/10 | 1.07A | 25:1 | **2H563** # | 374.00 | **273.50** | 11.0 |
| **139** | 42 | 220 | 1/10 | 1.07A | 13:1 | **2H561** # | 374.00 | **273.50** | 11.0 |

(†) UL Recognized for Canada (E47479) (#) CSA Certified (68769).

Dayton



Optional Mounting Bracket

**Optional Mounting Bracket** for Nos. 6Z910 thru 6Z916, 2H561, 2H563, 2H565, 2H567, and 2H569 attaches to face of gear box to provide floor, wall or ceiling mount. Includes steel bracket and four screws. Dayton brand.

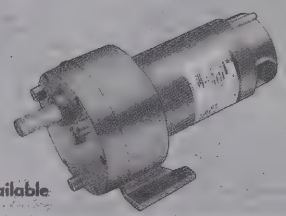
**No. 2A754.** Shpg. wt. 0.7 lbs. List $14.00. Each.....**$10.84**

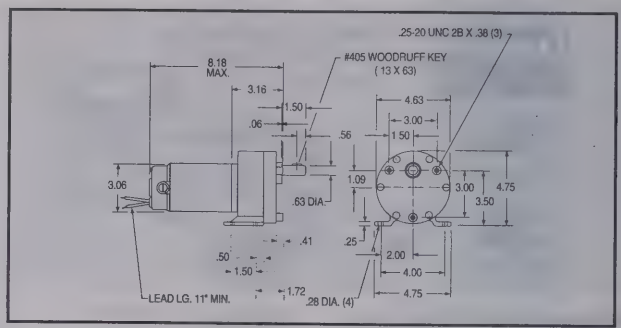
# 90 VDC PERMANENT MAGNET PARALLEL SHAFT GEARMOTORS

Dayton

E47479 42492

Replacement Parts Available 1-800-323-0620






**Gearcase:** Die-cast zinc
**Lubrication:** Grease filled
**Gears:** Steel and heat treated steel
**Bearings:** Sleeve and needle on case; ball on motor
**Seals:** Lip type on input and output shafts
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

## 90 VDC PERMANENT MAGNET TENV

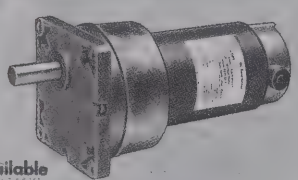
| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load (Lbs.) | Input HP | Full-Load Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **7** | 125 | 150 | 1/50 | 0.4 | 250:1 | **2H522** | $296.00 | **$233.50** | 10.0 |
| **13** | 125 | 150 | 1/25 | 1.0 | 128:1 | **2H524** | 296.00 | **233.50** | 10.0 |
| **32** | 115 | 150 | 1/12 | 1.0 | 52:1 | **2H526** | 296.00 | **233.50** | 10.0 |
| **62** | 60 | 150 | 1/12 | 1.0 | 26.7:1 | **2H528** | 296.00 | **233.50** | 10.0 |
| **115** | 35 | 150 | 1/12 | 1.0 | 14.3:1 | **2H530** | 296.00 | **233.50** | 10.0 |

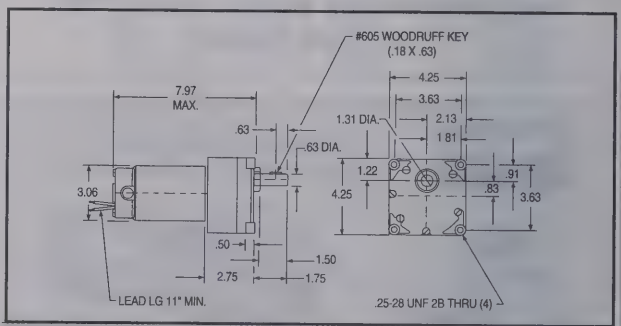
NOTE: Speed control No. 6A191 mounts directly to rear of these models.

Dayton

E47479 42492

Replacement Parts Available 1-800-323-0620






**Gearcase:** Die-cast zinc
**Lubrication:** Grease filled
**Gears:** Steel and heat treated steel
**Bearings:** Sleeve and needle on case; ball on motor
**Seals:** Lip type on output shaft
**Mounting:** All position; face mounting
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

## 90 VDC PERMANENT MAGNET TENV

| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load (Lbs.) | Input HP | Full-Load Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30** | 125 | 150 | 1/12 | 1.0 | 54:1 | **2H532** | $318.00 | **$250.25** | 10.0 |
| **61** | 60 | 150 | 1/12 | 1.0 | 27:1 | **2H534** | 318.00 | **250.25** | 10.0 |
| **87** | 45 | 150 | 1/12 | 1.0 | 19:1 | **2H537** | 318.00 | **250.25** | 10.0 |
| **118** | 30 | 150 | 1/12 | 1.0 | 14:1 | **2H539** | 318.00 | **250.25** | 10.0 |

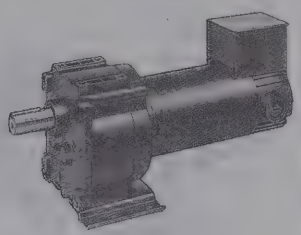
NOTE: Speed control No. 6A191 mounts directly to rear of these models.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

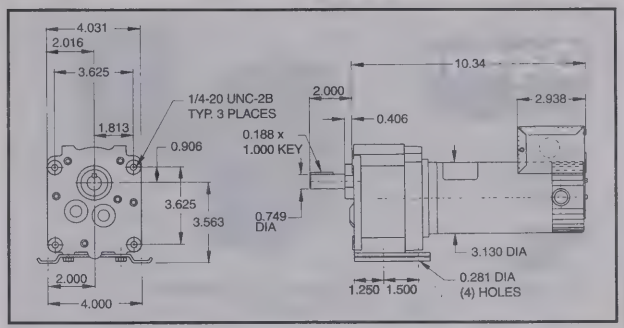
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# 24 AND 90 VDC PERMANENT MAGNET PARALLEL SHAFT GEARMOTORS

Dayton®



Replacement Parts Available
1-800-323-0620




**Gearcase:** Die-cast aluminum
**Lubrication:** Heavy fluid gear oil
**Gears:** Hardened steel
**Bearings:** Needle with thrust balls on case; ball on motor
**Seals:** Spring-loaded lip-type on input and output seals
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

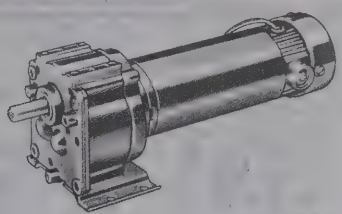
## 24 VDC PERMANENT MAGNET TENV

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Full-Load Amps at 24 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30** | 254 | 291 | 1/8 | 5.3 | 60:1 | **1L848** | $396.00 | **$318.00** | 14.0 |

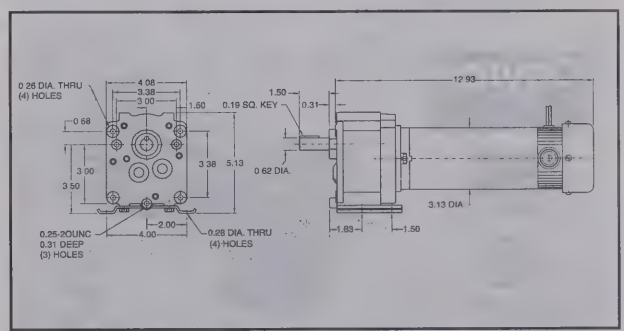
FOR DC GEARMOTOR SELECTION GUIDE
SEE PAGES 215 AND 222

Dayton®

E47479 68769



Replacement Parts Available
1-800-323-0620




**Gearcase:** Die-cast aluminum
**Lubrication:** Permanent heavy fluid gear oil
**Gears:** Hardened steel; 1st stage helical, subsequent stages spur, AGMA Class 9
**Bearings:** Needle throughout with thrust balls on case; ball on motor
**Seals:** Spring-loaded lip-type on input and output seals
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TEFC
**Warranty:** 2 Year

## 90 VDC PERMANENT MAGNET TEFC

| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Full-Load Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **42** | 280 | 215 | 1/4 | 2.72 | 43:1 | **2H579** | $521.00 | **$381.00** | 17.0 |
| **62** | 235 | 235 | 1/4 | 2.72 | 28:1 | **2H577** | 521.00 | **381.00** | 17.0 |
| **90** | 160 | 200 | 1/4 | 2.72 | 19:1 | **2H575** | 521.00 | **381.00** | 17.0 |
| **165** | 90 | 200 | 1/4 | 2.72 | 11:1 | **2H573** | 521.00 | **381.00** | 17.0 |
| **350** | 40 | 170 | 1/4 | 2.72 | 5:1 | **2H571** | 521.00 | **381.00** | 17.0 |

## ORDERING HAS NEVER BEEN EASIER!

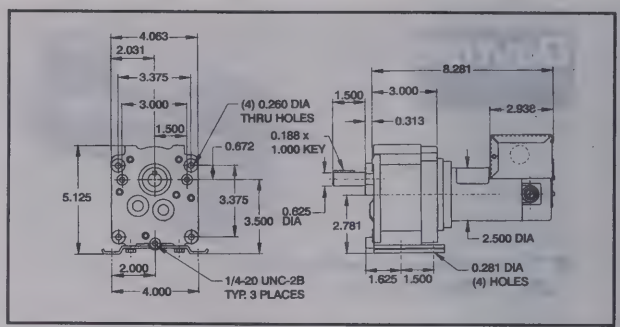
**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

## OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# 12 AND 90 VDC PERMANENT MAGNET PARALLEL SHAFT GEARMOTORS




**Gearcase:** Die-cast aluminum

**Lubrication:** Permanent heavy fluid gear oil

**Gears:** Hardened steel; 1st stage helical, subsequent stages spur

**Bearings:** Needle roller and thrust balls on case; ball on motor

**Seals:** Spring-loaded lip-type on input and output shafts

**Mounting:** All position

**Rotation:** Reversible

**Thermal Protection:** None

**Brushes:** Externally replaceable

**Ambient:** 40°C

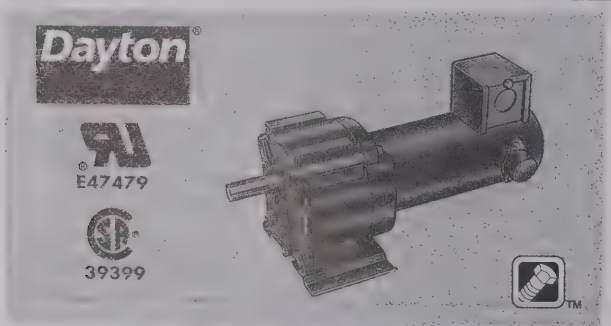
**Duty:** Continuous

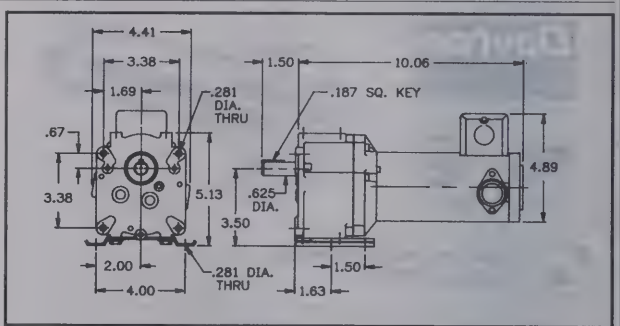
**Enclosure:** TENV

**Warranty:** 2 Year

## 90 VDC PERMANENT MAGNET TENV

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Full-Load Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 227 | 150 | 1/20 | 0.4 | 336:1 | 6A193 | $300.00 | $240.75 | 12.0 |
| 9 | 250 | 150 | 1/20 | 0.6 | 208:1 | 6A194 | 300.00 | 240.75 | 10.0 |
| 18 | 150 | 150 | 1/20 | 0.6 | 101:1 | 4Z134 | 300.00 | 240.75 | 8.7 |
| 34 | 82 | 150 | 1/20 | 0.6 | 53:1 | 4Z133 | 300.00 | 240.75 | 8.5 |
| 51 | 55 | 150 | 1/20 | 0.6 | 35:1 | 4Z132 | 300.00 | 240.75 | 8.1 |
| 109 | 27 | 150 | 1/20 | 0.6 | 16.5:1 | 4Z131 | 300.00 | 240.75 | 7.1 |




**Gearcase:** Die-cast aluminum

**Lubrication:** Permanent heavy fluid gear oil

**Gears:** Hardened steel

**Bearings:** Needle roller and thrust balls on case; ball on motor

**Seals:** On input and output shafts

**Controller:** Recommended for use with Dayton Speed Control, No. 1Z802 on 12VDC units and No. 1Z808 on 90VDC units (not included)

**Mounting:** All position

**Rotation:** Reversible

**Thermal Protection:** None

**Brushes:** Externally replaceable

**Ambient:** 40°C

**Duty:** Continuous

**Enclosure:** TENV

**Warranty:** 2 Year

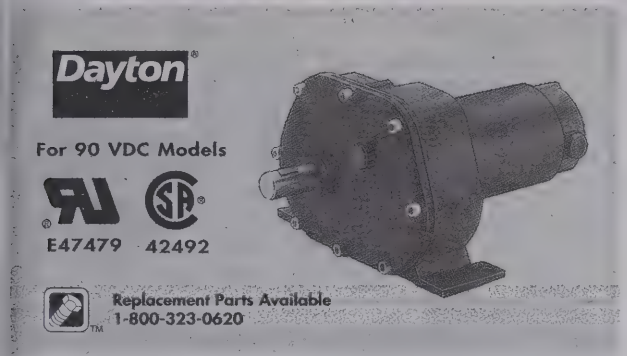
| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Full-Load Amps at Name-plate Volts | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **12 VDC PERMANENT MAGNET TENV** | | | | | | | | | |
| 24 | 280 | 150 | 1/5 | 11.5 | 77.3:1 | 1Z820 | $403.00 | $265.25 | 14.0 |
| 37 | 280 | 150 | 1/5 | 14.7 | 57.7:1 | 1Z822 | 403.00 | 265.25 | 14.0 |
| 54 | 130 | 150 | 1/5 | 11.5 | 34.0:1 | 1Z824 | 370.00 | 243.50 | 14.0 |
| 57 | 159 | 150 | 1/5 | 15.0 | 30.0:1 | 1Z826 | 370.00 | 243.50 | 14.0 |
| 80 | 135 | 150 | 1/5 | 18.5 | 20.0:1 | 1Z831 | 370.00 | 243.50 | 14.0 |
| 145 | 74 | 150 | 1/5 | 18.5 | 11.0:1 | 1Z833 | 370.00 | 243.50 | 14.0 |
| **90 VDC PERMANENT MAGNET TENV** | | | | | | | | | |
| 24 | 280 | 150 | 1/8 | 1.5 | 77.3:1 | 4Z130 | 384.00 | 308.50 | 13.0 |
| 31 | 244 | 150 | 1/8 | 1.5 | 57.7:1 | 4Z383 | 384.00 | 308.50 | 13.0 |
| 54 | 130 | 150 | 1/8 | 1.5 | 34.0:1 | 4Z129 | 352.00 | 283.25 | 12.0 |
| 61 | 113 | 150 | 1/8 | 1.5 | 30.0:1 | 4Z382 | 352.00 | 283.25 | 13.0 |
| 92 | 77 | 150 | 1/8 | 1.5 | 20.0:1 | 4Z381 | 352.00 | 283.25 | 13.0 |
| 167 | 43 | 150 | 1/8 | 1.5 | 11.0:1 | 4Z128 | 352.00 | 283.25 | 13.0 |

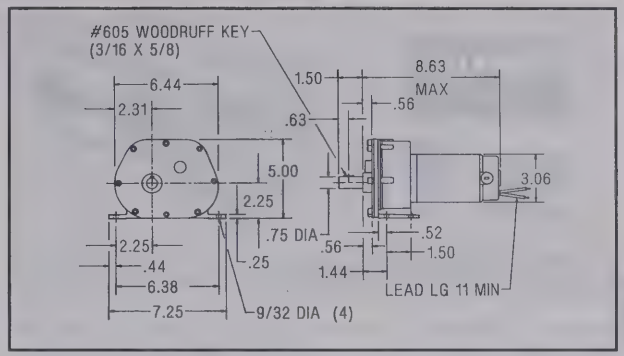
**PARTS AVAILABLE FOR MANY DC GEARMOTORS, CALL 1-800-323-0620**

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# 12 AND 90 VDC PERMANENT MAGNET PARALLEL SHAFT GEARMOTORS




**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Phenolic and hardened steel
**Bearings:** Needle/ball/sleeve on case; ball on motor
**Seals:** O-ring type on output shaft
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

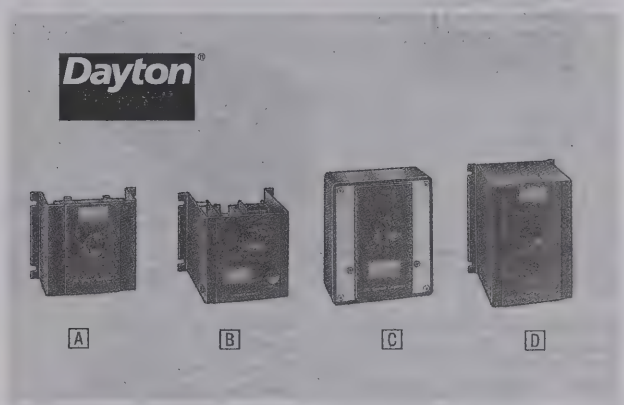
| Name plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Full-Load Amps at Nameplate Volts | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **12 VDC PERMANENT MAGNET TENV** | | | | | | | | | |
| **6** | 500 | 250 | 1/15 | 6.5 | 267:1 | **1L474** | $299.00 | **$241.25** | 12.0 |
| **12** | 250 | 250 | 1/15 | 6.5 | 133:1 | **1L473** | 299.00 | **241.25** | 12.0 |
| **20** | 150 | 250 | 1/15 | 6.5 | 81:1 | **1L472** | 299.00 | **241.25** | 11.0 |
| **40** | 75 | 250 | 1/15 | 6.5 | 81:1 | **1L471** | 299.00 | **241.25** | 12.0 |
| **60** | 75 | 250 | 1/10 | 9.0 | 55:1 | **1L470** | 299.00 | **241.25** | 13.0 |
| **90** | 50 | 250 | 1/10 | 9.0 | 35:1 | **1L469** | 299.00 | **241.25** | 12.0 |
| **90 VDC PERMANENT MAGNET TENV** | | | | | | | | | |
| **6.5** | 500 | 250 | 1/15 | 0.75 | 267:1 | **4Z530** | 299.00 | **241.25** | 12.0 |
| **13** | 250 | 250 | 1/15 | 0.75 | 133:1 | **4Z531** | 299.00 | **241.25** | 12.0 |
| **21** | 150 | 250 | 1/15 | 0.75 | 81:1 | **4Z532** | 299.00 | **241.25** | 12.0 |
| **42** | 75 | 250 | 1/15 | 0.75 | 42:1 | **4Z533** | 299.00 | **241.25** | 12.0 |

**DIRECT MOUNT SPEED CONTROL FOR 90 VOLT GENERATORS LISTED HERE, SEE PAGE 1191**

## DC SPEED CONTROLS FOR 90V GEARMOTORS

- **Adjustable maximum/minimum speed**
- **Fused control protection**
- **Run/stop switch**
- **Metal enclosures (except No. 4Z527 is phenolic)**
- **Built-in transient and surge suppression**
- **Single-phase, 60/50 Hz input**
- **All models are UL Listed and Certified for Canada (E165942)**

For constant or diminishing torque applications requiring adjustable speed control over a wide range. Not intended for constant HP applications such as saws and drill presses or in close proximity of high capacitive discharge electrical circuits such as welding equipment. Black finish. Dayton brand.

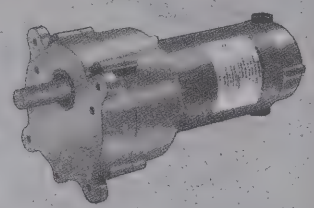



### CONTROL WITH OUTPUT FOR 90 VDC ARM. PM MOTORS

| Key | HP Range | Input Volts | Constant Torque Speed Regulation % Speed Range | Nameplate RPM | Enclosure Type | Dimensions (In.) H | W | D | IR Comp. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 1/50-1/6 | 115 | 10:1 | 10-30 | Chassis | 4 | 4 | 2 | Fixed | **4Z827** | $65.00 | **$58.05** | 1.0 |
| **B** | 1/35-1/6 | 115 | 10:1 | 10 | Chassis | 4 1/4 | 4 | 4 1/4 | Fixed | **4Z828** | 114.00 | **102.30** | 2.5 |
| **C** | 1/50-1/6 | 115 | 10:1 | 10-30 | NEMA 1 | 5 | 4 1/4 | 1 7/8 | Fixed | **4Z527** | 77.00 | **68.20** | 0.8 |
| **D** | 1/35-1/6 | 115 | 10:1 | 10 | NEMA 1 | 6 | 4 | 4 5/16 | Fixed | **5X412** | 134.00 | **120.35** | 3.7 |

**FOR A COMPLETE LISTING OF DAYTON SPEED CONTROLS, SEE PAGE 192**

# 90 VDC PERMANENT MAGNET PARALLEL SHAFT GEARMOTORS

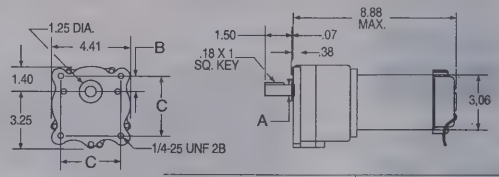


E47479 42492

Replacement Parts Available
1-800-323-0620

**Gearcase:** Machined die-cast aluminum
**Lubrication:** Permanent heavy-duty gear oil
**Gears:** Hardened steel; helical 1st stage, spur subsequent stages, to AGMA class 9 standards
**Bearings:** Heavy-duty needle roller and thrust balls on case; ball on motor
**Seals:** Lip type on input and output shafts
**Mounting:** All position; face mounting
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

**For Optional Mounting Bracket, See Chart Below.**

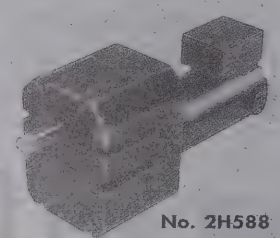



| Stock No. | | | Dimensions (In.) A | B | C |
|---|---|---|---|---|---|
| 2H455 2H457 | 2H459 2H461 | 2H463 2H465 | 0.63 | 0.863 | 3.375 |
| 2H467 2H469 | 2H471 2H473 | 2H475 2H477 | 0.75 | 0.906 | 3.625 |

## 90 VDC PERMANENT MAGNET TENV

| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Full-Load Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6** | 500 | 300 | 1/15 | 0.72 | 264:1 | **2H455** | $372.00 | **$293.00** | 12.0 |
| **12** | 350 | 300 | 1/12 | 0.94 | 131:1 | **2H457** | 372.00 | **293.00** | 12.0 |
| **29** | 156 | 300 | 1/12 | 0.94 | 55:1 | **2H459** | 372.00 | **293.00** | 12.0 |
| **43** | 105 | 300 | 1/12 | 0.94 | 37:1 | **2H461** | 372.00 | **293.00** | 12.0 |
| **61** | 78 | 300 | 1/12 | 0.94 | 26:1 | **2H463** | 372.00 | **293.00** | 12.0 |
| **157** | 30 | 300 | 1/12 | 0.94 | 10:1 | **2H465** | 372.00 | **293.00** | 12.0 |
| **6** | 500 | 400 | 1/15 | 0.72 | 264:1 | **2H467** | 372.00 | **293.00** | 12.0 |
| **12** | 350 | 400 | 1/12 | 0.94 | 131:1 | **2H469** | 372.00 | **293.00** | 12.0 |
| **29** | 156 | 400 | 1/12 | 0.94 | 55:1 | **2H471** | 372.00 | **293.00** | 12.0 |
| **43** | 105 | 400 | 1/12 | 0.94 | 37:1 | **2H473** | 372.00 | **293.00** | 12.0 |
| **61** | 78 | 400 | 1/12 | 0.94 | 26:1 | **2H475** | 372.00 | **293.00** | 12.0 |
| **157** | 30 | 400 | 1/12 | 0.94 | 10:1 | **2H477** | 372.00 | **293.00** | 12.0 |

NOTE: Rear motor shaft tapped #10-32 for No. 6Z392 Pulse Generator; speed control No. 6A191 to rear end.

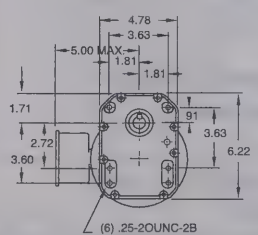


No. 2H588

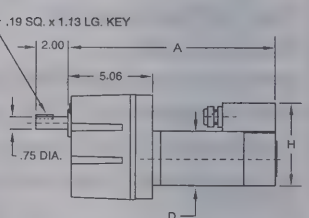
Replacement Parts Available
1-800-323-0620

**Gearcase:** Die-cast aluminum
**Lubrication:** Permanent heavy fluid gear oil
**Gears:** Hardened steel; 1st stage helical, subsequent stages spur, AGMA Class 9
**Bearings:** Needle throughout with thrust balls on case; ball on motor
**Seals:** Spring-loaded lip type on input and output seals
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Insulation Class:** F (TEFC)
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV or TEFC
**Warranty:** 2 Year

**Side Conduit Box on 2H585, 2H583, & 2H581 ONLY**




**Top Conduit Box on 2H594, 2H592, 2H590, & 2H588 ONLY**




| Stock No. | Dim. (In.) A | D | H | Stock No. | Dim. (In.) A | D |
|---|---|---|---|---|---|---|
| 2H594 | 9.83 | 2.58 | 4.67 | 2H585 | 14.97 | 5.66 |
| 2H592 | 12.43 | 3.13 | 4.67 | 2H583 | 14.97 | 5.66 |
| 2H590 | 12.43 | 3.13 | 4.67 | 2H581 | 14.97 | 5.66 |
| 2H588 | 12.43 | 3.13 | 5.11 | | | |

## MOUNTING BRACKETS

| Gearmotor No. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| 2H455, 2H457, 2H459, 2H461, 2H463, 2H465 | **2H541** | **$19.27** | 1.1 |
| 2H581, 2H583, 2H585, 2H588, 2H590, 2H592, 2H594, 2H606, 2H608, 2H610, 2H612, 2H614, 2H616, 2H618 | **2H630** | **15.30** | 1.0 |

| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 90 VDC | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **90 VDC PERMANENT MAGNET TENV** | | | | | | | | | |
| **1.3** | 710 | 900 | 1/20 | 1413:1 | 1.0 | **2H594** † | $500.00 | **$365.50** | 16.0 |
| **6.5** | 710 | 900 | 1/6 | 276:1 | 1.0 | **2H592** † | 554.00 | **404.75** | 21.0 |
| **13** | 660 | 900 | 1/6 | 138:1 | 1.7 | **2H590** † | 554.00 | **404.75** | 21.0 |
| **15** | 570 | 900 | 1/6 | 116:1 | 1.7 | **2H588** † | 554.00 | **404.75** | 21.0 |
| **90 VDC PERMANENT MAGNET TEFC** | | | | | | | | | |
| **33** | 660 | 650 | 1/2 | 54:1 | 5.3 | **2H585** | 723.00 | **528.50** | 34.0 |
| **65** | 445 | 600 | 1/2 | 28:1 | 5.3 | **2H583** | 723.00 | **528.50** | 34.0 |
| **92** | 315 | 550 | 1/2 | 20:1 | 5.3 | **2H581** | 723.00 | **528.50** | 34.0 |

(†) 10-32 Tapped hold for 6Z392 pulse generation.



We deliver the products that deliver the power.

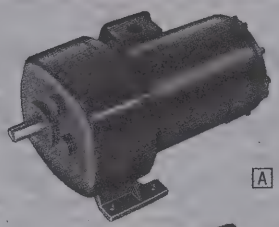
# PERMANENT MAGNET PARALLEL SHAFT AND RIGHT ANGLE GEARMOTORS

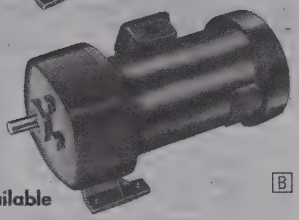
## PARALLEL SHAFT GEARMOTORS

Dayton

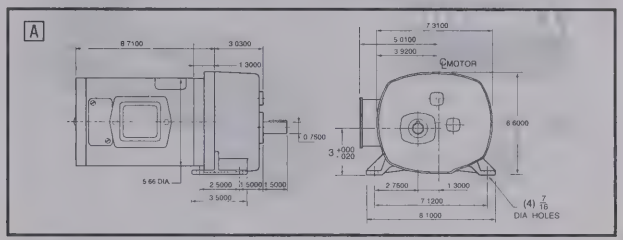
E47479

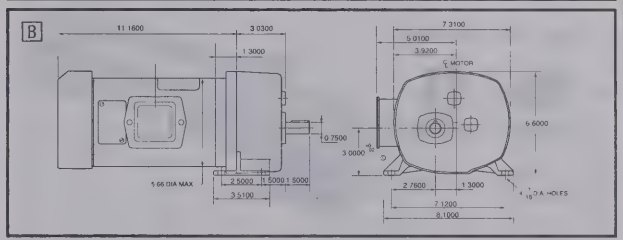
56410




Replacement Parts Available
1-800-323-0620




**Gearcase:** Die-cast aluminum

**Lubrication:** Permanent, heavy fluid gear oil

**Gears:** Hardened steel, 1st stage helical, spur subsequent stages

**Bearings:** Heavy-duty ball and needle roller and thrust balls on case; ball on motor

**Seals:** Lip-type on input and output shafts

**Mounting:** All position

**Rotation:** Reversible

**Thermal Protection:** None

**Brushes:** Extra large for long life

**Ambient:** 40°C

**Duty:** Continuous

**Enclosure:** A TENV; B TEFC

**Warranty:** 2 Year

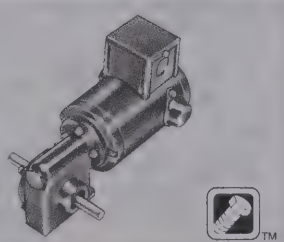
| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Full-Load Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **90 VDC PERMANENT MAGNET TENV** | | | | | | | | | | |
| **A** | 8 | 1087 | 325 | 1/4 | 2.0 | 195.9:1 | **6Z406** | $609.00 | **$489.25** | 32.0 |
| **A** | 13 | 960 | 325 | 1/4 | 2.75 | 130.8:1 | **6Z407** | 609.00 | **489.25** | 32.0 |
| **A** | 20 | 727 | 325 | 1/4 | 2.75 | 86.5:1 | **6Z408** | 609.00 | **489.25** | 32.0 |
| **A** | 40 | 353 | 325 | 1/4 | 2.75 | 41.1:1 | **6Z409** | 609.00 | **489.25** | 32.0 |
| **A** | 60 | 238 | 325 | 1/4 | 2.75 | 27.8:8 | **6Z410** | 609.00 | **489.25** | 32.0 |
| **A** | 90 | 152 | 325 | 1/4 | 2.75 | 19.3:1 | **6Z411** | 609.00 | **489.25** | 32.0 |
| **A** | 146 | 101 | 325 | 1/4 | 2.75 | 11.8:1 | **6Z412** | 609.00 | **489.25** | 32.0 |
| **90 VDC PERMANENT MAGNET TEFC** | | | | | | | | | | |
| **B** | 20 | 1112 | 325 | 1/2 | 5.0 | 86.5:1 | **6Z413** | 660.00 | **530.50** | 40.0 |
| **B** | 34 | 822 | 325 | 1/2 | 5.0 | 50.3:1 | **6Z414** | 660.00 | **530.50** | 40.0 |
| **B** | 40 | 705 | 325 | 1/2 | 5.0 | 41.1:1 | **6Z415** | 660.00 | **530.50** | 40.0 |
| **B** | 60 | 476 | 325 | 1/2 | 5.0 | 27.8:8 | **6Z416** | 660.00 | **530.50** | 40.0 |
| **B** | 90 | 305 | 325 | 1/2 | 5.0 | 19.3:1 | **6Z417** | 660.00 | **530.50** | 40.0 |
| **B** | 146 | 202 | 325 | 1/2 | 5.0 | 11.8:1 | **6Z418** | 660.00 | **530.50** | 37.0 |

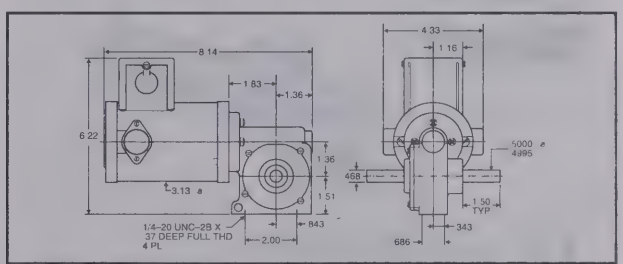
**PARTS AVAILABLE FOR MANY DC GEARMOTORS, CALL 1-800-323-0620**

## RIGHT ANGLE GEARMOTORS

Dayton

E47479 39399






**Gearcase:** Zinc die-cast

**Lubrication:** Grease filled

**Gears:** Worm, hardened steel; output gear bronze alloy

**Bearings:** Ball on both case and motor

**Seals:** Lip-type on input; sealed bearings on output

**Controller:** Recommended for use with Dayton Speed Control, No. 1Z802 (not included)

**Mounting:** All position

**Rotation:** Reversible

**Thermal Protection:** None

**Brushes:** Externally replaceable

**Ambient:** 40°C

**Duty:** Continuous

**Enclosure:** TENV

**Warranty:** 2 Year

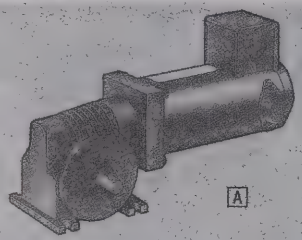
| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Full-Load Amps at 12 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **12 VDC PERMANENT MAGNET TENV** | | | | | | | | | |
| **37** | 50 | 200 | 1/14 | 6.5 | 50.0:1 | **1Z810** | $405.00 | **$260.50** | 8.8 |
| **48** | 50 | 200 | 1/14 | 7.9 | 36.0:1 | **1Z812** | 405.00 | **260.50** | 8.8 |
| **84** | 40 | 200 | 1/14 | 8.3 | 20.5:1 | **1Z814** | 405.00 | **260.50** | 8.8 |
| **116** | 34 | 200 | 1/14 | 8.7 | 14.5:1 | **1Z816** | 405.00 | **260.50** | 8.8 |
| **172** | 24 | 200 | 1/14 | 8.7 | 9.75:1 | **1Z818** | 405.00 | **260.50** | 8.8 |

# 90 VDC PERMANENT MAGNET RIGHT ANGLE GEARMOTORS

Dayton®

For TENV Models

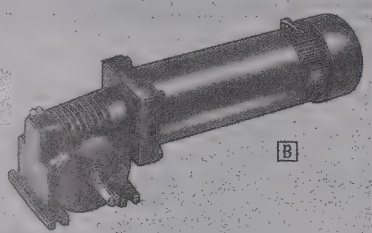
E47479



A

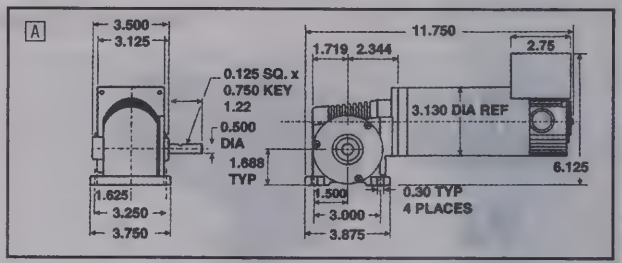
For TEFC Models

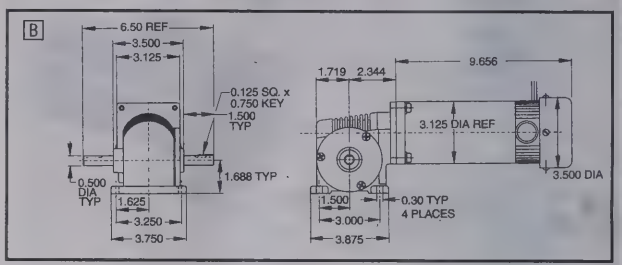
E47479 68769



B

Replacement Parts Available
1-800-323-0620



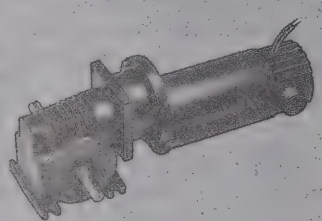




**Gearcase:** Die-cast aluminum
**Lubrication:** Oil filled
**Gears:** Worm, hardened steel; output gear bronze alloy
**Bearings:** Needle/ball on case; ball on motor
**Seals:** Lip-type on input and output shafts
**Mounting:** All position mount
**Rotation:** Reversible
**Thermal Protection:** None

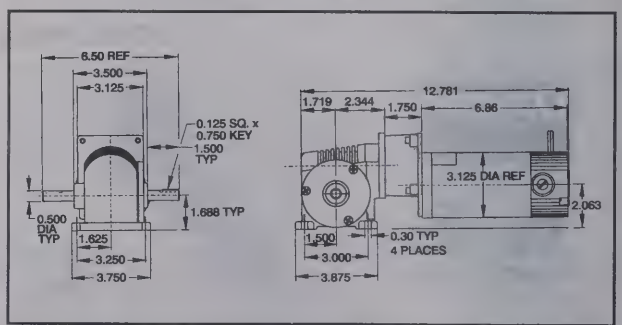
**Output Shaft:**
A 1/8 HP single shafted
B 1/4 HP double shafted
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** A TENV; B TEFC
**Warranty:** 2 Year

| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Full-Load Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **90 VDC PERMANENT MAGNET TENV** | | | | | | | | | | |
| **A** | 30 | 102 | 175 | 1/8 | 1.5 | 60:1 | **4Z138** | $430.00 | **$345.75** | 14.0 |
| **A** | 40 | 88 | 175 | 1/8 | 1.5 | 45:1 | **6A192** | 430.00 | **345.75** | 13.0 |
| **A** | 60 | 74 | 175 | 1/8 | 1.5 | 30:1 | **4Z137** | 430.00 | **345.75** | 15.0 |
| **A** | 90 | 59 | 175 | 1/8 | 1.5 | 20.5:1 | **4Z136** | 430.00 | **345.75** | 14.0 |
| **A** | 180 | 36 | 175 | 1/8 | 1.5 | 10.3:1 | **4Z135** | 430.00 | **345.75** | 15.0 |
| **90 VDC PERMANENT MAGNET TEFC** | | | | | | | | | | |
| **B** | 30 | 200 | 200 | 1/4 | 2.8 | 60:1 | **1L496** | 569.00 | **456.75** | 17.0 |
| **B** | 40 | 160 | 200 | 1/4 | 2.8 | 45:1 | **1L497** | 569.00 | **456.75** | 17.0 |
| **B** | 60 | 120 | 200 | 1/4 | 2.8 | 30:1 | **1L498** | 569.00 | **456.75** | 16.0 |
| **B** | 90 | 95 | 200 | 1/4 | 2.8 | 20.5:1 | **1L499** | 569.00 | **456.75** | 17.0 |
| **B** | 180 | 55 | 200 | 1/4 | 2.8 | 10.3:1 | **1L500** | 569.00 | **456.75** | 17.0 |

Dayton®



Replacement Parts Available
1-800-323-0620




**Gearcase:** Die-cast aluminum
**Lubrication:** Oil filled
**Gears:** 1st stage steel, helical; 2nd stage hardened steel worm, bronze alloy
**Bearings:** Needle/ball on case; ball on motor
**Seals:** Lip-type on input and output shafts
**Mounting:** All position mount
**Rotation:** Reversible
**Thermal Protection:** None
**Output Shaft:** 1/10 HP double shafted
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

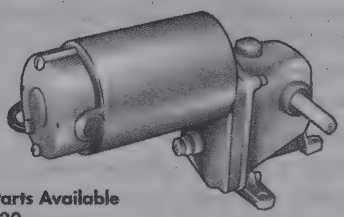
| Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Full-Load Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **90 VDC PERMANENT MAGNET TENV** | | | | | | | | | |
| **5** | 215 | 200 | 1/10 | 0.8 | 351:1 | **1L491** | $620.00 | **$498.25** | 14.0 |
| **22** | 200 | 200 | 1/10 | 1.3 | 81:1 | **1L492** | 620.00 | **498.25** | 15.0 |

# RIGHT ANGLE 90 VDC GEARMOTORS AND UNIVERSAL 115V AC/DC GEARMOTORS

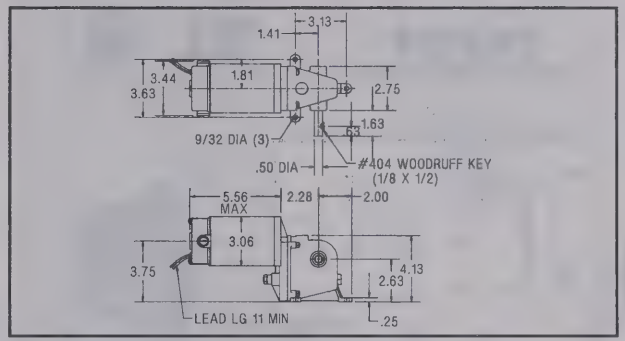
## 90 VDC RIGHT ANGLE GEARMOTORS

Dayton®

E47479



Replacement Parts Available
1-800-323-0620




**Gearcase:** Zinc die-cast
**Lubrication:** Grease packed
**Gears:** Input gear, steel; worm, hardened steel; output gear, cast iron
**Bearings:** Bronze sleeve on case; ball on motor
**Seals:** On output shaft
**Mounting:** All-position
**Rotation:** Reversible
**Thermal Protection:** None
**Brushes:** Externally replaceable
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Warranty:** 2 Year

FOR DIRECT MOUNT SPEED CONTROL, SEE PAGE191

### 90 VDC PERMANENT MAGNET TENV

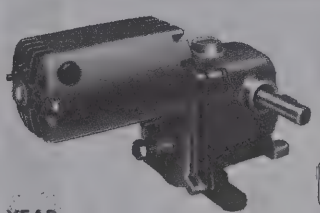
| Name-plate RPM | F/L Torque In.-Lbs. | Overhung Load Lbs. | Input HP | F/L Amps at 90 VDC | Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **3.2** | 340* | 100 | 1/12 | 0.80 | 525:1 | **4Z723** | $265.00 | **$214.00** | 10.0 |
| **6** | 177 | 100 | 1/12 | 0.83 | 275:1 | **4Z724** | 265.00 | **214.00** | 10.0 |
| **9.9** | 228 | 100 | 1/12 | 0.83 | 167:1 | **4Z725** | 265.00 | **214.00** | 10.0 |
| **23.5** | 102 | 100 | 1/12 | 0.83 | 70:1 | **4Z726** | 265.00 | **214.00** | 10.0 |
| **45** | 56 | 100 | 1/12 | 0.83 | 37:1 | **4Z727** | 265.00 | **214.00** | 10.0 |
| **89** | 34 | 100 | 1/10 | 0.89 | 37:1 | **4Z728** | 265.00 | **214.00** | 10.0 |

(*) Intermittent rating. If continuous application, rating is 250 in.-lbs.

## UNIVERSAL 115V AC/DC RIGHT ANGLE GEARMOTOR

Dayton®

E47479

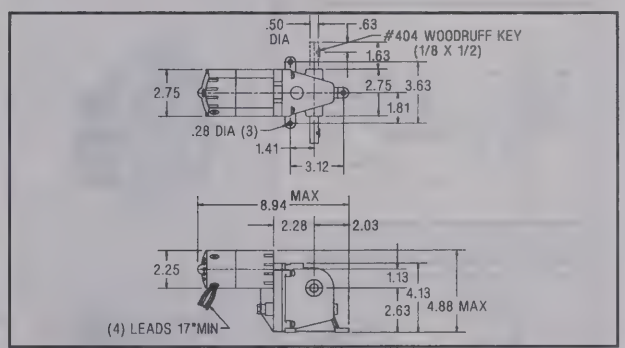


Right Hand Output

**DAYTON ONE-YEAR LIMITED WARRANTY**

Universal AC/DC gearmotors are warranted for one year. Text of warranty available; see page opposite inside back cover.

Speed Control Available, Order No. 4X796 below




**Gearcase:** Zinc die-cast
**Lubrication:** Grease packed
**Gears:** Input gear, phenolic and steel; output gear, cast iron
**Bearings:** Bronze sleeve on both case and motor
**Seals:** On output shaft
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Input HP:** 1/15
**Brushes:** Replaceable; approx. 300 hours life
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** Vented
**Speed Control:** Adaptable to No. 4X796
**Warranty:** 1 Year; See note by photo above

### UNIVERSAL 115V AC/DC 50/60 Hz

| Name-plate RPM | No Load Speed RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Gear Ratio | Full-Load Amps at 115V | Stock No.† Right Hand Output | Stock No.† Left Hand Output | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **2.8*** | 7 | 250 | 100 | 1787:1 | 1.3 | **2Z797** | **1L486** | $177.00 | **$149.55** | 6.0 |
| **6.7** | 15 | 162 | 100 | 745:1 | 1.3 | **2Z798** | **1L485** | 177.00 | **149.55** | 6.0 |
| **12.8** | 28 | 110 | 100 | 390:1 | 1.3 | **2Z799** | **1L484** | 177.00 | **149.55** | 6.0 |
| **21** | 50 | 100 | 100 | 238:1 | 1.3 | **2Z800** | **1L483** | 177.00 | **149.55** | 6.0 |
| **21** | 50 | 100 | 100 | 238:1 | 1.3 | **2Z801‡** | **—** | 177.00 | **149.55** | 6.1 |
| **50** | 120 | 45 | 100 | 100:1 | 1.3 | **2Z802** | **1L482** | 177.00 | **149.55** | 6.0 |
| **100** | 230 | 27 | 100 | 52:1 | 1.3 | **2Z803** | **1L481** | 177.00 | **149.55** | 6.2 |

(*) No. 1L486 is 4 RPM. (†) Output shaft viewed facing lead end of motor.
(‡) Double output shaft.

**REPLACEMENT ARMATURE AVAILABLE, CALL 1-800-323-0620**

### REPLACEMENT PARTS FOR AC/DC GEARMOTORS

**No. 2M184** Input 115V, 5000 RPM, AC/DC Motor. Shpg. wt. 2.7 lbs. List $89.00. Each.....**$72.85**

**No. 1R410** Replacement Brushes (Pkg. of 6). Shpg. wt. 0.1 lbs. List $24.00. Each.....**$20.21**

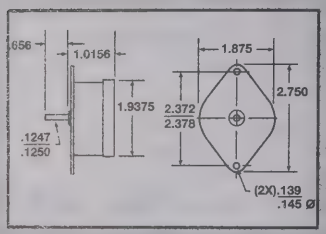
### SPEED CONTROL FOR AC/DC GEARMOTOR

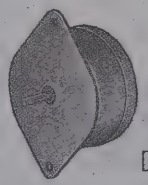
**No. 4X796.** 5 Amp Speed Control. Shpg. wt. 0.3 lbs. List .....$30.00. Each .....**$26.65**

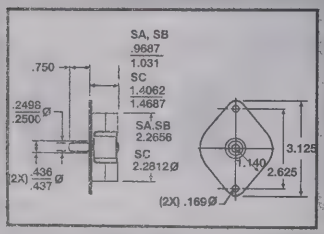
# REVERSIBLE SYNCHRONOUS MOTORS AND GEARMOTORS

**hurst**
INSTRUMENT MOTORS

LR42576

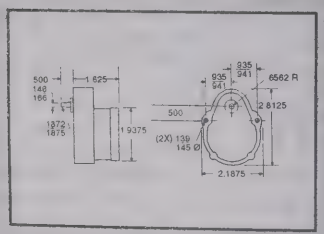


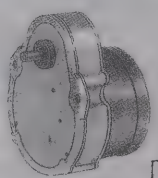


A

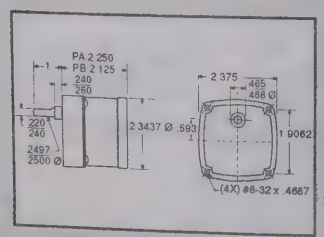


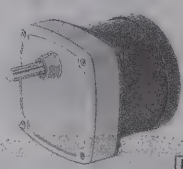


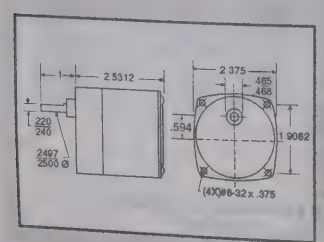
B

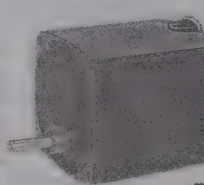




C





D





E

- **115V, 60 Hz motors and gearmotors**
- **For applications that require constant speed under rated load, such as vending machines, chemical mixers, or in medical or food processing systems**
- **Permanent magnet design provides more torque, positive stop and holding**
- **Compact and reversible**
- **Corrosion protection finish**
- **Quiet operation; rapid acceleration**

**Gearcase:** Gearmotors only have machined die-cast housing

**Lubrication:** Gearmotors only have grease lubrication

**Gears:** Gearmotors only have hardened steel gears

**Bearings:** Sintered bronze sleeve bearings

**Mounting:** All position

**Rotation:** Reversible

**Ambient:** 40°C

**Duty:** Continuous

**UL Recognition:** Models A and AB as Time-Indicating and Recording Appliances (E37163); Models SA, SB, SC, PA, PB, and T are impedance protected (E53578)

**Capacitor:** Included

| Key | Name-plate RPM | Full-Load Torque (In.-Oz.) | Hurst Model | Hurst Part No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | | **MOTORS** | | | | |
| A | 300 | 2.0 | A | 3001-001 | **6Z533** | $36.00 | **$28.50** | 0.9 |
| A | 600 | 2.3 | AB | 3005-001 | **6Z534** | 38.00 | **30.70** | 0.9 |
| B | 300 | 6 | SA | 4001-001 | **6A182** | 34.00 | **27.20** | 0.7 |
| B | 600 | 5.5 | SB | 4005-001 | **6A183** | 35.00 | **27.95** | 0.8 |
| B | 300 | 8.75 | SC | 4401-001 | **6A184** | 36.00 | **28.80** | 1.0 |
| | | | | **GEARMOTORS** | | | | |
| C | 1 | 150* | A | 3002-001 | **6Z535** | 61.00 | **49.15** | 0.9 |
| C | 2 | 131* | A | 3002-003 | **6Z536** | 61.00 | **48.85** | 0.9 |
| C | 4 | 110* | A | 3002-005 | **6Z537** | 55.00 | **44.40** | 0.9 |
| C | 6 | 105 | AB | 3006-002 | **6A188** | 66.00 | **52.55** | 1.0 |
| C | 10 | 88 | AB | 3006-004 | **6A189** | 58.00 | **46.75** | 0.9 |
| C | 12 | 73 | AB | 3006-005 | **6Z539** | 58.00 | **46.75** | 0.9 |
| C | 20 | 44 | AB | 3006-007 | **6Z540** | 60.00 | **47.90** | 0.9 |
| C | 30 | 29 | AB | 3006-009 | **6A190** | 60.00 | **48.15** | 0.9 |
| C | 60 | 16 | AB | 3006-013 | **6Z541** | 56.00 | **45.10** | 0.9 |
| C | 120 | 8 | AB | 3006-014 | **6Z542** | 56.00 | **44.85** | 0.9 |
| D | 1 | 200* | PA | 3202-003 | **6A173** | 81.00 | **65.05** | 1.2 |
| D | 2 | 174* | PA | 3202-007 | **6A174** | 75.00 | **60.00** | 1.2 |
| D | 4 | 152* | PA | 3202-011 | **6A175** | 76.00 | **61.30** | 1.1 |
| D | 6 | 140* | PA | 3202-014 | **6A176** | 70.00 | **55.85** | 1.2 |
| D | 10 | 126* | PA | 3202-017 | **6A177** | 70.00 | **55.85** | 1.2 |
| D | 30 | 77 | PB | 3204-019 | **6A178** | 70.00 | **56.15** | 1.3 |
| D | 60 | 41 | PB | 3204-024 | **6A179** | 63.00 | **50.85** | 1.2 |
| D | 120 | 20 | PB | 3204-026 | **6A180** | 62.00 | **49.95** | 1.3 |
| D | 360 | 6 | PB | 3204-033 | **6A181** | 70.00 | **56.40** | 1.3 |
| E | 1 | 250* | T | 2602-001 | **6Z131** | 97.00 | **77.85** | 2.0 |
| E | 2 | 233* | T | 2602-004 | **6A185** | 92.00 | **73.75** | 2.0 |
| E | 4 | 218* | T | 2602-012 | **6Z132** | 94.00 | **75.25** | 2.0 |
| E | 6 | 210* | T | 2602-013 | **6A186** | 84.00 | **67.85** | 2.0 |
| E | 10 | 180* | T | 2602-006 | **6Z133** | 84.00 | **67.85** | 2.0 |
| E | 30 | 64 | T | 2602-014 | **6Z134** | 81.00 | **64.70** | 2.0 |
| E | 60 | 32 | T | 2602-009 | **6Z135** | 80.00 | **64.45** | 2.0 |
| E | 120 | 16 | T | 2602-015 | **6A187** | 84.00 | **67.10** | 2.0 |

(*) Maximum gear train loading.

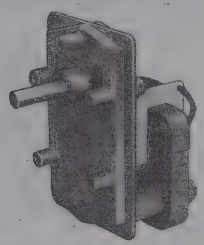
**A WIDE SELECTION OF BEARINGS AND BEARING ACCESSORIES IS AVAILABLE, SEE PAGES 327 THRU 346.**

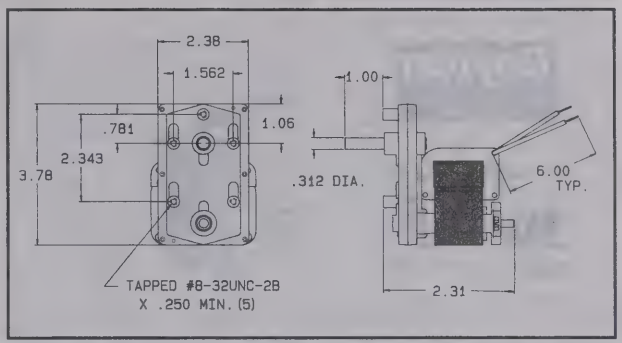
# SUBFRACTIONAL AC GEARMOTORS

Dayton®

For 60 Hz Model

E40077 31462






**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Delrin and steel
**Bearings:** Porous bronze sleeve on both case and motor
**Mounting:** All position
**Rotation:** CW facing output shaft
**Thermal Protection:** Impedance, No. 3M098 only
**Warranty:** 2 Year

## SHADED POLE

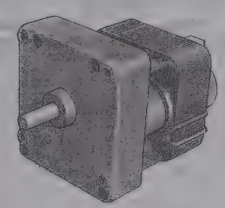
| Torque In.-Lbs. Start | Run | Overhung Load (Lbs.) | Input HP | Gear Ratio | 115V, 60 Hz Nameplate RPM | 115V, 60 Hz Full-Load Amps | 115V, 60 Hz Stock No. | 220-240V, 50 Hz Nameplate RPM | 220-240V, 50 Hz Full-Load Amps | 220-240V, 50 Hz Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 18 | 3.5 | 1/250 | 734:1 | 4 | 0.32 | **3M098** | 3.3 | 0.14 | **1L452** | $35.91 | **$32.65** | 1.7 |

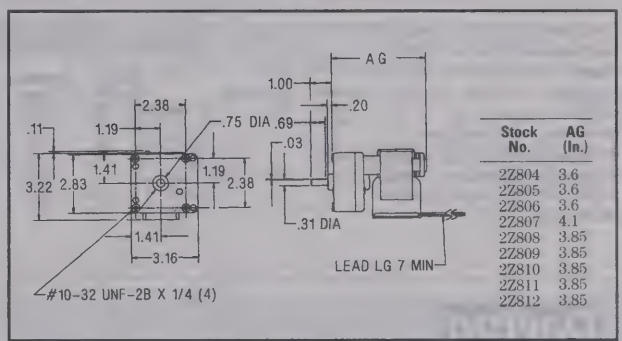
**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

Dayton®

E40077
E47479

**Replacement Parts Available**
**1-800-323-0620**™






| Stock No. | AG (In.) |
|---|---|
| 2Z804 | 3.6 |
| 2Z805 | 3.6 |
| 2Z806 | 3.6 |
| 2Z807 | 4.1 |
| 2Z808 | 3.85 |
| 2Z809 | 3.85 |
| 2Z810 | 3.85 |
| 2Z811 | 3.85 |
| 2Z812 | 3.85 |

**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Heat treated cut steel and acetal
**Bearings:** Porous bronze sleeve on both case and motor
**Mounting:** All position
**Rotation:** CW facing output shaft
**Thermal Protection:** Impedance
**Warranty:** 2 Year

## SHADED POLE—115V, 60 Hz

| Torque In.-Lbs. Start | Run | Overhung Load (Lbs.) | Input HP | Gear Ratio | Nameplate RPM | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 50 | 50 | 1/400 | 2965:1 | 1 | 0.3 | **2Z804** | $54.00 | **$45.90** | 2.5 |
| **25** | 25 | 50 | 1/400 | 1471:1 | 2 | 0.4 | **2Z805** | 54.00 | **45.90** | 2.6 |
| **21.50** | 22.5 | 50 | 1/330 | 495:1 | 6 | 0.4 | **2Z806** | 54.00 | **45.90** | 2.3 |
| **25** | 25.7 | 50 | 1/135 | 250:1 | 12 | 0.4 | **2Z807** | 54.00 | **45.90** | 3.3 |
| **10.50** | 15.2 | 50 | 1/120 | 149:1 | 20 | 0.5 | **2Z808** | 54.00 | **45.90** | 3.8 |
| **6.50** | 11.6 | 50 | 1/120 | 96:1 | 30 | 0.5 | **2Z809** | 54.00 | **45.90** | 3.3 |
| **3.25** | 4.7 | 50 | 1/120 | 48:1 | 60 | 0.4 | **2Z810** | 54.00 | **45.90** | 3.3 |
| **1.50** | 2.7 | 50 | 1/120 | 24:1 | 120 | 0.4 | **2Z811** | 54.00 | **45.90** | 3.5 |
| **0.75** | 1.18 | 50 | 1/120 | 15:1 | 200 | 0.4 | **2Z812** | 54.00 | **45.90** | 3.5 |

**DON'T FORGET THE BACK OF THE BOOK!**
**MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

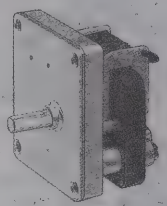
**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# SUBFRACTIONAL AC GEARMOTORS

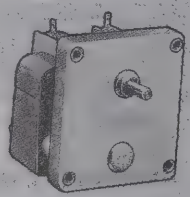
Dayton

For 60 Hz Models

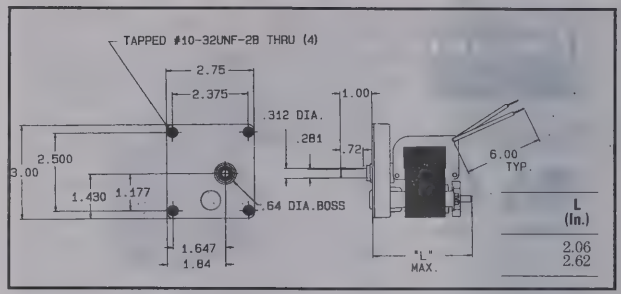
E40077 31462



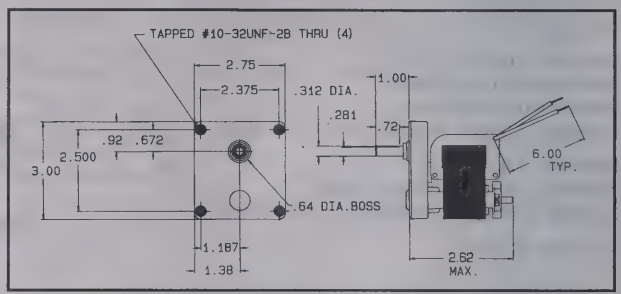
A



B




| L (In.) |
|---|
| 2.06 |
| 2.62 |




**Gearcase:** Zinc die-cast with steel cover
**Lubrication:** Grease filled
**Gears:** Delrin and steel
**Bearings:** Porous bronze sleeve on both case and motor
**Mounting:** All position
**Rotation:** CW facing output shaft
**Thermal Protection:** Impedance, only for 115V, 60 Hz Stock Nos.
**Warranty:** 2 Year

## SHADED POLE

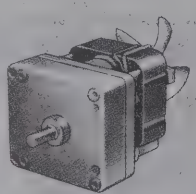
| Key | Torque In.-Lbs. Start | Torque In.-Lbs. Run | Overhung Load Lbs. | Input HP | Gear Ratio | 115V, 60 Hz Name-plate RPM | 115V, 60 Hz Full-Load Amps | 115V, 60 Hz Stock No. | 220-240V, 50 Hz Name-plate RPM | 220-240V, 50 Hz Full-Load Amps | 220-240V, 50 Hz Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 50 | 50 | 3.5 | 1/250 | 2645:1 | 1 | 0.32 | **3M095** | 0.9 | 0.2 | **1L449** | $38.28 | **$34.80** | 1.8 |
| **A** | 27 | 35 | 3.5 | 1/100 | 439:1 | 7 | 0.55 | **3M096** | 5.8 | 0.3 | **1L450** | 38.28 | **34.80** | 2.7 |
| **B** | 9.5 | 13 | 3.5 | 1/100 | 166:1 | 18 | 0.55 | **3M099** | 16 | 0.3 | **1L453** | 38.28 | **34.80** | 2.5 |
| **B** | 6.75 | 9.25 | 3.5 | 1/100 | 125:1 | 25 | 0.55 | **3M100** | 21 | 0.3 | **1L454** | 38.28 | **34.80** | 2.7 |
| **B** | 5 | 7 | 3.5 | 1/100 | 90.4:1 | 35 | 0.55 | **3M101** | 29 | 0.3 | **1L455** | 38.28 | **34.80** | 2.7 |
| **B** | 3 | 4 | 3.5 | 1/100 | 65.6:1 | 50 | 0.55 | **3M097** | 41 | 0.3 | **1L451** | 38.28 | **34.80** | 2.5 |

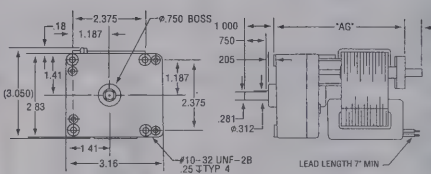
Dayton

New

E37403
E47479
E61921

E37403 36496






| Stock No. | AG (In.) |
|---|---|
| 4LL05 | 3.90 |
| 4LL06 | 3.90 |
| 4LL07 | 4.40 |
| 4LL08 | 4.23 |
| 4LL09 | 4.23 |

**Gearcase:** Gasketed zinc die-cast with screws
**Lubrication:** Grease filled
**Gears:** Hardened steel and phenolic
**Bearings:** Roller on case; ball and porous bronze sleeve on motor
**Mounting:** All position
**Rotation:** CW facing output shaft
**Thermal Protection:** Auto
**Insulation Class:** B
**Warranty:** 2 Year

## SHADED POLE—115V, 60/50 Hz*

| Torque In.-Lbs. Start | Torque In.-Lbs. Run | Overhung Load Lbs. | Input HP | Gear Ratio | Name-plate RPM | Full-Load Amps at 115V | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **100** | 100 | 65 | 1/100 | 3077:1 | 1 | 0.50 | **4LL05** | $75.00 | **$59.95** | 3.7 |
| **40** | 50 | 50 | 1/100 | 476:1 | 6 | 0.50 | **4LL06** | 70.00 | **56.20** | 3.7 |
| **40** | 50 | 22 | 1/85 | 261:1 | 12 | 1.10 | **4LL07** | 70.00 | **56.45** | 4.2 |
| **4** | 5 | 2.6 | 1/45 | 15:1 | 200 | 1.30 | **4LL08** | 70.00 | **56.45** | 4.2 |
| **3** | 3.3 | 1.5 | 1/45 | 9:1 | 360 | 1.40 | **4LL09** | 70.00 | **56.45** | 4.6 |

(*) All ratings are at 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz rating for HP and RPM.

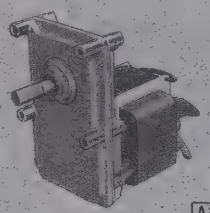
**PARTS AVAILABLE FOR ALL AC GEARMOTORS, CALL 1-800-323-0620**

# SUBFRACTIONAL AC GEARMOTORS

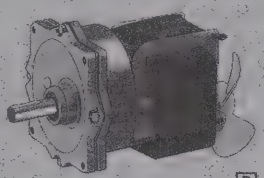
Dayton

For 60 Hz Models

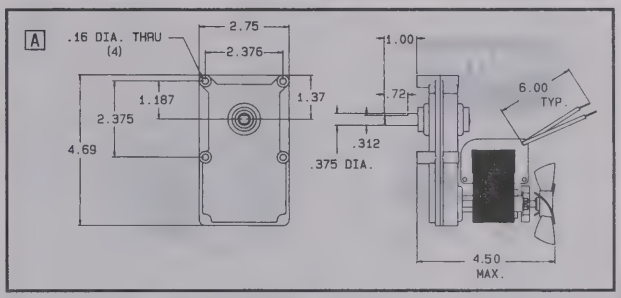
E47479

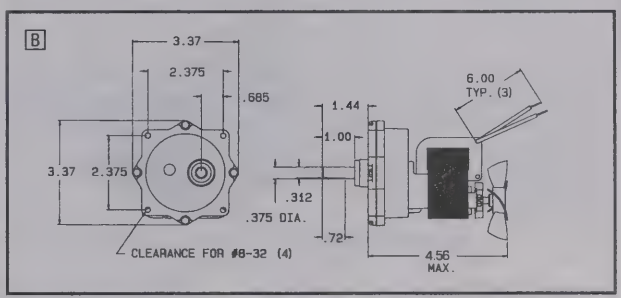


A



B



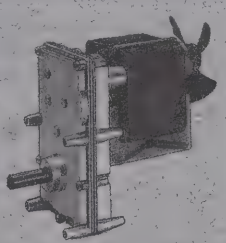

**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Phenolic, sintered and cut steel
**Bearings:** Porous bronze sleeve on both case and motor
**Mounting:** All position
**Rotation:** CW facing output shaft
**Thermal Protection:** None
**Warranty:** 2 Year

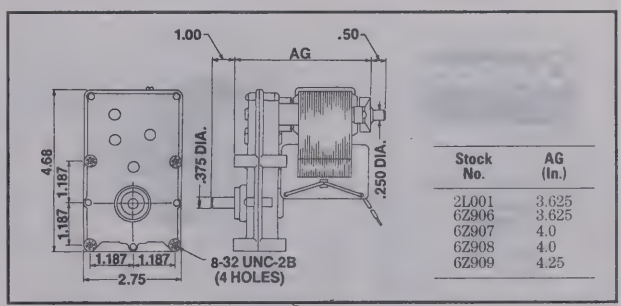
## SHADED POLE

| Key | Torque In.-Lbs. Start | Torque In.-Lbs. Run | Overhung Load Lbs. | Input HP | Gear Ratio | 115V, 60 Hz Nameplate RPM | 115V, 60 Hz Full-Load Amps | 115V, 60 Hz Stock No. | 220-240V, 50 Hz Nameplate RPM | 220-240V, 50 Hz Full-Load Amps | 220-240V, 50 Hz Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 100 | 120 | 7 | 1/60 | 525:1 | 6 | 1.65 | **3M104** | 5 | 0.7 | **1L457** | $68.53 | **$62.30** | 4.3 |
| **B** | 50 | 65 | 7 | 1/60 | 291:1 | 10 | 1.65 | **3M103** | 8.3 | 0.7 | **1L456** | 84.86 | **77.15** | 4.1 |
| **A** | 21.5 | 21.5 | 7 | 1/60 | 126:1 | 25 | 1.5 | **4Z146** | 21 | 0.7 | **1L458** | 68.53 | **62.30** | 4.4 |
| **A** | 10 | 12 | 7 | 1/60 | 63.6:1 | 50 | 1.2 | **4Z147** | 42 | 0.7 | **1L459** | 68.53 | **62.30** | 4.4 |

Dayton

E47449 E37403 36496
E61921






| Stock No. | AG (In.) |
|---|---|
| 2L001 | 3.625 |
| 6Z906 | 3.625 |
| 6Z907 | 4.0 |
| 6Z908 | 4.0 |
| 6Z909 | 4.25 |

**Gearcase:** Zinc die-cast with screws and gasketed cover
**Lubrication:** Grease filled
**Gears:** Hardened steel and phenolic
**Bearings:** Roller on case; ball and porous bronze sleeve on motor
**Mounting:** All position
**Rotation:** CW facing output shaft
**Thermal Protection:** Auto (UL for USA and Canada)
**Insulation Class:** B
**Warranty:** 2 Year

## SHADED POLE—115V, 60/50 Hz*

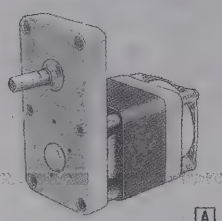
| Torque In.-Lbs. Start | Torque In.-Lbs. Run | Overhung Load Lbs. | Input HP | Gear Ratio | Nameplate RPM | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **80** | 100 | 56 | 1/100 | 2685.27:1 | 1 | 0.55 | **2L001** | $80.00 | **$62.45** | 3.6 |
| **80** | 130 | 56 | 1/90 | 786.61:1 | 4 | 0.77 | **6Z906** | 80.00 | **62.45** | 3.0 |
| **125** | 150 | 65 | 1/85 | 562.52:1 | 6 | 1.12 | **6Z907** | 80.00 | **62.45** | 4.8 |
| **25** | 45 | 15 | 1/85 | 124.11:1 | 25 | 1.19 | **6Z908** | 80.00 | **62.45** | 4.8 |
| **15** | 25 | 10 | 1/45 | 60.71:1 | 50 | 1.43 | **6Z909** | 80.00 | **62.45** | 4.9 |

(*) All ratings are at 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

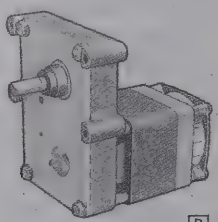
# SUBFRACTIONAL AC AND AC BRAKE TYPE GEARMOTORS

Dayton®

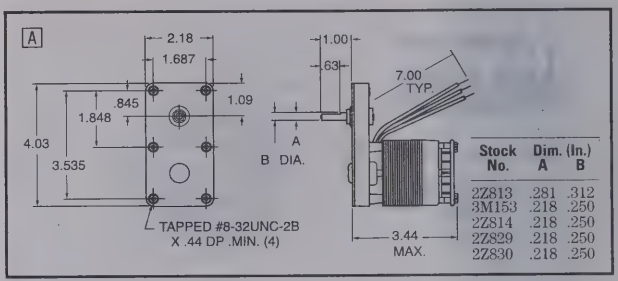
E47479 31462



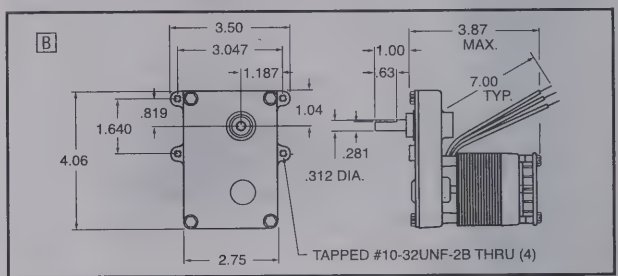
A



B




| Stock No. | Dim. (In.) A | B |
|---|---|---|
| 2Z813 | .281 | .312 |
| 3M153 | .218 | .250 |
| 2Z814 | .218 | .250 |
| 2Z829 | .218 | .250 |
| 2Z830 | .218 | .250 |




**Gearcase:** Zinc die-cast with steel cover
**Lubrication:** Grease filled
**Gears:** Phenolic and steel
**Bearings:** Porous bronze sleeve on both case and motor
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Capacitor:** Required, order No. 6X652 separately
**Warranty:** 2 Year

## PSC—115V, 60/50 Hz*

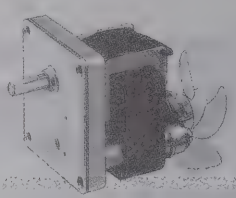
| Key | Torque In.-Lbs. Start | Run | Overhung Load Lbs. | Input HP | Gear Ratio | Name-plate RPM | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 45 | 30 | 3.5 | 1/100 | 286:1 | 4 | 0.3 | **2Z813** | $53.68 | **$48.80** | 2.4 | 6X652 | $4.62 |
| B | 31 | 26 | 3.5 | 1/100 | 286:1 | 10 | 0.3 | **3M154** | 69.57 | **63.25** | 3.0 | 6X652 | 4.62 |
| A | 18 | 13 | 3.5 | 1/100 | 140:1 | 20 | 0.3 | **3M153** | 53.68 | **48.80** | 2.4 | 6X652 | 4.62 |
| A | 10 | 7.5 | 3.5 | 1/100 | 98.5:1 | 30 | 0.3 | **2Z814** | 53.68 | **48.80** | 2.4 | 6X652 | 4.62 |
| A | 7 | 4 | 3.5 | 1/100 | 50.5:1 | 60 | 0.3 | **2Z829** | 53.68 | **48.80** | 2.4 | 6X652 | 4.62 |
| A | 3.5 | 2 | 3.5 | 1/100 | 30.9:1 | 100 | 0.3 | **2Z830** | 53.68 | **48.80** | 2.3 | 6X652 | 4.62 |

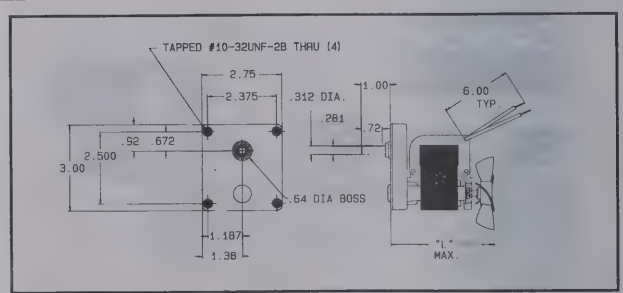
(*) All ratings are at 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

Dayton®

For 60 Hz Models

E47479






**Gearcase:** Zinc die-cast with steel cover
**Lubrication:** Grease filled
**Gears:** Sintered steel and phenolic
**Bearings:** Porous bronze sleeve on both case and motor
**Mounting:** All position on models with magnetic brake; output shaft horizontal only on models with cone brake
**Rotation:** CW facing output shaft
**Thermal Protection:** None
**Warranty:** 2 Year

| Torque In.-Lbs. Start | Run | Overhung Load Lbs. | Input HP | Gear Ratio | 115V, 60 Hz Name-plate RPM | Full-Load Amps | Stock No. | 220-240V, 50 Hz Name-plate RPM | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, MAGNETIC BRAKE** | | | | | | | | | | | | | |
| **11** | 13 | 3.5 | 1/70 | 125:1 | 25 | 0.75 | **3M257** | 21 | 0.36 | **1L466** | $53.51 | **$48.65** | 2.9 |
| **4.5** | 6 | 3.5 | 1/70 | 65.6:1 | 50 | 0.75 | **3M258** | 42 | 0.36 | **1L465** | 52.58 | **47.80** | 3.0 |
| **SHADED POLE, CONE BRAKE** | | | | | | | | | | | | | |
| **11** | 13 | 3.5 | 1/70 | 125:1 | 25 | 0.75 | **3M102** | 21 | 0.36 | **1L468** | 47.46 | **43.15** | 2.6 |
| **4.5** | 6 | 3.5 | 1/70 | 65.6:1 | 50 | 0.75 | **3M288** | 42 | 0.36 | **1L467** | 47.24 | **42.95** | 2.7 |

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**



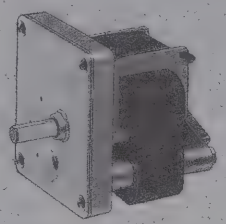
*We deliver the products that deliver the power.*

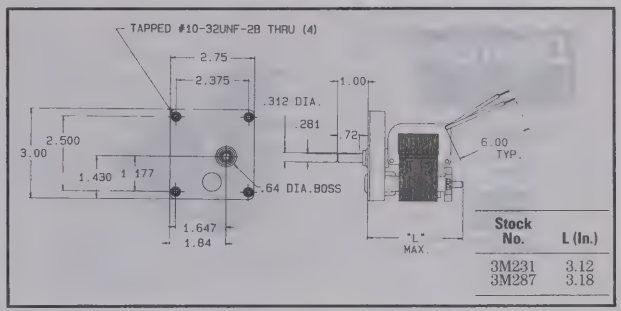
# SUBFRACTIONAL AC GEARMOTORS BRAKE TYPE

Dayton

For 60 Hz Models

E40077 31462






| Stock No. | L (In.) |
|---|---|
| 3M231 | 3.12 |
| 3M287 | 3.18 |

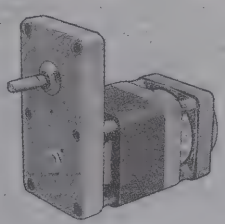
**Gearcase:** Zinc die-cast with steel cover
**Lubrication:** Grease filled
**Gears:** Sintered steel
**Bearings:** Porous bronze sleeve on both case and motor
**Mounting:** All position on models with magnetic brake; output shaft horizontal only on models with cone brake
**Rotation:** CW facing output shaft
**Thermal Protection:** Impedance, only for Nos. 3M231 and 3M287
**Brake:** Magnetic clapper type or cone type
**Warranty:** 2 Year

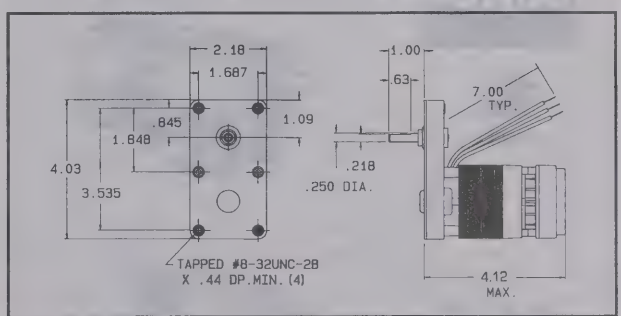
| Torque In.-Lbs. Start | Torque In.-Lbs. Run | Overhung Load Lbs. | Input HP | Gear Ratio | 115V, 60 Hz Name-plate RPM | 115V, 60 Hz Full-Load Amps | 115V, 60 Hz Stock No. | 220-240V, 50 Hz Name-plate RPM | 220-240V, 50 Hz Full-Load Amps | 220-240V, 50 Hz Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, MAGNETIC BRAKE** | | | | | | | | | | | | | |
| **22** | 30 | 3.5 | 1/100 | 439:1 | 7 | 0.55 | **3M231** | 5.8 | 0.19 | **1L464** | $51.81 | **$47.10** | 3.0 |
| **SHADED POLE, CONE BRAKE** | | | | | | | | | | | | | |
| **22** | 30 | 3.5 | 1/100 | 439:1 | 7 | 0.55 | **3M287** | 5.8 | 0.3 | **1L463** | 47.63 | **43.30** | 2.7 |

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

Dayton

E47479






**Gearcase:** Zinc die-cast with steel cover
**Lubrication:** Grease filled
**Gears:** Phenolic and steel
**Bearings:** Porous bronze sleeve on both case and motor
**Mounting:** Output shaft horizontal only
**Rotation:** Reversible
**Thermal Protection:** None
**Brake:** Spring-loaded friction type
**Capacitor:** Required, order No. 6X652 separately
**Warranty:** 2 Year

**PSC, FRICTION-TYPE BRAKE—115V, 60/50 Hz***

| Torque In.-Lbs. Start | Torque In.-Lbs. Run | Overhung Load Lbs. | Input HP | Gear Ratio | Name-plate RPM | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Capacitor Req'd. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **56** | 42 | 3.5 | 1/100 | 2645:1 | 1 | 0.35 | **4Z451** | $60.55 | **$55.05** | 0.3 | 6X652 | **$4.62** |
| **35** | 26 | 3.5 | 1/100 | 758:1 | 4 | 0.35 | **4Z452** | 60.55 | **55.05** | 0.3 | 6X652 | **4.62** |
| **24** | 18 | 3.5 | 1/100 | 439:1 | 7 | 0.35 | **4Z453** | 60.55 | **55.05** | 0.3 | 6X652 | **4.62** |
| **15** | 11 | 3.5 | 1/100 | 250:1 | 12 | 0.35 | **4Z454** | 60.55 | **55.05** | 0.3 | 6X652 | **4.62** |
| **11** | 8 | 3.5 | 1/100 | 173:1 | 18 | 0.35 | **4Z455** | 60.55 | **55.05** | 0.3 | 6X652 | **4.62** |
| **8** | 6 | 3.5 | 1/100 | 125:1 | 25 | 0.35 | **4Z456** | 60.55 | **55.05** | 0.3 | 6X652 | **4.62** |
| **5** | 4 | 3.5 | 1/100 | 90.4:1 | 36 | 0.35 | **4Z457** | 60.55 | **55.05** | 0.3 | 6X652 | **4.62** |
| **3.5** | 2.6 | 3.5 | 1/100 | 58.6:1 | 55 | 0.35 | **4Z458** | 60.55 | **55.05** | 0.3 | 6X652 | **4.62** |
| **2** | 1.5 | 3.5 | 1/100 | 30.9:1 | 98 | 0.35 | **4Z459** | 60.55 | **55.05** | 0.3 | 6X652 | **4.62** |

(*) Ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.


## GRAINGER HAS OVER 350 BRANCHES NATIONWIDE

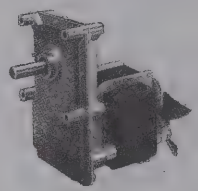
We're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who care about your business. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

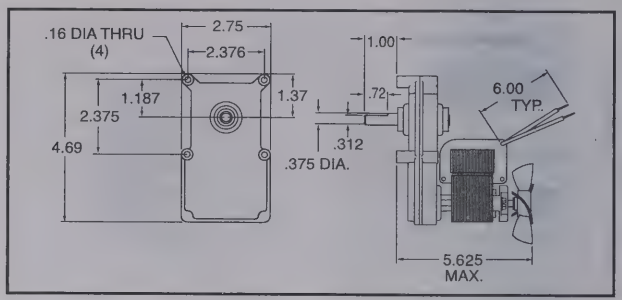
# SUBFRACTIONAL AC GEARMOTORS BRAKE TYPE

Dayton®

For 60 Hz Models Only

E47479






**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Phenolic and steel
**Bearings:** Porous bronze sleeve on both case and motor
**Mounting:** All position
**Rotation:** CW facing output shaft
**Thermal Protection:** None
**Brake:** Magnetic clapper type
**Warranty:** 2 Year

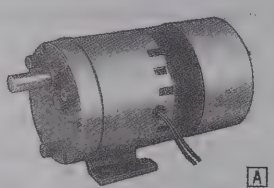
## SHADED POLE, MAGNETIC BRAKE

| Torque In-Lbs. Start | Run | Overhung Load Lbs. | Input HP | Gear Ratio | 115V, 60 Hz Nameplate RPM | Full-Load Amps | Stock No. | 220-240V, 50 Hz Nameplate RPM | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **72** | 72 | 7 | 1/60 | 525:1 | 6 | 1.4 | **4Z148** | 5 | 0.65 | **1L462** | $78.70 | **$71.55** | 4.5 |
| **18** | 21 | 7 | 1/60 | 126:1 | 25 | 1.5 | **4Z149** | 21 | 0.65 | **1L461** | 78.70 | **71.55** | 4.5 |
| **9** | 12 | 7 | 1/60 | 63.6:1 | 50 | 1.2 | **4Z150** | 42 | 0.65 | **1L460** | 78.70 | **71.55** | 4.5 |

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

Dayton®

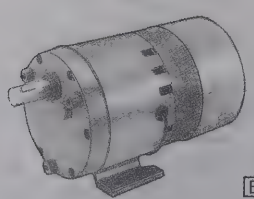
E47479



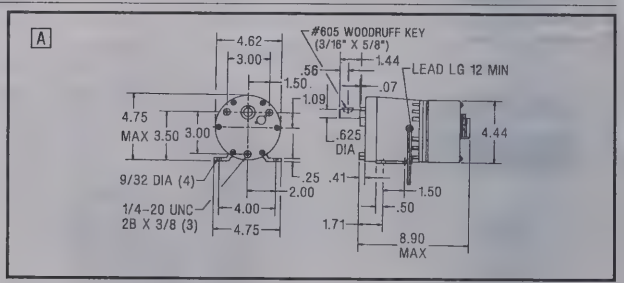
A

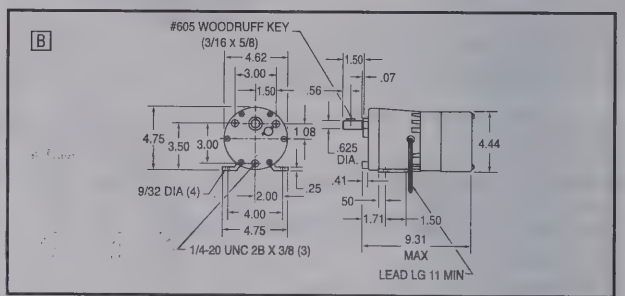
For All "3M" Stock Nos. Only

42492



B




**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Phenolic and steel
**Bearings:** Porous bronze sleeve on case; ball on motor
**Seals:** On output shafts
**Mounting:** All position
**Rotation:** CW facing output shaft
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** Open fan cooled
**Brake:** [A] Ratchet pawl type
**Warranty:** 2 Year

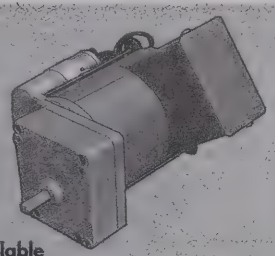
| Key | Nameplate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, OPEN FAN COOLED, RATCHET PAWL-TYPE BRAKE—115V, 60 Hz** | | | | | | | | | | |
| **A** | 2 | 113 | 150 | 1/10 | 739:1 | 2.6 | **1L490** | $233.00 | **$191.75** | 12.0 |
| **A** | 6 | 113 | 150 | 1/10 | 250:1 | 2.6 | **1L489** | 233.00 | **191.75** | 12.0 |
| **A** | 12 | 113 | 150 | 1/10 | 128:1 | 2.6 | **1L488** | 233.00 | **191.75** | 12.0 |
| **A** | 30 | 113 | 150 | 1/10 | 26.6:1 | 2.6 | **3M158** | 233.00 | **191.75** | 12.0 |
| **A** | 60 | 59 | 150 | 1/10 | 52:1 | 2.6 | **1L487** | 233.00 | **191.75** | 12.0 |
| **SHADED POLE, OPEN FAN COOLED, NO BRAKE—115V, 60 Hz** | | | | | | | | | | |
| **B** | 6 | 113 | 150 | 1/10 | 250:1 | 2.1 | **3M135** | 187.00 | **153.75** | 12.0 |
| **B** | 12 | 113 | 150 | 1/10 | 128:1 | 2.1 | **3M136** | 187.00 | **153.75** | 12.0 |
| **B** | 30 | 113 | 150 | 1/10 | 52:1 | 2.1 | **3M137** | 187.00 | **153.75** | 12.0 |
| **B** | 60 | 59 | 150 | 1/10 | 26.6:1 | 2.1 | **3M138** | 187.00 | **153.75** | 12.0 |

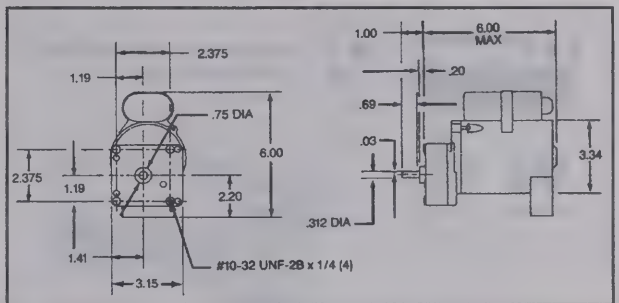
# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

Dayton

E47479 42492

Replacement Parts Available
1-800-323-0620






**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Steel, first stage Celcon
**Bearings:** Sleeve on both case and motors
**Seals:** On output shaft
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Capacitor:** Included
**Warranty:** 2 Year

## PSC, TENV—115/230V, 60/50 Hz*

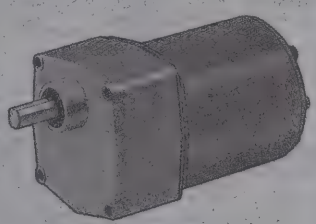
| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V/230V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **3.5** | 50 | 50 | 1/250 | 975:1 | 0.42/0.35 | **1L548** | $126.00 | **$101.40** | 7.0 |
| **7** | 50 | 50 | 1/125 | 482:1 | 0.42/0.35 | **1L549** | 126.00 | **101.40** | 6.9 |
| **35** | 50 | 50 | 1/25 | 98:1 | 0.56/0.38 | **1L550** | 126.00 | **101.40** | 6.0 |
| **67** | 30 | 50 | 1/25 | 50:1 | 0.61/0.38 | **1L551** | 126.00 | **101.40** | 7.5 |
| **107** | 20 | 50 | 1/20 | 31:1 | 0.64/0.38 | **1L552** | 126.00 | **101.40** | 6.0 |
| **185** | 12 | 50 | 1/20 | 18:1 | 0.65/0.39 | **1L553** | 126.00 | **101.40** | 6.0 |

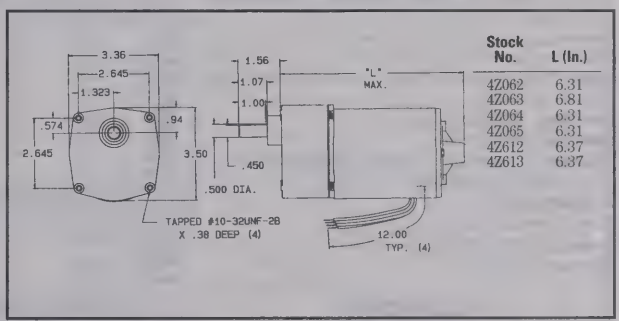
(*) Ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

Dayton

E47479






| Stock No. | L (In.) |
|---|---|
| 4Z062 | 6.31 |
| 4Z063 | 6.81 |
| 4Z064 | 6.31 |
| 4Z065 | 6.31 |
| 4Z612 | 6.37 |
| 4Z613 | 6.37 |

**Gearcase:** Die-cast alloy
**Lubrication:** Grease filled
**Gears:** Phenolic, sintered and cut steel
**Bearings:** Heavy-duty needle on output shaft on case; ball on motor
**Seals:** Grease seals on input and output shafts
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TENV
**Brake:** Adaptable to No. 5X400 brake
**Capacitor:** Required, order No. 6X653 separately
**Warranty:** 2 Year

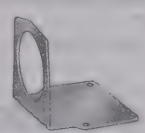
## PSC, TENV—115V, 60/50 Hz*

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **14** | 67 | 50 | 1/60 | 108.6:1 | 0.38 | **4Z062** | $140.30 | **$127.55** | 6.7 | 6X653 | $4.16 |
| **28** | 50 | 50 | 1/25 | 58.1:1 | 0.51 | **4Z063** | 140.30 | **127.55** | 7.4 | 6X653 | 4.16 |
| **54** | 30 | 50 | 1/25 | 28.7:1 | 0.51 | **4Z064** | 135.96 | **123.60** | 6.3 | 6X653 | 4.16 |
| **95** | 20 | 50 | 1/25 | 15.7:1 | 0.59 | **4Z065** | 135.96 | **123.60** | 6.5 | 6X653 | 4.16 |
| **124** | 14 | 50 | 1/25 | 11.8:1 | 0.51 | **4Z612** | 135.96 | **123.60** | 6.8 | 6X653 | 4.16 |
| **154** | 12 | 50 | 1/25 | 10.5:1 | 0.59 | **4Z613** | 135.96 | **123.60** | 6.8 | 6X653 | 4.16 |

(*) Ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

**Optional Mounting Bracket** for Nos. 6Z910 thru 6Z916, 2H561, 2H563, 2H565, 2H567, and 2H569 attaches to face of gear box to provide floor, wall or ceiling mount. Includes steel bracket and four screws. Dayton brand.

**No. 2A754.** Shpg. wt. 0.7 lbs. List $14.00. Each .....$10.84



**UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY**

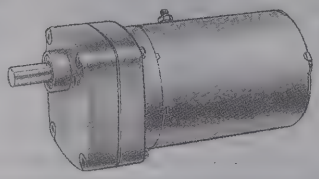
**Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.**

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

Dayton

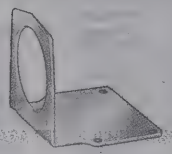
Replacement Parts Available 1-800-323-0620

E47479 6319

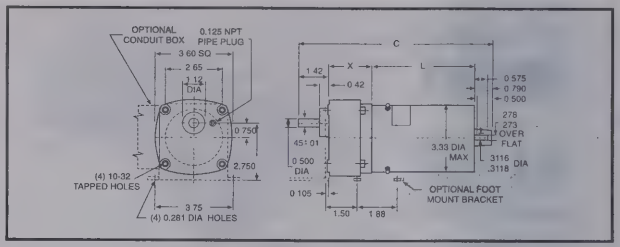




No. 4JV45 Conduit Box



No. 2A754 Optional Mounting Bracket




| Stock No. | Dimensions (Inches) L | C | X | Stock No. | Dimensions (Inches) L | C | X |
|---|---|---|---|---|---|---|---|
| 6A195 | 4.09 | 8.40 | 2.10 | 1L526 | 4.92 | 9.23 | 2.10 |
| 6A196 | 4.34 | 8.65 | 2.10 | 1L529 | 4.92 | 9.23 | 2.10 |
| 6A197 | 4.34 | 8.65 | 2.10 | 1L531 | 4.92 | 9.23 | 2.10 |
| 6A198 | 4.09 | 8.40 | 2.10 | 1L532 | 4.11 | 9.12 | 2.80 |
| 6Z073 | 3.46 | 8.47 | 2.80 | 1L517 | 4.92 | 9.23 | 2.10 |
| 6Z074 | 3.46 | 8.47 | 2.80 | 1L520 | 4.92 | 9.23 | 2.10 |
| 6Z075 | 3.46 | 8.47 | 2.80 | 1L523 | 4.92 | 9.23 | 2.10 |
| 6Z076 | 3.46 | 8.47 | 2.80 | 1L527 | 4.92 | 9.23 | 2.10 |
| 6Z077 | 4.09 | 8.40 | 2.10 | 1L528 | 4.92 | 9.23 | 2.10 |
| 6Z078 | 4.09 | 8.40 | 2.10 | 1L530 | 4.92 | 9.23 | 2.10 |
| 1L518 | 4.92 | 9.23 | 2.10 | 6Z079 | 4.09 | 8.40 | 2.10 |
| 1L519 | 4.11 | 9.12 | 2.80 | 6Z080 | 4.34 | 8.65 | 2.10 |
| 1L521 | 4.92 | 9.23 | 2.10 | 6Z081 | 4.34 | 8.65 | 2.10 |
| 1L522 | 4.11 | 9.12 | 2.80 | 6Z082 | 4.34 | 8.65 | 2.10 |
| 1L524 | 4.92 | 9.23 | 2.10 | 6Z083 | 4.34 | 8.65 | 2.10 |
| 1L525 | 4.11 | 9.12 | 2.80 | 6Z084 | 4.34 | 8.65 | 2.10 |

**Gearcase:** Die-cast aluminum
**Lubrication:** Permanent heavy gear oil
**Gears:** 1st stage steel, helical; subsequent stages steel or heat treated powdered metal spur
**Bearings:** Heavy-duty needle on output shaft on case; ball on motor
**Seals:** Spring-loaded lip-type on input and output shafts
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None; Impedance on Nos. 6Z073 thru 6Z076
**Ambient:** 40°C
**Duty:** Continuous
**Brake:** Adaptable to No. 5X400
**Warranty:** 2 Year

## ACCESSORIES

**Conduit Box Kit** includes conduit box and cover, 18 AWG grounding wire, and mounting instructions. Dayton brand.

**No. 4JV45.** Shpg. wt. 0.7 lbs. List.....$14.80. Each.....$7.11

**Optional Mounting Bracket** attaches to face of gear box to provide floor, wall, or ceiling mount. Includes steel bracket and four screws. Dayton brand.

**No. 2A754.** Shpg. wt. 0.7 lbs. List.....$14.00. Each.....$10.84

**Terminal Cap** covers electrical terminals of capacitor.

**No. 3X685.** Shpg. wt. 0.3 lbs. List.....$2.75. Each.....$2.27

AC AND DC GEARMOTOR SELECTION GUIDES ON PAGES 207 THRU 213

| Name-plate RPM | F/L Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. | Capacitor Req'd. Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **PSC, OPEN VENTILATED—115V, 60/50 Hz*** | | | | | | | | | | | |
| **1.2** | 100 | 90 | 1/80 | 1369.3:1 | 0.30 | **6Z073** | $217.00 | **$174.50** | 5.9 | 5M002 | **$4.39** |
| **2.3** | 100 | 90 | 1/80 | 702.1:1 | 0.30 | **6Z074** | 217.00 | **174.50** | 5.7 | 5M002 | **4.39** |
| **4.5** | 100 | 90 | 1/80 | 361.7:1 | 0.30 | **6Z075** | 217.00 | **174.50** | 5.5 | 5M002 | **4.39** |
| **8.8** | 76 | 90 | 1/80 | 185.5:1 | 0.30 | **6Z076** | 217.00 | **174.50** | 5.3 | 5M002 | **4.39** |
| **16.7** | 100 | 90 | 1/20 | 95.5:1 | 0.62 | **6Z077** | 217.00 | **174.50** | 6.6 | 5M005 | **5.51** |
| **32.7** | 96 | 90 | 1/20 | 49.0:1 | 0.62 | **6Z078** | 217.00 | **174.50** | 6.4 | 5M005 | **5.51** |
| **63** | 49 | 90 | 1/20 | 25.2:1 | 0.62 | **6Z079** | 217.00 | **174.50** | 6.2 | 5M005 | **5.51** |
| **95** | 30 | 90 | 1/20 | 16.8:1 | 0.62 | **6A195** | 217.00 | **174.50** | 6.0 | 5M005 | **5.51** |
| **124** | 25 | 90 | 1/20 | 12.9:1 | 0.62 | **6Z080** | 217.00 | **174.50** | 6.0 | 5M005 | **5.51** |
| **154** | 20 | 90 | 1/20 | 10.5:1 | 0.62 | **6A198** | 217.00 | **174.50** | 6.0 | 5M005 | **5.51** |
| **PSC, OPEN VENTILATED—230V, 60 Hz; 220V, 50 Hz*** | | | | | | | | | | | |
| **1.2** | 100 | 90 | 1/80 | 1369.3:1 | 0.24 | **1L532** | 222.00 | **178.50** | 8.0 | Included | |
| **2.3** | 100 | 90 | 1/80 | 702.1:1 | 0.24 | **1L525** | 222.00 | **178.50** | 9.0 | Included | |
| **4.5** | 100 | 90 | 1/80 | 361.7:1 | 0.24 | **1L522** | 222.00 | **178.50** | 5.7 | Included | |
| **8.8** | 76 | 90 | 1/80 | 185.5:1 | 0.24 | **1L519** | 222.00 | **178.50** | 6.0 | Included | |
| **PSC, OPEN VENTILATED—230V, 60 Hz; 220-240V, 50 Hz*** | | | | | | | | | | | |
| **16.7** | 100 | 90 | 1/20 | 95.5:1 | 0.32 | **1L526** | 222.00 | **178.50** | 6.5 | Included | |
| **32.7** | 96 | 90 | 1/20 | 49.0:1 | 0.32 | **1L524** | 222.00 | **178.50** | 6.5 | Included | |
| **63** | 49 | 90 | 1/20 | 25.2:1 | 0.32 | **1L521** | 222.00 | **178.50** | 6.0 | Included | |
| **95** | 30 | 90 | 1/20 | 16.8:1 | 0.32 | **1L518** | 222.00 | **178.50** | 10.0 | Included | |
| **124** | 25 | 90 | 1/20 | 12.9:1 | 0.32 | **1L531** | 222.00 | **178.50** | 9.0 | Included | |
| **154** | 20 | 90 | 1/20 | 10.5:1 | 0.32 | **1L529** | 222.00 | **178.50** | 7.7 | Included | |
| **PSC, TENV—115V, 60 Hz** | | | | | | | | | | | |
| **16.7** | 100 | 90 | 1/20 | 95.5:1 | 0.62 | **6Z081** | 223.00 | **179.00** | 7.2 | 5M005 | **5.51** |
| **32.7** | 96 | 90 | 1/20 | 49.0:1 | 0.62 | **6Z082** | 223.00 | **179.00** | 7.0 | 5M005 | **5.51** |
| **63** | 49 | 90 | 1/20 | 25.2:1 | 0.62 | **6Z083** | 223.00 | **179.00** | 6.8 | 5M005 | **5.51** |
| **95** | 30 | 90 | 1/20 | 16.8:1 | 0.62 | **6A197** | 223.00 | **179.00** | 6.5 | 5M005 | **5.51** |
| **124** | 25 | 90 | 1/20 | 12.9:1 | 0.62 | **6Z084** | 223.00 | **179.00** | 6.6 | 5M005 | **5.51** |
| **154** | 20 | 90 | 1/20 | 10.5:1 | 0.62 | **6A196** | 223.00 | **179.00** | 6.0 | 5M005 | **5.51** |
| **PSC, TENV—230V, 60 Hz; 220V, 50 Hz*** | | | | | | | | | | | |
| **16.7** | 100 | 90 | 1/20 | 95.5:1 | 0.33 | **1L527** | 228.00 | **183.25** | 7.5 | Included | |
| **32.7** | 96 | 90 | 1/20 | 49.0:1 | 0.33 | **1L523** | 228.00 | **183.25** | 8.0 | Included | |
| **63** | 49 | 90 | 1/20 | 25.2:1 | 0.33 | **1L520** | 228.00 | **183.25** | 6.0 | Included | |
| **95** | 30 | 90 | 1/20 | 16.8:1 | 0.33 | **1L517** | 228.00 | **183.25** | 7.9 | Included | |
| **124** | 25 | 90 | 1/20 | 12.9:1 | 0.33 | **1L530** | 228.00 | **183.25** | 8.0 | Included | |
| **154** | 20 | 90 | 1/20 | 10.5:1 | 0.33 | **1L528** | 228.00 | **183.25** | 7.0 | Included | |

(*) All ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620



We deliver the products that deliver the power.

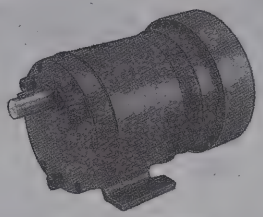
# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

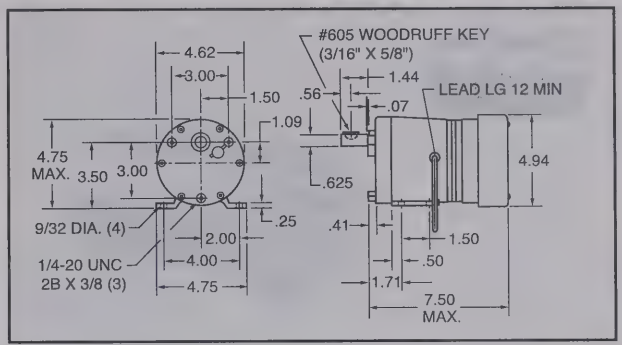
Dayton

Replacement Parts Available
1-800-323-0620

E47479

42492






**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Phenolic and steel
**Bearings:** Porous bronze sleeve on case; ball on motor
**Seals:** On output shafts
**Mounting:** All position
**Rotation:** CW facing output shaft
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TEFC
**Warranty:** 2 Year

## SHADED POLE, TEFC—115V, 60 Hz

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **2** | 113 | 150 | 1/20 | 739:1 | 1.3 | **3M125** | $187.00 | **$153.75** | 11.0 |
| **6** | 113 | 150 | 1/20 | 250:1 | 1.3 | **3M126** | 187.00 | **153.75** | 11.0 |
| **12** | 113 | 150 | 1/20 | 128:1 | 1.3 | **3M127** | 187.00 | **153.75** | 9.6 |
| **30** | 42 | 150 | 1/20 | 52:1 | 1.3 | **3M128** | 187.00 | **153.75** | 10.0 |

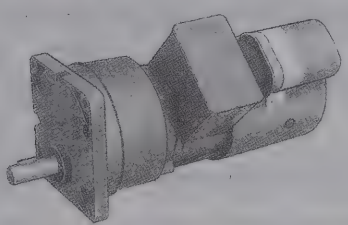
**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

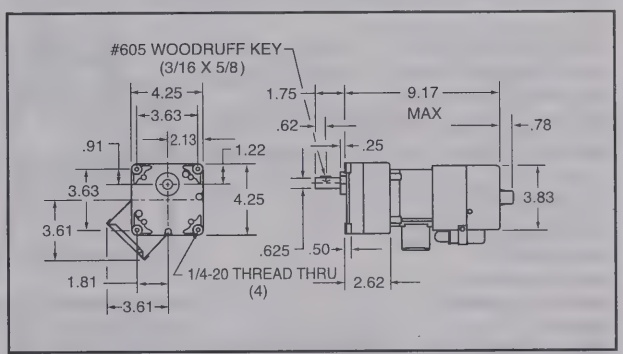
Dayton

Replacement Parts Available
1-800-323-0620

E47479

42492






**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Steel/heat treated steel
**Bearings:** Needle/sleeve on case; ball on motor
**Seals:** On output shaft
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TEFC
**Brake:** Adaptable to No. 5X400 using one disc in brake
**Capacitor:** Included
**Warranty:** 2 Year

## PSC, TEFC—115/230V, 60/50 Hz*

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V/230V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **29** | 150 | 150 | 1/13 | 53:1 | 1.4/0.7 | **1L586** | $317.00 | **$259.50** | 14.0 |
| **57** | 85 | 150 | 1/13 | 27:1 | 1.4/0.7 | **1L587** | 317.00 | **259.50** | 13.0 |
| **86** | 55 | 150 | 1/13 | 18:1 | 1.4/0.7 | **1L588** | 317.00 | **259.50** | 14.0 |
| **155** | 30 | 150 | 1/12 | 10:1 | 1.4/0.7 | **1L589** | 317.00 | **259.50** | 13.0 |

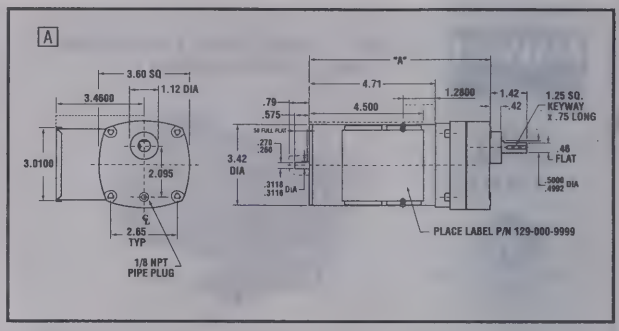
(*) All ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

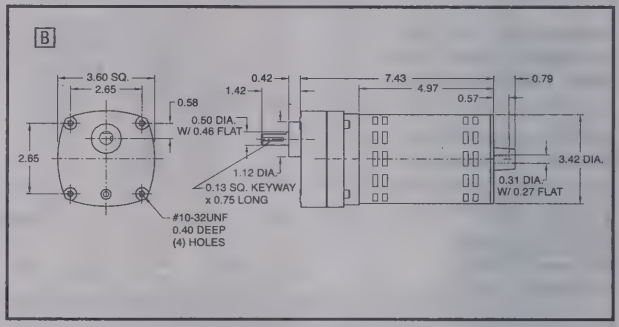
### ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT



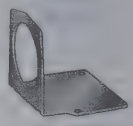

**Gearcase:** Die-cast aluminum
**Lubrication:** Permanent heavy fluid gear oil
**Gears:** Hardened steel; 1st stage helical, subsequent stages spur
**Bearings:** Needle throughout with thrust balls on case; ball on motor
**Seals:** Spring-loaded lip-type on input and output seals
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Capacitor:** Included
**Warranty:** 2 Year
**Brake: Adaptable to No. 5X400 using one disc in brake**

| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **PSC, TENV—115/230V, 60/50 Hz*** | | | | | | | | | | |
| **A** | 4 | 160 | 115 | 1/20 | 362.0:1 | 0.63/0.31 | **2H604** | $349.00 | **$255.00** | 6.7 |
| **A** | 17 | 150 | 150 | 1/20 | 95.5:1 | 0.63/0.31 | **2H602** | 349.00 | **255.00** | 7.3 |
| **PSC, OPEN VENTILATED—115V, 60 Hz** | | | | | | | | | | |
| **B** | 33 | 165 | 130 | 1/10 | 49.0:1 | 1.3 | **2H600** | 349.00 | **255.00** | 9.6 |
| **B** | 63 | 90 | 230 | 1/10 | 25.2:1 | 1.3 | **2H598** | 349.00 | **255.00** | 9.4 |
| **B** | 124 | 47 | 220 | 1/10 | 12.9:1 | 1.3 | **2H596** | 349.00 | **255.00** | 9.3 |

(*) All ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

**Optional Mounting Bracket** attaches to face of gear box to provide floor, wall, or ceiling mount. Includes steel bracket and four screws. Dayton brand.

**No. 2A754.** Shpg. wt. 0.7 lbs. List $14.00. Each .....$10.84



## ADJUSTABLE DRILL DEPTH STOP COLLAR SET

Deluxe set contains clamp-style (one piece) split collars which grip around the outer diameter of the drill bit for a strong hold that will not slip and will not damage the bit. Takes the guesswork out of drilling holes to a uniform depth. Easy-to-use and fast—just measure the desired depth, slip the collar over the drill bit, then tighten the screw and drill to exact depth. Includes 7 collar sizes (from 1/8" to 1/2" in 1/16" increments) with hex wrenches in sturdy plastic box. Additional sizes are available, see pages 351 and 352.

**No. 1F616.** Shpg. wt. 0.4 lbs. List $21.00. Each .....$10.50

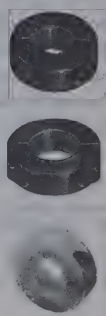
- **1-Pc. Clamp-style Collars**
- **7 Sizes (1/8 to 1/2")**



## A WIDE SELECTION OF INDIVIDUAL SHAFT COLLARS IS AVAILABLE

**THREE STYLES:**
- **Setscrew**
- **One-Piece Clamp**
- **Two-Piece Clamp**

**THREE MATERIALS:**
- **Cold-Rolled Steel**
- **Stainless Steel**
- **Delrin Plastic**

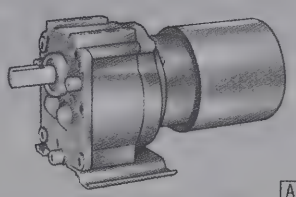


**SEE PAGES 350 AND 351**

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

Dayton®

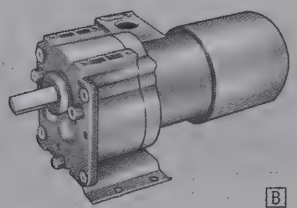
E47479
E61921



A

6319

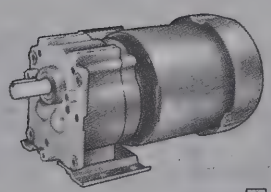
E47479



B

E47479

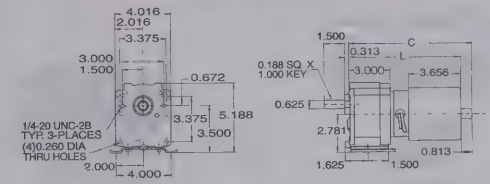
LR2459



C

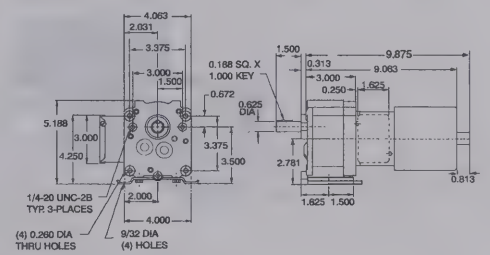
Replacement Parts Available
1-800-323-0620

A

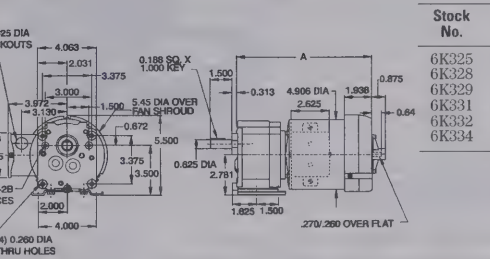



| Stock No. | L (In.) | C (In.) | Stock No. | L (In.) | C (In.) |
|---|---|---|---|---|---|
| 3M326 | 7.5 | 8.313 | 3M329 | 8.063 | 8.875 |
| 3M327 | 7.5 | 8.313 | 3M330 | 8.063 | 8.875 |
| 3M328 | 7.625 | 8.438 | | | |

B




C




| Stock No. | A (In.) |
|---|---|
| 6K325 | 8.75 |
| 6K328 | 9.125 |
| 6K329 | 9.125 |
| 6K331 | 9.125 |
| 6K332 | 9.125 |
| 6K334 | 9.125 |

**Gearcase:** Die-cast aluminum

**Lubrication:** Permanent heavy gear oil

**Gears:** Hardened steel; helical 1st stage, spur subsequent stages, AGMA Class 9

**Bearings:** Heavy-duty needle roller and thrust balls on case; ball on motor

**Seals:** Lip-type on input and output shafts

**Mounting:** All position

**Rotation:** CW facing output shaft on shaded pole models; reversible on split-phase models

**Thermal Protection:** None

**Ambient:** 40°C

**Duty:** Continuous

**Enclosure:** TEFC

**Brake:** Adaptable to No. 5X400 brake using number of disks shown in table

**Warranty:** 2 Year

| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Brake Discs Req'd. | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHADED POLE, TEFC—115V, 60 Hz** | | | | | | | | | | | |
| **A** | 4 | 200 | 175 | 1/40 | 1 | 396:1 | 1.4 | **3M326** | $262.00 | **$210.25** | 9.0 |
| **A** | 6 | 200 | 175 | 1/40 | 1 | 265:1 | 1.4 | **3M327** | 262.00 | **210.25** | 9.0 |
| **A** | 13.5 | 200 | 175 | 1/20 | 1 | 118:1 | 1.6 | **3M328** | 262.00 | **210.25** | 10.0 |
| **A** | 30 | 125 | 175 | 1/15 | 1 | 53:1 | 2.2 | **3M329** | 262.00 | **210.25** | 11.0 |
| **A** | 67.5 | 55 | 175 | 1/15 | 1 | 23:1 | 2.2 | **3M330** | 262.00 | **210.25** | 10.0 |
| **SPLIT-PHASE, TEFC—115V, 60 Hz** | | | | | | | | | | | |
| **B** | 13.5 | 200 | 175 | 1/15 | 1 | 118:1 | 1.7 | **2Z817** | 323.00 | **259.50** | 12.0 |
| **B** | 30 | 125 | 175 | 1/15 | 1 | 53:1 | 1.7 | **6K303** | 323.00 | **259.50** | 11.0 |
| **B** | 67.5 | 55 | 175 | 1/15 | 1 | 23:1 | 1.7 | **2Z818** | 323.00 | **259.50** | 11.0 |
| **B** | 100 | 38 | 175 | 1/15 | 1 | 17:1 | 1.7 | **2Z841** | 323.00 | **259.50** | 11.0 |
| **C** | 13.5 | 350 | 175 | 1/12 | 1 | 127.4:1 | 2.6 | **6K325** | 394.00 | **316.75** | 14.0 |
| **C** | 27 | 275 | 175 | 1/6 | 2 | 64.6:1 | 4.2 | **6K328** | 394.00 | **316.75** | 17.0 |
| **C** | 40 | 225 | 175 | 1/6 | 2 | 42.7:1 | 4.2 | **6K329** | 394.00 | **316.75** | 17.0 |
| **C** | 60 | 150 | 175 | 1/6 | 2 | 28.1:1 | 4.2 | **6K331** | 394.00 | **316.75** | 17.0 |
| **C** | 90 | 100 | 175 | 1/6 | 2 | 19.1:1 | 4.2 | **6K332** | 394.00 | **316.75** | 17.0 |
| **C** | 135 | 65 | 175 | 1/6 | 2 | 12.65:1 | 4.2 | **6K334** | 394.00 | **316.75** | 17.0 |

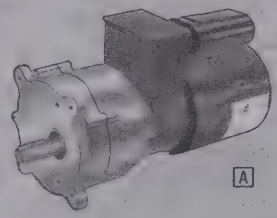
PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

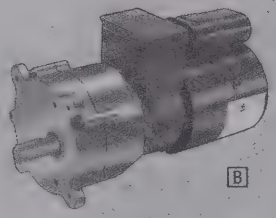
Dayton®

E47479

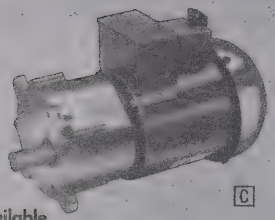
42492



A

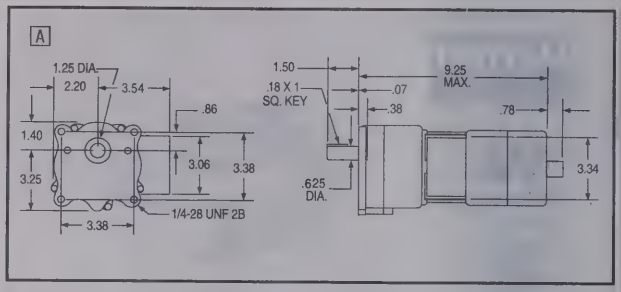


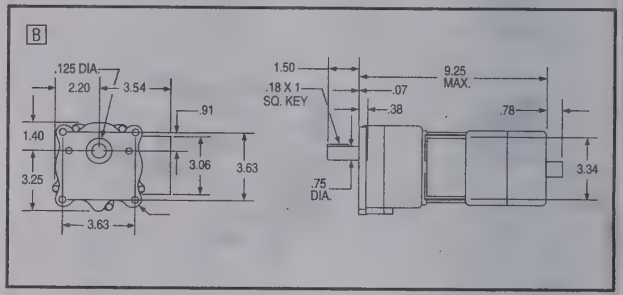
B

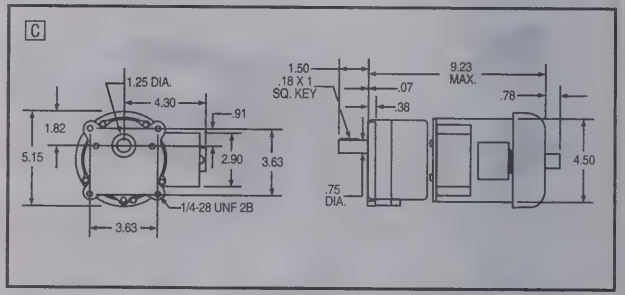


C

Replacement Parts Available
1-800-323-0620™




**Gearcase:** Machined die-cast aluminum
**Lubrication:** Permanent heavy-duty gear oil
**Gears:** Hardened steel; helical 1st stage, spur subsequent stages, AGMA class 9
**Bearings:** Heavy-duty needle roller and thrust balls on case; ball on motor
**Seals:** Lip-type on input and output shafts
**Mounting:** All position; face mounting
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Brake:** Adaptable to No. 5X400; use number of disks shown in table
**Capacitor:** Included
**Warranty:** 2 Year

**Optional Mounting Bracket** for all A gearmotors attaches to face of gear box to provide floor, wall, or ceiling mount. Kit includes steel bracket and four screws. Dayton brand.

**No. 2H541.** Shpg. wt. 1.1 lbs.
List $25.00. Each.....$19.27

## PSC, TEFC—115/230V, 50/60 Hz*

| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Brake Disks Req'd | Gear Ratio | Full-Load Amps at 115/230V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 6 | 500 | 300 | 1/15 | 1 | 264:1 | 1.1/0.60 | **2H417** | $420.00 | **$330.75** | 12.0 |
| A | 10 | 500 | 300 | 1/10 | 1 | 162:1 | 1.3/0.70 | **2H419** | 420.00 | **330.75** | 12.0 |
| A | 15 | 340 | 300 | 1/10 | 1 | 107:1 | 1.3/0.70 | **2H421** | 420.00 | **330.75** | 12.0 |
| A | 29 | 185 | 300 | 1/10 | 1 | 55:1 | 1.3/0.70 | **2H423** | 420.00 | **330.75** | 12.0 |
| A | 42 | 125 | 300 | 1/10 | 1 | 37:1 | 1.3/0.70 | **2H425** | 420.00 | **330.75** | 12.0 |
| A | 60 | 93 | 300 | 1/10 | 1 | 26:1 | 1.3/0.70 | **2H427** | 420.00 | **330.75** | 12.0 |
| A | 155 | 36 | 300 | 1/10 | 1 | 10:1 | 1.3/0.70 | **2H429** | 420.00 | **330.75** | 12.0 |
| B | 6 | 500 | 400 | 1/15 | 1 | 264:1 | 1.1/0.60 | **2H431** | 420.00 | **330.75** | 12.0 |
| B | 8 | 500 | 400 | 1/10 | 1 | 198:1 | 1.2/0.60 | **2H433** | 420.00 | **330.75** | 12.0 |
| B | 10 | 500 | 400 | 1/10 | 1 | 162:1 | 1.3/0.70 | **2H435** | 420.00 | **330.75** | 12.0 |
| B | 12 | 500 | 400 | 1/10 | 1 | 131:1 | 1.3/0.70 | **2H437** | 420.00 | **330.75** | 12.0 |
| C | 15 | 500 | 400 | 1/8 | 2 | 110:1 | 1.85/1.15 | **2H439** | 420.00 | **330.75** | 13.0 |
| C | 20 | 500 | 400 | 1/5 | 2 | 80:1 | 2.35/1.20 | **2H441** | 420.00 | **330.75** | 13.0 |
| C | 31 | 360 | 400 | 1/5 | 2 | 51:1 | 2.35/1.20 | **2H444** | 420.00 | **330.75** | 13.0 |
| C | 43 | 265 | 400 | 1/5 | 2 | 38:1 | 2.35/1.20 | **2H446** | 420.00 | **330.75** | 13.0 |
| C | 63 | 180 | 400 | 1/5 | 2 | 25:1 | 2.35/1.20 | **2H449** | 420.00 | **330.75** | 13.0 |
| C | 91 | 130 | 400 | 1/5 | 2 | 18:1 | 2.35/1.20 | **2H451** | 420.00 | **330.75** | 13.0 |
| C | 156 | 77 | 400 | 1/5 | 2 | 10:1 | 2.35/1.20 | **2H453** | 420.00 | **330.75** | 13.0 |

(*) Ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

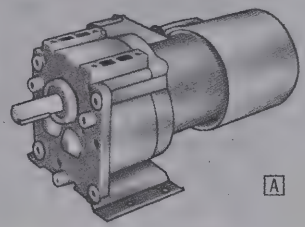


We deliver the products that deliver the power.

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

Dayton®

E47479
E61921

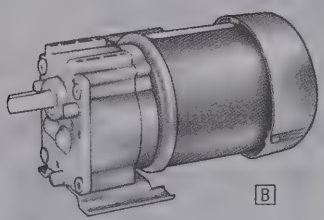


A

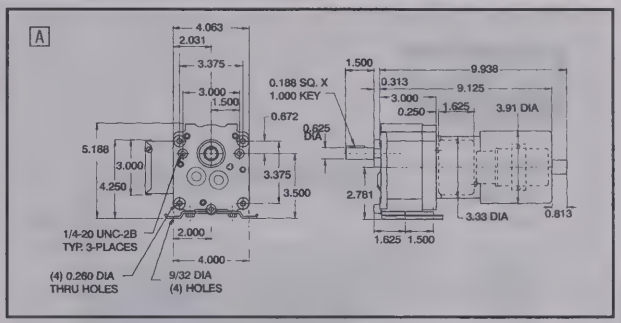
Replacement Parts Available
1-800-323-0620

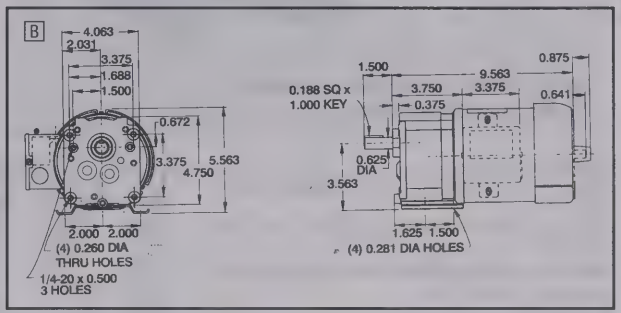
E47479

68769



B




**Gearcase:** Die-cast aluminum

**Lubrication:** Permanent heavy gear oil

**Gears:** Hardened steel; helical 1st stage, spur subsequent stages, AGMA Class 9

**Bearings:** Heavy-duty needle roller and thrust balls on case; ball on motor

**Seals:** Lip-type on input and output shafts

**Mounting:** All position; can also be face mounted

**Rotation:** Reversible

**Thermal Protection:** None

**Ambient:** 40°C

**Duty:** Continuous

**Enclosure:** TEFC

**Brake:** Adaptable to No. 5X400 using number of disks shown in table

**Capacitor:** Included

**Warranty:** 2 Year

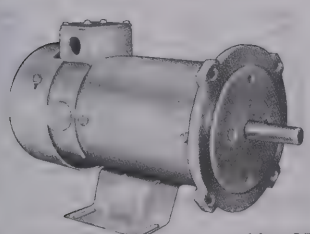
## PSC, TEFC—115/230V, 60 Hz; 110/220V, 50 Hz*

| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Brake Discs Req'd. | Gear Ratio | Full-Load Amps at 115/230V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 15 | 202 | 175 | 1/15 | 1 | 107:1 | 1.3/.65 | **4Z518** | $312.00 | **$251.00** | 12.0 |
| A | 30 | 135 | 175 | 1/15 | 1 | 53:1 | 1.3/.65 | **4Z519** | 312.00 | **251.00** | 12.0 |
| A | 45 | 92 | 175 | 1/15 | 1 | 35:1 | 1.3/.65 | **4Z520** | 312.00 | **251.00** | 12.0 |
| A | 70 | 61 | 175 | 1/15 | 1 | 23:1 | 1.3/.65 | **4Z521** | 312.00 | **251.00** | 12.0 |
| A | 97 | 43 | 175 | 1/15 | 1 | 16.5:1 | 1.3/.65 | **4Z522** | 312.00 | **251.00** | 12.0 |
| A | 139 | 30 | 175 | 1/15 | 1 | 11.5:1 | 1.3/.65 | **4Z523** | 312.00 | **251.00** | 12.0 |
| B | 8 | 320† | 175 | 1/12 | 1 | 215:1 | 1.9/1.0 | **6Z816** | 388.00 | **311.25** | 17.0 |
| B | 16 | 385 | 175 | 1/6 | 1 | 102.4:1 | 2.3/1.2 | **6Z817** | 388.00 | **311.25** | 16.0 |
| B | 30 | 278 | 175 | 1/6 | 2 | 58.3:1 | 2.3/1.2 | **6Z818** | 388.00 | **311.25** | 17.0 |
| B | 40 | 210 | 175 | 1/6 | 2 | 42.9:1 | 2.3/1.2 | **6Z819** | 388.00 | **311.25** | 17.0 |
| B | 60 | 157 | 175 | 1/6 | 2 | 28:1 | 2.3/1.2 | **6Z820** | 388.00 | **311.25** | 17.0 |
| B | 90 | 100 | 175 | 1/6 | 2 | 19.1:1 | 2.3/1.2 | **6Z821** | 388.00 | **311.25** | 17.0 |
| B | 156 | 60 | 175 | 1/6 | 2 | 10.6:1 | 2.3/1.2 | **6Z822** | 388.00 | **311.25** | 17.0 |

(*) Ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.
(†) Motor limited.

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

## A WIDE SELECTION OF WASHDOWN PRODUCTS IS AVAILABLE



No. 1F640

Washdown products are for applications in food, beverage, or chemical processing plants where product is constantly exposed to high pressure washdowns or other high humidity or wet environments. Many washdown products feature USDA approved corrosion-resistant white epoxy primer and paint to meet sanitary requirements.

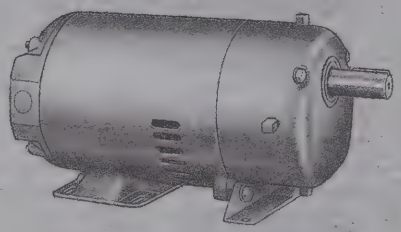
**For Washdown C-Face Speed Controls,** ... See pages 192 and 221
**For Permanent Magnet DC Washdown Motors,** ... See page 301
**For AC Washdown Motors,** ... See pages 154 and 155
**For UHMW-PE Plastic Washdown Bearings,** ... See pages 340 and 341
**For Washdown Shaft Collars,** ... See pages 350 and 351
**For Washdown Speed Reducers,** ... See pages 274 and 275

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

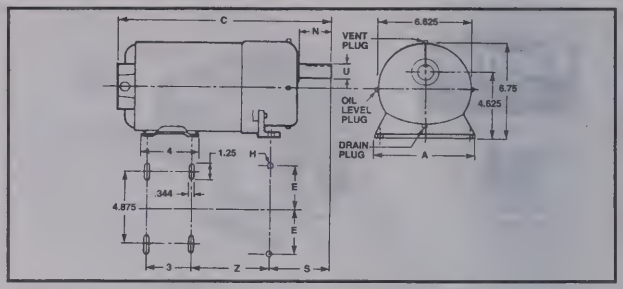
Dayton®

E47479

LR6153



Replacement Parts Available
1-800-323-0620™




| Stock No. | Dimensions (In.) A | C | E | H | N* | S | U | Z |
|---|---|---|---|---|---|---|---|---|
| 2Z847 | 7.125 | 14.031 | 3.125 | 0.40625 | 2.25 | 4.375 | 1.0 | 4.75 |
| 2Z848 | 6.5 | 13.406 | 2.75 | † | 1.62 | 3.8125 | 0.625 | 4.6875 |
| 2Z849 | 6.5 | 13.406 | 2.75 | † | 1.62 | 3.8125 | 0.625 | 4.6875 |
| 2Z850 | 6.5 | 13.406 | 2.75 | † | 1.62 | 3.8125 | 0.625 | 4.6875 |
| 2Z851 | 6.5 | 14.031 | 2.75 | † | 1.62 | 3.8125 | 0.625 | 5.125 |

(*) Key dimension 3/16 x 3/16 x 1¼" long; except No. 2Z847 is 1/4 x 1/4 x 1⅜" long.
(†) 11/32W x 5/8"L elongated hole.

**Gearcase:** Cast iron
**Lubrication:** SAE #90 type EP differential oil
**Gears:** Steel
**Bearings:** Ball on output shaft on case; ball on motor
**Seals:** Lip-type on input and output shafts
**Mounting:** Horizontal
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** Open dripproof
**Warranty:** 2 Year

## SPLIT-PHASE, OPEN DRIPPROOF—115V, 60 Hz

| Nameplate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **45** | 438 | 385 | 1/3 | 38:1 | 5.8 | **2Z847** | $525.00 | **$399.75** | 39.0 |
| **89** | 219 | 245 | 1/3 | 19:1 | 5.8 | **2Z848** | 433.00 | **329.75** | 39.0 |
| **157** | 125 | 245 | 1/3 | 11:1 | 5.8 | **2Z849** | 433.00 | **329.75** | 37.0 |
| **288** | 69 | 245 | 1/3 | 6:1 | 5.8 | **2Z850** | 393.00 | **299.50** | 36.0 |

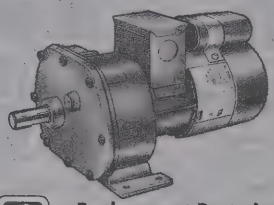
## THREE-PHASE, OPEN DRIPPROOF—208-220/440V, 60 Hz*

| Nameplate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at Nameplate Volts | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **157** | 125 | 245 | 1/3 | 11:1 | 1.5-1.4/0.7 | **2Z851** | $524.00 | **$399.25** | 36.0 |

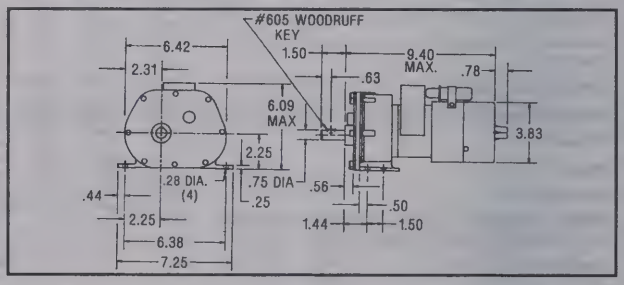
(*) All ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

Dayton®

E47479 42492



Replacement Parts Available
1-800-323-0620™




**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Heat treated steel/phenolic
**Bearings:** Needle/ball/sleeve on case; ball on motor
**Seals:** On output shaft
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TEFC
**Brake:** Adaptable to No. 5X400 using one disc in brake
**Capacitor:** Included
**Warranty:** 2 Year

## PSC, TEFC—115/230V, 60/50 Hz*

| Nameplate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V/230V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6** | 600 | 250 | 1/12 | 267:1 | 1.3/0.7 | **1L572** | $338.00 | **$273.00** | 16.0 |
| **12** | 400 | 250 | 1/14 | 133:1 | 1.4/0.7 | **1L573** | 338.00 | **273.00** | 15.0 |
| **19** | 250 | 250 | 1/12 | 81:1 | 1.4/0.7 | **1L574** | 338.00 | **273.00** | 15.0 |
| **28** | 175 | 250 | 1/13 | 56:1 | 1.4/0.7 | **1L575** | 338.00 | **273.00** | 15.0 |
| **48** | 100 | 250 | 1/12 | 32:1 | 1.4/0.7 | **1L576** | 338.00 | **273.00** | 15.0 |

(*) All ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**



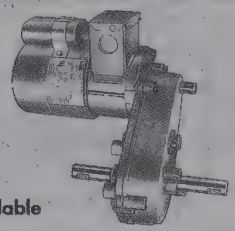
*We deliver the products that deliver the power.*

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

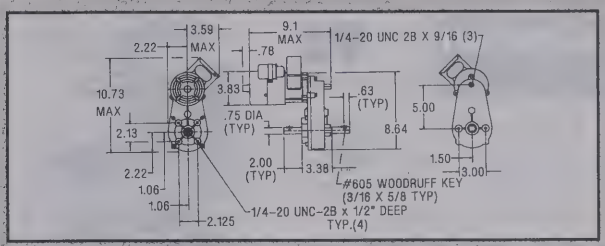
Dayton®

E47479

42492



Replacement Parts Available
1-800-323-0620




**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Steel/heat treated steel
**Bearings:** Needle/sleeve on case; ball on motor
**Seals:** On output shaft
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TEFC
**Brake:** Adaptable to No. 5X400 using one disc in brake
**Capacitor:** Included
**Warranty:** 2 Year

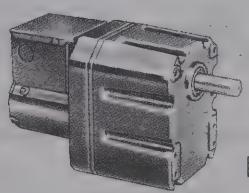
## PSC, TEFC—115/230V, 60/50 Hz*

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V/230V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6** | 600 | 300 | 1/12 | 267:1 | 1.3/0.7 | **1L565** | $423.00 | **$342.00** | 17.0 |
| **12** | 400 | 300 | 1/14 | 133:1 | 1.4/0.7 | **1L566** | 423.00 | **342.00** | 17.0 |
| **19** | 250 | 300 | 1/12 | 81:1 | 1.4/0.7 | **1L567** | 423.00 | **342.00** | 17.0 |
| **28** | 175 | 300 | 1/12 | 53.6:1 | 1.4/0.7 | **1L568** | 423.00 | **342.00** | 17.0 |

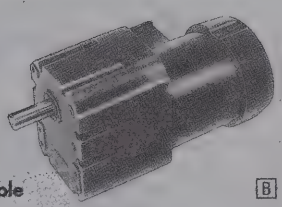
(*) All ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

Dayton®

E47479

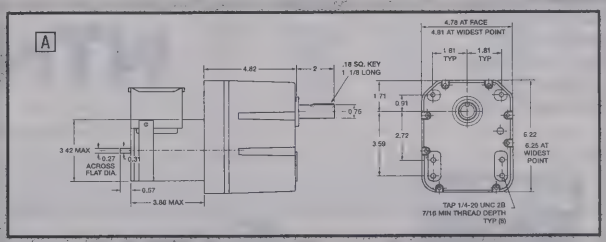


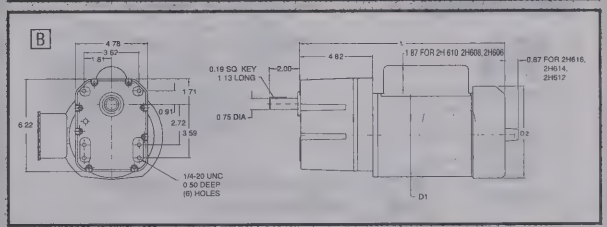
A



B

Replacement Parts Available
1-800-323-0620




**Gearcase:** Die-cast aluminum
**Lubrication:** Permanent heavy fluid gear oil
**Gears:** Hardened steel; 1st stage helical, subsequent stages spur, AGMA Class 9
**Bearings:** Needle throughout with thrust balls on case; ball on motor
**Seals:** Spring-loaded lip-type on input and output seals
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Brake:** 1/58 & 1/6 HP adaptable to No. 5X400
**Capacitor:** Included
**Warranty:** 2 Year

| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115/230V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **PSC, TENV—115/230V, 60 Hz; 110/220V, 50 Hz*** | | | | | | | | | | |
| **A** | 1.2 | 710 | 900 | 1/58 | 1413:1 | 0.57/0.28 | **2H618** | $502.00 | **$367.25** | 14.0 |
| **PSC, TEFC—115/230V, 60 Hz; 110/220V, 50 Hz*** | | | | | | | | | | |
| **B** | 6.0 | 710 | 900 | 1/6 | 276:1 | 1.9/1.0 | **2H616** † | 502.00 | **367.25** | 20.0 |
| **B** | 11.9 | 700 | 900 | 1/6 | 138:1 | 2.3/1.2 | **2H614** † | 502.00 | **367.25** | 20.0 |
| **B** | 14.2 | 630 | 900 | 1/6 | 116:1 | 2.3/1.2 | **2H612** † | 502.00 | **367.25** | 20.0 |
| **PSC, TEFC—115/230V, 60 Hz; 110/220,50Hz*** | | | | | | | | | | |
| **B** | 31.0 | 660 | 650 | 1/2 | 54:1 | 6.7/3.3 | **2H610** ‡ | 649.00 | **474.25** | 26.0 |
| **B** | 60.0 | 490 | 600 | 1/2 | 28:1 | 7.0/2.9 | **2H608** ‡ | 649.00 | **474.25** | 26.0 |
| **B** | 85.0 | 345 | 550 | 1/2 | 20:1 | 7.0/2.9 | **2H606** ‡ | 649.00 | **474.25** | 26.0 |

(*) All ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.
(†) Cap remotely mounted for 2H612, 2H614 and 2H616.
(‡) No shaft extension on 2H606, 2H608 and 2H610.

## MOUNTING BRACKETS

| For Gearmotor Nos. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| 2H455, 2H457, 2H459, 2H461, 2H463, 2H465 | 2H541 | $19.27 | 1.1 |
| 2H581, 2H583, 2H585, 2H588, 2H590, 2H592, 2H594, 2H606, 2H608, 2H610, 2H612, 2H614, 2H616, 2H618 | 2H630 | 15.30 | 1.0 |

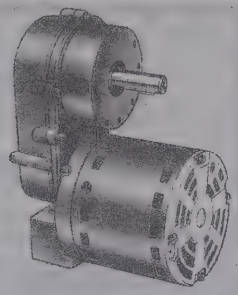
| Stock No. | Dimensions (In.) L | D1 | D2 | Stock No. | Dimensions (In.) L | D1 | D2 |
|---|---|---|---|---|---|---|---|
| 2H606 | 13.03 | 5.62 | 6.78 | 2H612 | 10.8 | 5.00 | 5.53 |
| 2H608 | 13.03 | 5.62 | 6.78 | 2H614 | 10.8 | 5.00 | 5.53 |
| 2H610 | 13.03 | 5.62 | 6.78 | 2H616 | 10.8 | 5.00 | 5.53 |

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

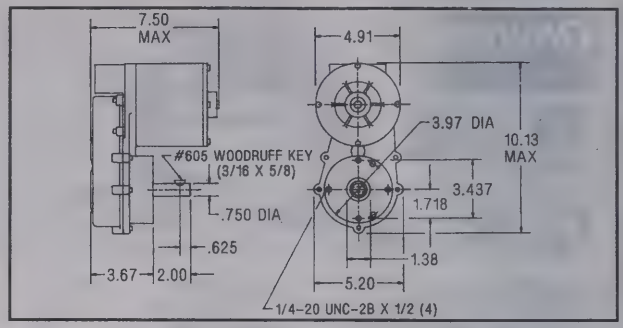
Dayton®

E47479

42492



Replacement Parts Available
1-800-323-0620




**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Heat treated steel
**Bearings:** Needle/ball/sleeve on case; ball on motor
**Seals:** On output shaft
**Mounting:** All position
**Rotation:** CCW
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** Open
**Warranty:** 2 Year

## SPLIT-PHASE, OPEN VENTED—115V, 60 Hz

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **8** | 700 | 300 | 1/8 | 2053:1 | 2.3 | **1L563** | $423.00 | **$348.00** | 22.0 |
| **13** | 500 | 300 | 1/8 | 137:1 | 2.5 | **1L564** | 423.00 | **348.00** | 23.0 |

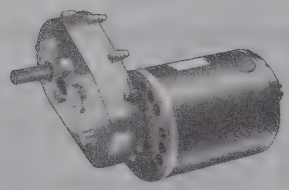
NTN

A COMPLETE SELECTION OF NTN BEARINGS IS AVAILABLE, SEE PAGES 327 THRU 347

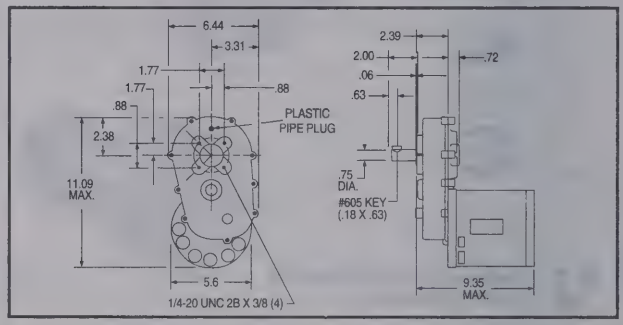
Dayton®

E47479

42492



Replacement Parts Available
1-800-323-0620




**Gearcase:** Die-cast zinc
**Lubrication:** Grease filled
**Gears:** Phenolic and heat treated steel
**Bearings:** Needle roller bearing on case; ball on motor
**Seals:** Lip-type on input and output shafts
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** Open dripproof
**Warranty:** 2 Year

## SPLIT-PHASE, OPEN DRIPPROOF—115V, 60 Hz

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6** | 1500 | 300 | 1/5 | 289:1 | 4.6 | **2H479** | $529.00 | **$416.50** | 24.0 |
| **8** | 1400 | 300 | 1/4 | 214:1 | 4.6 | **2H481** | 529.00 | **416.50** | 24.0 |
| **12** | 1000 | 300 | 1/4 | 142:1 | 4.6 | **2H483** | 529.00 | **416.50** | 24.0 |

PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620

Browning

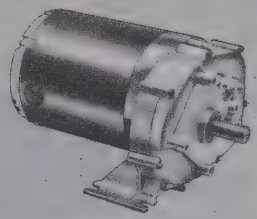
A WIDE SELECTION OF V-BELTS IS AVAILABLE, SEE PAGES 305 THRU 309

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

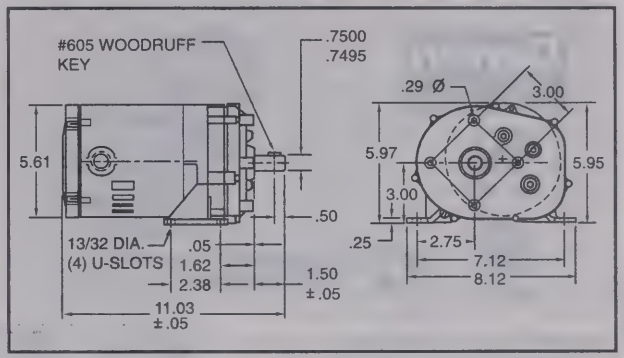
Dayton®

E47479

42492



Replacement Parts Available
1-800-323-0620™




**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Cut steel and phenolic
**Bearings:** Porous bronze sleeve on case; ball on motor
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** Open dripproof
**Warranty:** 2 Year

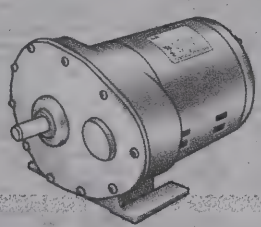
## SPLIT-PHASE, OPEN DRIPPROOF—115V, 60 Hz

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6** | 600 | 300 | 1/4 | 288:1 | 4.6 | **5K933** | $321.00 | **$259.25** | 26.0 |
| **12** | 600 | 300 | 1/4 | 144:1 | 4.6 | **5K934** | 321.00 | **259.25** | 26.0 |
| **18** | 550 | 300 | 1/4 | 96:1 | 4.6 | **5K935** | 321.00 | **259.25** | 26.0 |
| **30** | 400 | 190 | 1/4 | 58:1 | 4.6 | **5K939** | 321.00 | **259.25** | 22.0 |
| **40** | 330 | 190 | 1/4 | 42:1 | 4.6 | **5K941** | 321.00 | **259.25** | 21.0 |
| **60** | 200 | 190 | 1/4 | 29:1 | 4.6 | **5K940** | 321.00 | **259.25** | 21.0 |
| **90** | 150 | 150 | 1/4 | 19.2:1 | 4.6 | **6K993** | 321.00 | **259.25** | 21.0 |
| **120** | 100 | 110 | 1/4 | 14.4:1 | 4.6 | **5K942** | 321.00 | **259.25** | 21.0 |

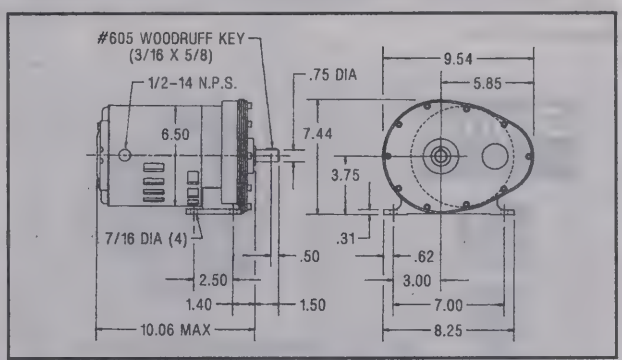
Dayton®

E47479

42492



Replacement Parts Available
1-800-323-0620™




**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Cut steel and phenolic
**Bearings:** Ball on case and motor
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** Open dripproof
**Warranty:** 2 Year

## SPLIT-PHASE, OPEN DRIPPROOF—115V, 60 Hz

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30** | 800 | 400 | 1/2 | 58:1 | 8.3 | **2Z794** | $496.00 | **$400.75** | 32.0 |
| **60** | 400 | 400 | 1/2 | 29:1 | 8.3 | **2Z795** | 496.00 | **400.75** | 32.0 |
| **90** | 287 | 400 | 1/2 | 19.2:1 | 8.3 | **2Z796** | 496.00 | **400.75** | 32.0 |

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

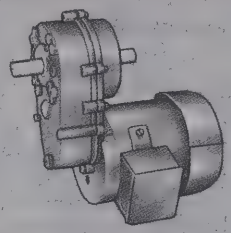
**CHECK THE CROSS-REFERENCE/SELECTION GUIDE AT THE BACK OF THE CATALOG**

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

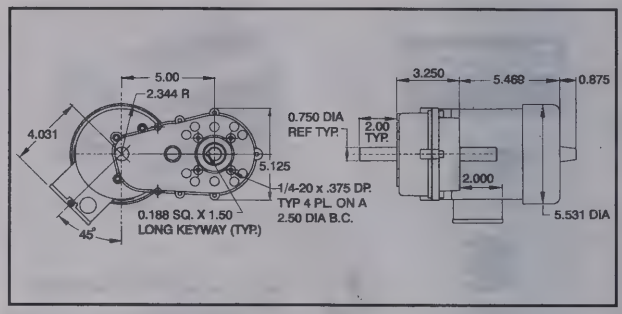
Dayton®

E47479

68769



Replacement Parts Available
1-800-323-0620




**Gearcase:** Die-cast aluminum
**Lubrication:** Permanent heavy gear oil
**Gears:** Hardened steel; helical 1st stage, spur subsequent stages. AGMA Class 9
**Bearings:** Heavy-duty ball and needle roller on case; ball on motor
**Seals:** Lip-type on input and output shafts
**Mounting:** All position; can also be face mounted
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Features:** Double output shafts
**Enclosure:** TEFC
**Brake:** Adaptable to No. 5X400 using two discs
**Capacitor:** Required, order No. 6X660 separately
**Warranty:** 2 Year

## PSC, TEFC—115/230V, 60 Hz; 110/220V, 50 Hz*

| Nameplate RPM 60 Hz | 50 Hz | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115 / 230V | 110 / 220V | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 5 | 1100 | 550 | 1/4 | 261:1 | 1.67/0.88 | 1.72/0.94 | **1L510** | $509.00 | **$408.75** | 22.0 | 6X660 | **$10.61** |
| **12** | 10 | 1100 | 550 | 1/4 | 138:1 | 2.4/1.23 | 2.57/1.32 | **1L509** | 509.00 | **408.75** | 23.0 | 6X660 | **10.61** |

(*) Ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

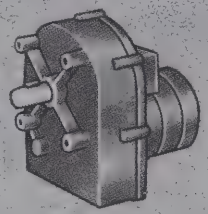
### A WIDE SELECTION OF DEFINITE PURPOSE MOTORS IS AVAILABLE

For C-Face Motors,.....See Pages 120 thru 127.
For Hazardous Location Motors,.....See Pages 128 thru 135.
For 50 Hz and 60/50 Hz Motors,.....See Pages 137 thru 139.
For Instant Reverse Motors,.....See Page 140.
For Farm Duty Motors,.....See Pages 141 thru 149.
For Pump Motors,.....See Pages 150 thru 173.
For Appliance/Tool Motors,.....See Pages 174 thru 183.

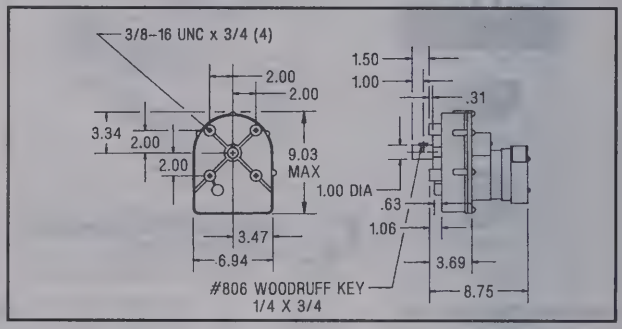
Dayton®

E47479

42492



Replacement Parts Available
1-800-323-0620




**Gearcase:** Zinc die-cast
**Lubrication:** Grease filled
**Gears:** Heat treated steel/phenolic
**Bearings:** Needle/sleeve on case; ball on motor
**Seals:** On output shaft
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TEFC
**Capacitor:** Required, order No. 6X655 separately
**Warranty:** 2 Year

## PSC, TEFC—115/230V, 60/50 Hz*

| Nameplate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lb. | Input HP | Gear Ratio | Full-Load Amps at 115V/230V | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 3000 | 550 | 1/15 | 1586:1 | 1.5/0.7 | **1L570** | $486.00 | **$399.50** | 29.0 | 6X655 | **$4.99** |
| **2** | 1900 | 550 | 1/12 | 827:1 | 1.5/0.7 | **1L571** | 486.00 | **399.50** | 28.0 | 6X655 | **4.99** |

(*) Ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**



*We deliver the products that deliver the power.*

# FRACTIONAL AC GEARMOTORS PARALLEL SHAFT

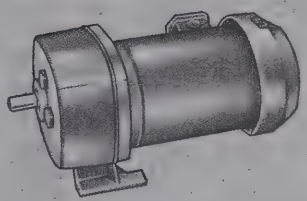
Dayton®

E47479

LR2459

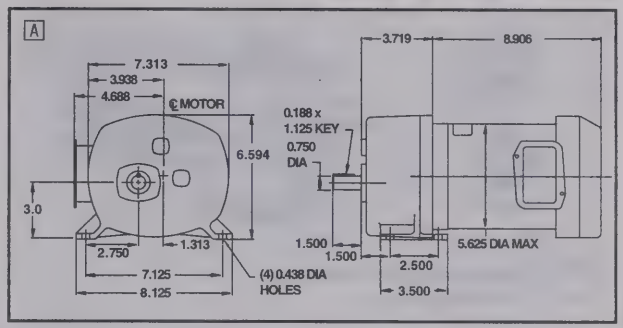


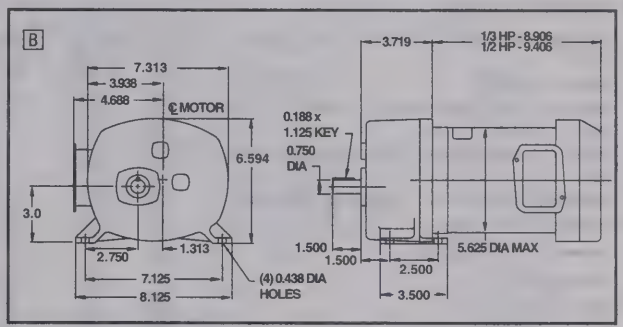
A



B

Replacement Parts Available
1-800-323-0620




**Gearcase**: Die-cast aluminum

**Lubrication**: Permanent heavy gear oil

**Gears**: Hardened steel; helical 1st stage, spur subsequent stages. AGMA Class 9

**Bearings**: Heavy-duty ball and needle roller, and thrust balls on case; ball on motor

**Seals**: Lip-type on input and output shafts

**Mounting**: All position

**Rotation**: Reversible

**Thermal Protection**: None

**Ambient**: 40°C

**Duty**: Continuous

**Enclosure**: TEFC

**Brake**: Adaptable to No. 4Z447 brake

**Warranty**: 2 Year

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

## SPLIT-PHASE, TEFC—115V, 60 Hz

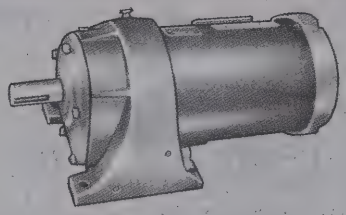
| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 5.4 | 1087 | 325 | 1/4 | 315.5:1 | 3.7 | **6Z399** | $516.00 | **$414.75** | 27.0 |
| A | 8 | 974 | 325 | 1/4 | 210:1 | 3.7 | **6Z400** | 516.00 | **414.75** | 27.0 |
| A | 12 | 992 | 325 | 1/4 | 142.9:1 | 3.7 | **6K351** | 516.00 | **414.75** | 27.0 |
| A | 18 | 800 | 325 | 1/4 | 95:1 | 3.7 | **6Z401** | 516.00 | **414.75** | 27.0 |
| A | 27 | 500 | 325 | 1/4 | 63.5:1 | 3.7 | **6K352** | 516.00 | **414.75** | 26.0 |
| A | 60 | 240 | 325 | 1/4 | 28.6:1 | 3.7 | **6K353** | 516.00 | **414.75** | 26.0 |
| A | 135 | 100 | 325 | 1/4 | 12.7:1 | 3.7 | **6K354** | 516.00 | **414.75** | 26.0 |
| A | 18 | 1017 | 325 | 1/3 | 95:1 | 5.7 | **6Z402** | 508.00 | **408.25** | 28.0 |
| A | 27 | 700 | 325 | 1/3 | 63.5:1 | 5.7 | **6K396** | 508.00 | **408.25** | 28.0 |
| A | 40 | 450 | 325 | 1/3 | 42.8:1 | 5.7 | **2Z842** | 508.00 | **408.25** | 27.0 |
| A | 60 | 320 | 325 | 1/3 | 28.6:1 | 5.7 | **6K369** | 508.00 | **408.25** | 27.0 |
| A | 90 | 220 | 325 | 1/3 | 19:1 | 5.7 | **2Z843** | 508.00 | **408.25** | 26.0 |
| A | 157 | 125 | 325 | 1/3 | 11:1 | 5.7 | **2Z844** | 508.00 | **408.25** | 26.0 |
| A | 288 | 70 | 325 | 1/3 | 6.1:1 | 5.7 | **2Z845** | 508.00 | **408.25** | 26.0 |
| A | 22 | 1105 | 325 | 1/2 | 80:1 | 7.9 | **6Z403** | 571.00 | **458.25** | 30.0 |
| A | 40 | 700 | 325 | 1/2 | 42.8:1 | 7.9 | **6K375** | 571.00 | **458.25** | 29.0 |
| A | 60 | 480 | 325 | 1/2 | 28.6:1 | 7.9 | **6K583** | 571.00 | **458.25** | 28.0 |
| A | 90 | 320 | 325 | 1/2 | 19:1 | 7.9 | **6K383** | 571.00 | **458.25** | 28.0 |
| A | 135 | 215 | 325 | 1/2 | 12.7:1 | 7.9 | **6K506** | 571.00 | **458.25** | 28.0 |

## THREE-PHASE, TEFC—208-230/460V, 60 Hz

| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 230V/460V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| B | 18 | 1017 | 325 | 1/3* | 95:1 | 1.6/0.8 | **6Z404** | $609.00 | **$489.50** | 28.0 |
| B | 27 | 700 | 325 | 1/3* | 63.5:1 | 1.6/0.8 | **4Z384** | 609.00 | **489.50** | 27.0 |
| B | 40 | 450 | 325 | 1/3* | 42.8:1 | 1.6/0.8 | **4Z385** | 609.00 | **489.50** | 24.0 |
| B | 60 | 320 | 325 | 1/3* | 28.6:1 | 1.6/0.8 | **4Z386** | 609.00 | **489.50** | 24.0 |
| B | 90 | 220 | 325 | 1/3* | 19:1 | 1.6/0.8 | **4Z387** | 609.00 | **489.50** | 24.0 |
| B | 157 | 125 | 325 | 1/3* | 11:1 | 1.6/0.8 | **4Z388** | 609.00 | **489.50** | 24.0 |
| B | 288 | 70 | 325 | 1/3* | 6.1:1 | 1.6/0.8 | **4Z389** | 609.00 | **489.50** | 24.0 |
| B | 22 | 1105 | 325 | 1/2 | 80:1 | 2.4/1.2 | **6Z405** | 668.00 | **537.00** | 30.0 |
| B | 40 | 700 | 325 | 1/2 | 42.8:1 | 2.4/1.2 | **4Z390** | 668.00 | **537.00** | 27.0 |
| B | 60 | 480 | 325 | 1/2 | 28.6:1 | 2.4/1.2 | **4Z391** | 668.00 | **537.00** | 25.0 |
| B | 90 | 320 | 325 | 1/2 | 19:1 | 2.4/1.2 | **4Z392** | 668.00 | **537.00** | 25.0 |
| B | 135 | 215 | 325 | 1/2 | 12.7:1 | 2.4/1.2 | **4Z393** | 668.00 | **537.00** | 25.0 |
| B | 288 | 100 | 325 | 1/2 | 6.1:1 | 2.4/1.2 | **4Z394** | 668.00 | **537.00** | 25.0 |

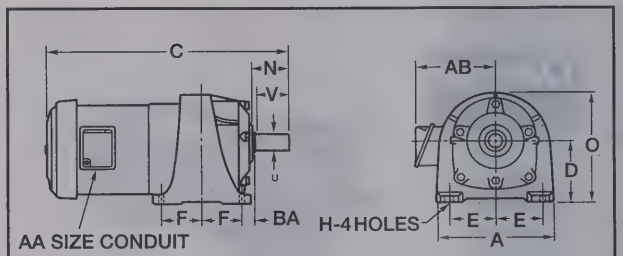
(*) Operable on 190/380V, 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

# INTEGRAL AC GEARMOTORS PARALLEL SHAFT



LR6153

Replacement Parts Available
1-800-323-0620




See Specifications Below

**Gearcase**: Cast iron

**Lubrication**: Shipped less oil; see owner's manual

**Gears**: Cut steel

**Bearings**: Ball and tapered roller on case; ball on motor

**Seals**: Double lipped on input and output shaft

**Mounting**: All position, except shaft down

**Rotation**: Reversible

**Thermal Protection**: None

**Ambient**: 40°C

**Duty**: Continuous

**Enclosure**: TEFC

**Brake**: Optional brakes Nos. 3M360 and 2Z871 available for selected models, see page 263.

## THREE-PHASE, TEFC—230/460V, 60 Hz*

| Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Lube Qty. Qt. | Gear Ratio | Full-Load Amps at 230V/460V | USEM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **30** | 2100 | 1460 | 1 | 4 | 39.4:1 | 4.8/2.4 | B934 | **4Z886** | $1399.00 | **$1066.00** | 128.0 |
| **45** | 1400 | 825 | 1 | 1 | 37.9:1 | 3.8/1.9 | 8082 | **2Z872** | 1382.00 | **1053.00** | 69.0 |
| **68** | 927 | 716 | 1 | 1 | 25.7:1 | 3.8/1.9 | 6977 | **4Z887** | 1196.00 | **911.00** | 70.0 |
| **100** | 630 | 636 | 1 | 1 | 16.9:1 | 3.8/1.9 | 8081 | **2Z873** | 1060.00 | **808.00** | 73.0 |
| **190** | 332 | 510 | 1 | 1 | 9.46:1 | 3.8/1.9 | 9224 | **2Z874** | 974.00 | **742.00** | 70.0 |
| **30** | 4200 | 1995 | 2 | 4.5 | 37.6:1 | 8.0/4.0 | 8841 | **3Z950** | 1936.00 | **1474.00** | 203.0 |
| **45** | 2804 | 1270 | 2 | 4 | 39.4:1 | 6.5/3.3 | 6004 | **4Z888** | 1739.00 | **1324.00** | 126.0 |
| **68** | 1854 | 1100 | 2 | 4 | 25.6:1 | 6.5/3.3 | B935 | **4Z889** | 1446.00 | **1102.00** | 126.0 |
| **100** | 1260 | 636 | 2 | 1 | 16.9:1 | 6.8/3.4 | 6001 | **2Z876** | 1427.00 | **1087.00** | 75.0 |
| **190** | 663 | 510 | 2 | 1 | 9.46:1 | 6.8/3.4 | 6010 | **2Z877** | 1105.00 | **841.50** | 73.0 |
| **45** | 4202 | 1995 | 3 | 4.5 | 37.6:1 | 9.0/4.5 | 8839 | **3Z951** | 1969.00 | **1500.00** | 202.0 |
| **68** | 2781 | 1100 | 3 | 4 | 25.6:1 | 9.0/4.5 | B937 | **4Z890** | 1720.00 | **1311.00** | 148.0 |
| **100** | 1891 | 976 | 3 | 4 | 17.1:1 | 9.0/4.5 | 8817 | **4Z891** | 1486.00 | **1132.00** | 144.0 |
| **190** | 995 | 780 | 3 | 4 | 9.32:1 | 9.0/4.5 | 9227 | **4Z892** | 1289.00 | **981.50** | 210.0 |

(*) All ratings are for 60 Hz. Also operable at 190/380V, 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

## SPECIFICATIONS

| Stock No. | Frame | Dimensions (Inches) A | C | D | E | F | H Dia. | N | O | U | V Min. | AA | AB | BA | Sq. Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4Z886 | 145T-21 | 12.68 | 20.68 | 6.25 | 5.125 | 5.0 | 0.6875 | 3.1875 | 11.25 | 1.625 | 3.0 | 0.75 | 6.0 | 1.5 | 3/8 x 1 5/8 |
| 2Z872 | 143T-5 | 8.5 | 17.1875 | 4.5 | 3.375 | 3.0 | 0.5 | 2.625 | 7.9375 | 1.25 | 2.21 | 0.75 | 6.0 | 0.78 | 1/4 x 1 5/8 |
| 4Z887 | | 8.5 | 17.1875 | 4.5 | 3.375 | 3.0 | 0.5 | 2.625 | 7.9375 | 1.25 | 2.21 | 0.75 | 6.0 | 0.78 | 1/4 x 1 5/8 |
| 2Z873 | | 8.5 | 17.1875 | 4.5 | 3.375 | 3.0 | 0.5 | 2.625 | 7.9375 | 1.25 | 2.21 | 0.75 | 6.0 | 0.78 | 1/4 x 1 5/8 |
| 2Z874 | | 8.5 | 17.1875 | 4.5 | 3.375 | 3.0 | 0.5 | 2.625 | 7.9375 | 1.25 | 2.21 | 0.75 | 6.0 | 0.78 | 1/4 x 1 5/8 |
| 3Z950 | 184T-30 | 15.25 | 27.15 | 6.75 | 6.25 | 5.875 | 0.6875 | 3.43 | 13.37 | 1.75 | 3.25 | 0.75 | 6.31 | 1.62 | 3/8 x 2 7/16 |
| 4Z888 | 145T-21 | 12.68 | 20.68 | 6.25 | 5.125 | 5.0 | 0.6875 | 3.1875 | 11.25 | 1.625 | 3.0 | 0.75 | 6.0 | 1.5 | 3/8 x 1 5/8 |
| 4Z889 | | 12.68 | 20.68 | 6.25 | 5.125 | 5.0 | 0.6875 | 3.1875 | 11.25 | 1.625 | 3.0 | 0.75 | 6.0 | 1.5 | 3/8 x 1 5/8 |
| 2Z876 | 145T-5 | 8.5 | 17.68 | 4.5 | 3.375 | 3.0 | 0.5 | 2.62 | 7.93 | 1.25 | 2.21 | 0.75 | 6.0 | 0.78 | 1/4 x 1 5/8 |
| 2Z877 | | 8.5 | 17.68 | 4.5 | 3.375 | 3.0 | 0.5 | 2.62 | 7.93 | 1.25 | 2.21 | 0.75 | 6.0 | 0.78 | 1/4 x 1 5/8 |
| 3Z951 | 182T-30 | 15.25 | 27.15 | 6.75 | 6.25 | 5.875 | 0.6875 | 3.43 | 13.37 | 1.75 | 3.25 | 0.75 | 6.31 | 1.62 | 3/8 x 2 7/16 |
| 4Z890 | 182T-21 | 12.6875 | 25.21 | 6.25 | 5.125 | 5.0 | 0.6875 | 3.1875 | 11.25 | 1.625 | 3.0 | 0.75 | 6.31 | 1.5 | 3/8 x 1 5/8 |
| 4Z891 | | 12.6875 | 25.21 | 6.25 | 5.125 | 5.0 | 0.6875 | 3.1875 | 11.25 | 1.625 | 3.0 | 0.75 | 6.31 | 1.5 | 3/8 x 1 5/8 |
| 4Z892 | | 12.6875 | 25.21 | 6.25 | 5.125 | 5.0 | 0.6875 | 3.1875 | 11.25 | 1.625 | 3.0 | 0.75 | 6.31 | 1.5 | 3/8 x 1 5/8 |

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL-1-800-323-0620**

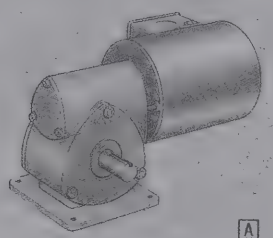

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

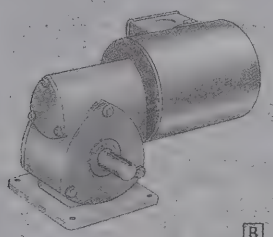
# FRACTIONAL AC GEARMOTORS RIGHT ANGLE

Dayton®

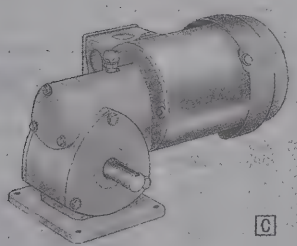
E47479



A

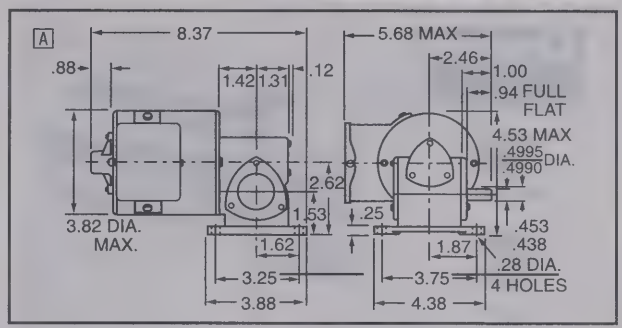


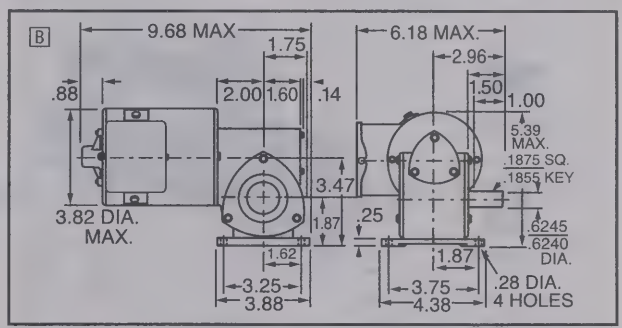
B

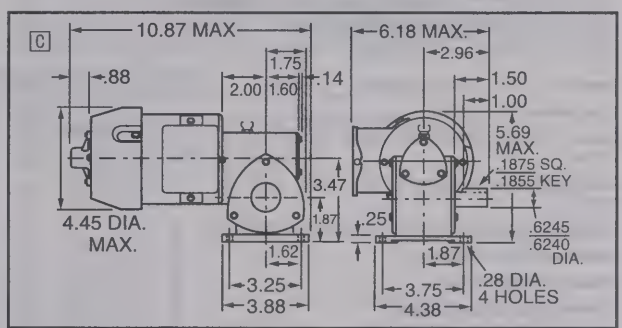


C

**Replacement Parts Available**
**1-800-323-0620**




**Gearcase:** Zinc alloy

**Lubrication:** A & B Grease filled; C Oil filled

**Gears:** A & B Hardened steel worm, phenolic output gear; C Hardened steel worm, forged bronze output gear

**Bearings:** Ball on output shaft of case; ball on motor

**Rotation:** Reversible

**Thermal Protection:** None

**Mounting:** All position except input motor shaft up

**Ambient:** 40°C

**Duty:** Continuous

**Enclosure:** A & B TENV; C TEFC

**Brake:** Adaptable to No. 5X400 using one disc with 1/20 HP, two discs with 1/12 and 1/8 HP models

**Capacitor:** Required; order separately

**Warranty:** 2 Year

| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115V | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Capacitor Required Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PSC, TENV—115V, 60 Hz; 105V, 50 Hz*** | | | | | | | | | | | | |
| A | 43 | 21 | 70 | 1/20 | 40:1 | 1.0 | **4Z277** | $261.00 | **$182.25** | 9.8 | 6X652 | **$4.62** |
| A | 86 | 22 | 60 | 1/20 | 20:1 | 1.0 | **4Z276** | 261.00 | **182.25** | 10.0 | 6X652 | **4.62** |
| A | 173 | 13 | 50 | 1/20 | 10:1 | 1.0 | **4Z275** | 261.00 | **182.25** | 10.0 | 6X652 | **4.62** |
| B | 43 | 55 | 110 | 1/12 | 40:1 | 1.3 | **4Z280** | 281.00 | **196.25** | 15.0 | 6X654 | **4.64** |
| B | 86 | 41 | 90 | 1/12 | 20:1 | 1.3 | **4Z279** | 281.00 | **196.25** | 15.0 | 6X654 | **4.64** |
| B | 173 | 23 | 70 | 1/12 | 10:1 | 1.3 | **4Z278** | 281.00 | **196.25** | 15.0 | 6X654 | **4.64** |
| **PSC, TEFC—115V, 60 Hz; 105V, 50 Hz*** | | | | | | | | | | | | |
| C | 29 | 85 | 130 | 1/8 | 60:1 | 2.0 | **4Z721** | 324.00 | **226.50** | 15.0 | 6X658 | **8.17** |
| C | 43 | 77 | 110 | 1/8 | 40:1 | 2.0 | **4Z283** | 324.00 | **226.50** | 15.0 | 6X658 | **8.17** |
| C | 57 | 68 | 100 | 1/8 | 30:1 | 2.0 | **4Z722** | 324.00 | **226.50** | 15.0 | 6X658 | **8.17** |
| C | 86 | 55 | 90 | 1/8 | 20:1 | 2.0 | **4Z282** | 324.00 | **226.50** | 15.0 | 6X658 | **8.17** |
| C | 173 | 31 | 70 | 1/8 | 10:1 | 2.0 | **4Z281** | 324.00 | **226.50** | 15.0 | 6X658 | **8.17** |

(*) Ratings are for 60 Hz. Also operable at 105V, 50 Hz at 5/6 of rated HP and RPM.

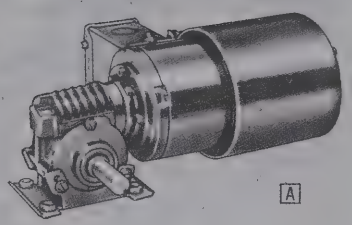
**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

# FRACTIONAL AC GEARMOTORS RIGHT ANGLE

Dayton®

E47479

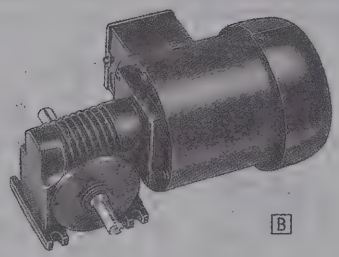
6319



A

E47479

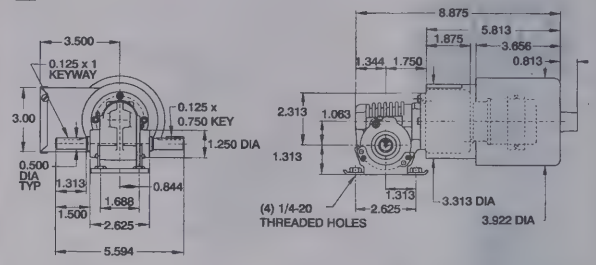
68769



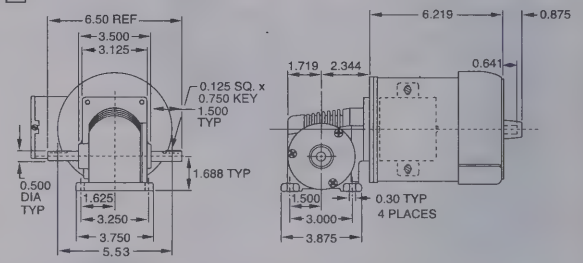
B

Replacement Parts Available
1-800-323-0620

A




B




**Gearcase:** Die-cast aluminum
**Lubrication:** Oil filled
**Gears:** Worm, hardened steel; output gear, bronze
**Bearings:** Needle bearing on case; ball on motor
**Seals:** Lip-type on input and output shafts
**Mounting:** All position
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TEFC
**Features:** Double output shafts
**Brake:** Adaptable to No. 5X400 brake
**Capacitor:** Required; included on A models; order separately for B models
**Warranty:** 2 Year

## PSC, TEFC—115/230V, 60 Hz; 110/220V, 50 Hz

| Key | Nameplate RPM 60 Hz | 50 Hz | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP* | Gear Ratio | Full-Load Amps at 115/230V | 110/220V | Stock No. | List | Each | Shpg. Wt. | Capacitor Required Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 27 | 23 | 75 | 225 | 1/15 | 60:1 | 1.3/0.7 | 1.2/0.6 | 1L536 | $422.00 | $292.00 | 10.0 | Included | |
| A | 41 | 34 | 57 | 225 | 1/15 | 40:1 | 1.3/0.7 | 1.2/0.6 | 1L538 | 422.00 | 292.00 | 12.0 | Included | |
| A | 54 | 45 | 45 | 225 | 1/15 | 30:1 | 1.3/0.7 | 1.2/0.6 | 1L535 | 422.00 | 292.00 | 10.0 | Included | |
| A | 80 | 67 | 33 | 225 | 1/15 | 20:1 | 1.3/0.7 | 1.2/0.6 | 1L534 | 422.00 | 292.00 | 10.0 | Included | |
| A | 157 | 130 | 20 | 200 | 1/15 | 10:1 | 1.3/0.7 | 1.2/0.6 | 1L533 | 422.00 | 292.00 | 10.0 | Included | |
| B | 28 | 23 | 200 | 200 | 1/4 | 60:1 | 2.4/1.2 | 2.6/1.4 | 1L501 | 549.00 | 441.00 | 20.0 | 6X660 | $10.61 |
| B | 36 | 30 | 185 | 200 | 1/4 | 45:1 | 2.4/1.2 | 2.6/1.4 | 1L502 | 549.00 | 441.00 | 17.0 | 6X660 | 10.61 |
| B | 55 | 46 | 130 | 200 | 1/4 | 30:1 | 2.4/1.2 | 2.6/1.4 | 1L503 | 549.00 | 441.00 | 18.0 | 6X660 | 10.61 |
| B | 80 | 67 | 108 | 200 | 1/4 | 20:1 | 2.4/1.2 | 2.6/1.4 | 1L504 | 549.00 | 441.00 | 13.0 | 6X660 | 10.61 |
| B | 160 | 133 | 62 | 200 | 1/4 | 10:1 | 2.4/1.2 | 2.6/1.4 | 1L505 | 549.00 | 441.00 | 17.0 | 6X660 | 10.61 |

(*) Ratings are for 60 Hz. Also operable at 110/220V, 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

**TECHNICAL REFERENCE LITERATURE**
Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics
See Index under Books.

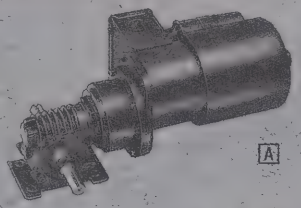
## UL LISTING AND CSA CERTIFICATION

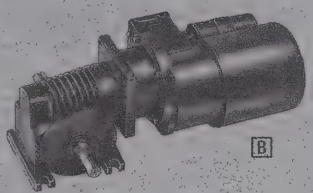
When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# FRACTIONAL AC GEARMOTORS RIGHT ANGLE

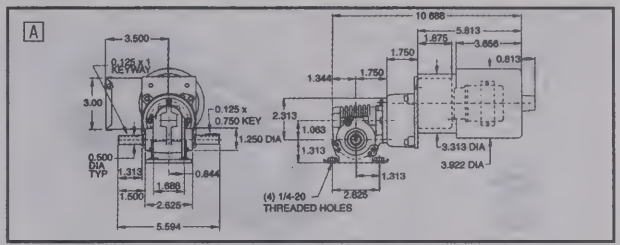
Dayton®

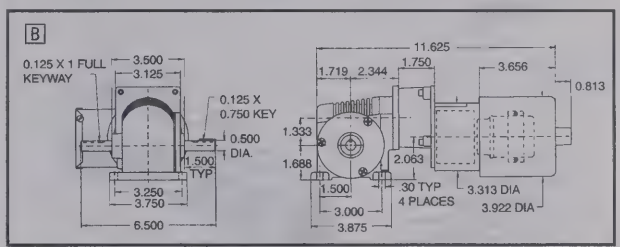
E47479
E61921




Replacement Parts Available
1-800-323-0620




**Gearcase**: Die-cast aluminum
**Lubrication**: Oil filled
**Gears**: 1st stage steel helical, 2nd stage hardened steel worm, bronze alloy
**Seals**: Lip-type on input and output shafts
**Bearings**: Needle bearing on case; ball on motor
**Mounting**: All position
**Rotation**: Reversible
**Thermal Protection**: None
**Ambient**: 40°C **Duty**: Continuous
**Enclosure**: TEFC
**Features**: Double output shaft
**Brake**: Adaptable to No. 5X400 brake
**Capacitor**: Included
**Warranty**: 2 Year

## PSC, TEFC—115/230V, 60 Hz; 110/220, 50 Hz

| Key | Nameplate RPM 60 Hz | 50 Hz | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP* | Gear Ratio | Full-Load Amps at 115 / 230V | 110 / 220V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5.2 | 4 | 150 | 225 | 1/15 | 312:1 | 1.0/0.5 | 1.0/0.5 | **1L506** | $527.00 | **$423.25** | 14.0 |
| A | 10 | 8 | 150 | 225 | 1/15 | 160:1 | 1.0/0.5 | 1.0/0.5 | **1L508** | 527.00 | **423.25** | 14.0 |
| A | 20 | 17 | 140 | 225 | 1/15 | 81:1 | 1.3/0.7 | 1.2/0.6 | **1L507** | 527.00 | **423.25** | 14.0 |
| B | 5 | 4.1 | 215 | 200 | 1/15 | 351:1 | 1.0/0.5 | 1.0/0.5 | **1L493** | 609.00 | **489.50** | 16.0 |
| B | 10 | 8.3 | 215 | 200 | 1/15 | 160:1 | 1.3/0.7 | 1.2/0.6 | **1L494** | 609.00 | **489.50** | 16.0 |
| B | 20 | 16.6 | 150 | 200 | 1/15 | 81:1 | 1.3/0.7 | 1.2/0.6 | **1L495** | 609.00 | **489.50** | 14.0 |

(*) Ratings are for 60 Hz. Also operable at 110/220V, 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

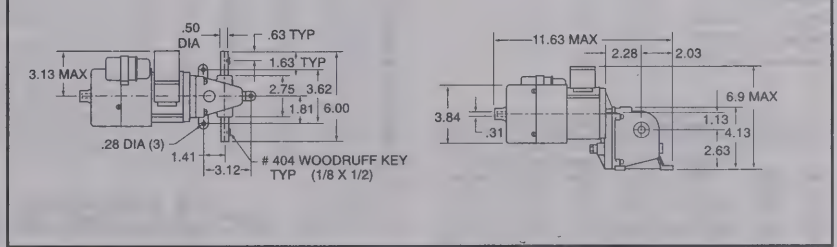
**PARTS AVAILABLE FOR MANY AC GEARMOTORS, CALL 1-800-323-0620**

Dayton®

E47479

42492





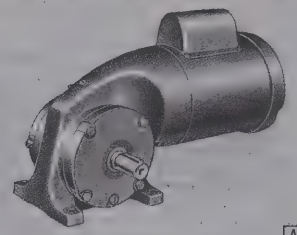

**Gearcase**: Zinc die-cast
**Lubrication**: Grease filled
**Gears**: Heat treated steel
**Bearings**: Sleeve on case; ball on motor
**Seals**: On output shaft
**Mounting**: All position
**Rotation**: Reversible
**Thermal Protection**: None
**Ambient**: 40°C
**Duty**: Continuous
**Enclosure**: TEFC
**Brake**: Adaptable to No. 5X400 brake using one disc in brake
**Capacitor**: Included
**Warranty**: 2 Year

## PSC, TEFC—115/230V, 60/50 Hz*

| Nameplate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Gear Ratio | Full-Load Amps at 115 / 230V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1.3** | 250 | 100 | 1/50 | 1255:1 | 1.0/0.5 | **1L554** | $271.00 | **$221.00** | 13.0 |
| **3** | 200 | 100 | 1/20 | 525:1 | 1.1/0.6 | **1L555** | 271.00 | **221.00** | 14.0 |
| **5.6** | 200 | 100 | 1/14 | 275:1 | 1.1/0.6 | **1L556** | 271.00 | **221.00** | 13.0 |
| **9** | 200 | 100 | 1/16 | 167:1 | 1.1/0.6 | **1L557** | 272.00 | **221.25** | 12.0 |
| **21** | 170 | 100 | 1/12 | 70:1 | 1.4/0.7 | **1L558** | 272.00 | **221.25** | 12.0 |
| **39** | 89 | 100 | 1/12 | 37:1 | 1.4/0.7 | **1L559** | 272.00 | **221.25** | 12.0 |

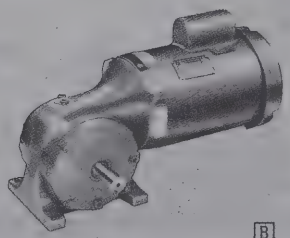
(*) Ratings are for 60 Hz. Also operable at 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.

# FRACTIONAL AC GEARMOTORS RIGHT ANGLE



LR6153

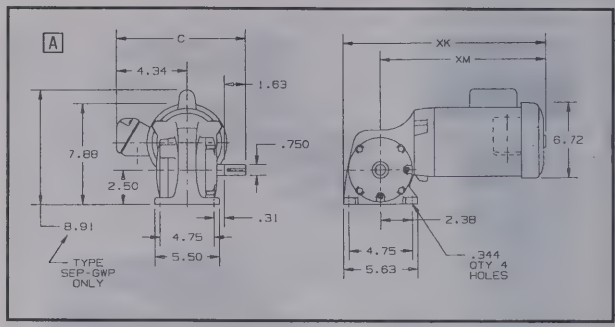
A

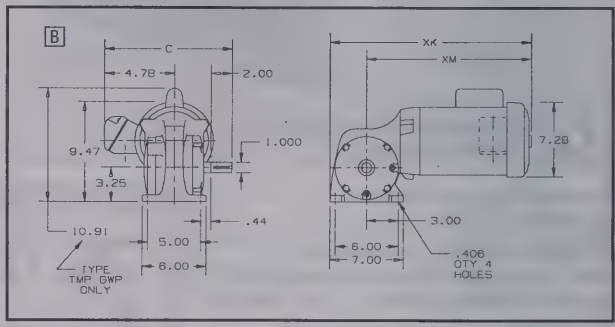


B

For dimensions of individual line drawings see Specifications chart below.

Replacement Parts Available
1-800-323-0620




**Gearcase:** Die-cast aluminum
**Lubrication:** Shipped with oil
**Gears:** Hardened steel worm, forged bronze output gear
**Bearings:** Roller bearings on case; ball on motor
**Seals:** Two double lips on input and output shafts
**Mounting:** Horizontal, vertical, or at 90° angles
**Rotation:** Reversible
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Enclosure:** TEFC
**Features:** Single output shaft

## SPECIFICATIONS

| Key | Frame | USEM Frame Type | Dimensions (Inches) C | XK | XM | Sq. Key |
|---|---|---|---|---|---|---|
| A | 48-1 | SEP-GWP | 8.81 | 17.28 | 14.47 | .19 x 1.00 |
| B | 56-6 | TMP-GWP | 9.28 | 17.41 | 13.91 | .25 x 1.12 |
| B | 56-6 | UTP-GWP | 10.16 | 16.44 | 12.94 | .25 x 1.12 |
| B | 143T-6 | UTP-GWP | 10.16 | 18.94 | 15.44 | .25 x 1.12 |
| B | 145T-6 | UTP-GWP | 10.16 | 18.94 | 15.44 | .25 x 1.12 |

## SINGLE-PHASE CAPACITOR-START, TEFC—115/208-230V, 60 Hz

| Key | Nameplate RPM | Full-Load Torque In.-Lbs. | Overhung Load Lbs. | Input HP | Lube Qty. Qt. | USEM Frame No. | USEM Frame Type | Gear Ratio | Full-Load Amps at Nameplate Volts | USEM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 30 | 381 | 670 | 1/3 | 3/4 | 48-1 | SEP-GWP | 58:1 | 6.2/3.1 | G814 | **5K535** | $526.00 | **$406.25** | 31.0 |
| A | 45 | 299 | 670 | 1/3 | 3/4 | 48-1 | SEP-GWP | 39:1 | 6.2/3.1 | G815 | **5K536** | 526.00 | **406.25** | 28.0 |
| A | 56 | 254 | 670 | 1/3 | 3/4 | 48-1 | SEP-GWP | 31:1 | 6.2/3.1 | T226 | **4FG22** | 620.00 | **411.50** | 36.0 |
| A | 68 | 222 | 670 | 1/3 | 3/4 | 48-1 | SEP-GWP | 26:1 | 6.2/3.1 | G816 | **5K537** | 526.00 | **406.25** | 29.0 |
| A | 84 | 189 | 670 | 1/3 | 3/4 | 48-1 | SEP-GWP | 21:1 | 6.2/3.1 | T225 | **4FG23** | 620.00 | **411.50** | 36.0 |
| A | 100 | 163 | 670 | 1/3 | 3/4 | 48-1 | SEP-GWP | 18:1 | 6.2/3.1 | G817 | **5K538** | 526.00 | **406.25** | 28.0 |
| B | 30 | 680 | 980 | 1/2 | 1 | 56-6 | TMP-GWP | 58:1 | 9.0/4.5 | G818 | **5K539** | 568.00 | **439.00** | 48.0 |
| A | 45 | 456 | 670 | 1/2 | 3/4 | 48-1 | SEP-GWP | 39:1 | 7.6/3.8 | G819 | **5K540** | 543.00 | **419.25** | 29.0 |
| A | 56 | 390 | 670 | 1/2 | 3/4 | 48-1 | SEP-GWP | 31:1 | 7.6/3.8 | T228 | **4FG24** | 640.00 | **424.25** | 32.0 |
| A | 68 | 344 | 670 | 1/2 | 3/4 | 48-1 | SEP-GWP | 26:1 | 7.6/3.8 | G820 | **5K541** | 543.00 | **419.25** | 32.0 |
| A | 84 | 292 | 670 | 1/2 | 3/4 | 48-1 | SEP-GWP | 21:1 | 7.6/3.8 | T227 | **4FG25** | 620.00 | **424.25** | 32.0 |
| A | 100 | 254 | 670 | 1/2 | 3/4 | 48-1 | SEP-GWP | 18:1 | 7.6/3.8 | G821 | **5K542** | 543.00 | **419.25** | 31.0 |
| A | 155 | 173 | 640 | 1/2 | 3/4 | 48-1 | SEP-GWP | 11:1 | 7.6/3.8 | G822 | **5K919** | 543.00 | **419.25** | 32.0 |
| B | 45 | 743 | 980 | 3/4 | 1 | 56-6 | TMP-GWP | 39:1 | 10.4/5.2 | G823 | **5K544** | 619.00 | **478.50** | 49.0 |
| B | 56 | 633 | 980 | 3/4 | 1 | 56-6 | TMP-GWP | 31:1 | 10.4/5.2 | T230 | **4FG26** | 730.00 | **485.00** | 48.0 |
| B | 68 | 537 | 932 | 3/4 | 1 | 56-6 | TMP-GWP | 26:1 | 10.4/5.2 | G824 | **5K545** | 619.00 | **478.50** | 48.0 |
| B | 84 | 456 | 882 | 3/4 | 1 | 56-6 | TMP-GWP | 21:1 | 10.4/5.2 | T229 | **4FG27** | 730.00 | **485.00** | 48.0 |
| B | 100 | 394 | 831 | 3/4 | 1 | 56-6 | TMP-GWP | 17.6:1 | 10.4/5.2 | G825 | **5K546** | 619.00 | **478.50** | 49.0 |

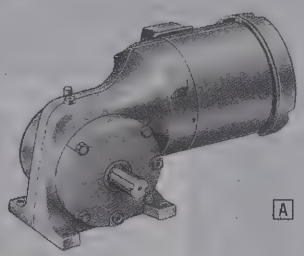
FOR THREE-PHASE, TEFC MODELS, SEE PAGE 251

CONTINUED ON NEXT PAGE

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

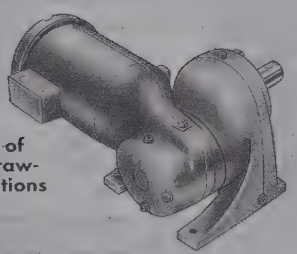
It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.

LR6153



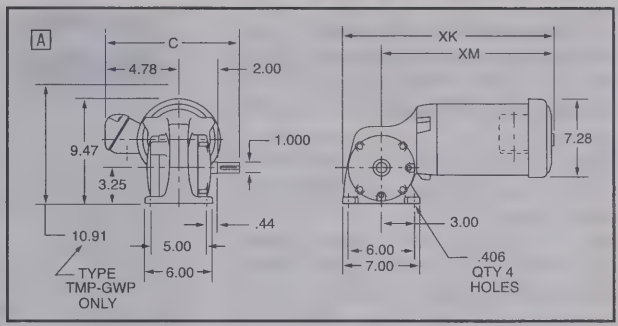
A

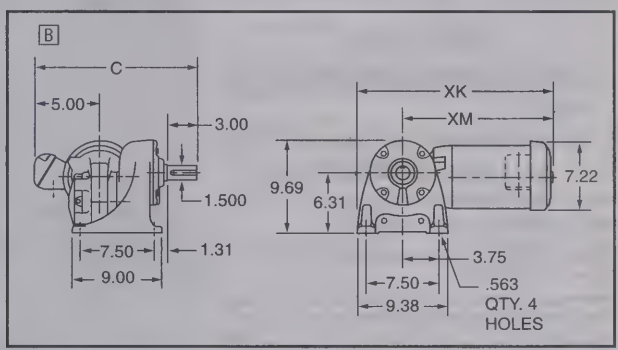
**Replacement Parts Available**
**1-800-323-0620**



B

**For dimensions of individual line drawings see Specifications chart below.**




**Gearcase:** Die-cast aluminum

**Lubrication:** Shipped with oil

**Gears:** Hardened steel worm, forged bronze output gear

**Bearings:** Roller bearings on case; ball on motor

**Seals:** Two double lips on input and output shaft

**Mounting:** Horizontal, vertical, or at 90° angles

**Rotation:** Reversible

**Thermal Protection:** None

**Ambient:** 40°C

**Duty:** Continuous

**Enclosure:** TEFC

**Features:** Single output shaft

**Brake:** Three-phase models use brake No. 3M360 or 2Z871; order separately from page 263.

### SPECIFICATIONS

| Key | Frame | USEM Frame Type | Dimensions (In.) C | XK | XM | Sq. Key |
|---|---|---|---|---|---|---|
| A | 56-6 | TMP-GWP | 9.28 | 17.41 | 13.91 | .25 x 1.12 |
| A | 56-6 | UTP-GWP | 10.16 | 16.44 | 12.94 | .25 x 1.12 |
| A | 143T-6 | UTP-GWP | 10.16 | 18.94 | 15.44 | .25 x 1.12 |
| A | 145T-6 | UTP-GWP | 10.16 | 18.94 | 15.44 | .25 x 1.12 |
| B | 56-6 | UTP-GWBP | 15.31 | 17.63 | 12.94 | .38 x 2.00 |
| B | 143T-6 | UTP-GWBP | 15.31 | 20.13 | 15.44 | .38 x 2.00 |
| B | 145T-6 | UTP-GWBP | 15.31 | 20.13 | 15.44 | .38 x 2.00 |

### THREE-PHASE, TEFC—230/460V, 60/50 Hz*

| Key | Name-plate RPM | Full-Load Torque In.-Lbs. | Over-hung Load Lbs. | Input HP | Lube Qty. (Qt.) | USEM Frame No. | USEM Frame Type | Gear Ratio | Full-Load Amps at Nameplate Volts | USEM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 30 | 680 | 980 | 1/2 | 1 | 56-6 | UTP-GWP | 58:1 | 2.0/1.0 | G826 | **3N169** | $534.00 | **$412.75** | 38.0 |
| A | 37 | 586 | 980 | 1/2 | 1 | 56-6 | UTP-GWP | 47:1 | 2.0/1.0 | T231 | **4FG28** | 630.00 | **418.25** | 38.0 |
| A | 45 | 507 | 980 | 1/2 | 1 | 56-6 | UTP-GWP | 39:1 | 2.0/1.0 | G827 | **3N170** | 534.00 | **412.75** | 38.0 |
| A | 56 | 428 | 980 | 1/2 | 1 | 56-6 | UTP-GWP | 31:1 | 2.0/1.0 | T232 | **4FG29** | 630.00 | **418.25** | 38.0 |
| A | 68 | 367 | 932 | 1/2 | 1 | 56-6 | UTP-GWP | 26:1 | 2.0/1.0 | G828 | **3N171** | 534.00 | **412.75** | 38.0 |
| B | 30 | 1310 | 883 | 3/4 | 1 | 56-6 | UTP-GWBP | 57:1 | 2.8/1.4 | G842 | **4Z893** | 826.00 | **638.50** | 80.0 |
| A | 37 | 855 | 980 | 3/4 | 1 | 56-6 | UTP-GWP | 47:1 | 2.8/1.4 | T234 | **4FG31** | 660.00 | **437.50** | 36.0 |
| A | 45 | 743 | 980 | 3/4 | 1 | 56-6 | UTP-GWP | 39:1 | 2.8/1.4 | G830 | **4Z894** | 560.00 | **432.75** | 36.0 |
| A | 84 | 308 | 882 | 1/2 | 1 | 56-6 | UTP-GWP | 21:1 | 2.0/1.0 | T233 | **4FG30** | 630.00 | **418.25** | 38.0 |
| A | 100 | 265 | 831 | 1/2 | 1 | 56-6 | UTP-GWP | 17.6:1 | 2.0/1.0 | G829 | **3N172** | 534.00 | **412.75** | 38.0 |
| A | 56 | 633 | 980 | 3/4 | 1 | 56-6 | UTP-GWP | 31:1 | 2.8/1.4 | T235 | **4FG32** | 660.00 | **437.50** | 36.0 |
| A | 68 | 537 | 932 | 3/4 | 1 | 56-6 | UTP-GWP | 26:1 | 2.8/1.4 | G831 | **4Z895** | 560.00 | **432.75** | 36.0 |
| A | 84 | 456 | 882 | 3/4 | 1 | 56-6 | UTP-GWP | 21:1 | 2.8/1.4 | T236 | **4FG33** | 660.00 | **437.50** | 36.0 |
| A | 100 | 394 | 831 | 3/4 | 1 | 56-6 | UTP-GWP | 17.6:1 | 2.8/1.4 | G832 | **4Z896** | 560.00 | **432.75** | 36.0 |
| A | 155 | 269 | 723 | 3/4 | 1 | 56-6 | UTP-GWP | 11.3:1 | 2.8/1.4 | G833 | **4Z897** | 560.00 | **432.75** | 36.0 |
| B | 30 | 1740 | 883 | 1 | 1 | 143T-6 | UTP-GWBP | 57:1 | 3.6/1.8 | G839 | **3N298** | 842.00 | **651.00** | 95.0 |
| B | 37 | 1455 | 1240 | 1 | 1 | 143T-6 | UTP-GWBP | 47:1 | 3.6/1.8 | T237 | **4FG34** | 970.00 | **648.50** | 95.0 |
| A | 45 | 966 | 980 | 1 | 1 | 143T-6 | UTP-GWP | 39:1 | 3.6/1.8 | G837 | **3N176** | 577.00 | **445.50** | 45.0 |
| A | 56 | 835 | 980 | 1 | 1 | 143T-6 | UTP-GWP | 31:1 | 3.6/1.8 | T238 | **4FG35** | 680.00 | **457.75** | 95.0 |
| A | 68 | 796 | 932 | 1 | 1 | 143T-6 | UTP-GWP | 26:1 | 3.6/1.8 | G834 | **3N173** | 577.00 | **445.50** | 46.0 |
| B | 45 | 2410 | 894 | 2 | 1 | 145T-6 | UTP-GWBP | 36.6:1 | 6.2/3.1 | G840 | **3N299** | 885.00 | **683.50** | 95.0 |
| B | 68 | 1570 | 827 | 2 | 1 | 145T-6 | UTP-GWBP | 25.1:1 | 6.2/3.1 | G841 | **3N300** | 885.00 | **683.50** | 97.0 |
| A | 84 | 605 | 882 | 1 | 1 | 143T-6 | UTP-GWP | 21:1 | 3.6/1.8 | T239 | **4FG36** | 680.00 | **451.75** | 46.0 |
| A | 100 | 522 | 831 | 1 | 1 | 143T-6 | UTP-GWP | 17.6:1 | 3.6/1.8 | G835 | **3N174** | 577.00 | **445.50** | 45.0 |
| A | 155 | 357 | 723 | 1 | 1 | 143T-6 | UTP-GWP | 11.3:1 | 3.6/1.8 | G836 | **3N175** | 577.00 | **445.50** | 46.0 |
| A | 155 | 711 | 723 | 2 | 1 | 145T-6 | UTP-GWP | 11.3:1 | 6.2/3.1 | G838 | **3N301** | 619.00 | **478.50** | 51.0 |

(*) Ratings are at 60 Hz. Also operable on 190/380V, 50 Hz at 5/6 of 60 Hz ratings for HP and RPM.


**FOR SINGLE-PHASE CAPACITOR-START TEFC MODELS, SEE PAGE 250**



**OVER 100 BLOWER TYPES ARE LISTED IN THIS CATALOG**

**You can rely on our blowers for new construction and replacement needs. Shaded pole and industrial blowers, direct and belt-driven, are available with or without motors, controls, drives, and shutters. See Index under Blowers.**

# 1/2 HP ADJUSTABLE SPEED DRIVES

- **Fully assembled and aligned**

Adjustable speed drives are variable speed belt drive transmissions. Include integrally mounted open dripproof or totally enclosed electric motor.

Designed for low speed applications and where speed adjustments are desired. Used on conveyors, shop equipment, machine drives, mixers, and other similar applications.

Speed is controlled by a 14 turn handwheel providing stepless speeds using adjustable pitch pulleys and deep cog belt. Keyed shaft. 40°C ambient, continuous duty. 1.0 Service factor. Gray finish. CSA Certified (LR6153). Dayton brand.

## RIGHT ANGLE

- **Integrally mounted right angle drive for low speed and high torque applications**
- **Repeatable speed setting capabilities**

### GEARCASE CONSTRUCTION

**Worm Gear:** Hardened steel

**Worm Wheel:** Bronze forged

**Output Shaft:** Interchangeable for left or right hand output

**Bearings:** Tapered roller bearings for high overhung load applications

**Mounting:** Horizontal, vertical, or at 90° angles

## PARALLEL SHAFT

- **Shaft rotation easily reversed by electrical reconnection**
- **Constant torque and horsepower ranges on all units**
- **Automatic anticreep device maintains speed setting**
- **Relubrication eliminated by sealed ball bearings and mechanical design which allows disks to slide on shaft with no metal to metal contact**

### GEARCASE CONSTRUCTION

**Case:** Die-cast aluminum

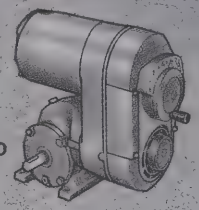
**Bearings:** Sealed ball

**Mounting:** Adjustable, 180° swing cradle base which permits drive to be tilted at any angle

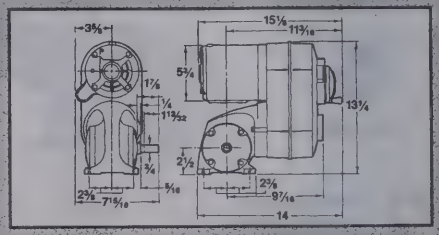
Dayton®

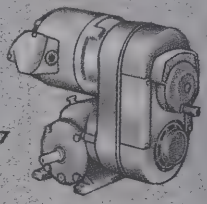
Replacement Parts Available
1-800-323-0620

LR6153

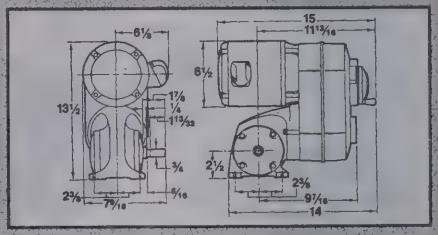


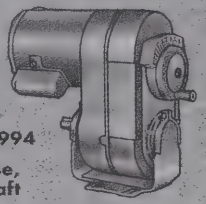
A No. 4Z370
Single-Phase, Right Angle



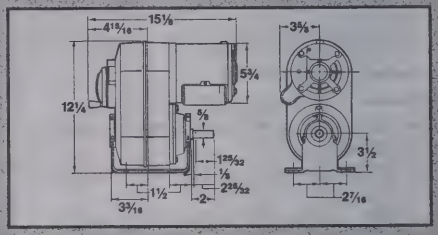



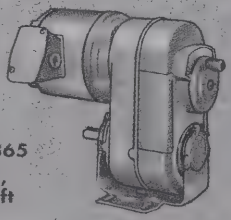
B No. 3N297
Three-Phase, Right Angle



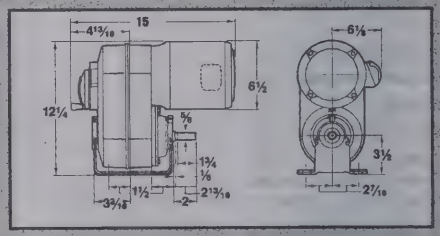



C No. 5K994
Single-Phase, Parallel Shaft



D No. 4Z365
Three-Phase, Parallel Shaft



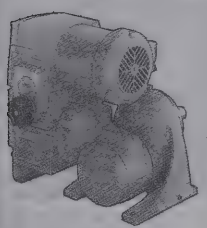

| Key | Input HP | Output Shaft RPM Min. to Max. | Full-Load Torque (In.-Lbs.) | Continuous Duty Output HP | Overhung Load (Lbs.) | Motor Type (Phase) | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Input Motor RPM | Enclosure Type | Rotation | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/2 | 12-72 | 265-243 | 1/20-1/4 | 890 | Single | 115/230 | 11.0/5.5 | 1725 | Op Dpf | Reversible | **4Z370** | $961.00 | **$757.50** | 41.0 |
| B | 1/2 | 12-72 | 265-243 | 1/20-1/4 | 890 | Three | 230/460* | 3.1/1.55 | 1725 | TEFC | Reversible | **3N297** | 1083.00 | **853.00** | 48.0 |
| A | 1/2 | 18-108 | 204-185 | 1/16-1/3 | 810 | Single | 115/230 | 11.0/5.5 | 1725 | Op Dpf | Reversible | **6K119** | 908.00 | **716.00** | 41.0 |
| B | 1/2 | 18-108 | 204-185 | 1/16-1/3 | 810 | Three | 230/460* | 3.1/1.55 | 1725 | TEFC | Reversible | **3N259** | 1026.00 | **808.50** | 44.0 |
| A | 1/2 | 64-364 | 68.8-65.2 | 1/14-2/5 | 570 | Single | 115/230 | 11.0/5.5 | 1725 | Op Dpf | Reversible | **4Z369** | 908.00 | **716.00** | 41.0 |
| B | 1/2 | 64-364 | 68.8-65.2 | 1/14-2/5 | 570 | Three | 230/460* | 3.1/1.55 | 1725 | TEFC | Reversible | **4Z367** | 1026.00 | **808.50** | 45.0 |
| A | 1/2 | 141-846 | 32.8-29.5 | 1/14-2/5 | 450 | Single | 115/230 | 11.0/5.5 | 1725 | Op Dpf | Reversible | **4Z368** | 908.00 | **716.00** | 41.0 |
| B | 1/2 | 141-846 | 32.8-29.5 | 1/14-2/5 | 450 | Three | 230/460* | 3.1/1.55 | 1725 | TEFC | Reversible | **4Z366** | 1026.00 | **808.50** | 41.0 |
| C | 1/2 | 705-4230 | 18.3-7.5 | 1/5-1/2 | 108-100 | Single | 115/230 | 11.0/5.5 | 1725 | Op Dpf | Reversible | **5K994** | 612.00 | **481.75** | 35.0 |
| D | 1/2 | 705-4230 | 18.3-7.5 | 1/5-1/2 | 108-100 | Three | 230/460* | 2.8/1.4 | 1725 | TEFC | Reversible | **4Z365** | 730.00 | **574.50** | 40.0 |

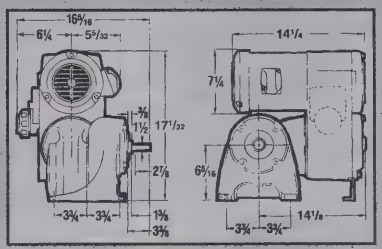
(*) Operable on 190/380V, 50 Hz at 5/6 rated speed and HP of 60 Hz.

# 1 & 1½ HP ADJUSTABLE SPEED DRIVES

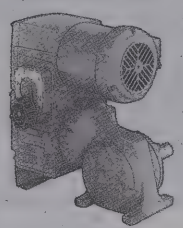
LR6153

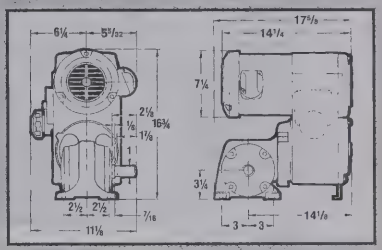
Replacement Parts Available
1-800-323-0620



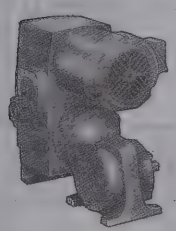


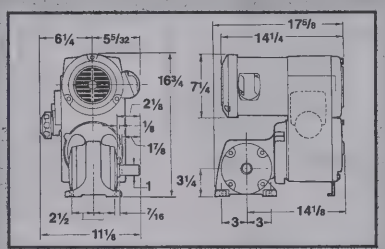

A 1 HP, Right Angle



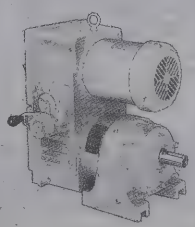


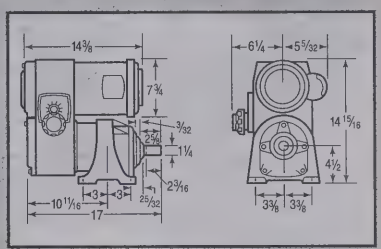

B 1 HP, Right Angle



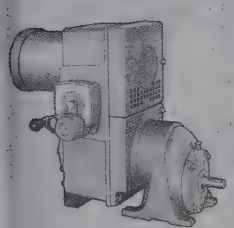


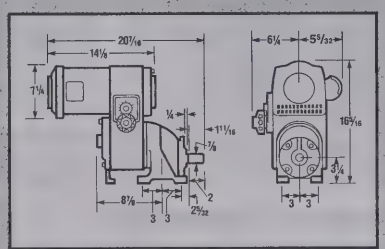

C 1½ HP, Right Angle
Horizontal, Vertical, or 90° Angle Mount



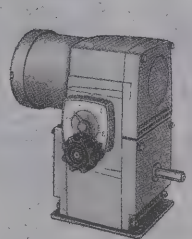


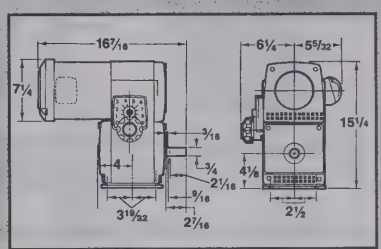

D 1½ HP, Parallel Shaft






E 1½ HP, Parallel Shaft






F 1½ HP, Parallel Shaft

Adjustable speed drives are variable speed belt drive transmissions, furnished complete with a totally enclosed fan cooled motor. Designed for applications which include conveyors, shop equipment, machine drives, and mixers.

Speed controlled by a 14 turn handwheel providing stepless speeds using an adjustable pitch pulley and deep cog belt. 40° ambient, continuous duty. 1.0 service factor. Gray finish. USEM brand.

## GEARCASE CONSTRUCTION†

**Worm Gear:** Hardened steel
**Worm Wheel:** Bronze forged
**Output Shaft:** Interchangeable for LH or RH output (Nos. 3Z499, 3N296, and 4Z497 only)
**Bearings:** Tapered roller bearings for high overhung load applications
**Brake:** Adaptable to No. 3M360 (available on page 23,263)

| Key | Input HP | Output Shaft RPM Min. to Max. | Full-Load Torque In.-Lbs. | Continuous Duty Output HP | Overhung Load (Lbs.) | Motor Type (Phase) | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Input Motor RPM | Enclosure Type | Rotation | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 | 7.5-75 | 1090-560 | 0.13-0.67 | 1160 | Three | 208-230/460* | 3.6-3.6/1.8 | 1745 | TEFC | Reversible | **3Z857** | $1630.00 | **$1285.00** | 137.0 |
| B | 1 | 20.3-203 | 370-198 | 0.12-0.64 | 679 | Three | 208-230/460 | 3.6-3.6/1.8 | 1745 | TEFC | Reversible | **4Z497** | 1354.00 | **1067.00** | 78.0 |
| C | 1½ | 11-109 | 872-411 | 0.14-0.72 | 980 | Three | 208-230/460* | 5.0/2.5 | 1730 | TEFC | Reversible | **3Z499** | 1360.00 | **1071.00** | 82.0 |
| C | 1½ | 20.3-203 | 575-262 | 0.18-0.84 | 879 | Three | 208-230/460* | 5.0/2.5 | 1730 | TEFC | Reversible | **3N296** | 1360.00 | **1071.00** | 82.0 |
| D | 1 | 21-208 | 750-303 | 0.25-1 | 107 | Three | 230/460* | 5.0/2.5 | 1725 | TEFC | Reversible | **3Z605** | 1540.00 | **1214.00** | 105.0 |
| E | 1 | 190-1900 | 82-33 | 0.25-1 | 82 | Three | 230/460* | 5.0/2.5 | 1725 | TEFC | Reversible | **3Z606** | 1496.00 | **1179.00** | 91.0 |
| F | 1½ | 428-4275 | 36.5-14.7 | 0.25-1 | 75 | Three | 208-230/460* | 5.0/2.5 | 1725 | TEFC | Reversible | **3N295** | 1067.00 | **841.00** | 69.0 |

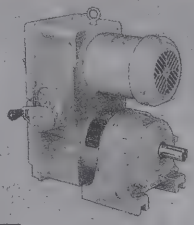
(*) Operable on 190/380V, 50 Hz at 5/6 of rated 60 Hz speed and HP. (†) No. 3N295 has no gearcase.

# 2, 3 & 5 HP ADJUSTABLE SPEED DRIVES

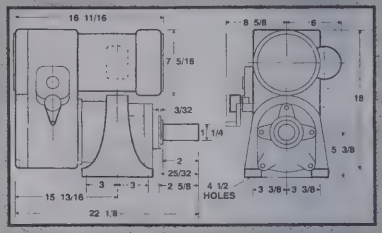
US MOTORS

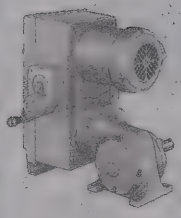
E40077

Replacement Parts Available 1-800-323-0620

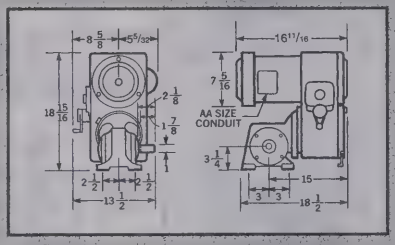


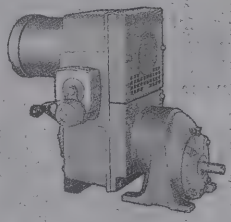
[A] Parallel Shaft



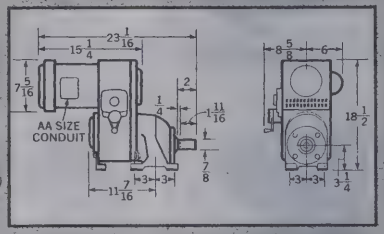



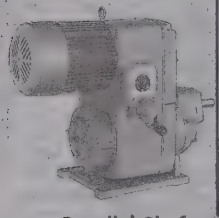
[B] Right Angle



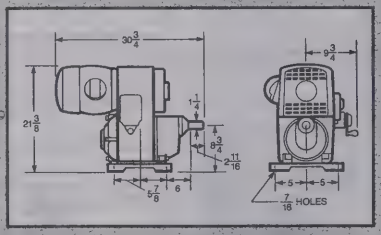



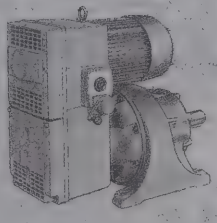
[C] Parallel Shaft



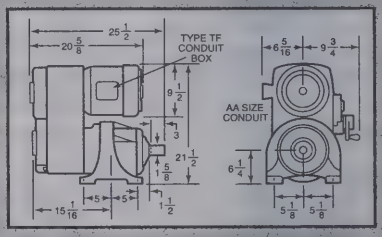



[D] Parallel Shaft



[E] Parallel Shaft




- **Constant torque and HP ranges on all models**
- **Cast-iron gearcase**
- **Automatic anticreep device maintains speed setting**

Designed for applications such as conveyors, pumps, textile machinery, and other general purpose industrial jobs.

Control knob adjusts speed smoothly through adjustable-pitch pulleys and deep cog belt. Sealed ball bearings eliminate the need for relubrication. The mechanical design permits discs to slide on shaft with no metal to metal contact. Anticreep device maintains speed setting. Constant torque and HP ranges on all units. 40°C ambient, continuous duty. 1.0 service factor. Gray finish. USEM brand.

## GEARCASE CONSTRUCTION

**Gears & Pinions:** Hardened steel

**Bearings:** Ball and tapered roller

**Oil Seals:** 2 HP models are friction type, 3 and 5 HP models are friction type, double lip

**Gearcase:** Cast iron

**Shaft Rotation:** Models can be easily reversed by electrical reconnection

**Brake:** 2 HP models are adaptable to No. 2Z871 (see page 263)

**Mounting:** 3 and 5 HP units are horizontal mount only

| Key | Input HP | Output Shaft RPM Min. to Max. | Full-Load Torque (In.-Lbs.) | Continuous Duty Output HP | Overhung Load (Lbs.) | Motor Type (Phase) | Volts 60 Hz* | Full-Load Amps at Nameplate Volts | Input Motor RPM | Enclosure Type | Rotation | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 2 | 16.6-166 | 1880-760 | 0.5-2 | 716 | Three | 230/460 | 7.2/3.6 | 1725 | TEFC | Reversible | **3Z607** | $2089.00 | **$1646.00** | 153.0 |
| B | 2.5 | 24.3-243 | 799-440 | 0.3-1.7 | 831 | Three | 230/460 | 8.4/4.2 | 1725 | TEFC | Reversible | **3Z608** | 1603.00 | **1264.00** | 119.0 |
| C | 2 | 190-1900 | 164-66 | 0.5-2 | 200 | Three | 230/460 | 7.2/3.6 | 1725 | TEFC | Reversible | **3Z609** | 1740.00 | **1372.00** | 110.0 |
| D | 3 | 204-2036 | 240-93 | 0.8-3 | 480 | Three | 230/460 | 11.0/5.5 | 1725 | TEFC | Reversible | **3Z506** | 2139.00 | **1686.00** | 246.0 |
| E | 3 | 14.4-144 | 3400-1313 | 0.8-3 | 1170 | Three | 230/460 | 11.0/5.5 | 1725 | TEFC | Reversible | **3Z507** | 2829.00 | **2229.00** | 270.0 |
| D | 5 | 230-1820 | 400-173 | 1.5-5 | 480 | Three | 230/460 | 16.4/8.2 | 1725 | TEFC | Reversible | **3Z610** | 2640.00 | **2079.00** | 257.0 |
| E | 5 | 37-292 | 2500-1079 | 1.5-5 | 905 | Three | 230/460 | 16.4/8.2 | 1725 | TEFC | Reversible | **3Z611** | 2768.00 | **2180.00** | 294.0 |

(*) Also operable on 190/380V, 50 Hz at 5/6 of rated 60 Hz HP and RPM.

# ELECTRIC VIBRATORS

Used for bulk powder material flow of fine to granular materials in silos, bins, hoppers, and screens. Also for packing materials in drums and bags and unjamming parts in conveyor lines, chutes, and pipes. Adjustable force. Oversized bearings and motor for longer life. All American-made to ASTM and ASME standards.

### 2P MODELS—3600 RPM

Used on all types of bins containing fine to granular materials, for packing coarse materials, and for casting concrete.

### 4P MODEL—1800 RPM

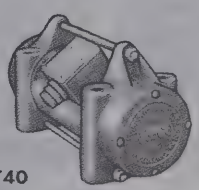
Used on bins containing lumpy or sticky materials for packing light, fluffy materials, and as a typical screen vibrator.

### SMALL IMPACT LINE ELECTRIC VIBRATORS

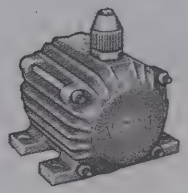
Specially developed for applications in small hoppers, screens, chutes, tables, and filling machines where only a small shake is necessary but vibrator reliability is a must. Provides controlled flow on all types of materials, including fine powders, flakes, pills, bottle caps, and jaw.

VIBCO

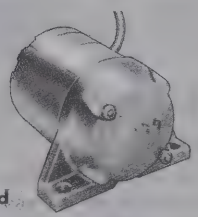
Made in U.S.A.



No. 6L740
3600 RPM
Vibrator



No. 6L733
Watertight
Vibrator



No. 4HR15
Totally Enclosed
Vibrator

Replacement Parts Available
1-800-323-0620

| Force (Lbs.) | Volts 50/60 Hz | Phase | Amps | Speed RPM | dB | Overall Dimensions (Inches) L | W | H | Max. Lbs. of Material in Bin | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2P MODEL SERIES** | | | | | | | | | | | | | | |
| **100** | 115 | 1 | 0.3 | 3600 | 60 | 7 1/2 | 4 1/8 | 5 | 750 | 2P-75-1 | **6L738** | $447.00 | **$422.00** | 16.0 |
| **150** | 115 | 1 | 0.4 | 3600 | 63 | 8 3/16 | 4 1/8 | 5 | 1500 | 2P-100-1 | **4HR27** | 521.33 | **465.75** | 18.0 |
| **150** | 230 | 3 | 0.2 | 3600 | 63 | 8 3/16 | 4 1/8 | 5 | 1500 | 2P-100-3-230 | **4HR28** | 460.67 | **386.50** | 15.0 |
| **150** | 460 | 3 | 0.1 | 3600 | 63 | 8 3/16 | 4 1/8 | 5 | 1500 | 2P-100-3-460 | **4HR29** | 460.67 | **386.50** | 15.0 |
| **300** | 115 | 1 | 1.8 | 3600 | 63 | 11 3/16 | 4 7/8 | 6 1/4 | 750-2000 | 2P-150-1 | **6L739** | 634.00 | **558.50** | 30.0 |
| **300** | 230 | 3 | 0.6 | 3600 | 63 | 11 3/16 | 4 7/8 | 6 1/4 | 750-2000 | 2P-150-3 | **6L740** | 576.00 | **472.75** | 29.0 |
| **300** | 460 | 3 | 0.3 | 3600 | 63 | 10 1/4 | 4 7/8 | 6 1/4 | 3000 | 2P-150-3-460 | **4HR30** | 608.62 | **474.25** | 27.0 |
| **450** | 115 | 1 | 3.0 | 3600 | 62 | 11 3/16 | 5 3/4 | 6 3/8 | 1500-3000 | 2P-200-1 | **6L741** | 712.00 | **592.50** | 41.0 |
| **450** | 230/460 | 3 | 1.0 & 0.5 | 3600 | 62 | 11 3/16 | 5 3/4 | 6 3/8 | 1500-3000 | 2P-200-3 | **6L742** | 640.00 | **507.00** | 36.0 |
| **900** | 115 | 1 | 5.0 | 3600 | 64 | 13 1/2 | 6 1/2 | 7 3/8 | 1100-4500 | 2P-450-1 | **6L743** | 980.00 | **796.50** | 63.0 |
| **900** | 230/460 | 3 | 1.2 & 0.6 | 3600 | 64 | 12 3/8 | 6 1/2 | 7 3/8 | 1100-4500 | 2P-450-3 | **6L744** | 785.00 | **655.00** | 54.0 |
| **1700** | 115/230 | 1 | 8.0/4.0 | 3600 | 70 | 14 3/4 | 7 1/4 | 8 1/2 | 17,000 | 2P-800-1 | **4HR46** | 1364.17 | **1159.00** | 93.0 |
| **1700** | 230/460 | 3 | 2.0/1.0 | 3600 | 70 | 13 1/2 | 7 1/4 | 8 1/2 | 17,000 | 2P-800-3 | **4HR47** | 1283.97 | **1001.00** | 81.0 |
| **4P MODEL SERIES** | | | | | | | | | | | | | | |
| **300** | 230/460 | 3 | 1.0/0.5 | 1800 | 63 | 11 13/16 | 5 3/4 | 6 3/8 | 3000 | 4P-350-3 | **4HR70** | 802.73 | **652.50** | 43.0 |
| **700** | 115/230 | 1 | 6.0/3.0 | 1800 | 63 | 12 5/8 | 6 1/2 | 7 3/8 | 7000 | 4P-700-1 | **4HR77** | 1089.85 | **896.00** | 66.0 |
| **700** | 230/460 | 3 | 1.2 & 0.6 | 1800 | 63 | 12 3/8 | 6 1/2 | 7 3/8 | 5000 | 4P-700-3 | **6L745** | 854.00 | **675.00** | 59.0 |
| **1000** | 115/230 | 1 | 6.2/3.1 | 1800 | 63 | 15 1/2 | 6 1/2 | 7 3/8 | 10,000 | 4P-1000-1 | **4HR59** | 1228.70 | **991.50** | 69.0 |
| **1000** | 230/460 | 3 | 1.2/0.6 | 1800 | 63 | 15 1/2 | 6 1/2 | 7 3/8 | 10,000 | 4P-1000-3 | **4HR60** | 1070.31 | **834.00** | 63.0 |
| **SMALL IMPACT LINE SPR MODEL SERIES** | | | | | | | | | | | | | | |
| **20** | 115 | 1 | 0.5 | 1600 | 45 | 5 | 5 | 3 1/4 | 200 | SPR-20 | **4HR12** | 194.78 | **151.75** | 5.0 |
| **20** | 115 | 1 | 0.8 | 3200 | 48 | 5 | 5 | 3 1/4 | 200 | SPR-21 | **6L727** | 165.00 | **141.10** | 3.7 |
| **40** | 115 | 1 | 1.4 | 1600 | 45 | 7 1/2 | 6 | 4 1/8 | 400 | SPR-40 | **6L728** | 245.00 | **220.00** | 8.0 |
| **60** | 115 | 1 | 1.5 | 3200 | 48 | 7 1/2 | 6 | 4 1/8 | 200-400 | SPR-60 | **6L729** | 248.00 | **212.25** | 7.8 |
| **60** | 115 | 1 | 1.5 | 3200 | 48 | 7 1/2 | 6 | 4 1/8 | 600 | SPRT-60HD | **4HR13** | 276.00 | **252.50** | 10.0 |
| **80** | 115 | 1 | 1.7 | 3200 | 50 | 7 1/2 | 6 | 4 1/8 | 400-800 | SPR-80 | **6L730** | 254.00 | **210.50** | 7.9 |
| **80** | 115 | 1 | 1.7 | 3200 | 50 | 7 1/2 | 6 | 4 1/8 | 800 | SPR-80HD | **4HR14** | 331.94 | **258.75** | 10.0 |
| **TOTALLY ENCLOSED SMALL IMPACT LINE SPRT MODEL SERIES** | | | | | | | | | | | | | | |
| **20** | 115 | 1 | 1.4 | 3200 | 45 | 5 | 5 | 3 1/1 | 200 | SPRT-21 | **4HR15** | 257.46 | **200.75** | 6.0 |
| **60** | 115 | 1 | 1.5 | 3200 | 48 | 5 1/8 | 6 | 4 1/4 | 200-600 | SPRT-60 | **6L731** | 256.00 | **209.25** | 5.6 |
| **60** | 115 | 1 | 1.5 | 3200 | 48 | 5 1/8 | 6 | 4 1/4 | 600 | SPRT-60-HD | **4HR16** | 320.82 | **253.25** | 8.0 |
| **80** | 115 | 1 | 1.7 | 3200 | 50 | 5 1/8 | 6 | 4 1/4 | 200-600 | SPRT-80 | **6L732** | 265.00 | **214.50** | 5.7 |
| **80** | 115 | 1 | 1.7 | 3200 | 50 | 5 1/8 | 6 | 4 1/4 | 800 | SPRT-80HD | **4HR17** | 331.94 | **258.75** | 10.0 |
| **WATERTIGHT SMALL IMPACT LINE SPWT MODEL SERIES** | | | | | | | | | | | | | | |
| **20** | 115 | 1 | 1.4 | 3200 | 48 | 5 | 5 | 3 1/1 | 200 | SPWT-21 | **4HR18** | 343.40 | **267.50** | 9.0 |
| **60** | 115 | 1 | 1.5 | 3200 | 48 | 5 3/8 | 5 1/2 | 6 | 200-600 | SPWT-60 | **6L733** | 317.00 | **265.25** | 8.2 |
| **60** | 115 | 1 | 1.7 | 3200 | 50 | 5 3/8 | 5 1/2 | 6 | 800 | SPWT-80 | **4HR19** | 355.53 | **277.00** | 9.0 |

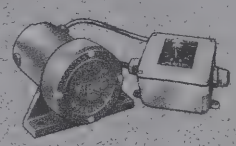
# ELECTRIC, BATTERY, AND HYDRAULIC VIBRATORS

## ELECTRIC SCR MODEL VIBRATORS—ADJUSTABLE SPEED & FORCE

Used for bulk powder material flow of fine to granular materials in silos, bins, hoppers, and screens. Also used on vibrating tables for packing materials in drums and bags and unjamming parts in conveyor lines, chutes, and pipes. Adjustable speed force while running. Oversized bearings and motor for longer life. All American-made to ASTM and ASME standards.

VIBCO

Made in U.S.A.



No. 6L734



No. 6L737

Replacement Parts Available
1-800-323-0620

### ADJUSTABLE SPEED & FORCE SCR MODEL SERIES

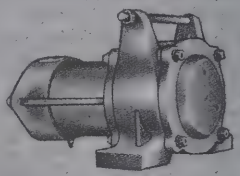
| Force (Lbs.) | Volts 50/60 Hz | Phase | Amps | Speed RPM | dB | Overall Dimensions (Inches) L | W | H | Max. Lbs. of Material in Bin | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **100** | 115 | 1 | 1.3 | 900-4000 | 68 | 7 7/8 | 6 | 4 1/4 | 1000 | SCR-100 | **6L734** | $447.00 | **$399.00** | 13.0 |
| **200** | 115 | 1 | 2.6 | 900-4000 | 70 | 8 3/16 | 4 7/8 | 4 1/8 | 2000 | SCR-200 | **6L735** | 682.00 | **541.50** | 17.0 |
| **500** | 115 | 1 | 3.5 | 900-4000 | 70 | 13 3/16 | 5 3/4 | 6 1/2 | 5000 | SCR-500 | **6L736** | 1041.00 | **977.00** | 48.0 |
| **1000** | 115 | 1 | 6.5 | 900-4000 | 72 | 14 1/4 | 6 1/2 | 7 1/2 | 10,000 | SCR-1000 | **6L737** | 1488.00 | **1168.00** | 65.0 |

## 12 VOLT DC BATTERY-OPERATED VIBRATORS

- For field or mobile applications
- For use on farm equipment and heavy trucks
- Clean and aid flow of material from bins and chutes
- Ensure fast dump of trucks, highway equipment, fertilizer trailers, ready mix trucks, and spreaders

Replacement Parts Available
1-800-323-0620

VIBCO



No. 6L769

### BATTERY-OPERATED VIBRATORS

| Force (Lbs.) | Volts DC | Duty | Amps | Speed RPM | dB | Overall Dimensions (Inches) L | W | H | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **100** | 12 | Continuous | 12 | 4000 | 72 | 7 3/8 | 6 | 4 1/4 | DC-100 | **4HP57** | $386.20 | **$321.50** | 12.0 |
| **400** | 12 | Continuous | 14 | 4000 | 73 | 8 1/2 | 4 1/2 | 5 | DC-200 | **6L769** | 538.00 | **467.75** | 16.0 |
| **400** | 12 | Continuous | 16 | 4000 | 73 | 9 | 4 1/8 | 5 | DC-300 | **4HP59** | 665.57 | **529.00** | 16.0 |
| **450** | 12 | Intermittent* | 22 | 7000 | 75 | 8 1/4 | 4 7/8 | 4 1/8 | DC-450 | **6L768** | 480.00 | **403.75** | 15.0 |
| **700** | 12 | Intermittent* | 25 | 6000 | 75 | 8 1/4 | 4 7/8 | 4 1/8 | DC-700 | **4HP60** | 580.65 | **452.50** | 18.0 |
| **600** | 12 | Intermittent* | 30 | 6000 | 78 | 11 1/8 | 4 7/8 | 6 1/4 | DC-900 | **6L767** | 658.00 | **587.00** | 27.0 |
| **1400** | 12 | Intermittent* | 32 | 5000 | 82 | 11 1/4 | 5 5/8 | 5 5/8 | DC-1600 | **6L766** | 716.00 | **592.00** | 32.0 |
| **3500** | 12 | Intermittent† | 60 | 4000 | 70 | 11 1/2 | 10 3/8 | 8 3/4 | DC-3500 | **6L765** | 723.00 | **603.00** | 58.0 |

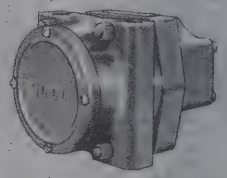
(*) 3 minutes per hour. (†) 15 seconds per minute.

## HYDRAULIC VIBRATORS

- B-type vibrators offer a low-cost solution for OEM applications
- HLF-type vibrators are designed to produce high force at low frequency
- Can be mounted in any position
- Not affected by dirty, muddy, wet locations
- Operate up to 3000 PSI
- Adjustable speed
- Continuous duty

Replacement Parts Available
1-800-323-0620

VIBCO



No. 4HT22

### HYDRAULIC VIBRATORS

| Force (Lbs.) | PSI | GPM | VPM | Overall Dimensions (Inches) L | W | H | Max. Lbs. of Material in Bin | Inlet (In.) | Outlet (In.) | Plate Stock No. | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **332** | 800 | 4.8 | 7400 | 5 1/4 | 3 1/4 | 3 1/2 | 3320 | 3/8 | 3/8 | 4HV72 | B-190 | **4HT14** | $292.51 | **$235.75** | 5.0 |
| **397** | 800 | 4.5 | 5800 | 7 7/8 | 3 3/8 | 4 5/16 | 3970 | 3/8 | 3/8 | 4HV73 | B-250 | **4HT15** | 304.98 | **247.75** | 9.0 |
| **445** | 800 | 6.0 | 5300 | 7 13/16 | 4 13/16 | 3 5/8 | 4450 | 1/2 | 1/2 | 4HV74 | B-320 | **4HT16** | 336.66 | **272.25** | 12.0 |
| **700** | 900 | 2.8 | 9000 | 7 5/8 | 5 3/4 | 5 1/8 | 7000 | 1/2 NPTF | 1/2 NPTF | — | HLF-700 | **4HT23** | 620.41 | **557.00** | 16.0 |
| **1300** | 900 | 2.8 | 9000 | 7 | 4 1/2 | 5 | 13,000 | 1/2 NPTF | 1/2 NPTF | — | HLF-1300 | **4HT22** | 752.18 | **610.50** | 21.0 |



*We deliver the products that deliver the power.*

# PNEUMATIC BALL AND PISTON VIBRATORS

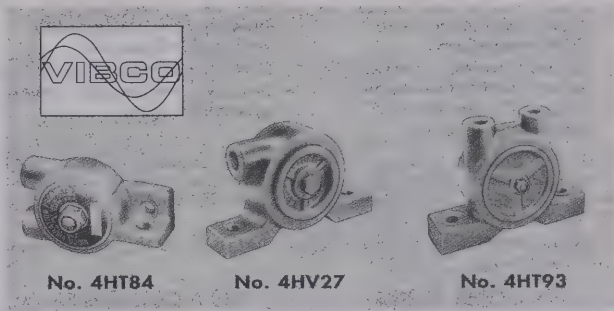
## PNEUMATIC BALL VIBRATORS

- **Hardened steel ball**
- **Hardened steel race**
- **Any position mount**

**Model BB vibrators** are designed for small to medium amount of vibration. Applications include laboratory equipment, small hoppers and parts feeders, and match plates.

**Model V vibrators** include a built-in muffler for added noise reduction and are designed to work in adverse conditions of water, heat, cold, or dirt.

**Model BV vibrators** will withstand temperatures up to 350°F by maintaining air flow through unit. Threaded exhaust port allows for silencing muffler to be added, or piped to a remote location.




No. 4HT84 No. 4HV27 No. 4HT93

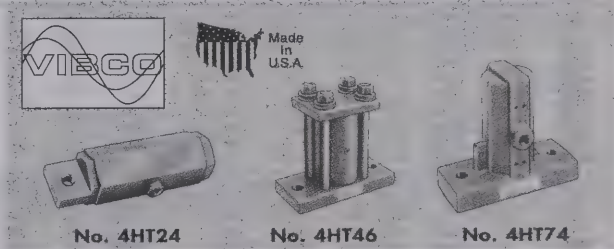
| Force (Lbs.) | At 80 PSI CFM | Speed RPM | dB | Overall Dimensions (Inches) L | W | H | Max. Lbs. of Material in Bin | Port Size (NPT) (Inches) Inlet | Outlet | Available Muffler Stock No. | Mounting Plate Stock No. | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MODEL BB PNEUMATIC BALL VIBRATORS** | | | | | | | | | | | | | | | | |
| **55** | 6.0 | 20,000 | 75 | 3 1/4 | 1 9/16 | 1 7/8 | 550 | 1/8 | 1/8 | 1A325 | — | BB-100 | **4HT84** | $83.17 | **$68.85** | 1.0 |
| **80** | 7.5 | 15,000 | 72 | 3 3/4 | 1 15/16 | 2 1/4 | 800 | 1/4 | 1/4 | 1A326 | — | BB-130 | **4HT85** | 94.42 | **78.15** | 2.0 |
| **140** | 8.0 | 13,000 | 76 | 4 1/8 | 2 | 2 9/16 | 1400 | 1/4 | 1/4 | 1A326 | — | BB-160 | **4HT86** | 99.95 | **82.75** | 2.0 |
| **250** | 11.0 | 12,000 | 77 | 4 1/8 | 2 | 2 9/16 | 2500 | 1/4 | 1/4 | 1A326 | — | BB-190 | **4HT87** | 105.48 | **89.60** | 2.0 |
| **MODEL V PNEUMATIC BALL VIBRATORS** | | | | | | | | | | | | | | | | |
| **55** | 6.0 | 20,000 | 75 | 3 1/8 | 7 11/16 | 2 | 550 | 1/8 | — | Built-in | 4HX16 | V-100 | **4HV27** | 99.95 | **85.00** | 2.0 |
| **80** | 7.5 | 15,000 | 72 | 4 7/8 | 1 15/16 | 2 15/16 | 800 | 1/8 | — | Built-in | 4HX16 | V-130 | **4HV28** | 105.48 | **89.60** | 2.0 |
| **260** | 11.0 | 16,000 | 73 | 5 1/16 | 2 3/8 | 3 | 2600 | 1/4 | — | Built-in | 4HX16 | V-190 | **4HV29** | 130.62 | **110.30** | 3.0 |
| **380** | 13.0 | 11,000 | 72 | 5 9/16 | 2 3/4 | 3 1/2 | 3800 | 1/4 | — | Built-in | 4HX16 | V-250 | **4HV30** | 150.16 | **125.45** | 4.0 |
| **650** | 17.0 | 10,000 | 78 | 5 9/16 | 2 3/4 | 4 3/4 | 6500 | 3/8 | — | Built-in | 4HX16 | V-320 | **4HV31** | 160.14 | **133.65** | 5.0 |
| **600** | 20.0 | 6500 | 78 | 6 5/8 | 3 7/16 | 4 7/8 | 6000 | 3/8 | — | Built-in | 4HX16 | V-380 | **4HV32** | 226.46 | **191.00** | 10.0 |
| **MODEL BV PNEUMATIC BALL VIBRATORS** | | | | | | | | | | | | | | | | |
| **55** | 6.0 | 20,000 | 74 | 3 7/8 | 1 9/16 | 2 3/8 | 550 | 1/8 | 1/8 | 1A325 | 4HV71 | BV-60 | **4HT95** | 113.56 | **97.45** | 1.0 |
| **80** | 7.5 | 15,000 | 76 | 4 7/8 | 1 15/16 | 2 3/4 | 800 | 1/8 | 1/4 | 1A326 | 4HV72 | BV-130 | **4HT90** | 116.53 | **98.70** | 2.0 |
| **250** | 11.0 | 12,000 | 77 | 5 3/8 | 2 1/4 | 3 9/16 | 2600 | 1/4 | 3/8 | 1A327 | 4HV73 | BV-190 | **4HT91** | 129.27 | **106.95** | 3.0 |
| **380** | 13.0 | 9200 | 79 | 6 3/4 | 2 3/4 | 3 15/16 | 3800 | 1/4 | 3/8 | 1A327 | 4HV74 | BV-250 | **4HT92** | 143.56 | **121.05** | 5.0 |
| **480** | 17.0 | 6500 | 80 | 6 11/16 | 2 1/2 | 4 7/8 | 4800 | 3/8 | 1/2 | 1A328 | 4HV75 | BV-320 | **4HT93** | 175.51 | **147.60** | 6.0 |
| **600** | 20.0 | 5500 | 82 | 7 7/8 | 3 1/4 | 5 7/16 | 5000 | 3/8 | 1/2 | 1A328 | — | BV-380 | **4HT94** | 233.20 | **193.25** | 16.0 |

## PISTON VIBRATORS

**Model 55 Series** features low cost, one-piece housing, and only three parts.

**Models 10/50 Series** feature all steel construction, bolt isolation design for longer life, and impacting with both up and down strokes.

Piston vibrators have high impact, linear force and highly efficient energy transfer to assure smooth flow of material through bins, chutes, and weight batchers. Typical applications include: mining, chemical plants, plastics manufacturing, foundries, and paper plants. Lubrication is required.




No. 4HT24 No. 4HT46 No. 4HT74

| CFM | At 80 PSI Speed RPM | Overall Dimensions (Inches) L | W | H | Max. Lbs. of Material in Bin | Port Size NPT (Inches) Inlet | Outlet | Available Muffler Stock No. | Mounting Plate Stock No. | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MODEL 10 PISTON VIBRATORS** | | | | | | | | | | | | | | |
| **4.5** | 14,500 | 5 1/2 | 1 1/4 | 1 7/8 | 100 | 1/8 | 1/8 | 1A325 | — | 10-5/8 | **4HT28** | $106.29 | **$89.10** | 3.0 |
| **5.0** | 13,000 | 5 1/2 | 1 3/8 | 1 15/16 | 100-400 | 1/8 | 1/8 | 1A325 | — | 10-3/4 | **4HT27** | 113.97 | **96.35** | 3.0 |
| **8.0** | 11,000 | 5 5/8 | 1 5/8 | 1 15/16 | 200-400 | 1/8 | 1/8 | 1A325 | — | 10-1 | **4HT24** | 118.01 | **105.50** | 4.0 |
| **10.0** | 7000 | 9 1/4 | 2 | 2 15/16 | 400-1000 | 1/4 | 1/4 | 1A326 | — | 10-1-1/4 | **4HT26** | 184.80 | **168.00** | 9.0 |
| **MODEL 50 PISTON VIBRATORS** | | | | | | | | | | | | | | |
| **8.0** | 11,000 | 4 1/2 | 2 | 4 9/16 | 200-400 | 1/8 | 1/8 | 1A325 | 4HW15 | 50-1 | **4HT46** | 191.68 | **156.25** | 6.0 |
| **10.0** | 7000 | 6 | 2 1/2 | 5 15/16 | 400-1000 | 1/4 | 1/4 | 1A326 | 4HW16 | 50-1-1/4 | **4HT51** | 210.62 | **168.50** | 10.0 |
| **13.0** | 5200 | 6 | 3 | 7 1/2 | 1000-4000 | 1/4 | 1/4 | 1A326 | 4HW17 | 50-1-1/2 | **4HT47** | 265.21 | **212.00** | 16.0 |
| **18.0** | 4500 | 7 1/2 | 3 1/2 | 7 1/2 | 4000-10,000 | 1/4 | 1/4 | 1A326 | 4HW18 | 50-2 | **4HT58** | 303.30 | **242.25** | 21.0 |
| **31.0** | 2250 | 7 1/2 | 3 1/2 | 9 1/8 | 8000-20,000 | 1/4 | 1/4 | 1A326 | 4HW18 | 50-2L | **4HT60** | 529.76 | **423.25** | 25.0 |
| **MODEL 55 PISTON VIBRATORS** | | | | | | | | | | | | | | |
| **8.0** | 11,000 | 4 1/2 | 2 | 3 7/8 | 200-400 | 9/16 | 9/16 | — | — | 55-1 | **4HT74** | 139.38 | **108.60** | 5.0 |
| **6.5** | 6800 | 6 | 2 1/2 | 5 | 400-1000 | 1/4 | 1/4 | 1A326 | — | 55-1-1/4 | **4HT77** | 151.85 | **118.30** | 9.0 |
| **10.0** | 4400 | 9 | 3 1/2 | 7 1/4 | 1000-4000 | 1/4 | 1/4 | 1A326 | — | 55-1-1/2 | **4HT75** | 189.39 | **157.50** | 22.0 |
| **12.0** | 5500 | 9 | 3 1/2 | 7 1/4 | 4000-10,000 | 1/4 | 1/4 | 1A326 | — | 55-2 | **4HT80** | 219.38 | **184.00** | 22.0 |
| **30.0** | 4000 | 10 1/2 | 4 1/2 | 9 1/8 | 10,000-30,000 | 3/8 | 3/8 | 1A327 | — | 55-3 | **4HT82** | 421.58 | **362.25** | 49.0 |

# PNEUMATIC SILENT TURBINE VIBRATORS

- **Quiet operation meets OSHA standards**
- **No lubrication required for lower installation costs**
- **Longer life for lower replacement costs**
- **Directly interchangeable with ball vibrators**
- **Outlast ball vibrators 3:1**
- **Less air required for lower operation costs**

Quiet pneumatic turbine vibrators have become the standard units in the automotive, chemical, plastics, bio-tech, plating, and food industries. For use on batchers, supply hoppers, packaging lines and chutes.

Turbines are an ideal, low-cost solution to vibration needs when air is available.

### VS MODEL SERIES

Features built-in muffler for lower cost. More compact size than BVS series.

### BVS MODEL SERIES

For applications such as food, pharmaceutical, and clean rooms where exhausted air must be remotely discharged.

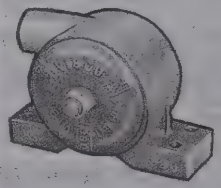
### BBS MODEL SERIES

For very small applications such as aiding flow in parts feeders, foundry matchplates, and unjamming caps in parts feeders.

VIBCO

Made in U.S.A.

**Replacement Parts Available**
**1-800-323-0620**



**No. 6L750**
**VS Model**



**No. 6L752**
**BVS Model**



**No. 6L759**
**BBS Model**

| Force (Lbs.) | At 80 PSI‡ CFM | Speed RPM | dB | Overall Dimensions (Inches) L | W | H | Max. Lbs. of Material in Bin | Port Size (NPT) (Inches) Inlet | Outlet | Available Muffler Stock No. | Mounting Plate Stock No. | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VS MODEL SERIES** | | | | | | | | | | | | | | | | |
| **20** | 4.0 | 12,000 | 66 | 3⅞ | 3/4 | 2 | 200 | 1/8 | 1/8 | Included | — | VS-100 | **4HV35** | $109.52 | **$87.15** | 1.0 |
| **75** | 5.5 | 10,500 | 67 | 4⅞ | 1⅞ | 2 5/16 | 750 | 1/8 | 1/8 | Included | 4HX16 | VS-130 | **6L746** | 115.00 | **91.40** | 0.8 |
| **160** | 8.0 | 12,000 | 70 | 5 1/16 | 1 5/16 | 2 5/16 | 1600 | 1/4 | 1/4 | Included | — | VS-160 | **4HV36** | 137.36 | **111.75** | 4.0 |
| **270** | 9.0 | 7200 | 70 | 5 1/16 | 2 13/16 | 3⅝ | 2700 | 1/4 | 1/4 | Included | 4HX17 | VS-190 | **6L747** | 137.00 | **115.00** | 3.7 |
| **500** | 10.5 | 7200 | 70 | 5⅝ | 3 1/16 | 3½ | 5000 | 1/4 | 1/4 | Included | 4HX18 | VS-250 | **6L748** | 164.00 | **135.25** | 5.0 |
| **600** | 11.0 | 6800 | 69 | 5⅝ | 4 | 4⅝ | 6000 | 3/8 | 3/8 | Included | 4HX18 | VS-320 | **6L749** | 167.00 | **138.75** | 7.3 |
| **725** | 17.0 | 5200 | 72 | 6⅝ | 4⅜ | 4⅞ | 7250 | 3/8 | 3/8 | Included | 4HX19 | VS-380 | **6L750** | 241.00 | **211.00** | 12.0 |
| **900** | 21.0 | 4500 | 77 | 6¾ | 2⅞ | 5⅜ | 9000 | 1/2 | 1/2 | Included | 4HX20 | VS-510 | **6L751** | 280.00 | **239.50** | 16.0 |
| **1000** | 21.0 | 5500 | 77 | 6¾ | 2⅞ | 5⅜ | 10,000 | 1/2 | 1/2 | Included | — | VSP-510 | **4HV37** | 307.00 | **267.00** | 18.0 |
| **BVS MODEL SERIES** | | | | | | | | | | | | | | | | |
| **20** | 4.0 | 12,000 | 66 | 3⅞ | 1 3/16 | 2⅜ | 200 | 1/8 | 1/8 | 1A325* | — | BVS-60 | **4HV01** | 123.27 | **105.40** | 1.0 |
| **75** | 5.5 | 10,500 | 67 | 4⅞ | 1⅞ | 2¾ | 750 | 1/8 | 1/4 | 1A326* | 4HW71 | BVS-130 | **6L752** | 124.00 | **106.10** | 0.8 |
| **160** | 8.0 | 11,000 | 70 | 5 5/16 | 2¾ | 3 7/16 | 1600 | 1/4 | 3/8 | 1A327* | — | BVS-160 | **4HT96** | 149.02 | **122.05** | 4.0 |
| **270** | 8.5 | 7200 | 71 | 5 5/16 | 3 1/16 | 3 7/16 | 2700 | 1/4 | 3/8 | 1A327* | 4HW72 | BVS-190 | **6L753** | 157.00 | **134.35** | 3.8 |
| **480** | 9.0 | 7200 | 72 | 6¾ | 3⅛ | 3 15/16 | 4800 | 1/4 | 3/8 | 1A327* | 4HW73 | BVS-250 | **6L754** | 186.00 | **157.25** | 6.1 |
| **600** | 10.0 | 6800 | 70 | 6½ | 4 | 4⅞ | 6000 | 3/8 | 1/2 | 1A328* | 4HW74 | BVS-320 | **6L755** | 342.65 | **311.50** | 9.0 |
| **670** | 18.0 | 5000 | 74 | 7⅞ | 4⅝ | 5 7/16 | 6700 | 3/8 | 1/2 | 1A328* | 4HW75 | BVS-380 | **6L756** | 296.00 | **247.75** | 14.0 |
| **700** | 21.0 | 4800 | 74 | 8 9/16 | 4¾ | 5¾ | 7000 | 1/2 | 3/4 | 6F600* | 4HW76 | BVS-440 | **4HT97** | 355.19 | **305.75** | 17.0 |
| **900** | 21.0 | 4500 | 77 | 8 13/16 | 4¾ | 5¾ | 9000 | 1/2 | 3/4 | 6F600* | 4HW77 | BVS-510 | **6L757** | 379.00 | **296.75** | 18.0 |
| **1050** | 26.0 | 4000 | 83 | 10 1/16 | 5⅜ | 7 | 10,500 | 3/4 | 1 | 6F601* | 4HW78 | BVS-570 | **6L758** | 465.00 | **389.25** | 25.0 |
| **BBS MODEL SERIES** | | | | | | | | | | | | | | | | |
| **20** | 5.0 | 11,000 | 66 | 3¼ | 1 3/16 | 1 7/16 | 200 | 1/8 | 1/8 | 1A327* | — | BBS-100 | **6L759** | 100.00 | **78.30** | 0.5 |
| **75** | 5.5 | 10,500 | 67 | 3¾ | 1 7/16 | 2¼ | 750 | 1/4 | 1/4 | 1A326* | — | BBS-130 | **6L760** | 117.00 | **91.55** | 0.7 |
| **160** | 7.0 | 9000 | 67 | 4⅛ | 1 9/16 | 2 9/16 | 1600 | 1/4 | 1/4 | 1A326* | — | BBS-160 | **6L761** | 122.00 | **95.05** | 1.0 |
| **250** | 7.0 | 10,000 | 70 | 4⅛ | 1 9/16 | 2 9/16 | 2500 | 1/4 | 1/4 | 1A326* | — | BBS-190 | **4HT88** | 120.24 | **95.30** | 2.0 |
| **30** | 5.0 | 15,000 | 66 | 3¼ | 1⅞ | 1 3/16 | FMP† | 1/8 | 1/8 | 1A327* | — | FBS-100 | **4HV05** | 101.57 | **80.30** | 1.0 |
| **150** | 7.0 | 15,000 | 68 | 3¾ | 2¾ | 1 5/16 | FMP† | 1/4 | 1/4 | 1A326* | — | FBS-130 | **4HV06** | 106.42 | **91.90** | 2.0 |
| **225** | 7.0 | 13,000 | 68 | 4⅛ | 2 9/16 | 1 9/16 | FMP† | 1/4 | 1/4 | 1A326* | — | FBS-160 | **4HV07** | 115.86 | **100.00** | 3.0 |
| **250** | 8.0 | 10,000 | 70 | 4⅛ | 2 9/16 | 1 9/16 | FMP† | 1/4 | 1/4 | 1A326* | — | FBS-190 | **4HV08** | 119.56 | **102.40** | 3.0 |

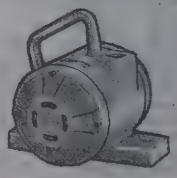
(*) For muffler ordering information see page 2934. (†) For foundry match plate applications. (‡) 60 PSI for No. 6L759.

## HEAVY-DUTY PNEUMATIC TURBINE VIBRATORS

**High Force Output Air Vibrators** are for permanent or portable applications in large bins, hoppers, chutes, packing tables, and screens. Outlast piston vibrators 3 to 1 and ball vibrators 2 to 1. Nos. 4HV02 and 4HV03 require bracket No. 4HW05. No. 4HV04 requires bracket No. 4HW73.

VIBCO

Made in U.S.A.



**No. 6L763**

| Force (Lbs.) | At 80 PSI CFM | Speed RPM | dB | Overall Dimensions (Inches) L | W | H | Max. Lbs. of Material in Bin | Port Size (NPT) Inlet & Outlet (In.) | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HIGH FORCE OUTPUT AIR VIBRATORS** | | | | | | | | | | | | | |
| **2000** | 35 | 6000 | 78 | 7⅞ | 7¼ | 7⅛ | 20,000 | 3/4 | CCF-2000 | **6L762** | $617.00 | **$555.00** | 27.0 |
| **5000** | 40 | 6000 | 75 | 10 3/16 | 8½ | 9 | 50,000 | 1 | CCF-5000 | **6L763** | 822.00 | **728.00** | 46.0 |
| **2000** | 35 | 6000 | 78 | 7⅞ | 5 7/16 | 7⅛ | 20,000 | 3/4 | CCL-2000 | **4HV02** | 613.67 | **579.50** | 24.0 |
| **5000** | 40 | 5000 | 75 | 9¼ | 8 | 8½ | 50,000 | 1 | CCL-5000 | **4HV03** | 762.96 | **720.00** | 42.0 |
| **2000** | 35 | 6000 | 78 | 6⅞ | 7¾ | 7⅛ | 20,000 | 3/4 | CCW-2000 | **4HV04** | 645.35 | **550.50** | 29.0 |



We deliver the products that deliver the power.

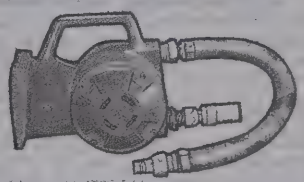
# RAILROAD CARSHAKERS AND INTERNAL CONCRETE VIBRATORS

## HEAVY-DUTY PNEUMATIC TURBINE RAILROAD CARSHAKER VIBRATORS

- Rotary piston carshaker can empty the most stubborn materials
- Features low air consumption compared to other pneumatic units

### SIMPLE RULES FOR SELECTING YOUR CARSHAKER

| Stock No. | Material in Railroad Car |
|---|---|
| 6L764 | Cement, flour, carbon black, bone black, aluminum shot |
| 4HV43 | Salts, molasses, iron ore, malt (if sticky) potash, bauxite, calcium carbide, crushed marble, Sand, stone, asphalt, stone dust, hy-ash, salt, coal, clay-lime lumps, and like materials |
| 4HV56 | Electric Operation "After" Vibration (For Cleaning Car) Cement, sugar, flour, chemical salts (no moisture), corn grits, arsenic, barley hops, carbon black borax, fluoride, gypsum, sodic sulphate, peanuts, sodium nitrate, semolina, tri-sodium phosphate, and like materials |



No. 6L764

### RAILROAD CARSHAKER

| Force (Lbs.) | At 80 PSI CFM | Speed RPM | dB | Overall Dimensions (Inches) L | W | H | Port Size (NPT) Inlet & Outlet (in.) | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5000 | 40 | 6000 | 75 | 9 | 8 | 9 1/4 | 1 | CCW-5000 | 6L764 | $920.00 | $808.50 | 51.0 |
| 6500 | 68 | 10,000 | 82 | 9 1/8 | 8 | 9 7/16 | 1 | SVRWS-6500 | 4HV43 | 988.75 | 909.50 | 61.0 |
| 5000 | * | 4000 | 70 | 10 7/8 | 5 1/2 | 10 1/8 | — | VMW800-1 | 4HV56 | 1713.30 | 1394.00 | 111.0 |

(*) Operates on 115/230V.

## INTERNAL CONCRETE VIBRATORS

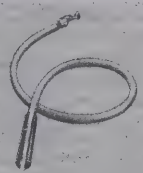
**PNEUMATIC**

- KA Series
- Maintenance free
- Only one moving part
- Patented "wear plate" design; no bearings

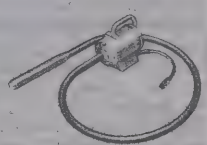
**ELECTRIC**

- JVS/ACE Series
- Motor UL Listed
- Wraparound protective frame
- Heavy-duty brushes

Pneumatic and electric internal vibrators are available in different shaft lengths and sizes to fit in applications of all sizes.



No. 4HP66



No. 4HP70

### PNEUMATIC INTERNAL CONCRETE VIBRATORS

| Force (Lbs.) | CFM | Speed RPM | Shaft Length (Ft.) | Head Size (In.) | Output Max. Cubic-Yards Per Hour | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 450 | 21.5 | 18,000 | 10 | 1 3/8 | 35 | KA-1-3/8 | 4HP67 | $704.33 | $573.00 | 14.0 |
| 800 | 26.0 | 17,000 | 10 | 1 3/4 | 20 | KA-1-3/4 | 4HP66 | 790.60 | 638.50 | 19.0 |
| 2100 | 36.0 | 16,000 | 10 | 2 1/2 | 40 | KA-2-1/2 | 4HP68 | 899.11 | 733.00 | 35.0 |
| 3200 | 40.0 | 16,000 | 10 | 3 | 42 | KA-3 | 4HP69 | 990.10 | 807.00 | 40.0 |

### ELECTRIC INTERNAL CONCRETE VIBRATORS

| Force (Lbs.) | Volts | Phase | Amps | Speed RPM | HP | Shaft Length (Ft.) | Head Size (In.) | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 760 | 115 | 1 | 17 | 11,000 | 2.5 | 10 | 1 1/2 x 14 | ACE10-1-1/2 | 4HP70 | $1411.35 | $1165.00 | 60.0 |
| 1100 | 115 | 1 | 17 | 11,000 | 2.5 | 10 | 1 3/4 x 14 | ACE10-1-3/4 | 4HP71 | 1465.27 | 1209.00 | 60.0 |
| 760 | 115 | 1 | 17 | 11,000 | 2.5 | 7 | 1 1/2 x 14 | ACE7-1-1/2 | 4HP90 | 1341.93 | 1110.00 | 49.0 |
| 1100 | 115 | 1 | 17 | 11,000 | 2.5 | 7 | 1 3/4 x 14 | ACE7-1-3/4 | 4HP91 | 1396.52 | 1154.00 | 49.0 |
| 760 | 115 | 1 | 15 | 11,000 | 1.5 | 10 | 1 1/2 x 14 | JVS10-1-1/2 | 4HP95 | 1326.43 | 1060.00 | 40.0 |
| 430 | 115 | 1 | 15 | 11,000 | 1.5 | 10 | 1 1/4 x 14 | JVS10-1-1/4 | 4HP96 | 1310.25 | 1049.00 | 40.0 |
| 760 | 115 | 1 | 15 | 11,000 | 1.5 | 7 | 1 1/2 x 14 | JVS7-1-1/2 | 4HR10 | 1259.03 | 1005.00 | 34.0 |
| 430 | 115 | 1 | 15 | 11,000 | 1.5 | 7 | 1 1/4 x 14 | JVS7-1-1/4 | 4HR11 | 1242.85 | 993.00 | 32.0 |

### VIBCO MOUNTING PLATES

| Overall Dimensions (Inches) L | W | H | Vibco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 1/2 | 1 1/2 | 3/8 | BVM-1 | 4HV71 | $24.58 | $19.15 | 12.0 |
| 5 1/2 | 1 1/2 | 3/8 | BVM-2 | 4HV72 | 24.58 | 19.15 | 12.0 |
| 7 | 1 1/2 | 3/8 | BVM-3 | 4HV73 | 24.58 | 19.15 | 12.0 |
| 7 | 2 | 3/8 | BVM-4 | 4HV74 | 24.58 | 19.15 | 12.0 |
| 8 | 2 | 3/8 | BVM-5 | 4HV75 | 32.62 | 25.45 | 12.0 |
| 10 | 6 | 3/8 | UM-3 | 4HW71 | 224.10 | 174.75 | 10.0 |
| 10 | 6 | 3/8 | UM-4 | 4HW72 | 183.73 | 143.15 | 10.0 |
| 8 | 3 | 1 3/8 | UWF | 4HW73 | 25.71 | 20.02 | 10.0 |
| 8 | 3 | 1 3/8 | UWF-2 | 4HW74 | 26.52 | 20.65 | 10.0 |
| 8 | 5 1/4 | 3 | VC-1 | 4HW75 | $163.44 | $127.35 | 30.0 |
| 5 1/2 | 2 | 3/8 | VH-1 | 4HW76 | 45.09 | 35.15 | 10.0 |
| 7 | 3 | 1/2 | VH-2 | 4HW77 | 45.09 | 35.15 | 10.0 |
| 7 | 3 | 1/2 | VH-3 | 4HW78 | 45.09 | 35.15 | 10.0 |
| 5 | 1 1/2 | 3/8 | VSM-1 | 4HX16 | 24.58 | 19.15 | 12.0 |
| 5 | 3 | 3/8 | PM-1 | 4HW15 | 26.18 | 20.39 | 12.0 |
| 6 | 3 | 3/8 | PM-2 | 4HW16 | 32.62 | 25.45 | 12.0 |
| 7 3/4 | 2 1/2 | 1/2 | PM-3 | 4HW17 | 38.35 | 29.90 | 12.0 |
| 8 | 4 | 1/2 | PM-4 | 4HW18 | 43.13 | 33.60 | 12.0 |

# AC AND DC LINEAR ACTUATORS

## AC LINEAR ACTUATORS

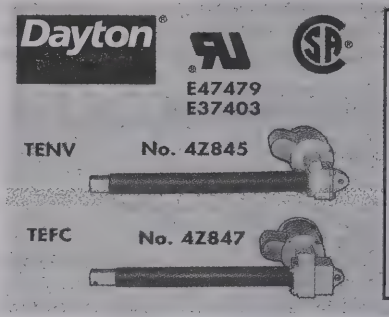
- **Linear actuators designed for light or heavy-duty applications**
- **Adjustable limit switches for user control in positioning applications**

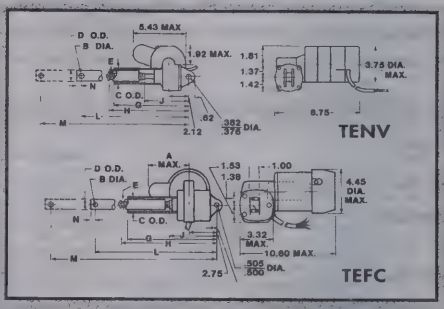
Dayton electromechanical actuators are designed for indoor use and feature permanent split capacitor motors with TENV design for light-duty applications or TEFC design for industrial duty. Provide 10 to 12" of linear motion.

Units are rated for loads from 300 to 1300 thrust lbs. at speeds from 8.4 to 20.0 in. per minute. Actuators can be modified to shorter stroke lengths. Single lead, rolled thread lifting screw with work-hardened finish provides long life and efficient, smooth operation. Built-in worm gear set for quiet gear reduction. Single right hand acme screws.

Outer tube helps protect screw and nut from dust and contaminants. Outer tube and translator tube may be removed and replaced with driver nut (included) to provide additional stroke modification. Pivot mount can be positioned at 90° intervals (Nos. 4Z845 and 4Z846 only). Adjustable limit switches provide user control in positioning-type applications.

115V, AC, 60 Hz single-phase PSC motors feature automatic reset thermal protection and 16" power cord. Capacitor included. Recognized by UL for construction (E47479) and motor protector (E37403) under the Motor Component Recognition Program. CSA certified. Dayton brand.




| Travel (In.) | Enclosure | Speed (In. /Min.) | Cont. Duty Cont. Travel (In.*) | Duty Cycle %† | Rated Load (Lbs.) | Full-Load Amps at 115 VAC | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **12** | TENV | 8.4 | 84 | 25 | 400 | 1.4 | **4Z845** | $285.00 | **$199.50** | 16.0 |
| **12** | TENV | 19.4 | 194 | 25 | 300 | 1.4 | **4Z846** | 285.00 | **199.50** | 16.0 |
| **12** | TEFC | 8.9 | 89 | 25 | 1000 | 1.8 | **4Z847** | 596.00 | **417.00** | 19.0 |
| **12** | TEFC | 20.0 | 140 | 25 | 1000 | 4.2 | **4Z848** | 596.00 | **417.00** | 19.0 |
| **10** | TEFC | 8.9 | 62 | 25 | 1300 | 4.2 | **4Z849** | 728.00 | **509.00** | 28.0 |
| **10** | TEFC | 13.6 | 95 | 25 | 1150 | 4.2 | **4Z850** | 728.00 | **509.00** | 29.0 |

(*) Total inches of travel (up and down) until thermal overload protector cuts out. Protector automatically resets after cool-down period. (†) Duty cycle is based on 1 minute on/3 minutes off.

| Stock No. | Dimensions (In.) A | B | C | D | E | G | H | J | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4Z845 | — | 0.382/0.376 | 1.66 | 1.38 | 3/4-8 | 18.92 | 18.63 | 4.63 | 20.0 | 32.0 | .5 |
| 4Z846 | — | 0.382/0.376 | 1.66 | 1.38 | 3/4-8 | 18.92 | 18.63 | 4.63 | 20.0 | 32.0 | .5 |
| 4Z847 | 3.94 | 0.382/0.376 | 1.66 | 1.38 | 3/4-5 | 18.94 | 19.35 | 4.47 | 20.5 | 32.5 | .5 |
| 4Z848 | 3.94 | 0.382/0.376 | 1.66 | 1.38 | 3/4-5 | 18.94 | 19.35 | 4.47 | 20.5 | 32.5 | .5 |
| 4Z849 | 3.94 | 0.505/0.500 | 2.50 | 2.00 | 1-5 | 19.00 | 19.20 | 5.30 | 20.5 | 30.5 | .75 |
| 4Z850 | 3.94 | 0.505/0.500 | 2.50 | 2.00 | 1-5 | 19.00 | 19.20 | 5.30 | 20.5 | 30.5 | .75 |

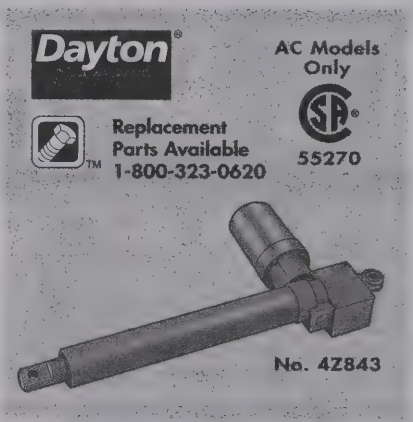
## AC AND DC LINEAR ACTUATORS

- **Actuators with 6, 12 or 18" extension**
- **Integral clevis mount permits freedom of movement**

For use indoors or outdoors (with environmental protection) on stationary or mobile equipment. Feature thermally protected motors. Actuators are completely self-contained and have an enclosed weather-resistant 115VAC limit switch with automatic-set ball brake.

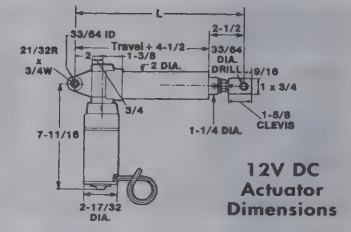
12V DC motor, overtravel protector, load-limiting friction-disc clutch and automatic-set spring brake. High strength gear and pinion set has 20:1 ratio; double lead screw and nut are high-efficiency design.

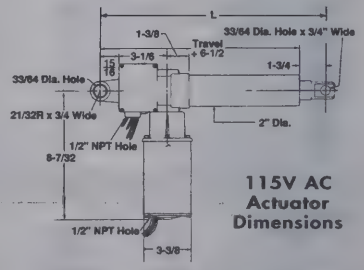
Steel translating tube is zinc-coated and sealed at output end. All components are sealed in corrosion-resistant aluminum alloy die-cast housing. Capacitor supplied with AC units. Dayton brand.




| Travel (In.) | Speed (In. / Min.) | Duty Cycle %* | Rated Load (Lbs.) | Volts | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6** | 35 | 28 | 500 | 115 AC | 2.2 | **4Z843‡** | $467.62 | **$375.25** | 14.0 |
| **12** | 35 | 28 | 500 | 115 | 2.2 | **4Z844‡** | 478.56 | **383.75** | 16.0 |
| **18** | 35 | 28 | 500 | 115 | 2.2 | **5A701‡** | 501.41 | **402.75** | 20.0 |
| **6** | 32† | 18 | 500 | 12 DC | 22.0 | **4Z841** | 324.29 | **260.25** | 11.0 |
| **12** | 32† | 18 | 500 | 12 | 22.0 | **4Z842** | 337.80 | **271.25** | 12.0 |
| **18** | 32† | 18 | 500 | 12 | 22.0 | **5A702** | 351.14 | **281.75** | 15.0 |

(*) Duty cycle is based on 75°F ambient temperature. To prevent motor overheating, the actual operating time should be equally spaced throughout any period of elapsed time. (†) Lighter loads will have higher travel speed (at 100 lbs., speed is 68 in./min.; at 300 lbs., speed is 52 in./min.). (‡) CSA Certified (55270).



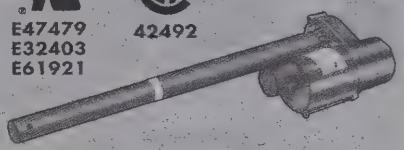

| Travel (Inches) | L-Retracted (In.) 12VDC | L-Retracted (In.) 115VAC | L-Extended (In.) 12VDC | L-Extended (In.) 115VAC |
|---|---|---|---|---|
| 6 | 13 | 14¹/₄ | 19 | 20¹/₄ |
| 12 | 19 | 20¹/₄ | 31 | 32¹/₄ |
| 18 | 25 | 26¹/₄ | 43 | 44¹/₄ |

# AC AND DC LINEAR ACTUATORS

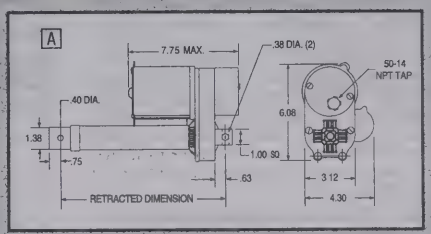
Dayton

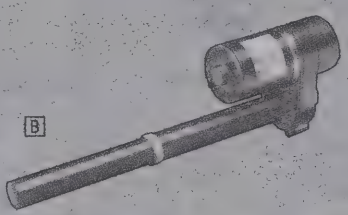
E47479
E32403
E61921

42492

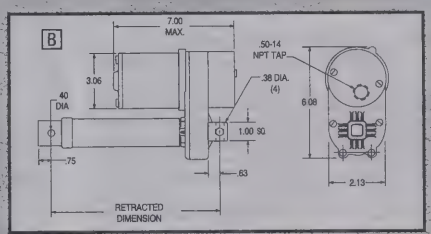


A



B




**Gearcase:** Zinc die-cast
**Travel Tube:** Steel
**Cover Tube:** Steel
**Lubrication:** Grease
**Gears:** Delrin and steel
**Screw:** Steel Acme thread
**Nut:** Delrin
**Bearings:** Sleeve and needle thrust on output; ball and sleeve on motor
**Seals:** Delrin guide on tubes
**Mounting:** Vertical and horizontal clevis; all direction cross hole in travel tube
**Travel Limits:** Adjustable limit switches
**Thermal Protection:** Auto. reset on AC units; none on DC units
**Ambient:** 40°C
**Enclosure:** TENV
**Brake:** Self-locking Acme screw
**Capacitor:** Included on AC units
**Brushes:** Internal on DC units (nonreplaceable)

| Key | Travel (In.) | Speed (In./Min.) | Volts | Rated Load (Lbs.) | Duty Cycle %* | Full-Load Amps | Retracted Dimensions (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 4 | 25 | 115 AC | 250 | 17 | 1.4 | 11.75 | 2H489 | $308.00 | $242.25 | 10.0 |
| A | 8 | 25 | 115 AC | 250 | 17 | 1.4 | 15.75 | 2H491 | 308.00 | 242.25 | 11.0 |
| A | 12 | 25 | 115 AC | 250 | 17 | 1.4 | 19.75 | 2H493 | 308.00 | 242.25 | 12.0 |
| A | 4 | 12 | 115 AC | 500 | 17 | 1.5 | 11.75 | 2H495 | 308.00 | 242.25 | 10.0 |
| A | 8 | 12 | 115 AC | 500 | 17 | 1.5 | 15.75 | 2H497 | 308.00 | 242.25 | 11.0 |
| A | 12 | 12 | 115 AC | 500 | 17 | 1.5 | 19.75 | 2H487 | 308.00 | 242.25 | 12.0 |
| A | 4 | 7 | 115 AC | 600 | 17 | 1.5 | 11.75 | 2H500 | 308.00 | 242.25 | 10.0 |
| A | 8 | 7 | 115 AC | 600 | 17 | 1.5 | 15.75 | 2H485 | 308.00 | 242.25 | 11.0 |
| A | 12 | 7 | 115 AC | 600 | 17 | 1.5 | 19.75 | 2H502 | 308.00 | 242.25 | 12.0 |
| B | 4 | 30 | 24 DC | 300 | 17 | 8.0 | 11.75 | 2H520 | 339.00 | 267.25 | 8.0 |
| B | 8 | 30 | 24 DC | 300 | 17 | 8.0 | 15.75 | 2H512 | 339.00 | 267.25 | 9.0 |
| B | 12 | 30 | 24 DC | 300 | 17 | 8.0 | 19.75 | 2H506 | 339.00 | 267.25 | 10.0 |
| B | 4 | 25 | 24 DC | 500 | 17 | 7.0 | 11.75 | 2H508 | 339.00 | 267.25 | 8.0 |
| B | 8 | 25 | 24 DC | 500 | 17 | 7.0 | 15.75 | 2H514 | 339.00 | 267.25 | 9.0 |
| B | 12 | 25 | 24 DC | 500 | 17 | 7.0 | 19.75 | 2H516 | 339.00 | 267.25 | 10.0 |
| B | 4 | 12 | 24 DC | 600 | 17 | 6.0 | 11.75 | 2H510 | 339.00 | 267.25 | 8.0 |
| B | 8 | 12 | 24 DC | 600 | 17 | 6.0 | 15.75 | 2H518 | 339.00 | 267.25 | 9.0 |
| B | 12 | 12 | 24 DC | 600 | 17 | 6.0 | 19.75 | 2H504 | 339.00 | 267.25 | 10.0 |

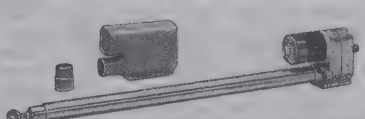
(*) Duty cycle is based on 1 minute On/5 minutes Off.

# SATELLITE DISH LINEAR ACTUATORS

Suitable for use with 8 to 10 ft. dia. solid or 12 ft. dia. mesh-type dishes. Rated load: 600 lbs. 36 VDC, available with more popular Reed switch or potentiometer feedback signal. Includes terminal strip for electrical connection, watertight strain relief for input cable and limit switch for travel adjustment from 0 to 24". Weather protection provided by zinc plating with yellow dichromate finish, protective boot and wiper and lifetime lubrication. Reed switch has 24 counts per inch. Potentiometer value 10KΩ, 10 turn. Von Weise brand. Use with No. 2A769 clevis mount.

VonWeise

Replacement Parts Available
1-800-323-0620



| Feedback Signal | Speed (In./Min.) | Rated Load (Lbs.) | Duty Cycle%* | Volts, DC | F/L Amps | von Weise Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Reed Switch | 12 | 600 | 20 | 36 | 3.0 | V76-S | 5A651 | $191.00 | $154.50 | 20.0 |
| Potentiometer | 12 | 600 | 20 | 36 | 3.0 | V76-Z | 5A652 | 191.00 | 154.50 | 20.0 |

(*) Duty cycle is based on 1 minute On/4 minutes Off.

# MODULAR AC & DC LINEAR ACTUATORS

## MODULAR AC & DC LINEAR ACTUATORS

Available in 12, 36 or 90 VDC and 115VAC gear drives and two tube assemblies which provide 12 or 24" travel. Tube adapter and Pin-In-Groove coupling allows interchangeability between drives and tubes Nos. 6Z090 and 6Z091. All drives are 20% duty cycle; one minute on, four minutes off. All have ball bearings and are totally enclosed. Zinc die-cast gearboxes are gasketed and grease lubricated. Delrin gears throughout except steel motor pinions. Can be mounted by clevis and trunnion or optional clamp.

**No. 6Z086, 115VAC Drive** features auto reset thermal protection and limit switches. PSC motor drive comes with capacitor. Clevis mount. Gray.

**No. 6Z087, 12VDC Drive** is gasketed front and rear. Clutch mechanism. Clevis mount. Black.

**No 6Z088, 36VDC Drive** is for use as an antenna actuator. Gasketed front and rear. Watertight strain relief. Microswitch feedback system for antenna positioning. Internal brushes and terminal strip. Actuator tube mount via trunnion or optional clamp No. 2A769. May be protected from environment by optional boot and wipe. Features limit switches. Black.

**No. 6Z089, 90VDC Drive** gasketed front and rear. Externally accessible brushes. Clutch mechanism. Clevis mount. Black.

## BOOT AND WIPE

Keeps dirt, water and other contaminants out of actuator. For installation on No. 6Z088 when the drive is used outside. Wipe is usable on No. 6Z090 or 6Z091. Gray.

**No. 6Z092.** Boot and Wipe. Shpg. wt. 0.8 lbs. List $16.00. Each.....**$13.05**

FOR ADDITIONAL AC & DC LINEAR ACTUATORS, SEE PAGE 260

FOR SATELLITE DISH LINEAR ACTUATORS, SEE PAGE 261

## LINEAR ACTUATOR TUBES

Designed to mate with tube adapter and Pin-In-Groove coupling shafts of drives Nos. 6Z086, 6Z087, 6Z088 and 6Z089. Tubes have trunnion mounting capability and rod end bearing. Tube contains a 3/4"-6 right hand single lead Acme thread screw. Yellow dichromate finish to prevent rust.

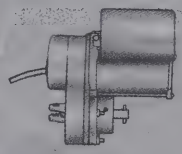
Alternative mounting for drive Nos. 6Z086, 6Z087, and 6Z089 provided by optional clamp No. 2A769.

**No. 2A769.** Clevis Mounting Clamp. Shpg. wt. 1.4 lbs. List $12.00. Each .....**$9.59**

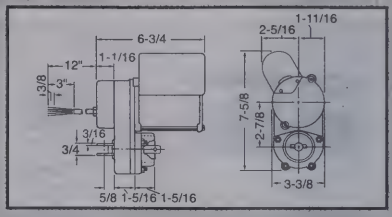
Dayton®

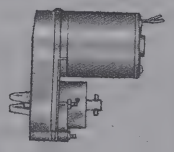
No. 6Z086 Only

E37403 42492

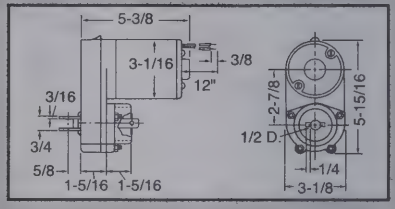


No. 6Z086



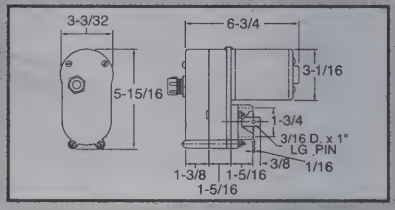



No. 6Z087



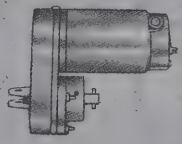



No. 6Z088 with tube installed

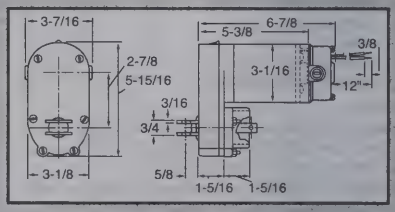



No. 6Z089 Only

E47479 42492



No. 6Z089

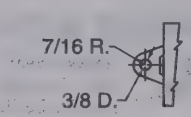



Replacement Parts Available 1-800-323-0620

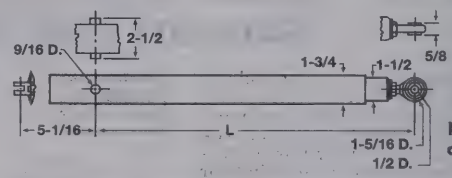
## AC & DC LINEAR ACTUATORS

| Voltage | Speed, (In. / Min.) | Duty Cycle | Rated Load (Lbs.) | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **115VAC** | 13 | 20%* | 600 | 1.6 | **6Z086** | $233.00 | **$190.75** | 9.5 |
| **12VDC** | 13 | 20 | 600 | 9.0 | **6Z087** | 194.00 | **156.75** | 6.5 |
| **36VDC** | 13 | 20 | 600 | 2.7 | **6Z088** | 188.00 | **151.25** | 7.5 |
| **90VDC** | 13 | 20 | 600 | 1.2 | **6Z089** | 171.00 | **137.95** | 9.5 |

(*) Duty cycle is based on 1 minute On/4 minutes Off.




Clevis Mount No. 2A769




Linear Actuator Tubes No. 6Z090 and 6Z091

## LINEAR ACTUATOR TUBES

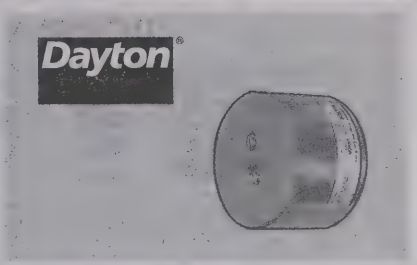
| Description | L-Retracted (In.) 6Z086 6Z088 | L-Retracted (In.) 6Z087 6Z089 | L-Extended (In.) 6Z086 6Z088 | L-Extended (In.) 6Z087 6Z089 | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **12" Tube** | 22.8 | | 34.8 | | **6Z090** | $170.00 | **$143.25** | 8.5 |
| **24" Tube** | 34.8 | | 58.8 | | **6Z091** | 167.00 | **140.05** | 14.0 |



*We deliver the products that deliver the power.*

# 3/8 TO 6 FT.-LB. ELECTRIC BRAKES FOR MOTORS AND GEARMOTORS

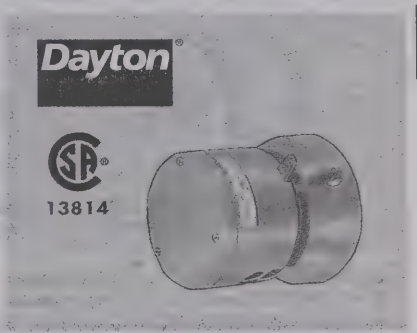
## 3/8 AND 3/4 FT.-LB. MAGNETIC DISC BRAKE




**For 115V, 60 Hz gearmotors.** For stopping AMD and holding action on shaded pole, split-phase and PSC gearmotors used on conveyors, door openers, etc. Not intended for accurate positioning applications. Twin disc design is factory set for 3/4 ft.-lb. for use with gearmotors with 1/14 HP or larger. One disc can easily be removed to reduce torque to 3/8 ft.-lb. for use with gearmotors with 1/15 HP or smaller. 40°C maximum ambient, 1.0 service factor, continuous duty. Brake mounts on shaft extension of gearmotors by using brake hub and mounting bolts (incl.); engages and holds loads under power-off conditions, releases when power is applied. 115V, 60 Hz. 15" long leads connect to motor. 3 1/32" long, 4 1/16" diameter. In rush amp .36; holding amp .16. Other coils to convert voltage/Hz are available, call 1-800-323-0620. Dayton brand.

**No. 5X400.** Shpg. wt. 2.5. lbs. List $82.25. Each ..... **$65.95**

## 1½ FT.-LB. MAGNETIC DISC BRAKES




**For 115/230V, 60 Hz gearmotors only*.** Magnetic disc brake designed for single and three-phase TEFC gearmotors applications such as conveyors and door openers, requiring rapid stopping and holding action. Not intended for vertical holding applications such as vertical conveyors or hoists. Brake package contains replacement fan and endbell for converting TEFC gearmotors to brake gearmotors.

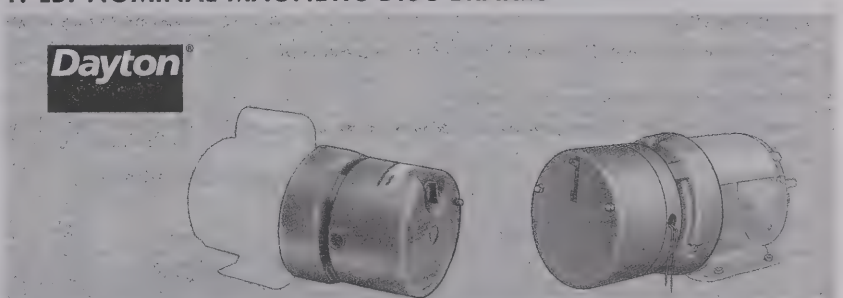
Single-phase static torque brake rated for 115/230V, 60 Hz operation. 40°C ambient, 1.0 service factor, continuous duty. For three-phase gearmotors use brake with optional 230/460V, 60 Hz magnet assembly, No. 4X573 listed below.

Brake engages and holds load under power-off conditions, automatically releases when power is applied. Load can be released when power is off by switching manual lever. Overall length of gearmotor increases 4 3/8"; 5 11/16" diameter. 18" leads for easy connection. Other coils available to convert voltage/Hz by calling 1-800-323-0620. Dayton brand.

| Gearmotor Phase | Fits these Dayton High Torque Gearmotors | | | | | | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Single** | 2Z842 | 2Z845 | 6K353 | 6K375 | 6K506 | 6Z400 | 6Z403 | **4Z447** | $180.50 | **$147.65** | 7.5 |
| | 2Z843 | 6K351 | 6K354 | 6K383 | 6K583 | 6Z401 | | | | | |
| | 2Z844 | 6K352 | 6K369 | 6K396 | 6Z399 | 6Z402 | | | | | |
| **Three*** | 4Z384 | 4Z386 | 4Z388 | 4Z390 | 4Z392 | 4Z394 | 6Z405 | | | | |
| | 4Z385 | 4Z387 | 4Z389 | 4Z391 | 4Z393 | 6Z404 | | | | | |

(*) **MAGNET ASSEMBLY** for converting brake to 230/460 three-phase gearmotors.
**No. 4X573.** Shpg. wt. 1.6 lbs. List ..... $36.10.
Each ..... **$28.45**

## 3 AND 6 FT.-LB. NOMINAL MAGNETIC DISC BRAKES




**Magnetic spring-set disc brakes** mount on most totally enclosed fan-cooled Dayton general purpose motors, many right-angle gearmotors, and many mechanical adjustable speed drives. Use in applications requiring rapid stopping and holding action such as conveyors and door openers. Not intended for accurate positioning or indexing applications or vertical holding applications such as vertical conveyors and hoists.

**Brake engages and holds load under power-off condition** and automatically releases when power is applied. Load can be manually released when power is off by switching release lever. Include fan shroud, brake, fan, shaft adapter, and other hardware needed to mount to fan end of motor. Gray enamel finish. Dayton brand.

| Static Torque Ft.-Lbs. | Max. RPM Input | Voltage AC 60 Hz | Voltage AC 50 Hz | Amps Holding | Amps Inrush | Ambient (°C) | Service Factor | Dimensions (Inches) Length | Dimensions (Inches) Diameter | Power Leads Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3** | 3450 | 115/230 | 95/190 | 0.3/0.2 | 3.6/1.8 | 40 | 1.0 | 4 11/16 | 6 5/8 | 24 | **6Z814** | $268.00 | **$187.50** | 11.0 |
| **6** | | | | | | | | | | | **6Z815** | 326.00 | **228.00** | 9.0 |
| **3** | 3450 | 230/460 | 190/380 | 0.144/0.72 | 1.82/0.91 | 40 | 1.0 | 4 7/16 | 6 5/8 | 13 | **3M360** | 253.00 | **192.00** | 8.0 |
| **6** | | | | | | | | | | | **2Z871** | 325.00 | **246.25** | 8.0 |

**FIT THESE GEARMOTORS, TEFC MOTORS, AND ADJUSTABLE SPEED DRIVES**

| No. 6Z814 | | | | | | | | | No. 6Z815 | | | | No. 3M360 | | | No. 2Z871 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2N863 | 3N017 | 3N442 | 3N627 | 5K672 | 6K306 | 6K436 | 6K599 | 6K727 | 3K300 | 3N337 | 3N550 | 5K565 | 2Z872 | 3N176 | 3Z857 | 2Z876 | 3Z609 |
| 2N864 | 3N087 | 3N443 | 3N628 | 5K960 | 6K307 | 6K472 | 6K619 | 6K827 | 3K344 | 3N343 | 3N551 | 5K641 | 2Z873 | 3N295 | 4Z497 | 2Z877 | 4Z888 |
| 2N865 | 3N234 | 3N446 | 3N680 | 6K045 | 6K308 | 6K473 | 6K622 | 6K831 | 3N018 | 3N344 | 3N553 | 5K961 | 2Z874 | 3N296 | 4Z886 | 3N299 | 4Z889 |
| 2N866 | 3N235 | 3N460 | 4K766 | 6K122 | 6K309 | 6K483 | 6K637 | 6K937 | 3N236 | 3N444 | 3N554 | 6K311 | 3N169 | 3N298 | 4Z887 | 3N300 | |
| 2N915 | 3N237 | 3N471 | 4K936 | 6K123 | 6K342 | 6K484 | 6K639 | 6K938 | 3N238 | 3N445 | 3N629 | 6K338 | 3N170 | 3N509 | 4Z893 | 3N301 | |
| 2N916 | 3N285 | 3N472 | 5K121 | 6K124 | 6K358 | 6K562 | 6K640 | 6K950 | 3N265 | 3N447 | 3N681 | 6K600 | 3N171 | 3N513 | 4Z894 | 3N510 | |
| 2N924 | 3N317 | 3N548 | 5K262 | 6K181 | 6K407 | 6K592 | 6K674 | 6K952 | 3N266 | 3N461 | 3N698 | 6K702 | 3N172 | 3N514 | 4Z895 | 3N511 | |
| 2N925 | 3N335 | 3N549 | 5K341 | 6K182 | 6K408 | 6K596 | 6K710 | 6K959 | 3N286 | 3N462 | 4K419 | 6K740 | 3N173 | 3Z499 | 4Z896 | 3N512 | |
| 2N926 | 3N342 | 3N625 | 5K502 | 6K184 | 6K409 | 6K597 | 6K714 | 6K975 | 3N287 | 3N473 | 4K420 | 6K828 | 3N174 | 3Z605 | 4Z897 | 3Z607 | |
| 3K348 | 3N427 | 3N626 | 5K636 | 6K197 | 6K418 | 6K598 | 6K719 | | 3N336 | 3N486 | 4K767 | 6K832 | 3N175 | 3Z606 | | 3Z608 | |

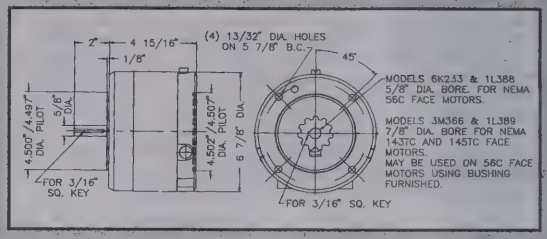
# 3 TO 6 FT.-LB. ELECTRIC BRAKES AND 5 TO 15 FT.-LB. ELECTRIC CLUTCH

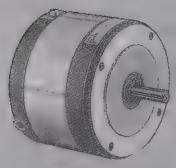
## DOUBLE C-FACE MAGNETIC DISC BRAKES

Dayton®

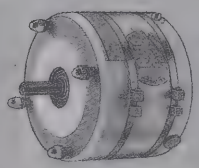
13814

Replacement Parts Available 1-800-323-0620

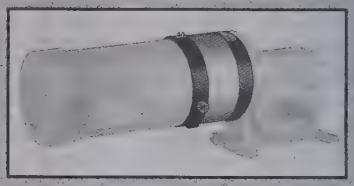


Standard Double C-Face Magnetic Disc Brake



Washdown Double C-Face Magnetic Disc Brake



- **Brake coil is rated at 115/208-230 volt, 60 Hz or 110/208-220 volt, 50 Hz single phase**
- **For use with single-phase motors or, when wired per instructions included, with 230/460 dual voltage three-phase motors**
- **15" long coil leads**
- **Brakes are rated at 40°C maximum ambient temperature and 3450 RPM maximum input speed**

**WASHDOWN BRAKE FEATURES:**

- **BISSC Certified**
- **Complies with NEMA Def. MG1-1.26.5 for waterproof machines**
- **USDA approved white epoxy paint**
- **Complies with 3A Dairy Standards pertaining to nonproduct contact surfaces**

Designed for operation on NEMA C-face motors up to 3 HP at 3450 (NEMA 56C, 143TC, and 145TC—see dimensional drawing above). Used for applications that require rapid stopping and holding power: conveyors, door openers, and general machine drives.

**Brake is not intended for accurate positioning applications.**

Brake engages and holds load under power-off condition. Brake must be energized at the same time as the motor. Brake has a manual release which resets automatically when magnet coil is energized.

Nos. 6K233 and 3M366 brakes may be used to convert a NEMA C-face motor to a brake motor. They also may be used between a NEMA C-face motor and NEMA C-face gear reducer to make a brake gearmotor. Nos. 1L388 and 1L389 brakes can only be used to make a brake gearmotor.

Standard brake has a black finish and the washdown brake has a white finish. CSA Certified (13814). Dayton brand.

| Nominal Static Torque, (Ft.-Lbs.) | Maximum Input HP at 1725 | Maximum Input HP 3450 RPM | STANDARD DRIPPROOF BRAKES Stock No. | List | Each | Shpg. Wt. | WASHDOWN BRAKES Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 2 | **6K233** | $202.25 | **$165.25** | 13.0 | **1L388** | $322.00 | **$261.50** | 14.0 |
| 6 | 2 | 3 | **3M366** | 225.00 | **183.50** | 14.0 | **1L389** | 349.25 | **283.25** | 14.0 |

## CENTRIFUGAL CLUTCHES FOR AIR-COOLED GAS ENGINES

**Max-Torque Centrifugal Clutches** may be used on outdoor equipment, go-karts, mini-bikes and other applications where load is automatically transferred based on engine speed.

- **3/16" standard keyway, key and set screws come with each clutch**
- **For 4-cycle engines 2 to 6 HP**
- **Transmits torque loads up to 10 ft./lbs. at up to 4,000 RPM**
- **Preset to engage at 2,000 RPM**
- **Clockwise or counterclockwise rotation**
- **Sintered metal shoes**
- **Stainless steel garter spring**
- **Ground bearing sleeve provides less friction and extended life**
- **2¼" width, 4¼" outside diameter of clutch drum on all models**

| Type | Engine Shaft Dia. (In.) | No. Teeth | Roller* Chain No. | Max-Torque Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Pulley†** | 3/4 | — | — | P32034 | **3ZC50** | $59.75 | **$37.95** | 3.0 |
| **Pulley†** | 5/8 | — | — | P32058 | **3ZC51** | 59.75 | **37.95** | 3.0 |
| **Sprocket** | 3/4 | 10 | 41 | SS1034 | **3ZC52** | 38.15 | **22.22** | 2.6 |
| **Sprocket** | 5/8 | 10 | 41 | SS1058 | **3ZC53** | 38.15 | **22.22** | 3.0 |
| **Sprocket** | 5/8 | 11 | 35 | SS1158 | **3ZC54** | 38.15 | **22.22** | 2.6 |
| **Sprocket** | 3/4 | 12 | 35 | SS1234 | **3ZC55** | 38.15 | **22.22** | 2.6 |

(*) For roller chain, see page 299. (†) Pulley is 3.2" O.D. Use A or B belt.

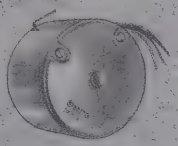



No. 3ZC55 No. 3ZC50

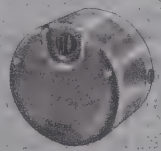
# DIRECT REPLACEMENT OEM CLOSE-COUPLED SPRING SET AC DISC BRAKES

**Stearns®** *Brakes, Clutches and Clutch-Brakes*

Replacement Parts Available
1-800-323-0620



A No. 5U269



B No. 5U275



C No. 5U331

- **Horizontal mounting on Series 82,000, 86,000 and 87,000 brakes**
- **New 87,000 spring design permits easy conversion to vertical applications**
- **All position mounting on Series 56,000 brakes**
- **Static torque range 1.5 through 105 ft.-lbs.**
- **NEMA C-face mounting 48C through 256TC**
- **Brake features manual release with automatic reset**
- **All brakes operate on both single and three phase for 60/50 Hz operation**
- **Class B coil insulation**

Typical Applications: Direct replacement for OEM brakemotor applications already in service: Performance matched designs for rapid stopping and holding of all major brakemotor designs used in material handling, hoist, door openers, and general machine drives.

Brake engages and holds load under power-off condition and automatically releases when power is applied. Brake is not intended for accurate positioning applications.

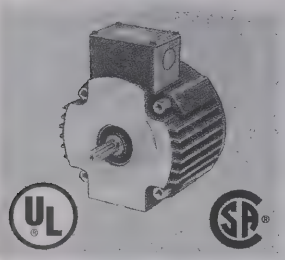
NEMA 1 Enclosures are for indoor or enclosure protected outdoor environments.

NEMA 4 Enclosures are for outdoor installations, or where there are moist, abrasive, or dusty environments.

| Static Torque (Ft.-Lbs.) | Voltage AC 60 Hz | Voltage AC 50 Hz | Maximum RPM | Motor Mounting | Dimensions (In.) Length | Dimensions (In.) Diameter | Input Bore Diameter (In.) | Keyway (In.) | Stearns Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **A SERIES 48,100—NEMA 1 Enclosure** | | | | | | | | |
| 1.5 | 115/208-230 | 95/190 | 5000 | 48C | 3.92 | 5.50 | 0.625 | 0.187 x 0.092 | 104815100BP | **5U269** | $221.00 | **$192.00** | 4.8 |
| 3 | 115/208-230 | 95/190 | 5000 | 48C | 3.92 | 5.50 | 0.625 | 0.187 x 0.092 | 104816100BP | **5U271** | 221.00 | **192.00** | 4.8 |
| 6 | 115/208-230 | 95/190 | 5000 | 48C | 3.92 | 5.50 | 0.625 | 0.187 x 0.092 | 104817100BP | **5U273** | 232.00 | **201.75** | 5.0 |
| 1.5 | 208-230/460 | 190/380 | 5000 | 48C | 3.92 | 5.50 | 0.625 | 0.187 x 0.092 | 104815100BQ | **5U270** | 221.00 | **192.00** | 4.8 |
| 3 | 208-230/460 | 190/380 | 5000 | 48C | 3.92 | 5.50 | 0.625 | 0.187 x 0.092 | 104816100BQ | **5U272** | 221.00 | **192.00** | 4.8 |
| 6 | 208-230/460 | 190/380 | 5000 | 48C | 3.92 | 5.50 | 0.625 | 0.187 x 0.092 | 104817100BQ | **5U274** | 232.00 | **201.75** | 5.0 |
| | | | | | **B SERIES 56,000—NEMA 1 Enclosure** | | | | | | | | |
| 1.5 | 115/208-230 | 95/190 | 5000 | 56C | 4.00 | 6.56 | 0.625 | 0.187 x 0.092 | 105600100BPF | **5U283** | 240.00 | **199.00** | 6.4 |
| 3 | 115/208-230 | 95/190 | 5000 | 56C | 4.00 | 6.56 | 0.625 | 0.187 x 0.092 | 105601100BPF | **5U285** | 246.00 | **204.00** | 6.4 |
| 6 | 115/208-230 | 95/190 | 5000 | 56C | 4.00 | 6.56 | 0.625 | 0.187 x 0.092 | 105602100BPF | **5U287** | 287.00 | **237.75** | 6.4 |
| 10 | 115/208-230 | 95/190 | 5000 | 56C | 4.00 | 6.56 | 0.625 | 0.187 x 0.092 | 105603100BPF | **5U289** | 342.00 | **283.25** | 6.9 |
| 15 | 115/208-230 | 95/190 | 5000 | 143-5TC | 4.00 | 6.56 | 0.875 | 0.187 x 0.092 | 105604100DPF | **5U291** | 392.00 | **324.75** | 6.9 |
| 20 | 115/208-230 | 95/190 | 5000 | 143-5TC | 4.81 | 6.88 | 0.875 | 0.187 x 0.092 | 105605100DPF | **5U278** | 438.00 | **362.75** | 9.0 |
| 25 | 115/208-230 | 95/190 | 5000 | 143-5TC | 5.12 | 6.88 | 0.875 | 0.187 x 0.092 | 105606100DPF | **5U281** | 498.00 | **412.00** | 9.0 |
| 1.5 | 208-230/460 | 190/380 | 5000 | 56C | 4.00 | 6.56 | 0.625 | 0.187 x 0.092 | 105600100BQF | **5U284** | 240.00 | **199.00** | 6.4 |
| 3 | 208-230/460 | 190/380 | 5000 | 56C | 4.00 | 6.56 | 0.625 | 0.187 x 0.092 | 105601100BQF | **5U286** | 246.00 | **204.00** | 6.4 |
| 6 | 208-230/460 | 190/380 | 5000 | 56C | 4.00 | 6.56 | 0.625 | 0.187 x 0.092 | 105602100BQF | **5U288** | 287.00 | **237.75** | 6.9 |
| 10 | 208-230/460 | 190/380 | 5000 | 56C | 4.00 | 6.56 | 0.625 | 0.187 x 0.092 | 105603100BQF | **5U290** | 342.00 | **283.25** | 6.9 |
| 15 | 208-230/460 | 190/380 | 5000 | 143-5TC | 4.00 | 6.56 | 0.875 | 0.187 x 0.092 | 105604100DQF | **5U292** | 392.00 | **324.75** | 6.9 |
| 20 | 208-230/460 | 190/380 | 5000 | 143-5TC | 4.81 | 6.88 | 0.875 | 0.187 x 0.092 | 105605100DQF | **5U279** | 438.00 | **362.75** | 9.0 |
| 25 | 208-230/460 | 190/380 | 5000 | 143-5TC | 5.12 | 6.88 | 0.875 | 0.187 x 0.092 | 105606100DQF | **5U282** | 498.00 | **412.00** | 9.0 |
| | | | | | **B SERIES 56,000—NEMA 4 Enclosure** | | | | | | | | |
| 3 | 115/208-230 | 95/190 | 5000 | 56C | 4.72 | 6.88 | 0.625 | 0.187 x 0.092 | 105601200BPF | **5U275** | 321.00 | **265.75** | 8.0 |
| 6 | 115/208-230 | 95/190 | 5000 | 56C | 4.72 | 6.88 | 0.625 | 0.187 x 0.092 | 105602200BPF | **5U276** | 362.00 | **299.50** | 8.0 |
| 10 | 115/208-230 | 95/190 | 5000 | 56C | 4.97 | 6.88 | 0.625 | 0.187 x 0.092 | 105603200BPF | **5U277** | 417.00 | **345.50** | 9.0 |
| 15 | 115/208-230 | 95/190 | 5000 | 56C | 5.28 | 6.88 | 0.625 | 0.187 x 0.092 | 105604200BPF | **5U280** | 467.00 | **386.50** | 8.0 |
| | | | | | **C SERIES 87,000—NEMA 1 Enclosure** | | | | | | | | |
| 6 | 230/460 | 190/380 | 4000 | 182/184TC | 7.38 | 9.38 | 1.125 | 0.250 x 0.125 | 108700100EQF | **5U331** | 480.00 | **458.50** | 20.0 |
| 10 | 230/460 | 190/380 | 4000 | 182/184TC | 7.38 | 9.38 | 1.125 | 0.250 x 0.125 | 108701100EQF | **5U335** | 480.00 | **458.50** | 20.0 |
| 15 | 230/460 | 190/380 | 4000 | 182/184TC | 7.38 | 9.38 | 1.125 | 0.250 x 0.125 | 108702100EQF | **5U339** | 500.00 | **477.50** | 21.0 |
| 25 | 230/460 | 190/380 | 4000 | 182/184TC | 7.38 | 9.38 | 1.125 | 0.250 x 0.125 | 108703100EQF | **5U343** | 512.00 | **489.50** | 22.0 |
| 35 | 230/460 | 190/380 | 4000 | 182/184TC | 7.38 | 9.38 | 1.125 | 0.250 x 0.125 | 108704100EQF | **5U347** | 584.00 | **559.00** | 25.0 |
| 50 | 230/460 | 190/380 | 4000 | 213/215TC | 7.88 | 9.38 | 1.375 | 0.312 x 0.156 | 108705100GQF | **5U351** | 719.00 | **687.50** | 24.0 |
| 75 | 230/460 | 190/380 | 4000 | 254/256TC | 7.88 | 9.38 | 1.625 | 0.375 x 0.187 | 108706100HQF | **5U355** | 986.00 | **942.50** | 27.0 |
| 105 | 230/460 | 190/380 | 4000 | 254/256TC | 8.38 | 9.38 | 1.625 | 0.375 x 0.187 | 108708100HQF | **5U359** | 1276.00 | **1221.00** | 32.0 |
| | | | | | **C SERIES 87,000—NEMA 4 Enclosure** | | | | | | | | |
| 6 | 230/460 | 190/380 | 4000 | 182/184TC | 7.56 | 9.38 | 1.125 | 0.250 x 0.125 | 108700200EQF | **5U332** | 625.00 | **597.50** | 43.0 |
| 10 | 230/460 | 190/380 | 4000 | 182/184TC | 7.56 | 9.38 | 1.125 | 0.250 x 0.125 | 108701200EQF | **5U336** | 625.00 | **597.50** | 43.0 |
| 15 | 230/460 | 190/380 | 4000 | 182/184TC | 7.56 | 9.38 | 1.125 | 0.250 x 0.125 | 108702200EQF | **5U340** | 752.00 | **719.50** | 45.0 |
| 25 | 230/460 | 190/380 | 4000 | 182/184TC | 7.56 | 9.38 | 1.125 | 0.250 x 0.125 | 108703200EQF | **5U344** | 799.00 | **763.00** | 47.0 |
| 35 | 230/460 | 190/380 | 4000 | 182/184TC | 7.56 | 9.38 | 1.125 | 0.250 x 0.125 | 108704200EQF | **5U348** | 882.00 | **843.50** | 49.0 |
| 50 | 230/460 | 190/380 | 4000 | 213/215TC | 8.06 | 9.38 | 1.375 | 0.312 x 0.156 | 108705200GQF | **5U352** | 1037.00 | **991.00** | 51.0 |
| 75 | 230/460 | 190/380 | 4000 | 254/256TC | 8.06 | 9.38 | 1.625 | 0.375 x 0.187 | 108706200HQF | **5U356** | 1337.00 | **1280.00** | 52.0 |
| 105 | 230/460 | 190/380 | 4000 | 254/256TC | 8.56 | 9.38 | 1.625 | 0.375 x 0.187 | 108708200HQF | **5U360** | 1682.00 | **1609.00** | 59.0 |

# DOUBLE C-FACE ELECTRICALLY SET MODULAR CLUTCHES, BRAKES, AND CLUTCH/BRAKES

**Stearns®** *Brakes, Clutches and Clutch-Brakes*



- **All-position mounting**
- **Large fully gasketed conduit boxes**
- **Precision sealed ball bearings**
- **Overhung load: 85 lbs. all units**
- **Enclosure: Totally enclosed non-ventilated (TENV) on 50, 100, and 180 Series, splash proof on 210 and 250 Series**

Starting and stopping of the load is achieved by switching between the clutch and brake. Load will start when voltage is applied to the clutch and will stop when voltage is applied to the brake. Motor will run continuously, eliminating premature motor failure. Units mount between a C-face motor and a C-face reducer or indirect using optional adapter below. Load can be connected directly to the output shaft of the clutch/brake, clutch, or brake.

**Selection Chart**

**CAUTION: RPM refers to shaft speed at clutch or brake. Based on 2.75 service factor**

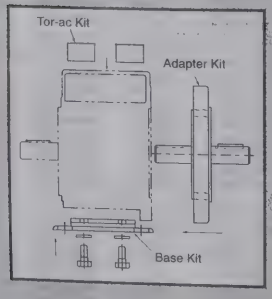
| RPM x 100 / HP | 2 | 4 | 6 | 8 | 10 | 12 | 15 | 18 | 20 | 24 | 30 | 36 | 40 | 46 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | | | | | | | | | | | | | | | |
| 1/3 | | | | | | | | | | | | | | | |
| 1/2 | | | | | | | | SM-50 SERIES | | | | | | | |
| 3/4 | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | |
| 1 1/2 | | | | | SM-100/180 SERIES | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | SM-210 SERIES | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 7 1/2 | | | | | | | | SM-250 SERIES | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | |

**Mounting**: Available for mounting to 56C, 143TC, 145TC, 182TC, 184TC, 213TC, or 215TC motors and can be converted to base mounting by adding optional base kits.

**Voltage**: 24 and 90 VDC units available.

| Series | Static Torque (Ft.-Lbs.) | Input/Output Shaft Dia. (In.) | Enclosure | Voltage DC | Max. RPM | Motor Mounting | Dimensions (In.) Overall Length | Width | Stearns Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CLUTCH/BRAKES** | | | | | | | | | | | | | |
| **SM-50** | **16** | 5/8 | TENV | 90 | 3600 | 56C | 6.77 | 6.90 | 235056101AJL | **5U333** | $626.00 | **$457.75** | 25.0 |
| **SM-50** | **16** | 5/8 | TENV | 24 | 3600 | 56C | 6.77 | 6.90 | 235056101AEL | **5U367** | 626.00 | **457.75** | 25.0 |
| **SM-100** | **35** | 5/8 | TENV | 90 | 3600 | 56C | 6.77 | 6.90 | 235056102AJL | **5U334** | 794.00 | **581.00** | 25.0 |
| **SM-100** | **35** | 5/8 | TENV | 24 | 3600 | 56C | 6.77 | 6.90 | 235056102AEL | **5U368** | 794.00 | **581.00** | 25.0 |
| **SM-180** | **35** | 7/8 | TENV | 90 | 3600 | 143-5TC | 6.83 | 6.90 | 235140102AJO | **5U337** | 794.00 | **581.00** | 25.0 |
| **SM-180** | **35** | 7/8 | TENV | 24 | 3600 | 143-5TC | 6.83 | 6.90 | 235140102AEO | **5U383** | 794.00 | **581.00** | 25.0 |
| **SM-210** | **75** | 1 1/8 | Splash Proof | 90 | 3600 | 182-4TC | 8.70 | 9.00 | 235180003AJR | **5U338** | 1413.00 | **1035.00** | 43.0 |
| **SM-250** | **145** | 1 3/8 | Splash Proof | 90 | 3600 | 213-5TC | 9.14 | 9.00 | 235210004AJU | **5U341** | 1536.00 | **1126.00** | 43.0 |
| **C-FACE CLUTCHES** | | | | | | | | | | | | | |
| **SM-50** | **16** | 5/8 | TENV | 90 | 3600 | 56C | 6.77 | 6.90 | 236056101AJL | **5U342** | 524.00 | **383.50** | 20.0 |
| **SM-100** | **35** | 5/8 | TENV | 90 | 3600 | 56C | 6.77 | 6.90 | 236056102AJL | **5U345** | 670.00 | **490.25** | 20.0 |
| **SM-180** | **35** | 7/8 | TENV | 90 | 3600 | 143-5TC | 6.83 | 6.90 | 236140102AJO | **5U346** | 670.00 | **490.25** | 20.0 |
| **SM-210** | **75** | 1 1/8 | Splash Proof | 90 | 3600 | 182-4TC | 8.70 | 9.00 | 236180003AJR | **5U349** | 1188.00 | **870.00** | 34.0 |
| **SM-250** | **145** | 1 3/8 | Splash Proof | 90 | 3600 | 213-5TC | 9.14 | 9.00 | 236210004AJU | **5U350** | 1300.00 | **952.00** | 35.0 |
| **C-FACE BRAKES** | | | | | | | | | | | | | |
| **SM-50** | **16** | 5/8 | TENV | 90 | 3600 | 56C | 5.20 | 6.90 | 237056101AJL | **5U353** | 361.00 | **264.00** | 16.0 |
| **SM-50** | **16** | 5/8 | TENV | 24 | 3600 | 56C | 5.20 | 6.90 | 237056101AEL | **5U384** | 361.00 | **264.00** | 15.0 |
| **SM-100** | **35** | 5/8 | TENV | 90 | 3600 | 56C | 5.20 | 6.90 | 237056102AJL | **5U354** | 460.00 | **336.50** | 15.0 |
| **SM-100** | **35** | 5/8 | TENV | 24 | 3600 | 56C | 5.20 | 6.90 | 237056102AEL | **5U385** | 459.00 | **335.75** | 15.0 |
| **SM-180** | **35** | 7/8 | TENV | 90 | 3600 | 143-5TC | 5.26 | 6.90 | 237140102AJO | **5U357** | 459.00 | **335.75** | 15.0 |
| **SM-180** | **35** | 7/8 | TENV | 24 | 3600 | 143-5TC | 5.26 | 6.90 | 237140102AEO | **5U386** | 459.00 | **335.75** | 15.0 |
| **SM-210** | **75** | 1 1/8 | Splash Proof | 90 | 3600 | 182-4TC | 7.20 | 9.00 | 237180003AJR | **5U358** | 893.00 | **653.50** | 30.0 |
| **SM-250** | **145** | 1 3/8 | Splash Proof | 90 | 3600 | 213-5TC | 7.64 | 9.00 | 237210004AJU | **5U361** | 994.00 | **727.50** | 32.0 |

## OPTIONAL ACCESSORIES FOR DOUBLE C-FACE CLUTCHES AND BRAKES




**Tor-ac® Kit** allows 90 VDC clutches and brakes to operate on either 115 or 230 volts alternating current input by adding unit into conduit box maintained. UL and CSA unit approval.

**Input Adapter Kit** provides for indirect coupling to a standard motor (utilizing a belt and sheave arrangement).

**Base Kit** converts double C-face clutches and clutch/brakes to base mounting by adding appropriate base kit. No base kit for brakes only.

**Tor-ac® KITS**

| Input Voltage | Output Voltage | Stearns Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **115 AC** | 90 VDC | 412019400 | **5U391** | $47.00 | **$35.00** | 0.5 |
| **230 AC** | 90 VDC | 412029000 | **5U392** | 55.00 | **41.60** | 0.5 |

**INPUT ADAPTER KITS**

| For Series | Stearns Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **SM-50/100** | 578610031 | **5U310** | $146.00 | **$109.95** | 3.6 |
| **SM-180** | 578610032 | **5U311** | 146.00 | **109.95** | 4.0 |
| **SM-210** | 578000023 | **5U312** | 275.00 | **207.50** | 8.1 |
| **SM-250** | 578000024 | **5U390** | 647.00 | **261.25** | 9.3 |

**BASE KITS**

| For Series | Stearns Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **SM-50/100** | 578110101 | **5U307** | $29.00 | **$21.32** | 1.0 |
| **SM-180** | 578110102 | **5U308** | 40.00 | **30.25** | 1.9 |
| **SM-210/250** | 578000130 | **5U309** | 61.00 | **45.50** | 2.8 |



*We deliver the products that deliver the power.*

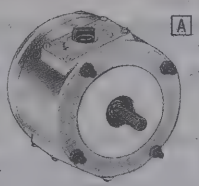
# DOUBLE C-FACE COUPLER AC SPRING-SET DISC BRAKES

**Stearns®** *Brakes, Clutches and Clutch-Brakes*

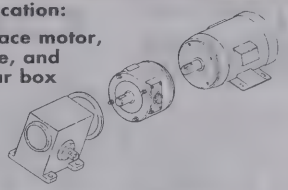
LR6254

**For information on how to select a motor brake see chart.**

**Replacement Parts Available 1-800-323-0620**




**Typical Application:**
**Standard C-face motor, coupler brake, and standard gear box with C-face input.**



- **Double C-face coupler**
- **For 60/50 Hz operation**
- **Class B coil insulation**
- **40°C ambient**
- **Splined hubs ensure contact between hub and friction disc**
- **Horizontal mounting on Series 87,700 brakes**
- **All position mounting on Series 56,700 brakes**
- **Manual release with automatic reset**
- **CSA Certified (LR 6254)**

**Typical Applications:** Direct replacement of existing coupler-type brakes and in new OEM applications that convert a standard NEMA C-face motor into a brakemotor or a brake gearmotor when mounted between the motor and gear unit. Used on applications that require rapid stopping and holding in material handling, hoist, door opener, and general machine drives.

Brake engages and holds load under power-off condition and automatically releases when power is applied. Brake is not intended for accurate positioning applications. Do not attach side loads directly to output shaft.

**Series 56,700 Brakes 1.5-15 ft.-lbs.** have NEMA 140TC input face and NEMA 56C output face. Can be easily converted to 56C input or 140TC output with bushings supplied.

**Series 56,700 Brakes 20 and 25 ft.-lbs.** have NEMA 140TC input and output faces only.

**Series 87,700 Brakes** are for remote, inaccessible applications which require bigger frame sizes and higher torques. Self-adjusting to compensate for friction lining wear. Provide more efficient operation where rapid cycling occurs.

**NEMA 1 Enclosures** are commonly used for indoor or enclosure protected outdoor environments. Enclosure limits drops of liquid or solid particles from entering when striking from any angle from 0 to 15° downward from the vertical. Meet NEMA 1-1.25.1 specification*.

**NEMA 4 Enclosures** are commonly used for outdoor installations, or where there are moist, abrasive, or dusty environments. Enclosure limits the entry of dust, abrasives, and water that is sprayed on the enclosure. Meet NEMA MG 1-1.26.5 specification*.

(*) Reference NEMA specifications for a detailed explanation and test method.

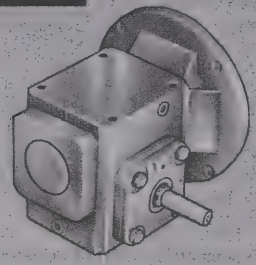
## BRAKE SELECTION GUIDE

| Motor HP | Motor Shaft Speed 900 | 1200 | 1500 | 1800 | 3000 | 3600 |
|---|---|---|---|---|---|---|
| | Static Torque Rating of Brake (ft.-lbs.) | | | | | |
| 1/6 | 1.5 | 1.5 | 1.5 | 0.75 | 0.5 | 0.5 |
| 1/4 | 3 | 3 | 1.5 | 1.5 | 075 | 0.5 |
| 1/3 | 3 | 3 | 3 | 1.5 | 1.5 | 0.75 |
| 1/2 | 6 | 3 | 3 | 3 | 1.5 | 1.5 |
| 3/4 | 6 | 6 | 6 | 6 | 3 | 3 |
| 1 | 10 | 6 | 6 | 6 | 3 | 3 |
| 1½ | 15 | 10 | 10 | 10 | 6 | 3 |
| 2 | 20 | 15 | 10 | 10 | 6 | 6 |
| 3 | 25 | 20 | 15 | 15 | 10 | 6 |
| 5 | 50 | 36 | 25 | 20 or 25 | 15 | 10 |
| 7½ | 75 | 50 | 50 | 35 | 25 | 15 |
| 10 | 105 | 75 | 50 | 50 | 25 | 25 |
| 15 | — | 105 | 75 | 75 | 50 | 35 |
| 20 | — | — | 105 | 105 | 50 | 50 |
| 25 | — | — | — | 105 | 75 | 50 |

| Static Torque (Ft.-Lbs.) | Voltage AC 60 Hz | 50 Hz | Max. RPM | Input / Output Mounting | Dimensions (In.) Length | Dia. | Input Bore Dia. (In.) | Keyway (In.) | Stearns Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SERIES 56,700 - NEMA 1 Enclosure** | | | | | | | | | | | | | |
| **1.5** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.19 | 6.88 | 0.875 | 0.187 x 0.092 | 105670108PF | **5U293** | $318.00 | **$176.50** | 12.0 |
| **3** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.19 | 6.88 | 0.875 | 0.187 x 0.092 | 105671108PF | **5U295** | 324.00 | **180.25** | 12.0 |
| **6** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.19 | 6.88 | 0.875 | 0.187 x 0.092 | 105672108PF | **5U297** | 365.00 | **202.50** | 12.0 |
| **10** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.19 | 6.88 | 0.875 | 0.187 x 0.092 | 105673108PF | **5U299** | 420.00 | **233.50** | 12.0 |
| **15** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.19 | 6.88 | 0.875 | 0.187 x 0.092 | 105674108PF | **5U301** | 470.00 | **260.75** | 12.0 |
| **20** | 115/208-230 | 95/190 | 5000 | 140TC/140TC | 5.19 | 6.88 | 0.875 | 0.187 x 0.092 | 105675107PF | **5U303** | 516.00 | **286.50** | 12.0 |
| **25** | 115/208-230 | 95/190 | 5000 | 140TC/140TC | 5.19 | 6.88 | 0.875 | 0.187 x 0.092 | 105676107PF | **5U305** | 576.00 | **320.00** | 12.0 |
| **SERIES 56,700-NEMA 4 Enclosure** | | | | | | | | | | | | | |
| **1.5** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.22 | 6.88 | 0.875 | 0.187 x 0.092 | 105670208PF | **5U294** | 393.00 | **218.25** | 13.0 |
| **3** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.22 | 6.88 | 0.875 | 0.187 x 0.092 | 105671208PF | **5U296** | 399.00 | **221.75** | 13.0 |
| **6** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.22 | 6.88 | 0.875 | 0.187 x 0.092 | 105572208PF | **5U298** | 440.00 | **244.25** | 12.0 |
| **10** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.22 | 6.88 | 0.875 | 0.187 x 0.092 | 105673208PF | **5U300** | 495.00 | **275.00** | 13.0 |
| **15** | 115/208-230 | 95/190 | 5000 | 140TC/56C | 5.22 | 6.88 | 0.875 | 0.187 x 0.092 | 105674208PF | **5U302** | 545.00 | **302.75** | 13.0 |
| **20** | 115/208-230 | 95/190 | 5000 | 140TC/140TC | 5.22 | 6.88 | 0.875 | 0.187 x 0.092 | 105575207PF | **5U304** | 591.00 | **328.25** | 13.0 |
| **25** | 115/208-230 | 95/190 | 5000 | 140TC/140TC | 5.22 | 6.88 | 0.875 | 0.187 x 0.092 | 105576207PF | **5U306** | 651.00 | **361.50** | 13.0 |
| **SERIES 87,700-NEMA 1 Enclosure** | | | | | | | | | | | | | |
| **10** | 115/230 | 95/190 | 4000 | 182/184TC | 8.38 | 10.38 | 1.125 | 0.250 x 0.125 | 1087711S1PG | **5U369** | 1209.00 | **1122.00** | 61.0 |
| **15** | 115/230 | 95/190 | 4000 | 182/184TC | 8.38 | 10.38 | 1.125 | 0.250 x 0.125 | 1087721S1PG | **5U371** | 1209.00 | **1122.00** | 63.0 |
| **25** | 115/230 | 95/190 | 4000 | 182/184TC | 8.38 | 10.38 | 1.125 | 0.250 x 0.125 | 1087731S1PG | **5U373** | 1268.00 | **1178.00** | 61.0 |
| **35** | 115/230 | 95/190 | 4000 | 213/215TC | 8.38 | 10.38 | 1.375 | 0.312 x 0.156 | 1087741S3PG | **5U375** | 1292.00 | **1199.00** | 67.0 |
| **50** | 115/230 | 95/190 | 4000 | 213/215TC | 8.88 | 10.38 | 1.375 | 0.312 x 0.156 | 1087751S3PG | **5U377** | 1318.00 | **1223.00** | 69.0 |
| **75** | 230/460 | 190/380 | 4000 | 254/256TC | 8.88 | 10.38 | 1.625 | 0.375 x 0.187 | 1087761S5QG | **5U379** | 1345.00 | **1314.00** | 70.0 |
| **105** | 230/460 | 190/380 | 4000 | 254/256TC | 9.38 | 10.38 | 1.625 | 0.375 x 0.187 | 1087781S5QG | **5U381** | 1372.00 | **1340.00** | 78.0 |
| **SERIES 87,700-NEMA 4 Enclosure** | | | | | | | | | | | | | |
| **10** | 115/230 | 95/190 | 4000 | 182/184TC | 8.38 | 10.38 | 1.125 | 0.250 x 0.125 | 1087712S1PG | **5U370** | 1474.00 | **1368.00** | 62.0 |
| **15** | 115/230 | 95/190 | 4000 | 182/184TC | 8.38 | 10.38 | 1.125 | 0.250 x 0.125 | 1087722S1PG | **5U372** | 1474.00 | **1368.00** | 62.0 |
| **25** | 115/230 | 95/190 | 4000 | 182/184TC | 8.38 | 10.38 | 1.125 | 0.250 x 0.125 | 1087732S1PG | **5U374** | 1533.00 | **1423.00** | 63.0 |
| **35** | 115/230 | 95/190 | 4000 | 213/215TC | 8.38 | 10.38 | 1.375 | 0.312 x 0.156 | 1087742S3PG | **5U376** | 1557.00 | **1446.00** | 65.0 |
| **50** | 115/230 | 95/190 | 4000 | 213/215TC | 8.88 | 10.38 | 1.375 | 0.312 x 0.156 | 1087752S3PG | **5U378** | 1582.00 | **1469.00** | 68.0 |
| **75** | 230/460 | 190/380 | 4000 | 254/256TC | 8.88 | 10.38 | 1.625 | 0.375 x 0.187 | 1087762S5QG | **5U380** | 1609.00 | **1494.00** | 73.0 |
| **105** | 230/460 | 190/380 | 4000 | 254/256TC | 9.38 | 10.38 | 1.625 | 0.375 x 0.187 | 1087782S5QG | **5U382** | 1635.00 | **1597.00** | 70.0 |

# C-FACE RIGHT ANGLE SPEED REDUCERS

Dayton® New



No. 4Z284 with f-1 Shaft Assembly Shown

Replacement Parts Available 1-800-323-0620™

- 29 to 350 RPM
- Single and double output shaft assemblies
- Interchangeable with most Grove (Flexaline) and Ohio (Uniline) reducers
- All units shipped with oil

Designed for low speed/high torque, continuous duty applications when coupled to a NEMA 56C face (some 3.00 and 3.25" WCD units vary on input shaft and frame size), 1750 RPM motor (not included). Features double-lipped and spring-loaded shaft seals and large oil sump.

**Housing:** Cast iron

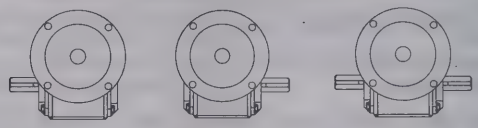
**Bearings:** Ball on input shaft, tapered roller bearings on output shaft

**Worm:** Thread-rolled and hardened alloy steel worm for higher strength and lower power loss with forged bronze and hardened worm gear

**Mounting:** Any position (with optional bases from page 269) except input motor shaft up.

| Worm Center Distance (In.) | Overhung Load (Lbs.) |
|---|---|
| 1.33 | 275 |
| 1.54 | 388 |
| 1.75 | 700 |
| 2.06 | 875 |
| 2.37 | 845 |
| 2.62 | 1300 |
| 3.00 | 967 |
| 3.25 | 1500 |

**Available Shaft Assemblies**



F-1 F-2 F-3

| Nom. Output RPM at 1750 RPM | Worm Ctr. Dist. (In.) (WCD) | NEMA Motor Frame | Nominal Ratio | CONTINUOUS DUTY OUTPUT TORQUE at 1750 RPM In.-Lbs. at Input Motor HP Shown (1.0 Service Factor) 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | 5 HP | 7½ HP | *New!* Stock No. Single Shaft Assembly F-1 | Single Shaft Assembly F-2 | Double Shaft Assembly F-3 | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 1.33 | 56C | 60:1 | 209 | — | — | — | — | — | — | — | — | — | 4Z284 | 4RN71 | 4Z001 | $313.00 | $225.25 | 18.0 |
| 29 | 1.54 | 56C | 60:1 | 280 | — | — | — | — | — | — | — | — | — | 4RN80 | 4RN88 | 4RN96 | 342.00 | 240.25 | 24.0 |
| 29 | 1.75 | 56C | 60:1 | 314 | 415 | — | — | — | — | — | — | — | — | 4Z292 | 3GD39 | 4RP05 | 342.00 | 246.00 | 20.0 |
| 29 | 2.06 | 56C | 60:1 | 305 | 423 | 636 | — | — | — | — | — | — | — | 4Z300 | 4RP13 | 4Z008 | 377.00 | 277.25 | 26.0 |
| 29 | 2.37 | 56C | 60:1 | 297 | 419 | 663 | — | — | — | — | — | — | — | 4RP21 | 4RP28 | 4RP35 | 533.00 | 321.00 | 38.0 |
| 29 | 2.62 | 56C | 60:1 | — | 407 | 653 | 1021 | — | — | — | — | — | — | 4Z730 | 3GD47 | 4RP42 | 533.00 | 372.75 | 53.0 |
| 29 | 3.00 | 56C | 60:1 | — | 395 | 651 | 1034 | 1416 | — | — | — | — | — | 4RP50 | 4RP58 | 4RP66 | 720.00 | 464.50 | 68.0 |
| 29 | 3.25 | 56C | 60:1 | — | — | 619 | 995 | 1371 | — | — | — | — | — | 3GD55 | 4RP74 | 4Z015 | 747.00 | 538.50 | 79.0 |
| 35 | 1.33 | 56C | 50:1 | 225 | — | — | — | — | — | — | — | — | — | 4Z285 | 4RN72 | 4RN79 | 313.00 | 225.25 | 18.0 |
| 35 | 1.54 | 56C | 50:1 | 267 | — | — | — | — | — | — | — | — | — | 4RN81 | 4RN89 | 4RN97 | 342.00 | 240.25 | 24.0 |
| 35 | 1.75 | 56C | 50:1 | 279 | 379 | 449 | — | — | — | — | — | — | — | 4Z293 | 3GD40 | 4RP61 | 342.00 | 246.00 | 20.0 |
| 35 | 2.06 | 56C | 50:1 | — | 372 | 581 | — | — | — | — | — | — | — | 4Z301 | 4RP14 | — | 377.00 | 277.25 | 25.0 |
| 35 | 2.37 | 56C | 50:1 | — | 368 | 582 | 904 | — | — | — | — | — | — | 4RP22 | 4RP29 | 4RP36 | 533.00 | 321.00 | 38.0 |
| 35 | 2.62 | 56C | 50:1 | — | 356 | 572 | 895 | — | — | — | — | — | — | 4Z731 | 3GD48 | 4RP43 | 533.00 | 372.75 | 47.0 |
| 35 | 3.00 | 56C | 50:1 | — | — | 566 | 900 | 1233 | 1899 | — | — | — | — | 4RP51 | 4RP59 | 4RP67 | 720.00 | 464.50 | 68.0 |
| 35 | 3.25 | 56C | 50:1 | — | — | — | 870 | 1199 | 1857 | — | — | — | — | 3GD56 | 4RP75 | 6Z130 | 764.00 | 551.00 | 79.0 |
| 44 | 1.33 | 56C | 40:1 | 220 | — | — | — | — | — | — | — | — | — | 4Z286 | 4RN73 | 4Z002 | 313.00 | 225.25 | 18.0 |
| 44 | 1.54 | 56C | 40:1 | 228 | 310 | — | — | — | — | — | — | — | — | 4RN82 | 4RN90 | 4RN98 | 342.00 | 240.25 | 24.0 |
| 44 | 1.75 | 56C | 40:1 | 235 | 324 | 477 | — | — | — | — | — | — | — | 4Z294 | 3GD41 | 4RP07 | 342.00 | 246.00 | 20.0 |
| 44 | 2.06 | 56C | 40:1 | — | 315 | 492 | — | — | — | — | — | — | — | 4Z302 | 4RP15 | 4Z009 | 377.00 | 277.25 | 25.0 |
| 44 | 2.37 | 56C | 40:1 | — | 308 | 488 | 758 | 1028 | — | — | — | — | — | 4RP23 | 4RP30 | 4RP37 | 533.00 | 321.00 | 38.0 |
| 44 | 2.62 | 56C | 40:1 | — | 300 | 482 | 755 | 1028 | — | — | — | — | — | 4Z732 | 3GD49 | 4RP44 | 533.00 | 372.75 | 47.0 |
| 44 | 3.00 | 56C | 40:1 | — | 287 | 474 | 739 | 1011 | — | — | — | — | — | 4RP52 | 4RP60 | 4RP68 | 720.00 | 464.50 | 68.0 |
| 44 | 3.25 | 56C | 40:1 | — | — | — | 732 | 1009 | 1563 | — | — | — | — | 3GD57 | 4RP76 | 4Z016 | 747.00 | 538.50 | 73.0 |
| 58 | 1.33 | 56C | 30:1 | 195 | 233 | — | — | — | — | — | — | — | — | 4Z287 | 4RN74 | 4Z003 | 313.00 | 225.25 | 18.0 |
| 58 | 1.54 | 56C | 30:1 | 182 | 248 | — | — | — | — | — | — | — | — | 4RN83 | 4RN91 | 4RN99 | 342.00 | 240.25 | 24.0 |
| 58 | 1.75 | 56C | 30:1 | 189 | 260 | 401 | — | — | — | — | — | — | — | 4Z295 | 3GD42 | 4RP08 | 342.00 | 246.00 | 20.0 |
| 58 | 2.06 | 56C | 30:1 | — | — | 397 | 610 | — | — | — | — | — | — | 4Z303 | 4RP16 | 4Z010 | 377.00 | 277.25 | 25.0 |
| 58 | 2.37 | 56C | 30:1 | — | — | 384 | 597 | 809 | — | — | — | — | — | 4RP24 | 4RP31 | 4RP38 | 533.00 | 321.00 | 38.0 |
| 58 | 2.62 | 56C | 30:1 | — | — | 386 | 604 | 823 | 983 | — | — | — | — | 4Z733 | 3GD50 | 4RP45 | 533.00 | 372.75 | 47.0 |
| 58 | 3.00 | 56C | 30:1 | — | — | 370 | 589 | 808 | 1245 | 1683 | — | — | — | 4RP53 | 4RP61 | 4RP69 | 720.00 | 464.50 | 68.0 |
| 58 | 3.25 | 56C | 30:1 | — | — | — | — | 805 | 1247 | 1689 | — | — | — | 3GD58 | 4RP77 | 4Z017 | 747.00 | 538.50 | 74.0 |
| 88 | 1.33 | 56C | 20:1 | 139 | 189 | 212 | — | — | — | — | — | — | — | 4Z288 | 4RN75 | 4Z004 | 313.00 | 225.25 | 18.0 |
| 88 | 1.54 | 56C | 20:1 | 134 | 183 | 280 | — | — | — | — | — | — | — | 4RN84 | 4RN92 | 4RP01 | 342.00 | 240.25 | 24.0 |
| 88 | 1.75 | 56C | 20:1 | — | 185 | 286 | 436 | — | — | — | — | — | — | 4Z296 | 3GD43 | 4RP09 | 342.00 | 246.00 | 21.0 |
| 88 | 2.06 | 56C | 20:1 | — | — | 282 | 434 | 586 | — | — | — | — | — | 4Z304 | 4RP17 | 4Z011 | 377.00 | 277.25 | 25.0 |
| 88 | 2.37 | 56C | 20:1 | — | — | 277 | 431 | 584 | 892 | — | — | — | — | 4RP25 | 4RP32 | 4RP39 | 533.00 | 321.00 | 38.0 |
| 88 | 2.62 | 56C | 20:1 | — | — | — | 427 | 582 | 891 | — | — | — | — | 4Z734 | 3GD51 | 4RP46 | 533.00 | 372.75 | 47.0 |
| 88 | 3.00 | 143/145TC | 20:1 | — | — | — | 421 | 577 | 890 | 1204 | 1831 | — | — | 4RP54 | 4RP62 | 4RP70 | 720.00 | 464.50 | 68.0 |
| 88 | 3.25 | 182/184TC | 20:1 | — | — | — | — | — | — | 1191 | 1816 | — | — | 3GD59 | 4RP78 | 4Z018 | 746.00 | 538.00 | 81.0 |

CONTINUED ON NEXT PAGE

# C-FACE RIGHT ANGLE SPEED REDUCERS

CONTINUED FROM PREVIOUS PAGE

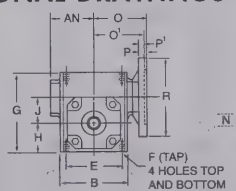
| Nom. Output RPM at 1750 RPM | Worm Ctr. Dist. (In.) (WCD) | NEMA Motor Frame | Nominal Ratio | CONTINUOUS DUTY OUTPUT TORQUE at 1750 RPM In.-Lbs. at Input Motor HP Shown (1.0 Service Factor) 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | 5 HP | 7½ HP | *New!* Stock No. Single Shaft Assembly F-1 | Single Shaft Assembly F-2 | Single Shaft Assembly F-3 | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **117** | 1.33 | 56C | 15:1 | 109 | 147 | 203 | — | — | — | — | — | — | — | **4Z289** | **4RN76** | **4Z005** | $313.00 | **$225.25** | 18.0 |
| **117** | 1.54 | 56C | 15:1 | 104 | 142 | 218 | — | — | — | — | — | — | — | **4RN85** | **4RN93** | **4RP02** | 342.00 | **240.25** | 24.0 |
| **117** | 1.75 | 56C | 15:1 | — | — | 221 | 338 | 430 | — | — | — | — | — | **4Z297** | **3GD44** | **4RP10** | 342.00 | **246.00** | 21.0 |
| **117** | 2.06 | 56C | 15:1 | — | — | — | 338 | 456 | 614 | — | — | — | — | **4Z305** | **4RP18** | **4Z012** | 377.00 | **277.25** | 30.0 |
| **117** | 2.37 | 56C | 15:1 | — | — | — | 331 | 450 | 686 | 923 | — | — | — | **4RP26** | **4RP33** | **4RP40** | 533.00 | **321.00** | 38.0 |
| **117** | 2.62 | 56C | 15:1 | — | — | — | — | 451 | 691 | 925 | — | — | — | **4Z735** | **3GD52** | **4RP47** | 533.00 | **372.75** | 47.0 |
| **117** | 3.00 | 143/145TC | 15:1 | — | — | — | — | 443 | 683 | 924 | 1405 | — | — | **4RP55** | **4RP63** | **4RP71** | 720.00 | **464.50** | 68.0 |
| **117** | 3.25 | 182/184TC | 15:1 | — | — | — | — | — | — | 923 | 1407 | — | — | **3GD60** | **4RP79** | **4Z019** | 746.00 | **538.00** | 80.0 |
| **175** | 1.33 | 56C | 10:1 | 75 | 102 | 155 | 182 | — | — | — | — | — | — | **4Z290** | **4RN77** | **4Z006** | 313.00 | **225.25** | 18.0 |
| **175** | 1.54 | 56C | 10:1 | — | 100 | 153 | 233 | — | — | — | — | — | — | **4RN86** | **4RN94** | **4RP03** | 342.00 | **240.25** | 24.0 |
| **175** | 1.75 | 56C | 10:1 | — | — | — | 237 | 316 | 407 | — | — | — | — | **4Z298** | **3GD45** | **4RP11** | 342.00 | **246.00** | 23.0 |
| **175** | 2.06 | 56C | 10:1 | — | — | — | — | 314 | 477 | 554 | — | — | — | **4Z306** | **4RP19** | **4Z013** | 377.00 | **277.25** | 25.0 |
| **175** | 2.37 | 56C | 10:1 | — | — | — | — | 312 | 476 | 641 | — | — | — | **4RP27** | **4RP34** | **4RP41** | 533.00 | **321.00** | 38.0 |
| **175** | 2.62 | 56C | 10:1 | — | — | — | — | — | 474 | 639 | 972 | — | — | **4Z736** | **3GD53** | **4RP48** | 533.00 | **372.75** | 47.0 |
| **175** | 3.00 | 182/184TC | 10:1 | — | — | — | — | — | 471 | 637 | 970 | 1635 | — | **4RP56** | **4RP64** | **4RP72** | 720.00 | **464.50** | 68.0 |
| **175** | 3.25 | 182/184TC | 10:1 | — | — | — | — | — | — | 632 | 964 | 1629 | — | **3GD61** | **4RP80** | **4Z020** | 746.00 | **538.00** | 81.0 |
| **350** | 1.33 | 56C | 5:1 | 39 | 52 | 80 | 121 | 163 | — | — | — | — | — | **4Z291** | **4RN78** | **4Z007** | 313.00 | **225.25** | 18.0 |
| **350** | 1.54 | 56C | 5:1 | 37 | 51 | 79 | 121 | 162 | — | — | — | — | — | **4RN87** | **4RN95** | **4RP04** | 342.00 | **240.25** | 24.0 |
| **350** | 1.75 | 56C | 5:1 | — | — | — | 120 | 164 | 246 | 276 | — | — | — | **4Z299** | **3GD46** | **4RP12** | 342.00 | **246.00** | 20.0 |
| **350** | 2.06 | 56C | 5:1 | — | — | — | — | — | 245 | 329 | — | — | — | **4Z307** | **4RP30** | **4Z014** | 377.00 | **277.25** | 28.0 |
| **350** | 2.62 | 56C | 5:1 | — | — | — | — | — | 242 | 327 | 496 | — | — | **4Z737** | **3GD54** | **4RP49** | 533.00 | **372.75** | 47.0 |
| **350** | 3.00 | 182/184TC | 5:1 | — | — | — | — | — | 239 | 324 | 494 | 834 | 1255 | **4RP57** | **4RP65** | **4RP73** | 720.00 | **464.50** | 68.0 |
| **350** | 3.25 | 213/215TC | 5:1 | — | — | — | — | — | — | — | — | — | 1260 | **3GD62** | **4RP81** | **4Z021** | 746.00 | **538.00** | 79.0 |

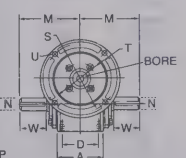
## C-FACE RIGHT ANGLE SPEED REDUCER DIMENSIONAL DRAWINGS

These dimensional drawings are representative of the speed reducers found on facing page. Right and left hand shafts are determined while facing C-face input.

Dayton®

C-FACE RIGHT ANGLE



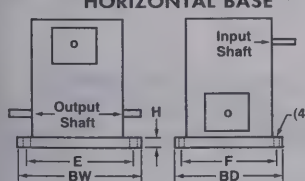

| Motor Frame No. | Dimensions (In.) P | P¹ | R | S | T | U | Input Shaft (In.) Bore | Keyway |
|---|---|---|---|---|---|---|---|---|
| **56C** | 0.50 | — | 6.50 | 5.88 | 4.50 | 0.41 | 0.625 | .188 x 1.38 |
| **140TC** | — | 0.56 | 6.50 | 5.88 | 4.50 | 0.41 | 0.875 | .188 x 1.38 |
| **180TC** | — | 0.56 | 9.00 | 7.25 | 8.50 | 0.53 | 1.125 | .250 x 1.13 |
| **210TC** | — | 0.56 | 9.00 | 7.25 | 8.50 | 0.53 | 1.375 | .313 x 1.38 |

| Worm Center Distance (In.) | Dimensions (In.) A | B | D | E | F | G | H | J | AN | M | Output Shaft (In.) N | W | Keyway | 56C/ 140TC O | 182TC/184TC 213TC/215TC O¹ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.33** | 3.50 | 4.13 | 3.00 | 3.00 | 1/4-20 | 4.94 | 1.75 | 1.33 | 2.22 | 4.38 | 0.625 | 1.75 | .188 x 1.25 | 3.94 | — |
| **1.54** | 3.69 | 5.13 | 2.75 | 4.19 | 5/16-18 | 5.38 | 1.91 | 1.54 | 2.75 | 4.31 | 0.750 | 1.78 | .188 x .880 | 4.02 | — |
| **1.75** | 3.38 | 4.81 | 2.75 | 4.19 | 5/16-18 | 5.75 | 2.06 | 1.75 | 2.75 | 4.31 | 0.875 | 1.88 | .188 x 1.38 | 4.38 | — |
| **2.06** | 3.75 | 5.50 | 3.00 | 4.75 | 5/16-18 | 6.38 | 2.28 | 2.06 | 3.00 | 4.69 | 1.000 | 2.00 | .250 x 1.75 | 4.75 | — |
| **2.37** | 4.06 | 6.13 | 2.88 | 5.00 | 3/8-16 | 6.94 | 2.50 | 2.37 | 3.56 | 5.08 | 1.125 | 2.37 | .250 x 1.38 | 4.57 | — |
| **2.62** | 4.44 | 7.13 | 3.38 | 6.38 | 3/8-16 | 8.00 | 2.94 | 2.63 | 3.69 | 5.63 | 1.250 | 2.50 | .250 x 2.00 | 5.69 | — |
| **3.00** | 5.00 | 8.50 | 4.00 | 7.00 | 7/16-14 | 8.88 | 3.25 | 3.00 | 4.50 | 6.75 | 1.250 | 3.25 | .250 x 2.25 | 5.67 | — |
| **3.25** | 5.00 | 8.50 | 4.00 | 7.50 | 7/16-14 | 9.38 | 3.50 | 3.25 | 4.88 | 7.06 | 1.500 | 3.31 | .375 x 2.50 | 6.56 | 7.00 |

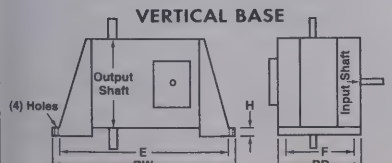
Dayton®

FOR DAYTON SPEED REDUCERS ONLY

HORIZONTAL BASE




VERTICAL BASE




New

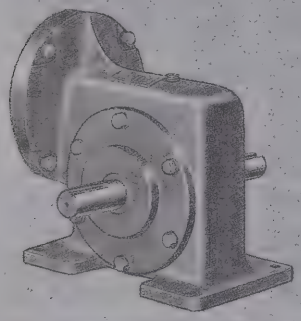
## MOUNTING BASES

| Worm Center Distance (In.) | Dimensions (In.) BD | BW | E | F | H | Hole Dia. | Stock No. | Sold & Priced Per Pair List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **HORIZONTAL BASES** | | | | | | | | | | |
| **1.00** | 4.38 | 3.50 | 2.88 | 3.75 | 0.38 | 0.34 | **3A699** | $17.00 | **$12.27** | 1.0 |
| **1.33** | 5.63 | 5.63 | 4.38 | 4.38 | 0.50 | 0.34 | **6X499** | 17.00 | **12.39** | 1.9 |
| **1.54** | 6.44 | 5.13 | 4.19 | 2.75 | 0.59 | 0.41 | ***New*4RN65** | 18.63 | **14.90** | 2.5 |
| **1.75** | 7.00 | 5.96 | 4.50 | 5.75 | 0.69 | 0.41 | **6X093** | 24.00 | **17.02** | 3.2 |
| **2.06** | 7.69 | 5.88 | 4.69 | 6.38 | 0.72 | 0.47 | **6X500** | 27.00 | **19.72** | 3.6 |
| **2.37** | 8.50 | 6.13 | 5.00 | 2.88 | 0.75 | 0.47 | ***New*4RN66** | 27.61 | **22.09** | 4.5 |
| **2.62** | 9.25 | 6.50 | 5.25 | 8.00 | 0.75 | 0.47 | **1A507** | 32.00 | **23.00** | 5.3 |
| **3.00** | 10.16 | 8.50 | 7.00 | 4.00 | 0.88 | 0.53 | ***New*4RN67** | 35.81 | **28.65** | 7.0 |
| **3.25** | 11.13 | 7.75 | 6.13 | 9.50 | 0.88 | 0.53 | **6X501** | 45.00 | **32.50** | 7.6 |
| **VERTICAL BASES** | | | | | | | | | | |
| **1.00** | 3.31 | 5.75 | 5.13 | 2.13 | 0.13 | 0.34 | **3A700** | 27.00 | **19.41** | 1.5 |
| **1.33** | 4.50 | 7.56 | 6.50 | 3.00 | 0.50 | 0.34 | **6X502** | 47.00 | **34.15** | 5.0 |
| **1.54** | 5.12 | 8.06 | 7.00 | 4.00 | 0.69 | 0.41 | ***New*4RN68** | 46.50 | **37.20** | 5.2 |
| **1.75** | 4.81 | 8.44 | 7.38 | 4.00 | 0.63 | 0.41 | **6X094** | 54.00 | **39.20** | 5.2 |
| **2.06** | 6.00 | 9.38 | 8.38 | 4.88 | 0.69 | 0.47 | **6X503** | 56.00 | **40.70** | 6.4 |
| **2.37** | 6.12 | 10.06 | 8.94 | 4.88 | 0.75 | 0.47 | ***New*4RN69** | 63.69 | **50.95** | 9.0 |
| **2.62** | 7.13 | 11.25 | 10.13 | 5.75 | 0.75 | 0.53 | **1A508** | 79.00 | **58.05** | 10.0 |
| **3.00** | 8.50 | 12.88 | 11.38 | 6.13 | 0.81 | 0.53 | ***New*4RN70** | 73.06 | **58.45** | 16.0 |
| **3.25** | 8.50 | 13.38 | 11.88 | 6.13 | 0.81 | 0.53 | **6X504** | 81.00 | **59.05** | 18.0 |

# C-FACE RIGHT ANGLE SPEED REDUCERS AND MOTOR/REDUCER COMBINATIONS

Dayton®

Replacement Parts Available™ 1-800-323-0620



| Nominal Output RPM | Ratio | Overhung Load (Lbs.) | Stock No. | Less Motor List | Less Motor Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **29** | 60:1 | 1117 | **6Z128** | $323.00 | **$247.25** | 30.0 |
| **35** | 50:1 | 986 | **2Z151** | 323.00 | **247.25** | 30.0 |
| **43** | 40:1 | 870 | **6Z129** | 323.00 | **247.25** | 30.0 |
| **69** | 25:1 | 679 | **2Z152** | 323.00 | **247.25** | 30.0 |
| **86** | 20:1 | 629 | **2Z153** | 323.00 | **247.25** | 31.0 |
| **138** | 12.5:1 | 487 | **2Z154** | 323.00 | **247.25** | 28.0 |
| **173** | 10:1 | 432 | **2Z936** | 323.00 | **247.25** | 29.0 |

| Nominal Output RPM | 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP |
|---|---|---|---|---|
| | Torque (In.-Lbs.) | | | |
| 29 | 241 | 336 | 537 | — |
| 35 | 225 | 313 | 498 | — |
| 43 | 200 | 277 | 431 | — |
| 69 | 140 | 193 | 319 | 492 |
| 86 | 115 | 163 | 265 | 422 |
| 138 | 80 | 115 | 185 | 292 |
| 173 | 65 | 92 | 146 | 226 |

- **Shipped with oil**
- **29 to 173 RPM, continuous duty**
- **For use with 1/4 to 3/4 HP, NEMA 56C, 1725 RPM motors**
- **Double output shafts**
- **2.62" Worm Center Distance**

**Worm:** Case hardened, ball bearing supported

**Output Gear:** High strength bronze, tapered roller bearing supported

**Housing:** Cast iron

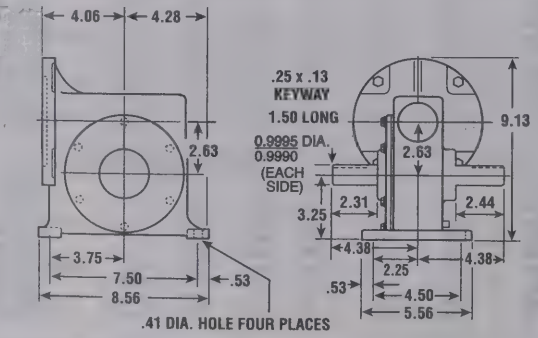
**Mounting:** Horizontal floor or ceiling only

| Input Motor HP | Nom. Output RPM | Torque (In.-Lbs.) | REDUCER with DRIPPROOF MOTOR* Stock No. | Each | Shpg. Wt. | REDUCER & ENCLOSED MOTOR Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **REDUCER WITH SINGLE-PHASE, 1725 RPM, 115/230V, 60 Hz BALL BEARING MOTORS** | | | | | | | | |
| **1/4** | 29 | 241 | **7Z066** | **$338.00** | 47.0 | **7Z072** | **$355.75** | 48.0 |
| | 35 | 225 | **7Z715** | **338.00** | 47.0 | **7Z720** | **355.75** | 48.0 |
| | 43 | 200 | **7Z069** | **338.00** | 47.0 | **7Z075** | **355.75** | 48.0 |
| | 69 | 140 | **7Z716** | **338.00** | 47.0 | **7Z721** | **355.75** | 48.0 |
| | 86 | 115 | **7Z717** | **338.00** | 48.0 | **7Z722** | **355.75** | 49.0 |
| | 138 | 80 | **7Z718** | **338.00** | 45.0 | **7Z723** | **355.75** | 46.0 |
| | 173 | 65 | **7Z719** | **338.00** | 46.0 | **7Z724** | **355.75** | 47.0 |
| **1/3** | 29 | 336 | **7Z067** | **358.50** | 48.0 | **7Z073** | **368.00** | 50.0 |
| | 35 | 313 | **7Z228** | **358.50** | 48.0 | **7Z239** | **368.00** | 50.0 |
| | 43 | 277 | **7Z070** | **358.50** | 48.0 | **7Z077** | **368.00** | 50.0 |
| | 69 | 193 | **7Z229** | **358.50** | 48.0 | **7Z240** | **368.00** | 50.0 |
| | 86 | 163 | **7Z230** | **358.50** | 49.0 | **7Z241** | **368.00** | 51.0 |
| | 138 | 115 | **7Z231** | **358.50** | 46.0 | **7Z242** | **368.00** | 48.0 |
| | 173 | 92 | **7Z725** | **358.50** | 47.0 | **7Z728** | **368.00** | 49.0 |
| **1/2** | 29 | 537 | **7Z068** | **376.25** | 51.0 | **7Z074** | **391.50** | 52.0 |
| | 35 | 498 | **7Z232** | **376.25** | 51.0 | **7Z243** | **391.50** | 52.0 |
| | 43 | 431 | **7Z071** | **376.25** | 51.0 | **7Z078** | **391.50** | 52.0 |
| | 69 | 319 | **7Z233** | **376.25** | 51.0 | **7Z244** | **391.50** | 52.0 |
| | 86 | 265 | **7Z234** | **376.25** | 52.0 | **7Z245** | **391.50** | 53.0 |
| | 138 | 185 | **7Z235** | **376.25** | 49.0 | **7Z246** | **391.50** | 50.0 |
| | 173 | 146 | **7Z726** | **376.25** | 50.0 | **7Z729** | **391.50** | 51.0 |
| **3/4** | 69 | 492 | **7Z236†** | **407.00** | 55.0 | **7Z247** | **421.75** | 58.0 |
| | 86 | 422 | **7Z237†** | **407.00** | 56.0 | **7Z248** | **421.75** | 59.0 |
| | 138 | 292 | **7Z238†** | **407.00** | 53.0 | **7Z249** | **421.75** | 56.0 |
| | 173 | 226 | **7Z727†** | **407.00** | 54.0 | **7Z730** | **421.75** | 57.0 |
| **REDUCER WITH 3-PHASE, 1725 RPM, 208-220/440V, 60 Hz BALL BEARING MOTORS** | | | | | | | | |
| **1/3** | 29 | 336 | **7Z079** | **352.50** | 48.0 | **7Z083** | **371.75** | 48.0 |
| | 35 | 313 | **7Z250** | **352.50** | 48.0 | **7Z261** | **371.75** | 48.0 |
| | 43 | 277 | **7Z081** | **352.50** | 48.0 | **7Z085** | **371.75** | 48.0 |
| | 69 | 193 | **7Z251** | **352.50** | 48.0 | **7Z262** | **371.75** | 48.0 |
| | 86 | 163 | **7Z252** | **352.50** | 49.0 | **7Z263** | **371.75** | 49.0 |
| | 138 | 115 | **7Z253** | **352.50** | 46.0 | **7Z264** | **371.75** | 46.0 |
| | 173 | 92 | **7Z731** | **352.50** | 47.0 | **7Z734** | **371.75** | 47.0 |
| **1/2** | 29 | 537 | **7Z080** | **370.25** | 50.0 | **7Z084** | **395.00** | 52.0 |
| | 35 | 498 | **7Z254** | **370.25** | 50.0 | **7Z265** | **395.00** | 52.0 |
| | 43 | 431 | **7Z082** | **370.25** | 50.0 | **7Z089** | **395.00** | 52.0 |
| | 69 | 319 | **7Z255** | **370.25** | 50.0 | **7Z266** | **395.00** | 52.0 |
| | 86 | 265 | **7Z256** | **370.25** | 51.0 | **7Z267** | **395.00** | 53.0 |
| | 138 | 185 | **7Z257** | **370.25** | 48.0 | **7Z268** | **395.00** | 50.0 |
| | 173 | 146 | **7Z732** | **370.25** | 49.0 | **7Z735** | **395.00** | 51.0 |
| **3/4** | 69 | 492 | **7Z258** | **385.50** | 52.0 | **7Z269** | **405.00** | 55.0 |
| | 86 | 422 | **7Z259** | **385.50** | 53.0 | **7Z270** | **405.00** | 56.0 |
| | 138 | 292 | **7Z260** | **385.50** | 50.0 | **7Z271** | **405.00** | 53.0 |
| | 173 | 226 | **7Z733** | **385.50** | 51.0 | **7Z736** | **405.00** | 54.0 |

(*) Dayton brand motors (†) 3/4 HP, continuous duty.

Dayton®

C-FACE RIGHT ANGLE



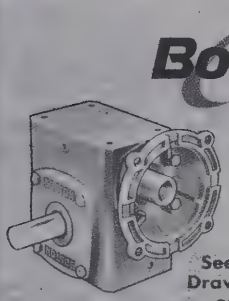

## C-FACE RIGHT ANGLE SPEED REDUCER DIMENSIONAL DRAWINGS

These dimensional drawings are representative of the speed reducers found on this page.



We deliver the products that deliver the power.

# C-FACE RIGHT ANGLE SPEED REDUCERS




See Dimensional Drawing and Chart on Page 273.

**Replacement Parts Available 1-800-323-0620**

- **BOSTON LIFETIME LIMITED WARRANTY. See page facing inside back cover of catalog for details**
- **SHIPPED LESS OIL (See listing for No. 4ZF30 on page 2766)**

Heavy-duty worm gear speed reducers with value-engineered features for flexible installation, long life, and simplified maintenance. Fine-grained cast-iron housing. Integral input worm and shaft of case-hardened alloy steel.

Oversized ball and roller bearings for maximum performance. Extra threaded bolt holes, when used with base, allow multiposition installation on floor, sidewall, or ceiling (with optional base kits). Boston brand.

- **29 to 350 RPM with 1750 RPM input motor**
- **Single output shaft**
- **All position mounting with base kits shown on page 273**
- **Fan kit available separately; see page 273**

## INPUT BORE DIMENSIONS

| Bore Code* | NEMA Mounting | Bore (In.) | Keyway (In.) |
|---|---|---|---|
| B4 | 42CZ | 0.500 | 1/8 x 1/16 |
| B5 | 56C | 0.625 | 3/16 x 3/32 |
| B7 | 140TC/180C | 0.875 | 3/16 x 3/32 |
| B9 | 180TC/210C | 1.125 | 1/4 x 1/8 |
| B11 | 210TC/250TC | 1.375 | 5/16 x 5/32 |
| B13 | 250TC | 1.625 | 3/8 x 3/16 |

(*) Bore code found in Boston Model No.

| Nom. Output RPM at 1750 RPM | Worm Ctr. Dist. (In.) (WCD) | NEMA Motor Frame | Nominal Ratio | AT 1750 RPM CONTINUOUS DUTY OUTPUT TORQUE (In.-lbs.) at Input Motor HP Shown (1.0 Service Factor) 1/6 HP | 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | 5 HP | 7½ HP | 10 HP | 15 HP | See Chart Above for Bore Dimensions Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 1.75 | 56C | 60:1 | 223 | 335 | 440 | — | — | — | — | — | — | — | — | — | — | F-718-60-B5-G | 1L295 | $484.00 | $431.00 | 22.0 |
| 29 | 2.06 | 56C | 60:1 | — | 335 | 440 | 670 | — | — | — | — | — | — | — | — | — | F-721-60-B5-G | 1L324 | 574.00 | 511.50 | 26.0 |
| 29 | 2.38 | 56C | 60:1 | — | — | 440 | 670 | — | — | — | — | — | — | — | — | — | F-724-60-B5-G | 1L329 | 641.00 | 573.00 | 33.0 |
| 29 | 2.62 | 56C | 60:1 | — | — | — | 670 | 1004 | — | — | — | — | — | — | — | — | F-726-60-B5-G | 1L370 | 838.00 | 749.00 | 46.0 |
| 29 | 3.25 | 56C | 60:1 | — | — | — | — | 1004 | — | — | — | — | — | — | — | — | F-732-60-B5-G | 1L860 | 1150.00 | 1061.00 | 73.0 |
| 29 | 3.25 | 140TC/180C | 60:1 | — | — | — | — | — | 1340 | 2009 | — | — | — | — | — | — | F-732-60-B7-G | 1L861 | 1150.00 | 1061.00 | 72.0 |
| 29 | 3.75 | 140TC/180C | 60:1 | — | — | — | — | — | — | 2009 | 2678 | — | — | — | — | — | F-738-60-B7-G | 1L869 | 1381.00 | 1276.00 | 103.0 |
| 29 | 5.16 | 180TC/210C | 60:1 | — | — | — | — | — | — | — | — | 4020 | 7392 | — | — | — | RF-752-60-B9-G | 1L878 | 2185.00 | 2017.00 | 221.0 |
| 29 | 6.00 | 180TC/210C | 60:1 | — | — | — | — | — | — | — | — | 4020 | 7392 | — | — | — | RF-760-60-B9-G | 1L885 | 3235.00 | 2985.00 | 246.0 |
| 35 | 1.00 | 42CZ | 50:1 | 120 | — | — | — | — | — | — | — | — | — | — | — | — | F-710-50-B4-G | 1L237 | 334.00 | 296.50 | 7.0 |
| 35 | 1.00 | 56C | 50:1 | 120 | — | — | — | — | — | — | — | — | — | — | — | — | F-710-50-B5-G | 1L251 | 334.00 | 296.50 | 10.0 |
| 35 | 1.33 | 56C | 50:1 | 210 | — | — | — | — | — | — | — | — | — | — | — | — | F-713-50-B5-G | 1L269 | 391.00 | 347.50 | 13.0 |
| 35 | 1.54 | 56C | 50:1 | 210 | 315 | — | — | — | — | — | — | — | — | — | — | — | F-715-50-B5-G | 1L282 | 455.00 | 405.25 | 19.0 |
| 35 | 1.75 | 56C | 50:1 | — | 315 | 420 | — | — | — | — | — | — | — | — | — | — | F-718-50-B5-G | 1L296 | 484.00 | 431.00 | 22.0 |
| 35 | 2.06 | 56C | 50:1 | — | — | 420 | 630 | — | — | — | — | — | — | — | — | — | F-721-50-B5-G | 1L325 | 574.00 | 511.50 | 26.0 |
| 35 | 2.38 | 56C | 50:1 | — | — | — | 630 | 945 | — | — | — | — | — | — | — | — | F-724-50-B5-G | 1L330 | 641.00 | 573.00 | 33.0 |
| 35 | 2.62 | 56C | 50:1 | — | — | — | — | 945 | 1260 | — | — | — | — | — | — | — | F-726-50-B5-G | 1L363 | 838.00 | 749.00 | 46.0 |
| 35 | 3.25 | 56C | 50:1 | — | — | — | — | — | — | 1890 | 2520 | — | — | — | — | — | F-732-50F-B5-G | 1L858 | 1150.00 | 1061.00 | 72.0 |
| 35 | 3.25 | 140TC/180C | 50:1 | — | — | — | — | — | — | 1890 | 2520 | — | — | — | — | — | F-732-50-B7-G | 1L859 | 1150.00 | 1061.00 | 72.0 |
| 35 | 3.75 | 140TC/180C | 50:1 | — | — | — | — | — | — | 1890 | 2520 | — | — | — | — | — | F-738-50-B7-G | 1L867 | 1381.00 | 1276.00 | 104.0 |
| 35 | 3.75 | 180TC/210C | 50:1 | — | — | — | — | — | — | — | — | 4016* | — | — | — | — | F-738-50-B9-G | 1L868 | 1381.00 | 1276.00 | 112.0 |
| 35 | 5.16 | 180TC/210C | 50:1 | — | — | — | — | — | — | — | — | 3780 | 6300* | — | — | — | RF-752-50-B9-G | 1L877 | 2185.00 | 2017.00 | 218.0 |
| 35 | 6.00 | 210TC/250TC | 50:1 | — | — | — | — | — | — | — | — | — | — | 9450* | — | — | RF-760-50-B11-G | 1L884 | 3235.00 | 2985.00 | 246.0 |
| 44 | 1.00 | 42CZ | 40:1 | 128 | — | — | — | — | — | — | — | — | — | — | — | — | F-710-40-B4-G | 1L238 | 334.00 | 296.50 | 7.0 |
| 44 | 1.00 | 56C | 40:1 | 128 | — | — | — | — | — | — | — | — | — | — | — | — | F-710-40-B5-G | 1L252 | 334.00 | 296.50 | 9.0 |
| 44 | 1.33 | 56C | 40:1 | 178 | — | — | — | — | — | — | — | — | — | — | — | — | F-713-40-B5-G | 1L270 | 391.00 | 347.50 | 13.0 |
| 44 | 1.54 | 56C | 40:1 | 178 | 266 | 355 | — | — | — | — | — | — | — | — | — | — | F-715-40-B5-G | 1L283 | 455.00 | 405.25 | 19.0 |
| 44 | 1.75 | 56C | 40:1 | — | 266 | 355 | — | — | — | — | — | — | — | — | — | — | F-718-40-B5-G | 1L297 | 484.00 | 431.00 | 22.0 |
| 44 | 2.06 | 56C | 40:1 | — | — | 355 | 533 | — | — | — | — | — | — | — | — | — | F-721-40-B5-G | 1L326 | 574.00 | 511.50 | 26.0 |
| 44 | 2.38 | 56C | 40:1 | — | — | — | 533 | 800 | — | — | — | — | — | — | — | — | F-724-40-B5-G | 1L331 | 641.00 | 573.00 | 35.0 |
| 44 | 2.62 | 56C | 40:1 | — | — | — | — | 800 | 1066 | — | — | — | — | — | — | — | F-726-40-B5-G | 1L364 | 838.00 | 749.00 | 46.0 |
| 44 | 2.62 | 140TC/180C | 40:1 | — | — | — | — | — | 1066 | — | — | — | — | — | — | — | F-726-40-B7-G | 1L371 | 838.00 | 749.00 | 46.0 |
| 44 | 3.75 | 140TC/180C | 40:1 | — | — | — | — | — | — | 1598 | 2131 | — | — | — | — | — | F-732-40-B7-G | 1L857 | 1150.00 | 1061.00 | 73.0 |
| 44 | 3.75 | 180TC/210C | 40:1 | — | — | — | — | — | — | — | — | 3196 | — | — | — | — | F-738-40-B9-G | 1L866 | 1381.00 | 1276.00 | 112.0 |
| 44 | 5.16 | 180TC/210C | 40:1 | — | — | — | — | — | — | — | — | 3196 | 5328 | — | — | — | RF-752-40-B9-G | 1L876 | 2185.00 | 2017.00 | 218.0 |
| 44 | 6.00 | 210TC/250TC | 40:1 | — | — | — | — | — | — | — | — | — | — | 7992* | — | — | RF-760-40-B11-G | 1L883 | 3235.00 | 2985.00 | 246.0 |
| 58 | 1.00 | 42CZ | 30:1 | 132 | — | — | — | — | — | — | — | — | — | — | — | — | F-710-30-B4-G | 1L239 | 334.00 | 296.50 | 7.0 |
| 58 | 1.00 | 56C | 30:1 | 132 | — | — | — | — | — | — | — | — | — | — | — | — | F-710-30-B5-G | 1L253 | 334.00 | 296.50 | 7.0 |
| 58 | 1.33 | 56C | 30:1 | 132 | 208 | — | — | — | — | — | — | — | — | — | — | — | F-713-30-B5-G | 1L271 | 391.00 | 347.50 | 11.0 |
| 58 | 1.54 | 56C | 30:1 | — | 208 | 277 | — | — | — | — | — | — | — | — | — | — | F-715-30-B5-G | 1L284 | 455.00 | 405.25 | 19.0 |
| 58 | 1.75 | 56C | 30:1 | — | — | 277 | 416 | — | — | — | — | — | — | — | — | — | F-718-30-B5-G | 1L298 | 484.00 | 431.00 | 22.0 |
| 58 | 2.06 | 56C | 30:1 | — | — | — | 416 | 624 | — | — | — | — | — | — | — | — | F-721-30-B5-G | 1L327 | 574.00 | 511.50 | 26.0 |
| 58 | 2.38 | 56C | 30:1 | — | — | — | — | 624 | 832 | — | — | — | — | — | — | — | F-724-30-B5-G | 1L332 | 641.00 | 573.00 | 33.0 |
| 58 | 2.38 | 140TC/180C | 30:1 | — | — | — | — | — | 832 | — | — | — | — | — | — | — | F-724-30-B7-G | 1L340 | 641.00 | 573.00 | 32.0 |
| 58 | 2.62 | 56C | 30:1 | — | — | — | — | — | 832 | 1247 | — | — | — | — | — | — | F-726-30-B5-G | 1L366 | 838.00 | 749.00 | 46.0 |
| 58 | 2.62 | 140TC/180C | 30:1 | — | — | — | — | — | — | 1247 | — | — | — | — | — | — | F-726-30-B7-G | 1L365 | 838.00 | 749.00 | 46.0 |
| 58 | 3.25 | 140TC/180C | 30:1 | — | — | — | — | — | — | 1247 | 1663 | — | — | — | — | — | F-732-30-B7-G | 1L855 | 1150.00 | 1061.00 | 72.0 |
| 58 | 3.25 | 180TC/210C | 30:1 | — | — | — | — | — | — | — | — | 2495* | — | — | — | — | F-732-30-B9-G | 1L856 | 1150.00 | 1061.00 | 81.0 |
| 58 | 3.75 | 180TC/210C | 30:1 | — | — | — | — | — | — | — | — | 2495 | — | — | — | — | F-738-30-B9-G | 1L865 | 1381.00 | 1276.00 | 112.0 |
| 58 | 5.16 | 180TC/210C | 30:1 | — | — | — | — | — | — | — | — | 2495 | 4180 | — | — | — | RF-752-30-B9-G | 1L874 | 2185.00 | 2017.00 | 218.0 |
| 58 | 5.16 | 210TC/250TC | 30:1 | — | — | — | — | — | — | — | — | — | — | 6236* | — | — | RF-752-30-B11-G | 1L875 | 2185.00 | 2017.00 | 218.0 |
| 58 | 6.00 | 210TC/250TC | 30:1 | — | — | — | — | — | — | — | — | — | — | 6236 | 8580 | — | RF-760-30-B11-G | 1L882 | 3235.00 | 2985.00 | 246.0 |

(*) Recommended ratings are only applicable when using optional fan kit. Order appropriate fan kit separately from page 273.

CONTINUED ON NEXT PAGE

# C-FACE RIGHT ANGLE SPEED REDUCERS

Boston Gear

BOSTON GEAR Established in 1877 — Proudly Made in the USA — Quality · Value · Tradition

Replacement Parts Available 1-800-323-0620

CONTINUED FROM PREVIOUS PAGE

| Nom. Output RPM at 1750 RPM | Worm Ctr. Dist. (In.) (WCD) | NEMA Motor Frame | Nominal Ratio | AT 1750 RPM CONTINUOUS DUTY OUTPUT TORQUE In.-lbs. at Input Motor HP Shown (1.0 Service Factor) 1/6 HP | 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1 1/2 HP | 2 HP | 3 HP | 5 HP | 7 1/2 HP | 10 HP | 15 HP | Boston Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70 | 1.33 | 56C | 25:1 | 117 | 175 | 234 | — | — | — | — | — | — | — | — | — | — | F-713-25-B5-G | 1L272 | $391.00 | $347.50 | 12.0 |
| 70 | 1.54 | 56C | 25:1 | — | — | 234 | 350 | — | — | — | — | — | — | — | — | — | F-715-25-B5-G | 1L285 | 455.00 | 405.25 | 19.0 |
| 70 | 1.75 | 56C | 25:1 | — | — | 234 | 350 | — | — | — | — | — | — | — | — | — | F-718-25-B5-G | 1L299 | 484.00 | 431.00 | 22.0 |
| 70 | 2.06 | 56C | 25:1 | — | — | — | 350 | 526 | 702 | — | — | — | — | — | — | — | F-721-25-B5-G | 1L328 | 574.00 | 511.50 | 26.0 |
| 70 | 2.38 | 56C | 25:1 | — | — | — | — | 526 | 702 | 1056 | — | — | — | — | — | — | F-724-25-B5-G | 1L333 | 641.00 | 573.00 | 33.0 |
| 70 | 2.38 | 140TC/180C | 25:1 | — | — | — | — | — | — | 1056 | — | — | — | — | — | — | F-724-25-B7-G | 1L349 | 641.00 | 573.00 | 33.0 |
| 70 | 2.62 | 56C | 25:1 | — | — | — | — | — | 702 | 1056 | — | — | — | — | — | — | F-726-25-B5-G | 1L368 | 838.00 | 749.00 | 45.0 |
| 70 | 2.62 | 140TC/180C | 25:1 | — | — | — | — | — | — | 1056 | — | — | — | — | — | — | F-726-25-B7-G | 1L367 | 838.00 | 749.00 | 46.0 |
| 70 | 3.25 | 140TC/180C | 25:1 | — | — | — | — | — | — | 1056 | 1440 | — | — | — | — | — | F-732-25-B7-G | 1L853 | 1150.00 | 1061.00 | 72.0 |
| 70 | 3.25 | 180TC/210C | 25:1 | — | — | — | — | — | — | — | — | 2150 | — | — | — | — | F-732-25-B9-G | 1L854 | 1150.00 | 1061.00 | 82.0 |
| 88 | 1.00 | 42CZ | 20:1 | 98 | 130 | — | — | — | — | — | — | — | — | — | — | — | F-710-20-B4-G | 1L240 | 334.00 | 296.50 | 7.0 |
| 88 | 1.00 | 56C | 20:1 | — | 130 | — | — | — | — | — | — | — | — | — | — | — | F-710-20-B5-G | 1L254 | 334.00 | 296.50 | 9.0 |
| 88 | 1.33 | 56C | 20:1 | — | 148 | 197 | — | — | — | — | — | — | — | — | — | — | F-713-20-B5-G | 1L273 | 391.00 | 347.50 | 12.0 |
| 88 | 1.54 | 56C | 20:1 | — | — | 197 | 295 | — | — | — | — | — | — | — | — | — | F-715-20-B5-G | 1L286 | 455.00 | 405.25 | 19.0 |
| 88 | 1.75 | 56C | 20:1 | — | — | — | 295 | 443 | — | — | — | — | — | — | — | — | F-718-20-B5-G | 1L300 | 484.00 | 431.00 | 22.0 |
| 88 | 2.06 | 56C | 20:1 | — | — | — | — | 443 | 590 | — | — | — | — | — | — | — | F-721-20-B5-G | 1L318 | 574.00 | 511.50 | 26.0 |
| 88 | 2.06 | 140TC/180C | 20:1 | — | — | — | — | — | 590 | — | — | — | — | — | — | — | F-721-20-B7-G | 1L322 | 574.00 | 511.50 | 26.0 |
| 88 | 2.38 | 56C | 20:1 | — | — | — | — | — | 590 | — | — | — | — | — | — | — | F-724-20-B5-G | 1L335 | 641.00 | 573.00 | 33.0 |
| 88 | 2.38 | 140TC/180C | 20:1 | — | — | — | — | — | 590 | 886 | — | — | — | — | — | — | F-724-20-B7-G | 1L334 | 641.00 | 573.00 | 33.0 |
| 88 | 2.62 | 56C | 20:1 | — | — | — | — | — | — | 886 | 1180 | — | — | — | — | — | F-726-20-B5-G | 1L358 | 838.00 | 749.00 | 46.0 |
| 88 | 2.62 | 140TC/180C | 20:1 | — | — | — | — | — | — | 886 | 1180 | — | — | — | — | — | F-726-20-B7-G | 1L369 | 838.00 | 749.00 | 46.0 |
| 88 | 3.25 | 140TC/180C | 20:1 | — | — | — | — | — | — | — | 1180 | — | — | — | — | — | F-732-20-B7-G | 1L851 | 1150.00 | 1061.00 | 72.0 |
| 88 | 3.25 | 180TC/210C | 20:1 | — | — | — | — | — | — | — | — | 1772 | — | — | — | — | F-732-20-B9-G | 1L852 | 1150.00 | 1061.00 | 82.0 |
| 88 | 3.75 | 180TC/210C | 20:1 | — | — | — | — | — | — | — | — | 1772 | 2952 | — | — | — | F-738-20-B9-G | 1L864 | 1381.00 | 1276.00 | 112.0 |
| 88 | 5.16 | 210TC/250TC | 20:1 | — | — | — | — | — | — | — | — | — | — | 4428 | 6300 | — | RF-752-20-B11-G | 1L873 | 2185.00 | 2017.00 | 218.0 |
| 88 | 6.00 | 250TC | 20:1 | — | — | — | — | — | — | — | — | — | — | — | — | 8856* | RF-760-20-B13-G | 1L881 | 3235.00 | 2985.00 | 246.0 |
| 117 | 1.00 | 42CZ | 15:1 | 77 | 116 | — | — | — | — | — | — | — | — | — | — | — | F-710-15-B4-G | 1L241 | 334.00 | 296.50 | 7.0 |
| 117 | 1.00 | 56C | 15:1 | — | 116 | — | — | — | — | — | — | — | — | — | — | — | F-710-15-B5-G | 1L255 | 334.00 | 296.50 | 9.0 |
| 117 | 1.33 | 56C | 15:1 | — | 116 | 155 | 232 | — | — | — | — | — | — | — | — | — | F-713-15-B5-G | 1L267 | 391.00 | 347.50 | 13.0 |
| 117 | 1.54 | 56C | 15:1 | — | — | — | 232 | 348 | — | — | — | — | — | — | — | — | F-715-15-B5-G | 1L287 | 455.00 | 405.25 | 19.0 |
| 117 | 1.75 | 56C | 15:1 | — | — | — | — | 348 | 422 | — | — | — | — | — | — | — | F-718-15-B5-G | 1L292 | 484.00 | 431.00 | 22.0 |
| 117 | 2.06 | 56C | 15:1 | — | — | — | — | — | 464 | 646 | — | — | — | — | — | — | F-721-15-B5-G | 1L319 | 574.00 | 511.50 | 25.0 |
| 117 | 2.06 | 140TC/180C | 15:1 | — | — | — | — | — | 464 | 646 | — | — | — | — | — | — | F-721-15-B7-G | 1L323 | 574.00 | 511.50 | 26.0 |
| 117 | 2.38 | 56C | 15:1 | — | — | — | — | — | 464 | — | — | — | — | — | — | — | F-724-15-B5-G | 1L337 | 641.00 | 573.00 | 33.0 |
| 117 | 2.38 | 140TC/180C | 15:1 | — | — | — | — | — | — | 697 | 929 | — | — | — | — | — | F-724-15-B7-G | 1L336 | 641.00 | 573.00 | 33.0 |
| 117 | 2.62 | 140TC/180C | 15:1 | — | — | — | — | — | — | 697 | 929 | — | — | — | — | — | F-726-15-B7-G | 1L359 | 838.00 | 749.00 | 46.0 |
| 117 | 3.25 | 180TC/210C | 15:1 | — | — | — | — | — | — | — | — | 1393 | 2230* | — | — | — | F-732-15-B9-G | 1L850 | 1150.00 | 1061.00 | 82.0 |
| 117 | 3.75 | 180TC/210C | 15:1 | — | — | — | — | — | — | — | — | 1393 | 2322 | — | — | — | F-738-15-B9-G | 1L863 | 1381.00 | 1276.00 | 112.0 |
| 117 | 5.16 | 210TC/250TC | 15:1 | — | — | — | — | — | — | — | — | — | — | 3483 | 4644 | — | RF-752-15-B11-G | 1L872 | 2185.00 | 2017.00 | 218.0 |
| 117 | 6.00 | 250TC | 15:1 | — | — | — | — | — | — | — | — | — | — | — | — | 6966* | RF-760-15-B13-G | 1L880 | 3235.00 | 2985.00 | 246.0 |
| 175 | 1.00 | 42CZ | 10:1 | 53 | 80 | 107 | — | — | — | — | — | — | — | — | — | — | F-710-10-B4-G | 1L242 | 334.00 | 296.50 | 7.0 |
| 175 | 1.00 | 56C | 10:1 | — | — | 107 | — | — | — | — | — | — | — | — | — | — | F-710-10-B5-G | 1L256 | 334.00 | 296.50 | 10.0 |
| 175 | 1.33 | 56C | 10:1 | — | — | 107 | 160 | 240 | — | — | — | — | — | — | — | — | F-713-10-B5-G | 1L268 | 391.00 | 347.50 | 12.0 |
| 175 | 1.54 | 56C | 10:1 | — | — | — | — | 240 | 320 | — | — | — | — | — | — | — | F-715-10-B5-G | 1L288 | 455.00 | 405.25 | 19.0 |
| 175 | 1.75 | 56C | 10:1 | — | — | — | — | — | 320 | 460 | — | — | — | — | — | — | F-718-10-B5-G | 1L293 | 484.00 | 431.00 | 22.0 |
| 175 | 1.75 | 140TC/180C | 10:1 | — | — | — | — | — | — | 460 | — | — | — | — | — | — | F-718-10-B7-G | 1L290 | 484.00 | 431.00 | 21.0 |
| 175 | 2.06 | 56C | 10:1 | — | — | — | — | — | 320 | — | — | — | — | — | — | — | F-721-10-B5-G | 1L321 | 574.00 | 511.50 | 25.0 |
| 175 | 2.06 | 140TC/180C | 10:1 | — | — | — | — | — | — | 480 | 640 | — | — | — | — | — | F-721-10-B7-G | 1L320 | 574.00 | 511.50 | 25.0 |
| 175 | 2.38 | 140TC/180C | 10:1 | — | — | — | — | — | — | 480 | 640 | — | — | — | — | — | F-724-10-B7-G | 1L338 | 641.00 | 573.00 | 33.0 |
| 175 | 2.62 | 140TC/180C | 10:1 | — | — | — | — | — | — | 480 | 640 | — | — | — | — | — | F-726-10-B7-G | 1L361 | 838.00 | 749.00 | 46.0 |
| 175 | 2.62 | 180TC/ | 10:1 | — | — | — | — | — | — | — | 640 | 960 | — | — | — | — | F-726-10-B9-G | 1L360 | 838.00 | 749.00 | 46.0 |
| 175 | 3.25 | 180TC/ | 10:1 | — | — | — | — | — | — | — | — | 972 | 1602 | — | — | — | F-732-10-B9-G | 1L849 | 1150.00 | 1061.00 | 82.0 |
| 175 | 3.75 | 210TC/250TC | 10:1 | — | — | — | — | — | — | — | — | — | — | 2403 | — | — | F-738-10-B11-G | 1L862 | 1381.00 | 1276.00 | 112.0 |
| 175 | 5.16 | 210TC/250TC | 10:1 | — | — | — | — | — | — | — | — | — | — | 2403 | 3204 | — | RF-752-10-B11-G | 1L870 | 2185.00 | 2017.00 | 218.0 |
| 175 | 5.16 | 250TC | 10:1 | — | — | — | — | — | — | — | — | — | — | — | — | 4800 | RF-752-10-B13-G | 1L871 | 2185.00 | 2017.00 | 218.0 |
| 175 | 6.00 | 250TC | 10:1 | — | — | — | — | — | — | — | — | — | — | — | — | 4806 | RF-760-10-B13-G | 1L879 | 3235.00 | 2985.00 | 246.0 |
| 350 | 1.09 | 42CZ | 5:1 | 27 | 41 | 55 | 82 | — | — | — | — | — | — | — | — | — | F-710-5-B4-G | 1L243 | 334.00 | 296.50 | 6.7 |
| 350 | 1.00 | 56C | 5:1 | 27 | 41 | 55 | — | — | — | — | — | — | — | — | — | — | F-710-5-B5-G | 1L257 | 334.00 | 296.50 | 9.7 |
| 350 | 1.33 | 56C | 5:1 | — | — | 55 | 82 | 123 | 164 | — | — | — | — | — | — | — | F-713-5-B5-G | 1L266 | 391.00 | 347.50 | 12.0 |
| 350 | 1.54 | 56C | 5:1 | — | — | — | — | 123 | — | — | — | — | — | — | — | — | F-715-5-B5-G | 1L274 | 455.00 | 405.25 | 18.0 |
| 350 | 1.54 | 180TC/210C | 5:1 | — | — | — | — | 123 | 164 | 256 | — | — | — | — | — | — | F-715-5-B7-G | 1L289 | 455.00 | 405.25 | 19.0 |
| 350 | 1.75 | 56C | 5:1 | — | — | — | — | — | 164 | 256 | 328 | — | — | — | — | — | F-718-5-B5-G | 1L291 | 484.00 | 431.00 | 20.0 |
| 350 | 1.75 | 180TC/210C | 5:1 | — | — | — | — | — | — | 256 | 328 | — | — | — | — | — | F-718-5-B7-G | 1L294 | 484.00 | 431.00 | 23.0 |
| 350 | 2.06 | 140TC/180C | 5:1 | — | — | — | — | — | — | 256 | 328 | — | — | — | — | — | F-721-5-B7-G | 1L317 | 574.00 | 511.50 | 26.0 |
| 350 | 2.38 | 180TC/210C | 5:1 | — | — | — | — | — | — | — | — | 491 | — | — | — | — | F-724-5-B9-G | 1L339 | 641.00 | 573.00 | 43.0 |
| 350 | 2.62 | 180TC/210C | 5:1 | — | — | — | — | — | — | — | — | 491 | — | — | — | — | F-726-5-B9-G | 1L362 | 838.00 | 749.00 | 54.0 |

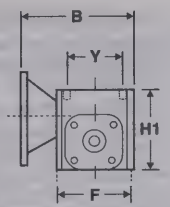
See Chart on Page 271 for Bore Dimensions.

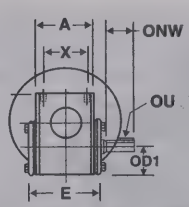
(*) Recommended ratings are only applicable when using optional fan kit. Order appropriate fan kit separate from page 273.

# C-FACE RIGHT ANGLE SPEED REDUCER ACCESSORIES

Boston Gear

## C-FACE RIGHT ANGLE



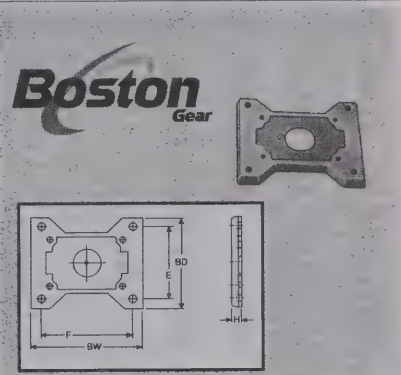

## SPEED REDUCER DIMENSIONAL DRAWINGS

These dimensional drawings are representative of the speed reducers found on pages 271 and 272 Left hand shaft is determined while facing C-face input.

| | | | Gearbox Dimensions (In.) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A | B | | | | E | F | H1 | X | Y | Tap Size | Depth | | | |
| Worm Center Distance (In.) | Reducer Model | Overhung Load (Lbs.) | | 42CZ | 56C 140TC | 180TC 210TC | 180TC 210TC 250TC | | | | | | | | OD1 | OU | ONW | Keyway |
| 1.00 | 710 | 150 | 2.50 | 4.78 | 5.56 | — | — | 3.34 | 3.25 | 3.63 | 1.69 | 2.63 | 1/4-20 | .44 | 1.31 | .500 | 1.19 | 1/8 x 5/8 |
| 1.33 | 713 | 200 | 2.88 | — | 6.06 | — | — | 4.3 | 4.25 | 4.66 | 2.00 | 3.25 | 5/16-18 | .50 | 1.72 | .625 | 2.00 | 3/16 x 1 |
| 1.54 | 715 | 300 | 3.69 | — | 7.06 | — | — | 5.06 | 5.13 | 5.38 | 2.75 | 4.19 | 5/16-18 | .50 | 1.91 | .750 | 1.78 | 3/16 x 1 |
| 1.75 | 718 | 600 | 3.69 | — | 7.44 | — | — | 5.03 | 5.50 | 5.75 | 2.75 | 4.19 | 5/16-18 | .50 | 2.06 | .875 | 1.78 | 3/16 x 1 |
| 2.06 | 721 | 700 | 3.81 | — | 8.06 | — | — | 5.19 | 6.00 | 6.38 | 2.88 | 5.00 | 3/8-16 | .56 | 2.28 | 1.000 | 2.09 | 1/4 x 1/4 |
| 2.38 | 724 | 900 | 4.06 | — | 8.44 | 8.88 | — | 5.43 | 6.38 | 6.94 | 2.88 | 5.00 | 3/8-16 | .56 | 2.50 | 1.125 | 2.63 | 1/4 x 1/4 |
| 2.62 | 726 | 1000 | 4.44 | — | 9.44 | 9.88 | — | 5.9 | 7.38 | 8.00 | 3.38 | 6.38 | 3/8-16 | .56 | 2.94 | 1.125 | 2.63 | 1/4 x $1^{15}/_{16}$ |
| 3.25 | 732 | 1300 | 5.88 | — | 11.06 | 11.50 | — | 7.56 | 9.00 | 9.38 | 4.00 | 7.50 | 7/16-14 | .66 | 3.50 | 1.375 | 3.25 | 5/16 x $2^{7}/_{16}$ |
| 3.75 | 738 | 2000 | 6.38 | — | 12.06 | 12.50 | — | 8.38 | 10.00 | 10.44 | 4.75 | 8.50 | 1/2-13 | .75 | 3.88 | 1.625 | 3.50 | 3/8 x $2^{1}/_{4}$ |
| 5.16 | 752 | 2200 | 7.38 | — | — | — | 22.56 | 9.65 | 13.13 | 13.75 | 5.81 | 11.00 | 5/8-11 | 1.00 | 5.31 | 2.000 | 4.16 | 1/2 x $2^{15}/_{16}$ |
| 6.00 | 760 | 2400 | 8.13 | — | — | — | 23.94 | 10.75 | 14.50 | 16.69 | 6.38 | 12.75 | 5/8-11 | 1.00 | 6.50 | 2.250 | 4.56 | 1/2 x $3^{3}/_{8}$ |

## HORIZONTAL MOUNTING BASES

- Aluminum or cast-iron construction
- For use with Boston speed reducers on pages 271 and 272
- Includes hardware

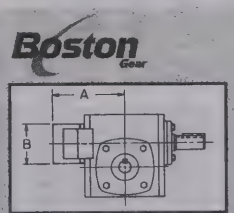


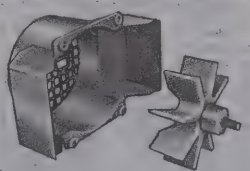

### SPECIFICATIONS AND ORDERING DATA

| Worm Center Distance (In.) | Material | Dimensions (In.) BD | BW | E | F | H | Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.00** | AL | 3.69 | 4.63 | 2.88 | 3.75 | 0.44 | 56575 | **1L372** | $6.00 | **$5.29** | 0.4 |
| **1.33** | AL | 4.19 | 5.38 | 3.31 | 4.38 | 0.53 | 56577 | **1L373** | 7.00 | **6.62** | 0.6 |
| **1.54** | AL | 5.44 | 6.44 | 4.31 | 5.25 | 0.60 | 56581 | **1L374** | 9.00 | **8.11** | 1.0 |
| **1.75** | AL | 5.69 | 7.00 | 4.50 | 5.75 | 0.69 | 56585 | **1L375** | 10.00 | **8.92** | 1.2 |
| **2.06** | AL | 5.94 | 7.75 | 4.69 | 6.38 | 0.72 | 56587 | **1L376** | 11.00 | **10.01** | 1.5 |
| **2.38** | AL | 6.19 | 8.50 | 4.88 | 7.06 | 0.75 | 56591 | **1L377** | 12.00 | **10.87** | 1.7 |
| **2.62** | AL | 6.66 | 9.63 | 5.25 | 8.00 | 0.75 | 56595 | **1L378** | 27.00 | **24.77** | 2.0 |
| **3.25** | CI | 7.66 | 11.19 | 6.13 | 9.50 | 0.88 | 56599 | **2L085** | 61.00 | **56.70** | 10.0 |
| **3.75** | CI | 8.66 | 12.13 | 7.00 | 10.38 | 0.94 | 56603 | **2L086** | 74.00 | **68.70** | 12.0 |
| **5.16** | CI | 10.63 | 16.38 | 8.38 | 14.13 | 1.13 | 56607 | **2L087** | 145.00 | **133.80** | 27.0 |
| **6.00** | CI | 12.00 | 19.00 | 9.50 | 16.50 | 1.25 | 56610 | **2L088** | 180.00 | **166.00** | 39.0 |

## FAN KITS

- For use with Boston speed reducers on pages 271 and 272



### SPECIFICATIONS AND ORDERING DATA

| Reducer Model | Dimensions (In.) A | B | Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **732** | 7.60 | 4.87 | 51450 | **2L089** | $57.00 | **$52.70** | 2.0 |
| **738** | 8.09 | 5.19 | 51451 | **2L090** | 64.00 | **58.85** | 2.0 |
| **752** | 10.87 | 6.25 | 51452 | **2L091** | 122.00 | **112.45** | 11.0 |
| **760** | 11.56 | 7.50 | 51453 | **2L092** | 140.00 | **128.70** | 13.0 |

## SYNTHETIC GEAR OIL

Mobil SHC® 634 (Quart). Multi-viscosity synthetic oil based on synthesized hydrocarbon fluid technology. Lubricant is recommended for industrial enclosed gear sets and heavily loaded plain or rolling bearings operating under severe conditions such as extremely high or low temperatures and loads. It contains additives that enhance its oxidation stability, corrosion protection, and protection against wear.

Viscosity (SUS at 100°F): .....2236
ISO Viscosity Grade: .....460
Flash Point (°F) min.: .....460
Pour Point (°F) max.: .....-20

**No. 4ZF30.** ❸ Shpg. wt. 2.0 lbs. List .....$10.11. Each .....**$8.60**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

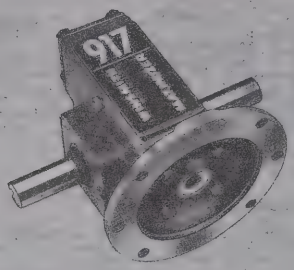


# C-FACE RIGHT ANGLE SPEED REDUCERS

WINSMITH
HIGH QUALITY SPEED REDUCERS

**MAXIMIZER**

**MAXIMUM PROTECTION FOR STANDARD AND SEVERE DUTY APPLICATIONS**




- WINSMITH 24 MONTH LIMITED WARRANTY, see page facing inside back cover of catalog for details
- USDA APPROVED EPOXY COATING prevents rust and corrosion in washdown environments
- USDA rust preventative coating on all shafts
- Shaft slingers prevent liquids from entering reducer
- Filled with Mobil SHC629 synthetic lubricant
- Reducers can be mounted with or without optional bases using predrilled and tapped holes provided (see bases on page 276)
- See Dimensional Drawing and Chart on Page 275
- Single (left hand facing C-face input) and double output shafts

| Nom. Output RPM at 1725 RPM | NEMA Frame | Worm Center Dist. (In.) (WCD) | Over-hung Load | Nom-inal Ratio | At 1725 RPM CONTINUOUS DUTY OUTPUT TORQUE In.-Lbs. at Input Motor HP Shown (1.0 Service Factor) 1/6 HP | 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | 5 HP | Max. Torque | Winsmith Model | Single Shaft Stock No. | Double Shaft Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 56C | 2.37 | 1025 | 100:1 | — | 501 | — | — | — | — | — | — | — | — | 576 | 924MWN | — | 1L414 | $402.06 | $339.25 | 40.0 |
| 17 | 56C | 2.63 | 1025 | 100:1 | — | 509 | 726 | — | — | — | — | — | — | — | 767 | 926MWN | — | 1L421 | 453.64 | 382.75 | 42.0 |
| 17 | 56C | 3.50 | 2130 | 100:1 | — | — | — | 952 | 1618 | — | — | — | — | — | 1665 | 935MWN | — | 1L423 | 760.70 | 642.00 | 74.0 |
| 22 | 56C | 2.37 | 1025 | 80:1 | — | 421 | 599 | — | — | — | — | — | — | — | 735 | 924MWN | — | 1L413 | 402.06 | 339.25 | 40.0 |
| 22 | 56C | 2.63 | 1025 | 80:1 | — | 427 | 608 | 974 | — | — | — | — | — | — | 979 | 926MWN | — | 1L420 | 453.64 | 382.75 | 42.0 |
| 22 | 56C | 3.50 | 2130 | 80:1 | — | — | — | 796 | 1651 | 1906 | — | — | — | — | 2115 | 935MWN | — | 1L422 | 760.70 | 642.00 | 74.0 |
| 29 | 56C | 1.33 | 290 | 60:1 | 180 | — | — | — | — | — | — | — | — | — | 202 | 913MWN | — | 1L404 | 284.13 | 240.00 | 14.0 |
| 29 | 56C | 1.75 | 650 | 60:1 | — | 366 | — | — | — | — | — | — | — | — | 391 | 917MWN | 3JH58 | 6Z777 | 307.43 | 259.75 | 18.0 |
| 29 | 56C | 2.00 | 650 | 60:1 | — | 373 | 512 | — | — | — | — | — | — | — | 557 | 920MWN | 3JH71 | 2Z721 | 352.00 | 297.00 | 22.0 |
| 29 | 56C | 2.37 | 1025 | 60:1 | — | 333 | 474 | 759 | — | — | — | — | — | — | 896 | 924MWN | 3JH81 | 1L412 | 402.06 | 339.25 | 40.0 |
| 29 | 56C | 2.63 | 1025 | 60:1 | — | — | 480 | 768 | 1200 | — | — | — | — | — | 1193 | 926MWN | 3JH88 | 1L419 | 453.64 | 382.75 | 42.0 |
| 29 | 140TC | 2.63 | 1025 | 60:1 | — | — | 480 | 768 | 1200 | — | — | — | — | — | 1193 | 926MWN | 3JH91 | 1L431 | 453.64 | 382.75 | 42.0 |
| 29 | 56C | 3.00 | 1350 | 60:1 | — | — | — | 769 | 1206 | 1642 | — | — | — | — | 1796 | 930MWN | 3JJ03 | 2Z723 | 587.69 | 496.25 | 54.0 |
| 29 | 140TC | 3.00 | 1350 | 60:1 | — | — | — | 769 | 1206 | 1642 | — | — | — | — | 1796 | 930MWN | 3JJ08 | 1L436 | 587.69 | 496.25 | 54.0 |
| 29 | 140TC | 3.50 | 2130 | 60:1 | — | — | — | — | 1062 | 1499 | 2373 | — | — | — | 2552 | 935MWN | 3JJ20 | 1L440 | 760.70 | 642.00 | 74.0 |
| 29 | 140TC | 4.25 | 2800 | 60:1 | — | — | — | — | — | — | — | 3474 | — | — | 3976 | 943MWN | 3JJ37 | — | 1227.50 | 1029.00 | 113.0 |
| 35 | 56C | 1.33 | 290 | 50:1 | 160 | — | — | — | — | — | — | — | — | — | 213 | 913MWN | — | 1L403 | 284.13 | 240.00 | 14.0 |
| 35 | 56C | 1.75 | 650 | 50:1 | — | 316 | 416 | — | — | — | — | — | — | — | 416 | 917MWN | 3JH57 | 1L407 | 307.43 | 259.75 | 18.0 |
| 35 | 56C | 2.00 | 650 | 50:1 | — | 321 | 440 | — | — | — | — | — | — | — | 591 | 920MWN | 3JH70 | 2Z720 | 352.00 | 297.00 | 22.0 |
| 35 | 56C | 2.37 | 1025 | 50:1 | — | 285 | 407 | 651 | — | — | — | — | — | — | 949 | 924MWN | — | 1L411 | 402.06 | 339.25 | 40.0 |
| 35 | 56C | 2.63 | 1025 | 50:1 | — | — | — | 658 | 1028 | — | — | — | — | — | 1266 | 926MWN | — | 1L418 | 453.64 | 382.75 | 42.0 |
| 35 | 140TC | 2.63 | 1025 | 50:1 | — | — | — | 658 | 1028 | — | — | — | — | — | 1266 | 926MWN | 3JH90 | 1L430 | 453.64 | 382.75 | 42.0 |
| 35 | 56C | 3.00 | 1350 | 50:1 | — | — | — | 658 | 1032 | 1405 | — | — | — | — | 1807 | 930MWN | — | 2Z722 | 587.69 | 496.25 | 54.0 |
| 35 | 140TC | 3.00 | 1350 | 50:1 | — | — | — | 658 | 1032 | 1405 | — | — | — | — | 1807 | 930MWN | 3JJ07 | 1L435 | 587.69 | 496.25 | 54.0 |
| 35 | 140TC | 3.50 | 2130 | 50:1 | — | — | — | — | — | 1281 | 2029 | 2681 | — | — | 2681 | 935MWN | 3JJ19 | 1L439 | 760.70 | 642.00 | 74.0 |
| 43 | 56C | 1.33 | 290 | 40:1 | — | 219 | — | — | — | — | — | — | — | — | 220 | 913MWN | 3JH55 | 2Z713 | 284.13 | 240.00 | 14.0 |
| 43 | 56C | 1.75 | 650 | 40:1 | — | 262 | 359 | — | — | — | — | — | — | — | 431 | 917MWN | 3JH56 | 6Z778 | 307.43 | 259.75 | 18.0 |
| 43 | 56C | 2.00 | 650 | 40:1 | — | 265 | 363 | 561 | — | — | — | — | — | — | 617 | 920MWN | 3JH69 | 2Z719 | 352.00 | 297.00 | 22.0 |
| 43 | 56C | 2.37 | 1025 | 40:1 | — | — | 335 | 536 | 837 | — | — | — | — | — | 989 | 924MWN | — | 1L410 | 402.06 | 339.25 | 40.0 |
| 43 | 56C | 2.63 | 1025 | 40:1 | — | — | — | 542 | 846 | 1150 | — | — | — | — | 1316 | 926MWN | — | 1L417 | 453.64 | 382.75 | 42.0 |
| 43 | 140TC | 2.63 | 1025 | 40:1 | — | — | — | 542 | 846 | 1150 | — | — | — | — | 1316 | 926MWN | 3JH89 | 1L429 | 453.64 | 382.75 | 42.0 |
| 43 | 56C | 3.00 | 1350 | 40:1 | — | — | — | — | 849 | 1156 | 1770 | — | — | — | 1967 | 930MWN | — | 2Z700 | 587.69 | 496.25 | 54.0 |
| 43 | 140TC | 3.00 | 1350 | 40:1 | — | — | — | — | 849 | 1156 | 1770 | — | — | — | 1967 | 930MWN | 3JJ06 | 1L434 | 587.69 | 496.25 | 54.0 |
| 43 | 140TC | 3.50 | 2130 | 40:1 | — | — | — | — | — | 1053 | 1668 | 2282 | — | — | 2741 | 935MWN | 3JJ18 | 1L438 | 760.70 | 642.00 | 74.0 |
| 43 | 180TC | 4.25 | 2800 | 40:1 | — | — | — | — | — | — | — | — | 3685 | — | 4289 | 943MWN | 3JJ39 | — | 1227.50 | 1029.00 | 113.0 |
| 58 | 56C | 1.33 | 290 | 30:1 | — | 201 | — | — | — | — | — | — | — | — | 223 | 913MWN | 3JH54 | 2Z712 | 284.13 | 240.00 | 14.0 |
| 58 | 56C | 1.75 | 650 | 30:1 | — | 204 | 279 | 432 | — | — | — | — | — | — | 442 | 917MWN | — | 6Z779 | 307.43 | 259.75 | 18.0 |
| 58 | 56C | 2.00 | 650 | 30:1 | — | — | 282 | 436 | — | — | — | — | — | — | 630 | 920MWN | 3JH68 | 2Z718 | 352.00 | 297.00 | 22.0 |
| 58 | 56C | 2.37 | 1025 | 30:1 | — | — | — | 416 | 650 | 883 | — | — | — | — | 1007 | 924MWN | 3JH80 | 1L409 | 402.06 | 339.25 | 40.0 |
| 58 | 56C | 2.63 | 1025 | 30:1 | — | — | — | — | 655 | 891 | 1362 | — | — | — | 1362 | 926MWN | — | 1L416 | 453.64 | 382.75 | 42.0 |
| 58 | 140TC | 2.63 | 1025 | 30:1 | — | — | — | — | 655 | 891 | 1362 | — | — | — | 1362 | 926MWN | — | 1L428 | 453.64 | 382.75 | 42.0 |
| 58 | 56C | 3.00 | 1350 | 30:1 | — | — | — | — | — | 894 | 1369 | 1844 | — | — | 1989 | 930MWN | — | 2Z699 | 587.69 | 496.25 | 54.0 |
| 58 | 140TC | 3.00 | 1350 | 30:1 | — | — | — | — | — | 894 | 1369 | 1844 | — | — | 1989 | 930MWN | 3JJ05 | 1L433 | 587.69 | 496.25 | 54.0 |
| 58 | 180TC | 3.00 | 1350 | 30:1 | — | — | — | — | — | 894 | 1369 | 1844 | — | — | 1989 | 930MWN | — | 1L445 | 587.69 | 496.25 | 58.0 |
| 58 | 140TC | 3.50 | 2130 | 30:1 | — | — | — | — | — | — | 1287 | 1762 | 2710 | — | 2816 | 935MWN | — | 1L437 | 760.70 | 642.00 | 74.0 |
| 58 | 180TC | 3.50 | 2130 | 30:1 | — | — | — | — | — | — | 1287 | 1762 | 2710 | — | 2816 | 935MWN | — | 1L448 | 760.70 | 642.00 | 78.0 |
| 86 | 56C | 1.33 | 290 | 20:1 | — | 144 | 195 | — | — | — | — | — | — | — | 221 | 913MWN | 3JH53 | 2Z711 | 284.13 | 240.00 | 14.0 |
| 86 | 56C | 1.75 | 650 | 20:1 | — | 144 | 197 | 305 | — | — | — | — | — | — | 432 | 917MWN | — | 6Z780 | 307.43 | 259.75 | 18.0 |
| 86 | 56C | 2.00 | 650 | 20:1 | — | — | — | 307 | 470 | 619 | — | — | — | — | 615 | 920MWN | 3JH67 | 2Z717 | 352.00 | 297.00 | 22.0 |
| 86 | 56C | 2.37 | 1025 | 20:1 | — | — | — | — | 456 | 620 | 947 | — | — | — | 989 | 924MWN | 3JH79 | 1L408 | 402.06 | 339.25 | 40.0 |
| 86 | 56C | 2.63 | 1025 | 20:1 | — | — | — | — | — | 623 | 953 | 1283 | — | — | 1312 | 926MWN | 3JH87 | 1L415 | 453.64 | 382.75 | 42.0 |
| 86 | 140TC | 2.63 | 1025 | 20:1 | — | — | — | — | — | 623 | 953 | 1083 | — | — | 1312 | 926MWN | — | — | | | |
| 86 | 56C | 3.00 | 1350 | 20:1 | — | — | — | — | — | — | 956 | 1287 | 1950 | — | 1959 | 930MWN | — | 2Z698 | 587.69 | 496.25 | 54.0 |
| 86 | 143TC | 3.00 | 1350 | 20:1 | — | — | — | — | — | — | 956 | 1287 | 1950 | — | 1959 | 930MWN | 3JJ04 | 1L432 | 587.69 | 496.25 | 54.0 |
| 86 | 182TC | 3.00 | 1350 | 20:1 | — | — | — | — | — | — | 956 | 1287 | 1950 | — | 1959 | 930MWN | — | 1L44 | 587.69 | 496.25 | 58.0 |
| 86 | 182TC | 3.50 | 2130 | 20:1 | — | — | — | — | — | — | — | 1233 | 1896 | — | 2730 | 930MWN | — | 1L447 | 760.70 | 642.00 | 78.0 |
| 86 | 184TC | 4.25 | 3000 | 20:1 | — | — | — | — | — | — | — | — | — | 3314 | 4326 | 930MWN | 3JJ36 | — | — | — | — |

CONTINUED ON NEXT PAGE



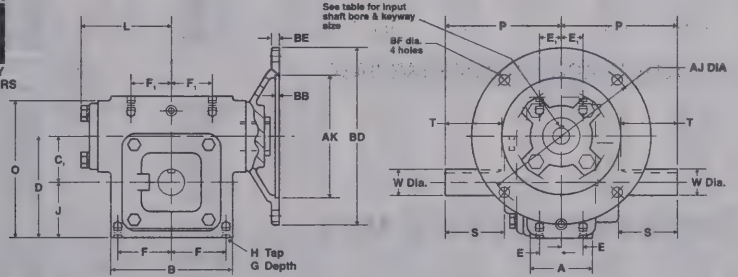
We deliver the products that deliver the power.

# C-FACE RIGHT ANGLE SPEED REDUCERS

## WINSMITH C-FACE RIGHT ANGLE SPEED REDUCERS (cont.)

| Nom. Output RPM at 1725 RPM | NEMA Frame | Worm Center Distance (In.) (WCD) | Over-hung Load (Lbs.) | Nom. Ratio | At 1725 RPM CONTINUOUS DUTY OUTPUT TORQUE In.-Lbs. at Input Motor HP Shown (1.0 Service Factor) 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | 5 HP | 7½ HP | 10 HP | Max. Torque | Winsmith Model | Single Shaft Stock No. | Double Shaft Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 115 | 56C | 1.33 | 290 | 15:1 | 111 | 151 | 218 | — | — | — | — | — | — | — | — | 217 | 913MWN | — | 2Z710 | $284.13 | $240.00 | 14.0 |
| 115 | 56C | 1.75 | 650 | 15:1 | — | 151 | 234 | 358 | — | — | — | — | — | — | — | 427 | 917MWN | — | 6Z781 | 307.43 | 259.75 | 18.0 |
| 115 | 56C | 2.00 | 650 | 15:1 | — | — | 236 | 360 | 458 | — | — | — | — | — | — | 606 | 920MWN | — | 2Z716 | 352.00 | 297.00 | 22.0 |
| 115 | 56C | 2.37 | 1025 | 15:1 | — | — | — | 348 | 474 | 724 | 975 | — | — | — | — | 971 | 924MWN | — | 4Z509 | 402.06 | 339.25 | 40.0 |
| 115 | 140TC | 2.63 | 1016 | 15:1 | — | — | — | — | 476 | 728 | 980 | — | — | — | — | 1287 | 926MWN | — | 1L426 | 453.64 | 382.75 | 42.0 |
| 115 | 56C | 3.00 | 1350 | 15:1 | — | — | — | — | — | 729 | 982 | 1488 | — | — | — | 1910 | 930MWN | — | 2Z697 | 587.69 | 496.25 | 54.0 |
| 115 | 180TC | 3.00 | 1350 | 15:1 | — | — | — | — | — | 729 | 982 | 1488 | — | — | — | 1910 | 930MWN | — | 1L443 | 587.69 | 496.25 | 58.0 |
| 115 | 180TC | 3.50 | 2130 | 15:1 | — | — | — | — | — | — | — | 1446 | 2458 | — | — | 2717 | 935MWN | — | 1L446 | 760.70 | 642.00 | 78.0 |
| 115 | 210TC | 4.25 | 2800 | 15:1 | — | — | — | — | — | — | — | — | — | 3802 | — | 4157 | 943MWN | 3JJ35 | — | 1227.50 | 1029.00 | 117.0 |
| 172 | 56C | 1.33 | 290 | 10:1 | 77 | 104 | 160 | — | — | — | — | — | — | — | — | 203 | 913MWN | 3JH52 | 2Z709 | 284.13 | 240.00 | 14.0 |
| 172 | 56C | 1.75 | 650 | 10:1 | — | — | 160 | 245 | 330 | — | — | — | — | — | — | 396 | 917MWN | — | 1L406 | 307.43 | 259.75 | 18.0 |
| 172 | 56C | 2.00 | 650 | 10:1 | — | — | — | 246 | 331 | 502 | — | — | — | — | — | 561 | 920MWN | 3JH66 | 2Z715 | 352.00 | 297.00 | 22.0 |
| 172 | 56C | 2.37 | 942 | 10:1 | — | — | — | — | 324 | 495 | 666 | — | — | — | — | 892 | 924MWN | 3JH78 | 4Z510 | 402.60 | 339.25 | 40.0 |
| 172 | 56C | 2.63 | 895 | 10:1 | — | — | — | — | — | 497 | 669 | 1013 | — | — | — | 1188 | 926MWN | 3JH86 | — | 453.64 | 382.75 | 42.0 |
| 172 | 140TC | 2.63 | 895 | 10:1 | — | — | — | — | — | 497 | 669 | 1013 | — | — | — | 1179 | 926MWN | — | 1L425 | 453.64 | 382.75 | 42.0 |
| 172 | 56C | 3.00 | 1298 | 10:1 | — | — | — | — | — | — | 669 | 1014 | 1704 | — | — | 1748 | 930MWN | — | 2Z696 | 587.69 | 496.25 | 54.0 |
| 172 | 180TC | 3.00 | 1350 | 10:1 | — | — | — | — | — | — | 669 | 1014 | 1704 | — | — | 1748 | 930MWN | — | 1L442 | 587.69 | 496.25 | 58.0 |
| 172 | 180TC | 3.50 | 1960 | 10:1 | — | — | — | — | — | — | — | — | 1704 | 2511 | — | 2511 | 935MWN | 3JJ38 | — | 760.00 | 642.00 | 78.0 |
| 172 | 210TC | 4.25 | 2500 | 10:1 | — | — | — | — | — | — | — | — | — | — | 3455 | 3857 | 943MWN | 3JJ34 | — | 1227.50 | 1029.00 | 117.0 |
| 345 | 56C | 1.33 | 290 | 5:1 | 40 | 54 | 83 | 125 | 168 | — | — | — | — | — | — | 170 | 913MWN | — | 2Z708 | 284.13 | 240.00 | 14.0 |
| 345 | 56C | 1.75 | 587 | 5:1 | — | — | — | 125 | 168 | 255 | 333 | — | — | — | — | 330 | 917MWN | — | 1L405 | 307.43 | 259.75 | 18.0 |
| 345 | 56C | 2.00 | 566 | 5:1 | — | — | — | — | 169 | 255 | 342 | — | — | — | — | 457 | 920MWN | — | 2Z714 | 352.00 | 297.00 | 28.0 |
| 345 | 56C | 2.37 | 774 | 5:1 | — | — | — | — | — | 252 | 339 | 513 | — | — | — | 726 | 924MWN | — | 4Z511 | 402.06 | 339.25 | 40.0 |
| 345 | 140TC | 2.63 | 732 | 5:1 | — | — | — | — | — | — | — | 514 | 863 | — | — | 959 | 926MWN | — | 1L424 | 453.64 | 382.75 | 42.0 |
| 345 | 180TC | 3.00 | 1062 | 5:1 | — | — | — | — | — | — | — | 514 | 864 | 1302 | — | 1424 | 930MWN | — | 1L441 | 587.69 | 496.25 | 58.0 |
| 345 | 210TC | 4.25 | 2104 | 5:1 | — | — | — | — | — | — | — | — | — | — | 1764 | 3133 | 943MWN | 3JJ17 | — | 760.70 | 642.00 | 117.0 |

WINSMITH
HIGH QUALITY SPEED REDUCERS




| Frame No. | Dimensions (In.) 56C | 140TC | 180TC | 210TC |
|---|---|---|---|---|
| AJ | 5.88 | 5.88 | 7.25 | 7.25 |
| AK | 4.50 | 4.50 | 8.50 | 8.50 |
| BB | 0.19 | 0.19 | 0.19 | 0.19 |
| BD | 6.50 | 6.50 | 9.00 | 9.00 |
| BE | 0.31 | 0.31 | 0.38 | 0.50 |
| BF | 0.406 | 0.406 | .0531 | .0531 |
| Keyway | .19 x .09 | .19 x .09 | .25 x .13 | .31 x .16 |
| Bore* | 0.6255 | 0.8755 | 1.1255 | 1.375 |

(*) Bore tolerances +0.001, -0.000.

| Winsmith Model | Worm Center Dist. (In.) (WCD) | Dimensions (In.) A | B | C1 | D | E | E1 | F | F1 | G Depth | H Tap | J | L | O | P | Slow Speed Shaft W* | S | T | Keyway |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 913 | 1.33 | 2.00 | 3.88 | 1.333 | 3.08 | 0.69 | 0.69 | 1.56 | 1.19 | 0.56 | 5/16-18 | 1.75 | 2.83 | 4.33 | 4.00 | 0.750 | 2.06 | 1.88 | .19 x .09 |
| 917 | 1.75 | 2.38 | 4.63 | 1.750 | 3.88 | 0.88 | 0.88 | 1.94 | 1.69 | 0.56 | 3/8-16 | 2.13 | 3.44 | 5.38 | 4.75 | 1.000 | 2.56 | 2.31 | .25 x .13 |
| 920 | 2.00 | 2.38 | 5.25 | 2.000 | 4.13 | 0.88 | 0.88 | 2.19 | 1.69 | 0.56 | 3/8-16 | 2.13 | 3.44 | 5.63 | 4.75 | 1.000 | 2.56 | 2.31 | .25 x .13 |
| 924 | 2.37 | 3.13 | 5.38 | 2.375 | 5.25 | 1.13 | 1.13 | 2.19 | 2.19 | 0.63 | 1/2-13 | 2.88 | 4.50 | 7.25 | 5.50 | 1.250 | 2.81 | 2.63 | .25 x .13 |
| 926 | 2.63 | 3.13 | 5.88 | 2.625 | 5.75 | 1.13 | 1.13 | 2.44 | 2.44 | 0.63 | 1/2-13 | 3.13 | 4.50 | 7.88 | 5.50 | 1.250 | 2.81 | 2.63 | .25 x .13 |
| 930 | 3.00 | 3.50 | 6.62 | 3.000 | 6.50 | 1.31 | 1.31 | 2.75 | 2.75 | 0.75 | 1/2-13 | 3.50 | 4.63 | 9.00 | 5.88 | 1.375 | 2.88 | 2.75 | .31 x .16 |
| 935 | 3.50 | 3.75 | 7.69 | 3.500 | 7.50 | 1.31 | 1.31 | 3.25 | 3.25 | 1.00 | 5/8-11 | 4.00 | 5.06 | 10.13 | 7.00 | 1.750 | 3.75 | 3.63 | .38 x .19 |
| 943 | 4.25 | 4.38 | 8.75 | 4.250 | 8.63 | 1.63 | 1.63 | 3.75 | 3.75 | 1.00 | 5/8-11 | 4.38 | 6.28 | 11.50 | 8.00 | 2.000 | 4.38 | 4.19 | .50 x .25 |

(*) Shaft diameter tolerances +0.000, -0.001.

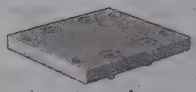

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

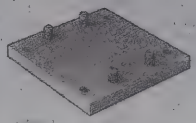
Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

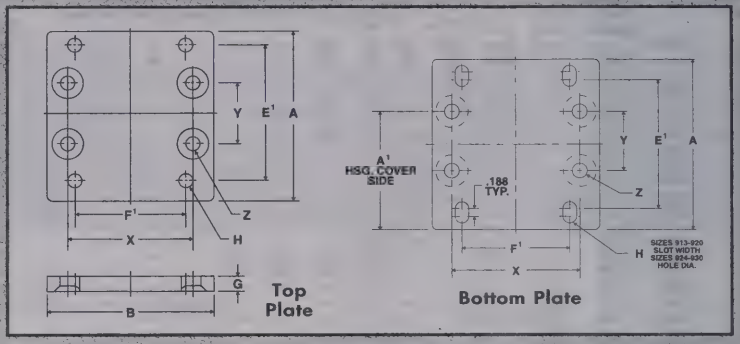
# SPEED REDUCER BASE KITS

## OPTIONAL BASE KITS

WINSMITH
HIGH QUALITY SPEED REDUCERS
MAXIMIZER


Top Plate

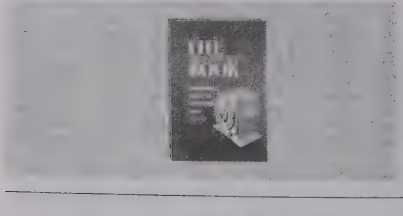

Bottom Plate




### SPECIFICATIONS AND ORDERING DATA

| Worm Center Distance (In.) | Dimensions (In.) A | A' | B | E' | F' | G | H Dia. | X | Y | Z Dia. | Winsmith Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOP MOUNTING PLATE (WB BASE)** | | | | | | | | | | | | | | | |
| **1.33** | 5.00 | — | 3.88 | 4.00 | 2.50 | 0.250 | 0.406 | 2.38 | 1.38 | 0.328 | 913WB | **1L382** | $14.08 | **$11.87** | 1.5 |
| **1.75** | 5.00 | — | 4.63 | 4.00 | 3.50 | 0.500 | 0.406 | 3.38 | 1.75 | 0.390 | 917WB | **1L402** | 18.77 | **15.83** | 3.6 |
| **2.00** | 5.00 | — | 5.25 | 4.00 | 3.50 | 0.250 | 0.406 | 3.38 | 1.75 | 0.390 | 920WB | **1L383** | 22.42 | **18.91** | 2.0 |
| **2.37** | 7.00 | — | 5.75 | 5.75 | 4.50 | 0.750* | 0.563 | 4.38 | 2.25 | 0.515 | 924WB | **1L399** | 27.92 | **23.55** | 7.0 |
| **2.63** | 7.00 | — | 6.00 | 5.75 | 4.50 | 0.375 | 0.563 | 4.88 | 2.25 | 0.515 | 926WB | **1L397** | 31.26 | **26.40** | 4.5 |
| **3.00** | 8.00 | — | 6.75 | 6.50 | 5.25 | 0.500† | 0.563 | 5.50 | 2.63 | 0.515 | 930WB | **1L381** | 36.17 | **30.55** | 7.5 |
| **3.50** | 6.50 | — | 10.00 | 5.25 | 8.25 | 0.500 | 0.563 | 6.50 | 2.63 | 0.656 | 935WB | **1L396** | 38.51 | **32.55** | 9.2 |
| **BOTTOM MOUNTING PLATE (WT BASE)** | | | | | | | | | | | | | | | |
| **1.33** | 5.00 | 2.50 | 3.88 | 4.00 | 2.50 | 0.375 | 0.406 | 3.13 | 1.38 | 0.328 | 913WT | **1L379** | 14.08 | **11.87** | 2.2 |
| **1.75** | 5.00 | 2.59 | 5.00 | 3.81 | 3.50 | 0.500 | 0.406 | 3.88 | 1.75 | 0.390 | 917WT | **1L401** | 18.77 | **15.83** | 3.6 |
| **2.00** | 5.00 | 2.59 | 5.50 | 3.81 | 3.50 | 0.500 | 0.406 | 4.38 | 1.75 | 0.390 | 920WT | **1L380** | 22.42 | **18.91** | 4.0 |
| **2.37** | 7.00 | 3.50 | 5.75 | 5.75 | 4.50 | 0.625* | 0.563 | 4.88 | 2.25 | 0.515 | 924WT | **1L400** | 27.92 | **23.55** | 8.3 |
| **2.63** | 7.00 | 3.50 | 6.00 | 5.75 | 4.50 | 0.375 | 0.563 | 4.88 | 2.25 | 0.515 | 926WT | **1L398** | 31.26 | **26.40** | 4.5 |
| **3.00** | 8.00 | 4.00 | 6.75 | 6.50 | 5.25 | 0.500 | 0.563 | 5.50 | 2.63 | 0.515 | 930WT | **1L381** | 36.17 | **30.55** | 7.5 |
| **3.50** | 6.50 | — | 10.00 | 5.25 | 8.25 | 0.500 | 0.563 | 6.50 | 2.63 | 0.656 | 935WT | **1L395** | 38.51 | **32.55** | 9.7 |
| **BOTTOM MOUNTING PLATE (DT BASE)‡** | | | | | | | | | | | | | | | |
| **1.33** | 4.00 | — | 5.00 | 3.25 | 4.25 | 0.250 | 0.281 | 3.13 | 1.38 | 0.328 | 913DT | **1L384** | 14.08 | **11.87** | 1.6 |
| **2.00** | 4.50 | — | 5.88 | 3.75 | 5.00 | 0.500 | 0.406 | 4.38 | 1.75 | 0.390 | 920DT | **1L385** | 22.42 | **18.91** | 4.0 |
| **3.00** | 6.00 | — | 8.00 | 4.75 | 7.00 | 0.500 | 0.563 | 5.50 | 2.63 | 0.515 | 930DT | **1L386** | 36.17 | **30.55** | 6.7 |

NOTE: All base kits include four mounting screws and one tube of fastener adhesive. (*) Two mounting plates are supplied to match the shaft heights of the equivalent Wingear.
(†) The shaft heights to base are 0.75" greater than existing Wingear models.
(‡) Bases are designed to duplicate the mounting hole pattern and shaft heights of D-Line/D90-SE product, however input and other dimensions may vary.



## THE SPEED REDUCER BOOK

From Winsmith. Book explains how the various types of speed reducers work. It also defines industry terms and ratings. Chapters include speed reducer fundamentals, types, applications, installation and maintenance. It is tailored to the beginner. 179 pages.

### ORDERING INFORMATION

| Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|
| **1L394** | $10.60 | **$6.93** | 0.5 |

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

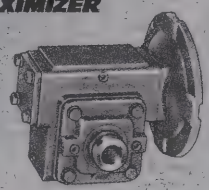
**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# HOLLOW SHAFT RIGHT ANGLE SPEED REDUCERS

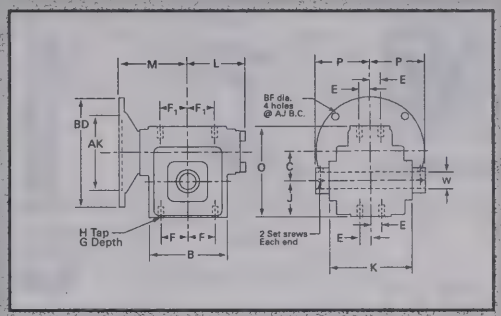
- Uses standard NEMA C-face drive motors, see NEMA motor frame chart below
- Winsmith 24 month Limited Warranty, see page facing inside back cover of catalog for details
- USDA APPROVED EPOXY COATING prevents rust and corrosion in wash-down environments and USDA rust preventative coating on all hollow shafts
- Keyed hollow output shaft
- Output (hollow shaft) drive key and (4) locking setscrews provided
- Filled with Mobil SHC629 lubricant
- See optional torque arm rod kits below and mounting bracket kits on page 278
- Hollow shaft output bero bushing kits available throught Grainger parts operation.

WINSMITH HIGH QUALITY SPEED REDUCERS

MAXIMIZER



No. 3JH77

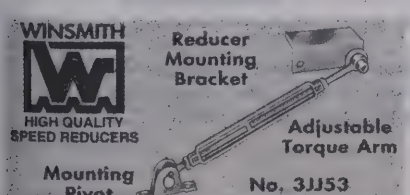



| Winsmith Model | Dimensions (In.) B | C | E | F | F1 | G Depth | H Tap | J | K | L | M | O | P | Hollow Shaft Output Bore W* | Keyway | NEMA Frame | Input Shaft Bore† | Keyway | Motor Flange AJ | AK | BD | BF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 920 | 5.25 | 2.00 | 0.88 | 2.19 | 1.69 | 0.56 | 3/8-16 | 2.13 | 5.25 | 3.44 | 4.06 | 5.63 | 3.33 | 1.438 | .38 x .13 | 56C | 0.6255 | .19 x .09 | 5.88 | 4.50 | 6.50 | .406 |
| 924 | 5.38 | 2.38 | 1.13 | 2.19 | 2.19 | 0.63 | 1/2-13 | 2.88 | 5.50 | 4.50 | 5.38 | 7.25 | 3.44 | 1.500 | .38 x .19 | 56C | 0.6255 | .19 x .09 | 5.88 | 4.50 | 6.50 | .406 |
| 926 | 5.88 | 2.63 | 1.13 | 2.99 | 2.99 | 0.63 | 1/2-13 | 3.13 | 5.63 | 4.50 | 5.36 | 7.88 | 3.50 | 1.688 | .38 x .19 | 56C | 0.6255 | .19 x .09 | 5.88 | 4.50 | 6.50 | .406 |
| 926 | 5.88 | 2.63 | 1.13 | 2.44 | 2.44 | 0.63 | 1/2-13 | 3.13 | 5.63 | 4.50 | 5.38 | 7.88 | 3.50 | 1.688 | .38 x .19 | 140TC | 0.8755 | .19 x .09 | 5.88 | 4.50 | 6.50 | .406 |
| 930 | 6.62 | 3.00 | 1.31 | 2.75 | 2.75 | 0.75 | 1/2-13 | 3.50 | 6.00 | 4.63 | 5.56 | 9.00 | 3.69 | 1.938 | .50 x .19 | 140TC | 0.8755 | .19 x .09 | 5.88 | 4.50 | 6.50 | .406 |
| 935 | 7.69 | 3.50 | 1.31 | 3.25 | 3.25 | 1.00 | 5/8-11 | 4.00 | 6.76 | 5.46 | 5.81 | 10.13 | 4.13 | 2.188 | .50 x .13 | 140TC | 0.8755 | .19 x .09 | 5.88 | 4.50 | 6.50 | .406 |
| 935 | 7.69 | 3.50 | 1.31 | 3.25 | 3.25 | 1.00 | 5/8-11 | 4.00 | 6.78 | 5.46 | 6.00 | 10.13 | 4.13 | 2.188 | .50 x .13 | 180TC | 1.1255 | .25 x .13 | 7.25 | 8.50 | 9.00 | .531 |

(*) Bore tolerances +0.002, -0.000. (†) Bore tolerances +0.001, -0.000.

| Nominal Output RPM at 1725 RPM | NEMA Motor Frame | Worm Center Dist. (In.) (WCD) | Over-hung Load | Nominal Ratio | At 1725 RPM Input CONTINUOUS DUTY OUTPUT TORQUE In.-Lbs. at Input Motor Shown (1.0 Service Factor) 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | 5 HP | Max. Torque | Winsmith Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **29** | 56C | 2.00 | 600 | 60:1 | 373 | 512 | — | — | — | — | — | — | — | 557 | 920MDSN | **3JH77** | $542.81 | **$454.75** | 22.0 |
| **29** | 56C | 2.37 | 1240 | 60:1 | 333 | 474 | 759 | — | — | — | — | — | — | 896 | 924MDSN | **3JH85** | 688.13 | **576.50** | 40.0 |
| **29** | 56C | 2.63 | 1350 | 60:1 | — | 480 | 768 | 1200 | — | — | — | — | — | 1193 | 926MDSN | **3JH96** | 801.88 | **672.00** | 42.0 |
| **29** | 140TC | 3.00 | 1800 | 60:1 | — | — | 769 | 1206 | 1642 | — | — | — | — | 1796 | 930MDSN | **3JJ14** | 1013.13 | **849.00** | 54.0 |
| **29** | 140TC | 3.50 | 1900 | 60:1 | — | — | — | 1062 | 1499 | 2373 | — | — | — | 2552 | 935MDSN | **3JJ22** | 1233.75 | **1034.00** | 82.0 |
| **35** | 56C | 2.00 | 600 | 50:1 | 321 | 440 | — | — | — | — | — | — | — | 591 | 920MDSN | **3JH76** | 542.81 | **454.75** | 22.0 |
| **35** | 56C | 2.37 | 1240 | 50:1 | 285 | 407 | 651 | — | — | — | — | — | — | 949 | 924MDSN | **3JH84** | 688.13 | **576.50** | 40.0 |
| **35** | 56C | 2.63 | 1350 | 50:1 | — | — | 658 | 1028 | — | — | — | — | — | 1266 | 926MDSN | **3JH93** | 801.88 | **672.00** | 42.0 |
| **35** | 140TC | 3.00 | 1800 | 50:1 | — | — | 658 | 1032 | 1405 | — | — | — | — | 1902 | 930MDSN | **3JJ13** | 1013.13 | **849.00** | 54.0 |
| **43** | 56C | 2.00 | 600 | 40:1 | 265 | 363 | 561 | — | — | — | — | — | — | 617 | 920MDSN | **3JH75** | 542.81 | **454.75** | 22.0 |
| **43** | 56C | 2.63 | 1350 | 40:1 | — | — | 542 | 846 | 1150 | — | — | — | — | 1316 | 926MDSN | **3JH95** | 801.88 | **672.00** | 42.0 |
| **43** | 140TC | 3.00 | 1800 | 40:1 | — | — | — | 849 | 1156 | 1770 | — | — | — | 1967 | 930MDSN | **3JJ12** | 1013.13 | **849.00** | 54.0 |
| **43** | 140TC | 3.50 | 1900 | 40:1 | — | — | — | — | 1053 | 1668 | 2282 | — | — | 2741 | 935MDSN | **3JJ21** | 1233.75 | **1034.00** | 82.0 |
| **58** | 56C | 2.00 | 600 | 30:1 | — | 282 | 436 | — | — | — | — | — | — | 630 | 920MDSN | **3JH74** | 542.81 | **454.75** | 22.0 |
| **58** | 56C | 2.37 | 1240 | 30:1 | — | — | 416 | 650 | 883 | — | — | — | — | 1007 | 924MDSN | **3JH83** | 688.13 | **576.50** | 40.0 |
| **58** | 56C | 3.00 | 1350 | 30:1 | — | — | — | — | 894 | 1369 | 1844 | — | — | 1989 | 930MDSN | **3JJ09** | 1013.13 | **849.00** | 54.0 |
| **58** | 180TC | 3.00 | 1790 | 30:1 | — | — | — | — | 894 | 1369 | 1844 | — | — | 1989 | 930MDSN | **3JJ15** | 1013.13 | **849.00** | 54.0 |
| **58** | 180TC | 3.50 | 1900 | 30:1 | — | — | — | — | — | 1287 | 1762 | 2710 | — | 2816 | 935MDSN | **3JJ24** | 1233.75 | **1034.00** | 82.0 |
| **86** | 56C | 2.00 | 600 | 20:1 | — | — | 307 | 470 | 619 | — | — | — | — | 615 | 920MDSN | **3JH73** | 542.81 | **454.75** | 22.0 |
| **86** | 56C | 2.63 | 1350 | 20:1 | — | — | — | — | 623 | 953 | 1283 | — | — | 1312 | 926MDSN | **3JH92** | 801.88 | **672.00** | 42.0 |
| **86** | 140TC | 3.00 | 1586 | 20:1 | — | — | — | — | — | 956 | 1287 | 1950 | — | 1959 | 930MDSN | **3JJ11** | 1013.13 | **849.00** | 54.0 |
| **86** | 180TC | 3.50 | 1900 | 20:1 | — | — | — | — | — | — | 1233 | 1896 | — | 2730 | 935MDSN | **3JJ23** | 1233.75 | **1034.00** | 82.0 |
| **172** | 56C | 2.00 | 600 | 10:1 | — | — | — | 246 | 331 | 502 | — | — | — | 561 | 920MDSN | **3JH72** | 542.81 | **454.75** | 22.0 |
| **172** | 56C | 2.37 | 1240 | 10:1 | — | — | — | — | 324 | 495 | 666 | — | — | 892 | 924MDSN | **3JH82** | 688.13 | **576.50** | 40.0 |
| **172** | 140TC | 2.65 | 1350 | 10:1 | — | — | — | — | — | 497 | 669 | 1013 | — | 1179 | 926MDSN | **3JH94** | 801.88 | **672.00** | 42.0 |
| **172** | 140TC | 3.00 | 1291 | 10:1 | — | — | — | — | — | — | 669 | 1014 | 1704 | 1748 | 930MDSN | **3JJ10** | 1013.13 | **849.00** | 54.0 |

WINSMITH HIGH QUALITY SPEED REDUCERS




No. 3JJ53

- Mounting hardware included
- Includes adjustable torque arm, mounting pivot, and reducer mounting bracket

## TORQUE ARM ROD KITS FOR HOLLOW SHAFT WORM GEAR REDUCERS

| Worm Center Distance (In.) | Winsmith Model MSDN- | Kit No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2.00** | 920 | TQ9952351 | **3JJ53** | $114.31 | **$95.75** | 12.0 |
| **2.37** | 924 | TQ9952352 | **3JJ54** | 114.31 | **95.75** | 12.0 |
| **2.63** | 926 | TQ9952353 | **3JJ55** | 114.31 | **95.75** | 12.0 |
| **3.00** | 930 | TQ9952354 | **3JJ56** | 114.31 | **95.75** | 12.0 |
| **3.50** | 935 | TQ9952355 | **3JJ57** | 155.25 | **130.05** | 12.0 |

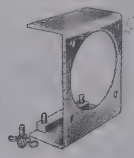
# MOUNTING KITS AND BRACKET KITS

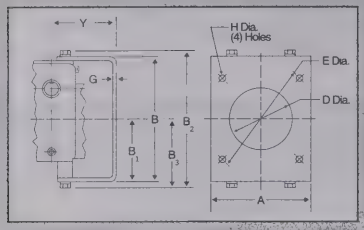
## FLANGE MOUNTING KITS FOR WINSMITH SPEED REDUCERS

WINSMITH HIGH QUALITY SPEED REDUCERS

MAXIMIZER

No. 3JJ47






### SPECIFICATIONS AND ORDERING DATA

| Worm Center Distance (In.) | For Winsmith Reducer | Winsmith Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1.75** | 917 | BK9998036G | **3JJ47** | $45.31 | **$38.00** | 12.0 |
| **2.00** | 920 | BK9998037G | **3JJ48** | 56.50 | **47.35** | 12.0 |
| **2.37** | 924 | BK9998038G | **3JJ49** | 67.69 | **56.70** | 12.0 |
| **2.63** | 926 | BK9998039G | **3JJ50** | 78.88 | **66.10** | 12.0 |
| **3.00** | 930 | BK9998040G | **3JJ51** | 90.06 | **75.45** | 12.0 |
| **3.50** | 935 | BK9998041G | **3JJ52** | 101.25 | **84.85** | 12.0 |

NOTE: Flange suitable for solid or hollow output shaft models.

### DIMENSIONS

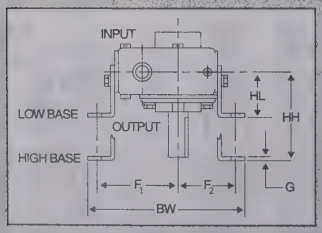
| Winsmith Model | Dimensions (In.) A | B | $B_1$ | $B_2$ | $B_3$ | D | E | G | H | Y |
|---|---|---|---|---|---|---|---|---|---|---|
| 917 | 4.81 | 6.25 | 2.81 | 7.02 | 3.20 | 4.06 | 5.875 | 0.19 | 0.344 | 3.50 |
| 920 | 5.75 | 6.94 | 3.25 | 7.71 | 3.64 | 4.50 | 6.500 | 0.19 | 0.406 | 3.50 |
| 924 | 6.13 | 8.00 | 3.44 | 9.03 | 3.96 | 5.00 | 7.500 | 0.19 | 0.406 | 3.69 |
| 926 | 7.19 | 8.63 | 3.63 | 9.66 | 4.14 | 6.00 | 8.000 | 0.25 | 0.406 | 3.82 |
| 930 | 8.50 | 10.19 | 4.44 | 11.22 | 4.95 | 7.00 | 9.250 | 0.25 | 0.563 | 5.00 |
| 935 | 8.50 | 11.00 | 4.63 | 12.27 | 5.26 | 7.00 | 10.000 | 0.25 | 0.563 | 5.06 |

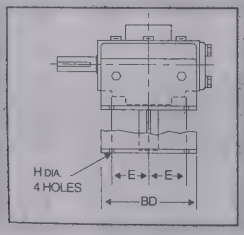
NOTE: All kits include bolts and washers for bolting brackets to reducers.

## VERTICAL BRACKET KITS FOR WINSMITH SPEED REDUCERS

WINSMITH HIGH QUALITY SPEED REDUCERS

MAXIMIZER




### SPECIFICATIONS AND ORDERING DATA

| Worm Center Distance (In.) | For Winsmith Model | Winsmith Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **HIGH BASE BRACKET KITS** | | | | | | |
| **1.33** | 913 | VK9998056 | **3JJ58** | $60.13 | **$50.40** | 12.0 |
| **1.75** | 917 | VK9998057 | **3JJ59** | 68.19 | **57.15** | 12.0 |
| **2.00** | 920 | VK9998058 | **3JJ60** | 70.94 | **59.45** | 12.0 |
| **2.37** | 924 | VK9998059 | **3JJ61** | 87.13 | **73.00** | 12.0 |
| **2.63** | 926 | VK9998060 | **3JJ62** | 100.63 | **84.30** | 12.0 |
| **3.00** | 930 | VK9998061 | **3JJ63** | 106.00 | **88.80** | 12.0 |
| **3.50** | 935 | VK9998062 | **3JJ64** | 124.88 | **104.60** | 12.0 |
| **LOW BASE BRACKET KITS** | | | | | | |
| **1.33** | 913 | VK9998064 | **3JJ65** | 60.13 | **50.40** | 12.0 |
| **1.75** | 917 | VK9998065 | **3JJ66** | 68.19 | **57.15** | 12.0 |
| **2.00** | 920 | VK9998066 | **3JJ67** | 70.94 | **59.45** | 12.0 |
| **2.37** | 924 | VK9998067 | **3JJ68** | 87.13 | **73.00** | 12.0 |
| **2.63** | 926 | VK9998068 | **3JJ69** | 100.63 | **84.30** | 12.0 |
| **3.00** | 930 | VK9998069 | **3JJ70** | 106.00 | **88.80** | 12.0 |
| **3.50** | 935 | VK9998070 | **3JJ71** | 124.88 | **104.60** | 12.0 |

NOTE: All kits include bolts, nuts, washers for bolting brackets to reducers.

### DIMENSIONS

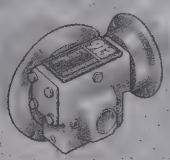
| Wimsmith Model | Dimensions (In.) BD | BW | E | $F_1$ | $F_2$ | G | H Dia. | HH | HL |
|---|---|---|---|---|---|---|---|---|---|
| 913 | 4.00 | 7.33 | 1.63 | 3.71 | 2.88 | 0.25 | 0.344 | 4.13 | 2.19 |
| 917 | 5.00 | 8.63 | 2.00 | 4.38 | 3.25 | 0.25 | 0.406 | 4.88 | 2.44 |
| 920 | 5.50 | 9.50 | 2.19 | 4.88 | 3.50 | 0.38 | 0.469 | 4.88 | 2.44 |
| 924 | 6.00 | 11.25 | 2.44 | 5.81 | 4.31 | 0.38 | 0.469 | 5.63 | 2.94 |
| 926 | 6.50 | 12.25 | 2.63 | 6.31 | 4.69 | 0.38 | 0.531 | 5.63 | 2.94 |
| 930 | 7.50 | 13.38 | 3.13 | 7.06 | 5.06 | 0.38 | 0.531 | 6.00 | 3.25 |
| 935 | 8.00 | 15.00 | 3.25 | 7.81 | 5.69 | 0.38 | 0.531 | 7.13 | 3.50 |

**DESK SPACE AT A PREMIUM?**
**USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

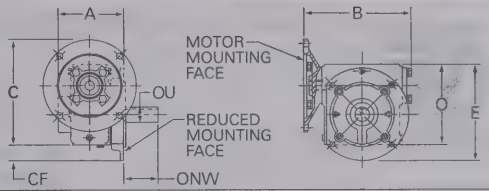
Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# DOUBLE REDUCTION MODULE AND 42CZ-FACE INPUT MOTORS

WINSMITH
HIGH QUALITY SPEED REDUCERS
MAXIMIZER



No. 1L392




| Stock No. | Dimensions (In.) A | B | C | CF | E | O | OU | ONW |
|---|---|---|---|---|---|---|---|---|
| 1L392 | 4.44 | 6.39 | 5.33 | 1.50 | 5.83 | 4.33 | .625 | 2.06 |
| 1L390 | 4.44 | 6.39 | 5.33 | 1.50 | 5.83 | 4.33 | .875 | 2.13 |
| 1L393 | 4.57 | 7.52 | 6.38 | 1.12 | 6.75 | 5.63 | .625 | 2.06 |
| 1L391 | 4.57 | 7.50 | 7.38 | 1.12 | 6.75 | 5.63 | .625 | 2.06 |

- Designed for use with speed reducers from pages 274 and 275 and input motors listed below
- For applications requiring speeds slower than 29 RPM/60:1 in C-face design
- Chart selects components using the speed and torque values needed for the application
- Simplifies drive design with less need to use sprocket/pulley speed reduction at the output shaft
- Uses 42CZ fractional HP motors listed below
- Has double C-face construction for easy assembly
- Performance matched with listed reducers only
- Units have "Maximizer" features

| Output Speed (RPM) at 1725 RPM | Continuous Duty Output Torque In.-Lbs. at Input Motor HP Shown 1/8 HP | 1/6 HP | 1/4 HP | 1/3 HP | Required Components: Reducer Stock No. (See pages 274 and 275) | Ratio Multiplier Stock No. | Final Ratio With Multiplier plus Reducer |
|---|---|---|---|---|---|---|---|
| 11 | 391 | 547 | — | — | 1L405 | 1L392 | 150:1 |
| | — | — | 856 | — | 2Z714 | 1L392 | 150:1 |
| | — | — | — | 1207 | 4Z511 | 1L391 or 1L393 | 150:1 |
| 5.7 | 576 | — | — | — | 1L406 | 1L392 | 300:1 |
| | 767 | — | — | — | 2Z715 | 1L392 | 300:1 |
| | — | 1075 | — | — | 4Z510 | 1L392 | 300:1 |
| | — | — | 1689 | — | 1L425 | 1L390 | 300:1 |
| | — | — | — | 2376 | 2Z696 | 1L391 or 1L393 | 300:1 |
| 3.8 | 905 | — | — | — | 2Z716 | 1L392 | 450:1 |
| | 1092 | 1529 | — | — | 4Z509 | 1L392 | 450:1 |
| | — | — | 2410 | — | 2Z697 | 1L392 | 450:1 |
| | — | — | — | 3393 | 2Z697 | 1L391 or 1L393 | 450:1 |
| 2.8 | 1408 | — | — | — | 1L408 | 1L392 | 600:1 |
| | — | 1984 | — | — | 1L415 | 1L392 | 600:1 |
| | — | — | 3110 | — | 2Z698 | 1L392 | 600:1 |
| 1.9 | 1001 | — | — | — | 1L409 | 1L392 | 900:1 |
| | 1931 | — | — | — | 1L416 | 1L392 | 900:1 |
| | — | 2709 | — | — | 2Z699 | 1L392 | 900:1 |
| | — | — | 4155 | — | 1L437 | 1L390 | 900:1 |
| 1.4 | 2454 | 3345 | — | — | 2Z700 | 1L392 | 1200:1 |
| | — | — | 5290 | — | 1L438 | 1L390 | 1200:1 |
| 1.1 | 2943 | — | — | — | 2Z722 | 1L392 | 1500:1 |
| | — | 4063 | — | — | 1L439 | 1L390 | 1500:1 |
| | — | — | 5095 | — | 1L439 | 1L390 | 1500:1 |
| 0.95 | 3362 | 4698 | — | — | 1L440 | 1L390 | 1800:1 |
| 0.71 | 3773 | — | — | — | 1L422 | 1L392 | 2400:1 |
| 0.57 | 2906 | — | — | — | 1L423 | 1L392 | 3000:1 |

Browning Fenner Drives™ Technology in Motion

FOR A WIDE SELECTION OF V-BELTS, SEE PAGES 2147 THRU 2168

## SPECIFICATIONS AND ORDERING DATA

| Input Flange | Output Flange | Max. Torque (In.-Lbs.) | Ratio | Winsmith Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **42CZ/48C** | 56C | 223 | 30:1 | MDD91342/56 | **1L392** | $390.11 | **$329.25** | 18.0 |
| **56C** | 56C | 630 | 30:1 | MDD92056/56 | **1L391** | 448.89 | **379.00** | 24.0 |
| **42CZ/48C** | 56C | 630 | 30:1 | MDD92042/56 | **1L393** | 448.89 | **379.00** | 23.0 |
| **42CZ/48C** | 143/145TC | 223 | 30:1 | MDD91342/143 | **1L390** | 390.11 | **329.25** | 18.0 |

## 42CZ-FACE INPUT MOTORS FOR ABOVE DRIVES

Dayton

**Bearings:** Double-shielded ball
**Shaft:** 1/2" diameter
**Rotation:** CW/CCW
**Thermal Protection:** None
**Ambient:** 40°C
**Duty:** Continuous
**Finish:** Gray
**Brand:** Dayton

### 42CZ Frame

| HP | Motor Type | Enclosure | Nameplate RPM | Volts | Full-Load Amps at Nameplate Volts | Full-Load Torque (In Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/8** | Cap Start | TEFE | 1725 | 115/230 | 4.0/2.0 | — | **1K056** | $157.00 | **$120.10** | 18.0 |
| **1/8** | PMDC | TENV | 1750 | 90VDC | 1.5 | — | **1Z854** | 233.00 | **150.75** | 11.0 |
| **1/6** | PMDC | TENV | 1750 | 90VDC | 1.8 | — | **1Z856** | 245.00 | **158.50** | 12.0 |
| **1/6** | Cap Start | TEFC | 1725 | 115/230.60Hz | 4.2/2.1 | — | **1K057** | 161.00 | **123.30** | 18.0 |
| **1/4** | Cap Start | TEFC | 1725 | 115/230.60Hz | 5.2/2.6 | — | **1K058** | 169.00 | **129.45** | 22.0 |
| **1/3** | Cap Start | TEFC | 1725 | 115/230.60Hz | 7.0/3.5 | — | **1K059** | 186.00 | **141.95** | 23.0 |

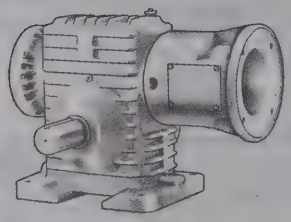
### 60/50 Hz, TEFC, Three-Phase, 42CZ Frame

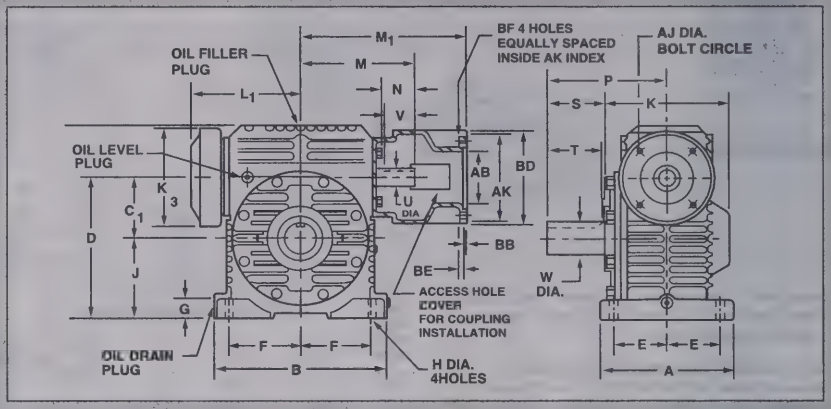
| HP | Motor Type | Top Aush Enclosure | Nameplate RPM at 60 Hz | 50 Hz | Volts 60/50 Hz | Full-Load at Amps Nameplate Volts 220V | 440V | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 3-Phase | TEFC | 1725 | 1425 | 208-220/440* | 1.0 | 0.50 | **3N841** | $165.00 | **$126.45** | 17.0 |
| **1/3** | 3-Phase | TEFC | 1725 | 1425 | 208-220/440* | 1.3 | 0.67 | **3N842** | 173.00 | **132.60** | 20.0 |

(*) 50 Hz operation @ rated voltage and 190/380V

# DOUBLE ENVELOPING SPEED REDUCERS

WINSMITH
HIGH QUALITY SPEED REDUCERS






- **WINSMITH 24 MONTH LIMITED WARRANTY, see page facing inside back cover of catalog for details**
- **Double enveloping reducers are shipped with integral mounting base**
- **Feature higher capacity double enveloping gearing**
- **Filled with Mobil SHC634 synthetic lubricant**
- **Accepts a wide range of NEMA motor frames (at rated horsepower and RPM); See chart below**
- **Coupling required; must order separately (see page 357 for a complete listing of couplings)**

## MOUNTING FLANGE DIMENSIONS

| Stock No. | Dimensions (In.) AB | AJ | AK | BB | BD | BE | BF | M1 |
|---|---|---|---|---|---|---|---|---|
| 3JJ27 thru 3JJ32 | 5.00 | 7.25 | 8.5005/8.5025 | 0.19 | 9.00 | 0.50 | 0.53 | 13.00 |
| 3JJ40, 3JJ41, 3JJ42, 3JJ44 | 5.00 | 7.25 | 8.5005/8.5025 | 0.19 | 9.00 | 0.50 | 0.53 | 13.75 |
| 3JJ43, 3JJ46 | 5.00 | 7.25 | 8.5005/8.5025 | 0.19 | 9.00 | 1.63 | 0.53 | 14.69 |

| Winsmith Model | Dimensions (In.) A | B | C1 | D | E | F | G | H | J | K | K3 DIA. | L | M | O | P | Input Shaft U* | N | V | Keyway | Output Shaft W* | S | T | Keyway |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 941 | 10.00 | 12.76 | 3.94 | 9.94 | 4.13 | 5.25 | 1.38 | 0.69 | 6.00 | 9.74 | 7.88 | 7.81 | 9.00 | 14.75 | 9.25 | 1.500 | 2.63 | 2.63 | 3/8 x 3/16 | 2.250 | 4.38 | 4.19 | 1/2 x 1/4 |
| 951 | 11.25 | 15.28 | 4.92 | 11.80 | 4.50 | 6.38 | 1.50 | 0.81 | 6.88 | 10.00 | 7.88 | 8.56 | 9.73 | 16.55 | 9.38 | 1.500 | 2.93 | 2.46 | 3/8 x 3/16 | 2.500 | 4.38 | 4.13 | 5/8 x 5/16 |

| Nom. Output RPM at 1725 RPM | NEMA Motor Frames | Worm Center Dist. (In.) (WCD) | Overhung Load (Lbs.) | Nominal Ratio | At 1725 RPM CONTINUOUS DUTY OUTPUT TORQUE In.-Lbs. at Input Motor HP Shown (1.0 Service Factor) 3 HP | 5 HP | 7½ HP | 10 HP | 15 HP | Max. Torque | Winsmith Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **29** | 210C, 180TC thru 210TC | 3.94 | 5170 | 60:1 | 4519 | 7956 | — | — | — | 8850 | 941CFDT-L | **3JJ28** | $3323.75 | **$2784.00** | 220.0 |
| **29** | 210C, 180TC thru 210TC | 4.92 | 6671 | 60:1 | — | — | 11500 | — | — | 11500 | 951CFDT-L | **3JJ40** | 6010.00 | **5034.00** | 320.0 |
| **35** | 210C, 180TC thru 210TC | 3.94 | 5170 | 50:1 | 3892 | 6850 | — | — | — | 8688 | 941CFDT-L | **3JJ27** | 3323.75 | **2784.00** | 220.0 |
| **35** | 210C, 180TC thru 210TC | 4.92 | 6158 | 50:1 | — | — | 10430 | — | — | 11350 | 951CFDT-L | **3JJ42** | 6010.00 | **5034.00** | 320.0 |
| **43** | 210C, 180TC thru 210TC | 3.94 | 5170 | 40:1 | — | 5687 | 8570 | — | — | 8570 | 941CFDT-L | **3JJ30** | 3323.75 | **2784.00** | 220.0 |
| **43** | 210C, 180TC thru 210TC | 4.92 | 5549 | 40:1 | — | — | — | 11075 | — | 11075 | 951CFDT-L | **3JJ41** | 6010.00 | **5034.00** | 320.0 |
| **58** | 210C, 180TC thru 210TC | 3.94 | 5032 | 30:1 | — | 4424 | 6814 | — | — | 8300 | 941CFDT-L | **3JJ29** | 3323.75 | **2784.00** | 220.0 |
| **58** | 210C, 180TC thru 210TC | 4.92 | 4871 | 30:1 | — | — | — | 9115 | — | 10860 | 951CFDT-L | **3JJ44** | 6010.00 | **5034.00** | 320.0 |
| **86** | 210C, 180TC thru 210TC | 3.94 | 4285 | 20:1 | — | — | 4679 | 6320 | — | 7165 | 941CFDT-L | **3JJ32** | 3323.75 | **2784.00** | 220.0 |
| **86** | 250TC | 4.92 | 4095 | 20:1 | — | — | — | — | 9050 | 9050 | 951CFDT-L | **3JJ43** | 6010.00 | **5034.00** | 320.0 |
| **115** | 210C, 180TC thru 210TC | 3.94 | 3924 | 15:1 | — | — | — | 4850 | — | 6900 | 941CFDT-L | **3JJ31** | 3323.75 | **2784.00** | 220.0 |
| **115** | 250TC | 4.92 | 3732 | 15:1 | — | — | — | — | 7296 | 8680 | 951CFDT-L | **3JJ46** | 6010.00 | **5034.00** | 320.0 |

**Note:** Shaft diameter tolerance +0.000, -0.001.


## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

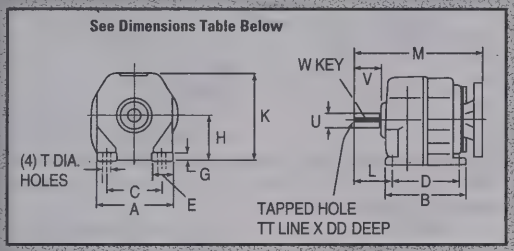
Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

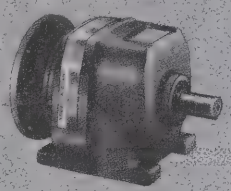
# C-FACE INLINE HELICAL SPEED REDUCERS

Boston Gear

Replacement Parts Available
1-800-323-0620

See Dimensions Table Below



- Standard NEMA C-face allows use of any industry standard motor
- Ratios up to 71:1 in only two stages; increases efficiency and reduces case size
- Patented input bushing system allows positive torque transfer and eliminates fretting corrosion
- Dimensionally interchangeable with SEW Eurodrive inline helical reducers
- All units shipped prelubricated (shipped with Mobil SHC634 lubricant, No. 4ZF30)
- Powdered epoxy paint suitable for washdown applications
- Boston Gear 2-Year Warranty; see page facing inside back cover of catalog for details

| Nominal Output RPM* | Ratio | NEMA Motor Frame | Over-hung Load Lbs. | AT 1750 RPM CONTINUOUS DUTY OUTPUT TORQUE In.-Lbs. at Input Motor HP Shown (1.0 Service Factor) 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | 5 HP | 7½ HP | Boston Model | Stock No.† | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24** | 71:1 | 56C | 385 | 503 | — | — | — | — | — | — | — | — | — | F832A-71-SB5 | **1F864** | $365.00 | **$352.00** | 28.0 |
| | | 56C | 770 | — | 768 | 1150 | — | — | — | — | — | — | — | F842A-71-SB5 | **1F846** | 422.00 | **407.00** | 36.0 |
| | | 56C | 1600 | — | — | — | 1685 | 2246 | — | — | — | — | — | F862A-71-SB5 | **1F828** | 702.00 | **632.00** | 50.0 |
| | | 140TC/180C | 2090 | — | — | — | — | — | 3418 | 4557 | — | — | — | F872A-71-SB7 | **1F810** | 1064.00 | **968.00** | 85.0 |
| **27** | 63:1 | 56C | 385 | 503 | — | — | — | — | — | — | — | — | — | F832A-63-SB5 | **1F866** | 365.00 | **352.00** | 28.0 |
| | | 56C | 770 | — | 674 | 1011 | — | — | — | — | — | — | — | F842A-63-SB5 | **1F848** | 422.00 | **407.00** | 36.0 |
| | | 140TC/180C | 1360 | — | — | — | — | — | 3060 | — | — | — | — | F862A-63-SB7 | **1F830** | 702.00 | **632.00** | 50.0 |
| | | 140TC/180C | 1720 | — | — | — | — | — | 3076 | 4102 | — | — | — | F872A-63-SB7 | **1F812** | 1064.00 | **968.00** | 85.0 |
| **31** | 56:1 | 56C | 385 | 490 | — | — | — | — | — | — | — | — | — | F832A-56-SB5 | **1F868** | 365.00 | **352.00** | 28.0 |
| | | 56C | 770 | — | 617 | 925 | — | — | — | — | — | — | — | F842A-56-SB5 | **1F850** | 422.00 | **407.00** | 36.0 |
| | | 56C | 1360 | — | — | — | 1400 | 1866 | — | — | — | — | — | F862A-56-SB5 | **1F832** | 702.00 | **632.00** | 50.0 |
| | | 140TC/180C | 1720 | — | — | — | — | — | 2797 | 3730 | — | — | — | F872A-56-SB7 | **1F814** | 1064.00 | **968.00** | 85.0 |
| **35** | 50:1 | 56C | 385 | 431 | 575 | — | — | — | — | — | — | — | — | F832A-50-SB5 | **1F870** | 365.00 | **352.00** | 28.0 |
| | | 56C | 770 | — | — | 814 | 1220 | — | — | — | — | — | — | F842A-50-SB5 | **1F852** | 422.00 | **407.00** | 36.0 |
| | | 140TC/180C | 1360 | — | — | — | — | — | 2496 | — | — | — | — | F862A-50-SB7 | **1F834** | 702.00 | **632.00** | 50.0 |
| | | 180TC/210C | 1720 | — | — | — | — | — | — | — | 5034 | — | — | F872A-50-SB9 | **1F816** | 1064.00 | **1027.00** | 85.0 |
| **38** | 45:1 | 56C | 385 | 372 | 486 | — | — | — | — | — | — | — | — | F832A-45-SB5 | **1F872** | 365.00 | **352.00** | 28.0 |
| | | 56C | 770 | — | — | 766 | 1150 | — | — | — | — | — | — | F842A-45-SB5 | **1F854** | 422.00 | **407.00** | 36.0 |
| | | 140TC/180C | 1360 | — | — | — | — | — | 2199 | 2932 | — | — | — | F862A-45-SB7 | **1F836** | 702.00 | **632.00** | 50.0 |
| | | 180TC/210C | 1720 | — | — | — | — | — | — | — | 4456 | — | — | F872A-45-SB9 | **1F818** | 1064.00 | **1026.00** | 85.0 |
| **48** | 36:1 | 56C | 385 | — | 416 | 584 | — | — | — | — | — | — | — | F832A-36-SB5 | **1F874** | 365.00 | **352.00** | 28.0 |
| | | 56C | 770 | — | — | — | 925 | 1233 | — | — | — | — | — | F842A-36-SB5 | **1F856** | 422.00 | **407.00** | 36.0 |
| | | 140TC/180C | 1360 | — | — | — | — | — | 1827 | 2436 | — | — | — | F862A-36-SB7 | **1F838** | 702.00 | **632.00** | 50.0 |
| | | 180TC/210C | 1720 | — | — | — | — | — | — | — | 3646 | 5470 | — | F872A-36-SB9 | **1F820** | 1064.00 | **1026.00** | 85.0 |
| **62** | 28:1 | 56C | 385 | — | 327 | 491 | — | — | — | — | — | — | — | F832A-28-SB5 | **1F876** | 365.00 | **352.00** | 28.0 |
| | | 56C | 620 | — | — | — | 726 | 968 | — | — | — | — | — | F842A-28-SB5 | **1F858** | 422.00 | **407.00** | 36.0 |
| | | 180TC/210C | 1010 | — | — | — | — | — | — | — | 2867 | — | — | F862A-28-SB9 | **1F840** | 702.00 | **676.50** | 50.0 |
| | | 180TC/210C | 1275 | — | — | — | — | — | — | — | — | 4762 | — | F872A-28-SB9 | **1F822** | 1064.00 | **1026.00** | 85.0 |
| **79** | 22:1 | 56C | 385 | — | — | 402 | 584 | — | — | — | — | — | — | F832A-22-SB5 | **1F878** | 365.00 | **352.00** | 28.0 |
| | | 140TC/180C | 620 | — | — | — | — | — | 1140 | — | — | — | — | F842A-22-SB7 | **1F860** | 422.00 | **407.00** | 36.0 |
| | | 180TC/210C | 1010 | — | — | — | — | — | — | — | 2281 | — | — | F862A-22-SB9 | **1F842** | 702.00 | **676.50** | 50.0 |
| | | 180TC/210C | 1275 | — | — | — | — | — | — | — | 2408 | 4014 | — | F872A-22-SB9 | **1F824** | 1064.00 | **1026.00** | 85.0 |
| **97** | 18:1 | 56C | 385 | — | — | — | 474 | 596 | — | — | — | — | — | F832A-18-SB5 | **1F880** | 365.00 | **352.00** | 28.0 |
| | | 140TC/180C | 620 | — | — | — | — | — | 894 | 1192 | — | — | — | F842A-18-SB7 | **1F862** | 422.00 | **407.00** | 36.0 |
| | | 180TC/210C | 1010 | — | — | — | — | — | — | — | 1788 | — | — | F862A-18-SB9 | **1F844** | 702.00 | **676.50** | 50.0 |
| | | 210TC/250TC | 1275 | — | — | — | — | — | — | — | — | — | 4717 | F872A-18-SB11 | **1F826** | 1064.00 | **1026.00** | 85.0 |

(*) At 1750 RPM input motor speed. (†) Limited availability — Contact local branch.

## DIMENSIONS (Inches)

| Size | A | B | C | D | E | G | H | K | L | M NEMA Mounting 56C | 140TC | 180TC | 210TC | T | U | V | W - Key SQ | Length | TT | DD | WT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F832A | 5.31 | 4.33 | 4.33 | 3.35 | 0.98 | 0.47 | 2.95 | 5.79 | 2.28 | 9.82 | 9.82 | 10.65 | — | 0.39 | 0.750 | 1.57 | 0.19 | 1.28 | 1/4 | 0.63 | 25 |
| F842A | 5.71 | 6.30 | 4.33 | 5.12 | 1.38 | 0.63 | 3.54 | 7.01 | 2.95 | 10.73 | 10.73 | 11.55 | — | 0.39 | 1.000 | 1.97 | 0.25 | 1.75 | 1/4 | 0.63 | 32 |
| F862A | 7.48 | 7.87 | 5.31 | 6.50 | 2.17 | 0.79 | 4.53 | 9.06 | 3.54 | 12.26 | 12.26 | 14.61 | — | 0.59 | 1.250 | 2.36 | 0.25 | 2.00 | 3/8 | 0.87 | 63 |
| F872A | 9.06 | 9.65 | 6.69 | 8.07 | 2.36 | 0.98 | 5.51 | 10.83 | 4.53 | — | 15.15 | 16.76 | 16.76 | 0.75 | 1.625 | 3.15 | 0.38 | 2.37 | 5/8 | 1.42 | 99 |

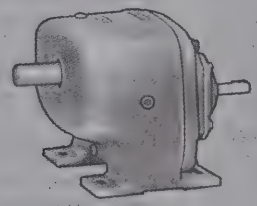
**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

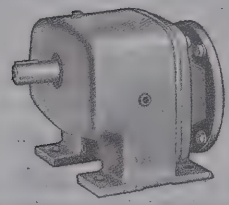
# INDIRECT DRIVE AND C-FACE PARALLEL SHAFT SPEED REDUCERS

Dayton®

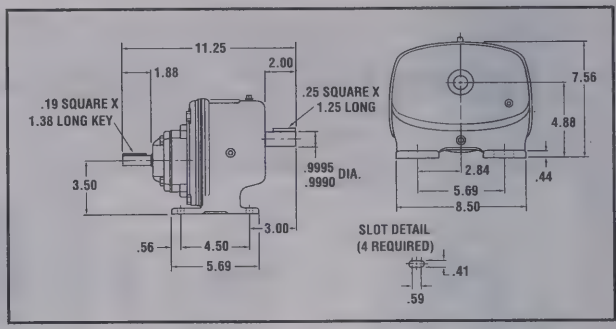
Replacement Parts Available
1-800-323-0620

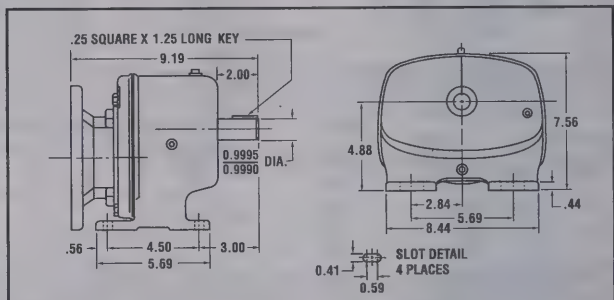


Indirect Drive



56 C-Face




## INDIRECT DRIVE AND 56 C-FACE SPEED REDUCERS

**Pinions and Gears:** Hardened steel pinions, helical and spur gears are computer matched for high efficiency; designed per AGMA standards.

**Input Shaft:** Ball bearing supported

**Output shaft:** Deep grooved ball bearings

**Gearcase:** Die-cast aluminum

**Lubrication:** AGMA #4 (prefilled)

**Seals:** Spring-loaded double lip seals on input and output shafts

**Mounting:** All-position, except shaft up or down

**Finish:** Gray

**Warranty:** 2 Years

### INDIRECT DRIVE REDUCERS

| Nominal Output RPM* | Ratio | No. of Stages | Overhung Load Lbs. | Torque, In.-Lbs. 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | Stock No. | List | Less Motor Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 87.0:1 | 3 | 1192 | 748 | 998 | — | — | — | **4Z856** | $370.00 | **$280.25** | 33.0 |
| **30** | 57.5:1 | 3 | 885 | 499 | 665 | 998 | — | — | **4Z857** | 370.00 | **280.25** | 24.0 |
| **45** | 38.5:1 | 3 | 863 | 333 | 443 | 665 | — | — | **4Z858** | 370.00 | **280.25** | 26.0 |
| **56** | 31.0:1 | 3 | 712 | 272 | 363 | 544 | 816 | — | **4Z859** | 370.00 | **280.25** | 24.0 |
| **100** | 17.5:1 | 2 | 773 | 151 | 201 | 302 | 454 | — | **4Z860** | 370.00 | **280.25** | 24.0 |
| **140** | 12.5:1 | 2 | 709 | 107 | 143 | 214 | 320 | 427 | **4Z861** | 370.00 | **280.25** | 25.0 |

### 56 C-FACE REDUCERS

| Nominal Output RPM* | Ratio | No. of Stages | Overhung Load Lbs. | Torque, In.-Lbs. 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | Stock No. | List | Less Motor Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 87.0:1 | 3 | 1192 | 748 | 998 | — | — | — | **4Z720** | $413.00 | **$312.75** | 33.0 |
| **30** | 57.5:1 | 3 | 885 | 499 | 665 | 998 | — | — | **4Z614** | 413.00 | **312.75** | 24.0 |
| **45** | 38.5:1 | 3 | 863 | 333 | 443 | 665 | — | — | **4Z615** | 413.00 | **312.75** | 26.0 |
| **56** | 31.0:1 | 3 | 712 | 272 | 363 | 544 | 816 | — | **4Z616** | 413.00 | **312.75** | 24.0 |
| **100** | 17.5:1 | 2 | 773 | 151 | 201 | 302 | 454 | — | **4Z617** | 413.00 | **312.75** | 24.0 |
| **140** | 12.5:1 | 2 | 709 | 107 | 143 | 214 | 320 | 427 | **4Z719** | 413.00 | **312.75** | 25.0 |

(*) At 1725 RPM input motor speed.

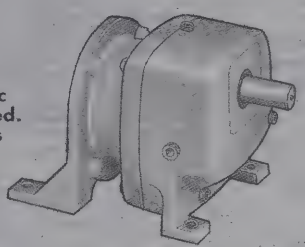
A WIDE VARIETY OF FASTENERS IS AVAILABLE. SEE INDEX FOR PAGE

Chicago-Latrobe®
HANDI-CHEK
ITW Ramset/Red Head
marson
QUALITY FASTI from ... Rockfo
HOLO-KROME® A Danaher Company

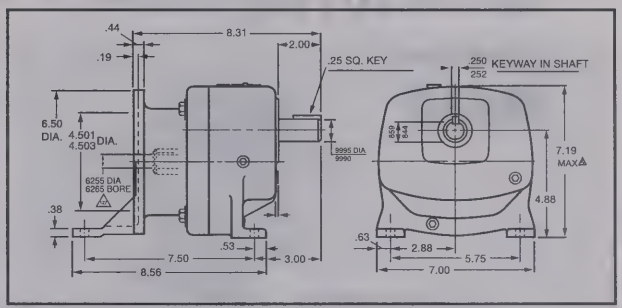
## C-FACE PARALLEL SHAFT SPEED REDUCERS

Dayton

Replacement Parts Available
1-800-323-0620



**Double C-Face Magnetic Disc Brakes Also Stocked. See Index under Brakes**




Dayton parallel shaft speed reducers have heat treated, annealed cast-iron housings, precision machined for accurate alignment of gears. Insure performance and compatibility with Dayton 56 C-face motors (see pages 121 and 123). Gray finish. Dayton brand.

**Pinions & Gears:** Hardened steel pinions, helical and spur gears are computer matched for high efficiency; designed per AGMA standards.

**Input Shaft:** Ball bearing supported
**Output Shaft:** Deep grooved ball bearings
**Housing:** Cast iron
**Gearcase:** Cast iron
**Lubrication:** AGMA #4
**Seals:** Spring-loaded double lip seals on input and output shafts
**Mounting:** Horizontal
**Overhung Load:** 660 lbs.

### SPEED REDUCERS

| Nominal Output RPM* | Ratio | Continuous Duty Output Torque (In.-Lbs.) 1/4 HP | 1/3 HP | 1/2 HP | Stock No. | Less Motor List | Less Motor Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **30** | 57.5:1 | 470 | 638 | 955 | **2Z932** | $414.00 | **$324.25** | 33.0 |
| **44** | 39:1 | 320 | 435 | 651 | **2Z933** | 414.00 | **324.25** | 33.0 |
| **60** | 29:1 | 235 | 318 | 478 | **2Z934** | 414.00 | **324.25** | 33.0 |
| **91** | 19:1 | 160 | 217 | 326 | **2Z935** | 414.00 | **321.25** | 31.0 |

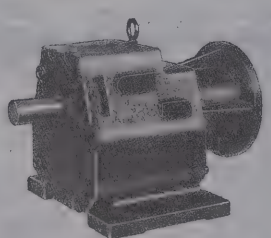
(*) At 1725 RPM input motor speed.

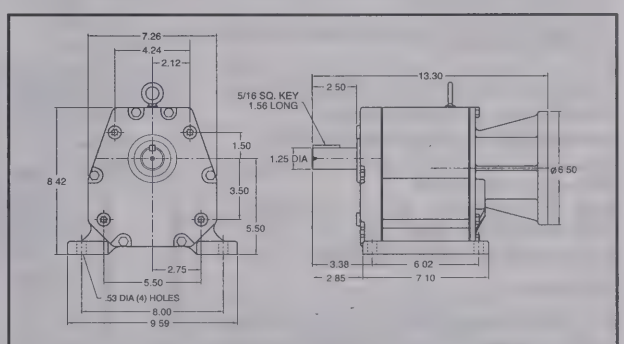
**MOTOR SELECTION AND REGULATORY INFORMATION AVAILABLE, SEE PAGE 3 - 6**

## 56 C-FACE INLINE HELICAL SPEED REDUCERS

Dayton

Replacement Parts Available
1-800-323-0620





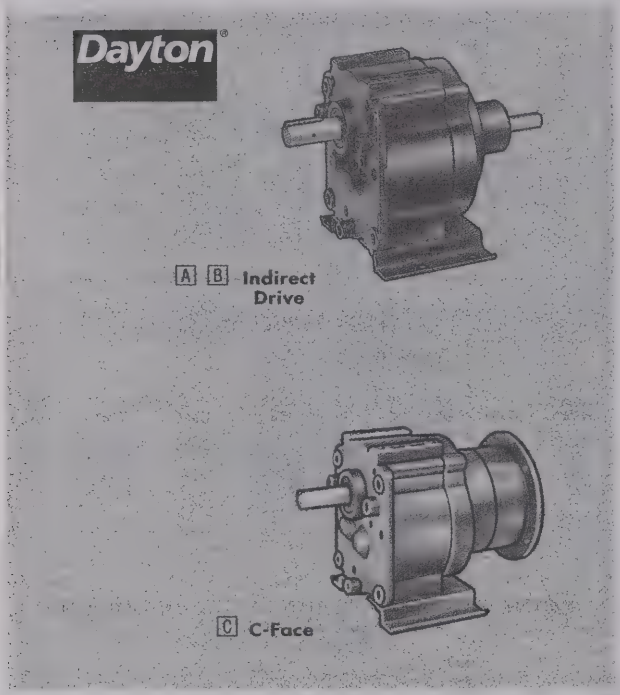

**Gears:** Helical, AGMA Class 10, case hardened
**Bearings:** Angular contact ball bearings on input and intermediate stages, tapered roller on output shaft
**Gearcase:** Cast iron, with solid cast-iron feet
**Lubrication:** Shipped with synthetic hydrocarbon oil
**Seals:** Spring-loaded, dual lip type
**Mounting:** Base or face horizontal
**Finish:** Gray

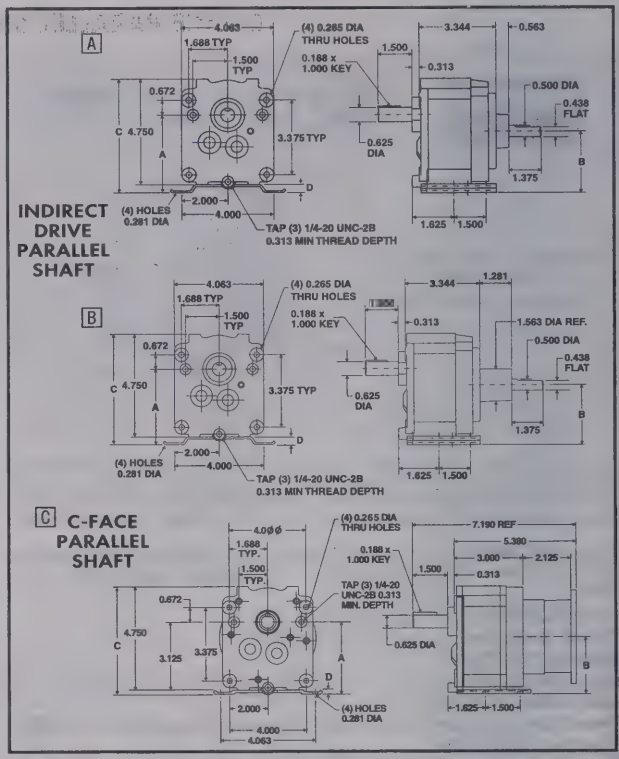
### 56 C-FACE REDUCERS

| Nom. Output at 1725 RPM | Ratio | No. of Stages | Overhung Load (Lbs.) | Continuous Duty Ouput Torque (In.-Lbs.) 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15** | 116.7:1 | 3 | 1050 | 945 | 1260 | 1885 | 2830 | — | — | — | — | **2H628** | $676.00 | **$494.50** | 62.0 |
| **31** | 54.8:1 | 3 | 850 | 445 | 590 | 885 | 1330 | 1770 | 2660 | — | — | **2H626** | 676.00 | **494.50** | 62.0 |
| **41** | 42.2:1 | 3 | 675 | 340 | 455 | 680 | 1020 | 1360 | 2040 | 2720 | — | **2H624** | 676.00 | **494.50** | 62.0 |
| **59** | 29.1:1 | 2 | 600 | 240 | 320 | 485 | 725 | 970 | 1450 | 1940 | — | **2H622** | 676.00 | **494.50** | 60.0 |
| **88** | 19.58:1 | 2 | 600 | 165 | 220 | 330 | 495 | 660 | 990 | 1320 | 1980 | **2H620** | 676.00 | **494.50** | 60.0 |

# INDIRECT DRIVE AND C-FACE PARALLEL SHAFT SPEED REDUCERS

## INDIRECT DRIVE AND 42CZ/48C-FACE SPEED REDUCERS




- **Meets AGMA Class I design criteria**

**Pinion & Gears:** Heat-treated steel with helical first stage gearing

**Bearings:** Heavy-duty needle and ball bearings and thrust balls

**Base:** Removable to allow high or low positioning of output shaft; face mounting holes on output side of reducer

**Gearcase:** Die-cast aluminum housing

**Lubrication:** Shipped with heavy-duty oil lubricant in gear case

**Seals:** Spring-loaded lip-type oil seals or input and output shaft

**Mounting:** Base or face horizontal

**Finish:** Gray

No. 4Z498 matches NEMA 42 frame shaft height. Nos. 4Z499 thru 4Z503 match NEMA 48 frame shaft height.

| Stock No. | Key | Type | Dimensions (In.) A | B | C | D |
|---|---|---|---|---|---|---|
| 2Z819-2Z821 | A | Indirect Drive | 3.500 | 2.797 | 5.125 | 0.375 |
| 4Z498 | B | Indirect Drive | 3.344 | 2.625 | 4.953 | 0.203 |
| 4Z499-4Z503 | B | Indirect Drive | 3.718 | 3.000 | 5.344 | 0.594 |
| 1L511-1L516, 1L537 | C | C-Face† | 3.344 | 2.625 | 4.953 | 0.203 |

(†) C-face units contain a 0.500" dia. bore with 0.125 x 0.062" keyway.

## INDIRECT DRIVE REDUCERS

| Key | Nominal Output at 1725 RPM* | Ratio | No. of Stages | Overhung Load (Lbs.) | Continuous Duty Output Torque (In.-Lbs.) 1/40 HP | 1/20 HP | 1/12 HP | 1/10 HP | 1/6 HP | 1/4 HP | 1/3 HP | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 15 | 118.45:1 | 3 | 175 | 95 | 200 | — | — | — | — | — | 2Z819 | $178.00 | **$142.90** | 4.0 |
| B | 19 | 92.00:1 | 3 | 175 | 74 | 148 | 246 | 290 | — | — | — | 4Z498 | 178.00 | **142.90** | 5.5 |
| A | 33 | 52.86:1 | 2 | 175 | 44 | 88 | 148 | 175 | — | — | — | 2Z820 | 178.00 | **142.90** | 4.7 |
| B | 34 | 50.80:1 | 3 | 175 | 41 | 82 | 136 | 163 | 260 | — | — | 4Z499 | 178.00 | **142.90** | 5.0 |
| B | 48 | 35.80:1 | 3 | 175 | 29 | 58 | 96 | 115 | 192 | 295 | — | 4Z500 | 203.00 | **163.25** | 5.0 |
| B | 61 | 28.80:1 | 2 | 175 | 24 | 48 | 80 | 97 | 161 | 225 | — | 4Z501 | 203.00 | **163.25** | 5.0 |
| A | 72 | 23.40:1 | 2 | 175 | 20 | 40 | 66 | 79 | 100 | — | — | 2Z821 | 203.00 | **163.25** | 4.3 |
| B | 90 | 19:1 | 2 | 175 | 13 | 27 | 53 | 64 | 107 | 160 | 225 | 4Z502 | 203.00 | **163.25** | 5.0 |
| B | 135 | 13:1 | 2 | 175 | 10 | 21 | 36 | 43 | 71 | 106 | 175 | 4Z503 | 203.00 | **163.25** | 5.0 |

## 42CZ/48 C-FACE REDUCERS

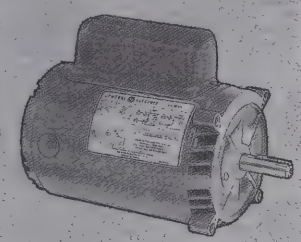
| Key | Nominal Output at 1725 RPM* | Ratio | No. of Stages | Overhung Load (Lbs.) | Continuous Duty Output Torque (In.-Lbs.) 1/8 HP | 1/6 HP | 1/4 HP | 1/3 HP | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 20 | 87.8:1 | 3 | 175 | 260 | — | — | — | 1L515 | $251.00 | **$201.50** | 6.8 |
| C | 30 | 58.3:1 | 3 | 175 | 230 | — | — | — | 1L537 | 251.00 | **201.50** | 6.0 |
| C | 48 | 35.8:1 | 3 | 175 | 145 | 195 | 290 | — | 1L514 | 251.00 | **201.50** | 6.7 |
| C | 61 | 28.1:1 | 2 | 175 | 120 | 160 | 240 | — | 1L513 | 230.00 | **184.25** | 6.8 |
| C | 76 | 22.7:1 | 2 | 175 | 95 | 125 | 190 | — | 1L512 | 230.00 | **184.25** | 5.0 |
| C | 90 | 19.1:1 | 2 | 175 | 80 | 110 | 160 | 215 | 1L511 | 230.00 | **184.25** | 7.0 |
| C | 135 | 12.7:1 | 2 | 175 | 55 | 70 | 110 | 150 | 1L516 | 230.00 | **184.25** | 6.2 |

(*) Maximum input speed is 1750 RPM.



We deliver the products that deliver the power.

# OPEN DRIPPROOF AND TEFC MOTORS AND INDIRECT DRIVE RIGHT ANGLE SPEED REDUCERS

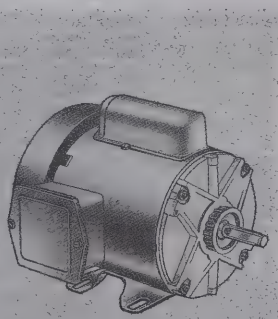


E47088

## OPEN DRIPPROOF MOTORS FOR USE WITH SPEED REDUCERS

**Bearings:** Ball
**Enclosure:** Open dripproof
**Ambient:** 40°C
**Insulation Class:** B
**Thermal Protection:** None
**NEMA Frame:** 56C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** GE

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1725 | 115/208-230 | 5.2/2.7-2.6 | 1.35 | C1296 | **3K070** | $166.00 | **$103.50** | 15.0 |
| 1/3 | 1725 | 115/208-230 | 6.6/3.4-3.3 | 1.35 | C355 | **3K071** | 201.00 | **120.80** | 16.0 |
| 1/2 | 1725 | 115/208-230 | 8.8/4.4-4.2 | 1.25 | C358 | **3K072** | 228.00 | **135.45** | 19.0 |
| 3/4 | 1725 | 115/208-230 | 13.2/6.2-6.0 | 1.25 | C361 | **3K073** | 275.00 | **166.00** | 25.0 |



E47088

## TEFC MOTORS FOR USE WITH SPEED REDUCERS ON PAGE 287

**Bearings:** Prelubricated ball
**Enclosure:** TEFC **Ambient:** 40°C
**Thermal Protection:** None
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray **Brand:** GE

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Insulation Class | GE Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1725 | 56 | 115/230 | 8.6/4.3 | 1.15 | B | C261 | **2K591** | $240.00 | **$144.20** | 21.0 |
| 3/4 | 1725 | 56 | 115/230 | 10.4/5.2 | 1.0 | B | C268 | **2K597** | 286.00 | **172.50** | 31.0 |
| 1 | 1725 | 56 | 115/230 | 13.2/6.6 | 1.0 | B | C275 | **2K602** | 327.00 | **196.25** | 38.0 |
| 1 1/2 | 1725 | 56H | 115/230 | 14.8/7.4 | 1.0 | B | C281 | **2K607*** | 371.00 | **202.25** | 47.0 |
| 2 | 1725 | 182T | 115/230 | 23.4/11.7 | 1.0 | B | N777 | **3K155** | 416.00 | **275.50** | 90.0 |
| 3 | 1725 | 184T | 115/230 | 34.0/17.0 | 1.0 | B | N779 | **3K156** | 496.00 | **328.25** | 98.0 |
| 5 | 1730 | 184T | 230 | 22.0 | 1.0 | F | N781 | **3K159*** | 562.00 | **372.00** | 106.0 |

(*) Capacitor-start, capacitor-run with two externally mounted capacitors; all other models are capacitor-start, induction-run.

## INDIRECT DRIVE RIGHT ANGLE SPEED REDUCERS

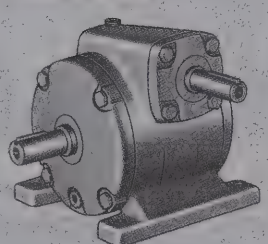
- **2" Worm center distance**
- **30 to 157 RPM***
- **Single output shaft**
- **All units shipped with oil**

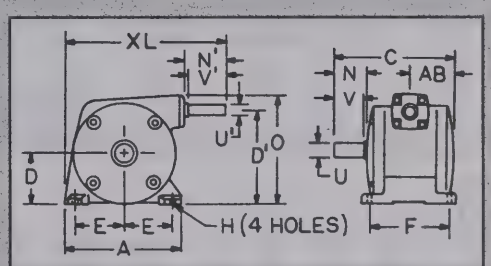
Designed for continuous duty, high torque, slow speed applications where a compact, dependable speed reducer is required. Factory lubricated with an AGMA 8C oil. Gray finish. Dayton brand.

**Worm Gear:** Hardened steel
**Worm Wheel:** Forged bronze
**Bearings:** Tapered roller on output shaft for greater overhung load capacity.
**Overhung Load:** 600 lbs.
**Oil Seals:** Double-lip seals on input and output shaft. Inner lip is spring-loaded to keep lubricant in and outer lip keeps dirt and foreign matter out
**Recommended Motors:** 1/3 to 1 HP, 1725 RPM
**Mounting:** All position

Dayton®

Replacement Parts Available
1-800-323-0620






| Nominal Output RPM* | Output Torque In.-Lbs.* | Max. Input HP* | Nominal Gear Ratio | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **30** | 285 | 1/3 | 58:1 | **2Z306** | $301.00 | **$229.25** | 11.0 |
| **45** | 337 | 1/2 | 39:1 | **2Z307** | 301.00 | **229.25** | 10.0 |
| **67** | 385 | 3/4 | 26:1 | **2Z308** | 301.00 | **229.25** | 11.0 |
| **96** | 360 | 1 | 18:1 | **2Z309** | 301.00 | **229.25** | 10.0 |
| **157** | 302 | 1 | 11:1 | **2Z310** | 301.00 | **229.25** | 11.0 |

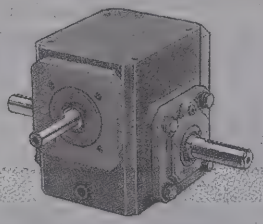
(*) Based on 1725 RPM input speed at max. HP. Lower input speed may be used with a proportional decrease in input HP and output speed. Lower input HP may be used with a proportional reduction in output torque.

**Dimensions (In.)**

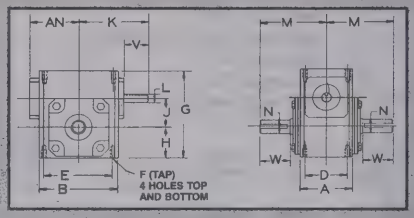
| A | C | D | D' | E | F | H | N | N' | O | U | | U' | | V | V' | AB | XL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.75 | 7.06 | 2.50 | 4.50 | 2.38 | 4.75 | .34 | 1.81 | 2.00 | 5.81 | .7500 | .7495 | 0.6250 | 0.6245 | 1.44 | 1.88 | 2.44 | 8.00 |

# INDIRECT DRIVE RIGHT ANGLE SPEED REDUCERS

Dayton®



Mounting bases available on page 270






Speed Reducer shown with Flange Coupling Kit

- 29 to 350 RPM at 1750 RPM input
- Single (left hand facing input shaft) and double output shafts
- Interchangeable with most Grove (Flexaline) and Ohio (Uniline) models
- Large prefilled oil sump
- Output shaft on single shaft models can be field converted from standard left-hand to right-hand extension

**Recommended Motor:** 1/8 to 5 HP, 1750 RPM
**Bearings:** Ball on input shaft; tapered roller on output (1.00" WCD units have ball)
**Worm:** Thread rolled and hardened alloy for higher strength and low power loss
**Output Gear:** Hardened forged bronze
**Oil Seals:** Double-lipped, spring-loaded
**Housing:** Cast iron (1.00" WCD are cast aluminum)
**Lubricant:** AGMA #8 (1.00" WCD have synthetic oil)
**Rotation:** Reversible
**Mounting:** All position, except input shaft down
**Flange Coupling Kits:** For adapting NEMA 56C-184TC motors to Dayton right angle speed reducers Nos. 6Z419 thru 6Z470.

| Worm Center Distance (In.) | Overhung Load (Lbs.) | Worm Center Distance (In.) | Overhung Load (Lbs.) |
|---|---|---|---|
| 1.00 | 150 | 2.06 | 875 |
| 1.33 | 275 | 2.62 | 1300 |
| 1.75 | 700 | 3.25 | 1500 |

| Nom. Output RPM at 1750 RPM | Worm Center Dist. (In.) (WCD) | Nominal Ratio | CONTINUOUS DUTY OUTPUT TORQUE AT 1750 RPM In.-Lbs. at Input Motor HP Shown (1.0 Service Factor) 1/8 HP | 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | 5 HP | Stock No. Double Shaft | Single Shaft | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 1.33 | 60:1 | — | 209 | — | — | — | — | — | — | — | — | 6Z419 | 6Z439 | $288.00 | $211.50 | 15.0 |
| 29 | 1.75 | 60:1 | — | 314 | 415 | — | — | — | — | — | — | — | 6Z420 | 6Z440 | 315.00 | 231.75 | 22.0 |
| 29 | 2.06 | 60:1 | — | 305 | 423 | 636 | — | — | — | — | — | — | 6Z421 | 6Z441 | 348.00 | 256.00 | 25.0 |
| 29 | 2.62 | 60:1 | — | — | 407 | 653 | 1021 | — | — | — | — | — | 6Z422 | 6Z442 | 494.00 | 363.25 | 50.0 |
| 29 | 3.25 | 60:1 | — | — | — | 619 | 995 | 1371 | — | — | — | — | 6Z423 | 6Z443 | 696.00 | 512.00 | 85.0 |
| 35 | 1.75 | 50:1 | — | 279 | 379 | 449 | — | — | — | — | — | — | — | 6Z444 | 315.00 | 231.75 | 22.0 |
| 35 | 2.06 | 50:1 | — | — | 372 | 581 | — | — | — | — | — | — | — | 6Z445 | 348.00 | 256.00 | 29.0 |
| 35 | 2.62 | 50:1 | — | — | 356 | 572 | 895 | — | — | — | — | — | — | 6Z446 | 494.00 | 363.25 | 50.0 |
| 35 | 3.25 | 50:1 | — | — | — | — | 870 | 1199 | 1857 | — | — | — | — | 6Z447 | 696.00 | 512.00 | 85.0 |
| 44 | 1.75 | 40:1 | — | 235 | 324 | 477 | — | — | — | — | — | — | — | 6Z448 | 315.00 | 231.75 | 22.0 |
| 44 | 2.06 | 40:1 | — | — | 315 | 492 | — | — | — | — | — | — | 6Z424 | 6Z449 | 348.00 | 256.00 | 29.0 |
| 44 | 2.62 | 40:1 | — | — | 300 | 482 | 755 | 1028 | — | — | — | — | 6Z425 | 6Z450 | 494.00 | 363.25 | 50.0 |
| 58 | 1.00 | 30:1 | 107 | — | — | — | — | — | — | — | — | — | — | 6Z451 | 198.00 | 145.50 | 3.8 |
| 58 | 1.33 | 30:1 | — | 195 | 233 | — | — | — | — | — | — | — | — | 6Z452 | 288.00 | 211.50 | 15.0 |
| 58 | 1.75 | 30:1 | — | 189 | 260 | 401 | — | — | — | — | — | — | 6Z426 | 6Z453 | 315.00 | 231.75 | 22.0 |
| 58 | 2.06 | 30:1 | — | — | — | 397 | 610 | — | — | — | — | — | 6Z427 | 6Z454 | 348.00 | 256.00 | 29.0 |
| 58 | 2.62 | 30:1 | — | — | — | 386 | 604 | 823 | 983 | — | — | — | 6Z428 | 6Z455 | 494.00 | 363.25 | 50.0 |
| 58 | 3.25 | 30:1 | — | — | — | — | — | 805 | 1247 | 1689 | — | — | — | 6Z456 | 696.00 | 512.00 | 85.0 |
| 88 | 1.75 | 20:1 | — | 135 | 185 | 286 | 436 | — | — | — | — | — | 6Z429 | 6Z457 | 315.00 | 231.75 | 22.0 |
| 88 | 2.06 | 20:1 | — | — | — | 282 | 434 | 586 | — | — | — | — | 6Z430 | 6Z458 | 348.00 | 256.00 | 29.0 |
| 88 | 2.62 | 20:1 | — | — | — | — | 427 | 582 | 891 | — | — | — | — | 6Z459 | 494.00 | 363.25 | 50.0 |
| 88 | 3.25 | 20:1 | — | — | — | — | — | — | 879 | 1191 | 1816 | — | — | 6Z460 | 696.00 | 512.00 | 85.0 |
| 117 | 1.00 | 15:1 | 67 | 100 | — | — | — | — | — | — | — | — | 6Z431 | 6Z461 | 198.00 | 145.50 | 4.0 |
| 117 | 1.33 | 15:1 | — | 109 | 147 | 203 | — | — | — | — | — | — | — | 6Z462 | 288.00 | 211.50 | 15.0 |
| 117 | 1.75 | 15:1 | — | — | — | 221 | 338 | 430 | — | — | — | — | 6Z432 | 6Z463 | 315.00 | 231.75 | 22.0 |
| 117 | 2.06 | 15:1 | — | — | — | — | 338 | 456 | 614 | — | — | — | 6Z433 | 6Z464 | 348.00 | 256.00 | 29.0 |
| 175 | 1.00 | 10:1 | 48 | 73 | 97 | — | — | — | — | — | — | — | 6Z434 | 6Z465 | 198.00 | 145.50 | 4.0 |
| 175 | 1.33 | 10:1 | — | 75 | 102 | 155 | 82 | — | — | — | — | — | 6Z435 | 6Z466 | 288.00 | 211.50 | 15.0 |
| 175 | 2.06 | 10:1 | — | — | — | — | 232 | 314 | 477 | 554 | — | — | — | 6Z467 | 348.00 | 256.00 | 29.0 |
| 175 | 3.25 | 10:1 | — | — | — | — | — | — | 466 | 632 | 964 | 1629 | — | 6Z468 | 696.00 | 512.00 | 85.0 |
| 350 | 1.00 | 5:1 | 26 | 40 | 53 | 79 | — | — | — | — | — | — | 6Z436 | 6Z469 | 198.00 | 145.50 | 4.0 |
| 350 | 1.33 | 5:1 | — | 39 | 52 | 80 | 121 | 163 | — | — | — | — | 6Z437 | 6Z470 | 288.00 | 211.50 | 15.0 |

## DIMENSIONS (Reference Drawing Above)

| Worm Center Distance (In.) | Dimensions (In.) A | B | D | E | F | G | H | J | AN | INPUT SHAFT K | L | V | Keyway | OUTPUT SHAFT M | N | W | Keyway |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.00 | 2.50 | 3.30 | 1.69 | 2.62 | 1/4-20 | 3.63 | 1.31 | 1.00 | 1.71 | 3.00 | 0.375 | 1.23 | .093 x .75 | 2.88 | 0.499 | 1.41 | .125 x .88 |
| 1.33 | 3.50 | 4.13 | 3.00 | 3.00 | 1/4-20 | 4.94 | 1.75 | 1.33 | 2.22 | 4.03 | 0.500 | 1.81 | .125 x 1.38 | 4.38 | 0.625 | 1.75 | .188 x 1.25 |
| 1.75 | 3.38 | 4.81 | 2.75 | 4.19 | 5/16-18 | 5.75 | 2.06 | 1.75 | 2.75 | 4.69 | 0.625 | 1.81 | .188 x 1.50 | 4.31 | 0.875 | 1.88 | .188 x 1.38 |
| 2.06 | 3.75 | 5.50 | 3.00 | 4.75 | 5/16-18 | 6.38 | 2.28 | 2.06 | 3.00 | 5.06 | 0.625 | 1.81 | .188 x 1.50 | 4.69 | 1.000 | 2.00 | .250 x 1.75 |
| 2.62 | 4.44 | 7.13 | 3.38 | 6.38 | 3/8-16 | 8.00 | 2.94 | 2.63 | 3.69 | 6.22 | 0.750 | 2.31 | .188 x 1.63 | 5.63 | 1.250 | 2.50 | .250 x 2.00 |
| 3.25 | 5.00 | 8.50 | 4.00 | 7.50 | 7/16-14 | 9.38 | 3.50 | 3.25 | 4.88 | 7.06 | 0.875 | 2.31 | .188 x 1.63 | 7.06 | 1.500 | 3.31 | .375 x 2.50 |

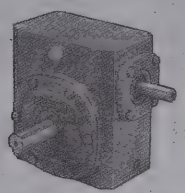
## FLANGE COUPLING KITS

| Worm Center Distance (In.) | Input Motor Frame Size | Overall Length Reducer / Flange | Dimensions (In.) BC | Motor Coupling Bore | Motor Coupling Keyway | Reducer Coupling Bore | Reducer Coupling Keyway | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.33 | 56C | 9.59 | 5.88 | .63 | .19 x .09 | .50 | .13 x .06 | 3A701 | $103.00 | $75.70 | 7.5 |
| 1.75, 2.06 | 56C | 10.41 | 5.88 | .63 | .19 x .09 | .63 | .19 x .09 | 3A702 | 103.00 | 75.70 | 7.9 |
| | 143TC/145TC | 10.66 | 5.88 | .88 | .19 x .09 | .63 | .19 x .09 | 3A703 | 112.00 | 81.75 | 3.6 |
| 2.62 | 56C | 12.16 | 5.88 | .63 | .19 x .09 | .75 | .19 x .09 | 3A706 | 149.00 | 109.45 | 5.0 |
| | 143TC/145TC | 13.06 | 5.88 | .88 | .19 x .09 | .75 | .19 x .09 | 3A707 | 149.00 | 109.45 | 5.0 |
| 3.25 | 56C | 14.81 | 5.88 | .63 | .19 x .09 | .88 | .19 x .09 | 3A708 | 150.00 | 109.70 | 5.0 |
| | 143TC/145TC | 14.81 | 5.88 | .88 | .19 x .09 | .88 | .19 x .09 | 3A709 | 150.00 | 109.70 | 5.0 |
| | 182TC/184TC | 15.81 | 7.25 | 1.13 | .25 x .13 | .88 | .19 x .09 | 3A710 | 182.00 | 133.50 | 9.0 |



We deliver the products that deliver the power.

# INDIRECT DRIVE RIGHT ANGLE SPEED REDUCERS



- **BOSTON LIFETIME LIMITED WARRANTY. See page facing inside back cover of catalog for details.**
- **SHIPPED LESS OIL (see listing for No. 4ZF30 gear oil on page 2766)**
- **29 to 350 RPM with 1750 RPM input motor**
- **Single output shaft (left hand facing input shaft)**
- **All position mounting with base kits**

Heavy-duty worm gear speed reducers with value-engineered features for flexible installation, long life and simplified maintenance. Fine-grained cast-iron housing. Integral input worm and shaft of case-hardened alloy steel. Oversized ball and roller bearings for maximum performance. Extra threaded bolt holes, when used with base, allow multiposition installation on floor, sidewall or ceiling (see base kits, page 273). Boston brand.

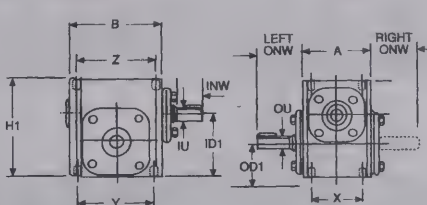
**DAYTON 180V PMDC MOTORS AVAILABLE, SEE PAGES 185 and 186.**

| Nom. Output RPM at 1750 RPM | Worm Ctr. Dist. (In.) (WCD) | Nominal Ratio | CONTINUOUS DUTY OUTPUT TORQUE AT 1750 RPM In.-Lbs. at Input Motor HP Shows (1.0 Service Factor) 1/6 HP | 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 1.75 | 60:1 | 223 | 335 | 440 | — | — | — | — | — | — | 718-60-G | 1L303 | $465.00 | $414.50 | 20.0 |
| 29 | 2.06 | 60:1 | — | 335 | 440 | 670 | — | — | — | — | — | 721-60-G | 1L316 | 562.00 | 501.00 | 25.0 |
| 29 | 2.38 | 60:1 | — | — | 440 | 670 | — | — | — | — | — | 724-60-G | 1L347 | 573.00 | 511.50 | 33.0 |
| 29 | 2.62 | 60:1 | — | — | — | 670 | 1004 | — | — | — | — | 726-60-G | 1L356 | 719.00 | 643.00 | 43.0 |
| 35 | 1.00 | 50:1 | 120 | — | — | — | — | — | — | — | — | 710-50-G | 1L244 | 328.00 | 291.50 | 7.0 |
| 35 | 1.33 | 50:1 | 210 | — | — | — | — | — | — | — | — | 713-50-G | 1L265 | 375.00 | 333.25 | 12.0 |
| 35 | 1.54 | 50:1 | 210 | 315 | — | — | — | — | — | — | — | 715-50-G | 1L275 | 415.00 | 370.25 | 18.0 |
| 35 | 1.75 | 50:1 | — | 315 | 420 | — | — | — | — | — | — | 718-50-G | 1L304 | 465.00 | 414.50 | 22.0 |
| 35 | 2.06 | 50:1 | — | — | 420 | 630 | — | — | — | — | — | 721-50-G | 1L311 | 562.00 | 501.00 | 27.0 |
| 35 | 2.38 | 50:1 | — | — | — | 630 | 945 | — | — | — | — | 724-50-G | 1L348 | 573.00 | 511.50 | 32.0 |
| 35 | 2.62 | 50:1 | — | — | — | — | 945 | 1260 | — | — | — | 726-50-G | 1L357 | 719.00 | 643.00 | 44.0 |
| 44 | 1.00 | 40:1 | 128 | — | — | — | — | — | — | — | — | 710-40-G | 1L245 | 328.00 | 291.50 | 7.0 |
| 44 | 1.33 | 40:1 | 178 | — | — | — | — | — | — | — | — | 713-40-G | 1L259 | 375.00 | 333.25 | 12.0 |
| 44 | 1.54 | 40:1 | 178 | 266 | 355 | — | — | — | — | — | — | 715-40-G | 1L276 | 415.00 | 370.25 | 19.0 |
| 44 | 1.75 | 40:1 | — | 266 | 355 | — | — | — | — | — | — | 718-40-G | 1L305 | 465.00 | 414.50 | 22.0 |
| 44 | 2.06 | 40:1 | — | — | 355 | 533 | — | — | — | — | — | 721-40-G | 1L312 | 562.00 | 501.00 | 26.0 |
| 44 | 2.38 | 40:1 | — | — | — | 533 | 800 | — | — | — | — | 724-40-G | 1L343 | 573.00 | 511.50 | 32.0 |
| 44 | 2.62 | 40:1 | — | — | — | — | 800 | 1066 | — | — | — | 726-40-G | 1L350 | 719.00 | 643.00 | 43.0 |
| 58 | 1.00 | 30:1 | 132 | — | — | — | — | — | — | — | — | 710-30-G | 1L246 | 328.00 | 291.50 | 7.0 |
| 58 | 1.33 | 30:1 | 132 | 208 | — | — | — | — | — | — | — | 713-30-G | 1L260 | 375.00 | 333.25 | 12.0 |
| 58 | 1.54 | 30:1 | — | 208 | 277 | — | — | — | — | — | — | 715-30-G | 1L277 | 415.00 | 370.25 | 18.0 |
| 58 | 1.75 | 30:1 | — | — | 277 | 416 | — | — | — | — | — | 718-30-G | 1L306 | 465.00 | 414.50 | 22.0 |
| 58 | 2.06 | 30:1 | — | — | — | 416 | 624 | — | — | — | — | 721-30-G | 1L313 | 562.00 | 501.00 | 27.0 |
| 58 | 2.38 | 30:1 | — | — | — | — | 624 | 832 | — | — | — | 724-30-G | 1L344 | 573.00 | 511.50 | 33.0 |
| 58 | 2.62 | 30:1 | — | — | — | — | — | 832 | 1247 | — | — | 726-30-G | 1L351 | 719.00 | 643.00 | 45.0 |
| 70 | 1.33 | 25:1 | 117 | 175 | 234 | — | — | — | — | — | — | 713-25-G | 1L261 | 375.00 | 333.25 | 11.0 |
| 88 | 1.00 | 20:1 | 98 | 130 | — | — | — | — | — | — | — | 710-20-G | 1L247 | 328.00 | 291.50 | 7.0 |
| 88 | 1.33 | 20:1 | — | 148 | 197 | — | — | — | — | — | — | 713-20-G | 1L262 | 375.00 | 333.25 | 13.0 |
| 88 | 1.54 | 20:1 | — | — | 197 | 295 | — | — | — | — | — | 715-20-G | 1L278 | 415.00 | 370.25 | 19.0 |
| 88 | 1.75 | 20:1 | — | — | — | 295 | 443 | — | — | — | — | 718-20-G | 1L307 | 465.00 | 414.50 | 22.0 |
| 88 | 2.06 | 20:1 | — | — | — | — | 443 | 590 | — | — | — | 721-20-G | 1L314 | 562.00 | 501.00 | 26.0 |
| 88 | 2.38 | 20:1 | — | — | — | — | — | 590 | 886 | — | — | 724-20-G | 1L341 | 573.00 | 511.50 | 32.0 |
| 88 | 2.62 | 20:1 | — | — | — | — | — | — | 886 | 1180 | — | 726-20-G | 1L352 | 719.00 | 643.00 | 45.0 |
| 117 | 1.00 | 15:1 | 77 | 116 | — | — | — | — | — | — | — | 710-15-G | 1L248 | 328.00 | 291.50 | 7.0 |
| 117 | 1.33 | 15:1 | — | 116 | 155 | 232 | — | — | — | — | — | 713-15-G | 1L263 | 375.00 | 333.25 | 11.0 |
| 117 | 1.54 | 15:1 | — | — | — | 232 | 348 | — | — | — | — | 715-15-G | 1L279 | 415.00 | 370.25 | 19.0 |
| 117 | 1.75 | 15:1 | — | — | — | — | 348 | 422 | — | — | — | 718-15-G | 1L308 | 465.00 | 414.50 | 21.0 |
| 117 | 2.06 | 15:1 | — | — | — | — | — | 464 | 646 | — | — | 721-15-G | 1L315 | 562.00 | 501.00 | 25.0 |
| 117 | 2.38 | 15:1 | — | — | — | — | — | — | 697 | 929 | — | 724-15-G | 1L342 | 573.00 | 511.50 | 32.0 |
| 117 | 2.62 | 15:1 | — | — | — | — | — | — | 697 | 929 | — | 726-15-G | 1L353 | 719.00 | 643.00 | 45.0 |
| 175 | 1.00 | 10:1 | 53 | 80 | 107 | — | — | — | — | — | — | 710-10-G | 1L249 | 328.00 | 291.50 | 5.0 |
| 175 | 1.33 | 10:1 | — | — | 107 | 160 | 240 | — | — | — | — | 713-10-G | 1L264 | 375.00 | 333.25 | 12.0 |
| 175 | 1.54 | 10:1 | — | — | — | — | 240 | 320 | — | — | — | 715-10-G | 1L280 | 415.00 | 370.25 | 18.0 |
| 175 | 1.75 | 10:1 | — | — | — | — | — | 320 | 460 | — | — | 718-10-G | 1L301 | 465.00 | 414.50 | 20.0 |
| 175 | 2.06 | 10:1 | — | — | — | — | — | — | 480 | 640 | — | 721-10-G | 1L309 | 562.00 | 501.00 | 27.0 |
| 175 | 2.38 | 10:1 | — | — | — | — | — | — | 480 | 640 | — | 724-10-G | 1L345 | 573.00 | 511.50 | 32.0 |
| 175 | 2.62 | 10:1 | — | — | — | — | — | — | — | 640 | 960 | 726-10-G | 1L354 | 719.00 | 643.00 | 45.0 |
| 350 | 1.00 | 5:1 | 27 | 41 | 55 | 82 | — | — | — | — | — | 710-5-G | 1L250 | 328.00 | 291.50 | 7.0 |
| 350 | 1.33 | 5:1 | — | — | 55 | 82 | 123 | 164 | — | — | — | 713-5-G | 1L258 | 375.00 | 333.25 | 12.0 |
| 350 | 1.54 | 5:1 | — | — | — | — | 123 | 164 | 256 | — | — | 715-5-G | 1L281 | 415.00 | 370.25 | 18.0 |
| 350 | 1.75 | 5:1 | — | — | — | — | — | 164 | 256 | 328 | — | 718-5-G | 1L302 | 465.00 | 414.50 | 21.0 |
| 350 | 2.06 | 5:1 | — | — | — | — | — | — | 256 | 328 | — | 721-5-G | 1L310 | 562.00 | 501.00 | 26.0 |
| 350 | 2.38 | 5:1 | — | — | — | — | — | — | — | — | 491 | 724-5-G | 1L346 | 573.00 | 511.50 | 32.0 |
| 350 | 2.62 | 5:1 | — | — | — | — | — | — | — | — | 491 | 726-5-G | 1L355 | 719.00 | 643.00 | 43.0 |

## SPEED REDUCER DIMENSIONAL DRAWINGS

These dimensional drawings are representative of the speed reducers found above. Left hand output shaft is determined while facing input shaft.

INDIRECT DRIVE RIGHT ANGLE




| Worm Center Distance (In.) | Overhung Load (Lbs.) | A | B | H1 | Shaft Dimensions (In.) Input Shaft X | Y | Z | ID1 | INW | IU | Key | OD1 | Output Shaft ONW | OU | Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.00 | 150 | 2.50 | 3.25 | 3.63 | 1.69 | 2.63 | 2.63 | 2.31 | 0.81 | .375 | 3/32 x 3/8 | 1.31 | 1.19 | .500 | 1/8 x 5/8 |
| 1.33 | 200 | 2.88 | 4.25 | 4.66 | 2.00 | 3.25 | 3.25 | 3.05 | 1.31 | .500 | 1/8 x 5/8 | 1.72 | 2.00 | .625 | 3/16 x 1 |
| 1.54 | 300 | 3.69 | 5.13 | 5.38 | 2.75 | 4.19 | 4.19 | 3.45 | 1.56 | .625 | 3/16 x 13/16 | 1.91 | 1.78 | .750 | 3/16 x 1 |
| 1.75 | 500 | 3.69 | 5.50 | 5.75 | 2.75 | 4.19 | 4.19 | 3.81 | 1.56 | .625 | 3/16 x 13/16 | 2.06 | 1.78 | .875 | 3/16 x 1 |
| 2.06 | 700 | 3.81 | 6.00 | 6.38 | 2.88 | 5.00 | 5.00 | 4.34 | 1.56 | .625 | 3/16 x 13/16 | 2.28 | 2.09 | 1.000 | 1/4 x 1 1/4 |
| 2.38 | 900 | 4.06 | 6.38 | 6.94 | 2.88 | 5.00 | 5.00 | 4.88 | 2.00 | .750 | 3/16 x 1 | 2.50 | 2.37 | 1.125 | 1/4 x 1 1/4 |
| 2.62 | 1000 | 4.44 | 7.38 | 8.00 | 3.38 | 6.38 | 6.38 | 5.56 | 2.00 | .750 | 3/16 x 1 | 2.94 | 2.62 | 1.125 | 1/4 x 1 15/16 |

# INDIRECT DRIVE RIGHT ANGLE SPEED REDUCERS

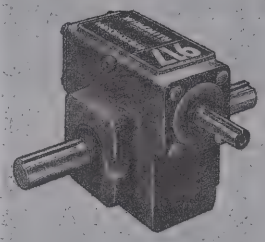
- WINSMITH 24 MONTH LIMITED WARRANTY, see page facing inside back cover of catalog for details
- USDA APPROVED EPOXY COATING prevents rust and corrosion in wash-down environments
- USDA rust preventative coating on all shafts
- Shaft slingers used to prevent contaminants from contacting oil seals
- Breather vent to prevent liquids from entering reducer
- Double output shafts
- Filled with Mobil SHC629 synthetic lubricant
- Can be mounted with or without optional base (see page 279) using predrilled and tapped holes provided

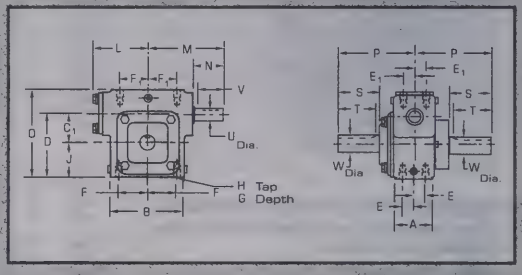
Replacement Parts Available
1-800-323-0620

WINSMITH
HIGH QUALITY SPEED REDUCERS

**MAXIMIZER**

**MAXIMUM PROTECTION FOR STANDARD AND SEVERE DUTY APPLICATIONS**






| Winsmith Model | Dimensions (In.) A | B | C1 | D | E | E1 | F | F1 | G Depth | H Tap | J | L | M | O | P | HIGH SPEED SHAFT U* | N | V | Keyway | SLOW SPEED SHAFT W* | S | T | Keyway |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 913 | 2.00 | 3.88 | 1.33 | 3.08 | 0.69 | 0.69 | 1.56 | 1.19 | 0.56 | 5/16-18 | 1.75 | 2.83 | 4.12 | 4.33 | 4.00 | 0.500 | 1.81 | 1.63 | .13 x .06 | 0.750 | 2.06 | 1.88 | .19 x .09 |
| 917 | 2.38 | 4.63 | 1.75 | 3.88 | 0.88 | 0.88 | 1.94 | 1.69 | 0.56 | 3/8-16 | 2.13 | 3.44 | 4.75 | 5.38 | 4.75 | 0.625 | 2.06 | 1.75 | .19 x .09 | 1.000 | 2.56 | 2.31 | .25 x .13 |
| 920 | 2.38 | 5.25 | 2.00 | 4.13 | 0.88 | 0.88 | 2.19 | 1.69 | 0.56 | 3/8-16 | 2.13 | 3.44 | 5.00 | 5.63 | 4.75 | 0.625 | 2.06 | 1.75 | .19 x .09 | 1.000 | 2.56 | 2.31 | .25 x .13 |
| 926 | 3.13 | 5.88 | 2.63 | 5.75 | 1.13 | 1.13 | 2.44 | 2.44 | 0.63 | 1/2-13 | 3.13 | 4.50 | 6.50 | 7.88 | 5.50 | 1.000 | 2.75 | 2.38 | .25 x .13 | 1.250 | 2.81 | 2.63 | .25 x .13 |
| 930 | 3.50 | 6.62 | 3.00 | 6.50 | 1.31 | 1.31 | 2.75 | 2.75 | 0.75 | 1/2-13 | 3.50 | 4.63 | 7.00 | 9.00 | 5.88 | 1.000 | 3.06 | 2.38 | .25 x .13 | 1.375 | 2.88 | 2.75 | .31 x .16 |
| 935 | 3.75 | 7.69 | 3.50 | 7.50 | 1.31 | 1.31 | 3.25 | 3.25 | 1.00 | 5/8-11 | 4.00 | 5.06 | 7.38 | 10.13 | 7.00 | 1.000 | 2.31 | 2.50 | .25 x .13 | 1.750 | 3.75 | 3.63 | .38 x .19 |

(*) Shaft diameter tolerance +0.000, -0.001.

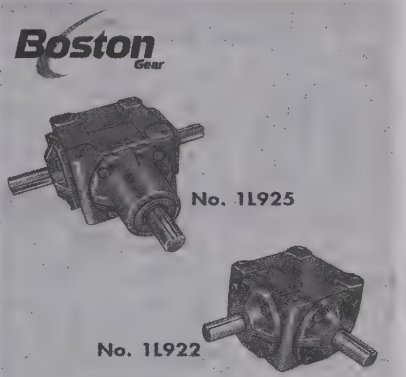
| Nominal Output RPM at 1725 RPM | Worm Center Distance (In.) (WCD) | Overhung Load | Nominal Ratio | At 1725 RPM Input CONTINUOUS DUTY OUTPUT TORQUE In.-Lbs. at Input Motor HP Shown (1.0 Service Factor) 1/6 HP | 1/4 HP | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP | 5 HP | Max. Torque | Winsmith Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 1.75 | 650 | 60:1 | — | 366 | — | — | — | — | — | — | — | — | 391 | 917WN | **3JH65** | $274.69 | **$230.25** | 18.0 |
| 29 | 2.00 | 650 | 60:1 | — | 373 | 512 | — | — | — | — | — | — | — | 557 | 920WN | **2Z954** | 286.96 | **242.50** | 22.0 |
| 29 | 2.63 | 1025 | 60:1 | — | — | 480 | 768 | 1200 | — | — | — | — | — | 1193 | 926WN | **3JJ02** | 429.38 | **359.75** | 42.0 |
| 29 | 3.00 | 1350 | 60:1 | — | — | — | 769 | 1206 | 1642 | — | — | — | — | 1796 | 930WN | **2Z961** | 533.08 | **449.75** | 54.0 |
| 35 | 1.75 | 650 | 50:1 | — | 316 | 416 | — | — | — | — | — | — | — | 416 | 917WN | **3JH64** | 274.69 | **230.25** | 18.0 |
| 35 | 2.00 | 650 | 50:1 | — | 321 | 440 | — | — | — | — | — | — | — | 591 | 920WN | **2Z953** | 286.96 | **242.50** | 22.0 |
| 35 | 2.63 | 1025 | 50:1 | — | — | — | 658 | 1028 | — | — | — | — | — | 1266 | 926WN | **3JJ01** | 429.38 | **359.75** | 42.0 |
| 35 | 3.00 | 1350 | 50:1 | — | — | — | 668 | 1032 | 1405 | — | — | — | — | 1807 | 930WN | **2Z960** | 533.08 | **449.75** | 54.0 |
| 43 | 1.33 | 290 | 40:1 | — | 219 | — | — | — | — | — | — | — | — | 220 | 913WN | **2Z946** | 250.56 | **211.50** | 14.0 |
| 43 | 1.75 | 650 | 40:1 | — | 262 | 359 | — | — | — | — | — | — | — | 431 | 917WN | **3JH63** | 274.69 | **230.25** | 18.0 |
| 43 | 2.00 | 650 | 40:1 | — | 265 | 363 | 561 | — | — | — | — | — | — | 617 | 920WN | **2Z952** | 286.96 | **242.50** | 22.0 |
| 43 | 2.63 | 1025 | 40:1 | — | — | — | 542 | 846 | 1150 | — | — | — | — | 1316 | 926WN | **3JH99** | 429.38 | **359.75** | 42.0 |
| 43 | 3.00 | 1350 | 40:1 | — | — | — | — | 849 | 1156 | 1770 | — | — | — | 1967 | 930WN | **2Z959** | 533.08 | **449.75** | 54.0 |
| 58 | 1.33 | 290 | 30:1 | — | 201 | — | — | — | — | — | — | — | — | 223 | 913WN | **2Z945** | 250.56 | **211.50** | 14.0 |
| 58 | 1.75 | 650 | 30:1 | — | 204 | 279 | 432 | — | — | — | — | — | — | 442 | 917WN | **3JH62** | 274.69 | **230.25** | 18.0 |
| 58 | 2.00 | 650 | 30:1 | — | — | 282 | 436 | — | — | — | — | — | — | 630 | 920WN | **2Z951** | 286.96 | **242.50** | 22.0 |
| 58 | 2.63 | 1025 | 30:1 | — | — | — | — | 655 | 891 | 1362 | — | — | — | 1362 | 926WN | **3JH98** | 429.38 | **359.75** | 42.0 |
| 58 | 3.00 | 1350 | 30:1 | — | — | — | — | — | 894 | 1369 | 1844 | — | — | 1989 | 930WN | **2Z958** | 533.08 | **449.75** | 54.0 |
| 86 | 1.33 | 290 | 20:1 | 93 | 144 | 195 | — | — | — | — | — | — | — | 221 | 913WN | **2Z944** | 250.56 | **211.50** | 14.0 |
| 86 | 1.75 | 650 | 20:1 | — | 144 | 197 | 305 | — | — | — | — | — | — | 432 | 917WN | **3JH61** | 274.69 | **230.25** | 18.0 |
| 86 | 2.00 | 650 | 20:1 | — | — | — | 307 | 470 | 619 | — | — | — | — | 615 | 920WN | **2Z950** | 286.96 | **242.50** | 22.0 |
| 86 | 2.63 | 1025 | 20:1 | — | — | — | — | — | 623 | 953 | 1283 | — | — | 1312 | 926WN | **3JH97** | 429.38 | **359.75** | 42.0 |
| 86 | 3.00 | 1350 | 20:1 | — | — | — | — | — | — | 956 | 1287 | 1950 | — | 1959 | 930WN | **2Z957** | 533.08 | **449.75** | 54.0 |
| 115 | 1.33 | 290 | 15:1 | — | 111 | 151 | 218 | — | — | — | — | — | — | 217 | 913WN | **2Z943** | 250.56 | **211.50** | 14.0 |
| 115 | 1.75 | 650 | 15:1 | — | — | 151 | 234 | 358 | — | — | — | — | — | 427 | 917WN | **3JH60** | 274.69 | **230.25** | 18.0 |
| 115 | 2.00 | 650 | 15:1 | — | — | — | 236 | 360 | 485 | — | — | — | — | 606 | 920WN | **2Z949** | 286.96 | **242.50** | 22.0 |
| 115 | 3.00 | 1025 | 15:1 | — | — | — | — | — | — | 729 | 982 | 1488 | — | 1910 | 930WN | **2Z956** | 533.08 | **449.75** | 54.0 |
| 115 | 3.50 | 1350 | 15:1 | — | — | — | — | — | — | — | — | 1446 | 2458 | 2717 | 935WN | **3JJ26** | 743.75 | **623.00** | 74.0 |
| 172 | 1.33 | 290 | 10:1 | — | 77 | 104 | 160 | — | — | — | — | — | — | 203 | 913WN | **2Z942** | 250.56 | **211.50** | 14.0 |
| 172 | 1.75 | 650 | 10:1 | — | — | — | 160 | 245 | 330 | — | — | — | — | 396 | 917WN | **3JH59** | 274.69 | **230.25** | 18.0 |
| 172 | 2.00 | 650 | 10:1 | — | — | — | — | 246 | 331 | 502 | — | — | — | 561 | 920WN | **2Z948** | 286.96 | **242.50** | 22.0 |
| 172 | 3.00 | 1025 | 10:1 | — | — | — | — | — | — | — | 669 | 1014 | 1704 | 1748 | 930WN | **2Z955** | 533.08 | **449.75** | 54.0 |
| 172 | 3.50 | 1350 | 10:1 | — | — | — | — | — | — | — | — | — | 2475 | 2511 | 935WN | **3JJ25** | 743.75 | **623.00** | 74.0 |
| 345 | 1.33 | 290 | 5:1 | — | 40 | 54 | 83 | 125 | 168 | — | — | — | — | 170 | 913WN | **2Z941** | 250.56 | **211.50** | 14.0 |
| 345 | 2.00 | 650 | 5:1 | — | — | — | — | — | 169 | 255 | 342 | — | — | 457 | 920WN | **2Z947** | 286.96 | **242.50** | 22.0 |
| 345 | 3.00 | 1350 | 5:1 | — | — | — | — | — | — | — | — | 514 | 864 | 1424 | 930WN | **3JJ16** | 620.00 | **450.25** | 54.0 |



We deliver the products that deliver the power.

# STRAIGHT BEVEL GEAR DRIVES

- For industrial applications where low speed/high torque drives are required
- Multiposition mounting flexibility—extra threaded bolt holes allow installation of gear drive in almost any position
- Feature compact, rugged construction and precision forged straight tooth bevel gears
- Made in USA




## SELECTION CHART—RATINGS FOR 1.0 SERVICE FACTOR

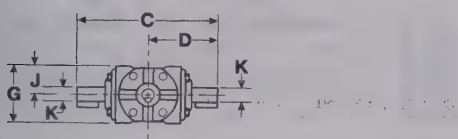
| Ratio | Max. Input RPM | Max. Output RPM | Boston Series R1211‡ & R1215 Output HP* | Boston Series R1211‡ & R1215 Output Torque† | Boston Series R1211‡ & R1215 Stock No. | Boston Series R1214 Output HP* | Boston Series R1214 Output Torque† | Boston Series R1214 Stock No. | Boston Series R1412 Output HP* | Boston Series R1412 Output Torque† | Boston Series R1412 Stock No. | Boston Series R1413 Output HP* | Boston Series R1413 Output Torque† | Boston Series R1413 Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **REDUCER** | | | | | | | | | | | | | | |
| 1:1 | 1150 | 1150 | 18.6 | 1020 | 1L922‡ 1L929 | 13.1 | 718 | 1L925 | 24.7 | 2260 | 1L932 | 17.4 | 1590 | 1L935 |
| | 690 | 690 | 13.1 | 1200 | | 9.2 | 836 | | 4.8 | 3010 | | 4.2 | 2630 | |
| | 100 | 100 | 2.9 | 1800 | | 2.4 | 1490 | | | | | | | |
| 1.35:1 | 1750 | 1296 | | | | 13.3 | 647 | | | | | | | |
| | 1150 | 852 | 10.8 | 799 | 1L923‡ 1L930 | 10.2 | 755 | 1L926 | 22.8 | 1690 | 1L933 | 18.9 | 1400 | 1L936 |
| | 690 | 511 | 7.6 | 940 | | 7.0 | 857 | | 15.5 | 1910 | | 13.2 | 1630 | |
| | 100 | 74 | 1.5 | 1300 | | 1.3 | 1090 | | 2.2 | 1910 | | 2.2 | 1910 | |
| 1.5:1 | 1750 | 1167 | 13.5 | 730 | 1L924‡ 1L931 | 12.6 | 681 | 1L927 | 17.1 | 1410 | 1L934 | 17.1 | 1410 | 1L937 |
| | 1150 | 767 | 10.1 | 830 | | 9.7 | 793 | | 11.6 | 1590 | | 11.6 | 1590 | |
| | 690 | 460 | 7.1 | 977 | | 6.6 | 904 | | 1.7 | 1590 | | 1.7 | 1590 | |
| | 100 | 67 | 1.2 | 1100 | | 1.1 | 1050 | | | | | | | |
| 2:1 | 1750 | 875 | | | | 6.7 | 469 | 1L928 | | | | 12.6 | 908 | 1L938 |
| | 1150 | 575 | | | | 5.1 | 557 | | | | | 9.4 | 1030 | |
| | 690 | 345 | | | | 3.5 | 632 | | | | | 6.6 | 1200 | |
| | 100 | 50 | | | | 0.64 | 807 | | | | | 0.96 | 1210 | |
| **INCREASER** | | | | | | | | | | | | | | |
| 1:1.35 | 1150 | 1552 | | | | 10.2 | 414 | | | | | | | |
| | 690 | 932 | 7.6 | 516 | 1L923‡ 1L930 | 7.0 | 470 | 1L926 | 15.5 | 1048 | 1L933 | 13.2 | 880 | 1L936 |
| | 100 | 135 | 1.5 | 714 | | 1.3 | 598 | | 2.2 | 1048 | | 2.2 | 1046 | |
| 1:1.5 | 1150 | 1750 | 10.1 | 369 | 1L924‡ 1L931 | 9.7 | 353 | 1L927 | 17.1 | 625 | 1L934 | 17.1 | 625 | 1L937 |
| | 690 | 1032 | 7.1 | 435 | | 6.6 | 402 | | 11.6 | 706 | | 11.6 | 706 | |
| | 100 | 150 | 1.2 | 492 | | 1.1 | 466 | | 1.7 | 706 | | 1.7 | 706 | |
| 1:2 | 690 | 1380 | | | | 3.5 | 158 | 1L928 | | | | 6.6 | 300 | 1L938 |
| | 100 | 200 | | | | 0.64 | 202 | | | | | 0.96 | 303 | |

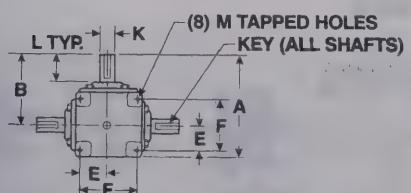
(*) Input HP approx. 5% higher. (†) Maximum torque in lbs. per inch. (‡) Single shaft—Type A.
NOTE: On other than 1:1 ratios pinion will always be on X shaft.

## ORDERING DATA

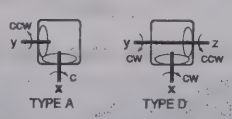
| Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| R1211-1-A | 1L922 | $296.00 | $273.00 | 20.0 |
| R1211-1.35-A | 1L923 | 306.00 | 282.50 | 22.0 |
| R1211-1.5-A | 1L924 | 306.00 | 282.50 | 22.0 |
| R1214-1-D | 1L925 | 386.00 | 356.25 | 25.0 |
| R1214-1.35-D | 1L926 | 444.00 | 409.25 | 27.0 |
| R1214-1.5-D | 1L927 | 444.00 | 409.25 | 25.0 |
| R1214-2-D | 1L928 | 417.00 | 385.25 | 23.0 |
| R1215-1-D | 1L929 | 328.00 | 302.75 | 25.0 |
| R1215-1.35-D | 1L930 | 348.00 | 321.75 | 23.0 |
| R1215-1.5-D | 1L931 | 348.00 | 321.75 | 22.0 |
| R1412-1-D | 1L932 | 497.00 | 458.25 | 39.0 |
| R1412-1.35-D | 1L933 | 490.00 | 452.00 | 39.0 |
| R1412-1.5-D | 1L934 | 501.00 | 462.25 | 39.0 |
| R1413-1-D | 1L935 | 541.00 | 499.00 | 38.0 |
| R1413-1.35-D | 1L936 | 546.00 | 504.50 | 39.0 |
| R1413-1.5-D | 1L937 | 555.00 | 512.00 | 39.0 |
| R1413-2-D | 1L938 | 574.00 | 530.00 | 39.0 |

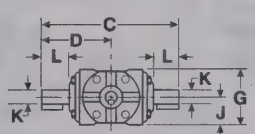
## DIMENSIONAL DRAWINGS FOR STRAIGHT BEVEL GEAR DRIVES

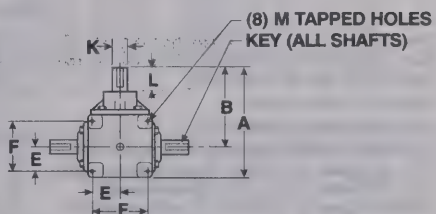



ASSEMBLY TYPES




| Model No. | Dimensions (In.) A | B | C | D | E | F | G | J | Type K* | Type L | M | Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R1211 | 8¾ | 5½ | — | 5½ | 2⅛ | 4¼ | 4⅛ | 2⅛ | 1 | 2 | 3/8-16 | 1/4 x 1⅛ Lg. |
| R1215 | 8¾ | 5½ | 11 | 5½ | 2⅛ | 4¼ | 4⅛ | 2⅛ | 1 | 2 | 3/8-16 | 1/4 x 1⅛ Lg. |
| R1412 | 9⅜ | 6½ | 13 | 6½ | 2¼ | 4½ | 5⅛ | 2¼ | 1¼ | 2½ | 1/2-13 | 1/4 x 1⅞ Lg. |

(*) +0.000-0.002.

| Model No. | Dimensions (In.) A | B | C | D | E | F | G | J | Type K* | Type L | M | Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R1214 | 10⅛ | 7⅜ | 11 | 5½ | 2⅛ | 4¼ | 4⅛ | 2 1/16 | 1 | 2 | 3/8-16 | 1/4 x 1⅛ Lg. |
| R1413 | 11¼ | 8⅜ | 13 | 6½ | 2¼ | 4½ | 5⅛ | 2¼ | 1¼ | 2½ | 1/2-13 | 1/4 x 1⅞ Lg. |

(*) +0.000-0.002.

# SPIRAL BEVEL GEAR DRIVES

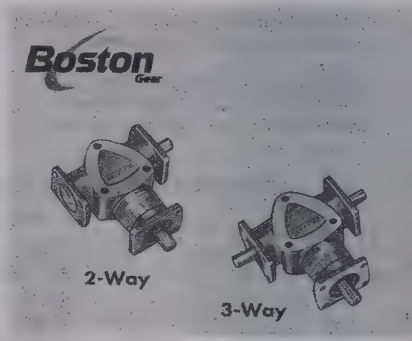
## ORDERING DATA

| Boston Model | 2-WAY SPIRAL BEVEL GEARS Stock No. | List | Each | Shpg. Wt. | Ratio | Boston Model | 3-WAY SPIRAL BEVEL GEARS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| RA621 | **1L910** | $216.00 | **$200.00** | 1.0 | 1:1 | RA631 | **1L916** | $216.00 | **$200.00** | 1.3 |
| RA622 | **1L911** | 252.00 | **232.50** | 1.3 | 2:1 | RA632 | **1L917** | 252.00 | **232.50** | 1.3 |
| RA1021 | **1L912** | 293.00 | **270.25** | 4.0 | 1:1 | RA1031 | **1L918** | 293.00 | **270.25** | 3.5 |
| RA1022 | **1L913** | 389.00 | **358.75** | 3.3 | 2:1 | RA1032 | **1L919** | 389.00 | **358.75** | 3.4 |
| RA1521 | **1L914** | 544.00 | **502.00** | 8.8 | 1:1 | RA1531 | **1L920** | 544.00 | **502.00** | 9.0 |
| RA1522 | **1L915** | 719.00 | **663.50** | 10.0 | 2:1 | RA1532 | **1L921** | 719.00 | **663.50** | 8.9 |

## SELECTION CHART—RATINGS FOR 1.0 SERVICE FACTOR

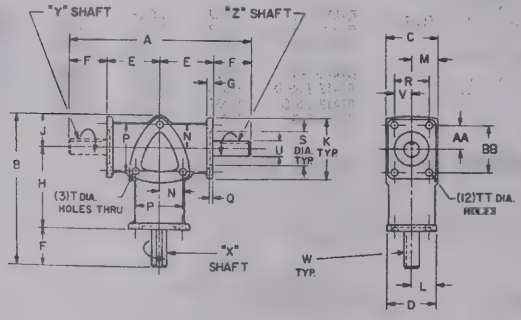
| Ratio | Input RPM | Output RPM | Boston Series RA621 & RA631 HP | Output Torque† | Stock No. | Boston Series RA1021 & RA1031 HP | Output Torque† | Stock No. | Boston Series RA1521 & RA1531 HP | Output Torque† | Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1:1 | 1750 | 1750 | 0.33 | 12.0 | 1L910‡ | 1.5 | 54.0 | 1L912‡ | 3.5 | 125.0 | 1L914‡ |
| | 1150 | 1150 | 0.27 | 15.0 | | 1.0 | 56.0 | | 2.5 | 135.0 | |
| | 690 | 690 | 0.18 | 16.0 | 1L916 | 0.62 | 57.0 | 1L918 | 1.6 | 142.0 | 1L920 |
| | 100 | 100 | 0.03 | 19.0 | | 0.10 | 60.0 | | 0.28 | 174.0 | |
| | | | **Boston Series RA622 & RA632** | | | **Boston Series RA1022 & RA1032** | | | **Boston Series RA1522 & RA1532** | | |
| **REDUCER (Use Shaft "X")** | | | | | | | | | | | |
| 2:1 | 1750 | 875 | 0.13 | 9.5 | 1L911‡ | 0.55 | 40.0 | 1L913‡ | 1.8 | 132.0 | 1L915‡ |
| | 1150 | 575 | 0.10 | 10.5 | | 0.40 | 45.0 | | 1.4 | 150.0 | |
| | 690 | 345 | 0.06 | 11.0 | 1L917 | 0.25 | 47.0 | 1L919 | 0.89 | 162.0 | 1L921 |
| | 100 | 50 | 0.01 | 12.0 | | 0.04 | 50.0 | | 0.14 | 175.0 | |
| **INCREASER* (Use Shaft "Y" or "Z")** | | | | | | | | | | | |
| 1:2 | 1750 | 3500 | 0.13 | 2.4 | 1L911‡ | 0.55 | 10.0 | 1L913‡ | 1.8 | 33.0 | 1L915‡ |
| | 1150 | 2300 | 0.10 | 2.6 | | 0.40 | 11.2 | | 1.4 | 37.5 | |
| | 690 | 1380 | 0.06 | 2.8 | 1L917 | 0.25 | 11.7 | 1L919 | 0.89 | 40.5 | 1L921 |
| | 100 | 200 | 0.01 | 3.0 | | 0.04 | 12.5 | | 0.14 | 43.8 | |

(*) Applicable ratings when used as a speed increaser and driven by "Y" or "Z" shaft only (see drawing below).
(†) Torque in Lbs./In. (‡) 2-Way spiral bevel gear drive.




### RIGHT-90 SERIES

- Designed for high efficiency, quiet operation, and long service life
- Gears are made of hardened alloy steel
- Precision ground alloy steel shafts are mounted on precision ball bearings
- Housings are made of aluminum alloy; with all mounting surfaces precision machined
- All shaft projections have high quality oil seals
- Prelubricated for life
- Made in USA




## DIMENSIONAL DRAWING FOR SPIRAL BEVEL GEAR DRIVES

| Model No. | Dimensions (In.) A | B | C | D | E | F | G | H | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RA6 | 3 15/16 | 3 21/32 | 1 1/4 | 1 7/32 | 1 3/8 | 19/32 | 3/16 | 2 5/32 | 29/32 | 1 9/16 | 5/8 | 5/8 |
| RA10 | 7 1/4 | 6 1/32 | 2 | 1 15/16 | 2 1/8 | 1 1/2 | 1/4 | 3 1/4 | 1 9/32 | 2 7/16 | 15/16 | 1 |
| RA15 | 10 | 8 7/8 | 3 | 2 15/16 | 3 | 2 | 5/16 | 5 | 1 7/8 | 3 3/4 | 1 15/32 | 1 1/2 |

| Model No. | Dimensions (In.) N | P | Q | R | S | T Holes | TT Holes | U# | V | All Shafts W Keyway | AA | BB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RA6 | 21/32 | 1 5/16 | 3/32 | 7/8 | 7/8 | 3/16 | 5/32 | 3/8 | 7/16 | FLAT | 0.59 | 1.19 |
| RA10 | 15/16 | 1 7/8 | 3/32 | 1 3/8 | 1 3/8 | 17/64 | 17/64 | 5/8 | 11/16 | 3/16 | 3/32 | 0.94 | 1.88 |
| RA15 | 1 1/2 | 3 | 1/8 | 2 1/4 | 2 1/8 | 5/16 | 5/16 | 3/4 | 1 1/8 | 3/16 | 3/32 | 1.50 | 3.00 |

(#) +0.000-0.001.

## SHAFT COUPLINGS AND SPIDER INSERTS

- Precision machined high quality steel for accurate assembly, minimal vibration, and quiet operation
- Insert (3-jaw) type
- No lubrication needed
- Complete with keyway and setscrew
- Three types of spider inserts available for different service requirements; rubber bost bronze and polyurethane; See page 358 for spider inserts



Boston Gear




| STANDARD TOLERANCES | |
|---|---|
| Dimension | Tolerance |
| All Bore Dimensions | +0.001-0.000 |

| Size | OD (In.) | Overall Length (in.) | For Bore Size, Specify Stock No. 3/8" | 7/16" | 1/2" | 9/16" | 5/8" | 3/4" | 7/8" | 15/16" | 1" | 1 1/16" | 1 3/16" | 1 1/4" | 1 3/8" | 1 7/16" | 1 1/2" | 1 9/16" | 1 5/8" | 1 3/4" | 1 7/8" | 2" | 2 1/16" | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FC12 | 1 1/4 | 2 9/16 | 2L028 | 2L029 | 2L030 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | $18.00 | $16.40 | 0.2 |
| FC15 | 1 1/2 | 2 3/4 | — | — | 2L031 | 2L032 | 2L033 | 2L034 | 2L035 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 22.00 | 20.18 | 0.4 |
| FC20 | 2 | 3 11/16 | — | — | 2L036 | 2L037 | 2L038 | 2L039 | 2L040 | 2L041 | 6G234 | — | — | — | — | — | — | — | — | — | — | — | — | 30.00 | 28.10 | 1.2 |
| FC25 | 2 1/2 | 4 1/8 | — | — | — | — | — | 2L042 | 2L043 | — | 2L044 | 2L045 | 2L046 | 2L047 | — | — | — | — | — | — | — | — | — | 47.00 | 43.80 | 1.8 |
| FC30 | 3 | 5 15/32 | — | — | — | — | — | — | — | — | 2L048 | 2L049 | — | 2L050 | 2L051 | 2L052 | 2L053 | — | — | — | — | — | — | 65.00 | 60.10 | 3.8 |
| FC38 | 3 3/4 | 6 9/16 | — | — | — | — | — | — | — | — | — | — | — | 2L054 | — | — | 2L055 | 2L056 | 2L057 | 2L058 | 2L059 | — | — | 103.00 | 95.40 | 7.7 |
| FC45 | 4 1/2 | 7 7/16 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2L060 | 2L061 | 2L062 | 2L063 | 149.00 | 137.45 | 13.0 |



We deliver the products that deliver the power.

# FIXED BORE ROLLER CHAIN SPROCKETS

U S TSUBAKI

Made In U.S.A.



- ANSI standard sprockets for use with standard roller chain (see page 299 )
- For larger sprockets order ANSI 120, 140, and 160 stock bore sprockets from page 297
- Unique cellular manufacturing in U.S. production facilities assures precise quality control
- Constructed of high alloy carbon steel
- Standard keyway and two setscrews located directly over keyway and 90°

For Plain Bore Roller Chain Sprockets
See Page 293
For Double Strand Sprockets
See Page 295
For Stainless Steel Sprockets
See Page 294

## ANSI SPROCKET No. 35 — 3/8" Pitch

| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | UST Model | For Bore Size, Specify Stock No. 3/8"† | 1/2" | 5/8" | 3/4" | 1" | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.256** | 1.097 | 9 | 35B9F | **6L774** | — | — | — | — | $10.37 | **$6.84** | 0.1 |
| **1.379** | 1.214 | 10 | 35B10F | **6L775** | **6L776** | **6L777*** | — | — | 11.39 | **6.99** | 0.1 |
| **1.502** | 1.331 | 11 | 35B11F | **6L778** | **6L779** | **6L780** | **6L781*** | — | 11.94 | **7.28** | 0.2 |
| **1.625** | 1.449 | 12 | 35B12F | — | **6L782** | **6L783** | **6L784** | — | 12.44 | **7.49** | 0.2 |
| **1.746** | 1.567 | 13 | 35B13F | — | **6L785** | **6L786** | **6L787** | — | 13.46 | **7.76** | 0.3 |
| **1.868** | 1.685 | 14 | 35B14F | — | **6L788** | **6L789** | **6L790** | — | 13.46 | **7.76** | 0.3 |
| **1.989** | 1.804 | 15 | 35B15F | — | **6L791** | **6L792** | **6L793** | **6L794*** | 13.97 | **7.91** | 0.3 |
| **2.110** | 1.922 | 16 | 35B16F | — | **6L795** | **6L796** | **6L797** | **6L798** | 14.51 | **8.41** | 0.4 |
| **2.231** | 2.041 | 17 | 35B17F | — | **6L799** | **6L800** | **6L801** | **6L802** | 14.75 | **8.69** | 0.5 |
| **2.352** | 2.160 | 18 | 35B18F | — | **6L803** | **6L804** | **6L805** | **6L806** | 15.24 | **9.17** | 0.5 |
| **2.472** | 2.279 | 19 | 35B19F | — | **6L807** | **6L808** | **6L809** | **6L810** | 16.56 | **10.33** | 0.6 |
| **2.593** | 2.397 | 20 | 35B20F | — | **6L811** | **6L812** | **6L813** | **6L814** | 18.60 | **11.53** | 0.7 |
| **2.713** | 2.516 | 21 | 35B21F | — | **6L815** | **6L816** | **6L817** | **6L818** | 20.69 | **12.81** | 0.7 |
| **2.833** | 2.635 | 22 | 35B22F | — | **6L819** | **6L820** | **6L821** | **6L822** | 21.71 | **13.94** | 0.8 |
| **2.954** | 2.754 | 23 | 35B23F | — | **6L823** | **6L824** | **6L825** | **6L826** | 22.74 | **14.86** | 0.8 |
| **3.074** | 2.873 | 24 | 35B24F | — | **6L827** | **6L828** | **6L829** | **6L830** | 23.81 | **15.81** | 0.9 |
| **3.194** | 2.992 | 25 | 35B25F | — | **6L831** | **6L832** | **6L833** | **6L834** | 25.90 | **16.97** | 0.9 |

## ANSI SPROCKET No. 40 — 1/2" Pitch

| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | UST Model | For Bore Size, Specify Stock No. 1/2" | 5/8" | 3/4" | 7/8" | 1" | 1¼" | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.674** | 1.462 | 9 | 40B9F | **6L835** | **6L836** | — | — | — | — | $12.95 | **$7.64** | 0.2 |
| **1.839** | 1.618 | 10 | 40B10F | **1L104** | **1L105** | **1L106** | — | — | — | 13.97 | **7.91** | 0.3 |
| **2.003** | 1.775 | 11 | 40B11F | **6L837** | **6L838** | **6L839** | **6L840** | — | — | 14.21 | **8.25** | 0.4 |
| **2.166** | 1.932 | 12 | 40B12F | **1L108** | **1L109** | **1L110** | **1L111** | **1L112** | — | 14.99 | **9.04** | 0.4 |
| **2.328** | 2.089 | 13 | 40B13F | **6L841** | **1L113** | **1L114** | **1L115** | **1L116** | — | 15.53 | **9.47** | 0.5 |
| **2.490** | 2.247 | 14 | 40B14F | **1L117** | **1L118** | **1L119** | **1L120** | **1L121** | — | 16.01 | **9.95** | 0.6 |
| **2.652** | 2.405 | 15 | 40B15F | **6L842** | **1L122** | **1L123** | **1L124** | **1L125** | **6L843*** | 17.57 | **10.74** | 0.7 |
| **2.814** | 2.563 | 16 | 40B16F | — | **1L126** | **1L127** | **1L128** | **1L129** | **6L844** | 18.14 | **11.40** | 0.8 |
| **2.974** | 2.721 | 17 | 40B17F | — | **1L130** | **1L131** | **1L132** | **1L133** | **6L845** | 19.14 | **12.03** | 0.9 |
| **3.136** | 2.879 | 18 | 40B18F | — | **1L134** | **1L135** | **1L136** | **1L137** | **6L846** | 20.18 | **12.68** | 1.1 |
| **3.292** | 3.038 | 19 | 40B19F | — | **6L847** | **1L138** | **6L848** | **1L139** | **6L849** | 22.26 | **14.11** | 1.3 |
| **3.457** | 3.196 | 20 | 40B20F | — | **6L850** | **1L140** | **1L141** | **1L142** | **6L851** | 24.86 | **16.17** | 1.6 |
| **3.618** | 3.355 | 21 | 40B21F | — | **6L852** | **6L853** | **6L854** | **6L855** | **6L856** | 26.90 | **17.58** | 1.8 |
| **3.778** | 3.513 | 22 | 40B22F | — | **6L857** | **6L858** | **6L859** | **6L860** | **6L861** | 29.99 | **19.28** | 2.0 |
| **3.938** | 3.672 | 23 | 40B23F | — | **6L862** | **6L863** | **6L864** | **6L865** | **6L866** | 33.12 | **21.36** | 2.1 |
| **4.098** | 3.831 | 24 | 40B24F | — | **6L867** | **1L143** | **6L868** | **1L144** | **6L869** | 35.19 | **22.92** | 1.7 |
| **4.258** | 3.989 | 25 | 40B25F | — | **6L870** | **6L871** | **6L872** | **6L873** | **6L874** | 38.27 | **24.91** | 2.3 |
| **4.418** | 4.148 | 26 | 40B26F | — | **6L875** | **6L876** | **6L877** | **6L878** | **6L879** | 41.38 | **26.50** | 2.4 |
| **4.738** | 4.465 | 28 | 40B28F | — | **6L880** | **6L881** | **6L882** | **6L883** | **6L884** | 46.56 | **30.40** | 2.5 |
| **5.057** | 4.783 | 30 | 40B30F | — | **6L885** | **6L886** | **6L887** | **1L145** | **6L888** | 50.72 | **33.20** | 2.7 |
| **5.856** | 5.578 | 35 | 40B35F | — | — | — | — | **1L146** | — | 50.73 | **33.20** | 3.1 |

## ANSI SPROCKET No. 41 — 1/2" Pitch

| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | UST Model | For Bore Size, Specify Stock No. 1/2" | 5/8" | 3/4" | 1" | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1.674** | 1.462 | 9 | 41B9F | **6L889** | **6L890** | — | — | $11.94 | **$7.28** | 0.2 |
| **1.839** | 1.618 | 10 | 41B10F | **6L891** | **6L892** | **6L893** | — | 12.95 | **7.64** | 0.3 |
| **2.003** | 1.775 | 11 | 41B11F | **6L894** | **6L895** | **6L896** | — | 13.97 | **7.91** | 0.4 |
| **2.166** | 1.932 | 12 | 41B12F | **6L897** | **6L898** | **6L899** | — | 14.51 | **8.41** | 0.4 |
| **2.328** | 2.089 | 13 | 41B13F | **6L900** | **6L901** | **6L902** | **6L903** | 14.75 | **8.69** | 0.5 |
| **2.490** | 2.247 | 14 | 41B14F | **6L904** | **6L905** | **6L906** | **6L907** | 15.24 | **9.17** | 0.6 |
| **2.652** | 2.405 | 15 | 41B15F | **6L908** | **6L909** | **6L910** | **6L911** | 16.01 | **9.95** | 0.8 |
| **2.814** | 2.563 | 16 | 41B16F | — | **6L912** | **6L913** | **6L914** | 17.06 | **10.60** | 0.9 |
| **2.974** | 2.721 | 17 | 41B17F | — | **6L915** | **6L916** | **6L917** | 18.14 | **11.40** | 1.0 |
| **3.136** | 2.879 | 18 | 41B18F | — | **6L918** | **6L919** | **6L920** | 19.69 | **12.20** | 1.2 |
| **3.292** | 3.038 | 19 | 41B19F | — | **6L921** | **6L922** | **6L923** | 21.22 | **13.31** | 1.3 |
| **3.457** | 3.196 | 20 | 41B20F | — | **6L924** | **6L925** | **6L926** | 22.73 | **14.86** | 1.7 |

(*) Setscrew located 90° and 180° from keyway. (†) 3/8" Bore size has no keyway.

## STANDARD KEYWAY AND SETSCREW MACHINING GUIDE

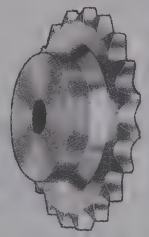
| Dia. of Shaft (In.) | Keyseat Width x Depth (In.) | Dia. of Setscrew* | Dia. of of Shaft (In.) | Keyseat Width x Depth (In.) | Dia. of Setscrew* |
|---|---|---|---|---|---|
| 5/16 - 7/16 | 3/32 x 3/64 | 8-32 | $2^{13}/_{16}$ - $3^{1}/_{4}$ | 3/4 x 3/8 | 3/4" |
| 1/2 - 9/16 | 1/8 x 1/16 | 10-24 | $3^{5}/_{16}$ - $3^{3}/_{4}$ | 7/8 x 7/16 | 3/4 |
| 5/8 - 7/8 | 3/16 x 3/32 | 1/4 | $3^{13}/_{16}$ - $4^{1}/_{2}$ | 1 x 1/2 | 3/4 |
| $15/16$ - $1^{1}/_{4}$ | 1/4 x 1/8 | 5/16 | $4^{9}/_{16}$ - $5^{1}/_{2}$ | $1^{1}/_{4}$ x 5/8 | 3/4 |
| $1^{5}/_{16}$ - $1^{3}/_{8}$ | 5/16 x 5/32 | 5/16 | $5^{9}/_{16}$ - $6^{1}/_{2}$ | $1^{1}/_{2}$ x 3/4 | 1 |
| $1^{7}/_{16}$ - $1^{3}/_{4}$ | 3/8 x 3/16 | 3/8 | $6^{9}/_{16}$ - $7^{1}/_{2}$ | $1^{3}/_{4}$ x 7/8 | 1 |
| $1^{13}/_{16}$ - $2^{1}/_{4}$ | 1/2 x 1/4 | 1/2 | $7^{9}/_{16}$ - $8^{15}/_{16}$ | 2 x 1 | 1 |
| $2^{5}/_{16}$ - $2^{3}/_{4}$ | 5/8 x 5/16 | 5/8 | 9 - $10^{15}/_{16}$ | $2^{1}/_{2}$ x $1^{1}/_{4}$ | 1 |

(*) Setscrew size may vary depending on hub wall thickness.
NOTE: As a general rule, the hub wall over the keyway should be equal to or greater than the diameter of the setscrew.
NOTE: Maximum bore guidelines should be adhered to in order to ensure maximum product quality standards.

# FIXED BORE ROLLER CHAIN SPROCKETS

U S TSUBAKI

Made In U.S.A.



- ANSI standard sprockets for use with 35 through 160 pitch roller chain (see page 299)
- For larger sprockets order ANSI 120, 140, and 160 plain bore sprockets from page 297
- Unique cellular manufacturing in U.S. production facilities assures precise quality control
- Constructed of high alloy carbon steel
- Standard keyway and two setscrews included (except on 3/8" bore size)
- For standard keyway and two setscrews machining guide see page 291
- Set screw located directly over keyway and 90° from keyway

For Riveted Roller Chain
See Page 299

For Riveted Roller Chain Repair Links
See Page 300

For Plain Bore Roller Chain Sprockets
See Page 293

For Double Strand Sprockets
See Page 295

For Stainless Steel Sprockets
See Page 294

## ANSI SPROCKET No. 50—5/8" Pitch

| O.D. (In.) | Pitch Dia.(In.) | No. of Teeth | UST Model | For Bore Size, Specify Stock No. 3/4" | 7/8" | 1" | 1 1/8" | 1 3/16" | 1 1/4" | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.093" | 1.828 | 9 | 50B9F | 6L927 | — | — | — | — | — | $16.59 | $10.49 | 0.4 |
| 2.299 | 2.023 | 10 | 50B10F | 1L147 | 6L928 | 6L929* | — | — | — | 17.68 | 11.27 | 0.5 |
| 2.504 | 2.219 | 11 | 50B11F | 1L148 | 6L930 | 6L931 | — | — | — | 18.64 | 11.76 | 0.6 |
| 2.708 | 2.415 | 12 | 50B12F | 1L149 | 6L932 | 1L150 | 1L151 | 6L933 | 6L934 | 18.65 | 12.20 | 0.8 |
| 2.911 | 2.612 | 13 | 50B13F | 1L152 | 6L935 | 1L153 | 1L154 | 6L936 | 6L937 | 19.66 | 12.68 | 0.9 |
| 3.113 | 2.809 | 14 | 50B14F | 1L155 | 6L938 | 1L156 | 6L939 | 6L940 | 1L230 | 20.70 | 13.46 | 1.0 |
| 3.315 | 3.006 | 15 | 50B15F | 1L157 | 6L941 | 1L158 | 1L159 | 6L942 | 1L160 | 21.74 | 14.11 | 1.2 |
| 3.517 | 3.204 | 16 | 50B16F | 1L161 | 6L943 | 1L162 | 1L163 | 6L944 | 1L164 | 22.73 | 14.86 | 1.4 |
| 3.718 | 3.401 | 17 | 50B17F | 1L165 | 6L945 | 1L166 | 1L167 | 6L946 | 1L168 | 25.87 | 16.65 | 1.8 |
| 3.919 | 3.599 | 18 | 50B18F | 6L947 | 6L948 | 6L949 | 6L950 | 6L951 | 6L952 | 28.96 | 18.49 | 2.2 |
| 4.121 | 3.798 | 19 | 50B19F | 6L953 | 6L954 | 6L955 | 6L956 | 6L957 | 6L958 | 32.08 | 20.57 | 2.5 |
| 4.321 | 3.995 | 20 | 50B20F | 1L169 | 6L959 | 1L170 | 6L960 | 6L961 | 6L962 | 35.17 | 22.35 | 2.7 |
| 4.522 | 4.194 | 21 | 50B21F | 6L963 | 6L964 | 6L965 | 6L966 | 6L967 | 6L968 | 41.39 | 27.00 | 2.9 |
| 4.722 | 4.392 | 22 | 50B22F | 6L969 | 6L970 | 6L971 | 6L972 | 6L973 | 6L974 | 44.51 | 29.25 | 3.0 |
| 4.923 | 4.590 | 23 | 50B23F | 6L975 | 6L976 | 6L977 | 6L978 | 6L979 | 6L980 | 48.65 | 31.55 | 3.1 |
| 5.123 | 4.788 | 24 | 50B24F | 6L981 | 6L982 | 1L171 | 6L983 | 6L984 | 6L985 | 53.80 | 34.35 | 3.2 |
| 5.323 | 4.987 | 25 | 50B25F | 6L986 | 6L987 | 6L988 | 6L989 | 6L990 | 6L991 | 55.86 | 36.20 | 3.3 |
| 5.523 | 5.185 | 26 | 50B26F | 6L992 | 6L993 | 6L994 | 6L995 | 6L996 | 6L997 | 57.99 | 37.50 | 3.4 |
| 5.723 | 5.384 | 27 | 50B27F | 6L998 | 6L999 | 6G001 | 6G002 | 6G003 | 6G004 | 58.91 | 37.90 | 3.6 |
| 5.922 | 5.582 | 28 | 50B28F | 6G005 | 6G006 | 6G007 | 6G008 | 6G009 | 6G010 | 60.03 | 38.80 | 3.8 |
| 6.122 | 5.781 | 29 | 50B29F | 6G011 | 6G012 | 6G013 | 6G014 | 6G015 | 6G016 | 61.04 | 39.25 | 3.9 |
| 6.321 | 5.979 | 30 | 50B30F | 6G017 | 6G018 | 6G019 | 6G020 | 6G021 | 6G022 | 62.09 | 39.65 | 4.0 |

## ANSI SPROCKET No. 60—3/4" Pitch

| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | UST Model | For Bore Size, Specify Stock No. 3/4" | 1" | 1 1/8" | 1 1/4" | 1 3/8" | 1 7/16" | 1 1/2" | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.511 | 2.193 | 9 | 60B9F | — | 6G023 | — | — | — | — | — | $17.83 | $11.27 | 0.6 |
| 2.759 | 2.427 | 10 | 60B10F | 1L172 | 6G024 | — | — | — | — | — | 18.63 | 11.76 | 0.9 |
| 3.005 | 2.663 | 11 | 60B11F | — | 1L173 | 1L174 | 1L175* | — | — | — | 19.66 | 12.68 | 1.3 |
| 3.249 | 2.898 | 12 | 60B12F | — | 1L176 | 6G025 | 1L177* | — | — | — | 21.71 | 14.11 | 1.7 |
| 3.493 | 3.134 | 13 | 60B13F | — | 1L178 | 1L179 | 1L180 | 6G026* | 6G027* | 6G028* | 24.83 | 15.67 | 1.8 |
| 3.736 | 3.371 | 14 | 60B14F | — | 1L181 | 6G029 | 1L182 | 6G030 | 6G031* | 6G032* | 28.96 | 18.49 | 2.1 |
| 3.978 | 3.608 | 15 | 60B15F | — | 1L183 | 1L184 | 1L185 | 6G033 | 6G034 | 6G035 | 34.15 | 21.36 | 2.6 |
| 4.220 | 3.845 | 16 | 60B16F | — | 1L186 | 6G036 | 1L187 | 6G037 | 6G038 | 6G039 | 37.25 | 23.78 | 3.0 |
| 4.462 | 4.082 | 17 | 60B17F | — | 1L188 | 6G040 | 6G041 | 6G042 | 6G043 | 6G044 | 40.35 | 26.30 | 3.4 |
| 4.703 | 4.319 | 18 | 60B18F | — | 1L189 | 1L190 | 1L191 | 6G045 | 6G046 | 6G047 | 43.47 | 29.05 | 3.9 |
| 4.945 | 4.557 | 19 | 60B19F | — | 6G048 | 6G049 | 1L192 | 6G050 | 6G051 | 6G052 | 46.55 | 30.40 | 3.8 |
| 5.186 | 4.794 | 20 | 60B20F | — | 6G053 | 6G054 | 1L193 | 6G055 | 6G056 | 6G057 | 49.67 | 31.80 | 4.0 |
| 5.426 | 5.033 | 21 | 60B21F | — | 6G058 | 6G059 | 6G060 | 6G061 | 6G062 | 6G063 | 55.85 | 36.20 | 4.2 |
| 5.666 | 5.270 | 22 | 60B22F | — | 6G064 | 6G065 | 6G066 | 6G067 | 6G068 | 6G069 | 60.03 | 38.80 | 4.4 |
| 5.907 | 5.508 | 23 | 60B23F | — | 6G070 | 6G071 | 6G072 | 6G073 | 6G074 | 6G075 | 62.08 | 39.65 | 6.3 |
| 6.147 | 5.746 | 24 | 60B24F | — | 6G076 | 6G077 | 6G078 | 6G079 | 6G080 | 6G081 | 65.21 | 42.40 | 6.6 |

## ANSI SPROCKET No. 80—1" Pitch

| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | UST Model | For Bore Size, Specify Stock No. 1" | 1 1/4" | 1 3/8" | 1 1/2" | 1 3/4" | 1 7/8" | 1 15/16" | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.348 | 2.924 | 9 | 80B9F | 6G082 | 6G083 | — | — | — | — | — | $30.01 | $19.01 | 1.8 |
| 3.678 | 3.236 | 10 | 80B10F | 6G084 | 6G085 | — | — | — | — | — | 33.09 | 20.92 | 2.4 |
| 4.006 | 3.550 | 11 | 80B11F | 6G086 | 6G087 | 6G088 | 6G089 | — | — | — | 36.24 | 23.37 | 2.9 |
| 4.332 | 3.864 | 12 | 80B12F | 6G090 | 6G091 | 6G092 | 6G093 | 6G094* | — | — | 40.34 | 26.30 | 3.6 |
| 4.657 | 4.179 | 13 | 80B13F | 6G095 | 6G096 | 6G097 | 6G098 | 6G099 | 6G100 | — | 43.47 | 29.05 | 3.8 |
| 4.981 | 4.494 | 14 | 80B14F | 6G101 | 6G102 | 6G103 | 6G104 | 6G105 | 6G106* | — | 50.73 | 32.00 | 4.4 |
| 5.304 | 4.810 | 15 | 80B15F | 6G107 | 6G108 | 6G109 | 6G110 | 6G111 | 6G112 | — | 52.76 | 34.10 | 5.6 |
| 5.627 | 5.126 | 16 | 80B16F | 6G113 | 6G114 | 6G115 | 6G116 | 6G117 | — | 6G118 | 56.91 | 37.15 | 6.1 |
| 5.949 | 5.442 | 17 | 80B17F | 6G119 | 6G120 | 6G121 | 6G122 | 6G123 | — | 6G124 | 68.28 | 44.45 | 6.5 |
| 6.271 | 5.759 | 18 | 80B18F | 6G125 | 6G126 | 6G127 | 6G128 | 6G129 | — | 6G130 | 72.43 | 47.50 | 6.9 |

## ANSI SPROCKET No. 100—1 1/4" Pitch

| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | UST Model | For Bore Size, Specify Stock No. 1" | 1 1/4" | 1 15/16" | 2" | 2 3/16" | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.185 | 3.655 | 9 | 100B9F | 6G131 | 6G132 | — | — | — | $78.68 | $51.45 | 3.0 |
| 4.598 | 4.045 | 10 | 100B10F | 6G133 | 6G134 | — | — | — | 85.89 | 55.90 | 4.1 |
| 5.008 | 4.438 | 11 | 100B11F | 6G135 | 6G136 | 6G137 | 6G138 | 6G139 | 96.24 | 62.90 | 5.1 |
| 5.415 | 4.830 | 12 | 100B12F | 6G140 | 6G141 | 6G142 | 6G143 | 6G144 | 103.49 | 67.50 | 6.4 |
| 5.821 | 5.224 | 13 | 100B13F | 6G145 | 6G146 | 6G147 | 6G148 | 6G149 | 110.74 | 72.25 | 6.4 |

(*) Setscrew located 90° and 180° from keyway.

IF YOU'RE IN A BIND, CALL GRAINGER

If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branch nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest yo check the Branch Locations listed in the front of this catalog.

U S TSUBAKI

Made in U.S.A.



- **Roller chain sprockets in ANSI sizes 120, 140, 160 are sold with a minimum plain bore. User may machine to maximum bore indicated and add keyway and setscrew hole as required. See Standard Keyway and Setscrew Machining Guide shown below.**
- **For fixed bore sprockets see pages 291 and 292**

## PLAIN BORE ROLLER CHAIN SPROCKETS

| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | Stock Bore (In.) | Max. Bore* (In.) | Hub Dia.‡ (In.) | LTB† Dimension (In.) | UST Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ANSI SPROCKET No. 120 — 1 1/2" Pitch** | | | | | | | | | | | |
| **5.022** | 4.386 | 9 | 1¼ | 2 3/16 | 3⅜ | 2¼ | 120B9 | **6G150** | $89.00 | **$57.95** | 5.6 |
| **5.517** | 4.854 | 10 | 1¼ | 2¼ | 3¼ | 2¼ | 120B10 | **6G151** | 97.28 | **63.45** | 7.0 |
| **6.009** | 5.325 | 11 | 1¼ | 2⅜ | 3 9/16 | 2⅛ | 120B11 | **6G152** | 107.64 | **70.15** | 8.4 |
| **6.498** | 5.796 | 12 | 1¼ | 2¾ | 4⅛ | 2⅛ | 120B12 | **6G153** | 121.06 | **79.45** | 10.0 |
| **6.986** | 6.296 | 13 | 1¼ | 3 | 4 5/16 | 2¼ | 120B13 | **6G154** | 135.55 | **88.85** | 12.0 |
| **7.472** | 6.741 | 14 | 1¼ | 3¼ | 4¾ | 2¼ | 120B14 | **6G155** | 150.00 | **97.90** | 16.0 |
| **7.956** | 7.215 | 15 | 1¼ | 3¼ | 4¾ | 2¼ | 120B15 | **6G156** | 164.53 | **107.55** | 16.0 |
| **ANSI SPROCKET No. 140 — 1 3/4" Pitch** | | | | | | | | | | | |
| **7.011** | 6.213 | 11 | 1⅜ | 2¾ | 4¼ | 2¼ | 140B11 | **6G157** | 162.48 | **106.20** | 12.0 |
| **7.581** | 6.762 | 12 | 1⅜ | 3 | 4½ | 2¼ | 140B12 | **6G158** | 180.08 | **117.70** | 15.0 |
| **8.150** | 7.313 | 13 | 1⅜ | 3¾ | 5¼ | 2⅜ | 140B13 | **6G159** | 197.60 | **129.45** | 20.0 |
| **8.717** | 7.865 | 14 | 1⅜ | 3¾ | 5¼ | 2⅜ | 140B14 | **6G160** | 215.21 | **140.95** | 22.0 |
| **9.282** | 8.418 | 15 | 1⅜ | 4¼ | 6¼ | 2½ | 140B15 | **6G161** | 232.77 | **152.25** | 26.0 |
| **ANSI SPROCKET No. 160 — 2" Pitch** | | | | | | | | | | | |
| **6.028** | 5.226 | 8 | 1⅜ | 1⅞ | 2 5/16 | 2¼ | 160B8 | **6G162** | 160.42 | **104.80** | 8.0 |
| **6.696** | 5.848 | 9 | 1⅜ | 2⅜ | 3⅜ | 2¼ | 160B9 | **6G163** | 168.68 | **110.30** | 12.0 |
| **7.356** | 6.472 | 10 | 1⅜ | 2¾ | 4 | 2¼ | 160B10 | **6G164** | 176.95 | **115.75** | 14.0 |
| **8.012** | 7.100 | 11 | 1⅜ | 3¼ | 4¾ | 2½ | 160B11 | **6G165** | 201.81 | **131.70** | 18.0 |
| **8.664** | 7.728 | 12 | 1⅜ | 3¾ | 5¼ | 2⅝ | 160B12 | **6G166** | 225.54 | **147.85** | 22.0 |
| **9.314** | 8.358 | 13 | 1⅜ | 4 | 6 | 2¾ | 160B13 | **6G167** | 252.46 | **165.50** | 28.0 |
| **9.962** | 8.988 | 14 | 1⅜ | 4¼ | 6¼ | 2¾ | 160B14 | **6G168** | 273.16 | **179.50** | 32.0 |
| **10.608** | 9.620 | 15 | 1⅜ | 5¼ | 7 | 2¾ | 160B15 | **6G169** | 299.00 | **196.00** | 39.0 |

(*) Dimensions shown allow for standard keyway with setscrew at 90°. (†) Length through bore. (‡) Hub diameters may vary to suit bore sizes.

### STANDARD KEYWAY AND SETSCREW MACHINING GUIDE

| Dia. of Shaft (In.) | Keyseat Width x Depth (In.) | Dia. of Setscrew* | Dia. of of Shaft (In.) | Keyseat Width x Depth (In.) | Dia. of Setscrew* |
|---|---|---|---|---|---|
| 5/16 - 7/16 | 3/32 x 3/64 | 8-32 | 2 13/16 - 3 1/4 | 3/4 x 3/8 | 3/4" |
| 1/2 - 9/16 | 1/8 x 1/16 | 10-24 | 3 5/16 - 3 3/4 | 7/8 x 7/16 | 3/4 |
| 5/8 - 7/8 | 3/16 x 3/32 | 1/4 | 3 13/16 - 4 1/2 | 1 x 1/2 | 3/4 |
| 15/16 - 1 1/4 | 1/4 x 1/8 | 5/16 | 4 9/16 - 5 1/2 | 1 1/4 x 5/8 | 3/4 |
| 1 5/16 - 1 3/8 | 5/16 x 5/32 | 5/16 | 5 9/16 - 6 1/2 | 1 1/2 x 3/4 | 1 |
| 1 7/16 - 1 3/4 | 3/8 x 3/16 | 3/8 | 6 9/16 - 7 1/2 | 1 3/4 x 7/8 | 1 |
| 1 13/16 - 2 1/4 | 1/2 x 1/4 | 1/2 | 7 9/16 - 8 15/16 | 2 x 1 | 1 |
| 2 5/16 - 2 3/4 | 5/8 x 5/16 | 5/8 | 9 - 10 15/16 | 2 1/2 x 1 1/4 | 1 |

(*) Setscrew size may vary depending on hub wall thickness.
NOTE: As a general rule, the hub wall over the keyway should be equal to or greater than the diameter of the setscrew.
NOTE: Maximum bore guidelines should be adhered to in order to ensure maximum product quality standards.

## KEYLESS CHUCKS For Motor Arbors

Dayton



**No. 1F610 Motor Shaft Arbor Not Included**

Use to drive flexible shafts, wire brushes, sanders, drill bits, and other shank-mounted power tool accessories. Mounts on 1/2"-20 RH shaft, see Dayton motor shaft arbors in chart above and mandrel No. 6L098. Jaws are spring-loaded; to open/close turn chuck by hand. Use only on shafts which turn CCW as viewed from the shaft end of the motor. Machined from cold-rolled steel with plated finish.

| Capacity | Fits Shaft | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **0-1/4"** | 1/2"-20 RH | **1F612** | **$9.05** | 0.2 |
| **0-1/2"** | 1/2"-20 RH | **1F610** | **12.53** | 0.6 |

## 1/4" DIA. SHAFT ADAPTER



For 3½" dia. unit bearing motors. Provides 1/4" dia. x 1"L shaft for using standard fan blade on 1/4"-20 RH threaded shaft (GE 51 frame) unit bearing motors. Socket set screw secures adapter on threaded shaft.

**No. 4X098.** Shpg. wt. 0.1 lbs. List.....$5.36. Each.....**$3.49**

## SHAFT EXTENDER KIT

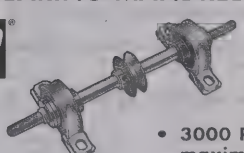


For use when additional shaft length of 2½" is required. Adapts to 3/8" dia. shaft. Extension is 2½" OAL in 3 sections: 3/8" OD x 1⅝"L, 5/16" OD (shoulder) x 1/2"L with threaded end #10-24 x 3/8"L. Coupling is 3/8" ID x 1/2" OD x 1⅛" OAL with two #5-40 socket set screws.

**No. 4M735.** Shpg. wt. 0.2 lbs. List.....$16.00. Each.....**$12.86**

## HEAVY-DUTY BALL BEARING MANDRELS

Dayton



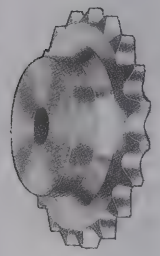
- **3000 RPM maximum**
- **Precision setscrew-type ball bearing pillow blocks in die-cast housings are pre-lubricated and sealed for maintenance-free operation**
- **Will take up to 1½" thick buffing/finishing wheels**
- **Suitable for jackshaft applications**
- **Uses A or 4L type V-belt**
- **Includes hex nut and two machined flange washers (1½" OD) for each end**
- **Components are plated to resist rust**

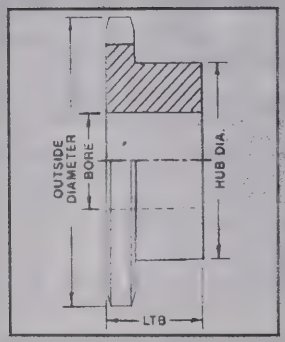
| Drive Shaft (In.) | Threaded Ends RH | Threaded Ends LH | OD Pulley (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **5/8 x 12** | 1/2-20 | 1/2-20 | 2 | **6L098** | $50.40 | **$35.55** | 3.3 |
| **3/4 x 12** | 5/8-11 | 5/8-11 | 2 | **6L099** | 50.40 | **35.60** | 3.6 |

# STAINLESS STEEL SPROCKETS

U S TSUBAKI

Made in U.S.A.






- For use with Nos. 40, 50, and 60 stainless steel roller chains found on pages 298 and 299
- Precision machined from 304 stainless steel
- Clean bore, no keyway, no setscrew

| O.D. (in.) | No. of Teeth | Stock Bore (In.) | Max. Bore (In.) | Hub (Dia.) (In.) | LTB† Dimensions (In.) | UST Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **ANSI SINGLE STRAND STAINLESS STEEL SPROCKETS No. 40** | | | | | | | | | | |
| **1.840** | 10 | 1/2 | 3/4 | 1 1/4 | 7/8 | 40B10SS | **6L423** | $65.20 | **$32.45** | 0.4 |
| **2.000** | 11 | 1/2 | 13/16 | 1 3/8 | 7/8 | 40B11SS | **6L424** | 69.39 | **34.75** | 0.4 |
| **2.170** | 12 | 1/2 | 15/16 | 1 9/16 | 7/8 | 40B12SS | **6L425** | 74.52 | **37.10** | 0.4 |
| **2.330** | 13 | 1/2 | 1 1/16 | 1 9/16 | 7/8 | 40B13SS | **6L426** | 76.59 | **38.25** | 0.5 |
| **2.490** | 14 | 1/2 | 1 1/8 | 1 11/16 | 7/8 | 40B14SS | **6L427** | 79.72 | **39.80** | 0.6 |
| **2.650** | 15 | 1/2 | 1 1/4 | 1 13/16 | 7/8 | 40B15SS | **6L428** | 82.83 | **41.45** | 0.7 |
| **2.810** | 16 | 5/8 | 1 3/8 | 2 | 7/8 | 40B16SS | **6L429** | 86.98 | **43.10** | 0.8 |
| **2.980** | 17 | 5/8 | 1 7/16 | 2 1/8 | 1 | 40B17SS | **6L430** | 93.17 | **46.40** | 1.2 |
| **3.140** | 18 | 5/8 | 1 1/2 | 2 5/16 | 1 | 40B18SS | **6L431** | 99.40 | **49.70** | 1.2 |
| **3.300** | 19 | 5/8 | 1 3/4 | 2 1/2 | 1 | 40B19SS | **6L432** | 113.89 | **56.75** | 1.4 |
| **3.460** | 20 | 5/8 | 1 7/8 | 2 5/8 | 1 | 40B20SS | **6L433** | 130.47 | **64.90** | 1.6 |
| **3.620** | 21 | 5/8 | 1 7/8 | 2 3/4 | 1 | 40B21SS | **6L434** | 141.86 | **70.85** | 1.7 |
| **3.780** | 22 | 5/8 | 1 7/8 | 2 7/8 | 1 | 40B22SS | **6L435** | 155.31 | **77.50** | 1.8 |
| **3.940** | 23 | 5/8 | 2 | 3 | 1 | 40B23SS | **6L436** | 165.65 | **82.85** | 2.2 |
| **4.100** | 24 | 5/8 | 2 | 3 | 1 | 40B24SS | **6L437** | 180.14 | **90.10** | 2.2 |
| **4.260** | 25 | 5/8 | 2 | 3 | 1 | 40B25SS | **6L438** | 192.57 | **95.95** | 2.4 |
| **4.420** | 26 | 5/8 | 2 | 3 | 1 | 40B26SS | **6L439** | 206.05 | **102.85** | 2.4 |
| **4.740** | 28 | 5/8 | 2 | 3 | 1 | 40B28SS | **6L440** | 221.60 | **110.80** | 2.8 |
| **5.060** | 30 | 5/8 | 2 | 3 | 1 | 40B30SS | **6L441** | 259.90 | **129.30** | 2.9 |
| **5.860** | 35 | 5/8 | 2 | 3 | 1 | 40B35SS | **6L442** | 277.46 | **138.75** | 3.3 |
| **ANSI SINGLE STRAND STAINLESS STEEL SPROCKETS No. 50** | | | | | | | | | | |
| **2.300** | 10 | 5/8 | 7/8 | 1 9/16 | 1 | 50B10SS | **6L443** | 93.17 | **46.40** | 0.5 |
| **2.500** | 11 | 5/8 | 1 | 1 3/4 | 1 | 50B11SS | **6L444** | 100.42 | **49.90** | 0.6 |
| **2.710** | 12 | 5/8 | 1 1/4 | 1 63/64 | 1 | 50B12SS | **6L445** | 104.57 | **52.20** | 0.7 |
| **2.910** | 13 | 5/8 | 1 5/16 | 1 7/8 | 1 | 50B13SS | **6L446** | 109.74 | **54.60** | 0.8 |
| **3.110** | 14 | 5/8 | 1 7/16 | 2 1/8 | 1 | 50B14SS | **6L447** | 113.90 | **56.75** | 1.0 |
| **3.320** | 15 | 5/8 | 1 1/2 | 2 3/8 | 1 | 50B15SS | **6L448** | 119.07 | **59.10** | 1.3 |
| **3.520** | 16 | 5/8 | 1 3/4 | 2 1/2 | 1 | 50B16SS | **6L449** | 127.37 | **63.65** | 1.5 |
| **3.720** | 17 | 5/8 | 1 7/8 | 2 11/16 | 1 | 50B17SS | **6L450** | 136.64 | **68.35** | 1.8 |
| **3.920** | 18 | 5/8 | 1 7/8 | 2 7/8 | 1 | 50B18SS | **6L451** | 149.10 | **74.40** | 2.0 |
| **4.120** | 19 | 5/8 | 1 3/4 | 2 1/2 | 1 | 50B19SS | **6L452** | 159.44 | **79.35** | 2.3 |
| **4.320** | 20 | 3/4 | 1 3/4 | 2 1/2 | 1 | 50B20SS | **6L453** | 182.24 | **90.95** | 2.5 |
| **4.520** | 21 | 3/4 | 2 | 3 | 1 | 50B21SS | **6L454** | 208.07 | **104.05** | 2.7 |
| **4.720** | 22 | 3/4 | 2 | 3 | 1 | 50B22SS | **6L455** | 240.18 | **119.80** | 3.3 |
| **4.920** | 23 | 3/4 | 2 | 3 | 1 | 50B23SS | **6L456** | 265.06 | **132.45** | 3.8 |
| **5.120** | 24 | 3/4 | 2 | 3 | 1 1/4 | 50B24SS | **6L457** | 289.88 | **144.60** | 4.1 |
| **5.320** | 25 | 3/4 | 2 | 3 | 1 1/4 | 50B25SS | **6L458** | 317.89 | **158.75** | 4.3 |
| **5.520** | 26 | 3/4 | 2 | 3 | 1 1/4 | 50B26SS | **6L459** | 333.38 | **166.50** | 4.6 |
| **5.920** | 28 | 3/4 | 2 | 3 | 1 1/4 | 50B28SS | **6L460** | 343.73 | **172.25** | 5.0 |
| **6.320** | 30 | 3/4 | 2 | 3 | 1 1/4 | 50B30SS | **6L461** | 367.59 | **184.00** | 5.2 |
| **7.320** | 35 | 3/4 | 2 | 3 | 1 1/4 | 50B35SS | **6L462** | 397.60 | **199.00** | 6.5 |
| **ANSI SINGLE STRAND STAINLESS STEEL SPROCKETS No. 60** | | | | | | | | | | |
| **3.250** | 12 | 3/4 | 1 3/8 | 2 3/8 | 1 1/4 | 60B12SS | **6L463** | 115.96 | **58.00** | 1.5 |
| **3.490** | 13 | 3/4 | 1 3/8 | 2 11/32 | 1 1/4 | 60B13SS | **6L464** | 127.37 | **63.65** | 1.8 |
| **3.740** | 14 | 3/4 | 1 3/8 | 2 9/16 | 1 1/4 | 60B14SS | **6L465** | 139.80 | **69.45** | 2.0 |
| **3.980** | 15 | 3/4 | 1 7/8 | 2 7/8 | 1 1/4 | 60B15SS | **6L466** | 168.78 | **84.40** | 2.4 |
| **4.220** | 16 | 3/4 | 2 | 3 1/16 | 1 1/4 | 60B16SS | **6L467** | 183.28 | **91.35** | 2.8 |
| **4.466** | 17 | 3/4 | 2 1/4 | 3 1/4 | 1 1/4 | 60B17SS | **6L468** | 202.10 | **101.00** | 3.3 |
| **4.700** | 18 | 3/4 | 2 | 3 | 1 1/4 | 60B18SS | **6L469** | 220.52 | **110.05** | 3.8 |
| **4.950** | 19 | 3/4 | 2 | 3 | 1 1/4 | 60B19SS | **6L470** | 240.18 | **119.80** | 4.0 |
| **5.190** | 20 | 3/4 | 2 | 3 | 1 1/4 | 60B20SS | **6L471** | 258.87 | **129.05** | 4.6 |
| **5.430** | 21 | 3/4 | 2 | 3 | 1 1/4 | 60B21SS | **6L472** | 271.29 | **135.50** | 5.0 |
| **5.670** | 22 | 3/4 | 2 | 3 | 1 1/4 | 60B22SS | **6L473** | 301.30 | **150.75** | 5.3 |
| **5.910** | 23 | 3/4 | 2 | 3 | 1 1/4 | 60B23SS | **6L474** | 334.45 | **167.00** | 5.7 |
| **6.150** | 24 | 3/4 | 2 | 3 | 1 1/4 | 60B24SS | **6L475** | 370.70 | **185.50** | 5.9 |
| **6.390** | 25 | 3/4 | 2 | 3 | 1 1/4 | 60B25SS | **6L476** | 417.29 | **208.75** | 6.1 |
| **6.630** | 26 | 3/4 | 2 | 3 | 1 1/4 | 60B26SS | **6L477** | 436.96 | **218.75** | 6.3 |
| **7.110** | 28 | 3/4 | 2 3/8 | 3 1/2 | 1 1/4 | 60B28SS | **6L478** | 458.69 | **229.75** | 6.7 |
| **7.590** | 30 | 3/4 | 2 3/8 | 3 1/2 | 1 1/4 | 60B30SS | **6L479** | 476.29 | **238.25** | 7.0 |
| **8.780** | 35 | 3/4 | 2 3/8 | 3 1/2 | 1 1/4 | 60B35SS | **6L480** | 515.64 | **258.25** | 9.0 |

(†) Length through bore.

## STANDARD KEYWAY AND SETSCREW MACHINING GUIDE

| Dia. of Shaft (In.) | Keyseat Width x Depth (In.) | Dia. of Setscrew* | Dia. of of Shaft (In.) | Keyseat Width x Depth (In.) | Dia. of Setscrew* |
|---|---|---|---|---|---|
| 5/16 - 7/16 | 3/32 x 3/64 | 8-32 | 2 13/16 - 3 1/4 | 3/4 x 3/8 | 3/4" |
| 1/2 - 9/16 | 1/8 x 1/16 | 10-24 | 3 5/16 - 3 3/4 | 7/8 x 7/16 | 3/4 |
| 5/8 - 7/8 | 3/16 x 3/32 | 1/4 | 3 13/16 - 4 1/2 | 1 x 1/2 | 3/4 |
| 15/16 - 1 1/4 | 1/4 x 1/8 | 5/16 | 4 9/16 - 5 1/2 | 1 1/4 x 5/8 | 3/4 |
| 1 5/16 - 1 3/8 | 5/16 x 5/32 | 5/16 | 5 9/16 - 6 1/2 | 1 1/2 x 3/4 | 1 |
| 1 3/4 | 3/8 x 3/16 | 3/8 | 6 9/16 - 7 1/2 | 1 3/4 x 7/8 | 1 |
| 1 15/16 - 2 1/4 | 1/2 x 1/4 | 1/2 | 7 9/16 - 8 15/16 | 2 x 1 | 1 |
| 2 5/16 - 2 3/4 | 5/8 x 5/16 | 5/8 | 9 - 10 15/16 | 2 1/2 x 1 1/4 | 1 |

* Setscrew size may vary depending on hub wall thickness

NOTE: As a general rule, the hub wall over the keyway should be equal to or greater than the diameter of the setscrew

NOTE: Maximum bore guidelines should be adhered to in order to ensure maximum product quality standards.

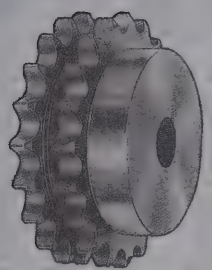


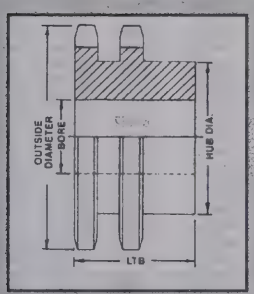
We deliver the products that deliver the power.

# DOUBLE STRAND SPROCKETS

U S TSUBAKI

Made in U.S.A.






- For use with Nos. 35-2, 40-2, 50-2, 60-2 80-2, and 100-2 double strand roller chain on page 299
- Precision machined from high alloy carbon steel
- Nos. 35 through 80, typically used as the drive sprocket, have hardened teeth for extra durability
- Maximum bore guidelines should be adhered to in order to ensure maximum product quality standards
- When selecting multiple strand sprockets refer to keyway and setscrew machining guide on page 293
- Clean bore, no keyway, no setscrew

*) Length through bore.

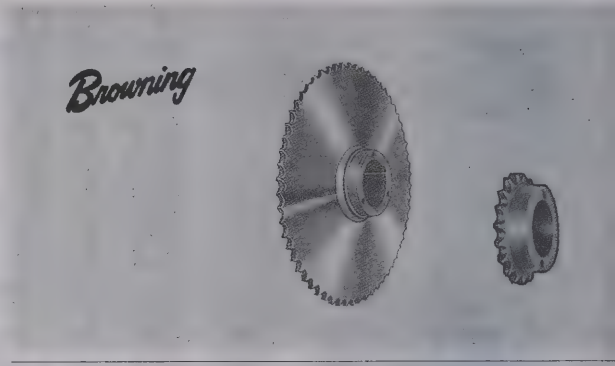
| O.D. (In.) | No. of Teeth | Stock Bore | Max. Bore (In.) | Hub Dia. (In.) | LTB* Dimens. (In.) | UST Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **ANSI DOUBLE STRAND SPROCKETS No. 35-2** | | | | | | | | | | |
| **1.746** | 13 | 1/2 | 3/4 | 1 1/8 | 1 1/4 | D35B13H | **6L347** | $23.79 | **$12.05** | 0.4 |
| **1.868** | 14 | 1/2 | 13/16 | 1 1/4 | 1 1/4 | D35B14H | **6L348** | 24.82 | **12.21** | 0.4 |
| **1.989** | 15 | 1/2 | 7/8 | 1 11/32 | 1 1/4 | D35B15H | **6L349** | 25.88 | **12.44** | 0.5 |
| **2.110** | 16 | 1/2 | 15/16 | 1 15/32 | 1 1/4 | D35B16H | **6L350** | 26.95 | **12.57** | 0.6 |
| **2.231** | 17 | 1/2 | 1 1/16 | 1 19/32 | 1 1/4 | D35B17H | **6L351** | 27.95 | **13.52** | 0.7 |
| **2.352** | 18 | 1/2 | 1 1/8 | 1 23/32 | 1 1/4 | D35B18H | **6L352** | 28.98 | **14.23** | 0.9 |
| **2.472** | 19 | 1/2 | 1 1/4 | 1 27/32 | 1 1/4 | D35B19H | **6L353** | 30.00 | **14.98** | 1.0 |
| **2.593** | 20 | 1/2 | 1 5/16 | 1 31/32 | 1 3/8 | D35B20H | **6L354** | 32.13 | **15.98** | 1.0 |
| **2.713** | 21 | 1/2 | 1 3/8 | 2 1/16 | 1 3/8 | D35B21H | **6L355** | 33.12 | **16.57** | 1.4 |
| **2.833** | 22 | 1/2 | 1 7/16 | 2 3/16 | 1 3/8 | D35B22H | **6L356** | 34.15 | **17.27** | 1.5 |
| **2.954** | 23 | 1/2 | 1 1/2 | 2 5/16 | 1 3/8 | D35B23H | **6L357** | 35.18 | **17.86** | 1.7 |
| **3.074** | 24 | 1/2 | 1 5/8 | 2 7/16 | 1 3/8 | D35B24H | **6L358** | 36.21 | **18.46** | 1.9 |
| **3.194** | 25 | 1/2 | 1 11/16 | 2 9/16 | 1 3/8 | D35B25H | **6L359** | 40.35 | **19.12** | 2.1 |
| **ANSI DOUBLE STRAND SPROCKETS No. 40-2** | | | | | | | | | | |
| **2.003** | 11 | 1/2 | 3/4 | 1 7/16 | 1 1/2 | D40B11H | **6L360** | 37.29 | **18.66** | 0.6 |
| **2.166** | 12 | 1/2 | 7/8 | 1 9/16 | 1 1/2 | D40B12H | **6L361** | 38.27 | **18.73** | 0.7 |
| **2.328** | 13 | 1/2 | 1 | 1 1/2 | 1 1/2 | D40B13H | **6L362** | 39.33 | **18.96** | 0.8 |
| **2.490** | 14 | 1/2 | 1 1/8 | 1 21/32 | 1 1/2 | D40B14H | **6L363** | 41.42 | **19.34** | 1.0 |
| **2.650** | 15 | 1/2 | 1 1/4 | 1 13/16 | 1 1/2 | D40B15H | **6L364** | 41.42 | **19.34** | 1.2 |
| **2.814** | 16 | 5/8 | 1 3/8 | 1 31/32 | 1 1/2 | D40B16H | **6L365** | 42.44 | **19.45** | 1.4 |
| **2.974** | 17 | 5/8 | 1 7/16 | 2 5/32 | 1 1/2 | D40B17H | **6L366** | 43.48 | **20.04** | 1.6 |
| **3.136** | 18 | 5/8 | 1 1/2 | 2 5/16 | 1 1/2 | D40B18H | **6L367** | 44.51 | **21.18** | 1.9 |
| **3.292** | 19 | 5/8 | 1 5/8 | 2 15/32 | 1 1/2 | D40B19H | **6L368** | 45.56 | **22.22** | 2.1 |
| **3.457** | 20 | 5/8 | 1 3/4 | 2 5/8 | 1 5/8 | D40B20H | **6L369** | 47.61 | **23.68** | 2.5 |
| **3.618** | 21 | 5/8 | 1 7/8 | 2 25/32 | 1 5/8 | D40B21H | **6L370** | 49.68 | **24.77** | 2.9 |
| **3.778** | 22 | 5/8 | 1 7/8 | 2 15/16 | 1 5/8 | D40B22H | **6L371** | 51.72 | **25.75** | 3.3 |
| **3.938** | 23 | 5/8 | 2 | 3 3/32 | 1 5/8 | D40B23H | **6L372** | 55.87 | **27.50** | 3.6 |
| **4.098** | 24 | 5/8 | 2 1/4 | 3 9/32 | 1 5/8 | D40B24H | **6L373** | 58.99 | **29.00** | 4.0 |
| **4.258** | 25 | 5/8 | 2 1/4 | 3 7/16 | 1 5/8 | D40B25H | **6L374** | 60.02 | **29.65** | 4.4 |
| **ANSI DOUBLE STRAND SPROCKETS No. 50-2** | | | | | | | | | | |
| **2.504** | 11 | 5/8 | 15/16 | 1 15/32 | 1 3/4 | D50B11H | **6L375** | 53.83 | **26.70** | 0.9 |
| **2.708** | 12 | 5/8 | 1 1/8 | 1 11/16 | 1 3/4 | D50B12H | **6L376** | 54.90 | **26.80** | 1.2 |
| **2.911** | 13 | 5/8 | 1 5/16 | 1 7/8 | 1 3/4 | D50B13H | **6L377** | 55.88 | **27.50** | 1.5 |
| **3.113** | 14 | 5/8 | 1 3/8 | 2 3/32 | 1 3/4 | D50B14H | **6L378** | 56.96 | **28.15** | 1.9 |
| **3.315** | 15 | 5/8 | 1 1/2 | 2 9/32 | 1 3/4 | D50B15H | **6L379** | 56.95 | **28.15** | 2.3 |
| **3.517** | 16 | 5/8 | 1 5/8 | 2 1/2 | 1 3/4 | D50B16H | **6L380** | 57.98 | **28.80** | 2.7 |
| **3.718** | 17 | 5/8 | 1 7/8 | 2 11/16 | 1 3/4 | D50B17H | **6L381** | 60.03 | **29.60** | 3.1 |
| **3.919** | 18 | 5/8 | 1 15/16 | 2 7/8 | 1 3/4 | D50B18H | **6L382** | 61.06 | **30.35** | 3.6 |
| **4.121** | 19 | 5/8 | 2 1/8 | 3 3/32 | 1 3/4 | D50B19H | **6L383** | 62.10 | **30.75** | 4.1 |
| **4.321** | 20 | 5/8 | 2 1/4 | 3 9/32 | 1 3/4 | D50B20H | **6L384** | 64.16 | **31.95** | 4.6 |
| **4.522** | 21 | 3/4 | 2 3/8 | 3 1/2 | 1 3/4 | D50B21H | **6L385** | 67.28 | **33.55** | 5.1 |
| **4.722** | 22 | 3/4 | 2 3/8 | 3 9/16 | 1 7/8 | D50B22H | **6L386** | 67.27 | **33.55** | 5.9 |
| **4.923** | 23 | 3/4 | 2 1/2 | 3 3/4 | 1 7/8 | D50B23H | **6L387** | 70.40 | **35.05** | 6.5 |
| **5.123** | 24 | 3/4 | 2 1/2 | 3 3/4 | 1 7/8 | D50B24H | **6L388** | 73.46 | **36.80** | 6.9 |
| **5.323** | 25 | 1 | 2 1/2 | 3 3/4 | 1 7/8 | D50B25H | **6L389** | 75.56 | **37.60** | 7.1 |
| **ANSI DOUBLE STRAND SPROCKETS No. 60-2** | | | | | | | | | | |
| **3.005** | 11 | 3/4 | 1 3/16 | 1 25/32 | 2 1/8 | D60B11H | **6L390** | 50.72 | **24.88** | 1.8 |
| **3.249** | 12 | 3/4 | 1 3/8 | 2 1/32 | 2 1/8 | D60B12H | **6L391** | 52.80 | **25.90** | 2.3 |
| **3.493** | 13 | 3/4 | 1 1/2 | 2 1/4 | 2 1/8 | D60B23H | **6L392** | 56.95 | **28.15** | 2.8 |
| **3.736** | 14 | 3/4 | 1 3/4 | 2 1/2 | 2 1/8 | D60B24H | **6L393** | 60.03 | **29.60** | 3.5 |
| **3.978** | 15 | 3/4 | 1 7/8 | 2 3/4 | 2 1/8 | D60B15H | **6L394** | 62.10 | **30.75** | 4.1 |
| **4.220** | 16 | 3/4 | 2 | 3 | 2 1/8 | D60B16H | **6L395** | 66.25 | **32.95** | 4.8 |
| **4.462** | 17 | 3/4 | 2 1/4 | 3 7/32 | 2 1/8 | D60B17H | **6L396** | 69.35 | **34.75** | 5.6 |
| **4.703** | 18 | 1 | 2 3/8 | 3 7/16 | 2 1/8 | D60B18H | **6L397** | 72.47 | **36.20** | 6.2 |
| **4.945** | 19 | 1 | 2 1/2 | 3 11/16 | 2 1/8 | D60B19H | **6L398** | 76.55 | **38.25** | 7.0 |
| **5.186** | 20 | 1 | 2 1/2 | 3 3/4 | 2 1/8 | D60B20H | **6L399** | 81.74 | **40.95** | 7.7 |
| **5.426** | 21 | 1 | 2 3/4 | 4 1/8 | 2 1/8 | D60B21H | **6L400** | 86.93 | **43.50** | 8.9 |
| **5.666** | 22 | 1 | 2 3/4 | 4 1/4 | 2 1/8 | D60B22H | **6L401** | 88.96 | **44.10** | 9.7 |
| **5.907** | 23 | 1 | 2 3/4 | 4 1/4 | 2 1/8 | D60B23H | **6L402** | 90.00 | **44.40** | 10.0 |
| **6.147** | 24 | 1 | 2 3/4 | 4 1/4 | 2 1/8 | D60B24H | **6L403** | 91.03 | **45.20** | 11.0 |
| **6.387** | 25 | 1 | 2 3/4 | 4 1/4 | 2 1/8 | D60B25H | **6L404** | 94.16 | **47.00** | 12.0 |
| **ANSI DOUBLE STRAND SPROCKETS No. 80-2** | | | | | | | | | | |
| **3.678** | 10 | 1 | 1 3/8 | 2 9/16 | 2 3/4 | D80B10H | **6L405** | 85.92 | **43.15** | 3.5 |
| **4.006** | 11 | 1 | 1 9/16 | 2 3/4 | 2 1/2 | D80B11H | **6L406** | 88.00 | **43.55** | 3.9 |
| **4.332** | 12 | 1 | 1 13/16 | 2 11/16 | 2 1/2 | D80B12H | **6L407** | 93.16 | **46.20** | 4.9 |
| **4.657** | 13 | 1 | 2 | 3 1/32 | 2 1/2 | D80B13H | **6L408** | 99.36 | **49.75** | 6.1 |
| **4.981** | 14 | 1 | 2 1/4 | 3 5/16 | 2 1/2 | D80B14H | **6L409** | 104.56 | **52.25** | 7.3 |
| **5.304** | 15 | 1 | 2 1/2 | 3 5/8 | 2 1/2 | D80B15H | **6L410** | 113.85 | **56.60** | 8.7 |
| **5.627** | 16 | 1 | 2 3/4 | 4 | 2 3/4 | D80B16H | **6L411** | 123.17 | **61.65** | 11.0 |
| **5.949** | 17 | 1 | 2 7/8 | 4 5/16 | 2 3/4 | D80B17H | **6L412** | 133.46 | **66.45** | 13.0 |
| **6.271** | 18 | 1 | 3 1/8 | 4 5/8 | 2 3/4 | D80B18H | **6L413** | 142.81 | **71.25** | 15.0 |
| **6.593** | 19 | 1 | 3 5/16 | 4 15/16 | 2 3/4 | D80B19H | **6L414** | 158.31 | **79.10** | 17.0 |
| **6.914** | 20 | 1 | 3 5/16 | 5 | 2 3/4 | D80B20H | **6L415** | 174.85 | **87.10** | 18.0 |
| **ANSI DOUBLE STRAND SPROCKETS No. 100-2** | | | | | | | | | | |
| **4.185** | 9 | 1 | 1 1/2 | 2 5/16 | 2 7/8 | D100B9 | **6L416** | 118.03 | **58.90** | 4.4 |
| **4.598** | 10 | 1 | 1 3/4 | 2 11/16 | 2 7/8 | D100B10 | **6L417** | 126.30 | **63.10** | 6.0 |
| **5.008** | 11 | 1 | 2 1/8 | 3 1/8 | 2 7/8 | D100B11 | **6L418** | 138.71 | **69.00** | 7.8 |
| **5.415** | 12 | 1 1/8 | 2 1/4 | 3 3/8 | 2 7/8 | D100B12 | **6L419** | 151.10 | **75.25** | 9.3 |
| **5.821** | 13 | 1 1/8 | 2 1/2 | 3 3/4 | 2 7/8 | D100B13 | **6L420** | 165.62 | **82.45** | 11.0 |
| **6.226** | 14 | 1 1/8 | 2 3/4 | 4 3/16 | 2 7/8 | D100B14 | **6L421** | 180.06 | **90.00** | 14.0 |
| **6.630** | 15 | 1 1/4 | 3 1/8 | 4 9/16 | 3 1/8 | D100B15 | **6L422** | 197.64 | **98.85** | 17.0 |

# BUSHED BORE ROLLER CHAIN SPROCKETS

- For use with Nos. 40, 50, 60, and 80 pitch roller chain
- Precision machined
- Sprockets with 30 teeth or less have hardened teeth for increased life
- Outside diameter (O.D.) range: 2.65" to 23.46"
- Bore range 1/2" to 3 7/16" with required split taper bushing (not included); order split taper bushing separately on page 317

ROLLER CHAIN AVAILABLE, SEE PAGE 299

SPLIT TAPER BUSHINGS AVAILABLE, SEE PAGE 317




| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | Bushing Req'd. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ANSI SPROCKET No. 40** | | | | | | | | |
| **2.65** | 2.405 | 15 | H | H40H15 | **6L527** | $47.00 | **$19.49** | 0.6 |
| **2.80** | 2.563 | 16 | H | H40H16 | **6L528** | 49.00 | **20.27** | 0.7 |
| **2.96** | 2.721 | 17 | H | H40H17 | **6L529** | 52.00 | **21.87** | 0.7 |
| **3.14** | 2.879 | 18 | H | H40H18 | **1L194** | 56.00 | **23.18** | 0.7 |
| **3.30** | 3.038 | 19 | H | H40H19 | **1L195** | 59.00 | **24.55** | 0.8 |
| **3.45** | 3.196 | 20 | H | H40H20 | **1L196** | 72.00 | **30.25** | 0.9 |
| **3.62** | 3.555 | 21 | P1 | H40P21 | **6L530** | 65.00 | **27.05** | 1.6 |
| **3.75** | 3.513 | 22 | P1 | H40P22 | **6L531** | 72.00 | **30.30** | 1.7 |
| **3.94** | 3.672 | 23 | P1 | H40P23 | **6L532** | 77.00 | **32.15** | 1.8 |
| **4.10** | 3.831 | 24 | H | H40H24 | **1L197** | 93.00 | **38.90** | 1.2 |
| **4.26** | 3.989 | 25 | P1 | H40P25 | **6L533** | 85.00 | **35.75** | 1.9 |
| **4.42** | 4.148 | 26 | P1 | H40P26 | **6L534** | 89.00 | **37.30** | 2.0 |
| **4.58** | 4.307 | 27 | P1 | H40P27 | **6L535** | 91.00 | **38.00** | 2.1 |
| **4.74** | 4.466 | 28 | P1 | H40P28 | **6L536** | 94.00 | **39.15** | 2.2 |
| **4.90** | 4.625 | 29 | P1 | H40P29 | **6L537** | 95.00 | **40.00** | 2.3 |
| **5.06** | 4.783 | 30 | H | H40H30 | **1L198** | 101.00 | **42.10** | 1.7 |
| **5.38** | 5.101 | 32 | P1 | 40P32 | **6L538** | 106.00 | **44.35** | 2.6 |
| **5.86** | 5.578 | 35 | P1 | 40P35 | **6L539** | 109.00 | **45.80** | 2.9 |
| **6.02** | 5.737 | 36 | P1 | 40P36 | **1L199** | 115.00 | **48.30** | 3.1 |
| **6.65** | 6.373 | 40 | P1 | 40P40 | **1L200** | 126.00 | **52.65** | 3.6 |
| **6.97** | 6.691 | 42 | P1 | 40P42 | **6L540** | 128.00 | **53.65** | 3.6 |
| **7.45** | 7.168 | 45 | P1 | 40P45 | **1L201** | 131.00 | **54.65** | 4.3 |
| **7.93** | 7.645 | 48 | P1 | 40P48 | **1L202** | 136.00 | **56.80** | 5.0 |
| **8.89** | 8.599 | 54 | P1 | 40P54 | **6L541** | 142.00 | **59.50** | 5.3 |
| **9.84** | 9.554 | 60 | Q1 | 40Q60 | **1L203** | 120.00 | **50.05** | 7.7 |
| **11.43** | 11.145 | 70 | Q1 | 40Q70 | **1L204** | 158.00 | **65.95** | 9.4 |
| **ANSI SPROCKET No. 50** | | | | | | | | |
| **3.32** | 3.006 | 15 | P1 | H50P15 | **6L542** | 51.00 | **21.25** | 1.3 |
| **3.52** | 3.204 | 16 | P1 | H50P16 | **6L543** | 52.00 | **21.86** | 1.5 |
| **3.72** | 3.401 | 17 | P1 | H50P17 | **6L544** | 65.00 | **27.05** | 1.6 |
| **3.92** | 3.599 | 18 | H | H50H18 | **1L205** | 82.00 | **34.20** | 1.5 |
| **4.12** | 3.797 | 19 | P1 | H50P19 | **6L545** | 70.00 | **29.05** | 1.9 |
| **4.32** | 3.995 | 20 | H | H50H20 | **1L206** | 92.00 | **38.50** | 1.4 |
| **4.52** | 4.194 | 21 | P1 | H50P21 | **6L546** | 94.00 | **39.35** | 2.1 |
| **4.72** | 4.392 | 22 | P1 | H50P22 | **6L547** | 97.00 | **40.50** | 2.2 |
| **4.92** | 4.590 | 23 | Q1 | H50Q23 | **6L548** | 73.00 | **30.40** | 3.0 |
| **5.12** | 4.788 | 24 | Q1 | H50Q24 | **1L207** | 77.00 | **32.15** | 4.0 |
| **5.32** | 4.987 | 25 | Q1 | H50Q25 | **6L549** | 81.00 | **33.85** | 3.4 |
| **5.52** | 5.185 | 26 | Q1 | H50Q26 | **6L550** | 89.00 | **37.25** | 3.5 |
| **5.72** | 5.384 | 27 | Q1 | H50Q27 | **6L551** | 94.00 | **39.35** | 3.7 |
| **5.92** | 5.582 | 28 | Q1 | H50Q28 | **1L208** | 101.00 | **42.25** | 5.0 |
| **6.32** | 5.979 | 30 | Q1 | H50Q30 | **6L552** | 107.00 | **44.85** | 4.2 |
| **6.72** | 6.376 | 32 | Q1 | 50Q32 | **6L553** | 111.00 | **46.40** | 4.6 |
| **7.32** | 6.972 | 35 | Q1 | 50Q35 | **6L554** | 116.00 | **48.70** | 5.5 |
| **7.52** | 7.171 | 36 | Q1 | 50Q36 | **1L209** | 118.00 | **49.35** | 5.7 |
| **8.32** | 7.966 | 40 | Q1 | 50Q40 | **1L210** | 128.00 | **53.50** | 6.6 |
| **8.72** | 8.363 | 42 | Q1 | 50Q42 | **6L555** | 132.00 | **55.00** | 6.9 |
| **9.31** | 8.960 | 45 | Q1 | 50Q45 | **1L211** | 136.00 | **56.95** | 7.8 |
| **9.91** | 9.556 | 48 | Q1 | 50Q48 | **1L212** | 144.00 | **60.10** | 8.6 |
| **11.11** | 10.749 | 54 | Q1 | 50Q54 | **6L556** | 174.00 | **72.65** | 10.0 |
| **12.30** | 11.942 | 60 | Q1 | 50Q60 | **1L213** | 181.00 | **75.50** | 13.0 |

| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | Bushing Req'd. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ANSI SPROCKET No. 60** | | | | | | | | |
| **3.45** | 3.134 | 13 | P1 | H60P13 | **1L214** | $57.00 | **$23.76** | 1.2 |
| **3.74** | 3.371 | 14 | P1 | H60P14 | **1L215** | 70.00 | **29.10** | 0.2 |
| **3.98** | 3.607 | 15 | P1 | H60P15 | **1L216** | 73.00 | **30.75** | 0.2 |
| **4.22** | 3.844 | 16 | P1 | H60P16 | **6L557** | 85.00 | **35.75** | 2.0 |
| **4.46** | 4.082 | 17 | P1 | H60P17 | **6L558** | 93.00 | **39.10** | 2.2 |
| **4.70** | 4.319 | 18 | P1 | H60P18 | **1L217** | 102.00 | **42.80** | 2.4 |
| **4.95** | 4.557 | 19 | P1 | H60P19 | **6L559** | 107.00 | **44.65** | 2.6 |
| **5.19** | 4.794 | 20 | Q1 | H60Q20 | **1L218** | 81.00 | **33.85** | 3.3 |
| **5.43** | 5.032 | 21 | Q1 | H60Q21 | **1L219** | 84.00 | **35.10** | 4.0 |
| **5.67** | 5.270 | 22 | Q1 | H60Q22 | **1L220** | 91.00 | **38.25** | 4.4 |
| **5.91** | 5.508 | 23 | Q1 | H60Q23 | **6L560** | 95.00 | **39.90** | 4.1 |
| **6.15** | 5.746 | 24 | Q1 | H60Q24 | **1L221** | 103.00 | **43.25** | 5.0 |
| **6.39** | 5.984 | 25 | Q1 | H60Q25 | **1L222** | 109.00 | **45.75** | 5.2 |
| **6.63** | 6.222 | 26 | Q1 | H60Q26 | **1L223** | 134.00 | **56.10** | 5.0 |
| **6.87** | 6.460 | 27 | Q1 | H60Q27 | **6L561** | 155.00 | **64.85** | 5.2 |
| **7.11** | 6.699 | 28 | Q1 | H60Q28 | **6L562** | 137.00 | **57.15** | 6.1 |
| **7.59** | 7.175 | 30 | Q1 | H60Q30 | **1L224** | 138.00 | **57.50** | 6.7 |
| **8.07** | 7.652 | 32 | Q1 | 60Q32 | **6L563** | 152.00 | **63.75** | 7.4 |
| **8.78** | 8.367 | 35 | Q1 | 60Q35 | **1L225** | 155.00 | **64.80** | 8.5 |
| **9.02** | 8.605 | 36 | Q1 | 60Q36 | **6L564** | 158.00 | **65.90** | 8.7 |
| **9.98** | 9.559 | 40 | Q1 | 60Q40 | **1L226** | 161.00 | **67.40** | 11.0 |
| **10.46** | 10.036 | 42 | Q1 | 60Q42 | **6L565** | 182.00 | **76.15** | 12.0 |
| **11.18** | 10.752 | 45 | Q1 | 60Q45 | **1L227** | 184.00 | **76.95** | 13.0 |
| **11.89** | 11.467 | 48 | Q1 | 60Q48 | **6L566** | 218.00 | **90.80** | 15.0 |
| **13.33** | 12.899 | 54 | Q1 | 60Q54 | **6L567** | 222.00 | **92.80** | 20.0 |
| **14.73** | 14.331 | 60 | Q1 | 60Q60 | **1L228** | 285.00 | **119.05** | 23.0 |
| **17.12** | 16.717 | 70 | Q1 | 60Q70 | **6L568** | 320.00 | **133.45** | 31.0 |
| **17.63** | 17.194 | 72 | Q1 | 60Q72 | **1L229** | 338.00 | **140.85** | 32.0 |
| **ANSI SPROCKET No. 80** | | | | | | | | |
| **4.98** | 4.494 | 14 | Q1 | H80Q14 | **6L569** | 84.00 | **35.25** | 2.9 |
| **5.31** | 4.810 | 15 | Q1 | H80Q15 | **6L570** | 116.00 | **48.70** | 6.0 |
| **5.63** | 5.126 | 16 | Q1 | H80Q16 | **6L571** | 121.00 | **50.75** | 3.9 |
| **5.95** | 5.442 | 17 | Q1 | H80Q17 | **6L572** | 136.00 | **56.95** | 5.0 |
| **6.27** | 5.759 | 18 | Q1 | H80Q18 | **6L573** | 150.00 | **62.85** | 3.5 |
| **6.59** | 6.076 | 19 | Q1 | H80Q19 | **6L574** | 166.00 | **69.15** | 6.0 |
| **6.91** | 6.392 | 20 | Q1 | H80Q20 | **6L575** | 182.00 | **76.05** | 8.0 |
| **7.24** | 6.710 | 21 | Q1 | H80Q21 | **6L576** | 186.00 | **77.65** | 6.0 |
| **7.56** | 7.027 | 22 | Q1 | H80Q22 | **6L577** | 192.00 | **80.25** | 7.2 |
| **7.88** | 7.344 | 23 | Q1 | H80Q23 | **6L578** | 198.00 | **82.85** | 7.7 |
| **8.20** | 7.661 | 24 | Q1 | H80Q24 | **6L579** | 202.00 | **84.40** | 10.0 |
| **8.52** | 7.979 | 25 | Q1 | H80Q25 | **6L580** | 208.00 | **86.85** | 10.0 |
| **8.84** | 8.296 | 26 | Q1 | H80Q26 | **6L581** | 229.00 | **95.85** | 10.0 |
| **9.16** | 8.614 | 27 | Q1 | H80Q27 | **6L582** | 234.00 | **97.95** | 9.7 |
| **9.48** | 8.931 | 28 | Q1 | H80Q28 | **6L583** | 245.00 | **102.20** | 11.0 |
| **10.11** | 9.567 | 30 | Q1 | H80Q30 | **6L584** | 251.00 | **104.95** | 12.0 |
| **10.75** | 10.202 | 32 | Q1 | 80Q32 | **6L585** | 263.00 | **109.85** | 14.0 |
| **11.07** | 10.520 | 33 | Q1 | 80Q33 | **6L586** | 270.00 | **112.60** | 15.0 |
| **11.39** | 10.838 | 34 | Q1 | 80Q34 | **6L587** | 278.00 | **115.90** | 15.0 |
| **11.71** | 11.156 | 35 | Q1 | 80Q35 | **6L588** | 283.00 | **118.10** | 16.0 |
| **13.94** | 13.382 | 42 | R1 | 80R42 | **6L589** | 257.00 | **107.25** | 26.0 |
| **14.90** | 14.336 | 45 | R1 | 80R45 | **6L590** | 372.00 | **155.00** | 30.0 |
| **15.86** | 15.290 | 48 | R1 | 80R48 | **6L591** | 335.00 | **139.65** | 41.0 |
| **17.77** | 17.198 | 54 | R1 | 80R54 | **6L592** | 375.00 | **156.50** | 41.0 |
| **19.68** | 19.107 | 60 | R1 | 80R60 | **6L593** | 557.00 | **232.75** | 41.0 |
| **22.83** | 22.289 | 70 | R1 | 80R70 | **6L594** | 696.00 | **290.50** | 68.0 |
| **23.46** | 22.926 | 72 | R1 | 80R72 | **6L595** | 763.00 | **318.75** | 70.0 |

LET US SUPPLY YOUR MOTORS AND RELATED PRODUCTS

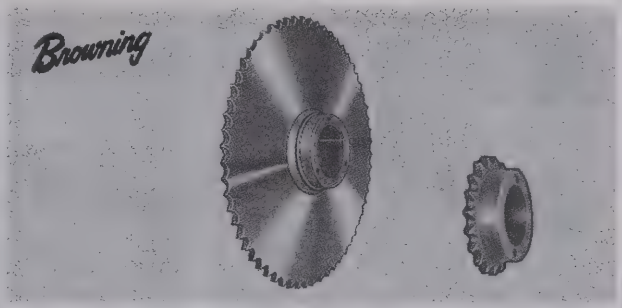


We deliver the products that deliver the power.

# BUSHED BORE ROLLER CHAIN SPROCKETS

- For use with Nos. 100, 120, 140, and 160 pitch roller chain
- Precision machined
- Sprockets with 30 teeth or less have hardened teeth since they are traditionally the driver sprocket
- Bore range 3/4" to 3 7/16" with required split taper bushing (not included); order split taper bushing separately on page 317

ROLLER CHAIN AVAILABLE, SEE PAGES 298 THRU 300
SPLIT TAPER BUSHINGS AVAILABLE, SEE PAGE 317




| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | Bushing Req'd. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ANSI SPROCKET No. 100** | | | | | | | | |
| **5.42** | 4.830 | 12 | Q1 | H100Q12 | **6L596** | $155.00 | **$64.95** | 3.4 |
| **5.82** | 5.223 | 13 | Q1 | H100Q13 | **6L597** | 189.00 | **79.10** | 4.2 |
| **6.23** | 5.617 | 14 | Q1 | H100Q14 | **6L598** | 222.00 | **92.95** | 4.9 |
| **6.63** | 6.012 | 15 | Q1 | H100Q15 | **6L599** | 251.00 | **105.00** | 5.6 |
| **7.03** | 6.407 | 16 | Q1 | H100Q16 | **6L600** | 256.00 | **107.00** | 6.2 |
| **7.44** | 6.803 | 17 | Q1 | H100Q17 | **6L601** | 264.00 | **110.20** | 7.1 |
| **7.84** | 7.198 | 18 | Q1 | H100Q18 | **6L602** | 356.00 | **148.50** | 7.9 |
| **8.24** | 7.595 | 19 | Q1 | H100Q19 | **6L603** | 357.00 | **148.90** | 8.7 |
| **8.64** | 7.991 | 20 | Q1 | H100Q20 | **6L604** | 362.00 | **151.00** | 9.6 |
| **9.04** | 8.387 | 21 | Q1 | H100Q21 | **6L605** | 362.00 | **151.00** | 12.0 |
| **9.44** | 8.783 | 22 | Q1 | H100Q22 | **6L606** | 364.00 | **152.25** | 12.0 |
| **9.84** | 9.180 | 23 | Q1 | H100Q23 | **6L607** | 367.00 | **153.25** | 13.0 |
| **10.25** | 9.577 | 24 | R1 | H100R24 | **6L608** | 284.00 | **118.30** | 14.0 |
| **10.65** | 9.973 | 25 | Q1 | H100Q25 | **6L609** | 377.00 | **157.50** | 17.0 |
| **11.05** | 10.370 | 26 | R1 | H100R26 | **6L610** | 302.00 | **125.95** | 18.0 |
| **11.45** | 10.767 | 27 | R1 | H100R27 | **6L611** | 316.00 | **132.05** | 19.0 |
| **11.84** | 11.164 | 28 | Q1 | H100Q28 | **6L612** | 421.00 | **175.75** | 18.0 |
| **12.64** | 11.958 | 30 | Q1 | H100Q30 | **6L613** | 445.00 | **186.50** | 19.0 |
| **13.44** | 12.753 | 32 | R1 | 100R32 | **6L614** | 390.00 | **162.50** | 27.0 |
| **14.64** | 13.945 | 35 | R1 | 100R35 | **6L615** | 452.00 | **189.25** | 31.0 |
| **15.04** | 14.342 | 36 | R1 | 100R36 | **6L616** | 470.00 | **196.50** | 33.0 |
| **16.63** | 15.932 | 40 | R1 | 100R40 | **6L617** | 571.00 | **238.75** | 40.0 |
| **17.43** | 16.727 | 42 | R1 | 100R42 | **6L618** | 645.00 | **269.50** | 44.0 |
| **18.63** | 17.920 | 45 | R1 | 100R45 | **6L619** | 671.00 | **280.75** | 50.0 |
| **19.82** | 19.112 | 48 | R1 | 100R48 | **6L620** | 739.00 | **308.75** | 64.0 |
| **22.21** | 21.498 | 54 | R1 | 100R54 | **6L621** | 867.00 | **362.25** | 70.0 |
| **24.55** | 23.884 | 60 | R1 | 100R60 | **6L622** | 964.00 | **402.50** | 81.0 |
| **ANSI SPROCKET No. 120** | | | | | | | | |
| **6.50** | 5.796 | 12 | Q1 | H120Q12 | **6L623** | 294.00 | **122.80** | 5.9 |
| **6.99** | 6.268 | 13 | Q1 | H120Q13 | **6L624** | 333.00 | **139.20** | 7.0 |
| **7.47** | 6.741 | 14 | Q1 | H120Q14 | **6L625** | 365.00 | **152.50** | 8.2 |
| **7.96** | 7.215 | 15 | Q1 | H120Q15 | **6L626** | 404.00 | **168.75** | 9.7 |
| **8.39** | 7.689 | 16 | R1 | H120R16 | **6L627** | 404.00 | **169.00** | 10.0 |
| **8.88** | 8.163 | 17 | R1 | H120R17 | **6L628** | 415.00 | **173.50** | 11.0 |
| **9.41** | 8.638 | 18 | R1 | H120R18 | **6L629** | 421.00 | **175.75** | 15.0 |
| **9.89** | 9.113 | 19 | R1 | H120R19 | **6L630** | 452.00 | **189.25** | 17.0 |
| **10.37** | 9.589 | 20 | R1 | H120R20 | **6L631** | 487.00 | **203.75** | 17.0 |
| **10.85** | 10.064 | 21 | R1 | H120R21 | **6L632** | 508.00 | **212.75** | 20.0 |
| **11.33** | 10.540 | 22 | R1 | H120R22 | **6L633** | 522.00 | **218.50** | 22.0 |
| **12.29** | 11.492 | 24 | R1 | H120R24 | **6L634** | 545.00 | **228.00** | 26.0 |
| **13.25** | 12.444 | 26 | R1 | H120R26 | **6L635** | 616.00 | **257.50** | 28.0 |
| **14.21** | 13.397 | 28 | R1 | H120R28 | **6L636** | 665.00 | **278.25** | 30.0 |
| **15.17** | 14.350 | 30 | R1 | H120R30 | **6L637** | 717.00 | **299.75** | 45.0 |
| **16.13** | 15.303 | 32 | R1 | 120R32 | **6L638** | 870.00 | **363.50** | 49.0 |
| **17.57** | 16.734 | 35 | R2 | 120R35 | **6L639** | 890.00 | **372.25** | 69.0 |
| **18.05** | 17.211 | 36 | R2 | 120R36 | **6L640** | 914.00 | **382.00** | 70.0 |
| **19.96** | 19.118 | 40 | S1 | 120S40 | **6L641** | 838.00 | **349.50** | 83.0 |
| **22.35** | 21.503 | 45 | S1 | 120S45 | **6L642** | 980.00 | **409.50** | 100.0 |
| **26.65** | 25.798 | 54 | S1 | 120S54 | **6L643** | 1318.00 | **550.00** | 140.0 |
| **29.52** | 28.661 | 60 | S1 | 120S60 | **6L644** | 1562.00 | **652.50** | 140.0 |

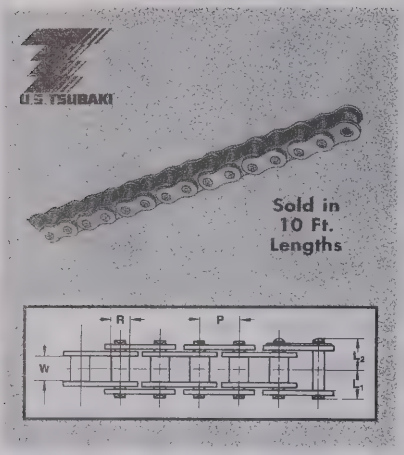
| O.D. (In.) | Pitch Dia. (In.) | No. of Teeth | Bushing Req'd. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ANSI SPROCKET No. 140** | | | | | | | | |
| **7.01** | 6.212 | 11 | Q1 | H140Q11 | **6L645** | $353.00 | **$147.25** | 6.8 |
| **7.58** | 6.762 | 12 | Q1 | H140Q12 | **6L646** | 419.00 | **175.25** | 9.1 |
| **8.15** | 7.313 | 13 | R1 | H140R13 | **6L647** | 363.00 | **147.30** | 10.0 |
| **8.72** | 7.864 | 14 | R1 | H140R14 | **6L648** | 452.00 | **189.25** | 13.0 |
| **9.28** | 8.417 | 15 | R1 | H140R15 | **6L649** | 476.00 | **199.00** | 14.0 |
| **9.85** | 8.970 | 16 | R1 | H140R16 | **6L650** | 507.00 | **212.25** | 17.0 |
| **10.41** | 9.524 | 17 | R1 | H140R17 | **6L651** | 530.00 | **221.75** | 18.0 |
| **10.97** | 10.078 | 18 | R1 | H140R18 | **6L652** | 554.00 | **231.75** | 20.0 |
| **12.10** | 11.187 | 20 | R1 | H140R20 | **6L653** | 649.00 | **271.75** | 25.0 |
| **12.66** | 11.742 | 21 | R1 | H140R21 | **6L654** | 659.00 | **275.50** | 27.0 |
| **13.22** | 12.297 | 22 | R1 | H140R22 | **6L655** | 684.00 | **286.25** | 30.0 |
| **14.34** | 13.407 | 24 | R1 | H140R24 | **6L656** | 832.00 | **347.75** | 40.0 |
| **14.90** | 13.963 | 25 | R1 | H140R25 | **6L657** | 850.00 | **355.00** | 40.0 |
| **15.46** | 14.513 | 26 | R1 | H140R26 | **6L658** | 870.00 | **363.50** | 40.0 |
| **17.70** | 16.742 | 30 | R2 | H140R30 | **6L659** | 984.00 | **411.25** | 69.0 |
| **20.49** | 19.523 | 35 | R2 | 140R35 | **6L660** | 1172.00 | **489.25** | 89.0 |
| **21.05** | 20.079 | 36 | S1 | 140S36 | **6L661** | 1108.00 | **462.25** | 89.0 |
| **23.29** | 22.305 | 40 | S1 | 140S40 | **6L662** | 1242.00 | **518.50** | 108.0 |
| **26.08** | 25.087 | 45 | S1 | 140S45 | **6L663** | 1445.00 | **604.00** | 109.0 |
| **31.10** | 30.097 | 54 | S2 | 140S54 | **6L664** | 1863.00 | **778.50** | 115.0 |
| **34.44** | 33.438 | 60 | S2 | 140S60 | **6L665** | 1953.00 | **815.50** | 128.0 |
| **ANSI SPROCKET No. 160** | | | | | | | | |
| **8.01** | 7.099 | 11 | R1 | H160R11 | **6L666** | 472.00 | **197.50** | 11.0 |
| **8.66** | 7.727 | 12 | R1 | H160R12 | **6L667** | 515.00 | **215.25** | 14.0 |
| **9.31** | 8.357 | 13 | R1 | H160R13 | **6L668** | 561.00 | **234.75** | 15.0 |
| **9.96** | 8.988 | 14 | R1 | H160R14 | **6L669** | 616.00 | **258.00** | 17.0 |
| **10.61** | 9.620 | 15 | R1 | H160R15 | **6L670** | 722.00 | **302.00** | 23.0 |
| **11.25** | 10.252 | 16 | R1 | H160R16 | **6L671** | 792.00 | **331.00** | 24.0 |
| **11.90** | 10.885 | 17 | R1 | H160R17 | **6L672** | 838.00 | **350.50** | 26.0 |
| **12.54** | 11.518 | 18 | R1 | H160R18 | **6L673** | 877.00 | **366.75** | 30.0 |
| **13.19** | 12.151 | 19 | R1 | H160R19 | **6L674** | 1002.00 | **418.75** | 38.0 |
| **13.83** | 12.785 | 20 | R2 | H160R20 | **6L675** | 1008.00 | **421.25** | 39.0 |
| **15.11** | 14.053 | 22 | R2 | H160R22 | **6L676** | 1133.00 | **473.25** | 59.0 |
| **16.39** | 15.323 | 24 | R2 | H160R24 | **6L677** | 1224.00 | **511.50** | 68.0 |
| **17.03** | 15.958 | 25 | R2 | H160R25 | **6L678** | 1266.00 | **529.00** | 70.0 |
| **17.67** | 16.593 | 26 | R2 | H160R26 | **6L679** | 1366.00 | **570.50** | 76.0 |
| **18.95** | 17.863 | 28 | R2 | H160R28 | **6L680** | 1459.00 | **610.00** | 87.0 |
| **20.23** | 19.134 | 30 | S2 | H160S30 | **6L681** | 1427.00 | **526.00** | 110.0 |
| **23.42** | 22.312 | 35 | S2 | 160S35 | **6L682** | 1573.00 | **657.00** | 141.0 |
| **26.61** | 25.491 | 40 | S2 | 160S40 | **6L683** | 2248.00 | **938.00** | 158.0 |
| **29.80** | 28.671 | 45 | S2 | 160S45 | **6L684** | 2701.00 | **1128.00** | 200.0 |

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# CORROSION-RESISTANT RIVETED ROLLER CHAIN AND INDIVIDUAL LINKS




## RIVETED ROLLER CHAIN

### SPECIFICATIONS AND ORDERING DATA

| ANSI Size | Pitch P | Width W | Dia. R | Dimensions (In.) Connecting End to Center Line $L_1$ | Rivet End to Center Line $L_2$ | Over-all Width $L_1$ & $L_2$ | Maximum Allowable Load (Lbs.) | Stock No. | List | Each 10 Ft. Length | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **40PC** | 1/2 | 5/16 | 0.312 | 0.325 | 0.392 | 0.717 | 100 | **6L079** | $184.04 | **$158.75** | 2.6 |
| **50PC** | 5/8 | 3/8 | 0.400 | 0.406 | 0.472 | 0.878 | 154 | **6L080** | 230.55 | **199.50** | 4.0 |
| **60PC** | 3/4 | 1/2 | 0.469 | 0.506 | 0.581 | 1.087 | 198 | **6L081** | 321.50 | **278.00** | 6.0 |
| **40NP** | 1/2 | 5/16 | 0.312 | 0.325 | 0.392 | 0.717 | 660 | **6L073** | 43.40 | **37.50** | 4.5 |
| **50NP** | 5/8 | 3/8 | 0.400 | 0.406 | 0.472 | 0.878 | 1140 | **6L074** | 61.98 | **53.15** | 7.0 |
| **60NP** | 3/4 | 1/2 | 0.469 | 0.506 | 0.581 | 1.087 | 1630 | **6L075** | 81.63 | **70.15** | 11.0 |
| **40SS** | 1/2 | 5/16 | 0.312 | 0.325 | 0.392 | 0.717 | 100 | **6L076** | 216.05 | **186.75** | 4.4 |
| **50SS** | 5/8 | 3/8 | 0.400 | 0.406 | 0.472 | 0.878 | 154 | **6L077** | 270.83 | **234.50** | 7.0 |
| **60SS** | 3/4 | 1/2 | 0.469 | 0.506 | 0.581 | 1.087 | 231 | **6L078** | 378.37 | **327.00** | 10.0 |
| **40AS** | 1/2 | 5/16 | 0.312 | 0.325 | 0.392 | 0.717 | 150 | **6L070** | 284.30 | **246.00** | 4.3 |
| **50AS** | 5/8 | 3/8 | 0.400 | 0.406 | 0.472 | 0.878 | 230 | **6L071** | 375.26 | **324.50** | 7.0 |
| **60AS** | 3/4 | 1/2 | 0.469 | 0.506 | 0.581 | 1.087 | 346 | **6L072** | 510.69 | **441.00** | 10.0 |

### CORROSION RESISTANCE GUIDE

| Substance | SS | Chain Type AS | NP | PC | Substance | SS | Chain Type AS | NP | PC |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | • | • | = | • | Carbon Tetrachloride (Dry) | • | • | = | # |
| Oil (Plant, Mineral) | • | • | • | • | Potassium Hydroxide (20%) | • | • | = | • |
| Alcohol | • | • | = | • | Sodium Hydroxide (25%) | • | • | = | • |
| Ammonia Water | • | • | = | • | Nitric Acid (5%) | • | # | = | = |
| Sodium Chloride(5%) | • | # | = | # | Vinegar | # | = | = | # |
| Hydrochloric Acid (2%) | = | = | = | = | Hypochlorite Soda | = | = | = | = |
| Sea Water | # | = | = | # | Soft Drinks | • | • | = | • |
| Hydrogen Peroxide | • | # | = | = | Soap and Water Solution | • | • | # | • |
| Caustic Soda (25%) | • | • | = | = | Paraffin | • | • | • | • |
| Gasoline | • | • | = | • | Fruit Juice | • | # | = | • |
| Formic Acid(50%) | • | • | • | = | Benzene | • | • | = | • |
| Formaldehyde(40%) | • | • | = | • | Water | • | • | # | • |
| Milk | • | • | = | • | Vegetable Juice | • | • | = | • |
| Lactic Acid | • | # | = | • | Iodine | = | = | = | • |
| Citric Acid(50%) | • | • | = | # | Sulfuric Acid | = | = | = | = |
| Chromic Acid (5%) | • | # | = | = | Phosphoric Acid (10%) | # | # | = | = |
| Acetic Acid (10%) | • | • | = | • | | | | | |

• Highly corrosion resistant. # Marginally corrosion resistant (depending on application conditions).
= Not corrosion resistant. * No data to support.

### POLY CHAIN (PC)

Designed for conditions where lubrication is impractical or undesirable. Can withstand some corrosive conditions and is suited for environments requiring sanitary conditions. Inner links are polyacetal, outer links are 304 stainless steel.

### NICKEL PLATED (NP)

Suitable for slightly corrosive environments and for outdoor conditions exposed to rain. Temperature range: 15°F to 140°F. Not suggested in applications exposed to food or high temperature variance.

### 304 STAINLESS STEEL (SS)

Ideal for fresh and saltwater exposures. Suitable for corrosive conditions involving food, chemicals, and pharmaceuticals. Temperature range: -270°F to 750°F.

### 600 STAINLESS STEEL (AS)

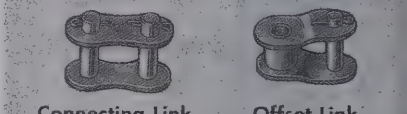
Slightly less corrosion resistance of 304 stainless steel with a 50% higher maximum allowable load made possible through heat treating of pins, bushings, and rollers. Temperature range: -40°F to 750°F.

For more detailed information on specific substance compatibility, see "Corrosion Resistance Guide" above right.

A WIDE SELECTION OF BELTS IS AVAILABLE, SEE PAGES 303 THRU 309.

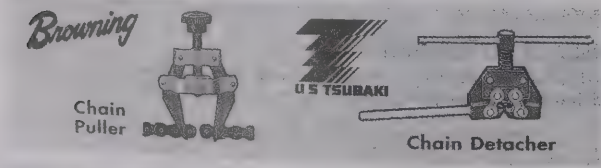
## INDIVIDUAL CHAIN LINKS

(SOLD IN PACKAGES OF 5)




| ANSI Size | CONNECTING LINKS Stock No. | List | Per Pkg. | Shpg. Wt. | OFFSET LINKS (Sold in pkgs. of 5) Stock No. | List | Per Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **40NP** | **6L091** | $10.35 | **$8.36** | 0.1 | **6L082** | $19.64 | **$16.85** | 0.1 |
| **50NP** | **6L092** | 12.39 | **10.58** | 0.3 | **6L083** | 25.85 | **21.77** | 0.2 |
| **60NP** | **6L093** | 20.67 | **16.89** | 0.3 | **6L084** | 31.02 | **26.20** | 0.3 |
| **40SS*** | **6L094** | 21.70 | **16.93** | 0.1 | **6L085** | 36.18 | **30.90** | 0.1 |
| **50SS*** | **6L095** | 23.77 | **19.80** | 0.2 | **6L086** | 42.39 | **36.60** | 0.2 |
| **60SS*** | **6L096** | 30.00 | **25.20** | 0.3 | **6L087** | 58.95 | **50.85** | 0.3 |
| **40AS** | **1L541** | 22.73 | **19.27** | 0.1 | **6L088** | 45.50 | **38.65** | 0.1 |
| **50AS** | **1L540** | 26.89 | **23.14** | 0.2 | **6L089** | 53.78 | **45.85** | 0.2 |
| **60AS** | **1L539** | 37.21 | **31.75** | 0.3 | **6L090** | 73.42 | **63.50** | 0.3 |

(*) Also for use on Nos. 6L079 through 6L081.




## ROLLER CHAIN TOOLS

| Description | ANSI Size | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Chain Puller** | 35-60 | Browning | 35 | **5A555** | $26.00 | **$19.16** | 0.4 |
| **Chain Puller** | 80-240 | Browning | 80 | **5A556** | 50.00 | **36.60** | 2.2 |
| **Chain Detacher** | 25-60 | UST | D-35 | **1A911** | 32.06 | **27.30** | 0.7 |
| **Chain Detacher** | 60-100 | UST | D-60 | **1A912** | 59.94 | **51.35** | 1.6 |



We deliver the products that deliver the power.

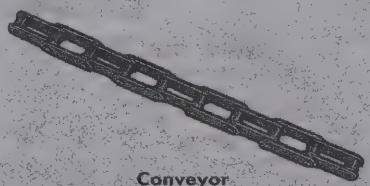
# RIVETED ROLLER CHAIN

U.S. TSUBAKI

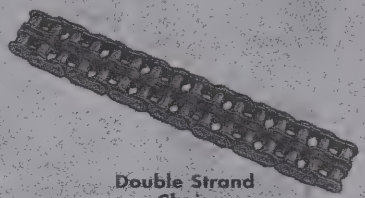
For additional connecting, offset, and roller links see page 303



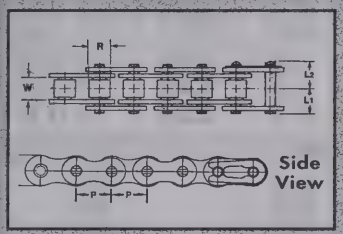
Single Strand Chain



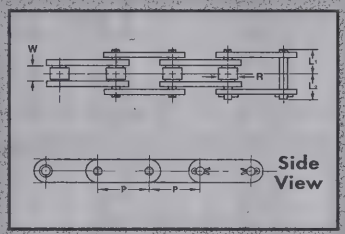
Conveyor Chain



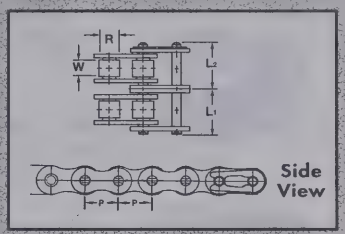
Double Strand Chain




Side View




Side View




Side View

## ORDERING DATA

| ANSI Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **SINGLE STRAND CHAIN* 10 Ft. Lengths** | | | | |
| **35** | **2W092** | $25.83 | **$21.52** | 2.4 |
| **40** | **2W093** | 26.86 | **22.16** | 4.5 |
| **41** | **2W094** | 19.60 | **16.35** | 2.8 |
| **50** | **2W095** | 38.20 | **32.10** | 7.3 |
| **60** | **2W096** | 52.67 | **43.95** | 11.0 |
| **80** | **2W221** | 85.70 | **72.55** | 18.0 |
| **100** | **2W222** | 224.21 | **161.75** | 27.0 |
| **120** | **6L481** | 334.79 | **242.00** | 39.0 |
| **140** | **6L482** | 389.53 | **281.75** | 52.0 |
| **160** | **6L483** | 485.60 | **351.50** | 68.0 |
| **SINGLE STRAND CHAIN 100 Ft. Lengths** | | | | |
| **35** | **2W192** | 254.22 | **196.50** | 26.0 |
| **40** | **2W193** | 252.03 | **194.00** | 48.0 |
| **41** | **2W194** | 195.24 | **149.10** | 33.0 |
| **50** | **2W195** | 378.05 | **292.00** | 75.0 |
| **60** | **3W098** | 518.47 | **400.00** | 110.0 |
| **CONVEYOR CHAIN* 10 Ft. Lengths** | | | | |
| **C2040** | **6L511** | 45.47 | **37.85** | 5.0 |
| **C2050** | **6L512** | 56.83 | **47.60** | 1.1 |
| **C2060H** | **6L513** | 83.39 | **70.15** | 10.5 |
| **C2080H** | **6L514** | 149.85 | **127.00** | 15.0 |
| **DOUBLE STRAND CHAIN* 10 Ft. Lengths** | | | | |
| **35-2** | **6L484** | 86.82 | **73.50** | 3.5 |
| **40-2** | **6L485** | 116.79 | **98.50** | 8.0 |
| **50-2** | **6L486** | 144.65 | **122.75** | 14.0 |
| **60-2** | **6L487** | 220.10 | **187.00** | 21.0 |
| **80-2** | **6L488** | 347.21 | **294.75** | 35.0 |
| **100-2** | **6L489** | 546.68 | **463.50** | 53.0 |

(*) Includes one connecting link for each 10 ft. of chain.

- **Factory preloaded to reduce initial stretch to 0.01%, minimizing necessary adjustments after first use**
- **Special prelubrication minimizes stretch to increase wear life and reduce maintenance costs**
- **Advanced micron production control maximizes contact between pin and bushing, increasing chain wear life**
- **Rollers and special wide-waist plates have been shot peened for greater maximum allowable loads**
- **Meet all American National Standards Institute (ANSI) requirements**
- **Fully interchangeable with other ANSI roller chain**

## ROLLER CHAIN SPECIFICATIONS

| ANSI Size | Dimensions (In.) Pitch P | Roller / Bushing Width W | Roller / Bushing Dia. R | Rivet End to Center Line L2 | Connecting End to Center Line L1 | Overall Width L1 & L2 | Maximum Allowable Load (Lbs.) | Average Ultimate Strength (Lbs.) |
|---|---|---|---|---|---|---|---|---|
| **SINGLE STRAND CHAIN** | | | | | | | | |
| **35** | 3/8 | 3/16 | 0.200 | 0.270 | 0.230 | 0.500 | 480 | 2,530 |
| **40** | 1/2 | 5/16 | 0.312 | 0.392 | 0.325 | 0.717 | 810 | 4,290 |
| **41** | 1/2 | 1/4 | 0.306 | 0.313 | 0.266 | 0.579 | 500 | 2,640 |
| **50** | 5/8 | 3/8 | 0.400 | 0.472 | 0.406 | 0.878 | 1,430 | 7,050 |
| **60** | 3/4 | 1/2 | 0.469 | 0.581 | 0.506 | 1.087 | 1,980 | 9,920 |
| **80** | 1 | 5/8 | 0.625 | 0.758 | 0.640 | 1.398 | 3,300 | 17,640 |
| **100** | 1¼ | 3/4 | 0.750 | 0.900 | 0.778 | 1.678 | 5,070 | 26,460 |
| **120** | 1½ | 1 | 0.875 | 1.138 | 0.980 | 2.118 | 6,830 | 37,480 |
| **140** | 1¾ | 1 | 1.000 | 1.248 | 1.059 | 2.307 | 9,040 | 48,510 |
| **160** | 2 | 1¼ | 1.125 | 1.451 | 1.254 | 2.705 | 11,900 | 60,630 |
| **CONVEYOR CHAIN** | | | | | | | | |
| **C2040** | 1 | 5/16 | 0.312 | 0.392 | 0.325 | 0.717 | 595 | 3,750 |
| **C2050** | 1¼ | 3/8 | 0.400 | 0.472 | 0.406 | 0.878 | 970 | 6,170 |
| **C2060H** | 1½ | 1/2 | 0.469 | 0.652 | 0.573 | 1.225 | 1,410 | 9,040 |
| **C2080H** | 2 | 5/8 | 0.625 | 0.823 | 0.720 | 1.543 | 2,400 | 15,400 |
| **DOUBLE STRAND CHAIN** | | | | | | | | |
| **35-2** | 3/8 | 3/16 | 0.200 | 0.469 | 0.429 | 0.898 | 810 | 5,060 |
| **40-2** | 1/2 | 5/16 | 0.312 | 0.675 | 0.608 | 1.283 | 1,370 | 8,580 |
| **50-2** | 5/8 | 3/8 | 0.400 | 0.833 | 0.762 | 1.595 | 2,430 | 14,100 |
| **60-2** | 3/4 | 1/2 | 0.469 | 1.033 | 0.955 | 1.998 | 3,360 | 19,840 |
| **80-2** | 1 | 5/8 | 0.625 | 1.335 | 1.217 | 2.552 | 5,610 | 35,280 |
| **100-2** | 1¼ | 3/4 | 0.750 | 1.606 | 1.484 | 3.090 | 8,610 | 52,920 |

**Maximum Allowable Load** is the maximum tension a chain may be safely subjected to. This value should never be exceeded by the actual design load factored by speed, temperature, and dynamic adjustments as applicable.
**Average Ultimate Tensile Strength** is the mean average of a series of tensile tests where the chains are loaded to a destructive failure. Average Ultimate Tensile Strength is not a measure of the load at which a chain may be applied; it is indicative only of the tensile strength quality of the chain.

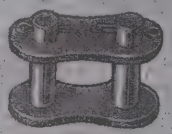
# RIVETED ROLLER CHAIN LINKS AND ELASTOMER TENSIONERS

## RIVETED ROLLER CHAIN INDIVIDUAL LINKS

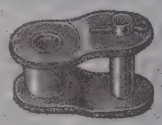
### (Sold in Packages of 5 or 1)

U.S. TSUBAKI

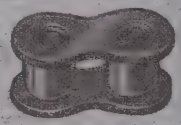
- Made of carbon steel



Connecting Link (Single Strand)



Offset Link (Single Strand)

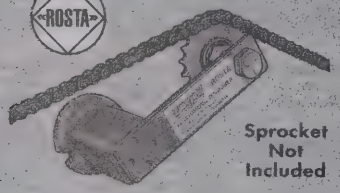


Roller Link (Single Strand)

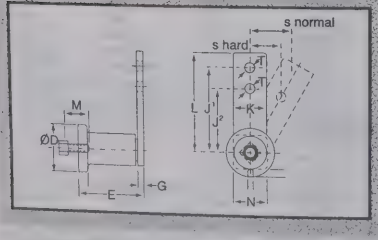
| ANSI Size | CONNECTING LINK Stock No. | Pkg. Qty. | List | Each Pkg. | Shpg. Wt. | OFFSET LINK Stock No. | Pkg. Qty. | List | Each Pkg. | Shpg. Wt. | ROLLER LINK Stock No. | Pkg. Qty. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE STRAND** | | | | | | | | | | | | | | | |
| **35** | **5X290** | 5 | $5.66 | **$3.22** | 0.1 | **5X291** | 5 | $8.76 | **$6.94** | 0.1 | **5X292** | 5 | $4.13 | **$2.21** | 0.1 |
| **40** | **5X293** | 5 | 6.20 | **3.49** | 0.2 | **5X294** | 5 | 10.83 | **8.29** | 0.1 | **5X295** | 5 | 4.91 | **2.78** | 0.1 |
| **41** | **5X296** | 5 | 5.15 | **3.03** | 0.1 | **5X297** | 5 | 8.51 | **6.71** | 0.1 | **5X298** | 5 | 4.13 | **2.21** | 0.1 |
| **50** | **5X299** | 5 | 7.23 | **4.37** | 0.2 | **5X300** | 5 | 12.39 | **10.24** | 0.2 | **5X301** | 5 | 5.91 | **3.43** | 0.2 |
| **60** | **5X302** | 5 | 8.03 | **5.34** | 0.3 | **5X303** | 5 | 17.58 | **13.51** | 0.3 | **5X304** | 5 | 7.74 | **5.22** | 0.2 |
| **80** | **6X529** | 1 | 2.86 | **1.71** | 0.1 | **6X530** | 1 | 6.98 | **4.24** | 0.2 | **6X531** | 1 | 2.86 | **1.71** | 0.2 |
| **100** | **6X532** | 1 | 5.45 | **3.11** | 0.3 | **6X533** | 1 | 9.58 | **7.40** | 0.3 | **6X534** | 1 | 5.66 | **3.22** | 0.3 |
| **120** | **6L490** | 1 | 7.49 | **5.00** | 0.5 | **6L493** | 1 | 13.41 | **10.62** | 0.5 | **6L496** | 1 | 8.26 | **5.77** | 0.5 |
| **140** | **6L491** | 1 | 9.80 | **7.40** | 0.8 | **6L494** | 1 | 18.59 | **15.42** | 0.8 | **6L497** | 1 | 10.35 | **8.27** | 0.8 |
| **160** | **6L492** | 1 | 12.90 | **10.28** | 1.6 | **6L495** | 1 | 28.94 | **23.71** | 1.1 | **6L498** | 1 | 14.46 | **11.53** | 1.1 |
| **DOUBLE STRAND** | | | | | | | | | | | | | | | |
| **35-2** | **6L499** | 5 | 10.06 | **8.23** | 0.3 | **6L505** | 5 | 19.62 | **16.18** | 0.1 | | | | **NA** | |
| **40-2** | **6L500** | 5 | 11.38 | **9.08** | 0.2 | **6L506** | 5 | 21.70 | **17.31** | 0.2 | | | | **NA** | |
| **50-2** | **6L501** | 5 | 13.94 | **11.15** | 0.2 | **6L507** | 5 | 27.91 | **22.91** | 0.4 | | | | **NA** | |
| **60-2** | **6L502** | 5 | 16.52 | **13.32** | 0.3 | **6L508** | 5 | 37.19 | **31.60** | 0.6 | | | | **NA** | |
| **80-2** | **6L503** | 1 | 6.72 | **4.17** | 0.3 | **6L509** | 1 | 11.86 | **9.90** | 0.3 | | | | **NA** | |
| **100-2** | **6L504** | 1 | 9.29 | **7.28** | 0.5 | **6L510** | 1 | 20.67 | **17.24** | 0.5 | | | | **NA** | |
| **CONVEYOR** | | | | | | | | | | | | | | | |
| **C2040** | **6L515** | 1 | 2.08 | **1.21** | 0.1 | **6L519** | 1 | 3.07 | **1.91** | 0.1 | **6L523** | 1 | 1.00 | **0.46** | 0.1 |
| **C2050** | **6L516** | 1 | 2.54 | **1.32** | 0.1 | **6L520** | 1 | 4.62 | **2.65** | 0.1 | **6L524** | 1 | 1.55 | **0.65** | 0.1 |
| **C2060H** | **6L517** | 1 | 2.86 | **1.71** | 0.1 | **6L521** | 1 | 6.46 | **3.57** | 0.1 | **6L525** | 1 | 2.34 | **1.22** | 0.1 |
| **C2080H** | **6L518** | 1 | 5.15 | **3.03** | 0.2 | **6L522** | 1 | 9.05 | **6.99** | 0.2 | **6L526** | 1 | 4.37 | **2.50** | 0.2 |

Lovejoy

ROSTA®



Sprocket Not Included




## ELASTOMERIC TENSIONERS

**Universally applicable tensioning device** for use as an elastic spring element for chain and belt tensioning, pressing, and cushioning. Tensioners keep chain and belts taut, preventing uneven drive surges and power losses. Chain and belt life are prolonged by eliminating slap and vibration while minimizing drive, bearing, and shaft wear.

**Four rubber inserts inside base isolate tensioning arm** from contact with base and provide continuous resistance to applied rotary forces. Tensioning arm deflects up to 30° either side of its normal position allowing a pre-tension force that self-adjusts an idler to everyday elongation of a chain or belt while dampening vibration in the drive.

**Employs no metal-to-metal connections;** no lubrication is required. Dirt and grime won't affect operation. Can be used indoors or out, from –40° to 180°F. One bolt mounting makes installation easy and allows for 360° position flexibility.

**Mounting bolt and idler bolt included.** Nos. 1L833, 1L834, and 1L835 include 5/8" bushing. Idler sprockets not included; for compatible sprockets see page 302.

### ORDERING DATA

| ANSI Chain Size | V-Belt Size Range | Flat Belt Width (In.) | Rosta Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **25** | A | — | SE11 | **3KZ08** | $61.60 | **$35.15** | 0.7 |
| **35** | A, B, 3L | — | SE15 | **1L833** | 68.00 | **39.15** | 1.2 |
| **35, 40, & 41** | B, C, 4L, 5L | 1 & 2 | SE18 | **1L834** | 82.00 | **47.10** | 1.8 |
| **50, 60, & 80** | D, E | 2, 3, & 4 | SE27 | **1L835** | 105.00 | **60.35** | 4.3 |
| **80** | — | 4 & 5 | SE38 | **1L836** | 180.00 | **103.25** | 8.8 |
| **80, 100, 120, 160, 180, & 200** | — | 5 & 6 | SE45 | **3KZ09** | 340.00 | **194.25** | 16.0 |

| Stock No. | ANGLE OF PRE-TENSION 10 Degrees Force (Lbs.) Normal | Hard | Dim. S | 20 Degrees Force (Lbs.) Normal | Hard | Dim. S | 30 Degrees Force (Lbs.) Normal | Hard | Dim. S | SPECIFICATIONS Dimensions (In.) D | E | G | J1 | J2 | K | L | N | T | Mounting Bolt Size (Metric) | Drill Hole Size (In.) | Idler Bolt Size (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3KZ08 | 3.4 | 4.5 | 0.55 | 9.0 | 11.9 | 1.10 | 18.0 | 23.9 | 1.57 | 1.38 | 2.01 | 0.20 | 3.15 | 2.36 | 0.79 | 3.54 | 0.87 | 0.39 | M6 x 20 | 1/4 | 3/8-16 x 2 |
| 1L833 | 5.6 | 7.0 | 0.67 | 14.6 | 18.2 | 1.34 | 30.4 | 37.8 | 1.97 | 1.77 | 2.52 | 0.20 | 3.94 | 3.15 | 0.98 | 4.43 | 1.18 | 0.53 | M8 x 20 | 5/16 | 1/2-13 x 2 |
| 1L834 | 16.9 | 20.9 | 0.67 | 40.5 | 50.6 | 1.34 | 78.7 | 98.2 | 1.97 | 2.28 | 3.07 | 0.24 | 3.94 | 3.15 | 1.18 | 4.53 | 1.38 | 0.53 | M10 x 30 | 7/16 | 1/2-13 x 2½ |
| 1L835 | 33.7 | 43.8 | 0.87 | 85.4 | 111.1 | 1.73 | 179.8 | 233.8 | 2.56 | 3.07 | 4.21 | 0.28 | 5.12 | 3.94 | 1.97 | 6.10 | 2.05 | 0.53 | M12 x 40 | 1/2 | 1/2-13 x 3½ |
| 1L836 | 65.2 | 81.4 | 1.18 | 164.1 | 205.0 | 2.36 | 337.2 | 421.5 | 3.43 | 3.74 | 5.51 | 0.39 | 6.89 | 5.51 | 2.36 | 8.07 | 2.60 | 0.81 | M16 x 40 | 5/8 | 3/4-10 x 5 |
| 3KZ09 | 112.5 | 140.5 | 1.54 | 292.5 | 365.6 | 3.07 | 584.5 | 730.7 | 4.41 | 4.53 | 7.87 | 0.47 | 8.86 | 7.09 | 2.76 | 10.24 | 3.15 | 0.81 | M20 x 50 | 13/16 | 3/4-10 x 6 |

# DRIVE TIGHTENERS, SHAFTS, AND IDLER BUSHINGS

## DRIVE TIGHTENERS

- **Drive tighteners are used to position or remove slack from V-belt, gearbelt, or roller chain drives**

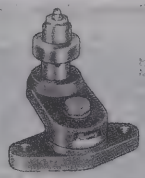
**Selection Procedure:**

**Step 1**—Select drive tightener style to suit application.

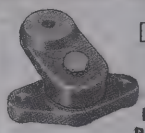
**Step 2**—Select either a tightener shaft or idler bushing.

**Step 3**—Select idler component; needle bearing idler components for tightener shafts are found on page 302 . Idler components for idler bushings include any sheave, sprocket, or gearbelt pulley which uses an H or Q1 Browning split taper bushing, see pages 296, 297, 314, and 313.

Browning USA PROUDLY MADE IN THE USA



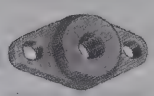
A No. 2L995 Adjusting Tightener with Shaft Bolt Hole 1/4" Bolt Center 2"



B Nos. 2L996 & 6L321 Adjusting Tightener Bolt Hole 3/8" Bolt Center 3½"



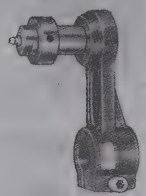
C No. 2L997 Double Adjusting Tightener Bolt Hole 3/8" Bolt Center 3½"



D No. 2L998 Fixed Flange Tightener Bolt Hole 3/8" Bolt Center 3½"



E No. 6L320 Single Adjusting Tightener Mounting Hole 1"



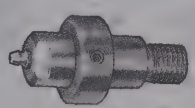
F No. 2L999 Single Adjusting Tightener w/ Shaft Mounting Hole 1/2"

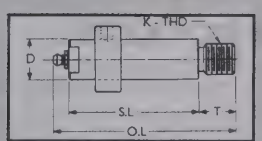
### DRIVE TIGHTENERS

| Key | Stock No. | FOR USE WITH FOLLOWING STOCK NOS. Shaft Req'd. See Below | Idler Bushing See Below | V-Belt Idler Sheaves See Page 302 | Idler Sprockets See Page 302 | Flat Face Idlers See Page 302 | Gearbelt Pulley Idlers See Page 321 | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 2L995 | * | — | 6L327 & 6L328 | 6L332 | 6L339 | — | ATN1 | **2L995** | $76.00 | **$71.00** | 0.6 |
| B | 2L996 | None | 6L325 | — | — | — | — | ATH | **2L996** | 61.00 | **57.00** | 2.8 |
| B | 6L321 | 6L323, 6L324‡ | 6L326† | 6L329, 6L330 & 6L331 | 6L333-6L336 | 6L340 & 6L341 | 6L337 & 6L338 | ATQ | **6L321** | 69.00 | **64.65** | 0.1 |
| C | 2L997 | 6L323, 6L324‡ | 6L326† | 6L329, 6L330 & 6L331 | 6L333-6L336 | 6L340 & 6L341 | 6L337 & 6L338 | DATSQ | **2L997** | 57.00 | **53.95** | 2.0 |
| D | 2L998 | 6L323, 6L324‡ | 6L326† | 6L329, 6L330 & 6L331 | 6L333-6L336 | 6L340 & 6L341 | 6L337 & 6L338 | FFTQ | **2L998** | 28.00 | **26.65** | 0.9 |
| E | 6L320 | 6L323, 6L324‡ | 6L326† | 6L329, 6L330 & 6L331 | 6L333-6L336 | 6L340 & 6L341 | 6L337 & 6L338 | SATQ | **6L320** | 59.00 | **55.55** | 2.4 |
| F | 2L999 | * | — | 6L327 & 6L328 | 6L332 | 6L339 | — | SATN1 | **2L999** | 54.00 | **50.35** | 0.6 |

*) No 6L322 tightener shaft included. (†) No tightener shaft required when using No. 6L326 idler bushing listed below. (‡) Order shafts separately from listing below.

Browning USA PROUDLY MADE IN THE USA






## TIGHTENER SHAFTS

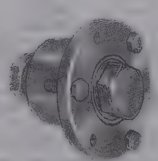
- **Used with drive tighteners above and idler components on pages 321 and**

### TIGHTENER SHAFTS

| Use With Tightener Stock Nos. | Dimensions (In.) O.L. | D | K | T | S.L. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **2L995 & 2L999** | 2 5/16 | 1/2 | 3/8-16 | 7/16 | 1½ | N1 | **6L322** | $23.00 | **$21.92** | 0.1 |
| **2L997, 2L998, 6L320 & 6L321** | 3⅜ | 1 | 3/4-10 | 7/8 | 2⅛ | N2 | **6L323** | 28.00 | **26.05** | 0.7 |
| **2L997, 2L998, 6L320 & 6L321** | 4⅜ | 1 | 3/4-10 | 7/8 | 3⅛ | N3 | **6L324*** | 34.00 | **32.00** | 1.0 |

(*) No. 6L324 used with flat face idler No. 6L341 only.

Browning USA PROUDLY MADE IN THE USA



## IDLER BUSHINGS

### RADIAL LOAD CAPACITY (LBS.)‡

| Stock No. | RPM 100 | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 |
|---|---|---|---|---|---|---|---|---|
| 6L325 | 1518 | 1016 | 854 | 772 | 718 | 678 | 648 | 624 |
| 6L326 | 3320 | 2222 | 1868 | 1688 | 1568 | 1486 | 1420 | 1366 |

(‡) Based on 2500 hours average life at RPM shown.

**Used with drive tighteners above**
**Furnished with ball bearings, capscrews, stud bolt, and nut**
**Converts any H or Q1 Browning split taper bushed product into an idler**

### IDLER BUSHINGS

| Use With Tightener Stock Nos. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **2L996** | IDH1 x 1/2A* | **6L325** | $96.00 | **$89.75** | 0.9 |
| **6L321, 2L997, 2L998, & 6L320** | IDQ1 x 3/4A† | **6L326** | 163.00 | **152.75** | 5.3 |

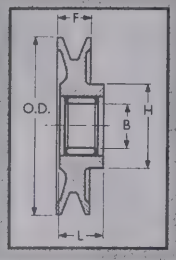
(*) Use with any Browning H bushed sheaves, sprockets, or gearbelt pulley to convert to idler.
(†) Use with any Browning Q1 bushed sheaves, sprockets, or gearbelt pulley to convert to idler.

# V-BELT IDLER SHEAVES, IDLER SPROCKETS, AND FLAT-FACE IDLERS

## V-BELT IDLER SHEAVES

- For "4L", "A", "5L" and "B" belts
- Cast-iron construction
- Needle bearings



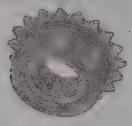



| Belt Size | Shaft Req'd* | Dimensions (In.) O.D. | B | F | H | L | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4L, A | 6L322 | 2.50 | 1/2 | 21/32 | 1 9/16 | 3/4 | NAK25 | **6L327** | $41.00 | **$38.10** | 0.4 |
| 4L, A | 6L322 | 3.05 | 1/2 | 21/32 | 1 9/16 | 3/4 | NAK30 | **6L328** | 46.00 | **42.95** | 0.6 |
| 4L, A | 6L323 | 3.95 | 1 | 3/4 | 1 7/8 | 1 | NAK41 | **6L329** | 54.00 | **50.30** | 1.3 |
| 5L, B | 6L323 | 3.96 | 1 | 7/8 | 1 7/8 | 1 | NBK40 | **6L330** | 57.00 | **53.25** | 1.7 |
| 5L, B | 6L323 | 4.96 | 1 | 7/8 | 1 7/8 | 1 | NBK52 | **6L331** | 61.00 | **57.60** | 1.9 |

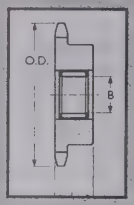
(*) Order shaft separately from page 301.

## NEEDLE BEARING IDLER SPROCKETS†

- Maintain proper chain tension
- Hardened steel teeth for longer life
- Heavy steel construction



Needle Bearing Idler Sprocket

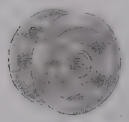



| Chain Size | No. of Teeth | Tightener Shaft | Dimensions (In.) O.D. | B | L | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 35 | 13 | 6L322* | 1.75 | 0.50 | 0.75 | HN35B13 | **6L332** | $52.00 | **$48.40** | 0.2 |
| 40 | 19 | 6L323* | 3.28 | 1.00 | 1.00 | HN40B19 | **6L333** | 60.00 | **56.40** | 1.2 |
| 50 | 17 | 6L323* | 3.72 | 1.00 | 1.00 | HN50B17 | **6L334** | 68.00 | **63.45** | 1.4 |
| 60 | 17 | 6L323* | 4.46 | 1.00 | 1.00 | HN60B17 | **6L335** | 79.00 | **73.75** | 2.5 |
| 80 | 13 | 6L323* | 4.66 | 1.00 | 1.00 | HN80B13 | **6L336** | 95.00 | **88.45** | 2.7 |

(*) Order shafts separately from page 301. (†) Not for use with drive tighteners or tightener shafts.

## FLAT-FACE IDLERS

- For use with drive tighteners and tightener shafts on page 301
- Can be used on back side of V-belts or with gearbelts
- Needle bearings
- For gearbelt pulley idler see page 321






| Shaft Req'd.* | Dimensions (In.) O.D. | D | B | W | F | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 6L322 | 1 3/4 | 1 3/8 | 1/2 | 3/4 | 9/16 | N1D05F | **6L339** | $52.00 | **$48.50** | 0.3 |
| 6L323 | 4 3/8 | 4 | 1 | 1 7/16 | 1 1/16 | N4D1F | **6L340** | 103.00 | **96.75** | 3.0 |
| 6L324 | 4 3/8 | 4 | 1 | 2 7/16 | 2 1/16 | N4D2F | **6L341** | 144.00 | **135.05** | 4.7 |

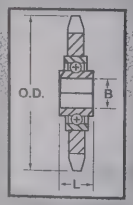
(*) Order shafts separatly from page 301.

## BEARING IDLER SPROCKETS†

- Maintain proper chain tension
- Hardened steel teeth for longer life
- Heavy steel construction



Ball Bearing Idler Sprocket




| Chain Size | No. of Teeth | Tightener Shaft | Dimensions (In.) O.D. | B | L | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 17 | † | 2.96 | 0.63 | 0.72 | HB40A17 x 5/8 | **5A551** | $31.00 | **$24.36** | 0.5 |
| 50 | 15 | † | 3.32 | 0.63 | 0.72 | HB50A15 x 5/8 | **5A552** | 31.00 | **24.37** | 0.6 |
| 60 | 13 | † | 3.49 | 0.63 | 0.72 | HB60A13 x 5/8 | **5A553** | 33.00 | **25.85** | 0.8 |
| 80 | 12 | † | 4.33 | 0.75 | 0.61 | HB80A12 x 3/4 | **5A554** | 52.00 | **40.35** | 1.5 |

(*) Order shafts separately from page 301. (†) Not for use with drive tighteners or tightener shafts.

## COMPOSITE IDLER SPROCKETS

- Wear-resistant glass reinforced nylon
- Insertion molded ABEC.1 high precision bearings
- Lightweight and quiet
- Corrosion-resistant
- Lubrication not required
- Compatible with Lovejoy tensioners on page 300



| Chain No. | No. of Teeth | Nominal O.D. (In.) | Bore | Efson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 40 | 17 | 3.00 | .5" Dia. x 1" Length | CS 4002 | **3ZP37** | $23.70 | **$10.55** | 0.5 |
| 50 | 15 | 3.25 | .5" Dia. x 1" Length | CS 5002 | **3ZP38** | 25.70 | **11.45** | 0.5 |
| 60 | 13 | 3.50 | .5" Dia. x 1" Length | CS 6002 | **3ZP39** | 28.70 | **12.80** | 0.5 |



We deliver the products that deliver the power.

# V-BELT SELECTION

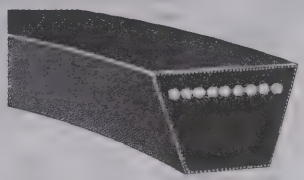
## V-BELT COMPARISON

Browning

USA

PROUDLY MADE IN THE USA

- All Browning belts are oil and heat-resistant
- Browning V-belts interchange with major brands like Goodyear, Gates, Dayco, and others (see chart below)
- Lengths are matched to RMA (Rubber Manufacturers' Association) standards



FHP and Super Gripbelt®
(Classical, Smooth Wrapped)
3L, 4L, 5L, A, B, C, D, & 8V



Gripnotch®
(Raw Edge Notched, Cog)
AX, BX, CX, 3VX, & 5VX

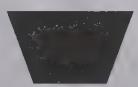
## BELT CROSS-SECTIONS SHOWN ACTUAL SIZE



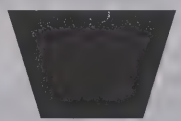
3L
3/8 X 7/32"



4L, A AX
1/2 X 5/16"



5L, B BX
21/32 X 3/8"



C, CX
7/8 X 17/32"



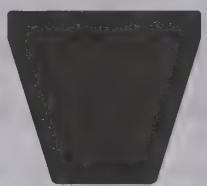
D
1 1/4 X 3/4 "



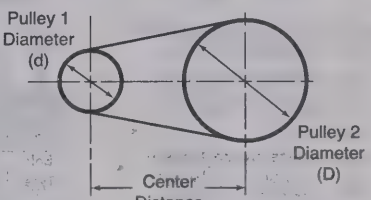
3VX
3/8 X 5/16"



5VX
5/8 X 17/32"



8V
1 X 7/8"




**BELT LENGTH FORMULA**

$$L = 2C + 1.57\,(D+d) + \frac{(D-d)^2}{4C}$$

(exact: $L = 2C + 1.57\,(D+d) + \frac{(D-d)^2}{4C}$; approximate: $L = 2C + 1.57\,(D+d)$)

L = Pitch Length of Belt
C = Center Distance
D = Pitch Diameter of Large Sheave
d = Pitch Diameter of Small Sheave

## SELECTION GUIDELINES

### FOR DIRECT REPLACEMENT WHEN ORIGINAL BELT PART NUMBER IS AVAILABLE

Match RMA number/manufacturer's part number (from your existing V-belt) then make selection from the following pages. Browning brand V-belts interchange with all the manufacturers listed below. Contact your local Grainger branch for assistance with cross-referencing specific part numbers.

### FOR NEW APPLICATIONS WHEN ORIGINAL BELT PART NUMBER IS NOT AVAILABLE

When replacing V-belts with worn markings use the belt cross-sections above to identify the belt type. Belt length can be determined by using either the Browning V-belt rule, No. 3HX32 (available on page 308, or by using the belt length formula calculation above. Horsepower tables are provided on the following page for assistance designing new applications.

### BELT INTERCHANGE*

| RMA Belt Size | BROWNING | GOODYEAR | GATES | DAYCO |
|---|---|---|---|---|
| 3L, 4L, 5L | FHP | Fractional Horsepower | TRUFLEX | Durapower FHP |
| A, B, C, D | Super Gripbelts | HY-T | HI-POWER | Super Blue Ribbon |
| AX, BX, CX | Gripnotched | Torque-Flex | TRI-POWER | Gold Label Cog-Belt |
| 3VX, 5VX, 8V | 358 | HY-T Wedge | SUPER HC | Power Wedge Vee Cog-Belt |

(*) Contact local Grainger branch for assistance with cross-referencing specific part numbers.

### IF YOU'RE IN A BIND, CALL GRAINGER

**If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# V-BELT SELECTION

Browning USA PROUDLY MADE IN THE USA

- All belts oil and heat-resistant
- Browning V-belts interchange with major brands like Goodyear, Gates, and Dayco (see chart on facing page)
- Length matched to RMA (Rubber Manufacturers' Association) standards
- All belts are static conducting

## FHP (FRACTIONAL HORSEPOWER) V-BELTS

**Application Characteristics:**
Low horsepower

- For single groove low horsepower applications (under 3 HP)
- Ideal for fan applications

| Belt Type | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3L | Pitch Dia.† | 1.25 | 1.5 | 1.75 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 | |
| | HP Rating* | 0.09 | 0.15 | 0.23 | 0.29 | 0.43 | 0.55 | 0.61 | 0.67 | 0.73 | 0.78 | |
| **Belt Type** | | | | | | | | | | | | |
| 4L | Pitch Dia.† | 1.25 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 | 5.5 | 6.0 |
| | HP Rating* | 0.09 | 0.14 | 0.29 | 0.60 | 0.88 | 1.17 | 1.37 | 1.49 | 1.61 | 1.70 | 1.78 |
| **Belt Type** | | | | | | | | | | | | |
| 5L | Pitch Dia.† | 2.2 | 2.5 | 3.0 | 3.4 | 3.9 | 4.4 | 4.9 | 5.4 | 5.9 | 6.4 | 6.9 | 7.4 |
| | HP Rating* | 0.36 | 0.45 | 0.71 | 1.07 | 1.52 | 1.95 | 2.26 | 2.39 | 2.50 | 2.59 | 2.68 | 2.71 |

## SUPER GRIPBELTS® (A, B, C, and D Types)

**Application Characteristics:**
Medium horsepower

- For industrial applications requiring single or multiple V-belt drives
- Transmits more horsepower and has longer life expectancy than FHP V-belts
- Suited for "clutching" applications

| Belt Type | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Pitch Dia.† | 2.00 | 2.20 | 2.60 | 3.00 | 3.40 | 3.70 | 4.00 | 4.40 | 4.70 | 5.00 | 5.40 | 5.70 | 6.00 | 6.40 | 7.00 | 8.00 |
| | HP Rating* | 0.90 | 1.17 | 1.69 | 2.23 | 2.95 | 3.40 | 4.00 | 4.69 | 5.20 | 5.96 | 6.35 | 6.83 | 7.30 | 7.91 | 8.81 | 10.22 |
| **Belt Type** | | | | | | | | | | | | | | | | | |
| B | Pitch Dia.† | 3.00 | 3.40 | 3.80 | 4.20 | 4.60 | 5.00 | 5.40 | 5.80 | 6.20 | 6.60 | 7.00 | 7.40 | 8.00 | 8.60 | 9.00 | 9.40 |
| | HP Rating* | 1.58 | 2.47 | 3.34 | 4.19 | 5.10 | 6.16 | 7.21 | 8.22 | 9.22 | 10.19 | 11.13 | 12.06 | 13.39 | 14.66 | 15.48 | 16.27 |
| **Belt Type** | | | | | | | | | | | | | | | | | |
| C | Pitch Dia.† | 5.60 | 7.00 | 7.40 | 7.80 | 8.20 | 8.60 | 9.00 | 9.40 | 9.80 | 10.20 | 11.00 | 12.00 | 14.00 | | | |
| | HP Rating* | 6.94 | 12.09 | 13.62 | 15.11 | 16.56 | 17.96 | 19.32 | 20.62 | 21.88 | 23.09 | 25.35 | 27.86 | 31.76 | | | |
| **Belt Type** | | | | | | | | | | | | | | | | | |
| D | Pitch Dia.† | 12.0 | 13.4 | 14.2 | 15.0 | 16.0 | 17.0 | 18.0 | 19.0 | 20.0 | 21.0 | | | | | | |
| | HP Rating* | 25.1 | 31.4 | 34.8 | 38.0 | 41.7 | 45.2 | 48.5 | 51.4 | 54.0 | 56.3 | | | | | | |

## GRIPNOTCH V-BELTS (AX, BX, and CX Types)

**Application Characteristics:**
Medium/high horsepower

- For industrial applications requiring single or multiple V-belt drives
- Transmits more horsepower than comparable Super Gripbelts
- Raw edge design provides more aggressive gripping with less belt slippage

| Belt Type | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AX | Pitch Dia.† | 2.00 | 2.20 | 2.60 | 3.00 | 3.40 | 3.70 | 4.00 | 4.40 | 4.70 | 5.00 | 5.40 | 5.70 | 6.00 | 6.40 | 7.00 | 8.00 |
| | HP Rating* | 1.24 | 1.58 | 2.25 | 2.90 | 3.53 | 3.99 | 4.46 | 5.15 | 5.67 | 6.18 | 6.84 | 7.34 | 7.82 | 8.45 | 9.39 | 10.88 |
| **Belt Type** | | | | | | | | | | | | | | | | | |
| BX | Pitch Dia.† | 3.00 | 3.40 | 3.80 | 4.20 | 4.60 | 5.00 | 5.40 | 5.80 | 6.20 | 6.60 | 7.00 | 7.40 | 8.00 | 8.60 | 9.00 | 9.40 |
| | HP Rating* | 3.72 | 4.62 | 5.50 | 6.36 | 7.19 | 8.08 | 9.19 | 10.27 | 11.34 | 12.39 | 13.41 | 14.42 | 15.89 | 17.32 | 18.23 | 19.13 |
| **Belt Type** | | | | | | | | | | | | | | | | | |
| CX | Pitch Dia.† | 5.60 | 7.00 | 7.40 | 7.80 | 8.20 | 8.60 | 9.00 | 9.40 | 9.80 | 10.20 | 11.00 | 12.00 | 14.00 | | | |
| | HP Rating* | 14.10 | 18.35 | 19.49 | 20.60 | 21.66 | 23.14 | 24.61 | 26.05 | 27.44 | 28.79 | 31.37 | 34.32 | 39.31 | | | |

- Notched construction allows belt to flex easier around driver sheave and run cooler than unnotched belts
- Not for use on "clutching" applications because of aggressive grip
- Tend to operate at slightly higher noise levels because of the notching

## 358® TYPE V-BELTS (3VX, 5VX, amd 8V)

**Application Characteristics:**
High horsepower

- For industrial applications requiring single or multiple V-belt drives
- Transmits substantially more horsepower than Super Gripbelts and Gripnotch V-belts, which allows for more compact drive systems (smaller sheave OD and/or fewer grooves)

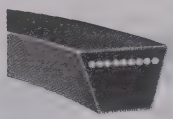
| Belt Type | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3VX | Pitch Dia.† | 2.15 | 2.30 | 2.45 | 2.60 | 2.95 | 3.10 | 3.30 | 3.60 | 4.45 | 4.70 | 4.95 | 5.25 | 5.95 | 6.85 | 7.95 | 10.55 |
| | HP Rating* | 1.37 | 1.63 | 1.89 | 2.15 | 2.75 | 3.01 | 3.34 | 3.85 | 5.25 | 5.65 | 6.05 | 6.53 | 7.63 | 9.01 | 10.64 | 14.22 |
| **Belt Type** | | | | | | | | | | | | | | | | | |
| 5VX | Pitch Dia.† | 4.30 | 4.55 | 4.80 | 5.10 | 5.40 | 5.70 | 5.90 | 6.20 | 6.50 | 6.70 | 7.00 | 7.40 | 7.90 | 8.40 | 9.10 | 9.50 |
| | HP Rating* | 8.23 | 9.40 | 10.55 | 11.93 | 13.30 | 14.66 | 15.56 | 16.89 | 18.22 | 19.10 | 20.41 | 22.13 | 24.26 | 26.35 | 29.23 | 30.84 |
| **Belt Type** | | | | | | | | | | | | | | | | | |
| 8V | Pitch Dia.† | 12.30 | 13.00 | 13.80 | 14.80 | 15.80 | 16.80 | 17.80 | 18.80 | 19.80 | 21.00 | | | | | | |
| | HP Rating* | 42.58 | 47.25 | 52.48 | 58.78 | 64.81 | 70.58 | 76.06 | 81.25 | 86.12 | 91.55 | | | | | | |

(*) Horsepower ratings are of a single belt and are not corrected for ratio, arc of conent, or belt length. They are based on a 1.0 service factor. RMA (Rubber Manufacturers' Association) service factor requirements vary from 1.0 to 2.0.
(†) Pitch diameter of smaller sheave operating at 1750 RPM. Dimensions in inches.

# FRACTIONAL HP 3L, 4L, & 5L V-BELTS

Browning

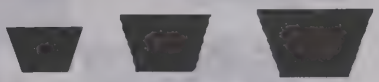
USA
PROUDLY MADE IN THE USA



4L & 5L Belts Have Smooth Wrapped Construction

3L Belts Have Raw Edge Construction

Actual Size Shown




| Nom. Outside Length (In.) | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3L V-BELTS (3/8" Top Width by 7/32" Thick)** | | | | | | | | | | | | | | | |
| 15 | 3L150 | $4.50 | 0.1 | 27 | 3L270 | $4.66 | 0.1 | 39 | 3L390 | $5.71 | 0.1 | 51 | 3L510 | $6.74 | 0.2 |
| 16 | 3L160 | 4.50 | 0.1 | 28 | 3L280 | 4.72 | 0.1 | 40 | 3L400 | 5.81 | 0.1 | 52 | 3L520 | 6.82 | 0.2 |
| 17 | 3L170 | 4.50 | 0.1 | 29 | 3L290 | 4.81 | 0.1 | 41 | 3L410 | 5.93 | 0.2 | 53 | 3L530 | 6.92 | 0.2 |
| 18 | 3L180 | 4.50 | 0.1 | 30 | 3L300 | 4.89 | 0.1 | 42 | 3L420 | 6.01 | 0.2 | 54 | 3L540 | 7.00 | 0.2 |
| 19 | 3L190 | 4.50 | 0.1 | 31 | 3L310 | 4.92 | 0.1 | 43 | 3L430 | 6.09 | 0.2 | 55 | 3L550 | 7.07 | 0.2 |
| 20 | 3L200 | 4.50 | 0.1 | 32 | 3L320 | 5.02 | 0.1 | 44 | 3L440 | 6.16 | 0.2 | 56 | 3L560 | 7.15 | 0.2 |
| 21 | 3L210 | 4.50 | 0.1 | 33 | 3L330 | 5.09 | 0.1 | 45 | 3L450 | 6.26 | 0.2 | 57 | 3L570 | 7.23 | 0.5 |
| 22 | 3L220 | 4.50 | 0.1 | 34 | 3L340 | 5.15 | 0.1 | 46 | 3L460 | 6.35 | 0.2 | 58 | 3L580 | 7.30 | 0.2 |
| 23 | 3L230 | 4.50 | 0.1 | 35 | 3L350 | 5.28 | 0.1 | 47 | 3L470 | 6.44 | 0.2 | 59 | 3L590 | 7.34 | 0.2 |
| 24 | 3L240 | 4.50 | 0.1 | 36 | 3L360 | 5.36 | 0.1 | 48 | 3L480 | 6.53 | 0.2 | 60 | 3L600 | 7.45 | 0.2 |
| 25 | 3L250 | 4.50 | 0.1 | 37 | 3L370 | 5.45 | 0.1 | 49 | 3L490 | 6.61 | 0.2 | 61 | 3L610 | 7.56 | 0.2 |
| 26 | 3L260 | 4.58 | 0.1 | 38 | 3L380 | 5.58 | 0.1 | 50 | 3L500 | 6.70 | 0.2 | — | — | — | — |
| **4L V-BELTS (1/2" Top Width by 5/16" Thick)** | | | | | | | | | | | | | | | |
| 17 | 4L170 | 3.10 | 0.1 | 36 | 4L360 | 3.73 | 0.2 | 55 | 4L550 | 4.89 | 0.4 | 74 | 4L740 | 6.11 | 0.5 |
| 18 | 4L180 | 3.10 | 0.1 | 37 | 4L370 | 3.74 | 0.2 | 56 | 4L560 | 4.95 | 0.4 | 75 | 4L750 | 6.15 | 0.4 |
| 19 | 4L190 | 3.10 | 0.1 | 38 | 4L380 | 3.85 | 0.3 | 57 | 4L570 | 5.00 | 0.4 | 76 | 4L760 | 6.19 | 0.4 |
| 20 | 4L200 | 3.10 | 0.1 | 39 | 4L390 | 3.95 | 0.2 | 58 | 4L580 | 5.06 | 0.4 | 77 | 4L770 | 6.29 | 0.5 |
| 21 | 4L210 | 3.10 | 0.1 | 40 | 4L400 | 4.00 | 0.2 | 59 | 4L590 | 5.10 | 0.4 | 78 | 4L780 | 6.38 | 0.5 |
| 22 | 4L220 | 3.10 | 0.1 | 41 | 4L410 | 4.09 | 0.3 | 60 | 4L600 | 5.17 | 0.4 | 79 | 4L790 | 6.48 | 0.5 |
| 23 | 4L230 | 3.10 | 0.1 | 42 | 4L420 | 4.14 | 0.3 | 61 | 4L610 | 5.23 | 0.4 | 80 | 4L800 | 6.57 | 0.5 |
| 24 | 4L240 | 3.10 | 0.1 | 43 | 4L430 | 4.20 | 0.3 | 62 | 4L620 | 5.30 | 0.4 | 82 | 4L820 | 6.80 | 0.5 |
| 25 | 4L250 | 3.10 | 0.2 | 44 | 4L440 | 4.32 | 0.3 | 63 | 4L630 | 5.35 | 0.4 | 84 | 4L840 | 6.99 | 0.6 |
| 26 | 4L260 | 3.16 | 0.2 | 45 | 4L450 | 4.40 | 0.3 | 64 | 4L640 | 5.39 | 0.4 | 86 | 4L860 | 7.19 | 0.5 |
| 27 | 4L270 | 3.22 | 0.2 | 46 | 4L460 | 4.43 | 0.3 | 65 | 4L650 | 5.48 | 0.4 | 88 | 4L880 | 7.40 | 0.5 |
| 28 | 4L280 | 3.27 | 0.2 | 47 | 4L470 | 4.49 | 0.3 | 66 | 4L660 | 5.51 | 0.4 | 90 | 4L900 | 7.59 | 0.5 |
| 29 | 4L290 | 3.33 | 0.2 | 48 | 4L480 | 4.52 | 0.3 | 67 | 4L670 | 5.58 | 0.4 | 92 | 4L920 | 7.79 | 0.5 |
| 30 | 4L300 | 3.36 | 0.2 | 49 | 4L490 | 4.59 | 0.3 | 68 | 4L680 | 5.66 | 0.4 | 94 | 4L940 | 7.96 | 0.6 |
| 31 | 4L310 | 3.40 | 0.2 | 50 | 4L500 | 4.63 | 0.3 | 69 | 4L690 | 5.71 | 0.4 | 96 | 4L960 | 8.13 | 0.6 |
| 32 | 4L320 | 3.47 | 0.2 | 51 | 4L510 | 4.66 | 0.4 | 70 | 4L700 | 5.77 | 0.4 | 98 | 4L980 | 8.31 | 0.6 |
| 33 | 4L330 | 3.52 | 0.2 | 52 | 4L520 | 4.71 | 0.3 | 71 | 4L710 | 5.92 | 0.4 | 100 | 3X543 | 13.18 | 0.3 |
| 34 | 4L340 | 3.59 | 0.2 | 53 | 4L530 | 4.77 | 0.3 | 72 | 4L720 | 6.04 | 0.4 | — | — | — | — |
| 35 | 4L350 | 3.63 | 0.2 | 54 | 4L540 | 4.84 | 0.3 | 73 | 4L730 | 6.08 | 0.5 | — | — | — | — |
| **5L V-BELTS (21/32" Top Width by 3/8" Thick)** | | | | | | | | | | | | | | | |
| 23 | 5L230 | 5.81 | 0.2 | 40 | 5L400 | 8.17 | 0.4 | 57 | 5L570 | 10.98 | 0.6 | 74 | 5L740 | 13.10 | 0.7 |
| 24 | 5L240 | 5.81 | 0.2 | 41 | 5L410 | 8.39 | 0.4 | 58 | 5L580 | 11.06 | 0.6 | 75 | 5L750 | 13.28 | 0.7 |
| 25 | 5L250 | 5.81 | 0.2 | 42 | 5L420 | 8.60 | 0.4 | 59 | 5L590 | 11.59 | 0.6 | 76 | 5L760 | 13.41 | 0.8 |
| 26 | 5L260 | 5.98 | 0.2 | 43 | 5L430 | 8.78 | 0.4 | 60 | 5L600 | 11.25 | 0.6 | 77 | 5L770 | 13.57 | 0.7 |
| 27 | 5L270 | 6.09 | 0.2 | 44 | 5L440 | 8.98 | 0.4 | 61 | 5L610 | 11.32 | 0.6 | 78 | 5L780 | 13.75 | 0.7 |
| 28 | 5L280 | 6.23 | 0.2 | 45 | 5L450 | 9.17 | 0.4 | 62 | 5L620 | 11.36 | 0.6 | 79 | 5L790 | 13.92 | 0.2 |
| 29 | 5L290 | 6.40 | 0.3 | 46 | 5L460 | 9.33 | 0.4 | 63 | 5L630 | 11.48 | 0.5 | 80 | 5L800 | 14.15 | 0.7 |
| 30 | 5L300 | 6.49 | 0.3 | 47 | 5L470 | 9.57 | 0.4 | 64 | 5L640 | 11.61 | 0.6 | 82 | 5L820 | 14.53 | 0.8 |
| 31 | 5L310 | 6.66 | 0.3 | 48 | 5L480 | 9.72 | 0.4 | 65 | 5L650 | 11.76 | 0.6 | 84 | 5L840 | 14.91 | 0.8 |
| 32 | 5L320 | 6.79 | 0.3 | 49 | 5L490 | 9.94 | 0.4 | 66 | 5L660 | 11.93 | 0.6 | 86 | 5L860 | 15.38 | 0.8 |
| 33 | 5L330 | 6.97 | 0.3 | 50 | 5L500 | 10.07 | 0.5 | 67 | 5L670 | 12.05 | 0.6 | 88 | 5L880 | 15.64 | 0.8 |
| 34 | 5L340 | 7.07 | 0.3 | 51 | 5L510 | 10.65 | 0.5 | 68 | 5L680 | 12.23 | 0.6 | 90 | 5L900 | 15.94 | 0.8 |
| 35 | 5L350 | 7.23 | 0.3 | 52 | 5L520 | 10.37 | 0.5 | 69 | 5L690 | 12.35 | 0.6 | 92 | 5L920 | 16.26 | 0.4 |
| 36 | 5L360 | 7.34 | 0.3 | 53 | 5L530 | 10.55 | 0.5 | 70 | 5L700 | 12.49 | 0.7 | 94 | 5L940 | 16.65 | 0.4 |
| 37 | 5L370 | 7.49 | 0.3 | 54 | 5L540 | 10.68 | 0.5 | 71 | 5L710 | 12.61 | 0.7 | 96 | 5L960 | 17.16 | 0.9 |
| 38 | 5L380 | 7.65 | 0.4 | 55 | 5L550 | 10.81 | 0.5 | 72 | 5L720 | 12.75 | 0.7 | 98 | 5L980 | 17.54 | 0.9 |
| 39 | 5L390 | 7.87 | 0.4 | 56 | 5L560 | 10.90 | 0.5 | 73 | 5L730 | 12.92 | 0.7 | 100 | 3X544 | 17.95 | 0.5 |

NOTE: Manufacturer's part number and Grainger stock number are identical on fractional horsepower belts under 100" long.

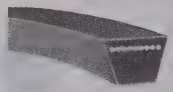
MANY BRANDS OF HYDRAULICS/PNEUMATICS AVAILABLE

VICKERS® Dayton® INGERSOLL-RAND® SPEEDAIRE® Parker

# INDUSTRIAL A & AX V-BELTS

Browning

USA
PROUDLY MADE IN THE USA


A TYPE


AX TYPE

A and AX
Actual Size
Shown



## A TYPE (1/2" Top Width by 5/16" Thick)

| Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | A26 | 3X697 | $7.18 | 0.2 | 50 | A48 | 3X472 | $10.09 | 0.4 | 71 | A69 | 6L183 | $12.93 | 0.5 | 92 | A90 | 3X631 | $17.07 | 0.6 |
| 29 | A27 | 6A139 | 7.23 | 0.2 | 51 | A49 | 1A096 | 10.23 | 0.4 | 72 | A70 | 6A151 | 13.20 | 0.5 | 93 | A91 | 6L193 | 17.25 | 0.6 |
| 30 | A28 | 6A140 | 7.39 | 0.2 | 52 | A50 | 3X546 | 10.32 | 0.5 | 73 | A71 | 3X627 | 13.28 | 0.5 | 94 | A92 | 6A152 | 17.46 | 0.6 |
| 31 | A29 | 6A141 | 7.46 | 0.2 | 53 | A51 | 3X473 | 10.45 | 0.4 | 74 | A72 | 5A292 | 13.34 | 0.5 | 95 | A93 | 6L194 | 17.60 | 0.6 |
| 32 | A30 | 1A095 | 7.61 | 0.2 | 54 | A52 | 3X702 | 10.56 | 0.4 | 75 | A73 | 6L184 | 13.46 | 0.5 | 96 | A94 | 6L195 | 17.78 | 0.6 |
| 33 | A31 | 3X654 | 7.71 | 0.3 | 55 | A53 | 6X565 | 10.66 | 0.4 | 76 | A74 | 5A293 | 13.55 | 0.5 | 97 | A95 | 6L196 | 17.96 | 0.6 |
| 34 | A32 | 6A142 | 7.88 | 0.2 | 56 | A54 | 3X700 | 10.82 | 0.4 | 77 | A75 | 3X628 | 13.78 | 0.5 | 98 | A96 | 3X632 | 18.14 | 0.6 |
| 35 | A33 | 5X995 | 7.97 | 0.3 | 57 | A55 | 3X622 | 10.93 | 0.4 | 78 | A76 | 6L185 | 13.97 | 0.5 | 99 | A97 | 6L197 | 18.36 | 0.6 |
| 36 | A34 | 6A143 | 8.17 | 0.2 | 58 | A56 | 3X704 | 11.09 | 0.4 | 79 | A77 | 6L186 | 14.19 | 0.5 | 100 | A98 | 6L198 | 18.51 | 0.7 |
| 37 | A35 | 3X620 | 8.25 | 0.3 | 59 | A57 | 6A148 | 11.12 | 0.4 | 80 | A78 | 6X570 | 14.42 | 0.6 | 102 | A100 | 6L199 | 18.87 | 0.7 |
| 38 | A36 | 6A144 | 8.43 | 0.2 | 60 | A58 | 3X547 | 11.34 | 0.4 | 81 | A79 | 6L187 | 14.61 | 0.5 | 105 | A103 | 6L200 | 19.42 | 0.7 |
| 39 | A37 | 6A145 | 8.65 | 0.2 | 61 | A59 | 6A149 | 11.45 | 0.4 | 82 | A80 | 3X629 | 14.83 | 0.6 | 107 | A105 | 3X351 | 19.79 | 0.7 |
| 40 | A38 | 3X545 | 8.83 | 0.3 | 62 | A60 | 3X623 | 11.56 | 0.4 | 83 | A81 | 6L188 | 15.02 | 0.5 | 112 | A110 | 6L201 | 21.32 | 0.8 |
| 41 | A39 | 6A146 | 8.96 | 0.3 | 63 | A61 | 6A150 | 11.72 | 0.4 | 84 | A82 | 6L189 | 15.25 | 0.5 | 114 | A112 | 3X352 | 22.01 | 0.7 |
| 42 | A40 | 1A109 | 9.08 | 0.3 | 64 | A62 | 3X624 | 11.82 | 0.4 | 85 | A83 | 6L190 | 15.51 | 0.5 | 122 | A120 | 3X371 | 23.67 | 0.8 |
| 43 | A41 | 1A100 | 9.23 | 0.3 | 65 | A63 | 5A290 | 11.98 | 0.5 | 86 | A84 | 5A294 | 15.72 | 0.6 | 130 | A128 | 3X633 | 25.45 | 0.9 |
| 44 | A42 | 3X621 | 9.45 | 0.3 | 66 | A64 | 3X625 | 12.09 | 0.4 | 87 | A85 | 3X630 | 15.93 | 0.6 | 138 | A136 | 6L202 | 27.05 | 0.9 |
| 45 | A43 | 3X699 | 9.64 | 0.3 | 67 | A65 | 5A291 | 12.20 | 0.4 | 88 | A86 | 6L318 | 16.16 | 0.6 | 146 | A144 | 6L203 | 28.70 | 1.0 |
| 46 | A44 | 6A147 | 9.71 | 0.3 | 68 | A66 | 6X569 | 12.34 | 0.5 | 89 | A87 | 6L191 | 16.42 | 0.6 | 160 | A158 | 6L204 | 31.45 | 1.0 |
| 47 | A45 | 1A105 | 9.86 | 0.2 | 69 | A67 | 6L182 | 12.56 | 0.5 | 90 | A88 | 5A295 | 16.61 | 0.6 | 175 | A173 | 6L205 | 34.50 | 1.2 |
| 48 | A46 | 3X471 | 9.86 | 0.3 | 70 | A68 | 3X626 | 12.61 | 0.5 | 91 | A89 | 6L192 | 16.83 | 0.6 | 182 | A180 | 6L206 | 35.95 | 1.2 |
| 49 | A47 | 1A098 | 9.99 | 0.3 | | | | | | | | | | | | | | | |

## GRIPNOTCH RAW EDGE NOTCHED (COG) AX TYPE (1/2" Top Width by 5/16" Thick)

| Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | AX26 | 6A115 | $8.95 | 0.2 | 55 | AX53 | 6L239 | $13.41 | 0.4 | 87 | AX85 | 6L253 | $20.10 | 0.6 |
| 30 | AX28 | 6L233 | 9.25 | 0.2 | 56 | AX54 | 6L240 | 13.62 | 0.4 | 92 | AX90 | 6L254 | 21.47 | 0.6 |
| 33 | AX31 | 6A116 | 9.65 | 0.2 | 57 | AX55 | 6L241 | 13.73 | 0.4 | 94 | AX92 | 6L255 | 21.91 | 0.6 |
| 35 | AX33 | 6A117 | 10.00 | 0.2 | 58 | AX56 | 6L242 | 13.87 | 0.4 | 98 | AX96 | 6L256 | 22.86 | 0.7 |
| 36 | AX34 | 6L234 | 10.22 | 0.2 | 62 | AX60 | 6L243 | 14.48 | 0.4 | 107 | AX105 | 6L257 | 24.93 | 0.7 |
| 37 | AX35 | 6A118 | 10.33 | 0.2 | 64 | AX62 | 6L244 | 14.88 | 0.4 | 112 | AX110 | 6L258 | 27.00 | 0.8 |
| 38 | AX36 | 6A119 | 10.55 | 0.3 | 66 | AX64 | 6L245 | 15.25 | 0.4 | 114 | AX112 | 6L259 | 27.85 | 0.8 |
| 39 | AX37 | 6L235 | 10.80 | 0.3 | 68 | AX66 | 6L246 | 15.51 | 0.5 | 122 | AX120 | 6L260 | 29.85 | 0.8 |
| 40 | AX38 | 6A120 | 11.08 | 0.3 | 70 | AX68 | 6L247 | 15.85 | 0.5 | 130 | AX128 | 6L261 | 32.00 | 0.9 |
| 44 | AX42 | 6A121 | 11.87 | 0.3 | 72 | AX70 | 6L248 | 16.64 | 0.5 | 138 | AX136 | 6L262 | 34.15 | 0.9 |
| 45 | AX43 | 6L236 | 12.11 | 0.3 | 73 | AX71 | 6L249 | 16.77 | 0.5 | 146 | AX144 | 6L263 | 36.05 | 1.0 |
| 48 | AX46 | 6A122 | 12.46 | 0.3 | 77 | AX75 | 6L250 | 17.29 | 0.5 | 160 | AX158 | 6L264 | 39.70 | 1.1 |
| 50 | AX48 | 6L237 | 12.76 | 0.3 | 80 | AX78 | 6L251 | 18.13 | 0.5 | 175 | AX173 | 6L265 | 43.70 | 1.1 |
| 53 | AX51 | 6L238 | 13.10 | 0.4 | 82 | AX80 | 6L252 | 18.68 | 0.5 | 182 | AX180 | 6L266 | 45.45 | 1.2 |

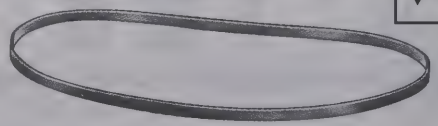
(*) Manufactured to tolerances set by the RMA (Rubber Manufacturers' Association).

## POLY V-BELTS FOR COMPRESSORS

Six-rib belts for many Speedaire and other brand compressors. High tensile strength, oil/heat resistant. Browning brand.

Browning





| Size L x W (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 49 x 5/8 | 490J6 | 3X542 | $13.33 | 0.2 |
| 46 x 5/8 | 460J6 | 3X655 | 13.31 | 0.2 |
| 41 x 5/8 | 410J6 | 3X707 | 12.82 | 0.2 |

(*) Manufactured to tolerances set by the RMA (Rubber Manufacturers' Association).

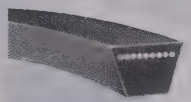
FOR V-BELT COMPARISON AND SELECTION GUIDES, SEE PAGES 303 and 304
FOR V-BELT ACCESSSORIES, SEE PAGE 308

# INDUSTRIAL B & BX V-BELTS

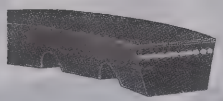
Browning

USA
PROUDLY MADE IN THE USA

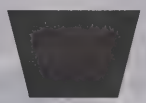
Actual Size Shown



B Type



BX Type



B



BX

| Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **B TYPE (21/32" Top Width by 7/16" Thick)** | | | | | | | | | | | | | | |
| 31 | B28 | **6L207** | **$9.55** | 0.3 | 67 | B64 | **3X614** | **$17.36** | 0.8 | 103 | B100 | **5X480** | **$26.55** | 1.2 |
| 32 | B29 | **6L208** | **9.80** | 0.3 | 68 | B65 | **6X999** | **17.64** | 0.8 | 104 | B101 | **6L216** | **26.75** | 1.1 |
| 33 | B30 | **1A103** | **9.99** | 0.4 | 69 | B66 | **3X640** | **17.78** | 0.8 | 106 | B103 | **5X481** | **27.15** | 1.2 |
| 34 | B31 | **6L209** | **10.23** | 0.3 | 70 | B67 | **6A157** | **17.96** | 0.7 | 108 | B105 | **3X650** | **27.55** | 1.3 |
| 35 | B32 | **6A153** | **10.40** | 0.3 | 71 | B68 | **3X641** | **18.14** | 0.8 | 111 | B108 | **5X482** | **28.65** | 1.3 |
| 36 | B33 | **1A099** | **10.59** | 0.4 | 72 | B69 | **1A102** | **18.38** | 0.9 | 114 | B111 | **6L217** | **29.50** | 1.2 |
| 37 | B34 | **6A154** | **10.76** | 0.3 | 73 | B70 | **5X475** | **18.60** | 0.9 | 115 | B112 | **3X353** | **29.75** | 1.3 |
| 38 | B35 | **3X634** | **11.00** | 0.5 | 74 | B71 | **3X642** | **18.86** | 0.9 | 119 | B116 | **6A167** | **30.70** | 1.1 |
| 39 | B36 | **6A155** | **11.34** | 0.3 | 75 | B72 | **3X615** | **19.04** | 0.8 | 123 | B120 | **3X354** | **31.50** | 1.4 |
| 40 | B37 | **6L210** | **11.77** | 0.4 | 76 | B73 | **3X705** | **19.30** | 0.9 | 127 | B124 | **6A168** | **32.50** | 1.2 |
| 41 | B38 | **3X635** | **12.12** | 0.5 | 77 | B74 | **6A158** | **19.58** | 0.7 | 131 | B128 | **3X372** | **33.70** | 1.3 |
| 42 | B39 | **6L211** | **12.34** | 0.4 | 78 | B75 | **3X643** | **19.78** | 0.9 | 136 | B133 | **6A169** | **35.40** | 1.3 |
| 43 | B40 | **3X698** | **12.61** | 0.5 | 79 | B76 | **6A159** | **20.06** | 0.7 | 139 | B136 | **5X483** | **36.00** | 1.7 |
| 44 | B41 | **6A156** | **12.93** | 0.4 | 80 | B77 | **6A160** | **20.39** | 0.7 | 143 | B140 | **6L218** | **37.00** | 1.6 |
| 45 | B42 | **3X636** | **13.22** | 0.6 | 81 | B78 | **3X644** | **20.62** | 0.9 | 147 | B144 | **3X651** | **38.05** | 1.8 |
| 46 | B43 | **1A107** | **13.46** | 0.5 | 82 | B79 | **6A161** | **20.84** | 0.8 | 151 | B148 | **6L219** | **39.05** | 1.6 |
| 47 | B44 | **6X571** | **13.76** | 0.6 | 83 | B80 | **5X476** | **21.17** | 1.0 | 153 | B150 | **6L220** | **39.50** | 1.6 |
| 48 | B45 | **1A094** | **13.99** | 0.6 | 84 | B81 | **3X645** | **21.43** | 1.0 | 157 | B154 | **6L221** | **40.35** | 1.7 |
| 49 | B46 | **3X637** | **14.29** | 0.6 | 85 | B82 | **1A101** | **22.01** | 1.0 | 161 | B158 | **3X374** | **41.35** | 2.0 |
| 50 | B47 | **1A106** | **14.51** | 0.6 | 86 | B83 | **3X646** | **20.74** | 1.0 | 165 | B162 | **6A170** | **42.95** | 1.6 |
| 51 | B48 | **3X474** | **14.74** | 0.6 | 87 | B84 | **6A162** | **22.37** | 0.8 | 176 | B173 | **5X484** | **45.20** | 1.9 |
| 52 | B49 | **1A097** | **14.99** | 0.6 | 88 | B85 | **3X647** | **22.55** | 1.0 | 183 | B180 | **6A171** | **47.40** | 1.8 |
| 53 | B50 | **3X475** | **15.20** | 0.6 | 89 | B86 | **6A163** | **22.82** | 0.8 | 193 | B190 | **6L222** | **50.05** | 2.0 |
| 54 | B51 | **3X638** | **15.40** | 0.7 | 90 | B87 | **6A164** | **22.95** | 0.9 | 198 | B195 | **6A172** | **51.25** | 2.0 |
| 55 | B52 | **6X874** | **15.56** | 0.7 | 91 | B88 | **3X701** | **23.22** | 1.1 | 208 | B205 | **6L223** | **53.65** | 2.2 |
| 56 | B53 | **3X611** | **15.69** | 0.7 | 92 | B89 | **6L212** | **23.49** | 1.0 | 213 | B210 | **6L224** | **55.10** | 2.3 |
| 57 | B54 | **6X875** | **15.82** | 0.7 | 93 | B90 | **3X648** | **23.76** | 1.1 | 228 | B225 | **6L225** | **58.50** | 2.3 |
| 58 | B55 | **3X612** | **15.93** | 0.7 | 94 | B91 | **6L213** | **23.99** | 1.0 | 243 | B240 | **6L226** | **62.25** | 2.6 |
| 59 | B56 | **6X876** | **16.05** | 0.7 | 95 | B92 | **6A165** | **24.39** | 0.9 | 258 | B255 | **6L227** | **66.35** | 3.0 |
| 60 | B57 | **3X706** | **16.16** | 0.7 | 96 | B93 | **5X477** | **24.80** | 1.1 | 273 | B270 | **6L228** | **70.50** | 2.9 |
| 61 | B58 | **6X998** | **16.25** | 0.7 | 97 | B94 | **6L214** | **25.10** | 1.0 | 288 | B285 | **6L229** | **74.35** | 3.1 |
| 62 | B59 | **1A108** | **16.42** | 0.7 | 98 | B95 | **5X478** | **25.45** | 1.1 | 303 | B300 | **6L230** | **78.20** | 3.2 |
| 63 | B60 | **3X639** | **16.46** | 0.8 | 99 | B96 | **5X479** | **25.65** | 1.2 | 318 | B315 | **6L231** | **83.70** | 3.4 |
| 64 | B61 | **1A104** | **16.74** | 0.7 | 100 | B97 | **3X649** | **25.95** | 1.2 | 363 | B360 | **6L232** | **100.90** | 4.0 |
| 65 | B62 | **3X613** | **16.93** | 0.7 | 101 | B98 | **6L215** | **26.10** | 1.0 | — | — | — | — | — |
| 66 | B63 | **3X703** | **17.17** | 0.8 | 102 | B99 | **6A166** | **26.25** | 1.0 | — | — | — | — | — |
| **GRIPNOTCH RAW EDGE NOTCHED (COG) BX TYPE (21/32" Top Width by 13/32" Thick)** | | | | | | | | | | | | | | |
| 38 | BX35 | **6L267** | **36.70** | 0.4 | 69 | BX66 | **6L280** | **36.70** | 0.8 | 111 | BX108 | **6L297** | **36.70** | 1.3 |
| 39 | BX36 | **6A123** | **15.25** | 0.4 | 70 | BX67 | **6L281** | **22.64** | 0.8 | 115 | BX112 | **6A137** | **37.45** | 1.3 |
| 41 | BX38 | **6A124** | **15.25** | 0.4 | 71 | BX68 | **6A132** | **22.86** | 0.8 | 116 | BX113 | **6L298** | **37.80** | 1.3 |
| 45 | BX42 | **6A125** | **16.64** | 0.5 | 73 | BX70 | **6L282** | **23.49** | 0.8 | 118 | BX115 | **6L299** | **38.15** | 1.4 |
| 49 | BX46 | **6A126** | **17.97** | 0.5 | 74 | BX71 | **6A133** | **23.81** | 0.8 | 119 | BX116 | **6L300** | **38.55** | 1.4 |
| 51 | BX48 | **6A127** | **18.53** | 0.6 | 78 | BX75 | **6A134** | **24.93** | 0.9 | 123 | BX120 | **6L301** | **39.60** | 1.4 |
| 53 | BX50 | **6L268** | **19.04** | 0.6 | 80 | BX77 | **6L283** | **25.70** | 0.9 | 127 | BX124 | **6L302** | **41.00** | 1.4 |
| 54 | BX51 | **6L269** | **19.34** | 0.6 | 81 | BX78 | **6L284** | **26.05** | 0.9 | 131 | BX128 | **6L303** | **42.40** | 1.5 |
| 55 | BX52 | **6L270** | **19.51** | 0.6 | 82 | BX79 | **6L285** | **26.85** | 0.9 | 136 | BX133 | **6L304** | **44.30** | 1.5 |
| 56 | BX53 | **6L271** | **19.69** | 0.6 | 83 | BX80 | **6L286** | **26.80** | 0.9 | 139 | BX136 | **6L305** | **45.20** | 1.6 |
| 57 | BX54 | **6L272** | **19.94** | 0.6 | 84 | BX81 | **6L287** | **27.15** | 0.9 | 147 | BX144 | **6L306** | **47.85** | 1.7 |
| 58 | BX55 | **6A128** | **20.10** | 0.6 | 85 | BX82 | **6L288** | **27.85** | 0.9 | 153 | BX150 | **6L307** | **49.65** | 1.8 |
| 59 | BX56 | **6A129** | **20.23** | 0.6 | 86 | BX83 | **6L289** | **28.00** | 1.1 | 161 | BX158 | **6L308** | **52.05** | 1.8 |
| 60 | BX57 | **6L273** | **20.28** | 0.7 | 88 | BX85 | **6A135** | **28.55** | 1.1 | 165 | BX162 | **6L309** | **54.10** | 1.9 |
| 61 | BX58 | **6L274** | **20.42** | 0.7 | 93 | BX90 | **6A136** | **29.85** | 1.1 | 176 | BX173 | **6L310** | **56.90** | 2.0 |
| 62 | BX59 | **6L275** | **20.57** | 0.7 | 96 | BX93 | **6L290** | **31.25** | 1.1 | 183 | BX180 | **6L311** | **59.65** | 2.1 |
| 63 | BX60 | **6A130** | **20.69** | 0.7 | 98 | BX95 | **6L291** | **32.00** | 1.1 | 198 | BX195 | **6L312** | **64.45** | 2.3 |
| 64 | BX61 | **6L276** | **21.03** | 0.7 | 99 | BX96 | **6L292** | **32.30** | 1.1 | 213 | BX210 | **6L313** | **69.30** | 2.5 |
| 65 | BX62 | **6L277** | **21.30** | 0.7 | 100 | BX97 | **6L293** | **32.70** | 1.1 | 243 | BX240 | **6L314** | **78.40** | 2.8 |
| 66 | BX63 | **6L278** | **21.60** | 0.7 | 102 | BX99 | **6L294** | **33.15** | 1.2 | 258 | BX255 | **6L315** | **83.45** | 3.0 |
| 67 | BX64 | **6L279** | **21.87** | 0.7 | 103 | BX100 | **6L295** | **33.40** | 1.2 | 273 | BX270 | **6L316** | **88.65** | 3.2 |
| 68 | BX65 | **6A131** | **22.15** | 0.8 | 108 | BX105 | **6L296** | **34.70** | 1.2 | 303 | BX300 | **6L317** | **99.00** | 3.6 |

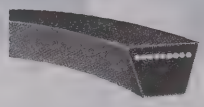
(*) Manufactured to tolerances set by the RMA (Rubber Manufacturers' Association).

# INDUSTRIAL C, CX & D TYPE V-BELTS

Browning

USA PROUDLY MADE IN THE USA

Actual Size Shown



C & D TYPE



CX TYPE



C & CX



D

| Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C TYPE (7/8" Top Width by 17/32" Thick)** | | | | | | | | | | | | | | |
| 55.2 | C51 | **4FJ14** | **$28.60** | 1.0 | 112.2 | C108 | **4FH85** | **$59.80** | 2.0 | 199.2 | C195 | **4FH99** | **$107.25** | 3.7 |
| 59.2 | C55 | **4FJ15** | **30.75** | 1.1 | 113.2 | C109 | **4FH86** | **60.40** | 2.0 | 214.2 | C210 | **4FJ01** | **115.90** | 4.0 |
| 64.2 | C60 | **4FJ16** | **33.55** | 1.2 | 116.2 | C112 | **4FH87** | **62.00** | 2.1 | 227.2 | C225 | **4FJ02** | **122.90** | 4.3 |
| 72.2 | C68 | **4FJ17** | **37.85** | 1.3 | 119.2 | C115 | **4FH88** | **63.60** | 2.1 | 242.2 | C240 | **4FJ03** | **130.15** | 4.6 |
| 76.2 | C72 | **4FJ18** | **39.95** | 1.4 | 124.2 | C120 | **4FH89** | **66.35** | 2.3 | 257.2 | C255 | **4FJ04** | **139.25** | 4.9 |
| 79.2 | C75 | **4FJ19** | **41.60** | 1.4 | 128.2 | C124 | **4FH90** | **68.50** | 2.4 | 272.2 | C270 | **4FJ05** | **146.85** | 5.2 |
| 85.2 | C81 | **4FJ20** | **45.30** | 1.6 | 132.2 | C128 | **4FH91** | **70.65** | 2.4 | 287.2 | C285 | **4FJ06** | **155.00** | 5.4 |
| 89.2 | C85 | **4FJ21** | **46.55** | 1.6 | 140.2 | C136 | **4FH92** | **74.65** | 2.6 | 302.2 | C300 | **4FJ07** | **163.25** | 5.7 |
| 94.2 | C90 | **4FJ22** | **50.25** | 1.7 | 148.2 | C144 | **4FH93** | **79.40** | 2.8 | 317.2 | C315 | **4FJ08** | **171.25** | 6.0 |
| 100.2 | C96 | **4FJ23** | **53.30** | 1.8 | 154.2 | C150 | **4FH94** | **82.20** | 2.9 | 332.2 | C330 | **4FJ09** | **179.25** | 6.3 |
| 101.2 | C97 | **4FJ24** | **53.90** | 1.8 | 162.2 | C158 | **4FH95** | **86.80** | 3.0 | 347.2 | C345 | **4FJ10** | **187.75** | 6.6 |
| 103.2 | C99 | **4FJ25** | **55.00** | 1.9 | 166.2 | C162 | **4FH96** | **88.70** | 3.1 | 362.2 | C360 | **4FJ11** | **195.75** | 6.9 |
| 104.2 | C100 | **4FH83** | **55.60** | 1.9 | 177.2 | C173 | **4FH97** | **94.85** | 3.3 | 392.2 | C390 | **4FJ12** | **212.25** | 7.5 |
| 109.2 | C105 | **4FH84** | **58.30** | 2.0 | 184.2 | C180 | **4FH98** | **99.15** | 3.4 | 422.2 | C420 | **4FJ13** | **229.00** | 8.0 |
| **GRIPNOTCH RAW EDGE NOTCHED (COG) CX TYPE (7/8" Top Width by 17/32" Thick)** | | | | | | | | | | | | | | |
| 55.2 | CX51 | **4FJ43** | **35.90** | 1.0 | 109.2 | CX105 | **4FJ27** | **73.30** | 2.0 | 162.2 | CX158 | **4FJ35** | **109.15** | 3.0 |
| 64.2 | CX60 | **4FJ44** | **42.15** | 1.2 | 113.2 | CX109 | **4FJ28** | **75.95** | 2.1 | 166.2 | CX162 | **4FJ36** | **111.50** | 3.1 |
| 72.2 | CX68 | **4FJ45** | **47.60** | 1.4 | 116.2 | CX112 | **4FJ29** | **78.00** | 2.2 | 177.2 | CX173 | **4FJ37** | **119.25** | 3.1 |
| 79.2 | CX75 | **4FJ46** | **52.30** | 1.5 | 124.2 | CX120 | **4FJ30** | **83.50** | 2.4 | 184.2 | CX180 | **4FJ38** | **124.65** | 3.2 |
| 85.2 | CX81 | **4FJ47** | **56.95** | 1.6 | 132.2 | CX128 | **4FJ31** | **88.95** | 2.6 | 199.2 | CX195 | **4FJ39** | **134.80** | 3.5 |
| 89.2 | CX85 | **4FJ48** | **58.50** | 1.7 | 140.2 | CX136 | **4FJ32** | **93.95** | 2.7 | 214.2 | CX210 | **4FJ40** | **145.80** | 4.0 |
| 94.2 | CX90 | **4FJ49** | **63.20** | 1.8 | 148.2 | CX144 | **4FJ33** | **99.85** | 2.9 | 242.2 | CX240 | **4FJ41** | **163.75** | 4.3 |
| 100.2 | CX96 | **4FJ50** | **67.10** | 1.9 | 154.2 | CX150 | **4FJ34** | **103.45** | 3.0 | 272.2 | CX270 | **4FJ42** | **185.00** | 5.0 |
| 105.2 | CX101 | **4FJ26** | **70.60** | 2.0 | | | | | | | | | | |
| **D TYPE (1 1/4" Top Width by 3/4" Thick)** | | | | | | | | | | | | | | |
| 125.2 | D120 | **4FJ51** | **122.65** | 4.0 | 200.2 | D195 | **4FJ58** | **198.50** | 6.3 | 302.7 | D300 | **4FJ65** | **300.75** | 11.0 |
| 133.2 | D128 | **4FJ52** | **130.75** | 4.4 | 215.2 | D210 | **4FJ59** | **214.00** | 6.8 | 332.7 | D330 | **4FJ66** | **331.00** | 11.0 |
| 149.2 | D144 | **4FJ53** | **146.80** | 5.0 | 227.7 | D225 | **4FJ60** | **226.00** | 7.1 | 362.7 | D360 | **4FJ67** | **360.50** | 12.0 |
| 163.2 | D158 | **4FJ54** | **161.50** | 5.3 | 242.7 | D240 | **4FJ61** | **240.50** | 7.7 | 392.7 | D390 | **4FJ68** | **391.50** | 12.0 |
| 167.2 | D162 | **4FJ55** | **166.25** | 5.5 | 257.7 | D255 | **4FJ62** | **255.50** | 8.1 | 422.7 | D420 | **4FJ69** | **422.75** | 13.0 |
| 178.2 | D173 | **4FJ56** | **176.25** | 5.8 | 272.7 | D270 | **4FJ63** | **271.00** | 8.9 | 482.7 | D480 | **4FJ70** | **484.50** | 16.0 |
| 185.2 | D180 | **4FJ57** | **183.00** | 6.0 | 287.7 | D285 | **4FJ64** | **286.00** | 9.8 | | | | | |

(*) Manufactured to tolerances set by the RMA (Rubber Manufacturers' Association).

## V-BELT ACCESSORIES

**V-Belt Tension Checker** tensions all V-belt drives (3L, 4L, 5L, A, B, C, D, 3V, 5V, & 8V). Compact, spring-loaded design. Easy to operate; instructions included. **NOTE:** Proper tensioning is necessary to avoid premature belt wear. Adjustable from 10" to 170" belt span and up to 35 lbs. of tension.

**No. 3HX33.** Shpg. wt. 0.3 lbs. List $32.00. Each ..... **$16.03**

**V-Belt Rule** is used to measure length of all sizes of V-belts (3L, 4L, 5L, A, B, C, D, 3V, 5V, & 8V). Manufactured from durable aluminum. Wall mounting holes provided. Easily identifies V-belt length up to 100".

**No. 3HX32.** Shpg. wt. 5.0 lbs. List $27.00. Each ..... **$23.07**

**V-Belt Rack** is a 36" long rack with six 6" hooks provided. Mounting holes provided for easy wall mounting. Order V-belts separately.

**No. 2X907.** Shpg. wt. 2.0 lbs. List $12.00. Each ..... **$7.13**

Browning



No. 3HX33 Tension Checker



No. 3HX32 Belt Rule



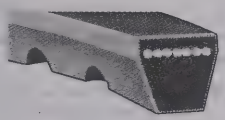
No. 2X907 Belt Rack (Belts Not Included)

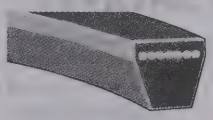


We deliver the products that deliver the power.

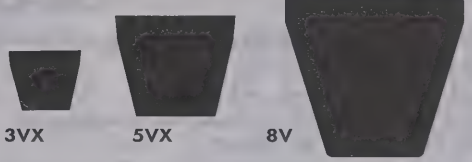
# INDUSTRIAL-DUTY 358 3VX, 5VX, AND 8V TYPE V-BELTS

Browning USA
PROUDLY MADE IN THE USA


3VX and 5VX Type


8V Type

Actual Size Shown


3VX 5VX 8V

| Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. | Nom. Outside Length (In.) | RMA Belt No.* | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3VX TYPE BELTS (3/8" Top Width by 5/16" Thick)** | | | | | | | | | | | | | | |
| 25.0 | 3VX250 | **2L377** | **$9.57** | 0.1 | 47.5 | 3VX475 | **2L388** | **$13.97** | 0.2 | 90.0 | 3VX900 | **2L399** | **$23.51** | 0.4 |
| 26.5 | 3VX265 | **2L378** | **9.81** | 0.1 | 50.0 | 3VX500 | **2L389** | **14.21** | 0.3 | 95.0 | 3VX950 | **2L400** | **24.73** | 0.4 |
| 28.0 | 3VX280 | **2L379** | **10.05** | 0.1 | 53.0 | 3VX530 | **2L390** | **14.72** | 0.3 | 100.0 | 3VX1000 | **2L401** | **26.30** | 0.4 |
| 30.0 | 3VX300 | **2L380** | **10.26** | 0.1 | 56.0 | 3VX560 | **2L391** | **15.20** | 0.3 | 106.0 | 3VX1060 | **2L402** | **27.70** | 0.4 |
| 31.5 | 3VX315 | **2L381** | **10.78** | 0.2 | 60.0 | 3VX600 | **2L392** | **15.95** | 0.3 | 112.0 | 3VX1120 | **2L403** | **30.30** | 0.5 |
| 33.5 | 3VX335 | **2L382** | **11.06** | 0.2 | 63.0 | 3VX630 | **2L393** | **16.42** | 0.3 | 118.0 | 3VX1180 | **2L404** | **32.25** | 0.5 |
| 35.5 | 3VX355 | **2L383** | **11.48** | 0.2 | 67.0 | 3VX670 | **2L394** | **17.14** | 0.3 | 125.0 | 3VX1250 | **2L405** | **34.45** | 0.6 |
| 37.5 | 3VX375 | **2L384** | **11.76** | 0.2 | 71.0 | 3VX710 | **2L395** | **18.14** | 0.3 | 132.0 | 3VX1320 | **2L406** | **36.50** | 0.7 |
| 40.0 | 3VX400 | **2L385** | **12.49** | 0.2 | 75.0 | 3VX750 | **2L396** | **19.09** | 0.4 | 140.0 | 3VX1400 | **2L407** | **38.60** | 0.8 |
| 42.5 | 3VX425 | **2L386** | **12.99** | 0.2 | 80.0 | 3VX800 | **2L397** | **20.31** | 0.3 | — | — | — | — | — |
| 45.0 | 3VX450 | **2L387** | **13.52** | 0.2 | 85.0 | 3VX850 | **2L398** | **21.81** | 0.4 | — | — | — | — | — |
| **5VX TYPE BELTS (5/8" Top Width by 17/32" Thick)** | | | | | | | | | | | | | | |
| 45.0 | 5VX450 | **2L408** | **27.20** | 0.8 | 68.0 | 5VX680 | **2L426** | **40.45** | 0.7 | 100.0 | 5VX1000 | **2L444** | **60.50** | 1.0 |
| 47.0 | 5VX470 | **2L409** | **28.45** | 0.5 | 69.0 | 5VX690 | **2L427** | **41.10** | 0.9 | 103.0 | 5VX1030 | **2L445** | **62.25** | 1.1 |
| 49.0 | 5VX490 | **2L410** | **29.70** | 0.7 | 71.0 | 5VX710 | **2L428** | **42.30** | 0.7 | 106.0 | 5VX1060 | **2L446** | **64.10** | 1.0 |
| 50.0 | 5VX500 | **2L411** | **30.30** | 0.5 | 73.0 | 5VX730 | **2L429** | **43.55** | 0.7 | 108.0 | 5VX1080 | **2L447** | **65.30** | 1.2 |
| 51.0 | 5VX510 | **2L412** | **30.35** | 0.5 | 74.0 | 5VX740 | **2L430** | **44.20** | 0.8 | 112.0 | 5VX1120 | **2L448** | **67.80** | 1.2 |
| 53.0 | 5VX530 | **2L413** | **31.50** | 0.6 | 75.0 | 5VX750 | **2L431** | **44.80** | 0.8 | 115.0 | 5VX1150 | **2L449** | **69.70** | 1.3 |
| 54.0 | 5VX540 | **2L414** | **32.10** | 0.6 | 78.0 | 5VX780 | **2L432** | **46.55** | 0.9 | 118.0 | 5VX1180 | **2L450** | **71.45** | 1.3 |
| 55.0 | 5VX550 | **2L415** | **32.65** | 0.6 | 80.0 | 5VX800 | **2L433** | **47.70** | 0.9 | 123.0 | 5VX1230 | **2L451** | **74.50** | 1.4 |
| 56.0 | 5VX560 | **2L416** | **33.00** | 0.6 | 81.0 | 5VX810 | **2L434** | **48.35** | 0.9 | 125.0 | 5VX1250 | **2L452** | **75.90** | 1.2 |
| 57.0 | 5VX570 | **2L417** | **32.75** | 0.6 | 83.0 | 5VX830 | **2L435** | **49.40** | 0.9 | 132.0 | 5VX1320 | **2L453** | **80.05** | 1.4 |
| 58.0 | 5VX580 | **2L418** | **34.15** | 0.6 | 84.0 | 5VX840 | **2L436** | **50.05** | 0.9 | 140.0 | 5VX1400 | **2L454** | **84.40** | 1.6 |
| 59.0 | 5VX590 | **2L419** | **34.75** | 0.6 | 85.0 | 5VX850 | **2L437** | **51.40** | 0.9 | 150.0 | 5VX1500 | **2L455** | **90.85** | 1.7 |
| 60.0 | 5VX600 | **2L420** | **35.65** | 0.6 | 86.0 | 5VX860 | **2L438** | **52.00** | 0.9 | 160.0 | 5VX1600 | **2L456** | **96.95** | 2.0 |
| 61.0 | 5VX610 | **2L421** | **36.30** | 0.7 | 88.0 | 5VX880 | **2L439** | **53.15** | 0.9 | 170.0 | 5VX1700 | **2L457** | **103.15** | 1.9 |
| 63.0 | 5VX630 | **2L422** | **37.35** | 0.7 | 90.0 | 5VX900 | **2L440** | **53.30** | 1.0 | 180.0 | 5VX1800 | **2L458** | **109.40** | 2.2 |
| 65.0 | 5VX650 | **2L423** | **38.60** | 0.7 | 93.0 | 5VX930 | **2L441** | **56.05** | 1.0 | 190.0 | 5VX1900 | **2L459** | **115.80** | 2.2 |
| 66.0 | 5VX660 | **2L424** | **39.30** | 0.8 | 95.0 | 5VX950 | **2L442** | **57.30** | 1.0 | 200.0 | 5VX2000 | **2L460** | **122.20** | 2.3 |
| 67.0 | 5VX670 | **2L425** | **39.80** | 0.7 | 96.0 | 5VX960 | **2L443** | **57.90** | 1.0 | — | — | — | — | — |
| **8V TYPE BELTS (1" Top Width by 7/8" Thick)** | | | | | | | | | | | | | | |
| 100.0 | 8V1000 | **4FH60** | **117.25** | 3.3 | 180.0 | 8V1800 | **4FH68** | **213.25** | 6.0 | 280.0 | 8V2800 | **4FH76** | **332.75** | 8.9 |
| 112.0 | 8V1120 | **4FH61** | **131.50** | 3.6 | 190.0 | 8V1900 | **4FH69** | **225.50** | 6.3 | 300.0 | 8V3000 | **4FH77** | **356.50** | 9.6 |
| 118.0 | 8V1180 | **4FH62** | **138.70** | 3.8 | 200.0 | 8V2000 | **4FH70** | **237.75** | 6.5 | 315.0 | 8V3150 | **4FH78** | **374.75** | 10.0 |
| 125.0 | 8V1250 | **4FH63** | **146.90** | 3.9 | 212.0 | 8V2120 | **4FH71** | **252.50** | 6.9 | 335.0 | 8V3350 | **4FH79** | **399.00** | 11.0 |
| 140.0 | 8V1400 | **4FH64** | **164.75** | 4.5 | 224.0 | 8V2240 | **4FH72** | **266.00** | 7.2 | 355.0 | 8V3550 | **4FH80** | **423.00** | 12.0 |
| 150.0 | 8V1500 | **4FH65** | **177.00** | 4.8 | 236.0 | 8V2360 | **4FH73** | **279.75** | 7.6 | 400.0 | 8V4000 | **4FH81** | **477.75** | 13.0 |
| 160.0 | 8V1600 | **4FH66** | **188.75** | 5.1 | 250.0 | 8V2500 | **4FH74** | **296.50** | 8.0 | 450.0 | 8V4500 | **4FH82** | **540.00** | 14.0 |
| 170.0 | 8V1700 | **4FH67** | **202.50** | 5.6 | 265.0 | 8V2650 | **4FH75** | **314.25** | 8.5 | — | — | — | — | — |

(*) Manufactured to tolerances set by the RMA (Rubber Manufacturers' Association).

## PREMIUM LINK-TYPE V-BELTS

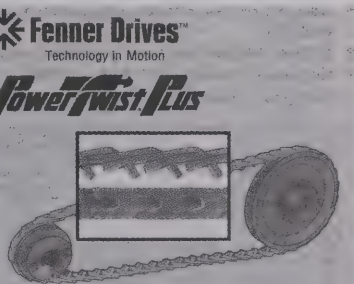
- Ideal for problem V-belt drives
- Composite polyurethane/polyester construction
- For permanent replacement of endless V-belts
- Classical V-belt power ratings
- Superior oil, water, and chemical resistance
- Operating temperature range: –40°F to 240°F
- Eliminates need to stock extensive line of replacement belts
- Reduce transmitted vibration
- Easy installation without dismantling drives

NOTE: Like rubber V-belts, PowerTwist® Plus V-belts are designed for industrial use; **not suitable** for automotive or lawn/garden applications.

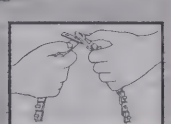
### ORDERING INFORMATION

| Length (Ft.) | Belt Type | Top Width (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5** | A(4L) | 1/2 | **5A547** | $38.70 | **$24.56** | 0.4 |
| **6** | B(5L) | 5/8 | **5A548** | 54.28 | **35.80** | 1.3 |
| **25** | 3L | 3/8 | **6L770** | 172.38 | **109.85** | 1.3 |
| **25** | A(4L) | 1/2 | **6L771** | 175.70 | **111.95** | 1.5 |
| **25** | B(5L) | 5/8 | **6L772** | 204.88 | **130.50** | 1.5 |
| **25** | C | 7/8 | **6L773** | 308.95 | **197.00** | 3.8 |
| **100** | 3L | 3/8 | **3ZP06** | 1315.00 | **398.50** | 6.0 |
| **100** | A(4L) | 1/2 | **3ZP07** | 1340.00 | **405.50** | 7.0 |
| **100** | B(5L) | 5/8 | **3ZP08** | 1554.00 | **473.25** | 10.0 |
| **100** | C | 7/8 | **3ZP09** | 2356.00 | **714.50** | 15.0 |
| **100** | D | 1¼ | **3ZP10** | 4560.00 | **1382.00** | 36.0 |

Fenner Drives™
Technology in Motion
PowerTwist Plus



Easy installation; no tools required. Assembles to any length required.

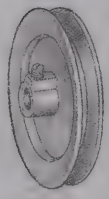


# DIE-CAST, VARIABLE PITCH, & 3 AND 4-STEP SHEAVES

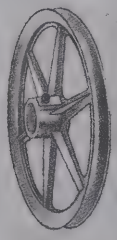
## DIE-CAST SHEAVES

- Precision cast, machine grooved, balanced, and tested
- Hollow head setscrew
- 3/8 and 1/2" bores have no keyway
- 5/8, 3/4, 7/8, 1, and 1 3/16" bores have keyway on sheaves with 2" O.D. and larger
- 5" O.D. sheaves and smaller are solid construction, 6" and larger are spoke construction
- Use with 3L and A or 4L V-belts
- Congress brand

Congress



No. 3X892
Solid



No. 3X918
Spoked

| O.D. (In.) | Pitch Dia.* (In.) | Congress Model | For Bore Size, Specify Stock No. (In.) 3/8 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1 3/16 | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 1.35 | 1½A | 3X891 | 3X892 | 3X893 | — | — | — | — | $3.26 | $2.39 | 0.2 |
| 2 | 1.85 | 2A | 3X894 | 3X895 | 3X896 | 3X897 | — | — | — | 3.38 | 2.48 | 0.3 |
| 2¼ | 2.10 | 2¼A | 3LC04 | 3X898 | 3X899 | — | — | — | — | 3.50 | 2.56 | 0.4 |
| 2½ | 2.35 | 2½A | 3LC05 | 3X900 | 3X901 | 3X902 | — | — | — | 3.74 | 2.73 | 0.4 |
| 2¾ | 2.60 | 2¾A | 3LC06 | 1L837 | 1L838 | — | — | — | — | 4.00 | 2.94 | 0.6 |
| 3 | 2.85 | 3A | 3LC08 | 3X903 | 3X904 | 3X905 | 3LC09 | 3LC07 | — | 4.09 | 3.00 | 0.5 |
| 3½ | 3.35 | 3½A | 3LC11 | 3X906 | 3X907 | 3X908 | 3LC12 | 3LC10 | — | 4.89 | 3.58 | 0.5 |
| 4 | 3.85 | 4A | 3LC14 | 3X909 | 3X910 | 3X911 | 3LC15 | 3LC13 | — | 5.49 | 4.01 | 0.6 |
| 4½ | 4.35 | 4½A | — | 3X912 | 3X913 | 3X914 | 3LC17 | 3LC16 | — | 6.52 | 4.78 | 0.7 |
| 5 | 4.85 | 5A | — | 3X915 | 3X916 | 3X917 | 3LC19 | 3LC18 | — | 7.20 | 5.28 | 0.7 |
| 6 | 5.85 | 6A | — | 3X918 | 3X919 | 3X920 | 3LC20 | 3X921 | — | 8.03 | 5.88 | 0.8 |
| 7 | 6.85 | 7A | — | 3X922 | 3X923 | 3X924 | 3LC21 | 3X925 | — | 8.99 | 6.58 | 1.0 |
| 8 | 7.85 | 8A | — | 3X926 | 3X927 | 3X928 | 3LC22 | 3X929 | — | 10.10 | 7.40 | 1.3 |
| 9 | 8.85 | 9A | — | 3X930 | 3X931 | 3X932 | 3LC23 | 3X933 | — | 12.97 | 9.51 | 1.3 |
| 10 | 9.85 | 10A | — | 3X934 | 3X935 | 3X936 | 3KZ99 | 3X937 | — | 15.59 | 11.41 | 1.7 |
| 11 | 10.85 | 11A | — | — | 1L839 | 1L840 | 3LC01 | 1L841 | — | 16.74 | 12.26 | 1.9 |
| 12 | 11.85 | 12A | — | 3X938 | 3X939 | 3X940 | 3LC02 | 3X941 | — | 18.97 | 13.87 | 2.3 |
| 14 | 13.85 | 14A | — | — | 1L847 | 3X942 | 3LC03 | 3X943 | — | 24.42 | 17.85 | 3.2 |
| 14 | 13.85 | 14A | — | — | — | — | — | — | 3X944 | 29.98 | 21.92 | 3.8 |

(*) Pitch diameter for "A" or "4L" belts. Pitch diameter for "3L" belts is 0.3" less.

## VARIABLE PITCH SHEAVES FOR SPEED ADJUSTMENT

Congress



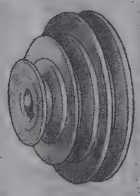
- Durable die-cast construction
- Speed variation range of 30%
- Use on motor driven equipment where speed must be set exactly
- Screw adjustment with socket setscrews
- Keyway on Nos. 1X448, 1L845, 3LC28, and 3LC30
- Congress brand

### VARIABLE PITCH SHEAVES

| O.D. (In.) | Pitch Diameter (In.) A or 4L Belt | B or 5L Belt | Congress Model | For Bore Size, Specify Stock No. 1/2" | 5/8" | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3¼ | 2.1-3.1 | 2.1-3.2 | VP325 x ½ | 1X447 | — | $8.87 | $6.50 | 0.8 |
| 3¼ | 2.1-3.1 | 2.1-3.2 | VP325 x ⅝ | — | 1X448 | 8.87 | 6.49 | 0.9 |
| 3½ | 2.1-3.4 | 2.9-3.5 | VP350 x ½ | 1L844 | — | 9.23 | 6.76 | 1.0 |
| 3½ | 2.1-3.4 | 2.9-3.5 | VP350 x ⅝ | — | 1L845 | 9.22 | 6.75 | 1.1 |
| 3¾ | 2.1-3.6 | 3.1-3.7 | VP375 x ½ | 1L846 | — | 9.59 | 7.03 | 1.1 |
| 4 | 2.9-3.9 | 3.2-4.0 | VP400 x ½ | 3LC27 | — | 13.93 | 10.29 | 1.8 |
| 4 | 2.9-3.9 | 3.2-4.0 | VP400 x ⅝ | — | 3LC28 | 13.93 | 10.29 | 1.8 |
| 4½ | 3.3-4.3 | 3.7-4.5 | VP450 x ½ | 3LC29 | — | 15.56 | 11.55 | 2.2 |
| 4½ | 3.3-4.3 | 3.7-4.5 | VP450 x ⅝ | — | 3LC30 | 15.56 | 11.55 | 2.1 |

## 3 & 4-STEP DIE-CAST SHEAVES

Congress



- Use with 4L and A Belts
- Use with 5/8 or 1/2" diameter shaft with reducing bushing included
- Pitch diameter is 0.15" less than outside diameter
- Congress brand

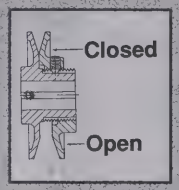
| Diameters (In.) | Congress Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3-STEP SHEAVES** | | | | | |
| 3 3/8, 2 9/16, & 1 15/16 | SCA33 | 3LC24 | $11.36 | $8.25 | 1.0 |
| 4, 3, & 2 | SCA43 | 4X559 | 12.50 | 9.15 | 1.0 |
| 5, 4, & 3 | SCA53 | 1L842 | 20.34 | 14.87 | 1.6 |
| 6, 5, & 4 | SCA63 | 3LC25 | 23.75 | 17.45 | 2.8 |
| **4-STEP SHEAVES** | | | | | |
| 4, 3 3/8, 2 5/8, & 2 | SCA44 | 4X560 | 15.88 | 11.63 | 1.3 |
| 5, 4, 3, & 2 | SCA54 | 1L843 | 22.33 | 16.36 | 1.9 |
| 6, 5, 4, & 3 | SCA64 | 3LC26 | 25.90 | 19.02 | 3.0 |

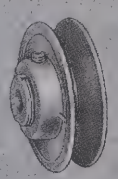
# VARIABLE PITCH SHEAVES

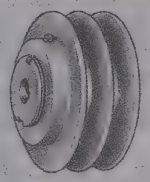
- Durable SAE G3000 cast iron
- Screw flange adjusts to allow speed range variation
- Standard keyways on all sizes except 1/2" bore which cannot accommodate a keyway

Browning

USA
PROUDLY MADE IN THE USA





No. 3X496


No. 3X508

| O.D. (In.) | Pitch Diameter Range (In.) 3L Belt | 4L or A Belt | 5L or B Belt | 5V Belt | Browning Model | For Bore Size, Specify Stock No. (In.) 1/2* | 5/8 | 3/4 | 7/8 | 1 | 1 1/8 | 1 3/8 | 1 5/8 | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE GROOVE VARIABLE PITCH SHEAVES** | | | | | | | | | | | | | | | | |
| 2.50 | 1.6-2.4 | — | — | — | 1VL25 | 3X496 | 3X497 | — | — | — | — | — | — | $12.00 | $10.25 | 0.8 |
| 2.87 | 1.8-2.7 | — | — | — | 1VL30 | 3X498 | 3X499 | — | — | — | — | — | — | 13.00 | 10.65 | 1.0 |
| 3.15 | 1.7-2.5 | 1.9-2.9 | 2.4-3.2 | — | 1VL34 | 3X262 | 3X263 | 3X273 | — | — | — | — | — | 13.00 | 10.65 | 1.0 |
| 3.15 | 1.7-2.5 | 1.9-2.9 | 2.4-3.2 | — | 1VP34 | — | — | — | 2L461 | — | — | — | — | 25.00 | 20.62 | 1.4 |
| 3.75 | 2.3-3.1 | 2.4-3.4 | 2.7-3.7 | — | 1VL40 | 3X274 | 3X264 | 3X265 | — | — | — | — | — | 16.00 | 13.10 | 1.3 |
| 3.75 | 2.3-3.1 | 2.4-3.4 | 2.7-3.7 | — | 1VL40 | — | — | — | 3X500 | — | — | — | — | 17.00 | 14.04 | 1.3 |
| 4.15 | 2.7-3.5 | 2.8-3.8 | 3.1-4.1 | — | 1VL44 | 3X275 | 3X276 | 3X266 | 3X501 | — | — | — | — | 20.00 | 16.58 | 1.3 |
| 4.15 | 2.7-3.5 | 2.8-3.8 | 3.1-4.1 | — | 1VP44 | — | — | — | — | 2L462 | 2L463 | — | — | 37.00 | 31.45 | 2.6 |
| 4.75 | 3.3-4.1 | 3.4-4.4 | 3.7-4.7 | — | 1VM50 | — | 3X438 | 3X502 | 3X503 | — | — | — | — | 31.00 | 26.25 | 2.7 |
| 4.75 | 3.3-4.1 | 3.4-4.4 | 3.7-4.7 | — | 1VP50 | 2L464 | — | — | — | — | — | — | — | 32.00 | 26.60 | 3.1 |
| 4.75 | 3.3-4.1 | 3.4-4.4 | 3.7-4.7 | — | 1VP50 | — | — | — | — | 2L465 | 3X945 | — | — | 45.00 | 38.15 | 3.6 |
| 5.35 | 3.9-4.7 | 4.0-5.0 | 4.3-5.3 | — | 1VP56 | 2L466 | 3X494 | 2L467 | — | — | — | — | — | 47.00 | 39.85 | 3.8 |
| 5.35 | 3.9-4.7 | 4.0-5.0 | 4.3-5.3 | — | 1VP56 | — | — | — | 3X505 | 2L468 | 3X946 | — | — | 61.00 | 51.35 | 4.6 |
| 5.95 | 4.5-5.3 | 4.6-5.6 | 4.9-5.9 | 5.3-6.3 | 1VP62 | — | 3X495 | 2L473 | 3X507 | 2L474 | 3X947 | 2L475 | — | 75.00 | 62.80 | 6.0 |
| 6.00 | — | 4.2-5.2 | 4.3-5.5 | — | 1VP60 | — | — | 2L469 | 2L470 | — | 2L471 | 2L472 | — | 74.00 | 62.10 | 6.3 |
| 6.00 | — | 4.2-5.2 | 4.3-5.5 | — | 1VP60A | — | — | — | — | — | — | — | 4FG81 | 74.00 | 62.80 | 5.6 |
| 6.50 | — | 4.7-5.7 | 4.8-6.0 | 5.2-6.4 | 1VP65 | — | — | 2L476 | 2L477 | — | 2L478 | 2L479 | — | 78.00 | 65.05 | 7.1 |
| 6.50 | — | 4.7-5.7 | 4.8-6.0 | 5.2-6.4 | 1VP65A | — | — | — | — | — | — | — | 4FG82 | 78.00 | 65.70 | 6.6 |
| 6.55 | 5.1-5.9 | 5.2-6.2 | 5.5-6.5 | 5.9-6.9 | 1VP68 | — | — | 2L480 | 2L481 | 2L482 | 3X948 | 2L483 | — | 78.00 | 65.30 | 6.9 |
| 7.10 | — | 5.3-6.3 | 5.4-6.6 | 5.8-7.0 | 1VP71 | — | — | 2L484 | 2L485 | — | 2L486 | 2L487 | — | 83.00 | 69.35 | 8.5 |
| 7.10 | — | 5.3-6.3 | 5.4-6.6 | 5.8-7.0 | 1VP71A | — | — | — | — | — | — | — | 4FG83 | 83.00 | 70.20 | 8.0 |
| 7.50 | — | 5.7-6.7 | 5.8-7.0 | 6.2-7.4 | 1VP75 | — | — | 2L488 | 2L489 | — | 2L490 | 2L491 | — | 110.00 | 92.45 | 9.4 |
| 7.50 | — | 5.7-6.7 | 5.8-7.0 | 6.2-7.4 | 1VP75A | — | — | — | — | — | — | — | 4FG84 | 110.00 | 93.40 | 8.9 |
| **DOUBLE GROOVE VARIABLE PITCH SHEAVES** | | | | | | | | | | | | | | | | |
| 3.35 | 1.9-2.7 | 2.0-3.0 | 2.5-3.3 | — | 2VP36 | — | 3X508 | 2L492 | 3X509 | 2L493 | — | — | — | 59.00 | 49.80 | 3.3 |
| 3.95 | 2.5-3.3 | 2.6-3.6 | 2.9-3.9 | — | 2VP42 | — | 3X417 | 2L494 | 3X418 | 2L495 | 3X510 | — | — | 68.00 | 57.05 | 4.2 |
| 4.75 | 3.3-4.1 | 3.4-4.4 | 3.7-4.7 | — | 2VP50 | — | 3X436 | 2L497 | 3X398 | 2L498 | 3X511 | — | — | 78.00 | 65.65 | 6.0 |
| 5.35 | 3.9-4.7 | 4.0-5.0 | 4.3-5.3 | — | 2VP56 | — | — | 2L500 | 3X399 | 2L501 | 3X400 | — | — | 92.00 | 77.25 | 7.6 |
| 5.95 | 4.5-5.3 | 4.6-5.6 | 4.9-5.9 | 5.3-6.3 | 2VP62 | — | — | — | — | — | 3X401 | 3X512 | — | 118.00 | 98.65 | 9.0 |
| 6.00 | — | 4.2-5.2 | 4.3-5.5 | — | 2VP60A | — | — | — | — | — | — | — | 4FH14 | 118.00 | 99.75 | 10.0 |
| 6.50 | — | 4.7-5.7 | 4.8-6.0 | 5.2-6.4 | 2VP65 | — | — | 2L502 | 2L503 | — | 2L504 | 2L505 | — | 126.00 | 105.85 | 13.0 |
| 6.50 | — | 4.7-5.7 | 4.8-6.0 | 5.2-6.4 | 2VP65A | — | — | — | — | — | — | — | 4FH15 | 126.00 | 107.15 | 12.0 |
| 6.55 | 5.1-5.9 | 5.2-6.2 | 5.5-6.5 | 5.9-6.9 | 2VP68 | — | — | — | — | — | 3X402 | 3X403 | — | 130.00 | 109.40 | 11.0 |
| 7.10 | — | 5.3-6.3 | 5.4-6.6 | 5.8-7.0 | 2VP71 | — | — | 2L506 | 2L507 | — | 2L508 | 2L509 | — | 134.00 | 111.95 | 15.0 |
| 7.10 | — | 5.3-6.3 | 5.4-6.6 | 5.8-7.0 | 2VP71A | — | — | — | — | — | — | — | 4FH16 | 134.00 | 113.55 | 14.0 |
| 7.50 | — | 5.7-6.7 | 5.8-7.0 | 6.2-7.4 | 2VP75 | — | — | 2L510 | 2L511 | — | 2L512 | 2L513 | — | 198.00 | 166.00 | 16.0 |
| 7.50 | — | 5.7-6.7 | 5.8-7.0 | 6.2-7.4 | 2VP75A | — | — | — | — | — | — | — | 4FH17 | 198.00 | 168.00 | 16.0 |

(*) 1/2" Bore size cannot accommodate a keyway.

## PULLEY SELECTION CHART

Pulley-selection chart for motors turning 1725 RPM. Speeds shown are for the driven equipment in revolutions per minute.

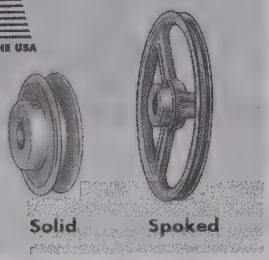
| Dia. Motor Pulley mm (In.) | Diameter of Pulley on Equipment—mm (In.) Equipment Speed (RPM) 32 (1.25) | 38 (1.5) | 45 (1.75) | 51 (2.0) | 58 (2.25) | 64 (2.5) | 76 (3.0) | 102 (4.0) | 127 (5.0) | 165 (6.5) | 203 (8.0) | 254 (10.0) | 306 (12.0) | 381 (15.0) | 457 (18.0) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **32(1.25)** | 1725 | 1435 | 1230 | 1075 | 950 | 850 | 715 | 540 | 430 | 330 | 265 | 215 | — | — | — |
| **38(1.5)** | 2075 | 1725 | 1475 | 1290 | 1140 | 1030 | 850 | 645 | 515 | 395 | 320 | 265 | 215 | — | — |
| **45(1.75)** | 2400 | 2000 | 1725 | 1500 | 1340 | 1200 | 1000 | 750 | 600 | 460 | 375 | 315 | 250 | 200 | — |
| **51(2.0)** | 2775 | 2290 | 1970 | 1725 | 1530 | 1375 | 1145 | 850 | 685 | 530 | 430 | 345 | 285 | 230 | — |
| **58(2.25)** | 3100 | 2580 | 2200 | 1930 | 1725 | 1550 | 1290 | 965 | 775 | 595 | 485 | 385 | 325 | 255 | 215 |
| **64(2.5)** | 3450 | 2870 | 2460 | 2150 | 1900 | 1725 | 1435 | 1075 | 850 | 660 | 540 | 430 | 355 | 285 | 240 |
| **76(3.0)** | 4140 | 3450 | 2950 | 2580 | 2290 | 2070 | 1725 | 1290 | 1070 | 800 | 615 | 515 | 430 | 345 | 285 |
| **102(4.0)** | 5500 | 4575 | 3950 | 3450 | 3060 | 2775 | 2295 | 1725 | 1375 | 1060 | 860 | 700 | 575 | 460 | 375 |
| **127(5.0)** | 6850 | 5750 | 4920 | 4300 | 3825 | 3450 | 2865 | 2150 | 1725 | 1325 | 1075 | 860 | 715 | 575 | 475 |
| **165(6.5)** | 8950 | 7475 | 6400 | 5600 | 4975 | 4480 | 3730 | 2790 | 2240 | 1725 | 1400 | 1120 | 930 | 745 | 620 |
| **203(8.0)** | — | 9200 | 7870 | 6900 | 6125 | 5520 | 4600 | 3450 | 2750 | 2120 | 1725 | 1375 | 1140 | 915 | 765 |
| **254(10.0)** | — | — | 9850 | 8620 | 7670 | 6900 | 5750 | 4300 | 3450 | 2650 | 2150 | 1725 | 1430 | 1140 | 950 |
| **302(12.0)** | — | — | — | — | 9200 | 8280 | 6900 | 5160 | 4130 | 3180 | 2580 | 2075 | 1725 | 1375 | 1140 |
| **381(15.0)** | — | — | — | — | — | — | 8635 | 6470 | 5170 | 3970 | 3230 | 2580 | 2150 | 1725 | 1425 |
| **457(18.0)** | — | — | — | — | — | — | — | 7750 | 6200 | 4770 | 3880 | 3100 | 2580 | 2070 | 1725 |

# SINGLE GROOVE CAST-IRON SHEAVES

Browning

USA

PROUDLY MADE IN THE USA




- Durable SAE G3000 cast iron; solid on fixed bore through 3.95" O.D. and on bushed bore through 6.45" O.D., others are spoked design
- Precision machined and balanced
- Finished bore sheaves have standard keyway with hollow head setscrew (no keyway on 1/2" bore sheaves)
- Use Browning split taper bushings for bushed sheaves; Order separately from page 317

## BUSHED BORE 4L (A & AX) AND 5L (B & BX) SINGLE GROOVE SHEAVES

| O.D. (In.) | Pitch Diameter (In.) 4L (A & AX) Belts | Pitch Diameter (In.) 5L (B & BX) Belts | Type | Bushing Req'd. | Browning Model | SELECT DESIRED BORE SIZE FROM BUSHING CHART ON PAGE Stock No. | Less Bushings List | Less Bushings Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **3.15** | 2.4 | 2.8 | Solid | H | BK30H | **3X956** | $23.00 | **$19.54** | 1.4 |
| **3.35** | 2.6 | 3.0 | Solid | H | BK32H | **3X957** | 24.00 | **20.81** | 1.5 |
| **3.55** | 2.8 | 3.2 | Solid | H | BK34H | **3X951** | 24.00 | **20.84** | 1.7 |
| **3.75** | 3.0 | 3.4 | Solid | H | BK36H | **3X952** | 24.00 | **20.98** | 1.3 |
| **3.95** | 3.2 | 3.6 | Solid | H | BK40H | **3X582** | 24.00 | **21.06** | 1.4 |
| **4.25** | 3.5 | 3.9 | Solid | H | BK45H | **3X583** | 25.00 | **21.50** | 2.0 |
| **4.45** | 3.7 | 4.1 | Solid | H | BK47H | **3X584** | 25.00 | **21.96** | 2.3 |
| **4.75** | 4.0 | 4.4 | Solid | H | BK50H | **3X585** | 26.00 | **22.49** | 2.2 |
| **4.95** | 4.2 | 4.6 | Solid | H | BK52H | **3X586** | 27.00 | **22.94** | 2.7 |
| **5.25** | 4.5 | 4.9 | Solid | H | BK55H | **3X587** | 27.00 | **23.40** | 2.8 |
| **5.45** | 4.7 | 5.1 | Solid | H | BK57H | **3X588** | 28.00 | **23.86** | 2.9 |
| **5.75** | 5.0 | 5.4 | Solid | H | BK60H | **3X589** | 28.00 | **24.09** | 2.6 |
| **5.95** | 5.2 | 5.6 | Solid | H | BK62H | **3X590** | 29.00 | **25.45** | 3.1 |
| **6.25** | 5.5 | 5.9 | Solid | H | BK65H | **3X591** | 31.00 | **27.25** | 2.8 |
| **6.45** | 5.7 | 6.1 | Solid | H | BK67H | **3X592** | 32.00 | **28.00** | 3.2 |
| **6.75** | 6.0 | 6.4 | Spoked | H | BK70H | **3X593** | 33.00 | **29.00** | 3.0 |
| **6.95** | 6.2 | 6.6 | Spoked | H | BK72H | **3X594** | 35.00 | **30.35** | 3.1 |
| **7.25** | 6.5 | 6.9 | Spoked | H | BK75H | **3X595** | 36.00 | **31.65** | 4.0 |
| **7.75** | 7.0 | 7.4 | Spoked | H | BK80H | **3X597** | 38.00 | **32.60** | 4.3 |
| **8.25** | 7.5 | 7.9 | Spoked | H | BK85H | **3X598** | 42.00 | **36.10** | 4.7 |
| **8.75** | 8.0 | 8.4 | Spoked | H | BK90H | **3X599** | 44.00 | **38.45** | 4.3 |
| **9.25** | 8.5 | 8.9 | Spoked | H | BK95H | **3X600** | 48.00 | **41.40** | 5.0 |
| **9.75** | 9.0 | 9.4 | Spoked | H | BK100H | **3X601** | 50.00 | **42.95** | 5.0 |
| **10.25** | 9.5 | 9.9 | Spoked | H | BK105H | **3X602** | 51.00 | **43.75** | 5.3 |
| **10.75** | 10.0 | 10.4 | Spoked | H | BK110H | **3X603** | 54.00 | **47.15** | 6.1 |
| **11.25** | 10.5 | 10.9 | Spoked | H | BK115H | **3X604** | 56.00 | **48.65** | 6.7 |
| **11.75** | 11.0 | 11.4 | Spoked | H | BK120H | **3X605** | 60.00 | **52.20** | 7.0 |
| **12.75** | 12.0 | 12.4 | Spoked | H | BK130H | **3X606** | 66.00 | **57.15** | 7.2 |
| **13.75** | 13.0 | 13.4 | Spoked | H | BK140H | **3X607** | 75.00 | **64.75** | 8.9 |
| **14.75** | 14.0 | 14.4 | Spoked | H | BK150H | **3X608** | 81.00 | **70.20** | 10.0 |
| **15.75** | 15.0 | 15.4 | Spoked | H | BK160H | **3X609** | 87.00 | **75.65** | 11.0 |
| **18.75** | 18.0 | 18.4 | Spoked | H | BK190H | **3X610** | 120.00 | **103.35** | 13.0 |

## FIXED BORE 4L (A & AX) AND 3L SINGLE GROOVE SHEAVES

| O.D. (In.) | Pitch Diameter (In.) 4L (A & AX) Belts | 3L Belt | Type | Browning Model | For Bore Size, Specify Stock Number (In.) 1/2 | 5/8 | 3/4 | 7/8 | 1 | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.75** | 1.50 | 1.16 | Solid | AK17 | **3X758** | **3X759** | — | — | — | $9.00 | **$7.28** | 0.4 |
| **2.00** | 1.80 | 1.46 | Solid | AK20 | **3X760** | **3X761** | **3X762** | — | — | 9.00 | **7.28** | 0.5 |
| **2.20** | 2.00 | 1.66 | Solid | AK22 | **3X763** | **3X764** | **3X808** | — | — | 9.00 | **7.59** | 0.5 |
| **2.50** | 2.30 | 1.96 | Solid | AK25 | **3X765** | **3X766** | **3X767** | **3X768** | — | 10.00 | **8.38** | 0.6 |
| **2.80** | 2.60 | 2.26 | Solid | AK28 | **3X769** | **3X770** | **3X771** | **3X772** | — | 11.00 | **9.63** | 0.8 |
| **3.05** | 2.80 | 2.46 | Solid | AK30 | — | **3X817** | — | **4HZ76** | — | 13.58 | **10.52** | 1.0 |
| **3.45** | 3.20 | 2.86 | Solid | AK34 | **3X773** | **3X774** | **3X775** | **3X776** | — | 14.00 | **11.65** | 1.0 |
| **3.75** | 3.50 | 3.16 | Solid | AK39 | **3X886** | **3X887** | **3X888** | **3X889** | **3X890** | 17.00 | **14.50** | 1.5 |
| **3.95** | 3.70 | 3.36 | Solid | AK41 | **3X777** | **3X778** | **3X779** | **3X813** | **3X809** | 20.00 | **16.72** | 1.8 |
| **4.25** | 4.00 | 3.66 | Spoked | AK44 | — | — | — | **4HZ77** | — | 22.40 | **17.33** | 1.3 |
| **4.45** | 4.20 | 3.86 | Spoked | AK46 | **3X781** | **3X782** | **3X783** | **3X814** | **3X810** | 21.00 | **17.99** | 1.6 |
| **4.75** | 4.50 | 4.16 | Spoked | AK49 | — | — | — | **4HZ78** | — | 23.63 | **18.31** | 1.6 |
| **4.95** | 4.70 | 4.36 | Spoked | AK51 | **3X784** | **3X785** | **3X786** | **3X815** | **3X811** | 23.00 | **19.18** | 1.7 |
| **5.25** | 5.00 | 4.66 | Spoked | AK54 | — | — | — | **4HZ79** | — | 25.42 | **19.67** | 1.6 |
| **5.45** | 5.20 | 4.86 | Spoked | AK56 | **3X787** | **3X788** | **3X789** | **3X816** | **3X812** | 25.00 | **20.95** | 2.0 |
| **5.75** | 5.50 | 5.16 | Spoked | AK59 | — | — | — | **4HZ80** | — | 28.87 | **22.37** | 2.1 |
| **5.93** | 5.78 | — | Spoked | AL64-SP | — | **3X790** | **3X791** | **6L062** | **3X792** | 16.00 | **13.61** | 1.6 |
| **6.25** | 6.00 | 5.66 | Spoked | AK64 | — | — | — | **4HZ81** | — | 29.92 | **23.14** | 2.0 |
| **6.93** | 6.78 | — | Spoked | AL74-SP | — | **3X793** | **3X794** | **6L063** | **3X795** | 19.00 | **15.53** | 1.6 |
| **7.93** | 7.78 | — | Spoked | AL84-SP | — | **3X796** | **3X797** | **6L064** | **3X798** | 21.00 | **17.69** | 1.8 |
| **8.93** | 8.78 | — | Spoked | AL94-SP | — | **3X799** | **3X800** | **6L065** | **3X801** | 27.00 | **22.34** | 2.3 |
| **9.93** | 9.78 | — | Spoked | AL104-SP | — | — | **3X802** | **6L066** | **3X803** | 29.00 | **24.65** | 3.2 |
| **10.93** | 10.78 | — | Spoked | AL114-SP | — | — | **3X804** | **6L067** | **3X805** | 33.00 | **27.35** | 3.4 |
| **11.93** | 11.78 | — | Spoked | AL124-SP | — | — | — | **6L068** | **3X806** | 39.00 | **32.80** | 3.9 |
| **13.25** | 13.00 | 12.66 | Spoked | AK134 | — | — | — | — | **4HZ75** | 77.86 | **60.75** | 8.0 |
| **14.16** | 14.00 | — | Spoked | AM144-SP | — | — | — | **6L069** | **3X807** | 64.00 | **53.65** | 5.5 |

## FIXED BORE 4L (A & AX) AND 5L (B & BX) SINGLE GROOVE SHEAVES

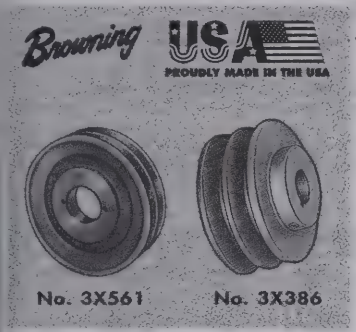
| O.D. (In.) | Pitch Dia. (In.) 4L (A & AX) Belts | 5L (B & BX) Belts | Type | Browning Model | For Bore Size, Specify Stock Number (In.) 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1 1/8 | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.00** | — | 1.9 | Solid | BS20 | **3X821** | **3X822** | **3X823** | — | — | — | $14.00 | **$10.45** | 0.5 |
| **2.50** | 1.9 | 2.3 | Solid | BK25 | **3X824** | **3X825** | **3X826** | **3X827** | — | — | 13.00 | **10.48** | 0.6 |
| **2.70** | 2.1 | 2.5 | Solid | BK27 | **1A275** | **3X855** | **3X856** | **3X857** | — | — | 14.00 | **11.53** | 0.7 |
| **2.95** | 2.2 | 2.6 | Solid | BK28 | — | **3X829** | **3X830** | **3X831** | — | — | 14.00 | **11.53** | 0.8 |
| **3.15** | 2.4 | 2.8 | Solid | BK30 | **3X858** | **3X859** | **3X860** | **3X861** | — | — | 14.00 | **11.86** | 0.9 |
| **3.35** | 2.6 | 3.0 | Solid | BK32 | — | **3X833** | **3X834** | **3X835** | **3X852** | — | 15.00 | **12.86** | 1.0 |
| **3.55** | 2.8 | 3.2 | Solid | BK34 | — | **3X863** | **3X864** | **3X865** | **3X866** | — | 19.00 | **15.79** | 1.3 |
| **3.75** | 3.0 | 3.4 | Solid | BK36 | — | **3X868** | **3X869** | **3X870** | **3X871** | **3X949** | 21.00 | **17.20** | 1.6 |
| **3.95** | 3.2 | 3.6 | Solid | BK40 | — | **3X837** | **3X838** | **3X872** | **3X850** | **3X950** | 21.00 | **17.99** | 1.8 |
| **4.25** | 3.5 | 3.9 | Spoked | BK45 | — | **3X841** | **3X842** | **3X873** | **3X439** | **3X953** | 22.00 | **18.37** | 1.8 |
| **4.75** | 4.0 | 4.4 | Spoked | BK50 | — | **3X880** | **3X881** | — | **3X853** | **3X954** | 24.00 | **20.15** | 2.0 |
| **4.95** | 4.2 | 4.6 | Spoked | BK52 | — | **3X844** | **3X845** | **3X883** | **3X851** | **3X955** | 24.00 | **20.22** | 2.1 |



We deliver the products that deliver the power.

# TWO GROOVE A & B SERIES CAST-IRON SHEAVES

## TWO GROOVE CAST-IRON SHEAVES




- Durable SAE G3000 cast iron
- Precision machined and balanced
- Finished bore sheaves have standard keyway with hollow head setscrew
- Designed for use with A, AX, B, and BX type V-belts
- Use split taper bushings for bushed sheaves; Order separately on page 317

### SHEAVE PITCH DIAMETERS

**To Calculate Motor Sheave Pitch Diameter: Multiply driven sheave RPM by driven sheave pitch diameter and divide by motor sheave RPM.**

**To Calculate Driven Sheave Pitch Diameter: Multiply motor sheave RPM by motor sheave pitch diameter and divide by driven sheave RPM.**

**Formula: (Motor Sheave P.D.) x (Motor Sheave RPM) = (Driven Sheave P.D.) x (Driven Sheave RPM)**

### BUSHED BORE SHEAVES

| O.D. (In.) | Pitch Diameter (In.) A & AX Belts | Pitch Diameter (In.) B & BX Belts | Bushing Req.'d | Browning Model | SELECT DESIRED BORE SIZE BUSHING CHART ON PAGE 317 Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3.35** | 2.6 | 3.0 | H | 2BK32H | **3X550** | $41.00 | **$35.80** | 2.4 |
| **3.55** | 2.8 | 3.2 | H | 2BK34H | **3X551** | 42.00 | **36.05** | 2.8 |
| **3.75** | 3.0 | 3.4 | H | 2BK36H | **3X552** | 42.00 | **36.85** | 2.5 |
| **3.95** | 3.2 | 3.6 | H | 2BK40H | **3X553** | 43.00 | **37.15** | 2.8 |
| **4.25** | 3.5 | 3.9 | H | 2BK45H | **3X554** | 44.00 | **38.05** | 3.2 |
| **4.45** | 3.7 | 4.1 | H | 2BK47H | **3X555** | 48.00 | **41.95** | 3.1 |
| **4.75** | 4.0 | 4.4 | H | 2BK50H | **3X556** | 49.00 | **42.75** | 3.8 |
| **4.95** | 4.2 | 4.6 | H | 2BK52H | **3X557** | 51.00 | **43.80** | 3.8 |
| **5.25** | 4.5 | 4.9 | H | 2BK55H | **3X558** | 55.00 | **47.40** | 4.0 |
| **5.45** | 4.7 | 5.1 | H | 2BK57H | **3X559** | 56.00 | **48.20** | 4.8 |
| **5.75** | 5.0 | 5.4 | H | 2BK60H | **3X560** | 57.00 | **49.25** | 4.8 |
| **5.95** | 5.2 | 5.6 | H | 2BK62H | **3X561** | 58.00 | **49.95** | 5.0 |
| **6.25** | 5.5 | 5.9 | H | 2BK65H | **3X562** | 62.00 | **53.85** | 5.0 |
| **6.45** | 5.7 | 6.1 | H | 2BK67H | **3X563** | 63.00 | **54.75** | 5.1 |
| **6.75** | 6.0 | 6.4 | H | 2BK70H | **3X564** | 65.00 | **56.20** | 5.3 |
| **7.75** | 7.0 | 7.4 | H | 2BK80H | **3X565** | 75.00 | **65.30** | 7.0 |
| **8.75** | 8.0 | 8.4 | H | 2BK90H | **3X566** | 77.00 | **66.55** | 8.0 |
| **9.75** | 9.0 | 9.4 | H | 2BK100H | **3X567** | 89.00 | **77.20** | 9.3 |
| **10.75** | 10.0 | 10.4 | H | 2BK110H | **3X568** | 97.00 | **83.65** | 11.0 |
| **11.75** | 11.0 | 11.4 | H | 2BK120H | **3X569** | 117.00 | **97.10** | 12.0 |
| **12.75** | 12.0 | 12.4 | H | 2BK130H | **3X570** | 119.00 | **102.60** | 14.0 |
| **13.75** | 13.0 | 13.4 | H | 2BK140H | **3X571** | 134.00 | **116.10** | 15.0 |
| **15.75** | 15.0 | 15.4 | H | 2BK160H | **1W962** | 141.00 | **121.80** | 19.0 |
| **18.75** | 18.0 | 18.4 | H | 2BK190H | **1W963** | 158.00 | **136.60** | 23.0 |

### FIXED BORE SHEAVES

| O.D. (In.) | Pitch Dia. (In.) 3L Belts | A & AX Belts | B & BX Belts | Browning Model | For Bore Size, Specify Stock Number (In.) 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1 1/8 | 1 3/8 | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.25** | 1.66 | 2.0 | — | 2AK22 | **1A268** | **1A269** | — | — | — | — | — | $24.00 | **$14.19** | 1.0 |
| **2.50** | — | 1.9 | 2.3 | 2BK25 | — | **3X386** | **3X513** | **3X414** | — | — | — | 30.00 | **25.45** | 1.7 |
| **2.55** | 1.96 | 2.3 | — | 2AK25 | **1A270** | **1A272** | — | — | — | — | — | 24.00 | **14.82** | 1.3 |
| **2.70** | — | 2.1 | 2.5 | 2BK27 | — | **3X387** | — | **3X415** | **3X515** | — | — | 31.00 | **26.35** | 1.6 |
| **2.85** | 2.26 | 2.6 | — | 2AK28 | — | **1A273** | — | — | — | — | — | 29.00 | **17.93** | 1.8 |
| **2.95** | — | 2.2 | 2.6 | 2BK28 | — | **3X388** | — | **3X384** | **3X517** | **3X419** | — | 34.00 | **28.45** | 2.1 |
| **3.15** | — | 2.4 | 2.8 | 2BK30 | — | **3X441** | **3X389** | **3X390** | **3X518** | **3X420** | — | 36.00 | **30.20** | 2.3 |
| **3.35** | — | 2.6 | 3.0 | 2BK32 | — | — | — | **3X442** | **3X520** | **3X443** | — | 38.00 | **31.65** | 2.2 |
| **3.45** | 2.86 | 3.2 | — | 2AK34 | — | **1A274** | — | — | — | — | — | 37.00 | **23.13** | 2.3 |
| **3.55** | — | 2.8 | 3.2 | 2BK34 | — | **3X408** | **3X521** | **3X357** | — | **3X316** | — | 39.00 | **32.95** | 3.0 |
| **3.75** | — | 3.0 | 3.4 | 2BK36 | — | **3X409** | — | **3X328** | — | **3X392** | **3X528** | 40.00 | **33.90** | 3.3 |
| **3.95** | — | 3.2 | 3.6 | 2BK40 | — | — | — | — | **3X529** | **3X530** | — | 42.00 | **35.45** | 3.1 |
| **4.25** | — | 3.5 | 3.9 | 2BK45 | — | — | — | — | **3X532** | **3X533** | **3X449** | 45.00 | **38.15** | 3.5 |
| **4.45** | — | 3.7 | 4.1 | 2BK47 | — | — | — | — | **3X534** | **3X535** | — | 46.00 | **38.55** | 3.7 |
| **4.75** | — | 4.0 | 4.4 | 2BK50 | — | — | — | — | — | **3X538** | — | 49.00 | **40.85** | 4.2 |
| **4.95** | — | 4.2 | 4.6 | 2BK52 | — | — | — | — | — | **3X541** | — | 50.00 | **42.00** | 4.5 |

## MOTOR PULLEY REPLACEMENT FOR DOMESTIC SEWING MACHINES




- Machined from steel bar stock
- With socket set screw
- Plated finish

| Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Motor Pulley, 7/8" Dia., 1/4" Bore** | **1X459** | $3.61 | **$2.80** | 0.1 |

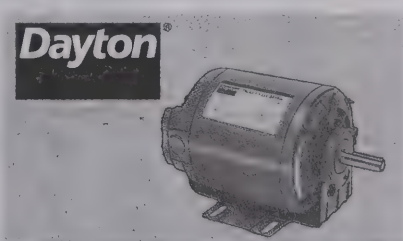
## DAYTON BRAND SEWING MACHINE MOTOR, 3-PHASE

- **NEMA service factors provide a reserve margin for intermittent overloading or fluctuating (high/low) voltage conditions**
- **NEMA design B**

**Typical Uses:** Designed for operating industrial-type sewing machine clutches. Also used for other belt-driven applications where 3-phase power is supplied.

**Bearings:** Double-shielded ball

**Mounting:** Cradle base
**Enclosure:** Open dripproof
**Windings:** Copper
**Ambient:** 40°C
**Duty:** Continuous
**Rotation:** CW/CCW
**Finish:** Gray
**Brand:** Dayton




| HP | Nameplate RPM at: 60 Hz | 50 Hz | NEMA Frame | Thermal Protection | Volts 60/50 Hz* | Full-Load Amps at Nameplate Volts | Service Factor | NEMA Nominal Efficiency | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | 1725 | 1425 | 56 | None | 208-220/440 | 1.4-1.4/0.7 | 1.35 | 66.0 | A | **3N026** | $171.00 | **$131.05** | 18.0 |

(*) Operable on 50 Hz, 190/380V, at 1425 RPM.

# TWO AND THREE GROOVE A & B SERIES CAST-IRON SHEAVES

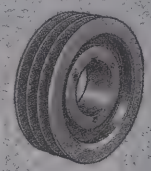
Browning

USA

PROUDLY MADE IN THE USA



No. 1A380



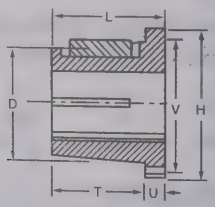
No. 3X477

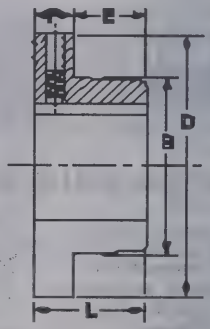
- Durable SAE G3000 cast iron
- Precision machined and balanced
- Requires Browning split taper bushing (order separately from page 317
- Designed for use with A, AX, B, and BX type V-belts
- Easy to mount and remove
- Used in applications with integral horsepower motors and large drive systems where large bore sheaves are needed

| | | | TWO GROOVE SHEAVES | | | | | | THREE GROOVE SHEAVES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| O.D. (In.) | Pitch Diameter (In.) A & AX Belts | B & BX Belts | Browning Model Bushing* | Sheave | Stock No. | Sheave Less Bushing List | Each | Shpg. Wt. | Browning Model Bushing* | Sheave | Stock No. | Sheave Less Bushing List | Each | Shpg. Wt. |
| **3.75** | 3.0 | 3.4 | P1 | 2TB34 | **1A380** | $36.00 | **$30.00** | 3.1 | P2 | 3TB34 | **3X477** | $40.00 | **$33.40** | 3.8 |
| **3.95** | 3.2 | 3.6 | — | — | — | — | — | — | P2 | 3TB36 | **3X484** | 41.00 | **34.75** | 4.6 |
| **4.15** | 3.4 | 3.8 | P1 | 2TB38 | **1A010** | 39.00 | **32.85** | 3.0 | P1 | 3TB38 | **3X478** | 44.00 | **37.15** | 4.0 |
| **4.35** | 3.6 | 4.0 | — | — | — | — | — | — | P1 | 3TB40 | **3X485** | 46.00 | **38.55** | 4.7 |
| **4.55** | 3.8 | 4.2 | P1 | 2TB42 | **1A011** | 42.00 | **35.75** | 3.9 | P1 | 3TB42 | **3X479** | 48.00 | **39.95** | 5.8 |
| **4.75** | 4.0 | 4.4 | — | — | — | — | — | — | P1 | 3TB44 | **3X486** | 49.00 | **41.35** | 5.5 |
| **4.95** | 4.2 | 4.6 | P1 | 2TB46 | **1A381** | 48.00 | **40.60** | 4.9 | P1 | 3TB46 | **3X487** | 57.00 | **47.65** | 6.2 |
| **5.15** | 4.4 | 4.8 | P1 | 2TB48 | **1A012** | 50.00 | **42.00** | 5.3 | P1 | 3TB48 | **3X488** | 58.00 | **49.05** | 6.9 |
| **5.35** | 4.6 | 5.0 | P1 | 2TB50 | **1A013** | 52.00 | **43.40** | 6.0 | P1 | 3TB50 | **3X489** | 60.00 | **50.40** | 7.7 |
| **5.55** | 4.8 | 5.2 | — | — | — | — | — | — | Q1 | 3TB52 | **3X490** | 62.00 | **51.85** | 8.1 |
| **5.75** | 5.0 | 5.4 | P1 | 2TB54 | **1A382** | 55.00 | **46.20** | 7.1 | Q1 | 3B54Q | **3X491** | 53.00 | **44.30** | 8.3 |
| **5.95** | 5.2 | 5.6 | — | — | — | — | — | — | Q1 | 3B56Q | **3X492** | 54.00 | **45.70** | 9.0 |
| **6.15** | 5.4 | 5.8 | P1 | 2TB58 | **1A014** | 58.00 | **49.05** | 8.5 | Q1 | 3B58Q | **3X453** | 56.00 | **47.15** | 10.0 |
| **6.35** | 5.6 | 6.0 | P1 | 2TB60 | **1A383** | 60.00 | **50.40** | 8.9 | Q1 | 3B60Q | **3X454** | 58.00 | **48.55** | 11.0 |
| **6.55** | 5.8 | 6.2 | — | — | — | — | — | — | Q1 | 3B62Q | **3X455** | 60.00 | **50.00** | 11.0 |
| **6.75** | 6.0 | 6.4 | P1 | 2TB64 | **1A384** | 63.00 | **53.25** | 8.5 | Q1 | 3B64Q | **3X456** | 63.00 | **52.75** | 13.0 |
| **6.95** | 6.2 | 6.6 | — | — | — | — | — | — | Q1 | 3B66Q | **3X457** | 65.00 | **54.20** | 14.0 |
| **7.15** | 6.4 | 6.8 | P1 | 2TB68 | **1A385** | 65.00 | **54.70** | 8.8 | Q1 | 3B68Q | **3X656** | 66.00 | **55.60** | 15.0 |
| **7.35** | 6.6 | 7.0 | Q1 | 2TB70 | **1A386** | 65.00 | **54.90** | 11.0 | Q1 | 3TB70 | **3X458** | 74.00 | **62.00** | 14.0 |
| **7.75** | 7.0 | 7.4 | Q1 | 2TB74 | **1A387** | 66.00 | **55.75** | 12.0 | Q1 | 3TB74 | **3X459** | 76.00 | **63.40** | 15.0 |
| **8.35** | 7.6 | 8.0 | Q1 | 2TB80 | **3X675** | 67.00 | **56.30** | 14.0 | Q1 | 3TB80 | **3X460** | 79.00 | **66.25** | 17.0 |
| **8.95** | 8.2 | 8.6 | Q1 | 2TB86 | **1A388** | 71.00 | **59.15** | 17.0 | Q1 | 3TB86 | **3X461** | 86.00 | **71.95** | 19.0 |
| **9.35** | 8.6 | 9.0 | Q1 | 2TB90 | **1A389** | 82.00 | **69.05** | 20.0 | Q1 | 3TB90 | **3X462** | 89.00 | **74.75** | 19.0 |
| **9.75** | 9.0 | 9.4 | Q1 | 2TB94 | **1A390** | 89.00 | **74.70** | 23.0 | Q1 | 3TB94 | **3X463** | 93.00 | **77.50** | 19.0 |
| **11.35** | 10.6 | 11.0 | Q1 | 2TB110 | **1A391** | 106.00 | **88.90** | 24.0 | Q1 | 3TB110 | **3X464** | 109.00 | **91.75** | 23.0 |
| **12.75** | 12.0 | 12.4 | Q1 | 2TB124 | **1A390** | 89.00 | **74.70** | 23.0 | Q1 | 3TB124 | **3X616** | 126.00 | **106.00** | 25.0 |
| **13.95** | 13.2 | 13.6 | Q1 | 2TB136 | **1A391** | 106.00 | **88.90** | 24.0 | Q1 | 3TB136 | **3X617** | 137.00 | **114.45** | 30.0 |
| **15.75** | 15.0 | 15.4 | Q1 | 2TB154 | **2W601** | 147.00 | **122.95** | 26.0 | Q1 | 3TB154 | **3X618** | 174.00 | **145.60** | 31.0 |
| **18.75** | 18.0 | 18.4 | Q1 | 2TB184 | **2W602** | 194.00 | **162.75** | 38.0 | Q1 | 3TB184 | **3X619** | 211.00 | **177.50** | 42.0 |

(*) Select desired bore size from bushing chart on page 317.

## SPLIT TAPER & Q.D. BUSHINGS DIMENSIONS




| Mfr. Model | Dimensions (In.) L | U | T | D Large End | D Small End | H | V |
|---|---|---|---|---|---|---|---|
| G | 1 | ¼ | ¾ | 1.172 | 1.133 | 2 | 1 5/16 |
| H | 1 ¼ | ¼ | 1 | 1.625 | 1.570 | 2 ½ | 2 |
| P1 | 1 15/16 | 15/32 | 1 17/32 | 1.9375 | 1.8555 | 3 | 2 7/16 |
| P2 | 2 15/16 | 15/32 | 2 17/32 | 1.9375 | 1.7930 | 3 | 2 7/16 |
| B | 1 15/16 | ½ | 1 7/16 | 2.625 | 2.5567 | 3 11/16 | 3 ⅛ |
| Q1 | 2 ⅛ | 17/32 | 1 31/32 | 2.875 | 2.7657 | 4 ⅛ | 3 ⅜ |
| R1 | 2 ⅛ | ⅝ | 2 ¼ | 2.875 | 3.8750 | 5 ⅜ | 4 ⅝ |
| R2 | 4 ⅛ | ⅝ | 4 ¼ | 4.000 | 3.7500 | 5 ⅜ | 4 ⅝ |
| S1 | 4 ⅜ | ¾ | 3 ⅝ | 4.000 | 4.418 | 6 ⅜ | 5 ⅜ |
| S2 | 6 ¾ | ¾ | 6 | 4.625 | 4.2696 | 6 ⅜ | 5 ⅜ |
| U0 | 5 ¼ | 1 1/16 | 4 3/16 | 4.625 | 5.7656 | 8 ⅜ | 7 |
| U0 | 4 15/16 | ¾ | 4 3/16 | 6.000 | 5.7656 | 8 ⅜ | 7 |

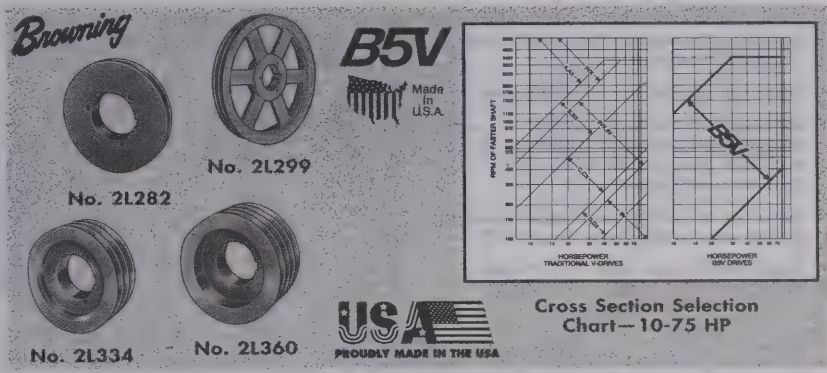
| Mfr. Model | Dimensions (In.) B | E | F | D | L |
|---|---|---|---|---|---|
| JA | 1.375 | 11/16 | 5/16 | 2 | 1 |
| SH | 1.871 | ⅞ | 7/16 | 2 11/16 | 1 5/16 |
| SDS | 2.1875 | ⅞ | 7/16 | 3 ⅛ | 1 5/16 |
| SD | 2.1875 | 1 ⅜ | 7/16 | 3 ⅛ | 1 13/16 |
| SK | 2.1825 | 1 ⅜ | 9/16 | 3 ⅞ | 1 15/16 |
| SF | 3.125 | 1 7/16 | ⅝ | 4 ⅝ | 2 1/16 |
| E | 3.834 | 1 ⅞ | ⅞ | 6 | 2 ¾ |
| F | 4.4375 | 2 ¾ | 1 | 6 ⅝ | 3 ¾ |



We deliver the products that deliver the power.

# SINGLE AND MULTIPLE GROOVE A, B & 5V SERIES

- New B5V greatly simplifies V-drive selection by effectively serving 90% of all applications in the 10-75 HP range
- Combination groove accommodates A (AX), B (BX), and 5V (5VX) section belts; do NOT use with banded belts
- Durable cast-iron construction
- New "B" split taper bushing used extensively in B5V line on sizes larger than 4.68" O.D.; smaller sizes use P1 bushing
- 5V performance at B groove economy means more horsepower per dollar
- New design for higher strength and better balance than classical sheaves
- Interchanges with present B and 5V drive components




Cross Section Selection Chart—10-75 HP

| O.D. (In.) | Pitch (In.) A Belts | B Belts | 5V Belts | Bushing Req'd.* | Browning Model | Stock No. | List | Each | Shpg. Wt. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ONE GROOVE SHEAVES | | | | | TWO GROOVE SHEAVES | | | | |
| **4.48** | 3.8 | 4.2 | 4.3 | P1 | 1B5V42 | **2L273** | $28.00 | **$22.75** | 2.4 | 2B5V42 | **2L299** | $41.00 | **$34.20** | 3.7 |
| **4.68** | 4.0 | 4.4 | 4.5 | P1 | 1B5V44 | **2L274** | 28.00 | **23.42** | 2.8 | 2B5V44 | **2L300** | 44.00 | **35.90** | 4.1 |
| **4.88** | 4.2 | 4.6 | 4.7 | B | 1B5V46 | **2L275** | 31.00 | **25.90** | 2.5 | 2B5V46 | **2L301** | 47.00 | **38.70** | 3.4 |
| **5.08** | 4.4 | 4.8 | 4.9 | B | 1B5V48 | **2L276** | 32.00 | **26.60** | 2.8 | 2B5V48 | **2L302** | 49.00 | **40.15** | 4.5 |
| **5.28** | 4.6 | 5.0 | 5.1 | B | 1B5V50 | **2L277** | 33.00 | **27.35** | 3.2 | 2B5V50 | **2L303** | 50.00 | **41.55** | 4.4 |
| **5.48** | 4.8 | 5.2 | 5.3 | B | 1B5V52 | **2L278** | 34.00 | **28.05** | 3.5 | 2B5V52 | **2L304** | 52.00 | **42.95** | 5.1 |
| **5.68** | 5.0 | 5.4 | 5.5 | B | 1B5V54 | **2L279** | 35.00 | **28.80** | 4.0 | 2B5V54 | **2L305** | 54.00 | **44.25** | 6.2 |
| **5.88** | 5.2 | 5.6 | 5.7 | B | 1B5V56 | **2L280** | 36.00 | **29.45** | 4.4 | 2B5V56 | **2L306** | 55.00 | **45.65** | 6.5 |
| **6.08** | 5.4 | 5.8 | 5.9 | B | 1B5V58 | **2L281** | 37.00 | **30.20** | 4.8 | 2B5V58 | **2L307** | 57.00 | **47.05** | 6.5 |
| **6.28** | 5.6 | 6.0 | 6.1 | B | 1B5V60 | **2L282** | 38.00 | **31.55** | 5.2 | 2B5V60 | **2L308** | 59.00 | **48.50** | 7.9 |
| **6.48** | 5.8 | 6.2 | 6.3 | B | 1B5V62 | **2L283** | 40.00 | **33.10** | 5.5 | 2B5V62 | **2L309** | 60.00 | **49.85** | 8.2 |
| **6.68** | 6.0 | 6.4 | 6.5 | B | 1B5V64 | **2L284** | 42.00 | **34.45** | 5.8 | 2B5V64 | **2L310** | 62.00 | **51.25** | 9.1 |
| **6.88** | 6.2 | 6.6 | 6.7 | B | 1B5V66 | **2L285** | 45.00 | **37.30** | 6.2 | 2B5V66 | **2L311** | 63.00 | **52.00** | 9.4 |
| **7.08** | 6.4 | 6.8 | 6.9 | B | 1B5V68 | **2L286** | 47.00 | **38.65** | 6.6 | 2B5V68 | **2L312** | 64.00 | **52.70** | 8.6 |
| **7.28** | 6.6 | 7.0 | 7.1 | B | 1B5V70 | **2L287** | 49.00 | **40.10** | 7.2 | 2B5V70 | **2L313** | 74.00 | **60.85** | 10.0 |
| **7.68** | 7.0 | 7.4 | 7.5 | B | 1B5V74 | **2L288** | 52.00 | **42.90** | 7.8 | 2B5V74 | **2L314** | 75.00 | **61.65** | 11.0 |
| **8.28** | 7.6 | 8.0 | 8.1 | B | 1B5V80 | **2L289** | 54.00 | **44.20** | 8.2 | 2B5V80 | **2L315** | 76.00 | **62.40** | 11.0 |
| **8.88** | 8.2 | 8.6 | 8.7 | B | 1B5V86 | **2L290** | 57.00 | **47.05** | 9.1 | 2B5V86 | **2L316** | 77.00 | **63.70** | 11.0 |
| **9.28** | 8.6 | 9.0 | 9.1 | B | 1B5V90 | **2L291** | 58.00 | **47.75** | 9.3 | 2B5V90 | **2L317** | 78.00 | **64.45** | 11.0 |
| **9.68** | 9.0 | 9.4 | 9.5 | B | 1B5V94 | **2L292** | 59.00 | **48.50** | 9.3 | 2B5V94 | **2L318** | 79.00 | **65.10** | 11.0 |
| **11.28** | 10.6 | 11.0 | 11.1 | B | 1B5V110 | **2L293** | 69.00 | **56.95** | 9.4 | 2B5V110 | **2L319** | 91.00 | **75.00** | 15.0 |
| **12.68** | 12.0 | 12.4 | 12.5 | B | 1B5V124 | **2L294** | 81.00 | **66.70** | 12.0 | 2B5V124 | **2L320** | 98.00 | **80.60** | 17.0 |
| **13.88** | 13.2 | 13.6 | 13.7 | B | 1B5V136 | **2L295** | 86.00 | **70.95** | 14.0 | 2B5V136 | **2L321** | 115.00 | **94.50** | 19.0 |
| **15.68** | 15.0 | 15.4 | 15.5 | B | 1B5V154 | **2L296** | 112.00 | **91.95** | 17.0 | 2B5V154 | **2L322** | 156.00 | **128.30** | 23.0 |
| **16.28** | 15.6 | 16.0 | 16.1 | B | 1B5V160 | **2L297** | 129.00 | **106.00** | 18.0 | 2B5V160 | **2L323** | 164.00 | **135.30** | 25.0 |
| **18.68** | 18.0 | 18.4 | 18.5 | B | 1B5V184 | **2L298** | 146.00 | **119.95** | 18.0 | 2B5V184 | **2L324** | 204.00 | **168.00** | 33.0 |
| | | | | | THREE GROOVE SHEAVES | | | | | FOUR GROOVE SHEAVES | | | | |
| **4.48** | 3.8 | 4.2 | 4.3 | P1 | 3B5V42 | **2L325** | $46.00 | **$38.35** | 4.8 | 4B5V42 | **2L351** | 69.00 | **56.70** | 6.3 |
| **4.68** | 4.0 | 4.4 | 4.5 | P1 | 3B5V44 | **2L326** | 48.00 | **39.70** | 5.1 | 4B5V44 | **2L352** | 70.00 | **58.05** | 6.2 |
| **4.88** | 4.2 | 4.6 | 4.7 | B | 3B5V46 | **2L327** | 55.00 | **45.40** | 4.5 | 4B5V46 | **2L353** | 72.00 | **59.45** | 5.8 |
| **5.08** | 4.4 | 4.8 | 4.9 | B | 3B5V48 | **2L328** | 57.00 | **46.80** | 5.1 | 4B5V48 | **2L354** | 74.00 | **60.85** | 6.1 |
| **5.28** | 4.6 | 5.0 | 5.1 | B | 3B5V50 | **2L329** | 58.00 | **48.20** | 5.8 | 4B5V50 | **2L355** | 76.00 | **62.25** | 7.1 |
| **5.48** | 4.8 | 5.2 | 5.3 | B | 3B5V52 | **2L330** | 60.00 | **49.65** | 6.3 | 4B5V52 | **2L356** | 77.00 | **63.70** | 7.6 |
| **5.68** | 5.0 | 5.4 | 5.5 | B | 3B5V54 | **2L331** | 62.00 | **51.05** | 7.0 | 4B5V54 | **2L357** | 79.00 | **65.10** | 8.4 |
| **5.88** | 5.2 | 5.6 | 5.7 | B | 3B5V56 | **2L332** | 64.00 | **52.45** | 7.8 | 4B5V56 | **2L358** | 81.00 | **66.55** | 9.6 |
| **6.08** | 5.4 | 5.8 | 5.9 | B | 3B5V58 | **2L333** | 65.00 | **53.85** | 8.5 | 4B5V58 | **2L359** | 82.00 | **67.85** | 10.0 |
| **6.28** | 5.6 | 6.0 | 6.1 | B | 3B5V60 | **2L334** | 67.00 | **55.25** | 9.1 | 4B5V60 | **2L360** | 84.00 | **69.30** | 11.0 |
| **6.48** | 5.8 | 6.2 | 6.3 | B | 3B5V62 | **2L335** | 69.00 | **56.70** | 10.0 | 4B5V62 | **2L361** | 86.00 | **70.75** | 12.0 |
| **6.68** | 6.0 | 6.4 | 6.5 | B | 3B5V64 | **2L336** | 72.00 | **59.45** | 11.0 | 4B5V64 | **2L362** | 89.00 | **73.55** | 13.0 |
| **6.88** | 6.2 | 6.6 | 6.7 | B | 3B5V66 | **2L337** | 74.00 | **60.80** | 12.0 | 4B5V66 | **2L363** | 93.00 | **76.30** | 13.0 |
| **7.08** | 6.4 | 6.8 | 6.9 | B | 3B5V68 | **2L338** | 76.00 | **62.20** | 13.0 | 4B5V68 | **2L364** | 96.00 | **79.15** | 14.0 |
| **7.28** | 6.6 | 7.0 | 7.1 | B | 3B5V70 | **2L339** | 82.00 | **67.95** | 12.0 | 4B5V70 | **2L365** | 105.00 | **86.25** | 14.0 |
| **7.68** | 7.0 | 7.4 | 7.5 | B | 3B5V74 | **2L340** | 84.00 | **69.35** | 14.0 | 4B5V74 | **2L366** | 108.00 | **89.05** | 15.0 |
| **8.28** | 7.6 | 8.0 | 8.1 | B | 3B5V80 | **2L341** | 88.00 | **72.15** | 14.0 | 4B5V80 | **2L367** | 112.00 | **91.85** | 15.0 |
| **8.88** | 8.2 | 8.6 | 8.7 | B | 3B5V86 | **2L342** | 94.00 | **77.80** | 14.0 | 4B5V86 | **2L368** | 118.00 | **97.50** | 17.0 |
| **9.28** | 8.6 | 9.0 | 9.1 | B | 3B5V90 | **2L343** | 98.00 | **80.60** | 15.0 | 4B5V90 | **2L369** | 124.00 | **102.45** | 17.0 |
| **9.68** | 9.0 | 9.4 | 9.5 | B | 3B5V94 | **2L344** | 101.00 | **83.35** | 16.0 | 4B5V94 | **2L370** | 130.00 | **107.40** | 19.0 |
| **11.28** | 10.6 | 11.0 | 11.1 | B | 3B5V110 | **2L345** | 118.00 | **97.50** | 19.0 | 4B5V110 | **2L371** | 142.00 | **117.10** | 27.0 |
| **12.68** | 12.0 | 12.4 | 12.5 | B | 3B5V124 | **2L346** | 135.00 | **111.50** | 23.0 | 4B5V124 | **2L372** | 158.00 | **129.70** | 30.0 |
| **13.88** | 13.2 | 13.6 | 13.7 | B | 3B5V136 | **2L347** | 146.00 | **119.90** | 29.0 | 4B5V136 | **2L373** | 187.00 | **153.75** | 35.0 |
| **15.68** | 15.0 | 15.4 | 15.5 | B | 3B5V154 | **2L348** | 183.00 | **151.00** | 36.0 | 4B5V154 | **2L374** | 209.00 | **172.50** | 38.0 |
| **16.28** | 15.6 | 16.0 | 16.1 | B | 3B5V160 | **2L349** | 194.00 | **159.50** | 38.0 | 4B5V160 | **2L375** | 226.00 | **187.00** | 41.0 |
| **18.68** | 18.0 | 18.4 | 18.5 | B | 3B5V184 | **2L350** | 221.00 | **182.50** | 43.0 | 4B5V184 | **2L376** | 240.00 | **197.75** | 55.0 |

(*) Select desired bore size from bushing chart on page 317

# SINGLE AND MULTIPLE GROOVE 3VX CAST-IRON SHEAVES

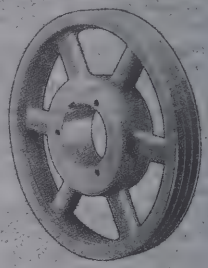
- Durable close-grain SAE 3000 cast-iron construction
- Precision machined and balanced
- Solid construction thru 6.00" on one and two groove; thru 8.00" on three and four groove. All others are spoked construction
- Requires Browning split taper bushing (order separately from page 317)
- Designed for use with 3VX V-belts

Browning

USA
PROUDLY MADE IN THE USA



No. 4FG85
Solid Construction



No. 4FH31
Spoked Construction

| O.D. (In.) | Pitch Dia. (In.) 3VX Belts | Bushing Req'd.* | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ONE GROOVE SHEAVES** | | | | | | | |
| **2.65** | 2.60 | G | 1G3V26 | **4FG53** | $23.00 | **$19.45** | 0.6 |
| **2.80** | 2.75 | G | 1G3V28 | **4FG54** | 24.00 | **20.00** | 0.7 |
| **3.00** | 2.95 | G | 1G3V30 | **4FG55** | 25.00 | **20.61** | 0.9 |
| **3.15** | 3.10 | H | 1H3V31 | **4FG56** | 25.00 | **20.88** | 0.8 |
| **3.35** | 3.30 | H | 1H3V33 | **4FG57** | 26.00 | **21.74** | 0.9 |
| **3.65** | 3.60 | H | 1H3V36 | **4FG58** | 31.00 | **25.90** | 1.4 |
| **3.65** | 3.60 | P1 | 1P3V36 | **4FG67** | 27.00 | **22.63** | 2.0 |
| **4.12** | 4.07 | H | 1H3V41 | **4FG59** | 32.00 | **26.80** | 1.7 |
| **4.12** | 4.07 | P1 | 1P3V41 | **4FG68** | 28.00 | **23.52** | 2.4 |
| **4.50** | 4.45 | H | 1H3V45 | **4FG60** | 33.00 | **27.70** | 2.0 |
| **4.50** | 4.45 | P1 | 1P3V45 | **4FG69** | 29.00 | **24.41** | 2.8 |
| **4.75** | 4.70 | H | 1H3V47 | **4FG61** | 35.00 | **29.10** | 2.2 |
| **4.75** | 4.70 | P1 | 1P3V47 | **4FG70** | 31.00 | **25.90** | 3.3 |
| **5.00** | 4.95 | H | 1H3V50 | **4FG62** | 36.00 | **30.50** | 2.4 |
| **5.00** | 4.95 | P1 | 1P3V50 | **4FG71** | 32.00 | **27.40** | 3.8 |
| **5.30** | 5.25 | H | 1H3V53 | **4FG63** | 38.00 | **32.00** | 2.5 |
| **5.30** | 5.25 | P1 | 1P3V53 | **4FG72** | 34.00 | **28.85** | 4.0 |
| **5.60** | 5.55 | H | 1H3V56 | **4FG64** | 40.00 | **33.35** | 2.4 |
| **5.60** | 5.55 | P1 | 1P3V56 | **4FG73** | 36.00 | **30.25** | 4.4 |
| **6.00** | 5.95 | H | 1H3V60 | **4FG65** | 41.00 | **34.80** | 2.7 |
| **6.00** | 5.95 | P1 | 1P3V60 | **4FG74** | 37.00 | **31.70** | 5.0 |
| **6.50** | 6.45 | P1 | 1P3V65 | **4FG75** | 41.00 | **34.60** | 5.3 |
| **6.90** | 6.85 | P1 | 1P3V69 | **4FG76** | 48.00 | **40.20** | 4.7 |
| **8.00** | 7.95 | P1 | 1P3V80 | **4FG77** | 57.00 | **47.95** | 6.2 |
| **10.60** | 10.55 | P1 | 1P3V106 | **4FG66** | 91.00 | **76.25** | 7.5 |
| **14.00** | 13.95 | Q1 | 1Q3V140 | **4FG78** | 106.00 | **90.30** | 17.0 |
| **19.00** | 18.95 | Q1 | 1Q3V190 | **4FG79** | 174.00 | **147.65** | 26.0 |
| **25.00** | 24.95 | Q1 | 1Q3V250 | **4FG80** | 291.00 | **246.25** | 33.0 |
| **THREE GROOVE SHEAVES** | | | | | | | |
| **2.65** | 2.60 | G | 3G3V26 | **4FH18** | 35.00 | **29.75** | 1.1 |
| **2.80** | 2.75 | G | 3G3V28 | **4FH19** | 36.00 | **30.30** | 1.6 |
| **3.00** | 2.95 | G | 3G3V30 | **4FH20** | 41.00 | **34.45** | 1.8 |
| **3.15** | 3.10 | H | 3H3V31 | **4FH21** | 41.00 | **34.65** | 1.4 |
| **3.35** | 3.30 | H | 3H3V33 | **4FH22** | 42.00 | **35.60** | 1.8 |
| **3.65** | 3.60 | P1 | 3P3V36 | **4FH23** | 39.00 | **33.20** | 2.5 |
| **4.12** | 4.07 | P1 | 3P3V41 | **4FH24** | 41.00 | **34.35** | 3.0 |
| **4.50** | 4.45 | P1 | 3P3V45 | **4FH25** | 48.00 | **40.65** | 3.9 |
| **4.75** | 4.70 | P1 | 3P3V47 | **4FH26** | 52.00 | **43.50** | 4.4 |
| **5.00** | 4.95 | P1 | 3P3V50 | **4FH27** | 55.00 | **46.40** | 4.9 |
| **5.30** | 5.25 | P1 | 3P3V53 | **4FH28** | 57.00 | **47.90** | 5.9 |
| **5.60** | 5.55 | P1 | 3P3V56 | **4FH29** | 58.00 | **49.55** | 7.5 |
| **6.00** | 5.95 | P1 | 3P3V60 | **4FH30** | 62.00 | **52.40** | 8.0 |
| **6.50** | 6.45 | Q1 | 3Q3V65 | **4FH33** | 53.00 | **45.10** | 9.9 |
| **6.90** | 6.85 | Q1 | 3Q3V69 | **4FH34** | 63.00 | **53.70** | 11.0 |
| **8.00** | 7.95 | Q1 | 3Q3V80 | **4FH35** | 77.00 | **65.75** | 12.0 |
| **10.60** | 10.55 | Q1 | 3Q3V106 | **4FH31** | 111.00 | **94.30** | 15.0 |
| **14.00** | 13.95 | Q1 | 3Q3V140 | **4FH32** | 160.00 | **136.15** | 25.0 |
| **19.00** | 18.95 | R1 | 3R3V190 | **4FH36** | 161.00 | **138.25** | 35.0 |
| **25.00** | 24.95 | R1 | 3R3V250 | **4FH37** | 317.00 | **270.50** | 55.0 |
| **33.50** | 33.45 | R1 | 3R3V335 | **4FH38** | 588.00 | **498.50** | 80.0 |

(*) Select desired bore size from bushing chart on page 317

| Bushing Req'd.* | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **TWO GROOVE SHEAVES** | | | | | |
| G | 2G3V26 | **4FG85** | $31.00 | **$25.70** | 0.8 |
| G | 2G3V28 | **4FG86** | 31.00 | **26.30** | 0.9 |
| G | 2G3V30 | **4FG87** | 32.00 | **26.90** | 1.3 |
| H | 2H3V31 | **4FG88** | 32.00 | **27.10** | 0.9 |
| H | 2H3V33 | **4FG89** | 37.00 | **31.30** | 1.3 |
| H | 2H3V36 | **4FG90** | 38.00 | **32.20** | 1.6 |
| P1 | 2P3V36 | **4FG98** | 34.00 | **28.90** | 2.0 |
| H | 2H3V41 | **4FG91** | 41.00 | **34.75** | 2.3 |
| P1 | 2P3V41 | **4FG99** | 37.00 | **31.50** | 2.8 |
| H | 2H3V45 | **4FG92** | 45.00 | **37.65** | 2.8 |
| P1 | 2P3V45 | **4FH01** | 44.00 | **36.95** | 3.5 |
| H | 2H3V47 | **4FG93** | 48.00 | **40.50** | 3.1 |
| P1 | 2P3V47 | **4FH02** | 44.00 | **37.25** | 4.0 |
| H | 2H3V50 | **4FG94** | 52.00 | **43.35** | 3.4 |
| P1 | 2P3V50 | **4FH03** | 48.00 | **40.20** | 4.6 |
| H | 2H3V53 | **4FG95** | 53.00 | **44.85** | 3.7 |
| P1 | 2P3V53 | **4FH04** | 49.00 | **41.65** | 5.6 |
| H | 2H3V56 | **4FG96** | 55.00 | **46.20** | 3.1 |
| P1 | 2P3V56 | **4FH05** | 51.00 | **43.10** | 6.0 |
| H | 2H3V60 | **4FG97** | 57.00 | **47.60** | 3.6 |
| P1 | 2P3V60 | **4FH06** | 52.00 | **44.00** | 6.8 |
| Q1 | 2Q3V65 | **4FH11** | 49.00 | **42.10** | 8.3 |
| Q1 | 2Q3V69 | **4FH12** | 54.00 | **46.50** | 9.8 |
| Q1 | 2Q3V80 | **4FH13** | 56.00 | **48.00** | 11.0 |
| Q1 | 2Q3V106 | **4FH07** | 98.00 | **82.85** | 14.0 |
| Q1 | 2Q3V140 | **4FH08** | 152.00 | **128.90** | 23.0 |
| Q1 | 2Q3V190 | **4FH09** | 177.00 | **150.75** | 29.0 |
| Q1 | 2Q3V250 | **4FH10** | 315.00 | **267.50** | 44.0 |
| **FOUR GROOVE SHEAVES** | | | | | |
| G | 4G3V26 | **4FH39** | 40.00 | **33.70** | 1.4 |
| G | 4G3V28 | **4FH40** | 41.00 | **34.00** | 1.8 |
| G | 4G3V30 | **4FH41** | 45.00 | **37.55** | 2.1 |
| H | 4H3V31 | **4FH42** | 45.00 | **38.15** | 1.8 |
| H | 4H3V33 | **4FH43** | 47.00 | **39.30** | 2.3 |
| P1 | 4P3V36 | **4FH44** | 44.00 | **37.15** | 2.8 |
| P1 | 4P3V41 | **4FH45** | 46.00 | **38.65** | 3.7 |
| P1 | 4P3V45 | **4FH46** | 50.00 | **42.15** | 4.4 |
| P1 | 4P3V47 | **4FH47** | 53.00 | **45.05** | 5.1 |
| P1 | 4P3V50 | **4FH48** | 57.00 | **47.90** | 5.8 |
| P1 | 4P3V53 | **4FH49** | 60.00 | **50.80** | 6.5 |
| P1 | 4P3V56 | **4FH50** | 62.00 | **52.40** | 8.1 |
| Q1 | 4Q3V60 | **4FH53** | 64.00 | **54.20** | 9.0 |
| Q1 | 4Q3V65 | **4FH54** | 65.00 | **55.80** | 11.0 |
| Q1 | 4Q3V69 | **4FH55** | 74.00 | **63.05** | 13.0 |
| Q1 | 4Q3V80 | **4FH56** | 79.00 | **67.30** | 13.0 |
| Q1 | 4Q3V106 | **4FH51** | 113.00 | **95.75** | 16.0 |
| Q1 | 4Q3V140 | **4FH52** | 170.00 | **144.80** | 25.0 |
| R1 | 4R3V190 | **4FH57** | 192.00 | **164.00** | 37.0 |
| R1 | 4R3V250 | **4FH58** | 327.00 | **279.50** | 60.0 |
| R1 | 4R3V335 | **4FH59** | 674.00 | **572.00** | 88.0 |



We deliver the products that deliver the power.

# SPLIT TAPER AND QD® BUSHINGS

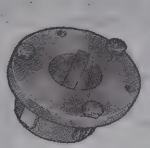
## SPLIT TAPER BUSHINGS

- For sheaves, sprockets, pulleys, gear-belt pulleys, and chain couplings
- 3/4" per foot taper for shaft clamping
- External key on the bushing provides positive drive (except Models G & H)
- Solid flange for true concentricity
- For keyway size refer to page 322
- For Dimensions see page 314

Browning

USA

PROUDLY MADE IN THE USA



No. 2L232



No. 2L269



No. 3X577

| Mfr's. Model | For Bushing Bore Size, Specify Stock No. (In.) | | | | | | | | | | | | | | | | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3/8 | 7/16 | 1/2 | 9/16 | 5/8 | 11/16 | 3/4 | 13/16 | 7/8 | 15/16 | 1 | 1 1/16 | 1 1/8 | 1 3/16 | 1 1/4 | 1 5/16 | 24mm | |
| G | 2L264 | 2L265 | 2L266 | 2L267 | 2L268 | — | 2L269 | — | 2L270 | 2L271 | 2L272 | — | — | — | — | — | — | $5.19 | 0.4 |
| H | — | — | 3X884 | — | 3X572 | — | 3X573 | — | 3X574 | 3X575 | 3X576 | — | 3X577 | 3X578 | 3X579 | — | 5A021 | 5.18 | 0.5 |
| P1 | — | — | — | — | 1A276 | — | 3A146 | — | 1A015 | — | 3A147 | — | 3X483 | 3A148 | 3A149 | — | — | 9.03 | 0.8 |
| P2 | — | — | — | — | — | — | — | — | — | — | — | — | 3X480 | — | — | — | — | 9.89 | 1.8 |
| B | — | — | 2L232 | 2L233 | 2L234 | 2L235 | 2L236 | 2L237 | 2L238 | 2L239 | 2L240 | 2L241 | 2L242 | 2L243 | 2L244 | 2L245 | — | 9.06 | 1.6 |
| Q1 | — | — | — | — | — | — | 3A151 | — | 3A152 | — | 3A153 | — | 3X465 | 3X466 | 3A154 | — | — | 17.76 | 1.8 |
| | 1 3/8 | 1 7/16 | 1 1/2 | 1 9/16 | 1 5/8 | 1 11/16 | 1 3/4 | 1 13/16 | 1 7/8 | 1 15/16 | 2 | 2 1/16 | 2 1/8 | 2 3/16 | 2 1/4 | 2 5/16 | 2 3/8 | | |
| H | 3X580 | 3X581 | 3X885 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.18 | 0.4 |
| P1 | 3X482 | 1A392 | 3A150 | — | 1A072 | — | — | — | — | — | — | — | — | — | — | — | — | 9.03 | 1.1 |
| P2 | 3X481 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.89 | 1.5 |
| B | 2L246 | 2L247 | 2L248 | 2L249 | 2L250 | 2L251 | 2L252 | 2L253 | 2L254 | 2L255 | 2L256 | 2L257 | 2L258 | 2L259 | 2L260 | 2L261 | 2L262 | 9.06 | 2.7 |
| Q1 | 3X467 | 3X468 | 3A155 | 3X666 | 3X469 | 3X470 | 3X667 | — | 3X668 | 3X669 | — | — | 1A393 | — | — | — | 1A394 | 17.76 | 4.2 |
| R1 | — | — | — | — | — | — | 6L685 | — | — | 6L686 | 6L687 | — | 6L688 | 6L689 | — | — | 6L690 | 43.90 | 7.8 |
| R2 | — | — | — | — | — | — | — | — | — | 6L701 | 6L702 | — | — | 6L703 | — | — | — | 49.40 | 9.0 |
| S1 | — | — | — | — | — | — | — | — | — | — | — | — | — | 6L713 | — | — | — | 87.85 | 13.0 |
| S2 | — | — | — | — | — | — | — | — | — | — | — | — | — | 6L720 | — | — | — | 109.70 | 22.0 |
| U0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3HX94 | 87.85 | 16.0 |
| | 2 7/16 | 2 1/2 | 2 9/16 | 2 5/8 | 2 11/16 | 2 3/4 | 2 7/8 | 2 15/16 | 3 | 3 1/8 | 3 3/16 | 3 1/4 | 3 3/8 | 3 7/16 | 3 1/2 | 3 5/8 | 3 11/16 | | |
| B | 2L263 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.06 | 1.3 |
| Q1 | — | — | — | 1A395 | — | — | — | — | — | — | — | — | — | — | — | — | — | 17.76 | 3.6 |
| R1 | 6L691 | 6L692 | — | 6L693 | 6L694 | 6L695 | 6L696 | 6L697 | 6L698 | — | 6L699 | — | — | 6L700 | — | — | — | 43.90 | 6.0 |
| R2 | 6L704 | 6L705 | — | 6L706 | 6L707 | 6L708 | 6L709 | 6L710 | 6L711 | — | — | — | — | 6L712 | — | — | — | 49.40 | 10.0 |
| S1 | 6L714 | 6L715 | — | — | — | — | 6L716 | 6L717 | 6L718 | — | — | — | — | 6L719 | — | — | — | 87.85 | 15.0 |
| S2 | 6L721 | 6L722 | — | — | — | — | — | 6L723 | 6L724 | — | — | — | 6L725 | 6L726 | — | — | — | 109.70 | 22.0 |
| U0 | 3HX96 | 3HX90 | 3HX98 | 3HX95 | 3HX91 | 3HX93 | 3HX97 | 3HX92 | 3HX99 | 3HZ03 | 3HZ06 | 3HZ02 | 3HZ08 | 3HZ10 | 3HZ01 | 3HZ09 | 3HZ04 | 191.00 | 27.0 |
| | 3 3/4 | 3 7/8 | 3 15/16 | 4 | 4 1/8 | 4 3/16 | 4 1/4 | 4 3/8 | 4 7/16 | 4 1/2 | 4 5/8 | 4 11/16 | 4 3/4 | 4 7/8 | 4 15/16 | 5 | | | |
| U0 | 3HZ07 | 3HZ11 | 3HZ05 | 3HZ12 | 3HZ15 | 3HZ18 | 3HZ14 | 3HZ20 | 3HZ22 | 3HZ13 | 3HZ21 | 3HZ16 | 3HZ19 | 3HZ23 | 3HZ17 | 3HZ24 | | 190.75 | 29.0 |

## QD® BUSHINGS

- 3/4" per foot taper for ultimate shaft clamping
- Used with many HPT sprockets on page 318
- Also can be used with other competitive sheave and sprocket systems that utilize QD bushings
- For keyway size refer to page 322
- For Dimensions see page 314

Browning

USA

PROUDLY MADE IN THE USA



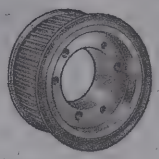
No. 2L093

| Mfr's. Model | For Bushing Bore Size, Specify Stock No. (In.) | | | | | | | | | | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1/2 | 5/8 | 3/4 | 7/8 | 15/16 | 1 | 1 1/8 | 1 3/16 | 1 1/4 | 1 3/8 | | |
| JA | 2L093 | 2L094 | 2L095 | 2L096 | 2L097 | 2L098 | 2L099 | 2L100 | — | — | $7.83 | 0.4 |
| SH | 2L101 | 2L102 | 2L103 | 2L104 | 2L105 | 2L106 | 2L107 | 2L108 | 2L109 | 2L110 | 10.70 | 1.0 |
| SDS | 2L115 | 2L116 | 2L117 | 2L118 | 2L119 | 2L120 | 2L121 | 2L122 | 2L123 | 2L124 | 12.44 | 1.5 |
| SD | 2L133 | 2L134 | 2L135 | 2L136 | 2L137 | 2L138 | 2L139 | 2L140 | 2L141 | 2L142 | 14.96 | 1.9 |
| SK | 2L151 | 2L152 | 2L153 | 2L154 | 2L155 | 2L156 | 2L157 | 2L158 | 2L159 | 2L160 | 19.27 | 3.3 |
| SF | 2L171 | 2L172 | 2L173 | 2L174 | 2L175 | 2L176 | 2L177 | 2L178 | 2L179 | 2L180 | 23.70 | 5.0 |
| E | — | — | — | 2L195 | — | 2L196 | 2L197 | — | 2L198 | 2L199 | 49.90 | 11.0 |
| | 1 7/16 | 1 1/2 | 1 9/16 | 1 5/8 | 1 11/16 | 1 3/4 | 1 7/8 | 1 15/16 | 2 | 2 1/8 | 2 3/16 | 2 3/8 | | |
| SH | 2L111 | 2L112 | 2L113 | 2L114 | — | — | — | — | — | — | — | — | 10.70 | 0.7 |
| SDS | 2L125 | 2L126 | 2L127 | 2L128 | 2L129 | 2L130 | 2L131 | 2L132 | — | — | — | — | 12.44 | 1.1 |
| SD | 2L143 | 2L144 | 2L145 | 2L146 | 2L147 | 2L148 | 2L149 | 2L150 | — | — | — | — | 14.96 | 1.2 |
| SK | 2L161 | 2L162 | 2L163 | 2L164 | 2L165 | 2L166 | 2L167 | 2L168 | 2L169 | 2L170 | — | — | 19.27 | 2.7 |
| SF | 2L181 | 2L182 | — | 2L183 | 2L184 | 2L185 | 2L186 | 2L187 | 2L188 | 2L189 | 2L190 | — | 23.70 | 4.2 |
| E | 2L200 | 2L201 | — | 2L202 | — | 2L203 | 2L204 | 2L205 | 2L206 | 2L207 | 2L208 | 2L209 | 49.90 | 9.8 |
| F | — | — | — | — | — | — | — | 2L218 | 2L219 | 2L220 | 2L221 | 2L222 | 89.30 | 16.0 |
| | 2 1/16 | 2 1/2 | 2 11/16 | 2 15/16 | 3 | 3 1/8 | 3 7/16 | 3 1/2 | 3 15/16 | | | | | |
| SF | 2L191 | 2L192 | 2L193 | 2L194 | — | — | — | — | — | | | | 23.70 | 0.5 |
| E | 2L210 | 2L211 | 2L212 | 2L213 | 2L214 | 2L215 | 2L216 | 2L217 | — | | | | 49.90 | 6.0 |
| F | 2L223 | 2L224 | 2L225 | 2L226 | 2L227 | 2L228 | 2L229 | 2L230 | 2L231 | | | | 89.30 | 15.0 |

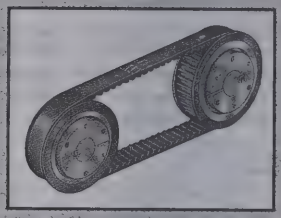
# SYNCHRONOUS DRIVES HPT SPROCKETS

- HPT (High Performance Timing) sprockets are designed for high HP (up to 85 HP), low RPM (as low as 10 RPM) synchronous drives
- For 8mm and 14mm pitch HPT belts
- Use with HPT belts on page 319
- 8 mm pitch series for applications up to 80 HP; 14mm pitch series for applications up to 85 HP
- Positive drive, no slip
- No lubrication required
- Interchanges with HTD® sprockets
- Requires QD bushing or H split taper bushing; order separately on page 317
- Made in USA

Browning USA PROUDLY MADE IN THE USA



HPT Sprocket without Bushing



| No. of Teeth | Pitch Dia. (In.) | Bushing Req'd. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **8mm PITCH—20mm (.79") WIDE** | | | | | | | |
| 22 | 2.206 | * | B228M20B | 2L773 | $54.00 | $44.80 | 1.4 |
| 24 | 2.406 | JA | B248M20JA | 2L774 | 55.00 | 45.65 | 0.9 |
| 26 | 2.607 | JA | B268M20JA | 2L775 | 56.00 | 46.55 | 0.9 |
| 28 | 2.807 | JA | B288M20JA | 2L776 | 57.00 | 47.45 | 1.0 |
| 28 | 2.807 | H | B288M20H | 2L777 | 57.00 | 47.45 | 1.2 |
| 30 | 3.008 | JA | B308M20JA | 2L778 | 60.00 | 49.15 | 1.2 |
| 30 | 3.008 | H | B308M20H | 2L779 | 60.00 | 49.15 | 1.5 |
| 32 | 3.208 | JA | B328M20JA | 2L780 | 62.00 | 50.75 | 1.3 |
| 32 | 3.208 | H | B328M20H | 2L781 | 62.00 | 50.75 | 1.7 |
| 34 | 3.409 | SH | B348M20SH | 2L782 | 63.00 | 51.60 | 1.6 |
| 36 | 3.609 | SH | B368M20SH | 2L783 | 65.00 | 53.40 | 1.8 |
| 38 | 3.810 | SH | B388M20SH | 2L784 | 67.00 | 55.20 | 1.9 |
| 40 | 4.010 | SH | B408M20SH | 2L785 | 71.00 | 58.60 | 2.3 |
| 44 | 4.411 | SDS | B448M20SDS | 2L786 | 83.00 | 68.00 | 2.6 |
| 48 | 4.812 | SDS | B488M20SDS | 2L787 | 96.00 | 79.25 | 3.5 |
| 56 | 5.614 | SDS | B568M20SDS | 2L788 | 107.00 | 87.80 | 4.6 |
| 64 | 6.416 | SDS | B648M20SDS | 2L789 | 131.00 | 107.55 | 6.3 |
| 72 | 7.218 | SDS | B728M20SDS | 2L790 | 134.00 | 110.15 | 7.0 |
| 80 | 8.020 | SK | B808M20SK | 2L791 | 144.00 | 118.75 | 11.0 |
| 90 | 9.023 | SK | B908M20SK | 2L792 | 148.00 | 122.15 | 12.0 |
| **8mm PITCH—30mm (1.18") WIDE** | | | | | | | |
| 22 | 2.206 | * | B228M30B | 2L793 | 55.00 | 45.65 | 1.7 |
| 24 | 2.406 | * | B248M30B | 2L794 | 56.00 | 46.50 | 2.0 |
| 26 | 2.607 | * | B268M30B | 2L795 | 58.00 | 48.30 | 2.7 |
| 28 | 2.807 | JA | B288M30JA | 2L796 | 62.00 | 50.75 | 1.2 |
| 28 | 2.807 | H | B288M30H | 2L797 | 62.00 | 50.90 | 1.5 |
| 30 | 3.008 | JA | B308M30JA | 2L798 | 63.00 | 51.60 | 1.5 |
| 30 | 3.008 | H | B308M30H | 2L799 | 63.00 | 51.60 | 1.9 |
| 32 | 3.208 | JA | B328M30JA | 2L800 | 65.00 | 53.35 | 1.8 |
| 32 | 3.208 | H | B328M30H | 2L801 | 65.00 | 53.35 | 2.3 |
| 34 | 3.409 | SH | B348M30SH | 2L802 | 66.00 | 54.20 | 2.4 |
| 36 | 3.609 | SH | B368M30SH | 2L803 | 71.00 | 58.45 | 2.1 |
| 38 | 3.810 | SH | B388M30SH | 2L804 | 73.00 | 60.30 | 1.9 |
| 40 | 4.010 | SH | B408M30SH | 2L805 | 81.00 | 67.20 | 2.9 |
| 44 | 4.411 | SDS | B448M30SDS | 2L806 | 90.00 | 74.00 | 3.0 |
| 48 | 4.812 | SDS | B488M30SDS | 2L807 | 97.00 | 80.10 | 3.8 |
| 56 | 5.614 | SDS | B568M30SDS | 2L808 | 109.00 | 89.50 | 5.2 |
| 64 | 6.416 | SK | B648M30SK | 2L809 | 132.00 | 108.40 | 8.8 |
| 72 | 7.218 | SK | B728M30SK | 2L810 | 144.00 | 118.75 | 12.0 |
| 80 | 8.020 | SK | B808M30SK | 2L811 | 148.00 | 122.15 | 10.0 |
| 90 | 9.023 | SK | B908M30SK | 2L812 | 152.00 | 125.60 | 12.0 |
| 112 | 11.229 | SK | B1128M30SK | 2L813 | 194.00 | 160.25 | 16.0 |
| **8mm PITCH—50mm (1.97") WIDE** | | | | | | | |
| 28 | 2.807 | * | B288M50B | 2L814 | 84.00 | 68.90 | 4.4 |
| 30 | 3.008 | * | B308M50B | 2L815 | 86.00 | 70.70 | 5.1 |
| 32 | 3.208 | JA | B328M50JA | 2L816 | 87.00 | 71.30 | 2.6 |
| 32 | 3.208 | H | B328M50H | 2L817 | 87.00 | 71.45 | 3.5 |
| 34 | 3.409 | SH | B348M50SH | 2L818 | 88.00 | 72.25 | 2.3 |
| 36 | 3.609 | SH | B368M50SH | 2L819 | 89.00 | 73.10 | 2.9 |
| 38 | 3.810 | SH | B388M50SH | 2L820 | 90.00 | 73.90 | 3.0 |
| 40 | 4.010 | SH | B408M50SH | 2L821 | 92.00 | 75.60 | 3.7 |
| 44 | 4.411 | SD | B448M50SD | 2L822 | 98.00 | 80.85 | 4.7 |
| 48 | 4.812 | SD | B488M50SD | 2L823 | 102.00 | 84.15 | 6.5 |
| 56 | 5.614 | SK | B568M50SK | 2L824 | 120.00 | 98.85 | 9.7 |
| 64 | 6.416 | SK | B648M50SK | 2L825 | 136.00 | 111.70 | 12.0 |
| 72 | 7.218 | SK | B728M50SK | 2L826 | 150.00 | 123.70 | 14.0 |
| 80 | 8.020 | SF | B808M50SF | 2L827 | 162.00 | 133.10 | 17.0 |
| 90 | 9.023 | SF | B908M50SF | 2L828 | 194.00 | 160.00 | 21.0 |
| 112 | 11.229 | SF | B1128M50SF | 2L829 | 244.00 | 201.50 | 25.0 |

| No. of Teeth | Pitch Dia. (In.) | Bushing Req'd | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **8mm PITCH—85mm (3.35") WIDE** | | | | | | | |
| 34 | 3.409 | SH | B348M85SH | 2L830 | $99.00 | $81.65 | 3.3 |
| 36 | 3.609 | SH | B368M85SH | 2L831 | 104.00 | 85.95 | 4.1 |
| 38 | 3.810 | SH | B388M85SH | 2L832 | 107.00 | 87.70 | 4.5 |
| 40 | 4.010 | SD | B408M85SD | 2L833 | 111.00 | 91.05 | 5.1 |
| 44 | 4.411 | SD | B448M85SD | 2L834 | 115.00 | 94.50 | 8.3 |
| 48 | 4.812 | SD | B488M85SD | 2L835 | 125.00 | 103.10 | 8.5 |
| 56 | 5.614 | SK | B568M85SK | 2L836 | 146.00 | 120.25 | 9.7 |
| 64 | 6.416 | SK | B648M85SK | 2L837 | 170.00 | 140.00 | 16.0 |
| 72 | 7.218 | SF | B728M85SF | 2L838 | 185.00 | 152.00 | 20.0 |
| 80 | 8.020 | SF | B808M85SF | 2L839 | 203.00 | 167.00 | 20.0 |
| 90 | 9.023 | SF | B908M85SF | 2L840 | 256.00 | 210.50 | 23.0 |
| 112 | 11.229 | E | B1128M85E | 2L841 | 322.00 | 265.50 | 40.0 |
| **14mm PITCH—40mm (1.57") WIDE** | | | | | | | |
| 28 | 4.912 | SK | B2814M40SK | 2L842 | 89.00 | 73.05 | 6.7 |
| 29 | 5.088 | SK | B2914M40SK | 2L843 | 94.00 | 77.30 | 6.9 |
| 30 | 5.263 | SK | B3014M40SK | 2L844 | 97.00 | 80.00 | 5.9 |
| 32 | 5.614 | SK | B3214M40SK | 2L845 | 107.00 | 87.80 | 7.1 |
| 34 | 5.965 | SK | B3414M40SK | 2L846 | 110.00 | 90.40 | 7.3 |
| 36 | 6.316 | SF | B3614M40SF | 2L847 | 120.00 | 98.95 | 9.7 |
| 38 | 6.667 | SF | B3814M40SF | 2L848 | 136.00 | 111.85 | 11.0 |
| 40 | 7.018 | SF | B8514M40SF | 2L849 | 139.00 | 114.25 | 15.0 |
| 44 | 7.720 | SF | B4414M40SF | 2L850 | 162.00 | 133.15 | 15.0 |
| 48 | 8.421 | SF | B4814M40SF | 2L851 | 172.00 | 141.70 | 19.0 |
| 52 | 9.123 | SF | B5214M40SF | 2L852 | 180.00 | 147.70 | 23.0 |
| 56 | 9.825 | SF | B5614M40SF | 2L853 | 183.00 | 150.25 | 23.0 |
| 60 | 10.527 | SF | B6014M40SF | 2L854 | 237.00 | 195.50 | 25.0 |
| 64 | 11.229 | E | B6414M40E | 2L855 | 272.00 | 224.00 | 33.0 |
| 68 | 11.930 | E | B6814M40E | 2L856 | 277.00 | 227.75 | 36.0 |
| 72 | 12.632 | E | B7214M40E | 2L857 | 284.00 | 234.00 | 39.0 |
| 80 | 14.036 | E | B8014M40E | 2L858 | 292.00 | 241.00 | 40.0 |
| 90 | 15.790 | E | B9014M40E | 2L859 | 301.00 | 248.25 | 37.0 |
| 112 | 19.650 | E | B11214M40E | 2L860 | 381.00 | 313.75 | 80.0 |
| 144 | 25.264 | E | B14414M40E | 2L861 | 501.00 | 413.00 | 80.0 |
| **14mm PITCH—55mm (2.17") WIDE** | | | | | | | |
| 28 | 4.912 | SK | B2814M55SK | 2L862 | 104.00 | 86.05 | 6.0 |
| 29 | 5.088 | SK | B2914M55SK | 2L863 | 110.00 | 90.40 | 8.7 |
| 30 | 5.263 | SK | B3014M55SK | 2L864 | 113.00 | 92.95 | 6.8 |
| 32 | 5.614 | SK | B3214M55SK | 2L865 | 119.00 | 98.10 | 8.6 |
| 34 | 5.965 | SK | B3414M55SK | 2L866 | 125.00 | 103.20 | 11.0 |
| 36 | 6.316 | SF | B3614M55SF | 2L867 | 131.00 | 107.55 | 11.0 |
| 38 | 6.667 | SF | B3814M55SF | 2L868 | 146.00 | 120.40 | 13.0 |
| 40 | 7.018 | SF | B4014M55SF | 2L869 | 149.00 | 123.00 | 14.0 |
| 44 | 7.720 | E | B4414M55E | 2L870 | 172.00 | 141.70 | 17.0 |
| 48 | 8.421 | E | B4814M55E | 2L871 | 178.00 | 145.90 | 22.0 |
| 52 | 9.123 | E | B5214M55E | 2L872 | 186.00 | 153.00 | 26.0 |
| 56 | 9.825 | E | B5614M55E | 2L873 | 188.00 | 154.75 | 31.0 |
| 60 | 10.527 | E | B6014M55E | 2L874 | 251.00 | 207.00 | 38.0 |
| 64 | 11.229 | E | B6414M55E | 2L875 | 287.00 | 237.25 | 35.0 |
| 68 | 11.930 | E | B6814M55E | 2L876 | 298.00 | 245.25 | 38.0 |
| 72 | 12.632 | E | B7214M55E | 2L877 | 303.00 | 249.25 | 40.0 |
| 80 | 14.036 | E | B8014M55E | 2L878 | 353.00 | 291.25 | 45.0 |
| 90 | 15.790 | E | B9014M55E | 2L879 | 360.00 | 296.25 | 45.0 |
| 112 | 19.650 | E | B11214M55E | 2L880 | 423.00 | 348.25 | 49.0 |
| 144 | 25.264 | F | B14414M55F | 2L881 | 543.00 | 446.75 | 90.0 |

(*) 1/2" Minimum plain bore.
User may machine to maximum bore indicated and add keyway and setscrew hole as required. See Standard Keyway and Setscrew Machining Guide on page 322.

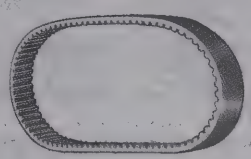


We deliver the products that deliver the power.

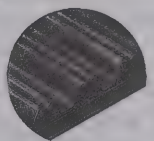
# SYNCHRONOUS DRIVES HPT BELTS

- HPT (High Performance Timing) belts are for use with HPT sprockets on page 318
- Available in 8mm pitch, 20mm to 85mm wide, and 14mm pitch, 40mm to 55mm wide
- State of the art tooth design means quieter operation than other high performance belts
- HPT belts handle higher torque transmission than conventional gearbelt and pulley drives
- Interchangeable with HTD® belts
- Oil and heat resistant
- Made in USA

Browning USA
PROUDLY MADE IN THE USA



HPT Belt



Tooth Profile

| No. of Teeth | Pitch Length (mm) | Pitch Length (In.) | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **8mm PITCH—20mm (.79") WIDE** | | | | | | | |
| **60** | 480 | 18.90 | B4808M20 | **2L882** | $15.00 | **$14.36** | 0.1 |
| **70** | 560 | 22.05 | B5608M20 | **2L883** | 16.00 | **15.58** | 0.3 |
| **75** | 600 | 23.62 | B6008M20 | **2L884** | 17.00 | **16.39** | 0.2 |
| **80** | 640 | 25.20 | B6408M20 | **2L885** | 18.00 | **16.84** | 0.2 |
| **90** | 720 | 28.35 | B7208M20 | **2L886** | 19.00 | **18.08** | 0.2 |
| **100** | 800 | 31.50 | B8008M20 | **2L887** | 21.00 | **19.77** | 0.3 |
| **110** | 880 | 34.65 | B8808M20 | **2L888** | 22.00 | **21.04** | 0.2 |
| **120** | 960 | 37.80 | B9608M20 | **2L889** | 23.00 | **22.26** | 0.3 |
| **130** | 1040 | 40.94 | B10408M20 | **2L890** | 25.00 | **23.51** | 0.3 |
| **140** | 1120 | 44.09 | B11208M20 | **2L891** | 26.00 | **24.75** | 0.3 |
| **150** | 1200 | 47.24 | B12008M20 | **2L892** | 28.00 | **26.20** | 0.3 |
| **160** | 1280 | 50.39 | B12808M20 | **2L893** | 29.00 | **27.40** | 0.3 |
| **180** | 1440 | 56.69 | B14408M20 | **2L894** | 31.00 | **29.95** | 0.4 |
| **200** | 1600 | 62.99 | B16008M20 | **2L895** | 34.00 | **32.55** | 0.4 |
| **220** | 1760 | 69.29 | B17608M20 | **2L896** | 37.00 | **35.15** | 0.4 |
| **225** | 1800 | 70.87 | B18008M20 | **2L897** | 38.00 | **35.80** | 0.5 |
| **250** | 2000 | 78.74 | B20008M20 | **2L898** | 41.00 | **39.35** | 0.5 |
| **300** | 2400 | 94.49 | B24008M20 | **2L899** | 48.00 | **45.90** | 0.6 |
| **325** | 2600 | 102.36 | B26008M20 | **2L900** | 52.00 | **49.70** | 0.7 |
| **350** | 2800 | 110.24 | B28008M20 | **2L901** | 55.00 | **52.70** | 0.7 |
| **8mm PITCH—30mm (1.18") WIDE** | | | | | | | |
| **60** | 480 | 18.90 | B4808M30 | **2L902** | 21.00 | **20.34** | 0.2 |
| **70** | 560 | 22.05 | B5608M30 | **2L903** | 23.00 | **22.26** | 0.2 |
| **75** | 600 | 23.62 | B6008M30 | **2L904** | 25.00 | **23.51** | 0.2 |
| **80** | 640 | 25.20 | B6408M30 | **2L905** | 25.00 | **24.07** | 0.3 |
| **90** | 720 | 28.35 | B7208M30 | **2L906** | 27.00 | **25.95** | 0.3 |
| **100** | 800 | 31.50 | B8008M30 | **2L907** | 30.00 | **28.60** | 0.3 |
| **110** | 880 | 34.65 | B8808M30 | **2L908** | 32.00 | **30.45** | 0.4 |
| **120** | 960 | 37.80 | B9608M30 | **2L909** | 34.00 | **32.30** | 0.4 |
| **130** | 1040 | 40.94 | B10408M30 | **2L910** | 36.00 | **34.15** | 0.5 |
| **140** | 1120 | 44.09 | B11208M30 | **2L911** | 38.00 | **35.95** | 0.5 |
| **150** | 1200 | 47.24 | B12008M30 | **2L912** | 40.00 | **37.90** | 0.5 |
| **160** | 1280 | 50.39 | B12808M30 | **6G239** | 42.00 | **39.70** | 0.5 |
| **180** | 1440 | 56.69 | B14408M30 | **2L913** | 46.00 | **43.45** | 0.6 |
| **200** | 1600 | 62.99 | B16008M30 | **2L914** | 50.00 | **47.15** | 0.7 |
| **220** | 1760 | 69.29 | B17608M30 | **2L915** | 54.00 | **50.80** | 1.0 |
| **225** | 1800 | 70.87 | B18008M30 | **2L916** | 55.00 | **52.00** | 0.5 |
| **250** | 2000 | 78.74 | B20008M30 | **2L917** | 60.00 | **56.90** | 0.5 |
| **300** | 2400 | 94.49 | B24008M30 | **2L918** | 70.00 | **67.00** | 1.0 |
| **325** | 2600 | 102.36 | B26008M30 | **2L919** | 76.00 | **72.05** | 1.0 |
| **350** | 2800 | 110.24 | B28008M30 | **2L920** | 81.00 | **76.80** | 1.0 |
| **8mm PITCH—50mm (1.97") WIDE** | | | | | | | |
| **60** | 480 | 18.90 | B4808M50 | **2L921** | 34.00 | **32.55** | 0.3 |
| **70** | 560 | 22.05 | B5608M50 | **2L922** | 38.00 | **35.70** | 0.3 |
| **75** | 600 | 23.62 | B6008M50 | **2L923** | 40.00 | **37.80** | 0.4 |
| **80** | 640 | 25.20 | B6408M50 | **2L924** | 41.00 | **38.70** | 0.5 |
| **90** | 720 | 28.35 | B7208M50 | **2L925** | 44.00 | **41.95** | 0.5 |
| **100** | 800 | 31.50 | B8008M50 | **2L926** | 49.00 | **46.15** | 0.3 |
| **110** | 880 | 34.65 | B8808M50 | **2L927** | 52.00 | **49.30** | 0.5 |
| **120** | 960 | 37.80 | B9608M50 | **2L928** | 55.00 | **52.45** | 0.5 |
| **130** | 1040 | 40.94 | B10408M50 | **2L929** | 58.00 | **55.55** | 0.6 |
| **140** | 1120 | 44.09 | B11208M50 | **2L930** | 62.00 | **58.70** | 0.6 |
| **150** | 1200 | 47.24 | B12008M50 | **2L931** | 65.00 | **61.90** | 0.5 |
| **160** | 1280 | 50.39 | B12808M50 | **2L932** | 68.00 | **65.00** | 0.5 |
| **180** | 1440 | 56.69 | B14408M50 | **2L933** | 75.00 | **71.20** | 0.5 |
| **200** | 1600 | 62.99 | B16008M50 | **2L934** | 82.00 | **77.50** | 0.4 |
| **220** | 1760 | 69.29 | B17608M50 | **2L935** | 88.00 | **83.75** | 1.0 |
| **225** | 1800 | 70.87 | B18008M50 | **2L936** | 91.00 | **85.90** | 1.2 |
| **250** | 2000 | 78.74 | B20008M50 | **2L937** | 99.00 | **94.25** | 1.3 |
| **300** | 2400 | 94.49 | B24008M50 | **2L938** | 117.00 | **110.95** | 1.5 |
| **325** | 2600 | 102.36 | B26008M50 | **2L939** | 127.00 | **120.65** | 1.7 |
| **350** | 2800 | 110.24 | B28008M50 | **2L940** | 135.00 | **127.65** | 1.7 |

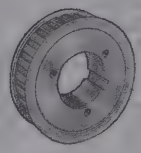
| No. of Teeth | Pitch Length (mm) | Pitch Length (In.) | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **8mm PITCH—85mm (3.35") WIDE** | | | | | | | |
| **60** | 480 | 18.90 | B4808M85 | **2L941** | $57.00 | **$54.05** | 0.5 |
| **70** | 560 | 22.05 | B5608M85 | **2L942** | 62.00 | **59.35** | 0.6 |
| **75** | 600 | 23.62 | B6008M85 | **2L943** | 66.00 | **62.85** | 0.6 |
| **80** | 640 | 25.20 | B6408M85 | **2L944** | 68.00 | **64.70** | 0.7 |
| **90** | 720 | 28.35 | B7208M85 | **2L945** | 74.00 | **70.05** | 0.7 |
| **100** | 800 | 31.50 | B8008M85 | **2L946** | 81.00 | **77.10** | 0.8 |
| **110** | 880 | 34.65 | B8808M85 | **2L947** | 87.00 | **82.35** | 0.9 |
| **120** | 960 | 37.80 | B9608M85 | **2L948** | 92.00 | **87.70** | 0.3 |
| **130** | 1040 | 40.94 | B10408M85 | **2L949** | 98.00 | **93.05** | 1.2 |
| **140** | 1120 | 44.09 | B11208M85 | **2L950** | 104.00 | **98.25** | 1.2 |
| **150** | 1200 | 47.24 | B12008M85 | **2L951** | 109.00 | **103.65** | 1.4 |
| **160** | 1280 | 50.39 | B12808M85 | **2L952** | 115.00 | **108.95** | 1.5 |
| **180** | 1440 | 56.69 | B14408M85 | **2L953** | 126.00 | **119.45** | 1.7 |
| **200** | 1600 | 62.99 | B16008M85 | **2L954** | 137.00 | **130.30** | 1.6 |
| **220** | 1760 | 69.29 | B17608M85 | **2L955** | 148.00 | **140.85** | 1.9 |
| **225** | 1800 | 70.87 | B18008M85 | **2L956** | 152.00 | **144.35** | 1.8 |
| **250** | 2000 | 78.74 | B20008M85 | **2L957** | 167.00 | **158.75** | 2.3 |
| **300** | 2400 | 94.49 | B24008M85 | **2L958** | 197.00 | **187.25** | 2.6 |
| **325** | 2600 | 102.36 | B26008M85 | **2L959** | 213.00 | **202.50** | 2.8 |
| **350** | 2800 | 110.24 | B28008M85 | **2L960** | 227.00 | **215.75** | 3.1 |
| **14mm PITCH—40mm (1.57") WIDE** | | | | | | | |
| **69** | 966 | 38.03 | B96614M40 | **2L961** | 114.00 | **107.75** | 1.0 |
| **85** | 1190 | 46.85 | B119014M40 | **2L962** | 125.00 | **118.60** | 1.1 |
| **100** | 1400 | 55.12 | B140014M40 | **2L963** | 136.00 | **128.95** | 1.3 |
| **115** | 1610 | 63.39 | B161014M40 | **2L964** | 147.00 | **139.55** | 1.7 |
| **127** | 1778 | 70.00 | B177814M40 | **2L965** | 157.00 | **148.95** | 1.7 |
| **135** | 1890 | 74.41 | B189014M40 | **2L966** | 165.00 | **156.75** | 2.0 |
| **150** | 2100 | 82.68 | B210014M40 | **2L967** | 180.00 | **170.75** | 2.1 |
| **165** | 2310 | 90.94 | B231014M40 | **2L968** | 191.00 | **182.25** | 2.0 |
| **175** | 2450 | 94.46 | B245014M40 | **2L969** | 199.00 | **189.75** | 2.5 |
| **185** | 2590 | 101.97 | B259014M40 | **2L970** | 209.00 | **198.50** | 2.1 |
| **200** | 2800 | 110.24 | B280014M40 | **2L971** | 223.00 | **212.50** | 3.0 |
| **225** | 3150 | 124.02 | B315014M40 | **2L972** | 245.00 | **233.00** | 3.1 |
| **240** | 3360 | 132.28 | B336014M40 | **2L973** | 257.00 | **244.25** | 3.4 |
| **250** | 3500 | 137.80 | B350014M40 | **2L974** | 265.00 | **251.75** | 3.4 |
| **275** | 3850 | 151.58 | B385014M40 | **2L975** | 292.00 | **277.00** | 3.8 |
| **309** | 4326 | 170.32 | B432614M40 | **2L976** | 324.00 | **307.50** | 4.5 |
| **327** | 4578 | 180.24 | B457814M40 | **2L977** | 342.00 | **325.00** | 5.0 |
| **14mm PITCH—55mm (2.16") WIDE** | | | | | | | |
| **69** | 966 | 38.03 | B96614M55 | **2L978** | 149.00 | **141.40** | 1.3 |
| **85** | 1190 | 46.85 | B119014M55 | **2L979** | 165.00 | **156.50** | 1.4 |
| **100** | 1400 | 55.12 | B140014M55 | **2L980** | 180.00 | **171.00** | 1.8 |
| **115** | 1610 | 63.39 | B161014M55 | **2L981** | 196.00 | **186.50** | 2.0 |
| **127** | 1778 | 70.00 | B177814M55 | **2L982** | 209.00 | **198.75** | 2.3 |
| **135** | 1890 | 74.41 | B189014M55 | **2L983** | 220.00 | **209.25** | 2.8 |
| **150** | 2100 | 82.68 | B210014M55 | **2L984** | 240.00 | **228.50** | 2.9 |
| **165** | 2310 | 90.94 | B231014M55 | **2L985** | 256.00 | **243.25** | 3.3 |
| **175** | 2450 | 94.46 | B245014M55 | **2L986** | 266.00 | **253.00** | 4.0 |
| **185** | 2590 | 101.97 | B259014M55 | **2L987** | 280.00 | **265.75** | 4.0 |
| **200** | 2800 | 110.24 | B280014M55 | **2L988** | 300.00 | **285.25** | 4.0 |
| **225** | 3150 | 125.02 | B315014M55 | **2L989** | 330.00 | **313.50** | 4.0 |
| **240** | 3360 | 132.28 | B336014M55 | **2L990** | 347.00 | **329.00** | 4.0 |
| **250** | 3500 | 137.80 | B350014M55 | **2L991** | 358.00 | **339.25** | 7.0 |
| **275** | 3850 | 151.58 | B385014M55 | **2L992** | 397.00 | **377.50** | 6.0 |
| **309** | 4326 | 170.32 | B432614M55 | **2L993** | 438.00 | **415.50** | 7.0 |
| **327** | 4578 | 180.24 | B457814M55 | **2L994** | 464.00 | **440.25** | 6.0 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

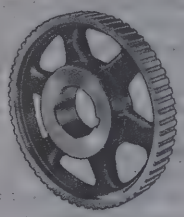
# SYNCHRONOUS DRIVES "L" AND "H" GEARBELT PULLEYS

- Ideal for timing applications—no slip, positive drive
- For use with gearbelts on page 321
- Steel or cast-iron construction
- 60 Groove and higher are spoked design.
- "L" pulleys use 3/8" pitch belts 1/2", 3/4", or 1" wide and are for applications up to 4 HP
- "H" pulleys use 1/2" pitch belts 1 or 1½" wide and are for applications up to 20 HP
- Requires Browning split taper bushing; Order separately from page 317

Browning USA PROUDLY MADE IN THE USA



No. 2L637



No. 2L672

## "L" GEARBELT PULLEYS

| No. of Grooves | Pitch Dia. (In.) | Belt Width Req'd. (In.) | Split Taper Bushing Req'd. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **For "L" Belts, 3/8" Pitch, 1/2" Wide** | | | | | | | | |
| 18 | 2.149 | 1/2 | G | 18LG050 | **2L637** | $29.00 | **$16.84** | 0.5 |
| 19 | 2.268 | 1/2 | G | 19LG050 | **2L638** | 29.00 | **17.07** | 0.6 |
| 20 | 2.387 | 1/2 | G | 20LG050 | **2L639** | 30.00 | **17.32** | 0.7 |
| 21 | 2.507 | 1/2 | G | 21LG050 | **2L640** | 30.00 | **17.56** | 0.8 |
| 22 | 2.626 | 1/2 | G | 22LG050 | **2L641** | 31.00 | **18.04** | 0.9 |
| 24 | 2.865 | 1/2 | H | 24LH050 | **2L642** | 33.00 | **19.02** | 1.0 |
| 26 | 3.104 | 1/2 | H | 26LH050 | **2L643** | 34.00 | **19.77** | 1.1 |
| 28 | 3.342 | 1/2 | H | 28LH050 | **2L644** | 36.00 | **21.22** | 1.3 |
| 30 | 3.581 | 1/2 | H | 30LH050 | **2L645** | 39.00 | **22.93** | 1.6 |
| 32 | 3.820 | 1/2 | H | 32LH050 | **2L646** | 43.00 | **24.89** | 1.9 |
| 36 | 4.297 | 1/2 | H | 36LH050 | **2L647** | 79.00 | **46.20** | 2.6 |
| 36 | 4.297 | 1/2 | P1 | 36LP050 | **2L648** | 79.00 | **46.20** | 3.1 |
| 40 | 4.775 | 1/2 | H | 40LH050 | **2L649** | 80.00 | **46.95** | 3.5 |
| 40 | 4.775 | 1/2 | P1 | 40LP050 | **2L650** | 80.00 | **46.95** | 3.0 |
| 44 | 5.252 | 1/2 | H | 44LH050 | **2L651** | 94.00 | **54.75** | 4.1 |
| 44 | 5.252 | 1/2 | P1 | 44LP050 | **2L652** | 94.00 | **54.75** | 4.0 |
| 48 | 5.730 | 1/2 | H | 48LH050 | **2L653** | 97.00 | **56.40** | 4.0 |
| 48 | 5.730 | 1/2 | P1 | 48LP050 | **2L654** | 97.00 | **56.40** | 5.0 |
| 60 | 7.162 | 1/2 | H | 60LH050 | **2L655** | 99.00 | **57.90** | 3.0 |
| 60 | 7.162 | 1/2 | P1 | 60LP050 | **2L656** | 99.00 | **57.90** | 4.0 |
| **For "L" Belts, 3/8" Pitch, 3/4" Wide** | | | | | | | | |
| 18 | 2.149 | 3/4 | G | 18LG075 | **2L657** | 30.00 | **17.81** | 0.7 |
| 19 | 2.268 | 3/4 | G | 19LG075 | **2L658** | 31.00 | **18.04** | 0.8 |
| 20 | 2.387 | 3/4 | G | 20LG075 | **2L659** | 32.00 | **18.54** | 0.9 |
| 21 | 2.507 | 3/4 | G | 21LG075 | **2L660** | 33.00 | **19.02** | 1.0 |
| 22 | 2.626 | 3/4 | G | 22LG075 | **2L661** | 35.00 | **20.24** | 1.1 |
| 24 | 2.865 | 3/4 | H | 24LH075 | **2L662** | 36.00 | **21.22** | 1.2 |
| 26 | 3.104 | 3/4 | H | 26LH075 | **2L663** | 38.00 | **22.45** | 1.4 |
| 28 | 3.342 | 3/4 | H | 28LH075 | **2L664** | 41.00 | **24.14** | 1.8 |
| 30 | 3.581 | 3/4 | H | 30LH075 | **2L665** | 46.00 | **27.10** | 1.9 |
| 32 | 3.820 | 3/4 | H | 32LH075 | **2L666** | 49.00 | **28.90** | 2.3 |
| 36 | 4.297 | 3/4 | H | 36LH075 | **2L667** | 81.00 | **47.20** | 3.3 |
| 36 | 4.297 | 3/4 | P1 | 36LP075 | **2L668** | 81.00 | **47.20** | 5.0 |
| 40 | 4.775 | 3/4 | H | 40LH075 | **2L669** | 81.00 | **47.45** | 3.8 |
| 40 | 4.775 | 3/4 | P1 | 40LP075 | **2L670** | 81.00 | **47.45** | 4.4 |
| 60 | 7.162 | 3/4 | H | 60LH075 | **2L671** | 102.00 | **59.35** | 4.0 |
| 60 | 7.162 | 3/4 | P1 | 60LP075 | **2L672** | 102.00 | **59.35** | 4.0 |
| **For "L" Belts, 3/8" Pitch, 1" Wide** | | | | | | | | |
| 18 | 2.149 | 1 | G | 18LG100 | **2L673** | 33.00 | **19.52** | 0.9 |
| 19 | 2.268 | 1 | G | 19LG100 | **2L674** | 35.00 | **20.24** | 1.9 |
| 20 | 2.387 | 1 | G | 20LG100 | **2L675** | 35.00 | **20.48** | 0.1 |
| 21 | 2.507 | 1 | G | 21LG100 | **2L676** | 36.00 | **21.22** | 1.3 |
| 22 | 2.626 | 1 | G | 22LG100 | **2L677** | 38.00 | **22.21** | 1.4 |
| 24 | 2.865 | 1 | H | 24LH100 | **2L678** | 39.00 | **22.93** | 1.4 |
| 26 | 3.104 | 1 | H | 26LH100 | **2L679** | 42.00 | **24.39** | 1.9 |
| 28 | 3.342 | 1 | H | 28LH100 | **2L680** | 45.00 | **26.35** | 2.3 |
| 30 | 3.581 | 1 | H | 30LH100 | **2L681** | 50.00 | **29.30** | 2.3 |
| 32 | 3.820 | 1 | H | 32LH100 | **2L682** | 54.00 | **31.85** | 2.7 |
| 36 | 4.297 | 1 | H | 36LH100 | **2L683** | 81.00 | **47.45** | 3.9 |
| 36 | 4.297 | 1 | P1 | 36LP100 | **2L684** | 81.00 | **47.45** | 3.9 |
| 40 | 4.775 | 1 | H | 40LH100 | **2L685** | 82.00 | **47.90** | 4.9 |
| 40 | 4.775 | 1 | P1 | 40LP100 | **2L686** | 82.00 | **47.90** | 5.1 |
| 44 | 5.252 | 1 | H | 44LH100 | **2L687** | 99.00 | **57.90** | 6.3 |
| 44 | 5.252 | 1 | P1 | 44LP100 | **2L688** | 99.00 | **57.90** | 6.3 |
| 48 | 5.730 | 1 | H | 48LH100 | **2L689** | 102.00 | **59.90** | 6.9 |
| 48 | 5.730 | 1 | P1 | 48LP100 | **2L690** | 102.00 | **59.90** | 7.8 |
| 60 | 7.162 | 1 | H | 60LH100 | **2L691** | 106.00 | **61.80** | 4.5 |
| 60 | 7.162 | 1 | P1 | 60LP100 | **2L692** | 106.00 | **61.80** | 7.0 |

## "H" GEARBELT PULLEYS

| No. of Grooves | Pitch Dia. (In.) | Belt Width Req'd. (In.) | Split Taper Bushing Req'd. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **For "H" Belts, 1/2" Pitch, 1" Wide** | | | | | | | | |
| 14 | 2.228 | 1 | G | 14HG100 | **2L693** | $42.00 | **$24.39** | 0.8 |
| 16 | 2.546 | 1 | G | 16HG100 | **2L694** | 42.00 | **24.64** | 1.3 |
| 18 | 2.865 | 1 | H | 18HH100 | **2L695** | 43.00 | **24.89** | 1.4 |
| 20 | 3.183 | 1 | H | 20HH100 | **2L696** | 43.00 | **25.15** | 1.8 |
| 22 | 3.501 | 1 | H | 22HH100 | **2L697** | 56.00 | **33.10** | 1.5 |
| 22 | 3.501 | 1 | P1 | 22HP100 | **2L698** | 56.00 | **33.10** | 2.2 |
| 24 | 3.820 | 1 | H | 24HH100 | **2L699** | 61.00 | **36.00** | 2.6 |
| 24 | 3.820 | 1 | P1 | 24HP100 | **2L700** | 61.00 | **36.00** | 2.8 |
| 26 | 4.138 | 1 | H | 26HH100 | **2L701** | 69.00 | **40.60** | 3.3 |
| 26 | 4.138 | 1 | P1 | 26HP100 | **2L702** | 69.00 | **40.60** | 3.4 |
| 28 | 4.456 | 1 | H | 28HH100 | **2L703** | 76.00 | **44.50** | 4.1 |
| 28 | 4.456 | 1 | P1 | 28HP100 | **2L704** | 76.00 | **44.50** | 4.2 |
| 30 | 4.775 | 1 | H | 30HH100 | **2L705** | 79.00 | **46.45** | 4.8 |
| 30 | 4.775 | 1 | P1 | 30HP100 | **2L706** | 79.00 | **46.45** | 5.0 |
| 32 | 5.093 | 1 | Q1 | 32HQ100 | **2L707** | 83.00 | **48.45** | 5.5 |
| 36 | 5.730 | 1 | Q1 | 36HQ100 | **2L708** | 95.00 | **55.70** | 7.5 |
| 40 | 6.366 | 1 | Q1 | 40HQ100 | **2L709** | 109.00 | **63.75** | 8.6 |
| 44 | 7.003 | 1 | Q1 | 44HQ100 | **2L710** | 121.00 | **70.60** | 11.0 |
| 48 | 7.639 | 1 | Q1 | 48HQ100 | **2L711** | 132.00 | **77.35** | 13.0 |
| 60 | 9.549 | 1 | Q1 | 60HQ100 | **2L712** | 145.00 | **84.75** | 13.0 |
| 72 | 11.459 | 1 | Q1 | 72HQ100 | **2L713** | 184.00 | **107.70** | 15.0 |
| 84 | 13.369 | 1 | Q1 | 84HQ100 | **2L714** | 202.00 | **117.90** | 19.0 |
| 96 | 15.279 | 1 | Q1 | 96HQ100 | **2L715** | 237.00 | **138.65** | 21.0 |
| 120 | 19.099 | 1 | Q1 | 120HQ100 | **2L716** | 297.00 | **174.00** | 26.0 |
| **For "H" Belts, 1/2" Pitch, 1 1/2" Wide** | | | | | | | | |
| 14 | 2.228 | 1½ | G | 14HG150 | **2L717** | 58.00 | **34.10** | 1.3 |
| 16 | 2.546 | 1½ | G | 16HG150 | **2L718** | 63.00 | **36.65** | 1.8 |
| 18 | 2.865 | 1½ | H | 18HH150 | **2L719** | 66.00 | **38.45** | 2.0 |
| 20 | 3.183 | 1½ | H | 20HH150 | **2L720** | 68.00 | **39.90** | 2.7 |
| 22 | 3.501 | 1½ | H | 22HH150 | **2L721** | 83.00 | **48.65** | 3.1 |
| 22 | 3.501 | 1½ | P1 | 22HP150 | **2L722** | 83.00 | **48.65** | 3.0 |
| 24 | 3.820 | 1½ | H | 24HH150 | **2L723** | 90.00 | **52.55** | 3.9 |
| 24 | 3.820 | 1½ | P1 | 24HP150 | **2L724** | 90.00 | **52.55** | 4.0 |
| 26 | 4.138 | 1½ | H | 26HH150 | **2L725** | 94.00 | **54.75** | 4.8 |
| 26 | 4.138 | 1½ | P1 | 26HP150 | **2L726** | 94.00 | **54.75** | 4.8 |
| 28 | 4.456 | 1½ | H | 28HH150 | **2L727** | 100.00 | **58.65** | 5.8 |
| 28 | 4.456 | 1½ | P1 | 28HP150 | **2L728** | 100.00 | **58.65** | 5.9 |
| 30 | 4.775 | 1½ | H | 30HH150 | **2L729** | 105.00 | **61.60** | 6.9 |
| 30 | 4.775 | 1½ | P1 | 30HP150 | **2L730** | 105.00 | **61.60** | 6.9 |
| 32 | 5.093 | 1½ | Q1 | 32HQ150 | **2L731** | 107.00 | **62.60** | 4.0 |
| 36 | 5.730 | 1½ | Q1 | 36HQ150 | **2L732** | 120.00 | **70.35** | 1.0 |
| 40 | 6.366 | 1½ | Q1 | 40HQ150 | **2L733** | 134.00 | **78.15** | 12.0 |
| 44 | 7.003 | 1½ | Q1 | 44HQ150 | **2L734** | 147.00 | **85.70** | 15.0 |
| 48 | 7.639 | 1½ | Q1 | 48HQ150 | **2L735** | 160.00 | **93.50** | 19.0 |
| 60 | 9.549 | 1½ | Q1 | 60HQ150 | **2L736** | 177.00 | **103.55** | 15.0 |
| 72 | 11.459 | 1½ | Q1 | 72HQ150 | **2L737** | 186.00 | **108.40** | 17.0 |
| 84 | 13.369 | 1½ | Q1 | 84HQ150 | **2L738** | 212.00 | **123.75** | 21.0 |
| 96 | 15.279 | 1½ | Q1 | 96HQ150 | **2L739** | 239.00 | **139.30** | 24.0 |
| 120 | 19.099 | 1½ | Q1 | 120HQ150 | **2L740** | 299.00 | **174.75** | 30.0 |

GEARBELT PULLEY IDLERS ARE AVAILABLE ON PAGE 321

"XL" GEARBELT PULLEYS AND GEARBELTS ARE AVAILABLE, SEE PAGE 322

# SYNCHRONOUS DRIVES "L" AND "H" GEARBELTS

- For use with synchronous drives "L" and "H" gearbelt pulleys on page
- "L" gearbelts are available in 1/2", 3/4", and 1" widths and 12.375 to 60" lengths
- "H" gearbelts are available in 1" and 1½" widths and 24" to 70" lengths

Browning

USA

PROUDLY MADE IN THE USA



## STOCK "L" 3/8" PITCH GEARBELTS

| Pitch Length (In.) | No. of Teeth | 1/2" WIDE "L" GEARBELTS Browning Model | Stock No. | List | Each | Shpg. Wt. | 3/4" WIDE "L" GEARBELTS Browning Model | Stock No. | List | Each | Shpg. Wt. | 1" WIDE "L" GEARBELTS Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12.375** | 33 | 124L050 | **2L577** | $10.00 | **$5.83** | 0.1 | 124L075 | **2L597** | $14.00 | **$8.30** | 0.1 | 124L100 | **2L617** | $18.00 | **$10.65** | 0.1 |
| **15.000** | 40 | 150L050 | **2L578** | 11.00 | **6.44** | 0.1 | 150L075 | **2L598** | 16.00 | **9.21** | 0.1 | 150L100 | **2L618** | 21.00 | **11.86** | 0.1 |
| **18.750** | 50 | 187L050 | **2L579** | 12.00 | **7.02** | 0.1 | 187L075 | **2L599** | 18.00 | **10.13** | 0.1 | 187L100 | **2L619** | 23.00 | **13.09** | 0.1 |
| **21.000** | 56 | 210L050 | **2L580** | 13.00 | **7.63** | 0.1 | 210L075 | **2L600** | 19.00 | **11.03** | 0.1 | 210L100 | **2L620** | 25.00 | **14.33** | 0.1 |
| **22.500** | 60 | 225L050 | **2L581** | 14.00 | **7.83** | 0.1 | 225L075 | **2L601** | 20.00 | **11.33** | 0.1 | 225L100 | **2L621** | 26.00 | **14.72** | 0.1 |
| **24.000** | 64 | 240L050 | **2L582** | 14.00 | **8.27** | 0.1 | 240L075 | **2L602** | 21.00 | **11.95** | 0.1 | 240L100 | **2L622** | 27.00 | **15.55** | 0.1 |
| **25.500** | 68 | 255L050 | **2L583** | 15.00 | **8.43** | 0.1 | 255L075 | **2L603** | 21.00 | **12.26** | 0.1 | 255L100 | **2L623** | 28.00 | **16.00** | 0.1 |
| **27.000** | 72 | 270L050 | **2L584** | 15.00 | **8.82** | 0.1 | 270L075 | **2L604** | 22.00 | **12.86** | 0.1 | 270L100 | **2L624** | 29.00 | **16.78** | 0.1 |
| **28.500** | 76 | 285L050 | **2L585** | 16.00 | **9.03** | 0.1 | 285L075 | **2L605** | 23.00 | **13.19** | 0.1 | 285L100 | **2L625** | 30.00 | **17.20** | 0.2 |
| **30.000** | 80 | 300L050 | **2L586** | 16.00 | **9.42** | 0.1 | 300L075 | **2L606** | 24.00 | **13.74** | 0.1 | 300L100 | **2L626** | 31.00 | **18.01** | 0.2 |
| **32.250** | 86 | 322L050 | **2L587** | 17.00 | **9.82** | 0.1 | 322L075 | **2L607** | 25.00 | **14.41** | 0.1 | 322L100 | **2L627** | 33.00 | **18.85** | 0.3 |
| **34.500** | 92 | 345L050 | **2L588** | 18.00 | **10.22** | 0.1 | 345L075 | **2L608** | 26.00 | **15.01** | 0.1 | 345L100 | **2L628** | 34.00 | **19.67** | 0.2 |
| **36.750** | 98 | 367L050 | **2L589** | 18.00 | **10.58** | 0.1 | 367L075 | **2L609** | 27.00 | **15.62** | 0.2 | 367L100 | **2L629** | 35.00 | **20.48** | 0.2 |
| **39.000** | 104 | 390L050 | **2L590** | 19.00 | **11.19** | 0.1 | 390L075 | **2L610** | 29.00 | **16.53** | 0.2 | 390L100 | **2L630** | 38.00 | **21.69** | 0.3 |
| **42.000** | 112 | 420L050 | **2L591** | 20.00 | **11.76** | 0.1 | 420L075 | **2L611** | 30.00 | **17.45** | 0.2 | 420L100 | **2L631** | 40.00 | **22.92** | 0.1 |
| **45.000** | 120 | 450L050 | **2L592** | 21.00 | **12.36** | 0.1 | 450L075 | **2L612** | 32.00 | **18.39** | 0.2 | 450L100 | **2L632** | 42.00 | **24.14** | 0.3 |
| **48.000** | 128 | 480L050 | **2L593** | 22.00 | **12.99** | 0.2 | 480L075 | **2L613** | 33.00 | **19.30** | 0.1 | 480L100 | **2L633** | 44.00 | **25.40** | 0.1 |
| **51.000** | 136 | 510L050 | **2L594** | 23.00 | **13.37** | 0.2 | 510L075 | **2L614** | 34.00 | **19.90** | 0.2 | 510L100 | **2L634** | 45.00 | **26.30** | 0.3 |
| **54.000** | 144 | 540L050 | **2L595** | 25.00 | **14.16** | 0.2 | 540L075 | **2L615** | 37.00 | **21.12** | 0.2 | 540L100 | **2L635** | 48.00 | **27.95** | 0.4 |
| **60.000** | 160 | 600L050 | **2L596** | 27.00 | **15.35** | 0.2 | 600L075 | **2L616** | 40.00 | **22.98** | 0.2 | 600L100 | **2L636** | 53.00 | **30.45** | 0.4 |

## STOCK "H" 1/2" PITCH GEARBELTS

| Pitch Length (In.) | No. of Teeth | 1" WIDE "H" GEARBELTS Browning Model | Stock No. | List | Each | Shpg. Wt. | 1½" WIDE "H" GEARBELTS Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **24.0** | 48 | 240H100 | **2L741** | $28.00 | **$15.96** | 0.1 | 240H150 | **2L757** | $40.00 | **$23.06** | 0.3 |
| **27.0** | 54 | 270H100 | **2L742** | 30.00 | **17.21** | 0.2 | 270H150 | **2L758** | 43.00 | **24.98** | 0.3 |
| **30.0** | 60 | 300H100 | **2L743** | 32.00 | **18.46** | 0.2 | 300H150 | **2L759** | 47.00 | **26.95** | 0.3 |
| **33.0** | 66 | 330H100 | **2L744** | 34.00 | **19.73** | 0.2 | 330H150 | **2L760** | 50.00 | **28.85** | 0.3 |
| **36.0** | 72 | 360H100 | **2L745** | 36.00 | **21.01** | 0.3 | 360H150 | **2L761** | 53.00 | **30.90** | 0.4 |
| **39.0** | 78 | 390H100 | **2L746** | 39.00 | **22.26** | 0.3 | 390H150 | **2L762** | 56.00 | **32.65** | 0.3 |
| **42.0** | 84 | 420H100 | **2L747** | 41.00 | **23.54** | 0.3 | 420H150 | **2L763** | 60.00 | **34.60** | 0.4 |
| **45.0** | 90 | 450H100 | **2L748** | 43.00 | **24.77** | 0.3 | 450H150 | **2L764** | 63.00 | **36.45** | 0.5 |
| **48.0** | 96 | 480H100 | **2L749** | 45.00 | **26.10** | 0.4 | 480H150 | **2L765** | 66.00 | **38.35** | 0.4 |
| **51.0** | 102 | 510H100 | **2L750** | 47.00 | **27.00** | 0.4 | 510H150 | **2L766** | 68.00 | **39.70** | 0.5 |
| **54.0** | 108 | 540H100 | **2L751** | 49.00 | **28.75** | 0.4 | 540H150 | **2L767** | 73.00 | **42.20** | 0.5 |
| **57.0** | 114 | 570H100 | **2L752** | 51.00 | **29.60** | 0.4 | 570H150 | **2L768** | 75.00 | **43.45** | 0.5 |
| **60.0** | 120 | 600H100 | **2L753** | 54.00 | **31.25** | 0.3 | 600H150 | **2L769** | 79.00 | **45.90** | 0.6 |
| **63.0** | 126 | 630H100 | **2L754** | 55.00 | **32.10** | 0.4 | 630H150 | **2L770** | 81.00 | **47.20** | 0.6 |
| **66.0** | 132 | 660H100 | **2L755** | 58.00 | **33.80** | 0.3 | 660H150 | **2L771** | 86.00 | **49.85** | 0.6 |
| **70.0** | 140 | 700H100 | **2L756** | 61.00 | **35.50** | 0.4 | 700H150 | **2L772** | 90.00 | **52.30** | 0.6 |

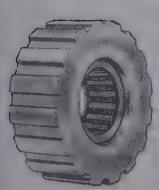
# GEARBELT PULLEY IDLERS

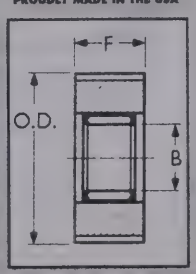
- For "L" and "H" gearbelts shown above
- Needle bearings
- For N2 shaft and tighteners see page 301

Browning

USA

PROUDLY MADE IN THE USA






## GEARBELT PULLEY IDLERS

| Gearbelt Series | No. of Grooves | Shaft Req'd.* | Dimensions (In.) O.D. | F | B | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **L** | 22 | N2 | 2.60 | 1 | 1 | N22L100 | **6L337** | $55.00 | **$51.75** | 1.2 |
| **H** | 16 | N2 | 2.50 | 1 | 1 | N16H100 | **6L338** | 61.00 | **56.95** | 1.0 |

(*) Order shafts separately from page 301.

## RADIAL LOAD CAPACITY (LBS.)†

| Stock No. | RPM 100 | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 |
|---|---|---|---|---|---|---|---|---|
| 6L337 | 2174 | 1327 | 1083 | 961 | 880 | 820 | 772 | 741 |
| 6L338 | 2174 | 1327 | 1082 | 961 | 880 | 820 | 772 | 741 |

(†) Based on 2500 hours average life at RPM shown.

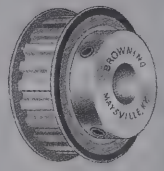
# SYNCHRONOUS DRIVES "XL" GEARBELT PULLEYS AND GEARBELTS

## SYNCHRONOUS DRIVES "XL" GEARBELT PULLEYS

- Ideal for timing applications—no slip, positive drive
- Lightweight aluminum construction for light-duty applications up to 1/4 HP
- Gearbelt pulleys are supplied with minimum plain bore; can be rebored to maximum bore specified; no keyway, furnished with two hollow head setscrews at 90°
- "XL" pulleys use 1/5" pitch gearbelts, 1/4 and 3/8" wide listed below

Browning USA PROUDLY MADE IN THE USA

"XL" Gearbelt Pulleys




No. 2L514

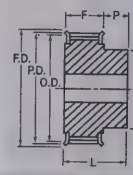


No. 2L527

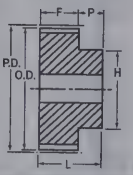
### "XL" GEARBELT PULLEYS
### For "XL" 1/5" Pitch Belts, 1/4 and 3/8" Wide

| No. of Grooves | Type | Bore Size (In.) | Max. Bore (In.) | Diameters (In.) P.D. | O.D. | F.D. | Dimensions (In.) F | L | P | H | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | A | 3/16 | 3/16 | 0.637 | 0.617 | 15/16 | 9/16 | 13/16 | 1/4 | 7/16 | 10XLB037 | 2L514 | $10.00 | $7.59 | 0.1 |
| 11 | A | 3/16 | 3/16 | 0.700 | 0.680 | 15/16 | 9/16 | 13/16 | 1/4 | 7/16 | 11XLB037 | 2L515 | 10.00 | 7.88 | 0.1 |
| 12 | A | 3/16 | 1/4 | 0.764 | 0.744 | 1 | 9/16 | 13/16 | 1/4 | 1/2 | 12XLB037 | 2L516 | 11.00 | 7.91 | 0.1 |
| 14 | A | 1/4 | 1/4 | 0.891 | 0.871 | 1 1/8 | 9/16 | 13/16 | 1/4 | 9/16 | 14XLB037 | 2L517 | 13.00 | 9.81 | 0.1 |
| 15 | A | 1/4 | 5/16 | 0.955 | 0.935 | 1 3/16 | 9/16 | 13/16 | 1/4 | 5/8 | 15XLB037 | 2L518 | 13.00 | 10.13 | 0.1 |
| 16 | A | 1/4 | 3/8 | 1.019 | 0.999 | 1 1/4 | 9/16 | 13/16 | 1/4 | 11/16 | 16XLB037 | 2L519 | 14.00 | 10.77 | 0.1 |
| 18 | A | 1/4 | 1/2 | 1.146 | 1.126 | 1 3/8 | 9/16 | 13/16 | 1/4 | 13/16 | 18XLB037 | 2L520 | 16.00 | 12.03 | 0.1 |
| 20 | A | 1/4 | 9/16 | 1.273 | 1.253 | 1 1/2 | 9/16 | 29/32 | 11/32 | 15/16 | 20XLB037 | 2L521 | 17.00 | 12.67 | 0.1 |
| 21 | A | 1/4 | 9/16 | 1.337 | 1.317 | 1 9/16 | 9/16 | 29/32 | 11/32 | 15/16 | 21XLB037 | 2L522 | 18.00 | 13.60 | 0.1 |
| 22 | A | 1/4 | 5/8 | 1.401 | 1.381 | 1 5/8 | 9/16 | 29/32 | 11/32 | 1 | 22XLB037 | 2L523 | 18.00 | 13.87 | 0.1 |
| 24 | A | 1/4 | 11/16 | 1.528 | 1.508 | 1 3/4 | 9/16 | 29/32 | 11/32 | 1 1/16 | 24XLB037 | 2L524 | 20.00 | 15.51 | 0.2 |
| 28 | A | 1/4 | 13/16 | 1.783 | 1.763 | 2 | 9/16 | 29/32 | 11/32 | 1 3/16 | 28XLB037 | 2L525 | 23.00 | 17.74 | 0.2 |
| 30 | B | 5/16 | 15/16 | 1.910 | 1.890 | 2 1/8 | 9/16 | 29/32 | 11/32 | 1 3/8 | 30XLB037 | 2L526 | 25.00 | 18.68 | 0.3 |
| 32 | B | 5/16 | 1 | 2.037 | 2.017 | — | 9/16 | 1 | 7/16 | 1 1/2 | 32XLB037 | 2L527 | 25.00 | 18.99 | 0.3 |
| 36 | B | 5/16 | 1 | 2.292 | 2.272 | — | 9/16 | 1 | 7/16 | 1 1/2 | 36XLB037 | 2L528 | 25.00 | 19.29 | 0.3 |
| 40 | B | 5/16 | 1 | 2.546 | 2.526 | — | 9/16 | 1 | 7/16 | 1 1/2 | 40XLB037 | 2L529 | 26.00 | 19.64 | 0.4 |
| 42 | B | 5/16 | 1 | 2.674 | 2.654 | — | 9/16 | 1 | 7/16 | 1 1/2 | 42XLB037 | 2L530 | 26.00 | 19.94 | 0.4 |
| 44 | B | 5/16 | 1 | 2.801 | 2.781 | — | 9/16 | 1 | 7/16 | 1 1/2 | 44XLB037 | 2L531 | 27.00 | 20.58 | 0.5 |
| 48 | B | 5/16 | 1 | 3.056 | 3.036 | — | 9/16 | 1 | 7/16 | 1 1/2 | 48XLB037 | 2L532 | 29.00 | 21.75 | 0.5 |
| 60 | B | 3/8 | 1 | 3.820 | 3.800 | — | 9/16 | 1 | 7/16 | 1 1/2 | 60XLB037 | 2L533 | 35.00 | 26.25 | 0.6 |
| 72 | B | 3/8 | 1 | 4.584 | 4.564 | — | 9/16 | 1 | 7/16 | 1 1/2 | 72XLB037 | 2L534 | 43.00 | 32.95 | 0.7 |

Type A




Type B




## SYNCHRONOUS DRIVES "XL" GEARBELTS

### "XL" 1/5" PITCH GEARBELTS

| Pitch Length (In.) | No. of Teeth | 1/4" WIDE "XL" GEARBELTS Browning Model | Stock No. | List | Each | Shpg. Wt. | 3/8" WIDE "XL" GEARBELTS Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.0 | 30 | 60XL025 | 2L535 | $3.00 | $2.21 | 0.1 | 60XL037 | 2L556 | $4.00 | $2.93 | 0.4 |
| 7.0 | 35 | 70XL025 | 2L536 | 3.00 | 2.30 | 0.1 | 70XL037 | 2L557 | 4.00 | 3.04 | 0.3 |
| 8.0 | 40 | 80XL025 | 2L537 | 3.00 | 2.33 | 0.1 | 80XL037 | 2L558 | 4.00 | 3.13 | 0.1 |
| 9.0 | 45 | 90XL025 | 2L538 | 3.00 | 2.40 | 0.1 | 90XL037 | 2L559 | 4.00 | 3.23 | 0.1 |
| 10.0 | 50 | 100XL025 | 2L539 | 3.00 | 2.49 | 0.3 | 100XL037 | 2L560 | 4.00 | 3.31 | 0.1 |
| 11.0 | 55 | 110XL025 | 2L540 | 3.00 | 2.56 | 0.1 | 110XL037 | 2L561 | 5.00 | 3.43 | 0.1 |
| 12.0 | 60 | 120XL025 | 2L541 | 4.00 | 2.62 | 0.1 | 120XL037 | 2L562 | 5.00 | 3.51 | 0.1 |
| 13.0 | 65 | 130XL025 | 2L542 | 4.00 | 2.68 | 0.1 | 130XL037 | 2L563 | 5.00 | 3.60 | 0.3 |
| 14.0 | 70 | 140XL025 | 2L543 | 4.00 | 2.77 | 0.3 | 140XL037 | 2L564 | 5.00 | 3.69 | 0.1 |
| 15.0 | 75 | 150XL025 | 2L544 | 4.00 | 2.82 | 0.1 | 150XL037 | 2L565 | 5.00 | 3.81 | 0.1 |
| 16.0 | 80 | 160XL025 | 2L545 | 4.00 | 2.89 | 0.1 | 160XL037 | 2L566 | 5.00 | 3.93 | 0.1 |
| 17.0 | 85 | 170XL025 | 2L546 | 4.00 | 2.97 | 0.1 | 170XL037 | 2L567 | 5.00 | 3.99 | 0.1 |
| 18.0 | 90 | 180XL025 | 2L547 | 4.00 | 3.00 | 0.1 | 180XL037 | 2L568 | 6.00 | 4.10 | 0.1 |
| 19.0 | 95 | 190XL025 | 2L548 | 4.00 | 3.09 | 0.1 | 190XL037 | 2L569 | 6.00 | 4.19 | 0.1 |
| 20.0 | 100 | 200XL025 | 2L549 | 4.00 | 3.18 | 0.1 | 200XL037 | 2L570 | 6.00 | 4.27 | 0.1 |
| 21.0 | 105 | 210XL025 | 2L550 | 4.00 | 3.23 | 0.1 | 210XL037 | 2L571 | 6.00 | 4.37 | 0.1 |
| 22.0 | 110 | 220XL025 | 2L551 | 4.00 | 3.27 | 0.3 | 220XL037 | 2L572 | 6.00 | 4.50 | 0.1 |
| 23.0 | 115 | 230XL025 | 2L552 | 5.00 | 3.38 | 0.2 | 230XL037 | 2L573 | 6.00 | 4.54 | 0.1 |
| 24.0 | 120 | 240XL025 | 2L553 | 5.00 | 3.43 | 0.1 | 240XL037 | 2L574 | 6.00 | 4.70 | 0.1 |
| 25.0 | 125 | 250XL025 | 2L554 | 5.00 | 3.51 | 0.1 | 250XL037 | 2L575 | 6.00 | 4.77 | 0.1 |
| 26.0 | 130 | 260XL025 | 2L555 | 5.00 | 3.56 | 0.1 | 260XL037 | 2L576 | 7.00 | 4.85 | 0.1 |

Browning USA PROUDLY MADE IN THE USA



"XL" Gearbelt

### STANDARD KEYWAY AND SETSCREW MACHINING GUIDE

| Dia. of Shaft (In.) | Keyseat Width x Depth (In.) | Dia. of Setscrew (In.)* | Dia. of Shaft (In.) | Keyseat Width x Depth (In.) | Dia. of Setscrew (In.)* |
|---|---|---|---|---|---|
| 5/16-7/16 | 3/32 x 3/64 | 8-32 | 2 13/16-3 1/4 | 3/4 x 3/8 | 3/4 |
| 1/2-9/16 | 1/8 x 1/16 | 10-24 | 3 5/16-3 3/4 | 7/8 x 7/16 | 3/4 |
| 5/8-7/8 | 3/16 x 3/32 | 1/4 | 3 13/16-4 1/2 | 1 x 1/2 | 3/4 |
| 15/16-1 1/4 | 1/4 x 1/8 | 5/16 | 4 9/16-5 1/2 | 1 1/4 x 5/8 | 3/4 |
| 1 5/16-1 3/8 | 5/16 x 5/32 | 5/16 | 5 9/16-6 1/2 | 1 1/2 x 3/4 | 1 |
| 1 7/16-1 3/4 | 3/8 x 3/16 | 3/8 | 6 9/16-7 1/2 | 1 3/4 x 7/8 | 1 |
| 1 13/16-2 1/4 | 1/2 x 1/4 | 1/2 | 7 9/16-8 15/16 | 2 x 1 | 1 |
| 2 5/16-2 3/4 | 5/8 x 5/16 | 5/8 | 9-10 15/16 | 2 1/2 x 1 1/4 | 1 |

(*) Setscrew size may vary depending on hub wall thickness.
NOTE: As a general rule, the hub wall over the keyway should be equal to or greater than the diameter of the setscrew.
NOTE: Maximum bore guidelines should be adhered to in order to ensure maximum product quality standards.



We deliver the products that deliver the power.

# STEEL RACK AND STEEL MITER GEARS

## HOW TO SELECT GEARS

**Gears** are toothed devices that mesh with other toothed devices to transmit motion and to change speed and direction. Gears used together should have the same pitch and pressure angle.

**Spur Gears** provide parallel and linear motion in one plane.

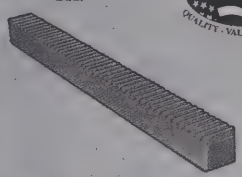
**Miter Gears** provide motion at a right angle on two planes. Miter gears used together must have the same number of teeth.

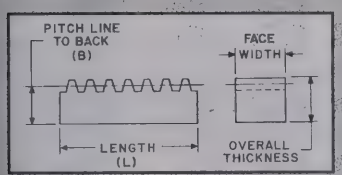
**Pitch** is the ratio of teeth in gear to diameter of pitch circle.

**Pressure Angle** is the angle between a line from the contact points of gear teeth and a radial line of a gear's pitch point. For standard gears, pressure angles of 14½° and 20° have been adopted by ANSI and the gear industry.

## STEEL RACK

- Industry standard 14½° pressure angle for applications where control of backlash is critical (will not operate with 20° spurs)
- For use with spur gears on page 324
- High quality steel
- Precise machining for minimal center distance variation and improved concentricity of mating spur gears





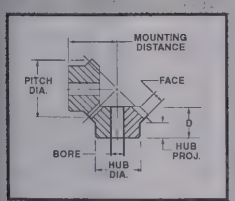

| STANDARD TOLERANCES | |
|---|---|
| **Dimension (In.)** | **Tolerance (In.)** |
| All Lengths* | +1.000-0.000 |
| Face Widths 1/8-3/4 | +0.000-0.002 |
| Face Widths 7/8-1½ | +0.000-0.003 |
| Face Widths 1¾-2 | +0.000-0.004 |
| Face Width 3 | +0.000-0.006 |

(*) Ends not machined. Tolerance allows for cutting and matching.

| Pitch | Teeth Per Inch | Face Width (In.) | Overall Thickness (In.) | Pitch Line to Back (B) (In.) | Nominal Length (L) (Ft.) | Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **32** | 10.20 | 0.188 | 0.188 | 0.156 | 4 | L503-4 | **1L886** | $62.00 | **$36.80** | 2.0 |
| **24** | 7.64 | 0.250 | 0.250 | 0.208 | 4 | L505-4 | **1L887** | 62.00 | **37.05** | 2.0 |
| **20** | 6.36 | 0.375 | 0.375 | 0.325 | 4 | L509-4 | **1L888** | 69.00 | **40.85** | 3.0 |
| **20** | 6.36 | 0.375 | 0.375 | 0.325 | 6 | L509-6 | **1L899** | 103.00 | **61.10** | 4.5 |
| **16** | 5.10 | 0.500 | 0.500 | 0.438 | 4 | L512-4 | **1L889** | 69.00 | **40.85** | 6.0 |
| **16** | 5.10 | 0.500 | 0.500 | 0.438 | 6 | L512-6 | **1L900** | 103.00 | **61.10** | 6.5 |
| **12** | 3.82 | 0.750 | 0.500 | 0.417 | 4 | L514-4 | **1L890** | 66.00 | **39.40** | 5.5 |
| **12** | 3.82 | 0.750 | 0.500 | 0.417 | 6 | L514-6 | **1L901** | 103.00 | **61.10** | 8.3 |
| **12** | 3.82 | 0.750 | 0.750 | 0.667 | 4 | L515-4 | **1L891** | 75.00 | **44.35** | 9.0 |
| **12** | 3.82 | 0.750 | 0.750 | 0.667 | 6 | L515-6 | **1L902** | 112.00 | **66.40** | 12.0 |
| **10** | 3.18 | 1.000 | 0.625 | 0.525 | 4 | L516-4 | **1L892** | 83.00 | **49.45** | 8.8 |
| **10** | 3.18 | 1.000 | 0.625 | 0.525 | 6 | L516-6 | **1L903** | 125.00 | **74.05** | 13.0 |
| **10** | 3.18 | 1.000 | 1.000 | 0.900 | 4 | L517-4 | **1L893** | 90.00 | **53.05** | 14.0 |
| **10** | 3.18 | 1.000 | 1.000 | 0.900 | 6 | L517-6 | **1L904** | 134.00 | **79.55** | 21.0 |
| **8** | 2.55 | 1.250 | 0.750 | 0.625 | 4 | L518-4 | **1L894** | 112.00 | **66.65** | 13.0 |
| **8** | 2.55 | 1.250 | 0.750 | 0.625 | 6 | L518-6 | **1L905** | 169.00 | **99.85** | 17.0 |
| **8** | 2.55 | 1.250 | 1.250 | 1.125 | 4 | L519-4 | **1L895** | 133.00 | **78.85** | 21.0 |
| **8** | 2.55 | 1.250 | 1.250 | 1.125 | 6 | L519-6 | **1L906** | 200.00 | **118.25** | 29.0 |
| **6** | 1.91 | 1.500 | 1.000 | 0.833 | 4 | L520-4 | **1L896** | 151.00 | **89.05** | 18.0 |
| **6** | 1.91 | 1.500 | 1.000 | 0.833 | 6 | L520-6 | **1L907** | 226.00 | **133.65** | 27.0 |
| **6** | 1.91 | 1.500 | 1.500 | 1.333 | 4 | L521-4 | **1L897** | 171.00 | **101.10** | 28.0 |
| **6** | 1.91 | 1.500 | 1.500 | 1.333 | 6 | L521-6 | **1L908** | 256.00 | **151.50** | 44.0 |
| **5** | 1.59 | 1.750 | 1.250 | 1.050 | 4 | L522-4 | **1L898** | 209.00 | **123.35** | 26.0 |
| **5** | 1.59 | 1.750 | 1.250 | 1.050 | 6 | L522-6 | **1L909** | 313.00 | **186.00** | 39.0 |

## STEEL MITER GEARS

- High quality, precision machined steel
- Patented Coniflex® tooth form allows minor adjustment of gears in assembly and provides even load distribution for increased life
- Clean bore
- No setscrew
- No keyway






**For Parallel Shaft, See Spur Gears on Page 326**

| STANDARD TOLERANCES | |
|---|---|
| **Dimension** | **Tolerance (In.)** |
| All Bore Dimensions | ±0.0005 |

| Pitch | Face Width (In.) | No. of Teeth | Pitch Dia. (In.) | Bore (In.) | Dimensions (In.) Mounting Distance | Depth (D) | Hub Dia. | Hub Proj. | Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16** | 0.22 | 16 | 1.000 | 0.375 | 1.062 | 0.750 | 0.75 | 0.44 | L110Y | **1L996** | $12.00 | **$10.87** | 0.1 |
| **16** | 0.27 | 20 | 1.250 | 0.438 | 1.250 | 0.849 | 1.00 | 0.50 | L111Y | **1L997** | 14.00 | **12.25** | 0.2 |
| **16** | 0.31 | 24 | 1.500 | 0.500 | 1.375 | 0.875 | 1.00 | 0.50 | L112Y | **1L998** | 16.00 | **14.22** | 0.3 |
| **14** | 0.19 | 14 | 1.000 | 0.375 | 1.062 | 0.739 | 0.88 | 0.50 | L124Y | **1L999** | 13.00 | **11.36** | 0.1 |
| **12** | 0.29 | 15 | 1.250 | 0.375 | 1.250 | 0.864 | 1.00 | 0.50 | L125Y | **2L012** | 14.00 | **12.70** | 0.2 |
| **12** | 0.29 | 15 | 1.250 | 0.500 | 1.250 | 0.864 | 1.00 | 0.50 | L101Y | **2L013** | 14.00 | **12.70** | 0.2 |
| **12** | 0.33 | 18 | 1.500 | 0.500 | 1.500 | 1.021 | 1.25 | 0.63 | L127Y | **2L014** | 17.00 | **15.02** | 0.2 |
| **12** | 0.33 | 18 | 1.500 | 0.625 | 1.500 | 1.021 | 1.25 | 0.63 | L102Y | **2L015** | 17.00 | **15.02** | 0.3 |
| **12** | 0.40 | 21 | 1.750 | 0.500 | 1.750 | 1.192 | 1.38 | 0.69 | L119Y | **2L016** | 18.00 | **15.70** | 0.5 |
| **12** | 0.40 | 21 | 1.750 | 0.625 | 1.750 | 1.192 | 1.38 | 0.69 | L121Y | **2L017** | 18.00 | **15.70** | 0.4 |
| **12** | 0.44 | 24 | 2.000 | 0.500 | 1.875 | 1.224 | 1.31 | 0.69 | L113Y | **2L018** | 21.00 | **18.28** | 0.6 |
| **12** | 0.55 | 30 | 2.500 | 0.625 | 2.312 | 1.489 | 1.63 | 0.84 | L114Y | **2L019** | 30.00 | **26.65** | 1.0 |
| **10** | 0.44 | 20 | 2.000 | 0.500 | 2.000 | 1.364 | 1.63 | 0.81 | L128Y | **2L020** | 24.00 | **21.03** | 0.8 |
| **10** | 0.44 | 20 | 2.000 | 0.625 | 2.000 | 1.364 | 1.63 | 0.81 | L129Y | **2L021** | 24.00 | **21.03** | 0.7 |
| **10** | 0.44 | 20 | 2.000 | 0.750 | 2.000 | 1.364 | 1.63 | 0.81 | L103Y | **2L022** | 24.00 | **21.03** | 0.7 |
| **10** | 0.55 | 25 | 2.500 | 0.750 | 2.438 | 1.630 | 2.00 | 0.94 | L130Y | **2L023** | 34.00 | **29.95** | 1.5 |
| **10** | 0.55 | 25 | 2.500 | 1.000 | 2.438 | 1.630 | 2.00 | 0.94 | L131Y | **2L024** | 34.00 | **29.95** | 1.3 |
| **8** | 0.64 | 24 | 3.000 | 0.750 | 2.562 | 1.583 | 1.75 | 0.81 | L115Y | **2L025** | 39.00 | **34.95** | 1.6 |
| **8** | 0.64 | 24 | 3.000 | 1.000 | 2.750 | 1.786 | 2.50 | 1.00 | L105Y-A | **2L026** | 39.00 | **34.95** | 2.3 |
| **8** | 0.84 | 32 | 4.000 | 1.000 | 3.625 | 2.286 | 3.00 | 1.13 | L123Y | **2L027** | 79.00 | **70.35** | 5.0 |

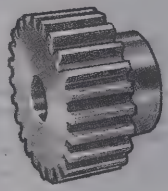
# SPUR GEARS

- Industry standard 14½° pressure angle for replacement gearing and new applications (will not operate with 20° spurs)
- For transmitting motion and power between parallel shafts
- For up and down and back and forward motion
- Ideal for control of backlash
- Use with steel rack on page 323
- Precision machined of high quality steel or cast iron
- Close concentricity between bore, pitch diameter and outside diameter facilitates reboring modifications (reference Keyway and Setscrew Machining Guide on page 322)

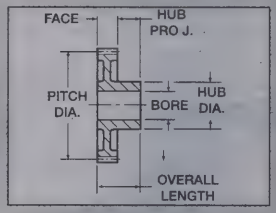
Boston Gear

- Smooth, quiet operation
- Clean bore
- No keyway
- No setscrew, except on #24 and #32 pitch spur gears

For Right Angle See Miter Gears on Page 323



| STANDARD TOLERANCES | |
|---|---|
| **Dimensions** | **Tolerance** |
| All Bore Dimensions | ±0.0005" |
| All Hub Diameter Dimensions | ±1/32" |




| Pitch | Face Width (In.) | No. of Teeth | Pitch Dia. (In.) | Bore (In.) | Type | Dimensions (In.) Outside Dia. | Overall Length | Hub Dia. | Hub Proj. | Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **32** | 0.187 | 16 | 0.500 | 0.187 | Steel | 0.562 | 0.497 | 0.40 | 0.31 | H3216* | **1L939** | $13.00 | **$11.50** | 0.1 |
| **32** | 0.187 | 18 | 0.562 | 0.187 | Steel | 0.624 | 0.497 | 0.46 | 0.31 | H3218* | **1L940** | 13.00 | **11.56** | 0.1 |
| **32** | 0.187 | 20 | 0.625 | 0.250 | Steel | 0.687 | 0.497 | 0.53 | 0.31 | H3220* | **1L941** | 13.00 | **11.56** | 0.1 |
| **32** | 0.187 | 24 | 0.750 | 0.312 | Steel | 0.812 | 0.497 | 0.65 | 0.31 | H3224* | **1L942** | 13.00 | **11.56** | 0.1 |
| **32** | 0.187 | 40 | 1.250 | 0.375 | Steel | 1.312 | 0.557 | 0.87 | 0.37 | H3240* | **1L943** | 13.00 | **11.79** | 0.1 |
| **24** | 0.250 | 12 | 0.500 | 0.250 | Steel | 0.583 | 0.560 | 0.38 | 0.31 | H2412* | **1L944** | 9.00 | **7.71** | 0.1 |
| **24** | 0.250 | 16 | 0.667 | 0.312 | Steel | 0.750 | 0.560 | 0.54 | 0.31 | H2416* | **1L945** | 11.00 | **9.38** | 0.3 |
| **24** | 0.250 | 20 | 0.833 | 0.312 | Steel | 0.916 | 0.560 | 0.71 | 0.31 | H2420* | **1L946** | 12.00 | **10.27** | 0.1 |
| **24** | 0.250 | 24 | 1.000 | 0.375 | Steel | 1.083 | 0.630 | 0.87 | 0.38 | H2424* | **1L947** | 14.00 | **12.11** | 0.1 |
| **20** | 0.375 | 12 | 0.600 | 0.313 | Steel | 0.700 | 0.755 | 0.45 | 0.38 | NA12B | **1L948** | 7.00 | **6.14** | 0.1 |
| **20** | 0.375 | 16 | 0.800 | 0.375 | Steel | 0.900 | 0.755 | 0.64 | 0.38 | NA16B | **1L949** | 9.00 | **7.74** | 0.1 |
| **20** | 0.375 | 20 | 1.000 | 0.375 | Steel | 1.100 | 0.755 | 0.84 | 0.38 | NA20B | **1L950** | 10.00 | **9.24** | 0.1 |
| **20** | 0.375 | 24 | 1.200 | 0.375 | Steel | 1.300 | 0.755 | 0.92 | 0.38 | NA24 | **1L951** | 12.00 | **10.37** | 0.1 |
| **20** | 0.375 | 32 | 1.600 | 0.375 | Steel | 1.700 | 0.875 | 1.31 | 0.50 | NA32 | **1L952** | 15.00 | **13.39** | 0.4 |
| **20** | 0.375 | 48 | 2.400 | 0.375 | Steel | 2.500 | 0.875 | 1.33 | 0.50 | NA48A | **1L953** | 23.00 | **20.71** | 0.6 |
| **16** | 0.500 | 12 | 0.750 | 0.375 | Steel | 0.875 | 0.940 | 0.56 | 0.44 | NB12B | **1L954** | 8.00 | **7.30** | 0.1 |
| **16** | 0.500 | 14 | 0.875 | 0.375 | Steel | 1.000 | 0.940 | 0.69 | 0.44 | NB14B | **1L955** | 9.00 | **8.12** | 0.1 |
| **16** | 0.500 | 16 | 1.000 | 0.500 | Steel | 1.125 | 0.940 | 0.81 | 0.44 | NB16B | **1L956** | 10.00 | **9.24** | 0.1 |
| **16** | 0.500 | 18 | 1.125 | 0.500 | Steel | 1.250 | 0.940 | 0.94 | 0.44 | NB18B | **1L957** | 11.00 | **10.15** | 0.2 |
| **16** | 0.500 | 20 | 1.250 | 0.500 | Steel | 1.375 | 0.940 | 0.95 | 0.44 | NB20B | **1L958** | 12.00 | **10.37** | 0.2 |
| **16** | 0.500 | 24 | 1.500 | 0.500 | Steel | 1.625 | 0.940 | 1.19 | 0.44 | NB24B | **1L959** | 13.00 | **11.42** | 0.4 |
| **16** | 0.500 | 30 | 1.875 | 0.500 | Steel | 2.000 | 1.000 | 1.56 | 0.50 | NB30B | **1L960** | 18.00 | **15.96** | 0.6 |
| **16** | 0.500 | 32 | 2.000 | 0.500 | Steel | 2.125 | 1.000 | 1.69 | 0.50 | NB32 | **1L961** | 20.00 | **17.85** | 0.7 |
| **16** | 0.500 | 40 | 2.500 | 0.500 | Steel | 2.625 | 1.000 | 1.69 | 0.50 | NB40 | **1L962** | 23.00 | **20.56** | 0.9 |
| **16** | 0.500 | 48 | 3.000 | 0.500 | Steel | 3.125 | 1.000 | 2.19 | 0.50 | NB48 | **1L963** | 26.00 | **23.03** | 1.5 |
| **12** | 0.750 | 12 | 1.000 | 0.500 | Steel | 1.167 | 1.250 | 0.75 | 0.50 | ND12B | **1L964** | 11.00 | **10.15** | 0.2 |
| **12** | 0.750 | 14 | 1.167 | 0.500 | Steel | 1.334 | 1.250 | 0.91 | 0.50 | ND14B | **1L965** | 13.00 | **11.42** | 0.2 |
| **12** | 0.750 | 16 | 1.333 | 0.625 | Steel | 1.500 | 1.250 | 0.98 | 0.50 | ND16B | **1L966** | 15.00 | **13.13** | 0.3 |
| **12** | 0.750 | 18 | 1.500 | 0.625 | Steel | 1.667 | 1.250 | 1.14 | 0.50 | ND18B | **1L967** | 15.00 | **13.71** | 0.4 |
| **12** | 0.750 | 20 | 1.667 | 0.625 | Steel | 1.834 | 1.250 | 1.31 | 0.50 | ND20B | **1L968** | 17.00 | **14.88** | 0.5 |
| **12** | 0.750 | 24 | 2.000 | 0.625 | Steel | 2.167 | 1.250 | 1.64 | 0.50 | ND24B | **1L969** | 21.00 | **18.92** | 0.8 |
| **12** | 0.750 | 30 | 2.500 | 0.625 | Steel | 2.667 | 1.380 | 2.14 | 0.63 | ND30 | **1L970** | 23.00 | **20.45** | 1.5 |
| **12** | 0.750 | 32 | 2.667 | 0.625 | Steel | 2.834 | 1.380 | 1.92 | 0.63 | ND32A | **1L971** | 25.00 | **22.47** | 0.1 |
| **12** | 0.750 | 48 | 4.000 | 0.750 | Cast Iron | 4.167 | 1.500 | 1.75 | 0.75 | ND48 | **1L972** | 36.00 | **32.15** | 1.8 |
| **10** | 1.000 | 12 | 1.200 | 0.625 | Steel | 1.400 | 1.630 | 0.92 | 0.63 | NF12B | **1L973** | 15.00 | **12.87** | 0.3 |
| **10** | 1.000 | 14 | 1.400 | 0.625 | Steel | 1.600 | 1.630 | 1.02 | 0.63 | NF14B | **1L974** | 17.00 | **14.88** | 0.4 |
| **10** | 1.000 | 16 | 1.600 | 0.750 | Steel | 1.800 | 1.630 | 1.20 | 0.63 | NF16B | **1L975** | 20.00 | **17.85** | 0.5 |
| **10** | 1.000 | 18 | 1.800 | 0.750 | Steel | 2.000 | 1.630 | 1.41 | 0.63 | NF18B | **1L976** | 21.00 | **18.92** | 0.8 |
| **10** | 1.000 | 20 | 2.000 | 0.750 | Steel | 2.200 | 1.630 | 1.61 | 0.63 | NF20B | **1L977** | 23.00 | **20.45** | 1.2 |
| **10** | 1.000 | 24 | 2.400 | 0.750 | Steel | 2.600 | 1.630 | 2.02 | 0.63 | NF24B | **1L978** | 26.00 | **23.21** | 1.8 |
| **10** | 1.000 | 30 | 3.000 | 0.750 | Steel | 3.200 | 1.880 | 2.02 | 0.88 | NF30A | **1L979** | 37.00 | **33.35** | 2.7 |
| **10** | 1.000 | 40 | 4.000 | 0.875 | Cast Iron | 4.200 | 1.880 | 2.13 | 0.88 | NF40 | **1L980** | 46.00 | **40.70** | 2.0 |
| **10** | 1.000 | 48 | 4.800 | 0.875 | Cast Iron | 5.000 | 1.880 | 2.13 | 0.88 | NF48 | **1L981** | 64.00 | **56.80** | 4.2 |
| **8** | 1.250 | 12 | 1.500 | 0.750 | Steel | 1.750 | 2.000 | 1.13 | 0.75 | NH12B | **1L982** | 22.00 | **19.94** | 0.6 |
| **8** | 1.250 | 14 | 1.750 | 0.750 | Steel | 2.000 | 2.000 | 1.30 | 0.75 | NH14B | **1L983** | 26.00 | **23.21** | 0.9 |
| **8** | 1.250 | 16 | 2.000 | 0.875 | Steel | 2.250 | 2.000 | 1.55 | 0.75 | NH16B | **1L984** | 29.00 | **26.00** | 1.3 |
| **8** | 1.250 | 18 | 2.250 | 0.875 | Steel | 2.500 | 2.000 | 1.80 | 0.75 | NH18B | **1L985** | 31.00 | **27.90** | 1.8 |
| **8** | 1.250 | 20 | 2.500 | 0.875 | Steel | 2.750 | 2.000 | 2.05 | 0.75 | NH20B | **1L986** | 35.00 | **31.20** | 2.2 |
| **8** | 1.250 | 24 | 3.000 | 0.875 | Steel | 3.250 | 2.130 | 2.06 | 0.88 | NH24A | **1L987** | 46.00 | **40.50** | 3.1 |
| | 1.250 | 32 | 4.000 | 1.000 | Steel | 4.250 | 2.130 | 3.00 | 0.88 | NH32A | **1L988** | 62.00 | **54.90** | 5.9 |
| **6** | 1.500 | 12 | 2.000 | 1.000 | Steel | 2.333 | 2.380 | 1.44 | 0.88 | NJ12B | **1L989** | 29.00 | **25.95** | 1.3 |
| **6** | 1.500 | 14 | 2.333 | 1.000 | Steel | 2.666 | 2.380 | 1.78 | 0.88 | NJ14B | **1L990** | 33.00 | **29.65** | 2.0 |
| **6** | 1.500 | 16 | 2.667 | 1.000 | Steel | 3.000 | 2.380 | 2.13 | 0.88 | NJ16B | **1L991** | 42.00 | **37.00** | 2.8 |
| **6** | 1.500 | 18 | 3.000 | 1.000 | Steel | 3.333 | 2.380 | 2.45 | 0.88 | NJ18B | **1L992** | 46.00 | **40.50** | 3.7 |
| **6** | 1.500 | 24 | 4.000 | 1.125 | Steel | 4.333 | 2.380 | 3.00 | 0.88 | NJ24A | **1L993** | 65.00 | **58.25** | 6.5 |
| **6** | 1.500 | 30 | 5.000 | 1.125 | Steel | 5.333 | 2.380 | 4.00 | 0.88 | NJ30A | **1L994** | 85.00 | **75.25** | 11.0 |
| **5** | 1.750 | 20 | 4.000 | 1.063 | Steel | 4.400 | 2.630 | 3.38 | 0.88 | NK20B | **1L995** | 62.00 | **54.90** | 7.0 |

(*) Furnished with standard setscrew.



We deliver the products that deliver the power.

# SPUR GEAR CROSS-REFERENCE GUIDE

Boston Gear

## OPEN GEAR INTERCHANGE

| Stock No. | BOSTON | MCMASTER | MARTIN | BROWNING | UNION |
|---|---|---|---|---|---|
| **1L939** | H3216 | 6325K89 | N/A | NSS3216 | N/A |
| **1L940** | H3218 | 6325K94 | N/A | NSS3218 | N/A |
| **1L941** | H3220 | 6325K95 | N/A | NSS3220 | N/A |
| **1L942** | H3224 | 6325K96 | N/A | NSS3224 | N/A |
| **1L943** | H3240 | 6325K97 | N/A | NSS3240 | N/A |
| **1L944** | H2412 | 6325K31 | S2412 | NSS2412 | N/A |
| **1L945** | H2416 | 6325K75 | S2416 | NSS2416 | N/A |
| **1L946** | H2420 | 6325K87 | S2420 | NSS2420 | N/A |
| **1L947** | H2424 | 6325K88 | S2424 | NSS2424 | N/A |
| **1L948** | NA12B | 6325K81 | S2012 | NSS2012 | 20HG12 |
| **1L949** | NA16B | 6325K82 | S2016 | NSS2016 | 20HG16 |
| **1L950** | NA20B | 6325K83 | S2020 | NSS2020 | 20HG20 |
| **1L951** | NA24 | 6325K84 | S2024 | NSS2024 | 20HG24 |
| **1L952** | NA32 | 6325K85 | S2032 | NSS2032 | 20HG32 |
| **1L953** | NA48A | 6325K86 | S2048 | NSS2048 | 20G48 |
| **1L954** | NB12B | 6325K11 | S1612 | NSS1612 | 16HG12 |
| **1L955** | NB14B | 6325K12 | S1614 | NSS1614 | 16HG14 |
| **1L956** | NB16B | 6325K13 | S1616 | NSS1616 | 16HG16 |
| **1L957** | NB18B | 6325K14 | S1618 | NSS1618 | 16HG18 |
| **1L958** | NB20B | 6325K15 | S1620 | NSS1620 | 16HG20 |
| **1L959** | NB24B | 6325K16 | S1624 | NSS1624 | 16HG24 |
| **1L960** | NB30B | 6325K17 | S1630 | NSS1630 | 16HG30 |
| **1L961** | NB32 | 6325K18 | S1632 | NSS1632 | 16HG32 |
| **1L962** | NB40 | 6325K19 | C1640 | N/A | 16G40 |
| **1L963** | NB48 | 6325K21 | C1648 | N/A | 16G48 |
| **1L964** | ND12B | 6325K22 | S1212 | NSS1212 | 12HG12 |
| **1L965** | ND14B | 6325K23 | S1214 | NSS1214 | 12HG14 |
| **1L966** | ND16B | 6325K24 | S1216 | NSS1216 | 12HG16 |
| **1L967** | ND18B | 6325K25 | S1218 | NSS1218 | 12HG18 |
| **1L968** | ND20B | 6325K26 | S1220 | NSS1220 | 12HG20 |
| **1L969** | ND24B | 6325K27 | S1224 | NSS1224 | 12HG24 |
| **1L970** | ND30 | 6325K28 | S1230 | NSS1230 | 12HG30 |
| **1L971** | ND32A | 6325K29 | S1232 | NSS1232 | 12HG32 |
| **1L972** | ND48 | 6325K32 | C1248 | N/A | 12G48 |
| **1L973** | NF12B | 6325K33 | S1012 | NSS1012 | 10HG12 |
| **1L974** | NF14B | 6325K34 | S1014 | NSS1014 | 10HG14 |
| **1L975** | NF16B | 6325K35 | S1016 | NSS1016 | 10HG16 |
| **1L976** | NF18B | 6325K36 | S1018 | NSS1018 | 10HG18 |
| **1L977** | NF20B | 6325K37 | S1020 | NSS1020 | 10HG20 |
| **1L978** | NF24B | 6325K38 | S1024 | NSS1024 | 10HG24 |
| **1L979** | NF30A | 6325K39 | C1030 | N/A | 10G30 |
| **1L980** | NF40 | 6325K42 | C1040 | N/A | 10G40 |
| **1L981** | NF48 | 6325K43 | C1048 | N/A | 10G48 |
| **1L982** | NH12B | 6325K44 | S812 | NSS812 | 8HG12 |
| **1L983** | NH14B | 6325K45 | S814 | NSS814 | 8HG14 |
| **1L984** | NH16B | 6325K46 | S816 | NSS816 | 8HG16 |
| **1L985** | NH18B | 6325K47 | S818 | NSS818 | 8HG18 |
| **1L986** | NH20B | 6325K48 | S820 | NSS820 | 8HG20 |
| **1L987** | NH24A | 6325K49 | C824 | N/A | 8G24 |
| **1L988** | NH32A | 6325K52 | C832 | N/A | 8G32 |
| **1L989** | NJ12B | 6325K55 | S612 | NSS612 | 6HG12 |
| **1L990** | NJ14B | 6325K56 | S614 | NSS614 | 6HG14 |
| **1L991** | NJ16B | 6325K57 | S616 | NSS616 | 6HG16 |
| **1L992** | NJ18B | 6325K58 | S618 | NSS618 | 6HG18 |
| **1L993** | NJ24A | 6325K61 | C624 | N/A | 6G24 |
| **1L994** | NJ30A | 6325K62 | S630 | N/A | 6G30 |
| **1L995** | NK20B | 6325K91 | S520 | NSS520 | 5HG20 |
| **1L996** | L110Y | 6529K11 | M1616 | YSM16B16 | SMT1616 |
| **1L997** | L111Y | 6529K13 | M1620 | YSM16B20 | SMT1620 |
| **1L998** | L112Y | 6529K16 | M1624 | YSM16B24 | SMT1624 |
| **1L999** | L124Y | 6529K12 | M1414 | YSM14B14 | N/A |
| **2L012** | L125Y | 6529K14 | M1215 | YSM12B15 | SMT1215-A |
| **2L013** | L101Y | 6529K15 | M1215B | YSM12B15 1/2 | SMT1215-B |
| **2L014** | L127Y | 6529K17 | M1218 | YSM12B18 | SMT1218-A |
| **2L015** | L102Y | 6529K18 | M1218A | YSM12B18 5/8 | SMT1218-B |
| **2L016** | L119Y | 6529K19 | M1221 | YSM12B21 | SMT1221-A |
| **2L017** | L121Y | 6529K21 | M1221B | YSM12B21 5/8 | SMT1221-B |
| **2L018** | L113Y | 6529K22 | M1224 | YSM12B24 | SMT1224 |
| **2L019** | L114Y | 6529K26 | M1230 | YSM12B30 | N/A |
| **2L020** | L128Y | 6529K23 | M1020A | YSM10B20 | N/A |
| **2L021** | L129Y | 6529K24 | M1020B | YSM10B20 5/8 | N/A |
| **2L022** | L103Y | 6529K25 | M1020 | YSM10B20 3/4 | N/A |
| **2L023** | L130Y | 6529K27 | M1025 | YSM10B25 | SMT1025A |
| **2L024** | L131Y | 6529K29 | M1025B | YSM10B25-1 | SMT1025C |
| **2L025** | L115Y | 6529K31 | M824 | YSM8B24 | SMT824A |
| **2L026** | L105YA | 6529K32 | M824AJ | YSM8B24-1 | SMT824B |
| **2L027** | L123Y | 6529K36 | M832 | YSM8B32 | SMT832 |
| **1L886** | L503-4 | 6295K242 | N/A | 4NSR32X3/16 | N/A |
| **1L887** | L505-4 | 6295K232 | R24X4 | 4NSR24X1/4 | N/A |
| **1L888** | L509-4 | 6295K112 | R20X4 | 4NSR20X3/8 | R20X4 |
| **1L899** | L509-6 | 6295K113 | R20X6 | 6NSR20X3/8 | N/A |
| **1L889** | L512-4 | 6295K123 | RA16X4 | 4NSR16X1/2 | R16X4 |
| **1L900** | L512-6 | 6295K124 | RA16X6 | 6NSR16X1/2 | R16X6 |
| **1L890** | L514-4 | 6295K132 | R12X4 | 4NSR12X1/2 | LR12X4 |
| **1L901** | L514-6 | 6295K133 | R12X6 | 6NSR12X1/2 | LR12X6 |
| **1L891** | L515-4 | 6295K142 | RA12X4 | 4NSR12X3/4 | R12X4 |
| **1L902** | L515-6 | 6295K143 | RA12X6 | 6NSR12X3/4 | R12X6 |
| **1L892** | L516-4 | 6295K152 | R10X4 | 4NSR10X5/8 | LR10X4 |
| **1L903** | L516-6 | 6295K153 | R10X6 | 6NSR10X5/8 | LR10X6 |
| **1L893** | L517-4 | 6295K163 | RA10X4 | 4NSR10X1 | R10X4 |
| **1L904** | L517-6 | 6295K164 | RA10X6 | 6NSR10X1 | R10X6 |
| **1L894** | L518-4 | 6295K172 | R8X4 | 4NSR8X3/4 | LR8X4 |
| **1L905** | L518-6 | 6295K173 | R8X6 | 6NSR8X3/4 | LR8X6 |
| **1L895** | L519-4 | 6295K182 | RA8X4 | 4NSR8X1 1/4 | R8X4 |
| **1L906** | L519-6 | 6295K183 | RA8X6 | 6NSR8X1 1/4 | R8X6 |
| **1L896** | L520-4 | 6295K192 | R6X4 | 4NSR6X1 | LR6X4 |
| **1L907** | L520-6 | 6295K193 | R8X6 | 6NSR6X1 | LR6X6 |
| **1L897** | L521-4 | 6295K212 | RA6X4 | 4NSR6X1 1/2 | R6X4 |
| **1L908** | L521-6 | 6295K213 | RA6X6 | 6NSR6X1 1/2 | R6X6 |
| **1L898** | L522-4 | 6295K222 | R5X4 | 4NSR5X1 1/4 | R5X4 |
| **1L909** | L522-6 | 6295K223 | R5X6 | 6NSR5X1 1/4 | R5X6 |

FOR CROSS REFERENCE INFORMATION SEE PAGE OPPOSITE INSIDE BACK COVER

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

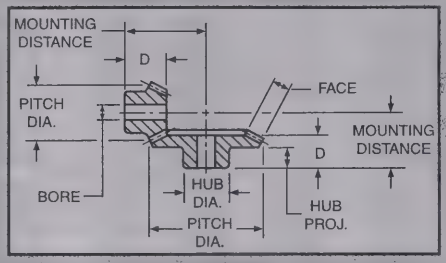
Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# SPIRAL BEVEL GEARS

## SPIRAL BEVEL GEARS

Boston Gear






- Stock spiral bevel gears have an overlapping tooth action which results in a smoother gear action, higher load capacity and lower noise than straight bevel gears of equal size
- 2:1 ratio operation
- All hardened steel gears have teeth only hardened and are equipped with standared keyways and setscrews (except as noted in chart below)
- All pinions are left hand
- Kit includes one gear and one pinion
- All unhardened steel gears are clean bore with no setscrew or keyway

### STANDARD TOLERANCES

| Dimensions | Tolerances |
|---|---|
| Bore | All ±0.0005 |

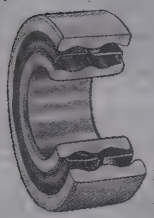
| Pitch | Face Width (In.) | Description | No. of Teeth | Dimensions (In.) Pitch Dia. | Bore | Mounting Distance | Depth (D) | Hub Dia. | Hub Proj. | Type | Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 0.14 | Gear | 26 | 0.87 | 0.250 | 0.688 | 0.480 | 0.75 | 0.38 | Steel Unhardened | SS302-K | 3ZP66 | $42.60 | $40.30 | 0.5 |
| | | Pinion | 13 | 0.43 | 0.1875 | 0.750 | 0.453 | 0.38 | 0.30 | | | | | | |
| 30 | 0.14 | Gear | 26 | 0.87 | 0.375 | 0.688 | 0.480 | 0.75 | 0.38 | Steel Hardened | SH302-K | 3ZP60 | 60.81 | 57.50 | 0.5 |
| | | Pinion† | 13 | 0.43 | 0.1875 | 0.750 | 0.453 | 0.38 | 0.30 | | | | | | |
| 19 | 0.25 | Gear | 26 | 1.37 | 0.500 | 1.000 | 0.730 | 1.12 | 0.42 | Steel Unhardened | SS192-K | 3ZP65 | 49.04 | 46.40 | 0.5 |
| | | Pinion | 13 | 0.68 | 0.3125 | 1.062 | 0.623 | 0.62 | 0.33 | | | | | | |
| 19 | 0.25 | Gear | 26 | 1.37 | 0.625 | 1.000 | 0.730 | 1.12 | 0.42 | Steel Hardened | SH192-K | 3ZP59 | 70.10 | 66.25 | 0.5 |
| | | Pinion† | 13 | 0.68 | 0.3125 | 1.062 | 0.623 | 0.62 | 0.33 | | | | | | |
| 14 | 0.31 | Gear | 26 | 1.86 | 0.625 | 1.188 | 0.760 | 1.38 | 0.50 | Steel Unhardened | SS142-K | 3ZP64 | 68.10 | 64.40 | 0.5 |
| | | Pinion | 13 | 0.93 | 0.4375 | 1.250 | 0.625 | 0.81 | 0.30 | | | | | | |
| 14 | 0.31 | Gear | 26 | 1.86 | 0.750 | 1.188 | 0.760 | 1.38 | 0.50 | Steel Hardened | SH142-K | 3ZP58 | 88.47 | 83.60 | 0.5 |
| | | Pinion | 13 | 0.93 | 0.4375 | 1.250 | 0.625 | 0.81 | 0.30 | | | | | | |
| 14 | 0.38 | Gear | 32 | 2.29 | 0.750 | 1.375 | 0.855 | 1.62 | 0.56 | Steel Unhardened | SS142-1K | 3ZP63 | 68.69 | 64.90 | 1.0 |
| | | Pinion | 16 | 1.14 | 0.500 | 1.625 | 0.848 | 1.00 | 0.45 | | | | | | |
| 14 | 0.38 | Gear | 32 | 2.29 | 0.875 | 1.375 | 0.855 | 1.62 | 0.56 | Steel Hardened | SH142-1K | 3ZP57 | 97.94 | 91.60 | 1.0 |
| | | Pinion | 16 | 1.14 | 0.500 | 1.625 | 0.848 | 1.00 | 0.45 | | | | | | |
| 10 | 0.57 | Gear | 34 | 3.40 | 1.000 | 1.875 | 1.135 | 2.00 | 0.75 | Steel Unhardened | SS102-K | 3ZP62 | 86.95 | 82.85 | 2.0 |
| | | Pinion | 17 | 1.70 | 0.625 | 2.375 | 1.219 | 1.50 | 0.63 | | | | | | |
| 10 | 0.57 | Gear | 34 | 3.40 | 1.1875 | 1.875 | 1.135 | 2.00 | 0.75 | Steel Hardened | SH102-K | 3ZP56 | 124.56 | 117.30 | 1.7 |
| | | Pinion | 17 | 1.70 | 0.625 | 2.375 | 1.219 | 1.50 | 0.63 | | | | | | |
| 8 | 0.71 | Gear | 34 | 4.250 | 1.250 | 2.500 | 1.575 | 2.88 | 1.06 | Steel Unhardened | SS82-K | 3ZP67 | 124.69 | 118.15 | 4.6 |
| | | Pinion | 17 | 2.125 | 0.750 | 3.125 | 1.677 | 1.88 | 0.94 | | | | | | |
| 8 | 0.71 | Gear | 34 | 4.250 | 1.500 | 2.500 | 1.575 | 2.88 | 1.06 | Steel Hardened | SH82-K | 3ZP61 | 178.04 | 168.75 | 4.2 |
| | | Pinion | 17 | 2.125 | 0.750 | 3.125 | 1.677 | 1.88 | 0.94 | | | | | | |

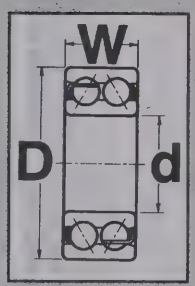
(†) No keyway or setscrew.

A WIDE VARIETY OF FASTENERS IS AVAILABLE
SEE INDEX FOR PAGE

Chicago
marson
QUALITY FASTENERS from ... Rockford
HANDI-CHEK
HOLO-KROME A Danaher Company

NTN






- Meets or exceeds all industry standards
- Pressed steel retainer
- For lower relative speed applications
- Accommodate moment and axial (thrust) loads both vertically and horizontally

**Typical Applications:** Electric motors, generators, fans, pumps, power tools, and appliances.

Bearings are individually wrapped and boxed to protect from contaminants during shipping and storage.

**NOTE: Open bearings do NOT come prelubricated and require external lubrication source. Recommended grease is Chevron SRI 2.**


**FOR CROSS-REFERENCE INFORMATION SEE PAGE OPPOSITE INSIDE BACK COVER**

**SEALED BEARINGS AVAILABLE, SEE PAGES 328 THRU 329**

**SHIELDED BEARINGS AVAILABLE, SEE PAGES 332 THRU 335**

**PRECISION TAPERED ROLLER BEARINGS AVAILABLE, SEE PAGES 336 THRU 337**


## SPECIFICATIONS AND ORDERING DATA

| Bore (d) (mm) | Bore (d) (In.) | Diameter (D) (mm) | Diameter (D) (In.) | Width (W) (mm) | Width (W) (In.) | NTN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **DOUBLE ROW ANGULAR CONTACT BALL BEARINGS—OPEN TYPE** | | | | | | | | | | |
| **10** | 0.3937 | 30 | 1.1811 | 14.3 | 0.5630 | 5200 | **5U443** | $30.07 | **$18.93** | 1.0 |
| **12** | 0.4724 | 32 | 1.2598 | 15.9 | 0.6260 | 5201 | **5U444** | 35.35 | **20.71** | 1.0 |
| **15** | 0.5906 | 35 | 1.3780 | 15.9 | 0.6260 | 5202 | **5U445** | 37.23 | **21.79** | 1.0 |
| **15** | 0.5906 | 42 | 1.6535 | 19.0 | 0.7480 | 5302 | **5U464** | 39.20 | **22.83** | 1.0 |
| **17** | 0.6693 | 40 | 1.5748 | 17.5 | 0.6890 | 5203 | **5U446** | 41.86 | **24.48** | 1.0 |
| **17** | 0.6693 | 40 | 1.5748 | 22.2 | 0.8740 | 5303 | **5U465** | 55.26 | **32.25** | 1.0 |
| **20** | 0.7874 | 47 | 1.8504 | 20.6 | 0.8110 | 5204 | **5U447** | 46.03 | **27.00** | 1.0 |
| **20** | 0.7874 | 52 | 2.0472 | 22.2 | 0.8740 | 5304 | **5U466** | 55.97 | **32.90** | 1.0 |
| **25** | 0.9843 | 52 | 2.0472 | 20.6 | 0.8110 | 5205 | **5U448** | 46.24 | **27.10** | 0.4 |
| **25** | 0.9843 | 62 | 2.4409 | 25.4 | 1.0000 | 5305 | **5U467** | 65.32 | **38.20** | 1.0 |
| **30** | 1.1811 | 62 | 2.4409 | 23.8 | 0.9370 | 5206 | **5U449** | 40.06 | **23.46** | 1.0 |
| **30** | 1.1811 | 72 | 2.8346 | 30.2 | 1.1890 | 5306 | **5U468** | 77.68 | **45.50** | 1.5 |
| **35** | 1.3780 | 72 | 2.8346 | 27.0 | 1.0630 | 5207 | **5U450** | 50.44 | **30.50** | 1.0 |
| **35** | 1.3780 | 80 | 3.1496 | 34.9 | 1.3740 | 5307 | **5U469** | 77.09 | **45.25** | 2.0 |
| **40** | 1.5748 | 80 | 3.1496 | 30.2 | 1.1890 | 5208 | **5U451** | 71.80 | **42.10** | 1.0 |
| **40** | 1.5748 | 90 | 3.5433 | 98.5 | 1.4370 | 5308 | **5U470** | 83.25 | **48.90** | 2.5 |
| **45** | 1.7717 | 85 | 3.3465 | 30.2 | 1.1890 | 5209 | **5U452** | 69.71 | **40.95** | 1.5 |
| **45** | 1.7717 | 100 | 3.9370 | 39.7 | 1.5630 | 5309 | **5U471** | 94.38 | **59.80** | 3.0 |
| **50** | 1.9685 | 90 | 3.5433 | 30.2 | 1.1890 | 5210 | **5U453** | 72.56 | **42.55** | 1.5 |
| **50** | 1.9685 | 110 | 4.3307 | 44.4 | 1.7480 | 5310 | **5U472** | 144.64 | **84.80** | 4.0 |
| **55** | 2.1654 | 100 | 3.9370 | 33.3 | 1.3110 | 5211 | **5U454** | 101.46 | **59.45** | 2.5 |
| **55** | 2.1654 | 120 | 4.7244 | 49.2 | 1.9370 | 5311 | **5U473** | 140.94 | **89.45** | 5.0 |
| **60** | 2.3622 | 110 | 4.3307 | 36.5 | 1.4370 | 5212 | **5U455** | 123.38 | **72.85** | 3.5 |
| **60** | 2.3622 | 130 | 5.5118 | 54.0 | 2.1260 | 5312 | **5U474** | 195.21 | **120.60** | 6.7 |
| **65** | 2.5591 | 120 | 4.7244 | 38.1 | 1.5000 | 5213 | **5U456** | 156.67 | **91.85** | 4.0 |
| **65** | 2.5591 | 140 | 5.5118 | 58.7 | 2.3110 | 5313 | **5U475** | 344.62 | **191.00** | 8.5 |
| **70** | 2.7559 | 125 | 4.9213 | 39.7 | 1.5630 | 5214 | **5U457** | 128.84 | **86.20** | 4.0 |
| **70** | 2.7559 | 150 | 5.9055 | 63.5 | 2.5000 | 5314 | **5U476** | 256.82 | **183.75** | 10.0 |
| **75** | 2.9528 | 130 | 5.1181 | 41.3 | 1.6260 | 5215 | **5U458** | 109.57 | **90.90** | 4.5 |
| **75** | 2.9528 | 160 | 6.2992 | 68.26 | 2.6890 | 5315 | **5U477** | 339.10 | **229.25** | 13.0 |
| **80** | 3.1496 | 140 | 5.5118 | 44.4 | 1.7480 | 5216 | **5U459** | 245.67 | **148.80** | 5.5 |
| **80** | 3.1496 | 170 | 6.6929 | 68.26 | 2.6875 | 5316 | **5U478** | 388.42 | **275.50** | 14.0 |
| **85** | 3.3465 | 150 | 5.9055 | 49.2 | 1.9370 | 5217 | **5U460** | 236.62 | **152.00** | 7.0 |
| **90** | 3.5433 | 160 | 6.2992 | 52.4 | 2.0630 | 5218 | **5U461** | 240.19 | **180.75** | 8.5 |
| **90** | 3.5433 | 190 | 7.4803 | 73.03 | 2.875 | 5318 | **5U480** | 785.66 | **462.00** | 17.0 |
| **95** | 3.7402 | 170 | 6.6929 | 55.6 | 2.1890 | 5219 | **5U462** | 449.51 | **337.50** | 11.0 |
| **100** | 3.9370 | 180 | 7.0866 | 60.3 | 2.3740 | 5220 | **5U463** | 661.88 | **366.00** | 13.0 |

## CROSS-REFERENCE GUIDE

| Stock No. | NTN Model | FAFNIR | SKF | NSK | KOYO | FAG | MRC |
|---|---|---|---|---|---|---|---|
| **DOUBLE ROW ANGULAR CONTACT BALL BEARINGS—OPEN TYPE** | | | | | | | |
| **5U443** | 5200 | 5200K | 5200A | 5200 | 5200 | 3200B | 5200C |
| **5U444** | 5201 | 5201K | 5201A | 5201 | 5201 | 3201B | 5201C |
| **5U445** | 5202 | 5202K | 5202A | 5202 | 5202 | 3202B | 5202C |
| **5U464** | 5302 | 5302K | 5302A | 5302 | 5302 | 3302B | 5302C |
| **5U446** | 5203 | 5203K | 5203A | 5203 | 5203 | 3203B | 5203C |
| **5U465** | 5303 | 5303K | 5303A | 5303 | 5303 | 3303B | 5303C |
| **5U447** | 5204 | 5204K | 5204A | 5204 | 5204 | 3204B | 5204C |
| **5U466** | 5304 | 5304K | 5304A | 5304 | 5304 | 3304B | 5304C |
| **5U448** | 5205 | 5205K | 5205A | 5205 | 5205 | 3205B | 5205C |
| **5U467** | 5305 | 5305K | 5305A | 5305 | 5305 | 3305B | 5305C |
| **5U449** | 5206 | 5206K | 5206A | 5206 | 5206 | 3206B | 5206C |
| **5U468** | 5306 | 5306K | 5306A | 5306 | 5306 | 3306B | 5306C |
| **5U450** | 5207 | 5207K | 5207A | 5207 | 5207 | 3207B | 5207C |
| **5U469** | 5307 | 5307K | 5307A | 5307 | 5307 | 3307B | 5307C |
| **5U451** | 5208 | 5208K | 5208A | 5208 | 5208 | 3208B | 5208C |
| **5U470** | 5308 | 5308K | 5308A | 5308 | 5308 | 3308B | 5308C |
| **5U452** | 5209 | 5209K | 5209A | 5209 | 5209 | 3209B | 5209C |
| **5U471** | 5309 | 5309K | 5309A | 5309 | 5309 | 3309B | 5309C |
| **5U453** | 5210 | 5210K | 5210A | 5210 | 5210 | 3210B | 5210C |
| **5U472** | 5310 | 5310K | 5310A | 5310 | 5310 | 3310B | 5310C |
| **5U454** | 5211 | 5211K | 5211A | 5211 | 5211 | 3211B | 5211C |
| **5U473** | 5311 | 5311K | 5311A | 5311 | 5311 | 3311B | 5311C |
| **5U455** | 5212 | 5212K | 5212A | 5212 | 5212 | 3212B | 5212C |
| **5U474** | 5312 | 5312K | 5312A | 5312 | 5312 | 3312B | 5312C |
| **5U456** | 5213 | 5213K | 5213A | 5213 | 5213 | 3213B | 5213C |
| **5U475** | 5313 | 5313K | 5313A | 5313 | 5313 | 3313B | 5313C |
| **5U457** | 5214 | 5214K | 5214A | 5214 | 5214 | 3214B | 5214C |
| **5U476** | 5314 | 5314K | 5314A | 5314 | 5314 | 3314B | 5314C |
| **5U458** | 5215 | 5215K | 5215A | 5215 | 5215 | 3215B | 5215C |
| **5U477** | 5315 | 5315K | 5315A | 5315 | 5315 | 3315B | 5315C |
| **5U459** | 5216 | 5216K | 5216A | 5216 | 5216 | 3216B | 5216C |
| **5U478** | 5316 | 5316K | 5316A | 5316 | 5316 | 3316B | 5316C |
| **5U460** | 5217 | 5217K | 5217A | 5217 | 5217 | 3217B | 5217C |
| **5U461** | 5218 | 5218K | 5218A | 5218 | 5218 | 3218B | 5218C |
| **5U480** | 5318 | 5318K | 5318A | 5318 | 5318 | 3318B | 5318C |
| **5U462** | 5219 | 5219K | 5219A | 5219 | 5219 | 3219B | 5219C |
| **5U463** | 5220 | 5220K | 5220A | 5220 | 5220 | 3220B | 5220C |

# NTN SEALED BEARINGS

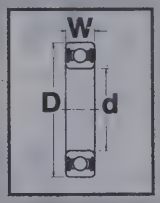
- Meets or exceeds all industry standards
- Pressed steel cages
- Prelubricated and permanently sealed for a lifetime of quiet, maintenance-free operation
- Provide greater protection from contamination than open or shielded bearings
- Feature labyrinth effect sealing
- Seal is made of synthetic rubber molded to a steel plate
- Color coded seals for easy identification
- Seals (LL type) provide protection from two sides
- V-shaped groove acts as "flinger" to keep dirt out
- Series 63200 and 63300 bearings have larger grease capacity for extremely dusty or dirty conditions

**Typical Applications:** Electric motors, machine tools, generators, fans, pumps, power tools, and appliances.

Bearings are individually wrapped and boxed to protect from contaminants during shipping and storage.

NTN






## SPECIFICATIONS AND ORDERING DATA

| Bore (d) (mm) | Bore (d) (In.) | Diameter (D) (mm) | Diameter (D) (In.) | Width (W) (mm) | Width (W) (In.) | NTN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE ROW RADIAL BALL BEARINGS—R (INCH) SERIES—DOUBLE SEALED** | | | | | | | | | | |
| **4.762** | 0.1875 | 12.700 | 0.5000 | 4.978 | 0.1960 | RA3LL/1E | **5U481** | $19.15 | **$10.66** | 0.1 |
| **6.350** | 0.2500 | 15.875 | 0.6250 | 4.978 | 0.1960 | R4LL/3E | **5U489** | 20.17 | **12.31** | 1.0 |
| **6.350** | 0.2500 | 19.050 | 0.7500 | 7.142 | 0.2812 | RA4LL/1E | **5U483** | 20.17 | **12.31** | 0.1 |
| **9.525** | 0.3750 | 22.225 | 0.8750 | 7.142 | 0.2812 | R6LLBC3/5C | **1L038** | 21.16 | **12.78** | 0.1 |
| **12.700** | 0.5000 | 28.575 | 1.1250 | 7.937 | 0.3125 | R8LLBC3/5C | **1L039** | 27.37 | **15.05** | 0.1 |
| **15.875** | 0.6250 | 34.925 | 1.3750 | 8.730 | 0.3437 | R10LLBC3/5C | **1L040** | 26.44 | **14.62** | 0.1 |
| **19.050** | 0.7500 | 41.275 | 1.6250 | 11.112 | 0.4375 | R12LLBC3/5C | **1L041** | 30.31 | **16.73** | 0.2 |
| **22.225** | 0.8750 | 47.625 | 1.8750 | 12.700 | 0.5000 | R14LLB/2A | **1L042** | 35.45 | **19.58** | 0.2 |
| **25.400** | 1.0000 | 50.800 | 2.0000 | 12.700 | 0.5000 | R16LLB/2A | **1L043** | 37.78 | **20.90** | 0.2 |
| **28.575** | 1.1250 | 53.975 | 2.1250 | 12.700 | 0.5000 | R18LLU/2A | **5U485** | 40.26 | **22.33** | 0.1 |
| **31.750** | 1.2500 | 57.150 | 2.2500 | 12.700 | 0.5000 | R20LL/2A | **5U487** | 43.46 | **24.09** | 1.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—600 SERIES—DOUBLE SEALED** | | | | | | | | | | |
| **6** | 0.2362 | 19 | 0.7480 | 6 | 0.2362 | 626LLBC3/5C | **5U558** | 18.56 | **10.60** | 1.0 |
| **7** | 0.2756 | 19 | 0.7480 | 6 | 0.2362 | 607LLBC3/1K | **5U591** | 11.76 | **6.92** | 1.0 |
| **7** | 0.2756 | 22 | 0.8661 | 7 | 0.2756 | 627LLBC3/5C | **1L036** | 17.75 | **11.87** | 0.1 |
| **8** | 0.3150 | 22 | 0.8661 | 7 | 0.2756 | 608LLBC3/5C | **1L035** | 11.65 | **8.75** | 0.1 |
| **8** | 0.3150 | 24 | 0.9449 | 8 | 0.3150 | 628LLB/1K | **5U559** | 22.44 | **13.10** | 0.1 |
| **9** | 0.3543 | 24 | 0.9449 | 7 | 0.2756 | 609LLB/1K | **5U529** | 13.24 | **8.38** | 1.0 |
| **9** | 0.3543 | 26 | 1.0236 | 8 | 0.3150 | 629LLBC3/5C | **1L037** | 17.18 | **11.67** | 0.1 |
| **SINGLE ROW RADIAL BALL BEARINGS—6000 SERIES—DOUBLE SEALED** | | | | | | | | | | |
| **10** | 0.3937 | 26 | 1.0236 | 8 | 0.3150 | 6000LLBC3/5C | **1L044** | 19.06 | **10.80** | 0.1 |
| **12** | 0.4724 | 28 | 1.1024 | 8 | 0.3150 | 6001LLBC3/5C | **1L045** | 20.38 | **11.55** | 0.1 |
| **15** | 0.5906 | 32 | 1.2598 | 9 | 0.3543 | 6002LLBC3/5C | **5U493** | 21.92 | **12.12** | 1.0 |
| **17** | 0.6693 | 35 | 1.3780 | 10 | 0.3937 | 6003LLBC3/5C | **5U495** | 24.42 | **13.52** | 1.0 |
| **20** | 0.7874 | 42 | 1.6535 | 12 | 0.4724 | 6004LLBC3/5C | **5U497** | 28.97 | **16.05** | 0.3 |
| **25** | 0.9843 | 47 | 1.8504 | 12 | 0.4724 | 6005LLBC3/5C | **1L046** | 32.82 | **18.05** | 0.2 |
| **30** | 1.1811 | 55 | 2.1654 | 13 | 0.5118 | 6006LLBC3/5C | **5U499** | 37.38 | **20.63** | 1.0 |
| **35** | 1.3780 | 62 | 2.4409 | 14 | 0.5512 | 6007LLBC3/5C | **5U501** | 42.63 | **23.53** | 0.1 |
| **40** | 1.5748 | 68 | 2.6772 | 15 | 0.5906 | 6008LLBC3/5C | **5U503** | 48.67 | **26.90** | 1.0 |
| **45** | 1.7717 | 75 | 2.9528 | 16 | 0.6299 | 6009LLBC3/5C | **5U505** | 56.79 | **31.45** | 1.0 |
| **50** | 1.9685 | 80 | 3.1496 | 16 | 0.6299 | 6010LLBC3/5C | **5U507** | 66.02 | **36.50** | 1.0 |
| **55** | 2.1654 | 90 | 3.5433 | 18 | 0.7087 | 6011LLBC3/5C | **5U582** | 83.25 | **45.95** | 1.0 |
| **60** | 2.3622 | 95 | 3.7402 | 18 | 0.7087 | 6012LLBC3/5C | **5U510** | 78.39 | **43.45** | 1.0 |
| **65** | 2.5591 | 100 | 3.9370 | 18 | 0.7087 | 6013LLBC3/5C | **5U512** | 88.08 | **48.65** | 1.0 |
| **70** | 2.7559 | 110 | 4.3307 | 20 | 0.7874 | 6014LLBC3/5C | **5U514** | 111.75 | **61.70** | 1.5 |
| **75** | 2.9528 | 115 | 4.5276 | 20 | 0.7874 | 6015LLBC3/5C | **5U515** | 210.11 | **116.35** | 1.5 |
| **80** | 3.1496 | 125 | 4.9213 | 22 | 0.8661 | 6016LLBC3/5C | **5U584** | 176.87 | **97.50** | 2.0 |
| **85** | 3.3465 | 130 | 5.1181 | 22 | 0.8661 | 6017LLBC3/5C | **5U518** | 181.10 | **99.85** | 2.0 |
| **90** | 3.5433 | 140 | 5.5118 | 24 | 0.9449 | 6018LLBC3/5C | **5U519** | 247.14 | **125.55** | 3.0 |
| **95** | 3.7402 | 145 | 5.7087 | 24 | 0.9449 | 6019LLBC3/5C | **5U521** | 335.84 | **148.50** | 2.0 |
| **100** | 3.9370 | 150 | 5.9055 | 24 | 0.9449 | 6020LLBC3/5C | **5U587** | 308.88 | **170.50** | 3.0 |
| **105** | 4.1339 | 160 | 6.2992 | 26 | 1.0236 | 6021LLU/2A | **5U523** | 405.94 | **199.50** | 3.5 |
| **110** | 4.3307 | 170 | 6.6929 | 28 | 1.1024 | 6022LLBC3/5C | **5U588** | 383.02 | **211.75** | 4.5 |
| **120** | 4.7244 | 180 | 7.0866 | 28 | 1.1024 | 6024LLBC3/5C | **5U589** | 537.70 | **296.50** | 4.5 |
| **SINGLE ROW RADIAL BALL BEARINGS—6200 SERIES—DOUBLE SEALED** | | | | | | | | | | |
| **10** | 0.3937 | 30 | 1.1811 | 9 | 0.3543 | 6200LLBC3/5C | **6L022** | 10.74 | **6.11** | 0.1 |
| **12** | 0.4724 | 32 | 1.2598 | 10 | 0.3937 | 6201LLBC3/5C | **6L023** | 12.30 | **7.11** | 0.1 |
| **15** | 0.5906 | 35 | 1.3780 | 11 | 0.4331 | 6202LLBC3/5C | **6L024** | 10.41 | **7.28** | 0.1 |
| **17** | 0.6693 | 40 | 1.5748 | 12 | 0.4724 | 6203LLBC3/5C | **6L025** | 11.14 | **6.10** | 0.2 |
| **20** | 0.7874 | 47 | 1.8504 | 14 | 0.5512 | 6204LLBC3/5C | **6L026** | 13.89 | **7.65** | 0.2 |
| **25** | 0.9843 | 52 | 2.0472 | 15 | 0.5906 | 6205LLBC3/5C | **6L027** | 20.97 | **11.56** | 0.3 |
| **30** | 1.1811 | 62 | 2.4409 | 16 | 0.6299 | 6206LLBC3/5C | **6L028** | 21.95 | **12.18** | 0.5 |
| **35** | 1.3780 | 72 | 2.8346 | 17 | 0.6693 | 6207LLBC3/5C | **6L029** | 36.54 | **20.78** | 0.7 |
| **40** | 1.5748 | 80 | 3.1496 | 18 | 0.7087 | 6208LLBC3/5C | **6L030** | 47.25 | **26.10** | 0.8 |
| **45** | 1.7717 | 85 | 3.3465 | 19 | 0.7480 | 6209LLBC3/5C | **6L031** | 55.18 | **30.60** | 0.9 |
| **50** | 1.9685 | 90 | 3.5433 | 20 | 0.7874 | 6210LLBC3/5C | **6L032** | 65.44 | **26.40** | 1.0 |
| **55** | 2.1654 | 100 | 3.9370 | 21 | 0.8268 | 6211LLBC3/5C | **6L033** | 85.25 | **47.05** | 1.3 |
| **60** | 2.3622 | 110 | 4.3307 | 22 | 0.8661 | 6212LLBC3/5C | **6L034** | 107.19 | **59.15** | 1.6 |



We deliver the products that deliver the power.

# NTN

## SPECIFICATIONS AND ORDERING DATA

| Bore (d) (mm) | Bore (d) (In.) | Diameter (D) (mm) | Diameter (D) (In.) | Width (W) (mm) | Width (W) (In.) | NTN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE ROW RADIAL BALL BEARINGS—6200 SERIES—DOUBLE SEALED** | | | | | | | | | | |
| **65** | 2.5591 | 120 | 4.7244 | 23 | 0.9055 | 6213LLBC3/5C | **5U538** | $108.10 | **$59.80** | 2.5 |
| **70** | 2.7559 | 125 | 4.9213 | 24 | 0.9449 | 6214LLBC3/5C | **5U539** | 141.00 | **77.85** | 2.5 |
| **75** | 2.9528 | 130 | 5.1181 | 25 | 0.9843 | 6215LLBC3/5C | **5U540** | 174.29 | **96.25** | 2.7 |
| **80** | 3.1496 | 140 | 5.5118 | 26 | 1.0236 | 6216LLBC3/5C | **5U542** | 239.33 | **132.00** | 3.0 |
| **85** | 3.3465 | 150 | 5.9055 | 28 | 1.1024 | 6217LLBC3/5C | **5U543** | 322.58 | **178.00** | 4.0 |
| **90** | 3.5433 | 160 | 6.2992 | 30 | 1.1811 | 6218LLBC3/5C | **5U545** | 385.73 | **213.25** | 5.0 |
| **95** | 3.7402 | 170 | 6.6929 | 32 | 1.2598 | 6219LLBC3/5C | **5U547** | 290.64 | **147.30** | 6.0 |
| **100** | 3.9370 | 180 | 7.0866 | 34 | 1.3386 | 6220LLBC3/5C | **5U549** | 349.59 | **193.25** | 7.0 |
| **105** | 4.1339 | 190 | 7.4803 | 36 | 1.4173 | 6221LLBC3/5C | **5U551** | 454.16 | **261.50** | 8.5 |
| **110** | 4.3307 | 200 | 7.8740 | 38 | 1.4961 | 6222LLBC3/5C | **5U553** | 654.66 | **309.50** | 10.0 |
| **120** | 4.7244 | 215 | 8.4646 | 40 | 1.5748 | 6224LLUC3/5C | **5U555** | 674.10 | **373.75** | 12.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—6300 SERIES—DOUBLE SEALED** | | | | | | | | | | |
| **10** | 0.3937 | 35 | 1.3780 | 11 | 0.4331 | 6300LLBC3/5C | **5U561** | 19.72 | **10.98** | 1.0 |
| **12** | 0.4724 | 37 | 1.4567 | 12 | 0.4724 | 6301LLBC3/5C | **5U563** | 19.82 | **11.04** | 0.2 |
| **15** | 0.5906 | 42 | 1.6535 | 13 | 0.5118 | 6302LLBC3/5C | **5U565** | 16.10 | **8.93** | 0.2 |
| **17** | 0.6693 | 47 | 1.8504 | 14 | 0.5512 | 6303LLBC3/5C | **6L052** | 22.89 | **12.65** | 0.3 |
| **20** | 0.7874 | 52 | 2.0472 | 15 | 0.5906 | 6304LLBC3/5C | **6L053** | 23.98 | **13.21** | 0.3 |
| **25** | 0.9843 | 62 | 2.4409 | 17 | 0.6693 | 6305LLBC3/5C | **6L054** | 26.96 | **14.88** | 0.5 |
| **30** | 1.1811 | 72 | 2.8346 | 19 | 0.7480 | 6306LLBC3/5C | **6L055** | 54.56 | **30.50** | 0.8 |
| **35** | 1.3780 | 80 | 3.1496 | 21 | 0.8268 | 6307LLBC3/5C | **6L056** | 45.15 | **24.94** | 1.1 |
| **40** | 1.5748 | 90 | 3.5433 | 23 | 0.9055 | 6308LLBC3/5C | **6L057** | 64.61 | **35.75** | 1.4 |
| **45** | 1.7717 | 100 | 3.9370 | 25 | 0.9843 | 6309LLBC3/5C | **6L058** | 85.93 | **47.55** | 1.9 |
| **50** | 1.9685 | 110 | 4.3307 | 27 | 1.0630 | 6310LLBC3/5C | **6L059** | 89.84 | **49.80** | 2.5 |
| **55** | 2.1654 | 120 | 4.7244 | 29 | 1.1417 | 6311LLBC3/5C | **6L060** | 150.02 | **83.00** | 3.3 |
| **60** | 2.3622 | 130 | 5.1181 | 31 | 1.2205 | 6312LLBC3/5C | **5U567** | 184.72 | **102.10** | 4.0 |
| **65** | 2.5591 | 140 | 5.5118 | 33 | 1.2992 | 6313LLBC3/5C | **5U568** | 268.99 | **148.40** | 5.0 |
| **70** | 2.7559 | 150 | 5.9055 | 35 | 1.3780 | 6314LLBC3/5C | **5U569** | 322.69 | **178.50** | 6.0 |
| **75** | 2.9528 | 160 | 6.2992 | 37 | 1.4567 | 6315LLBC3/5C | **5U570** | 320.75 | **177.50** | 7.0 |
| **80** | 3.1496 | 170 | 6.6929 | 39 | 1.5354 | 6316LLBC3/5C | **5U571** | 443.31 | **245.00** | 8.0 |
| **85** | 3.3465 | 180 | 7.0866 | 41 | 1.6142 | 6317LLBC3/5C | **5U572** | 487.20 | **269.75** | 10.0 |
| **90** | 3.5433 | 190 | 7.4803 | 43 | 1.6929 | 6318LLBC3/5C | **5U574** | 540.71 | **275.50** | 11.0 |
| **95** | 3.7402 | 200 | 7.8740 | 45 | 1.7717 | 6319LLBC3/5C | **5U575** | 674.29 | **357.75** | 13.0 |
| **100** | 3.9370 | 215 | 8.4646 | 47 | 1.8504 | 6320LLBC3/5C | **5U576** | 1050.48 | **493.75** | 16.0 |
| **110** | 4.3307 | 240 | 9.4488 | 50 | 1.9685 | 6322LLUC3/5C | **5U578** | 1296.54 | **719.00** | 22.0 |
| **120** | 4.7244 | 260 | 10.2362 | 55 | 2.1654 | 6324LLUC3/5C | **5U580** | 1617.62 | **896.50** | 27.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—SPECIAL BORE SERIES—DOUBLE SEALED** | | | | | | | | | | |
| **7.938** | 0.3125 | 22 | 0.8661 | 7 | 0.2756 | 608LLB/7.938C3PX#01 | **5U527** | 15.96 | **9.36** | 1.0 |
| **12.700** | 0.5000 | 32 | 1.2598 | 10 | 0.3937 | 6201LLB/12.7C3/5C | **5U531** | 15.97 | **8.93** | 0.1 |
| **15.875** | 0.6250 | 35 | 1.3780 | 11 | 0.4331 | 6202LLB/15.875C3/5C | **5U533** | 18.49 | **10.22** | 0.1 |
| **15.875** | 0.6250 | 40 | 1.5748 | 12 | 0.4724 | 6203LLB/15.875C3/5C | **5U537** | 16.56 | **9.22** | 0.2 |
| **15.875** | 0.6250 | 34.925 | 1.3750 | 11.1125 | 0.4375 | SC0228LLUC3/5C | **5U491** | 11.04 | **6.38** | 1.0 |
| **16** | 0.6299 | 35 | 1.3780 | 11 | 0.4331 | 6202LLB/16C3/5C | **5U534** | 16.54 | **9.16** | 1.0 |
| **19.050** | 0.7500 | 45.2247 | 1.7805 | 15.4940 | 0.6100 | SC0440LLC3/1E | **5U492** | 15.50 | **9.01** | 1.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—63200 CARTRIDGE SERIES—DOUBLE SEALED** | | | | | | | | | | |
| **15** | 0.5906 | 35 | 1.3780 | 15.875 | 0.6250 | 63202LLBC3/5C | **5U393** | 28.41 | **15.90** | 1.0 |
| **17** | 0.6693 | 40 | 1.5748 | 17.5 | 0.6890 | 63203LLBC3/5C | **5U395** | 29.68 | **16.63** | 1.0 |
| **20** | 0.7874 | 47 | 1.8504 | 20.6 | 0.8110 | 63204LLBC3/5C | **5U397** | 33.85 | **18.99** | 1.0 |
| **25** | 0.9843 | 52 | 2.0472 | 20.6 | 0.8110 | 63205LLBC3/5C | **5U399** | 44.93 | **25.20** | 1.0 |
| **30** | 1.1811 | 62 | 2.4409 | 23.8 | 0.9370 | 63206LLBC3/5C | **5U401** | 70.42 | **39.35** | 1.0 |
| **35** | 1.3780 | 72 | 2.8346 | 27.0 | 1.0630 | 63207LLBC3/5C | **5U403** | 59.58 | **33.40** | 1.0 |
| **40** | 1.5748 | 80 | 3.1496 | 30.2 | 1.1890 | 63208LLBC3/5C | **5U405** | 71.78 | **40.30** | 1.5 |
| **45** | 1.7717 | 85 | 3.3465 | 30.2 | 1.1890 | 63209LLBC3/5C | **5U407** | 82.07 | **46.05** | 1.5 |
| **50** | 1.9685 | 90 | 3.5433 | 30.2 | 1.1890 | 63210LLBC3/5C | **5U409** | 93.62 | **52.45** | 1.5 |
| **55** | 2.1654 | 100 | 3.9370 | 33.3 | 1.3110 | 63211LLBC3/5C | **5U411** | 126.57 | **70.85** | 2.0 |
| **60** | 2.3622 | 110 | 4.3307 | 36.5 | 1.4370 | 63212LLBC3/5C | **5U440** | 204.02 | **117.50** | 3.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—63300 CARTRIDGE SERIES—DOUBLE SEALED** | | | | | | | | | | |
| **20** | 0.7874 | 52 | 2.0472 | 22.2 | 0.8740 | 63304LLBC3/5C | **5U414** | 38.60 | **21.59** | 1.0 |
| **25** | 0.9843 | 62 | 2.4409 | 25.4 | 1.0000 | 63305LLBC3/5C | **5U416** | 69.33 | **38.80** | 1.0 |
| **30** | 1.1811 | 72 | 2.8346 | 30.2 | 1.1890 | 63306LLBC3/5C | **5U418** | 44.79 | **32.10** | 1.5 |
| **35** | 1.3780 | 80 | 3.1496 | 34.9 | 1.3740 | 63307LLBC3/5C | **5U420** | 85.76 | **48.15** | 2.0 |
| **40** | 1.5748 | 90 | 3.5433 | 36.5 | 1.4370 | 63308LLBC3/5C | **5U422** | 106.45 | **59.65** | 2.0 |
| **45** | 1.7717 | 100 | 3.9370 | 39.7 | 1.5630 | 63309LLBC3/5C | **5U424** | 176.32 | **98.60** | 3.0 |
| **50** | 1.9685 | 110 | 4.3307 | 44.4 | 1.7480 | 63310LLBC3/5C | **5U441** | 141.25 | **79.20** | 4.0 |
| **55** | 2.1654 | 120 | 4.7244 | 49.2 | 1.9370 | 63311LLBC3/5C | **5U427** | 246.15 | **137.85** | 5.0 |
| **60** | 2.3622 | 130 | 5.1181 | 54.0 | 2.1260 | 63312LLBC3/5C | **5U429** | 253.75 | **142.20** | 6.5 |
| **65** | 2.5591 | 140 | 5.5118 | 58.7 | 2.3110 | 63313LLBC3/5C | **5U431** | 298.10 | **167.50** | 2.8 |
| **70** | 2.7559 | 150 | 5.9055 | 63.5 | 2.5000 | 63314LLBC3/5C | **5U433** | 389.86 | **219.00** | 11.0 |
| **75** | 2.9528 | 160 | 6.2992 | 68.3 | 2.6890 | 63315LLBC3/5C | **5U435** | 508.94 | **285.25** | 13.0 |
| **90** | 3.5433 | 190 | 7.4803 | 73.0 | 2.8740 | 63318LLBC3/5C | **5U442** | 921.37 | **516.50** | 19.0 |

# NTN SEALED BEARINGS CROSS-REFERENCE GUIDE

NTN



**LLB**

- Black in color
- Single lip
- Noncontact
- Low friction
- Low torque

- Superior for most electric motor applications
- Highly resistant to dust buildup
- Cooler running

FOR CROSS-REFERENCE INFORMATION SEE PAGE OPPOSITE INSIDE BACK COVER



**LLU**

- Red in color
- Double lip contact design
- Noticeable drag
- Higher torque than LLB design

- Directly interchangeable to competitive single lip contact design
- Optimum protection from dust contamination

## CROSS-REFERENCE GUIDE

| Stock No. | NTN Model | FAFNIR | SKF | NSK | KOYO | FAG | MRC |
|---|---|---|---|---|---|---|---|
| **SINGLE ROW RADIAL BALL BEARINGS—R (INCH) SERIES—DOUBLE SEALED** | | | | | | | |
| 5U481 | RA3LL/1E | — | — | — | — | — | R3ZZ |
| 5U489 | R4LL/1E | — | R4-2RS | R4DDU | — | R4.2RSR | R4ZZ |
| 5U483 | RA4LL/1E | — | — | R4ADDU | EE2S-2RU | — | R4AZZ |
| 1L038 | R6LLBC3/5C | — | — | R6VV | EE3S-2RS | EE3.2RSR | R6ZZ |
| 1L039 | R8LLBC3/5C | — | — | R8VV | EE4S-2RS | EE4.2RSR | R8ZZ |
| 1L040 | R10LLBC3/5C | — | — | R10VV | EE5S-2RS | EE5.2RSR | R10ZZ |
| 1L041 | R12LLBC3/5C | — | — | R12VV | EE6S-2RS | EE6.2RSR | R12ZZ |
| 1L042 | R14LLB/2A | — | — | R14VV | EE8S-2RS | EE8.2RSR | R14ZZ |
| 1L043 | R16LLB/2A | — | — | R16VV | EE9S-2RS | EE9.2RSR | R16ZZ |
| 5U485 | R18LLU/2A | — | R18-2RS | R18DDU | EE10S-2RU | R18.2RSR | R18ZZ |
| 5U487 | R20LL/2A | — | R20-2RS | R20DDU | EE11S-2RS | R20.2RSR | R20ZZ |
| **SINGLE ROW RADIAL BALL BEARINGS—600 SERIES—DOUBLE SEALED** | | | | | | | |
| 5U558 | 626LLBC3/5C | 36PP | 626-2RS | 626VV | 626-2RS | 626.2RS | 36ZZ |
| 5U591 | 607LLBC3/1K | — | 607-2RS | 607VV | 607-2RS | 607.2RS | — |
| 1L036 | 627LLBC3/5C | 37PP | 627-2RS | 627VV | 627-2RS | 627.2RS | 37ZZ |
| 1L035 | 608LLBC3/5C | 38PP | 608-2RS | 608VV | 608-2RS | 608.2RS | 38ZZ |
| 5U559 | 628LLB/1K | — | 628-2RS | 628VV | 628-2RS | 628.2RS | — |
| 5U529 | 609LLB/1K | — | 609-2RS | 609VV | 609-2RS | 609.2RS | — |
| 1L037 | 629LLBC3/5C | 39NPP | 629-2RS | 629VV | 629-2RS | 629.2RS | 39ZZ |
| **SINGLE ROW RADIAL BALL BEARINGS—6000 SERIES—DOUBLE SEALED** | | | | | | | |
| 1L044 | 6000LLBC3/5C | 9100PP | 6000-2RS | 6000VV | 6000-2RS | 6000.2RSR | 100KSZZ |
| 1L045 | 6001LLBC3/5C | 9101PP | 6001-2RS | 6001VV | 6001-2RS | 6001.2RSR | 101KSZZ |
| 5U493 | 6002LLBC3/5C | 9102PP | 6002-2RS | 6002VV | 6002-2RS | 6002.2RSR | 102KSZZ |
| 5U495 | 6003LLBC3/5C | 9103PP | 6003-2RS | 6003VV | 6003-2RS | 6003.2RSR | 103KSZZ |
| 5U497 | 6004LLBC3/5C | 9104PP | 6004-2RS | 6004VV | 6004-2RS | 6004.2RSR | 104KSZZ |
| 1L046 | 6005LLBC3/5C | 9105PP | 6005-2RS | 6005VV | 6005-2RS | 6005.2RSR | 105KSZZ |
| 5U499 | 6006LLBC3/5C | 9106PP | 6006-2RS | 6006VV | 6006-2RS | 6006.2RSR | 106KSZZ |
| 5U501 | 6007LLBC3/5C | 9107PP | 6007-2RS | 6007VV | 6007-2RS | 6007.2RSR | 107KSZZ |
| 5U503 | 6008LLBC3/5C | 9108PP | 6008-2RS | 6008VV | 6008-2RS | 6008.2RSR | 108KSZZ |
| 5U505 | 6009LLBC3/5C | 9109PP | 6009-2RS | 6009VV | 6009-2RS | 6009.2RSR | 109KSZZ |
| 5U507 | 6010LLBC3/5C | 9110PP | 6010-2RS | 6010VV | 6010-2RS | 6010.2RSR | 110KSZZ |
| 5U582 | 6011LLBC3/5C | 9111PP | 6011-2RS | 6011VV | 6011-2RS | 6011.2RSR | 111KSZZ |
| 5U510 | 6012LLBC3/5C | 9112PP | 6012-2RS | 6012VV | 6012-2RS | 6012.2RSR | 112KSZZ |
| 5U512 | 6013LLBC3/5C | 9113PP | 6013-2RS | 6013VV | 6013-2RS | 6013.2RSR | 113KSZZ |
| 5U514 | 6014LLBC3/5C | 9114PP | 6014-2RS | 6014VV | 6014-2RS | 6014.2RSR | 114KSZZ |
| 5U515 | 6015LLBC3/5C | 9115PP | 6015-2RS | 6015VV | 6015-2RS | 6015.2RSR | 115KSZZ |
| 5U584 | 6016LLBC3/5C | 9116PP | 6016-2RS | 6016VV | 6016-2RS | 6016.2RSR | 116KSZZ |
| 5U518 | 6017LLBC3/5C | 9117PP | 6017-2RS | 6017VV | 6017-2RS | 6017.2RSR | 117KSZZ |
| 5U519 | 6018LLBC3/5C | 9118PP | 6018-2RS | 6018VV | 6018-2RS | 6018.2RSR | 118KSZZ |
| 5U521 | 6019LLBC3/5C | 9119PP | 6019-2RS | 6019VV | 6019-2RS | 6019.2RSR | 119KSZZ |
| 5U587 | 6020LLBC3/5C | 9120PP | 6020-2RS | 6020VV | 6020-2RS | 6020.2RSR | 120KSZZ |
| 5U523 | 6021LLU/2A | 9121PP | 6021-2RS | 6021DDU | 6021-2RS | 6021.2RSR | 121KSZZ |
| 5U588 | 6022LLBC3/5C | 9122PP | 6022-2RS | 6022VV | 6022-2RS | 6022.2RSR | 122KSZZ |
| 5U589 | 6024LLBC3/5C | 9124PP | 6024-2RS | 6024VV | 6024-2RS | 6024.2RSR | 124KSZZ |
| **SINGLE ROW RADIAL BALL BEARINGS—6200 SERIES—DOUBLE SEALED** | | | | | | | |
| 6L022 | 6200LLBC3/5C | 200PP | 6200-2RS | 6200VV | 6200-2RS | 6200.2RSR | 200SZZ |
| 6L023 | 6201LLBC3/5C | 201PP | 6201-2RS | 6201VV | 6201-2RS | 6201.2RSR | 201SZZ |
| 6L024 | 6202LLBC3/5C | 202PP | 6202-2RS | 6202VV | 6202-2RS | 6202.2RSR | 202SZZ |
| 6L025 | 6203LLBC3/5C | 203PP | 6203-2RS | 6203VV | 6203-2RS | 6203.2RSR | 203SZZ |
| 6L026 | 6204LLBC3/5C | 204PP | 6204-2RS | 6204VV | 6204-2RS | 6204.2RSR | 204SZZ |
| 6L027 | 6205LLBC3/5C | 205PP | 6205-2RS | 6205VV | 6205-2RS | 6205.2RSR | 205SZZ |
| 6L028 | 6206LLBC3/5C | 206PP | 6206-2RS | 6206VV | 6206-2RS | 6206.2RSR | 206SZZ |
| 6L029 | 6207LLBC3/5C | 207PP | 6207-2RS | 6207VV | 6207-2RS | 6207.2RSR | 207SZZ |
| 6L030 | 6208LLBC3/5C | 208PP | 6208-2RS | 6208VV | 6208-2RS | 6208.2RSR | 208SZZ |
| 6L031 | 6209LLBC3/5C | 209PP | 6209-2RS | 6209VV | 6209-2RS | 6209.2RSR | 209SZZ |
| 6L032 | 6210LLBC3/5C | 210PP | 6210-2RS | 6210VV | 6210-2RS | 6210.2RSR | 210SZZ |
| 6L033 | 6211LLBC3/5C | 211PP | 6211-2RS | 6211VV | 6211-2RS | 6211.2RSR | 211SZZ |
| 6L034 | 6212LLBC3/5C | 212PP | 6212-2RS | 6212VV | 6212-2RS | 6212.2RSR | 212SZZ |



We deliver the products that deliver the power.

# NTN

## CROSS-REFERENCE GUIDE

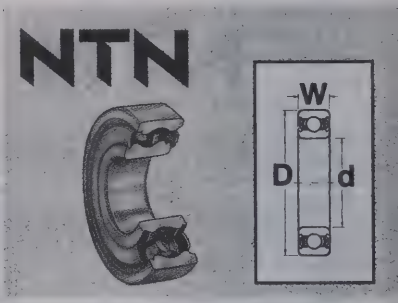
| Stock No. | NTN Model | FAFNIR | SKF | NSK | KOYO | FAG | MRC |
|---|---|---|---|---|---|---|---|
| **SINGLE RADIAL BALL BEARINGS—6200 SERIES—DOUBLE SEALED** | | | | | | | |
| **5U538** | 6213LLBC3/5C | 213PP | 6213-2RS | 6213VV | 6213-2RS | 6213.2RSR | 213SZZ |
| **5U539** | 6214LLBC3/5C | 214PP | 6214-2RS | 6214VV | 6214-2RS | 6214.2RSR | 214SZZ |
| **5U540** | 6215LLBC3/5C | 215PP | 6215-2RS | 6215VV | 6215-2RS | 6215.2RSR | 215SZZ |
| **5U542** | 6216LLBC3/5C | 216PP | 6216-2RS | 6216VV | 6216-2RS | 6216.2RSR | 216SZZ |
| **5U543** | 6217LLBC3/5C | 217PP | 6217-2RS | 6217VV | 6217-2RS | 6217.2RSR | 217SZZ |
| **5U545** | 6218LLBC3/5C | 218PP | 6218-2RS | 6218VV | 6218-2RS | 6218.2RSR | 218SZZ |
| **5U547** | 6219LLBC3/5C | 219PP | 6219-2RS | 6219VV | 6219-2RS | 6219.2RSR | 219SZZ |
| **5U549** | 6220LLBC3/5C | 220PP | 6220-2RS | 6220VV | 6220-2RS | 6220.2RSR | 220SZZ |
| **5U551** | 6221LLBC3/5C | 221PP | 6221-2RS | 6221VV | 6221-2RS | 6221.2RSR | 221SZZ |
| **5U553** | 6222LLBC3/5C | 222PP | 6222-2RS | 6222VV | 6222-2RS | 6222.2RSR | 222SZZ |
| **5U555** | 6224LLUC3/5C | 224PP | 6224-2RS | 6224DDU | 6224-2RS | 6224.2RSR | 224SZZ |
| **SINGLE ROW RADIAL BALL BEARINGS—6300 SERIES—DOUBLE SEALED** | | | | | | | |
| **5U561** | 6300LLBC3/5C | 300PP | 6300-2RS | 6300VV | 6300-2RS | 6300.2RSR | 300SZZ |
| **5U563** | 6301LLBC3/5C | 301PP | 6301-2RS | 6301VV | 6301-2RS | 6301.2RSR | 301SZZ |
| **5U565** | 6302LLBC3/5C | 302PP | 6302-2RS | 6302VV | 6302-2RS | 6302.2RSR | 302SZZ |
| **6L052** | 6303LLBC3/5C | 303PP | 6303-2RS | 6303VV | 6303-2RS | 6303.2RSR | 303SZZ |
| **6L053** | 6304LLBC3/5C | 304PP | 6304-2RS | 6304VV | 6304-2RS | 6304.2RSR | 304SZZ |
| **6L054** | 6305LLBC3/5C | 305PP | 6305-2RS | 6305VV | 6305-2RS | 6305.2RSR | 305SZZ |
| **6L055** | 6306LLBC3/5C | 306PP | 6306-2RS | 6306VV | 6306-2RS | 6306.2RSR | 306SZZ |
| **6L056** | 6307LLBC3/5C | 307PP | 6307-2RS | 6307VV | 6307-2RS | 6307.2RSR | 307SZZ |
| **6L057** | 6308LLBC3/5C | 308PP | 6308-2RS | 6308VV | 6308-2RS | 6308.2RSR | 308SZZ |
| **6L058** | 6309LLBC3/5C | 309PP | 6309-2RS | 6309VV | 6309-2RS | 6309.2RSR | 309SZZ |
| **6L059** | 6310LLBC3/5C | 310PP | 6310-2RS | 6310VV | 6310-2RS | 6310.2RSR | 310SZZ |
| **6L060** | 6311LLBC3/5C | 311PP | 6311-2RS | 6311VV | 6311-2RS | 6311.2RSR | 311SZZ |
| **5U567** | 6312LLBC3/5C | 312PP | 6312-2RS | 6312VV | 6312-2RS | 6312.2RSR | 312SZZ |
| **5U568** | 6313LLBC3/5C | 313PP | 6313-2RS | 6313VV | 6313-2RS | 6313.2RSR | 313SZZ |
| **5U569** | 6314LLBC3/5C | 314PP | 6314-2RS | 6314VV | 6314-2RS | 6314.2RSR | 314SZZ |
| **5U570** | 6315LLBC3/5C | 315PP | 6315-2RS | 6315VV | 6315-2RS | 6315.2RSR | 315SZZ |
| **5U571** | 6316LLBC3/5C | 316PP | 6316-2RS | 6316VV | 6316-2RS | 6316.2RSR | 316SZZ |
| **5U572** | 6317LLBC3/5C | 317PP | 6317-2RS | 6317VV | 6317-2RS | 6317.2RSR | 317SZZ |
| **5U574** | 6318LLBC3/5C | 318PP | 6318-2RS | 6318VV | 6318-2RS | 6318.2RSR | 318SZZ |
| **5U575** | 6319LLBC3/5C | 319PP | 6319-2RS | 6319VV | 6319-2RS | 6319.2RSR | 319SZZ |
| **5U576** | 6320LLBC3/5C | 320PP | 6320-2RS | 6320VV | 6320-2RS | 6320.2RSR | 320SZZ |
| **5U578** | 6322LLUC3/5C | 322PP | 6322-2RS | 6322DDU | 6322-2RS | 6322.2RSR | 322SZZ |
| **5U580** | 6324LLUC3/5C | 324PP | 6324-2RS | 6324DDU | 6324-2RS | 6324.2RSR | 324SZZ |
| **SINGLE ROW RADIAL BALL BEARINGS—SPECIAL BORE SERIES— DOUBLE SEALED** | | | | | | | |
| **5U527** | 608LLB/7.938C3PX#01 | — | — | — | — | — | — |
| **5U531** | 6201LLB/12.7C3/5C | — | — | — | — | — | — |
| **5U533** | 6202LLB/15.875C3/5C | — | 6202/15.875-2RS | 6202/10VV | — | — | 202SZZ3 |
| **5U537** | 6203LLB/15.875C3/5C | — | 6203/15.875-2RS | 6203/625VV | — | — | — |
| **5U491** | SC0228LLUC3/5C | — | — | — | — | — | — |
| **5U534** | 6202LLB/16C3/5C | — | 6202/16-2RS | 6202/16MVV | — | 6202/16-2RSR | 202SZZ10 |
| **5U492** | SC0440LLC3/1E | 204RR6 | — | — | — | — | — |
| **SINGLE ROW RADIAL BALL BEARINGS—63200 CARTRIDGE SERIES—DOUBLE SEALED** | | | | | | | |
| **5U393** | 63202LLBC3/5C | W202KLL | 462202-2RS | 63202VV | W6202-2RS | S3502-2RSR | 202SZZC |
| **5U395** | 63203LLBC3/5C | W203KLL | 462203-2RS | 63203VV | W6203-2RS | S3503-2RSR | 203SZZC |
| **5U397** | 63204LLBC3/5C | W204KLL | 462204-2RS | 63204VV | W6204-2RS | S3504-2RSR | 204SZZC |
| **5U399** | 63205LLBC3/5C | W205KLL | 462205-2RS | 63205VV | W6205-2RS | S3505-2RSR | 205SZZC |
| **5U401** | 63206LLBC3/5C | W206KLL | 462206-2RS | 63206VV | W6206-2RS | S3506-2RSR | 206SZZC |
| **5U403** | 63207LLBC3/5C | W207KLL | 462207-2RS | 63207VV | W6207-2RS | S3507-2RSR | 207SZZC |
| **5U405** | 63208LLBC3/5C | W208KLL | 462208-2RS | 63208VV | W6208-2RS | S3508-2RSR | 208SZZC |
| **5U407** | 63209LLBC3/5C | W209KLL | 462209-2RS | 63209VV | W6209-2RS | S3509-2RSR | 209SZZC |
| **5U409** | 63210LLBC3/5C | W210KLL | 462210-2RS | 63210VV | W6210-2RS | S3510-2RSR | 210SZZC |
| **5U411** | 63211LLBC3/5C | W211KLL | 462211-2RS | 63211VV | W6211-2RS | S3511-2RSR | 211SZZC |
| **5U440** | 63212LLBC3/5C | W212KLL | 462212-2RS | 63212VV | W6212-2RS | S3512-2RSR | 212SZZC |
| **SINGLE ROW RADIAL BALL BEARINGS—63300 CARTRIDGE SERIES—DOUBLE SEALED** | | | | | | | |
| **5U414** | 63304LLBC3/5C | W304KLL | 462304-2RS | 63304VV | W6304-2RS | S3604-2RSR | 304SZZC |
| **5U416** | 63305LLBC3/5C | W305KLL | 462305-2RS | 63305VV | W6305-2RS | S3605-2RSR | 305SZZC |
| **5U418** | 63306LLBC3/5C | W306KLL | 462306-2RS | 63306VV | W6306-2RS | S3606-2RSR | 306SZZC |
| **5U420** | 63307LLBC3/5C | W307KLL | 462307-2RS | 63307VV | W6307-2RS | S3607-2RSR | 307SZZC |
| **5U422** | 63308LLBC3/5C | W308KLL | 462308-2RS | 63308VV | W6308-2RS | S3608-2RSR | 308SZZC |
| **5U424** | 63309LLBC3/5C | W309KLL | 462309-2RS | 63309VV | W6309-2RS | S3609-2RSR | 309SZZC |
| **5U441** | 63310LLBC3/5C | W310KLL | 462310-2RS | 63310VV | W6310-2RS | S3610-2RSR | 310SZZC |
| **5U427** | 63311LLBC3/5C | W311KLL | 462311-2RS | 63311VV | W6311-2RS | S3611-2RSR | 311SZZC |
| **5U429** | 63312LLBC3/5C | W312KLL | 462312-2RS | 63312VV | W6312-2RS | S3612-2RSR | 312SZZC |
| **5U431** | 63313LLBC3/5C | W313KLL | 462313-2RS | 63313VV | W6313-2RS | S3613-2RSR | 313SZZC |
| **5U433** | 63314LLBC3/5C | W314KLL | 462314-2RS | 63314VV | W6314-2RS | S3614-2RSR | 314SZZC |
| **5U435** | 63315LLBC3/5C | W315KLL | 462315-2RS | 63315VV | W6315-2RS | S3615-2RSR | 315SZZC |
| **5U442** | 63318LLBC3/5C | W318KLL | 462318-2RS | 63318VV | W6318-2RS | S3618-2RSR | 318SZZC |

# NTN SHIELDED BEARINGS

- Meets or exceeds all industry standards
- Pressed steel cages
- Prelubricated and permanently sealed for a lifetime of quiet, maintenance-free operation
- Provides protection from contamination
- Lower cost alternative to sealed bearings
- Shield made of rust-resistant metal
- Shields (ZZ type) provide protection from two sides
- V-shaped groove acts as "flinger" to keep dirt out
- Series 63200 and 63300 bearings have larger grease capacity for extremely dusty or dirty conditions

**Typical Applications:** Electric motors, machine tools, generators, fans, pumps, power tools, and appliances.

Bearings are individually wrapped and boxed to protect from contaminants during shipping and storage.




## SPECIFICATIONS AND ORDERING DATA

| Bore (d) (mm) | Bore (d) (In.) | Diameter (D) (mm) | Diameter (D) (In.) | Width (W) (mm) | Width (W) (In.) | NTN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE ROW RADIAL BALL BEARINGS—R (INCH) SERIES—DOUBLE SHIELDED** | | | | | | | | | | |
| **4.762** | 0.1875 | 12.700 | 0.5000 | 4.978 | 0.1960 | RA3ZZ/1E | **5U482** | $14.49 | **$8.10** | 0.1 |
| **6.350** | 0.2500 | 15.875 | 0.6250 | 4.978 | 0.1960 | R4ZZ/3E | **5U490** | 16.06 | **8.97** | 0.1 |
| **6.350** | 0.2500 | 19.050 | 0.7500 | 7.142 | 0.2812 | RA4ZZ/1E | **5U484** | 15.77 | **9.64** | 0.1 |
| **9.525** | 0.3750 | 22.225 | 0.8750 | 7.142 | 0.2812 | R6ZZC3/5C | **1L004** | 17.00 | **9.43** | 0.2 |
| **12.700** | 0.5000 | 28.575 | 1.1250 | 7.937 | 0.3125 | R8ZZC3/5C | **1L005** | 15.05 | **9.08** | 0.1 |
| **15.875** | 0.6250 | 34.925 | 1.3750 | 8.730 | 0.3437 | R10ZZC3/5C | **1L006** | 20.63 | **11.41** | 0.1 |
| **19.050** | 0.7500 | 41.275 | 1.6250 | 11.112 | 0.4375 | R12ZZC3/5C | **1L007** | 24.44 | **13.49** | 0.1 |
| **22.225** | 0.8750 | 47.625 | 1.8750 | 12.700 | 0.5000 | R14ZZC3/5C | **1L008** | 27.89 | **15.40** | 0.2 |
| **25.400** | 1.0000 | 50.800 | 2.0000 | 12.700 | 0.5000 | R16ZZ/2A | **1L009** | 32.64 | **18.04** | 0.2 |
| **28.575** | 1.1250 | 53.975 | 2.1250 | 12.700 | 0.5000 | R18ZZ/2A | **5U486** | 37.18 | **20.63** | 1.0 |
| **31.750** | 1.2500 | 57.150 | 2.2500 | 12.700 | 0.5000 | R20ZZ/2A | **5U488** | 42.68 | **23.66** | 1.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—600 SERIES—DOUBLE SHIELDED** | | | | | | | | | | |
| **4** | 0.1575 | 13 | 0.5118 | 5 | 0.1969 | 624ZZ/1K | **5U557** | 21.38 | **11.86** | 1.0 |
| **5** | 0.1969 | 16 | 0.6299 | 5 | 0.1969 | 625ZZC3/5C | **5U592** | 16.01 | **8.93** | 0.1 |
| **6** | 0.2362 | 19 | 0.7480 | 6 | 0.2362 | 626ZZC3/5C | **5U593** | 12.94 | **7.48** | 0.1 |
| **7** | 0.2756 | 19 | 0.7480 | 6 | 0.2362 | 607ZZC3/1K | **5U526** | 6.98 | **4.53** | 0.2 |
| **7** | 0.2756 | 22 | 0.8661 | 7 | 0.2756 | 627ZZC3/5C | **1L002** | 10.29 | **6.46** | 0.1 |
| **8** | 0.3150 | 22 | 0.8661 | 7 | 0.2756 | 608ZZC3/5C | **1L001** | 7.90 | **6.61** | 0.1 |
| **8** | 0.3150 | 24 | 0.9449 | 8 | 0.3150 | 628ZZ/1K | **5U560** | 14.26 | **7.27** | 1.0 |
| **9** | 0.3543 | 24 | 0.9449 | 7 | 0.2756 | 609ZZ/1K | **5U530** | 7.88 | **6.08** | 1.0 |
| **9** | 0.3543 | 26 | 1.0236 | 8 | 0.3150 | 629ZZC3/5C | **1L003** | 11.08 | **7.78** | 0.1 |
| **SINGLE ROW RADIAL BALL BEARINGS—6000 SERIES—DOUBLE SHIELDED** | | | | | | | | | | |
| **10** | 0.3937 | 26 | 1.0236 | 8 | 0.3150 | 6000ZZC3/5C | **1L010** | 15.55 | **8.88** | 0.1 |
| **12** | 0.4724 | 28 | 1.1024 | 8 | 0.3150 | 6001ZZC3/5C | **1L011** | 15.25 | **10.07** | 0.1 |
| **15** | 0.5906 | 32 | 1.2598 | 9 | 0.3543 | 6002ZZC3/5C | **5U494** | 14.49 | **8.05** | 1.0 |
| **17** | 0.6693 | 35 | 1.3780 | 10 | 0.3937 | 6003ZZC3/5C | **5U496** | 16.73 | **9.34** | 1.0 |
| **20** | 0.7874 | 42 | 1.6535 | 12 | 0.4724 | 6004ZZC3/5C | **5U498** | 26.54 | **14.68** | 1.0 |
| **25** | 0.9843 | 47 | 1.8504 | 12 | 0.4724 | 6005ZZC3/5C | **1L012** | 22.00 | **14.29** | 0.2 |
| **30** | 1.1811 | 55 | 2.1654 | 13 | 0.5118 | 6006ZZC3/5C | **5U500** | 27.69 | **15.32** | 1.0 |
| **35** | 1.3780 | 62 | 2.4409 | 14 | 0.5512 | 6007ZZC3/5C | **5U502** | 28.21 | **15.63** | 0.5 |
| **40** | 1.5748 | 68 | 2.6772 | 15 | 0.5906 | 6008ZZC3/5C | **5U504** | 33.12 | **18.28** | 1.0 |
| **45** | 1.7717 | 75 | 2.9528 | 16 | 0.6299 | 6009ZZC3/5C | **5U506** | 47.22 | **26.10** | 1.0 |
| **50** | 1.9685 | 80 | 3.1496 | 16 | 0.6299 | 6010ZZC3/5C | **5U508** | 55.52 | **30.90** | 1.0 |
| **55** | 2.1654 | 90 | 3.5433 | 18 | 0.7087 | 6011ZZC3/5C | **5U509** | 100.03 | **55.20** | 1.0 |
| **60** | 2.3622 | 95 | 3.7402 | 18 | 0.7087 | 6012ZZC3/5C | **5U511** | 93.34 | **51.55** | 1.0 |
| **65** | 2.5591 | 100 | 3.9370 | 18 | 0.7874 | 6013ZZC3/5C | **5U513** | 77.19 | **42.65** | 1.0 |
| **70** | 2.7559 | 110 | 4.3307 | 20 | 0.7874 | 6014ZZC3/5C | **5U583** | 103.11 | **56.95** | 1.5 |
| **75** | 2.9528 | 115 | 4.5276 | 20 | 0.8661 | 6015ZZC3/5C | **5U516** | 174.62 | **96.25** | 1.5 |
| **80** | 3.1496 | 125 | 4.9213 | 22 | 0.8661 | 6016ZZC3/5C | **5U517** | 150.00 | **82.80** | 2.0 |
| **85** | 3.3466 | 130 | 5.1181 | 22 | 0.9449 | 6017ZZC3/5C | **5U585** | 152.24 | **84.00** | 2.0 |
| **90** | 3.5433 | 140 | 5.5118 | 24 | 0.9449 | 6018ZZC3/5C | **5U520** | 199.50 | **110.05** | 3.0 |
| **95** | 3.7402 | 145 | 5.7087 | 24 | 0.9449 | 6019ZZC3/5C | **5U586** | 280.00 | **133.65** | 3.0 |
| **100** | 3.9370 | 150 | 5.9055 | 24 | 0.9449 | 6020ZZC3/5C | **5U522** | 228.88 | **126.20** | 3.0 |
| **105** | 4.1339 | 160 | 6.2992 | 26 | 1.0236 | 6021ZZC3/5C | **5U524** | 218.09 | **145.05** | 3.5 |
| **110** | 4.3307 | 170 | 6.6929 | 28 | 1.1024 | 6022ZZC3/5C | **5U525** | 298.61 | **165.25** | 4.5 |
| **120** | 4.7244 | 180 | 7.0866 | 28 | 1.1024 | 6024ZZC3/5C | **5U590** | 363.38 | **201.00** | 5.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—DOUBLE SHIELDED** | | | | | | | | | | |
| **10** | 0.3937 | 30 | 1.1811 | 9 | 0.3543 | 6200ZZC3/5C | **1L013** | 9.94 | **5.70** | 0.1 |
| **12** | 0.4724 | 32 | 1.2598 | 10 | 0.3937 | 6201ZZC3/5C | **1L014** | 10.27 | **5.79** | 0.1 |
| **15** | 0.5906 | 35 | 1.3780 | 11 | 0.4331 | 6202ZZC3/5C | **1L015** | 12.10 | **6.69** | 0.1 |
| **17** | 0.6693 | 40 | 1.5748 | 12 | 0.4724 | 6203ZZC3/5C | **1L016** | 9.88 | **5.46** | 0.2 |
| **20** | 0.7874 | 47 | 1.8504 | 14 | 0.5512 | 6204ZZC3/5C | **1L017** | 13.51 | **7.43** | 0.2 |
| **25** | 0.9843 | 52 | 2.0472 | 15 | 0.5906 | 6205ZZC3/5C | **1L018** | 17.39 | **9.83** | 0.3 |
| **30** | 1.1811 | 62 | 2.4409 | 16 | 0.6209 | 6206ZZC3/5C | **1L019** | 19.29 | **10.66** | 0.5 |
| **35** | 1.3780 | 72 | 2.8346 | 17 | 0.6693 | 6207ZZC3/5C | **1L020** | 26.82 | **14.82** | 0.6 |
| **40** | 1.5748 | 80 | 3.1496 | 18 | 0.7087 | 6208ZZC3/5C | **1L021** | 41.10 | **22.65** | 0.8 |
| **45** | 1.7717 | 85 | 3.3465 | 19 | 0.7480 | 6209ZZC3/5C | **1L022** | 53.25 | **29.50** | 0.9 |
| **50** | 1.9685 | 90 | 3.5433 | 20 | 0.7874 | 6210ZZC3/5C | **1L023** | 59.24 | **32.75** | 1.1 |
| **55** | 2.1654 | 100 | 3.9370 | 21 | 0.8268 | 6211ZZC3/5C | **1L024** | 85.37 | **47.85** | 1.4 |
| **60** | 2.3622 | 110 | 4.3307 | 22 | 0.8661 | 6212ZZC3/5C | **1L025** | 88.34 | **50.60** | 1.7 |



We deliver the products that deliver the power.

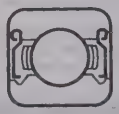
NTN

## SPECIFICATIONS AND ORDERING DATA

| Bore (d) (mm) | Bore (d) (In.) | Diameter (D) (mm) | Diameter (D) (In.) | Width (W) (mm) | Width (W) (In.) | NTN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE ROW RADIAL BALL BEARINGS—6200 SERIES—DOUBLE SHIELDED** | | | | | | | | | | |
| **65** | 2.5591 | 120 | 4.7244 | 23 | 0.9055 | 6213ZZC3/5C | **1L078** | $103.93 | **$57.50** | 2.2 |
| **70** | 2.7559 | 125 | 4.9213 | 24 | 0.9449 | 6214ZZC3/5C | **1L079** | 129.70 | **71.70** | 2.4 |
| **75** | 2.9528 | 130 | 5.1181 | 25 | 0.9843 | 6215ZZC3/5C | **5U541** | 173.38 | **95.70** | 3.0 |
| **80** | 3.1496 | 140 | 5.5118 | 26 | 1.0236 | 6216ZZC3/5C | **6L021** | 205.87 | **113.65** | 3.1 |
| **85** | 3.3465 | 150 | 5.9055 | 28 | 1.1024 | 6217ZZC3/5C | **5U544** | 205.80 | **113.70** | 4.0 |
| **90** | 3.5433 | 160 | 6.2992 | 30 | 1.1811 | 6218ZZC3/5C | **5U546** | 289.36 | **160.00** | 5.0 |
| **95** | 3.7402 | 170 | 6.6929 | 32 | 1.2598 | 6219ZZC3/5C | **5U548** | 298.96 | **165.25** | 6.0 |
| **100** | 3.9370 | 180 | 7.0866 | 34 | 1.3386 | 6220ZZC3/5C | **5U550** | 421.01 | **232.50** | 7.0 |
| **105** | 4.1339 | 190 | 7.4803 | 36 | 1.4173 | 6221ZZC3/5C | **5U552** | 455.71 | **252.25** | 8.3 |
| **110** | 4.3307 | 200 | 7.8740 | 38 | 1.4961 | 6222ZZC3/5C | **5U554** | 394.17 | **218.50** | 10.0 |
| **120** | 4.7244 | 215 | 8.4646 | 40 | 1.5748 | 6224ZZC3/5C | **5U556** | 357.99 | **248.75** | 12.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—6300 SERIES—DOUBLE SHIELDED** | | | | | | | | | | |
| **10** | 0.3937 | 35 | 1.3780 | 11 | 0.4331 | 6300ZZC3/5C | **5U562** | 16.07 | **8.93** | 1.0 |
| **12** | 0.4724 | 37 | 1.4567 | 12 | 0.4724 | 6301ZZC3/5C | **5U564** | 13.16 | **7.35** | 1.0 |
| **15** | 0.5906 | 42 | 1.6535 | 13 | 0.5118 | 6302ZZC3/5C | **5U566** | 13.77 | **7.65** | 1.0 |
| **17** | 0.6693 | 47 | 1.8504 | 14 | 0.5512 | 6303ZZC3/5C | **6L035** | 18.19 | **10.44** | 0.3 |
| **20** | 0.7874 | 52 | 2.0472 | 15 | 0.5906 | 6304ZZC3/5C | **6L036** | 20.85 | **11.98** | 0.3 |
| **25** | 0.9843 | 62 | 2.4409 | 17 | 0.6693 | 6305ZZC3/5C | **6L037** | 24.43 | **13.60** | 0.5 |
| **30** | 1.1811 | 72 | 2.8346 | 19 | 0.7480 | 6306ZZC3/5C | **6L038** | 39.81 | **21.94** | 0.8 |
| **35** | 1.3780 | 80 | 3.1496 | 21 | 0.8268 | 6307ZZC3/5C | **6L039** | 46.89 | **25.90** | 1.0 |
| **40** | 1.5748 | 90 | 3.5433 | 23 | 0.9055 | 6308ZZC3/5C | **6L040** | 61.15 | **33.80** | 1.4 |
| **45** | 1.7717 | 100 | 3.9370 | 25 | 0.9843 | 6309ZZC3/5C | **6L041** | 88.49 | **48.95** | 2.0 |
| **50** | 1.9685 | 110 | 4.3307 | 27 | 1.0630 | 6310ZZC3/5C | **6L042** | 79.88 | **44.30** | 2.4 |
| **55** | 2.1654 | 120 | 4.7244 | 29 | 1.1417 | 6311ZZC3/5C | **6L043** | 133.73 | **73.80** | 1.6 |
| **60** | 2.3622 | 130 | 5.1181 | 31 | 1.2205 | 6312ZZC3/5C | **6L044** | 183.87 | **102.50** | 3.7 |
| **65** | 2.5591 | 140 | 5.5118 | 33 | 1.2992 | 6313ZZC3/5C | **6L045** | 223.08 | **126.45** | 4.6 |
| **70** | 2.7559 | 150 | 5.9055 | 35 | 1.3780 | 6314ZZC3/5C | **6L046** | 269.50 | **156.00** | 5.6 |
| **75** | 2.9528 | 160 | 6.2992 | 37 | 1.4567 | 6315ZZC3/5C | **6L047** | 327.68 | **181.50** | 6.7 |
| **80** | 3.1496 | 170 | 6.6929 | 39 | 1.5354 | 6316ZZC3/5C | **6L048** | 394.48 | **218.25** | 8.2 |
| **85** | 3.3465 | 180 | 7.0866 | 41 | 1.6142 | 6317ZZC3/5C | **5U573** | 429.55 | **237.75** | 10.0 |
| **90** | 3.5433 | 190 | 7.4803 | 43 | 1.6929 | 6318ZZC3/5C | **6L049** | 434.10 | **240.50** | 11.0 |
| **95** | 3.7402 | 200 | 7.8740 | 45 | 1.7717 | 6319ZZC3/5C | **6L050** | 471.02 | **312.75** | 13.0 |
| **100** | 3.9370 | 215 | 8.4646 | 47 | 1.8504 | 6320ZZC3/5C | **6L051** | 673.20 | **374.75** | 15.0 |
| **105** | 4.1339 | 225 | 8.8583 | 49 | 1.9291 | 6321ZZC3/5C | **5U577** | 1081.68 | **600.00** | 19.0 |
| **110** | 4.3307 | 240 | 9.4488 | 50 | 1.9685 | 6322ZZC3/5C | **5U579** | 1045.51 | **580.50** | 22.0 |
| **120** | 4.7244 | 260 | 10.2362 | 55 | 2.1654 | 6324ZZC3/5C | **5U581** | 1429.41 | **792.50** | 29.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—SPECIAL BORE SERIES—DOUBLE SHIELDED** | | | | | | | | | | |
| **7.938** | 0.3125 | 22 | 0.8661 | 7 | 0.2756 | 608ZZ/7.938C3PX2/5C | **5U528** | 15.96 | **9.36** | 0.1 |
| **12.700** | 0.5000 | 32 | 1.2598 | 10 | 0.3937 | 6201ZZ/12.7C3/5C | **5U532** | 13.81 | **7.75** | 0.1 |
| **15.875** | 0.6250 | 35 | 1.3780 | 11 | 0.4331 | 6202ZZ/15.875C3/5C | **5U535** | 14.72 | **8.15** | 0.1 |
| **15.875** | 0.6250 | 40 | 1.5748 | 12 | 0.4724 | 6203ZZ/15.875C3/5C | **1L097** | 14.90 | **8.18** | 0.2 |
| **16** | 0.6299 | 35 | 1.3780 | 11 | 0.4331 | 6202ZZ/16C3/5C | **5U536** | 14.69 | **8.13** | 0.1 |
| **SINGLE ROW RADIAL BALL BEARINGS—63200 CARTRIDGE SERIES—DOUBLE SHIELDED** | | | | | | | | | | |
| **15** | 0.5906 | 35 | 1.3780 | 15.875 | 0.6250 | 63202ZZC3/5C | **5U394** | 26.42 | **14.84** | 1.0 |
| **17** | 0.6693 | 40 | 1.5748 | 17.5 | 0.6890 | 63203ZZC3/5C | **5U396** | 27.56 | **15.49** | 1.0 |
| **20** | 0.7874 | 47 | 1.8504 | 20.6 | 0.8110 | 63204ZZC3/5C | **5U398** | 31.50 | **17.65** | 1.0 |
| **25** | 0.9843 | 52 | 2.0472 | 20.6 | 0.8110 | 63205ZZC3/5C | **5U400** | 41.76 | **23.38** | 1.0 |
| **30** | 1.1811 | 62 | 2.4409 | 23.8 | 0.9370 | 63206ZZC3/5C | **5U402** | 65.57 | **36.70** | 1.0 |
| **35** | 1.3780 | 72 | 2.8346 | 27 | 1.0630 | 63207ZZC3/5C | **5U404** | 55.40 | **31.10** | 1.0 |
| **40** | 1.5748 | 80 | 3.1496 | 30.2 | 1.1890 | 63208ZZC3/5C | **5U406** | 66.76 | **37.50** | 1.5 |
| **45** | 1.7717 | 85 | 3.3465 | 30.2 | 1.1890 | 63209ZZC3/5C | **5U408** | 76.33 | **42.85** | 1.5 |
| **50** | 1.9685 | 90 | 3.5433 | 30.2 | 1.1890 | 63210ZZC3/5C | **5U410** | 87.06 | **48.75** | 1.5 |
| **55** | 2.1654 | 100 | 3.9370 | 33.3 | 1.3110 | 63211ZZC3/5C | **5U412** | 116.49 | **65.25** | 2.0 |
| **60** | 2.3622 | 110 | 4.3307 | 36.5 | 1.4370 | 63212ZZC3/5C | **5U413** | 179.96 | **100.70** | 3.0 |
| **SINGLE ROW RADIAL BALL BEARINGS—63300 CARTRIDGE SERIES—DOUBLE SHIELDED** | | | | | | | | | | |
| **20** | 0.7874 | 52 | 2.0472 | 22.2 | 0.8740 | 63304ZZC3/5C | **5U415** | 35.92 | **20.09** | 1.0 |
| **25** | 0.9843 | 62 | 2.4409 | 25.4 | 1.0000 | 63305ZZC3/5C | **5U417** | 64.52 | **36.10** | 1.0 |
| **30** | 1.1811 | 72 | 2.8346 | 30.2 | 1.1890 | 63306ZZC3/5C | **5U419** | 46.38 | **31.50** | 1.5 |
| **35** | 1.3780 | 80 | 3.1496 | 34.9 | 1.3740 | 63307ZZC3/5C | **5U421** | 81.49 | **45.75** | 2.0 |
| **40** | 1.5748 | 90 | 3.5433 | 36.5 | 1.4370 | 63308ZZC3/5C | **5U423** | 101.12 | **56.75** | 2.5 |
| **45** | 1.7717 | 100 | 3.9370 | 39.7 | 1.5630 | 63309ZZC3/5C | **5U425** | 163.93 | **91.80** | 3.0 |
| **50** | 1.9685 | 110 | 4.3307 | 44.4 | 1.7480 | 63310ZZC3/5C | **5U426** | 131.33 | **73.80** | 4.0 |
| **55** | 2.1654 | 120 | 4.7244 | 49.2 | 1.9370 | 63311ZZC3/5C | **5U428** | 228.92 | **128.20** | 5.0 |
| **60** | 2.3622 | 130 | 5.1181 | 54.0 | 2.1260 | 63312ZZC3/5C | **5U430** | 235.92 | **132.25** | 6.5 |
| **65** | 2.5591 | 140 | 5.5118 | 58.7 | 2.3110 | 63313ZZC3/5C | **5U432** | 290.84 | **163.25** | 8.0 |
| **70** | 2.7559 | 150 | 5.9055 | 63.5 | 2.5000 | 63314ZZC3/5C | **5U434** | 352.80 | **198.25** | 10.0 |
| **80** | 3.1496 | 170 | 6.6929 | 68.3 | 2.6890 | 63316ZZC3/5C | **5U436** | 572.20 | **320.75** | 14.0 |
| **85** | 3.3465 | 180 | 7.0866 | 73 | 2.8740 | 63317ZZC3/5C | **5U437** | 745.16 | **417.25** | 17.0 |
| **90** | 3.5433 | 190 | 7.4803 | 73 | 2.8740 | 63318ZZC3/5C | **5U438** | 836.13 | **468.50** | 19.0 |
| **100** | 3.9370 | 215 | 8.4646 | 82.35 | 3.2500 | 63320ZZC3/5C | **5U439** | 972.48 | **545.00** | 27.0 |

# NTN SHIELDED BEARINGS CROSS-REFERENCE GUIDE

NTN



ZZ

- Metallic
- Noncontact
- Low friction
- Low torque

- Good for most electric motor applications
- Effective for general protection
- Directly interchangeable with competitive shield designs

## CROSS-REFERENCE GUIDE

| Stock No. | NTN Model | FAFNIR | SKF | NSK | KOYO | FAG | MRC |
|---|---|---|---|---|---|---|---|
| **SINGLE ROW RADIAL BALL BEARINGS—R (INCH) SERIES—DOUBLE SHIELDED** | | | | | | | |
| 5U482 | RA3ZZ/1E | 33KDD5 | WY3/16ZZ | R3ZZ | EE1SZZX | R3-2Z | R3FFM |
| 5U490 | R4ZZ/3E | S1KDD7 | EEA2-2Z | R4ZZ | EE1.1/2ZZ | R4.2Z | R4FFM |
| 5U484 | RA4ZZ/1E | S1KDD | WR4AZZ | R4AZZ | EE2SZZ | R4A-2Z | R4AFF |
| 1L004 | R6ZZC3/5C | S3KDD | EEB3-2Z | R6ZZ | EE3SZZ | R6.2ZR | R6FF |
| 1L005 | R8ZZC3/5C | S5KDD | EEB4-2Z | R8ZZ | EE4SZZ | R8.2ZR | R8FF |
| 1L006 | R10ZZC3/5C | S7KDD | — | R10ZZ | EE5SZZ | EE5.2ZR | R10FF |
| 1L007 | R12ZZC3/5C | S8KDD | EEB6-2Z | R12ZZ | EE6SZZ | EE6.2ZR | R12FF |
| 1L008 | R14ZZC3/5C | S9KDD | — | R14ZZ | EE8SZZ | EE8.2ZR | R14FF |
| 1L009 | R16ZZ/2A | S10KDD | — | R16ZZ | EE9SZZ | EE9.2ZR | R16FF |
| 5U486 | R18ZZ/2A | — | — | R18ZZ | EE10SZZ | — | R18FF |
| 5U488 | R20ZZ/2A | — | — | R20ZZ | EE11SZZ | — | R20FF |
| **SINGLE ROW RADIAL BALL BEARINGS—600 SERIES—DOUBLE SHIELDED** | | | | | | | |
| 5U557 | 624ZZ/1K | — | 624-2Z | 624ZZ | 624ZZ | 624.2ZR | — |
| 5U592 | 625ZZC3/5C | — | 625-2Z | 625ZZ | 625ZZ | 625.2ZR | — |
| 5U593 | 626ZZC3/5C | 36KDD | 626-2Z | 626ZZ | 626ZZ | 626.2ZR | 36FF |
| 5U526 | 607ZZC3/1K | — | 607-2Z | 607ZZ | 607ZZ | 607.2ZR | — |
| 1L002 | 627ZZC3/5C | 37KDD | 627-2Z | 627ZZ | 627ZZ | 627.2ZR | 37FF |
| 1L001 | 608ZZC3/5C | 38KDD | 608-2Z | 608ZZ | 608ZZ | 608.2ZR | 38FF |
| 5U560 | 628ZZ/1K | — | 628-2Z | 628ZZ | 628ZZ | 628.2ZR | — |
| 5U530 | 609ZZ/1K | — | 609-2Z | 609ZZ | 609ZZ | 609.2ZR | — |
| 1L003 | 629ZZC3/5C | 39KDD | 629-2Z | 629ZZ | 629ZZ | 629.2ZR | 39FF |
| **SINGLE ROW RADIAL BALL BEARINGS—6000 SERIES—DOUBLE SHIELDED** | | | | | | | |
| 1L010 | 6000ZZC3/5C | 9100KDD | 6000-2Z | 6000ZZ | 6000ZZ | 6000.2ZR | 100SFF |
| 1L011 | 6001ZZC3/5C | 9101KDD | 6001-2Z | 6001ZZ | 6001ZZ | 6001.2ZR | 101SFF |
| 5U494 | 6002ZZC3/5C | 9102KDD | 6002-2Z | 6002ZZ | 6002ZZ | 6002.2ZR | 102SFF |
| 5U496 | 6003ZZC3/5C | 9103KDD | 6003-2Z | 6003ZZ | 6003ZZ | 6003.2ZR | 103SFF |
| 5U498 | 6004ZZC3/5C | 9104KDD | 6004-2Z | 6004ZZ | 6004ZZ | 6004.2ZR | 104SFF |
| 1L012 | 6005ZZC3/5C | 9105KDD | 6005-2Z | 6005ZZ | 6005ZZ | 6005.2ZR | 105SFF |
| 5U500 | 6006ZZC3/5C | 9106KDD | 6006-2Z | 6006ZZ | 6006ZZ | 6006.2ZR | 106SFF |
| 5U502 | 6007ZZC3/5C | 9107KDD | 6007-2Z | 6007ZZ | 6007ZZ | 6007.2ZR | 107SFF |
| 5U504 | 6008ZZC3/5C | 9108KDD | 6008-2Z | 6008ZZ | 6008ZZ | 6008.2ZR | 108SFF |
| 5U506 | 6009ZZC3/5C | 9109KDD | 6009-2Z | 6009ZZ | 6009ZZ | 6009.2ZR | 109SFF |
| 5U508 | 6010ZZC3/5C | 9110KDD | 6010-2Z | 6010ZZ | 6010ZZ | 6010.2ZR | 110SFF |
| 5U509 | 6011ZZC3/5C | 9111KDD | 6011-2Z | 6011ZZ | 6011ZZ | 6011.2ZR | 111SFF |
| 5U511 | 6012ZZC3/5C | 9112KDD | 6012-2Z | 6012ZZ | 6012ZZ | 6012.2ZR | 112SFF |
| 5U513 | 6013ZZC3/5C | 9113KDD | 6013-2Z | 6013ZZ | 6013ZZ | 6013.2ZR | 113SFF |
| 5U583 | 6014ZZC3/5C | 9114KDD | 6014-2Z | 6014ZZ | 6014ZZ | 6014.2ZR | 114SFF |
| 5U516 | 6015ZZC3/5C | 9115KDD | 6015-2Z | 6015ZZ | 6015ZZ | 6015.2ZR | 115SFF |
| 5U517 | 6016ZZC3/5C | 9116KDD | 6016-2Z | 6016ZZ | 6016ZZ | 6016.2ZR | 116SFF |
| 5U585 | 6017ZZC3/5C | 9117KDD | 6017-2Z | 6017ZZ | 6017ZZ | 6017.2ZR | 117SFF |
| 5U520 | 6018ZZC3/5C | 9118KDD | 6018-2Z | 6018ZZ | 6018ZZ | 6018.2ZR | 118SFF |
| 5U586 | 6019ZZC3/5C | 9119KDD | 6019-2Z | 6019ZZ | 6019ZZ | 6019.2ZR | 119SFF |
| 5U522 | 6020ZZC3/5C | 9120KDD | 6020-2Z | 6020ZZ | 6020ZZ | 6020.2ZR | 120SFF |
| 5U524 | 6021ZZC3/5C | 9121KDD | 6021-2Z | 6021ZZ | 6021ZZ | 6021.2ZR | 121SFF |
| 5U525 | 6022ZZC3/5C | 9122KDD | 6022-2Z | 6022ZZ | 6022ZZ | 6022.2ZR | 122SFF |
| 5U590 | 6024ZZC3/5C | 9124KDD | 6024-2Z | 6024ZZ | 6024ZZ | 6024.2ZR | 124SFF |
| **SINGLE ROW RADIAL BALL BEARINGS—6200 SERIES—DOUBLE SHIELDED** | | | | | | | |
| 1L013 | 6200ZZC3/5C | 200KDD | 6200-2Z | 6200ZZ | 6200ZZ | 6200.2ZR | 200SFF |
| 1L014 | 6201ZZC3/5C | 201KDD | 6201-2Z | 6201ZZ | 6201ZZ | 6201.2ZR | 201SFF |
| 1L015 | 6202ZZC3/5C | 202KDD | 6202-2Z | 6202ZZ | 6202ZZ | 6202.2ZR | 202SFF |
| 1L016 | 6203ZZC3/5C | 203KDD | 6203-2Z | 6203ZZ | 6203ZZ | 6203.2ZR | 203SFF |
| 1L017 | 6204ZZC3/5C | 204KDD | 6204-2Z | 6204ZZ | 6204ZZ | 6204.2ZR | 204SFF |
| 1L018 | 6205ZZC3/5C | 205KDD | 6205-2Z | 6205ZZ | 6205ZZ | 6205.2ZR | 205SFF |
| 1L019 | 6206ZZC3/5C | 206KDD | 6206-2Z | 6206ZZ | 6206ZZ | 6206.2ZR | 206SFF |
| 1L020 | 6207ZZC3/5C | 207KDD | 6207-2Z | 6207ZZ | 6207ZZ | 6207.2ZR | 207SFF |
| 1L021 | 6208ZZC3/5C | 208KDD | 6208-2Z | 6208ZZ | 6208ZZ | 6208.2ZR | 208SFF |
| 1L022 | 6209ZZC3/5C | 209KDD | 6209-2Z | 6209ZZ | 6209ZZ | 6209.2ZR | 209SFF |
| 1L023 | 6210ZZC3/5C | 210KDD | 6210-2Z | 6210ZZ | 6210ZZ | 6210.2ZR | 210SFF |
| 1L024 | 6211ZZC3/5C | 211KDD | 6211-2Z | 6211ZZ | 6211ZZ | 6211.2ZR | 211SFF |
| 1L025 | 6212ZZC3/5C | 212KDD | 6212-2Z | 6212ZZ | 6212ZZ | 6212.2ZR | 212SFF |



We deliver the products that deliver the power.

NTN

FOR CROSS-REFERENCE INFORMATION
SEE PAGE OPPOSITE INSIDE BACK COVER

## CROSS REFERENCE GUIDE

| Stock No. | NTN Model | FAFNIR | SKF | NSK | KOYO | FAG | MRC |
|---|---|---|---|---|---|---|---|
| **SINGLE ROW RADIAL BALL BEARINGS—6200 SERIES—DOUBLE SHIELDED** | | | | | | | |
| 1L078 | 6213ZZC3/5C | 213KDD | 6213-2Z | 6213ZZ | 6213ZZ | 6213.2ZR | 213SFF |
| 1L079 | 6214ZZC3/5C | 214KDD | 6214-2Z | 6214ZZ | 6214ZZ | 6214.2ZR | 214SSF |
| 5U541 | 6215ZZC3/5C | 215KDD | 6215-2Z | 6215ZZ | 6215ZZ | 6215.2ZR | 215SFF |
| 6L021 | 6216ZZC3/5C | 216KDD | 6216-2Z | 6216ZZ | 6216ZZ | 6216.2ZR | 216SFF |
| 5U544 | 6217ZZC3/5C | 217KDD | 6217-2Z | 6217ZZ | 6217ZZ | 6217.2ZR | 217SFF |
| 5U546 | 6218ZZC3/5C | 218KDD | 6218-2Z | 6218ZZ | 6218ZZ | 6218.2ZR | 218SFF |
| 5U548 | 6219ZZC3/5C | 219KDD | 6219-2Z | 6219ZZ | 6219ZZ | 6219.2ZR | 219SFF |
| 5U550 | 6220ZZC3/5C | 220KDD | 6220-2Z | 6220ZZ | 6220ZZ | 6220.2ZR | 220SFF |
| 5U552 | 6221ZZC3/5C | 221KDD | 6221-2Z | 6221ZZ | 6221ZZ | 6221.2ZR | 221SFF |
| 5U554 | 6222ZZC3/5C | 222KDD | 6222-2Z | 6222ZZ | 6222ZZ | 6222.2ZR | 222SFF |
| 5U556 | 6224ZZC3/5C | 224KDD | 6224-2Z | 6224ZZ | 6224ZZ | 6224.2ZR | 224SFF |
| **SINGLE ROW RADIAL BALL BEARINGS—6300 SERIES—DOUBLE SHIELDED** | | | | | | | |
| 5U562 | 6300ZZC3/5C | 300KDD | 6300-2Z | 6300ZZ | 6300ZZ | 6300.2ZR | 300SFF |
| 5U564 | 6301ZZC3/5C | 301KDD | 6301-2Z | 6301ZZ | 6301ZZ | 6301.2ZR | 301SFF |
| 5U566 | 6302ZZC3/5C | 302KDD | 6302-2Z | 6302ZZ | 6302ZZ | 6302.2ZR | 302SFF |
| 6L035 | 6303ZZC3/5C | 303KDD | 6303-2Z | 6303ZZ | 6303ZZ | 6303.2ZR | 303SFF |
| 6L036 | 6304ZZC3/5C | 304KDD | 6304-2Z | 6304ZZ | 6304ZZ | 6304.2ZR | 304SFF |
| 6L037 | 6305ZZC3/5C | 305KDD | 6305-2Z | 6305ZZ | 6305ZZ | 6305.2ZR | 305SFF |
| 6L038 | 6306ZZC3/5C | 306KDD | 6306-2Z | 6306ZZ | 6306ZZ | 6306.2ZR | 306SFF |
| 6L039 | 6307ZZC3/5C | 307KDD | 6307-2Z | 6307ZZ | 6307ZZ | 6307.2ZR | 307SFF |
| 6L040 | 6308ZZC3/5C | 308KDD | 6308-2Z | 6308ZZ | 6308ZZ | 6308.2ZR | 308SFF |
| 6L041 | 6309ZZC3/5C | 309KDD | 6309-2Z | 6309ZZ | 6309ZZ | 6309.2ZR | 309SFF |
| 6L042 | 6310ZZC3/5C | 310KDD | 6310-2Z | 6310ZZ | 6310ZZ | 6310.2ZR | 310SFF |
| 6L043 | 6311ZZC3/5C | 311KDD | 6311-2Z | 6311ZZ | 6311ZZ | 6311.2ZR | 311SFF |
| 6L044 | 6312ZZC3/5C | 312KDD | 6312-2Z | 6312ZZ | 6312ZZ | 6312.2ZR | 312SFF |
| 6L045 | 6313ZZC3/5C | 313KDD | 6313-2Z | 6313ZZ | 6313ZZ | 6313.2ZR | 313SFF |
| 6L046 | 6314ZZC3/5C | 314KDD | 6314-2Z | 6314ZZ | 6314ZZ | 6314.2ZR | 314SFF |
| 6L047 | 6315ZZC3/5C | 315KDD | 6315-2Z | 6315ZZ | 6315ZZ | 6315.2ZR | 315SFF |
| 6L048 | 6316ZZC3/5C | 316KDD | 6316-2Z | 6316ZZ | 6316ZZ | 6316.2ZR | 316SFF |
| 5U573 | 6317ZZC3/5C | 317KDD | 6317-2Z | 6317ZZ | 6317ZZ | 6317.2ZR | 317SFF |
| 6L049 | 6318ZZC3/5C | 318KDD | 6318-2Z | 6318ZZ | 6318ZZ | 6318.2ZR | 318SFF |
| 6L050 | 6319ZZC3/5C | 319KDD | 6319-2Z | 6319ZZ | 6319ZZ | 6319.2ZR | 319SFF |
| 6L051 | 6320ZZC3/5C | 320KDD | 6320-2Z | 6320ZZ | 6320ZZ | 6320.2ZR | 320SFF |
| 5U577 | 6321ZZC3/5C | 321KDD | 6321-2Z | 6321ZZ | 6321ZZ | 6321.2ZR | 321SFF |
| 5U579 | 6322ZZC3/5C | 322KDD | 6322-2Z | 6322ZZ | 6322ZZ | 6322.2ZR | 322SFF |
| 5U581 | 6324ZZC3/5C | 324KDD | 6324-2Z | 6324ZZ | 6324ZZ | 6324.2ZR | 324SFF |
| **SINGLE ROW RADIAL BALL BEARINGS—SPECIAL BORE SERIES—DOUBLE SHIELDED** | | | | | | | |
| 5U528 | 608ZZ/7.938C3PX2/5C | — | — | — | — | — | — |
| 5U532 | 6201ZZ/12.7C3/5C | — | — | — | — | — | — |
| 5U535 | 6202ZZ/15.875C3/5C | — | 6202/15.875-2Z | 6202/10ZZ | — | — | — |
| 1L097 | 6203ZZ/15.875C3/5C | — | 6203/15.875-2Z | 6203/625ZZ | — | — | 203SFF28 |
| 5U536 | 6202ZZ/16C3/5C | 202KDD6 | 6202/16-2Z | 6202/16MZZ | — | 6202/16-2ZR | 202SFF4 |
| **SINGLE ROW RADIAL BALL BEARINGS—63200 SERIES—DOUBLE SHIELDED** | | | | | | | |
| 5U394 | 63202ZZC3/5C | — | 462202-2Z | 63202ZZ | W6202ZZ | S3502ZZ | 202SFFC |
| 5U396 | 63203ZZC3/5C | — | 462203-2Z | 63203ZZ | W6203ZZ | S3503ZZ | 203SFFC |
| 5U398 | 63204ZZC3/5C | — | 462204-2Z | 63204ZZ | W6204ZZ | S3504ZZ | 204SFFC |
| 5U400 | 63205ZZC3/5C | — | 462205-2Z | 63205ZZ | W6205ZZ | S3505ZZ | 205SFFC |
| 5U402 | 63206ZZC3/5C | — | 462206-2Z | 63206ZZ | W6206ZZ | S3506ZZ | 206SFFC |
| 5U404 | 63207ZZC3/5C | — | 462207-2Z | 63207ZZ | W6207ZZ | S3507ZZ | 207SFFC |
| 5U406 | 63208ZZC3/5C | — | 462208-2Z | 63208ZZ | W6208ZZ | S3508ZZ | 208SFFC |
| 5U408 | 63209ZZC3/5C | — | 462209-2Z | 63209ZZ | W6209ZZ | S3509ZZ | 209SFFC |
| 5U410 | 63210ZZC3/5C | — | 462210ZZ | 63210ZZ | W6210ZZ | S3510ZZ | 210SFFC |
| 5U412 | 63211ZZC3/5C | — | 462211-2Z | 63211ZZ | W6211ZZ | S3511ZZ | 211SFFC |
| 5U413 | 63212ZZC3/5C | — | 462212-2Z | 63212ZZ | W6212ZZ | S3512ZZ | 212SFFC |
| **SINGLE ROW RADIAL BALL BEARINGS—63300 SERIES—DOUBLE SHIELDED** | | | | | | | |
| 5U415 | 63304ZZC3/5C | — | 462304-2Z | 63304ZZ | W6304ZZ | S3604ZZ | 304SFFC |
| 5U417 | 63305ZZC3/5C | — | 462305-2Z | 63305ZZ | W6305ZZ | S3605ZZ | 305SFFC |
| 5U419 | 63306ZZC3/5C | — | 462306-2Z | 63306ZZ | W6306ZZ | S3606ZZ | 306SFFC |
| 5U421 | 63307ZZC3/5C | — | 462307-2Z | 63307ZZ | W6307ZZ | S3607ZZ | 307SFFC |
| 5U423 | 63308ZZC3/5C | — | 462308-2Z | 63308ZZ | W6308ZZ | S3608ZZ | 308SFFC |
| 5U425 | 63309ZZC3/5C | — | 462309-2Z | 63309ZZ | W6309ZZ | S3609ZZ | 309SFFC |
| 5U426 | 63310ZZC3/5C | — | 462310-2Z | 63310ZZ | W6310ZZ | S3610ZZ | 310SFFC |
| 5U428 | 63311ZZC3/5C | — | 462311-2Z | 63311ZZ | W6311ZZ | S3611ZZ | 311SFFC |
| 5U430 | 63312ZZC3/5C | — | 462312-2Z | 63312ZZ | W6312ZZ | S3612ZZ | 312SFFC |
| 5U432 | 63313ZZC3/5C | — | 462313-2Z | 63313ZZ | W6313ZZ | S3613ZZ | 313SFFC |
| 5U434 | 63314ZZC3/5C | — | 462314-2Z | 63314ZZ | W6314ZZ | S3614ZZ | 314SFFC |
| 5U436 | 63316ZZC3/5C | — | 462316-2Z | 63316ZZ | W6316ZZ | S3616ZZ | 316SFFC |
| 5U437 | 63317ZZC3/5C | — | 462317-2Z | 63317ZZ | W6317ZZ | S3617ZZ | 317SFFC |
| 5U438 | 63318ZZC3/5C | — | 462318-2Z | 63318ZZ | W6318ZZ | S3618ZZ | 318SFFC |
| 5U439 | 63320ZZC3/5C | — | 462320-2Z | 63320ZZ | W6320ZZ | S3620ZZ | 320SFFC |

# TAPERED ROLLER BEARINGS

- **Carry combination of high radial and thrust loads simultaneously**
- **Roller guiding inner ring construction**
- **Two component design offers a variety of bore and O.D. options**
- **Bearing steel is case hardened -perform better in applications where higher shock loads are present -contributes to longer life than through-hardened bearings**
- **Steel is consumable electrode vacuum melt (CEVM) and electro-slag remelt (ESR) which removes impurities**
- **Meets or exceeds RBEC-1 standards**

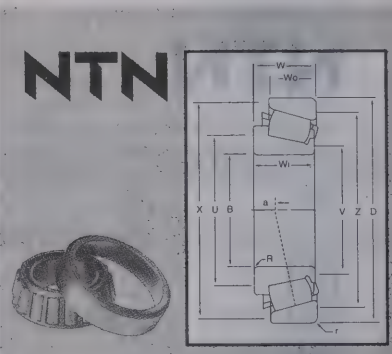
**Typical Uses:** Where there are lower speeds; a high degree of thrust or radial load; and/or alternating thrust and radial loads. Also suitable for heavy shock loads.

**Typical Applications:** Gearmotors and reducers, machine tools, pumps, compressors, agricultural equipment and machinery, lawn mowers, conveyor rolls, golf carts, snow blowers, and automobiles.

**NOTE:** When replacing bearings, replace both cone and cup to insure optimum performance and longer life (**cup and cone are usually listed separately**).

**For Tapered Roller Bearing Cross-Reference Guide, See Page 338.**

NTN




## CONE ORDERING DATA

| Dimensions (In.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| B Bore Dia. | Wi Cone Width | R Max. Shaft Fillet Rad. | a Eff. Load Cntr. | U Min. Shaft Shldr. Dia. | V Min. Shaft Shldr. Dia. | Cone Ref. No. | Stock No. | Each | Shpg. Wt. |
| 0.6250 | 0.5625 | 0.06 | 0.05 | 0.96 | 0.89 | 11590 | 4FL11 | $11.39 | 0.1 |
| 0.6875 | 0.5750 | 0.05 | 0.21 | 0.91 | 0.85 | LM11749 | 4FK64 | 4.93 | 0.1 |
| 0.7500 | 0.7500 | 0.05 | 0.30 | 1.00 | 0.94 | 09067 | 4FL05 | 6.94 | 0.3 |
| 0.7500 | 0.8480 | 0.06 | 0.37 | 1.02 | 0.94 | 09074 | 4FL06 | 8.31 | 0.3 |
| 0.7500 | 0.8480 | 0.05 | 0.37 | 1.00 | 0.94 | 09078 | 4FL07 | 9.50 | 0.3 |
| 0.7500 | 0.6550 | 0.05 | 0.22 | 1.10 | 0.93 | LM11949 | 4FK66 | 4.34 | 0.2 |
| 0.7500 | 0.8598 | 0.06 | 0.22 | 1.24 | 1.02 | 21075 | 4FL41 | 11.81 | 0.3 |
| 0.8125 | 0.7813 | 0.06 | 0.28 | 1.12 | 1.02 | 12580 | 4FL13 | 11.15 | 0.3 |
| 0.8437 | 0.7200 | 0.05 | 0.25 | 1.14 | 1.00 | M12649 | 4FK91 | 5.77 | 0.2 |
| 0.8661 | 0.6550 | 0.05 | 0.21 | 1.08 | 1.02 | LM12749 | 4FK69 | 5.23 | 0.2 |
| 0.8750 | 0.5614 | 0.05 | 0.12 | 1.12 | 1.06 | 07087 | 4FL01 | 9.19 | 0.2 |
| 1.0000 | 0.5614 | 0.04 | 0.12 | 1.20 | 1.16 | 07100 | 4FL02 | 7.54 | 0.2 |
| 0.9375 | 0.5800 | 0.06 | 0.13 | 1.20 | 1.12 | L44640 | 4FK84 | 11.90 | 0.2 |
| 1.0000 | 0.5800 | 0.05 | 0.13 | 1.24 | 1.16 | L44643 | 4FK85 | 5.75 | 0.2 |
| 1.0625 | 0.5800 | 0.14 | 0.13 | 1.48 | 1.22 | L44649 | 4FK86 | 5.73 | 0.2 |
| 0.9375 | 0.7810 | 0.03 | 0.26 | 1.16 | 1.12 | 1779 | 4FL36 | 12.61 | 0.3 |
| 1.0000 | 0.8125 | 0.03 | 0.24 | 1.28 | 1.24 | 15101 | 4FL24 | 8.53 | 0.5 |
| 1.1250 | 0.8125 | 0.03 | 0.24 | 1.36 | 1.34 | 15113 | 4FL25 | 9.21 | 0.4 |
| 1.1811 | 0.8125 | 0.05 | 0.24 | 1.44 | 1.38 | 15117 | 4FL26 | 8.06 | 0.4 |
| 1.8950 | 0.8125 | 0.14 | 0.24 | 1.63 | 1.40 | 15118 | 4FL27 | 8.50 | 0.4 |
| 1.2500 | 0.7500 | — | 0.20 | 1.67 | 1.44 | 15123 | 4FL28 | 7.56 | 0.4 |
| 1.2500 | 0.8125 | 0.14 | 0.24 | 1.67 | 1.44 | 15125 | 4FL29 | 9.19 | 0.4 |
| 1.2500 | 0.8125 | 0.03 | 0.24 | 1.46 | 1.44 | 15126 | 4FL30 | 8.58 | 0.4 |
| 1.1250 | 0.8750 | 0.03 | 0.20 | 1.44 | 1.42 | 02474 | 4FK99 | 14.27 | 0.6 |
| 1.1875 | 0.8438 | 0.06 | 0.13 | 1.61 | 1.50 | M86649 | 4FK95 | 7.77 | 0.5 |
| 1.2500 | 0.7710 | 0.14 | 0.16 | 1.73 | 1.48 | 14125A | 4FL18 | 9.92 | 0.5 |
| 1.3750 | 1.0520 | 0.03 | — | — | — | 14136A | 4FL19 | 16.83 | 0.5 |
| 1.3750 | 0.7710 | 0.06 | 0.16 | 1.65 | 1.57 | 14137A | 4FL20 | 9.45 | 0.4 |
| 1.3750 | 0.7710 | 0.14 | 0.16 | 1.81 | 1.57 | 14138A | 4FL21 | 9.79 | 0.4 |
| 1.2500 | 0.6600 | — | 0.11 | 1.67 | 1.42 | LM67048 | 4FK82 | 5.38 | 0.3 |
| 1.3125 | 0.8750 | 0.03 | 0.11 | 1.67 | 1.61 | M88048 | 4FK97 | 8.03 | 0.5 |
| 1.3750 | 0.7200 | — | 0.15 | 1.81 | 1.57 | LM48548 | 4FK74 | 6.35 | 0.4 |
| 1.3750 | 1.0000 | 0.09 | 0.18 | 1.91 | 1.67 | HM88649 | 4FK42 | 11.29 | 0.7 |
| 1.3750 | 1.1875 | 0.14 | -0.32 | 2.09 | 1.81 | 3872 | 4FL77 | 19.37 | 1.4 |
| 1.3750 | 0.9688 | 0.06 | 0.32 | 1.69 | 1.59 | 25877 | 4FL51 | 9.03 | 0.7 |
| 1.3780 | 0.6600 | — | 0.10 | 1.79 | 1.54 | L68149 | 4FK89 | 6.09 | 0.2 |
| 1.4375 | 1.1260 | 0.14 | -0.22 | 2.13 | 1.75 | HM89449 | 4FK44 | 12.70 | 0.8 |
| 1.4961 | 0.6693 | — | 0.09 | 1.93 | 1.67 | JL69349 | 4FK52 | 6.16 | 0.3 |
| 1.5000 | 1.0100 | 0.14 | -0.32 | 1.97 | 1.71 | 2788 | 4FL56 | 11.93 | 0.7 |

## CUP ORDERING DATA

| Dimensions (In.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| D Out-side Dia. | Wo Cup Width | W Overall Bearing Width | r Max. House Fillet Rad. | X Max. House Shldr. Dia. | Z Max. House Shldr. Dia. | Cup Ref. No. | Stock No. | Each | Shpg. Wt. |
| 1.6875 | 0.3750 | 0.5625 | 0.06 | 1.56 | 1.36 | 11520 | 4FL10 | $4.67 | 0.1 |
| 1.5700 | 0.4200 | 0.5450 | 0.05 | 1.46 | 1.34 | LM11710 | 4FK63 | 2.46 | 0.1 |
| 1.9380 | 0.6875 | 0.8350 | 0.14 | 1.75 | 1.54 | 09194 | 4FL08 | 4.50 | 0.2 |
| 1.9380 | 0.5625 | 0.7100 | 0.05 | 1.75 | 1.65 | 09195 | 4FL09 | 3.31 | 0.1 |
| 1.9380 | 0.6875 | 0.9063 | 0.14 | 1.75 | 1.54 | 09194 | 4FL08 | 4.50 | 0.2 |
| 1.9380 | 0.5625 | 0.7813 | 0.05 | 1.65 | 1.75 | 09195 | 4FL09 | 3.31 | 0.1 |
| 1.7810 | 0.4750 | 0.6100 | 0.05 | 1.63 | 1.56 | LM11910 | 4FK65 | 2.30 | 0.1 |
| 2.1250 | 0.6250 | 0.8750 | 0.09 | 1.97 | 1.69 | 21212 | 4FL42 | 6.51 | 0.2 |
| 1.9380 | 0.6250 | 0.7813 | 0.06 | 1.79 | 1.67 | 12520 | 4FL12 | 5.04 | 0.1 |
| 1.9687 | 0.5500 | 0.6900 | 0.05 | 1.81 | 1.73 | M12610 | 4FK90 | 2.82 | 0.1 |
| 1.7810 | 0.4750 | 0.6100 | 0.05 | — | — | LM12710 | 4FK67 | 2.26 | 0.1 |
| 1.8100 | 0.4750 | 0.6100 | 0.05 | 1.67 | 1.57 | LM12711 | 4FK68 | 2.46 | 0.1 |
| 1.9687 | 0.3750 | 0.5313 | 0.04 | 1.85 | 1.75 | 07196 | 4FL03 | 3.53 | 0.1 |
| 2.0470 | 0.5000 | 0.5910 | 0.05 | 1.89 | 1.77 | 07204 | 4FL04 | 4.91 | 0.1 |
| 1.9800 | 0.4200 | 0.5600 | 0.05 | 1.85 | 1.75 | L44610 | 4FK83 | 2.46 | 0.1 |
| 2.2400 | 0.6250 | 0.7625 | 0.05 | 2.01 | 1.93 | 1729 | 4FL35 | 5.23 | 0.2 |
| 2.4375 | 0.5625 | 0.7500 | 0.08 | 2.28 | 2.13 | 15243 | 4FL31 | 4.82 | 0.2 |
| 2.4409 | 0.5625 | 0.7500 | 0.05 | 2.28 | 2.17 | 15245 | 4FL32 | 3.34 | 0.2 |
| 2.5000 | 0.6250 | 0.8125 | 0.05 | 2.32 | 2.20 | 15250 | 4FL33 | 4.85 | 0.2 |
| 2.6875 | 0.6875 | 0.8750 | 0.06 | 2.48 | 2.32 | 02420 | 4FK98 | 7.87 | 0.3 |
| 2.5312 | 0.6563 | 0.8438 | 0.06 | 2.40 | 2.13 | M86610 | 4FK94 | 3.65 | 0.3 |
| 2.7170 | 0.6250 | 0.7813 | 0.13 | 2.48 | 2.32 | 14274 | 4FL22 | 5.01 | 0.3 |
| 2.7170 | 0.6250 | 0.7813 | 0.05 | 2.48 | 2.36 | 14276 | 4FL23 | 3.97 | 0.3 |
| 2.3280 | 0.4650 | 0.6250 | 0.05 | 2.20 | 2.05 | LM67010 | 4FK81 | 2.60 | 0.1 |
| 2.6875 | 0.6875 | 0.8750 | 0.06 | 2.56 | 2.28 | M88010 | 4FK96 | 4.01 | 0.3 |
| 2.5625 | 0.5500 | 0.7100 | 0.05 | 2.40 | 2.28 | LM48510 | 4FK73 | 3.02 | 0.3 |
| 2.8438 | 0.7812 | 1.0000 | 0.09 | 2.72 | 2.36 | HM88610 | 4FK41 | 5.37 | 0.4 |
| 3.3750 | 0.9375 | 1.1875 | 0.13 | 3.19 | 2.87 | 3820 | 4FL74 | 6.59 | 0.6 |
| 2.8750 | 0.7500 | 0.9375 | 0.09 | 2.68 | 2.52 | 25820 | 4FL49 | 5.75 | 0.4 |
| 2.8750 | 0.7500 | 0.9375 | 0.03 | 2.68 | 2.56 | 25821 | 4FL50 | 5.00 | 0.4 |
| 2.3280 | 0.4700 | 0.6250 | 0.05 | — | — | L68110 | 4FK87 | 2.64 | 0.1 |
| 2.3622 | 0.4700 | 0.6250 | 0.05 | 2.20 | 2.09 | L68111 | 4FK88 | 2.76 | 0.1 |
| 3.0000 | 0.9063 | 1.1563 | 0.13 | 2.87 | 2.44 | HM89410 | 4FK43 | 6.29 | 0.6 |
| 2.4803 | 0.5313 | 0.6693 | 0.05 | 2.36 | 2.20 | JL69310 | 4FK51 | 3.04 | 0.3 |
| 3.0000 | 0.7500 | 0.9375 | 0.13 | 2.76 | 2.60 | 2720 | 4FL54 | 5.27 | 0.4 |
| 3.0000 | 0.7500 | 0.9375 | 0.03 | 2.76 | 2.68 | 2729 | 4FL55 | 6.57 | 0.4 |

CONTINUED ON NEXT PAGE



*We deliver the products that deliver the power.*

## CONE ORDERING DATA

| Dimensions (In.) B Bore Dia. | Wi Cone Width | R Max. Shaft Fillet Rad. | a Eff. Load Cntr. | U Min. Shaft Shldr. Dia. | V Min. Shaft Shldr. Dia. | Cone Ref. No. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1.5000 | 0.7200 | — | 0.17 | 1.93 | 1.67 | LM29748 | 4FK71 | $11.57 | 0.3 |
| 1.5000 | 0.7200 | 0.09 | 0.17 | 1.81 | 1.67 | LM29749 | 4FK72 | 8.13 | 0.3 |
| 1.5000 | 0.7500 | 0.14 | 0.12 | 1.95 | 1.69 | 13685 | 4FL16 | 11.22 | 0.4 |
| 1.5000 | 0.7500 | 0.08 | 0.12 | 1.83 | 1.69 | 13687 | 4FL17 | 10.23 | 0.4 |
| 1.6250 | 1.1802 | 0.14 | - | - | - | 342A | 4FL64 | 17.56 | 0.9 |
| 1.6250 | 1.0100 | 0.14 | -0.12 | 2.24 | 1.99 | M802048 | 4FK93 | 11.75 | 0.9 |
| 1.6250 | 1.0000 | 0.14 | -0.29 | 2.13 | 1.85 | 26882 | 4FL53 | 13.75 | 0.4 |
| 1.6250 | 0.7800 | 0.14 | 0.13 | 2.09 | 1.83 | LM501349 | 4FK77 | 7.87 | 0.5 |
| 1.6250 | 0.6875 | 0.14 | 0.11 | 2.09 | 1.81 | 18590 | 4FL38 | 13.19 | 0.4 |
| 1.7500 | 1.2160 | 0.14 | -0.40 | 2.24 | 2.01 | 3578 | 4FL67 | 20.88 | 1.0 |
| 1.7500 | 1.0000 | 0.14 | -0.25 | 2.24 | 1.97 | 25580 | 4FL47 | 11.30 | 0.8 |
| 1.7960 | 1.0000 | 0.14 | -0.25 | 2.28 | 2.01 | 25590 | 4FL48 | 10.58 | 0.7 |
| 1.7500 | 1.1563 | 0.14 | -0.17 | 2.44 | 2.10 | HM803149 | 4FK39 | 17.78 | 1.2 |
| 2.0000 | 1.1930 | 0.14 | -0.32 | 2.52 | 2.28 | 3780 | 4FL71 | 16.11 | 1.2 |
| 1.7500 | 1.1930 | 0.14 | -0.32 | 2.28 | 2.05 | 3782 | 4FK29 | 14.01 | 1.5 |
| 1.7812 | 0.7800 | 0.14 | 0.19 | 2.20 | 1.97 | LM102949 | 4FK59 | 7.85 | 0.5 |
| 1.7812 | 0.7812 | 0.14 | -0.09 | 2.24 | 1.97 | LM603049 | 4FK80 | 8.65 | 0.5 |
| 1.8125 | 0.6875 | 0.11 | -0.08 | 2.20 | 2.01 | 18690 | 4FL40 | 15.43 | 0.5 |
| 1.8750 | 0.8640 | 0.03 | -0.12 | 2.20 | 2.17 | 386A | 4FL75 | 16.93 | 1.2 |
| 2.2500 | 0.8640 | 0.14 | -0.12 | 2.72 | 2.44 | 387A | 4FK31 | 12.31 | 0.9 |
| 2.2500 | 0.8640 | 0.20 | -0.12 | 2.83 | 2.44 | 387AS | 4FL76 | 12.49 | 0.9 |
| 1.9685 | 0.8465 | 0.12 | -0.21 | 2.36 | 2.17 | JLM104948 | 4FK46 | 10.85 | 0.6 |
| 1.9685 | 1.1024 | 0.12 | -0.30 | 2.44 | 2.24 | JM205149 | 4FK54 | 21.13 | 1.1 |
| 2.0000 | 0.8750 | 0.14 | -0.23 | 2.44 | 2.17 | LM104949 | 4FK62 | 9.37 | 0.6 |
| 2.0000 | 1.2188 | 0.25 | -0.32 | 2.80 | 2.32 | 45284 | 4FL79 | 19.74 | 1.9 |
| 2.0000 | 0.8750 | 0.14 | -0.17 | 2.44 | 2.20 | 368A | 4FL70 | 13.15 | 0.8 |
| 2.1654 | 1.1417 | 0.06 | -0.30 | 2.52 | 2.44 | JM207049 | 4FK56 | 23.47 | 1.2 |
| 2.1654 | 0.9055 | 0.06 | -0.11 | 2.48 | 2.40 | JLM506849 | 4FK48 | 15.01 | 0.8 |
| 2.2500 | 1.1542 | 0.09 | -0.28 | 2.64 | 2.48 | 462 | 4FL82 | 18.03 | 1.5 |
| 2.2500 | 0.9688 | 0.14 | 0.13 | 2.76 | 2.48 | 28682 | 4FL59 | 18.03 | 1.0 |
| 2.2500 | 1.1875 | 0.14 | -0.26 | 2.83 | 2.60 | 39580 | 4FK35 | 30.70 | 2.3 |
| 2.6250 | 1.1875 | 0.14 | -0.26 | 3.15 | 2.91 | 39590 | 4FK36 | 18.48 | 1.8 |
| 3.5000 | 1.5100 | 0.28 | -0.43 | 3.43 | 2.87 | HM212047 | 4FK09 | 23.76 | 3.0 |
| 3.6250 | 1.5100 | 0.14 | -0.43 | 3.23 | 2.97 | HM212049 | 4FK10 | 23.06 | 2.8 |
| 3.6250 | 1.1830 | 0.14 | -0.18 | 3.15 | 2.91 | 3984 | 4FK37 | 17.10 | 1.6 |
| 3.7500 | 1.1875 | 0.14 | 0.11 | 3.31 | 3.03 | 33275 | 4FK24 | 27.20 | 1.8 |
| 3.7559 | 0.9843 | 0.04 | 0.01 | 3.07 | 3.03 | JLM813049 | 4FK50 | 32.35 | 1.3 |
| 3.8125 | 1.8125 | 0.14 | -0.34 | 3.66 | 3.43 | H715345 | 4FK16 | 53.60 | 1.7 |
| 3.8750 | 1.0000 | 0.14 | 0.04 | 3.39 | 3.15 | 29685 | 4FK23 | 22.61 | 1.3 |
| 4.0000 | 1.1720 | 0.25 | 0.03 | 3.86 | 3.39 | 495AX | 4FL85 | 30.90 | 2.8 |
| 4.3750 | 1.1720 | 0.14 | -0.30 | 3.90 | 3.66 | 497 | 4FL86 | 23.69 | 2.1 |
| 4.0625 | 1.0000 | 0.14 | 0.09 | 3.58 | 3.35 | LM814849 | 4FK21 | 28.85 | 1.4 |
| 4.2500 | 1.4212 | 0.14 | 0.21 | 3.86 | 3.58 | 580 | 4FL88 | 27.25 | 3.1 |
| 4.2500 | 1.4212 | 0.27 | -0.21 | 4.09 | 3.58 | 582 | 4FL89 | 32.85 | 3.1 |
| 4.2500 | 1.6250 | 0.14 | -0.31 | 3.90 | 3.62 | 663 | 4FM01 | 37.85 | 4.4 |
| 4.3465 | 1.1417 | 0.12 | 0.01 | 3.86 | 3.62 | JM716649 | 4FK19 | 28.20 | 2.0 |
| 4.5000 | 1.5625 | 0.25 | 0.25 | 4.21 | 3.82 | HM518445 | 4FK14 | 42.30 | 1.6 |
| 4.5000 | 2.1693 | 0.14 | -0.52 | 4.29 | 4.01 | 6580 | 4FL99 | 69.05 | 6.7 |
| 4.5423 | 1.5748 | 0.28 | 0.34 | 4.41 | 3.90 | HM218248 | 4FK12 | 35.30 | 3.8 |
| 4.7500 | 1.4300 | 0.14 | -0.10 | 4.33 | 4.09 | 594 | 4FL91 | 35.90 | 3.2 |
| 4.7500 | 1.4300 | 0.20 | -0.10 | 4.45 | 4.09 | 594A | 4FL92 | 31.60 | 3.2 |
| 4.6250 | 1.4300 | 0.25 | -0.10 | 4.45 | 3.98 | 598A | 4FL93 | 33.10 | 3.4 |
| 5.0000 | 1.6250 | 0.14 | 0.05 | 5.16 | 4.92 | 64450 | 4FL95 | 64.90 | 5.3 |
| 4.2500 | 1.8125 | 0.14 | -0.25 | 5.87 | 5.63 | 67390 | 4FM03 | 98.35 | 4.9 |
| 5.0000 | 1.8750 | 0.25 | 0.09 | 6.42 | 5.94 | 74550A | 4FM07 | 176.25 | 9.0 |
| 7.7500 | 1.1250 | 0.06 | 0.19 | 6.10 | 6.02 | 36690 | 4FK27 | 73.05 | 3.3 |

## CUP ORDERING DATA

| Dimensions (In.) D Outside Dia. | Wo Cup Width | W Overall Bearing Width | r Max. House Fillet Rad. | X Max. House Shldr. Dia. | Z Max. House Shldr. Dia. | Cup Ref. No. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2.5625 | 0.5500 | 0.7100 | 0.05 | 2.44 | 2.32 | LM29710 | 4FK70 | $5.69 | 0.2 |
| 2.7170 | 0.5938 | 0.7500 | 0.03 | 2.56 | 2.44 | 13620 | 4FL14 | 7.30 | 0.2 |
| 2.7170 | 0.5938 | 0.7500 | 0.09 | 2.56 | 2.40 | 13621 | 4FL15 | 6.45 | 0.2 |
| 3.1496 | 0.7018 | 0.8268 | 0.05 | 2.95 | 2.87 | 332 | 4FL63 | 7.27 | 0.3 |
| 3.2500 | 0.7950 | 1.0450 | 0.13 | 3.11 | 2.76 | M802011 | 4FK92 | 5.76 | 0.5 |
| 3.1250 | 0.7500 | 0.9375 | 0.03 | 2.91 | 2.80 | 26822 | 4FL52 | 8.06 | 0.4 |
| 2.8910 | 0.5800 | 0.7700 | 0.03 | 2.76 | 2.64 | LM501310 | 4FK75 | 3.52 | 0.2 |
| 2.8910 | 0.6537 | 0.8437 | 0.03 | 2.76 | 2.60 | LM501314 | 4FK76 | 4.19 | 0.3 |
| 2.8750 | 0.5000 | 0.6562 | 0.06 | 2.72 | 2.60 | 18520 | 4FL37 | 6.81 | 0.2 |
| 3.4375 | 0.9375 | 1.1875 | 0.13 | 3.19 | 2.95 | 3525 | 4FL65 | 8.71 | 0.7 |
| 3.2650 | 0.7500 | 0.9375 | 0.03 | 3.03 | 2.91 | 25520 | 4FL44 | 5.75 | 0.4 |
| 3.2700 | 0.7500 | 0.9375 | 0.13 | 3.03 | 2.91 | 25521 | 4FL45 | 8.00 | 0.4 |
| 3.2650 | 0.8750 | 1.0625 | 0.09 | 3.03 | 2.83 | 25523 | 4FL46 | 6.36 | 0.5 |
| 3.5000 | 0.0906 | 1.1875 | 0.13 | 3.35 | 2.91 | HM803110 | 4FK38 | 10.98 | 0.7 |
| 3.6718 | 0.9375 | 1.1875 | 0.13 | 3.46 | 3.23 | 3720 | 4FK28 | 6.65 | 0.6 |
| 2.8910 | 0.6200 | 0.7700 | 0.03 | 2.76 | 2.68 | LM102910 | 4FK58 | 3.74 | 0.2 |
| 3.0625 | 0.5937 | 0.7812 | 0.30 | 2.91 | 2.80 | LM603011 | 4FK78 | 4.61 | 0.3 |
| 3.0625 | 0.6562 | 0.8437 | 0.03 | 2.91 | 2.76 | LM603012 | 4FK79 | 4.63 | 0.3 |
| 3.1250 | 0.5313 | 0.6875 | 0.06 | 2.91 | 2.80 | 18620 | 4FL39 | 7.87 | 0.3 |
| 3.8750 | 0.7018 | 0.8268 | 0.03 | 3.62 | 3.54 | 382 | 4FL72 | 9.91 | 0.4 |
| 3.8125 | 0.7982 | 1.0000 | 0.09 | 3.58 | 3.43 | 382S | 4FK30 | 10.12 | 0.5 |
| 3.8125 | 0.6250 | 0.8268 | 0.03 | 3.62 | 3.50 | 382A | 4FL73 | 7.20 | 0.4 |
| 3.2283 | 0.6693 | 0.8465 | 0.02 | 3.07 | 2.99 | JLM104910 | 4FK45 | 4.79 | 0.3 |
| 3.5433 | 0.9055 | 1.1024 | 0.10 | 3.35 | 3.15 | JM205110 | 4FK53 | 9.96 | 0.5 |
| 3.2500 | 0.6500 | 0.8500 | 0.05 | 3.07 | 2.95 | LM104911 | 4FK60 | 4.73 | 0.3 |
| 3.2650 | 0.6500 | 0.8500 | 0.05 | 3.07 | 2.95 | LM104912 | 4FK61 | 6.28 | 0.3 |
| 4.1250 | 0.9375 | 1.1875 | 0.13 | 3.90 | 3.66 | 45220 | 4FL78 | 10.30 | 0.7 |
| 3.5433 | 0.6250 | 0.7874 | 0.08 | 3.31 | 3.19 | 362 | 4FL68 | 9.49 | 0.4 |
| 3.5000 | 0.6501 | 0.8125 | 0.05 | 3.31 | 3.19 | 362A | 4FL69 | 7.40 | 0.4 |
| 3.7402 | 0.9252 | 1.1417 | 0.10 | 3.58 | 3.35 | JM207010 | 4FK55 | 10.65 | 0.6 |
| 3.5433 | 0.7283 | 0.9055 | 0.02 | 3.39 | 3.23 | JLM506810 | 4FK47 | 7.50 | 0.4 |
| 4.2500 | 0.8750 | 1.0938 | 0.03 | 3.94 | 3.82 | 453A | 4FL80 | 14.34 | 0.9 |
| 4.1250 | 0.9687 | 1.1875 | 0.13 | 3.86 | 3.62 | 453X | 4FL81 | 11.76 | 0.8 |
| 3.8437 | 0.7656 | 0.9688 | 0.03 | 3.62 | 3.46 | 28622 | 4FL58 | 10.35 | 0.6 |
| 4.4375 | 0.9375 | 1.1875 | 0.13 | 4.21 | 3.98 | 39520 | 4FK34 | 11.14 | 0.8 |
| 4.8125 | 1.1700 | 1.5000 | 0.13 | 4.57 | 4.25 | HM212011 | 4FK08 | 12.84 | 1.3 |
| 4.4375 | 0.9375 | 1.1875 | 0.13 | 4.17 | 3.90 | 3920 | 4FK32 | 8.70 | 1.0 |
| 4.6250 | 0.9375 | 1.1875 | 0.13 | 4.41 | 4.09 | 33462 | 4FK25 | 12.86 | 1.0 |
| 4.3307 | 0.8071 | 1.0236 | 0.10 | 4.13 | 3.86 | JLM813010 | 4FK49 | 12.09 | 0.7 |
| 5.3750 | 1.4375 | 1.8125 | 0.13 | 5.20 | 4.65 | H715311 | 4FK15 | 25.80 | 2.1 |
| 4.4375 | 0.7500 | 1.0000 | 0.13 | 4.29 | 3.98 | 29620 | 4FK22 | 10.89 | 0.6 |
| 5.3750 | 0.8750 | 1.1875 | 0.13 | 5.12 | 4.80 | 493 | 4FL84 | 13.98 | 1.2 |
| 4.6250 | 0.7500 | 1.0000 | 0.13 | 4.45 | 4.13 | LM814810 | 4FK20 | 16.03 | 0.7 |
| 5.5115 | 1.1250 | 1.4375 | 0.13 | 5.21 | 4.92 | 572 | 4FL87 | 16.78 | 1.7 |
| 5.7500 | 1.2500 | 1.6250 | 0.13 | 5.47 | 5.16 | 653 | 4FL97 | 20.73 | 2.0 |
| 5.1181 | 0.9449 | 1.1811 | 0.10 | 4.92 | 4.61 | JM716610 | 4FK18 | 16.28 | 1.0 |
| 6.0000 | 1.1875 | 1.5625 | 0.13 | 5.79 | 5.43 | HM518410 | 4FK13 | 19.05 | 1.7 |
| 6.3750 | 1.6875 | 2.1250 | 0.13 | 6.06 | 5.55 | 6535 | 4FL98 | 38.85 | 3.5 |
| 5.7864 | 1.2795 | 1.5748 | 0.14 | 5.55 | 5.24 | HM218210 | 4FK11 | 18.77 | 1.7 |
| 6.0000 | 1.1875 | 1.5625 | 0.13 | 5.67 | 5.31 | 592A | 4FL90 | 21.00 | 2.3 |
| 7.0000 | 1.1875 | 1.6250 | 0.13 | 6.77 | 6.30 | 64700 | 4FL96 | 38.50 | 2.6 |
| 7.7500 | 1.5000 | 1.8125 | 0.13 | 7.44 | 7.09 | 67322 | 4FM02 | 38.45 | 3.2 |
| 8.5000 | 1.3750 | 1.8750 | 0.13 | 8.19 | 7.72 | 74850 | 4FM08 | 94.70 | 1.3 |
| 7.6250 | 0.9063 | 1.1250 | 0.06 | 7.40 | 7.17 | 36620 | 4FK26 | 38.40 | 1.6 |

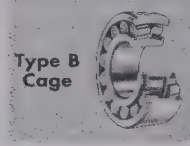
# TAPERED ROLLER BEARING CROSS-REFERENCE AND SPHERICAL ROLLER BEARINGS

## TAPERED ROLLER BEARING CROSS-REFERENCE GUIDE

| Ref. No. | Stock No. | Ref. No. | Stock No. | Ref. No. | Stock No. | Ref. No. | Stock No. | Ref. No. | Stock No. | Ref. No. | Stock No. | Ref. No. | Stock No. | Ref. No. | Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 02420 | **4FK98** | 14274 | **4FL22** | 25580 | **4FL47** | 36690 | **4FK27** | 493 | **4FL84** | HM212047 | **4FK09** | JM207049 | **4FK56** | LM29748 | **4FK71** |
| 02474 | **4FK99** | 14276 | **4FL23** | 25590 | **4FL48** | 368A | **4FL70** | 495AX | **4FL85** | HM212049 | **4FK10** | JM716610 | **4FK18** | LM29749 | **4FK72** |
| 07087 | **4FL01** | 15101 | **4FL24** | 25820 | **4FL49** | 3720 | **4FK28** | 497 | **4FL86** | HM218210 | **4FK11** | JM716649 | **4FK19** | LM48510 | **4FK73** |
| 07100 | **4FL02** | 15113 | **4FL25** | 25821 | **4FL50** | 3780 | **4FL71** | 572 | **4FL87** | HM218248 | **4FK12** | L44610 | **4FK83** | LM48548 | **4FK74** |
| 07196 | **4FL03** | 15117 | **4FL26** | 25877 | **4FL51** | 3782 | **4FK29** | 580 | **4FL88** | HM518410 | **4FK13** | L44640 | **4FK84** | LM501310 | **4FK75** |
| 07204 | **4FL04** | 15118 | **4FL27** | 26822 | **4FL52** | 382 | **4FL72** | 582 | **4FL89** | HM518445 | **4FK14** | L44643 | **4FK85** | LM501314 | **4FK76** |
| 09067 | **4FL05** | 15123 | **4FL28** | 26882 | **4FL53** | 3820 | **4FL74** | 592A | **4FL90** | HM803110 | **4FK38** | L44649 | **4FK86** | LM501349 | **4FK77** |
| 09074 | **4FL06** | 15125 | **4FL29** | 2720 | **4FL54** | 382A | **4FL73** | 594 | **4FL91** | HM803149 | **4FK39** | L68110 | **4FK87** | LM603011 | **4FK78** |
| 09078 | **4FL07** | 15126 | **4FL30** | 2729 | **4FL55** | 382S | **4FK30** | 594A | **4FL92** | HM88610 | **4FK41** | L68111 | **4FK88** | LM603012 | **4FK79** |
| 09194 | **4FL08** | 15243 | **4FL31** | 2788 | **4FL56** | 386A | **4FL75** | 598A | **4FL93** | HM88649 | **4FK42** | L68149 | **4FK89** | LM603049 | **4FK80** |
| 09195 | **4FL09** | 15245 | **4FL32** | 28622 | **4FL58** | 3872 | **4FL77** | 64450 | **4FL95** | HM89410 | **4FK43** | LM102910 | **4FK58** | LM67010 | **4FK81** |
| 11520 | **4FL10** | 15250 | **4FL33** | 28682 | **4FL59** | 387A | **4FK31** | 64700 | **4FL96** | HM89449 | **4FK44** | LM102949 | **4FK59** | LM67048 | **4FK82** |
| 11590 | **4FL11** | 1729 | **4FL35** | 29620 | **4FK22** | 387AS | **4FL76** | 653 | **4FL97** | JL69310 | **4FK51** | LM104911 | **4FK60** | LM814810 | **4FK20** |
| 12520 | **4FL12** | 1779 | **4FL36** | 29685 | **4FK23** | 3920 | **4FK32** | 6535 | **4FL98** | JL69349 | **4FK52** | LM104912 | **4FK61** | LM814849 | **4FK21** |
| 12580 | **4FL13** | 18520 | **4FL37** | 332 | **4FL63** | 39520 | **4FK34** | 6580 | **4FL99** | JLM104910 | **4FK45** | LM104949 | **4FK62** | M12610 | **4FK90** |
| 13620 | **4FL14** | 18590 | **4FL38** | 33275 | **4FK24** | 39580 | **4FK35** | 663 | **4FM01** | JLM104948 | **4FK46** | LM11710 | **4FK63** | M12649 | **4FK91** |
| 13621 | **4FL15** | 18620 | **4FL39** | 33462 | **4FK25** | 39590 | **4FK36** | 67322 | **4FM02** | JLM506810 | **4FK47** | LM11749 | **4FK64** | M802011 | **4FK92** |
| 13685 | **4FL16** | 18690 | **4FL40** | 342A | **4FL64** | 3984 | **4FK37** | 67390 | **4FM03** | JLM506849 | **4FK48** | LM11910 | **4FK65** | M802048 | **4FK93** |
| 13687 | **4FL17** | 21075 | **4FL41** | 3525 | **4FL65** | 45220 | **4FL78** | 74550A | **4FM07** | JLM813010 | **4FK49** | LM11949 | **4FK66** | M86610 | **4FK94** |
| 14125A | **4FL18** | 21212 | **4FL42** | 3578 | **4FL67** | 45284 | **4FL79** | 74850 | **4FM08** | JLM813049 | **4FK50** | LM12710 | **4FK67** | M86649 | **4FK95** |
| 14136A | **4FL19** | 25520 | **4FL44** | 362 | **4FL68** | 453A | **4FL80** | H715311 | **4FK15** | JM205110 | **4FK53** | LM12711 | **4FK68** | M88010 | **4FK96** |
| 14137A | **4FL20** | 25521 | **4FL45** | 362A | **4FL69** | 453X | **4FL81** | H715345 | **4FK16** | JM205149 | **4FK54** | LM12749 | **4FK69** | M88048 | **4FK97** |
| 14138A | **4FL21** | 25523 | **4FL46** | 36620 | **4FK26** | 462 | **4FL82** | HM212011 | **4FK08** | JM207010 | **4FK55** | LM29710 | **4FK70** | | |

## SPHERICAL ROLLER BEARINGS

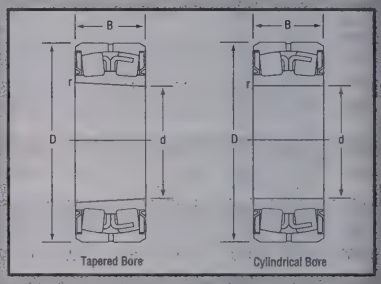
- Vacuum degassed, roll-forged 52100 steel
- Outer ring lubrication holes
- Choice of cylindrical or tapered bore
- Double row construction
- Two-piece pressed steel cage designed to control flow of lubricant for longer life
- Type B bearing design
  -asymmetrical rollers with one-piece ribbed inner ring for unequaled roller guidance
  -ideal for higher speed applications
- Type C bearing design
  -symmetrical rollers with one-piece plain inner ring and center floating guide ring
- Meets or exceeds REBC-1 standards




**Typical Uses:** Where a large capacity for radial loads, axial loads in either direction, and/or combinations of these loads are required. Also suitable for heavy shock loads and/or when misalignment between inner and outer rings occur.

**Typical Applications:** Conveyors, clutches, brakes, foundry equipment, speed reducers, fans, blowers, hydraulic equipment, pumps, paper machines, hoists, and cranes.

NTN




| DIMENSIONS | | | | | | | | BASIC LOAD RATING | | | CYLINDRICAL BORE | | | TAPERED BORE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bore (d) mm | Bore (d) Inches | O.D. (D) mm | O.D. (D) Inches | Width (B) mm | Width (B) Inches | Filet Radius (r) mm | Filet Radius (r) Inches | Dynamic Cft | Static Co | Cage Type | NTN Model | Stock No. | Shpg. Wt. | NTN Model | Stock No. | Shpg. Wt. | List | Each |
| **SPHERICAL ROLLER BEARINGS-22200 SERIES** | | | | | | | | | | | | | | | | | | |
| 40 | 1.5748 | 80 | 3.1496 | 23 | 0.9055 | 1.1 | 0.043 | 17 800 | 19 900 | C | 22208CD1C3 | **3KX10** | 1.2 | 22208CKD1C3 | **3KX11** | 1.1 | $135.29 | **$83.6** |
| 45 | 1.7717 | 85 | 3.3465 | 23 | 0.9055 | 1.1 | 0.043 | 18 600 | 21 400 | C | 22209CD1C3 | **3KX12** | 1.6 | 22209CKD1C3 | **3KX13** | 1.5 | 144.44 | **89.2** |
| 50 | 1.9685 | 90 | 3.5433 | 23 | 0.9055 | 1.1 | 0.043 | 19 300 | 23 000 | C | 22210CD1C3 | **3KX14** | 2.2 | 22210CKD1C3 | **3KX15** | 2.1 | 153.63 | **95.0** |
| 55 | 2.1654 | 100 | 3.9370 | 25 | 0.9843 | 1.5 | 0.059 | 21 000 | 24 700 | B | 22211BD1C3 | **3KX16** | 1.9 | 22211BKD1C3 | **3KX17** | 1.8 | 170.96 | **105.6** |
| 60 | 2.3622 | 110 | 4.3307 | 28 | 1.1024 | 1.5 | 0.059 | 25 700 | 33 000 | B | 22212BD1C3 | **3KX18** | 2.5 | 22212BKD1C3 | **3KX19** | 2.5 | 189.81 | **117.3** |
| 65 | 2.5591 | 120 | 4.7244 | 31 | 1.2205 | 1.5 | 0.059 | 32 000 | 40 500 | B | 22213BD1C3 | **3KX20** | 3.3 | 22213BKD1C3 | **3KX21** | 3.2 | 203.40 | **125.8** |
| 70 | 2.7559 | 125 | 4.9213 | 31 | 1.2205 | 1.5 | 0.059 | 34 500 | 45 000 | B | 22214BD1C3 | **3KX22** | 3.4 | 22214BKD1C3 | **3KX23** | 3.4 | 222.99 | **137.9** |
| 75 | 2.9528 | 130 | 5.1181 | 31 | 1.2205 | 1.5 | 0.059 | 37 000 | 50 000 | B | 22215BD1C3 | **3KX24** | 3.6 | 22215BKD1C3 | **3KX25** | 3.6 | 241.39 | **149.2** |
| 80 | 3.1496 | 140 | 5.5118 | 33 | 1.2992 | 2.0 | 0.079 | 40 500 | 53 500 | B | 22216BD1C3 | **3KX26** | 4.7 | 22216BKD1C3 | **3KX27** | 4.7 | 283.11 | **175.5** |
| 85 | 3.3465 | 150 | 5.9055 | 36 | 1.4173 | 2.0 | 0.079 | 46 500 | 61 500 | B | 22217BD1C3 | **3KX28** | 5.9 | 22217BKD1C3 | **3KX29** | 5.8 | 330.93 | **205.2** |
| 90 | 3.5433 | 160 | 6.2992 | 40 | 1.5748 | 2.0 | 0.079 | 57 500 | 77 500 | B | 22218BD1C3 | **3KX30** | 7.7 | 22218BKD1C3 | **3KX31** | 7.6 | 378.36 | **234.5** |
| 95 | 3.7402 | 170 | 6.6920 | 43 | 1.6929 | 2.1 | 0.083 | 65 500 | 86 500 | B | 22219BD1C3 | **3KX32** | 9.0 | 22219BKD1C3 | **3KX33** | 8.8 | 419.85 | **260.0** |
| 100 | 3.9370 | 180 | 7.0865 | 46 | 1.8110 | 2.1 | 0.083 | 70 000 | 92 500 | B | 22220BD1C3 | **3KX34** | 11.0 | 22220BKD1C3 | **3KX35** | 11.0 | 494.95 | **307.0** |
| 110 | 4.3307 | 200 | 7.8740 | 53 | 2.0866 | 2.1 | 0.083 | 92 500 | 128 000 | B | 22222BD1C3 | **3KX36** | 16.0 | 22222BKD1C3 | **3KX37** | 16.0 | 630.61 | **390.7** |
| 120 | 4.7244 | 215 | 8.4646 | 58 | 2.2835 | 2.1 | 0.083 | 109 000 | 158 000 | B | 22224BD1C3 | **3KX38** | 20.0 | 22224BKD1C3 | **3KX39** | 20.0 | 750.60 | **465.2** |
| 130 | 5.1181 | 230 | 9.0551 | 64 | 2.5197 | 3.0 | 0.118 | 127 000 | 176 000 | B | 22226BD1C3 | **3KX40** | 25.0 | 22226BKD1C3 | **3KX41** | 24.0 | 875.21 | **543.5** |
| **SPHERICAL ROLLER BEARINGS-22300 SERIES** | | | | | | | | | | | | | | | | | | |
| 40 | 1.5748 | 90 | 3.5433 | 33 | 1.2992 | 1.5 | 0.059 | 27 200 | 28 800 | C | 22308CD1C3 | **3KX42** | 2.2 | 22308CKD1C3 | **3KX43** | 2.1 | 210.95 | **130.3** |
| 45 | 1.7717 | 100 | 3.9370 | 36 | 1.4173 | 2.0 | 0.079 | 33 000 | 37 500 | C | 22309CD1C3 | **3KX44** | 2.9 | 22309CKD1C3 | **3KX45** | 2.9 | 227.36 | **140.4** |
| 50 | 1.9685 | 110 | 4.3307 | 40 | 1.5748 | 2.0 | 0.079 | 42 000 | 47 500 | C | 22310CD1C3 | **3KX46** | 4.0 | 22310CKD1C3 | **3KX47** | 3.9 | 261.76 | **162.2** |
| 55 | 2.1654 | 120 | 4.7244 | 43 | 1.6929 | 3.0 | 0.118 | 46 000 | 52 500 | B | 22311BD1C3 | **3KX48** | 5.1 | 22311BKD1C3 | **3KX49** | 5.0 | 262.92 | **163.0** |
| 60 | 2.3622 | 130 | 5.1181 | 46 | 1.8110 | 3.5 | 0.138 | 53 000 | 60 500 | B | 22312BD1C3 | **3KX50** | 6.4 | 22312BKD1C3 | **3KX51** | 6.2 | 325.33 | **201.7** |
| 65 | 2.5591 | 140 | 5.5118 | 48 | 1.8898 | 3.5 | 0.138 | 59 500 | 71 000 | B | 22313BD1C3 | **3KX52** | 7.6 | 22313BKD1C3 | **3KX53** | 7.4 | 339.20 | **210.5** |
| 70 | 2.7559 | 150 | 5.9055 | 51 | 2.0079 | 3.5 | 0.138 | 72 500 | 85 000 | B | 22314BD1C3 | **3KX54** | 9.3 | 22314BKD1C3 | **3KX55** | 9.1 | 389.18 | **241.2** |
| 75 | 2.9528 | 160 | 6.2992 | 55 | 2.1654 | 3.5 | 0.138 | 74 000 | 92 000 | B | 22315BD1C3 | **3KX56** | 12.0 | 22315BKD1C3 | **3KX57** | 11.0 | 480.49 | **297.7** |
| 80 | 3.1496 | 170 | 6.6929 | 58 | 2.2835 | 3.5 | 0.138 | 86 000 | 105 000 | B | 22316BD1C3 | **3KX58** | 13.0 | 22316BKD1C3 | **3KX59** | 13.0 | 494.80 | **297.2** |
| 85 | 3.3465 | 180 | 7.0866 | 60 | 2.3622 | 4.0 | 0.157 | 93 500 | 115 000 | B | 22317BD1C3 | **3KX60** | 16.0 | 22317BKD1C3 | **3KX61** | 15.0 | 559.29 | **347.0** |
| 90 | 3.5433 | 190 | 7.4803 | 64 | 2.5197 | 4.0 | 0.157 | 107 000 | 132 000 | B | 22318BD1C3 | **3KX62** | 18.0 | 22318BKD1C3 | **3KX63** | 18.0 | 689.80 | **427.7** |



We deliver the products that deliver the power.

# SPHERICAL ROLLER BEARINGS CROSS-REFERENCE GUIDE

## NTN

FOR CROSS-REFERENCE INFORMATION SEE PAGE OPPOSITE BACK COVER

## CROSS-REFERENCE GUIDE

| Stock No. | NTN Model | TORRINGTON | SKF | NSK | LINK-BELT | SNR | FAG | KOYO |
|---|---|---|---|---|---|---|---|---|
| **SPHERICAL ROLLER BEARINGS—22200 SERIES—CYLINDRICAL BORE** | | | | | | | | |
| **3KX10** | 22208CD1C3 | 22208CJW33 | 22208CCW33 | 22208HE4 | 22208LB/W33 | 22208VB33J30 | 22208ES.TVPB | 22208RW33 |
| **3KX12** | 22209CD1C3 | 22209CJW33 | 22209CCW33 | 22209HE4 | 22209LB/W33 | 22209VB33J30 | 22209ES.TVPB | 22209RW33 |
| **3KX14** | 22210CD1C3 | 22210CJW33 | 22210CCW33 | 22210HE4 | 22210LB/W33 | 22210VB33J30 | 22210ES.TVPB | 22210RW33 |
| **3KX16** | 22211BD1C3 | 22211CJW33 | 22211CCW33 | 22211HE4 | 22211LB/W33 | 22211VB33J30 | 22211ES.TVPB | 22211RW33 |
| **3KX18** | 22212BD1C3 | 22212CJW33 | 22212CCW33 | 22212HE4 | 22212LB/W33 | 22212VB33J30 | 22212ES.TVPB | 22212RW33 |
| **3KX20** | 22213BD1C3 | 22213CJW33 | 22213CCW33 | 22213HE4 | 22213LB/W33 | 22213VB33J30 | 22213ES.TVPB | 22213RW33 |
| **3KX22** | 22214BD1C3 | 22214CJW33 | 22214CCW33 | 22214HE4 | 22214LB/W33 | 22214VB33J30 | 22214ES.TVPB | 22214RW33 |
| **3KX24** | 22215BD1C3 | 22215CJW33 | 22215CCW33 | 22215HE4 | 22215LB/W33 | 22215VB33J30 | 22215ES.TVPB | 22215RW33 |
| **3KX26** | 22216BD1C3 | 22216CJW33 | 22216CCW33 | 22216HE4 | 22216LB/W33 | 22216VB33J30 | 22216ES.TVPB | 22216RW33 |
| **3KX28** | 22217BD1C3 | 22217CJW33 | 22217CCW33 | 22217HE4 | 22217LB/W33 | 22217VB33J30 | 22217ES.TVPB | 22217RW33 |
| **3KX30** | 22218BD1C3 | 22218CJW33 | 22218CCW33 | 22218HE4 | 22218LB/W33 | 22218VB33J30 | 22218ES.TVPB | 22218RW33 |
| **3KX32** | 22219BD1C3 | 22219CJW33 | 22219CCW33 | 22219HE4 | 22219LB/W33 | 22219VB33J30 | 22219ES.TVPB | 22219RW33 |
| **3KX34** | 22220BD1C3 | 22220CJW33 | 22220CCW33 | 22220HE4 | 22220LB/W33 | 22220VB33J30 | 22220ES.TVPB | 22220RW33 |
| **3KX36** | 22222BD1C3 | 22222CJW33 | 22222CCW33 | 22222HE4 | 22222LB/W33 | 22222VB33J30 | 22222ES.TVPB | 22222RW33 |
| **3KX38** | 22224BD1C3 | 22224CJW33 | 22224CCW33 | 22224HE4 | 22224LB/W33 | 22224VB33J30 | 22224ES.TVPB | 22224RW33 |
| **3KX40** | 22226BD1C3 | 22226CJW33 | 22226CCW33 | 22226HE4 | 22226LB/W33 | 22226VB33J30 | 22226ES.TVPB | 22226RW33 |
| **SPHERICAL ROLLER BEARINGS—22200 SERIES—TAPERED BORE** | | | | | | | | |
| **3KX11** | 22208CKD1C3 | 22208KCJW33 | 22208CCKW33 | 22208HKE4 | 22208LBK/W33 | 22208VKB33J30 | 22208ESK.TVPB | 22208RKW33 |
| **3KX13** | 22209CKD1C3 | 22209KCJW33 | 22209CCKW33 | 22209HKE4 | 22209LBK/W33 | 22209VKB33J30 | 22209ESK.TVPB | 22209RKW33 |
| **3KX15** | 22210CKD1C3 | 22210KCJW33 | 22210CCKW33 | 22210HKE4 | 22210LBK/W33 | 22210VKB33J30 | 22210ESK.TVPB | 22210RKW33 |
| **3KX17** | 22211BKD1C3 | 22211KCJW33 | 22211CCKW33 | 22211HKE4 | 22211LBK/W33 | 22211VKB33J30 | 22211ESK.TVPB | 22211RKW33 |
| **3KX19** | 22212BKD1C3 | 22212KCJW33 | 22212CCKW33 | 22212HKE4 | 22212LBK/W33 | 22212VKB33J30 | 22212ESK.TVPB | 22212RKW33 |
| **3KX21** | 22213BKD1C3 | 22213KCJW33 | 22213CCKW33 | 22213HKE4 | 22213LBK/W33 | 22213VKB33J30 | 22213ESK.TVPB | 22213RKW33 |
| **3KX23** | 22214BKD1C3 | 22214KCJW33 | 22214CCKW33 | 22214HKE4 | 22214LBK/W33 | 22214VKB33J30 | 22214ESK.TVPB | 22214RKW33 |
| **3KX25** | 22215BKD1C3 | 22215KCJW33 | 22215CCKW33 | 22215HKE4 | 22215LBK/W33 | 22215VKB33J30 | 22215ESK.TVPB | 22215RKW33 |
| **3KX27** | 22216BKD1C3 | 22216KCJW33 | 22216CCKW33 | 22216HKE4 | 22216LBK/W33 | 22216VKB33J30 | 22216ESK.TVPB | 22216RKW33 |
| **3KX29** | 22217BKD1C3 | 22217KCJW33 | 22217CCKW33 | 22217HKE4 | 22217LBK/W33 | 22217VKB33J30 | 22217ESK.TVPB | 22217RKW33 |
| **3KX31** | 22218BKD1C3 | 22218KCJW33 | 22218CCKW33 | 22218HKE4 | 22218LBK/W33 | 22218VKB33J30 | 22218ESK.TVPB | 22218RKW33 |
| **3KX33** | 22219BKD1C3 | 22219KCJW33 | 22219CCKW33 | 22219HKE4 | 22219LBK/W33 | 22219VKB33J30 | 22219ESK.TVPB | 22219RKW33 |
| **3KX35** | 22220BKD1C3 | 22220KCJW33 | 22220CCKW33 | 22220HKE4 | 22220LBK/W33 | 22220VKB33J30 | 22220ESK.TVPB | 22220RKW33 |
| **3KX37** | 22222BKD1C3 | 22222KCJW33 | 22222CCKW33 | 22222HKE4 | 22222LBK/W33 | 22222VKB33J30 | 22222ESK.TVPB | 22222RKW33 |
| **3KX39** | 22224BKD1C3 | 22224KCJW33 | 22224CCKW33 | 22224HKE4 | 22224LBK/W33 | 22224VKB33J30 | 22224ESK.TVPB | 22224RKW33 |
| **3KX41** | 22226BKD1C3 | 22226KCJW33 | 22226CCKW33 | 22226HKE4 | 22226LBK/W33 | 22226VKB33J30 | 22226ESK.TVPB | 22226RKW33 |
| **SPHERICAL ROLLER BEARINGS—22300 SERIES—CYLINDRICAL BORE** | | | | | | | | |
| **3KX42** | 22308CD1C3 | 22308VJW33 | 22308CCW33 | 22308HE4 | 22308LB/W33 | 22308VB33J30 | 22308ES.TVPB | 22308RW33 |
| **3KX44** | 22309CD1C3 | 22309VJW33 | 22309CCW33 | 22309HE4 | 22309LB/W33 | 22309VB33J30 | 22309ES.TVPB | 22309RW33 |
| **3KX46** | 22310CD1C3 | 22310VJW33 | 22310CCW33 | 22310HE4 | 22310LB/W33 | 22310VB33J30 | 22310ES.TVPB | 22310RW33 |
| **3KX48** | 22311BD1C3 | 22311VJW33 | 22311CCW33 | 22311HE4 | 22311LB/W33 | 22311VB33J30 | 22311ES.TVPB | 22311RW33 |
| **3KX50** | 22312BD1C3 | 22312VJW33 | 22312CCW33 | 22312HE4 | 22312LB/W33 | 22312VB33J30 | 22312ES.TVPB | 22312RW33 |
| **3KX52** | 22313BD1C3 | 22313VJW33 | 22313CCW33 | 22313HE4 | 22313LB/W33 | 22313VB33J30 | 22313ES.TVPB | 22313RW33 |
| **3KX54** | 22314BD1C3 | 22314CJW33 | 22314CCW33 | 22314HE4 | 22314LB/W33 | 22314VB33J30 | 22314ES.TVPB | 22314RW33 |
| **3KX56** | 22315BD1C3 | 22315CJW33 | 22315CCW33 | 22315HE4 | 22315LB/W33 | 22315VB33J30 | 22315ES.TVPB | 22315RW33 |
| **3KX58** | 22316BD1C3 | 22316CJW33 | 22316CCW33 | 22316HE4 | 22316LB/W33 | 22316VB33J30 | 22316ES.TVPB | 22316RW33 |
| **3KX60** | 22317BD1C3 | 22317CJW33 | 22317CCW33 | 22317HE4 | 22317LB/W33 | 22317VB33J30 | 22317ES.TVPB | 22317RW33 |
| **3KX62** | 22318BD1C3 | 22318CJW33 | 22318CCW33 | 22318HE4 | 22318LB/W33 | 22318VB33J30 | 22318ES.TVPB | 22318RW33 |
| **SPHERICAL ROLLER BEARINGS—22300 SERIES—TAPERED BORE** | | | | | | | | |
| **3KX43** | 22308CKD1C3 | 22308KVJW33 | 22308CCKW33 | 22308HKE4 | 22308LBK/W33 | 22308VKB33J30 | 22308ESK.TVPB | 22308RKW33 |
| **3KX45** | 22309CKD1C3 | 22309KVJW33 | 22309CCKW33 | 22309HKE4 | 22309LBK/W33 | 22309VKB33J30 | 22309ESK.TVPB | 22309RKW33 |
| **3KX47** | 22310CKD1C3 | 22310KVJW33 | 22310CCKW33 | 22310HKE4 | 22310LBK/W33 | 22310VKB33J30 | 22310ESK.TVPB | 22310RKW33 |
| **3KX49** | 22311BKD1C3 | 22311KVJW33 | 22311CCKW33 | 22311HKE4 | 22311LBK/W33 | 22311VKB33J30 | 22311ESK.TVPB | 22311RKW33 |
| **3KX51** | 22312BKD1C3 | 22312KVJW33 | 22312CCKW33 | 22312HKE4 | 22312LBK/W33 | 22312VKB33J30 | 22312ESK.TVPB | 22312RKW33 |
| **3KX53** | 22313BKD1C3 | 22313KVJW33 | 22313CCKW33 | 22313HKE4 | 22313LBK/W33 | 22313VKB33J30 | 22313ESK.TVPB | 22313RKW33 |
| **3KX55** | 22314BKD1C3 | 22314KCJW33 | 22314CCKW33 | 22314HKE4 | 22314LBK/W33 | 22314VKB33J30 | 22314ESK.TVPB | 22314RKW33 |
| **3KX57** | 22315BKD1C3 | 22315KCJW33 | 22315CCKW33 | 22315HKE4 | 22315LBK/W33 | 22315VKB33J30 | 22315ESK.TVPB | 22315RKW33 |
| **3KX59** | 22316BKD1C3 | 22316KCJW33 | 22316CCKW33 | 22316HKE4 | 22316LBK/W33 | 22316VKB33J30 | 22316ESK.TVPB | 22316RKW33 |
| **3KX61** | 22317BKD1C3 | 22317KCJW33 | 22317CCKW33 | 22317HKE4 | 22317LBK/W33 | 22317VKB33J30 | 22317ESK.TVPB | 22317RKW33 |
| **3KX63** | 22318BKD1C3 | 22318KCJW33 | 22318CCKW33 | 22318HKE4 | 22318LBK/W33 | 22318VKB33J30 | 22318ESK.TVPB | 22318RKW33 |

STANLEY®

PROTO® PROFESSIONAL TOOLS

Blackhawk™ A BRAND OF STANLEY PROTO

MANY TYPES OF HAND TOOLS ARE AVAILABLE, SEE INDEX AT BACK OF CATALOG FOR COMPLETE LISTINGS

# PILLOW BLOCK BEARING UNITS: BALL, BRONZE, AND UHMW-PE WASHDOWN

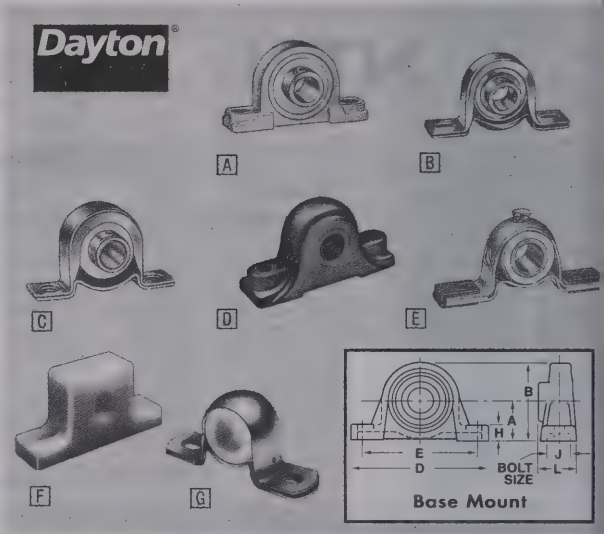
## BALL BEARING UNITS

- "Precision Grade" ball bearing insert is prelubricated with premium grease for a long, maintenance-free life
- Made to ABEC-1 tolerances
- Wide inner race locks to shaft with setscrews
- Neoprene seal keeps contaminants out and permits use in wet or dry environments
- Temperature range: -30 to +200°F

**Rigid Type:** Bearing insert is securely retained in solid Zamak® die-cast housing by pressing lip on housing 360° over outer race. Zamak is a zinc-based alloy that is stronger and lighter than cast iron with excellent corrosion-resistant properties. Provides excellent strength under severe operating conditions. Ideal for applications which require strong load support in limited mounting area.

**Self-Aligning Type:** Bearing insert is encased in nonconductive, oil-resistant rubber liner which corrects misalignment up to 2° while reducing noise and vibration. Housings are pressed cold-rolled steel with rust-proof plated finish; base mount is two-piece and flange mount is one piece.

Standard and heavy gauge styles available. Heavy-gauge style features thicker steel housings and rubber liners for added strength and quieter operation; plus, ball bearing inserts have a longer inner race for extra shaft support.




## BRONZE BEARING UNITS

- High quality porous bronze bearings for continuous/even lubrication
- Temperature range: -5° to 220°F
- Low cost alternative for lighter-duty mounted bearing applications

**Rigid Type (pillow block style only):** Plain sleeve bearings are press-fit in solid, compact Zamak® die-cast housing for strong support. Include oiler hole for lubrication.

**Self-Aligning Type:** Flanged sleeve bearings are press-fit in rugged die-cast sphere. Housings are two-piece pressed cold-rolled steel with rustproof plated finish. Vertical or horizontal mounting. Oil filler can be rotated to four different positions on base mount models; flange mount models have oil filler at 45° from bolt holes. Large, felt-lined oil reservoir for low maintenance and even lubrication. Includes two nonconductive rubber grommets which reduce noise and vibration.

## UHMW-PE (WASHDOWN) BEARING UNITS

- Bearings are Ultra-High Molecular Weight Polyethylene (UHMW-PE)
- For washdown applications in wet/harsh environments or where sanitary conditions must be maintained; USDA and FDA approved
- Resistant to corrosion, abrasion, and high impact
- Self-lubricating requires little or no maintenance
- Dimensionally interchangeable with most metal units
- Temperature range: -60 to +180°F
- Low friction, durable and lightweight

**Rigid Type:** Entire bearing unit is UHMW-PE plastic.

**Self-Aligning Type:** Bearing is UHMW-PE plastic. Housing is sturdy, two-piece pressed stainless steel (304).

## PILLOW BLOCK UNITS SPECIFICATIONS AND ORDERING DATA

| Bore Dia. (In.) | Dynamic Load Capacity (Lbs.) | Static Load Capacity (Lbs.) | Dimensions (In.) A | B | D | E | J | H | L | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A Ball Bearing—Die-Cast Housing—Rigid Type** | | | | | | | | | | | | | |
| 1/2 | 2877 | 1479 | 1 1/8 | 2 5/16 | 4 1/4 | 3 3/8 | 3/8 | 7/16 | 1 5/16 | 4X723 | $25.60 | $11.47 | 0.8 |
| 5/8 | 2877 | 1479 | 1 1/8 | 2 5/16 | 4 1/4 | 3 3/8 | 3/8 | 7/16 | 1 5/16 | 4X724 | 25.60 | 11.47 | 0.9 |
| 3/4 | 2877 | 1479 | 1 1/8 | 2 5/16 | 4 1/4 | 3 3/8 | 3/8 | 7/16 | 1 5/16 | 4X725 | 25.60 | 11.47 | 0.8 |
| 1 | 3153 | 1768 | 1 1/4 | 2 1/2 | 4 5/8 | 3 5/8 | 3/8 | 1/2 | 1 3/8 | 4X726 | 27.60 | 12.36 | 1.0 |
| **B Ball Bearing—Pressed Steel Housing—Self-Aligning Type—Standard** | | | | | | | | | | | | | |
| 1/2 | 2152 | 1075 | 15/16 | 1 7/8 | 4 3/16 | 3 3/16 | 7/16 | 7/64 | 1 3/16 | 2X897 | 22.20 | 9.95 | 0.4 |
| 5/8 | 2152 | 1075 | 15/16 | 1 7/8 | 4 3/16 | 3 3/16 | 7/16 | 7/64 | 1 3/16 | 2X898 | 22.20 | 9.95 | 0.4 |
| 3/4 | 2877 | 1479 | 1 3/16 | 2 5/16 | 4 7/16 | 3 7/16 | 7/16 | 1/8 | 1 5/16 | 2X899 | 24.40 | 10.93 | 0.6 |
| 1 | 3153 | 1768 | 1 3/16 | 2 5/16 | 4 7/16 | 3 7/16 | 7/16 | 1/8 | 1 5/16 | 2X900 | 25.60 | 11.47 | 0.7 |
| **C Ball Bearing—Pressed Steel Housing—Self-Aligning Type—Heavy Gauge** | | | | | | | | | | | | | |
| 1/2 | 2877 | 1479 | 1 5/16 | 2 5/8 | 4 7/16 | 3 7/16 | 7/16 | 9/64 | 1 11/16 | 2X403 | 33.60 | 15.05 | 1.0 |
| 5/8 | 2877 | 1479 | 1 5/16 | 2 5/8 | 4 7/16 | 3 7/16 | 7/16 | 9/64 | 1 11/16 | 2X404 | 33.60 | 15.05 | 0.9 |
| 3/4 | 2877 | 1479 | 1 5/16 | 2 5/8 | 4 7/16 | 3 7/16 | 7/16 | 9/64 | 1 11/16 | 2X405 | 33.60 | 15.05 | 0.9 |
| 1 | 3153 | 1768 | 1 1/2 | 2 7/8 | 5 5/16 | 4 | 1/2 | 9/64 | 1 7/8 | 2X406 | 34.40 | 15.41 | 1.0 |
| **D Bronze Bearing—Die-Cast Housing—Rigid Type** | | | | | | | | | | | | | |
| 1/2 | Max. PV 50,000* | | 1 | 1 7/8 | 3 11/16 | 2 13/16 | 5/16 | 5/8 | 1 1/8 | 1F630 | 5.11 | 3.77 | 0.5 |
| 5/8 | | | 1 | 1 7/8 | 3 11/16 | 2 13/16 | 5/16 | 5/8 | 1 1/8 | 1F628 | 5.11 | 3.77 | 0.5 |
| 3/4 | | | 1 | 1 7/8 | 3 11/16 | 2 13/16 | 5/16 | 5/8 | 1 1/8 | 1F626 | 5.11 | 3.77 | 0.5 |
| **E Bronze Bearing—Pressed Steel Housing—Self-Aligning Type** | | | | | | | | | | | | | |
| 1/2 | Max. PV 50,000* | | 1 | 2 3/32 | 4 | 3 | 7/16 | 9/64 | 1 1/8 | 2X567 | 7.80 | 3.93 | 0.5 |
| 5/8 | | | 1 | 2 3/32 | 4 | 3 | 7/16 | 9/64 | 1 1/8 | 2X529 | 7.80 | 3.93 | 0.5 |
| 3/4 | | | 1 | 2 3/32 | 4 | 3 | 7/16 | 9/64 | 1 1/8 | 2X530 | 7.80 | 3.93 | 0.5 |
| 1 | | | 1 | 2 3/32 | 4 | 3 | 7/16 | 9/64 | 1 1/8 | 2X531 | 7.80 | 3.93 | 0.5 |
| **F UHMW-PE Bearing—Solid—Rigid Type** | | | | | | | | | | | | | |
| 1/2 | Max. PV 3,000* | | 1 3/16 | 2 7/16 | 4 1/4 | 3 3/8 | 7/16 | 5/8 | 1 1/2 | 1F624 | 23.38 | 14.33 | 0.4 |
| 5/8 | | | 1 3/16 | 2 9/16 | 4 3/4 | 3 3/8 | 7/16 | 5/8 | 1 1/2 | 1F622 | 23.38 | 14.33 | 0.4 |
| 3/4 | | | 1 5/16 | 2 1/2 | 5 1/4 | 3 3/4 | 7/16 | 5/8 | 1 1/2 | 1F620 | 25.92 | 15.90 | 0.4 |
| 1 | | | 1 7/16 | 2 1/4 | 5 1/2 | 4 | 7/16 | 3/4 | 1 1/2 | 1F618 | 26.97 | 16.54 | 0.4 |
| **G UHMW-PE Bearing—Pressed Stainless Steel Housing—Self-Aligning Type** | | | | | | | | | | | | | |
| 1/2 | Max. PV 3,000* | | 1 | 2 | 4 | 3 | 7/16 | 1/8 | 1 1/8 | 1F638 | 9.09 | 5.58 | 0.3 |
| 5/8 | | | 1 | 2 | 4 | 3 | 7/16 | 1/8 | 1 1/8 | 1F636 | 9.09 | 5.58 | 0.3 |
| 3/4 | | | 1 | 2 | 4 | 3 | 7/16 | 1/8 | 1 1/8 | 1F634 | 9.09 | 5.58 | 0.3 |
| 1 | | | 1 | 2 | 4 | 3 | 7/16 | 1/8 | 1 1/8 | 1F632 | 9.09 | 5.58 | 0.3 |

(*) To calculate PV factor see page 341.

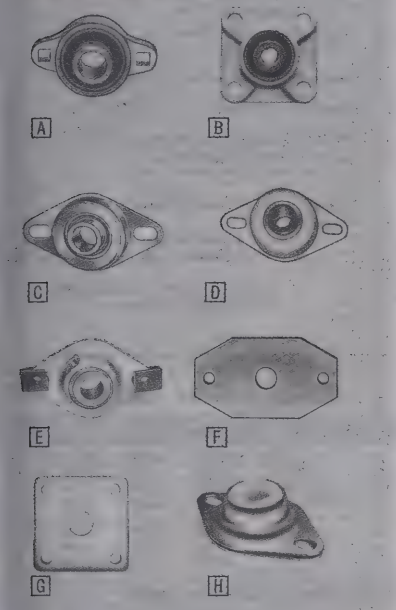
CONTINUED ON NEXT PAGE

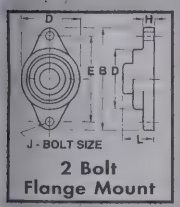


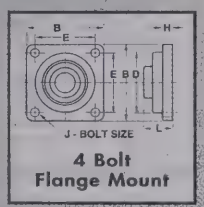
We deliver the products that deliver the power.

# FLANGE BLOCK BEARING UNITS
# BALL, BRONZE, AND UHMW-PE WASHDOWN

Dayton®




## FLANGE UNITS SPECIFICATIONS AND ORDERING DATA

| Bore Dia. (In.) | Dynamic Load Capacity (Lbs.) | Static Load Capacity (Lbs.) | Dimensions (In.) B | D | E | J | H | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A Ball Bearing—Die-Cast Housing—Rigid Type (2 Bolt)** | | | | | | | | | | | | |
| 1/2 | 2152 | 1075 | 3 1/4 | 2 | 2 1/2 | 9/32 Sq. | 1/2 | 1 1/16 | 1A396 | $22.80 | $10.21 | 0.5 |
| 5/8 | 2152 | 1075 | 3 1/4 | 2 | 2 1/2 | 9/32 Sq. | 1/2 | 1 1/16 | 1A397 | 22.80 | 10.21 | 0.5 |
| 3/4 | 2877 | 1479 | 3 5/8 | 2 1/4 | 2 13/16 | 11/32 Sq. | 1/2 | 1 1/8 | 1A398 | 24.80 | 11.11 | 0.6 |
| 1 | 3153 | 1768 | 3 7/8 | 2 1/2 | 3 | 11/32 Sq. | 1/2 | 1 5/16 | 1A399 | 26.00 | 11.65 | 0.7 |
| **B Ball Bearing—Die-Cast Housing—Rigid Type (4 Bolt)** | | | | | | | | | | | | |
| 1/2 | 2152 | 1075 | 3 | 1 13/16 | 2 1/8 | 3/8 | 3/8 | 1 1/32 | 1F552 | 21.07 | 12.93 | 0.7 |
| 5/8 | 2152 | 1075 | 3 | 1 13/16 | 2 1/8 | 3/8 | 3/8 | 1 1/32 | 1F550 | 21.07 | 12.93 | 0.7 |
| 3/4 | 2877 | 1479 | 3 3/8 | 2 1/8 | 2 1/2 | 3/8 | 7/16 | 1 1/8 | 1F548 | 22.63 | 13.88 | 0.9 |
| 1 | 3153 | 1768 | 3 3/4 | 2 5/16 | 2 3/4 | 7/16 | 7/16 | 1 1/4 | 1F546 | 23.56 | 14.45 | 1.0 |
| **C Ball Bearing—Pressed Steel Housing—Self-Aligning Type—Standard (2 Bolt)** | | | | | | | | | | | | |
| 1/2 | 2152 | 1075 | 4 | 2 | 3 | 3/8 | 1/16 | 1 | 4X727 | 22.20 | 9.95 | 0.3 |
| 5/8 | 2152 | 1075 | 4 | 2 | 3 | 3/8 | 1/16 | 1 | 4X728 | 22.20 | 9.95 | 0.3 |
| 3/4 | 2877 | 1479 | 4 1/2 | 2 1/2 | 3 3/8 | 7/16 | 1/16 | 1 1/8 | 4X729 | 24.40 | 10.93 | 0.5 |
| 1 | 3153 | 1768 | 4 1/2 | 2 1/2 | 3 3/8 | 7/16 | 1/16 | 1 1/8 | 4X730 | 25.60 | 11.47 | 0.6 |
| **D Ball Bearing—Pressed Steel Housing—Self-Aligning Type—Heavy Gauge (2 Bolt)** | | | | | | | | | | | | |
| 1/2 | 2877 | 1479 | 5 | 3 | 4 | 7/16 | 3/32 | 1 3/4 | 1A400 | 33.60 | 15.05 | 1.2 |
| 5/8 | 2877 | 1479 | 5 | 3 | 4 | 7/16 | 3/32 | 1 3/4 | 1A401 | 33.60 | 15.05 | 1.1 |
| 3/4 | 2877 | 1479 | 5 | 3 | 4 | 7/16 | 3/32 | 1 3/4 | 1A402 | 33.60 | 15.05 | 1.0 |
| 1 | 3153 | 1768 | 5 | 3 | 4 | 7/16 | 3/32 | 1 3/4 | 1A403 | 34.40 | 15.41 | 1.0 |
| **E Bronze Bearing—Pressed Steel Housing—Self-Aligning Type (2 Bolt)** | | | | | | | | | | | | |
| 1/2 | Max. PV 50,000* | | 4 3/8 | 2 3/4 | 3 3/8 | 7/16 | 1/8 | 1 1/8 | 4X815 | 7.80 | 3.93 | 0.6 |
| 5/8 | | | 4 3/8 | 2 3/4 | 3 3/8 | 7/16 | 1/8 | 1 1/8 | 4X816 | 7.80 | 3.93 | 0.6 |
| 3/4 | | | 4 3/8 | 2 3/4 | 3 3/8 | 7/16 | 1/8 | 1 1/8 | 4X817 | 7.80 | 3.93 | 0.6 |
| 1 | | | 4 3/8 | 2 3/4 | 3 3/8 | 7/16 | 1/8 | 1 1/8 | 4X818 | 7.80 | 3.93 | 0.6 |
| **F UHMW-PE Bearing—Solid—Rigid Type (2 Bolt)** | | | | | | | | | | | | |
| 1/2 | Max. PV 3,000* | | 4 7/16 | 2 1/2 | 3 9/16 | 7/16 | — | 1 1/2 | 1F568 | 25.96 | 15.92 | 0.5 |
| 5/8 | | | 4 7/16 | 2 1/2 | 3 9/16 | 7/16 | — | 1 1/2 | 1F566 | 25.96 | 15.92 | 0.5 |
| 3/4 | | | 4 7/16 | 2 1/2 | 3 9/16 | 7/16 | — | 1 1/2 | 1F564 | 25.96 | 15.92 | 0.5 |
| 1 | | | 4 15/16 | 2 3/4 | 3 7/8 | 7/16 | — | 1 1/2 | 1F562 | 27.76 | 17.02 | 0.5 |
| **G UHMW-PE Bearing—Solid—Rigid Type (4 Bolt)** | | | | | | | | | | | | |
| 1/2 | Max. PV 3,000* | | 3 | — | 2 1/8 | 7/16 | — | 1 1/4 | 1F560 | 19.24 | 11.80 | 0.6 |
| 5/8 | | | 3 | — | 2 1/8 | 7/16 | — | 1 1/4 | 1F558 | 19.24 | 11.80 | 0.6 |
| 3/4 | | | 3 3/8 | — | 2 1/2 | 7/16 | — | 1 1/4 | 1F556 | 19.99 | 12.26 | 0.6 |
| 1 | | | 3 3/4 | — | 2 3/4 | 7/16 | — | 1 1/4 | 1F554 | 20.89 | 12.82 | 0.6 |
| **H UHMW-PE Bearing—Pressed Stainless Steel Housing—Self-Aligning Type (2 Bolt)** | | | | | | | | | | | | |
| 1/2 | Max. PV 3,000* | | 4 3/8 | 2 3/4 | 3 3/8 | 7/16 | 1/8 | 1 1/8 | 1F576 | 10.59 | 6.50 | 0.3 |
| 5/8 | | | 4 3/8 | 2 3/4 | 3 3/8 | 7/16 | 1/8 | 1 1/8 | 1F574 | 10.59 | 6.50 | 0.3 |
| 3/4 | | | 4 3/8 | 2 3/4 | 3 3/8 | 7/16 | 1/8 | 1 1/8 | 1F572 | 10.59 | 6.50 | 0.3 |
| 1 | | | 4 3/8 | 2 3/4 | 3 3/8 | 7/16 | 1/8 | 1 1/8 | 1F570 | 10.59 | 6.50 | 0.3 |

(*) To calculate PV factor see below.

## CALCULATING PV FACTOR

he load carrying ability of bronze and UHMW-PE bearings can be expressed as a "PV ıctor." This factor is calculated by multiplying the maximum pressure (P) in pounds per quare inch on the bearing surface by the maximum sliding velocity (V) in surface feet er minute on the shaft.

he PV rating capacity is 50,000 for oil-impregnated bronze and 3,000 for UHMW-PE.

OTE: Load ratings are provided as guidelines only; testing in actual operating environent is recommended to determine if a bearing unit is suitable for a given application.

$$P = \frac{\text{Bearing Load}}{\text{Bearing Diameter x Bearing Length}}$$

$$V = \text{Shaft Diameter x Shaft RPM x 0.262*}$$

(*) 0.262 is the constant used for sleeve bearings.

## BEARING SELECTION

selecting the proper bearing for a given pplication several factors need to be conidered including unit costs, desired life, ad ratings, operating environment, mainnance, and mounting configurations. It recommended that testing be done in the tual operating environment to determine a particular bearing unit is suitable for a ven application because of the many riations which can occur including RPM, mperature, shafting used, shock loads, id support structures.

## LOAD RATINGS FOR BALL BEARING UNITS

- **The basic rating life of a group of bearings is defined statistically as the number of revolutions (or hours at some given constant speed) that a minimum of 90% of the group of bearings will complete or exceed before the first evidence of fatigue develops**
- **The dynamic load rating is defined as the constant stationary radial load which a group of bearings with stationary outer rings can endure for a rating life of one million revolutions (500 hours @ 33-1/3 RPM) of the inner ring**
- **The static load rating is based on a bearing's ability to resist permanent deformation in carrying a static load (non-rotating shaft)**

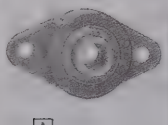
(*) Load capacities are based on the ball bearing inserts in each unit.

# 100 & 200 SERIES PRELUBRICATED MACHINED BALL BEARING PILLOW BLOCKS

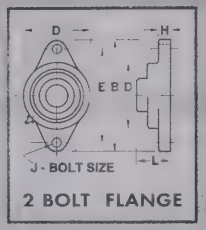
**Browning**

**VALULINE**

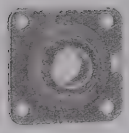
- Flange or rigid mounted models
- Temperature range: -30 to +200°F
- Bore range: 1/2 to 2 7/16"
- Cast-iron construction
- Prelubricated bearings
- Regreasable



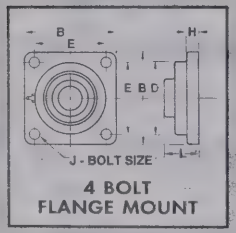
A



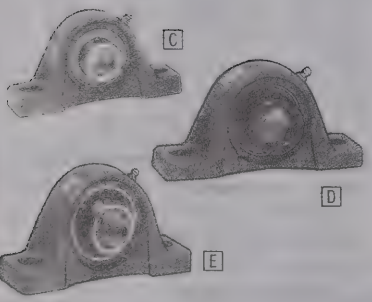

2 BOLT FLANGE

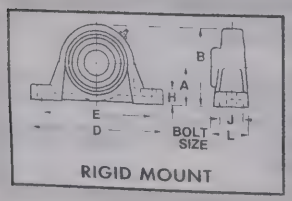


B

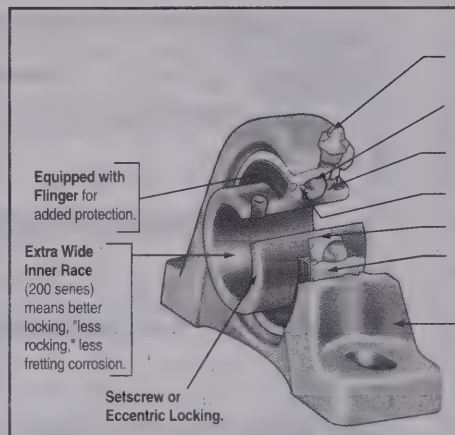



4 BOLT FLANGE MOUNT




RIGID MOUNT



**All Units Factory Lubricated** with grease fitting installed for normal service.

**Deep Groove Zone Hardened Ball Path** for improved race to shaft locking.

**Vacuum Degassed 52100 Steel,** the finest bearing material.

**Molded Lip Contact Seal** for wet or dry environments.

**Molded Nylon Retainers.**

**Fully Self-Aligning** with anti-rotation device. Ideally suited for HVAC applications.

**Rugged One Piece Cast-Iron Housing** with solid feet.

- Dimensionally interchangeable; industry standard housing dimensions.
- Bearing inserts manufactured to ABEC-1 tolerances.

**Equipped with Flinger** for added protection.

**Extra Wide Inner Race** (200 series) means better locking, "less rocking," less fretting corrosion.

**Setscrew or Eccentric Locking.**

| Bore Dia.(In.) | Dimensions (In.) A | B | D | E | H | J | L | Browning Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A Flange Mount (2 Bolt), VF2S 100 Series, Setscrew Lock** | | | | | | | | | | | | |
| 1/2 | — | 3 7/8 | 2 1/8 | 3 | 3/8 | 3/8 | 15/64 | VF2S-108 | 5X705 | $26.00 | $23.37 | 0.8 |
| 5/8 | — | 3 7/8 | 2 1/8 | 3 | 3/8 | 3/8 | 15/64 | VF2S-110 | 5X706 | 26.00 | 23.37 | 0.7 |
| 3/4 | — | 4 13/32 | 2 1/2 | 3 17/32 | 7/16 | 3/8 | 19/32 | VF2S-112 | 5X707 | 26.00 | 23.46 | 1.2 |
| 1 | — | 4 7/8 | 2 3/4 | 3 57/64 | 1/2 | 7/16 | 1 23/64 | VF2S-116 | 5X708 | 28.00 | 25.65 | 1.3 |
| 1 3/16 | — | 5 9/16 | 3 1/8 | 4 15/32 | 17/32 | 7/16 | 1 | VF2S-119 | 1A115 | 65.00 | 29.95 | 1.8 |
| 1 1/4 | — | 5 9/16 | 3 1/8 | 4 15/32 | 17/32 | 7/16 | 1 | VF2S-120S | 1A116 | 65.00 | 29.95 | 2.1 |
| 1 7/16 | — | 6 3/8 | 3 5/8 | 5 1/8 | 19/32 | 1/2 | 1 39/64 | VF2S-123 | 1A117 | 70.00 | 32.00 | 2.7 |
| **B Flange Mount (4 Bolt), VF4S 200 Series, Setscrew Lock** | | | | | | | | | | | | |
| 3/4 | — | 3 | 2 1/2 | 2 1/2 | 7/16 | 3/8 | 1 | VF4S-212 | 5X698 | 37.00 | 31.55 | 1.7 |
| 1 | — | 3 3/4 | 2 3/4 | 2 3/4 | 1/2 | 7/16 | 1 7/16 | VF4S-216 | 5X699 | 40.00 | 34.10 | 1.9 |
| 1 3/16 | — | 4 1/4 | 3 1/8 | 3 1/4 | 17/32 | 7/16 | 1 7/16 | VF4S-219 | 5X700 | 47.00 | 40.30 | 3.0 |
| 1 1/4 | — | 4 5/8 | 3 5/8 | 3 5/8 | 19/32 | 1/2 | 1 3/4 | VF4S-220 | 5X701 | 56.00 | 47.45 | 3.9 |
| 1 7/16 | — | 4 5/8 | 3 5/8 | 3 5/8 | 19/32 | 1/2 | 1 3/4 | VF4S-223 | 5X702 | 56.00 | 47.45 | 3.7 |
| 1 1/2 | — | 4 5/8 | 4 1/8 | 4 | 5/8 | 1/2 | 2 1/64 | VF4S-224 | 5X703 | 60.00 | 51.05 | 5.4 |
| 1 15/16 | — | 5 5/8 | 4 5/16 | 4 5/8 | 5/8 | 9/16 | 2 5/32 | VF4S-231 | 5X704 | 80.00 | 67.90 | 6.0 |
| 2 3/16 | — | 6 3/8 | 5 1/4 | 5 1/8 | 13/16 | 5/8 | 3 5/16 | VF4S-235 | 1A118 | 94.00 | 79.95 | 9.4 |
| 2 7/16 | — | 6 7/8 | 5 7/16 | 5 5/8 | 13/16 | 5/8 | 2 11/16 | VF4S-239 | 1A119 | 115.00 | 97.30 | 11.0 |
| **C Rigid Mount VPS 100 Series, Setscrew Lock** | | | | | | | | | | | | |
| 1/2 | 1 3/16 | 2 7/32 | 4 7/8 | 3 5/8 | 15/32 | 3/8 | 15/16 | VPS-108 | 6X232 | 26.00 | 23.37 | 1.0 |
| 5/8 | 1 3/16 | 2 7/32 | 4 7/8 | 3 5/8 | 15/32 | 3/8 | 15/16 | VPS-110 | 6X233 | 26.00 | 23.37 | 1.0 |
| 3/4 | 1 5/16 | 2 17/32 | 5 | 3 25/32 | 17/32 | 3/8 | 1 1/16 | VPS-112 | 6X234 | 26.00 | 23.46 | 1.4 |
| 1 | 1 7/16 | 2 13/16 | 5 1/2 | 4 1/8 | 19/32 | 3/8 | 1 7/64 | VPS-116 | 6X235 | 28.00 | 25.65 | 1.5 |
| 1 1/4 | 1 11/16 | 3 9/32 | 6 3/16 | 4 5/8 | 21/32 | 1/2 | 1 5/32 | VPS-120S | 1A110 | 65.00 | 29.95 | 2.5 |
| **D Rigid Mount VPLE 200 Series Low Height, Eccentric Locking Collar** | | | | | | | | | | | | |
| 5/8 | 1 1/16 | 2 5/32 | 4 7/8 | 3 5/8 | 11/32 | 3/8 | 1 15/32 | VPLE-210 | 5X682 | 34.00 | 28.60 | 1.0 |
| 3/4 | 1 1/4 | 2 15/32 | 5 | 3 25/32 | 15/32 | 3/8 | 1 23/32 | VPLE-212 | 5X683 | 37.00 | 31.55 | 1.5 |
| 1 | 1 5/16 | 2 11/16 | 5 1/2 | 4 1/8 | 15/32 | 3/8 | 1 3/4 | VPLE-216 | 5X684 | 40.00 | 34.10 | 1.8 |
| 1 3/16 | 1 9/16 | 3 3/32 | 6 3/16 | 4 5/8 | 17/32 | 1/2 | 1 29/32 | VPLE-219 | 5X685 | 47.00 | 40.30 | 2.7 |
| 1 1/4 | 1 13/16 | 3 5/8 | 6 3/4 | 5 | 21/32 | 1/2 | 2 1/64 | VPLE-220 | 5X686 | 56.00 | 47.45 | 3.9 |
| 1 7/16 | 1 13/16 | 3 5/8 | 6 3/4 | 5 | 21/32 | 1/2 | 2 1/64 | VPLE-223 | 5X687 | 56.00 | 47.45 | 3.7 |
| 1 1/2 | 1 15/16 | 3 15/16 | 7 1/8 | 5 5/8 | 3/4 | 1/2 | 2 7/32 | VPLE-224 | 5X688 | 60.00 | 51.05 | 5.0 |
| 1 15/16 | 2 3/16 | 4 1/2 | 8 | 6 3/16 | 11/16 | 5/8 | 2 15/32 | VPLE-231 | 5X689 | 80.00 | 67.90 | 6.0 |
| 2 3/16 | 2 7/16 | 4 29/32 | 8 13/16 | 6 15/16 | 13/16 | 5/8 | 2 11/16 | VPLE-235 | 1A111 | 94.00 | 79.95 | 8.0 |
| 2 7/16 | 2 11/16 | 5 1/2 | 9 1/2 | 7 13/32 | 13/16 | 5/8 | 3 1/16 | VPLE-239 | 1A112 | 115.00 | 97.30 | 11.0 |
| **E Rigid Mount, VPS 200 Series High Height, Setscrew Lock** | | | | | | | | | | | | |
| 5/8 | 1 3/16 | 2 7/32 | 4 7/8 | 3 5/8 | 15/32 | 3/8 | 1 1/32 | VPS-210 | 5X690 | 34.00 | 28.60 | 1.1 |
| 3/4 | 1 5/16 | 2 17/32 | 5 | 3 25/32 | 17/32 | 3/8 | 1 7/32 | VPS-212 | 5X691 | 37.00 | 31.55 | 1.5 |
| 1 | 1 7/16 | 2 13/16 | 5 1/2 | 4 1/8 | 19/32 | 3/8 | 1 3/8 | VPS-216 | 5X692 | 40.00 | 34.10 | 1.8 |
| 1 3/16 | 1 11/16 | 3 9/32 | 6 3/16 | 4 5/8 | 21/32 | 1/2 | 1 1/2 | VPS-219 | 5X693 | 47.00 | 40.30 | 2.7 |
| 1 1/4 | 1 7/8 | 3 11/16 | 6 3/4 | 5 | 23/32 | 1/2 | 1 13/16 | VPS-220 | 5X694 | 56.00 | 47.45 | 3.7 |
| 1 7/16 | 1 7/8 | 3 11/16 | 6 3/4 | 5 | 23/32 | 1/2 | 1 11/16 | VPS-223 | 5X695 | 56.00 | 47.45 | 3.4 |
| 1 1/2 | 2 | 4 | 7 1/16 | 5 5/8 | 13/16 | 1/2 | 1 15/16 | VPS-224 | 5X696 | 60.00 | 51.05 | 4.6 |
| 1 15/16 | 2 1/4 | 4 9/16 | 8 | 6 3/16 | 3/4 | 5/8 | 2 1/16 | VPS-231 | 5X697 | 80.00 | 67.90 | 6.3 |
| 2 3/16 | 2 1/2 | 4 31/32 | 8 13/16 | 6 15/16 | 7/8 | 5/8 | 2 5/16 | VPS-235 | 1A113 | 94.00 | 79.95 | 7.7 |
| 2 7/16 | 2 3/4 | 5 9/16 | 9 1/2 | 7 13/32 | 7/8 | 5/8 | 2 9/16 | VPS-239 | 1A114 | 115.00 | 97.30 | 10.0 |

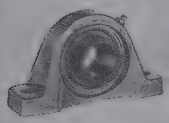


*We deliver the products that deliver the power.*

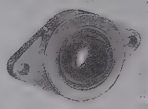
# NICKEL-PLATED 200 SERIES BEARINGS AND 300 SERIES BALL BEARING PILLOW BLOCKS

## NICKEL-PLATED 200 SERIES BEARINGS

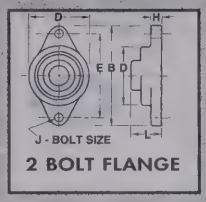
Browning VALULINE



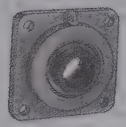
A



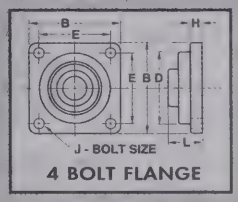
B



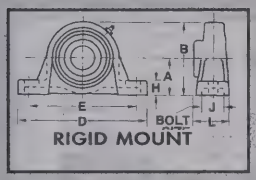

2 BOLT FLANGE



C




4 BOLT FLANGE




RIGID MOUNT

- Flange or rigid mounted models
- Ideal for corrosive environments or where a decorative finish is preferred
- USDA and FDA (Federal Drug Administration) compliant grease for use in food processing applications
- Bore range: 5/8 to 1 3/16"

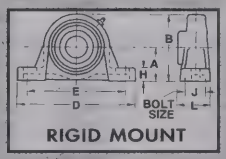
| Bore Dia. (In.) | Dimensions (In.) A | B | D | E | H | J | L | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A Rigid Mount VPS-200 Series, Setscrew Lock** | | | | | | | | | | | | |
| **5/8** | 1 3/16 | 2 7/32 | 4 7/8 | 3 1/8-4 1/8 | 15/32 | 3/8 | 1 1/32 | VPS-210NK | **6L001** | $78.00 | **$43.45** | 1.0 |
| **3/4** | 1 5/16 | 2 17/32 | 5 | 3 3/8-4 3/16 | 19/32 | 3/8 | 1 7/32 | VPS-212NK | **6L002** | 85.00 | **47.40** | 1.5 |
| **1** | 1 7/16 | 2 13/16 | 5 1/2 | 3 11/16-4 9/16 | 19/32 | 3/8 | 1 3/8 | VPS-216NK | **6L003** | 93.00 | **51.40** | 1.7 |
| **1 3/16** | 1 11/16 | 3 9/32 | 6 3/16 | 4 3/16-5 1/16 | 21/32 | 1/2 | 1 1/2 | VPS-219NK | **6L004** | 109.00 | **60.70** | 2.6 |
| **B Flange Mount (2 Bolt) VF2S-200 Series, Setscrew Lock** | | | | | | | | | | | | |
| **5/8** | — | 3 7/8 | 2 1/8 | 3 | 3/8 | 3/8 | 1 5/64 | VF2S-210NK | **6L005** | 78.00 | **43.45** | 0.7 |
| **3/4** | — | 4 13/32 | 2 1/2 | 3 17/32 | 7/16 | 3/8 | 1 9/32 | VF2S-212NK | **6L006** | 85.00 | **47.40** | 1.0 |
| **1** | — | 4 7/8 | 2 3/4 | 3 57/64 | 1/2 | 7/16 | 1 7/16 | VF2S-216NK | **6L007** | 93.00 | **51.40** | 1.4 |
| **1 3/16** | — | 5 9/16 | 3 1/8 | 4 19/32 | 17/32 | 7/16 | 1 9/16 | VF2S-219NK | **6L008** | 109.00 | **60.70** | 1.8 |
| **C Flange Mount (4 Bolt) VF4S-200 Series, Setscrew Lock** | | | | | | | | | | | | |
| **3/4** | — | 3 3/8 | 2 1/2 | 2 1/2 | 7/16 | 3/8 | 1 9/32 | VF4S-212NK | **6L009** | 85.00 | **47.40** | 1.5 |
| **1** | — | 3 3/4 | 2 3/4 | 2 3/4 | 1/2 | 7/16 | 1 7/16 | VF4S-216NK | **6L010** | 93.00 | **51.40** | 1.8 |
| **1 3/16** | — | 4 1/4 | 3 1/4 | 3 1/4 | 17/32 | 7/16 | 1 9/16 | VF4S-219NK | **6L011** | 109.00 | **60.70** | 2.5 |

## MEDIUM DUTY 300 SERIES BALL BEARING PILLOW BLOCKS

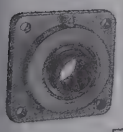
Browning VALULINE



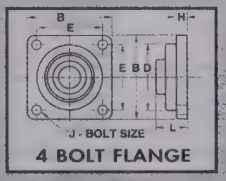
A




RIGID MOUNT



B




4 BOLT FLANGE

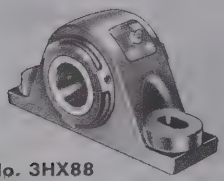
- Flange or rigid mounted models
- Temperature range: -30° to 200°F
- Bore range: 1 to 3 15/16"
- Cast-iron construction with solid feet
- Factory lubricated with grease fitting installed
- Molded lip contact seal
- Vacuum degassed 52100 bearing steel
- Molded nylon retainers
- Setscrew lock
- Fully self-aligning with anti-rotation device
- Flinger seal for added protection

| Bore Dia. (In.) | Dimensions (In.) A | B | D | E Min. | E Max. | H | J | L | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A Rigid Mount, VPS 300 Series Medium Duty** | | | | | | | | | | | | | |
| **1** | 1.75 | 3.34375 | 6.1875 | 4 3/16 | 5 1/16 | 23/32 | 0.5 | 1.75 | VPS-316 | **4FJ89** | $114.00 | **$64.10** | 3.6 |
| **1.1875** | 1.875 | 3.6875 | 6.75 | 4 5/8 | 5 3/8 | 23/32 | 0.5 | 1.875 | VPS-319 | **4FJ90** | 128.00 | **71.80** | 4.8 |
| **1.4375** | 2.125 | 4.1875 | 7.25 | 5 1/8 | 5 15/16 | 13/16 | 0.5 | 2.1875 | VPS-323 | **4FJ91** | 147.00 | **83.15** | 6.2 |
| **1.5** | 2.3125 | 4.5625 | 7.8125 | 5 19/32 | 6 11/32 | 13/16 | 5/8 | 2.28125 | VPS-324 | **4FJ92** | 156.00 | **88.30** | 8.0 |
| **1.6875** | 2.3125 | 4.625 | 7.9375 | 5 3/4 | 6 1/2 | 13/16 | 5/8 | 2.40625 | VPS-327 | **4FJ93** | 178.00 | **100.30** | 8.0 |
| **1.75** | 2.3125 | 4.625 | 7.9375 | 5 3/4 | 6 1/2 | 13/16 | 5/8 | 2.40625 | VPS-328 | **4FJ94** | 178.00 | **100.30** | 8.0 |
| **1.9375** | 2.5 | 4.96875 | 8.8125 | 6 7/16 | 7 7/16 | 7/8 | 5/8 | 2.46875 | VPS-331 | **4FJ95** | 203.00 | **114.70** | 11.0 |
| **2** | 2.5 | 4.96875 | 8 13/16 | 6 7/16 | 7 7/16 | 7/8 | 5/8 | 2.46875 | VPS-332 | **4FJ96** | 203.00 | **114.70** | 10.0 |
| **2.1875** | 2.75 | 5.5625 | 9.5 | 6 7/8 | 7 15/16 | 7/8 | 5/8 | 2.75 | VPS-335 | **4FJ97** | 248.00 | **140.05** | 14.0 |
| **2.25** | 2.75 | 5.5625 | 9.5 | 6 7/8 | 7 15/16 | 7/8 | 5/8 | 2.75 | VPS-336 | **4FJ98** | 248.00 | **140.05** | 14.0 |
| **2.4375** | 3 | 6.1875 | 10.75 | 7 5/8 | 8 7/8 | 15/16 | 3/4 | 3.03125 | VPS-339 | **4FJ99** | 296.00 | **168.00** | 19.0 |
| **2.5** | 3 | 6.1875 | 10.75 | 7 5/8 | 8 7/8 | 15/16 | 3/4 | 3.0312 | VPS-340 | **4FK01** | 296.00 | **168.00** | 19.0 |
| **2.6875** | 3.5 | 6.8125 | 12 | 8 5/8 | 9 7/8 | 1 | 7/8 | 3.25 | VPS-343 | **4FK02** | 394.00 | **223.25** | 24.0 |
| **2.9375** | 3.5 | 7 | 12 | 8 5/8 | 9 7/8 | 1.25 | 7/8 | 3.375 | VPS-347 | **4FK03** | 432.00 | **244.50** | 26.0 |
| **3** | 3.5 | 7 | 12 | 8 5/8 | 9 7/8 | 1.25 | 7/8 | 3.375 | VPS-348 | **4FK04** | 432.00 | **244.50** | 26.0 |
| **3.4375** | 4 | 7.9375 | 14 | 10 1/2 | 11 3/4 | 1.3125 | 7/8 | 3.8125 | VPS-355 | **4FK05** | 721.00 | **407.25** | 39.0 |
| **3.5** | 4 | 7.9375 | 14 | 10 1/2 | 11 3/4 | 1.3125 | 7/8 | 3.8125 | VPS-356 | **4FK06** | 721.00 | **407.50** | 41.0 |
| **3.9375** | 5 | 9.75 | 17 | 12 7/16 | 14 1/16 | 1.375 | 1 | 4.5 | VPS-363 | **4FK07** | 1159.00 | **656.50** | 73.0 |
| **B Flange Mount (4 Bolt) VF4S Series Medium Duty** | | | | | | | | | | | | | |
| **1** | — | 4.25 | 3.125 | — | 3.25 | 17/32 | 7/16 | 1.5625 | VF4S-316 | **4FJ71** | 91.00 | **50.90** | 2.2 |
| **1.1875** | — | 4.625 | 3.625 | — | 3.625 | 19/32 | 1/2 | 1.75 | VF4S-319 | **4FJ72** | 107.00 | **60.05** | 3.7 |
| **1.4375** | — | 5.125 | 4.125 | — | 4 | 5/8 | 1/2 | 2.015625 | VF4S-323 | **4FJ73** | 121.00 | **67.90** | 4.6 |
| **1.5** | — | 5.375 | 4.375 | — | 4.125 | 5/8 | 1/2 | 2.046875 | VF4S-324 | **4FJ74** | 140.00 | **78.90** | 5.3 |
| **1.6875** | — | 5.625 | 4.5625 | — | 4.375 | 5/8 | 1/2 | 2.15625 | VF4S-327 | **4FJ75** | 160.00 | **90.30** | 5.5 |
| **1.75** | — | 5.625 | 4.5625 | — | 4.375 | 5/8 | 1/2 | 2.15625 | VF4S-328 | **4FJ76** | 160.00 | **90.30** | 5.5 |
| **1.9375** | — | 6.375 | 5.25 | — | 5.125 | 13/16 | 5/8 | 2.3125 | VF4S-331 | **4FJ77** | 189.00 | **106.55** | 8.6 |
| **2** | — | 6.375 | 5.25 | — | 5.125 | 13/16 | 5/8 | 2.3125 | VF4S-332 | **4FJ78** | 189.00 | **106.55** | 8.6 |
| **2.1875** | — | 6.875 | 5.4375 | — | 5.625 | 13/16 | 5/8 | 2.6875 | VF4S-335 | **4FJ79** | 229.00 | **129.50** | 11.0 |
| **2.25** | — | 6.875 | 5.4667 | — | 5.625 | 13/16 | 5/8 | 2.6875 | VF4S-336 | **4FJ80** | 229.00 | **129.50** | 11.0 |
| **2.4375** | — | 7.375 | 6.125 | — | 5.875 | 13/16 | 5/8 | 2.875 | VF4S-339 | **4FJ81** | 316.00 | **177.75** | 11.0 |
| **2.5** | — | 7.375 | 6.125 | — | 5.875 | 13/16 | 5/8 | 2.875 | VF4S-340 | **4FJ82** | 316.00 | **178.00** | 12.0 |
| **2.6875** | — | 7.75 | 6.5 | — | 6 | 1 | 3/4 | 3.25 | VF4S-343 | **4FJ83** | 364.00 | **205.00** | 16.0 |
| **2.9375** | — | 7.75 | 6.75 | — | 6 | 1 | 3/4 | 3.3125 | VF4S-347 | **4FJ84** | 426.00 | **240.00** | 18.0 |
| **3** | — | 7.75 | 6.75 | — | 6 | 1 | 3/4 | 3.3125 | VF4S-348 | **4FJ85** | 426.00 | **240.00** | 18.0 |
| **3.4375** | — | 8.4375 | 7.75 | — | 6.75 | 1.125 | 3/4 | 3.84375 | VF4S-355 | **4FJ86** | 710.00 | **399.50** | 24.0 |
| **3.5** | — | 8.4375 | 7.75 | — | 6.75 | 1.125 | 3/4 | 3.84375 | VF4S-356 | **4FJ87** | 710.00 | **399.50** | 24.0 |
| **3.9375** | — | 10.5625 | 9.25 | — | 8.3125 | 1.375 | 7/8 | 4.59375 | VF4S-363 | **4FJ88** | 1118.00 | **629.50** | 37.0 |

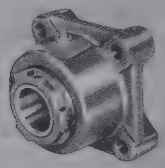
# E920 SERIES TAPERED ROLLER BEARING PILLOW BLOCKS

Browning

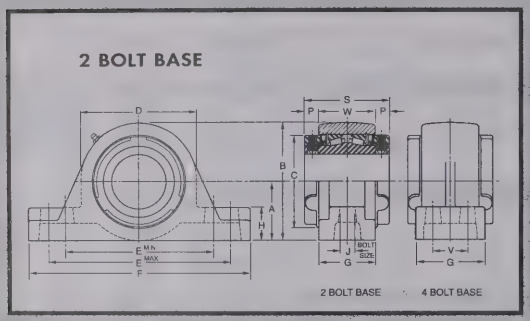
New

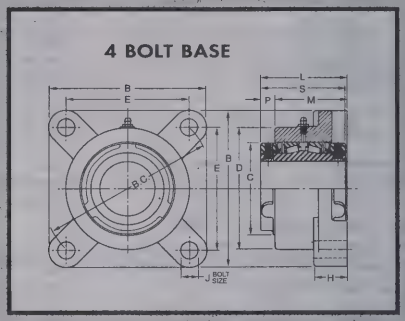


No. 3HX88



No. 3HX38




- Tapered roller bearings with double extended inner race with two locking collars
- Heavy-duty cast-iron housings
- Flinger-type locking collars to repel contaminants
- Low torque purgeable face contact seals
- Bearings dimensionally interchangeable with comparable competitive type E units (Dodge, SKF, Linkbelt)
- Bore range: 2 to 4 15/16"

| Bore Size (In.) | Dimensions (Inches) A | B | C | D | E Min. | E Max. | F | G | H | J | P | S | V | W | Browning Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PILLOW BLOCK—2 BOLT BASE** | | | | | | | | | | | | | | | | | | | |
| 1 3/16 | 1 1/2 | 3 | 2 1/4 | 3 | 4 5/16 | 5 | 6 3/8 | 1 7/8 | 7/8 | 1/2 | 7/16 | 2 3/4 | — | 1 7/8 | PBE920 X 1 3/16 | **4RL56** | $174.00 | **$121.10** | 4.0 |
| 1 1/4 | 1 1/2 | 3 | 2 1/4 | 3 | 4 5/16 | 5 | 6 3/8 | 1 7/8 | 7/8 | 1/2 | 7/16 | 2 3/4 | — | 1 7/8 | PBE920 X 1 1/4 | **4RL53** | 174.00 | **121.10** | 4.0 |
| 1 3/8 | 1 7/8 | 3 3/4 | 2 3/4 | 3 5/8 | 5 | 6 | 7 3/8 | 2 1/8 | 1 1/8 | 1/2 | 7/16 | 3 | — | 2 1/8 | PBE920 X 1 3/8 | **4RL58** | 196.50 | **136.80** | 6.9 |
| 1 7/16 | 1 7/8 | 3 3/4 | 2 3/4 | 3 5/8 | 5 | 6 | 7 3/8 | 2 1/8 | 1 1/8 | 1/2 | 7/16 | 3 | — | 2 1/8 | PBE920 X 1 7/16 | **4RL59** | 196.50 | **136.80** | 6.9 |
| 1 1/2 | 2 1/8 | 4 1/4 | 3 3/16 | 4 1/4 | 5 1/16 | 6 1/2 | 7 3/8 | 2 3/8 | 1 1/4 | 1/2 | 1/2 | 3 3/8 | — | 2 3/8 | PBE920 X 1 1/2 | **4RL52** | 238.70 | **166.25** | 9.5 |
| 1 11/16 | 2 1/8 | 4 1/4 | 3 3/16 | 4 1/4 | 5 1/16 | 6 1/2 | 7 3/8 | 2 3/8 | 1 1/4 | 1/2 | 1/2 | 3 3/8 | — | 2 3/8 | PBE920 X 1 11/16 | **4RL54** | 238.70 | **166.25** | 9.5 |
| 1 3/4 | 2 1/4 | 4 1/2 | 3 7/16 | 4 1/4 | 6 5/16 | 7 1/4 | 8 7/8 | 2 1/2 | 1 1/4 | 5/8 | 1/2 | 3 1/2 | — | 2 1/2 | PBE920 X 1 3/4 | **4RL57** | 266.70 | **185.75** | 11.0 |
| 1 15/16 | 2 1/4 | 4 1/2 | 3 7/16 | 4 1/4 | 6 5/16 | 7 1/4 | 8 7/8 | 2 1/2 | 1 1/4 | 5/8 | 1/2 | 3 1/2 | — | 2 1/2 | PBE920 X 1 15/16 | **4RL55** | 266.70 | **185.75** | 11.0 |
| 2 1/2 | 2 3/4 | 5 1/2 | 4 1/16 | 5 5/8 | 7 1/8 | 8 3/4 | 10 1/2 | 2 7/8 | 1 5/8 | 5/8 | 9/16 | 4 | — | 2 7/8 | PBE920 X 2 1/2 | **4RL60** | 337.00 | **234.75** | 19.0 |
| 2 | 2 1/4 | 4 1/2 | 3 7/16 | 4 1/4 | 6 3/16 | 7 1/4 | 8 7/8 | 2 1/2 | 1 1/4 | 5/8 | 1/2 | 3 1/2 | — | 2 1/2 | PBE920 x 2 | **3HX88** | 283.00 | **197.00** | 11.0 |
| 2 3/16 | 2 1/2 | 5 | 3 3/4 | 5 | 6 11/16 | 8 | 9 5/8 | 2 5/8 | 1 7/16 | 5/8 | 9/16 | 3 3/4 | — | 2 5/8 | PBE920 x 2 3/16 | **3HX83** | 320.00 | **223.00** | 14.0 |
| 2 1/4 | 2 3/4 | 5 1/2 | 4 1/16 | 5 5/8 | 7 1/8 | 8 7/8 | 10 1/2 | 2 7/8 | 1 5/8 | 5/8 | 9/16 | 4 | — | 2 7/8 | PBE920 x 2 1/4 | **3HX80** | 357.00 | **249.50** | 19.0 |
| 2 7/16 | 2 3/4 | 5 1/2 | 4 1/16 | 5 5/8 | 7 1/8 | 8 3/4 | 10 1/2 | 2 7/8 | 1 5/8 | 5/8 | 9/16 | 4 | — | 2 7/8 | PBE920 x 2 7/16 | **3HX84** | 357.00 | **249.50** | 19.0 |
| 2 11/16 | 3 1/8 | 6 1/4 | 4 23/32 | 6 1/4 | 8 7/16 | 9 3/4 | 12 | 3 | 1 3/4 | 3/4 | 3/4 | 4 1/2 | — | 3 | PBE920 x 2 11/16 | **3HX81** | 551.00 | **383.75** | 26.0 |
| 2 15/16 | 3 1/8 | 6 1/4 | 4 23/32 | 6 1/4 | 8 7/16 | 9 3/4 | 12 | 3 | 1 3/4 | 3/4 | 3/4 | 4 1/2 | — | 3 | PBE920 x 2 15/16 | **3HX82** | 551.00 | **383.75** | 26.0 |
| 3 | 3 1/8 | 6 1/4 | 4 23/32 | 6 1/4 | 8 7/16 | 9 3/4 | 12 | 3 | 1 3/4 | 3/4 | 3/4 | 4 1/2 | — | 3 | PBE920 x 3 | **3HX89** | 551.00 | **383.75** | 26.0 |
| 3 3/16 | 3 1/4 | 7 1/2 | 5 7/16 | 7 5/8 | 9 1/4 | 11 1/2 | 14 | 3 5/8 | 2 1/8 | 7/8 | 11/16 | 5 | — | 3 5/8 | PBE920 x 3 3/16 | **3HX86** | 948.00 | **661.00** | 44.0 |
| 3 7/16 | 3 1/4 | 7 1/2 | 5 7/16 | 7 5/8 | 9 3/4 | 11 1/2 | 14 | 3 5/8 | 2 1/8 | 7/8 | 11/16 | 5 | — | 3 5/8 | PBE920 x 3 7/16 | **3HX87** | 796.00 | **556.00** | 44.0 |
| 3 1/2 | 3 3/4 | 7 1/2 | 5 7/16 | 7 5/8 | 9 3/4 | 11 1/2 | 14 | 3 5/8 | 2 1/8 | 7/8 | 11/16 | 5 | — | 3 5/8 | PBE920 x 3 1/2 | **3HX85** | 948.00 | **661.00** | 44.0 |
| **PILLOW BLOCK—4 BOLT BASE** | | | | | | | | | | | | | | | | | | | |
| 2 7/16 | 2 3/4 | 5 1/2 | 4 1/16 | 5 5/8 | 7 1/8 | 8 3/4 | 10 1/2 | 3 1/2 | 1 5/8 | 5/8 | 9/16 | 4 | 1 7/8 | 2 7/8 | PBE920F x 2 7/16 | **3HX60** | 357.00 | **249.50** | 19.0 |
| 2 1/2 | 2 3/4 | 5 1/2 | 4 1/16 | 5 5/8 | 7 1/8 | 8 3/4 | 10 1/2 | 4 1/2 | 1 5/8 | 5/8 | 9/16 | 4 | 1 7/8 | 2 7/8 | PBE920F x 2 1/2 | **3HX57** | 413.00 | **288.00** | 19.0 |
| 2 11/16 | 3 1/8 | 6 1/4 | 4 23/32 | 6 1/4 | 8 | 9 7/8 | 12 | 4 | 1 3/4 | 5/8 | 3/4 | 4 1/2 | 2 1/8 | 3 | PBE920F x 2 11/16 | **3HX58** | 635.00 | **442.25** | 26.0 |
| 2 15/16 | 3 1/8 | 6 1/4 | 4 23/32 | 6 1/4 | 8 | 9 7/8 | 12 | 4 | 1 3/4 | 5/8 | 3/4 | 4 1/2 | 2 1/8 | 3 | PBE920F x 2 15/16 | **3HX59** | 551.00 | **383.75** | 26.0 |
| 3 | 3 1/8 | 6 1/4 | 4 23/32 | 6 1/4 | 8 | 9 7/8 | 12 | 4 | 1 3/4 | 5/8 | 3/4 | 4 1/2 | 2 1/8 | 3 | PBE920F x 3 | **3HX68** | 635.00 | **442.25** | 26.0 |
| 3 3/16 | 3 3/4 | 7 1/2 | 5 7/16 | 7 5/8 | 9 11/16 | 11 7/16 | 14 | 4 1/2 | 2 1/8 | 3/4 | 11/16 | 5 | 2 1/8 | 3 5/8 | PBE920F x 3 3/16 | **3HX63** | 948.00 | **661.00** | 44.0 |
| 3 7/16 | 3 3/4 | 7 1/2 | 5 7/16 | 7 5/8 | 9 11/16 | 11 7/16 | 14 | 4 1/2 | 2 1/8 | 3/4 | 11/16 | 5 | 2 1/8 | 3 5/8 | PBE920F x 3 7/16 | **3HX64** | 796.00 | **556.00** | 44.0 |
| 3 1/2 | 3 3/4 | 7 1/2 | 5 7/16 | 7 5/8 | 9 11/16 | 11 7/16 | 14 | 4 1/2 | 2 1/8 | 3/4 | 11/16 | 5 | 2 1/8 | 3 5/8 | PBE920F x 3 1/2 | **3HX61** | 948.00 | **661.00** | 44.0 |
| 3 15/16 | 4 1/4 | 8 1/2 | 5 11/16 | 8 1/2 | 10 7/16 | 12 7/8 | 15 1/4 | 4 1/2 | 2 7/16 | 3/4 | 7/8 | 6 1/4 | 2 1/4 | 4 1/2 | PBE920F x 3 15/16 | **3HX62** | 1190.00 | **831.50** | 65.0 |
| 4 | 4 1/4 | 8 1/2 | 5 15/16 | 8 1/2 | 10 7/16 | 12 7/8 | 15 1/4 | 4 1/2 | 2 7/16 | 3/4 | 7/8 | 6 1/4 | 2 1/4 | 4 1/2 | PBE920F x 4 | **3HX69** | 1252.00 | **873.50** | 65.0 |
| 4 7/16 | 4 3/4 | 9 1/8 | 6 5/16 | 9 1/8 | 11 1/4 | 13 7/8 | 16 3/8 | 4 5/8 | 2 3/4 | 3/4 | 1 1/16 | 6 3/4 | 2 1/2 | 4 5/8 | PBE920F x 4 7/16 | **3HX67** | 1935.00 | **1348.00** | 81.0 |
| 4 1/2 | 4 3/4 | 9 1/8 | 6 5/16 | 9 1/8 | 11 1/4 | 13 7/8 | 16 3/8 | 4 5/8 | 2 3/4 | 3/4 | 1 1/16 | 6 3/4 | 2 1/2 | 4 5/8 | PBE920F x 4 1/2 | **3HX65** | 1935.00 | **1348.00** | 81.0 |
| 4 15/16 | 5 1/2 | 10 7/8 | 7 13/32 | 10 3/4 | 13 | 15 7/8 | 18 1/2 | 5 1/8 | 3 1/8 | 7/8 | 1 1/16 | 7 1/4 | 2 3/4 | 5 1/8 | PBE920F x 4 15/16 | **3HX66** | 2589.00 | **1807.00** | 132.0 |
| 5 | 5 1/2 | 10 7/8 | 7 13/32 | 10 3/4 | 13 | 15 7/8 | 18 1/2 | 5 1/8 | 3 1/8 | 7/8 | 1 1/16 | 7 1/4 | 2 3/4 | 5 1/8 | PBE920F x 5 15/16 | **4RL51** | 2917.60 | **2031.00** | 132.0 |



We deliver the products that deliver the power.

# E920 SERIES TAPERED ROLLER BEARING PILLOW BLOCKS

## FLANGE MOUNT—4 BOLT

| Bore Size (In.) | Dimensions (Inches) | | | | | | | | | | | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | B.C. | C | D | E | H | J | L | M | P | S | | | | | |
| **1 3/16** | 3 3/4 | 4 1/16 | 2 1/4 | 3 | 2 7/8 | 1 1/32 | 3/8 | 2 13/16 | 2 3/8 | 7/16 | 2 3/4 | FBE920 x 1 3/16 | **3HX38** | $178.00 | **$123.95** | 4.5 |
| **1 1/4** | 3 3/4 | 4 1/16 | 2 1/4 | 3 | 2 7/8 | 1 1/32 | 3/8 | 2 13/16 | 2 3/8 | 7/16 | 2 3/4 | FBE920 x 1 1/4 | **3HX35** | 178.00 | **123.95** | 4.5 |
| **1 7/16** | 4 5/8 | 4 61/64 | 2 3/4 | 3 5/8 | 3 1/2 | 1 1/16 | 1/2 | 3 1/16 | 2 5/8 | 7/16 | 3 | FBE920 x 1 7/16 | **3HX40** | 201.00 | **139.70** | 6.7 |
| **1 1/2** | 5 3/8 | 5 27/32 | 3 3/16 | 4 1/4 | 4 1/8 | 1 3/16 | 1/2 | 3 1/2 | 3 | 1/2 | 3 3/8 | FBE920 x 1 1/2 | **3HX34** | 238.00 | **166.00** | 10.0 |
| **1 11/16** | 5 3/8 | 5 27/32 | 3 3/16 | 4 1/4 | 4 1/8 | 1 3/16 | 1/2 | 3 1/2 | 3 | 1/2 | 3 3/8 | FBE920 x 1 11/16 | **3HX36** | 238.00 | **166.00** | 10.0 |
| **1 3/4** | 5 5/8 | 6 3/16 | 3 7/16 | 4 1/2 | 4 3/8 | 1 3/16 | 1/2 | 3 5/8 | 3 1/8 | 1/2 | 3 1/2 | FBE920 x 1 3/4 | **3HX39** | 275.00 | **192.00** | 12.0 |
| **1 15/16** | 5 5/8 | 6 3/16 | 3 7/16 | 4 1/2 | 4 3/8 | 1 3/16 | 1/2 | 3 5/8 | 3 1/8 | 1/2 | 3 1/2 | FBE920 x 1 15/16 | **3HX37** | 275.00 | **192.00** | 12.0 |
| **2** | 5 5/8 | 6 3/16 | 3 7/16 | 4 1/2 | 4 3/8 | 1 3/16 | 1/2 | 3 5/8 | 3 1/8 | 1/2 | 3 1/2 | FBE920 x 2 | **3HX50** | 275.00 | **192.00** | 12.0 |
| **2 3/16** | 6 1/4 | 6 57/64 | 3 3/4 | 4 7/8 | 4 7/8 | 1 1/4 | 5/8 | 3 7/8 | 3 5/16 | 9/16 | 3 3/4 | FBE920 x 2 3/16 | **3HX44** | 312.00 | **218.25** | 16.0 |
| **2 7/16** | 6 7/8 | 7 19/32 | 4 1/16 | 5 1/2 | 5 3/8 | 1 1/2 | 5/8 | 4 3/16 | 3 5/8 | 9/16 | 4 | FBE920 x 2 7/16 | **3HX45** | 357.00 | **249.50** | 21.0 |
| **2 1/2** | 6 7/8 | 7 19/32 | 4 1/16 | 5 1/2 | 5 3/8 | 1 1/2 | 5/8 | 4 3/16 | 3 5/8 | 9/16 | 4 | FBE920 x 2 1/2 | **3HX41** | 357.00 | **249.50** | 21.0 |
| **2 11/16** | 7 3/4 | 8 31/64 | 4 23/32 | 6 1/8 | 6 | 1 5/8 | 3/4 | 4 11/16 | 3 15/16 | 3/4 | 4 1/2 | FBE920 x 2 11/16 | **3HX42** | 548.00 | **382.75** | 28.0 |
| **2 15/16** | 7 3/4 | 8 31/64 | 4 23/32 | 6 1/8 | 6 | 1 5/8 | 3/4 | 4 11/16 | 4 15/16 | 3/4 | 4 1/2 | FBE920 x 2 15/16 | **3HX43** | 520.00 | **363.75** | 28.0 |
| **3** | 7 3/4 | 8 31/64 | 4 23/32 | 6 1/8 | 6 | 1 5/8 | 3/4 | 4 11/16 | 5 15/16 | 3/4 | 4 1/2 | FBE920 x 3 | **3HX51** | 521.00 | **363.75** | 28.0 |
| **3 3/16** | 9 1/4 | 9 29/32 | 5 7/16 | 7 1/2 | 7 | 1 7/8 | 3/4 | 5 1/4 | 4 9/16 | 11/16 | 5 | FBE920 x 3 3/16 | **3HX48** | 973.00 | **678.50** | 46.0 |
| **3 7/16** | 9 1/4 | 9 29/32 | 5 7/16 | 7 1/2 | 7 | 1 7/8 | 3/4 | 5 1/4 | 4 9/16 | 11/16 | 5 | FBE920 x 3 7/16 | **3HX49** | 774.00 | **541.00** | 46.0 |
| **3 1/2** | 9 1/4 | 9 29/32 | 5 7/16 | 7 1/2 | 7 | 1 7/8 | 3/4 | 5 1/4 | 4 9/16 | 11/16 | 5 | FBE920 x 3 1/2 | **3HX46** | 814.00 | **568.50** | 46.0 |
| **3 15/16** | 10 1/4 | 10 31/32 | 5 15/16 | 8 1/4 | 7 3/4 | 2 1/8 | 7/8 | 6 1/2 | 5 5/8 | 7/8 | 6 1/4 | FBE920 x 3 15/16 | **3HX47** | 1161.00 | **810.50** | 64.0 |
| **4** | 10 1/4 | 10 31/32 | 5 15/16 | 8 1/4 | 7 3/4 | 2 1/8 | 7/8 | 6 1/2 | 5 5/8 | 7/8 | 6 1/4 | FBE920 x 4 | **3HX52** | 1446.00 | **1007.00** | 64.0 |

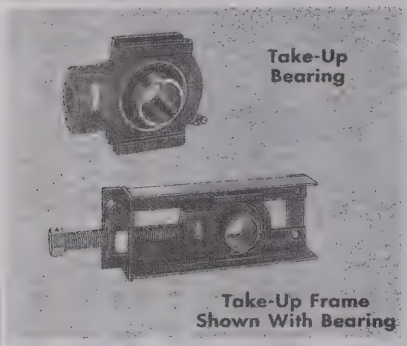
| Bore | Thrust Rating | Hours | Revolutions Per Minute 50 | 150 | 250 | 500 | 1000 | 1750 | 2500 | 3500 |
|---|---|---|---|---|---|---|---|---|---|---|
| **1 3/16-1 1/4** | 1390 | 10000 | 4136 | 2975 | 2552 | 2073 | 1684 | 1424 | 1279 | 1156 |
| **1 3/8-1 7/16** | 2080 | 10000 | 6618 | 4760 | 4084 | 3317 | 2694 | 2278 | 2047 | 1850 |
| **1 1/2-1 11/16** | 2600 | 10000 | 8537 | 6140 | 5268 | 4279 | 3475 | 2938 | 2640 | 2387 |
| **1 3/4-2** | 2540 | 10000 | 11220 | 8770 | 6923 | 564 | 4568 | 3862 | 3470 | 3137 |
| **2 3/16** | 2980 | 10000 | 11916 | 8570 | 7352 | 5972 | 4851 | 4101 | 3685 | — |
| **2 1/4-2 1/2** | 3470 | 10000 | 12555 | 9030 | 7747 | 6293 | 5111 | 4321 | 3883 | — |
| **2 7/16-3** | 4260 | 10000 | 13389 | 9630 | 8262 | 6711 | 5451 | 4608 | — | — |
| **3 3/16-3 1/2** | 7410 | 10000 | 21301 | 15320 | 13143 | 10676 | 8671 | 7331 | — | — |
| **3 15/16-4** | 9800 | 10000 | 29170 | 20980 | 17999 | 14620 | 11875 | — | — | — |
| **4 7/16-4 1/2** | 13100 | 10000 | 35803 | 25750 | 22091 | 17944 | 14575 | — | — | — |
| **4 15/16-5** | 16000 | 10000 | 49387 | 35520 | 30473 | 24752 | 20105 | — | — | — |


## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust.

More than 900 national brands are listed in the Brand Index at the back of this catalog.

# TAKE-UP BEARINGS AND FRAMES




- Primarily used on conveyor systems to properly tension conveyor belt, and for adjusting conveyor position to allow for correct conveyor belt tracking
- Extra wide inner race 200 series bearing
- Neoprene lip contact sealed bearing
- Setscrew lock
- Rugged cast-iron bearing housing
- Heavy-duty painted steel constructed take-up frame
- Cadmium-plated threaded rod and nut included with frame
- 3-12" travel available for take-up depending on frame selected
- Browning brand

Browning VALULINE

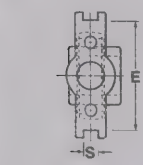
## 200 SERIES TAKE-UP BEARING ORDERING DATA

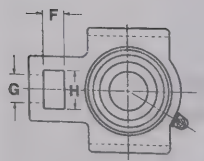
| Bore Size (In.) | Use With Frame No. | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2 | 1L615, 1L616, 1L617 | VTWS-208 | 1L596 | $90.00 | $43.45 | 1.5 |
| 5/8 | 1L615, 1L616, 1L617 | VTWS-210 | 1L597 | 90.00 | 43.45 | 1.5 |
| 3/4 | 1L615, 1L616, 1L617 | VTWS-212 | 1L598 | 90.00 | 43.45 | 2.0 |
| 7/8 | 1L615, 1L616, 1L617 | VTWS-214 | 1L599 | 98.00 | 47.10 | 2.0 |
| 15/16 | 1L615, 1L616, 1L617 | VTWS-215 | 1L600 | 98.00 | 47.10 | 1.9 |
| 1 | 1L615, 1L616, 1L617 | VTWS-216 | 1L601 | 98.00 | 47.10 | 2.0 |
| 1 1/8 | 1L618, 1L619 | VTWS-218 | 1L602 | 115.00 | 55.20 | 2.8 |
| 1 3/16 | 1L618, 1L619 | VTWS-219 | 1L603 | 115.00 | 55.20 | 3.0 |
| 1 1/4 | 1L618, 1L619 | VTWS-220 | 1L604 | 134.00 | 64.35 | 3.2 |
| 1 3/8 | 1L618, 1L619 | VTWS-222 | 1L605 | 134.00 | 64.35 | 2.5 |
| 1 7/16 | 1L618, 1L619 | VTWS-223 | 1L606 | 134.00 | 64.35 | 3.0 |
| 1 1/2 | 1L620, 1L621, 1L622 | VTWS-224 | 1L607 | 152.00 | 72.80 | 4.0 |
| 1 5/8 | 1L620, 1L621, 1L622 | VTWS-226 | 1L608 | 165.00 | 79.40 | 4.6 |
| 1 11/16 | 1L620, 1L621, 1L622 | VTWS-227 | 1L609 | 165.00 | 79.40 | 4.0 |
| 1 3/4 | 1L620, 1L621, 1L622 | VTWS-228 | 1L610 | 165.00 | 79.40 | 4.4 |
| 1 15/16 | 1L620, 1L621, 1L622 | VTWS-231 | 1L611 | 178.00 | 85.25 | 4.5 |
| 2 | 1L623, 1L624 | VTWS-232 | 1L612 | 223.00 | 107.00 | 7.9 |
| 2 3/16 | 1L623, 1L624 | VTWS-235 | 1L613 | 223.00 | 107.00 | 8.0 |
| 2 7/16 | 1L623, 1L624 | VTWS-239 | 1L614 | 246.00 | 117.85 | 9.0 |

## TAKE-UP FRAME ORDERING DATA

| Accommodates Bearing Bore Range (In.) | Adjustment Range (In.) | Overall Dimensions (In.) Length | Width | Bolt Holes Qty. | Size (In.) | Browning Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2-1 | 3 | 8 1/2 | 4 1/16 | 3 | 9/16 | 3SF16 | 1L615 | $102.00 | $47.50 | 3.0 |
| 1/2-1 | 6 | 11 1/2 | 4 1/16 | 3 | 9/16 | 6SF16 | 1L616 | 111.00 | 51.70 | 5.0 |
| 1/2-1 | 9 | 14 1/2 | 4 1/16 | 3 | 9/16 | 9SF16 | 1L617 | 128.00 | 59.45 | 5.5 |
| 1 3/16-1 7/16 | 6 | 12 3/8 | 4 11/16 | 3 | 9/16 | 6SF23 | 1L618 | 124.00 | 58.05 | 6.0 |
| 1 3/16-1 7/16 | 9 | 15 3/8 | 4 11/16 | 3 | 9/16 | 9SF23 | 1L619 | 139.00 | 64.90 | 7.5 |
| 1 1/2-1 15/16 | 6 | 14 | 5 1/16 | 4 | 9/16 | 6SF31 | 1L620 | 168.00 | 78.40 | 9.0 |
| 1 1/2-1 15/16 | 9 | 17 | 5 1/16 | 4 | 9/16 | 9SF31 | 1L621 | 181.00 | 84.25 | 10.0 |
| 1 1/2-1 15/16 | 12 | 20 | 5 1/16 | 4 | 9/16 | 12SF31 | 1L622 | 205.00 | 95.25 | 13.0 |
| 2-2 7/16 | 9 | 18 1/4 | 6 3/8 | 4 | 11/16 | 9SF39 | 1L623 | 253.00 | 117.90 | 19.0 |
| 2-2 7/16 | 12 | 21 1/4 | 6 3/8 | 4 | 11/16 | 12SF39 | 1L624 | 274.00 | 127.60 | 22.0 |

## BROWNING TAKE-UP BEARING COMPARISON CHART




| Bore Size (In.) | Browning VTWS-200 E | S | G | Dodge SC E | S | G | Hub City WSTU250 E | S | G | MB TC-25 E | S | G | Link Belt TH3-U200N E | S | G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 3 | 17/32 | 3/4 | 3 | 17/32 | 5/8 | — | — | — | — | — | — | — | — | — |
| 5/8 | 3 | 17/32 | 3/4 | 3 | 17/32 | 5/8 | — | — | — | — | — | — | — | — | — |
| 3/4 | 3 | 17/32 | 3/4 | 3 | 17/32 | 5/8 | 3 | 17/32 | 3/4 | 3 | 17/32 | 3/4 | 3 | 17/32 | 3/4 |
| 7/8 | 3 | 17/32 | 3/4 | 3 | 17/32 | 5/8 | 3 | 17/32 | 3/4 | 3 | 17/32 | 3/4 | 3 | 17/32 | 3/4 |
| 15/16 | 3 | 17/32 | 3/4 | 3 | 17/32 | 5/8 | 3 | 17/32 | 3/4 | 3 | 17/32 | 3/4 | 3 | 17/32 | 3/4 |
| 1 | 3 | 17/32 | 3/4 | 3 | 17/32 | 5/8 | 3 | 17/32 | 3/4 | 3 | 17/32 | 3/4 | 3 | 17/32 | 3/4 |
| 1 1/16 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 3/4 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 |
| 1 3/16 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 3/4 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 |
| 1 1/4 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 3/4 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 |
| 1 3/8 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 3/4 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 |
| 1 7/16 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 3/4 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 | 3 1/2 | 17/32 | 7/8 |
| 1 1/2 | 4 | 11/16 | 1 1/8 | 4 | 11/16 | 1 | 4 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 |
| 1 5/8 | 4 | 11/16 | 1 1/8 | 4 | 11/16 | 1 | 4 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 |
| 1 11/16 | 4 | 11/16 | 1 1/8 | 4 | 11/16 | 1 | 4 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 |
| 1 3/4 | 4 | 11/16 | 1 1/8 | 4 | 11/16 | 1 | 4 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 |
| 1 15/16 | 4 | 11/16 | 1 1/8 | 4 | 11/16 | 1 | 4 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 | 3 31/32 | 11/16 | 1 1/8 |
| 2 | 5 1/8 | 1 1/16 | 1 3/8 | 5 1/8 | 1 1/16 | 1 1/4 | 5 1/8 | 11/16 | 1 3/8 | 3 31/32 | 11/16 | 1 1/8 | 5 31/32 | 1 1/16 | 1 3/8 |
| 2 3/16 | 5 1/8 | 1 1/16 | 1 3/8 | 5 1/8 | 1 1/16 | 1 1/4 | 5 1/8 | 1 1/16 | 1 3/8 | 5 31/32 | 1 1/16 | 1 3/8 | 5 31/32 | 1 1/16 | 1 3/8 |
| 2 7/16 | 5 1/8 | 1 1/16 | 1 3/8 | 5 1/8 | 1 1/16 | 1 1/4 | 5 1/8 | 1 1/16 | 1 3/8 | 5 31/32 | 1 1/16 | 1 3/8 | 5 31/32 | 1 1/16 | 1 3/8 |

Note Above units are functionally interchangeable with Browning units. Please verify that critical dimensions E,S, and G meet each individual application. If dimension F and H is critical, contact Technical Support Department for this information.

## ADJUSTABLE DRILL DEPTH STOP COLLAR SET

Deluxe set contains clamp-style (one piece) split collars which grip around the outer diameter of the drill bit for a strong hold that will not slip and will not damage the bit. Takes the guesswork out of drilling holes to a uniform depth. Easy-to-use and fast—just measure the desired depth, slip the collar over the drill bit, then tighten the screw and drill to exact depth. Includes 7 collar sizes (from 1/8" to 1/2" in 1/16" increments) with hex wrenches in sturdy plastic box. Additional sizes are available, see page 350.

**No. 1F616.** Shpg. wt. 0.4 lbs. List $21.00. Each ..... $10.50

Dayton

- 1-Pc. Clamp-style Collars
- 7 Sizes (1/8" to 1/2")





We deliver the products that deliver the power.

# CORROSION RESISTANT BEARING UNITS AND STAINLESS STEEL BEARING INSERTS

## BEARING UNITS (2-BOLT FLANGE AND PILLOW BLOCK UNITS)

- Corrosion and water resistant
- Low moisture absorption
- Interchangeable with standard cast-iron housings
- Not affected by most organic, sodium, acid, or oil based solvents
- Non-magnetic, glass reinforced polyster
- Operating temperature range: -10 to 60° C with intermittent 80°C maximum
- Weigh 30%-60% less than cast-iron units
- Self aligning
- Removable/replaceable stainless steel bearing inserts
- Grease fitting included

## STAINLESS STEEL BEARING INSERTS

- Nitrile rubber contact seal and stainless steel flinger provide labyrinth seal characteristics for superior resistance to water, dirt and dust
- Critical components offer optimum corrosion resistance
- Operating temperature range -20°C to 100°C with intermittent 120°C maximum
- Prelubed with USDA approved H-1 polymer grease -high resistance to water and wash out -approved for incidental contact with food
- Requires little to no maintenance
- Electric motor quality with honed raceways
- Meets or exceeds ABEC-1 standards

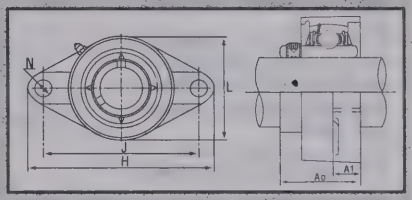
**Typical Uses:** Where bearing units are constantly exposed to high pressure washdowns and other high humidity or wet environments.

**Typical Applications:** Food processing plants, dairy industry, beverage, brewing, bottling, agricultural harvesting/machinery, pharmaceutical plants, chemical processing plants, car/truck washes.

NTN

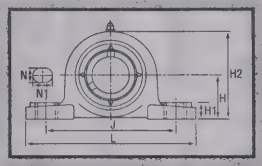


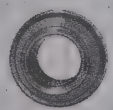
Flange Type Bearing Units



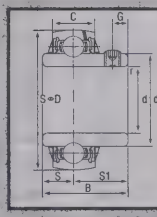



Pillow Type Bearing Units



Replacement Insert Bearings




## FLANGE TYPE BEARING UNITS

| Bore Dia. (in.) | Dimensions (In.) H | L | J | N | A1 | A0 | — | Bolt Size (In.) | NTN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 4 7/16 | 2 17/32 | 3.5433 | 0.433 | 7/16 | 1 21/64 | — | 3/8 | F-UCFLR204-012D1/L458 | 3KX70 | $148.20 | $106.50 | 0.7 |
| 1 | 5 1/8 | 2 11/16 | 3.8976 | 0.433 | 17/32 | 1 29/64 | — | 3/8 | F-UCFLR205-100D1/L458 | 3KX71 | 160.41 | 112.60 | 0.7 |
| 1 3/16 | 5 13/16 | 3 5/32 | 4.6063 | 0.433 | 17/32 | 1 5/8 | — | 3/8 | F-UCFLR206-103D1/L458 | 3KX72 | 193.14 | 135.60 | 1.1 |
| 1 1/4 | 5 13/16 | 3 5/32 | 4.6063 | 0.433 | 17/32 | 1 5/8 | — | 3/8 | F-UCFLR206-104D1/L458 | 3KX73 | 193.14 | 135.60 | 1.1 |
| 1 1/4 | 6 13/32 | 3 17/32 | 5.1181 | 0.512 | 5/8 | 1 45/64 | — | 1/2 | F-UCFLR207-104D1/L458 | 3KX74 | 224.22 | 157.75 | 1.5 |
| 1 1/2 | 6 7/8 | 3 15/16 | 5.6693 | 0.551 | 25/32 | 2 1/32 | — | 1/2 | F-UCFLR208-108D1/L458 | 3KX75 | 277.50 | 195.00 | 2.0 |

## PILLOW TYPE BEARING UNITS

| Bore Dia. (in.) | Dimensions (In.) H | L | J | N | N1 | H1 | H2 | Bolt Size (In.) | NTN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 1.311 | 5 | 3 3/4 | 7/16 | 9/16 | 9/16 | 2 9/16 | 3/8 | F-UCPR204-012D1/L458 | 3KX76 | $148.20 | $104.05 | 0.7 |
| 1 | 1.437 | 5 1/2 | 4 1/8 | 7/16 | 9/16 | 9/16 | 2 25/32 | 3/8 | F-UCPR205-100D1/L458 | 3KX77 | 160.41 | 112.60 | 0.7 |
| 1 3/16 | 1.689 | 6 3/8 | 4 11/16 | 9/16 | 23/32 | 11/16 | 3 9/32 | 1/2 | F-UCPR206-103D1/L458 | 3KX78 | 193.14 | 135.60 | 1.1 |
| 1 1/4 | 1.689 | 6 3/8 | 4 11/16 | 9/16 | 23/32 | 11/16 | 3 9/32 | 1/2 | F-UCPR206-104D1/L458 | 3KX79 | 193.14 | 135.60 | 1.1 |
| 1 1/4 | 1.874 | 6 9/16 | 5 | 9/16 | 23/32 | 23/32 | 3 11/16 | 1/2 | F-UCPR207-104D1/L458 | 3KX80 | 224.22 | 157.75 | 1.5 |
| 1 1/2 | 1.937 | 7 1/4 | 5 13/32 | 9/16 | 23/32 | 25/32 | 3 27/32 | 1/2 | F-UCPR208-108D1/L458 | 3KX81 | 277.50 | 195.00 | 2.2 |

## STAINLESS STEEL REPLACEMENT INSERT BEARINGS

| Bore Dia. (In.) | Dimensions (In.) d | D | B | C | r Min. | S | S1 | G | d4 | Load Rating (lbF) Cr | Cor | NTN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 0.7500 | 1.8504 | 1.2205 | 0.6693 | 0.039 | 0.500 | 0.721 | 0.177 | 1.1654 | 2220 | 1500 | F-UC204-012D1/L458 | 3KX64 | $112.02 | $78.65 | 0.4 |
| 1 | 1.0000 | 2.0472 | 1.3425 | 0.6693 | 0.039 | 0.563 | 0.780 | 0.197 | 1.3346 | 2430 | 1770 | F-UC205-100D1/L458 | 3KX65 | 119.88 | 84.15 | 0.4 |
| 1 3/16 | 1.1875 | 2.4409 | 1.5000 | 0.7480 | 0.039 | 0.626 | 0.874 | 0.197 | 1.6063 | 3350 | 2540 | F-UC206-103D1/L458 | 3KX66 | 145.08 | 101.85 | 0.7 |
| 1 1/4 | 1.2500 | 2.4409 | 1.5000 | 0.7480 | 0.039 | 0.626 | 0.874 | 0.197 | 1.6063 | 3350 | 2540 | F-UC206-104D1/L458 | 3KX67 | 145.08 | 101.85 | 0.7 |
| 1 1/4 | 1.2500 | 2.8346 | 1.6890 | 0.7874 | 0.059 | 0.689 | 1.000 | 0.236 | 1.8425 | 4450 | 3450 | F-UC207-104D1/L458 | 3KX68 | 170.61 | 119.80 | 1.1 |
| 1 1/2 | 1.5000 | 3.1496 | 1.9370 | 0.8268 | 0.059 | 0.748 | 1.189 | 0.315 | 2.0866 | 5050 | 4000 | F-UC208-108D1/L458 | 3KX69 | 247.69 | 174.25 | 1.4 |

Dayton®



## BLOWER BEARING KITS

Kit includes: 2 permanently lubricated and sealed, porous bronze, self-aligning sleeve bearings; 2 thrust washers; 2 locking collars and 2 rubber isolators. Available in 3/4 and 1" bore diameters. Dayton brand.

| Bore Dia. (in.) | Isolator O.D. (in.) | Temp. Range (°F) | HP Limit | RPM Limit | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/4 | 1 13/16 | 40-135 | 3/4 | 1000 | 2A757 | $15.05 | $12.14 | 0.8 |
| 1 | 2 1/2 | 40-135 | 1 | 1000 | 2A758 | 19.17 | 15.59 | 1.5 |

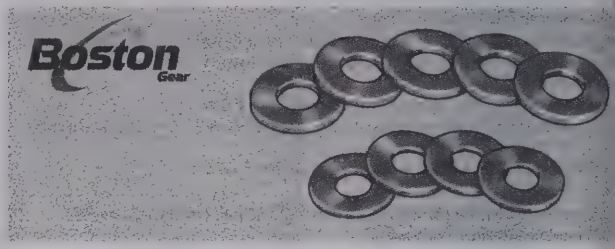
# STEEL THRUST WASHERS AND THRUST BALL BEARINGS

## STEEL THRUST WASHERS

- Hardened alloy steel
- Ground on both sides to provide smooth, flat surfaces
- Bore sizes from 3/16 to 2"
- Close dimensional tolerances for precise accuracy
- Provides superior strength and rigidity
- Use in washer, spacer, and standoff applications

### TOLERANCES

| | |
|---|---|
| Bore | +0.0015 -0.007 |
| O.D. | ±0.030 |
| Thickness | +0.000 -0.005 |



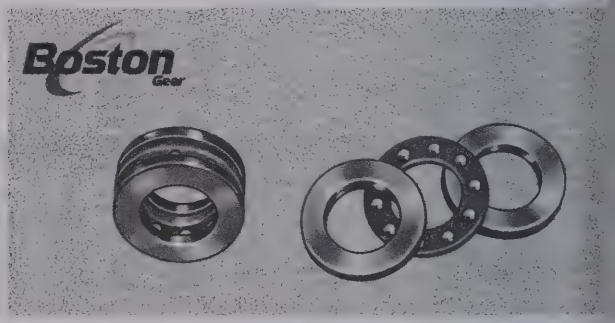

| I.D. (in.) | O.D. (in.) | Width (in.) | Boston Model | Stock No. | Pkg. Qty. | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/16 | 9/32 | 1/16 | 18800 | 3JC34 | 2 | $10.13 | 0.1 |
| 3/16 | 3/8 | 1/16 | 18804 | 3JC35 | 2 | 10.13 | 0.1 |
| 3/16 | 3/8 | 3/32 | 18806 | 3JC36 | 2 | 10.13 | 0.1 |
| 1/4 | 1/2 | 1/16 | 18808 | 3JC37 | 2 | 10.13 | 0.1 |
| 1/4 | 1/2 | 3/32 | 18810 | 3JC38 | 2 | 10.13 | 0.1 |
| 5/16 | 5/8 | 1/16 | 18812 | 3JC39 | 2 | 10.13 | 0.1 |
| 5/16 | 5/8 | 1/8 | 18814 | 3JC40 | 2 | 10.13 | 0.1 |
| 3/8 | 5/8 | 1/16 | 18816 | 3JC41 | 2 | 10.13 | 0.1 |
| 3/8 | 5/8 | 1/8 | 18818 | 3JC42 | 2 | 10.13 | 0.1 |
| 7/16 | 7/8 | 1/16 | 18820 | 3JC43 | 2 | 11.77 | 0.1 |
| 7/16 | 7/8 | 5/32 | 18822 | 3JC44 | 2 | 11.77 | 0.1 |
| 1/2 | 3/4 | 1/16 | 18824 | 3JC45 | 2 | 11.77 | 0.1 |
| 1/2 | 3/4 | 1/8 | 18826 | 3JC46 | 2 | 11.77 | 0.1 |
| 1/2 | 1 1/8 | 1/16 | 18828 | 3JC47 | 2 | 11.77 | 0.1 |
| 1/2 | 1 1/8 | 5/32 | 18830 | 3JC48 | 2 | 11.77 | 0.1 |
| 1/2 | 1 1/4 | 3/16 | 18832 | 3JC49 | 2 | 13.03 | 0.1 |
| 9/16 | 1 3/8 | 3/32 | 18834 | 3JC50 | 2 | 14.99 | 0.1 |
| 9/16 | 1 3/8 | 3/16 | 18836 | 3JC51 | 2 | 14.99 | 0.1 |
| 5/8 | 25/32 | 1/16 | 18838 | 3JC52 | 2 | 11.77 | 0.1 |
| 5/8 | 25/32 | 1/8 | 18840 | 3JC53 | 2 | 11.77 | 0.1 |
| 5/8 | 1 1/4 | 3/32 | 18842 | 3JC54 | 2 | 16.15 | 0.1 |
| 5/8 | 1 1/4 | 3/16 | 18844 | 3JC55 | 2 | 16.15 | 0.1 |
| 5/8 | 1 3/8 | 3/16 | 18846 | 3JC56 | 2 | 16.15 | 0.2 |
| 5/8 | 1 1/2 | 3/32 | 18848 | 3JC57 | 2 | 16.98 | 0.1 |
| 5/8 | 1 1/2 | 3/16 | 18850 | 3JC58 | 2 | 16.98 | 0.2 |
| 5/8 | 1 3/4 | 3/16 | 18852 | 3JC59 | 2 | 21.00 | 0.2 |
| 3/4 | 1 | 3/32 | 18854 | 3JC60 | 2 | 14.99 | 0.1 |
| 3/4 | 1 5/16 | 3/32 | 18856 | 3JC61 | 2 | 16.15 | 0.1 |
| 3/4 | 1 5/16 | 3/16 | 18858 | 3JC62 | 2 | 16.15 | 0.1 |
| 3/4 | 1 5/8 | 1/8 | 18860 | 3JC63 | 2 | $18.12 | 0.1 |
| 3/4 | 1 5/8 | 3/16 | 18862 | 3JC64 | 2 | 18.12 | 0.2 |
| 3/4 | 1 3/4 | 3/16 | 18864 | 3JC65 | 2 | 21.00 | 0.2 |
| 3/4 | 2 | 3/16 | 18866 | 3JC66 | 2 | 20.84 | 0.3 |
| 7/8 | 1 3/16 | 3/32 | 18868 | 3JC67 | 2 | 16.98 | 0.1 |
| 7/8 | 2 | 1/8 | 18870 | 3JC68 | 2 | 21.00 | 0.2 |
| 7/8 | 2 | 3/16 | 18872 | 3JC69 | 2 | 21.00 | 0.2 |
| 1 | 1 9/16 | 1/8 | 18876 | 3JC70 | 2 | 19.30 | 0.1 |
| 1 | 1 9/16 | 3/16 | 18878 | 3JC71 | 2 | 19.30 | 0.1 |
| 1 | 2 | 1/8 | 18880 | 3JC72 | 2 | 21.00 | 0.2 |
| 1 | 2 | 3/16 | 18882 | 3JC73 | 2 | 21.00 | 0.2 |
| 1 | 2 1/4 | 9/64 | 18884 | 3JC74 | 2 | 26.60 | 0.3 |
| 1 | 2 1/4 | 3/16 | 18886 | 3JC75 | 2 | 26.60 | 0.3 |
| 1 1/16 | 2 1/2 | 1/4 | 18890 | 3JC76 | 1 | 15.33 | 0.3 |
| 1 1/8 | 2 1/2 | 1/4 | 18894 | 3JC77 | 1 | 15.33 | 0.2 |
| 1 3/16 | 2 | 3/16 | 18896 | 3JC78 | 1 | 10.51 | 0.1 |
| 1 1/4 | 2 | 9/64 | 18898 | 3JC79 | 1 | 10.51 | 0.1 |
| 1 1/4 | 2 | 3/16 | 18922 | 3JC90 | 1 | 10.51 | 0.1 |
| 1 1/4 | 2 7/16 | 9/64 | 18900 | 3JC80 | 1 | 16.81 | 0.3 |
| 1 1/4 | 2 7/16 | 1/4 | 18924 | 3JC91 | 1 | 16.81 | 0.1 |
| 1 1/4 | 2 3/4 | 9/64 | 18902 | 3JC81 | 1 | 15.06 | 0.2 |
| 1 1/4 | 3 | 1/4 | 18904 | 3JC82 | 1 | 20.16 | 0.8 |
| 1 5/16 | 2 3/4 | 1/4 | 18906 | 3JC83 | 1 | 17.77 | 0.3 |
| 1 3/8 | 3 | 1/4 | 18910 | 3JC84 | 1 | 20.16 | 0.4 |
| 1 1/2 | 3 | 5/32 | 18912 | 3JC85 | 1 | 21.81 | 0.4 |
| 1 1/2 | 3 | 1/4 | 18914 | 3JC86 | 1 | 21.81 | 0.4 |
| 1 1/2 | 3 1/4 | 1/8 | 18916 | 3JC87 | 1 | 22.57 | 0.2 |
| 2 | 4 | 5/32 | 18918 | 3JC88 | 1 | 24.42 | 0.8 |
| 2 | 4 | 5/16 | 18920 | 3JC89 | 1 | 24.42 | 0.8 |

## THRUST BALL BEARINGS

- Hardened thrust washers are ground on both sides to provide smooth, flat, parallel ball raceway surfaces
- High quality hardened steel balls retained in a nylon cage
- Quality and number of balls assure high load carrying capacity
- Bore sizes from 3/16 to 1/2"
- Available in hardened alloy or stainless steel
- Nylon retainer cage assures minimum frictional loss
- Each package includes two washers and one cage

### TOLERANCES

| | |
|---|---|
| Bore | +0.002 -0.007 |
| O.D. | +0.000 -0.005 |
| Thickness | +0.000 -0.010 |



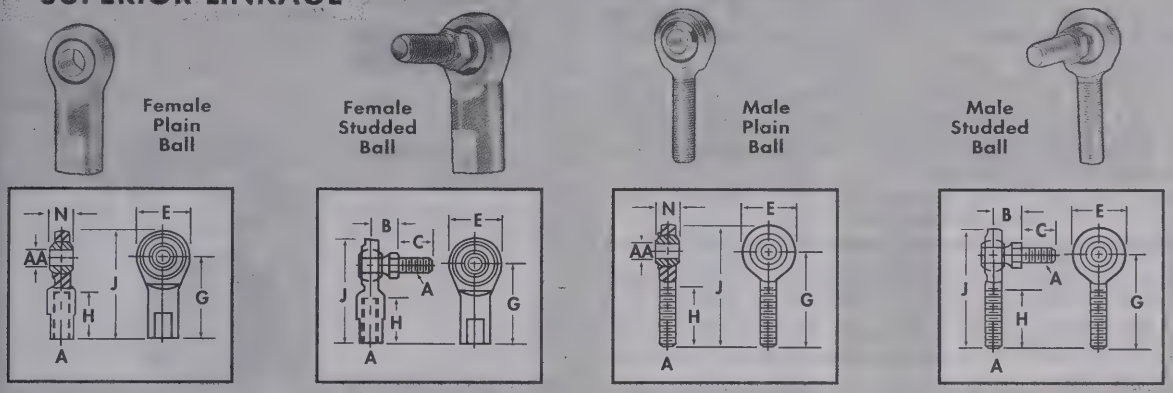

| I.D. (in.) | O.D. (in.) | Width (in.) | HARDENED ALLOY STEEL Boston Model | Stock No. | Pkg. Qty. | Each Pkg. | Shpg. Wt. | HARDENED STAINLESS STEEL Boston Model | Stock No. | Pkg. Qty. | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/16 | 7/16 | 3/16 | 17192 | 3JC24 | 1 | $4.13 | 0.1 | 17197 | 3JC29 | 1 | $13.33 | 0.1 |
| 1/4 | 9/16 | 7/32 | 17193 | 3JC25 | 1 | 4.17 | 0.1 | 17198 | 3JC30 | 1 | 17.11 | 0.1 |
| 5/16 | 5/8 | 1/4 | 17194 | 3JC26 | 1 | 4.38 | 0.1 | 17199 | 3JC31 | 1 | 17.25 | 0.1 |
| 3/8 | 11/16 | 9/32 | 17195 | 3JC27 | 1 | 4.83 | 0.1 | 17200 | 3JC32 | 1 | 17.72 | 0.1 |
| 1/2 | 7/8 | 3/8 | 17196 | 3JC28 | 1 | 6.27 | 0.1 | 17201 | 3JC33 | 1 | 23.73 | 0.1 |



We deliver the products that deliver the power.

# SPHERICAL ROD ENDS

## SUPERIOR LINKAGE




remium quality Teflon race rod ends are constructed to SAE pecification J1120. Rod ends are available with or without stud.

**earing Raceway**—Special PTFE raceway, bonded to housing I.D., iminates need for lubrication.

**pherical Ball**—Precision-made from low carbon steel. Surface ardened for wear resistance, plated for corrosion resistance.

**Housing**—Low carbon steel, plated and dichromate-treated for corrosion resistance.

**Threaded Stud**—Threaded studs are made from carbon steel, plated and dichromate-treated for corrosion resistance.

### FEMALE PLAIN SPHERICAL ROD ENDS

| Thread Size A | Dimensions (In.) AA | E | G | H | J | N | Stock No. RH Thread | Stock No. LH Thread | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **10-32** | 0.189/0.191 | 0.625 | 1.062 | 0.500 | 1.375 | 0.312 | **6G170** | **6G202** | $6.00 | **$3.34** | 0.1 |
| **1/4-28** | 0.250/2.252 | 0.750 | 1.312 | 0.687 | 1.687 | 0.375 | **6G171** | **6G203** | 6.12 | **3.41** | 0.1 |
| **5/16-24** | 0.3125/0.3145 | 0.875 | 1.375 | 0.687 | 1.812 | 0.437 | **6G172** | **6G204** | 7.40 | **4.12** | 0.1 |
| **3/8-24** | 0.375/0.377 | 1.000 | 1.625 | 0.812 | 2.125 | 0.500 | **6G173** | **6G205** | 7.76 | **4.32** | 0.2 |
| **7/16-20** | 0.4375/0.4395 | 1.125 | 1.812 | 1.031 | 2.375 | 0.562 | **6G174** | **6G206** | 9.88 | **5.50** | 0.2 |
| **1/2-20** | 0.500/0.502 | 1.312 | 2.125 | 1.187 | 2.781 | 0.625 | **6G175** | **6G207** | 13.16 | **7.33** | 0.3 |
| **5/8-18** | 0.625/0.627 | 1.500 | 2.500 | 1.406 | 3.250 | 0.750 | **6G176** | **6G208** | 17.68 | **9.85** | 0.5 |
| **3/4-16** | 0.750/0.752 | 1.750 | 2.875 | 1.500 | 3.750 | 0.875 | **6G177** | **6G209** | 28.80 | **16.04** | 0.7 |

### FEMALE STUDDED SPHERICAL ROD ENDS

| Thread Size A | Dimensions (In.) B | C | E | G | H | J | Stock No. RH Thread | Stock No. LH Thread | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **10-32** | 0.437 | 0.437 | 0.625 | 1.062 | 0.500 | 1.375 | **6G178** | **6G210** | $8.28 | **$4.61** | 0.1 |
| **1/4-28** | 0.469 | 0.562 | 0.750 | 1.312 | 0.687 | 1.687 | **6G179** | **6G211** | 8.24 | **4.59** | 0.1 |
| **5/16-24** | 0.531 | 0.687 | 0.875 | 1.375 | 0.687 | 1.812 | **6G180** | **6G212** | 9.28 | **5.17** | 0.1 |
| **3/8-24** | 0.625 | 0.875 | 1.000 | 1.625 | 0.812 | 2.125 | **6G181** | **6G213** | 10.08 | **5.61** | 0.2 |
| **7/16-20** | 0.844 | 1.062 | 1.125 | 1.812 | 1.031 | 2.375 | **6G182** | **6G214** | 13.12 | **7.31** | 0.3 |
| **1/2-20** | 0.875 | 1.125 | 1.312 | 2.125 | 1.187 | 2.781 | **6G183** | **6G215** | 16.76 | **9.34** | 0.5 |
| **5/8-18** | 1.000 | 1.125 | 1.500 | 2.500 | 1.406 | 3.250 | **6G184** | **6G216** | 30.24 | **16.84** | 0.7 |
| **3/4-16** | 1.187 | 1.812 | 1.750 | 2.875 | 1.500 | 3.750 | **6G185** | **6G217** | 40.12 | **22.35** | 1.1 |

### MALE PLAIN SPHERICAL ROD ENDS

| Thread Size A | Dimensions (In.) AA | E | G | H | J | N | Stock No. RH Thread | Stock No. LH Thread | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **10-32** | 0.189/0.191 | 0.625 | 1.250 | 0.750 | 1.562 | 0.312 | **6G186** | **6G218** | $6.00 | **$3.34** | 0.1 |
| **1/4-28** | 0.250/0.252 | 0.750 | 1.562 | 1.000 | 1.937 | 0.375 | **6G187** | **6G219** | 6.68 | **3.72** | 0.1 |
| **5/16-24** | 0.3125/0.3145 | 0.875 | 1.875 | 1.250 | 2.312 | 0.437 | **6G188** | **6G220** | 7.64 | **4.26** | 0.1 |
| **3/8-24** | 0.375/0.377 | 1.000 | 1.937 | 1.250 | 2.437 | 0.500 | **6G189** | **6G221** | 8.48 | **4.72** | 0.1 |
| **7/16-20** | 0.4375/0.4395 | 1.125 | 2.125 | 1.312 | 2.687 | 0.562 | **6G190** | **6G222** | 10.28 | **5.73** | 0.2 |
| **1/2-20** | 0.500/0.502 | 1.312 | 2.437 | 1.500 | 3.094 | 0.625 | **6G191** | **6G223** | 14.16 | **7.89** | 0.4 |
| **5/8-18** | 0.625/0.627 | 1.500 | 2.625 | 1.625 | 3.375 | 0.750 | **6G192** | **6G224** | 17.80 | **9.91** | 0.4 |
| **3/4-16** | 0.750/0.752 | 1.750 | 2.875 | 1.750 | 3.750 | 0.875 | **6G193** | **6G225** | 28.80 | **16.04** | 0.6 |

### MALE STUDDED SPHERICAL ROD ENDS

| Thread Size A | Dimensions (In.) B | C | E | G | H | J | Stock No. RH Thread | Stock No. LH Thread | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **10-32** | 0.437 | 0.437 | 0.625 | 1.250 | 0.750 | 1.562 | **6G194** | **6G226** | $8.28 | **$4.61** | 0.1 |
| **1/4-28** | 0.469 | 0.562 | 0.750 | 1.562 | 1.000 | 1.937 | **6G195** | **6G227** | 8.64 | **4.81** | 0.1 |
| **5/16-24** | 0.531 | 0.687 | 0.875 | 1.875 | 1.250 | 2.312 | **6G196** | **6G228** | 9.28 | **5.17** | 0.1 |
| **3/8-24** | 0.625 | 0.875 | 1.000 | 1.937 | 1.250 | 2.437 | **6G197** | **6G229** | 10.28 | **5.73** | 0.2 |
| **7/16-20** | 0.844 | 1.062 | 1.125 | 2.125 | 1.312 | 2.687 | **6G198** | **6G230** | 13.00 | **7.24** | 0.3 |
| **1/2-20** | 0.875 | 1.125 | 1.312 | 2.437 | 1.500 | 3.094 | **6G199** | **6G231** | 18.04 | **10.05** | 0.4 |
| **5/8-18** | 1.000 | 1.125 | 1.500 | 2.625 | 1.625 | 3.375 | **6G200** | **6G232** | 29.16 | **16.24** | 0.6 |
| **3/4-16** | 1.187 | 1.812 | 1.750 | 2.875 | 1.750 | 3.750 | **6G201** | **6G233** | 40.12 | **22.35** | 1.0 |

# SHAFT COLLARS

Shaft collars are used on tools, machinery, and equipment to lock various components, including bearings, sprockets, and pulleys, in place. Also used as shaft protectors, spacers, and depth stops.

**Choose from three materials:** cold-rolled plated steel (#12L14), stainless steel (#303), or plastic (Delrin/white).

**Plastic Shaft Collars** provide high strength, weigh less than steel units, and are ideal for washdown applications because Delrin plastic is USDA/FDA approved. Delrin absorbs less moisture than other plastics, holds its form in temperatures up to 185°F and has good resistance to impact, abrasion, solvents, chemicals, and other harsh operating elements.

**Setscrew Type Shaft Collars** are furnished with cup-point socket setscrews. Cold-rolled steel type are zinc-plated.

**One-Piece and Two-Piece Clamp Type Shaft Collars** are furnished with socket head capscrews and assemble easily on nominal or oversized shafts without marring. Tolerances for nominal/oversize shafting is ± 0.005 for one piece, ± 0.010 for two piece. Feature extra strong grip. Cold-rolled steel type are black oxide-plated. Two-piece clamp style are easy-to-install—can be located anywhere on the shaft without having to disassemble any machinery or components.

Both stainless steel and plastic collars have stainless steel setscrews.

FOR ADJUSTABLE DRILL DEPTH STOP COLLAR SET, SEE PAGE 351

Dayton®

Made in U.S.A.

Additional Cold-Rolled Steel Sizes

**THREE TYPES:**

- Setscrew
- One-Piece Clamp
- Two-Piece Clamp



**THREE MATERIALS:**

- Cold-Rolled Steel
- Stainless Steel
- Delrin Plastic

## SETSCREW SHAFT COLLARS
### Sold in Packages of 1, 3, or 100

| I.D. (In.) | O.D. (In.) | Width (In.) | Setscrew | COLD-ROLLED STEEL (#12L14) Stock No. | Pkg. Qty. | Each Pkg. | Shpg. Wt. | STAINLESS STEEL (303) Stock No. | Pkg. Qty. | Each Pkg. | Shpg. Wt. | PLASTIC (Delrin) Stock No. | Pkg. Qty. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 3/8 | 1/4 | #6-32 | 1L625 | 3 | $1.56 | 0.1 | 1F538 | 100 | $34.65 | 3.0 | 1L630 | 1 | $1.73 | 0.1 | — | — | — | — |
| 3/16 | 1/2 | 3/8 | #10-32 | 1L626 | 3 | 1.56 | 0.1 | 1F536 | 100 | 34.65 | 2.0 | 1L631 | 1 | 1.73 | 0.1 | — | — | — | — |
| 1/4 | 5/8 | 3/8 | #10-32 | 2X735 | 3 | 1.56 | 0.1 | 1F520 | 100 | 34.65 | 3.0 | 1L632 | 1 | 1.73 | 0.1 | 1F518 | 1 | $1.42 | 0.1 |
| 5/16 | 5/8 | 3/8 | #10-32 | 2X736 | 3 | 1.56 | 0.1 | 1F516 | 100 | 34.65 | 3.0 | 1L633 | 1 | 1.73 | 0.1 | 1F514 | 1 | 1.42 | 0.1 |
| 3/8 | 3/4 | 7/16 | 1/4-28 | 2X737 | 3 | 1.78 | 0.2 | 1F512 | 100 | 39.05 | 5.0 | 1L634 | 1 | 1.98 | 0.1 | 1F510 | 1 | 1.42 | 0.1 |
| 7/16 | 7/8 | 1/2 | 1/4-28 | 1L627 | 3 | 1.98 | 0.2 | 1F508 | 100 | 45.50 | 7.0 | 1L635 | 1 | 2.47 | 0.1 | — | — | — | — |
| 1/2 | 7/8 | 1/2 | 1/4-28 | 2X568 | 3 | 1.98 | 0.2 | 1F506 | 100 | 45.25 | 6.0 | 1L636 | 1 | 2.47 | 0.1 | 1F504 | 1 | 1.52 | 0.1 |
| 9/16 | 1 1/8 | 1/2 | 1/4-28 | 3ZN88 | 3 | 2.25 | 0.2 | — | — | — | — | — | — | — | — | — | — | — | — |
| 5/8 | 1 1/8 | 1/2 | 1/4-28 | 2X569 | 3 | 2.55 | 0.3 | 1F502 | 100 | 62.10 | 10.0 | 1L637 | 1 | 3.21 | 0.1 | 1F500 | 1 | 1.72 | 0.1 |
| 11/16 | 1 1/4 | 1/2 | 5/16-18 | 3ZN89 | 3 | 2.90 | 0.4 | — | — | — | — | — | — | — | — | — | — | — | — |
| 3/4 | 1 1/4 | 1/2 | 5/16-18 | 2X570 | 3 | 2.74 | 0.3 | 1F498 | 100 | 68.55 | 12.0 | 1L638 | 1 | 3.71 | 0.1 | 1F496 | 1 | 1.82 | 0.1 |
| 13/16 | 1 7/16 | 9/16 | 5/16-18 | 3ZN90 | 3 | 3.20 | 0.4 | — | — | — | — | — | — | — | — | — | — | — | — |
| 7/8 | 1 1/8 | 9/16 | 5/16-18 | 2X738 | 3 | 3.11 | 0.4 | 1F494 | 100 | 78.95 | 14.0 | 1L639 | 1 | 4.45 | 0.2 | 1F492 | 1 | 2.52 | 0.1 |
| 15/16 | 1 1/2 | 9/16 | 5/16-18 | 3ZN91 | 3 | 3.30 | 0.6 | — | — | — | — | — | — | — | — | — | — | — | — |
| 1 | 1 1/2 | 9/16 | 5/16-18 | 2X571 | 3 | 3.41 | 0.6 | 1F490 | 100 | 87.35 | 16.0 | 1L640 | 1 | 5.56 | 0.2 | 1F488 | 1 | 2.72 | 0.1 |
| 1 1/16 | 1 3/4 | 9/16 | 5/16-18 | 3ZN92 | 1 | 1.40 | 0.4 | — | — | — | — | — | — | — | — | — | — | — | — |
| 1 1/8 | 1 3/4 | 9/16 | 5/16-18 | 2X739 | 1 | 1.56 | 0.3 | — | — | — | — | 1L641 | 1 | 6.92 | 0.2 | 1F486 | 1 | 4.72 | 0.1 |
| 1 3/16 | 2 | 11/16 | 3/8-16 | 5X643 | 1 | 2.10 | 0.4 | — | — | — | — | 1L642 | 1 | 8.89 | 0.4 | — | — | — | — |
| 1 1/4 | 2 | 11/16 | 3/8-16 | 2X740 | 1 | 2.10 | 0.4 | — | — | — | — | 1L643 | 1 | 8.89 | 0.5 | 1F534 | 1 | 5.82 | 0.1 |
| 1 5/16 | 2 1/4 | 3/4 | 3/8-16 | 1L628 | 1 | 2.60 | 0.6 | — | — | — | — | 1L644 | 1 | 11.70 | 0.6 | — | — | — | — |
| 1 3/8 | 2 1/4 | 3/4 | 3/8-16 | 5X644 | 1 | 2.60 | 0.5 | — | — | — | — | 1L645 | 1 | 11.71 | 0.6 | 1F532 | 1 | 6.94 | 0.2 |
| 1 7/16 | 2 1/4 | 3/4 | 3/8-16 | 5X645 | 1 | 2.60 | 0.4 | — | — | — | — | 1L646 | 1 | 11.71 | 0.6 | — | — | — | — |
| 1 1/2 | 2 1/4 | 3/4 | 3/8-16 | 4X228 | 1 | 2.60 | 0.4 | — | — | — | — | 1L647 | 1 | 11.73 | 0.6 | 1F530 | 1 | 8.44 | 0.2 |
| 1 9/16 | 2 1/2 | 3/4 | 3/8-16 | 3ZN81 | 1 | 3.15 | 0.7 | — | — | — | — | — | — | — | — | — | — | — | — |
| 1 5/8 | 2 1/2 | 3/4 | 3/8-16 | 1L629 | 1 | 5.19 | 0.6 | — | — | — | — | 1L648 | 1 | 14.20 | 0.7 | 1F528 | 1 | 9.14 | 0.2 |
| 1 11/16 | 2 1/2 | 3/4 | 3/8-16 | 5X646 | 1 | 5.19 | 0.6 | — | — | — | — | 1L649 | 1 | 16.07 | 0.7 | — | — | — | — |
| 1 3/4 | 2 3/4 | 7/8 | 1/2-13 | 4X229 | 1 | 6.06 | 0.9 | — | — | — | — | 1L650 | 1 | 17.42 | 0.9 | 1F526 | 1 | 9.84 | 0.2 |
| 1 13/16 | 2 3/4 | 7/8 | 1/2-13 | 3ZN82 | 1 | 5.50 | 0.9 | — | — | — | — | — | — | — | — | — | — | — | — |
| 1 7/8 | 2 3/4 | 7/8 | 1/2-13 | 4X230 | 1 | 6.06 | 0.8 | — | — | — | — | 1L651 | 1 | 19.28 | 0.9 | 1F524 | 1 | 9.84 | 0.2 |
| 1 15/16 | 3 | 7/8 | 1/2-13 | 4X231 | 1 | 6.80 | 1.0 | — | — | — | — | 1L652 | 1 | 19.28 | 1.1 | — | — | — | — |
| 2 | 3 | 7/8 | 1/2-13 | 4X232 | 1 | 6.80 | 0.9 | — | — | — | — | 1L653 | 1 | 20.39 | 1.1 | 1F522 | 1 | 10.74 | 0.2 |
| 2 1/4 | 3 1/2 | 15/16 | 1/2-13 | 3ZN83 | 1 | 7.00 | 1.2 | — | — | — | — | — | — | — | — | — | — | — | — |
| 2 7/16 | 3 1/2 | 1 | 1/2-13 | 3ZN84 | 1 | 7.25 | 1.5 | — | — | — | — | — | — | — | — | — | — | — | — |
| 2 1/2 | 3 1/2 | 1 | 1/2-13 | 3ZN85 | 1 | 7.25 | 1.4 | — | — | — | — | — | — | — | — | — | — | — | — |
| 2 15/16 | 4 | 1 1/8 | 1/2-13 | 3ZN86 | 1 | 8.75 | 1.4 | — | — | — | — | — | — | — | — | — | — | — | — |
| 3 | 4 | 1 1/8 | 1/2-13 | 3ZN87 | 1 | 8.75 | 1.8 | — | — | — | — | — | — | — | — | — | — | — | — |

CONTINUED ON NEXT PAGE



We deliver the products that deliver the power.

# SHAFT COLLARS

## ONE-PIECE AND TWO-PIECE CLAMP TYPE SHAFT COLLARS
### All Sold in Packages of 1

| I.D. (In.) | O.D. (In.) | Width (In.) | Set-Screw | COLD-ROLLED STEEL (#12L14) One Piece Stock No. | Each | Two Piece Stock No. | Each | Shpg. Wt. | STAINLESS STEEL (303) One Piece Stock No. | Each | Two Piece Stock No. | Each | Shpg. Wt. | PLASTIC (Delrin) One Piece Stock No. | Each | Two Piece Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 5/8 | 9/32 | #4-40 | 1L654 | $2.60 | 1L692 | $3.09 | 0.1 | 1L673 | $3.96 | 1L711 | $4.57 | 0.1 | — | — | — | — | — |
| 3/16 | 5/8 | 9/32 | #4-40 | 1L655 | 1.72 | 1L693 | 2.47 | 0.1 | 1L674 | 3.46 | 1L712 | 4.33 | 0.1 | — | — | — | — | — |
| 1/4 | 5/8 | 9/32 | #4-40 | 1L656 | 1.72 | 1L694 | 2.47 | 0.1 | 1L675 | 3.46 | 1L713 | 4.33 | 0.1 | 1F470 | $3.12 | 1F594 | $4.42 | 0.1 |
| 5/16 | 11/16 | 9/32 | #4-40 | 1L657 | 1.72 | 1L695 | 2.47 | 0.1 | 1L676 | 3.46 | 1L714 | 4.33 | 0.1 | 1F468 | 3.12 | 1F592 | 4.42 | 0.1 |
| 3/8 | 7/8 | 11/32 | #6-32 | 1L658 | 1.85 | 1L696 | 2.60 | 0.1 | 1L677 | 4.08 | 1L715 | 5.31 | 0.1 | 1F466 | 3.22 | 1F590 | 4.52 | 0.1 |
| 7/16 | 15/16 | 11/32 | #6-32 | 1L659 | 1.97 | 1L697 | 2.60 | 0.1 | 1L678 | 4.70 | 1L716 | 5.44 | 0.1 | — | — | — | — | — |
| 1/2 | 1 1/8 | 13/32 | #8-32 | 1L660 | 2.09 | 1L698 | 2.84 | 0.1 | 1L679 | 5.31 | 1L717 | 6.80 | 0.1 | 1F464 | 3.42 | 1F588 | 4.62 | 0.1 |
| 5/8 | 1 5/16 | 7/16 | #10-32 | 1L661 | 2.47 | 1L699 | 3.21 | 0.2 | 1L680 | 6.30 | 1L718 | 7.91 | 0.2 | 1F462 | 3.72 | 1F586 | 5.02 | 0.1 |
| 3/4 | 1 1/2 | 1/2 | 1/4-28 | 1L662 | 2.71 | 1L700 | 3.71 | 0.2 | 1L681 | 7.79 | 1L719 | 9.39 | 0.2 | 1F460 | 3.82 | 1F584 | 5.12 | 0.1 |
| 7/8 | 1 5/8 | 1/2 | 1/4-28 | 1L663 | 2.96 | 1L701 | 4.08 | 0.2 | 1L682 | 9.02 | 1L720 | 10.01 | 0.2 | 1F458 | 4.32 | 1F582 | 5.62 | 0.1 |
| 1 | 1 3/4 | 1/2 | 1/4-28 | 1L664 | 3.21 | 1L702 | 4.20 | 0.2 | 1L683 | 9.27 | 1L721 | 10.14 | 0.2 | 1F456 | 4.72 | 1F580 | 6.02 | 0.1 |
| 1 1/8 | 1 7/8 | 1/2 | 1/4-28 | 1L665 | 3.70 | 1L703 | 4.94 | 0.3 | 1L684 | 9.76 | 1L722 | 10.88 | 0.3 | 1F454 | 5.52 | 1F578 | 6.72 | 0.1 |
| 1 3/16 | 2 1/16 | 1/2 | 1/4-28 | 3ZP02 | 4.50 | 3ZN80 | 5.75 | 0.4 | — | — | — | — | — | — | — | — | — | — |
| 1 1/4 | 2 1/16 | 1/2 | 1/4-28 | 1L666 | 4.07 | 1L704 | 5.19 | 0.3 | 1L685 | 13.10 | 1L723 | 14.34 | 0.3 | 1F484 | 6.32 | 1F608 | 6.72 | 0.1 |
| 1 3/8 | 2 1/4 | 9/16 | 1/4-28 | 1L667 | 4.81 | 1L705 | 6.43 | 0.4 | 1L686 | 15.82 | 1L724 | 17.06 | 0.4 | 1F482 | 7.14 | 1F606 | 8.44 | 0.2 |
| 1 7/16 | 2 1/4 | 9/16 | 1/4-28 | 3ZN93 | 6.00 | 3ZN72 | 6.50 | 0.5 | — | — | — | — | — | — | — | — | — | — |
| 1 1/2 | 2 3/8 | 9/16 | 1/4-28 | 1L668 | 6.63 | 1L706 | 7.40 | 0.5 | 1L687 | 17.67 | 1L725 | 19.16 | 0.4 | 1F480 | 8.04 | 1F604 | 9.24 | 0.2 |
| 1 5/8 | 2 5/8 | 11/16 | 5/16-24 | 1L669 | 9.13 | 1L707 | 10.14 | 0.7 | 1L688 | 22.74 | 1L726 | 24.47 | 0.7 | 1F478 | 8.84 | 1F602 | 10.04 | 0.2 |
| 1 11/16 | 2 3/4 | 11/16 | 5/16-24 | 3ZN94 | 9.25 | 3ZN73 | 10.50 | 0.7 | — | — | — | — | — | — | — | — | — | — |
| 1 3/4 | 2 3/4 | 11/16 | 5/16-24 | 1L670 | 9.39 | 1L708 | 10.75 | 0.7 | 1L689 | 24.23 | 1L727 | 26.00 | 0.7 | 1F476 | 9.74 | 1F600 | 10.94 | 0.2 |
| 1 7/8 | 2 7/8 | 11/16 | 5/16-24 | 1L671 | 10.25 | 1L709 | 11.74 | 0.8 | 1L690 | 25.25 | 1L728 | 27.45 | 0.8 | 1F474 | 11.14 | 1F598 | 12.34 | 0.2 |
| 1 15/16 | 3 | 11/16 | 5/16-24 | 3ZN95 | 10.50 | 3ZN74 | 11.80 | 0.8 | — | — | — | — | — | — | — | — | — | — |
| 2 | 3 | 11/16 | 5/16-24 | 1L672 | 10.85 | 1L710 | 11.99 | 0.8 | 1L691 | 27.20 | 1L729 | 29.95 | 0.8 | 1F472 | 12.04 | 1F596 | 13.24 | 0.2 |
| 2 1/4 | 3 1/2 | 3/4 | 5/16-24 | 3ZN96 | 12.00 | 3ZN75 | 14.00 | 0.9 | — | — | — | — | — | — | — | — | — | — |
| 2 7/16 | 3 1/2 | 3/4 | 5/16-24 | 3ZN97 | 12.25 | 3ZN76 | 14.50 | 1.0 | — | — | — | — | — | — | — | — | — | — |
| 2 1/2 | 4 | 7/8 | 3/8-24 | 3ZN98 | 17.85 | 3ZN77 | 21.20 | 1.5 | — | — | — | — | — | — | — | — | — | — |
| 2 15/16 | 4 1/4 | 7/8 | 3/8-24 | 3ZN99 | 21.40 | 3ZN78 | 24.60 | 1.7 | — | — | — | — | — | — | — | — | — | — |
| 3 | 4 1/4 | 7/8 | 3/8-24 | 3ZP01 | 21.75 | 3ZN79 | 25.00 | 1.7 | — | — | — | — | — | — | — | — | — | — |

## ADJUSTABLE DRILL DEPTH STOP COLLAR SET

Deluxe set contains clamp-style (one piece) split collars which grip around the outer diameter of the drill bit for a strong hold that will not slip and will not damage the bit. Takes the guesswork out of drilling holes to a uniform depth. Easy-to-use and fast—just measure the desired depth, slip the collar over the drill bit, then tighten the screw and drill to exact depth. Includes 7 collar sizes (from 1/8" to 1/2" in 1/16" increments) with hex wrenches in sturdy plastic box. Additional sizes are available, see pages 350.

**No. 1F616.** Shpg. wt. 0.4 lbs. List $21.00. Each.....**$10.50**

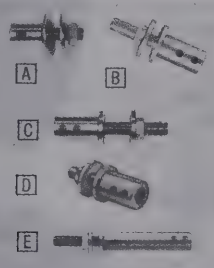
Dayton®

- 1 Pc Clamp Style Collars
- 7 Sizes (1/8 to 1/2")



## FRACTIONAL HP MOTOR SHAFT ARBORS

Dayton®




- Wide selection of sizes and styles
- Right-hand and left-hand threads available
- Machined from solid bar stock

FOR MORE INFORMATION SEE PAGE 204

### FRACTIONAL HP MOTOR SHAFT ARBORS

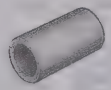
| Key | Style | Fits Shaft Dia. (In.) | Thread | Max. Wheel Width (In.) | Washer Dia. (In.) | Thread Length (In.) | OAL (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Small | 1/4 | 3/8-24RH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN04 | $5.41 | $3.50 | 0.2 |
| | | 5/16 | 3/8-24RH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN05 | 5.41 | 3.50 | 0.2 |
| | | 3/8 | 3/8-24RH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN06 | 5.41 | 3.50 | 0.2 |
| | | 1/4 | 3/8-24LH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN09 | 5.41 | 3.50 | 0.2 |
| | | 5/16 | 3/8-24LH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN10 | 5.41 | 3.50 | 0.2 |
| | | 3/8 | 3/8-24LH | 1/2 | 1 1/4 | 1 1/8 | 2 | 3ZN11 | 5.41 | 3.50 | 0.2 |
| B | Standard | 1/2 | 1/2-20RH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 6L104 | 5.46 | 4.02 | 0.4 |
| | | 5/8 | 1/2-20RH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 3ZN17 | 6.98 | 4.50 | 0.5 |
| | | 1/2 | 1/2-20LH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 6L106 | 5.46 | 4.02 | 0.4 |
| | | 5/8 | 1/2-20LH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 3ZN14 | 6.98 | 4.50 | 0.5 |
| C | Standard for Wider Wheels | 3/8 | 1/2-20RH | 2 | 1 1/2 | 2 5/8 | 4 1/4 | 3ZN03 | 7.75 | 5.00 | 0.5 |
| | | 1/2 | 1/2-20RH | 2 | 1 1/2 | 2 5/8 | 4 1/4 | 3ZN07 | 7.75 | 5.00 | 0.5 |
| | | 5/8 | 1/2-20RH | 2 | 1 1/2 | 2 5/8 | 4 1/4 | 3ZN08 | 7.75 | 5.00 | 0.5 |
| D | 3/16" Keyway | 5/8 | 1/2-20RH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 6L105 | 9.10 | 6.71 | 0.5 |
| | | 5/8 | 1/2-20LH | 1 1/4 | 1 1/2 | 1 13/16 | 3 1/2 | 6L107 | 9.10 | 6.71 | 0.5 |
| E | Extra-Long | 1/2 | 1/2-20RH | 1 5/8 | 1 1/2 | 2 1/4 | 6 1/4 | 3ZN15 | 12.26 | 7.90 | 0.8 |
| | | 5/8 | 1/2-20RH | 1 5/8 | 1 1/2 | 2 1/4 | 6 1/4 | 3ZN16 | 12.26 | 7.90 | 0.8 |
| | | 1/2 | 1/2-20LH | 1 5/8 | 1 1/2 | 2 1/4 | 6 1/4 | 3ZN12 | 12.26 | 7.90 | 0.8 |
| | | 5/8 | 1/2-20LH | 1 5/8 | 1 1/2 | 2 1/4 | 6 1/4 | 3ZN13 | 12.26 | 7.90 | 0.8 |

NOTE: Washers included are machined flange except for "Small" style which are stamped flanged.

# SLEEVE BEARINGS, REDUCER BUSHINGS, AND BUSHING AND BEARING TOOLS

## BRONZE SLEEVE BEARINGS

Dayton®

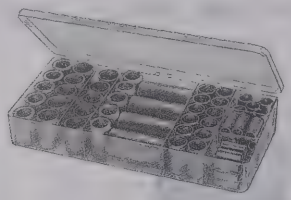


High quality sintered bronze alloy. Oil-impregnated and self-lubricating for long service life. Maximum PV is 50,000. Temperature range is -5 to +220°F. Sold in packages of three.

### BRONZE SLEEVE BEARINGS

| I.D. (In.) | O.D. (In.) | Length (In.) | Stock No. | List | Each Pkg. of 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 5/16 | 3/4 | 2X355 | $3.20 | $1.60 | 0.1 |
| 1/4 | 3/8 | 1/2 | 3ZM99 | 2.46 | 1.60 | 0.1 |
| 1/4 | 3/8 | 1 | 2X380 | 4.00 | 1.92 | 0.1 |
| 3/8 | 1/2 | 1/2 | 3ZN01 | 2.97 | 2.00 | 0.1 |
| 3/8 | 1/2 | 1 | 1X871 | 4.80 | 2.40 | 0.1 |
| 1/2 | 5/8 | 5/8 | 3ZN02 | 3.48 | 2.30 | 0.2 |
| 1/2 | 5/8 | 1 1/8 | 1X868 | 5.60 | 2.72 | 0.1 |
| 1/2 | 11/16 | 1 1/8 | 1X866 | 7.20 | 3.52 | 0.2 |
| 1/2 | 3/4 | 1 1/8 | 1X870 | 7.60 | 4.30 | 0.2 |
| 5/8 | 3/4 | 1 | 1X867 | 7.60 | 3.20 | 0.1 |
| 5/8 | 3/4 | 1 1/8 | 1X869 | 7.60 | 3.20 | 0.1 |
| 3/4 | 1 | 1 7/8 | 1X872 | 16.80 | 7.82 | 0.5 |

Dayton®



**56-Pc. Bronze Sleeve Bearing Assortment** contains 56 sintered bronze sleeve bearings from 1/4" I.D. x 5/16" O.D. to 3/4" I.D. x 1" O.D. — a total of 9 assorted sizes. Ideally suited for motor bearing applications. In plastic box with size reference chart.

**No. 1X968.** 56-Pc. Bronze Sleeve Bearing Assortment Kit. Shpg. wt. 2.3 lbs. List $54.40. Each.....$30.45

## UHMW-PE SLEEVE BEARINGS

Dayton®



UHMW-PE (Ultra-high molecular weight polyethylene) provides excellent durability and low friction. Resistant to corrosion, abrasion, and high impact. Self-lubricating, requires little or no maintenance. Ideal for applications involving slow rotating or linear motion. USDA/FDA approved. Color is white. Maximum PV is 3000. Temperature range: -60 to +180°F.

### UHMW-PE SLEEVE BEARINGS

| I.D. (In.) | O.D. (In.) | Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 3/8 | 1/2 | 3ZN23 | $6.96 | $4.80 | 0.1 |
| 3/8 | 1/2 | 1/2 | 3ZN24 | 6.96 | 4.80 | 0.1 |
| 1/2 | 5/8 | 5/8 | 3ZN25 | 7.46 | 5.15 | 0.1 |
| 1/2 | 5/8 | 1 | 3ZN20 | 7.46 | 5.15 | 0.1 |
| 1/2 | 3/4 | 1 | 3ZN21 | 7.61 | 5.25 | 0.1 |
| 5/8 | 3/4 | 3/4 | 3ZN22 | 7.61 | 5.25 | 0.1 |
| 3/4 | 1 | 1 | 3ZN18 | 7.68 | 5.30 | 0.1 |
| 1 | 1 1/4 | 1 | 3ZN19 | 7.75 | 5.35 | 0.1 |

## STEEL REDUCER BUSHINGS



Bushings are zinc-plated steel with 3/16" open slot for keyway and setscrew. For adapting larger bores of various tools (pulleys, gears, and sprockets) with smaller diameter shafts. Sold in packages of three.

### STEEL REDUCER BUSHINGS

| I.D. (In.) | O.D. (In.) | Length (In.) | Stock No. | List | Each Pkg. of 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 5/16 | 1 | 6L100 | $4.40 | $3.39 | 0.1 |
| 1/4 | 3/8 | 1 1/16 | 6L101 | 4.40 | 3.39 | 0.1 |
| 5/16 | 3/8 | 1 1/16 | 6L102 | 4.40 | 3.39 | 0.1 |
| 3/8 | 7/16 | 1 1/16 | 6L103 | 4.40 | 3.39 | 0.1 |
| 3/8 | 1/2 | 1 | 4X664 | 4.40 | 3.39 | 0.1 |
| 1/2 | 5/8 | 1 1/4 | 2X773 | 4.40 | 3.38 | 0.2 |
| 5/8 | 3/4 | 1 1/4 | 2X774 | 4.40 | 3.38 | 0.2 |
| 3/4 | 1 | 1 1/4 | 2X775 | 6.40 | 5.34 | 0.3 |
| 7/8 | 1 | 1 5/16 | 2X653 | 6.40 | 4.80 | 0.2 |

## BUSHING AND BEARING TOOLS

- **All parts plated**
- **Durable molded plastic carrying case included**

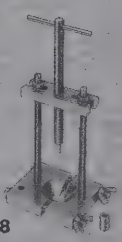
**Bushing Driver Sets** removes or inserts internal bushings and bearings in various equipment. Sizes marked on each adapter. No. 4X083 has 3 drivers and 16 adapters for 3/8" to 1 1/4" I.D. and 7/16" to 1 3/8" O.D. No. 1F614 has 1 driver and 7 adapters for 1 5/16" to 1 3/4" I.D. and 1 7/16" to 1 7/8" O.D.

**Bearing Tool Set No. 1X351** removes or inserts any sleeve motor bearing or bushing. Exerts even pressure to eliminate broken bearings or end bells. Removes frozen bushings without peening the bushing end, scratching, or marring. Has 9 adapters for 1/2" to 1" I.D. (in 1/16" increments) x 1 1/8" maximum O.D.

**Portable Arbor Press No. 3ZM98** removes or inserts various press-fit components from shafting such as bushings, bearings, commutators, fan blades, and seals. Adjustable base has circular pocket that provides complete 360° surface contact for even distribution of pressure which eliminates damage to shafts and parts. Tool can be held-in-hand, bolted or clamped to workbench, or mounted in vise. Spread range: 1/2" to 2 3/8" O.D. Reach: 5 1/2" max. Capacity: 3 tons.

| Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Bushing Driver Set | 4X083 | $58.22 | $49.75 | 3.5 |
| Bushing Driver Set | 1F614 | 62.65 | 51.95 | 6.0 |
| Bearing Tool Set | 1X351 | 66.79 | 62.65 | 3.8 |
| Portable Arbor Press | 3ZM98 | 55.00 | 29.70 | 4.3 |

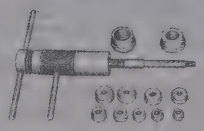
Dayton®



No. 3ZM98



No. 4X083



No. 1X351

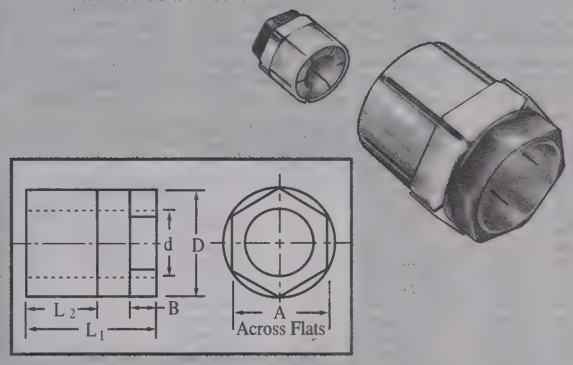


No. 1F614

## TRANTORQUE GT® KEYLESS BUSHINGS

- For mounting high torque timed components
- Unique single nut locking feature
- Functions as mechanical shrink fit
- Easy to install with relaxed machining tolerances
- Hex flats for counter-torque eliminate the need to hold shaft or component while applying installation torque
- Eliminates fretting corrosion, backlash, and key wallowing
- Fast and easy component repositioning and synchronization
- Can be mounted directly over worn and damaged keyways
- Excellent balance and concentricity

Fenner Drives™
Technology in Motion




TRANTORQUE GT is the solution to the problems of keyed mountings—a keyless bushing ideal for critical timing and high-torque applications. TRANTORQUE GT is a three-piece bushing consisting of an inner collet-like element, a single element outer sleeve, and a single locking nut. Hex flats are machined into the outer element to provide a counter-torque facility on installation.

The inner and outer elements have matching opposite tapers. As a result, when the nut is turned, the unit expands within the component and contracts on the shaft. To find out which bushing is appropriate for your application, simply start with the shaft size and determine if the Outside Diameter and Torque Requirements are adequate.

| PERFORMANCE Max. Transmissable Torque (In.-Lbs.) | Thrust (Lbs.) | Intallation Torque On Nut (In.-Lbs.) | Dimensions (Inches) Shaft Size d | Component Bore Dia. D | L1 | L2 | A | B | Fenner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **100** | 700 | 125 | 3/16 | 5/8 | 3/4 | 3/8 | 1/2 | 1/8 | 6202103 | **3ZP11** | $52.00 | **$23.20** | 0.1 |
| **150** | 790 | 125 | 1/4 | 5/8 | 3/4 | 3/8 | 1/2 | 1/8 | 6202105 | **3ZP12** | 52.00 | **23.20** | 0.1 |
| **200** | 890 | 150 | 5/16 | 3/4 | 7/8 | 7/16 | 5/8 | 1/8 | 6202107 | **3ZP13** | 55.00 | **24.53** | 0.1 |
| **250** | 925 | 150 | 3/8 | 3/4 | 7/8 | 7/16 | 5/8 | 1/8 | 6202109 | **3ZP14** | 55.00 | **24.53** | 0.1 |
| **300** | 950 | 175 | 7/16 | 7/8 | 1 | 1/2 | 3/4 | 3/16 | 6202110 | **3ZP15** | 59.50 | **26.55** | 0.1 |
| **350** | 980 | 175 | 1/2 | 7/8 | 1 | 1/2 | 3/4 | 3/16 | 6202112 | **3ZP16** | 59.50 | **26.55** | 0.1 |
| **400** | 990 | 200 | 9/16 | 1 | 1 1/8 | 5/8 | 7/8 | 3/16 | 6202114 | **3ZP17** | 61.50 | **27.45** | 0.2 |
| **450** | 1000 | 200 | 5/8 | 1 | 1 1/8 | 5/8 | 7/8 | 3/16 | 6202115 | **3ZP18** | 61.50 | **27.45** | 0.2 |
| **1750** | 3300 | 1200 | 5/8 | 1 1/2 | 1 1/2 | 3/4 | 1 1/4 | 5/16 | 6202120 | **3ZP19** | 81.50 | **36.35** | 0.5 |
| **2500** | 4400 | 1200 | 3/4 | 1 1/2 | 1 1/2 | 3/4 | 1 1/4 | 5/16 | 6202160 | **3ZP20** | 81.50 | **36.35** | 0.5 |
| **2600** | 4950 | 1500 | 13/16 | 1 3/4 | 1 7/8 | 7/8 | 1 1/2 | 7/16 | 6202190 | **3ZP21** | 97.50 | **43.50** | 0.9 |
| **2800** | 5500 | 1500 | 7/8 | 1 3/4 | 1 7/8 | 7/8 | 1 1/2 | 7/16 | 6202200 | **3ZP22** | 97.50 | **43.50** | 0.8 |
| **3100** | 6050 | 1500 | 15/16 | 1 3/4 | 1 7/8 | 7/8 | 1 1/2 | 7/16 | 6202220 | **3ZP23** | 97.50 | **43.50** | 0.8 |
| **3500** | 6600 | 1500 | 1 | 1 3/4 | 1 7/8 | 7/8 | 1 1/2 | 7/16 | 6202240 | **3ZP24** | 97.50 | **43.50** | 0.7 |
| **4000** | 7000 | 2000 | 1 1/16 | 2 | 2 1/4 | 1 | 1 3/4 | 1/2 | 6202270 | **3ZP25** | 126.50 | **56.40** | 1.3 |
| **4600** | 7500 | 2000 | 1 1/8 | 2 | 2 1/4 | 1 | 1 3/4 | 1/2 | 6202280 | **3ZP26** | 126.50 | **56.40** | 1.2 |
| **5200** | 8000 | 2000 | 1 3/16 | 2 | 2 1/4 | 1 | 1 3/4 | 1/2 | 6202300 | **3ZP27** | 126.50 | **56.40** | 1.1 |
| **6000** | 8500 | 2000 | 1 1/4 | 2 | 2 1/4 | 1 | 1 3/4 | 1/2 | 6202320 | **3ZP28** | 126.50 | **56.40** | 1.1 |
| **6400** | 9500 | 2300 | 1 3/8 | 2 3/8 | 2 3/4 | 1 1/2 | 2 | 9/16 | 6202360 | **3ZP29** | 156.00 | **69.60** | 2.0 |
| **6700** | 10,000 | 2300 | 1 7/16 | 2 3/8 | 2 3/4 | 1 1/2 | 2 | 9/16 | 6202380 | **3ZP30** | 156.00 | **69.60** | 1.9 |
| **7000** | 10,500 | 2300 | 1 1/2 | 2 3/8 | 2 3/4 | 1 1/2 | 2 | 9/16 | 6202400 | **3ZP31** | 156.00 | **69.60** | 2.0 |
| **8500** | 11,750 | 2800 | 1 5/8 | 2 5/8 | 3 1/8 | 1 11/16 | 2 1/4 | 9/16 | 6202440 | **3ZP32** | 194.00 | **86.50** | 2.6 |
| **10,000** | 12,750 | 2800 | 1 3/4 | 2 5/8 | 3 1/8 | 1 11/16 | 2 1/4 | 9/16 | 6202480 | **3ZP33** | 194.00 | **86.50** | 2.3 |
| **11,750** | 14,000 | 3900 | 1 7/8 | 2 7/8 | 3 9/16 | 2 | 2 1/2 | 5/8 | 6202520 | **3ZP34** | 238.50 | **106.40** | 3.3 |
| **12,750** | 14,500 | 3900 | 2 15/16 | 2 7/8 | 3 9/16 | 2 | 2 1/2 | 5/8 | 6202540 | **3ZP35** | 238.50 | **106.40** | 3.1 |
| **14,000** | 15,000 | 3900 | 2 | 2 7/8 | 3 9/16 | 2 | 2 1/2 | 5/8 | 6202560 | **3ZP36** | 238.50 | **106.40** | 2.9 |

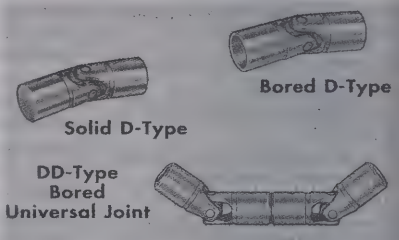
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

## Lovejoy D-TYPE AND DD-TYPE UNIVERSAL JOINTS

**D-Type Universal Joints** are standard industrial-type universal joints with pin and block design. Special tapered shape of yokes provide exceptional strength for long life, while allowing full free movement of joint. Stainless steel D-type universal joints for applications where contact with corrosive chemicals, exposure to corrosive atmosphere, or sanitation requirements are a factor. For applications with angles up to 25° and speeds up to 1750 RPM. Boot retaining grooves are standard.

**DD-Type Universal Joints** are designed with two quality Lovejoy standard D-type universal joints with a center connection shaft tailored for specific application requirements. This configuration is typical of industrial universal joint applications to compensate for parallel misalignment and shaft separation. In a double joint arrangement, the input and output speeds are near constant velocity. When assembled correctly yoke ears are aligned and angles are equal.



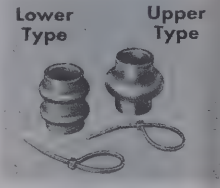

| O.D. (In.) | Overall Length (In.) | Static Breaking Torque (In.-Lbs.) | Lovejoy Model | Stock No. | List | Each | Shpg. Wt. | Lovejoy Model | Bore Diameter (In.)† Std. | Max. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SOLID D-TYPE* | | | | | BORED D-TYPE | | | | | | |
| 1/2 | 2 | 378 | D-2 | 1L730 | $37.80 | $21.33 | 0.1 | D-2B | 1/4 | 3/8 | 1L742 | $42.00 | $23.70 | 0.1 |
| 5/8 | 2 1/4 | 540 | D-3 | 1L731 | 38.60 | 21.76 | 0.2 | D-3B | 5/16 | 1/2 | 1L743 | 43.00 | 24.27 | 0.2 |
| 3/4 | 2 11/16 | 768 | D-4 | 1L732 | 38.60 | 21.76 | 0.3 | D-4B | 3/8 | 5/8 | 1A929 | 43.00 | 24.27 | 0.2 |
| 7/8 | 3 | 1176 | D-5 | 1L733 | 48.80 | 28.40 | 0.5 | D-5B | 7/16 | 11/16 | 1L744 | 54.20 | 30.70 | 0.4 |
| 1 | 3 3/8 | 1560 | D-6 | 1L734 | 53.40 | 30.25 | 0.7 | D-6B | 1/2 | 3/4 | 1A930 | 59.20 | 33.55 | 0.5 |
| 1 1/8 | 3 1/2 | 2880 | D-7 | 1L735 | 65.40 | 37.05 | 0.9 | D-7B | 9/16 | 7/8 | 1L745 | 72.60 | 41.10 | 0.7 |
| 1 1/4 | 3 3/4 | 5220 | D-8 | 1L736 | 71.00 | 40.25 | 1.1 | D-8B | 5/8 | 1 | 1A931 | 78.80 | 44.60 | 0.2 |
| 1 1/2 | 4 1/4 | 7920 | D-10 | 1L737 | 84.40 | 47.85 | 1.8 | D-10B | 3/4 | 1 1/8 | 1A932 | 93.80 | 53.10 | 1.5 |
| 1 3/4 | 5 | 10,680 | D-11 | 1L738 | 125.00 | 70.65 | 2.9 | D-11B | 7/8 | 1 1/4 | 1L746 | 138.00 | 77.95 | 2.5 |
| 2 | 5 7/16 | 15,600 | D-12 | 1L739 | 151.00 | 85.40 | 4.2 | D-12B | 1 | 1 1/2 | 1A933 | 162.00 | 91.50 | 3.5 |
| 2 1/2 | 7 | 33,120 | D-13 | 1L740 | 320.00 | 181.00 | 8.5 | D-13B | 1 1/4 | 1 3/4 | 1L747 | 332.00 | 188.00 | 7.2 |
| 3 | 9 1/16 | 65,400 | D-14 | 1L741 | 482.00 | 272.75 | 16.0 | D-14B | 1 1/2 | 2 | 1L748 | 510.00 | 288.25 | 13.0 |
| | | | SOLID STAINLESS STEEL D-TYPE* | | | | | BORED STAINLESS STEEL D-TYPE | | | | | | |
| 3/4 | 2 11/16 | 512 | D-4SS | 1L780 | 99.20 | 56.15 | 0.3 | D-4SSB | 3/8 | 5/8 | 1L785 | 110.00 | 62.25 | 0.3 |
| 1 | 3 3/8 | 1040 | D-6SS | 1L781 | 134.00 | 75.75 | 0.7 | D-6SSB | 1/2 | 3/4 | 1L786 | 148.00 | 83.70 | 0.6 |
| 1 1/4 | 3 3/4 | 3480 | D-8SS | 1L782 | 178.00 | 100.50 | 1.1 | D-8SSB | 5/8 | 1 | 1L787 | 197.00 | 111.35 | 0.9 |
| 1 1/2 | 4 1/4 | 5280 | D-10SS | 1L783 | 212.00 | 119.75 | 1.8 | D-10SSB | 3/4 | 1 1/8 | 1L788 | 234.00 | 132.20 | 1.5 |
| 2 | 5 7/16 | 10,400 | D-12SS | 1L784 | 378.00 | 213.75 | 4.2 | D-12SSB | 1 | 1 1/2 | 1L789 | 420.00 | 237.25 | 3.5 |
| | | | SOLID DD-TYPE* | | | | | BORED DD-TYPE | | | | | | |
| 1/2 | 4 | 378 | DD-2 | 1L756 | 95.80 | 54.20 | 0.3 | DD-2B | 1/4 | 3/8 | 1L768 | 106.00 | 59.95 | 0.2 |
| 5/8 | 4 1/2 | 540 | DD-3 | 1L757 | 97.20 | 55.05 | 0.4 | DD-3B | 5/16 | 1/2 | 1L769 | 108.00 | 61.15 | 0.4 |
| 3/4 | 5 3/8 | 768 | DD-4 | 1L758 | 100.00 | 56.50 | 0.6 | DD-4B | 3/8 | 5/8 | 1L770 | 111.00 | 62.90 | 0.5 |
| 7/8 | 6 | 1176 | DD-5 | 1L759 | 124.00 | 70.10 | 0.9 | DD-5B | 7/16 | 11/16 | 1L771 | 137.00 | 77.50 | 0.7 |
| 1 | 6 3/4 | 1560 | DD-6 | 1L760 | 134.00 | 75.75 | 1.4 | DD-6B | 1/2 | 3/4 | 1L772 | 149.00 | 84.25 | 1.1 |
| 1 1/8 | 7 | 2880 | DD-7 | 1L761 | 165.00 | 93.25 | 1.8 | DD-7B | 9/16 | 7/8 | 1L773 | 183.00 | 103.50 | 1.6 |
| 1 1/4 | 7 1/2 | 5220 | DD-8 | 1L762 | 179.00 | 101.20 | 2.2 | DD-8B | 5/8 | 1 | 1L774 | 199.00 | 112.50 | 2.2 |
| 1 1/2 | 8 1/2 | 7920 | DD-10 | 1L763 | 214.00 | 120.85 | 3.6 | DD-10B | 3/4 | 1 1/8 | 1L775 | 236.00 | 133.30 | 3.0 |
| 1 3/4 | 10 | 10,680 | DD-11 | 1L764 | 316.00 | 178.75 | 5.8 | DD-11B | 7/8 | 1 1/4 | 1L776 | 350.00 | 198.25 | 4.8 |
| 2 | 10 7/8 | 15,600 | DD-12 | 1L765 | 380.00 | 215.00 | 8.0 | DD-12B | 1 | 1 1/2 | 1L777 | 410.00 | 232.00 | 6.5 |
| 2 1/2 | 14 | 33,120 | DD-13 | 1L766 | 804.00 | 454.25 | 16.0 | DD-13B | 1 1/4 | 1 3/4 | 1L778 | 856.00 | 483.75 | 13.0 |
| 3 | 18 3/8 | 65,400 | DD-14 | 1L767 | 1216.00 | 687.50 | 31.0 | DD-14B | 1 1/2 | 2 | 1L779 | 1304.00 | 737.50 | 30.0 |

(*) No bore provided, must be machined to user requirements. No keyway or setscrew provided. (†) Bored units may be re-bored to maximum diameter shown.

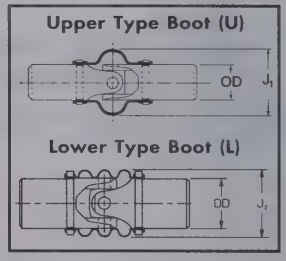
## Lovejoy UNIVERSAL JOINT BOOTS

The life of a universal joint can be extended substantially if booted. Wear areas of the universal joint are protected from dirt and contaminants, while lubrication is retained. On-site replaceable boots ensure proper lubrication for up to 5 times longer universal joint life. Installation and replacement is fast and easy.

Use upper type boots for D-type universal joints with diameters of 1½" and smaller. Use lower type boots for D-type universal joints with diameters greater than 1½". All Lovejoy universal joints come pregrooved to accommodate the field replaceable boots. Use grease No. 6Y786 (not included); must order separately. Sold in packages of 2.




| Boot Type | Lovejoy Model | Dimensions (In.) O.D. | Upper J1 | Lower J2 | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Upper Type | D-2 | 1/2 | 29/32 | — | 1L749 | $23.60 | $13.70 | 0.1 |
| Upper Type | D-3 | 5/8 | 1 3/32 | — | 1L750 | 25.00 | 14.51 | 0.1 |
| Upper Type | D-4 | 3/4 | 1 11/32 | — | 2A764 | 27.20 | 15.79 | 0.1 |
| Upper Type | D-5 | 7/8 | 1 1/2 | — | 1L751 | 30.00 | 17.42 | 0.1 |
| Upper Type | D-6 | 1 | 1 3/4 | — | 2A765 | 36.30 | 21.06 | 0.1 |
| Upper Type | D-7 | 1 1/8 | 2 1/32 | — | 1L752 | 38.00 | 22.06 | 0.1 |
| Upper Type | D-8 | 1 1/4 | 2 1/32 | — | 2A766 | 40.00 | 23.21 | 0.1 |
| Upper Type | D-10 | 1 1/2 | 2 9/16 | — | 2A755 | 43.30 | 25.15 | 0.1 |
| Lower Type | D-11 | 1 3/4 | — | 2 3/16 | 1L753 | 145.60 | 84.70 | 0.2 |
| Lower Type | D-12 | 2 | — | 2 19/32 | 2A756 | 152.00 | 88.40 | 0.3 |
| Lower Type | D-13 | 2 1/2 | — | 3 1/4 | 1L754 | 170.00 | 98.85 | 0.4 |
| Lower Type | D-14 | 3 | — | 4 1/4 | 1L755 | 196.00 | 113.95 | 0.6 |



# UNIVERSAL JOINT SELECTION GUIDE AND KITS

## SELECTION GUIDE FOR UNIVERSAL JOINTS

Joint selection depends on running application.

**Intermittent application**—operation limited to 15 minutes due to need for dissipating heat before restart.

**Continuous application**—operation under load longer than 15 minutes up to 8 hours a day.

### PART NUMBER INTERCHANGE GUIDE

**SOLID TYPE**

| Outside Diameter (In.) | Manufacturer's Model Numbers Lovejoy | Curtis | Boston | Browning | Alves | Apex |
|---|---|---|---|---|---|---|
| 1/2 | D-2 | C-642 | J-50 | UJ-4S | S-500 | 300-8 |
| 5/8 | D-3 | C-643 | J-62 | UJ-5S | S-625 | 300-10 |
| 3/4 | D-4 | C-644 | J-75 | UJ-6S | S-750 | 300-12 |
| 7/8 | D-5 | C-645 | J-87 | UJ-7S | S-875 | 300-14 |
| 1 | D-6 | C-646 | J-100 | UJ-8S | S-1000 | 300-16 |
| 1 1/8 | D-7 | C-647 | — | UJ-9S | S-1125 | — |
| 1 1/4 | D-8 | C-648 | J-125 | UJ-10S | S-1250 | 300-20 |
| 1 1/2 | D-10 | C-650 | J-150 | UJ-12S | S-1500 | 300-24 |
| 1 3/4 | D-11 | C-651 | J-175 | UJ-14S | S-1750 | 300-28 |
| 2 | D-12 | C-652 | J-200 | UJ-16S | S-2000 | 300-32 |
| 2 1/2 | D-13 | C-653 | J-250 | UJ-20S | S-2500 | 400-40 |
| 3 | D-14 | C-654 | J-300 | UJ-24S | S-3000 | 400-48 |

**Step 1:** For a given operating speed and angle of operation in an **intermittent** application, refer to the Correction Factor Table below for appropriate value. If a **continuous** application, multiply the value shown by 2.

**Step 2:** Multiply the correction factor obtained in Step 1 by the specific application torque requirements (be sure to use inch-pounds).

**Step 3:** Refer to Static Breaking Torque Column in tables below for the type of U-joint desired and select a joint having same or greater torque than result from Step 2.

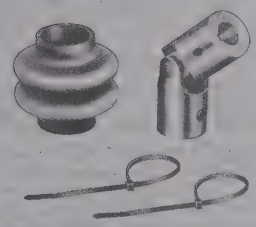
### CORRECTION FACTOR TABLE

| Operating RPM | Angle of Operation in Degrees 0° | 3° | 5° | 7° | 10° | 15° | 20° | 25° |
|---|---|---|---|---|---|---|---|---|
| 1800 | 9 | 20 | 34 | 45 | — | — | — | — |
| 1500 | 8 | 16 | 28 | 39 | — | — | — | — |
| 1200 | 7 | 13 | 22 | 32 | 40 | — | — | — |
| 900 | 6 | 11 | 16 | 23 | 34 | — | — | — |
| 600 | 5 | 8 | 11 | 15 | 22 | 34 | 40 | — |
| 300 | 4 | 5 | 7 | 8 | 11 | 16 | 22 | 28 |
| 100 | 3 | 4 | 4 | 5 | 6 | 8 | 9 | 11 |

## CURTIS TURN-KEY UNIVERSAL JOINT KITS

- **Ready to go; includes standard bored hubs (1/2 of the O.D.), standard keyway, installed setscrews, one boot, and two ties**
- **Exclusive TakeApart design (1" O.D. and larger) facilitates quick disassembly and reassembly without the use of special tools so that custom machining of the hubs is easy and economical**
- **Built-in lubrication passages**
- **Maximum wear with less galling and seizing**
- **Use with Mobilgrease HP multipurpose auto grease, No. 6Y788, or Mobilgrease special with moly for high torque applications, No. 4ZF44**

**CURTIS**



**Includes one U-joint with standard bored hubs and keyway, installed setscrews, one cover (boot), and two ties**

### SPECIFICATIONS AND ORDERING DATA

| Bore (In.) | O.D. (In.) | Overall Length (In.) | Keyway (In.) | Static Breaking Torque (In.-Lbs.) | Curtis Model | Stock No. | List | Each | Shpg. Wt. | Static Breaking Torque (In.-Lbs.) | Curtis Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ALLOY STEEL | | | | | | 303 STAINLESS STEEL | | | | | |
| **3/8** | 3/4 | 2 11/16 | 3/32 x 3/64 | 1189 | CJ44BKS | **4JC66** | $62.80 | **$31.40** | 0.4 | 1000 | SS44BKS | **4JC76** | $136.70 | **$68.35** | 0.4 |
| **1/2** | 1 | 3 3/8 | 1/8 x 1/16 | 2305 | CJ46BKS | **4JC67** | 85.90 | **42.95** | 0.7 | 1900 | SS46BKS | **4JC77** | 183.70 | **91.85** | 0.7 |
| **5/8** | 1 1/4 | 3 3/4 | 3/16 x 3/32 | 5360 | CJ48BKS | **4JC68** | 109.50 | **54.75** | 1.2 | 3600 | SS48BKS | **4JC78** | 239.60 | **119.80** | 1.2 |
| **3/4** | 1 1/2 | 4 1/4 | 3/16 x 3/32 | 8460 | CJ50BKS | **4JC69** | 128.00 | **64.00** | 1.8 | 7200 | SS50BKS | **4JC79** | 282.30 | **141.15** | 1.8 |
| **7/8** | 1 3/4 | 5 | 3/16 x 3/32 | 12,340 | CJ51BKS | **4JC70** | 234.60 | **117.30** | 2.7 | 10,700 | SS51BKS | **4JC80** | 399.50 | **199.75** | 2.7 |
| **1** | 2 | 5 7/16 | 1/4 x 1/8 | 18,800 | CJ52BKS | **4JC71** | 264.00 | **132.00** | 3.8 | 15,500 | SS52BKS | **4JC81** | 549.00 | **274.50** | 3.8 |
| **1 1/8** | 2 | 5 7/16 | 1/4 x 1/8 | 18,800 | CJ52SB† | **4JC72** | 264.00 | **132.00** | 3.8 | 15,500 | SS52SB | **4JC82** | 549.00 | **274.50** | 3.8 |

(†) Both hubs bored 1 1/8" diameter to accommodate integral horsepower motors.

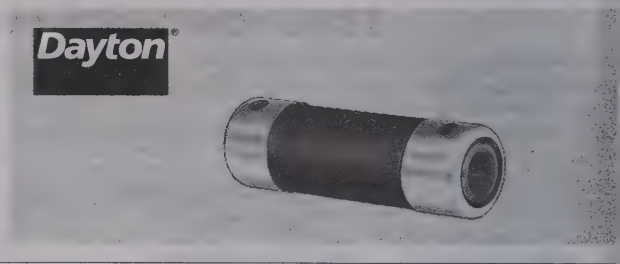

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

Link up with Grainger's web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our online catalog allows you to search and display products as well as place orders online. . . day or night.

# FLEXIBLE AND RIGID COUPLINGS

## FLEXIBLE COUPLINGS

For direct-drive equipment. Flexible buna-nitrile rubber sleeve with knurled steel hub inserts on each end. Locks to shaft with socket setscrews provided (1/4"-20). Coupling permits misalignment up to 1/8" parallel and up to 7° angular. Rated capacity 1/2 HP at 1725 RPM.




| Bore Size (In.) | O.D. (In.) | Overall Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2 | 1 1/8 | 2 1/2 | 2X497 | $5.95 | $4.32 | 0.2 |
| 1/2 | 1 1/8 | 3 | 2X498 | 6.12 | 4.44 | 0.2 |
| 1/2 | 1 1/8 | 3 1/2 | 2X499 | 6.29 | 4.55 | 0.2 |

## RIGID STEEL COUPLINGS

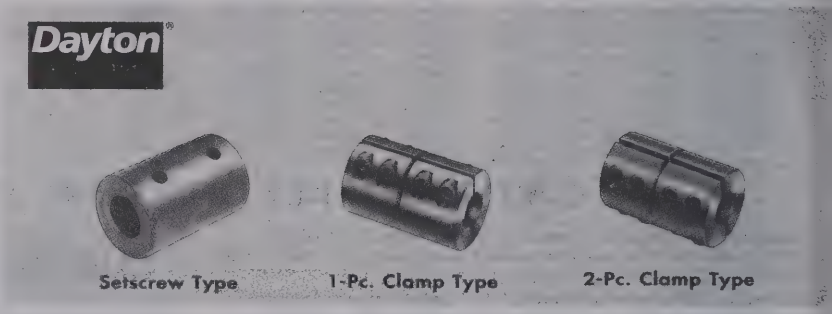
- **For applications where alignment is critical**
- **Three types to choose from:**
  **Setscrew**
  **1-Pc. Clamp (with or without keyway)**
  **2-Pc. Clamp (with or without keyway)**
- **Bore sizes available from 1/4 to 1 1/2"**
- **Machined from bar stock**

For applications where flexibility is not required and alignment is critical, particularly when no backlash is desired. Also useful when timing, joining, and/or aligning shafts at lower speeds and torque.

Three types to choose from:

**Setscrew Type:** Locks securely to shafting with socket setscrews. Provides high strength at lower cost. Zinc plated.

**Clamp Type (1 Pc. and 2 Pc.):** Provides extra holding power for higher load applications. Will not mar shafts. 1-pc. units have four vibration-resistant socket cap screws and 2-pc. units have eight screws. 2-pc. type can be installed without having to disassemble any machinery or components. Both styles are available with or without keyway. Black oxide plated.




### SETSCREW TYPE — RIGID STEEL COUPLINGS

| Bore Size (In.) | O.D. (In.) | Overall Length (In.) | Setscrews (In.) | Keyway Width (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 1/2 | 3/4 | #10-32 x 3/16 | — | 6L012 | $7.20 | $3.64 | 0.1 |
| 5/16 | 5/8 | 1 | #10-32 x 3/16 | — | 6L013 | 7.60 | 3.85 | 0.1 |
| 3/8 | 3/4 | 1 | 1/4-28 x 3/16 | — | 6L014 | 8.00 | 4.05 | 0.1 |
| 1/2 | 1 | 1 1/2 | 1/4-28 x 1/4 | 1/8 | 6L015 | 13.20 | 6.68 | 0.3 |
| 5/8 | 1 1/4 | 2 | 5/16-18 x 5/16 | 3/16 | 6L016 | 18.00 | 9.11 | 0.5 |
| 3/4 | 1 1/2 | 2 | 5/16-18 x 3/8 | 3/16 | 6L017 | 21.20 | 10.73 | 0.8 |
| 7/8 | 1 3/4 | 2 | 5/16-18 x 3/8 | 3/16 | 6L018 | 26.00 | 13.16 | 1.0 |
| 1 | 2 | 3 | 3/8-16 x 1/2 | 1/4 | 6L019 | 31.60 | 15.99 | 1.9 |
| 1 1/8 | 2 1/4 | 3 | 3/8-16 x 3/8 | 1/4 | 3ZN53 | 38.00 | 19.00 | 2.5 |
| 1 1/4 | 2 1/4 | 4 | 3/8-16 x 3/8 | 1/4 | 3ZN50 | 42.00 | 21.00 | 3.1 |
| 1 3/8 | 2 1/2 | 4 1/2 | 3/8-16 x 3/8 | 5/16 | 3ZN51 | 50.00 | 25.00 | 3.5 |
| 1 1/2 | 2 1/2 | 4 1/2 | 3/8-16 x 3/8 | 3/8 | 3ZN52 | 58.00 | 29.00 | 3.9 |

### CLAMP TYPE (1 AND 2-PC.) — RIGID STEEL COUPLINGS

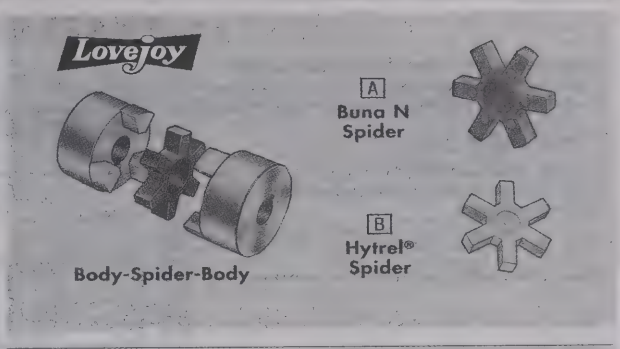
| Bore Size (In.) | O.D. (In.) | Overall Length (In.) | Setscrew (In.) | Keyway Width (In.) | ONE PIECE With Keyway Stock No. | List | Each | ONE PIECE Without Keyway Stock No. | List | Each | TWO PIECE With Keyway Stock No. | List | Each | TWO PIECE Without Keyway Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 11/16 | 1 | #4-40 x 3/8 | — | — | — | — | 3ZN29 | $14.50 | $7.25 | — | — | — | 3ZN41 | $21.70 | $10.85 | 0.2 |
| 5/16 | 11/16 | 1 | #4-40 x 3/8 | — | — | — | — | 3ZN30 | 15.40 | 7.70 | — | — | — | 3ZN42 | 22.50 | 11.25 | 0.2 |
| 3/8 | 7/8 | 1 3/8 | #6-32 x 3/8 | — | — | — | — | 3ZN31 | 20.00 | 10.00 | — | — | — | 3ZN43 | 23.80 | 11.90 | 0.4 |
| 1/2 | 1 1/8 | 1 3/4 | #8-32 x 1/2 | 1/8 | 3ZN57 | $31.70 | $15.85 | 3ZN32 | 26.70 | 13.35 | 3ZN66 | $38.70 | $19.35 | 3ZN44 | 26.00 | 13.00 | 0.6 |
| 5/8 | 1 5/16 | 2 | #10-32 x 1/2 | 3/16 | 3ZN58 | 41.40 | 20.70 | 3ZN33 | 36.40 | 18.20 | 3ZN67 | 48.40 | 24.20 | 3ZN45 | 28.60 | 14.30 | 1.5 |
| 3/4 | 1 1/2 | 2 1/2 | 1/4-28 x 5/8 | 3/16 | 3ZN59 | 46.00 | 23.00 | 3ZN34 | 42.80 | 21.40 | 3ZN68 | 53.00 | 26.50 | 3ZN46 | 33.40 | 16.70 | 1.4 |
| 7/8 | 1 5/8 | 2 1/2 | 1/4-28 x 5/8 | 3/16 | 3ZN60 | 57.60 | 28.80 | 3ZN35 | 52.60 | 26.30 | 3ZN69 | 64.60 | 32.30 | 3ZN47 | 42.80 | 21.40 | 1.7 |
| 1 | 1 3/4 | 3 | 1/4-28 x 5/8 | 1/4 | 3ZN61 | 69.00 | 34.50 | 3ZN36 | 64.00 | 32.00 | 3ZN70 | 76.00 | 38.00 | 3ZN48 | 52.40 | 26.20 | 1.9 |
| 1 1/8 | 1 7/8 | 3 1/4 | 1/4-28 x 3/4 | 1/4 | 3ZN62 | 79.00 | 39.50 | 3ZN37 | 74.00 | 37.00 | 3ZN71 | 86.00 | 43.00 | 3ZN49 | 66.60 | 33.30 | 2.2 |
| 1 1/4 | 2 1/16 | 3 1/4 | 1/4-28 x 3/4 | 1/4 | 3ZN54 | 89.00 | 44.50 | 3ZN26 | 84.00 | 42.00 | 3ZN63 | 96.00 | 48.00 | 3ZN38 | 71.40 | 35.70 | 2.4 |
| 1 3/8 | 2 3/16 | 3 5/8 | 1/4-28 x 3/4 | 5/16 | 3ZN55 | 99.00 | 49.50 | 3ZN27 | 94.00 | 47.00 | 3ZN64 | 106.00 | 53.00 | 3ZN39 | 80.00 | 40.00 | 2.8 |
| 1 1/2 | 2 5/16 | 3 3/4 | 1/4-28 x 3/4 | 3/8 | 3ZN56 | 109.00 | 54.50 | 3ZN28 | 104.00 | 52.00 | 3ZN65 | 116.00 | 58.00 | 3ZN40 | 95.20 | 47.60 | 3.1 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# FLEXIBLE COUPLINGS AND SPIDERS

For use with motors, gearmotors, pumps, tools, and drive equipment. A complete 3-pc. coupling assembly consists of two coupling bodies (ends) with desired bores and one spider (center). Coupling bodies are made of sintered iron, cast iron, or aluminum and do not require lubrication. 3-pc. coupling is easily assembled and aligned. Standard keyways on 5/8" and larger bore sizes; No. 4X177 and 3KX86 have no keyway. All have hollow head setscrews.




## COUPLING SPIDERS

**A Buna N Spiders** are made of oil-resistant, highly resilient long-life material. Serviceable temperature range: -40° to +212°F. Accommodates 1° angular and 0.015" of parallel misalignment. Black color.

**B Hytrel® Spiders** provide 2.5 times torque capability than Buna-N. Hytrel spiders have a wider temperature range, -60° to +250°F, and better chemical-resistance than Buna N spiders. Accommodates 1/2° angular and 0.015" of parallel misalignment. Tan color.

**C Urethane Spiders** provide 1.5 times greater torque capability than Buna N and offer good resistance to oil and chemicals. However, this material provides less dampening effect and operates at a temperature range of -30° to +160°F. Accommodates 1° angular and 0.015" of parallel misalignment. Blue color.

## KEYWAY CHART

| Bore Range (In.) | Keyway (In.) |
|---|---|
| 1/8-1/2 | No Keyway |
| 5/8-7/8 | 3/16 x 3/32 |
| 1-1¼ | 1/4 x 1/8 |
| 1⅜ | 5/16 x 5/32 |
| 1½-1¾ | 3/8 x 3/16 |
| 1⅞ | 1/2 x 1/4 |

## SINTERED IRON OR CAST-IRON COUPLING BODY (Two Required for Each Complete Coupling)

| Style | Bore Diameter 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 5/8" | 3/4" | 7/8" | 1" | 1⅛" | Each | A BUNA N SPIDER Stock No. | Each | B HYTREL SPIDER Stock No. | Each | C URETHANE SPIDER Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L050 | 4X236 | 1A417 | 4X175 | 6X070 | 4X176 | 4X177# | — | — | — | — | $1.94 | 1X409 | $1.27 | — | — | 3KZ67 | $5.24 |
| L070 | — | — | — | 5X401 | 4X178 | 4X179 | 4X180 | — | — | — | 3.00 | 1X408 | 1.80 | 1A923 | $6.03 | 3KX87 | 3.64 |
| L075 | — | — | — | 5X402 | 4X181 | 4X182 | 4X183 | 4X184 | — | — | 3.48 | 2X814 | 3.07 | 1A924 | 9.05 | 3KX92 | 4.51 |
| L075 | — | — | — | 1A073‡ | 5X447‡ | — | — | — | — | — | 3.48 | 2X814 | 3.07 | 1A924 | 9.05 | 3KX92 | 4.51 |
| L090 | — | — | — | — | 4X185 | 4X186 | 4X187 | 4X188 | — | — | 5.37 | 1X407 | 3.97 | 1A925 | 12.06 | 3KZ03 | 6.47 |
| L095 | — | — | — | 1A914 | 6X071 | 6X072 | 4X191 | 4X192 | 4X193 | 6X073 | 8.25 | 1X407 | 3.97 | 1A925 | 12.06 | 3KZ03 | 6.47 |
| **Style** | **Bore Diameter 3/4"** | **7/8"** | **1"** | **1⅛"** | **1¼"** | **1⅜"** | **1½"** | **1⅝"** | **1¾"** | **1⅞"** | **Each** | **Stock No.** | **Each** | **Stock No.** | **Each** | **Stock No.** | **Each** |
| L100 | 6X074 | 6X075 | 6X076 | 4X194 | 4X195 | 4X196 | — | — | — | — | $15.45 | 1X406 | 8.40 | 1A416 | 28.80 | 3KZ04 | 16.98 |
| L110 | 1A418 | 3X708 | 3X709 | 3X710 | 3X711 | 3X712 | 3X713 | 3X714 | — | — | 21.11 | 3X715 | 9.65 | 1A415 | 34.85 | 3KZ05 | 32.35 |
| L150 | — | 1A405 | — | 1A406 | 1A407 | 1A408 | 1A409 | 1A410 | 1A411 | 1A412 | 27.05 | 1A413 | 16.76 | 1A414 | 41.90 | 3KZ06 | 39.10 |
| L190* | — | — | 1A916 | 1A917 | 1A918 | 1A919 | 1A920 | 1A921 | — | 1A922 | 50.00 | 1A928 | 24.12 | 1A927 | 49.30 | 3KZ07 | 42.15 |

## ALUMINUM COUPLING BODY (Two Required for Each Complete Coupling)

| Style | Bore Diameter 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 5/8" | 3/4" | 7/8" | 1" | 1⅛" | Each | A BUNA N SPIDER Stock No. | Each | B HYTREL SPIDER Stock No. | Each | C URETHANE SPIDER Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL050 | 3KX82 | 3KX83 | 3KX84 | — | 3KX85 | 3KX86# | — | — | — | — | $2.27 | 1X409 | $1.27 | — | — | 3KZ67 | $5.24 |
| AL070 | — | — | — | 3KX88 | 3KX89 | 3KX90 | 3KX91 | — | — | — | 3.48 | 1X408 | 1.80 | 1A923 | $6.03 | 3KX87 | 3.64 |
| AL075 | — | — | — | — | 3KX93 | 3KX95 | 3KX96 | 3KX97 | — | — | 3.87 | 2X814 | 3.07 | 1A924 | 9.05 | 3KX92 | 4.51 |
| AL075 | — | — | — | — | 3KX94‡ | — | — | — | — | — | 3.87 | 2X814 | 3.07 | 1A924 | 9.05 | 3KX92 | 4.51 |
| AL090 | — | — | — | — | 3KX98 | 3KX99 | 3KZ01 | 3KZ02 | — | — | 5.90 | 1X407 | 3.97 | 1A925 | 12.06 | 3KZ03 | 6.47 |
| AL095 | — | — | — | — | 3KZ10 | 3KZ11 | 3KZ12 | 3KZ13 | 3KZ14 | 3KZ15 | 9.12 | 1X407 | 3.97 | 1A925 | 12.06 | 3KZ03 | 6.47 |
| **Style** | **Bore Diameter 3/4"** | **7/8"** | **1"** | **1⅛"** | **1¼"** | **1⅜"** | **1½"** | **1⅝"** | **1¾"** | **1⅞"** | **Each** | **Stock No.** | **Each** | **Stock No.** | **Each** | **Stock No.** | **Each** |
| AL100 | 3KZ16 | 3KZ17 | 3KZ18 | 3KZ19 | 3KZ20 | 3KZ21 | — | — | — | — | $18.12 | 1X406 | 8.40 | 1A416 | 28.80 | 3KZ04 | 16.98 |
| AL110 | — | — | 3KZ22 | 3KZ23 | — | 3KZ24 | — | 3KZ25 | — | — | 23.30 | 3X715 | 9.65 | 1A415 | 34.85 | 3KZ05 | 32.35 |
| AL150 | — | — | — | 3KZ27 | 3KZ28 | 3KZ29 | 3KZ30 | 3KZ31 | — | 3KZ32 | 30.45 | 3KZ26 | 15.49 | — | — | — | — |

(*) Cast iron. (‡) For use on hydraulic units which have 1/8 x 1/16" keyway. (#) No keyway.

## COUPLING SELECTION GUIDE

Coupling selection depends on Load Service Factor (L.S.F.) and drive. L.S.F. for applications defined as light duty, smooth loads, 1.0; for medium duty, 1.5; for heavy duty, intermittent loads, 2.0. For Gear Driven Applications: 1) multiply L.S.F. times Drive Output Torque, 2) select style with rated torque (†) in chart which meets or exceeds step 1.

For Motor Driven Applications, 1) multiply L.S.F. times Horsepower, 2) select style with HP capacity (†) at RPM in chart which meets or exceeds step 1.

## 1.0 LOAD SERVICE FACTOR RATINGS FOR BUNA N SPIDER† COUPLINGS

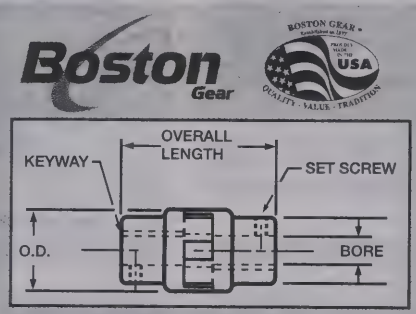
| Style | Rated Torque (In.-Lbs.) | HORSEPOWER CAPACITY AT VARYING SPEEDS 300 RPM | 1200 RPM | 1800 RPM | 3600 RPM | Overall Dimensions (In.) Assembled Length O.D. | Long | Iron Shpg. Wt. | Aluminum Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A/L050 | 26.3 | 0.13 | 0.50 | 0.75 | 1.50 | 1 9/16 | 1 23/32 | 0.3 | 0.1 |
| A/L070 | 43.2 | 0.21 | 0.84 | 1.23 | 2.47 | 1 23/32 | 2 | 0.5 | 0.2 |
| A/L075 | 90.0 | 0.42 | 1.68 | 2.57 | 5.14 | 1¾ | 2⅛ | 1.0 | 0.3 |
| A/L090 | 144.0 | 0.69 | 2.76 | 4.11 | 8.28 | 2 3/16 | 2⅛ | 1.4 | 0.5 |
| A/L095 | 194.0 | 0.93 | 3.72 | 5.50 | 11.11 | 2 7/16 | 2½ | 1.6 | 0.7 |
| A/L100 | 417.0 | 2.00 | 7.92 | 11.90 | 23.80 | 2 15/16 | 3½ | 3.0 | 1.3 |
| A/L110 | 792.0 | 3.78 | 15.12 | 23.00 | 46.00 | 3 5/16 | 4¼ | 5.7 | 2.4 |
| A/L150* | 1240.0 | 6.00 | 24.00 | 36.00 | 72.00 | 3¾ | 4½ | 8.0 | 3.4 |
| L190 | 1726.0 | 8.10 | 32.40 | 49.00 | 98.00 | 4½ | 4⅞ | 15.0 | |

(†) Hytrel ® spiders will transmit 2½ times and urethane spiders 1½ times the torque or HP capacity indicated.
(*) Torque and Horsepower ratings for the AL150 are 17% higher than the L150.

# SHAFT COUPLINGS AND SPIDER INSERTS

## SHAFT COUPLINGS

- Precision machined high quality steel permits accurate assembly, minimizes vibration, and assures quiet operation
- Insert (3-jaw) type
- Three types of spider inserts available for different service requirements (see listing below)
- No lubrication needed
- Complete with keyway and setscrew






| STANDARD TOLERANCES | |
|---|---|
| Dimension | Tolerance |
| All Bore Dimensions | +0.001-0.000 |

| Size | O.D. (In.) | Overall Length (In.) | Bore Size 3/8" | 7/16" | 1/2" | 9/16" | 5/8" | 3/4" | 7/8" | 15/16" | 1" | 1 1/8" | 1 3/16" | 1 1/4" | 1 3/8" | 1 7/16" | 1 1/2" | 1 3/16" | 1 5/8" | 1 3/4" | 1 7/8" | 2" | 2 1/8" | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FC12 | 1 1/8 | 2 7/16 | 2L028 | 2L029 | 2L030 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | $18.00 | $16.40 | 0.2 |
| FC15 | 1 1/2 | 2 7/8 | — | — | 2L031 | 2L032 | 2L033 | 2L034 | 2L035 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 22.00 | 20.18 | 0.4 |
| FC20 | 2 | 3 1/16 | — | — | 2L036 | 2L037 | 2L038 | 2L039 | 2L040 | 2L041 | 6G234 | — | — | — | — | — | — | — | — | — | — | — | — | 30.00 | 28.10 | 1.2 |
| FC25 | 2 1/2 | 4 1/8 | — | — | — | — | — | 2L042 | 2L043 | — | 2L044 | 2L045 | 2L046 | 2L047 | — | — | — | — | — | — | — | — | — | 47.00 | 43.80 | 1.8 |
| FC30 | 3 | 5 1/16 | — | — | — | — | — | — | — | — | 2L048 | 2L049 | — | 2L050 | 2L051 | 2L052 | 2L053 | — | — | — | — | — | — | 65.00 | 60.10 | 3.8 |
| FC38 | 3 3/4 | 6 5/16 | — | — | — | — | — | — | — | — | — | — | — | 2L054 | — | — | — | 2L055 | 2L056 | 2L057 | 2L058 | 2L059 | — | 103.00 | 95.40 | 7.7 |
| FC45 | 4 1/2 | 7 3/16 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2L060 | 2L061 | 2L062 | 2L063 | 149.00 | 137.45 | 13.0 |

## SHAFT COUPLING SPIDER INSERTS




**Oil-Impregnated Bost-Bronz Inserts**—Recommended for high torque loads, particularly at slower speeds.

Serviceable Temp. Range: -60 to +250°F

**Oil-Resistant Synthetic Rubber Inserts**—Recommended where quietness is desired, particularly at motor speeds.

Serviceable Temp. Range: -32 to +200°F

**Polyurethane Inserts**—Recommended where moderate to heavy shock loads are encountered.

Serviceable Temp. Range: -32 to +220°F

### SELECTION PROCEDURE

1. Select Service Factor:

| Load Classification | Service Factor |
|---|---|
| Uniform | 1.00 |
| Moderate Shock | 1.75 |
| Heavy Shock | 2.50 |

2. Determine Design Load:

**Design Torque = Application Torque (T) x SF or**
**Design HP = Application HP x SF**
**T=(HP(63025)) ÷ RPM**

3. Select coupling size which has a rating equal to or greater than the design load.

| Coupling Size | Shaft Dia. Range (In.) | Maximum Horsepower Rating at RPM For Uniform Load 50 | 100 | 300 | 690 | 870 | 1150 | 1750 | 3450 | Max. Torque | Boston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BOST-BRONZE INSERTS** | | | | | | | | | | | | | | | |
| FC12 | 3/8-1/2 | 0.16 | 0.32 | 0.95 | 2.2 | 2.8 | 3.6 | 5.6 | — | 200 | XFCBB12 | **2L064** | $14.00 | **$12.85** | 0.1 |
| FC15 | 1/2-7/8 | 0.40 | 0.79 | 2.4 | 5.5 | 6.9 | 9.1 | 13.9 | — | 500 | XFCBB15 | **2L067** | 15.00 | **13.55** | 0.1 |
| FC20 | 1/2-1 | 0.79 | 1.6 | 4.8 | 10.9 | 13.8 | 18.2 | — | — | 1000 | XFCBB20 | **2L070** | 19.00 | **17.27** | 0.2 |
| FC25 | 3/4-1 1/4 | 1.4 | 2.9 | 8.6 | 19.7 | 24.8 | — | — | — | 1800 | XFCBB25 | **2L073** | 24.00 | **21.72** | 0.3 |
| FC30 | 1-1 1/2 | 2.5 | 5.1 | 15.2 | 35.0 | — | — | — | — | 3200 | XFCBB30 | **2L076** | 28.00 | **26.15** | 0.4 |
| FC38 | 1 1/4-1 7/8 | 5.6 | 11.1 | 33.3 | — | — | — | — | — | 7000 | XFCBB38 | **2L079** | 36.00 | **32.80** | 1.0 |
| FC45 | 1 3/4-2 1/8 | 8.7 | 17.5 | — | — | — | — | — | — | 11000 | XFCBB45 | **2L082** | 58.00 | **53.40** | 1.6 |
| **RUBBER INSERTS** | | | | | | | | | | | | | | | |
| FC12 | 3/8-1/2 | — | 0.10 | 0.31 | 0.71 | 0.90 | 1.2 | 1.8 | 3.6 | 65 | XFCR12 | **2L065** | 13.00 | **11.89** | 0.1 |
| FC15 | 1/2-7/8 | — | 0.20 | 0.60 | 1.4 | 1.7 | 2.3 | 3.5 | 6.8 | 125 | XFCR15 | **2L068** | 14.00 | **12.52** | 0.1 |
| FC20 | 1/2-1 | — | 0.40 | 1.2 | 2.7 | 3.5 | 4.6 | 6.9 | 13.7 | 250 | XFCR20 | **2L071** | 17.00 | **16.04** | 0.1 |
| FC25 | 3/4-1 1/4 | — | 0.71 | 2.1 | 4.9 | 6.2 | 8.2 | 12.5 | 24.6 | 450 | XFCR25 | **2L074** | 22.00 | **20.18** | 0.1 |
| FC30 | 1-1 1/2 | — | 1.3 | 3.8 | 8.8 | 11.0 | 14.6 | 22.2 | 43.8 | 800 | XFCR30 | **2L077** | 26.00 | **24.11** | 0.1 |
| FC38 | 1 1/4-1 7/8 | — | 2.5 | 7.6 | 17.5 | 22.1 | 29.2 | 44.4 | — | 1600 | XFCR38 | **2L080** | 33.00 | **30.30** | 0.2 |
| FC45 | 1 7/8-2 1/8 | — | 4.4 | 13.3 | 30.7 | 38.7 | 51.1 | 77.7 | — | 2800 | XFCR45 | **2L083** | 54.00 | **49.50** | 0.3 |
| **POLYURETHANE INSERTS** | | | | | | | | | | | | | | | |
| FC12 | 3/8-1/2 | 0.09 | 0.19 | 0.56 | 1.2 | 1.6 | 2.0 | 3.0 | 5.7 | 125 | XFCA12 | **2L066** | 15.00 | **13.59** | 0.1 |
| FC15 | 1/2-7/8 | 0.18 | 0.37 | 1.1 | 2.5 | 3.1 | 4.0 | 6.0 | 11.3 | 250 | XFCA15 | **2L069** | 16.00 | **14.44** | 0.1 |
| FC20 | 1/2-1 | 0.35 | 0.70 | 2.1 | 4.6 | 5.7 | 7.5 | 11.1 | 20.7 | 470 | XFCA20 | **2L072** | 19.00 | **17.74** | 0.1 |
| FC25 | 3/4-1 1/4 | 0.62 | 1.2 | 3.7 | 8.1 | 10.1 | 13.1 | 19.3 | 35.8 | 845 | XFCA25 | **2L075** | 24.00 | **22.16** | 0.1 |
| FC30 | 1-1 1/2 | 1.1 | 2.2 | 6.5 | 14.4 | 17.9 | 23.3 | 34.3 | 63.6 | 1500 | XFCA30 | **2L078** | 28.00 | **25.85** | 0.1 |
| FC38 | 1 1/4-1 7/8 | 2.2 | 4.3 | 12.9 | 28.4 | 35.3 | 45.8 | 67.3 | — | 3000 | XFCA38 | **2L081** | 44.00 | **40.75** | 0.2 |
| FC45 | 1 7/8-2 1/8 | 3.7 | 7.5 | 22.4 | 49.2 | 61.0 | 79.0 | 115.9 | — | 5250 | XFCA45 | **2L084** | 65.00 | **60.10** | 0.3 |



We deliver the products that deliver the power.

# S-FLEX SHAFT COUPLINGS

### 95, 105 and 115 Body Styles and H Inserts

Versatile S-Flex couplings are for applications in motors, pumps, engines, compressors, blowers, mixers, and conveyors. Use to protect equipment from various combinations of misalignment, vibration, and shock loads. Rubber-in-shear design utilizes a simple, industry-wide accepted design. Assembly and maintenance are easy—there are few parts and no lubrication is required. Angular misalignment capability is 1° with EPDM rubber inserts and 1/4° with H inserts.

A complete coupling consists of two bodies and one insert. The 4J body is made of die-cast zinc alloys, the 5J, 6J, and S bodies are constructed of cast-iron. Each body has a keyway and two setscrews (one over the key and one at 90°).

## COUPLING INSERTS

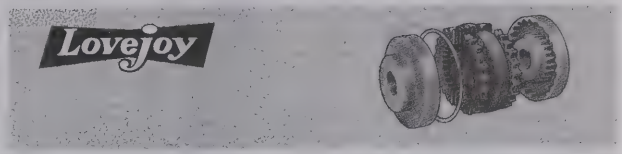
Inserts are intended for general industrial use and operate within the temperature range of -30° to +275°F. JES and E inserts are ideal for applications where small shaft separations restrict the installation of a one-piece insert. Four designs of inserts are available:

**JE Inserts** are one-piece EPDM rubber inserts.

**JES Inserts** are one-piece EPDM rubber inserts with a split in the material at one point.

**E Inserts** are two-piece EPDM rubber inserts held together with a retaining ring.

**H Inserts** are one-piece molded Hytrel® and are designed to transmit power for high torque applications.




## KEYWAY CHART

| Bore (In.) | Keyway (In.) | Bore (In.) | Keyway (In.) | Bore (In.) | Keyway (In.) |
|---|---|---|---|---|---|
| 1/2 | 1/8 x 3/16 | 1 1/8 | 1/4 x 1/8 | 2 1/8 | 1/2 x 1/4 |
| 5/8 | 3/16 x 3/32 | 1 1/4 | 1/4 x 1/8 | 2 1/4 | 1/2 x 1/4 |
| 3/4 | 3/16 x 3/32 | 1 3/8 | 5/16 x 5/32 | 2 3/8 | 5/8 x 5/16 |
| 7/8 | 3/16 x 3/32 | 1 1/2 | 3/8 x 3/16 | 2 1/2 | 5/8 x 5/16 |
| 1 | 1/4 x 1/8 | 1 5/8 | 3/8 x 3/16 | 2 3/4 | 5/8 x 5/16 |
| 1 1/8 | 1/4 x 1/8 | 1 7/8 | 1/2 x 1/4 | 2 7/8 | 3/4 x 3/8 |
| | | 2 | 1/2 x 1/4 | 3 3/8 | 7/8 x 7/16 |

## SERVICE FACTOR RATINGS FOR S-FLEX COUPLINGS WITH EPDM INSERT

| Body Style | Rated* Torque (In.-Lbs.) | Max. RPM | Rated Horsepower 1750 RPM | Rated Horsepower 3500 RPM | Overall Dimensions (In.) O.D. | Overall Dimensions (In.) Length | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4J | 120 | 7600 | 3.3 | 6.7 | 2 15/32 | 2 3/8 | 0.9 |
| 5J | 240 | 7600 | 6.7 | 13.0 | 3 1/4 | 2 7/8 | 2.4 |
| 6J | 450 | 6000 | 12.5 | 25.0 | 4 | 3 1/2 | 4.4 |
| 7S | 725 | 5250 | 20.0 | 40.0 | 4 5/8 | 3 15/16 | 6.6 |
| 8S | 1135 | 4500 | 32.0 | 63.0 | 5 7/16 | 4 7/16 | 9.0 |
| 9S | 1800 | 3750 | 51.0 | 103.0 | 6 11/32 | 5 1/16 | 13.0 |
| 10S | 2875 | 3600 | 81.0 | 164.0 | 7 1/2 | 5 11/16 | 21.0 |
| 11S | 4530 | 3600 | 126.0 | 259.0 | 8 5/8 | 7 1/8 | 33.2 |

(*) Hytrel inserts are rated for four times the torque or HP capacity indicated.

| Body Style | S-FLEX COUPLING BODY Bore Size 1/2" | 5/8" | 3/4" | 7/8" | 1" | 1 1/8" | 1 1/4" | 1 3/8" | 1 1/2" | 1 5/8" | Each | JE INSERT Stock No. | JE INSERT Each | JES INSERT Stock No. | JES INSERT Each | E INSERT Stock No. | E INSERT Each | H INSERT Stock No. | H INSERT Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4J | 1L792 | 1L793 | 1L794 | 1L795 | 1L796 | — | — | — | — | — | $5.60 | 1L790 | $3.54 | 1L791 | $4.72 | — | — | — | — |
| 5J | — | 1L800 | 1L801 | 1L802 | 1L803 | 1L804 | — | — | — | — | 8.83 | 1L797 | 7.05 | 1L798 | 8.25 | 1L799 | $14.72 | — | — |
| 6J | — | 1L808 | — | 1L809 | 1L810 | 1L811 | 1L812 | 1L813 | — | — | 15.30 | 1L805 | 11.77 | 1L806 | 12.95 | 1L807 | 17.65 | 3KZ68 | $48.90 |
| 7S | — | — | — | 1L817 | 1L818 | 1L819 | 1L820 | 1L821 | 1L822 | 1L823 | 17.65 | 1L814 | 15.31 | 1L815 | 16.50 | 1L816 | 22.37 | 3KZ65 | 70.90 |
| 8S | — | — | — | — | — | 1L827 | 1L828 | 1L829 | 1L830 | 1L831 | 23.53 | 1L824 | 20.01 | 1L825 | 22.37 | 1L826 | 39.05 | 3KZ64 | 77.00 |
| 9S | — | — | — | — | — | — | — | 3KZ38 | 3KZ39 | 3KZ40 | 36.70 | 3KZ60 | 24.40 | 3KZ66 | 26.90 | 3KZ61 | 45.20 | 3KZ69 | 101.40 |
| 10S | — | — | — | — | — | — | — | — | — | 3KZ47 | 48.90 | 3KZ34 | 34.25 | 3KZ35 | 36.70 | 3KZ62 | 55.00 | 3KZ36 | 128.65 |

| Body Style | Bore Size 1 3/4" | 1 7/8" | 2" | 2 1/8" | 2 1/4" | 2 3/8" | 2 1/2" | 2 3/4" | 2 7/8" | 3 3/8" | Each | Stock No. | Each | Stock No. | Each | Stock No. | Each | Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8S | — | 1L832 | — | — | — | — | — | — | — | — | $23.53 | 1L824 | $20.01 | 1L825 | $22.37 | 1L826 | $39.05 | 3KZ64 | $77.00 |
| 9S | 3KZ41 | 3KZ42 | 3KZ43 | 3KZ44 | 3KZ45 | 3KZ46 | — | — | — | — | 36.70 | 3KZ60 | 24.40 | 3KZ66 | 26.90 | 3KZ61 | 45.20 | 3KZ69 | 101.40 |
| 10S | 3KZ48 | 3KZ49 | 3KZ50 | 3KZ51 | 3KZ33 | 3KZ52 | 3KZ53 | 3KZ70 | — | — | 48.90 | 3KZ34 | 34.25 | 3KZ35 | 36.70 | 3KZ62 | 55.00 | 3KZ36 | 128.65 |
| 11S | 3KZ54 | 3KZ55 | — | 3KZ56 | — | 3KZ57 | — | — | 3KZ58 | 3KZ59 | 78.15 | — | — | — | — | 3KZ63 | 100.15 | 3KZ37 | 211.50 |

# POWER TRANSMISSION LUBRICANTS

### BEARING LUBRICANTS

Mobilith® AW2: For bearings, cams, ways, and other sliding elements. NLGI Grade 2. Lithium complex, soap-based.

**No. 4ZF46.** ❸ 14 oz. Cartridge. Shpg. wt. 1.2 lbs. List $2.12. Each **$1.80;** Lots 10 ..... **$1.71**

**No. 4ZF47.** ❸ 35 lb. Pail. Shpg. wt. 40.0 lbs. List $78.25. Each..... **$66.50**

**Mobilith SHC PM® (14 oz. cartridge):** For high temperature, high load bearing applications. NLGI Grade 1.5. Synthetic base with lithium complex soap thickener.

**No. 4ZF48.** ❸ Shpg. wt. 1.2 lbs. Each **$5.44;** Lots 10 ..... **$5.04**

### BEARING LUBRICANT

**Mobilith SHC® 100 (14 oz. cartridge):** For high temperature, very low start/run torque applications. NLGI Grade 2. Synthetic base with lithium complex soap thickener. For most grease-lubricated rolling electric motor bearings.

**No. 4ZF49.** ❸ Shpg. wt. 1.2 lbs. List..... $6.36. Each ..... **$5.44**

### COUPLING GREASE

**Mobilith® EP 111(35 lb. pail):** For gear couplings. NLGI Grade 1. Lithium 12 hydroxystearate, black, tacky grease-heavy oil base with moly additive package.

**No. 4ZF45.** ❸ Shpg. wt. 40.0 lbs. List ..... $93.62. Each ..... **$78.90**

### SYNTHETIC GEAR OIL

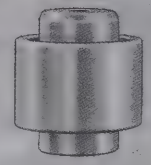
**Mobilith SHC 634®** (quart): For gear and wide range of speed and gear reducers (worm, helical, spur). Multi-viscosity synthetic oil based on synthesized hydrocarbon fluid technology. Recommended for industrial enclosed gear sets and heavily load plain or rolling bearings operating under severe conditions. Provides corrosion protection and oxidation stability.

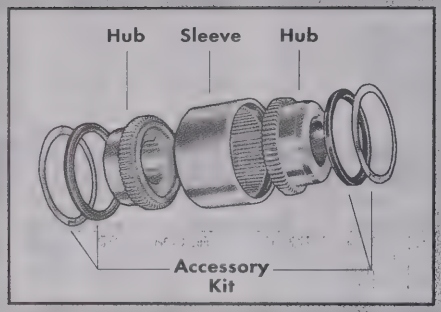
**No. 4ZF30.** ❸ Shpg. wt. 2.0 lbs. List..... $10.11 Each ..... **$8.60**

**For Main Listings of Lubricants, See Page 2771**

❶ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# CONTINUOUS SLEEVE GEAR COUPLINGS






- **Highest torque capacity per size of any coupling design**
- **Maximum operating temperature of 250°F (120°C)**
- **Very high torsional stiffness**
- **Good inherent balance for high speed capability**

For applications in pumps, mixers and agitators, compressors, blowers, machine tools, and paper mill equipment. Lightweight, compact, and simple design offers a misalignment capability of 1° without compromising torque carrying capacity.

A complete coupling consists of two hubs (one for each shaft in the application), one sleeve and one accessory kit. The accessory kit has two Buna-N seals and two spiral wound snap rings made from hardened spring steel. The seals have a reinforcing washer bonded to their inside face which positively retains lubricant and seals the interior against foreign matter. The snap rings are easy to install and remove yet withstand over 100,000 pounds of end-thrust.

The hubs and sleeve are machined from medium carbon steel, patented Vari-Crown® gear teeth are precision cut at a 20° pressure angle with minimum backlash. These teeth are smaller for even distribution of load, greater capacity, and longer life.

### ORDERING INSTRUCTIONS

After determining the coupling style needed (e.g. C 7/8 thru C 2½), select one hub for each shaft in the application, one sleeve for that size coupling, and one accessory kit for the same.

Coupling grease is required, see page 2771 (Lovejoy recommends NLGI Grade 2 at minimum, prefer Grade 1).

## KEYWAY CHART

| Nominal Bore Dia. (In.) | Actual AGMA Interference Fit on Bore* | Keyway Nominal (In.) |
|---|---|---|
| 3/4 | 0.749/0.7495 | 3/16 x 3/32 |
| 7/8 | 0.874/0.8745 | 3/16 x 3/32 |
| 1 | 0.999/0.9995 | 1/4 x 1/8 |
| 1¼ | 1.249/1.2495 | 1/4 x 1/8 |
| 1⅜ | 1.374/1.3745 | 5/16 x 5/32 |
| 1½ | 1.499/1.4995 | 3/8 x 3/16 |
| 1⅝ | 1.623/1.624 | 3/8 x 3/16 |
| 1⅞ | 1.873/1.874 | 3/8 x 3/16 |
| 2⅛ | 2.123/2.124 | 1/2 x 1/4 |
| 2¼ | 2.248/2.249 | 1/2 x 1/4 |
| 2⅜ | 2.373/2.374 | 5/8 x 5/16 |

(*) Interference fit on bore is standard.

## SERVICE FACTOR RATINGS FOR CONTINUOUS SLEEVE GEAR COUPLINGS

| Style | Rated Torque (In.-Lbs.) | Max. Bore (In.) | Max. RPM* | Rated Horsepower (RPM) 100 | 1180 | 1750 | Overall Dimensions (In.) O.D. | Long | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| C 7/8 | 2500 | 1¼ | 6000 | 4 | 47 | 70 | 3⅝16 | 3⅛ | 5.0 |
| C 1½ | 7600 | 1⅝ | 5000 | 12 | 142 | 210 | 3¾ | 3¾ | 8.0 |
| C 2 | 20200 | 2⅛ | 4200 | 32 | 378 | 560 | 4¾ | 4¼ | 13.0 |
| C 2½ | 30200 | 2⅝ | 3750 | 48 | 566 | 840 | 5½ | 4¾ | 20.0 |

(*) This is the maximum speed for an unbalanced coupling. The maximum speed for a balanced coupling is approximately three times speed shown.

## CONTINUOUS SLEEVE GEAR COUPLING HUBS (Two Required for Each Complete Coupling)

| Style | Rough Stock Bore RSB* Stock No. | Rough Stock Bore RSB* Each | Bore Diameter 3/4" | 7/8" | 1" | 1¼" | 1⅜" | 1½" | 1⅝" | Each |
|---|---|---|---|---|---|---|---|---|---|---|
| C 7/8 | 3KZ71 | $31.80 | 3KZ72 | 3KZ73 | 3KZ74 | 3KZ75 | — | — | — | $45.95 |
| C 1½ | 3KZ78 | 33.45 | — | — | — | 3KZ79 | 3KZ80 | 3KZ81 | 3KZ82 | 47.60 |

| Style | Rough Stock Bore RSB* Stock No. | Rough Stock Bore RSB* Each | Bore Diameter 1¼" | 1½" | 1⅝" | 1⅞" | 2⅛" | 2¼" | 2⅜" | Each |
|---|---|---|---|---|---|---|---|---|---|---|
| C 2 | 3KZ85 | $42.65 | 3KZ86 | 3KZ87 | 3KZ88 | 3KZ89 | 3KZ90 | — | — | $58.45 |
| C 2½ | 3KZ93 | 61.80 | — | — | — | 3KZ94 | — | 3KZ95 | 3KZ96 | 81.00 |

(*) RSB indicates that this hub is shipped rough stock bore. See Service Factor Guide above for maximum bore diameter.

## SLEEVE (One Required)

| Stock No. | Each |
|---|---|
| 3KZ76 | $44.30 |
| 3KZ83 | 58.45 |

| Stock No. | Each |
|---|---|
| 3KZ91 | $75.10 |
| 3KZ97 | 95.15 |

## ACCESSORY KIT (One Required)

| Stock No. | Each |
|---|---|
| 3KZ77 | $12.52 |
| 3KZ84 | 12.52 |

| Stock No. | Each |
|---|---|
| 3KZ92 | $15.85 |
| 3KZ98 | 25.05 |

VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

http://www.grainger.com

Link up with Grainger's Web site and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

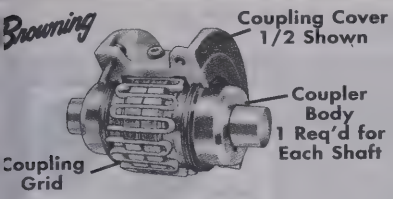
DESK SPACE AT A PREMIUM?

USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog.

The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# GRID-FLEX SHAFT COUPLINGS

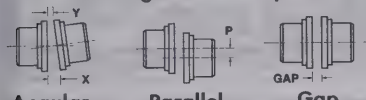









**Misalignment Examples**




Angular Parallel Gap

- Grid-flex couplings serve a wide range of medium to high HP applications from low to high RPM
- Ideal shaft coupling for handling misalignment situations and shock loads
- Kop-Flex brand interchangeable with competitive grid-type couplings (Falk, Dodge)
- Couplings are easily matched by selecting coupling size number and bore type and are available with either horizontal or vertical split cover kits (set required)
- Available with finished bore with keyway, bushed bore that requires a bushing (select from page 320), and minimum plain bore with no keyway or setscrew

## COUPLER GRIDS

| Size | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| 1020GRID | 3HV63 | $32.40 | 0.2 |
| 1030GRID | 3HV74 | 41.00 | 0.2 |
| 1040GRID | 3HV86 | 47.80 | 0.3 |
| 1050GRID | 3HV98 | 59.75 | 0.6 |
| 1060GRID | 3HW11 | 76.85 | 0.7 |
| 1070GRID | 3HW24 | 105.80 | 0.8 |
| 1080GRID | 3HW38 | 143.45 | 2.0 |
| 1090GRID | 3HW53 | 193.00 | 2.2 |
| 1100GRID | 3HW71 | 246.25 | 4.2 |
| 1110GRID | 3HW86 | 316.00 | 5.0 |
| 1120GRID | 3HX03 | 474.75 | 8.7 |
| 1130GRID | 3HX17 | 656.00 | 11.0 |
| 1140GRID | 3HX30 | 982.00 | 12.0 |

## HORIZONTAL COVERS

| Size | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| 1020T10 | 3HV54 | $17.10 | 0.5 |
| 1030T10 | 3HV64 | 20.53 | 0.7 |
| 1040T10 | 3HV75 | 22.22 | 0.8 |
| 1050T10 | 3HV87 | 25.75 | 1.2 |
| 1060T10 | 3HV99 | 32.55 | 1.4 |
| 1070T10 | 3HW12 | 48.00 | 1.6 |
| 1080T10 | 3HW25 | 58.20 | 1.7 |
| 1090T10 | 3HW39 | 66.70 | 1.8 |
| 1100T10 | 3HW54 | 85.45 | 2.0 |
| 1110T10 | 3HW72 | 109.45 | 2.5 |
| 1120T10 | 3HW87 | 123.05 | 2.7 |
| 1130T10 | 3HX04 | 181.25 | 2.9 |
| 1140T10 | 3HX18 | 230.75 | 3.9 |

## VERTICAL COVERS

| Size | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| 1020T20 | 3HV55 | $17.10 | 0.5 |
| 1030T20 | 3HV65 | 20.58 | 1.0 |
| 1040T20 | 3HV76 | 22.27 | 1.2 |
| 1050T20 | 3HV88 | 25.80 | 1.5 |
| 1060T20 | 3HW01 | 32.60 | 1.7 |
| 1070T20 | 3HW13 | 48.00 | 1.9 |
| 1080T20 | 3HW26 | 58.25 | 2.0 |
| 1090T20 | 3HW40 | 66.80 | 2.5 |
| 1100T20 | 3HW55 | 85.55 | 2.7 |
| 1110T20 | 3HW73 | 109.50 | 2.9 |
| 1120T20 | 3HW88 | 123.10 | 3.2 |
| 1130T20 | 3HX05 | 181.25 | 3.5 |
| 1140T20 | 3HX19 | 230.75 | 3.9 |

## MINIMUM BORE COUPLER BODY

| Size | Bore (In.) Stock | Bore (In.) Max. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1020HUB | 1/2 | 1 1/8 | 3HV56 | $17.20 | 1.3 |
| 1030HUB | 1/2 | 1 3/8 | 3HV66 | 24.11 | 1.9 |
| 1040HUB | 1/2 | 1 5/8 | 3HV77 | 32.75 | 2.5 |
| 1050HUB | 1/2 | 2 | 3HV89 | 38.15 | 4.3 |
| 1060HUB | 3/4 | 2 1/4 | 3HW02 | 50.20 | 5.8 |
| 1070HUB | 3/4 | 2 5/8 | 3HW14 | 69.45 | 8.9 |
| 1080HUB | 1 | 3 1/4 | 3HW27 | 100.90 | 15.0 |
| 1090HUB | 1 | 3 3/4 | 3HW41 | 139.40 | 23.0 |
| 1100HUB | 1 5/8 | 4 1/4 | 3HW56 | 187.50 | 37.0 |
| 1110HUB | 1 5/8 | 4 5/8 | 3HW74 | 236.75 | 49.0 |
| 1120HUB | 2 3/8 | 5 3/8 | 3HW89 | 394.75 | 69.0 |
| 1130HUB | 2 5/8 | 6 1/2 | 3HX06 | 550.00 | 109.0 |
| 1140HUB | 2 5/8 | 7 1/4 | 3HX20 | 867.50 | 167.0 |

## BUSHED BORE COUPLER BODY

| Size | Bushing Req'd. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| — | — | — | — | — |
| — | — | — | — | — |
| 1040HUBXG | G | 3HV78 | $51.45 | 2.4 |
| 1050HUBXH | H | 3HV90 | 58.30 | 4.3 |
| 1060HUBXP | P1 | 3HW03 | 73.15 | 5.8 |
| 1070HUBXP | P1 | 3HW15 | 92.30 | 8.9 |
| 1080HUBXQ | Q1 | 3HW28 | 132.85 | 15.0 |
| 1090HUBXQ | Q1 | 3HW42 | 171.75 | 23.0 |
| 1100HUBXR | R1 | 3HW57 | 227.50 | 20.0 |
| 1110HUBXR | R1 | 3HW75 | 275.50 | 25.0 |
| 1120HUBXS | S1 | 3HW90 | 449.75 | 69.0 |
| 1130HUBXU | U0 | 3HX07 | 623.00 | 45.0 |
| 1140HUBXU | U0 | 3HX21 | 936.50 | 74.0 |

## FINISHED BORE COUPLING BODY

| Size | Bore Size 1/2" | 5/8" | 3/4" | 7/8" | 1" | 1 1/8" | 1 1/4" | 1 3/8" | 1 1/2" | 1 3/4" | 1 7/8" | 2" | 2 1/8" | 2 1/4" | 2 3/8" | 2 1/2" | 2 5/8" | 2 3/4" | 2 7/8" | 3" | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1020HUB | 3HV59 | 3HV61 | 3HV60 | 3HV62 | 3HV58 | 3HV57 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | $24.01 | 1.3 |
| 1030HUB | — | 3HV72 | 3HV71 | 3HV73 | 3HV70 | 3HV68 | 3HV67 | 3HV69 | — | — | — | — | — | — | — | — | — | — | — | — | 31.00 | 1.9 |
| 1040HUB | — | — | — | 3HV85 | 3HV83 | 3HV81 | 3HV80 | 3HV82 | 3HV79 | 3HV84 | — | — | — | — | — | — | — | — | — | — | 41.35 | 2.6 |
| 1050HUB | — | — | — | — | — | 3HV93 | 3HV92 | 3HV95 | 3HV91 | 3HV96 | 3HV94 | 3HV97 | — | — | — | — | — | — | — | — | 48.35 | 4.3 |
| 1060HUB | — | — | — | — | — | — | — | 3HW06 | 3HW04 | 3HW07 | 3HW05 | 3HW08 | 3HW10 | 3HW09 | — | — | — | — | — | — | 63.95 | 5.8 |
| 1070HUB | — | — | — | — | — | — | — | — | — | 3HW17 | 3HW16 | 3HW18 | 3HW23 | 3HW21 | 3HW20 | 3HW22 | 3HW19 | — | — | — | 86.40 | 8.9 |
| 1080HUB | — | — | — | — | — | — | — | — | — | — | — | — | 3HW36 | 3HW31 | 3HW30 | 3HW33 | 3HW29 | 3HW34 | 3HW32 | 3HW35 | 3HW37 | 121.40 | 15.0 |

| Size | Bore Size 2 1/16" | 2 5/16" | 2 3/8" | 2 7/16" | 3" | 3 1/16" | 3 1/8" | 3 3/16" | 3 1/4" | 3 5/16" | 3 3/8" | 3 7/16" | 4" | 4 1/16" | 5" | 5 1/16" | 6" | 6 1/16" | 7" | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090HUB | 3HW43 | 3HW45 | 3HW44 | 3HW46 | 3HW52 | 3HW49 | 3HW48 | 3HW50 | 3HW47 | 3HW51 | — | — | — | — | — | — | — | — | — | $163.50 | 23.0 |
| 1100HUB | 3HW58 | 3HW60 | 3HW59 | 3HW61 | 3HW69 | 3HW64 | 3HW63 | 3HW66 | 3HW62 | 3HW67 | 3HW65 | 3HW68 | 3HW70 | — | — | — | — | — | — | 214.75 | 37.0 |
| 1110HUB | — | — | — | — | 3HW84 | 3HW78 | 3HW77 | 3HW80 | 3HW76 | 3HW81 | 3HW79 | 3HW82 | 3HW85 | 3HW83 | — | — | — | — | — | 267.50 | 49.0 |
| 1120HUB | — | — | — | — | 3HW99 | 3HW93 | 3HW92 | 3HW95 | 3HW91 | 3HW96 | 3HW94 | 3HW97 | 3HX01 | 3HW98 | 3HX02 | — | — | — | — | 428.75 | 69.0 |
| 1130HUB | — | — | — | — | — | — | — | — | 3HX08 | 3HX10 | 3HX09 | 3HX11 | 3HX14 | 3HX12 | 3HX15 | 3HX13 | 3HX16 | — | — | 588.00 | 109.0 |
| 1140HUB | — | — | — | — | — | — | — | — | — | — | — | 3HX22 | 3HX26 | 3HX23 | 3HX27 | 3HX24 | 3HX28 | 3HX25 | 3HX29 | 908.50 | 167.0 |

## GRID-FLEX COUPLING SPECIFICATIONS

| Coupling Size | Recommended Misalignment Tolerances (In.) Misalignment Angular X-Y | Parallel P | GAP ±10% | HP per 100 RPM* Finished Bore Couplings | Bushed Couplings | Max. Allowable Speed (RPM) Horiz. Split Covers | Vertical Split Covers | O.D. (In.) Horiz. Split Cover | Vertical Split Cover | Width (In.) Finished Bore | Bushed Bore | Hub Diameter (In.) Finished Bore | Bushed Bore | Weight (Lbs.) Finished Bore | Bushed Bore |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1020 | .005 | .005 | .125 | 0.67 | — | 4500 | 6000 | 4 | 4 3/8 | 3 7/8 | — | 1 9/16 | — | 4.3 | — |
| 1030 | .005 | .005 | .125 | 1.88 | — | 4500 | 6000 | 4 3/8 | 4 3/4 | 3 7/8 | — | 1 15/16 | — | 5.7 | — |
| 1040 | .005 | .005 | .125 | 3.22 | 1.98 | 4500 | 6000 | 4 5/8 | 5 1/16 | 4 1/8 | 4 3/8 | 2 1/4 | 2 | 7.4 | 6.3 |
| 1050 | .005 | .005 | .125 | 5.49 | 4.19 | 4500 | 6000 | 5 7/16 | 5 13/16 | 4 7/8 | 4 7/8 | 2 5/8 | 2 1/2 | 12.0 | 10.0 |
| 1060 | .010 | .010 | .125 | 8.71 | 8.71 | 4350 | 6000 | 5 15/16 | 6 3/8 | 5 1/8 | 5 7/8 | 3 | 3 | 16.0 | 13.3 |
| 1070 | .010 | .010 | .125 | 12.73 | 12.73 | 4125 | 5500 | 6 3/8 | 6 13/16 | 6 1/8 | 5 7/8 | 3 7/16 | 3 | 23.0 | 18.7 |
| 1080 | .010 | .010 | .125 | 26.13 | 26.13 | 3600 | 4750 | 7 5/8 | 7 7/8 | 7 1/8 | 7 3/16 | 4 1/8 | 4 1/8 | 39.0 | 30.6 |
| 1090 | .012 | .012 | .125 | 47.57 | 32.53 | 3600 | 4000 | 8 3/8 | 9 1/8 | 7 7/8 | 7 7/16 | 4 7/8 | 4 1/8 | 56.0 | 44.6 |
| 1100 | .012 | .012 | .188 | 80.00 | 64.89 | 2440 | 3250 | 9 7/8 | 10 1/2 | 9 11/16 | 9 | 5 19/32 | 5 3/8 | 93.0 | 70.0 |
| 1110 | .012 | .012 | .188 | 119.0 | 64.89 | 2250 | 3000 | 10 5/8 | 11 1/4 | 10 3/16 | 9 1/4 | 6 5/16 | 5 3/8 | 120.0 | 94.0 |
| 1120 | .012 | .012 | .250 | 175.5 | 126.6 | 2025 | 2700 | 12 1/8 | 12 9/16 | 12 | 11 1/8 | 7 1/16 | 6 7/8 | 180.0 | 140.0 |
| 1130 | .012 | .012 | .250 | 253.3 | 253.9 | 1800 | 2400 | 13 5/8 | 14 7/8 | 13 | 11 9/16 | 8 9/16 | 8 3/8 | 270.0 | 199.0 |
| 1140 | .015 | .015 | .250 | 364.5 | 296.7 | 1650 | 2200 | 15 1/8 | 16 3/8 | 14 3/4 | 11 3/16 | 10 | 8 3/8 | 397.0 | 294.0 |

*) Horsepowers listed above are based on a 1.0 service factor. Service factor requirements range from 1.0-3.0.

# DELRIN & CHAIN TYPE SHAFT COUPLERS

## DELRIN CHAIN COUPLINGS

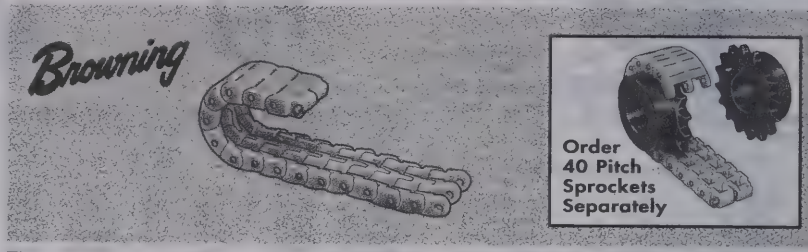
- Uses standard 40 pitch sprockets up to 24 teeth and 1½" bore (order separately from page 294); costs less to install and maintain
- Use with stainless steel sprockets for washdown applications
- Corrosion resistant
- Pollution-free couplings
- Run quieter than metal couplings
- A slip-fit coupler pin for ease of assembly or disassembly is supplied with all couplings
- No lubrication required; no dirt-catching problems associated with grease

**Temperature Range:** -25° to 150°F

**Angular Misalignment Tolerance:** 1° (10T-19T); 1/2° (20T-24T)

**Parallel Misalignment Tolerance:** 0.005"

**Total End Float Tolerance:** 0.060"




| Pitch | Sprockets (Qty. 2) Required Max. No. of Teeth | Chain Couplings Dimensions (In.) O.D. | Width | HP Per 100 RPM† | Browning Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 40 | 12 | 2.37 | 1.25 | 0.3 | N412CPLG | 3HX54 | $14.69 | 0.8 |
| 40 | 16 | 3.00 | 1.25 | 0.5 | N416CPLG | 3HX55 | 19.61 | 0.4 |
| 40 | 24 | 4.27 | 1.25 | 1.2 | N424CPLG | 3HX56 | 29.45 | 0.4 |
| 10 Ft. Box of 40 Pitch Delrin Coupling Chain | | | | | — | 3HX53 | 179.25 | 4.0 |

Note: Delrin chain can be used with minimum bore, fixed bore, and bushed bore 40 pitch sprockets.
(†) Horsepowers listed above are based on a 1.0 service factor.

## CHAIN TYPE SHAFT COUPLERS




- Ideal for use with gearmotors, farm equipment, pumps, and other applications requiring low speed, high torque couplings
- Handle angular misalignment up to 1/2° and parallel misalignment of 0.0100 on 40 pitch chain, 0.0125 on 50 pitch chain, and 0.015 on 60 pitch chain
- Complete unit consists of two coupling halves, double strand roller chain and coupling cover. 50 and 60 pitch couplings also require split taper bushings (not included) found on page 320
- Solid steel construction with hardened teeth for long life
- Finished bore couplings have standard keyway and hollow head setscrew
- Coupling covers equipped with neoprene seals, 1/8" pipe plug, hollow head capscrews and positive continuous lubrication

| Bore Size (In.) | COUPLING BODY (Two Required) Browning Model | Bushing Required | Stock No. | Each | Shpg. Wt. | ROLLER CHAIN (One Required) Browning Model | Stock No. | Each | Shpg. Wt. | COUPLING COVER Browning Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FIXED BORE CHAIN COUPLINGS** | | | | | | | | | | | | | |
| 5/8 | C4016 | — | 6L342 | $16.86 | 1.0 | C40-16 | 3X995 | $12.74 | 0.6 | AL40 | 3X996 | $30.15 | 0.9 |
| 3/4 | C4016 | — | 3X990 | 16.86 | 1.1 | C40-16 | 3X995 | 12.74 | 0.6 | AL40 | 3X996 | 30.15 | 0.9 |
| 7/8 | C4016 | — | 3X991 | 16.86 | 1.0 | C40-16 | 3X995 | 12.74 | 0.6 | AL40 | 3X996 | 30.15 | 0.9 |
| 1 | C4016 | — | 3X992 | 16.86 | 0.9 | C40-16 | 3X995 | 12.74 | 0.6 | AL40 | 3X996 | 30.15 | 0.9 |
| 1 1/8 | C4016 | — | 3X993 | 16.86 | 0.9 | C40-16 | 3X995 | 12.74 | 0.6 | AL40 | 3X996 | 30.15 | 0.9 |
| 1 3/16 | C4016 | — | 3X994 | 16.86 | 0.9 | C40-16 | 3X995 | 12.74 | 0.6 | AL40 | 3X996 | 30.15 | 0.9 |
| 1 1/4 | C4016 | — | 6L343 | 16.86 | 0.7 | C40-16 | 3X995 | 12.74 | 0.6 | AL40 | 3X996 | 30.15 | 0.9 |
| **BUSHED BORE CHAIN COUPLINGS** | | | | | | | | | | | | | |
| 1/2-1 1/2 | C50H16 | H | 3X997 | 27.35 | 1.0 | C50-16 | 3X998 | 19.28 | 1.8 | AL50 | 3X999 | 38.20 | 1.3 |
| 1/2-2 7/16 | C6020XB | B | 6L344 | 48.40 | 3.3 | C60-20 | 6L345 | 35.10 | 2.1 | AL60 | 6L346 | 52.55 | 2.3 |

### CHAIN COUPLING LOAD RATINGS FOR NORMAL SERVICE*

| Type | Bore Size (In.) | HP at SPEEDS SHOWN 12 RPM | 25 RPM | 50 RPM | 100 RPM | 300 RPM | 600 RPM | 900 RPM | 1200 RPM | 1800 RPM | 3600 RPM | Max. RPM with Cover† |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fixed | 5/8-1 1/4 | .45 | .95 | 1.91 | 3.81 | 8.00 | 13.4 | 18.5 | 23.2 | 32.2 | 58.5‡ | 5000 |
| Bushed | 1/2-1 1/2 | .50 | 1.05 | 2.09 | 4.19 | 8.79 | 14.57 | 20.36 | 25.13 | 35.43 | 63.33‡ | 4000 |
| Bushed | 1/2-2 7/16 | 1.61 | 3.31 | 6.74 | 13.48 | 28.30 | 46.91 | 65.51 | 80.88 | 114.04 | — | 3000 |

(*) Normal service ratings are based on steady, non-reversing, 8-hour day service with normal starting torque motor. For more than 8-hour day service and/or shock-load applications, multiply HP of motor by two and select coupling.
(†) Warning: Couplings with covers must not be operated beyond this speed. (‡) Coupling selected for these load ratings must be well lubricated.

# CIRCUIT BREAKER SELECTION GUIDE

## SQUARE D® CIRCUIT BREAKER SELECTION GUIDE

ne guide below lists circuit breaker components available on ages 364 through 390. The ratings shown are for the most com- only configured system.

For DC and higher interrupting rating specifications, refer to the pages indicated in the tables below.

### LOAD CENTERS AND LOAD CENTER BREAKERS

**omeline Load Centers:**

- Single phase load centers
- Flush or surface mount • Indoor or outdoor
- Main Lug or Main Breaker load centers containing from 2 to 40 spaces
- Plug-on, GFI, and Tandem Breakers

**QO Load Centers:**

- Single and three phase load centers
- Flush or surface mount • Indoor or outdoor
- Main Lug or Main Breaker load centers containing from 2 to 42 spaces
- Plug-on standard, GFI, Tandem, HID, or Switched Neutral Breakers

| Phase / Wire | Volts | Max. Amps | System SCCR* | Load Center | Main Breaker | Use Branch Breaker Type | Circuit Breaker Page No. |
|---|---|---|---|---|---|---|---|
| 1/3 | 120/240 | 225 | 10K | Homeline | Factory Installed | Homeline | 365 |
| 1/3 | 120/240 | 225 | 22/10K | QO | Factory Installed | QO | 370 |
| 3/4 | 208Y/120 | 225 | 22/10K | QO | Factory Installed | QO | 370 |
| 3/4 | 240/120 | 225 | 22/10K | QO | Factory Installed | QO | & 371 |
| 3/3 | 240 | 225 | 22/10K | QO | Factory Installed | QO | |

) SCCR—Short Circuit Current Rating.

### PANELBOARDS AND PANELBOARD BREAKERS

**IQOD Panelboards:**

- 240 VAC, 48 VDC max.
- Flush or surface mount
- Indoor only
- Copper or aluminum bus
- From 12 to 42 circuits

**NF Panelboards:**

- 480Y/277 VAC max.
- Flush or surface mount
- Indoor only
- Copper or aluminum bus
- From 12 to 42 circuits

**I-Line Panelboards:**

- 600 VAC, 250 VDC max.
- Flush or surface mount
- Indoor only
- Copper or aluminum bus
- From 27 to 63 mounting inches

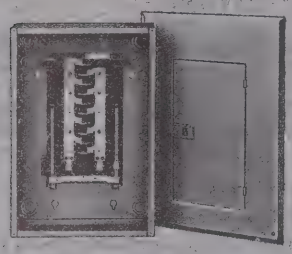
| Phase / Wire | Volts | Max. Amps. | System AIR | Panelboard | Main Breaker | Use Branch Breaker Type | Circuit Breaker Page No. |
|---|---|---|---|---|---|---|---|
| 1/3 | 120/240 | 100 | 10K | NQOD | Factory Installed | QO/QOB | 370, |
| 1/3 | 120/240 | 225 | 10K | NQOD | NQOD Kit with Q2 Frame | QO/QOB | 371, |
| 1/3 | 120/240 | 400 | 42K | NQOD | NQOD Kit with LA Frame | QO/QOB | & 375 |
| 3/4 | 120/240Δ | 100 | 10K | NQOD | Factory Installed | QO/QOB | 370, |
| 3/4 | 120/240Δ | 225 | 10K | NQOD | NQOD Kit with Q2 Frame | QO/QOB | 371, |
| 3/4 | 120/240Δ | 400 | 42K | NQOD | NQOD Kit with LA Frame | QO/QOB | & 375 |
| 3/4 | 480Y/277 | 100 | 18K | NF | NF Kit with FA Frame | EDB | |
| 3/4 | 480Y/277 | 225 | 25K | NF | NF Kit with KA Frame | EDB | 377 |
| 3/4 | 480Y/277 | 400 | 30K | NF | NF Kit with LA Frame | EDB | |
| 3/3 | 240 | 225 | 42K | I-Line | Factory Installed with KA Frame | FA/FH/FC/FI/FY/Q2/KA/KH | |
| 3/3 | 240 | 400 | 42K | I-Line | Factory Installed with LA Frame | FA/FH/FC/FI/FY/Q2/KA/KH | |
| 3/3 | 240 | 800 | 42K | I-Line | Factory Installed with MA Frame | FA/FH/FC/FI/FY/Q2/KA/KH | |
| 3/3 | 480 | 225 | 25K | I-Line | Factory Installed with KA Frame | FA/FH/FC/FI/FY/Q2/KA/KH | 379 |
| 3/3 | 480 | 400 | 30K | I-Line | Factory Installed with LA Frame | FA/FH/FC/FI/FY/Q2/KA/KH | thru |
| 3/3 | 480 | 800 | 30K | I-Line | Factory Installed with MA Frame | FA/FH/FC/FI/FY/Q2/KA/KH | 382 |
| 3/3 | 600 | 225 | 22K | I-Line | Factory Installed with KA Frame | FA/FH/FC/FI/FY/Q2/KA/KH | |
| 3/3 | 600 | 400 | 22K | I-Line | Factory Installed with LA Frame | FA/FH/FC/FI/FY/Q2/KA/KH | |
| 3/3 | 600 | 800 | 22K | I-Line | Factory Installed with MA Frame | FA/FH/FC/FI/FY/Q2/KA/KH | |

### THERMAL MAGNETIC CIRCUIT BREAKERS

| Max. Volts | Number of Poles | Amp Range | Series | Interrupt Level | Circuit Breaker Page No. | Max. Volts | Number of Poles | Amp Range | Series | Interrupt Level | Circuit Breaker Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 240 | 1, 2, 3 | 10-100 | QOU | Standard | 390 | 480 | 3 | 150-250 | KCL | Extra High | 384 |
| 600 | 1, 2, 3 | 15-100 | FAL | Standard | 383 | 240 | 2, 3 | 250-400 | Q4L | Standard | 385 |
| 600 | 2, 3 | 15-100 | FHL | High | | 600 | 2, 3 | 150-400 | LAL | Standard | 385 |
| 240 | 2, 3 | 100-225 | Q2L | Standard | 384 | 600 | 3 | 250-400 | LHL | High | 385 |
| 240 | 2, 3 | 100-225 | Q2L-H | High | | 600 | 3 | 400-1000 | MAL | Standard | 385 |
| 600 | 2, 3 | 70-250 | KAL | Standard | 384 | 600 | 3 | 500-1000 | MHL | High | 385 |
| 600 | 3 | 125-250 | KHL | High | 384 | 600 | 1, 2, 3 | 3-400 | FAL-M, KAL-M, LAL-M | Magnetic Only | 390 |

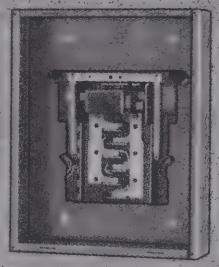
CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS. THOUSANDS OF QUALITY PRODUCTS ARE LISTED

# HOMELINE® LOAD CENTERS



No. 1D450

Replacement Parts Available 1-800-323-0620



No. 5B666

- Single phase, 3-wire 120/240VAC
- 10,000 AIR rating
- Includes box, interior, and cover
- When QOM...VH main breaker is used unit is series rated 22,000 AIR
- Ground bar kits and other accessories available, see page 366
- Reversible top or bottom feed
- Split branch neutral terminals
- 100 thru 125 amp units use QOM1 main breakers, see page 366
- 150 thru 200 amp units use QOM2 main breakers, see page 366

## HOMELINE® LOAD CENTER SPECIFICATIONS AND ORDERING DATA

| Amp Rating | Enclosure Type | Mounting Type | No. of Spaces | Max. No. of Tandem Breakers | Max. No. of Circuits | Ground Bar Kit | Wire Size AWG / Kcmil Al | Wire Size AWG / Kcmil Cu | Dimensions (In.) W | H | D | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MAIN BREAKER CONVERTIBLE TO MAIN LUG (MAIN BREAKER INCLUDED)** | | | | | | | | | | | | | | | | |
| 100 | Indoor | Flush/Surface | 8 | 8 | 16 | 1D369 | #6-1 | | 14.25 | 15.00 | 3.75 | HOM816M100C | **5B700** | $200.00 | **$83.40** | 15.0 |
| | | | 8 | 8 | 16 | Incl. | #6-1 | | 14.25 | 15.00 | 3.75 | HOM816M100TC | **5B702** | 211.00 | **88.00** | 17.0 |
| | | | 12 | 0 | 12 | 1D369 | #4-2/0 | | 14.25 | 18.00 | 3.75 | HOM12M100C | **1D448** | 196.00 | **81.75** | 16.0 |
| | | | 12 | 12 | 24 | Incl. | #4-2/0 | | 14.25 | 18.00 | 3.75 | HOM1224M100TC | **5B665** | 244.00 | **101.75** | 16.0 |
| | | | 20 | 0 | 20 | 1D369 | #4-2/0 | | 14.25 | 26.25 | 3.75 | HOM20M100C | **1D451** | 264.00 | **105.60** | 20.0 |
| | Outdoor | Surface | 8 | 8 | 16 | 1D369 | | | 14.25 | 19.00 | 4.50 | HOM816M100RB | **5B701** | 272.00 | **113.45** | 20.0 |
| | | | 12 | 0 | 12 | 1D369 | #4-2/0 | | 14.25 | 19.00 | 4.50 | HOM12M100RB | **5B673** | 264.00 | **110.10** | 25.0 |
| | | | 20 | 0 | 20 | 1D369 | | | 14.25 | 22.25 | 4.50 | HOM20M100RB | **1D454** | 337.00 | **140.55** | 24.0 |
| 125 | Indoor | Flush/Surface | 12 | 12 | 24 | 1D369 | | | 14.25 | 18.00 | 3.75 | HOM1224M125C | **5B666** | 385.00 | **160.75** | 20.0 |
| | | | 12 | 12 | 24 | Incl. | #4-2/0 | | 14.25 | 18.00 | 3.75 | HOM1224M125TC | **5B667** | 393.00 | **164.00** | 20.0 |
| | | | 24 | 0 | 24 | 1D369 | | | 14.25 | 26.25 | 3.75 | HOM24M125C | **5B689** | 473.00 | **197.25** | 24.0 |
| | Outdoor | Surface | 24 | 0 | 24 | 1D369 | #4-2/0 | | 14.25 | 30.00 | 4.50 | HOM24M125RB | **5B690** | 545.00 | **227.50** | 29.0 |
| 150 | Indoor | Flush/Surface | 16 | 16 | 32 | Incl. | #4-250 | | 14.25 | 30.00 | 3.75 | HOM1632M150TC | **5B675** | 404.00 | **168.50** | 26.0 |
| | | | 30 | 0 | 30 | 1D371 | | | 14.25 | 34.00 | 3.75 | HOM30M150C | **1D514** | 517.00 | **215.75** | 32.0 |
| | Outdoor | Surface | 30 | 0 | 30 | 1D371 | #4-250 | | 14.25 | 34.00 | 4.50 | HOM30M150RB | **5B695** | 652.00 | **272.00** | 38.0 |
| 200 | Indoor | Flush/Surface | 12 | 12 | 24 | Incl. | | | 14.25 | 30.00 | 3.75 | HOM1224M200TC | **5B668** | 363.00 | **145.20** | 25.0 |
| | | | 16 | 16 | 32 | Incl. | | | 14.25 | 30.00 | 3.75 | HOM1632M200TC | **5B676** | 429.00 | **179.00** | 27.0 |
| | | | 20 | 20 | 40 | 1D371 | | | 14.25 | 30.00 | 3.75 | HOM2040M200C | **1D449** | 474.00 | **197.75** | 26.0 |
| | | | 20 | 20 | 40 | Incl. | #4-250 | | 14.25 | 30.00 | 3.75 | HOM2040M200TC | **5B678** | 485.00 | **202.25** | 26.0 |
| | | | 30 | 0 | 30 | 1D371 | | | 14.25 | 34.00 | 3.75 | HOM30M200C | **1D515** | 532.00 | **222.00** | 32.0 |
| | | | 30 | 10 | 40 | Incl. | | | 14.25 | 34.00 | 3.75 | HOM3040M200TC | **5B692** | 594.00 | **247.75** | 33.0 |
| | | | 40 | 0 | 40 | 1D371 | | | 14.25 | 39.50 | 3.75 | HOM40M200C | **1D518** | 679.00 | **262.50** | 35.0 |
| | Outdoor | Surface | 30 | 0 | 30 | 1D371 | #4-250 | | 14.25 | 34.00 | 4.50 | HOM30M200RB | **1D516** | 669.00 | **279.00** | 38.0 |
| | | | 40 | 0 | 40 | 1D371 | | | 14.25 | 39.50 | 4.50 | HOM40M200RB | **5B698** | 810.00 | **338.00** | 42.0 |
| **FIXED MAIN LUG** | | | | | | | | | | | | | | | | |
| 70 | Indoor | Flush | 2 | 2 | 4 | 5B717 | #12-3 | #14-4 | 4.81 | 9.30 | 3.19 | HOM24L70F | **5B688** | 39.20 | **16.35** | 3.4 |
| | | Surface | 2 | 2 | 4 | 5B717 | | | | | | HOM24L70S | **1D512** | 39.20 | **16.35** | 3.4 |
| | Outdoor | Surface | 2 | 2 | 4 | 5B718 | #12-3 | #14-4 | 4.88 | 9.50 | 4.00 | HOM24L70RB | **1D511** | 74.00 | **30.90** | 5.3 |
| 100 | Indoor | Flush | 6 | 6 | 12 | 1D374 | | | 8.88 | 12.57 | 3.80 | HOM612L100F | **1D519** | 49.80 | **20.77** | 7.4 |
| | | Surface | 6 | 6 | 12 | 1D374 | #8-1 | | | | | HOM612L100S | **1D521** | 49.80 | **20.77** | 7.0 |
| | Outdoor | Surface | 6 | 6 | 12 | 1D374 | #8-1 | | 8.88 | 12.65 | 4.27 | HOM612L100RB | **1D520** | 82.00 | **34.20** | 9.2 |
| **MAIN LUG CONVERTIBLE TO MAIN BREAKER** | | | | | | | | | | | | | | | | |
| 125 | Indoor | Flush/Surface | 8 | 8 | 16 | 1D369 | | | 14.25 | 18.00 | 3.75 | HOM816L125C | **5F640** | 84.00 | **35.05** | 16.0 |
| | | | 8 | 8 | 16 | Incl. | | | 14.25 | 18.00 | 3.75 | HOM816L125TC | **5F642** | 95.00 | **39.65** | 16.0 |
| | | | 12 | 0 | 12 | 1D369 | | | 14.25 | 18.00 | 3.75 | HOM12L125C | **5F629** | 116.00 | **48.40** | 16.0 |
| | | | 12 | 12 | 24 | Incl. | #4-2/0 | | 14.25 | 18.00 | 3.75 | HOM1224L125TC | **5B664** | 136.00 | **56.75** | 19.0 |
| | | | 20 | 0 | 20 | 1D369 | | | 14.25 | 26.25 | 3.75 | HOM20L125C | **1D450** | 158.00 | **65.90** | 20.0 |
| | | | 20 | 4 | 24 | Incl. | | | 14.25 | 26.25 | 3.75 | HOM2024L125TC | **5B677** | 192.00 | **80.10** | 18.0 |
| | | | 24 | 0 | 24 | Incl. | | | 14.25 | 26.25 | 3.75 | HOM24L125TC | **5B687** | 229.00 | **95.50** | 23.0 |
| | Outdoor | Surface | 8 | 8 | 16 | 1D369 | | | 14.25 | 19.00 | 4.50 | HOM816L125RB | **5F641** | 157.00 | **65.50** | 20.0 |
| | | | 12 | 0 | 12 | 1D369 | #4-2/0 | | 14.25 | 19.00 | 4.50 | HOM12L125RB | **5F630** | 149.00 | **62.15** | 20.0 |
| | | | 20 | 0 | 20 | 1D369 | | | 14.25 | 22.25 | 4.50 | HOM20L125RB | **5B679** | 243.00 | **101.35** | 28.0 |
| 200 | Indoor | Flush/Surface | 30 | 0 | 30 | 1D371 | | | 14.25 | 34.00 | 3.75 | HOM30L200C | **5B693** | 280.00 | **116.80** | 32.0 |
| | | | 30 | 10 | 40 | Incl. | #4-250 | | 14.25 | 34.00 | 3.75 | HOM3040L200TC | **5B691** | 319.00 | **133.05** | 27.0 |
| | | | 40 | 0 | 40 | 1D371 | | | 14.25 | 39.50 | 3.75 | HOM40L200C | **5B696** | 412.00 | **172.00** | 33.0 |
| | Outdoor | Surface | 12 | 0 | 12 | 1D371 | | | 14.25 | 26.25 | 4.50 | HOM12L200RB | **5B672** | 269.00 | **112.20** | 28.0 |
| | | | 30 | 0 | 30 | 1D371 | #4-250 | | 14.25 | 34.00 | 4.50 | HOM30L200RB | **5B694** | 372.00 | **155.25** | 36.0 |
| | | | 40 | 0 | 40 | 1D371 | | | 14.25 | 39.50 | 4.50 | HOM40L200RB | **5B697** | 578.00 | **241.25** | 40.0 |
| **FEED-THRU WITH MAIN BREAKER** | | | | | | | | | | | | | | | | |
| 150 200 | Outdoor | Surface | 8 | 8 | 16 | 5B713 | #4-250 | | 14.25 | 30.00 | 4.52 | HOM816M150FTRB | **5B703** | 523.00 | **218.25** | 30.0 |
| | | | | | | | | | 14.25 | 30.00 | 4.52 | HOM816M200FTRB† | **5B704** | 523.00 | **218.25** | 30.0 |

(†) Rated 200 amp when using copper wire. See NEC Table 310-16, Note 3 when using aluminum wire.

# HOMELINE® CIRCUIT BREAKERS

SQUARE D
GROUPE SCHNEIDER

HOM 1-Pole GFI



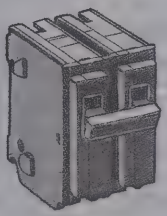
1 Space Required

HOM 1-Pole



1 Space Required

HOM 2-Pole



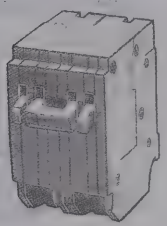
2 Spaces Required

HOMT 1-Pole Tandem



1 Space Required

HOMT 2-Pole Quad



2 Spaces Required

- 10,000 AIR
- Rated 120/240 VAC (except 1D341 & 1D343 are rated 120 VAC only)
- Plug-in breaker 1" wide per pole
- 15-30 amp models suitable for 60 or 75°C wire
- 40-110 amp models suitable for 75°C wire

- GFI units will trip when a fault current to ground is 6mA or more
- Two-Pole breakers are common trip
- Quad breaker has two 1-Pole breakers and one 2-Pole common trip breaker
- Only for use with HOMELINE® load centers (see page 364)

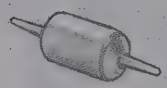
## CIRCUIT BREAKER SPECIFICATIONS AND ORDERING DATA

| No. of Poles | Amp Rating | Wire Size (AWG) AL | Wire Size (AWG) CU | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **PLUG-ON GFI TYPES** | | | | | | | | |
| 1 | 15 | #14-10 | #14-10 | HOM115GFI | **1D341** | $141.00 | **$50.10** | 0.6 |
| 1 | 20 | | | HOM120GFI | **1D343** | 141.00 | **50.10** | 0.6 |
| 2 | 15 | #12-4 | #14-6 | HOM215GFI | **1D351** | 275.00 | **172.25** | 1.1 |
| 2 | 20 | | | HOM220GFI | **1D353** | 275.00 | **172.25** | 1.1 |
| 2 | 30 | | | HOM230GFI | **1D355** | 275.00 | **172.25** | 1.0 |
| 2 | 40 | | | HOM240GFI | **1D357** | 275.00 | **172.25** | 1.1 |
| **PLUG-ON STANDARD TYPES** | | | | | | | | |
| 1 | 15 | #14-8 | (2) #14-10 | HOM115 | **1D340***† | 17.50 | **6.21** | 0.3 |
| 1 | 20 | | | HOM120 | **1D342***† | 17.50 | **6.21** | 0.3 |
| 1 | 25 | #14-8 | (2) #14-10 | HOM125 | **5B669*** | 17.50 | **6.21** | 0.3 |
| 1 | 30 | | | HOM130 | **1D344*** | 17.50 | **6.21** | 0.3 |
| 1 | 40 | #8-2 | #8-2 | HOM140 | **1D345*** | 17.50 | **6.21** | 0.3 |
| 1 | 50 | | | HOM150 | **1D346*** | 17.50 | **6.21** | 0.4 |
| 2 | 15 | #14-8 | #14-8 | HOM215 | **1D350*** | 40.30 | **14.31** | 0.7 |
| 2 | 20 | | | HOM220 | **1D352*** | 40.30 | **14.31** | 0.7 |
| 2 | 25 | #14-8 | #14-8 | HOM225 | **5B684*** | 40.30 | **14.31** | 0.7 |
| 2 | 30 | | | HOM230 | **1D354*** | 40.30 | **14.31** | 0.7 |
| 2 | 35 | #8-2 | #8-2 | HOM235 | **5B685*** | 40.30 | **14.31** | 0.7 |
| 2 | 40 | | | HOM240 | **1D356*** | 40.30 | **14.31** | 0.7 |
| 2 | 45 | | | HOM245 | **5B686*** | 40.30 | **14.31** | 0.9 |
| 2 | 50 | | | HOM250 | **1D358*** | 40.30 | **14.31** | 0.7 |
| 2 | 60 | | | HOM260 | **1D359*** | 40.30 | **14.31** | 0.7 |
| 2 | 70 | | | HOM270 | **1D360*** | 82.00 | **42.75** | 0.7 |
| 2 | 80 | #4-2/0 | #4-2/0 | HOM280 | **1D361** | 112.00 | **58.40** | 0.8 |
| 2 | 90 | | | HOM290 | **1D362** | 112.00 | **58.40** | 0.8 |
| 2 | 100 | | | HOM2100 | **1D349** | 112.00 | **58.40** | 0.8 |
| 2 | 110 | | | HOM2110 | **5B680** | 246.00 | **128.20** | 0.9 |
| **PLUG-ON TANDEM TYPES** | | | | | | | | |
| ** | 15 & 15 | #14-8 | #14-8 | HOMT1515 | **1D364*** | 34.90 | **18.18** | 0.4 |
| ** | 15 & 20 | | | HOMT1520 | **5B709*** | 34.90 | **18.18** | 0.4 |
| ** | 20 & 20 | | | HOMT2020 | **1D365*** | 34.90 | **18.18** | 0.4 |
| **PLUG-ON QUAD TYPES** | | | | | | | | |
| ‡ | 15 & 15 & 15 | #14-8 | #14-8 | HOMT1515215 | **5B706*** | 76.00 | **39.60** | 0.8 |
| ‡ | 15 & 15 & 20 | | | HOMT1515220 | **5B707*** | 76.00 | **39.60** | 0.9 |
| ‡ | 15 & 15 & 30 | | | HOMT1515230 | **5B708*** | 76.00 | **39.60** | 0.6 |
| ‡ | 20 & 20 & 20 | | | HOMT2020220 | **5B710*** | 76.00 | **39.60** | 0.8 |
| ‡ | 20 & 20 & 30 | | | HOMT2020230 | **1D366*** | 76.00 | **39.60** | 0.9 |

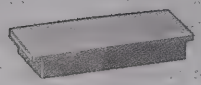
*) UL Listed as HACR type. (†) UL Listed as SWD (switching duty) rated. (‡) Two 1-pole breakers and one 2-pole breaker. (**) Two 1-pole breakers.

# HOMELINE® ACCESSORIES

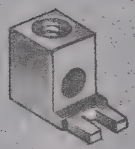
SQUARE D
GROUPE SCHNEIDER



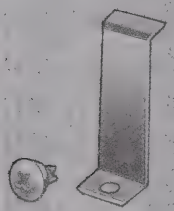
No. 1D347
Handle Tie



No. 1D525
Filler Plate



No. 1D522
Neutral Lug



No. 1D513
Retaining Kit

## HANDLE TIE No. 1D347

- Converts any two adjacent 120/240VAC single pole HOM breakers to independent trip two pole breaker

## HANDLE TIE No. 1D367

- Converts any two adjacent 120/240VAC single pole HOMT breakers to independent trip two pole breaker

## HANDLE PADLOCK ATTACHMENT No. 1D348

- For padlocking 1-pole HOM breakers in "ON" or "OFF" position

## HANDLE PADLOCK ATTACHMENT No. 1D363

- For padlocking 2-pole HOM breakers in "ON" or "OFF" position

## FILLER PLATE No. 1D525

- Fills opening in covers for branch breakers if twistout is removed

## FILLER PLATE No. 1D445

- Fills main breaker opening in convertible load centers up to 125 amp

## MAIN LUG KIT No. 5B773

- 125 amp main lug kit for convertible load centers up to and including 125 amps

## MAIN LUG KIT No. 1D444

- 225 amp main lug kit for convertible load centers over 125 amp up to 225 amp

## NEUTRAL LUG No. 1D522

- Field installed for #12 to #2 Al or #14 to #4 Cu wire—70A rated

## NEUTRAL LUG No. 1D447

- Field installed for #1 to #1/0 Al/Cu wire—100A rated

## RETAINING KIT No. 1D513

- Secures circuit breaker to interior when used as a back-fed main
- For use with Load Center Nos. 1D519, 1D520, and 1D521

## LOCK KIT No. 1D373

- For use with convertible indoor load centers

## GROUND BAR KITS Nos. 5B717 thru 1D371

- For #14-#4 Cu or #12-#3 Al wire

## GROUND BAR KIT No. 5B713

- With #1 to #4/0 Al/Cu Lug

## HOMELINE ACCESSORY ORDERING DATA

| Description | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Handle Attachments:** | | | | | |
| **Handle Tie** | HOM1HT | **1D347** | $2.20 | **$1.32** | 0.1 |
| **Handle Tie** | HOMTHT | **1D367** | 2.40 | **1.44** | 0.1 |
| **Handle Padlock Attachment** | HOM1PA | **1D348** | 6.30 | **3.78** | 0.1 |
| **Handle Padlock Attachment** | HOM2PL | **1D363** | 6.30 | **3.78** | 0.1 |
| **Filler Plates** | HOMFP | **1D525** | 2.00 | **1.20** | 0.1 |
| **Filler Plates** | QOM1FP | **1D445** | 12.90 | **7.74** | 0.1 |
| **Main Lug Kits** | QOL125 | **5B773** | 28.00 | **16.80** | 0.2 |
| | QOL225 | **1D444** | 66.00 | **39.60** | 0.3 |
| **Neutral Lugs** | HOM70AN | **1D522** | 6.30 | **3.78** | 0.1 |
| | HOM100AN | **1D447** | 6.80 | **4.08** | 0.1 |
| **Retaining Kits** | HOM1RK | **1D513** | 4.10 | **2.46** | 0.1 |
| **Lock Kit** | PK6FL | **1D373** | 59.00 | **35.40** | 0.2 |

## GROUND BAR KIT ORDERING DATA

| Description | No. of Terminals | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Ground Bar Kits** | 3 | PK3GTA1 | **5B717** | $7.20 | **$4.32** | 0.1 |
| | 4 | PK4GTA | **5B718** | 6.90 | **4.14** | 0.1 |
| | 7 | PK7GTA | **1D374** | 7.40 | **4.44** | 0.1 |
| | 9 | PK9GTA | **1D375** | 8.50 | **5.10** | 0.1 |
| | 12 | PK12GTA | **5B711** | 10.00 | **6.00** | 0.1 |
| | 15 | PK15GTA | **1D369** | 10.90 | **6.54** | 0.1 |
| | 18 | PK18GTA | **1D370** | 11.90 | **7.14** | 0.2 |
| | 23 | PK23GTA | **1D371** | 13.50 | **8.10** | 0.2 |
| **Ground Bar Kit** | 15 | PK15GTAL | **5B713** | 22.20 | **13.32** | 0.2 |

## FIELD INSTALLABLE MAIN CIRCUIT BREAKER—22,000 AIR (For single phase Convertible Load Centers Only)

### QOM1 Frame Size

| Amp Rating | Use on Conv. Load Center with Main Rating | Lug Wire Size | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **70** | 100-125 | #4-2/0 | QOM70VH | **5B777** | $89.00 | **$53.40** | 1.2 |
| **100** | 100-125 | | QOM100VH | **1D332** | 128.00 | **76.80** | 1.3 |
| **125** | 125 | | QOM125VH | **5B774** | 297.00 | **178.25** | 1.3 |

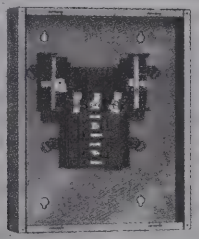
### QOM2 Frame Size

| Amp Rating | Use on Conv. Load Center with Main Rating | Lug Wire Size | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **100** | 150-225 | #4-300 | QOM2100VH | **5B775** | $297.00 | **$178.25** | 2.6 |
| **125** | 150-225 | | QOM2125VH | **5B776** | 297.00 | **178.25** | 2.6 |
| **150** | 150-225 | | QOM2150VH | **1D333** | 297.00 | **178.25** | 2.6 |
| **200** | 200-225 | | QOM2200VH | **1D334** | 297.00 | **178.25** | 2.6 |
| **225** | 225 | | QOM2225VH | **1D335** | 297.00 | **178.25** | 2.6 |

(*) Do not exceed load center mains rating.

# QO® THREE PHASE LOAD CENTERS

SQUARE D
GROUPE SCHNEIDER



No. 1D400
Main Lug



No. 1D766
Main Breaker

Replacement Parts Available
1-800-323-0620

- Three-phase, 4 wire 208Y/120, 240/120 or 3 wire 240 Delta
- Federal Spec W-P-115c as Type 1 Class 2 (thru 225 amp)
- Main breakers are convertible to main lug
- Shielded Copper bus construction
- Indoor types can be rotated for top or bottom feed; outdoor types can be bottom fed but wires must be routed to top of panel
- Indoor models use low profile covers with automatic flush adjustment, order separately on page 369
- One piece plated copper bus 12-42 circuit
- Use only QO circuit breakers, see pages 370 and 371

## QO® LOAD CENTER SPECIFICATIONS AND ORDERING DATA

### NEMA TYPE 3R OUTDOOR MODELS

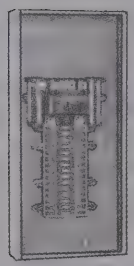
| Amps | No. of Spaces | Max. No. Tandem Breakers | Max. No. of 1 Pole Breakers | Wire Size AWG/Kcmil Al | Wire Size AWG/Kcmil Cu | Ground Bar Kit | Dimensions (In.) W | Dimensions (In.) H | Dimensions (In.) D | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RAINPROOF, THREE PHASE, MAIN BREAKER** | | | | | | | | | | | | | | |
| Fixed Mains—Factory Installed Main Circuit Breaker, 22,000 RMS Sym. Amps Short Circuit Current Rating | | | | | | | | | | | | | | |
| **100** | 27 | 0 | 27 | #4-1/0 | #4-#1 | 1D369 | 14.25 | 30.00 | 4.52 | QO327M100RB | **1D769** | $752.00 | **$392.00** | 11.0 |
| **125** | 30 | 0 | 30 | #4-250 | | 1D370 | 14.25 | 39.50 | 4.52 | QO330M125RB | **1D763** | 1363.00 | **710.50** | 8.6 |
| **150** | 30 | 0 | 30 | #4-250 | | 1D370 | 14.25 | 39.50 | 4.52 | QO330M150RB | **1D732** | 1363.00 | **710.50** | 21.0 |
| **200** | 30 | 0 | 30 | #4-250 | | 1D370 | 14.25 | 39.50 | 4.52 | QO330M200RB | **1D718** | 1363.00 | **710.50** | 23.0 |
| | 42 | 0 | 42 | #4-250 | | 1D371 | 14.25 | 39.50 | 4.52 | QO342M200RB | **1D709** | 1481.00 | **772.00** | 14.0 |
| **225** | 42 | 0 | 42 | #4-250 | | 1D371 | 14.25 | 39.50 | 4.52 | QO342M225RB | **1D699** | 1481.00 | **772.00** | 13.0 |
| **RAINPROOF, THREE PHASE, MAIN LUG** | | | | | | | | | | | | | | |
| Fixed Mains—Factory Installed Main Lugs, 65,000 RMS Sym. Amps Short Circuit Current Rating** | | | | | | | | | | | | | | |
| **60** | 3 | 0 | 3 | — | #10-#6 | 5B718 | 6.92 | 13.18 | 4.12 | QO403L60NRB | **1D412** | 112.00 | **58.40** | 10.0 |
| **125** | 12 | 0 | 12 | #4-4/0 | | Incl. | 14.25 | 19.00 | 4.52 | QO312L125GRB | **1D401** | 308.00 | **160.50** | 22.0 |
| | 20 | 0 | 20 | #4-4/0 | | Incl. | 14.25 | 22.00 | 4.52 | QO320L125GRB | **1D406** | 399.00 | **208.00** | 30.0 |
| **200** | 18 | 0 | 18 | #4-250 | | Incl. | 14.25 | 30.00 | 4.52 | QO318L200GRB | **1D403** | 392.00 | **204.25** | 34.0 |
| | 30 | 0 | 30 | #4-250 | | Incl. | 14.25 | 30.00 | 4.52 | QO330L200GRB | **1D408** | 532.00 | **277.25** | 34.0 |
| **225** | 42 | 0 | 42 | #4-300 | | Incl. | 14.25 | 38.00 | 4.52 | QO342L225GRB | **1D410** | 949.00 | **494.50** | 44.0 |

### NEMA TYPE 1 INDOOR MODELS

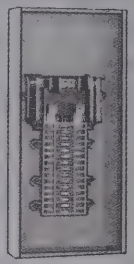
| Amps | No. of Spaces | Max. No. Tandem Breakers | Max. No. of 1 Pole Breakers | Cover w/ Door Flush | Cover w/ Door Surface | Wire Size AWG / Kcmil Al | Wire Size AWG / Kcmil Cu | Ground Bar Kit | Dimensions (In.) W | Dimensions (In.) H | Dimensions (In.) D | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDOOR, THREE PHASE, MAIN BREAKER** | | | | | | | | | | | | | | | | |
| Fixed Mains—Factory Installed Main Circuit Breaker, 22,000 RMS Sym. Amps. Max. Short Circuit Current Rating | | | | | | | | | | | | | | | | |
| **100** | 27 | 0 | 27 | 1D435 | 1D436 | #4-1/0 | #4-#1 | 1D369 | 14.25 | 30.00 | 3.75 | QO327M100 | **1D772** | $616.00 | **$321.00** | 12.0 |
| **125** | 30 | 0 | 30 | 1D437 | 1D438 | #4-250 | | 1D370 | 14.25 | 39.50 | 3.75 | QO330M125 | **1D766‡** | 1168.00 | **609.00** | 9.3 |
| **150** | 30 | 0 | 30 | 1D437 | 1D438 | #4-250 | | 1D371 | 14.25 | 39.50 | 3.75 | QO330M150 | **1D737‡** | 1168.00 | **609.00** | 34.0 |
| | 42 | 0 | 42 | 1D437 | 1D438 | #4-250 | | 1D370 | 14.25 | 39.50 | 3.75 | QO342M150 | **1D716‡** | 1287.00 | **671.00** | 22.0 |
| **200** | 30 | 0 | 30 | 1D437 | 1D438 | #4-250 | | 1D370 | 14.25 | 39.50 | 3.75 | QO330M200 | **1D731‡** | 1168.00 | **609.00** | 23.0 |
| | 42 | 0 | 42 | 1D437 | 1D438 | #4-250 | | 1D371 | 14.25 | 39.50 | 3.75 | QO342M200 | **1D713‡** | 1287.00 | **671.00** | 19.0 |
| **225** | 42 | 0 | 42 | 1D437 | 1D438 | #4-250 | | 1D371 | 14.25 | 39.50 | 3.75 | QO342M225 | **1D702‡** | 1287.00 | **671.00** | 19.0 |
| **INDOOR, THREE PHASE, MAIN LUG** | | | | | | | | | | | | | | | | |
| Fixed Mains—Factory Installed Main Lugs, 65,000 RMS Sym. Amps Short Circuit Rating** | | | | | | | | | | | | | | | | |
| **60** | 3 | 0 | 3 | Cover Incl. | | — | #10-#6 | 5B718 | 5.88 | 13.12 | 3.38 | QO403L60NS | **1D413‡** | 68.00 | **35.45** | 5.4 |
| | 3 | 0 | 3 | Cover Incl. | | — | #10-#6 | 5B718 | 5.88 | 13.12 | 3.38 | QO403L60NF | **1D411‡** | 68.00 | **35.45** | 5.7 |
| **125** | 12 | 0 | 12 | 1D427 | 1D428 | #4-2/0 | | Incl. | 14.25 | 19.00 | 3.75 | QO312L125G | **1D400** | 210.00 | **109.45** | 12.0 |
| | 20 | 0 | 20 | 1D433 | 1D434 | #4-2/0 | | Incl. | 14.25 | 21.00 | 3.75 | QO320L125G | **1D405** | 299.00 | **156.00** | 13.0 |
| | 24 | 0 | 24 | 1D433 | 1D434 | #4-2/0 | | Incl. | 14.25 | 21.00 | 3.75 | QO324L125G | **6B460** | 343.00 | **171.50** | 14.0 |
| **200** | 18 | 0 | 18 | 1D435 | 1D436 | #1-250 | | Incl. | 14.25 | 30.00 | 3.75 | QO318L200G | **1D402** | 281.00 | **146.45** | 17.0 |
| | 30 | 0 | 30 | 1D435 | 1D436 | #4-250 | | Incl. | 14.25 | 30.00 | 3.75 | QO330L200G | **1D407** | 393.00 | **205.00** | 18.0 |
| **225** | 42 | 0 | 42 | 1D441 | 1D442 | #4-300 | | Incl. | 14.25 | 38.00 | 3.75 | QO342L225G | **1D409** | 534.00 | **278.25** | 21.0 |

) Surface model. (‡) Flush model. (**) SCCR depends on lowest interrupting rating of installed circuit breakers. (‡) 65,000 RMS Sym. Amps. Max. Short Circuit Rating.

# QO® SINGLE PHASE LOAD CENTERS



5F694
Main Breaker



5F690
Main Lug

- Shown without cover
- Shielded, one-piece, plated copper bus—12 to 42 circuits
- 1 phase 3 wire 120/240 VAC
- Federal spec W-p-115c as Type 1, Class 2 (thru 225 amp)
- Main lug, main lug convertible (to main breaker), and main breaker load centers available up to 225 amps
- Convertible 100-125 amp models QOM1 main frame size; 150-225 amp models QOM2 main frame size; see accessories on page 372
- Indoor models use low profile covers with automatic flush adjustment (order separately)
- Outdoor models come complete with cover and door
- Split branch neutral terminals
- Equipment ground bar kits available on page 372
- Indoor types can be rotated for top or bottom feed; outdoor types can be bottom fed but wires must be routed to top of panel
- Use only QO circuit breakers, see page 370 and 371

## QO® LOAD CENTER SPECIFICATIONS AND ORDERING DATA

### OUTDOOR NEMA TYPE 3R RAINPROOF MODELS

| Amps | No. of Spaces | Max. No. Tandem Breakers | Max. No. of 1 Pole Circuits | Wire Size AWG / Kcmil Al | Wire Size AWG / Kcmil Cu | Equip. Ground Bar Kit | Installed Dimensions (In.)† Height | Width | Depth | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RAINPROOF, SINGLE PHASE, FEED THRU** | | | | | | | | | | | | | | |
| 1 Phase—3 Wire 120/240VAC—Main Breaker with Feed-Thru Lugs, 22,000 RMS Sym. Amps Short Circuit Current Rating | | | | | | | | | | | | | | |
| **125** | 6 | 6 | 12 | #4-2/0 | | 5B711 | 19.00 | 14.25 | 4.50 | QO1612M125FTRB | **5F706** | $393.00 | **$196.50** | 20.0 |
| **150** | 8 | 8 | 16 | #4-4/0 | | 5B713 | 30.00 | 14.25 | 4.50 | QO1816M150FTRB | **5F707** | 575.00 | **287.50** | 33.0 |
| **200** | 8 | 8 | 16 | #4-4/0 | | 5B713 | 30.00 | 14.25 | 4.50 | QO1816M200FTRB | **5F708** | 575.00 | **287.50** | 33.0 |
| **RAINPROOF, SINGLE PHASE, MAIN BREAKER** | | | | | | | | | | | | | | |
| Convertible Mains—Factory Installed Main Circuit Breaker, 22,000 RMS Sym. Amps Short Circuit Current Rating | | | | | | | | | | | | | | |
| **100** | 12 | 0 | 12 | #4-#1 | | 1D375 | 19.00 | 14.25 | 4.50 | QO112M100RB | **5F655** | 292.00 | **152.25** | 20.0 |
| | 16 | 0 | 16 | | | 5B711 | 22.25 | 14.25 | 4.50 | QO116M100RB | **5F661** | 320.00 | **160.00** | 20.0 |
| | 20 | 0 | 20 | | | 1D369 | 22.25 | 14.25 | 4.50 | QO120M100RB | **5F676** | 368.00 | **184.00** | 26.0 |
| **125** | 24 | 0 | 24 | #4-2/0 | | 1D369 | 22.25 | 14.25 | 4.50 | QO124M125RB | **5F682** | 606.00 | **303.00** | 26.0 |
| **150** | 30 | 0 | 30 | #4-250 | | 1D370 | 30.00 | 14.25 | 4.50 | QO130M150RB | **5F696** | 712.00 | **356.00** | 34.0 |
| **200** | 30 | 0 | 30 | #4-250 | | 1D370 | 30.00 | 14.25 | 4.50 | QO130M200RB | **5F699** | 732.00 | **366.00** | 34.0 |
| | 40 | 0 | 40 | | | 1D371 | 34.00 | 14.25 | 4.50 | QO140M200RB | **5F702** | 887.00 | **443.50** | 39.0 |
| **RAINPROOF, SINGLE PHASE, MAIN LUG** | | | | | | | | | | | | | | |
| Fixed Mains—Factory Installed Main Lugs, 10,000 RMS Sym. Amps Short Circuit Current Rating | | | | | | | | | | | | | | |
| **40** | 2 | 0 | 2 | #12-#6 | #14-#6 | 5B717 | 9.38 | 4.88 | 4.00 | QO2L40RB | **5B756** | 71.00 | **37.00** | 5.3 |
| **70** | 2 | 2 | 4 | #12-#3 | #14-#4 | 5B718 | | | | QO2-4L70RB | **1D389** | 83.00 | **43.25** | 4.7 |
| **100** | 6 | 6 | 12 | #8-#1 | | 1D374 | 12.65 | 8.88 | 4.27 | QO612L100RB | **1D419** | 90.00 | **46.90** | 9.0 |
| | 8 | 8 | 16 | | | 1D374 | | | | QO816L100RB | **1D423** | 147.00 | **76.60** | 9.7 |
| Convertible Mains—Factory Installed Main Lugs, 65,000 RMS Sym. Amps Max. Short Circuit Current Rating* | | | | | | | | | | | | | | |
| **125** | 12 | 0 | 12 | #4-2/0 | | Included | 19.00 | 14.25 | 4.50 | QO112L125GRB | **5F650** | 181.00 | **94.35** | 19.0 |
| | 12 | 12 | 24 | | | Included | 19.00 | 14.25 | 4.50 | QO11224L125GRB | **5F647** | 231.00 | **120.40** | 19.0 |
| | 16 | 8 | 24 | | | Included | 22.25 | 14.25 | 4.50 | QO11624L125GRB | **5F657** | 276.00 | **143.80** | 19.0 |
| | 24 | 0 | 24 | | | Included | 22.25 | 14.25 | 4.50 | QO124L125GRB | **5F678** | 331.00 | **165.50** | 25.0 |
| **150** | 30 | 0 | 30 | #4-250 | | Included | 30.00 | 14.25 | 4.50 | QO130L150GRB | **5F691** | 372.00 | **186.00** | 32.0 |
| **200** | 12 | 0 | 12 | #4-250 | | Included | 26.25 | 14.25 | 4.50 | QO112L200GRB | **5F652** | 305.00 | **152.50** | 27.0 |
| | 30 | 0 | 30 | | | Included | 30.00 | 14.25 | 4.50 | QO130L200GRB | **5F693** | 423.00 | **211.50** | 32.0 |
| | 30 | 10 | 40 | | | Included | 30.00 | 14.25 | 4.50 | QO13040L200GRB | **5F687** | 453.00 | **226.50** | 32.0 |
| **225** | 42 | 0 | 42 | #4-300 | | Included | 38.00 | 14.25 | 4.50 | QO142L225GRB | **5F705** | 831.00 | **415.50** | 41.0 |

(*) SCCR depends on lowest interrupting rating of installed circuit breakers. (†) Actual enclosure size rounded up to next 1/4 inch.

QO LOAD CENTERS FOR USE WITH QO CIRCUIT BREAKERS ONLY

CONTINUED ON NEXT PAGE

## QO® LOAD CENTER SPECIFICATIONS AND ORDERING DATA (Continued)

### NEMA TYPE 1 INDOOR MODELS

| Amps | No. of Spaces | Max. No. Tandem Circuits | Max. No. of 1 Pole Circuits | Cover w/ Door: Flush | Cover w/ Door: Surface | Wire Size AGW/Kcmil: Al | Wire Size AGW/Kcmil: Cu | Equip. Ground Bar Kit | Installed: Height | Installed: Width | Installed: Depth | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDOOR SINGLE PHASE, MAIN BREAKER** | | | | | | | | | | | | | | | | |
| **Convertible Mains–Factory Installed Main Circuit Breaker, 22,000 RMS Sym. Amps Short Circuit Current Rating** | | | | | | | | | | | | | | | | |
| **100** | 12 | 0 | 12 | 1D425 | 1D426 | #4-#1 | | 1D375 | 15.00 | 14.25 | 3.75 | QO112M100 | **5F653** | $191.00 | **$99.55** | 10.0 |
| | 16 | 0 | 16 | 1D429 | 1D430 | | | 5B711 | 18.00 | 14.25 | 3.75 | QO116M100 | **5F659** | 217.00 | **113.10** | 12.0 |
| | 20 | 0 | 20 | 1D429 | 1D430 | | | 1D369 | 18.00 | 14.25 | 3.75 | QO120M100 | **5F674** | 264.00 | **132.00** | 17.0 |
| | 24 | 0 | 24 | 1D433 | 1D434 | | | 1D369 | 21.00 | 14.25 | 3.75 | QO124M100 | **5F680** | 328.00 | **164.00** | 20.0 |
| **125** | 24 | 0 | 24 | 1D433 | 1D434 | #4-2/0 | | 1D369 | 21.00 | 14.25 | 3.75 | QO124M125 | **5F681** | 496.00 | **248.00** | 20.0 |
| **150** | 24 | 0 | 24 | 1D435 | 1D436 | #4-250 | | 1D369 | 30.00 | 14.25 | 3.75 | QO124M150 | **5F683** | 484.00 | **242.00** | 26.0 |
| | 30 | 0 | 30 | 1D435 | 1D436 | | | 1D370 | 30.00 | 14.25 | 3.75 | QO130M150 | **5F694** | 511.00 | **255.50** | 27.0 |
| **200** | 24 | 0 | 24 | 1D435 | 1D436 | #4-250 | | 1D369 | 30.00 | 14.25 | 3.75 | QO124M200 | **5F684** | 494.00 | **247.00** | 26.0 |
| | 30 | 0 | 30 | 1D435 | 1D436 | | | 1D370 | 30.00 | 14.25 | 3.75 | QO130M200 | **5F697** | 528.00 | **264.00** | 27.0 |
| | 30 | 10 | 40 | 1D435 | 1D436 | | | 1D371 | 30.00 | 14.25 | 3.75 | QO13040M200 | **5F688** | 580.00 | **290.00** | 27.0 |
| | 40 | 0 | 40 | 1D439 | 1D440 | | | 1D371 | 34.00 | 14.25 | 3.75 | QO140M200 | **5F700** | 689.00 | **344.50** | 31.0 |
| **225** | 40 | 0 | 40 | 1D441 | 1D442 | #4-300 | | 1D371 | 38.00 | 14.25 | 3.75 | QO140M225 | **5F703** | 689.00 | **344.50** | 34.0 |
| **INDOOR SINGLE PHASE, MAIN LUG** | | | | | | | | | | | | | | | | |
| **Fixed Mains–Factory Installed Main Lugs, 10,000 RMS Sym. Amps Short Circuit Current Rating** | | | | | | | | | | | | | | | | |
| **30** | 2 | 0 | 2 | Cover Incl. w/o Door | | #12-#10 | #14-#10 | 5B717 | 6.72 | 3.81 | 3.00 | QO2L30S | **5B755**‡ | 26.50 | **13.81** | 1.7 |
| **70** | 2 | 2 | 4 | Cover Incl. w/o Door | | #12-#3 | #14-#4 | 5B718 | 9.30 | 4.81 | 3.19 | QO2-4L70F | **1D388** | 43.50 | **22.66** | 3.6 |
| | 2 | 2 | 4 | | | | | | | | | QO2-4L70S | **1D390** | 43.50 | **22.66** | 3.8 |
| **100** | 6 | 6 | 12 | Cover Incl. w/o Door | | #8-#1 | | 1D374 | 12.57 | 8.88 | 3.80 | QO612L100S | **1D420** | 55.00 | **28.70** | 7.0 |
| | 6 | 6 | 12 | Cover Incl. w/o Door | | | | | | | | QO612L100F | **1D418** | 55.00 | **28.70** | 7.0 |
| | 6 | 6 | 12 | Cover Incl. w/ Door | | | | | | | | QO612L100DS | **5B767** | 57.00 | **29.70** | 8.0 |
| | 6 | 6 | 12 | Cover Incl. w/ Door | | | | | | | | QO612L100DF | **5B766** | 57.00 | **29.70** | 13.0 |
| | 8 | 8 | 16 | Cover Incl. w/o Door | | | | | | | | QO816L100S | **1D424** | 83.00 | **43.25** | 7.6 |
| | 8 | 8 | 16 | Cover Incl. w/o Door | | | | | | | | QO816L100F | **1D422** | 83.00 | **43.25** | 7.1 |
| | 8 | 8 | 16 | Cover Incl. w/ Door | | | | | | | | QO816L100DS | **5B770** | 90.00 | **46.90** | 9.0 |
| | 8 | 8 | 16 | Cover Incl. w/ Door | | | | | | | | QO816L100DF | **5B769** | 90.00 | **46.90** | 8.0 |
| **Convertible Mains–Factory Installed Main Lugs, 65,000 RMS Sym. Amps Short Circuit Current Rating** | | | | | | | | | | | | | | | | |
| **125** | 12 | 0 | 12 | 1D427 | 1D428 | #4-2/0 | | Incl. | 18.00 | 14.25 | 3.75 | QO112L125G | **5F649** | 101.00 | **52.65** | 15.0 |
| | 12 | 12 | 24 | 1D427 | 1D428 | | | Incl. | 18.00 | 14.25 | 3.75 | QO11224L125G | **5F645** | 126.00 | **65.65** | 16.0 |
| | 16 | 0 | 16 | 1D433 | 1D434 | | | Incl. | 21.00 | 14.25 | 3.75 | QO116L125G | **5F658** | 138.00 | **71.90** | 18.0 |
| | 16 | 8 | 24 | 1D433 | 1D434 | | | Incl. | 21.00 | 14.25 | 3.75 | QO11624L125G | **5F656** | 167.00 | **87.05** | 18.0 |
| | 20 | 0 | 20 | 1D433 | 1D434 | | | Incl. | 21.00 | 14.25 | 3.75 | QO120L125G | **5F672** | 156.00 | **78.00** | 18.0 |
| | 20 | 4 | 24 | 1D433 | 1D434 | | | Incl. | 21.00 | 14.25 | 3.75 | QO12024L125G | **5F662** | 211.00 | **105.50** | 18.0 |
| | 24 | 0 | 24 | 1D433 | 1D434 | | | Incl. | 30.00 | 14.25 | 3.75 | QO124L125G | **5F677** | 218.00 | **109.00** | 19.0 |
| **150** | 20 | 10 | 30 | 1D435 | 1D436 | #4-250 | | Incl. | 30.00 | 14.25 | 3.75 | QO12030L150G | **5F664** | 210.00 | **105.00** | 24.0 |
| | 24 | 0 | 24 | 1D435 | 1D436 | | | Incl. | 30.00 | 14.25 | 3.75 | QO124L150G | **5F679** | 198.00 | **99.00** | 19.0 |
| | 30 | 0 | 30 | 1D435 | 1D436 | | | Incl. | 30.00 | 14.25 | 3.75 | QO130L150G | **5F690** | 222.00 | **111.00** | 25.0 |
| **200** | 12 | 0 | 12 | 1D435 | 1D436 | #4-250 | | Incl. | 30.00 | 14.25 | 3.75 | QO112L200G | **5F651** | 169.00 | **88.05** | 23.0 |
| | 30 | 0 | 30 | 1D435 | 1D436 | | | Incl. | 30.00 | 14.25 | 3.75 | QO130L200G | **5F692** | 258.00 | **129.00** | 25.0 |
| | 30 | 10 | 40 | 1D435 | 1D436 | | | Incl. | 30.00 | 14.25 | 3.75 | QO13040L200G | **5F685** | 296.00 | **148.00** | 25.0 |
| **225** | 42 | 0 | 42 | 1D441 | 1D442 | #4-300 | | Incl. | 38.00 | 14.25 | 3.75 | QO142L225G | **5F704** | 455.00 | **227.50** | 32.0 |

(*) SCCR depends on lowest interrupting rating of installed circuit breakers. ( ' ) Actual enclosure size rounded up to next 1/4 inch.
(F) Flush models. (S) Surface models. (‡) Mains rated 25A when Al wire is used.

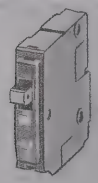
### COVERS FOR INDOOR LOAD CENTERS

| Mounting Type | Square D Model | Stock No. | List | Each | Shpg. Wt. | Mounting Type | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Flush** | QOC20U100F | **1D429** | $25.10 | **$15.06** | 7.3 | **Surface** | QOC20U100S | **1D430** | $25.10 | **$15.06** | 5.9 |
| | QOC12UF | **1D425** | 25.10 | **15.06** | 5.7 | | QOC12US | **1D426** | 25.10 | **15.06** | 4.8 |
| | QOC16UF | **1D427** | 25.10 | **15.06** | 7.1 | | QOC16US | **1D428** | 25.10 | **15.06** | 5.9 |
| | QOC24UF | **1D433** | 25.10 | **15.06** | 8.4 | | QOC24US | **1D434** | 25.10 | **15.06** | 6.6 |
| | QOC30UF | **1D435** | 58.00 | **34.80** | 11.0 | | QOC30US | **1D436** | 58.00 | **34.80** | 9.2 |
| | QOC40UF | **1D439** | 58.00 | **34.80** | 12.0 | | QOC40US | **1D440** | 58.00 | **34.80** | 11.0 |
| | QOC42UF | **1D441** | 70.00 | **42.00** | 13.0 | | QOC42US | **1D442** | 70.00 | **42.00** | 12.0 |

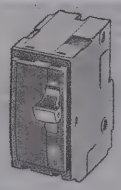
**A NATIONWIDE NETWORK OF BRANCH LOCATIONS**

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

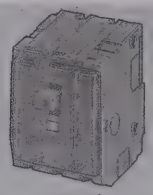
# QO® CIRCUIT BREAKERS



1-Pole
1 Space Required



2-Pole
2 Spaces Required



3-Pole
3 Spaces Required

SQUARE D
*GROUPE SCHNEIDER*

- Plug-in breakers 3/4" wide per pole
- QWIK-OPEN® circuit breakers with VISI-TRIP® indicator
- 10-30 amp models suitable for 60° or 75°C wire
- 35-125 amp models suitable for 75°C wire
- Use only with QO load centers and NQOD panelboards

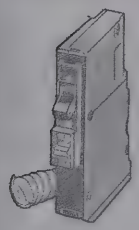
## QO CIRCUIT BREAKER SPECIFICATIONS AND ORDERING DATA

| No. of Poles | Amp Ratings | Voltage AC | Wire Size Al | Wire Size Cu | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **10,000 Amp Interrupting Rating (AIR)** | | | | | | | | | |
| 1 | 10 | 120/240 | #14-#8 | #14-#8or (2)#14-#10 | QO110 | **5B720** | $19.40 | **$6.60▲** | 0.2 |
| | 15 | 120/240 | | | QO115HM | **1D233***†‡ | 19.40 | **6.60▲** | 0.3 |
| | 15 | 120/240 | | | QO115 | **1D230**†‡ | 19.40 | **6.60▲** | 0.3 |
| | 20 | 120/240 | | | QO120HM | **1D237***†‡ | 19.40 | **6.60▲** | 0.3 |
| | 20 | 120/240 | | | QO120 | **1D234**†‡ | 19.40 | **6.60▲** | 0.3 |
| | 25 | 120/240 | | | QO125 | **5B723** | 19.40 | **6.60▲** | 0.3 |
| | 30 | 120/240 | | | QO130 | **1D239**‡ | 19.40 | **6.60▲** | 0.3 |
| | 35 | 120/240 | #8-#2 | #8-#2 | QO135 | **5B726**‡ | 19.40 | **10.11** | 0.3 |
| | 40 | 120/240 | | | QO140 | **1D243**‡ | 19.40 | **10.11** | 0.3 |
| | 45 | 120/240 | | | QO145 | **5B727**‡ | 19.40 | **10.11** | 0.3 |
| | 50 | 120/240 | | | QO150 | **1D244**‡ | 19.40 | **10.11** | 0.3 |
| | 60 | 120/240 | | | QO160 | **1D246**‡ | 19.40 | **10.11** | 0.3 |
| | 70 | 120/240 | | | QO170 | **1D247**‡ | 44.70 | **17.85** | 0.3 |
| 2 | 10 | 120/240 | #14-#8 | #14-#8 | QO210 | **5B738** | 44.70 | **17.85** | 0.5 |
| | 15 | 120/240 | | | QO215 | **1D254**‡ | 44.70 | **17.85** | 0.5 |
| | 20 | 120/240 | | | QO220 | **1D301**‡ | 44.70 | **17.85** | 0.5 |
| | 25 | 120/240 | | | QO225 | **5B741**‡ | 44.70 | **17.85** | 0.5 |
| | 30 | 120/240 | | | QO230 | **1D307**‡ | 44.70 | **17.85** | 0.5 |
| | 35 | 120/240 | #8-#2 | #8-#2 | QO235 | **5B743**‡ | 44.70 | **23.29** | 0.6 |
| | 40 | 120/240 | | | QO240 | **1D311**‡ | 44.70 | **23.29** | 0.6 |
| | 45 | 120/240 | | | QO245 | **5B744**‡ | 44.70 | **23.29** | 0.8 |
| | 50 | 120/240 | | | QO250 | **1D313**‡ | 44.70 | **23.29** | 0.6 |
| | 60 | 120/240 | | | QO260 | **1D315**‡ | 44.70 | **23.29** | 0.6 |
| | 70 | 120/240 | | | QO270 | **1D317**‡ | 89.00 | **46.40** | 0.6 |
| | 80 | 120/240 | #4-2/0 | #4-2/0 | QO280 | **1D318** | 126.00 | **65.65** | 0.7 |
| | 90 | 120/240 | | | QO290 | **1D319** | 126.00 | **65.65** | 0.7 |
| | 100 | 120/240 | | | QO2100 | **1D251** | 126.00 | **65.65** | 0.7 |
| | 110 | 120/240 | | | QO2110 | **1D252** | 271.00 | **141.20** | 0.7 |
| | 125 | 120/240 | | | QO2125 | **1D253** | 271.00 | **141.20** | 0.7 |
| 3 | 10 | 240 | #14-#8 | #14-#8 | QO310 | **1D320** | 157.00 | **81.80** | 0.7 |
| | 15 | 240 | | | QO315 | **1D321**‡ | 157.00 | **81.80** | 0.8 |
| | 20 | 240 | | | QO320 | **1D322**‡ | 157.00 | **81.80** | 0.8 |
| | 25 | 240 | | | QO325 | **5B760**‡ | 157.00 | **81.80** | 0.8 |
| | 30 | 240 | | | QO330 | **1D324**‡ | 157.00 | **81.80** | 0.8 |
| | 35 | 240 | #8-#2 | #8-#2 | QO335 | **5B761**‡ | 157.00 | **81.80** | 0.8 |
| | 40 | 240 | | | QO340 | **1D326**‡ | 157.00 | **81.80** | 0.8 |
| | 45 | 240 | | | QO345 | **5B762**‡ | 157.00 | **81.80** | 0.8 |
| | 50 | 240 | | | QO350 | **1D327**‡ | 157.00 | **81.80** | 0.8 |
| | 60 | 240 | | | QO360 | **1D328**‡ | 157.00 | **81.80** | 0.8 |
| | 70 | 240 | | | QO370 | **1D329** | 200.00 | **104.20** | 1.1 |
| | 80 | 240 | #4-2/0 | #4-2/0 | QO380 | **1D330** | 232.00 | **120.90** | 1.1 |
| | 90 | 240 | | | QO390 | **1D331** | 232.00 | **120.90** | 1.1 |
| | 100 | 240 | | | QO3100 | **5A539** | 232.00 | **120.90** | 1.1 |
| **22,000 Amp Interrupting Rating (AIR)** | | | | | | | | | |
| 1 | 15 | 120/240 | #14-#8 | (2)#14-#10 or #14-#8 | QO115VH | **2CT14** | 40.30 | **25.25** | 0.3 |
| | 20 | 120/240 | | | QO120VH | **1D238**† | 40.30 | **21.00** | 0.3 |
| | 30 | 120/240 | | | QO130VH | **1D242** | 46.20 | **24.07** | 0.3 |
| 2 | 20 | 120/240 | #14-#8 | #14-#8 | QO220VH | **1D306** | 92.00 | **47.95** | 0.6 |
| | 30 | 120/240 | #14-#8 | #14-#8 | QO230VH | **1D310** | 92.00 | **47.95** | 0.6 |
| | 50 | 120/240 | #8-#2 | #8-#2 | QO250VH | **5B753** | 92.00 | **47.95** | 0.7 |
| | 60 | 120/240 | #8-#2 | #8-#2 | QO260VH | **5B754** | 92.00 | **47.95** | 0.7 |
| | 100 | 120/240 | #4-2/0 | #4-2/0 | QO2100VH | **2DG52** | 200.00 | **125.20** | 0.7 |
| 3 | 20 | 240 | #14-#8 | #14-#8 | QO320VH | **1D323** | 235.00 | **122.45** | 0.8 |
| | 30 | 240 | #14-#8 | #14-#8 | QO330VH | **1D325** | 235.00 | **122.45** | 0.8 |
| | 50 | 240 | #8-#2 | #8-#2 | QO350VH | **5B763** | 235.00 | **122.45** | 1.0 |
| | 60 | 240 | #8-#2 | #8-#2 | QO360VH | **5B764** | 235.00 | **122.45** | 1.0 |

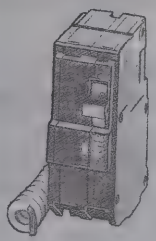
(*) High Magnetic trip breakers. Recommended for applications where high initial inrush currents may occur. (†) SWD (switch duty) rated. (‡) HACR rated.
(▲) Net prices, not subject to discount.

CONTINUED ON NEXT PAGE

# QO® CIRCUIT BREAKERS



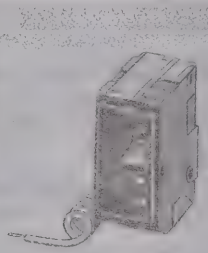
GFI 1-Pole



GFI 2-Pole



HID 1-Pole



Switch Neutral 2-Pole

SQUARE D
*GROUPE SCHNEIDER*

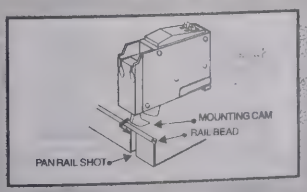
- Plug-in breakers 3/4" wide per pole
- QWIK-OPEN® circuit breakers with VISI-TRIP® indicator
- 10-30 amp models suitable for 60°C or 75°C wire
- 35-60 amp models suitable for 75°C wire
- GFI models will trip with a fault current to ground of 6mA or more
- Use only with QO load centers and NQOD panelboards

## QO CIRCUIT BREAKER SPECIFICATIONS AND ORDERING DATA

| No. of Poles | Amp Ratings | No. of Spaces Req. | Voltage AC | Wire Size Al | Wire Size Cu | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **GFI TYPES—10,000 AIR** | | | | | | | | | | |
| 1 | 15 | 1 | 120 | #12-8 | #14-8 | QO115GFI | **1D231** | $155.00 | **$56.70▲** | 0.5 |
| | 20 | 1 | 120 | | | QO120GFI | **1D235** | 155.00 | **56.70▲** | 0.5 |
| | 30 | 1 | 120 | | | QO130GFI | **1D240** | 155.00 | **56.70▲** | 0.5 |
| 2 | 15 | 2 | 120/240 | #12-8 | #14-8 | QO215GFI | **1D255** | 275.00 | **143.30** | 0.9 |
| | 20 | 2 | 120/240 | | | QO220GFI | **1D304** | 275.00 | **143.30** | 0.9 |
| | 30 | 2 | 120/240 | | | QO230GFI | **1D308** | 275.00 | **143.30** | 0.9 |
| | 40 | 2 | 120/240 | — | #4-8 | QO240GFI | **1D312** | 275.00 | **143.30** | 1.0 |
| | 50 | 2 | 120/240 | — | #4-8 | QO250GFI | **1D314** | 275.00 | **143.30** | 1.0 |
| | 60 | 2 | 120/240 | — | #4-8 | QO260GFI | **1D316†** | 275.00 | **143.30** | 0.9 |
| **HID TYPES—For Use on High Intensity Discharge Lighting Systems—10,000 AIR** | | | | | | | | | | |
| 1 | 15 | 1 | 120/240 | #14-8 | #14-8 | QO115HID | **1D232‡** | 24.20 | **12.61** | 0.3 |
| | 20 | 1 | 120/240 | #14-8 | #14-8 | QO120HID | **1D236‡** | 24.20 | **12.61** | 0.3 |
| | 30 | 1 | 120/240 | #14-8 | #14-8 | QO130HID | **1D241** | 24.20 | **12.61** | 0.3 |
| 2 | 15 | 2 | 120/240 | #14-8 | #14-8 | QO215HID | **1D256** | 55.00 | **28.70** | 0.5 |
| | 20 | 2 | 120/240 | #14-8 | #14-8 | QO220HID | **1D305** | 55.00 | **28.70** | 0.5 |
| | 30 | 2 | 120/240 | #14-8 | #14-8 | QO230HID | **1D309** | 55.00 | **28.70** | 0.5 |
| **SWITCH NEUTRAL TYPES—10,000 AIR** | | | | | | | | | | |
| 2 | 15 | 2 | 120 | #14-8 | #14-8 | QO215SWN | **5B739*** | 60.00 | **31.30** | 0.6 |
| | 20 | 2 | 120 | #14-8 | #14-8 | QO220SWN | **5B740*** | 60.00 | **31.30** | 0.6 |
| | 30 | 2 | 120 | #14-8 | #14-8 | QO230SWN | **5B742*** | 60.00 | **31.30** | 0.6 |

(*) 1 Hot pole/1 neutral. (†) For 208 or 240 two wire loads only (no neutral). (‡) SWD (switch duty) rated. (▲) Net prices, not subject to discounts.






SQUARE D
*GROUPE SCHNEIDER*

**QOT Tandem Breakers** have a mounting cam. Installation into load center can only be made in those positions having a mounting pan rail slot.

## TANDEM TYPES—10,000 AIR

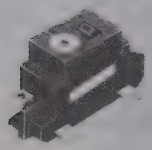
| No. of Poles | Amp Ratings | No. of Spaces Req. | Voltage AC | Wire Size Al | Wire Size Cu | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15/15 | 1 | 120/240 | #12-8 | #14-8 | QOT1515 | **1D336** | $38.60 | **$20.11** | 0.3 |
| | 15/20 | 1 | 120/240 | | | QOT1520 | **5B778** | 38.60 | **20.11** | 0.3 |
| | 20/20 | 1 | 120/240 | | | QOT2020 | **1D337** | 38.60 | **20.11** | 0.3 |
| **REPLACEMENT TANDEM BREAKERS—For Use on old non-class CTL QO Load Centers** | | | | | | | | | | |
| 1 | 15/15 | 1 | 120/240 | #12-8 | #12-8 | QO1515 | **1D245** | 46.20 | **24.07** | 0.3 |
| | 15/20 | 1 | 120/240 | | | QO1520 | **5B728** | 46.20 | **24.07** | 0.3 |
| | 20/20 | 1 | 120/240 | | | QO2020 | **1D250** | 46.20 | **24.07** | 0.3 |
| | 20/30 & 30/20 | 2 | 120/240 | | | QO203020 | **2DG49**** | 85.00 | **53.25** | 0.6 |

(**) Includes 2 breakers and QOTHT Handle Tie.

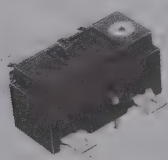
# QO® LOAD CENTER AND CIRCUIT BREAKER ACCESSORIES

SQUARE D
GROUPE SCHNEIDER

**Main Breakers**



QOM1 Frame Size



QOM2 Frame Size

## MAIN BREAKER AND MAIN LUG KITS

| Amp Rating | Use on Conv. Load Center with Main Rating | Lug Wire Size | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FIELD INSTALLABLE MAIN LUGS* (For Single Phase Convertible Load Centers Only)** | | | | | | | |
| **125** | 100-125A | #4-2/0 | QOL125 | **5B773** | $28.00 | **$16.80** | 0.2 |
| **225** | 150-225 | #4-300 | QOL225 | **1D444** | 66.00 | **39.60** | 0.3 |
| **FIELD INSTALLABLE MAIN CIRCUIT BREAKER—22,000 AIR* (For Single Phase Convertible Load Centers Only)** | | | | | | | |
| **QOM1 Frame Size** | | | | | | | |
| **70** | 100-125A | | QOM70VH | **5B777** | 89.00 | **53.40** | 1.2 |
| **100** | 100-125 | #4-2/0 | QOM100VH | **1D332** | 128.00 | **76.80** | 1.3 |
| **125** | 125 | | QOM125VH | **5B774** | 297.00 | **178.25** | 1.3 |
| **QOM2 Frame Size** | | | | | | | |
| **100** | 150-225A | | QOM2100VH | **5B775** | 297.00 | **178.25** | 2.6 |
| **125** | 150-225 | | QOM2125VH | **5B776** | 297.00 | **178.25** | 2.6 |
| **150** | 150-225 | #4-300 | QOM2150VH | **1D333** | 297.00 | **178.25** | 2.6 |
| **200** | 200-225 | | QOM2200VH | **1D334** | 297.00 | **178.25** | 2.6 |
| **225** | 225 | | QOM2225VH | **1D335** | 297.00 | **178.25** | 2.6 |

(*) Do not exceed load center mains rating.

## GRAY TOUCHUP PAINT

- **Square D Gray Paint**
- **Matches color for safety switches and load centers**
- **16 oz. aerosal can • Priced each, sold only in packages of 6**

**No. 2CR83.** ❸ Square D brand (PK49SP). Shpg. wt. 1.1.
List $24.80 Each.....**$15.52**

❸This product is covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## COVERS FOR INDOOR LOAD CENTERS

| Mounting Type | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Flush** | QOC342MF | **1D437** | $58.00 | **$34.80** | 17.0 |
| | QOC20U100F | **1D429** | 25.10 | **15.06** | 7.3 |
| | QOC12UF | **1D425** | 25.10 | **15.06** | 5.7 |
| | QOC16UF | **1D427** | 25.10 | **15.06** | 7.1 |
| | QOC24UF | **1D433** | 25.10 | **15.06** | 8.4 |
| | QOC30UF | **1D435** | 58.00 | **34.80** | 11.0 |
| | QOC40UF | **1D439** | 58.00 | **34.80** | 12.0 |
| | QOC42UF | **1D441** | 70.00 | **42.00** | 13.0 |
| **Surface** | QOC342MS | **1D438** | 58.00 | **34.80** | 15.0 |
| | QOC20U100S | **1D430** | 25.10 | **15.06** | 5.9 |
| | QOC12US | **1D426** | 25.10 | **15.06** | 4.8 |
| | QOC16US | **1D428** | 25.10 | **15.06** | 5.9 |
| | QOC24US | **1D434** | 25.10 | **15.06** | 6.6 |
| | QOC30US | **1D436** | 58.00 | **34.80** | 9.2 |
| | QOC40US | **1D440** | 58.00 | **34.80** | 11.0 |
| | QOC42US | **1D442** | 70.00 | **42.00** | 12.0 |

## GROUND BAR KITS

| Description | No. of Terminals | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **See QO Load Centers For Selection Information—(for #14-4 Cu or #12-4 Al wire)** | 3 | PK3GTA1 | **5B717** | $7.20 | **$4.32** | 0.1 |
| | 4 | PK4GTA | **5B718** | 6.90 | **4.14** | 0.1 |
| | 7 | PK7GTA | **1D374** | 7.40 | **4.44** | 0.1 |
| | 9 | PK9GTA | **1D375** | 8.50 | **5.10** | 0.1 |
| | 12 | PK12GTA | **5B711** | 10.00 | **6.00** | 0.1 |
| | 15 | PK15GTA | **1D369** | 10.90 | **6.54** | 0.1 |
| | 18 | PK18GTA | **1D370** | 11.90 | **7.14** | 0.2 |
| | 23 | PK23GTA | **1D371** | 13.50 | **8.10** | 0.2 |
| | 27 | PK27GTA | **5B716** | 21.40 | **12.84** | 0.3 |
| **With #1 to 4/0 Al/Cu Lug** | 15 | PK15GTAL | **5B713** | 22.20 | **13.32** | 0.2 |
| | 18 | PK18GTAL | **5B714** | 24.00 | **14.40** | 0.2 |
| | 23 | PK23GTAL | **5B715** | 25.80 | **15.48** | 0.2 |

## NEUTRAL LUG

| | | | | | |
|---|---|---|---|---|---|
| **For #12-#2 Al or #14-#4 Cu Wire** | LK70AN | **1D421** | 6.40 | **3.84** | 0.1 |
| **For #6 to 2/0 Al/Cu wire** | LK100AN | **2DM13** | 6.90 | **4.14** | 0.2 |

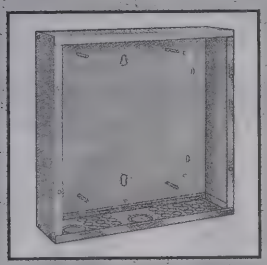
## INSULATOR KIT

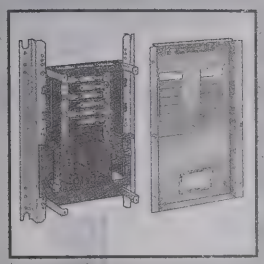
| | | | | | |
|---|---|---|---|---|---|
| **For Use with Ground Kits PK9GTA thru PK27GTA** | PKGTAB | **5B719** | 27.80 | **16.68** | 0.3 |

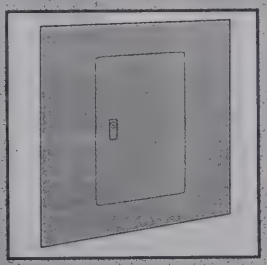
| Description | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Filler Plates:** | | | | | |
| Fills in opening in covers if twistout is removed in error | QOFP | **1D443** | $2.30 | **$1.38** | 0.1 |
| Fills main breaker opening in single phase convertible load center covers; 100-125A | QOMIFP | **1D445** | 12.90 | **7.74** | 0.1 |
| **Handle Attachments** | | | | | |
| **Handle Ties:** | | | | | |
| Converts any two adjacent 120/240VAC, single pole, QO breakers to independent trip two pole | QO1HT | **5B734** | 2.40 | **1.50** | 0.1 |
| Converts any two adjacent 120/240VAC, single pole, side-by-side QOT breakers to independent two pole | QOTHT | **1D339** | 2.40 | **1.44** | 0.1 |
| **Handle Lock Off:** | | | | | |
| Clip for fixing QO breaker handle in "ON" or "OFF" position (1-pole) | QO1LO | **5B735** | 2.40 | **1.50** | 0.1 |
| Clip for fixing QOand QOU breaker handle in "ON" or "OFF" position (1, 2, & 3-pole) | HLO1 | **1H235** | 6.30 | **3.94** | 0.1 |
| **Handle Padlock Attachments:** | | | | | |
| For 1 pole QO breakers in "ON" or "OFF" position—Fixed | QO1PA | **1D249** | 6.80 | **4.26** | 0.1 |
| For 1 pole QO breakers in "ON" or "OFF" position—Loose | QOHPL | **2DH09** | 6.00 | **3.76** | 0.1 |
| For 1 pole side-by-side QOT breakers in "ON" or "OFF" position | QOTHPA | **1D338** | 7.00 | **4.20** | 0.1 |
| For 2 & 3 pole QO breakers in "ON" or "OFF" position—Loose | QO1HPL | **1D248** | 6.80 | **4.26** | 0.1 |
| For 2 & 3 pole QO breakers in "ON" or "OFF" position—Fixed | QO1PL | **1D384** | 6.80 | **4.26** | 0.1 |
| **Retaining Kit**—For QO612 L100 F/S, RB, DF/S. QO816L 100F/S, RB, DFS | PK2MB | **1D372** | 4.60 | **2.76** | 0.1 |
| **Lock Kit**—For convertible, indoor load center covers | PK6FL | **1D373** | 59.00 | **35.40** | 0.2 |

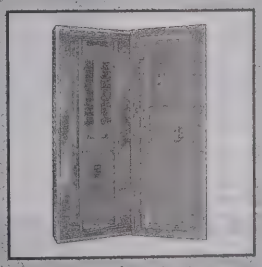
SQUARE D
GROUPE SCHNEIDER

# NQOD (240VAC MAX.) PANELBOARDS


Box


Interior


Cover


Complete Unit

- 65°C rise
- 40°C ambient rating
- 240VAC/48VDC maximum rated voltage
- 400A Maximum main lugs or main circuit breaker
- Uses Square D circuit breaker branches QO (plug-in), QOB (bolt-on). See pages 370, 371, and 375
- 10,000 AIR Standard. Higher ratings available with use of QOB-VH, Q2-H, KA & LA main circuit breakers
- Type 1 indoor enclosures

**Panelboards Consist of Three Parts:**

1. Interior (with dead front)
2. Box
3. Cover (Flush or Surface)

The selection guide below matches the Grainger Stock No. to the required interiors, boxes, and covers needed to build a panelboard. Ordering data for the individual components can be found on the following pages.

**SELECTION EXAMPLE**

**Panel Desired:**

240VAC, 1 phase, 100 amp, 20 circuit breaker space, Al bus bar, main breaker (breaker included)

**Components Required:**

1. No. 1D821 (Interior)
2. No. 1D687 (Box)
3. No. 1D723 (Flush Cover) or 1D724 (Surface Cover)

## PANELBOARD SELECTION GUIDE

**PANELBOARD = BOX + INTERIOR + COVER (Surface or Flush)**

| Amps | No. of Spaces | Bus Material | Interior No. | MAIN LUG | | | MAIN BREAKER | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Box No. | Flush Cover No. | Surface Cover No. | Breaker No. | Box No. | Flush Cover No. | Surface Cover No. |
| **SINGLE PHASE MODELS** | | | | | | | | | | |
| 100 | 12 | CU | 1D819 | 1D682 | 1D719 | 1D720 | — | — | — | — |
| | 20 | CU | 1D822 | — | — | — | Incl. | 1D687 | 1D723 | 1D724 |
| | 20 | AL | 1D821 | | | | Incl. | 1D687 | 1D723 | 1D724 |
| | 20 | AL | 1D820 | 1D685 | 1D721 | 1D722 | — | — | — | — |
| 225 | 30 | CU | 1D841 | 1D691 | 1D727 | 1D728 | 1D824 | 1D698 | 1D735 | 1D736 |
| | 30 | AL | 1D828 | 1D691 | 1D727 | 1D728 | 1D824 | 1D698 | 1D735 | 1D736 |
| | 42 | AL | 1D915 | 1D693 | 1D729 | 1D730 | 1D824 | 1D700 | 1D738 | 1D739 |
| 400 | 30 | CU | 1D843 | 1D700 | 1D740 | 1D741 | 1D827 | 1D715 | 6B436 | 1D744 |
| | 30 | AL | 1D842 | 1D700 | 1D740 | 1D741 | 1D827 | 1D715 | 6B436 | 1D744 |
| | 42 | CU | 1D917 | 1D712 | 1D742 | 1D743 | 1D827 | 1D717 | 1D745 | 1D746 |
| | 42 | AL | 1D916 | 1D712 | 1D742 | 1D743 | 1D827 | 1D717 | 1D745 | 1D746 |
| **THREE PHASE MODELS** | | | | | | | | | | |
| 100 | 12 | CU | 1D909 | — | — | — | Incl. | 1D685 | 1D721 | 1D722 |
| | 12 | CU | 1D908 | 1D682 | 1D719 | 1D720 | — | — | — | — |
| | 24 | CU | 1D914 | — | — | — | Incl. | 1D687 | 1D723 | 1D724 |
| | 24 | AL | 1D912 | | | | Incl. | 1D687 | 1D723 | 1D724 |
| | 24 | CU | 1D911 | 1D685 | 1D721 | 1D722 | — | — | — | — |
| | 24 | AL | 1D910 | 1D685 | 1D721 | 1D722 | — | — | — | — |
| | 30 | AL | 1D931 | — | — | — | Incl. | 1D689 | 1D725 | 1D726 |
| | 30 | CU | 1D926 | 1D687 | 1D723 | 1D724 | — | — | — | — |
| | 30 | AL | 1D919 | 1D687 | 1D723 | 1D724 | — | — | — | — |
| 225 | 30 | CU | 1D928 | 1D691 | 1D727 | 1D728 | 2DJ75 | 1D698 | 1D735 | 1D736 |
| | 30 | AL | 1D927 | 1D691 | 1D727 | 1D728 | 2DJ75 | 1D698 | 1D735 | 1D736 |
| | 42 | CU | 1D933 | 1D693 | 1D729 | 1D730 | 2DJ75 | 1D700 | 1D738 | 1D739 |
| | 42 | AL | 1D932 | 1D693 | 1D729 | 1D730 | 2DJ75 | 1D700 | 1D738 | 1D739 |
| 400 | 30 | CU | 1D930 | 1D700 | 1D738 | 1D739 | 1D850 | 1D715 | 6B436 | 1D744 |
| | 30 | AL | 1D929 | 1D700 | 1D738 | 1D739 | 1D850 | 1D715 | 6B436 | 1D744 |
| | 42 | CU | 1D935 | 1D712 | 1D742 | 1D743 | 1D850 | 1D717 | 1D745 | 1D746 |
| | 42 | AL | 1D934 | 1D712 | 1D742 | 1D743 | 1D850 | 1D717 | 1D745 | 1D746 |

# LIGHTING AND APPLIANCE PANELBOARDS

## ORDERING DATA FOR NQOD (240VAC. MAX.) PANELBOARDS

### PANEL INTERIORS

#### MAIN LUG TYPES (Without Main Breaker)

| Amps | No. of Spaces | Bus Material | Max. Wire Size† | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | **SINGLE PHASE—3 WIRE** | | | | | |
| **100** | 12 | CU | (1)#10-1 CU or (1)#6-1 AL | NQOD12L100CU | **1D819** | $466.00 | **$291.25** | 11.0 |
| | 20 | AL | (1)#10-1 CU or (1)#6-1 AL | NQOD20L100 | **1D820** | 498.00 | **311.25** | 12.0 |
| **225** | 30 | CU | (1)#6-300 kcmil AL/CU | NQOD30L225CU | **1D841** | 749.00 | **468.25** | 18.0 |
| | 30 | AL | (1)#6-300 kcmil AL/CU | NQOD30L225 | **1D828** | 701.00 | **438.25** | 16.0 |
| | 42 | AL | (1)#6-300 kcmil AL/CU | NQOD42L225 | **1D915** | 850.00 | **531.50** | 19.0 |
| **400** | 30 | CU | (2)1/0-300 kcmil AL/CU* | NQOD30L400CU | **1D843** | 1103.00 | **689.50** | 31.0 |
| | 30 | AL | (2)1/0-300 kcmil AL/CU* | NQOD30L400 | **1D842** | 1029.00 | **643.50** | 25.0 |
| | 42 | CU | (2)1/0-300 kcmil AL/CU* | NQOD42L400CU | **1D917** | 1204.00 | **752.50** | 35.0 |
| | 42 | AL | (2)1/0-300 kcmil AL/CU* | NQOD42L400 | **1D916** | 1129.00 | **706.00** | 28.0 |
| | | | **THREE PHASE—4 WIRE** | | | | | |
| **100** | 12 | CU | (1)#10-1 CU or (1)#6-1 AL | NQOD412L100CU | **1D908** | 551.00 | **344.50** | 11.0 |
| | 24 | CU | (1)#10-1 CU or (1)#6-1 AL | NQOD424L100CU | **1D911** | 674.00 | **421.25** | 14.0 |
| | 24 | AL | (1)#10-1 CU or (1)#6-1 AL | NQOD424L100 | **1D910** | 623.00 | **389.50** | 12.0 |
| | 30 | CU | (1)#10-1 CU or (1)#6-1 AL | NQOD430L100CU | **1D926** | 756.00 | **472.50** | 16.0 |
| | 30 | AL | (1)#10-1 CU or (1)#6-1 AL | NQOD430L100 | **1D919** | 706.00 | **441.25** | 14.0 |
| **225** | 30 | CU | (1)#6-300 kcmil AL/CU | NQOD430L225CU | **1D928** | 820.00 | **512.50** | 19.0 |
| | 30 | AL | (1)#6-300 kcmil AL/CU | NQOD430L225 | **1D927** | 771.00 | **482.00** | 17.0 |
| | 42 | CU | (1)#6-300 kcmil AL/CU | NQOD442L225CU | **1D933** | 985.00 | **616.00** | 21.0 |
| | 42 | AL | (1)#6-300 kcmil AL/CU | NQOD442L225 | **1D932** | 937.00 | **586.00** | 19.0 |
| **400** | 30 | CU | (2)1/0-300 kcmil AL/CU* | NQOD430L400CU | **1D930** | 1257.00 | **786.00** | 34.0 |
| | 30 | AL | (2)1/0-300 kcmil AL/CU* | NQOD430L400 | **1D929** | 1182.00 | **739.00** | 27.0 |
| | 42 | CU | (2)1/0-300 kcmil AL/CU* | NQOD442L400CU | **1D935** | 1354.00 | **846.50** | 40.0 |
| | 42 | AL | (2)1/0-300 kcmil AL/CU* | NQOD442L400 | **1D934** | 1277.00 | **798.50** | 30.0 |

#### PANEL INTERIORS (With QOB Main Breaker)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | **SINGLE PHASE—3 WIRE** | | | | | |
| **100** | 20 | CU | (1)#4-#1 CU/AL | NQOD20M100CU | **1D822** | 918.00 | **574.00** | 15.0 |
| | 20 | AL | (1)#4-#1 CU/AL | NQOD20M100 | **1D821** | 867.00 | **542.00** | 14.0 |
| | | | **THREE PHASE—4 WIRE** | | | | | |
| **100** | 12 | CU | (1)#4-#1 CU/AL | NQOD412M100CU | **1D909** | 1031.00 | **644.50** | 14.0 |
| | 24 | CU | (1)#4-#1 CU/AL | NQOD424M100CU | **1D914** | 1180.00 | **737.50** | 16.0 |
| | 24 | AL | (1)#4-#1 CU/AL | NQOD424M100 | **1D912** | 1131.00 | **707.00** | 14.0 |
| | 30 | AL | (1)#4-#1 CU/AL | NQOD430M100 | **1D931** | 1184.00 | **740.00** | 17.0 |

(*) Also rated for (1)1/0-750 kcmil AL/CU. (†) Wire range per NEC wire bending space table 373-6.

### BOXES AND COVERS—NEMA TYPE 1 ENCLOSURES

#### BOXES

| Dimensions (In.) D | W | H | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5¾ | 20 | 20 | MH20 | **1D682** | $71.00 | **$44.40** | 20.0 |
| 5¾ | 20 | 23 | MH23 | **1D685** | 71.00 | **44.40** | 21.0 |
| 5¾ | 20 | 26 | MH26 | **1D687** | 71.00 | **44.40** | 22.0 |
| 5¾ | 20 | 29 | MH29 | **1D689** | 71.00 | **44.40** | 25.0 |
| 5¾ | 20 | 32 | MH32 | **1D691** | 71.00 | **44.40** | 27.0 |
| 5¾ | 20 | 35 | MH35 | **1D693** | 71.00 | **44.40** | 29.0 |
| 5¾ | 20 | 41 | MH41 | **1D695** | 71.00 | **44.40** | 32.0 |
| 5¾ | 20 | 44 | MH44 | **1D698** | 71.00 | **44.40** | 38.0 |
| 5¾ | 20 | 50 | MH50 | **1D700** | 71.00 | **44.40** | 38.0 |
| 5¾ | 20 | 53 | MH53 | **1D712** | 71.00 | **44.40** | 40.0 |
| 5¾ | 20 | 65 | MH65 | **1D715** | 71.00 | **44.40** | 47.0 |
| 5¾ | 20 | 68 | MH68 | **1D717** | 71.00 | **44.40** | 50.0 |

#### COVERS

| FLUSH Square D Model | Stock No. | List | Each | Shpg. Wt. | SURFACE Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| MHC20F | **1D719** | $262.00 | **$163.75** | 16.0 | MHC20S | **1D720** | $262.00 | **$163.75** | 12.0 |
| MHC23F | **1D721** | 279.00 | **174.50** | 14.0 | MHC23S | **1D722** | 279.00 | **174.50** | 13.0 |
| MHC26F | **1D723** | 295.00 | **184.50** | 16.0 | MHC26S | **1D724** | 295.00 | **184.50** | 15.0 |
| MHC29F | **1D725** | 303.00 | **189.50** | 18.0 | MHC29S | **1D726** | 303.00 | **189.50** | 16.0 |
| MHC32F | **1D727** | 315.00 | **197.00** | 20.0 | MHC32S | **1D728** | 315.00 | **197.00** | 18.0 |
| MHC35F | **1D729** | 321.00 | **200.75** | 21.0 | MHC35S | **1D730** | 321.00 | **200.75** | 20.0 |
| MHC41F | **1D733** | 350.00 | **218.75** | 23.0 | MHC41S | **1D734** | 350.00 | **218.75** | 29.0 |
| MHC44F | **1D735** | 374.00 | **233.75** | 27.0 | MHC44S | **1D736** | 374.00 | **233.75** | 25.0 |
| MHC50F | **1D738** | 402.00 | **251.25** | 30.0 | MHC50S | **1D739** | 402.00 | **251.25** | 30.0 |
| MHC50VF | **1D740** | 402.00 | **251.25** | 39.0 | MHC50VS | **1D741** | 402.00 | **251.25** | 29.0 |
| MHC53VF | **1D742** | 420.00 | **262.50** | 33.0 | MHC53VS | **1D743** | 420.00 | **262.50** | 32.0 |
| MHC65VF | **6B436** | 465.00 | **279.00** | 61.0 | MHC65VS | **1D744** | 465.00 | **290.75** | 46.0 |
| MHC68VF | **1D745** | 480.00 | **300.00** | 65.0 | MHC68VS | **1D746** | 480.00 | **300.00** | 59.0 |

### MAIN BREAKER KITS FOR MAIN BREAKER PANELBOARDS

| Phase | Amps | Frame Size | Square D Model NQOD . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1** | 225 | Q2 | 2225Q2MB** | **1D824** | $795.00 | **$497.00** | 16.0 |
| | 100 | LA | 2400LAMB* | **1D827** | 2929.00 | **1831.00** | 28.0 |
| **3** | 225 | Q2 | 3225Q2MB** | **2DJ75** | 1303.00 | **814.50** | 17.0 |
| | 400 | LA | 3400LAMB* | **1D850** | 3449.00 | **2156.00** | 30.0 |

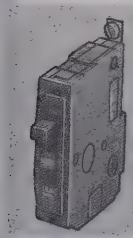
(**) 10,000 AIR
(*) 42,000 AIR

### GROUND BAR KITS FOR NQOD PANELBOARDS

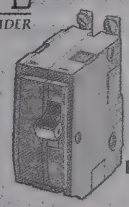
| No. of Terminals | Max. Amps | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12** | 225 | PK9GTA | **1D375** | $8.50 | **$5.10** | 0.1 |
| **20** | | PK12GTA | **5B711** | 10.00 | **6.00** | 0.1 |
| **24** | | PK15GTA | **1D369** | 10.90 | **6.54** | 0.1 |
| **30** | | PK18GTA | **1D370** | 11.90 | **7.14** | 0.2 |
| **54** | | PK23GTA | **1D371** | 13.50 | **8.10** | 0.2 |
| **54** | 400 | PK27GTA | **5B716** | 21.40 | **12.84** | 0.3 |

# QOB BOLT-ON CIRCUIT BREAKERS AND ACCESSORIES FOR NQOD PANELBOARDS





1-Pole Requires 1 Space



2-Pole Requires 2 Spaces



3-Pole Requires 3 Spaces

- USED WITH NQOD PANELBOARDS
- 10,000 AIR rating at 120 and 240VAC
- 5,000 AIR rating at 48VDC
- 10 to 30 amp models rated for 60° to 75°C wire
- 40 amp models and higher rated for 75°C wire

## QOB CIRCUIT BREAKER ORDERING DATA

| No. of Poles | Amps | Volts | Wire Size Al | Wire Size Cu | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | 120/240 | #12-8 | #14-8 | QOB110 | **1H822** | $25.20 | **$15.78** | 0.3 |
| 1 | 15 | 120/240 | #14-8 | #14-8 or (2) #14-10 | QOB115 | **1H823*** | 25.20 | **15.78** | 0.3 |
| 2 | | 120/240 | | | QOB215 | **1H884** | 56.00 | **35.10** | 0.5 |
| 3 | | 240 | | | QOB315 | **1H893** | 186.00 | **116.45** | 0.8 |
| 1 | 20 | 120/240 | #14-8 | #14-8 or (2) #14-10 | QOB120 | **1H824*** | 25.20 | **15.78** | 0.3 |
| 1 | | 120/240 | | | QOB120GFI | **2DG99*†** | 157.00 | **98.30** | 0.5 |
| 1 | | 120/240 | | | QOB120VH | **2DM45*‡** | 45.40 | **28.45** | 0.3 |
| 2 | | 120/240 | | | QOB220 | **1H885** | 56.00 | **35.10** | 0.6 |
| 3 | | 240 | | | QOB320 | **1H894** | 186.00 | **116.45** | 0.8 |
| 1 | 30 | 120/240 | #14-8 | #14-8 or (2) #14-10 | QOB130 | **1H825** | 25.20 | **15.78** | 0.2 |
| 2 | | 120/240 | | | QOB230 | **1H886** | 56.00 | **35.10** | 0.5 |
| 3 | | 240 | | | QOB330 | **1H895** | 186.00 | **116.45** | 0.8 |
| 1 | 40 | 120/240 | #8-2 | #8-2 | QOB140 | **1H826** | 25.20 | **15.78** | 0.3 |
| 2 | | 120/240 | | | QOB240 | **1H887** | 56.00 | **35.10** | 0.5 |
| 3 | | 240 | | | QOB340 | **1H896** | 186.00 | **116.45** | 0.8 |
| 1 | 50 | 120/240 | #8-2 | #8-2 | QOB150 | **1H879** | 25.20 | **15.78** | 0.3 |
| 2 | | 120/240 | | | QOB250 | **1H888** | 56.00 | **35.10** | 0.6 |
| 3 | | 240 | | | QOB350 | **1H897** | 186.00 | **116.45** | 0.8 |
| 1 | 60 | 120/240 | #8-2 | #8-2 | QOB160 | **1H880** | 25.20 | **15.78** | 0.3 |
| 2 | | 120/240 | | | QOB260 | **1H889** | 56.00 | **35.10** | 0.6 |
| 3 | | 240 | | | QOB360 | **1H898** | 186.00 | **116.45** | 0.8 |
| 2 | 70 | 120/240 | #8-2 | #8-2 | QOB270 | **1H890** | 107.00 | **67.00** | 0.5 |
| 2 | 100 | 120/240 | #4-2/0 | #4-2/0 | QOB2100 | **1H881** | 152.00 | **95.20** | 0.7 |
| 3 | | 240 | | | QOB3100 | **1H891** | 266.00 | **166.75** | 1.1 |
| 2 | 125 | 120/240 | #4-2/0 | #4-2/0 | QOB2125 | **1H882** | 318.00 | **199.25** | 0.6 |

(*) UL rated as switching duty for fluorescent loads. (†) Ground fault protector 4-6MA trip. (‡) 22,000 AIR rating.

## ACCESSORIES FOR HANDLE ATTACHMENT ORDERING DATA

| Description | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Handle Lock Off** | HLO1 | **1H235** | $6.30 | **$3.94** | 0.1 |
| **Handle Tie** | QO1HT | **5B734** | 2.40 | **1.50** | 0.1 |
| **Handle Padlock 1 Pole** | QO1PA | **1D249** | 6.80 | **4.26** | 0.1 |
| **Handle Padlock 2 & 3 Pole** | QO1PL | **1D384** | 6.80 | **4.26** | 0.1 |

## NEUTRAL LUGS ORDERING DATA

| Description | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **For #10 to #2 Al or #14 to #4 Cu** | QO70AN | **1D421** | $6.40 | **$3.84** | 0.1 |
| **For #4 to 1/0 Al/Cu** | Q1100AN | **2DM13** | 6.90 | **4.14** | 0.2 |

## ACCESSORIES FOR 240VAC PANELBOARDS

| Description | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Main Breaker Adapter Kit For KAL, KHL, KCL & KIL Breakers** | NQODKA | **1D936** | $495.00 | **$309.50** | 11.0 |
| **Main Breaker Adapter Kit For Q2L, Q2-HL, Q2HL Breakers** | NQODQ2 | **1D937** | 495.00 | **309.50** | 13.0 |
| **Sub Feed Lug Kit (100 amp)*** | NQOD100SFL | **1D818** | 98.00 | **61.25** | 0.2 |
| **Sub Feed Lug Kit (225 amp)*** | NQOD225SFL | **1D826** | 129.00 | **80.65** | 4.2 |

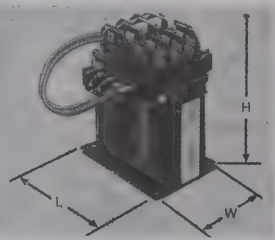
(*) For use on main lugs only.

### TECHNICAL REFERENCE LITERATURE

Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics. See Index under Books.

SQUARE D GROUPE SCHNEIDER

LR37055 E61239



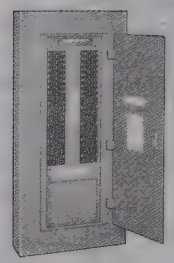

## TYPE TF TRANSFORMERS WITH TOP MOUNTED FUSE BLOCKS

- Comply with UL Standard 508 and NEC 450
- Primary fuse clips accommodate Class CC time delay, rejection type fuses
- Secondary fuse clips use a midget (1.5 x 13/32") fuse
- 50/60 Hz
- Designed to handle high inrushes associated with contactors and relays
- 50-150VA models 55°C rise, 105°C temperature class
- 200-350VA models 80°C rise, 130°C temperature class
- 500-1000A models 115°C rise, 180°C temperature class

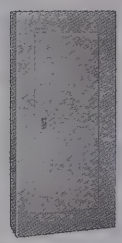
SEE PAGE 405 FOR ORDERING DATA

# LIGHTING AND APPLIANCE PANELBOARDS

## NF (480Y/277VAC) PANELBOARDS



NF Panelboard Interior



Flush Cover



Surface Cover

- **480Y/277VAC maximum rated voltage**
- **125 thru 400A main lug**
- **Accepts EDB bolt-on breakers**
- **Suitable for use as service entrance with main breakers**
- **Type 1 indoor enclosures**

Panelboards Consist of Three Parts:
(1) Interior (with dead front);
(2) Box;
(3) Cover (Flush or Surface)

The selection guide below matches the Grainger Stock No. to required interiors, boxes, and covers needed to build a panelboard. Ordering data for individual components follows.

**No. 3TW52.** Filler Plate for a Twistout. Square D brand (EFP).
Shpg. wt. 0.1 lbs. List $7.20. Each ..... **$4.32**
Priced each, sold only in packages of 20.

•Circuit breakers must be ordered separately on page 379

### MAIN BREAKER KITS (BREAKER INCLUDED)

| Amps | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **100** | N3100FCMB | **3TX58** | $1908.00 | **$1145.00** | 16.0 |
| **250** | N3250KAMB | **3TX62** | 3246.00 | **2029.00** | 17.0 |
| **400** | N3400LAMB | **3TX68** | 3427.00 | **2142.00** | 30.0 |

### SELECTION GUIDE

**PANELBOARD = INTERIOR + BOX + COVER (Surface or Flush)**

| Amps | BUS Material | No. of Spaces | Interior No. | MAIN LUG Box No. | MAIN LUG Flush Cover No. | MAIN LUG Surface Cover No. | MAIN BREAKER Breaker No. | MAIN BREAKER Box No. | MAIN BREAKER Flush Cover No. | MAIN BREAKER Surface Cover No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 125 (Main Lug) 100 (Main Breaker) | AL | 12 | 3TX98 | 1D687 | 3XT77 | 3XT78 | 3XT58 | 6B429 | 3XT81 | 3XT82 |
| | CU | 12 | 3TX99 | 1D687 | 3XT77 | 3XT78 | 3XT58 | 6B429 | 3XT81 | 3XT82 |
| | AL | 18 | 3TZ01 | 1D687 | 3XT77 | 3XT78 | 3XT58 | 6B429 | 3XT81 | 3XT82 |
| | CU | 18 | 3TZ02 | 1D687 | 3XT77 | 3XT78 | 3XT58 | 6B429 | 3XT81 | 3XT82 |
| | AL | 30 | 3TZ03 | 1D691 | 3XT79 | 3XT80 | 3XT58 | 1D698 | 3XT83 | 3XT84 |
| | CU | 30 | 3TZ04 | 1D691 | 3XT79 | 3XT80 | 3XT58 | 1D698 | 3XT83 | 3XT84 |
| 250 | AL | 30 | 3TZ05 | 6B429 | 3XT81 | 3XT82 | 3XT62 | 1D700 | 3XT85 | 3XT86 |
| | CU | 30 | 3TZ06 | 6B429 | 3XT81 | 3XT82 | 3XT62 | 1D700 | 3XT85 | 3XT86 |
| | AL | 42 | 3TZ08 | 1D698 | 3XT83 | 3XT84 | 3XT62 | 2DJ09 | 3XT89 | 3XT90 |
| | CU | 42 | 3TZ09 | 1D698 | 3XT83 | 3XT84 | 3XT62 | 2DJ09 | 3XT89 | 3XT90 |
| 400 | AL | 30 | 3TZ07 | 1D700 | 3XT87 | 3XT88 | 3XT68 | 1D714 | 3XT94 | 3XT95 |
| | CU | 42 | 3TZ10 | 2DJ09 | 3XT91 | 3XT92 | 3XT68 | 1D717 | 3XT96 | 3XT97 |
| | AL | 42 | 3TZ11 | 2DJ09 | 3XT91 | 3XT92 | 3XT68 | 1D717 | 3XT96 | 3XT97 |

### INTERIOR ORDERING DATA

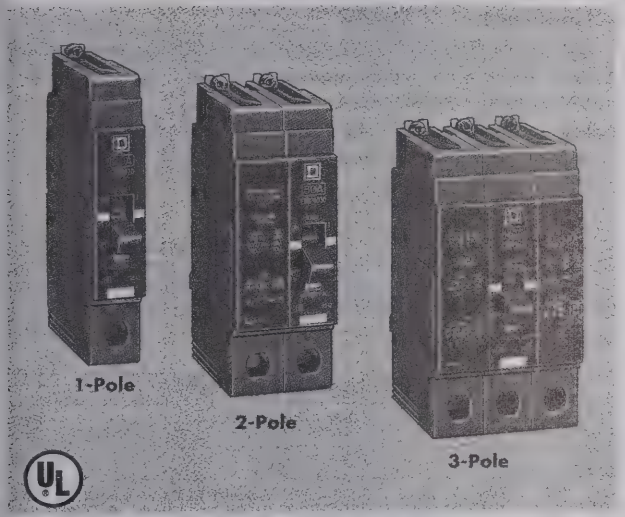
| Amps | BUS Material | No. of Spaces | Max. Wire Size*, AL/CU | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **125** | AL | 12 | (1)#6-250 kcmil | NF412L1 | **3TX98** | $817.00 | **$511.00** | 13.0 |
| | CU | 12 | (1)#6-250 kcmil | NF412L1C | **3TX99** | 1068.00 | **667.50** | 15.0 |
| | AL | 18 | (1)#6-250 kcmil | NF418L1 | **3TZ01** | 866.00 | **541.50** | 16.0 |
| | CU | 18 | (1)#6-250 kcmil | NF418L1C | **3TZ02** | 1101.00 | **688.50** | 20.0 |
| | AL | 30 | (1)#6-250 kcmil | NF430L1 | **3TZ03** | 1121.00 | **701.00** | 25.0 |
| | CU | 30 | (1)#6-250 kcmil | NF430L1C | **3TZ04** | 1372.00 | **857.50** | 32.0 |
| **250** | AL | 30 | (1)#6-350 kcmil | NF430L2 | **3TZ05** | 1409.00 | **881.00** | 25.0 |
| | CU | 30 | (1)#6-350 kcmil | NF430L2C | **3TZ06** | 1666.00 | **1042.00** | 32.0 |
| | AL | 42 | (1)#6-350 kcmil | NF442L2 | **3TZ08** | 1535.00 | **959.50** | 31.0 |
| | CU | 42 | (1)#6-350 kcmil | NF442L2C | **3TZ09** | 1794.00 | **1122.00** | 37.0 |
| **400** | AL | 30 | (1)1/0-750 kcmil or (2)1/0-350 kcmil | NF430L4 | **3TZ07** | 1477.00 | **923.50** | 44.0 |
| | AL | 42 | (1)1/0-750 kcmil or (2)1/0-350 kcmil | NF442L4 | **3TZ10** | 1697.00 | **1061.00** | 47.0 |
| | CU | 42 | (1)1/0-750 kcmil or (2)1/0-350 kcmil | NF442L4C | **3TZ11** | 1794.00 | **1122.00** | 54.0 |

(*) Per NEC wire bending space table 373-6.

### BOX AND COVER ORDERING DATA

| BOXES Dimensions (In.) D | W | H | Square D Model | Stock No. | List | Each | Shpg. Wt. | COVERS FLUSH Square D Model | Stock No. | List | Each | Shpg. Wt. | COVERS SURFACE Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 3/4 | 20 | 26 | MH26 | **1D687** | $71.00 | **$44.40** | 22.0 | NC26F | **3TX77** | $315.00 | **$197.00** | 16.0 | NC26S | **3TX78** | $315.00 | **$197.00** | 14.0 |
| 5 3/4 | 20 | 32 | MH32 | **1D691** | 71.00 | **44.40** | 27.0 | NC32F | **3TX79** | 334.00 | **208.75** | 20.0 | NC32S | **3TX80** | 334.00 | **208.75** | 18.0 |
| 5 3/4 | 20 | 38 | MH38 | **6B429** | 71.00 | **44.40** | 31.0 | NC38F | **3TX81** | 349.00 | **218.25** | 23.0 | NC38S | **3TX82** | 349.00 | **218.25** | 21.0 |
| 5 3/4 | 20 | 44 | MH44 | **1D698** | 71.00 | **44.40** | 38.0 | NC44F | **3TX83** | 421.00 | **263.25** | 27.0 | NC44S | **3TX84** | 421.00 | **263.25** | 24.0 |
| 5 3/4 | 20 | 50 | MH50 | **1D700** | 71.00 | **44.40** | 38.0 | NC50VF | **3TX87** | 463.00 | **289.50** | 32.0 | NC50VS | **3TX88** | 463.00 | **289.50** | 29.0 |
| 5 3/4 | 20 | 56 | MH56 | **2DJ09** | 71.00 | **44.40** | 44.0 | NC56VF | **3TX91** | 499.00 | **312.00** | 35.0 | NC56VS | **3TX92** | 499.00 | **312.00** | 32.0 |
| 5 3/4 | 20 | 62 | MH62 | **1D714** | 71.00 | **44.40** | 46.0 | NC62VF | **3TX94** | 563.00 | **352.00** | 46.0 | NC62VS | **3TX95** | 563.00 | **352.00** | 43.0 |
| 5 3/4 | 20 | 68 | MH68 | **1D717** | 71.00 | **44.40** | 50.0 | NC68VF | **3TX96** | 602.00 | **376.25** | 47.0 | NC68VS | **3TX97** | 602.00 | **376.25** | 43.0 |

# EDB BOLT-ON CIRCUIT BREAKERS




SQUARE D
GROUPE SCHNEIDER

## USED ON NF PANELBOARDS

- 25,000 AIR at 120 and 240VAC
- 18,000 AIR at 277 and 480VAC
- 15 to 30 amp models rated for 60°C and 75°C wire
- 35 amp models and higher rated for 75°C wire

## GROUND BAR KITS FOR NF PANELBOARDS

| No. of Terminals | Max. Amps | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 12 | 225 | PK9GTA | **1D375** | $8.50 | **$5.10** | 0.1 |
| 20 | | PK12GTA | **5B711** | 10.00 | **6.00** | 0.1 |
| 24 | | PK15GTA | **1D369** | 10.90 | **6.54** | 0.1 |
| 30 | | PK18GTA | **1D370** | 11.90 | **7.14** | 0.2 |
| 54 | | PK23GTA | **1D371** | 13.50 | **8.10** | 0.2 |
| 54 | 400 | PK27GTA | **5B716** | 21.40 | **12.84** | 0.3 |

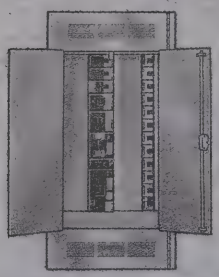
## EDB BOLT-ON CIRCUIT BREAKERS

| Amps | No. of Poles | Voltage | Wire Size Al | Wire Size Cu | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **15** | 1 | 277 | #12-#6 | #14-#6 | EDB14015 | **3TW12*†** | $95.00 | **$59.50** | 1.2 |
| | 2 | 480/277 | #12-#6 | #14-#6 | EDB24015 | **3TW22†** | 243.00 | **152.25** | 2.5 |
| | 3 | 480/277 | #12-#6 | #14-#6 | EDB34015 | **3TW37†** | 425.00 | **266.25** | 3.5 |
| **20** | 1 | 277 | #12-#6 | #14-#6 | EDB14020 | **3TW13*†** | 95.00 | **59.50** | 1.2 |
| | 2 | 480/277 | #12-#6 | #14-#6 | EDB24020 | **3TW23†** | 243.00 | **152.25** | 2.5 |
| | 3 | 480/277 | #12-#6 | #14-#6 | EDB34020 | **3TW38†** | 425.00 | **266.25** | 3.5 |
| **25** | 1 | 277 | #12-#6 | #14-#6 | EDB14025 | **3TW14†** | 95.00 | **59.50** | 1.2 |
| | 2 | 480/277 | #12-#6 | #14-#6 | EDB24025 | **3TW24†** | 243.00 | **152.25** | 2.5 |
| | 3 | 480/277 | #12-#6 | #14-#6 | EDB34025 | **3TW39†** | 425.00 | **266.25** | 3.5 |
| **30** | 1 | 277 | #12-#6 | #14-#6 | EDB14030 | **3TW15†** | 95.00 | **59.50** | 1.2 |
| | 2 | 480/277 | #12-#6 | #14-#6 | EDB24030 | **3TW25†** | 243.00 | **152.25** | 2.5 |
| | 3 | 480/277 | #12-#6 | #14-#6 | EDB34030 | **3TW40†** | 425.00 | **266.25** | 3.5 |
| **35** | 1 | 277 | #12-#2/0 | #14-#2/0 | EDB14035 | **3TW16** | 95.00 | **59.50** | 1.2 |
| | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24035 | **3TW26** | 243.00 | **152.25** | 3.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34035 | **3TW41** | 425.00 | **266.25** | 3.5 |
| **40** | 1 | 277 | #12-#2/0 | #14-#2/0 | EDB14040 | **3TW17** | 95.00 | **59.50** | 1.2 |
| | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24040 | **3TW27** | 243.00 | **152.25** | 2.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34040 | **3TW42** | 425.00 | **266.25** | 3.5 |
| **45** | 1 | 277 | #12-#2/0 | #14-#2/0 | EDB14045 | **3TW18** | 95.00 | **59.50** | 1.2 |
| | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24045 | **3TW28** | 243.00 | **152.25** | 2.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34045 | **3TW43** | 425.00 | **266.25** | 3.5 |
| **50** | 1 | 277 | #12-#2/0 | #14-#2/0 | EDB14050 | **3TW19** | 95.00 | **59.50** | 1.2 |
| | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24050 | **3TW29** | 243.00 | **152.25** | 2.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34050 | **3TW44** | 425.00 | **266.25** | 3.5 |
| **60** | 1 | 277 | #12-#2/0 | #14-#2/0 | EDB14060 | **3TW20** | 95.00 | **59.50** | 1.2 |
| | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24060 | **3TW30** | 243.00 | **152.25** | 2.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34060 | **3TW45** | 425.00 | **266.25** | 3.5 |
| **70** | 1 | 277 | #12-#2/0 | #14-#2/0 | EDB14070 | **3TW21** | 191.00 | **119.60** | 1.2 |
| | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24070 | **3TW31** | 480.00 | **300.50** | 3.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34070 | **3TW46** | 578.00 | **362.00** | 3.5 |
| **80** | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24080 | **3TW32** | 480.00 | **300.50** | 3.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34080 | **3TW47** | 578.00 | **362.00** | 3.5 |
| **90** | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24090 | **3TW33** | 480.00 | **300.50** | 3.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34090 | **3TW48** | 578.00 | **362.00** | 3.5 |
| **100** | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24100 | **3TW34** | 480.00 | **300.50** | 3.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34100 | **3TW49** | 578.00 | **362.00** | 3.5 |
| **110** | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24110 | **3TW35** | 1454.00 | **910.50** | 2.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34110 | **3TW50** | 1808.00 | **1132.00** | 3.5 |
| **125** | 2 | 480/277 | #12-#2/0 | #14-#2/0 | EDB24125 | **3TW36** | 1454.00 | **910.50** | 2.5 |
| | 3 | 480/277 | #12-#2/0 | #14-#2/0 | EDB34125 | **3TW51** | 1808.00 | **1132.00** | 3.5 |

(*) UL Rated switching duty for fluorescent lighting. (†) UL HID Rated.

# I-LINE PANELBOARDS

## I-LINE (600VAC MAXIMUM) PANELBOARDS



SQUARE D
GROUPE SCHNEIDER

- **Rated 600VAC or 250VDC**
- **Accepts FA/FH/FC/FI/FY/Q2/Q2H/KA/KH circuit breakers**
- **Up to 800A main lug or main breaker**
- **NEMA Type 1 indoor enclosure**

**Panelboards Consist of Four Parts:**

1. Interior (with Dead Front)
2. Box
3. Trim (No Door) or Cover (Surface or Flush)
4. Blanks

Circuit breakers must be ordered separately on pages 379 - 382. The selection guide below matches the Grainger Stock No. to the required interiors, boxes, trims and covers needed to build a panelboard. Ordering data for the individual components follows.

## I-LINE PANELBOARD SELECTION GUIDE

### PANELBOARD = INTERIOR + BOX + TRIM (No Door) OR COVER WITH DOOR (Surface or Flush)

| Amps | No. of Inches | Interior No. | Box No. | Trim No. w/o Door | Covers Flush | Covers Surface |
|---|---|---|---|---|---|---|
| **MAIN LUG** | | | | | | |
| **225** | 27 | 1D549 | 1D526 | 1D538 | 1D527 | 1D528 |
| | 45 | 1D661 | 1D529 | 1D540 | 1D530 | 1D531 |
| **400** | 27 | 1D561 | 1D526 | 1D538 | 1D527 | 1D528 |
| | 45 | 1D662 | 1D529 | 1D540 | 1D530 | 1D531 |
| | 63 | 1D673 | 1D532 | 1D542 | 1D533 | 1D534 |
| **600** | 27 | 1D562 | 1D526 | 1D538 | 1D527 | 1D528 |
| | 45 | 1D663 | 1D529 | 1D540 | 1D530 | 1D531 |
| | 63 | 1D675 | 1D532 | 1D542 | 1D533 | 1D534 |
| **800** | 27 | 1D658 | 1D526 | 1D538 | 1D527 | 1D528 |
| | 45 | 1D664 | 1D529 | 1D540 | 1D530 | 1D531 |
| | 63 | 1D676 | 1D532 | 1D542 | 1D533 | 1D534 |
| **MAIN BREAKER** | | | | | | |
| **225** | 54 | 1D672 | 1D532 | 1D542 | 1D533 | 1D534 |
| **400** | 45 | 1D665 | 1D532 | 1D542 | 1D533 | 1D534 |
| **600** | 36 | 1D659 | 1D532 | 1D542 | 1D533 | 1D534 |
| **600** | 72 | 1D678 | 1D535 | 1D548 | 1D536 | 1D537 |
| **800** | 36 | 1D660 | 1D532 | 1D542 | 1D533 | 1D534 |
| **800** | 72 | 1D679 | 1D535 | 1D548 | 1D536 | 1D537 |

### INTERIOR ORDERING DATA

| Amps | No. of Inches | Wire Size † Al/Cu | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **MAIN LUG** | | | | | | | |
| **225** | 27 | (1) #6-300 Kcmil | HCM14482N | **1D549** | $1044.00 | **$652.50** | 56.0 |
| **225** | 45 | (1) #6-300 Kcmil | HCM23642N | **1D661** | 1292.00 | **807.50** | 83.0 |
| **400** | 27 | (1) #2-600 Kcmil* | HCM14484 | **1D561** | 1123.00 | **702.00** | 58.0 |
| **400** | 45 | (1) #2-600 Kcmil* | HCM23644 | **1D662** | 1353.00 | **846.00** | 73.0 |
| **400** | 63 | (1) #2-600 Kcmil* | HCM32734 | **1D673** | 1529.00 | **956.00** | 85.0 |
| **600** | 27 | (2) #2-500 Kcmil | HCM14486 | **1D562** | 1612.00 | **1008.00** | 68.0 |
| **600** | 45 | (2) #2-500 Kcmil | HCM23646 | **1D663** | 1759.00 | **1100.00** | 83.0 |
| **600** | 63 | (2) #2-500 Kcmil | HCM32736 | **1D675** | 1891.00 | **1182.00** | 99.0 |
| **800** | 27 | (3) 3/0-500 Kcmil | HCM14488 | **1D658** | 1951.00 | **1220.00** | 91.0 |
| **800** | 45 | (3) 3/0-500 Kcmil | HCM23648 | **1D664** | 2084.00 | **1303.00** | 116.0 |
| **800** | 63 | (3) 3/0-500 Kcmil | HCM32738 | **1D676** | 2062.00 | **1289.00** | 150.0 |
| **MAIN BREAKER** | | | | | | | |
| **225** | 54 | (1) #1-300 Kcmil | HCM27732MN | **1D672** | 3191.00 | **1995.00** | 103.0 |
| **400** | 45 | (1) #1-600 Kcmil | HCM23734M | **1D665** | 4486.00 | **2804.00** | 110.0 |
| **600** | 36 | (3) 3/0-500 Kcmil | HCM18736M | **1D659** | 6797.00 | **4249.00** | 122.0 |
| **600** | 72 | (3) 3/0-500 Kcmil | HCM36916M | **1D678** | 7071.00 | **4420.00** | 159.0 |
| **800** | 36 | (3) 3/0-500 Kcmil | HCM18738M | **1D660** | 8639.00 | **5400.00** | 139.0 |
| **800** | 72 | (3) 3/0-500 Kcmil | HCM36918M | **1D679** | 9010.00 | **5632.00** | 189.0 |

† Per NEC wire bending space table 373-6. * Also rated for (2) #2-500 Kcmil

### BOX AND COVER (WITH DOOR) ORDERING DATA

**BOXES**

| Dimensions (In.) D | W | H | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **8.25** | 32 | 48 | HC3248B | **1D526** | $154.00 | **$96.25** | 72.0 |
| **8.25** | 32 | 64 | HC3264B | **1D529** | 154.00 | **96.25** | 91.0 |
| **8.25** | 32 | 73 | HC3273B | **1D532** | 154.00 | **96.25** | 103.0 |
| **8.25** | 32 | 91 | HC3291B | **1D535** | 154.00 | **96.25** | 125.0 |

**COVERS**

| FLUSH Square D Model | Stock No. | List | Each | Shpg. Wt. | SURFACE Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| HCM48TFD | **1D527** | $288.00 | **$180.00** | 48.0 | HCM48TSD | **1D528** | $288.00 | **$180.00** | 51.0 |
| HCM64TFD | **1D530** | 371.00 | **232.00** | 48.0 | HCM64TSD | **1D531** | 371.00 | **232.00** | 58.0 |
| HCM73TFD | **1D533** | 549.00 | **343.25** | 102.0 | HCM73TSD | **1D534** | 526.00 | **328.75** | 94.0 |
| HCM91TFD | **1D536** | 699.00 | **437.00** | 83.0 | HCM91TSD | **1D537** | 699.00 | **437.00** | 117.0 |

### 4 PIECE TRIM KIT (WITHOUT DOOR) ORDERING DATA

| Description | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **For 48" Main Lug Panels** | HCM48TS | **1D538** | $249.00 | **$155.75** | 22.0 |
| **For 64" Main Lug Panels** | HCM64TS | **1D540** | 328.00 | **205.00** | 30.0 |
| **For 73" Main Breaker Panels** | HCM73TS | **1D542** | 444.00 | **277.50** | 34.0 |
| **For 91" Main Breaker Panels** | HCM91TS | **1D548** | 632.00 | **395.00** | 38.0 |

### ACCESSORY ORDERING DATA *

| Description | Square D Model | Pkg. Qty. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Solid Neutral Assembly 400 Amp** | HC4SN | 1 | **1D539** | $211.00 | **$131.90** | 3.0 |
| **Solid Neutral Assembly 600 Amp** | HC6SN | 1 | **1D541** | 294.00 | **183.75** | 3.1 |
| **Solid Neutral Assembly 800 Amp** | HC8SN | 1 | **1D544** | 455.00 | **284.50** | 4.8 |
| **Blanks 1 1/2"** | HNM1BL | 3 | **1D680** | 9.00 | **5.63** | 0.1 |
| **Blanks 4 1/2"** | HNM4BL | 5 | **1D681** | 16.00 | **10.00** | 0.4 |
| **Ground Bar Kit** | PK32DGTA | 1 | **1D938** | 66.00 | **41.25** | 1.1 |
| **Solid Neutral Assembly 600 Amp** | SL225 | 1 | **1H900** | 276.00 | **172.50** | 7.0 |

Solid Neutral Assembly 800 Amp

## QO® DISTRIBUTION PANEL FOR USE IN I LINE PANELBOARDS 3 POLE, 240VAC Max.

SQUARE D
GROUPE SCHNEIDER

- **30A maximum branch breaker**
- **Maximum number of six 1-pole QO breakers see page 372**
- **ABC phase connection**
- **Requires 4½" of I-line mounting space**

**No. 1H237.** Square D brand (HQ0306). Shpg. wt. 4.2 lbs. List $234.00. Each ..... **$146.25**

## USE ON I-LINE PANELBOARDS-FA AND FY 100 AMP FRAME SIZE

- **2 & 3 pole 480 VAC and 3-pole 600 VAC FA frame breakers are also rated 250 VDC at 10,000 AIR**
- **1½" mounting height for single-pole models; 3" two-pole models; 4½" three pole models**
- **15 to 30 amp models use (1) #14-4 AWG Cu or (1) #12-4 AWG Al wire size**
- **35 to 100 amp models use (1) #14-1/0 AWG Cu or (1) #12-1/0 AWG Al wire size**

No. 2DL09 Handle Padlock Attachment (locks On or Off) for 1, 2, & 3 pole breakers

**No. 2DL09.** Square D brand (HPAFK). Shpg. wt. 0.1 lbs.
List $15.30. Each.....$9.58

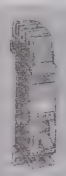
### AC MAGNETIC TRIP RATINGS

| Amp | Hold | Trip |
|---|---|---|
| 15-30 | 275 | 600 |
| 35-50 | 400 | 850 |
| 60-80 | 800 | 1450 |
| 90-100 | 900 | 1700 |

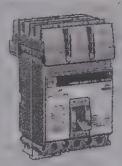
### FA AND FY CIRCUIT BREAKER ORDERING DATA

| Amps | No. of Poles | Max. Volts AC | AIR at Max. Volts | Phase Connection | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 15 | 1 | 277 | 14K‡ | C | FY14015C** | 1H228 | $94.00 | $58.85 | 2.2 |
| | | 277 | 14K‡ | B | FY14015B** | 1H227 | 94.00 | 58.85 | 2.2 |
| | | 277 | 14K‡ | A | FY14015A** | 1H226 | 94.00 | 58.85 | 2.1 |
| | 2 | 480 | 18K* | AB | FA24015AB | 1D995 | 413.00 | 258.75 | 4.1 |
| | | 480 | 18K* | AC | FA24015AC | 1D996 | 413.00 | 258.75 | 4.1 |
| | | 480 | 18K* | BC | FA24015BC | 2DK87 | 413.00 | 258.75 | 4.9 |
| | | 600 | 14K† | AC | FA26015AC | 1H019 | 495.00 | 310.00 | 4.0 |
| | | 600 | 14K† | BC | FA26015BC | 2CL63 | 495.00 | 310.00 | 4.1 |
| | | 600 | 14K† | AB | FA26015AB | 1H018 | 495.00 | 310.00 | 4.0 |
| | 3 | 240 | 10K | ABC | FA32015 | 1H035 | 363.00 | 227.25 | 5.8 |
| | | 480 | 18K* | ABC | FA34015 | 1H045 | 529.00 | 331.25 | 5.8 |
| | | 600 | 14K† | ABC | FA36015 | 1H057 | 616.00 | 385.75 | 5.7 |
| 20 | 1 | 277 | 18K | A | FA14020A | 1D976 | 191.00 | 119.60 | 2.1 |
| | | 277 | 18K | C | FA14020C | 1D978 | 191.00 | 119.60 | 2.1 |
| | | 277 | 18K | B | FA14020B | 1D977 | 191.00 | 119.60 | 2.1 |
| | | 277 | 14K‡ | A | FY14020A** | 1H229 | 94.00 | 58.85 | 2.2 |
| | | 277 | 14K‡ | B | FY14020B** | 1H230 | 94.00 | 58.85 | 2.0 |
| | | 277 | 14K‡ | C | FY14020C** | 1H231 | 94.00 | 58.85 | 2.0 |
| | 2 | 240 | 10K | AB | FA22020AB | 1D981 | 252.00 | 158.00 | 4.0 |
| | | 240 | 10K | BC | FA22020BC | 2CL55 | 252.00 | 158.00 | 4.1 |
| | | 240 | 10K | AC | FA22020AC | 1D982 | 252.00 | 158.00 | 4.0 |
| | | 480 | 18K* | AC | FA24020AC | 1D998 | 413.00 | 258.75 | 4.1 |
| | | 480 | 18K* | AB | FA24020AB | 1D997 | 413.00 | 258.75 | 4.9 |
| | | 480 | 18K* | BC | FA24020BC | 1H006 | 413.00 | 258.75 | 4.0 |
| | | 600 | 14K† | AB | FA26020AB | 1H020 | 495.00 | 310.00 | 4.9 |
| | | 600 | 14K† | AC | FA26020AC | 1H021 | 495.00 | 310.00 | 4.1 |
| | | 600 | 14K† | BC | FA26020BC | 2DK88 | 495.00 | 310.00 | 4.9 |
| | 3 | 240 | 10K | ABC | FA32020 | 1H036 | 363.00 | 227.25 | 5.8 |
| | | 480 | 18K* | ABC | FA34020 | 1H046 | 529.00 | 331.25 | 5.7 |
| | | 600 | 14K† | ABC | FA36020 | 1H058 | 616.00 | 385.75 | 6.4 |
| 25 | 3 | 480 | 18K* | ABC | FA34025 | 1H047 | 529.00 | 331.25 | 5.8 |
| 30 | 1 | 277 | 18K | A | FA14030A | 1D979 | 191.00 | 119.60 | 2.1 |
| | | 277 | 18K | B | FA14030B | 2CL52 | 191.00 | 119.60 | 2.1 |
| | | 277 | 18K | C | FA14030C | 2CL53 | 191.00 | 119.60 | 2.1 |
| | | 277 | 14K‡ | A | FY14030A | 1H232 | 94.00 | 58.85 | 2.2 |
| | | 277 | 14K‡ | B | FY14030B | 1H233 | 94.00 | 58.85 | 2.1 |
| | | 277 | 14K‡ | C | FY14030C | 1H234 | 94.00 | 58.85 | 2.1 |
| | 2 | 240 | 10K | AC | FA22030AC | 1D984 | 252.00 | 158.00 | 4.2 |
| | | 240 | 10K | AB | FA22030AB | 1D983 | 252.00 | 158.00 | 4.1 |
| | | 240 | 10K | BC | FA22030BC | 1D985 | 252.00 | 158.00 | 4.1 |
| | | 480 | 18K* | AC | FA24030AC | 1H008 | 413.00 | 258.75 | 5.0 |
| | | 480 | 18K* | AB | FA24030AB | 1H007 | 413.00 | 258.75 | 5.1 |
| | | 480 | 18K* | BC | FA24030BC | 1H009 | 413.00 | 258.75 | 4.1 |
| | | 600 | 14K† | BC | FA26030BC | 1H024 | 495.00 | 310.00 | 4.1 |
| | | 600 | 14K† | AC | FA26030AC | 1H023 | 495.00 | 310.00 | 4.1 |
| | | 600 | 14K† | AB | FA26030AB | 1H022 | 495.00 | 310.00 | 4.1 |
| | 3 | 240 | 10K | ABC | FA32030 | 1H037 | 363.00 | 227.25 | 5.8 |
| | | 480 | 18K* | ABC | FA34030 | 1H048 | 529.00 | 331.25 | 5.9 |
| | | 600 | 14K† | ABC | FA36030 | 1H059 | 616.00 | 385.75 | 5.9 |

(*) Also rated 25,000 AIR at 240 VAC. (†) Also rated 25,000 AIR at 240 VAC and 18,000 AIR at 480 VAC. (‡) Also rated 18,000 AIR at 120 VAC. (**) 15 & 20 amp FY breakers are switching duty rated (SWD).



FA 1-Pole



FA 3-Pole

SQUARE D
GROUPE SCHNEIDER

### FA CIRCUIT BREAKER ORDERING DATA

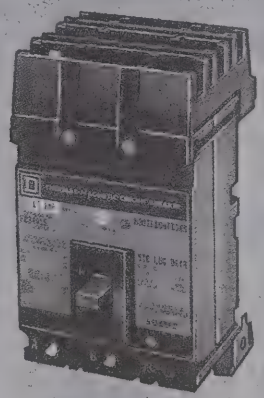
| Amps | No. of Poles | Max. Volts AC | AIR at Max. Volts | Phase Connection | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 40 | 1 | 277 | 18K | A | FA14040A | 1D980 | $191.00 | $119.60 | 2.1 |
| | | 277 | 18K | C | FA14040C | 2CL54 | 191.00 | 119.60 | 2.1 |
| | 2 | 240 | 10K | AC | FA22040AC | 1D986 | 252.00 | 158.00 | 4.1 |
| | | 240 | 10K | AB | FA22040AB | 2CL56 | 252.00 | 158.00 | 4.1 |
| | | 240 | 10K | BC | FA22040BC | 2CL57 | 252.00 | 158.00 | 4.1 |
| | | 480 | 18K* | BC | FA24040BC | 2CL59 | 413.00 | 258.75 | 4.1 |
| | | 480 | 18K* | AB | FA24040AB | 1H010 | 413.00 | 258.75 | 4.1 |
| | | 480 | 18K* | AC | FA24040AC | 1H011 | 413.00 | 258.75 | 4.2 |
| | | 600 | 14K† | AC | FA26040AC | 1H025 | 495.00 | 310.00 | 4.1 |
| | | 600 | 14K† | AB | FA26040AB | 2CL64 | 495.00 | 310.00 | 4.1 |
| | | 600 | 14K† | BC | FA26040BC | 2CL65 | 495.00 | 310.00 | 4.1 |
| | 3 | 240 | 10K | ABC | FA32040 | 1H038 | 363.00 | 227.25 | 5.9 |
| | | 480 | 18K* | ABC | FA34040 | 1H049 | 529.00 | 331.25 | 5.8 |
| | | 600 | 14K† | ABC | FA36040 | 1H060 | 616.00 | 385.75 | 6.0 |
| 50 | 2 | 240 | 10K | AC | FA22050AC | 1D988 | 252.00 | 158.00 | 4.2 |
| | | 240 | 10K | BC | FA22050BC | 2CL58 | 252.00 | 158.00 | 4.1 |
| | | 240 | 10K | AB | FA22050AB | 1D987 | 252.00 | 158.00 | 4.1 |
| | | 480 | 18K* | AB | FA24050AB | 1H012 | 413.00 | 258.75 | 4.1 |
| | | 480 | 18K* | BC | FA24050BC | 2CL60 | 413.00 | 258.75 | 4.1 |
| | | 480 | 18K* | AC | FA24050AC | 1H013 | 413.00 | 258.75 | 4.2 |
| | | 600 | 14K† | AB | FA26050AB | 1H026 | 495.00 | 310.00 | 4.1 |
| | | 600 | 14K† | BC | FA26050BC | 2CL66 | 495.00 | 310.00 | 4.1 |
| | | 600 | 14K† | AC | FA26050AC | 1H027 | 495.00 | 310.00 | 4.2 |
| | 3 | 240 | 10K | ABC | FA32050 | 1H039 | 363.00 | 227.25 | 6.0 |
| | | 480 | 18K* | ABC | FA34050 | 1H050 | 529.00 | 331.25 | 5.9 |
| | | 600 | 14K† | ABC | FA36050 | 1H061 | 616.00 | 385.75 | 5.9 |
| 60 | 2 | 240 | 10K | BC | FA22060BC | 1D991 | 252.00 | 158.00 | 4.2 |
| | | 240 | 10K | AB | FA22060AB | 1D989 | 252.00 | 158.00 | 4.1 |
| | | 240 | 10K | AC | FA22060AC | 1D990 | 252.00 | 158.00 | 4.2 |
| | | 480 | 18K* | AC | FA24060AC | 1H015 | 413.00 | 258.75 | 4.2 |
| | | 480 | 18K* | BC | FA24060BC | 2CL61 | 413.00 | 258.75 | 4.1 |
| | | 480 | 18K* | AB | FA24060AB | 1H014 | 413.00 | 258.75 | 4.1 |
| | | 600 | 14K† | AC | FA26060AC | 1H029 | 495.00 | 310.00 | 4.0 |
| | | 600 | 14K† | BC | FA26060BC | 2CL67 | 495.00 | 310.00 | 4.1 |
| | | 600 | 14K† | AB | FA26060AB | 1H028 | 495.00 | 310.00 | 4.1 |
| | 3 | 240 | 10K | ABC | FA32060 | 1H040 | 363.00 | 227.25 | 6.0 |
| | | 480 | 18K* | ABC | FA34060 | 1H051 | 529.00 | 331.25 | 5.9 |
| | | 600 | 14K† | ABC | FA36060 | 1H062 | 616.00 | 385.75 | 5.9 |
| 70 | 2 | 600 | 14K† | AB | FA26070AB | 2CL68 | 601.00 | 376.25 | 4.1 |
| | 2 | 600 | 14K† | AC | FA26070AC | 1H031 | 601.00 | 376.25 | 4.0 |
| | 2 | 600 | 14K† | BC | FA26070BC | 2CL69 | 601.00 | 376.25 | 4.1 |
| | 3 | 240 | 10K | ABC | FA32070 | 1H041 | 495.00 | 310.00 | 5.9 |
| | | 480 | 18K* | ABC | FA34070 | 1H052 | 632.00 | 395.75 | 5.9 |
| | | 600 | 14K† | ABC | FA36070 | 1H101 | 738.00 | 462.00 | 5.9 |
| 80 | 3 | 240 | 10K | ABC | FA32080 | 1H042 | 495.00 | 310.00 | 6.0 |
| | | 480 | 18K* | ABC | FA34080 | 1H053 | 632.00 | 395.75 | 5.9 |
| | | 600 | 14K† | ABC | FA36080 | 1H102 | 738.00 | 462.00 | 5.9 |
| 90 | 3 | 240 | 10K | ABC | FA32090 | 1H043 | 495.00 | 310.00 | 5.9 |
| | | 480 | 18K* | ABC | FA34090 | 1H054 | 632.00 | 395.75 | 6.0 |
| | | 600 | 14K† | ABC | FA36090 | 1H103 | 738.00 | 462.00 | 5.9 |
| 100 | 2 | 240 | 10K | BC | FA22100BC | 1D994 | 391.00 | 245.00 | 4.1 |
| | | 240 | 10K | AC | FA22100AC | 1D993 | 391.00 | 245.00 | 4.2 |
| | | 240 | 10K | AB | FA22100AB | 1D992 | 391.00 | 245.00 | 4.2 |
| | | 480 | 18K* | AC | FA24100AC | 1H017 | 529.00 | 331.25 | 4.0 |
| | | 480 | 18K* | BC | FA24100BC | 2CL62 | 529.00 | 331.25 | 4.1 |
| | | 480 | 18K* | AB | FA24100AB | 1H016 | 529.00 | 331.25 | 4.2 |
| | | 600 | 14K† | AB | FA26100AB | 1H032 | 601.00 | 376.25 | 4.1 |
| | | 600 | 14K† | BC | FA26100BC | 1H034 | 601.00 | 376.25 | 4.1 |
| | | 600 | 14K† | AC | FA26100AC | 1H033 | 601.00 | 376.25 | 5.0 |
| | 3 | 240 | 10K | ABC | FA32100 | 1H044 | 495.00 | 310.00 | 5.9 |
| | | 480 | 18K* | ABC | FA34100 | 1H055 | 632.00 | 395.75 | 5.9 |
| | | 600 | 14K† | ABC | FA36100 | 1H104 | 738.00 | 462.00 | 4.0 |

(*) Also rated 25,000 AIR at 240 VAC. (†) Also rated 25,000 AIR at 240 VAC and 18,000 AIR at 480 VAC.

# I-LINE CIRCUIT BREAKERS

## USED ON I-LINE PANELBOARDS—FH AND FC 100 AMP FRAME SIZE

SQUARE D
GROUPE SCHNEIDER



3-Pole
4½" Mounting
Height

- High interrupting ratings
- FH series 15 to 30 amp models use (1) #14-4 AWG Cu or (1) #12-4 AWG Al wire size; 35 to 100 amp models (1) #14-1/0 AWG Cu or (1) #12-1/0 AWG Al wire size
- FC series 15 to 30 amp models use (1) #14-10 AWG Cu wire; 35 to 100 amp models (1) #14-3 AWG Cu or (1) #12-1 AWG Al
- Single pole 15 to 30 amp FH frame breakers are rated 125VDC at 10,000 AIR
- FH frame 35-100 amp 1 pole breakers are rated 250VDC at 10,000 AIR
- 1½" mounting height for single-pole models; 3"mounting height for 2-pole models; 4½"mounting height for 3-pole models

### AC MAGNETIC TRIP RATINGS

| Amp | Hold | Trip |
|---|---|---|
| 15-30 | 275 | 600 |
| 35-50 | 400 | 850 |
| 60-80 | 800 | 1450 |
| 90-100 | 900 | 1700 |

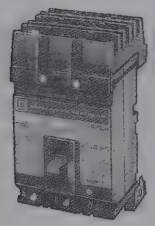
### FH AND FC CIRCUIT BREAKER ORDERING DATA

| Amps | No. of Poles | Max. Volts AC | AIR at Max. Volts | Phase Connection | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 15 | 3 | 480 | 65K* | ABC | FC34015 | **1H108** | $1236.00 | **$774.00** | 5.1 |
| | | 600 | 18K† | ABC | FH36015 | **1H190** | 918.00 | **575.00** | 6.0 |
| 20 | 1 | 277 | 65K | A | FH16020A | **1H138** | 322.00 | **201.75** | 2.1 |
| | | 277 | 65K | C | FH16020C | **1H160** | 322.00 | **201.75** | 2.1 |
| | | 277 | 65K | B | FH16020B | **1H159** | 322.00 | **201.75** | 2.1 |
| | 2 | 600 | 18K† | BC | FH26020BC | **1H165** | 770.00 | **482.25** | 5.1 |
| | | 600 | 18K† | AB | FH26020AB | **1H162** | 770.00 | **482.25** | 4.9 |
| | | 600 | 18K† | AC | FH26020AC | **1H163** | 770.00 | **482.25** | 4.0 |
| | 3 | 480 | 65K* | ABC | FC34020 | **1H110** | 1236.00 | **774.00** | 5.2 |
| | | 600 | 18K† | ABC | FH36020 | **1H191** | 918.00 | **575.00** | 5.8 |
| 25 | 3 | 600 | 18K† | ABC | FH36025 | **1H192** | 918.00 | **575.00** | 5.7 |
| 30 | 1 | 277 | 65K | A | FH16030A | **1H161** | 322.00 | **201.75** | 2.1 |
| | 2 | 600 | 18K† | AC | FH26030AC | **1H175** | 770.00 | **482.25** | 4.1 |
| | 3 | 480 | 65K* | ABC | FC34030 | **1H111** | 1236.00 | **774.00** | 4.7 |
| | | 600 | 18K† | ABC | FH36030 | **1H208** | 918.00 | **575.00** | 5.9 |
| 35 | 3 | 600 | 18K† | ABC | FH36035 | **1H209** | 918.00 | **575.00** | 5.9 |
| 40 | 3 | 480 | 65K* | ABC | FC34040 | **1H112** | 1236.00 | **774.00** | 4.8 |
| | | 600 | 18K† | ABC | FH36040 | **1H210** | 918.00 | **575.00** | 5.9 |
| 45 | 3 | 600 | 18K† | ABC | FH36045 | **1H211** | 918.00 | **575.00** | 6.0 |
| 50 | 3 | 480 | 65K* | ABC | FC34050 | **1H115** | 1236.00 | **774.00** | 4.6 |
| | | 600 | 18K† | ABC | FH36050 | **1H212** | 918.00 | **575.00** | 5.9 |
| 60 | 2 | 600 | 18K† | AC | FH26060AC | **1H176** | 770.00 | **482.25** | 4.2 |
| | 3 | 480 | 65K* | ABC | FC34060 | **1H118** | 1236.00 | **774.00** | 4.6 |
| | | 600 | 18K† | ABC | FH36060 | **1H213** | 918.00 | **575.00** | 5.9 |
| 70 | 3 | 480 | 65K* | ABC | FC34070 | **1H131** | 1521.00 | **952.50** | 5.2 |
| | | 600 | 18K† | ABC | FH36070 | **1H214** | 1036.00 | **649.00** | 5.9 |
| 80 | 3 | 480 | 65K* | ABC | FC34080 | **1H132** | 1521.00 | **952.50** | 4.8 |
| | | 600 | 18K† | ABC | FH36080 | **1H215** | 1036.00 | **649.00** | 5.9 |
| 90 | 3 | 480 | 65K* | ABC | FC34090 | **1H134** | 1521.00 | **328.75** | 4.8 |
| | | 600 | 18K† | ABC | FH36090 | **1H216** | 1036.00 | **649.00** | 6.0 |
| 100 | 2 | 600 | 18K† | AC | FH26100AC | **1H177** | 922.00 | **577.50** | 4.1 |
| | 3 | 480 | 65K* | ABC | FC34100 | **1H136** | 1521.00 | **952.50** | 4.6 |
| | | 600 | 18K† | ABC | FH36100 | **1H217** | 1036.00 | **649.00** | 6.0 |

(*) Also rated 100,000 AIR at 240VAC. (†) Also rated 25,000 AIR at 480VAC and 65,000 AIR at 240VAC.

# I-LINE CIRCUIT BREAKERS

## USED ON I-LINE PANELBOARDS—Q2 225 AMP FRAME SIZE



SQUARE D
GROUPE SCHNEIDER

2 & 3-Pole
3 & 4½" Mounting Height

- Standard interrupt ratings
- Use (1) #4-300 kcmil wire size per phase

| AC MAGNETIC TRIP SETTINGS | | |
|---|---|---|
| Amps | Hold | Trip |
| 110-225 | 1400 amps | 2400 amps |

### Q2 CIRCUIT BREAKER ORDERING DATA

| Amps | No. of Poles | Volts AC | AIR Rating | Phase Connection | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 110 | 2 | 120/240 | 10K | BC | Q221110BC | 1H778 | $381.00 | $238.75 | 3.9 |
| | 3 | 240 | 10K | ABC | Q232110 | 1H795 | 1214.00 | 760.00 | 5.7 |
| 125 | 2 | 120/240 | 10K | AC | Q221125AC | 1H780 | 381.00 | 238.75 | 4.0 |
| | | 120/240 | 10K | AB | Q221125AB | 1H779 | 381.00 | 238.75 | 4.0 |
| | | 240 | 22K | AC | Q222125ACH | 1H788 | 763.00 | 477.75 | 5.0 |
| | 3 | 240 | 10K | ABC | Q232125 | 1H796 | 1214.00 | 760.00 | 5.7 |
| | | 240 | 22K | ABC | Q232125H | 1H797 | 1313.00 | 822.00 | 6.0 |
| 150 | 2 | 120/240 | 10K | AB | Q221150AB | 1H781 | 381.00 | 238.75 | 4.0 |
| | | 120/240 | 10K | AC | Q221150AC | 1H782 | 381.00 | 238.75 | 5.0 |
| | | 240 | 22K | AB | Q222150ABH | 1H789 | 763.00 | 477.75 | 4.1 |
| | | 240 | 22K | AC | Q222150ACH | 1H790 | 763.00 | 477.75 | 4.1 |
| | 3 | 240 | 10K | ABC | Q232150 | 1H798 | 1214.00 | 760.00 | 5.7 |
| | | 240 | 22K | ABC | Q232150H | 1H799 | 1313.00 | 822.00 | 5.9 |
| 175 | 3 | 240 | 10K | ABC | Q232175 | 1H800 | 1214.00 | 760.00 | 5.7 |
| | | 240 | 22K | ABC | Q232175H | 1H801 | 1313.00 | 822.00 | 7.0 |
| 200 | 2 | 120/240 | 10K | BC | Q221200BC | 1H785 | 381.00 | 238.75 | 3.9 |
| | | 120/240 | 10K | AC | Q221200AC | 1H784 | 381.00 | 238.75 | 4.0 |
| | | 120/240 | 10K | AB | Q221200AB | 1H783 | 381.00 | 238.75 | 4.0 |
| | | 240 | 22K | AB | Q222200ABH | 1H791 | 763.00 | 477.75 | 4.1 |
| | | 240 | 22K | BC | Q222200BCH | 1H793 | 763.00 | 477.75 | 4.0 |
| | | 240 | 22K | AC | Q222200ACH | 1H792 | 763.00 | 477.75 | 4.1 |
| | 3 | 240 | 10K | ABC | Q232200 | 1H802 | 1214.00 | 760.00 | 5.7 |
| | | 240 | 22K | ABC | Q232200H | 1H803 | 1313.00 | 822.00 | 5.9 |
| 225 | 2 | 120/240 | 10K | AB | Q221225AB | 1H786 | 381.00 | 238.75 | 4.0 |
| | | 120/240 | 10K | AC | Q221225AC | 1H787 | 381.00 | 238.75 | 4.0 |
| | | 240 | 22K | AC | Q222225ACH | 1H794 | 763.00 | 477.75 | 4.0 |
| | 3 | 240 | 10K | ABC | Q232225 | 1H804 | 1214.00 | 760.00 | 5.7 |
| | | 240 | 22K | ABC | Q232225H | 1H821 | 1313.00 | 822.00 | 6.0 |

## HEAVY-DUTY SAFETY SWITCHES



NEMA Type 1

SQUARE D
GROUPE SCHNEIDER

UL
E2875



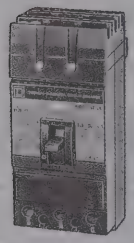
NEMA Type 3R

- For commercial and industrial use
- 240/600 VAC or VDC
- Horsepower rated
- Up to 200,000 amperes short circuit withstand rating when used with or protected by Class R type fuse with Class R kits installed, see page 396
- NEMA Type 3R uses bolt on hubs, see page 396
- NEMA Type 12 suitable for NEMA 3R application by removing screw from bottom end wall
- Red and black, two piece handle knobs to indicate switch position
- Front removable mechanical lugs. Terminations for copper or aluminum (NEMA Type 1 & 3R) and for copper only (NEMA Type 12, 4-4X-5)
- Tangential knockouts NEMA Type 1 and 3R
- UL 98, Standard for Safety, Enclosed and Dead Front Switches
- NEMA Standards Publication KS1-1990, Enclosed Switches
- Federal Specifications WS-865c for Type HD

SAFETY SWITCHES
SPECIFICATIONS AND ORDERING DATA
ON PAGE 394

# I-LINE CIRCUIT BREAKERS

## USED ON I-LINE PANELBOARDS—KA AND KH 250 AMP FRAMES



KA Models



KH Models

SQUARE D
GROUPE SCHNEIDER

- Also rated for 250 VDC at 10,000 AIR
- Wire Size: (1) #6 AWG-350 kcmil
- 4½" mounting height

### KA AND KH CIRCUIT BREAKER ORDERING DATA

| Amps | No. of Poles | Volts AC | AIR Rating | AC Magnetic Trip Rating Low | High | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **100** | 3 | 600 | 22K* | 500A | 1000A | KA36100 | **1H239** | $1733.00 | **$1085.00** | 8.4 |
| **110** | 3 | 600 | 22K* | 550 | 1100 | KA36110 | **1H240** | 1733.00 | **1085.00** | 8.4 |
| **125** | 3 | 600 | 25K† | 625 | 1250 | KH36125 | **1H774** | 3904.00 | **2444.00** | 8.4 |
| | | 600 | 22K* | 625 | 1250 | KA36125 | **1H241** | 1733.00 | **1085.00** | 8.4 |
| **150** | 3 | 600 | 25K† | 750 | 1500 | KH36150 | **1H775** | 3904.00 | **2444.00** | 8.5 |
| | | 600 | 22K* | 750 | 1500 | KA36150 | **1H243** | 1733.00 | **1085.00** | 8.5 |
| **175** | 3 | 600 | 22K* | 875 | 1750 | KA36175 | **1H737** | 1733.00 | **1085.00** | 8.4 |
| **200** | 2 | 600 | 22K* | 1000 | 2000 | KA26200AC‡ | **1H238** | 1393.00 | **872.50** | 7.5 |
| | 3 | 600 | 25K† | 1000 | 2000 | KH36200 | **1H776** | 3904.00 | **2444.00** | 10.0 |
| | | 600 | 22K* | 1000 | 2000 | KA36200 | **1H738** | 1733.00 | **1085.00** | 8.5 |
| **225** | 3 | 600 | 25K† | 1125 | 2250 | KH36225 | **1H777** | 3904.00 | **2444.00** | 8.5 |
| | | 600 | 22K* | 1125 | 2250 | KA36225 | **1H740** | 1733.00 | **1085.00** | 8.5 |
| **250** | 3 | 600 | 22K* | 1250 | 2500 | KA36250 | **1H743** | 2896.00 | **1813.00** | 8.3 |

(*) Also rated 25,000 AIR at 480 VAC and 42,000 AIR at 240 VAC. (†) Also rated 35,000 AIR at 480 VAC and 65,000 AIR at 240 VAC. (‡) For phase AC connections.

## USED ON I-LINE PANELBOARDS—CURRENT LIMITING



FI Model

SQUARE D
GROUPE SCHNEIDER

- 100A Frame Size
- Also rated 200,000 AIR at 240 and 480VAC
- Wire size: 20-30A models (1) #14-4 AWG Cu or (1) #12-4 AWG Al; 40-100A models (1) #14-1/0 AWG Cu or (1) #12-1/0 AWG Al
- 4½" mounting height

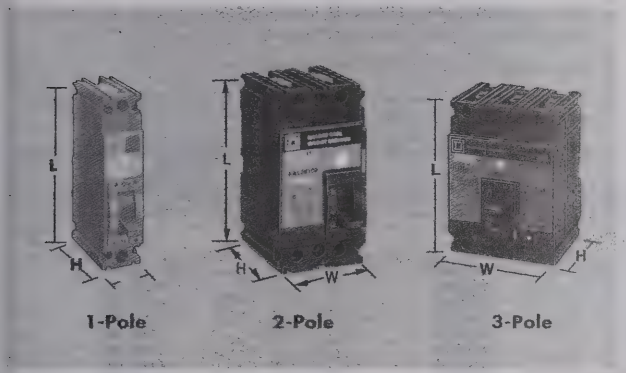
### CURRENT LIMITING ORDERING DATA

| Amps | No. of Poles | Volts AC | AIR Rating | AC Magnetic Rating Hold | Trip | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 3 | 600 | 100K | 275A | 600A | FI36020 | **1H218** | $2196.00 | **$1375.00** | 9.7 |
| **30** | 3 | 600 | 100K | 275 | 600 | FI36030 | **1H219** | 2196.00 | **1375.00** | 9.6 |
| **40** | 3 | 600 | 100K | 400 | 850 | FI36040 | **1H220** | 2196.00 | **1375.00** | 9.7 |
| **50** | 3 | 600 | 100K | 400 | 850 | FI36050 | **1H221** | 2196.00 | **1375.00** | 9.7 |
| **60** | 3 | 600 | 100K | 800 | 1700 | FI36060 | **1H222** | 2196.00 | **1375.00** | 9.7 |
| **70** | 3 | 600 | 100K | 800 | 1700 | FI36070 | **1H223** | 2196.00 | **1375.00** | 9.7 |
| **90** | 3 | 600 | 100K | 800 | 1700 | FI36090 | **1H224** | 2196.00 | **1375.00** | 9.7 |
| **100** | 3 | 600 | 100K | 800 | 1700 | FI36100 | **1H225** | 2196.00 | **1375.00** | 9.7 |

### VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

## FAL & FHL 100 AMP FRAME




SQUARE D
GROUPE SCHNEIDER

- Standard (FAL) to high (FHL) interrupt ratings
- 15 to 30 amp models use (1) #14-#4 AWG Cu or (1) #12-#4 AWG Al wire sizes
- 35 to 100 amp models use (1) #14-1/0 AWG Cu or (1) #12-1/0 AWG Al wire sizes
- FAL 480 and 600VAC units also rated 250VDC at 10,000 AIR
- 277VAC units also rated 125VDC at 5,000 AIR
- Meet Federal Specification W-C-375B/GEN
- Dimensions: 1-pole, 6L x 1.5W x 3.16"H; 2-pole, 6L x 3W x 3.16"H; 3-pole, 6L x 4.5W x 3.16"H

### FAL & FHL CIRCUIT BREAKER ORDERING DATA

| Amps | No. of Poles | Max. AC Volts | AIR at Max. Volts | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 15 | 1 | 120 | 10K | FAL12015 | **5B795** | $126.00 | **$78.90** | 1.7 |
| | 1 | 277 | 18K | FAL14015 | **5B798** | 159.00 | **99.55** | 1.7 |
| | 2 | 240 | 10K | FAL22015 | **5B803** | 211.00 | **132.10** | 3.3 |
| | 2 | 480 | 18K | FAL24015 | **5B813*** | 387.00 | **242.50** | 3.3 |
| | 2 | 600 | 14K | FAL26015 | **5B822†** | 447.00 | **280.00** | 3.3 |
| | 2 | 600 | 18K | FHL26015 | **5B869‡** | 738.00 | **462.00** | 3.3 |
| | 3 | 240 | 10K | FAL32015 | **5B826** | 314.00 | **196.75** | 4.5 |
| | 3 | 480 | 18K | FAL34015 | **5B838*** | 496.00 | **310.50** | 4.6 |
| | 3 | 600 | 14K | FAL36015 | **5B853†** | 575.00 | **360.00** | 5.3 |
| | 3 | 600 | 18K | FHL36015 | **5B871‡** | 862.00 | **540.00** | 4.6 |
| 20 | 1 | 120 | 10K | FAL12020 | **5B796** | 126.00 | **78.90** | 1.7 |
| | 1 | 277 | 18K | FAL14020 | **5B799** | 159.00 | **99.55** | 1.7 |
| | 2 | 240 | 10K | FAL22020 | **5B804** | 211.00 | **132.10** | 3.3 |
| | 2 | 480 | 18K | FAL24020 | **5B814*** | 387.00 | **242.50** | 3.2 |
| | 2 | 600 | 14K | FAL26020 | **5B823†** | 447.00 | **280.00** | 3.2 |
| | 2 | 600 | 18K | FHL26020 | **5B870‡** | 738.00 | **462.00** | 3.2 |
| | 3 | 240 | 10K | FAL32020 | **5B827** | 314.00 | **196.75** | 4.5 |
| | 3 | 480 | 18K | FAL34020 | **5B839*** | 496.00 | **310.50** | 4.5 |
| | 3 | 600 | 14K | FAL36020 | **5B855†** | 575.00 | **360.00** | 5.4 |
| | 3 | 600 | 18K | FHL36020 | **5B872‡** | 862.00 | **540.00** | 4.6 |
| 25 | 2 | 240 | 10K | FAL22025 | **5B805** | 211.00 | **132.10** | 3.3 |
| | 2 | 480 | 18K | FAL24025 | **5B815*** | 387.00 | **242.50** | 3.5 |
| | 3 | 240 | 10K | FAL32025 | **5B828** | 314.00 | **196.75** | 4.6 |
| | 3 | 480 | 18K | FAL34025 | **5B840*** | 496.00 | **310.50** | 4.6 |
| 30 | 1 | 120 | 10K | FAL12030 | **5B797** | 126.00 | **78.90** | 1.7 |
| | 1 | 277 | 18K | FAL14030 | **5B800** | 159.00 | **99.55** | 1.7 |
| | 2 | 240 | 10K | FAL22030 | **5B806** | 211.00 | **132.10** | 3.3 |
| | 2 | 480 | 18K | FAL24030 | **5B816*** | 387.00 | **242.50** | 3.4 |
| | 2 | 600 | 14K | FAL26030 | **5B824†** | 447.00 | **280.00** | 3.4 |
| | 3 | 240 | 10K | FAL32030 | **5B829** | 314.00 | **196.75** | 4.7 |
| | 3 | 480 | 18K | FAL34030 | **5B841*** | 496.00 | **310.50** | 4.6 |
| | 3 | 600 | 14K | FAL36030 | **5B856†** | 575.00 | **360.00** | 4.7 |
| | 3 | 600 | 18K | FHL36030 | **5B873‡** | 862.00 | **540.00** | 4.8 |
| 35 | 3 | 240 | 10K | FAL32035 | **5B830** | 314.00 | **196.75** | 4.7 |
| | 3 | 480 | 18K | FAL34035 | **5B842*** | 496.00 | **310.50** | 4.7 |
| 40 | 2 | 240 | 10K | FAL22040 | **5B807** | 211.00 | **132.10** | 3.3 |
| | 2 | 480 | 18K | FAL24040 | **5B817*** | 387.00 | **242.50** | 3.3 |
| | 2 | 600 | 14K | FAL26040 | **5B825†** | 447.00 | **280.00** | 3.4 |
| | 3 | 240 | 10K | FAL32040 | **5B831** | 314.00 | **196.75** | 5.0 |
| 40 | 3 | 480 | 18K | FAL34040 | **5B843*** | 496.00 | **310.50** | 4.7 |
| | 3 | 600 | 14K | FAL36040 | **5B858†** | 575.00 | **360.00** | 4.8 |
| | 3 | 600 | 18K | FHL36040 | **5B874‡** | 862.00 | **540.00** | 4.7 |
| 45 | 3 | 480 | 18K | FAL34045 | **5B844*** | 496.00 | **310.50** | 4.8 |
| 50 | 2 | 240 | 10K | FAL22050 | **5B808** | 211.00 | **132.10** | 3.4 |
| | 2 | 480 | 18K | FAL24050 | **5B818†** | 387.00 | **242.50** | 4.0 |
| | 3 | 240 | 10K | FAL32050 | **5B832** | 314.00 | **196.75** | 4.7 |
| | 3 | 480 | 18K | FAL34050 | **5B845*** | 496.00 | **310.50** | 4.7 |
| | 3 | 600 | 14K | FAL36050 | **5B859†** | 575.00 | **360.00** | 4.7 |
| | 3 | 600 | 18K | FHL36050 | **5B875‡** | 862.00 | **540.00** | 4.8 |
| 60 | 1 | 277 | 18K | FAL14060 | **5B801** | 159.00 | **99.55** | 1.7 |
| | 2 | 240 | 10K | FAL22060 | **5B809** | 211.00 | **132.10** | 3.4 |
| | 2 | 480 | 18K | FAL24060 | **5B819*** | 387.00 | **242.50** | 4.4 |
| | 3 | 240 | 10K | FAL32060 | **5B833** | 314.00 | **196.75** | 4.7 |
| | 3 | 480 | 18K | FAL34060 | **5B846*** | 496.00 | **310.50** | 4.7 |
| | 3 | 600 | 14K | FAL36060 | **5B862†** | 575.00 | **360.00** | 4.8 |
| | 3 | 600 | 18K | FHL36060 | **5B876‡** | 862.00 | **540.00** | 4.8 |
| 70 | 2 | 240 | 10K | FAL22070 | **5B810** | 345.00 | **216.00** | 4.0 |
| | 2 | 480 | 18K | FAL24070 | **5B820*** | 500.00 | **313.00** | 3.3 |
| | 3 | 240 | 10K | FAL32070 | **5B834** | 447.00 | **280.00** | 4.7 |
| | 3 | 480 | 18K | FAL34070 | **5B847*** | 587.00 | **367.50** | 4.7 |
| | 3 | 600 | 14K | FAL36070 | **5B863†** | 708.00 | **443.25** | 4.8 |
| | 3 | 600 | 18K | FHL36070 | **5B877‡** | 978.00 | **612.50** | 5.0 |
| 80 | 2 | 240 | 10K | FAL22080 | **5B811** | 345.00 | **216.00** | 4.3 |
| | 3 | 240 | 10K | FAL32080 | **5B835** | 447.00 | **280.00** | 4.7 |
| | 3 | 480 | 18K | FAL34080 | **5B848*** | 587.00 | **367.50** | 4.7 |
| | 3 | 600 | 14K | FAL36080 | **5B864†** | 708.00 | **443.25** | 4.7 |
| | 3 | 600 | 18K | FHL36080 | **5B878‡** | 978.00 | **612.50** | 5.0 |
| 90 | 3 | 240 | 10K | FAL32090 | **5B836** | 447.00 | **280.00** | 4.8 |
| | 3 | 480 | 18K | FAL34090 | **5B849*** | 587.00 | **367.50** | 4.7 |
| | 3 | 600 | 14K | FAL36090 | **5B865†** | 708.00 | **443.25** | 4.7 |
| 100 | 1 | 277 | 18K | FAL14100 | **5B802** | 198.00 | **123.95** | 1.7 |
| | 2 | 240 | 10K | FAL22100 | **5B812** | 345.00 | **216.00** | 3.4 |
| | 2 | 480 | 18K | FAL24100 | **5B821*** | 500.00 | **313.00** | 3.4 |
| | 3 | 480 | 18K | FAL34100 | **5B850*** | 587.00 | **367.50** | 4.7 |
| | 3 | 600 | 14K | FAL36100 | **5B866†** | 708.00 | **443.25** | 4.8 |
| | 3 | 600 | 18K | FHL36100 | **5B879‡** | 978.00 | **612.50** | 4.8 |

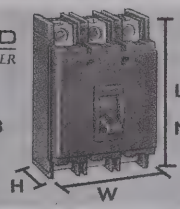
(*) Rated 25,000 AIR at 240 VAC. (†) Rated 25,000 AIR at 240 VAC and 18,000 AIR at 480 VAC. (‡) Also Rated 25,000 AIR at 480 VAC and 65,000 AIR at 240 VAC.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

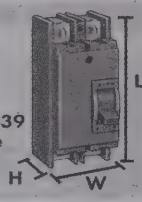
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS

SQUARE D
GROUPE SCHNEIDER




No. 5B948
3-Pole



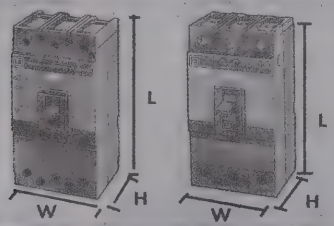

No. 5B939
2-Pole

## Q2L 225 AMP FRAME

- Q2L models have standard interrupting rating; Q2L-H models have high interrupt rating
- Wire size: (1) #4 AWG-300 kcmil
- Dimensions: 2-pole models 6.44L x 3W x 3.16"H; 3-pole models 6.44L x 4.5W x 3.16"H
- AC magnetic trip setting: hold 1400 amps; trip 2400 amps

### Q2L ORDERING DATA

| Amps | Pole | Volts AC | AIR Rating | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 100 | 3 | 240 | 22K | Q2L3100H | 5B948 | $1132.00 | $709.00 | 4.2 |
| 100 | 3 | 240 | 10K | Q2L3100 | 5B947 | 792.00 | 496.00 | 4.0 |
| 110 | 3 | 240 | 10K | Q2L3110 | 5B949 | 792.00 | 496.00 | 4.0 |
| 125 | 2 | 120/240 | 22K | Q2L2125H | 5B939 | 726.00 | 454.50 | 2.9 |
| 125 | 2 | 120/240 | 10K | Q2L2125 | 5B938 | 301.00 | 188.50 | 2.8 |
| 125 | 3 | 240 | 22K | Q2L3125H | 5B951 | 1132.00 | 709.00 | 4.1 |
| 125 | 3 | 240 | 10K | Q2L3125 | 5B950 | 792.00 | 496.00 | 4.0 |
| 150 | 2 | 120/240 | 22K | Q2L2150H | 5B941 | 726.00 | 454.50 | 2.9 |
| 150 | 2 | 120/240 | 10K | Q2L2150 | 5B940 | 301.00 | 188.50 | 2.8 |
| 150 | 3 | 240 | 22K | Q2L3150H | 5B953 | 1132.00 | 709.00 | 4.2 |
| 150 | 3 | 240 | 10K | Q2L3150 | 5B952 | 792.00 | 496.00 | 4.0 |
| 175 | 2 | 120/240 | 10K | Q2L2175 | 5B942 | 301.00 | 188.50 | 2.8 |
| 175 | 3 | 240 | 10K | Q2L3175 | 5B954 | 792.00 | 496.00 | 4.0 |
| 200 | 2 | 120/240 | 10K | Q2L2200 | 5B943 | 301.00 | 188.50 | 2.8 |
| 200 | 2 | 120/240 | 22K | Q2L2200H | 5B944 | 726.00 | 454.50 | 4.0 |
| 200 | 3 | 240 | 22K | Q2L3200H | 5B957 | 1132.00 | 709.00 | 4.1 |
| 200 | 3 | 240 | 10K | Q2L3200 | 5B956 | 792.00 | 496.00 | 4.0 |
| 225 | 2 | 120/240 | 22K | Q2L2225H | 5B946 | 726.00 | 454.50 | 2.9 |
| 225 | 2 | 120/240 | 10K | Q2L2225 | 5B945 | 301.00 | 188.50 | 2.8 |
| 225 | 3 | 240 | 10K | Q2L3225 | 5B958 | 792.00 | 496.00 | 4.0 |
| 225 | 3 | 240 | 22K | Q2L3225H | 5B959 | 1132.00 | 709.00 | 4.2 |




SQUARE D
GROUPE SCHNEIDER

## KAL, KHL, AND KCL 250 AMP FRAME

- KAL models standard interrupting rating; KHL high interrupt rating; KCL extra high interrupt rating
- Wire size: KAL & KHL (1) #6 AWG-350 kcmil
- Wire size: KCL 110-175A models (1) #6 AWG-350 kcmil; 200-250A models (1) #1/0-350 kcmil
- 600VAC models also rated 250VDC at 10,000 AIR
- Dimensions: 8L x 4.5W x 3.66"H

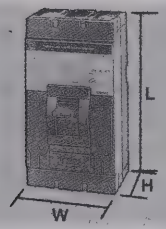
### KAL, KHL, AND KCL CIRCUIT BREAKER ORDERING DATA

| Amps | Pole | Volt AC | AIR Rating | AC Magnetic Trip Settings Low Amps | AC Magnetic Trip Settings High Amps | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 70 | 3 | 600 | 22K* | 350 | 700 | KAL36070 | 5B884 | $1650.00 | $1033.00 | 7.2 |
| 100 | 3 | 600 | 22K* | 500 | 1000 | KAL36100 | 5B885 | 1650.00 | 1033.00 | 7.0 |
| 110 | 3 | 600 | 22K* | 550 | 1100 | KAL36110 | 5B886 | 1650.00 | 1033.00 | 7.1 |
| 125 | 3 | 600 | 25K† | 625 | 1250 | KHL36125 | 5B904 | 3713.00 | 2325.00 | 7.2 |
| 125 | 2 | 600 | 22K* | 625 | 1250 | KAL26125 | 5B880 | 1315.00 | 823.50 | 6.3 |
| 125 | 3 | 600 | 22K* | 625 | 1250 | KAL36125 | 5B887 | 1650.00 | 1033.00 | 6.8 |
| 150 | 2 | 600 | 22K* | 750 | 1500 | KAL26150 | 5B881 | 1315.00 | 823.50 | 6.4 |
| 150 | 3 | 600 | 22K* | 750 | 1500 | KAL36150 | 5B888 | 1650.00 | 1033.00 | 7.2 |
| 150 | 3 | 480 | 65K‡ | 750 | 1500 | KCL34150 | 5B900 | 4331.00 | 2712.00 | 8.8 |
| 150 | 3 | 600 | 25K† | 750 | 1500 | KHL36150 | 5B905 | 3713.00 | 2325.00 | 7.2 |
| 175 | 3 | 600 | 25K† | 875 | 1750 | KHL36175 | 5B906 | 3713.00 | 2325.00 | 7.3 |
| 175 | 3 | 600 | 22K* | 875 | 1750 | KAL36175 | 5B890 | 1650.00 | 1033.00 | 7.1 |
| 200 | 3 | 480 | 65K‡ | 1000 | 2000 | KCL34200 | 5B901 | 4331.00 | 2712.00 | 8.7 |
| 200 | 3 | 600 | 25K‡ | 1000 | 2000 | KHL36200 | 5B907 | 3713.00 | 2325.00 | 7.0 |
| 200 | 2 | 600 | 22K* | 1000 | 2000 | KAL26200 | 5B882 | 1315.00 | 823.50 | 7.0 |
| 200 | 3 | 600 | 22K* | 1000 | 2000 | KAL36200 | 5B891 | 1650.00 | 1033.00 | 7.2 |
| 225 | 2 | 600 | 22K* | 1125 | 2250 | KAL26225 | 5B883 | 1315.00 | 823.50 | 6.4 |
| 225 | 3 | 600 | 22K* | 1125 | 2250 | KAL36225 | 5B892 | 1650.00 | 1033.00 | 7.1 |
| 225 | 3 | 480 | 65K‡ | 1125 | 2250 | KCL34225 | 5B902 | 4331.00 | 2712.00 | 8.9 |
| 225 | 3 | 600 | 25K | 1125 | 2250 | KHL36255 | 5B908 | 3713.00 | 2325.00 | 7.0 |
| 250 | 3 | 480 | 65K‡ | 1250 | 2500 | KCL34250 | 5B903 | 5314.00 | 3327.00 | 8.8 |
| 250 | 3 | 600 | 25K† | 1250 | 2500 | KHL36250 | 5B909 | 4824.00 | 3020.00 | 7.3 |
| 250 | 3 | 600 | 22K* | 1250 | 2500 | KAL36250 | 5B893 | 2751.00 | 1723.00 | 7.2 |

(*) Rated at 42K at 240VAC 25K at 480VAC. (†) Rated at 65K at 240VAC and 35K at 480VAC. (‡) Rated at 100K at 240VAC.

# THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS

## Q4L, LAL, AND LHL 400 AMP FRAME




2 & 3-Pole
150-400 Amps

SQUARE D
GROUPE SCHNEIDER

- Q4L and LAL models have standard interrupting rating
- LHL models have high interrupting rating
- LAL and LHL models also rated 250VDC at 10,000 AIR
- Wire size: (1) #1 AWG-600 kcmil, (2) #1 AWG-250 kcmil
- Dimensions: 11L x 6W x 4.06"H

### Q4L AND LAL CIRCUIT BREAKER ORDERING DATA

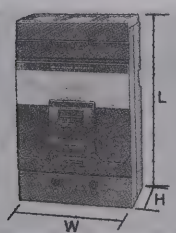
| Amps | No. of Poles | Volts AC | AIR Rating | AC Magnetic Trip Setting Low | AC Magnetic Trip Setting High | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **150** | 3 | 600 | 22K* | 750A | 1500A | LAL36150 | **5B912** | $2932.00 | **$1836.00** | 14.0 |
| **200** | 3 | 600 | 22K* | 1000 | 2000 | LAL36200 | **5B913** | 2932.00 | **1836.00** | 15.0 |
| **225** | 3 | 600 | 22K* | 1125 | 2250 | LAL36225 | **5B914** | 2932.00 | **1836.00** | 15.0 |
| **250** | 3 | 240 | 25K | 1250 | 2500 | Q4L3250 | **5B962** | 2432.00 | **1523.00** | 15.0 |
| | | 600 | 22K* | 1250 | 2500 | LAL36250 | **5B915** | 2932.00 | **1836.00** | 9.0 |
| **300** | 2 | 240 | 25K | 1500 | 3000 | Q4L2300 | **5B960** | 2013.00 | **1261.00** | 13.0 |
| | | 600 | 22K* | 1500 | 3000 | LAL26300 | **5B910** | 2417.00 | **1514.00** | 13.0 |
| | 3 | 600 | 22K* | 1500 | 3000 | LAL36300 | **5B916** | 2932.00 | **1836.00** | 15.0 |
| | | 240 | 25K | 1500 | 3000 | Q4L3300 | **5B963** | 2432.00 | **1523.00** | 15.0 |
| **350** | 3 | 240 | 25K | 1750 | 3500 | Q4L3350 | **5B964** | 2432.00 | **1523.00** | 15.0 |
| | | 600 | 22K* | 1750 | 3500 | LAL36350 | **5B917** | 2932.00 | **1836.00** | 9.0 |
| **400** | 2 | 240 | 25K | 2000 | 4000 | Q4L2400 | **5B961** | 2013.00 | **1261.00** | 13.0 |
| | | 600 | 22K* | 2000 | 4000 | LAL26400 | **5B911** | 2417.00 | **1514.00** | 13.0 |
| | 3 | 240 | 25K | 2000 | 4000 | Q4L3400 | **5B965** | 2432.00 | **1523.00** | 15.0 |
| | | 600 | 22K* | 2000 | 4000 | LAL36400 | **5B918** | 2932.00 | **1836.00** | 15.0 |

### LHL CIRCUIT BREAKER ORDERING DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **250** | 3 | 600 | 25K† | 1250 | 2500 | LHL36250 | **5B922** | 4824.00 | **3020.00** | 15.0 |
| **300** | 3 | 600 | 25K† | 1500 | 3000 | LHL36300 | **5B923** | 4824.00 | **3020.00** | 15.0 |
| **350** | 3 | 600 | 25K† | 1750 | 3500 | LHL36350 | **5B924** | 4824.00 | **3020.00** | 15.0 |
| **400** | 3 | 600 | 25K† | 2000 | 4000 | LHL36400 | **5B925** | 4824.00 | **3020.00** | 15.0 |

(*) Also rated 30,000 AIR at 480VAC and 42,000 AIR at 240VAC. (†) Also rated 35,000 AIR at 480VAC and 65,000 AIR at 240VAC.

## MAL AND MHL 1000 AMP FRAME




3-Pole
400-1000 Amps

SQUARE D
GROUPE SCHNEIDER

- MAL models have standard interrupting rating
- MHL models have high interrupting rating
- Wire size: (3) #3/0 AWG-500 kcmil
- Rated 14,000 AIR at 250VDC
- Dimensions: 14L x 9W x 4.53"H

### MAL CIRCUIT BREAKER ORDERING DATA

| Amps | No. of Poles | Volts AC | AIR Rating | AC Magnetic Trip Setting Low | AC Magnetic Trip Setting High | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **400** | 3 | 600 | 22K* | 2000A | 4000A | MAL36400 | **5B927** | $4800.00 | **$3005.00** | 34.0 |
| **450** | 3 | 600 | 22K* | 2250 | 4500 | MAL36450 | **5B928** | 4800.00 | **3005.00** | 34.0 |
| **500** | 3 | 600 | 22K* | 2500 | 5000 | MAL36500 | **5B929** | 4800.00 | **3005.00** | 36.0 |
| **600** | 3 | 600 | 22K* | 3000 | 6000 | MAL36600 | **5B930** | 4800.00 | **3005.00** | 33.0 |
| **700** | 3 | 600 | 22K* | 3500 | 7000 | MAL36700 | **5B931** | 6303.00 | **3946.00** | 34.0 |
| **800** | 3 | 600 | 22K* | 4000 | 8000 | MAL36800 | **5B932** | 6303.00 | **3946.00** | 35.0 |
| **900** | 3 | 600 | 22K* | 4500 | 9000 | MAL36900 | **5B933** | 8067.00 | **5050.00** | 33.0 |
| **1000** | 3 | 600 | 22K* | 5000 | 10000 | MAL361000 | **5B926** | 8067.00 | **5050.00** | 34.0 |

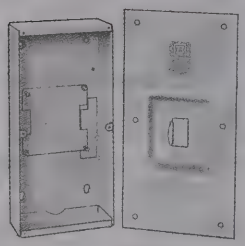
### MHL CIRCUIT BREAKER ORDERING DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **500** | 3 | 600 | 25K† | 2500 | 5000 | MHL36500 | **5B935** | 6004.00 | **3759.00** | 33.0 |
| **600** | 3 | 600 | 25K† | 3000 | 6000 | MHL36600 | **5B936** | 6004.00 | **3759.00** | 33.0 |
| **800** | 3 | 600 | 25K† | 4000 | 8000 | MHL36800 | **5B937** | 7544.00 | **4723.00** | 33.0 |
| **1000** | 3 | 600 | 25K† | 5000 | 10000 | MHL361000 | **5B934** | 8938.00 | **5596.00** | 32.0 |

(*) Also rated 30,000 AIR at 480VAC and 42,000 AIR at 240VAC. (†) Also rated 65,000 AIR at 480 and 240VAC.

# CIRCUIT BREAKER ENCLOSURES AND ACCESSORY KITS

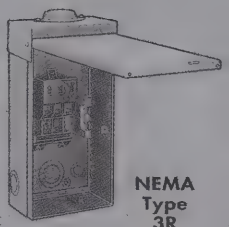
## CIRCUIT BREAKER ENCLOSURES



NEMA Type 1 Surface Mount

SQUARE D
GROUPE SCHNEIDER

- Order circuit breakers separately



NEMA Type 3R

- Suitable for use as service entrance equipment
- Short circuit current rating of enclosed breaker is equal to interrupt rating at the supply voltage marked on circuit breaker
- Enclosures should be used with 80% ampere rated circuit breakers listed on pages 363 - 385
- NEMA Type 3R enclosures have provisions for 3/4-2½" bolt-on hubs (see page 396), except No. 1H914 has blank endwalls and requires field cut openings

| Enclosure Type | Amp Rating | No. of Poles | Fits Square D Breaker Series | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| NEMA TYPE 1 FLUSH | 15-100 | 2,3 | FAL, FHL, FCL | FA100F | **1H905** | $120.00 | **$75.15** | 14.0 |
| | 100-225 | 2,3 | Q2L, Q2L-H, Q2LH | Q23225NF* | **1H919** | 138.00 | **86.40** | 20.0 |
| | 70-225 | 2,3 | KAL, KHL, FCL, FAL, FHL | KA225F | **1H909** | 153.00 | **95.80** | 24.0 |
| | 125-400 | 2,3 | LAL, LHL, Q4L, KAL, KHL | LA400F | **1H913** | 226.00 | **141.50** | 50.0 |
| NEMA TYPE 1 SURFACE | 15-100 | 2,3 | FAL, FHL, FCL | FA100S | **1H907** | 120.00 | **75.15** | 9.9 |
| | 100-200 | 2 | Q2L, Q2L-H, Q2LH | Q22200NS* | **1H918** | 111.00 | **69.50** | 11.0 |
| | 100-225 | 2,3 | Q2L, Q2L-H, Q2LH | Q23225NS* | **4B257** | 138.00 | **86.40** | 18.0 |
| | 70-225 | 2,3 | KAL, KHL, FCL, FAL, FHL | KA225S | **1H911** | 153.00 | **95.80** | 24.0 |
| | 125-400 | 2,3 | LAL, LHL, Q4L, KAL, KHL | LA400S | **1H915** | 226.00 | **141.50** | 46.0 |
| NEMA TYPE 3R | 15-100 | 2,3 | FAL, FHL, FCL | FA100RB | **1H906** | 317.00 | **198.50** | 16.0 |
| | 100 | 2 | QO, QO-GFI, QO-PL | QO2100BNRB* | **2DP84** | 86.00 | **53.85** | 8.2 |
| | 125 | 2 | QO, QO-GFI, QO-PL | QO2125BNRB* | **2DP87** | 100.00 | **62.60** | 9.7 |
| | 100-200 | 2 | Q2L, Q2L-H, Q2LH | Q22200NRB* | **1H917** | 241.00 | **151.00** | 15.0 |
| | 100-225 | 2,3 | Q2L, Q2L-H, Q2LH | Q23225NRB* | **4B256** | 265.00 | **166.00** | 22.0 |
| | 70-225 | 2,3 | KAL, KHL, FCL, FAL, FHL | KA225RB | **1H910** | 465.00 | **291.25** | 29.0 |
| | 125-400 | 2,3 | LAL, LHL, Q4L, KAL, KHL | LA400R | **1H914** | 1050.00 | **657.50** | 60.0 |
| NEMA TYPE 12/3R* w/o Knockouts | 15-100 | 2,3 | FAL, FHL, FCL | FA100AWK† | **1H904** | 212.00 | **132.75** | 15.0 |
| | 20-225 | 2,3 | KAL, KHL, FIL | KA225AWK† | **1H908** | 325.00 | **203.50** | 19.0 |
| | 125-400 | 2,3 | LAL, LHL, Q4L | LA400AWK† | **1H912** | 573.00 | **358.75** | 51.0 |

(*) Factory installed groundable neutral assembly includes 2 ground lugs and 2 neutral lugs. Equipment ground kit is also included. (†) Suitable for 3R application by removing drain screw from bottom endwall. Solid neutral included.

## ACCESSORY KITS FOR CIRCUIT BREAKER ENCLOSURES

### SOLID NEUTRAL ASSEMBLY KIT ORDERING DATA

| For Square D Enclosure Model | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| FA100F FA100S FA100RB FA100AWK | SN100FA | **2CR90** | $45.40 | **$28.45** | 0.5 |
| KA225F KA225S KA225RB KA225AWK | SN225KA | **2CR93** | 128.00 | **80.15** | 0.6 |
| LA400F LA400S LA400RB | 400SN | **2CP19** | 157.00 | **98.30** | 3.9 |
| LA400AWK | SN400LA | **2CR95** | 159.00 | **99.55** | 1.6 |

### EQUIPMENT GROUND KITS

| Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| PK0GTA-2 | **2DH17** | $35.00 | **$21.91** | 0.1 |

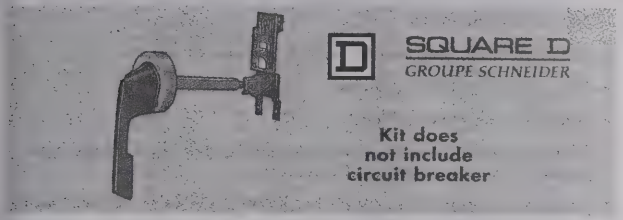
### ACCESSORY KIT WIRING INFORMATION

| Neutral Kit | Wire Range Per Terminal In and Out | Grounding Electrode Terminals |
|---|---|---|
| 2CR90 | (1) #14 AWG-1/0 kcmil Cu or (1) #12 AWG-1/0 kcmil Al | (1) #14 AWG Cu<br>(2) #14 AWG-1/0 kcmil Cu or Al |
| 2CR93 | (1) #4 AWG-300 kcmil Cu or Al | (2) #14 AWG-1/0 kcmil Cu |
| 2CP19 | (1) #1 AWG-600 kcmil or (2) #1 AWG-250 kcmil Cu or Al | (2) #6 AWG-250 kcmil Cu |
| 2CR95 | (1) #1 AWG-600 kcmil or (2) #1 AWG-250 kcmil Cu or Al | |

### TECHNICAL REFERENCE LITERATURE

Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics See Index under Books.

# DOOR MOUNTED OPERATING MECHANISMS




Type L, door mounted, variable depth operating mechanisms are complete kits featuring heavy-duty, all-metal construction with trip indication. All models can be padlocked in the "OFF" position when the enclosure door is open. Handle assemblies can be locked in "OFF" position with up to three padlocks, which also locks the door closed.

Door drilling template is included with each kit for easy installation. Complete kits rated for use with NEMA 1, 3R, and 12 enclosures. Kits include handle assembly, operating mechanism, and shaft assembly. Optional extended shafts and replacement handles available below.

## KIT ORDERING DATA

| Circuit Breaker or Interrupter Type | No. of Poles | Frame Size (Amps) | Handle Length (In.) | Mounting Depth (In.)* Min. | Max. | Square D Model 9421... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| FAL, FCL, FHL | 2-3 | 100 | 6 | 5½ | 10 7/16 | LN1 | **5B046** | $64.54 | **$63.95** | 3.6 |
| KAL, KCL, KHL | 2-3 | 250 | 6 | 6¼ | 11 3/16 | LP1 | **5B045** | 79.11 | **78.40** | 4.0 |
| LAL, LHL, Q4L | 2-3 | 400 | 6 | 6 5/16 | 10⅞ | LR1 | **5B044** | 111.38 | **110.35** | 6.0 |
| MEL, MXL | 2-3 | 800 | 8 | 7 3/16 | 11⅝ | LT1 | **5B041** | 111.38 | **110.35** | 7.3 |
| MAL, MHL | 2-3 | 1000 | | | | | | | | |

(*) Mounting depth measured from circuit breaker mounting surface (control panel) to outside of enclosure door.

## HANDLES

**No. 5B048.** (9421LH3) 3", NEMA 1, 3R, and 12. Used with Nos. 5B046 & 5B045 kits. Shpg. wt. 2.1 lbs. List $41.74.
Each ..... $41.35

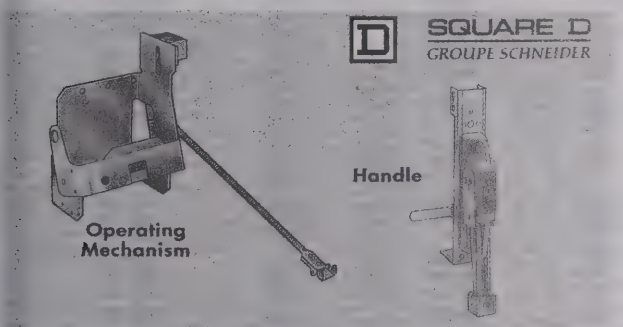
**No. 5B047.** (9421LH46) 6", NEMA 3 & 4 (painted)†. Used with Nos. 5B046, 5B045, & 5B044 kits. Shpg. wt. 2.3lbs. List $41.74.
Each ..... $41.35

(†) Not trip indicating.

## SHAFTS

| Circuit Breaker Type | Mounting Depth (In.)* Min. | Max. | Square D Model 9421... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| FAL, FCL, FHL | 5½ | 21 | LS12 | **5B042** | $16.44 | **$16.29** | 2.1 |
| KAL, KCL, KHL | 6¼ | 21¾ | | | | | |
| LAL, LAH, Q4L | 6⅝ | 21½ | LS10 | **5B043** | 16.44 | **16.29** | 2.1 |
| MEL, MXL, MHL, MAL | 7⅜ | 21¼ | | | | | |

(*) Mounting depth measured from circuit breaker mounting surface (control panel) to outside of enclosed door.




# FLANGE MOUNT OPERATING MECHANISMS

Designed for installation on enclosures where main or branch circuit protective devices are required. Operating mechanisms are suitable for either right or left hand flange mounting. Field convertible. Operating mechanism only; does not include handle mechanism. Handles available below.

## HANDLES

**6" handles for use with 30-200 amp switches and circuit breakers.**

**No. 4B989.** For use with NEMA 1, 3, 3R 4 (sheet steel) & 12 enclosures (9422A1). Shpg. wt. 2.8lbs. List $65.58. Each ..... $65.00

**No. 4B988.** For use with NEMA 4, 4X (stainless steel) enclosures (9422A2). Shpg. wt. 2.8lbs. List $118.67. Each ..... $117.55

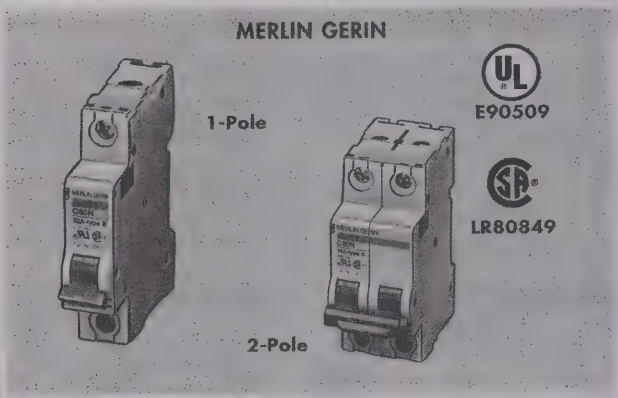
## FLANGE OPERATING MECHANISM ORDERING DATA

| Circuit Breaker Type | No. of Poles | Frame Size (Amps) | Variable Depth Mounting Range (In.) Min. | Max. | Square D Model 9422... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| FAL, FHL | 2-3 | 100 | 5.38 | 17.75 | RN1 | **4B987** | $53.09 | **$52.60** | 4.5 |
| KAL, KHL | 2-3 | 250 | 6.38 | 17.88 | RP1 | **4B986** | 59.33 | **58.80** | 5.4 |
| LAL, LHL, Q4L | 2-3 | 400 | 7.44 | 18.25 | RR1 | **4B985** | 151.98 | **150.75** | 9.3 |
| MAL, MHL | 2-3 | 1000 | 9.00 | 18.38 | RT1 | **4B984** | 207.15 | **205.25** | 14.0 |
| MEL, MXL | 2-3 | 800 | | | | | | | |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# CURRENT LIMITING MINIATURE CIRCUIT BREAKERS




## MULTI-9 MINIATURE CIRCUIT BREAKERS

- Available with several different instantaneous magnetic trip characteristics
- DIN rail or panel mount with accessories below
- Withstand 6000V impulse
- Suitable for reverse feed
- Line and load side box lug terminals (pressure plate type) suitable for use with multiple wires
- 1-25 amp models use #18 to 4 AWG Cu wire; 32–63 amp models #18 to 2 AWG Cu wire
- Rated for 20,000 tripping operation cycles

## AIR RATING SPECIFICATIONS

| No. of Poles | @240VAC | @277VAC | @480Y/277VAC | @65VDC | @125VDC |
|---|---|---|---|---|---|
| 1 | 10K | 5K | — | 10K | — |
| 2 | 10K | — | 5K | — | 10K |
| 3 & 4 | 10K | — | 5K | — | — |

## FRONT MOUNTING BRACKET ACCESSORIES

| No. of Poles | Merlin Gerin Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| **Front Mounting Brackets Allow Face Plate Mounting (Not UL/CSA Listed)** | | | | | |
| **1** | MG26983 | **6B455** | $10.70 | **$6.42** | 0.1 |
| **2** | MG26984 | **6B456** | 10.70 | **6.42** | 0.1 |
| **3** | MG26985 | **6B457** | 10.70 | **6.42** | 0.1 |

## MULTI-9 MINIATURE CIRCUIT BREAKER ORDERING DATA

| Amps | No. of Poles | AC Magnetic Trip Settings (Amps) Low Trip | High Trip | Merlin Gerin Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 3.2 | 4.8 | MG24110 | **6B018** | $64.00 | **$38.40** | 0.3 |
| | | 7.0 | 10.0 | MG24425 | **6B061** | 64.00 | **38.40** | 0.3 |
| | | 10.0 | 14.0 | MG24500 | **6B103** | 64.00 | **38.40** | 0.3 |
| | 2 | 3.2 | 4.8 | MG24125 | **6B033** | 138.00 | **82.80** | 0.5 |
| | | 7.0 | 10.0 | MG24442 | **6B075** | 138.00 | **82.80** | 0.5 |
| | 3 | 7.0 | 10.0 | MG24459 | **6B089** | 200.00 | **120.00** | 0.8 |
| | | 10.0 | 14.0 | MG24532 | **6B131** | 200.00 | **120.00** | 0.8 |
| 2 | 1 | 6.4 | 9.6 | MG24111 | **6B019** | 64.00 | **38.40** | 0.3 |
| | | 14.0 | 20.0 | MG24426 | **6B062** | 64.00 | **38.40** | 0.3 |
| | | 20.0 | 28.0 | MG24501 | **6B104** | 64.00 | **38.40** | 0.3 |
| | 2 | 6.4 | 9.6 | MG24126 | **6B034** | 138.00 | **82.80** | 0.5 |
| | | 14.0 | 20.0 | MG24443 | **6B076** | 138.00 | **82.80** | 0.5 |
| | | 20.0 | 28.0 | MG24517 | **6B117** | 138.00 | **82.80** | 0.5 |
| | 3 | 6.4 | 9.6 | MG24141 | **6B048** | 200.00 | **120.00** | 0.8 |
| | | 14.0 | 20.0 | MG24460 | **6B090** | 200.00 | **120.00** | 0.8 |
| | | 20.0 | 28.0 | MG24533 | **6B132** | 200.00 | **120.00** | 0.8 |
| | 4 | 6.4 | 9.6 | MG24156 | **6B060** | 264.00 | **158.50** | 1.1 |
| 3 | 1 | 9.6 | 14.4 | MG24112 | **6B020** | 64.00 | **38.40** | 0.3 |
| | | 21.0 | 30.0 | MG24427 | **6B063** | 64.00 | **38.40** | 0.3 |
| | | 30.0 | 42.0 | MG24502 | **6B105** | 64.00 | **38.40** | 0.3 |
| | 2 | 9.6 | 14.4 | MG24127 | **6B035** | 138.00 | **82.80** | 0.5 |
| | | 21.0 | 30.0 | MG24444 | **6B077** | 138.00 | **82.80** | 0.5 |
| | | 30.0 | 42.0 | MG24518 | **6B118** | 138.00 | **82.80** | 0.5 |
| | 3 | 9.6 | 14.4 | MG24142 | **6B049** | 200.00 | **120.00** | 0.8 |
| | | 21.0 | 30.0 | MG24461 | **6B091** | 200.00 | **120.00** | 0.8 |
| | | 30.0 | 42.0 | MG24534 | **6B133** | 200.00 | **120.00** | 0.8 |
| 4 | 1 | 12.8 | 19.2 | MG24113 | **6B021** | 64.00 | **38.40** | 0.3 |
| | | 28.0 | 40.0 | MG24428 | **6B064** | 64.00 | **38.40** | 0.3 |
| | | 40.0 | 56.0 | MG24503 | **6B106** | 64.00 | **38.40** | 0.3 |
| | 2 | 12.8 | 19.2 | MG24128 | **6B036** | 138.00 | **82.80** | 0.5 |
| | | 28.0 | 40.0 | MG24445 | **6B078** | 138.00 | **82.80** | 0.5 |
| | | 40.0 | 56.0 | MG24519 | **6B119** | 138.00 | **82.80** | 1.5 |
| | 3 | 12.8 | 19.2 | MG24143 | **6B050** | 200.00 | **120.00** | 0.8 |
| | | 28.0 | 40.0 | MG24462 | **6B092** | 200.00 | **120.00** | 0.8 |

CONTINUED ON NEXT PAGE

## MULTI-9 MINIATURE CIRCUIT BREAKER ORDERING DATA (cont.)

| Amps | No. of Poles | AC Magnetic Trip Settings (Amps) Low Trip | High Trip | Merlin Gerin Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6 | 1 | 19.2 | 28.8 | MG24114 | **6B022** | $64.00 | **$38.40** | 0.5 |
| | | 42.0 | 60.0 | MG24430 | **6B065** | 64.00 | **38.40** | 0.3 |
| | | 60.0 | 84.0 | MG24504 | **6B107** | 64.00 | **38.40** | 0.3 |
| | 2 | 19.2 | 28.8 | MG24129 | **6B037** | 138.00 | **82.80** | 0.5 |
| | | 42.0 | 60.0 | MG24447 | **6B079** | 138.00 | **82.80** | 0.5 |
| | | 60.0 | 84.0 | MG24520 | **6B120** | 138.00 | **82.80** | 0.5 |
| | 3 | 19.2 | 28.8 | MG24144 | **6B051** | 200.00 | **120.00** | 0.8 |
| | | 42.0 | 60.0 | MG24464 | **6B093** | 200.00 | **120.00** | 0.8 |
| | | 60.0 | 84.0 | MG24536 | **6B134** | 200.00 | **120.00** | 0.8 |
| 8 | 1 | 25.6 | 38.4 | MG24115 | **6B023** | 64.00 | **38.40** | 0.3 |
| | | 56.0 | 80.0 | MG24431 | **6B066** | 64.00 | **38.40** | 0.3 |
| | | 80.0 | 112.0 | MG24505 | **6B108** | 64.00 | **38.40** | 0.3 |
| | 2 | 25.6 | 38.4 | MG24130 | **6B038** | 138.00 | **82.80** | 0.5 |
| | | 56.0 | 80.0 | MG24448 | **6B080** | 138.00 | **82.80** | 0.5 |
| | | 80.0 | 112.0 | MG24521 | **6B121** | 138.00 | **82.80** | 0.5 |
| | 3 | 25.6 | 38.4 | MG24145 | **6B052** | 200.00 | **120.00** | 0.8 |
| | | 56.0 | 80.0 | MG24465 | **6B094** | 200.00 | **120.00** | 0.8 |
| | | 80.0 | 112.0 | MG24537 | **6B135** | 200.00 | **120.00** | 0.8 |
| 10 | 1 | 32.0 | 48.0 | MG24116 | **6B024** | 64.00 | **38.40** | 0.3 |
| | | 70.0 | 100.0 | MG24432 | **6B067** | 64.00 | **38.40** | 0.3 |
| | | 100.0 | 140.0 | MG24506 | **6B109** | 64.00 | **38.40** | 0.3 |
| | 2 | 32.0 | 48.0 | MG24131 | **6B039** | 138.00 | **82.80** | 0.5 |
| | | 100.0 | 140.0 | MG24522 | **6B122** | 138.00 | **82.80** | 0.5 |
| | 3 | 32.0 | 48.0 | MG24146 | **6B053** | 200.00 | **120.00** | 0.8 |
| | | 70.0 | 100.0 | MG24466 | **6B095** | 200.00 | **120.00** | 0.8 |
| | | 100.0 | 140.0 | MG24538 | **6B136** | 200.00 | **120.00** | 0.8 |
| 13 | 1 | 41.6 | 62.4 | MG24117 | **6B025** | 64.00 | **38.40** | 0.3 |
| | | 91.0 | 130.0 | MG24433 | **6B068** | 64.00 | **38.40** | 0.3 |
| | | 130.0 | 182.0 | MG24507 | **6B110** | 64.00 | **38.40** | 0.3 |
| | 2 | 41.6 | 62.4 | MG24132 | **6B040** | 138.00 | **82.80** | 0.5 |
| | | 91.0 | 130.0 | MG24450 | **6B081** | 138.00 | **82.80** | 0.5 |
| | | 130.0 | 182.0 | MG24523 | **6B123** | 138.00 | **82.80** | 0.5 |
| | 3 | 41.6 | 62.4 | MG24147 | **6B054** | 200.00 | **120.00** | 0.8 |
| | | 91.0 | 130.0 | MG24467 | **6B096** | 200.00 | **120.00** | 0.8 |
| 16 | 1 | 51.2 | 76.8 | MG24118 | **6B026** | 64.00 | **38.40** | 0.3 |
| | | 112.0 | 160.0 | MG24434 | **6B069** | 64.00 | **38.40** | 0.3 |
| | | 160.0 | 224.0 | MG24508 | **6B111** | 64.00 | **38.40** | 0.3 |
| | 2 | 51.2 | 76.8 | MG24133 | **6B041** | 138.00 | **82.80** | 0.5 |
| | | 112.0 | 160.0 | MG24451 | **6B082** | 138.00 | **82.80** | 0.5 |
| | | 160.0 | 224.0 | MG24524 | **6B124** | 138.00 | **82.80** | 0.5 |
| | 3 | 51.2 | 76.8 | MG24148 | **6B055** | 200.00 | **120.00** | 0.8 |
| | | 112.0 | 160.0 | MG24468 | **6B097** | 200.00 | **120.00** | 0.8 |
| | | 160.0 | 224.0 | MG24540 | **6B137** | 200.00 | **120.00** | 0.8 |
| 20 | 1 | 64.0 | 96.0 | MG24119 | **6B027** | 64.00 | **38.40** | 0.3 |
| | | 140.0 | 200.0 | MG24435 | **6B070** | 64.00 | **38.40** | 0.3 |
| | | 200.0 | 280.0 | MG24509 | **6B112** | 64.00 | **38.40** | 0.3 |
| | 2 | 64.0 | 96.0 | MG24134 | **6B042** | 138.00 | **82.80** | 0.5 |
| | | 140.0 | 200.0 | MG24452 | **6B083** | 138.00 | **82.80** | 0.5 |
| | | 200.0 | 280.0 | MG24525 | **6B125** | 138.00 | **82.80** | 0.5 |
| | 3 | 64.0 | 96.0 | MG24149 | **6B056** | 200.00 | **120.00** | 0.8 |
| | | 200.0 | 280.0 | MG24541 | **6B138** | 200.00 | **120.00** | 0.8 |
| 25 | 1 | 80.0 | 120.0 | MG24120 | **6B028** | 64.00 | **38.40** | 0.3 |
| | | 175.0 | 250.0 | MG24436 | **6B071** | 64.00 | **38.40** | 0.3 |
| | | 250.0 | 350.0 | MG24510 | **6B113** | 64.00 | **38.40** | 0.3 |
| | 2 | 80.0 | 120.0 | MG24135 | **6B043** | 138.00 | **82.80** | 0.5 |
| | | 175.0 | 250.0 | MG24453 | **6B084** | 138.00 | **82.80** | 0.5 |
| | | 250.0 | 350.0 | MG24526 | **6B126** | 138.00 | **82.80** | 0.5 |
| | 3 | 80.0 | 120.0 | MG24150 | **6B057** | 200.00 | **120.00** | 0.8 |
| | | 175.0 | 250.0 | MG24470 | **6B098** | 200.00 | **120.00** | 0.8 |
| | | 250.0 | 350.0 | MG24542 | **6B139** | 200.00 | **120.00** | 0.8 |
| 32 | 1 | 102.4 | 153.6 | MG24121 | **6B029** | $64.00 | **$38.40** | 0.3 |
| | | 224.0 | 320.0 | MG24437 | **6B072** | 64.00 | **38.40** | 0.3 |
| | | 320.0 | 448.0 | MG24511 | **6B114** | 64.00 | **38.40** | 0.3 |
| | 2 | 102.4 | 153.6 | MG24136 | **6B044** | 138.00 | **82.80** | 0.5 |
| | | 224.0 | 320.0 | MG24454 | **6B085** | 138.00 | **82.80** | 0.5 |
| | | 320.0 | 448.0 | MG24527 | **6B127** | 138.00 | **82.80** | 0.5 |
| | 3 | 102.4 | 153.6 | MG24151 | **6B058** | 200.00 | **120.00** | 0.8 |
| | | 224.0 | 320.0 | MG24471 | **6B099** | 200.00 | **120.00** | 0.8 |
| | | 320.0 | 448.0 | MG24543 | **6B140** | 200.00 | **120.00** | 0.9 |
| 40 | 1 | 128.0 | 192.0 | MG24122 | **6B030** | 70.00 | **42.00** | 0.3 |
| | 2 | 128.0 | 192.0 | MG24137 | **6B045** | 142.00 | **85.20** | 0.5 |
| | | 280.0 | 400.0 | MG24455 | **6B086** | 142.00 | **85.20** | 0.5 |
| | | 400.0 | 560.0 | MG24528 | **6B128** | 142.00 | **85.20** | 0.5 |
| | 3 | 128.0 | 192.0 | MG24152 | **6B059** | 206.00 | **123.60** | 0.8 |
| | | 280.0 | 400.0 | MG24472 | **6B100** | 206.00 | **123.60** | 0.8 |
| | | 400.0 | 560.0 | MG24544 | **6B141** | 206.00 | **123.60** | 0.8 |
| 50 | 1 | 160.0 | 240.0 | MG24123 | **6B031** | 74.00 | **44.40** | 0.3 |
| | | 350.0 | 500.0 | MG24439 | **6B073** | 74.00 | **44.40** | 0.3 |
| | | 500.0 | 700.0 | MG24513 | **6B115** | 74.00 | **44.40** | 0.3 |
| | 2 | 160.0 | 240.0 | MG24138 | **6B046** | 152.00 | **91.20** | 0.5 |
| | | 350.0 | 500.0 | MG24456 | **6B087** | 152.00 | **91.20** | 0.5 |
| | | 500.0 | 700.0 | MG24529 | **6B129** | 152.00 | **91.20** | 0.6 |
| | 3 | 350.0 | 500.0 | MG24473 | **6B101** | 214.00 | **128.40** | 0.8 |
| | | 500.0 | 700.0 | MG24545 | **6B142** | 214.00 | **128.40** | 0.9 |
| 63 | 1 | 201.6 | 302.4 | MG24124 | **6B032** | 78.00 | **46.80** | 0.3 |
| | | 441.0 | 630.0 | MG24440 | **6B074** | 78.00 | **46.80** | 0.3 |
| | | 630.0 | 882.0 | MG24514 | **6B116** | 78.00 | **46.80** | 0.3 |
| | 2 | 201.6 | 302.4 | MG24139 | **6B047** | 160.00 | **96.00** | 0.5 |
| | | 441.0 | 630.0 | MG24457 | **6B088** | 160.00 | **96.00** | 0.5 |
| | | 630.0 | 882.0 | MG24530 | **6B130** | 160.00 | **96.00** | 0.6 |
| | 3 | 441.0 | 630.0 | MG24474 | **6B102** | 224.00 | **134.40** | 0.9 |
| | | 630.0 | 882.0 | MG24546 | **6B143** | 224.00 | **134.40** | 0.9 |

### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

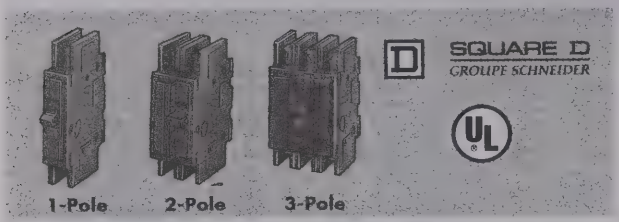
Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

### SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# MINIATURE AND MAG-GARD® CIRCUIT BREAKERS

## THERMAL-MAGNETIC MINIATURE CIRCUIT BREAKERS




- Terminal lug wire size (1) #14-2 AWG Cu or Al
- Reversible line and load lugs for flush or surface mount wiring on 10 to 70-amp units (excluding 6B008)
- 35mm DIN/EN 50022 mountable
- One and two-pole models rated for 120/240VAC at 10,000 AIR
- Three-pole models rated 240VAC at 10,000 AIR
- All models are also 48VDC rated at 5,000 AIR
- UL Listed as HACR type (except 10 amp)
- See page 372 for handle lock-off accessory

## MINIATURE CIRCUIT BREAKER ORDERING DATA

| Amps | No. of Poles | Square D Model | Stock No. | List | Each | Shpg. Wt. | Amps | No. of Poles | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 1 | QOU110 | **5B966** | $25.50 | **$15.96** | 0.3 | **40** | 3 | QOU340 | **5U996** | $181.00 | **$108.60** | 1.1 |
| **10** | 2 | QOU210 | **5B982** | 55.00 | **34.45** | 0.7 | **45** | 1 | QOU145 | **5B976** | 25.50 | **15.96** | 0.4 |
| **10** | 3 | QOU310 | **5B996** | 181.00 | **113.35** | 1.1 | **45** | 2 | QOU245 | **5B990** | 55.00 | **34.45** | 0.7 |
| **15** | 1 | QOU115 | **5B968** | 25.50 | **15.96** | 0.3 | **45** | 3 | QOU345 | **5U997** | 181.00 | **108.60** | 1.0 |
| **15** | 1 | QOU115HM | **5B969*** | 25.50 | **15.96** | 1.5 | **50** | 1 | QOU150 | **5B977** | 25.50 | **15.96** | 0.4 |
| **15** | 2 | QOU215 | **5B984** | 55.00 | **34.45** | 0.7 | **50** | 2 | QOU250 | **5B991** | 55.00 | **34.45** | 0.7 |
| **15** | 3 | QOU315 | **5B998** | 181.00 | **113.35** | 1.1 | **50** | 3 | QOU350 | **5U998** | 181.00 | **108.60** | 1.0 |
| **20** | 1 | QOU120 | **5B970** | 25.50 | **15.96** | 0.4 | **60** | 1 | QOU160 | **5B978** | 25.50 | **15.96** | 0.4 |
| **20** | 1 | QOU120HM | **5B971*** | 25.50 | **15.96** | 0.3 | **60** | 2 | QOU260 | **5B992** | 55.00 | **34.45** | 0.7 |
| **20** | 2 | QOU220 | **5B985** | 55.00 | **34.45** | 0.7 | **60** | 3 | QOU360 | **5U999** | 181.00 | **108.60** | 0.1 |
| **20** | 3 | QOU320 | **5B999** | 181.00 | **113.35** | 1.1 | **70** | 1 | QOU170 | **5B979** | 49.40 | **30.95** | 0.4 |
| **25** | 1 | QOU125 | **5B972** | 25.50 | **15.96** | 0.4 | **70** | 2 | QOU270 | **5B993** | 109.00 | **68.25** | 0.7 |
| **25** | 2 | QOU225 | **5B986** | 55.00 | **34.45** | 0.7 | **70** | 3 | QOU370** | **6B008** | 230.00 | **138.00** | 1.4 |
| **25** | 3 | QOU325 | **5U993** | 181.00 | **108.60** | 1.1 | **80** | 1 | QOU180** | **5B980** | 111.00 | **69.50** | 0.4 |
| **30** | 1 | QOU130 | **5B973** | 25.50 | **15.96** | 0.3 | **80** | 2 | QOU280** | **5B994** | 156.00 | **97.70** | 0.9 |
| **30** | 2 | QOU230 | **5B987** | 55.00 | **34.45** | 0.7 | **80** | 3 | QOU380** | **6B009** | 264.00 | **158.50** | 1.4 |
| **30** | 3 | QOU330 | **5U994** | 181.00 | **108.60** | 1.1 | **90** | 1 | QOU190** | **5B981** | 111.00 | **69.50** | 0.4 |
| **35** | 1 | QOU135 | **5B974** | 25.50 | **15.96** | 0.4 | **90** | 2 | QOU290** | **5B995** | 156.00 | **97.70** | 0.9 |
| **35** | 2 | QOU235 | **5B988** | 55.00 | **34.45** | 0.7 | **90** | 3 | QOU390** | **6B010** | 264.00 | **158.50** | 1.4 |
| **35** | 3 | QOU335 | **5U995** | 181.00 | **108.60** | 1.0 | **100** | 1 | QOU1100** | **5B967** | 111.00 | **69.50** | 0.5 |
| **40** | 1 | QOU140 | **5B975** | 25.50 | **15.96** | 0.4 | **100** | 2 | QOU2100** | **5B983** | 156.00 | **97.70** | 0.9 |
| **40** | 2 | QOU240 | **5B989** | 55.00 | **34.45** | 0.7 | **100** | 3 | QOU3100** | **5B997** | 264.00 | **165.50** | 1.4 |

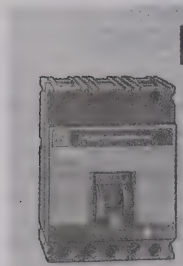
(*) High Magnetic. Used for applications where high inrush currents may occur. (**) Lugs are not reversible.

## QOU CIRCUIT BREAKER ACCESSORIES (10-60 AMP ONLY)

| Description | Square D Model | Stock No. * | Pkg. Qty. | List | Each | Shpg. Wt. | Description | Square D Model | Stock No. * | Pkg. Qty. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1-Pole Finger Safe Cover** | QOULFSC1 | **2DN35** | 80 | $1.00 | **$0.63** | 0.1 | **Jumper Bar Cover, 4-Pole** | QOU14100CAB | **2DH73** | 40 | $8.40 | **$5.26** | 0.1 |
| **Jumper Bar Base, 100 Amp, 1PH, 4-Pole Left Side Wiring** | QOU14100BAL | **2DH71** | 1 | 33.50 | **20.97** | 0.2 | **1-Pole Mounting Foot** | QOUMF1 | **2DN36** | 80 | 0.34 | **0.21** | 0.1 |
| **Jumper Bar Base, 100 Amp, 1PH, 4-Pole Right Side Wiring** | QOU14100BAR | **2DH72** | 1 | 33.50 | **20.97** | 0.2 | **2-Pole Mounting Foot** | QOUMF2 | **2DN37** | 80 | 0.67 | **0.42** | 0.1 |

(*) Priced each, sold only in package quantity.

## MAG-GARD® CIRCUIT BREAKERS WITH ADJUSTABLE INSTANTANEOUS TRIP




- 600VAC, 50/60 Hz
- Used in combination with motor starters with overload relays for protection of motor circuits against short circuits
- Magnetic trip only—provides no overload protection
- Trip point adjustable from front
- Interrupt ratings are determined by testing in combination with motor starter and overload relay
- Trip setting tolerances are ±20% of nominal values

**SUITABLE FOR MOTORS WITH LOCKED ROTOR CODES (Found on Motor Nameplate)**

| Horsepower | Motor Code |
|---|---|
| 1/2 or LESS | A-L |
| 3/4 to 1½ | A-K |
| 2 to 3 | A-J |
| 5 to 25 | A-H |
| 30 to 125 | A-G |
| 150 or GREATER | A-F |

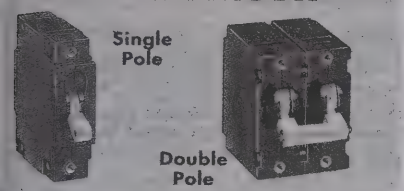
**SELECT AN ADJUSTABLE TRIP SETTING AT LEAST 7 TIMES BUT NOT GREATER THAN 13 TIMES THE MOTOR FULL LOAD (NAMPLATE) AMPS**

## MAG-GARD® ORDERING DATA

| Amps | No. of Poles | Adjustable Trip Range Amps | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3** | 3 | 8-28 | FAL3600311M | **5B851** | $575.00 | **$360.00** | 4.6 |
| **7** | 3 | 18-70 | FAL3600712M | **5B852** | 575.00 | **360.00** | 4.6 |
| **15** | 3 | 50-180 | FAL3601513M | **5B854** | 575.00 | **360.00** | 4.7 |
| **30** | 3 | 50-180 | FAL3603013M | **5B857** | 575.00 | **360.00** | 4.6 |
| **50** | 3 | 75-260 | FAL3605014M | **5B860** | 730.00 | **457.00** | 4.7 |
| | 3 | 150-580 | FAL3605016M | **5B861** | 730.00 | **457.00** | 4.8 |
| **100** | 3 | 150-580 | FAL3610016M | **5B867** | 872.00 | **546.00** | 4.7 |
| | 3 | 300-1100 | FAL3610018M | **5B868** | 872.00 | **546.00** | 4.7 |
| **150** | 3 | 750-1500 | KAL3615026M | **5B889** | 863.00 | **540.50** | 7.0 |
| **250** | 3 | 625-1250 | KAL3625025M | **5B894** | 1650.00 | **1033.00** | 7.2 |
| | 3 | 750-1500 | KAL3625026M | **5B895** | 1650.00 | **1033.00** | 7.0 |
| | 3 | 875-1750 | KAL3625029M | **5B896** | 1650.00 | **1033.00** | 7.0 |
| | 3 | 1000-2000 | KAL3625030M | **5B897** | 1650.00 | **1033.00** | 7.1 |
| | 3 | 1125-2250 | KAL3625031M | **5B898** | 1650.00 | **1033.00** | 7.0 |
| | 3 | 1250-2500 | KAL3625032M | **5B899** | 1650.00 | **1033.00** | 7.1 |
| **400** | 3 | 1250-2500 | LAL3640032M | **5B919** | 2932.00 | **1836.00** | 15.0 |
| | 3 | 1750-3500 | LAL3640035M | **5B920** | 2932.00 | **1836.00** | 15.0 |
| | 3 | 2000-4000 | LAL3640036M | **5B921** | 2932.00 | **1836.00** | 15.0 |

# MAGNETIC CIRCUIT BREAKERS

## CARLINGSWITCH




- Applications include telecommunications, medical equipment, HVAC, data processing, and power supplies
- Designed for world market applications requiring extra insulation and tongue groove half shell construction
- White actuator handle with black housing
- Series trip design
- Trip point not affected by temperature fluctuations
- UL Recognized, CSA Certified; VDE Certified on Nos. 3XC62-3XC64 and 3XC66-3XC68
- Functionally equivalent to Heinemann, Airpax, and Potter & Brumfield

E75596 LR47848

## MAGNETIC CIRCUIT BREAKER SPECIFICATIONS

| Circuit Configuration | Voltage Max. | Freq. | Phase | Current Rating Full Load Amps | Interrupting Cap., Amps w/Backup Fuse UL/CSA | w/o Backup Fuse VDE* | w/o Backup Fuse UL |
|---|---|---|---|---|---|---|---|
| **BA Series Application Guide (as a component supplementary protector)** | | | | | | | |
| Series | 32VDC | — | — | 31-50 | 2500‡ | — | 2000 |
| | 65 | — | — | .02-30 | 3500‡ | 1500 | 3000 |
| | 250VAC | | 1Ø | .02-20 | 5000‡ | 1500 | — |
| | 250 | | 1 | 21-30 | 2000‡ (5000#) | 1500 | — |
| | 125/250 | 50/60 Hz | 1 | .02-30 | — | — | 3000* |
| | 125/250 | | 1 | 31-50 | — | — | 2000* |
| | 250 | | 1† | 31-50 | 2000‡ | — | — |
| | 277 | | 1 | .02-30 | 5000‡ | — | — |

| Circuit Configuration | Voltage Max. | Freq. | Phase | Current Rating Full Load Amps | Interrupting Cap., Amps w/Backup Fuse UL/CSA | w/o Backup Fuse VDE* | w/o Backup Fuse UL |
|---|---|---|---|---|---|---|---|
| **CA Series Application Guide (as a component supplementary protector)** | | | | | | | |
| Series | 65VDC | — | — | 0.1-50 | 5000 | 1500 | 5000 |
| | 65 | — | — | .02-70 | 5000 | — | 5000 |
| | 125/250VAC | | 1Ø | .02-50 | — | — | 3000 |
| | 250 | | 1 | 0.1-50 | — | — | — |
| | 250 | 50/60 Hz | 1 | .02-70 | 5000 †† | — | — |
| | 277 | | 1 | .02-50 | 5000 †† | — | — |
| | 480Y** | | 1 | .02-30 | 5000 †† | — | — |

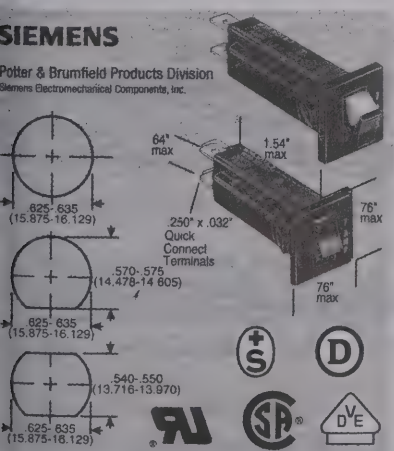
(*) Interrupting capacities are without backup series fusing. (†) 2-pole protector required (with 1-pole per power line) for 250/125 VAC, and 208Y/120 VAC, power systems. 1-pole protector required for 125 VAC, 1 phase power systems. (‡) Requires branch circuit backup with a UL Listed type K-5 fuse at no more than four times the rating of the highest rated protector (15A minimum). (#) Same as (‡) except backup fuse is limited to 80A max. (**) UL Recognized/CSA Certified @ 480V refers to 2-pole versions connected with 2 poles.

## MAGNETIC CIRCUIT BREAKER ORDERING DATA

| Amp Rating | No. of Poles | Maximum Volts AC | Width (In.) | Terminal Connection | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 1 | 250 | 3/4 | Tab | BA1-BO-34-610-111-D | **3XC62** | $16.22 | **$13.79** | 0.2 |
| | 2 | 250 | 1½ | Tab | BA2-BO-34-610-111-D | **3XC66** | 40.22 | **34.25** | 0.4 |
| 15 | 1 | 250 | 3/4 | Tab | BA1-BO-34-615-111-D | **3XC63** | 16.22 | **13.79** | 0.2 |
| | 2 | 250 | 1½ | Tab | BA2-BO-34-615-111-D | **3XC67** | 40.22 | **34.25** | 0.4 |
| 20 | 1 | 250 | 3/4 | Tab | BA1-BO-34-620-111-D | **3XC64** | 16.22 | **13.79** | 0.2 |
| | 2 | 250 | 1½ | Tab | BA2-BO-34-620-111-D | **3XC68** | 40.22 | **34.25** | 0.4 |
| 30 | 1 | 250 | 3/4 | Tab | BA1-BO-34-630-111-C | **3XC65** | 16.22 | **13.79** | 0.2 |
| | 2 | 250 | 1½ | Tab | BA2-BO-34-630-111-C | **3XC69** | 40.22 | **34.25** | 0.3 |
| | 1 | 250 | 3/4 | 10-32 Stud | CA1-BO-34-630-111-C | **3XC70** | 21.27 | **18.07** | 0.2 |
| | 2 | 277 | 1½ | 10-32 Stud | CA2-BO-34-630-111-C | **3XC73** | 52.70 | **44.85** | 0.5 |
| 40 | 1 | 250 | 3/4 | 10-32 Stud | CA1-BO-34-640-111-C | **3XC71** | 21.27 | **18.07** | 0.2 |
| | 2 | 250 | 1½ | 10-32 Stud | CA2-BO-34-640-111-C | **3XC74** | 52.70 | **44.85** | 0.5 |
| 50 | 1 | 250 | 3/4 | 44-20 Stud | CA1-BO-34-660-311-C | **3XC72** | 30.68 | **26.10** | 0.2 |
| | 2 | 250 | 1½ | 44-20 Stud | CA2-BO-34-660-311-C | **3XC75** | 74.88 | **63.75** | 0.4 |

## SIEMENS

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.




E69543 LR15734

## W28 SERIES

- Precision breakers to protect instrumentation applications
- Use to replace costly fuses

Single pole, thermal type breakers securely snap into standard panel cutouts from the front panel; can be prewired in front of the panel, then snapped into place. Feature a reset button that cannot be pulled out manually top disconnect circuit. When an overload occurs and breaker opens, reset button and white indicator extend for visual trip indication. Dielectric strength is over 1500V rms. Connections are made with 0.250" quick connectors.

## CIRCUIT BREAKER SPECIFICATIONS AND ORDERING DATA

| Series | Rating in Amps | Trip Time @ 200% of Rating | Reset Time | Max. Operating Voltage | Interrupt Capacity | P & B Model W28- | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| W28 | 0.25 | 4.5-28 sec. | 180 sec. max. | 32VDC; 250VAC, @ 50/60 Hz & 32VDC | 1000A @ 250VAC, 50/60 Hz & 32VDC | XQ1A-0.25 | **4A037** | $6.30 | **$6.24** | 0.5 |
| | 0.5 | | | | | XQ1A-0.5 | **4A038** | 6.30 | **6.24** | 0.1 |
| | 1.0 | | | | | XQ1A-1 | **4A039** | 6.30 | **6.24** | 0.1 |
| | 2.0 | | | | | XQ1A-2 | **4A040** | 6.55 | **6.48** | 0.1 |
| | 3.0 | 2.2-15 sec. | 10-60 sec. | | | XQ1A-3 | **4A041** | 3.50 | **3.47** | 0.1 |
| | 5.0 | | | | | XQ1A-5 | **4A042** | 3.50 | **3.47** | 0.1 |
| | 7.0 | | | | | XQ1A-7 | **4A043** | 3.50 | **3.47** | 0.1 |
| | 8.0 | | | | | XQ1A-8 | **4A044** | 3.50 | **3.47** | 0.1 |
| | 10.0 | | | | | XQ1A-10 | **4A045** | 3.50 | **3.47** | 0.1 |
| | 12.0 | | | | | XQ1A-12 | **4A046** | 3.50 | **3.47** | 0.1 |
| | 15.0 | | | | | XQ1A-15 | **4A047** | 3.50 | **3.47** | 0.5 |

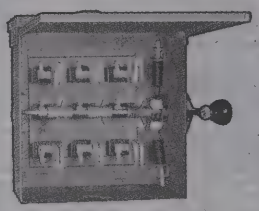
# DOUBLE THROW, NON-FUSIBLE SWITCHES

SQUARE D
GROUPE SCHNEIDER

- Designed for manual transfer of loads from one supply to another



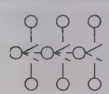
NEMA Type 1



NEMA Type 3R

- All double throw switches are series E
- Nos. 1H314-1H317 equipped with factory installed bondable neutral and are suitable for use as service equipment
- Double throw switches are load make/break (except Nos. 1H299 and 1H300) and continuous duty rated for their nameplate ampere value; suitable for use as service equipment
- NEMA Type 1, 82,000 model switches supplied with dual cover interlock mechanism and key defeat
- Equipment grounding kits available below (for service equipment)
- UL 98, Standard for Safety, Enclosed and Dead Front Switches; meet or exceed NEMA Standard KS1-1990
- NEMA Type 3R uses bolt on hubs, see page 396

## DOUBLE THROW, NON-FUSIBLE SAFETY SWITCHES

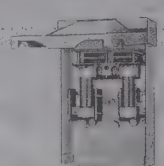
| System | Amp Rating | Enclosure Type | Max. HP | No. of Poles | Dimensions (In.) Length | Width | Width w/Handle | Depth | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2-Pole, 240VAC—250VDC** | | | | | | | | | | | | | |
|  | **30** | NEMA Type 1 | — | 2 | 11¼ | 10¼ | 14⅛ | 6 | 92251 | **1H299**** | $371.00 | **$232.25** | 13.0 |
| | **60** | | 3 | 2 | 14⅜ | 11⅜₁₆ | 14⅞₁₆ | 7 | 82252 | **1H287** | 588.00 | **368.25** | 16.0 |
| | **100** | | 15 | 2 | 19½ | 11¼ | 15 | 8 | 82253 | **1H288** | 854.00 | **535.00** | 23.0 |
| | **200** | | 15 | 2 | 30⅞ | 15¾ | 19⅝ | 9¾ | 82254 | **1H289** | 1152.00 | **721.50** | 49.0 |
| | **100** | NEMA Type 3R | 15 | 2 | 19⅜ | 16 | 19½ | 8⅝ | DTU223NRB | **1H314*** | 525.00 | **328.75** | 35.0 |
| | **200** | | 15 | 2 | 32½ | 20⅝ | 24 | 10⅝ | DTU224NRB | **1H315*** | 1382.00 | **865.50** | 70.0 |
| **3-Pole, 240VAC** | | | | | | | | | | | | | |
|  | **30** | NEMA Type 1 | — | 3 | 11¼ | 14 | 17⅝ | 6⅛ | 92351‡ | **1H300**** | 436.00 | **273.00** | 16.0 |
| | **60** | | 15 | 3 | 14⅜ | 14⅞ | 18½ | 7 | 82352 | **1H296** | 638.00 | **399.50** | 20.0 |
| | **100** | | 15 | 3 | 19½ | 15⅝ | 19⅛ | 8⅜ | 82353 | **1H297** | 1045.00 | **654.50** | 29.0 |
| | **200** | | 15 | 3 | 30⅞ | 20 | 23⅞ | 11¼ | 82354 | **1H298** | 1628.00 | **1020.00** | 62.0 |
| | **100** | NEMA Type 3R | 15 | 3 | 19⅜ | 19¼ | 22¾ | 8⅞ | DTU323NRB | **1H316** | 1101.00 | **689.50** | 37.0 |
| | **200** | | 15 | 3 | 32½ | 24⅛ | 26¼ | 10⅝ | DTU324NRB | **1H317** | 1908.00 | **1195.00** | 82.0 |
| **3-Pole, 600VAC—250VDC** | | | | | | | | | | | | | |
|  | **60** | NEMA Type 1 | 15 | 3 | 14⅛ | 14⅞ | 18½ | 7 | 82342 | **1H290** | 726.00 | **454.50** | 20.0 |
| | **100** | | 15 | 3 | 19½ | 15⅜ | 19⅛ | 8⅜ | 82343 | **1H292** | 1152.00 | **721.50** | 30.0 |
| | **200** | | 15 | 3 | 30⅞ | 20 | 23⅞ | 11¼ | 82344 | **1H294**† | 1767.00 | **1107.00** | 65.0 |
| | **60** | NEMA Type 3R | 15 | 3 | 14¾ | 14⅞ | 18½ | 7⅝ | 82342RB | **1H291** | 1205.00 | **754.50** | 27.0 |
| | **100** | | 15 | 3 | 19⅜ | 16 | 19½ | 8⅞ | 82343RB | **1H293** | 1912.00 | **1197.00** | 37.0 |
| | **200** | | 15 | 3 | 32½ | 20⅝ | 24 | 10⅝ | 82344RB | **1H295**† | 3726.00 | **2333.00** | 74.0 |

(*) 240VAC only. (**) Not rated load make/break. (†) 480VAC maximum only. ‡240Vac, 250 VDC use outside two poles for DC switching.

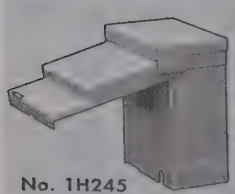
## DOUBLE THROW, EQUIPMENT GROUNDING KITS

| Amp Rating | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **30** | DT30SG | **1H313** | $18.70 | **$11.71** | 0.1 |
| **60, 100, 200** | DT100SG | **1H312** | 19.00 | **11.89** | 0.1 |

SQUARE D
GROUPE SCHNEIDER



No. 1H244



No. 1H245

## AIR CONDITIONING DISCONNECT SWITCH ORDERING DATA

### NON-FUSIBLE 2 Wire 240VAC Maximum

| Service | Enclosure Type | Switch Type | Amp. Rating | Max. HP | Dimensions (In.) W | H | D | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | **NEMA Type 3R** | Molded Case | 60# | 10 | 4⅝ | 6½ | 3⅛ | QO200TR | **1H245** | $107.00 | **$14.20** | 2.9 |
| | | Pullout | | 10 | 5½ | 7½ | 3¼ | UFP222R | **2DH83** | 113.00 | **16.98** | 3.0 |

### FUSIBLE 2 Wire 240VAC Maximum

| Service | Enclosure Type | Switch Type | Amp. Rating | Max. HP | Dimensions (In.) W | H | D | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | **NEMA Type 3R** | Pullout & Fuseholder | 30‡ | 3 | 5½ | 7½ | 3¼ | FP221R | **5B663** | 107.00 | **14.86** | 3.0 |
| | | | 60‡ | 10 | 5½ | 8⅛ | 3¼ | FP222R | **1H244** | 107.00 | **14.20** | 3.0 |

(#) Does not contain overcurrent protection. Suitable for systems with up to 10,000 RMS Symmetrical Amperes available fault current at 240 VAC max. when protected by a fuse or circuit breaker rated 60 ampere or less.
(‡) Suitable for systems with up to 10,000 RMS Symmetrical Amperes available fault current at 240 VAC max.

# GENERAL DUTY SAFETY SWITCHES

- For residential and commercial applications such as lighting, air conditioning and appliances
- 240VAC maximum
- 10,000 Ampere short circuit withstand rating when used with or protected by Class H fuse
- 100,000 Ampere short circuit withstand rating when used with or protected by Class R cartridge type fuse with Class R fuse kits installed; see page 396 for Class R fuse kits
- Suitable for use as service entrance equipment. Requires equipment grounding kit, see page 396
- NEMA type 1 indoor and 3R rainproof enclosures
- Visible blades for positive identification that switch is "OFF"
- Quick-make, quick-break operating mechanism
- Lugs suitable for Al or Cu conductors
- Multiple padlock provisions in "OFF" position
- Spring reinforced plated copper fuse clips
- UL 98, Standard for Safety, Enclosed and Dead Front Switches; meet or exceed NEMA Standard KS1-1990



SQUARE D
GROUPE SCHNEIDER

E2875

No. 1H246

## SAFETY SWITCH SPECIFICATIONS AND ORDERING DATA

### FUSIBLE SAFETY SWITCHES

| System | Amps | Fuse Type | Horsepower Ratings: Using Fast-Acting, One Time Fuses 1Ø | 3Ø | Using Dual-Element, Time Delay Fuses 1Ø | 3Ø | NEMA Type | Dimensions (In.) (w/o handle) H | W | D | Square D Model | Series† | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3-Wire (2 Blades and Fuseholders, 1 Solid Neutral)—120/240VAC (Plug), 240VAC (Cart.) Maximum** | | | | | | | | | | | | | | | | |
| | 30 | Plug | 1½ | — | 3 | — | 1 | 9¼ | 6¾ | 3⅝ | D211N | E | **1H246** | $57.00 | **$28.20** | 0.8 |
| | | Cart. | 1½ | 3* | 3 | 7½* | 1 | 9¼ | 6¾ | 3⅝ | D221N | E | **1H247** | 77.00 | **38.15** | 4.0 |
| | | Cart. | 1½ | 3* | 3 | 7½* | 3R | 9⅝ | 7¼ | 3¾ | D221NRB | E | **1H248** | 119.00 | **59.90** | 4.6 |
| | 60 | Cart. | 3 | 7½* | 10 | 15* | 1 | 14¼ | 6½ | 4⅝ | D222N | F | **1H249** | 130.00 | **64.40** | 8.6 |
| | | Cart. | 3 | 7½* | 10 | 15* | 3R | 15¼ | 7 | 4⅞ | D222NRB | F | **1H250** | 207.00 | **98.35** | 9.8 |
| | 100 | Cart. | 7½ | 15* | 15 | 30* | 1 | 17½ | 8½ | 6½ | D223N | F | **5B662** | 270.00 | **140.70** | 15.0 |
| | | Cart. | 7½ | 15* | 15 | 30* | 3R | 17½ | 8½ | 6½ | D223NRB | F | **1H251** | 305.00 | **159.00** | 16.0 |
| | 200 | Cart. | 15 | 25* | — | 50* | 3R | 28¼ | 13⅜ | 6¼ | D224NRB | E | **2CL72** | 762.00 | **477.25** | 29.0 |
| **4-Wire (3 Blades and Fuseholders, 1 Solid Neutral)—240VAC Maximum** | | | | | | | | | | | | | | | | |
| | 30 | Cart. | 1½ | 3 | 3 | 7½ | 1 | 9¼ | 6¾ | 3⅝ | D321N | E | **1H252** | 119.00 | **59.90** | 4.3 |
| | | Cart. | 1½ | 3 | 3 | 7½ | 3R | 9⅝ | 7¼ | 3¾ | D321NRB | E | **1H253** | 186.00 | **92.10** | 5.1 |
| | 60 | Cart. | 3 | 7½ | 10 | 15 | 1 | 14¼ | 6½ | 4⅝ | D322N | F | **1H254** | 207.00 | **102.45** | 8.7 |
| | | Cart. | 3 | 7½ | 10 | 15 | 3R | 15¼ | 7 | 4⅞ | D322NRB | F | **1H255** | 280.00 | **138.60** | 10.0 |
| | 100 | Cart. | 7½ | 15 | 15 | 30 | 1 | 17½ | 8½ | 6½ | D323N | F | **1H256** | 358.00 | **186.75** | 16.0 |
| | | Cart. | 7½ | 15 | 15 | 30 | 3R | 17½ | 8½ | 6½ | D323NRB | F | **1H257** | 518.00 | **270.00** | 16.0 |
| | 200 | Cart. | 15 | 25 | — | 50 | 1 | 28 | 13¼ | 6⅛ | D324N | E | **1H258** | 763.00 | **397.75** | 28.0 |
| | 200 | Cart. | 15 | 25 | — | 50 | 3R | 28¼ | 13⅜ | 6¼ | D324NRB | E | **2CL77** | 928.00 | **581.00** | 30.0 |

### NON-FUSIBLE SAFETY SWITCHES

| System | Amps | HP Ratings 1Ø | 3Ø | NEMA Type | Dimensions (In.) H | W | D | Square D Model | Series | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2-Wire (2 Blades)—240 VAC Maximum** | | | | | | | | | | | | | |
| | 30 | 3 | — | 3R | 9⅝ | 7¼ | 3¾ | DU221RB | E | **1H259** | $112.00 | **$58.40** | 4.8 |
| **3-Wire (3 Blades)—240VAC Maximum** | | | | | | | | | | | | | |
| | 30 | 3 | 7½ | 1 | 9¼ | 6¾ | 3⅝ | DU321‡ | E | **1H260** | 98.00 | **51.10** | 4.0 |
| | | 3 | 7½ | 3R | 9⅝ | 7¼ | 3¾ | DU321RB‡ | E | **1H261** | 186.00 | **96.95** | 4.7 |
| | 60 | 10 | 15 | 1 | 9¼ | 6¾ | 3⅝ | DU322‡ | E | **1H262** | 130.00 | **67.75** | 3.9 |
| | | 10 | 15 | 3R | 9⅝ | 7¼ | 3¾ | DU322RB‡ | E | **1H263** | 281.00 | **146.45** | 5.0 |
| | 100 | 15 | 30 | 1 | 17½ | 8½ | 6½ | DU323‡ | F | **1H264** | 303.00 | **158.00** | 15.0 |
| | | 15 | 30 | 3R | 17½ | 8½ | 6½ | DU323RB‡ | F | **1H265** | 518.00 | **270.00** | 15.0 |

‡) For corner grounded delta systems only. (†) Refer to switch series when selecting accessories on pages 395 and 396.
§) Requires field installation of an equipment grounding kit suitable for use as service equipment, see page 396

# HEAVY-DUTY SAFETY SWITCHES

SQUARE D
GROUPE SCHNEIDER

E2875



NEMA Type 1



NEMA Type 3R

Replacement Parts Available 1-800-323-0620

- For commercial and industrial use
- 240/600 VAC or VDC
- Horsepower rated
- Up to 200,000 amperes short circuit withstand rating when used with or protected by Class R type fuse with Class R kits installed, see page 396
- NEMA Type 3R uses bolt on hubs, see page 396
- NEMA Type 12 suitable for NEMA 3R application by removing screw from bottom end wall
- Red and black, two piece handle knobs to indicate switch position
- Front removable mechanical lugs. Terminations for copper or aluminum (NEMA Type 1 & 3R) and for copper only (NEMA Type 12, 4-4X-5)
- Tangential knockouts NEMA Type 1 and 3R
- UL 98, Standard for Safety, Enclosed and Dead Front Switches
- NEMA Standards Publication KS1-1990, Enclosed Switches
- Federal Specification WS-865c for Type HD

## SWITCH SPECIFICATIONS AND ORDERING DATA

| System | Amps | Horsepower Ratings 240 VAC Std. 1Ø | Std. 3Ø | Max. 1Ø | Max. 3Ø | HP Ratings 250VDC* | NEMA Type | Dimensions (In.) w/o Handle H | W | D | Model | Series** | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **240 VOLT—SINGLE THROW FUSIBLE** | | | | | | | | | | | | | | | | |
| **3 Wire (2 Blades and Fuseholders, 1 Solid Neutral)—240VAC, 250VDC** | | | | | | | | | | | | | | | | |
| | **30** | 1½ | 3† | 3 | 7½† | 5 | 1 Indoor | 14¼ | 6½ | 4⅝ | H221N | F | **1H328** | $157.00 | **$98.30** | 8.5 |
| | **30** | 1½ | 3† | 3 | 7½† | 5 | 3R Rainproof | 15 7/16 | 7 | 4⅞ | H221NRB | F | **1H329** | 298.00 | **186.75** | 10.0 |
| | **60** | 3 | 7½† | 10 | 15† | 10 | 1 Indoor | 17 9/16 | 9 | 6 7/16 | H222N | F | **1H330** | 314.00 | **196.75** | 16.0 |
| | **60** | 3 | 7½† | 10 | 15† | 10 | 3R Rainproof | 17 9/16 | 9 | 6 7/16 | H222NRB | F | **1H331** | 561.00 | **351.25** | 16.0 |
| | **100** | 7½ | 15† | 15 | 30† | 20 | 1 Indoor | 21⅛ | 9 | 6 7/16 | H223N | F | **1H332** | 477.00 | **298.75** | 19.0 |
| | **100** | 7½ | 15† | 15 | 30† | 20 | 3R Rainproof | 21⅛ | 9 | 6 7/16 | H223NRB | F | **1H333** | 724.00 | **453.25** | 18.0 |
| | **200** | 15 | 25† | — | 60† | 40 | 1 Indoor | 27⅜ | 12⅞ | 7½ | H224N | E | **1H334** | 859.00 | **538.00** | 36.0 |
| | **200** | 15 | 25† | — | 60† | 40 | 3R Rainproof | 27⅜ | 13⅛ | 7¾ | H224NRB | E | **1H335** | 1041.00 | **652.00** | 41.0 |
| **4 Wire (3 Blades and Fuseholders, 1 Solid Neutral)—240VAC** | | | | | | | | | | | | | | | | |
| | **30** | — | 3 | — | 7½ | — | 1 Indoor | 14¼ | 6½ | 4⅝ | H321N | F | **1H336** | 209.00 | **130.85** | 8.6 |
| | **30** | — | 3 | — | 7½ | — | 3R Rainproof | 15½ | 7 | 4⅞ | H321NRB | F | **1H337** | 370.00 | **231.75** | 11.0 |
| | **60** | — | 7½ | — | 15 | — | 1 Indoor | 17 9/16 | 9 | 6 7/16 | H322N | F | **1H338** | 352.00 | **220.50** | 16.0 |
| | **60** | — | 7½ | — | 15 | — | 3R Rainproof | 17 9/16 | 9 | 6 7/16 | H322NRB | F | **1H339** | 594.00 | **372.00** | 16.0 |
| | **100** | — | 15 | — | 30 | — | 1 Indoor | 21⅛ | 9 | 6 7/16 | H323N | F | **1H340** | 561.00 | **351.25** | 22.0 |
| | **100** | — | 15 | — | 30 | — | 3R Rainproof | 21⅛ | 9 | 6 7/16 | H323NRB | F | **1H341** | 852.00 | **533.50** | 19.0 |
| | **200** | — | 25 | — | 60 | — | 1 Indoor | 27⅜ | 12⅞ | 7½ | H324N | E | **1H342** | 967.00 | **605.50** | 38.0 |
| | **200** | — | 25 | — | 60 | — | 3R Rainproof | 27⅜ | 13⅛ | 7¾ | H324NRB | E | **1H343** | 1165.00 | **729.50** | 43.0 |

| System | Amps | Horsepower Ratings 480 VAC Std. | 480 VAC Max. 3Ø | 600 VAC Std. 3Ø | 600 VAC Max. 3Ø | DC 250* | DC 600* | NEMA Type | Dimensions (In.) w/o Handle H | W | D | Square D Model | Series** | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **600 VOLT—SINGLE THROW FUSIBLE** | | | | | | | | | | | | | | | | | |
| **3 Wire (3 Blades and Fuseholders)—600VAC, 600VDC** | | | | | | | | | | | | | | | | | |
| | **30** | 5 | 15 | 7½ | 20 | — | 15 | 1 Indoor | 14¼ | 6½ | 4⅝ | H361 | F | **1H344** | $352.00 | **$200.75** | 9.0 |
| | **30** | 5 | 15 | 7½ | 20 | — | 15 | 3R Rainproof | 15¼ | 7 | 4⅞ | H361RB | F | **1H349** | 599.00 | **375.00** | 11.0 |
| | **30** | 5 | 15 | 7½ | 20 | — | 15 | 4-4X-5 stainless steel | 14¼ | 6½ | 4⅝ | H361DS | E | **1H346** | 1600.00 | **1002.00** | 12.0 |
| | **30** | 5 | 15 | 7½ | 20 | — | 15 | 12 Dusttight | 15 7/16 | 7 | 4⅞ | H361AWK | F | **1H345** | 607.00 | **380.00** | 12.0 |
| | **60** | 15 | 30 | 15 | 50 | — | 30 | 1 Indoor | 17 9/16 | 9 | 6 7/16 | H362 | F | **1H350** | 425.00 | **253.00** | 16.0 |
| | **60** | 15 | 30 | 15 | 50 | — | 30 | 3R Rainproof | 17 9/16 | 9 | 6 7/16 | H362RB | F | **1H355** | 703.00 | **440.25** | 16.0 |
| | **60** | 15 | 30 | 15 | 50 | — | 30 | 4-4X-5 stainless steel | 16⅝ | 8½ | 6½ | H362DS | E | **1H352** | 1759.00 | **1102.00** | 17.0 |
| | **60** | 15 | 30 | 15 | 50 | — | 30 | 12 Dusttight | 16⅝ | 8½ | 6½ | H362AWK | F | **1H351** | 625.00 | **391.25** | 17.0 |
| | **100** | 25 | 60 | 30 | 75 | — | 40 | 1 Indoor | 21⅛ | 9 | 6 7/16 | H363 | F | **1H356** | 792.00 | **451.50** | 18.0 |
| | **100** | 25 | 60 | 30 | 75 | — | 40 | 3R Rainproof | 21⅛ | 9 | 6 7/16 | H363RB | F | **1H361** | 1096.00 | **686.50** | 18.0 |
| | **100** | 25 | 60 | 30 | 75 | — | 40 | 4-4X-5 stainless steel | 20⅝ | 10⅜ | 6½ | H363DS‡ | E | **1H358** | 3488.00 | **2184.00** | 27.0 |
| | **100** | 25 | 60 | 30 | 75 | — | 40 | 12 Dusttight | 20⅝ | 10⅜ | 6½ | H363AWK | F | **1H357** | 977.00 | **612.00** | 27.0 |
| | **200** | 50 | 125 | 60 | 150 | — | 50 | 1 Indoor | 27⅜ | 12⅞ | 7½ | H364 | E | **1H362** | 1138.00 | **649.00** | 39.0 |
| | **200** | 50 | 125 | 60 | 150 | — | 50 | 3R Rainproof | 27⅜ | 13¼ | 7¾ | H364RB | E | **1H367** | 1506.00 | **943.00** | 44.0 |
| | **200** | 50 | 125 | 60 | 150 | — | 50 | 4-4X-5 stainless steel | 27⅝ | 13⅛ | 8 | H364DS | E | **1H364** | 4879.00 | **3055.00** | 45.0 |
| | **200** | 50 | 125 | 60 | 150 | — | 50 | 12 Dusttight | 27⅝ | 13⅛ | 8 | H364AWK | E | **1H363** | 1524.00 | **954.50** | 45.0 |

(*) For VDC rating use both outside switching poles. (†) For corner grounded delta systems only. (‡) 250 VDC maximum. (**) Refer to switch series when selecting accessories on pages 395 and 396.

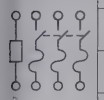
CONTINUED ON NEXT PAGE

# HEAVY-DUTY SAFETY SWITCHES

## SWITCH SPECIFICATIONS AND ORDERING DATA (Cont.)

### 600 VOLT—SINGLE THROW FUSIBLE SAFETY SWITCHES

**4 Wire (3 Blades and Fuseholders, 1 Solid Neutral)—600VAC**

| System | Amps | Horsepower Ratings 480 VAC Std. 3Ø | 480 VAC Max. 3Ø | 600 VAC Std. 3Ø | 600 VAC Max. 3Ø | VDC 600 | NEMA Type | Dimensions (In.) w/o Handle H | W | D | Square D Model | Series** | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 30 | 5 | 15 | 7½ | 20 | — | 1 Indoor | 14¼ | 6½ | 4⅝ | H361N | F | **1H347** | $411.00 | **$234.50** | 9.2 |
| | 30 | 5 | 15 | 7½ | 20 | — | 3R Rainproof | 15¼ | 7 | 4⅞ | H361NRB | F | **1H348** | 657.00 | **411.50** | 11.0 |
| | 60 | 15 | 30 | 15 | 50 | — | 1 Indoor | 18⅛ | 9 | 6¾ | H362N | F | **1H353** | 473.00 | **270.00** | 11.0 |
| | 60 | 15 | 30 | 15 | 50 | — | 3R Rainproof | 18½ | 9 | 6¾ | H362NRB | F | **1H354** | 756.00 | **473.50** | 17.0 |
| | 100 | 25 | 60 | 30 | 75 | — | 1 Indoor | 21⅞ | 9 | 6⅞ | H363N | F | **1H359** | 852.00 | **486.00** | 18.0 |
| | 100 | 25 | 60 | 30 | 75 | — | 3R Rainproof | 22⅛ | 9 | 6¾ | H363NRB | F | **1H360** | 1158.00 | **725.00** | 19.0 |
| | 200 | 50 | 125 | 60 | 150 | 50 | 1 Indoor | 27⅜ | 16¼ | 7½ | H364N | E | **1H365** | 1246.00 | **711.00** | 46.0 |
| | 200 | 50 | 125 | 60 | 150 | 50 | 3R Rainproof | 27½ | 16⅛ | 7¾ | H364NRB | E | **1H366** | 1605.00 | **1005.00** | 50.0 |

### 600 VOLT—SINGLE THROW NON-FUSIBLE SAFETY SWITCHES

**3 Wire (3 Blades)—600VAC, 600VDC**

| System | Amps | Horsepower Ratings Volts AC 240 1Ø | 240 3Ø | 480 1Ø | 480 3Ø | 600 1Ø | 600 3Ø | VDC† 250 | VDC† 600 | NEMA Type | Dimensions (In.) w/o Handle H | W | D | Square D Model | Series** | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 30 | 5 | 10 | 7½ | 20 | 10 | 30 | 5 | 15 | 1 Indoor | 14¼ | 6½ | 4⅝ | HU361 | F | **1H373** | $186.00 | **$110.65** | 8.5 |
| | 30 | 5 | 10 | 7½ | 20 | 10 | 30 | 5 | 15 | 3R Rainproof | 15¼ | 7 | 4⅞ | HU361RB | F | **1H375** | 325.00 | **203.50** | 11.0 |
| | 30 | 5 | 10 | 7½ | 20 | 10 | 30 | 5 | 15 | 4-4X-5 Stainless Steel | 14¾ | 6¾ | 5⅛ | HU361DS | E | **1H374** | 1346.00 | **843.00** | 12.0 |
| | 30 | 5 | 10 | 7½ | 20 | 10 | 30 | 5 | 15 | 12 Dusttight | 14¾ | 6 | 5⅛ | HU361AWK | F | **2CR39** | 410.00 | **256.75** | 12.0 |
| | 60 | 10 | 20 | 20 | 50 | 25 | 60 | 10 | 30 | 1 Indoor | 17⅞ | 9 | 6⅞ | HU362 | F | **1H376** | 325.00 | **185.25** | 15.0 |
| | 60 | 10 | 20 | 20 | 50 | 25 | 60 | 10 | 30 | 3R Rainproof | 17⅞ | 9 | 6⅞ | HU362RB | F | **1H378** | 584.00 | **365.75** | 16.0 |
| | 60 | 10 | 20 | 20 | 50 | 25 | 60 | 10 | 30 | 4-4X-5 Stainless Steel | 16⅝ | 8½ | 6½ | HU362DS | E | **1H377** | 1600.00 | **1002.00** | 17.0 |
| | 100 | 15 | 40 | 30 | 75 | 40 | 75 | 20 | 40 | 1 Indoor | 21½ | 9 | 6⅞ | HU363 | F | **1H379** | 522.00 | **297.75** | 17.0 |
| | 100 | 15 | 40 | 30 | 75 | 40 | 75 | 20 | 40 | 3R Rainproof | 21½ | 9 | 6⅞ | HU363RB | F | **1H381** | 817.00 | **511.50** | 24.0 |
| | 100 | 15 | 40 | 30 | 75 | 40 | 75 | 20 | — | 4-4X-5 Stainless Steel | 20⅝ | 10⅜ | 6½ | HU363DS‡ | E | **1H380** | 3239.00 | **2028.00** | 26.0 |
| | 200 | — | 60 | — | 125 | — | 150 | 40 | 50 | 1 Indoor | 27⅜ | 12⅞ | 7¼ | HU364 | E | **1H382** | 806.00 | **505.00** | 36.0 |
| | 200 | — | 60 | — | 125 | — | 150 | 40 | 50 | 3R Rainproof | 27⅜ | 13⅛ | 7¾ | HU364RB | E | **1H384** | 990.00 | **620.00** | 41.0 |
| | 200 | — | 60 | — | 125 | — | 150 | 40 | 50 | 4-4X-5 Stainless Steel | 27⅝ | 13⅛ | 8 | HU364DS | E | **1H383** | 4419.00 | **2767.00** | 42.0 |

(**) Refer to switch series when selecting accessories on this page and page 396. (†) For VDC rating use both outside switching poles. (‡) 250 VDC maximum.

## ELECTRICAL INTERLOCK KITS

A pivot arm operates from switch mechanism breaking the control circuit before the main switch blades break. Kits are UL Listed.

### ELECTRICAL INTERLOCK KITS

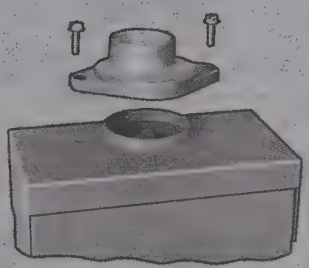
| Switch Amp Rating | Series** | Switch Duty | NEMA Type | Contact Form | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30** | E | Heavy | 1, 3R, 4-4X-5 & 12 | 1NO/1NC | EK3001 | **1H320** | $138.00 | **$86.40** | 0.4 |
| | | | | 2NO/2NC | EK3002 | **1H321** | 138.00 | **86.40** | 0.4 |
| **60** | E | Heavy | 1, 3R, 4-4X-5 & 12 | 1NO/1NC | EK3061 | **1H322** | 138.00 | **86.40** | 0.4 |
| | | | | 2NO/2NC | EK3062 | **1H323** | 138.00 | **86.40** | 0.5 |
| **60** | F | Heavy | 1, 3R, 12 | 1NO/1NC | EIK1 | **2CP56** | 197.00 | **123.35** | 0.7 |
| **100** | F | General & Heavy | | | | | | | |
| **60** | F | Heavy | 1, 3R, 12 | 2NO/2NC | EIK2 | **2CP57** | 197.00 | **123.35** | 0.7 |
| **100** | F | General & Heavy | | | | | | | |
| **100-200** | E | Heavy | 1, 3R, 4-4X-5 & 12 | 1NO/1NC | EK10201 | **1H318** | 231.00 | **144.65** | 0.6 |
| | | | | 2NO/2NC | EK10202 | **1H319** | 231.00 | **144.65** | 0.6 |

### ELECTRICAL INTERLOCK CONTACT RATINGS*

| Contact Form | AC—50 or 60 Hz Volts | Make | Break | Cont. | DC Volts | Make & Break | Cont |
|---|---|---|---|---|---|---|---|
| NO/1 NC CONTACT | 120 | 40A | 15A | 15A | 115 | .50A | 15A |
| | 240 | 20A | 10A | 15A | 230 | .25A | 15A |
| | 480 | 10A | 6A | 15A | — | — | — |
| | 600 | 8A | 5A | 15A | 600 | .05A | 15A |
| NO/2 NC CONTACTS | 120 | 30A | 3.0A | 10A | 115 | 1.0A | 10A |
| | 240 | 15A | 1.5A | 10A | 230 | .30A | 10A |
| | 480 | 7.5A | .75A | 10A | — | — | — |
| | 600 | 6.0A | .60A | 10A | 600 | .10A | 10A |

*) Single pole single throw interlock kits are rated 1/2 HP @ 110 and 220VAC.
**) Refer to switch series when selecting accessories on this page and page 396.

SQUARE D
GROUPE SCHNEIDER



Rainproof Bolt-On Hub

## GRAY TOUCHUP PAINT

- Square D Gray Paint
- Matches color for safety switches and load centers
- 16 oz. aerosal can
- Priced each, sold only in packages of 6

No. 2CR83. ❸ Square D brand (PK49SP)
Shpg. wt. 1.1 lbs. List $24.80. Each..... $15.52

❸ This product is covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## RAINPROOF BOLT-ON HUBS

For use on NEMA Type 3R General Duty, Heavy-Duty and Double Throw Switch Enclosures

| Conduit Size (In.) | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | B075 | 1H301 | $22.20 | $13.32 | 0.3 |
| 1 | B100 | 1H302 | 22.20 | 13.32 | 0.4 |
| 1 1/4 | B125 | 1H303 | 22.20 | 13.32 | 0.4 |
| 1 1/2 | B150 | 1H304 | 22.20 | 13.32 | 0.4 |
| 2 | B200 | 1H305 | 40.90 | 24.54 | 0.4 |
| 2 1/2 | B250 | 1H306 | 68.00 | 40.80 | 0.6 |
| Closing Cap | BCAP | 1H307 | 2.40 | 1.44 | 0.2 |

## CHROME PLATED WATERTIGHT HUBS

• For use on NEMA Type 4-4X-5 Stainless Steel and Type 12 Enclosures

| Conduit Size (In.) | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 | H050CP | 1H324 | $25.80 | $16.15 | 0.3 |
| 3/4 | H075CP | 1H325 | 35.80 | 22.41 | 0.3 |
| 1 | H100CP | 1H326 | 40.90 | 25.65 | 0.4 |
| 1 1/2 | H150CP | 1H327 | 61.00 | 38.20 | 0.7 |

## CLASS R FUSE KITS (One Kit per 3-Pole Switch)

| Switch Amp Rating | Switch Duty | NEMA Type | Series* | Switch Voltage | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 30 | General | 1, 3R | E | 240 | DRK30 | 2CP53 | $16.30 | $10.20 | 0.1 |
| 30 | Heavy | 1, 3R | E | 240 | HRK30 | 1H369 | 16.20 | 10.14 | 0.1 |
| 30 | Heavy | 1, 3R, 4-4X-5, 12 | E | 600 | HRK30H | 1H370 | 16.20 | 10.14 | 0.1 |
| 60 | General | 1, 3R | E | 240 | | | | | |
| 60 | Heavy | 1, 3R | E | 240 | HRK60 | 1H371 | 16.20 | 10.14 | 0.1 |
| 60 | Heavy | 1, 3R | F | 240 | RFK06 | 2CR84 | 16.20 | 10.14 | 0.1 |
| 60 | Heavy | 1, 3R, 12 | F | 600 | RFK06H | 2CR85 | 16.20 | 10.14 | 0.1 |
| 60 | Heavy | 1, 3R, 4-4X-5, 12 | E | 600 | HRK60H | 1H372 | 16.20 | 10.14 | 0.1 |
| 100 | Heavy & General | 1, 3R | F | 240<br>600 | RFK10 | 2CR86 | 30.30 | 18.97 | 0.1 |
| 100 & 200 | Heavy | 4-4X-5, 12 | E | 600 | HRK1020 | 1H368 | 30.30 | 18.97 | 0.1 |
| | Heavy | 1, 3, 4-4X-5, 12 | E | 240 | | | | | |

## EQUIPMENT GROUND BAR KITS

| Switch Rating | Switch Duty | NEMA Type | Series* | Wire Size | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 30 & 60 | General & Heavy | 1, 3R | E | #14-#4Cu<br>#12-#4Al<br>(2) #14 or #12Cu<br>(2) #12 or #10Al | PK3GTA1 | 5B717 | $7.20 | $4.32 | 0.1 |
| 60 | Heavy | 1, 3R | F | #14-1/0 Al/Cu | GTK0610 | 2BW64 | 12.00 | 7.51 | 0.2 |
| 100 | General & Heavy | 1, 3R | F | | | | | | |
| 60 & 100 | Heavy | 1, 3R, 12, 12K | F | #14 1/0 Cu Only | GTK0610C | 2BW66 | 14.40 | 9.01 | 0.8 |
| 100 | Heavy | 1, 3R | E | #10- 2/0 Cu<br>#6 - 2/0 Al | PKOGTA2 | 2DH17 | 35.00 | 21.91 | 0.1 |
| 200 | General & Heavy | | | | | | | | |

(*) Refer to switch series pages 393, 394, 395.

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

Advance Controls, Inc.

600 VAC Rated

LR39540

E101686

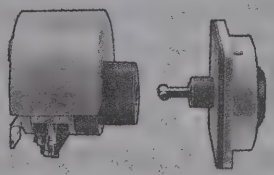
TYPE
ME2U
ME3U

Nos. 6A615, 6A617, 6A619, and 6A621

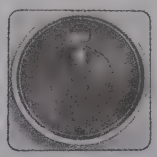


TYPE
LE2U
LE3U

Nos. 6A616, 6A618, 6A620 and 6A622



LE2U, LE3U Types (Front)

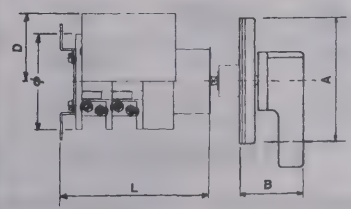


LE2U, LE3U Types meet OSHA Standard 1910.147 (Lockout) for Control of Hazardous Energy Source



Shaft (included)

DIMENSIONS




**ME2U, ME3U Series** have black handle, legend plate with clear plastic cover, and gasket. Door interlock feature keeps door closed until handle is in the Off position.

**LE2U, LE3U Series** have yellow housing with red knob; can be padlocked. Mounts directly to enclosure or panel face. **Complies with OSHA regulations.**

Load break switches are designed to disconnect main power source. Accommodates single or three-phase applications.

Switches supplied with protective cover for line side terminals, legend plate, shaft/gasket assembly, and handle. Mounted switch is dust tight, oil, and water resistant (IP54).

Simply installs in panels from 6 to 12" deep. Shaft must be cut to the length required for the box depth—25 and 32 amp switches can be installed in 6 to 10" deep enclosures; 40 amp switches in 7 to 12" deep enclosures; and 63 amp switches in 8 to 12" deep enclosures.

### SIZING SWITCH

Select the correct switch based on the total amp draw of all the devices in the enclosure or panel. If a control transformer is used in the panel, add power consumption of the transformer to motor load.

*Example:*

5 HP, 230 Volt motor draws 13.5 Amps

$$\frac{50VA}{230V} = .22 \text{ Amps}$$

13.5A + .22A **= 13.72 Amps**

### USE A 25 AMP DISCONNECT SWITCH

If no control transformer is used, total all the loads in the panel such as motor loads, relays, timers, pilot lights etc.

*Example:*

| | |
|---|---|
| 5 HP, 30, 230 Volt motor | 13.5 Amps |
| 2 Relays | .5 Amps |
| 1 Pilot Light | + 10 mA (0.1A) |
| | **= 14.1 Amps** |

**USE A 25 AMP DISCONNECT SWITCH**

## DISCONNECT SWITCH SPECIFICATIONS AND ORDERING DATA

| Type | Amp Rating | No. of Poles | Dimensions (in.) A | B | D | Ø | L | Advance Control Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ME2U ME3U | 32 | 3 | 2.95 | 1.63 | 1.67 | 2.26 | 3.74 | CB0250003ME2U | **6A615** | $75.00 | **$60.50** | 1.0 |
| | 40 | | 2.95 | 1.63 | 1.67 | 2.26 | 3.74 | CB0320003ME2U | **6A617** | 94.00 | **76.30** | 0.9 |
| | 60 | | 4.13 | 2.32 | 2.26 | 3.03 | 4.23 | CB0400003ME3U | **6A619** | 130.00 | **101.05** | 2.5 |
| | 85 | | 4.13 | 2.32 | 2.26 | 3.30 | 4.85 | CB0630003ME3U | **6A621** | 165.00 | **120.60** | 2.2 |
| LE2U LE3U | 32 | 3 | 2.95 | 1.63 | 1.67 | 2.26 | 3.74 | CB0250003LE2U | **6A616** | 81.00 | **65.55** | 1.0 |
| | 40 | | 2.95 | 1.63 | 1.67 | 2.26 | 3.74 | CB0320003LE2U | **6A618** | 102.00 | **81.95** | 1.0 |
| | 60 | | 4.13 | 2.32 | 2.26 | 3.03 | 4.23 | CB0400003LE3U | **6A620** | 139.00 | **103.95** | 2.2 |
| | 85 | | 4.13 | 2.32 | 2.26 | 3.30 | 4.85 | CB0630003LE3U | **6A622** | 174.00 | **129.70** | 2.2 |


CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS. THOUSANDS OF QUALITY PRODUCTS ARE LISTED.

# PANEL MOUNT DISCONNECT SWITCHES

## DOOR MOUNT, NON-FUSIBLE LOADBREAK SWITCHES

Telemecanique



No. 4B999

Loadbreak switches are used as an enclosure disconnect in applications where short circuit protection is provided upstream of the switch. They are UL Listed as manual motor controllers.

- **Complete switch includes mounting handle operator, shaft, door interlock plate, and line terminal shroud**
- **3-pole**

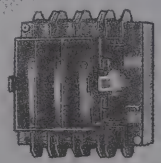
| Amp Size | Horsepower Ratings 240V | 480V | 600V | Shaft Size | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **20** | 5.5 | 10 | 10 | 6mm | VCCF1 | **4B996** | $94.73 | **$93.85** | 0.9 |
| **20*** | 5 | 10 | 10 | — | VC1GU | **4B999** | 110.34 | **109.30** | 1.6 |
| **25** | 7.5 | 15 | 20 | 6mm | VCCF2 | **4B995** | 116.59 | **115.50** | 0.9 |
| **25*** | 7.5 | 15 | 20 | — | VC2GU | **4B998** | 132.20 | **130.95** | 1.6 |
| **45** | 15.5 | 30 | 40 | 8mm | VCCF3 | **4B994** | 147.82 | **146.45** | 1.5 |
| **45*** | 15 | 30 | 40 | — | VC3GU | **4B997** | 159.27 | **157.75** | 2.3 |

### ACCESSORIES FOR NON-FUSIBLE SWITCHES

| Description | Use With Model | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Add-On Contact Modules (Main Pole)** | V1 | VZ1 | **4B993** | $16.44 | **$16.29** | 0.1 |
| | V2 | VZ2 | **4B992** | 25.29 | **25.10** | 0.1 |
| | V3 | VZ3 | **4B991** | 30.71 | **30.45** | 0.3 |
| | All† | VZ7 | **4B990** | 19.77 | **19.59** | 0.1 |

## DOOR MOUNT, FUSIBLE DISCONNECT SWITCHES

SQUARE D
GROUPE SCHNEIDER



Class 9421

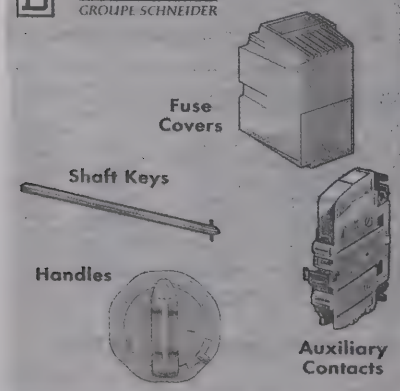
No. 5B039

Type N is an IEC style door mounted disconnect switch that features onboard fusing for Class J fuses.

- **Order switch, handle and shaft for a complete system**
- **Shafts and handles must be ordered separately below**
- **Dimensions: 30A models, 4.65L x 4.33W x 5.70"D; 60A models, 5.36L x 5.62W x 5.06"D**

| Disconnect Switch Size | Maximum Horsepower Ratings 1 Phase AC 115V | 230V | 3 Phase AC 230V | 460V | 575V | DC 125V | 250V | Fuse Selection | Square D Model 9421 . . . | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30A** | 2 | 3 | 7.5 | 15 | 20 | 3 | 5 | Unfused | NC1 | **5B039** | $145.74 | **$144.35** | 1.5 |
| | 2 | 3 | 7.5 | 15 | 20 | 3 | 5 | 30A Class J | NC3 | **5B038** | 173.84 | **172.25** | 1.9 |
| **60A** | 3 | 10 | 15 | 30 | 50 | 5 | 10 | Unfused | ND1 | **5B037** | 175.92 | **174.25** | 2.8 |
| | 3 | 10 | 15 | 30 | 50 | 5 | 10 | 60A Class J | ND3 | **5B036** | 224.85 | **222.75** | 3.0 |

SQUARE D
GROUPE SCHNEIDER




## ACCESSORIES

### TYPE J FUSE COVERS

| Disconnect Switch Size | Square D Model 9421 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **30A** | NJF30 | **5B035** | $21.96 | **$21.75** | 0.1 |
| **60A** | NJF60 | **5B034** | 21.96 | **21.75** | 0.1 |

### AUXILIARY CONTACTS—SPST, N.O.

| Disconnect Switch Size | Position | Square D Model 9421 . . . | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **30A, 60A** | Inner | NAX10 | **5B040** | $38.41 | $38.05 | 0.2 |

### SHAFT KITS

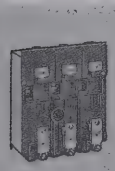
| Disconnect Switch Size | Type of Shaft | Shaft Length | Square D Model 9421 . . . | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **30A, 60A** | Standard | 166mm | NS16 | **5B033** | $13.22 | **$13.09** | 0.1 |
| | Extended | 360mm | NS36 | **5B032** | 16.44 | **16.29** | 0.2 |

### HANDLES

| Disconnect Switch Size | Fuse Selection | Handle Cover | Handle Selection NEMA Type | Square D Model 9421 . . . | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **30A, 60A** | All | Red/Yellow | 1/12/4/4X | NW2 | **3KK16** | $41.74 | **$41.35** | 0.5 |
| | | Black | 1/12/4/4X | NW2B | **3KK17** | 41.74 | **41.35** | 0.2 |

# PANEL MOUNT DISCONNECT SWITCHES

## DOOR, FUSIBLE DISCONNECT SWITCHES



SQUARE D
GROUPE SCHNEIDER

- Order rotary handle and fuse clips to make complete switch
- Class D10 is a door mounted rotary disconnect switch. Rotary handle and fuse clips must be ordered separately below

### ROTARY HANDLES

**Rotary Handle for 6-10 inch deep enclosures**

**No. 4B959.** Square D brand (D11SF10). Shpg. wt. 2.4 lbs. List $59.33. Each..... **$58.80**

**Rotary Handle for 5.4-6 inch deep enclosures**

**No. 2FL81.** Square D brand (D11SF4). Shpg. wt. 2.1 lbs. List $53.09. Each..... **$52.60**

| Starter NEMA Size | Switching Amps | Max. Horsepower Rating 120V | 200-240V | 480V | 600V | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-1 | 30 | 5 | 10 | 20 | 25 | D10S1 | **4B962** | $135.33 | **$134.05** | 4.9 |
| 2 | 60 | 10 | 20 | 40 | 50 | D10S2 | **4B961** | 146.78 | **145.40** | 5.0 |
| 3 | 100 | 15 | 30 | 60 | 75 | D10S3 | **4B960** | 226.93 | **225.00** | 8.0 |

## FUSE CLIPS KITS

- Mount on top of switch
- Interchangeable fuse clip kits available
- Size to accommodate inrush. Continuous current should not exceed switch rating

| Switch Size | Fuse Clip Rating Amps | Max. AC Voltage | Type | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 30A | — | No Fuse | — | D12C01 | **4B958** | $3.33 | **$3.30** | 0.2 |
| | 0-30 | 600 | H or K | D12C61 | **4B957** | 9.89 | **9.79** | 0.3 |
| | 0-30 | 600 | R | D12CR61 | **4B955** | 26.33 | **26.10** | 1.5 |
| | 0-30 | 600 | J | D12CJ1 | **4B956** | 19.77 | **19.59** | 0.5 |
| 60A | — | No Fuse | — | D12D02 | **4B954** | 9.89 | **9.79** | 0.2 |
| | 31-60 | 600 | H or K | D12D62 | **4B953** | 16.44 | **16.29** | 0.2 |
| 60A | 31-60 | 600 | R | D12DR62 | **4B951** | $33.00 | **$32.70** | 0.4 |
| | 31-60 | 600 | J | D12DJ2 | **4B952** | 23.11 | **22.89** | 0.4 |
| 100A | — | No Fuse | — | D12E03 | **4B950** | 19.77 | **19.59** | 0.7 |
| | 61-100 | 600 | H or K | D12F63 | **4B948** | 36.22 | **35.90** | 0.5 |
| | 61-100 | 600 | R | D12FR63 | **4B947** | 46.11 | **45.70** | 5.3 |
| | 61-100 | 600 | J | D12EJ3 | **4B949** | 46.11 | **45.70** | 0.7 |

## FLANGE MOUNT, FUSIBLE & NON-FUSIBLE



- Switch and operating mechanism only
- Handle mechanism sold separately, see below

These kits include switch, operating mechanism and mounting hardware. Disconnect switches are shipped assembled for right hand operation, but can be easily converted to left hand with no additional parts.

| Disconnect Switch Size | Variable Depth Mtg. Range (In.) Min. | Max. | Maximum Horsepower Rating* AC Systems Volts (Motor Volts) 208 (200) | 240 (230) | 480 (460) | 600 (575) | DC Using 2 Poles 600V Max. | Fuse Clip Rating** (Amps) 250V | 600V | Square D Model 9422 | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 9.12 | 19.25 | 40 | 60 | 125 | 150 | 40 | Non-Fusible 200 | 200 | TF1 | **4B983** | $576.71 | **$571.50** | 22.0 |
| | | | | | | | | | | TF2 | **4B982** | 642.29 | **636.50** | 26.0 |

(*) Refers to rating of switch only. (**) Non-interchangeable Type for Class H, J, K or R fuses only.

## FLANGE MOUNT, FUSIBLE ACCESSORIES



Used with disconnect switch and circuit breaker installations. Contains all mounting hardware

### HANDLES

| NEMA Type | Square D Model 9422 | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 6" Handle for 30-200 amp switches and all circuit breakers: For use with NEMA 1, 3, 3R, 4 (sheet steel) and 12 enclosures | A1 | **4B989** | $65.58 | **$65.00** | 2.8 |
| For use with NEMA 4 (stainless steel) enclosures | A2 | **4B989** | 118.67 | **117.55** | 2.8 |

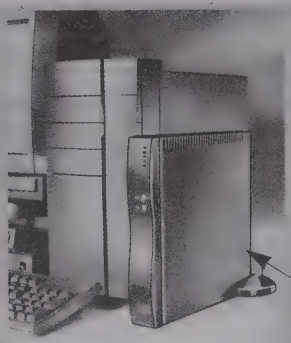
### DOOR CLOSING MECHANISM

Designed for small, and medium size single door control enclosures. Primarily designed for flange mounted disconnect switches and circuit breaker operating mechanics, but can be used independently.

| Description | Use On Enclosure Type | Use in Conjunction with | Door Latch Handle Length (In.) | Suggested Maximum Door Opening (In.) | Door Depth (In.) | Square D Model 9423 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| For doors hinged on left hand side | NEMA 4 and 12 Sheet Steel | Class 9422 Types A1, A3 A9 | 4 | Less than 39 | 3/4 | M4 | **4B980** | $105.14 | **$104.15** | 1.7 |
| | | | 6 | 60 | 3/4 | M9 | **4B979** | 112.42 | **111.35** | 1.5 |
| For three point locking | NEMA 4 and 12 Sheet Steel | Class 9423 Types M4 M9, M4L M9L | — | — | 3/4 | M3 | **4B981** | 23.11 | **22.89** | 0.7 |

# MGE UNINTERRUPTIBLE POWER SUPPLY SYSTEM (UPS)

MGE UPS SYSTEMS



New

Off-Line UPS

No. 3TV76

## MGE PULSAR OFF-LINE UPS

The MGE series UPS's are specifically designed to provide effective single work station, PC, hub, terminal or small key system battery backup and surge protection.

**FEATURES**

- **Compact and lightweight design enables easy plug and play power protection from outages and surges**
- **LED indicators and an audible alarm provide visual and audible indicators of the UPS's operation**
- **Test button gives users the ability to test the condition of the batteries and the inverter**
- **Energy saving mode**
- **Safety agency listed/certified and standards tested to UL 1776, CSA 22.2, FCC Class A & B, ANSI/IEEE C62.41 Cat. A**
- **Fax and phone surge suppression**
- **Two year warranty**

### EXTENDED RUN BATTERY

Extended run battery. For use with No. 4LW22 UPS and No. 4LW23 battery to extend run time up to 30 minutes. Custom DC connector input line connection. Dimensions 9.8"H x 6.8"W x 18.0"D. (EB22XLA).

***New!*** **No. 4LW21.** Shpg. wt. 83.0 lbs. List $559.00. Each .....**$553.50**

## MGE PULSAR LINE INTERACTIVE UPS

The MGE series UPS's incorporate line-interactive technology for brownout, blackout and surge protection of network servers, UNIX systems, PABX and other sensitive computer telephony equipment.

**FEATURES**

- **Active boost circuitry supplies computer grade power during low voltage brownout conditions without going to battery**
- **LED indicators, site wiring fault light and an audible alarm provide comprehensive visual and audible indicators of the UPS's condition and operation**
- **Test button gives users the ability to test the condition of the batteries and the inverter**
- **Extended battery cabinets (ESV 22+ model only) offer customized extended battery backup**
- **Energy saving mode (automatic shut down with no load applied)**
- **Safety agency listed/certified and standards tested to: UL 1778, CSA 22.2, FCC Class B ANSI/IEEE C62.41 Cat. A**
- **OMNIBUS communications port enables unattended shutdown and monitoring of networks and the UPS when used with Merlin Gerin Solution-Pac™ UPS software that's compatible with all major network operating systems (included)**
- **Cold start (ability to use UPS without input power present)**
- **Fader on 3TV79 and 3TV81 corrects high input voltage without transferring to battery**
- **Fax and phone surge suppression**

### OFF-LINE UPS ORDERING DATA

| Power Rating VA/Watts | Input/Output (VAC) | Typical Backup Time | Input Line Connection | Output Receptacles | Dimensions (In.) H | W | D | MGE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **250/175** | 120/60 Hz | 9 min. 30 sec. | 5-15P | (2) 5-15R | 11.2 | 1.8 | 11.4 | EL2 | **3TV74** | $99.00 | **$98.50** | 9.0 |
| **450/280** | 120/60 Hz | 9 min. 30 sec. | 5-15P | (2) 5-15R | 11.2 | 1.8 | 11.4 | EL4 | **3TV76** | 149.00 | **147.95** | 10.0 |
| **750/490** | 120/60 Hz | 9 min. 30 sec. | 5-15P | (4) 5-15R | 7.7 | 4.8 | 13.5 | EL7 | **3TV78** | 269.00 | **266.50** | 29.0 |
| **1080/630** | 120/60 Hz | 9 min. 30 sec. | 5-15P | (4) 5-15R | 7.7 | 4.8 | 13.5 | ES11+ | **3TV80** | 469.00 | **464.50** | 32.0 |

### LINE INTERACTIVE UPS

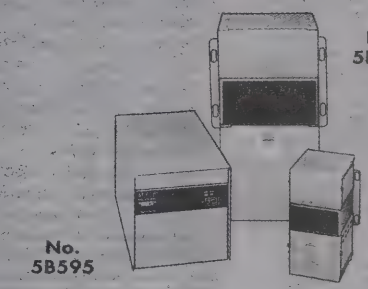
| Power Rating VA/Watts | Input/Output (VAC) | Typical Backup Time | Input Line Connection | Output Receptacles | Dimensions (In.) H | W | D | MGE Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **280/175** | 120/60 Hz | 9 min. 30 sec. | 5-15P | (2) 5-15R | 11.2 | 1.8 | 11.4 | ES3+ | | **3TV75** | $129.00 | **$128.25** | 9.0 |
| **480/280** | 120/60 Hz | 5 min. | 5-15P | (2) 5-15R | 11.2 | 1.8 | 11.4 | ES5+ | | **3TV77** | 169.00 | **167.50** | 9.0 |
| **780/490** | 120/60 Hz | 6 min. 30 sec. | 5-15P | (4) 5-15R | 7.7 | 4.8 | 13.5 | ES8+ | | **3TV79** | 319.00 | **316.25** | 29.0 |
| **1080/700** | 120/60 Hz | 5 min. 10 sec. | 5-15P | (4) 5-15R | 7.7 | 4.8 | 16.0 | ESV11+ | | **3TV81** | 579.00 | **572.00** | 33.0 |
| **1400/980** | 120/60 Hz | 5 min. | 5-15P | (4) 5-15R | 9.5 | 6.5 | 17.4 | ESV14+ | | **3TV82** | 689.00 | **683.00** | 48.0 |
| **2200/1540** | 120/60 Hz | Order No. 4LW23 | L5-30P | (4) 5-15R, (1) L5-30R | 9.8 | 6.8 | 18.0 | ESV22+ | ***New*** | **4LW22** | 799.00 | **791.50** | 39.0 |
| Battery for No. 4LW22 | NA | 7 min. | NA | NA | 9.8 | 6.8 | 18.0 | EB22 | ***New*** | **4LW23** | 349.00 | **345.75** | 50.0 |

# TOPAZ® POWER CONDITIONERS

## ESCORT™ POWER CONDITIONERS

MGE UPS SYSTEMS

E1012 LR22.2



No. 5B591

No. 5B595

No. 5B594

The ESCORT™ Power Conditioner is a blend between ferroresonant technology and computer-grade performance. Provides noise suppression and voltage regulation for computers, process control equipment, test equipment, and POS equipment.

### FEATURES

- Multi-voltage industrial wallmount hardwire models
- Portable with NEMA receptacles
- 6 foot line cord and NEMA plug

### SPECIFICATIONS

- Voltage regulation ±3% out with −25% +10% input. +3% −6% out with −35% +10% input
- Noise attenuation 120db common mode, 60db normal mode

### MGE FIVE YEAR LIMITED WARRANTY

MGE warrants Power Conditioners for 5 years. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

### PORTABLE SPECIFICATIONS AND ORDERING DATA

| Power Rating | Input Voltage (VAC) | Output Voltage (VAC) | Frequency | Dimensions (In.) H | W | D | MGE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **250VA** | 120 | 120 | 60 Hz | 8 | 6 | 12 | 68025-03S | **5B600** | $510.00 | **$505.00** | 30.0 |
| **500VA** | 120 | 120 | 60 | 10 | 9 | 17 | 68050-01S | **5B598** | 540.00 | **535.00** | 43.0 |
| **750VA** | 120 | 120 | 60 | 10 | 9 | 17 | 68075-01S | **5B596** | 685.00 | **678.50** | 49.0 |
| **1000VA** | 120 | 120 | 60 | 10 | 9 | 17 | 68100-01S | **5B595** | 755.00 | **747.50** | 57.0 |
| **2000VA** | 120 | 120 | 60 | 11 | 11 | 19 | 68200-04S | **5B592** | 1290.00 | **1278.00** | 98.0 |

### HARDWIRE SPECIFICATIONS AND ORDERING DATA

| Power Rating | Input Voltage (VAC), 1Ø | Output Voltage (VAC), 1Ø | Frequency | Dimensions (In.) H | W | D | MGE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **250VA** | 120/208/240/480 | 120/208/240 | 60 Hz | 8.5 | 4.4 | 6.0 | 68025-08S | **5B599** | $510.00 | **$505.00** | 23.0 |
| **500VA** | 120/208/240/480 | 120/208/240 | 60 | 12.2 | 6.5 | 6.2 | 68050-08S | **5B597** | 540.00 | **535.00** | 36.0 |
| **1000VA** | 120/208/240/480 | 120/208/240 | 60 | 14.2 | 6.5 | 6.2 | 68100-08S | **5B594** | 755.00 | **747.50** | 42.0 |
| **1500VA** | 120/208/240/480 | 120/208/240 | 60 | 17.1 | 9.9 | 9.3 | 68150-08S | **5B593** | 970.00 | **960.50** | 53.0 |
| **2000VA** | 120/208/240/480 | 120/208/240 | 60 | 18.2 | 9.9 | 9.3 | 68200-08S | **5B591** | 1290.00 | **1278.00** | 81.0 |

## SURGE STRIPS

### APPLICATIONS

- Industrials, institutions, hospitals, offices, labs, wholesale/retail
- For personal computers, fax machines, CAD/CAM & test equipment, point-of-purchase terminals, medical devices, etc.

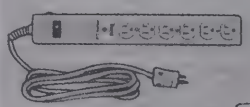
### LISTING & APPROVALS

- UL Listed to Standard 1449 (Transient Voltage Surge Supp.), 1363 (Temp. Power Taps), 498 (receptacles). CSA Certified to Spec C22.2 No. 42M. Suitable for ANSI/IEEE C62.41-1980 (IEEE 587) installation cat. "A" & "B"

### FEATURES & BENEFITS

- Protect sensitive electronic equipment from transient voltage surges
- Rugged tamperproof metal enclosure
- Power cords are 6 ft., 14/3 AWG-SJT
- Noise filtering reduces possibility of EMI/RFI interference
- Visual and audible surge status indicators
- Resettable circuit breaker with overload/short circuit protection

HUBBELL®



No. 3D461



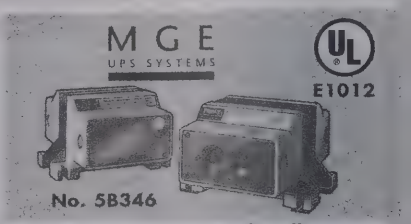
No. 3D423

| Rating | Description | Input | No. of Outlets | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **15A 125V** | Power Strip with Filtering, Surge Protection, Hospital Grade Receptacles and Plug | Power Cord | 6 | SS6HG | **3D462** | $271.30 | **$217.25** | **$195.31** | 2.8 |
| | Power Strip with Filtering, Surge Protection | Power Cord | 6 | SS6 | **3D461** | 225.12 | **180.25** | **162.07** | 2.8 |
| | Power Strip with Filtering, Surge Protection | Power Cord | 4 | SS4 | **3D460** | 193.21 | **154.75** | **139.10** | 2.5 |
| | Power Strip only (no Filtering, no Surge Protection) | Power Cord | 6 | PS6 | **3D428** | 83.18 | **66.55** | **59.88** | 2.6 |
| | Plug-In Adapter with Filtering, Power & FAX/Modem Surge Protection, 2 RJ11 Jacks, 4' phone cord | Plug-In | 2 | SP12M | **3D423** | 200.30 | **160.25** | **144.20** | 1.6 |
| | Plug-In Adapter with Filtering, Surge Protection | Plug-In | 2 | SP12 | **3D422** | 170.57 | **136.45** | **122.79** | 1.3 |

# ISOLATION TRANSFORMERS

## ULTRA-ISOLATOR® NOISE SUPPRESSOR ISOLATION TRANSFORMERS

The ULTRA ISOLATOR® Noise suppressor protects sensitive electronic equipment against electrical noise disturbances. Provide noise protection and isolation for computers, test equipment and process control equipment.




- Multi-voltage industrial wallmount hardwire models
- Portable with NEMA receptacles
- 6 ft. line cord and NEMA plug
- Noise attenuation 146 db common mode, 60 db normal mode
- Portable units 120 VAC input/output voltage, 60 Hz
- Hardwire units 120/240 VAC input/output voltage, 50/60 Hz
- Meet UL544, medical and dental equipment standard

**FIVE YEAR LIMITED WARRANTY**

MGE warrants Noise Suppressor for 5 years. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

### PORTABLE SPECIFICATIONS AND ORDERING DATA

| Power Rating | Dimensions (In.) H | W | D | MGE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **125VA** | 4.8 | 7.4 | 7.6 | 91091-32T | **5B347** | $325.53 | **$322.50** | 17.0 |
| **250VA** | 4.8 | 7.4 | 8.0 | 91092-32T | **5B345** | 366.84 | **363.50** | 17.0 |
| **500VA** | 4.8 | 7.4 | 9.0 | 91095-32T | **5B343** | 413.12 | **409.50** | 22.0 |
| **750VA** | 4.8 | 7.4 | 9.7 | 91097-32T | **5B341** | 465.71 | **461.25** | 27.0 |
| **1kVA** | 6.6 | 8.4 | 9.7 | 91001-32T | **5B354** | 537.50 | **532.50** | 40.0 |
| **1.8kVA** | 6.6 | 8.4 | 10.5 | 91018-32T | **5B349** | 672.76 | **666.50** | 52.0 |
| **2.4kVA** | 6.6 | 8.4 | 10.9 | 91002-32T | **5B352** | 771.54 | **764.50** | 60.0 |

### HARDWIRE SPECIFICATIONS AND ORDERING DATA

| Power Rating | Dimensions (In.) H | W | D | MGE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **125VA** | 4.8 | 7.4 | 7.9 | 91091-31T | **5B348** | $314.38 | **$311.50** | 16.0 |
| **250VA** | 4.8 | 7.4 | 8.3 | 91092-31T | **5B346** | 354.14 | **350.75** | 17.0 |
| **500VA** | 4.8 | 7.4 | 9.4 | 91095-31T | **5B344** | 392.53 | **388.75** | 24.0 |
| **750VA** | 4.8 | 7.4 | 10.2 | 91097-31T | **5B342** | 419.83 | **415.75** | 30.0 |
| **1kVA** | 6.6 | 8.4 | 10.0 | 91001-31T | **5B355** | 496.24 | **491.50** | 38.0 |
| **1.8kVA** | 6.6 | 8.4 | 11.0 | 91018-31T | **5B350** | 631.63 | **626.00** | 55.0 |
| **2.5kVA** | 6.6 | 8.4 | 11.8 | 91002-31T | **5B353** | 806.18 | **798.50** | 58.0 |
| **5kVA** | 6.6 | 8.4 | 15.0 | 91005-31T | **5B351** | 1050.66 | **1041.00** | 107.0 |

## CONTROL POWER TRANSFORMER SELECTION GUIDE

1) Determine inrush and sealed VA of each coil in the control circuit. 2) Total the sealed VA of all coils. 3) Total the inrush VA of all coils at 100% secondary voltage. Add this value to the total sealed VA present (if any) when inrush occurs. 4) If the supply voltage is stable and varies no more than ±5%, refer to the 90% secondary voltage column. If voltage varies as much as ±10%, use the 95% voltage column. 5) Using the regulation chart, select a transformer: a) With a continuous VA rating equal to or greater than the value obtained in Step 2 and b) With a maximum inrush VA equal to or greater than the value obtained in Step 3.

### INRUSH VA AT 30% POWER FACTOR

| VA | 95% Secondary Voltage | 90% Secondary Voltage | 85% Secondary Voltage | VA | 95% Secondary Voltage | 90% Secondary Voltage | 85% Secondary Voltage |
|---|---|---|---|---|---|---|---|
| 25 | NA | NA | NA | 350 | 1480 | 2104 | 2712 |
| 50 | 170 | 238 | 308 | 500 | 1836 | 2651 | 3441 |
| 75 | 236 | 353 | 471 | 750 | 3482 | 5042 | 6564 |
| 100 | 298 | 447 | 599 | 1000 | 4244 | 6345 | 8388 |
| 150 | 590 | 805 | 1023 | 1500 | 10023 | 14736 | 19304 |
| 200 | 1065 | 1538 | 2163 | 2000 | 12744 | 19202 | 25450 |
| 250 | 1290 | 1949 | 2680 | 3000 | 18176 | 28096 | 37797 |
| 300 | 1237 | 1775 | 2299 | | | | |

### RECOMMENDED FUSE SIZES FOR PRIMARY VOLTAGES

- **Use Class CC time delay fuses (see page 422)**

NOTE: NEC sizing in tables satisfies NEC requirements (Art. 450-3) for primary and secondary control circuit protection. For motor control (MCC's) applications with primary current rated 2 amps or less, NEC Article 430-72(b) allows primary fuses to be sized at or less than 500% of rated primary current.

| VA | 120 Volts Primary Current (Amps) | 120 Volts Fuse Rating | 240 Volts Primary Current (Amps) | 240 Volts Fuse Rating | 480 Volts Primary Current (Amps) | 480 Volts Fuse Rating |
|---|---|---|---|---|---|---|
| 50 | .41 | 1 | .21 | 1/2 | .10 | 1/4 |
| 75 | .63 | 1½ | .31 | 3/4 | .16 | 4/10 |
| 100 | .83 | 2 | .42 | 1 | .21 | 1/2 |
| 150 | 1.25 | 3 | .63 | 1½ | .31 | 3/4 |
| 200 | 1.67 | 4 | .83 | 2 | .42 | 1 |
| 250 | 2.08 | 5 | 1.04 | 2½ | .52 | 1¼ |
| 300 | 2.50 | 6¼ | 1.25 | 3 | .63 | 1½ |
| 350 | 2.92 | 7 | 1.46 | 3½ | .73 | 1⅘ |
| 500 | 4.17 | 10 | 2.08 | 5 | 1.04 | 2½ |
| 750 | — | — | 3.13 | 7½ | 1.56 | 3½ |
| 1000 | — | — | 4.17 | 10 | 2.08 | 5 |

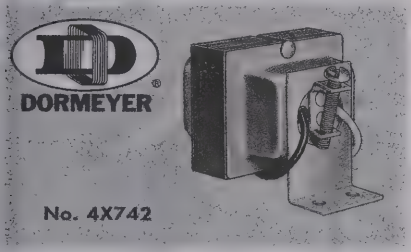
### RECOMMENDED FUSE SIZES FOR SECONDARY VOLTAGES

- **Use 1¼ x 1/4" fuses**

NOTE: Fuse sizing in tables satisfies NEC requirements (Art. 450-3) for primary and secondary control circuit protection.

| VA | 24 Volts Secondary Current (Amps) | 24 Volts Fuse Rating | 120 Volts Secondary Current (Amps) | 120 Volts Fuse Rating |
|---|---|---|---|---|
| 50 | 2.08 | 3⅘ | .42 | 6/10 |
| 75 | 3.13 | 5 | .63 | 1 |
| 100 | 4.17 | 6¼ | .83 | 1¼ |
| 150 | 6.25 | 10 | 1.25 | 2 |
| 200 | 8.33 | 12 | 1.67 | 2¼ |
| 250 | 10.42 | 12 | 2.08 | 3⅘ |
| 300 | 12.50 | 15 | 2.50 | 4 |
| 350 | 14.58 | 20 | 2.92 | 4½ |
| 500 | 20.83 | 30 | 4.17 | 6¼ |
| 750 | — | — | 6.25 | 10 |
| 1000 | — | — | 8.33 | 12 |

## 5 THRU 40VA TRANSFORMERS



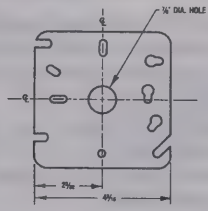

No. 4X742

- For use with relays, chimes, bells, thermostats, HVAC equipment, and electrical apparatus

E32963 E32963

- Class 2 rated
- 50/60 Hz
- All-position mounting bracket simplifies installation and eliminates the need to inventory transformers with different mounting styles
- Mounts to standard 7/8" knockout in mounting foot plate (included), handy box, or control enclosure
- Order cover plate No. 4X748, if mounting on handy box is required
- 12" primary leads, stripped 3/4" and twisted

### UNIVERSAL MOUNT COVER PLATE




For mounting transformer Nos. 4X742 thru 4X747 on front of any handy or junction box. Dormeyer brand (BR-146-01).

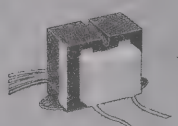
**No. 4X748.** Shpg. wt 0.4 lbs. List.....$1.60. Each .....**$1.07**

| VA Rated | Volts @ 60 Hz Primary (Input) | Volts @ 60 Hz Secondary (Output) | Dormeyer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 | 120 | 10 | DCT-5-120 | **4X742** | $13.80 | **$9.25** | 0.8 |
| 10 | 120 | 16 | DCT-10-120 | **4X743** | 14.06 | **9.43** | 0.6 |
| 20 | 120 | 24 | DCT-20-120 | **4X744** | 15.18 | **10.18** | 1.0 |
| | 240 | | DCT-20-240 | **4X745** | 15.35 | **10.29** | 1.0 |
| 40 | 120 | 24 | DCT-40-120 | **4X746** | 16.51 | **11.07** | 1.5 |
| | 240 | | DCT-40-240 | **4X747** | 16.93 | **11.34** | 1.4 |

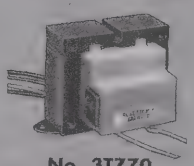
## 40 - 75VA TRANSFORMERS

- Designed for industrial and HVAC control applications
- Overload and short circuit protection
- For applications including residential furnaces where special mounting may be required
- All models are energy limiting and unaffected by momentary short circuits
- On Nos. 3TZ66, 3TZ67, and 3TZ68 extended secondary short circuits cause primary winding to open—minimizes fire hazards
- Nos. 3TZ69 and 3TZ70 have resettable breaker
- Class 2 rated
- UL Listed and CSA Certified

steveco E33334 LR700786



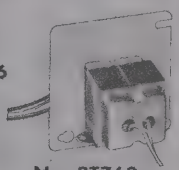
No. 3TZ67



No. 3TZ70

FOOT MOUNT TYPE

- Can be foot or channel mounted



No. 3TZ68

UNIVERSAL MOUNT TYPE

- Can be foot, plate or 7/8" hub mounted

## 96VA POWER TRANSFORMER

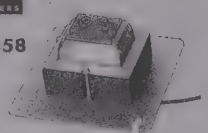
Dual primary/dual secondary
UL Recognized (E68100)

### APPLICATIONS

Automatic assembly equipment and automatic musical equipment
Relays, solenoids, speed changers, door openers, spark plug testers, heating elements, and electronic tubes
Small motors, elevators, pumps, fans and blowers, and control valves for fluids and gases
Mechanical and electrical signs, signal lamps, and low voltage lighting

WR WHITE-RODGERS steveco E12139 LR13360

No. 3A358



96VA Power Transformer No. 3TZ65

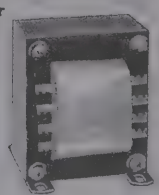


PLATE MOUNT TYPE

- Plate Mount mounts on 4" square handy box

| Mounting Type | VA | Lead Length (In.) | Volts @ 60 Hz Primary (Input) | Volts @ 60 Hz Secondary (Output) | Brand | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Foot | 40 | 10 | 120/208/240VAC | 24 | Steveco | 90-T40F3 | **3TZ67** | $12.13 | **$7.38** | 1.7 |
| Foot | 60 | 10 | 120/208/240 | 24 | Steveco | 90-T60C3 | **3TZ69** | 35.62 | **26.90** | 2.4 |
| Foot | 75 | 10 | 120/208/240 | 24 | Steveco | 90-T75C3 | **3TZ70** | 60.18 | **45.40** | 4.2 |
| Universal | 40 | 10 | 120 | 24 | Steveco | 90-T40M1 | **3TZ66** | 15.64 | **11.09** | 2.0 |
| Universal | 40 | 10 | 120/208/240 | 24 | Steveco | 90-T40M3 | **3TZ68** | 16.12 | **11.76** | 2.0 |
| Plate | 40 | 10 | 120 | 24 | White Rodgers | S84A-410 | **3A358** | 19.10 | **10.73** | 1.8 |

| Mounting Type | VA | Terminals | Volts @ 50/60 Hz Primary (Input) | Volts @ 50/60 Hz Secondary (Output) | Brand | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Foot | 96 | Solder Lug | 120/240 | 24/12 | Steveco | 90-T40F3 | **3TZ65** | $44.56 | **$37.00** | 4.3 |

# CONTROL POWER TRANSFORMERS

## TYPE T TRANSFORMERS

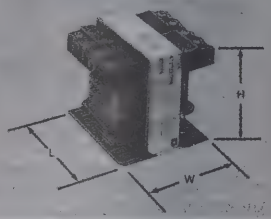
- Designed to handle high inrushes associated with contactors and relays
- Copper wound, vacuum impregnated with varnish
- 50/60 Hz
- 50-150VA models 55°C rise, 105°C temperature class
- 200-350VA models 80°C rise, 130°C temperature class
- 500-3000VA models 115°C rise, 180°C temperature class
- 100% tested in compliance with ANSI, CSA, UL codes, and CE requirement EN60742
  50-3000VA models meet UL, CE, CSA, NOM requirements

SQUARE D GROUPE SCHNEIDER

New

E61239

LR37055




### TYPE T AND TF ACCESSORIES

| Description | For use with Transformers Rated | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Finger Protective Cover | 50-200VA | 9070FSC-1 | 4R938 | $6.60 | $6.19 | 0.1 |
| | 250-5000VA | 9070FSC-2 | 4R940 | 9.00 | 8.44 | 0.1 |

### TYPE T TRANSFORMER SPECIFICATIONS AND ORDERING DATA

| UL VA | CE VA | Primary Voltage | Secondary Voltage | Dimensions (In.) L | W | H | Square D Model 9070... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE PHASE** | | | | | | | | | | | |
| 50 | 50 | 240/480 | 120 | 3.00 | 3.09 | 2.58 | T50D1 | 4R874 | $35.30 | $33.15 | 2.5 |
| | | 208 | 120 | | | | T50D3 | 4R888 | 41.00 | 38.50 | 2.5 |
| | | 277 | 120 | | | | T50D4 | 4R890 | 41.00 | 38.50 | 2.5 |
| | | 120 | 12/24 | | | | T50D13 | 4R876 | 41.00 | 38.50 | 2.5 |
| | | 208 | 24 | | | | T50D14 | 4R878 | 41.00 | 38.50 | 2.5 |
| | | 120/240 | 24 | | | | T50D23 | 4R886 | 41.00 | 38.50 | 2.5 |
| | | 240/480 | 24 | | | | T50D2 | 4R882 | 41.00 | 38.50 | 2.5 |
| 75 | 75 | 240/480 | 120 | 3.38 | 3.34 | 2.89 | T75D1 | 4R894 | 41.80 | 39.25 | 3.9 |
| | | 120 | 12/24 | | | | T75D13 | 4R896 | 49.70 | 46.65 | 3.9 |
| | | 120/240 | 24 | | | | T75D23 | 4R900 | 49.70 | 46.65 | 3.9 |
| | | 240/480 | 24 | | | | T75D2 | 4R898 | 49.70 | 46.65 | 3.9 |
| 100 | 100 | 240/480 | 120 | 3.38 | 3.34 | 2.89 | T100D1 | 4R822 | 46.90 | 44.00 | 3.9 |
| | | 208 | 120 | | | | T100D3 | 4R834 | 55.00 | 51.60 | 3.9 |
| | | 277 | 120 | | | | T100D4 | 4R836 | 55.00 | 51.60 | 3.9 |
| | | 120 | 12/24 | | | | T100D13 | 4R824 | 55.00 | 51.60 | 3.9 |
| | | 208 | 24 | | | | T100D14 | 4R826 | 55.00 | 51.60 | 3.9 |
| | | 120/240 | 24 | | | | T100D23 | 4R832 | 55.00 | 51.60 | 3.9 |
| | | 240/480 | 24 | | | | T100D2 | 4R830 | 55.00 | 51.60 | 3.9 |
| 150 | 150 | 240/480 | 120 | 3.75 | 3.59 | 3.20 | T150D1 | 4R840 | 50.00 | 46.90 | 5.7 |
| | | 277 | 120 | | | | T150D4 | 4R852 | 70.00 | 65.70 | 5.7 |
| | | 120 | 12/24 | | | | T150D13 | 4R842 | 70.00 | 65.70 | 5.4 |
| | | 120/240 | 24 | | | | T150D23 | 4R850 | 70.00 | 65.70 | 5.7 |
| | | 240/480 | 24 | | | | T150D2 | 4R846 | 70.00 | 65.70 | 5.7 |
| 200 | 200 | 240/480 | 120 | 3.75 | 3.59 | 3.20 | T200D1 | 4R856 | 62.00 | 58.20 | 8.2 |
| 250 | 160 | 240/480 | 120 | 3.75 | 5.19 | 3.13 | T250D1 | 4R858 | 72.00 | 67.55 | 9.5 |
| | | 120 | 12/24 | | | | T250D13 | 4R860 | 110.00 | 103.20 | 9.5 |
| 300 | 200 | 240/480 | 120 | 4.50 | 4.63 | 3.75 | T300D1 | 4R864 | 80.00 | 75.05 | 8.3 |
| | | 120 | 12/24 | | | | T300D13 | 4R866 | 113.00 | 106.00 | 8.3 |
| 350 | 250 | 240/480 | 120 | 4.50 | 5.00 | 3.75 | T350D1 | 4R868 | 85.00 | 79.75 | 10.0 |
| 500 | 300 | 240/480 | 120 | 4.50 | 5.38 | 3.75 | T500D1 | 4R870 | 106.00 | 99.45 | 12.0 |
| | | 120 | 12/24 | | | | T500D13 | 4R872 | 143.00 | 134.15 | 13.0 |
| 750 | 500 | 240/480 | 120 | 5.25 | 5.56 | 4.38 | T750D1 | 4R892 | 147.00 | 137.90 | 16.0 |
| 1000 | 630 | 240/480 | 120 | 5.25 | 5.94 | 4.38 | T1000D1 | 2F456 | 178.00 | 167.00 | 21.0 |
| 1500 | 1000 | 240/480 | 120 | 7.06 | 5.81 | 6.16 | T1500D1 | New 4RM77 | 254.00 | 228.75 | 35.0 |
| 2000 | 1500 | 240/480 | 120 | 7.06 | 7.09 | 6.16 | T2000D1 | New 4RM78 | 309.00 | 278.25 | 47.0 |
| 3000 | 2000 | 240/480 | 120 | 9.00 | 6.86 | 8.46 | T3000D1 | New 4RM79 | 429.00 | 386.25 | 58.0 |
| **TYPE T MULTITAPS** | | | | | | | | | | | |
| 50 | 50 | 208/230/460 | 115 | 3.38 | 3.34 | 2.89 | T50D20 | 4R884 | 57.00 | 53.50 | 3.8 |
| 150 | 150 | 208/230/460 | 115 | 3.75 | 4.81 | 3.75 | T150D20 | 4R848 | 83.00 | 77.90 | 7.8 |

## TYPE E TRANSFORMERS

- High efficiency transformers for applications that require exceptional regulation and very low temperature
- 50/60 Hz
- 105°C temperature class
- UL Listed and CSA Certified

### TYPE E TRANSFORMER SPECIFICATIONS AND ORDERING DATA

| VA 60 Hz | VA 50 Hz | Primary Voltage VAC, 1Ø | Secondary Voltage VAC, 1Ø | Dimensions (In.) L | W | H | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 35 | 240/480 | 120 | 3 | 3.31 | 2.5 | 9070EO1D1 | 2CT36 | $45.00 | $42.25 | 2.4 |

# CONTROL POWER TRANSFORMERS AND FUSE PROTECTION KITS

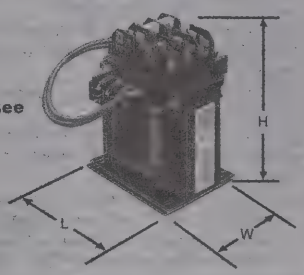
## TYPE TF TRANSFORMERS WITH TOP MOUNTED FUSE BLOCKS

- Comply with UL Standard 508 and NEC 450
- Primary fuse clips accommodate Class CC time delay, rejection type fuses • Secondary fuse clips use a midget (1.5 x 13/32") fuse
- 50/60 Hz • Designed to handle high inrushes associated with contactors and relays
- 50-150VA models 55°C rise, 105°C temperature class
- 200-350VA models 80°C rise 130°C temperature class
- 500-1000VA models 115°C rise, 180°C temperature class
- Meets UL, CSA, NOM requirements
- Use Finger-Safe accessories to meet CE requirements EN60204, see page 404

SQUARE D
GROUPE SCHNEIDER

- Order fuses separately, see pages 420-423

E61239 LR37055




### FUSE PULLER

For use with type TF transformers. Square D brand (9070FP1).

**No. 4R936.** Shpg. wt. 0.1 lbs, List $9.90. Each.....$9.29

### TYPE TF TRANSFORMER SPECIFICATIONS AND ORDERING DATA

| UL VA | CE VA | Primary Voltage | Secondary Voltage | Dimensions (In.) L | W | H | Square D Model 9070... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 50 | 240/480 | 120 | 3.00 | 3.09 | 3.94 | TF50D1 | **4R924** | $50.00 | **$46.90** | 3.0 |
| | | 120/240 | 24 | | | | TF50D23 | **4R926** | 56.00 | **52.55** | 3.0 |
| | | 240/480 | 120 | | | | T50D1SF41 | **4R880*** | 40.30 | **37.85** | 3.0 |
| **75** | 75 | 240/480 | 120 | 3.38 | 3.34 | 4.19 | TF75D1 | **4R930** | 56.00 | **52.55** | 4.3 |
| | | 120/240 | 24 | | | | TF75D23 | **4R932** | 64.00 | **60.05** | 4.3 |
| **100** | 100 | 240/480 | 120 | 3.38 | 3.34 | 4.19 | TF100D1 | **4R904** | 61.00 | **57.25** | 4.3 |
| | | 120/240 | 24 | | | | TF100D23 | **4R908** | 70.00 | **65.70** | 4.5 |
| | | 208/230/460 | 115 | | | | TF100D20 | **4R906** | 89.00 | **83.50** | 5.3 |
| | | 240/480 | 120 | | | | T100D1SF41 | **4R828*** | 52.00 | **48.80** | 3.9 |
| **150** | 150 | 240/480 | 120 | 3.75 | 3.59 | 4.50 | TF150D1 | **4R910** | 65.00 | **61.00** | 5.9 |
| | | 208/230/460 | 115 | | | | TF150D20 | **4R912** | 109.00 | **102.25** | 8.1 |
| | | 240/480 | 120 | | | | T150D1SF41 | **4R844*** | 55.00 | **51.60** | 5.7 |
| **200** | 200 | 240/480 | 120 | 3.75 | 3.59 | 5.06 | TF200D1 | **4R914** | 77.00 | **72.25** | 8.1 |
| **250** | 160 | 240/480 | 120 | 3.75 | 5.19 | 5.06 | TF250D1 | **4R916** | 87.00 | **81.65** | 9.9 |
| **300** | 200 | 240/480 | 120 | 4.50 | 4.63 | 5.06 | TF300D1 | **4R918** | 95.00 | **89.15** | 8.7 |
| **350** | 250 | 240/480 | 120 | 4.50 | 5.00 | 5.06 | TF350D1 | **4R920** | 100.00 | **93.80** | 10.0 |
| **500** | 300 | 240/480 | 120 | 4.50 | 5.38 | 5.06 | TF500D1 | **4R922** | 120.00 | **112.60** | 13.0 |
| **750** | 500 | 240/480 | 120 | 5.25 | 5.56 | 5.69 | TF750D1 | **4R928** | 161.00 | **151.25** | 16.0 |
| **1000** | 630 | 240/480 | 120 | 5.25 | 5.94 | 5.69 | TF1000D1 | **4R902** | 194.00 | **182.00** | 21.0 |

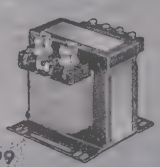
(*) Factory installed secondary fusing. Includes secondary fuse clips to accommodate one 1.5 x 13/32" midget fuse. No primary fusing.

## FUSE PROTECTION KITS

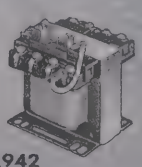
SQUARE D
GROUPE SCHNEIDER

New

- Priced each, sold only in package quantities
- Order fuse separately, see pages 414, 420-423



No. 3TV99



No. 4R942

### SECONDARY FUSE PROTECTION KITS

| Use on Type T VA size | Fuse Size (In.) | Square D Model 9070... | Stock No. | Pkg. Qty. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **50-200** | 1½ x 13/32 | FB3A | ***New*** **4RM75** † | 1 | $26.40 | **$23.76** | 0.5 |
| **250-2000** | 1½ x 13/32 | FB3B | ***New*** **4RM76** † | 1 | 26.40 | **23.76** | 0.5 |
| **50-200** | 1½ x 13/32 | SF41A | **3TV99** * | 10 | 5.40 | **4.85** | 0.1 |
| **250-2000** | 1½ x 13/32 | SF41B | **3TW01** * | 10 | 5.40 | **4.85** | 0.4 |
| **50-200** | 1¼ x ¼ | SF25A | **4R942** | 1 | 6.60 | **6.19** | 0.1 |
| **250-2000** | 1¼ x ¼ | SF25B | **4R944** | 1 | 6.60 | **6.19** | 0.2 |

†) Primary rejection-type fuse clips and 1 secondary non-rejection type clip. (*) For single voltage secondaries only.

# TRANSFORMER DISCONNECTS AND BUCK-BOOST TRANSFORMERS

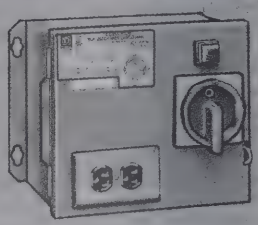
## TYPE SK TRANSFORMER DISCONNECTS

- Provide power to auxiliary 1Ø loads when main 3Ø disconnect is "On" or "Off"
- Applications include isolated loads such as lighting panels, portable power tools, and programmable controller equipment
- Mount inside or outside control system enclosure; NEMA 1 enclosure
- 100,000A short circuit withstand integrated rating when protected by Class CC rejection-style fuses
- Type TF transformer
- Top-mounted fuse block accommodates 2 Class CC time delay primary fuses and 1 secondary fuse (1½" x 13/32")
- External handle mechanically interlocked with enclosure cover; handle locks in "Off" position
- Knockouts
- Ground terminal
- External mounting flanges with slotted holes for hook or hang mounting
- 90° access cover stop
- UL Listed and CSA Certified
- 50/60 Hz

SQUARE D
GROUPE SCHNEIDER

E61239 LR37055

- Order fuses separately, see pages 421 and 422
- Duplex receptacle and indicator light not included



### TYPE SK TRANSFORMER DISCONNECT SPECIFICATIONS AND ORDERING DATA

| Continuous VA | Primary Voltage | Secondary Voltage | Dimensions (In.) W | H | D | Square D Model 9070... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 | 230/460 | 115 | 11.80 | 9.40 | 8.96 | SK500G1D1 | 1H729 | $483.02 | $478.50 | 28.0 |
| 1000 | | | | | | SK1000G1D1 | 1D775 | 714.12 | 707.50 | 36.0 |

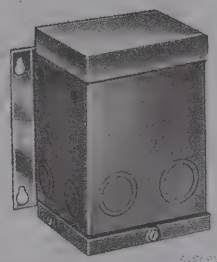
## BUCK AND BOOST TRANSFORMERS

SQUARE D
GROUPE SCHNEIDER

- 120 x 240 volts primary
- 12/24 or 16/32 volts secondary
- By special interconnection of windings, autotransformer is obtained
- Single phase, 60 Hz
- Wall mounting
- Indoor/Outdoor

E61239

LR37055



### BUCK AND BOOST TRANSFORMER SPECIFICATIONS AND ORDERING DATA

| KVA | Secondary Voltage | °C Temp. Rise | Dimensions (In.) H | W | D | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.10 | 12/24 | 55 | 5.5 | 4.5 | 3.5 | 100SV43A | 1H266 | $117.00 | $64.60 | 6.5 |
| 0.15 | 12/24 | 55 | 5.0 | 4.9 | 3.8 | 150SV43A | 1H268 | 131.00 | 72.35 | 6.2 |
| 0.25 | 12/24 | 80 | 5.5 | 5.3 | 4.1 | 250SV43B | 1H271 | 156.00 | 86.15 | 9.5 |
| 0.50 | 12/24 | 80 | 6.2 | 6.2 | 4.7 | 500SV43B | 1H275 | 200.00 | 110.40 | 15.0 |
| 0.75 | 12/24 | 115 | 6.7 | 6.2 | 4.7 | 750SV43F | 1H279 | 263.00 | 145.20 | 18.0 |
| 1.00 | 12/24 | 115 | 8.2 | 7.0 | 5.4 | 1S43F | 1H270 | 322.00 | 177.75 | 26.0 |
| 1.50 | 12/24 | 115 | 8.3 | 8.7 | 6.6 | 1.5S43F | 2CL92 | 395.00 | 242.25 | 38.0 |
| 2.00 | 12/24 | 115 | 9.6 | 8.7 | 6.6 | 2S43F | 2CM81 | 510.00 | 312.75 | 47.0 |
| 3.00 | 12/24 | 115 | 12.6 | 8.7 | 6.5 | 3S43F | 2CN17 | 705.00 | 432.25 | 69.0 |
| 0.25 | 16/32 | 80 | 5.5 | 5.3 | 4.1 | 250SV46B | 1H272 | 156.00 | 86.15 | 10.0 |
| 0.50 | 16/32 | 80 | 6.2 | 6.2 | 4.7 | 500SV46B | 1H276 | 200.00 | 110.40 | 16.0 |
| 0.75 | 16/32 | 115 | 6.7 | 6.2 | 4.7 | 750SV46F | 1H280 | 263.00 | 145.20 | 18.0 |
| 1.00 | 16/32 | 115 | 8.2 | 7.0 | 5.4 | 1S46F | 2CM61 | 322.00 | 197.50 | 25.0 |
| 1.50 | 16/32 | 115 | 8.3 | 8.7 | 6.6 | 1.5S46F | 2CL93 | 395.00 | 242.25 | 38.0 |
| 2.00 | 16/32 | 115 | 9.6 | 8.7 | 6.6 | 2S46F | 2CM82 | 510.00 | 312.75 | 48.0 |
| 3.00 | 16/32 | 115 | 12.6 | 8.7 | 6.5 | 3S46F | 2CN18 | 705.00 | 432.25 | 68.0 |

### BUCK/BOOST SELECTION GUIDE

(1Ø LOADS)

1. Determine:

a) Total kilovolt-ampere (KVA) load to be supplied by transformer

b) Required nameplate voltage (120 or 240VAC plus/minus 12, 16, 24 or 32VAC)

c) Available line voltage (120 or 240VAC plus/minus 12, 16, 24 or 32VAC)

2. Calculate buck-boost transformer rating by using the formula:

$$\frac{\text{(High Voltage—Low Voltage)}}{\text{High Voltage}} \times \text{load KVA} = \text{Rating}$$

**DO NOT UNDERSIZE**

Examples:

1. Load KVA = 2.0

Required nameplate voltage =120VAC

Actual line voltage = 132VAC

$$\frac{(132—120)}{132} \times 2.0 = 0.18 \text{ KVA}$$

**Select 0.25 KVA Rated Transformer**

2. Load KVA = 4.0

Required nameplate voltage = 230VAC

Actual line voltage = 208VAC

$$\frac{(230—208)}{230} \times 4.0 = 0.38 \text{ KVA}$$

**Select 0.50 KVA Rated Transformer**

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

# GENERAL PURPOSE TRANSFORMERS AND WEATHERSHIELDS

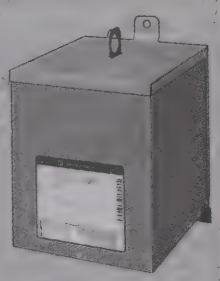
## GENERAL PURPOSE TRANSFORMERS

- Corrosion-resistant, phosphatized enclosures
- Indoor ventilated transformers have core and coil assemblies mounted on rubber isolation pads to minimize sound level
- Compact size allows installation near load being supplied
- Tested to meet or exceed IEEE, NEMA, and ANSI standards

SQUARE D
GROUPE SCHNEIDER

E61239 .050-2 KVA
E92978 3-10 KVA
E6868 15-150 KVA

LR37055 .050-2 KVA Single Phase
LR27569 3 KVA Single Phase



Wall Mount

## GENERAL PURPOSE TRANSFORMER SPECIFICATIONS AND ORDERING DATA

| KVA | Full Capacity Taps | °C Temp. Rise | Dimensions (In.) H | W | D | Mounting | Enclosure Type | Outdoor Weathershield | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE PHASE—240 x 480 Volts Primary, 120/240 Volts Secondary, 60 Hz** | | | | | | | | | | | | | |
| .050 | None | 55 | 5.0 | 4.5 | 3.5 | Wall | Indoor/Outdoor | — | 50SV1A | 1H727 | $87.00 | $48.05 | 5.5 |
| .100 | None | 55 | 5.5 | 4.5 | 3.5 | Wall | Indoor/Outdoor | — | 100SV1A | 1H719 | 102.00 | 56.35 | 6.4 |
| .150 | None | 55 | 5.0 | 4.9 | 3.8 | Wall | Indoor/Outdoor | — | 150SV1A | 1H720 | 121.00 | 66.80 | 7.2 |
| .250 | None | 80 | 5.5 | 5.3 | 4.1 | Wall | Indoor/Outdoor | — | 250SV1B | 1H722 | 129.00 | 71.25 | 9.3 |
| .500 | None | 80 | 6.2 | 6.2 | 4.7 | Wall | Indoor/Outdoor | — | 500SV1B | 1H726 | 184.00 | 101.60 | 15.0 |
| .750 | None | 115 | 6.7 | 6.2 | 4.7 | Wall | Indoor/Outdoor | — | 750SV1F | 1H728 | 219.00 | 120.90 | 18.0 |
| 1.000 | None | 115 | 8.2 | 7.0 | 5.4 | Wall | Indoor/Outdoor | — | 1S1F | 1H721 | 287.00 | 158.50 | 25.0 |
| 1.500 | None | 115 | 8.3 | 8.7 | 6.6 | Wall | Indoor/Outdoor | — | 1.5S1F | 1H718 | 345.00 | 190.50 | 35.0 |
| 2.000 | None | 115 | 9.6 | 8.7 | 6.6 | Wall | Indoor/Outdoor | — | 2S1F | 1H723 | 427.00 | 235.75 | 51.0 |
| 3.000 | None | 115 | 10.5 | 8.7 | 6.5 | Wall | Indoor/Outdoor | — | 3S1F | 1H724 | 545.00 | 301.00 | 60.0 |
| 5.000 | None | 115 | 14.8 | 9.8 | 11.8 | Wall | Indoor/Outdoor | — | 5S1F | 1H277 | 741.00 | 400.25 | 126.0 |
| 7.500 | None | 115 | 14.8 | 9.8 | 11.8 | Wall | Indoor/Outdoor | — | 7S1F | 5B613 | 1042.00 | 575.50 | 146.0 |
| 10.000 | None | 115 | 14.8 | 9.8 | 11.8 | Wall | Indoor/Outdoor | — | 10S1F | 5B605 | 1291.00 | 713.00 | 166.0 |
| **THREE PHASE—480V Delta Primary, 208Y/120V Secondary, 60 Hz** | | | | | | | | | | | | | |
| 3 | 2—5%FCBN* | 115 | 13.5 | 14.8 | 9.0 | Wall | Indoor/Outdoor | — | 3T2F | 1H725 | 960.00 | 530.00 | 125.0 |
| 6 | 2—5%FCBN* | 115 | 13.5 | 14.8 | 9.0 | Wall | Indoor/Outdoor | — | 6T2F | 1H278 | 1100.00 | 607.50 | 145.0 |
| 9 | 2—5%FCBN* | 115 | 14.8 | 19.1 | 12.3 | Wall | Indoor/Outdoor | — | 9T2F | 1H282 | 1470.00 | 794.00 | 272.0 |
| 15 | 6—2.5%2+4- | 150 | 27.0 | 20.0 | 16.0 | Floor | Indoor | — | 15T3H | 1H269 | 2001.00 | 995.00 | 196.0 |
| 15 | 6—2.5%2+4- | 150 | 27.0 | 20.0 | 16.0 | Floor | Indoor/Outdoor | Included | — | 7A988 | 2001.00 | 1081.00 | 201.1 |
| 30 | 6—2.5%2+4- | 150 | 27.0 | 20.0 | 16.0 | Floor | Indoor | — | 30T3H | 1H273 | 2952.00 | 1468.00 | 275.0 |
| 30 | 6—2.5%2+4- | 150 | 27.0 | 20.0 | 16.0 | Floor | Indoor/Outdoor | Included | — | 7A989 | 2952.00 | 1595.00 | 280.1 |
| 45 | 6—2.5%2+4- | 150 | 30.0 | 20.0 | 20.0 | Floor | Indoor | — | 45T3H | 1H274 | 3553.00 | 1805.00 | 373.0 |
| 45 | 6—2.5%2+4- | 150 | 30.0 | 20.0 | 20.0 | Floor | Indoor/Outdoor | Included | — | 7A990 | 3553.00 | 1919.00 | 378.1 |
| 75 | 6—2.5%2+4- | 150 | 30.0 | 30.0 | 20.0 | Floor | Indoor† | 1H286 | 75T3H | 1H281 | 5353.00 | 2955.00 | 520.0 |
| 112.5 | 6—2.5%2+4- | 150 | 37.0 | 30.0 | 24.0 | Floor | Indoor† | 1H286 | 112T3H | 1H267 | 7124.00 | 3933.00 | 756.0 |
| 150 | 6—2.5%2+4- | 150 | 44.0 | 32.0 | 27.0 | Floor | Indoor† | 5B779 | 150T3H | 5B606 | 9306.00 | 5137.00 | 1021.0 |
| **THREE PHASE—480V Delta Primary, 240V Delta Secondary, 60 Hz** | | | | | | | | | | | | | |
| 6 | 2—5%FCBN* | 115 | 13.5 | 14.8 | 9.0 | Wall | Indoor/Outdoor | — | 6T5F | 5B611 | 1100.00 | 607.50 | 150.0 |
| 9 | 4—2.5%FCBN* | 115 | 14.8 | 19.1 | 12.3 | Wall | Indoor/Outdoor | — | 9T75F | 5B618 | 1470.00 | 811.50 | 282.0 |
| 15 | 6—2.5%2+4- | 150 | 27.0 | 20.0 | 16.0 | Floor | Indoor | — | 15T6H | 5B607 | 2001.00 | 995.00 | 215.0 |
| 15 | 6—2.5%2+4- | 150 | 27.0 | 20.0 | 16.0 | Floor | Indoor/Outdoor | Included | — | 7A985 | 2001.00 | 1081.00 | 220.1 |
| 30 | 6—2.5%2+4- | 150 | 27.0 | 20.0 | 16.0 | Floor | Indoor | — | 30T6H | 5B608 | 2952.00 | 1468.00 | 271.0 |
| 30 | 6—2.5%2+4- | 150 | 27.0 | 20.0 | 16.0 | Floor | Indoor/Outdoor | Included | — | 7A986 | 2952.00 | 1595.00 | 276.1 |
| 45 | 6—2.5%2+4- | 150 | 30.0 | 20.0 | 20.0 | Floor | Indoor | — | 45T6H | 5B610 | 3553.00 | 1805.00 | 360.0 |
| 45 | 6—2.5%2+4- | 150 | 30.0 | 20.0 | 20.0 | Floor | Indoor/Outdoor | Included | — | 7A987 | 3553.00 | 1919.00 | 365.1 |
| 75 | 6—2.5%2+4- | 150 | 30.0 | 30.0 | 20.0 | Floor | Indoor† | 1H286 | 75T6H | 5B612 | 5353.00 | 2955.00 | 517.0 |

*) Full Capacity Below Normal. (†) Use weathershield to convert indoor ventilated transformers to outdoor use.

## WEATHERSHIELDS

- Used to convert indoor ventilated transformers to outdoor use
- For three-phase transformers, 600V or below

SQUARE D
GROUPE SCHNEIDER



| KVA | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 75-112.5 | WS364 | 1H286 | $219.00 | $134.25 | 7.2 |
| 150 | WS380 | 5B779 | 500.00 | 306.50 | 9.2 |

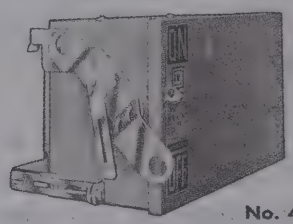
# FUSIBLE BUS PLUGS

## FLOOR OPERABLE QUICK-MAKE, QUICK-BREAK

SQUARE D
GROUPE SCHNEIDER

E22182

LL61778



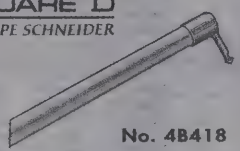
No. 4B419

- Units plug-in to Square D I-Line and I-Line II busway
- NEMA Type 1 enclosures
- Standard provisions are for Class H fuses; conversion to Class J fuse spacing requires relocating load side fuse assembly to alternate position
- Accepts Class R fuses when Class R Fuse Kits are installed
- UL Listed; CSA Certified

| Amp Rating | Voltage | System | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 30 | 240 VAC | 3Ø, 3-Wire, w/Ground | PQ3203G | **4B419** | $486.00 | **$429.25** | 14.0 |
| | 120/208 VAC | 3Ø, 4-Wire, w/Ground | PQ4203G | **4B427** | 568.00 | **502.00** | 14.0 |
| | 600 VAC | 3Ø, 3-Wire, w/Ground | PQ3603G | **4B423** | 521.00 | **460.25** | 13.0 |
| | 277/480 VAC | 3Ø, 4-Wire, w/Ground | PQ4603G | **4B431** | 591.00 | **522.00** | 13.0 |
| 60 | 240 VAC | 3Ø, 3-Wire, w/Ground | PQ3206G | **4B420** | 521.00 | **460.25** | 14.0 |
| | 120/208 VAC | 3Ø, 4-Wire, w/Ground | PQ4206G | **4B428** | 591.00 | **522.00** | 14.0 |
| | 600 VAC | 3Ø, 3-Wire, w/Ground | PQ3606G | **4B424** | 555.00 | **490.25** | 14.0 |
| | 277/480 VAC | 3Ø, 4-Wire, w/Ground | PQ4606G | **4B432** | 615.00 | **543.50** | 16.0 |
| 100 | 240 VAC | 3Ø, 3-Wire, w/Ground | PQ3210G | **4B421** | 739.00 | **653.00** | 18.0 |
| | 120/208 VAC | 3Ø, 4-Wire, w/Ground | PQ4210G | **4B429** | 802.00 | **708.50** | 18.0 |
| | 600 VAC | 3Ø, 3-Wire, w/Ground | PQ3610G | **4B425** | 756.00 | **668.00** | 18.0 |
| | 277/480 VAC | 3Ø, 4-Wire, w/Ground | PQ4610G | **4B433** | 867.00 | **766.00** | 18.0 |
| 200 | 240 VAC | 3Ø, 3-Wire, w/Ground | PQ3220G | **4B422** | 1231.00 | **1087.00** | 68.0 |
| | 120/208 VAC | 3Ø, 4-Wire, w/Ground | PQ4220G | **4B430** | 1364.00 | **1205.00** | 70.0 |
| | 600 VAC | 3Ø, 3-Wire, w/Ground | PQ3620G | **4B426** | 1283.00 | **1133.00** | 68.0 |
| | 277/480 VAC | 3Ø, 4-Wire, w/Ground | PQ4620G | **4B434** | 1433.00 | **1266.00** | 70.0 |
| 200 | 600 VAC | 3Ø, 3-Wire, w/Ground | PS3620G | **4B435*** | 1283.00 | **1133.00** | 73.0 |
| | 277/480 VAC | 3Ø, 4-Wire, w/Ground | PS4620G | **4B436*** | 1433.00 | **1266.00** | 75.0 |

(*) For use on vertical riser applications only.

SQUARE D
GROUPE SCHNEIDER



No. 4B418

## HOOKSTICKS

| Length (Ft.) | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **8** | 51568 | **4B418** | $226.00 | **$199.75** | 6.0 |
| **14** | 515614 | **4B417** | 389.00 | **343.50** | 11.0 |

### CLASS R FUSE KITS (Must be Field Installed)

| Switch Size | Voltage Rating | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **30A*** **60A*** | 600V 250V | QMB-36R | **2DK48** | $31.00 | **$19.38** | 0.2 |
| **60A*** | 600V | QMB-60R | **2DK57** | 31.00 | **19.38** | 0.2 |
| **100A** **200A** | 600V max. | HRK1020 | **1H368** | 30.30 | **18.97** | 0.1 |

(*) Contains parts to convert 2 units.

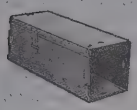
### A NATIONWIDE NETWORK OF BRANCH LOCATIONS

Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.

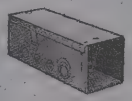
# 4" x 4" SQUARE-Duct® WIREWAY

SQUARE D GROUPE SCHNEIDER

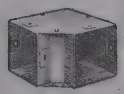
E6625 67564



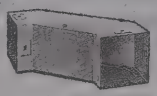
No. 4B445



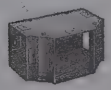
No. 4B444



No. 4B453



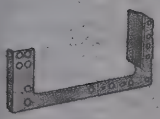
No. 4B454



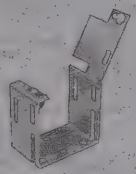
No. 4B463



No. 4B458



No. 4B460



No. 4B457



No. 48



No. 48443

- Combination hinge/screw cover wireway is a steel enclosed wiring trough, surface metal raceway, wireway and auxiliary gutter designed to house electrical wiring where dust, dirt, oil and water are not serious problems
- Wireway fittings have removable covers to permit complete "lay-in" of wires
- Cover has keyhole slots to accept captive screws locking the cover securely closed
- 4" x 4" Square wireway is 16 gauge steel
- Finish: ANSI-49 gray epoxy paint
- UL Listed and CSA Certified
- Conforms to NEMA Type 1 enclosure
- Making taps and splices for additions or modifications is simple. Adding, removing, or re-routing circuits is easy
- Wireway is 100% salvageable and reusable. When changing wiring there is no need to scrap major portions of the system as there is with conduit

**Connectors required for each length and fitting.**

**No. 4B457.** Connector (without Knockouts). Shpg. wt. 0.6 lbs.
List $9.00. Each ..... $5.63

| Description | Type | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1' Length** | With Knockouts | LD41 | **4B438** | $23.90 | **$14.96** | 3.3 |
| **2' Length** | With Knockouts | LD42 | **4B441** | 34.80 | **21.78** | 6.3 |
| **3' Length** | With Knockouts | LD43 | **4B444** | 51.00 | **31.95** | 10.0 |
| **4' Length** | With Knockouts | LD44 | **4B447** | 71.00 | **44.45** | 13.0 |
| **5' Length** | With Knockouts | LD45 | **4B450** | 76.00 | **47.60** | 5.3 |
| **10' Length** | With Knockouts | LD410 | **4B439** | 159.00 | **99.55** | 33.0 |
| **3' Cut-off Length** | Without Knockouts | LD43CF | **4B445** | 96.00 | **60.10** | 11.0 |
| **ELBOW** | | | | | | |
| **90°** | Without Knockouts | LD490L | **4B453** | 58.00 | **36.35** | 2.8 |
| **90° Sweep L** | Without Knockouts | LD490LS | **4B454** | 102.00 | **63.90** | 4.1 |
| **45°** | Without Knockouts | LD445L | **4B448** | 63.00 | **39.45** | 1.9 |
| **221/2°** | Without Knockouts | LD425L | **4B442** | 87.00 | **54.50** | 1.7 |
| **Tee** | Without Knockouts | LD4T | **4B463** | 71.00 | **44.45** | 2.9 |
| **Cross** | Without Knockouts | LD4J | **4B461** | 80.00 | **50.10** | 3.4 |
| **Telescopic** | Without Knockouts | LD4TF | **4B464** | 106.00 | **66.40** | 6.9 |
| **Transposition** | Without Knockouts | LD41TS | **4B440** | 89.00 | **55.75** | 4.2 |
| **Univ. Hanger** | Without Knockouts | LD4H | **4B460** | 16.30 | **10.20** | 1.2 |
| **Closing Plate** | With Knockouts | LD4CP | **4B458** | 9.00 | **5.63** | 0.5 |
| **Wire Retainer** | Without Knockouts | LD4WR | **4B465** | 5.40 | **3.38** | 1.2 |
| **Panel Adapter** | Without Knockouts | LD44A | **4B449** | 25.80 | **16.15** | 0.5 |
| **4 to 21/2" reducer** | Without Knockouts | LD42R | **4B443** | 34.50 | **21.60** | 1.1 |
| **Gusset Bracket** | Without Knockouts | LD4GB | **4B459** | 21.90 | **13.71** | 0.5 |
| **3" Nipple** | Without Knockouts | LD43N | **4B446** | 42.10 | **26.40** | 1.1 |
| **6" Nipple** | Without Knockouts | LD46N | **4B452** | 42.10 | **26.40** | 2.0 |
| **9" Nipple** | Without Knockouts | LD49N | **4B455** | 44.70 | **28.00** | 2.7 |
| **5' Barrier** | Without Knockouts | LD45B | **4B451** | 33.10 | **20.72** | 4.0 |

# 4" x 4" SQUARE-Duct® ADAPTER CONNECTOR

E6625 67564

SQUARE D GROUPE SCHNEIDER

- Connector will connect Square-Duct® wireway to competitor's wireway
- UL Listed and CSA Certified

## COMPATIBILITY GUIDE

| Circle AW Allwalt | Columbia | Delta | Hoffman Engineering | Keystone | Queens | ASCO | Universal | Wiegmann | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| — | X | X | — | X | — | — | X | — | LD4KC | **4B462** | $27.70 | **$17.34** | 0.7 |
| X | — | — | X | — | X | X | — | X | LD4AC | **4B456** | 27.70 | **17.34** | 0.7 |

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

# TERMINAL BLOCKS, FUSE BLOCKS AND CIRCUIT PROTECTORS

**Terminal blocks** are suitable for use with copper stranded or solid wire. Box lug terminal blocks up to 250MCM wire have terminal hardware recessed into the molding, reducing the chance of contact with current carrying parts.

**Box lugs, flat terminals and pressure wire terminal** sections have a built-in wire strip gage and built-in marking area.

**Mounting:** All sections have a removal arm (except Nos. 2DC71 and 5B364) on the terminal block which allows the section to be snapped on or off the mounting channel by hand or with the use of a screwdriver. The assembly can be mounted on snap-off channel so that shorter assemblies can easily be snapped off as needed.

**SPECIFICATIONS**

- All blocks can be mounted on mounting channel and 35mm DIN track except Nos. 5B364
- No. 5B364 can be mounted on G, H mounting channel or panel mounted through foot hole on base
- Circuit protectors and fuse blocks mount to G, H channel or 35mm DIN rail
- Maximum voltage 600VAC on terminal and fuse blocks
- Temperature rating -40 to 257°F (-40 to 125°C)
- Flammability rating UL94V2
- Block material is nylon
- Blocks and barriers are natural nylon color
- No. 2DD09 includes banana test plug adapter
- Priced each, sold in package quantities only

SQUARE D
GROUPE SCHNEIDER

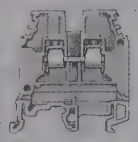
CLASS 9080 TYPE G

LR62144 60616

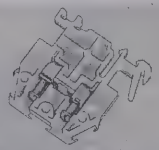
CLASS 9080 TYPE M

60616

## BOX LUG TERMINATIONS



No. 2DF11



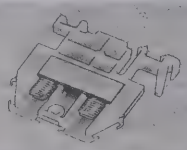
No. 5B362



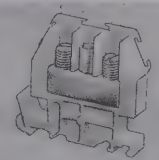
No. 5B364

| Specifications | Terminal Block No. 2DF11 | | | | | | Terminal Block No. 5B362 | | | | | | Terminal Block No. 5B364 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max. Amp Rating | 30A | | | | | | 30A | | | | | | 40A | | | | | |
| Wire Range | #22 to #10AWG | | | | | | #22 to #10AWG | | | | | | #22 to #10AWG | | | | | |
| Density—Sections/Ft. | 50 | | | | | | 51 | | | | | | 34 | | | | | |
| Dimens. (In.) DxHxW | 1.75 x 1.89 x 0.236 | | | | | | 1.72 x 1.79 x 0.235 | | | | | | 1.40 x 1.39 x 0.35 | | | | | |
| Description | Square D Model 9080... | Stock No.* | Pkg. Qty. | Priced Each Sold in Pkgs. Only List | Priced Each Sold in Pkgs. Only Each | Shpg. Wt. | Square D Model 9080... | Stock No.* | Pkg. Qty. | Priced Each Sold in Pkgs. Only List | Priced Each Sold in Pkgs. Only Each | Shpg. Wt. | Square D Model 9080... | Stock No.* | Pkg. Qty. | Priced Each Sold in Pkgs. Only List | Priced Each Sold in Pkgs. Only Each | Shpg. Wt. |
| Terminal Block | M46G | **2DF11** | 50 | $1.56 | **$1.55** | 0.2 | GM6 | **5B362** | 50 | $1.25 | **$1.24** | 0.1 | GK6 | **5B364** | 50 | $1.56 | **$1.55** | 0.1 |
| End Barrier | MFEM6 | **2DF25** | 20 | 0.38 | **0.38** | 0.1 | GM6B | **5B361** | 10 | 0.52 | **0.52** | 0.1 | GK6B | **5B363** | 50 | 0.62 | **0.62** | 0.1 |
| Jumpers: 2 Pole | — | — | — | — | — | — | GH700 | **5B368** | 20 | 0.39 | **0.39** | 0.1 | GK72 | **5B366** | 20 | 0.41 | **0.41** | 0.1 |
| 6 Pole | — | — | — | — | — | — | GH710 | **5B367** | 10 | 0.81 | **0.80** | 0.1 | GK73 | **5B365** | 10 | 1.25 | **1.24** | 0.1 |
| 10 Pole | MH71 | **2DF57** | 10 | 3.54 | **3.51** | 0.1 | — | — | — | — | — | — | — | — | — | — | — | — |

(*) Priced each, sold only in package quantity



No. 5B358



No. 2DD09



No. 5B379

| Specifications | Terminal Block No. 5B358 | | | | | | Terminal Block No. 2DD09 | | | | | | Terminal Block No. 5B379 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max. Amp Rating | 60A | | | | | | 60A | | | | | | 85A | | | | | |
| Wire Range | #22 to #8AWG | | | | | | #22 to #8AWG | | | | | | #18 to #4AWG | | | | | |
| Density—Sections/Ft. | 34 | | | | | | 34 | | | | | | 28 | | | | | |
| Dimens. (In.) DxHxW | 1.72 x 1.79 x 0.35 | | | | | | 1.72 x 1.79 x 0.35 | | | | | | 1.99 x 2.13 x 0.43 | | | | | |
| Description | Square D Model 9080... | Stock No.* | Pkg. Qty. | Priced Each Sold in Pkgs. Only List | Priced Each Sold in Pkgs. Only Each | Shpg. Wt. | Square D Model 9080... | Stock No.* | Pkg. Qty. | Priced Each Sold in Pkgs. Only List | Priced Each Sold in Pkgs. Only Each | Shpg. Wt. | Square D Model 9080... | Stock No.* | Pkg. Qty. | Priced Each Sold in Pkgs. Only List | Priced Each Sold in Pkgs. Only Each | Shpg. Wt. |
| Terminal Block | GR6 | **5B358** | 50 | $1.56 | **$1.55** | 0.1 | GR6T | **2DD09** | 50 | $1.87 | **$1.86** | 0.1 | GC6 | **5B379** | 50 | $3.33 | **$3.30** | 0.1 |
| End Barrier | GM6B | **5B361** | 10 | 0.52 | **0.52** | 0.1 | GM6B | **5B361** | 10 | 0.52 | **0.52** | 0.1 | GC6B | **5B378** | 10 | 0.85 | **0.85** | 0.1 |
| Jumpers: 2 Pole | GH72 | **5B366** | 20 | 0.41 | **0.41** | 0.1 | GH72 | **5B366** | 20 | 0.41 | **0.41** | 0.1 | GH74 | **2DD01** | 10 | 0.41 | **0.41** | 0.1 |
| 6 Pole | GH73 | **5B365** | 10 | 1.25 | **1.24** | 0.1 | GH73 | **5B365** | 10 | 1.25 | **1.24** | 0.1 | GH75 | **2DD02** | 10 | 1.25 | **1.24** | 0.1 |

(*) Priced each, sold only in package quantity.

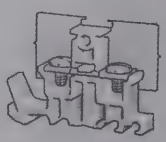
# BOX LUG TERMINATIONS (cont.)

SQUARE D
GROUPE SCHNEIDER

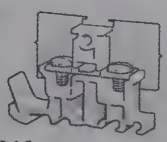
- Priced each, sold in package quantities only



No. 5B377



No. 5B380



No. 5B360

| | TERMINAL BLOCK | | | | | | FLAT TERMINAL CONNECTOR | | | | | | PRESSURE WIRE CONNECTOR | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Specifications** | **No. 5B377** | | | | | | **No. 5B380** | | | | | | **No. 5B360** | | | | | |
| **Max. Amp Rating** | 170A | | | | | | 40A | | | | | | 40A | | | | | |
| **Wire Range** | #12 to #1/0AWG | | | | | | #22 to #12AWG | | | | | | #18 to #12AWG | | | | | |
| **Density—Sections/Ft.** | 17 | | | | | | 32 | | | | | | 32 | | | | | |
| **Dimens. (In.) DxHxW** | 2.12 x 2.71 x 0.70 | | | | | | 1.80 x 1.48 x 0.38 | | | | | | 1.80 x 1.48 x 0.38 | | | | | |
| **Description** | **Square D Model 9080...** | **Stock No.*** | **Pkg. Qty.** | **Priced Each Sold in Pkgs. Only List** | **Each** | **Shpg. Wt.** | **Square D Model 9080...** | **Stock No.*** | **Pkg. Qty.** | **Priced Each Sold in Pkgs. Only List** | **Each** | **Shpg. Wt.** | **Square D Model 9080...** | **Stock No.*** | **Pkg. Qty.** | **Priced Each Sold in Pkgs. Only List** | **Each** | **Shpg. Wt.** |
| **Terminal Block** | GD6 | **5B377** | 10 | $6.78 | **$6.71** | 0.1 | GA6 | **5B380** | 50 | $1.25 | **$1.24** | 0.1 | GP6 | **5B360** | 50 | $1.66 | **$1.65** | 0.1 |
| **End Barrier** | GD6B | **5B376** | 10 | 1.14 | **1.14** | 0.1 | GP6B | **5B359** | 10 | 0.68 | **0.68** | 0.1 | GP6B | **5B359** | 10 | 0.68 | **0.68** | 0.1 |
| **Jumpers: 2 Pole** | GH76 | **2DD03** | 10 | 1.46 | **1.44** | 0.1 | GH78 | **2DD04** | 10 | 0.82 | **0.82** | 0.1 | GH78 | **2DD04** | 10 | 0.82 | **0.82** | 0.1 |
| **6 Pole** | — | — | — | — | — | — | GH79 | **2DD05** | 10 | 1.35 | **1.34** | 0.1 | GH79 | **2DD05** | 10 | 1.35 | **1.34** | 0.1 |

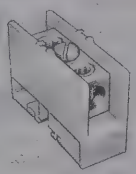
*) Priced each, sold only in package quantity

| | TERMINAL BLOCK | | | | | |
|---|---|---|---|---|---|---|
| **Specifications** | **No. 2DC71** | | | | | |
| **Max. Amp Rating** | 255A | | | | | |
| **Wire Range** | #6 to 250MCM | | | | | |
| **Density—Sections/Ft.** | 10 | | | | | |
| **Dimens. (In.) DxHxW** | 3.32 x 2.34 x 1.17 | | | | | |
| **Description** | **Square D Model 9080...** | **Stock No.*** | **Pkg. Qty.** | **Priced Each Sold in Pkgs. Only List** | **Each** | **Shpg. Wt.** |
| **Terminal Block** | GE6 | **2DC71** | 10 | $18.14 | **$17.96** | 0.3 |

*) Priced each, sold only in package quantity

SQUARE D
GROUPE SCHNEIDER

No 2DC71

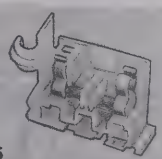


## FUSE BLOCK
### For 13/32 x 1½" Ferrule Fuses

- **Priced each, sold in package quantities only**

See Index under Fuses for more information. Accommodate Bussmann fuse types: FNM, FNQ, and FNW.

SQUARE D
GROUPE SCHNEIDER



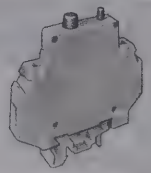
No 5B375

| **Specifications** | **Fuse Block No. 5B375** | | | | | |
|---|---|---|---|---|---|---|
| **Max. Amp Rating** | 30A | | | | | |
| **Wire Range** | #18 to #10AWG | | | | | |
| **Density—Sections/Ft.** | 16 | | | | | |
| **Dimens. (In.) DxHxW** | 2.19 x 2.33 x 0.75 | | | | | |
| **Description** | **Square D Model 9080...** | **Stock No.** | **Pkg. Qty.** | **Priced Each Sold in Pkgs. Only List** | **Each** | **Shpg. Wt.** |
| **Terminal Block** | GF6 | **5B375** | 10 | $7.82 | **$7.74** | 0.1 |
| **End Barrier** | GF6B | **5B374** | 10 | 1.01 | **1.00** | 0.1 |
| **Blown Fuse Indicator: 120V-240V** | GLP3 | **2DD06** | 10 | 7.92 | **7.84** | 0.1 |
| **Blown Fuse Indicator: 277-600V** | GLP6 | **2DD07** | 10 | 7.92 | **7.84** | 0.1 |

*) Priced each, sold only in package quantity

## CIRCUIT PROTECTORS

SQUARE D
GROUPE SCHNEIDER



No 2DC60

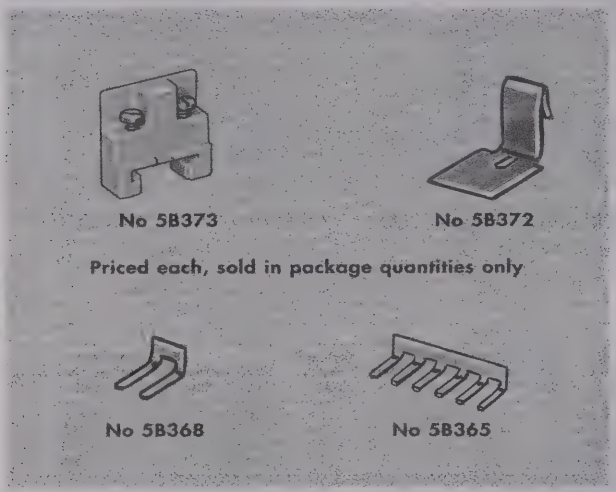
| **Specifications** | |
|---|---|
| **Max. Voltage Rating** | 250VAC/65VDC (Nos. 2DC60, 2DC65, 2DC69)<br>125VAC/65VDC (Nos. 2DC61, 2DC64) |
| **Wire Range** | #16 to #10AWG |
| **Density—Sections/Ft.** | 24 |
| **Dimens. (In.) DxHxW** | 3.15 x 3.11 x 0.50 |
| **Calibration** | 70° F (21.1°C) |

| **Amp Rating** | **Square D Model 9080...** | **Stock No.** | **List** | **Each** | **Shpg. Wt.** |
|---|---|---|---|---|---|
| **1.0 Amps** | GCB10 | **2DC60** | $44.01 | **$43.60** | 0.2 |
| **2.0** | GCB20 | **2DC65** | 48.39 | **47.90** | 0.2 |
| **5.0** | GCB50 | **2DC69** | 48.39 | **47.90** | 0.2 |
| **10.0** | GCB100 | **2DC61** | 48.39 | **47.90** | 0.2 |
| **15.0** | GCB150 | **2DC64** | 48.39 | **47.90** | 0.2 |

SQUARE D GROUPE SCHNEIDER

# NEMA TERMINAL BLOCK ACCESSORIES

## END CLAMPS AND JUMPERS




### END CLAMP ORDERING DATA

| Description | Square D Model 9080 | Stock No. | Pkg. Qty. | List | Each* | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Screw-On End Clamp | GH10 | 5B373‡ | 50 | $1.56 | **$1.55** | 0.1 |
| Slip-In End Clamp | GH11 | 5B372† | 50 | 0.42 | **0.42** | 0.1 |

### JUMPER ORDERING DATA

| Description | Square D Model 9080 | Stock No. | Pkg. Qty. | List | Each* | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2 pole jumper for No. 5B362 | GH700 | 5B368 | 20 | $0.39 | **$0.39** | 0.1 |
| 6 pole jumper for No. 5B362 | GH710 | 5B367 | 10 | 0.81 | **0.80** | 0.1 |
| 2 pole jumper for Nos. 2DD09, 5B364 & 5B358 | GH72 | 5B366 | 20 | 0.41 | **0.41** | 0.1 |
| 6 pole jumper for Nos. 2DD09 & 5B358 | GH73 | 5B365 | 10 | 1.25 | **1.24** | 0.1 |
| 2 pole jumper for No. 5B379 | GH74 | 2DD01 | 10 | 0.42 | **0.42** | 0.1 |
| 6 pole jumper for No. 5B379 | GH75 | 2DD02 | 10 | 1.87 | **1.86** | 0.1 |
| 2 pole jumper for No. 5B377 | GH76 | 2DD03 | 10 | 1.46 | **1.44** | 0.1 |
| 2 pole jumper for Nos. 5B360 & 5B380 | GH78 | 2DD04 | 10 | 0.82 | **0.82** | 0.1 |
| 6 pole jumper for Nos. 5B380 & 5B360 | GH79 | 2DD05 | 10 | 1.35 | **1.34** | 0.1 |

### BLOWN FUSE INDICATOR ORDERING DATA

| Description | Square D Model 9080 | Stock No. | Pkg. Qty. | List | Each* | Shpg. Wt. |
|---|---|---|---|---|---|---|
| For use with No. 5B375 120-240 Volts | GLP3 | 2DD06 | 10 | $7.92 | **$7.84** | 0.1 |
| For use with No. 5B375 277-600 Volts | GLP6 | 2DD07 | 10 | 7.92 | **7.84** | 0.1 |

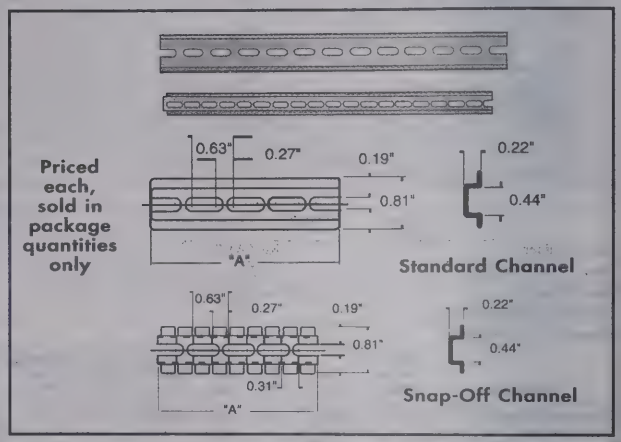
(†) Not for use with 5B364 & 2DC71 terminal blocks.
(‡) Not for use with snap-off mounting channel.
(*) Priced each, sold only in package quantity

## SCREW-ON END CLAMP

Works on DIN 3 track No. 5B357. Square D brand (9080MH10). Priced each, sold only in pkg. of 50.

**No. 5B356.** Shpg. wt. 0.1 lbs. List ..... $1.66.
Each ..... $1.65

## MOUNTING CHANNELS

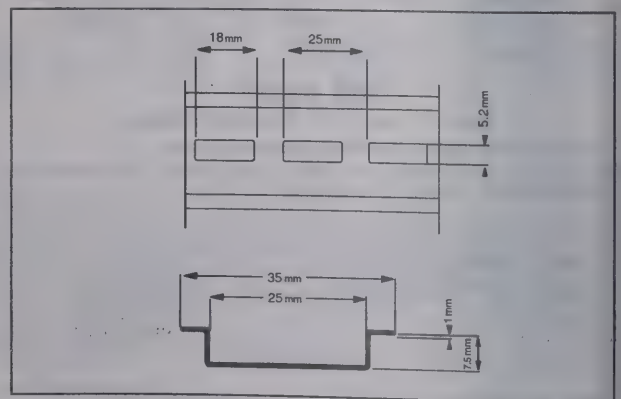



### MOUNTING CHANNEL ORDERING DATA

| Channel Description | Length (In.) "A" | Square D Model 9080 . . . | Stock No. | Pkg. Qty. | List | Each* | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Standard | 10 | GH110 | 2DC80 | 5 | $2.19 | **$2.17** | 0.1 |
| Standard | 12 | GH112 | 2DC81 | 5 | 2.29 | **2.27** | 0.1 |
| Standard | 36 | GH136 | 5B371 | 5 | 7.82 | **7.74** | 0.5 |
| Standard | 48 | GH148 | 5B370 | 5 | 10.22 | **10.11** | 0.6 |
| Standard | 72 | GH172 | 2DC86 | 5 | 15.22 | **15.07** | 0.8 |
| Snap-Off | 36 | GH236 | 5B369 | 20 | 7.82 | **7.74** | 0.4 |
| Snap-Off | 48 | GH248 | 2DC91 | 20 | 10.22 | **10.11** | 0.5 |

(*) Priced each, sold only in package quantity

## 35mm DIN TRACK




Symmetrical rail 35 x 7.5mm (1.38 x .295") in compliance with EN50022 standard (DIN 46277-3). Prepunched galvanized steel 39.97" (1 m) in length. Square D brand (9080MH339). Priced Each, sold only in pkg. of 10.

**No. 5B357.** Shpg. wt. 0.8 lbs. List $15.43. Each ..... **$15.27**

**GRAINGER HAS OVER 350 BRANCHES NATIONWIDE**

We're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who care about your business. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# POWER DISTRIBUTION BLOCKS

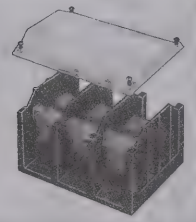
- Splice cables or split primary power into a wide range of secondary circuits—also provides fixed tap-off point
- One or two primary connections with up to 12 secondary connections
- 600 volt appliance and industrial rating
- Standard aluminum box to box connectors accept aluminum and copper wire
- Ideal for contractor rework-saves splicing and taping time
- UL Recognized and CSA Certified

TOUCH SAFE COVERS

- Guard against accidental contact with live parts
- Clear with write-on surface for field termination identification
- For industrial controls, HVAC, and other control automation panel applications

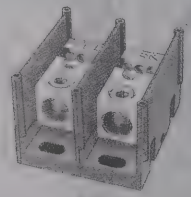
COOPER Bussmann

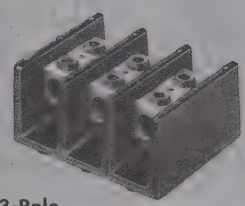
E84923 LR15364





1-Pole

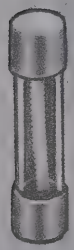

2-Pole


3-Pole

## POWER DISTRIBUTION BLOCK SPECIFICATIONS AND ORDERING DATA

| Amp Rating | No. of Poles | Primary Wire Range AWG | Primary Connections per Pole | Secondary Wire Range AWG | Secondary Connections per Pole | Dimensions (In.) D | W | L | Bussmann Model | Stock No. | List | Each | Shpg. Wt. | Optional Touch Safe Cover Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MINIATURE 16000 SERIES (75°C wire amp rating)** | | | | | | | | | | | | | | | | | |
| 175 | 3 | #8-2/0 | 1 | #8-2/0 | 1 | 2.06 | 5.38 | 2.75 | 16000-3 | 4XK12 | $27.08 | $21.66 | 0.6 | — | — | — | — |
| 175 | 1 | #14-2/0 | 1 | #14-#4 | 4 | 1.75 | 1.06 | 2.88 | 16220-1 | 4XK11 | 15.16 | 12.13 | 0.2 | — | — | — | — |
| | 2 | #8-2/0<br>#14-2/0 | 1 | #8-2/0<br>#14-#4 | 1<br>4 | 1.75<br>1.75 | 1.88<br>1.88 | 2.88<br>2.88 | 16204-2<br>16220-2 | 1EF56<br>5A671 | 13.41<br>23.18 | 10.73<br>18.55 | 0.3<br>0.3 | —<br>— | —<br>— | —<br>— | —<br>— |
| | 3 | #2-2/0 | 1 | #8-2/0 | 1 | 1.75 | 2.69 | 2.88 | 16204-3 | 1EF57 | 15.46 | 12.37 | 0.4 | — | — | — | — |
| | 3 | #14-2/0 | 1 | #14-#4 | 4 | 1.75 | 2.69 | 2.88 | 16220-3 | 5A672 | 30.06 | 24.05 | 0.4 | — | — | — | — |
| **INTERMEDIATE 16000 SERIES (75°C wire amp rating)** | | | | | | | | | | | | | | | | | |
| 175 | 3 | #14-2/0 | 1 | #14-#4 | 6 | 2.63 | 5.00 | 4.00 | 16021-3 | 4XK14 | 37.11 | 29.70 | 0.8 | — | — | — | — |
| 310 | 1<br>2 | #6-350 | 1 | #14-#4<br>#14-#4 | 6<br>6 | 2.63<br>2.63 | 1.94<br>3.47 | 4.00<br>4.00 | 16323-1<br>16323-2 | 5A673<br>5A674 | 35.71<br>44.81 | 28.60<br>35.85 | 1.6<br>1.2 | 3XH80<br>3XH81 | $2.78<br>3.34 | $2.22<br>2.67 | 0.1<br>0.2 |
| | 3 | #4-350 | 1 | #6-350 | 1 | 2.63 | 5.00 | 4.00 | 16303-3 | 4XK16 | 55.00 | 44.00 | 2.0 | 3XH82 | 4.33 | 3.46 | 0.2 |
| | 3 | #6-350 | 1 | #14-#4 | 6 | 2.63 | 5.00 | 4.00 | 16323-3 | 5A675 | 54.59 | 43.70 | 1.6 | 3XH82 | 4.33 | 3.46 | 0.2 |
| 350 | 3 | #14-2/0 | 2 | #14-#4 | 6 | 2.63 | 5.00 | 4.00 | 16325-3 | 4XK13 | 56.84 | 45.50 | 1.6 | 3XH82 | 4.33 | 3.46 | 0.2 |
| **LARGE 16500 SERIES (75°C wire amp rating)** | | | | | | | | | | | | | | | | | |
| 620 | 3 | #4-350 | 2 | #4-350 | 2 | 3.13 | 8.50 | 5.50 | 16500-3 | 4XK20 | 107.73 | 86.20 | 1.9 | — | — | — | — |
| 760 | 3 | #6-500 | 2 | #6-500 | 2 | 3.13 | 8.50 | 5.50 | 16504-3 | 4XK19 | 139.27 | 111.45 | 2.8 | — | — | — | — |
| **POWER DISTRIBUTION BLOCKS** | | | | | | | | | | | | | | | | | |
| 175 | 1<br>2<br>3 | 2/0-#14<br>2/0-#14<br>2/0-#14 | 1<br>1<br>1 | #4-#14<br>#4-#14<br>#4-#14 | 6<br>6<br>6 | 3.32<br>3.32<br>3.32 | 1.96<br>3.58<br>5.20 | 4.00<br>4.00<br>4.00 | 16321-1<br>16321-2<br>16321-3 | 3XH60<br>3XH61<br>3XH62 | 40.03<br>53.04<br>63.19 | 32.05<br>42.45<br>50.55 | 0.6<br>1.2<br>1.9 | 3XH80<br>3XH81<br>3XH82 | 2.78<br>3.34<br>4.33 | 2.22<br>2.67<br>3.46 | 0.1<br>0.2<br>0.2 |
| 310 | 1<br>2<br>3 | 350MCM-6<br>350MCM-6<br>350MCM-6 | 1<br>1<br>1 | #4-#14<br>#4-#14<br>#4-#14 | 12<br>12<br>12 | 3.32<br>3.32<br>3.32 | 1.96<br>3.58<br>5.20 | 4.00<br>4.00<br>4.00 | 16370-1<br>16370-2<br>16370-3 | 3XH63<br>3XH64<br>3XH65 | 40.32<br>73.65<br>92.74 | 32.30<br>58.95<br>74.20 | 0.6<br>1.2<br>1.9 | 3XH80<br>3XH81<br>3XH82 | 2.78<br>3.34<br>4.33 | 2.22<br>2.67<br>3.46 | 0.1<br>0.2<br>0.2 |
| 400 | 1<br>2<br>3 | Stud size<br>1/2-13 x 1 1/16 | 1<br>1 | Stud size<br>1/2-13 x 1 1/16 | 1<br>1 | 3.32<br>3.32<br>3.32 | 1.96<br>3.58<br>5.20 | 4.00<br>4.00<br>4.00 | 16394-1<br>16394-2<br>16394-3 | 3XH72<br>3XH73<br>3XH74 | 40.10<br>68.62<br>86.01 | 32.10<br>54.90<br>68.85 | 0.6<br>1.2<br>1.9 | 3XH80<br>3XH81<br>3XH82 | 2.78<br>3.34<br>4.33 | 2.22<br>2.67<br>3.46 | 0.1<br>0.2<br>0.2 |
| 310 | 1<br>2<br>3 | Stud size<br>3/8-16 x 1 7/16 | 1<br>1 | Stud size<br>1/4-20 x 9/16 | 2<br>2<br>2 | 3.32<br>3.32<br>3.32 | 1.96<br>3.58<br>5.20 | 4.00<br>4.00<br>4.00 | 16395-1<br>16395-2<br>16395-3 | 3XH75<br>3XH76<br>3XH77 | 27.01<br>47.56<br>60.40 | 21.61<br>38.05<br>48.35 | 0.6<br>1.2<br>1.9 | 3XH80<br>3XH81<br>3XH82 | 2.78<br>3.34<br>4.33 | 2.22<br>2.67<br>3.46 | 0.1<br>0.2<br>0.2 |

COOPER Bussmann



LR53787 (250 Volt)

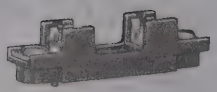
E19180 (250 Volt)

(32 Volt)

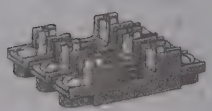
- 250 Volt models UL Listed
- 32 Volt models UL Recognized

- Time delay fuses for momentary current surges
- Short circuit protection of motors, small transformers, and signal lamp circuits
- Functionally equal to Gould GDL (up to 8 amps); and Littelfuse 313; see Cross-Reference on page 436

COOPER Bussmann



LR47235



E14853

- Break-away design
- 300 volt rating
- Anti pivot barriers
- Solid mount clips
- Totally sealed base
- Spec grade terminal tabs

# GLASS BODY, TIME DELAY FUSES

## Protect Motors, Small Transformers, & Signal Lamp Circuits

### MDL SERIES—1/4" x 1 1/4"

| Amp Rating | UL Fuse Interrupt Rating 250V | 125V | 32V |
|---|---|---|---|
| 1/16-1 | 35A | 10,000A | 10,000A |
| 1 1/4-3 | 100A | 10,000A | 10,000A |
| 4-8 | 200A | 10,000A | 10,000A |
| 9-30 | — | — | 1,000A |

| Fuse Amps | Bussmann Model | Stock No. | List | Each (Package of 5) | Shpg. Wt. |
|---|---|---|---|---|---|
| **250 VOLT MODELS** | | | | | |
| 1/100 | MDL 1/100 | 1CM27 | $22.44 | $17.95 | 0.1 |
| 1/32 | MDL 1/32 | 1CM28 | 22.44 | 17.95 | 0.1 |
| 1/16 | MDL 1/16 | 6F020 | 17.65 | 14.12 | 0.1 |
| 1/10 | MDL 1/10 | 6F021 | 17.65 | 14.12 | 0.1 |
| 1/8 | MDL 1/8 | 6F022 | 13.16 | 10.53 | 0.1 |
| 15/100 | MDL 15/100 | 1CM32 | 17.65 | 14.12 | 0.1 |
| 175/1000 | MDL 175/1000 | 1CM33 | 17.65 | 14.12 | 0.1 |
| 3/16 | MDL 3/16 | 3W756 | 17.65 | 14.12 | 0.1 |
| 2/10 | MDL 2/10 | 6F023 | 17.65 | 14.12 | 0.1 |
| 1/4 | MDL 1/4 | 4XH54 | 8.54 | 6.84 | 0.1 |
| 3/10 | MDL 3/10 | 6F024 | 11.43 | 9.14 | 0.1 |
| 3/8 | MDL 3/8 | 6F025 | 11.43 | 9.14 | 0.1 |
| 4/10 | MDL 4/10 | 6F026 | 11.43 | 9.14 | 0.1 |
| 1/2 | MDL 1/2 | 4XH55 | 7.77 | 6.22 | 0.1 |
| 6/10 | MDL 6/10 | 6F027 | 10.27 | 8.22 | 0.1 |
| 7/10 | MDL 7/10 | 1CM40 | 10.27 | 8.22 | 0.1 |
| 3/4 | MDL 3/4 | 4XH56 | 10.27 | 8.22 | 0.1 |
| 8/10 | MDL 8/10 | 6F028 | 10.27 | 8.22 | 0.1 |
| 1 | MDL 1 | 4XH57 | 7.77 | 6.22 | 0.1 |
| 1 2/10 | MDL 1 2/10 | 6F029 | 9.29 | 7.43 | 0.1 |
| 1 1/4 | MDL 1 1/4 | 6F030 | 6.98 | 5.59 | 0.1 |
| 1 1/2 | MDL 1 1/2 | 4XH58 | 6.98 | 5.59 | 0.1 |
| 1 6/10 | MDL 1 6/10 | 6F031 | 9.29 | 7.43 | 0.1 |
| 1 8/10 | MDL 1 8/10 | 1CM26 | 9.29 | 7.43 | 0.1 |
| 2 | MDL 2 | 4XH59 | 6.98 | 5.59 | 0.1 |
| 2 1/4 | MDL 2 1/4 | 1CM34 | 9.29 | 7.43 | 0.1 |
| 2 1/2 | MDL 2 1/2 | 4XH60 | 9.29 | 7.43 | 0.1 |
| 2 8/10 | MDL 2 8/10 | 6F032 | 9.29 | 7.43 | 0.1 |
| 3 | MDL 3 | 4XH61 | 6.98 | 5.59 | 0.1 |
| 3 2/10 | MDL 3 2/10 | 6F033 | 9.29 | 7.43 | 0.1 |
| 3 1/2 | MDL 3 1/2 | 1CM37 | 9.29 | 7.43 | 0.1 |
| 4 | MDL 4 | 4XH62 | 6.98 | 5.59 | 0.1 |
| 5 | MDL 5 | 4XH63 | 6.98 | 5.59 | 0.1 |
| 6 | MDL 6 | 6F034 | 6.98 | 5.59 | 0.1 |
| 6 1/4 | MDL 6 1/4 | 6F035 | 9.29 | 7.43 | 0.1 |
| 7 | MDL 7 | 5C774 | 9.29 | 7.43 | 0.1 |
| 7 1/2 | MDL 7 1/2 | 1CM39 | 9.29 | 7.43 | 0.1 |
| 8 | MDL 8 | 4XH64 | 6.98 | 5.59 | 0.1 |
| **32 VOLT MODELS** | | | | | |
| 9 | MDL 9 | 1CM41 | 12.23 | 9.79 | 0.1 |
| 10 | MDL 10 | 1CM29 | 9.21 | 7.37 | 0.1 |
| 12 | MDL 12 | 1CM30 | 12.23 | 9.79 | 0.1 |
| 15 | MDL 15 | 1CM31 | 9.21 | 7.37 | 0.1 |
| 20 | MDL 20 | 1CM35 | 9.08 | 7.27 | 0.1 |
| 25 | MDL 25 | 1CM36 | 12.23 | 9.79 | 0.1 |
| 30 | MDL 30 | 1CM38 | 12.23 | 9.79 | 0.1 |

# 1/4" x 1 1/4" FUSE BLOCKS

## FUSE BLOCK SPECIFICATIONS AND ORDERING DATA

| Amp Rating | No. of Poles | Connector Type | Connector Wire Size | Dimensions (In.) L | W | D | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30A for UL 10A for CSA | 1 | Screw | 22-10 AWG | 2 3/16 | 1/2 | 9/16 | S-8301-01 | 1CZ43 | $3.77 | $3.02 | 0.1 |
| | 2 | | | 2 3/16 | 1 1/8 | 9/16 | S-8301-02 | 1DK46 | 7.48 | 5.98 | 0.1 |
| | 3 | | | 2 3/16 | 1 3/4 | 9/16 | S-8301-03 | 1DL55 | 11.49 | 9.19 | 0.1 |

# GLASS BODY, FAST ACTING FUSES AND FUSE BLOCKS

COOPER Bussmann



E75865 (7-15A)

E75865 (0-6A)

LR65063 (0-6A)

## GMA SERIES—5 x 20mm

| Amp Rating | UL Fuse Interrupt Rating 250V | 125V |
|---|---|---|
| 0-1 | 35A | 10,000A |
| 1.2-3.3 | 100A | 10,000A |
| 3.15-6 | — | 10,000A |
| 7-8 | — | 200A |
| 10-15 | — | 150A |

- Fast-acting, non-time delay fuses that provide economy of space
- Functionally equal to Gould GGM and Littelfuse 235

## Protect Electrical Appliances and Communication Equipment

| Fuse Amps | Bussmann Model | Stock No. | List | Each (Pkg of 5) | Shpg. Wt. |
|---|---|---|---|---|---|
| **250 VOLT MODELS** | | | | | |
| 63mA | GMA 63mA | 6F087 | $12.23 | $9.79 | 0.2 |
| 100mA | GMA 100mA | 6F088 | 12.23 | 9.79 | 0.1 |
| 125mA | GMA 125mA | 6F089 | 12.23 | 9.79 | 0.1 |
| 200mA | GMA 200mA | 6F090 | 7.49 | 6.00 | 0.1 |
| 250mA | GMA 250mA | 6F091 | 7.49 | 6.00 | 0.1 |
| 300mA | GMA 300mA | 1CJ41 | 7.49 | 6.00 | 0.1 |
| 315mA | GMA 315mA | 4CX54 | 7.49 | 6.00 | 0.1 |
| 500mA | GMA 500mA | 6F093 | 7.49 | 6.00 | 0.1 |
| 600mA | GMA 600mA | 4CX55 | 7.49 | 6.00 | 0.1 |
| 750mA | GMA 750mA | 6F094 | 7.49 | 6.00 | 0.1 |
| 800mA | GMA 800mA | 6F096 | 7.49 | 6.00 | 0.1 |
| 1A | GMA 1A | 6F097 | 7.51 | 6.01 | 0.1 |
| 1.25A | GMA 1.25A | 1CJ35 | 7.49 | 6.00 | 0.1 |
| 1.5A | GMA 1.5A | 6F099 | 7.49 | 6.00 | 0.1 |
| 1.6A | GMA 1.6A | 6F100 | 7.49 | 6.00 | 0.1 |
| 2A | GMA 2A | 6F101 | 7.51 | 6.01 | 0.1 |
| 2.5A | GMA 2.5A | 6F102 | 7.49 | 6.00 | 0.1 |
| 3A | GMA 3A | 6F103 | 7.49 | 6.00 | 0.1 |
| **125 VOLT MODELS** | | | | | |
| 3.15A | GMA 3.15A | 1CJ39 | 7.49 | 6.00 | 0.1 |
| 3.5A | GMA 3.5A | 1CJ40 | 7.49 | 6.00 | 0.1 |
| 4A | GMA 4A | 6F104 | 7.51 | 6.01 | 0.1 |
| 5A | GMA 5A | 6F105 | 7.51 | 6.01 | 0.1 |
| 6A | GMA 6A | 6F106 | 7.51 | 6.01 | 0.1 |
| 7A | GMA 7A | 1CJ45 | 7.51 | 6.01 | 0.1 |
| 8A | GMA 8A | 1CJ46 | 7.51 | 6.01 | 0.1 |
| 10A | GMA 10A | 1CJ36 | 7.51 | 6.01 | 0.1 |
| 15A | GMA 15A | 1CJ37 | 7.51 | 6.01 | 0.1 |

COOPER Bussmann



E19180 (0-5A)

E19180 (6-20A)

53787 (0-5A)

## AGX SERIES—1/4" x 1"

| Amp Rating | UL Fuse Interrupt Rating 250V | 125V |
|---|---|---|
| 0-1 | 35A | 10,000A |
| 1½-2 | 100A | 10,000A |
| 2½-5 | — | 10,000A |

- Fast-acting fuses for the protection of delicate measuring instruments and precision electronic circuits
- Fuses up to 2 amps rated 250 VAC; 2½ to 5 amps 125 VAC; 6 amps and above 32 VAC
- Functionally equal to Gould GGX and Littelfuse 362

| Fuse Amps | Bussmann Model | Stock No. | List | Each (Pkg of 5) | Shpg. Wt. |
|---|---|---|---|---|---|
| **250 VOLT MODELS** | | | | | |
| 1/200 | AGX 1/200 | 1DJ51 | $51.31 | $41.05 | 0.1 |
| 1/100 | AGX 1/100 | 1DJ49 | 53.26 | 42.65 | 0.1 |
| 1/32 | AGX 1/32 | 1DJ52 | 51.31 | 41.05 | 0.1 |
| 1/16 | AGX 1/16 | 1DJ50 | 16.30 | 13.05 | 0.1 |
| 1/10 | AGX 1/10 | 6F048 | 14.01 | 11.21 | 0.1 |
| 1/8 | AGX 1/8 | 6F049 | 12.38 | 9.91 | 0.1 |
| 3/16 | AGX 3/16 | 6F050 | 14.18 | 11.35 | 0.1 |
| 2/10 | AGX 2/10 | 1DJ55 | 14.18 | 11.35 | 0.1 |
| 1/4 | AGX 1/4 | 6F051 | 7.98 | 6.39 | 0.1 |
| 3/10 | AGX 3/10 | 1DJ58 | 7.98 | 6.39 | 0.1 |
| 3/8 | AGX 3/8 | 6F052 | 7.98 | 6.39 | 0.1 |
| 4/10 | AGX 4/10 | 1DJ61 | 7.98 | 6.39 | 0.1 |
| 1/2 | AGX 1/2 | 6F053 | 7.98 | 6.39 | 0.1 |
| 3/4 | AGX 3/4 | 6F054 | 7.98 | 6.39 | 0.1 |
| 1 | AGX 1 | 6F055 | 5.55 | 4.44 | 0.1 |
| 1 1/4 | AGX 1 1/4 | 1DJ48 | 5.55 | 4.44 | 0.1 |
| 1 1/2 | AGX 1 1/2 | 6F056 | 5.55 | 4.44 | 0.1 |
| 2 | AGX 2 | 6F057 | 4.23 | 3.39 | 0.1 |
| **125 VOLT MODELS** | | | | | |
| 2 1/2 | AGX 2 1/2 | 6F058 | 5.55 | 4.44 | 0.1 |
| 3 | AGX 3 | 6F059 | 5.55 | 4.44 | 0.1 |
| 4 | AGX 4 | 6F060 | 5.55 | 4.44 | 0.1 |
| 5 | AGX 5 | 6F061 | 4.23 | 3.39 | 0.1 |
| **32 VOLT MODELS** | | | | | |
| 6 | AGX 6 | 1DJ63 | 4.23 | 3.39 | 0.5 |
| 7 | AGX 7 | 1DJ64 | 4.23 | 3.39 | 0.5 |
| 8 | AGX 8 | 1DJ65 | 4.23 | 3.39 | 0.5 |
| 10 | AGX 10 | 1DJ53 | 4.23 | 3.39 | 0.5 |
| 15 | AGX 15 | 1DJ54 | 4.23 | 3.39 | 0.5 |
| 20 | AGX 20 | 1DJ56 | 3.92 | 3.14 | 0.5 |
| 25 | AGX 25 | 1DJ57 | 4.23 | 3.39 | 0.5 |
| 30 | AGX 30 | 1DJ59 | 4.23 | 3.39 | 0.5 |

## 1/4" x 1" FUSE BLOCKS

- Solder terminals
- 30A, 250 VAC
- Mounting screw hole 0.147" dia. (screw no. 6)

COOPER Bussmann

| No. of Poles | Dimensions (In.) L* | W | H | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.38 | 0.5 | 0.63 | 3828-1 | 1DH80 | $2.64 | $2.11 | 0.5 |
| 2 | 1.38 | 1.13 | 0.63 | 3828-2 | 1DH81 | 4.18 | 3.35 | 0.5 |
| 3 | 1.38 | 1.75 | 0.63 | 3828-3 | 1DH82 | 6.85 | 5.48 | 0.5 |

(*) Length including terminals is 1.88".

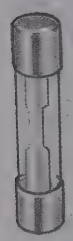
# GLASS/CERAMIC BODY FUSES

## GLASS BODY, FAST-ACTING FUSES

### Protect Electrical Appliances and Communication Equipment

COOPER Bussmann

(0-10A)



E19180 (12-30A)

E19180 (0-10A)

LR53787 (0-30A)

**AGC SERIES—1/4" x 1¼"**

- Fast-acting, non-time delay
- Functionally equal to Gould GGC and Littelfuse 312; Cross-Reference on page 436

| Amp Rating | UL Fuse Interrupt Rating 250V | 125V |
|---|---|---|
| 0-1 | 35A | 10,000A |
| 1¼-3 | 100A | 10,000A |
| 4-10 | 200A | 10,000A |

| Fuse Amps | Bussmann Model | Stock No. | List | Each (Pkg. of 5) | Shpg. Wt. |
|---|---|---|---|---|---|
| **250 VOLT MODELS** | | | | | |
| 1/200 | AGC 1/200 | 1BZ02 | $76.59 | **$61.30** | 0.1 |
| 1/100 | AGC 1/100 | 1BX99 | 38.74 | **31.00** | 0.1 |
| 1/32 | AGC 1/32 | 1BZ03 | 39.34 | **31.50** | 0.1 |
| 1/20 | AGC 1/20 | 1BZ01 | 36.20 | **29.00** | 0.1 |
| 1/16 | AGC 1/16 | 6F001 | 12.08 | **9.67** | 0.1 |
| 1/10 | AGC 1/10 | 6F003 | 11.25 | **9.00** | 0.1 |
| 1/8 | AGC 1/8 | 4XH36 | 11.25 | **9.00** | 0.1 |
| 15/100 | AGC 15/100 | 6F002 | 12.07 | **9.66** | 0.1 |
| 175/1000 | AGC 175/1000 | 6F004 | 12.07 | **9.66** | 0.1 |
| 3/16 | AGC 3/16 | 6F005 | 12.07 | **9.66** | 0.1 |
| 2/10 | AGC 2/10 | 6F006 | 12.07 | **9.66** | 0.1 |
| 1/4 | AGC 1/4 | 4XH37 | 6.02 | **4.82** | 0.1 |
| 3/10 | AGC 3/10 | 6F007 | 6.52 | **5.22** | 0.1 |
| 3/8 | AGC 3/8 | 6F008 | 7.01 | **5.61** | 0.1 |
| 4/10 | AGC 4/10 | 6F009 | 6.52 | **5.22** | 0.1 |
| 45/100 | AGC 45/100 | 1BZ11 | 6.52 | **5.22** | 0.1 |
| 1/2 | AGC 1/2 | 4XH38 | 2.89 | **2.32** | 0.1 |
| 6/10 | AGC 6/10 | 6F010 | 4.56 | **3.65** | 0.1 |
| 3/4 | AGC 3/4 | 4XH39 | 3.42 | **2.74** | 0.1 |
| 8/10 | AGC 8/10 | 6F011 | 3.75 | **3.00** | 0.1 |
| 1 | AGC 1 | 4XH40 | 2.33 | **1.64** | 0.1 |
| 1¼ | AGC 1¼ | 6F012 | 3.75 | **3.00** | 0.1 |
| 1½ | AGC 1½ | 4XH41 | 3.75 | **3.00** | 0.1 |
| 1⅝ | AGC 1⅝ | 6F013 | 3.75 | **3.00** | 0.1 |
| 1¾ | AGC 1¾ | 1BX97 | 3.75 | **3.00** | 0.1 |
| 1⅞ | AGC 1 8/10 | 1BX98 | $3.75 | **$3.00** | 0.1 |
| 2 | AGC 2 | 4XH42 | 2.33 | **1.64** | 0.1 |
| 2¼ | AGC 2 1/4 | 6F014 | 3.75 | **3.00** | 0.1 |
| 2½ | AGC 2 1/2 | 4XH43 | 2.77 | **2.22** | 0.1 |
| 3 | AGC 3 | 4XH44 | 2.33 | **1.64** | 0.1 |
| 3⅛ | AGC 3 2/10 | 6F015 | 3.75 | **3.00** | 0.1 |
| 3½ | AGC 3 1/2 | 1BZ08 | 3.75 | **3.00** | 0.1 |
| 4 | AGC 4 | 4XH45 | 2.89 | **2.05** | 0.1 |
| 5 | AGC 5 | 4XH46 | 2.89 | **2.05** | 0.1 |
| 6 | AGC 6 | 4XH47 | 2.89 | **2.32** | 0.1 |
| 6¼ | AGC 6 1/4 | 1BZ13 | 4.56 | **3.65** | 0.1 |
| 7 | AGC 7 | 1BZ14 | 3.42 | **2.74** | 0.1 |
| 7½ | AGC 7 1/2 | 6F018 | 2.77 | **2.22** | 0.1 |
| 8 | AGC 8 | 4XH48 | 2.33 | **1.87** | 0.1 |
| 9 | AGC 9 | 1BZ15 | 3.75 | **3.00** | 0.1 |
| 10 | AGC 10 | 4XH49 | 2.33 | **1.87** | 0.1 |
| **32 VOLT MODELS** | | | | | |
| 12 | AGC 12 | 1BZ05 | 3.75 | **3.00** | 0.1 |
| 14 | AGC 14 | 1BZ06 | 3.75 | **3.00** | 0.1 |
| 15 | AGC 15 | 1BZ07 | 2.33 | **1.87** | 0.1 |
| 20 | AGC 20 | 4XH51 | 2.33 | **1.87** | 0.1 |
| 25 | AGC 25 | 4XH52 | 2.33 | **1.87** | 0.1 |
| 30 | AGC 30 | 4XH53 | 2.33 | **1.87** | 0.1 |
| 35 | AGC 35 | 1BZ09 | 3.75 | **3.00** | 0.1 |
| 40 | AGC 40 | 1BZ10 | 3.75 | **3.00** | 0.1 |
| 50 | AGC 50 | 1BZ12 | 3.75 | **3.00** | 0.1 |

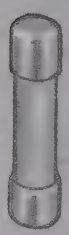
## CERAMIC BODY, FAST-ACTING FUSES

### ABC SERIES—1/4" x 1¼

- Fast-acting, non-time delay
- Functionally equal to Gould GAB and Littelfuse 314

COOPER Bussmann

(0-30A)



E19180 (20-30A)

E19180 (0-15A)

LR53787 (0-25A)

| Amp Rating | UL Fuse Interrupt Rating 250V | 125V |
|---|---|---|
| 0—1 | 35A | 10,000A |
| 1½—3 | 100A | 10,000A |
| 4—10 | 200A | 10,000A |

| Fuse Amps | Bussmann Model | Stock No. | List | Each (Pkg. of 5) | Shpg. Wt. |
|---|---|---|---|---|---|
| **250 VOLT MODELS** | | | | | |
| 1/8 | ABC 1/8 | 1BX43 | $15.41 | $12.33 | 0.1 |
| 1/4 | ABC 1/4 | 1BX42 | 9.12 | 7.30 | 0.1 |
| 3/8 | ABC 3/8 | 1BX48 | 11.08 | 8.87 | 0.1 |
| 1/2 | ABC 1/2 | 1BX41 | 9.12 | 7.30 | 0.1 |
| 3/4 | ABC 3/4 | 6F037 | 9.12 | 7.30 | 0.1 |
| 1 | ABC 1 | 6F038 | 6.84 | 5.48 | 0.1 |
| 1½ | ABC 1½ | 1BX40 | 9.12 | 7.30 | 0.1 |
| 2 | ABC 2 | 6F039 | 5.46 | 4.37 | 0.1 |
| 2½ | ABC 2½ | 6F040 | 9.12 | 7.30 | 0.1 |
| 3 | ABC 3 | 6F041 | 5.46 | 4.37 | 0.1 |
| 4 | ABC 4 | 6F042 | 6.84 | 5.48 | 0.1 |
| 5 | ABC 5 | 6F043 | $5.01 | **$4.01** | 0.1 |
| 6 | ABC 6 | 6F044 | 6.19 | **4.95** | 0.1 |
| 7 | ABC 7 | 6F045 | 8.15 | **6.52** | 0.1 |
| 8 | ABC 8 | 6F046 | 5.01 | **4.01** | 0.1 |
| 9 | ABC 9 | 1BX50 | 8.15 | **6.52** | 0.1 |
| 10 | ABC 10 | 6F047 | 4.85 | **3.88** | 0.1 |
| 12 | ABC 12 | 1BX44 | 5.01 | **4.01** | 0.1 |
| 15 | ABC 15 | 1BX45 | 5.01 | **4.01** | 0.1 |
| 20 | ABC 20 | 1BX46 | 8.02 | **6.42** | 0.1 |
| **125 VOLT MODELS** | | | | | |
| 25 | ABC 25 | 1BX47 | 9.87 | **7.90** | 0.1 |
| 30 | ABC 30 | 1BX49 | 8.02 | **6.42** | 0.1 |

CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS.
THOUSANDS OF QUALITY PRODUCTS ARE LISTED

# INTEGRAL FUSE AND HOLDER KNOBS AND IN-LINE FUSE HOLDERS

COOPER Bussmann

CE

UL E75865 CSA LR53787



- 10,000 amp interrupting rating
- Rated 300VAC
- Integral one-piece fuse and insulating knob

## GLQ/GLR/GMF/GMQ/GRF Series-For use in fluorescent fixtures

- GLR and GLQ Series are fast acting types
- GMQ, GMF, and GRF are time delay types
- All GLR, GMF, and GRF fuses fit Bussmann HLR fuse holder (see below for ordering data)

### A GLQ SERIES
- Fast acting Fuse
- Rejection type

### B GLR SERIES
- Fast acting Fuse
- Non-rejection

### C GMF SERIES
- Time delay fuses
- Non-rejection type

### D GMQ SERIES
- Time delay Fuse
- Rejection type

### E GRF SERIES
- Time delay Fuse
- Non-rejection type
- 125 volts

| Key | Fuse Amp | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **GLQ SERIES** | | | | | | |
| A | 1 | GLQ 1 | **1CH97** | $2.21 | **$1.77** | 0.1 |
| A | 1½ | GLQ 1½ | **1CH98** | 2.21 | **1.77** | 0.1 |
| A | 1 6/10 | GLQ 1 6/10 | **1CH99** | 2.21 | **1.77** | 0.1 |
| A | 3 | GLQ 3 | **1CJ03** | 2.21 | **1.77** | 0.1 |
| A | 5 | GLQ 5 | **1CJ04** | 2.21 | **1.77** | 0.1 |
| A | 9 | GLQ 9 | **1CJ05** | 2.21 | **1.77** | 0.1 |
| A | 10 | GLQ 10 | **1CJ01** | 2.21 | **1.77** | 0.1 |
| **GLR SERIES** | | | | | | |
| B | 1/2 | GLR 1/2 | **1CJ10** | 4.30 | **3.45** | 0.1 |
| B | 1 | GLR 1 | **1CJ06** | 2.28 | **1.83** | 0.1 |
| B | 1½ | GLR 1½ | **1CJ08** | 2.25 | **1.80** | 0.1 |
| B | 1 6/10 | GLR 1 6/10 | **1CJ09** | 2.34 | **1.88** | 0.1 |
| B | 2 | GLR 2 | **1CJ14** | 2.25 | **1.80** | 0.1 |
| B | 3 | GLR 3 | **1CJ16** | 2.25 | **1.80** | 0.1 |
| B | 4 | GLR 4 | **1CJ17** | 2.25 | **1.80** | 0.1 |
| B | 5 | GLR 5 | **1CJ18** | 2.25 | **1.80** | 0.1 |
| B | 6 | GLR 6 | **1CJ19** | 2.34 | **1.88** | 0.1 |
| B | 7 | GLR 7 | **1CJ20** | 2.34 | **1.88** | 0.1 |
| B | 8 | GLR 8 | **1CJ21** | 2.34 | **1.88** | 0.1 |
| B | 9 | GLR 9 | **1CJ22** | 2.34 | **1.88** | 0.1 |
| B | 10 | GLR 10 | **1CJ11** | 2.34 | **1.88** | 0.1 |
| B | 12 | GLR 12 | **1CJ12#** | 2.83 | **2.27** | 0.1 |
| B | 15 | GLR 15 | **1CJ13#** | 2.83 | **2.27** | 0.1 |
| **GMF SERIES** | | | | | | |
| C | 3/10 | GMF 3/10 | **1CK41** | 6.55 | **5.24** | 0.1 |
| C | 1/2 | GMF 1/2 | **1CK34** | 6.55 | **5.24** | 0.1 |
| C | 6/10 | GMF 6/10 | **1CK45** | 6.55 | **5.24** | 0.1 |
| C | 8/10 | GMF 8/10 | **1CK46** | 6.55 | **5.24** | 0.1 |
| C | 1 | GMF 1 | **1CK31** | 6.22 | **4.98** | 0.1 |

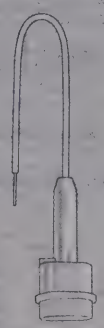
*) Not UL Listed. (#) Not CSA Certified.

| Key | Fuse Amps | Bussman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **GMF SERIES** | | | | | | |
| C | 1¼ | GMF 1¼ | **1CK32** | $6.55 | **$5.24** | 0.1 |
| C | 1 6/10 | GMF 1 6/10 | **1CK33** | 6.22 | **4.98** | 0.1 |
| C | 2 | GMF 2 | **1CK36** | 6.22 | **4.98** | 0.1 |
| C | 2½ | GMF 2½ | **1CK37** | 6.55 | **5.24** | 0.1 |
| C | 2 8/10 | GMF 2 8/10 | **1CK38** | 6.55 | **5.24** | 0.1 |
| C | 3 2/10 | GMF 3 2/10 | **1CK40** | 6.55 | **5.24** | 0.1 |
| C | 3 | GMF 3 | **1CK39** | 6.55 | **5.24** | 0.1 |
| C | 4 | GMF 4 | **1CK42** | 6.55 | **5.24** | 0.1 |
| C | 5 | GMF 5 | **1CK43** | 6.22 | **4.98** | 0.1 |
| C | 6¼ | GMF 6¼ | **1CK44** | 6.55 | **5.24** | 0.1 |
| C | 10 | GMF 10 | **1CK35*#** | 6.55 | **5.24** | 0.1 |
| **GMQ SERIES** | | | | | | |
| D | 1/2 | GMQ 1/2 | **1CK50** | 6.55 | **5.24** | 0.1 |
| D | 6/10 | GMQ 6/10 | **1CK58** | 6.55 | **5.24** | 0.1 |
| D | 8/10 | GMQ 8/10 | **1CK59** | 6.55 | **5.24** | 0.1 |
| D | 1 | GMQ 1 | **1CK47** | 6.55 | **5.24** | 0.1 |
| D | 1¼ | GMQ 1¼ | **1CK48** | 6.55 | **5.24** | 0.1 |
| D | 1 6/10 | GMQ 1 6/10 | **1CK49** | 6.55 | **5.24** | 0.1 |
| D | 2 | GMQ 2 | **1CK51** | 6.55 | **5.24** | 0.1 |
| D | 2½ | GMQ 2½ | **1CK52** | 6.55 | **5.24** | 0.1 |
| D | 3 | GMQ 3 | **1CK53** | 6.22 | **4.98** | 0.1 |
| D | 3 2/10 | GMQ 3 2/10 | **1CK54** | 4.68 | **3.75** | 0.1 |
| D | 4 | GMQ 4 | **1CK55** | 6.55 | **5.24** | 0.1 |
| D | 5 | GMQ 5 | **1CK56** | 6.55 | **5.24** | 0.1 |
| D | 6¼ | GMQ 6¼ | **1CK57** | 6.55 | **5.24** | 0.1 |
| **GRF SERIES** | | | | | | |
| E | 7 | GRF 7 | **1CK95** | 5.53 | **4.43** | 0.1 |
| E | 8 | GRF 8 | **1CK96** | 5.53 | **4.43** | 0.1 |
| E | 10 | GRF 10 | **1CK94** | 5.53 | **4.43** | 0.1 |

COOPER Bussmann

CE

CSA LR47235 UL E14853



# IN-LINE FUSE HOLDERS

## HLR and HLQ MODELS

- For use with integral one-piece fuses
- 6" insulated 18AWG copper line lead
- Receptacle provided for 18AWG load wire
- Rated 300VAC
- HLQ model is a rejection type holder to prevent overfusing and is used with Bussmann type GLQ and GMQ fuses (see above for fuse ordering information)
- HLR model is for use with Bussmann type GLR, GMF, and GRF fuses for fluorescent fixtures (see above for fuse ordering information)

| Maximum Fuse Size | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 | HLQ-½ | **1CW03** | $4.66 | **$3.73** | 0.1 |
| 1 6/10 | HLQ-1-6/10 | **1CW02** | 4.66 | **3.73** | 0.1 |
| 3 2/10 | HLQ-3-2/10 | **1CW05** | 4.66 | **3.73** | 0.1 |
| 5 | HLQ-5 | **1CW06** | 4.66 | **3.73** | 0.1 |
| 8 | HLQ-8 | **1CW07** | 4.66 | **3.73** | 0.1 |
| 10 | HLQ-10 | **1CW04** | 4.66 | **3.73** | 0.1 |
| 12 A | HLR | **1CW08** | 2.28 | **1.82** | 0.1 |

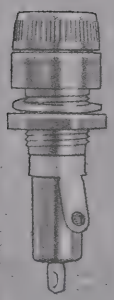
# FUSE HOLDERS, SURGE PROTECTOR, & FUSE PULLERS

## PANEL-MOUNT FUSE HOLDERS

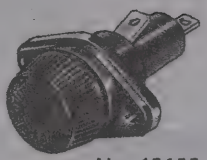
COOPER Bussmann

LR47235

E14853



No. 6F457



No. 6F455

### HTB-22M MODEL

- Panel-mount fuse holder for 5mm x 20mm fuses
- Rated 250 VAC, 15 amps maximum
- Bayonet-style knob
- Functionally equal to Gould GPM-A and Littelfuse 345633

**No. 6F456.** Shpg. wt. 0.1 lbs. List $4.72.
Each ..... $3.78

### HKP MODEL

- Panel-mount fuse holder for 1/4" x 1¼ " fuses
- Rated 250 VAC, 30 amps maximum
- Bayonet-style knob
- Functionally equal to Gould GPM-G and Littelfuse 342012

**No. 6F457.** Shpg. wt. 0.1 lbs. List $2.70.
Each ..... $2.16

### HPS MODEL

- Panel-mount fuse holder for 13/32" x 1½ " fuses
- Rated 600 VAC, 30 amps
- Bayonet-style knob
- Functionally equal to Gould GPM-B and Littelfuse 571007

**No. 6F455.** Shpg. wt. 0.1 lbs. List $9.35.
Each ..... $7.48

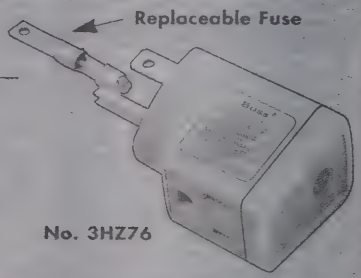
## SENTRY SURGE PROTECTOR WITH REPLACEABLE FUSES

- Provides dual protection against voltage surges and short circuits
- 125 Volt, 8 ampere rated
- Provides overcurrent protection for cords and power tools, and transient voltage spike protection
- Includes 5 ampere fuse installed (No. 1DJ74) and 8 ampere fuse in package (No. 3KT28)
- Can be used on power tools 1/3 HP or less
- Bussmann brand (SEN-PT)

**No. 3HZ76.** Sentry Surge Protector. Shpg. wt. 0.2 lbs. List $10.68.
Each ..... $8.55

COOPER Bussmann

E182300




No. 3HZ76

## GLASS FUSES FOR SENTRY SURGE PROTECTOR

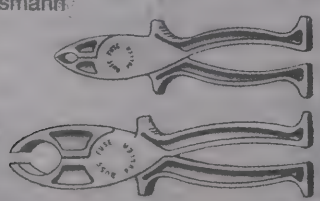
- Replacement fuses for sentry surge protector
- Rated 125 VAC
- 10,000 Amp interrupting rating
- UL Listed (E56412), CSA Certified (LR53787), and CE Certified

**GLASS FUSE ORDERING DATA**

| Fuse Amps | Bussmann Model | Stock No. | List | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 5 | ECF-5 | 1DJ74 | $13.53 | $10.83 | 5 | 0.5 |
| 8 | ECF-8 | 3KT28 | 13.53 | 10.83 | 5 | 0.1 |

COOPER Bussmann

Nylon Fuse Pullers
No. 6F446



## NYLON FUSE PULLERS

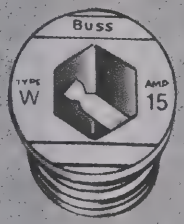
- Fully insulated with no-slip handles and protective finger stops
- No. 6F446 blue in color; No. 6F447 gray in color

| Size | Application | Bussman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Small | 13/32" to 13/16" dia. fuses | FP-2 | 6F446 | $7.95 | $6.37 | 0.2 |
| Medium | 1" to 1¾" dia. fuses | FP-3 | 6F447 | 17.51 | 14.01 | 0.2 |
| Large | 1¾" to 2½" dia. fuses | FP-4 | 1BZ80 | 66.64 | 53.35 | 0.7 |

# PLUG FUSES AND BOX COVER UNITS

## PLUG FUSES

COOPER Bussmann




No. 6F469

E12112 LR53787 Type S Only

**W Series plug fuses are used for** residential loads and non-motor industrial circuits. TL Series plug fuses are used on normal duty motor loads. The T Series with spring-loaded time delay are used when extra time delay is needed or sensitivity to temperature is desired. S Series fuses are spring loaded time delay fuses with Type S tamper resistant dimensions to prevent substitution of incorrectly sized fuses. SL Series plug fuses have normal time delay and Type S tamper resistant dimensions to prevent substitution of incorrectly sized fuses.

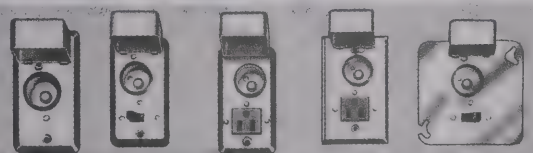
- **S and T series are dual-element**
- **SL, TL, and W series are single element**
- **10,000 amp interrupting rating**
- **Rated 125 VAC**
- **Functionally equal to Gould and Littelfuse; see Cross-Reference on page 436**

| Amp Rating | Bussmann Model | Stock No. | List | Each (Pkg. of 4) | Shpg. Wt. |
|---|---|---|---|---|---|
| **EDISON BASE, STANDARD FAST ACTING TYPE** | | | | | |
| 1 | W 1 | 1DC08 | $7.56 | $6.05 | 0.8 |
| 2 | W 2 | 1DC10 | 7.95 | 6.37 | 0.2 |
| 3 | W 3 | 6F466 | 7.95 | 6.37 | 0.2 |
| 5 | W 5 | 1DC12 | 7.95 | 6.37 | 0.8 |
| 6 | W 6 | 6F467 | 7.95 | 6.37 | 0.2 |
| 8 | W 8 | 1DC13 | 7.69 | 6.16 | 0.2 |
| 10 | W 10 | 6F468 | 7.95 | 6.37 | 0.2 |
| 15 | W 15 | 6F469 | 4.20 | 3.36 | 0.2 |
| 20 | W 20 | 6F470 | 3.62 | 2.90 | 0.2 |
| 25 | W 25 | 6F471 | 4.69 | 3.75 | 0.2 |
| 30 | W 30 | 6F472 | 3.73 | 2.98 | 0.2 |
| **EDISON BASE, TIME DELAY TYPE** | | | | | |
| 15 | TL 15 | 6F458 | 4.53 | 3.63 | 0.2 |
| 20 | TL 20 | 6F459 | 4.53 | 3.63 | 0.2 |
| 25 | TL 25 | 6F460 | 6.65 | 5.32 | 0.2 |
| 30 | TL 30 | 6F461 | 3.74 | 3.00 | 0.2 |
| **EDISON BASE, TIME DELAY WITH THERMAL SENSITIVITY TYPE** | | | | | |
| 1 | T 1 | 1CZ46 | 28.96 | 23.17 | 0.2 |
| 3 | T 3 | 1CZ61 | 28.96 | 23.17 | 0.2 |
| 3 2/10 | T 3 2/10 | 1CZ63 | 28.96 | 23.17 | 0.2 |
| 4 | T 4 | 1CZ65 | 26.09 | 20.87 | 0.2 |
| 5 | T 5 | 1CZ68 | 26.09 | 20.87 | 0.2 |
| 6 | T 6 | 1CZ70 | 29.32 | 23.46 | 0.2 |
| 6 1/4 | T 6 1/4 | 1CZ71 | 22.36 | 17.89 | 0.2 |
| 8 | T 8 | 1CZ74 | 22.36 | 17.89 | 0.2 |
| 10 | T 10 | 1CZ54 | 19.45 | 15.56 | 0.2 |
| 12 | T 12 | 1CZ55 | 26.09 | 20.87 | 0.2 |
| 15 | T 15 | 3W757 | 7.83 | 6.27 | 0.2 |
| 20 | T 20 | 3W758 | 7.83 | 6.27 | 0.2 |
| 25 | T 25 | 3W759 | 12.68 | 10.15 | 0.2 |
| 30 | T 30 | 3W760 | 7.83 | 6.27 | 0.2 |
| **TYPE S BASE, TIME DELAY TAMPER RESISTANT TYPE** | | | | | |
| 1 6/10 | S 1 6/10 | 1CZ07* | 29.32 | 23.46 | 0.2 |
| 2 | S 2 | 1CZ15* | 29.32 | 23.46 | 0.2 |
| 3 2/10 | S 3 2/10 | 1CZ23* | 22.58 | 18.07 | 0.2 |
| 4 | S 4 | 1CZ26* | 28.00 | 22.41 | 0.2 |
| 5 | S 5 | 1CZ29* | 26.21 | 20.97 | 0.2 |
| 6 1/4 | S 6 1/4 | 1CZ32* | 22.58 | 18.07 | 0.2 |
| 8 | S 8 | 1CZ35 | 26.21 | 20.97 | 0.2 |
| 10 | S 10 | 1CZ11 | 22.58 | 18.07 | 0.2 |
| 12 | S 12 | 1CZ12 | 28.00 | 22.41 | 0.2 |
| 15 | S 15 | 1CZ14 | 8.10 | 6.49 | 0.2 |
| 15 | SL 15 | 6F462 | 3.91 | 3.14 | 0.2 |
| 20 | S 20 | 1CZ19 | 8.10 | 6.49 | 0.2 |
| 20 | SL 20 | 6F463 | 4.84 | 3.88 | 0.2 |
| 25 | S 25 | 1CZ20 | 11.34 | 9.08 | 0.2 |
| 25 | SL 25 | 6F464 | 7.18 | 5.74 | 0.2 |
| 30 | S 30 | 1CZ25 | 11.34 | 9.08 | 0.2 |
| 30 | SL 30 | 6F465 | 5.60 | 4.49 | 0.2 |

NOTE: Fuses are packaged in boxes of 4 fuses. (*) UL file E12112 and E56412.

COOPER Bussmann

E6491 LR4725



No. 1DD98 | No. 1DH49 | No. 1DH48 | No. 1DK48 | No. 1DL58

## BOX COVER UNITS

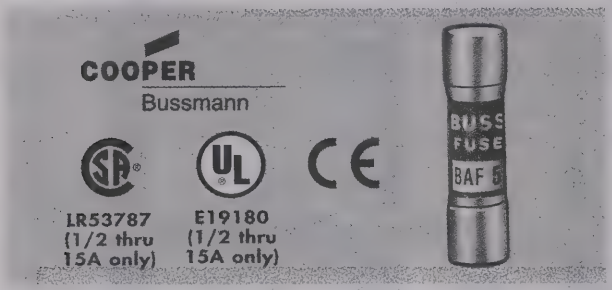
- **Protect small motors**
- **For use in HVAC applications**
- **Use with standard electrical boxes**
- **Use Bussmann Type W, TL, or T plug fuses (see above)**

| Box Type | No. of Fuseholders | No. of Receptacles 125VAC | No. of On/Off Switches† | Indicating Light | Amp Rating | Voltage Rating | Max. HP Rating | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2¼" Handy Box | 1 | — | — | No | 15 | 125VAC/DC | 3/4 | SOU | 1DD98 | $12.05 | $9.65 | 0.3 |
| | 1 | 1 | | | | 125VAC/DC | 3/4 | SRU | 1DH48† | 16.06 | 12.85 | 0.3 |
| | 1 | — | | | | 125VAC | 1/2 | SSU | 1DH49 | 11.48 | 9.19 | 0.3 |
| 2¾" Switch Box | 1 | 1 | — | No | 15 | 125VAC/DC | 3/4 | SRW | 1DK48† | 20.40 | 16.32 | 0.5 |
| 4" Square Box | 1 | — | — | No | 15 | 125VAC/DC | 3/4 | SOY | 1DL56 | 14.93 | 11.94 | 0.5 |
| | 1 | — | 1 | | | 125VAC | 1/2 | SSY | 1DL58 | 12.65 | 10.12 | 0.5 |
| | 2 | — | — | | | 125VAC | 3/4 | SOY-B | 1DN02† | 23.54 | 18.84 | 0.7 |
| | 2 | — | 1* | | | 125VAC | 1/2 | STY | 1DP38† | 30.71 | 24.57 | 0.7 |

(*)Double pole switch opens both sides of circuit. (†) Not CSA Certified.

# MIDGET FUSES

## ONE-TIME, MIDGET GENERAL PURPOSE FUSES




- 10,000 amp interrupting rating at 125 VAC
- Rated 250 VAC (½ thru 15 amp); 125 VAC (20-30 amp)
- Protect lighting circuits, heaters, and control circuits
- Functionally equal to Gould OTM and Littelfuse BLF and BLN; see Cross-Reference chart on page 436

### BAF SERIES—13/32" x 1½"

| Fuse Amps | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 | BAF 1/2 | 1CR71 | $3.65 | $2.92 | 0.1 |
| 1 | BAF 1 | 6F159 | 2.42 | 1.94 | 0.1 |
| 1½ | BAF 1½ | 1CR70 | 3.65 | 2.92 | 0.1 |
| 2 | BAF 2 | 6F160 | 2.42 | 1.94 | 0.1 |
| 2½ | BAF 2½ | 1CR73 | 3.65 | 2.92 | 0.1 |
| 3 | BAF 3 | 6C167 | 2.42 | 1.94 | 0.1 |
| 4 | BAF 4 | 6F161 | 3.65 | 2.92 | 0.1 |
| 5 | BAF 5 | 6C168 | 2.42 | 1.94 | 0.1 |
| 6 | BAF 6 | 6C169 | 2.42 | 1.94 | 0.1 |
| 6¼ | BAF 6¼ | 1CR77 | 3.74 | 2.99 | 0.1 |
| 7 | BAF 7 | 1CR78 | 2.96 | 2.37 | 0.1 |
| 8 | BAF 8 | 6F162 | 2.96 | 2.37 | 0.1 |
| 9 | BAF 9 | 1CR79 | 2.96 | 2.37 | 0.1 |
| 10 | BAF 10 | 6C170 | 1.97 | 1.58 | 0.1 |
| 12 | BAF 12 | 1CR72 | 2.96 | 2.37 | 0.1 |
| 15 | BAF 15 | 6C171 | 2.24 | 1.80 | 0.1 |
| 20 | BAF 20 | 1CR74 | 1.97 | 1.58 | 0.1 |
| 25 | BAF 25 | 1CR75 | 2.86 | 2.30 | 0.1 |
| 30 | BAF 30 | 1CR76 | 1.97 | 1.58 | 0.1 |

## MIDGET FAST-ACTING FUSES




- 100K amp interrupting rating
- Rated 600 VAC
- Protect control circuits, lighting circuits
- Functionally equal to Gould ATM and Littelfuse KLK; see Cross-Reference chart on page 436

### KTK SERIES—13/32" x 1½"

| Fuse Amps | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/10 | KTK 1/10 | 6F125 | $15.70 | $12.57 | 0.1 |
| 1/8 | KTK 1/8 | 6F126 | 16.39 | 13.12 | 0.1 |
| 2/10 | KTK 2/10 | 6F127 | 16.39 | 13.12 | 0.1 |
| 1/4 | KTK 1/4 | 6F128 | 12.60 | 10.08 | 0.1 |
| 3/10 | KTK 3/10 | 1CW81 | 16.39 | 13.12 | 0.1 |
| 4/10 | KTK 4/10 | 1CW83 | 16.39 | 13.12 | 0.1 |
| 1/2 | KTK 1/2 | 6F129 | 12.38 | 9.91 | 0.1 |
| 6/10 | KTK 6/10 | 1CW87 | 16.39 | 13.12 | 0.1 |
| 3/4 | KTK 3/4 | 6F130 | 13.55 | 10.84 | 0.1 |
| 1 | KTK 1 | 4XC37 | 8.84 | 6.16 | 0.1 |
| 1¼ | KTK 1¼ | 1CW78 | 16.39 | 13.12 | 0.1 |
| 1½ | KTK 1½ | 6F131 | 12.60 | 10.08 | 0.1 |
| 2 | KTK 2 | 4XC38 | 8.84 | 6.16 | 0.1 |
| 2½ | KTK 2½ | 1CW79 | 15.70 | 12.57 | 0.1 |
| 3 | KTK 3 | 4XC39 | 8.84 | 6.16 | 0.1 |
| 3½ | KTK 3½ | 1CW80 | 16.39 | 13.12 | 0.1 |
| 4 | KTK 4 | 6F132 | 10.78 | 7.48 | 0.1 |
| 5 | KTK 5 | 4XC40 | 8.84 | 6.16 | 0.1 |
| 6 | KTK 6 | 4XC41 | 8.84 | 7.08 | 0.1 |
| 7 | KTK 7 | 1CW88 | 13.55 | 10.84 | 0.1 |
| 7½ | KTK 7½ | 1CW89 | 16.39 | 13.12 | 0.1 |
| 8 | KTK 8 | 6F133 | 10.78 | 8.62 | 0.1 |
| 9 | KTK 9 | 1CW90 | 16.39 | 13.12 | 0.1 |
| 10 | KTK 10 | 4XC42 | 8.84 | 7.08 | 0.1 |
| 12 | KTK 12 | 6F134 | 13.50 | 10.80 | 0.1 |
| 15 | KTK 15 | 4XC43 | 8.84 | 7.08 | 0.1 |
| 20 | KTK 20 | 4XC44 | 9.14 | 7.32 | 0.1 |
| 25 | KTK 20 | 4XC45 | 9.14 | 7.32 | 0.1 |
| 30 | KTK 30 | 4XC46 | 9.14 | 7.32 | 0.1 |

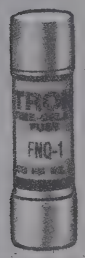

### DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

COOPER Bussmann




E19180

LR53787

## FNQ SERIES—13/32" x 1½"

- 10K amp interrupting rating
- Rated 500 VAC
- Protect small motor control circuits, machine tool transformers, and gas discharge lighting
- Longest time delay of midget fuse types
- Functionally equal to Gould ATQ and Littelfuse FLQ Series (See Cross-Reference Guide on page 436)

| Fuse Amp | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/10 | FNQ 1/10 | 6F135 | $16.74 | $13.40 | 0.1 |
| 1/8 | FNQ 1/8 | 6F136 | 19.41 | 15.54 | 0.1 |
| 15/100 | FNQ 15/100 | 6F137 | 20.25 | 16.21 | 0.1 |
| 3/16 | FNQ 3/16 | 6F138 | 20.26 | 16.21 | 0.1 |
| 2/10 | FNQ 2/10 | 6F139 | 19.41 | 15.54 | 0.1 |
| 1/4 | FNQ 1/4 | 6F140 | 15.57 | 12.46 | 0.1 |
| 3/10 | FNQ 3/10 | 6F141 | 19.41 | 15.54 | 0.1 |
| 4/10 | FNQ 4/10 | 6F142 | 19.41 | 15.54 | 0.1 |
| 1/2 | FNQ 1/2 | 4XC47 | 13.26 | 10.61 | 0.1 |
| 6/10 | FNQ 6/10 | 6F143 | 15.57 | 12.46 | 0.1 |
| 8/10 | FNQ 8/10 | 6F144 | 15.57 | 12.46 | 0.1 |
| 1 | FNQ 1 | 4XC48 | 10.92 | 8.74 | 0.1 |
| 1⅛ | FNQ 1⅛ | 6F145 | 20.25 | 16.21 | 0.1 |
| 1¼ | FNQ 1¼ | 6F146 | 16.74 | 13.40 | 0.1 |
| 1½ | FNQ 1½ | 6F148 | 13.26 | 10.61 | 0.1 |
| 1⅝ | FNQ 1⅝ | 4XC49 | 13.26 | 10.61 | 0.1 |
| 2 | FNQ 2 | 4XC50 | 10.92 | 8.74 | 0.1 |
| 2¼ | FNQ 2¼ | 6F151 | 19.41 | 15.54 | 0.1 |
| 2½ | FNQ 2½ | 4XC51 | 13.26 | 10.61 | 0.1 |
| 3 | FNQ 3 | 4XC52 | $10.92 | $8.74 | 0.1 |
| 3⅜ | FNQ 3⅜ | 4XC53 | 13.26 | 10.61 | 0.1 |
| 3½ | FNQ 3½ | 6F153 | 15.57 | 12.46 | 0.1 |
| 4 | FNQ 4 | 4XC54 | 10.92 | 8.74 | 0.1 |
| 4½ | FNQ 4½ | 1CT87 | 16.74 | 13.40 | 0.1 |
| 5 | FNQ 5 | 4XC55 | 10.92 | 8.74 | 0.1 |
| 5⅝ | FNQ 5⅝ | 6F155 | 16.74 | 13.40 | 0.1 |
| 6 | FNQ 6 | 4XC56 | 10.92 | 8.74 | 0.1 |
| 6¼ | FNQ 6¼ | 6F156 | 19.41 | 15.54 | 0.1 |
| 7 | FNQ 7 | 4XC57 | 13.26 | 10.61 | 0.1 |
| 8 | FNQ 8 | 4XC58 | 10.92 | 8.74 | 0.1 |
| 9 | FNQ 9 | 6F157 | 19.41 | 15.54 | 0.1 |
| 10 | FNQ 10 | 4XC59 | 10.92 | 8.74 | 0.1 |
| 12 | FNQ 12 | 4XC60 | 10.92 | 8.74 | 0.1 |
| 14 | FNQ 14 | 6F158 | 20.25 | 16.21 | 0.1 |
| 15 | FNQ 15 | 4XC61 | 10.92 | 8.74 | 0.1 |
| 20 | FNQ 20 | 4XC62 | 10.92 | 8.74 | 0.1 |
| 25 | FNQ 25 | 4XC63 | 10.92 | 8.74 | 0.1 |
| 30 | FNQ 30 | 4XC64 | 10.92 | 8.74 | 0.1 |

### Primary Fuse Sizing for Machine Tool Transformers*

| Transformer Volt-Ampere | FNQ Amp Rating 480V Primary |
|---|---|
| 50 | 15/100 |
| 75 | 2/10 |
| 100 | 3/10 |
| 150 | 1/2 |
| 200 | 6/10 |
| 250 | 8/10 |
| 300 | 1 |
| 350 | 1 |
| 500 | 1½ |
| 750 | 2 |
| 1000 | 3 |

COOPER Bussmann




E19180 (125, 250VAC)

LR53787 (125, 250VAC)

## FNM/FNW SERIES—13/32" x 1½"

- 10K amp interrupting rating at 125 VAC
- Rated 250 VAC
- Protect small motors, indoor/outdoor lighting circuits, electric furnaces, machine tool transformers, and control circuits
- Compact time delay fuses for high inrush loads
- Functionally equal to Gould TRM and Littelfuse FLM Series (See Cross-Reference Guide on page 436

| Fuse Amp | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **FNM 250VAC MODELS** | | | | | |
| 1/10 | FNM 1/10 | 6F166 | $7.57 | $6.06 | 0.1 |
| 15/100 | FNM 15/100 | 6F167 | 7.57 | 6.06 | 0.1 |
| 2/10 | FNM 2/10 | 6F168 | 7.57 | 6.06 | 0.1 |
| 1/4 | FNM 1/4 | 1CT79 | 7.57 | 6.06 | 0.1 |
| 3/10 | FNM 3/10 | 6F169 | 7.57 | 6.06 | 0.1 |
| 4/10 | FNM 4/10 | 6F170 | 7.57 | 6.06 | 0.1 |
| 1/2 | FNM 1/2 | 6F171 | 5.06 | 4.05 | 0.1 |
| 6/10† | FNM 6/10 | 4XC09 | 5.06 | 4.05 | 0.1 |
| 8/10 | FNM 8/10 | 6F172 | 5.06 | 4.05 | 0.1 |
| 1 | FNM 1 | 6C207 | 4.11 | 3.29 | 0.1 |
| 1⅛ | FNM 1⅛ | 6F173 | 7.57 | 6.06 | 0.1 |
| 1¼ | FNM 1¼ | 6F174 | 6.76 | 5.41 | 0.1 |
| 1⁴⁄₁₀ | FNM 1⁴⁄₁₀ | 6F175 | 7.30 | 5.84 | 0.1 |
| 1½ | FNM 1½ | 1CT78 | 5.83 | 4.67 | 0.1 |
| 1⁶⁄₁₀ | FNM 1⁶⁄₁₀ | 6F176 | 5.83 | 4.67 | 0.1 |
| 1⅝ | FNM 1⅝ | 6F177 | 7.03 | 5.63 | 0.1 |
| 2 | FNM 2 | 4XC10 | 3.78 | 3.03 | 0.1 |
| 2¼ | FNM 2¼ | 6F178 | 6.73 | 5.39 | 0.1 |
| 2½ | FNM 2½ | 6F179 | 5.40 | 4.32 | 0.1 |
| 2⁹⁄₁₀ | FNM 2⁹⁄₁₀ | 6F180 | 7.03 | 5.63 | 0.1 |
| 3 | FNM 3 | 4XC11 | 4.58 | 3.67 | 0.1 |
| 3²⁄₁₀ | FNM 3²⁄₁₀ | 6F181 | 4.71 | 3.77 | 0.1 |
| 3½ | FNM 3½ | 6F182 | 4.71 | 3.77 | 0.1 |
| 4 | FNM 4 | 6F183 | 4.58 | 3.67 | 0.1 |
| 4½ | FNM 4½ | 6F184 | 7.03 | 5.63 | 0.1 |
| 5 | FNM 5 | 4XC12 | 3.78 | 3.03 | 0.1 |
| 6 | FNM 6 | 6F186 | 5.40 | 4.32 | 0.1 |
| 6/14 | FNM 6¼ | 6C208 | 4.71 | 3.77 | 0.1 |
| 7 | FNM 7 | 6C209 | 4.71 | 3.77 | 0.1 |
| 8 | FNM 8 | 6C210 | 4.58 | 3.67 | 0.1 |
| 9 | FNM 9 | 6F187 | 7.03 | 5.63 | 0.1 |
| 10 | FNM 10 | 4XC13 | 3.78 | 3.03 | 0.1 |
| **FNM 125VAC MODELS** | | | | | |
| 12 | FNM-12 | 1CT80 | 5.40 | 4.32 | 0.1 |
| 15 | FNM-15 | 1CT81 | 3.78 | 3.03 | 0.1 |
| **FNM 32VAC MODELS** | | | | | |
| 20 | FNM-20 | 1CT82 | 4.58 | 3.67 | 0.1 |
| 25 | FNM-25 | 1CT83 | 6.25 | 5.00 | 0.1 |
| 30 | FNM-30 | 1CT84 | 4.58 | 3.67 | 0.1 |
| 35 | FNM-35 | 1CT85 | 7.03 | 5.63 | 0.1 |
| 40 | FNM-40 | 1CT86 | 7.03 | 5.63 | 0.1 |
| **FNW 250VAC MODELS** | | | | | |
| 12 | FNW 12 | 6F188 | 6.91 | 5.53 | 0.1 |
| 15 | FNW 15 | 4XC14 | 5.75 | 4.60 | 0.1 |
| 20 | FNW 20 | 4XC15 | 5.75 | 4.60 | 0.1 |
| 25 | FNW 25 | 6C211 | 6.91 | 5.53 | 0.1 |
| 30 | FNW30 | 4XC16 | 5.75 | 4.60 | 0.1 |

### FUSE SPECIFICATIONS (†)
**For Small Motor Protection, 250V or less**

| Motor Full-Load Amperes | Fuse Amp Ratings Normal Duty‡ | Heavy Duty# |
|---|---|---|
| Up to 0.8 | 1¼ | 1⅘ |
| 1.0-1.2 | 1⅘ | 2½ |
| 1.3-1.7 | 2½ | 3½ |
| 1.8-2.0 | 3⅘ | 5 |
| 2.1-2.5 | 5 | 6¼ |
| 2.6-3.5 | 7 | 9 |
| 4.0-4.5 | 9 | 12 |
| 5.0-6.0 | 12 | 20 |
| 6.5-7.5 | 15 | 20 |
| 8.0-9.0 | 20 | 25 |
| 10.0-12.0 | 25 | 30 |
| 12.5-15.0 | 30 | — |

(†)Use for 100VA control transformer primary rating 240V. (‡) Normal duty ratings will withstand locked rotor current of 5 to 10 seconds. (#) Heavy-duty ratings will withstand rotor current of 6.6 times for 10 seconds. (*) Fuse ratings above will withstand inrush currents of 25 times transformer full load 1/2 cycle.

### LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# MIDGET FUSES

## MIDGET CLASS CC FAST-ACTING FUSES

COOPER Bussmann



E4273

LR53787

### KTK-R SERIES—13/32 x 1½"

- 200K amp interrupting rating
- Rated 600 VAC
- Rejection feature
- Fiberglass body
- Protect branch circuits
- Functionally equal to Gould ATMR and Littelfuse KLK-R Series

Applications include protection of control circuits when available short circuit currents exceed 10,000 amps. Rejection fuses will not allow the replacement of a lower voltage fuse or lower interrupting rating provided they are used with rejection fuse blocks; see page 424

| Fuse Amp | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/10 | KTK-R 1/10 | 6F189 | $17.29 | $13.84 | 0.1 |
| 1/8 | KTK-R 1/8 | 6F190 | 18.07 | 14.46 | 0.1 |
| 2/10 | KTK-R 2/10 | 6F191 | 18.07 | 14.46 | 0.1 |
| 1/4 | KTK-R 1/4 | 6F192 | 18.07 | 14.46 | 0.1 |
| 3/10 | KTK-R 3/10 | 6F193 | 18.07 | 14.46 | 0.1 |
| 4/10 | KTK-R 4/10 | 1CW91 | 17.29 | 13.84 | 0.1 |
| 1/2 | KTK-R 1/2 | 4XC17 | 11.83 | 9.47 | 0.1 |
| 3/4 | KTK-R 3/4 | 4XC18 | 12.98 | 10.39 | 0.1 |
| 1 | KTK-R 1 | 4XC19 | 9.73 | 7.79 | 0.1 |
| 1½ | KTK-R 1½ | 4XC20 | 9.73 | 7.79 | 0.1 |
| 2 | KTK-R 2 | 4XC21 | 9.73 | 7.79 | 0.1 |
| 2½ | KTK-R 2½ | 6F194 | 17.29 | 13.84 | 0.1 |
| 3 | KTK-R 3 | 4XC22 | 9.73 | 7.79 | 0.1 |
| 3½ | KTK-R 3½ | 6F195 | 18.07 | 14.46 | 0.1 |
| 4 | KTK-R 4 | 4XC23 | 12.05 | 9.65 | 0.1 |
| 5 | KTK-R 5 | 4XC24 | 9.73 | 7.79 | 0.1 |
| 6 | KTK-R 6 | 6F196 | 11.83 | 9.47 | 0.1 |
| 7 | KTK-R 7 | 1CW92 | 14.89 | 11.91 | 0.1 |
| 8 | KTK-R 8 | 6F197 | 12.05 | 9.65 | 0.1 |
| 9 | KTK-R 9 | 6F198 | 18.07 | 14.46 | 0.1 |
| 10 | KTK-R 10 | 4XC25 | 9.73 | 7.79 | 0.1 |
| 12 | KTK-R 12 | 6F199 | 9.90 | 7.93 | 0.1 |
| 15 | KTK-R 15 | 4XC26 | 9.73 | 7.79 | 0.1 |
| 20 | KTK-R 20 | 4XC27 | 9.73 | 7.79 | 0.1 |
| 25 | KTK-R 25 | 6F200 | 12.05 | 9.65 | 0.1 |
| 30 | KTK-R 30 | 4XC28 | 9.73 | 7.79 | 0.1 |

## MIDGET CLASS CC TIME DELAY FUSES

COOPER Bussmann



E4273

53787

### FNQ-R SERIES—13/32 x 1½"

- 200K amp interrupting rating
- Rated 600 VAC
- Rejection feature
- Protect control circuit transformers and branch circuits
- Reduces "down-time" caused by power surges or equipment demand
- Functionally equal to Gould ATDR and Littelfuse KLD-R series
- Use with rejection type blocks; see page 424

CROSS REFERENCE AVAILABLE ON PAGE 436

| Fuse Amps | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | FNQ-R 1/4 | 1CT94 | $15.06 | $12.05 | 0.1 |
| 3/10 | FNQ-R 3/10 | 1CT99 | 21.03 | 16.83 | 0.1 |
| 4/10 | FNQ-R 4/10 | 1CV02 | 18.16 | 14.53 | 0.1 |
| 1/2 | FNQ-R 1/2 | 1CT93 | 11.57 | 9.26 | 0.1 |
| 6/10 | FNQ-R 6/10 | 1CV04 | 18.16 | 14.53 | 0.1 |
| 3/4 | FNQ-R 3/4 | 1CV01 | 18.16 | 14.53 | 0.1 |
| 8/10 | FNQ-R 8/10 | 1CV06 | 16.17 | 12.94 | 0.1 |
| 1 | FNQ-R 1 | 6F111 | 11.33 | 9.07 | 0.1 |
| 1⅛ | FNQ-R 1⅛ | 1CT89 | 18.16 | 14.53 | 0.1 |
| 1¼ | FNQ-R 1¼ | 6F112 | 18.16 | 14.53 | 0.1 |
| 1 3/10 | FNQ-R 1 3/10 | 1CT90 | 21.03 | 16.83 | 0.1 |
| 1 4/10 | FNQ-R 1 4/10 | 1CT91 | 21.03 | 16.83 | 0.1 |
| 1½ | FNQ-R 1½ | 1CT88 | 11.57 | 9.26 | 0.1 |
| 1 6/10 | FNQ-R 1 6/10 | 6F113 | 18.16 | 14.53 | 0.1 |
| 1 8/10 | FNQ-R 1 8/10 | 1CT92 | 21.03 | 16.83 | 0.1 |
| 2 | FNQ-R 2 | 6F114 | 11.57 | 9.26 | 0.1 |
| 2¼ | FNQ-R 2¼ | 1CT95 | 21.03 | 16.83 | 0.1 |
| 2½ | FNQ-R 2½ | 6F115 | 15.06 | 12.05 | 0.1 |
| 2 8/10 | FNQ-R 2 8/10 | 1CT96 | 21.03 | 16.83 | 0.1 |
| 3 | FNQ-R 3 | 6F116 | 11.57 | 9.26 | 0.1 |
| 3 2/10 | FNQ-R 3 2/10 | 1CT98 | 21.03 | 16.83 | 0.1 |
| 3½ | FNQ-R 3½ | 1CT97 | 18.16 | 14.53 | 0.1 |
| 4 | FNQ-R 4 | 6F117 | 12.39 | 9.92 | 0.1 |
| 5 | FNQ-R 5 | 6F118 | 11.57 | 9.26 | 0.1 |
| 6 | FNQ-R 6 | 6F119 | 15.06 | 12.05 | 0.1 |
| 6¼ | FNQ-R 6¼ | 1CV03 | 21.03 | 16.83 | 0.1 |
| 7½ | FNQ-R 7½ | 1CV05 | 17.34 | 13.88 | 0.1 |
| 8 | FNQ-R 8 | 6F121 | 15.06 | 12.05 | 0.1 |
| 9 | FNQ-R 9 | 1CV07 | 20.07 | 16.06 | 0.1 |
| 10 | FNQ-R 10 | 6F122 | 12.39 | 9.92 | 0.1 |

## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# MIDGET CLASS CC TIME DELAY FUSES AND THREE-PHASE MOTOR FUSE SELECTION CHART

## LP-CC SERIES — 13/32 x 1½"




- 200K amp interrupting rating
- Rated 600VAC and 300VDC
- Protects small horsepower motor circuits
- Protects branch circuits
- See Cross-Reference on page 436

| Fuse Amp | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 | LP-CC-1/2 | 1CX45 | $11.13 | $8.91 | 0.1 |
| 6/10 | LP-CC-6/10 | 1CX65 | 13.83 | 11.07 | 0.1 |
| 8/10 | LP-CC-8/10 | 1CX69 | 11.13 | 8.91 | 0.1 |
| 1 | LP-CC-1 | 1CX41 | 11.13 | 8.91 | 0.1 |
| 1 1/8 | LP-CC-1 1/8 | 1CX43 | 13.83 | 11.07 | 0.1 |
| 1 1/4 | LP-CC-1 1/4 | 1CX42 | 13.83 | 11.07 | 0.1 |
| 1 4/10 | LP-CC-1 4/10 | 1CX44 | 13.83 | 11.07 | 0.1 |
| 1 1/2 | LP-CC-1 1/2 | 3HZ64 | 13.83 | 11.07 | 0.1 |
| 1 6/10 | LP-CC-1 6/10 | 3HZ65 | 13.83 | 11.07 | 0.1 |
| 1 8/10 | LP-CC-1 8/10 | 3HZ66 | 11.13 | 8.91 | 0.1 |
| 2 | LP-CC-2 | 1CX49 | 11.13 | 8.91 | 0.1 |
| 2 1/4 | LP-CC-2 1/4 | 1CX51 | 13.83 | 11.07 | 0.1 |
| 2 1/2 | LP-CC-2 1/2 | 1CX50 | 11.13 | 8.91 | 0.1 |
| 2 8/10 | LP-CC-2 8/10 | 1CX52 | 13.83 | 11.07 | 0.1 |
| 3 | LP-CC-3 | 1CX55 | 11.13 | 8.91 | 0.1 |
| 3 2/10 | LP-CC-3 2/10 | 1CX57 | 13.83 | 11.07 | 0.1 |
| 3 1/2 | LP-CC-3 1/2 | 1CX56 | 11.13 | 8.91 | 0.1 |
| 4 | LP-CC-4 | 1CX59 | 11.13 | 8.91 | 0.1 |
| 4 1/2 | LP-CC-4 1/2 | 1CX60 | 13.83 | 11.07 | 0.1 |
| 5 | LP-CC-5 | 1CX61 | 11.13 | 8.91 | 0.1 |
| 5 6/10 | LP-CC-5 6/10 | 1CX62 | 13.83 | 11.07 | 0.1 |
| 6 | LP-CC-6 | 1CX63 | 13.83 | 11.07 | 0.1 |
| 6 1/4 | LP-CC-6 1/4 | 1CX64 | 13.83 | 11.07 | 0.1 |
| 7 | LP-CC-7 | 1CX66 | 13.83 | 11.07 | 0.1 |
| 7 1/2 | LP-CC-7 1/2 | 1CX67 | 13.83 | 11.07 | 0.1 |
| 8 | LP-CC-8 | 1CX68 | 13.83 | 11.07 | 0.1 |
| 9 | LP-CC-9 | 3KT37 | 13.83 | 11.07 | 0.1 |
| 10 | LP-CC-10 | 1CX46 | 11.13 | 8.91 | 0.1 |
| 12 | LP-CC-12 | 1CX47 | 13.83 | 11.07 | 0.1 |
| 15 | LP-CC-15 | 1CX48 | 11.13 | 8.91 | 0.1 |
| 20 | LP-CC-20 | 1CX53 | 11.50 | 9.21 | 0.1 |
| 25 | LP-CC-25 | 1CX54 | 13.83 | 11.07 | 0.1 |
| 30 | LP-CC-30 | 1CX58 | 11.13 | 8.91 | 0.1 |

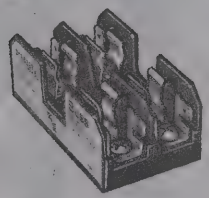
| Three Phase Motor HP (Full Load Amps) | | | | Motor Starter | Class RK1, LPS-RK/LPN-RK | | Class J, LPJ | | Class CC, LP-CC | |
|---|---|---|---|---|---|---|---|---|---|---|
| 200V (FLA) | 230V (FLA) | 460V (FLA) | 575V (FLA) | NEMA Size | Amp | Max. Amp | Amp | Max. Amp | Amp | Max. Amp |
| — | — | — | 1/2 (0.9) | 00 | 1.25 | 3 | 1.4 | 3 | 1.8 | 3.5 |
| — | — | 1/2 (1.1) | — | 00 | 1.5 | 3 | 1.8 | 3 | 2.25 | 6 |
| — | — | — | 3/4 (1.3) | 00 | 1.8 | 3 | 2 | 3 | 2.8 | 6 |
| — | — | 3/4 (1.6) | 1 (1.7) | 00 | 2.25 | 3.5 | 2.8 | 3.5 | 3.5 | 6.25 |
| — | — | 1 (2.1) | — | 00 | 2.8 | 6 | 3.2 | 6 | 4.5 | 10 |
| 1/2 (2.5) | 1/2 (2.2) | — | 1½ (2.4) | 00 | 3.2 | 6 | 4 | 6 | 5 | 10 |
| — | 3/4 (3.2) | 1½ (3) | 2 (2.7) | 00 | 4 | 6.25 | 4.5 | 6 | 6 | 10 |
| 3/4 (3.7) | — | 2 (3.4) | — | 00 | 6.25 | 10 | 5.6 | 7 | 7 | 15 |
| — | 1 (4.2) | — | — | 00 | 5.6 | 10 | 7 | 10 | 9 | 15 |
| 1 (4.8) | — | — | — | 00 | 6.25 | 10 | 8 | 10 | 10 | 17.5 |
| — | 1½ (6) | — | — | 00 | 8 | 15 | 9 | 15 | 12 | 20 |
| 1½ (6.9) | — | — | — | 00 | 9 | 15 | 12 | 15 | 15 | 25 |
| — | — | — | 1½ (2.4) | 0 | 3.2 | 6 | 4 | 6 | 5 | 10 |
| — | — | 1½ (3) | 2 (2.7) | 0 | 4 | 6.25 | 4.5 | 6 | 6 | 10 |
| — | — | — | 3 (3.9) | 0 | 5.6 | 10 | 6 | 10 | 5 | 15 |
| — | — | 3 (4.8) | — | 0 | 6.25 | 10 | 8 | 10 | 10 | 17.5 |
| — | 1½ (6) | — | 5 (6.1) | 0 | 8 | 15 | 9 | 15 | 12 | 20 |
| 1½ (6.9) | 2 (6.8) | — | — | 0 | 9 | 15 | 12 | 15 | 15 | 25 |
| 2 (7.8) | — | 5 (7.6) | — | 0 | 10 | 15 | 12 | 15 | 17.5 | 30 |
| — | 3 (9.6) | — | — | 0 | 15 | 20 | 15 | 20 | 20 | 30 |
| 3 (11) | — | — | — | 0 | 15 | 20 | 17.5 | 20 | — | — |
| — | — | — | 7½ (9.0) | 1 | 12 | 20 | 15 | 20 | — | — |
| — | — | 7½ (11) | 10 (11) | 1 | 15 | 20 | 17.5 | 20 | — | — |
| — | — | 10 (14) | — | 1 | 20 | 30 | 25 | 30 | — | — |
| — | 5 (15.2) | — | — | 1 | 20 | 30 | 25 | 30 | — | — |
| 5 (17.5) | — | — | — | 1 | 25 | 35 | 30 | 35 | — | — |
| — | 7½ (22) | — | — | 1 | 30 | 45 | 35 | 45 | — | — |
| 7½ (25.3) | — | — | — | 1 | 35 | 50 | 40 | 50 | — | — |
| — | — | — | 15 (17) | 2 | 25 | 35 | 30 | 35 | — | — |
| — | — | 15 (21) | — | 2 | 30 | 45 | 35 | 45 | — | — |
| — | — | — | 20 (22) | 2 | 30 | 45 | 35 | 45 | — | — |
| — | — | 20 (27) | 25 (27) | 2 | 40 | 60 | 45 | 60 | — | — |
| — | 10 (28) | — | — | 2 | 40 | 60 | 45 | 60 | — | — |
| 10 (32.2) | — | — | — | 2 | 45 | 70 | 50 | 70 | — | — |
| — | — | 25 (34) | — | 2 | 45 | 70 | 60 | 70 | — | — |
| — | 15 (42) | — | — | 3 | 60 | 90 | 70 | 90 | — | — |
| — | — | — | 30 (32) | 3 | 45 | 70 | 50 | 70 | — | — |
| — | — | 30 (40) | — | 3 | 60 | 90 | 60 | 90 | — | — |
| — | — | — | 40 (41) | 3 | 60 | 90 | 70 | 90 | — | — |
| 15 (48.3) | — | — | — | 3 | 70 | 100 | 80 | 100 | — | — |
| — | — | 40 (52) | 50 (52) | 3 | 70 | 110 | 80 | 110 | — | — |
| — | 20 (54) | — | — | 3 | 80 | 110 | 90 | 110 | — | — |
| 20 (62.1) | — | — | — | 3 | 100 | 125 | 100 | 125 | — | — |
| — | — | 50 (65) | — | 3 | 90 | 125 | 100 | 125 | — | — |
| — | 25 (68) | — | — | 3 | 90 | 150 | 110 | 150 | — | — |
| 25 (78.2) | — | — | — | 3 | 110 | 175 | 125 | 175 | — | — |
| — | 30 (80) | — | — | 3 | 110 | 175 | 125 | 175 | — | — |

# FUSE BLOCKS

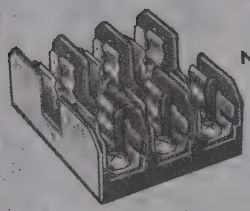
## MIDGET FUSE BLOCKS



1-Pole
No. 4XC30



2-Pole
No. 4XC31



3-Pole
No. 4XC32

COOPER Bussmann

E14853 LR47235

- **Rated 30 amp maximum**
- **Designed for applications such as control panels, motor control centers, switchgear, or elevator systems**
- **Class CC blocks accept high interrupting capacity rejection style Class CC fuses; see page 422**
- **1, 2, or 3-pole assemblies for multiple configurations**

Class CC type fuses are used on circuits with variable fault currents up to 200K amps.

Clips are high conductivity copper and have standard pressure plate terminals that accept solid or stranded #14-#10 AWG wire. Insulators are made of thermoplastic for high impact resistance.

### FUSE BLOCK SPECIFICATIONS AND ORDERING DATA

| No. of Poles | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **FOR BAF, FNW/FNM, KTK, AND FNQ MIDGET FUSES** | | | | | |
| 1 | BM6031PQ | **4XC30** | $4.48 | **$3.59** | 0.1 |
| 2 | BM6032PQ | **4XC31** | 7.67 | **6.14** | 0.2 |
| 3 | BM6033PQ | **4XC32** | 9.82 | **7.86** | 0.2 |
| **CLASS CC BLOCKS FOR KTK-R, FNQ-R, AND LP-CC FUSES** | | | | | |
| 1 | BC6031P | **4XC34** | 6.68 | **5.35** | 0.1 |
| 2 | BC6032P | **4XC35** | 10.03 | **8.03** | 0.2 |
| 3 | BC6033P | **4XC36** | 13.22 | **10.58** | 0.2 |

## DIN RAIL MOUNT KIT

- **Snap-on plastic clip goes under midget fuse block—allows block to be mounted on DIN rail. Two kits are needed for 3 pole blocks**

**No. 4XK09.** Bussmann brand (DRA-1). Shpg. wt. 0.1 lbs. List $2.05. Each.....**$1.64**

## IN-LINE BREAKAWAY FUSEHOLDER

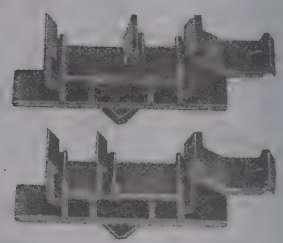
- **Accepts any 13/32 x 1½" fuse**
- **Rated 600 VAC, 30A**
- **(6F453) UL Recognized; (E14853) CSA Certified (LR47235)**
- **Boots can be cut at appropriate rib to fit outside diameter of conductor insulation**

Tin-plated copper end terminals can be crimped to copper conductors, solid or stranded from #12 to #8 AWG; or two, #12 solid or stranded conductors on either end. Internal O-ring seal provides a water resistant compartment for the fuse. Breakaway capability allows safe isolation of equipment vulnerable to accidental damage. Cone-shaped boots are included.

**No. 6F453. In-Line Breakaway Fuseholder.** Bussmann brand (HEB-AW-RLC-A). Shpg. wt. 0.3 lbs. List $31.47. Each.....**$25.20**

**No. 6F454. Boot.** Bussmann brand (1A0512). Shpg. wt. 0.1 lbs. List $1.80. Priced Each (Sold only in packages of 2).....**$1.44**

COOPER Bussmann



**Din Rail Mount Kit**
**No. 4XK09**

### A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

# OPTIMA™ OVERCURRENT PROTECTION MODULES

COOPER Bussmann

LR47235 E161277



No. 4CX82 OPM-SW Series



No. 4CX81 OPM-CC Series E14835 LR47235



No. 4CX79 Load Break Disconnect Switch OPM-1038 Series



E14853 No. 4CX73 Non-Switch OPM-1038 Series LR47235

## OPM-SW AND OPM-CC SERIES

- Provides Type 2 protection for motor starters when used with properly sized Low-peak® Class CC fuses on page 423
- OPM-SW has 100KA interrupting rating; OPM-CC has 200KA interrupting rating
- 45mm IEC starter width
- 3-Pole
- Phil/slot screws
- Pressure plate terminations
- Rejection of non-Class CC fuses
- Blown fuse indicators
- Safety handle
- Finger safe terminals, 35mm DIN-rail or screw mount
- Dead-front protection
- Padlockable

### NO. 4CX82 LOAD BREAK DISCONNECT SWITCH

- Fits #14-10 gauge wire, both stranded and solid
- Handle and shaft are required for proper operation (order separately below)
- Load break. Interlock prevents fuse removal unless switch is in the OFF position
- Pull-out module for convenient fuse loading and removal

### NO. 4CX81 OVERCURRENT PROTECTION MODULE

- Rated for #18-10 gauge wire, both stranded and solid, and a variety of dual wire combinations
- Removable module for convenient fuse loading

## OPM-1038 SERIES

- Small size matches 45mm IEC starter width
- Use Bussmann series LP-CC, KTK-R or FNQ-R fuses with rejection clips
- Use Bussmann series KTK, FNM, or FNQ fuses with non-rejection clips
- Fits #8-18 gauge wire, both stranded and solid
- 3-Pole
- POZIDRIV® screws
- "Open" fuse indication lights
- Finger safe terminals
- Cam action handle for easy module removal
- 35mm DIN-rail or screw panel mounting
- Padlockable for lock-out, tag-out requirements
- Remote "open" fuse status indication feature available (reduces downtime)
- Offered with Class CC rejection clips or European 10 x 38 mm clips

### OPM-1038 SWITCH SERIES WITH DISCONNECT SWITCH AND CAM ACTION HANDLE

- Handle and shaft required for through-the-door operation (order separately below)
- Load break. Interlock prevents fuse removal unless switch is in the OFF position
- Dead-front construction. No exposed contacts for added safety

### OPM-1038 NON-SWITCH SERIES WITH CAM ACTION HANDLE

- Cam action handle for easy removal
- Removable module for convenient fuse loading
- Dead-front protection

## OPM SERIES ORDERING DATA

| Amp Rating | Volts | Fuse Clip Type | Remote Open Fuse Indication Option | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **LOAD BREAK DISCONNECT SWITCH (OPM-SW SERIES)** | | | | | | | | |
| **30A** | 600V | Class CC Rejection | — | OPM-SW | **4CX82** * | $76.97 | **$63.90** | 1.2 |
| **OVERCURRENT PROTECTION MODULE (OPM-CC SERIES)** | | | | | | | | |
| **30** | 600 | Class CC Rejection | — | OPM-CC | **4CX81** | 37.68 | **31.30** | 0.9 |
| **LOAD BREAK DISCONNECT SWITCH (OPM-1038 SERIES)** | | | | | | | | |
| **32** | 660 | 10 x 38 mm Non-rejection | No | OPM-1038SW | **4CX79** | 72.52 | **60.20** | 1.2 |
| **30** | 600 | Class CC Rejection | No | OPM-1038RSW | **4CX77** | 72.67 | **60.35** | 1.2 |
| **32** | 660 | 10 x 38 mm Non-rejection | Yes | OPM-1038SWC | **4CX80** | 111.04 | **92.20** | 1.2 |
| **30** | 600 | Class CC Rejection | Yes | OPM-1038RSWC | **4CX78** | 111.17 | **92.30** | 1.2 |
| **NON-SWITCH (OPM-1038 SERIES)** | | | | | | | | |
| **32** | 660 | 10 x 38 mm Non-rejection | No | OPM-1038 | **4CX73** | 42.16 | **35.00** | 0.9 |
| **30** | 600 | Class CC Rejection | No | OPM-1038R | **4CX75** | 42.28 | **35.10** | 0.9 |
| **32** | 660 | 10 x 38 mm Non-rejection | Yes | OPM-1038C | **4CX74** | 85.00 | **70.55** | 0.9 |
| **30** | 600 | Class CC Rejection | Yes | OPM-1038RC | **4CX76** | 85.13 | **70.70** | 0.9 |

(*) Handle and shaft must be ordered separately.

## OVERCURRENT PROTECTION MODULE EXTENDED SHAFT ORDERING DATA (0.20 x 0.20" Shaft Dimension)

| For Handle Type | Mounting Depth* | Shaft Length (In.) | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Selector NEMA 1, 3R, 12** | 5.31-6.50 | 4.33 | BDS110 | **4CX49** | $6.21 | **$4.97** | 0.1 |
| **Pistol NEMA 1, 3R, 4, 4X, 12** | 6.89-7.48 | 5.91 | BDS150P | **4CX50** | 7.24 | **5.80** | 0.1 |
| | 11.42-12.00 | 10.43 | BDS265 | **4CX51** | 9.31 | **7.45** | 0.1 |

(*) Mounting depth is the distance from the outside of the door to the disconnect switch. Shaft can be cut to desired length.

## OVERCURRENT PROTECTION MODULE HANDLE ORDERING DATA (0.20 x 0.20" Shaft Dimension)

| Style | NEMA Type | Color | Length (In.) | Marking | Padlockable | Defeatable | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Selector** | 1, 3R, 12 | Black | — | Off/On | Yes | No | BDSL105 | **4CX52** | $15.52 | **$12.42** | 0.4 |
| **Selector** | 1, 3R, 12 | Red/Yello | — | Off/On | Yes | No | BDSL107 | **4CX53** | 15.52 | **12.42** | 0.3 |
| **Pistol** | 1, 12 | Black | 3.15 | Off/On | Yes | Yes | BDH47 | **4CX45**† | 37.26 | **29.85** | 0.5 |
| **Pistol** | 1, 3R, 12 | Black | 2.36 | Off/On | Yes | Yes | BDH99 | **4CX46**† | 37.26 | **29.85** | 0.5 |

(†) UL Recognized (E15513C)

# TIME DELAY CLASS J FUSES




- 0–60 amps ferrule type; 70-600 amps knife-blade type
- 300K amps interrupting rating
- Rated 600 VAC
- Dual-element fuse
- Rejection feature prevents substitution of less capable fuses in terms of voltage rating, interrupting rating, or current limitation
- Fuses provide time delay for motor loads
- High degree of current limitation allows protection of circuit breakers, panel boards, switchboards, and bus duct where high available short circuits exist
- Small physical size requires approximately half the mounting space of 600 volt Class RK1 and Class RK5 fuses
- Functionally equal to Gould AJT Series and Littelfuse JTD Series; see page 436
- Order fuse blocks up to 100 amps on page 427

Cross-Reference on page 436

**LPJ SERIES—For Use With IEC and NEMA Controls. Protect Service Entrance Equipment, Feeder Circuits, and Branch Circuits Serving both Motor and Non-Motor Loads**

## MOTOR PROTECTION CHART

| Optimal Branch Circuit Protection | Maximum for General Motor Protections |
|---|---|
| Motor FLA x 150% or next size larger | Motor FLA x 175% or next size larger |

## TIME DELAY CLASS J FUSE ORDERING DATA

| Fuse Amps | Dimensions (In.) Length | Dimensions (In.) Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | | | LPJ 1SP | 6F363 | $13.02 | $10.42 | 0.1 |
| 1 1/4 | | | LPJ 1 1/4SP | 1DG79 | 13.02 | 10.42 | 0.1 |
| 1 6/10 | | | LPJ 1 6/10SP | 1DG80 | 13.02 | 10.42 | 0.1 |
| 1 8/10 | | | LPJ 1 8/10SP | 1DG81 | 15.81 | 12.66 | 0.1 |
| 2 | | | LPJ 2SP | 4XF25 | 13.02 | 10.42 | 0.1 |
| 2 1/4 | | | LPJ 2 1/4SP | 1DG83 | 13.02 | 10.42 | 0.1 |
| 2 1/2 | | | LPJ 2 1/2SP | 1DG82 | 13.02 | 10.42 | 0.1 |
| 2 8/10 | | | LPJ 2 8/10SP | 1DG84 | 18.21 | 14.58 | 0.1 |
| 3 | | | LPJ 3SP | 4XF26 | 13.02 | 10.42 | 0.1 |
| 3 2/10 | | | LPJ 3 2/10SP | 1DG86 | 18.21 | 14.58 | 0.1 |
| 3 1/2 | | | LPJ 3 1/2SP | 1DG85 | 15.81 | 12.66 | 0.1 |
| 4 | | | LPJ 4SP | 4XF27 | 15.81 | 12.66 | 0.1 |
| 4 1/2 | 2 1/4 | 13/16 | LPJ 4 1/2SP | 1DG87 | 15.81 | 12.66 | 0.1 |
| 5 | | | LPJ 5SP | 4XF28 | 13.02 | 10.42 | 0.1 |
| 5 6/10 | | | LPJ 5 6/10SP | 1DG88 | 18.21 | 14.58 | 0.1 |
| 6 | | | LPJ 6SP | 4XF29 | 13.02 | 10.42 | 0.1 |
| 7 | | | LPJ 7SP | 1DG89 | 15.81 | 12.66 | 0.1 |
| 8 | | | LPJ 8SP | 4XF30 | 15.81 | 12.66 | 0.1 |
| 9 | | | LPJ 9SP | 1DG91 | 15.81 | 12.66 | 0.1 |
| 10 | | | LPJ 10SP | 4XF31 | 13.02 | 10.42 | 0.1 |
| 12 | | | LPJ 12SP | 6F365 | 15.81 | 12.66 | 0.1 |
| 15 | | | LPJ 15SP | 4XF32 | 13.02 | 10.42 | 0.1 |
| 17 1/2 | | | LPJ 17 1/2SP | 6F366 | 15.81 | 12.66 | 0.1 |
| 20 | | | LPJ 20SP | 4XF33 | 13.02 | 10.42 | 0.1 |
| 25 | | | LPJ 25SP | 4XF34 | 13.02 | 10.42 | 0.1 |
| 30 | | | LPJ 30SP | 4XF35 | 13.02 | 10.42 | 0.1 |
| 35 | | | LPJ 35SP | 4XF36 | 22.25 | 17.81 | 0.1 |
| 40 | | | LPJ 40SP | 4XF37 | 22.25 | 17.81 | 0.1 |
| 45 | 2 3/8 | 1 1/16 | LPJ 45SP | 6F367 | 22.25 | 17.81 | 0.2 |
| 50 | | | LPJ 50SP | 4XF38 | 22.25 | 17.81 | 0.1 |
| 60 | | | LPJ 60SP | 4XF39 | 22.25 | 17.81 | 0.1 |
| 70 | | | LPJ 70SP | 4XF40 | 45.89 | 36.75 | 0.4 |
| 80 | 4 5/8 | 1 1/8 | LPJ 80SP | 4XF41 | 45.89 | 36.75 | 0.4 |
| 90 | | | LPJ 90SP | 6F368 | 55.80 | 44.65 | 0.4 |
| 100 | | | LPJ 100SP | 4XF42 | 45.89 | 36.75 | 0.4 |
| 110 | | | LPJ 110SP | 6F369 | 111.68 | 89.35 | 0.8 |
| 125 | | | LPJ 125SP | 6F370 | 91.86 | 73.50 | 0.8 |
| 150 | 5 3/4 | 1 1/2 | LPJ 150SP | 6F371 | 91.86 | 73.50 | 0.8 |
| 175 | | | LPJ 175SP | 6F372 | 111.68 | 89.35 | 0.8 |
| 200 | | | LPJ 200SP | 6F373 | 91.86 | 73.50 | 0.8 |
| 225 | | | LPJ 225SP | 6F374 | 224.17 | 179.50 | 1.6 |
| 250 | | | LPJ 250SP | 6F375 | 184.35 | 147.50 | 1.6 |
| 300 | 7 1/8 | 2 | LPJ 300SP | 6F376 | 184.35 | 147.50 | 1.6 |
| 350 | | | LPJ 350SP | 6F377 | 224.17 | 179.50 | 1.6 |
| 400 | | | LPJ 400SP | 6F378 | 184.35 | 147.50 | 1.6 |
| 450 | | | LPJ 450SP | 6F379 | 369.24 | 295.50 | 2.8 |
| 500 | 8 | 2 1/2 | LPJ 500SP | 6F380 | 369.24 | 295.50 | 2.8 |
| 600 | | | LPJ 600SP | 6F381 | 320.74 | 256.75 | 2.8 |

DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# FAST-ACTING CLASS J FUSES





COOPER Bussmann

CE

UL E4273

CSA LR53787

- 0-60 amp ferrule type; 70-600 amp knife-blade type
- 200K amp interrupting rating
- Rated 600 VAC
- Single-element fuse
- Rejection feature prevents substitution of a lesser capable fuse in terms of voltage rating, interrupt rating, or current limitation
- Fiberglass body for dimensional stability
- Plated contact surfaces
- Functionally equal to Gould A4J and Littelfuse JLS Series
- Order fuse blocks up to 100 amps below

**JKS SERIES—Protect Capacitors, Circuit Breakers, Load Centers, Panel Boards, Switchboards, and Bus Ducts (where high available short circuit currents exist)**

## CLASS J FUSE ORDERING DATA

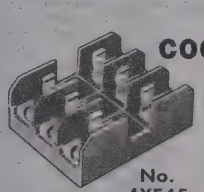
| Fuse Amps | Dimensions (In.) Length | Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | | | JKS 1 | 1DR85 | $24.35 | $19.48 | 0.1 |
| 3 | | | JKS 3 | 4XF08 | 23.39 | 18.72 | 0.1 |
| 4 | | | JKS 4 | 1DR86 | 24.35 | 19.48 | 0.1 |
| 5 | | | JKS 5 | 1DR87 | 24.35 | 19.48 | 0.1 |
| 6 | 2¼ | 13/16 | JKS 6 | 4XF09 | 20.15 | 16.12 | 0.1 |
| 10 | | | JKS 10 | 4XF10 | 18.76 | 15.01 | 0.1 |
| 15 | | | JKS 15 | 4XF11 | 18.76 | 15.01 | 0.1 |
| 20 | | | JKS 20 | 4XF12 | 18.76 | 15.01 | 0.1 |
| 25 | | | JKS 25 | 4XF13 | 23.39 | 18.72 | 0.1 |
| 30 | | | JKS 30 | 4XF14 | 15.97 | 12.78 | 0.1 |
| 35 | | | JKS 35 | 4XF15 | 38.06 | 30.45 | 0.1 |
| 40 | | | JKS 40 | 6F351 | 30.60 | 24.48 | 0.1 |
| 45 | 2⅜ | 1 1/16 | JKS 45 | 4XF16 | 38.15 | 30.55 | 0.1 |
| 50 | | | JKS 50 | 4XF17 | 30.60 | 24.48 | 0.1 |
| 60 | | | JKS 60 | 4XF18 | 26.07 | 20.86 | 0.1 |
| 70 | | | JKS 70 | 4XF19 | 49.91 | 39.95 | 0.1 |
| 80 | | | JKS 80 | 4XF20 | 57.89 | 46.35 | 0.1 |
| 90 | 4⅝ | 1⅛ | JKS 90 | 6F352 | 60.38 | 48.35 | 0.1 |
| 100 | | | JKS 100 | 4XF21 | 39.53 | 31.65 | 0.1 |
| 110 | | | JKS 110 | 6F353 | 111.30 | 89.05 | 0.9 |
| 125 | | | JKS 125 | 4XF22 | 106.76 | 85.45 | 0.9 |
| 150 | 5¾ | 1⅝ | JKS 150 | 6F354 | 92.05 | 73.65 | 0.9 |
| 175 | | | JKS 175 | 6F355 | 106.76 | 85.45 | 0.9 |
| 200 | | | JKS 200 | 4XF23 | 74.35 | 59.50 | 0.9 |
| 225 | | | JKS 225 | 6F356 | 234.94 | 188.00 | 1.9 |
| 250 | | | JKS 250 | 6F357 | 234.94 | 188.00 | 1.9 |
| 300 | 7⅛ | 2⅛ | JKS 300 | 6F358 | 188.49 | 151.00 | 1.9 |
| 350 | | | JKS 350 | 6F359 | 234.85 | 188.00 | 1.9 |
| 400 | | | JKS 400 | 4XF24 | 163.73 | 131.00 | 1.9 |
| 450 | | | JKS 450 | 6F360 | 346.70 | 277.50 | 3.3 |
| 500 | 8 | 2½ | JKS 500 | 6F361 | 332.33 | 266.00 | 3.3 |
| 600 | | | JKS 600 | 6F362 | 231.62 | 185.50 | 3.3 |

# CLASS J FUSE BLOCKS

- Rejection feature
- Use with Class J fuses on page 426 and listed above
- Rated 600 VAC
- Spring reinforced
- No. 1DX69 is pyramid style

## FUSE BLOCK SPECIFICATIONS AND ORDERING DATA

| Ampere Rating | No. of Poles | Connector Type | Wire Range | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 - 30 | 1 | Box/Lug | Al/Cu #14-#2 | J60030-1CR | 4XF44 | $13.33 | $10.67 | 0.4 |
| | 3 | | | J60030-3CR | 4XF45 | 35.02 | 28.05 | 1.7 |
| | 3 | | | JP60030-3CR | 1DX69 | 30.83 | 24.67 | 0.2 |
| 31 - 60 | 1 | Box/Lug | Al/Cu #14-#2 | J60060-1CR | 4XF47 | 15.39 | 12.31 | 0.5 |
| | 3 | | | J60060-3CR | 4XF48 | 38.85 | 31.10 | 1.2 |
| 70 - 100 | 3 | Box/Lug | Al/Cu #6-1/0 | J60100-3CR | 4XF49 | 61.79 | 49.45 | 1.2 |

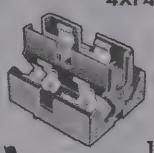


COOPER Bussmann

No. 4XF45

UL E14853

CE



No. 1DX69

CSA LR47235

UL E14853

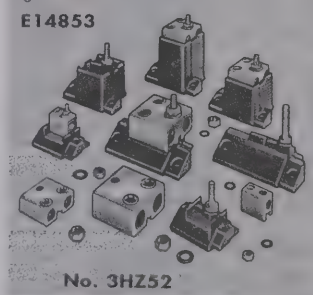
# MODULAR FUSE BLOCKS FOR BOLT-ON FUSES

- For mounting semiconductor fuses, Class T and Class J fuses rated up to 600 amps and 5000 volts AC
- Each fuse block consists of two identical half-blocks
- Base is constructed of light weight, high temperature thermoplastic
- Studs and nuts are plated steel

## MODULAR FUSE BLOCKS FOR BOLT-ON FUSES SPECIFICATIONS AND ORDERING DATA

| Amps | Fuse Volt Rating | Stud Size. | Holes/ Blocks | Wire Range Size | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 200 | 700V | 1/4-20 | 1 | #14-2/0 copper wire | BH-0211 | 3HZ52 | $45.57 | $36.50 | 0.6 |
| 400 | 2500 | 1/4-20 | 2 | #6-250 MCM copper wire | BH-1031 | 3HZ53* | 69.99 | 56.00 | 1.4 |
| 400 | 2500 | 3/8-16 | 2 | #6-250 MCM copper wire | BH-1033 | 3HZ54* | 69.99 | 56.00 | 1.4 |
| 400 | 2500 | 1/4-20 | 2 | #6-250 MCM copper wire | BH-1231 | 3HZ55 | 69.99 | 56.00 | 1.3 |
| 400 | 2500 | 3/8-16 | 2 | #6-250 MCM copper wire | BH-1233 | 3HZ56 | 69.99 | 56.00 | 1.4 |
| 600 | 5000 | 3/8-16 | 2 | #6-250 MCM copper wire | BH-2033 | 3HZ57* | 131.46 | 105.20 | 1.6 |
| 700 | 1250 | 3/8-16 | 2 | #4-500 MCM copper wire | BH-3245 | 3HZ58 | 101.88 | 81.55 | 2.3 |

*) Not UL Recognized.



CE

No. 3HZ52

# TIME DELAY CLASS RK 1 FUSES

## LPN-RK/LPS-RK SERIES—Protect Service Entrance Equipment and Feeder and Branch Circuits

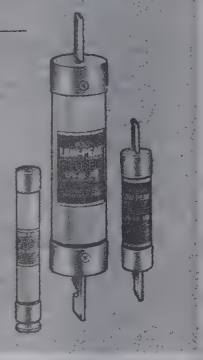
- 0–60 amp ferrule type; 70-600 amp knife-blade type
- 300K amp (UL) and 200K amp (CSA) interrupting rating for AC voltages; 20K amp interrupting rating for DC voltages
- LPN-RK rated 250VAC and 125VDC; LPS-RK rated 600VAC and 300VDC
- Dual-element fuse
- Rejection feature
- High degree of current limitation
- Minimizes short circuit current damage
- Carry 500% rated current for minimum of 10 seconds
- Functionally equal to Gould A2D (250V) and A6D (600V); Littelfuse LLNRK (250V) and LLSRK (600V)
- Use fuse blocks on page 434

Cross-Reference on page 436

COOPER Bussmann

E56412

LR53787



| MOTOR PROTECTION CHART | |
|---|---|
| **Optimal Branch Circuit Protection** | **Maximum for General Motor Protections** |
| Motor FLA x 130% or next larger size | Motor FLA x 175% or next larger size |

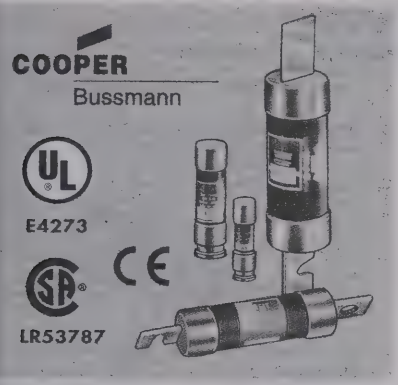
### LPN-RK 250 VOLT MODELS

| Fuse Amps | Dimensions (In.) Length | Dia. | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/10 | | | LPN-RK 1/10SP | 1DG97 | $18.46 | $14.77 | 0.1 |
| 15/100 | | | LPN-RK 15/100SP | 1DG99 | 18.34 | 14.67 | 0.1 |
| 2/10 | | | LPN-RK 2/10SP | 1DH05 | 18.46 | 14.77 | 0.1 |
| 4/10 | | | LPN-RK 4/10SP | 1DH11 | 18.46 | 14.77 | 0.1 |
| 1/2 | | | LPN-RK 1/2SP | 1DG98 | 14.10 | 11.28 | 0.1 |
| 6/10 | | | LPN-RK 6/10SP | 1DH16 | 16.33 | 13.07 | 0.1 |
| 8/10 | | | LPN-RK 8/10SP | 1DH19 | 17.62 | 14.10 | 0.1 |
| 1 | | | LPN-RK 1SP | 1DH01 | 12.05 | 9.65 | 0.1 |
| 1 1/8 | | | LPN-RK 1 1/8SP | 1DG93 | 18.46 | 14.77 | 0.1 |
| 1 1/4 | | | LPN-RK 1 1/4SP | 1DG92 | 17.62 | 14.10 | 0.1 |
| 1 4/10 | | | LPN-RK 1 4/10SP | 1DG94 | 18.40 | 14.72 | 0.1 |
| 1 6/10 | | | LPN-RK 1 6/10SP | 1DG95 | 12.23 | 9.79 | 0.1 |
| 1 8/10 | | | LPN-RK 1 8/10SP | 1DG96 | 18.40 | 14.72 | 0.1 |
| 2 | | | LPN-RK 2SP | 1DH06 | 9.90 | 7.93 | 0.1 |
| 2 1/4 | | | LPN-RK 2 1/4SP | 1DH03 | 18.40 | 14.72 | 0.1 |
| 2 1/2 | | | LPN-RK 2 1/2SP | 1DH02 | 13.85 | 11.08 | 0.1 |
| 2 8/10 | | | LPN-RK 2 8/10SP | 1DH04 | 17.62 | 14.10 | 0.1 |
| 3 | 2 | 9/16 | LPN-RK 3SP | 1DH09 | 12.05 | 9.65 | 0.1 |
| 3 2/10 | | | LPN-RK 3 2/10SP | 1DH08 | 12.05 | 9.65 | 0.1 |
| 3 1/2 | | | LPN-RK 3 1/2SP | 1DH07 | 14.10 | 11.28 | 0.1 |
| 4 | | | LPN-RK 4SP | 1DH12 | 12.05 | 9.65 | 0.1 |
| 4 1/2 | | | LPN-RK 4 1/2SP | 1DH10 | 14.10 | 11.28 | 0.1 |
| 5 | | | LPN-RK 5SP | 1DH14 | 9.90 | 7.93 | 0.1 |
| 5 6/10 | | | LPN-RK 5 6/10SP | 1DH13 | 17.62 | 14.10 | 0.1 |
| 6 | | | LPN-RK 6SP | 1DH18 | 12.05 | 9.65 | 0.1 |
| 6 1/4 | | | LPN-RK 6 1/4SP | 1DH15 | 13.85 | 11.08 | 0.1 |
| 8 | | | LPN-RK 8SP | 1DH20 | 12.05 | 9.65 | 0.1 |
| 9 | | | LPN-RK 9SP | 1DH21 | 16.33 | 13.07 | 0.1 |
| 10 | | | LPN-RK 10SP | 4XF52 | 9.90 | 7.93 | 0.1 |
| 12 | | | LPN-RK 12SP | 6F311 | 12.05 | 9.65 | 0.1 |
| 15 | | | LPN-RK 15SP | 4XF53 | 9.10 | 7.28 | 0.1 |
| 17 1/2 | | | LPN-RK 17 1/2SP | 6F312 | 11.35 | 9.09 | 0.1 |
| 20 | | | LPN-RK 20SP | 4XF54 | 9.10 | 7.28 | 0.1 |
| 25 | | | LPN-RK 25SP | 4XF55 | 9.10 | 7.28 | 0.1 |
| 30 | | | LPN-RK 30SP | 4XF56 | 9.10 | 7.28 | 0.1 |
| 35 | | | LPN-RK 35SP | 6F313 | 21.30 | 17.04 | 0.1 |
| 40 | | | LPN-RK 40SP | 6F314 | 21.30 | 17.04 | 0.1 |
| 45 | 3 | 13/16 | LPN-RK 45SP | 6F315 | 21.30 | 17.04 | 0.1 |
| 50 | | | LPN-RK 50SP | 4XF57 | 21.30 | 17.04 | 0.1 |
| 60 | | | LPN-RK 60SP | 4XF58 | 21.30 | 17.04 | 0.1 |
| 70 | | | LPN-RK 70SP | 4XF59 | 49.85 | 39.90 | 0.2 |
| 80 | 5 7/8 | 1 1/8 | LPN-RK 80SP | 4XF60 | 49.85 | 39.90 | 0.2 |
| 90 | | | LPN-RK 90SP | 6F316 | 60.62 | 48.50 | 0.2 |
| 100 | | | LPN-RK 100SP | 4XF61 | 49.85 | 39.90 | 0.2 |
| 110 | | | LPN-RK 110SP | 6F317 | 147.58 | 118.10 | 0.9 |
| 125 | | | LPN-RK 125SP | 4XF62 | 103.43 | 82.75 | 0.9 |
| 150 | 7 1/8 | 1 5/16 | LPN-RK 150SP | 4XF63 | 103.43 | 82.75 | 0.9 |
| 175 | | | LPN-RK 175SP | 4XF64 | 125.80 | 100.65 | 0.9 |
| 200 | | | LPN-RK 200SP | 4XF65 | 103.43 | 82.75 | 1.5 |
| 225 | | | LPN-RK 225SP | 4XF66 | 250.75 | 200.75 | 1.5 |
| 250 | | | LPN-RK 250SP | 6F318 | 250.75 | 200.75 | 1.6 |
| 300 | 8 3/8 | 2 1/16 | LPN-RK 300SP | 4XF67 | 250.75 | 200.75 | 1.6 |
| 350 | | | LPN-RK 350SP | 6F319 | 255.49 | 204.50 | 1.6 |
| 400 | | | LPN-RK 400SP | 4XF68 | 206.22 | 165.00 | 1.6 |
| 450 | | | LPN-RK 450SP | 6F320 | 389.80 | 312.00 | 3.5 |
| 500 | 10 3/8 | 2 5/16 | LPN-RK 500SP | 6F321 | 314.93 | 252.00 | 3.0 |
| 600 | | | LPN-RK 600SP | 6F322 | 254.17 | 203.50 | 3.0 |

### LPS-RK 600 VOLT MODELS

| Fuse Amps | Dimensions (In.) Length | Dia. | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/10 | | | LPS-RK 1/10SP | 1BW72 | $25.31 | $20.25 | 0.1 |
| 2/10 | | | LPS-RK 2/10SP | 1CL61 | 25.31 | 20.25 | 0.1 |
| 3/10 | | | LPS-RK 3/10SP | 1CL65 | 25.31 | 20.25 | 0.1 |
| 4/10 | | | LPS-RK 4/10SP | 1CL68 | 25.31 | 20.25 | 0.1 |
| 1/2 | | | LPS-RK 1/2SP | 1BW73 | 24.23 | 19.39 | 0.1 |
| 6/10 | | | LPS-RK 6/10SP | 1CL71 | 24.23 | 19.39 | 0.1 |
| 8/10 | | | LPS-RK 8/10SP | 1BW79 | 24.23 | 19.39 | 0.1 |
| 1 | | | LPS-RK 1SP | 1BW74 | 16.59 | 13.28 | 0.1 |
| 1 1/8 | | | LPS-RK 1 1/8SP | 1BW68 | 24.23 | 19.39 | 0.1 |
| 1 1/4 | | | LPS-RK 1 1/4SP | 1BW67 | 16.92 | 13.54 | 0.1 |
| 1 4/10 | | | LPS-RK 1 4/10SP | 1BW69 | 24.23 | 19.39 | 0.1 |
| 1 1/2 | | | LPS-RK 1 1/2SP | 1BW66 | 22.56 | 18.05 | 0.1 |
| 1 6/10 | | | LPS-RK 1 6/10SP | 1BW70 | 18.95 | 15.16 | 0.1 |
| 1 8/10 | | | LPS-RK 1 8/10SP | 1BW71 | 25.31 | 20.25 | 0.1 |
| 2 | | | LPS-RK 2SP | 1CL62 | 15.57 | 12.46 | 0.1 |
| 2 1/4 | | | LPS-RK 2 1/4SP | 1CL59 | 18.95 | 15.16 | 0.1 |
| 2 1/2 | | | LPS-RK 2 1/2SP | 1CL58 | 16.59 | 13.28 | 0.1 |
| 2 8/10 | | | LPS-RK 2 8/10SP | 1CL60 | 19.09 | 15.27 | 0.1 |
| 3 | 5 | 13/16 | LPS-RK 3SP | 1CL66 | 13.62 | 10.90 | 0.1 |
| 3 2/10 | | | LPS-RK 3 2/10SP | 1CL64 | 16.59 | 13.28 | 0.1 |
| 3 1/2 | | | LPS-RK 3 1/2SP | 1CL63 | 16.59 | 13.28 | 0.1 |
| 4 | | | LPS-RK 4SP | 1CL69 | 13.62 | 10.90 | 0.1 |
| 4 1/2 | | | LPS-RK 4 1/2SP | 1CL67 | 19.47 | 15.58 | 0.1 |
| 5 | | | LPS-RK 5SP | 1BW75 | 13.62 | 10.90 | 0.1 |
| 5 6/10 | | | LPS-RK 5 6/10SP | 1CL70 | 19.47 | 15.58 | 0.1 |
| 6 | | | LPS-RK 6SP | 1BW77 | 13.62 | 10.90 | 0.1 |
| 6 1/4 | | | LPS-RK 6 1/4SP | 1BW76 | 16.59 | 13.28 | 0.1 |
| 7 | | | LPS-RK 7SP | 1BW78 | 16.59 | 13.28 | 0.1 |
| 8 | | | LPS-RK 8SP | 1BW80 | 13.62 | 10.90 | 0.1 |
| 9 | | | LPS-RK 9SP | 1EM24 | 16.59 | 13.28 | 0.2 |
| 10 | | | LPS-RK 10SP | 4XF69 | 13.62 | 10.90 | 0.2 |
| 12 | | | LPS-RK 12SP | 4XF70 | 13.62 | 10.90 | 0.2 |
| 15 | | | LPS-RK 15SP | 4XF71 | 12.84 | 10.28 | 0.2 |
| 17 1/2 | | | LPS-RK 17 1/2SP | 4XF72 | 12.84 | 10.28 | 0.2 |
| 20 | | | LPS-RK 20SP | 4XF73 | 12.84 | 10.28 | 0.2 |
| 25 | | | LPS-RK 25SP | 4XF74 | 12.84 | 10.28 | 0.2 |
| 30 | | | LPS-RK 30SP | 4XF75 | 12.84 | 10.28 | 0.2 |
| 35 | | | LPS-RK 35SP | 6F323 | 27.18 | 21.75 | 0.3 |
| 40 | | | LPS-RK 40SP | 4XF76 | 27.18 | 21.75 | 0.3 |
| 45 | 5 1/2 | 1 1/8 | LPS-RK 45SP | 6F324 | 27.18 | 21.75 | 0.3 |
| 50 | | | LPS-RK 50SP | 4XF77 | 27.18 | 21.75 | 0.3 |
| 60 | | | LPS-RK 60SP | 4XF78 | 27.18 | 21.75 | 0.3 |
| 70 | | | LPS-RK 70SP | 4XF79 | 61.47 | 49.20 | 0.6 |
| 80 | | | LPS-RK 80SP | 6F325 | 61.47 | 49.20 | 0.6 |
| 90 | 7 1/8 | 1 5/16 | LPS-RK 90SP | 6F326 | 61.47 | 49.20 | 0.6 |
| 100 | | | LPS-RK 100SP | 4XF80 | 61.47 | 49.20 | 0.6 |
| 110 | | | LPS-RK 110SP | 6F327 | 123.16 | 98.55 | 1.6 |
| 125 | | | LPS-RK 125SP | 4XF81 | 123.16 | 98.55 | 1.5 |
| 150 | 9 3/8 | 1 13/16 | LPS-RK 150SP | 6F328 | 123.16 | 98.55 | 1.6 |
| 175 | | | LPS-RK 175SP | 6F329 | 123.16 | 98.55 | 1.6 |
| 200 | | | LPS-RK 200SP | 4XF82 | 123.16 | 98.55 | 1.5 |
| 225 | | | LPS-RK 225SP | 6F330 | 253.65 | 203.00 | 3.4 |
| 250 | | | LPS-RK 250SP | 6F331 | 253.65 | 203.00 | 3.4 |
| 300 | 11 5/8 | 2 5/16 | LPS-RK 300SP | 6F332 | 253.65 | 203.00 | 3.4 |
| 350 | | | LPS-RK 350SP | 6F333 | 308.43 | 246.75 | 3.4 |
| 400 | | | LPS-RK 400SP | 4XF83 | 253.65 | 203.00 | 3.5 |
| 450 | | | LPS-RK 450SP | 6F334 | 388.66 | 311.00 | 5.8 |
| 500 | 13 3/8 | 3 1/8 | LPS-RK 500SP | 6F335 | 381.36 | 305.25 | 5.8 |
| 600 | | | LPS-RK 600SP | 4XF84 | 313.63 | 251.00 | 5.8 |

# TIME DELAY CLASS RK5 FUSES




- 0–60 amp ferrule type; 70–600 amp knife-blade type
- UL Class RK5; 200K amp interrupt rating for AC voltages and 20K amp for DC voltages
- Rated 250VAC and 125VDC
- Dual-element fuse
- Class R rejection feature
- High interrupting rating and time delay for motor starting
- Moisture resistant fiberglass bodies
- Carry 500% of rated current for minimum of 10 seconds
- Functionally equal to Gould TR and Littelfuse FLNR; see Manufacturer Cross-Reference on page 436

## 250 VOLT MODELS

### FRN-R SERIES—Protect Motors and Controllers

### How To Order Time Delay Fuses

1. Obtain Full Load Amps (FLA) from motor nameplate or manufacturer.
2. Obtain motor Service Factor (SF).
3. Know or obtain motor Voltage (V).
4. Determine number of fuses required; one for single phase motors, two for single phase motors over 115VAC, three for three phase motors.
5. Select fuses according to applications and formula below.

**For AC Motors**

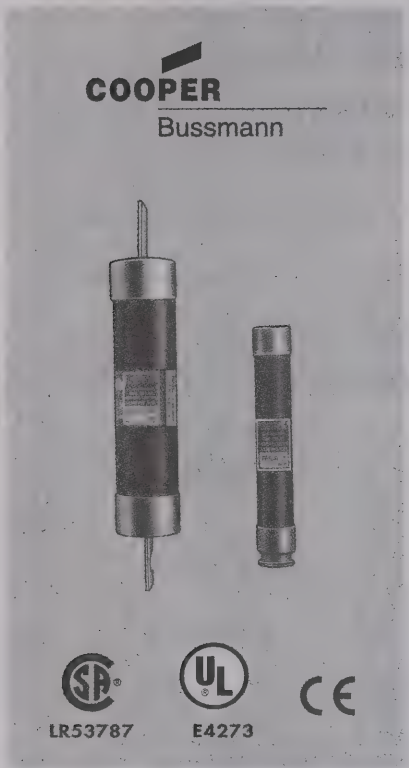
| | Motor Running Protection | Short Circuit Protection |
|---|---|---|
| 1. | Motors with 1.15 SF or more: FLA x 1.25 = Fuse Amp Size | FLA x 1.75 = Fuse Amp Size |
| 2. | Motors with 40°C Rise: FLA x 1.25 = Fuse Amp Size | FLA x 1.75 = Fuse Amp Size |
| 3. | All other motors: FLA x 1.15 = Fuse Amp Size | FLA x 1.75 = Fuse Amp Size |

**Note**: In all cases, select fuse with amp rating equal to or next size larger than Fuse Amp Size calculated. Fuse voltage rating should be equal to or greater than motor nameplate volts.

| Fuse Amps | Dimensions (In.) Length | Dia. | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/10 | | | FRN-R 1/10 | 6F201 | $10.38 | $8.31 | 0.1 |
| 1/8 | | | FRN-R 1/8 | 1DF53 | 10.38 | 8.31 | 0.1 |
| 15/100 | | | FRN-R 15/100 | 6F202 | 10.38 | 8.31 | 0.1 |
| 2/10 | | | FRN-R 2/10 | 6F203 | 10.38 | 8.31 | 0.1 |
| 1/4 | | | FRN-R 1/4 | 1DF52 | 10.38 | 8.31 | 0.1 |
| 3/10 | | | FRN-R 3/10 | 6C172 | 10.38 | 8.31 | 0.1 |
| 4/10 | | | FRN-R 4/10 | 6F204 | 10.38 | 8.31 | 0.1 |
| 1/2 | | | FRN-R 1/2 | 6F205 | 7.93 | 6.35 | 0.1 |
| 6/10 | | | FRN-R 6/10 | 6C173 | 9.18 | 7.35 | 0.1 |
| 8/10 | | | FRN-R 8/10 | 6F206 | 9.84 | 7.88 | 0.1 |
| 1 | | | FRN-R 1 | 4A446 | 6.74 | 4.44 | 0.1 |
| 1 1/8 | | | FRN-R 1 1/8 | 6F207 | 10.38 | 8.31 | 0.1 |
| 1 1/4 | | | FRN-R 1 1/4 | 4A449 | 9.84 | 7.88 | 0.1 |
| 1 4/10 | | | FRN-R 1 4/10 | 6F208 | 10.38 | 8.31 | 0.1 |
| 1 1/2 | | | FRN-R 1 1/2 | 1DF51 | 7.37 | 5.90 | 0.1 |
| 1 6/10 | | | FRN-R 1 6/10 | 4A447 | 6.89 | 5.52 | 0.1 |
| 1 8/10 | | | FRN-R 1 8/10 | 4A448 | 10.38 | 8.31 | 0.1 |
| 2 | 2 | 9/16 | FRN-R 2 | 2A155 | 5.55 | 3.64 | 0.1 |
| 2 1/4 | | | FRN-R 2 1/4 | 6F209 | 10.38 | 8.31 | 0.1 |
| 2 1/2 | | | FRN-R 2 1/2 | 6F210 | 7.74 | 6.20 | 0.1 |
| 2 8/10 | | | FRN-R 2 8/10 | 6F211 | 9.84 | 7.88 | 0.1 |
| 3 | | | FRN-R 3 | 6C174 | 6.19 | 4.06 | 0.1 |
| 3 2/10 | | | FRN-R 3 2/10 | 1A688 | 6.19 | 4.95 | 0.1 |
| 3 1/2 | | | FRN-R 3 1/2 | 4A450 | 7.20 | 5.76 | 0.1 |
| 4 | | | FRN-R 4 | 4A451 | 6.19 | 4.06 | 0.1 |
| 4 1/2 | | | FRN-R 4 1/2 | 6F212 | 7.20 | 5.76 | 0.1 |
| 5 | | | FRN-R 5 | 1A689 | 5.10 | 3.35 | 0.1 |
| 5 6/10 | | | FRN-R 5 6/10 | 2A156 | 9.00 | 7.20 | 0.1 |
| 6 | | | FRN-R 6 | 6C175 | 6.19 | 4.06 | 0.1 |
| 6 1/4 | | | FRN-R 6 1/4 | 1A690 | 7.11 | 5.70 | 0.1 |
| 7 | | | FRN-R 7 | 1A691 | 7.20 | 4.73 | 0.1 |
| 7 1/2 | | | FRN-R 7 1/2 | 1DF54 | 9.36 | 7.49 | 0.1 |
| 8 | | | FRN-R-8 | 1A692 | 6.19 | 4.06 | 0.1 |
| 9 | | | FRN-R-9 | 6C205 | $8.34 | $6.68 | 0.1 |
| 10 | | | FRN-R-10 | 1A693 | 5.10 | 3.35 | 0.1 |
| 12 | | | FRN-R 12 | 1A694 | 6.19 | 4.06 | 0.1 |
| 15 | | | FRN-R 15 | 1A695 | 4.13 | 4.13 | 0.1 |
| 17 1/2 | 2 | 9/16 | FRN-R 17 1/2 | 6F213 | 5.08 | 4.07 | 0.1 |
| 20 | | | FRN-R 20 | 1A696 | 4.13 | 2.71 | 0.1 |
| 25 | | | FRN-R 25 | 1A697 | 4.13 | 2.71 | 0.1 |
| 30 | | | FRN-R 30 | 1A698 | 4.13 | 2.71 | 0.1 |
| 35 | | | FRN-R 35 | 4A452 | 7.54 | 6.04 | 0.1 |
| 40 | | | FRN-R 40 | 1A699 | 7.54 | 6.04 | 0.1 |
| 45 | 3 | 13/16 | FRN-R 45 | 6C206 | 7.54 | 6.04 | 0.1 |
| 50 | | | FRN-R 50 | 4A453 | 7.54 | 6.04 | 0.1 |
| 60 | | | FRN-R 60 | 1A700 | 7.54 | 6.04 | 0.1 |
| 70 | | | FRN-R 70 | 6A828 | 17.00 | 13.60 | 0.3 |
| 75 | | | FRN-R 75 | 6F214 | 25.47 | 20.38 | 0.4 |
| 80 | 5 7/8 | 1 1/16 | FRN-R 80 | 6A829 | 17.00 | 13.60 | 0.2 |
| 90 | | | FRN-R 90 | 6A830 | 20.65 | 16.53 | 0.2 |
| 100 | | | FRN-R 100 | 2A157 | 17.00 | 13.60 | 0.3 |
| 110 | | | FRN-R 110 | 6F215 | 53.40 | 42.75 | 0.8 |
| 125 | | | FRN-R 125 | 4A454 | 37.42 | 29.95 | 0.8 |
| 150 | 7 1/8 | 1 9/16 | FRN-R 150 | 4A455 | 37.42 | 29.95 | 0.8 |
| 175 | | | FRN-R 175 | 6F216 | 45.47 | 36.40 | 0.8 |
| 200 | | | FRN-R 200 | 4A456 | 37.42 | 29.95 | 0.8 |
| 225 | | | FRN-R 225 | 6F217 | 82.00 | 65.60 | 1.5 |
| 250 | | | FRN-R 250 | 6F218 | 82.00 | 65.60 | 1.5 |
| 300 | 8 3/8 | 2 1/16 | FRN-R 300 | 6A831 | 82.00 | 65.60 | 1.5 |
| 350 | | | FRN-R 350 | 6F219 | 83.55 | 66.85 | 1.5 |
| 400 | | | FRN-R 400 | 6A832 | 67.44 | 53.95 | 1.5 |
| 450 | | | FRN-R 450 | 6F220 | 158.43 | 126.75 | 2.9 |
| 500 | 10 3/8 | 2 9/16 | FRN-R 500 | 6F221 | 127.98 | 102.40 | 2.9 |
| 600 | | | FRN-R 600 | 6F222 | 103.28 | 82.65 | 2.9 |

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS.
SEE PAGES AT BACK OF CATALOG

# TIME DELAY CLASS RK5 FUSES




## 600 VOLT MODELS

### FRS-R SERIES—Protect Motors and Controllers

- **0–60 amp ferrule type; 65–600 amp knife-blade type**
- **UL Class RK5; 200K amp interrupt rating for AC voltages and 20K amp for DC voltages**
- **Rated 600 VAC and 300 VDC**
- **Dual-element fuse**
- **Class R rejection feature**
- **High interrupting rating and time delay for motor starting**
- **Moisture resistant fiberglass bodies**
- **Carry 500% of rated current for minimum of 10 seconds**
- **Functionally equal to Gould TRS and Littelfuse FLSR; see Manufacturer Cross-Reference on page 436**

### How To Order Time Delay Fuses

1. Obtain Full Load Amps (FLA) from motor nameplate or manufacturer.
2. Obtain motor Service Factor (SF).
3. Know or obtain motor Voltage (V).
4. Determine number of fuses required: one for single phase motors, two for single phase motors over 115VAC, three for three phase motors.
5. Select fuses according to applications and formula below.

**For AC Motors**

| Motor Running Protection | Short Circuit Protection |
|---|---|
| 1. Motors with 1.15 SF or more: FLA x 1.25 = Fuse Amp Size | FLA x 1.75 = Fuse Amp Size |
| 2. Motors with 40°C Rise: FLA x 1.25 = Fuse Amp Size | FLA x 1.75 = Fuse Amp Size |
| 3. All other motors: FLA x 1.15 = Fuse Amp Size | FLA x 1.75 = Fuse Amp Size |

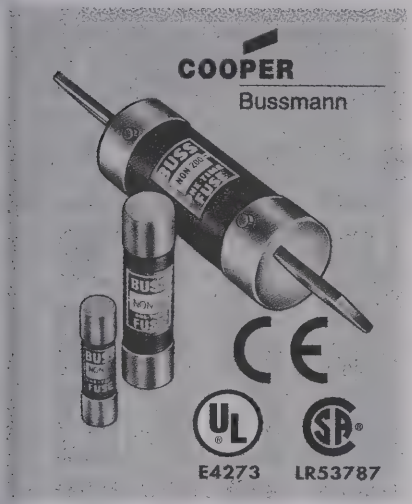
**Note:** In all cases, select fuse with amp rating equal to or next size larger than Fuse Amp Size calculated. Fuse voltage rating should be equal to or greater than motor nameplate volts.

| Fuse Amps | Dimensions (In.) Length | Dia. | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/10 | | | FRS-R1/10 | 6F223 | $20.55 | $16.44 | 0.1 |
| 15/100 | | | FRS-R15/100 | 6F224 | 20.55 | 16.44 | 0.1 |
| 2/10 | | | FRS-R2/10 | 6F225 | 20.55 | 16.44 | 0.1 |
| 1/4 | | | FRS-R-1/4 | 1EM07 | 20.55 | 16.44 | 0.1 |
| 3/10 | | | FRS-R3/10 | 6F226 | 20.55 | 16.44 | 0.1 |
| 4/10 | | | FRS-R4/10 | 6F227 | 20.55 | 16.44 | 0.1 |
| 1/2 | | | FRS-R1/2 | 6F228 | 19.29 | 15.44 | 0.1 |
| 6/10 | | | FRS-R6/10 | 6F229 | 19.29 | 15.44 | 0.1 |
| 8/10 | | | FRS-R8/10 | 6F230 | 19.29 | 15.44 | 0.1 |
| 1 | | | FRS-R1 | 4A457 | 13.48 | 8.86 | 0.1 |
| 1 1/8 | | | FRS-R1 1/8 | 6F231 | 19.65 | 15.73 | 0.1 |
| 1 1/4 | | | FRS-R1 1/4 | 1A701 | 13.68 | 10.95 | 0.1 |
| 1 4/10 | | | FRS-R1 4/10 | 4A458 | 19.65 | 15.73 | 0.1 |
| 1 1/2 | | | FRS-R-1 1/2 | 1EM06 | 18.25 | 14.60 | 0.1 |
| 1 6/10 | | | FRS-R1 6/10 | 6C212 | 13.48 | 10.79 | 0.1 |
| 1 8/10 | | | FRS-R1 8/10 | 4A459 | 18.25 | 14.60 | 0.1 |
| 2 | | | FRS-R2 | 2A158 | 11.09 | 7.29 | 0.1 |
| 2 1/4 | 5 | 13/16 | FRS-R2 1/4 | 6F232 | 13.68 | 10.95 | 0.1 |
| 2 1/2 | | | FRS-R2 1/2 | 2A159 | 13.48 | 10.79 | 0.1 |
| 2 8/10 | | | FRS-R2 8/10 | 4A460 | 15.51 | 12.42 | 0.1 |
| 3 | | | FRS-R3 | 6C213 | 10.31 | 6.78 | 0.2 |
| 3 2/10 | | | FRS-R3 2/10 | 6F233 | 12.56 | 10.05 | 0.1 |
| 3 1/2 | | | FRS-R3 1/2 | 4A461 | 12.56 | 10.05 | 0.1 |
| 4 | | | FRS-R4 | 4A462 | 10.31 | 6.78 | 0.2 |
| 4 1/2 | | | FRS-R4 1/2 | 6F234 | 14.67 | 11.74 | 0.1 |
| 5 | | | FRS-R5 | 1A702 | 10.31 | 6.78 | 0.2 |
| 5 6/10 | | | FRS-R5 6/10 | 3W686 | 14.67 | 11.74 | 0.1 |
| 6 | | | FRS-R6 | 6C214 | 10.31 | 6.78 | 0.2 |
| 6 1/4 | | | FRS-R6 1/4 | 4A463 | 12.56 | 10.05 | 0.2 |
| 7 | | | FRS-R7 | 2A160 | 12.56 | 8.25 | 0.1 |
| 7 1/2 | | | FRS-R-7 1/2 | 1EM08 | 18.34 | 14.67 | 0.1 |
| 8 | | | FRS-R8 | 6C215 | 10.31 | 6.78 | 0.2 |
| 9 | | | FRS-R9 | 6F235 | 12.56 | 8.25 | 0.1 |
| 10 | | | FRS-R10 | 2A161 | $10.31 | $6.78 | 0.2 |
| 12 | | | FRS-R12 | 2A162 | 10.31 | 6.78 | 0.2 |
| 15 | | | FRS-R15 | 1A703 | 9.17 | 6.03 | 0.2 |
| 17 1/2 | 5 | 13/16 | FRS-R17 1/2 | 6F236 | 9.17 | 7.34 | 0.2 |
| 20 | | | FRS-R20 | 1A704 | 9.17 | 6.03 | 0.2 |
| 25 | | | FRS-R25 | 1A705 | 9.17 | 6.03 | 0.2 |
| 30 | | | FRS-R30 | 1A706 | 9.17 | 6.03 | 0.2 |
| 35 | | | FRS-R35 | 6A833 | 15.72 | 12.58 | 0.3 |
| 40 | | | FRS-R40 | 4A464 | 15.72 | 12.58 | 0.2 |
| 45 | | | FRS-R45 | 3W685 | 15.72 | 12.58 | 0.3 |
| 50 | 5 1/2 | 1 1/16 | FRS-R50 | 6A834 | 15.72 | 12.58 | 0.3 |
| 60 | | | FRS-R60 | 1A707 | 15.72 | 12.58 | 0.3 |
| 65 | | | FRS-R65 | 1DP87 | 38.97 | 31.20 | 0.3 |
| 70 | | | FRS-R70 | 6A835 | 32.53 | 26.05 | 0.6 |
| 75 | | | FRS-R75 | 6F237 | 36.66 | 29.35 | 0.6 |
| 80 | 7 7/8 | 1 5/32 | FRS-R80 | 6A836 | 32.53 | 26.05 | 0.6 |
| 90 | | | FRS-R90 | 6A837 | 32.53 | 26.05 | 0.6 |
| 100 | | | FRS-R100 | 2A163 | 32.53 | 26.05 | 0.6 |
| 110 | | | FRS-R110 | 6F238 | 65.08 | 52.10 | 1.3 |
| 125 | | | FRS-R125 | 4A465 | 65.08 | 52.10 | 1.3 |
| 150 | 9 6/8 | 1 21/32 | FRS-R150 | 4A466 | 65.08 | 52.10 | 1.3 |
| 175 | | | FRS-R175 | 6F239 | 65.08 | 52.10 | 1.3 |
| 200 | | | FRS-R200 | 4A467 | 65.08 | 52.10 | 1.3 |
| 225 | | | FRS-R225 | 6F240 | 130.16 | 104.15 | 3.1 |
| 250 | | | FRS-R250 | 6F241 | 130.16 | 104.15 | 3.0 |
| 300 | 11 5/8 | 2 12/32 | FRS-R300 | 6A838 | 130.16 | 104.15 | 3.1 |
| 350 | | | FRS-R350 | 6C204 | 130.16 | 104.15 | 3.1 |
| 400 | | | FRS-R400 | 6A839 | 130.16 | 104.15 | 3.1 |
| 450 | | | FRS-R450 | 6F242 | 192.50 | 154.25 | 5.1 |
| 500 | 13 3/8 | 2 28/32 | FRS-R500 | 6F243 | 188.89 | 151.25 | 5.1 |
| 600 | | | FRS-R600 | 6F244 | 187.12 | 149.70 | 5.0 |

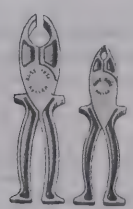
TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# ONE TIME CLASS K-5/CLASS H FUSES

**NON/NOS SERIES—Protect Main and Feeder Circuits Serving Lighting, Heating, and Other Non-Motor Loads**




- 0-60 amp ferrule type; 70-600 amp knife-blade type
- 50K amp interrupting rating 1-60 amp
- 10K amp interrupting rating 70-600 amp
- 250V Models: UL Class K-5 (0-60A), UL Class H (70-600A)
- 600V Models: UL Class K-5 (15-60A), UL Class H (0-12A, 70-600A)
- NON Models rated 250 VAC; NOS Models rated 600 VAC
- Economical general purpose fuse
- Functionally equal to Gould OT (250V) and OTS (600V) and Littelfuse NLN (250V) and NLS (600V)
- See Cross-Reference on page 436



NYLON FUSE PULLERS AVAILABLE ON PAGE 418

| Fuse Amps | Dimensions (In.) Length | Dimensions (In.) Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **NON 250 VOLT MODELS** | | | | | | | |
| 1/8 | | | NON 1/8 | 1DH27 | $3.50 | $2.80 | 0.1 |
| 1/2 | | | NON 1/2 | 1DH26 | 3.50 | 2.80 | 0.1 |
| 3/4 | | | NON 3/4 | 1DH35 | 3.50 | 2.80 | 0.1 |
| 1 | | | NON 1 | 4XF85 | 1.87 | 1.50 | 0.1 |
| 1 1/2 | | | NON 1 1/2 | 1DH25 | 2.80 | 2.24 | 0.1 |
| 2 | | | NON 2 | 6C164 | 2.80 | 2.24 | 0.1 |
| 2 1/2 | | | NON 2 1/2 | 1DH33 | 2.80 | 2.24 | 0.1 |
| 3 | | | NON 3 | 4XF86 | 1.87 | 1.50 | 0.1 |
| 4 | | | NON 4 | 6C165 | 2.80 | 2.24 | 0.1 |
| 5 | | | NON 5 | 6C166 | 1.87 | 1.50 | 0.1 |
| 6 | 2 | 9/16 | NON 6 | 4XF87 | 1.87 | 1.50 | 0.1 |
| 6 1/4 | | | NON 6 1/4 | 1DH36 | 2.74 | 2.19 | 0.1 |
| 7 | | | NON 7 | 6F271 | 2.80 | 2.24 | 0.1 |
| 8 | | | NON 8 | 4XF88 | 2.80 | 2.24 | 0.1 |
| 10 | | | NON 10 | 4XF89 | 1.81 | 1.45 | 0.1 |
| 12 | | | NON 12 | 6F272 | 2.80 | 2.24 | 0.1 |
| 15 | | | NON 15 | 4XF90 | 1.60 | 1.29 | 0.1 |
| 20 | | | NON 20 | 4XF91 | 1.60 | 1.29 | 0.1 |
| 25 | | | NON 25 | 4XF92 | 2.25 | 1.80 | 0.1 |
| 30 | | | NON 30 | 4XF93 | 1.60 | 1.28 | 0.1 |
| 35 | | | NON 35 | 4XF94 | 2.78 | 2.23 | 0.1 |
| 40 | | | NON 40 | 4XF95 | 3.05 | 2.44 | 0.1 |
| 45 | 3 | 13/16 | NON 45 | 6F273 | 3.59 | 2.87 | 0.1 |
| 50 | | | NON 50 | 4XF96 | 3.08 | 2.47 | 0.1 |
| 60 | | | NON 60 | 4XF97 | 2.68 | 2.15 | 0.1 |
| 70 | | | NON 70 | 1DX82 | 15.49 | 12.40 | 0.2 |
| 80 | 5 7/8 | 1 1/16 | NON 80 | 1DX83 | 16.66 | 13.33 | 0.2 |
| 90 | | | NON 90 | 1DX84 | 17.41 | 13.93 | 0.2 |
| 100 | | | NON 100 | 1DH28 | 11.40 | 9.13 | 0.3 |
| 110 | | | NON 110 | 1DH29 | 42.27 | 33.85 | 0.8 |
| 125 | | | NON 125 | 1DH30 | 37.67 | 30.15 | 0.8 |
| 150 | 7 1/8 | 1 9/16 | NON 150 | 1DH31 | 37.67 | 30.15 | 0.8 |
| 175 | | | NON 175 | 1DH32 | 42.27 | 33.85 | 0.8 |
| 200 | | | NON 200 | 1DR08 | 27.72 | 22.18 | 0.8 |
| 225 | | | NON 225 | 1DH34 | 75.01 | 60.05 | 1.4 |
| 250 | | | NON 250 | 1EM26 | 71.87 | 57.50 | 1.4 |
| 300 | 8 5/8 | 2 1/16 | NON 300 | 1EM27 | 71.87 | 57.50 | 1.4 |
| 350 | | | NON 350 | 1EM28 | 75.01 | 60.05 | 1.4 |
| 400 | | | NON 400 | 1EM29 | 56.59 | 45.30 | 1.4 |
| 450 | | | NON 450 | 1ET95 | 113.07 | 90.50 | 3.0 |
| 500 | 10 3/8 | 2 9/16 | NON 500 | 1ET96 | 113.07 | 90.50 | 3.0 |
| 600 | | | NON 600 | 1ET97 | 108.37 | 86.70 | 3.0 |
| **NOS 600 VOLT MODELS** | | | | | | | |
| 1 | | | NOS 1 | 1EM30 | 11.99 | 9.60 | 0.2 |
| 2 | | | NOS 2 | 1EM31 | 11.99 | 9.60 | 0.2 |
| 3 | | | NOS 3 | 1EM32 | 11.55 | 9.24 | 0.2 |
| 4 | | | NOS 4 | 1EM33 | 11.99 | 9.60 | 0.2 |
| 5 | | | NOS 5 | 4XH02 | 11.55 | 9.24 | 0.2 |
| 6 | | | NOS 6 | 4XH03 | 7.99 | 6.40 | 0.2 |
| 7 | 5 | 13/16 | NOS 7 | 1EM34 | 11.99 | 9.60 | 0.2 |
| 8 | | | NOS 8 | 6F293 | 11.99 | 9.60 | 0.2 |
| 10 | | | NOS 10 | 4XH04 | 7.99 | 6.40 | 0.1 |
| 12 | | | NOS 12 | 6F294 | 11.99 | 9.60 | 0.2 |
| 15 | | | NOS 15 | 4XH05 | 7.67 | 6.14 | 0.2 |
| 20 | | | NOS 20 | 4XH06 | 7.67 | 6.14 | 0.2 |
| 25 | | | NOS 25 | 4XH07 | 10.41 | 8.33 | 0.2 |
| 30 | | | NOS 30 | 4XH08 | 7.67 | 6.14 | 0.2 |
| 35 | | | NOS 35 | 4XH09 | 14.34 | 11.48 | 0.3 |
| 40 | | | NOS 40 | 4XH10 | 13.36 | 10.69 | 0.3 |
| 45 | 5 1/2 | 1 1/16 | NOS 45 | 4XH11 | 16.66 | 13.33 | 0.3 |
| 50 | | | NOS 50 | 4XH12 | 15.49 | 12.40 | 0.3 |
| 60 | | | NOS 60 | 4XH13 | 13.09 | 10.47 | 0.3 |
| 70 | | | NOS 70 | 1DR15 | 35.18 | 28.15 | 0.9 |
| 80 | 7 7/8 | 1 5/16 | NOS 80 | 1DR16 | 35.18 | 28.15 | 0.9 |
| 90 | | | NOS 90 | 1DR17 | 36.71 | 29.40 | 0.9 |
| 100 | | | NOS 100 | 1DR09 | 24.09 | 19.27 | 0.9 |
| 110 | | | NOS 110 | 1DR10 | 72.73 | 58.20 | 0.9 |
| 125 | | | NOS 125 | 1DR11 | 69.65 | 55.75 | 0.9 |
| 150 | 9 5/8 | 1 13/16 | NOS 150 | 1DR12 | 69.65 | 55.75 | 0.9 |
| 175 | | | NOS 175 | 1DR13 | 72.73 | 58.20 | 0.9 |
| 200 | | | NOS 200 | 1DR14 | 64.87 | 51.90 | 0.9 |
| 225 | | | NOS 225 | 1DR99 | 145.08 | 116.10 | 1.0 |
| 250 | | | NOS 250 | 1DT01 | 145.08 | 116.10 | 1.0 |
| 300 | 11 5/8 | 2 9/16 | NOS 300 | 1DT02 | 139.04 | 111.25 | 1.0 |
| 350 | | | NOS 350 | 1DT03 | 145.05 | 116.05 | 1.0 |
| 400 | | | NOS 400 | 1DT04 | 139.04 | 111.25 | 1.0 |
| 450 | | | NOS 450 | 1DT05 | 208.91 | 167.25 | 1.0 |
| 500 | 13 3/8 | 3 1/8 | NOS 500 | 1DT06 | 208.91 | 167.25 | 1.0 |
| 600 | | | NOS 600 | 1DT07 | 200.23 | 160.25 | 1.0 |

# RENEWABLE 250 VOLT CLASS H FUSES AND LINKS AND FUSE REDUCERS

COOPER Bussmann

UL E5033 (0-60, 225-600A)

CSA LR53787 (0-60, 225-600A)



## REN SERIES — Use with Low Fault Current & Non-Motor Loads

- 0-60 amp ferrule type; 70-600 amp knife-blade type
- 10K amp interrupting rating
- REN Series rated 250 VAC
- Time lag feature
- Knurled bushings for easy assembly
- Order replacement links below
- Bodies are functionally equal to Gould RF (250V) and Littelfuse RLN (250V); links are not interchangeable
- Use fuse blocks on page 434
- See Cross-Reference on page 436

## RENEWABLE CLASS H FUSES REN 250 VOLT MODELS

| Amps | Dimensions (In.) Length | Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | | | REN-1 | 1EX44 | $12.26 | $9.81 | 0.1 |
| 2 | | | REN-2 | 1EX46 | 12.26 | 9.81 | 0.1 |
| 3 | | | REN-3 | 4XH67 | 11.78 | 9.43 | 0.1 |
| 4 | | | REN-4 | 1EX49 | 12.26 | 9.81 | 0.1 |
| 5 | | | REN-5 | 1EX50 | 11.78 | 9.43 | 0.1 |
| 6 | | | REN-6 | 4XH68 | 10.33 | 8.27 | 0.1 |
| 8 | 2 | 9/16 | REN-8 | 1EX51 | 12.26 | 9.81 | 0.1 |
| 10 | | | REN-10 | 4XH69 | 9.49 | 7.59 | 0.1 |
| 12 | | | REN-12 | 1EX45 | 11.34 | 9.07 | 0.1 |
| 15 | | | REN-15 | 4XH70 | 10.14 | 8.11 | 0.1 |
| 20 | | | REN- 20 | 4XH71 | 10.14 | 8.11 | 0.1 |
| 25 | | | REN-25 | 1EX47 | 11.34 | 9.07 | 0.1 |
| 30 | | | REN- 30 | 4XH72 | 7.62 | 6.10 | 0.1 |
| 35 | | | REN-35 | 1DZ84 | 22.17 | 17.74 | 0.1 |
| 40 | | | REN-40 | 4XH73 | 21.27 | 17.02 | 0.1 |
| 45 | 3 | 13/16 | REN-45 | 1DZ85 | 22.17 | 17.74 | 0.1 |
| 50 | | | REN-50 | 1DZ86 | 21.27 | 17.02 | 0.1 |
| 60 | | | REN-60 | 4XH74 | 14.79 | 11.83 | 0.1 |
| 70 | | | REN-70 | 1EN81 | $47.78 | $38.25 | 0.4 |
| 80 | 5 7/8 | 1 1/16 | REN-80 | 1EN82 | 49.90 | 39.95 | 0.4 |
| 90 | | | REN-90 | 1EN83 | 49.90 | 39.95 | 0.4 |
| 100 | | | REN-100 | 4XH75 | 33.29 | 26.65 | 0.4 |
| 110 | | | REN-110 | 1EX35 | 112.20 | 89.80 | 0.9 |
| 125 | | | REN-125 | 1EX36 | 112.20 | 89.80 | 0.9 |
| 150 | 7 1/8 | 1 9/16 | REN-150 | 1EX37 | 100.02 | 80.05 | 0.9 |
| 175 | | | REN-175 | 1EX38 | 112.20 | 89.80 | 0.9 |
| 200 | | | REN- 200 | 4XH76 | 86.26 | 69.05 | 0.9 |
| 225 | | | REN-225 | 1EN37 | 202.62 | 162.25 | 1.7 |
| 250 | | | REN-250 | 1EN38 | 202.62 | 162.25 | 1.7 |
| 300 | 8 5/8 | 2 1/16 | REN-300 | 1EX48 | 202.62 | 162.25 | 1.8 |
| 350 | | | REN-350 | 1EN39 | 202.62 | 162.25 | 1.7 |
| 400 | | | REN-400 | 4XH77 | 135.37 | 108.30 | 1.7 |
| 450 | | | REN-450 | 1ET76 | 309.47 | 247.75 | 2.9 |
| 500 | 10 3/8 | 2 9/16 | REN-500 | 1ET77 | 309.47 | 247.75 | 2.9 |
| 600 | | | REN-600 | 1ET78 | 296.64 | 237.50 | 2.9 |

## RENEWABLE LINKS FOR CLASS H REN 250 VOLT RENEWABLE FUSES

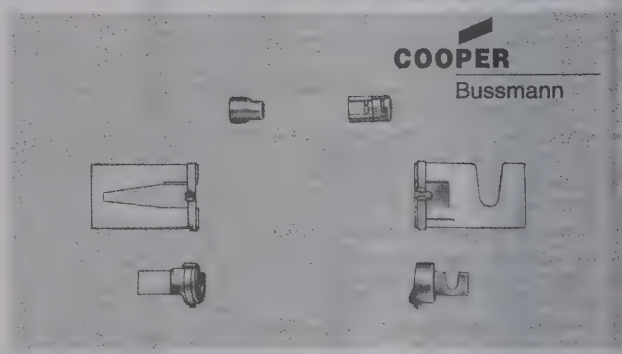
| Amps | Links Per Package | Bussmann Model | Stock No. | List | Each† | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | 20 | LKN-1 | 1CL30 | $52.84 | $42.30 | 0.1 |
| 2 | 20 | LKN-2 | 1CL32 | 52.84 | 42.30 | 0.1 |
| 3 | 20 | LKN-3 | 4XH88 | 52.84 | 42.30 | 0.1 |
| 4 | 20 | LKN-4 | 1CL35 | 52.84 | 42.30 | 0.1 |
| 5 | 20 | LKN-5 | 1CL39 | 51.52 | 41.25 | 0.1 |
| 6 | 20 | LKN-6 | 4XH89 | 51.52 | 41.25 | 0.1 |
| 8 | 20 | LKN-8 | 1CL41 | 52.84 | 42.30 | 0.1 |
| 10 | 20 | LKN-10 | 4XH90 | 46.97 | 37.60 | 0.1 |
| 12 | 20 | LKN-12 | 1CL31 | 16.93 | 13.55 | 0.1 |
| 15 | 20 | LKN-15 | 4XH91 | 16.93 | 13.55 | 0.1 |
| 20 | 20 | LKN-20 | 4XH92 | 12.63 | 10.11 | 0.1 |
| 25 | 20 | LKN-25 | 1CL33 | 16.93 | 13.55 | 0.1 |
| 30 | 20 | LKN-30 | 4XH93 | 11.58 | 9.27 | 0.1 |
| 35 | 20 | LKN-35 | 1CL34 | 32.61 | 26.10 | 0.1 |
| 40 | 20 | LKN-40 | 4XH94 | 32.61 | 26.10 | 0.1 |
| 45 | 20 | LKN-45 | 1CL38 | 32.61 | 26.10 | 0.1 |
| 50 | 20 | LKN-50 | 1CL40 | 32.61 | 26.10 | 0.1 |
| 60 | 20 | LKN-60 | 4XH95 | 24.76 | 19.82 | 0.1 |
| 70 | 10 | LKN-70 | 1CX33 | 31.71 | 25.40 | 0.1 |
| 80 | 10 | LKN-80 | 1CX34 | 31.71 | 25.40 | 0.1 |
| 90 | 10 | LKN-90 | 1CX35 | 31.71 | 25.40 | 0.1 |
| 100 | 10 | LKN-100 | 4XH96 | 21.33 | 17.07 | 0.1 |
| 110 | 5 | LKN-110 | 1CX29 | 33.06 | 26.45 | 0.2 |
| 125 | 5 | LKN-125 | 1CX30 | 33.06 | 26.45 | 0.2 |
| 150 | 5 | LKN-150 | 1CX31 | 33.06 | 26.45 | 0.2 |
| 175 | 5 | LKN-175 | 1CX32 | 33.06 | 26.45 | 0.2 |
| 200 | 5 | LKN-200 | 4XH97 | 21.93 | 17.55 | 0.2 |
| 225 | 5 | LKN-225 | 1DG71 | 63.73 | 51.00 | 0.4 |
| 250 | 5 | LKN-250 | 1DG72 | 61.18 | 48.95 | 0.4 |
| 300 | 5 | LKN-300 | 1DG73 | 61.18 | 48.95 | 0.4 |
| 350 | 5 | LKN-350 | 1DG74 | 61.18 | 48.95 | 0.4 |
| 400 | 5 | LKN-400 | 4XH98 | 57.15 | 45.75 | 0.4 |
| 450 | 2 | LKN-450 | 1DD84 | 38.77 | 31.05 | 0.3 |
| 500 | 2 | LKN-500 | 1DD85 | 38.77 | 31.05 | 0.3 |
| 600 | 2 | LKN-600 | 1DD86 | 37.04 | 29.65 | 0.3 |

(†) Links are priced per package.

### ORDER DIRECT FROM GRAINGER

You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

## FUSE REDUCERS




- For Ferrule or Knife Blade Clips
- Allow the use of lower ampere rated fuses in existing switches and clips with higher ampere ratings
- Use of lower ampere rated fuses can improve circuit protection
- Rated 30 to 100 amps
- Fuse reducers will accept Class H and K fuses and may be used in non-rejection Class H or Class K fuses clips
- UL Listed(E12853); CSA Certified (CLR47235)

| Description | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **250 VOLT MODELS** | | | | | |
| Allows 30A Fuse to Fit 60A Clips | No. 263 | 6F448 | $6.90 | $5.52 | 0.1 |
| Allows 30A Fuse to Fit 100A Clips | No. 213 | 6F449 | 25.13 | 20.11 | 0.1 |
| Allows 60A Fuse to Fit 100A Clips | No. 216 | 6F450 | 13.63 | 10.91 | 0.2 |

# RENEWABLE 600 VOLT CLASS H FUSES AND LINKS AND FUSE REDUCERS

COOPER Bussmann

E5033 (0-60A)

LR53787 (0-90A)



## RES SERIES — Use with Low Fault Current & Non-Motor Loads

- 0-60 amp ferrule type; 70-600 amp knife blade type
- 10K amp interrupting rating
- RES Series rated 600 VAC
- Time lag feature
- Knurled bushings for easy assembly
- Order replacement links below
- Bodies are functionally equal to Gould RFS (600V) and Littelfuse RLS (600V); links are not interchangeable
- Use fuse blocks on page 434
- See Cross-Reference on page 436

## RES 600 VOLT MODELS

| Amps | Dimensions (In.) Length | Dimensions (In.) Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | 5 | 13/16 | RES-1 | 1EM35 | $31.02 | $24.82 | 0.2 |
| 2 | | | RES-2 | 1EM37 | 31.02 | 24.82 | 0.2 |
| 3 | | | RES-3 | 1EM39 | 31.02 | 24.82 | 0.2 |
| 4 | | | RES-4 | 1EM40 | 31.02 | 24.82 | 0.2 |
| 5 | | | RES-5 | 1EM41 | 31.02 | 24.82 | 0.2 |
| 6 | | | RES-6 | 4XH78 | 29.20 | 23.36 | 0.2 |
| 8 | | | RES-8 | 1EM42 | 31.02 | 24.82 | 0.2 |
| 10 | | | RES-10 | 4XH79 | 27.61 | 22.09 | 0.2 |
| 12 | | | RES-12 | 1EM36 | 28.18 | 22.55 | 0.2 |
| 15 | | | RES-15 | 4XH80 | 25.10 | 20.08 | 0.2 |
| 20 | | | RES- 20 | 4XH81 | 21.65 | 17.32 | 0.2 |
| 25 | | | RES-25 | 1EM38 | 26.89 | 21.52 | 0.2 |
| 30 | | | RES- 30 | 4XH82 | 18.82 | 15.06 | 0.2 |
| 35 | 5½ | 1 1/16 | RES-35 | 1EV63 | 42.27 | 33.85 | 0.3 |
| 40 | | | RES-40 | 4XH83 | 42.27 | 33.85 | 0.3 |
| 45 | | | RES-45 | 1EV64 | 44.10 | 35.30 | 0.3 |
| 50 | | | RES-50 | 1EV65 | 42.27 | 33.85 | 0.3 |
| 60 | | | RES-60 | 4XH84 | 29.43 | 23.55 | 0.3 |
| 70 | 7 7/8 | 1 5/16 | RES-70 | 1EV87 | $96.25 | $77.05 | 0.7 |
| 80 | | | RES-80 | 1EV88 | 96.25 | 77.05 | 0.7 |
| 90 | | | RES-90 | 1EV89 | 100.41 | 80.35 | 0.7 |
| 100 | | | RES-100 | 4XH85 | 67.03 | 53.65 | 0.7 |
| 110 | 9 5/8 | 1 13/16 | RES-110 | 1FF76 | 194.66 | 155.75 | 1.5 |
| 125 | | | RES-125 | 1FF77 | 186.59 | 149.30 | 1.5 |
| 150 | | | RES-150 | 1FF78 | 186.59 | 149.30 | 1.5 |
| 175 | | | RES-175 | 1FF79 | 194.66 | 155.75 | 1.5 |
| 200 | | | RES- 200 | 4XH86 | 130.03 | 104.05 | 1.5 |
| 225 | 11 5/8 | 2 9/16 | RES-225 | 1FJ13 | 392.51 | 314.25 | 2.7 |
| 250 | | | RES-250 | 1FJ15 | 392.51 | 314.25 | 2.7 |
| 300 | | | RES-300 | 1FJ14 | 392.51 | 314.25 | 2.8 |
| 350 | | | RES-350 | 1FJ16 | 392.51 | 314.25 | 2.8 |
| 400 | | | RES-400 | 4XH87 | 301.84 | 241.50 | 2.8 |
| 500 | 13 3/8 | 3 1/8 | RES-500 | 1FJ11 | 560.31 | 448.25 | 3.4 |
| 600 | | | RES-600 | 1FJ12 | 499.51 | 399.75 | 3.5 |

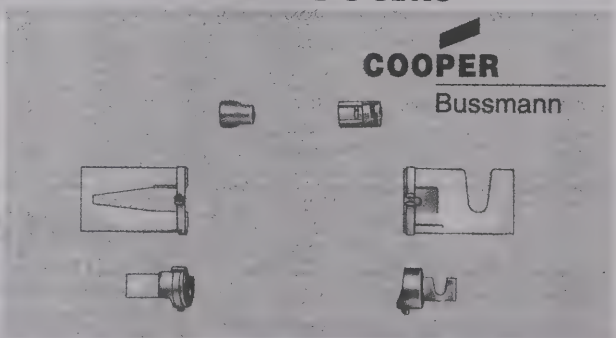
## RENEWABLE LINKS FOR CLASS H RES 600 VOLT RENEWABLE FUSES

| Amps | Links Per Package | Bussmann Model | Stock No. | List | Each† | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | 20 | LKS-1 | 1CL42 | $85.57 | $68.50 | 0.1 |
| 2 | 20 | LKS-2 | 1CL44 | 85.57 | 68.50 | 0.1 |
| 3 | 20 | LKS-3 | 1CL46 | 85.57 | 68.50 | 0.1 |
| 4 | 20 | LKS-4 | 1CL47 | 85.57 | 68.50 | 0.1 |
| 5 | 20 | LKS-5 | 1CL48 | 85.57 | 68.50 | 0.1 |
| 6 | 20 | LKS-6 | 4XH99 | 83.78 | 67.05 | 0.1 |
| 8 | 20 | LKS-8 | 1CL49 | 85.57 | 68.50 | 0.1 |
| 10 | 20 | LKS-10 | 4XK00 | 77.19 | 61.80 | 0.1 |
| 12 | 20 | LKS-12 | 1CL43 | 33.93 | 27.15 | 0.1 |
| 15 | 20 | LKS-15 | 4XK01 | 23.16 | 18.53 | 0.1 |
| 20 | 20 | LKS-20 | 4XK02 | 23.16 | 18.53 | 0.1 |
| 25 | 20 | LKS-25 | 1CL45 | 33.93 | 27.15 | 0.1 |
| 30 | 20 | LKS-30 | 4XK03 | 23.16 | 18.53 | 0.1 |
| 35 | 20 | LKS-35 | 1DD87 | 63.43 | 50.75 | 0.5 |
| 40 | 20 | LKS-40 | 4XK04 | 63.43 | 50.75 | 0.5 |
| 45 | 20 | LKS-45 | 1DD88 | 63.43 | 50.75 | 0.5 |
| 50 | 20 | LKS-50 | 1DD89 | 63.43 | 50.75 | 0.5 |
| 60 | 20 | LKS-60 | 4XK05 | 42.66 | 34.15 | 0.5 |
| 70 | 10 | LKS-70 | 1CX38 | 65.52 | 52.45 | 0.5 |
| 80 | 10 | LKS-80 | 1CX39 | 65.52 | 52.45 | 0.5 |
| 90 | 10 | LKS-90 | 1CX40 | 65.52 | 52.45 | 0.5 |
| 100 | 10 | LKS-100 | 4XK06 | 43.87 | 35.10 | 0.5 |
| 110 | 5 | LKS-110 | 1DG75 | 59.99 | 48.00 | 0.5 |
| 125 | 5 | LKS-125 | 1DG76 | 59.99 | 48.00 | 0.5 |
| 150 | 5 | LKS-150 | 1DG77 | 59.99 | 48.00 | 0.5 |
| 175 | 5 | LKS-175 | 1DG78 | 59.99 | 48.00 | 0.5 |
| 200 | 5 | LKS-200 | 4XK07 | 46.23 | 37.00 | 0.5 |
| 225 | 5 | LKS-225 | 1DN86 | 113.40 | 90.75 | 1.5 |
| 250 | 5 | LKS-250 | 1DN87 | 113.40 | 90.75 | 1.5 |
| 300 | 5 | LKS-300 | 1DN88 | 93.82 | 75.10 | 1.5 |
| 350 | 5 | LKS-350 | 1DN89 | 113.25 | 90.60 | 1.5 |
| 400 | 5 | LKS-400 | 4XK08 | 108.76 | 87.05 | 1.5 |
| 450 | 2 | LKS-450 | 1DL50 | 62.53 | 50.05 | 0.8 |
| 500 | 2 | LKS-500 | 1CX36 | 62.53 | 50.05 | 0.8 |
| 600 | 2 | LKS-600 | 1CX37 | 62.53 | 50.05 | 0.8 |

†) Links are priced per package.

# FUSE REDUCERS

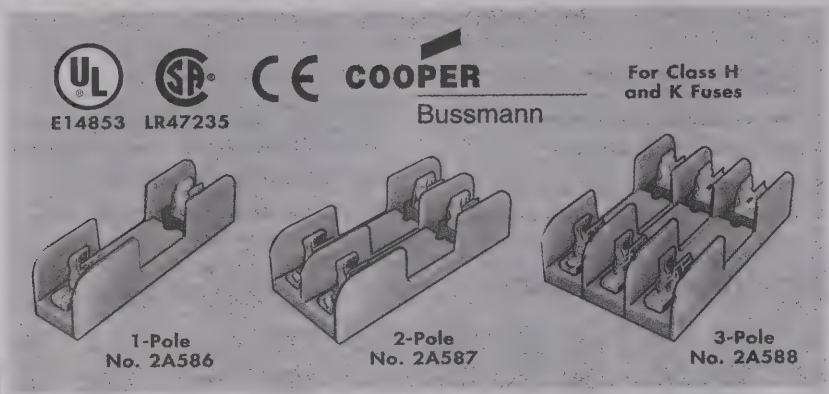
COOPER Bussmann



- For Ferrule or Knife Blade Clips
- Allow the use of lower ampere rated fuses in existing switches and clips with higher ampere ratings
- Use of lower ampere rated fuses can improve circuit protection
- Rated 30 to 100 amps
- Fuse reducers will accept Class H and K fuses and may be used in non-rejection Class H or Class K fuses clips
- UL Listed

| Description | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **600 VOLT MODELS** | | | | | |
| Allows 30A Fuse to Fit 60A Clips | No. 663 | 6F451 | $9.47 | $7.58 | 0.2 |
| Allows 30A Fuse to Fit 100A Clips | No. 216 | 6F450 | 13.63 | 10.91 | 0.2 |
| Allows 60A Fuse to Fit 100A Clips | No. 616 | 6F452 | 21.38 | 17.11 | 0.1 |

# SEGMENTED FUSE BLOCKS AND FUSE COVERS




## FUSE BLOCKS

- Applications include control panels, motor control centers, switch gear, elevator systems, heating, air conditioning, and refrigeration systems
- Single, double, and triple pole fuse blocks
- Thermoplastic
- Blocks rated 30 through 100 amps
- Rated 250VAC and 600VAC
- Pressure plate and box type wire connectors
- All have spring reinforced fuse clips

### FUSE BLOCK SPECIFICATIONS AND ORDERING DATA

| Amp Rating | Poles | Connector Type | Connector Wire Size Range | Dimensions (In.) L | W | D | Holes / Block | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **250 VOLT FUSE BLOCKS—FOR FRN-R†, LPN-RK†, NON, AND REN FUSES** | | | | | | | | | | | | |
| 30 | 1 | P.P.† | #14-10 Cu | 3.03 | 1.09 | 1.41 | 4 | H25030-1PR | **2A586** | $7.14 | **$5.72** | 0.1 |
| | 2 | | | 3.03 | 2.05 | 1.41 | 2 | H25030-2PR | **2A587** | 12.18 | **9.75** | 0.2 |
| | 3 | | | 3.03 | 3.00 | 1.41 | 2 | H25030-3PR | **2A588** | 18.38 | **14.71** | 0.3 |
| 60 | 1 | Box | #14-2 Al/Cu | 4.25 | 1.50 | 1.73 | 2 | H25060-1CR | **2A590** * | 13.31 | **10.65** | 0.2 |
| | 2 | | | 4.25 | 2.81 | 1.73 | 4 | H25060-2CR | **2A591** * | 24.38 | **19.51** | 0.4 |
| | 3 | | | 4.25 | 4.13 | 1.73 | 6 | H25060-3CR | **2A592** * | 27.77 | **22.22** | 1.4 |
| 100 | 1 | Box | #6-1/0 Al/Cu | 7.36 | 1.81 | 2.06 | 3 | H25100-1CR | **2A594** * | 32.88 | **26.35** | 0.4 |
| **600 VOLT FUSE BLOCKS FOR FRS-R†, LPS-RK†, NOS, AND RES FUSES** | | | | | | | | | | | | |
| 30 | 1 | P.P.† | #14-10 Cu | 6.25 | 1.55 | 1.73 | 2 | H60030-1PR | **2A596** | 12.66 | **10.13** | 1.0 |
| | 2 | | | 6.25 | 2.89 | 1.73 | 4 | H60030-2PR | **2A597** | 25.76 | **20.61** | 0.3 |
| | 3 | | | 6.25 | 4.25 | 1.73 | 6 | H60030-3PR | **2A598** | 25.99 | **20.80** | 1.2 |
| 60 | 1 | Box | #14-2 Al/Cu | 7.36 | 1.81 | 2.06 | 2 | H60060-1CR | **2A600** * | 15.39 | **12.31** | 0.3 |
| | 2 | | | 7.36 | 3.38 | 2.06 | 4 | H60060-2CR | **2A601** * | 25.77 | **20.62** | 0.6 |
| | 3 | | | 7.36 | 4.94 | 2.06 | 6 | H60060-3CR | **2A602** * | 32.49 | **26.00** | 0.5 |
| 100 | 1 | Box | #6-1/0 Al/Cu | 9.50 | 2.22 | 2.38 | 2 | H60100-1CR | **2A604** * | 33.79 | **27.05** | 1.5 |
| | 3 | | | 9.50 | 5.84 | 2.38 | 6 | H60100-3CR | **2A605** * | 72.42 | **57.95** | 3.0 |

(*) For aluminum and copper wire and cable. (†) P.P. = Pressure Plate. (‡) Block does not provide rejection feature.

## FUSE COVERS

- Provides dead front protection and blown fuse indication
- Fit most brands of fuse blocks and disconnect switches
- Easy snap-in installation
- Covers are reusable




### FUSE COVER ORDERING DATA

| Voltage | Amps | Fuse Class | Indicating Light | Dimensions (In.) H | W | D | Bussmann Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 250V | 35- 60 | Class RK, K5, H | Yes | 5.02 | 1.03 | 1.94 | SAMI-1I | **2F986** | $5.90 | **$4.72** | 0.1 |
| 600 | 0- 30 | Class J | | | | | | | | | |
| 250 | 35- 60 | Class RK, K5, H | No | 5.02 | 1.03 | 1.94 | SAMI-1N | **2F994** | 4.58 | **3.67** | 0.1 |
| 600 | 0- 30 | Class J | | | | | | | | | |
| 250 | 0- 30 | Class RK, K5, H | Yes | 3.82 | 0.75 | 1.72 | SAMI-9I | **2G470** | 5.75 | **4.60** | 0.1 |
| 250 | 0- 30 | Class RK, K5, H | No | 3.82 | 0.75 | 1.72 | SAMI-9N | **2G472** | 4.58 | **3.67** | 0.1 |
| 250 | 65- 100 | Class RK, K5, H | Yes | 8.2 | 1.3 | 2.18 | SAMI-4I | **2G450** | 6.90 | **5.52** | 0.1 |
| 250 | 65- 100 | Class RK, K5, H | No | 8.2 | 1.3 | 2.18 | SAMI-4N | **2G452** | 5.55 | **4.45** | 0.1 |
| 600 | 0- 30 | Class RK, K5, H | Yes | 7.03 | 1.3 | 2.07 | SAMI-2I | **2G442** | 5.25 | **4.20** | 0.1 |
| 600 | 0- 30 | Class RK, K5, H | No | 7.03 | 1.3 | 2.07 | SAMI-2N | **2G444** | 3.82 | **3.06** | 0.1 |
| 600 | 35- 60 | Class J | Yes | 4.98 | 1.17 | 2.14 | SAMI-6I | **2G458** | 5.90 | **4.72** | 0.1 |
| 600 | 35- 60 | Class J | No | 4.98 | 1.17 | 2.14 | SAMI-6N | **2G460** | 4.54 | **3.63** | 0.1 |
| 600 | 35- 60 | Class RK, K5, H | Yes | 8.2 | 1.3 | 2.18 | SAMI-5I | **2G454** | 6.90 | **5.52** | 0.1 |
| 600 | 35- 60 | Class RK, K5, H | No | 8.2 | 1.3 | 2.18 | SAMI-5N | **2G456** | 5.58 | **4.46** | 0.1 |
| 600 | 65- 100 | Class J | Yes | 7.03 | 1.3 | 2.33 | SAMI-3I | **2G446** | 6.68 | **5.35** | 0.1 |
| 600 | 65- 100 | Class J | No | 7.03 | 1.3 | 2.33 | SAMI-3N | **2G448** | 5.17 | **4.14** | 0.1 |
| 600 | 65- 100 | Class RK, K5, H | Yes | 10.38 | 1.05 | 2.33 | SAMI-8I | **2G466** | 8.69 | **6.96** | 0.1 |
| 600 | 65- 100 | Class RK, K5, H | No | 10.38 | 1.05 | 2.33 | SAMI-8N | **2G468** | 7.28 | **5.83** | 0.2 |
| 600 | — | Midget | Yes | 3.82 | 0.75 | 1.72 | SAMI-7I | **2G462** | 5.58 | **4.46** | 0.1 |
| 600 | — | Midget | No | 3.82 | 0.75 | 1.72 | SAMI-7N | **2G464** | 4.32 | **3.46** | 0.1 |

COOPER Bussmann

E4273

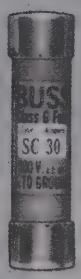
LR53787



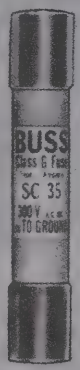

No. 1CP21




No. 1CZ45




No. 1BW85




No. 1DH42

## TIME-LAG CLASS G FUSES

SC Series—For use in fluorescent fixtures

- 100,000 amp interrupting rating
- Rated 480VAC
- Can be used in 120/208, 120/240, and 277/480 volt circuits
- Highly compact for use in branch circuits with high interrupting rating and current limitations
- Rejection feature prevents substitution of a lesser capable fuse in terms of voltage rating, interrupting rating, or current limitation

| Fuse Amps | Dimensions (In.) Length | Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | | | SC-1/2 | 1CP18 | $7.75 | $6.20 | 0.1 |
| 1 | | | SC-1 | 1CP16 | 6.97 | 5.58 | 0.1 |
| 1½ | | | SC-1½ | 1CP17 | 7.75 | 6.20 | 0.1 |
| 2 | | | SC-2 | 1CP22 | 6.97 | 5.58 | 0.1 |
| 3 | | | SC-3 | 1CP23 | 6.97 | 5.58 | 0.1 |
| 4 | | | SC-4 | 1CP24 | 6.82 | 5.46 | 0.1 |
| 5 | 1 5/16 | 13/32 | SC-5 | 1CP25 | 5.97 | 4.78 | 0.1 |
| 6 | | | SC-6 | 1CP26 | 5.97 | 4.78 | 0.1 |
| 8 | | | SC-8 | 1CP27 | 7.75 | 6.20 | 0.1 |
| 10 | | | SC-10 | 1CP19 | 5.97 | 4.78 | 0.1 |
| 12 | | | SC-12 | 1CP20 | 6.34 | 5.07 | 0.1 |
| 15 | | | SC-15 | 1CP21 | 3.48 | 2.79 | 0.1 |
| 20 | 1 13/32 | 13/32 | SC-20 | 1CZ45 | 4.23 | 3.39 | 0.1 |
| 25 | 1⅝ | 13/32 | SC-25 | 1BW84 | 11.55 | 9.24 | 0.1 |
| 30 | | | SC-30 | 1BW85 | 6.51 | 5.21 | 0.1 |
| 35 | | | SC-35 | 1DH42 | 9.73 | 7.79 | 0.1 |
| 40 | | | SC-40 | 1DH43 | 9.11 | 7.29 | 0.1 |
| 45 | 2¼ | 13/32 | SC-45 | 1DH44 | 11.31 | 9.05 | 0.1 |
| 50 | | | SC-50 | 1DH45 | 11.31 | 9.05 | 0.1 |
| 60 | | | SC-60 | 1DH46 | 8.91 | 7.14 | 0.1 |

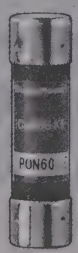
### CROSS-REFERENCE FOR CLASS G FUSES

| Grainger Stock No. | Bussmann Model | Littelfuse Model | Grainger Stock No. | Bussmann Model | Littelfuse Model |
|---|---|---|---|---|---|
| 1CP18 | SC-½ | SLC½ | 1CP20 | SC-12 | SLC12 |
| 1CP16 | SC-1 | SLC1 | 1CP21 | SC-15 | SLC15 |
| 1CP17 | SC-1½ | SLC1½ | 1CZ45 | SC-20 | SLC20 |
| 1CP22 | SC-2 | SLC2 | 1BW84 | SC-25 | SLC25 |
| 1CP23 | SC-3 | SLC3 | 1BW85 | SC-30 | SLC30 |
| 1CP24 | SC-4 | SLC4 | 1DH42 | SC-35 | SLC35 |
| 1CP25 | SC-5 | SLC5 | 1DH43 | SC-40 | SLC40 |
| 1CP26 | SC-6 | SLC6 | 1DH44 | SC-45 | SLC45 |
| 1CP27 | SC-8 | SLC8 | 1DH45 | SC-50 | SLC50 |
| 1CP19 | SC-10 | SLC10 | 1DH46 | SC-60 | SLC60 |

COOPER Bussmann



No. 3HZ71




No. 3HZ75

## CANADIAN STANDARD TYPE "P" ONE-TIME FUSE

- Standard dimension Type "P" fuse
- Rated, 250 Volts
- 10,000 amp Interrupting rating
- 15 thru 60 amp Ferrule type
- One-time
- CSA C22.2, No. 59.1

### TYPE "P" ONE-TIME FUSE SPECIFICATIONS AND ORDERING DATA

| Fuse Amps | Dimensions (In.) Length | Dia. | Bussman Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| 15 | 2.0 | 0.56 | PON15 | 3HZ68 | $3.46 | $2.77 | 0.1 |
| 20 | | | PON20 | 3HZ69 | 3.46 | 2.77 | 0.1 |
| 25 | | | PON25 | 3HZ70 | 3.46 | 2.77 | 0.1 |
| 30 | | | PON30 | 3HZ71 | 3.46 | 2.77 | 0.1 |
| 35 | 3.0 | 0.81 | PON35 | 3HZ72 | 4.49 | 3.60 | 0.1 |
| 40 | | | PON40 | 3HZ73 | 4.49 | 3.60 | 0.1 |
| 50 | | | PON50 | 3HZ74 | 4.49 | 3.60 | 0.1 |
| 60 | | | PON60 | 3HZ75 | 4.49 | 3.60 | 0.1 |

### ORDER DIRECT FROM GRAINGER

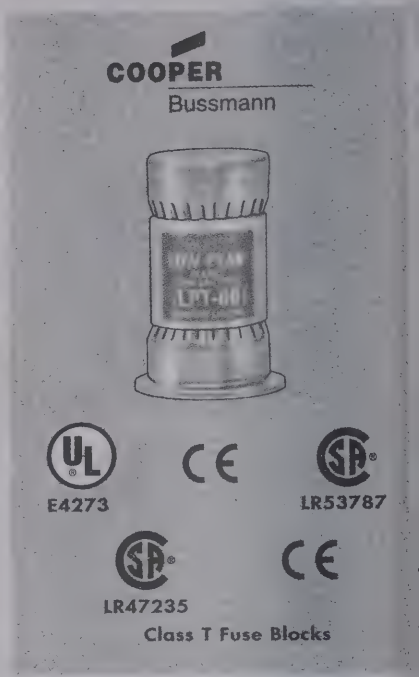
You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.

# CLASS T LOW-PEAK® TIME LAG FUSES AND FUSE BLOCKS

## CLASS T LOW-PEAK® TIME LAG FUSES

### LPT SERIES—0.81 x 1.56"

- An all-purpose space-saving branch circuit fuse that meets most protection requirements up to 60 amps
- Very compact, physical size only 0.81" x 1.56" (20.6mm x 39.7mm) with 1.0" Class T rejection feature
- Time lag to avoid unwanted fuse openings from surge currents when sized appropriately per NEC®
- Protect motor circuits up to 15 HP at 460V, or 20 HP at 575V
- Fast response under short-circuit conditions for a high degree of current limitation
- 200,000 Amp interrupting rating
- For use in large capacity systems




### LPT SERIES FUSE ORDERING DATA

| Fuse Amps | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **35** | LPT-35 | **4CX68** | $18.37 | **$14.70** | 0.4 |
| **40** | LPT-40 | **4CX69** | 18.37 | **14.70** | 0.4 |
| **45** | LPT-45 | **4CX70** | 18.37 | **14.70** | 0.4 |
| **50** | LPT-50 | **4CX71** | 18.37 | **14.70** | 0.4 |
| **60** | LPT-60 | **4CX72** | 18.37 | **14.70** | 0.4 |

### CLASS T FUSE BLOCKS (600V) ORDERING DATA

| Amp | No. of Poles | Connector Type | Max. Wire Size | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **35 to 60** | 1 | Screw | #2 Copper or Aluminum | T60060-1SR | **1CP61*** | $12.23 | **$9.79** | 0.1 |
| | 1 | Box Lug | | T60060-1CR | **1CP60†** | 10.07 | **8.06** | 0.1 |
| | 2 | Screw | | T60060-2SR | **1CP62*** | 25.91 | **20.73** | 0.1 |
| | 2 | Box Lug | | T60060-2CR | **1DF01†** | 21.33 | **17.07** | 0.3 |
| | 3 | Screw | | T60060-3SR | **1CP63*** | 35.51 | **28.45** | 0.1 |
| | 3 | Box Lug | | T60060-3CR | **1DT33†** | 27.20 | **21.76** | 1.0 |

(†) UL Listed (E14853) (*) UL Recognized (E14853)

## FUSE CROSS-REFERENCE

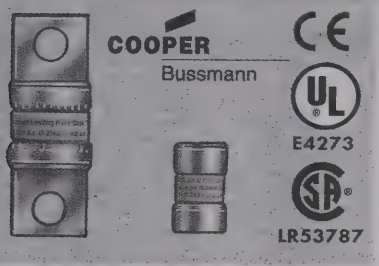
| Bussmann Family | Gould Family | Littelfuse Family | Brush/Reliance Family | Page |
|---|---|---|---|---|
| **GLASS & CERAMIC FUSES** | | | | |
| ABC | GAB | 314 | — | 416 |
| AGC | GGC | 312 | — | 416 |
| AGX | GGX | 362 | — | 415 |
| GLR | SLR | — | — | 417 |
| GMA | GGM | 235 | — | 415 |
| MDL | GDL | 313* | — | 414 |
| **PLUG FUSES** | | | | |
| SL | GSL | SLO | — | 418 |
| T | GT | TOO | — | 418 |
| TL | GTL | TLO | — | 418 |
| W | GW | WOO | — | 418 |
| **MIDGET FUSES** | | | | |
| BAF | OTM | BLF | — | 420 |
| FNM | TRM | FLM | — | 421 |
| FNW | TRM | FLM | — | 421 |
| FNQ | ATQ | FLQ | — | 421 |
| FNQR | ATDR | KLDR | — | 422 |
| KTK | ATM | KLK | — | 420 |
| KTKR | ATMR | KLKR | — | 422 |
| LP-CC | ADTR | KLMR | — | 423 |
| **CLASS J FUSES** | | | | |
| JKS | A4J | JLS | — | 427 |
| LPJ | AJT | JTD | — | 426 |
| **CLASS RK1 FUSES** | | | | |
| LPN-RK | A2D | LLNRK | LENRK | 428 |
| LPS-RK | A6D | LLSRK | LESRK | 428 |

| Bussmann Family | Gould Family | Littelfuse Family | Brush/Reliance Family | Page |
|---|---|---|---|---|
| **CLASS RK5 FUSES** | | | | |
| FRNR | TR | FLNR | — | 429 |
| FRSR | TRS | FLSR | — | 430 |
| **CLASS K-5 & CLASS H FUSES** | | | | |
| LKN | RL | LKN | ELN | 432# |
| LKS | RLS | LKS | ELS | 433# |
| NON | OT | NLN | — | 431 |
| NOS | OTS | NLS | — | 431 |
| REN | RF | RLN | ERN | 432 |
| RES | RFS | RLS | ERS | 433 |
| **CLASS G FUSES** | | | | |
| SC | — | SLC | — | 435 |
| **CLASS T FUSES** | | | | |
| JJN | A3T | JLLN | — | 437 |
| JJS | A6T | JLLS | — | 437 |
| **VOLTAGE LIMITER FUSES** | | | | |
| ANL | AFH | CNL | — | 440 |
| ANN | — | CNN | — | 440 |

| New Bussmann Family | Old Bussmann Family | Old Bussmann Family | Carbone Ferraz Family | Carbone Ferraz Family | Littelfuse Family | Gould Family | Page |
|---|---|---|---|---|---|---|---|
| **SEMICONDUCTOR FUSES** | | | | | | | |
| FWA | KAA | KAH | A015F/R | AO13FA | KLA | A13X | 438 |
| FWH | KBH | — | A50F | A50FA | L50S | A50P | 439 |
| FWP | KBP | — | A70F | A70FA | L70S | A70P | 439 |
| FWX | KAB | KAX | AO25F | AO25FA | KLB | A25X | 438 |

See cross-reference information on page opposite inside back cover.
(*) Up to 8 amps.
(#) Renewable links fit only the corresponding manufacturers renewable fuses.

# CLASS T FUSES



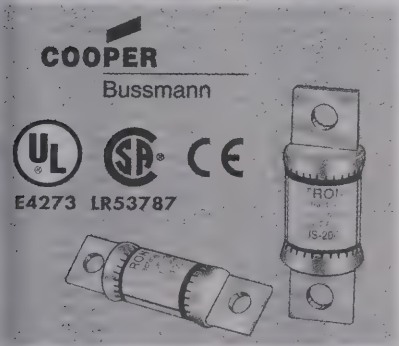

- 0-60 amp ferrule type; 70-1200 amp knife-blade type
- 200K amps interrupting rating
- Rated 300 VAC
- Small dimension fuse provides a high degree of current limitation
- Class T dimensions prevent the substitution of another fuse which may be less capable in terms of voltage rating, interrupting capability, or current limitation
- Provisions for mounting are normally included in the equipment using T Class fuses
- Fuses may be used in single phase line-to-neutral circuits supplied from 3-phase, 4-wire, solidly grounded neutral systems where the line-to-neutral voltage does not exceed 300V
- Functionally equal to Gould A3T and Littelfuse JLLN Series
- See Cross-Reference on page 436

**JJN SERIES**—Protect Circuit Breakers in UL Series Rating System, Load Centers, Panelboards, Switchboards, and Metering Centers (where high available short circuit currents exist)

## 300 VAC MODELS

| Fuse Amps | Dimensions (In.) Length | Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | | | JJN 1 | 6F336 | $15.26 | $12.21 | 0.1 |
| 2 | | | JJN 2 | 1CW41 | 15.26 | 12.21 | 0.1 |
| 3 | | | JJN 3 | 6F337 | 15.26 | 12.21 | 0.1 |
| 6 | | | JJN 6 | 4XH17 | 15.26 | 12.21 | 0.1 |
| 10 | 7/8 | 13/32 | JJN 10 | 6F338 | 15.26 | 12.21 | 0.1 |
| 15 | | | JJN 15 | 6F339 | 15.26 | 12.21 | 0.1 |
| 20 | | | JJN 20 | 6F340 | 15.26 | 12.21 | 0.1 |
| 25 | | | JJN 25 | 6F341 | 15.26 | 12.21 | 0.1 |
| 30 | | | JJN 30 | 4XH18 | 14.69 | 11.75 | 0.1 |
| 35 | | | JJN 35 | 6F342 | 16.24 | 13.00 | 0.1 |
| 40 | | | JJN 40 | 4XH19 | 15.49 | 12.40 | 0.1 |
| 45 | 7/8 | 9/16 | JJN 45 | 6F343 | 16.24 | 13.00 | 0.1 |
| 50 | | | JJN 50 | 4XH20 | 16.24 | 13.00 | 0.1 |
| 60 | | | JJN 60 | 4XH21 | 11.60 | 9.29 | 0.1 |
| 70 | | | JJN 70 | 4XH22 | 19.03 | 15.23 | 0.1 |
| 80 | 2 5/32 | 13/16 | JJN 80 | 4XH23 | 23.04 | 18.43 | 0.1 |
| 90 | | | JJN 90 | 4XH24 | 23.04 | 18.43 | 0.1 |
| 100 | | | JJN 100 | 4XH25 | 17.72 | 14.18 | 0.1 |
| 110 | | | JJN 110 | 4XH26 | 34.82 | 27.90 | 0.2 |
| 125 | | | JJN 125 | 4XH27 | 33.33 | 26.70 | 0.2 |
| 150 | 2 7/16 | 1 1/16 | JJN 150 | 4XH28 | 28.77 | 23.02 | 0.2 |
| 175 | | | JJN 175 | 6F344 | 34.82 | 27.90 | 0.2 |
| 200 | | | JJN 200 | 4XH29 | 18.77 | 15.02 | 0.2 |
| 225 | | | JJN 225 | 6F345 | 77.04 | 61.65 | 0.3 |
| 250 | | | JJN 250 | 6F346 | 77.04 | 61.65 | 0.3 |
| 300 | 2 3/4 | 1 21/64 | JJN 300 | 4XH30 | 73.87 | 59.10 | 0.3 |
| 350 | | | JJN 350 | 4XH31 | 59.24 | 47.40 | 0.3 |
| 400 | | | JJN 400 | 4XH32 | 41.53 | 33.25 | 0.3 |
| 450 | | | JJN 450 | 6F347 | 77.78 | 62.25 | 0.5 |
| 500 | 3 1/16 | 1 5/8 | JJN 500 | 4XH33 | 101.19 | 81.00 | 0.5 |
| 600 | | | JJN 600 | 4XH34 | 54.50 | 43.65 | 0.5 |
| 700 | 3 3/8 | 2 5/64 | JJN 700 | 6F348 | 330.48 | 264.50 | 0.9 |
| 800 | | | JJN 800 | 4XH35 | 220.76 | 176.75 | 0.9 |
| 1000 | 4 | 2 33/64 | JJN 1000 | 6F349 | 372.13 | 297.75 | 1.5 |
| 1200 | | | JJN 1200 | 6F350 | 372.13 | 297.75 | 1.5 |

**JJS SERIES**—Protects Circuit Breakers in UL Series Rating System, Load Centers, and Switchboards



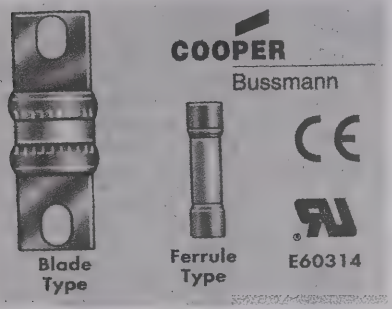

- 0-60 amp ferrule type; 70-800 amp knife-blade type
- 200K amps interrupting rating
- Rated 600 VAC
- Current limiting action minimizes energy let through under short circuit conditions
- Small size saves space
- Functionally equal to Gould A6T and Littelfuse JLLS
- See Cross-Reference on page 436

## 600 VAC MODELS

| Fuse Amps | Dimensions (In.) Length | Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | | | JJS 1 | 6F473 | $15.52 | $12.42 | 0.1 |
| 2 | | | JJS 2 | 1DF89 | 16.24 | 13.00 | 0.1 |
| 3 | | | JJS 3 | 6F474 | 15.52 | 12.42 | 0.1 |
| 6 | | | JJS 6 | 6F475 | 12.46 | 9.97 | 0.1 |
| 10 | 1 1/2 | 9/16 | JJS 10 | 6F476 | 12.46 | 9.97 | 0.1 |
| 15 | | | JJS 15 | 6F477 | 12.46 | 9.97 | 0.1 |
| 20 | | | JJS 20 | 6F478 | 13.39 | 10.71 | 0.1 |
| 25 | | | JJS 25 | 6F479 | 12.46 | 9.97 | 0.1 |
| 30 | | | JJS 30 | 6F480 | 8.73 | 6.99 | 0.1 |
| 35 | | | JJS 35 | 6F481 | 18.79 | 15.03 | 0.1 |
| 40 | | | JJS 40 | 6F482 | 20.23 | 16.19 | 0.1 |
| 45 | 1 9/16 | 13/16 | JJS 45 | 6F483 | 23.45 | 18.77 | 0.1 |
| 50 | | | JJS 50 | 6F484 | 18.79 | 15.03 | 0.1 |
| 60 | | | JJS 60 | 6F485 | 13.15 | 10.52 | 0.1 |
| 70 | | | JJS 70 | 6F486 | 24.59 | 19.68 | 0.1 |
| 80 | 3 | 13/16 | JJS 80 | 6F487 | 30.41 | 24.33 | 0.1 |
| 90 | | | JJS 90 | 6F488 | 36.83 | 29.50 | 0.1 |
| 100 | | | JJS 100 | 6F489 | 30.41 | 24.33 | 0.1 |
| 110 | | | JJS 110 | 6F490 | 44.70 | 35.80 | 0.2 |
| 125 | | | JJS 125 | 6F491 | 42.87 | 34.30 | 0.2 |
| 150 | 3 1/4 | 1 1/16 | JJS 150 | 6F492 | 36.98 | 29.60 | 0.2 |
| 175 | | | JJS 175 | 6F493 | 44.70 | 35.80 | 0.2 |
| 200 | | | JJS 200 | 6F494 | 42.87 | 34.30 | 0.2 |
| 225 | | | JJS 225 | 6F495 | 101.61 | 81.30 | 0.5 |
| 250 | | | JJS 250 | 6F528 | 88.86 | 71.10 | 0.5 |
| 300 | 3 5/8 | 1 5/8 | JJS 300 | 6F496 | 96.87 | 77.50 | 0.5 |
| 350 | | | JJS 350 | 6F497 | 113.67 | 90.95 | 0.5 |
| 400 | | | JJS 400 | 6F498 | 103.97 | 83.20 | 0.5 |
| 450 | | | JJS 450 | 6F499 | 223.84 | 179.25 | 1.0 |
| 500 | 4 | 2 1/16 | JJS 500 | 6F500 | 232.75 | 186.25 | 1.0 |
| 600 | | | JJS 600 | 6F501 | 251.07 | 201.00 | 1.0 |
| 800 | 4 21/64 | 2 1/2 | JJS 800 | 6F503 | 291.07 | 233.00 | 1.7 |

# SEMICONDUCTOR FUSES

## FWA SERIES—Protect Diodes, Thyristors, Triacs, and Other Solid State Components and Devices

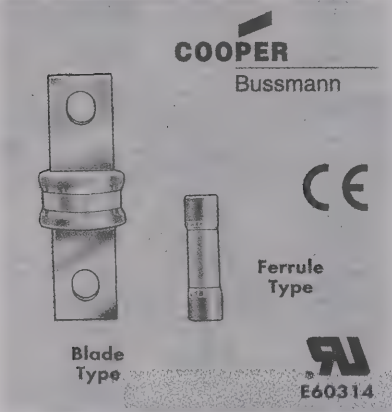



- 0-60 amp ferrule type; 70-1000 amps blade type
- 200K amp interrupting rating
- Rated 150 VAC and 200 VDC
- Extremely fast-acting fuses
- Primarily for short circuit protection; also provide a degree of overload protection against currents of approximately twice the fuse ampere rating—see melting time current curves for proper selection
- Functionally equal to Gould A13X and Littlefuse KLA (see page 436)

### 150 VOLT MODELS

| Fuse Amps | Dimensions (In.) Length | Dimensions (In.) Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 | 1.5 | .406 | FWA 5A10F | 4XC71 | $9.35 | $7.48 | 0.1 |
| 10 | | | FWA 10A10F | 4XC73 | 9.35 | 7.48 | 0.1 |
| 15 | | | FWA 15A10F | 4XC74 | 9.35 | 7.48 | 0.1 |
| 20 | | | FWA 20A10F | 4XC75 | 9.35 | 7.48 | 0.1 |
| 25 | | | FWA 25A10F | 4XC76 | 9.35 | 7.48 | 0.1 |
| 30 | | | FWA 30A10F | 4XC77 | 9.35 | 7.48 | 0.1 |
| 35 | 2 | .811 | FWA 35A21F | 6F251 | 19.98 | 15.98 | 0.2 |
| 40 | | | FWA 40A21F | 4XC78 | 19.98 | 15.98 | 0.2 |
| 45 | | | FWA 45A21F | 1EH50 | 20.13 | 16.10 | 0.1 |
| 50 | | | FWA 50A21F | 6F252 | 19.98 | 15.98 | 0.2 |
| 60 | | | FWA 60A21F | 6F253 | 19.98 | 15.98 | 0.2 |
| 70 | 2.65 | 1 | FWA 70B | 4XC79 | 37.49 | 30.00 | 0.2 |
| 80 | | | FWA 80B | 4XC80 | 37.49 | 30.00 | 0.1 |
| 100 | | | FWA 100B | 6F254 | 37.49 | 30.00 | 0.1 |
| 125 | | | FWA 125B | 1CV10 | 41.55 | 33.25 | 0.2 |
| 150 | | | FWA 150B | 4XC81 | 41.55 | 33.25 | 0.2 |
| 200 | | | FWA 200B | 4XC82 | 41.55 | 33.25 | 0.2 |
| 225 | | | FWA 225B | 1CV17 | 41.87 | 33.50 | 0.2 |
| 250 | | | FWA 250B | 4XC83 | 41.55 | 33.25 | 0.2 |
| 300 | | | FWA 300B | 4XC84 | 41.55 | 33.25 | 0.2 |
| 350 | | | FWA 350B | 6F256 | 42.34 | 33.90 | 0.2 |
| 400 | | | FWA 400B | 4XC85 | 42.34 | 33.90 | 0.2 |
| 450 | 3.5 | 1.5 | FWA 450A | 1CV27 | 94.01 | 75.25 | 0.4 |
| 500 | | | FWA 500A | 6F257 | 94.01 | 75.25 | 0.4 |
| 600 | | | FWA 600A | 6F258 | 94.01 | 75.25 | 0.4 |
| 700 | | | FWA 700A | 1CV32 | 94.01 | 75.25 | 0.4 |
| 800 | | | FWA 800A | 6F259 | 94.01 | 75.25 | 0.4 |
| 1000 | | | FWA 1000A | 1DL11 | 94.01 | 75.25 | 0.4 |

## FWX SERIES—Protect Diodes, Thyristors, Triacs, and Other Solid State Components and Devices




- 0-30 amp ferrule type; 35-800 amp blade type
- 200K amp interrupting rating
- Rated 250 VAC and 200 VDC
- Extremely fast-acting fuses
- Primarily for short circuit protection; also provide a degree of overload protection against currents of approximately twice the fuse ampere rating—see melting time current curves for proper selection
- Functionally equal to Gould A25X and Littlefuse L25S (see page 436)

### 250 VOLT MODELS

| Fuse Amps | Dimensions (In.) Length | Dimensions (In.) Diameter | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 0.56 | FWX-1A14F | 3KT33 | $13.40 | $10.72 | 0.1 |
| 2 | | | FWX-2A14F | 3KT34 | 13.40 | 10.72 | 0.1 |
| 3 | | | FWX-3A14F | 3KT35 | 13.40 | 10.72 | 0.1 |
| 4 | | | FWX-4A14F | 3KT36 | 13.40 | 10.72 | 0.1 |
| 5 | | | FWX 5A14F | 4XC87 | 12.21 | 9.78 | 0.1 |
| 10 | | | FWX 10A14F | 4XC89 | 12.21 | 9.78 | 0.1 |
| 12 | | | FWX 12A14F | 6F267 | 13.40 | 10.72 | 0.1 |
| 15 | | | FWX 15A14F | 4XC90 | 12.21 | 9.78 | 0.1 |
| 20 | | | FWX 20A14F | 4XC91 | 12.21 | 9.78 | 0.1 |
| 25 | | | FWX 25A14F | 4XC92 | 12.21 | 9.78 | 0.1 |
| 30 | | | FWX 30A14F | 4XC93 | 11.23 | 8.98 | 0.1 |
| 35 | 3.19 | 0.81 | FWX 35A | 1DM19 | 46.73 | 37.40 | 0.1 |
| 40 | | | FWX 40A | 4XC94 | 39.16 | 31.35 | 0.1 |
| 45 | | | FWX 45A | 1DM21 | 46.73 | 37.40 | 0.1 |
| 50 | | | FWX 50A | 4XC95 | 39.16 | 31.35 | 0.1 |
| 60 | | | FWX 60A | 4XC96 | 39.16 | 31.35 | 0.2 |
| 70 | 3.13 | 1.22 | FWX 70A | 4XC97 | 51.06 | 40.85 | 0.3 |
| 80 | | | FWX 80A | 4XC98 | 55.55 | 44.45 | 0.3 |
| 90 | | | FWX 90A | 1DD04 | 60.95 | 48.80 | 0.3 |
| 100 | | | FWX 100A | 4XC99 | 51.06 | 40.85 | 0.3 |
| 125 | | | FWX 125A | 6F268 | 51.06 | 40.85 | 0.3 |
| 150 | | | FWX 150A | 4XF00 | 51.06 | 40.85 | 0.3 |
| 175 | | | FWX 175A | 6F269 | 60.95 | 48.80 | 0.3 |
| 200 | | | FWX 200A | 4XF01 | 51.06 | 40.85 | 0.3 |
| 225 | 3.84 | 1.5 | FWX 225A | 1DL19 | 75.01 | 60.05 | 0.6 |
| 250 | | | FWX 250A | 4XF02 | 62.85 | 50.30 | 0.5 |
| 275 | | | FWX 275A | 1DL20 | 75.01 | 60.05 | 0.6 |
| 300 | | | FWX 300A | 4XF03 | 68.37 | 54.70 | 0.5 |
| 350 | | | FWX 350A | 4XF04 | 75.01 | 60.05 | 0.5 |
| 400 | | | FWX 400A | 4XF05 | 68.37 | 54.70 | 0.5 |
| 450 | | | FWX 450A | 1DL21 | 75.01 | 60.05 | 0.6 |
| 500 | | | FWX 500A | 4XF06 | 75.01 | 60.05 | 0.5 |
| 600 | | | FWX 600A | 4XF07 | 68.37 | 54.70 | 0.5 |
| 700 | 3.84 | 2.0 | FWX 700A | 1DR47 | 78.24 | 62.60 | 1.0 |
| 800 | | | FWX 800A | 6F270 | 78.24 | 62.60 | 0.9 |

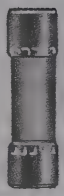
COOPER Bussmann

(0-800A)

E56412
(0-100A)



Blade Type



Ferrule Type

## FWH SERIES—Protect Diodes, Thyristors, Triacs, and Other Solid State Components and Devices

- 0-30 amp ferrule type; 35-1600 amp blade type
- 200K amp interrupting rating
- Rated 500VAC and VDC
- Extremely fast-acting fuses
- Primarily for short circuit protection; also provide a degree of overload protection against currents of approximately twice the fuse ampere rating—see melting time current curves for proper selection
- Functionally equal to Gould A50P and Littelfuse L50S

### 500 VOLT MODELS

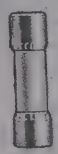
| Fuse Amps | L (In.) | Dia. (In.) | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 | | | FWH 5A14F | 1DM06 | $23.42 | $18.74 | 0.1 |
| 10 | | | FWH 10A14F | 6F382 | 22.59 | 18.07 | 0.1 |
| 12 | | | FWH 12A14F | 1DL14 | 22.59 | 18.07 | 0.1 |
| 15 | 2 | 0.56 | FWH 15A14F | 6F383 | 22.59 | 18.07 | 0.1 |
| 20 | | | FWH 20A14F | 6F384 | 22.59 | 18.07 | 0.1 |
| 25 | | | FWH 25A14F | 6F385 | 22.59 | 18.07 | 0.1 |
| 30 | | | FWH 30A14F | 6F386 | 22.59 | 18.07 | 0.1 |
| 35 | | | FWH 35B | 6F387 | 30.53 | 24.43 | 0.1 |
| 40 | | | FWH 40B | 6F388 | 30.53 | 24.43 | 0.1 |
| 45 | 3.18 | 0.81 | FWH 45B | 1BZ91 | 30.53 | 24.43 | 0.1 |
| 50 | | | FWH 50B | 6F389 | 30.53 | 24.43 | 0.1 |
| 60 | | | FWH 60B | 6F390 | 30.53 | 24.43 | 0.1 |
| 70 | | | FWH 70B | 6F391 | 37.22 | 29.80 | 0.2 |
| 80 | 3.64 | 0.95 | FWH 80B | 6F392 | 37.22 | 29.80 | 0.2 |
| 90 | | | FWH 90B | 6F393 | 37.22 | 29.80 | 0.2 |
| 100 | | | FWH 100B | 6F394 | 37.22 | 29.80 | 0.2 |
| 125 | | | FWH 125B | 6F395 | 56.88 | 45.55 | 0.3 |
| 150 | 3.64 | 1.15 | FWH 150B | 6F396 | 56.88 | 45.55 | 0.3 |
| 175 | | | FWH 175B | 6F397 | 56.88 | 45.55 | 0.3 |
| 200 | 3.64 | 1.15 | FWH 200B | 6F398 | $56.88 | $45.55 | 0.3 |
| 225 | | | FWH 225A | 6F399 | 77.74 | 62.20 | 0.6 |
| 250 | | | FWH 250A | 6F400 | 77.74 | 62.20 | 0.6 |
| 275 | | | FWH 275A | 1DL17 | 77.74 | 62.20 | 0.6 |
| 300 | 4.34 | 1.5 | FWH 300A | 6F401 | 77.74 | 62.20 | 0.6 |
| 325 | | | FWH 325A | 1EM09 | 77.74 | 62.20 | 0.6 |
| 350 | | | FWH 350A | 6F403 | 77.74 | 62.20 | 0.6 |
| 400 | | | FWH 400A | 6F404 | 77.74 | 62.20 | 0.6 |
| 450 | | | FWH 450A | 6F405 | 107.17 | 85.75 | 1.0 |
| 500 | 4.34 | 2 | FWH 500A | 6F406 | 107.17 | 85.75 | 1.0 |
| 600 | | | FWH 600A | 6F407 | 107.17 | 85.75 | 1.0 |
| 700 | 6.34 | 2.5 | FWH 700A | 6F408 | 192.79 | 154.25 | 2.1 |
| 800 | | | FWH 800A | 6F409 | 192.79 | 154.25 | 2.1 |
| 900 | | | FWH 900 | 1EV43 | 455.25 | 364.25 | 4.9 |
| 1000 | 6.97 | 3 | FWH 1000A | 1EX39 | 369.83 | 296.00 | 3.3 |
| 1200 | | | FWH 1200A | 1EX40 | 369.83 | 296.00 | 3.3 |
| 1400 | 10.2 | 4.25 | FWH 1400A | 1EH60 | 1076.42 | 861.50 | 3.3 |
| 1600 | | | FWH 1600A | 1EH61 | 1076.42 | 861.50 | 3.3 |

COOPER Bussmann

E56412
(0-1000A)



Blade Type



Ferrule Type

## FWP SERIES—Protect Diodes, Thyristors, Triacs, and Other Solid State Components and Devices

- 0–32 amp ferrule type; 35–1200 amp blade type
- 200K amp interrupting rating
- Rated 700VAC and VDC
- Extremely fast-acting fuses
- Primarily for short circuit protection; also provide a degree of overload protection against currents of approximately twice the fuse ampere rating—see melting time current curves for proper selection
- Functionally equal to Gould A70P and Littelfuse L70S

### 700 VOLT MODELS

| Fuse Amps | L (In.) | Dia. (In.) | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 | | | FWP 5A14F | 1EJ04 | $24.02 | $19.22 | 0.1 |
| 10 | | | FWP 10A14F | 6F410 | 19.42 | 15.54 | 0.1 |
| 15 | | | FWP 15A14F | 6F411 | 19.42 | 15.54 | 0.1 |
| 20 | 2 | 0.56 | FWP 20A14F | 6F413 | 19.42 | 15.54 | 0.1 |
| 25 | | | FWP 25A14F | 6F415 | 19.42 | 15.54 | 0.1 |
| 30 | | | FWP 30A14F | 6F417 | 19.42 | 15.54 | 0.1 |
| 32 | | | FWP 32A14F | 1EH96 | 25.17 | 20.14 | 0.1 |
| 35 | | | FWP 35B | 1EH98 | 46.10 | 36.90 | 0.1 |
| 40 | | | FWP 40B | 6F419 | 46.10 | 36.90 | 1.4 |
| 45 | 4.38 | 0.81 | FWP 45 | 1FJ30 | 51.72 | 41.40 | 0.1 |
| 50 | | | FWP 50B | 6F420 | 46.10 | 36.90 | 0.2 |
| 60 | | | FWP 60B | 6F421 | 46.10 | 36.90 | 0.1 |
| 70 | | | FWP 70B | 6F422 | 59.36 | 47.50 | 0.2 |
| 80 | 4.4 | 0.95 | FWP 80B | 6F423 | 59.36 | 47.50 | 0.2 |
| 90 | | | FWP 90B | 6F424 | 59.36 | 47.50 | 0.2 |
| 100 | | | FWP 100B | 6F425 | 59.36 | 47.50 | 0.2 |
| 125 | 5.09 | 1.15 | FWP 125B | 6F426 | 79.27 | 63.45 | 0.7 |
| 150 | | | FWP 150B | 6F427 | 79.27 | 63.45 | 0.7 |
| 175 | 5.09 | 1.5 | FWP 175A | 6F428 | $79.27 | $63.45 | 0.6 |
| 200 | | | FWP 200A | 6F429 | 79.27 | 63.45 | 0.6 |
| 225 | | | FWP 225A | 6F430 | 129.58 | 103.70 | 1.2 |
| 250 | | | FWP 250A | 6F431 | 129.58 | 103.70 | 1.2 |
| 300 | 5.09 | 2 | FWP 300A | 6F432 | 129.33 | 103.50 | 1.2 |
| 350 | | | FWP 350A | 6F433 | 129.33 | 103.50 | 1.2 |
| 400 | | | FWP 400A | 6F434 | 129.33 | 103.50 | 1.2 |
| 450 | | | FWP 450A | 1DX47 | 247.24 | 198.00 | 2.4 |
| 500 | 7.09 | 2.5 | FWP 500A | 6F435 | 247.24 | 198.00 | 2.4 |
| 600 | | | FWP 600A | 6F436 | 247.99 | 198.50 | 2.4 |
| 700 | 6.6 | 2 | FWP 700A | 1EJ06 | 307.23 | 246.00 | 1.3 |
| 900 | 7.6 | 3.5 | FWP 900A | 1FF62 | 464.45 | 371.75 | 1.3 |
| 1000 | | | FWP 1000A | 1EH90 | 418.25 | 334.75 | 1.3 |
| 1100 | 10.8 | 4.25 | FWP 1100A | 1EH92 | 820.50 | 656.50 | 1.4 |
| 1200 | | | FWP 1200A | 1EH93 | 747.91 | 598.50 | 1.4 |

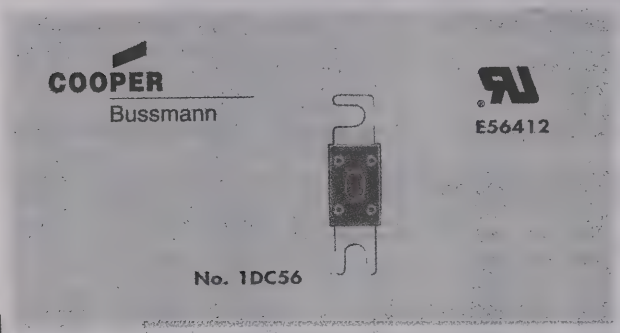
FOR SEMICONDUCTOR FUSES CROSS-REFERENCE, SEE PAGE 436

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# NON-TIME DELAY LOW VOLTAGE LIMITER FUSES AND VERY FAST ACTING FUSES

## NON-TIME DELAY LOW VOLTAGE LIMITER FUSES

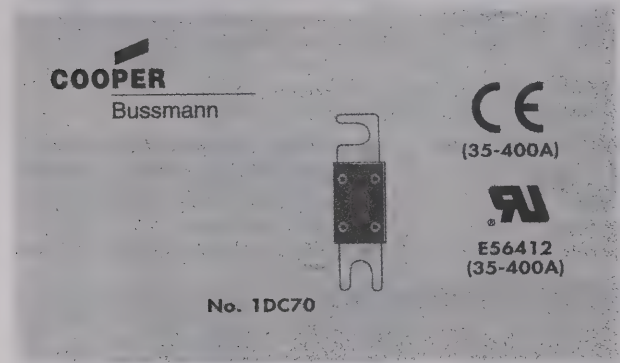



- 6000 amp interrupting rating
- Rated 32VAC/DC
- Silver plated copper link visible through mica window
- Isolate faults in equipment systems
- 3⁹⁄₁₆" long x 7/8" wide

**ANL Series—For use in lift trucks and other battery operated systems**

| Fuse Amp | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 35 | ANL-35 | 1DC62 | $27.46 | $21.97 | 0.1 |
| 40 | ANL-40 | 1DC64 | 27.46 | 21.97 | 0.1 |
| 50 | ANL-50 | 1DC66 | 27.46 | 21.97 | 0.1 |
| 60 | ANL-60 | 1DC68 | 27.46 | 21.97 | 0.1 |
| 80 | ANL-80 | 1DC69 | 23.67 | 18.94 | 0.1 |
| 100 | ANL-100 | 1DC51 | 22.09 | 17.67 | 0.1 |
| 125 | ANL-125 | 1DC52 | 28.66 | 22.93 | 0.1 |
| 130 | ANL-130 | 1DC53 | 27.46 | 21.97 | 0.1 |
| 150 | ANL-150 | 1DC54 | 22.09 | 17.67 | 0.1 |
| 175 | ANL-175 | 1DC55 | 27.46 | 21.97 | 0.1 |
| 200 | ANL-200 | 1DC56 | 19.20 | 15.36 | 0.1 |
| 225 | ANL-225 | 1DC57 | 27.46 | 21.97 | 0.1 |
| 250 | ANL-250 | 1DC58 | 23.67 | 18.94 | 0.1 |
| 275 | ANL-275 | 1DC59 | 23.67 | 18.94 | 0.1 |
| 300 | ANL-300 | 1DC60 | 28.66 | 22.93 | 0.1 |
| 325 | ANL-325 | 1DC61 | 23.67 | 18.94 | 0.1 |
| 350 | ANL-350 | 1DC63 | 28.66 | 22.93 | 0.1 |
| 400 | ANL-400 | 1DC65 | 27.46 | 21.97 | 0.1 |
| 500 | ANL-500 | 1DC67 | 23.67 | 18.94 | 0.1 |

## VERY FAST ACTING FUSES




- 2500 amp interrupting rating
- Rated 125VAC
- Open link element, visible through mica window
- High speed response to short circuit currents
- 3⁹⁄₁₆" long x 7/8" wide

**ANN Series**

| Fuse Amp | Bussmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 10 | ANN-10 | 1DC70 | $28.66 | $22.93 | 0.1 |
| 35 | ANN-35 | 1DC81 | 28.66 | 22.93 | 0.1 |
| 40 | ANN-40 | 1DC83 | 28.66 | 22.93 | 0.1 |
| 50 | ANN-50 | 1DC85 | 24.71 | 19.77 | 0.1 |
| 60 | ANN-60 | 1DC87 | 27.46 | 21.97 | 0.1 |
| 80 | ANN-80 | 1DC90 | 23.67 | 18.94 | 0.1 |
| 90 | ANN-90 | 1DC92 | 28.66 | 22.93 | 0.1 |
| 100 | ANN-100 | 1DC71 | 22.09 | 17.67 | 0.1 |
| 125 | ANN-125 | 1DC72 | 23.67 | 18.94 | 0.1 |
| 150 | ANN-150 | 1DC73 | 22.09 | 17.67 | 0.1 |
| 175 | ANN-175 | 1DC74 | 24.71 | 19.77 | 0.1 |
| 200 | ANN-200 | 1DC75 | 15.79 | 12.63 | 0.1 |
| 225 | ANN-225 | 1DC76 | 27.46 | 21.97 | 0.1 |
| 250 | ANN-250 | 1DC77 | 23.67 | 18.94 | 0.1 |
| 275 | ANN-275 | 1DC78 | 28.66 | 22.93 | 0.1 |
| 300 | ANN-300 | 1DC79 | 23.67 | 18.94 | 0.1 |
| 325 | ANN-325 | 1DC80 | 40.54 | 32.45 | 0.1 |
| 350 | ANN-350 | 1DC82 | 42.33 | 33.90 | 0.1 |
| 400 | ANN-400 | 1DC84 | 34.93 | 27.95 | 0.1 |
| 500 | ANN-500 | 1DC86 | 34.93 | 27.95 | 0.1 |
| 600 | ANN-600 | 1DC88 | 40.54 | 32.45 | 0.1 |
| 700 | ANN-700 | 1DC89 | 42.33 | 33.90 | 0.1 |
| 800 | ANN-800 | 1DC91 | 40.54 | 32.45 | 0.1 |

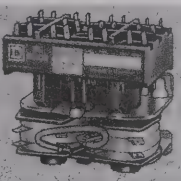
## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# REVERSING HOIST CONTACTORS AND INDUSTRIAL CONTROL TERMINOLOGY

SQUARE D
GROUPE SCHNEIDER

E78351 LR60905 No. 2CG17



## REVERSING HOIST CONTACTORS

- Quick connect power terminals
- 600VAC maximum
- Meet small space requirements
- Used in electrical hoists, light duty cranes, door operators

### THREE-PHASE — 600VAC MAXIMUM

| No. of Poles | Horsepower Ratings 115V 1Ø | 230V 1Ø | 230V 3Ø | 460/575V 3Ø | Coil Voltage | Square D Model 8965... | Stock No | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3 Pole** | 1 | 1.5 | 3 | 3 | 24VAC<br>120VAC | R010V01<br>R010V02 | **2CG15**<br>**2CG17** | $461.16<br>461.16 | **$456.75**<br>**456.75** | 1.8<br>1.7 |

## NEMA ENCLOSURE DEFINITIONS

**Open**—Motor starter comes with no enclosure. Typically used in separate multi-motor panel.

NON-HAZARDOUS LOCATIONS

**Type 1**—Enclosures are intended for indoor use. Primarily used to provide a degree of protection against limited amounts of falling dirt.

**Type 4**—Enclosures are intended for indoor and outdoor use. Primarily used to provide a degree of protection against windblown dust and rain, splashing water, hose-directed water, and damage from external ice formation.

**Type 4X**—Enclosures are intended for indoor and outdoor use. Primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, hose directed water, and damage from external ice formation.

**Type 12**—Enclosures are intended for indoor use. Primarily used to provide a degree of protection against circulating dust, falling dirt, and dripping non-corrosive liquids.

HAZARDOUS (CLASSIFIED) LOCATIONS—See NEC Explosive Atmosphere Classifications Below

**Type 7**—Enclosures intended for indoor use in locations classified as Class I, Groups A, B, C, or D as defined by National Electric Code.

**Type 9**—Enclosures intended for indoor use in locations classified as Class II, Groups E, F, or G as defined by the National Electric Code.

## NATIONAL ELECTRICAL CODE EXPLOSIVE ATMOSPHERE CLASSIFICATIONS

Certain locations are hazardous because the atmosphere does or may contain gas, vapor or dust in explosive quantities. The National Electrical Code (NEC) divides these locations into Classes and Groups according to the type of explosive agent which may be present. Listed are some of the agents in each classification. For complete list, see NFPA (National Fire Protection Association) publication 497M.

Underwriters' Laboratories tests motors and other devices for safety in explosive atmospheres, and publishes a list of those meeting its standards for each Class and Group.

Use of UL Listed devices does not necessarily make an installation conform to the NEC or local codes. Consult Chapter 5 of the NEC, local building codes, OSHA requirements and insurance inspectors for detailed data as to proper procedures. This Catalog does not contain any motors designed for Class I, Groups A, B, and C atmospheres.

### CLASS I

**Group A:** Acetylene.

**Group B:** Butadiene, ethylene oxide, hydrogen, propylene oxide, manufactured gases containing more than 30% hydrogen by volume.

**Group C:** Acetaldehyde, cyclopropane, diethyl ether, ethylene.

**Group D:** Acetone, acrylonitrile, ammonia, benzene, butane, ethanol, ethylene dichloride, gasoline, hexane, isoprene, methane (natural gas), methanol, naphtha, propane, propylene, styrene, toluene, vinyl acetate, vinyl chloride, xylene.

### CLASS II

**Group E:** Aluminum, magnesium and other metal dusts with similar characteristics.

**Group F:** Carbon black, coke or coal dust.

**Group G:** Flour, starch or grain dust.

### CLASS III

Easily ignitable fibers, such as rayon, cotton, sisal, hemp, cocoa fiber, oakum, excelsior and other materials of similar nature.

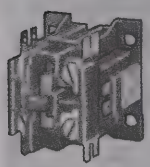
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

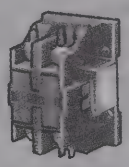
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# DEFINITE PURPOSE CONTACTORS

SQUARE D
GROUPE SCHNEIDER

LR25490 E42240


No. 5B133


No. 5B131


No. 5B120


No. 5B124

- Applications include heating, air conditioning, refrigeration, data processing, and food service equipment
- Double break contacts
- Compact design
- Quick connect terminals and binder head screws for easy straight-through wiring
- Accessories on page 443
- Box lugs standard on 40 amp and larger models
- Auxiliary contact modules snap on either side of standard models
- Industry standard mounting

## COMPACT, 1-POLE—300 VOLT MAXIMUM

| Full Load Amps | No. of Poles | Coil Voltage 50 Hz | Coil Voltage 60 Hz | Contact Ratings: Locked Rotor Amps 277V | Contact Ratings: HP 110V 1Ø | Contact Ratings: HP 230V 1Ø | Dimensions (in.) L | W | D | Square D Model 8910... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 1 | 24V 110 | 24V 120 | 100 | 1 | 2 | 2.44 | 2.17 | 2.48 | DP11V14 | **5B133** | $31.70 | **$15.05** | 0.5 |
| | | | | | | | | | | DP11V02 | **5B134** | 31.70 | **15.05** | 0.5 |
| 25 | 1 | 24 110 | 24 120 | 125 | 2 | 3 | 2.44 | 2.17 | 2.48 | DP21V14 | **1V594** | 36.90 | **22.44** | 0.5 |
| | | | | | | | | | | DP21V02 | **5B130** | 36.90 | **17.49** | 0.5 |
| 30 | 1 | 24 110 | 24 120 | 150 | 2 | 3 | 2.44 | 2.17 | 2.48 | DP31V14 | **1V598** | 44.30 | **26.95** | 0.5 |
| | | | | | | | | | | DP31V02 | **1V596** | 44.30 | **26.95** | 0.5 |

## COMPACT, 2-POLE—600 VAC MAXIMUM

| Full Load Amps | No. of Poles | Coil Voltage 50 Hz | Coil Voltage 60 Hz | Contact Ratings: Locked Rotor Amps 277V | 460V | 575V | Contact Ratings: HP 115V 1Ø | 230V 1Ø | Dimensions (in.) L | W | D | Square D Model 8910... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 2 | 24V 110 220 | 24V 120 208-240 | 100 | 100 | 80 | 1 | 2 | 3.23 | 2.17 | 2.44 | DP12V14Y240 | **5B131** | $36.90 | **$17.52** | 0.6 |
| | | | | | | | | | | | | DP12V02Y240 | **5B132** | 36.90 | **17.52** | 0.6 |
| | | | | | | | | | | | | DP12V09 | **2CF80** | 36.90 | **22.44** | 1.0 |
| 25 | 2 | 24 110 220 | 24 120 208-240 | 125 | 125 | 100 | 2 | 3 | 3.23 | 2.17 | 2.44 | DP22V14Y240 | **5B127** | 48.50 | **24.60** | 0.6 |
| | | | | | | | | | | | | DP22V02Y240 | **5B129** | 48.50 | **24.60** | 0.6 |
| | | | | | | | | | | | | DP22V09Y240 | **5B128** | 48.50 | **24.60** | 0.6 |
| 30 | 2 | 24 110 220 | 24 120 208-240 | 150 | 150 | 120 | 2 | 5 | 3.23 | 2.17 | 2.44 | DP32V14Y240 | **5B124** | 53.00 | **26.90** | 0.6 |
| | | | | | | | | | | | | DP32V02Y240 | **5B126** | 53.00 | **26.90** | 0.6 |
| | | | | | | | | | | | | DP32V09Y240 | **5B125** | 53.00 | **26.90** | 0.6 |
| 40 | 2 | 24 110 220 | 24 120 208-240 | 200 | 160 | 130 | 3 | 7.5 | 3.20 | 2.17 | 2.44 | DP42V14 | **4DD09** | 63.00 | **39.90** | 0.6 |
| | | | | | | | | | | | | DP42V02 | **4DD05** | 63.00 | **39.90** | 0.6 |
| | | | | | | | | | | | | DP42V09 | **4DD08** | 63.00 | **39.90** | 0.6 |

## STANDARD, 2, 3 AND 4 POLE—600 VAC MAXIMUM

| Full Load Amps | No. of Poles | Coil Voltage 50 Hz | Coil Voltage 60 Hz | Contact Ratings: Locked Rotor Amps 230V | 460V | 575V | HP 115V 1Ø | 230V 1Ø | 230V 3Ø | 460/575V 3Ø | Dimensions (in.) L | W | D | Square D Model 8910... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 2 | 24V | 24V | 120 | 100 | 80 | 1 | 2 | 5 | 7½ | 4.00 | 2.50 | 3.00 | DPA12V14 | **4DD26** | $51.00 | **$31.05** | 1.0 |
| | 2 | 110 | 120 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA12V02 | **2CF88** | 51.00 | **31.05** | 0.8 |
| | 2 | 220 | 208-240 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA12V09 | **4DD25** | 51.00 | **31.05** | 6.0 |
| | 3 | 24 | 24 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA13V14 | **2CF91** | 59.00 | **35.90** | 1.0 |
| | 3 | 110 | 120 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA13V02 | **2CF89** | 59.00 | **35.90** | 1.2 |
| | 3 | 220 | 208-240 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA13V09 | **2CF90** | 59.00 | **35.90** | 1.0 |
| | 4 | 24 | 24 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA14V14 | **4DD32** | 73.00 | **44.40** | 1.2 |
| | 4 | 110 | 120 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA14V02 | **2CF92** | 73.00 | **44.40** | 1.2 |
| | 4 | 220 | 208-240 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA14V09 | **4DD31** | 73.00 | **44.40** | 1.2 |
| 25 | 2 | 24 | 24 | 150 | 125 | 100 | 2 | 3 | 7½ | 10 | 4.00 | 2.50 | 3.00 | DPA22V14 | **1V602** | 56.00 | **34.05** | 1.2 |
| | 2 | 110 | 120 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA22V02 | **2CF93** | 56.00 | **34.05** | 1.0 |
| | 2 | 220 | 208-240 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA22V09 | **1V600** | 56.00 | **34.05** | 1.2 |
| | 3 | 24 | 24 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA23V14 | **5B120** | 65.00 | **32.95** | 1.3 |
| | 3 | 110 | 120 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA23V02 | **5B122** | 65.00 | **32.95** | 1.2 |
| | 3 | 220 | 208-240 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA23V09 | **5B121** | 65.00 | **32.95** | 1.3 |
| | 4 | 24 | 24 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA24V14 | **1V606** | 83.00 | **42.10** | 1.5 |
| | 4 | 110 | 120 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA24V02 | **5B119** | 83.00 | **42.10** | 1.5 |
| | 4 | 220 | 208-240 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA24V09 | **1V604** | 83.00 | **42.10** | 1.5 |
| 30 | 2 | 24 | 24 | 180 | 150 | 120 | 2 | 5 | 10 | 15 | 4.00 | 2.50 | 3.00 | DPA32V14 | **1V610** | 69.00 | **25.70** | 1.5 |
| | 2 | 110 | 120 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA32V02 | **2CF94** | 69.00 | **25.70** | 1.0 |
| | 2 | 220 | 208-240 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA32V09 | **1V608** | 69.00 | **25.70** | 1.5 |
| | 3 | 24 | 24 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA33V14 | **5B116** | 72.00 | **26.80** | 1.2 |
| | 3 | 110 | 120 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA33V02 | **5B118** | 72.00 | **26.80** | 1.2 |



Relay it, suppress it, enclose it — The leading brands are all right here.

# DEFINITE PURPOSE CONTACTORS, REPLACEMENT COILS, AND AUXILIARY CONTACTS

## STANDARD, 2, 3 AND 4 POLE—600 VAC MAXIMUM (Continued)

| Full Load Amps | No. of Poles | Coil Voltage 50 Hz | Coil Voltage 60 Hz | Contact Ratings: Locked Rotor Amps 230V | Locked Rotor Amps 460V | Locked Rotor Amps 575V | HP 115V 1ϕ | HP 230V 1ϕ | HP 230V 3ϕ | HP 460/575V 3ϕ | Dimensions (In.) L | W | D | Square D Model 8910... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 3 | 220 | 208-240 | 180 | 150 | 120 | 2 | 5 | 10 | 15 | 4.00 | 2.50 | 3.00 | DPA33V09 | **5B117** | $72.00 | **$26.80** | 1.3 |
| | 4 | 24 | 24 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA34V14 | **5B113** | 96.00 | **33.50** | 1.5 |
| | 4 | 110 | 120 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA34V02 | **5B115** | 96.00 | **33.50** | 1.5 |
| | 4 | 220 | 208-240 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA34V09 | **5B114** | 96.00 | **33.50** | 1.5 |
| 40 | 2 | 24 | 24 | 240 | 200 | 160 | 3 | 7½ | 10 | 20 | 4.00 | 2.50 | 3.00 | DPA42V14 | **5B110** | 76.00 | **26.50** | 1.4 |
| | 2 | 110 | 120 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA42V02 | **5B112** | 76.00 | **26.50** | 1.3 |
| | 2 | 220 | 208-240 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA42V09 | **5B111** | 76.00 | **26.50** | 1.3 |
| | 3 | 24 | 24 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA43V14 | **5B107** | 85.00 | **29.30** | 1.4 |
| | 3 | 110 | 120 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA43V02 | **5B109** | 85.00 | **29.30** | 1.4 |
| | 3 | 220 | 208-240 | | | | | | | | 4.00 | 2.50 | 3.00 | DPA43V09 | **5B108** | 85.00 | **29.30** | 1.4 |
| | 4 | 24 | 24 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA44V14 | **1V614** | 110.00 | **37.90** | 1.6 |
| | 4 | 110 | 120 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA44V02 | **5B106** | 110.00 | **37.90** | 1.6 |
| | 4 | 220 | 208-240 | | | | | | | | 4.00 | 3.17 | 3.11 | DPA44V09 | **1V612** | 110.00 | **37.90** | 1.6 |
| 50 | 2 | 24 | 24 | 300 | 250 | 200 | 3 | 10 | 15 | 30 | 4.06 | 2.56 | 3.67 | DPA52V14 | **5B103** | 158.00 | **100.05** | 1.6 |
| | 2 | 110 | 120 | | | | | | | | | | | DPA52V02 | **5B105** | 158.00 | **100.05** | 1.6 |
| | 2 | 220 | 208-240 | | | | | | | | | | | DPA52V09 | **5B104** | 158.00 | **100.05** | 1.6 |
| | 3 | 24 | 24 | | | | | | | | | | | DPA53V14 | **5B100** | 168.00 | **106.35** | 2.5 |
| | 3 | 110 | 120 | | | | | | | | | | | DPA53V02 | **5B102** | 168.00 | **106.35** | 1.8 |
| | 3 | 220 | 208-240 | | | | | | | | | | | DPA53V09 | **5B101** | 168.00 | **106.35** | 1.6 |
| 60 | 2 | 24 | 24 | 360 | 300 | 240 | 5 | 10 | 25 | 30 | 4.06 | 2.56 | 3.67 | DPA62V14 | **1V616** | 179.00 | **113.35** | 1.6 |
| | 2 | 110 | 120 | | | | | | | | | | | DPA62V02 | **5B099** | 179.00 | **113.35** | 1.6 |
| | 2 | 220 | 208-240 | | | | | | | | | | | DPA62V09 | **5B098** | 179.00 | **113.35** | 1.6 |
| | 3 | 24 | 24 | | | | | | | | | | | DPA63V14 | **5B096** | 186.00 | **117.75** | 1.8 |
| | 3 | 110 | 120 | | | | | | | | | | | DPA63V02 | **5B097** | 186.00 | **117.75** | 1.8 |
| | 3 | 220 | 208-240 | | | | | | | | | | | DPA63V09 | **2CF96** | 186.00 | **117.75** | 1.8 |
| 75 | 2 | 24 | 24 | 450 | 375 | 300 | 5 | 15 | 25 | 40 | 5.20 | 3.39 | 4.37 | DPA72V14 | **4DD60** | 214.00 | **135.50** | 3.9 |
| | 2 | 110 | 120 | | | | | | | | | | | DPA72V02 | **5B095** | 214.00 | **135.50** | 3.6 |
| | 2 | 220 | 208-240 | | | | | | | | | | | DPA72V09 | **2CR99** | 214.00 | **135.50** | 3.6 |
| | 3 | 24 | 24 | | | | | | | | | | | DPA73V14 | **4DD63** | 239.00 | **151.50** | 3.9 |
| | 3 | 110 | 120 | | | | | | | | | | | DPA73V02 | **2CF97** | 239.00 | **151.50** | 3.9 |
| | 3 | 220 | 208-240 | | | | | | | | | | | DPA73V09 | **2CF98** | 239.00 | **151.50** | 3.9 |
| 90 | 2 | 24 | 24 | 540 | 450 | 360 | 7½ | 20 | 30 | 50 | 5.20 | 3.39 | 4.37 | DPA92V14 | **4DD66** | 276.00 | **174.75** | 3.9 |
| | 2 | 110 | 120 | | | | | | | | | | | DPA92V02 | **5B094** | 276.00 | **174.75** | 3.6 |
| | 2 | 220 | 208-240 | | | | | | | | | | | DPA92V09 | **2CT01** | 276.00 | **174.75** | 3.6 |
| | 3 | 24 | 24 | | | | | | | | | | | DPA93V14 | **4DD69** | 300.00 | **190.00** | 3.9 |
| | 3 | 110 | 120 | | | | | | | | | | | DPA93V02 | **2CF99** | 300.00 | **190.00** | 3.9 |
| | 3 | 220 | 208-240 | | | | | | | | | | | DPA93V09 | **2CG01** | 300.00 | **190.00** | 4.0 |
| 120 | 2 | — | 24 | 720 | 600 | 480 | 10 | 25 | 40 | 75 | 7.17 | 5.38 | 6.50 | DPA122V01 | **4DD10*** | 340.00 | **215.25** | 13.0 |
| | 2 | 110 | 120 | | | | | | | | | | | DPA122V02 | **4DD11*** | 340.00 | **215.25** | 13.0 |
| | 2 | 220 | 230-240 | | | | | | | | | | | DPA122V03 | **4DD12*** | 340.00 | **215.25** | 13.0 |
| | 3 | — | 24 | | | | | | | | | | | DPA123V01 | **4DD17*** | 369.00 | **233.75** | 13.0 |
| | 3 | 110 | 120 | | | | | | | | | | | DPA123V02 | **5B123*** | 369.00 | **233.75** | 13.0 |
| | 3 | 220 | 230-240 | | | | | | | | | | | DPA123V03 | **4DD18*** | 369.00 | **233.75** | 13.0 |

(*) For auxiliary contacts use 1H591, 1H592, and 1H593 on page 463.

## REPLACEMENT COILS FOR STANDARD (DPA) DEFINITE PURPOSE CONTACTORS AND STARTERS

### REPLACEMENT COILS

| Full Load Amps | No. of Poles | Voltage | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 20-40 | 2 & 3 | 24V | 9998DA1V14 | **4B975** | $32.70 | **$20.70** | 0.1 |
| | | 208/240 | 9998DA1V09 | **4B976** | 32.70 | **20.70** | 0.1 |
| | | 120 | 9998DA1V02 | **4B977** | 32.70 | **20.70** | 0.1 |
| 50-60 | 2 & 3 | 24V | 9998DA2V14 | **2CG33** | 44.30 | **28.05** | 0.2 |
| | | 208/240 | 9998DA2V09 | **2CG32** | 44.30 | **28.05** | 0.2 |
| | | 120 | 9998DA2V02 | **2CG29** | 44.30 | **28.05** | 0.2 |
| 75-90 | 2 & 3 | 120 | 9998DA3V02 | **4B974** | 55.00 | **34.85** | 0.4 |

### NEMA TYPE 1 ENCLOSURE (2-3 POLE)

Square D brand (9991DPG1). For use with standard and compact models up to 40 amps, 3-pole. Dimensions 8.75"H x 5.0"W x 3.75"D.

**No. 4B978.** Shpg. wt. 2.5 lbs. List $36.22. Each.....**$35.90**

## AUXILIARY CONTACTS FOR DEFINITE PURPOSE STARTERS AND STANDARD (DPA) CONTACTORS THRU 90 AMPS

### AUXILIARY CONTACTS

| Contact Configuration | Square D Model 9999... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1 NO** | D10 | **4B972** | $15.80 | **$10.00** | 0.1 |
| **1 NC** | D01 | **4B973** | 15.80 | **10.00** | 0.1 |
| **1 NO - 1 NC** | D11 | **2CG37** | 28.50 | **18.04** | 0.1 |

### ISOLATED OVERLOAD RELAY ALARM CONTACT

| | | | | | |
|---|---|---|---|---|---|
| **1 NC - 1 NO** | S04 | **3KK15** | 53.09 | **52.60** | 0.1 |

### DEFINITE PURPOSE MOTOR STARTER ACCESSORIES

| Description | Square D Model 8911... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Start-Stop Pushbutton Kit†** | DPB1 | **3KL81** | $61.41 | **$58.80** | 0.7 |
| **Hand-Off-Auto Selector Switch Kit** | DSS1 | **3KL82** | 61.41 | **58.80** | 0.7 |

(†) Requires 1 normally open auxiliary contact

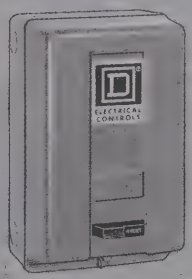


Replacement Parts Available
1-800-323-0620

# DEFINITE PURPOSE MOTOR STARTERS



No. 5B091



No. 4DD89

E42240

LR25490

SQUARE D
GROUPE SCHNEIDER

- Applications include air compressors, agricultural equipment, pumps, and HVAC equipment
- Melting alloy overload block
- Trip-free reset mechanism
- 500,000 mechanical operations
- Three-phase models require three thermal units, single phase models require one thermal unit; order on page 445

Replacement Parts Available 1-800-323-0620

## DEFINITE PURPOSE MOTOR STARTER ORDERING DATA THREE PHASE—600VAC MAX.

| Full Load Amps | No. of poles | Locked Rotor Amps 230V | 460V | 575V | Horse Power Rating 115V 1Ø | 230V 1Ø | 230V 3Ø | 460/575 3Ø | Coil Voltage@ 50Hz. | 60Hz. | Dimensions (In.) W | H | D | Square D Model 8911... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN** | | | | | | | | | | | | | | | | | | |
| **20** | 3 | 120 | 100 | 80 | 1 | 2 | 5 | 7½ | 110V<br>220<br>440 | 120V<br>208/240<br>480 | 3.5<br>3.5<br>3.5 | 6.2<br>6.2<br>6.2 | 4.0<br>4.0<br>4.0 | DPSO13V02<br>DPSO13V09<br>DPSO13V06 | **2CG07**<br>**4DF30**<br>**4DF29** | $137.41<br>137.41<br>137.41 | **$125.55**<br>**125.55**<br>**125.55** | 2.5<br>2.5<br>2.5 |
| **25** | 3 | 150 | 125 | 100 | 2 | 3 | 7½ | 10 | 110V<br>220<br>440 | 120V<br>208/240<br>480 | 3.5<br>3.5<br>3.5 | 6.2<br>6.2<br>6.2 | 4.0<br>4.0<br>4.0 | DPSO23V02<br>DPSO23V09<br>DPSO23V06 | **5B093**<br>**5A016**<br>**4DF36** | 147.82<br>147.82<br>147.82 | **146.45**<br>**146.45**<br>**146.45** | 2.5<br>2.5<br>2.5 |
| **30** | 3 | 180 | 150 | 120 | 2 | 5 | 10 | 15 | 110<br>220<br>440 | 120<br>208/240<br>480 | 3.5<br>3.5<br>3.5 | 6.2<br>6.2<br>6.2 | 4.0<br>4.0<br>4.0 | DPSO33V02<br>DPSO33V09<br>DPSO33V06 | **5B092**<br>**5B091**<br>**4DF42** | 167.60<br>167.60<br>167.60 | **166.00**<br>**166.00**<br>**166.00** | 2.6<br>2.5<br>2.6 |
| **40** | 3 | 240 | 200 | 160 | 3 | 7½ | 10 | 20 | 110<br>220<br>440 | 120<br>208/240<br>480 | 3.5<br>3.5<br>3.5 | 6.2<br>6.2<br>6.2 | 4.0<br>4.0<br>4.0 | DPSO43V02<br>DPSO43V09<br>DPSO43V06 | **4DF48**<br>**4DF50**<br>**4DF49** | 184.25<br>184.25<br>184.25 | **182.50**<br>**182.50**<br>**182.50** | 2.6<br>2.6<br>2.6 |
| **50** | 3 | 300 | 250 | 200 | 3 | 10 | 15 | 30 | 110<br>220<br>440 | 120<br>208/240<br>480 | 3.5<br>3.5<br>3.5 | 6.2<br>6.2<br>6.2 | 4.0<br>4.0<br>4.0 | DPSO53V02<br>DPSO53V09<br>DPSO43V06 | **2CG08**<br>**4DF57**<br>**4DF56** | 243.59<br>243.59<br>243.59 | **222.75**<br>**222.75**<br>**222.75** | 3.2<br>3.1<br>3.1 |
| **NEMA 1 ENCLOSED SINGLE PHASE AND THREE PHASE** | | | | | | | | | | | | | | | | | | |
| **20** | 2 | 120 | 100 | 80 | 1 | 2 | — | — | 110V<br>220 | 120V<br>208/240 | 6.0<br>6.0 | 10.0<br>10.0 | 5.56<br>5.56 | DPSG12V02<br>DPSG12V09 | **4DD89**<br>**4DD91** | 153.02<br>153.02 | **139.80**<br>**139.80** | 5.9<br>5.9 |
| **20** | 3 | 120 | 100 | 80 | 1 | 2 | 5 | 7½ | 110<br>220<br>440 | 120<br>208/240<br>480 | 6.0<br>6.0<br>6.0 | 10.0<br>10.0<br>10.0 | 5.56<br>5.56<br>5.56 | DPSG13V02<br>DPSG13V09<br>DPSG13V06 | **2CG06**<br>**4DD94**<br>**4DD93** | 164.47<br>164.47<br>164.47 | **150.50**<br>**150.50**<br>**150.50** | 5.9<br>5.9<br>5.9 |
| **25** | 2 | 150 | 125 | 100 | 2 | 3 | — | — | 110<br>220 | 120<br>208/240 | 6.0<br>6.0 | 10.0<br>10.0 | 5.56<br>5.56 | DPSG22V02<br>DPSG22V09 | **4DD96**<br>**4DD98** | 163.43<br>163.43 | **149.35**<br>**149.35** | 5.9<br>5.9 |
| **25** | 3 | 150 | 125 | 100 | 2 | 3 | 7½ | 10 | 110<br>220<br>440 | 120<br>208/240<br>480 | 6.0<br>6.0<br>6.0 | 10.0<br>10.0<br>10.0 | 5.56<br>5.56<br>5.56 | DPSG23V02<br>DPSG23V09<br>DPSG23V06 | **4DF01**<br>**4A345**<br>**4DF02** | 175.92<br>175.92<br>175.92 | **160.75**<br>**160.75**<br>**160.75** | 5.9<br>6.5<br>5.9 |
| **30** | 2 | 180 | 150 | 125 | 2 | 5 | — | — | 110<br>220 | 120<br>208/240 | 6.0<br>6.0 | 10.0<br>10.0 | 5.56<br>5.56 | DPSG32V02<br>DPSG32V09 | **4DF04**<br>**4A698** | 181.13<br>181.13 | **165.50**<br>**165.50** | 8.0<br>2.5 |
| **30** | 3 | 180 | 150 | 125 | 2 | 5 | 10 | 15 | 110<br>220<br>440 | 120<br>208/240<br>480 | 6.0<br>6.0<br>6.0 | 10.0<br>10.0<br>10.0 | 5.56<br>5.56<br>5.56 | DPSG33V02<br>DPSG33V09<br>DPSG33V06 | **4DF07**<br>**5A658**<br>**4DF08** | 195.70<br>188.00<br>195.70 | **179.00**<br>**179.00**<br>**179.00** | 8.0<br>2.5<br>8.0 |
| **40** | 2 | 240 | 200 | 160 | 3 | 7½ | — | — | 110<br>220 | 120<br>208/240 | 6.0<br>6.0 | 10.0<br>10.0 | 5.56<br>5.56 | DPSG42V02<br>DPSG42V09 | **4DF10**<br>**4DF12** | 189.00<br>189.00 | **187.25**<br>**187.25** | 8.0<br>8.0 |
| **40** | 3 | 240 | 200 | 160 | 3 | 7½ | 10 | 20 | 110<br>220<br>440 | 120<br>208/240<br>480 | 6.0<br>6.0<br>6.0 | 10.0<br>10.0<br>10.0 | 5.56<br>5.56<br>5.56 | DPSG43V02<br>DPSG43V09<br>DPSG43V06 | **4DF14**<br>**5A014**<br>**4DF15** | 212.36<br>204.00<br>212.36 | **194.25**<br>**194.25**<br>**194.25** | 8.0<br>2.5<br>8.0 |
| **50** | 3 | 300 | 250 | 200 | 3 | 10 | 15 | 30 | 110<br>220<br>440 | 120<br>208/240<br>480 | 6.0<br>6.0<br>6.0 | 10.0<br>10.0<br>10.0 | 5.56<br>5.56<br>5.56 | DPSG53V02<br>DPSG53V09<br>DPSG53V06 | **4DF21**<br>**4DF23**<br>**4DF22** | 267.53<br>267.53<br>267.53 | **244.50**<br>**244.50**<br>**244.50** | 8.0<br>8.0<br>8.0 |

### ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# THERMAL UNITS

## HOW TO SELECT THERMAL UNITS

Use the table below to determine which maximum full-load motor amp column (A, B, C, D) to order from. Order thermal units by Stock No. from large table.

**All thermal units listed below.** Shpg. wt. 0.1 lbs. List $9.89.
Each ..... **$9.79**

## FOR DEFINITE PURPOSE STARTERS

| Square D Motor Starter | No. of Heaters Required | Select Heater From Column |
|---|---|---|
| 1Ø, 2-Pole, Enclosed | 1 | A |
| 1Ø, 2-Pole, Open | 1 | B |
| 3Ø, 3-Pole, Enclosed | 3 | C |
| 3Ø, 3-Pole, Open | 3 | D |

### FOR UP TO 20 AMPS

| Max. Full-Load Amps A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| 0.88 | 1.09 | 0.95 | 0.98 | B1.30 | **1H603** |
| 1.02 | 1.24 | 1.09 | 1.13 | B1.45 | **1H604** |
| 1.19 | 1.41 | 1.21 | 1.26 | B1.67 | **1H605** |
| 1.37 | 1.59 | 1.35 | 1.38 | B1.88 | **1H606** |
| 1.62 | 1.81 | 1.56 | 1.62 | B2.10 | **1H614** |
| 1.90 | 2.04 | 1.76 | 1.82 | B2.40 | **1H615** |
| 2.12 | 2.19 | 1.94 | 2.04 | B2.65 | **1H616** |
| 2.46 | 2.52 | 2.22 | 2.36 | B3.00 | **1H620** |
| 2.83 | 2.90 | 2.57 | 2.72 | B3.30 | **1H621** |
| 3.19 | 3.29 | 2.87 | 3.07 | B3.70 | **1H622** |
| 3.61 | 3.69 | 3.21 | 3.44 | B4.15 | **1H625** |
| 3.89 | 3.99 | 3.50 | 3.69 | B4.85 | **1H626** |
| 4.32 | 4.42 | 3.79 | 4.11 | B4.11 | **1H629** |
| 4.57 | 4.69 | 4.04 | 4.34 | B6.25 | **1H632** |
| 5.19 | 5.37 | 4.53 | 4.89 | B6.90 | **1H633** |
| 5.79 | 5.94 | 5.03 | 5.44 | B7.70 | **1H635** |
| 6.16 | 6.34 | 5.36 | 5.80 | B8.20 | **1H638** |
| 6.94 | 7.05 | 5.97 | 6.47 | B9.10 | **1H640** |
| 7.99 | 8.14 | 6.89 | 7.45 | B10.2 | **1H607** |
| 8.99 | 9.39 | 7.79 | 8.49 | B11.5 | **1H608** |
| 9.98 | 10.30 | 8.53 | 9.29 | B12.8 | **1H609** |
| 10.60 | 11.10 | 9.09 | 9.99 | B14.0 | **1H610** |
| 11.60 | 12.20 | 9.99 | 10.80 | B15.5 | **1H611** |
| 13.10 | 13.50 | 10.90 | 12.10 | B17.5 | **1H612** |
| 14.20 | 14.70 | 11.70 | 13.10 | B19.5 | **1H613** |
| 15.40 | 16.10 | 13.40 | 14.60 | B22.0 | **1H617** |
| 17.60 | 18.30 | 15.40 | 16.40 | B25.0 | **1H618** |
| 20.00 | 20.00 | 17.90 | 18.90 | B28.0 | **1H619** |
| — | — | 20.00 | 20.00 | B32.0 | **1H623** |

### FOR 20 TO 25 AMPS

| | | | | | |
|---|---|---|---|---|---|
| 22.70 | 23.60 | 20.20 | 20.90 | B32.0 | **1H623** |
| 25.00 | 25.00 | 23.20 | 24.10 | B36.0 | **1H624** |
| — | — | 25.00 | 25.00 | B40.0 | **1H627** |

### FOR 25 TO 30 AMPS

| | | | | | |
|---|---|---|---|---|---|
| 26.10 | 30.00 | 25.80 | 27.20 | B40.0 | **1H627** |
| 29.60 | — | 28.60 | 30.00 | B45.0 | **1H628** |
| 30.00 | — | 29.70 | — | B50.0 | **1H630** |
| — | — | 30.00 | — | B56.0 | **1H631** |

### FOR 40 AMPS

| | | | | | |
|---|---|---|---|---|---|
| 1.11 | 1.14 | 1.02 | 1.04 | B1.30 | **1H603** |
| 1.27 | 1.29 | 1.15 | 1.18 | B1.45 | **1H604** |
| 1.36 | 1.43 | 1.27 | 1.33 | B1.67 | **1H605** |
| 1.53 | 1.56 | 1.39 | 1.43 | B1.88 | **1H606** |
| 1.78 | 1.79 | 1.61 | 1.67 | B2.10 | **1H614** |
| 2.02 | 2.03 | 1.84 | 1.88 | B2.40 | **1H615** |
| 2.20 | 2.26 | 2.03 | 2.09 | B2.65 | **1H616** |
| 2.52 | 2.51 | 2.34 | 2.41 | B3.00 | **1H620** |
| 2.94 | 3.03 | 2.69 | 2.79 | B3.30 | **1H621** |
| 3.30 | 3.31 | 3.02 | 3.15 | B3.70 | **1H622** |
| 3.70 | 3.73 | 3.39 | 3.54 | B4.15 | **1H625** |
| 4.02 | 4.07 | 3.65 | 3.75 | B4.85 | **1H626** |
| 4.46 | 4.49 | 4.04 | 4.22 | B5.50 | **1H629** |
| 4.69 | 4.76 | 4.28 | 4.46 | B6.25 | **1H632** |
| 5.37 | 5.44 | 4.85 | 5.09 | B6.90 | **1H633** |
| 5.94 | 6.04 | 5.38 | 5.61 | B7.70 | **1H635** |
| 6.34 | 6.46 | 5.71 | 5.99 | B8.20 | **1H638** |
| 7.09 | 7.24 | 6.39 | 6.70 | B9.10 | **1H640** |
| 8.46 | 8.64 | 7.53 | 8.19 | B10.2 | **1H607** |
| 9.32 | 9.59 | 8.34 | 8.79 | B11.5 | **1H608** |
| 10.20 | 10.50 | 9.14 | 9.66 | B12.8 | **1H609** |
| 10.90 | 11.30 | 9.74 | 10.20 | B14.0 | **1H610** |

### FOR 40 AMPS (Continued)

| | | | | | |
|---|---|---|---|---|---|
| 12.10 | 12.60 | 10.70 | 11.40 | B15.5 | **1H611** |
| 13.40 | 13.90 | 11.80 | 12.60 | B17.5 | **1H612** |
| 14.20 | 14.90 | 12.20 | 13.50 | B19.5 | **1H613** |
| 16.00 | 16.50 | 14.40 | 15.10 | B22.0 | **1H617** |
| 18.10 | 18.90 | 16.40 | 17.20 | B25.0 | **1H618** |
| 20.50 | 22.20 | 18.90 | 19.90 | B28.0 | **1H619** |
| 23.50 | 24.60 | 21.30 | 22.50 | B32.0 | **1H623** |
| 27.20 | 28.60 | 23.30 | 26.20 | B36.0 | **1H624** |
| 30.80 | 32.40 | 27.90 | 29.90 | B40.0 | **1H627** |
| 35.00 | 37.30 | 31.40 | 34.00 | B45.0 | **1H628** |
| 37.20 | 39.50 | 32.50 | 36.20 | B50.0 | **1H630** |
| 40.00 | 40.00 | 36.50 | 38.70 | B56.0 | **1H631** |
| — | — | 40.00 | 40.00 | B62.0 | **1H634** |

### FOR 50 AMPS

| | | | | | |
|---|---|---|---|---|---|
| 4.22 | 4.45 | 3.89 | 4.09 | B5.50 | **1H629** |
| 4.49 | 4.88 | 4.15 | 4.35 | B6.25 | **1H632** |
| 5.14 | 5.44 | 4.76 | 5.07 | B6.90 | **1H633** |
| 5.78 | 6.08 | 5.30 | 5.79 | B7.70 | **1H635** |
| 6.23 | 6.42 | 5.70 | 6.27 | B8.20 | **1H638** |
| 7.03 | 7.28 | 6.46 | 7.16 | B9.10 | **1H640** |
| 8.23 | 8.42 | 7.65 | 8.58 | B10.2 | **1H607** |
| 9.31 | 9.64 | 8.55 | 9.55 | B11.5 | **1H608** |
| 10.10 | 10.40 | 9.36 | 10.20 | B12.8 | **1H609** |
| 10.70 | 11.20 | 9.90 | 10.90 | B14.0 | **1H610** |
| 11.90 | 12.30 | 10.90 | 11.90 | B15.5 | **1H611** |
| 13.10 | 13.70 | 12.00 | 13.10 | B17.5 | **1H612** |
| 13.90 | 14.80 | 12.80 | 14.00 | B19.5 | **1H613** |
| 15.90 | 16.50 | 14.20 | 14.80 | B22.0 | **1H617** |
| 18.00 | 18.70 | 16.00 | 17.00 | B25.0 | **1H618** |
| 20.80 | 21.40 | 18.50 | 19.60 | B28.0 | **1H619** |
| 23.10 | 24.30 | 21.20 | 22.10 | B32.0 | **1H623** |
| 26.90 | 28.00 | 24.90 | 26.00 | B36.0 | **1H624** |
| 31.40 | 33.30 | 28.00 | 29.40 | B40.0 | **1H627** |
| 36.00 | 37.60 | 31.70 | 34.00 | B45.0 | **1H628** |
| 38.80 | 41.10 | 34.60 | 36.40 | B50.0 | **1H630** |
| 41.70 | 44.10 | 37.40 | 39.20 | B56.0 | **1H631** |
| 46.30 | 47.80 | 40.00 | 42.40 | B62.0 | **1H634** |
| 50.00 | 50.00 | 46.40 | 49.30 | B70.0 | **1H636** |
| — | — | 50.00 | 50.00 | B79.0 | **1H637** |


**DESK SPACE AT A PREMIUM?**
**USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

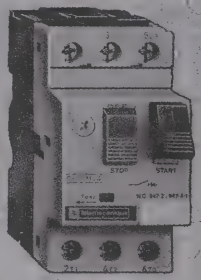
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# IEC MANUAL STARTER AND PROTECTOR

Telemecanique

E89451

LR81630



Replacement Parts Available
1-800-323-0620

**IEC manual starter and protectors** are 3-pole, HP rated manual starters. Includes a manual disconnect, Class 10 ambient-compensated, bimetallic thermal overload relay, and instantaneous magnetic trip mechanism. Can be used alone for local, manual control of a single motor.

- **Vertical operating position**
- **Rated 600 VAC, 25 amps**
- **Interrupting rating at 480V: 10 kA**
- **Maximum operating rate: 25 operations per hour**
- **Operating current of magnetic trip approximately 13 times maximum thermal trip (non-adjustable setting)**
- **Mechanical and electrical life: 100,000 operations**
- **UL Listed and CSA Certified**
- **Conforms to IEC standards**
- **Accessories available below**

### Ambient Temperature

-40 to +176°F (-40 to +80°C) for storage
-4 to +140°F (-20 to +60°C) operation

### Ambient Temperature Compensation

-4 to +140°F (-20 to +60°C) operation

## MANUAL STARTER AND PROTECTOR ORDERING DATA

| Thermal Setting | HP Ratings: Single Phase 115V | Single Phase 230V | Three Phase 200V | Three Phase 230V | Three Phase 460V | Three Phase 575V | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.11-0.16** | — | — | — | — | — | — | GV2M01 | **6B158** | $102.00 | **$90.70** | 0.6 |
| **0.16-0.25** | — | — | — | — | — | — | GV2M02 | **6B159** | 102.00 | **90.70** | 0.3 |
| **0.25-0.40** | — | — | — | — | — | — | GV2M03 | **6B160** | 102.00 | **90.70** | 0.3 |
| **0.40-0.63** | — | — | — | — | — | — | GV2M04 | **6B161** | 116.00 | **103.15** | 0.3 |
| **0.63-1** | — | — | — | — | 1/2 | 1/2 | GV2M05 | **6B162** | 116.00 | **103.15** | 0.5 |
| **1-1.6** | — | 1/10 | — | — | 3/4 | 1 | GV2M06 | **6B163** | 116.00 | **103.15** | 0.6 |
| **1.6-2.5** | — | 1/6 | 1/2 | 1/2 | 1 | 1½ | GV2M07 | **6B164** | 116.00 | **103.15** | 0.6 |
| **2.5-4** | 1/8 | 1/3 | 3/4 | 1 | 2 | 3 | GV2M08 | **6B165** | 116.00 | **103.15** | 0.6 |
| **4-6.3** | 1/4 | 1/2 | 1½ | 1½ | 3 | 5 | GV2M10 | **6B166** | 116.00 | **103.15** | 0.6 |
| **6-10** | 1/2 | 1½ | 2 | 3 | 5 | 7½ | GV2M14 | **6B167** | 116.00 | **103.15** | 0.6 |
| **9-14** | 3/4 | 2 | 3 | 3 | 10 | 10 | GV2M16 | **6B168** | 144.00 | **128.05** | 0.6 |
| **13-18** | 1 | 3 | 5 | 5 | 10 | 10 | GV2M20 | **6B169** | 144.00 | **128.05** | 0.6 |
| **17-23** | 1½ | 3 | 5 | 7½ | 15 | 20 | GV2M21 | **6B170** | 144.00 | **128.05** | 0.6 |
| **20-25** | 2 | 3 | 5 | 7½ | 15 | 20 | GV2M22 | **6B171** | 144.00 | **128.05** | 0.6 |

## AUXILIARY CONTACTS

A maximum of one front mount and one side mount auxiliary contact per starter.

### FRONT MOUNT AUXILIARY CONTACTS (1 PER STARTER)

| Description | Contact Config. | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Instantaneous Contact Blocks** | NO + NC | GV2AE11 | **6B172** | $23.10 | **$20.54** | 0.1 |
| | NO + NO | GV2AE20 | **6B173** | 23.10 | **20.54** | 0.1 |

### SIDE MOUNT AUXILIARY CONTACTS (1 PER STARTER)

| | | | | | | |
|---|---|---|---|---|---|---|
| **Instantaneous Contact Blocks** | NO + NC | GV2AN11 | **2CH65** | 23.10 | **21.32** | 0.1 |
| | NO + NO | GV2AN20 | **2CH66** | 23.10 | **21.32** | 0.1 |

**BUSSMANN FUSES AVAILABLE ON PAGES 414 THRU 418**

## ENCLOSURES

- **Dimensions for Nos. 6B174 and 6B175: 5.79H x 3.66W x 3.31"D**
- **Dimensions for No. 3KL99: 5.51H x 4.19W x 3.83"D**

| Description | Type | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Enclosure for Manual Starters with or w/out accessories** | Type 1 Surface mounting, IEC Rated IP41 | GV2MC01 | 6B174 | $34.70 | **$30.85** | 0.6 |
| | Type 12 Surface mounting, IEC Rated IP55 | GV2MC02 | 6B175 | 49.70 | **44.20** | 0.6 |
| **Enclosures for Manual Starters with or w/out accessories (max. of 1 accessory on right & left)** | Type 12 Flush mount Rated IP55 | GV2MP02 | 3KL99 | 34.70 | **32.05** | 0.6 |

## VOLTAGE TRIPS

- ONE UNIT ONLY PER STARTER

| Type | Coil Voltage @ 60 Hz. | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Shunt Trip** | 120V | GV2AS116 | **6B394** | $52.00 | **$46.25** | 0.2 |
| **Under Voltage Trip** | 120 | GV2AU116 | **6B395** | 52.00 | **46.25** | 0.2 |
| | 240 | GV2AU226 | **6B396** | 52.00 | **46.25** | 0.2 |
| | 440 | GV2AU385 | **6B397** | 52.00 | **46.25** | 0.2 |

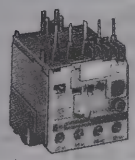
# IEC MOTOR STARTERS, MINIATURE

Telemecanique

LR43364 E164862



No. 6B177



No. 6B182

## CONTACTORS

- For light to medium duty applications
- Suggested Applications: Packaging machines, small hoists, small conveyors, car wash machines, farm equipment, food processing etc.
- UL Listed and CSA Certified for 600 VAC with saddle clamp terminals
- Accessories available below
- Non-Reversing Contactor Dimensions 2.24H x 1.73W x 1.97"D
- Reversing Contactor Dimensions 2.24H x 3.54W x 1.97"D

## OVERLOAD RELAYS

- NEMA Class 10 Trip characteristics
- Ambient temperature compensation from –10° to 60°C
- Adjustable current setting
- Directly heated bimetallic elements
- Dimensions 2.56H x 1.77W x 2.28"D

## AC CONTROL CIRCUIT CONTACTORS

| Amp Rating | Max HP Rating Single-Phase 115V | Single-Phase 230V | Three-Phase 200V | Three-Phase 230V | Three-Phase 460V | Three-Phase 575V | Power Contact Arrangement NO | Power Contact Arrangement NC | Auxillary Contact Arrangement NO | Auxillary Contact Arrangement NC | Coil Voltage 50 / 60 Hz | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NON-REVERSING CONTACTORS** | | | | | | | | | | | | | | | | |
| **6** | 1/2 | 1 | 1½ | 1½ | 3 | 3 | 3 | 0 | 1 | 0 | 24 | LC1K0610B7 | **6B176** | $55.00 | **$48.90** | 0.2 |
| | | | | | | | | | | | 120 | LC1K0610F7 | **6B177** | 55.00 | **48.90** | 0.4 |
| | | | | | | | | | | | 240 | LC1K0610U7 | **6B178** | 55.00 | **48.90** | 0.3 |
| **9** | 1/2 | 1½ | 2 | 3 | 5 | 5 | 3 | 0 | 1 | 0 | 24 | LCIK0910B7 | **6B181** | 72.00 | **64.05** | 0.2 |
| | | | | | | | | | | | 120 | LC1K0910F7 | **6B179** | 72.00 | **64.05** | 0.4 |
| | | | | | | | | | | | 240 | LC1K0910U7 | **6B180** | 72.00 | **64.05** | 0.3 |
| **REVERSING CONTACTORS** | | | | | | | | | | | | | | | | |
| **6** | 1/2 | 1 | 1½ | 1½ | 3 | 3 | 3* | 0 | 0 | 1 | 24 | LC2K0601B7 | **6B193** | 126.00 | **112.05** | 0.9 |
| | | | | | | | | | | | 120 | LC2K0601F7 | **6B194** | 126.00 | **112.05** | 0.6 |
| | | | | | | | | | | | 240 | LC2K0601U7 | **6B195** | 126.00 | **112.05** | 0.5 |
| **9** | 1/2 | 1½ | 2 | 3 | 5 | 5 | 3* | 0 | 0 | 1 | 24 | LC2K0901B7 | **6B196** | 161.00 | **143.15** | 0.6 |
| | | | | | | | | | | | 120 | LC2K0901F7 | **6B197** | 161.00 | **143.15** | 0.9 |
| | | | | | | | | | | | 240 | LC2K0901U7 | **6B198** | 161.00 | **143.15** | 0.8 |

(*) Per contactor.

## OVERLOAD RELAYS

| Current Setting Range Amps | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **0.10-0.16** | LR2K0301 | **6B182** | $57.00 | **$50.70** | 0.3 |
| **0.16-0.23** | LR2K0302 | **6B183** | 57.00 | **50.70** | 0.3 |
| **0.23-0.36** | LR2K0303 | **6B184** | 57.00 | **50.70** | 0.3 |
| **0.36-0.54** | LR2K0304 | **6B185** | 57.00 | **50.70** | 0.3 |
| **0.54-0.80** | LR2K0305 | **6B186** | 57.00 | **50.70** | 0.3 |
| **0.80-1.2** | LR2K0306 | **6B187** | 57.00 | **50.70** | 0.3 |
| **1.2-1.8** | LR2K0307 | **6B188** | 57.00 | **50.70** | 0.3 |
| **1.8-2.6** | LR2K0308 | **6B189** | 57.00 | **50.70** | 0.3 |
| **2.6-3.7** | LR2K0310 | **6B190** | 57.00 | **50.70** | 0.3 |
| **3.8-5.5** | LR2K0312 | **6B191** | 57.00 | **50.70** | 0.3 |
| **5.5-8.0** | LR2K0314 | **6B192** | 57.00 | **50.70** | 0.3 |
| **8.0-11.5** | LR2K0316 | **6B451** | 57.00 | **50.70** | 0.4 |

## AUXILIARY CONTACT BLOCKS

| Contact Configuration | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **2 NO—0 NC** | LA1KN20 | **6B200** | $13.70 | **$12.18** | 0.1 |
| **1 NO—1 NC** | LA1KN11 | **6B199** | 13.70 | **12.18** | 0.1 |
| **2 NO—2 NC** | LA1KN22 | **6B201** | 26.40 | **23.47** | 0.1 |
| **4 NO** | LA1KN40 | **6B202** | 26.40 | **23.47** | 0.1 |

## MOUNTING KIT

Terminal block for separate mounting of the overload relay onto 35mm DIN rail. Telemecanique brand (LA7K0064).

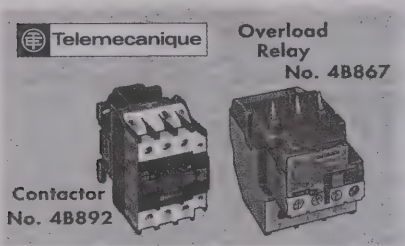
**No. 6B405.** Shpg. wt. 0.1 lbs. List $8.40. Each.....$7.47

## MANY TYPES OF MOTOR STARTERS AVAILABLE

- Definite Purpose
- Self-Protected
- Solid State Reduced Voltage
- IEC Types: Manual, Magnetic, Miniature, Open and Enclosed, Reversing and Non-Reversing
- NEMA Types: Manual, Magnetic, Open and Enclosed, with built-in Motor Logic Solid State Overload Relay, and Combination

See Index Under Appropriate Heading

# IEC MOTORS STARTERS, MAGNETIC, OPEN




## MOTOR STARTER = CONTACTOR + OVERLOAD RELAY

### CONTACTORS

- Designed for industrial motor control applications
- Rugged design ensures high mechanical and electrical life
- Overload relay mounts directly to underside of contactor
- Contactors are not enclosed

### OVERLOAD RELAYS

- Bi-metallic, ambient compensated
- Lockable and sealable Manual/Automatic reset
- Adjustable current range
- Separate "Stop" and "Reset" controls and trip indicator

E48539

LR43364

## 3 POLE, NON-REVERSING CONTACTOR SPECIFICATIONS AND ORDERING DATA

| Amp Rating Ind. | Amp Rating Res. | Auxiliary Contact | Horsepower Ratings: Single Phase 115V | Single Phase 230V | Three Phase 200V | Three Phase 230V | Three Phase 460V | Three Phase 575V | Coil Voltage 60Hz | Use Overload Relay Order Below | Dimensions (In.) H | W | D | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 20 | 1 NC | 0.5 | 1 | 2 | 2 | 5 | 7.5 | 110VAC | A-L | 3.15 | 1.77 | 2.91 | LCID0901F7† | 2CJ62 | $91.00 | $84.00 | 0.7 |
| 9 | 20 | 1 NO | 0.5 | 1 | 2 | 2 | 5 | 7.5 | 24 | A-L | 3.15 | 1.77 | 2.91 | LC1D0910B7† | 4B892 | 91.00 | 84.00 | 0.8 |
| | | | | | | | | | 120 | | | | | LC1D0910G6 | 4B891 | 91.00 | 84.00 | 0.8 |
| | | | | | | | | | 208 | | | | | LC1D0910L6 | 1H429 | 91.00 | 84.00 | 0.7 |
| | | | | | | | | | 110 | | | | | LC1D0910F7† | 2CJ68 | 91.00 | 84.00 | 0.8 |
| | | | | | | | | | 240 | | | | | LC1D0910U7† | 1H455 | 91.00 | 84.00 | 0.7 |
| 12 | 25 | 1 NO | 1 | 2 | 3 | 3 | 7.5 | 10 | 24 | A-M | 3.15 | 1.77 | 2.91 | LC1D1210B7† | 4B890 | 115.00 | 106.15 | 0.8 |
| | | | | | | | | | 110 | | | | | LC1D1210F7† | 2CJ81 | 115.00 | 106.15 | 0.8 |
| | | | | | | | | | 120 | | | | | LC1D1210G6 | 4B889 | 115.00 | 106.15 | 0.8 |
| | | | | | | | | | 208 | | | | | LC1D1210L6 | 4B315 | 115.00 | 106.15 | 0.7 |
| | | | | | | | | | 240 | | | | | LC1D1210U7† | 4B328 | 115.00 | 106.15 | 0.1 |
| 18 | 35 | 1 NO | 1 | 3 | 5 | 5 | 10 | 15 | 24 | A-N | 3.34 | 1.77 | 2.91 | LC1D1810B7† | 4B888 | 131.00 | 120.95 | 0.7 |
| | | | | | | | | | 110 | | | | | LC1D1810F7† | 2CJ91 | 131.00 | 120.95 | 0.8 |
| | | | | | | | | | 120 | | | | | LC1D1810G6 | 4B887 | 131.00 | 120.95 | 0.8 |
| | | | | | | | | | 208 | | | | | LC1D1810L6 | 4B886 | 131.00 | 120.95 | 0.5 |
| | | | | | | | | | 240 | | | | | LC1D1810U7† | 4B362 | 131.00 | 120.95 | 0.8 |
| 18 | 35 | 1 NC | 1 | 3 | 5 | 5 | 10 | 15 | 110 | A-N | 3.34 | 1.77 | 2.91 | LC1D1801F7† | 2CJ87 | 131.00 | 120.95 | 0.8 |
| 25 | 40 | 1 NO | 2 | 3 | 7.5 | 7.5 | 15 | 20 | 24 | A-P | 3.66 | 2.20 | 3.30 | LC1D2510B7† | 4B885 | 146.00 | 134.80 | 1.2 |
| | | | | | | | | | 120 | | | | | LC1D2510G6 | 4B884 | 146.00 | 134.80 | 1.2 |
| | | | | | | | | | 208 | | | | | LC1D2510L6 | 6B402 | 146.00 | 129.80 | 1.2 |
| | | | | | | | | | 240 | | | | | LC1D2510U7† | 5B310 | 146.00 | 134.80 | 1.1 |
| 32 | 50 | 1 NO | 2 | 5 | 10 | 10 | 20 | 30 | 24 | A-P | 3.86 | 2.20 | 3.30 | LC1D3210B7† | 4B883 | 166.00 | 153.25 | 1.2 |
| | | | | | | | | | 120 | | | | | LC1D3210G6 | 4B882 | 166.00 | 153.25 | 1.2 |
| | | | | | | | | | 208 | | | | | LC1D3210L6 | 5B311 | 166.00 | 153.25 | 1.2 |
| | | | | | | | | | 240 | | | | | LC1D3210U7† | 5B312 | 166.00 | 153.25 | 1.2 |
| 40 | 60 | 1 NO + 1 NC | 3 | 5 | 10 | 10 | 30 | 30 | 24 | Q-R | 4.49 | 3.34 | 5.00 | LC1D4011B7† | 4B881 | 211.00 | 195.00 | 2.5 |
| | | | | | | | | | 120 | | | | | LC1D4011G6 | 4B880 | 211.00 | 195.00 | 3.1 |
| | | | | | | | | | 208 | | | | | LC1D4011L6 | 5B313 | 211.00 | 195.00 | 2.5 |
| | | | | | | | | | 240 | | | | | LC1D4011U7† | 5B314 | 211.00 | 195.00 | 3.0 |
| 50 | 70 | 1 NO + 1 NC | 3 | 7.5 | 10 | 15 | 40 | 40 | 24 | Q-S | 4.49 | 3.34 | 5.00 | LC1D5011B7† | 4B879 | 226.00 | 208.75 | 3.1 |
| | | | | | | | | | 120 | | | | | LC1D5011G6 | 4B878 | 226.00 | 208.75 | 3.1 |
| | | | | | | | | | 208 | | | | | LC1D5011L6 | 5B315 | 226.00 | 208.75 | 3.0 |
| | | | | | | | | | 240 | | | | | LC1D5011U7† | 5B316 | 226.00 | 208.75 | 2.5 |
| 65 | 80 | 1 NO + 1 NC | 5 | 10 | 20 | 20 | 50 | 50 | 24 | Q-T | 4.49 | 3.34 | 5.00 | LC1D6511B7† | 4B877 | 311.00 | 287.25 | 3.1 |
| | | | | | | | | | 120 | | | | | LC1D6511G6 | 4B876 | 311.00 | 287.25 | 3.1 |
| | | | | | | | | | 208 | | | | | LC1D6511L6 | 5B540 | 311.00 | 287.25 | 2.5 |
| | | | | | | | | | 240 | | | | | LC1D6511U7† | 5B601 | 311.00 | 287.25 | 2.8 |
| 80 | 110 | 1 NO + 1 NC | 7.5 | 15 | 25 | 30 | 60 | 60 | 24 | Q-V | 4.49 | 2.95 | 5.00 | LC1D8011B7† | 5B602 | 351.00 | 324.00 | 3.5 |
| | | | | | | | | | 120 | | | | | LC1D8011G6 | 4B875 | 351.00 | 324.00 | 3.5 |
| | | | | | | | | | 208 | | | | | LC1D8011L6 | 5B603 | 351.00 | 324.00 | 3.0 |
| | | | | | | | | | 240 | | | | | LC1D8011U7† | 5B604 | 351.00 | 324.00 | 3.5 |
| 12 | 25 | 1 NO | 1 | 2 | 3 | 3 | 7.5 | 10 | 12VDC | A-M | 4.92 | 2.75 | 2.91 | LP1D1210JD | 2CK70 | 140.00 | 129.25 | 1.5 |

(†) 50/60 Hz.

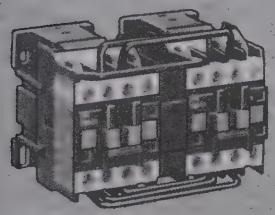
## OVERLOAD RELAY ORDERING DATA

| Key | Adjustable Range in Full-Load Amps | Dimensions (In.) H | W | D | Telemecanique Model LR2D . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 0.10-0.16 | 3.62 | 1.77 | 1.85 | 1301 | 4B867 | $58.00 | $53.55 | 0.4 |
| B | 0.16-0.25 | | | | 1302 | 4B866 | 58.00 | 53.55 | 0.4 |
| C | 0.25-0.40 | | | | 1303 | 4B865 | 58.00 | 53.55 | 0.4 |
| D | 0.40-0.63 | | | | 1304 | 4B864 | 58.00 | 53.55 | 0.4 |
| E | 0.63-1.0 | | | | 1305 | 4B863 | 58.00 | 53.55 | 0.4 |
| F | 1.0-1.6 | | | | 1306 | 4B862 | 58.00 | 53.55 | 0.4 |
| G | 1.25-2.0 | | | | 13X6 | 5B794 | 58.00 | 53.55 | 0.4 |
| H | 1.6-2.5 | | | | 1307 | 4B861 | 58.00 | 53.55 | 0.4 |
| I | 2.5-4.0 | | | | 1308 | 4B860 | 58.00 | 53.55 | 0.4 |
| J | 4.0-6.0 | | | | 1310 | 4B859 | 58.00 | 53.55 | 0.4 |
| K | 5.5-8.0 | | | | 1312 | 4B858 | 60.00 | 55.40 | 0.4 |
| L | 7.0-10.0 | | | | 1314 | 4B857 | 60.00 | 55.40 | 0.4 |
| M | 9.0-13.0 | 3.62 | 1.77 | 1.85 | 1316 | 4B856 | $60.00 | $55.40 | 0.4 |
| N | 12.0-18.0 | | | | 1321 | 4B855 | 60.00 | 55.40 | 0.5 |
| O | 17.0-25.0 | | | | 1322 | 4B854 | 60.00 | 55.40 | 0.4 |
| P | 23.0-32.0 | 3.62 | 2.17 | 2.32 | 2353 | 4B853 | 71.00 | 65.55 | 0.6 |
| Q | 23.0-32.0 | 4.29 | 2.92 | 2.12 | 3353 | 4B852 | 103.00 | 95.10 | 1.1 |
| R | 30.0-40.0 | | | | 3355 | 4B851 | 103.00 | 95.10 | 1.2 |
| S | 37.0-50.0 | | | | 3357 | 4B850 | 103.00 | 95.10 | 1.2 |
| T | 48.0-65.0 | | | | 3359 | 4B849 | 103.00 | 95.10 | 1.2 |
| U | 55.0-70.0 | | | | 3361 | 4B848 | 123.00 | 113.55 | 1.2 |
| V | 63.0-80.0 | | | | 3363 | 4B847 | 123.00 | 113.55 | 1.2 |



Relay it, suppress it, enclose it — The leading brands are all right here.

# IEC OPEN REVERSING AND ENCLOSED NON-REVERSING CONTACTORS



Telemecanique

No. 4B874

Open Type

E164862 LR43364

## IEC OPEN REVERSING CONTACTORS

- Built-in capability for mounting on 35mm DIN rail plus keyhole slots for panel mounting
- Snap on accessories available on page 450
- Terminals shipped ready to wire
- Inclined wire guides for easy wiring. Contactors supplied with captive screws in the ready-to-wire position
- Removable Fingersafe terminal cover provides IP 20 degree of protection
- Mechanical life of up 30 million operations
- Used with overload relays on page 448

## 3-POLE MECHANICALLY INTERLOCKED REVERSING CONTACTORS

| Max. Full Load Amp Rating @ 600V | | | Maximum HP Rating for 3 Phase Motors 50 / 60 Hz in AC3 Duty | | | | | | No. of Auxiliary Contacts | | Coil Voltage 60 Hz | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inductive AC3 Duty | Resistive AC1 Duty | No. of Poles | Single Phase 115V | Single Phase 230V | Three Phase 220V | Three Phase 230V | Three Phase 460V | Three Phase 575V | NO | NC | | | | | | |
| 9 | 20 | 3 | 0.5 | 1 | 2 | 2 | 5 | 7.5 | — | 1 NC | 24V | LC2D0901B7† | **5B786** | $226.00 | **$208.75** | 1.5 |
| | | | | | | | | | | | 120 | LC2D0901G6 | **4B874** | 226.00 | **208.75** | 1.7 |
| | | | | | | | | | | | 240 | LC2D0901U7† | **5B787** | 226.00 | **208.75** | 1.5 |
| 12 | 25 | 3 | 1 | 2 | 3 | 3 | 7.5 | 10 | — | 1 NC | 24 | LC2D1201B7† | **5B788** | 306.00 | **282.50** | 1.5 |
| | | | | | | | | | | | 120 | LC2D1201G6 | **4B873** | 306.00 | **282.50** | 1.7 |
| | | | | | | | | | | | 240 | LC2D1201U7† | **5B789** | 306.00 | **282.50** | 1.5 |
| | 25 | 3 | 1 | 2 | 3 | 3 | 7.5 | 10 | 1 NO | 2 NC* | 120 | LC2D1211F7† | **2CK50** | 320.00 | **295.50** | 1.9 |
| 18 | 35 | 3 | 1 | 3 | 5 | 5 | 10 | 15 | — | 1 NC | 24 | LC2D1801B7† | **5B790** | 332.00 | **306.50** | 1.7 |
| | | | | | | | | | | | 120 | LC2D1801G6 | **4B872** | 332.00 | **306.50** | 1.9 |
| | | | | | | | | | | | 240 | LC2D1801U7† | **5B791** | 332.00 | **306.50** | 1.7 |
| 25 | 40 | 3 | 2 | 3 | 7.5 | 7.5 | 15 | 20 | — | 1 NC | 24 | LC2D2501B7† | **5B792** | 361.00 | **333.25** | 2.4 |
| | | | | | | | | | | | 120 | LC2D2501G6 | **4B871** | 361.00 | **333.25** | 2.6 |
| | | | | | | | | | | | 240 | LC2D2501U7† | **5B793** | 361.00 | **333.25** | 2.4 |

## 4-POLE MECHANICALLY INTERLOCKED CONTACTORS

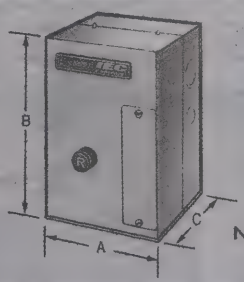
| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 25 | 4 | 1 | 2 | 3 | 3 | 7.5 | 10 | — | — | 120 | LC2D12004G6 | **6B403** | 306.00 | **272.25** | 1.7 |
| 25 | 40 | | 2 | 3 | 7.5 | 7.5 | 15 | 20 | — | — | 120 | LC2D25004G6 | **6B404** | 441.00 | **392.25** | 2.5 |

(*) 2 NC Contacts are incorporated in the design of the mechanical interlock. (†) 50/60 Hz.

Telemecanique

E3190

Enclosed Type




No. 6B144

## IEC ENCLOSED NON-REVERSING CONTACTORS

- Type 1 metal enclosures
- For non-reversing applications
- Enclosure lockout provisions
- Prewired for Insta-kits™ operator panels; order on page 450
- UL Listed and CSA Certified
- 240VAC coils rated 50/60 Hz
- Use overload relays on page 448

## ENCLOSED FULL VOLTAGE NON-REVERSING CONTACTORS

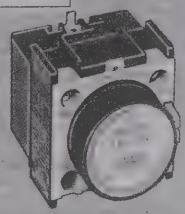
| Amp Rating Resistive | Amp Rating Inductive | 1Ø HP 115V | 1Ø HP 230V | 3Ø HP 200V | 3Ø HP 230V | 3Ø HP 460V | 3Ø HP 575V | Dimensions (In.) A | B | C | Coil Voltage 60 Hz | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 9 | 1/2 | 1 | 2 | 2 | 5 | 7.5 | 6.77 | 10.04 | 6.25 | 120 | LE1UD0936G6 | **6B144** | $106.00 | **$94.25** | 9.9 |
| 24 | 9 | 1/2 | 1 | 2 | 2 | 5 | 7.5 | 6.77 | 10.04 | 6.25 | 240 | LE1UD0936U7† | **6B145** | 106.00 | **94.25** | 7.7 |
| 24 | 12 | 1 | 2 | 3 | 3 | 7.5 | 10 | 6.77 | 10.04 | 6.25 | 120 | LE1UD1236G6 | **6B146** | 132.00 | **117.35** | 10.0 |
| 24 | 12 | 1 | 2 | 3 | 3 | 7.5 | 10 | 6.77 | 10.04 | 6.25 | 240 | LE1UD1236U7† | **6B147** | 132.00 | **117.35** | 9.7 |
| 32 | 18 | 1 | 3 | 5 | 5 | 10 | 15 | 6.77 | 10.04 | 6.25 | 120 | LE1UD1836G6 | **6B148** | 148.00 | **131.60** | 10.0 |
| 32 | 18 | 1 | 3 | 5 | 5 | 10 | 15 | 6.77 | 10.04 | 6.25 | 240 | LE1UD1836U7† | **6B149** | 148.00 | **131.60** | 7.7 |
| 32 | 25 | 1.5 | 3 | 5 | 7.5 | 15 | 20 | 6.77 | 10.04 | 6.25 | 120 | LE1UD2536G6 | **6B150** | 164.00 | **145.80** | 10.0 |
| 32 | 25 | 1.5 | 3 | 5 | 7.5 | 15 | 20 | 6.77 | 10.04 | 6.25 | 240 | LE1UD2536U7† | **6B151** | 164.00 | **145.80** | 10.0 |
| 50 | 32 | 2 | 5 | 7.5 | 10 | 20 | 25 | 8.66 | 10.83 | 7.21 | 120 | LE1UD3236G6 | **6B152** | 185.00 | **164.50** | 13.0 |
| 50 | 32 | 2 | 5 | 7.5 | 10 | 20 | 25 | 8.66 | 10.83 | 7.21 | 240 | LE1UD3236U7† | **6B153** | 185.00 | **164.50** | 11.0 |

(†) 50/60 Hz.

# IEC CONTACTOR AND MOTOR STARTER ACCESSORIES

Telemecanique

Time Delay Contact Block



E164353 LR43364

Auxiliary Contact Blocks



No. 4B939



No. 4B921

## TIME DELAY CONTACT BLOCKS

| Mounting | Contacts NO | Contacts NC | Type | Range of Time Delay | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Front Snap-On | 1 | 1 | On Delay | 0.1 to 3 s* | LA2DT0 | **4B931** | $127.00 | **$117.25** | 0.2 |
| | | | | 0.1 to 30 s | LA2DT2 | **4B547** | 127.00 | **117.25** | 0.2 |
| | | | | 10 to 180 s | LA2DT4 | **4B548** | 127.00 | **117.25** | 0.2 |
| | 1 | 1 | Off Delay | 0.1 to 3 s* | LA3DR0 | **4B928** | 127.00 | **117.25** | 0.2 |
| | | | | 0.1 to 30 s | LA3DR2 | **4B549** | 127.00 | **117.25** | 0.2 |
| | | | | 10 to 180 s | LA3DR4 | **4B550** | 127.00 | **117.25** | 0.2 |

(*) With extended scale from 0.1 to 0.6 seconds.

## STANDARD, INSTANTANEOUS AUXILIARY CONTACT BLOCKS

| Mounting | No. of Contacts | Contacts NO | Contacts NC | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Front Snap-On | 4 | 2 | 2 | LA1DN22 | **4B939** | $40.10 | **$37.05** | 0.1 |
| | | 1 | 3 | LA1DN13 | **4B941** | 40.10 | **37.05** | 0.1 |
| | | 4 | — | LA1DN40 | **4B937** | 40.10 | **37.05** | 0.1 |
| | | — | 4 | LA1DN04 | **4B944** | 40.10 | **37.05** | 0.1 |
| | | 3 | 1 | LA1DN31 | **4B938** | 40.10 | **37.05** | 0.1 |
| | 2 | 1 | 1 | LA1DN11 | **4B942** | 20.00 | **18.46** | 0.1 |
| | | 2 | — | LA1DN20 | **4B940** | 20.00 | **18.46** | 0.1 |
| | | — | 2 | LA1DN02 | **4B945** | 20.00 | **18.46** | 0.1 |
| Front | 1 | 1 | — | LA1DN10* | **4B943** | 12.70 | **11.72** | 0.1 |
| | | — | 1 | LA1DN01* | **4B946** | 12.70 | **11.72** | 0.1 |
| Side Snap-On | 2 | 1 | 1 | LA8DN11† | **4B922** | 20.00 | **18.46** | 0.1 |
| | | 2 | 0 | LA8DN20† | **4B921** | 20.00 | **18.46** | 0.1 |

(*) 1 block only can be mounted on the LC1/LP1 D25 and D32; 2 blocks can be mounted on the LC1/LP1 D40 to D80.
(†) 1 block may be added to each side of the contactor.

## IEC CONTACTOR REPLACEMENT COILS

| Coil Voltage | For Contactor Series Type | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **24 @ 50/60 Hz** | LC1D09, 12, 18, and CA2 Relays | LX1D2B7 | **4B846** | $25.30 | **$23.35** | 0.2 |
| | LC1D25, 32 | LX1D4B7 | **4B841** | 34.80 | **32.15** | 0.2 |
| | LC1D40, 50, 65, 80 | LX1D6B7 | **4B837** | 40.10 | **37.05** | 0.7 |
| **120 @ 60 Hz** | LC1D09, 12, 18, and CA2 Relays | LX1D2G6 | **4B845** | 25.30 | **23.35** | 0.2 |
| | LC1D25, 32 | LX1D4G6 | **4B840** | 34.80 | **32.15** | 0.2 |
| | LC1D40, 50, 65, 80 | LX1D6G6 | **4B836** | 40.10 | **37.05** | 0.8 |
| **208 @ 60 Hz** | LC1D09, 12, 18, and CA2 Relays | LX1D2L6 | **4B844** | 25.30 | **23.35** | 0.2 |
| | LC1D25, 32 | LX1D4L6 | **4B839** | 34.80 | **32.15** | 0.2 |
| | LC1D40, 50, 65, 80 | LX1D6L6 | **4B835** | 40.10 | **37.05** | 0.7 |
| **240 @ 50/60 Hz** | LC1D09, 12, 18, and CA2 Relays | LX1D2U7 | **4B842** | 25.30 | **23.35** | 0.2 |
| | LCID25, 32 | LX1D4U7 | **6B399** | 34.80 | **30.95** | 0.2 |
| | LC1D40, 50, 65, 80 | LX1D6U7 | **6B400** | 40.10 | **35.65** | 0.7 |
| **480 @ 60 Hz** | LC1D09, 12, 18, and CA2 Relays | LX1D2T6 | **4B843** | 25.30 | **23.35** | 0.1 |
| | LC1D25, 32 | LX1D4T6 | **4B838** | 34.80 | **32.15** | 0.2 |
| | LC1D40, 50, 65, 80 | LX1D6T6 | **4B834** | 40.10 | **37.05** | 0.5 |

## Telemecanique MOUNTING KITS FOR OVERLOAD RELAYS

- **Separate mounting kits with saddle clamp terminals**
- **For snap-on mounting to DIN rails**

| For Use With Overload Relay | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **LR2D1** | LA7D1064 | **4B925** | $8.40 | **$7.75** | 0.2 |
| **LR2D2** | LA7D2064 | **4B924** | 12.70 | **11.72** | 0.2 |
| **LR2D3** | LA7D3064 | **4B923** | 16.90 | **15.60** | 0.6 |

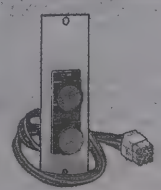
## Telemecanique COIL SUPPRESSORS

- **For reduction of electrical noise in AC or DC coils**

| Use With | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **LC-D09 - D80** | LA4DA2U* | **2CH99** | $25.30 | **$23.35** | 0.1 |
| **LC-D09 - D32** | LA4DA1U† | **2CH96** | 25.30 | **23.35** | 0.1 |
| **LP-D09 - D32** | LA4DC1U‡ | **2CJ01** | 25.30 | **23.35** | 0.1 |

(*) 110-240VAC screw connection.
(†) 110-240VAC snap-on connection.
(‡) 24-250VDC snap-on connection.

## Telemecanique INSTA-KITS™



- **Pre-wired, ready-to-operate kits for IEC enclosed motor starters on page 449**
- **Rated for NEMA type 1 enclosures**

| Description | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Hand-Off-Auto Selector Switch** | LA9C | **6B156** | $31.70 | **$28.20** | 0.7 |
| **Start/Stop Pushbutton** | LA9A | **6B154** | 31.70 | **28.20** | 0.8 |
| **Hand-Off-Auto Selector Switch w/Red or Green Pilot Light**** | LA9CP12 | **6B157** | 92.00 | **81.80** | 0.8 |
| **Start/Stop Pushbutton w/Red or Green Pilot Light**** | LA9AP12 | **6B155** | 92.00 | **81.80** | 0.8 |

(**) One pilot light with interchangeable lens.



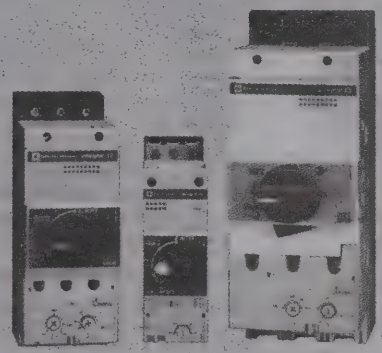
*Relay it, suppress it, enclose it — The leading brands are all right here.*

# SELF-PROTECTED MOTOR STARTERS

Telemecanique

E164862 LR64862

## INTEGRAL™



- **Contactor and short circuit functions independent of each other for coordinated protection of motor and starter components**
- **Models are rated at 18, 32, or 63 amps continuous current @ 460 VAC, for non-reversing motors**
- **Current limiting circuit breaker can clear fault currents up to 42kA rms @ 460 VAC, within 1.7 msec (32 amp models)**
- **Auxiliary contact blocks can be added to multiply interlocking and signaling capability of each starter**
- **Finger Guard™ terminals keep all terminal wiring safely recessed within the plastic housing**
- **No damage to contactor or overload protection module after interrupting short circuit faults. Verified by UL to meet "Type 2" coordinated protection per IEC 947-4-1**
- **Overload protection modules for Integral 32 & 63 combine independently adjustable thermal and magnetic trip units for complete system coordination**

Isolator contacts allow complete control system testing without energizing any loads, and can be padlocked open for maintenance safety. Provide complete status indication locally and can send status signal to automated systems through remote monitoring. Starters may be rail-mounted or panel-mounted, vertically or horizontally. Uses less than half the panel space required for conventional starters and short-circuit protection devices. 32 amp contactor has a life expectancy of 1.5 million operations.

### COIL SUPPRESSOR BLOCK

For reduction of electrical noise. For use on 18A, 32A, and 63A starters. Telemecanique brand (LA9D09982.)

**No. 2CJ40**. Shpg. wt. 0.1 lbs. List .....$13.20.
Each .....**$12.18**

## STARTERS WITHOUT OVERLOAD PROTECTION MODULES—Nonreversing

| Amp Rating | Maximum HP 230V | 460V | 575V | Coil Voltage @ 60Hz | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **18** | 5 | 10 | 15 | 120VAC | LD1LB030FC | **4B870** | $202.00 | **$186.50** | 1.5 |
| **32** | 10 | 20 | 30 | | LD4LC030FC | **4B868** | 318.00 | **293.75** | 3.7 |
| **63** | 20 | 40 | 60 | | LD4LD030FC | **6B398** | 650.00 | **578.00** | 9.5 |

## OVERLOAD PROTECTION MODULES

### 18 AMP MODULES

| Thermal Setting Range | Magnetic Setting Range | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| .10 - .16 Amps | Fixed @ 15x Full Load Amps | LB1LB03P01 | **4B920** | $87.00 | **$80.35** | 0.4 |
| .16 - .25 | | LB1LB03P02 | **4B919** | 87.00 | **80.35** | 0.4 |
| .25 - .40 | | LB1LB03P03 | **4B918** | 87.00 | **80.35** | 0.3 |
| .40 - .63 | | LB1LB03P04 | **4B917** | 87.00 | **80.35** | 0.6 |
| .63 -1.0 | | LB1LB03P05 | **4B916** | 87.00 | **80.35** | 0.6 |
| 1.0 - 1.6 | | LB1LB03P06 | **4B915** | 87.00 | **80.35** | 0.6 |
| 1.6 - 2.5 | | LB1LB03P07 | **4B914** | 87.00 | **80.35** | 0.6 |
| 2.5 - 4.0 | | LB1LB03P08 | **4B913** | 87.00 | **80.35** | 0.6 |
| 4.0 - 6.0 | | LB1LB03P10 | **4B912** | 87.00 | **80.35** | 0.6 |
| 6.0 - 10.0 | | LB1LB03P13 | **4B911** | 87.00 | **80.35** | 0.6 |
| 10.0 - 16.0 | | LB1LB03P17 | **4B910** | 87.00 | **80.35** | 0.1 |
| 12.0 - 18.0 | | LB1LB03P21 | **4B909** | 87.00 | **80.35** | 0.5 |

### 32 AMP MODULES

| Thermal Setting Range | Magnetic Setting Range | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| .25 - .40 Amps | 2.4-4.8 | LB1LC03M03 | **4B908** | $87.00 | **$80.35** | 1.0 |
| .40 - .63 | 3.8-7.6 | LB1LC03M04 | **4B907** | 87.00 | **80.35** | 1.0 |
| .63 - 1.0 | 6.0-12.0 | LB1LC03M05 | **4B906** | 87.00 | **80.35** | 1.0 |
| 1.0 - 1.6 | 9.5-19 | LB1LC03M06 | **4B905** | 87.00 | **80.35** | 1.0 |
| 1.6 - 2.5 | 15-30 | LB1LC03M07 | **4B904** | 87.00 | **80.35** | 1.0 |
| 2.5 - 4.0 | 24-48 | LB1LC03M08 | **4B903** | 87.00 | **80.35** | 1.0 |
| 4.0 - 6.3 | 38-76 | LB1LC03M10 | **4B902** | 87.00 | **80.35** | 1.0 |
| 6.3 - 10.0 | 60-120 | LB1LC03M13 | **4B901** | 101.00 | **93.25** | 1.0 |
| 10.0 - 16.0 | 95-190 | LB1LC03M17 | **4B900** | 116.00 | **107.10** | 1.0 |
| 16.0 - 25.0 | 150-300 | LB1LC03M22 | **4B899** | 131.00 | **120.95** | 1.0 |
| 23.0 - 32.0 | 190-380 | LB1LC03M53 | **4B898** | 144.00 | **132.95** | 1.0 |

### AUXILIARY CONTACT BLOCKS

| Auxiliary Contact Configuration | Signal Contact Configuration | For Use With Amp Rating | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2 NO + 1 NC | 1 NO + 1 NC | 18 | LA1LB015 | **4B936** | $101.00 | **$93.25** | 0.3 |
| 1 NO + 1 NC | 1 NO | 18 | LA1LB017 | **4B935** | 43.30 | **40.00** | 0.3 |
| 1 NO + 1 NC | 1 NC | 18 | LA1LB019 | **4B934** | 43.30 | **40.00** | 0.3 |
| 2 NO + 1 NC | — | 32 or 63 | LA1LC020 | **4B932** | 43.30 | **40.00** | 0.2 |
| 2 NO + 1 NC | 1 NO | 32 or 63 | LA1LC012 | **4B933** | 101.00 | **93.25** | 0.7 |

### 63 AMP MODULES

| Thermal Setting Range | Magnetic Setting Range | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 18-25 Amps | 150-300 | LB1LD03M22 | **4B897** | $159.00 | **$146.80** | 2.3 |
| 23-32 | 190-380 | LB1LD03M53 | **4B896** | 159.00 | **146.80** | 2.4 |
| 28-40 | 240-480 | LB1LD03M55 | **4B895** | 159.00 | **146.80** | 2.4 |
| 35-50 | 300-600 | LB1LD03M57 | **4B894** | 173.00 | **159.75** | 2.4 |
| 45-63 | 380-760 | LB1LD03M61 | **4B893** | 173.00 | **159.75** | 2.4 |

# DRUM SWITCHES

## GENERAL DUTY TYPES



No. 2X440

Dayton

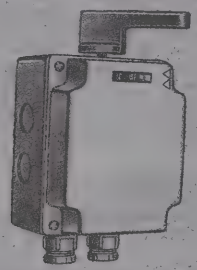
E37709 (except 2X442)

65426 (except 2X442)

- For starting and reversing of motors (does not provide overload protection)
- Heavy copper drum segments, pressed steel case and frame
- Maintained copper contacts and bakelite arc shields
- Metal enclosure with plastic handle

### DRUM SWITCH SPECIFICATIONS AND ORDERING DATA

| Contact Load Ratings | | | | | Dimensions (In.) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Three Phase @ 60 Hz 230VAC | Three Phase @ 60 Hz 440-550VAC | Single Phase @ 60 Hz 115VAC | Single Phase @ 60 Hz 230VAC | 115-230VDC | D | W | L | Stock No. | List | Each | Shpg. Wt. |
| — | — | 1½ HP | 2 HP | 1/4 HP | 4 | 2¼ | 4½ | **2X440** | $34.70 | **$29.20** | 1.4 |
| 2 HP | 1 HP | 1½ | 2 | 1/4 | 4 | 2¼ | 4½ | **2X441** | 38.99 | **33.30** | 1.3 |
| 2 | 2 | 1½ | 2 | 1 | 5 | 3½ | 5½ | **2X442** | 70.86 | **60.35** | 3.0 |
| 5 | 7½ | 2 | 3 | 2 | 6½ | 3½ | 5¾ | **2X443** | 81.47 | **70.90** | 3.3 |



No. 6CO13

E101686

LR39540

Advance Controls, Inc.

- For farm, marine, and industrial applications
- Non-metallic, gasketed, NEMA type 4X watertight enclosure
- Stainless steel cover screws, shaft, springs, and switch mounting screws
- Corrosion resistant plated switch terminal screws

Watertight, Corrosion Resistant Motor Reversing Drum Switches

- Ground lug inside enclosure
- Includes two watertight cable connectors and two decals "FWD OFF REV"/"UP OFF DOWN"

### DRUM SWITCH SPECIFICATIONS AND ORDERING DATA

| Contact Load Ratings @ 60 Hz | | | | | | | Dimensions (In.) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Amps (Inductive) | Maximum HP Rating Single Phase 115VAC | Single Phase 230VAC | Three Phase 200-240VAC | Three Phase 460VAC | Three Phase 600VAC | Operation Type | L | W | D | Advance Control Model | Stock No. | List | Each | Shpg. Wt. |
| 20 | 1.5 | 3 | — | — | — | Maintained | 4.7 | 3.7 | 3.1 | CW0177859S35 | **6C013** | $85.00 | **$58.10** | 0.8 |
| 20 | 1.5 | 3 | — | — | — | Spring-Return-To-Center | 4.7 | 3.7 | 3.1 | CW0177860S35 | **6C014** | 85.00 | **59.35** | 0.8 |
| 32 | — | — | 7.5 | 10 | 15 | Maintained | 4.7 | 3.7 | 3.1 | CW0257861S35 | **6C015** | 99.00 | **98.45** | 1.0 |
| 40 | 3 | 7.5 | — | — | — | Maintained | 4.7 | 3.7 | 3.1 | CW0327859S35 | **6C016** | 107.00 | **97.50** | 1.0 |



No. 2BW44

SQUARE D
GROUPE SCHNEIDER

E42243

LR39540

- NEMA 1 enclosure, plastic
- Compact design yet ruggedly constructed
- Field convertible from maintained to momentary operation
- 600 volt maximum VAC
  360 volt maximum VDC

### DRUM SWITCH SPECIFICATIONS AND ORDERING DATA

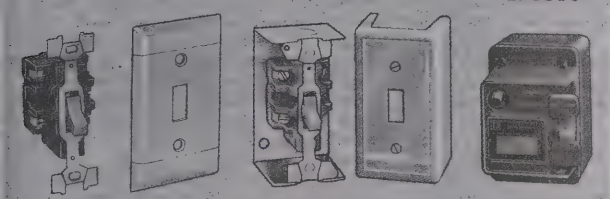
| Horsepower Ratings | | | | | | | Dimensions (In.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Single Phase VAC 115 | Single Phase VAC 230 | Single Phase VAC 460/575 | 3 Phase @ 60Hz (Max. HP) 230VAC | 3 Phase @ 60Hz (Max. HP) 460-575VAC | DC 115 | DC 230 | D | W | L | Square D Model 2601 | Stock No. | List | Each | Shpg. Wt. |
| 1½ | 2 | — | 2 | 2 | 1/4 | 1/4 | 4.6 | 2.7 | 5.4 | AG2 | **2BW44** | $72.87 | **$72.20** | 1.3 |
| 1½ | 3 | 5 | 5 | 7½ | 2 | 2 | 4.9 | 3.3 | 6.6 | BG1 | **2BW46** | 197.79 | **196.00** | 2.3 |

**Note: Drum switches do not provide motor overload protection.**

# NEMA MANUAL SWITCHES

SQUARE D
GROUPE SCHNEIDER

E78360



No. 1H406 No. 1H400 No. 1H408

**Non-reversing manual switches** provide manual "On-Off" control of single or three phase AC motors where overload protection is not required or is provided separately. Applications include small machine tools, pumps, fans, conveyors and electrical machinery. Can also be used on non-motor loads such as resistance heaters.

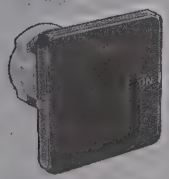
- **Open types fit standard single gang switch boxes, and can be used with any cover plate having a standard toggle cutout**
- **Single-unit flush mounting types, including those with pilot light, are suitable for wall mounting in a standard switch box or for machine cavity mounting without a box**
- **NEMA Type 1 surface mounting enclosures are sheet metal with a thermoplastic wrap-around cover**
- **Zinc alloy die casting used for NEMA Type 4 enclosures**
- **Accessories available, order on page 460**

## NON-REVERSING, MANUAL SWITCH ORDERING DATA

| Enclosure Type | No. of Poles | Amps (Resistive) | Max. HP VAC 115V | 230V | 460-575V | Max. HP VDC 90 | 115 | 230 | Enclosure Size | Dimensions (In.) D | W | H | Square D Model 2510 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Stainless Steel Flush Plate** | 2 | 30 | 2 | 2 | 3 | 1 | 2 | 1.5 | Standard | 1 7/16 | 2 3/4 | 4 1/2 | KS1 | **1H406** | $30.71 | **$28.10** | 0.5 |
| | 3 | | 2 | 7.5 | 10 | 1 | 2 | 1.5 | Standard | | | | KS2 | **1H407** | 68.70 | **62.80** | 0.5 |
| **Open Type** | 2 | 30 | 2 | 2 | 3 | 1 | 2 | 1.5 | Standard | 2 11/32 | 1 11/16 | 4 1/8 | KO1 | **1H404** | 24.15 | **22.06** | 0.4 |
| | 3 | | 2 | 7.5 | 10 | 1 | 2 | 1.5 | Standard | | | | KO2 | **1H405** | 62.46 | **57.10** | 0.4 |
| **NEMA Type 1** | 2 | 30 | 2 | 2 | 3 | 1 | 2 | 1.5 | Standard | 2 3/4 | 2 7/16 | 4 1/4 | KG1 | **1H400** | 30.71 | **28.10** | 0.8 |
| | 2 | | | | | | | | Oversized | 2 3/4 | 2 7/8 | 4 1/4 | KGJ1 | **1H402** | 37.37 | **34.15** | 1.1 |
| | 3 | | 2 | 7.5 | 10 | 1 | 2 | 1.5 | Standard | 2 3/4 | 2 7/16 | 4 1/4 | KG2 | **1H401** | 68.70 | **62.80** | 0.8 |
| | 3 | | | | | | | | Oversized | 2 3/4 | 2 7/8 | 4 1/4 | KGJ2 | **1H403** | 75.99 | **69.45** | 1.1 |
| **NEMA Type 4** | 2 | 30 | 2 | 2 | 3 | 1 | 2 | 1.5 | Standard | 4 1/4 | 3 | 4 1/4 | KW1 | **1H408** | 144.69 | **132.20** | 2.9 |
| | 3 | | 2 | 7.5 | 10 | | | | Standard | | | | KW2 | **1H409** | 178.01 | **162.75** | 2.9 |
| **NEMA Type 4 with 3/4" Pipe Tap Top & Bottom** | 3 | | 2 | 7.5 | 10 | | | | Standard | | | | KW2H | **2BW06** | 191.54 | **189.75** | 2.8 |

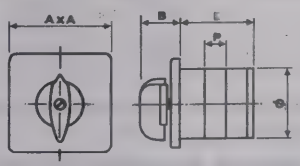
# ROTARY CAM SWITCHES

Advance Controls, Inc.



E101686 LR39540

### DIMENSIONS




Mounts to Enclosure Face

### SWITCHES

Cam operated, modular element switches with isolated double breaking silver contacts are built to international standards. On/Off switches are designed to start single or three-phase motors across the line or any other on/off application.

Switching angle on all models is 60°. Switches may be mounted in the conduit box of electric motors or any metallic or non-metallic enclosure. Switch and faceplate are mounted to enclosure face using two screws.

### SWITCH APPLICATIONS

**Eliminate start-stop pushbuttons** on single or three-phase motors.

**Single-phase applications.** On/off cam switches replace contactors and should be used in conjunction with a single-phase motor that has manual or automatic thermal overload protection or where no overload protection is required.

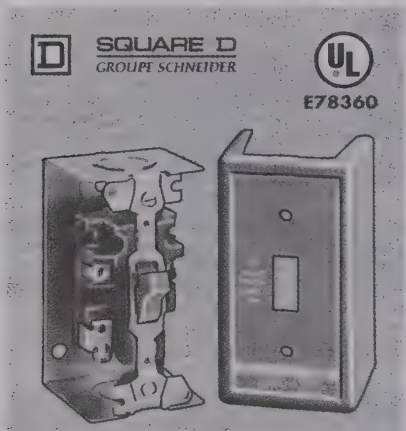
**Three-phase applications.** Three phase switches replace contactors and are used where no overload protection is required.

| No. of Poles | Stock No. | Voltage Rating | Resistive Amps (AC1) | Inductive Amps (AC3) | Single Phase 115V | 230V | Three Phase 240V | 480V | 600V |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 6A611 | 600 | 20 | 20 | 1.5 | 3 | — | — | — |
| 3 | 6A612 | 600 | 20 | 20 | 1.5 | 3 | 7 1/2 | 10 | 10 |
| 2 | 6A613 | 600 | 40 | 40 | 3 | 7 1/2 | — | — | — |
| 3 | 6A614 | 600 | 40 | 40 | 3 | 7 1/2 | 15 | 20 | 20 |

| No. of Poles | Switch Stages | Phase | Dimensions (In.) Ø | L* | P | A | B | Advance Controls Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 1 | 1 | 1.81 | 1.77 | 0.47 | 2.95 | 1.22 | CB0170002PL2 | **6A611** | $37.00 | **$24.22** | 0.4 |
| **2** | 1 | 1 | 2.28 | 2.16 | 0.66 | 2.95 | 1.22 | CB0320002PL2 | **6A613** | 56.00 | **50.60** | 0.4 |
| **3** | 2 | 3 | 1.81 | 1.77 | 0.47 | 2.95 | 1.22 | CB0170003PL2 | **6A612** | 45.00 | **28.45** | 0.4 |
| **3** | 2 | 3 | 2.28 | 2.16 | 0.66 | 2.95 | 1.22 | CB0320003PL2 | **6A614** | 67.00 | **58.10** | 0.5 |

(*) Length (L) is for a single element switch that includes switching box, element, and back plate.

# FRACTIONAL HP MOTOR STARTERS, MANUAL, OPEN AND ENCLOSED




No. 1H385

**Fractional HP starters** provide overload protection as well as manual On/Off control for small motors. Available in one or two pole. Two pole starters can also be used with DC motors to 3/4 HP. Applications include fans, conveyors, pumps, and small machine tools.

- **277 volts maximum AC (1 or 2 pole) and 230 volts maximum DC (2 pole only)**
- **16 amps max. continuous current**
- **Toggle-operated fractional HP starter for single phase motors. Manual reset type**
- **NEMA type 1, 4, 7 & 9 enclosures available**
- **Motor protection is provided by a thermal unit (see below). A thermal unit must be installed before the starter will operate (see below)**
- **Binder head screw type terminals are suitable for #10 or smaller copper wire, and are accessible from the front**
- **Handle Guard/Lock-Off models prevent accidental operation of the toggle operator and also allows the toggle operator to be padlocked in either the ON or the OFF position**
- **Mounting for open types (without pilot light) fit standard single gang switch boxes, and can be used with any cover plate having a standard toggle cutout. Single-unit flush mounting types, including those with pilot light, are suitable for wall mounting in a standard switch box or for machine cavity mounting without a box**

| Volts | Maximum Horsepower | | |
|---|---|---|---|
| | AC Single Phase | | DC 2 Pole Only |
| | 1 Pole | 2 Pole | |
| 115-230 | 1 | 1 | 3/4 |
| 277 | 1 | 1 | — |

See page 460 for accessories.

## FRACTIONAL HORSEPOWER MANUAL STARTERS

| Enclosure Type | No. of Poles | No. of Thermal Units Required | Description | Dimensions (In.) L | W | D | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NEMA MANUAL STARTER** | | | | | | | | | | | |
| **NEMA Type 1 General Purpose Enclosure Surface Mounting** | 1 | 1 | Standard | 2 7/16 | 4 1/4 | 2 3/4 | 2510FG1 | **1H385** | $39.55 | **$36.15** | 0.8 |
| | 1 | 1 | With Red Pilot Light | | | | 2510FG1P | **1H386** | 59.33 | **54.25** | 0.9 |
| | 2 | 1 | Standard | 2 7/16 | 4 1/4 | 2 7/8 | 2510FG2 | **1H387** | 46.11 | **42.15** | 0.8 |
| | 2 | 1 | With Red Pilot Light | | | | 2510FG2P | **1H388** | 65.58 | **59.95** | 0.8 |
| **General Purpose Flush Mounting (without Pull Box)** | 1 | 1 | Standard with S.S. Flush Plate | 1 1/16 | 4 1/8 | 2 11/32 | 2510FS1 | **1H396** | 38.41 | **35.10** | 0.4 |
| | 2 | 1 | Standard with S.S. Flush Plate | | | | 2510FS2 | **1H397** | 46.11 | **42.15** | 0.4 |
| **Open Type** | 1 | 1 | Standard | 1 11/16 | 4 1/8 | 2 7/32 | 2510FO1 | **1H392** | 33.00 | **30.15** | 0.3 |
| | 2 | 1 | Standard | | | | 2510FO2 | **1H393** | 39.55 | **36.15** | 0.3 |
| **NEMA MANUAL STARTER WITH HANDLE GUARD/LOCK-OFF** | | | | | | | | | | | |
| **NEMA Type 1 General Purpose Enclosure Surface Mounting** | 1 | 1 | Standard | 2 7/16 | 4 1/4 | 2 7/8 | 2510FG5 | **1H389** | 46.11 | **42.15** | 0.8 |
| | 2 | 1 | Standard | | | | 2510FG6 | **1H390** | 53.09 | **48.55** | 0.8 |
| **NEMA Type 4** | 1 | 1 | Standard | 2 3/4 | 4 1/4 | 4 9/16 | 2510FW1 | **1H398** | 147.82 | **135.05** | 2.8 |
| | 2 | 1 | Standard | | | | 2510FW2 | **1H399** | 155.10 | **141.70** | 2.8 |
| **NEMA Type 7 & 9** | 1 | 1 | Standard | 3.95 | 6.36 | 4.35 | 2510FR1 | **1H394** | 161.35 | **147.45** | 3.5 |
| | 2 | 1 | Standard | | | | 2510FR2 | **1H395** | 167.60 | **153.25** | 3.5 |

No. 1H391. **Handle Guard Kit** with Padlock Provision. Square D brand (2510FL1). Shpg. wt. 0.1 lbs. List $6.56. Each ..... $6.50

## THERMAL UNITS FOR SQUARE D MOTOR STARTERS LISTED ABOVE

SQUARE D GROUPE SCHNEIDER

**See Page 464 for selection guidelines**

**All thermal units listed below.** Shpg. wt. 0.1 lbs. List $9.89. Each ..... $9.79

| Motor Full-Load Current (Amps) | Square D Model | Stock No. | Motor Full-Load Current (Amps) | Square D Model | Stock No. | Motor Full-Load Current (Amps) | Square D Model | Stock No. |
|---|---|---|---|---|---|---|---|---|
| 0.41-0.44 | A.49 | **5B619** | 1.57-1.65 | A1.86 | **5B634** | 5.86-6.41 | A8.38 | **5B659** |
| 0.45-0.49 | A.54 | **5B620** | 1.66-1.79 | A1.99 | **5B635** | 6.42-6.79 | A9.25 | **5B660** |
| 0.50-0.53 | A.59 | **5B621** | 1.80-1.95 | A2.15 | **5B644** | 6.80-7.57 | A9.85 | **5B661** |
| 0.54-0.58 | A.65 | **5B622** | 1.96-2.15 | A2.31 | **5B645** | 7.58-8.15 | A11.0 | **5B636** |
| 0.59-0.65 | A.71 | **5B623** | 2.16-2.38 | A2.57 | **5B646** | 8.16-8.98 | A11.9 | **5B637** |
| 0.66-0.71 | A.78 | **5B624** | 2.39-2.75 | A2.81 | **5B647** | 8.99-9.67 | A13.2 | **5B638** |
| 0.72-0.78 | A.86 | **5B625** | 2.76-2.84 | A3.61 | **5B650** | 9.68-9.95 | A14.1 | **5B639** |
| 0.79-0.85 | A.95 | **5B626** | 2.85-3.06 | A3.95 | **5B651** | 9.96-10.8 | A14.8 | **5B640** |
| 0.86-0.96 | A1.02 | **5B627** | 3.07-3.45 | A4.32 | **5B652** | 10.9-12.1 | A16.2 | **5B641** |
| 0.97-1.04 | A1.16 | **5B628** | 3.46-3.70 | A4.79 | **5B653** | 12.2-13.1 | A17.9 | **5B642** |
| 1.05-1.16 | A1.25 | **5B629** | 3.71-4.07 | A5.30 | **5B654** | 13.2-13.9 | A19.8 | **5B643** |
| 1.17-1.29 | A1.39 | **5B630** | 4.08-4.32 | A5.78 | **5B655** | 14.0-15.0 | A21.3 | **5B648** |
| 1.30-1.37 | A1.54 | **5B631** | 4.33-4.90 | A6.20 | **5B656** | 15.1-16.0 | A25.2 | **5B649** |
| 1.38-1.47 | A1.63 | **5B632** | 4.91-5.35 | A6.99 | **5B657** | | | |
| 1.48-1.56 | A1.75 | **5B633** | 5.36-5.85 | A7.65 | **5B658** | | | |

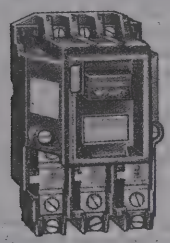


*Relay it, suppress it, enclose it — The leading brands are all right here.*

# NEMA MANUAL MOTOR STARTERS, ENCLOSED AND OPEN

SQUARE D
GROUPE SCHNEIDER

E4847



No. 1H413



No. 1H410

ACCESSORIES AVAILABLE ON PAGES 461 THRU 463

NEMA manual enclosed motor starters provide On/Off operation of small single phase, three phase, or DC motors. Applications include small machine tools, pumps, fans, and conveyors.

- **Pushbutton style operator**
- **NEMA Type 1 surface mounting, 4X, and 12 enclosures can be locked closed to prevent unauthorized entry**
- **600 volts AC maximum; 250 volts DC maximum**
- **2-Pole starters require 1 thermal unit**
- **3-Pole starters require 3 thermal units**

| NEMA Size | Power Terminals: Type of Lug | Power Terminals: Wire Size (Solid or stranded copper wire) Min.-Max. | Auxiliary Interlock Terminals: Type of Lug | Auxiliary Interlock Terminals: Wire Size (Solid or stranded copper wire) Min.-Max. |
|---|---|---|---|---|
| M-0 | Pressure Wire | #14-#8 | Pressure Wire | #16-#12 |
| M-1 | Pressure Wire | #14-#8 | Pressure Wire | #16-#12 |
| M-1P | Box Lug | #14-#6 | Pressure Wire | #16-#12 |

## MANUAL PUSHBUTTON STARTER SPECIFICATIONS AND ORDERING DATA

| NEMA Type | No. of Poles | No. of Thermal Units Required | NEMA Size | Motor Voltage | Contact Load Ratings: Max. HP Single Phase | Contact Load Ratings: Max. HP Three Phase | Dimensions (In.) H | W | D | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NEMA Type 1 Surface Mount | 2 | 1 | M-0 | 115<br>230 | 1<br>2 | —<br>— | 8 5/8 | 5 | 3 29/32 | 2510MBG1 | **1H411** | $121.79 | **$111.30** | 4.2 |
| | 2 | 1 | M-1 | 115<br>230 | 2<br>3 | —<br>— | 6 5/8 | 5 | 3 29/32 | 2510MCG1 | **1H415** | 155.10 | **141.70** | 4.1 |
| | 2 | 1 | M-1P | 115<br>230 | 3<br>5 | —<br>— | 10 | 6 | 5 | 2510MCG2 | **1H416** | 226.93 | **207.50** | 5.9 |
| | 3 | 3 | M-0 | 200-230<br>380-575 | —<br>— | 3<br>5 | 6 5/8 | 5 | 3 29/32 | 2510MBG2 | **1H412** | 144.69 | **132.20** | 4.2 |
| | 3 | 3 | M-1 | 200-230<br>380-575 | —<br>— | 7 1/2<br>10 | 6 5/8 | 5 | 3 29/32 | 2510MCG3 | **1H417** | 178.01 | **162.75** | 4.2 |
| NEMA Type 4X | 3 | 3 | M-0 | 200-230<br>380-575 | —<br>— | 3<br>5 | 12 1/8 | 6 1/2 | 6 13/32 | 2510MBW2 | **1H414** | 356.02 | **325.25** | 5.9 |
| NEMA Type 12/3R | 3 | 3 | M-0 | 200-230<br>380-575 | —<br>— | 3<br>5 | 10 3/4 | 5 3/4 | 5 3/4 | 2510MBA2 | **1H410** | 191.54 | **175.00** | 7.0 |
| OPEN Type | 3 | 3 | M-0 | 200-230<br>380-575 | —<br>— | 3<br>5 | 5 23/32 | 3 1/2 | 4 1/32 | 2510MBO2 | **1H413** | 132.20 | **120.80** | 2.2 |

## THERMAL UNITS FOR SQUARE D MOTOR STARTERS LISTED ABOVE

**See page 464 for selection guidelines**

**All thermal units listed below.** Shpg. wt. 0.1 lbs. List $9.89. Each.....$9.79

| Motor Full Load Current (Amps) 1 Phase | 3 Phase | Square D Model | Stock No. | Motor Full Load Current (Amps) 1 Phase | 3 Phase | Square D Model | Stock No. | Motor Full Load Current (Amps) 1 Phase | 3 Phase | Square D Model | Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.33-0.36 | 0.29-0.32 | B0.44 | **1H594** | 2.31-2.61 | 2.17-2.50 | B3.30 | **1H621** | 14.0-16.1 | — | B22.0 | **1H617** |
| 0.37-0.40 | 0.33-0.36 | B0.51 | **1H595** | 2.62-2.99 | 2.51-2.81 | B3.70 | **1H622** | 16.2-18.0 | — | B25.0 | **1H618** |
| 0.41-0.45 | 0.37-0.39 | B0.57 | **1H596** | 3.00-3.37 | 2.82-3.16 | B4.15 | **1H625** | — | 11.3-12.1 | B19.5* | **1H613** |
| 0.46-0.52 | 0.40-0.47 | B0.63 | **1H597** | 3.38-3.94 | 3.17-3.40 | B4.85 | **1H626** | — | 12.2-13.6 | B22.0* | **1H617** |
| 0.53-0.59 | 0.48-0.56 | B0.71 | **1H598** | 3.95-4.24 | 3.41-3.76 | B5.50 | **1H629** | 16.2-17.6 | 13.7-15.3 | B25.0* | **1H618** |
| 0.60-0.66 | 0.57-0.63 | B0.81 | **1H599** | 4.25-4.54 | 3.77-4.00 | B6.25 | **1H632** | 17.7-20.6 | 15.4-17.3 | B28.0* | **1H619** |
| 0.67-0.73 | 0.64-0.69 | B0.92 | **1H600** | 4.55-5.29 | 4.01-4.68 | B6.90 | **1H633** | 20.7-23.1 | 17.4-19.1 | B32.0* | **1H623** |
| 0.74-0.81 | 0.70-0.77 | B1.03 | **1H601** | 5.30-5.73 | 4.69-5.18 | B7.70 | **1H635** | 23.2-26.0 | 19.2-21.7 | B36.0* | **1H624** |
| 0.82-0.91 | 0.78-0.86 | B1.16 | **1H602** | 5.74-6.35 | 5.19-5.51 | B8.20 | **1H638** | — | 21.8-24.2 | B40.0* | **1H627** |
| 0.92-1.02 | 0.87-0.96 | B1.30 | **1H603** | 6.36-7.08 | 5.52-6.19 | B9.10 | **1H640** | — | 24.3-26.0 | B45.0* | **1H628** |
| 1.03-1.14 | 0.97-1.11 | B1.45 | **1H604** | 7.09-7.83 | 6.20-7.12 | B10.2 | **1H607** | 23.2-27.1 | — | B36.0† | **1H624** |
| 1.15-1.29 | 1.12-1.23 | B1.67 | **1H605** | 7.84-8.47 | 7.13-8.15 | P11.5 | **1H608** | 27.2-29.2 | — | B40.0† | **1H627** |
| 1.20-1.42 | 1.24-1.37 | B1.88 | **1H606** | 8.48-9.83 | 8.16-8.60 | B12.8 | **1H609** | 29.3-33.0 | — | B45.0† | **1H628** |
| 1.43-1.64 | 1.38-1.55 | B2.10 | **1H614** | 9.84-10.5 | 8.61-9.21 | B14.0 | **1H610** | 33.1-36.0 | — | B50.0† | **1H630** |
| 1.65-1.80 | 1.56-1.75 | B2.40 | **1H615** | 10.6-11.4 | 9.22-10.1 | B15.5 | **1H611** | | | | |
| 1.81-2.10 | 1.76-1.92 | B2.65 | **1H616** | 11.5-12.8 | 10.2-11.2 | B17.5 | **1H612** | | | | |
| 2.11-2.30 | 1.93-2.16 | B3.00 | **1H620** | 12.9-13.9 | 11.3-12.0 | B19.5 | **1H613** | | | | |

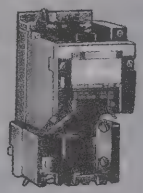
(*) For NEMA size M-1 and M-1P only. (†) For NEMA size M-1P only.

# NEMA MAGNETIC MOTOR STARTERS OPEN AND ENCLOSED

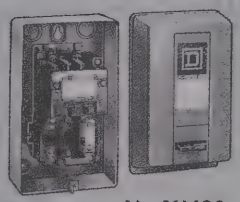
SQUARE D
GROUPE SCHNEIDER

E78351

LR60905



No. 1H490



No. 1H481

- Full voltage motor starters for starting and stopping AC squirrel cage motors • 600VAC, 50/60 Hz
- Overload protection provided by melting alloy type thermal overload relays. Provide accurate response to overload currents and consistent tripping time.
- Class 20 thermal protection
- Replacement overload contact module allows quick repair of overload relay without replacing entire block
- Angled contacts provide high contact pressure and positive seating maximizing contact life
- Spring-assisted gravity dropout on de-energizing contacts quickly extinguishes any arcing
- Normally open holding circuit contact for three wire control
- AC coils operate on line voltages of 85%-110% of rated voltage
- Manual trip-to-test and visible trip indicator. Trip-free construction allows overload relay to trip even if reset lever is blocked or in the reset position
- NEMA Type 1, 3R, 4 & 4X, and 12 enclosures available
- Auxiliary contacts available on page 463

### How To Select The Proper Motor Starter

1. Determine phase requirement—single or three phase.
2. Determine if application is non-reversing or reversing.
3. What is the load rating of the device being controlled either in amps or HP?
4. What type of enclosure is required?
5. What coil voltage is required?
6. Select thermal units on 464 and 465 by determining the full load amps of the device being controlled. Order (1) thermal unit for single phase applications; (3) thermal units for three phase applications.

## COIL RATINGS

| NEMA Size | Inrush VA 50 Hz | Inrush VA 60 Hz | Sealed VA 50 Hz | Sealed VA 60 Hz | Sealed Watts 50 Hz | Sealed Watts 60 Hz |
|---|---|---|---|---|---|---|
| 00 | — | 165 | — | 33 | — | 6 |
| 0 & 1 | 232 | 245 | 26 | 27 | 7.7 | 7.8 |
| 2 | 296 | 311 | 36 | 37 | 12 | 14 |
| 3 | 676 | 700 | 47 | 46 | 15 | 14 |
| 4 | 1260 | 1185 | 89 | 85 | — | 22 |
| 5 | 2970 | 2970 | 250 | 212 | 42 | 39 |

| Enclosure Type | NEMA Size | Coil Voltage | No. of Poles | Cont. Current Ratings | Max. HP 115V | Max. HP 230V | Dimensions (In.) W | L | H | Square D Model 8536... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NONREVERSING, SINGLE PHASE—1 Thermal Unit Required*** | | | | | | | | | | | | | | |
| Open | 0 | 120 | 2 | 18 | 1 | 2 | 3 1/2 | 6 49/64 | 4 7/32 | SBO1V02 | 1H490 | $200.91 | $183.75 | 4.0 |
| | 1 | | | 27 | 2 | 3 | 3 1/2 | 6 49/64 | 4 7/32 | SCO1V02 | 1H511 | 234.22 | 214.00 | 3.9 |
| | 1P | | | 36 | 3 | 5 | 3 1/2 | 6 49/64 | 4 7/32 | SCO2V02 | 1H512 | 306.05 | 279.75 | 4.0 |
| NEMA Type 1 | 00 | 120 240 | 2 | 9 | 1/3 | 1 | 6 | 10 | 5 9/16 | SAG11V02 | 1H468 | 193.62 | 177.00 | 7.2 |
| | | | | | | | | | | SAG11V03 | 1H469 | 193.62 | 177.00 | 7.1 |
| | 0 | 120 240 | 2 | 18 | 1 | 2 | 6 | 10 | 5 9/16 | SBG1V02S | 1H481 | 216.52 | 198.00 | 7.1 |
| | | | | | | | | | | SBG1V03 | 1H482 | 216.52 | 198.00 | 7.1 |
| | 1 | 120 240 | 2 | 27 | 2 | 3 | 6 | 10 | 5 9/16 | SCG1V02 | 1H500 | 248.79 | 227.50 | 7.0 |
| | | | | | | | | | | SCG1V03 | 1H501 | 248.79 | 227.50 | 7.1 |
| | 1P | 120 240 | 2 | 36 | 3 | 5 | 6 | 10 | 5 9/16 | SCG2V02 | 1H502 | 321.66 | 294.00 | 7.2 |
| | | | | | | | | | | SCG2V03 | 1H503 | 321.66 | 294.00 | 7.1 |

| Enclosure Type | NEMA Size | Coil Voltage | No. of Poles | Cont. Current Ratings | Max. HP 200 / 230V | Max. HP 460 / 575V | Dimensions (In.) W | L | H | Square D Model 8536... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NONREVERSING, THREE PHASE†—3 Thermal Units Required For Each Device*** | | | | | | | | | | | | | | |
| Open | 00 | 120 208 240 480 | 3 | 9 | 1.5 | 2 | 3 1/2 | 6 49/64 | 4 7/32 | SAO12V02S | 1H474 | $178.01 | $162.75 | 4.0 |
| | | | | | | | | | | SAO12V08 | 1H476 | 178.01 | 162.75 | 4.1 |
| | | | | | | | | | | SAO12V03 | 1H475 | 178.01 | 162.75 | 4.1 |
| | | | | | | | | | | SAO12V06 | 5B614 | 178.01 | 146.50 | 4.1 |
| | 0 | 120 208 240 480 | 3 | 18 | 3 | 5 | 3 1/2 | 6 49/64 | 4 7/32 | SBO2V02S | 1H491 | 223.81 | 204.50 | 4.0 |
| | | | | | | | | | | SBO2V08 | 1H494 | 223.81 | 204.50 | 4.1 |
| | | | | | | | | | | SBO2V03 | 1H492 | 223.81 | 204.50 | 4.1 |
| | | | | | | | | | | SBO2V06 | 1H493 | 223.81 | 204.50 | 4.1 |
| | 1 | 120 208 240 480 | 3 | 27 | 7.5 | 10 | 3 1/2 | 6 49/64 | 4 7/32 | SCO3V02S | 1H513 | 257.12 | 235.00 | 4.1 |
| | | | | | | | | | | SCO3V08 | 1H516 | 257.12 | 235.00 | 4.1 |
| | | | | | | | | | | SCO3V03 | 1H514 | 257.12 | 235.00 | 4.1 |
| | | | | | | | | | | SCO3V06 | 1H515 | 257.12 | 235.00 | 4.1 |
| | 2 | 120 208 240 480 | 3 | 45 | 10/15 | 25 | 4 5/16 | 7 13/16 | 4 15/16 | SDO1V02S | 1H527 | 467.40 | 427.00 | 6.7 |
| | | | | | | | | | | SDO1V08 | 1H530 | 467.40 | 427.00 | 6.7 |
| | | | | | | | | | | SDO1V03 | 1H528 | 467.40 | 427.00 | 6.7 |
| | | | | | | | | | | SDO1V06 | 1H529 | 467.40 | 427.00 | 6.7 |
| | 3 | 120 208 240 480 | 3 | 90 | 25/30 | 50 | 5 15/32 | 11 3/32 | 6 1/2 | SEO1V02S | 1H541 | 757.84 | 692.50 | 16.0 |
| | | | | | | | | | | SEO1V08 | 1H544 | 757.84 | 692.50 | 16.0 |
| | | | | | | | | | | SEO1V03 | 1H542 | 757.84 | 692.50 | 16.0 |
| | | | | | | | | | | SEO1V06 | 1H543 | 757.84 | 692.50 | 17.0 |
| | 4 | 120 208 240 480 | 3 | 135 | 40/50 | 100 | 6 | 12 7/8 | 6 1/2 | SFO1V02S | 1H549 | 1733.26 | 1584.00 | 23.0 |
| | | | | | | | | | | SFO1V08 | 1H551 | 1733.26 | 1584.00 | 21.0 |
| | | | | | | | | | | SFO1V03 | 1H550 | 1733.26 | 1584.00 | 21.0 |
| | | | | | | | | | | SFO1V06 | 5B617 | 1733.26 | 1584.00 | 21.0 |
| | 5 | 120 | 3 | 270 | 75/100 | 200 | 8 9/16 | 17 9/16 | 8 3/4 | SGO1V02S | 1H553 | 4233.74 | 3868.00 | 55.0 |

(*) Order thermal units separately on pages 464 and 465.
(†) 120V, 3-phase starters are wired for separate control.

# NEMA MAGNETIC MOTOR STARTERS OPEN AND ENCLOSED

## MOTOR STARTER SPECIFICATIONS AND ORDERING DATA

| Enclosure Type | NEMA Size | Coil Voltage | No. of Poles | Cont. Current Ratings | Max. HP 200 / 230V | Max. HP 460 / 575V | Dimensions (In.) W | L | H | Square D Model 8536 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NONREVERSING, THREE-PHASE†—3 Thermal Units Required For Each Device*** | | | | | | | | | | | | | | |
| NEMA Type 1 | 00 | 120<br>208<br>240<br>480 | 3 | 9 | 1.5 | 2 | 6<br>6<br>6<br>6 | 10<br>10<br>10<br>10 | 5 9/16<br>5 9/16<br>5 9/16<br>5 9/16 | SAG12V02S<br>SAG12V08<br>SAG12V03<br>SAG12V06 | 1H470<br>1H473<br>1H471<br>1H472 | $193.62<br>193.62<br>193.62<br>193.62 | $177.00<br>177.00<br>177.00<br>177.00 | 7.3<br>7.3<br>7.2<br>7.2 |
| | 0 | 120<br>208<br>240<br>480 | 3 | 18 | 3 | 5 | 6<br>6<br>6<br>6 | 10<br>10<br>10<br>10 | 5 9/16<br>5 9/16<br>5 9/16<br>5 9/16 | SBG2V02S<br>SBG2V08<br>SBG2V03<br>SBG2V06 | 1H483<br>1H486<br>1H484<br>1H485 | 239.43<br>239.43<br>239.43<br>239.43 | 218.75<br>218.75<br>218.75<br>218.75 | 7.2<br>7.2<br>7.3<br>7.2 |
| | 1 | 120<br>208<br>240<br>480 | 3 | 27 | 7.5 | 10 | 6<br>6<br>6<br>6 | 10<br>10<br>10<br>10 | 5 9/16<br>5 9/16<br>5 9/16<br>5 9/16 | SCG3V02S<br>SCG3V08<br>SCG3V03<br>SCG3V06 | 1H504<br>1H507<br>1H505<br>1H506 | 272.74<br>272.74<br>272.74<br>272.74 | 249.25<br>249.25<br>249.25<br>249.25 | 7.2<br>7.2<br>7.2<br>7.2 |
| | 2 | 120<br>208<br>240<br>480 | 3 | 45 | 10/15 | 25 | 7 13/16<br>7 13/16<br>7 13/16<br>7 13/16 | 12 11/16<br>12 11/16<br>12 11/16<br>12 11/16 | 6 5/16<br>6 5/16<br>6 5/16<br>6 5/16 | SDG1V02S<br>SDG1V08<br>SDG1V03<br>SDG1V06 | 1H520<br>1H523<br>1H521<br>1H522 | 536.11<br>536.11<br>536.11<br>536.11 | 490.00<br>490.00<br>490.00<br>490.00 | 13.0<br>13.0<br>13.0<br>13.0 |
| | 3 | 120<br>208<br>240<br>480 | 3 | 90 | 25/30 | 50 | 11 7/16<br>11 7/16<br>11 7/16<br>11 7/16 | 21 13/16<br>21 13/16<br>21 13/16<br>21 13/16 | 8 3/8<br>8 3/8<br>8 3/8<br>8 3/8 | SEG1V02S<br>SEG1V08<br>SEG1V03<br>SEG1V06 | 1H535<br>1H538<br>1H536<br>1H537 | 892.13<br>892.13<br>892.13<br>892.13 | 815.50<br>815.50<br>815.50<br>815.50 | 36.0<br>36.0<br>36.0<br>36.0 |
| | 4 | 120<br>208<br>240<br>480 | 3 | 135 | 40/50 | 100 | 11 1/4<br>11 1/4<br>11 1/4<br>11 1/4 | 25 5/32<br>25 5/32<br>25 5/32<br>25 5/32 | 9<br>9<br>9<br>9 | SFG1V02S<br>SFG1V08<br>SFG1V03<br>SFG1V06 | 1H545<br>1H548<br>1H546<br>1H547 | 2012.25<br>2012.25<br>2012.25<br>2012.25 | 1839.00<br>1839.00<br>1839.00<br>1839.00 | 45.0<br>44.0<br>50.0<br>45.0 |
| | 5 | 120 | 3 | 270 | 75/100 | 200 | 17 7/32 | 44 7/32 | 12 15/16 | SGG1V02S | 1H552 | 4743.83 | 4334.00 | 148.0 |
| NEMA Type 4 & 4X | 0<br>1<br>2 | 120 | 3 | 18<br>27<br>45 | 3<br>7.5<br>10/15 | 5<br>10<br>25 | 6 3/8<br>6 3/8<br>8 1/8 | 13 13/16<br>13 13/16<br>16 3/16 | 7 13/16<br>7 13/16<br>8 9/16 | SBW12V02S<br>SCW13V02S<br>SDW11V02S | 1H495<br>5B616<br>1H531 | 470.53<br>510.09<br>957.72 | 430.00<br>466.00<br>875.00 | 14.0<br>14.0<br>23.0 |
| NEMA Type 12 | 0 | 120<br>208<br>240<br>480 | 3 | 18 | 3 | 5 | 6 3/8<br>6 3/8<br>6 3/8<br>6 3/8 | 12 3/4<br>12 3/4<br>12 3/4<br>12 3/4 | 8 17/32<br>8 17/32<br>8 17/32<br>8 17/32 | SBA2V02S<br>SBA2V08<br>SBA2V03<br>SBA2V06 | 1H477<br>1H480<br>1H478<br>1H479 | 318.54<br>318.54<br>318.54<br>318.54 | 291.25<br>291.25<br>291.25<br>291.25 | 12.0<br>13.0<br>13.0<br>12.0 |
| | 1 | 120<br>208<br>240<br>480 | 3 | 27 | 7.5 | 10 | 6 3/8<br>6 3/8<br>6 3/8<br>6 3/8 | 12 3/4<br>12 3/4<br>12 3/4<br>12 3/4 | 8 17/32<br>8 17/32<br>8 17/32<br>8 17/32 | SCA3V02S<br>SCA3V08<br>SCA3V03<br>SCA3V06 | 1H496<br>1H499<br>1H497<br>1H498 | 351.85<br>351.85<br>351.85<br>351.85 | 321.50<br>321.50<br>321.50<br>321.50 | 12.0<br>13.0<br>13.0<br>13.0 |
| | 2 | 120<br>208<br>240<br>480 | 3 | 45 | 10/15 | 25 | 8 1/8<br>8 1/8<br>8 1/8<br>8 1/8 | 16<br>16<br>16<br>16 | 9 9/32<br>9 9/32<br>9 9/32<br>9 9/32 | SDA1V02S<br>SDA1V08<br>SDA1V03<br>SDA1V06 | 1H517<br>6B390<br>1H518<br>1H519 | 680.81<br>654.00<br>680.81<br>680.81 | 622.00<br>597.50<br>622.00<br>622.00 | 22.0<br>21.0<br>21.0<br>21.0 |
| | 3 | 120<br>208<br>240<br>480 | 3 | 90 | 25/30 | 50 | 18 5/32<br>18 5/32<br>18 5/32<br>18 5/32 | 31 1/2<br>31 1/2<br>31 1/2<br>31 1/2 | 9 9/16<br>9 9/16<br>9 9/16<br>9 9/16 | SEA1V02S<br>SEA1V08<br>SEA1V03<br>SEA1V06 | 1H532<br>6B388<br>1H533<br>1H534 | 1062.86<br>1021.00<br>1062.86<br>1062.86 | 971.00<br>932.50<br>971.00<br>971.00 | 69.0<br>68.0<br>72.0<br>75.0 |
| NEMA Type 3R | 0 | 120<br>208<br>240<br>480 | 3 | 18 | 3 | 5 | 8 27/32<br>8 27/32<br>8 27/32<br>8 27/32 | 12 9/32<br>12 9/32<br>12 9/32<br>12 9/32 | 7 1/8<br>7 1/8<br>7 1/8<br>7 1/8 | SBH2V02S<br>SBH2V08<br>SBH2V03<br>SBH2V06 | 1H487<br>6B392<br>1H488<br>1H489 | 318.54<br>306.00<br>318.54<br>318.54 | 291.25<br>279.50<br>291.25<br>291.25 | 14.0<br>15.0<br>14.0<br>14.0 |
| | 1 | 120<br>208<br>240<br>480 | 3 | 27 | 7.5 | 10 | 8 27/32<br>8 27/32<br>8 27/32<br>8 27/32 | 12 9/32<br>12 9/32<br>12 9/32<br>12 9/32 | 7 1/8<br>7 1/8<br>7 1/8<br>7 1/8 | SCH3V02S<br>SCH3V08<br>SCH3V03<br>SCH3V06 | 1H508<br>6B391<br>1H509<br>1H510 | 351.85<br>338.00<br>351.85<br>351.85 | 321.50<br>308.75<br>321.50<br>321.50 | 14.0<br>14.0<br>14.0<br>14.0 |
| | 2 | 120<br>208<br>240<br>480 | 3 | 45 | 10/15 | 25 | 9 27/32<br>9 27/32<br>9 27/32<br>9 27/32 | 16 9/32<br>16 9/32<br>16 9/32<br>16 9/32 | 8 5/8<br>8 5/8<br>8 5/8<br>8 5/8 | SDH1V02S<br>SDH1V08<br>SDH1V03<br>SDH1V06 | 1H524<br>6B389<br>1H525<br>1H526 | 680.81<br>654.00<br>680.81<br>680.81 | 622.00<br>597.50<br>622.00<br>622.00 | 23.0<br>23.0<br>23.0<br>22.0 |
| | 3 | 120<br>208<br>240<br>480 | 3 | 90 | 25/30 | 50 | 12 27/32<br>12 27/32<br>12 27/32<br>12 27/32 | 25 9/32<br>25 9/32<br>25 9/32<br>25 9/32 | 8 5/8<br>8 5/8<br>8 5/8<br>8 5/8 | SEH1V02S<br>SEH1V08<br>SEH1V03<br>SEH1V06 | 1H539<br>6B386<br>6B387<br>1H540 | 1062.86<br>1021.00<br>1021.00<br>1062.86 | 971.00<br>932.50<br>932.50<br>971.00 | 41.0<br>41.0<br>41.0<br>41.0 |
| **REVERSING, THREE-PHASE†—3 Thermal Units Required For Each Device*** | | | | | | | | | | | | | | |
| Open | 00<br>0<br>1 | 120 | 3 | 9<br>18<br>27 | 1.5<br>3<br>7.5 | 2<br>5<br>10 | 7 1/8<br>7 1/8<br>5 15/32 | 6 23/32<br>6 23/32<br>11 33/64 | 5 5/16<br>5 5/16<br>5 9/16 | 8736SA016V02S<br>8736SBO4V02S<br>8736SCO8V02S | New 2BX80<br>1H555<br>1H557 | 411.00<br>506.96<br>573.59 | 407.00<br>463.25<br>524.50 | 9.8<br>9.9<br>10.0 |
| NEMA 1 | 00<br>0<br>1<br>2 | 120 | 3 | 9<br>18<br>27<br>45 | 1.5<br>3<br>7.5<br>10/15 | 2<br>5<br>10<br>25 | 11 7/8<br>11 7/8<br>11 7/8<br>14 7/8 | 11 7/8<br>11 7/8<br>11 7/8<br>14 1/8 | 7 17/32<br>7 17/32<br>7 17/32<br>7 21/32 | 8736SAG16V02S<br>8736SBG4V02S<br>8736SCG8V02S<br>8736SDG2V02S | New 2BX76<br>1H554<br>1H556<br>1H558 | 439.00<br>536.11<br>615.23<br>1195.06 | 434.75<br>531.00<br>562.50<br>1092.00 | 21.0<br>21.0<br>21.0<br>32.0 |

(*) Order thermal units separately on pages 464 and 465. (†) 120 Volt three phase starters wired for separate control.

# NEMA MOTOR STARTERS WITH MOTOR LOGIC™ SOLID STATE OVERLOAD RELAY

SQUARE D
GROUPE SCHNEIDER



No. 5E748

E78351

LR60905

- Full voltage starters for starting and stopping AC squirrel cage motors
- NEMA rated starter
- 3 Pole, 3 phase, 50/60 Hz, 600VAC
- Open, NEMA 1 and 3R enclosures
- Angled contacts provide high contact pressure and positive seating maximizing contact life
- Spring-assisted gravity dropout on de-energizing contacts quickly extinguishes any arcing
- Class 20 thermal protection
- Normally open holding circuit contact for three wire control
- Overload relay has heaterless construction - adjustable full load amps
- Phase loss and phase unbalance protection
- Alarm contact, remote reset, DIN adapter, and lug-extender kits available on page 462

CONTINUED ON NEXT PAGE

## COIL RATINGS

| NEMA Size | Inrush VA 50 Hz | Inrush VA 60 Hz | Sealed VA 50 Hz | Sealed VA 60 Hz | Sealed Watts 50 Hz | Sealed Watts 60 Hz |
|---|---|---|---|---|---|---|
| 00 | — | 165 | — | 33 | — | 6 |
| 0 & 1 | 232 | 245 | 26 | 27 | 7.7 | 7.8 |
| 2 | 296 | 311 | 36 | 37 | 12 | 14 |
| 3 | 676 | 700 | 47 | 46 | 15 | 14 |
| 4 | 1260 | 1185 | 89 | 85 | — | 22 |
| 5 | 2970 | 2970 | 250 | 212 | 42 | 39 |

| Enclosure Type | NEMA Size | Coil Voltage | Cont. Current Ratings | Overload Current Range (Amps) | Max. HP 200 / 230V | Max. HP 460 / 575V | Dimensions (In.) W | Dimensions (In.) L | Dimensions (In.) H | Square D Model 8536... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NONREVERSING, THREE-PHASE STARTER WITH MOTOR LOGIC™** | | | | | | | | | | | | | | |
| Open | 0 | 120<br>208<br>240<br>480 | 18 | 6-18 | 3 | 5 | 3½ | 6⁴⁹⁄₆₄ | 4⁷⁄₃₂ | SBO2V02H20S<br>SBO2V08H20<br>SBO2V03H20<br>SBO2V06H20 | **5E748**<br>**5F001**<br>**5E750**<br>**5E752** | $254.00<br>254.00<br>254.00<br>254.00 | **$251.75**<br>**251.75**<br>**251.75**<br>**251.75** | 4.1<br>4.1<br>4.1<br>4.1 |
| | 1 | 120<br>208<br>240<br>480 | 27 | 9-27 | 7.5 | 10 | 3½ | 6⁴⁹⁄₆₄ | 4⁷⁄₃₂ | SCO3V02H20S<br>SCO3V08H20<br>SCO3V03H20<br>SCO3V06H20 | **5F035**<br>**5F041**<br>**5F037**<br>**5F039** | 286.27<br>286.27<br>286.27<br>286.27 | **283.75**<br>**283.75**<br>**283.75**<br>**283.75** | 4.1<br>4.1<br>4.1<br>4.1 |
| | 2 | 120<br>208<br>240<br>480 | 45 | 15-45 | 10/15 | 25 | 4¹⁵⁄₁₆ | 7¹⁵⁄₁₆ | 4¹⁵⁄₁₆ | SDO1V02H20S<br>SDO1V08H20<br>SDO1V03H20<br>SDO1V06H20 | **5F075**<br>**5F081**<br>**5F077**<br>**5F079** | 497.59<br>497.59<br>497.59<br>497.59 | **493.00**<br>**493.00**<br>**493.00**<br>**493.00** | 6.7<br>6.7<br>6.7<br>6.7 |
| | 3 | 120<br>208<br>240<br>480 | 90 | 30-90 | 25/30 | 50 | 5¹⁵⁄₃₂ | 11³⁄₃₂ | 6½ | SEO1V02H20S<br>SEO1V08H20<br>SEO1V03H20<br>SEO1V06H20 | **5F115**<br>**5F121**<br>**5F117**<br>**5F119** | 786.99<br>786.99<br>786.99<br>786.99 | **779.50**<br>**779.50**<br>**779.50**<br>**779.50** | 16.0<br>16.0<br>16.0<br>16.0 |
| | 4 | 120<br>208<br>240<br>480 | 135 | 45-135 | 40/50 | 100 | 6 | 12⅞ | 6½ | SFO1V02H20S<br>SFO1V08H20<br>SFO1V03H20<br>SFO1V06H20 | **5F155**<br>**5F161**<br>**5F157**<br>**5F159** | 1762.41<br>1762.41<br>1762.41<br>1762.41 | **1746.00**<br>**1746.00**<br>**1746.00**<br>**1746.00** | 24.0<br>24.0<br>24.0<br>24.0 |
| NEMA 1 | 0 | 120<br>208<br>240<br>480 | 18 | 6-18 | 3 | 5 | 6 | 10 | 5⁹⁄₃₂ | SBG2V02H20S<br>SBG2V08H20<br>SBG2V03H20<br>SBG2V06H20 | **5E732**<br>**5E738**<br>**5E734**<br>**5E736** | 268.57<br>268.57<br>268.57<br>268.57 | **266.00**<br>**266.00**<br>**266.00**<br>**266.00** | 7.2<br>7.2<br>7.2<br>7.2 |
| | 1 | 120<br>208<br>240<br>480 | 27 | 9-27 | 7.5 | 10 | 6 | 10 | 5⁹⁄₃₂ | SCG3V02H20S<br>SCG3V08H20<br>SCG3V03H20<br>SCG3V06H20 | **5F019**<br>**5F025**<br>**5F021**<br>**5F023** | 301.89<br>301.89<br>301.89<br>301.89 | **299.00**<br>**299.00**<br>**299.00**<br>**299.00** | 7.2<br>7.2<br>7.2<br>7.2 |
| | 2 | 120<br>208<br>240<br>480 | 45 | 15-45 | 10/15 | 25 | 7¹¹⁄₁₆ | 12¹¹⁄₁₆ | 6⁷⁄₁₆ | SDG1V02H20S<br>SDG1V08H20<br>SDG1V03H20<br>SDG1V06H20 | **5F059**<br>**5F065**<br>**5F061**<br>**5F063** | 565.26<br>565.26<br>565.26<br>565.26 | **560.00**<br>**560.00**<br>**560.00**<br>**560.00** | 13.0<br>13.0<br>13.0<br>13.0 |
| | 3 | 120<br>208<br>240<br>480 | 90 | 30-90 | 25/30 | 50 | 11⁷⁄₁₆ | 21¹⁵⁄₁₆ | 8¾ | SEG1V02H20S<br>SEG1V08H20<br>SEG1V03H20<br>SEG1V06H20 | **5F099**<br>**5F105**<br>**5F101**<br>**5F103** | 921.28<br>921.28<br>921.28<br>885.00 | **912.50**<br>**912.50**<br>**912.50**<br>**876.50** | 36.0<br>36.0<br>36.0<br>36.0 |
| | 4 | 120<br>208<br>240<br>480 | 135 | 45-135 | 40/50 | 100 | 11¼ | 25³⁄₃₂ | 9 | SFG1V02H20S<br>SFG1V08H20<br>SFG1V03H20<br>SFG1V06H20 | **5F139**<br>**5F145**<br>**5F141**<br>**5F143** | 2041.40<br>2041.40<br>2041.40<br>2041.40 | **2022.00**<br>**2022.00**<br>**2022.00**<br>**2022.00** | 47.0<br>47.0<br>47.0<br>47.0 |
| NEMA 3R | 0 | 120<br>208<br>240<br>480 | 18 | 6-18 | 3 | 5 | 8²⁵⁄₃₂ | 12²⁵⁄₃₂ | 7⅛ | SBH2V02H20S<br>SBH2V08H20<br>SBH2V03H20<br>SBH2V06H20 | **5E740**<br>**5E746**<br>**5E742**<br>**5E744** | 347.69<br>347.69<br>347.69<br>347.69 | **344.50**<br>**344.50**<br>**344.50**<br>**344.50** | 13.0<br>13.0<br>13.0<br>13.0 |
| | 1 | 120<br>208<br>240<br>480 | 27 | 9-27 | 7.5 | 10 | 8²⁵⁄₃₂ | 12²⁵⁄₃₂ | 7⅛ | SCH3V02H20S<br>SCH3V08H20<br>SCH3V03H20<br>SCH3V06H20 | **5F027**<br>**5F033**<br>**5F029**<br>**5F031** | 381.00<br>381.00<br>381.00<br>381.00 | **377.50**<br>**377.50**<br>**377.50**<br>**377.50** | 13.0<br>13.0<br>13.0<br>13.0 |



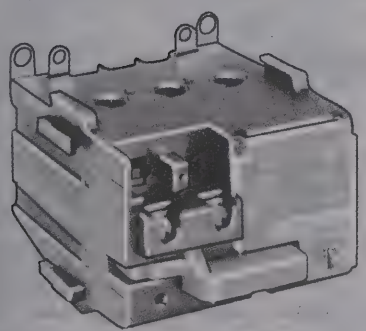
Relay it, suppress it, enclose it — The leading brands are all right here.

# NEMA MOTOR STARTERS WITH MOTOR LOGIC™ AND SOLID STATE OVERLOAD RELAYS

| Enclosure Type | NEMA Size | Coil Voltage | Cont. Current Ratings | Overload Current Range (Amps) | Max. HP 200/230V | Max. HP 460/575V | Dimensions (In.) W | Dimensions (In.) L | Dimensions (In.) H | Square D Model 8536... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NONREVERSING, THREE-PHASE STARTER WITH MOTOR LOGIC™** | | | | | | | | | | | | | | |
| NEMA 3R | 2 | 120<br>208<br>240<br>480 | 45 | 15-45 | 10/15 | 25 | 9 27/32 | 16 9/32 | 8 5/8 | SDH1V02H20S<br>SDH1V08H20<br>SDH1V03H20<br>SDH1V06H20 | 5F067<br>5F073<br>5F069<br>5F071 | $711.00<br>711.00<br>711.00<br>711.00 | $704.50<br>704.50<br>704.50<br>704.50 | 21.0<br>21.0<br>21.0<br>21.0 |
| | 3 | 120<br>208<br>240<br>480 | 90 | 30-90 | 25/30 | 50 | 12 27/32 | 25 9/32 | 8 5/8 | SEH1V02H20S<br>SEH1V08H20<br>SEH1V03H20<br>SEH1V06H20 | 5F107<br>5F113<br>5F109<br>5F111 | 1093.05<br>1093.05<br>1093.05<br>1093.05 | 1083.00<br>1083.00<br>1083.00<br>1083.00 | 69.0<br>69.0<br>69.0<br>69.0 |
| | 4 | 120<br>208<br>240<br>480 | 135 | 45-135 | 40/50 | 100 | 12 27/32 | 40 9/32 | 9 1/8 | SFH1V02H20S<br>SFH1V08H20<br>SFH1V03H20<br>SFH1V06H20 | 5F147<br>5F153<br>5F149<br>5F151 | 2608.74<br>2608.74<br>2608.74<br>2608.74 | 2584.00<br>2584.00<br>2584.00<br>2584.00 | 77.0<br>77.0<br>77.0<br>77.0 |
| **Enclosure Type** | **NEMA Size** | **Coil Voltage** | **Cont. Current Ratings** | **Overload Current Range (Amps)** | **Max. HP 200/230V** | **Max. HP 460/575V** | **Dimensions (In.) W** | **Dimensions (In.) L** | **Dimensions (In.) H** | **Square D Model 8736...** | **Stock No.** | **List** | **Each** | **Shpg. Wt.** |
| **REVERSING, THREE-PHASE STARTER WITH MOTOR LOGIC™** | | | | | | | | | | | | | | |
| OPEN | 0 | 120<br>208<br>240<br>480 | 18 | 6-18 | 3 | 5 | 7 1/8 | 6 29/32 | 5 5/16 | SBO4V02H20S<br>SBO4V08H20<br>SBO4V03H20<br>SBO4V06H20 | 5F179<br>5F185<br>5F181<br>5F183 | $537.15<br>537.15<br>537.15<br>537.15 | $532.00<br>532.00<br>532.00<br>532.00 | 9.9<br>9.9<br>9.9<br>9.9 |
| | 1 | 120<br>208<br>240<br>480 | 27 | 9-27 | 7.5 | 10 | 7 1/8 | 6 29/32 | 5 5/16 | SCO8V02H20S<br>SCO8V08H20<br>SCO8V03H20<br>SCO8V06H20 | 5F195<br>5F201<br>5F197<br>5F199 | 602.73<br>602.73<br>602.73<br>602.73 | 597.00<br>597.00<br>597.00<br>597.00 | 10.0<br>10.0<br>10.0<br>10.0 |
| | 2 | 120<br>208<br>240<br>480 | 45 | 15-45 | 10/15 | 25 | 9 | 8 1/2 | 6 1/32 | SDO2V02H20S<br>SDO2V08H20<br>SDO2V03H20<br>SDO2V06H20 | 5F331<br>5F575<br>5F333<br>5F573 | 1116.99<br>1116.99<br>1116.99<br>1116.99 | 1107.00<br>1107.00<br>1107.00<br>1107.00 | 18.0<br>18.0<br>18.0<br>18.0 |
| NEMA 1 | 0 | 120<br>208<br>240<br>480 | 18 | 6-18 | 3 | 5 | 11 7/8 | 11 7/8 | 7 17/32 | SBG4V02H20S<br>SBG4V08H20<br>SBG4V03H20<br>SBG4V06H20 | 5F171<br>5F177<br>5F173<br>5F175 | 565.26<br>565.26<br>565.26<br>565.26 | 560.00<br>560.00<br>560.00<br>560.00 | 22.0<br>22.0<br>22.0<br>22.0 |
| | 1 | 120<br>208<br>240<br>480 | 27 | 9-27 | 7.5 | 10 | 11 7/8 | 11 7/8 | 7 17/32 | SCG8V02H20S<br>SCG8V08H20<br>SCG8V03H20<br>SCG8V06H20 | 5F187<br>5F193<br>5F189<br>5F191 | 644.37<br>644.37<br>644.37<br>644.37 | 638.50<br>638.50<br>638.50<br>638.50 | 22.0<br>22.0<br>22.0<br>22.0 |
| | 2 | 120<br>208<br>240<br>480 | 45 | 15-45 | 10/15 | 25 | 11 7/8 | 11 7/8 | 7 17/32 | SDG2V02H20S<br>SDG2V08H20<br>SDG2V03H20<br>SDG2V06H20 | 5F203<br>5F209<br>5F205<br>5F207 | 1224.21<br>1224.21<br>1224.21<br>1224.21 | 1213.00<br>1213.00<br>1213.00<br>1213.00 | 32.0<br>32.0<br>32.0<br>32.0 |

# MOTOR LOGIC™ SOLID STATE OVERLOAD RELAY

SQUARE D
GROUPE SCHNEIDER



No. 5F583

E14839

LR104591

Motor Logic™ solid state overload relays may be purchased for separate mounting or for retrofit of an existing Square D type S application. Select overload relay by full load amp current range.

- **Overload relay has heaterless construction—adjustable full load amps**
- **3:1 Current adjustment range**
- **Phase loss and phase unbalance protection**
- **Self-powered with power ON LED**
- **Visible trip indication**
- **3 Phase 50/60 Hz, 600VAC**
- **Alarm contact, remote reset, DIN adapter, and lug-extender kits available, see page 462**

## MOTOR LOGIC™ SOLID STATE OVERLOAD RELAY

| NEMA Size | Full Load Current Range (Amps) | Square D Model 9065... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **FOR SEPARATE MOUNTING** | | | | | | |
| 0 | 6-18 | SS020 | 5F583 † | $88.48 | $87.65 | 1.1 |
| 1 | 9-27 | SS120 | 5F585 † | 88.48 | 87.65 | 1.1 |
| 2 | 15-45 | SS220 | 5F587 | 124.92 | 123.75 | 1.4 |
| **RELAY FOR RETROFIT OF TYPE 8536 MOTOR STARTER** | | | | | | |
| 0 | 6-18 | SS020 | 5F583 * | 88.48 | 87.65 | 1.1 |
| 1 | 9-27 | SS120 | 5F585 * | 88.48 | 87.65 | 1.1 |
| 2 | 15-45 | SR220 | 5F577 | 115.55 | 114.45 | 1.3 |

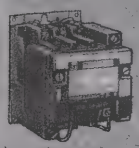
(†) Requires 5F595 Lug-Lug Kit on page 462.
(*) Requires Lug Extender Kit 5F594 on page 462.

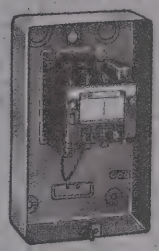
# NEMA OPEN AND ENCLOSED MAGNETIC CONTACTORS AND STARTER ACCESSORIES

SQUARE D
GROUPE SCHNEIDER

E78351 LR60905

Replacement Parts Available
1-800-323-0620


No. 1H452




No. 1H451

- Magnetic contactors are for use with heating loads, capacitors, transformers, electric motors, and other power loads
- For use where overload protection is separately provided
- 600 Volts AC maximum
- 50/60 Hz
- Rated in accordance with NEMA standards, UL Listed and CSA Certified
- Normally open holding circuit contact for three wire control is provided as standard

## COIL RATINGS

| NEMA Size | Inrush VA 50 Hertz | Inrush VA 60 Hertz | Sealed VA 50 Hertz | Sealed VA 60 Hertz | Sealed Watts 60 Hertz |
|---|---|---|---|---|---|
| 00 | — | 165 | — | 33 | 6.0 |
| 0 & 1 | 232 | 245 | 26 | 27 | 7.8 |
| 2 | 296 | 311 | 36 | 37 | 14.0 |
| 3 | 676 | 700 | 47 | 46 | 14.0 |
| 4 | 1260 | 1185 | 89 | 85 | 22.0 |
| 5 | 2970 | 2970 | 250 | 212 | 39.0 |

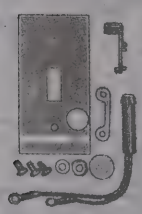
## AC MAGNETIC CONTACTOR SPECIFICATIONS AND ORDERING DATA

| Enclosure Type | NEMA Size | Coil Voltage | No. of Poles | Cont. Current Range (Amps) | Max. HP 115V | Max. HP 230V | Dimensions (In.) W | Dimensions (In.) L | Dimensions (In.) H | Square D Model 8502... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE PHASE—2-Pole** | | | | | | | | | | | | | | |
| Open | 00 | 120 | 2 | 9 | 1/3 | 1 | 3 7/32 | 4 11/32 | 4 7/32 | SAO11V02 | **1H452** | $132.20 | **$130.95** | 3.0 |
| | 0 | 120 | 2 | 18 | 1 | 2 | 3 7/32 | 4 11/32 | 4 7/32 | SBO1V02S | **1H456** | 171.76 | **170.25** | 3.0 |
| | 1 | 120 | 2 | 27 | 2 | 3 | 3 7/32 | 4 11/32 | 4 7/32 | SCO1V02S | **1H458** | 204.03 | **202.25** | 3.0 |
| | 2 | 120 | 2 | 45 | 3 | 7½ | 4 5/16 | 5⅛ | 4 15/16 | SDO1V02S | **1H461** | 382.04 | **378.50** | 5.6 |
| **THREE PHASE—3-Pole*** | | | | | | | | | | | | | | |
| Open | 00 | 120 | 3 | 9 | 1½ | 2 | 3 7/32 | 4 11/32 | 4 7/32 | SAO12V02S | **1H453** | $151.98 | **$150.75** | 3.0 |
| | 0 | 120 | 3 | 18 | 3 | 5 | 3 7/32 | 4 11/32 | 4 7/32 | SBO2V02S | **6B393** | 184.00 | **182.25** | 3.0 |
| | 1 | 120 | 3 | 27 | 7½ | 10 | 3 7/32 | 4 11/32 | 4 7/32 | SCO2V02S | **1H459** | 223.81 | **221.75** | 3.1 |
| | 2 | 120 | 3 | 45 | 10/15 | 25 | 4 5/16 | 5⅛ | 4 15/16 | SDO2V02S | **1H462** | 408.07 | **404.25** | 5.7 |
| | 3 | 120 | 3 | 90 | 25/30 | 50 | 5 15/32 | 7 9/32 | 6½ | SEO2V02S | **1H464** | 658.95 | **653.00** | 13.0 |
| | 4 | 120 | 3 | 135 | 40/50 | 100 | 6 | 8 3/16 | 6½ | SFO2V02S | **1H466** | 1581.27 | **1567.00** | 18.0 |
| | 5 | 120 | 3 | 270 | 75/100 | 200 | 8 21/32 | 12 5/16 | 8¾ | SGO2V02S | **1H467** | 3446.75 | **3414.00** | 47.0 |
| NEMA 1 | 00 | 120 | 3 | 9 | 1½ | 2 | 6 | 10 | 5 9/32 | SAG12V02S | **1H451** | 166.56 | **165.00** | 7.0 |
| | 0 | 120 | 3 | 18 | 3 | 5 | 6 | 10 | 5 9/32 | SBG2V02S | **1H454** | 206.11 | **204.25** | 6.4 |
| | 1 | 120 | 3 | 27 | 7½ | 10 | 6 | 10 | 5 9/32 | SCG2V02S | **1H457** | 239.43 | **237.25** | 6.4 |
| | 2 | 120 | 3 | 45 | 10/15 | 25 | 7 13/16 | 12 11/16 | 6 17/32 | SDG2V02S | **1H460** | 476.77 | **472.25** | 12.0 |
| | 3 | 120 | 3 | 90 | 25/30 | 50 | 11 7/16 | 21 13/16 | 8 | SEG2V02S | **1H463** | 793.24 | **786.00** | 34.0 |
| | 4 | 120 | 3 | 135 | 40/50 | 100 | 11¼ | 25 7/32 | 9 | SFG2V02S | **1H465** | 1860.26 | **1843.00** | 42.0 |

(*) 120 Volt, 3-phase contactors are wired for separate control.

SQUARE D
GROUPE SCHNEIDER


No. 1H418


No. 1H419


No. 1H391

## MANUAL STARTER AND SWITCHES ACCESSORIES

| Description | For Use With | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Red Pilot Light Kit 115-240VAC/DC** | NEMA 1 Enclosure Fractional HP Starters | 9999PL10 | **1H419** | $19.77 | **$19.59** | 0.1 |
| **Red Pilot Light Kit 110-120VAC** | NEMA 1 Enclosure Switches (above) | 9999PL11 | **1H420** | 33.00 | **32.70** | 0.1 |
| **208-277VAC** | | 9999PL12 | **1H421** | 33.00 | **32.70** | 0.1 |
| **440-600VAC** | | 9999PL13 | **1H422** | 33.00 | **32.70** | 0.1 |
| **Handle Guard Kit with Padlock Provision** | Fractional HP Starters | 2510FL1 | **1H391** | 6.56 | **6.50** | 0.1 |
| **Internal Lever For Use With Type M Integral HP in NEMA 4, 4X, 7, 9 & 12 Enclosures** | Integral HP Starters | 9998IL1 | **1H418** | 6.55 | **6.50** | 0.1 |
| **Emergency Off Actuator** | Switches and Fractional HP Starters | 2510PB1 | **6B401** | 15.80 | **14.43** | 0.1 |
| **Replacement Contacts M-O** | Integral HP Starters | 9998ML1 | **1H559** | 45.89 | **45.45** | 0.1 |
| **M-1, M-1P** | | 9998ML2 | **1H560** | 54.06 | **53.50** | 0.1 |



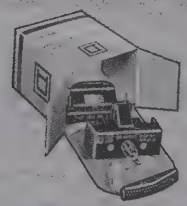
*Relay it, suppress it, enclose it — The leading brands are all right here.*

# ACCESSORIES FOR NEMA CONTACTORS AND MOTOR STARTERS

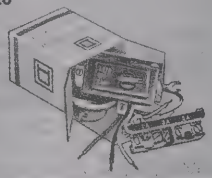
## PILOT LIGHTS, SELECTOR SWITCHES, AND PUSHBUTTONS

E78360

Pilot Light Kits



Replacement Parts Available 1-800-323-0620



Selector Switch Kits

Easily field installed in NEMA Type 1, 3R & 12 full voltage, magnetic contactor or starter enclosure covers. Kits are supplied with control unit(s) complete with leads and clearly illustrated instructions. Rated for 600 volts. 50/60 Hz.

**Note:** No. 1H582 coil voltage must be the same as pilot light rating.

**No. 1H586.** Green Pilot Light Lens - for all models except No. 1H582. Shpg. wt. 0.1 lbs. List $6.55. Each ..... **$6.50**

### RED PILOT LIGHT ORDERING DATA

| Accessories for NEMA Type | Class | For use with Starter Type | NEMA Size | No. of Poles | Voltage | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8502 & 8536 | SA, SB, & SC | 00, 0, 1 & 1P | All | 6-600 VAC 50-60 Hz | 9999SP2R | **1H583** | $98.89 | **$97.95** | 0.2 |
| | | SD | 2 | All | | 9999SP3R | **1H584** | 98.89 | **97.95** | 0.2 |
| | | SE | 3 | 2-3 | | 9999SP4R | **1H585** | 98.89 | **97.95** | 0.2 |
| | | SF | 4 | All | | 9999SP15R | **1H581** | 98.89 | **97.95** | 0.2 |
| 1 | 8538 & 8539 | SB & SC | 0, 1 | All | | 9999SP12R | **1H579** | 98.89 | **97.95** | 0.4 |
| | | SD | 2 | All | | 9999SP13R | **1H580** | 98.89 | **97.95** | 0.2 |
| | | SE | 3 | All | | 9999SP14R | **6B406** | 95.00 | **94.05** | 0.2 |
| | | SF | 4 | All | | 9999SP15R | **1H581** | 98.89 | **97.95** | 0.2 |
| 3R/12 | All above | All | All | All | 120VAC | 9999SP28R | **1H582** | 98.89 | **97.95** | 0.8 |

### SELECTOR SWITCH ORDERING DATA

| Accessories for NEMA Type | Class | For use with NEMA Size | Type | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 | All | 00-3 | Hand/Off/Auto | 9999SC2 | **1H575** | $53.09 | **$52.60** | 0.5 |
| 1 3R/12 | All | 4-5 All | Hand/Off/Auto | 9999SC8 | **1H576** | 98.89 | **97.95** | 0.8 |

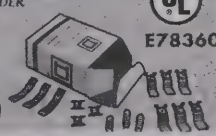
### PUSHBUTTON KITS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 8502 8536 | 00-3 | Start/Stop | 9999SA2 | **2FM51** | 53.09 | **52.60** | 0.3 |
| | 8538 8539 | 0-4 | Start/Stop | | | | | |
| 1 | 8502, 8536 | 4-7 | Start/Stop | 9999SA3 | **1H574** | 98.89 | **97.95** | 1.0 |
| | 8538, 8539 | 5-7 | | | | | | |
| 3R/12 | All | All | Start/Stop | | | | | |

SQUARE D GROUPE SCHNEIDER

E78360

LR60905 (SJ models only)



Each kit contains the necessary movable and stationary contacts and contact springs (when required). When servicing devices having more poles than contained in the corresponding kit, it may be necessary to order an additional kit.

### MANUAL STARTER CONTACT KITS

| NEMA Size | No. of Poles | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| M-0 | 3 | 9998ML1 | **1H559** | $45.89 | **$45.45** | 0.1 |
| M-1 & M-1P | 3 | 9998ML2 | **1H560** | 54.06 | **53.50** | 0.1 |

### MAGNETIC CONTACTOR AND STARTER CONTACT KITS

| | | | | | |
|---|---|---|---|---|---|
| 00 | 9998SJ1 | **1H567** | $45.89 | **$45.45** | 0.1 |
| 0 | 9998SL2 | **1H569** | 66.78 | **66.10** | 0.1 |
| 1 | 9998SL3 | **1H570** | 96.46 | **95.50** | 0.2 |
| 2 | 9998SL4 | **1H571** | 189.74 | **188.00** | 0.2 |
| 3 | 9998SL7 | **1H572** | 339.20 | **335.75** | 0.7 |
| 4 | 9998SL9 | **1H573** | 650.84 | **644.50** | 1.2 |
| 5 | 9998SL11 | **1H568** | 1597.42 | **1581.00** | 3.4 |

SQUARE D GROUPE SCHNEIDER

E78360

### CONTROL CIRCUIT FUSE HOLDERS

Control circuit fuse holders are designed to be used on Type S contactors and starters (sizes 00-5) when either one or two control circuit fuses 600V max. are required. No. 1H577 and No. 1H578 fuse holders will accept standard 600V fuses. Dimensions: 13/32 x 1½.

### CONTROL CIRCUIT FUSE HOLDERS

| Description | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Single Fuse Unit | 9999SF3 | **1H577** | $29.66 | **$29.40** | 0.2 |
| Two Fuse Unit | 9999SF4 | **1H578** | 39.55 | **39.20** | 0.2 |

# ACCESSORIES FOR NEMA MOTOR STARTERS WITH MOTOR LOGIC™ OVERLOAD RELAYS

SQUARE D GROUPE SCHNEIDER

Replacement Parts Available 1-800-323-0620

## DIN ADAPTER KIT

The DIN adapter kit allows Motor Logic™ solid state overload relay type 9065 (18, 27, and 45 amp) to be DIN rail mounted. Square D brand (9999DA01).

**No. 5F593.** Shpg. wt. 0.1 lbs. List $11.03. Each.....**$10.93**

## MOTOR LOGIC™ REMOTE RESET

The Motor Logic™ remote reset is used to reset a Motor Logic™ solid state overload relay from a remote location up to 150 feet away. Allows a starter to be reset with a standard 110/120VAC, 50/60 Hz, normally open pushbutton.

For use with nonreversing 3 phase Motor Logic™ type 8536 (NEMA 0-4) and Motor Logic™ solid state overload relay type 9065 (18, 27, and 45 amp). Square D brand (9999RR04).

**No. 5F596.** Shpg. wt. 0.5 lbs. List $74.95. Each.....**$74.25**

## ISOLATED AUXILIARY CONTACT

Isolated alarm contact with NEMA A600/P300 rating. This auxiliary is field convertible from normally-open to normally-closed. For use with nonreversing 3 phase Motor Logic™ type 8536 (NEMA 0-4) and Motor Logic™ solid state overload relays type 9065 (18, 27, and 45 amp). Square D brand (9999AC04).

**No. 5F592.** Shpg. wt. 0.1 lbs. List $26.33. Each.....**$26.10**

## LUG-LUG KIT

**Lug-Lug Kit No. 5F595** provides lugs for use with overload relay Nos. 5F583 and 5F585. The Lug-Lug kit provides line and load-side lugs to facilitate separate mounting of the overload. Square D brand (9999LL0).

**No. 5F595.** Lug-Lug Kit. Shpg. wt. 0.3 lbs. List $19.77. Each.....**$19.59**

## LUG-EXTENDER KIT

**Lug-Extender Kit No. 5F594** is designed for NEMA size 0 and size 1 retrofit applications. This kit allows the lugs to be in the same location as the type 9065 melting alloy overload relay, eliminating the need for additional wire length. The standard 6-18A and 9-27A overload relays are supplied without lugs. Square D brand (9999LB0).

**No. 5F594.** Lug-Extender Kit. Shpg. wt. 0.2 lbs. List $16.44. Each.**$16.29**

## UNIVERSAL BASEPLATE

A universal baseplate can be used to retrofit a Square D type S NEMA starter into an application which is currently using a competitive NEMA starter. Baseplate matches footprints of Allen-Bradley 509 & 709, Cutler-Hammer Citation & Freedom Series, Furnas ESP100 & INNOVA, General Electric CR306, and Westinghouse Advantage & A200.

**UNIVERSAL BASEPLATES**

| Non-Square D Starter Size | Square D Model 9998... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Size 00, 0, & 1** | UB01 | **5F597** | $9.89 | **$9.79** | 0.6 |
| **Size 2** | UB02 | **5F598** | 12.07 | **11.96** | 0.8 |
| **Size 3** | UB03 | **5F599** | 14.26 | **14.12** | 2.3 |
| **Size 4** | UB04 | **5F600** | 14.26 | **14.12** | 2.7 |

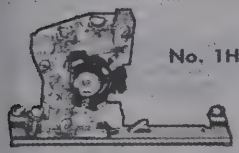
SQUARE D GROUPE SCHNEIDER · Telemecanique · Thomas&Betts · OMRON

## ORDER ELECTRICAL PRODUCTS DIRECT FROM GRAINGER

You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Listing in the front of this catalog. You can pick your order up or we can ship it today!

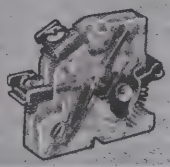
LEVITON · HUBBELL Wiring Device-Kellems · allied TUBE & CONDUIT · Appleton ELECTRIC COMPANY

SQUARE D
GROUPE SCHNEIDER



No. 1H591

Replacement Parts Available
1-800-323-0620



No. 1H589

# AUXILIARY CONTACTS

## CONTACT RATINGS

| Volts AC | AC Only (35% Power Factor) Make | Break | Continuous | Stock No. |
|---|---|---|---|---|
| 120 or less | 30 Amps | 3 Amps | 3 Amps | 1H591, 1H592, 1H593 |
| 120-600 | 3600 VA | 360 VA | 3 Amps | 1H589, 1H590 |

## CONTACT ORDERING DATA

| Contact Type | NEMA Size | Kit Description | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **External Field Convertible; For use with Square D Type SA-SG** | 00-5 | 1-N.O. Contact<br>1-N.C. Contact | 9999SX6<br>9999SX7 | **1H591**<br>**1H592** | $37.47<br>37.47 | **$37.15**<br>**37.15** | 0.2<br>0.2 |
| | | 1-N.O. & 1-N.C. Isolated Contacts | 9999SX8 | **1H593** | 53.09 | **52.60** | 0.3 |
| **Internal Non-Convertible; For use with Square D Type SA-SD, M** | 00-2 | 1-N.O. Contact | 9999SX11 | **1H589** | 46.11 | **45.70** | 0.1 |
| | | 1-N.C. Contact | 9999SX12 | **1H590** | 46.11 | **45.70** | 0.1 |

SQUARE D
GROUPE SCHNEIDER

# MAGNETIC COILS

## MAGNETIC COILS

| Starter Size | Square D Series | Coil Voltage 60 Hz | No. of Poles | Coil VA In Rush | Coil VA Sealed | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 00 | | 24 | All | | | 9998SAC23 | **1H561** | $43.56 | **$43.15** | 1.0 |
| 00 | | 120 | All | | | 9998SAC45 | **1H562** | 43.56 | **43.15** | 0.6 |
| 00 | SA | 208 | All | 165 | 33 | 9998SAC52 | **1H563** | 43.56 | **43.15** | 0.5 |
| 00 | (Series B only) | 240 | All | | | 9998SAC54 | **1H564** | 43.56 | **43.15** | 0.4 |
| 00 | | 480 | All | | | 9998SAC62 | **1H565** | 43.56 | **43.15** | 0.3 |
| 00 | | 600 | All | | | 9998SAC65 | **1H566** | 43.56 | **43.15** | 0.4 |
| 0,1 | | 24 | All | | | 31041-400-20 | **1H423** | 47.70 | **47.25** | 0.5 |
| 0,1 | | 120 | All | | | 31041-400-42 | **1H424** | 47.70 | **47.25** | 0.4 |
| 0,1 | SB, SC | 208 | All | 245 | 27 | 31041-400-48 | **1H425** | 47.70 | **47.25** | 0.4 |
| 0,1 | & SM | 240 | All | | | 31041-400-51 | **1H426** | 47.70 | **47.25** | 0.4 |
| 0,1 | | 480 | All | | | 31041-400-60 | **1H427** | 47.70 | **47.25** | 0.4 |
| 0,1 | | 600 | All | | | 31041-400-62 | **1H428** | 47.70 | **47.25** | 0.5 |
| 2 | | 24 | 2,3 | | | 31063-409-16 | **1H430** | 62.00 | **60.85** | 0.8 |
| 2 | | 120 | 2,3 | | | 31063-409-38 | **1H431** | 62.00 | **60.85** | 0.8 |
| 2 | SD & SP | 208 | 2,3 | 311 | 37 | 31063-409-44 | **1H432** | 62.00 | **60.85** | 0.8 |
| 2 | | 240 | 2,3 | | | 31063-409-47 | **1H433** | 62.00 | **60.85** | 0.8 |
| 2 | | 480 | 2,3 | | | 31063-409-57 | **1H434** | 62.00 | **60.85** | 0.8 |
| 2 | | 600 | 2,3 | | | 31063-409-60 | **1H435** | 62.00 | **60.85** | 1.0 |
| 3 | | 24 | 2,3 | | | 31074-400-16 | **1H436** | 130.00 | **122.75** | 0.9 |
| 3 | | 120 | 2,3 | | | 31074-400-38 | **5B609** | 130.00 | **122.75** | 0.9 |
| 3 | SE & SQ | 208 | 2,3 | 700 | 46 | 31074-400-44 | **1H437** | 130.00 | **122.75** | 0.8 |
| 3 | | 240 | 2,3 | | | 31074-400-47 | **1H438** | 130.00 | **122.75** | 0.8 |
| 3 | | 480 | 2,3 | | | 31074-400-57 | **1H439** | 130.00 | **122.75** | 0.8 |
| 3 | | 600 | 2,3 | | | 31074-400-60 | **1H440** | 130.00 | **122.75** | 0.8 |
| 4 | | 120 | All | | | 31091-400-38 | **1H441** | 130.00 | **122.75** | 1.3 |
| 4 | | 208 | All | | | 31091-400-44 | **1H442** | 130.00 | **122.75** | 1.3 |
| 4 | SF & SV | 240 | All | 1185 | 85 | 31091-400-47 | **1H443** | 130.00 | **122.75** | 1.2 |
| 4 | | 480 | All | | | 31091-400-57 | **1H444** | 130.00 | **122.75** | 1.2 |
| 4 | | 600 | All | | | 31091-400-60 | **1H445** | 130.00 | **122.75** | 1.2 |
| 5 | | 120 | All | | | 31096-400-09 | **1H446** | 181.26 | **179.50** | 2.5 |
| 5 | | 208 | All | | | 31096-400-15 | **1H447** | 181.26 | **179.50** | 2.6 |
| 5 | SG & SX | 240 | All | 2970 | 212 | 31096-400-18 | **1H448** | 181.26 | **179.50** | 2.5 |
| 5 | | 480 | All | | | 31096-400-24 | **1H449** | 181.26 | **179.50** | 2.5 |
| 5 | | 600 | All | | | 31096-400-29 | **1H450** | 181.26 | **179.50** | 2.5 |

## SEPARATELY MOUNTED OVERLOAD RELAY

- **For size 1 starters • Melting alloy design**
- **25 A maximum full load current • 3 Pole**
- **3 Thermal elements required (see pages 464 and 465)**
- **Trip-free reset • SquareD brand (9065SE05)**

**No. 2BZ24.** Shpg. wt. 1.0 lbs. List $59.33. Each.....$58.80

## EXTERNAL OVERLOAD RESET MECHANISM

- **For NEMA 1 or 12 enclosures of up to 9.25" in depth**
- **Square D brand (9066RA1)**

**No. 2CF48.** Shpg. wt. 0.3 lbs. List $26.33. Each.....$26.10

## TRANSIENT SUPPRESSION MODULES

Designed to be used where transient voltage, generated when opening coil circuit, interferes with proper operation of nearby integrated or solid state control circuits. Module consists of an RC circuit and is designed to suppress coil voltage transients to approximately 200% of peak coil supply voltage. Module is wired across coil for Type S, (sizes 00-5) and is designed for coil voltages of 120 volts only. UL Listed (E78360).

| Description | Square D Model 9999... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **For Sizes 00-2** | ST1 | **1H587** | $28.52 | **$28.25** | 0.2 |
| **For Sizes 3-5** | ST2 | **1H588** | 28.52 | **28.25** | 0.1 |

# THERMAL UNITS

All thermal unit specifications are based on the motor and controller being operated in an ambient temperature of 40°C (104°F) or less.

**Thermal Unit Selection Guidelines:**

1. Determine motor full-load current rating and service factor.

2. Motor and controller (in same ambient temperature) For 1.15 to 1.25 service factor motors use 100% of motor full load current for thermal unit selection.

For 1.0 service factor motors use 90% of motor full load current for thermal unit selection.

3. Motor and controller (in different ambient temperature) Multiply motor full load current by multiplier in table A. Use the resultant full load current for thermal unit selection.

4. Locate proper thermal unit selection column using table B.

SQUARE D
GROUPE SCHNEIDER

E78360 LR60905

FOR SQUARE D NEMA MAGNETIC STARTERS

## HOW TO SELECT THERMAL UNITS

Use table directly below to determine which maximum full-load motor amp column (A, B, C, D) to order from. Order thermal units by Stock No. from large table.

**Enclosed Starter** - Starter mounted in its own enclosure

**Open Starter** - Starter mounted in panel with other components

### Table A—Selection of Thermal Units for Special Applications

| Continuous Duty Motor Service Factor | Melting Alloy Relays — Ambient Temperature of Motor | | |
|---|---|---|---|
| | Same as Controller Ambient | 18°F* Higher than Controller Ambient | 18°F Lower than Controller Ambient |
| | Full Load Current Multiplier | | |
| 1.15 to 1.25 | 1.0 | 0.9 | 1.05 |
| 1.0 | 0.9 | 0.8 | 0.95 |

(*) Constant Ambient Temperature.

### Table B—Enclosure Classification

| Square D Motor Starter | No. of Thermal Units Required | Select Thermal Unit From Column |
|---|---|---|
| 1Ø, 2-Pole, Enclosed | 1 | A |
| 1Ø, 2-Pole, Open | 1 | B |
| 3Ø, 3-Pole, Enclosed | 3 | C |
| 3Ø, 3-Pole, Open | 3 | D |

## ORDERING DATA

**All Thermal Units Listed.** Shpg. wt. 0.1 lbs. List $9.89.
Each ..... $9.79

## NEMA SIZES 00, 0 AND 1

| Max. Full-Load Amps A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| 0.31 | 0.33 | 0.30 | 0.31 | B 0.44 | 1H594 |
| 0.34 | 0.36 | 0.34 | 0.36 | B 0.51 | 1H595 |
| 0.38 | 0.40 | 0.37 | 0.38 | B 0.57 | 1H596 |
| 0.45 | 0.48 | 0.44 | 0.46 | B 0.63 | 1H597 |
| 0.54 | 0.57 | 0.53 | 0.55 | B 0.71 | 1H598 |
| 0.61 | 0.64 | 0.59 | 0.61 | B 0.81 | 1H599 |
| 0.66 | 0.70 | 0.64 | 0.66 | B 0.92 | 1H600 |
| 0.73 | 0.77 | 0.72 | 0.75 | B 1.03 | 1H601 |
| 0.81 | 0.85 | 0.80 | 0.83 | B 1.16 | 1H602 |
| 0.94 | 0.99 | 0.90 | 0.93 | B 1.30 | 1H603 |
| 1.05 | 1.10 | 1.03 | 1.06 | B 1.45 | 1H604 |
| 1.22 | 1.28 | 1.14 | 1.18 | B 1.67 | 1H605 |
| 1.34 | 1.41 | 1.27 | 1.31 | B 1.88 | 1H606 |
| 1.51 | 1.58 | 1.43 | 1.47 | B 2.10 | 1H614 |
| 1.71 | 1.80 | 1.62 | 1.67 | B 2.40 | 1H615 |
| 1.93 | 2.03 | 1.77 | 1.83 | B 2.65 | 1H616 |
| 2.14 | 2.25 | 1.97 | 2.04 | B 3.00 | 1H620 |
| 2.40 | 2.51 | 2.32 | 2.38 | B 3.30 | 1H621 |
| 2.72 | 2.83 | 2.51 | 2.60 | B 3.70 | 1H622 |
| 3.15 | 3.29 | 2.99 | 3.13 | B 4.15 | 1H625 |
| 3.55 | 3.75 | 3.42 | 3.59 | B 4.85 | 1H626 |
| 4.00 | 4.22 | 3.75 | 3.94 | B 5.50 | 1H629 |
| 4.40 | 4.65 | 3.98 | 4.19 | B 6.25 | 1H632 |
| 4.88 | 5.16 | 4.48 | 4.72 | B 6.90 | 1H633 |
| 5.19 | 5.53 | 4.93 | 5.21 | B 7.70 | 1H635 |
| 5.73 | 6.09 | 5.21 | 5.51 | B 8.20 | 1H638 |
| 6.39 | 6.80 | 5.84 | 6.17 | B 9.10 | 1H640 |
| 7.13 | 7.60 | 6.67 | 7.07 | B 10.2 | 1H607 |
| 7.90 | 8.35 | 7.54 | 8.05 | B 11.5 | 1H608 |
| 8.55 | 9.04 | 8.14 | 8.69 | B 12.8 | 1H609 |
| 9.53 | 9.99 | 8.72 | 9.32 | B 14.0 | 1H610 |
| 10.6 | 11.1 | 9.66 | 10.2 | B 15.5 | 1H611 |
| 11.8 | 12.3 | 10.5 | 11.3 | B 17.5 | 1H612 |
| 13.2 | 13.7 | 11.3 | 12.0 | B 19.5 | 1H613 |
| 14.9 | 15.4 | 12.0 | — | B 22.0 | 1H617 |
| 16.6 | 18.0 | — | — | B 25.0 | 1H618 |

## NEMA SIZE 1 ONLY

| Max. Full-Load Amps A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| — | — | — | — | B 19.5 | 1H613 |
| — | — | 12.1 | 12.7 | B 22.0 | 1H617 |
| — | — | 13.7 | 14.1 | B 25.0 | 1H618 |

## NEMA SIZE 1 ONLY

| Max. Full-Load Amps A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| 17.2 | 18.9 | 15.2 | 15.9 | B 28.0 | 1H619 |
| 19.4 | 21.2 | 17.2 | 17.5 | B 32.0 | 1H623 |
| 21.7 | 23.0 | 18.9 | 19.7 | B 36.0 | 1H624 |
| 23.9 | 25.5 | 21.4 | 21.9 | B 40.0 | 1H627 |
| 26.0 | 26.0 | 23.7 | 24.4 | B 45.0 | 1H628 |
| — | — | 26.0 | 26.0 | B 50.0 | 1H630 |

## NEMA SIZE 1P

| A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| 0.92 | — | — | — | B 1.16 | 1H602 |
| 1.07 | — | — | — | B 1.30 | 1H603 |
| 1.14 | — | — | — | B 1.45 | 1H604 |
| 1.26 | — | — | — | B 1.67 | 1H605 |
| 1.49 | — | — | — | B 1.88 | 1H606 |
| 1.73 | — | — | — | B 2.10 | 1H614 |
| 1.89 | — | — | — | B 2.40 | 1H615 |
| 2.16 | — | — | — | B 2.65 | 1H616 |
| 2.37 | — | — | — | B 3.00 | 1H620 |
| 2.66 | — | — | — | B 3.30 | 1H621 |
| 2.99 | — | — | — | B 3.70 | 1H622 |
| 3.40 | — | — | — | B 4.15 | 1H625 |
| 3.94 | — | — | — | B 4.85 | 1H626 |
| 4.15 | — | — | — | B 5.50 | 1H629 |
| 4.49 | — | — | — | B 6.25 | 1H632 |
| 5.15 | — | — | — | B 6.90 | 1H633 |
| 5.77 | — | — | — | B 7.70 | 1H635 |
| 6.61 | — | — | — | B 8.20 | 1H638 |
| 7.14 | — | — | — | B 9.10 | 1H640 |
| 7.97 | — | — | — | B 10.2 | 1H607 |
| 8.15 | — | — | — | B 11.5 | 1H608 |
| 9.32 | — | — | — | B 12.8 | 1H609 |
| 9.97 | — | — | — | B 14.0 | 1H610 |
| 10.7 | — | — | — | B 15.5 | 1H611 |
| 12.0 | — | — | — | B 17.5 | 1H612 |
| 13.9 | — | — | — | B 19.5 | 1H613 |
| 15.7 | — | — | — | B 22.0 | 1H617 |
| 18.4 | — | — | — | B 25.0 | 1H618 |
| 21.6 | — | — | — | B 28.0 | 1H619 |
| 24.0 | — | — | — | B 32.0 | 1H623 |
| 28.6 | — | — | — | B 36.0 | 1H624 |
| 30.7 | — | — | — | B 40.0 | 1H627 |
| 33.5 | — | — | — | B 45.0 | 1H628 |
| 36.0 | — | — | — | B 56.0 | 1H631 |

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

Our branches are conveniently located and stocked with commonly used items from this catalog. If you need it now, call Grainger. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

## ORDERING DATA FOR ALL THERMAL UNITS LISTED

No. 1H626. (etc). Shpg. wt. 0.1 lbs. List $9.89.
Each ..... $9.79

E78360

SQUARE D
GROUPE SCHNEIDER

LR60905

### NEMA SIZE 2

| Max. Full-Load Amps A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| 3.74 | 3.82 | 3.40 | 3.51 | B 4.85 | 1H626 |
| 4.23 | 4.33 | 3.76 | 3.89 | B 5.50 | 1H629 |
| 4.68 | 4.79 | 4.00 | 4.14 | B 6.25 | 1H632 |
| 5.22 | 5.33 | 4.57 | 4.73 | B 6.90 | 1H633 |
| 5.67 | 5.79 | 5.03 | 5.22 | B 7.70 | 1H635 |
| 6.13 | 6.27 | 5.32 | 5.53 | B 8.20 | 1H638 |
| 6.91 | 7.03 | 5.97 | 6.21 | B 9.10 | 1H640 |
| 7.70 | 7.88 | 6.88 | 7.17 | B 10.2 | 1H607 |
| 8.56 | 8.73 | 7.82 | 8.19 | B 11.5 | 1H608 |
| 9.39 | 9.55 | 8.47 | 8.90 | B 12.8 | 1H609 |
| 10.4 | 10.6 | 9.15 | 9.57 | B 14.0 | 1H610 |
| 11.6 | 11.8 | 10.1 | 10.6 | B 15.5 | 1H611 |
| 12.9 | 13.1 | 11.2 | 11.8 | B 17.5 | 1H612 |
| 14.6 | 14.9 | 12.0 | 12.7 | B 19.5 | 1H613 |
| 16.5 | 16.9 | 13.6 | 14.4 | B 22.0 | 1H617 |
| 18.5 | 18.8 | 15.2 | 16.1 | B 25.0 | 1H618 |
| 21.0 | 21.5 | 17.1 | 18.2 | B 28.0 | 1H619 |
| 23.6 | 24.1 | 19.0 | 20.2 | B 32.0 | 1H623 |
| 26.3 | 26.8 | 21.5 | 22.8 | B 36.0 | 1H624 |
| 29.3 | 29.9 | 24.1 | 25.6 | B 40.0 | 1H627 |
| 35.1 | 35.5 | 27.0 | 28.8 | B 45.0 | 1H628 |
| 36.1 | 36.5 | 28.7 | 30.6 | B 50.0 | 1H630 |
| 39.1 | 39.6 | 30.4 | 32.4 | B 56.0 | 1H631 |
| 41.5 | 41.5 | 32.2 | 34.6 | B 62.0 | 1H634 |
| 45.0 | 45.0 | 35.4 | 38.6 | B 70.0 | 1H636 |
| — | — | 38.2 | 45.0 | B 79.0 | 1H637 |
| — | — | 45.0 | — | B 88.0 | 1H639 |

### NEMA SIZE 3

| Max. Full-Load Amps A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| 16.4 | 17.5 | 14.5 | 15.4 | CC 20.9 | 1H650 |
| 17.6 | 18.8 | 15.5 | 16.4 | CC 22.8 | 1H653 |
| 19.1 | 20.5 | 17.4 | 18.5 | CC 24.6 | 1H654 |
| 20.4 | 22.2 | 18.5 | 19.6 | CC 26.3 | 1H655 |
| 22.1 | 23.7 | 19.9 | 21.1 | CC 28.8 | 1H656 |
| 23.4 | 25.4 | 21.5 | 22.7 | CC 31.0 | 1H657 |
| 25.6 | 27.3 | 22.9 | 24.4 | CC 33.3 | 1H658 |
| 27.3 | 29.3 | 24.5 | 26.1 | CC 36.4 | 1H659 |
| 29.4 | 31.5 | 26.3 | 28.1 | CC 39.6 | 1H660 |
| 31.5 | 33.9 | 28.2 | 30.0 | CC 42.7 | 1H661 |
| 33.7 | 36.2 | 30.0 | 32.1 | CC 46.6 | 1H662 |
| 36.5 | 39.3 | 32.3 | 34.7 | CC 50.1 | 1H663 |
| 39.1 | 42.3 | 34.9 | 37.3 | CC 54.5 | 1H664 |
| 41.7 | 45.3 | 37.6 | 40.1 | CC 59.4 | 1H665 |
| 44.8 | 48.3 | 40.0 | 42.6 | CC 64.3 | 1H666 |
| 48.0 | 52.0 | 42.8 | 45.8 | CC 68.5 | 1H667 |
| 50.7 | 54.9 | 45.3 | 48.3 | CC 74.6 | 1H668 |
| 54.9 | 59.7 | 49.1 | 52.6 | CC 81.5 | 1H669 |

### NEMA SIZE 3

| Max. Full-Load Amps A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| 59.9 | 65.4 | 53.4 | 56.8 | CC 87.7 | 1H670 |
| 63.3 | 69.6 | 57.4 | 60.9 | CC 94.0 | 1H671 |
| 67.2 | 74.8 | 61.3 | 65.1 | CC 103.0 | 1H641 |
| 72.4 | 79.7 | 63.5 | 67.7 | CC 112.0 | 1H642 |
| 74.9 | 83.1 | 66.3 | 70.9 | CC 121.0 | 1H643 |
| 77.4 | 86.0 | 69.0 | 73.9 | CC 132.0 | 1H644 |
| 80.7 | — | 70.9 | 76.5 | CC 143.0 | 1H645 |
| 83.1 | — | 73.7 | 80.2 | CC 156.0 | 1H646 |
| 86.0 | — | 76.5 | 83.1 | CC 167.0 | 1H647 |
| — | — | 78.4 | 86.0 | CC 180.0 | 1H648 |
| — | — | 86.0 | — | CC 196.0 | 1H649 |

### NEMA SIZE 4

| Max. Full-Load Amps A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| — | — | 43.5 | 48.2 | CC 64.3 | 1H666 |
| — | — | 46.8 | 52.4 | CC 68.5 | 1H667 |
| — | — | 50.0 | 56.4 | CC 74.6 | 1H668 |
| — | — | 54.9 | 61.2 | CC 81.5 | 1H669 |
| — | — | 57.5 | 66.1 | CC 87.7 | 1H670 |
| — | — | 61.8 | 71.4 | CC 94.0 | 1H671 |
| — | — | 66.2 | 77.0 | CC 103.0 | 1H641 |
| — | — | 72.4 | 79.0 | CC 112.0 | 1H642 |
| — | — | 78.1 | 84.7 | CC 121.0 | 1H643 |
| — | — | 80.7 | 91.1 | CC 132.0 | 1H644 |
| — | — | 86.5 | 98.1 | CC 143.0 | 1H645 |
| — | — | 93.9 | 104 | CC 156.0 | 1H646 |
| — | — | 100 | 113 | CC 167.0 | 1H647 |
| — | — | 112 | 123 | CC 180.0 | 1H648 |
| — | — | 117 | 133 | CC 196.0 | 1H649 |
| — | — | 123 | — | CC 208.0 | 1H651 |
| — | — | 133 | — | CC 219.0 | 1H652 |

### NEMA SIZE 5

| Max. Full-Load Amps A | B | C | D | Square D Model | Stock No. |
|---|---|---|---|---|---|
| — | — | 88.2 | 95.1 | DD 112.0 | 1H673 |
| — | — | 95.9 | 101 | DD 121.0 | 1H674 |
| — | — | 102 | 111 | DD 128.0 | 1H675 |
| — | — | 109 | 119 | DD 140.0 | 1H676 |
| — | — | 121 | 131 | DD 150.0 | 1H677 |
| — | — | 139 | 149 | DD 160.0 | 1H678 |
| — | — | 154 | 170 | DD 185.0 | 1H679 |
| — | — | 163 | 180 | DD 220.0 | 1H681 |
| — | — | 175 | 197 | DD 240.0 | 1H682 |
| — | — | 184 | 204 | DD 250.0 | 1H683 |
| — | — | 215 | 237 | DD 280.0 | 1H684 |
| — | — | 224 | 243 | DD 300.0 | 1H685 |
| — | — | 243 | 266 | DD 320.0 | 1H686 |
| — | — | 266 | — | DD 340.0 | 1H687 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

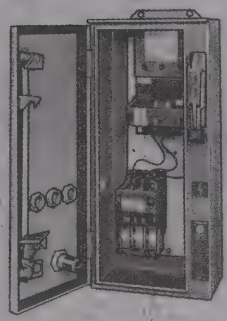
Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# NEMA COMBINATION MOTOR STARTERS, MAGNETIC, ENCLOSED

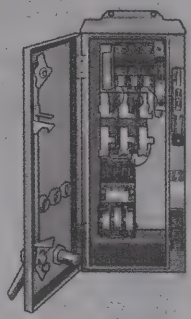
SQUARE D
GROUPE SCHNEIDER

New

E78360



No. 1H694
Class 8539 Type
Starter



No. 1H688
Class 8538 Type
Starter

- Class 8538 and 8539 combination starters designed to operate at 600 VAC maximum, 50/60 Hz
- Class 8538 combination starters feature fusible disconnect switch and come complete with fuse blocks for Class H type fuses
- Class R fuse clips are available (ordering data below)
- All models are 120V coil wired for separate control
- Class 8539 combination starters feature a MAG-GARD® motor circuit protector
- Fusible disconnect switch types utilize flange operated visible blade switch
- NEMA Type 12 Enclosures can be modified for use in NEMA Type 3R applications as follows:
  1. Watertight conduit hubs or equivalent provision for watertight connection at the conduit entrance, when the conduit enters at a level higher than the lowest live part, shall be used
  2. Drain holes of 1/8 inch diameter shall be added to the bottom of the enclosure
- For control transformers, use "Type T" on page 404
- Order accessories below; contact your local branch for accessories not shown

| NEMA Size | NEMA Type | Coil Voltage | Continuous Amps | Maximum HP 230 Volts | Maximum HP 460 Volts | Type of Short Circuit Protection | Square D Circuit Breaker Model | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 120 | 18 | 3 | 5 | Circuit Breaker | FAL36015-13M | 8539SBG43V02S | **1H695** | $839.04 | **$831.00** | 36.0 |
| | 1 | | | —* | 5 | 30 Amp Fused | — | 8538SBG13V02S | **1H689** | 621.47 | **616.00** | 33.0 |
| | 12/3R** | | | 3 | 5 | Circuit Breaker | FAL36015-13M | 8539SBA53V02S | **1H694** | 997.27 | **988.00** | 37.0 |
| | 12/3R** | | | —* | 5 | 30 Amp Fused | — | 8538SBA23V02S | **1H688** | 779.70 | **772.50** | 35.0 |
| 1 | 1 | 120 | 27 | 7½ | 10 | Circuit Breaker | FAL36030-15M | 8539SCG44V02S | **1H699** | 872.35 | **864.00** | 35.0 |
| | 1 | | | 3 | 7½ | Circuit Breaker | FAL36015-13M | 8539SCG43V02S | **1H698** | 872.35 | **864.00** | 36.0 |
| | 1 | | | —* | 10 | 30 Amp Fused | — | 8538SCG14V02S | **1H691** | 667.28 | **661.00** | 33.0 |
| | 12/3R** | | | 7½ | 10 | Circuit Breaker | FAL36030-15M | 8539SCA54V02S | **1H697** | 1030.59 | **1021.00** | 38.0 |
| | 12/3R** | | | 3 | 7½ | Circuit Breaker | FAL36015-13M | 8539SCA53V02S | **1H696** | 1030.59 | **1021.00** | 37.0 |
| | 12/3R** | | | —* | 10 | 30 Amp Fused | — | 8538SCA24V02S | **1H690** | 825.51 | **818.00** | 34.0 |
| 2 | 1 | 120 | 45 | 10 | 25 | Circuit Breaker | FAL36050-16M | 8539SDG43V02S | **1H701** | 1234.62 | **1223.00** | 45.0 |
| | 1 | | | —† | 25 | 60 Amp Fused | — | 8538SDG14V02S | **1H693** | 1050.36 | **1041.00** | 44.0 |
| | 12/3R** | | | 10 | 25 | Circuit Breaker | FAL36050-16M | 8539SDA53V02S | **1H700** | 1458.44 | **1445.00** | 47.0 |
| | 12/3R** | | | —† | 25 | 60 Amp Fused | — | 8538SDA24V02S | **1H692** | 1274.18 | **1262.00** | 47.0 |

(*) For 230V 3HP applications, order 1H708 or 1H715. (†) For 230V 10HP applications, order 1H709 or 1H716.
(**) Enclosure is NEMA Type 12 and must be modified as indicated above for NEMA 3R applications.

## AUXILIARY CONTACTS FOR DISCONNECT SWITCHES & CIRCUIT BREAKERS

| For Breaker or Fused Starters | NEMA Size | Contact Configuration | Square D Model 9999 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Fused** | 0, 1 | SPDT | TC11 | ***New*** **4RM84** | $53.00 | **$52.50** | 0.5 |
| **Fused** | 0, 1 | DPDT | TC21 | ***New*** **4RM86** | 106.00 | **104.95** | 0.5 |
| **Fused** | 2 | SPDT | TC10 | ***New*** **4RM83** | 53.00 | **52.50** | 0.5 |
| **Fused** | 2 | DPDT | TC20 | ***New*** **4RM85** | 53.00 | **52.50** | 0.5 |
| **Breaker** | 0, 1, 2 | SPDT | R26 | **1H702** | 60.37 | **59.80** | 0.6 |
| **Breaker** | 0, 1, 2 | DPDT | R27 | **1H703** | 112.42 | **111.35** | 0.6 |

## FUSE CLIPS

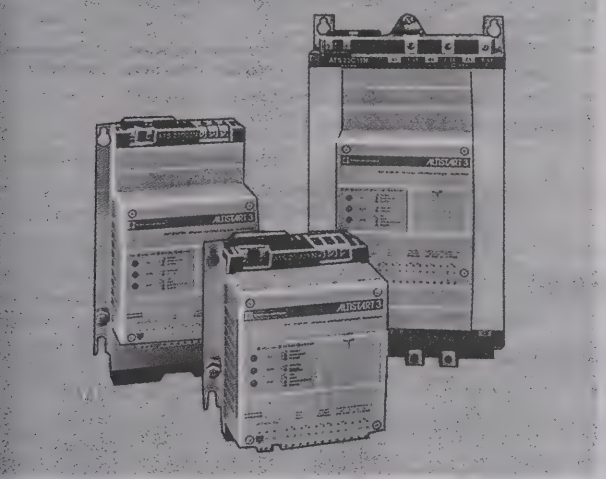
| Fuse Type | Max. Voltage | Disconnect Amps | NEMA Size | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **R** | 250 | 30 | 0, 1 | RFK03 | ***New*** **4RM90** | $15.50 | **$9.30** | 5.0 |
| **R** | 600 | 30 | 1, 2 | RFK06 | **2CR84** | 16.20 | **10.14** | 0.1 |
| **R** | 600 | 60 | 2 | RFK06H | **2CR85** | 16.20 | **10.14** | 0.1 |

# SOLID STATE REDUCED VOLTAGE STARTERS

SQUARE D
GROUPE SCHNEIDER

New

LR96921 E116875



- Applications include pumps, air compressors, fans, blowers, conveyor systems
- 50/60 Hz, 3 phase, 500 volts maximum
- AC3 duty
- For use with 3 phase induction motors
- Includes thermal protection
- Open enclosure type
- All models include a door-mounted keypad for setup and monitoring

## STARTING AND STOPPING

Four types of starting:

- Soft start, adjustable from 1 to 60 seconds
- Voltage boost, adjustable from 50 to 100% of mains voltage
- Voltage ramping
- Current limit, adjustable from 150 to 500% of controller rating

Three types of stopping:

- Freewheel or coast to stop
- Soft stop, adjustable from 1 to 60 seconds
- DC braking, adjustable from 50 to 100%

## FACTORY PRESETS

A switch located behind keypad allows for selection between Standard Duty or Heavy Duty, defined as:

**Standard Duty:** The controller is preset for Class 10 overload, a 10-second acceleration ramp, and a 300% current limit. Standard-duty operation is defined as 10 starts per hour, with a maximum start time of 23 seconds at 300% current limit or equivalent.

**Heavy Duty:** The controller is preset for Class 20 overload, a 15-second acceleration ramp, and 350% current limit. Heavy-duty operation is defined as 5 starts per hour, with a maximum start time of 46 seconds at 350% current limit or equivalent. For heavy-duty operation, the controller must be derated one size unless a shorting contactor is used, in which case the controller may be used for heavy-duty operation at its standard-duty rating.

| Maximum Horsepower* | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard Duty | | | Heavy Duty | | | Rated | Square D | | Stock | | | Shpg. |
| 208V | 230V | 460V | 208V | 230V | 460V | Amps | Model | | No. | List | Each | Wt. |
| 3 | 5 | 10 | 2 | 3 | 7.5 | 17 | ATS46D17N | | 4DF90 | $1458.80 | $1386.00 | 8.6 |
| 5 | 7.5 | 15 | 3 | 5 | 10 | 22 | ATS46D22N | | 4DF91 | 1510.90 | 1436.00 | 11.0 |
| 10 | 15 | 30 | — | — | 25 | 47 | ATS46D47N | | 4DF92 | 1771.40 | 1683.00 | 12.0 |
| 15 | 20 | 40 | 10 | 15 | 30 | 62 | ATS46D62N | | 4DF93 | 2084.00 | 1980.00 | 22.0 |
| 25 | 30 | 60 | 20 | 25 | 50 | 88 | ATS46D88N | | 4DF94 | 2813.40 | 2673.00 | 26.0 |
| 30 | 40 | 75 | 25 | 30 | 60 | 110 | ATS46C11N | | 2CF72 | 3073.90 | 2921.00 | 29.0 |
| 40 | 50 | 100 | 30 | 40 | 75 | 145 | ATS46C14N | *New* | 4RM87 | 3800.00 | 3610.00 | 30.0 |
| 50 | 60 | 125 | 40 | 50 | 100 | 176 | ATS46C17N | | 4DF85 | 4011.70 | 3812.00 | 36.0 |
| 75 | 100 | 200 | 60 | 75 | 150 | 257 | ATS46C25N | | 4DF86 | 5418.40 | 5148.00 | 90.0 |
| 100 | 125 | 250 | 75 | 100 | 200 | 320 | ATS46C32N | | 4DF87 | 6356.20 | 6039.00 | 131.0 |
| 150 | — | 350 | 125 | 150 | 300 | 480 | ATS46C48N | | 4DF88 | 8023.40 | 7623.00 | 163.0 |
| 200 | 250 | 500 | — | 200 | 400 | 660 | ATS46C66N | | 4DF89 | 10628.40 | 10098.00 | 169.0 |

) Motor Full-Load Amperage (FLA) must not exceed the amp rating of the starter.

## UL LISTING AND CSA CERTIFICATION

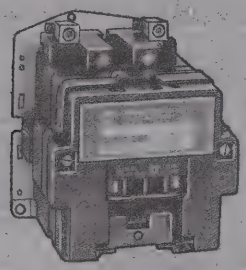
When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# LIGHTING CONTACTORS

## MULTIPOLE LIGHTING CONTACTORS

SQUARE D
GROUPE SCHNEIDER

E78427 LR60905



Electrically Held Models No. 5B136



Mechanically Held Models No. 5B147

**ELECTRICALLY HELD TYPE S MODELS**

- Open type
- Mixed load ratings (lighting and motors)
- Factory wired controls and clearly marked termination points
- UL Listed (withstand ratings up to 100,000 amps); CSA Certified

**ELECTRICALLY AND MECHANICALLY HELD TYPE L/LX MODELS**

- Open type
- Field convertible contacts with normally open and normally closed indicators—8 normally closed contacts maximum
- Silver cadmium oxide double break contacts
- UL Listed and CSA Certified

Replacement Parts Available
1-800-323-0620

### LIGHTING CONTACTOR SPECIFICATIONS AND ORDERING DATA

| Amp Rating | No. of Poles | Coil Ratings @ 50 Hz | Coil Ratings @ 60 Hz | Dimensions (In.) H | W | D | Square D Model 8903... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ELECTRICALLY HELD TYPE S** | | | | | | | | | | | |
| 30 | 2 | 110V | 120V | 4.34 | 3.22 | 4.22 | SMO1V02 | **5B142** | $206.11 | **$184.25** | 2.9 |
| | 3 | 110 | 120 | 4.34 | 3.22 | 4.22 | SMO2V02 | **5B141** | 225.89 | **202.00** | 3.0 |
| | 4 | 110 | 120 | 4.34 | 4.25 | 4.22 | SMO3V02 | **5B140** | 278.98 | **249.25** | 3.8 |
| 60 | 2 | 110 | 120 | 5.33 | 4.31 | 4.94 | SPO1V02 | **5B139** | 384.12 | **380.50** | 5.4 |
| | 3 | 110 | 120 | 5.33 | 4.31 | 4.94 | SPO2V02 | **5B138** | 411.19 | **407.25** | 5.5 |
| | 4 | 110 | 120 | 6.22 | 5.63 | 4.94 | SPO3V02 | **5B137** | 529.86 | **525.00** | 7.0 |
| 100 | 2 | 110 | 120 | 7.09 | 5.45 | 6.50 | SQO1V02 | **5B136** | 607.94 | **602.50** | 13.0 |
| | 3 | 110 | 120 | 7.09 | 5.45 | 6.50 | SQO2V02 | **5B135** | 661.03 | **655.00** | 13.0 |
| | 4 | 110 | 120 | 7.82 | 9.75 | 6.50 | SQO3V02 | **1V618** | 845.29 | **837.50** | 22.0 |
| **ELECTRICALLY HELD TYPE L** | | | | | | | | | | | |
| 20/30* | 2 | — | 24 | 5.00 | 2.88 | 3.12 | LO20V01 | **2CG60** | 186.33 | **184.75** | 2.8 |
| | | 110 | 120 | 5.00 | 2.88 | 3.12 | LO20V02 | **2CG61** | 186.33 | **184.75** | 2.8 |
| | | — | 277 | 5.00 | 2.88 | 3.12 | LO20V04 | **2CG62** | 186.33 | **184.75** | 2.8 |
| | 3 | 110 | 120 | 5.00 | 2.88 | 3.12 | LO30V02 | **2CG63** | 206.11 | **204.25** | 2.8 |
| | | — | 277 | 5.00 | 2.88 | 3.12 | LO30V04 | **2CG64** | 206.11 | **204.25** | 2.8 |
| | 4 | 110 | 120 | 5.00 | 2.88 | 3.12 | LO40V02 | **2CG65** | 265.45 | **263.00** | 2.9 |
| | | — | 277 | 5.00 | 2.88 | 3.12 | LO40V04 | **2CG66** | 265.45 | **263.00** | 2.9 |
| | 6 | 110 | 120 | 5.00 | 4.25 | 3.12 | LO60V02 | **2CG67** | 344.57 | **341.50** | 3.3 |
| | | — | 277 | 5.00 | 4.25 | 3.12 | LO60V04 | **2CG68** | 344.57 | **341.50** | 3.3 |
| | 8 | 110 | 120 | 5.00 | 5.63 | 3.12 | LO80V02 | **2CG69** | 470.53 | **466.25** | 3.7 |
| | | — | 277 | 5.00 | 5.63 | 3.12 | LO80V04 | **2CG70** | 470.53 | **466.25** | 3.7 |
| | 10 | 110 | 120 | 5.00 | 5.63 | 3.12 | LO1000V02 | **2CG58** | 549.64 | **544.50** | 4.1 |
| | 12 | 110 | 120 | 5.00 | 5.63 | 3.12 | LO1200V02 | **2CG59** | 641.25 | **635.50** | 4.5 |
| **MECHANICALLY HELD TYPE LX** | | | | | | | | | | | |
| 20/30* | 4 | 110 | 120 | 8.81 | 2.88 | 3.25 | LXO40V02 | **5B147** | 298.76 | **267.00** | 4.6 |
| | | — | 277 | 8.81 | 2.88 | 3.25 | LXO40V04 | **5B146** | 298.76 | **267.00** | 4.7 |
| | 6 | 110 | 120 | 8.81 | 4.25 | 3.25 | LXO60V02 | **5B145** | 483.02 | **431.75** | 5.0 |
| | | — | 277 | 8.81 | 4.25 | 3.25 | LXO60V04 | **5B144** | 483.02 | **431.75** | 5.1 |
| | 12 | 110 | 120 | 8.81 | 5.63 | 3.25 | LXO1200V02 | **5B149** | 677.69 | **605.50** | 6.2 |
| | | — | 277 | 8.81 | 5.63 | 3.25 | LXO1200V04 | **5B148** | 677.69 | **605.50** | 6.1 |

(*) 30 Amp ballast loads; 20 Amp tungsten loads.

## MECHANICALLY HELD, UNLATCH REPLACEMENT COIL

- For lighting contactors only
- Coil Voltage: 120VAC @ Hz; 110VAC @ 50Hz

**No. 2FK39.** Square D brand (9998LX44). Shpg. wt. 0.3 lbs. List $60.42. Each ..... $59.80



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# MINIATURE IEC CONTROL RELAYS

- 600 volt, 10A rating (A600)
- Ideal for OEM and panel builders
- DIN mounting capability saves space and simplifies mounting
- Built-in cavity for easy insertion of a transient suppressor
- Dimensions: 2.2H x 1.1W x 2.4"D

Telemecanique

E78403 LR60905



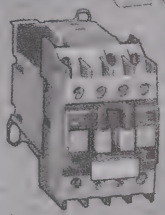
Miniature IEC Control Relay No. 3TR45

## RELAY ORDERING DATA

| 10 Amp | No. of Fixed Contacts NO | NC | Coil Voltage 60 Hz | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 Pole | 1 | 1 | 120 | CA2SK11G7 | **3TR45** | $42.20 | **$39.00** | 0.3 |
| | 2 | 0 | 120 | CA2SK20G7 | **3TR46** | 42.20 | **39.00** | 0.3 |
| | 2 | 0 | 240 | CA2SK20U7 | **3TR47** | 42.20 | **39.00** | 0.3 |

# IEC CONTROL RELAYS

- 600 volt, 10A rating (A600)
- Relays have serrated contacts which provide a wiping action to ensure excellent performance with low control voltage (24 volts)
- Basic four-pole relay can be installed with a snap-on adder cartridge in two or four poles in a combination of NO and NC contacts
- Standard instantaneous auxiliary contact blocks available for front snap-on or side snap-on. See listing on page 450
- DIN rail mounting capability in both AC and DC ratings
- Built to a design specification of 30,000,000 mechanical operations



IEC DC Control Relay No. 4B545



IEC AC Control Relay No. 4B540

## RELAY SPECIFICATIONS AND ORDERING DATA

| Control Circuit | No. of Contacts | Coil Voltage 60 Hz | Contact Configuration NO | NC | Dimensions (In.) H | W | D | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AC | 4 | 24VAC | 2 | 2 | 2.91 | 1.77 | 3.15 | CA2DN22B6 | **4B540** | $60.00 | **$55.40** | 0.7 |
| | | 120VAC | 2 | 2 | 2.91 | 1.77 | 3.15 | CA2DN22G6 | **4B541** | 60.00 | **55.40** | 0.7 |
| | | 120VAC | 3 | 1 | 2.91 | 1.77 | 3.15 | CA2DN31G6 | **4B542** | 60.00 | **55.40** | 0.7 |
| | | 24VAC | 4 | — | 2.91 | 1.77 | 3.15 | CA2DN40B6 | **4B543** | 60.00 | **55.40** | 0.7 |
| | | 120VAC | 4 | — | 2.91 | 1.77 | 3.15 | CA2DN40G6 | **4B544** | 60.00 | **55.40** | 0.7 |
| DC | 4 | 24VDC | 2 | 2 | 2.91 | 1.77 | 4.53 | CA3DN22BD | **4B545** | 106.00 | **97.85** | 1.4 |
| | | 24VDC | 4 | — | 2.91 | 1.77 | 4.53 | CA3DN40BD | **4B546** | 106.00 | **97.85** | 1.4 |

# TIME DELAY CONTACT BLOCKS

- Snap-on front mounting
- Use with Telemecanique IEC industrial control relays

Telemecanique



Off-delay

## CONTACT BLOCK ORDERING DATA

| Type | Contact Configuration NO | NC | Time-Delay Range (seconds) | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| On-delay | 1 | 1 | 0.1 to 30 | LA2DT2 | **4B547** | $127.00 | **$117.25** | 0.2 |
| | | | 10 to 180 | LA2DT4 | **4B548** | 127.00 | **117.25** | 0.2 |
| Off-delay | 1 | 1 | 0.1 to 30 | LA3DR2 | **4B549** | 127.00 | **117.25** | 0.2 |
| | | | 10 to 180 | LA3DR4 | **4B550** | 127.00 | **117.25** | 0.2 |

SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

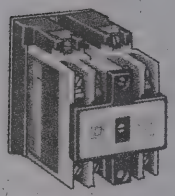
Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# NEMA INDUSTRIAL CONTROL RELAYS

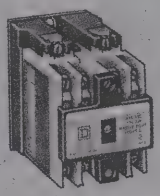
SQUARE D
GROUPE SCHNEIDER

E78403

LR60905



AC Control Relay



AC Master Control Relay

## GENERAL FEATURES

- Rugged heavy-duty design for improved performance, reliability and long life
- Field convertible color-coded contact cartridges
- Replaceable coil
- Mechanical tie between all cartridges
- Operating temperature range: -40°C to 71°C (-40°F to +160°F)

## AC CONTROL RELAY FEATURES

- 600 volt, 10A continuous rating (A600)
- 2 to 12 pole relay
- Straight-through wiring
- Plug-in contact cartridges for easy contact conversion and replacement
- Contact conversion without removing terminal screws or wires
- Self-lifting pressure wire connectors
- Average operating time in milliseconds: 15 pick-up; 16 drop-out

## AC MASTER RELAY FEATURES

- 600 volt, 20A contact rating due to use of Master Contact Cartridges (A600)
- Provisions for Standard Cartridges to be used in contact cavities not occupied by Master Cartridges in 2-8 pole AC relay
- Average operating time in milliseconds: 15 pick-up; 16 drop-out

## DC CONTROL RELAY FEATURES

- 250 volt, 5A rating (P600)
- 2 to 8 pole relay
- Offers all the same features as the AC Relay
- All contact poles are usable since no overlapping contacts are needed
- Average operating time in milliseconds: 37 pick-up; 21 drop-out

## AC CONTROL RELAY

| Contact Configuration | AC Coil Voltage | Dimensions (In.) H | W | D | Square D Model 8501 ... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2NO | 120-60/110-50 | 3.5 | 2.23 | 3.95 | XO20V02 | **4B522** | $79.11 | **$78.40** | 2.1 |
| 3NO | | | | | XO30V02 | **4B523** | 92.64 | **91.80** | 2.2 |
| 4NO | 24-60 | 3.5 | 2.23 | 3.95 | XO40V01 | **4B524** | 105.14 | **104.15** | 2.1 |
| | 120-60/110-50 | | | | XO40V02 | **4B525** | 105.14 | **104.15** | 2.2 |
| | 240-60/220-50 | | | | XO40V03 | **4B526** | 105.14 | **104.15** | 2.1 |
| | 480-60/440-50 | | | | XO40V06 | **4B527** | 105.14 | **104.15** | 2.2 |
| 6NO | 120-60/110-50 | 3.5 | 2.23 | 5.16 | XO60V02 | **4B528** | 132.20 | **130.95** | 2.4 |
| 8NO | | 3.5 | 2.23 | 5.16 | XO80V02 | **4B529** | 158.23 | **156.75** | 2.5 |
| 12NO | | 3.5 | 2.23 | 6.36 | XO1200V02* | **4B521** | 211.32 | **209.50** | 2.9 |

## AC MASTER CONTROL RELAY

| Contact Configuration | AC Volts | Dimensions (In.) H | W | D | Square D Model 8501 ... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 4NO | 120-60/110-50 | 3.5 | 2.23 | 3.95 | XMO40V02† | **4B520** | $184.25 | **$182.50** | 2.2 |

## DC CONTROL RELAY

| Contact Configuration | DC Volts | Dimensions (In.) H | W | D | Square D Model 8501 ... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 4NO | 24 | 3.56 | 2.23 | 5.17 | XDO40V53 | **4B517** | $171.76 | **$170.25** | 3.4 |

(*) A maximum of 8 NC contacts is allowed on 9-12 pole relays. (†) Attachments not permitted on this relay.

# NEMA RELAY APPLICATION DATA

## CONTACT RATINGS

| | AC Ratings | | | | | | | | DC Ratings | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inductive 35% Power Factor | | | | | | Resistive 75% Power Factor | | Inductive | | | Resistive | |
| Type of Cartridge | Volts | NEMA Rating | Make Amperes | Make VA | Break Amperes | Break VA | Continuous Amperes | Make, Break and Continuous Amperes | Volts | NEMA Rating | Make and Break Amperes 138VA Max. | Continuous Amperes | Make and Break Amperes | Continuous Amperes |
| Standard | 120 | A600 | 60 | 7200 | 6 | 720 | 10 | 10 | 125 | P600 | 1.1 | 5 | 4 | 5 |
| | 240 | | 30 | 7200 | 3 | 720 | 10 | 10 | 250 | | 0.55 | 5 | 0.8 | 5 |
| Overlapping | 480 | | 15 | 7200 | 1.5 | 720 | 10 | 10 | 125 | P150 | 1.1 | 5 | 4 | 5 |
| | 600 | | 12 | 7200 | 1.2 | 720 | 10 | 10 | | | | | | |



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# NEMA INDUSTRIAL CONTROL RELAY ACCESSORIES

## MECHANICAL AC LATCH ATTACHMENT

Mounts on any 2 through 8-pole relay except XMO master relay. AC latch attachment has a continuous duty 120VAC coil which is replaceable. Square D brand (8501XLV02).

**No. 4B518.** Shpg. wt. 1.0 lbs. List $92.64. Each.....$91.80

## PNEUMATIC TIMER ATTACHMENT

Mounts on any 0 through 4-pole AC or DC relay except XMO master relay. It provides 1 NO and 1 NC convertible timed contacts, which are the same standard cartridges used on the basic relay (see below for standard cartridges). Timing range is .2-60 seconds.

**No. 4B531. Off Delay.** Square D brand (8501XTD1). Shpg. wt. 0.8 lbs. List $184.25. Each.....$182.50

**No. 4B532. On Delay.** Square D brand (8501XTE1). Shpg. wt. 0.8 lbs. List $184.25. Each.....$182.50

## ADDER DECKS

Adder decks are used to increase the number of poles on a relay. Basic 4-pole relay can be easily converted to an 8-pole or 12-pole relay by installing one or two adder decks. The same type adder deck can be used for both the middle and upper decks.

No. 4B512 comes with 2 convertible contact cartridges and will accept 2 additional convertible contact cartridges. Square D brand (8501XB20).

**No. 4B512.** Shpg. wt. 0.5 lbs. List $26.33. Each.....$26.10

No. 4B513 comes with 4 convertible contact cartridges. Square D brand (8501XB40).

**No. 4B513.** Shpg. wt. 0.5 lbs. List $53.09. Each.....$52.60

## MOUNTING TRACK

Mounting track has pre-punched mounting holes to simplify mounting the track on control panel. Relay mounting screws are factory installed on track so that relays can be hung prior to tightening the screws. 9" long for 4 relays. Square D brand (8501XM4).

**No. 4B519.** Shpg. wt. 0.7 lbs. List $10.82. Each.....$10.72

## TRANSIENT SUPPRESSOR

Consists of an R-C circuit designed to suppress coil generated transients to approximately 200 percent of peak voltage. It is useful when switching NEMA control relays near solid state equipment. Mounts directly on the coil and is designed for use on coils up to 120VAC. Square D brand (8501XS1).

**No. 4B530.** Shpg. wt. 0.1 lbs. List $26.33. Each.....$26.10

## NEMA 1 ENCLOSURE

Two conduit knockouts are located in both the top and bottom of enclosure. Enclosure is furnished with self tapping screws for mounting the relay inside the enclosure. Accommodates 4 and 8-pole AC or DC relays, 12-pole AC relay, 4-pole AC latching relay, and 4-pole AC timing relay. Square D brand (9991UE7).

**No. 4B533.** Shpg. wt. 4.4 lbs. List $46.11. Each.....$45.70

## MAGNETIC COILS

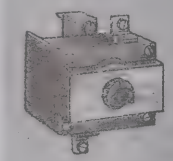
### AC MAGNET COIL FOR RELAYS, TIMERS, CONTACTORS

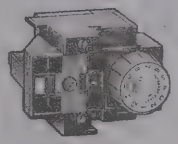
| Coil Volts 60 Hz | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 24-60 VAC | 9998X23 | 4B534 | $35.19 | $34.85 | 0.3 |
| 120-60/110-50 | 9998X44 | 4B535 | 35.19 | 34.85 | 0.3 |
| 240-60/220-50 | 9998X53 | 4B536 | 35.19 | 34.85 | 0.3 |
| 480-60/440-50 | 9998X62 | 4B537 | 35.19 | 34.85 | 0.3 |

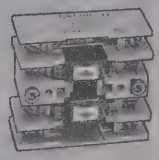
### DC MAGNET COIL FOR MAGNETIC CONTACTORS AND RELAYS

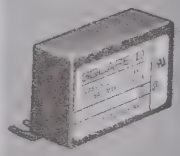
| Coil Volts | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 24 VDC | 9998X37 | 4B538 | $85.86 | $85.00 | 1.0 |

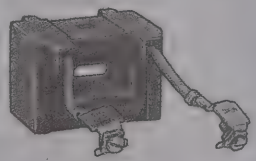
E39281 LR43364


Mechanical AC Latch Attachment


Pneumatic Timer Attachment


Adder Deck


Transient Suppressor


Magnetic Coils


Contact Cartridge

## CONTACT CARTRIDGES

**Standard Cartridge**—Used for most applications. Standard cartridges are non-overlapping; rated NEMA A600 and NEMA P600. Black case. Square D brand (8501XC1).

**No. 4B514.** Standard Cartridge Shpg. wt. 0.1 lbs. List $13.22. Each..... $13.09

**Overlapping Cartridge**—Same NEMA A600 AC rating as standard cartridge and a NEMA P150 DC rating. When used in normally open mode it will close early. When used in normally closed mode it will open late. If two or more are used together, normally open contacts will close before normally closed contacts open as the relay picks up. Overlap also occurs during dropout. Red case. Square D brand (8501XC2).

**No. 4B515.** Overlapping Cartridge. Shpg. wt. 0.1 lbs. List $13.22. Each..... $13.09

**Master Cartridge**—Features the same contact ratings as standard cartridge, except it has 20-ampere continuous current rating. It can be used in circuits where a master relay is required. Maximum of 6 master cartridges may be used on any 7 and 8-pole AC relays. Do not use any master cartridges on 9 through 12-pole AC or DC operated devices. Blue case. Square D brand (8501XC4).

**No. 4B516.** Master Cartridge. Shpg. wt. 0.1 lbs. List $33.00. Each.....$32.70

### CONTACT CONVERSION

The contact cartridges of the NEMA relays can be easily converted from normally open to normally closed and vice versa without disturbing relay wiring or removing terminal screws. To convert contacts:

1. Remove relay cover and captive T-bar actuator
2. Remove contact cartridge and rotate 180°
3. Plug contact cartridge back in
4. Replace T-bar actuator and cover

# CROSS-REFERENCE FOR OMRON RELAYS

| Grainger Stock No. | Manufacturers' Catalog Numbers | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Omron | P&B | Magnecraft | IDEC | Guardian | Sigma | Deltrol | Midtex | Aromat | Gordos |
| 2XC21 | G7L-1A-BUB-J-CB-AC24 | PRD-1AYO | W199ADBX-4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2XC22 | G7L-1A-BUB-J-CB-AC100/120 | PRD-3AGO | W199ADX-4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4A710 | G7L-1A-TUB-J-CB-AC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2XC20 | G7L-2A-BUB-J-CB-AC100/120 | PRD-7AYO | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2XC19 | G7L-2A-BUB-J-CB-AC24 | PRD-7DYO | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 3A355 | G7L-2A-TUB-J-CB-AC100/120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 3A354 | G7L-2A-TUB-J-CB-AC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4A711 | G7L-1A-TUB-J-CB-AC100/120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2W926 | LY1-AC110/120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | HL1-115VAC | N/A |
| 2W925 | LY1-AC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | HL1-24VAC | N/A |
| 2W927 | LY1-DC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | HL1-24VDC | N/A |
| 2W928 | LY2-AC110/120 | K10P11A15-120 | W78ARCSX11 | RH2B-U-AC120 | 1390-2C-120A | 76RS-120AC-SCO | 20613-80 | 258-12T200 | HL2-115VAC | N/A |
| 6C874 | LY2-AC12 | K10P11A15-12 | N/A | RH2B-U-AC12 | 1390-2C-12A | N/A | N/A | 258-12P200 | HL2-H-AC12 | N/A |
| 2XC00 | LY2-AC200/240 | K10P11A15-240 | W78ARCSX12 | RH2B-U-AC240 | 1390-2C-240A | N/A | N/A | 258-12U200 | HL2-H-AC240 | N/A |
| 2W929 | LY2-AC24 | K10P11A15-24 | W78ARCSX9 | RH2B-U-AC24 | 1390-2C024A | 76R2-24AC-SCO | 20612-82 | 258-12Q200 | HL2-24VAC | N/A |
| 6C873 | LY2-DC12 | K10P11D15-12 | W78ARCSX7 | RH2B-U-DC12 | 1391395-12D | N/A | N/A | 258-12B200 | N/A | N/A |
| 2W930 | LY2-DC24 | K10P11D15-24 | W78ARCSX8 | RH2B-U-DC24 | 1395-2C-24D | 76R2-24DC-SCO | 20612-80 | 258-12C200 | HL2-24VDC | N/A |
| 2XC02 | LY2F-AC110/120 | N/A | W78ARCSX-5 | RH2B-UT-AC120 | 1390F-2C-120A | N/A | N/A | 258-62T200 | HL2-TM-AC120 | N/A |
| 2XC01 | LY2F-AC24 | N/A | W78ARCSX-3 | RH2B-UT-AC24 | 1390F-2C-24A | N/A | N/A | 258-62Q200 | HL2-TM-AC24 | N/A |
| 6C876 | LY2N-AC110/120 | N/A | N/A | RH2B-UL-AC120 | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C877 | LY2N-AC220/240 | N/A | N/A | RH2B-UL-AC240 | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C875 | LY2N-AC24 | N/A | N/A | RH2B-UL-AC24 | N/A | N/A | N/A | N/A | N/A | N/A |
| 2XC04 | LY3-AC120 | N/A | N/A | RH3B-U-AC120 | N/A | N/A | N/A | 258-13T200 | N/A | N/A |
| 2XC03 | LY3-AC24 | N/A | N/A | RH3B-U-AC24 | N/A | N/A | N/A | 258-13Q200 | N/A | N/A |
| 2XC05 | LY3-AC240 | N/A | N/A | RH3B-U-AC240 | N/A | N/A | N/A | 258-13U200 | N/A | N/A |
| 6C878 | LY3-DC12 | N/A | N/A | RH3B-U-DC12 | N/A | N/A | N/A | 258-13B200 | N/A | N/A |
| 6C879 | LY3-DC24 | N/A | N/A | RH3B-U-DC24 | N/A | N/A | N/A | 258-13C200 | N/A | N/A |
| 6C882 | LY4-AC12 | N/A | N/A | RH4B-U-AC12 | N/A | 76R4-12AC-SCO | N/A | 258-14P200 | N/A | N/A |
| 2XC07 | LY4-AC120 | N/A | N/A | RH4B-U-AC120 | N/A | 76R4-120AC-SCO | N/A | 258-14T200 | N/A | N/A |
| 2XC06 | LY4-AC24 | N/A | N/A | RH4B-U-AC24 | N/A | 76R4-24AC-SCO | N/A | 258-14Q200 | N/A | N/A |
| 6C880 | LY4-DC12 | N/A | N/A | RH4B-U-DC12 | N/A | 76R4-12DC-SCO | N/A | 258-14B200 | N/A | N/A |
| 6C881 | LY4-DC24 | N/A | N/A | RH4B-U-DC24 | N/A | 76R4-24DC-SCO | N/A | 258-14C200 | N/A | N/A |
| 6C884 | LY4N-AC120 | N/A | N/A | RH4B-UL-AC120 | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C883 | LY4N-AC24 | N/A | N/A | RH4B-UL-AC24 | N/A | N/A | N/A | N/A | N/A | N/A |
| 2A192 | MK2PN-S-AC24 | KRP11-AN-24 | W88ANCPX7 | RR2P-UL-AC24 | 1210N-2C-24A | 50R02L2-24AC-SCO | 20117-82 | N/A | N/A | N/A |
| 2A193 | MK2PN-S-AC120 | KRP11-AN-120 | W88ANCPX2 | RR2P-UL-AC120 | 1210N-2C-120A | 50R02L2-120AC-SCO | 20117-84 | N/A | N/A | N/A |
| 2W923 | MK2KP-AC120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2W924 | MK2KP-AC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2W919 | MK2P-S-AC12 | KRP11-AG-12 | W88ACPX6 | RR2P-U-AC12 | 1210-2C-12A | 50R02-12AC-SCO | 20108-81 | 158-92P200 | N/A | N/A |
| 2W921 | MK2P-S-AC120 | KRP11-AG-120 | W88ACPX8 | RR2P-U-AC120 | 1210-2C-120A | 50R02-120AC-SCO | 20108-84 | 158-92T200 | N/A | N/A |
| 2W920 | MK2P-S-AC24 | KRP11-AG-24 | W88ACPX7 | RR2P-U-AC24 | 1210-2C-24A | 50R02-24AC-SCO | 20108-82 | 158-92Q200 | N/A | N/A |
| 6C887 | MK2P-S-AC240 | KRP11-AG-240 | N/A | RR2P-U-AC240 | 1210-2C-240A | 50R02-240AC-SCO | 20108-85 | 158-92U200 | N/A | N/A |
| 2W922 | MK3P5-S-AC120 | KRP14-AG-120 | W88ACPX12 | RR3PA-U-AC120 | 1215-3C-120A | 50R03-120AC-SCO | 20110-84 | 158-93T200 | N/A | N/A |
| 6C888 | MK3P5-S-AC24 | KRP14-AG-24 | W88ACPX11 | RR3PA-U-AC24 | 1215-3C-24A | 50R03-24AC-SCO | 20110-82 | 158-92Q200 | N/A | N/A |
| 6C889 | MK3P5-S-AC240 | KRP14-AG-240 | N/A | RR3PA-U-AC240 | 1215-3C-240A | 50R03-240AC-SCO | 20110-85 | 158-93U200 | N/A | N/A |
| 2W931 | MY4-AC110/120 | KHU17A11-120 | W78ACSX4 | RY4S-U-AC120 | 1310-4C-120A | 67R4-120AC | 20650-84 | 156-14T100 | HC4-115VAC | N/A |
| 6C886 | MY4-AC12 | KHU17A11-12 | W78ACSX2 | RY4S-U-AC12 | 1310-4C-12A | 67R4-12AC | 20650-81 | 156-14P100 | HC4-12AC | N/A |
| 2W932 | MY4-AC24 | KHU17A11-24 | W78ACSX3 | RY4S-U-AC24 | 1310-4C-24A | 67R4-24AC | 20650-82 | 156-14Q100 | HC4-24VAC | N/A |
| 6C885 | MY4-DC12 | KHU17D11-12 | W78CSX2 | RY4S-U-DC12 | 1310-4C-12D | 67R4-12DC | 20649-81 | 156-14B100 | HC4-12VDC | N/A |
| 2W933 | MY4-DC24 | KHU17D11-24 | W78CSX3 | RY4S-U-DC24 | 1310-4C-24D | 67R4-24DC | 20649-84 | 156-14C100 | HC4-24VDC | N/A |
| 3A353 | MY4N-AC110/120 | KHU17A11N-120 | N/A | RY4S-UL-AC120 | 1310N-4C-120A | N/A | N/A | 156-14T100LD | HC4-L-120VAC | N/A |
| 3A351 | MY4N-AC24 | KHU17A11N-24 | N/A | RY4S-UL-AC24 | 1310N-4C-24A | N/A | N/A | 156-14Q100LD | HC4-L-24VAC | N/A |
| 3A352 | MY4N-DC24 | KHU17D11N-24 | N/A | RY4S-UL-DC24 | 1310N-4C-24D | N/A | N/A | 156-14C100LD | HC4-L-24VDC | N/A |
| 6C891 | G2R-1A-T-AC120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | JR14-TM-120VAC | N/A |
| 6C890 | G2R-1A-T-AC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | JR1A-TM-24VAC | N/A |
| 6C895 | G2R-1-S-AC120 | N/A | N/A | RH1B-U-AC120 | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C894 | G2R-1-S-AC24 | N/A | N/A | RH1B-U-AC24 | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C893 | G2R-1-T-AC120 | N/A | N/A | RH1B-UT-AC120 | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C892 | G2R-1-T-AC24 | N/A | N/A | RH1B-UT-AC24 | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C897 | G2R-2-S-AC120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C896 | G2R-2-S-AC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C901 | G3NA-210B-AC100/120 | N/A | W6110ASX-1 | N/A | N/A | N/A | N/A | N/A | N/A | G120A10 |
| 6C902 | G3NA-210B-AC200/240 | N/A | W6210ASX-1 | N/A | N/A | N/A | N/A | N/A | N/A | G240A10 |
| 6C900 | G3NA-210B-DC5-24 | SSRT-240D10 | W6110DSX-1 | N/A | N/A | N/A | N/A | N/A | AQP10A2-24/30VDC | G120D10 |
| 6C904 | G3NA-225B-AC100/120 | SSRT-240A25 | W6125ASX-1 | N/A | N/A | N/A | N/A | N/A | N/A | G120A25 |
| 6C905 | G3NA-225B-AC200/240 | SSRT-240A25 | W6125ASX-1 | N/A | N/A | N/A | N/A | N/A | N/A | G240A25 |
| 6C903 | G3NA-225B-DC5-24 | SSRT-240D25 | W6125DSX-1 | N/A | N/A | N/A | N/A | N/A | N/A | G120A25 |
| 6C907 | G3NA-240B-AC100/120 | N/A | W6140ASX-1 | N/A | N/A | N/A | N/A | N/A | N/A | G120A45 |
| 6C908 | G3NA-240B-AC200/240 | N/A | W6140ASX-1 | N/A | N/A | N/A | N/A | N/A | N/A | G240A45 |
| 6C906 | G3NA-240B-DC5-24 | N/A | W6140DSX-1 | N/A | N/A | N/A | N/A | N/A | AQP40A2-24/30DVC | G120D45 |
| 6C910 | G3NA-440B-AC100/120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 6C909 | G3NA-440B-DC5-24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 4A709 | G4B-112T1-FDC-US-RP-AC120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | JA1C-TM-AC120V-P | N/A |
| 4A708 | G4B-112T1-FDC-US-RP-AC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | JA1C-TM-AC24V-P | N/A |
| 2W934 | G4B-112T1-FD-US-RP-AC120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | JA1A-TM-AC120V-P | N/A |
| 2W935 | G4B-112T1-FD-US-RP-AC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | JA1A-TM-AC24V-P | N/A |
| 2W937 | G5LE-114P-PS-DC12 | N/A | N/A | RCN1V-5B12D | 1575-1C-12C | N/A | N/A | 296-31B300 | HA1E-12DVC | N/A |
| 2W936 | G5LE-114P-PS-DC24 | N/A | N/A | RCN1V-5B24D | 1575-1C-24D | N/A | N/A | 296-31C300 | HA1E-24DVC | N/A |
| 6C913 | G7J-2A2B-B-AC100/120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | VC15S-2A2B-AC120V | N/A |
| 6C914 | G7J-2A2B-B-AC200/240 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | VC20S-2A2B-AC240V | N/A |
| 6C915 | G7J-2A2B-B-DC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | VC20S-2A2B-DC24 | N/A |
| 6C986 | G7J-3A1B-AC200/240 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | VC20S-3A1B-AC240V | N/A |
| 6C985 | G7J-3A1B-B-AC100/120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | VC20S-3A1B-AC120V | N/A |
| 6C987 | G7J-3A1B-DC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | VC20S-3A1B-DC24V | N/A |
| 6C988 | G7J-4A-B-AC100/120 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | VC20S-4A-AC120V | N/A |
| 6C989 | G7J-4A-B-AC200/240 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | VC20S-4A-240V | N/A |
| 6C990 | G7J-4A-B-DC24 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | VC20SVC20S-4A-DC2 | N/A |

Note: Dimensions may vary. See Cross-Reference Information on page opposite inside back cover. For Ordering Data, see pages 475, 479, and 484.

# CROSS-REFERENCE FOR DAYTON RELAYS



| Stock No. | Manufacturers' Catalog Numbers | | | | | | |
|---|---|---|---|---|---|---|---|
| | Deltrol Control | Magnecraft | Midtex | Omron | P & B | Sigma | Struthers Dunn |
| 1A247 | | | 6700154 | | 27E046 | | |
| 1A366 | | W222ACPFX-11 | | | CRB-48-70010 | | |
| 1A367 | | W222ACPFX-13 | | | CRB-48-70060 | | |
| 1A368 | | W222ACPFX-15 | | | CRB-48-70180 | | |
| 1A484 | 2011381 | W250CPX-6 | | MK2PUADC12 | KRPA-11DG-12 | 50R02-12DC-SCO | A314XBX48P-12VDC |
| 1A485 | 2011382 | W250CPX-7 | | MK2PUADC24 | KRPA-11DG-240 | 50R02-24DC-SCO | A314XBX48P-24VDC |
| 1A486 | 20310-81 | W388CPX-6 | 157-22B200 | MJ2PUADC12 | KUP-11D15-12 | 68R2-12DC-SCO | A283XBXC-12VDC |
| 1A487 | 20310-82 | W388CPX-7 | 157-22C200 | MJ2PUADC24 | KUP-11D15-24 | 68R2-24DC-SCO | A283XBXC-24VDC |
| 1A488 | 20311-82 | W388CPX-11 | 157-23C200 | MJ3PUADC24 | KUP-14D15-24 | 68R3-24DC-SCO | A283XCXC-24VDC |
| 1A489 | 275F101C-120A | W389ACX-4 | | | KUHP-5A51-120 | 45R1C11-120AC-SCO | |
| 1A490 | 275F102C-24A | W389ACX-8 | 187-32Q200 | | KUHP-11A51-24 | 45R2C11-24AC-SCO | |
| 1A491 | 275F102C-120A | W389ACX-9 | 187-32T200 | | KUHP-11A51-120 | 45RC11-120AC-SCO | |
| 2A544 | | | | | KUHP-5D51-24 | 45R1C1124DCSCO | |
| 2A545 | 2085282 | | 18732C200 | | KUHP-11D51-24 | 45R2C1124DCSCO | A283XCXC-16VDC |
| 2A582 | | | | PTF08AE | 27E895 | | |
| 2A583 | | | | | 27E489 | AD129 | 41463 |
| 2A584 | | 70399 | 6700120 | PYF14AE | 27E894 | AD61 | |
| 3X740 | | W250ACPX-10 | | | KRPA-11AG-240 | | |
| 3X741 | | W250ACPX-13 | | MK3PUAAC24 | KRPA-14AG-24 | 50R0324AC | |
| 3X742 | | W250ACPX-14 | 15893T200 | MK3P5SAC120 | KRPA-14AG-120 | 50R03120ACSCO | A314XCX48P120VAC |
| 3X744 | 20239-82 | W199AX-3 | 301-11Q-200 | | PRD-5AG0-24 | | 425XAX-24VAC |
| 3X745 | 20239-83 | W199AX-4 | 301-11T-200 | | PRD-5AG0-120 | | 425XAX-120VAC |
| 3X747 | | W199X-3 | 301-11C-200 | | PRD-5DG0-24 | | 425XAX-24VDC |
| 3X748 | 20245-81 | W199X-12 | 301-11B-100 | MG2UADC12 | PRD-11DG0-12 | | 425XBX-12VAC |
| 3X749 | 20245-82 | W199X-13 | 302-11C-200 | MG2UADC24 | PRD-11DG0-24 | | 425XBX-12VDC |
| 4A079 | | | | | 35D013 | | |
| 4A161 | | | | | 27E121 | | |
| 5X809 | | W88UKADX-3 | | | KR-3AH-24 | | |
| 5X810 | | W88UKADX-4 | | | KR-3AH-120 | | |
| 5X811 | 20392-83 | W88UKADX-5 | | | KR-3AH-240 | | |
| 5X813 | 20300-82 | W388AX-3 | 157-11Q-200 | | KU-5A35-24 | 68F1-24AC-SCO | 283XAX-24VAC |
| 5X814 | 20300-84 | W388AX-4 | 157-11T-200 | | KU-5A35-120 | 68F1-120AC-SCO | 283XAX-120VAC |
| 5X815 | 20300-85 | W388AX-5 | 157-11U200 | | KU-5A35-240 | 68F1-240AC-SCO | 283XAX-240VAC |
| 5X817 | 20301-82 | W388AX-8 | 157-12Q200 | | KU-11A35-24 | 68F2-24AC-SCO | 283XBX-24VAC |
| 5X818 | 20301-84 | W388AX-9 | 157-12T200 | | KU-11A35-120 | 68F2-120AC-SCO | 283XBX-120VAC |
| 5X819 | 20301-85 | W388AX-10 | 157-12U200 | | KU-11A35-240 | 68F2-40AC-SCO | 283XBX-240VAC |
| 5X820 | 20302-82 | W388AX-13 | 157-13Q200 | | KU-14A35-24 | 68F3-24AC-SCO | 283XCX-24VAC |
| 5X821 | 20302-84 | W388AX-14 | 157-13T200 | | KU-14A35-120 | 68F3-120AC-SCO | 283XCX-120VAC |
| 5X822 | 20106-81 | W250ACPX-2 | 155-91P200 | | KRPA-5AG-12 | 50R01-12AC-SCO | 214XAX48P-12VAC |
| 5X823 | 20107-82 | W250ACPX-3 | 155-91Q200 | MK1EPUAAC24 | KRPA-5AG-24 | 50R01-24AC-SCO | 214XAX48P-24VAC |
| 5X824 | 20106-84 | W250ACPX-4 | 155-91T200 | MK1EPUAAC120 | KRPA-5AG-120 | 50R01-115AC-SCO | 214XAX48P-120VAC |
| 5X825 | 20108-81 | W250ACPX-7 | 155-92P200 | MK2P-S-AC12 | KRPA-11AG-12 | 50R02-12AC-SCO | 214XBX48P-12VAC |
| 5X826 | 20108-82 | W250ACPX-8 | 155-92Q200 | MK2P-S-AC24 | KRPA-11AG-24 | 50R02-24AC-SCO | 214XBX48P-24VAC |
| 5X827 | 20108-84 | W250ACPX-9 | 155-92T200 | MK2P-S-AC120 | KRPA-11AG-120 | 50R02-11AC-SCO | 214XBX48P-120VAC |
| 5X828 | | W211ACPSOX-5 | 61521T200 | | CHB-38-70001 | | 45-010-120VAC |
| 5X829 | 3020284 | W211ACPSOX-7 | 61641T500 | | CHB-38-70003 | | 45-180-120VAC |
| 5X830 | | W211ACPSOX-8 | 61221T600 | | CHB-38-70004 | | |
| 5X834 | 20306-82 | W388ACPX-3 | 157-21Q200 | MJ1PUAAC24 | KUP-5A15-24 | 68R1-24AC-SCO | 283XAXC-24A |
| 5X835 | 20306-84 | W388ACPX-4 | 157-21T200 | MJ1PUAAC10 | KUP-5A15-120 | 68R1-120AC-SCO | 283XAXC-115A |
| 5X836 | 20306-85 | W388ACPX-5 | 157-21U200 | MJ1PUAAC240 | KUP-5A15-240 | 68R1-240AC-SCO | 283XAXC-240A |
| 5X837 | 20307-82 | W388ACPX-8 | 157-22Q200 | MJ2PUAAC24 | KUP-11A15-24 | 68R2024AC-SCO | 283XBXC-24A |
| 5X838 | 20207-84 | W388ACPX-9 | 157-22T200 | MJ2PUAAC120 | KUP-11A15-120 | 68R2120AC-SCO | 283XBXC-115A |
| 5X839 | 20307-85 | W388ACPX-10 | 157-22U200 | MJ2PUAAC240 | KUP-11A15-240 | 68R2-240AC-SCO | 283XBXC-240A |
| 5X840 | 20308-82 | W388ACPX-13 | 157-23Q200 | MJ3PUAAC24 | KUP-14A15-24 | 68R3-24AC-SCO | 283XCXC-24A |
| 5X841 | 20308-84 | W388ACPX-14 | 157-23T200 | MJ3PUAAC120 | KUP-14A15-120 | 68R31204AC-SCO | 283XCXC-115A |
| 5X842 | 20308-85 | W388ACPX-15 | 157-23U200 | MJ3PUAAC240 | KUP-14A15-240 | 68R3240AC-SCO | 283XCXC-240A |
| 5X846 | 20241-82 | W199AX-13 | 302-11Q200 | MG2UAAC24 | PRD-11AG0-24 | | 425XBX-24VAC |
| 5X847 | 20241-83 | W199AX-14 | 302-11T200 | MG2UAAC120 | PRD-11AG0-120 | | 425XBX-120VAC |
| 5X848 | 20241-84 | W199AX-15 | 302-11U200 | MG2UAAC220 | PRD-11AG0-240 | | 425XBX-240VAC |
| 5X849 | 20238-82 | W199ADX-3 | 301-14Q200 | | PRD-3AG0-24 | | 425HXX-24VAC |
| 5X850 | 20238-83 | W199ADX-4 | 301-14T200 | | PRD-3AG0-120 | | 425HXX-120VAC |
| 5X851 | 20238-84 | W199ADX-5 | 301-14U200 | | PRD-3AG0-240 | | 425HXX-240VAC |
| 5X852 | | 701691 | 6700127 | PF085A | 27E891 | AD114 | |
| 5X853 | | 702331 | 6700125 | | 27E893 | AD116 | |
| 5X854 | | 701242 | 6700012 | | 27E067 | AD622 | 36580 |
| 6X153 | | W211ACPSRX-5 | 61522T200 | | CKB-38-78010 | | 42-010-120VAC |
| 6X154 | | W211ACPSRX-7 | | | CKB-38-78180 | | 42-010-120VAC |
| 6X155 | | W211ACPSRX-8 | 61522T600 | | CKB-38-78300 | | |
| 6X156 | | 701701 | 6700126 | PF113A | 27E892 | AD115 | |
| 6X601 | | W211ACPSOX-60 | | | CHB-38-70050 | | |
| 6X602 | | W211ACPSRX-60 | | | CHB-38-78050 | | |
| 6X603 | | W211ACPVC-5 | | | CHB-38-70021 | | |
| 6X604 | | W211ACPVX-7 | | | CHB-38-70023 | | |
| 6X605 | | W211ACPVX-8 | | | CHB-38-70024 | | |

See Cross-Reference Information on page opposite inside back cover.

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# GENERAL PURPOSE RELAYS

Dayton®

E40944

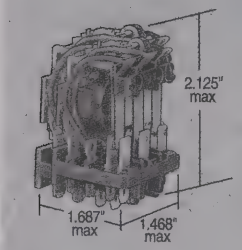
15734

## FEATURES

- Silver alloy contacts
- Compatible with relay sockets on page 480
- Clear plastic covers on enclosed models for inspection of contacts
- Plug-in termination
- Relays rated at 50/60 Hz

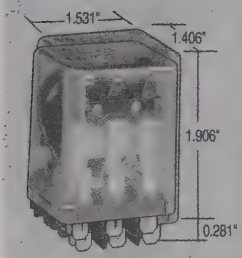
## APPLICATIONS

- Starting or switching small motors, vending machines, power supplies, machine tools, elevator systems, control panels, and more



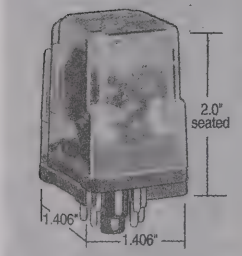

## OPEN, SQUARE BASE MODELS

| No. of Mounting Pins | Form | Contact Load Ratings @ 120VAC: Operating Current R# | Operating Current I†# | HP VAC 120 | HP VAC 240 | Coil Ratings @ 60 Hz Volts | Coil Current Rating | Use with Socket* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | SPDT | 13A | 13A | 1/3 | 1/2 | 24VAC | 84mA | 5X853, 5X854, 4A161, 1A247 | 5X813 | $10.96 | $9.16 | 0.2 |
| | | 13 | 13 | 1/3 | 1/2 | 120VAC | 17.5mA | | 5X814 | 10.96 | 9.16 | 0.2 |
| | | 13 | 13 | 1/3 | 1/2 | 240VAC | 8.75mA | | 5X815 | 10.99 | 9.17 | 0.2 |
| 8 | DPDT | 12 | 12 | 1/3 | 1/2 | 24VAC | 84mA | | 5X817 | 13.74 | 11.48 | 0.2 |
| | | 12 | 12 | 1/3 | 1/2 | 120VAC | 17.5mA | | 5X818 | 13.74 | 11.48 | 0.2 |
| | | 12 | 12 | 1/3 | 1/2 | 240VAC | 8.75mA | | 5X819 | 13.74 | 11.48 | 0.2 |
| 11 | 3PDT | 11 | 11 | 1/3 | 1/2 | 24VAC | 115mA | | 5X820 | 15.41 | 12.86 | 0.2 |
| | | 11 | 11 | 1/3 | 1/2 | 120VAC | 24mA | | 5X821 | 15.41 | 12.86 | 0.2 |




## ENCLOSED, SQUARE BASE MODELS

| No. of Mounting Pins | Form | Contact Load Ratings @ 120VAC: Operating Current R# | Operating Current I†# | HP VAC 120 | HP VAC 240 | Coil Ratings @ 60 Hz Volts | Coil Current Rating | Use with Socket* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | SPDT | 13A | 13A | 1/3 | 1/2 | 24VAC | 84mA | 5X853, 5X854, 4A161, 1A247 | 5X834 | $11.77 | $9.83 | 0.2 |
| | | 13 | 13 | 1/3 | 1/2 | 120VAC | 17.5mA | | 5X835 | 11.77 | 9.83 | 0.2 |
| | | 13 | 13 | 1/3 | 1/2 | 240VAC | 8.75mA | | 5X836 | 11.74 | 9.82 | 0.2 |
| 8 | DPDT | 12 | 12 | 1/3 | 1/2 | 12VDC | 100mA | | 1A486 | 12.55 | 10.47 | 0.2 |
| | | 12 | 12 | 1/3 | 1/2 | 24VDC | 51mA | | 1A487 | 12.55 | 10.47 | 0.2 |
| | | 12 | 12 | 1/3 | 1/2 | 24VAC | 84mA | | 5X837 | 13.23 | 11.03 | 0.2 |
| | | 12 | 12 | 1/3 | 1/2 | 120VAC | 17.5mA | | 5X838 | 13.23 | 11.03 | 0.1 |
| | | 12 | 12 | 1/3 | 1/2 | 240VAC | 8.75mA | | 5X839 | 11.24 | 10.17 | 0.2 |
| 11 | 3PDT | 11 | 11 | 1/3 | 1/2 | 24VDC | 51mA | | 1A488 | 14.41 | 12.03 | 0.2 |
| | | 11 | 11 | 1/3 | 1/2 | 24VAC | 115mA | | 5X840 | 14.78 | 12.32 | 0.2 |
| | | 11 | 11 | 1/3 | 1/2 | 120VAC | 24mA | | 5X841 | 14.78 | 12.32 | 0.1 |
| | | 11 | 11 | 1/3 | 1/2 | 240VAC | 12mA | | 5X842 | 14.72 | 12.30 | 0.2 |




## ENCLOSED, OCTAL BASE MODELS

| No. of Mounting Pins | Form | Contact Load Ratings @ 120VAC: Operating Current R# | HP @VAC 120 | HP @VAC 240 | Coil Ratings @ 60 Hz Volts | Coil Current Rating | Use with Socket* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | SPDT | 12A | 1/3 | 1/2 | 12VAC | 100mA | 5X852 | 5X822 | $17.38 | $14.51 | 0.2 |
| | | 12 | 1/3 | 1/2 | 24VAC | 84mA | | 5X823 | 17.38 | 14.51 | 0.2 |
| | | 12 | 1/3 | 1/2 | 115VAC | 17.5mA | | 5X824 | 17.46 | 14.57 | 0.2 |
| 8 | DPDT | 12 | 1/3 | 1/2 | 12VDC | 100mA | | 1A484 | 18.35 | 15.30 | 0.2 |
| | | 12 | 1/3 | 1/2 | 24VDC | 51mA | | 1A485 | 18.35 | 15.30 | 0.2 |
| | | 12 | 1/3 | 1/2 | 12VAC | 168mA | | 5X825 | 18.38 | 15.31 | 0.2 |
| | | 12 | 1/3 | 1/2 | 24VAC | 84mA | | 5X826 | 18.38 | 15.31 | 0.1 |
| | | 12 | 1/3 | 1/2 | 120VAC | 17.5mA | | 5X827 | 18.32 | 15.28 | 0.1 |
| | | 12 | 1/3 | 1/2 | 240VAC | 8.75mA | | 3X740 | 18.35 | 15.30 | 0.2 |
| 11 | 3PDT | 10 | 1/3 | 1/2 | 24VAC | 115mA | 6X156 | 3X741 | 21.17 | 17.67 | 0.2 |
| | | 10 | 1/3 | 1/2 | 120VAC | 24mA | | 3X742 | 21.17 | 17.67 | 0.2 |

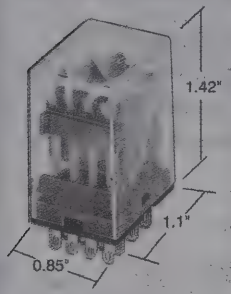
(†) at 0.8 power factor. (#) R = Resistive, I = Inductive. (*) Order sockets on page 480

DAYTON RELAY CROSS-REFERENCE ON PAGE 473

## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

OMRON



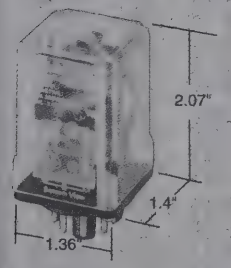

MY SERIES

## MY SERIES—Square Base

LR31928 E41515

- Indicator lamp on Nos. 3A351, 3A352, & 3A353
- Rated for 50/60 Hz
- Termination: Plug-In/Solder
- Mounting: Screw/Socket

| Contact Load Ratings @ 240 VAC | | | | Coil Ratings @ 60 Hz | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of Mounting Pins | Form | Operating Current† R | I | Volts | Use With Socket** | Coil Current Rating | Omron Model MY4... | Stock No. | List | Each | Shpg. Wt. |
| 14 | 4PDT | 3A | 0.8A | 24VAC | 2A584 | 46mA | AC24 | 2W932 | $7.38 | $6.48 | 0.1 |
| | | | | 24VAC | | 46mA | NAC24 | 3A351# | 10.33 | 9.06 | 0.1 |
| | | | | 24VDC | | 36.9mA | DC24 | 2W933 | 7.38 | 6.48 | 0.1 |
| | | | | 24VDC | | 36.9mA | NDC24 | 3A352# | 10.33 | 9.06 | 0.1 |
| | | | | 120VAC | | 9.2mA | AC110120 | 2W931 | 7.38 | 6.48 | 0.1 |
| | | | | 120VAC | | 9.2mA | NAC110120 | 3A353# | 10.33 | 9.06 | 0.1 |
| | | | | 12VDC | | 75mA | DC12 | 6C885 | 7.38 | 6.48 | 0.1 |
| | | | | 12VAC | | 91mA | AC12 | 6C886 | 7.38 | 6.48 | 0.1 |



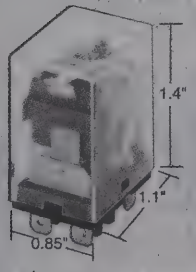

MK SERIES

## MK SERIES—Octal Base

LR35535 Except Nos. 2W923 and 2W924 E41515

- Nos. 2W924 and 2W923 magnetic latching type—resets at 80% of rated voltage
- Indication lamp on Nos. 2A192 & 2A193
- Rated for 50/60 Hz
- Termination: Plug-In
- Mounting: Socket
- Push-to-test button

| Contact Load Ratings @ 240 VAC | | | | Coil Ratings @ 60 Hz | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of Mounting Pins | Form | Operating Current† R | I | Volts | Use With Socket** | Coil Current Rating | Omron Model MK... | Stock No. | List | Each | Shpg. Wt. |
| 8 | DPDT | 10A | 7A | 12VAC | 5X852 | 180mA | 2PSAC12 | 2W919 | $11.16 | $9.79 | 0.2 |
| 8 | DPDT | | | 24VAC | | 88mA | 2PSAC24 | 2W920 | 11.16 | 9.79 | 0.2 |
| 8 | DPDT | | | 24VAC | | 88mA | 2PN-S-AC24 | 2A192# | 13.47 | 11.81 | 0.2 |
| 8 | DPDT | | | 120VAC | | 18mA | 2PSAC120 | 2W921 | 12.17 | 10.66 | 0.2 |
| 8 | DPDT | | | 120VAC | | 18mA | 2PN-S-AC120 | 2A193# | 14.43 | 12.66 | 0.2 |
| 8 | DPDT | | | 240VAC | | 9.2mA | 2PSAC240 | 6C887 | 13.26 | 11.62 | 0.2 |
| 11 | DPDT | 5 | 5 | 24VAC | 6X156 | 88mA | 2KPAC24 | 2W924‡ | 42.76 | 35.85 | 0.2 |
| 11 | DPDT | | | 120VAC | | 18mA | 2KPAC120 | 2W923‡ | 42.76 | 35.85 | 0.2 |
| 11 | 3PDT | 10NO/5NC | 7 | 24VAC | 6X156 | 88mA | 3P5SAC24 | 6C888 | 12.76 | 11.19 | 0.2 |
| | | | | 120VAC | | 18mA | 3P5SAC120 | 2W922 | 13.68 | 11.99 | 0.2 |
| 11 | 3PDT | | | 240VAC | | 9.2mA | 3P5SAC240 | 6C889 | 14.43 | 12.66 | 0.2 |




LY SERIES

## LY SERIES—Square Base

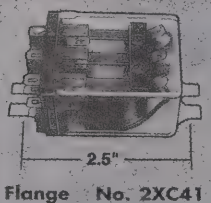
LR31928 E41643

- Compact cube style
- Rated for 50/60 Hz
- Termination: Plug-In/Solder
- Mounting: Socket; flange mount on Nos. 2XC01 & 2XC02 (do not require socket)

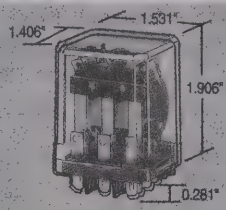
| Contact Load Ratings | | | | | | Coil Ratings @ 60 Hz | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 240 VAC | | | | | | | | | | | |
| No. of Mounting Pins | Form | Operating Current† R | I | HP @ VAC 120 | 240 | Volts | Use With Socket** | Coil Current Rating | Omron Model LY... | Stock No. | List | Each | Shpg. Wt. |
| 8 | SPDT | 15A | 15A | 1/2 | — | 24VAC | 2A582 or 2A583 | 46mA | 1AC24 | 2W925 | $7.42 | $6.51 | 0.1 |
| | | | | | | 24VDC | | 36.9mA | 1DC24 | 2W927 | 7.09 | 6.21 | 0.1 |
| | | | | | | 120VAC | | 9.2mA | 1AC110120 | 2W926 | 7.42 | 6.51 | 0.1 |
| 8 | DPDT | 10 | 10 | 1/2 | — | 12VAC | | 91mA | 2AC12 | 6C874 | 8.33 | 7.52 | 0.1 |
| | | | | | | 12VDC | | 75mA | 2DC12 | 6C873 | 8.33 | 7.52 | 0.1 |
| | | | | | | 24VAC | | 46mA | 2AC24 | 2W929 | 8.33 | 7.52 | 0.1 |
| | | | | | | 24VDC | | 36.9mA | 2DC24 | 2W930 | 8.33 | 7.52 | 0.1 |
| | | | | | | 120VAC | | 9.2mA | 2AC110120 | 2W928 | 8.33 | 7.52 | 0.1 |
| | | | | | | 240VAC | | 4.6mA | 2AC220240 | 2XC00 | 8.63 | 7.79 | 0.1 |
| | | 10 | 10 | 1/2 | — | 24VAC | Flange Mount | 46mA | 2FAC24 | 2XC01 | 8.51 | 7.69 | 0.1 |
| | | | | | | 120VAC | | 9.2mA | 2FAC110120 | 2XC02 | 8.51 | 7.69 | 0.1 |
| 8 | DPDT w/LED Indicator | 10 | 10 | 1/2 | — | 24VAC | 2A582 or 2A583 | 46mA | 2NAC24 | 6C875 | 11.21 | 10.12 | 0.1 |
| | | | | | | 110/120VAC | | 9.2mA | 2NAC110/120 | 6C876 | 11.21 | 10.12 | 0.1 |
| | | | | | | 220/240VAC | | 4.6mA | 2NAC220/240 | 6C877 | 11.69 | 10.55 | 0.1 |
| 11 | 3PDT | 10 | 7.5 | — | 1/2 | 12VDC | 2XC08 | 112mA | 3DC12 | 6C878 | 11.42 | 10.31 | 0.1 |
| | | | | | | 24VDC | | 58.6mA | 3DC24 | 6C879 | 11.42 | 10.31 | 0.1 |
| | | | | | | 24VAC | | 67mA | 3AC24 | 2XC03 | 11.42 | 10.31 | 0.1 |
| | | | | | | 120VAC | | 14.8mA | 3AC120 | 2XC04 | 11.42 | 10.31 | 0.1 |
| | | | | | | 240VAC | | 8mA | 3AC240 | 2XC05 | 11.99 | 10.83 | 0.1 |
| 14 | 4PDT | 10 | 7.5 | — | 1/2 | 12VDC | 2XC09 | 120mA | 4DC12 | 6C880 | 13.30 | 12.00 | 0.2 |
| | | | | | | 12VAC | | 170mA | 4AC12 | 6C882 | 13.30 | 12.00 | 0.2 |
| | | | | | | 24VDC | | 69mA | 4DC24 | 6C881 | 13.30 | 12.00 | 0.2 |
| | | | | | | 24VAC | | 80mA | 4AC24 | 2XC06 | 13.30 | 12.00 | 0.2 |
| | | | | | | 120VAC | | 16.4mA | 4AC120 | 2XC07 | 13.30 | 12.00 | 0.2 |
| 14 | 4PDT w/LED Indicator | 10 | 7.5 | — | 1/2 | 24VAC | 2XC09 | 80mA | 4NAC24 | 6C883 | 18.30 | 16.53 | 0.2 |
| | | | | | | 120VAC | | 16.4mA | 4NAC120 | 6C884 | 18.30 | 16.53 | 0.2 |

(†) = Resistive Load; I = Inductive Load (‡) Latching type (#) Indicator lamp included. (**) Order sockets on pages 480 and 481.

# GENERAL PURPOSE RELAYS




Flange Mount No. 2XC41




Socket Mount No. 3A985

SIEMENS

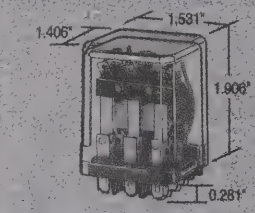
Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E22575 LR15734

## KUP SERIES—Square Base

- Load carrying capability up to 10 amps
- Rated for 50/60 Hz
- No. of Mounting Pins: 5, 8, or 11
- Termination: Plug-In/Solder
- Mounting: Socket/Flange

| Type of Mounting | No. of Mounting Pins | Contact Load Ratings: Form | Operating Current @ 240VAC & 28VDC | HP: 120V | HP: 240V | Coil Ratings @ 60 Hz: Volts | Coil Current Rating | Use With Socket† | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flange Mount | 5 | SPDT | 10.0A | 1/3 | 1/2 | 120VAC | 17.5mA | 5X853 | KUP-5A55-120 | 2XC49 | $11.86 | $11.73 | 0.2 |
| | | | | | | 24VDC | 51mA | 5X854 4A161 1A247 | KUP-5D55-24 | 2XC51 | 10.85 | 10.75 | 0.2 |
| Socket Mount | 5 | SPDT | 10.0 | 1/3 | 1/2 | 12VDC | 100mA | | KUP-5D15-12 | 2XC50 | 10.37 | 10.26 | 0.2 |
| Socket Mount | 8 | DPDT | 10.0 | 1/3 | 1/2 | 120VAC | 17.5mA | 5X853 | KUP-11A15-120 | 3A985 | 13.21 | 13.08 | 0.3 |
| | | DPDT | 10.0 | | | 240VAC | 8.75mA | 5X854 | KUP-11A15-240 | 3A986 | 16.08 | 15.92 | 0.3 |
| | | DPDT | 10.0 | | | 24VDC | 51mA | 4A161 | KUP-11D15-24 | 4A366 | 12.56 | 12.44 | 0.3 |
| | | DPDT | 10.0 | | | 110VDC | 11mA | 1A247 | KUP-11D15-110 | 2XC42 | 17.07 | 16.92 | 0.2 |
| Flange Mount | 8 | DPDT | 10.0 | 1/3 | 1/2 | 24VAC | 168mA | — | KUP-11A55-24 | 2XC41 | 13.90 | 13.75 | 0.2 |
| | | DPDT | 10.0 | | | 120VAC | 17.5mA | | KUP-11A55-120 | 4A062 | 13.88 | 13.74 | 0.2 |
| | | DPDT | 10.0 | | | 12VDC | 100mA | | KUP-11D55-12 | 2XC43 | 13.01 | 12.88 | 0.2 |
| | | DPDT | 10.0 | | | 24VDC | 51mA | | KUP-11D55-24 | 3A987 | 13.01 | 12.88 | 0.2 |
| Socket Mount | 11 | 3PDT | 6.0 | 1/3 | 1/2 | 120VAC | 24mA | 5X853 | KUP-14A15-120 | 3A988 | 14.74 | 14.61 | 0.2 |
| | | 3PDT | 6.0 | | | 240VAC | 12mA | 5X854 | KUP-14A15-240 | 3A989 | 17.56 | 17.37 | 0.3 |
| | | 3PDT | 6.0 | | | 12VDC | 100mA | 4A161 | KUP-14D15-12 | 3A990 | 14.44 | 14.30 | 0.3 |
| | | 3PDT | 6.0 | | | 24VDC | 51mA | 1A247 | KUP-14D15-24 | 3A991 | 14.44 | 14.30 | 0.3 |
| | | 3PDT | 6.0 | | | 110VDC | 11mA | | KUP-14D15-110 | 2XC48 | 18.95 | 18.77 | 0.2 |
| Flange Mount | 11 | 3PDT | 6.0 | 1/3 | 1/2 | 24VAC | 115mA | — | KUP-14A55-24 | 2XC46 | 15.19 | 15.05 | 0.2 |
| | | 3PDT | 6.0 | | | 120VAC | 24mA | | KUP-14A55-120 | 4A367 | 15.19 | 15.05 | 0.3 |
| | | 3PDT | 6.0 | | | 240VAC | 12mA | | KUP-14A55-240 | 2XC47 | 18.05 | 17.89 | 0.2 |
| | | 3PDT | 6.0 | | | 24VDC | 51mA | | KUP-14D55-24 | 4A063 | 14.91 | 14.77 | 0.2 |
| Socket w/Neon | 11 | 3PDT | 6.0 | 1/3 | 1/2 | 120VAC | 24mA | 5X853 5X854 4A161 1A247 | KUP-14A35-120 | 2XC44 | 17.86 | 17.68 | 0.2 |
| Socket w/Neon & Push-To-Test | 11 | 3PDT | 6.0 | 1/3 | 1/2 | 120VAC | 24mA | | KUP-14A45-120 | 2XC45 | 19.75 | 19.54 | 0.2 |




SIEMENS

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E22575 LR15734

## KUMP SERIES—Square Base

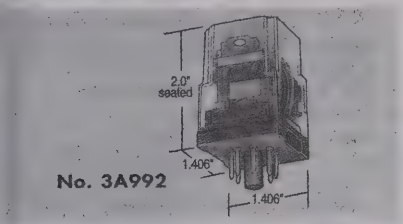
- Load carrying capability up to 15 amps
- Rated for 50/60 Hz
- No. of Mounting Pins: 8 or 11
- Termination: Plug-In
- Mounting: Socket

| Type of Mounting | No. of Mounting Pins | Contact Load Ratings: Form | Operating Current @ 120VAC | HP: 120V | HP: 240V | Coil Ratings @ 60 Hz: Volts | Coil Current Rating | Use With Socket† | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Socket Mount | 8 | DPDT | 15.0 | 1/3 | 1/2 | 120VAC | 24mA | 5X853 | KUMP-11A18-120 | 2XC37 | $14.89 | $14.75 | 0.2 |
| | | DPDT | 15.0 | | | 12VDC | 100mA | 5X854 | KUMP-11D18-12 | 2XC38 | 14.37 | 14.24 | 0.2 |
| | | DPDT | 15.0 | | | 24VDC | 51mA | 4A161 | KUMP-11D18-24 | 2XC39 | 14.37 | 14.24 | 0.2 |
| Socket Mount | 11 | 3PDT | 15.0 | 1/3 | 1/2 | 24VDC | 51mA | 1A247 | KUMP-14D18-24 | 2XC40 | 15.87 | 15.72 | 0.2 |

(†) Order Sockets on page 480.

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.




## SIEMENS

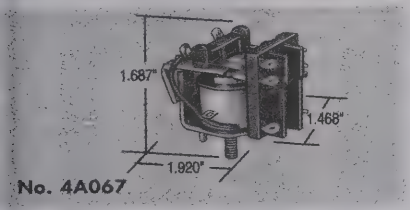
Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E22575 LR15734

## KRPA SERIES—Octal Base

- Load carrying capability up to 10 amps
- Rated for 50/60 Hz
- Constructed to provide long operating life and reliability
- No. of Pins: 8 or 11
- Termination: Plug-In
- Mounting: Socket

| No. of Mounting Pins | Contact Load Ratings: Form | Contact Load Ratings: Operating Current @ 120VAC | Contact Load Ratings: HP 120V | Contact Load Ratings: HP 240V | Coil Ratings 60 Hz: Volts | Coil Current Rating | Use With Socket† | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | DPDT | 5.0A | 1/10 | 1/6 | 24VAC | 84mA | 5X852 | KRPA-11AY-24 | **2XC30** | $17.86 | **$17.68** | 0.2 |
| | DPDT | 5.0 | | | 120VAC | 17.5mA | | KRPA-11AY-120 | **2XC29** | 17.86 | **17.68** | 0.2 |
| | DPDT | 5.0 | | | 24VDC | 51mA | | KRPA-11DY-24 | **2XC33** | 17.64 | **17.47** | 0.2 |
| 8 | DPDT | 10.0 | 1/3 | 1/2 | 24VAC | 84mA | 5X852 | KRPA-11AG-24 | **3A992** | 18.36 | **18.17** | 0.2 |
| | DPDT | 10.0 | | | 120VAC | 17.5mA | | KRPA-11AG-120 | **3A993** | 18.36 | **18.17** | 0.2 |
| | DPDT | 10.0 | | | 240VAC | 8.75mA | | KRPA-11AG-240 | **4A064** | 19.32 | **19.14** | 0.2 |
| 8 | DPDT | 10.0 | 1/3 | 1/2 | 12VDC | 100mA | 5X852 | KRPA-11DG-12 | **3A994** | 18.36 | **18.17** | 0.2 |
| | DPDT | 10.0 | | | 24VDC | 51mA | | KRPA-11DG-24 | **3A995** | 18.36 | **18.17** | 0.2 |
| 8 | DPDT | 10.0 | 1/3 | 1/2 | 48VDC | 26.6mA | 5X852 | KRPA-11DG-48 | **2XC32** | 19.29 | **19.11** | 0.2 |
| | DPDT | 10.0 | | | 110VDC | 11.5mA | | KRPA-11DG-110 | **2XC31** | 19.90 | **19.70** | 0.2 |
| 11 | 3PDT | 10.0 | 1/3 | 1/2 | 24VAC | 84mA | 6X156 | KRPA-14AG-24 | **4A065** | 22.52 | **22.30** | 0.3 |
| | 3PDT | 10.0 | | | 120VAC | 17.5mA | | KRPA-14AG-120 | **3A996** | 22.56 | **22.32** | 0.2 |
| | 3PDT | 10.0 | | | 240VAC | 8.75mA | | KRPA-14AG-240 | **4A066** | 23.78 | **23.56** | 0.2 |
| | 3PDT | 10.0 | | | 12VDC | 100mA | | KRPA-14DG-12 | **2XC34** | 22.36 | **22.14** | 0.2 |
| | 3PDT | 10.0 | | | 24VDC | 51mA | | KRPA-14DG-24 | **3A997** | 22.37 | **22.15** | 0.2 |
| 8 w/Indicator Lamp | DPDT | 10.0 | 1/3 | 1/2 | 24VAC | 84mA | 5X852 | KRPA-11AN-24 | **2XC28** | 20.88 | **20.68** | 0.2 |
| | DPDT | 10.0 | | | 120VAC | 17.5mA | | KRPA-11AN-120 | **3A998** | 20.88 | **20.68** | 0.2 |
| | DPDT | 10.0 | | | 24VDC | 51mA | | KRPA-11DN-24 | **3A999** | 20.78 | **20.57** | 0.2 |
| 11 w/Indicator Lamp | 3PDT | 10.0 | 1/3 | 1/2 | 120VAC | 17.5mA | 6X156 | KRPA-14AN-120 | **4A365** | 25.44 | **25.20** | 0.2 |
| | 3PDT | 10.0 | | | 24VDC | 51mA | | KRPA-14DN-24 | **2XC35** | 25.08 | **24.83** | 0.2 |




## SIEMENS

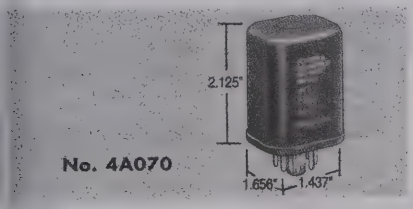
Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E22575 LR157334

## KA SERIES

- Suitable for multipole switching
- Rated for 50/60 Hz
- No. of Mounting Pins: 8
- Termination: Solder
- Mounting: #6-32 stud

| No. of Mounting Pins | Contact Load Ratings: From | Contact Load Ratings: Operating Current @ 120 VAC | Coil Ratings @60 Hz: Volts | Coil Current Rating | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | DPDT | 10.0A | 120VAC | 17.5mA | KA-11AG-120 | **4A067** | $28.67 | **$28.40** | 0.2 |
| | DPDT | 10.0 | 12VDC | 100mA | KA-11DG-12 | **4A068** | 28.16 | **27.95** | 0.2 |
| | DPDT | 10.0 | 24VDC | 51mA | KA-11DG-24 | **4A069** | 28.16 | **27.95** | 0.2 |




## SIEMENS

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E81558 LR15734

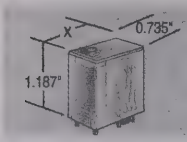
## KR SERIES—Octal Base

- Rated for 50/60 Hz
- Hermetically sealed
- For Class 1, Div. 2, hazardous locations
- No. of Mounting Pins: 8 or 11
- Termination: Plug-In
- Mounting: Socket

| No. of Mounting Pins | Contact Load Ratings: Form | Contact Load Ratings: Operating Current @ 120VAC | Coil Ratings 60 Hz: Volts | Coil Current Rating | Use With Socket† | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 | DPDT | 10.0A | 120VAC | 17.5mA | 5X852 | KR-11AGE-120 | **4A070** | $84.32 | **$83.55** | 0.3 |
| | DPDT | 10.0 | 24VDC | 51mA | | KR-11DGE-24 | **4A071** | 82.58 | **81.85** | 0.3 |
| 11 | 3PDT | 10.0 | 120VAC | 17.5mA | 6X156 | KR-14AGE-120 | **4A072** | 110.14 | **109.05** | 0.3 |
| | 3PDT | 10.0 | 24VDC | 51mA | | KR-14DGE-24 | **4A073** | 109.26 | **108.25** | 0.5 |

(†) Order Sockets on page 480.

# GENERAL PURPOSE RELAYS




No. 3A969

X = 0.95" (2PDT)
1.165" (4PDT)

## SIEMENS

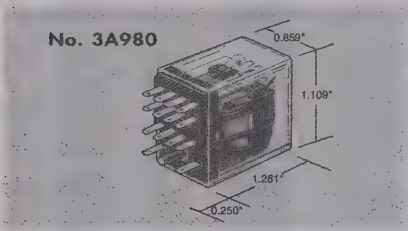
Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E29244 LR15734

## R10 SERIES—Square Base

- Load carrying capability from 3 to 7.5 amps
- No. of Mounting Pins: 8 or 14
- Termination: Solder
- Mounting: #3-48 stud

| No. of Mounting Pins | Contact Load Ratings: Form | Contact Load Ratings: Operating Current @ 120VAC | Coil Ratings @ 60 Hz: Volts | Coil Current Rating | Use With Socket | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 | DPDT | 3.0A | 12VDC | 64mA | | R10-E1Y2-V185 | 4A051 | $11.89 | $11.55 | 0.2 |
| 8 | DPDT | 3.0 | 24VDC | 34mA | | R10-E1Y2-V700 | 4A052 | 11.89 | 11.56 | 0.1 |
| 14 | 4PDT | 3.0 | 12VDC | 64mA | | R10-E1Y4-V185 | 4A053 | 14.11 | 13.70 | 0.2 |
| 14 | 4PDT | 3.0 | 24VDC | 34mA | | R10-E1Y4-V700 | 4A054 | 14.11 | 13.70 | 0.2 |
| 8 | DPDT | 5.0 | 12VDC | 64mA | | R10-E1X2-V185 | 3A969 | 13.04 | 12.65 | 0.1 |
| 8 | DPDT | 5.0 | 24VDC | 34mA | Solder | R10-E1X2-V700 | 3A970 | 13.04 | 12.65 | 0.1 |
| 8 | DPDT | 5.0 | 48VDC | 19mA | Connection | R10-E1X2-V2.5K | 3A971 | 13.04 | 12.65 | 0.1 |
| 14 | 4PDT | 5.0 | 12VDC | 64mA | | R10-E1X4-V185 | 4A055 | 16.10 | 15.63 | 0.1 |
| 14 | 4PDT | 5.0 | 24VDC | 34mA | | R10-E1X4-V700 | 3A972 | 16.07 | 15.61 | 0.1 |
| 8 | DPDT | 7.5 | 12VDC | 64mA | | R10-E1W2-V185 | 3A973 | 14.77 | 14.35 | 0.1 |
| 8 | DPDT | 7.5 | 24VDC | 34mA | | R10-E1W2-V700 | 3A974 | 14.77 | 14.35 | 0.1 |
| 8 | DPDT | 5.0 | 115VAC | 13mA | | R10-E1X2-115V | 3A975 | 24.94 | 24.20 | 0.1 |




No. 3A980

## SIEMENS

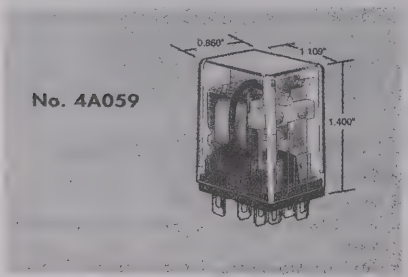
Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E22575 LR15734

## KHAU SERIES—Square Base

- For data processing, photocopiers, and process control applications
- Rated for 50/60 Hz
- No. 4A058 has gold diffused silver contacts rated for dry circuit applications
- No. of Mounting Pins: 14
- Termination: Solder/Plug-In
- Mounting: #3-48 stud/socket

| No. of Mounting Pins | Contact Load Ratings: Form | Contact Load Ratings: Operating Current @ 120VAC & 28VDC | Contact Load Ratings: HP 120V | Contact Load Ratings: HP 240V | Coil Ratings @ 60 Hz: Volts | Coil Current Rating | Use With Socket† | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4PDT | 3.0A | — | — | 24VAC | 52mA | | KHAU-17A11-24 | 3A980 | $8.30 | $8.04 | 0.1 |
| | 4PDT | 3.0 | — | — | 120VAC | 11mA | | KHAU-17A11-120 | 3A981 | 8.70 | 8.44 | 0.1 |
| | 4PDT | 3.0 | — | — | 12VDC | 75mA | | KHAU-17D11-12 | 3A983 | 7.55 | 7.32 | 0.1 |
| | 4PDT | 3.0 | — | — | 24VDC | 37mA | | KHAU-17D11-24 | 3A984 | 7.54 | 7.32 | 0.1 |
| 14 | 4PDT | 3.0 | 1/10 | 1/10 | 110VDC | 10mA | 2A584 | KHAU-17D11-110 | 2XC26 | 9.09 | 8.84 | 0.1 |
| | 4PDT | 5.0 | 1/10 | 1/10 | 120VAC | 11mA | | KHAU-17A12-120 | 4A056 | 8.67 | 8.44 | 0.1 |
| | 4PDT | 5.0 | 1/10 | 1/10 | 12VDC | 75mA | | KHAU-17D12-12 | 2XC27 | 7.54 | 7.32 | 0.1 |
| | 4PDT | 5.0 | 1/10 | 1/10 | 24VDC | 37mA | | KHAU-17D12-24 | 4A057 | 7.53 | 7.32 | 0.2 |
| | 4PDT | 3.0 | — | — | 120VAC | 11mA | | KHAU-17A18-120 | 4A058 | 9.54 | 9.27 | 0.1 |
| 14 with neon lamp | 4PDT | 3.0 | — | — | 120VAC | 11mA | 2A584 | KHAU-17A11N-120 | 3A982 | 12.15 | 11.78 | 0.1 |




No. 4A059

## SIEMENS

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E22575 LR15734

## K10 SERIES—Square Base or PC Board

- For alarm systems, control assemblies, and other applications requiring up to 13A switching in limited space
- Rated for 50/60 Hz
- No. of Mounting Pins: 8
- Termination: Quick Connect/Solder Terminal/Plug-In or PC Board Terminals
- Mounting: Screw/Socket or PC Board

| No. of Mounting Pins | Contact Load Ratings: Form | Contact Load Ratings: Operating Current @ 120VAC | Contact Load Ratings: HP 120V | Contact Load Ratings: HP 240V | Coil Ratings @ 60 Hz: Volts | Coil Current Rating | Use With Socket† | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DPDT | 15.0A | | | 24VAC | 52mA | | K10P-11A15-24 | 2XC23 | $10.24 | $10.15 | 0.1 |
| | DPDT | 15.0 | | | 120VAC | 11mA | 2A582, | K10P-11A15-120 | 4A059 | 10.24 | 10.15 | 0.1 |
| 8 | DPDT | 15.0 | 1/3 | 1/2 | 12VDC | 75mA | 2A583 | K10P-11D15-12 | 4A060 | 9.19 | 9.11 | 0.1 |
| | DPDT | 15.0 | | | 24VDC | 37mA | | K10P-11D15-24 | 4A061 | 9.19 | 9.11 | 0.1 |
| PC Board: 8 | DPDT | 15.0 | 1/3 | 1/2 | 12VDC | 75mA | — | K10P-11D55-12 | 2XC24 | 9.49 | 9.41 | 0.1 |
| | | | | | 24VDC | 37mA | | K10P-11D55-24 | 2XC25 | 9.49 | 9.41 | 0.1 |

(†) Order sockets on page 480.

# GENERAL PURPOSE RELAYS

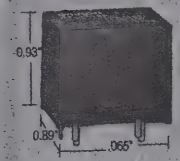
## G5L SERIES

OMRON. G5L SERIES

E41515

LR34815

- Mounts directly to PC board by soldering
- Sealed for resistance to flux wickering
- Termination: PC Board Terminal
- Mounting: PC Board




No. 2W936

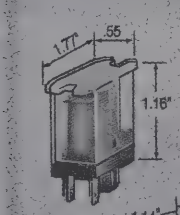
| Contact Load Ratings @ 120 VAC | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of Mounting Pins | Form | Operating Current R* | HP @ VAC 120 | Coil Ratings Volts | Coil Current Rating | Omron Model G5LE | Stock No. | List | Each | Shpg. Wt. |
| 5 | SPDT | 10A | 1/6 | 12VDC<br>24VDC | 33.3mA<br>16.7mA | 114P-PS-DC12<br>114P-PS-DC24 | **2W937**<br>**2W936** | $2.34<br>2.34 | **$2.11**<br>**2.11** | 0.1<br>0.1 |

## G2R SERIES

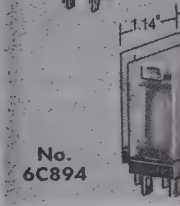
LR31928

E41643

- Terminations: Plug-in/Quick Connect
- Flux-tight and semi sealed




No. 6C891



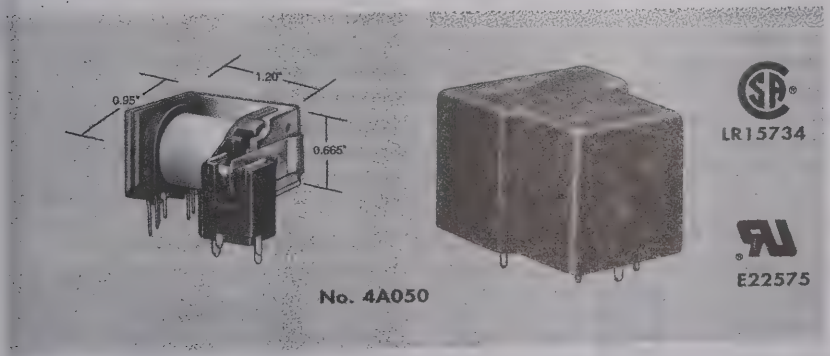

No. 6C894

| Contact Load Ratings | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 250VAC | | | | | | | | | |
| No. of Mounting Pins | Form | Operating Current R‡ | I | HP @ VAC 120 | 250 | Coil Ratings 60 Hz Volts | Coil Current Rating | Use with Socket† | Omron Model G2R | Stock No. | List | Each | Shpg. Wt. |
| 5 | SPDT | 10A | 7.5A | 1/3 | 1/2 | 24VAC<br>120VAC | 37.5mA<br>7.5mA | 6C898 | 1SAC24<br>1SAC120 | **6C894**<br>**6C895** | $7.07<br>7.75 | **$6.04**<br>**6.59** | 0.1<br>0.1 |
| 4 | SPST-NO | 10A | 7.5A | 1/3 | 1/2 | 24VAC<br>120VAC | 37.5mA<br>7.5mA | Quick Connect with Flange | 1ATAC24<br>1ATAC120 | **6C890**<br>**6C891** | 6.80<br>7.24 | **5.79**<br>**6.19** | 0.1<br>0.1 |
| 5 | SPDT | 10A | 7.5A | 1/3 | 1/2 | 24VAC<br>120VAC | 37.5mA<br>7.5mA | Quick Connect with Flange | 1TAC24<br>1TAC120 | **6C892**<br>**6C893** | 6.89<br>7.65 | **5.88**<br>**6.53** | 0.1<br>0.1 |
| 8 | DPDT | 5A | 2A | 1/6 | 1/3 | 24VAC<br>120VAC | 37.5mA<br>7.5mA | 6C899 | 2SAC24<br>2SAC120 | **6C896**<br>**6C897** | 7.87<br>8.49 | **6.84**<br>**7.37** | 0.1<br>0.1 |

(‡) R = Resistive Load (†) Order sockets on page 481.

CROSS-REFERENCE FOR OMRON RELAYS AND SWITCHES ON PAGE 472

# GENERAL PURPOSE RELAYS




No. 4A050

## SIEMENS

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

LR15734

E22575

## T90 SERIES

- PC board design—applications include heating, ventilating, air conditioning, appliance markets, and others
- Switches resistive loads up to 20A
- Open style No. 4A048; sealed immersion cleanable Nos. 4A049, 4A050
- No. of Mounting Pins: 6
- Termination: PC board terminal
- Mounting: PC board

| No. of Mounting Pins | Contact Load Ratings | | | | Coil Ratings 60 Hz Voltage | Coil Current Rating | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Form | 240VAC and 28VDC (Resistive) | HP 120V | HP 240V | | | | | | | |
| 6 | SPDT | 20A<br>10A | NO: 1<br>NC: 1/4 | 2<br>1/2 | 12VDC<br>12VDC<br>24VDC | 77mA<br>77mA<br>36mA | T90N5D12-12<br>T90S5D12-12<br>T90S5D12-24 | **4A048**<br>**4A049**<br>**4A050** | $3.60<br>5.05<br>5.05 | **$3.56**<br>**5.00**<br>**5.00** | 0.1<br>0.2<br>0.1 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# RELAY SOCKETS

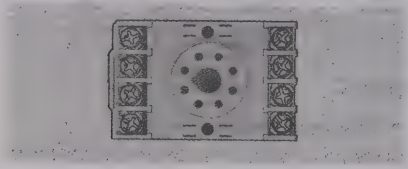
Dayton

E84694

LR15734

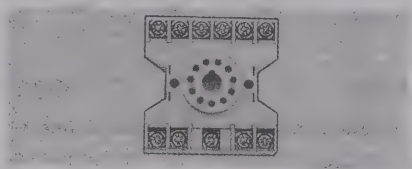
- Brass connectors
- Replaces equivalent Aromat, Custom Connector, Deltrol, Fujitsu, Guardian, IDEC, Magnecraft, Midtex, Omron, Potter Brumfield, Square D, and Struthers Dunn brands; see chart on page 481
- Nos. 5X852, 5X853, 6X156, 2A582, 2A584 and 4A161 feature pressure clamp screws that handle wire sizes from 22 AWG to 12 AWG
- DIN units can be mounted to No. 6X295 (order on page 481) DIN track or surface mounted

## NO. 5X852



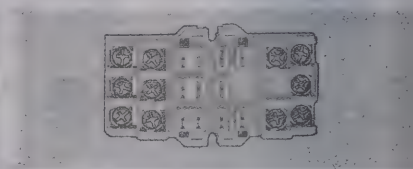
**Socket:** Octal
**No. of Pins:** 8
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Ratings:** 300VAC, 10A
**Dimensions:** 2.01L x 1.575W x 0.970"D.
**No. 5X852.** Shpg. wt. 0.2 lbs. List.....$4.75.
Each.....**$3.96**

## NO. 6X156



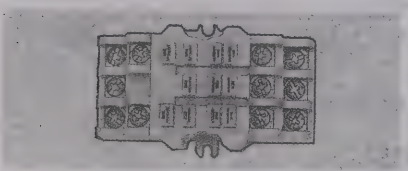
**Socket:** Octal
**No. of Pins:** 11
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Ratings:** 300VAC, 10A
**Dimensions:** 2.035L x 2.332W x 0.970"D.
**No. 6X156.** Shpg. wt. 0.1 lbs. List.....$10.01.
Each.....**$8.36**

## NO. 5X853



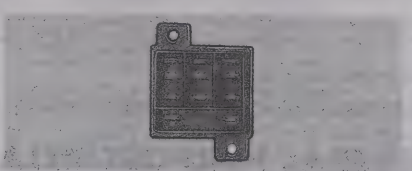
**Socket:** Square
**No. of Pins:** 11
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Ratings:** 300VAC, 10A
**Dimensions:** 3.00L x 1.703W x 1.030"D.
**No. 5X853.** Shpg. wt. 0.2 lbs. List.....$11.08.
Each.....**$9.21**

## NO. 4A161



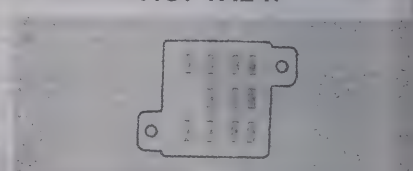
**Socket:** Square
**No. of Pins:** 11
**Mounting:** Screw
**Terminals:** Screw
**Electrical Ratings:** 300VAC, 15A
**Dimensions:** 3.150L x 1.700W x 0.895"D.
**No. 4A161.** Shpg. wt. 0.1 lbs. List.....$9.89.
Each.....**$8.26**

## NO. 5X854



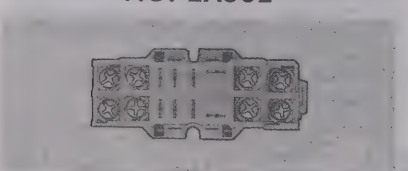
**Socket:** Square
**No. of Pins:** 11
**Mounting:** Screw
**Terminals:** Quick Connect
**Electrical Ratings:** 300VAC, 10A
**Dimensions:** 2.030L x 1.500W x 0.640"D.
**No. 5X854.** Shpg. wt. 0.1 lbs. List.....$2.55.
Each.....**$2.13**

## NO. 1A247



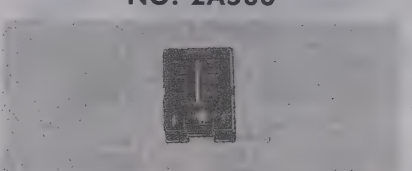
**Socket:** Square
**No. of Pins:** 11
**Mounting:** Screw
**Terminals:** PC Board
**Electrical Ratings:** 300VAC, 10A
**Dimensions:** 2.030L x 1.500W x 0.640"D.
**No. 1A247.** Shpg. wt. 0.1 lbs. List.....$2.63.
Each.....**$2.18**

## NO. 2A582



**Socket:** Square
**No. of Pins:** 8
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Ratings:** 300VAC, 10A
**Dimensions:** 2.736L x 1.181W x 0.984"D
**No. 2A582.** Shpg. wt. 0.1 lbs. List.....$8.87.
Each.....**$7.37**

## NO. 2A583



**Socket:** Square
**No. of Pins:** 8
**Mounting:** PC Board
**Terminals:** PC Board
**Electrical Ratings:** 300VAC, 10A
**Dimensions:** 1.156L x 0.843W x 0.437"D.
**No. 2A583.** Shpg. wt. 0.1 lbs. List.....$2.49.
Each.....**$2.07**

## NO. 2A584



**Socket:** Square
**No. of Pins:** 14
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Ratings:** 300VAC, 7A
**Dimensions:** 2.559L x 1.81W x 0.984"D.
**No. 2A584.** Shpg. wt. 0.1 lbs. List.....$12.47.
Each.....**$10.42**

# RELAY SOCKETS

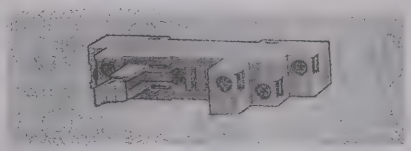
OMRON.

## RELAY SOCKETS

E87929 LR31928

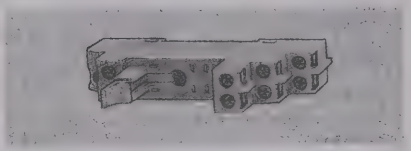
- No. 4KN18 fits H3YN-2 series relays on page 495
- Nos. 2XC08 and 2XC09 fit LY series relays on page 475
- Nos. 6C898 and 6C899 fit G2R Series relays on page 479
- DIN rail mountable; order separately below

## NO. 6C898



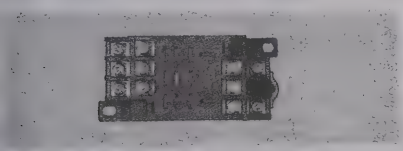
**Socket:** Square
**No. of Pins:** 5
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Rating:** 10A, 300V
**Dimensions:** 3.57L x 0.61W x 2.40"H
**Omron Brand:** P2RF-05
**No. 6C898.** Shpg. wt. 0.1 lbs. List..... $4.08.
Each ..... **$3.64**

## NO. 6C899



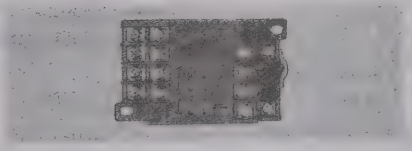
**Socket:** Square
**No. of Pins:** 8
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Rating:** 5A, 300V
**Dimensions:** 3.61L x 0.63W x 2.48"H
**Omron Brand:** P2RF-08
**No. 6C899.** Shpg. wt. 0.2 lbs. List..... $6.63.
Each ..... **$5.82**

## NO. 2XC08



**Socket:** Square
**No. of Pins:** 11
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Ratings:** 10A, 240V
**Dimensions:** 3.09L x 1.46W x 1.18"D
**Omron Brand:** PTF11A
**No. 2XC08.** Shpg. wt. 0.2 lbs. List.....$7.58.
Each ..... **$6.64**

## NO. 2XC09



**Socket:** Square
**No. of Pins:** 14
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Ratings:** 10A, 240V
**Dimensions:** 3.09L x 1.79W x 1.18"D
**Omron Brand:** PTF14A
**No. 2XC09.** Shpg. wt. 0.2 lbs. List.....$7.58.
Each ..... **$6.64**

## NO. 4KN18



**Socket:** Square
**No. of Pins:** 8
**Mounting:** DIN/Screw
**Terminals:** Screw
**Electrical Ratings:** 5A, 300V
**Dimensions:** 2.83L x 0.91W x 1.18"H
**Omron Brand:** PYF08A-E
**No. 4KN18.** Shpg. wt. 0.1 lbs. List .....$6.03.
Each ..... **$5.42**

## DIN TYPE MOUNTING TRACK

OMRON.
35 Millimeter



Extruded aluminum mounting track for snap on mounting of IEC type contactors, starters, relays and relay sockets. For use with Telemecanique starters, contactors, relays and Dayton relay sockets. Overall dimensions: 1/3H x 1⅜W x 39⅜"L. Omron brand (PFP-100N).

**No. 6X295.** Shpg. wt. 1.0 lbs. List.....$8.01.
Each ..... **$6.45**

## RELAY SOCKET COMPATIBILITY CHART

The chart below identifies national brand relay series that can be used with relay sockets. Fit is determined by the number of relay pins not exceeding the socket pin openings.

| Socket Stock No. | Allen Bradley | Aromat | Deltrol | Eagle Signal | Fujitsu | Guardian | IDEC | Magnecraft | Midtex | Omron | P & B | Sigma | Square D | Struthers Dunn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5X852, 6X156 | 700 HA<br>700 HT<br>700 HR | — | 105 | 20Q,22<br>23,35P | FRL-256 | 1210<br>1215<br>1410<br>1415 | RR2P<br>RR2KP<br>RR3PA | 88,211<br>213,214<br>250CP | 155 | MK<br>MKK | KRP,<br>KBP<br>KRPA<br>CG,CH,CK | 5,42<br>38,50 | KP | 214,A314,<br>326,327<br>392 |
| 5X853, 5X854, 1A247, 4A161 | 700 HB<br>700 HS | HP | 165,166,<br>268 | 30,31,<br>33 | FRL-253 | 1510<br>1515<br>1390<br>1395 | RR1BA<br>RR2BA<br>RR3B | 388,<br>388CP<br>388JCP | 157 | MJ | CL,<br>CU,KU,<br>KUL,KUP | 68 | KU | 285,<br>286,287,<br>292,A283 |
| 2A584 | 700 HC | HC | 280 | 10,17P | FRL-263 | 1390S<br>1395S<br>1310, 1315 | RY4S<br>RM2S<br>RY42S<br>RY2KS | 78CS | 156,<br>158 | MY,<br>MYK | KH | 67 | RS | C281,282 |
| 2A582, 2A583, 2XC08, 2XC09 | 700 HF | HL | 290 | 16Q | FRL-263 | 1310S<br>1315S | RH2B | 78RCS | 258 | LY | K-10<br>K-20 | 76 | — | C281 |
| 6C898, 6C899 | | | | | | | | | | G2R | | | | |
| 4KN18 | | | | | | | | | | MY2, H3YN-2 | | | | |

# POWER RELAYS

## OPEN MODELS

- Use for switching motor loads in applications such as elevators, machine tools, air handling, and HVAC equipment
- Screw head terminals
- Silver cadmium oxide, self-wiping contacts
- Molded thermoset plastic base
- Must operate voltage for AC relays is 85% of nominal voltage at 25°C (77°F)

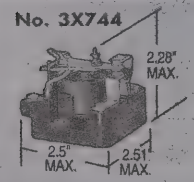
E40944 except No. 5X809 No. 5X810 No. 5X811

LR15734

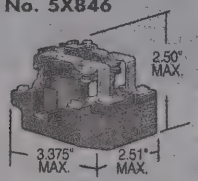
E40944 for No. 5X809 No. 5X810 No. 5X811

- Dimensionally interchangeable with Potter & Brumfield, Magnecraft, Deltrol, and other brands
- 1½ HP models mount on two 3/16" dia. hole for conventional mounting; 20 amp, 1 HP model has one #6-32 tapped mounting hole and locating tab
- All coils rated for 50/60 Hz

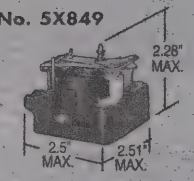
No. 3X744



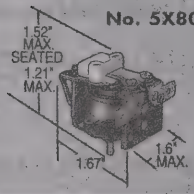

No. 5X846




No. 5X849




No. 5X809




## 30 AMP, 1½ HP, SPDT MODELS

| Contact Form | Contact Load Ratings: Operating Current* Resistive & Inductive @ 300VAC | Contact Load Ratings: @120 VAC HP | Coil Ratings @ 60 Hz: Voltage | Coil Current Rating | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| SPDT | 30A | 1½ | 24VAC | 410mA | 3X744 | $20.47 | $16.59 | 0.6 |
| | | | 120VAC | 85mA | 3X745 | 20.47 | 16.59 | 0.6 |
| | | | 24VDC | 84mA | 3X747 | 19.57 | 15.86 | 0.6 |

## 30 AMP, 1½ HP, DPDT MODELS

| Contact Form | Contact Load Ratings: Operating Current* Resistive & Inductive @ 300VAC | Contact Load Ratings: @120 VAC HP | Coil Ratings @ 60 Hz: Voltage | Coil Current Rating | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| DPDT | 30A | 1½ | 24VAC | 410mA | 5X846 | $27.41 | $22.21 | 0.9 |
| | | | 120VAC | 85mA | 5X847 | 27.41 | 22.21 | 0.9 |
| | | | 240VAC | 43mA | 5X848 | 27.34 | 22.19 | 0.9 |
| | | | 12VDC | 169mA | 3X748 | 26.79 | 21.72 | 0.6 |
| | | | 24VDC | 84mA | 3X749 | 26.79 | 21.72 | 0.6 |

## 30 AMP, 1½ HP, SPST MODELS

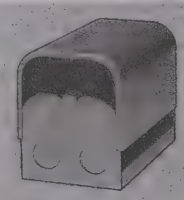
| Contact Form | Contact Load Ratings: Operating Current* Resistive & Inductive @ 300VAC | Contact Load Ratings: @120 VAC HP | Coil Ratings @ 60 Hz: Voltage | Coil Current Rating | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| SPST, Normally Open, Double Make | 30A | 1½ | 24VAC | 410mA | 5X849 | $17.83 | $14.46 | 0.5 |
| | | | 120VAC | 85mA | 5X850 | 17.83 | 14.46 | 0.5 |
| | | | 240VAC | 43mA | 5X851 | 17.83 | 14.46 | 0.5 |

## 20 AMP, 1 HP, SPST MODELS

| Contact Form | Contact Load Ratings: Operating Current* Resistive & Inductive @ 300VAC | Contact Load Ratings: @120 VAC HP | Coil Ratings @ 60 Hz: Voltage | Coil Current Rating | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| SPST, Normally Open, Double Make | 20A | 1 | 24VAC | 410mA | 5X809 | $16.91 | $14.09 | 0.2 |
| | | | 120VAC | 85mA | 5X810 | 16.91 | 14.09 | 0.2 |
| | | | 240VAC | 43mA | 5X811 | 16.85 | 14.06 | 0.2 |

(*) Power Factor (P.F.) =0.8

DAYTON RELAY CROSS-REFERENCE ON PAGE 473



No. 4A079

## DUST COVER FOR POWER RELAYS

**(Use with all base mount power relays, except No. 4A022)**

Sheet metal base with knockouts for 0.5" diameter conduit and cover fitted with screws. Mounting: three #10 holes on 1.875 x 4.125" centers; cannot be used with No. 4A022 relay. Dimensions: 5.31L x 3.38W x 3.13"D. Gray finish.

**No. 4A079.** Shpg. wt. 1.0 lbs. List $17.60. Each ..... $14.68

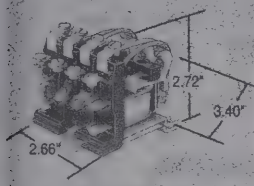


*Relay it, suppress it, enclose it — The leading brands are all right here.*

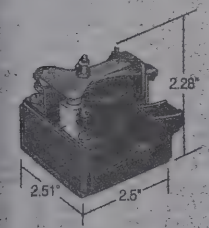
**SIEMENS**

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

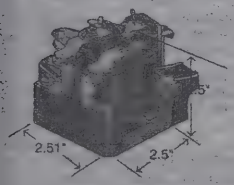
LR15734 E22575



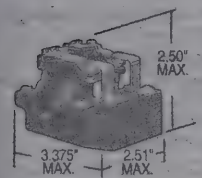

PM Series
No. 3A955




PRD-3 Series
No. 4A015




PRD-7 Series
No. 4A078




PRD-II Series
No. 4A019

## PM SERIES

- Silver cadmium oxide contacts
- Screw terminals
- Rated for 50/60 Hz
- Must-operate voltage @ 85% nom. AC; 75% nom. DC

| Contact Ratings @ 60 Hz | | | Coil Ratings Voltage | Coil Current Rating | P & B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Form | Amps, Resistive 277VAC | HP 120 / 240 | | | | | | | |
| 4PDT | 25 | 1/1 | 12VAC | 1.07mA | PM-17AY-12 | **3A955** | $78.27 | **$75.45** | 0.9 |
| | | | 24VAC | 540mA | PM-17AY-24 | **3A956** | 78.27 | **75.45** | 0.9 |
| | | | 120VAC | 128mA | PM-17AY-120 | **3A957** | 78.27 | **75.45** | 0.9 |
| | | | 12VDC | 364mA | PM-17DY-12 | **3A958** | 71.88 | **69.25** | 0.9 |
| | | | 24VDC | 182mA | PM-17DY-24 | **3A959** | 71.88 | **69.25** | 0.9 |

## PRD SERIES

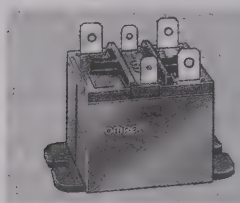
- Screw terminals
- For high inrush applications
- Rated for 50/60 Hz
- Nos. 4A023, 4A024, and 2XC52 for switching high voltage to DC current loads; equipped with magnetic blowout

| Contact Ratings @ 60 Hz | | | | | | | Coil Ratings Voltage | Coil Current Rating | P & B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Amps, Resistive | | | | | HP | | | | | | | |
| Form | 125 VDC | 240 VAC | 250 VAC | 277 VAC | 600 VAC | 120 / 240 / 250 | | | | | | | |
| SPST-NO | — | — | — | 25 | 10 | 1/—/2 | 24VAC | 410mA | PRD-1AYO-24 | **2XC54** | $17.85 | **$17.17** | 0.5 |
| SPST-NO-Double Make | — | — | — | 30 | 10 | 1/—/2 | 12VDC | 169mA | PRD-3DGO-12 | **4A327** | 17.00 | **16.37** | 0.6 |
| | — | — | — | 30 | 10 | 1/—/2 | 24VDC | 84mA | PRD-3DGO-24 | **4A328** | 17.00 | **16.37** | 0.5 |
| | 20 | — | — | — | — | — | 24VDC | 84mA | PRD-3DHO-24 | **4A023** | 20.28 | **19.53** | 0.6 |
| SPST-NO-Double Make | — | — | 40 | 25 | — | 1/1/2 | 12VAC | 820mA | PRD-3AYO-12 | **4A074** | 17.85 | **17.17** | 0.6 |
| | — | — | 40 | 25 | — | 1/1/2 | 24VAC | 410mA | PRD-3AYO-24 | **4A075** | 17.85 | **17.17** | 0.6 |
| | — | — | 40 | 25 | — | 1/1/2 | 120VAC | 85mA | PRD-3AYO-120 | **4A015** | 17.85 | **17.17** | 0.5 |
| SPDT | — | — | — | 25 | 10 | 1/—/2 | 120VAC | 85mA | PRD-5AYO-120 | **4A016** | 20.47 | **19.70** | 0.5 |
| | — | — | — | 30 | 10 | 1.5/—/2 | 12VDC | 169mA | PRD-5DGO-12 | **4A076** | 19.57 | **18.84** | 0.6 |
| | — | — | — | 25 | 10 | 1/—/2 | 12VDC | 169mA | PRD-5DYO-12 | **2XC55** | 19.85 | **19.09** | 0.6 |
| | — | — | — | 25 | 10 | 1/—/2 | 24VDC | 84mA | PRD-5DYO-24 | **2XC56** | 19.85 | **19.09** | 0.5 |
| DPST-NO | — | 30 | — | 20 | 10 | 1/1/2 | 120VAC | 85mA | PRD-7AGO-120 | **4A078** | 22.05 | **21.22** | 0.5 |
| DPST-NO | — | 25 | — | 20 | 10 | 1/—/2 | 24VAC | 410mA | PRD-7AYO-24 | **2XC57** | 22.16 | **21.33** | 0.3 |
| | | | | | | | 120VAC | 85mA | PRD-7AYO-120 | **3A960** | 22.14 | **21.31** | 1.0 |
| | | | | | | | 208VAC | 47mA | PRD-7AYO-208 | **3A961** | 22.61 | **21.78** | 0.5 |
| | | | | | | | 240VAC | 43mA | PRD-7AYO-240 | **2XC58** | 22.61 | **21.77** | 0.7 |
| | — | 25 | — | 20 | 10 | 1/—/2 | 12VDC | 169mA | PRD-7DYO-12 | **2XC59** | 21.46 | **20.66** | 0.7 |
| | | | | | | | 24VDC | 84mA | PRD-7DYO-24 | **4A017** | 21.43 | **20.65** | 0.6 |
| DPDT | — | 25 | — | 20 | 10 | 1/—/2 | 24VAC | 410mA | PRD-11AYO-24 | **4A019** | 27.53 | **26.50** | 0.7 |
| | | | | | | | 120VAC | 85mA | PRD-11AYO-120 | **3A963** | 27.50 | **26.50** | 1.0 |
| | | | | | | | 240VAC | 43mA | PRD-11AYO-240 | **4A020** | 27.97 | **26.95** | 0.7 |
| | — | 25 | — | 20 | 10 | 1/—/2 | 12VDC | 169mA | PRD-11DYO-12 | **4A021** | 26.80 | **25.85** | 0.7 |
| | | | | | | | 24VDC | 84mA | PRD-11DYO-24 | **3A964** | 26.78 | **25.80** | 1.0 |
| DPDT | — | 30 | — | 20 | 10 | 1/1/2 | 24VAC | 410mA | PRD-11AGO-24 | **4A018** | 27.39 | **26.40** | 0.7 |
| | | | | | | | 120VAC | 85mA | PRD-11AGO-120 | **3A962** | 27.40 | **26.40** | 1.0 |
| DPDT & SPDT | — | 25 | — | 20 | 10 | 1/—/2 | 120VAC | 85mA | PRDA-11AYA-120 | **4A022** | 42.10 | **40.60** | 0.7 |
| DPDT | 20 | — | — | — | — | — | 120VAC | 85mA | PRD-11AHO-120 | **4A024** | 30.61 | **29.50** | 0.7 |
| | | | | | | | 24VDC | 84mA | PRD-11DHO-24 | **2XC52** | 29.85 | **28.80** | 0.7 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# POWER RELAYS



No. 2W935

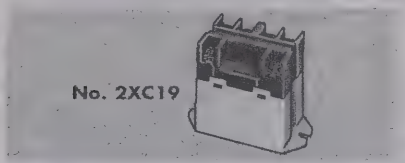
## G4B SERIES

- Top mounted quick-connect .187" spade coil terminals; .250" for load terminal
- Operates at 80 to 110% of rated voltage. Dropout at 30% of rated voltage
- Dielectric strength 2000 VAC, 1 min.
- Flange type mounting bracket
- Dimensions: 1.52L x 1.28W x 2.00"D

OMRON.

E41643 LR31928

| Contact Form* | No. and Type of Mounting Terminations | Contact Load Ratings 240 VAC Oper. Current Amps (Resistive) | HP 120VAC | HP 240VAC | Coil Ratings @ 50/60 Hz Voltage | Coil Current Rating | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPST-NO | 4, Spade<br>4, Spade | 25 | — | 2 | 24VAC<br>120 | 54mA<br>10.8mA | G4B112T1FDUSRPAC24<br>G4B112T1FDUSRPAC120 | 2W935<br>2W934 | $10.88<br>10.88 | $9.58<br>9.58 | 0.2<br>0.2 |
| SPDT | 5, Spade<br>5, Spade | 25 | — | 2 | 24<br>120 | 54mA<br>10.8mA | G4B112T1FDCUSRPAC24<br>G4B112T1FDCUSRPAC120 | 4A708<br>4A709 | 11.56<br>11.56 | 10.19<br>10.19 | 0.2<br>0.2 |



No. 2XC19

## G7L AND G7J SERIES

- Top mounted quick-connect .250" spade or screw terminals available
- Dielectric strength 4000 VAC, 1 min.
- Push-to-test button
- Flange type mounting bracket

OMRON.

E41643 LR35535

| Contact Form* | No. and Type of Mounting Terminations | Contact Load Ratings 240 VAC Operating Current Amps (Resistive)* | (Inductive)* | FLA | LRA | HP 120VAC | HP 240VAC | Coil Ratings @ 50/60 Hz Voltage | Coil Current Rating | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPST-NO | 4, Spade | 30A | 15A | | | | | 24 VAC | 71mA | G7L-1A-TUB-J-CB-AC24 | 4A710 | $12.42 | $10.89 | 0.4 |
| | 4, Screw | 30 | 15 | 17A | 102A | 1½ | 3 | 24 | 71mA | G7L-1A-BUB-J-CB-AC24 | 2XC21 | 15.57 | 13.66 | 0.3 |
| | 4, Spade | 30 | 15 | | | | | 120 | 20.4mA | G7L-1A-TUB-J-CB-AC100120 | 4A711 | 12.42 | 10.89 | 0.3 |
| | 4, Screw | 30 | 15 | | | | | 120 | 20.4mA | G7L-1A-BUB-J-CB-AC100120 | 2XC22 | 15.57 | 13.66 | 0.3 |
| DPST-NO | 6, Spade | 25 | 10 | | | | | 24 VAC | 71mA | G7L-2A-TUB-J-CB-AC24 | 3A354 | 12.88 | 11.29 | 0.3 |
| | 6, Screw | 25 | 10 | 17 | 102 | 1 | 2 | 24 | 71mA | G7L-2A-BUB-J-CB-AC24 | 2XC19 | 16.35 | 14.33 | 0.3 |
| | 6, Spade | 25 | 10 | | | | | 120 | 20.4mA | G7L-2A-TUB-J-CB-AC100120 | 3A355 | 12.88 | 11.29 | 0.3 |
| | 6, Screw | 25 | 10 | | | | | 120 | 20.4mA | G7L-2A-BUB-J-CB-AC100240 | 2XC20 | 16.35 | 14.33 | 0.3 |
| DPST-NO/ DPST-NC | 10, Screw | 25 NO/8 NC | 25 NO/8 NC | | | | | 100 /120VAC | 20.4/17mA | G7J-2A2B-B-W1AC100120 | 6C913 | 36.91 | 32.60 | 0.5 |
| | 10, Screw | 25 NO/8 NC | 25 NO/8 NC | 17 | 102 | 1½ | 5 | 200 /240 | 8.5/10.2mA | G7J-2A2B-B-W1AC200240 | 6C914 | 38.09 | 33.65 | 0.5 |
| | 10, Screw | 25 NO/8 NC | 25 NO/8 NC | | | | | 24 VDC | 79mA | G7J-2A2B-B-W1DC24 | 6C915 | 33.60 | 29.65 | 0.5 |
| 3PST-NO/ SPST-NC | 10, Screw | 25 NO/8 NC | 25 NO/8 NC | | | | | 100 /120VAC | 20.4/17mA | G7J-3A1B-B-W1AC100120 | 6C985 | 36.91 | 32.60 | 0.5 |
| | 10, Screw | 25 NO/8 NC | 25 NO/8 NC | 17 | 102 | 1½ | 5 | 200 /240 | 8.5/10.2mA | G7J-3A1B-B-W1AC200240 | 6C986 | 38.09 | 33.65 | 0.5 |
| | 10, Screw | 25 NO/8 NC | 25 NO/8 NC | | | | | 24 VDC | 79mA | G7J-3A1B-B-W1DC24 | 6C987 | 33.60 | 29.65 | 0.5 |
| 4PST-NO | 10, Screw | 25 | 25 | | | | | 100 /120VAC | 20.4/17mA | G7J-4A-B-W1AC100120 | 6C988 | 36.92 | 32.60 | 0.4 |
| | 10, Screw | 25 | 25 | 17 | 102 | 1½ | 5 | 200 /240 | 8.5/10.2mA | G7J-4A-B-W1AC200240 | 6C989 | 38.09 | 33.65 | 0.5 |
| | 10, Screw | 25 | 25 | | | | | 24 VDC | 79mA | G7J-4A-B-W1DC24 | 6C990 | 33.60 | 29.65 | 0.5 |

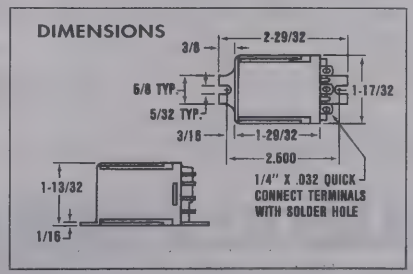
(*) NO = Normally Open; NC = Normally Closed.

LR15734 Dayton® E40944

Relay Cross Reference On Page 473



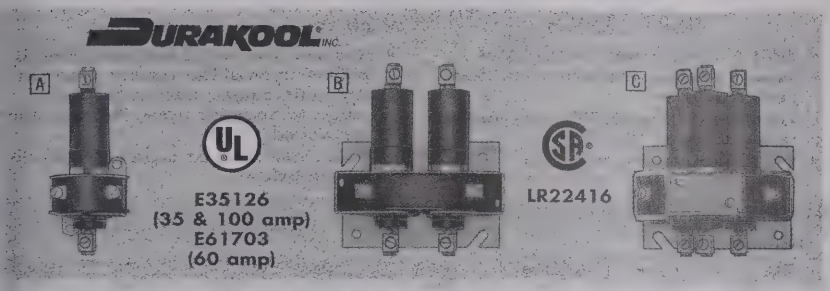
Flange Mount No. 1A489




- Suitable for motor loads, HVAC equipment, pumps, and welding equipment
- Enclosed relays designed to switch loads to 20 amps (DPDT); 30 amps (SPDT)
- Pull-in at 85% of nominal voltage for AC coils or 75% for DC coils
- Silver cadmium oxide contacts
- Non-socket mount—use 1/4" quick-connect
- Operating temperature -45° to +50°C (DC); -45° to +45°C (AC)

| Contact Form | Contact Load Ratings (Resistive & Inductive) | Coil Ratings @ 50 / 60 Hz Voltage | Coil Current Rating | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| SPDT | 30A @ 120/240VAC; 1 HP @ 120VAC; 1½ HP @ 240VAC; 25A @ 28VDC | 24VDC<br>120VAC | 51mA<br>24mA | 2A544<br>1A489 | $13.76<br>14.92 | $11.46<br>12.43 | 0.2<br>0.2 |
| DPDT | 20A @ 120/240VAC; 3/4 HP @ 120VAC; 1½ HP @ 240VAC; 20A @ 28VDC | 24VDC<br>24VAC<br>120VAC | 51mA<br>115mA<br>24mA | 2A545<br>1A490<br>1A491 | 16.88<br>18.09<br>18.09 | 14.07<br>15.08<br>15.08 | 0.2<br>0.2<br>0.2 |

# MERCURY DISPLACEMENT RELAYS




- Hermetically-sealed, liquid mercury contacts
- Used for motor loads, compressors, power switching, heating, lighting, automation control, oven/furnace control
- Frictionless plunger eliminates metal-to-metal wear
- Normally open contacts
- Temperature range -35° to +60°C ambient under continuous load
- Designed for vertical mounting only

## Contact Load Ratings

| Key | Stock No. | Amps, Resistive @VDC 48 | @VDC 125† | @VDC 250† | @VAC 120 | @VAC 240 | @VAC 480 | @VAC 600 | Amps, Tungsten @VDC 48† | @VDC 125† | @VDC 250† | @VAC 120 | @VAC 240 | @VAC 480 | @VAC 600 | Horsepower 120 VAC 1Ø | 240 VAC 1Ø | 240 VAC 3Ø | 480 VAC 3Ø | 600† VAC 3Ø |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 6A860<br>6X597 | 35 | 17 | 10 | 35 | 35 | 35 | 35 | 35 | — | — | 35 | 35 | — | — | 2 | 5 | 7.5 | 10 | 10 |
| A | 6A863<br>6X599 | 60 | 30 | 20 | 60 | 60 | 60 | 60 | 60 | 30 | 20 | 60 | 60 | 35 | 28 | 3 | 5 | 10 | 15 | 15 |
| A | 6A866 | 100 | 50 | 30 | 100 | 100 | 100 | 100 | 100 | 50 | 30 | 100 | 100 | 25 | 20 | 7.5 | 10 | — | — | — |
| B | 6A861<br>6X598 | 35 | 17 | 10 | 35 | 35 | 35 | 35 | 35 | — | — | 35 | 35 | — | — | 2 | 5 | 7.5 | 10 | 10 |
| B | 6A864<br>6X600 | 60 | 30 | 20 | 60 | 60 | 60 | 60 | 60 | 30 | 20 | 60 | 60 | 35 | 28 | 3 | 5 | 10 | 15 | 15 |
| C | 6A862<br>3X752 | 35 | 17 | 10 | 35 | 35 | 35 | 35 | 35 | — | — | 35 | 35 | — | — | 2 | 5 | 7.5 | 10 | 10 |
| C | 6A865<br>3X753 | 60 | 30 | 20 | 60 | 60 | 60 | 60 | 60 | 30 | 20 | 60 | 60 | 35 | 28 | 3 | 5 | 10 | 15 | 15 |

†) Not rated by UL or CSA for these values.

## RELAY SPECIFICATIONS AND ORDERING DATA

| Key | Amps | Contacts | Coil Ratings @ 50 / 60 Hz Volts | Coil Current Rating | Dimensions (In.) L | W | D | Durakool Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 35 | SPST | 120VAC | 57mA | 4.62 | 2.0 | 2.25 | 1M35A120AC | **6X597** | $44.68 | **$40.15** | 1.0 |
| | 60 | | 120 | 55mA | 5.12 | 2.0 | 2.25 | 1060APS120AC | **6X599** | 71.53 | **64.25** | 1.0 |
| | 100 | | 120 | 195mA | 5.77 | 2.5 | 2.62 | CFC-718 | **6A866** | 177.47 | **159.50** | 2.0 |
| A | 35 | SPST | 208/240 | 25/27mA | 4.62 | 2.0 | 2.25 | 1M35A208ACDV | **6A860** | 44.68 | **40.20** | 0.8 |
| | 60 | | 208/240 | 37/43mA | 5.12 | 2.0 | 2.25 | 1060APS208ACDV | **6A863** | 71.53 | **64.25** | 1.0 |
| B | 35 | DPST | 120 | 130mA | 4.62 | 4.0 | 2.62 | 2M35A120AC | **6X598** | 83.93 | **75.45** | 1.0 |
| | 60 | | 120 | 133mA | 5.12 | 4.0 | 2.62 | 2060APS120AC | **6X600** | 132.23 | **118.80** | 1.7 |
| B | 35 | DPST | 208/240 | 79/86mA | 4.62 | 4.0 | 2.62 | 2M35A208ACDV | **6A861** | 83.93 | **75.45** | 1.8 |
| | 60 | | 208/240 | 80/87mA | 5.12 | 4.0 | 2.62 | 2060APS208ACDV | **6A864** | 132.23 | **118.80** | 1.8 |
| C | 35 | 3PST | 120 | 220mA | 4.62 | 4.0 | 3.75 | 3M35120AC | **3X752** | 127.26 | **114.35** | 2.7 |
| | 60 | | 120 | 224mA | 5.12 | 4.0 | 3.75 | 3060APS120AC | **3X753** | 192.41 | **173.25** | 2.5 |
| C | 35 | 3PST | 208/240 | 108/121mA | 4.62 | 4.0 | 3.75 | 3M35A208ACDV | **6A862** | 127.26 | **114.35** | 2.3 |
| | 60 | | 208/240 | 112/112mA | 5.12 | 4.0 | 3.75 | 3060APS208ACDV | **6A865** | 192.40 | **173.25** | 2.6 |

# VERTICAL MOUNT MERCURY DISPLACEMENT CONTACTORS




- Hermetically sealed, liquid mercury contacts
- Applications include heating, air conditioning, and processing equipment
- 3-pole, normally open design
- Identical footprint to 30-amp definite purpose contactors
- Provide longer service life than definite purpose electromechanical contactors
- UL Listed for 240V, 3-phase motor applications
- Dimensions: 3.75L x 3.14W x 3.43"D

| Maximum Contact Load Rating @60 Hz VAC 120V | 208V | 240V | 277V | 480V | 48VDC | FLA† @ 240VAC | LRA† @ 240VAC |
|---|---|---|---|---|---|---|---|
| **30/30A*** | 30/30A* | 30/30A* | 30/20A* | 30/20A* | 30A | 14.8 | 89.0 |
| **1.5 HP** | 1.5 HP | 3.0 HP | 3.0 HP | 3.0 HP | | | |

| Coil Ratings @ 50/60 Hz Volts | Coil Current Rating | Durakool Model 3M300APS | | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 24 | 510mA | 24 | AC | **6A867** | $65.55 | **$58.90** | 1.9 |
| 120 | 100mA | 120 | AC | **6A868** | 65.55 | **58.90** | 1.9 |
| 208/240 | 55/62mA | 208 | ACDV | **6A869** | 65.55 | **58.90** | 1.7 |

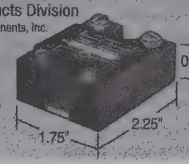
(*) Amps-Resistive/Inductive (.7 - .8 PF). (†) FLA (Full Load Amps; LRA (Locked Rotor Amps.)

❷WARNING: these products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

# SOLID-STATE AND LATCHING RELAYS

SIEMENS

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.




E29244 E29244

No. 3A968

## OPTO-ISOLATED SOLID-STATE RELAYS

### SSRT SERIES

- SPST-NO solid-state Triac output
- Typical turn-on and turn-off at first zero crossover
- Isolation voltage 4000V rms; insulation resistance $10^{10}$ ohms
- #6-32 input screw terminals
- #8-32 output screw terminals
- Heatsink thermal resistance rating is 2°C/W: typical flat surface area per unit is 36 square inches. Mount relays to heatsink using thermal joint compound.
- Heat sinks must be ordered separately; see below

### RELAY SPECIFICATIONS AND ORDERING DATA

| Series | Input Range VDC | Input Typical mA | Output w/Heat Sink Amps RMS Min. | Amps RMS Max. | VAC Min. | VAC Max. | V peak Blocking | Switching Type | P & B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SSR | 3-32 | 1mA/V | 0.05 | 10 | 24 | 280 | ±400 | Zero | SSRT-240D10 | 2XC60 | $18.23 | $17.19 | 0.4 |
| | | | 0.05 | 25 | 24 | 280 | ±600 | Zero | SSRT-240D25 | 3A968 | 24.32 | 22.93 | 0.3 |

OMRON

E64562 LR35535



No. 6C900

## SOLID-STATE RELAYS

### G3NA SERIES

- Built-in varistor effectively absorbs external surges
- LED operation indicator
- Protective cover for greater safety
- Heat sinks must be ordered separately; see below
- Typical turn-on and turn-off at first zero crossover

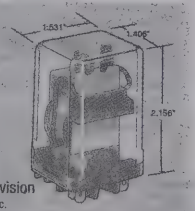
### RELAY SPECIFICATIONS AND ORDERING DATA

| Input Range | Input Max. mA | Output VAC Min. | Output VAC Max. | Load Current w/ Heat Sink | Load Current w/o Heat Sink | Surge Current | Leakage Current | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-24VDC | 7 | 24 | 240 | 0.1 to 10A | 0.1 to 4A | 150A | | G3NA-210B-DC5-24 | 6C900 | $14.75 | $14.59 | 0.1 |
| 100-120VAC | 7 | 24 | 240 | 0.1 to 10 | 0.1 to 4 | 150 | | G3NA-210B-AC100-120 | 6C901 | 18.51 | 18.34 | 0.2 |
| 200-240VAC | 7 | 24 | 240 | 0.1 to 10 | 0.1 to 4 | 150 | | G3NA-210B-AC200-240 | 6C902 | 18.14 | 17.95 | 0.1 |
| 5-24VDC | 7 | 24 | 240 | 0.1 to 25 | 0.1 to 4 | 220 | 5mA @ 100VAC | G3NA-225B-DC5-24 | 6C903 | 18.68 | 18.51 | 0.2 |
| 100-120VAC | 7 | 24 | 240 | 0.1 to 25 | 0.1 to 4 | 220 | 10mA @ 200VAC | G3NA-225B-AC100-120 | 6C904 | 23.09 | 22.87 | 0.2 |
| 200-240VAC | 7 | 24 | 240 | 0.1 to 25 | 0.1 to 4 | 220 | | G3NA-225B-AC200-240 | 6C905 | 23.09 | 22.87 | 0.2 |
| 5-24VDC | 7 | 24 | 240 | 0.1 to 40 | 0.1 to 6 | 440 | | G3NA-240B-DC5-24 | 6C906 | 47.27 | 46.65 | 0.2 |
| 100-120VAC | 7 | 24 | 240 | 0.1 to 40 | 0.1 to 6 | 440 | | G3NA-240B-AC100-120 | 6C907 | 51.35 | 50.65 | 0.2 |
| 200-240VAC | 7 | 24 | 240 | 0.1 to 40 | 0.1 to 6 | 440 | | G3NA-240B-AC200-240 | 6C908 | 51.35 | 50.65 | 0.2 |
| 5-24VDC | 5 | 200 | 480 | 0.2 to 40 | 0.2 to 6 | 440 | 10mA @ 200VAC | G3NA-440B-DC5-24 | 6C909 | 55.73 | 54.95 | 0.2 |
| 100-120VAC | 5 | 200 | 480 | 0.2 to 40 | 0.2 to 6 | 440 | 20mA @ 400VAC | G3NA-440B-AC100-120 | 6C910 | 57.92 | 57.15 | 0.2 |

### SOLID STATE RELAY HEAT SINK ORDERING DATA

| Description | Use With | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Heat Sink | 6C900-6C902, 2XC60 | Y92B-AN100 | 6C911 | $8.64 | $8.13 | 0.5 |
| Heat Sink | 6C903-6C910, 3A968 | Y92B-A150N | 6C912 | 12.13 | 11.28 | 0.8 |

E22575 LR15734




SIEMENS

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

## LATCHING RELAYS

### KUL SERIES

- Small, magnetic latching relay requires half the space needed for mechanical latching relays
- Rated for 50 Hz
- For continuous duty applications that need good memory stability
- Maintain contact position without maintaining coil energization
- Reset by applying power to an alternate set of coil terminals
- Quick connect, solder terminals or socket mount
- 3A965 is single-coil latch; 3A966 and 2XC36 are dual-coil latch

| No. of Mounting Pins | Contact Load Ratings Form | Amps (Resistive) | HP 120V | HP 240V | Coil Ratings 60 Hz Voltage | Coil Current Rating | Use With Socket* | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | DPDT | 10A @ 28VDC or 240VAC, 80%PF | 1/4 | 1/3 | 120VAC | 32mA | 1A247, 4A161, 5X853, 5X854 | KUL-11A15S-120 | 3A965 | $35.50 | $35.20 | 0.3 |
| | | | | | 12VDC | 133mA | | KUL-11D15D-12 | 2XC36 | 42.69 | 42.35 | 0.2 |
| | | | | | 24VDC | 68mA | | KUL-11D15D-24 | 3A966 | 42.69 | 42.35 | 0.3 |

(*) Order sockets on page 480.



Relay it, suppress it, enclose it — The leading brands are all right here.

# INPUT/OUTPUT RELAY MODULES

## INPUT/OUTPUT MODULES

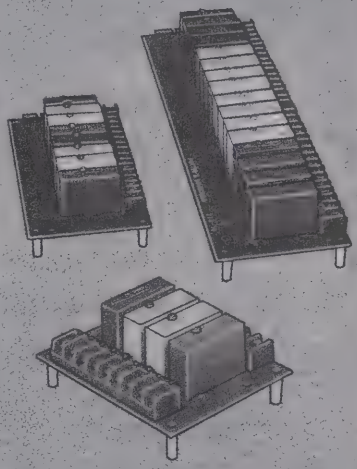
**SIEMENS**

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

- AC and DC models
- Color coded
- Mounting boards for easy access



Input/Output Module


Mounting Boards for Input/Output Modules

### IAC/OAC, IDC/ODC SERIES

**Opto-isolated solid-state input/output modules** provide a means of reliably interfacing between microprocessor or computer based control systems and external input devices and loads.

**Series compatible.** On modules of the same voltage type, AC or DC, output of the output modules is compatible with the input modules. This makes them ideal for series operation applications. Output modules can be controlled from sinking (NPN) or sourcing (PNP) logic.

**Color-coded by function:** IAC—AC input (yellow), OAC—AC output (black), IDC—DC input (white) and ODC—DC output (red). All models have standard plug-in enclosure with captive hold down screw for quick interchanging. Continuous duty. Isolation voltage is 4000V rms; isolation resistance $10^9$ ohms. High immunity to transient noise, less than $3000V_{p\text{-}p}$**. UL Recognized. CSA Certified (LR38595).

### MOUNTING BOARDS FOR I/O MODULES

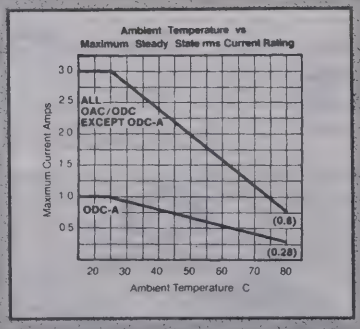
**Mounting boards accept 4, 8 or 16 input/output modules** in any combination. Insert and remove modules quickly and easily, without disturbing field wiring. Once inserted, secure modules to board by threading captive hold-down screws into the nuts attached to board.

**LED status indicator,** plug-in 5-amp fuse and 3.3K ohm pull-up resistor are provided on the mounting board for each module. Each module position may be color coded for convenience.

**Screw terminals in barrier strips** are used for logic supply input connections and field input/output connections on all mounting boards. Screw terminals on all mounting boards will accept two #12 AWG wires.

**Card edge patterns on mounting boards** Nos. 4A035 and 4A036 accept standard 50-pin cable connectors for logic connections. 4A034 uses screw terminals. Eight position mounting board No. 4A035 also accepts a 26-pin cable connector. Each module position on these boards is served by two of the cable's conductors. Odd numbered pins are used for signals while even numbered pins are connected to logic ground. Jumper locations permit logic supply input to be introduced through cable rather than screw terminals. UL Recognized. CSA Certified (LR15734).

### ELECTRICAL CHARACTERISTICS OAC/ODC MODULES




### MOUNTING BOARD SPECIFICATIONS

| No. of Module Positions | Dimensions (In.) L | W | D* | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4† | 4.5 | 3.5 | 2.2 | 2104B | **4A034** | $28.11 | **$27.30** | 2.0 |
| 8‡ | 8.4 | 3.5 | 2.2 | 2108 | **4A035** | 46.96 | **45.70** | 0.5 |
| 16‡ | 14.4 | 3.5 | 2.2 | 2I016 | **4A036** | 83.06 | **80.70** | 0.9 |

(*)Height is measured to top of mounted models

(†)Designed to operate with either negative or positive true logic systems and different logic voltages.

(‡)Designed to operate with negative true logic systems and one logic voltage.

(**)Transient noise immunity is the ability to withstand external noise without triggering the load switch or transmitting the noise. These I/O modules typically demonstrate noise immunity of > $8000V_{p\text{-}p}$.

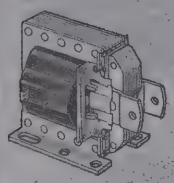
### INPUT/OUTPUT RELAY MODULE SPECIFICATIONS AND ORDERING DATA

| Type (Series) | Case Color | System Voltage | Input Voltage Range | Input Current at Maximum Voltage | Output Load Current Over Load Voltage Range | Output Switching Type | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AC Input**†† | Yellow | 5VDC | 90-140VAC | 5mA | 50mA max. @ 30VDC | Random | IAC-5 | **4A030** | $11.57 | **$11.45** | 0.1 |
| **AC Output** | Black | | 3-8VDC | 20mA*** | 0.05-3A @ 24-280VAC | Zero | OAC-5 | **4A031** | 11.57 | **11.45** | 0.1 |
| **DC Input** | White | | 3.3-32VDC | 34mA | 50mA max. @ 30VDC | Random | IDC-5 | **4A032** | 11.57 | **11.45** | 0.1 |
| **DC Output** | Red | | 3-8VDC | 18A*** | 0.01-3A @ 3-60VDC | Random | ODC-5 | **4A033** | 11.57 | **11.45** | 0.1 |

(***) LED in series with input. (††) Input will operate on AC or DC voltage.

# LAMINATED, BOX FRAME AND C-FRAME TYPE SOLENOIDS

## LAMINATED TYPE SOLENOIDS



DORMEYER®

Super T Series

No. 4X239

- Pull type, continuous duty cycle rated at 40°C
- Polyester encapsulated coil, polyester bobbin
- Laminated steel, zinc dichromate plated frame and plunger
- Steel plunger springs, brass plunger guides
- Class A coil insulation, solder lug coil terminals

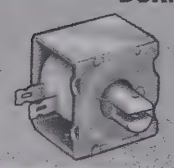
### FORCE VS. DISTANCE SPECIFICATIONS (±10%)‡

| Gravity Value* | Lbs. Pull vs. Length of Stroke | | | | | | | | | Solenoid Series |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1/8" | 1/4" | 3/8" | 1/2" | 5/8" | 3/4" | 7/8" | 1" | 1¼" | |
| 0.11 Lbs. | 3.0 Lbs. | 2.2 | 1.8 | 1.6 | 1.2 | 0.9 | | | | 1000 |
| 0.27 | 8.0 | 6.4 | 6.2 | 6.4 | 6.4 | 6.0 | 5.3 | 4.0 | ← Maximum Stroke | 2000 |
| 0.37 | 11.0 | 9.0 | 9.0 | 9.1 | 9.1 | 8.4 | 7.0 | 5.8 | | 2500 |
| 0.79 | 16.0 | 12.0 | 11.8 | 12.2 | 13.5 | 15.0 | 15.8 | 16.0 | 12.0 | 3000 |

| Coil Voltage 60 Hz | Coil† Resistance (Ω) | Seated Watts† | Seated Amps† | Amps† @ Max. Stroke | Dimensions (In.) D | W | L | Mtg. Holes OC (In.) ON L | ON W | Dormeyer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **120VAC** | 88.0 | 9.5 | .24 | 1.25 | 17/16 | 13/16 | 15/8 | 13/8 | 57/64 | 1000-M-1 | **4X239** | $17.54 | **$13.72** | 0.5 |
| **240** | 354.0 | 10.0 | .15 | 0.65 | 17/16 | 13/16 | 15/8 | 13/8 | 57/64 | 1001-M-1 | **4X893##** | 20.34 | **15.65** | 0.5 |
| **120** | 20.5 | 17.9 | .43 | 4.90 | 21/16 | 113/16 | 21/2 | 2 | 13/8 | 2005-M-1 | **4X240#** | 20.48 | **15.69** | 1.2 |
| **240** | 82.0 | 17.5 | .22 | 2.50 | 21/16 | 113/16 | 21/2 | 2 | 13/8 | 2006-M-1 | **4X894#** | 20.95 | **16.35** | 1.2 |
| **120** | 14.9 | 19.0 | .48 | 6.50 | 21/16 | 21/16 | 21/2 | 2 | 15/8 | 2536-M-1 | **4X241** | 24.06 | **18.21** | 1.4 |
| **240** | 60.0 | 18.0 | .24 | 3.20 | 21/16 | 21/16 | 21/2 | 2 | 15/8 | 2537-M-1 | **4X895** | 24.88 | **18.93** | 1.4 |
| **120** | 6.5 | 25.0 | .66 | 12.00 | 215/16 | 23/8 | 3 | 2 | 17/8 | 3000-M-1 | **4X242** | 32.40 | **24.19** | 2.8 |
| **240** | 26.0 | 23.5 | .33 | 6.50 | 215/16 | 23/8 | 3 | 2 | 17/8 | 3001-M-1 | **4X896** | 33.10 | **24.76** | 2.7 |

(*) Subtract Gravity Value from force given in table when solenoid is being operated against gravity or add Gravity Value when solenoid is operated with gravity.
(†) Values are ±10%. (‡) 100% rated voltage at 35°C. (#) UL Recognized (E83929) and CSA Certified (LR85068). (##) UL Recognized only (E83929).

## BOX FRAME TYPE SOLENOIDS



DORMEYER®

B-Series

No. 2A167

Individually Packaged

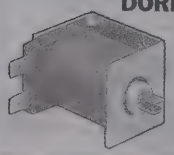
- Pull type, continuous duty cycle rated at 40°C
- Varnished cotton tape coil insulation
- Phenolic bobbins (2A170 has nylon with brass tube bobbin)
- Steel, zinc dichromate plated, frames and plungers
- Steel spring
- Type 1 solder lug coil terminations

### FORCE VS. DISTANCE SPECIFICATIONS (±10%)#

| Gravity Value* | Oz. Pull vs. Length of Stroke | | | | | | | | Solenoid Series |
|---|---|---|---|---|---|---|---|---|---|
| | 1/16" | 1/8" | 1/4" | 3/8" | 1/2" | 5/8" | 3/4" | 7/8" | |
| 0.72 oz. | 24 oz. | 16 oz. | 12 oz. | 10 oz. | 8 oz. | 6 oz. | ← Maximum Stroke | | B-21 (AC only) |
| 0.72 | 32 | 18 | 8 | 4 | 2 | | | | B-21 (DC only) |
| 1.41 | 48 | 32 | 15 | 8 | 6 | 4 | 3 oz. | 2 oz. | B-24 (DC only) |

| Volts | Coil Reistance Ω | Coil Insulation | Seated Watts** | Seated Amps** | Amps** @ Max. Stroke | Dimensions (In.) L | W | D | From Mtg. Holes to Plunger Hole (In.) | Dormeyer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **120VAC** | 234.0 | | 7.8 | 0.10 | 0.44 | | | | | B21-1-A-1 | **2A167** | $13.65 | **$9.69** | 0.4 |
| **24VAC** | 9.5 | Class A | 7.3 | 0.53 | 2.20 | 15/16 | 15/16 | 113/64 | 27/32 | B21-3-A-1 | **2A168** | 13.65 | **9.69** | 0.4 |
| **24VDC** | 72.3 | | 8.9 | 0.37 | 0.37 | | | | | B21-253-A-1 | **2A169** | 14.57 | **10.96** | 0.4 |
| **24VDC** | 60.0 | Class A | 10.6 | 0.44 | 0.44 | 15/16 | 15/16 | 2 | 27/32 | B24-253-A-1 | **2A170** | 17.99 | **12.94** | 0.5 |

## C-FRAME TYPE SOLENOIDS



DORMEYER®

C-Series

No. 2A173

Individually Packaged

- Pull type, rated 120VAC/60 Hz, continuous duty cycle rated at 40°C
- Cotton tape and varnish coil insulation (Polyester encapsulated coil on No. 2A173)
- Nylon or polyester bobbins
- Steel, zinc dichromate plated frames and plungers
- Solder lug coil terminations

### FORCE VS. DISTANCE SPECIFICATIONS (±10%)#

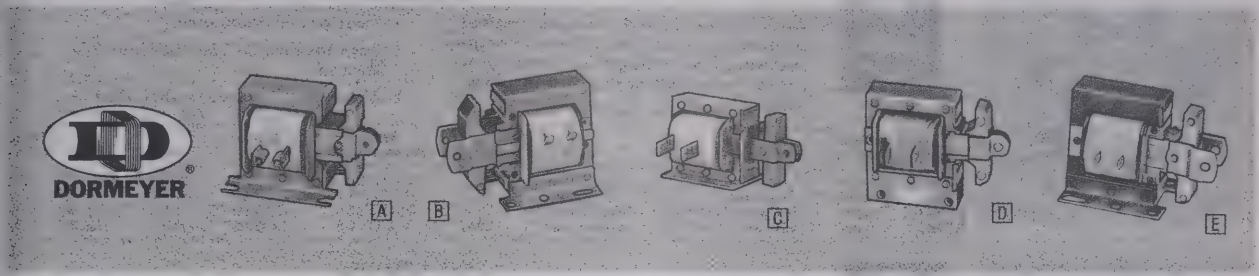
| Gravity Value* | Oz. Pull vs. Length of Stroke | | | | | | | Solenoid Series |
|---|---|---|---|---|---|---|---|---|
| | 1/16" | 1/8" | 1/4" | 3/8" | 1/2" | 3/4" | 1" | |
| 0.32 oz. | 11 oz. | 7 oz. | 5 oz. | 4 oz. | 3 oz. | ← Maximum Stroke | | C8 |
| 0.88 | 30 | 24 | 18 | 16 | 10 | | | C9 |
| 1.36 | — | 20 | 16 | 18 | 16 | 13 oz. | 6 oz. | C34 |

| Coil Resistance | Coil Insulation | Seated Watts** | Seated Amps** | Amps** Max. Stroke | Dimensions (In.) L | W | D | From Mtg. Holes, to Plunger Hole (In.) | Dormeyer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **620Ω** | | 5.8 | 0.07 | 0.21 | 13/16 | 3/4 | 11/8 | 3/4 | C8-19-A-14 | **2A171** | $9.03 | **$6.49** | 0.2 |
| **172** | Class A | 11.2 | 0.18 | 0.58 | 113/32 | 13/8 | 11/16 | 1.14† | C9-19-A-14 | **2A172** | 10.51 | **7.52** | 0.3 |
| **129** | | 13.5 | 0.20 | 0.86 | — | 15/16 | 111/16 | 0.845‡ | C34-19-M-33 | **2A173** | 9.62 | **6.86** | 0.5 |

(*) Subtract Gravity Value from force given in table when solenoid is being operated against gravity or add Gravity Value when solenoid is operated with gravity.
(†) Values are± 1/32". (‡) Values are ± 0.0300". (#) 100% rated voltage at 35°C. (**) Values are ±10%.

# LAUNDRY EQUIPMENT SOLENOIDS—

For Hotpoint, Maytag, Norge, Speed Queen, Philco-Bendix, and Other Make Washers and Dryers

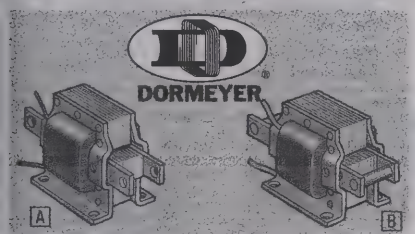



## FORCE VS. DISTANCE SPECIFICATIONS

| Key | Lbs. Pull vs. Length of Stroke ¼" | ½ | ¾ | ⅞ | 1" | 1¼" |
|---|---|---|---|---|---|---|
| A | 8 | 7 | 7 | 6½ | 6 | — |
| B | 19 | 19 | 20 | 21 | 20 | 15 |
| C | 2½ | 2 | 1½ | Max. Stroke | | |
| D | 8 | 7 | 7 | 6½ | 6 | — |
| E | 24 | 23 | 24 | 23 | 23 | 15 |

- Pull type
- Intermittent duty for replacement service on home laundry washers and dryers
- Rated 115V, 50/60 Hz
- 3 minute maximum on time
- Flanged base, except No. 2X868 channel U type
- Terminals 1/4" spade for quick installation—for quick-disconnects, see page 620

| Key | Coil Resistance | Seated Amps | Watts | Dimensions (In.) L | W | D | Mtg. Holes | Dormeyer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 18.20 Ω | .55 | 24 | 2½ | 1 13/16 | 2 1/16 | 2" OC | 7014 | **2X661** | $19.38 | **$14.82** | 1.1 |
| B | 4.20 | 1.10 | 40 | 2 63/64 | 2 3/8 | 2 15/16 | 2 | 7258 | **2X662** | 29.04 | **22.01** | 3.0 |
| C | 60.00 | .36 | 14 | 1 39/64 | 1 3/16 | 1 7/16 | 1 3/8 | 7690 | **2X867** | 15.47 | **12.08** | 0.5 |
| D | 18.20 | .55 | 24 | 2 | 7/8 | 2 15/32 | Channel U | 7467 | **2X868** | 18.46 | **14.12** | 1.2 |
| E | 4.50 | 1.20 | 48 | 2 63/64 | 2 3/8 | 2 15/16 | 2"OC | 7612 | **4X317** | 27.52 | **20.44** | 2.6 |




# PUSH OR PULL TYPE SOLENOIDS

- Applications include machine tools, appliances, vending machines
- Rated 115V, 60 Hz
- Attach plunger to either end depending on whether a push or pull action is required
- Class A coil insulation—for use at temperatures under 230°F (105°C) with maximum temperature rise of 120°F (65°C)
- 12" leads

| Key | Lbs. Push or Pull vs. Length of Stroke 1/4" | 1/2" | 3/4" | 1" |
|---|---|---|---|---|
| A | 1.8 | 1.8 | 1.8 | 1.2 |
| B | 5.0 | 6.0 | 6.0 | 6.0 |

| Key | Coil Resistance | Seated Watts | Seated Amps | Duty Cycle | Dimensions (In.) L | W | D | Stack | Mtg. Holes | Dormeyer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 56.0Ω | 7.0 | 0.21 | Cont. | 2½ | 1 25/32 | 2 3/32 | 3/4 | 2"OC | 14-1 | **4X897** | $33.70 | **$25.25** | 1.4 |
| B | 15.2 | 23.0 | 0.85 | Int.# | 2½ | 2 9/16 | 2 3/32 | 1 | 2 | 7110-2A | **4X898** | 38.46 | **31.50** | 1.7 |




# TUBULAR TYPE SOLENOIDS

- Pull type
- Rated 24VDC
- Polyester coil insulation
- Corrosion resistant steel plunger
- Stainless steel plunger cavity
- Corrosion resistant steel plunger stop
- Spring steel, zinc plated, lock washer
- Steel, zinc chromate plated housing
- 6" lead coil termination
- Continuous duty cycle rated at 40°C
- P16 series equivalent to obsolete P6 series

## FORCE VS. DISTANCE SPECIFICATIONS (±10%)†

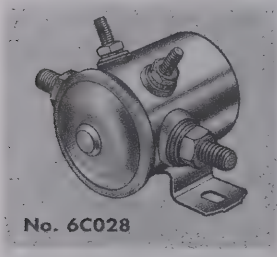
| Gravity Value* | Oz. Pull vs. Length of Stroke 1/16" | 1/8" | 1/4" | 3/8" | 1/2" | 5/8" | | Solenoid Series |
|---|---|---|---|---|---|---|---|---|
| 0.60 oz. | 18.0 oz. | 9.0 oz. | 3.5 oz. | 1.8 oz. | 1.0 oz. | 0.75 oz. | ← Maximum Stroke | P4 |
| 1.50 | 36.0 | 20.0 | 9.0 | 5.0 | 4.0 | 2.00 | | P16 |

| Coil Resistance | Coil Insulation | Seated Watts† | Seated Amps† | Amps† @ Max. Stroke | Dia. (In.) | Length (In.) (to plunger) | Dormeyer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **99Ω** | Class A | 6.0 | 0.27 | 0.27 | 3/4 | 1 3/8 | P4-2L | **2A174** | $23.22 | **$16.63** | 0.2 |
| **82** | | 7.5 | 0.33 | 0.33 | 1 | 2 3/8 | P16-2L | **2A175** | 27.87 | **19.97** | 0.4 |

(*) Subtract Gravity Value from force given in table when solenoid is being operated against gravity or add Gravity Value when solenoid is operated with gravity.
(†) Values are ±10% (‡) 100% rated voltage at 35°C. (#) Intermittent duty cycle. Maximum 25% ON time and 75% OFF time. On time not to exceed more than 3 minutes at 25°C (room temperature) ambient temperature.

# DC POWER SOLENOIDS

## Control DC Starting Motors on Gasoline-Engine Driven Auxiliaries

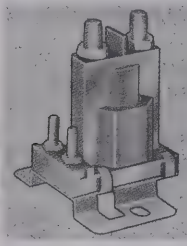

No. 6C028

### 70 SERIES

UL AU2138

- Applications include remote control of power circuits on battery charging systems, low voltage DC motor generator sets, golf carts, and in-plant lift trucks
- Dust-proof enclosure
- Termination 5/16"-24 UNF-2A thread
- Mounting hardware included

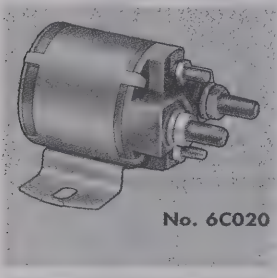
| Pole Form | Contact Material | Coil Type | Coil VDC | Duty Cycle | Amp Rating | White Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| SPNO | Copper | Isolated | 12 | Continuous | 80 | 70-111224-5 | 6C028 | $31.30 | $21.15 | 0.9 |
| SPNO | Copper | Grounded | 12 | Continuous | 80 | 70-111225-5 | 6C029 | 29.32 | 19.53 | 0.9 |
| SPNO | Copper | Isolated | 24 | Continuous | 50 | 70-117224-5 | 6C030 | 31.44 | 21.42 | 0.9 |
| SPNO | Copper | Isolated | 36 | Continuous | 50 | 70-120224-5 | 6C031 | 29.64 | 20.24 | 0.9 |


No. 6C017

### 120 SERIES

- Applications include marine engines, garden and lawn tractors, airport service vehicles, and material handling equipment
- Compact, water resistant and able to withstand high temperature and high vibration conditions
- Intermittent duty cycle: 30 seconds ON maximum; 6 minutes OFF minimum

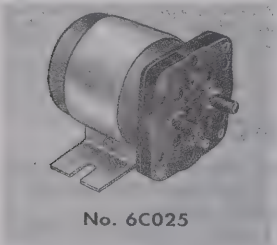
| Pole Form | Contact Material | Coil Type | Termination Mounting | Coil | Contacts | Coil VDC | Duty Cycle | Amp Rating | White Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPNO | Silver Alloy | Isolated | Stnd. Bracket | #10-32 | 5/16-24 | 12 | Cont. | 100 | 120-105711 | 6C017 | $25.50 | $15.24 | 0.5 |
| SPNO | Copper | Isolated | Stnd. Bracket | #10-32 | 5/16-24 | 12 | Inter. | 80 | 120-106131 | 6C018 | 19.67 | 11.55 | 0.5 |
| SPNO | Copper | Isolated | L-Bracket | #10-32 | 5/16-24 | 12 | Inter. | 80 | 120-106132 | 6C019 | 20.80 | 12.73 | 0.5 |


No. 6C020

### 124 SERIES

- Applications include battery charging power circuits, low voltage DC motor generator sets, golf carts, reversing circuits in winch applications, and industrial lift trucks
- Dust and splash proof
- Termination 5/16"-24 UNF-2A thread
- Meet UL 583 Industrial Truck Standard

| Pole Form | Contact Material | Coil Type | Coil VDC | Duty Cycle | Amp Rating | White Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| SPNO | Silver Alloy | Isolated | 12 | Continuous | 100 | 124-105111 | 6C020 | $51.46 | $31.45 | 1.1 |
| SPNO | Silver Alloy | Isolated | 24 | Continuous | 100 | 124-114111 | 6C021 | 54.25 | 36.75 | 1.1 |
| SPNO | Silver Alloy | Isolated | 36 | Continuous | 100 | 124-117111 | 6C022 | 55.75 | 36.80 | 1.1 |
| SPDT | Silver Alloy | Isolated | 12 | Continuous | 100 | 124-305111 | 6C023 | 81.23 | 57.00 | 1.5 |
| SPDT | Silver Alloy | Isolated | 24 | Continuous | 100 | 124-314111 | 6C024 | 82.24 | 57.00 | 1.5 |


No. 6C025

### 586 SERIES

- Applications include battery charging power circuits, low voltage DC motor generator sets, golf carts, reversing circuits in winch applications, and industrial lift trucks
- Termination 5/16"-24 UNF-2A thread

| Pole Form | Contact Material | Coil Type | Coil VDC | Duty Cycle | Amp Rating | White Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| SPNO | Silver Alloy | Isolated | 24 | Continuous | 200 | 586-114111 | 6C025 | $75.92 | $55.60 | 1.8 |
| SPNO | Silver Alloy | Isolated | 36 | Continuous | 200 | 586-117111 | 6C026 | 83.18 | 55.85 | 1.9 |
| SPDT | Silver Alloy | Isolated | 36 | Continuous | 200 | 586-317111 | 6C027 | 108.16 | 79.30 | 2.0 |

HOW TO ORDER
DC POWER SOLENOIDS
See Page 491
For Dimensions

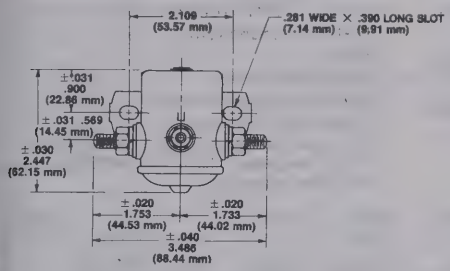
1. Select coil voltage
2. Determine whether isolated or ground coil is required by matching number of terminals to original part. Example: SPNO grounded coils have a total of 3 terminals; SPNO isolated coils have a total of 4 terminals; and SPDT isolated coils have a total of 6 terminals.
3. Determine pole form: Single Pole, Normally Open (SPNO) or Single Pole, Double Throw (SPDT)
4. Determine maximum inrush and carrying current and match to appropriate listing in chart above
5. In starting applications, select intermittent duty coils
6. Closely match mounting dimensions on page 491 with original part

NOTE: Caution must be used in coil selection for use in 12 volt systems where battery charging may be exposed to continuous, higher-than-rated voltage.


Relay it, suppress it, enclose it — The leading brands are all right here.

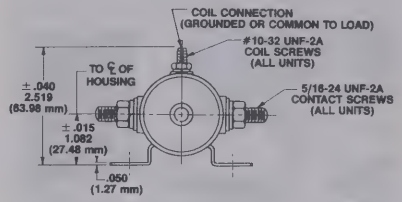
# DC POWER SOLENOIDS

## Isolated Type — TYPE 70 — Grounded Type

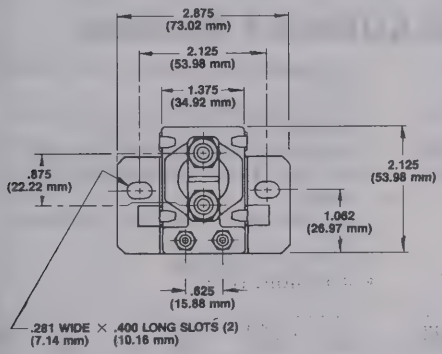



**SINGLE POLE NORMALLY OPEN**

**Mounting Position:** Recommend vertical plane with cap down

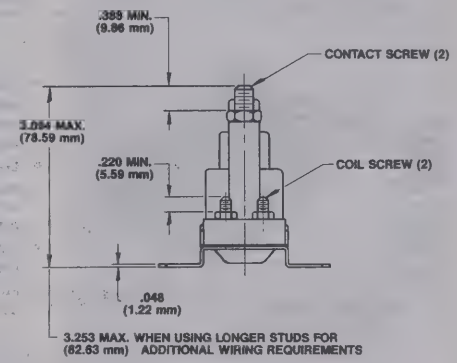



## TYPE 120



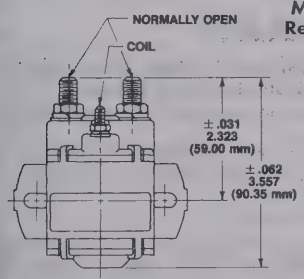

**SINGLE POLE NORMALLY OPEN**

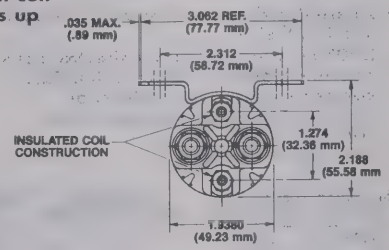
**Mounting Position:** Recommend vertical plane with coil terminals up or horizontal

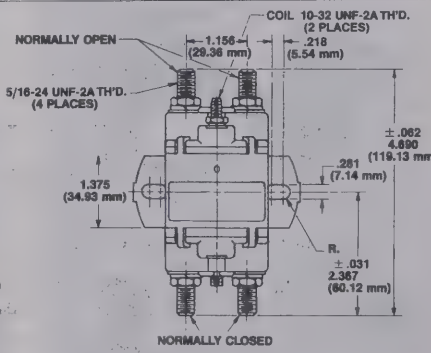



## SINGLE POLE NORMALLY OPEN — TYPE 124

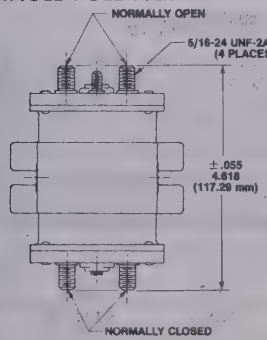
**Mounting Position:** Recommend vertical plane with coil terminals up

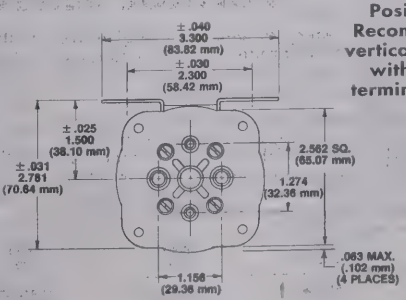


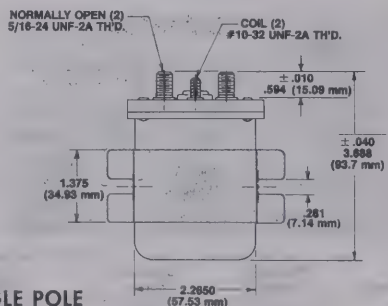




## SINGLE POLE NORMALLY OPEN — TYPE 586




**Mounting Position:** Recommend vertical plane with coil terminals up




**SINGLE POLE DOUBLE THROW**

# THREE-PHASE MONITORS, CURRENT SENSORS, ALTERNATING & VOLTAGE RELAYS

SSAC inc



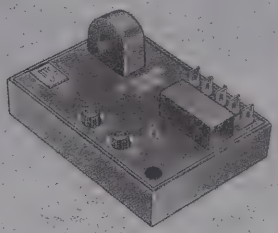
LR57415

E57310



No. 6C058

Motor Protector
PLM Series

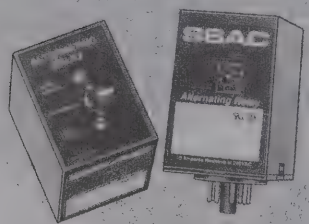


LR57415

E57310

No. 6C054

Current Sensor
ECS Series



Alternating Relay/Motor
Duplexor ARP Series

No. 6C051

E57310

LR57415

## THREE-PHASE LINE MONITOR

- Protects equipment and motors from dangerous line conditions such as: Incorrect phase sequence, loss of a phase, low voltage conditions (88 to 92% of adjusted nominal voltage), and voltage unbalance between phases
- Features easy-to-set line voltage
- Wye or Delta 3-wire hookup
- 8 amp, SPDT isolated relay contacts
- LED indicator signals normal operation
- Automatic reset
- 4% voltage unbalance
- 5 second trip delay
- No. 6C058 uses socket No. 5X852 listed on page 480; No. 6C059 includes socket

| Adjustable Nominal Line Voltage @ 50/60 Hz | Maximum Line Voltage | Socket Required | SSAC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 200 to 240VAC | 270VAC | 5X852 | PLM6405 | 6C058 | $62.79 | $62.25 | 0.5 |
| 400 to 480 | 530 | Included | PLM9405 | 6C059 | 73.34 | 72.60 | 0.8 |

## UNIVERSAL AC CURRENT SENSOR

- Designed for use in: Pumping and irrigation, conveyers and loaders, material handling equipment, fans, blowers, ovens, and heaters
- Detects locked rotor, loss of current, open heater or lamp load, whether an operation has taken place or ended
- Switch selectable overcurrent or undercurrent sensing
- Adjustable trip points from 2 to 20 amps
- Adjustable trip delays 0.5 to 50 seconds
- Complete isolation between sensed current and control circuit
- Encapsulated solid-state circuitry
- 10 amp, SPDT isolated output contacts
- Toroidal sensor has 3/8" through hole
- LED fault indicator
- Automatic reset

| Input Operating Voltage @ 50/60 Hz | Maximum Inrush Current | Output Rating @240VAC | Mount | SSAC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 24 VAC | 300 amps | 10 amps | Surface | ECS21BC | 6C054 | $65.85 | $65.40 | 0.5 |
| 120 | 300 | 10 | Surface | ECS41BC | 6C055 | 65.85 | 65.40 | 0.5 |
| 230 | 300 | 10 | Surface | ECS61BC | 6C057 | 65.85 | 65.40 | 0.5 |

## ALTERNATING RELAYS

- Alternates the operation of two loads sharing their run time
- DPDT crosswiring allows simultaneous operation of two motors, solenoids, compressors, pumps, valves, or heaters. Provides dual stage load capacity
- LED status indicators
- Selector switch allows alternating or electrically locked operation
- Returns to load "A" after power outage
- DPDT 10 amp contacts @ 240VAC
- Uses socket No. 5X852; order on page 480

| Line Voltage 50 / 60 Hz | Contact Form (Crosswired) | Contact Rating (Resistive) @ 240VAC | Maximum Voltage | SSAC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 24 VAC | DPDT | 10A | 250VAC | ARP23S | 6C051 | $51.90 | $51.45 | 0.5 |
| 120 | DPDT | 10 | 250 | ARP43S | 6C052 | 51.90 | 51.45 | 0.5 |
| 230 | DPDT | 10 | 250 | ARP63S | 6C053 | 51.90 | 51.45 | 0.5 |

SIEMENS

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.



Plugs into No. 5X852 socket—order on page 480

No. 4A029

E22575

LR15734

## VOLTAGE SENSOR RELAYS

**Designed to energize and de-energize** its internal relay at predetermined voltages. Desired levels are knob-adjustable and can be varied over a selected range.

**Consist of sensing circuit** that turns On or Off a solid state switch, energizing or de-energizing the internal DPDT relay. Device can be used as an over voltage sensor when load is connected to NO contact. Enclosed in nylon dust cover. Octal terminals fit standard 8-pin socket. Typically 2.5 watt units; they are not constant impedance. DPDT contacts are rated 10 amps @ 28VDC or 120VAC, resistive. Continuous-duty relay has a repeatability of ±1% (max.) and an operating temperature range from -10°C to 55°C; temperature coefficient of 0.2%°C. DC model has reverse polarity protection.

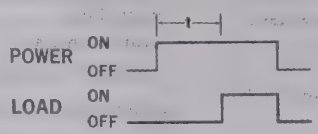
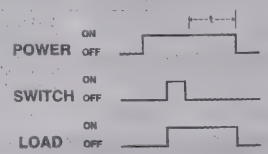
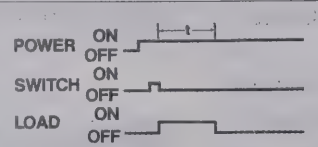
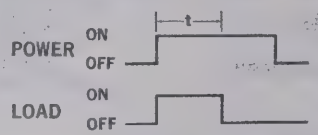
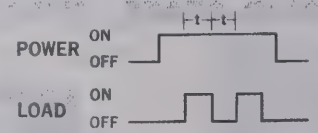
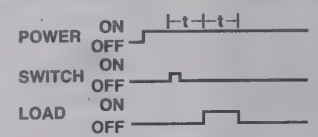
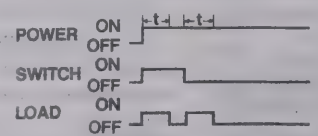
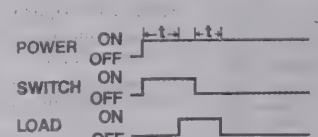
- For single-phase applications only

| Series | Pick-Up Range | Drop-Out Range | Type of Voltage | Max. Voltage | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| CS | 92-140V | 90-138V | AC(50-60 Hz) | 150VAC | CSJ-38-70010 | 4A029 | $118.25 | $113.90 | 0.5 |
| | 20-30 | 18-28 | DC | 40VDC | CSL-38-30010 | 3A967 | 112.65 | 108.50 | 0.5 |



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# TIME DELAY RELAY SELECTION GUIDE

| Description | Timing Chart (t = time) | Dayton No. | Omron Series | P & B Series |
|---|---|---|---|---|
| **ON DELAY**<br>When power is applied to input terminals, the time delay starts. At the end of the preset time delay, the output contacts transfer, either connecting or disconnecting the load. Reset by removing input power. |  | 5X828,<br>5X829,<br>5X830,<br>6X601,<br>6A854,<br>6A855 | H3CA-A<br>—<br>SYD,<br>H3Y-2,<br>H3Y-4,<br>H5CR-B<br>H3CR-A8 | CG,<br>CD,<br>CH,<br>CL,<br>CNS,<br>CNT |
| **OFF DELAY I**<br>Power is applied at all times. Upon the closure of the normally open switch, the output contacts transfer and remain in this position as long as the switch is kept closed. When the switch opens, timing starts. At the end of the preset time delay, the output contacts transfer back to their original position and the unit is ready for a new cycle. **NOTE:** Do not ground or apply voltage to the start switch. |  | 6X153,<br>6X154,<br>6X155,<br>6X602,<br>6A855 | H3CA-A,<br>H5CR-B | CD,<br>CH,<br>CNS,<br>CNT |
| **OFF DELAY II**<br>Power is applied at all times. Upon the closure of the normally open switch, the output contacts transfer and timing starts. At the end of the preset time delay, the contacts transfer back to their original position. |  | — | H3CA-A,<br>H5CR-B | CNT |
| **INTERVAL DELAY**<br>When power is applied to the input terminals, the contacts transfer and the timing cycle starts. At the end of the preset time delay, the output contacts transfer back, either disconnecting or connecting the load. Reset by removing input power. |  | 6X603,<br>6X604,<br>6X605,<br>6A855 | H3CA-A,<br>SYD,<br>H5CR-B<br>H3CR-A8 | CNS,<br>CNT |
| **REPEAT CYCLE**<br>When power is applied to the input terminals, OFF delay is initiated. At the end of the OFF preset time, contacts transfer from OFF to ON position and ON delay starts. At the end of ON preset time, contacts transfer from ON to OFF position and a new cycle begins. The ON and OFF cycles will continue to alternate until power to input terminals is removed. |  | 1A366,<br>1A367,<br>1A368,<br>6A855 | H3CR-F8<br>H3CA-A,<br>H5CR-B | CR,<br>CNS,<br>CNT |
| **CYCLE ONE-SHOT**<br>The start terminals are connected. Timing starts when power is applied. The output relay will be OFF for the set time then ON for the set time. The timer is reset when power is disconnected or a reset input is applied. |  | — | H3CA-A,<br>H5CR-B | CNT |
| **SIGNAL INTERVAL/OFF DELAY**<br>Power is applied at all times. The first timing cycle begins when the input signal is applied. The second timing cycle begins when the input signal is removed. The output relay is energized during both timing cycles. |  | — | H3CA-A,<br>H5CR-B | CNT |
| **SIGNAL ON DELAY/OFF DELAY**<br>Power is applied at all times. The first timing cycle begins when the input signal is applied, the second when it is removed. The output relay is energized when the lapsed time from the first timing cycle equals the setpoint. It will remain energized until the lapsed time of the second timing cycle equals the setpoint. |  | — | H3CA-A,<br>H5CR-B | CNT |

# TIME DELAY RELAYS

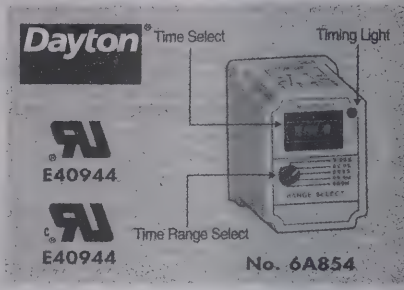
## ON-DELAY MULTI-TIME RANGE RELAY

- FCC Approved
- User programmable, multiple time ranges
- ±0.1% Repeatability
- 120VAC ±10% 50/60 Hz input voltage
- DPDT relay output rated 10 amps resistive at 120 VAC
- Coil Current Rating 16mA
- 8-pin design; uses socket No. 5X852—order on page 480
- Timing light indicates when unit is operating
- Digital time set
- Transient voltage protection

**No. 6A854.** Shpg. wt. 0.4 lbs. List.....$55.00.
Each .....$53.80

### TIME RANGES

0.05 to 9.99 Seconds
0.1 to 99.9 Seconds
1 to 999 Seconds
0.1 to 99.9 Minutes
1 to 999 Minutes




## MULTI-TIME RANGE/MULTI-FUNCTION RELAY

- FCC Approved
- User programmable, multiple time ranges and functions
- ±0.1% repeatability
- 120 VAC ±10% 50/60 Hz input voltage
- DPDT relay output rated 10 amps resistive at 120 VAC
- Coil Current Rating 16mA
- 11-pin design; use socket No. 6X156—order on page 480
- Timing light indicates unit operation
- Digital time set
- Transient voltage protection

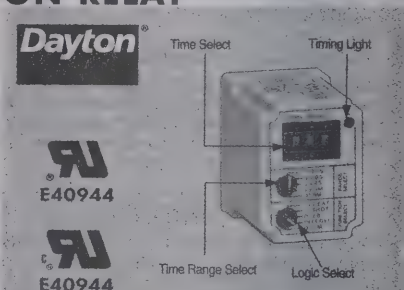
**No. 6A855.** Shpg. wt. 0.3 lbs. List $66.00.
Each .....$59.60

### TIME RANGES

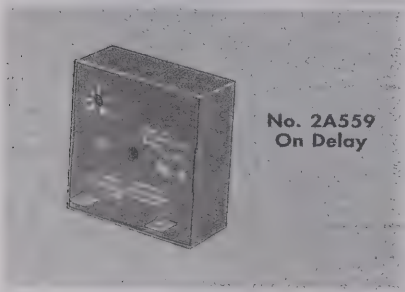
0.05 to 9.99 Seconds
0.1 to 99.9 Seconds
1 to 999 Seconds
0.1 to 99.9 Minutes
1 to 999 Minutes

### OPERATING FUNCTIONS MODES

Repeat Cycle (Repeat)—
50% Fixed Duty Cycle
Single Shot (1-Shot)
Off Delay (D.O.B.)
Interval (Intervl)
On Delay (D.O.M.)

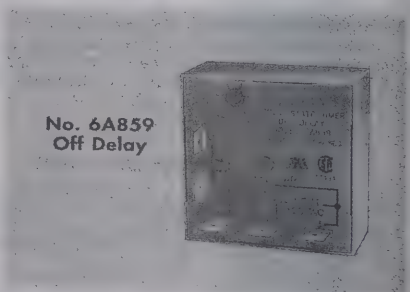



## SOLID-STATE, CUBE TIME DELAY RELAYS




Dayton

E49375 E49375




- Solid-state SPST circuit provides long life and quick response time
- Input voltage of 120V AC ±10%
- Flame retardant and solvent resistant filled polyester thermoplastic housing
- Fast-on terminals for easy installation

### ON DELAY

| Timing Range (Sec.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0.05 to 1.00 | 2A559 | $22.00 | $18.01 | 0.5 |
| 0.25 to 5.00 | 2A560 | 22.00 | 18.01 | 0.5 |
| 0.50 to 10.00 | 2A561 | 22.00 | 18.01 | 0.5 |
| 3.00 to 60.00 | 2A562 | 22.00 | 18.01 | 0.5 |

### SPECIFICATIONS

**Leakage Current:** 2mA max.

**Voltage Drop:** 3.3VAC @ 1A

**Surge Current:** 20A peak, 1 cycle non-repetitive

**Power Consumption:** 3W maximum

**Control Output:** 1A max. AC resistive or inductive: minimum 10mA AC

**Dielectric Strength:** 3000VAC, 50/60 Hz RMS, terminals to mounting

- Ambient temperature of -40° to 150°F
- Reset by removing input power (On delay only); Off delay models use momentary contact with power applied at all times
- Compact cube size
- Dimensions: 2L x 2W x 7/8"D
- 120VAC only

### OFF DELAY

| Timing Range (Sec.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0.50 to 10.00 | 6A857 | $25.00 | $21.40 | 0.2 |
| 3.00 to 60.00 | 6A858 | 25.00 | 21.40 | 0.5 |
| 15.00 to 300.00 | 6A859 | 25.00 | 21.40 | 0.5 |

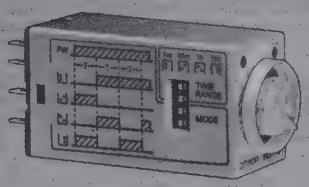
FOR TIME DELAY RELAY SELECTION DATA, SEE PAGE 493



*Relay it, suppress it, enclose it — The leading brands are all right here.*

OMRON
H3YN Series

LR22310 E41515



No. 4KN14

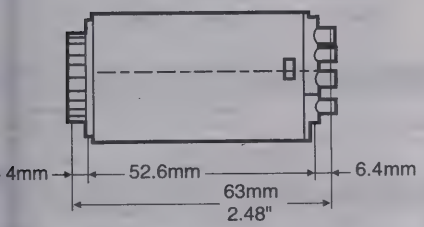
## ON DELAY, INTERVAL, AND REPEAT CYCLE OPERATION

- Ideal for small spaces
- Max. ±1% of full scale (additional 10mSec for 1 second range)
- Short reset time—100mSec
- Time setting knob
- LED indicator for Power-On and Time-Up
- 8-pin models require relay socket No. 4KN18 on page 481
- 14-pin models require relay socket No. 2A584 on page 480
- Input voltage 90 to 110% of rated

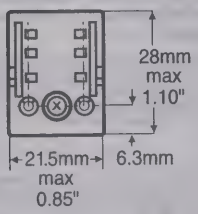
### TIME DELAY RELAY SPECIFICATIONS AND ORDERING DATA

| Timing Range | Use Relay Socket No. | Rated Supply Voltage (50/60 Hz) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **DPDT, 5A @ 250VAC, RESISTIVE OUTPUT** | | | | | | | |
| 0.1 Sec. to 10 Min. | 4KN18 | 24 VAC | H3YN-2-AC24 | **4KN14** | $43.24 | **$40.30** | 0.1 |
| | 4KN18 | 100-120 | H3YN-2-AC100-120 | **4KN15** | 42.22 | **39.30** | 0.1 |
| | 4KN18 | 200-230 | H3YN-2-AC200-230 | **4KN16** | 42.22 | **39.30** | 0.1 |
| **4PDT, 3A @ 250VAC, RESISTIVE OUTPUT** | | | | | | | |
| 0.1 Sec. to 10 Min. | 2A584 | 100-120 | H3YN-4-AC100-120 | **4KN17** | 43.24 | **40.30** | 0.1 |

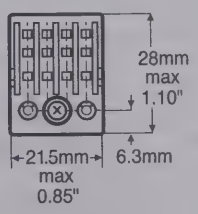
## DIMENSIONS FOR OMRON H3YN SERIES




All Models



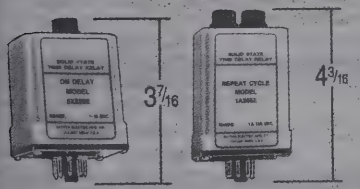

8-Pin Models




14-Pin Models

Dayton

15734 E40944




No. 5X828
On Delay

No. 1A368
Repeat Cycle

- Use in automatic control circuits, machine tool programming, sequence controls, heating and cooling operations, warm-up delays, etc.
- Transient protection on AC coils
- Easy-To-Read, top-mounted timing adjustment knob with graduated scale
- 25mA coil current rating

TIME DELAY RELAY SELECTION ON PAGE 493

## ON DELAY, OFF DELAY, AND INTERVAL MODELS

- Input voltage 120 VAC, 50/60 Hz ±10%
- Contact ratings: 1/3 HP at 120 VAC; 1/2 HP at 240 VAC; 10 amp at 120 VAC
- 125mSec reset time
- ±2% repeatability
- DPDT relay output
- 2⅜L x 1¾W x 3 7/16"D (less pins)

## REPEAT CYCLE MODELS

- Two top-mounted adjustment knobs allow setting On time and Off time independently
- Input voltage 120 VAC, 50/60 Hz, ±10%
- Contact ratings: 10 amps resistive at 120 VAC; 1/3 HP at 120/240 VAC
- ±1% repeatability at 25°C; 150 mSec reset time
- DPDT relay output
- 2⅜L x 1¾W x 4 3/16"D (less pins)

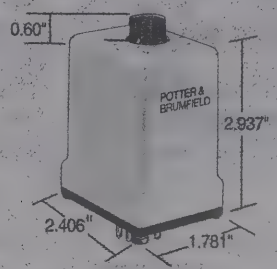
All Timers Use Socket No. 5X852; Except OFF DELAY series uses No. 6X156—order on page 480

| Timing Range | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **ON DELAY 8-PIN OCTAL BASE SERIES** | | | | |
| 0.1-10 Sec. | 5X828 | $55.06 | **$46.00** | 0.3 |
| 1.8-180 | 5X829 | 55.06 | **46.00** | 0.6 |
| 3-300 | 5X830 | 55.15 | **46.05** | 0.3 |
| 9-900 | 6X601 | 60.58 | **50.55** | 0.3 |
| **OFF DELAY 11-PIN OCTAL BASE SERIES** | | | | |
| 0.1-10 Sec. | 6X153 | 61.88 | **51.70** | 0.3 |
| 1.8-180 | 6X154 | 61.88 | **51.70** | 0.3 |
| 3-300 | 6X155 | 61.97 | **51.75** | 0.3 |
| 9-900 | 6X602 | 61.98 | **51.75** | 0.3 |
| **INTERVAL DELAY 8-PIN OCTAL BASE SERIES** | | | | |
| 0.1-10 Sec. | 6X603 | 62.74 | **52.40** | 0.3 |
| 1.8-180 | 6X604 | 62.81 | **52.40** | 0.3 |
| 3-300 | 6X605 | 62.81 | **52.40** | 0.3 |
| **REPEAT CYCLE 8-PIN OCTAL BASE SERIES** | | | | |
| 0.1-10 Sec. | 1A366 | 77.11 | **64.35** | 0.5 |
| 0.6-60 | 1A367 | 77.11 | **64.35** | 0.5 |
| 1.8-180 | 1A368 | 77.11 | **64.35** | 0.5 |

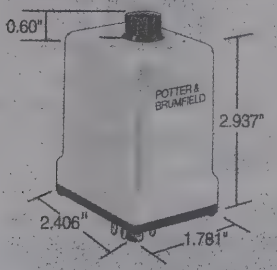
**SIEMENS**

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E22575 LR15734




CG Series




CH Series




CD-38 Series

## CG ON DELAY SERIES

- CMOS integrated circuit
- Delay time provided by IC network is not normally affected by voltage transients found in industrial applications
- Contacts will not transfer if timing cycle is interrupted
- Knob adjustable time increments
- Coil current rating 25mA

### CG RELAY SPECIFICATIONS

| Form | Contact Load Rating Amps, Resistive | Repeatability | Recycle Time | Operating Temperature |
|---|---|---|---|---|
| DPDT | 10 @ 240VAC | ±0.1% DC, ±0.5% AC not less then ±16 mSec. | AC: 40 mSec. Typical: 60 mSec. Max. | –10° to 55°C |

### CG RELAY ORDERING DATA

| No. of Pins | Time Delay | Input Voltage | Use With Socket No.* | P&B Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| 8 | 1-10 Min | 120VAC | 5X852 | CGB-38-70010M | **3A941** | $186.13 | **$168.50** | 0.5 |

(*) Order sockets on page 480.

## CH ON DELAY/OFF DELAY SERIES

- Economy model; knob adjustable time increments
- No. 3A952 will energize if control switch is closed when power is applied
- Dry circuit switch rating is recommended; 50 mSec. minimum switch closure is required
- Coil current rating 25mA

### CH RELAY SPECIFICATIONS

| Form | Contact Load Rating Amps, Resistive | Repeatability | Recycle Time | Operating Temperature |
|---|---|---|---|---|
| DPDT | 10 @ 240VAC | ±2% | 125 mSec. Typical 200 mSec. Max. | –10° to 55°C |

### CH RELAY ORDERING DATA

| Series Type | No. of Pins | Time Delay | Input Voltage | Use With Socket No.* | P&B Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **On Delay** | 8 | 1.0-10 Sec. | 120 VAC | 5X852 | CHB-38-70001 | **3A949** | $90.00 | **$89.15** | 0.4 |
| | | 1.0-60 | | | CHB-38-70002 | **3A950** | 90.00 | **89.15** | 0.4 |
| | | 1.0-180 | | | CHB-38-70003 | **3A951** | 90.00 | **89.15** | 0.4 |
| **Off Delay** | 11 | 1.0-180 | 120 | 6X156 | CHB-38-70013 | **3A952** | 90.00 | **89.15** | 0.3 |

(*) Order sockets on page 480.

## CD ON DELAY/OFF DELAY SERIES

- Delay on operate or release
- Knob adjustable time increments
- Coil current rating 25mA; 4A368 125mA

### CD RELAY SPECIFICATIONS

| Form | Contact Load Rating Amps, Resistive | Repeatability | Recycle Time | Operating Temperature |
|---|---|---|---|---|
| DPDT | 10 @ 240VAC | ±1% | 60 mSec. | –40° to 55°C |

### CD RELAY ORDERING DATA

| Series Type | No. of Pins | Time Delay | Input Voltage | Use With Socket No.* | P&B Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **On Delay** | 8 | 0.1-1 Sec. | 120VAC | 5X852 | CDB-38-70001 | **3A942** | $147.68 | **$142.25** | 0.5 |
| | | 0.1-5 | 120VAC | | CDB-38-70002 | **3A943** | 147.68 | **142.25** | 0.5 |
| | | 0.1-10 | 120VAC | | CDB-38-70003 | **3A944** | 147.68 | **142.25** | 0.5 |
| | | 0.6-60 | 120VAC | | CDB-38-70004 | **3A945** | 147.68 | **142.25** | 0.5 |
| | | 1.8-180 | 120VAC | | CDB-38-70005 | **3A946** | 147.68 | **142.25** | 0.5 |
| | | 0.6-60 | 24VDC | | CDD-38-30004 | **4A368** | 147.71 | **142.25** | 0.6 |
| **Off Delay** | 11 | 0.6-60 | 120VAC | 6X156 | CDB-38-70012 | **3A947** | 147.68 | **142.25** | 0.5 |
| | | 0.1-10 | | | CDB-38-70014 | **3A948** | 147.68 | **142.25** | 0.5 |

(*) Order sockets on page 480.

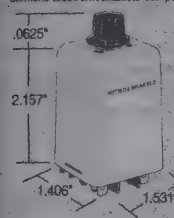
TIME DELAY RELAY SELECTION GUIDE ON PAGE 493

SIEMENS

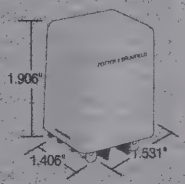
Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

LR15734

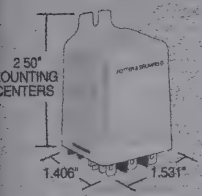
E22575



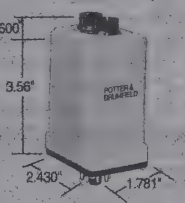

CL-51 Series




CL-41 Series




CL-42 Series




CR Series

## CL ON DELAY SERIES

- Knob or resistor adjustable; external resistor (not included) for maximum time, 1/4 watt resistor recommended
- Plug-in, quick-connect terminals
- Coil current rating 25mA

### CL RELAY SPECIFICATIONS

| Form | Contact Load Rating Amps, Resistive | Repeatability | Recycle Time | Operating Temperature |
|---|---|---|---|---|
| DPDT | 10 @ 28VDC or 240 VAC, 80% | ±3% | 100 mSec. Typical<br>150 mSec. Max. | –10° to 55°C |

### CL RELAY ORDERING DATA

| No. of Pins | Time Delay | Input Voltage | Control | Use With Socket No.* | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 0.1-10 Sec. | 120 VAC | Knob | 5X854 | CLB-51-70010 | **3A953** | $82.24 | **$79.20** | 0.3 |
| | 0.3-30 | | Knob | 5X853 | CLB-51-70030 | **4A006** | 82.16 | **79.15** | 0.3 |
| | 1.2-120 | | Knob | 4A161 | CLB-51-70120 | **4A007** | 82.16 | **79.15** | 0.3 |
| 11 | 0.1-10 | 120 VAC | Resistor | 1A247 | CLF-41-70010 | **3A954** | 73.81 | **71.15** | 0.3 |
| | 1.2-120 | | Resistor | | CLF-41-70120 | **4A077** | 132.96 | **128.05** | 0.2 |
| | 0.1-10 | | Resistor | — | CLF-42-70010 | **4A008** | 73.83 | **71.15** | 0.2 |

(*) Order sockets on page 480.

## CR RECYCLE SERIES

- Two independent control knobs for adjusting On and Off delays
- Recycling sequence is initiated by applying power to terminals—when first preset delay is complete, contacts transfer from normally Off to energized On, activating On delay
- Relay returns to Off state (contacts NO) if power is removed
- Knob adjustable time increments
- Coil current rating 25mA

### CR RELAY SPECIFICATIONS

| Form | Contact Load Rating Amps, Resistive | Repeatability | Recycle Time | Operating Temperature |
|---|---|---|---|---|
| DPDT | 10 @ 240VAC | ±2% | 60 mSec. | –40° to 55°C |

### CR RELAY ORDERING DATA

| No. of Pins | Time Delay | Input Voltage | Use With Socket No.* | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 8 | 0.1-10 Sec. | 120VAC | 5X852 | CRB-48-70010 | **4A009** | $162.87 | **$161.50** | 0.6 |
| | 1.8-180 | | | CRB-48-70180 | **4A010** | 162.87 | **161.50** | 0.5 |

(*) Order sockets on page 480.

TIME DELAY RELAY SELECTION GUIDE ON PAGE 493.

## ELECTROMECHANICAL RESET TIMER — PLUG IN

- Three timing ranges and three functions in each timer
- For automatic control of circuits, machine tool programming and sequencing operations
- Large calibrated dial
- Spring loaded panel mount
- Octal plug and octal plug lock
- High impact enclosure
- Cycle progress indicator shows amount of time left in cycle
- On/Off memory allows timer to resume operation from point of cycle interruption during power failures
- Dimensions: 1.9L x 1.9W x 4.05"D
- Fits 8-pin octal socket No. 5X852—order on page 480

Electromechanical timer combines the best features of solid state and motor timers. Multi-function features are Slow Operate (On Delay), Interval (Timed On) and Single Shot (200 milli-seconds). Timers are supplied with instantaneous and permanent delayed contacts that make multi-functions possible.



CROUZET

Memory Feature

TIMING RANGE SELECT

CALIBRATED TIME DIAL

LR65824

E47688

### RELAY ORDERING DATA

| Time Ranges | Crouzet Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **6, 60 Sec., 12 Min.** | 88226.510 | **1A263** | $55.86 | **$53.90** | 0.6 |
| **6, 60 Min., 12 Hr.** | 88226.513 | **1A264** | 67.02 | **63.75** | 0.6 |

### RELAY SPECIFICATIONS

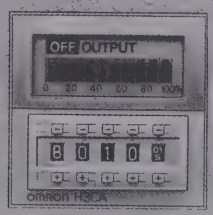
#### Contacts

| | |
|---|---|
| Delayed Contact: | 1 SPDT |
| Instantaneous Contact: | 1 NO |

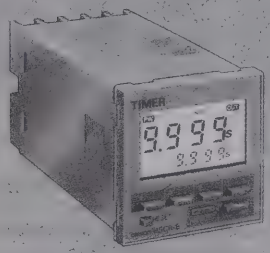
#### Ratings

| | |
|---|---|
| Power Supply: | 120VAC, 60Hz |
| Contact Load Rating: | Delayed—8A, 120-250VAC resistive; 1/3 HP, 120/250VAC<br>Instantaneous—8A, 120-250VAC resistive; 1/3 HP, 120/220VAC |
| Pilot Duty: | 2 amps |
| Setting Accuracy: | 2% of timing range |
| Reset Time: | 200mSec. |
| Repeat Accuracy: | ±1.5% (±4% on shortest time range) |
| Operating Temperature: | -10°C to 55°C (14°F to 131°F) |

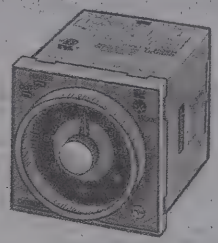
# TIME DELAY RELAYS




Universal Timer




Multifunction Digital Timer



Repeat Cycle Timer

OMRON
H-SERIES

E41515

LR22310

**All Units:**

- 1/16 DIN sized (48 x 48mm)
- All units can be surface or panel mounted in standard 1/16 DIN cutouts (except 6C760 is panel mount only)
- Units contain protection against normal line spikes and noise
- Use mounting adapter No. 4A478 for flush mounting (see below)

## No. 1A983 UNIVERSAL TIMER

- Universal AC/DC power supply
- Timing range: 0.1 sec to 9990 hours
- Repeat accuracy: ±0.3%; Reset time: 0.5 sec.
- SPDT contact rated at 3A, 250VAC, resistive
- Coil Current Rating 3VA
- Offers gate, reset, start, and check inputs (no-voltage contact)
- Fits 11 pin, octal socket No. 6X156—order on page 480
- Functions: ON Delay, Signal OFF Delay I and II, Interval, Repeat Cycle, Cycle One Shot, Signal Interval/OFF Delay, and Signal ON Delay/OFF Delay; see description of timing function on page 493

### RELAY SPECIFICATIONS AND ORDERING DATA

| Function | Input Voltage (50/60 Hz) | Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Universal | 24 to 240 VAC<br>12 to 240 VDC | 1.9 | 1.9 | 3.5 | H3CA-A | **1A983** | $94.75 | **$88.40** | 0.4 |

## No. 6C760 MULTIFUNCTION DIGITAL TIMER

- Timing range: 0.001 sec. to 9999 hours
- LCD alphanumeric display
- Nine functions: ON Delay, Signal ON Delay, Power ON Delay, Power ON Delay/Non-power resettable, Repeat Cycle, Repeat Cycle/Non-power reset table, OFF Delay, One-shot, Cumulative Signal ON Delay
- Selectable elapsed time (6) and time remaining (DOWN) display
- Panel mounting hardware included
- SPDT contact rated at 5A, 250 VAC
- Coil Current Rating 3VA

### RELAY SPECIFICATIONS AND ORDERING DATA

| Function | Input Voltage (50/60 Hz) | Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Multi-function | 100 to 240 VAC | 1.9 | 1.9 | 2.52 | H5CR-B-AC100-240 | **6C760** | $141.11 | **$131.05** | 0.4 |

## No. 2A179 REPEAT CYCLE TIMER

- Analog-set timer
- Independent ON and OFF time periods
- Repeat accuracy: ±0.3%; Reset time: 0.1 sec.
- Timing range: 1.2 sec. to 300 hours
- DPDT contact rated at 5A, 250 VAC, resistive
- Fits 8-pin octal socket No. 5X852—order on page 480

## Nos. 6C758 & 2A180 ON DELAY/INTERVAL CYCLE TIMERS

- Analog-set timer
- Timing range: 0.05 sec. to 300 hours
- Repeat accuracy: ±0.3%; Reset time: 0.1 sec.
- DPDT contact rated at 5A, 250 VAC, resistive
- Dual function selectable either ON delay or interval cycle
- Fits 8-pin octal socket No. 5X852—order on page 480

## Nos. 6C759 & 2A436 POWER OFF DELAY TIMER

- Analog-set timer
- No. 6C759 time range: 0.05 to 12 sec., min. power-on time 0.1 sec.
- No. 2A436 time range: 0.05 to 12 minutes, min. power-on time 2 sec.
- Starts timing when power goes off to protect equipment and processes
- Repeat accuracy: ±0.3%; Reset time: 0.1 sec.
- DPDT contact rated at 5A, 250 VAC, resistive
- Fits 8-pin octal socket No. 5X852—order on page 480

### RELAY SPECIFICATIONS AND ORDERING DATA

| Function | Input Voltage (50/60 Hz) | Coil Current Rating | Dimensions (In.) H | W | L | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Repeat Cycle | 100 to 240 VAC | 83mA | 1.9 | 1.9 | 3.3 | H3CR-F8-300AC100-240 | **2A179** | $63.85 | **$62.30** | 0.5 |
| On Delay/Interval Cycle | 24 VAC/VDC | 416mA | 1.9 | 1.9 | 3.2 | H3CR-A8AC/DC24 | **6C758** | 54.59 | **53.60** | 0.5 |
| | 100 to 240 VAC | 83mA | | | | H3CR-A8AC100-240 | **2A180** | 54.59 | **53.60** | 0.5 |
| Power Off Delay | 100 to 120 VAC | 2.5mA | 1.9 | 1.9 | 3.7 | H3CR-H8L-AC100120S | **6C759** | 61.79 | **60.35** | 0.5 |
| | 100 to 120 VAC | 2.5mA | | | | H3CR-H8L-AC100120M | **2A436** | 61.79 | **60.35** | 0.3 |

**No. 4A478.** Adapter for Flush Mounting. Omron brand (Y92F-30). Shpg. wt. 0.1 lbs. List $5.55. Each ..... **$5.49**

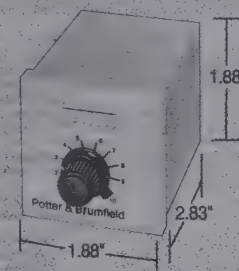


*Relay it, suppress it, enclose it — The leading brands are all right here.*

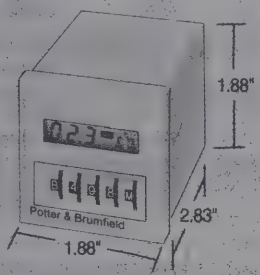
**SIEMENS**

Potter & Brumfield Products Division
Siemens Electromechanical Components, Inc.

E22575 LR15734




CNS Series
No. 2XC62




CNT Series
No. 2XC64

FOR TIME DELAY SELECTION DATA, SEE PAGE 493

## CNS MULTIFUNCTION SERIES

- Up to 8 programmable timing functions
- Universal input 24-240V AC or DC
- Rated for 50 or 60 Hz
- Dip switch selection of timing function and range
- Control knob and dial scale set actual delay time
- 1/16 DIN style case
- Coil current rating 42mA

### PROGRAMMABLE TIMING FUNCTIONS

**8 or 11 Pin Models**

- Delay On Operate
- Interval On (input controlled)
- Recycle (initially Off)
- Recycle (initially On)

**11 Pin Models Only**

- Delay On Release
- Inverted Delay On Release
- Interval On (switch controlled)
- Interval Off

### CNS RELAY SPECIFICATIONS

| Form | Contact Load Rating Amps, Resistive | HP | Repeatability | Recycle Time | Operating Temperature |
|---|---|---|---|---|---|
| DPDT | 10 @ 277VAC or 30VDC | 1/3 @ 120VAC<br>1/2 @ 250VAC | ±2% | 45 mSec., Typical;<br>60 mSec., Max. | –10° to 55°C |

### CNS RELAY ORDERING DATA

| No. Of Pins | Time Delay | Input Voltage | Use with Socket No.* | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **8** | 0.1 Sec.-100 Min. | 24-240 AC or DC | 5X852<br>6X156 | CNS-35-92 | **2XC62** | $62.02 | **$60.30** | 0.4 |
| **11** | | | | CNS-35-96 | **2XC63** | 68.01 | **66.10** | 0.4 |

(*) Order sockets on page 480

## CNT MULTIFUNCTION SERIES

- 10 programmable timing functions and 2 counting functions
- LCD digital display
- Rated for 50 or 60 Hz
- Thumbwheel switches for programming
- 1/16 DIN style case

### PROGRAMMABLE TIMING FUNCTIONS

- Delay On Operate
- Delay On Release
- Interval On
- Control-Off Interval On
- Recycle
- Single Cycle
- Control On-Off Interval On
- Control On-Off Delay
- Pulse
- Cumulative Delay On Operate

**Counting Functions**

- Operate @ Preset Count
- Release @ Preset Count

### CNT RELAY SPECIFICATIONS

| Form | Contact Load Rating Amps, Resistive | HP | Repeatability | Recycle Time | Operating Temperature |
|---|---|---|---|---|---|
| DPDT | 10 @ 277VAC or 30VDC | 1/3 @ 120VAC,<br>1/2 @ 250VAC | ±0.1% ±0.05% Sec | 45 mSec., Typical;<br>60 mSec., Max. | –10° to 55°C |

### CNT RELAY ORDERING DATA

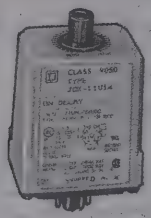
| No. of Pins | Time Delay | Input Voltage | Coil Current Rating | Use with Socket No.* | P&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **11** | 0.1 Sec. to 9990 Hrs. | 12VDC | 250mA | 6X156 | CNT-35-26 | **2XC64** | $82.68 | **$80.35** | 0.4 |
| | | 24-240VAC or DC | 42mA | 6X156 | CNT-35-96 | **2XC65** | 88.03 | **85.55** | 0.4 |

(*) Order sockets on page 480.

## LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.

# PLUG-IN TIME DELAY RELAYS



SQUARE D
GROUPE SCHNEIDER

E42240

LR25490

No. 5B405

- ±1% repeat accuracy (constant voltage and temperature)
- 2VA maximum
- DPDT contacts
- 10 amp contact rating @ 120/240VAC; rated 1/3 HP @ 120VAC, 1/2 HP @ 240VAC
- On Delay, Interval, and Repeat Cycle models have 100mSec typical reset time; Off Delay and One Shot 40mSec
- Transient protected (2,000V for 100 microsec.)
- Dimensions: 4.03H x 2.34W x 1.75"D
- See page 480 for sockets

## VARIABLE TIME DELAY RELAY SPECIFICATIONS AND ORDERING DATA

| Knob Adjustable Timing Range | Input Voltage | Suggested Socket No. | No. of Pins | Square D Model 9050 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ON DELAY** | | | | | | | | |
| **0.1-10 Sec.** | 24VAC/DC | 5B586 or 5X852 | 8 | JCK11V14 | **5B405** | $50.00 | **$50.00▲** | 0.4 |
| | 120VAC/110VDC | | | JCK11V20 | **5B404** | 50.00 | **50.00▲** | 0.3 |
| **0.3-30 Sec.** | 120VAC/110VDC | | | JCK12V20 | **5B403** | 50.00 | **50.00▲** | 0.3 |
| **0.6-60 Sec.** | 120VAC/110VDC | 5B586 or 5X852 | 8 | JCK13V20 | **5B402** | 50.00 | **50.00▲** | 0.3 |
| **1.2-120 Sec.** | | | | JCK14V20 | **5B401** | 50.00 | **50.00▲** | 0.3 |
| **1.8-180 Sec.** | 24VAC/DC | 5B586 or 5X852 | 8 | JCK15V14 | **5B400** | 50.00 | **50.00▲** | 0.3 |
| | 120VAC/110VDC | | | JCK15V20 | **5B399** | 50.00 | **50.00▲** | 0.3 |
| **0.1-10 Min.** | 120VAC/110VDC | 5B586 or 5X852 | 8 | JCK16V20 | **5B398** | 56.00 | **56.00▲** | 0.3 |
| **0.3-30 Min.** | | | | JCK17V20 | **5B397** | 56.00 | **56.00▲** | 0.3 |
| **0.6-60 Min.** | | | | JCK18V20 | **5B396** | 56.00 | **56.00▲** | 0.3 |
| **OFF DELAY** | | | | | | | | |
| **0.1-10 Sec.** | 120VAC/110VDC | 5B584, 5B585, or 6X156 | 11 | JCK21V20 | **5B395** | 63.00 | **63.00▲** | 0.3 |
| **0.3-30 Sec.** | | | | JCK22V20 | **5B394** | 63.00 | **63.00▲** | 0.3 |
| **0.6-60 Sec.** | | | | JCK23V20 | **5B393** | 63.00 | **63.00▲** | 0.3 |
| **1.8-180 Sec.** | | | | JCK25V20 | **5B392** | 63.00 | **63.00▲** | 0.3 |
| **0.1-10 Min.** | | | | JCK26V20 | **5B391** | 69.00 | **69.00▲** | 0.3 |
| **0.3-30 Min.** | | | | JCK27V20 | **5B390** | 69.00 | **69.00▲** | 0.3 |
| **INTERVAL** | | | | | | | | |
| **0.1-10 Sec.** | 120VAC/110VDC | 5B586 or 5X852 | 8 | JCK31V20 | **5B389** | 50.00 | **50.00▲** | 0.3 |
| **ONE SHOT** | | | | | | | | |
| **0.3-30 Sec.** | 120VAC/110VDC | 5B584, 5B585, or 6X156 | 11 | JCK42V20 | **5B388** | 63.00 | **63.00▲** | 0.3 |
| **REPEAT CYCLE*** | | | | | | | | |
| **0.3-30 Sec.** | 120VAC/110VDC | 5B586 or 5X852 | 8 | JCK52V20 | **5B387** | 90.00 | **90.00▲** | 0.3 |

(*) Two dials are provided for independently adjustable repeat cycle timing ranges. (▲) Net prices, not subject to discounts.

## PROGRAMMABLE, MULTI-TIME RANGE RELAYS

E42240

LR33434



No. 5B386

SQUARE D
GROUPE SCHNEIDER

- 50mSec max. reset time
- Dimensions: 3.69H x 2.38W x 1.75"D
- ±0.1% repeat accuracy
- Uses socket No. 5B586 or 5X852

- Five programmable timing ranges
- On Delay timer uses five-position rotary switch to select timing range and three pushbutton thumbwheels to select time values

### MULTI-TIME RANGE RELAY ORDERING DATA

| Timing Mode | Timing Ranges | Input Voltage @ 50/60 Hz | Square D Model 9050 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **On Delay** | 0.05 to 9.99 Sec. | 24VAC | JCK60V14 | **5B386** | $98.00 | **$98.00▲** | 0.4 |
| | 0.1 to 99.9 Sec. | 120 | JCK60V20 | **5B385** | 98.00 | **98.00▲** | 0.4 |
| | 1 to 999 Sec. | 240 | JCK60V24 | **5B384** | 98.00 | **98.00▲** | 0.4 |
| | 0.1 to 99.9 Min. | | | | | | |
| | 1 to 999 Min. | | | | | | |

(*) Repeat Cycle Mode utilizes same On-Time and Off-Time. (▲) Net prices, not subject to discounts.

## PROGRAMMABLE, MULTI-FUNCTION RELAYS

SQUARE D
GROUPE SCHNEIDER

- 50mSec max. reset time
- Dimensions: 3.69H x 2.38W x 1.75"D
- ±0.1% repeat accuracy
- Uses socket No. 5B585, 5B584, or 6X156



E42240

LR33434

No. 5B383

- Five programmable timing modes and ranges
- Use two, five position rotary switches to select timing range and mode; three position thumbwheels are used to select time value

### MULTI-FUNCTION RELAY ORDERING DATA

| Timing Mode | Timing Ranges | Input Voltage @ 50/60 Hz | Square D Model 9050 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **On Delay** | 0.05 to 9.99 Sec. | 24VAC | JCK70V14 | **5B383** | $111.00 | **$111.00▲** | 0.4 |
| **Off Delay** | 0.1 to 99.9 Sec. | 120 | JCK70V20 | **5B382** | 111.00 | **111.00▲** | 0.4 |
| **Interval** | 1 to 999 Sec. | 240 | JCK70V24 | **5B381** | 111.00 | **111.00▲** | 0.4 |
| **One Shot** | 0.1 to 99.9 Min. | | | | | | |
| **Repeat Cycle*** | 1 to 999 Min. | | | | | | |



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# RATING CODES FOR AC AND DC CONTROL CIRCUIT CONTACTS

## RATING CODES FOR A-C CONTROL CIRCUIT CONTACTS AT 50 AND 60 HERTZ

| Contact Rating Code Designation* | Thermal Continuous Test Current (Amperes) | Maximum Current, Amperes | | | | | | | | Maximum, Volt-Amperes | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 120 Volt | | 240 Volt | | 480 Volt | | 600 Volt | | | |
| | | Make | Break | Make | Break | Make | Break | Make | Break | Make | Break |
| A150 | 10 | 60 | 6.00 | — | — | — | — | — | — | 7200 | 720 |
| A300 | 10 | 60 | 6.00 | 30 | 3.00 | — | — | — | — | 7200 | 720 |
| A600 | 10 | 60 | 6.00 | 30 | 3.00 | 15 | 1.50 | 12 | 1.20 | 7200 | 720 |
| B150 | 5 | 30 | 3.00 | — | — | — | — | — | — | 3600 | 360 |
| B300 | 5 | 30 | 3.00 | 15 | 1.50 | — | — | — | — | 3600 | 360 |
| B600 | 5 | 30 | 3.00 | 15 | 1.50 | 7.50 | 0.75 | 6 | 0.60 | 3600 | 360 |
| C150 | 2.5 | 15 | 1.5 | — | — | — | — | — | — | 1800 | 180 |
| C300 | 2.5 | 15 | 1.5 | 7.5 | 0.75 | — | — | — | — | 1800 | 180 |
| C600 | 2.5 | 15 | 1.5 | 7.5 | 0.75 | 3.75 | 0.375 | 3.00 | 0.30 | 1800 | 180 |
| D150 | 1.0 | 3.60 | 0.60 | — | — | — | — | — | — | 432 | 72 |
| D300 | 1.0 | 3.60 | 0.60 | 1.80 | 0.30 | — | — | — | — | 432 | 72 |
| E150 | 0.5 | 1.80 | 0.30 | — | — | — | — | — | — | 216 | 36 |

(*) The numerical suffix designates the maximum voltage design values, which are to be 600, 300, and 150 volts for suffixes 600, 300, and 150, respectively. The test voltage is to be 600, 240, or 120 volts. (†) For maximum ratings at voltages between the maximum design value and 120 volts, the maximum make and break ratings are to be obtained by dividing the volt-amperes rating by the application voltage. For voltages below 120 volts, the maximum make current is to be the same as for 120 volts, and the maximum break current is to be obtained by dividing the break volt-amperes by the application voltage, but these currents are not to exceed the thermal continuous test current.

## RATING CODES FOR D-C CONTROL CIRCUIT CONTACTS

| Contact Rating Code Designation* | Thermal Continuous Test Current (Amperes) | Maximum Make or Break Current, Amperes | | | Maximum Make or Break Volt-Amperes at 300 Volts or Less |
|---|---|---|---|---|---|
| | | 125 Volt | 250 Volt | 301 to 600 Volt | |
| N150 | 10.0 | 2.2 | — | — | 275 |
| N300 | 10.0 | 2.2 | 1.1 | — | 275 |
| N600 | 10.0 | 2.2 | 1.1 | 0.40 | 275 |
| P150 | 5.0 | 1.1 | — | — | 138 |
| P300 | 5.0 | 1.1 | 0.55 | — | 138 |
| P600 | 5.0 | 1.1 | 0.55 | 0.20 | 138 |
| Q150 | 2.5 | 0.55 | — | — | 69 |
| Q300 | 2.5 | 0.55 | 0.27 | — | 69 |
| Q600 | 2.5 | 0.55 | 0.27 | 0.10 | 69 |
| R150 | 1.0 | 0.22 | — | — | 28 |
| R300 | 1.0 | 0.22 | 0.11 | — | 28 |

(*) The numerical suffix designates the maximum voltage design values, which are to be 600, 300, and 150 volts for suffixes 600, 300, and 150 respectively. Test voltage shall be 600, 240, or 120 volts. (†) For maximum ratings at 300 volts or less, the maximum break ratings are to be obtained by dividing the volt-ampere rating by the application voltage, but the current values are not to exceed the thermal continuous test current.

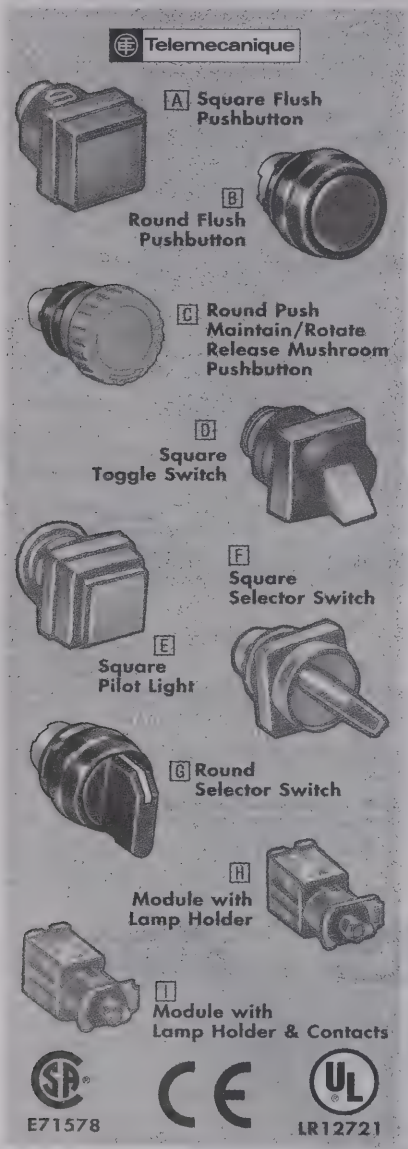
SQUARE D GROUPE SCHNEIDER
WR WHITE-RODGERS
ABS
Parker
BROAN

SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

GE Lighting
3M
Rubbermaid®
HUBBELL® Wiring Device-Kellems

# 16mm PLASTIC PUSHBUTTON OPERATORS AND CONTACT BLOCKS




## PUSHBUTTON OPERATORS

- **Rated for NEMA Types 1, 4/4X and 13 indoor, corrosion resistant, oil-, water-, and dusttight applications**
- **Uses mounting space of less than one square inch**
- **Pushbuttons mount easily into 16.2mm (5/8") diameter holes**
- **Use contact blocks (for non illuminated applications) or light modules (for illuminated applications) listed below**

## CONTACT BLOCKS

- **Quick connect (slip on .110") termination**
- **AC contact rating B150, 5A continuous (see chart on page 501)**
- **DC contact rating Q150, 5A continuous (see chart on page 501)**

**PUSHBUTTON SELECTION GUIDE ON PAGE 510**

## SELECTOR SWITCHES

### 2 Position Selector Switch

| Contact Block Guide | L | R |
|---|---|---|
| 1 NO (4B568) | 0 | 1 |
| 1 NC (4B567) | 1 | 0 |
| 1 NO and 1 NC (4B569) | 1 | 0 |
| | 0 | 1 |

### 3 Position Selector Switch

| Contact Block Guide | L | C | R |
|---|---|---|---|
| 2 NO (2FM69) | 1 | 0 | 0 |
| | 0 | 0 | 1 |
| 1 NO and 1 NC (4B569) | 0 | 1 | 1 |
| | 0 | 0 | 1 |

1 = Contact Closed 0 = Contact Open
Order Contact Blocks below

## RING NUT WRENCH

For use with all 16mm operators. Square D brand (Z201).

**No. 2ET68.** Shpg. wt. 0.1 lbs. List.....$8.22
Each .....$7.87

## PUSHBUTTON OPERATORS (PUSHBUTTON = OPERATOR + CONTACT BLOCK)

| Key | Description | Color | Use With Contact Block | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Square Flush Pushbutton | Red | 4B568 4B567 4B569 2FM69 | D5A2R | **4B553** | $7.70 | **$7.37** | 0.1 |
| | | Green | | D5A2G | **4B552** | 7.70 | **7.37** | 0.1 |
| | | Black | | D5A2S | **4B554** | 7.70 | **7.37** | 0.1 |
| | | Yellow | | D5A2Y | **4B555** | 7.70 | **7.37** | 0.1 |
| | | Blue | | D5A2B | **4B551** | 7.70 | **7.37** | 0.1 |
| B | Round Flush Pushbutton | Green | | D8A1G | **2EK70** | 7.70 | **7.37** | 0.1 |
| | | Red | | D8A1R | **2EK71** | 7.70 | **7.37** | 0.1 |
| | | Black | | D8A1S | **2EK72** | 7.70 | **7.37** | 0.1 |
| | | White | | D8A1W | **2EK73** | 7.70 | **7.37** | 0.1 |
| | | Yellow | | D8A1Y | **2EK74** | 7.70 | **7.37** | 0.1 |
| — | Square Mushroom | Red | | D5C1R | **4B556** | 19.77 | **18.92** | 0.1 |
| C | Round Push Maintain/ Rotate Release Mushroom | Red | | D8C1R | **2EK75** | 19.77 | **18.92** | 0.1 |
| D | Square Toggle Switch | Black/White | | D5E1W | **4B557** | 14.26 | **13.65** | 0.1 |

## PILOT LIGHT OPERATORS (PILOT LIGHT = OPERATOR + LIGHT MODULE)

| Keys | Description | Color | Use With Light Module | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| E | Square Pilot Light | Red | 4B570 | D5V2R | **4B564** | $4.37 | **$4.18** | 0.1 |
| | | Green | | D5V2G | **4B563** | 4.37 | **4.18** | 0.1 |
| | | White | | D5V2W | **4B565** | 4.37 | **4.18** | 0.1 |
| | | Yellow | | D5V2Y | **4B566** | 4.37 | **4.18** | 0.1 |
| | | Blue | | D5V2B | **4B562** | 4.37 | **4.18** | 0.1 |

## SELECTOR SWITCHES (SELECTOR SWITCH = OPERATOR + CONTACT BLOCK)

| Key | No. of Positions | Color / Type | Use With Contact Block | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| F | Square 2-Maintained Square 2-Maintained | Black Key | 4B568 4B567 4B569 | D5G2S D5L30 | **4B558 4B560** | $14.26 25.29 | **$13.65 24.20** | 0.1 0.1 |
| | Square 3-Maintained Square 3-Maintained | Black Key | | D5G3S D5L80 | **4B559 4B561** | 14.26 25.29 | **13.65 24.20** | 0.1 0.1 |
| G | Round 2-Maintained Round 2 Maintained | Black Key | | D8G2S D8L30 | **2EK76 2EK79** | 14.26 25.29 | **13.65 24.20** | 0.1 0.1 |

## CONTACT BLOCKS AND LIGHT MODULES

| Key | Description | Contacts NO | Contacts NC | Type | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| — | Contact Block (Slip on) termination | 1 | — | Momentary | DU10 | **4B568** | $5.51 | **$5.28** | 0.1 |
| | | — | 1 | Momentary | DU01 | **4B567** | 5.51 | **5.28** | 0.1 |
| | | 1 | 1 | Momentary | DU11 | **4B569** | 9.89 | **9.46** | 0.1 |
| | | 2 | — | Momentary | DU20 | **2FM69** | 9.89 | **9.46** | 0.1 |
| H | Module with Lamp Holder* (Slip on) termination | N/A | | — | DUF | **4B570** | 3.33 | **3.19** | 0.1 |
| I | Module with Lamp Holder* and contacts (Slip on) termination | 1 | 1 | Maintained | DUFR11 | **4B572** | 14.26 | **13.65** | 0.1 |
| | | 1 | 1 | Momentary | DUF11 | **4B571** | 13.22 | **12.65** | 0.1 |

(*) Bulbs must be ordered separately.

## 6, 12, AND 24 VOLT BULBS

- **For use with pilot light modules**
- **Priced each; sold only in pkgs. of 10**

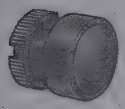
6 Volt Bulb. Square D brand (Z207).
**No. 1A951.** Shpg. wt. 0.1 lbs. List $2.18.
Each .....$2.09

12 Volt Bulb. Square D brand (Z207).
**No. 1A952.** Shpg. wt. 0.1 lbs. List $2.18.
Each .....$2.09

24 Volt Bulb. Square D brand (Z208).
**No. 2A035.** Shpg. wt. 0.1 lbs. List $2.18.
Each .....$2.09

# 22mm PLASTIC PUSHBUTTONS

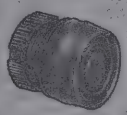
Telemecanique



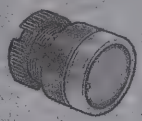
A Flush Head



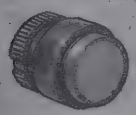
B Extended Head



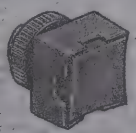
C Booted Head



D Flush Head



E Extended Head



F Flush Head



G Extended Head

- Black plastic "Double-Insulated"
- No notch mounting, 22mm (7/8" hole)
- Rated NEMA type 1, 2, 3, 4, 4X, 12, 13
- UL Listed. CSA Certified. Meets VDE, IEC standards, CE Mark
- Order contact blocks and light modules separately on page 505
- Order legend plates on page 509

E164353

LR44087

## ROUND NON-ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS
(COMPLETE PUSHBUTTON = OPERATOR + MOUNTING BASE + CONTACT BLOCK)

| Key | Description | Color | Use With Contact Blocks | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Flush Head | Black | 4B656*<br>4B657*<br>4B658*<br>4B659*<br>4B660*<br>4B696†<br>4B699† | ZA2 BA2 | **4B628** | $6.30 | **$5.97** | 0.1 |
| | | Green | | ZA2 BA3 | **4B629** | 6.30 | **5.97** | 0.1 |
| | | Red | | ZA2 BA4 | **4B630** | 6.30 | **5.97** | 0.1 |
| | | Blue | | ZA2 BA6 | **4B631** | 6.30 | **5.97** | 0.1 |
| B | Extended Head | Black | | ZA2 BL2 | **4B640** | 6.30 | **5.97** | 0.1 |
| | | Green | | ZA2 BL3 | **4B641** | 6.30 | **5.97** | 0.1 |
| | | Red | | ZA2 BL4 | **4B642** | 6.30 | **5.97** | 0.1 |
| C | Booted Head | Black | | ZA2 BP2 | **6B418** | 16.90 | **15.38** | 0.1 |
| | | Green | | ZA2 BP3 | **4B643** | 16.90 | **16.02** | 0.1 |
| | | Red | | ZA2 BP4 | **4B644** | 16.90 | **16.02** | 0.1 |
| — | Mushroom Head 30mm<br>Mushroom Head 40mm | Red<br>Red | | ZA2 BC44<br>ZA2 BC4 | **4B633**<br>**4B632** | 14.20<br>14.20 | **13.46**<br>**13.46** | 0.1<br>0.1 |
| | Mushroom Head 30mm Turn to release | Red | | ZA2 BS44 | **4B645** | 38.00 | **36.05** | 0.1 |
| | Mushroom Head 40mm Turn to release | Red | | ZA2 BS54 | **4B646** | 38.00 | **36.05** | 0.1 |
| | Mushroom Head 40mm Push/Pull | Red | | ZA2BT4 | **2EW90** | 19.00 | **18.01** | 0.1 |
| | Mushroom Head 60mm Push/Pull | Red | | ZA2BX4 | **3KL52** | 19.00 | **18.01** | 0.1 |

## ROUND ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS
(COMPLETE ILLUMINATED PUSHBUTTON = OPERATOR + LIGHT MODULE)

| Key | Description | Color | Use With Light Modules | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| D | Flush Head | White | 4B737 4B742<br>4B738 4B736<br>4B739 2A259<br>4B740 2A255<br>4B741 | ZA2 BW31 | **4B653** | $9.00 | **$8.53** | 0.1 |
| | | Green | | ZA2 BW33 | **4B654** | 9.00 | **8.53** | 0.1 |
| | | Red | | ZA2 BW34 | **4B655** | 9.00 | **8.53** | 0.1 |
| | | Amber | | ZA2 BW35 | **6B419** | 9.00 | **8.19** | 0.1 |
| E | Extended Head | White | | ZA2 BW11 | **4B650** | 6.30 | **5.97** | 0.1 |
| | | Green | | ZA2 BW13 | **4B651** | 6.30 | **5.97** | 0.1 |
| | | Red | | ZA2 BW14 | **4B652** | 6.30 | **5.97** | 0.1 |

## SQUARE NON-ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS
(COMPLETE PUSHBUTTON = OPERATOR + MOUNTING BASE + CONTACT BLOCK)

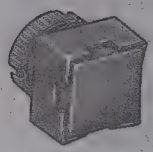
| Key | Description | Color | Use With Contact Block | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| F | Flush Head | Black | 4B656*<br>4B657*<br>4B658*<br>4B659*<br>4B660*<br>4B696†<br>4B699† | ZA2 CA2 | **4B667** | $13.00 | **$12.32** | 0.1 |
| | | Green | | ZA2 CA3 | **5B782** | 13.00 | **12.32** | 0.1 |
| | | Red | | ZA2 CA4 | **4B668** | 13.00 | **12.32** | 0.1 |
| | | Yellow | | ZA2 CA5 | **4B669** | 13.00 | **12.32** | 0.1 |
| G | Extended Head | Black | | ZA2 CL2 | **1D697** | 13.00 | **12.32** | 0.2 |
| | | Green | | ZA2 CL3 | **1D694** | 13.00 | **12.32** | 0.2 |
| | | Red | | ZA2 CL4 | **1D692** | 13.00 | **12.32** | 0.2 |
| | | Yellow | | ZA2 CL5 | **1D690** | 13.00 | **12.32** | 9.0 |

(*) Contact block with mounting base.
(†) Contact block only, order mounting base No. 2A557 separately.

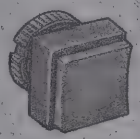
PUSHBUTTON SELECTION GUIDE ON PAGE 510

# 22mm PLASTIC PUSHBUTTON OPERATORS, PILOT LIGHTS, SELECTOR SWITCHES

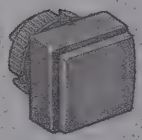
Telemecanique



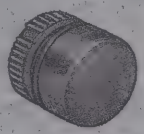
A Flush Pushbutton Head



B Extended Pushbutton Head



C No. 4B670



D No. 2A042



E Standard Knob



F Extended Knob

- Black plastic "Double-Insulated"
- No notch mounting, 22mm (7/8" hole)
- Rated NEMA Type 1, 2, 3, 4, 4X, 12, 13
- UL Listed, CSA Certified. Meets VDE, IEC standards, CE Mark
- Order contact blocks and light modules separately on page 505
- Order legend plates on page 509

PUSHBUTTON SELECTION GUIDE ON PAGE 510

E164353 LR44087

## SELECTOR SWITCHES

### 2 Position Selector Switch

| Contact Block Guide | L | R |
|---|---|---|
| 1 NO (left or right) | 0 | 1 |
| 1 NC (left or right) | 1 | 0 |
| 1 NO and 1 NC | 0 | 1 |
| | 1 | 0 |

### 3 Position Selector Switch

| Contact Block Guide | L | C | R |
|---|---|---|---|
| 1 NO (left) | 1 | 0 | 0 |
| 1 NO (right) | 0 | 0 | 1 |
| 1 NC (right) | 1 | 1 | 0 |
| 1 NC (left) | 0 | 1 | 1 |
| 2 NO in parallel (side-by-side) | 1 | 0 | 1 |
| 2 NC in series (side-by-side) | 0 | 1 | 0 |

1= Contact Closed 0=Contact Open
View from front of panel
Order contact blocks on page 505

## SQUARE ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS
## (COMPLETE ILLUMINATED PUSHBUTTON = OPERATOR + LIGHT MODULE)

| Key | Description | Color | Use With Light Modules | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Flush Pushbutton Head | Green<br>Red<br>Yellow | 4B737 4B741<br>4B738 4B736<br>4B739 2A259 | ZA2 CW33<br>ZA2 CW34<br>ZA2 CW35 | **4B676**<br>**4B677**<br>**4B678** | $13.00<br>13.00<br>13.00 | **$12.32**<br>**12.32**<br>**12.32** | 0.1<br>0.1<br>0.1 |
| B | Extended Pushbutton Head | Green<br>Red<br>Yellow | 4B740 2A555<br>4B742 | ZA2 CW13<br>ZA2 CW14<br>ZA2 CW15 | **4B673**<br>**4B674**<br>**4B675** | 13.00<br>13.00<br>13.00 | **12.32**<br>**12.32**<br>**12.32** | 0.1<br>0.1<br>0.1 |

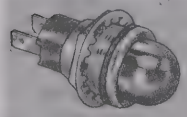
## SQUARE AND ROUND PILOT LIGHT OPERATORS
## (COMPLETE PILOT LIGHT = OPERATOR + LIGHT MODULE)

| Key | Description | Color | Use With Light Modules | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| C | Square Pilot Lights | Green<br>Red<br>Amber | 2A779<br>3A695<br>2EW93<br>2A767 | ZA2 CV03<br>ZA2 CV04<br>ZA2 CV05 | **4B670**<br>**4B671**<br>**4B672** | $13.00<br>13.00<br>13.00 | **$12.32**<br>**12.32**<br>**12.32** | 0.1<br>0.1<br>0.1 |
| D | Round Pilot Lights | White<br>Green<br>Red<br>Amber | | ZA2 BV01<br>ZA2 BV03<br>ZA2 BV04<br>ZA2 BV05 | **3KL49**<br>**2A042**<br>**2A075**<br>**2A077** | 3.70<br>3.70<br>3.70<br>3.70 | **3.51**<br>**3.51**<br>**3.51**<br>**3.51** | 0.4<br>0.1<br>0.1<br>0.1 |
| — | Round Pilot Light with special lens for neon and red lamps | Red | | ZA2 BV043 | **3KL50** | 3.70 | **3.51** | 0.1 |

## PLASTIC SELECTOR SWITCH OPERATORS
## (COMPLETE SELECTOR SWITCH=OPERATOR+MOUNTING BASE+CONTACT BLOCK)

| Key | Description | No. of Positions | Use With Contact Blocks | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| E | Standard Knob | 2-Maintained<br>3-Maintained<br>3-Spring return to Center from LT and RT | 4B656* 4B696†<br>4B657* 4B699†<br>4B658* | ZA2 BD2<br>ZA2 BD3<br>ZA2 BD5 | **4B634**<br>**4B635**<br>**4B636** | $11.60<br>11.60<br>14.20 | **$11.00**<br>**11.00**<br>**13.46** | 0.1<br>0.1<br>0.1 |
| F | Extended Knob | 2-Maintained<br>3-Maintained<br>3-Spring return to Center from LT and RT | 4B659*<br>4B660* | ZA2 BJ2<br>ZA2 BJ3<br>ZA2 BJ5 | **4B637**<br>**4B638**<br>**4B639** | 11.60<br>11.60<br>14.20 | **11.00**<br>**11.00**<br>**13.46** | 0.1<br>0.1<br>0.1 |

(*) Contact block with base. (†) Contact block only; order mounting base No. 2A557 separately, see page 505.



No. 2EP97

- Replacement Lamps 24V No. 1E861 and 120V No. 2EJ79

E42259 LR25490

## INSTRUMENT TYPE INCANDESCENT PILOT LIGHTS

- NEMA 13 •UL Listed, CSA Certified •3/4" Diameter Mounting Hole

| AC/DC Voltage | Average Current (Amps) | Color | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **120†** | .025 | Red | OR120 | **2ER01** | $13.22 | **$12.65** | 0.1 |
| **120†** | .025 | Green | OG120 | **2EP97** | 13.22 | **12.65** | 0.2 |
| **120†** | .025 | Yellow | OY120 | **2ER05** | 13.22 | **12.65** | 0.1 |
| **24** | .073 | Red | OR24 | **2ER02** | 13.22 | **12.65** | 0.1 |
| **24** | .073 | Green | OG24 | **2EP98** | 13.22 | **12.65** | 0.1 |
| **24** | .073 | Yellow | OY24 | **2ER06** | 13.22 | **12.65** | 0.1 |

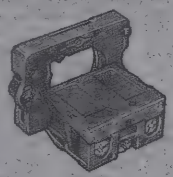
(†) This product is not recommended for continuous use at 120V.



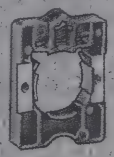
*Relay it, suppress it, enclose it — The leading brands are all right here.*

Telemecanique

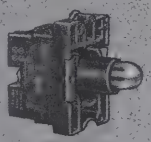
E164353 LR44087



No. 4B656



No. 2A557



No. 2A779

## CONTACT BLOCKS

- Use with plastic pushbuttons; see pages 503 and 504
- Saddle clamp terminals
- Rated NEMA A600-Q600 (see chart on page 501)
- NO and NC clearly marked
- Quick connect blocks for commercially available female quick slide connectors (1 x 0.250" or 2 x 0.110")

| Description | Contact NO | Contact NC | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 Contact Block & mounting collar | 1 | — | ZA2 BZ101 | 4B656 | $10.60 | $10.05 | 0.1 |
| | — | 1 | ZA2 BZ102 | 4B657 | 10.60 | 10.05 | 0.1 |
| 2 Contact Blocks & mounting collar | 2 | — | ZA2 BZ103 | 4B658 | 18.50 | 17.54 | 0.1 |
| | — | 2 | ZA2 BZ104 | 4B659 | 18.50 | 17.54 | 0.1 |
| | 1 | 1 | ZA2 BZ105 | 4B660 | 18.50 | 17.54 | 0.1 |
| **ADDITIONAL ADD-ON CONTACT BLOCKS—FOR NON-ILLUMINATED OPERATORS** | | | | | | | |
| Additional Add-on Blocks | 1 | — | ZB2 BE101 | 4B696 | 7.90 | 7.49 | 0.1 |
| Additional Add-on Blocks | — | 1 | ZB2 BE102 | 4B699 | 7.90 | 7.49 | 0.1 |
| Mounting Collar for contact blocks | — | — | ZA2 BZ009 | 2A557 | 4.00 | 3.79 | 0.1 |

## LIGHT MODULE ASSEMBLIES

- 10 amp, 600VAC
- Saddle Clamp Terminals
- Rated NEMA A600-Q600 (see chart on page 501

### LIGHT MODULES WITH CONTACT BLOCKS FOR ROUND AND SQUARE ILLUMINATED PUSHBUTTONS

| No. of Contact Blocks | Voltage | Contact NO | Contact NC | Telemecanique Model ZA2... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Direct Supply (Bulb Included)** | | | | | | | | |
| 1 | 120VAC | 1 | — | BW061-120V | 4B737 | $31.70 | $30.10 | 0.1 |
| | 24 | 1 | — | BW061-24V | 4B738 | 31.70 | 30.10 | 0.1 |
| | 120 | — | 1 | BW062-120V | 4B739 | 31.70 | 30.10 | 0.1 |
| | 24 | — | 1 | BW062-24V | 4B740 | 31.70 | 30.10 | 0.2 |
| 2 | 120 | 1 | 1 | BW065-120V | 4B741 | 39.60 | 37.55 | 0.2 |
| | 24 | 1 | 1 | BW065-24V | 4B742 | 39.60 | 37.55 | 0.1 |
| **Transformer Type (Bulb Included)** | | | | | | | | |
| 1 | 120 | 1 | — | BW031 | 4B736 | 55.00 | 52.15 | 0.2 |
| 2 | 120 | 2 | — | BW033 | 2A259 | 63.00 | 59.75 | 0.3 |
| 2 | 120 | 1 | 1 | BW035 | 2A555 | 63.00 | 59.75 | 0.1 |

### LIGHT MODULES FOR ROUND AND SQUARE PILOT LIGHTS

| Description | Voltage | Telemecanique Model ZA2... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Direct Supply (includes Bulb) | 120VAC | BV6-120V | 2A779 | $23.70 | $22.47 | 0.1 |
| Direct Supply (includes Bulb) | 24 | BV6-24V | 3A695 | 23.70 | 22.47 | 0.1 |
| Direct Supply (w/o Bulb)* | — | BV6 | 2EW93 | 18.50 | 17.54 | 0.1 |
| Transformer Type | 120 | BV3 | 2A767 | 47.50 | 45.05 | 0.1 |

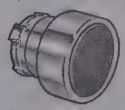
(*) See page 509 for bulbs.

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

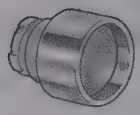
Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# 22mm CHROME PUSHBUTTON CONTROLS

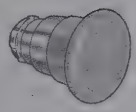
Telemecanique



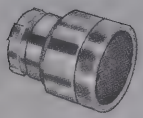
A No. 4B681 Flush Head



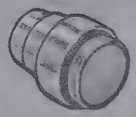
B No. 4B684 Guarded Head



C No. 4B719 Mushroom Head



D No. 4B750 Flush Head



E No. 4B745 Extended Head

E164353

LR44087

## ROUND NON-ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS

- Chrome die-cast zinc construction
- No notch mounting, 22mm (7/8" hole)
- UL Listed, CSA Certified, meets VDE, IEC standards
- Rated NEMA type 1, 2, 3, 4, 4X, 12, 13
- Order contact blocks separately on page 508
- Order legend plates on page 509

## ROUND ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS

- No notch mounting
- UL Listed, CSA Certified, meets VDE, IEC standards
- 22mm (7/8") mounting hole
- Rated NEMA type 1, 2, 3, 4, 4X, 12, 13
- Order light modules separately on page 508

## ROUND NON-ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS (COMPLETE PUSHBUTTON = OPERATOR + MOUNTING BASE + CONTACT BLOCK)

| Key | Description | Color | Use With Contact Blocks | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Flush Head | White | | ZB2 BA1 | 4B679 | $6.30 | $5.97 | 0.1 |
| | | Black | | ZB2 BA2 | 4B681 | 6.30 | 5.97 | 0.1 |
| | | Green | | ZB2 BA3 | 4B683 | 6.30 | 5.97 | 0.1 |
| | | Red | | ZB2 BA4 | 4B685 | 6.30 | 5.97 | 0.1 |
| | | Yellow | | ZB2 BA5 | 4B687 | 6.30 | 5.97 | 0.1 |
| | | Blue | | ZB2 BA6 | 4B689 | 6.30 | 5.97 | 0.1 |
| B | Guarded Head | White | | ZB2 BA16 | 4B680 | 16.90 | 16.02 | 0.1 |
| | | Black | | ZB2 BA26 | 4B682 | 16.90 | 16.02 | 0.1 |
| | | Green | | ZB2 BA36 | 4B684 | 16.90 | 16.02 | 0.1 |
| | | Red | | ZB2 BA46 | 4B686 | 16.90 | 16.02 | 0.1 |
| | | Yellow | | ZB2 BA56 | 4B688 | 16.90 | 16.02 | 0.1 |
| | | Blue | | ZB2 BA66 | 4B690 | 16.90 | 16.02 | 0.1 |
| — | Extended Head | White | 4B763* | ZB2 BL1 | 4B708 | 6.30 | 5.97 | 0.1 |
| | | Black | 4B766* | ZB2 BL2 | 4B709 | 6.30 | 5.97 | 0.1 |
| | | Green | 4B769* | ZB2 BL3 | 4B710 | 6.30 | 5.97 | 0.1 |
| | | Red | 4B770* | ZB2 BL4 | 4B711 | 6.30 | 5.97 | 0.1 |
| | | Yellow | 4B771* | ZB2 BL5 | 4B712 | 6.30 | 5.97 | 0.2 |
| | | Blue | 4B696 | ZB2 BL6 | 4B713 | 6.30 | 5.97 | 0.1 |
| | | Red-Marked Stop | 4B699 | ZB2 BL434 | 6B414 | 9.00 | 8.19 | 0.1 |
| — | Booted Head | Black | 2EX71 | ZB2 BP2 | 4B714 | 16.90 | 16.02 | 0.1 |
| | | Green | 2EX72 | ZB2 BP3 | 4B715 | 16.90 | 16.02 | 0.1 |
| | | Red | 2FG71 | ZB2 BP4 | 4B716 | 16.90 | 16.02 | 0.1 |
| C | Mushroom Head Momentary 40mm | Black | 4B698*† | ZB2 BC2 | 4B691 | 14.20 | 13.46 | 0.1 |
| | | Red | 4B701*† | ZB2 BC4 | 4B692 | 14.20 | 13.46 | 0.1 |
| | Mushroom Head Momentary 60mm | Black | 4B765† | ZB2 BR2 | 4B717 | 16.90 | 16.02 | 0.1 |
| | | Red | 4B768† | ZB2 BR4 | 4B718 | 16.90 | 16.02 | 0.1 |
| | Mushroom Head turn to release 40mm | Red | 4B697‡ | ZB2 BS54 | 4B719 | 38.00 | 36.05 | 0.1 |
| | Mushroom Head turn to release 60mm | Red | 4B700‡ | ZB2 BS64 | 4B720 | 43.30 | 41.05 | 0.8 |
| | Mushroom Head push-pull 40mm | Black | 4B764‡ | ZB2 BT2 | 4B721 | 19.50 | 18.49 | 0.1 |
| | | Red | 4B767‡ | ZB2 BT4 | 4B722 | 19.50 | 18.49 | 0.2 |
| | Mushroom Head push-pull 40mm | Red-Marked "Emergency Stop" | | ZB2BT43 | 3TZ21 | 26.40 | 24.02 | 0.2 |
| | Mushroom Head push-pull 60mm | Black | | ZB2 BX2 | 4B755 | 22.20 | 21.05 | 0.2 |
| | | Red | | ZB2 BX4 | 4B756 | 22.20 | 21.05 | 0.2 |
| — | Two Button Momentary, One flush, one extended head marked "stop start" | Green, Red | | ZB2 BL9834 | 2FF13 | 20.90 | 19.81 | 0.1 |

(*) Contact Block with mounting base. (†) Low Voltage type. (‡) Quick connect type.

## ROUND ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS (COMPLETE PUSHBUTTON = OPERATOR + LIGHT MODULE)

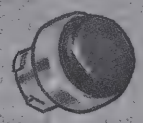
| Key | Description | Color | Use With Contact Blocks/ Light Modules | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| D | Flush Head | White | | ZB2 BW31 | 4B748 | $9.00 | $8.53 | 0.1 |
| | | Green | | ZB2 BW33 | 4B749 | 9.00 | 8.53 | 0.1 |
| | | Red | | ZB2 BW34 | 4B750 | 9.00 | 8.53 | 0.1 |
| | | Amber | 2FF65* | ZB2 BW35 | 4B751 | 9.00 | 8.53 | 0.1 |
| | | Blue | 2FF64* | ZB2 BW36 | 4B752 | 9.00 | 8.53 | 0.1 |
| | | Clear | 2FF63 2FF68* | ZB2 BW37 | 4B753 | 9.00 | 8.53 | 0.1 |
| | | | 2FF66 2FF67* | | | | | |
| E | Extended Head | White | 2FF69 2FF74* | ZB2 BW11 | 1D688 | 6.30 | 5.97 | 0.1 |
| | | Green | 2FF71 2FF73* | ZB2 BW13 | 4B743 | 6.30 | 5.97 | 0.1 |
| | | Red | 2FF72 4B647* | ZB2 BW14 | 4B744 | 6.30 | 5.97 | 0.1 |
| | | Amber | 5B784* | ZB2 BW15 | 4B745 | 6.30 | 5.97 | 0.1 |
| | | Blue | 5B785* | ZB2 BW16 | 4B746 | 6.30 | 5.97 | 0.1 |
| | | Clear | | ZB2 BW17 | 4B747 | 6.30 | 5.97 | 0.1 |
| — | 40mm Mushroom Head 2 position maintained | Red | | ZB2 BW64 | 4B754 | 22.20 | 21.05 | 0.1 |

(*) Includes bulb.

FOR MOUNTING BASE WITH CONTACT BLOCKS OR LIGHT MODULE WITH CONTACT BLOCKS SEE PAGE 508

# 22mm CHROME PILOT LIGHTS AND SELECTOR SWITCHES

Telemecanique



A Push to Test



B Standard Lever



C Extended Lever



D Keyed

UL E39281

CSA LR44087

CE

- Chrome die-cast zinc construction
- No notch mounting, 22mm (7/8" hole)
- Rated NEMA Type 1, 2, 3, 4, 4X, 12, 13
- UL Listed, CSA Certified, meets VDE, IEC standards, CE Mark
- Order contact blocks separately on page 508
- Order legend plates on page 509

## SELECTOR SWITCHES

### 2 Position Selector Switch

| Contact Block Guide | L | R |
|---|---|---|
| 1 NO (left or right) | 0 | 1 |
| 1 NC (left or right) | 1 | 0 |
| 1 NO and 1 NC | 0 | 1 |
| | 1 | 0 |

### 3 Position Selector Switch

| Contact Block Guide | L | C | R |
|---|---|---|---|
| 1 NO (left) | 1 | 0 | 0 |
| 1 NO (right) | 0 | 0 | 1 |
| 1 NC (right) | 1 | 1 | 0 |
| 1 NC (left) | 0 | 1 | 1 |
| 2 NO in parallel (side-by-side) | 1 | 0 | 1 |
| 2 NC in series (side-by-side) | 0 | 1 | 0 |

1 = Contact Closed 0 = Contact Open
View from front of panel
Order Contact Blocks on page 508

## ROUND PILOT LIGHT OPERATORS
## (COMPLETE PILOT LIGHT = OPERATOR + LIGHT MODULE)

| Key | Description | Color | Use With Light Module | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| — | Standard | Green | 4B733 | ZB2 BV03 | **4B723** | $3.70 | **$3.51** | 0.1 |
| | | Red | 4B734 | ZB2 BV04 | **4B725** | 3.70 | **3.51** | 0.1 |
| | | Amber | 4B735 | ZB2 BV05 | **4B727** | 3.70 | **3.51** | 0.1 |
| | | Blue | 2FF50 | ZB2 BV06 | **4B729** | 3.70 | **3.51** | 0.1 |
| | | Clear | | ZB2 BV07 | **4B731** | 3.70 | **3.51** | 0.1 |
| A | Push to Test† | Green | 2FF62* 2FF65+ 2FF63* 2FF64+ 2FF66* 2FF68+ | ZB2 BV031 | **4B724** | 6.30 | **5.97** | 0.1 |
| | | Red | 2FF69* 2FF67+ | ZB2 BV041 | **4B726** | 6.30 | **5.97** | 0.1 |
| | | Amber | 2FF71* 2FF74+ | ZB2 BV051 | **4B728** | 6.30 | **5.97** | 0.1 |
| | | Blue | 2FF72* 2FF73+ | ZB2 BV061 | **4B730** | 6.30 | **5.97** | 0.1 |
| | | Clear | 4B647+ 5B784+ 5B785+ | ZB2 BV071 | **4B732** | 6.30 | **5.97** | 0.1 |

(*) Bulb not included. (+) Bulb included. (†) Use light modules on page 508

## LIGHT MODULES WITH BULBS

| Description | Voltage | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Transformer Type** | 120V | ZB2 BV3 | **4B733** | $47.50 | **$45.05** | 0.3 |
| **Direct Supply** | 120V | ZB2 BV6-120V | **4B734** | 23.70 | **22.47** | 0.1 |
| **Direct Supply** | 24V | ZB2 BV6-24V | **4B735** | 23.70 | **22.47** | 0.1 |
| **Base Direct (w/o bulb)** | — | ZB2 BV6 | **2FF50**† | 18.50 | **17.54** | 0.1 |

(†) Order bulbs on page 508.

## SELECTOR SWITCH OPERATORS
## (COMPLETE SWITCH = OPERATOR + MOUNTING BASE + CONTACT BLOCK)

| Key | Type | No. of Positions | Color | Use With Contact Blocks | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| B | Standard Lever | 2-Maintained | Black | 4B763 4B766 4B769 4B770 4B771 4B696 4B699 2EX71 2EX72 | ZB2 BD2 | **4B693** | $11.60 | **$11.00** | 0.1 |
| | | 3-Maintained | Black | | ZB2 BD3 | **4B694** | 11.60 | **11.00** | 0.1 |
| | | 3-Spring return to Center from LT and RT | Black | | ZB2 BD5 | **4B695** | 14.20 | **13.46** | 0.1 |
| | | 3-Spring Return from Right to Center | Black | | ZB2 BD8 | **2EX67** | 14.20 | **13.46** | 0.1 |
| C | Extended Lever | 2-Maintained | Black | | ZB2 BJ2 | **4B705** | 11.60 | **11.00** | 0.1 |
| | | 3-Maintained | Black | | ZB2 BJ3 | **4B706** | 11.60 | **11.00** | 0.1 |
| | | 3-Spring return to Center from LT and RT | Black | | ZB2 BJ5 | **4B707** | 14.20 | **13.46** | 0.1 |
| D | Keyed | 2-Maintained, removal from LT | Black/Chrome | | ZB2 BG2 | **4B702** | 43.30 | **41.05** | 0.2 |
| | | 2-Maintained, removal from LT or RT | | | ZB2 BG4 | **4B704** | 43.30 | **41.05** | 0.2 |
| | | 3-Maintained, removal from Center | Black/Chrome | | ZB2 BG3 | **4B703** | 43.30 | **41.05** | 0.1 |
| | | 3-Maintained, removal from All Positions | Black/Chrome | | ZB2 BG0 | **2EX73** | 43.30 | **41.05** | 0.2 |

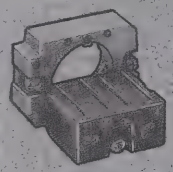
PUSHBUTTON SELECTION GUIDE ON PAGE 510

## REPLACEMENT KEY FOR ALL 22mm KEYED OPERATORS

o. 2EV17. Telemecanique brand (Q99900901).
ipg. wt. 0.1 lbs. List .....$2.60.
ach .....$2.46

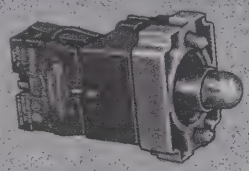
# 22mm CONTACT BLOCKS/LIGHT MODULES FOR CHROME PUSHBUTTONS

Telemecanique



No. 4B763

Standard Contact Block with Mounting Base



Light Module with Contact Block

E164353 LR44087

- Use with chrome pushbuttons, pages 506 & 507
- Rated NEMA A600-Q600 (See Chart on pg. 501)
- Saddle clamp terminals
- NO and NC clearly marked
- Quick connect blocks for commercially available female quick slide connectors (1 x 0.250" or 2 x 0.110")

## CONTACT BLOCKS FOR NON-ILLUMINATED OPERATORS

| No. of Contact Blocks | Contacts NO | Contacts NC | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 Contact Block w/base | 1 | — | ZB2 BZ101 | 4B763 | $10.60 | $10.05 | 0.1 |
| 1 Contact Block w/base | — | 1 | ZB2 BZ102 | 4B766 | 10.60 | 10.05 | 0.1 |
| 2 Contact Block w/base | 2 | — | ZB2 BZ103 | 4B769 | 18.50 | 17.54 | 0.2 |
| 2 Contact Block w/base | — | 2 | ZB2 BZ104 | 4B770 | 18.50 | 17.54 | 0.1 |
| 2 Contact Block w/base | 1 | 1 | ZB2 BZ105 | 4B771 | 18.50 | 17.54 | 0.2 |
| Additional Add-on Block w/o Base | 1 | — | ZB2 BE101 | 4B696 | 7.90 | 7.49 | 0.1 |
| Additional Add-on Block w/o Base | — | 1 | ZB2 BE102 | 4B699 | 7.90 | 7.49 | 0.1 |
| Add-on Block Early Closing w/o Base | 1 | — | ZB2 BE201 | 2EX71 | 10.60 | 10.05 | 0.1 |
| Add-on Block Late Open w/o Base | — | 1 | ZB2 BE202 | 2EX72 | 10.60 | 10.05 | 0.1 |
| Push-On/Push-Off Mechanism | — | — | ZB2 BZ21 | 2FG71 | 21.10 | 20.00 | 0.1 |
| Base Only for mounting add-on contact blocks | | | ZB2 BZ009 | 1D686 | 2.60 | 2.46 | 0.1 |

## CONTACT BLOCKS AND LIGHT MODULES (W/O BULB) FOR ILLUMINATED OPERATORS

See page 509 for bulbs.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No Contact Block | — | — | ZB2 BW060 | 2FF62 | 18.50 | 17.54 | 0.1 |
| 1 Contact Block | 1 | — | ZB2 BW061 | 2FF63 | 26.40 | 25.05 | 0.1 |
| 1 Contact Block | — | 1 | ZB2 BW062 | 2FF66 | 26.40 | 25.05 | 0.2 |
| 2 Contact Block | 2 | — | ZB2 BW063 | 2FF69 | 34.30 | 32.55 | 0.2 |
| 2 Contact Block | — | 2 | ZB2 BW064 | 2FF71 | 34.30 | 32.55 | 0.2 |
| 2 Contact Block | 1 | 1 | ZB2 BW065 | 2FF72 | 34.30 | 32.55 | 0.2 |

## CONTACT BLOCK AND LIGHT MODULE (BULB INCLUDED) FOR ILLUMINATED OPERATORS

| No. of Contact Blocks | Voltage | Contacts NO | Contacts NC | Telemecanique Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **Direct supply (bulb included**)** | | | | | | | | |
| 1 | 24 | 1 | — | ZB2 BW061-24V | 2FF65 | $31.70 | $30.10 | 0.2 |
| 1 | 120 | 1 | — | ZB2 BW061-120V | 2FF64 | 31.70 | 30.10 | 0.2 |
| 1 | 24 | — | 1 | ZB2 BW062-24V | 2FF68 | 31.70 | 30.10 | 0.2 |
| 1 | 120 | — | 1 | ZB2 BW062-120V | 2FF67 | 31.70 | 30.10 | 0.2 |
| 2 | 24 | 1 | 1 | ZB2 BW065-24V | 2FF74 | 39.60 | 37.55 | 0.2 |
| 2 | 120 | 1 | 1 | ZB2 BW065-120V | 2FF73 | 39.60 | 37.55 | 0.2 |
| **Transformer type (bulb included**) 120V Primary, 6V Secondary** | | | | | | | | |
| 1 | — | 1 | — | ZB2 BW031 | 4B647 | 55.00 | 52.15 | 0.2 |
| 2 | — | 2 | — | ZB2 BW033 | 5B784 | 63.00 | 59.75 | 0.3 |
| 2 | — | 1 | 1 | ZB2 BW035 | 5B785 | 63.00 | 59.75 | 0.3 |

(**) See page 509 for replacements.

## LOW VOLTAGE AND QUICK CONNECT CONTACT BLOCKS

| Type | Contacts NO | Contacts NC | Telemecanique Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **LOW VOLTAGE** | | | | | | | |
| Without base | 1 | — | ZB2 BE1016 | 4B698*† | $15.80 | $14.98 | 0.1 |
| Without base | — | 1 | ZB2 BE1026 | 4B701*† | 15.80 | 14.98 | 0.1 |
| With base | 1 | — | ZB2 BZ1016 | 4B765* | 18.50 | 17.54 | 0.1 |
| With base | — | 1 | ZB2 BZ1026 | 4B768* | 18.50 | 17.54 | 0.1 |
| **QUICK CONNECT** | | | | | | | |
| Without base | 1 | — | ZB2 BE1013 | 4B697 | 7.90 | 7.49 | 0.1 |
| Without base | — | 1 | ZB2 BE1023 | 4B700 | 7.90 | 7.49 | 0.1 |
| With base | 1 | — | ZB2 BZ1013 | 4B764 | 10.60 | 10.05 | 0.1 |
| With base | — | 1 | ZB2 BZ1023 | 4B767 | 10.60 | 10.05 | 0.1 |

(*) Low Voltage blocks: Gold plated contacts, 5V to 24V/0.1 mA, saddle clamp terminals. (†) No UL or CSA rating.


## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust.
More than 900 national brands are listed in the Brand Index at the back of this catalog.

GE Lighting · HUBBELL Wiring Device-Kellems · STANLEY · Rubbermaid · BRADY

# 22mm PUSHBUTTON ACCESSORIES CHROME OR PLASTIC

Telemecanique

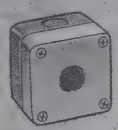



Legend Plate Carrier

## 30mm X 40mm NAMEPLATES

- STANDARD for use with all 22mm pushbutton, pilot light, and illuminated operators; chrome or plastic
- TWO & THREE Position for use with all selector, key and illuminated selector switches
- Dimensions: 1 3/16 x 1 37/64" (30mm x 40mm)

Telemecanique



Plastic Enclosure

## PLASTIC ENCLOSURES

- NEMA 1, 2, 3, 4, and 4X for indoor and outdoor use 4 to 8 cable entries; two knockouts in base
- Use with 22mm plastic pushbuttons; see pages 503 - 504
- Order contact blocks below—rated NEMA A600-Q600; see chart on page 501

## 30mm x 40mm NAMEPLATES

| Text | Color | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **STANDARD** | | | | | | |
| **Start** | Black/White Letters | ZB2 BY2303 | **4B758** | $1.60 | **$1.52** | 0.1 |
| **Stop** | Red/White Letters | ZB2 BY2304 | **4B759** | 1.60 | **1.52** | 0.1 |
| **Emergency Stop** | Red/White Letters | ZB2 BY2330 | **4B760** | 1.60 | **1.52** | 0.1 |
| **Forward** | Black/White Letters | ZB2 BY2305 | **2FG30** | 1.60 | **1.52** | 0.1 |
| **Reverse** | Black/White Letters | ZB2 BY2306 | **2FG31** | 1.60 | **1.52** | 0.1 |
| **Up** | Black/White Letters | ZB2 BY2307 | **2FG32** | 1.60 | **1.52** | 0.1 |
| **Down** | Black/White Letters | ZB2 BY2308 | **2FG33** | 1.60 | **1.52** | 0.1 |
| **On** | Black/White Letters | ZB2 BY2311 | **2FG36** | 1.60 | **1.52** | 0.1 |
| **Off** | Black/White Letters | ZB2 BY2312 | **2FG37** | 1.60 | **1.52** | 0.1 |
| **Reset** | Red/White Letters | ZB2 BY2323 | **2FG41** | 1.60 | **1.52** | 0.1 |
| **Emergency Stop*** | Yellow/Black Letters | ZB2 BY8330 | **2FG68** | 1.60 | **1.52** | 0.1 |
| **Blank** | Yellow/White Letters | ZB2 BY4101 | **2FP16** | 1.60 | **1.52** | 0.1 |
| **TWO & THREE POSITION** | | | | | | |
| **Off/On** | Black/White Letters | ZB2 BY2367 | **4B761** | 1.60 | **1.52** | 0.1 |
| **Hand Off Auto** | Black/White Letters | ZB2 BY2387 | **4B762** | 1.60 | **1.52** | 0.1 |
| **Up-O-Down** | Black/White Letters | ZB2 BY2389 | **2FG67** | 1.60 | **1.52** | 0.1 |

(*) For use with 40 & 60mm mushroom head 40mm in diameter.

## 30mm x 40mm LEGEND PLATE CARRIERS

| | | | | | | |
|---|---|---|---|---|---|---|
| **Auto-O-Hand** | Black/White Letters | ZA2 BZ32385 | **4B666** | $1.60 | **$1.52** | 0.1 |
| **Off-On** | Black/White Letters | ZA2 BZ32367 | **4B665** | 1.60 | **1.52** | 0.1 |
| **Emerg. Stop** | Red/White Letters | ZA2 BZ32330 | **4B664** | 1.60 | **1.52** | 0.1 |
| **Start** | Black/White Letters | ZA2 BZ32303 | **4B662** | 1.60 | **1.52** | 0.1 |
| **Stop** | Red/White Letters | ZA2 BZ32304 | **4B663** | 1.60 | **1.52** | 0.1 |
| **Blank** | Black or Red/White | ZA2 BZ32101 | **4B661** | 1.60 | **1.52** | 0.1 |
| **Blank** | Black or Red 30 x 50mm | ZA2 BZ33101 | **2EX24** | 1.60 | **1.52** | 0.1 |
| **Blank** | Red 18 x 27mm | ZA2 BY5101 | **2FN83** | 0.74 | **0.70** | 0.1 |
| **Carrier Only** | 30 x 50mm | ZA2 BZ33 | **2EX23** | 0.84 | **0.80** | 0.1 |

## CLOSING PLATES (Used to fill 22mm hole)

| Type | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Black Plastic** | ZB2 SZ3 | **2FG77** | $5.30 | **$5.02** | 0.1 |
| **Gray Plastic** | ZB2 SZ4 | **2FG78** | 5.30 | **5.02** | 0.1 |

## LIGHT MODULE REPLACEMENT BULBS

| Type | Voltage | Watts | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Incandescent | 6 | 1.5 | DL1 CB006 | **6B409** | $5.30 | **$5.02** | 0.1 |
| | 12 | 2.6 | DL1 CE012 | **4B575** | 5.30 | **5.02** | 0.1 |
| | 24 | 2.6 | DL1 CE024 | **4B576** | 5.30 | **5.02** | 0.1 |
| | 48 | 2.6 | DL1 CE048 | **2EV14** | 5.30 | **5.02** | 0.1 |
| | 130 | 2.6 | DL1 CE130 | **4B577** | 5.30 | **5.02** | 0.1 |

## ADAPTOR (Converts 30mm hole for 22mm pushbuttons)

| Type | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **30mm to 22mm†** | ZB2BZ41 | **2FG73** | $4.00 | **$3.79** | 0.1 |

(†) Use with 30mm nameplates.

## PLASTIC ENCLOSURE SPECIFICATIONS AND ORDERING DATA

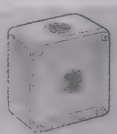
| No. of Holes | Dimensions (In.) L | W | H | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1** | 2.68 | 2.68 | 2.0 | XAL B01 | **4B578** | $15.80 | **$14.98** | 0.3 |
| **2** | 4.10 | 2.68 | 2.0 | XAL B02 | **4B579** | 18.50 | **17.54** | 0.3 |
| **3** | 5.27 | 2.68 | 2.0 | XAL B03 | **4B580** | 23.70 | **22.47** | 0.5 |
| **4** | 6.46 | 2.68 | 2.0 | XAL B04 | **4B581** | 34.30 | **32.55** | 0.5 |
| **5** | 7.64 | 2.68 | 2.0 | XAL B05 | **4B582** | 42.20 | **40.05** | 0.5 |

## LAMP HOLDER BLOCKS — 120VAC (For Plastic Enclosures Above)

| Description | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Transformer Type (Bulb included; 2 spaces required)** | XAL V3 | **4B587** | $47.50 | **$45.05** | 0.2 |
| **120VAC Type (Bulb not included, order above)** | XAL V6 | **2A040** | 18.50 | **17.54** | 0.1 |

## CONTACT BLOCKS (For Plastic Enclosures Above)

| | | | | | |
|---|---|---|---|---|---|
| **1 NO** | XEN L1111 | **4B595** | 7.90 | **7.49** | 0.1 |
| **1 NC** | XEN L1121 | **4B596** | 7.90 | **7.49** | 0.1 |



Metallic Enclosure

Telemecanique

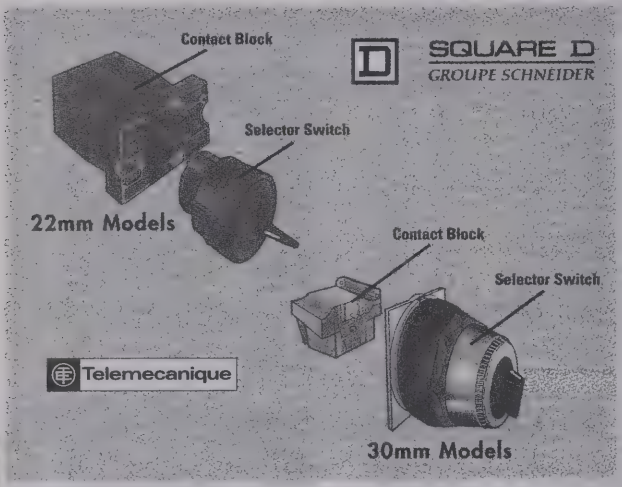
## METALLIC ENCLOSURES

- NEMA 4 and 13 zinc enclosures
- 40mm centerline spacing of hole
- Use 22mm, chrome pushbuttons

## METALLIC ENCLOSURE SPECIFICATIONS AND ORDERING DATA

| No. of Holes | Contact Block Depth | Conduit Size (Supplied) | Dimensions (In.) L | W | D | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 3/4" NPT | 3.15 | 3.15 | 2.03 | XAP G19201 | **4B588** | $53.00 | **$50.25** | 1.2 |
| 2 | | | 5.12 | 3.15 | 2.03 | XAP G29202 | **4B590** | 58.00 | **55.00** | 1.6 |
| 3 | | | 6.90 | 3.15 | 2.03 | XAP G39203 | **4B592** | 69.00 | **65.45** | 2.2 |
| 1 | 2 | 3/4 | 3.15 | 3.15 | 3.03 | XAP G19501 | **4B589** | 53.00 | **50.25** | 1.6 |
| 2 | | | 5.12 | 3.15 | 3.03 | XAP G29502 | **4B591** | 58.00 | **55.00** | 2.2 |
| 3 | | | 6.90 | 3.15 | 3.03 | XAP G39503 | **4B593** | 69.00 | **65.45** | 3.0 |
| 4 | | | 6.90 | 3.15 | 3.03 | XAP G49504 | **4B594** | 84.00 | **79.65** | 3.5 |

# PUSHBUTTON SELECTION GUIDE AND COMMON SELECTOR SWITCH COMBINATIONS




## HOW TO BUILD A PUSHBUTTON

1. SELECT STYLE OF OPERATOR
   - 30mm Heavy-Duty or Corrosion Resistant Models Available
   - 22mm Chrome and Plastic Models Available
   - 16mm Oil, Water, Dust Resistant, and Corrosion Resistant
2. SELECT TYPE OF OPERATOR
   - Non-Illuminated
   - Illuminated
   - Pilot Lights
   - Selector Switches
3. SELECT CONTACT BLOCK(S) NEEDED
   - Normally Open or Normally Closed
4. SELECT OPERATOR IDENTIFICATION NAMEPLATE OR LEGEND (optional)
5. SELECT ENCLOSURE FOR TYPE AND NUMBER OF OPERATORS REQUIRED (optional)
   - Metallic and Plastic Available, See Page 509 and 516

ACCESSORIES AVAILABLE ON PAGES 509 (22mm MODELS) AND 516 & 517 (30mm MODELS)

## COMMON SELECTOR SWITCH COMBINATIONS

### 22mm PLASTIC SELECTOR SWITCHES

| No. of Positions | Operator Type | Operator Description | Switch Operation X = Closed / ON, O = Open / OFF | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2 | Standard Maintained Selector Switch | Off-On | ↖ O ↗ X | 7A155 | $22.84 | $19.13 | 0.2 |
| | | On-Off | ↖ X ↗ O | 7A156 | 22.84 | 19.13 | 0.2 |
| | | On-On | ↖ X O ↗ O X | 7A160 | 30.94 | 26.00 | 0.2 |
| 3 | Standard Maintained Selector Switch | On-Off-On | ↖ X O ↑ O O ↗ O X | 7A157 | 30.33 | 26.00 | 0.2 |
| | | Off-On-On | ↖ O O ↑ X O ↗ O X | 7A158 | 38.44 | 32.80 | 0.3 |
| | | On-On-On | ↖ X O Q ↑ O X O ↗ O O X | 7A159 | 53.77 | 45.75 | 0.4 |

### 30mm HEAVY-DUTY SELECTOR SWITCHES

| No. of Positions | Operator Type | Operator Description | Switch Operation X = Closed / ON, O = Open / OFF | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2 | Standard Maintained Selector Switch | On-On | ↖ O X ↗ X O | 7A161 | 43.55 | 37.40 | 0.4 |
| 3 | Standard Maintained Selector Switch | On-Off-On | ↖ X O ↑ O O ↗ O X | 7A162 | 43.55 | 37.20 | 0.4 |
| | | Off-On-On | ↖ O O ↑ X O ↗ O X | 7A163 | 43.55 | 37.20 | 0.2 |
| | | On-On-On | ↖ X O O ↑ O X O ↗ O O X | 7A164 | 53.33 | 45.80 | 0.5 |
| 4 | Standard Maintained Selector Switch | Off-On-On-On | ↖ O O O ↖ X O O ↗ O X O ↗ O O X | 7A165 | 53.33 | 45.80 | 0.5 |
| | | On-On-On-On | ↖ X O O O ↖ O X O O ↗ O O X O ↗ O O O X | 7A166 | 83.46 | 71.65 | 0.5 |

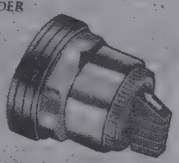
## VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

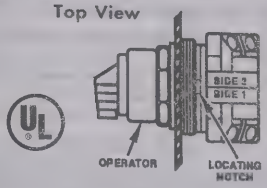
# 30mm HEAVY DUTY SELECTOR SWITCHES AND POTENTIOMETERS



SQUARE D
GROUPE SCHNEIDER



No. 5B498




- 2, 3, and 4 position selector switches
- Multiple cam/contact block arrangement for maximum flexibility
- Use with switch knobs see page 515
- Order contact blocks on page 513
- Rated for UL Types 4 and 13 environments, without boots
- Order legend plates on page 517

## HEAVY-DUTY SELECTOR SPECIFICATIONS

| Contact | 2 Position | | | | 3 Position | | | | | | | | | | | | | | | | | | 4 Position | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | R | L | R | L | C | R | L | C | R | L | C | R | L | C | R | L | C | R | L | C | R | L | C | R | L | LC | RC | R |
| NC Side 2 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| NO Side 2 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| NC Side 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| NO Side 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| CAM | D | | E | | B | | | C | | | D | | | E | | | F | | | G | | | J | | | L | | | H | |

1 = Contact closed. 0 = Contact open. L=Left position. R=Right position. C=Center position. LC=Left center position. RC=Right center position.

## SELECTOR SWITCH ORDERING DATA
## (COMPLETE SELECTOR SWITCH = OPERATOR + KNOB + CONTACT BLOCK)

| No. of Positions | CAM | Knob Type | Knob Color | Return Type | Use With Contact Blocks | Square D Model 9001... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | E | None | — | Manual | | KS11 | 5B510 | $19.77 | $18.92 | 0.3 |
| 2 | E | Standard | Black | Manual | | KS11B | 5B509 | 24.35 | 23.31 | 0.3 |
| 2 | E | Standard | Black | Spring-Left | | KS25B | 5B505 | 37.58 | 36.00 | 0.3 |
| 2 | D | Standard | Black | Spring-Right | | KS34B | 5B504 | 37.58 | 36.00 | 0.3 |
| 2 | E | Keyed-Remove Left | — | Manual | | KS11K1 | 5B508 | 63.50 | 60.80 | 0.4 |
| 2 | E | Keyed-Remove Right | — | Manual | | KS11K2 | 5B507 | 63.50 | 60.80 | 0.4 |
| 2 | E | Keyed-Remove Left/Right | — | Manual | | KS11K3 | 5B506 | 63.50 | 60.80 | 0.4 |
| 3 | B | None | — | Manual | | KS42 | 5B502 | 19.77 | 18.92 | 0.1 |
| 3 | B | Standard | Black | Manual | | KS42B | 5B501 | 24.35 | 23.31 | 0.3 |
| 3 | C | None | — | Manual | | KS43 | 5B499 | 19.77 | 18.92 | 0.3 |
| 3 | C | Standard | Black | Manual | | KS43B | 5B498 | 24.35 | 23.31 | 0.3 |
| 3 | D | Standard | Black | Manual | | KS44B | 5B497 | 24.35 | 23.31 | 0.1 |
| 3 | E | Standard | Black | Manual | | KS45B | 5B496 | 24.35 | 23.31 | 0.3 |
| 3 | F | None | — | Manual | 5B537 | KS46 | 5B495 | 19.77 | 18.92 | 0.3 |
| 3 | F | Standard | Black | Manual | 5B536 | KS46B | 5B494 | 24.35 | 23.31 | 0.3 |
| 3 | G | Standard | Black | Manual | 5B535 | KS47B | 5B493 | 24.35 | 23.31 | 0.3 |
| 3 | J | Standard | Black | Manual | 5B534 | KS49B | 5B492 | 24.35 | 23.31 | 0.2 |
| 3 | L | Standard | Black | Manual | 5B533 | KS401B | 5B503 | 24.35 | 23.31 | 0.3 |
| 3 | B | None | — | Spring L/C | 2EL96 | KS62 | 5B488 | 33.00 | 31.60 | 0.3 |
| 3 | C | None | — | Spring R/C | | KS73 | 5B485 | 33.00 | 31.60 | 0.2 |
| 3 | F | None | — | Spring L/C | | KS66 | 6B361 | 31.70 | 30.35 | 0.3 |
| 3 | B | None | — | Spring R/C | | KS72 | 5B486 | 33.00 | 31.60 | 0.3 |
| 3 | C | None | — | Spring L/C | | KS63 | 5B487 | 33.00 | 31.60 | 0.1 |
| 3 | F | None | — | Spring R/C | | KS76 | 6B360 | 31.70 | 30.35 | 0.3 |
| 3 | B | None | — | Spring RL to C | | KS52 | 5B491 | 33.00 | 31.60 | 0.2 |
| 3 | C | None | — | Spring RL to C | | KS53 | 5B490 | 33.00 | 31.60 | 0.3 |
| 3 | F | None | — | Spring RL to C | | KS56 | 5B489 | 33.00 | 31.60 | 0.3 |
| 3 | C | Standard | Black | Spring RL to C | | KS53B | 2EN74 | 37.58 | 36.00 | 0.3 |
| 4 | H | None | — | Manual | | KS88 | 5B484 | 19.77 | 18.92 | 0.3 |
| 4 | H | Standard | Black | Manual | | KS88B | 5B483 | 24.35 | 23.31 | 0.3 |
| 4 | H | Keyed-Remove All Positions | — | Manual | | KS88K14 | 5B482 | 63.50 | 60.80 | 0.4 |

## POTENTIOMETERS

SQUARE D
GROUPE SCHNEIDER



No. 5B550

These potentiometers are available with resistance values from 500 ohms through 25,000 ohms, and a dial plate with graduations from 0 to 100%.

- 500 volts max. (4mA)

| Description | Watts | Ohms | Square D Model 9001... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Operator with Single Potentiometer | 2 | 500 | K2104 | 5B550 | $132.20 | $126.50 | 0.3 |
| | 2 | 1000 | K2105 | 5B549 | 132.20 | 126.50 | 0.2 |
| | 2 | 2500 | K2106 | 5B548 | 132.20 | 126.50 | 0.3 |
| | 2 | 5000 | K2107 | 5B547 | 132.20 | 126.50 | 0.3 |
| | 2 | 10,000 | K2108 | 5B546 | 132.20 | 126.50 | 0.3 |
| | 2 | 25,000 | K2109 | 6B377 | 127.00 | 121.55 | 0.3 |

# 30mm HEAVY-DUTY PUSHBUTTON OPERATORS

## MOMENTARY PUSHBUTTON OPERATORS

- 30mm pushbuttons use contact blocks on page 513
- Oiltight, watertight, and dusttight
- Interchangeable ring nuts
- Rated for both UL Types 4 and 13 environments, without boots
- Meets major automotive standards

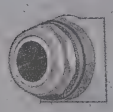
### NON-ILLUMINATED

- Interchangeable color inserts make design changes easy

### ILLUMINATED

- Premium long-life incandescent lamps included

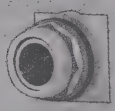
SQUARE D
GROUPE SCHNEIDER



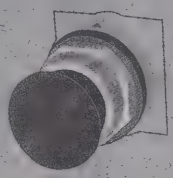
A No. 5B517



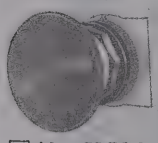
B No. 5B511



C No. 5B512

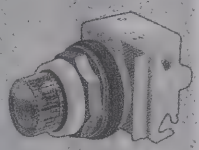


D No. 5B516



E No. 5B514

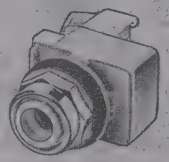
Lens not included, order separately on page 515



F No. 6B375



G No. 6B364



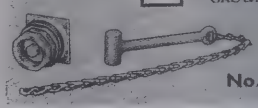
H No. 5B480

For color caps see page 515
For contact blocks see page 513
For legend plates see page 517

## EMERGENCY BREAK GLASS OPERATOR

- UL Type 4, 13; NEMA Type 4, 13
- Operator is held in depressed position by a glass disc
- When disc is broken with hammer, button returns to normal extended position
- Package of 5 discs included with operator

SQUARE D
GROUPE SCHNEIDER



No. 2EL29

**No. 2EL29.** Square D brand (9001K15). Shpg. wt. 0.6 lbs. List $57.25. Each ..... $54.80

## NON-ILLUMINATED MOMENTRY PUSHBUTTON OPERATORS (COMPLETE PUSHBUTTON = OPERATOR + CONTACT BLOCK)

| Key | Description | Color | Use With Contact Blocks | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Full Guard | Universal* | 5B537<br>5B536<br>5B535<br>5B534<br>5B533<br>2EL96 | KR1U | 5B517 | $17.80 | $15.05 | 0.2 |
| B | No Guard | Universal* | | KR3U | 5B511 | 17.80 | 15.05 | 0.2 |
| C | Extended Guard | Universal* | | KR2U | 5B512 | 17.80 | 15.05 | 0.3 |
| D | 1 3/8" Screw on Mushroom button with set screw | Black | | KR24B | 5B516 | 37.58 | 36.00 | 0.3 |
| | | Red | | KR24R | 5B515 | 37.58 | 36.00 | 0.3 |
| | | Green | | KR24G | 6B363 | 36.10 | 34.55 | 0.3 |
| | 1 3/8" Snap-in Mushroom button | Red | | KR4R | 2EN30 | 37.58 | 36.00 | 0.2 |
| E | 2 1/4" Screw on Mushroom button with set screw | Black | | KR25B | 5B514 | 37.58 | 36.00 | 0.3 |
| | | Red | | KR25R | 5B513 | 37.58 | 36.00 | 0.3 |
| | | Green | | KR25G | 6B362 | 36.10 | 34.55 | 0.3 |
| | 2 1/4" Snap-in Mushroom button | Red | | KR5R | 2EN32 | 37.58 | 36.00 | 0.3 |
| | 2-Position Maintained Push-Pull with knob | Red | | KR9R | 2EN49 | 59.33 | 56.80 | 0.3 |
| | 2-Position Maintained Push-Pull without knob | — | | KR9 | 2EN43 | 55.17 | 52.80 | 0.3 |
| | 3-Position Mom. Pull/ Center Maint./Mom. Push | Red | | KR8R | 2EN42 | 39.55 | 37.85 | 0.2 |

(*) Universal pushbutton operators include one each of the following color inserts: black, red, green, yellow, blue and white.

## ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS

| Key | Description | Voltage and Frequency | Style | Use With Contact Blocks | Square D Model 9001 . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| — | Full Guard | 6 VAC-DC | Full Voltage | 5B537<br>5B536<br>5B535<br>5B534<br>5B533<br>2EL96 | K1L31 | 6B385 | $57.00 | $54.55 | 0.2 |
| | | 12-14 VAC-DC | Full Voltage | | K1L32 | 6B383 | 57.00 | 54.55 | 0.2 |
| | | 24-28 VAC-DC | Full Voltage | | K1L35 | 6B382 | 57.00 | 54.55 | 0.2 |
| | | 120 VAC-DC | Full Voltage | | K1L38 | 6B381 | 57.00 | 54.55 | 0.3 |
| | | 110-120V, 50-60 Hz | Transformer | | K1L1 | 6B384 | 70.00 | 67.00 | 0.2 |
| | | 208-220V 50-60 Hz | Transformer | | K1L3 | 6B380 | 70.00 | 67.00 | 0.2 |
| | | 220-240V 50-60 Hz | Transformer | | K1L7 | 6B378 | 70.00 | 67.00 | 0.2 |
| | | 380-480V 50-60 Hz | Transformer | | K1L5 | 6B379 | 74.00 | 70.85 | 0.2 |
| F | No Guard | 6 VAC-DC | Full Voltage | | K2L31 | 6B375 | 51.00 | 48.85 | 0.2 |
| | | 12-14 VAC-DC | Full Voltage | | K2L32 | 6B374 | 51.00 | 48.85 | 0.2 |
| | | 24-28 VAC-DC | Full Voltage | | K2L35 | 6B373 | 51.00 | 48.85 | 0.3 |
| | | 120 VAC-DC | Full Voltage | | K2L38 | 6B372 | 51.00 | 48.85 | 0.5 |
| | | 110-120V, 50-60 Hz | Transformer | | K2L1 | 5B545 | 65.58 | 62.75 | 0.4 |
| | | 208-220V 50-60 Hz | Transformer | | K2L3 | 6B371 | 63.00 | 60.30 | 0.2 |
| | | 220-240V 50-60 Hz | Transformer | | K2L7 | 6B369 | 63.00 | 60.30 | 0.2 |
| | | 380-480V 50-60 Hz | Transformer | | K2L5 | 6B370 | 63.00 | 60.30 | 0.2 |
| — | 2-Position Maint. Mushroom Push-Pull, Red | 110-120V, 50-60 Hz | Transformer | | KR9P1R | 2EN47 | 112.42 | 107.60 | 0.5 |

## HEAVY DUTY PILOT LIGHTS

| Key | Description | Voltage and Frequency | Style | Use With Contact Blocks | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| G | Standard | 6 VAC-DC | Full Voltage | N/A | KP31 | 6B364 | $51.00 | $44.95 | 0.5 |
| | | 12-14 VAC-DC | Full Voltage | | KP32 | 5B522 | 53.09 | 44.95 | 0.3 |
| | | 24-28 VAC-DC | Full Voltage | | KP35 | 5B521 | 53.09 | 44.95 | 0.3 |
| | | 120 VAC-DC | Resistor | | KP38 | 5B520 | 53.09 | 44.95 | 0.3 |
| | | 110-120V, 50-60 Hz | Transformer | | KP1 | 5B524 | 65.58 | 62.75 | 0.5 |
| | | 208-220V, 50-60 Hz | Transformer | | KP3 | 5B523 | 65.58 | 62.75 | 0.5 |
| | | 220-240V, 50-60 Hz | Transformer | | KP7 | 5B518 | 65.58 | 62.75 | 0.5 |
| | | 380-480V, 50-60 Hz | Transformer | | KP5 | 5B519 | 65.58 | 62.75 | 0.5 |
| H | Push to Test | 6 VAC-DC | Full Voltage | 5B537<br>5B536<br>5B535<br>5B534<br>5B533<br>2EL96 | KT31 | 6B357* | 70.00 | 67.00 | 0.4 |
| | | 12-14 VAC-DC | Full Voltage | | KT32 | 6B356* | 70.00 | 67.00 | 0.4 |
| | | 24-28 VAC-DC | Full Voltage | | KT35 | 5B480* | 72.87 | 69.75 | 0.2 |
| | | 120 VAC-DC | Resistor | | KT38 | 5B479* | 72.87 | 69.75 | 0.4 |
| | | 110-120V, 50-60 Hz | Transformer | | KT1 | 5B481* | 85.36 | 81.70 | 0.6 |
| | | 208-220V, 50-60 Hz | Transformer | | KT3 | 6B358* | 82.00 | 78.50 | 0.5 |
| | | 220-240V, 50-60 Hz | Transformer | | KT7 | 6B353* | 82.00 | 78.50 | 0.5 |
| | | 380-480V, 50-60 Hz | Transformer | | KT5 | 6B354* | 82.00 | 78.50 | 1.0 |

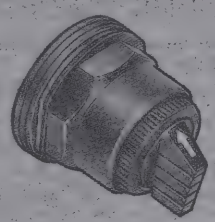
(*) Comes with one normally open contact block



Relay it, suppress it, enclose it — The leading brands are all right here.

# 30mm CORROSION RESISTANT SELECTOR SWITCHES AND CONTACT BLOCKS

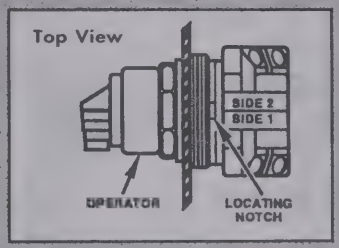
## CORROSION RESISTANT SELECTOR SWITCHES



No. 5B445

SQUARE D
GROUPE SCHNEIDER

LR25490 E42259




- 2, 3, 4 position selector switch
- Multiple cam/contact block arrangement for maximum flexibility
- Use with contact blocks below
- Use with switch knobs see page 515
- Rated NEMA Type 4, 4X, 13
- Manual return type

### CORROSION RESISTANT SELECTOR SWITCH SPECIFICATIONS

| Contact | 2 Position | | 3 Position | | | | | | | | 4 Position | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | R | L | C | R | L | C | R | L | C | R | L | LC | RC | R |
| NC Side 2 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| NO Side 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| NC Side 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| NO Side 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| CAM | E | | B | | | C | | | F | | | H | | | |

1 = Contact closed, 0 = Contact open. L=Left position. R=Right position. C=Center position.
LC=Left center position. RC=Right center position.

### SELECTOR SWITCH SPECIFICATIONS AND ORDERING DATA (COMPLETE SELECTOR SWITCH = OPERATOR + KNOB + CONTACT BLOCK)

| No. of Positions | CAM | Knob Type | Knob Color | Use With Contact Blocks | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | E | None | — | | SKS11 | **5B449** | $19.77 | **$18.92** | 0.1 |
| 2 | E | Standard | Black | | SKS11B | **5B448** | 24.35 | **23.31** | 0.1 |
| 3 | B | None | — | 5B537 | SKS42 | **6B328** | 19.00 | **18.18** | 0.1 |
| 3 | B | Standard | Black | 5B536 | SKS42B | **5B447** | 24.35 | **23.31** | 0.2 |
| 3 | C | None | — | 5B535 | SKS43 | **5B446** | 19.77 | **18.92** | 0.1 |
| 3 | C | Standard | Black | 5B534 | SKS43B | **5B445** | 24.35 | **23.31** | 0.1 |
| 3 | F | None | — | 5B533 | SKS46 | **6B327** | 19.00 | **18.18** | 0.1 |
| 3 | F | Standard | Black | 2EL96 | SKS46B | **6B326** | 23.40 | **22.39** | 0.5 |
| 4 | H | None | — | | SKS88 | **5B444** | 19.77 | **18.92** | 0.1 |
| 4 | H | Standard | Black | | SKS88B | **6B325** | 23.40 | **22.39** | 0.5 |

## CONTACT BLOCKS

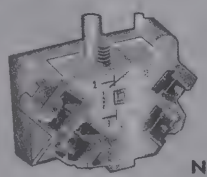
- Terminals arranged at 20° angle eliminating interference with other contact blocks mounted in tandem
- Wire range (#12-24 AWG) allows usage of the more common small wire sizes for wiring electronic circuits
- Rated NEMA A600-P600 (See chart on pg. 501)
- Double break fine silver contacts with scrubbing action

**Screwdriver**—No. 6B412 is designed for tightening the mounting screw on the contact block. Square D brand (9001K69).

**No. 6B412.** Shpg. wt. 0.3 lbs. List $15.80.
Each ..... $15.12

| Description | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| NO-NC | KA1 | **5B537** | $19.77 | **$18.92** | 0.1 |
| NO | KA2 | **5B536** | 9.89 | **9.46** | 0.1 |
| NC | KA3 | **5B535** | 9.89 | **9.46** | 0.1 |
| NO EARLY CLOSING - NC | KA4 | **5B534** | 19.77 | **18.92** | 0.2 |
| NC LATE OPEN | KA5 | **5B533** | 9.89 | **9.46** | 0.1 |

SQUARE D
GROUPE SCHNEIDER



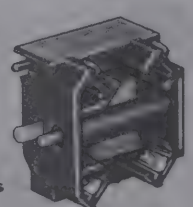
E42249

No. 5B537

## CONTACT BLOCK FOR HAZARDOUS LOCATION

- Hermetically sealed; NO-NC
- For Class I: Division 1 & 2 Groups A, B, C, D
  For Class II: Division 1 Groups E, F, G; Division 2 Group G
  For Class III: Division 1 & 2
- Rated NEMA C300-Q150 (See chart on pg. 501)

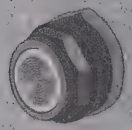
**No. 2EL96.** Power Reed Contact Block. Square D brand (9001KA51). Shpg. wt. 0.4 lbs. List $65.58. Each ..... $62.75



No. 2EL96 Contact Block For Hazardous Locations

# 30mm CORROSION RESISTANT PUSHBUTTONS AND PILOT LIGHTS

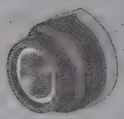
SQUARE D
GROUPE SCHNEIDER



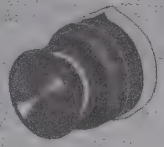
A No. 5B454



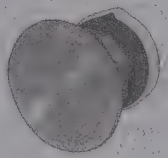
B No. 5B452



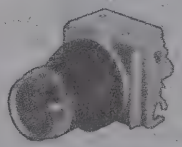
C No. 5B453



D No. 6B330

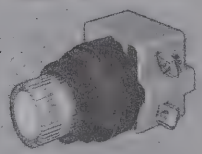


E No. 6B329



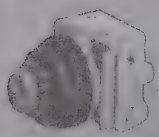
F No. 6B351

No Guard Illuminated Pushbutton



G No. 6B344

Lens not included, order separately on page 515



H No. 6B335



I No. 4B367

Color caps not included, see page 515

For legend plates, see page 517

## NON-ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS

- 30mm pushbuttons use contact blocks on page 513
- Oiltight, watertight, and dust-tight
- Interchangeable ring nuts
- Interchangeable color inserts make design changes easy
- Meets major automotive standards
- Rated for both UL Types 4, 4X, and 13 environments, without boots

## ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS

- 30mm pushbuttons use contact blocks on page 513
- Oiltight, watertight, and dust-tight
- Interchangeable ring nuts
- Premium long-life incandescent lamp, included
- Rated for both UL Types 4, 4X, and 13 environments, without boots

UL LR25490 CSA E42259 CE

### NON-ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS COMPLETE PUSHBUTTON = OPERATOR + CONTACT BLOCK

| Key | Description | Color | Use With Contact BLocks | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Full Guard | Universal* | 5B537 5B536 5B535 5B534 5B533 2EL96 | SKR1U | 5B454 | $17.80 | $17.03 | 0.1 |
| B | No Guard | Universal* | | SKR3U | 5B452 | 17.80 | 17.03 | 0.1 |
| C | Extended Guard | Universal* | | SKR2U | 5B453 | 17.80 | 17.03 | 0.1 |
| D | 1⅜" Screw on Mushroom button with set screw | Red | | SKR24R | 6B330 | 36.10 | 34.55 | 0.3 |
| E | 2¼" Screw on Mushroom button with set screw | Red | | SKR25R | 6B329 | 36.10 | 34.55 | 0.3 |
| — | 2-Position Maintained Push Pull | Red | | SKR9R | 2ER59 | 59.33 | 56.80 | 0.1 |

(*) Universal pushbutton operators include one each of the following color inserts: black, green, yellow, red, blue, and white.

### ILLUMINATED MOMENTARY PUSHBUTTON OPERATORS

| Key | Description | Voltage and Frequency | Style | Use With Contact Blocks | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| F | Full Guard | 6 VAC-DC | Full Voltage | 5B537 5B536 5B535 5B534 5B533 2EL96 | SK1L31 | 6B351 | $57.00 | $54.55 | 0.4 |
| | | 12-14 VAC-DC | Full Voltage | | SK1L32 | 6B350 | 57.00 | 54.55 | 0.4 |
| | | 24-28 VAC-DC | Full Voltage | | SK1L35 | 6B349 | 57.00 | 54.55 | 0.1 |
| | | 120 VAC-DC | Full Voltage | | SK1L38 | 6B348 | 57.00 | 54.55 | 0.2 |
| | | 110-120V, 50-60 Hz | Transformer | | SK1L1 | 5B458 | 72.87 | 69.75 | 0.4 |
| | | 208-220V, 50-60 Hz | Transformer | | SK1L3 | 6B347 | 70.00 | 67.00 | 0.4 |
| | | 220-240V, 50-60 Hz | Transformer | | SK1L7 | 6B345 | 70.00 | 67.00 | 0.4 |
| | | 380-480V, 50-60 Hz | Transformer | | SK1L5 | 6B346 | 70.00 | 67.00 | 0.4 |
| G | No Guard | 6 VAC-DC | Full Voltage | | SK2L31 | 6B344 | 51.00 | 48.85 | 0.4 |
| | | 12-14 VAC-DC | Full Voltage | | SK2L32 | 6B343 | 51.00 | 48.85 | 0.4 |
| | | 24-28 VAC-DC | Full Voltage | | SK2L35 | 6B342 | 51.00 | 48.85 | 0.2 |
| | | 120 VAC-DC | Full Voltage | | SK2L38 | 6B341 | 51.00 | 48.85 | 0.2 |
| | | 110-120V, 50-60 Hz | Transformer | | SK2L1 | 5B456 | 65.58 | 62.75 | 0.4 |
| | | 208-220V, 50-60 Hz | Transformer | | SK2L3 | 6B340 | 63.00 | 60.30 | 0.4 |
| | | 220-240V, 50-60 Hz | Transformer | | SK2L7 | 6B338 | 63.00 | 60.30 | 0.4 |
| | | 380-480V, 50-60 Hz | Transformer | | SK2L5 | 6B339 | 63.00 | 60.30 | 0.4 |

### HEAVY DUTY PILOT LIGHTS

| Key | Description | Voltage and Frequency | Style | Use With Contact Blocks | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| H | Standard | 6 VAC-DC | Full Voltage | N/A | SKP31 | 6B335 | $51.00 | $48.85 | 0.3 |
| | | 12-14 VAC-DC | Full Voltage | | SKP32 | 6B334 | 51.00 | 48.85 | 0.3 |
| | | 24-28 VAC-DC | Full Voltage | | SKP35 | 6B333 | 51.00 | 48.85 | 0.2 |
| | | 120 VAC-DC | Resistor | | SKP38 | 5B455 | 53.09 | 50.80 | 0.2 |
| | | 110-120V, 50-60 Hz | Transformer | | SKP1 | 6B337 | 63.00 | 60.30 | 0.4 |
| | | 208-220V, 50-60 Hz | Transformer | | SKP3 | 6B336 | 63.00 | 60.30 | 0.5 |
| | | 220-240V, 50-60 Hz | Transformer | | SKP7 | 6B331 | 63.00 | 60.30 | 0.5 |
| | | 380-480V, 50-60 Hz | Transformer | | SKP5 | 6B332 | 63.00 | 60.30 | 0.5 |
| I | Push to Test | 6 VAC-DC | Full Voltage | 5B537 | SKT31 | 4B367* | 72.87 | 69.75 | 0.4 |
| | | 12-14 VAC-DC | Full Voltage | 5B536 | SKT32 | 1D812* | 72.87 | 69.75 | 16.0 |
| | | 24-28 VAC-DC | Full Voltage | 5B535 | SKT35 | 1D802* | 72.87 | 69.75 | 0.3 |
| | | 110-120V, 50-60 Hz | Transformer | 5B534 | SKT1 | 5B443* | 85.36 | 81.70 | 0.4 |
| | | 208-220V, 50-60 Hz | Transformer | 5B533 | SKT3 | 6B323* | 82.00 | 78.50 | 0.4 |
| | | 220-240V, 50-60 Hz | Transformer | 2EL96 | SKT7 | 1D778* | 85.36 | 81.70 | 0.6 |

(*) Comes with 1 N.O. Contact block

PUSHBUTTON SELECTION GUIDE ON PAGE 510



Relay it, suppress it, enclose it — The leading brands are all right here.

# 30mm PUSHBUTTON CAPS AND BOOTS

SQUARE D
GROUPE SCHNEIDER

E42259 LR25490


A No. 2EL08


B No. 5B577


C No. 5B574


D No. 5B580


E No. 5B571


F No. 5B575


G No. 5B578


H No. 2EL91

## H WRENCH

Wrench for 30mm tightening ring nuts. Square D brand (9001K95).

**No. 2EL91.** Shpg. wt. 0.1 lbs. List.....$19.77. Each.....$18.92

## PUSH-PULL KNOBS NON-ILLUMINATED

| Key | Color | Square D Model 9001... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Standard for use with KR8, KR9, SKR8, and SKR9 Operators** | | | | | | |
| A | Green | G22 | **2EL08** | $4.58 | **$4.38** | 0.1 |
| | Red | R22 | **2ER16** | 4.58 | **4.38** | 0.1 |

## COLOR CAPS FOR ILLUMINATED PUSHBUTTON

| | | | | | | |
|---|---|---|---|---|---|---|
| **Standard for use with Type K1L, K2L, SK1L, and SK2L Pushbuttons** | | | | | | |
| B | Amber | A7 | **5B577** | 4.58 | **4.38** | 0.1 |
| | Blue | L7 | **5B471** | 4.58 | **4.38** | 0.1 |
| | Clear | C7 | **5B569** | 4.58 | **4.38** | 0.1 |
| | Green | G7 | **5B561** | 4.58 | **4.38** | 0.1 |
| | Red | R7 | **5B463** | 4.58 | **4.38** | 0.1 |
| | White | W7 | **5B439** | 4.58 | **4.38** | 0.1 |
| | Yellow | Y7 | **5B433** | 4.58 | **4.38** | 0.1 |

## KNOBS FOR NON-ILLUMINATED SELECTOR SWITCHES

| | | | | | | |
|---|---|---|---|---|---|---|
| **Standard Switch Knobs** | | | | | | |
| C | Amber | A8 | **5B576** | 4.58 | **4.38** | 0.1 |
| | Black | B11 | **5B574** | 4.58 | **4.38** | 0.1 |
| | Blue | L8 | **5B470** | 4.58 | **4.38** | 0.1 |
| | Clear | C8 | **5B568** | 4.58 | **4.38** | 0.1 |
| | Green | G8 | **5B560** | 4.58 | **4.38** | 0.1 |
| | Red | R8 | **5B462** | 4.58 | **4.38** | 0.1 |
| | White | W8 | **5B438** | 4.58 | **4.38** | 0.1 |
| | Yellow | Y8 | **5B432** | 4.58 | **4.38** | 0.1 |
| **Gloved Hand Switch Knobs** | | | | | | |
| D | Amber | A24 | **5B580** | 4.58 | **4.38** | 0.1 |
| | Black | B25 | **5B573** | 4.58 | **4.38** | 0.1 |
| | Blue | L24 | **5B474** | 4.58 | **4.38** | 0.1 |
| | Clear | C24 | **5B572** | 4.58 | **4.38** | 0.1 |
| | Green | G24 | **5B564** | 4.58 | **4.38** | 0.1 |
| | Orange | S25 | **5B459** | 4.58 | **4.38** | 0.1 |
| | Red | R24 | **5B466** | 4.58 | **4.38** | 0.1 |
| | White | W24 | **5B442** | 4.58 | **4.38** | 0.1 |
| | Yellow | Y24 | **5B436** | 4.58 | **4.38** | 0.1 |

## COLOR CAPS FOR PILOT LIGHTS

| | | | | | | |
|---|---|---|---|---|---|---|
| **Plastic Fresnel for use with Type KP, KT, SKP, and SKT Pilot Lights** | | | | | | |
| E | Amber | A31 | **5B579** | 4.58 | **4.38** | 0.1 |
| | Blue | L31 | **5B473** | 4.58 | **4.38** | 0.1 |
| | Clear | C31 | **5B571** | 4.58 | **4.38** | 0.1 |
| | Green | G31 | **5B563** | 4.58 | **4.38** | 0.1 |
| | Red | R31 | **5B465** | 4.58 | **4.38** | 0.1 |
| | White | W31 | **5B441** | 4.58 | **4.38** | 0.1 |
| | Yellow | Y31 | **5B435** | 4.58 | **4.38** | 0.1 |
| **Plastic Domed for use with Type KP, KT, SKT, and SKP Pilot Lights** | | | | | | |
| F | Amber | A9 | **5B575** | 4.58 | **4.38** | 0.1 |
| | Blue | L9 | **5B469** | 4.58 | **4.38** | 0.1 |
| | Clear | C9 | **5B567** | 4.58 | **4.38** | 0.1 |
| | Green | G9 | **5B559** | 4.58 | **4.38** | 0.1 |
| | Red | R9 | **5B461** | 4.58 | **4.38** | 0.1 |
| | White | W9 | **5B437** | 4.58 | **4.38** | 0.1 |
| | Yellow | Y9 | **5B431** | 4.58 | **4.38** | 0.1 |
| **Glass Domed for use with Type KP and KT Pilot Lights** | | | | | | |
| G | Amber | A6 | **5B578*** | 4.58 | **4.38** | 0.1 |
| | Blue | L6 | **5B472*** | 4.58 | **4.38** | 0.1 |
| | Clear | C6 | **5B570*** | 4.58 | **4.38** | 0.1 |
| | Green | G6 | **5B562*** | 4.58 | **4.38** | 0.1 |
| | Red | R6 | **5B464*** | 4.58 | **4.38** | 0.1 |
| | White | W6 | **5B440*** | 4.58 | **4.38** | 0.1 |
| | Yellow | Y6 | **5B434*** | 4.58 | **4.38** | 0.1 |

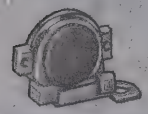
(*) Not for use with corrosion-resistant 30mm pushbuttons.

## PROTECTIVE BOOTS

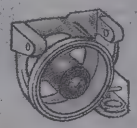
| Description | Color | Square D 9001... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Non-Illuminated P.B.** | Black | KU1 | **2EN91** | $13.22 | **$12.65** | 0.1 |
| **Non-Illuminated P.B.** | Red | KU2 | **2EN94** | 13.22 | **12.65** | 0.1 |
| **Non-Illuminated P.B.** | Green | KU5 | **2EP01** | 13.22 | **12.65** | 0.1 |
| **Non-Illuminated P.B.** | Clear | KU7 | **2EP03** | 13.22 | **12.65** | 0.1 |
| **Standard Knob Selector Switch** | Clear | KU17 | **2EN92** | 19.77 | **18.92** | 0.1 |
| **Wrench for Boots** | | K1 | **2EL23** | 33.00 | **31.60** | 0.3 |

# 30mm PUSHBUTTON ACCESSORIES AND ENCLOSURES

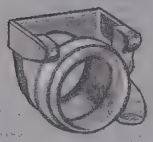
SQUARE D
GROUPE SCHNEIDER



A No. 5B544



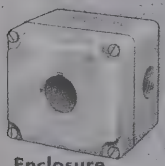
B No. 5B538



C No. 5B541



D No. 5B543



Enclosure
No. 5B478

## PADLOCK ATTACHMENTS

| Key | For Use With | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | **Holds Button in Depressed Position—Can be Padlocked** | | | | | |
| A | Type K, Non-Illuminated Pushbutton Standard or Mushroom (KR4, KR5 Mushroom Buttons only) | K4 | **5B544** | $19.77 | **$18.92** | 0.2 |
| | **Holds Button in Depressed Position Only When Padlocked** | | | | | |
| B | Type K & SK, Non-Illuminated Pushbutton | K97 | **5B538** | 19.77 | **18.92** | 0.1 |
| | **Selector Switch Cover Type Attachment—Can be Padlocked** | | | | | |
| C | Type K & SK Selector Switches & Potentiometers (Does not work with Gloved Handknob) | K7 | **5B541** | 19.77 | **18.92** | 0.1 |

## CLOSING PLATES*

| Key | Description | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| D | Round (1½" Dia.) Gray | K51 | **5B543** | $6.55 | **$6.27** | 0.1 |
| | Round (1½" Dia.) Chrome Plated | K52 | **5B542** | 6.55 | **6.27** | 0.1 |

(*) Meets UL and NEMA Types 1, 2, 3, 4, 4X, 6, 12, & 13.

## ENCLOSURES

- Surface mounting
- Die cast aluminum
- Type KN-1, KN-6, & KN-7 legend plates will not fit on these enclosures
- NEMA Types 1, 3, 4, & 13
- Industrial Duty Enclosures
- UL Listed, CSA Certified, CE Certified

## ENCLOSURES

| No. of Holes | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | KY1 | **5B478** | $65.58 | **$62.75** | 2.3 |
| 2 | KY2 | **5B477** | 72.87 | **69.75** | 2.8 |
| 3 | KY3 | **5B476** | 85.36 | **81.70** | 3.5 |
| 4 | KY4 | **5B475** | 105.14 | **100.60** | 4.0 |

HUBBELL® Wiring Device-Kellems
LUTRON®
OMRON
CAROL BRAND
electri-flex
MANY BRANDS OF ELECTRICAL PRODUCTS AVAILABLE
ROMEX BRAND
LEVITON
Appleton ELECTRIC COMPANY
allied TUBE & CONDUIT
General Cable CORPORATION



*Relay it, suppress it, enclose it — The leading brands are all right here.*

SQUARE D
GROUPE SCHNEIDER



No. 5B539



No. 5B532

## ALTERNATE ACTION—(PUSH-ON/PUSH-OFF) MODULE

Module can be added to standard 9001 Type K, SK momentary pushbutton operators. Contact blocks mounted behind module (maximum of 2) will be held in depressed position when the operator is actuated once and released to their normal position when used again.

| Description | Square D Model 9001... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Push-On/Push-Off Module** | K85 | **5B539*** | $19.77 | **$18.92** | 0.1 |

(*) Not for use with No. 5B536 contact block.

## LEGEND PLATES FOR OPERATORS

- **Silver letters on black field**
- **Stop functions silver letters on red field**

### ALUMINUM LEGEND PLATES

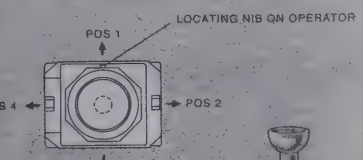
| Description | Square D Model 9001 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Blank** | KN200 | **5B532** | $1.97 | **$1.89** | 0.1 |
| **Start** | KN201 | **5B531** | 1.97 | **1.89** | 0.1 |
| **Stop** | KN202 | **6B368** | 1.90 | **1.82** | 0.1 |
| **On** | KN203 | **5B530** | 1.97 | **1.89** | 0.1 |
| **Off** | KN204 | **6B367** | 1.90 | **1.82** | 0.1 |
| **Emerg. Stop** | KN205 | **6B366** | 1.90 | **1.82** | 0.1 |
| **Reset** | KN223 | **5B529** | 1.97 | **1.89** | 0.1 |
| **For.-Reverse** | KN239 | **6B365** | 1.90 | **1.82** | 0.1 |
| **Off/On** | KN244 | **5B528** | 1.97 | **1.89** | 0.1 |
| **On/Off** | KN245 | **5B527** | 1.97 | **1.89** | 0.1 |
| **Hand-Off Auto.** | KN260 | **5B526** | 1.97 | **1.89** | 0.1 |
| **Man.-Off Auto.** | KN262 | **5B525** | 1.97 | **1.89** | 0.1 |
| **Blank** | KN300* | **2EM52** | 1.97 | **1.89** | 0.1 |
| **Start** | KN301* | **2EM53** | 1.97 | **1.89** | 0.1 |
| **Stop** | KN302* | **2EM54** | 1.97 | **1.89** | 0.1 |
| **Emerg. Stop** | KN305* | **2EM57** | 1.97 | **1.89** | 0.1 |
| **Off/On** | KN344* | **2EM69** | 1.97 | **1.89** | 0.1 |
| **Blank—Alum. 1 9/16 x 2 1/4 Blk.** | KN600* | **2FM77** | 3.95 | **3.78** | 0.1 |

### PLASTIC LEGEND PLATES

| | | | | | |
|---|---|---|---|---|---|
| **Blank—Blk. White Letters 2.25"** | KN100BP | **2EM15** | 1.97 | **1.89** | 0.1 |
| **Blank—Blk. White Letters 2.5"** | KN700BP | **2EM73** | 1.97 | **1.89** | 0.1 |
| **Blank—Silver Blk. Letters 2.25"** | KN100SP | **2EM17** | 1.97 | **1.89** | 0.1 |
| **Blank—White Blk. Letters 2.25"** | KN100WP | **2EM18** | 1.97 | **1.89** | 0.1 |
| **Blank—White Blk. Letters 2.5"** | KN700WP | **2EM76** | 1.97 | **1.89** | 0.1 |

(*) Oversized field

SQUARE D
GROUPE SCHNEIDER






No. 2EL60



No. 2EL59

## JOYSTICK OPERATOR

- **UL Types 4, 13**
- **NEMA Types 4, 13**
- **Contact blocks on page 513**

**Note:** The joystick operator is ideal for applications where only one circuit is to be energized at one time. The five-position operator closes one circuit each in up, down, left, and right positions, with all circuits open in center.

### JOYSTICK OPERATOR ORDERING DATA

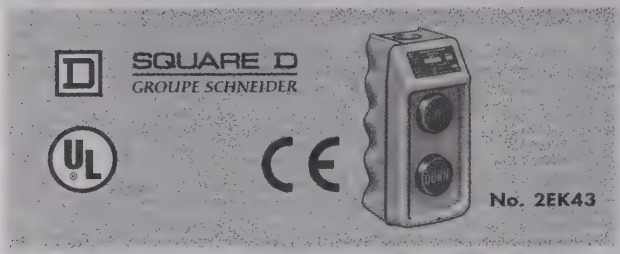
| Description | Square D 9001. . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **5-position, center off, momentary, spring return to center, w/o latch** | K35 | **2EL60** | $142.61 | **$136.50** | 0.6 |
| **5-position, center off, momentary, spring return to center, w/ latch** | K34 | **2EL59** | 142.61 | **136.50** | 0.7 |

### CONTACT ARRANGEMENTS

| Operator | Contact Block | Handle position (with ref. to Nib. See Fig.) 1↑ | 2 → | OFF | 3 ↓ | 4 ← |
|---|---|---|---|---|---|---|
| 5-Position Operator | 5B537 | 0 | 1 | 0 | 0 | 0 |
| | | 1 | 0 | 0 | 0 | 0 |
| | 5B537 | 0 | 0 | 0 | 0 | 1 |
| | | 0 | 0 | 0 | 1 | 0 |

(1) Contact Closed. (0) Contact Open.

# PENDANT STATIONS

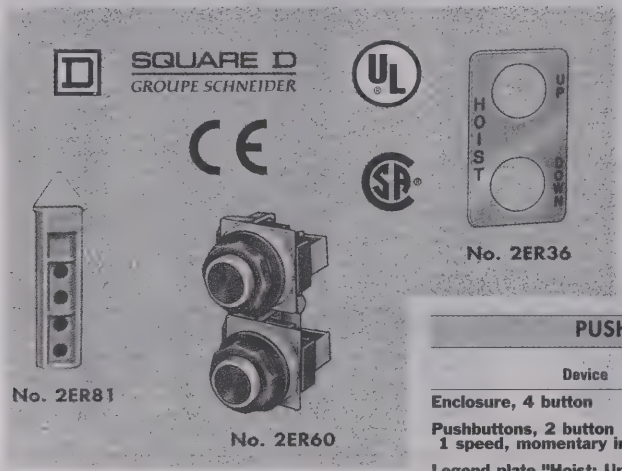



## PUSHBUTTON PENDANT STATIONS—ASSEMBLED

- UL Listed, CSA Recognized, CE Certified
- 600VAC/DC Max.
- NEMA 4, 4X and 13 plastic enclosure
- 1/2" conduit opening at top
- Momentary operation
- Contact Blocks included. Rated NEMA B600-P600 (See chart on page 501)

### PUSHBUTTON PENDANT STATIONS—ASSEMBLED

| Type of Operator | Legend Markings | Mechanical Interlock | Enclosure Color | Square D Model 9001... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 Pushbutton | Up/Down | Yes | Yellow | BW72Y | **2EK43** | $58.29 | **$55.80** | 0.7 |
| 2 Pushbutton | Start/Stop | No | Yellow | BW75Y | **2EK47** | 58.29 | **55.80** | 0.7 |

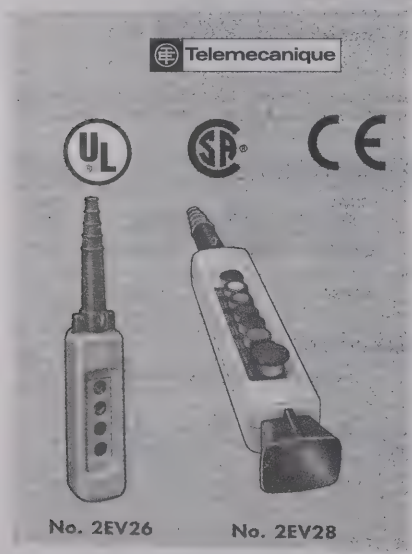



## PUSHBUTTON PENDANT HEAVY-DUTY STATIONS —UNASSEMBLED

- 3/4" 14 NPT conduit hole
- NEMA 1, 3, 4, 4X, 13 plastic enclosure
- Contact Blocks rated NEMA A-600 (see chart on page 501)
- Use any 30mm corrosion resistant non-illuminated operators
- UL Listed, CSA Recognized, CE Certified

### PUSHBUTTON PENDANT STATIONS—UNASSEMBLED

| Device | Square D Model 9001... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Enclosure, 4 button | SKYP4 | **2ER81** | $110.34 | **$105.60** | 2.5 |
| Pushbuttons, 2 button 1 speed, momentary interlocked | SKRU1 | **2ER60** | 59.33 | **56.80** | 0.4 |
| Legend plate,"Hoist: Up/Down" | SKN201 | **2ER36** | 3.95 | **3.78** | 0.1 |




## PUSHBUTTON PENDANT STATIONS MEDIUM DUTY, UNASSEMBLED

- 8 to 26mm cable entry
- NEMA 1, 4, 4X, and 5 plastic enclosure
- Use a variety of 22mm corrosion resistant, non-metallic, non-illuminated operators
- Contact Blocks Rated NEMA A-600, Q-150DN (See chart on page 501)
- UL Listed, CSA Recognized, CE Certified
- Pushbuttons not included

### PUSHBUTTON PENDANT STATIONS—UNASSEMBLED

| Device | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Enclosure, 4 Hole | XACA04 | **2EV26** | $121.00 | **$114.75** | 1.1 |
| Enclosure, 8 Hole | XACA08 | **2EV28** | 185.00 | **175.50** | 1.5 |
| Pushbuttons, Booted Single Black Button | XACA9412 | **2EV34** | 4.00 | **3.79** | 0.2 |
| 1 NO/Spring Return/1 Speed* | ZB2BE101 | **4B696** | 7.90 | **7.49** | 0.1 |
| 1 NC/Spring Return/1 Speed* | ZB2BE102 | **4B699** | 7.90 | **7.49** | 0.1 |
| Legend plate, (Hoist Up) | ZB2BY2341 | **2FG51** | 1.60 | **1.52** | 0.1 |
| Legend plate, (Hoist Down) | ZB2BY2342 | **2FG52** | 1.60 | **1.52** | 0.1 |
| Legend plate, (Trolley Right) | ZB2BY2345 | **2FG55** | 1.60 | **1.52** | 0.1 |
| Legend plate, (Trolley Left) | ZB2BY2346 | **2FG56** | 1.60 | **1.52** | 0.1 |
| Legend plate, (Bridge Forward) | ZB2BY2343 | **2FG53** | 1.60 | **1.52** | 0.1 |
| Legend plate, (Bridge Reverse) | ZB2BY2344 | **2FG54** | 1.60 | **1.52** | 0.1 |

(*) NO = Normally Open. NC = Normally Closed

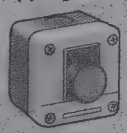


*Relay it, suppress it, enclose it — The leading brands are all right here.*

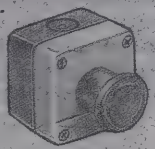
Telemecanique

E164353 LR44087

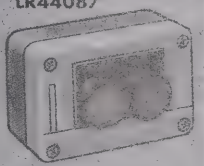
Momentary Action:
NOT for DIRECT starting or stopping of motors.



No. 4B583



No. 4B586



No. 4B585

## 22mm PLASTIC WALL STATIONS

- 600VAC/DC max.
- Plastic, double insulated, NEMA 1, 2, 3, 4, and 4X enclosures
- Enclosure provided with 4 to 8 cable entries; two knockouts in base
- Contact blocks included. Additional contact blocks and lamp holders on page 509
- Contact blocks rated NEMA A600-Q600 (see chart on page 501)
- UL Listed, CSA Certified, IEC Approved, CE Mark

### PRE-ASSEMBLED WALL STATION SPECIFICATIONS AND ORDERING DATA

| Type of Operator | Nameplate | Dimensions (In.) L | W | H | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1 Pushbutton | Stop | 2.68 | 2.68 | 2.0 | XAL B111 | 4B583 | $31.70 | $30.10 | 0.3 |
| 1 Pushbutton (Mushroom Head) | Stop | 2.68 | 2.68 | 2.0 | XAL B164 | 4B584 | 36.90 | 35.00 | 0.4 |
| 1 Pushbutton (Mushroom Head Turn to Release) | * | 2.68 | 2.68 | 2.0 | XAL J174 | 4B586 | 51.00 | 48.35 | 0.4 |
| 2 Pushbuttons | Start/Stop | 4.10 | 2.68 | 2.0 | XAL B211 | 4B585 | 31.70 | 30.10 | 0.4 |

(*) Nameplate not included, order No. 4B664 "Emergency Stop".

SQUARE D
GROUPE SCHNEIDER

E42249

No. 2EK13
NEMA Type 1
Surface Mounting



Momentary Action:
NOT for DIRECT starting or stopping of motors.

Control Stations

## PRE-ASSEMBLED CONTROL STATIONS

- NEMA 1 enclosure
- NO contact on start button
- NC contact on stop button
- Metal enclosure
- 600 VAC/DC max
- Surface mount
- Nos. 2EK13 & 2EK24 are momentary operation
- Contact blocks included, rated NEMA B600 (see chart on page 501)

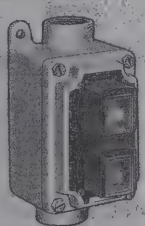
### PRE-ASSEMBLED CONTROL STATIONS

| No. of Units | Nameplate | Square D 9001... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2 Pushbuttons | Start/Stop | BG201 | 2EK13 | $39.55 | $37.85 | 0.6 |
| 1 Selector Switch | Hand/Off/Auto | BG112 | 2EK12 | 39.55 | 37.85 | 0.6 |
| 3 Pushbuttons | Up/Down/Stop | BG305 | 2EK24 | 79.11 | 75.70 | 0.8 |

Appleton
ELECTRIC COMPANY



No. 1A271



No. 1A358

E10523

E10449

## HAZARDOUS LOCATION STATIONS

### No. 1A271

- Single pole switch
- Class I, II, III; Groups B,C,D,E,F,G; Divisions 1 and 2
- 3/4" feed through conduit entries
- Malleable iron cover and body
- Factory sealed; no external seals required
- 20 amp, 120-277VAC resistive
- Ratings: 1 HP @ 120VAC; 2 HP @ 240VAC
- Appleton brand EDSC 175-FI

No. 1A271. Shpg. wt. 6.0 lbs. List $198.71.
Each ..... $139.05

### No. 1A358

- Momentary contact pushbutton station
- Applications include starting and stopping conveyors, processing equipment, motors and magnetic starters
- Class I, Division 1 & 2, Groups B,C,D
- Class II, Division 1 & 2, Groups E,F,G
- Class III
- 1/2" feed through conduit entries
- Malleable iron body; aluminum cover
- One normally open, one normally closed switch contacts
- Factory sealed; no external seals required
- 10 amps @ 600VAC; heavy pilot duty
- Appleton brand EFDCB 150-U2

No. 1A358. Shpg. wt. 4.1 lbs. List $251.65.
Each ..... $176.50

# GENERAL PURPOSE SWITCHES

## TOGGLE SWITCHES

**CARLINGSWITCH**

E7560

LR9280

- Applications include electric motors, appliances, power tools, light fixtures, and instruments
- Three terminal types: 6-32 screw; 1/4" quick connect tabs; wire leads
- 11/16" long bat toggle
- Stem 15/32" diameter x 15/32" long
- 1/2" mounting hole required

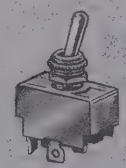
SEE PAGE 620 FOR CONNECTORS/TERMINALS

SEE PAGE 703 FOR MORE TOGGLE SWITCH SELECTIONS

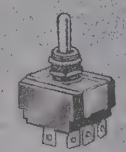
SEE PAGE 522 FOR GENERAL PURPOSE SWITCH TERMINOLOGY



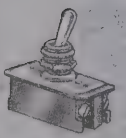
| Description | HP Rating | Amperes at 125 / 250 VAC | Amperes at 125 / 250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SPST—SINGLE POLE, SINGLE THROW; NO. OF CONNECTIONS (2)** | | | | | | | | | |
| On/Off | 3/4 | 15/10 | — | Screw | 2FA54-73 | **2X464** | $4.22 | **$3.72** | 0.1 |
| On/Off | 3/4 | 15/10 | — | Tabs‡ | 2FA53-73-Tabs | **4X846** | 3.69 | **3.23** | 0.1 |
| On/(M)*Off | 3/4 | 15/10 | — | Screw | 6FA58-73 | **4X201** | 6.99 | **6.22** | 0.1 |
| Off/(M)*On | 3/4 | 15/10 | — | Screw | 6FA54-73 | **4X200** | 6.99 | **6.22** | 0.1 |
| **SPDT—SINGLE POLE, DOUBLE THROW; NO. OF CONNECTIONS (3)** | | | | | | | | | |
| On/On | 3/4 | 15/10 | — | Screw | 2FB54-73 | **2X465** | 5.34 | **4.69** | 0.1 |
| On/On | 3/4 | 15/10 | — | Tabs‡ | 2FB53-73-Tabs | **4X847** | 4.53 | **3.99** | 0.1 |
| On/Off/On | 3/4 | 15/10 | — | Screw | 2FC54-73 | **2X466** | 5.34 | **4.69** | 0.1 |
| On/Off/On | 3/4 | 15/10 | — | Tabs‡ | 2FC53-73-Tabs | **4X848** | 4.53 | **3.99** | 0.1 |
| (M)*On/Off/(M)*On | 3/4 | 15/10 | — | Screw | 6FC54-73 | **4X203** | 7.43 | **6.69** | 0.1 |



| Description | HP Rating | Amperes at 125 / 250 VAC | Amperes at 125 / 250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **DPST—DOUBLE POLE, SINGLE THROW; NO. OF CONNECTIONS (4)** | | | | | | | | | |
| On/Off | 3/4 | 15/10 | — | Screw | 2GK54-73 | **2X467** | $6.92 | **$6.06** | 0.1 |
| On/Off | 3/4 | 15/10 | — | Tabs‡ | 2GK51-73 | **4X849** | 5.84 | **5.14** | 0.1 |
| **DPDT—DOUBLE POLE, DOUBLE THROW; NO. OF CONNECTIONS (6)** | | | | | | | | | |
| On/On | 3/4 | 15/10 | — | Screw | 2GL54-73 | **2X468** | 8.35 | **7.52** | 0.1 |
| On/On | 3/4 | 15/10 | — | Tabs‡ | 2GL51-73 | **4X850** | 6.77 | **6.10** | 0.1 |
| On/Off/On | 3/4 | 15/10 | — | Screw | 2GM54-73 | **2X469** | 8.58 | **7.53** | 0.1 |
| On/Off/On | 3/4 | 15/10 | — | Tabs‡ | 2GM51-73 | **4X851** | 6.98 | **6.10** | 0.1 |



| Description | HP Rating | Amperes at 125 / 250 VAC | Amperes at 125 / 250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **3PST—THREE POLE, SINGLE THROW; NO. OF CONNECTIONS (6)** | | | | | | | | | |
| On/-Off | 3/4 | 15/10 | — | Screw | HK254-73 | **4X208** | $13.17 | **$11.86** | 0.1 |
| **3PDT—THREE POLE, DOUBLE THROW; NO. OF CONNECTIONS (9)** | | | | | | | | | |
| On/On | 3/4 | 15/10 | — | Screw | HL254-73 | **2X650** | 15.78 | **14.78** | 0.1 |
| On/Off/On | 3/4 | 15/10 | — | Screw | HM254-73 | **2X594** | 15.78 | **14.78** | 0.1 |



| Description | HP Rating | Amperes at 125 / 250 VAC | Amperes at 125 / 250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **DPST—DOUBLE POLE, SINGLE THROW; NO. OF CONNECTIONS (4)** | | | | | | | | | |
| On/Off | 1 | 16/8 | 16/8 | Screw | DK284-73 | **2X488** | $7.81 | **$6.06** | 0.1 |
| On/Off | 1½ | 20/10 | 20/10 | Screw | EK204-73 | **2X633** | 12.69 | **9.83** | 0.1 |



| Description | Amperes at 125 / 250 VAC | Amperes at 125 / 250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **SPST—SINGLE POLE, SINGLE THROW; NO. OF CONNECTIONS (2)** | | | | | | | | |
| On/Off | 6/3 | 6/3 | Screw | 110-S-73 | **1X687** | $5.35 | **$4.72** | 0.1 |
| On/Off | 6/3 | 6/3 | 6" Leads | 111-16-73 | **1X878** | 5.51 | **4.59** | 0.1 |



No. 2X642

### ON-OFF PLATE FOR TOGGLE SWITCHES (ABOVE).

**No. 2X642.** Plate for toggle switches above. 15/16" long. Nickel finish. Not UL Listed or CSA certified. Carlingswitch brand (Y01). Package of 25. Shpg. wt. 0.1 lbs. List $3.23. Each ..... **$2.92**

### RUBBER BOOT FOR TOGGLE SWITCHES (ABOVE)

**No. 4D593.** Black silicone rubber boot bonded to brass nut. 15/32"-32 thread. Hubbell brand (SSBI). Shpg. wt. 0.1 lbs. List $9.33. Each..... **$7.47**

(*) Momentary. (‡) Tabs are quick connect type.



*Relay it, suppress it, enclose it — The leading brands are all right here.*

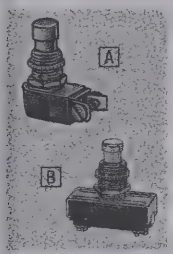
# GENERAL PURPOSE SWITCHES

**CARLINGSWITCH**

E7560 LR9280

- Applications include electric motors, appliances, power tools, light fixtures, and instruments
- Four terminal types: 6-32 screw; 1/4" quick connect tabs; wire leads; and solder lugs
- See page 620 for connectors/terminals

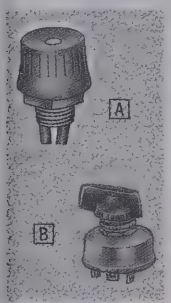
SEE PAGE 522 FOR GENERAL PURPOSE SWITCH TERMINOLOGY




## PUSH SWITCHES

(Stem 15/32" Diameter x 9/16" Long)

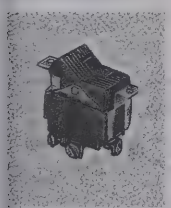
| Key | Description | Amperes at 125/250 VAC | Amperes at 125/250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **SPST—SINGLE POLE, SINGLE THROW; NO. OF CONNECTIONS (2)** | | | | | | | | |
| A | On/Off | 6/3 | 6/3 | Screw | 110-SP | **1X692** | $12.97 | **$6.09** | 0.1 |
| | **SPST—SINGLE POLE, SINGLE THROW; NO. OF CONNECTIONS (2)** | | | | | | | | |
| B | Normally Off (MNO)‡ | 15/10 | — | Screw | 172 | **2X894** | 8.24 | **5.14** | 0.1 |
| B | Normally On (MNC)‡ | 15/10 | — | Screw | 170 | **2X901** | 8.15 | **5.07** | 0.1 |




## 1, 3, AND 4 POSITION ROTARY SWITCHES

• Multicircuit Applications

| Key | Description | Amperes at 125/250 VAC | Amperes at 125/250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **SPST—SINGLE POLE, SINGLE THROW; NO. OF CONNECTIONS (2)** | | | | | | | | |
| A | On/Off | 3/1 | — | 6" Leads | R-135-BL | **4X215** | $2.56 | **$1.63** | 0.1 |
| | **SP3T—SINGLE POLE, THREE THROW; NO. OF CONNECTIONS (4)** | | | | | | | | |
| B | Off/On/On/On | 4/† | 1/† | Solder Lugs | 700-BL | **4X087** | 4.22 | **3.79** | 0.1 |
| | **SP4T—SINGLE POLE, FOUR THROW; NO. OF CONNECTIONS (5)** | | | | | | | | |
| B | Off/On/On/On/On | 6/3 | — | Solder Lugs | 800-5A | **4X739** | 8.60 | **4.84** | 0.1 |



## TIPPETTE® SWITCHES

(5/8" Wide, Black Actuator, 1 5/8" Mounting Centers) • Panel Board Applications

| Description | HP Rating | Amperes at 125/250 VAC | Amperes at 125/250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **SPST—SINGLE POLE, SINGLE THROW; NO. OF CONNECTIONS (2)** | | | | | | | | |
| On/Off, Red Neon "On" Light | 1/2 | 15/10 | — | Screw | LTILA54-1L BL-RC-A/125N | **4X216** | $6.19 | **$5.53** | 0.1 |




## TIPPETTE® SWITCHES

(13/16" Wide x 1 7/16" Long—Mounting Hole Dimensions) • Panel Board Applications

| Key | Description | 125-250 VAC HP Rating | Amperes at 125-250 VAC | Amperes at 125/250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| | **SPST—SINGLE POLE, SINGLE THROW; NO. OF CONNECTIONS (2)** | | | | | | | | | |
| A | On/Off, Black Non-Lighted | 3/4 | 15/10 | — | Tab | TIGA51-6S-BL-NBL | **3XC53** | $4.41 | **$3.92** | 0.1 |
| A | On/Off, Black, Non-Lighted | 3/4 | 15/10 | — | Screw | TIGA54-6S-BL-NBL | **3XC54** | 4.90 | **4.06** | 0.1 |
| B | On/Off, Red, Lighted | 1/2 | 15/10 | — | Tab | LTILA51-6S BL-RC-NBL/125N | **3XC59** | 5.85 | **5.11** | 0.1 |
| B | On/Off, Red, Lighted | 1/2 | 15/10 | — | Screw | LTILA54-6S-BL-RC-NBL/125N | **3XC60** | 6.20 | **5.22** | 0.1 |
| | **DPST—DOUBLE POLE, SINGLE THROW; NO. OF CONNECTIONS (4)** | | | | | | | | | |
| A | On/Off, Black, Non-Lighted | 3/4 | 15/10 | — | Tab | TIGK51-6S-BL-NBL | **3XC55** | 5.96 | **5.34** | 0.1 |
| A | On/Off, Black, Non-Lighted | 3/4 | 15/10 | — | Screw | TIGK54-6S-BL-NBL | **3XC56** | 6.90 | **5.46** | 0.1 |

(†) Not rated for 250V. (‡) Momentary.

# GENERAL PURPOSE SWITCHES AND SWITCH TERMINOLOGY

**CARLINGSWITCH**

E7560 LR9280

- Applications include appliances, power tools, light fixtures, and instruments
- Terminals are ¼" quick connects
- See page 620 for connectors/terminology

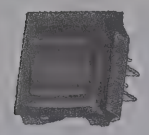
SEE BELOW FOR GENERAL PURPOSE SWITCH TERMINOLOGY



## CURVETTE® SWITCHES • Panel Board Applications

### (0.47" Wide x 1.07" Long—Mounting Hole Dimensions)

| Description | Amperes at 125 / 250 VAC | Amperes at 125 / 250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **SPST—SINGLE POLE, SINGLE THROW; NO. OF CONNECTIONS (2)** | | | | | | | | |
| On/Off, Black Matte | 16/10 | — | Tabs | RA911-RB-B-0-N | **1A822** | $1.69 | **$1.53** | 0.1 |
| On/Off, Red Pop Up with On-Off | 16/10 | — | Tabs | RA911-VB-B-1-V | **1A823** | 1.90 | **1.74** | 0.1 |
| On/Off, Red Neon Light | 16/10 | — | Tabs | LRA911-RS-B/120N | **1A824** | 3.45 | **3.07** | 0.1 |



## CURVETTE® SWITCHES • Panel Board Applications

### (0.86" Wide x 1.07" Long—Mounting Hole Dimensions)

| Description | Amperes at 125 / 250 VAC | Amperes at 125 / 250 VDC | Terminals | Carlingswitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **SPST—SINGLE POLE, SINGLE THROW; NO. OF CONNECTIONS (2)** | | | | | | | | |
| On/Off, Black Matte | 20/15 | — | Tabs | RGSCA211-RB-B-0 | **3XC57** | $2.89 | **$2.61** | 0.1 |
| **DPST—DOUBLE POLE, SINGLE THROW; NO. OF CONNECTIONS (4)** | | | | | | | | |
| On/Off, Red Neon "On" Light | 20/15 | — | Tabs | LRGSCK221-RS-B0/125N | **3XC58** | 5.87 | **4.98** | 0.1 |

## GENERAL PURPOSE SWITCH TERMINOLOGY

**SP (Single Pole)**

A switch device that opens, closes or changes connection of a single conductor in an electrical circuit

**DP (Double Pole)**

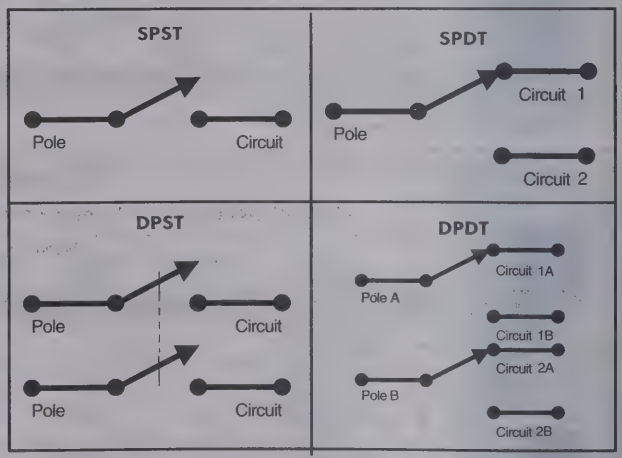
A switch device that opens, closes or changes connection of two conductors in an electrical circuit

**ST (Single Throw)**

A switch that opens, closes or completes a circuit at only one of the extreme positions of its actuator

**DT (Double Throw)**

A switch that opens, closes or completes a circuit at both extreme positions of its actuator

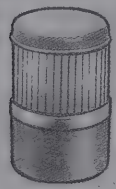



**ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY**

Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items. See Index under Energy Saving Products.

# INDICATING BEACONS AND BANKS

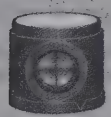
Telemecanique



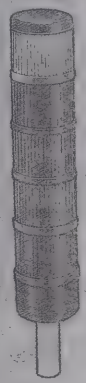
Indicating Beacon
No. 4B619

E9281

LR44087



Audible Signaler
No. 4B618



Indicating Bank, Modular Design Allows 1-5 Lenses (Requires Cover And Base Unit 4B605)

- Used for visual signaling in noisy environments; visable from a distance on a 360° radius
- Applications include: conveyor systems, automated process lines, assembly work stations, and machine tools
- Shock and vibration resistant
- Ambient operating temperature: -13°F to +158°F
- Polycarbonate lenses; 7W max.
- UL Listed and CSA Certified; UL508 Approval; Meets NEMA 1 and 12 protection, CE Certified

INDICATING BEACONS:

- Individual signaling units available with steady, flashing, or strobe light
- Include 1 cover, 1 illuminated lens, and 1 base
- Can be directly mounted to equipment or can be mounted onto extension tubes

INDICATING BANKS:

- Stackable modular systems
- Any combination of up to five lenses can be assembled to meet specific communication requirements
- Can be directly mounted to equipment on 4, 16, or 31½" extension tubes
- Requires cover and base unit (4B605) to complete unit.

### COVER AND BASE UNIT

**No. 4B605.** Telemecanique brand (XVAC211). Shpg. wt. 0.3 lbs.
List $40.63. Each ..... **$40.25**

## INDICATING BEACONS/BANK SPECIFICATIONS AND ORDERING DATA

| Signal | Max. Voltage | Color | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PRE-ASSEMBLED INDICATING BEACONS** | | | | | | | |
| **Steady Light** | 24-220VAC/DC | Green* | XVA L331 | **4B619** | $76.06 | **$75.30** | 0.5 |
| | | Red* | XVA L341 | **4B620** | 76.06 | **75.30** | 0.5 |
| | | Orange* | XVA L351 | **4B621** | 76.06 | **75.30** | 0.5 |
| **Flashing Light** | 24-220VAC | Green* | XVA L431 | **4B622** | 130.25 | **128.90** | 0.7 |
| | | Red* | XVA L441 | **4B623** | 130.25 | **128.90** | 0.6 |
| **Strobe Light†** | 24VDC | Green | XVA L73C024 | **4B624** | 244.87 | **242.50** | 0.9 |
| | | Orange | XVA L75C024 | **4B626** | 244.87 | **242.50** | 0.9 |
| **Strobe Light†** | 110-120VAC | Red | XVA L74B120 | **4B625** | 244.87 | **242.50** | 0.9 |
| | | Blue | XVA L76B120 | **4B627** | 244.87 | **242.50** | 0.9 |
| **MODULAR INDICATING BANKS (1 Cover and Base Unit (4B605) + 1-5 Lenses Required)** | | | | | | | |
| **LENSES** | | | | | | | |
| **Steady Light** | 24-220VAC/DC | Green* | XVA C331 | **4B606** | 40.63 | **40.25** | 0.2 |
| | | Red* | XVA C341 | **4B607** | 40.63 | **40.25** | 0.2 |
| | | Orange* | XVA C351 | **4B608** | 40.63 | **40.25** | 0.2 |
| | | Blue* | XVA C361 | **4B609** | 40.63 | **40.25** | 0.2 |
| | | Clear* | XVA C371 | **4B610** | 40.63 | **40.25** | 0.2 |
| **Flashing Light** | 24-220VAC | Green* | XVA C431 | **4B611** | 94.82 | **93.85** | 0.3 |
| | | Red* | XVA C441 | **4B612** | 94.82 | **93.85** | 0.3 |
| | | Orange* | XVA C451 | **4B613** | 94.82 | **93.85** | 0.3 |
| | | Blue* | XVA C461 | **4B614** | 94.82 | **93.85** | 0.3 |
| | | Clear* | XVA C471 | **4B615** | 94.82 | **93.85** | 0.4 |
| **Strobe Light†** | 110-120VAC | Green | XVA C73B120 | **4B616** | 210.48 | **208.50** | 0.6 |
| | | Red | XVA C74B120 | **4B617** | 210.48 | **208.50** | 0.7 |
| **AUDIBLE SOUNDER—90 dB up to 1 meter** | | | | | | | |
| **Intermittent Tone** | 110-220VAC | — | XVA C94 | **4B618** | 311.55 | **308.50** | 0.3 |

(*) Lamp not included, order separately below. (†) Only 1 unit can be used on each bank and must be mounted in top position

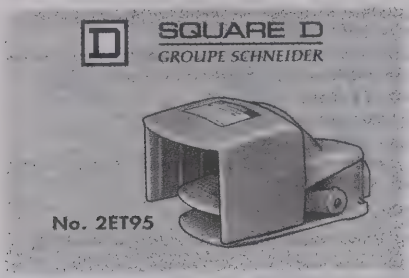
## ACCESSORIES FOR INDICATING BANKS AND BEACONS

| Description | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **4" Extension Tube** | XVA C02 | **4B599** | $12.29 | **$12.17** | 0.1 |
| **16" Extension Tube** | XVA C03 | **4B600** | 23.13 | **22.89** | 0.3 |
| **31½" Extension Tube** | XVA C04 | **4B601** | 33.96 | **33.65** | 0.5 |
| **1/2" NPT Conduit Adapter** | XVA C00 | **4B598** | 2.08 | **2.06** | 0.2 |
| **Metal Tube Support/Tulip** | XVA C11 | **4B604** | 16.25 | **16.08** | 0.3 |
| **Plastic Tube Support/Tulip** | XVA C01 | **2EW20** | 10.83 | **10.72** | 0.1 |
| **Metal Wall Mount Bracket** | XVA C12 | **3KL39** | 32.51 | **32.20** | 0.2 |
| **Gasket—Direct Base Mounting** | XVA C05 | **4B602** | 4.16 | **4.12** | 0.1 |
| **Gasket—Tube Support/Tulip** | XVA C06 | **4B603** | 4.16 | **4.12** | 0.1 |
| **Lamp (24V), 6.5W** | DL1BL024 | **4B573** | 5.41 | **5.36** | 0.1 |
| **Lamp (120V), 7W** | DL1BL120 | **4B574** | 5.41 | **5.36** | 0.1 |
| **Lamp (12V), 5W** | DL1BA012 | **2FN30** | 5.41 | **5.36** | 0.2 |
| **Lamp (240V), 7W** | DL1BA260 | **2FN35** | 5.41 | **5.36** | 0.1 |

(‡) For NEMA 12 rating.

# FOOT SWITCHES

## HEAVY-DUTY INDUSTRIAL




- NEMA 2, 4, 13
- Top pedal shield and side shields
- Oiltight, watertight, dustight, and driptight
- Momentary Action
- Contains interlock to prevent operation due to shock or vibration
- Dimensions: 9L x 5.4W x 4.8"D
- Contact form: SPDT
- Cordset: None
- Rated 15 amp @ 120VAC
- Replacement contacts No. 2ET89

**No. 2ET95.** Shpg. wt. 4.4 lbs. List .....$167.60.
Each .....$166.00

E42259 LR25490

## GENERAL PURPOSE




- Momentary action
- Cast-iron and steel construction with four mounting holes
- High strength socket head hinge screws
- Four mounting holes located 2.88" on center side to side and 4.28" on center front to rear
- Black epoxy paint
- Elastomeric base pad enhances skid resistance
- UL Listed to U.S. and Canadian Safety Standards up to 20 amp, 1 HP, 125/250VAC

### SPECIFICATIONS AND ORDERING DATA

| Contact Form | Ratings Amps | HP | VAC | Cordset | Dimensions (In.) L | W | D | Conntrol Internat. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPDT | 20 | 1 | 125 / 250 | None | 4.75 | 3.5 | 1.75 | 893-1000-00 | **5A287** | $23.76 | **$22.60** | 2.5 |
| SPDT | 15 | 3/4 | 125 | 8' 14/3 w/Series Plug | 4.75 | 3.5 | 1.75 | 893-1570-00 | **5A288** | 35.17 | **33.45** | 2.7 |

## LIGHT-DUTY




- Momentary action
- Solid steel construction with full cover and base pads
- Redundant stainless steel spring system
- High strength socket head hinge screws
- Black epoxy coating
- Long life, enclosed snap switch
- Superior cable clamp assembly for easy field wiring
- All thread openings are extruded to provide extra thread engagement
- UL Listed to U.S. and Canadian Safety Standards up to 15 amp, 1/2 HP, 125/250VAC

### SPECIFICATIONS AND ORDERING DATA

| Contact Form | Ratings Amps | HP | VAC | Cordset | Dimensions (In.) L | W | D | Conntrol Internat. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPDT | 15 | 0.5 | 125 / 250 | None | 3.625 | 2.75 | 1.5 | 862-1000-00 | **5A285** | $10.25 | **$10.03** | 0.6 |
| SPDT | 13 | 0.5 | 125 | 8' 16/3 w/Series Plug | 3.625 | 2.75 | 1.5 | 862-1330-03 | **5A286** | 19.02 | **18.60** | 1.2 |

## SINGLE GUARD



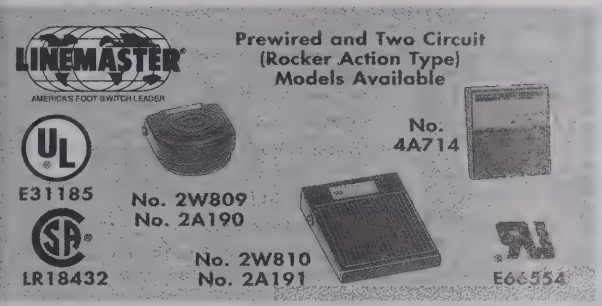

- All steel construction
- Neoprene rubber base pad enhances skid resistance
- OSHA yellow color
- For use with all Conntrol foot switches listed above
- Dimensions: 4¾H x 6W x 5¾"L
- Conntrol International Brand (864-1000-00)

**No. 5A289.** Shpg. wt. 3.0 lbs. List .....$17.84.
Each .....$17.13

### CAUTION: FOOT SWITCH SAFETY NOTE

It is the responsibility of the user to determine the suitability of a foot switch for the intended use and to determine that it will comply with all Federal, State, and Local safety and health regulations.

Use of foot switches on machinery lacking effective point of operation safeguards can cause serious injury to the operator. Foot switches should be used only where "Point of Operation" and "Pinch Point" guarding devices have been properly installed and are utilized so that it is impossible for the operator's hands or fingers to remain within the point of operation during the machine cycle.

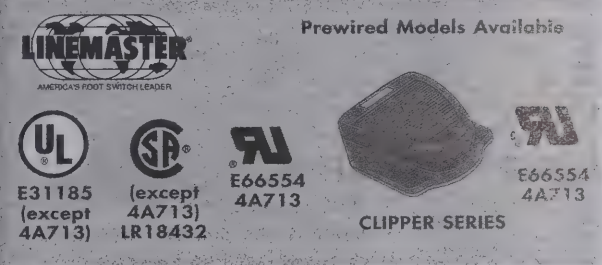



## LIGHT-DUTY

- Steel housing with black finish
- Skid-Proof base pad resists sliding
- UL Listed (E31185) (Nos. 2A190 and 2A191)
- UL Recognized for USA and Canada (E66554) (Nos. 2W809, 2W810, and 4A714)
- CSA Certified (LR18432) (Nos. 2A190 and 2A191)
- Momentary action
- No. 4A714 has two circuits. Mechanical interlock prevents both circuits from being operated simultaneously; gray finish
- Nos. 2A190 and 2A191 are prewired with 3-prong grounded series cordset (SJT)

| Contact Form | Rtgs. @ 125-250 VAC Amps | HP | Prewired Cordset | Dimensions (In.) L | W | D | Old Linemaster Model | Linemaster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPDT | 10 | 1/2 | NA | 2 7/8 | 2 1/2 | 1 1/4 | — | 491-S | 2W809 | $12.45 | $12.32 | 0.4 |
| SPST-NO | 10† | 1/2 | 8'-16/3 | 2 7/8 | 2 1/2 | 1 1/4 | — | 491-SC3 | 2A190 | 25.95 | 25.65 | 1.1 |
| SPDT | 15 | 1/2 | NA | 3 1/2 | 2 5/8 | 1 | T-51-S | T-91-S | 2W810 | 8.95 | 8.85 | 0.5 |
| SPST-NO | 15† | 1/2 | 6'-14/3 | 3 1/2 | 2 5/8 | 1 | T-51-SC3 | T-91-SC3-A | 2A191 | 16.95 | 16.77 | 1.0 |
| SPDT (2) | 10 | 1/2 | NA | 4 5/8 | 4 | 1 1/8 | — | 72 | 4A714 | 29.00 | 28.75 | 1.4 |

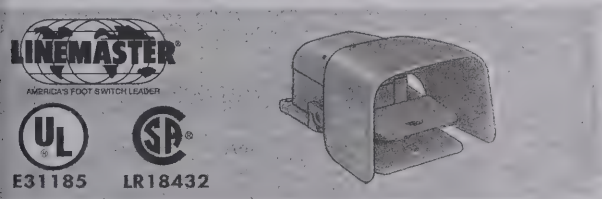
(†) Rating for 125V only.




## GENERAL PURPOSE

- Cast-iron construction with black finish
- Skid-proof base pad resists sliding
- Strain relief connector at switch connection prevents wire fatigue
- No. 4A713 has two stage switching—a distinct "feeling" exists between stages
- Momentary action (except No. 2W808 is maintained)
- No. 2W463 is prewired with 3-prong grounded series cordset (SJT)
- No. 4A713 is UL Recognized for USA and Canada (E66554)

| Contact Form | Ratings @ 125-250 VAC Amps | HP | Prewired Cordset | Dimensions (In.) L | W | D | Linemaster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPST-NO | 15† | 3/4 | 8'-14/3 | | | | 632-SC3 | 2W463 | $41.40 | $41.00 | 3.3 |
| SPDT | 20 | 1 | NA | 4 1/2 | 3 1/2 | 1 1/4 | 632-S | 5X361 | 25.70 | 25.45 | 2.3 |
| SPDT | 20 | 1 | NA | | | | 632-D | 2W808 | 40.30 | 39.90 | 2.4 |
| SPDT (2) | 15-10 | 1/2 | NA | 4 1/2 | 3 1/2 | 1 1/4 | 636-S | 4A713 | 41.70 | 41.30 | 2.3 |




## HEAVY-DUTY

- Cast-iron water and oiltight housing painted bright orange for NEMA locations 2, 4 & 13
- Comply with OSHA for full shielding
- 3/4"-14 NPT conduit opening
- No. 3X680 has anti-trip treadle mechanism and gate to help prevent unintentional actuation
- Momentary action

| Contact Form | Ratings @ 125-250 VAC Amps | HP | Prewired Cordset | Dimensions (In.) L | W | D | Linemaster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPDT | 20* | 1 | NA | 9 | 6 | 4 1/2 | 531-SWH | 2W807 | $74.70 | $73.95 | 7.5 |
| | | | | 10 | 6 | 5 1/2 | 511-BG | 3X680 | 137.80 | 136.35 | 8.8 |
| DPDT | 20* | 1 | NA | 9 | 6 | 4 1/2 | 532-SWH | 4A712 | 89.75 | 88.80 | 8.7 |

(*) Heavy pilot duty, 250VAC maximum.




## FOOT SWITCH GUARD

Use with Linemaster general purpose and light-duty models. 6H x 6W x 4½"L. (522-B14).

No. 2W811. Shpg. wt. 4.0 lbs. List $20.65. Each.....$20.41

Prior to purchase of Foot Switch, Refer to Important Foot Switch Safety Note pg. 524

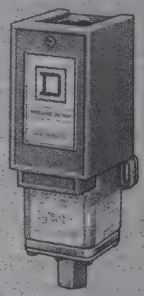
# PRESSURE SWITCHES

## INDUSTRIAL PRESSURE SWITCHES

SQUARE D
GROUPE SCHNEIDER

E12158 LR25490

Replacement Parts Available 1-800-323-0620



- Designed to control or monitor pressure using air, oil, water, or other compatible fluids
- NEMA 1 enclosure
- Easily adjustable range and differential
- Buna N diaphragms
- 1/4" female inlet
- Switch mechanisms have high resistance to welding on inrush currents
- SPDT switch
- Electrical specifications—see table below
- NEMA A600, P300 rating
- Meets General Industrial Requirements

### INDUSTRIAL PRESSURE SWITCHES SPECIFICATIONS AND ORDERING DATA

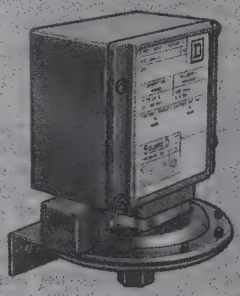
| Pressure Range (PSI) | Adjustable Pressure Differential† (PSI) | Maximum Pressure Allowable | Square D Model 9012 | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3-150** | 4.2-22 | 475 | GNG-5 | **1A352** | $130.00 | **$126.75** | 1.7 |
| **5-250** | 7.4-56 | 750 | GNG-6 | **1A353** | 148.00 | **144.30** | 1.7 |

(†) Pressure differential range adjustment values are different depending on the pressure range setting, ie., at pressure range of 3 PSI, the pressure differential adjustment is 4.2-16 PSI; at pressure range of 150 PSI, the pressure differential adjustment is 5-22 PSI for No. 1A352.

## MACHINE TOOL PRESSURE SWITCHES

SQUARE D
GROUPE SCHNEIDER

E12158 LR25490



- SPDT contacts
- NEMA 4, 4X, and 13 enclosure
- UL Listed and CSA Certified

Machine tool pressure switches are control circuit rated for use in pneumatic or hydraulic systems. Can be applied to a wide variety of machine and process applications to control or monitor system pressure and protect equipment. Switches are available with both diaphragm and piston actuators. All models are adjustable differential style.

### CONTROL DUTY CIRCUIT RATINGS

| | AC | | DC |
|---|---|---|---|
| Volts | Make | Break | |
| 120 | 60 | 6 | .55 |
| 240 | 30 | 3 | .27 |
| 480 | 15 | 1.5 | .1 |
| 600 | 12 | 1.2 | — |

### ADJUSTABLE DIFFERENTIAL SPECIFICATIONS AND ORDERING DATA

| Actuation Type | Decreasing Pressure Range (PSIG) | Adjustable Pressure Differential* Approx. at mid-range (PSIG) | Maximum Pressure (PSIG) | Square D Model 9012 | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Diaphragm** | 0.2-10 | 0.61-2 | 100 | GAW-1 | **6B450** | $200.00 | **$187.25** | 4.6 |
| **Diaphragm** | 1-40 | 1.6-8 | 100 | GAW-2 | **5B427** | 175.00 | **170.75** | 2.8 |
| **Diaphragm** | 1.5-75 | 3.5-15 | 240 | GAW-4 | **5B426** | 175.00 | **170.75** | 2.9 |
| **Diaphragm** | 3-150 | 6-30 | 475 | GAW-5 | **5B425** | 171.00 | **166.75** | 2.8 |
| **Diaphragm** | 3-150 | 6-30 | 475 | GAW-5G18 | **1V620†** | 203.00 | **198.00** | 2.8 |
| **Diaphragm** | 5-250 | 10.8-49 | 750 | GAW-6 | **5B423** | 171.00 | **166.75** | 2.8 |
| **Diaphragm** | 13-425 | 16-90 | 850 | GBW-1 | **5B422** | 234.00 | **228.25** | 2.7 |
| **Piston** | 20-1000 | 60-200 | 10,000 | GCW-1 | **5B421** | 345.00 | **336.50** | 2.9 |
| **Piston** | 20-1000 | 60-200 | 10,000 | GCW-1G18 | **1V622†** | 377.00 | **367.75** | 2.9 |
| **Piston** | 90-2900 | 170-560 | 15,000 | GCW-2 | **5B420** | 345.00 | **336.50** | 2.9 |

(*) Differential adds to range setting and determines operating point on rising pressure. (†)With 120VAC or DC red neon pilot light.



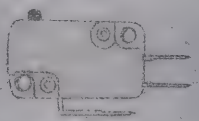
Relay it, suppress it, enclose it — The leading brands are all right here.

# MINIATURE SNAP-ACTION SWITCHES

CHERRY



No. 6A886

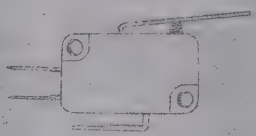


No. 6X291

E23301



No. 6A889

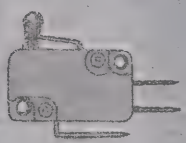


No. 6X292

16503



No. 6A888



No. 6X293

**Functionally Interchangeable with Unimax; See Guide Below.**

## ALL SWITCHES

- SPDT switch action
- Use for NO or NC circuits

## GENERAL PURPOSE TYPES

- Electrical ratings: 15 amps, 3/4 HP @ 125 VAC and 1½ HP @ 250 VAC
- 1/4" quick connect terminals
- Phenolic case and cover

## MINIATURE TYPES

- Use for applications requiring low operating force or a miniature size switch
- Electrical ratings: 10 amps 1/2 HP @ 125/250 VAC
- Mounting dimensions: 7/8" center to center
- Meet international agency approval standards
- 0.187" quick connect terminals
- Thermoplastic case and cover

## SWITCH SPECIFICATIONS

| Switch Type | Stock No. | Maximum Operating Force Range in Grams | Minimum Release Force in Grams | Movement Differential in Inches | Maximum Pre-Travel in Inches | Minimum Total Over-Travel in Inches |
|---|---|---|---|---|---|---|
| GENERAL PURPOSE | 6A886 | 425 | 85 | 0.015 | 0.050 | 0.100 |
| | 6A887 | 425 | 85 | 0.015 | 0.050 | 0.108 |
| | 6A888 | 100 | 14 | 0.093 | 0.250 | 0.187 |
| | 6A889 | 100 | 17 | 0.093 | 0.250 | 0.187 |
| MINIATURE | 6X291 | 75 | 22 | 0.010 | 0.47 | 0.050 |
| | 6X292 | 37 | 7 | 0.030 | 0.125 | 0.085 |
| | 6X293 | 75 | 22 | 0.010 | 0.047 | 0.040 |
| | 6A884 | 10 | 2 | 0.100 | 0.500 | 0.312 |
| | 6A885 | 37 | 7 | 0.030 | 0.125 | 0.085 |

## SWITCH ORDERING DATA

| Type of Actuator | Overall Dimensions (In.) L | W | D | Interchange Guide Unimax | Cherry Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **GENERAL PURPOSE TYPE** | | | | | | | | | |
| Flush | 1.83 | 0.61 | 0.84 | A | E13-00E | **6A886** | $2.42 | **$2.40** | 0.1 |
| Barrel | 1.83 | 0.61 | 1.25 | AQ | E13-00J | **6A887** | 2.92 | **2.88** | 0.1 |
| Lever | 1.83 | 0.61 | 0.90 | AT | E13-00H | **6A888** | 2.82 | **2.79** | 0.1 |
| Roller | 1.83 | 0.61 | 0.90 | AA | E13-00K | **6A889** | 3.93 | **3.90** | 0.1 |
| **MINIATURE** | | | | | | | | | |
| Button | 1.09 | 0.40 | 0.62 | 2TM-4 | D44L-R1AA | **6X291** | 2.52 | **2.26** | 0.1 |
| Lever | | | | 2TMT15-4 | D44L-R1LD | **6X292** | 2.98 | **2.68** | 0.1 |
| Roller | | | | 2TMA-4 | D44L-R1RA | **6X293** | 3.75 | **3.21** | 0.1 |
| **MINIATURE EXTENDED ACTUATORS** | | | | | | | | | |
| Lever | 1.10 | 0.41 | 0.63 | 2TMT27-4 | D44L-R1ML | **6A884** | 3.07 | **3.05** | 0.1 |
| Roller | | | | 6TMA15-4 | D44L-R1RC | **6A885** | 3.18 | **3.15** | 0.1 |

# SNAP-ACTION SWITCHES

OMRON

Functionally Interchangeable with Unimax; See Guide Below

LR21642

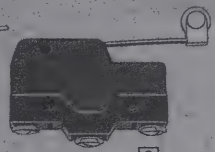
E41515



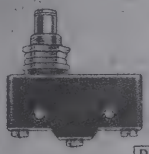
Pin Type Actuator [A]



Lever Type Actuator [B]



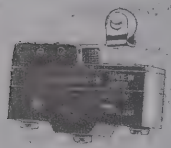
Roller Type Actuator [C]



Plunger Type Actuator [D]



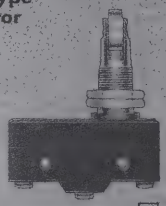
Roller Plunger [E]



Short Roller [F]



Short Spring Plunger [G]



Cross Roller Plunger [H]



Slim Spring Plunger [I]



Unidirect Short Roller Lever [J]

| Key | Switch Type | Stock No. | Maximum Operating Force Range in Ounces | Minimum Release Force in Ounces | Max. Movement Differential in Inches | Maximum Pre-Travel in Inches | Minimum Over-Travel in Inches | Contact Gap in Inches |
|---|---|---|---|---|---|---|---|---|
| A | | 6X283 | 8.8 to 12.3 | 4.0 | 0.002 | 0.016 | 0.005 | 0.020 |
| B | | 6X284 | 2.5 | 0.5 | 0.050 | 0.394 | 0.220 | 0.020 |
| C | | 6X285 | 3.5 | 0.8 | 0.040 | 0.280 | 0.157 | 0.020 |
| D | | 6X286 | 8.8 to 12.3 | 4.0 | 0.002 | 0.016 | 0.217 | 0.020 |
| E | | 2XC11 | 8.8 to 12.3 | 4.0 | 0.002 | 0.016 | 0.141 | 0.020 |
| F | | 2XC12 | 5.6 | 1.5 | 0.020 | 0.106 | 0.094 | 0.020 |
| G | "Z" Series | 3XG48 | 8.8 to 12.3 | 4.0 | 0.002 | 0.016 | 0.064 | 0.020 |
| G | (general purpose) | 3XG49 | 18.9 | 4.0 | 0.002 | 0.072 | 0.064 | 0.020 |
| H | | 3XG50 | 8.8 to 12.3 | 4.0 | 0.002 | 0.016 | 0.143 | 0.020 |
| I | | 3XG51 | 8.8 to 12.3 | 4.0 | 0.002 | 0.016 | 0.064 | 0.020 |
| I | | 3XG52 | 18.9 | 4.0 | 0.002 | 0.016 | 0.064 | 0.020 |
| J | | 3XG53 | 5.9 | 1.5 | 0.002 | 0.122 | 0.096 | 0.020 |
| — | | 3XG54 | 0.98 | 0.1 | 0.050 | 0.400 | 0.224 | 0.020 |
| A | | 6X287 | 14.1 to 22.0 | 10.1 | 0.008 | 0.051 | 0.010 | 0.020 |
| B | | 6X289 | 2.5 | 0.5 | 0.094 | 0.626 | 0.157 | 0.020 |
| C | "A" Series | 6X290 | 3.2 | 0.5 | 0.087 | 0.472 | 0.094 | 0.020 |
| D | (heavy duty) | 6X288 | 14.1 to 22.0 | 10.1 | 0.008 | 0.051 | 0.220 | 0.020 |
| F | | 2CX10 | 5.7 | 1.5 | 0.048 | 0.252 | 0.048 | 0.020 |
| G | | 3XG30 | 14 to 21.8 | 10.7 | 0.008 | 0.052 | 0.120 | 0.020 |

### "Z" SERIES (General Purpose)

- **Electrical ratings: SPDT 15 amp @ 125, 250, or 480VAC; 1/2 amp @ 125VDC; 1/4 amp @ 250VDC; 1/8 HP @125VAC; 1/4 HP @ 250VAC**
- **Screw terminals**
- **Sealed, "drip proof" (IEC IP63) on 3XG52 and 3XG49**

### "A" SERIES (Heavy Duty)

- **Electrical ratings: SPDT 20 amp @ 125, 250, or 480VAC; 10 amp @ 125VAC (Tungsten); 1/2 amp @ 125VDC; 1/4 amp @ 250VDC, 1 HP @ 125VAC; 2 HP @ 250VAC**
- **Screw terminals**

## SNAP-ACTION SWITCH ORDERING DATA

| Key | Type of Actuator | Overall Dimensions (In.) L | W | D | Interchange Guide Unimax | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| | **"Z" SERIES** | | | | | | | | | |
| A | Pin | 1.94 | 0.69 | 0.95 | 2HB-5 | Z15G-B7-K | **6X283** | $5.27 | **$4.77** | 0.1 |
| B | Hinge Lever | 1.94 | 0.69 | 1.16 | 2HBT-5 | Z15GW-B7-K | **6X284** | 6.83 | **6.18** | 0.1 |
| C | Roller Lever | 1.94 | 0.69 | 1.16 | 2HBA-5 | Z15GW2-B7-K | **6X285** | 8.63 | **7.81** | 0.1 |
| D | Plunger | 1.94 | 0.69 | 1.88 | 2HBJ-5 | Z15GQ-B7-K | **6X286** | 8.01 | **7.69** | 0.1 |
| E | Roller Plunger | 1.94 | 0.69 | 2.33 | 2HBR5-5 | Z15GQ22-B7-K | **2XC11** | 15.46 | **14.00** | 0.1 |
| F | Short Roller | 1.94 | 0.69 | 1.65 | 2HBA190-5 | Z15GW22-B7-K | **2XC12** | 8.62 | **7.80** | 0.1 |
| G | Short Spring Plunger | 1.94 | 0.69 | 0.95 | — | Z15GD-B7-K | **3XG48** | 9.28 | **6.72** | 0.1 |
| G | Short Spring Plunger | 1.94 | 0.69 | 0.95 | — | Z15GD55-B7-K | **3XG49** | 21.60 | **10.93** | 0.1 |
| H | Cross Roller Plunger | 1.94 | 0.69 | 2.33 | — | Z15GQ21-B7-K | **3XG50** | 35.11 | **18.86** | 0.1 |
| I | Slim Spring Plunger | 1.94 | 0.69 | 0.95 | — | Z15GS-B7-K | **3XG51** | 10.29 | **7.05** | 0.1 |
| I | Slim Spring Plunger | 1.94 | 0.69 | 0.95 | — | Z15GS55-B7-K | **3XG52** | 14.94 | **13.06** | 0.1 |
| J | Unidirect Short Roller Lever | 1.94 | 0.69 | 1.65 | — | Z15GW2277-B7-K | **3XG53** | 14.38 | **9.24** | 0.1 |
| — | Long Lever | 1.94 | 0.69 | 1.16 | — | Z15GW4-B7-K | **3XG54** | 9.27 | **8.50** | 0.1 |
| | **"A" SERIES** | | | | | | | | | |
| A | Pin | 1.94 | 0.69 | 0.95 | — | A20G-B7-K | **6X287** | 6.82 | **6.17** | 0.1 |
| B | Hinge Lever | 1.94 | 0.69 | 1.16 | — | A20GV-B7-K | **6X289** | 7.08 | **6.40** | 0.1 |
| C | Roller Lever | 1.94 | 0.69 | 1.16 | — | A20GV2-B7-K | **6X290** | 8.86 | **8.02** | 0.1 |
| D | Plunger | 1.94 | 0.69 | 1.88 | — | A20GQ-B7-K | **6X288** | 11.86 | **10.75** | 0.1 |
| F | Short Roller | 1.94 | 0.69 | 1.19 | — | A20GV22-B7-K | **2XC10** | 8.89 | **8.04** | 0.1 |
| G | Short Spring Plunger | 1.94 | 0.69 | 0.95 | — | A20GD-B7-K | **3XG30** | 11.29 | **9.88** | 0.1 |

## SNAP-ACTION SWITCH ACCESSORIES

| Description | Material | Mounting Method | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Dustproof terminal enclosure fits Basic Precision Type (Z Series above)** | Polyvinyl Chloride | Side | AP-Z | **6C920** | $3.36 | **$2.33** | 0.1 |

# SNAP-ACTION SWITCHES

OMRON

LR21642

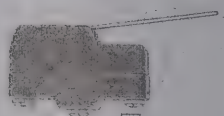
E41515



Pin Type Actuator [A]



Short Hinge Lever [B]



Lever Type Actuator [C]



Long Lever [D]



Formed Hinge Lever [E]



Short Roller Lever [F]

## "V" SERIES (Miniature)

- Electrical ratings: SPDT

| V-15G Series | Resistive Load (Amps) | Motor Load (Amps) |
|---|---|---|
| 250VAC | 15 | 3 |
| 8VDC | 15 | 6 |
| 30VDC | 10 | 4 |
| 125VDC | 0.6 | 0.1 |
| 250VDC | 0.3 | 0.05 |

| V-10G Series | Resistive Load (Amps) | Motor Load (Amps) |
|---|---|---|
| 250VAC | 10 | 2 |
| 8VDC | 10 | 3 |
| 30VDC | 6 | 3 |
| 125VDC | 0.6 | 0.1 |
| 250VDC | 0.3 | 0.05 |

- "1C" versions have 3/16" quick-connect terminals
- "1B" versions have screw terminals

## "DZ" SERIES (Two Circuits)

- Electrical ratings: DPDT 10 amp @ 125 or 250VAC; 2 amp @ 480VAC; 1/2 amp @ 480VDC; 1/4 amp @ 250VDC; 1/8 HP @ 125VAC; 1/4 HP @ 250VAC
- Screw terminals

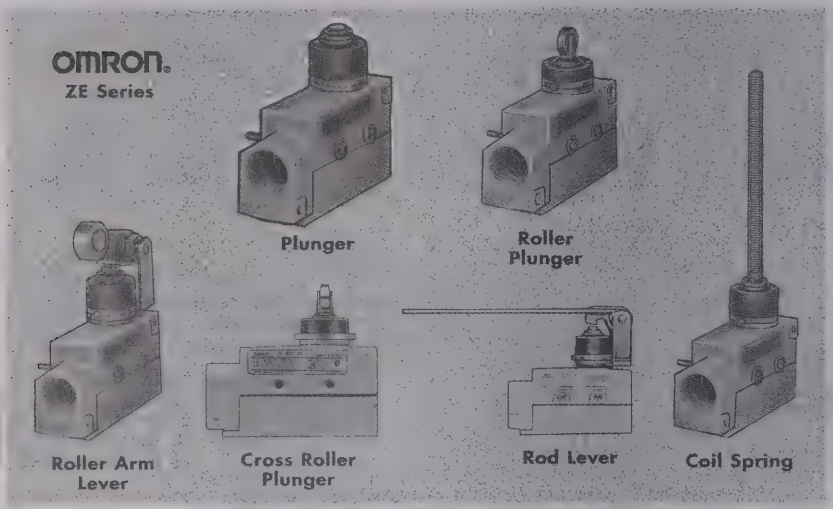
| Key | Switch Type | Stock No. | Maximum Operating Force Range in Ounces | Minimum Release Force in Ounces | Max. Movement Differential in Inches | Maximum Pre-Travel in Inches | Minimum Over-Travel in Inches | Contact Gap in Inches |
|---|---|---|---|---|---|---|---|---|
| A | "V" Series (miniature) | 3XG42 | 7.0 | 2.0 | 0.012 | 0.048 | 0.052 | 0.020 |
| A | | 3XG43 | 7.0 | 2.0 | 0.012 | 0.048 | 0.052 | 0.020 |
| A | | 3XG44 | 7.0 | 2.0 | 0.012 | 0.048 | 0.052 | 0.020 |
| A | | 3XG33 | 3.5 | 0.7 | 0.012 | 0.048 | 0.052 | 0.020 |
| A | | 3XG34 | 3.5 | 0.7 | 0.012 | 0.048 | 0.052 | 0.020 |
| A | | 3XG35 | 3.5 | 0.7 | 0.012 | 0.048 | 0.052 | 0.020 |
| B | | 3XG36 | 3.5 | 0.5 | 0.020 | 0.060 | 0.041 | 0.020 |
| C | | 3XG45 | 4.5 | 0.5 | 0.032 | 0.092 | 0.092 | 0.020 |
| C | | 3XG37 | 2.1 | 0.2 | 0.032 | 0.132 | 0.092 | 0.020 |
| D | | 3XG46 | 2.5 | 0.2 | 0.085 | 0.400 | 0.100 | 0.020 |
| D | | 3XG38 | 1.22 | 0.5 | 0.085 | 0.304 | 0.128 | 0.020 |
| E | | 3XG39 | 2.1 | 0.2 | 0.032 | 0.132 | 0.092 | 0.020 |
| — | | 3XG47 | 8.4 | 2.0 | 0.020 | 0.060 | 0.040 | 0.020 |
| — | | 3XG40 | 4.3 | 0.5 | 0.020 | 0.060 | 0.041 | 0.020 |
| F | | 3XG41 | 2.1 | 0.2 | 0.032 | 0.132 | 0.092 | 0.020 |
| A | "DZ" Series (two circuit) | 6C916 | 20.1 | 2.0 | 0.070 | 0.01 | 0.020 | 0.020 |
| C | | 3XG31 | 7.0 | 0.7 | 0.068 | 0.24 | 0.002 | 0.020 |
| C | | 6C917 | 6.0 | 1.0 | 1.000 | 0.06 | 0.160 | 0.020 |
| — | | 3XG32 | 15.0 | 1.5 | 0.024 | 0.12 | 0.005 | 0.020 |
| — | | 6C918 | 14.1 | 3.0 | 0.410 | 0.04 | 0.090 | 0.020 |
| F | | 6C919 | 7.5 | 1.5 | 0.650 | 0.05 | 0.130 | 0.020 |

## SNAP-ACTION SWITCH ORDERING DATA

| Key | Type of Actuator | Overall Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | "V" SERIES | | | | |
| A | Pin | 1.94 | 0.69 | 0.95 | V15G-1B6-K | 3XG42 | $4.18 | $3.66 | 0.1 |
| A | Pin | 1.94 | 0.69 | 1.16 | V15G-1C25-K | 3XG43 | 2.52 | 2.20 | 0.1 |
| A | Pin | 1.94 | 0.69 | 1.16 | V15G-1C26-K | 3XG44 | 2.52 | 2.20 | 0.1 |
| A | Pin | 1.94 | 0.69 | 1.88 | V10G-1B5-K | 3XG33 | 4.12 | 3.59 | 0.1 |
| A | Pin | 1.94 | 0.69 | 2.33 | V10G-1C24-K | 3XG34 | 2.52 | 2.20 | 0.1 |
| A | Pin | 1.94 | 0.69 | 1.65 | V10G-1C25-K | 3XG35 | 2.52 | 2.20 | 0.1 |
| B | Short Hinge Lever | 1.94 | 0.69 | 0.95 | V10G1-1C25-K | 3XG36 | 2.52 | 2.21 | 0.1 |
| C | Lever | 1.94 | 0.69 | 0.95 | V15G2-1C24-K | 3XG45 | 2.52 | 2.21 | 0.1 |
| C | Lever | 1.94 | 0.69 | 0.95 | V10G2-1C24-K | 3XG37 | 2.52 | 2.21 | 0.1 |
| D | Long Lever | 1.94 | 0.69 | 0.95 | V15G3-1C24-K | 3XG46 | 2.79 | 2.44 | 0.1 |
| D | Long Lever | 1.94 | 0.69 | 2.33 | V10G3-1C24-K | 3XG38 | 2.66 | 2.32 | 0.1 |
| E | Formed Hinge Lever | 1.94 | 0.69 | 0.95 | V10G4-1C24-K | 3XG39 | 2.71 | 2.37 | 0.1 |
| — | Short Roller | 1.94 | 0.69 | 0.95 | V15G5-1C25-K | 3XG47 | 3.06 | 2.67 | 0.1 |
| — | Short Roller | 1.94 | 0.69 | 1.65 | V10G5-1C25-K | 3XG40 | 3.06 | 2.67 | 0.1 |
| F | Roller | 1.94 | 0.69 | 1.16 | V10G6-1C24-K | 3XG41 | 3.06 | 2.67 | 0.1 |
| | | | | | "DZ" SERIES | | | | |
| A | Pin | 1.94 | 0.69 | 0.89 | DZ10G4-1B6 | 6C916 | 30.04 | 27.25 | 0.1 |
| C | Hinge Lever | 1.94 | 0.69 | 0.89 | DZ10GV-1B | 3XG31 | 30.88 | 27.35 | 0.1 |
| C | Hinge Lever | 1.94 | 0.69 | 0.89 | DZ10GW-1B6 | 6C917 | 31.66 | 28.75 | 0.1 |
| — | Short Roller | 1.94 | 0.69 | 0.89 | DZ10GV22-1B | 3XG32 | 30.88 | 27.35 | 0.1 |
| — | Short Roller | 1.94 | 0.69 | 0.89 | DZ10GW22-1B6 | 6C918 | 32.84 | 29.85 | 0.2 |
| F | Roller Lever | 1.94 | 0.69 | 0.89 | DZ10GW2-1B6 | 6C919 | 32.80 | 29.75 | 0.5 |

# ENCLOSED SNAP-ACTION SWITCHES AND CROSS-REFERENCE

## ENCLOSED SNAP-ACTION SWITCHES




E76675 LR21642

### ALL UNITS FEATURE

- Large, easy-to-wire switch cavity
- Diecast enclosure
- SPDT contact configuration
- 14°F-158°F operating temp. range
- 1/2"-14 NPSM conduit opening and side mounting bolts

### SEALED (BOOTED) UNITS

- Rubber boot and clamping band on head seals out dirt
- Enclosure is rated NEMA 1, 2, 3, 4, and 5; IEC, IP-65

### STANDARD UNITS

- Enclosure is rated NEMA 1; IEC, IP-50

### SWITCH ELECTRICAL SPECIFICATIONS

| Rated Voltage | Non-Inductive Load (Amps) | | | Inductive Load (Amps) | | | HP Rating | Max. Inrush Current, A | |
|---|---|---|---|---|---|---|---|---|---|
| | Resistive Load NC / NO | Lamp Load NC | Lamp Load NO | Inductive Load NC / NO | Motor Load NC | Motor Load NO | | NC | NO |
| 125 VAC | 15 | 3 | 1.5 | 15 | 5 | 2.5 | 1/8 @ 125VAC<br>1/4 @ 250VAC | 30 | 15 |
| 250 | 15 | 2.5 | 1.25 | 15 | 3 | 1.5 | | | |
| 480 | 0 | 1.5 | 0.75 | 6 | 1.5 | 0.8 | | | |
| 125 VDC | 0.50 | 0.5 | 0.50 | 0.05 | 0.1 | 0.05 | | | |
| 250 | 0.25 | 0.25 | 0.25 | 0.03 | 0.03 | 0.03 | | | |

### SWITCH MECHANICAL SPECIFICATIONS AND ORDERING DATA

| Actuator Description | Type | Maximum Pre-Travel (In.) | Differential Travel (In.) | Operating Position | Operating Force (Oz.) | Release Force (Oz.) | Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plunger | Sealed | 0.079 | 0.004 | 1.803 ± .03 | 28.2 | 8.5 | 3.4 | 1.0 | 2.9 | ZE-N-2S | 2W938 | $31.93 | $30.20 | 0.7 |
| | Standard | 0.016 | 0.002 | 1.50 ± .03 | 8.8 to 12.3 | 4.0 | 3.4 | 1.0 | 2.9 | ZE-Q-2S | 3XG56 | 29.85 | 28.45 | 0.6 |
| Roller Plunger | Sealed | 0.039 | 0.005 | 1.957 ± .03 | 17.6 | 3.5 | 3.4 | 1.0 | 3.0 | ZE-N22-2S | 2W939 | 43.26 | 40.90 | 0.5 |
| | Standard | 0.020 | 0.002 | 1.96 ± .04 | 8.8 to 12.3 | 4.0 | 3.4 | 1.0 | 3.0 | ZE-Q22-2S | 3XG58 | 33.98 | 32.30 | 0.6 |
| Roller Arm Lever | Sealed | 0.197 | 0.016 | — | 22.6 | 8.1 | 3.4 | 1.0 | 3.7 | ZE-NA2-2S | 3A095 | 40.15 | 37.40 | 0.6 |
| | Standard | 0.157 | 0.016 | — | 20.1 | 6.0 | 3.4 | 1.0 | 3.7 | ZE-QA2-2S | 3XG59 | 36.03 | 34.25 | 0.6 |
| Cross Roller Plunger | Sealed | 0.039 | 0.005 | 1.96 ± .03 | 17.6 | 3.5 | 3.4 | 1.0 | 4.0 | ZE-N21-2S | 3XG55 | 43.26 | 41.15 | 0.6 |
| | Standard | 0.020 | 0.002 | 1.96 ± .04 | 9.8 to 12.3 | 4.0 | 3.4 | 1.0 | 4.0 | ZE-Q21-2S | 3XG57 | 33.98 | 32.30 | 0.6 |
| Coil Spring | Sealed | 15 | — | — | 5.3 | — | 3.4 | 1.0 | 6.9 | ZE-NJ-2S | 3A096 | 41.20 | 38.40 | 0.6 |
| Rod Lever | Standard | 0.591 | 0.059 | — | 5.4 | 1.6 | 3.4 | 1.0 | 2.9 | ZE-QCL-2S | 3XG60 | 35.00 | 33.30 | 0.6 |

### CROSS-REFERENCE FOR OMRON LIMIT SWITCHES

| Grainger Stock No. | Manufacturers' Catalog Number | | | | | | |
|---|---|---|---|---|---|---|---|
| | Omron | Actuator | Telemecanique | Burgess | Square D | Unimax | Micro Switch |
| 2W938 | ZE-N-2S | Push Button with Seal Boot, SPDT, Side Mount | — | C7CTQMS | — | KSB-T | BZE6R<br>2RN |
| 2W939 | ZE-N22-2S | Roller, Side Mount Sealed | — | C6TQRMS | — | KSR-T | BZE6ZRN<br>80 |
| 3A094 | D4C-1620 | Standard Side Rotary | MS04S01-00 | — | — | — | 914CE163 |
| 3A095 | ZE-NA2-2S | Roller Lever, Side Mount | — | C7CTQMSA | — | KSBP-T | BZE62<br>RN2 |
| 3A096 | ZE-NJ-2S | Coil Spring Wobble Lever with Seal Boot, SPDT, Side Mount | — | C9TQMSF | — | KSB15-T | BZE62<br>RN18 |

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

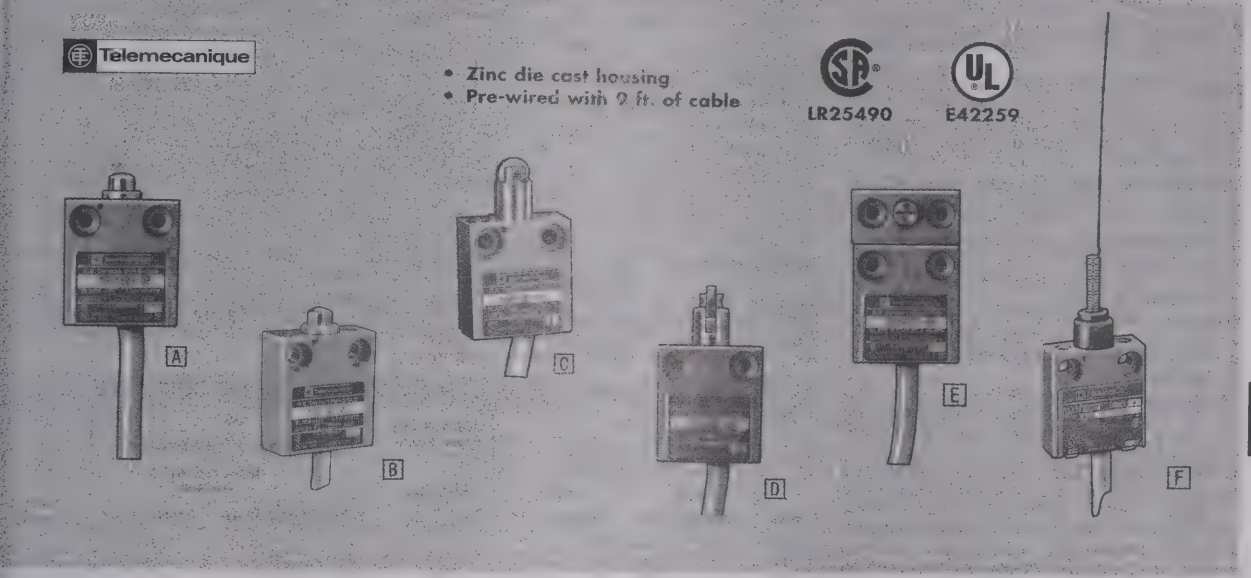
Our branches are conveniently located and stocked with commonly used items from this catalog. If you need it now, call Grainger. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# MINIATURE PRE-WIRED ENCLOSED LIMIT SWITCHES

Telemecanique

- Zinc die cast housing
- Pre-wired with 9 ft. of cable

CSA LR25490 UL E42259




- SPDT contact configuration, 10A rating
- Designed for use in limited access areas
- No. 2G436 has actuator with sealed boot
- Bottom exit cable
- NEMA 1, 2, 4, 6, 6P, 12 and 13 rated
- Ambient temperature range -28° to 93°C
- Similar to Micro Switch 914CE

## SWITCH MECHANICAL SPECIFICATIONS AND ORDERING DATA

| Key | Type | Seal Boot | Maximum Pretravel | Differential Travel | Operating Force | Dimensions (In.) L | W | D | Telemecanique Model 9007... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Plunger | no | 0.075" | 0.004" | 55 oz. | 2.12 | 1.56 | 0.63 | MS01S0300 | 2F996 | $68.70 | $68.05 | 1.1 |
| B | Plunger | yes | 0.075 | 0.004 | 55 | 2.45 | 1.56 | 0.63 | MS10S0300 | 2G436 | 75.99 | 75.30 | 1.1 |
| C | Roller Plunger | no | 0.075 | 0.004 | 55 | 2.63 | 1.56 | 0.56 | MS02S0300 | 2F998 | 79.11 | 78.40 | 1.1 |
| D | Cross Roller Plunger | no | 0.075 | 0.004 | 55 | 2.63 | 1.56 | 0.56 | MS03S0300 | 2G430 | 79.11 | 78.40 | 1.1 |
| E | Side Rotary* (lever not included†) | no | 35° | 5° | 48 in. oz. | 2.52 | 1.56 | 1.37 | MS04S0300 | 2G432 | 96.81 | 95.90 | 1.2 |
| F | Multidirectional Spring Wire Wobble | no | 15° | 5° | 15 in. oz. | 4.28 | 1.56 | 0.63 | MS05S0300 | 2G434 | 96.81 | 95.90 | 1.1 |
| — | Parallel Roller Plunger | no | 0.075" | 0.004" | 55 oz. | 2.63 | 1.56 | 0.63 | MS02SO100 | 3KL72 | 68.70 | 68.05 | 0.8 |

*) Operates on clockwise and counterclockwise rotation of the lever shaft.
†) See below for lever ordering data.

## LIMIT SWITCH LEVER SPECIFICATIONS AND ORDERING DATA

| Type | Material | Radius | Diameter | Width | Mounting Side of Lever | Telemecanique Model 9007... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard Roller Lever | Nylon | 1.5" | 0.75" | 0.25" | Front | 7A1N | 2EF10 | $9.89 | $9.79 | 0.5 |
| Standard Roller Lever | Steel | 1.5 | 0.75 | 0.25 | Front | 7A1 | 2EF09 | 9.89 | 9.79 | 0.2 |
| Standard Roller Lever | Steel | 1.5 | 0.75 | 0.25 | Back | 7XA1 | 2F988 | 9.89 | 9.79 | 0.1 |
| Adjustable Radius Lever | Nylon | 1 3/8-3 3/8 | 0.75 | 0.25 | Front | 7DN | 2EF20 | 16.44 | 16.29 | 0.1 |
| Adjustable Radius Lever | Steel | 1 3/8-3 3/8 | 0.75 | 0.25 | Front | 7D | 2EF19 | 16.44 | 16.29 | 0.1 |
| Spring/Rod | Delrin Rod w/Spring | 12.0 | 0.30 | — | — | 7S | 2EF24 | 16.44 | 16.29 | 0.1 |

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.

# LIMIT SWITCHES

SQUARE D
GROUPE SCHNEIDER

**Differential**—The distance or angle from the operating position to the releasing position.

**Neutral position**—Lever operated switch with a minimum of two contacts. One contact changes state only when the lever moves CW. The second contact changes state only when the lever moves CCW.

**Operating position**—The position of the actuator at which the contacts change state.

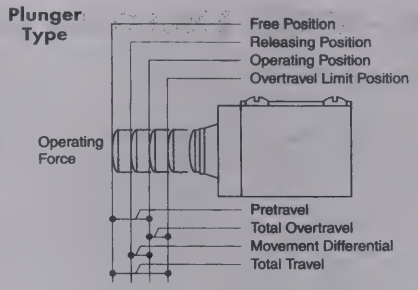
**Overtravel**—The distance or angle through which the actuator moves when traveling from the operating position to the overtravel limit position.

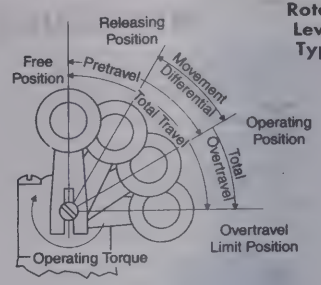
**Pretravel**—The distance or angle through which the actuator moves from the free position to the position at which the contacts change state.

**Release position**—The position of the actuator at which the contact snap from the operated contact position to the normal contact position.

**Release torque**—The value to which the torque on the actuator must be reduced to allow the contact to snap from the operated position to the normal contact position.

**Actuator lever**—The mechanism of the switch or enclosure which, when moved as intended, will operate the contacts.



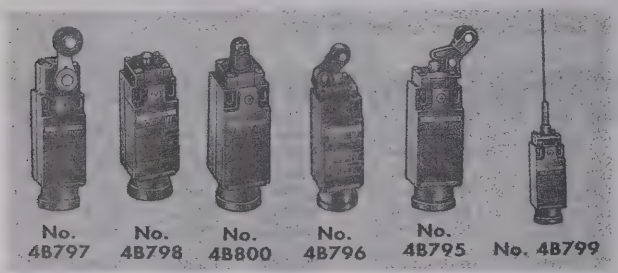

**Maintained contact**—A switch which remains in a given condition until actuated to another condition, which is also maintained until further actuation.

**Momentary contact**—A switch which returns from the operated condition to its normal circuit condition when the actuating force is removed.

**Operating torque**—The minimum force which must be applied to the actuator to cause the contacts to change state.

## MAX. CURRENT RATINGS FOR CONTROL CIRCUIT CONTACTS

| AC | | | | | Resistive 75% Power Factor | DC | | | AC or DC |
|---|---|---|---|---|---|---|---|---|---|
| Inductive (NEMA A600) 35% Power Factor | | | | | | Inductive and Resistive | | | |
| Make | | Break | | | | Make and Break Amperes | | | |
| Volts | Amperes | VA | Amperes | VA | Make and Break Amperes | Volts | Single Throw | Double Throw | Continuous Carrying |
| 120 | 60 | 7200 | 6 | 720 | 6 | 125 | 0.55 | .022 | 10 |
| 240 | 30 | 7200 | 3 | 720 | 3 | 250 | 0.27 | 0.11 | 10 |
| 480 | 15 | 7200 | 1.5 | 720 | 1.5 | 600 | — | — | 10 |
| 600 | 12 | 7200 | 1.2 | 720 | 1.2 | — | — | — | 10 |




Telemecanique

## MINIATURE LIMIT SWITCHES

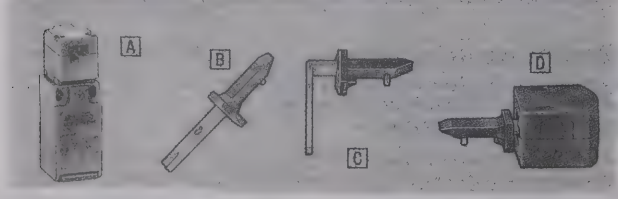
- Double isolated (no grounding required)
- 4-position indexing rotary head (field convertible)
- Captive saddle clamps
- Lever operated—CW and CCW (5° & 90° increments)
- Complete switch
- Slim body and one bottom cable entry 1/2" NPT
- Enclosure: Plastic head and body
- UL Listed, CSA Certified, CE Certified

| | |
|---|---|
| Temperature Range: | 13°F to +158°F |
| Enclosure Rating: | NEMA 1, 4, 12 (IP 65) |
| Vibration Resistance: | 25 G (10 to 500 Hz) |
| Shock Resistance: | 50 G |
| Mechanical Life: | 10 million operations (4B799—5 million) |

| | |
|---|---|
| Cable Entry: | 1/2" NPT |
| Rated Thermal Current: | 10 Amp |
| Rated Insulation Voltage: | 300VAC and VDC |
| Contact Resistance (max.): | 25 M Ω |
| Wire Size (max.): | 2 x #14 AWG Per Terminal |

| Description | Operating Torque/Force | Contact Type | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Delrin Roller Lever** | 14.2 in. oz. | SPDT(NO+NC)snap | XCK P118 | **4B797** | $37.37 | **$37.05** | 0.2 |
| **Adjustable Delrin Roller Lever** | 14.2 in. oz. | SPDT(NO+NC)snap | XCK P145 | **4B794** | 39.55 | **39.20** | 0.2 |
| **Steel Rod Plunger** | 35 oz. | SPDT(NO+NC)snap | XCK P110 | **4B798** | 34.04 | **33.75** | 0.1 |
| **Delrin Roller Plunger** | 35 oz. | SPDT(NO+NC)snap | XCK P102 | **4B800** | 47.26 | **46.85** | 0.2 |
| **One Way Horizontal Roller Plunger** | 17 oz. | SPDT(NO+NC)snap | XCK P121 | **4B796** | 50.48 | **50.05** | 0.3 |
| **One Way Vertical Roller Plunger** | 17 oz. | SPDT(NO+NC)snap | XCK P127 | **4B795** | 50.48 | **50.05** | 0.2 |
| **Omnidirectional*** | 18.5 in oz. | SPDT(NO+NC)snap | XCK P106 | **4B799** | 43.93 | **43.55** | 0.1 |

(*) Flexible operators will not guarantee positive opening operation.




## MINIATURE SAFETY INTERLOCK SWITCH

| Key | Description | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **A** | Switches 1 Cable entry, 4-way indexing head | XCK P591 | **4B793** | $54.13 | **$53.65** | 0.3 |

## MINIATURE SAFETY INTERLOCK ACTUATION KEYS

| | | | | | | |
|---|---|---|---|---|---|---|
| **B** | Straight Key | XCK Y01 | **4B792** | 4.37 | **4.33** | 0.1 |
| **C** | Perpendicular Key | XCK Y02 | **4B791** | 4.37 | **4.33** | 0.1 |
| **D** | Adjustable Key Vertical | XCK Y03 | **4B790** | 30.71 | **30.45** | 0.1 |



*Relay it, suppress it, enclose it — The leading brands are all right here.*

## COMPACT LIMIT SWITCHES

Telemecanique



No. 4B803



No. 4B805



No. 2EH73

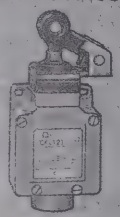
CE

UL E39281

CSA LR44087

No. 4B804





No. 4B801

A general duty limit switch to offer greater versatility for applications such as machine tools, material handling, etc.

- **4 position indexing rotary head (field convertible)**
- **Captive saddle clamp terminals delivered in ready-to-wire position**
- **Captive screws and gaskets**
- **Feature Finger Guard™ protection**
- **Positive opening contact**
- **Complete switch**

Temperature range: ....-13°F to +158°F
Enclosure Rating: ....NEMA 1, 2, 3, 4, 12
Vibration Resistance: ....25 G (10 to 500 Hz)
Shock Resistance: ....50 G
Mechanical Life: ....20 million operations
Cable entry: ....1/2" NPT standard

Rated Thermal Current: ....10 Amp
Rated Insulation Voltage: ....300VAC and DC
Contact Resistance (max.): ....25 mΩ
Wire size (max.): ....2 x #14 AWG
For Short Circuit Protection Use: ....10A fast action fuse type SC
Electrical Rating: ....A300 (AC), Q300 (DC)

| Description | Operating Torque/Force | Contact Type | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Rod Plunger** | 35.6 oz. | SPDT(NO+NC) snap | XCK L110 | **4B803** | $40.59 | **$40.25** | 0.5 |
| **Rod Plunger** | 35.6 oz. | SPDT(NO+NC) slow | XCK L510 | **6B410** | 39.00 | **38.65** | 0.6 |
| **Roller Plunger** | 35.6 oz. | SPDT(NO+NC) snap | XCK L102 | **4B805** | 60.37 | **59.80** | 0.6 |
| **Adj. Length Roller Lever** | 14.2 in.-oz. | SPDT(NO+NC) snap | XCKL10041 | **2EH73** | 73.91 | **73.25** | 0.9 |
| **Omnidirectional** | 1.84 in.-oz. | SPDT(NO+NC) snap | XCK L106 | **4B804** * | 50.48 | **50.05** | 0.6 |
| **One way lever-Delrin Roller** | 25.3 oz. | SPDT(NO+NC) snap | XCK L121 | **4B801** | 60.37 | **59.80** | 0.7 |
| **Delrin Roller (CW-CCW)** | 21.3 in.- oz. | SPDT(NO+NC) snap | XCK L115 | **4B802** † | 43.93 | **43.55** | 0.7 |

(*) Mechanical life expectancy is 10 million operations. (†) 15 million operations.

## SEVERE DUTY OIL-TIGHT LIMIT SWITCHES

SQUARE D
GROUPE SCHNEIDER

UL E42259

CSA LR25490

CE



No. 5B056



No. 5B090



No. 5B089



No. 5B062



No. 5B057

| Description | Operating Torque/Force | Contact Type | Square D Model 9007... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Universal—CW** | 12 lb.-in. | SPDT(NO+NC) | TUB1 | **5B056** | $197.79 | **$196.00** | 2.3 |
| **Universal—Neutral** | 12 lb.-in. | SPDT(NO+NC) | TUB4 | **5B054** | 197.79 | **196.00** | 2.4 |
| **Universal—CCW** | 12 lb.-in. | SPDT(NO+NC) | TUB5 | **5B053** | 197.79 | **196.00** | 2.4 |
| **Universal—Maintained** | 8 lb.-in. | SPDT(NO+NC) | TUB12 | **5B055** | 197.79 | **196.00** | 2.5 |

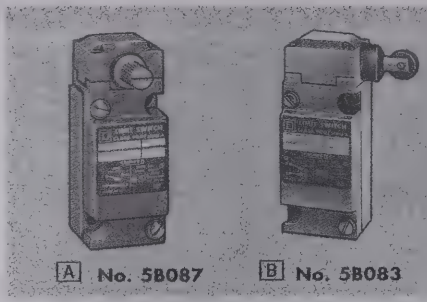
### LEVER ARMS ORDERING DATA*

| Type of Arm | Length of Arm (In.) | Roller Position | Roller Width/Dia. (In.) | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Straight** | 1 1/2 | Optional | 1/4 x 3/4 | B1 | **5B090** | $17.59 | **$17.42** | 0.2 |
| **Straight** | 2 1/2 | Optional | 1/2 x 3/4 | B22 | **5B089** | 27.48 | **27.25** | 0.3 |
| **90° Forked** | 1 1/2 | Same Side | 1/4 x 3/4 | X1 | **5B052** | 63.50 | **62.90** | 0.3 |
| **120° Forked** | 1 1/2 | Same Side | 1/4 x 1 | J2 | **5B062** | 63.50 | **62.90** | 0.4 |
| **Conveyor Side Guide** | 8 7/16 | — | 3 3/4 x 1 1/2 | R21 | **5B057** | 70.78 | **70.15** | 0.6 |

(*) For use with oil-tight switches above only.

# HEAVY-DUTY LIMIT SWITCHES

- Precision, oiltight
- Enclosure rated NEMA 1, 2, 4, 6, 6P, 12, 13
- No. 2EG17 is UL Listed for Hazardous location Class I Groups B, C, D and Class II Groups E, F, and G
- No. 2EG17 enclosure rated NEMA 1, 2, 4, 6, 6p, 7, 9, 12, 13
- No. 2EF93 is UL Listed for Hazardous location Class I, II and II Division 2 Groups B, C, D, F, and G

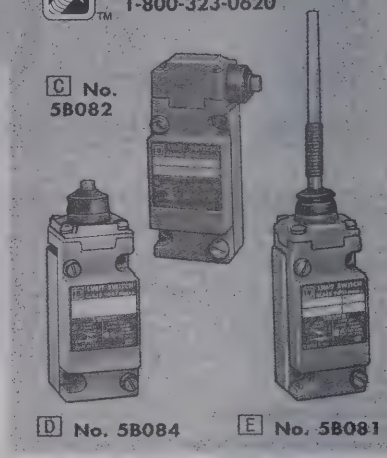


A No. 5B087 B No. 5B083

SQUARE D GROUPE SCHNEIDER

LR25490 E42259

Replacement Parts Available 1-800-323-0620™



C No. 5B082

D No. 5B084 E No. 5B081

## ELECTRICAL SPECIFICATIONS

| Contact Type | Volts | AC-50 or 60Hz Inductive 35% Power Factor Make Amps | Make VA | Break Amps | Break VA | Resistive 75% Power Factor Make and Break Amps | DC Volts | DC Inductive and Resistive Make and Break Amps Single Throw | Double Throw | AC or DC Continuous Carrying Amps |
|---|---|---|---|---|---|---|---|---|---|---|
| SPST Reed* | 120 | 15 | 1800 | 1.5 | 180 | 1.5 | 125 | 0.55 | — | 5 |
| | 240 | 7.50 | 1800 | 0.750 | 180 | 0.750 | 250 | 0.27 | — | 5 |
| | 480 | 3.75 | 1800 | 0.375 | 180 | 0.375 | — | — | — | 5 |
| | 600 | 3 | 1800 | 0.300 | 180 | 0.300 | — | — | — | 5 |
| SPDT Heavy Duty & Hazardous Location | 120 | 60 | 7200 | 6 | 720 | 6 | 125 | 0.55 | 0.22 | 10 |
| | 240 | 30 | 7200 | 3 | 720 | 3 | 250 | 0.27 | 0.11 | 10 |
| | 480 | 15 | 7200 | 1.5 | 720 | 1.5 | 600 | 0.10 | — | 10 |
| | 600 | 12 | 7200 | 1.2 | 720 | 1.2 | — | — | — | 10 |
| DPDT Heavy Duty | 120 | 60 | 7200 | 6 | 720 | 6 | 125 | 0.22 | 0.22 | 10 |
| | 240 | 30 | 7200 | 3 | 720 | 3 | 250 | 0.11 | 0.11 | 10 |
| | 480 | 15 | 7200 | 1.5 | 720 | 1.5 | 600 | — | — | 10 |
| | 600 | 12 | 7200 | 1.2 | 720 | 1.2 | — | — | — | 10 |

(*) Use of transient suppressor will extend life of the switch when using on heavy electrical loads.

## TYPE C PLUG-IN LIMIT SWITCHES ORDERING DATA

| Key | Type | Description | Movement | Contact Type | Operating Torque/ Force | Dimensions (In.) W | D | H | Square D Model 9007... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE POLE DOUBLE THROW (SPDT)** | | | | | | | | | | | | | |
| A* | Heavy Duty | Standard Pre-travel—10° | CW & CCW† | SPDT(1NO+1NC) | 4 lb.-in. | 1.55 | 2.50 | 4.02 | C54B2 | **5B087** | $96.81 | **$95.90** | 1.2 |
| | Heavy Duty | Low Differential—5° | CW & CCW† | SPDT(1NO+1NC) | 4 lb.-in. | 1.55 | 2.50 | 4.02 | C54A2 | **5B088** | 104.10 | **103.10** | 1.2 |
| | Heavy Duty | Extra Light Operating Torque | CW & CCW† | SPDT(1NO+1NC) | 25 oz.-in | 1.55 | 2.50 | 4.02 | C54N2 | **5B080** | 117.63 | **116.55** | 1.2 |
| | Heavy Duty | Maintained Contact | CW(trip) | SPDT(1NO+1NC) | 3 lb.-in. | 1.55 | 2.50 | 4.02 | C54C | **5B086** | 117.63 | **116.55** | 1.2 |
| | Compact | Standard Pre-travel—10° | CW & CCW† | SPDT(1NO+1NC) | 4 lb.-in. | 1.55 | 2.50 | 3.14 | C52B2 | **2EF74** | 96.81 | **95.90** | 1.1 |
| | Compact | Low Differential—5° | CW & CCW† | SPDT(1NO+1NC) | 4 lb.-in. | 1.55 | 2.50 | 3.14 | C52A2 | **2EF73** | 104.10 | **103.10** | 1.2 |
| | Hazardous Location | Standard Pre-travel—10° | CW & CCW† | SPDT(1NO+1NC) | 4 lb.-in. | 2.72 | 2.08 | 6.10 | CR53B2 | **2EG17** | 176.97 | **175.50** | 2.2 |
| | Reed‡ | Standard Pre-travel—10° | CW & CCW† | SPST (1NO) | 4 lb.-in. | 1.55 | 2.50 | 4.02 | C84B2 | **2EF93** | 137.41 | **136.10** | 1.2 |
| B | Heavy Duty | Side Roller Plunger | — | SPDT(1NO+1NC) | 4 lb. | 1.55 | 2.63 | 3.59 | C54F | **5B083** | 125.96 | **124.80** | 1.2 |
| | Compact | Side Roller Plunger | — | SPDT(1NO+1NC) | 4 lb. | 1.55 | 2.63 | 3.59 | C52F | **2EF77** | 125.96 | **124.80** | 1.0 |
| C | Heavy Duty | Side Push Rod Plunger | — | SPDT(1NO+1NC) | 4 lb. | 1.55 | 2.16 | 3.59 | C54G | **5B082** | 114.51 | **113.45** | 1.3 |
| | Heavy Duty | Side Push Rod Plunger Adjustable | — | SPDT(1NO+1NC) | 4 lb. | 1.55 | 2.71 | 3.14 | C54GD | **6B407** | 115.00 | **113.85** | 1.2 |
| D | Heavy Duty | Top Roller Plunger | — | SPDT(1NO+1NC) | 3 lb. | 1.55 | 1.56 | 4.54 | C54D | **5B085** | 114.51 | **113.45** | 1.1 |
| | Compact | Top Roller Plunger | — | SPDT(1NO+1NC) | 3 lb. | 1.55 | 1.56 | 4.09 | C52D | **2EF75** | 114.51 | **113.45** | 0.9 |
| | Heavy Duty | Top Push Rod Plunger | — | SPDT(1NO+1NC) | 3 lb. | 1.55 | 1.56 | 4.07 | C54E | **5B084** | 107.22 | **106.20** | 1.1 |
| | Compact | Top Push Rod Plunger | — | SPDT(1NO+1NC) | 3 lb. | 1.55 | 1.56 | 3.62 | C52E | **2EF76** | 107.22 | **106.20** | 0.9 |
| E | Heavy Duty | Wobble Stick (Delrin Extension)†† | — | SPDT(1NO+1NC) | 3 lb.-in. | 1.55 | 1.56 | 7.85 | C54J | **5B081** | 107.22 | **106.20** | 1.2 |
| | Heavy Duty | Wobble Stick (Coil Spring Extension)†† | — | SPDT(1NO+1NC) | 3 lb.-in. | 1.55 | 1.56 | 7.85 | C54KC | **2F990** | 107.22 | **106.20** | 1.2 |
| | Heavy Duty | Cat Whisker | — | SPDT(1NO+1NC) | 7 oz.-in. | 1.55 | 1.56 | 8.64 | C54L | **2F992** | 80.15 | **79.40** | 1.2 |
| **DOUBLE POLE DOUBLE THROW (DPDT)** | | | | | | | | | | | | | |
| A* | Heavy Duty | Standard Pre-travel—10° | CW & CCW† | DPDT(2NO+2NC) | 4 lb.-in. | 1.55 | 2.50 | 4.02 | C62B2 | **5B078** | 117.63 | **116.55** | 1.3 |
| | Heavy Duty | Low Differential—5° | CW & CCW† | DPDT(2NO+2NC) | 4 lb.-in. | 1.55 | 2.50 | 4.02 | C62A2 | **5B079** | 122.83 | **121.70** | 1.2 |
| | Heavy Duty | Maintained Contact | CW(trip) CCW(reset) | DPDT(2NO+2NC) | 3 lb.-in. | 1.55 | 2.50 | 4.02 | C62C | **5B077** | 137.41 | **136.10** | 1.3 |
| | Heavy Duty | Standard Pre-travel—10° | CW & CCW | DPDT(2NO+2NC)-neutral | 4 lb.-in. | 1.55 | 2.50 | 4.02 | C68T10 | **5B071** | 122.83 | **121.70** | 0.8 |
| | Heavy Duty | Low Differential—5° | CW & CCW | DPDT(2NO+2NC)-neutral | 4 lb.-in. | 1.55 | 2.50 | 4.02 | C68T5 | **5B070** | 132.20 | **130.95** | 1.2 |
| B | Heavy Duty | Side Roller Plunger | — | DPDT(2NO+2NC) | 4 lb. | 1.55 | 2.63 | 3.59 | C62F | **5B074** | 146.78 | **145.40** | 1.2 |
| C | Heavy Duty | Side Push Rod Plunger | — | DPDT(2NO+2NC) | 4 lb. | 1.55 | 2.16 | 3.59 | C62G | **5B073** | 134.28 | **133.00** | 1.2 |
| | Heavy Duty | Side Push Rod Plunger Adjustable | — | DPDT(2NO+2NC) | 4 lb. | 1.55 | 2.71 | 3.59 | C62GD | **6B408** | 134.00 | **132.70** | 1.2 |
| D | Heavy Duty | Top Roller Plunger | — | DPDT(2NO+2NC) | 3 lb. | 1.55 | 1.56 | 4.54 | C62D | **5B076** | 134.28 | **133.00** | 1.1 |
| | Heavy Duty | Top Push Rod Plunger | — | DPDT(2NO+2NC) | 3 lb. | 1.55 | 1.56 | 4.07 | C62E | **5B075** | 125.96 | **124.80** | 1.1 |
| E | Heavy Duty | Wobble Stick—Delrin Extension | — | DPDT(2NO+2NC) | 3 lb.-in. | 1.55 | 1.56 | 7.85 | C62J | **5B072** | 125.96 | **124.80** | 1.2 |

(*) Order lever arm separate.on page 535

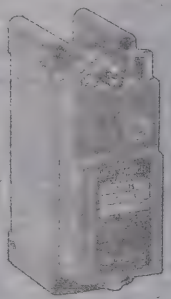
(†) These devices are factory set to operate in both the CW and CCW directions. Mode of operation is field convertible to CW only or CCW only.

(‡) Because reed switches are operated by magnet, they should not be installed in areas where strong magnetic fields may be present.



Relay it, suppress it, enclose it — The leading brands are all right here.

SQUARE D
GROUPE SCHNEIDER



No. 2EF42

## ELECTRICAL SPECIFICATIONS

| Contact Type | AC-50 or 60 Hz | | | | | | DC | | | AC or DC |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Inductive 35% Power Factor | | | | Resistive 75% Power Factor | | Inductive and Resistive | | |
| | | Make | | Break | | | | Make and Break Amps | | |
| | Volts | Amps | VA | Amps | VA | Make and Break Amps | Volts | Single Throw | Double Throw | Continuous Carrying Amps |
| SPDT | 120 | 40 | 4800 | 15 | 1800 | 15 | 125 | 2.0 | 0.5 | 15 |
| | 240 | 20 | 4800 | 10 | 2400 | 10 | 250 | 0.5 | 0.2 | 15 |
| | 480 | 10 | 4800 | 6 | 2880 | 6 | 600 | 0.1 | 0.0 | 15 |
| | 600 | 8 | 4800 | 5 | 3000 | 5 | — | — | — | 15 |

- Precision, oiltight
- For use in extremely low ambient temperatures: -65°F for lever types, 0°F for plunger types
- Micrometer adjustment on plunger types
- Enclosure rated NEMA 1, 2, 4, 12, 13

## TYPE AW LIMIT SWITCHES ORDERING DATA

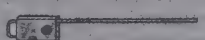
| Key | Description | Movement | Contact Type | Operating Torque/ Force | Dimensions (In.) W | D | H | Square D Model 9007... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **SURFACE MOUNTING** | | | | | | | | | | | |
| A* | Lever Arm Plug-in Type—Pretravel 5° | CCW† | SPDT (1NO-1NC) | 2.75 lb.-in. | 1.4 | 3.0 | 3.9 | AW-16 | **2EF42** | $132.20 | **$130.95** | 1.2 |
| | Lever Arm Non Plug-in Type—Pretravel 5° | CCW† | SPDT (1NO-1NC) | 2.75 lb.-in. | 1.4 | 2.7 | 3.9 | AW-12 | **2EF40** | 132.20 | **130.95** | 1.0 |
| — | Roller Plunger Plug-in Type | — | SPDT (1NO-1NC) | 3 lb. | 1.4 | 2.5 | 4.6 | AW-36 | **2EF46** | 154.06 | **152.75** | 1.3 |
| — | Push Rod Plunger Plug-in Type | — | SPDT (1NO-1NC) | 3 lb. | 1.4 | 2.5 | 4.3 | AW-46 | **2EF49** | 142.61 | **141.25** | 1.3 |
| | **OPEN TYPE** | | | | | | | | | | | |
| A* | Lever Arm Plug-in Type—Pretravel 5° | CCW† | SPDT (1NO-1NC) | 2.75 lb.-in. | 1.4 | 2.4 | 3.9 | AO-16 | **2FL89** | 112.42 | **111.35** | 0.6 |
| | Lever Arm Non Plug-in Type—Pretravel 5° | CCW† | SPDT (1NO-1NC) | 2.75 lb.-in. | 1.4 | 2.4 | 3.9 | AO-12 | **2FL88** | 112.42 | **111.35** | 0.6 |
| — | Roller Plunger Plug-in Type | — | SPDT (1NO-1NC) | 3 lb. | 1.4 | 2.4 | 3.6 | AO-36 | **2FL92** | 134.28 | **133.00** | 0.6 |

(*) Order lever arm separately. (†) Field convertible to CW operation.

SQUARE D
GROUPE SCHNEIDER



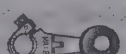
Adjustable
No. 5B065



Rod
No. 5B069



Forked Arm
No. 5B060



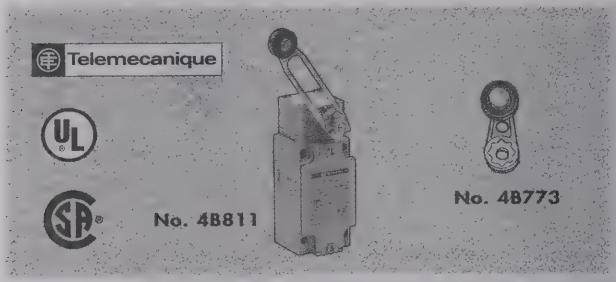
Lever Arm
No. 5B058

## LEVER ARMS

| Description | Length of Arm | Material | Operator Dia. (In.) | Width (In.) | Square D Model 9007... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Lever Arm** | 13/8" | Iron | 5/8 | 1/4 | BA1 | **2EF62** | $9.89 | **$9.79** | 0.5 |
| **Lever Arm** | 1½ | Iron | 5/8 | 1/4 | MA1 | **2EG86** | 9.89 | **9.79** | 0.1 |
| **Lever Arm** | 1½ | Nylon | 3/4 | 1/4 | MA18 | **5B058** | 9.89 | **9.79** | 0.1 |
| **Lever Arm** | 1½ | Iron | 3/4 | 1/4 | MA11 | **5B059** | 9.89 | **9.79** | 0.1 |
| **Lever Arm** | 2 | Iron | 5/8 | 1/4 | CA1 | **2EF94** | 16.44 | **16.29** | 0.2 |
| **Lever Arm** | 2 | Iron | 3/4 | 1/4 | CA11 | **2EF95** | 16.44 | **16.29** | 0.2 |
| **Lever Arm** | 2½ | Iron | 5/8 | 1/4 | DA1 | **2EG26** | 16.44 | **16.29** | 0.2 |
| **Lever Arm** | 2½ | Iron | 3/4 | 1/4 | DA11 | **2EG27** | 16.44 | **16.29** | 0.2 |
| **Lever Arm** | 3 | Iron | 5/8 | 1/4 | EA1 | **2EG38** | 16.44 | **16.29** | 0.2 |
| **Lever Arm** | 3 | Iron | 3/4 | 1/4 | EA11 | **2EG39** | 16.44 | **16.29** | 0.1 |
| **Rod** | 10 | Stainless | 1/8 | — | FA1 | **5B069** | 16.44 | **16.29** | 0.1 |
| **Rod** | 12 | Spring Steel | 1/8 | — | FA3 | **5B068** | 16.44 | **16.29** | 0.2 |
| **Rod** | 12 | Delrin | 1/8 | — | FA5 | **5B067** | 23.11 | **22.89** | 0.2 |
| **Rod** | Looped* | Plastic | 1/8 | — | FA6 | **5B066** | 16.44 | **16.29** | 0.1 |
| **Forked Arm** | 1½ | Iron | 3/4 | 1/4 | LA4 | **5B060** | 16.44 | **16.29** | 0.1 |
| **Forked Arm** | 1½ | Nylon | 3/4 | 1/4 | LA16 | **5B061** | 16.44 | **16.29** | 0.1 |
| **Adjustable** | 7/8-4 | Iron | 5/8 | 1/4 | HA1 | **5B065** | 16.44 | **16.29** | 0.1 |
| **Adjustable** | 7/8-4 | Nylon | 5/8 | 1/4 | HA4 | **5B064** | 16.44 | **16.29** | 0.1 |
| **Adjustable** | 7/8-4 | Iron | 5/8 | 1/4 | HA5 | **5B063**‡ | 16.44 | **16.29** | 0.2 |
| **Adjustable** | 7/8-4 | Iron | 5/8 | 5/8 | HA2 | **2EG64** | 16.44 | **16.29** | 0.1 |
| **Adjustable** | 7/8-4 | Nylon | 1 | 5/8 | HA22 | **2EG67** | 23.11 | **22.89** | 0.1 |
| **Delrin extension**†† | 5.93 | Delrin | 1/8 | 1/4 | WJ | **2EH12** | 12.28 | **12.17** | 0.1 |
| **Coil Spring ext.**†† | 5½ | Steel | 1/8 | 1/4 | WKC | **2EH13** | 12.28 | **12.17** | 0.1 |

(*) 5½" long x 2 1/16" wide. (‡) Lever arm is bendable. (††) Wobble stick extensions.

# LIMIT SWITCHES



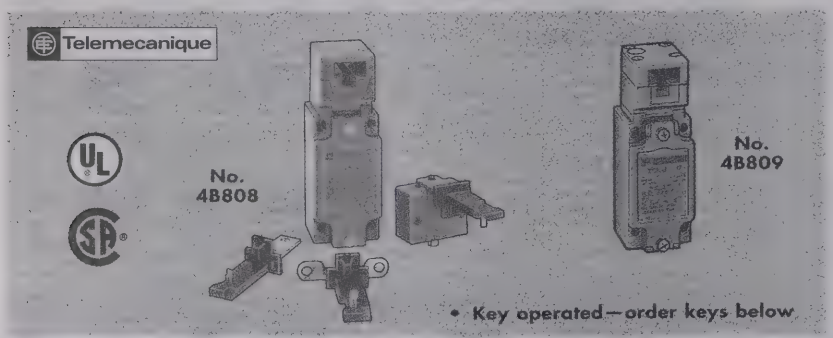

- Complete switch
- Nos. 4B772 and 4B773 are additional lever arms
- Enclosure: Die-cast zinc
- 4-position indexing head
- Field convertible CW/CCW or both
- Captive saddle clamp terminal
- Delrin roller adjustable in 5° or 90° increments, for Nos. 4B811 and 4B810
- Lever not included for No. 4B777

Operation Temperature: .....-13°F to +158°F
Storage Temperature: .....-40°F to +158°F
Degree of Protection:.....NEMA 1, 2, 3, 4, 12
Rated Thermal Current:.....10A
Rated Insulation Voltage:.....300V AC and DC
For Short Circuit Protection Use:.....10 A fuses type SC
Mechanical Life—Lever Types:30 million operations
Mechanical Life—Neutral Position:5 million operations

## COMPLETE SWITCHES AND LEVER ARMS

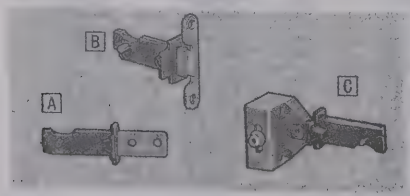
| Description | Operating Torque / Force | Contact Type | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Adjustable Length Delrin Roller** | 33.3 in oz. | SPDT(NO+NC) | XCK J10541 | **4B811** | $84.32 | **$83.55** | 1.1 |
| **Adjustable Length Delrin Roller** | 33.3 in oz. | 2SPDT(2NO+2NC) | XCK J20541 | **4B810** | 99.93 | **99.00** | 1.1 |
| **Neutral Position** | 26.6 in oz. | 2SPDT(2NO+2NC) | ZCK J404 | **4B777** | 107.22 | **106.20** | 1.0 |
| **Delrin Roller—.9" dia. .2"W x 1.6"L, 5° to 45°** | — | — | ZCK Y11 | **4B773** | 7.70 | **7.63** | 0.1 |
| **Steel Roller—.9" dia. .2"W x 1.6"L, 5° to 45°** | — | — | ZCK Y13 | **4B772** | 7.70 | **7.63** | 0.1 |
| **Adjustable Delrin Roller—.74" dia. .2"W x 3"L, 5° to 90°** | — | — | ZCK Y41 | **2EJ34** | 7.40 | **7.33** | 0.1 |
| **Adjustable Steel Roller—.74" dia. .2"W x 3"L, 5° to 90°** | — | — | ZCK Y43 | **2EJ35** | 7.40 | **7.33** | 0.1 |

# SAFETY INTERLOCK SWITCHES




- Operation temperature: -13°F to 158°F
- Storage temperature: -40°F to 158°F
- Degree of protection: NEMA 1, 4, 12
- Rated thermal current: 10A
- Rated insulation voltage: 300V AC and DC
- For short circuit protection use: 10 A fuses type SC
- Mechanical life: 1 million operations
- UL Listed, CSA Certified

| Description | Contact Type | Actuation / Connector | Electromagnet Supply Voltage | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Electromagnet** | SPDT(NO+NC) | Front/Left | 110 VAC | XCK J5951F0 | **4B808** | $319.58 | **$316.75** | 2.0 |
| **Electromagnet** | SPDT(NO+NC) | Right/Left | 110 VAC | XCK J5954F0 | **4B807** | 319.58 | **316.75** | 1.9 |
| **With Locking Pushbutton—break-before-make** | (NO+NC) | — | — | XCK J5910 | **4B809** | 156.15 | **154.75** | 1.1 |
| **With Locking Pushbutton—simultaneous** | (NC+NC) | — | — | XCK J7910 | **4B806** | 156.15 | **154.75** | 1.1 |
| **Without Locking—break-before-make** | SPDT (NO+NC) | — | — | XCKJ5970H7 | **2FM10** | 100.97 | **100.05** | 1.1 |




## Telemecanique LOCKABLE ACTUATION KEYS

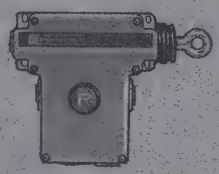
- For use with XCK-J Safety Interlock Switches

| Key | Description | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **A** | Straight Key | ZCK Y071 | **4B776** | $16.44 | **$16.29** | 0.1 |
| **B** | Key for Perpendicular Mounting | ZCK Y081 | **4B775** | 16.44 | **16.29** | 0.1 |
| **C** | Adjustable Key Vertical | ZCK Y091 | **4B774** | 33.00 | **32.70** | 0.2 |

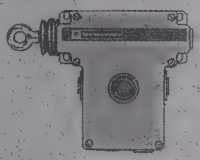

*Relay it, suppress it, enclose it — The leading brands are all right here.*

# CABLE PULL SWITCHES

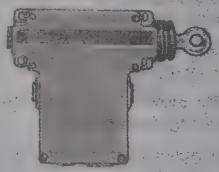
SQUARE D
GROUPE SCHNEIDER



No. 4B789



No. 4B784



No. 4B783

These cable pull switches provide for an Emergency or Normal Stop to be signaled at any point along a 165 ft. cable. The taut cable principle assures the switch will activate if cable is broken. Features positive opening contact, positive latching, force and adjustment indicators.

- **Emergency cable pull features latching contact, reset by pushbutton, and positive opening contacts**
- **Normal cable pull provides momentary action, no reset, snap-action contact**

Ambient Temperature: .....–13 to +158°F
Vibration Resistance: .....10G
Shock Resistance: .....50G, duration 11 ms
Enclosure Rating: .....NEMA 1, 4, 12
Mechanical Life: Emergency stop.....10,000 operations
Normal stop.....100,000 operations
Cable entry: .....3 x 1/2" NPT
Operating position: .....All positions

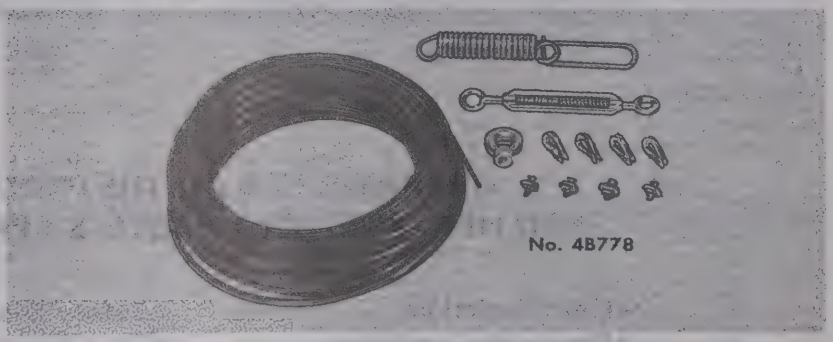
Length of protected area: .....Max. 165 feet
Rated thermal current: .....10A
Rated insulation voltage: .....300V AC and DC
Voltage Range: .....24 to 380V
Wiring terminals: .....Screw & captive clamp 14 AWG max.
Short Circuit Protection†: .....10A fast action fuse
Contact rating: .....A300 (AC), Q300 (DC)

| Type / Mount | Reset | Contact | Indicator | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Emergency/Right Mount** | Standard | NO+NC | No | XY2CE1A150 | **4B789** | $211.32 | **$209.50** | 3.6 |
| **Emergency/Right Mount** | Booted* | NO+NC | No | XY2CE1A250 | **4B787** | 221.73 | **219.75** | 3.6 |
| **Emergency/Right Mount** | Standard | 2NO+2NC | Yes** | XY2CE1A196 | **4B788** | 286.27 | **283.75** | 3.8 |
| **Emergency/Left Mount** | Standard | NO+NC | No | XY2CE2A150 | **4B786** | 211.32 | **209.50** | 3.6 |
| **Emergency/Left Mount** | Booted* | NO+NC | No | XY2CE2A250 | **4B784** | 211.32 | **209.50** | 3.6 |
| **Emergency/Left Mount** | Standard | 2NO+2NC | Yes** | XY2CE2A196 | **4B785** | 286.27 | **283.75** | 3.7 |
| **Normal/Right Mount** | Standard | NO+NC | No | XY2CE3A010 | **4B783** | 176.97 | **175.50** | 3.6 |
| **Normal/Left Mount** | Standard | NO+NC | No | XY2CE4A010 | **4B782** | 176.97 | **175.50** | 3.6 |

(*) Recommended for outdoor applications where icy conditions are likely. (**) Bulb not included; see page 509. (†) Fuse is mandatory for emergency stop applications.

# CABLE PULL SWITCH ACCESSORIES

SQUARE D
GROUPE SCHNEIDER



No. 4B778

**Kit No. 4B779** contains one 84 ft. long galvanized steel cable with red jacket, one turnbuckle, four cable grip clamps, one fixed cable support, one end spring, and three wire end protective guards.

**Kit No. 4B778** contains one 166 ft. long galvanized steel cable with red jacket, one turnbuckle, four cable grip clamps, one fixed cable support, one end spring, and three wire end protective guards.

| Description | Dimensions Additional Info. | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Cable Kit** | 84 ft. | XY2CZ9325 | **4B779** | $116.59 | **$115.50** | 2.0 |
| **Cable Kit** | 166 ft. | XY2CZ9350 | **4B778** | 195.70 | **194.00** | 3.7 |
| **Cable grip, single** | 3.5mm dia. cable | XY2CZ503 | **4B781** | 3.33 | **3.30** | 0.1 |
| **Cable support** | 5/16" coarse thread, .35" deep | XY2CZ601 | **4B780** | 4.37 | **4.33** | 0.1 |

## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# INDUCTIVE PROXIMITY SWITCHES

## LIMIT SWITCH STYLE INDUCTIVE PROXIMITY SWITCHES

- Heavy-duty zinc diecast plug-in body
- 5-position turret head design
- Enclosure rating: NEMA 1, 3, 4, 6, 6P, 12, and 13
- 1/2" NPT conduit entrance with many wiring and connecting options
- PLC compatible
- LED system for easy troubleshooting; indicates ON/OFF, POWER ON as well as SHORT CIRCUIT (for models with short circuit protection)
- DC models work with unfiltered power supply
- Recessed FingerGuard™ self-lifting wire terminals
- Excellent resistance to aggressive environments
- NO and NC output selectable via wiring connection
- Reverse polarity protection (DC)
- Made in U.S.A.




No. 5B237

### ELECTRICAL SPECIFICATIONS

| Voltage Drop | Stock No. | Inrush Current | Min. Load Current | On Delay | Off Delay |
|---|---|---|---|---|---|
| 2.5VDC | 5B237 | — | — | 2mS | 5mS |
| 5VAC | 5B240 | 2.5A | 5mA | 30mS | 30mS |
| 2.5VDC | 5B238 | — | — | 2mS | 5mS |
| 2.5VDC | 5B236 | — | — | 2mS | 5mS |
| 5VAC | 5B239 | 2.5A | 5mA | 30mS | 30mS |

### INDUCTIVE PROXIMITY SWITCH SPECIFICATIONS

| Voltage Range | Stock No. | Max. Load Current | Operating Frequency | LED / SCP† | Usable Sensing Range | Standard Target Size | Cable | RFI | Temperature Range |
|---|---|---|---|---|---|---|---|---|---|
| 10-30VDC | 5B237 | 200mA | 150Hz | 3/Yes | 0-12mm (.5") | 45 x 45mm (1.8" x 1.8") | Screw terminals, #16AWG | Standard | -13°F to +158°F |
| 97-140VAC | 5B240 | 500mA | 10Hz | 2/No | 0-12mm (.5") | 45 x 45mm (1.8" x 1.8") | | | |
| 10-30VDC | 5B238 | 200mA | 150Hz | 3/Yes | 0-16mm (.62") | 60 x 60mm (2.4" x 2.4") | | | |
| 10-30VDC | 5B236 | 200mA | 150Hz | 3/Yes | 0-16mm (.62") | 60 x 60mm (2.4" x 2.4") | | | |
| 97-140VAC | 5B239 | 500mA | 10Hz | 2/No | 0-16mm (.62") | 60 x 60mm (2.4" x 2.4") | | | |

### INDUCTIVE PROXIMITY SWITCHES ORDERING DATA

| Type | Circuit Type | Output Mode | Detecting Material | Residual Leakage | Dimensions (In.) L | W | D | Telemecanique Model XS... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15mm (.59") Sensing Range, Shielded** | | | | | | | | | | | | |
| **DC, 3 wire** | NPN | NO, NC | Mild Steel | .5mA | 4.5 | 1.75 | 1.75 | FJ153359 | **5B237** | $119.00 | **$115.80** | 1.1 |
| **AC** | 2 wire | NO, NC | | 1.7mA(P)* | 4.5 | 1.75 | 1.75 | FA155549 | **5B240** | 132.00 | **128.45** | 1.1 |
| **20mm (.787") Sensing Range, Unshielded** | | | | | | | | | | | | |
| **DC, 3 wire** | PNP | NO, NC | Mild Steel | .5mA | 4.5 | 1.75 | 1.75 | FH203359 | **5B238** | 119.00 | **115.80** | 1.1 |
| **DC, 3 wire** | NPN | NO, NC | | .5mA | 4.5 | 1.75 | 1.75 | FJ203359 | **5B236** | 119.00 | **115.80** | 1.1 |
| **AC** | 2 wire | NO, NC | | 1.7mA(P)* | 4.5 | 1.75 | 1.75 | FA205549 | **5B239** | 132.00 | **128.45** | 1.1 |

(*) P = PLC compatible. (†) Short circuit protection.

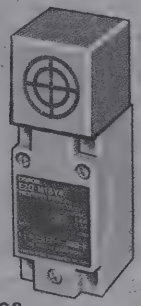

## GRAINGER HAS ALL THE PRODUCTS YOU NEED FOR YOUR PROCESS APPLICATIONS

- Limit Switches
- Proximity Switches
- Photoelectric Switches
- Safety Disconnect Switches
- Transformers
- Motors

**And Much More... See Our Index or Table of Contents for Quick Page Number References**

# LIMIT SWITCH INDUCTIVE TYPES

OMRON
E2Q SERIES



No. 2A188

- Use with metallic objects
- Replaces existing mechanical limit switches
- Power on and output operation indicators
- 2 piece construction for easy installation and maintenance
- Meets NEMA 1, 2, 4, 6, 12, and 13 and IP67 (IEC 144) ratings
- Units are shielded
- Plastic housing
- Adjustable five-position head senses in any direction
- Screw terminal connection of power supply
- 1/2-14 NPT conduit opening

E76675 LR45951

**FUNCTIONALLY EQUIVALENT WITH:***

| | |
|---|---|
| Allen-Bradley | 802PR-LA |
| Cutler-Hammer | E51/E55 |
| Namco | EE620 |
| Square D | 9007/PSP |
| Telemecanique | XSC |
| Turck | Bi15-CP40 |

(*) Functionally Equivalent. Specific performance may vary between brands. If critical, review all specification involved prior to purchase.

**WELD FIELD AND RFI IMMUNITY PROVIDED IN MODEL No. 6C828**

## LIMIT SWITCH SPECIFICATIONS

| Supply Voltage | Stock No. | Ambient Operating Temperature | AC Voltage Output Type | Short Circuit Protection | Circuit Type† | Current Consumption | Max. Leakage Current (mA) | Switching Frequency (Hz) | Control Output (mA) | Dimensions (In.) H | W | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20-264VAC | 2A188 | –13 to 158°F | SCR | No | NO/NC | — | 1.7 | 25 | 5-300 | 4½ | 1⅝ | 1⅝ |
| 90-140VAC | 6C828 | –13 to 158°F | SCR | Yes | NO/NC | — | 1.7 | 25 | 5-300 | 4½ | 1⅝ | 1⅝ |

## LIMIT SWITCH ORDERING DATA

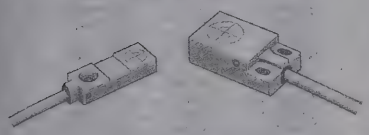
| Supply Voltage | Detecting Distance (mm) | Setting Distance/ Target‡ Size (mm) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **20-264VAC** | 15 | 0-12 /40 x 40 x 1 | E2Q-N15Y4 | **2A188** | $150.36 | **$141.85** | 0.8 |
| **90-140VAC** | 15 | 0-12/40 x 40 x 1 | E2Q-N15Y4-51 | **6C828** | 164.77 | **155.50** | 0.8 |

(‡) Target material is mild steel. (†) No = Normally Open; NC = Normally Closed.

# INDUCTIVE TYPES

## SUBMINIATURE, FLAT-PACK TYPE

OMRON
TL W(M) SERIES



- Fits tight spaces
- Watertight construction
- Meets NEMA 1, 2, 3, 4X, 6, 12, 13 and IP67 ratings
- Ideal for conveyor wall mounting
- Rugged diecast metal or low profile ABS plastic housings available
- Prewired with 6½ ft. of PVC cable
- Nos. 6C831 and 6C832 are shielded, all other models are unshielded

## ELECTRICAL SPECIFICATIONS

| Supply Voltage | Stock No. | Ambient Operating Temperature | DC Voltage Switching Type | Circuit Type* | Current Consumption (mA) | Switching Frequency (Hz) | Current Output (mA) | Dimensions (In.) L | W | D |
|---|---|---|---|---|---|---|---|---|---|---|
| 10-30VDC | 6C829 | -13 to 158°F | NPN | NO | 15 | 600 | 100 | 1.06 | 0.22 | 0.39 |
| | 6C830 | | NPN | NO | 10 | 500 | 100 | 1.20 | 0.39 | 0.71 |
| | 6C831 | | NPN | NO | 15 @ 24VDC | 300 | 200 | 1.97 | 0.39 | 0.98 |
| | 6C832 | | NPN | NC | 15 @ 24VDC | 300 | 200 | 1.97 | 0.39 | 0.98 |
| | 6C833 | | NPN | NO | 15 | 40 | 200 | 2.09 | 0.91 | 1.57 |
| | 6C834 | | NPN | NC | 15 | 40 | 200 | 2.09 | 0.91 | 1.57 |

## ORDERING DATA

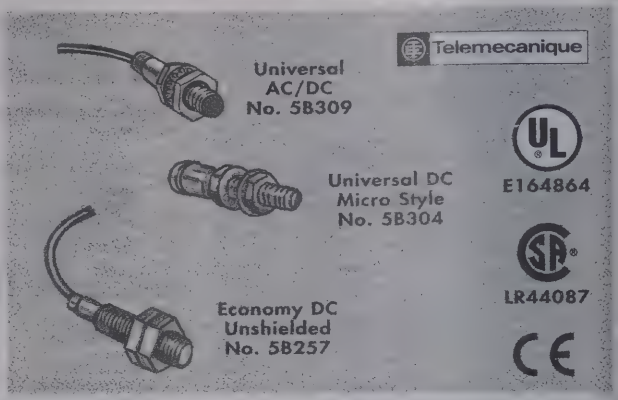
| Supply Voltage | Detecting Distance (mm) | Setting Distance / Target Size† (mm) | Housing Material | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **10-30VDC** | 3 | 0-2.7/12 x 12 x 1 | Plastic | TL-W3MC1 | **6C829** | $51.51 | **$48.60** | 0.1 |
| | 5 | 0-4.5/18 x 18 x 1 | Plastic | TL-W5MC1 | **6C830** | 42.63 | **40.30** | 0.2 |
| | 5 | 0-4.0 /18 x 18 x 1 | Aluminum | TL-W5E1 | **6C831** | 56.64 | **53.45** | 0.2 |
| | 5 | 0-4.0/18 x 18 x 1 | Aluminum | TL-W5E2 | **6C832** | 56.64 | **53.45** | 0.3 |
| | 20 | 0-16/50 x 50 x 1 | Plastic | TL-W20ME1 | **6C833** | 72.10 | **68.05** | 0.5 |
| | 20 | 0-16/50 x 50 x 1 | Plastic | TL-W20ME2 | **6C834** | 72.10 | **68.05** | 0.5 |

(*) NO = Normally Open; NC = Normally Closed. (†) Target material is mild steel.

# 8mm INDUCTIVE PROXIMITY SENSORS

## TUBULAR INDUCTIVE PROXIMITY SENSORS

- **Universal models designed for aggressive environments and ease of replacement: wide range, 2 wire AC/DC or 3 wire DC, cutting oil proof enclosure rating**
- **High visibility 360° indicators**
- **Significant replacement time savings using plastic mounting bracket (no gauging) or connectors. See page 541 for mounting bracket**
- **2m (6.6 ft.) cable, except where indicated**
- **Metal locknuts or plastic mounting nuts included**
- **NEMA enclosure rating: 3, 4X, 6P, 12 and 13**
- **Plastic models are non-corrosive for food applications; cutting oil proof**




### 8mm DIAMETER INDUCTIVE PROXIMITY SENSOR SPECIFICATIONS

| Type | Stock No. | Voltage Circuit Range | SCP ‡ | LED Indicator Type | Output Mode | Circuit Type | Operating Frequency (Hz) | Current Consumption (mA) | Max. Load (mA) | Temperature Range (°F) | On Delay/ Off Delay (ms) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Universal AC/DC | 5B309 | 20 to 264V | No | 360° ring LED | NO | 2 wire | 25/200 | 5 | 100 | -13 to +176 | 1/2 |
| | 5B308 | | No | 360° ring LED | NC | 2 wire | 25/200 | 5 | 100 | -13 to +176 | 1/2 |
| | 5B270 | | No | 360° ring LED | NO | 2 wire | 25/200 | 5 | 100 | -13 to +176 | 1/2 |
| | 5B259 | | No | 360° ring LED | NO | 2 wire | 25/200 | 5 | 100 | -13 to +176 | 1/2 |
| Universal DC | 5B305 | 10 to 58VDC | Yes | 360° ring LED | NO | PNP | 5000 | 10 | 100 | -13 to +176 | 0.1/0.1 |
| | 5B307 | | Yes | 360° ring LED | NO | NPN | 5000 | 10 | 100 | -13 to +176 | 0.1/0.1 |
| | 5B304 | | Yes | 360° ring LED | NO | PNP | 5000 | 10 | 100 | -13 to +176 | 0.1/0.1 |
| | 5B306 | | Yes | 360° ring LED | NO | NPN | 5000 | 10 | 100 | -13 to +176 | 0.1/0.1 |
| Economy DC | 5B276 | 10 to 38VDC | Yes | 360° ring LED | NO | PNP | 5000 | 10 | 200 | -13 to +158 | 0.1/0.1 |
| | 2CW46 | | Yes | 4 x 90° LED | NO | PNP | 5000 | 10 | 200 | -13 to +158 | 0.1/0.1 |
| | 5B277 | | Yes | 360° ring LED | NO | NPN | 5000 | 10 | 200 | -13 to +158 | 0.1/0.1 |
| | 2CW41 | | Yes | 4 x 90° LED | NO | NPN | 5000 | 10 | 200 | -13 to +158 | 0.1/0.1 |
| | 5B257 | | Yes | 360° ring LED | NO | PNP | 5000 | 10 | 200 | -13 to +176 | 0.1/0.1 |
| | 5B258 | | Yes | 360° ring LED | NO | NPN | 5000 | 10 | 200 | -13 to +176 | 0.1/0.1 |

### 8mm DIAMETER INDUCTIVE PROXIMITY SENSOR ORDERING DATA

| Power Supply | Description | Detecting Distance (mm) | Setting Distance / Target Size (mm) | Length (In.) | Diameter (mm) | Telemecanique Model XS . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Universal AC/DC** | Shielded, Ni plated brass case | 1.5 | 0-1.2/8 x 8 | 1.97 | 8 | 1M08MA230 | **5B309** | $122.00 | **$118.75** | 0.1 |
| | Shielded, Ni plated brass case | 1.5 | 0-1.2/8 x 8 | 1.97 | 8 | 1M08MB230 | **5B308** | 122.00 | **118.75** | 0.1 |
| | Unshielded, Ni plated brass case | 2.5 | 0-2/8 x 8 | 1.97 | 8 | 2M08MA230 | **5B270** | 129.00 | **125.55** | 0.1 |
| | Unshielded, plastic case | 2.5 | 0-2/8 x 8 | 1.97 | 8 | 4P08MA230 | **5B259** | 129.00 | **125.55** | 0.1 |
| **Universal DC** | Shielded, Ni plated brass case | 1.5 | 0-1.2/8 x 8 | 1.97 | 8 | 1M08PA370 | **5B305** | 90.00 | **87.60** | 0.1 |
| | Shielded, Ni plated brass case | 1.5 | 0-1.2/8 x 8 | 1.97 | 8 | 1M08NA370 | **5B307** | 90.00 | **87.60** | 0.1 |
| | Shielded, connector-micro style DC* | 1.5 | 0-1.2/8 x 8 | 2.40 | 8 | 1M08PA370D | **5B304**† | 90.00 | **87.60** | 0.1 |
| | Shielded, connector-micro style DC* | 1.5 | 0-1.2/8 x 8 | 2.40 | 8 | 1M08NA370D | **5B306**† | 90.00 | **87.60** | 0.1 |
| **Economy DC** | Shielded, Ni plated brass case | 1.5 | 0-1.2/8 x 8 | 1.30 | 8 | 1N08PA340 | **5B276** | 76.00 | **73.95** | 0.1 |
| | Shielded, connector-micro style DC* | 1.5 | 0-1.2/8 x 8 | 1.77 | 8 | 1N08PA340D | **2CW46**† | 76.00 | **73.95** | 0.1 |
| | Shielded, Ni plated brass case | 1.5 | 0-1.2/8 x 8 | 1.30 | 8 | 1N08NA340 | **5B277** | 76.00 | **73.95** | 0.1 |
| | Shielded, connector-micro style DC* | 1.5 | 0-1.2/8 x 8 | 1.77 | 8 | 1N08NA340D | **2CW41**† | 76.00 | **73.95** | 0.1 |
| | Unshielded, non-corrosive, plastic | 2.5 | 0-2/8 x 8 | 1.30 | 8 | 4P08PA340 | **5B257** | 76.00 | **73.95** | 0.1 |
| | Unshielded, non-corrosive, plastic | 2.5 | 0-2/8 x 8 | 1.30 | 8 | 4P08NA340 | **5B258** | 76.00 | **73.95** | 0.1 |

(*) Ni plated brass case. (†) Cable not included; order 5B230 or 5B229. (‡) Short circuit protection.

## Telemecanique MICRO AND MINI STYLE CONNECTOR CABLES

- **For use with Telemecanique series XS1/XS2/XS4 micro and mini style inductive proximity sensors**

### CONNECTOR CABLES

| Cable Length | For Use With Suffix Letter | Connector Style | LED Signaling | Voltage | Wire Size / Terminal Capacity | Degree of Protection | Telemecanique Model XSZ . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MICRO STYLE CONNECTOR CABLE** | | | | | | | | | | | |
| **2m (6.6 ft.)** | D | Straight | No | DC | 4 x 22 AWG | IP67 | CD101Y | **5B230** | $29.50 | **$28.75** | 0.2 |
| **2m (6.6 ft.)** | D | 90° | 2 LED's | DC | 4 x 22 AWG | IP67 | CD121Y | **5B229** | 54.00 | **52.55** | 0.2 |
| **2m (6.6 ft.)** | K | Straight | No | AC/DC | 3 x 22 AWG | IP67 | CK111Y | **3KM58** | 40.10 | **39.05** | 0.2 |
| **2m (6.6 ft.)** | K | 90° | No | AC/DC | 3 x 22 AWG | IP67 | CK101Y | **3XJ17** | 40.10 | **39.05** | 0.2 |
| **MINI STYLE CONNECTOR CABLE** | | | | | | | | | | | |
| **2m (6.6 ft.)** | A | Straight | No | AC/DC 3 wire | 3 x 18 AWG | IP67 | CA101 | **5B231** | 54.00 | **52.55** | 0.4 |



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# 12mm INDUCTIVE PROXIMITY SENSOR

## TUBULAR INDUCTIVE PROXIMITY SENSORS

- **Universal models designed for aggressive environments and ease of replacement; wide voltage range, AC/DC or AC 3-wire, cutting oilproof enclosure rating, higher temps., standard length**
- **2m (6.6 ft.) cable, except where indicated**
- **Significant replacement time saving using plastic mounting bracket (no gauging) or connectors. Order mounting bracket below • Metal locknuts or plastic mounting nuts included**
- **Protective circuitry includes: Short circuit protection, overload protection, radio frequency protection (RFI), and noise and transient protection • High visibility 360° indicators**
- **All plastic models are non-corrosive for food applications**
- **NEMA enclosure rating: 3, 4X, 6P, 12, & 13; cutting oil proof**




### 12mm DIAMETER INDUCTIVE PROXIMITY SENSOR SPECIFICATIONS

| Type | Stock No. | Voltage Circuit Range | LED Indicator Type | Output Mode | Circuit Type | Operating Frequency AC/DC | Current Consumption | Max. Load | Temperature Range (°F) | On Delay/Off Delay |
|---|---|---|---|---|---|---|---|---|---|---|
| Universal AC/DC | 5B301 | 20 to 264VAC/DC | 360° ring LED | NO | 2 wire | 25/350 Hz | 5mA | 200mA | –13 to 176 | 1ms/2ms |
| | 5B299 | | 360° ring LED | NC | 2 wire | 25/350 Hz | | | | |
| | 5B300 | | 1 LED visible from 4 quadrants | NO | 2 wire | 25/350 Hz | | | | |
| | 5B269 | | 360° ring LED | NO | 2 wire | 25/350 Hz | | | | |
| | 5B268 | | 1 LED visible from 4 quadrants | NO | 2 wire | 25/350 Hz | | | | |
| | 5B255 | | 360° ring LED | NO | 2 wire | 25/350 Hz | | | | |
| Universal DC | 5B297 | 10 to 58VDC | 360° ring LED | NO | PNP | 5000 Hz | 10mA | 200mA | –13 to 176 | 0.1ms/0.1ms |
| | 5B298 | | 360° ring LED | NO | NPN | 5000 Hz | | | | |
| | 5B296 | | 1 LED visible from 4 quadrants | NO | PNP | 5000 Hz | | | | |
| | 5B265 | | 360° ring LED | NO | PNP | 5000 Hz | | | | |
| | 5B267 | | 360° ring LED | NO | NPN | 5000 Hz | | | | |
| | 5B264 | | 1 LED visible from 4 quadrants | NO | PNP | 5000 Hz | | | | |
| | 5B266 | | 1 LED visible from 4 quadrants | NO | NPN | 5000 Hz | | | | |
| | 5B252 | | 360° ring LED | NO | PNP | 5000 Hz | | | | |
| Economy DC | 5B275 | 10 to 38VDC | 360° ring LED | NO | NPN | 5000 Hz | 10mA | 200mA | –13 to 176 | 0.1ms/0.1ms |
| | 5B253 | | 360° ring LED | NO | PNP | 5000 Hz | | | –13 to 158 | |
| | 5B254 | | 360° ring LED | NO | NPN | 5000 Hz | | | –13 to 158 | |
| Economy AC | 5B303 | 20 to 264VAC | 360° ring LED | NO | 2 wire | 25 Hz | 5mA | 200mA | –13 to 176 | 10ms/15ms |
| | 5B302 | | 360° ring LED | NC | 2 wire | 25 Hz | | | | |
| | 5B256 | | 360° ring LED | NO | 2 wire | 25 Hz | | | | |

### 12mm DIAMETER INDUCTIVE PROXIMITY SENSOR ORDERING DATA

| Power Supply | Description | Detecting Distance (mm) | Setting Distance / Target Size (mm) | Length (In.) | Diameter (mm) | Telemecanique Model XS . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Universal AC/DC** | Shielded, Ni plated brass case | 2 | 0-0.8/12 x 12 | 1.97 | 12 | 1M12MA230 | **5B301** | $98.00 | **$95.40** | 0.2 |
| | Shielded, Ni plated brass case | 2 | 0-0.8/12 x 12 | 1.97 | 12 | 1M12MB230 | **5B299** | 98.00 | **95.40** | 0.3 |
| | Shielded, connector-micro style AC | 2 | 0-0.8/12 x 12 | 2.40 | 12 | 1M12MA230K | **5B300†** | 104.00 | **101.20** | 0.1 |
| | Unshielded, Ni plated brass case | 4 | 0-3.2/12 x 12 | 1.97 | 12 | 2M12MA230 | **5B269** | 98.00 | **95.40** | 0.2 |
| | Unshielded, connector-micro style AC | 4 | 0-3.2/12 x 12 | 2.40 | 12 | 2M12MA230K | **5B268†** | 111.00 | **108.05** | 0.1 |
| | Unshielded,plastic case | 4 | 0-3.2/12 x 12 | 1.97 | 12 | 4P12MA230 | **5B255** | 115.00 | **111.90** | 0.2 |
| **Universal DC** | Shielded, Ni plated brass case | 2 | 0-1.6/12 x 12 | 1.97 | 12 | 1M12PA370 | **5B297** | 75.00 | **73.00** | 0.2 |
| | Shielded, Ni plated brass case | 2 | 0-1.6/12 x 12 | 1.97 | 12 | 1M12NA370 | **5B298** | 75.00 | **73.00** | 0.2 |
| | Shielded, connector-micro style DC | 2 | 0-1.6/12 x 12 | 2.40 | 12 | 1M12PA370D | **5B296‡** | 75.00 | **73.00** | 0.1 |
| | Unshielded, Ni plated brass case | 4 | 0-3.2/12 x 12 | 1.97 | 12 | 2M12PA370 | **5B265** | 78.00 | **75.90** | 0.2 |
| | Unshielded, Ni plated brass case | 4 | 0-3.2/12 x 12 | 1.97 | 12 | 2M12NA370 | **5B267** | 78.00 | **75.90** | 0.2 |
| | Unshielded, connector-micro style DC | 4 | 0-3.2/12 x 12 | 2.40 | 12 | 2M12PA370D | **5B264‡** | 78.00 | **75.90** | 0.2 |
| | Unshielded, connector-micro style DC | 4 | 0-3.2/12 x 12 | 2.40 | 12 | 2M12NA370D | **5B266‡** | 78.00 | **75.90** | 0.2 |
| | Unshielded, Non-corrosive, plastic case | 4 | 0-3.2/12 x 12 | 1.97 | 12 | 4P12PA370 | **5B252** | 76.00 | **73.95** | 0.2 |
| **Economy DC** | Shielded, Ni plated brass case | 2 | 0-1.6/12 x 12 | 1.30 | 12 | 1N12NA340 | **5B275** | 61.00 | **59.40** | 0.2 |
| | Unshielded, plastic case | 4 | 0-3.2/12 x 12 | 1.30 | 12 | 4P12PA340 | **5B253** | 64.00 | **62.30** | 0.2 |
| | Unshielded, plastic case | 4 | 0-3.2/12 x 12 | 1.30 | 12 | 4P12NA340 | **5B254** | 64.00 | **62.30** | 0.2 |
| **Economy AC** | Shielded, NiCd plated brass case | 2 | 0-0.8/12 x 12 | 1.97 | 12 | 1M12FA260 | **5B303** | 89.00 | **86.60** | 0.2 |
| | Shielded, NiCd plated brass case | 2 | 0-0.8/12 x 12 | 1.97 | 12 | 1M12FB260 | **5B302** | 89.00 | **86.60** | 0.2 |
| | Unshielded, plastic case | 4 | 0-3.2/12 x 12 | 1.97 | 12 | 4P12FA260 | **5B256** | 92.00 | **89.55** | 0.2 |

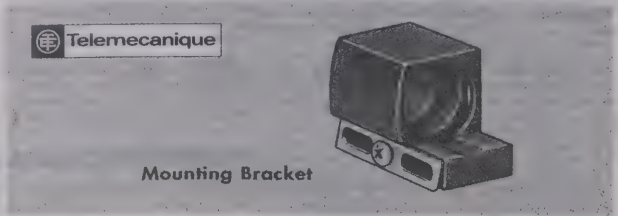
(†) Cable not included; order No. 3KM58 or No. 3XJ17. (‡) Cable not included; order No. 5B230 or No. 5B229, see page 540.

## MOUNTING BRACKETS

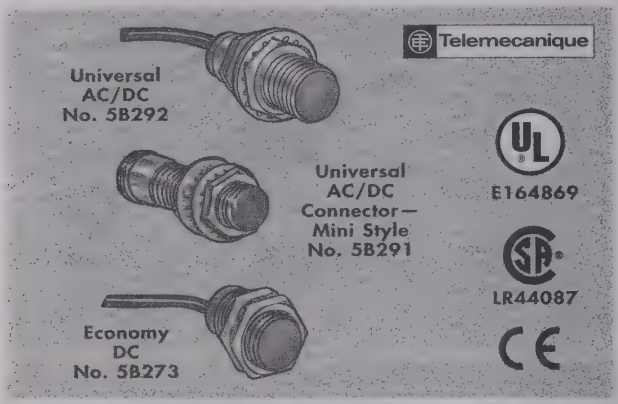
For use with Telemecanique series XS1/XS2/XS4 cylindrical inductive proximity sensors.

### PROXIMITY SENSOR MOUNTING BRACKETS

| Description | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **8mm plastic bracket** | XSZB108 | **5B235** | $4.20 | **$4.09** | 0.1 |
| **12mm plastic bracket** | XSZB112 | **5B234** | 5.30 | **5.16** | 0.1 |
| **18mm plastic bracket** | XSZB118 | **5B233** | 6.30 | **6.13** | 0.1 |
| **30mm plastic bracket** | XSZB130 | **5B232** | 6.30 | **6.13** | 0.1 |



# 18mm INDUCTIVE PROXIMITY SENSORS




## TUBULAR INDUCTIVE PROXIMITY SENSORS

- **Universal models designed for aggressive industrial environments and ease of replacement: wide voltage range, AC/DC 2-wire or DC 3-wire, cutting oil proof enclosure, higher temp. range, standard length**
- **360° LED indicators, 4 windows at 90° for connector versions**
- **2m (6.6 ft.) cable, except where indicated**
- **Significant replacement time savings using plastic mounting bracket (no gauging) or connectors**
- **Trouble free operation ensured by extensive protective circuitry**
- **Mounting nuts included (locknuts for metal cases)**
- **Plastic cases are non-corrosive—for food applications; cutting oil proof**
- **NEMA enclosure rating: 3, 4X, 6P, 12 and 13**

## 18mm DIAMETER INDUCTIVE PROXIMITY SENSOR SPECIFICATIONS

| Type | Stock No. | Voltage Circuit Range | SCP | LED Indicator Type | Output Mode | Circuit Type | Operating Frequency (Hz) | Current Consumption (mA) | Max. Load (mA) | Temperature Range (°F) | On Delay/ Off Delay (ms) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Universal AC/DC | 5B292 | 20 to 264V | No | 360° ring LED | NO | 2 wire | 25/200 | 5 | 300/200 | -13 to +176 | 2/6 |
| | 5B289 | | Yes | 2 LED indicators | NO | 2 wire | 25/200 | 5 | 300/200 | -13 to +176 | 2/6 |
| | 5B290 | | No | 4 x 90° LED | NO | 2 wire | 25/200 | 5 | 300/200 | -13 to +176 | 2/6 |
| | 5B291 | | No | 4 x 90° LED | NO | 2 wire | 25/200 | 5 | 300/200 | -13 to +176 | 2/6 |
| | 5B263 | | No | 360° ring LED | NO | 2 wire | 25/100 | 5 | 300/200 | -13 to +176 | 2/6 |
| | 5B250 | | No | 360° ring LED | NO | 2 wire | 25/100 | 5 | 300/200 | -13 to +176 | 2/6 |
| Universal DC | 5B286 | 10 to 58VDC | Yes | 360° ring LED | NO | PNP | 2000 | 10 | 200 | -13 to +176 | 0.5/0.35 |
| | 5B288 | | Yes | 360° ring LED | NO | NPN | 2000 | 10 | 200 | -13 to +176 | 0.5/0.35 |
| | 5B285 | | Yes | 4 x 90° LED | NO | PNP | 2000 | 10 | 200 | -13 to +176 | 0.5/0.35 |
| | 5B287 | | Yes | 4 x 90° LED | NO | NPN | 2000 | 10 | 200 | -13 to +176 | 0.5/0.35 |
| | 5B262 | | Yes | 360° ring LED | NO | PNP | 2000 | 10 | 200 | -13 to +176 | 0.5/0.35 |
| | 5B261 | | Yes | 4 x 90° LED | NO | PNP | 2000 | 10 | 200 | -13 to +176 | 0.5/0.35 |
| Economy DC | 5B273 | 10 to 38VDC | Yes | 360° ring LED | NO | PNP | 2000 | 10 | 200 | -13 to +158 | 0.5/0.35 |
| | 5B274 | | Yes | 360° ring LED | NO | NPN | 2000 | 10 | 200 | -13 to +158 | 0.5/0.35 |
| | 5B248 | | Yes | 360° ring LED | NO | PNP | 2000 | 10 | 200 | -13 to +176 | 0.5/0.35 |
| | 5B249 | | Yes | 360° ring LED | NO | NPN | 2000 | 10 | 200 | -13 to +176 | 0.5/0.35 |
| Economy AC | 5B295 | 20 to 264VAC | No | 360° ring LED | NO | 2 wire | 25 | 5 | 300 | -13 to +176 | 10/15 |
| | 5B293 | | No | 360° ring LED | NC | 2 wire | 25 | 5 | 300 | -13 to +176 | 10/15 |
| | 5B294 | | No | 4 x 90° LED | NO | 2 wire | 25 | 5 | 300 | -13 to +176 | 10/15 |
| | 5B251 | | No | 360° ring LED | NO | 2 wire | 25 | 5 | 300 | -13 to +176 | 10/15 |

## 18mm DIAMETER INDUCTIVE PROXIMITY SENSOR ORDERING DATA

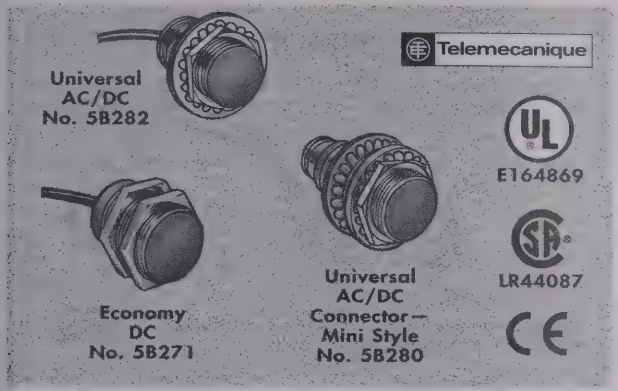
| Power Supply | Description | Detecting Distance (mm) | Setting Distance/ Target Size (mm) | Length (In.) | Dia. (mm) | Telemecanique Model XS . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Universal AC/DC | Shielded, Nickel plated brass case | 5 | 0-4/18 x 18 | 2.36 | 18 | 1M18MA230 | **5B292** | $101.00 | **$98.30** | 0.2 |
| | Shielded, Nickel plated brass case | 5 | 0-4/18 x 18 | 2.36 | 18 | 1M18MA250 | **5B289** | 147.00 | **143.05** | 0.3 |
| | Shielded, connector-micro style AC* | 5 | 0-4/18 x 18 | 2.36 | 18 | 1M18MA230K | **5B290**** | 108.00 | **105.10** | 0.3 |
| | Shielded, connector-mini style* | 5 | 0-4/18 x 18 | 2.36 | 18 | 1M18MA230A | **5B291**† | 120.00 | **116.80** | 0.2 |
| | Unshielded, Nickel plated brass case | 8 | 0-6.4/24 x 24 | 2.36 | 18 | 2M18MA230 | **5B263** | 111.00 | **108.05** | 0.3 |
| | Unshielded, plastic case | 8 | 0-6.4/24 x 24 | 2.36 | 18 | 4P18MA230 | **5B250** | 108.00 | **105.10** | 0.2 |
| Universal DC | Shielded, Ni plated brass case | 5 | 0-4/18 x 18 | 2.36 | 18 | 1M18PA370 | **5B286** | 79.00 | **76.90** | 0.4 |
| | Shielded, Ni plated brass case | 5 | 0-4/18 x 18 | 2.36 | 18 | 1M18NA370 | **5B288** | 79.00 | **76.90** | 0.4 |
| | Shielded, connector-micro style DC* | 5 | 0-4/18 x 18 | 2.75 | 18 | 1M18PA370D | **5B285**‡ | 79.00 | **76.90** | 0.2 |
| | Shielded, connector-micro style DC* | 5 | 0-4/18 x 18 | 2.75 | 18 | 1M18NA370D | **5B287**‡ | 79.00 | **76.90** | 0.2 |
| | Unshielded, Ni plated brass case | 8 | 0-6.4/24 x 24 | 2.36 | 18 | 2M18PA370 | **5B262** | 83.00 | **80.80** | 0.2 |
| | Unshielded, connector-micro style* | 8 | 0-6.4/24 x 24 | 2.75 | 18 | 2M18PA370D | **5B261**‡ | 83.00 | **80.80** | 0.2 |
| Economy DC | Shielded, Ni plated brass case | 5 | 0-4/18 x 18 | 1.31 | 18 | 1N18PA340 | **5B273** | 71.00 | **69.10** | 0.3 |
| | Shielded, Ni plated brass case | 5 | 0-4/18 x 18 | 1.31 | 18 | 1N18NA340 | **5B274** | 71.00 | **69.10** | 0.3 |
| | Non-shielded, plastic case | 8 | 0-6.4/24 x 24 | 1.31 | 18 | 4P18PA340 | **5B248** | 75.00 | **73.00** | 0.2 |
| | Non-shielded, plastic case | 8 | 0-6.4/24 x 24 | 1.31 | 18 | 4P18NA340 | **5B249** | 75.00 | **73.00** | 0.4 |
| Universal AC | Shielded, Nickel plated brass case | 5 | 0-4/18 x 18 | 2.36 | 18 | 1M18FA260 | **5B295** | 92.00 | **89.55** | 0.3 |
| | Shielded, Nickel plated brass case | 5 | 0-4/18 x 18 | 2.36 | 18 | 1M18FB260 | **5B293** | 92.00 | **89.55** | 0.3 |
| | Shielded, connector-micro style* | 5 | 0-4/18 x 18 | 2.36 | 18 | 1M18FA260K | **5B294**** | 98.00 | **95.40** | 0.1 |
| | Unshielded, plastic case | 8 | 0-6.4/24 x 24 | 2.36 | 18 | 4P18FA260 | **5B251** | 97.00 | **94.40** | 0.2 |

(*) Ni plated brass case. (†) Cable not included; order No. 5B231. (‡) Cable not included; order No. 5B230 or No.5B229.
(**) Cable not included; order No. 3KM58 or No. 3XJ17; See page 540.

MOUNTING BRACKETS AVAILABLE ON PAGE 541

# 30mm INDUCTIVE PROXIMITY SENSOR






## TUBULAR INDUCTIVE PROXIMITY SENSORS

- Universal models designed for aggressive environments and ease of replacement; wide voltage range, AC/DC 2 wire or DC 3 wire, cutting oil proof enclosure (1P68)
- High visibility 360° indicators, 4 windows at 90° for connector versions
- Extensive protective circuitry
- 2 m (6.6 ft.) cable, except where indicated
- Significant replacement time saving using plastic mounting bracket (no gauging) or connectors. Order mounting bracket below
- Plastic models are non-corrosive—for food application (1P68 for universal, 1P67 for economy)
- Mounting nuts included (locknuts for metal cases)
- NEMA enclosure rating: 3, 4X, 6P, 12 and 13

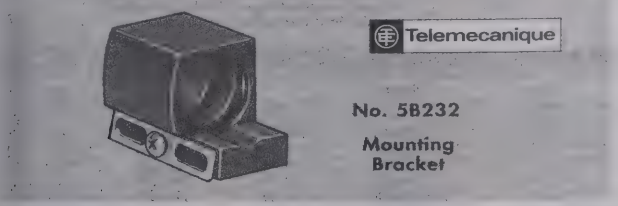
## 30mm DIAMETER INDUCTIVE PROXIMITY SENSOR SPECIFICATIONS

| Type | Stock No. | Voltage Circuit Range | SCP† | LED Indicator Type | Output Mode | Circuit Type | Operating Frequency (Hz) | Current Consumption (mA) | Max. Load (mA) | Temperature Range (°F) | On delay/ Off delay (ms) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Universal AC/DC | 5B282 | 20 to 264VAC/DC | No | 360° ring LED | NO | 2 wire | 25/100 | 5 | 300 | -13 to +176 | 2/5 |
| | 5B281 | | Yes | 2 LED indicators | NO | 2 wire | 25/100 | 5 | 300 | -13 to +176 | 2/5 |
| | 5B280 | | Yes | 4 x 90° LED | NO | 2 wire | 25/100 | 5 | 300 | -13 to +176 | 2/5 |
| | 5B260 | | No | 360° ring LED | NO | 2 wire | 25/100 | 5 | 300 | -13 to +176 | 2/10 |
| | 5B247 | | No | 360° ring LED | NO | 2 wire | 25/100 | 5 | 300 | -13 to +176 | 2/10 |
| Economy AC | 5B284 | 24 to 240VAC | No | 360° ring LED | NO | 2 wire | 25 | 5 | 300 | -13 to +176 | 10/15 |
| | 5B283 | | No | 360° ring LED | NC | 2 wire | 25 | 5 | 300 | -13 to +176 | 10/15 |
| Universal DC | 5B278 | 10 to 58VDC | Yes | 360° ring LED | NO | PNP | 1000 | 10 | 200 | -13 to +176 | 0.3/0.7 |
| | 5B279 | | Yes | 360° ring LED | NO | NPN | 1000 | 10 | 200 | -13 to +176 | 0.3/0.7 |
| | 5B244 | | Yes | 360° ring LED | NO | PNP | 1000 | 10 | 200 | -13 to +176 | 0.3/0.7 |
| Economy DC | 5B271 | 10 to 38VDC | Yes | 360° ring LED | NO | PNP | 1000 | 10 | 200 | -13 to +158 | 0.3/0.7 |
| | 5B272 | | Yes | 360° ring LED | NO | NPN | 1000 | 10 | 200 | -13 to +158 | 0.3/0.7 |
| | 5B245 | | Yes | 360° ring LED | NO | PNP | 1000 | 10 | 200 | -13 to +158 | 0.3/0.7 |
| | 5B246 | | Yes | 360° ring LED | NO | NPN | 1000 | 10 | 200 | -13 to +158 | 0.3/0.7 |

## 30mm DIAMETER INDUCTIVE PROXIMITY SENSOR ORDERING DATA

| Power Supply | Description | Detecting Distance (mm) | Setting Distance/ Target Size (mm) | Length (In.) | Diameter (mm) | Telemecanique Model XS . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Universal AC/DC** | Shielded, Ni plated brass case | 10 | 0-8/30 x 30 | 2.36 | 30 | 1M30MA230 | **5B282** | $106.00 | **$103.15** | 0.6 |
| | Shielded, Ni plated brass case | 10 | 0-8/30 x 30 | 2.36 | 30 | 1M30MA250 | **5B281** | 155.00 | **151.00** | 0.6 |
| | Shielded, connector-mini style* | 10 | 0-8/30 x 30 | 2.95 | 30 | 1M30MA250A | **5B280‡** | 174.00 | **169.50** | 0.4 |
| | Unshielded, Ni plated brass case | 15 | 0-12/36 x 36 | 2.36 | 30 | 2M30MA230 | **5B260** | 113.00 | **109.95** | 0.6 |
| | Unshielded, plastic case | 15 | 0-12/36 x 36 | 2.36 | 30 | 4P30MA230 | **5B247** | 111.00 | **108.05** | 0.4 |
| **Universal AC** | Shielded, Ni plated brass case | 10 | 0-8/30 x 30 | 2.36 | 30 | 1M30FA260 | **5B284** | 94.00 | **91.50** | 0.3 |
| | Shielded, Ni plated brass case | 10 | 0-8/30 x 30 | 2.36 | 30 | 1M30FB260 | **5B283** | 94.00 | **91.50** | 0.6 |
| **Universal DC** | Shielded, Ni plated brass case | 10 | 0-8/30 x 30 | 2.36 | 30 | 1M30PA370 | **5B278** | 93.00 | **90.50** | 0.5 |
| | Shielded, Ni plated brass case | 10 | 0-8/30 x 30 | 2.36 | 30 | 1M30NA370 | **5B279** | 93.00 | **90.50** | 0.6 |
| | Unshielded, plastic case | 15 | 0-12/36 x 36 | 2.36 | 30 | 4P30PA370 | **5B244** | 97.00 | **94.40** | 0.4 |
| **Economy DC** | Shielded, Ni plated brass case | 10 | 0-8/30 x 30 | 1.59 | 30 | 1N30PA340 | **5B271** | 79.00 | **76.90** | 0.6 |
| | Shielded, Ni plated brass case | 10 | 0-8/30 x 30 | 1.59 | 30 | 1N30NA340 | **5B272** | 79.00 | **76.90** | 0.4 |
| | Unshielded, plastic case | 15 | 0-12/36 x 36 | 1.59 | 30 | 4P30PA340 | **5B245** | 79.00 | **76.90** | 0.3 |
| | Unshielded, plastic case | 15 | 0-12/36 x 36 | 1.59 | 30 | 4P30NA340 | **5B246** | 79.00 | **76.90** | 0.5 |

(*) Ni plated brass case. (†) Short circuit protection. (‡) Cable not included; order 5B231, see page 540.




## MOUNTING BRACKETS

For use with Telemecanique series XS1, XS2, XS3, and XS4 inductive proximity sensors.

### PROXIMITY SENSOR MOUNTING BRACKETS

| Description | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **12mm, metal, 90°** | 9006PA12 | **5B430** | $4.20 | **$4.09** | 0.1 |
| **18mm, metal, 90°** | 9006PA18 | **5B429** | 4.20 | **4.09** | 0.1 |
| **30mm, metal, 90°** | 9006PA30 | **5B428** | 4.20 | **4.09** | 0.2 |
| **30mm, plastic** | XSZB130 | **5B232** | 6.30 | **6.13** | 0.1 |

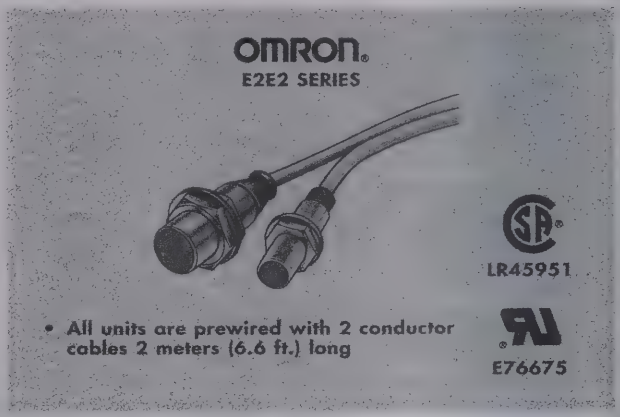
## YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# PROXIMITY SWITCHES

## AC MODELS

- Detects all types of ferrous metals
- Maximum switching frequency is 25 Hz
- All units are shielded
- 90–140 VAC models have short circuit protection, 20–264 VAC units do not
- Meets NEMA 1, 4, 6, 12, 13 and IP67 (IEC 144) ratings
- Maximum leakage current is 1.7mA
- Threaded, nickel plated brass housing
- LED indicator for operation status




- All units are prewired with 2 conductor cables 2 meters (6.6 ft.) long

### DETECTING DISTANCES

| MM | Range | | With Mild Steel Target | |
|---|---|---|---|---|
| | MM | Inches | MM | Inches |
| 8 | 1.5 | 0.06 | 8 x 8 x 1 | 0.3 x 0.3 x 0.04 |
| 12 | 2 | 0.08 | 12 x 12 x 1 | 0.5 x 0.5 x 0.04 |
| 18 | 5 | 0.2 | 18 x 18 x 1 | 0.7 x 0.7 x 0.04 |
| 30 | 10 | 0.39 | 30 x 30 x 1 | 1.2 x 1.2 x 0.04 |

### SPECIFICATIONS AND ORDERING DATA FOR PROXIMITY SWITCHES—AC MODELS

| Volts AC | MM | Circuit | Current Consumption (mAmps) | Max. Output Current | Barrel Length (In.) | Ambient Operating Temp. | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **20–264** | 8 | NO | 1.7 | 100mA | 1.4 | -25°C to 70°C | E2EX1R5Y1-N | **6C811** | $77.24 | **$72.90** | 0.3 |
| **20–264** | 8 | NC | 1.7 | 100mA | 1.4 | -25°C to 70°C | E2EX1R5Y2-N | **6C812** | 77.24 | **72.90** | 0.2 |
| **20–264** | 12 | NO | 1.7 | 200mA | 1.5 | -40°C to 85°C | E2EX2Y1-N | **2A186** | 77.24 | **72.90** | 0.5 |
| **20–264** | 12 | NC | 1.7 | 200mA | 1.5 | -40°C to 85°C | E2EX2Y2-N | **6C810** | 77.24 | **72.90** | 0.5 |
| **20–264** | 12 | NO | 1.7 | 200mA | 2.2 | -40°C to 85°C | E2E2X2Y1 | **6C796** | 80.33 | **75.80** | 0.3 |
| **20–264** | 12 | NC | 1.7 | 200mA | 2.2 | -40°C to 85°C | E2E2X2Y2 | **6C797** | 80.33 | **75.80** | 0.3 |
| **20–264** | 18 | NO | 1.7 | 300mA | 1.5 | -40°C to 85°C | E2EX5Y1-N | **3XC05** | 82.42 | **77.80** | 0.5 |
| **20–264** | 18 | NO | 1.7 | 300mA | 2.4 | -40°C to 85°C | E2E2X5Y1 | **6C799** | 83.41 | **78.70** | 0.4 |
| **20–264** | 18 | NC | 1.7 | 300mA | 2.4 | -40°C to 85°C | E2E2X5Y2 | **6C800** | 83.41 | **78.70** | 0.5 |
| **20–264** | 30 | NO | 1.7 | 300mA | 2.6 | -40°C to 85°C | E2E2X10Y1 | **6C803** | 97.84 | **92.30** | 0.7 |
| **20–264** | 30 | NC | 1.7 | 300mA | 2.6 | -40°C to 85°C | E2E2X10Y2 | **6C804** | 97.84 | **92.30** | 0.7 |
| **90–140** | 18 | NO | 5 | 300mA | 1.8 | -25°C to 70°C | E2EX5Y1-53-US | **2A187** | 85.48 | **80.65** | 0.5 |
| **90–140** | 30 | NO | 5 | 300mA | 2.2 | -25°C to 70°C | E2EX10Y1-53-US | **4A333** | 86.51 | **81.65** | 0.5 |

## DC MODELS

- Detects all types of ferrous metals
- All models are shielded and have both short circuit and reverse polarity protection
- Ambient operating temperatures -40°C to 85°C (-40°F to 185°F)
- Maximum current consumption is 13 mA
- Maximum output current is 200 mA
- All units are prewired with 3 conductor cables 2 meters (6.6 ft.) long
- Meets NEMA 1, 3, 4, 6, 12, 13 and IP67 (IEC 144) ratings
- Threaded, nickel plated brass housing
- LED indicator for operation status




### FUNCTIONALLY EQUIVALENT WITH:*

| | |
|---|---|
| Allen-Bradley | 871 |
| Cutler-Hammer | E57 |
| Namco | ET100 |
| Telemecanique | XSA |
| Turck | Bi |

(*) Functionally Equivalent. Specific performance may vary between brands. If critical, review all specifications involved prior to purchase.

### DETECTING DISTANCES

| MM | Range | | With Mild Steel Target | |
|---|---|---|---|---|
| | MM | Inches | MM | Inches |
| 8 | 1.5 | 0.06 | 8 x 8 x 1 | 0.3 x 0.3 x 0.04 |
| 12 | 2 | 0.08 | 12 x 12 x 1 | 0.5 x 0.5 x 0.04 |
| 18 | 5 | 0.2 | 18 x 18 x 1 | 0.7 x 0.7 x 0.04 |
| 30 | 10 | 0.39 | 30 x 30 x 1 | 1.2 x 1.2 x 0.04 |

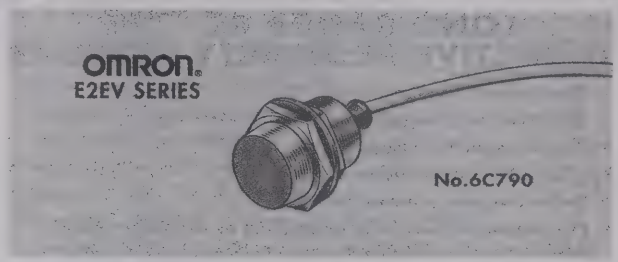
### SPECIFICATIONS AND ORDERING DATA FOR PROXIMITY SWITCHES—DC MODELS

| Volts DC | MM | Circuit | Switching Frequency (kHz) | Barrel Length (In.) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **10–40** | 8 | NPN-NC | 2.0 | 1.0 | E2EX1R5E2N | **6C808** | $64.88 | **$60.20** | 0.3 |
| **10–40** | 8 | NPN-NO | 2.0 | 1.0 | E2EX1R5E1N | **6C807** | 64.88 | **60.20** | 0.3 |
| **10–40** | 8 | PNP-NO | 2.0 | 1.0 | E2EX1R5F1N | **6C809** | 64.88 | **60.20** | 0.2 |
| **10–40** | 12 | NPN-NO | 1.5 | 1.3 | E2EX2E1N | **2A264** | 64.87 | **61.25** | 0.5 |
| **10–40** | 12 | NPN-NO | 1.5 | 2.2 | E2E2X2C1 | **6C798** | 61.80 | **58.30** | 0.5 |
| **10–40** | 12 | PNP-NO | 1.5 | 1.3 | E2EX2F1N | **2A189** | 64.87 | **61.25** | 0.5 |
| **10–40** | 18 | NPN-NO | 0.6 | 1.5 | E2EX5E1N | **3XC06** | 66.94 | **63.25** | 0.4 |
| **10–40** | 18 | NPN-NO | 0.6 | 2.4 | E2E2X5C1 | **6C801** | 63.86 | **60.25** | 0.4 |
| **10–40** | 18 | PNP-NO | 0.6 | 1.5 | E2EX5F1N | **6C806** | 66.94 | **63.25** | 0.4 |
| **10–40** | 30 | NPN-NO | 0.4 | 1.7 | E2EX10E1N | **4A332** | 71.05 | **67.10** | 0.5 |
| **10–40** | 30 | NPN-NO | 0.4 | 2.6 | E2E2X10C1 | **6C802** | 66.96 | **63.20** | 1.0 |
| **10–40** | 30 | PNP-NO | 0.4 | 1.7 | E2EX10F1N | **6C805** | 71.05 | **67.10** | 0.6 |

# PROXIMITY SWITCHES

## INDUCTIVE TYPE

- Detects all kinds of metal at equal distance
- Offers up to three times the detection distance for aluminum compared to conventional inductive sensors
- Shielded for flush mounting in metal
- Prewired with 6 feet of cable
- Meets NEMA 1, 3, 4, 6, 12, 13, and IP67 ratings
- Threaded nickel-plated brass housing
- Circuit protection on load (output)




### SWITCH ELECTRICAL SPECIFICATIONS

| Supply Voltage | Stock No. | Ambient Operating Temperature | Output Type | Current Consumption | Response Frequency (Hz) | Load Current (mA) |
|---|---|---|---|---|---|---|
| 10-30VDC | 6C790 & 6C791<br>6C792 & 6C793<br>6C794 & 6C795 | 14 to 131°F | NPN | 15mA max. | 150<br>70<br>70 | 0-100 |

### SWITCH ORDERING DATA

| Supply Voltage | Circuit Type* | Detecting Distance (mm) | Setting Distance / Target Size | Dimensions (mm) Diameter | Dimensions (mm) Depth | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 10-30VDC | NO | 2 | 0-1.4mm/12x12x1mm | 12.5 | 60 | E2EV-X2C1 | **6C790** | $97.83 | **$92.35** | 0.4 |
| | NC | 2 | 0-1.4mm/12x12x1mm | 12.5 | 60 | E2EV-X2C2 | **6C791** | 97.83 | **92.35** | 0.4 |
| | NO | 5 | 0-3.5mm/18x18x1mm | 18.5 | 60 | E2EV-X5C1 | **6C792** | 100.92 | **95.25** | 0.4 |
| | NC | 5 | 0-3.5mm/18x18x1mm | 18.5 | 60 | E2EV-X5C2 | **6C793** | 100.92 | **95.25** | 0.6 |
| | NO | 10 | 0-7mm/30x30x1mm | 30.5 | 60 | E2EV-X10C1 | **6C794** | 104.00 | **98.15** | 0.6 |
| | NC | 10 | 0-7mm/30x30x1mm | 30.5 | 60 | E2EV-X10C2 | **6C795** | 104.00 | **98.15** | 0.6 |

(*) NO = Normally Open; NC = Normally Closed.

## INDUCTIVE TYPE

- Rugged, watertight, threaded plastic housing resists chemicals and withstands washdowns
- AC and DC switching types available
- Meets NEMA 1, 3, 4, 6, 12, 13, and IP68 (IEC 144) ratings
- Short length, threaded plastic body
- Prewired with 6½ ft. of PVC cable
- Short circuit protection and reverse polarity protection
- Operation indicator
- Shielded for flush mounting in metal

### FUNCTIONALLY EQUIVALENT WITH:

| | |
|---|---|
| ATC | 7252/OG |
| Banner | SMA/SM1 |
| Cutler-Hammer | E58 |
| Square D | 9006PE |
| Telemecanique | XUB |

EZ6675 LR45951




### SWITCH ELECTRICAL SPECIFICATIONS

| Supply Voltage | Stock No. | Ambient Operating Temperature | DC Voltage Switching Type | Short Circuit Protection | Circuit Type‡ | Current Consumption (mA) | Max. Leakage Current | Response Frequency (Hz) | Output Current (mA) Max. | Output Current (mA) Min. | Length (In.) | Dia. (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-30VDC | 3XC02 | -13 to 158°F | NPN | Yes | NO | 17 | — | 1.5 k | 200 | — | 1.38 | 0.50 |
| | 6C825 | | NPN | Yes | NO | 17 | — | 2 k | 200 | — | 1.18 | 0.335 |
| | 6C826 | | NPN | Yes | NO | 17 | — | 600 | 200 | — | 1.85 | 0.728 |
| | 6C827 | | NPN | Yes | NO | 17 | — | 400 | 200 | — | 2.24 | 1.201 |
| 90-140VAC | 6C821 | -13 to 158°F | — | Yes | NO | 5 | 1.5mA @ 200VAC | 25 | 300 | 5 | 2.24 | 0.728 |
| | 6C822 | | — | Yes | NO | 5 | 1.5mA @ 200VAC | 25 | 300 | 5 | 2.24 | 1.201 |
| | 6C823 | | — | No | NO | 5 | 1.7mA @ 200VAC | 25 | 100 | 5 | 1.57 | 0.492 |
| | 6C824 | | — | No | NO | 5 | 1.7mA @ 200VAC | 25 | 100 | 5 | 1.57 | 0.335 |

### SWITCH ORDERING DATA

| Supply Voltage | Detecting Distance (mm) | Setting Distance / Target Size† | Cylinder Length (mm) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **90-140VAC** | 5 | 0-4.0mm / 18x18x1mm | 1.57 | E2F-X5Y1-53-US | **6C821** | $83.41 | **$77.70** | 0.4 |
| **90-140VAC** | 10 | 0-8.0mm / 30x30x1mm | 1.97 | E2F-X10Y1-53-US | **6C822** | 86.50 | **80.65** | 0.4 |
| **20-240VAC** | 2 | 0-1.6mm / 12x12x1mm | 1.57 | E2F-X2Y1 | **6C823** | 74.15 | **66.85** | 0.3 |
| **20-240VAC** | 1.5 | 0-1.2mm / 8x8x1mm | 1.57 | E2F X1R5Y1 | **6C824** | 74.15 | **66.85** | 0.2 |
| **10-30VDC** | 2 | 0-1.6mm / 12x12x1mm | 1.38 | E2F-X2E1 | **3XC02** | 56.63 | **53.50** | 0.3 |
| **10-30VDC** | 1.5 | 0-1.2mm / 8x8x1mm | 1.18 | E2F-X1R5E1 | **6C825** | 58.70 | **52.25** | 0.2 |
| **10-30VDC** | 5 | 0-4.0mm / 12x12x1mm | 1.57 | E2F-X5E1 | **6C826** | 57.68 | **51.50** | 0.4 |
| **10-30VDC** | 10 | 0-8.0mm / 30x30x1mm | 1.97 | E2F-X10E1 | **6C827** | 62.82 | **59.30** | 0.3 |

(†) Target material is mild steel. (‡) NO = Normally Open; NC = Normally Closed.

# INDUCTIVE PROXIMITY SENSORS

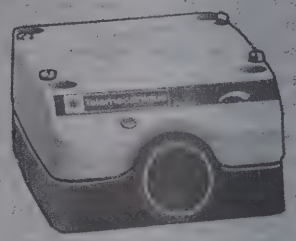
## LONG RANGE AC TYPE INDUCTIVE PROXIMITY SENSORS

- Thermoplastic polyester housing
- LED indicators: target sensed and power On
- Plug-in modular design
- 1/2" NPT cable conduit entrance
- Radio Frequency Immunity (RFI)
- Programmable normally open (NO) or normally closed (NC)
- UL Listed and CSA Certified
- Factory Mutual approved for non-incendive application (Div. 11)
- Unshielded

Telemecanique

E164353

LR44087



### LONG RANGE AC TYPE INDUCTIVE PROXIMITY SENSOR SPECIFICATIONS

| Voltage Range | Stock No. | Max. Load (mA) | Operating Frequency Max. (Hz) | LED | Usable Sensing Range | Standard Target Size | Inrush Current 20mS (A) | Minimum Load Current (mA) | On Delay/ Off Delay (ms) |
|---|---|---|---|---|---|---|---|---|---|
| 20-264V | 5B242<br>5B241 | 500 | 10 | Yes | 0-32mm (1.26")<br>0-50mm (2") | 120 x 120mm (4.7" x 4.7")<br>150 x 150mm (5.9" x 5.9") | 2 | 5 | 20/30 |

### LONG RANGE AC TYPE INDUCTIVE PROXIMITY SENSOR ORDERING DATA

| Circuit Type | Output Mode | Detecting Distance | Detecting Material | Residual Leakage (mA) | Dimensions (In.) L | W | D | Telemecanique Model XSD... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2 Wire** | NO/NC | 40mm (1.57") | Mild Steel | 1.5(P)* | 3.9 | 3.1 | 1.5 | A400519 | **5B242** | $181.00 | **$176.25** | 1.1 |
| **2 Wire** | NO/NC | 50mm (2") | | 1.5 | | | | A500519 | **5B241** | 197.00 | **191.75** | 1.0 |

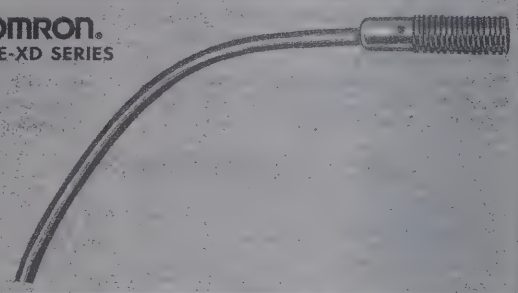
(*) P = PLC compatible.

## INDUCTIVE TYPE

- Alarm output indicates wire break or unstable detecting distance, except No. 6C817
- All units are prewired with 6½ ft. PVC cable
- Operation stability LED indicators provide accurate position monitoring
- Capable of being connected directly to programmable controller
- Short circuit and reverse polarity protection
- All units are shielded
- Nickel plated brass housing
- Meets NEMA 1, 3, 4, 6, 12, 13 and IP67 ratings

OMRON.

E2E-XD SERIES



### SWITCH ELECTRICAL SPECIFICATIONS

| Supply Voltage | Stock No. | Ambient Operating Temperature | Circuit Type * | Current Consumption (mA) | Response Frequency (kHz) | Load Current Output (mA) Max. | Load Current Output (mA) Min. | Length (mm) | Diameter (mm) |
|---|---|---|---|---|---|---|---|---|---|
| 10-30VDC | 6C817 | -13 to 158°F | NO | 0.8 | 1.5 | 100 | 3 | 30.0 | 8 |
| | 6C818 | | NO | | 1.0 | | | 38.1 | 12 |
| | 6C819 | | NO | | 0.5 | | | 43.2 | 18 |
| | 6C820 | | NO | | 0.4 | | | 48.0 | 30 |

### SWITCH ORDERING DATA

| Supply Voltage | Detecting Distance (mm) | Setting Distance / Target Size † (mm) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **10-30VDC** | 2 | 0-1.6/8 x 8 x 1 | E2E-X2D1-N | **6C817** | $66.95 | **$63.15** | 0.3 |
| | 3 | 0-2.4/12 x 12 x 1 | E2E-X3D1-SN | **6C818** | 67.97 | **63.10** | 0.4 |
| | 7 | 0-5.6/15 x 15 x 1 | E2E-X7D1-SN | **6C819** | 70.04 | **65.10** | 0.4 |

(*) NO = Normally Open; NC = Normally Closed.
(†) Target material is mild steel.

### ORDERING HAS NEVER BEEN EASIER!

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

# INDUCTIVE TYPE

## CYLINDRICAL CONFIGURATION

OMRON
E2EY Series



- Detects non-ferrous metals only
- Provides long sensing distances
- Easy to see operation indicator
- All units are shielded
- Prewired with 6½ ft. of PVC cable
- Rated for NEMA 1, 3, 4, 6, 12, 13 and IP67
- Switches have short circuit, surge voltage and reverse polarity protection
- Can be used with sensor controllers listed on page 558

### CYLINDRICAL SWITCH ELECTRICAL SPECIFICATIONS

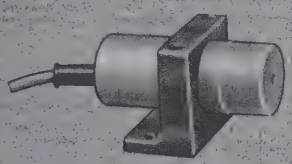
| Supply Voltage | Ambient Operating Temperature | Circuit Type* | Short Circuit Protection | Current Consumption (mA) | Response Frequency (Hz) | Control Output (mA) |
|---|---|---|---|---|---|---|
| 10-30VDC | 14 to 131°F | NPN-NO | Yes | 20 | 70 | 100 max. |

### CYLINDRICAL SWITCH ORDERING DATA

| Supply Voltage | Detecting Distance (mm) | Setting Distance/ Target Size† (mm) | Length (In.) | Diameter (In.) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **10-30VDC** | 4 | 0-2.8/18 x 18 x 1 | 2.34 | 1.14 | E2EY-X4C1 | **6C844**** | $133.90 | **$126.30** | 0.7 |
| **10-30VDC** | 8 | 0-5.6/30 x 30 x 1 | 2.34 | 1.65 | E2EY-X8C1 | **6C847**** | 139.03 | **131.15** | 0.6 |

(*) NO = Normally Open. (†) Target material is mild steel. ** Limited availability-contact branch.

OMRON
E2K-C Series



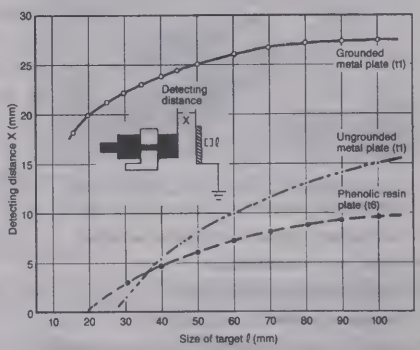
**Use with Metallic and Nonmetallic Targets--Including Wood, Plastic, Glass, and Most Liquids**

## CAPACITIVE TYPES

LR45951 E76675

- Large adjustable sensing range
- Rated NEMA 1, 4, 12 and 13 and IP 67 (IEC 144)
- Able to detect materials inside non-metallic containers
- L-Shaped mounting bracket is supplied
- Unshielded type
- Can be used with sensor controllers listed on page 558

**DETECTION DISTANCE VS. SIZE & MATERIAL OF TARGET**




### PROXIMITY SWITCH ELECTRICAL SPECIFICATIONS

| Supply Voltage | Ambient Operating Temperature | Current Consumption (mA) | Leakage Current (mA) | Response Frequency (Hz) | Maximum Control Output (mA) | Length (In.) | Diameter (In.) |
|---|---|---|---|---|---|---|---|
| 90-250VAC | -13° to 158°F | 1 @ 100VAC<br>2 @ 200VAC | 0.6 @ 90VAC<br>2.4 @ 250VAC | 10 | 200 | 4.45 | 1.34 |
| 10-40VDC | -13° to 158°F | 10 @ 12VDC<br>15 @ 24VDC | — | 70 | 200 | 4.45 | 1.34 |

### PROXIMITY SWITCH ORDERING DATA

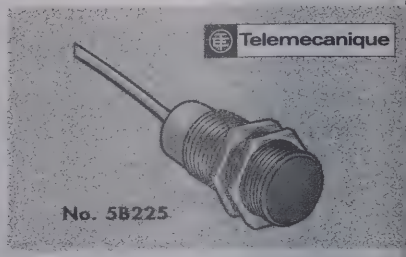
| Supply Voltage | Detecting Distance (mm) | Circuit Type* | Sensitivity | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **90-250VAC** | 3-25 | NO | Adjustable | E2K-C25MY1 | **4A331** | $117.42 | **$110.75** | 0.7 |
| | | NC | | E2K-C25MY2 | **4A341** | 117.42 | **110.75** | 0.7 |
| **10-40VDC** | 3-25 | NPN-NO | Adjustable | E2K-C25ME1 | **6C835** | 117.42 | **110.75** | 0.6 |
| | | NPN-NC | | E2K-C25ME2 | **6C836** | 117.42 | **110.75** | 0.6 |

(*) NO = Normally Open; NC = Normally Closed.

## CAPACITIVE PROXIMITY SENSORS

**Capacitive proximity sensors** are ideal for sensing nonmetal objects such as glass, plastic, liquids, bulk solids or sensing level control of fluids or granular material. The threshold level is adjustable via a 20 turn potentiometer located at the rear end of the switch. This adjustment can be used to zero out the presence of a plastic tube (allowing the switch to sense through it at a liquid level).

- **Housing: Metal models are chrome plated brass. Plastic model is polyester**
- **Can be flush mounted in metal**
- **LED indication for output in closed state**
- **Plastic nuts included for threaded models**
- **Sensitivity adjustment tool included**



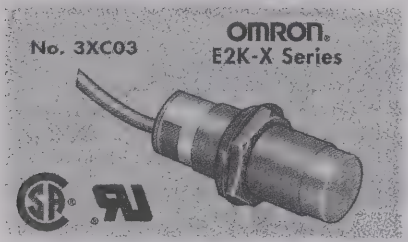

### CAPACITIVE PROXIMITY SENSOR ELECTRICAL SPECIFICATIONS

| Type | Cable PVC | Voltage Range | LED / SCP† | Temperature Range (°F) | Voltage Drop | Inrush Current 20ms (A) | Min. Load Current (mA) | Power Supply Current (mA) | On Delay/ Off Delay (ms) |
|---|---|---|---|---|---|---|---|---|---|
| AC | #20AWG | 90-250V | Yes/No | -13 to +158 | 9VAC | 1 | 15 | — | 50/15 |
| DC | #20AWG | 19-27V | Yes/No | -13 to +158 | 3.5VDC | — | — | 10 | 30/15 |

### CAPACITIVE PROXIMITY SENSOR ORDERING DATA

| Description | Circuit Type | Output Mode | Max. Load (mA) | Residual Leakage (mA) | Operating Frequency (Hz) | Length (In.) | Diameter (mm) | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30mm (1.18") Dia. Threaded—Metal, 15mm (.59") Sensing Range** | | | | | | | | | | | | |
| **DC model, 3 wire** | PNP | NO | 50 | 0 | 15 | 3.15 | 30 | XT1M30PA372 | **5B225**† | $210.00 | **$204.50** | 0.5 |
| **AC model, 2 wire + ground** | — | NO | 250 | 7(R) | 10 | 3.15 | 30 | XT1M30FA262 | **5B228** | 252.00 | **245.25** | 0.6 |
| **AC model, 2 wire + ground** | — | NC | 250 | 7(R) | 10 | 3.15 | 30 | XT1M30FB262 | **5B227** | 252.00 | **245.25** | 0.6 |
| **32mm (1.26") Dia. Unthreaded—Plastic, 20mm (.787") Sensing Range** | | | | | | | | | | | | |
| **AC model, 2 wire + ground** | — | NO | 250 | 7(R) | 10 | 3.15 | 30 | XT4L32FA262 | **5B226*** | 252.00 | **245.25** | 0.5 |

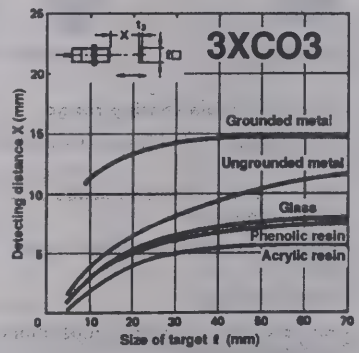
(*) Best used with conductive material. (†) Short circuit protection. (R) = Bleeder resistor required for PLC compatibility.

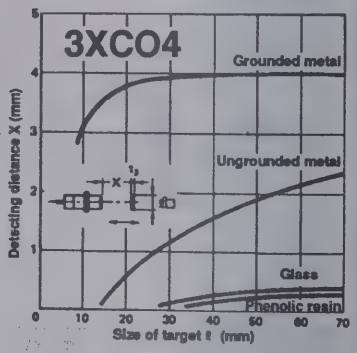



- **Rated NEMA 1, 4, 12, and 13 and IP66 (IEC 144)**
- **Threaded, plastic cylinder models**
- **Units are unshielded**
- **LED indicates power on**
- **Reverse polarity protected**
- **Detects both metallic and non-metallic objects**
- **Fixed detecting distances**
- **Can be used with sensor controllers listed on page 558**

## CAPACITIVE TYPE

### DETECTION DISTANCE VS. SIZE & MATERIAL OF TARGET




| Supply Voltage | Current Consumption (mA) | Leakage Current (mA) | Switching Frequency (Hz) | Max. Load Current (mA) |
|---|---|---|---|---|
| 90 to 250VAC | 2.2 @ 200VAC | 1.75 @ 250VAC | 10 | 200 |
| 10 to 30VDC | 8 @ 12VDC<br>15 @ 24VDC | — | 100 | 200 |

### CAPACITIVE PROXIMITY SWITCH ORDERING DATA

| Supply Voltage | Detecting Distance (mm) | Circuit Type* | Ambient Operating Temperature (°F) | Length (In.) | Diameter (In.) | Omron Model E2K-X | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **90-250VAC** | 4 | SCR-NO | -13 to 158 | 3.15 | 0.492 | 4MY1 | **6C837** | $122.57 | **$115.65** | 0.3 |
| | 4 | SCR-NC | -13 to 158 | 3.15 | 0.492 | 4MY2 | **6C838** | 122.57 | **115.65** | 0.3 |
| | 15 | SCR-NO | 14 to 131 | 3.15 | 1.20 | 15MY1 | **6C839** | 122.57 | **115.65** | 0.4 |
| | 15 | SCR-NC | 14 to 131 | 3.15 | 1.20 | 15MY2 | **3XC03** | 122.57 | **115.65** | 0.5 |
| **10-30VDC** | 4 | NPN-NO | -13 to 158 | 3.15 | 0.492 | 4ME1 | **6C840** | 93.72 | **88.50** | 0.3 |
| | 4 | NPN-NC | -13 to 158 | 3.15 | 0.492 | 4ME2 | **3XC04** | 93.72 | **88.50** | 0.4 |
| | 8 | NPN-NO | -13 to 158 | 3.15 | 0.72 | 8ME1 | **6C841** | 89.59 | **84.55** | 0.5 |
| | 8 | NPN-NC | -13 to 158 | 3.15 | 0.72 | 8ME2 | **6C842** | 89.59 | **84.55** | 0.5 |
| | 15 | NPN-NO | 14 to 131 | 3.15 | 1.20 | 15ME1 | **6C843** | 94.74 | **89.40** | 0.5 |
| | 15 | NPN-NC | 14 to 131 | 3.15 | 1.20 | 15ME2 | **6C845** | 94.74 | **89.40** | 0.7 |

(*) NO = Normally Open; NC = Normally Closed.



*Relay it, suppress it, enclose it — The leading brands are all right here.*




## GENERAL PURPOSE PHOTOELECTRIC SENSOR

E41515 LR45951

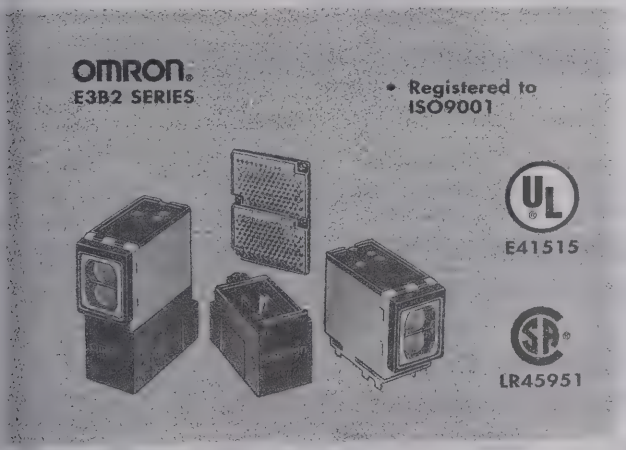
- Long range, heavy-duty multifunction
- Switch selectable light (incident) or dark (interrupted) ON output mode
- LED indicators for operating status
- No mutual interference (cross-talk) between sensors
- General purpose, relay type output
- PBT housing meets NEMA 1, 4, 4X, 12 and 13 and IP67 (IEC 144) ratings
- Mounting bracket included
- Universal AC/DC operating range
- Dielectric strength = 2000VAC for 1 minute
- Base accepts 3/4"-14 NPT conduit
- Can be used with sensor controller listed on page 558

### SWITCH SENSOR SPECIFICATIONS

| Type | Stock No. | Detecting Distance | Detecting Material | Directional Angle | Differential Travel |
|---|---|---|---|---|---|
| Retro-reflective | 2A183 | 10m (32.8 ft.) with reflector (included) | Opaque, 2 9/16" minimum | Sensor 3° Target 40° minimum | — |
| Diffuse | 2A184 | 2m (6.6 ft.) with 12" x 12" white target | Transparent and Opaque | — | 20% minimum |

### SWITCH ELECTRICAL SPECIFICATIONS AND ORDERING DATA

| Supply Voltage | Contact Rating: Form | Amps @ 240VAC | Response Time (m sec) | Ambient Temperature | Dimensions (In.): L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 42-240VAC or 24-240VDC | DPDT | 10 | 30 | –13° to 131°F | 7.3 | 3.5 | 2.0 | E3K-R10K4 | **2A183** | $189.47 | **$175.75** | 2.4 |
| | | | | | | | | E3K-D2K4 | **2A184** | 189.47 | **175.75** | 2.4 |




## GENERAL PURPOSE PHOTOELECTRIC SENSOR

- Plug-in terminal for easy maintenance and installation
- Wide supply voltage range
- Switch selectable Light-On/Dark-On operation
- Mutual interference protection
- Includes 3A relay and mounting bracket
- Retroreflective types include reflector
- NEMA 1, 3, 4, 12, 13 and IP66 rated plastic enclosure
- Ambient operating temperature –13 to 131°F
- Units can be side or bottom mounted, brackets for mounting included
- Operation status indicators

### PHOTOELECTRIC SWITCH ELECTRICAL SPECIFICATIONS

| Supply Voltage | Output Type | Max. Load Current | Response Time |
|---|---|---|---|
| 24 to 240VAC @ 50/60 Hz; 12 to 240VDC | SPDT | 3A @ 250VAC max. 10 mA @ 5VDC min. | 30ms ON/30ms OFF |

### LIMIT SWITCH SPECIFICATIONS AND ORDERING DATA

| Type | Detecting Distance | Detecting Material | Dimensions (In.): L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Retroreflective | 7 m (22.9 ft.) | Opaque objects | 1.42 | 3.56 | 2.87 | E3B2-R7M4-US | **6C775** | $195.70 | **$184.75** | 0.8 |
| Retroreflective | 5 (16.4 ft.) | Shiny & Opaque objects | 1.42 | 3.56 | 2.87 | E3B2-R5M4-US | **6C777** | 195.69 | **184.75** | 1.0 |
| Diffuse | 2 (6.5 ft.) | Opaque & Transparent objects | 1.42 | 3.56 | 2.87 | E3B2-D2M4-US | **6C776** | 183.32 | **173.25** | 1.0 |

## IF YOU'RE IN A BIND, CALL GRAINGER

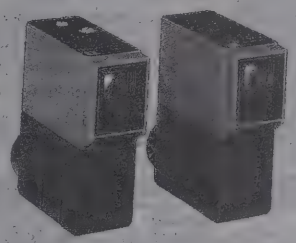
If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# PHOTOELECTRIC SWITCHES

- Built-in, 4-function timer on control output
- Universal AC/DC operating voltage
- Switch selectable Light On or Dark On output mode
- Units include relay type output
- Solid state output modules available separately see below
- Polarized retroreflective light source for shiny object detection
- LED indicators for operating status
- Plastic polycarbonate housing qualifies for NEMA 1, 4X and 12 and IP 66 (IEC 144) ratings
- Fiber optic cables sold separately on page 555
- Sensitivity adjustment for accurate tuning on 4A338 and 6C778 only
- Can be used with sensor controller listed on page 558

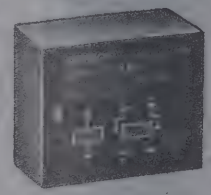
OMRON
E3A2 Series

E41515



No. 4A337

Replacement Relay



No. 6C772

- Relays for Omron E3A2 Series available—see below for ordering data

## SWITCH SENSOR SPECIFICATIONS

| Type | Stock No. | Detecting Distance | Detecting Material | Directional Angle |
|---|---|---|---|---|
| Separate | 4A337 | 10m (32.8 ft.) with receiver (included) | Opaque, 26mm (1.02") | 3°-12° |
| Retro-reflective | 4A338 | 3m (9.8 ft.) with reflector (included) | Opaque 56mm (2.2") | Source 1°-6° Reflect 40° minimum |
| Diffuse | 6C778 | 70cm with 10 x 10cm white target | Opaque & Transparent | — |
| Fiber Optic | 6C779 | — | — | — |

## SWITCH ELECTRICAL SPECIFICATIONS

| Type | Supply Voltage | Power Consumption (W) | Leakage Current (mA) | Contact Ratings Form | Amps | Response Time | Timer Functions (0.1-5 sec) | Ambient Temperature |
|---|---|---|---|---|---|---|---|---|
| Separate Retroreflective Diffuse | 24-240VAC @ 50/60 Hz or 12-240VDC | 2 max. 1.5 | 1 (AC only) | SPDT | 3.0 @ 250VAC/30VDC | 15ms ON/15ms OFF | On-Delay, OFF-Delay, One-Shot, On & Off Delay | -13° to 131°F |
| Fiber Optic | 24-240VAC @ 50/60 Hz, 12-240VDC | 2.5 max. 1.5 | 1 (AC only) | SPDT | 3.0 @ 250VAC/30VDC | 15ms ON/15ms OFF | On-Delay, OFF-Delay, One-Shot, On & Off Delay | -13° to 131°F |

## SWITCH ORDERING DATA

| Type | Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Separate** | 3.5 | 1.02 | 2.96 | E3A2-10M4T | **4A337** | $202.90 | **$191.75** | 0.8 |
| **Retroreflective** | 3.5 | 1.02 | 2.96 | E3A2-R3M4T | **4A338** | 173.03 | **163.50** | 0.5 |
| **Diffuse** | 3.5 | 1.02 | 2.96 | E3A2-DS70M4T | **6C778** | 148.30 | **139.90** | 0.5 |
| **Fiber Optic** | 2.98 | 1.01 | 2.93 | E3A2-XCM4T | **6C779** | 173.03 | **163.50** | 0.5 |

## REPLACEMENT RELAYS FOR OMRON E3A2 SERIES

| Description | Load Current (Output) | Response Time | Contacts | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Solid-state output modules** | 200mA, 250VAC max. | 30ms | AC (SCR) | G3K-2R2P-1 | **6C772** | $57.92 | **$54.65** | 0.2 |
| | 200mA, 30VDC max. | 1ms | NPN-SPDT | G3KD-YR2P-1 | **6C773** | 37.08 | **35.55** | 0.1 |
| | 200mA, 30VDC max. | 1ms | PNP-SPDT | G3KD-YR2P-2 | **6C774** | 37.08 | **35.55** | 0.1 |
| **Relay** | 3A, 250VAC max. | 15ms ON/15ms OFF | SPDT | G6C-2117P-DC8 | **6C993** † | 7.21 | **7.15** | 0.8 |

(†) UL Recognized (E41643); CSA Certified (LR31928).

SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

## LONG RANGE PLUG-IN PHOTOELECTRIC SENSORS

- Thermoplastic polyester housing
- 1/2" NPT conduit entrance
- Finger Guard™ isolated wiring terminals in ready-to-wire position
- Flat lenses
- Corrosion-proof and double insulated (no grounding required)
- Adjustments protected by top cover
- NEMA 1, 3, 4, 13 enclosure rating
- Captive gaskets
- No. 5B194 contains a programmable timer with On Delay, Off Delay, and One-Shot functions
- Reverse polarity protection for DC models
- Polarized type detects shiny targets
- 2 LED alignment system
- LED output indication
- Light/Dark selectable output function
- Mounting bracket allows easy alignment in 2 planes (included)
- Reflector required on retroreflective models
- Corner-cube reflector required on polarized retroreflective No. 5B200
- UL Listed and CSA Certified




### LONG RANGE PLUG-IN PHOTOELECTRIC SENSOR ELECTRICAL SPECIFICATIONS

| Type | Minimum Switching Current | Power Supply Current (no load) | On Delay Off Delay | Temperature Range (°F) | Enclosure Rating |
|---|---|---|---|---|---|
| AC | 15mA DC for relay output | Thru-Beam:— Reflex: 45mA Proximity: 45mA | On Delay: 25ms Off Delay: 30ms | -13 to 158 | NEMA 1, 3, 4, and 13 |
| DC | — | Thru-Beam:— Reflex: 35mA Proximity: 35mA | On Delay: 2.5ms (Thru-Beam); 1.5ms (Reflex, Proximity) Off Delay: 2ms (Thru-Beam); 1ms (Reflex, Proximity) | -13 to 131 | NEMA 1, 3, 4, and 13 |

### LONG RANGE PLUG-IN PHOTOELECTRIC SENSOR ORDERING DATA

| Description | Circuit Type | Voltage Range Max. AC | Voltage Range Max. DC | Load Current Max. | Operating Frequency (Hz) | Short Circuit Protection | Telemecanique Model XUE . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **THRU-BEAM—62 m (206 ft.) Sensing Range** | | | | | | | | | | | |
| **Emitter AC/DC** | 2 wire | 20-264VAC | 10-58VDC | — | — | — | H3000 | **5B196** | $142.00 | **$138.20** | 1.0 |
| **Receiver DC** | PNP/NPN | — | 10-58VDC | 200mA | 300 | Yes | H307534 | **5B195** | 210.00 | **204.50** | 1.0 |
| **Receiver AC/DC, relay output** | NO/NC | 20-264VAC | 20-264VDC | 2A | 20 | No | F300314 | **5B199** | 267.00 | **260.00** | 1.0 |
| **RETROREFLECTIVE—12.5 m (41 ft.) Sensing Range*** | | | | | | | | | | | |
| **DC model** | PNP/NPN | — | 10-58VDC | 200mA | 300 | Yes | H10753 | **5B197** | 192.00 | **187.00** | 1.0 |
| **AC/DC with timer (.03-60 sec) relay output** | NO/NC | 20-264VAC | 20-264VDC | 2A | 20 | No | T10031 | **5B194** | 266.00 | **259.00** | 1.1 |
| **POLARIZED RETROREFLECTIVE—10 m (33 ft.) Sensing Range*** | | | | | | | | | | | |
| **AC/DC model relay output** | NO/NC | 20-264VAC | 10-58VDC | 2A | 20 | No | F080319 | **5B200** | 220.00 | **214.25** | 1.1 |
| **PROXIMITY/DIFFUSE—1.9 m (6 ft.) Sensing Range** | | | | | | | | | | | |
| **DC model** | PNP/NPN | — | 10-58VDC | 200mA | 300 | Yes | H017535 | **5B198** | 219.00 | **213.25** | 1.0 |
| **AC/DC model relay output** | NO/NC | 20-264VAC | 20-264VDC | 2A | 20 | No | F010315 | **5B201** | 266.00 | **259.00** | 1.1 |

(*) With reflector No. 5B317, 5B150, see page 552.

## REFLECTIVE TAPE

Reflective tape can be used for covering unusually shaped targets. It is not a corner cube reflector.

**•Not suitable for use with polarized photoelectric sensors**

### REFLECTIVE TAPE SPECIFICATIONS AND ORDERING DATA

| Description | Dimensions (in.) W | Dimensions (in.) L | Typical Luminance Factor* | Temperature | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Photoelectric grade sheeting with adhesive backing | 3 | 12 | 200X | 200°F (93.4°C) | RF7590 | **2CW09** | $3.20 | **$3.11** | 0.1 |
| High intensity sheeting with adhesive backing — vinyl sealed | 3 | 12 | 670X | 150°F (65.6°C) | RF3870 | **2CW08** | 3.20 | **3.11** | 0.1 |
| High gain sheeting with adhesive backing — porous surface | 2 | 12 | 900X | 175°F (79.5°C) | RF7610 | **2CW10** | 2.10 | **2.04** | 0.1 |

(*) Expressed in times brighter than perfectly diffusing white surface. Measured perpendicularly.

# PHOTOELECTRIC SENSORS

## AC/DC COMPACT HIGH PERFORMANCE PHOTOELECTRIC SENSORS




- Corrosion proof and double insulated (no grounding required)

- High performance synthetic resin housing with very high ambient light immunity
- 1/2" NPT conduit entrance
- Wiring: screw terminals, #16AWG
- Enclosure rating: NEMA 1, 3, 6, 12, and 13 seamless housing—withstands washdown
- Finger Guard™ isolated terminals in ready-to-wire position
- Polarized type detects shiny targets
- AC/DC models available with separate ON and OFF delay timer
- Background suppression—Proximity (diffuse/technology) sensing mode eliminates the influence of a background behind the target to be sensed
- 2 LED alignment system with 360° visibility
- Light/Dark selectable (by wiring) output function
- Sensitivity adjustment. Mounting bracket allows easy alignment in 2 planes (included)
- Reflector required on retroreflective models No. 5B177 and 5B174
- Corner-cube reflector required on polarized retroreflective model No. 5B174
- UL Listed and CSA certified
- Application tip—the target should cover 100% of the reflector

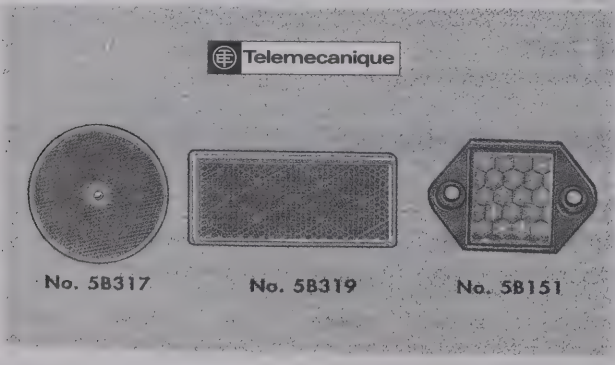
### COMPACT HIGH PERFORMANCE PHOTOELECTRIC SENSOR ELECTRICAL SPECIFICATIONS

| Type | Output Mode | Power Supply Current (no load) Max. (mA) | Relay Contact Voltage Rating Max. | On Delay/Off Delay (ms) | Temperature Range |
|---|---|---|---|---|---|
| AC | Light/Dark | 45 | 250VAC | 25 | -13°F to 140° |
| DC | Light/Dark | 30 | — | 2 | -13°F to 140° |

### COMPACT HIGH PERFORMANCE PHOTOELECTRIC SENSOR ORDERING DATA

| Description | Circuit Type | Voltage Range Max. AC | Voltage Range Max. DC | Load Current Max. | Operating Frequency (Hz) | Short Circuit Protection | Telemecanique Model XUJ... | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **THRU-BEAM—12.5 m (41 ft.) Sensing Range** | | | | | | | | | | | |
| **Emitter AC/DC** | — | 20-264VAC | 20-60VDC | — | — | — | M1000 | **5B176** | $82.00 | **$79.80** | 0.4 |
| **Receiver AC/DC relay with timer (.25 to 15s)** | NO/NC | 20-264VAC | 20-60VDC | 2A | 20 | No | T100314 | **5B173** | 184.00 | **179.25** | 0.4 |
| **RETROREFLECTIVE—10 m (33 ft.) Sensing Range*** | | | | | | | | | | | |
| **AC/DC relay** | NO/NC | 20-264VAC | 20-60VDC | 2A | 20 | No | M06031 | **5B177** | 149.00 | **145.00** | 0.5 |
| **POLARIZED RETROREFLECTIVE—7.5 m (24 ft.) Sensing Range*** | | | | | | | | | | | |
| **AC/DC relay with timer (.25 to 15s)** | NO/NC | 20-264VAC | 20-60VDC | 2A | 20 | No | T060319 | **5B174** | 206.00 | **200.50** | 0.5 |
| **PROXIMITY/DIFFUSE W/BACKGROUND SUPPRESSION—70 cm (27 in.) Sensing Range** | | | | | | | | | | | |
| **DC model** | PNP/NPN | — | 10-38VDC | 200mA | 200 | Yes | K703538 | **5B178** | 213.00 | **207.25** | 0.4 |
| **AC/DC relay model** | NO/NC | 20-264VAC | 20-60VDC | 2A | 20 | No | M700318 | **5B175** | 220.00 | **214.25** | 0.4 |
| **AC/DC relay model with timer (.25 to 15s)** | NO/NC | 20-264VAC | 20-60VDC | 2A | 20 | No | T700318 | **5B171** | 236.00 | **229.75** | 0.5 |
| **PROXIMITY/DIFFUSE W/BACKGROUND SUPPRESSION—1.2 m (48 in.) Sensing Range** | | | | | | | | | | | |
| **AC/DC relay model with timer (.25 to 15s)** | NO/NC | 20-264VAC | 20-60VDC | 2A | 20 | No | T120318 | **5B172** | 257.00 | **250.25** | 0.5 |

(*) With reflector No. 5B317, 5B150.




## REFLECTORS

**Corner cube reflectors** used with retroreflective photoelectric sensors provide a high degree of reliability since they return the light in the same direction it came from even if the reflector and the switch are skewed in respect to each other. Corner cube reflectors also have the only reflective surface that works with polarized photoelectric sensors. Standard range 10-100% (blind zone). Universal range 0-100%. Temperature 150°F (65°C). Select reflector smaller than your target. Telemecanique brand.

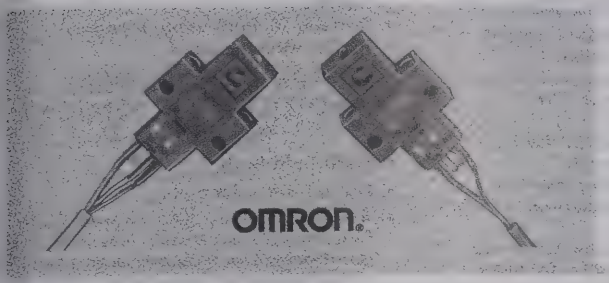
| Description | Telemecanique Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| 3" diameter, acrylic lens | RF30 | 5B317 | $4.20 | $4.09 | 0.1 |
| 2" diameter, acrylic lens | RF20 | 5B318 | 3.20 | 3.11 | 0.1 |
| 1" diameter, acrylic lens † | RF10 | 5B320 | 3.20 | 3.11 | 0.1 |
| 3¼" x 1½", acrylic lens | RF13 | 5B319 | 4.20 | 4.09 | 0.1 |
| 1.3" x 1.1" universal (0-100%)—acrylic | XUZC24 | 5B151 | 4.20 | 4.09 | 0.1 |
| 2" x 2" universal (0-100%)—acrylic | XUZC50 | 5B150 | 6.30 | 6.13 | 0.1 |

(†) Has no mounting hole, comes with adhesive tape for mounting.



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# MINIATURE, BUILT-IN AMPLIFIER PHOTOMICROSENSOR




- 1-meter (3.2 ft.) sensing distance
- Supply voltage: 5 to 24 VDC for interface with TTL circuits, relays, and programmable controllers
- IP60 sealability rating
- Modulated LED for ambient light protection
- LED indicator for operating status
- Unit consists of an emitter and receiver
- PBT housing and polycarbonate lens
- Includes 2 meter wire harness

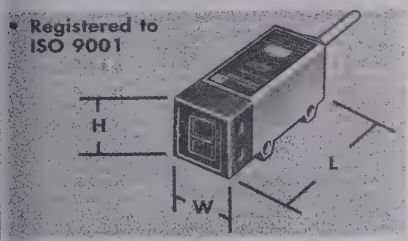
## SENSOR SPECIFICATIONS

| Operating Type | Stock No. | Detecting Distance | Detecting Material | Cable Length | Differential Travel | Directional Angle |
|---|---|---|---|---|---|---|
| Light-ON & Dark-ON | 6C039 & 6C038 | 1 m (3.2 ft.) | Opaque 5mm dia. minimum | 2m (6.5 ft.) | 5mm | 5-20° |

| Supply Voltage | Power Consumption | Contact Ratings | | | |
|---|---|---|---|---|---|
| | | Form | Output | Frequency | Ambient Temperature |
| 5-24VDC | 40mA maximum | NPN-SPST | Load (sink) 80mA | 100 Hz | 13 to 131°F |

## SENSOR ORDERING DATA

| Operating Type | Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Light-ON | 1.06 | 1.00 | 0.32 | EE-SPW-401 | 6C039 | $73.69 | $69.55 | 0.4 |
| Dark-ON | | | | EE-SPW-301 | 6C038 | 73.69 | 69.55 | 0.3 |




• Registered to ISO 9001

OMRON

E3S SERIES

- LED indicator for operation status
- Prewired with 6.5 ft. of cable
- Miniature size, horizontal mounting; mounting hardware included
- Selectable solid-state control output operates when light is present or received by sensor (light-on) or when light is absent (dark-on)
- Die-cast housing meets NEMA 1, 4X, 6P, 12 and 13 and IP67 ratings
- Sensitivity adjustment stabilizes operation for specific environments
- Output short-circuit and reverse polarity protection
- Can be used with sensor controller listed on page 558

## SWITCH SENSOR SPECIFICATIONS

| Type | Stock No. | Detecting Distance | Detecting Material | Directional Angle | Differential Travel |
|---|---|---|---|---|---|
| Retro-reflective | 4A335 | 3m (9.8 ft.) with reflector (included) | Opaque 1½" min. | Sensor, 3°-10° Target, 30° max. | — |
| Diffuse | 4A334 & 6C769 | 70cm (27.6") with 2 x 2" white target | Transparent or Opaque | — | 20% max. at 71/2" |
| Separate | 6C770 & 6C771 | 30m (98.4 ft.) | Opaque 3½ min. | — | — |

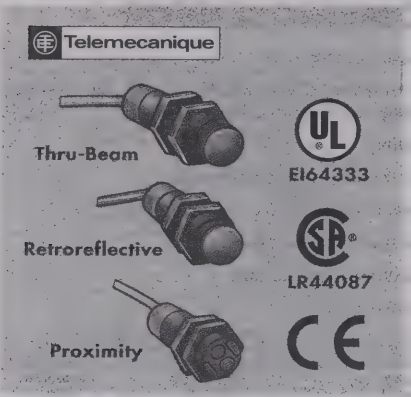
| Type | Supply Voltage | Current Consumption | Output Ratings Type | Maximum Load | Response Time | Ambient Temperature |
|---|---|---|---|---|---|---|
| Retroreflective | 10 to 30VDC | 40mA | NPN/PNP Switch Selectable | 100mA | 1ms ON/1ms OFF | -13° to 131°F |
| Diffuse | | 40 | | | | |
| Separate | | 25 each pc. | | | | |

## SWITCH ORDERING DATA

| Type | Supply Voltage | Mounting Style | Dimensions (In.) H | W | L | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Retroeflective | 10 to 30VDC | Horizontal | 0.80 | 0.91 | 1.97 | E3S-CR11 | 4A335 | $146.00 | $130.45 | 0.4 |
| Diffuse | | Vertical | 0.80 | 0.91 | 2.25 | E3S-CD61 | 6C769 | 146.00 | 130.45 | 0.4 |
| Diffuse | | Horizontal | 0.80 | 0.91 | 1.97 | E3S-CD11 | 4A334 | 146.00 | 130.45 | 0.4 |
| Separate | | Horizontal | 0.80 | 0.91 | 1.97 | E3S-CT11 | 6C770 | 176.00 | 158.00 | 0.7 |
| Separate | | Vertical | 0.80 | 0.91 | 2.25 | E3S-CT61 | 6C771 | 176.00 | 158.00 | 0.7 |

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS.
SEE PAGES AT BACK OF CATALOG

# PHOTOELECTRIC SENSORS AND ACCESSORIES




UL E164333

CSA LR44087

CE

## 18mm TUBULAR PHOTOELECTRIC SENSORS

- Thermoplastic polyester housing
- Enclosure rating: NEMA 1, 4, 13
- Factory Mutual Approved for non-incendive application (Div. II)
- #24 AWG wiring
- Infrared modulated LED for high ambient light immunity
- Noise and transient protection
- Reverse polarity protection in DC models
- Short circuit protection (SCP) and overload protection for DC models
- PLC compatible
- LED output indicator
- Reflector required in retroreflective models
- 2 meter (6 foot) cable standard
- Plastic nuts included

## 18mm SHORT BODY PHOTOELECTRIC SENSORS (Not Shown)

- Ultra light body
- Light/Dark selectable
- Advance feature: 360 degree multi-function LED indicator; output on mar ginal detection indicator and short circuit indicator; transparent detectio
- Adjustable sensitivity—5 sensing modes available

## 18mm PHOTOELECTRIC SENSOR ELECTRICAL SPECIFICATIONS

| Type | Load Current Max. (mA) | Operating Frequency Max. (Hz) | Power Supply Current (mA) | Inrush Current | Min. Switching Current (mA) | On Delay Off Delay (ms) | Temperature Range (°F) |
|---|---|---|---|---|---|---|---|
| AC Models | 180 | Thru-Beam 15; Retroreflective 9; Proximity 9 | Emitter: 15 | 1.3A for 20ms | 5 | 30 | -13 to 158 |
| DC Models | 200 | 150 | 15 | — | — | 2 | -13 to 158 |
| DC Models (Short Body) | 100 | 400 | 30 | — | — | 1.5 | -13 to 131 |

## 18mm DIAMETER PHOTOELECTRIC SENSOR ORDERING DATA

| Description | Type | Circuit Type | Sensing Range | Voltage Range Max. | Output Mode | Residual Leakage | Dimensions (mm) Dia. | Length | Telemecanique Model XUB... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **THRU-BEAM (EMITTER-RECEIVER)** | | | | | | | | | | | | | |
| **Emitter** | Tubular | DC, 2 wire | 5 m (16 Ft.) | 10-30VDC | — | — | 18 | 70.5 | H0430 | **5B213** ‡ | $90.00 | **$87.60** | 0.3 |
| | Short Body | DC, 2 wire | 10 m (33 Ft.) | 10-30VDC | — | — | 18 | 55.0 | H10301 | **3XJ22** | 96.00 | **93.45** | 0.2 |
| | Tubular | AC, 2 wire | 5 m (16 Ft.) | 20-264VAC | — | — | 18 | 85.5 | A0400 | **5B222** ‡ | 90.00 | **87.60** | 0.3 |
| **Receiver-DC** | Tubular | PNP | 5 m (16 Ft.) | 10-30VDC | Dark | 0 | 18 | 70.5 | H043134 | **5B212** ‡ | 90.00 | **87.60** | 0.3 |
| | Tubular | PNP | 5 m (16 Ft.) | 10-30VDC | Light | 0 | 18 | 70.5 | H043234 | **5B211** ‡ | 90.00 | **87.60** | 0.4 |
| | Tubular | NPN | 5 m (16 Ft.) | 10-30VDC | Dark | 0 | 18 | 70.5 | J043134 | **5B206** ‡ | 90.00 | **87.60** | 0.3 |
| | Short Body | PNP | 10 m (33 Ft.) | 10-30VDC | Light/Dark | 0 | 18 | 55.0 | H103534 | **3XJ23** | 96.00 | **93.45** | 0.2 |
| | Short Body | NPN | 10 m (33 Ft.) | 10-30VDC | Light/Dark | 0 | 18 | 55.0 | J103534 | **3XJ27** | 96.00 | **93.45** | 0.2 |
| **Receiver-AC** | Tubular | 2 wire | 5 m (16 Ft.) | 93-132VAC | Dark | 1.7mA(P)* | 18 | 85.5 | A045114 | **5B219** ‡ | 90.00 | **87.60** | 0.3 |
| | Tubular | 2 wire | 5 m (16 Ft.) | 93-132VAC | Light | 1.7mA(P)* | 18 | 85.5 | A045214 | **5B218** ‡ | 90.00 | **87.60** | 0.3 |
| | Tubular | 2 wire | 5 m (16 Ft.) | 20-264VAC | Dark | 6mA(R)* | 18 | 85.5 | A040114 | **5B221** ‡ | 108.00 | **105.10** | 0.3 |
| | Tubular | 2 wire | 5 m (16 Ft.) | 20-264VAC | Light | 6mA(R)* | 18 | 85.5 | A040214 | **5B220** ‡ | 108.00 | **105.10** | 0.3 |
| **RETROREFLECTIVE** | | | | | | | | | | | | | |
| **DC** | Tubular | PNP | 2.5 m (7.5 Ft.)† | 10-30VDC | Dark | 0 | 18 | 70.5 | H02313 | **5B215** ‡ | 84.00 | **81.75** | 0.3 |
| | Tubular | PNP | 2.5 m (7.5 Ft.)† | 10-30VDC | Light | 0 | 18 | 70.5 | H02323 | **5B214** ‡ | 84.00 | **81.75** | 0.3 |
| | Short Body | PNP | 3 m (10 Ft.)† | 10-30VDC | Light/Dark | 0 | 18 | 55.0 | H03353 | **3XJ21** | 108.00 | **105.10** | 0.2 |
| | Tubular | NPN | 2.5 m (7.5 Ft.)† | 10-30VDC | Dark | 0 | 18 | 70.5 | J02313 | **5B208** ‡ | 84.00 | **81.75** | 0.3 |
| | Tubular | NPN | 2.5 m (7.5 Ft.)† | 10-30VDC | Light | 0 | 18 | 70.5 | J02323 | **5B207** ‡ | 84.00 | **81.75** | 0.3 |
| | Short Body | NPN | 3 m (10 Ft.)† | 10-30VDC | Light/Dark | 0 | 18 | 55.0 | J03353 | **3XJ26** | 108.00 | **105.10** | 0.2 |
| **AC** | Tubular | 2 wire | 2.5 m (7.5 Ft.)† | 93-132VAC | Dark | 1.7mA(P)* | 18 | 85.5 | A02511 | **5B224** ‡ | 108.00 | **105.10** | 0.2 |
| | Tubular | 2 wire | 2.5 m (7.6 Ft.)† | 93-132VAC | Light | 1.7mA(P)* | 18 | 85.5 | A02521 | **5B223** ‡ | 108.00 | **105.10** | 0.3 |
| **PROXIMITY/DIFFUSE** | | | | | | | | | | | | | |
| **DC** | Tubular | PNP | 0.1 m (3.8 In.) | 10-30VDC | Dark | 0 | 18 | 65.0 | H083235 | **5B209** ‡ | 84.00 | **81.75** | 0.3 |
| | Tubular | PNP | 0.1 m (3.8 In.) | 10-30VDC | Light | 0 | 18 | 65.0 | H083135 | **5B210** ‡ | 84.00 | **81.75** | 0.4 |
| | Tubular | NPN | 0.1 m (3.8 In.) | 10-30VDC | Dark | 0 | 18 | 65.0 | J083235 | **5B204** ‡ | 84.00 | **81.75** | 0.3 |
| | Tubular | NPN | 0.1 m (3.8 In.) | 10-30VDC | Light | 0 | 18 | 65.0 | J083135 | **5B205** ‡ | 84.00 | **81.75** | 0.3 |
| | Short Body | NPN | 0.1 m (3.8 In.) | 10-30VDC | Light/Dark | 0 | 18 | 55.0 | J403535 | **3XJ29** | 96.00 | **93.45** | 0.2 |
| **AC** | Tubular | 2 wire | 0.1 m (3.8 In.) | 93-132VAC | Dark | 1.7mA(P)* | 18 | 80.0 | A085215 | **5B216** ‡ | 108.00 | **105.10** | 0.3 |
| | Tubular | 2 wire | 0.1 m (3.8 In.) | 93-132VAC | Light | 1.7mA(P)* | 18 | 80.0 | A085115 | **5B217** ‡ | 108.00 | **105.10** | 0.3 |
| **SHORT RANGE PROXIMITY/DIFFUSE** | | | | | | | | | | | | | |
| **DC** | Short Body | NPN | 0.1 m (3.8 In.) | 10-30VDC | Light/Dark | 0 | 18 | 70.0 | J103535 | **3XJ28** | 108.00 | **105.10** | 0.2 |

(*) P = PLC compatible; R = Bleeder resistor required for PLC compatibility. (†) With reflector No. 5B151. ‡ Limited Availability - Contact branch.

## 90 DEGREE MIRROR ADAPTOR FOR PHOTOELECTRIC SENSORS

- For side sensing photoelectric sensors
- Decreases sensing distance by 20% (0.80)

| Description | Telemecanique Model | Stock No | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **For Thru-Beam sensors** | XUBZ02 | **3XJ31** | $17.90 | **$17.42** | 0.1 |
| **For all sensors (except Thru-Beam)** | XUBZ01 | **3XJ30** | 17.90 | **17.42** | 0.1 |



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# PHOTOELECTRIC SWITCHES

## 18mm SENSORS

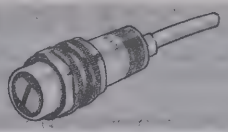
- Threaded, plastic cylindrical type
- Sensitivity fixed
- Light—ON/Dark—ON selectable output on DC models only
- Power Supply reverse polarity protection on DC models only
- LED Operation indicator
- Water, oil and dust tight construction; corrosion resistant
- Ambient temperature rating -13 to 131°F
- Prewired with 6½ ft. of cable
- Rated NEMA 1, 4, 6, 12, 13 and IP67

Can be used with sensor controller on page 558

OMRON

E3F2 SERIES

No. 3XC00



### PHOTOELECTRIC SWITCH SENSOR

| Type | Detecting Distance | Detecting Material | Directional Angle |
|---|---|---|---|
| Separate | 3m (9.89 ft.) | Opaque, 11mm (0.34") min. | — |
| Retroreflective | 2m (6.6 ft.) with reflector (included) | Opaque, 56mm (2.2") min. | 3-20° |
| Diffuse | 10cm (3.9") with 5x5cm white target | Transparent or opaque | 0-15° |

### PHOTOELECTRIC SWITCH ELECTRICAL SPECIFICATIONS

| Type | Response Time ms On/Off | Maximum Leakage Current (mA) | Maximum Output Current (mA) | Switch Form |
|---|---|---|---|---|
| AC Models | 30/30 | N/A | 200 | SCR-SPST |
| DC Models | 2.5/2.5 | N/A | 100 | NPN-SPST |

### PHOTOELECTRIC SWITCH ORDERING DATA

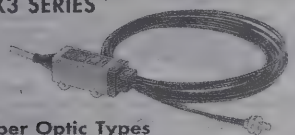
| Type | Supply Voltage | Current Consumption (mA) | Length (mm) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Separate, Light—ON** | 24 to 240VAC | 10* | 90 | E3F2-3Z1 | **6C783** | $108.14 | **$101.00** | 0.6 |
| **Separate, Dark—ON** | 24 to 240VAC | 10* | 90 | E3F2-3Z2 | **6C784** | 108.14 | **101.00** | 0.6 |
| **Separate, Selectable** | 10 to 30VDC | 55* | 65 | E3F2-3C4 | **6C782** | 82.39 | **79.10** | 0.6 |
| **Retroflective, Light—ON** | 24 to 240VAC | 5 | 90 | E3F2-R2Z1 | **6C785** | 74.15 | **73.50** | 0.4 |
| **Retroflective, Light—OFF** | 24 to 240VAC | 5 | 90 | E3F2-R2Z2 | **6C786** | 74.15 | **73.50** | 0.4 |
| **Retroflective, Selectable** | 10 to 30VDC | 25 | 65 | E3F2-R2C4 | **3XC00** | 63.86 | **61.30** | 0.4 |
| **Diffuse, Light—ON** | 24 to 240VAC | 5 | 90 | E3F2-DS10Z1N | **6C787** | 72.11 | **68.05** | 0.3 |
| **Diffuse, Dark—ON** | 24 to 240VAC | 5 | 90 | E3F2-DS10Z2N | **6C788** | 72.11 | **68.05** | 0.3 |
| **Diffuse, Selectable** | 10 to 30VDC | 25 | 65 | E3F2-DS10C4N | **3XC01** | 61.79 | **59.35** | 0.3 |

(*) Total for emitter and reciever.

## FIBER OPTIC PHOTOELECTRIC SENSORS

OMRON

E3S-X3 SERIES



Fiber Optic Types
Nos. 4A340 & 4A339

- Fiber optic sensor system consists of miniature DC amplifier and fiber optic cable; sold separately
- Cut fiber optic cable to desired length with special cutting tool; included
- Light (On) or Dark (On) output mode selected by reversing power line connection
- Die cast housing and cable meet NEMA 1, 4X and 12 locations, IP66 (IEC 144) ratings; includes mounting bracket
- Sensitivity adjustment stabilizes operation for specific environments
- Output short-circuit and reverse polarity protection

Can be used with sensor controller listed on page 558

### SWITCH ELECTRICAL SPECIFICATIONS (Amplifier Body Only)

| Supply Voltage | Stock No. | Current Consumption | Contact Ratings Form | Contact Ratings Amps | Response Time | Ambient Temperature |
|---|---|---|---|---|---|---|
| 12-24VDC | 4A336 | 50mA | NPN-SPST | Voltage (Source) 1.5 to 4.0mA; Load (Sink) 80mA | 1mSec max. On or Off | -13° to 131°F (Amplifier) |

### SWITCH ORDERING DATA

| Description | Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Amplifier Body** | 2.77 | 0.787 | 0.906 | E3S-X3CE4 | **4A336*** | $139.03 | **$130.10** | 0.4 |
| **Lens Kit—extends distance up to 600%** | — | — | — | E39-F1 | **6C789** | 24.71 | **23.30** | 0.4 |

### FIBER OPTIC CABLE ORDERING DATA

| Description | Cable Length | Sensing Distance w / Opaque Objects | Min. Object Size (dia.) | Fiber Material Core | Sheath | Ambient Temperature (°F) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Armored 5/16-24 Thread x 1.5" Long** | 6 Ft. | 17cm (7 in.) w/1mm dia | 1 mm | Glass | Stainless Steel | 13 to 302 | E32-UTAT1-6F | **6C781** | $267.69 | **$256.25** | 0.5 |
| **Armored 5/16-24 Thread x 1.5" Long** | 6 | 6.5cm (2.6 in.) w/10 x 10cm | 1 | Glass | Stainless Steel | 13 to 302 | E32-UDAT1-6F | **6C780** | 190.42 | **181.75** | 0.5 |
| **General Purpose Separate Type** | 6 | 12cm (4.72 in.) w/1mm dia. | 0.2 | Plastic | Plastic | -40 to 158 | E32-TC200 | **4A340** | 46.35 | **42.75** | 0.2 |
| **General Purpose Diffuse Type** | 6 | 5cm (1.97 in.) w/3 x 3cm | 0.003 | Plastic | Plastic | -40 to 158 | E32-DC200 | **4A339** | 46.35 | **42.75** | 0.1 |

(*) Mounting bracket supplied

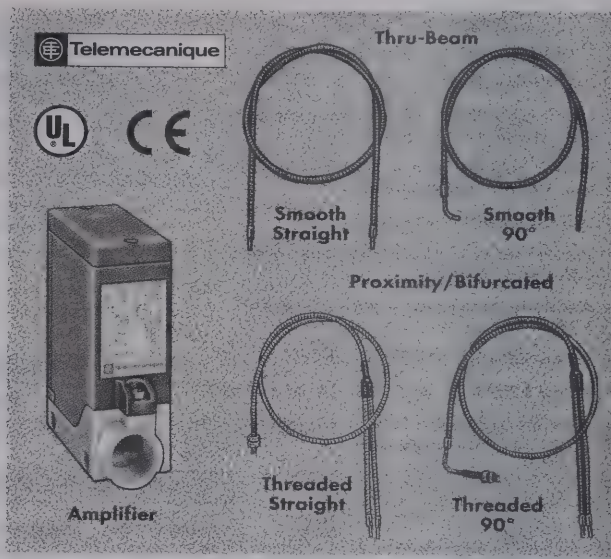
# GLASS CORE FIBER OPTICS AND AMPLIFIER

## GLASS CORE FIBER OPTICS

- Coiled stainless steel sheeting withstands most aggressive chemical environments while maintaining a high degree of flexibility
- Transmission of light through the fiber optics is not affected by water, gasoline, oil, sulphuric acid or other organic acids
- High temperature range -50°F to 525°F (-45°C to 275°C)

## AMPLIFIER FOR GLASS CORE FIBER OPTICS

- Temperature range: -13°F to 158°F (-25° to 70°C)
- Enclosure rating: NEMA 1
- Screw terminals: #16 AWG
- Power supply current: 45mA
- 1/2" NPT conduit entrance
- NO/NC outputs
- Selectable Light/Dark
- Timer: ON delay, OFF delay, pulse selection (0.03-60s)
- UL Listed, CE




### GLASS CORE FIBER OPTIC ORDERING DATA

| Type | Sensing Distance | Bundle Diameter | Telemecanique Model XUFA... | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **THRU-BEAM—1m (36 in.) Long** | | | | | | | |
| **Smooth, straight** | 28" (.7m) | .125" (3.2mm) | 110213 | **5B191** | $121.00 | **$117.75** | 0.6 |
| **Threaded, straight** | 28" (.7m) | .125" (3.2mm) | 110113 | **5B192** | 122.00 | **118.75** | 0.7 |
| **Smooth, 90°** | 28" (.7m) | .125" (3.2mm) | 110413 | **5B189** | 133.00 | **129.45** | 0.6 |
| **Threaded, 90°** | 28" (.7m) | .125" (3.2mm) | 110313 | **5B190** | 174.00 | **169.50** | 0.7 |
| **PROXIMITY/BIFURCATED—1m (36 in.) Long** | | | | | | | |
| **Smooth, straight** | 5.9" (.15m) | .125" (3.2mm) | 210213 | **5B187** | 99.00 | **96.35** | 0.5 |
| **Threaded, straight** | 5.9" (.15m) | .125" (3.2mm) | 210113 | **5B188** | 101.00 | **98.30** | 0.5 |
| **Smooth, 90°** | 5.9" (.15m) | .125" (3.2mm) | 210413 | **5B185** | 112.00 | **109.00** | 0.5 |
| **Threaded, 90°** | 5.9" (.15m) | .125" (3.2mm) | 210313 | **5B186** | 121.00 | **117.75** | 0.5 |

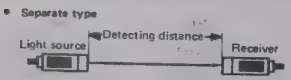
### AMPLIFIER FOR GLASS CORE FIBER OPTIC

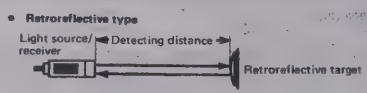
| Description | Circuit Type | Output Mode | Voltage Range | Load Current (A) | Operating Frequency (Hz) | Telemecanique Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **AC/DC, relay output with timer** | NO/NC | Light/Dark | 20-264VAC/DC | 2 | 20 | XUET1401266 | **5B193** | $295.00 | **$287.25** | 1.1 |

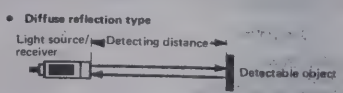
| | Separate and retroreflective types | Diffuse reflection type |
|---|---|---|
| Operates when light is interrupted (DARK-ON) | With object to be detected — Operates | Without object to be detected — Operates |
| Operates when light is incident (LIGHT-ON) | Without object to be detected — Operates | With object to be detected — Operates |

## PHOTOELECTRIC SWITCH OPERATION

- "DARK-ON" operation type photoelectric switch operates when the light flux incident into the receiver is interrupted or damped
- "LIGHT-ON" operation type photoelectric switch operates when the light flux incident into the receiver is increased



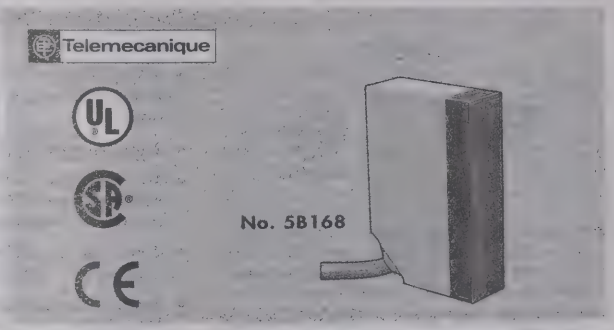

A photoelectric switch sends out a signal to energize the control coil or solid-state circuitry of an industrial or process control device. The difference between a photoelectric switch and a proximity switch is that a photoelectric switch is activated when a beam of light is interrupted or changes intensity. There are two types of sensing styles 1) **Retroreflective type:** The unit projects a beam of light to a specific target, which reflects the beam back to the unit. When this beam is interrupted, the unit is activated. 2) **Diffuse reflection type:** The unit projects a beam of light a given distance. When an object enters this beam and reflects it back to the unit, the unit is activated. Photoelectric switches have definite sensing ranges, which vary with the type of material it senses. Care should be taken in following all recommendations when installing and using photoelectric switches.



*Relay it, suppress it, enclose it — The leading brands are all right here.*

## SUBCOMPACT PHOTOELECTRIC SENSORS

- Economical, small size
- Side or front mounting
- Flat lenses
- LED visible from front and top directions
- 45° cable entry makes wiring easy
- Enclosure rating: NEMA 1, 3, 4, 6, 6P, 12, and 13
- Enclosure material: ABS/PC housing; PMMA lens; PVC cable
- 6 ft. (2m) cable




### ELECTRICAL SPECIFICATIONS

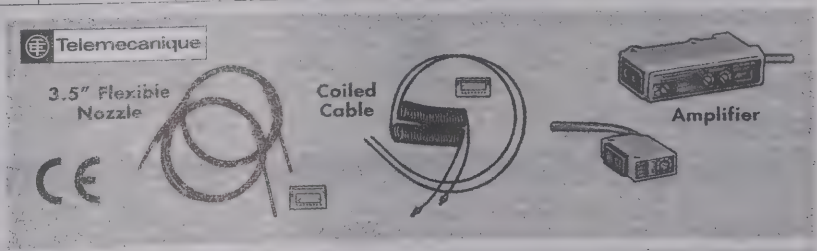
| Power Supply Current (no load) | Emitter Supply Current Max. | Relay Contact Voltage Max. | On Delay/ Off Delay | Temperature Range |
|---|---|---|---|---|
| 40mA | 5mA | 250VAC | 25ms/25ms | -13°F to 140°F |

### SUBCOMPACT PHOTOELECTRIC SENSOR ORDERING DATA

| Description | Output Mode | Voltage Range Max. AC | Voltage Range Max. DC | Load Current Max. | Operating Frequency (Hz.) | Telemecanique Model XUL . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THRU BEAM—10m (33 Ft.) Sensing Range (Reflector Not Included)** | | | | | | | | | | |
| **AC/DC emitter** | — | 20-264 | 20-60 | — | — | M0600 | **5B169** | $57.00 | **$55.50** | 0.5 |
| **AC/DC receiver, 5 wire relay output** | Light | 20-264 | 20-60 | 2 A | 20 | M080314 | **5B167** | 87.00 | **84.70** | 0.5 |
| **RETROREFLECTIVE—8m (25 Ft.) Sensing Range (Reflector Not Included)** | | | | | | | | | | |
| **AC/DC, 5 wire relay output** | Light | 20-264 | 20-60 | 2 A | 20 | M06031 | **5B168** | 88.00 | **85.65** | 0.5 |
| **AC/DC, solid state output** | Light | 20-264 | 20-60 | 500mA | 20 | A06021 | **3XJ35** | 93.00 | **90.50** | 0.5 |
| **DC, 3 wire NPN** | Light/Dark | — | 10-30 | 200 mA | 250 | J06353 | **3XJ39** | 81.00 | **78.85** | 0.5 |
| **POLARIZED RETROREFLECTIVE—5m (16 Ft.) Sensing Range** | | | | | | | | | | |
| **AC/DC, 5 wire relay output** | Light | 20-264 | 20-60 | 2 A | 20 | M040319 | **5B170** | 104.00 | **101.20** | 0.5 |
| **AC/DC, solid state output** | Light | 20-264 | 20-60 | 500 mA | 20 | A040219 | **3XJ33** | 113.00 | **109.95** | 0.6 |
| **PROXIMITY DIFFUSE W/BACKGROUND SUPPRESSION—0.25m (0.8 Ft.) Sensing Range** | | | | | | | | | | |
| **AC/DC, 5 wire relay output** | Light | 20-264 | 20-60 | 2 A | 20 | M300318 | **5B166** | 122.00 | **118.75** | 0.5 |
| **PROXIMITY DIFFUSE—0.7m (2 Ft.) Sensing Range** | | | | | | | | | | |
| **AC/DC, solid state output** | Light | 20-264 | 20-60 | 500 mA | 200 | A700115 | **3XJ36** | 131.00 | **127.50** | 0.5 |

## PLASTIC FIBER OPTICS

- Cut-to-length straight or coiled fibers
- Threaded and flexible nozzle tips
- 2 LED alignment system
- Light/Dark selectable, 2 potentiometers
- Miniature DIN rail or lateral mounting—amplifier
- CE Certified




### PLASTIC FIBER OPTIC ORDERING DATA

| Cable Type | Tip Type | Standard Sensing Distance (Max.) | Beam Diameter | Amplifier No. | Telemecanique Model XUFN . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **THRU-BEAM—2m (6 Ft.) Long** | | | | | | | | | |
| **Straight** | Threaded | 10" (0.25m) | .04" (1mm) | 5B203 and 5B202 | 12301 | **5B180** | $52.00 | **$50.60** | 0.1 |
| **Straight** | 3.5" Flexible nozzle | 8.9" (0.23m) | .04" (1mm) | | 12311 | **5B179** | 91.00 | **88.55** | 0.1 |
| **Coiled** | Threaded | 7.4" (0.19m) | .04" (1mm) | | 10302 | **5B182** | 99.00 | **96.35** | 0.2 |
| **Coiled** | Threaded | 7.4" (0.15m) | .04" (1mm) | | 10312 | **5B181** | 139.00 | **135.25** | 0.1 |
| **PROXIMITY/DIFFUSE—bifurcated 2m (6 ft.) Long** | | | | | | | | | |
| **Straight** | Threaded | 0.89" (0.23m) | 2 x .02" dia. | 5B203 and 5B202 | 01321 | **5B184** | $49.60 | **$48.30** | 0.1 |
| **Straight** | 3.5" Flexible nozzle | 0.89" (0.23m) | 2 x .02" dia. | | 01331 | **5B183** | 76.00 | **73.95** | 0.1 |

### AMPLIFIERS (FOR PLASTIC FIBER OPTICS) ORDERING DATA

| Circuit Type | Output Mode | Voltage Range DC | Load Current (mA) | Operating Frequency (Hz.) | Power Supply Current (mA) | Cable | On Delay Off Delay | Enclosure Rating | Temp. Range (°F) | Telemecanique Model XUD . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PNP NPN** | Light/Dark | 10-30 | 100 | 500 | 40 | 4 #24 AWG | 1ms | NEMA 1, 3, 4, 6, 12, and 13 | 14 to 131 | H003537<br>J003537 | **5B203**<br>**5B202** | $149.00<br>149.00 | **$145.00**<br>**145.00** | 0.2<br>0.2 |

# SENSOR CONTROLLERS

OMRON

E41515

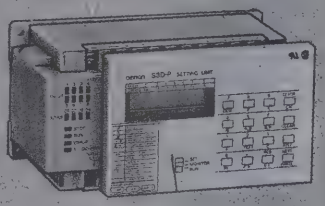
LR46463

- Contact type No. 4A468 or transistor type No. 4A469 controllers with add-on accessories act as a position sensor signal input/output center
- Self-contained power supply provides 12VDC power source for sensors
- Input response time of 1 millisecond permits detection of small or high speed objects
- 8 inputs and 4 outputs standard, expandable to 8 outputs using optional output modules
- Input modules provide amplifier function and can act as auxiliary output
- Easy to program with detachable keyboard No. 4A472
- Teach function reduces amount of required manual programming
- 100 step EEPROM memory
- DIN rail mounting
- Can be used with most brands of limit proximity, photoelectric, or rotary encoder switches

## ADDITIONAL FEATURES

- Alarm buzzer
- 12, one-shot, ON delay, Off delay timers (10 when using Interval Check key)
- Time Range: 0.01 to 999 seconds
- 12, low speed counters (10 when using Interval Check key); 400 Hz response frequency
- One high speed counter (counts up and down); 3k Hz response frequency
- Input Voltage: 100 to 240VAC, 50/60 Hz
- Input Power Consumption: 35VA maximum
- Internal Power Supply for Sensors: 12VDC, 400mA maximum

This high-speed sensor controller fills the gap between slower, expensive programmable controllers and inflexible hard-wired relay control systems. Outputs from controllers can be tied into larger programmable controllers or factory control computers. It can perform many of the complex jobs usually reserved for a more expensive programmable controller. Easy to program and easy to change. Built-in diagnostics troubleshoot the system for you.



Controller With No. 4A472 Keyboard



Output Module



Input Module

## CONTROLLER ORDERING DATA

| Switching Capacity (Maximum) | Omron Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| **Electromechanical (Contact) SPST-NO, 3A 250VAC** | S3D8-CFK-US | **4A468** | $394.48 | **$378.75** | 1.7 |
| **Solid-State (Transistor, NPN) 80mA 30VDC, 0.1mA leakage** | S3D8-CCF-US | **4A469** | 394.48 | **378.75** | 1.6 |

## KEYBOARD & OUTPUT MODULE SPECIFICATIONS

| Description | Output Modules | |
|---|---|---|
| | No. 4A470 (Contact) | No. 4A471 (Transistor) |
| Switching Capacity | SPST-NO, 3A 250 VAC | 80mA 30VDC, 0.1mA leakage |

## INPUT MODULE SPECIFICATIONS

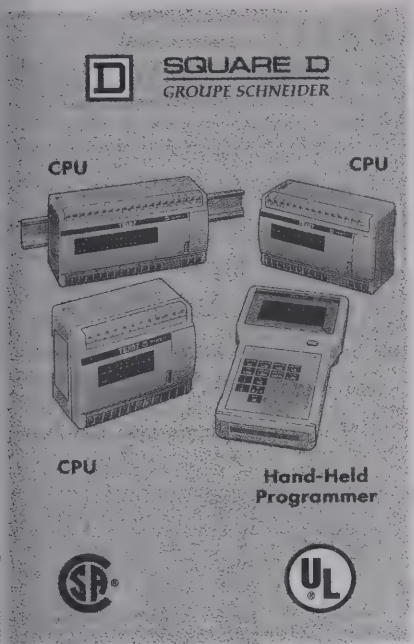
| Description | Fiber Optic Photoelectric No. 4A473 | Photoelectric Sensor No. 4A474 | Proximity Sensor No. 4A475 | Rotary Encoder Pulse Director Module No. 4A476 |
|---|---|---|---|---|
| Switching Capacity | 80mA 30VDC | 100mA 40VDC | 200mA 40VDC | 80mA 30VDC |
| Off-State Leakage Current | 1.5 to 4mA max. | 0.1mA max. | 0.1mA max. | 0.1mA max. |

## SENSOR CONTROLLER ACCESSORY ORDERING DATA

| Description | | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Keyboard** | | S3D-P-US | **4A472** | $95.83 | **$89.55** | 0.4 |
| **Output Modules** | Contact | S32-A4K-US | **4A470** | 102.99 | **97.20** | 0.2 |
| | Transistor, NPN | S32-A4C-US | **4A471** | 102.99 | **97.20** | 0.2 |
| **Input Modules** | Amplifier for E32 plastic fiber optic cables | E9A-A | **4A473** | 177.16 | **72.35** | 0.2 |
| | Amplifier for E3C photelectric sensor | E3C-WH4F | **4A474** | 144.19 | **133.95** | 0.2 |
| | Amplifier for E2C inductive proximity sensor | E2C-WH4AF | **4A475** | 140.06 | **120.60** | 0.2 |
| | Rotary Encoder for E2C pulse director module | E63-WF5C | **4A476** | 118.44 | **111.75** | 0.2 |
| **Program Transfer Unit** | | S32-PM | **4A477** | 102.99 | **97.20** | 0.1 |



*Relay it, suppress it, enclose it — The leading brands are all right here.*




# TSX® 07 PROGRAMMABLE CONTROLLER

- **Expansion to 48 I/O (for AC units), using second base unit located up to 665 ft. from master**
- **Panel or DIN rail mounting**
- **Mix I/O types: AC and DC inputs: relay and transistor outputs**
- **LED indicators for system operation and individual I/O status**
- **1K logic programming capacity in non-volatile EEPROM memory**
- **High speed counter and pulse output**
- **Real-time clock/calendar for action triggering, event logging or time period calculations**
- **24 VDC sensor power supply rated to 150mA**
- **Up to two potentiometers for easy operator adjustment of selected variables**
- **Peer communications allow distributed processing of up to 4 CPU's**
- **I/O interface modules provide analog & discrete I/O options**
- **Hand-held terminal provides both list language programming and maintenance functions**
- **Programming software provides "Windows Like" ease of use for DOS PC's**

**CPU SELECTION**

**STEP 1:** Select desired power supply voltage. *Note:* This voltage is independent from the input or output voltages 120 to 240 VAC or 24VDC

**STEP 2:** Select number of inputs/outputs (I/O) and time calendar.

10 I/O has 6 inputs, 4 outputs and no time calendar

16 I/O has 9 inputs, 7 outputs and time calendar

24 I/O has 14 inputs and 10 outputs and time calendar

**STEP 3:** Select desired input (signal) voltage: 120VAC or 24VDC

**STEP 4:** Select output type

Relay (2 amp at 24 to 264VAC or 19 to 30VDC resistive)

Transistor (0.5 amp at 19 to 30VDC)

*Note:* Transistor outputs are available in either sink or source.

**STEP 5:** Determine any additional accessories. *Note:* A hand held programmer is needed to operate unit.

## CPU SPECIFICATIONS AND ORDERING DATA

| Power Supply | Number of I/O's | Input Volts | Output Type | Dimension (In.) W x H x D | Square D Model TSX07 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 120 to 240 VAC | 10 | 24VDC | Relay | 4.1 x 3.3 x 2.4 | 301028 | **6U713** | $294.00 | **$235.50▲** | 1.2 |
| | 10 | 24VDC | Transistor (sink) | 4.1 x 3.3 x 2.4 | 301008 | **6U716** | 336.00 | **269.00▲** | 1.1 |
| | 16 | 24VDC | Relay | 5.3 x 3.3 x 2.4 | 311628 | **6U708** | 357.00 | **289.25▲** | 1.0 |
| | 16 | 24VDC | Transistor (sink) | 5.3 x 3.3 x 2.4 | 311608 | **6U711** | 419.00 | **335.25▲** | 1.4 |
| | 16 | 120VAC | Relay | 5.3 x 3.3 x 2.4 | 211648 | **6U707** | 410.00 | **328.00▲** | 1.0 |
| | 24 | 24VDC | Relay | 6.5 x 3.3 x 2.4 | 312428 | **6U702** | 431.00 | **345.00▲** | 1.6 |
| | 24 | 24VDC | Transistor (sink) | 6.5 x 3.3 x 2.4 | 312408 | **6U705** | 499.00 | **399.25▲** | 1.5 |
| 24 VDC | 10 | 24VDC | Relay | 4.1 x 3.3 x 2.4 | 301022 | **6U714** | 315.00 | **252.00▲** | 1.1 |
| | 10 | 24VDC | Transistor (sink) | 4.1 x 3.3 x 2.4 | 301002 | **6U717** | 336.00 | **269.00▲** | 1.1 |
| | 10 | 24VDC | Transistor (source) | 4.1 x 3.3 x 2.4 | 301012 | **6U715** | 336.00 | **266.50▲** | 1.1 |
| | 16 | 24VDC | Relay | 5.3 x 3.3 x 2.4 | 311622 | **6U709** | 357.00 | **289.25▲** | 1.0 |
| | 16 | 24VDC | Transistor (sink) | 5.3 x 3.3 x 2.4 | 211602 | **6U712** | 419.00 | **335.25▲** | 1.3 |
| | 16 | 24VDC | Transistor (source) | 5.3 x 3.3 x 2.4 | 311612 | **6U710** | 400.00 | **320.00▲** | 1.3 |
| | 24 | 24VDC | Relay | 6.5 x 3.3 x 2.4 | 312422 | **6U703** | 431.00 | **345.00▲** | 1.0 |
| | 24 | 24VDC | Transistor (sink) | 6.5 x 3.3 x 2.4 | 212402 | **6U706** | 499.00 | **399.25▲** | 1.5 |
| | 24 | 24VDC | Transistor (source) | 6.5 x 3.3 x 2.4 | 312412 | **6U704** | 504.00 | **403.25▲** | 1.5 |

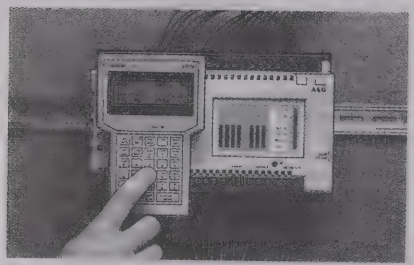
## PROGRAMMABLE LOGIC CONTROLLER ACCESSORIES

| Description | Square D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Hand-Held Programming Terminal Kit** Includes: Hand-Held Programming Terminal, 2 meter cable and user's manual | TFTX117071E | **6U726** | $683.00 | **$546.50▲** | 2.6 |
| **Off-Line Programming Power Supply (100/120VAC)** | TFTXADC11 | **6U725** | 158.00 | **126.40▲** | 1.0 |
| **Off-Line Programming Power Supply (200/240VAC)** | TFTXADC12 | **6U724** | 179.00 | **143.20▲** | 1.0 |
| **Memory Storage Card (32K EEPROM)** | TFTXRFM3216 | **6U723** | 305.00 | **244.00▲** | 0.1 |
| **Memory Storage Card (32K Battery Backed RAM)** | TFTXRSM3216 | **6U721** | 252.00 | **201.75▲** | 0.1 |
| **Memory Storage Card (128K Battery Backed RAM)** | TFTXRSM12S16 | **6U722** | 504.00 | **403.25▲** | 0.1 |
| **Programming Software Kit (RS232C) Includes: 3½" disk,** 2 meter cable and user's manual | TLXLPL707P30E | **6U718** | 314.00 | **251.50▲** | 0.1 |
| **Programming Software Kit (RS485) Includes: 3½" disk,** 2 meter cable and user's manual | TLXLPL707F30E | **6U719** | 209.00 | **167.50▲** | 0.1 |
| **6 Point DC Input Simulator for 10 I/O TSX07*** | TSX07SIM06 | **6U698** | 95.00 | **76.00▲** | 0.2 |
| **9 Point DC Input Simulator for 16 I/O TSX07*** | TSX07SIM09 | **6U697** | 126.00 | **100.80▲** | 0.2 |
| **14 Point DC Input Simulator for 24 I/O TSX07*** | TSX07SIM14 | **6U696** | 158.00 | **126.40▲** | 0.3 |
| **Pre-Terminated I/O Extension Cable (0.3 meter)*** | TSXCA0003 | **6U695** | 84.00 | **67.20▲** | 0.1 |
| **Self Teach Training Manual for TSX07 and FTX117*** | MDITSX071E | **6U727** | 74.00 | **59.20▲** | 0.2 |
| **User's Manual for TSX07 and FTX117*** | TLXDM07117E | **6U720** | 31.50 | **25.20▲** | 0.5 |
| **Training/Demonstration Case*** | TSXSDC07 | **6U694** | 137.00 | **109.60▲** | 0.1 |

(*) Training Accessories. (▲) Net prices, not subject to discounts.

# PROGRAMMABLE LOGIC CONTROLLERS

## MODICON



• Agency approvals: UL, CSA, VDE, FM Class 1 Division 2

### MODICON MICRO

**•Agency approvals: UL, CSA, VDE, FM Class 1 Division 2 •Up to two plug-and-play communication ports for programming, host computer interfacing and ASCII devices •Built-in expansion link for connecting together up to four micros •All-in-one package includes controller, I/O, power supply, and communications •Interrupt processing for high throughput applications •Non-volatile Flash-PROM memory eliminates battery maintenance •Utilize standard foil-shielded flat telephone cables •Highly secure, noise resistant •Shares I/O status or data between Micros •Configure, program and monitor application program and data values •On-board, non-volatile memory to store and transfer application programs •Ladder logic programming software runs in DOS and Windows environments •Dimensions: 5.5H x 10W x 3"D**

### CPU SELECTION

**STEP 1:** Select the desired level

**STEP 2:** Select desired power supply voltage. *Note:* This voltage is independent from the input or output voltages 115 to 230 VAC or VDC.

**STEP 3:** Select desired input (signal) voltage: 115 or 230 VAC (uses relay/triac output); 24 VDC (uses relay or transistor output); Analog (CPU 612 series only)

**STEP 4:** Select output type: Relay (2 amp at 24 to 250VAC and 2 amp at 24 to 30VDC); Transistor (.05 amp at 20 to 30VDC source* switching); Triac (0.5 amp at 20 to 30VDC); Analog (CPU 612 series only). *Note:* All units with triac outputs have 8 triacs and 4 relays.

**STEP 5:** Determine additional accessories. *Note:* A hand held programmer or computer transfer mode kit is needed to operate unit.

(*) PNP switching the positive side to the load.

## CPU SPECIFICATIONS AND ORDERING DATA

| Description | Power Supply | Inputs Volts | Output Type | Modicon Model 110CPU . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **LEVEL 1 (CPU 311): 1 K words user logic, 400 words data, 16 inputs 12 outputs, 4.25-5 ms/1000 logic scan, 1 Modbus/ASCII port, high speed I/O expansion port, Basic 984 instruction set** | 115 to 230VAC | 24 DC | Relay | 31100 | **6U769** | $426.00 | **$362.25▲** | 5.0 |
| | 115 to 230VAC | 115 AC | 8 Triac/4 Relay | 31101 | **6U768** | 552.00 | **469.25▲** | 4.3 |
| | 115 to 230VAC | 230 AC | 8 Triac/4 Relay | 31102 | **6U767** | 552.00 | **469.25▲** | 4.2 |
| | 24VDC | 24 DC | Transistor | 31103 | **6U766** | 426.00 | **362.25▲** | 4.0 |
| **LEVEL 2 (CPU 411): Same features as Level 1 plus: Time of day clock, 2-3 ms throughput with interrupt processing, 2 High speed DC inputs** | 115 to 230VAC | 24 DC | Relay | 41100 | **6U765** | 493.00 | **419.25▲** | 4.1 |
| | 115 to 230VAC | 115 AC | 8 Triac/4 Relay | 41101 | **6U764** | 624.00 | **530.50▲** | 5.0 |
| | 115 to 230VAC | 230 AC | 8 Triac/4 Relay | 41102 | **6U763** | 624.00 | **530.50▲** | 4.1 |
| | 24VDC | 24 DC | Transistor | 41103 | **6U762** | 493.00 | **419.25▲** | 3.0 |
| **LEVEL 3 (CPU 512): 2 K words user logic, 1820 words data, 16 inputs 12 outputs, 2.5 ms/1000 logic scan, 2 Modbus/ASCII port, Enhanced 984 instruction set, 3 High speed DC inputs, Time of day clock, 1-1.5 ms throughput with interrupt processing** | 115 to 230VAC | 24 DC | Relay | 51200 | **6U761** | 827.00 | **703.00▲** | 3.0 |
| | 115 to 230VAC | 115 AC | 8 Triac/4 Relay | 51201 | **6U760** | 872.00 | **741.50▲** | 4.0 |
| | 115 to 230VAC | 230 AC | 8 Triac/4 Relay | 51202 | **6U759** | 916.00 | **779.00▲** | 4.2 |
| | 24VDC | 24 DC | Transistor | 51203 | **6U758** | 827.00 | **703.00▲** | 3.0 |
| **LEVEL 4 (CPU 612): All features of Level 3 plus: 4 Analog inputs, +10V 16 Bit, 4-20 mA 14 Bit 2 Analog outputs, 0-10V, 4-20mA, 12 Bit** | 24VDC | 24VDC | Relay | 61200 | **6U757** | 1103.00 | **938.00▲** | 3.3 |
| | 24VDC | 24VDC | Transistor | 61203 | **6U756** | 1103.00 | **938.00▲** | 4.0 |

## PROGRAMMABLE LOGIC CONTROLLER ACCESSORIES

| Description | Modicon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Lithium Battery Assembly for Modicon Micro** | 110XCP98000 | **6U755** | $27.30 | **$23.24▲** | 0.3 |
| **Capacitor Assembly for Modicon Micro** | 110XCP99000 | **6U740** | 38.90 | **33.20▲** | 0.2 |
| **22 Pin Input terminal strip** | 110XTS00122 | **6U738** | 49.40 | **42.05▲** | 5.0 |
| **20 Pin Output terminal strip** | 110XTS00120 | **6U739** | 42.10 | **35.80▲** | 0.5 |
| **EXPANSION LINK CABLE** | | | | | |
| **I/O Expansion Link Cable 2 ft., RJ11** | 110XCA17101 | **6U753** | 27.30 | **23.21▲** | 0.3 |
| **I/O Expansion Link Cable 10 ft., RJ11** | 110XCA17102 | **6U752** | 38.90 | **33.10▲** | 0.4 |
| **I/O Expansion Link Cable 20 ft., RJ11** | 110XCA17103 | **6U751** | 49.40 | **42.00▲** | 0.5 |
| **I/O Exp. Link Cable Y Connector** | 110XCA10100 | **6U754** | 16.80 | **14.28▲** | 0.3 |
| **COMMUNICATION CABLE** | | | | | |
| **RS232 Communication Cable 3 ft., RJ45** | 110XCA28201 | **6U744** | 27.30 | **23.21▲** | 0.3 |
| **RS232 Communication Cable 10 ft., RJ45** | 110XCA28202 | **6U743** | 38.90 | **33.10▲** | 0.3 |
| **RS232 Communication Cable 20 ft., RJ45** | 110XCA28203 | **6U742** | 49.40 | **42.00▲** | 0.6 |
| **ADAPTERS** | | | | | |
| **RJ45 9 Pin D-shell adapter for AT serial port** | 110XCA20300 | **6U750** | 27.30 | **23.21▲** | 0.2 |
| **RJ45 9 Pin D-shell adapter for XT serial port** | 110XCA20400 | **6U747** | 27.30 | **23.21▲** | 0.3 |
| **RJ45 9 Pin D-shell male adapter kit** | 110XCA20301 | **6U749** | 42.10 | **35.80▲** | 0.3 |
| **RJ45 9 Pin D-shell female adapter kit** | 110XCA20302 | **6U748** | 44.10 | **37.50▲** | 0.3 |
| **RJ45 25 Pin D-shell male adapter kit** | 110XCA20401 | **6U746** | 49.40 | **42.00▲** | 0.3 |
| **RJ45 25 Pin D-shell female adapter kit** | 110XCA20402 | **6U745** | 49.40 | **42.00▲** | 0.3 |
| **HAND HELD PROGRAMMER AND ACCESSORIES** | | | | | |
| **English Version Programmer** | 520VPU19200 | **6U728** | 436.00 | **370.75▲** | 2.0 |
| **Computer Transfer Mode Kit** | 520VIA19200 | **6U729** | 105.00 | **89.25▲** | 1.5 |
| **Programming Software for Compact and Micro Controllers (DOS based package—self contained unit)** | 371SPU92100 | **6U737** | 526.00 | **447.25▲** | 3.9 |

(▲) Net prices, not subject to discount.

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch.

# 1/16 DIN TEMPERATURE CONTROLLERS

- Compact size; International 1/16 DIN dimensions—48mm x 48mm (1.89")
- Thermocouple input (see page 598)
- Relay type output rated SPDT, 3A @ 250VAC (resistive)
- Hardware included for panel mounting
- No calibration required

### Nos. 4A479 and 4A480

- LED display
- Type J thermocouple input
- 8-pin octal relay socket mountable; order No. 5X852 on page 480

### Nos. 4A481 and 4A482

- Manual dial setting
- Type J thermocouple input
- 8-pin octal relay socket mountable; order No. 5X852 on page 480

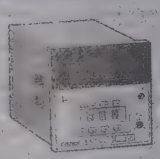
### No. 3XC07

- Field-selectable temperature ranges: 0 to 200°C/°F, 0 to 300°C/°F, 0-400°C/°F, 0 to 500°C/°F, 0 to 600°C/°F, and 0 to 999°C/°F
- Field-selectable On/Off and proportional-integral-derivative (PID)* control with auto tuning of proportional band
- 8-function alarm; SPST-NO, 1A contact @ 250VAC
- Tamper-proof setting, faulty sensor compensation, and controller diagnostics
- Memory backup
- Deviation indicator and LED display show actual and desired temperature
- Type J or K thermocouple input

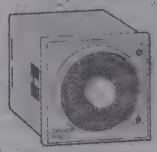
OMRON

LR59623

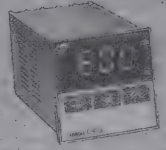
E68481



No. 4A479



No. 4A482



No. 3XC07

## CONTROLLER SPECIFICATIONS

| Stock No. | Control Mode | Temperature Range | Setting Accuracy | Hysteresis* | Control Period | Proportional Band* |
|---|---|---|---|---|---|---|
| 4A479 | On/Off | 32° to 999°F | ± 2% FS maximum | 0.2% FS | NA | — |
| 4A480 | PD* | 32° to 999°F | ± 2% FS maximum | 0.2% FS | 20 sec. | 3% FS |
| 4A481 | On/Off | 32° to 392°F | ± 2% FS maximum | 0.5% FS | NA | — |
| 4A482 | PD* | 32° to 392°F | ± 2% FS maximum | 0.5% FS | 20 sec | 3% FS |
| 3XC07 | On/Off PID* | 0 to 999°F or 0 to 999°C | ±0.5% selectable scale and ±1 digit maximum | 0.2% of scale | 2 or 20 sec. | 3 to 20% in PID*, auto adjustable |

## CONTROLLER ORDERING DATA

| Supply Voltage 50 / 60 Hz | Power Consumption | Dimensions (In.) L | W | D | Omron Model E5. . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 100 to 120VAC | 2VA | 1.89 | 1.89 | 3.84 | C4R20J999FAC120 | 4A479 | $207.04 | $204.25 | 0.4 |
| 100 to 120 | 2 | 1.89 | 1.89 | 3.84 | C4R40J999FAC120 | 4A480 | 207.04 | 204.25 | 0.4 |
| 100 to 120 | 2 | 1.89 | 1.89 | 4.00 | C2R20J392FAC120 | 4A481 | 87.56 | 84.55 | 0.4 |
| 100 to 120 | 2 | 1.89 | 1.89 | 4.00 | C2R40J392FAC120 | 4A482 | 87.56 | 84.55 | 0.4 |
| 100 to 120 | 2 | 1.89 | 1.89 | 4.00 | CS-R1KJX-F | 3XC07 | 202.91 | 200.75 | 0.5 |
| 100 to 240 | 7 | 1.89 | 1.89 | 4.17 | | | | | |

(*) For definition, see page 564

ORDER THERMOCOUPLES AND PROBES ON PAGE 564

# INSULATED HAND TOOLS

- All Klein insulated tools comply with IEC 900 and ASTMF 1505-94 standards for insulated hand tools
- Klein insulated tools will reduce the risk of electrical shock which results from the tools making contact with energized lines or equipment with voltages up to 1000 volts when the tools are correctly used under proper conditions
- Each tool consists of two-layers: the high-dielectric white inner layer is a thick, exceptionally tough base coating which is bonded to the tool; the outer layer is a flame-retardant, impact-resistant, bright orange color

FOR A WIDE RANGE OF HAND TOOLS FOR USE IN ELECTRICAL APPLICATIONS, SEE PAGES 1311 thru 1331

KLEIN TOOLS

Made in U.S.A.



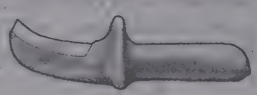
A High Leverage Cable Cutter



B Crimping Tool



C Wire Stripper-Cutter



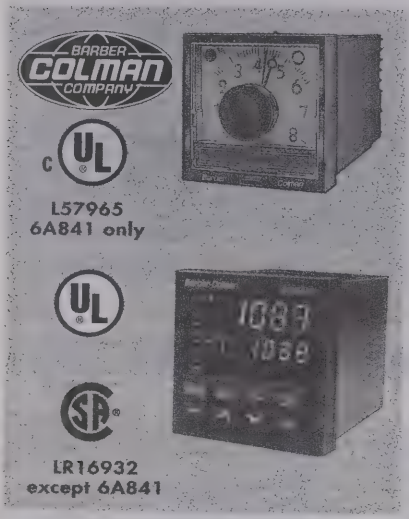
D Lineman's Skinning Knife

FOR MORE INFORMATION ON THESE TOOLS, SEE PAGE 1313

| Key | Description | Klein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | High Leverage Cable Cutter | 63050-INS | 1N067 | $58.02 | $50.80 | 1.1 |
| B | Crimping Tool for Insulated and Noninsulated Terminals & Connectors | 1005-INS | 1N041 | 53.93 | 47.20 | 1.1 |
| C | Wire Stripper-Cutter | 11045-INS | 1N042 | 38.95 | 34.10 | 0.2 |
| D | Lineman's Skinning Knife | 1570-3LR-INS | 1N044 | 41.22 | 36.10 | 0.4 |

# TEMPERATURE AND PROCESS CONTROLLERS

## 1/4 DIN MODELS




- **Monitor and control temperatures in applications such as environmental chambers, plastics processing machinery, furnaces, ovens, dryers, and packaging machinery**
- **Panel mount design**
- **Slide-out housing for easy serviceability**
- **Uses Type J thermocouples**
- **120/240VAC**

### No. 6A840 ANALOG CONTROLLER

Reliable, cost-effective. Relay switching output. SPDT time proportioning switching, proportional action with manual reset. Large, 6.3" scale with setpoint bullseye. Thermocouple break protection. Front panel lamp lights to indicate relay action. Controller can switch small electric heaters, solenoids, and contactors.

**ORDER THERMOCOUPLES AND PROBES ON PAGE 564**

### No. 6A841 1/4 DIN TEMPERATURE AND PROCESS CONTROLLER

±0.3% accuracy, 300 millisecond control response, both setpoint and control value displayed, universal TC, MVDC, VDC, and mADC inputs, Universal AC Power Supply, AT™ Self Tune, Auto Comp™ Sensor Break, selectable °C or °F, Loop Break, Setpoint Ramp, selectable decimal point, pass code security, eight large tactile feedback keys, second setpoint and tuning constants, Triac output (1A/24-240 VAC), indicator only option, case depth 4.2". Made in USA.

### No. 6A842 ANALOG LIMIT CONTROLLER

Factory Mutual (FM) approval is intended to meet specific regulations (codes, insurance and in-plant directives). Selectable high or low limit relay action. LIMITROL® can shut down process at preset high temperature. Front panel lamp lights when setpoint is exceeded; relay contacts open until temperature falls below setpoint and reset button is pressed. Reset button must be pressed to resume normal operation upon power interruption or power application.

### SPECIFICATIONS AND ORDERING DATA

| Display Type | Setting Mode | Control Mode | Output | Temp. Range | Ratings UL | Ratings CSA | Dimensions (In.) L | W | D | Barber-Colman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analog** | Knob/ Pointer | Reverse acting, time prop. w/manual reset | SPDT (form C relay) 2.5A@120V 1.25A@240V | 0-800°F; Type J thermocouple | E57965 | LR16932 | 3.6 | 3.6 | 6.4 1/4 DIN | 122M | **6A840** | $304.00 | **$291.00** | 3.0 |
| **Dual Color Coded Digital** | Arrow Keys | Programmable PID; On/Off; PD with Manual Reset | Triac 1A 24 to 240 AC | -110 to 1600°F Type J T/C, for T/C Type | E57965 | E57965† | 3.6 | 3.6 | 4.2 | 10QT-0JF | **6A841** | 400.00 | **383.25** | 1.8 |
| **Analog** | Tool/ Pointer | Limitrol ® limit control to shut down process | SPDT (form C relay) 10A@120V 5A@240V | 0-800°F; Type J thermocouple | E57965 | LR16932 | 3.6 | 3.6 | 6.4 1/4 DIN | 121L | **6A842** | 296.00 | **282.75** | 3.0 |

(†) CUL rating.

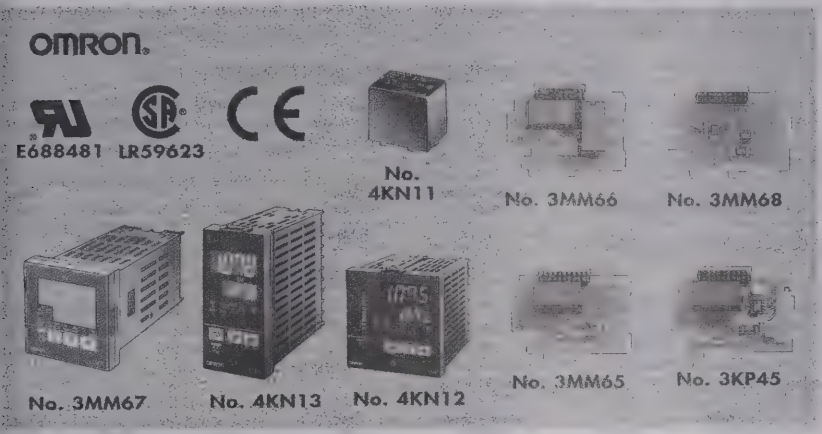
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# 1/16, 1/8, AND 1/4 DIN MODELS




**For controlling processes involving temperature, pressure, flow, humidity, conductivity, PH, etc.**

- **Accepts 22 different inputs, including thermocouples, RTD, and current and voltage types.**
- **Advanced PID or Fuzzy self-tuning with temperature input. Provides more precise control of the process and/or control outputs. Program has unauthorized tampering prevention**
- **Display shows process and set point values**
- **Heater burnout alarm**
- **Auto/Manual On/Off operation**
- **Heat and Cool modes; separate control periods**
- **Set point and manipulated variable limiters**
- **Control period is pulse output of 1 to 99 second in units of 1 second**
- **Front panel is rated NEMA 4x (IP66)**
- **Auxiliary alarm output, SPST-NO; rated at 1A@ 250VAC**
- **Self or field calibration**
- **Field-interchangeable output boards; one per container. Select 1, appropriate for the output desired. Output boards sold separately**

## CONTROLLER SPECIFICATIONS

| Supply Voltage | Indication Accuracy | Ambient Temperature |
|---|---|---|
| 100-240VAC, 50/60 Hz | Thermocouple: (±0.3% of indication value or 1 C, whichever greater) ±1 digit max.<br>Platinum resistance thermometer: (±0.2% of indication value or 0.8 C, whichever greater) ±1 digit max.<br>Analog input (±0.2% of indication value) ±1 digit max. | Operating Range: -10° to 55°C (14° to 131°F) with no icing |

## TEMPERATURE RANGES

| Input Type (switch selectable) | | Thermocouples | | | | | | Platinum RTD 100Ω |
|---|---|---|---|---|---|---|---|---|
| | | Type K | Type J or L | Type T or U | Type E | Type R†† | Type S†† | |
| Temperature Range | °C | -200 to 1300 | -100 to 850 | -200 to 400 | 0 to 600 | 0 to 1700 | 0 to 1700 | -99.9 to 450 |
| | °F | -300 to 2300 | -100 to 1500 | -300 to 700 | 0 to 1100 | 0 to 3000 | 0 to 3000 | -99.9 to 800 |

(†) Accuracy is ±2°C (3.6°F) from -150 to 400°C (-240 to 700°F). (††) Accuracy is ±3°C (±5.1°F) from 0 to 200°C (32 to 400°F).

## CONTROLLER SPECIFICATIONS AND ORDERING DATA

| Description | Supply Voltage | DIN Type | Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Controller | 100 to 240VAC 50/60 Hz | 1/16 | 2.28 | 2.28 | 4.45 | E5CK-AA1-500 | 3MM67 | $234.60 | $217.50 | 0.5 |
| | | 1/8 | 3.94 | 1.89 | 4.47 | E5EK-AA2-500 | 4KN13 | 409.70 | 379.75 | 1.5 |
| | | 1/4 | 3.78 | 4.41 | 4.47 | E5AK-AA2-500 | 4KN12 | 420.00 | 389.25 | 1.5 |

## CONTROL OUTPUT SPECIFICATIONS AND ORDERING DATA

| Type | Description | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Single Output Board for 4KN12 & 4KN13 | Relay (SPDT, 5A @ 250VAC) | E53-R | 6C047 | $7.22 | $5.84 | 0.1 |
| | SSR (SPST-NO, 1A @ 75 to 250VAC) | E53-S | 6C048 | 13.40 | 12.15 | 0.1 |
| | Voltage (NPN-40mA @ 12VDC) | E53-Q | 6C045 | 15.46 | 13.12 | 0.1 |
| | Voltage (NPN-20mA @ 24VDC) | E53-Q3 | 6C046 | 13.40 | 11.18 | 0.1 |
| | Voltage (PNP-20mA @ 24VDC) | E53-Q1 | 6C854 | 13.40 | 11.18 | 0.1 |
| | Current (4 to 20mA) | E53-C3 | 4KN11 | 54.59 | 50.80 | 0.1 |
| Dual Output Board for 3MM67 | Relay (SPST, 3A@250VAC)/Relay (SPST, 3A@250VAC) | E53-R4R4 | 3MM66 | 22.66 | 20.95 | 0.2 |
| | Voltage (NPN-20mA@12VDC)/Relay (SPST, 3A@250VAC) | E53-Q4R4 | 3MM65 | 25.75 | 23.80 | 0.2 |
| | Voltage (NPN-20mA@12VDC)/Voltage (NPN-20mA@12VDC) | E53-Q4Q4 | 3MM68 | 58.70 | 54.35 | 0.2 |
| | Current (4 to 20mA)/Relay (SPST, 3A@250VAC) | E53-C4R4 | 3KP45 | 79.31 | 73.35 | 0.2 |

## CURRENT# TRANSFORMERS FOR HEATER BURNOUT ALARM

| Hole Diameter | Max. Current | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 5.8mm (0.23") | 50 Amps | E54-CT1 | 6C049 | $20.59 | $17.89 | 0.1 |
| 12.0mm (0.47") | | E54-CT3 | 6C050 | 30.90 | 27.15 | 0.1 |

(#) Required when heater burnout alarm is used.

# TEMPERATURE CONTROLLER ACCESSORIES AND TERMINOLOGY




## MOUNTING ACCESSORIES

**For General Purpose Assemblies.** Adjustable compression fitting. Place on 3/16" tube or MgO sheathed wire. Cannot be removed after installation. Nickel plated brass construction. Barber-Colman brand (PF70-K0100-188).

**No. 6A851.** Shpg. wt. 0.1 lbs. List $2.71.
Each ..... **$2.67**

**For Heavy-Duty Assemblies.** Adjustable flange. Fits 1/2" pipe size. Two set screws included for clamping on to protection tube. Cast-iron construction. Barber-Colman brand (PF40-B0000-004)..

**No. 6A850.** Shpg. wt. 0.6 lbs. List..... $14.77.
Each ..... **$14.53**

## TYPE J THERMOCOUPLES AND WIRE

All thermocouple assemblies meet standard limits of error accuracy of ±4°F (2.2°C) up to 530°C, and ±0.75% from 530°F to 1400°F. JIS standard.

### LOW TEMPERATURE ASSEMBLY

Rigid sheath probe for direct immersion in noncorrosive liquids or gases. 600°F temperature limit, type J thermocouple, single element. Grounded hot junction 3/16" OD sheath. 6 ft. leads with stripped wire ends. Fiberglass extension wire. Shrink sleeve strain relief.

| Type | Probe Length (In.) | Material | Barber-Colman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| J | 6 | 304 SS | SK4558 | **6A843** | $16.38 | **$16.12** | 0.2 |

### GENERAL PURPOSE ASSEMBLIES

Insulated sheath allows probe to be formed or bent to measure temperature in hard-to-reach locations. Probe can be sealed against pressure up to 100 PSI with optional mounting accessory. 1100°F temperature limit, type J thermocouple, MgO insulation, single element, grounded hot junction. 3/16" OD sheath. Quick disconnect plug and jack.

| Type | Probe Length (In.) | Material | Barber-Colman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| J | 12 | 304 SS | M115-10012 | **6A848** | $30.20 | **$28.90** | 0.9 |
| | 18 | | M115-10018 | **6A849** | 33.65 | **32.15** | 0.2 |

### HEAVY-DUTY ASSEMBLIES

Rugged, heavy-duty, pipe-protected thermocouple element for use in heavier industrial applications. Easy field wiring of enclosed terminals found inside protected head. Optional flange mounting provides adjustment of immersion depth. 1100°F temperature limit, type J thermocouple, 1/2" pipe size, closed end. General purpose aluminum head. Black steel for noncorrosive atmospheres, 304 stainless steel for corrosive environments.

| Type | Probe Length (In.) | Material | Barber-Colman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| J | 12 | 304 SS | J14I-19312 | **6A844** | $58.54 | **$57.65** | 2.0 |
| | 18 | 304 SS | J14I-19318 | **6A845** | 66.42 | **65.35** | 3.5 |
| | 12 | Black Steel | J14I-03312 | **6A846** | 46.53 | **45.80** | 2.0 |
| | 18 | Black Steel | J14I-03318 | **6A847** | 52.54 | **51.75** | 2.5 |

### THERMOCOUPLE LEAD WIRE

Type J thermocouple lead wire accommodates connections between thermocouple and instrument. Accuracy of PVC extension grade wire is +4°F (2.2°C) up to 221°F (105°C). Fiberglass covered thermocouple grade wire is ±4°F (2.2°C) up to 530°F, and ±0.75% from 530°F to 900°F (482°C). Type J thermocouple wire on 5" diameter spool heads. PVC insulation is extension grade wire; fiberglass is thermocouple grade.

| Length (Ft.) | Gauge | Wire | Insulation | Barber-Colman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **100** | 20 | Solid | PVC/PVC | WJ20-51502 | **6A852** | $28.44 | **$27.20** | 1.7 |
| **100** | | | Fiberglass/Fiberglass | WJ20-11304 | **6A853** | 58.92 | **56.30** | 1.2 |

**Control Point.** Temperature to be maintained for a system.

**Differential.** Temperature difference between the temperature at which controller turns heat off and the temperature at which heat is turned back on (expressed in degrees). Refers to On/Off controllers.

**Hysteresis (dead band).** Temperature band between the On and Off of an output in the On/Off control action. No heating or cooling takes place. Band occurs between the times when the heat is turned off upon rising temperature and turned on upon falling temperature.

**On/Off Control Action.** A control action with two controlled states.

**Proportional Band.** Range of temperature in which a manipulated variable is proportionate to any deviation from the set point.

**Proportional Control Action (P).** A control action in which a manipulated variable is proportionate to any deviation from the set point.

**Proportioning Control plus Derivative Function (PD).** A time-proportioning controller that has a derivative function. Derivative function monitors the rate at which a system's temperature is either increasing or decreasing and adjusts the cycle time of the controller to minimize overshoot or undershoot.

**Proportioning Control with Integral and Derivative Functions (PID).** A time-proportioning controller that has integral and derivative functions. The integral function automatically raises the stabilized system temperature to match the set point temperature to eliminate the difference caused by the time-proportioning function. The derivative function monitors the rate of rise or fall of the system temperature and automatically adjusts the cycle time of the controller to minimize overshoot or undershoot.

**Range.** Area between low and high limits which a quantity is measured.

**Rate Action (D).** Controller senses rate of change of temperature and provides an immediate change of output to minimize the eventual deviation.

**Set Point.** Value set on the temperature controller to control a system.



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# HAND-ACTIVATED, MECHANICAL, AND ELECTROMECHANICAL COUNTERS

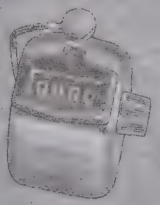
## HAND-ACTIVATED COUNTERS

REDINGTON

1800 SERIES

**STANDARD FEATURES**

- Dimensions: 1⅜W x 1¾" diameter
- Suitable for most applications requiring totalizing
- Units have reset knob
- Chrome plated housing



No. 6X164 Hand-Held Type



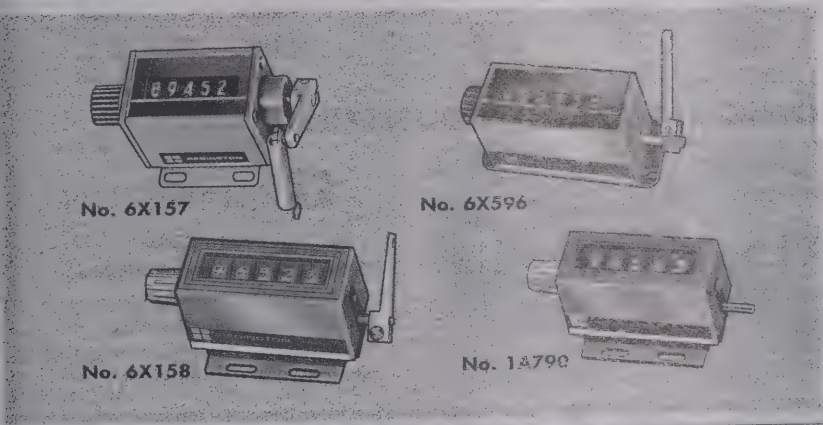
No. 1A189 Desktop Type

Base Diameter 2¼"

**COUNTER SPECIFICATIONS AND ORDERING DATA**

| No. of Digits | Life, Total Counts | Mounting | Reset | Redington Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4 | 5 x $10^6$ | Hand-Held | Knob | T4-1804 | **6X164** | $24.10 | **$23.48** | 0.2 |
| | | Desktop | | T5-1804 | **1A189** | 28.05 | **27.45** | 0.3 |

## MECHANICAL COUNTERS




No. 6X157

No. 6X596

No. 6X158

No. 1A790

REDINGTON

**STANDARD FEATURES**

- Suitable for industrial applications
- All units right-hand and counter-clockwise operation as viewed from shaft end
- Units have reset knob
- Test life of 50 million counts (except No. 6X596—100 million counts)
- Shaft on No. 1A790 is 0.125" diameter

**COUNTER SPECIFICATIONS AND ORDERING DATA**

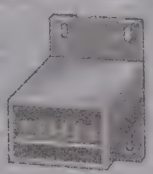
| No. of Digits | Maximum Strokes/Revolutions Per Minute | Type | Operation | Redington Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 5 | 1000 | Stroke | Right Hand, top coming | 1-4635 | **6X157** | $41.30 | **$40.00** | 0.2 |
| 6 | | Stroke | Right Hand, top coming | 1-2636 | **6X596** | 98.90 | **89.40** | 1.6 |
| 5 | | Stroke | Right Hand, top coming | 1-2635 | **6X158** | 50.65 | **41.00** | 0.2 |
| 5 | | Rotary | 10 counts/ revolution | 7-2235 | **1A790** | 62.05 | **54.35** | 0.5 |

## NONRESETTABLE COUNTERS

REDINGTON

**ELECTROMECHANICAL TYPES**

- Compact counter with 6 digit display
- Life of 10 x $10^6$ counts



No. 1A188

E36690

LR21587

**COUNTER SPECIFICATIONS AND ORDERING DATA**

| No. of Digits | Counts Per Minute | Life, No. of Counts | 60 Hz. Input Volts | 60 Hz. Input Power | Minimum Pulse Timing mSec.-ON / mSec.-OFF | Mounting | Redington Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 1000 | 10 x $10^6$ | 115VAC | 1.8W | 30/30 | Base | V2-4816-115AC | **1A188** | $35.85 | **$34.95** | 0.3 |
| | 1200 | | 24VDC | | 25/25 | Base | V8-4816-24DC | **1A788** | 33.30 | **32.35** | 0.3 |
| | 1000 | | 24VAC | | 30/30 | Base | V8-4816-24AC | **1A789** | 43.65 | **42.50** | 0.3 |

# ELECTRICAL, ELECTRONIC & PREDETERMINING COUNTERS

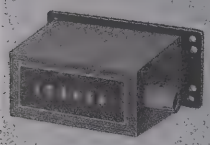
## ELECTRICAL RESETTABLE COUNTERS

LR21587 (Except Nos. 1A124 & 6X594)

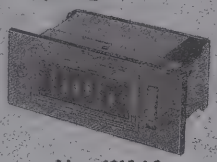
REDINGTON No. 6X161 Flush Mounting

E36690

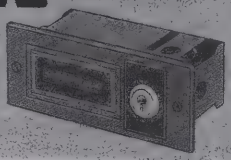
Nos. 1A124 & 6X594 Front or Rear Panel Mounting

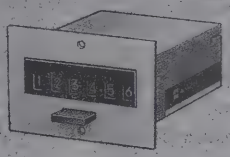


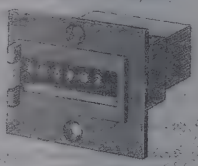
No. 6X159 Diecast Frame



No. 6X160 Universal Replacement







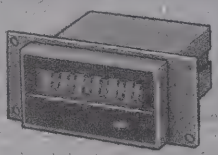
No. 6X595 Designed for Quick Connect Wiring

### COUNTER SPECIFICATIONS AND ORDERING DATA

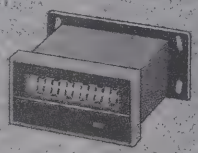
| Reset Type | No. of Digits | Counts Per Minute | Life, No. of Counts | 60 Hz Input Volts | 60 Hz Input Power | Minimum Pulse Timing, mSec.-ON / mSec.-OFF | Mounting | Redington Model —115AC | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Knob** | 6 | 1000 | $50x10^6$ | 115VAC | 7.8VA | 30/30 | Base | 2-1006 | **6X159** | $97.55 | **$89.35** | 1.2 |
| | | | | | | 30/30 | Panel | P2-1006 | **6X160** | 105.00 | **99.10** | 1.3 |
| **Key** | 6 | 1000 | $50x10^6$ | 115 | 7.8 | 30/30 | Panel | P32-1026 | **6X161** | 138.15 | **134.85** | 1.6 |
| **Pushbutton** | 6 | 600 | $10x10^6$ | 115 | 3.0 | 50/50 | Panel | P2-4906 | **1A124** | 48.00 | **46.65** | 0.3 |
| **Pushbutton** | 4 | 600 | $10x10^6$ | 115 | 3.0 | 50/50 | Panel | P2-4904 | **6X594** | 35.25 | **34.10** | 0.3 |
| **Pushbutton** | 6 | 1000 | $200x10^6$ | 115 | 2.8 | 30/30 | Panel | R2-3106 | **6X595** | 103.75 | **94.70** | 0.5 |

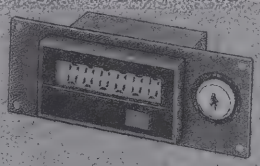
## ELECTRONIC RESETTABLE COUNTERS

No. 1A355 Panel Mount



No. 1A354 Base Mount





No. 1A356 Panel Mount

REDINGTON

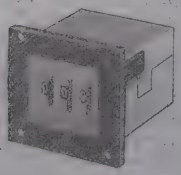
9415 Series

- Provides high speed counting
- 4-year typical battery life
- Epoxy-coated zinc housing
- Dimensions: 3.15W x 2.9L x 1.65"D, excluding mounting plate

### COUNTER SPECIFICATIONS AND ORDERING DATA

| Reset Type | No. of Digits | 60 Hz Input Volts | 60 Hz Input Power | Counts / Minute Switch-Sensor | Minimum Pulse Timing mSec.-ON /mSec.-OFF | | Redington Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pushbutton** | | 6 to 240 | | | | | 9415-003 | **1A355** | $227.90 | **$225.25** | 0.8 |
| **Pushbutton** | 6 | Volts | 1.1VA | 1200-2400 | 25/25 (Switch) | 12.5/12.5 (Sensor) | 9415-001 | **1A354** | 214.85 | **209.75** | 0.8 |
| **Key** | | AC or DC | | | | | 9415-005 | **1A356** | 250.15 | **244.50** | 0.9 |

## PREDETERMINING COUNTERS



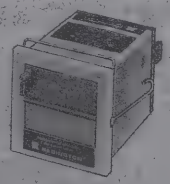
No. 6X592

REDINGTON

- Manual reset

LR21587 6X592 Only

E36690



No. 1A187

- General purpose commercial or industrial applications
- Activates switch at predetermined set point
- No. 6X592 counts down; No. 1A187 counts up
- Dimensions: No. 6X592 = 2½L x 2⅜W x 2½"D; panel cutout 2.310 x 1.620"
- Dimensions: No. 1A187 = 2¾L x 2⅜W x $3^{15}/_{16}$"D; panel cutout 2.165 x 2.165"

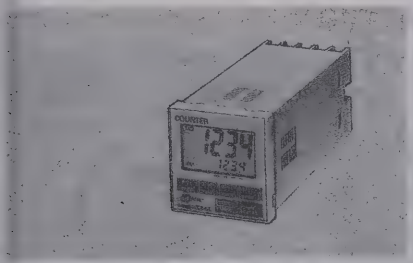
### ELECTRICAL COUNTER SPECIFICATIONS AND ORDERING DATA

| No. of Digits | Counts Per Minute | 60 Hz Input Volts | 60 Hz Input Power | Switch Rating (Resistive) | Minimum Pulse Timing mSec.-ON / mSec.-OFF | Redington Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3** | 600 | 115VAC | 5.0VA | 3A, SPDT, 250VAC | 50/50 | P2-1063-115AC | **6X592** | $131.90 | **$120.60** | 0.6 |
| **4** | 600 | | 5.5 | 5A, SPDT, 250VAC | 50/50 | B2-5804-115AC | **1A187** | 180.25 | **177.75** | 0.6 |



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# PREDETERMINING AND ELECTRONIC RESETTABLE COUNTERS



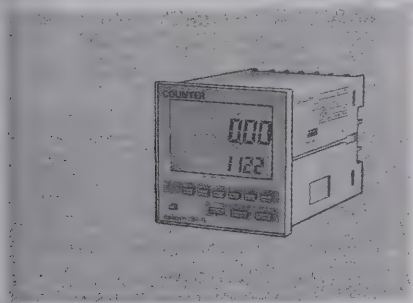
OMRON. H7CR Series

E41515 LR22310

- Preset counter with single set point fits 1/16 DIN size cutouts
- Backlit LCD display
- Remote signal or manual reset
- All units have a nonvoltage (dry contact) type input
- Includes lithium battery; not replaceable
- Memory protection and selectable operating modes including sustained and one-shot outputs
- Prescaling range of 0.0001 to 99.999
- Counter provides 12VDC power source for external sensors except No. 6C859
- Panel mounting adapter included
- Dimensions: 4 3/16L x 1 7/8W x 1 7/8"D

## ELECTRONIC COUNTER SPECIFICATIONS AND ORDERING DATA

| Type | No. of Digits | No. of Operating Modes | Counts | Supply Voltage 50/60 Hz | Switch Rating (Output) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Economy** | 6 | 2 | 30/sec; 1 or 5 K/sec | 100-240VAC | 3A, SPST-NO, 250VAC | H7CR-A-AC100-240 | **6C859** | $155.53 | **$148.75** | 0.6 |
| **Standard** | 6 | 8 | 30/sec; 1 or 5 K/sec | 100-240VAC | 3A, SPST-NO, 250VAC | H7CR-B-AC100-240 | **1XC74** | 193.63 | **186.00** | 0.6 |
| **Standard** | 6 | 8 | 30/sec; 1 or 5 K/sec | 24VAC | 3A, SPST-NO, 250VAC | H7CR-B-AC24-DC1224 | **6C861** | 193.63 | **186.00** | 0.5 |
| **Reversible** | 6 pos./5 neg. | 4 | 30/sec; 1 or 5 K/sec | 100-240VAC | 3A,(2) SPST-NO, 250VAC | H7CR-C-AC100-240 | **6C860** | 238.95 | **229.75** | 0.6 |



OMRON.

E41515 LR22310

- Remote electrical signal or manual reset
- 12 or 24VDC selectable sensor power supply
- Compact 2.83 inch (72 mm) square size
- Single preset type
- Backlit LCD display
- Contact and transistor (NPN) outputs
- No. 6C857 has batch counting function and automatic reset with 8 selectable operating modes
- No. 6C858 provides large/small discrimination mode with 4 selectable operating modes
- Includes lithium battery; not replaceable
- Rescale function allows counting of lengths or volumes
- Key protected programming
- Nonvoltage (dry contact) input
- Dimensions: 2.83L x 2.83W x 4.17"D

## ELECTRONIC COUNTER SPECIFICATIONS AND ORDERING DATA

| Type | No. of Digits | Counts Per Second | Supply Voltage 50/60 Hz | Switch Rating (Output) | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Standard Preset** | 6 | 30/sec; 1, 5, or 10 K/sec | 100 to 240VAC | Contact type: 3A @ 250VAC, SPST-NO<br>Transistor type: 100mA @ 30VDC, NPN | H7BR-B-AC100-240 | **6C857** | $321.35 | **$298.25** | 1.0 |
| **Reversible Preset** | 6 | 30/sec; 1, 5, or 10 K/sec | 100 to 240VAC | Contact type: 3A @ 250VAC, SPST-NO<br>Transistor Type 100mA @ 30VDC, NPN | H7BR-C-AC100-240 | **6C858** | 404.79 | **377.00** | 1.0 |



E67871

LR22310

Miniature Totalizer

OMRON.

- No external power supply required
- Subminiature type (DIN—sized 48 x 24 mm)
- Improved noise immunity
- Screw terminals
- Includes 3V lithium battery; not replaceable
- DC voltage and no-voltage inputs
- LCD display
- Minimum battery life 6 years
- Molded plastic housing

## ELECTRONIC COUNTER SPECIFICATIONS AND ORDERING DATA

| Reset Type | No. of Digits | Counts Per Second | Count Input | Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Remote Signal & Manual** | 6 | 1000 | 0-30VDC | 1.89 | 0.94 | 1.93 | H7EC-BVM | **6C855** | $50.47 | **$46.65** | 0.2 |
| | 6 | 30 | No-Voltage | 1.89 | 0.94 | 1.93 | H7EC-BLM | **2A540** | 50.47 | **46.65** | 0.2 |
| **Remote Signal** | 7 | 30 | No-Voltage | 1.89 | 0.94 | 1.93 | H7EC-BL | **2A539** | 50.47 | **45.65** | 0.2 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# AC & DC HOUR METERS

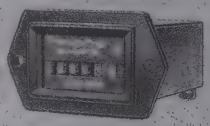
## DC VOLTAGE QUARTZ HOUR METERS

LR42455 AU1774

- Quartz accuracy to within ±0.02% over entire voltage and temperature range
- Temp. range from -40 to 185°F
- Record operating time of vehicles or powered equipment; useful for measuring maintenance intervals or tracking cost vs operating time for DC powered equipment
- DC voltage applications, 10 to 80V
- Relay driven odometer
- Shock resistant cases sealed to prevent premature wear and failure in dusty or damp environments
- Flange or bracket mounting; clear glass lens
- 1/8"H hour digits are white on black; decimal digits black on white

Hobbs Corporation

LR42455 AU1774



No. 2A642 Flange Mount (1.45 x .95" Cutout)



No. 2A643 Flange Mount (2" Cutout)



No. 2A644 Bracket Mount (2" Cutout)

### HOUR METER SPECIFICATIONS AND ORDERING DATA

| Registers Elapsed Time (Hrs.) Up To: | Face Dia. (In.) | Bezel (Face) | Length (In.) from Back of Bezel | Hobbs Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **9999.9** | 1.25 x 2.13 | Rect. | 2.20 | 85094 | **2A642** | $56.48 | **$52.85** | 0.2 |
| **9999.9** | 2.86 | Rnd. | 2.20 | 85097 | **2A643** | 54.03 | **48.65** | 0.3 |
| **9999.9** | 2.50 | Rnd. | 2.18 | 85098 | **2A644** | 54.03 | **48.65** | 0.3 |

## AC VOLTAGE HOUR & MINUTE METERS

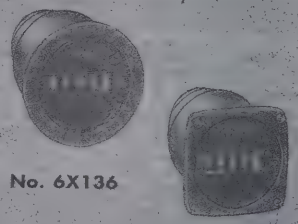
- Input voltage 115V, 60 Hz
- Permanent magnet motor for accuracy; ±50mSec. per start stop, 100% when running at normal frequency
- Large, easy-to-read numbers—whole numbers are white on black, decimal numbers black on white
- Housing material high impact black styrene
- Continuous duty cycle
- No. 6X141 3½" model and No. 6X143 have NEMA standard round or square detachable bezels
- Includes 22-gauge wire leads 6" long
- Mounts in 2¼" diameter hole; mounting hardware included

CRAMER

E18084 LR16385

635 and 636 Series—Flange Mount

Hour and Minute Types
Power Dissipation—3 Watts



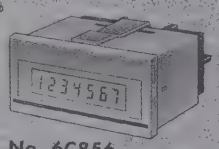
No. 6X136

### SPECIFICATIONS AND ORDERING DATA

| Display Units | Registers Elapsed Time Up To: | Bezel (In.) (Face) | Length (In.) from Back of Bezel | Cramer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **PUSHBUTTON RESETTABLE ELAPSED TIME INDICATORS** | | | | | | | | |
| Hours | 9999.9 hrs. | 2½ Round | 3 3/16 | 636X | **6X141** | $82.76 | **$66.30** | 0.8 |
| Hours | 9999.9 hrs. | 2½ Square | 3 3/16 | 636Y | **6X143** | 82.76 | **66.30** | 0.8 |
| **NON-RESETTABLE ELAPSED TIME INDICATORS** | | | | | | | | |
| Minutes | 99999.9 min. | 2½ Round | 2¾ | 635G | **6X136** | 40.73 | **32.60** | 0.7 |
| Hours | 99999.9 hrs. | 2½ Round | 2¾ | 635G | **6X137** | 40.73 | **32.60** | 0.6 |
| Minutes | 99999.9 min. | 2½ Square | 2¾ | 635K | **6X138** | 40.73 | **32.60** | 0.7 |
| Hours | 99999.9 hrs. | 2½ Square | 2¾ | 635K | **6X139** | 40.73 | **32.60** | 0.6 |
| Hours | 99999.9 hrs. | 3½ Rd. & Sq. | 2¾ | 635E & S | **6X144** | 45.81 | **36.70** | 0.9 |

OMRON

E67871 LR22310



No. 6C856

## ELECTRONIC HOUR METER

- Ideal for panel mount installations
- LCD display
- Operating temperature range from 14 to 131°F
- No. 2A543 needs no external power. Self-contained power supplied by nonreplaceable lithium battery with 10-year average lifetime under continuous operation
- Molded plastic housing
- Clamp and thumb screw mounting system
- Wiring screw terminals at rear of indicator keeps wiring harness terminations away from other instruments
- Blinking decimal point indicates when signal is applied correctly
- Dimensions: 1.9W x 0.95L x 1.95"D

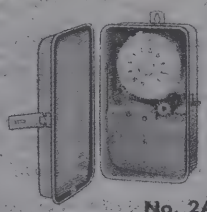
### HOUR METER SPECIFICATIONS AND ORDERING DATA

| Reset Type | No. of Digits | Time Range (Hrs.) | Input Type | Dimensions (In.) L | W | D | Omron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Remote Signal** | 7 | 0.0 to 999999.9 | 0-30VDC | 1.89 | 0.94 | 1.93 | H7ET-BV | **6C856** | $57.67 | **$52.40** | 0.2 |
| **Remote Signal** | 7 | 0.0 to 999999.9 | Switch (Dry Contact) | 1.89 | 0.94 | 1.93 | H7ET-B | **2A543** | 57.66 | **52.40** | 0.2 |

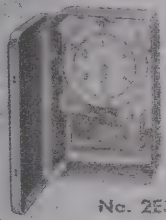


*Relay it, suppress it, enclose it — The leading brands are all right here.*

# CROSS-REFERENCE FOR TIMERS



No. 2A206



No. 2E356




No. 2E220

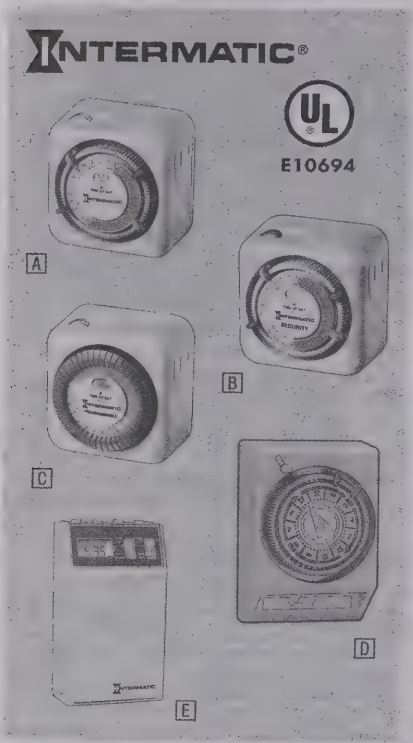
For Ordering Information, See Pages 575, 576, 585, 583 and 584

| Description | Contact Form | Amperage | Voltage | Enclosure | Grainger Stock No. | Manufacturers' Catalog Numbers: Intermatic | Paragon | Tork | Area Lighting Research | Reliance |
|---|---|---|---|---|---|---|---|---|---|---|
| 24-HOUR TIMER | SPST | 40 | 125 | NEMA 1 | **2E021** | T101 | 4001-00 | 1101 | TC101 | 441 |
| | SPST | 40 | 125 | N/A | **2E354** | T101M | 4001-00M | 1101M | TC101M | M511 |
| | SPST | 40 | 125 | NEMA 3R | **2E258** | T101R | 4011-00 | 1101-0 | TC101R | — |
| | SPST | 40 | 125 | NEMA 3R Plastic | **4E023** | T101P | P101P | — | — | — |
| | DPST | 40 | 125 | NEMA 1 | **2E022** | T103 | 4003-00 | 1103 | TC103 | 442 |
| | DPST | 40 | 125 | N/A | **4A213** | T103M | 4003-00M | 1103M | TC103M | M521 |
| | DPST | 40 | 125 | NEMA 3R Plastic | **4E024** | T103P | P103P | — | — | — |
| | DPST | 40 | 208-277 | NEMA 1 | **2E351** | T104 | 4004-71 | 1104 | TC104 | — |
| | DPST | 40 | 208-277 | N/A | **2E353** | T104M | 4004-71M | 1104M | TC104M | — |
| | DPST | 40 | 208-277 | NEMA 3R | **2E259** | T104R | 4004-20 | 1104-0 | TC104R | — |
| | DPST | 40 | 208-277 | NEMA 3R Plastic | **4E025** | T104P | P104P | — | — | — |
| 24-HOUR SWIMMING POOL TIMER | DPST | 40 | 208-277 | NEMA 3R | **2E352** | T104R201 | 41014-20 | — | TC104R201 | — |
| | DPST | 40 | 208-277 | NEMA 3R Plastic | **4E026** | T104P201 | — | — | — | — |
| 24-HOUR TIMER W/SKIP A DAY | SPST | 40 | 125 | NEMA 1 | **2E024** | T171 | — | 7100 | — | 441C |
| | DPST | 40 | 125 | NEMA 1 | **6X759** | T173 | 4003-00S | 7200 | TC173 | 442C |
| | DPST | 40 | 208-277 | NEMA 1 | **6X760** | T174 | 4004-71S | 7202 | TC174 | — |
| 24-HOUR CYCLE TIMER | SPDT (NO/NC) | 40 | 125 | NEMA 1 | **2E025** | T185 | 8025-0 | 4011 | — | — |
| | SPDT | 20 | 125 | NEMA 1 | **2E026** | T1905 | 1015-00RS | 8001 | — | — |
| | SPDT | 20 | 480 | NEMA 1 | **2A512** | T1905E | — | — | — | — |
| | SPDT | 20 | 208-277 | NEMA 1 | **2E389** | T1906 | 1015-00RS | 2-8001 | — | — |
| 24-HOUR CYCLE TIMER W/SKIP A DAY | SPDT | 20 | 125 | NEMA 1 | **6X761** | T1975 | 1015-00RS | 8007SK | — | — |
| | SPDT | 20 | 208-277 | NEMA 1 | **6X762** | T1976 | 1015-00RS | 2-8007 | — | — |
| 24-HOUR TIMER W/SKIP A DAY | 4PST | 40 | 125 | NEMA 3R | **6X766** | T1471BR | 47017-0S | 7300-0 | — | — |
| | 4PST | 40 | 208-277 | NEMA 3R | **4A214** | T1472BR | — | — | — | — |
| COMPACT 7-DAY TIMER | SPDT | 20 | 125 | NEMA 1 | **2A210** | T2005 | — | 2120 | — | — |
| 7-DAY TIMER | 4SPDT | 40 | 125 | NEMA 1 | **2A208** | T7401B | 7007-0 | W300 | TC7401B | — |
| | 4SPDT | 40 | 125 | NEMA 1 | **2A209** | T7401BC | 7217-56 | W300L | — | — |
| | DPDT (2NO/2NC) | 40 | 125 | NEMA 1 | **2E214** | T7801B | 7008-0 | W120 | TC7801B | — |
| | DPDT (2NO/2NC) | 40 | 125 | NEMA 1 | **6X757** | T7801BC | 7208-56 | W120L | — | — |
| CYCLE TIMER | SPDT | 20 | 125 | NEMA 1 | **2E355** | C8815 | — | 8121 | — | — |
| | SPDT | 20 | 125 | NEMA 1 | **2E408** | C8825 | — | — | — | — |
| | SPDT | 20 | 125 | NEMA 1 | **2E130** | C8835 | — | 8301 | — | — |
| | SPDT | 20 | 125 | NEMA 1 | **2E131** | C8845 | — | — | — | — |
| | SPDT | 20 | 125 | NEMA 1 | **2E356** | C8855 | — | 8061 | — | — |
| | SPDT | 20 | 125 | NEMA 1 | **2E357** | C8865 | — | 8601 | — | — |
| SPRINKLER TIMER | 3 zone plus Master valve control | 5 | 125 | NEMA 1 | **2E220** | LS7141 | — | — | — | — |
| | | 5 | 24 | NEMA 1 | **2E221** | LS7143 | — | — | — | — |
| 2-IN-1 SWIMMING POOL TIMER | DPST (Each 2 timers) | 40 | 208-277 | NEMA 3R | **6X767** | T1040R | 4918-99 | 1114D | TC2104R | — |
| | DPST (Each 2 timers) | 40 | 208-277 | NEMA 3R | **6X768** | T12404R | 4928-99 | 1104DF | — | — |

| Description | Contact Form | Amperage* | Voltage | Grainger Stock No. | Intermatic | M.H. Rhodes | Paragon | Tork† |
|---|---|---|---|---|---|---|---|---|
| SPRING WOUND TIMERS | SPST | 20/10/10/7 | 125/250/277/125T | **6X545** | FF5M | 90004 | SW5M | A505M |
| | SPST | 20/10/10/7 | 125/250/277/125T | **4A217** | FF5MH | 90030 | SW5MH | A515MH |
| | SPST | 20/10/10/7 | 125/250/277/125T | **2E269** | FF15M | 90005 | SW15M | A515M |
| | SPST | 20/10/10/7 | 125/250/277/125T | **2E175** | FF30M | 90006 | SW30M | A530M |
| | SPST | 20/10/10/7 | 125/250/277/125T | **6X546** | FF60M | 90008 | SW60M | A560M |
| | SPST | 20/10/10/7 | 125/250/277/125T | **2E270** | FF60MH | 90024 | SW60MH | A560MH |
| | SPST | 20/10/10/7 | 125/250/277/125T | **4A218** | FF6H | 90007 | SW6H | A506H |
| | SPST | 20/10/10/7 | 125/250/277/125T | **2E052** | FF12H | 90001 | SW12H | A512H |
| | SPST | 20/10/10/7 | 125/250/277/125T | **6X547** | FF12HH | 90015 | SW12HH | A512HH |

(*) At 120/250/277/125 Tungsten VAC respectively. (†) Decorator models only.

# LAMP, APPLIANCE, AND WALL SWITCH TIMERS




## LAMP AND APPLIANCE TIMERS

### A No. 2E274

- Up to 2 On/2 Off setting per day
- Cordless; plugs into any receptacle
- Manual On/Off override
- 2-prong plug and receptacle

### B No. 6X763

- Up to 2 On/2 Off settings per day
- Random setting turns light On and Off at slightly different times each day to avoid predictable "timer controlled" look
- Cordless; plugs into any receptacle
- Manual On/Off override
- 2-prong plug and receptacle

### C No. 6X764

- Up to 24 On/24 Off settings per day
- Multiple daily programming
- Cordless; plugs into any receptacle
- Manual On/Off override
- 2-prong plug and receptacle

### D No. 1XC70

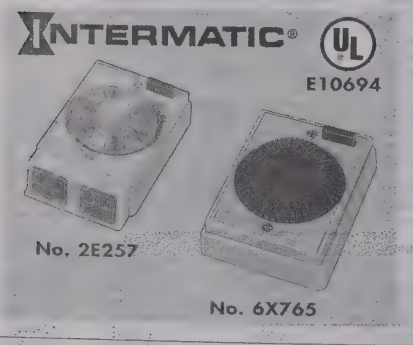
- Up to 2 On/2 Off setting per day
- Table-top style
- 2-prong plug and receptacle
- Includes 5 ft. cord

## E 7-DAY DIGITAL, PROGRAMMABLE LAMP AND APPLIANCE TIMER

- Up to 6 On/6 Off settings per day
- Random setting turns light On and Off at slightly different times each day
- LCD digital clock and readout
- To-the-minute setting accuracy
- Cordless; plugs into any receptacle
- 3-prong plug and receptacle
- Manual On/Off override
- Replaceable AA battery; maintains program during power failure

### TIMER SPECIFICATIONS AND ORDERING DATA

| Key | Timing Range On Time Minimum | Maximum | Max. On/Off Cycles | Load Capacity 120V, 60 Hz Resistive | Tungsten | Inductive | HP | Dimensions (In.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/2 Hour | 23½ Hours | 2 | 15A (1875W) | 1250W | — | 1/3 | 3¾ | 2¾ | 2 | TN111C | **2E274** | $9.48 | **$6.64** | 0.5 |
| B | 3/4 | 23¼ | 2 | 15 (1875) | 1250 | — | 1/3 | 3¾ | 2¾ | 2 | TN711C | **6X763** | 10.48 | **7.34** | 0.5 |
| C | 1/2 | 23½ | 24 | 15 (1875) | 1250 | — | 1/3 | 3¾ | 2¾ | 2 | TN811C | **6X764** | 12.48 | **8.74** | 0.6 |
| D | 1/2 | 23½ | 2 | 15 (1875) | 1250 | — | 1/3 | 3¾ | 2¾ | 2 | TB111C | **1XC70** | 17.45 | **12.40** | 3.3 |
| E | 1 Minute | 23 Hr. 59 Minutes | 6 | 15 (1875) | 500 | 15A | 1/3 | 1¾ | 2½ | 4¼ | DT7C | **5A690** | 37.95 | **26.60** | 0.5 |




## WALL SWITCH AND OUTLET TIMERS

- Settings per day; Nos. 2E257 and 4A215 have 1 On/1 Off permanently attached trippers; No. 6X765 can accomodate 12 On/12 Off trippers. (Qty. 4 are included with timer)
- Single pole, use only 1 switch
- No. 2E257 includes 2 grounded receptacles, one timed, and one for continuous service
- Manual On/Off override

### TIMER SPECIFICATIONS AND ORDERING DATA

| Receptacles | Max. On/Off Cycles | Load Capacity A 120V, 60 Hz Resistive | Tungsten | FLA | Dimensions (In.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | | | | | | | E1012C | **2E257** | $39.75 | **$25.85** | 1.0 |
| None | 1 | 15A | 1500W | 12 | 5 | 3¼ | 1⅜ | E1010C | **4A215** | 36.20 | **23.53** | 1.2 |
| None | 12 | | | | | | | E1020C | **6X765** | 37.90 | **24.64** | 0.8 |

## UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY

Grainger has over 350 branches nationwide, so we're close by.
To find the location nearest you, check the Branch Locations listed in the front of this catalog.

# AIR CONDITIONING AND ALL SEASON OUTDOOR TIMERS

## AIR CONDITIONER TIMERS

INTERMATIC®

E10694



No. 5A688
2 Settings
Per Day




No. 5A689
14 Settings
Per Week

### No. 5A688

- Up to 3 On/3 Off settings per day
- Turns air conditioners and other heavy-duty loads On and Off every 24 hours
- Cordless; plugs into any receptacle
- Manual On/Off override
- 3-prong plug and receptacle

### No. 5A689

- Up to 14 On/Off settings per week
- Turns heavy load appliances On and Off for a full week
- 3-prong grounded plug and receptacle
- Cordless; plugs into any receptacle
- Manual On/Off override

### TIMER SPECIFICATIONS AND ORDERING DATA

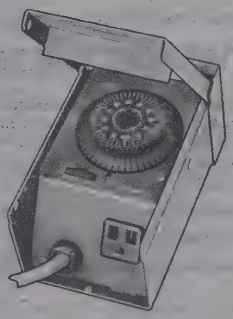
| Timing Range On Time Minimum | Timing Range On Time Maximum | Max. On/Off Cycles | Load Capacity 120V @ 60 Hz R* | FLA* | LRA* | HP | Dimensions (In.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 Hour | 23½ Hours | 3/Day | 15A | 12A | 72A | 1 | 7 | 3⅞ | 2 | TN311C | **5A688** | $14.98 | **$10.49** | 0.6 |
| 3 | 6 Day, 21 Hours | 14/Week | 15 | 12 | 72 | 1 | 7 | 3⅞ | 2 | HB171C | **5A689** | 21.95 | **15.37** | 0.6 |

(*) R = Resistive, FLA = Full Load Amps, LRA = Locked Rotor Amps for motors.

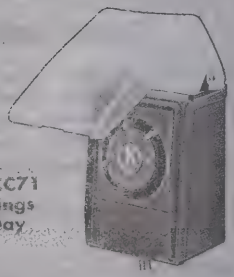
## ALL SEASON OUTDOOR TIMERS

INTERMATIC®

E10694



No. 5X423
24 Settings
Per Day



No. 1XC71
2 Settings
Per Day

### No. 5X423

- Up to 24 On/24 Off settings per day
- Controls engine block heaters, outdoor lights, swimming pool filters and pumps
- Fully grounded 3-wire system, 3-foot power cord included
- Heavy gauge weatherproof metal case
- Includes two sets of On/Off trippers
- Manual On/Off override

### No. 1XC71

- Up to 2 On/2 Off settings per day
- Controls engine block heaters, outdoor lights, swimming pool filters and pumps
- Heavy-duty 18" cord with grounded plug
- Industrial grade plastic case, never rusts or corrodes
- Includes two sets of On/Off trippers
- Manual On/Off override

### TIMER SPECIFICATIONS AND ORDERING DATA

| Timing Range On Time Minimum | Timing Range On Time Maximum | Max. On/Off Cycles | Load Capacity 120V @ 60 Hz Resistive | Tungsten | FLA† | Dimensions (In.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 Hour | 23½ Hours | 24 On/Off | 15A | 1440W | 12A | 7 | 5 | 4 | EB11R | **5X423** | $36.95 | **$25.90** | 3.0 |
| 1/2 | 23½ | 2 On/Off | 15 | 1800 | 8 | 5 | 5 | 3 | HB31R | **1XC71** | 23.95 | **16.77** | 3.3 |

(†) FLA = Full Load Amps.

# WALL SWITCH SECURITY TIMERS

INTERMATIC®

## PROGRAMMABLE SECURITY TIMERS

- Up to 24 On/Off settings per day
- Requires a minimum of 40 watt load to operate
- Minimum on-time is 1/2 hour
- Random setting turns light On/Off at slightly different times each day
- 15-minute memory guard protects program during power failure
- Manual On/Off override
- Use with P-type thermally protected UL Listed ballasts, incandescent or fluorescent lamps 40 to 500 watts only, 120V, 60 Hz (not to be used with par lamps, use No. 5A691 below)
- For use with existing toggle or decorator switch plates, white in color

E78300

LR3730



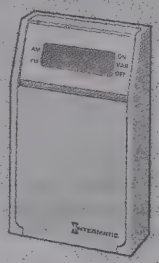
No. 5X410 1-Pole Programmable Security Timer

### TIMER SPECIFICATIONS AND ORDERING DATA

| Type of Switch | Dimensions (In.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1-Pole | 2¾ | 1⅝ | 1 | EJ341C | 5X410 | $38.69 | $23.62 | 0.4 |
| 3-Way | | | | EJ343C | 5X411 | 42.97 | 25.35 | 0.4 |

E78300

LR3730



No. 5A691 Digital, Programmable Wall Switch Security Timer

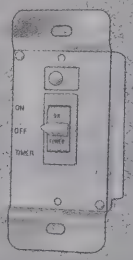
## DIGITAL, PROGRAMMABLE WALL SWITCH SECURITY TIMER

- Up to 4 On/Off settings per day
- Replaces any standard wall light switch; use to control light from a single wall switch (single pole) or 3-way (2 switches)
- Random setting turns light On/Off at slightly different times each day or can be programmed for a precise, to-the-minute schedule
- Three-minute memory guard protects program during power failure
- LCD digital clock readout
- 15-minute "lights off" delay setting
- Energy saving dimmer
- Digital display turns off if light bulb fails—replace light bulb and reprogram timer
- Manual On/Off override (does not affect timing program)
- Incandescent lamps 40 to 500W; individual lamp 500W maximum total load 120V, 60 Hz
- Dimensions: 3½L x 2¼W x 1"D
- White in color
- Intermatic brand (SS5C)

**No. 5A691.** Shpg. wt. 0.4 lbs. List $54.57. Each.....$35.50

E78300

LR3730



No. 4A219 Time Limit Wall Switch Timer

## TIME LIMIT WALL SWITCH TIMER

- Two-way operation—immediate switch off, or after 15 minutes
- Controls light from a single wall switch (single pole)
- Saves energy—turns light off automatically
- Keeps critical areas lit for limited time
- Use for incandescent or fluorescent fixtures with P-type ballasts, lamps 40 to 500 watts, 120V, 60 Hz (not to be used with par lamps, use No. 5A691 above)
- Dimensions: 4L x 1 1/16W x 1⅛"D
- White in color
- Intermatic brand (EI15MH)

**No. 4A219.** Shpg. wt. 0.3 lbs. List $32.45. Each.....$18.44

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

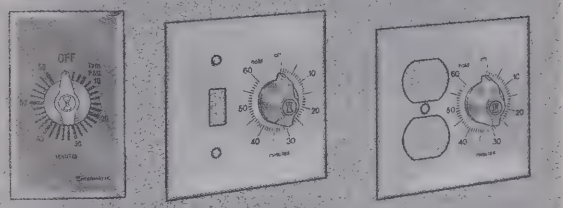
# SPRING-WOUND MECHANICAL TIMERS

- Timers use no energy to operate
- Use where precision timing is not required
- Time switches are open in the Off position
- Hold feature used for continuous On applications
- Durable plastic time knob and metal wall plate
- Nos. 2A513 and 2A514 mount in standard 4 x 4" outlet box. All others mount in minimum 2 x 4" outlet box
- Nos. 2A513 and 2A514 are provided with faceplates designed for accepting electrical wiring devices. No. 2A513 accepts a single standard (toggle) switch. No. 2A514 accepts a duplex standard receptacle. (Wiring devices not included. See Index under Wiring Devices)

INTERMATIC®

E10694

LR3730



A No. 6X545 B No. 2A513 C No. 2A514

## TIMER SPECIFICATIONS AND ORDERING DATA

| Key | Timing Range | Hold Feature | Form | Contact Load Ratings @ 60 Hz 125V | 250V | 277V | 125V | 250V | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5 Minutes | No | SPST | 20/7A* | 10A | 10A | 1 HP | 2 HP | FF5M | 6X545 | $25.20 | $14.42 | 0.4 |
| | 5 | Yes | | | | | | | FF5MH | 4A217 | 25.94 | 16.46 | 0.5 |
| | 15 | No | | | | | | | FF15M | 2E269 | 25.20 | 14.42 | 0.4 |
| | 30 | No | | | | | | | FF30M | 2E175 | 25.20 | 14.42 | 0.4 |
| | 1 Hour | No | | | | | | | FF60M | 6X546 | 25.20 | 14.42 | 0.4 |
| | 1 | Yes | | | | | | | FF60MH | 2E270 | 25.20 | 14.42 | 0.4 |
| B C | 1 Hour | Yes | SPST | 20/7A* | 10A | 10A | 1 HP | 2 HP | FF60MH34 | 2A513 | 30.84 | 17.43 | 0.5 |
| | 1 | Yes | | | | | | | FF60MH35 | 2A514 | 32.38 | 17.69 | 0.5 |
| A | 6 Hours | No | SPST | 20/7A* | 10A | 10A | 1 HP | 2 HP | FF6H | 4A218 | 29.75 | 16.74 | 0.4 |
| | 12 | No | | | | | | | FF12H | 2E052 | 29.75 | 19.34 | 0.4 |
| | 12 | Yes | | | | | | | FF12HH | 6X547 | 29.75 | 19.34 | 0.4 |

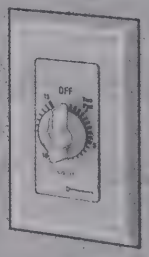
(*) Resistive/Tungsten.

# DECORATOR SPRING-WOUND MECHANICAL TIMERS

- Timing dial fits either standard toggle or decorator style switchplates
- Timing mechanism has all metal gears
- Upfront teeter terminal connections for easy, reliable wiring
- Ivory color faceplate and knob
- Fits most standard 2½" deep junction boxes
- "Press On" knob and insert design eliminates setscrews
- Switchplate not included
- For use with toggle or decorator switchplates, see pages 699, 700, and 701

INTERMATIC®

E10694



No. 1XC25

## TIMER SPECIFICATIONS AND ORDERING DATA

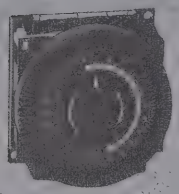
| Timing Range | Hold Feature | Form | Contact Load Ratings @ 60 Hz 125V | 250V | 277V | 125V | 250V | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 Minutes | No | SPST | 20/7A* | 10A | 10A | 1 HP | 2 HP | FD15M | 1XC25 | $25.20 | $17.45 | 0.4 |
| 30 | No | | | | | | | FD30M | 1XC26 | 25.20 | 17.45 | 0.3 |
| 60 | No | | | | | | | FD60M | 1XC27 | 25.20 | 17.45 | 0.3 |

(*) Resistive/Tungsten.

# 24-HOUR AND 7-DAY ELECTROMECHANICAL MODULES AND TRIPPERS

## 24-HOUR AND 7-DAY ELECTROMECHANICAL MODULES

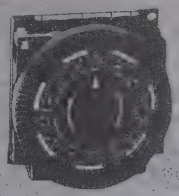
Ideal for Panel Mount Installations



24-Hour Timer Module

DIEHL

LR63414 E76164



7-Day Timer Module

- Up to 48 On-Off settings per day (24 hour timers)
- Up to 42 On-Off settings per week—6 settings per day (7-day timers)
- Quartz drive motor on Nos. 2A519 and 2A520; synchronous on Nos. 2A517 and 2A518; draws 0.1 watt
- Nos. 2A519 and 2A520 have battery reserve to keep timer running for approx. 90 hours during power failures; nickel cadmium battery included, not replaceable
- 2½" (64 mm) diameter opening for dial if mounted through panel

| ELECTRICAL SPECIFICATIONS | | | | | | | | TIMER SPECIFICATIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Contact Load Rating @ 120 / 240VAC | | | | | | | | | |
| | | | Amps | | | Pilot | | Time Setting | | Max. | No.of |
| No. of Poles | Stock No. | Form | I* | R* | T* | Duty | HP | Minimum | Maximum | On-Off Cycles | Trippers Included |
| **24-HOUR MODULES** | | | | | | | | | | | |
| 1 | 2A517<br>2A519 | SPST | 8/6 | 20/15 | 8.3/4.1 | 470/662VA | 1/3/4 | 1/4 Hour | 23¾ Hours | 48 | 96 |
| **7-DAY MODULES** | | | | | | | | | | | |
| 1 | 2A518<br>2A520 | SPST | 8/6 | 20/15 | 8.3/4.1 | 470/662VA | 1/3/4 | 2 | 22 | 6 | 84 |

| TIMER ORDERING DATA | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dimensions (In.) | | | | | | | |
| No. of Poles | Form | Timer Input Voltage 60 Hz | Battery Reserve | L | W | D | Diehl Model No. | Stock No. | List | Each | Shpg. Wt. |
| **24-HOUR MODULES** | | | | | | | | | | | |
| **1** | SPST | 120VAC | No | 2⅜ | 2⅜ | 1¼ | TA-4150 | **2A517** | $61.94 | **$36.20** | 0.4 |
| | | | Yes | | | | TA-4152 | **2A519** | 152.74 | **87.60** | 0.3 |
| **7-DAY MODULES** | | | | | | | | | | | |
| **1** | SPST | 120VAC | No | 2⅜ | 2⅜ | 1¼ | TA-4151 | **2A518** | 67.30 | **39.30** | 0.3 |
| | | | Yes | | | | TA-4153 | **2A520** | 155.50 | **89.05** | 0.3 |

(*) I = Inductive, R = Resistive, T = Tungsten

## INTERMATIC® EXTRA TRIPPERS FOR TIMERS

| For Timer No. | Quantity | Intermatic Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1A219, 1A220, 1A573, 1A850, 2A208, 2A209, 2E021 thru 2E053, 2E214, 2E258, 2E259, 2E351, 2E352 thru 2E354, 4E023 thru 4E026, 6X757, 6X767 thru 6X769** | 1 Pair On-Off | 156T1961A | **2E054** | $1.64 | **$1.14** | 0.1 |
| **2E025** | 1 Adjustable | 156T1960A | **2E055**† | 11.56 | **6.71** | 0.1 |
| **2A026, 2A512, 2E026, 2E130, 2E131, 2E355 thru 2E357, 2E389, 2E408, 6X761, 6X762** | 12 Trippers | 156T2978A | **2E132** | 1.86 | **1.79** | 0.1 |

(†) On-Off cam type tripper adjustment is 10 to 60 minutes.

## WE OFFER A WIDE RANGE OF ENERGY SAVING PRODUCTS

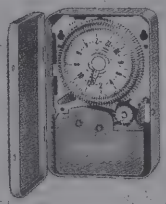
Electric motors, controls, blowers, fans and ventilators, lighting, boilers, ballasts, pumps, furnaces, water heaters, and other products. See Index under Energy Saving Products for complete listings.

# 24-HOUR AND WATER HEATER TIMERS

## MULTIOPERATION TIMERS

PARAGON — UL E10597, CSA LR8376

INTERMATIC® — UL E10694, CSA LR730



No. 6X761

- Up to 48 On/Off pole settings per day
- 96 permanently fixed trippers for minimal timing increments
- Manual On/Off override does not interfere with program, except on No. 2E213
- Metal indoor enclosure with lock hasp
- Operating temperature −40° to +130°F

No. 2E132, Extra Trippers for intermatic timers only. (12)
Shpg. wt. 0.1 lbs. List $1.86. Each ..... $1.79

### ELECTRICAL SPECIFICATIONS

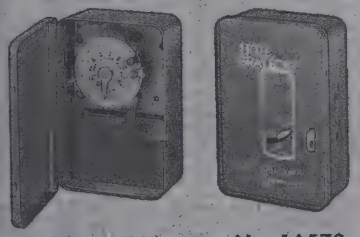
| No. of Poles | Stock No. | Contact Load Ratings @ 120-480V, 60 Hz: Form | Amps / Pole: Resistive | Pilot Duty | HP @ 120VAC | HP @ 240VAC | Timer Input Volts 60 Hz | Time Setting: Minimum | Time Setting: Maximum | Max. On/Off Cycles | No. of Trippers Included | Order Extra Tripper Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2E026<br>6X761<br>2E389<br>6X762<br>2A512 | SPDT | 20 | | 1/2 | 1 | 125V<br>125<br>208-277<br>208-277<br>480 | 15 Min. | 23¾ Hr. | 48 | 96 | 2E132 |
| 1 | 2E213 | SPDT | 10* | 125VA | — | — | 120 | 15 | 23¾ | 48 | 96 | — |

| No. of Poles | Contact Form | Timer Input Volts @ 60 Hz | Enclosure Type | Day Skipper | Dimensions (In.) L | W | D | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPDT | 125V | Indoor | No | 7¾ | 5 | 3 | Intermatic | T1905 | **2E026** | $124.21 | **$80.75** | 2.8 |
| | | 125 | | Yes | | | | Intermatic | T1975 | **6X761** | 159.34 | **103.60** | 2.8 |
| | | 208-277 | | No | | | | Intermatic | T1906 | **2E389** | 127.07 | **82.60** | 2.8 |
| | | 208-277 | | Yes | | | | Intermatic | T1976 | **6X762** | 162.69 | **105.75** | 2.8 |
| | | 480 | | No | | | | Intermatic | T1905E | **2A512** | 209.94 | **115.60** | 3.0 |
| 1 | SPDT | 120 | Outdoor | Yes | 9¾ | 5½ | 4 | Paragon | 1015-00RS | **2E213** | 241.93 | **216.25** | 5.3 |

(*) Rated at 120V, 60 Hz.

## ELECTRIC WATER HEATER TIMERS

INTERMATIC® — UL E10694, CSA LR3730



No. 6X769 No. 1A573

- Up to 12 On/Off settings per day
- Automatically turns Off water heater at pre-selected times
- Manual On/Off override (does not interfere with program); external on No. 1A573
- Metal indoor enclosure with lock hasp
- UL Listed (E10694); CSA Certified (LR3730)

### ELECTRICAL SPECIFICATIONS

| Stock No. | Contact Load Ratings @ 120-277V, 60Hz: Form | Amps Inductive | Pilot Duty | HP | Timer Input Volts 60 Hz | Time Setting: Min. | Time Setting: Max. | Max. On/Off Cycles | No. of Trippers Included | Order Extra Tripper No. (See Page 574,579) |
|---|---|---|---|---|---|---|---|---|---|---|
| 6X769 | DPST | 40 | 1000VA | 2 | 208-240V | | | | | |
| 1A573 | DPST | 40 | 1000 | 2 | 250V | 30 Min. | 23½ Hr. | 12 | 2 | 2E054 |
| 4A216 | SPST | 25 | N/A | 1 | 250V | | | | | |

| No. of Poles | Enclosure Type | Dimensions (In.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | NEMA 1 | 7¾ | 5 | 3 | T104-20 | **6X769** | $87.01 | **$46.65** | 2.9 |
| 2 | | | | | WH40 | **1A573** | 97.41 | **50.00** | 2.6 |
| 1 | | | | | WH21 | **4A216** | 42.63 | **41.55** | 2.4 |

**WE OFFER A WIDE RANGE OF ENERGY SAVING PROUCTS**

**Electric motors, controls, blowers, fans and ventilators, lighting, boilers, ballasts, pumps, furnaces, water heaters, and other products.**

**See Index under Energy Saving Products for complete listings.**

# 24-HOUR TIMERS

## ELECTROMECHANICAL TYPES

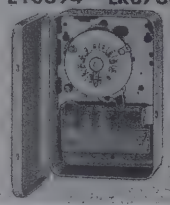
- Heavy-duty gears with a clutchless design that cannot slip
- Contacts are tungsten rated to handle inrush 10 times greater than their rating
- Contact resistive voltage rating 120-480VAC, tungsten or inductive voltage rating 120-277VAC
- 6X758 voltage rating up to 240VAC
- Clock motors are permanent magnet, self-lubricating, synchronous type
- Snap-out timing mechanism. Settings per day: Up to 12 On/Off
- Units available that allow selected day or days to be skipped over (omitted by the time program)
- Manual On/Off override does not alter program
- Furnished with trippers (see chart). Maximum 12. Additional trippers available (see chart)
- Metal enclosure with gray enamel finish. Hasp and knockouts provided. Outdoor type 3R enclosures available in steel or noncorrosive plastic
- Adjustable time setting on Nos. 2E025 and 6X758
- Designed to save energy, control process operations, and provide security

PARAGON SA1650 LR1376

INTERMATIC® E10694 LR3730

40 Amp Switch Rating

No. 2E021



### ELECTRICAL SPECIFICATIONS

| No. of Poles | Stock No. | Contact Load Ratings: Form | Amps / Pole I-R-T* | Pilot Duty @ 120-277 VAC | HP @ 120V | HP @ 240V | Timer Input Volts @ 60 Hz |
|---|---|---|---|---|---|---|---|
| 1 | 2E021<br>2E024<br>2E258<br>4E023 | SPST | 40 | 1000VA | 2 | — | 125 |
| 2 | 2E025 | 1NO/1NC | 40 | 1000 | 2 | — | 125 |
| 2 | 2E022<br>4E024<br>6X759 | DPST | 40 | 1000 | 2 | 5 | 125 |
| 2 | 2E351<br>6X760<br>2E259<br>4E025 | DPST | 40 | 1000 | 2 | 5 | 208-277 |
| 3 | 6X758 | 2NO/1NC | 40‡ | 690 | 2 | — | 125 |
| 4 | 6X766<br>4A214 | 4PST | 40 | 1000 | 2 | 5 | 125<br>208-277 |

### TIMER SPECIFICATIONS

| No. of Poles | Time Setting Minimum | Time Setting Maximum | Max. On/Off Cycles | No. of Trippers Included | Order Extra Tripper Stock No. (See Page 574) |
|---|---|---|---|---|---|
| 1 | 1 Hr. | 23 Hr. | 12 | 2 | 2E054 |
| 2 | 10 Min. | 60 Min. | 12 | 3 | 2E055 |
| 2 | 1 Hr. | 23 | 12 | 2 | 2E054 |
| 2 | 1 Hr. | 23 | 12 | 2 | 2E054 |
| 3 | 1 Min.† | 27½ Min. | 12 | 4 | N/A |
| 4 | 1 Hr. | 23 | 12 | 2 | 2E054 |

(*) I-R-T = Inductive-Resistive-Tungsten. (†) Minimum 2 hours between one setting and the next. (‡) Resistive only.

### ORDERING DATA

| No. of Poles | Contact Form | Timer Input Volts @ 60 Hz | Enclosure Type | Day Skipper | Dimensions (In.) L | W | D | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDOOR ENCLOSED TYPES** | | | | | | | | | | | | | |
| 1 | SPST | 125 | Steel | No | 7¾ | 5 | 3 | Intermatic | T101 | **2E021** | $74.26 | **$40.35** | 3.0 |
| | | | | Yes | 7¾ | 5 | 3 | Intermatic | T171 | **2E024**** | 108.68 | **70.65** | 2.5 |
| 2 | 1NO/1NC | 125 | Steel | No | 7¾ | 5 | 3 | Intermatic | T185 | **2E025** | 154.73 | **100.60** | 2.5 |
| | DPST | 125 | Steel | No | 7¾ | 5 | 3 | Intermatic | T103 | **2E022** | 82.52 | **42.80** | 2.5 |
| | | 125 | | Yes | | | | Intermatic | T173 | **6X759**** | 116.84 | **75.95** | 2.5 |
| | | 208-277 | | No | | | | Intermatic | T104 | **2E351** | 86.19 | **45.50** | 3.0 |
| | | 208-277 | | Yes | | | | Intermatic | T174 | **6X760**** | 121.43 | **78.95** | 2.5 |
| 3 | 2NO/1NC | 125 | Steel | No | 7⅜ | 4 11/16 | 4 | Paragon | 8025-06 | **6X758** | 201.38 | **130.40** | 3.5 |
| **OUTDOOR 3R ENCLOSED TYPES** | | | | | | | | | | | | | |
| 1 | SPST | 125 | Steel | No | 9⅜ | 5½ | 3 9/16 | Intermatic | T101R | **2E258** | 112.56 | **73.20** | 3.5 |
| | | | Plastic | | 9⅜ | 5½ | 3¾ | Intermatic | T101P | **4E023** | 112.56 | **73.20** | 2.0 |
| 2 | DPST | 125 | Plastic | No | 9⅜ | 5½ | 3¾ | Intermatic | T103P | **4E024** | 120.56 | **78.40** | 3.5 |
| | | 208-277 | Steel | | 9⅜ | 5½ | 3 9/16 | Intermatic | T104R | **2E259** | 124.34 | **80.85** | 3.5 |
| | | 208-277 | Plastic | | 9⅜ | 5½ | 3¾ | Intermatic | T104P | **4E025** | 124.34 | **80.85** | 2.0 |
| 4 | 4PST | 125 | Steel | Yes | 9⅜ | 5½ | 3 9/16 | Intermatic | T1471BR | **6X766** | 182.78 | **118.85** | 3.4 |
| | | 208-277 | Steel | | | | | Intermatic | T1472BR | **4A214** | 186.76 | **121.40** | 3.8 |

(**) Trippers available from Grainger Parts Operation, call 1-800-323-0620.



INTERMATIC® No. 2E354 LR3730 E10694

## 24-HOUR DIAL TIMER MECHANISM ONLY

Completely assembled modules used in Time Switches above. For replacement or specialized applications. Case not included.

| For Timers | Voltage AC | Contact Form | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2E021, 2E258, 4E023 | 125 | SPST | T101M | 2E354 | $71.45 | $46.45 | 1.2 |
| 2E022, 4E024 | 125 | DPST | T103M | 4A213 | 80.02 | 52.05 | 1.4 |
| 2E351, 2E259, 4E025 | 250 | DPST | T104M | 2E353 | 85.02 | 55.30 | 1.5 |



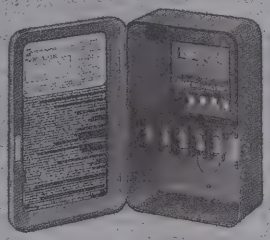
Relay it, suppress it, enclose it — The leading brands are all right here.

# ELECTRONIC 24-HOUR 1-CIRCUIT TIMERS

INTERMATIC®

LR3730

EZ6987



No. 1XC68

- Provides scheduling for HVAC equipment, indoor and outdoor lighting, and other energy consuming equipment
- Settings per day: Up to 4 On/Off cycles
- 30 amp, heavy-duty relay output
- 24-hour, to-the-minute programming
- Easy "rolling entry" programming—2 slide switches and 4 pushbuttons for programming all information
- Completely isolated input/output circuits eliminate electrical noise interference problems
- Minimum 3 year battery carry over—AA industrial grade battery included with timer
- Heavy-duty terminals provide for wiring up to 10-gauge wire
- Metal indoor enclosure with locking hasp for tamper-proof protection
- Dimensions: 7¾L x 5W x 3"D
- Manual override
- Operating temperature –40° to 155°F

## TIMER SPECIFICATIONS AND ORDERING DATA

| No. of Poles | Contact Rating: Contact Form | Contact Rating: Max. Amps / Pole @ 60 Hz Inductive or Resistive | Contact Rating: HP @ 120VAC | Contact Rating: HP @ 240VAC | Timer Input Volts @ 60 Hz | Time Settings: Minimum | Time Settings: Maximum | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPST | 30 @ 120V | 1 | — | 120VAC | 1 Minute | 23 Hr. :59 Min. | ET100C | 1XC66 | $86.85 | $56.45 | 3.3 |
| 1 | SPST | 30 @ 24/120/240V | 1 | 2 | 120 | | | ET101C | 1XC67 | 132.29 | 86.00 | 3.3 |
| 2 | DPST | 30 @ 24/120/240V | 1 | 2 | 120 | | | ET103C | 1XC68 | 145.55 | 94.65 | 3.3 |

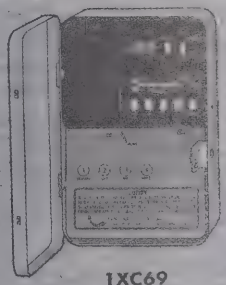
# ELECTRONIC 7-DAY 2-CHANNEL TIMERS

INTERMATIC®

EZ6987

LR3730

Certified by the California Energy Commission under Title 24, Par 6, Section 131(D) of the California code of Regulations.



1XC69

- Provides scheduling for HVAC equipment, indoor and outdoor lighting, and other energy consuming equipment
- Settings per day: Up to 10 On/Off cycles
- Settings per week: 140 using repeat cycle
- 30 amp, heavy-duty relay output
- 7-day, to-the-minute programming
- No. 5U787 provides independent control for 2 loads and field selectable momentary output for either or both loads
- Easy "rolling entry" programming—2 slide switches and 5 pushbuttons for programming all information
- Completely isolated input/output circuits eliminate electrical noise interference problems
- Minimum 3 year battery carry over—AA industrial grade battery included with timer
- Heavy-duty terminals provide for wiring up to 10-gauge wire
- Metal indoor enclosure with locking hasp for tamper-proof protection
- Dimensions: 7¾L x 5W x 3"D
- Manual override
- Operating temperature –40° to 155°F

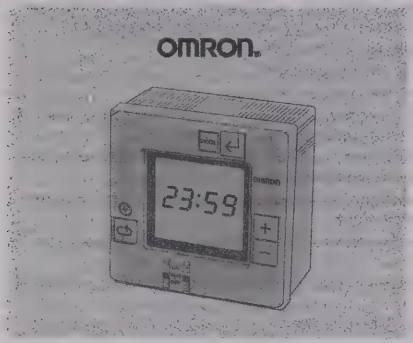
## TIMER SPECIFICATIONS AND ORDERING DATA

| No. of Poles | Contact Rating: Contact Form | Contact Rating: Max. Amps / Pole @ 60 Hz Inductive or Resistive | Contact Rating: HP @ 120VAC | Contact Rating: HP @ 240VAC | Timer Input Volts 60 Hz | Time Settings: Minimum | Time Settings: Maximum | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | DPST | 30 @ 24/120/240V | 1 | 2 | 120VAC | 1 Minute | 6 Days 23 Hr. :59 Min. | ET173C | 1XC69 | $196.35 | $127.65 | 3.3 |
| 2 | DPST | 30 @ 24/120/240V | 1 | 2 | 240VAC | 1 Minute | 6 Days 23 Hr. :59 Min. | ET174C | 5U786 | 204.31 | 156.75 | 3.0 |
| 2 | SPST* | 30 @ 24/120/240V | 1 | 2 | 120VAC | 1 Minute | 6 Days 23 Hr. :59 Min. | ET279C | 5U787 | 250.10 | 191.50 | 3.0 |

(*) Each circuit for 2 independent channels.

# 24 HOUR AND 7-DAY PROGRAMMABLE TIMERS

## ELECTRONIC 24-HOUR PROGRAMMABLE 2-CHANNEL TIMER

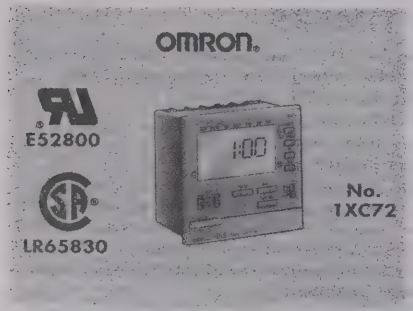



- Two channels with independent programming for each circuit
- Weekly timer; 24 hours x 7 days using five programming keys
- Manual On/Off switching for each control output without changing program
- Adjustable cycle model
- Ten-year memory protection by built-in non-replaceable battery
- Easy-to-read, 0.5" high LCD time display
- Surface, track, and flush mounting. Fits 1/4 DIN panel cutout
- Dimensions: 3¾L x 3¾W x 2¼"D

LR22310 E52800

| ELECTRICAL SPECIFICATIONS | | | | | | TIMER SPECIFICATIONS | | | ORDERING DATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Contact Load Rating @ 60 Hz | | | | Timer | | Minimum | Max. | | | | | |
| No. of Poles | Form | Max. Amps / Pole, Resistive 125VAC | 250VAC | 30VDC | Input Volts 50 / 60 Hz | Cycle Length | Cycle Interval | On/Off Cycles | Omron Model | Stock No. | List | Each | Shpg. Wt. |
| 2 | SPST | 15 | 10 | 10 | 100-240VAC | 1 Min. to 23 Hrs. :59 Min. | 1 Minute between On/Off periods | 8 | H5L-A | **4A342** | $184.09 | **$176.25** | 1.1 |

## ELECTRONIC 7-DAY PROGRAMMABLE 2-CHANNEL TIMERS

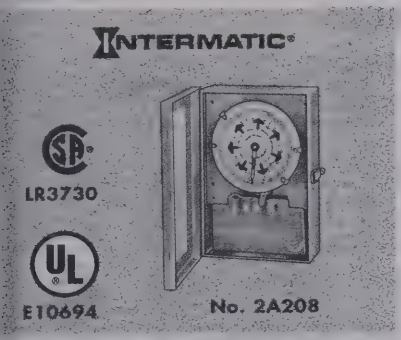



- Two channels with independent programming for each circuit
- 7-day programming—a different program possible for each day
- Over midnight settings possible
- Adjustable cycle model
- 24 pulse outputs adjustable from 1 to 59 seconds and 1-60 minutes; ideal for ringing bells
- Automatic or manual operation following power failure
- Five-year battery backup for memory protection; nonreplaceable lithium battery included
- Manual override
- Easy-to-use prompted programming
- Available in either panel or surface mounting
- Dimensions for No. 1XC72: 2¾L x 2¾W x 2¼"D
- Dimensions for No. 1XC73: 2¾L x 5W x 2¾"D

| ELECTRICAL SPECIFICATIONS | | | | TIMER SPECIFICATIONS | | | ORDERING DATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Contact Load Rating @ 60 Hz | | Timer | | Max. Daily | | | | | | |
| No. of Poles | Form | Max. Amps / Pole, Resistive 250VAC | Input Volts 50 / 60 Hz | Cycle Length | On/Off Operations | Mounting | Omron Model | Stock No. | List | Each | Shpg. Wt. |
| 2 | SPST | 15 | 100-240VAC | 1 Min. to 1 Week | 24 | Panel | H5S-B | **1XC72** | $200.85 | **$185.50** | 0.7 |
| | | | | | | Surface | H5S-FB | **1XC73** | 200.85 | **185.50** | 0.8 |

### DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.




## ELECTROMECHANICAL TYPES

- Major application—time-of-day scheduling of HVAC systems
- Resistive contact voltage rating 120-480VAC; tungsten and inductive contact voltage rating 120-277VAC
- Different programs for each day of the week. Skipper allows any day or days to be omitted from program
- Heavy-duty gears with clutchless design prevent slipping
- Brass contacts are tungsten rated to handle inrush currents 10 times their rating
- 7-day dial with manual override lever
- Snap-out timer mechanism in NEMA type, indoor, gray finish, metal enclosure with knockouts; hasp provided
- All timer motors are permanent magnet, self-lubricating, synchronous type
- Spring-wound carry over feature on Nos. 2A209, 6X757, and 1A220 provide a maximum of 16 hours of continuous duty during power failure; rewinds itself during resumption of power
- No. 2A210 features compact design, contact rating of 120-277VAC
- Nos. 1A219 & 1A220 contact rating 120-240VAC

### ELECTRICAL SPECIFICATIONS / TIMER SPECIFICATIONS

| No. of Poles | Stock No. | Form | Contact Load Ratings @ 60 Hz: Amps/Pole I* | R* | T* | HP @ 120VAC | HP @ 240VAC | Timer Input Volts 60 Hz | Time Setting (Hrs.) Minimum | Time Setting (Hrs.) Maximum | Max. On-Off Cycles | No. of Trippers Included | Order Extra Tripper Stock No. (Order Below) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2A210 | SPDT | 20 | 20 | — | 1/2 | 1 | 120 | 2.0 | 22.0 | 6 | 84 | — |
| 4 | 2A208<br>2A209<br>2E214<br>6X757 | 4PST:NO<br>4PST:NO<br>(2)NO(2)NC<br>2)NO(2)NC | 40 | 40 | 40 | 2 | 5 | 120 | 3.5 | 21.0 | 3 | 14 | 2E054 |
| 4† | 1A219<br>1A220 | 4PDT<br>4PDT | 10 | 15 | 5 | 1/2 | 1/2 | 120 | 3.5 | 21.0 | 3 | 14 | 2E054 |

### TIMER ORDERING DATA

| No. of Poles | Form | Timer Input Volts 60 Hz | Enclosure Type | Day Skipper | Dimensions (in.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPDT | 120 | Indoor | Yes | 7¾ | 5 | 3 | T2005 | **2A210** | $154.84 | **$100.65** | 2.8 |
| 4 | 4PST 2NO/2NC | 120 | Indoor | Yes | 12½ | 8¼ | 4 | T7401B | **2A208** | 160.28 | **101.20** | 8.0 |
| | | | | | | | | T7401BC | **2A209** | 419.28 | **255.00** | 11.0 |
| | | | | | | | | T7801B | **2E214** | 162.28 | **105.50** | 8.3 |
| | | | | | | | | T7801BC | **6X757** | 491.42 | **270.50** | 11.0 |
| 4† | 4PDT | 120 | Indoor | Yes | 12½ | 8¼ | 4 | T51401B8 | **1A219** | 187.10 | **139.85** | 9.5 |
| | | | | | | | | T51401BC8 | **1A220** | 452.49 | **307.00** | 10.0 |

**No. 2E054. Extra Tripper (not for use with No. 2A210).** Intermatic Model (156T1961A). One pair, On-Off. Shpg. wt. 0.1 lbs. List $1.64. Each .....$1.14




## ELECTROMECHANICAL TYPES

- Major application—time-of-day scheduling of HVAC systems
- Different programs for each day of the week
- 4-pole single throw
- Skipper allows any day or days to be omitted from program
- Heavy-duty gears with clutchless design prevent slipping
- Contacts are tungsten rated to handle inrush currents 10 times their rating
- 7-day dial with manual override lever
- Snap-out timer mechanism in NEMA type, indoor, gray finish, metal enclosure with knockouts; hasp provided
- All timer motors are self-lubricating, synchronous type

### ELECTRICAL SPECIFICATIONS / TIMER SPECIFICATIONS

| No. of Poles | Stock No. | Form | Contact Load Ratings @ 277V Max., 60 Hz: Amps/Pole I* | R* | T* | HP 120VAC | Timer Input Volts 60 Hz | Time Setting (Hrs.) Minimum | Time Setting (Hrs.) Maximum | Max. On/Off Cycles Per Day | No. of Trippers Included |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3A688<br>3A689 | 4PST:NO<br>(2)NO/(2)NC | 40 | 40 | 40 | — | 120 | 3 | 21 | 4 | 14 |

### TIMER ORDERING DATA

| No. of Poles | Form | Timer Input Volts 60 Hz | Enclosure Type | Day Skipper | Dimensions (In.) L | W | D | Paragon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4PST/NO | 120 | Indoor | Yes | 11 | 7½ | 3⅜ | 7007-00 | **3A688** | $173.04 | **$109.20** | 6.5 |
| 4 | (2)NO/(2)NC | 120 | Indoor | Yes | 11 | 7½ | 3⅜ | 7008-00 | **3A689** | 173.04 | **109.20** | 6.5 |

*) I = Inductive, R = Resistive, T = Tungsten = fluorescent & H.I.D. (†) Can switch 8 circuits,1NO and 1NC per pole.

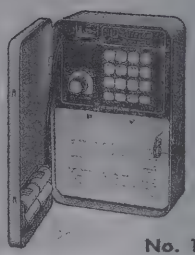
# ELECTRONIC PROGRAMMABLE TIMERS

## 7-DAY 1 AND 4-CIRCUIT TIMERS

- Easy to progam, to-the-minute control, manual override
- Choice of 1 or 4-circuit control on same time schedule
- Daily or skip-a-day programming; repeat programming feature provides up to 196 operations per week
- Dimensions: 7¾L x 5W x 3"D
- Ideal for HVAC and lighting loads; for inductive loads (surge suppressors must be installed across output contact; see below)
- LED display for easy programming in poorly lit areas
- Lockable metal enclosure; for indoor use
- Automatic rechargeable battery back-up to maintain program for a minimum of 24 hours (4 AA batteries included)
- Operating temperature –40° to 150°F

**Certified by the California Energy Commission under Title 24, Part 6, Section 131(D) of the California Code of Regulations.**

INTERMATIC®



E76987

LR3730

No. 1A572

### SURGE SUPPRESSORS

| Voltage | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **24 VAC** | 176ET16A | **1A609** | $6.61 | **$4.46** | 0.1 |
| **120** | 176ET17A | **1A610** | 7.01 | **4.03** | 0.1 |
| **240** | 176ET18A | **1A611** | 14.45 | **8.93** | 0.1 |

### ELECTRICAL SPECIFICATIONS / TIMER SPECIFICATIONS / ORDERING DATA

| No. Poles | Form | Contact Load Rating @ 60 Hz: Max. Amps / Pole, Resistive 24VAC | 120VAC | 240VAC | Pilot Duty 24VAC | 120 / 240VAC | Timer Input Volts 60 Hz | Time Setting Min. | Max. | Max. On/Off Cycles | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | SPDT | 5 | 5 | 5 | 75VA | 125VA | 120 | 1 Min. | 7 Days | 14 | ET715C | **1A572** | $292.59 | **$190.25** | 3.6 |
| **4** | 4PDT | 5 | 5 | 5 | 75 | 125 | 120 | 1 | 7 | 14 | ET718C | **1A218** | 319.41 | **207.75** | 3.7 |

## ASTRONOMIC LIGHTING CONTROL AND 2-CHANNEL TIMER

- Full year control with 99 "holiday" schedules of any duration
- User selectable override from 1 minute to 6 days, 23 hours and 59 minutes
- Fully automatic daylight saving time adjustment, with override, does not require yearly adjustment or programming (internal calendar to year 2094)
- Lifetime memory protection for all program data uses non-volatile RAM
- 8-year lithium battery backup for time keeping and calendar data
- Large 3/8" digital display and LED prompts simplify programming
- Input voltage 120/208/240/277 field selectable—50/60 Hz self adapting
- Heavy-duty 20 amp SPDT contacts with 20 amp 120 volt ballast rating
- Operating temperature range: –40° to 122°F

### LIGHTING CONTROL No. 3XJ03

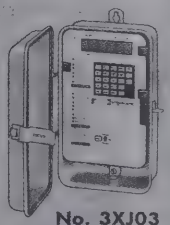
- For parking lots, automobile dealerships, garages, illuminated signs, billboards, decorative, security lighting and more
- Automatically adjusts daily for changing sunset and sunrise times
- Features 5/2 day programming and copy days programming
- Manual load control and green LED load status indicator
- Lockable NEMA 3R metal enclosure for outdoor use

### 365-DAY TIMER No. 3XJ04

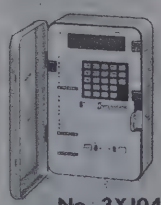
- To-the-minute timing control for two channels on independent schedules
- Provides programming for astronomic (outdoor lighting) and momentary (bell ringing and latching contactor) switching for 1 to 127 seconds
- Minimum of 400 set points, 5/2 day programming, and copy days feature
- Independent load control and green LED indicator for both circuits
- Lockable metal enclosure for indoor use

INTERMATIC®

E76987 LR3730



No. 3XJ03



No. 3XJ04

**Certified by the California Energy Commission under Title 24, Part 6, Section 131(D) of the California Code of Regulations.**

### ELECTRICAL SPECIFICATIONS / TIMER SPECIFICATIONS / ORDERING DATA

| No. Poles | Form | Contact Load Rating @ 60 Hz: Resistive 12-240VAC | 277VAC | Max. Amps / Pole, Ballast 120VAC | 240-277VAC | HP 120VAC | 240-277VAC | Timer Input Volts 50/60 Hz | Time Setting Min. | Max. | Max. On/Off Cycles | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | SPDT | 20 | 20 | 20 | 10 | 1 | 2 | 120/208/240/277 Field Selectable | 1 Min. | 6 Days 23 Hours 59 Min. | 400+ | ET70115CR | **3XJ03** | $376.18 | **$249.00** | 4.2 |
| **2** | SPDT (each channel) | 20 | 20 | 20 | 10 | 1 | 2 | 120/208/240/277 Field Selectable | 1 Min. | 6 Days 23 Hours 59 Min. | 400+ | ET70215C | **3XJ04** | 426.36 | **283.25** | 4.2 |

# ELECTRONIC 365-DAY PROGRAMMABLE 1 AND 2-CHANNEL TIMERS

- Automatic daylight saving time changeover
- Manual override through keyboard
- 100 hours of carry over with a 9-volt alkaline battery or 275 hours of carry over with a lithium battery. Battery carryover maintains programming during power outages. Battery not supplied. See Index under Batteries.
- Surface or DIN rail mountable
- Operating temperature –40 to 140°F

## 1-CHANNEL TIMER

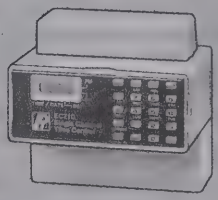
- Single channel, SPDT
- 18 On/Off/Momentary set points adjustable from 1-59 seconds
- 7-day programming—plus an eight day holiday using 365 day calendar
- 11 holiday durations programmable by date
- Dimensions: 4L x 4⅛W x 3"D

## 2-CHANNEL TIMER

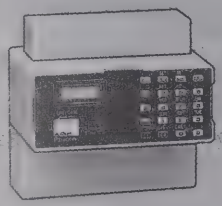
- Two-channels with independent programming for each circuit
- 365-day programming with 12 single holidays and 2 holiday durations
- Built-in line filtering for electronic circuitry, preventing normal line disturbances from altering the program
- 32 momentary operations preset at 2 seconds
- Dimensions: 4L x 4.1W x 3"D

PARAGON

EC71D SERIES



No. 5A685



EC72D SERIES

No. 2A516

E10597

LR8376-305

| ELECTRICAL SPECIFICATIONS | | | | | TIMER SPECIFICATIONS | | | ORDERING DATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Contact Load Rating @ 120VAC, 60 Hz | | | | | | | | | | | |
| No. Poles | Form | Max. Amps / Pole, Resistive | Pilot Duty 120/240VAC | Timer Input Volts 60 Hz | Time Setting Minimum | Time Setting Maximum | Max. On/Off Cycles | Paragon Model | Stock No. | List | Each | Shpg. Wt. |
| 1 | SPDT | 15 | 345VA | 100-120V | 1 Minute | 365 Days | 9 | EC71D-18S-120V | **5A685** | $492.84 | **$295.50** | 1.5 |
| 2 | SPDT | 15 | 345 | 100-120V | 1 | 365 | 16 | EC72D-100-120V | **2A516** | 495.19 | **313.00** | 1.2 |

# ASTRONOMIC PROGRAMMABLE ELECTRONIC LIGHTING CONTROLS

**Electronically Turns Lights On and Off with the Movement of the Sun**

## OPEN TYPE

- Ideal for use with illuminated signs and billboards, parking lot and security lighting, and lighted display windows

PROGRAMMING FEATURES INCLUDE:

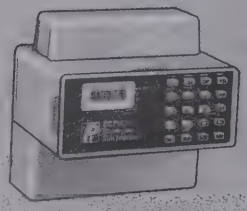
- Automatically adjusts for changing sunset and sunrise times on a full year schedule; 365-day programming
- One On/Off event to be scheduled between sunset and sunrise
- Manual override
- 100 hours battery backup; requires 9V battery, not supplied. See index under Batteries
- DIN rail or surface mountable
- Operating temperature –40° to 160°F
- Dimensions: 4L x 4⅛W x 3"D

PARAGON

E10597

LR8376-305

EC71ST SERIES



No. 5A686

| ELECTRICAL SPECIFICATIONS | | | | | TIMER SPECIFICATIONS | | | ORDERING DATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Contact Load Ratings @ 60 Hz | | | | | | | | | | | |
| No. of Poles | Form | Maximum Amps / Pole, R* & I* 120VAC | Pilot Duty 120V | Timer Input Volts 60 Hz | Time Settings Minimum | Time Settings Maximum | Max. On-Off Cycles | Paragon Model | Stock No. | List | Each | Shpg. Wt. |
| 2 | SPDT | 15 | 345VA | 120 | 1 Minute | 23 Hrs 59 Min. | 1 | EC71ST | **5A686** | $373.95 | **$262.00** | 1.2 |

*) Resistive and Inductive.

# 365-DAY PROGRAMMABLE TIMERS

## ELECTRONIC 4-CHANNEL TIMER

- Four independent channels, each capable of daily programming
- Three programs plus skip feature per channel; manual override
- 365-day programming, includes 32 holidays, daylight saving time, and leap year adjustment
- Provides one channel with astro-dial; auto-adjust program changes length of day during year, eliminates photoelectric cell
- Momentary contacts adjustable from 1 to 99 seconds
- Four month battery carry over protects program, battery included
- Provides normal line isolation for electronic circuitry
- Applications include time-of-day scheduling of HVAC equipment, indoor and outdoor lighting, and bell ringing
- Indoor (NEMA 1) housing with display window, brown enamel finish, 10⅞L x 7¼W x 3⅛"D

**No. 1A404.** 4-Channel Timer. Paragon brand (EC74/192MA). Shpg. wt. 7.0 lbs. List $1680.25. Each.....**$994.50**

PARAGON

E10597

LR8376

Astro-Dial and 365 Day Programming



Series EC74

| No. Poles | Contact Load Ratings @ 60 Hz: Form | Max. Amps / Pole Resistive: 24VAC | 120VAC | 240VAC | Pilot Duty: 24VAC | 120 / 240VAC | Timer Input Volts 60 Hz | Time Settings: Minimum | Maximum | Max. On-Off Cycles Per Channel |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | SPDT | — | 10 | 10 | — | 200 / 345VA | 120 / 240 | 1 Minute | 365 Days | 24 / 15† |

(†) Maintained/Momentary

## ELECTRONIC 7 AND 12-CHANNEL TIMERS

- Twelve independent channels, on No. 2W542, with daily programming capability; 7 on No. 2A515
- 365-day programming, includes 32 holidays with No. 2W542, 16 with No. 2A515, daylight saving time and leap year adjustment
- Repeat programming feature allows a specific daily program to be repeated for other days—expands On/Off capabilities
- Manual and timed program override
- 4 month battery carry over protects program, battery included
- Provides normal line isolation for electronic circuitry
- Indoor (NEMA 1) steel housing with display window, blue enamel finish
- Dimensions No. 2W542: 13¼L x 8¾W x 4¼"D
- Dimensions No. 2A515: 10⅞L x 7⅜W x 3"D.

These units provide 2 methods of energy management time control. One method is time-of-day scheduling, where the timer turns off the power to electrical devices during times when they are not in use. The other method is time-based duty cycling, where one cycles various pieces of electrical equipment in a system to be on for an interval and off for an interval. This is typical for heating and air conditioning systems where several units may be used. This method may be used to reduce the peak demand level of daily electricity usage, which usually carries a penalty charge from the power companies.

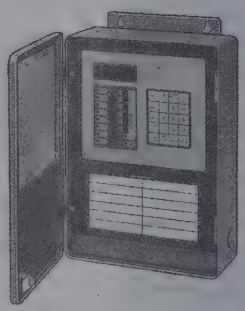
**No. 2A515.** 7-Channel Timer (EC77-140/120-240). Shpg. wt. 8.0 lbs. List $2232.29. Each:.....**$1388.00**

**No. 2W542.** 12-Channel Timer (EC712-120/240). Shpg. wt. 10.0 lbs. List $2758.17. Each.....**$1709.00**

PARAGON

E10597

LR8376



Series EC77 and EC712

| No. Poles | Stock No. | Contact Load Ratings @ 60 Hz: Form | Maximum Amps / Pole Resistive: 120VAC | 240VAC | Pilot Duty 120 / 240VAC | Timer Input Volts 60 Hz | Time Settings: Minimum | Maximum | Max. On/Off Cycles Per Channel |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 2A515 | SPST | 4 | 2 | 200VA | 120/240 | 1 Minute | 365 Days | 20 |
| 12 | 2W542* | SPDT | 2.5 | 1.5 | 120 | | | | |

(*) Complies with FCC limits for class A and B computing devices.

# SWIMMING POOL TIMERS

## No. 1A850 TIMING/CONTROL CENTER

- Two timers in one enclosure; time switches can be wired to operate pool filter/heater with the other timer being wired to automatic pool cleaner
- Timers can be wired so filter pump is always on when automatic cleaner is on to prevent damage to automatic pool cleaner
- Contains two No. 2E353 timer mechanisms; wire together or independently
- Includes main lug load center with 100 amp service, up to eight single circuits
- Accepts GE (THQL); Square D (HOM); Siemens (QP); Westinghouse (BR) Circuit breakers; uses single, 2 pole, or GFI breakers
- Outdoor NEMA 3R steel enclosure, circuit panel provides knockouts for external switches and outlets; beige finish with hasp for lock
- Dimensions: 16½L x 10⅞W x 4⅞"D

## No. 6X767 TIMING CENTER

- Same as No. 1A850, except without control center capability (circuit breaker)
- Knockouts provided for additional installation of GFCI or spring-wound timer
- Dimensions: 10¾L x 10¾W x 4"D

## No. 6X768 DUAL TIMING/HEATER CIRCUIT CENTER

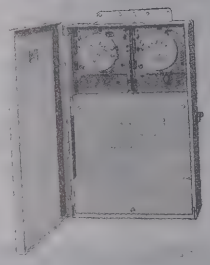
- Circuit center has additional heater circuit designed to turn off gas fired swimming pool heater approx. 20 minutes before filter pump is turned off (both switch on simultaneously)—eliminates pounding and knocking due to overheated water and reduces scale and lime deposits that cut service life
- Contains two timer mechanisms—wire together or independently
- Additional circuit for gas heater solenoid
- Outdoor NEMA 3R steel enclosure with beige finish; hasp for lock and knockouts
- Separate grounding terminal
- Dimensions: 10¾L x 10¾W x 4"D

## Nos. 2E352 and 4E026 TIMING/HEATER CIRCUIT CENTER

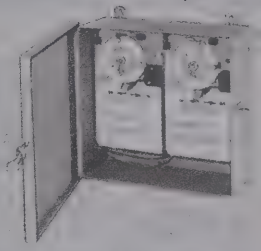
- Same as No. 6X768 except with only one timer mechanism
- Additional circuit for gas heater solenoid
- No. 2E352 has outdoor NEMA 3R steel enclosure with beige finish. No. 4E026 has outdoor NEMA 3R plastic enclosure; knockouts provided
- Dimensions: 9⅜L x 5½W x 3⅝"D

INTERMATIC®

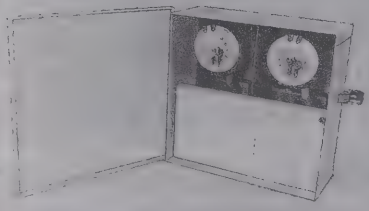
LR3730 E10694



No. 1A850
Timing/Control Center

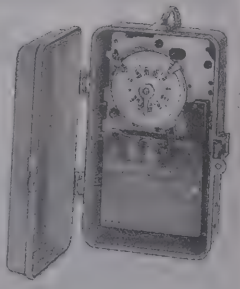


No. 6X767
Timing Center



No. 6X768
Dual Timing/Heater
Circuit Center

Order Extra Tripper
No. 2E054 on Page 574



No. 2E352 and 4E026
Timing/Heater
Circuit Center

Plastic Enclosed Type, 24 Hour Timer Available (No. 4E025)
See Page 576

| No. of Poles | Form | Contact Load Rating @ 60 Hz Amps / Pole Inductive | Heater Rating @ 250 VAC, 60 Hz Amps, Inductive | Timer Input Volts 60 Hz | TIMER SPECS. Time Setting (Hr.) Min. | Time Setting (Hr.) Max. | Max. On-Off Cycles | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4* | DPST | 40, Resistive, & Tungsten | — | 208-277 | 1 | 23 | 12 | T30404R | **1A850** | $393.56 | **$243.50** | 19.0 |
| 4* | DPST | 40, Resistive, & Tungsten | — | | | | | T10404R | **6X767** | 231.62 | **149.05** | 10.0 |
| 3† | SPST, DPST | 40 | 10 | | | | | T12404R | **6X768** | 254.39 | **154.75** | 10.0 |
| 2 | DPST | 40 | 10 | | | | | T104R201 | **2E352‡** | 165.11 | **107.35** | 3.6 |
| 2 | DPST | 40 | 10 | | | | | T104P201 | **4E026‡** | 158.34 | **103.80** | 3.6 |

*) Two poles per timer mechanism. (†) One single pole and one double pole timer mechanism. (‡) Use extra tripper No. 2E054. (See page 574)

# SPRINKLER TIMERS

**For time-based management and allocation of water resources. Designed for automatic control of irrigation systems, sprinkling systems, greenhouse misting systems, water conditioning equipment, liquid pumps, agitators and other applications requiring short range daily control.**

## LAWN SPRINKLER TIMERS

- Skipper allows 14-day programming
- 3PST circuit plus fourth circuit for operating pump or master valve concurrently
- 24-hour time dial with manual override
- Synchronous clock motor
- NEMA 1 steel enclosure with spring hasp for seal or lock; knockouts provided
- Rain switch override

INTERMATIC®

LR3730

E37997

1 to 3 Zone Control

No. 2E220




### ELECTRICAL SPECIFICATIONS

| No. of Poles | Stock No. | Form | Contact Load Rating @ 60 Hz Amps / Pole Inductive | Pilot Duty Per Pole | HP | Timer Input Volts 60 Hz |
|---|---|---|---|---|---|---|
| 3 | 2E221<br>2E220 | 3PST | 5A @ 125VAC | 115VA | 1/8 | 24<br>120 |

### TIMER SPECIFICATIONS

| Time Setting Minimum | Time Setting Maximum | Maximum Time Cycle | Max. On/Off Cycles |
|---|---|---|---|
| 5 Min. | 60 Min. | 14 Days | 1 |

### TIMER ORDERING DATA

| No. of Poles | Form | Timer Input Volts 60 Hz | Enclosure Type | Day Skipper | Dimensions (In.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3PST | 24VAC<br>125 | Indoor | Yes | 7¾ | 5 | 3 | LS7143<br>LS7141 | **2E221**<br>**2E220** | $139.56<br>132.33 | **$83.50**<br>**79.30** | 3.3<br>3.8 |

## IRRIGATION/SPRINKLER TIMER

- Skipper allows 14-day programming
- DPST circuit rated at 2 HP
- 24-hour time dial with manual override
- Synchronous clock motor
- NEMA 3 steel enclosure with hasp for lock; knockouts provided
- 34 trippers included
- Separate grounding terminal

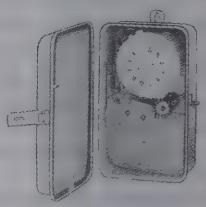
**No. 2E132. Extra Trippers** (12 trippers). Intermatic Brand (156T 2978A). Shpg. wt. 0.1 lbs. List $1.86. Each ..... **$1.79**

INTERMATIC®

LR3730

For Hydro Indexing

E10694



No. 2A206

### ELECTRICAL SPECIFICATIONS

| No. of Poles | Stock No. | Form | Contact Load Rating @ 60 Hz Amps / Pole Inductive | Pilot Duty Per Pole | HP | Timer Input Volts 60 Hz |
|---|---|---|---|---|---|---|
| 2 | 2A206 | SPST | 25A @ 277VAC | NA | 2 | 208-277 |

### TIMER SPECIFICATIONS

| Time Setting Minimum | Time Setting Maximum | Maximum Time Cycle | Max. On/Off Cycles | Order Extra Trippers Stock No. |
|---|---|---|---|---|
| 12 Min. | 1428 Min. | 14 Days | 30 | 2E132 |

### TIMER ORDERING DATA

| No. of Poles | Form | Timer Input Volts 60 Hz | Enclosure Type | Day Skipper | Dimensions (In.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | DPST | 208-277 | Outdoor | Yes | 9⅜ | 5½ | 3⅝ | R8806R101C | **2A206** | $118.73 | **$77.20** | 3.8 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# SHORT RANGE TIMERS

ALL TIMERS HAVE HEAVY-DUTY, SELF-LUBRICATING MOTORS

## CYCLE TIMERS

- Complete cycle repeats after elapsed time range
- 120 tripper slots in equal increments. Snap-out mechanism for easy installation and maintenance
- Metal indoor case with knockouts
- 100,000 cycles rated life at 20A resistive load
- Extra trippers available, see page 574

INTERMATIC®

E10694 LR3730

No. 2E356

Minute and Hour Cycle Ranges Available



### ELECTRICAL SPECIFICATIONS

| No. of Poles | Form | Contact Load Rating @ 120-277VAC, 60 Hz Amps / Pole I* | R* | HP @ 120VAC | 240VAC | Timer Input Volts @ 60 Hz |
|---|---|---|---|---|---|---|
| 1 | SPDT | 20 | 20 | 1/2 | 1 | 125 |

### TIMER SPECIFICATIONS

| Maximum On/Off Cycle | No. of Trippers Included | Extra Trippers Order No. |
|---|---|---|
| 60 | 10 | 2E132 |

### ORDERING DATA

| No. of Poles | Form | Timer Input Volts 60 Hz | Enclosure Type | Time Settings Minimum (Seconds) | Maximum† (Minutes) | Dimensions (In.) L | W | D | Intermatic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPDT | 125 | Indoor | 2½ | 5 | 7¾ | 5 | 3 | C8855 | **2E356** | $152.69 | **$99.25** | 2.8 |
| | | | | 5 | 10 | | | | C8815 | **2E355** | 152.69 | **99.25** | 2.8 |
| | | | | 15 | 30 | | | | C8835 | **2E130** | 152.69 | **99.25** | 2.8 |
| | | | | 30 | 60 | | | | C8865 | **2E357** | 152.69 | **99.25** | 2.8 |
| | | | | 60 | 120 | | | | C8825 | **2E408** | 152.69 | **99.25** | 2.8 |
| | | | | 120 | 240 | | | | C8845 | **2E131** | 152.69 | **99.25** | 2.8 |

## PERCENTAGE CYCLE TIMERS

- Controls ventilation in poultry houses
- Repeats cycle continuously as long as maintained power is supplied to the timer motor
- On-time from 2% to 90% of range, 100% On or Off also provided
- Visible dial with movable pointer
- Aluminum enclosure for surface or control panel mounting. Two pryouts included
- 5⅛L x 3⅜W x 2 13/16"D

PARAGON

E10694 LR8376

Adjustable timer opens or closes circuit for duration of timed cycle



### ELECTRICAL SPECIFICATIONS

| No. of Poles | Form | Contact Load Rating @ 120-240VAC, 60 Hz Amps / Pole I* | R* | HP | Timer Input Volts 60 Hz |
|---|---|---|---|---|---|
| 1 | SPST | NA | 15 | 1/2 | 240 |
| | | | | | 120 |
| | | | | | 240 |
| | | | | | 120 |

### TIMER SPECS.

| Timer Range (Minutes) |
|---|
| 5 |
| 10 |
| 10 |
| 30 |

### ORDERING DATA

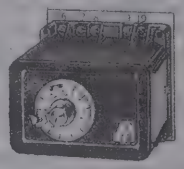
| Paragon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| JW-5-20 | **1XC40** | $154.97 | **$98.10** | 1.2 |
| JW-10-00 | **2E209** | 139.04 | **92.45** | 1.2 |
| JW-10-20 | **2E256** | 133.47 | **96.85** | 1.4 |
| JW-30-00 | **2E210** | 139.04 | **84.20** | 1.3 |

## INTERVAL TIMERS

- Two sets of contacts: one set NO; one set NC
- Can transfer loads in unison
- Unit resets at end of each cycle. Requires external momentary or maintained contact signal to start each cycle
- Momentary contact signal causes one contact to serve as an interlock
- Maintained contact signal can provide independent operation of contacts; allows for two separate poles

PARAGON

E37826 LR8376



### ELECTRICAL SPECIFICATIONS

| No. of Poles | Contact Load Rating 60 Hz Form | Pilot Duty | Timer Input Volts 60 Hz | Start Signal Power Required |
|---|---|---|---|---|
| 2 | DPDT | 720VA | 120 | Inrush VA = 84.0<br>Seated VA = 9.6<br>Seated W = 3.0 |

### TIMER SPECS.

| Timer Range (Minutes) | Interval Settings (Seconds) |
|---|---|
| 1 | 1 |
| 5 | 5 |
| 60 | 60 |

### ORDERING DATA

| Paragon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 501-102-00 | **2E333** | $552.77 | **$342.50** | 2.2 |
| 501-122-00 | **2E334** | 552.77 | **342.50** | 2.3 |
| 501-132-00 | **2E335** | 552.77 | **342.50** | 2.3 |

*) I = Inductive R = Resistive (†) Length of time to complete one cycle: one cycle = one complete revolution of time dial.

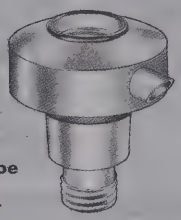
# PHOTOCONTROLS

## INTERMATIC®

(Except No. 5U789) (Except Nos. 6P004 & 5U789)

**INTERMATIC LIMITED WARRANTY**

5-years on Nos. 6P005, 5U791, 6P007, 5U788, 6P008, and 5U790. 3-years on Nos. 6P004, 6P006, 5U792, and 5U793. 1-year on No. 5U789. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

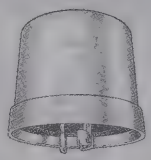


A Screw-Type Socket Adapter

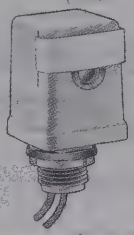
For Outdoor Use Commercial Grade



B Heavy-Duty Wired-In No. 6P005



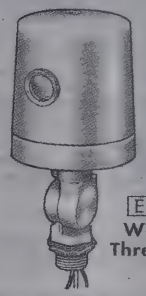
C Locking Thermal Type



D 1/2" Male Threaded



E Swivel-Type With 1/2" Male Thread No. 6P008



E Swivel-Type With 1/2" Male Thread No. 5U790

### A SCREW-TYPE SOCKET ADAPTER

- For outdoor PAR lamp fixtures and coach lights; incandescent bulbs only
- Screws into standard medium base socket
- Adjustable photocell shield allows adjustment to compensate for light level variations
- 3½H x 2¾" diameter
- UL Listed (E78749)

### B HEAVY-DUTY WIRED-IN

- For controlling incandescent, fluorescent, and HID lighting
- Mounts into standard 1/2" knockout or 11/16" hole in lamp post or lighting fixture
- Snap switch with built-in delay; prevents false cycling due to car headlights, lightning, etc.
- 1 13/16L x 1 5/16W x 13/16"D
- UL Recognized (E42722); CSA Certified (LR38068)
- No. 6P005 for 120VAC
- No. 5U791 for 208-277VAC

### C LOCKING THERMAL TYPE

- Meets EEI-NEMA standards for locking devices with solid brass terminals
- Snap switch with built-in delay prevents false cycling due to car headlights, lightning, etc.
- Integral housing and UV stabilized lens protects photocell from moisture and sun rays
- 2¾H x 3" diameter
- UL Listed (E59121); CSA Certified (LR38068)
- No. 6P006 for 120VAC
- No. 5U792 for 120-277VAC
- No. 5U793 for 120-277VAC with lightning arrestor

### D 1/2" MALE THREADED

- For use on HID, wall mounted fixtures and signs
- Photocell shield allows adjustment to compensate for light level variations
- Snap switch has built-in delay which prevents false cycling due to car headlights, lightning, etc.
- 2 5/16L x 1 9/16W x 1 9/16"D case with 1/2"-14 male pipe threaded fitting
- UL Listed (E42722); CSA Certified (LR38068) (except No. 5U789)
- No. 6P007 for 120VAC
- No. 5U789 for 25 Amp 120VAC
- No. 5U788 for 208-277VAC

### E SWIVEL-TYPE

- Swivel and sliding photocell shield allow adjustment of sensitivity and ability to compensate for light level variations
- Swivel provides 360° adjustment in one plain, 210° adjustment in second plain
- Base has 1/2" male pipe thread
- Gasket and locking nut provide for secure weather-tight installation
- Snap switch has built-in delay to prevent false cycling
- 5½L x 1 9/16W x 1 9/16"D
- UL Listed (E42722); CSA Certified (LR38068)
- No. 6P008 for 120VAC
- No. 5U790 for 120-277VAC

## PHOTOCONTROLS SPECIFICATIONS AND ORDERING DATA

| Key | Description | 120V @ 50/60 Hz Max. Incandescent Capacity | 120V @ 50/60 Hz Max. Ballasted Capacity (Amps) | Foot Candles ON | Foot Candles OFF | Temperature Range (° F) | Interchange w/ Dayton Model | Intermatic Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Screw-Type | 150W, 1.25 Amps | None | 3–10 | 3–10 | –20 to 150 | 2E358 | NV4621C | **6P004** * | $19.32 | **$8.69** | 0.3 |
| B | Heavy-Duty Wired-In | 1800W, 15 Amps | 8.3 | 1–5 | 3–15 | –40 to 158 | 2E474 | K4021C | **6P005** | 16.15 | **7.71** | 0.2 |
| B | Heavy-Duty Wired-In | 3100-4100W, 15 Amps | 8.3 | 1–5 | 3–15 | –40 to 158 | NA | K4023 | **5U791** | 19.85 | **9.47** | 0.3 |
| C | Locking Thermal-Type | 1000W, 8.3 Amps | 8.3 | 1–5 | 3–15 | –40 to 158 | 2E382 | LC4521C | **6P006** | 15.47 | **7.40** | 0.2 |
| C | Locking Thermal-Type | 1000-2300W, 8.3 Amps | 8.3 | 1–5 | 3–15 | –40 to 158 | NA | LC4536 | **5U792** | 18.65 | **8.55** | 0.2 |
| C | Locking Thermal-Type | 1000-2300W, 8.3 Amps | 8.3 | 1–5 | 3–15 | –40 to 158 | NA | LC4536LA | **5U793** | 19.45 | **9.26** | 0.2 |
| D | Male-Threaded | 1800W, 15 Amps | 8.3 | 1–5 | 3–15 | –40 to 158 | 2E331 | K4121C | **6P007** | 16.40 | **7.82** | 0.2 |
| D | Male-Threaded | 3100-4100W, 15 Amps | 8.3 | 1–5 | 3–15 | –40 to 158 | NA | K4123 | **5U788** | 25.35 | **12.09** | 0.3 |
| D | Male-Threaded | 3000W, 25 Amps | 25 | 1–5 | 3–15 | –40 to 158 | NA | K4141 | **5U789** # | 25.00 | **11.93** | 0.3 |
| E | Swivel Type | 1800W, 15 Amps | 8.3 | 1–5 | 3–15 | –40 to 158 | 2E387 | K4221C | **6P008** | 18.95 | **9.04** | 1.0 |
| E | Swivel-Type | 1800-4100W, 15 Amps | 8.3 | 1–5 | 3–15 | –40 to 158 | NA | K4236 | **5U790** | 26.95 | **12.37** | 0.5 |

(*) 60 Hz only. (#) Not UL Listed or CSA Certified.



*Relay it, suppress it, enclose it — The leading brands are all right here.*

# EXTENSION CORDS

General Cable CORPORATION

CAROL BRAND

UL E18387

OSHA Acceptable Occupational Safety and Health Administration

Extension cords are available in a variety of styles, gauges, and lengths specifically suited for the job.

- Indoor/outdoor and specialty cords
- Molded caps and connectors
- 3 conductor grounded
- See page 595 for cord type information

**PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE.**

**CONTACT LOCAL BRANCH FOR CURRENT PRICING.**

Froghide™ Ultra Flex Extension Cords



5-15P

5-15R

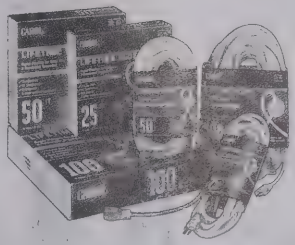
SUPER VUTRON® III Cords



5-15P

5-15R

Lifetime Plus® Lighted-End Super Flex® Extension



5-15P

5-15R

All Weather Extensions Cords



5-15P

5-15R

All Weather Powr-Center® Cords



5-15P



5-15R Powr-Center

| Gauge / Cond. | Cord Length (Ft.) | Power Rating Volts | Amps | Watts | Jacket Color | Temperature Range (°F) | UL Listed | Meets OSHA | Carol Model | Stock No. | List | Each | Each / Lots | Lot Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FROGHIDE™ ULTRA FLEX EXTENSION CORDS—Type SJOW** | | | | | | | | | | | | | | | |
| **14/3** | 25 | 125 | 15 | 1875 | Green | -40 to 194 | Yes | Yes | D6425 | **3ZK80** | $47.24 | **$23.62** | **$19.53** / | **4** | 2.5 |
| **14/3** | 50 | 125 | 15 | 1875 | Green | -40 to 194 | Yes | Yes | D6450 | **3ZK81** | 78.12 | **39.10** | **32.30** / | **4** | 5.5 |
| **14/3** | 100 | 125 | 13 | 1625 | Green | -40 to 194 | Yes | Yes | D6400 | **3ZK79** | 131.61 | **65.85** | **55.56** / | **4** | 12.0 |
| **12/3** | 25 | 125 | 15 | 1875 | Green | -40 to 194 | Yes | Yes | 6225 | **3ZK77** | 70.30 | **35.15** | **29.06** / | **4** | 4.0 |
| **12/3** | 50 | 125 | 15 | 1875 | Green | -40 to 194 | Yes | Yes | 6250 | **3ZK78** | 110.32 | **55.20** | **45.61** / | **4** | 9.0 |
| **12/3** | 100 | 125 | 15 | 1875 | Green | -40 to 194 | Yes | Yes | 6200 | **3ZK76** | 181.71 | **90.90** | **75.13** / | **4** | 18.0 |
| **SUPER VUTRON® III PREMIUM EXTENSION CORDS–Type SOOW** | | | | | | | | | | | | | | | |
| **14/3** | 50 | 125 | 15 | 1875 | Yellow | -58 to 221 | Yes | Yes | 6917 | **5W570** | 79.86 | **66.35** | **56.22** / | **4** | 10.0 |
| **14/3** | 100 | 125 | 13 | 1625 | Yellow | -58 to 221 | Yes | Yes | 6927 | **5W571** | 146.48 | **121.80** | **103.22** / | **4** | 20.0 |
| **12/3** | 50 | 125 | 15 | 1875 | Yellow | -58 to 221 | Yes | Yes | 6717 | **5W572** | 103.05 | **85.70** | **72.64** / | **4** | 6.3 |
| **12/3** | 100 | 125 | 15 | 1875 | Yellow | -58 to 221 | Yes | Yes | 6727 | **5W573** | 190.93 | **159.00** | **134.59** / | **4** | 24.0 |
| **LIFETIME PLUS® LIGHTED-END SUPER FLEX EXTENSION CORDS–Type SJTW** | | | | | | | | | | | | | | | |
| **14/3** | 25 | 125 | 15 | 1875 | Yellow | -58 to 140 | Yes | Yes | 3390 | **3ZK65** | 35.72 | **17.86** | **14.77** / | **4** | 2.8 |
| **14/3** | 50 | 125 | 15 | 1875 | Yellow | -58 to 140 | Yes | Yes | 3391 | **3ZK66** | 58.95 | **29.50** | **24.37** / | **4** | 5.3 |
| **14/3** | 100 | 125 | 13 | 1625 | Yellow | -58 to 140 | Yes | Yes | 3392 | **3ZK67** | 97.72 | **48.90** | **40.40** / | **4** | 10.0 |
| **ALL WEATHER EXTENSION CORDS–Type SJEOOW** | | | | | | | | | | | | | | | |
| **16/3** | 25 | 125 | 13 | 1625 | Blue | -58 to 221 | Yes | Yes | 3654 | **2W385** | 15.98 | **13.26** | **11.24** / | **4** | 1.7 |
| **16/3** | 50 | 125 | 13 | 1625 | Blue | -58 to 221 | Yes | Yes | 3655 | **2W554** | 27.12 | **22.54** | **19.11** / | **4** | 3.0 |
| **14/3** | 25 | 125 | 15 | 1875 | Blue | -58 to 221 | Yes | Yes | 3660 | **2W386** | 19.51 | **16.19** | **13.72** / | **4** | 2.1 |
| **14/3** | 50 | 125 | 15 | 1875 | Blue | -58 to 221 | Yes | Yes | 3661 | **2W387** | 33.66 | **28.00** | **23.72** / | **4** | 4.1 |
| **14/3** | 100 | 125 | 13 | 1625 | Blue | -58 to 221 | Yes | Yes | 3662 | **2W388** | 63.90 | **53.15** | **45.04** / | **4** | 8.0 |
| **12/3** | 50 | 125 | 15 | 1875 | Blue | -58 to 221 | Yes | Yes | 3667 | **2W389** | 52.56 | **43.70** | **37.02** / | **4** | 6.2 |
| **12/3** | 100 | 125 | 15 | 1875 | Blue | -58 to 221 | Yes | Yes | 3668 | **2W798** | 97.19 | **80.80** | **68.49** / | **4** | 12.0 |
| **10/3** | 50 | 125 | 15 | 1875 | Yellow | -58 to 221 | Yes | Yes | 3685 | **5W574** | 102.79 | **85.40** | **72.38** / | **4** | 6.3 |
| **10/3** | 100 | 125 | 15 | 1875 | Yellow | -58 to 221 | Yes | Yes | 3686 | **5W575** | 189.53 | **157.75** | **133.62** / | **4** | 24.0 |
| **ALL WEATHER POWR-CENTER® CORDS–Type SJEOOW** | | | | | | | | | | | | | | | |
| **14/3** | 10 | 125 | 15 | 1875 | Blue | -58 to 221 | Yes | Yes | 790 | **5W214** | 18.19 | **15.04** | **12.75** / | **4** | 1.8 |
| **14/3** | 25 | 125 | 15 | 1875 | Blue | -58 to 221 | Yes | Yes | 791 | **2W566** | 29.09 | **24.03** | **20.65** / | **4** | 2.7 |
| **14/3** | 50 | 125 | 15 | 1875 | Blue | -58 to 221 | Yes | Yes | 792 | **2W567** | 46.07 | **38.20** | **32.37** / | **4** | 4.8 |
| **14/3** | 100 | 125 | 13 | 1625 | Blue | -58 to 221 | Yes | Yes | 793 | **2W568** | 77.70 | **64.50** | **54.66** / | **4** | 9.0 |
| **12/3** | 50 | 125 | 15 | 1625 | Yellow | -58 to 221 | Yes | Yes | 787 | **5W576** | 60.58 | **50.25** | **42.60** / | **4** | 6.5 |
| **12/3** | 100 | 125 | 15 | 1875 | Yellow | -58 to 221 | Yes | Yes | 788 | **5W577** | 110.13 | **91.40** | **77.46** / | **4** | 12.0 |

# EXTENSION CORDS

General Cable CORPORATION

CAROL BRAND

UL

OSHA Acceptable
Occupational Safety and Health Administration

Extension cords are available in a variety of styles, gauges, and lengths specifically suited for the job.

- **Indoor/outdoor and specialty cords**
- **Molded caps and connectors**
- **Various NEMA configurations**
- **See page 595 for cord type information**

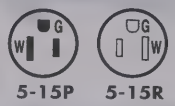
PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

CONTACT LOCAL BRANCH FOR CURRENT PRICING.

### Safety Orange® General Purpose Outdoor Extension Cords



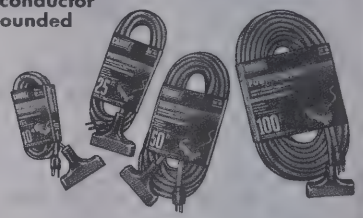

- **3-conductor grounded**




5-15P 5-15R

### Safety Orange® General Purpose Outdoor Powr-Center Cords

- **3-conductor grounded**







5-15P

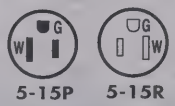


5-15R Powr-Center

### Safety Orange® Power Tool Cords

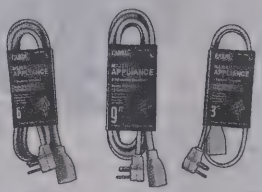



- **3-conductor grounded**

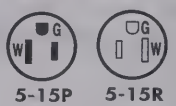



5-15P 5-15R

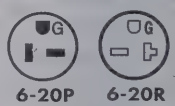
### Major Appliance Cords



- **For air conditioners refrigerators, freezers, microwaves, and other heavy-duty appliances**
- **Right angle plug**




5-15P 5-15R
On 14/3 Cords




6-20P 6-20R
On 12/3 Cords

| Gauge / Cond. | Cord Length (Ft.) | Power Rating Volts | Amps | Watts | Jacket Color | Temperature Range (°F) | UL Listed | Meets OSHA | Carol Model | Stock No. | List | Each | Each / Lot | Lot Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SAFETY ORANGE® GENERAL PURPOSE OUTDOOR EXTENSION CORDS—Type SJTW** | | | | | | | | | | | | | | | |
| **16/3** | 10 | 125 | 13 | 1625 | Orange | -40 to 140 | Yes | Yes | 03318 | **2W393** | $5.49 | **$5.11** | **$4.08 / 10** | | 0.8 |
| **16/3** | 25 | 125 | 13 | 1625 | Orange | -40 to 140 | Yes | Yes | 03327 | **2W028** | 10.09 | **7.35** | **7.06 / 4** | | 2.0 |
| **16/3** | 50 | 125 | 13 | 1625 | Orange | -40 to 140 | Yes | Yes | 03354 | **2W029** | 15.67 | **11.50** | **11.04 / 4** | | 4.0 |
| **16/3** | 100 | 125 | 10 | 1250 | Orange | -40 to 140 | Yes | Yes | 03302 | **2W030** | 26.05 | **19.95** | **19.15 / 4** | | 7.8 |
| **14/3** | 25 | 125 | 15 | 1875 | Orange | -40 to 140 | Yes | Yes | 03328 | **2W031** | 13.75 | **10.10** | **9.70 / 4** | | 2.8 |
| **14/3** | 50 | 125 | 15 | 1875 | Orange | -40 to 140 | Yes | Yes | 03356 | **2W032** | 23.29 | **17.35** | **16.66 / 4** | | 4.8 |
| **14/3** | 100 | 125 | 13 | 1625 | Orange | -40 to 140 | Yes | Yes | 03304 | **2W033** | 45.99 | **35.00** | **33.60 / 4** | | 9.8 |
| **12/3** | 50 | 125 | 15 | 1875 | Orange | -40 to 140 | Yes | Yes | 06853 | **2W215** | 36.48 | **30.65** | **25.96 / 4** | | 7.2 |
| **12/3** | 100 | 125 | 15 | 1875 | Orange | -40 to 140 | Yes | Yes | 06801 | **2W216** | 63.70 | **53.75** | **45.55 / 4** | | 15.0 |
| **SAFETY ORANGE® GENERAL PURPOSE OUTDOOR POWR-CENTER® CORDS—Type SJTW** | | | | | | | | | | | | | | | |
| **14/3** | 50 | 125 | 15 | 1875 | Orange | -40 to 140 | Yes | Yes | 00692 | **2W949** | 33.66 | **28.15** | **23.83 / 4** | | 5.3 |
| **12/3** | 10 | 125 | 15 | 1875 | Orange | -40 to 140 | Yes | Yes | 00694 | **5W215** | 17.07 | **14.16** | **12.00 / 4** | | 1.8 |
| **SAFETY ORANGE® GENERAL PURPOSE OUTDOOR POWR-CENTER® CORDS—Type STW** | | | | | | | | | | | | | | | |
| **12/3** | 2 | 125 | 15 | 1875 | Orange | -40 to 140 | Yes | Yes | 00594 | **2W382** | 12.60 | **10.43** | **8.84 / 4** | | 1.0 |
| **12/3** | 50 | 125 | 15 | 1875 | Orange | -40 to 140 | Yes | Yes | 00596 | **2W383** | 67.28 | **56.45** | **47.84 / 4** | | 12.0 |
| **12/3** | 100 | 125 | 15 | 1875 | Orange | -40 to 140 | Yes | Yes | 00597 | **2W384** | 113.12 | **95.15** | **80.64 / 4** | | 22.0 |
| **SAFETY ORANGE® POWER TOOL CORD—Type SJT** | | | | | | | | | | | | | | | |
| **16/3** | 10 | 125 | 13 | 1625 | Orange | 0 to 140 | Yes | Yes | 06014 | **2W484** | 13.92 | **12.48** | **9.58 / 10** | | 1.2 |
| **MAJOR APPLIANCE CORDS—Type SPT-3** | | | | | | | | | | | | | | | |
| **14/3** | 6 | 125 | 15 | 1875 | Beige | 32 to 140 | Yes | No | 00436 | **2W165** | 6.36 | **5.29** | **4.48 / 4** | | 0.6 |
| **14/3** | 9 | 125 | 15 | 1875 | Beige | 32 to 140 | Yes | No | 00439 | **2W166** | 7.43 | **6.18** | **5.24 / 4** | | 1.0 |
| **14/3** | 12 | 125 | 15 | 1875 | Beige | 32 to 140 | No | No | 00442 | **2W950** | 7.89 | **6.55** | **5.55 / 4** | | 1.2 |
| **12/3** | 9 | 250 | 20 | 5000 | Beige | 32 to 140 | Yes | No | 00762 | **2W168** | 11.79 | **9.79** | **8.30 / 4** | | 1.3 |



*When the spec calls for brand names, you'll find the best here.*

General Cable CORPORATION

CAROL BRAND

OSHA Acceptable
Occupational Safety and Health Administration

Designed to work with generators without special wiring or assembly.

## GEN-CORD™ GENERATOR POWER CORDS

- Hi-Visibility yellow cord
- Full lifetime warranty
- See page 595 for cord type information




No. 4JC36




No. 4JC37

PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.

| Configuration Plug | Configuration Receptacle (Qty.) | Gauge / Cond. | Cord Type | Cord Length (Ft.) | Power Rating Volts | Amps | Watts | Jacket Color | Carol Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POWR-CENTER® WITH 15 AMP, 125 VOLT PLUG** | | | | | | | | | | | | | |
| 5-15P | 5-15R (3) | 12/3 | SJTW | 25 | 125 | 15 | 1875 | Yellow | 07001 | **4JC36** | $25.87 | **$17.25▲** | 4.6 |
| **POWR-CENTER® WITH 20 AMP, 125 VOLT PLUG** | | | | | | | | | | | | | |
| 5-20P | 5-15R(3) | 10/3 | SJTW | 25 | 125 | 15 | 1875 | Yellow | 07002 | **4JC37** | 42.00 | **28.00▲** | 6.3 |
| **POWR-CENTER® WITH 30 AMP, 125 VOLT PLUG** | | | | | | | | | | | | | |
| L5-30P | 5-15R (3) | 10/3 | SJTW | 25 | 125 | 15 | 1875 | Yellow | 07003 | **4JC38** | 54.00 | **36.00▲** | 6.8 |
| **POWER CORD WITH 20 AMP, 125/250 VOLT LOCKING PLUG** | | | | | | | | | | | | | |
| L14-20P | 5-20R (2) 6-20R (2) | 10/4 | SOW | 25 | 125<br>250 | 20<br>20 | 2500<br>5000 | Yellow | 07005 | **4JC39** | 142.50 | **95.00▲** | 11.0 |
| **POWER CORD WITH 30 AMP, 125/250 VOLT LOCKING PLUG** | | | | | | | | | | | | | |
| L14-30P | 5-20R (2) 6-20R (2) | 10/4 | SOW | 25 | 125<br>250 | 30<br>30 | 3750<br>7500 | Yellow | 07007 | **4JC40** | 143.25 | **95.50▲** | 11.0 |

▲) Net prices, not subject to discounts.

## HEAT RESISTANT EXTENSION CORD



1-15P 1-15R

- For irons, toasters, grills, electric heaters, and other heat producing appliances

| Gauge / Cond. | Cord Type | Cord Length (Ft.) | Jacket Color | UL Listed | Meets OSHA | Carol Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16/2 | HPN | 8 | Blue | Yes | No | 03408 | **2W555** | $5.37 | **$4.44** | **$3.77** | 0.4 |

## LOCKING INDOOR/OUTDOOR CORD ADAPTER



L5-20P 5-15R

- For connecting 15 amp Straight Blade plug to 20 amp locking connector

| Gauge / Cond. | Cord Type | Cord Length (In.) | Max. Amp/Volt Rating | Jacket Color | UL Listed | Meets OSHA | Carol Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/3 | STW | 10 | 15A/125V | Orange | Yes | Yes | 10071 | **5A316** | $10.17 | **$8.37** | 0.4 |

## TEST CORD AND CLIPS



1-15P

- Provides temporary power for testing and troubleshooting motors, appliances, sockets, timers, and other electrical components
- Includes two rubber insulated, color coded Mueller No. 27 alligator clips

| Gauge / Cond. | Cord Type | Cord Length (Ft.) | Jacket Color | UL Listed | Meets OSHA | Carol Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16/2 | SJ | 8 | Black | Yes | Yes | W1524 | **1W524** | $8.67 | **$7.42** | **$6.31** | 0.7 |

# EXTENSION CORDS AND ACCESSORIES

General Cable CORPORATION

CAROL BRAND

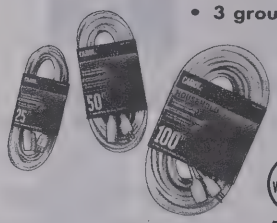
UL E18387

Extension cords are available in a variety of styles, gauges, and lengths specifically suited for the job.

- Indoor cords
- Molded caps and connectors
- Various NEMA configurations
- See page 595 for cord type information

**PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.**

### General Purpose Flat Yellow Indoor Cords



- 3 grounded outlets



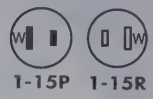
5-15P 5-15R

### 3 Outlet Household Extension Cord



- Polarized 2 conductor plug and outlets
- Safety caps cover unused outlets

No. 1W582



1-15P 1-15R

### 3 Outlet Powr-Center®



- 3 grounded outlets



5-15P 5-15R Powr-Center

No. 4W006

### 3 Outlet Powr-Center® Adapter



- 3 grounded outlets



No. 5A315

5-15P 5-15R

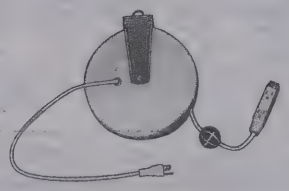
| Gauge / Cond. | Cord Type | Cord Length (Ft.) | Power Rating Volts | Amps | Watts | Jacket Color | UL Listed | Carol Model | Stock No. | List | Each | Each / Lots | Lot Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL PURPOSE FLAT YELLOW INDOOR CORDS** | | | | | | | | | | | | | | |
| **16/3** | SPT-2 | 25 | 125 | 13 | 1625 | Yellow | No | 03727 | **1W684** | $9.51 | **$7.90** | **$6.70** | 4 | 1.3 |
| **16/3** | SPT-2 | 50 | 125 | 13 | 1625 | Yellow | No | 03752 | **1W685** | 15.22 | **12.72** | **10.78** | 4 | 1.8 |
| **16/3** | SPT-2 | 100 | 125 | 10 | 1250 | Yellow | No | 03702 | **1W964** | 25.90 | **21.65** | **18.35** | 4 | 5.0 |
| **14/3** | SPT-3 | 50 | 125 | 15 | 1875 | Yellow | No | 03852 | **1W686** | 22.32 | **18.61** | **15.77** | 4 | 4.3 |
| **14/3** | SPT-3 | 100 | 125 | 13 | 1625 | Yellow | No | 03802 | **1W687** | 40.77 | **33.95** | **28.77** | 4 | 9.5 |
| **12/3** | SPT-3 | 50 | 125 | 15 | 1875 | Yellow | No | 03952 | **2W951** | 30.46 | **25.45** | **21.55** | 4 | 4.6 |
| **12/3** | SPT-3 | 100 | 125 | 15 | 1875 | Yellow | No | 03902 | **2W952** | 57.53 | **48.60** | **41.18** | 4 | 14.0 |
| **3 OUTLET HOUSEHOLD EXTENSION CORD** | | | | | | | | | | | | | | |
| **16/2** | SPT-2 | 9 | 125 | 13 | 1625 | Brown | Yes | 00219 | **1W582** | 2.38 | **1.98** | **1.68** | 5 | 0.3 |
| **3 OUTLET POWR-CENTERS®** | | | | | | | | | | | | | | |
| **16/3** | SJT | 9 | 125 | 13 | 1625 | Beige | Yes | 00565 | **4W006** | 10.09 | **8.37** | **7.09** | 4 | 1.0 |
| **16/3** | SJT | 25 | 125 | 13 | 1625 | Orange | Yes | 00567 | **2W948** | 16.00 | **13.33** | **11.30** | 4 | 2.0 |
| **14/3** | SPT-2 | 3 | 125 | 15 | 1875 | Orange | Yes | 00655 | **2W170** | 8.27 | **6.84** | **5.80** | 4 | 1.0 |
| **3 OUTLET POWR-CENTER® ADAPTER** | | | | | | | | | | | | | | |
| — | — | — | 125 | 15 | 1875 | Beige | Yes | 04781 | **5A315** | 5.35 | **4.47** | **3.79** | 5 | 0.8 |

## AUTOMATIC RETRACTING CORD REEL

- For indoor use only
- 3 outlet power center
- Swivel mount
- 120V maximum rating

Alert

UL E49803

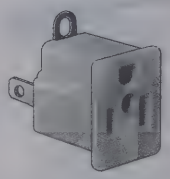


| Gauge / Cond. | Cord Type | Cord Length (Ft.) | Max. Amps 120V | Jacket Color | Temp. Range (°F) | UL Listed | Meets OSHA | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **16/3** | SJT | 30 | 10 | Black | 0 to 140 | Yes | No | **1A136** | $41.09 | **$35.05** | 10.0 |

## PARALLEL GROUND ADAPTER

LEVITON

UL E13394



Adapts 2-wire systems to permit use of 3-wire parallel blade plugs. 15A, 120VAC. UL Listed. Leviton brand (274).

**No. 2X604.** Ground Adapter. Shpg. wt. 0.1 lbs. List $0.95. Each **$0.77**; Lots 10 .....**$0.69**; Lots 20.....**$0.64**



*When the spec calls for brand names, you'll find the best here.*

# POWER SUPPLY CORDS

General Cable CORPORATION

CAROL BRAND

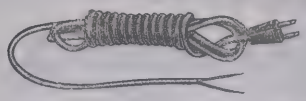
E18387 LR15291

OSHA Acceptable Occupational Safety and Health Administration

- Replacement power supply cords
- Stranded, electrical grade copper conductors
- Molded-on male plugs
- For indoor use only
- See page 595 for jacket type information

**PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.**

### Power Supply Cords






1-15P 5-15P

### 15A 250V Cords





6-15P

- Resists oil and moisture; abrasion resistant

### Retractable Cords

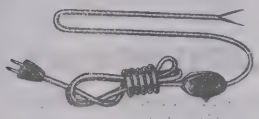


- Right angle male connector




1-15P

### Cords w/ Feed-Thru Switch






1-15P

### Cords w/ Strain Relief



- Strain relief molded on 7" from blunt cut end




1-15P

| Gauge / Cond. | Cord Length (Ft.) | Jacket Type | Max. Amps at 120V | Ends | Temperature Range (°F) | Jacket Color | UL Listed | Meets OSHA | CSA | Nominal O.D. (In.) | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HEAVY-DUTY POWER SUPPLY CORDS** | | | | | | | | | | | | | | | |
| **12/3** | 8 | ST | 15 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.615 | **1W951** | $11.76 | **$8.63** | **$8.28** | 1.8 |
| **GENERAL PURPOSE SUPPLY CORDS** | | | | | | | | | | | | | | | |
| **18/3** | 3 | SJT | 10 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.320 | **2W523** | 2.89 | **2.48** | **2.10** | 0.2 |
| **18/3** | 8 | SJO | 10 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.320 | **2W685** | 5.12 | **4.40** | **3.75** | 0.6 |
| **18/3** | 8 | SJT | 10 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.320 | **1W364** | 4.45 | **3.82** | **3.25** | 0.5 |
| **18/3** | 12 | SJT | 10 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.320 | **2W052** | 5.71 | **4.91** | **4.18** | 0.7 |
| **18/2** | 8 | SJT | 10 | Bare | 32 to 140 | Black | Yes | No | Yes | 0.290 | **1W180** | 3.54 | **3.05** | **2.59** | 0.4 |
| **16/3** | 3 | SJT | 13 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.340 | **2W524** | 2.96 | **2.06** | **1.98** | 0.3 |
| **16/3** | 8 | SJO | 13 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.340 | **2W686** | 5.60 | **3.77** | **3.62** | 0.7 |
| **16/3** | 8 | SJT | 13 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.340 | **1W513** | 4.67 | **4.02** | **3.42** | 0.6 |
| **16/3** | 12 | SJO | 13 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.340 | **2W687** | 6.96 | **6.01** | **5.10** | 1.0 |
| **16/3** | 12 | SJT | 13 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.340 | **1W614** | 6.80 | **5.69** | **4.83** | 0.9 |
| **16/2** | 8 | SJT | 13 | Bare | 32 to 140 | Black | Yes | No | Yes | 0.320 | **1W278** | 3.81 | **3.29** | **2.80** | 0.5 |
| **14/3** | 8 | SJO | 15 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.375 | **2W688** | 7.09 | **5.02** | **4.82** | 0.8 |
| **14/3** | 8 | SJT | 15 | Bare | 32 to 140 | Black | Yes | Yes | Yes | 0.375 | **1W950** | 5.81 | **3.86** | **3.71** | 0.8 |
| **LIGHT-DUTY CORDS** | | | | | | | | | | | | | | | |
| **18/2** | 8 | SPT-1 | 10 | Bare | 32 to 140 | Gray | Yes | No | Yes | .105 X .205 | **1W516** | 1.98 | **1.65** | **1.40** | 0.2 |
| **18/3** | 8 | SPT-1 | 10 | Bare | 32 to 140 | Gray | Yes | Yes | Yes | .110 X .306 | **2W050** | 3.17 | **2.72** | **2.30** | 0.3 |
| **18/3** | 8 | SPT-2 | 10 | Eyelets | 32 to 140 | Black | Yes | Yes | Yes | .142 x .330 | **2W051** | 3.76 | **3.22** | **2.73** | 0.3 |
| **16/3** | 6 | SPT-3 | 13 | Bare | 32 to 140 | Black | Yes | Yes | Yes | .185 X .425 | **2W522** | 3.65 | **2.33** | **2.24** | 0.5 |
| **GENERAL PURPOSE POWER SUPPLY CORDS WITH FEED-THRU SWITCH—1 SPEED** | | | | | | | | | | | | | | | |
| **18/3** | 8 | SJT | 10 | Bare | 32 to 140 | Black | Yes† | Yes | Yes | 0.320 | **1W732** | 12.03 | **10.26** | **8.71** | 0.6 |
| **18/3** | 12 | SJT | 10 | Bare | 32 to 140 | Black | Yes† | Yes | Yes | 0.320 | **2W053** | 13.63 | **11.65** | **9.89** | 0.9 |
| **18/3** | 5 | SPT-2 | 10 | Bare | 32 to 140 | Black | Yes† | Yes | No | .142 x .330 | **2W525** | 10.88 | **9.26** | **7.88** | 0.3 |
| **16/3** | 10 | SJ | 10 | Bare | 32 to 140 | Black | Yes† | Yes | No | 0.340 | **2W332** | 14.16 | **11.75** | **9.99** | 0.9 |
| **GENERAL PURPOSE POWER SUPPLY CORDS WITH FEED-THRU SWITCH—2 SPEED** | | | | | | | | | | | | | | | |
| **16/3** | 8 | SJT | 10 | Bare | 32 to 140 | Black | Yes† | Yes | No | 0.340 | **2W084** | 22.22 | **21.20** | **16.09** | 0.8 |
| **16/3** | 10 | SJ | 10 | Bare | 32 to 140 | Black | Yes† | Yes | No | 0.340 | **2W333** | 24.25 | **21.36** | **17.53** | 0.9 |
| **15A 250V POWER SUPPLY CORDS** | | | | | | | | | | | | | | | |
| **14/3** | 8 | SJO | 15# | Bare | 32 to 194 | Black | Yes | Yes | Yes | 0.375 | **4E780** | 7.28 | **4.77** | **4.58** | 1.0 |
| **14/3** | 12 | SJO | 15# | Bare | 32 to 194 | Black | Yes | Yes | Yes | 0.375 | **4E781** | 8.40 | **7.23** | **6.13** | 1.2 |
| **RETRACTABLE POWER SUPPLY CORDS** | | | | | | | | | | | | | | | |
| **16/2** | 12 | SJT | 13 | Bare | 32 to 140 | Black | Yes | No | No | 0.320 | **2W550** | 8.51 | **7.32** | **6.22** | 0.9 |
| **16/3** | 12 | SJT | 13 | Bare | 32 to 140 | Black | Yes | Yes | No | 0.340 | **2W551** | 12.03 | **10.33** | **8.77** | 1.2 |

) UL Recognized (E44897) as wiring harnesses. (#) Maximum amps at 250 volts.

### POWER SUPPLY WITH STRAIN RELIEF

| Gauge / Cond. | Cord Length (Ft.) | Jacket Type | Amps at 120V | Strain Relief Flange (In.) Outside | Strain Relief Flange (In.) Inside | Size (In.) | Jacket Color | UL Listed | Meets OSHA | CSA | Nominal O.D. (In.) | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16/3** | 6 | SJT | 13 | 11/16 | 13/16 | 17/32 | Black | Yes | Yes | Yes | 0.340 | **2W548** | $4.80 | **$4.41** | **$3.74** | 0.6 |
| **16/3** | 6 | SJT | 13 | 4/5 | 9/10 | 7/10 | Black | Yes | Yes | Yes | 0.340 | **2W549** | 4.80 | **4.41** | **3.74** | 0.6 |

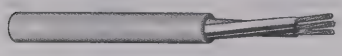
General Cable CORPORATION CAROL BRAND

UL CSA OSHA Acceptable Occupational Safety and Health Administration

E11368 LL9993

## SUPER VU-TRON® TYPE SJOOW/SOOW

- Color-coded safety yellow
- Durable, super flexible cable with unique jacket compounds developed for lasting service in harsh environments
- Resists cutting, deformation, abrasion, and tearing
- Resists oil, acids, grease, ozone, salt water, and chemicals
- Meets OSHA and Bureau of Mines (MSHA) requirements
- For indoor/outdoor use
- Temperature range: -50°C to +105°C
- See page 595 for jacket type information



No. 3W474

| Gauge / Cond. | Spool Length (Ft.) | Jacket Type | Max. Amps at 120V | Max. Volts | Temp. Range (°F) | Nom. O.D. (In.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **16/3** | 250 | SJOOW | 13 | 300 | –58 to + 221 | 0.355 | 2005 | **5W579** | $160.21 | **$132.75** | 22.0 |
| **16/3** | 250 | SOOW | 13 | 600 | –58 to + 221 | 0.410 | 2035 | **4W005** | 240.50 | **199.50** | 25.0 |
| **14/3** | 250 | SJOOW | 18 | 300 | –58 to + 221 | 0.390 | 2008 | **5W580** | 255.39 | **211.00** | 28.0 |
| **14/3** | 250 | SOOW | 18 | 600 | –58 to + 221 | 0.560 | 2038 | **3W474** | 390.79 | **324.25** | 42.0 |
| **12/3** | 250 | SOOW | 25 | 600 | –58 to + 221 | 0.635 | 2042 | **3W475** | 523.09 | **434.00** | 56.0 |

General Cable CORPORATION CAROL BRAND

UL CSA OSHA Acceptable Occupational Safety and Health Administration

E11368 LL9993

## CAROLPRENE® TYPE SOW/SJOW

- Carolprene® jacket resistant to oil, moisture, and abrasion
- Rubber insulation over stranded copper conductors
- Meets OSHA and Bureau of Mines (MSHA) requirements
- For indoor/outdoor use
- Temperature range: -40°C to +90°C
- See page 595 for jacket type information



No. 3ZK60



No. 3ZK63

PRICES OF THE ITEMS ON THIS PAGE ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.

| Gauge / Cond. | Spool Length (Ft.) | Jacket Type | Max. Amps at 120V | Max. Volts | Color | Nom. O.D. (In.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **18/2** | 250 | SJOW | 10 | 300 | Black | 0.285 | 01310 | **1W311** | $52.91 | **$44.30** | 12.0 |
| **18/3** | 250 | SJOW | 10 | 300 | Black | 0.305 | 01311 | **3ZK60** | 118.39 | **59.20** | 18.0 |
| **18/3** | 250 | SOW | 10 | 600 | Black | 0.365 | 02769 | **3ZK64** | 149.23 | **74.65** | 26.0 |
| **16/2** | 250 | SJOW | 13 | 300 | Black | 0.310 | 01312 | **1W312** | 61.14 | **51.35** | 16.0 |
| **16/3** | 250 | SJOW | 13 | 300 | Black | 0.330 | 01342 | **1W661** | 78.49 | **66.00** | 21.0 |
| **16/3** | 250 | SOW | 13 | 600 | Black | 0.390 | 02765 | **2W375** | 89.65 | **75.65** | 27.0 |
| **16/4** | 250 | SOW | 10 | 600 | Black | 0.425 | 02766 | **3W479** | 127.32 | **106.65** | 30.0 |
| **14/2** | 250 | SJOW | 18 | 300 | Black | 0.340 | 01358 | **1W925** | 81.98 | **68.90** | 22.0 |
| **14/3** | 250 | SJOW | 18 | 300 | Black | 0.365 | 01360 | **1W926** | 112.10 | **94.05** | 28.0 |
| **14/3** | 250 | SOW | 18 | 600 | Black | 0.530 | 02762* | **2W376** | 149.55 | **126.15** | 45.0 |
| **14/4** | 250 | SOW | 15 | 600 | Black | 0.570 | 02768* | **2W377** | 186.57 | **157.00** | 50.0 |
| **12/3** | 250 | SJOW | 25 | 300 | Black | 0.430 | 01380 | **5W578** | 156.52 | **131.20** | 38.0 |
| **12/3** | 250 | SOW | 25 | 600 | Black | 0.600 | 02725* | **2W378** | 201.28 | **169.75** | 59.0 |
| **12/4** | 250 | SOW | 20 | 600 | Black | 0.650 | 02726* | **3W476** | 235.51 | **199.00** | 73.0 |
| **10/3** | 250 | SOW | 30 | 600 | Black | 0.660 | 02728* | **3W477** | 255.80 | **215.75** | 77.0 |
| **10/3** | 250 | SJOW | 30 | 300 | Black | 0.580 | 01383* | **3ZK61** | 433.25 | **216.75** | 69.0 |
| **10/3** | 100 | SOW | 30 | 600 | Black | 0.660 | 02728* | **3W478** | 118.72 | **99.80** | 32.0 |
| **10/4** | 250 | SOW | 25 | 600 | Black | 0.710 | 02727* | **3ZK63** | 536.14 | **268.25** | 97.0 |

(*) Coiled and packaged in carton.

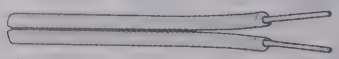
General Cable CORPORATION CAROL BRAND

UL CSA OSHA Acceptable Occupational Safety and Health Administration

E11368 LL9993

## ALL-PURPOSE SERVICE CORDS

- 60°C (140°F) max. temperature rating
- Stranded copper conductors
- See page 595 for jacket type information



No.1W566

| Gauge/ Cond. | Spool Length (Ft.) | Jacket Type | Max. Volts | Color | Nom. O.D. (In.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **18/2** | 250 | SPT-1 | 300 | Brown | 0.110 x 0.210 | 02301 | **1W566** | $26.29 | **$21.95** | 5.5 |
| **18/2** | 250 | SPT-1 | 300 | White | 0.110 x 0.210 | 02301 | **2W374** | 26.29 | **21.95** | 5.5 |
| **14/2** | 500 | Low Energy | 150 | Black | 0.170 x 0.354 | 02310 | **3V938** | 197.76 | **123.60** | 29.0 |
| **14/2** | 100 | Low Energy | 150 | Black | 0.170 x 0.354 | 02310 | **3V937** | 45.29 | **28.40** | 5.4 |
| **12/2** | 500 | Low Energy | 150 | Black | 0.190 x 0.392 | 02311 | **3V947** | 274.23 | **171.50** | 37.0 |

General Cable CORPORATION CAROL BRAND

UL OSHA Acceptable Occupational Safety and Health Administration

E54567

## BUS DROP CABLE

- PVC jacket
- Color code: black, white, red
- Used in dry locations
- Resistant to oils, lubricants, water, acids, alkalies, ozone, and abrasion
- Temperature range: -20°C to +60°C



No. 3ZK68

| Gauge/ Cond. | Spool Length (Ft.) | Jacket Type | Max. Amps at 120V | Max. Volts | Color | Nom. O.D. (In.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **12/3** | 250 | PVC | 20 | 600 | Grey | 0.440 | 03712 | **3ZK69** | $327.78 | **$183.00** | 40.0 |
| **10/3** | 250 | PVC | 30 | 600 | Grey | 0.500 | 03710 | **3ZK68** | 500.97 | **250.50** | 59.0 |

## THHN AND TFFN BUILDING WIRE

General Cable CORPORATION



No. 3ZK50



No. 2W408

- 600 Volts
- PVC insulation
- Nylon jacket
- 500 ft. spool length
- 90°C (194°F) rated (dry)
- Heat, moisture, oil, and gasoline resistant
- Type THHN UL Listed #4's (E34382)
- Type TFFN UL Listed (E34401)

| Wire Type | Size AWG | Max. Amps 120V | Nom. O.D. (In.) | No. of Strands | Stock Nos. White | Black | Red | Yellow | Blue | Green | Brown | Orange | Gray | Priced Per 500 Ft. Spool List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SOLID THHN (THWN OR AWM) WIRE** | | | | | | | | | | | | | | | | |
| THHN | 14 | 15 | .105 | — | 4W186 | 4W187 | 4W188 | 4W189 | 4W190 | 4W191 | 5C973 | 5C974 | 5C975 | $31.29 | **$18.57** | 8.5 |
| THHN | 12 | 20 | .122 | — | 4W192 | 4W193 | 4W194 | 4W195 | 4W196 | 4W197 | 5C976 | 5C977 | 5C978 | 44.27 | **26.35** | 12.0 |
| THHN | 10 | 30 | .153 | — | 3ZK46 | 3ZK45 | 3ZK47 | — | — | 3ZK48 | — | — | — | 95.98 | **46.50** | 19.0 |
| **STRANDED THHN (THWN OR MTW OR AWM) WIRE** | | | | | | | | | | | | | | | | |
| THHN | 14 | 15 | .112 | 19 | 6X793 | 6X794 | 6X795 | 6X796 | 6X797 | 2W407 | 5C982 | 5C983 | 5C984 | 32.82 | **21.19** | 8.5 |
| THHN | 12 | 20 | .129 | 19 | 2W284 | 2W285 | 2W286 | 4W013 | 4W014 | 2W406 | 5C985 | 5C986 | 5C987 | 46.50 | **30.50** | 13.0 |
| THHN | 10 | 30 | .162 | 19 | 4W007 | 4W008 | 4W009 | 4W010 | 4W011 | 4W012 | 5C988 | 5C989 | 5C990 | 71.63 | **50.70** | 20.0 |
| THHN | 8 | 40 | .214 | 19 | — | 3ZK50 | — | — | — | — | — | — | — | 140.00 | **90.75** | 33.0 |
| THHN | 6 | 55 | .252 | 19 | — | 3ZK49 | — | — | — | — | — | — | — | 172.17 | **132.30** | 49.0 |
| **STRANDED TFFN (MTW OR AWM) WIRE** | | | | | | | | | | | | | | | | |
| TFFN | 16 | 8 | .101 | 26 | 6X787 | 6X788 | 6X789 | 6X790 | 6X791 | 2W408 | 5C979 | 5C980 | 5C981 | 30.42 | **22.46** | 6.5 |

## FLEXIBLE ALUMINUM METAL CLAD (MC) ARMORED CABLES

For branch, feeder and service power distribution in commercial, industrial, institutional, and multi-residential buildings.

- 600 Volts
- THHN copper conductors
- 45% lighter than steel MC
- Tested for fire wall penetration
- 90°C (194°F) rated (dry)
- Use 3/8" Connectors

General Cable CORPORATION



No. 4JC34



No. 4JC31

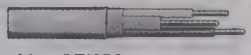
| Cable Type | Gauge/ Cond. | Ground Wire | Coil Length (Ft.) | Nom. O.D. (In.) | General Cable Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **MINUTEMAN ALUMINUM SOLID METAL CLAD (MC) CABLE** | | | | | | | | | | |
| MC Solid | 14/2 | 14 | 250 | .465 | 741420 | 4JC34 | $149.15 | $99.45 | $86.59 | 22.0 |
| MC Solid | 14/3 | 14 | 250 | .475 | 741430 | 4JC35 | 200.93 | 133.95 | 116.65 | 28.0 |
| MC Solid | 12/2 | 12 | 250 | .490 | 741220 | 4JC30 | 164.96 | 110.00 | 95.77 | 30.0 |
| MC Solid | 12/3 | 12 | 250 | .524 | 741230 | 4JC32 | 239.15 | 159.50 | 138.84 | 36.0 |
| **MINUTEMAN ALUMINUM STRANDED METAL CLAD (MC) CABLE** | | | | | | | | | | |
| MC Strand | 12/2 | 12 | 250 | .500 | 74122017.1 | 4JC31 | 189.11 | 126.10 | 109.79 | 31.0 |
| MC Strand | 12/3 | 12 | 250 | .534 | 74123017.1 | 4JC33 | 274.45 | 183.00 | 159.33 | 39.0 |

## NM-B AND UF-B CABLE

- 600 Volts
- THHN conductors
- PVC jacket
- NM-B for indoor use
- UF-B for direct burial
- 60°C (140°F) rated (dry)

ROMEX BRAND

E34378



No. 3ZK51

E34380



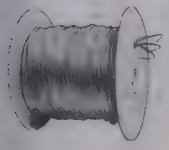
No. 1W673

| Type | Gauge/ Cond. | Bare Copper Ground | Nom. O.D. (In.) | Max. Amps at 120V | Carton Length (Ft.) | Stock No. | Priced Per Carton List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **(NM-B) NON-METALLIC SHEATHED CABLE WITH GROUND** | | | | | | | | | |
| NM-B | 14/2 | Yes | .16 x .35 | 15 | 250 | **1W673** | $39.42 | **$30.20** | 15.0 |
| NM-B | 12/2 | Yes | .17 x .38 | 20 | 250 | **1W674** | 54.15 | **43.65** | 21.0 |
| NM-B | 10/2 | Yes | .21 x .43 | 30 | 250 | **3ZK51** | 93.16 | **69.75** | 31.0 |
| NM-B | 14/3 | Yes | .33 | 15 | 250 | **4W198** | 66.08 | **51.15** | 21.0 |
| NM-B | 12/3 | Yes | .36 | 20 | 250 | **4W199** | 94.95 | **70.60** | 30.0 |
| NM-B | 10/3 | Yes | .44 | 30 | 250 | **3ZK52** | 148.56 | **110.70** | 43.0 |
| **(UF-B) UNDERGROUND FEEDER CABLE WITH GROUND** | | | | | | | | | |
| UF-B | 14/2 | Yes | .20 x .39 | 15 | 250 | **1W675** | 39.39 | **38.95** | 20.0 |
| UF-B | 12/2 | Yes | .21 x .42 | 20 | 250 | **1W676** | 54.16 | **53.50** | 27.0 |
| UF-B | 10/2 | Yes | .23 x .46 | 30 | 250 | **3ZK53** | 93.16 | **80.85** | 37.0 |

## 4-WIRE SUBMERSIBLE PUMP CABLE

CAROL BRAND

E24939



- Premium grade PVC insulation for wet or dry applications
- Resists oil, lubricants, acids, alkalies, ozone and abrasion
- Color Code: Black, yellow, red and green ground
- Twisted construction, 600V rated type THW
- Temperature range: –4°F to 167°F (–20°C to 75°C)
- 500 Ft. reel
- UL Listed (E24939)

### ORDERING DATA

| Gauge / Cond. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **12/4** | H10123032G | **2P101** | $342.10 | **$259.50** | 54.0 |
| **10/4** | H10103032G | **2P102** | 451.55 | **375.25** | 75.0 |

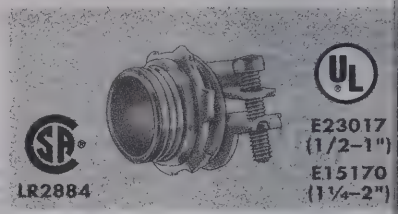
### MAXIMUM LENGTH OF CABLE BY WIRE GAUGE

| Motor HP | V | Control Box to Power (Ft.) 14 | 12 | 10 | 8 | 6 | 4 | Pump to Control Box (Ft.) 14 | 12 | 10 | 8 | 6 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 115 | 25 | 40 | 65 | 105 | 165 | 260 | 110 | 165 | 260 | — | — | — |
| 1/2 | 115 | 20 | 30 | 58 | 59 | 125 | 200 | 80 | 130 | 195 | 310 | — | — |
| 1/2 | 230 | 75 | 120 | 195 | 310 | 490 | 775 | 315 | 490 | 775 | 1230 | — | — |
| 3/4 | 230 | 70 | 110 | 175 | 280 | 445 | 710 | 280 | 450 | 705 | 1120 | 1780 | — |
| 1 | 230 | 50 | 80 | 125 | 200 | 315 | 500 | 200 | 310 | 495 | 790 | 1260 | — |
| 1 1/2 | 230 | 50 | 75 | 120 | 190 | 305 | 485 | 190 | 300 | 480 | 765 | 1210 | 1930 |

## Thomas&Betts TWO-SCREW CONNECTORS

- Non-insulated
- 1/2"–1" steel; 1¼"–2" malleable iron
- UL Listed for use with rubber and thermoplastic flexible cords (both single and multiple cords and 2 oval cables)

Rounded cable grip and smooth bushing protect the cable sheath and wire insulation. Since saddle is threaded, screws do not travel or extend beyond the connector body as it is clamped to the cable. An extra lip on the saddle closes the unused part of the connector opening.

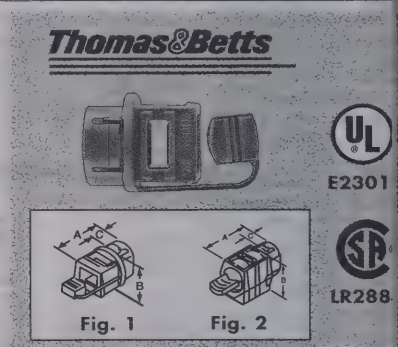



### TWO-SCREW CONNECTOR ORDERING DATA

| K.O. Size (In.) | UL Listed & CSA Certified for the following Single (1) and Pairs of (2) NM & NMC Cable | UL Listed & CSA Certified for the following Service Entrance Cables | Cable Opening (In.) Max. | Cable Opening (In.) Min. | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/2 | (1) 2#14, 2#12, 2#10, 3#14, 3#12, 3#10, (2) 2#14, 2#12 | 2#12 thru 2#4, 3#12, 3#10 | 0.590 | 0.250 | 3302-TB | 3LK50 | $1.10 | $0.97 | 0.1 |
| 3/4 | (1) 2#8, 2#6, 3#8 (2) 2#12, 2#10, 2#8, 3#14 | 2#8 thru 2#1/0, 3#8, 3#6, 2#6 + #8 GND | 0.750 | 0.530 | 3303-TB | 3LK51 | 2.12 | 1.86 | 0.1 |
| 1 | (1) 3#8, 3#6, 3#4 (2) 2#8, 3#10 | 2#1, 2#1/0, 3#6 thru 3#2, 2#4 + #6 GND, 2#3 + #5 GND, 2#2 + #4 GND | 0.990 | 0.690 | 3304 | 3LK52 | 2.79 | 2.44 | 0.1 |
| 1¼ | (1) 3#8, 3#6, 3#4, (2) 2#8, 2#6, 2#4, 3#8 | 3#2 thru 3#2/0, 2#1 + #3 GND, 2#1/0 + #2 GND, 2#2/0 + #1 GND | 1.320 | 0.850 | 3305 | 3LK53 | 5.02 | 4.39 | 0.3 |
| 1½ | (1) 3#4 | 3#3/0, 3#4/0, 2#3/0 + #1/0 GND, 2#4/0 + #2/0 GND | 1.515 | 0.930 | 3306 | 3LK54 | 11.31 | 9.90 | 0.5 |
| 2 | Max. 1.98, Min. 1.15 | — | 1.980 | 1.150 | 3307 | 3LK55 | 13.80 | 12.08 | 0.9 |

## ALL PLASTIC CONNECTORS FOR NON-METALLIC CABLE AND FLEXIBLE CORD

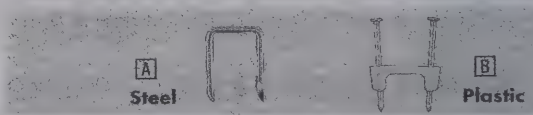
- Connects Romex (non-metallic sheathed cable) and flexible cord to boxes or enclosures
- High impact thermoplastic (UL Class 94V-1) suitable for 105°C applications
- No. 3LK49—For use with 10-2, 12-2 and 14-2 NM cables; 18-2 and 18-3 SJ and SJO cords and 18-2 SV, SVO, SJT and SJTO cords, single or multiple; cord capacity .125-.300 in. dia.
- No. 3LK41—For use with 10-3, 12-3, 14-3, 10-2, 12-2, 14-2 NM cables; multiple (2) 12-2 and 14-2 NM cables; single and multiple flexible cords in wire range .300 in. to .600 in.
- No. 3LK42—For use with 8-3 and 6-3 NM cables; (2) 14-3, 14-2, 12-2 and 10-2 NM cables; single and multiple flexible cords in wire range .500 in. to .850 in.
- Push-in design
- Captive locking wedge secures cable with single squeeze of standard electrician's pliers
- Provides excellent insulation, strain-relief and high pull-out value




### ALL PLASTIC CONNECTORS FOR NON-METALLIC CABLE AND FLEXIBLE CORD ORDERING DATA

| K.O. Size (In.) | Fig. | Dimensions (In.) A | B | C | Mounting Hole Dim. (In.) Height | Width | Max. Thk. Enclosure (In.) | Hole Size (In.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 2 | 1 11/32 | 15/16 | 3/8 | .880 | .795 | .080 | 5/16 x 9/16 | 3300 | 3LK49 | $0.36 | $0.32 | 0.1 |
| 1/2 | 1 | 1 11/32 | 1 | 7/16 | .880 | .795 | .080 | 21/32 dia. | 3201-TB | 3LK41 | 0.29 | 0.26 | 0.1 |
| 3/4 | 1 | 1½ | 1 5/16 | 7/16 | 1.100 | 1.005 | .090 | 7/8 dia. | 3202 | 3LK42 | 0.65 | 0.57 | 0.1 |

## Thomas&Betts CABLE STAPLES




### STEEL CABLE STAPLES ORDERING DATA

| Key | Size (In.) | Description | Dimensions (In.) H | W | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/2 | 2 wire #12 or #14 Romex up to 1/2" wide | 7/8 | 1/2 | 17-120TB | 3KF12 | $3.45 | $2.59 | 200 | 0.8 |
| | 9/16 | 3 wire #10 or #12 BX, Romex, UF up to 9/16" wide | 1⅛ | 37/64 | 17-122TB | 3KF13 | 2.33 | 1.75 | 100 | 0.7 |
| | 3/4 | 3 wire #6 SEU | 1 5/16 | 25/32 | 17-123 | 3KF14 | 4.07 | 3.05 | 100 | 1.0 |
| | 1 | 3 wire #2 SEU | 1½ | 1 | 17-124TB | 3KF15 | 5.29 | 3.97 | 100 | 1.2 |

### PLASTIC CABLE STAPLE ORDERING DATA

| Key | Size (In.) | Description | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| B | 1/2 | 2 wire, 12–14 Romex, UF and other NM cable | 17-214 | 3KF16 | $2.99 | $2.25 | 50 | 0.2 |
| | 3/4 | 3 wire #10 or 12 Romex UF up to 9/16 wire | 17-215 | 3KF17 | 3.39 | 2.54 | 50 | 0.2 |

General Cable CORPORATION

CAROL BRAND

OSHA Acceptable
Occupational Safety and Health Administration

## CORD AMPERAGE RATINGS

**Based on a 3 conductor cordset (two carrying current, one ground) per NEC when used with suitably rated plug and connector.**

| Conductor Size - AWG | CORDSET LENGTH | | | | |
|---|---|---|---|---|---|
| | 10 ft. | 25 ft. | 50 ft. | 100 ft. | 250 ft. |
| 18 | 10 Amps | 10 Amps | 10 Amps | 7 Amps | 3 Amps |
| 16 | 13 | 13 | 13 | 10 | 4 |
| 14 | 15 | 15 | 15 | 13 | 7 |
| 12 | 20 | 20 | 20 | 15 | 11 |
| 10 | 30 | 30 | 30 | 20 | 18 |

## CORD AND CABLE GLOSSARY

| Type Jacket | Max. Volts | Temperature Range (°F) | Duty | Special Features | Applications |
|---|---|---|---|---|---|
| HPN | 300 | 0 to 194 | Medium | Heat Resistant Cord | Heat Producing Appliances (soldering irons, heat guns) |
| S | 600 | -40 to 140 | Heavy | General Purpose Cord | Machine Tools, Motors, Drills, Power Tools |
| SE | 600 | -58 to 221 | Heavy | All Temperature Cord | Construction Equipment, Motors, Outdoor Lighting |
| SEW | 600 | -58 to 221 | Heavy | All Temperature Cord—UL Listed for Outdoor Use | Construction Equipment Motors, Outdoor Lighting |
| SJ | 300 | -40 to 140 | Medium | General Purpose Cord | Power Tools, Floor Polishers, Sanders, Portable Lighting |
| SJE | 300 | -58 to 221 | Medium | All Temperature Cord | Blowers, Motors, Dryers, Outdoor Lighting |
| SJEW | 300 | -58 to 221 | Medium | All Temp. Cord—UL Listed for Outdoor Use | Blowers, Motors, Dryers, Outdoor Lighting |
| SJEOOW | 300 | -58 to 221 | Medium | Jacket Resists Swelling & Decomposing when exposed to oil or Grease | Motors, Power tools, Lighting |
| SJO | 300 | -40 to 194 | Medium | Jacket Resists Swelling & Decomposing When Exposed to Oil or Grease | Motors, Power Tools, Portable Lighting |
| SJOW | 300 | -40 to 194 | Medium | Same as SJO and UL Listed for Outdoor Use | Motors, Power Tools, Lighting |
| SJOOW | 300 | -58 to 221 | Medium | Jacket and Insulation Resists Swelling & Decomposing when Exposed to Oils, Acids and Chemicals. Abrasion and Flame Resistant | Motors, Power Tools, Lighting, Blowers, Industrial Equipment |
| SJT | 300 | 0 to 140 | Medium | General Purpose Cord | Motors, Power Tools, Lawn & Garden Equipment, Appliances |
| SJTW | 300 | -40 to 140 | Medium | General Purpose Cord—UL Listed for Outdoor Use | Motors, Power Tools, Lawn & Garden Equipment |
| SJTO | 300 | 0 to 140 | Medium | Jacket Resists Swelling & Decomposing when Exposed to Oil or Grease | Motors, Power Tools, Lighting |
| SO | 600 | -40 to 194 | Heavy | Jacket Resists Swelling & Decomposing when Exposed to Oil or Grease | Tools, Cranes, Hoists, Industrial Equipment |
| SOW | 600 | -40 to 194 | Heavy | Same as SO and UL Listed for Outdoor Use | Tools, Cranes, Hoists, Industrial Equipment |
| SOOW | 600 | -58 to 221 | Heavy | Same as SJOOW | Motors, Machine and Power Tools, Lighting, Blowers, Construction and Industrial Equipment, Cranes & Hoists |
| SPT-1 | 300 | 32 to 140 | Light | General Purpose Cord | Lamps, Speakers, Appliances |
| SPT-2 | 300 | 32 to 140 | Light | Heavier Construction than SPT-1 | Lamps, Speakers, Appliances |
| SPT-3 | 300 | 32 to 140 | Medium | Heavier Construction than SPT-2 | Tools, Major Appliances, Fans, Motors |
| ST | 600 | 0 to 140 | Heavy | General Purpose Cord | Motors, Power Tools, Construction Equipment, Portable Lighting |
| STW | 600 | -40 to 140 | Heavy | General Purpose Cord—UL Listed for Outdoor Use | Motors, Power Tools, Construction Equipment, Portable Lighting |
| SVT | 300 | 0 to 140 | Heavy | General Purpose Flexible Cord | Vacuum Cleaners, Office Equipment |

# ELECTRONIC/DATACOM CABLE

## EXTENDED FREQUENCY DATA/LAN CATEGORY 5 CABLE

General Cable CORPORATION





**APPLICATIONS**
- Voice •T1 •10 BASE-T (IEEE 802.3)
- 4/16 Mbps Token Ring (IEEE 802.5)
- 100 Mbps TP-PMD (ANSI X359.5)
- 100 VG-AnyLAN
- 55/155 Mbps ATM

**INDUSTRY APPROVALS**
- UL Listed Type MPR/CMR and MPP/CMP
- C-UL Listed PCC FT4 and FT6
- ANSI/TIA/EIA 568A (Category 5)
- ANSI/ICEA S-90-661 (Category 5)
- NEMA WC63.1 (Category 5)

**INSULATION**
- Non-Plenum-Polyolefin •Plenum-FEP

**FEATURES**
- Suitable for high-speed data transmission (i.e. 100 and 155 Mbps)

**TYPE MPR/CMR**
- UL Listed Type MPR/CMR for installation in vertical risers and general horizontal applications when installed in accordance with the NEC Article 800-51(b) (g)

**JACKET**
- Flame retardant PVC
- Sequential footage markings

**TYPE MPP/CMP**
- UL Listed Type MPP/CMP for installation in ducts, plenums, and other spaces used as environmental air returns when installed in accordance with NEC Article 800-51(a) (g)

**JACKET**
- Flexguard™ flame retardant PVC
- 0°C low temperature handling rating
- Sequential footage markings

| Conductor Size AWG | Conductor No. of Pairs | Jacket Color | Nom. O.D. (In.) | Spool Length (Ft.) | GCC Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **TYPE MPR/CMR** | | | | | | | | | |
| 24 | 4 | Gray | 0.20 | 1000 | 2133200 | **3ZK44** | $343.76 | **$172.00** | 22.0 |
| **TYPE MPP/CMP** | | | | | | | | | |
| 24 | 4 | Blue | 0.16 | 1000 | 2131431 | **3ZK40** | 1034.53 | **517.50** | 20.0 |

## HIGH SPEED VOICE/DATA/LAN CATEGORY 3 CABLE

For Use with Telephone Systems/Voice Transmissions

General Cable CORPORATION





**APPLICATIONS**
- Voice •T1 •10 BASE-T (IEEE 802.3)
- 4 Mbps Token Ring (IEEE 802.5)
- 55 Mbps ATM •100 VG-AnyLAN

**INDUSTRY APPROVALS**
- UL Listed Type MPR/CMR and MPP/CMP
- C-UL Listed PCC FT4 and FT6 •IBM Type 3
- ANSI/TIA/EAI 568A (Category 3)
- ANSI/CEA S-90-661 (Category 3)
- NEMA WC63.1 (Category 3)

**INSULATION**
- Flame retardant semi-rigid PVC

**FEATURES**
- Excellent transmission characteristics meeting Category 3 requirements

**TYPE MPR/CMR**
- UL Listed Type MPR/CMR for installation in vertical risers and general horizontal applications when installed in accordance with the NEC Article 800-51(b) (g)

**JACKET**
- Flame retardant PVC
- Sequential footage markings

**TYPE MPP/CMP**
- UL Listed Type MPP/CMP for installation in ducts, plenums, and other spaces used as environmental air returns when installed in accordance with NEC Article 800-51(a) (g)

**JACKET**
- Flexguard™ flame retardant PVC
- 0°C low temperature handling rating
- Sequential footage markings

| Conductors Size AWG | Conductors No. of Pairs | Jacket Color | Nom. O.D. (In.) | Spool Length (Ft.) | GCC Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **TYPE MPR/CMR** | | | | | | | | | |
| 24 | 2 | Gray | 0.13 | 1000 | 2133009 | **3ZK41** | $128.52 | **$64.30** | 10.0 |
| 24 | 3 | Gray | 0.15 | 1000 | 2133013 | **3ZK42** | 160.23 | **80.15** | 14.0 |
| 24 | 4 | Gray | 0.16 | 1000 | 2133017 | **3ZK43** | 202.62 | **101.35** | 18.0 |
| **TYPE MPP/CMP** | | | | | | | | | |
| 24 | 3 | White | 0.13 | 1000 | 2131244 | **3ZK38** | 303.43 | **151.75** | 14.0 |
| 24 | 4 | White | 0.15 | 1000 | 2131245 | **3ZK39** | 337.52 | **169.00** | 17.0 |

**PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.**

# ELECTRONIC COMPUTER CABLE

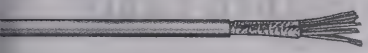
General Cable CORPORATION

CAROL BRAND

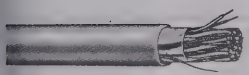
OSHA Acceptable
Occupational Safety and Health Administration

E60233

LL69381



No. 4A642



No. 4A639



No. 4A635

**APPLICATIONS**

- Computers
- Data transmission

**SHIELD**

- 100% Flexfoil-aluminum/polyester—Foil faces out, protecting transmissions from external electrostatic or electromagnetic interference
- Stranded tinned copper drain wire channels electrostatic charges to ground

**INDUSTRY APPROVALS**

- CSA Type PCCFT4
- Passes UL 70,000 BTU Vertical tray flame test

**INSULATION**

- Premium grade SR-PVC (refer to Color Code tables on page 603 )

**JACKET**

- Chrome gray, PVC, temperature range from -20°C to + 80°C (-4°F to +176°F)
- Stock Nos. 4A635 thru 4A641 are twisted pairs

| Conductors Size AWG | No. of | Color Code Table No.* | UL | CSA | Volts | Stranding | Nom. O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MULTI-CONDUCTOR, FOIL SHIELD, SUITABLE FOR E1A RS-232 APPLICATIONS** | | | | | | | | | | | | | |
| 24 | 4 | 5 | 2464 | FT4 | 300 | 7/32 | 0.175 | 500 | C0742 | **4A642** | $131.54 | **$109.75** | 12.0 |
| 24 | 6 | 5 | 2464 | FT4 | 300 | 7/32 | 0.201 | 500 | C0743 | **4A643** | 163.97 | **140.30** | 16.0 |
| 24 | 8 | 5 | 2464 | FT4 | 300 | 7/32 | 0.215 | 500 | C0744 | **4A644** | 219.56 | **183.00** | 19.0 |
| 24 | 10 | 5 | 2464 | FT4 | 300 | 7/32 | 0.245 | 500 | C0745 | **4A645** | 263.08 | **219.25** | 22.0 |
| 24 | 15 | 6 | 2464 | FT4 | 300 | 7/32 | 0.276 | 500 | C0746 | **4A646** | 461.02 | **382.25** | 27.0 |
| 24 | 25 | 6 | 2464 | FT4 | 300 | 7/32 | 0.333 | 500 | C0748 | **4A647** | 545.22 | **467.75** | 40.0 |
| **MULTI-PAIRED, FOIL SHIELD, SUITABLE FOR E1A RS-232 APPLICATIONS** | | | | | | | | | | | | | |
| 24 | 2 | 8 | 2464 | FT4 | 300 | 7/32 | 0.214 | 500 | C0601 | **4A639** | 139.80 | **116.80** | 15.0 |
| 24 | 3 | 8 | 2464 | FT4 | 300 | 7/32 | 0.225 | 500 | C0602 | **4A640** | 179.51 | **149.70** | 17.0 |
| 24 | 4 | 8 | 2464 | FT4 | 300 | 7/32 | 0.245 | 500 | C0603 | **4A641** | 206.20 | **172.25** | 19.0 |
| **MULTI-PAIRED, FOIL SHIELD, LOW CAPACITANCE** | | | | | | | | | | | | | |
| 24 | 2 | 9 | 2448 | FT1 | 30 | 7/32 | 0.247 | 500 | C0890 | **4A635** | 165.83 | **141.85** | 14.0 |
| 24 | 3 | 9 | 2448 | FT1 | 30 | 7/32 | 0.261 | 500 | C0901 | **4A636** | 196.35 | **169.00** | 17.0 |
| 24 | 6 | 9 | 2448 | FT1 | 30 | 7/32 | 0.336 | 500 | C0899 | **4A637** | 358.39 | **307.50** | 26.0 |
| 24 | 12† | 9 | 2448 | FT1 | 30 | 7/32 | 0.459 | 500 | C0897 | **4A638** | 590.81 | **521.00** | 53.0 |

(*) Refer to page 603 for Color Coded tables. (†) Plus one single.

# ELECTRONIC COMMUNICATIONS CABLE

General Cable CORPORATION

CAROL BRAND

OSHA Acceptable
Occupational Safety and Health Administration

E60233



No. 2W977

**APPLICATIONS**

- Recording studios •Sound systems

**INDUSTRY APPROVALS**

- NEC Article 725 Type-Class 2
- NEC Article 800, CM (300 volt limit)

**INSULATION**

- Premium grade polyethylene (No. 2W984 is polypropylene)
- Color coded (refer to Color Code tables on page 603 )

**JACKET**

- Gray, PVC, temperature range from -20°C to +75°C (-4°F to +140°F)

| Conductor Size AWG | No. of | Color Code Table No.* | UL Listed Working Voltage | Stranding | Nom. O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Each | Each Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ELECTRONIC MULTI-CONDUCTOR FOIL SHIELD STRANDED CABLE** | | | | | | | | | | | | |
| 22 | 2 | 2 | 300 | 7/30 | 0.179 | 500 | C2514 | **2W977** | $84.13 | **$71.30** | **$67.93** | 11.0 |
| 22 | 2 | 4 | 300 | 7/30 | 0.137 | 500 | C2516 | **2W984†** | 77.99 | **66.05** | **62.92** | 8.5 |
| 22 | 3 | 2 | 300 | 7/30 | 0.196 | 500 | C2526 | **2W978** | 105.87 | **90.50** | **86.20** | 12.0 |
| 22 | 4 | 2 | 300 | 7/30 | 0.213 | 500 | C2523 | **2W979** | 127.38 | **108.60** | **103.47** | 13.0 |
| 22 | 4 | 2 | 300 | 7/28 | 0.203 | 1000 | C2524 | **2W594** | 188.83 | **159.75** | **152.13** | 23.0 |
| 20 | 2 | 2 | 300 | 7/28 | 0.213 | 500 | C2525 | **2W980** | 117.45 | **100.75** | **95.97** | 15.0 |
| 20 | 3 | 2 | 300 | 16/30 | 0.229 | 1000 | C2534 | **2W595** | 242.47 | **205.50** | **195.79** | 32.0 |
| 18 | 2 | 2 | 300 | 16/30 | 0.247 | 500 | C2535 | **2W981** | 149.36 | **126.85** | **120.84** | 21.0 |
| 18 | 3 | 2 | 300 | 16/30 | 0.314 | 500 | C2536 | **2W596** | 196.62 | **167.00** | **158.97** | 28.0 |
| 16 | 2 | 2 | 600 | 19/.0147 | 0.332 | 500 | C2537 | **2W982** | 247.07 | **212.50** | **202.36** | 35.0 |
| 16 | 3 | 2 | 600 | 19/.0147 | 0.341 | 500 | C2538 | **2W983** | 251.46 | **215.75** | **205.36** | 37.0 |
| 14 | 2 | 2 | 600 | 19/.0147 | | | | | | | | |

(*) Refer to page 603 for Color Code tables.
(†) Miniature Audio Cable requires 1/2 to 1/3 less space than standard broadcast cables.

PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.

# ELECTRONIC CABLE

## ELECTRONIC MULTI-CONDUCTOR BRAID SHIELD CABLE

General Cable CAROL BRAND



No. 2W986

**APPLICATIONS**
- Electronic circuits where RF shielding is required
- Video interconnect
- Broadcast and Studio
- Sound systems
- Low capacitance for long runs

**INDUSTRY APPROVALS**
- UL 2092
- Passes UL 70,000 BTU Vertical tray flame test

**INSULATION**
- Premium polyethylene, color coded (see Color Code table on page 603 )

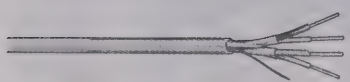
**SHIELD**
- 80% Tinned copper braid for noise reduction

**JACKET**
- Gray PVC, temperature range from -20°C to +80°C (-4°F to +140°F), 300 Volts

| Conductor Size AWG | Conductor No. of Pairs | Color Code Table No. | Description | Stranding | Nom. O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 4 | 6 | Stranded | 26/34 | 0.255 | 500 | C1644 | **2W986** | $286.37 | **$253.50** | 30.0 |

## ELECTRONIC MULTI-PAIRED INDIVIDUALLY SHIELDED CABLE

General Cable CAROL BRAND



No. 2W985

**APPLICATIONS**
- Use where total isolation of signal is required
- Computers •Equipment control circuits

**INDUSTRY APPROVALS**
- NEC Article 800 Type CM
- CSA Type PCCFT-1
- Passes UL 70,000 BTU Vertical tray flame test

**INSULATION**
- Premium polyethylene, color coded (See Color Code table on page 603 )

**JACKET**
- Gray, PVC, temperature range from 20°C to +75°C (-4°F to +140° F), 30 Volts
- Twisted pairs

| Conductor Size AWG | Conductor No. Of Pairs | Color Code Table No. | Description | Stranding | Nom. O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **22** | 2 | 7 | Stranded | 7/30 | 0.165 | 500 | C1352 | **2W985** | $111.07 | **$93.90** | 12.0 |

## ELECTRONIC MULTI-PAIRED INDIVIDUALLY FOIL SHIELDED CABLE

General Cable CAROL BRAND



No. 4W002

**APPLICATIONS**
- For total signal isolation in critical computer control circuits
- Suitable for high frequency transmission •Industrial equipment

**SHIELD**
- Individually shielded pairs, 100% Flexfoil-aluminum/polyester foil facing in protects transmissions from external interference between adjacent pairs
- Stranded tinned copper drain wire for each pair channels electrostatic charges to ground

**INDUSTRY APPROVALS**
- UL •CSA Type PCCFT-1
- Passes UL 70,000 BTU Vertical tray flame test
- NEC Article 800 Type CM (except No 2W989)

**INSULATION**
- Premium grade polypropylene, color coded (refer to Color Code table on page 603 )

**JACKET**
- Chrome gray, PVC, temperature rang from -20°C to +60°C (-4°F to +140°F 30 Volts

| Conductor Size AWG | Conductor No. of Pairs | Color Code Table No. | Nom. O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Lots 2 | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|
| **22** | 3 | 8 | 0.292 | 500 | C6040 | **4W002** | $219.55 | **$188.25** | **$179.13** | 27 |
| **22** | 3 | 8 | 0.292 | 1000 | C6040 | **2W598** | 459.43 | **393.00** | **374.48** | 53 |
| **22** | 6 | 8 | 0.381 | 500 | C6041 | **2W988** | 380.50 | **326.50** | **310.88** | 44 |
| **18** | 3 | 8 | 0.395 | 500 | C6047 | **2W989** | 324.73 | **279.75** | **266.36** | 43 |

PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.



*When the spec calls for brand names, you'll find the best here.*

# INTERCOM/ADDRESS SYSTEMS CABLE

### PPLICATIONS

- Public address systems
- Intercoms
- Internal telephones
- Suitable for EIA RS-232
- Connections where shielding is not required

### INDUSTRY APPROVALS

- UL Listed (E60233)
- Passes UL 70,000 BTU Vertical tray flame test
- CSA Certified (LL69381)
- NEC Articles 800 Type CM
- Stranded conductors

### INSULATION

- Premium semi-rigid PVC, per UL 10671; color coded (refer to page 603)

### JACKET

- Gray, PVC, temperature range from –20°C to +80°C (–4°F to +176°F), 300 Volts

General Cable CORPORATION CAROL BRAND



No. 2W990

| Conductor Size AWG | No. of | Color Code Table No.† | Nominal O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Each / Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 2 | 5 | 0.150 | 500 | C6348 | 2W990* | $46.12 | $39.60 | $37.70 | 8.0 |
| 22 | 3 | 5 | 0.176 | 500 | C4062 | 2W991 | 63.06 | 53.90 | 51.30 | 9.0 |
| 22 | 4 | 5 | 0.189 | 500 | C4063 | 2W992 | 79.77 | 68.25 | 64.99 | 11.0 |
| 22 | 5 | 5 | 0.203 | 500 | C4064 | 2W993 | 97.89 | 83.70 | 79.70 | 14.0 |
| 22 | 6 | 5 | 0.218 | 500 | C4066 | 2W994 | 118.59 | 100.80 | 96.02 | 15.0 |
| 22 | 8 | 5 | 0.234 | 500 | C4065 | 2W597 | 131.63 | 111.70 | 106.44 | 20.0 |
| 22 | 12 | 5 | 0.276 | 500 | C4067 | 2W995 | 239.31 | 203.25 | 192.53 | 28.0 |
| 18 | 2 | 5 | 0.222 | 500 | C2830 | 2W996* | 89.65 | 76.65 | 73.01 | 15.0 |
| 18 | 3 | 5 | 0.210 | 500 | C2831 | 2W997 | 120.95 | 104.55 | 99.60 | 20.0 |
| 18 | 4 | 5 | 0.258 | 500 | C2404 | 2W998 | 143.07 | 122.55 | 116.73 | 25.0 |
| 18 | 5 | 5 | 0.280 | 500 | C2420 | 2W987 | 157.66 | 136.35 | 129.89 | 29.0 |
| 18 | 19 | 6 | 0.469 | 100 | C2424 | 4W003 | 141.09 | 121.00 | 115.27 | 19.0 |
| 18 | 19 | 6 | 0.469 | 500 | C2424 | 2W593 | 738.78 | 632.00 | 601.78 | 96.0 |
| 16 | 2 | 5 | 0.268 | 500 | C2405 | 2W999 | 130.36 | 111.15 | 105.88 | 21.0 |

(*) NEC Article 800 Type CM only. (†) Refer to page 603 for color code.

# SPEAKER CABLE

General Cable CORPORATION CAROL BRAND



No. 2W485

### APPLICATIONS

- Stereo sound systems •Intercoms •Paging systems
- Not recommended for multiple line electronic systems
- Stranded conductors

### INDUSTRY APPROVALS

- UL Wires Misc. (UL:120V)

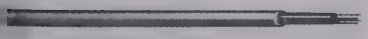
### JACKET

- Clear PVC insulation

| Conductor Size AWG | No. of | Nominal O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Each / Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 2 | 0.055 x 0.110 | 500 | C1356 | 2W485 | $21.01 | $17.74 | $16.91 | 2.0 |
| 18 | 2 | 0.100 x 0.187 | 500 | C1357 | 2W799 | 48.40 | 41.25 | 39.26 | 8.6 |

# TELEPHONE CABLE

General Cable CORPORATION CAROL BRAND



No. 2W599

### APPLICATIONS

- Telephone systems •Intercom systems •Speaker extensions
- Not recommended for multiple line electronic systems

### INDUSTRY APPROVALS

- UL Listed (E60233) •NEC Article 725 Type CL2/CM/MP

### INSULATION

- Premium polyethylene, color coded (refer to page 603)

### JACKET

- Beige, PVC, temperature range from –20°C to +75°C (–4°F to +140°F), 90 Volts

| Conductor Size AWG | No. of | Color Code Table No.† | Nominal O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Each / Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 4 | 3 | 0.132 | 1000 | C4404 | 2W599 | $96.89 | $82.75 | $78.79 | 20.0 |
| 22 | 6 | 3 | 0.151 | 500 | C4406 | 4W001 | 74.44 | 63.35 | 60.32 | 12.0 |

(†) Refer to page 603 for Color Code table.

'RICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.

## THERMOSTAT CABLE

General Cable CORPORATION CAROL BRAND

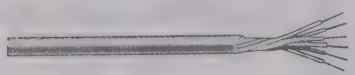
- For low voltage wiring
- 105°C, 300 Volts Type CL2

COLOR CODING CONVENTIONS FOR CONDUCTORS

| Color | Conductor No. | Color | Conductor No. |
|---|---|---|---|
| White | 1 | Yellow | 5 |
| Red | 2 | Brown | 6 |
| Green | 3 | Orange | 7 |
| Blue | 4 | Black | 8 |

UL E34669

OSHA Acceptable Occupational Safety and Health Administration



No. 3ZK73

| Gauge / Cond. | Spool Length (Ft.) | Color | Nom. O.D. (In.) | Carol Model | Stock No. | Priced Per Spool List | Each | Lots 2 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 20/2 | 500 | White | 0.179 | 05482 | 1W511 | $32.19 | $27.00 | $22.97 | 8.0 |
| 20/3 | 500 | White | 0.188 | 05483 | 1W742 | 45.20 | 37.95 | 32.28 | 11.0 |
| 20/4 | 250 | White | 0.203 | 05484 | 2W203 | 28.61 | 24.08 | 20.49 | 6.5 |
| 20/5 | 250 | White | 0.220 | 05485 | 1W906 | 35.61 | 29.95 | 25.45 | 8.0 |
| 20/6 | 250 | White | 0.233 | 05486 | 2W204 | 42.31 | 35.50 | 30.20 | 9.3 |
| 20/8 | 250 | White | 0.248 | 05488 | 2W205 | 54.11 | 45.45 | 38.66 | 12.0 |
| 18/2 | 500 | White | 0.192 | 05582 | 3ZK70 | 72.24 | 36.15 | 30.70 | 11.0 |
| 18/3 | 500 | White | 0.203 | 05583 | 3ZK71 | 99.90 | 49.95 | 42.43 | 14.0 |
| 18/4 | 250 | White | 0.220 | 05584 | 3ZK72 | 69.28 | 34.65 | 29.43 | 8.8 |
| 18/5 | 250 | White | 0.238 | 05585 | 3ZK73 | 83.21 | 41.65 | 35.35 | 10.0 |
| 18/6 | 250 | White | 0.252 | 05586 | 3ZK74 | 102.81 | 51.45 | 43.67 | 12.0 |
| 18/8 | 250 | White | 0.278 | 05588 | 3ZK75 | 132.13 | 66.10 | 56.13 | 16.0 |

## HOOK-UP WIRE, UL TYPES MTW, TFF, AWM, CSA TEW

General Cable CORPORATION CAROL BRAND

OSHA Acceptable Occupational Safety and Health Administration

- For external wiring of machinery
- Extra flexible
- Outstanding oil, flame, and moisture resistance
- Resistance to corrosion and heat
- 90°C (194°F) 600 Volts
- 500 Ft. spool length



No. 3ZK82

| Size AWG | Type | Cord Stranding | Volts | Carol Model | White Stock No. | Black Stock No. | Red Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 | MTW | 26/30 | 600 | 76512 | 3ZK83 | 3ZK82 | 3ZK84 | $41.20 | $20.60 | 7.0 |
| 14 | MTW | 19/0.0159 | 600 | 76812 | 3ZK86 | 3ZK85 | 3ZK87 | 55.20 | 27.60 | 11.0 |

## CAROLPRENE® WELDING CABLE

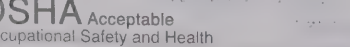
General Cable CORPORATION CAROL BRAND

UL E91935 CSA

OSHA Acceptable Occupational Safety and Health Administration

- Spark tested for 600 Volts
- 30 Gauge stranding for strength and flexibility
- Insulated with black Carolprene® jacket
- Rope lay stranded copper conductor
- UL Listed (E91935)

NOTE: Do not use for in-line voltag which could be hazardous. Designed f use with secondary voltages.



No. 3ZK62

| Size AWG | Spool Length (Ft.) | Max. Output Amps | Stranding | Nom. O.D. (In.) | Carol Model | Stock No. | Priced Per Spool List | Each | Lots 2 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 25 | 150 | 374 x 30 | 0.410 | 17539 | 6X776 | $27.88 | $23.28 | $20.95 | 5.1 |
| 2 | 50 | 200 | 625 x 30 | 0.470 | 17540 | 6X777 | 80.39 | 67.25 | 60.51 | 16.0 |
| 2 | 100 | 200 | 625 x 30 | 0.470 | 17541 | 6X778 | 160.77 | 134.25 | 120.81 | 30.0 |
| 1 | 50 | 250 | 778 x 30 | 0.500 | 17542 | 6X779 | 99.43 | 83.10 | 74.76 | 19.0 |
| 1 | 100 | 250 | 778 x 30 | 0.500 | 17543 | 6X780 | 198.56 | 165.75 | 149.12 | 36.0 |
| 1/0 | 50 | 350 | 990 x 30 | 0.580 | 17544 | 6X781 | 128.73 | 107.40 | 96.64 | 23.0 |
| 1/0 | 100 | 350 | 990 x 30 | 0.580 | 17545 | 2W282 | 259.37 | 216.25 | 194.50 | 44.0 |
| 2/0 | 100 | 450 | 1251 x 30 | 0.620 | 17546 | 2W283 | 313.12 | 261.00 | 234.79 | 53.0 |
| 4/0 | 250 | 600 | 2055 x 30 | 0.765 | 01771 | 3ZK62 | 2082.12 | 1042.00 | 937.80 | 202.0 |

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust.
More than 900 national brands are listed in the Brand Index at the back of the Catalog.

# ELECTRONIC POWER-LIMITED FIRE PROTECTIVE SIGNALING CIRCUIT CABLE

General Cable CORPORATION CAROL BRAND

UL



No. 4A627



No. 4A630

**APPLICATIONS**

- Fire alarms • Smoke detectors
- Burglar alarms
- Critical control circuits

**INDUSTRY APPROVALS**

- California State Fire Marshall
- NEC Article 760-4(d) Type-FPL
- UL 70,000 BTU Vertical tray flame test

**INSULATION**

- Premium grade PVC, color coded (refer to page 603)

**JACKET**

- Sunlight and weather resistant red PVC, temperature range from -20°C to +105°C (-4°F to +221°F), 300 Volts

| Conductor Size AWG | No. of | Color Code Table No.† | Description | Nom. O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **UNSHIELDED MULTI-CONDUCTOR CABLE** | | | | | | | | | | |
| **18** | 2 | 4 | Unshielded, Solid | 0.190 | 500 | C0403 | **4A627** | $98.49 | **$82.95** | 15.0 |
| **18** | 4 | 4 | Unshielded, Solid | 0.219 | 500 | C0404 | **4A628** | 149.10 | **128.75** | 24.0 |
| **18** | 6 | 4 | Unshielded, Solid | 0.260 | 500 | C0406 | **4A629** | 205.82 | **184.25** | 37.0 |
| **18** | 9 | 4 | Unshielded, Solid | 0.353 | 500 | C0408 | **4A649** | 318.03 | **283.25** | 49.0 |
| **SHIELDED MULTI-CONDUCTOR CABLE** | | | | | | | | | | |
| **18** | 2 | 4 | Shielded, Solid | 0.198 | 500 | C0417 | **4A630** | 108.98 | **91.80** | 17.0 |
| **18** | 4 | 4 | Shielded, Solid | 0.226 | 500 | C0423 | **4A631** | 179.16 | **159.25** | 25.0 |
| **16** | 2 | 4 | Shielded, Solid | 0.221 | 500 | C0427 | **4A632** | 142.28 | **123.55** | 28.0 |

(†) Refer to page 603 for color code.

# ELECTRONIC POWER-LIMITED TRAY CABLE

General Cable CORPORATION CAROL BRAND

UL



No. 4A633

**APPLICATIONS**

- Burglar alarms • Intercom systems
- Cash registers
- Equipment control circuits

**INDUSTRY APPROVALS**

- UL • NEC Article 725, PLTC
- UL 70,000 BTU Vertical tray flame test

**INSULATION**

- Premium grade PVC, color coded (refer to page 603)

**SHIELD**

- 100% Flexfoil-aluminum/polyester, foil facing out
- Stranded tinned copper drain wire
- 300 Volts

| Conductor Size AWG | No. of | Color Code Table No.† | Description | Stranding | Nom. O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHIELDED MULTI-CONDUCTOR CABLE** | | | | | | | | | | | |
| **18** | 2 | 4 | Stranded | 16/30 | 0.227 | 500 | C0454 | **4A633** | $132.36 | **$112.50** | 17.0 |
| **16** | 2 | 4 | Stranded | 26/30 | 0.246 | 500 | C0456 | **4A648** | 185.55 | **160.50** | 23.0 |
| **16** | 3 | 4 | Stranded | 26/30 | 0.258 | 500 | C0457 | **4A634** | 225.97 | **200.50** | 28.0 |

(†) Refer to page 603 for color code.

**PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.**

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.**

## AMERICAN STANDARD WIRE GAGE

- For nonferrous metal such as copper, brass, and aluminum
- Highly useful gage for finding wire, sheet, or plate sizes
- Each numbered slot has its decimal equivalent marked on the rear side
- Plate size 3⅝", thickness is 1/10"
- Satin finish and hardened

For quick check of wire gage. Size range from Gage No. 0 to 36. Mitutoyo brand (950-202).

**No. 5C735.** Shpg. wt. 0.2 lbs. List $29.75.
Each ..... $27.95▲

(▲) Net prices, not subject to discounts.

# ELECTRONIC CABLE

General Cable CORPORATION CAROL BRAND

UL

## COAXIAL CABLE



**APPLICATIONS**

- Nos. 3W376, 4W004, and 3ZK56 suitable for RF signal transmission and Master Antenna Television Systems (MATV)
- Nos. 3ZK54 and 3ZK55 suitable for RF signal broadcast
- No. 2W591 suitable for RF signal transmission, MATV and LANs
- Nos. 2W592 and 3ZK57 suitable for RF signal transmission and computers
- No. 3ZK58 suitable for LANs, digital video, and direct broadcast TV

| Cond. Size AWG | Cable Type | Impedance Ohms | Capacitance (pF)/Ft. | Attenuation at 200 MHz dB/100 Ft. | Nom. O.D. (In.) | Spool Length (Ft.) | Carol Model | Stock No. | Priced Per Spool List | Priced Per Spool Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | RG 6/U | 75.0 | 17.3 | 3.0 | 0.270 | 1000 | C5775 | **3ZK56** | $322.57 | **$161.50** | 25.0 |
| 18 | RG 6/U | 75.0 | 17.3 | 3.0 | 0.308 | 1000 | C5785 | **3ZK59** | 485.20 | **242.75** | 33.0 |
| 18 | RG 6/U Plenum | 75.0 | 16.0 | 3.1 | 0.235 | 1000 | C3521 | **3ZK58** | 1360.17 | **680.50** | 41.0 |
| 18 | RG 11/U | 75.0 | 20.5 | 3.2 | 0.405 | 1000 | C1160 | **3W376** | 508.27 | **435.75** | 100.0 |
| 18 | RG 11/U | 75.0 | 20.5 | 3.2 | 0.405 | 500 | C1160 | **4W004** | 255.24 | **218.25** | 52.0 |
| 19 | RG 58/U Plenum | 53.5 | 25.5 | 6.0 | 0.161 | 1000 | C3519 | **3ZK55** | 738.07 | **369.25** | 22.0 |
| 20 | RG 58/U | 50.0 | 26.0 | 6.9 | 0.195 | 1000 | C1188 | **3ZK54** | 435.58 | **218.00** | 28.0 |
| 22 | RG 59/U | 73.0 | 20.5 | 4.1 | 0.242 | 1000 | C1104 | **2W591** | 224.51 | **191.25** | 41.0 |
| 22 | RG 62/U | 93.0 | 13.5 | 3.8 | 0.242 | 1000 | C1164 | **2W592** | 250.04 | **212.50** | 38.0 |
| 22 | RG 62/U Plenum | 93.0 | 13.5 | 3.8 | 0.195 | 1000 | C3520 | **3ZK57** | 993.69 | **497.00** | 31.0 |

## ELECTRONIC CABLE CROSS-REFERENCE

| Stock No. | Carol | Alpha | Belden |
|---|---|---|---|
| 2W485 | C1356 | 1944 | 8782 |
| 2W559 | C4404 | — | — |
| 2W591 | C1135 | 9059 | 8221 |
| 2W592 | C1164 | 9062A | 9269 |
| 2W593, 4W003 | C2424 | 1898/19 | 8619 |
| 2W594 | C2524 | 2411 | 8762 |
| 2W595 | C2534 | 2421 | 8760 |
| 2W596 | C2536 | 2471 | 8719 |
| 2W597 | C4065 | 1178 | 9421 |
| 2W598, 4W002 | C6040 | 6010 | 8777 |
| 2W799 | C1357 | — | 9708 |
| 2W997 | C2514 | 2401C | 8761 |
| 2W978 | C2526 | 2403 | 8771 |
| 2W979 | C2523 | 2404 | — |
| 2W980 | C2525 | 2413 | — |
| 2W981 | C2535 | 2423 | 8770 |
| 2W982 | C2537 | 2433 | 8618 |
| 2W983 | C2538 | 2442 | 8720 |
| 2W984 | C6451 | 2461 | 8751 |
| 2W985 | C1352 | 2466 | 8723 |
| 2W986 | C1644 | 17115 | — |
| 2W987 | C2420 | 1898/5 | 8465 |
| 2W988 | C6041 | 6012 | 8778 |
| 2W989 | C6047 | 6023 | 9773 |
| 2W990 | C6348 | 1172 | 8442 |
| 2W991 | C4062 | 1173 | 8443 |
| 2W992 | C4063 | 1174 | 844 |
| 2W993 | C4064 | 1175 | 8445 |
| 2W994 | C4066 | 1176 | — |
| 2W995 | C4067 | 1181 | 8457 |
| 2W996 | C2830 | 1897 | 8461 |
| 2W997 | C2831 | 5103 | — |

| Stock No. | Carol | Alpha | Belden |
|---|---|---|---|
| 2W998 | C2404 | 1898/4 | 8489 |
| 2W999 | C2405 | 1899 | 8471 |
| 3W376, 4W004 | C1160 | 9011 | 8238 |
| 4W001 | C4406 | — | — |
| 4A624 | C0403 | — | — |
| 4A627 | C0403 | — | 9571 |
| 4A628 | C0404 | — | — |
| 4A629 | C0406 | — | — |
| 4A630 | C0417 | — | 9574 |
| 4A631 | C0423 | — | 9578 |
| 4A632 | C0427 | — | 9575 |
| 4A633 | C0454 | — | 9318 |
| 4A634 | C0457 | — | 9366 |
| 4A635 | C0890 | — | — |
| 4A636 | C0901 | 6083 | — |
| 4A637 | C0899 | — | — |
| 4A638 | C0897 | — | — |
| 4A639 | C0601 | 5472 | 9502 |
| 4A640 | C0602 | 5473 | 9503 |
| 4A641 | C0603 | 5474 | 9504 |
| 4A642 | C0743 | 5096 | 9536 |
| 4A642 | C0742 | — | 9534 |
| 4A643 | C0744 | 5098 | 9538 |
| 4A644 | C0745 | 5100 | 9540 |
| 4A645 | C0746 | 5100/15 | 9541 |
| 4A646 | C0747 | 5100/25 | 9542 |
| 4A647 | C0756 | — | — |
| 4A648 | C0456 | — | 9316 |

See Cross-Reference Information on page opposite inside back cover.

**ORDERING HAS NEVER BEEN EASIER!**

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

CAROL BRAND

The following Color Code Tables reference Carol brand cable products on pages 597 through 601. Find the cable you need, refer to the Color Code Table Number in the product listing, then locate the appropriate chart(s) below to find the correct color code.

## TABLE 1

| No. of Conductors | Color |
|---|---|
| 1 | Black |
| 2 | Red |
| 3 | Green |

## TABLE 2

| No. of Conductors | Color |
|---|---|
| 1 | Black |
| 2 | Natural |
| 3 | Red |
| 4 | Green |

## TABLE 3

| No. of Conductors | Color | No. of Conductors | Color |
|---|---|---|---|
| 1 | Red | 4 | Black |
| 2 | Green | 5 | Orange |
| 3 | Yellow | 6 | Blue |

## TABLE 4

| No. of Conductors | Color | No. of Conductors | Color |
|---|---|---|---|
| 1 | Black | 6 | Blue |
| 2 | Red | 7 | Brown |
| 3 | White | 8 | Yellow |
| 4 | Green | 9 | Violet |
| 5 | Orange | | |

## TABLE 5

| No. of Conductors | Color | No. of Conductors | Color |
|---|---|---|---|
| 1 | Black | 7 | Orange |
| 2 | White | 8 | Yellow |
| 3 | Red | 9 | Violet |
| 4 | Green | 10 | Gray |
| 5 | Brown | 11 | Pink |
| 6 | Blue | 12 | Tan |

## TABLE 6

| No. of Conductors | Color | No. of Conductors | Color |
|---|---|---|---|
| 1 | Black | 14 | Green/White |
| 2 | White | 15 | Blue/White |
| 3 | Red | 16 | Black/Red |
| 4 | Green | 17 | White/Red |
| 5 | Orange | 18 | Orange/Red |
| 6 | Blue | 19 | Blue/Red |
| 7 | White/Black | 20 | Red/Green |
| 8 | Red/Black | 21 | Orange/Green |
| 9 | Green/Black | 22 | Black/White/Red |
| 10 | Orange/Black | 23 | White/Black/Red |
| 11 | Blue/Black | 24 | Red/Black/White |
| 12 | Black/White | 25 | Green/Black/White |
| 13 | Red/White | | |

## TABLE 7

| No. of Pairs | Color |
|---|---|
| 1 | Black with Red |
| 2 | Green with White |

## TABLE 8

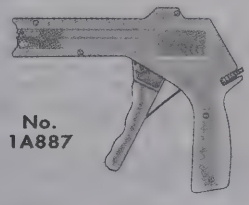
| No. of Pairs | Color | No. of Pairs | Color |
|---|---|---|---|
| 1 | Black with Red | 4 | Black with Blue |
| 2 | Black with White | 5 | Black with Yellow |
| 3 | Black with Green | 6 | Black with Brown |

## TABLE 9

| No. of Pairs | Color | No. of Pairs | Color |
|---|---|---|---|
| 1 | Black with White | 7 | White/Blue with Blue/White |
| 2 | Red with Green | 8 | White/Brown with Brown/White |
| 3 | Brown with Blue | 9 | White/Orange with Orange/White |
| 4 | Orange with Yellow | 10 | White/Green with Green/White |
| 5 | Violet with Gray | 11 | White/Red with Red/White |
| 6 | Tan with Pink | 12 | White/Black with Black/White |

Single Conductor. Green/Yellow stripe

Thomas&Betts



No. 1A887



No. 5A308

## CABLE INSTALLATION TOOLS

A lightweight tool for least critical applications. Clinch tie to desired bundle and twist tool to remove excess strap. Recommended for use with 18–50 pound ties. Thomas & Betts brand (GQC-100).

**No. 5A308.** Shpg. wt. 0.3 lbs. List $16.78. Each ..... **$15.11**

Heavy-duty tool for use with 18–50 pound ties. Automatic cut-off and adjustable tensioning for dependable use in assembly applications. Thomas & Betts brand (GL-400).

**No. 1A887.** Shpg. wt. 0.5 lbs. List $68.43. Each ..... **$61.60**

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

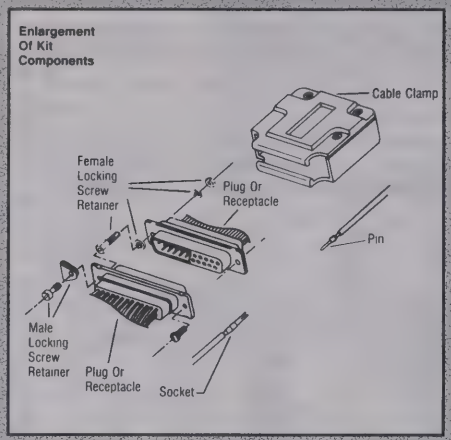
**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# CABLE CONNECTORS AND KITS

AMP



No. 4A223
BNC Connector Kit






No. 6A548
AMPLIMITE
Multi-Position Kit

E28476

**Use AMP connectors for terminations between computer and a wide range of accessory applications.**

LR7189

## BNC, DUAL CRIMP COAXIAL CONNECTOR KIT

BNC plugs for RG59/62 cable types are used for installing or repairing communications or data equipment. Crimp-type BNC plugs are smaller in diameter and lighter in weight compared to soldered plugs. Interchangeable with all comparable UG/U plugs. Kit Stock No. 4A223.

## AMPLIMITE SUB D RS232 CONNECTOR KITS

AMPLIMITE plugs and receptacles are used for a variety of int face connections between computer and peripherals. Used mass terminations of discreet wire and jacketed cables. Kit Sto Nos. 6A547 and 6A548.

## KIT SPECIFICATIONS AND ORDERING DATA

### BNC CONNECTOR KIT No. 4A223

**Included in BNC Kit**

| | |
|---|---|
| 20 pcs. #225395-2 Plugs | 1 pc. #220147-1 Crimping tool |

**No. 4A223**. Shpg. wt. 2.1 lbs. List $164.71. Each .....**$132.65**

### AMPLIMITE 25-POSITION KIT No. 6A547

**Included in AMPLIMITE 25-Position Kit**

| | |
|---|---|
| 100 pcs #66504-9 Sockets<br>100 pcs #66506-9 Pins<br>14 pcs #749626-3 Cable Clamp<br>1 pc #91285-1 Insertion Tool | 6 pcs #207464-1 Receptacle body<br>18 pcs #207463-1 Plug Body<br>1 pc #90287-1 Crimping Tool |

**No. 6A547**. Shpg. wt. 5.5 lbs. List $191.28. Each .....**$155.00**

### AMPLIMITE MULTI-POSITION KIT No. 6A548

**Included in AMPLIMITE Multi-Position Kit**

| | |
|---|---|
| 3 pcs #205203-1 9-Position receptacle body<br>6 pcs #205204-1 9-Position plug body<br>3 pcs #205205-1 15-Position receptacle body<br>6 pcs #205206-1 15-Position plug body<br>3 pcs #207463-1 25-Position receptacle body<br>6 pcs #207464-1 25-Position plug body<br>3 pcs #205209-1 37-Position receptacle body<br>6 pcs #205210-1 37-Position plug body | 6 pcs #749914-3 9-Position cable clamp<br>6 pcs #749915-3 15-Position cable clamp<br>6 pcs #749626-3 25-Position cable clamp<br>6 pcs #749916-3 37-Position cable clamp<br>25 pcs #205980-1 Locking screw retainer<br>1 pc #90287-1 Crimping tool<br>10 pcs #1-205817-2 Screwlock<br>100 pcs #66504-9 Sockets<br>100 pcs #66506-9 Pins<br>1 pc #91067-2 Insertion tool |

**No. 6A548**. Shpg. wt. 9.4 lbs. List $256.28. Each .....**$208.**

### INDIVIDUAL REPLACEMENT PARTS ORDERING DATA

| Description | Mfr. Model | Stock No. | Qty. / Box | Sold By Box List | Sold By Box Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **BNC Plugs** | 225395-2 | **4A220** | 1 | $4.81 | **$3.87** | 0.1 |
| **Sockets** | 66504-9 | **6A551** | 100 | 25.34 | **20.36** | 0.1 |
| **Pins** | 66506-9 | **6A552** | 100 | 19.49 | **15.67** | 0.4 |
| **9-pos receptacle body** | 205203-1 | **6A556** | 25 | 47.72 | **38.40** | 0.3 |
| **9-pos plug body** | 205204-1 | **6A557** | 25 | 47.72 | **38.40** | 0.3 |
| **15-pos receptacle body** | 205205-1 | **6A558** | 25 | 48.37 | **38.95** | 0.5 |
| **15-pos plug body** | 205206-1 | **6A559** | 25 | 48.37 | **38.95** | 0.4 |
| **25-pos receptacle body** | 205207-1 | **6A554** | 25 | 50.30 | **40.50** | 0.4 |
| **25-pos plug body** | 205208-1 | **6A555** | 25 | 50.30 | **40.50** | 0.7 |

| Description | Mfr. Model | Stock No. | Qty. / Box | Sold By Box List | Sold By Box Each | S |
|---|---|---|---|---|---|---|
| **37-pos receptacle body** | 205209-1 | **6A561** | 10 | $22.70 | **$18.37** | |
| **37-pos plug body** | 205210-1 | **6A560** | 10 | 22.70 | **18.37** | |
| **9-pos cable clamp** | 749914-2 | **6A563** | 10 | 22.39 | **18.16** | |
| **15-pos cable clamp** | 749915-2 | **6A564** | 10 | 22.39 | **18.16** | |
| **25-pos cable clamp** | 749626-2 | **6A562** | 25 | 55.30 | **44.60** | |
| **37-pos cable clamp** | 749916-2 | **6A565** | 10 | 24.02 | **19.47** | |
| **Locking screw retainer** | 205980-1 | **6A566** | 25 | 20.35 | **16.48** | |
| **AMPLIMITE crimping tool** | 601884-1 | **6A568** | 1 | 28.89 | **23.51** | |
| **Screwlock** | 205817-1 | **6A567** | 25 | 54.08 | **45.15** | |
| **Insertion Tool** | 91067-2 | **6A553** | 1 | 5.58 | **4.58** | |



*When the spec calls for brand names, you'll find the best here.*

# COLOR-KEYED® COMPRESSION CONNECTORS FOR ALL COPPER CABLES

## SHORT BARREL 1 HOLE COPPER LUGS—600V TO 35KV APPLICATIONS

**Material—High Conductivity Wrought Copper**

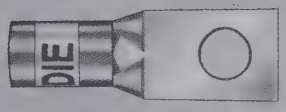
**Finish—Electro Tin Plate**

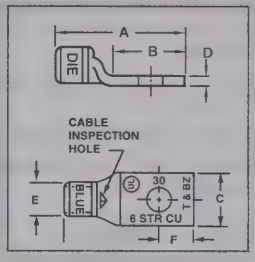
**UL Listed for code stranded and 24 gauge flex**

**Order installation tools and dies on pages 612 and 613**

Thomas&Betts

E-9809 LR4503




### SHORT BARREL 1 HOLE LUGS—600V TO 35KV APPLICATIONS, ORDERING DATA

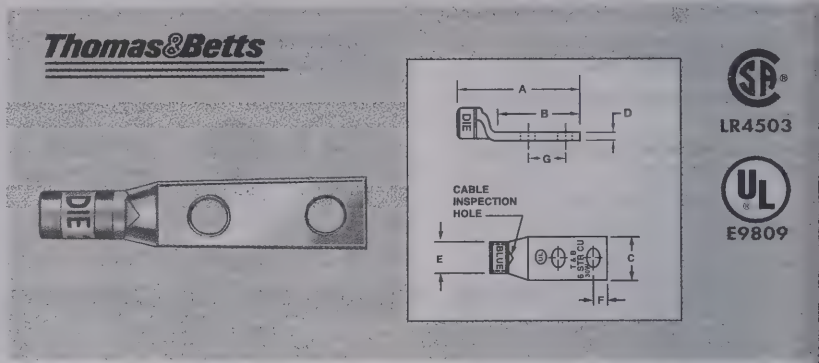
| Cable Size | Stud Size | Color Code | Die Code | Dimensions (In.) A | B | C | D | E | F | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | #10 | | | 1.14 | .52 | .39 | .08 | .27 | .22 | 54104 | **3LL40** | $1.20 | **$1.14** | 0.1 |
| **#8 Str. or #8 Weld** | 1/4 | | | 1.18 | .63 | .45 | .07 | .27 | .25 | 54130 | **3LL54** | 1.20 | **1.14** | 0.1 |
| **37/24, 23 Navy** | 5/16 | Red | 21 | 1.31 | .66 | .56 | .05 | .27 | .28 | 54131 | **3LL55** | 1.23 | **1.17** | 0.1 |
| | 3/8 | | | 1.31 | .66 | .56 | .05 | .27 | .28 | 54132 | **3LL56** | 1.18 | **1.12** | 0.1 |
| | #10 | | | 1.21 | .55 | .44 | .08 | .31 | .23 | 54134 | **3LL57** | 1.33 | **1.27** | 0.1 |
| **#6 Str. or #6 Weld** | 1/4 | | | 1.21 | .55 | .44 | .08 | .31 | .23 | 54105 | **3LL41** | 1.32 | **1.26** | 0.1 |
| **61/24, 30 Navy** | 5/16 | Blue | 24 | 1.39 | .68 | .60 | .05 | .31 | .30 | 54135 | **3LL58** | 1.30 | **1.24** | 0.1 |
| | 3/8 | | | 1.39 | .68 | .60 | .05 | .31 | .30 | 54136 | **3LL59** | 1.29 | **1.23** | 0.1 |
| | #10 | | | 1.36 | .62 | .55 | .08 | .37 | .25 | 54138 | **3LL60** | 1.78 | **1.70** | 0.1 |
| **#4 Str.** | 1/4 | | | 1.36 | .62 | .55 | .08 | .37 | .25 | 54106 | **3LL42** | 1.72 | **1.63** | 0.1 |
| **91/24, 40-50 Navy** | 5/16 | Gray | 29 | 1.40 | .66 | .61 | .07 | .37 | .31 | 54139 | **3LL61** | 1.69 | **1.61** | 0.1 |
| | 3/8 | | | 1.40 | .66 | .61 | .07 | .37 | .31 | 54140 | **3LL62** | 1.65 | **1.57** | 0.1 |
| | 1/4 | | | 1.50 | .65 | .59 | .11 | .41 | .25 | 54107 | **3LL43** | 3.36 | **3.19** | 0.1 |
| **#2 Str. or #4 Weld** | 5/16 | | | 1.73 | .88 | .59 | .11 | .41 | .38 | 54142-TB | **3LL63** | 3.26 | **3.10** | 0.1 |
| **125/24, 60 Navy** | 3/8 | Brown | 33 | 1.65 | .80 | .59 | .11 | .41 | .38 | 54143-TB | **3LL64** | 3.39 | **3.23** | 0.1 |
| | 1/2 | | | 1.92 | 1.08 | .75 | .06 | .41 | .50 | 54145-TB | **3LL65** | 3.33 | **3.16** | 0.1 |
| | 1/4 | | | 1.50 | .65 | .68 | .11 | .47 | .25 | 54108 | **3LL44** | 3.51 | **3.34** | 0.1 |
| **#1 Str. or #2 Weld** | 5/16 | | | 1.73 | .88 | .68 | .11 | .47 | .38 | 54147 | **3LL66** | 3.55 | **3.37** | 0.1 |
| **175/24, 75 Navy** | 3/8 | Green | 37 | 1.78 | .93 | .68 | .11 | .47 | .38 | 54148 | **3LL67** | 3.37 | **3.21** | 0.1 |
| | 1/2 | | | 2.10 | 1.25 | .76 | .11 | .47 | .50 | 54150 | **3LL68** | 3.62 | **3.45** | 0.1 |
| | 1/4 | | | 1.60 | .65 | .75 | .13 | .52 | .25 | 54152-TB | **3LL69** | 3.93 | **3.74** | 0.1 |
| **1/0 AWG or #1 Weld** | 5/16 | | | 1.83 | .88 | .75 | .13 | .52 | .38 | 54153-TB | **3LL70** | 3.81 | **3.62** | 0.1 |
| **225/24, 100 Navy** | 3/8 | Pink | 42 | 1.88 | .93 | .75 | .13 | .52 | .38 | 54109 | **3LL45** | 3.76 | **3.57** | 0.1 |
| | 1/2 | | | 2.20 | 1.25 | .75 | .13 | .52 | .50 | 54155-TB | **3LL71** | 3.66 | **3.48** | 0.1 |
| | 1/4 | | | 1.65 | .65 | .83 | .12 | .57 | .25 | 54157 | **3LL72** | 4.45 | **4.23** | 0.1 |
| **2/0 AWG or 1/0 Weld** | 5/16 | | | 1.88 | .88 | .83 | .12 | .57 | .38 | 54158 | **3LL73** | 4.45 | **4.23** | 0.1 |
| **275/24, 125 Navy** | 3/8 | Black | 45 | 1.93 | .93 | .83 | .12 | .57 | .38 | 54110 | **3LL46** | 4.33 | **4.12** | 0.1 |
| | 1/2 | | | 2.25 | 1.25 | .83 | .12 | .57 | .50 | 54160 | **3LL74** | 4.78 | **4.55** | 0.1 |
| | 1/4 | | | 1.75 | .65 | .92 | .13 | .63 | .25 | 54162-TB | **3LL75** | 5.33 | **5.07** | 0.1 |
| **3/0 AWG or 2/0 Weld** | 5/16 | | | 1.98 | .88 | .92 | .13 | .63 | .38 | 54163-TB | **3LL76** | 5.49 | **5.22** | 0.1 |
| **325/24, 150 Navy** | 3/8 | Orange | 50 | 2.03 | .93 | .92 | .13 | .63 | .38 | 54111 | **3LL47** | 5.13 | **4.88** | 0.1 |
| | 1/2 | | | 2.35 | 1.25 | .92 | .13 | .63 | .50 | 54165-TB | **3LL77** | 5.27 | **5.01** | 0.1 |
| | 1/4 | | | 1.90 | .65 | 1.03 | .14 | .70 | .25 | 54167 | **3LL78** | 6.10 | **5.80** | 0.6 |
| **4/0 AWG or 3/0 Weld** | 5/16 | | | 2.13 | .88 | 1.03 | .14 | .70 | .38 | 54168 | **3LL79** | 5.67 | **5.39** | 0.1 |
| **450/24, 200 Navy** | 3/8 | Purple | 54 | 2.18 | .93 | 1.03 | .14 | .70 | .38 | 54112 | **3LL48** | 5.86 | **5.57** | 0.1 |
| | 1/2 | | | 2.50 | 1.25 | 1.02 | .14 | .70 | .50 | 54170 | **3LL80** | 5.62 | **5.34** | 0.1 |
| | 1/4 | | | 2.00 | .65 | 1.13 | .14 | .77 | .25 | 54172-TB | **3LL81** | 7.81 | **7.43** | 0.1 |
| **250 kcmil, 250 Navy** | 5/16 | | | 2.23 | .88 | 1.13 | .14 | .77 | .38 | 54173 | **3LL82** | 7.74 | **7.35** | 0.1 |
| | 3/8 | Yellow | 62 | 2.28 | .93 | 1.13 | .14 | .77 | .38 | 54174 | **3LL83** | 7.03 | **6.68** | 0.1 |
| | 1/2 | | | 2.60 | 1.25 | 1.13 | .14 | .77 | .50 | 54113 | **3LL49** | 6.69 | **6.36** | 0.1 |
| | 5/16 | | | 2.33 | .88 | 1.25 | .15 | .85 | .38 | 54178 | **3LL84** | 8.65 | **8.22** | 0.2 |
| **300 kcmil, 300 Navy** | 3/8 | White | 66 | 2.38 | .93 | 1.25 | .15 | .85 | .38 | 54179 | **3LL85** | 8.07 | **7.67** | 0.2 |
| | 1/2 | | | 2.70 | 1.25 | 1.25 | .15 | .85 | .50 | 54114 | **3LL50** | 8.73 | **8.30** | 0.2 |
| | 5/8 | | | 3.03 | 1.58 | 1.25 | .15 | .85 | .63 | 54181 | **3LL86** | 8.40 | **7.98** | 0.2 |
| **350 kcmil** | 1/2 | Red | 71 | 2.80 | 1.25 | 1.36 | .18 | .93 | .50 | 54115 | **3LL51** | 8.09 | **7.69** | 0.2 |
| **350 Navy** | 5/8 | Blue | 76 | 3.13 | 1.58 | 1.36 | .18 | .93 | .63 | 54183 | **3LL87** | 8.11 | **7.71** | 0.2 |
| **400 kcmil, 400 Navy** | 1/2 | Blue | 76 | 3.20 | 1.25 | 1.41 | .17 | .96 | .50 | 54116 | **3LL52** | 9.87 | **9.38** | 0.3 |
| | 5/8 | | | 3.53 | 1.58 | 1.41 | .17 | .96 | .63 | 54185 | **3LL88** | 10.15 | **9.65** | 0.3 |
| **500 kcmil, 500 Navy** | 1/2 | Brown | 87 | 3.25 | 1.25 | 1.61 | .22 | 1.10 | .50 | 54118 | **3LL53** | 11.55 | **10.98** | 0.3 |
| | 5/8 | | | 3.58 | 1.58 | 1.61 | .22 | 1.10 | .63 | 54187 | **3LL89** | 11.27 | **10.72** | 0.4 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# COLOR-KEYED® COMPRESSION CONNECTORS FOR ALL COPPER CABLES

## SHORT BARREL 2 HOLE COPPER LUGS—600V TO 35KV APPLICATIONS

- Ideal for bolting to bus bar where two bolts prevent the connector from turning
- Material—High Conductivity Wrought Copper
- Finish—Electro Tin Plate
- UL Listed for code stranded and 24 gauge flex
- Order installation tools and dies on pages 612 and 613




### SHORT BARREL 2 HOLE LUGS—600V TO 35V APPLICATIONS, ORDERING DATA

| Cable Size | Stud Size | Color Code | Die Code | Dimensions (In.) A | B | C | D | E | F | G | Thomas & Betts Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #8Str. or #8 Weld 37/24, 23 Navy | #10 | Red | 21 | 1.88 | 1.18 | .42 | .08 | .26 | .25 | .63 | 54204 | **3LL90** | $2.79 | **$2.65** | 0.1 |
| #6 Str. or #6 Weld 61/24, 30 Navy | 1/4 | Blue | 24 | 1.98 | 1.28 | .44 | .08 | .30 | .25 | .63 | 54205 | **3LL91** | 3.59 | **3.41** | 0.1 |
| #4 Str. 91/24, 40-50 Navy | 1/4 | Gray | 29 | 2.03 | 1.28 | .52 | .10 | .37 | .25 | .63 | 54206 | **3LL92** | 3.92 | **3.73** | 0.1 |
| #2 Str. or #4 Weld 125/24, 60 Navy | 1/4 | Brown | 33 | 2.13 | 1.28 | .59 | .11 | .41 | .25 | .63 | 54207 | **3LL93** | 4.49 | **4.27** | 0.1 |
| #1 Str. or #2 Weld 175/24, 75 Navy | 1/4 | Green | 37 | 2.13 | 1.28 | .68 | .11 | .47 | .25 | .63 | 54208 | **3LL94** | 5.63 | **5.35** | 0.1 |
| 1/0 AWG or #1 Weld 225/24, 100 Navy | 5/16 | Pink | 42 | 2.88 | 1.93 | .75 | .12 | .52 | .38 | .88 | 54255 | **3LM04** | 6.03 | **5.73** | 0.1 |
| 1/0 AWG or #1 Weld 225/24, 100 Navy | 3/8 | Pink | 42 | 2.88 | 1.93 | .75 | .12 | .52 | .38 | 1.00 | 54209 | **3LL95** | 5.68 | **5.40** | 0.1 |
| 2/0 AWG or 1/0 Weld 275/24, 125 Navy | 3/8 | Black | 45 | 2.93 | 1.93 | .83 | .13 | .57 | .38 | 1.00 | 54210 | **3LL96** | 6.49 | **6.17** | 0.1 |
| 2/0 AWG or 1/0 Weld 275/24, 125 Navy | 1/2 | Black | 45 | 3.83 | 3.00 | .83 | .13 | .57 | .50 | 1.75 | 54260 | **3LM05** | 6.35 | **6.03** | 0.1 |
| 3/0 AWG or 2/0 Weld 325/24, 150 Navy | 3/8 | Orange | 50 | 2.94 | 1.84 | .94 | .14 | .63 | .38 | 1.00 | 54211 | **3LL97** | 7.61 | **7.24** | 0.1 |
| 3/0 AWG or 2/0 Weld 375/24, 150 Navy | 1/2 | Orange | 50 | 3.94 | 3.00 | .94 | .14 | .63 | .50 | 1.75 | 54265 | **3LM06** | 8.64 | **8.21** | 0.1 |
| 4/0 AWG or 3/0 Weld 450/24, 200 Navy | 3/8 | Purple | 54 | 3.18 | 1.93 | 1.03 | .14 | .70 | .38 | 1.00 | 54212 | **3LL98** | 8.65 | **8.22** | 0.1 |
| 4/0 AWG or 3/0 Weld 450/24, 200 Navy | 1/2 | Purple | 54 | 4.25 | 3.00 | 1.03 | .14 | .70 | .50 | 1.75 | 54270 | **3LM07** | 9.04 | **8.59** | 0.2 |
| 250 kcmil, 250 Navy | 3/8 | Yellow | 62 | 3.28 | 1.93 | 1.13 | .14 | .77 | .38 | 1.00 | 54213 | **3LL99** | 10.18 | **9.68** | 0.2 |
| 250 kcmil, 250 Navy | 1/2 | Yellow | 62 | 4.19 | 3.00 | 1.13 | .17 | .77 | .50 | 1.00 | 54275 | **3LM08** | 9.44 | **8.98** | 0.2 |
| 300 kcmil, 300 Navy | 1/2 | White | 66 | 4.45 | 3.00 | 1.25 | .15 | .85 | .50 | 1.75 | 54280 | **3LM09** | 12.30 | **11.69** | 0.3 |
| 350 kcmil, 350 Navy | 3/8 | Red | 71 | 3.48 | 1.93 | 1.36 | .18 | .93 | .38 | 1.00 | 54215 | **3LM01** | 13.26 | **12.60** | 0.3 |
| 350 kcmil, 350 Navy | 1/2 | Red | 71 | 4.55 | 3.00 | 1.36 | .18 | .93 | .50 | 1.75 | 54282 | **3LM10** | 12.29 | **11.68** | 0.3 |
| 400 kcmil 925/24, 400 Navy | 3/8 | Blue | 76 | 3.88 | 1.93 | 1.41 | .17 | .96 | .38 | 1.00 | 54216 | **3LM02** | 14.75 | **14.01** | 0.3 |
| 500 kcmil, 500 Navy | 3/8 | Brown | 87 | 3.93 | 1.93 | 1.61 | .22 | 1.10 | .38 | 1.00 | 54218 | **3LM03** | 17.58 | **16.71** | 0.5 |
| 500 kcmil, 500 Navy | 1/2 | Brown | 87 | 5.00 | 3.00 | 1.61 | .22 | 1.10 | .50 | 1.75 | 54286 | **3LM11** | 18.40 | **17.48** | 0.6 |
| 600 kcmil | 1/2 | Green | 94 | 5.15 | 3.00 | 1.75 | .24 | 1.20 | .50 | 1.75 | 54289 | **3LM12** | 27.60 | **26.25** | 0.7 |

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# LONG BARREL 2 HOLE LUGS—600V TO 35KV APPLICATIONS

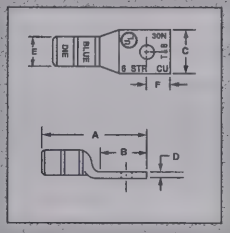
Material—High conductivity wrought copper

Finish—Electro tin plated

UL Listed for code stranded and 24 gauge flex

Order installation tools and dies on pages 612 and 613




E9809 LR4503

## LONG BARREL 1 HOLE LUGS—600V TO 35 KV APPLICATIONS, ORDERING DATA

| Code | Cable Size Flex* | Navy | Stud Size | Color Code | Die Code | Dimensions (In.) A | B | C | D | E | F | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 37/24 | 23 | 1/4 | Red | 21 | 1.65 | .65 | .42 | .08 | .26 | .25 | 54930BE | **3LM71** | 1.33 | **1.27** | 0.1 |
| 6 | 61/24 | 30 | 1/4 | Blue | 24 | 1.65 | .65 | .44 | .08 | .30 | .25 | 54905BE | **3LM62** | 1.38 | **1.32** | 0.1 |
| 4 | 91/24 | 40-50 | 1/4 | Gray | 24 | 1.70 | .65 | .52 | .10 | .30 | .25 | 54906BE | **3LM63** | 1.95 | **1.85** | 0.1 |
| 2 | 125/24 | 60 | 5/16 | Brown | 33 | 2.03 | .88 | .59 | .11 | .41 | .38 | 54942BE | **3LM72** | 3.72 | **3.54** | 0.1 |
| 1 | 150/24 & | 75 | 5/16 | Green | 37 | 2.18 | .88 | .68 | .11 | .47 | .38 | 54947BE | **3LM73** | 4.12 | **3.92** | 0.1 |
| 1/0 | 225/24 | — | 3/8 | Pink | 42 | 2.23 | .93 | .75 | .13 | .52 | .38 | 54909BE | **3LM64** | 4.17 | **3.97** | 0.1 |
| 2/0 | 275/24 | — | 3/8 | Black | 45 | 2.28 | .93 | .83 | .13 | .57 | .38 | 54910BE | **3LM65** | 4.92 | **4.68** | 0.1 |
| 3/0 | 325/24 | 150 | 1/2 | Orange | 50 | 2.70 | 1.25 | .92 | .14 | .63 | .50 | 54965BE | **3LM74** | 6.00 | **5.71** | 0.1 |
| 4/0 | 450/24 | 200 | 1/2 | Purple | 54 | 2.95 | 1.25 | 1.03 | .14 | .70 | .50 | 54970BE | **3LM75** | 6.67 | **6.34** | 0.1 |
| 250 kcmil | 550/24 | — | 1/2 | Yellow | 62 | 3.15 | 1.25 | 1.13 | .14 | .77 | .50 | 54913BE | **3LM66** | 7.78 | **7.39** | 0.2 |
| 300 kcmil | — | — | 1/2 | White | 66 | 3.45 | 1.25 | 1.25 | .15 | .85 | .50 | 54914BE | **3LM67** | 9.97 | **9.48** | 0.2 |
| 350 kcmil | 650/24 | — | 1/2 | Red | 71 | 3.60 | 1.25 | 1.36 | .18 | .93 | .50 | 54915BE | **3LM68** | 9.41 | **8.94** | 0.3 |
| 400 kcmil | 775/24 | — | 1/2 | Blue | 76 | 3.70 | 1.25 | 1.41 | .17 | .96 | .50 | 54916BE | **3LM69** | 12.23 | **11.63** | 0.3 |
| 500 kcmil | 925/24 | — | 1/2 | Brown | 87 | 4.20 | 1.25 | 1.61 | .22 | 1.10 | .50 | 54918BE | **3LM70** | 13.46 | **12.79** | 0.5 |

*Flex refers to circular mil area kcmil, MCM.

# LONG BARREL 2 HOLE LUGS—600V TO 35KV APPLICATIONS

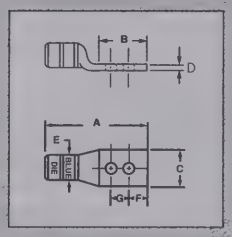
Material—High conductivity wrought copper

Finish—Electro tin plated

UL Listed for code stranded and 24 gauge flex

Order installation tools and dies on pages 612 and 613




E9809 LR4503

## 2 HOLE LUGS LONG BARREL TYPE—600V TO 35KV APPLICATIONS, ORDERING DATA

| Code | Cable Size Flex* | Navy | Bolt Hole Size (In.) | Color Code | Die Code | Dimensions (In.) A | B | C | D | E | F | G Center | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 37/24 | 23 | 1/4 | Red | 21 | 2.13 | 1.20 | .47 | .06 | .26 | .25 | 5/8 | 54850BE | **3LM51** | $3.28 | **$3.12** | 0.1 |
| 6 | 61/24 | 30 | 1/4 | Blue | 24 | 2.28 | 1.28 | .44 | .08 | .30 | .25 | 5/8 | 54852BE | **3LM52** | 4.99 | **4.75** | 0.1 |
| 4 | 91/24 | 40–50 | 1/4 | Gray | 29 | 2.19 | 1.20 | .56 | .09 | .37 | .25 | 5/8 | 54854BE | **3LM53** | 4.45 | **4.23** | 0.1 |
| 2/0 | 275/24 | — | 1/2 | Black | 45 | 4.20 | 3.00 | .83 | .13 | .57 | .50 | 1¾ | 54862BE | **3LM54** | 6.73 | **6.40** | 0.1 |
| 3/0 | 325/24 | 150 | 1/2 | Orange | 50 | 4.45 | 2.95 | .94 | .13 | .64 | .63 | 1¾ | 54864BE | **3LM55** | 7.78 | **7.39** | 0.2 |
| 4/0 | 450/24 | 200 | 1/2 | Purple | 54 | 4.70 | 3.00 | 1.03 | .14 | .70 | .50 | 1¾ | 54866BE | **3LM56** | 8.43 | **8.01** | 0.2 |
| 250 kcmil | 550/24 | — | 1/2 | Yellow | 62 | 4.92 | 3.00 | 1.09 | .14 | .77 | .63 | 1¾ | 54868BE | **3LM57** | 10.98 | **10.43** | 0.2 |
| 300 kcmil | — | — | 1/2 | White | 66 | 5.20 | 3.00 | 1.25 | .15 | .85 | .50 | 1¾ | 54870BE | **3LM58** | 12.66 | **12.03** | 0.3 |
| 350 kcmil | 650/24 | — | 1/2 | Red | 71 | 5.35 | 3.00 | 1.36 | .18 | .93 | .50 | 1¾ | 54872BE | **3LM59** | 12.89 | **12.25** | 0.4 |
| 400 kcmil | 775/24 | — | 1/2 | Blue | 76 | 5.45 | 3.00 | 1.41 | .17 | .96 | .50 | 1¾ | 54874BE | **3LM60** | 15.41 | **14.64** | 0.4 |
| 500 kcmil | 925/24 | — | 1/2 | Brown | 87 | 5.95 | 3.00 | 1.61 | .22 | 1.10 | .50 | 1¾ | 54876BE | **3LM61** | 17.96 | **17.06** | 0.7 |

*Flex refers to circular mil area kcmil, MCM.

**DON'T FORGET THE BACK OF THE BOOK!**
**MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

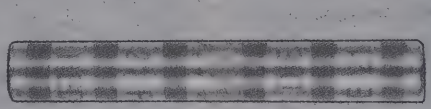
# COLOR-KEYED® COMPRESSION CONNECTORS FOR COPPER CABLE—CODE AND FLEX

## LONG BARREL 2 WAY COPPER CONNECTOR—600V

- Material—High conductivity wrought copper
- Finish—Electro tin plated
- UL Listed for code stranded and 24 gauge flex
- Order installation tools and dies on pages 612 and 613

Thomas&Betts

E9809 LR450



### 2 WAY CONNECTORS—LONG BARREL TYPE, 600V, ORDERING DATA

| Code | Cable Size Flex* | Color Code | Die Code | Dimensions (In.) Length | O.D. | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| #8 | 37/24 | Red | 21 | 1.75 | .26 | 54804 | **3LM37** | $1.90 | **$1.81** | 0.1 |
| #6 | 61/24 | Blue | 24 | 1.75 | .30 | 54805 | **3LM38** | 3.24 | **3.08** | 0.1 |
| #4 | 91/24 | Gray | 29 | 1.75 | .37 | 54806 | **3LM39** | 3.92 | **3.73** | 0.1 |
| #2 & #3 | 125/24 | Brown | 33 | 1.88 | .41 | 54807 | **3LM40** | 4.75 | **4.51** | 0.1 |
| #1 | 150/24 & 175/24 | Green | 37 | 2.00 | .47 | 54808 | **3LM41** | 5.32 | **5.06** | 0.1 |
| 1/0 | 225/24 | Pink | 42 | 2.00 | .52 | 54809 | **3LM42** | 5.83 | **5.54** | 0.1 |
| 2/0 | 275/24 | Black | 45 | 2.13 | .57 | 54810 | **3LM43** | 6.73 | **6.40** | 0.1 |
| 3/0 | 325/24 | Orange | 50 | 2.25 | .63 | 54811 | **3LM44** | 7.16 | **6.81** | 0.1 |
| 4/0 | 450/24 | Purple | 54 | 2.75 | .70 | 54812 | **3LM45** | 8.14 | **7.74** | 0.1 |
| 250 kcmil | 550/24 | Yellow | 62 | 3.38 | .77 | 54813 | **3LM46** | 8.69 | **8.26** | 0.2 |
| 300 kcmil | — | White | 66 | 3.44 | .85 | 54814 | **3LM47** | 11.25 | **10.69** | 0.2 |
| 350 kcmil | 650/24 | Red | 71 | 3.69 | .93 | 54815 | **3LM48** | 11.04 | **10.49** | 0.3 |
| 400 kcmil | 775/24 | Blue | 76 | 3.69 | .96 | 54816 | **3LM49** | 14.93 | **14.19** | 0.3 |
| 500 kcmil | 925/24 | Brown | 87 | 4.69 | 1.10 | 54818 | **3LM50** | 17.58 | **16.71** | 0.3 |

(*) Flex refers to circular mil area.

## BATTERY AND CABLE CONNECTORS

Used in all electric forklift truck applications in addition to batteries, battery chargers, sweepers, personnel carriers, golf carts, construction equipment, and marinas. One-piece polycarbonate Lexan connector housings are impact-resistant for physical and dielectric strength.

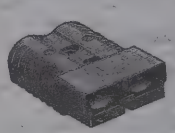
Silver-plated electrolytic copper contacts offer low resistance and high conductivity with annealed barrel to ensure even crimping. Solid barrel contacts are flared for easy insertion of stripped wire or cable. Contacts are supported by tempered stainless steel leaf springs to maintain constant pressure and vibration resistance. Systems Material Handling brand.

### BATTERY AND CABLE CONNECTOR HANDLE

Heavy gauge insulated steel assist handle easily installs on any of the 175 amp or 350 amp rated connectors listed below. Covered with red plasticsol for excellent resistance to corrosion and insulation from electrical shock. Comes complete with hardware. Systems Material Handling brand (SY175-350H).

**No. 6W058.** Shpg. wt. 0.5 lbs. List $13.00. Each .....**$12.20**

SMH



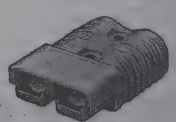
No. 6A071

ASMH Connectors are male/female. Rotate one connector 180° to connect to the other.

E81817



No. 6W058 Battery & Cable Connector Handle



No. 6A070

LAB2704

| Wire Size AWG | Max. Wire Dia. (In.) | Cable Well Depth (In.) | Nominal Rated Amp | Color | Cross-Reference* Anderson | Brad Harrison | Systems Material Handling Model | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 0.221 | 0.44 | 50 | Gray | 6319 | 49010 | SY6319 | **6A069** | $7.50 | **$6.18** | 0 |
| 6 | 0.221 | 0.44 | 50 | Red | 6331G1 | 49050 | SY6331G1 | **6W056** | 7.50 | **6.18** | 0 |
| 4 | 0.298 | 0.75 | 120 | Gray | — | — | SY6330G4 | **6W057** | 13.50 | **9.55** | 0 |
| 1/0 | 0.437 | 0.75 | 175 | Gray | 6325G1 | 49110 | SY6325G1 | **6A070†** | 16.50 | **11.67** | 0 |
| 1/0 | 0.437 | 0.75 | 175 | Blue | 6326G1 | 49120 | SY6326G1 | **6A072†** | 16.50 | **11.67** | 0 |
| 1/0 | 0.437 | 0.75 | 175 | Red | 6329G1 | 49150 | SY6329G1 | **6A073†** | 16.50 | **11.67** | 0 |
| 2/0 | 0.484 | 1.10 | 350 | Gray | 6320G1 | 49210 | SY6320G1 | **6A071†** | 21.60 | **18.85** | 0 |
| 2/0 | 0.484 | 1.10 | 350 | Blue | 6321G1 | 49220 | SY6321G1 | **6A074†** | 21.60 | **18.85** | 0 |
| 2/0 | 0.484 | 1.10 | 350 | Red | 6322G1 | 49250 | SY6322G1 | **6A075†** | 21.60 | **18.85** | 0 |

(*) Systems Material Handling connectors are interconnectable with SB® connectors (Anderson Power Products brand) and S® connectors (Brad Harrison Co. brand).
(†) Battery and cable connector handle can be installed. See Cross-Reference Information on page opposite inside back cover.

GRAINGER HAS OVER 350 BRANCHES NATIONWIDE

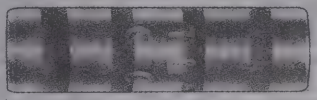
We're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who c about your business. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# COLOR-KEYED® COMPRESSION CONNECTORS FOR ALL COPPER CABLE

## SHORT BARREL 2 WAY COPPER CONNECTORS FOR 600V APPLICATIONS

- Provide high pullout values
- Provide a low resistance, high quality connection
- Easy to insulate
- Material—High Conductivity Wrought Copper
- Finish—Electro Tin Plate
- UL Listed for code stranded and 24 gauge flex
- Order installation tools and dies on pages 612 and 613

Thomas&Betts



E9809 LR4503

### SHORT BARREL 2 COPPER CONNECTORS FOR 600V APPLICATION ORDERING DATA

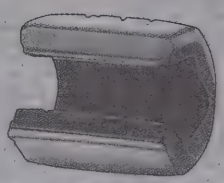
| Code | Cable Size Weld | Cable Size Flex | Color Code | Die Code | Dimensions (In.) Length | Dimensions (In.) O.D. | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| #8 Str. | #8 | 37/24 | Red | 21 | 1.03 | .27 | 54504 | 3LM13 | $1.70 | $1.62 | 0.1 |
| #6 Str. | #6 | 61/24 | Blue | 24 | 1.00 | .30 | 54505 | 3LM14 | 2.97 | 2.83 | 0.1 |
| #4 Str. | — | 91/24 | Gray | 29 | 1.00 | .37 | 54506 | 3LM15 | 3.35 | 3.18 | 0.1 |
| #2 | #4 | 125/24 | Brown | 33 | 1.25 | .41 | 54507 | 3LM16 | 4.25 | 4.04 | 0.1 |
| #1 | #2 | 175/24 | Green | 37 | 1.50 | .47 | 54508 | 3LM17 | 4.88 | 4.64 | 0.1 |
| 1/0 | #1 | 225/24 | Pink | 42 | 1.56 | .52 | 54509 | 3LM18 | 5.28 | 5.02 | 0.1 |
| 2/0 | 1/0 | 275/24 | Black | 45 | 1.69 | .57 | 54510 | 3LM19 | 5.62 | 5.34 | 0.1 |
| 3/0 | 2/0 | 325/24 | Orange | 50 | 1.75 | .63 | 54511 | 3LM20 | 6.56 | 6.23 | 0.1 |
| 4/0 | 3/0 | 450/24 | Purple | 54 | 1.88 | .70 | 54512 | 3LM21 | 7.13 | 6.78 | 0.1 |
| 250 kcmil | — | — | Yellow | 62 | 2.19 | .77 | 54513 | 3LM22 | 8.51 | 8.09 | 0.1 |
| 300 kcmil | — | — | White | 66 | 2.06 | .85 | 54514 | 3LM23 | 9.48 | 9.01 | 0.1 |
| 350 kcmil | — | — | Red | 71 | 2.19 | .93 | 54515 | 3LM24 | 9.64 | 9.16 | 0.2 |
| 400 kcmil | — | — | Blue | 76 | 2.75 | .96 | 54516 | 3LM25 | 11.45 | 10.88 | 0.2 |
| 500 kcmil | — | — | Brown | 87 | 2.75 | 1.10 | 54518 | 3LM26 | 14.13 | 13.43 | 0.3 |
| 750 kcmil | — | — | Black | 106 | 3.00 | 1.33 | 54523-TB | 3LM27 | 25.38 | 24.11 | 0.5 |

# C TAPS FOR 600V APPLICATIONS

### C TAPS FOR 600V APPLICATIONS ORDERING DATA

| Main | Branch | Dimensions (In.) L | Dimensions (In.) H | Color Code | Die Code | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 10<br>12 | 9/16 | 7/16 | Blue | 24 | 54710 | 3LM28 | $1.40 | $1.33 | 0.1 |
| | 10-12<br>8-10 | 9/16 | 5/8 | Gray | 29 | 54715 | 3LM29 | 1.53 | 1.46 | 0.1 |
| or 5<br>8 | 8-10-12 | 15/32 | 11/16 | Brown | 33 | 54720 | 3LM30 | 1.76 | 1.68 | 0.1 |
| or 5 | 6-8-10-12<br>6-5 | 15/32 | 13/16 | Green | 37 | 54725 | 3LM31 | 2.16 | 2.05 | 0.1 |
| | 6-8-10-12<br>5<br>4 | 15/32 | 27/32 | Pink | 42 | 54730 | 3LM32 | 2.55 | 2.43 | 0.1 |
| | 5-6-8-10-12<br>4-5<br>3-4 | 111/16 | 7/8 | Black | 45 | 54735 | 3LM33 | 3.04 | 2.89 | 0.1 |
| 0 | 4-5-6-8-10-12<br>3-4<br>2-3 | 111/16 | 31/32 | Orange | 50 | 54740 | 3LM34 | 3.72 | 3.54 | 0.1 |
| 0<br>0 | 3-4-5-6-8-10-12<br>2-3<br>1-2 | 111/16 | 1 1/16 | Purple | 54 | 54745 | 3LM35 | 4.37 | 4.16 | 0.1 |
| 0<br>0<br>0 | 2-3-4-5-6-8-10-12<br>1-2<br>1/0-1 | 111/16 | 1 3/16 | Yellow | 62 | 54750 | 3LM36 | 4.65 | 4.42 | 0.1 |

Thomas&Betts



LR4503

E9809

- Assure positive, all around compression with low resistance and high pullout values
- Made of high conductivity wrought copper
- Contain heavy reinforcing ribs which locate the compression dies as well as strengthen the compression joint
- Ideal for pigtailing, 2-way splicing or tapping to an unbroken continuous main
- Order installation tools and dies on pages 612 and 613

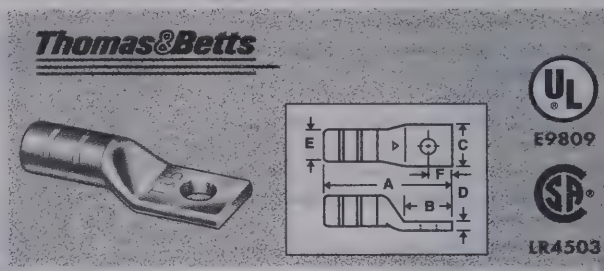
YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# COLOR-KEYED® COMPRESSION CONNECTORS FOR ALUMINUM/COPPER CODE CABLE

## 1 HOLE LUGS—90°C, 600V TO 35KV APPLICATIONS

- Designed and approved for aluminum and copper conductors
- Long compression areas assure complete contact and multiple compressions prevent creep of the aluminum conductor
- Filled with a high temperature oxide inhibitor compound
- Finish—Electro-tin plated to prevent electrolytic corrosion when in contact with copper and assure lowest contact resistance
- Material—High conductivity wrought aluminum
- Order installation tools and dies on pages 612 and 613

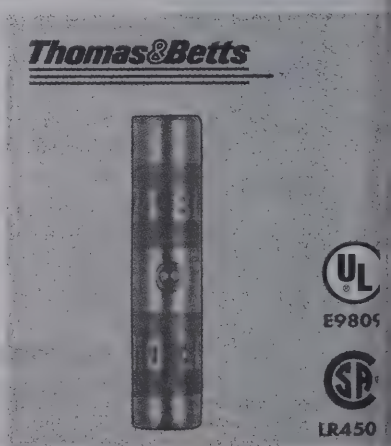



### 1 HOLE LUGS—90°C, 600V TO 35KV APPLICATIONS, ORDERING DATA

| Cable Size AL/CU | Stud Size | Color Code | Die Code | Dimensions (In.) A | B | C | D | E | F | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #8 | #10 | Blue | 24 | 1.22 | .56 | .41 | .09 | .280 | .22 | 60101 | **3LM77** | $3.37 | **$3.21** | 0.1 |
| | 1/4 | | | 1.38 | .71 | .44 | .09 | .280 | .34 | 60102 | **3LM78** | 3.37 | **3.21** | 0.1 |
| #6 | 1/4 | Gray | 29 | 1.67 | .75 | .47 | .13 | .350 | .34 | 60107 | **3LM79** | 4.15 | **3.95** | 0.1 |
| | 3/8 | | | 1.86 | .93 | .63 | .09 | .350 | .44 | 60109 | **3LM80** | 4.77 | **4.54** | 0.1 |
| #4 | 1/4 | Green | 37 | 1.81 | .75 | .64 | .19 | .460 | .34 | 60112-TB | **3LM81** | 4.37 | **4.16** | 0.1 |
| | 5/16 | | | 2.00 | .91 | .64 | .19 | .460 | .44 | 60113 | **3LM82** | 4.56 | **4.34** | 0.1 |
| | 3/8 | | | 2.03 | .93 | .64 | .19 | .460 | .44 | 60114 | **3LM83** | 4.52 | **4.29** | 0.1 |
| #2 | 1/4 | Pink | 42 | 1.91 | .75 | .72 | .19 | .510 | .34 | 60116 | **3LM84** | 5.54 | **5.27** | 0.1 |
| | 5/16 | | | 2.06 | .91 | .72 | .19 | .510 | .44 | 60117 | **3LM85** | 5.32 | **5.06** | 0.1 |
| | 3/8 | | | 2.09 | .93 | .72 | .19 | .510 | .44 | 60118 | **3LM86** | 5.30 | **5.04** | 0.1 |
| #1 | 3/8 | Gold | 45 | 2.42 | .93 | .75 | .19 | .560 | .44 | 60124 | **3LM87** | 6.60 | **6.27** | 0.1 |
| 1/0 | 5/16 | Tan | 50 | 2.51 | .97 | .88 | .19 | .620 | .44 | 60129 | **3LM88** | 8.21 | **7.80** | 0.1 |
| | 3/8 | | | 2.51 | .97 | .88 | .19 | .620 | .44 | 60130 | **3LM89** | 7.38 | **7.02** | 0.1 |
| | 1/2 | | | 2.95 | 1.41 | .94 | .19 | .620 | .69 | 60132 | **3LM90** | 7.47 | **7.10** | 0.1 |
| 2/0 | 3/8 | Olive | 54 | 2.64 | 1.03 | .97 | .22 | .700 | .44 | 60136 | **3LM91** | 9.28 | **8.82** | 0.1 |
| | 1/2 | | | 3.10 | 1.41 | 1.03 | .22 | .700 | .69 | 60138 | **3LM92** | 9.72 | **9.24** | 0.1 |
| 3/0 | 3/8 | Ruby | 60 | 2.83 | 1.09 | 1.06 | .22 | .770 | .44 | 60142 | **3LM93** | 13.01 | **12.36** | 0.1 |
| | 1/2 | | | 3.15 | 1.41 | 1.06 | .22 | .770 | .69 | 60144 | **3LM94** | 14.04 | **13.34** | 0.1 |
| 4/0 | 3/8 | White | 66 | 3.58 | .93 | 1.21 | .25 | .857 | .38 | 60148 | **3LM95** | 14.41 | **13.69** | 0.1 |
| | 1/2 | | | 3.90 | 1.25 | 1.21 | .25 | .857 | .50 | 60150 | **3LM96** | 16.07 | **15.27** | 0.1 |
| 250 kcmil | 1/2 | Red | 71 | 4.05 | 1.25 | 1.29 | .27 | .917 | .50 | 60156 | **3LM97** | 15.35 | **14.59** | 0.2 |
| 300 kcmil | 3/8 | Blue | 76 | 3.80 | .93 | 1.39 | .28 | .990 | .38 | 60160 | **3LM98** | 19.09 | **18.14** | 0.2 |
| | 1/2 | | | 4.13 | 1.25 | 1.39 | .28 | .990 | .50 | 60162 | **3LM99** | 17.72 | **16.84** | 0.2 |
| 350 kcmil | 1/2 | Brown | 87 | 4.83 | 1.25 | 1.53 | .33 | 1.090 | .50 | 60165 | **3LN01** | 18.91 | **17.97** | 0.3 |
| 500 kcmil | 1/2 | Pink | 99 | 4.95 | 1.25 | 1.79 | .38 | 1.280 | .50 | 60171 | **3LN02** | 36.60 | **34.80** | 0.5 |
| | 5/8 | | | 5.70 | 2.00 | 1.79 | .38 | 1.280 | .75 | 60172 | **3LN03** | 40.28 | **38.30** | 0.5 |

## 2 WAY CONNECTORS FOR 600V 90°C APPLICATIONS

- AL and CU concentric conductors and compact code AL strandings
- Material—High conductivity wrought aluminum
- Finish—Electro-tin plated
- Permit aluminum conductors to be spliced to copper conductors, as well as aluminum-to-aluminum conductors
- Order installation tools and dies on pages 612 and 613




### 2 WAY CONNECTORS FOR 600V, 90° APPLICATIONS, ORDERING DATA

| Cable Size AL/CU | Color Code | Die Code | Dimensions (In.) Length | O.D. | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 Str. | Blue | 24 | 1.19 | .28 | 60501 | **3LN04** | $3.59 | **$3.41** | 0.1 |
| 6 Str. | Gray | 29 | 1.63 | .35 | 60507 | **3LN05** | 4.10 | **3.90** | 0.1 |
| 4 Str. | Green | 37 | 1.81 | .46 | 60512 | **3LN06** | 4.37 | **4.16** | 0.1 |
| 2 Str. | Pink | 42 | 1.81 | .51 | 60516 | **3LN07** | 6.71 | **6.38** | 0.1 |
| 1 Str. | Gold | 45 | 2.38 | .56 | 60522 | **3LN08** | 9.79 | **9.30** | 0.1 |
| 1/0 | Tan | 50 | 2.38 | .62 | 60530 | **3LN09** | 12.02 | **11.43** | 0.1 |
| 2/0 | Olive | 54 | 2.50 | .70 | 60536 | **3LN10** | 12.23 | **11.63** | 0.1 |
| 3/0 | Ruby | 60 | 2.81 | .77 | 60542 | **3LN11** | 14.87 | **14.13** | 0.1 |
| 4/0 | White | 66 | 3.66 | .86 | 60548 | **3LN12** | 15.17 | **14.41** | 0.2 |
| 250 kcmil | Red | 71 | 3.91 | .92 | 60554 | **3LN13** | 16.83 | **15.99** | 0.2 |
| 300 kcmil | Blue | 76 | 3.97 | .99 | 60560 | **3LN14** | 18.93 | **17.98** | 0.3 |
| 350 kcmil | Brown | 87 | 4.97 | 1.09 | 60565 | **3LN15** | 19.77 | **18.79** | 0.4 |
| 400 kcmil | Green | 94 | 4.97 | 1.18 | 60568 | **3LN16** | 26.42 | **25.15** | 0.3 |
| 500 kcmil | Pink | 99 | 4.97 | 1.28 | 60571 | **3LN17** | 32.39 | **30.80** | 0.2 |



When the spec calls for brand names, you'll find the best here.

# COLOR-KEYED® MOTOR PIGTAIL CONNECTORS AND SEALANT

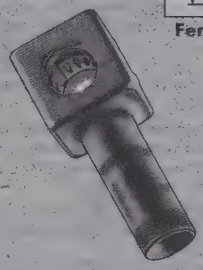
## MOTOR PIGTAIL CONNECTOR—1 LINE TO 2 LOAD (3 WIRE)

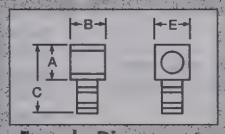
- Provides quick and easy changeout of motors and transformers with less down time
- Eliminates bolting, tapping and loose connections
- High-amperage interface band
- Compact size
- Snug-fit size, slip-on insulator
- Precision male and female design
- Easy, error-free installation
- Wire range: No. 16 to 4/0 AWG
- Rating: 600V, 90°C
- Material: High conductivity copper
- Insulator: Thermoplastic Elastomer
- Plating: Tin

Thomas&Betts

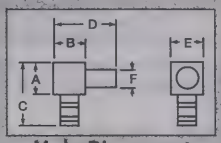
E9809

LR4503



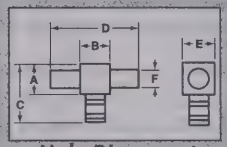



Female Disconnect




Male Disconnect
One line to one load (2-wire)

New




Male Disconnect
One line to two load (3-wire)

## MOTOR PIGTAIL CONNECTOR ORDERING DATA

| Wire Size | Body Size | Color Code | Die Code | Insulation Boot* | Dimensions (In.) A | B | C | D | E | F | Strip Length (In.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FEMALE DISCONNECT** | | | | | | | | | | | | | | | | |
| **16-14 AWG** | 0 | Blue | — | 3LR53 | .250 | .250 | .63 | — | .250 | — | 3/8 | MD1614F-0 | **3LR25** | $3.84 | **$3.66** | 0.1 |
| **16-14 AWG** | 1 | Blue | — | 3LR54 | .380 | .380 | .78 | — | .380 | — | 3/8 | MD1614F-1 | **3LR26** | 4.92 | **4.68** | 0.1 |
| **12-10 AWG** | 1 | Yellow | — | 3LR54 | .380 | .380 | .78 | — | .380 | — | 3/8 | MD1210F-1 | **3LR21** | 4.57 | **4.35** | 0.1 |
| **12-10 AWG** | 2 | Yellow | — | 3LR55 | .500 | .500 | .90 | — | .500 | — | 3/8 | MD1210F-2 | **3LR22** | 5.76 | **5.48** | 0.1 |
| **8 AWG** | 1 | Red | 21 | 3LR54 | .380 | .380 | .82 | — | .380 | — | 7/16 | MD8F-1 | **3LR49** | 4.57 | **4.35** | 0.1 |
| **8 AWG** | 2 | Red | 21 | 3LR55 | .500 | .500 | .95 | — | .500 | — | 7/16 | MD8F-2 | **3LR50** | 5.76 | **5.48** | 0.1 |
| **6 AWG** | 1 | Blue | 24 | 3LR54 | .380 | .380 | .88 | — | .380 | — | 1/2 | MD6F-1 | **3LR45** | 4.92 | **4.68** | 0.1 |
| **6 AWG** | 2 | Blue | 24 | 3LR55 | .500 | .500 | 1.02 | — | .500 | — | 1/2 | MD6F-2 | **3LR46** | 5.76 | **5.48** | 0.1 |
| **4 AWG** | 2 | Gray | 29 | 3LR55 | .500 | .500 | 1.06 | — | .500 | — | 1/2 | MD4F-2 | **3LR43** | 5.76 | **5.48** | 0.1 |
| **2 AWG** | 2 | Brown | 33 | 3LR55 | .500 | .500 | 1.09 | — | .500 | — | 17/32 | MD2F-2 | **3LR35** | 5.76 | **5.48** | 0.1 |
| **2 AWG** | 3 | Brown | 33 | 3LR56 | .880 | .880 | 1.46 | — | .880 | — | 17/32 | MD2F-3 | **3LR36** | 18.08 | **17.18** | 0.2 |
| **1 AWG** | 2 | Green | 37 | 3LR55 | .500 | .500 | 1.23 | — | .500 | — | 9/16 | MD1F-2 | **3LR29** | 6.20 | **5.90** | 0.1 |
| **1 AWG** | 3 | Green | 37 | 3LR56 | .880 | .880 | 1.56 | — | .880 | — | 9/16 | MD1F-3 | **3LR30** | 18.08 | **17.18** | 0.2 |
| **1/0 AWG** | 3 | Pink | 42 | 3LR56 | .875 | .875 | 1.56 | — | .875 | — | 9/16 | MD10F-3 | **3LR19** | 18.08 | **17.18** | 0.2 |
| **2/0 AWG** | 3 | Black | 45 | 3LR56 | .880 | .880 | 1.59 | — | .880 | — | 5/8 | MD20F-3 | **3LR33** | 18.08 | **17.18** | 0.2 |
| **3/0 AWG** | 3 | Orange | 50 | 3LR56 | .880 | .880 | 1.71 | — | .880 | — | 11/16 | MD30F-3 | **3LR39** | 18.08 | **17.18** | 0.2 |
| **4/0 AWG** | 3 | Purple | 54 | 3LR56 | .880 | .880 | 1.81 | — | .880 | — | 3/4 | MD40F-3 | **3LR41** | 18.08 | **17.18** | 0.2 |
| **MALE DISCONNECT ONE LINE TO ONE LOAD (2 WIRE)** | | | | | | | | | | | | | | | | |
| **16-14 AWG** | 0 | Blue | — | 3LR53 | .250 | .250 | .63 | .52 | .250 | .125 | 3/8 | MD1614M-0 | **3LR27** | 3.84 | **3.66** | 0.1 |
| **16-14 AWG** | 1 | Blue | — | 3LR54 | .380 | .380 | .78 | .75 | .380 | .250 | 3/8 | MD1614M-1 | **3LR28** | 4.92 | **4.68** | 0.1 |
| **12-10 AWG** | 1 | Yellow | — | 3LR54 | .380 | .380 | .78 | .75 | .380 | .250 | 3/8 | MD1210M-1 | **3LR23** | 4.57 | **4.35** | 0.1 |
| **12-10 AWG** | 2 | Yellow | — | 3LR55 | .500 | .500 | .90 | 1.00 | .500 | .370 | 3/8 | MD1210M-2 | **3LR24** | 5.76 | **5.48** | 0.1 |
| **8 AWG** | 1 | Red | 21 | 3LR54 | .380 | .380 | .82 | .75 | .380 | .250 | 7/16 | MD8M-1 | **3LR51** | 4.57 | **4.35** | 0.1 |
| **8 AWG** | 2 | Red | 21 | 3LR55 | .500 | .500 | .95 | 1.00 | .500 | .370 | 7/16 | MD8M-2 | **3LR52** | 5.76 | **5.48** | 0.1 |
| **6 AWG** | 1 | Blue | 24 | 3LR54 | .380 | .380 | .88 | .75 | .380 | .250 | 1/2 | MD6M-1 | **3LR47** | 4.92 | **4.68** | 0.1 |
| **6 AWG** | 2 | Blue | 24 | 3LR55 | .500 | .500 | 1.02 | 1.00 | .500 | .370 | 1/2 | MD6M-2 | **3LR48** | 5.76 | **5.48** | 0.1 |
| **4 AWG** | 2 | Gray | 29 | 3LR55 | .500 | .500 | 1.06 | 1.00 | .500 | .370 | 1/2 | MD4M-2 | **3LR44** | 5.76 | **5.48** | 0.1 |
| **2 AWG** | 2 | Brown | 33 | 3LR55 | .500 | .500 | 1.09 | 1.00 | .500 | .370 | 17/32 | MD2M-2 | **3LR37** | 6.20 | **5.90** | 0.1 |
| **2 AWG** | 3 | Brown | 33 | 3LR56 | .880 | .880 | 1.46 | 1.75 | .880 | .500 | 17/32 | MD2M-3 | **3LR38** | 18.08 | **17.18** | 0.3 |
| **1 AWG** | 2 | Green | 37 | 3LR55 | .500 | .500 | 1.23 | 1.00 | .500 | .370 | 9/16 | MD1M-2 | **3LR31** | 6.20 | **5.90** | 0.1 |
| **1 AWG** | 3 | Green | 37 | 3LR56 | .880 | .880 | 1.56 | 1.75 | .880 | .500 | 9/16 | MD1M-3 | **3LR32** | 18.08 | **17.18** | 0.3 |
| **1/0 AWG** | 3 | Pink | 42 | 3LR56 | .875 | .875 | 1.56 | 1.75 | .875 | .500 | 9/16 | MD10M-3 | **3LR20** | 18.08 | **17.18** | 0.3 |
| **2/0 AWG** | 3 | Black | 45 | 3LR56 | .880 | .880 | 1.59 | 1.75 | .880 | .500 | 5/8 | MD20M-3 | **3LR34** | 18.08 | **17.18** | 0.3 |
| **3/0 AWG** | 3 | Orange | 50 | 3LR56 | .880 | .880 | 1.71 | 1.75 | .880 | .500 | 11/16 | MD30M-3 | **3LR40** | 18.08 | **17.18** | 0.4 |
| **4/0 AWG** | 3 | Purple | 54 | 3LR56 | .880 | .880 | 1.81 | 1.75 | .880 | .500 | 3/4 | MD40M-3 | **3LR42** | 18.08 | **17.18** | 0.3 |
| **NEW! MALE DISCONNECT ONE LINE TO TWO LOAD (3 WIRE)** | | | | | | | | | | | | | | | | |
| **12-10 AWG** | 1 | Yellow | — | 4LV76 | .380 | .380 | .780 | .750 | .380 | .25 | 3/8 | M2D1210M-1 | *New* **4LV62** | 5.84 | **5.56** | 0.1 |
| **12-10 AWG** | 2 | Yellow | — | 4LV77 | .500 | .500 | .900 | 1.500 | .500 | .37 | 3/8 | M2D1210M-2 | *New* **4LV63** | 7.35 | **6.98** | 0.1 |
| **8 AWG** | 1 | Red | 21 | 4LV76 | .380 | .380 | .820 | 1.125 | .380 | .25 | 7/16 | M2D8M-1 | *New* **4LV74** | 5.84 | **5.56** | 0.1 |
| **8 AWG** | 2 | Red | 21 | 4LV77 | .500 | .500 | .950 | 1.500 | .500 | .37 | 7/16 | M2D8M-2 | *New* **4LV75** | 7.35 | **6.98** | 0.1 |
| **6 AWG** | 1 | Blue | 24 | 4LV76 | .380 | .380 | .875 | 1.125 | .380 | .25 | 1/2 | M2D6M-1 | *New* **4LV72** | 5.84 | **5.56** | 0.1 |
| **6 AWG** | 2 | Blue | 24 | 4LV77 | .500 | .500 | 1.020 | 1.500 | .500 | .37 | 1/2 | M2D6M-2 | *New* **4LV73** | 7.35 | **6.98** | 0.1 |
| **4 AWG** | 2 | Gray | 29 | 4LV77 | .500 | .500 | 1.060 | 1.500 | .500 | .37 | 1/2 | M2D4M-2 | *New* **4LV71** | 7.35 | **6.98** | 0.1 |
| **2 AWG** | 2 | Brown | 33 | 4LV77 | .500 | .500 | 1.090 | 1.500 | .500 | .37 | 17/32 | M2D2M-2 | *New* **4LV67** | 7.35 | **6.98** | 0.1 |
| **2 AWG** | 3 | Brown | 33 | 4LV78 | .875 | .875 | 1.460 | 2.630 | .875 | .50 | 17/32 | M2D2M-3 | *New* **4LV68** | 19.43 | **18.46** | 0.1 |
| **1 AWG** | 2 | Green | 37 | 4LV77 | .50 | .50 | 1.230 | 1.500 | .500 | .37 | 9/16 | M2D1M-2 | *New* **4LV64** | 7.35 | **6.98** | 0.1 |
| **1 AWG** | 3 | Green | 37 | 4LV78 | .875 | .875 | 1.560 | 2.630 | .875 | .50 | 9/16 | M2D1M-3 | *New* **4LV65** | 19.43 | **18.46** | 0.3 |
| **1/0 AWG** | 3 | Pink | 42 | 4LV78 | .875 | .875 | 1.560 | 2.630 | .875 | .50 | 9/16 | M2D10M-3 | *New* **4LV61** | 19.43 | **18.46** | 0.1 |
| **2/0 AWG** | 3 | Black | 45 | 4LV78 | .875 | .875 | 1.590 | 2.630 | .875 | .50 | 5/8 | M2D20M-3 | *New* **4LV66** | 19.43 | **18.46** | 0.3 |
| **3/0 AWG** | 3 | Orange | 50 | 4LV78 | .875 | .875 | 1.710 | 2.630 | .875 | .50 | 11/16 | M2D30M-3 | *New* **4LV69** | 19.43 | **18.46** | 0.1 |
| **4/0 AWG** | 3 | Purple | 54 | 4LV78 | .875 | .875 | 1.810 | 2.630 | .875 | .50 | 3/4 | M2D40M-3 | *New* **4LV70** | 19.43 | **18.46** | 0.3 |

) Order separately on page 612.

# COLOR-KEYED® COMPRESSION CONNECTOR TOOLS

## MECHANICAL TYPE CRIMPING TOOLS

**A No. 3LT12**

- Installs copper lugs, splices and taps
- Equipped with SHURE STAKE® mechanism
- Order dies seperately on page 613

**B No. 3LT13**

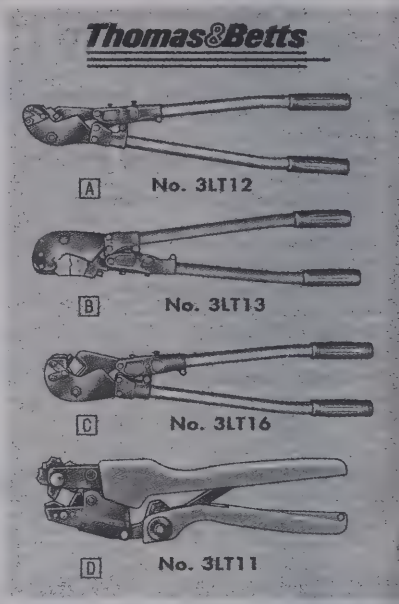
- Installs H taps, copper lugs, copper splices, copper taps, aluminum lugs, and aluminum splices
- Equipped with SHURE STAKE® mechanism
- Order dies separately on page 613

**C No. 3LT16**

- Installs copper lugs, C taps, and aluminum lugs
- Equipped with SHURE STAKE® mechanism
- Includes steel case
- Includes the following installation dies: 3LJ75, 3LJ76, 3LJ77, 3LJ78, 3LJ79, 3LJ80, 3LJ81, 3LJ82
- Replacement dies may be ordered separately on page 613

**D No. 3LT11**

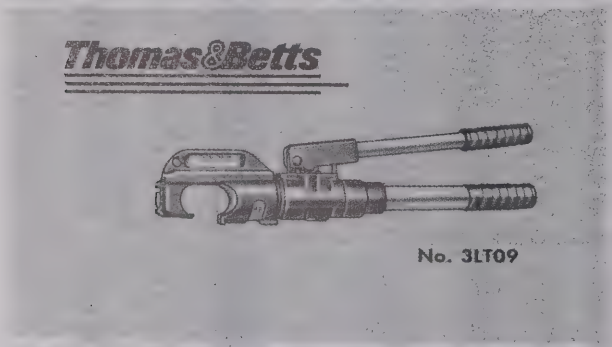
- Compression connector installation tool
- Includes a 5 nested die wheel for the following die codes: Red 21, Blue 24, Gray 29, Brown 33, and Green 37 (C taps only)
- Dies are color coded
- Equipped with SHURE STAKE® mechanism
- Replacement dies may be ordered separately on page 613




### MECHANICAL TYPE CRIMPING TOOL ORDERING DATA

| Key | Description | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Mechanical Type Crimping Tool | TBM5-S | **3LT12** | $548.58 | **$507.50** ▲ | 4.5 |
| B | | TBM6-S | **3LT13** | 685.75 | **634.50** ▲ | 22.0 |
| C | | TBM8-S | **3LT16** | 939.78 | **869.50** ▲ | 23.0 |
| D | | TBM25-S | **3LT11** | 222.97 | **206.25** ▲ | 1.3 |

(▲) Net prices, not subject to discount.




## 14-TON MANUAL HYDRAULIC CRIMPING TOOLS

- Self-contained 14 ton crimping tool
- Installs copper and aluminum lugs, copper and aluminum 2-way connectors copper C-taps, aluminum H-taps, and grid connectors
- Features rapid-ram advance mechanism for fast installation
- Field replaceable by-pass cartridge
- Short fiberglass handles for confined work spaces
- Includes carrying case
- Order dies separately on page 613
- Thomas & Betts brand (TBM14M)

**No. 3LT09.** Shpg. wt. 24.0 lbs. List $1837.58. Each.....$1700.00▲
(▲) Net prices, not subject to discount.

Thomas&Betts **New**

## MOTOR DISCONNECT BOOTS

- Insulation boots for male and female motor pigtail connectors
- Material: Thermoplastic elastomer
- Rating: 600V, 90°C

### MOTOR DISCONNECT BOOTS

| Body Size | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. | Body Size | Thomas & Betts Model | *New!* Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | MDBOOT-0 | **3LR53** | $2.40 | **$2.28** | 0.1 | 1 | M2DBOOT-1 | **4LV76** | $3.22 | **$3.06** | 0. |
| 1 | MDBOOT-1 | **3LR54** | 2.75 | **2.62** | 0.1 | 2 | M2DBOOT-2 | **4LV77** | 3.94 | **3.75** | 0. |
| 2 | MDBOOT-2 | **3LR55** | 3.60 | **3.43** | 0.1 | 3 | M2DBOOT-3 | **4LV78** | 4.32 | **4.11** | 0. |
| 3 | MDBOOT-3 | **3LR56** | 3.81 | **3.62** | 0.3 | | | | | | |

## SEALANT

- Use with motor disconnect boots
- Description: Polybutene Compound
- Application Temperature: 40°F–100°F
- Service Temperature: -40°F–180°F
- Dimensions: Thickness 1/8", Length (Std. Roll) 10 ft. wrapped on release liner
- Resists normal aging process
- Resists most acids, bases and alcohols
- Dielectric Strength: 200 v/mil minimum
- Volume Resistivity: $10^{13}$ ohms/cm
- Flame Retardancy: Pass VO Vertical Flame Test
- Thomas & Betts brand (MDBOOT-SEAL)

**No. 3LR57.** Shpg. wt. 1.0 lbs.
List..... $37.65.
Each.....$35.80

**CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS. THOUSANDS OF QUALITY PRODUCTS ARE LISTED**

# CRIMPING TOOL DIES

Thomas&Betts

- For use with Color-Keyed® compression connector tools

## CRIMPING TOOL DIE ORDERING DATA

| Die Codes | | | | | | | | | | | | | | | | | | | | | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Red 21 | Blue 24 | Gray 29 | Brown 33 | Green 37 | Pink 42 | Black 45 | Orange 50 | Purple 54 | Yellow 62 | Gold 45 | Tan 50 | Olive 54 | Ruby 60 | White 66 | Red 71 | Blue 76 | Black 80 | Brown 87 | Green 94 | C Taps Only | | | | | |
| **DIES FOR 3LT16 (TBM8-S) TOOL** | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | X | X | X | | | | | | | | | | | | | | | | | | 13461 | 3LJ75 | $53.17 | $49.20▲ | 0.1 |
| | | | | X | X | X | X | | | | | | | | | | | | | | 13462 | 3LJ76 | 49.37 | 45.70▲ | 0.1 |
| | | | | | | | | X | X | | | | | | | | | | | | 13463 | 3LJ77 | 49.37 | 45.70▲ | 0.1 |
| | | | | | | | | | | X | X | X | X | | | | | | | | 13464 | 3LJ78 | 49.37 | 45.70▲ | 0.1 |
| | | | | | | | | | | | | | | X | | | | | | | 13465 | 3LJ79 | 49.37 | 45.70▲ | 0.1 |
| | | | | | | | | | | | | | | | X | | | | | | 13466 | 3LJ80 | 49.37 | 45.70▲ | 0.1 |
| | | | | | | | | | | | | | | | | X | | | | | 13467 | 3LJ81 | 49.37 | 45.70▲ | 0.1 |
| | | | | | | | | | | | | | | | | | | X | | | 13468 | 3LJ82 | 49.37 | 45.70▲ | 0.1 |
| **DIES FOR 3LT12 (TBM5S) TOOL** | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | X | X | X | | | | | | | | | | | | | | | | | | 13454 | 3LJ70 | 49.37 | 45.70▲ | 0.1 |
| | | | | X | X | X | X | | | | | | | | | | | | | | 13455 | 3LJ71 | 49.37 | 45.70▲ | 0.1 |
| | | | | | | | | X | X | | | | | | | | | | | | 13456 | 3LJ72 | 49.37 | 45.70▲ | 0.1 |
| | | | | | | | | | | X | X | X | X | | | | | | | | 13457 | 3LJ73 | 49.37 | 45.70▲ | 0.2 |
| | | | | | | | | | | | | | | X | | | | | | | 13458 | 3LJ74 | 53.17 | 49.20▲ | 0.1 |
| **DIES FOR 3LT13 (TBM6S) TOOL** | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Upper Dies** | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | X | | | | X | | | X | | | | X | | | | | | | | | 13475 | 3LJ86 | 87.67 | 81.10▲ | 0.1 |
| | | X | | | | | | | | | | | | | X | X | | | | | 13472 | 3LJ83 | 94.41 | 87.35▲ | 0.1 |
| | | | X | X | | X | X | | | X | X | | | | | | | | | | 13474 | 3LJ85 | 87.67 | 81.10▲ | 0.1 |
| | | | | | | | | | X | | | | X | X | | | | | | | 13473 | 3LJ84 | 94.41 | 87.35▲ | 0.1 |
| **Lower Dies** | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | X | | X | X | X | X | X | X | | X | X | X | | | | | | | | | 13477 | 3LJ88 | 87.67 | 81.10▲ | 0.1 |
| | | X | | | | | | | X | | | | X | X | X | X | | | | | 13476 | 3LJ87 | 87.67 | 81.10▲ | 0.2 |
| | | | | | | | | | | | | | | | | | | X | | | 13478 | 3LJ89 | 94.41 | 87.35▲ | 0.1 |
| **DIES FOR 3LT09 (TBM14M) AND 3LT10 (TBM15)** | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | | | | | | | | | | | | | | | | | | | | | 15520 | 3LK19 | 146.19 | 135.25▲ | 0.1 |
| | X | | | | | | | | | | | | | | | | | | | | 15522 | 3LK20 | 146.19 | 135.25▲ | 0.1 |
| | | X | | | | | | | | | | | | | | | | | | | 15527-CK | 3LK22 | 146.19 | 135.25▲ | 0.4 |
| | | | X | | | | | | | | | | | | | | | | | | 15528 | 3LK23 | 146.19 | 135.25▲ | 0.1 |
| | | | | X | | | | | | | | | | | | | | | | | 15513 | 3LK16 | 146.19 | 135.25▲ | 0.1 |
| | | | | | X | | | | | | | | | | | | | | | | 15508 | 3LK12 | 157.43 | 145.65▲ | 0.1 |
| | | | | | | X | | | | X | | | | | | | | | | | 15526 | 3LK21 | 157.43 | 145.65▲ | 0.3 |
| | | | | | | | X | | | | X | | | | | | | | | | 15530 | 3LK24 | 146.19 | 135.25▲ | 0.1 |
| | | | | | | | | X | | | | X | | | | | | | | | 15511 | 3LK14 | 125.95 | 116.50▲ | 0.5 |
| | | | | | | | | | X | | | | | | | | | | | | 15510-CK | 3LK13 | 157.43 | 145.65▲ | 0.1 |
| | | | | | | | | | | | | | X | | | | | | | | 15532-CK | 3LK25 | 146.19 | 135.25▲ | 0.1 |
| | | | | | | | | | | | | | | X | | | | | | | 15534 | 3LK26 | 146.19 | 135.25▲ | 0.5 |
| | | | | | | | | | | | | | | | X | | | | | | 15514 | 3LK17 | 157.43 | 145.65▲ | 0.3 |
| | | | | | | | | | | | | | | | | X | | | | | 15512 | 3LK15 | 146.19 | 135.25▲ | 0.1 |
| | | | | | | | | | | | | | | | | | | X | | | 15506 | 3LK11 | 157.43 | 145.65▲ | 0.1 |
| | | | | | | | | | | | | | | | | | | | X | | 15611 | 3LK31 | 146.19 | 135.25▲ | 0.9 |
| | | | | | | | | | | | | | | | | | | | | X | 15602 | 3LK27 | 146.19 | 135.25▲ | 0.1 |

(▲) Net prices, not subject to discounts.

## KOPR-SHIELD®

- Blend of colloidal copper and inhibitors
- Anti-seize and conductive compound
- Prevents oxidation corrosion—compound flows between and around cable strands and reduces inner-strand resistance
- Rated for NEC applications up to 8 KV and 90°C

### KOPR-SHIELD ORDERING DATA

| Contains | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 lb. Can w/Brush | CP8-TB | 3LP03 | $32.81 | $31.20 | 0.3 |
| One lb. Can w/Brush | CP16 | 3LP02 | 47.51 | 45.15 | 0.9 |

## ALUMA-SHIELD® ALUMINUM JOINT COMPOUND

- For aluminum cable connections
- Contains fine zinc particles which break through oxide film on cable strands upon compression of connection
- Assures a low resistance contact and seals out air and moisture
- UL Listed only for use on electrical cables in cable connector assemblies, or on bus bars rated for NEC applications up to 8 KV and 90°C
- Contains 8 oz. brush cap can
- Thomas & Betts model AP8

No. 3LN47. Shpg. wt. 0.7 lbs. List $18.05. Each.....$17.16

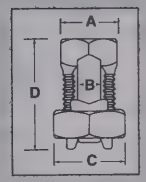
# BLACKBURN® MECHANICAL CONNECTORS—GENERAL APPLICATIONS

## HIGH STRENGTH SPLIT BOLT CONNECTORS

- For copper to copper connections
- Bolt and nut of high strength corrosion-resistant bronze alloy
- Bolt and nut of hex design up to 350 kcmil
- Round bolt design over 350 kcmil

UL recognizes solid and stranded conductor configurations for sizes #8 and smaller, and stranded configurations only for sizes #6 and larger.

Thomas&Betts






LR6591

E17010

### HIGH STRENGTH SPLIT BOLT CONNECTOR ORDERING DATA

| Conductor Range (AWG or kcmil) Range for Equal Main and Tap | Min. Tap with One Max. Main | Pressure Bar Material | Dimensions (In.) A | B | C | D | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **10 str–12 sol** | 14 sol | Copper | 3/8 | 0.146 | 1/2 | 25/32 | 9H | **3LN31** | $2.39 | **$2.27** | 0.1 |
| **8 str–10 sol** | 14 sol | Copper | 3/8 | 0.146 | 1/2 | 25/32 | 8H | **3LN30** | 2.68 | **2.55** | 0.1 |
| **6 sol–8 sol** | 14 sol | Copper | 15/32 | 0.170 | 21/32 | 31/32 | 6H | **3LN18** | 2.92 | **2.78** | 0.1 |
| **4 sol–8 sol** | 14 sol | Copper | 17/32 | 0.235 | 23/32 | 1 1/16 | 4H | **3LK69** | 3.55 | **3.37** | 0.1 |
| **3 sol–8 sol** | 16 str | Copper | 17/32 | 0.235 | 23/32 | 1 1/16 | 3H | **3LK57** | 3.55 | **3.37** | 0.1 |
| **2 sol–6 sol** | 14 sol | Copper | 19/32 | 0.271 | 25/32 | 1 1/4 | 2H | **3LK36** | 5.10 | **4.85** | 0.1 |
| **1/0 str–4 sol** | 14 sol | Copper | 3/4 | 0.385 | 15/16 | 1 19/32 | 10H | **3LJ68** | 7.31 | **6.94** | 0.2 |
| **2/0-2 sol** | 14 sol | Copper | 7/8 | 0.443 | 1 1/16 | 1 13/16 | 20H | **3LK34** | 11.84 | **11.25** | 0.2 |
| **250 kcmil–1 str** | 8 sol | Copper | 1 | 0.580 | 1 5/16 | 2 5/32 | 40H | **3LK58** | 17.99 | **17.09** | 0.4 |
| **350 kcmil–250 kcmil** | 1/0 str | Copper Alloy | 1 5/16 | 0.717 | 1 21/32 | 2 1/16 | 350M | **3LK56** | 28.41 | **27.00** | 0.8 |
| **500 kcmil–400 kcmil** | 2/0 str | Copper Alloy | 1 1/2 | 0.842 | 1 7/8 | 3 1/32 | 500M | **3LK70** | 36.87 | **35.05** | 1.0 |

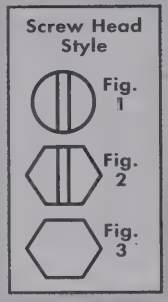
## COPPER MECHANICAL CONNECTORS

- Uniquely designed pressure bar and notched v-bottom collar provide a vise-like grip between conductor and terminal
- UL 486A tested for copper conductor
- Made of electrolytic seamless copper
- Screws are zinc plated steel

Thomas&Betts

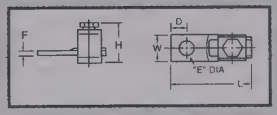
E9809

Screw Head Style

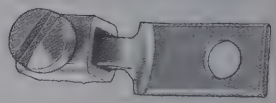


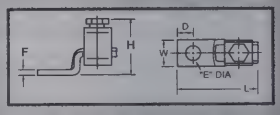

Straight Tang






Offset Tang






### COPPER SINGLE CONDUCTOR, 1 HOLE MOUNT (STRAIGHT TANG) ORDERING DATA

| Fig. No. | Conductor Range Max. | Min. | Dimensions (In.) L | W | H | F | E | D | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 6 str | 14 AWG | 1 9/64 | 3/8 | 11/16 | 5/64 | 13/64 | 7/32 | STC0614 | **3LT05**‡ | $0.96 | **$0.91** | 0.1 |
| 2 | 4 str | 14 AWG | 1 1/4 | 1/2 | 27/32 | 3/32 | 17/64 | 1/4 | STC0414 | **3LT04**‡ | 1.23 | **1.17** | 0.1 |
| 3 | 2 str | 8 str | 1 15/32 | 1/2 | 31/32 | 3/32 | 17/64 | 1/4 | STC0208 | **3LT03**† | 1.43 | **1.36** | 0.1 |
| 3 | 1/0 str | 4 str | 1 15/16 | 5/8 | 1 1/4 | 1/8 | 17/64 | 7/16 | STC1102 | **3LT06**† | 2.61 | **2.48** | 0.2 |
| 3 | 3/0 str | 2 str | 2 1/4 | 3/4 | 1 9/16 | 1/8 | 13/32 | 7/16 | STC3104 | **3LT07**† | 5.44 | **5.17** | 0.2 |
| 3 | 500 kcmil | 1/0 str | 3 7/8 | 1 1/2 | 1 13/16 | 3/16 | 13/32 | 15/16 | STC5011 | **3LT08**† | 18.97 | **18.03** | 0.7 |

### COPPER SINGLE CONDUCTOR, 1 HOLE MOUNT (OFFSET TANG) ORDERING DATA

| Fig. No. | Conductor Range Max. | Min. | Dimensions (In.) L | W | H | F | E | D | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 AWG | 14 AWG | 1 | 5/16 | 43/64 | 5/64 | 5/32 | 3/16 | BTC1014 | **3LN73**# | $0.87 | **$0.83** | 0.1 |
| 2 | 6 str | 14 AWG | 1 9/32 | 3/8 | 25/32 | 5/64 | 13/64 | 7/32 | BTC0614 | **3LN72**# | 0.96 | **0.91** | 0.1 |
| 2 | 2 str | 8 str | 1 15/32 | 1/2 | 27/32 | 3/32 | 17/64 | 1/4 | BTC0208 | **3LN71**# | 1.32 | **1.26** | 0.1 |
| 3 | 1/0 str | 4 str | 1 25/32 | 5/8 | 1 13/32 | 1/8 | 17/64 | 7/16 | BTC1102 | **3LN74**# | 2.72 | **2.59** | 0.1 |
| 3 | 3/0 str | 2 str | 2 1/64 | 3/4 | 1 9/16 | 1/8 | 13/32 | 7/16 | BTC3104 | **3LN75**# | 5.68 | **5.40** | 0.2 |
| 3 | 1/0 str | 2 str | 2 9/16 | 1 | 1 61/64 | 1/8 | 11/32 | 1/2 | BTC4102 | **3LN77**# | 6.88 | **6.54** | 0.3 |
| 3 | 350 kcmil | 1/0 str | 3 1/4 | 1 | 2 1/2 | 3/16 | 13/32 | 5/8 | BTC3511 | **3LN76**# | 11.58 | **11.01** | 0.5 |
| 3 | 500 kcmil | 1/0 str | 4 1/4 | 1 1/2 | 2 31/32 | 3/16 | 13/32 | 15/16 | BTC5011 | **3LN78**# | 18.53 | **17.61** | 0.8 |

(†) CSA Certified (LR4503). (#) CSA Certified (LR70866).

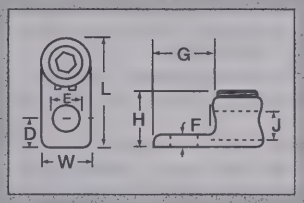


When the spec calls for brand names, you'll find the best here.

# COPPER MECHANICAL CONNECTORS

- For copper conductors
- Screws are plated steel
- Compact design
- One-piece construction for strength and durability
- Excellent for confined areas
- No. 3LR07 is cast from high strength bronze alloy
- Nos. 3LR06, 3LR08, 3LR04, and 3LR05 are cold forged from pure electrolytic copper with 99% conductivity
- Nos. 3LR06 and 3LR08 have screwdriver slot head screws, all others are socket style






Thomas&Betts

LR6591

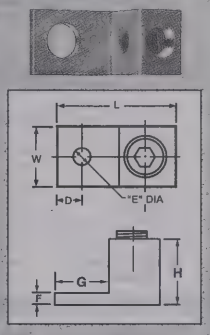
E9809

## SINGLE CONDUCTOR, ONE HOLE MOUNT ORDERING DATA

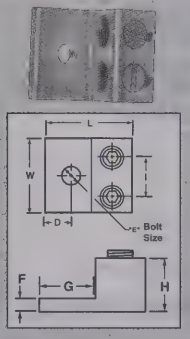
| Conductor Range Max. | Min. | Dimensions (In.) L | W | H | F | D | J | E | G | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| str | 14 sol | 1 3/16 | 3/8 | 3/8 | 3/32 | 13/64 | 11/64 | 13/64 | 1/2 | L35 | **3LR06** | $1.56 | **$1.49** | 0.1 |
| str | 14 sol | 1 1/8 | 17/32 | 35/64 | 3/32 | 9/32 | 9/32 | 9/32 | 21/32 | L70 | **3LR08** | 2.02 | **1.93** | 0.1 |
| 0 str | 8 sol | 1 1/2 | 47/64 | 3/4 | 3/32 | 3/8 | 27/64 | 21/64 | 27/32 | L125 | **3LR04** | 4.40 | **4.18** | 0.1 |
| 50 kcmil | 6 str | 1 61/64 | 15/16 | 1 1/16 | 1/8 | 29/64 | 5/8 | 13/32 | 1 3/32 | L250 | **3LR05** | 9.55 | **9.08** | 0.2 |
| 00 kcmil | 4/0 str | 3 | 1 33/32 | 1 15/32 | 9/32 | 5/8 | 7/8 | 9/16 | 1 5/8 | L400-BB | **3LR07** | 25.50 | **24.23** | 0.7 |

# ALUMINUM DUCT-RATED MECHANICAL CONNECTORS-ALCUL™

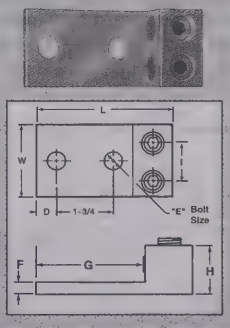
- For copper and aluminum conductors
- Easy installation—no special tools required
- Tin plated for low contact resistance
- UL 486B tested, AL9CU Rated
- All aluminum bodies
- Slotted screw on lugs up through 2/0 str.; 5/16 socket screw on sizes 250 through 350 kcmil; 3/8 hex socket on sizes 500 kcmil
- NEMA spacing: 1¾" centers on Nos. 3LN42 and 3LN46




SINGLE CONDUCTOR ONE HOLE MOUNT




TWO CONDUCTOR ONE HOLE MOUNT




TWO CONDUCTOR TWO HOLE MOUNT

Thomas&Betts

LR6591

E9809

## SINGLE CONDUCTOR, ONE HOLE MOUNT ORDERING DATA

| onductor Range (AL or CU) Max. | Min. | Dimensions (In.) L | W | H | D | E | F | G | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| str | 14 AWG | 13/64 | 1/2 | 31/64 | 15/64 | 1/4 | 5/64 | 43/64 | ADR6 | **3LN44** | $0.71 | **$0.68** | 0.1 |
| str | 14 AWG | 15/32 | 1/2 | 9/16 | 19/64 | 1/4 | 7/64 | 11/16 | ADR2 | **3LN34** | 0.96 | **0.91** | 0.1 |
| 0 str | 14 AWG | 1 15/32 | 5/8 | 25/32 | 7/16 | 1/4 | 3/16 | 27/32 | ADR11 | **3LN32** | 1.35 | **1.29** | 0.1 |
| 0 str | 14 AWG | 1 15/32 | 5/8 | 25/32 | 7/16 | 1/4 | 3/16 | 27/32 | ADR21 | **3LN35** | 1.52 | **1.44** | 0.1 |
| 50 kcmil | 6 str | 2 | 1 | 1 1/8 | 15/32 | 5/16 | 1/4 | 1 | ADR25 | **3LN37** | 3.24 | **3.08** | 0.1 |
| 00 kcmil | 6 str | 2 | 1 | 1 1/8 | 15/32 | 5/16 | 1/4 | 1 | ADR30 | **3LN39** | 4.32 | **4.11** | 0.1 |
| 50 kcmil | 6 str | 2 1/4 | 1 1/8 | 1 1/4 | 1/2 | 3/8 | 1/4 | 1 1/8 | ADR35 | **3LN40** | 4.20 | **3.99** | 0.2 |
| 00 kcmil | 4 str | 2 13/16 | 1 1/2 | 1 9/16 | 3/4 | 3/8 | 5/16 | 1 19/32 | ADR50 | **3LN43** | 8.17 | **7.76** | 0.4 |

## TWO CONDUCTOR, ONE HOLE MOUNT ORDERING DATA

| Conductor Range (AL or CU) Max. | Min. | Dimensions (In.) L | W | H | D | E | F | G | I | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 str | 14 AWG | 1 15/32 | 1 7/32 | 25/32 | 7/16 | 1/4 | 3/16 | 27/32 | 35/64 | ADR11-21 | **3LN33** | $2.74 | **$2.61** | 0.1 |
| 0 str | 14 AWG | 1 15/32 | 1 1/4 | 25/32 | 27/64 | 1/4 | 3/16 | 27/32 | 21/32 | ADR21-21 | **3LN36** * | 3.17 | **3.02** | 0.1 |
| 50 kcmil | 6 str | 2 1/16 | 1 41/64 | 1 3/16 | 7/8 | 3/8 | 1/4 | 1 5/16 | 13/16 | ADR25-21 | **3LN38** | 7.93 | **7.54** | 0.2 |
| 50 kcmil | 6 str | 2 1/8 | 1 49/64 | 1 1/4 | 7/8 | 1/2 | 1/4 | 1 3/4 | 61/64 | ADR35-21 | **3LN41** | 10.98 | **10.43** | 0.3 |
| 00 kcmil | 2 str | 3 1/16 | 2 1/32 | 1 7/16 | 5/8 | 1/2 | 7/16 | 1 11/16 | 1 1/32 | ADR60-21 | **3LN45** | 17.06 | **16.21** | 0.6 |

Not CSA Certified.

## TWO CONDUCTOR, TWO HOLE MOUNT ORDERING DATA

| nductor Range (AL or CU) Max. | Min. | Dimensions (In.) L | W | H | D | E | F | G | I | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 kcmil | 6 str | 4 1/4 | 2 49/64 | 1 3/8 | 5/8 | 1/2 | 5/16 | 3 | 1 1/32 | ADR35-22 | **3LN42** | $15.60 | **$14.82** | 0.4 |
| 00 kcmil | 2 str | 5 5/16 | 2 3/4 | 1 1/2 | 5/8 | 1/2 | 3/8 | 3 1/16 | 1 1/16 | ADR60-22D | **3LN46**† | 24.91 | **23.67** | 1.1 |

Connectors accommodating conductors 600 kcmil and larger have double row of set screws.

# STA-KON® FORK TERMINALS

## NYLON INSULATED FORK—INSULATION GRIP

- Fork terminals with nylon insulation sleeves, recommended for temperatures up to 105°C
- Inner bronze insulation grip sleeve lengthens flex radius of conductor and eliminates conductor creep
- Nylon jacket is color-coded
- #22-16 and #18-14 AWG stock thickness: .03"
- #12-10 AWG stock thickness: .04"
- 600V
- Order installation tool on Page 619

## NYLON INSULATED FORK FLANGED TONGUE—INSULATION GRIP

- Fork terminals allow easy installation because screw needs only to be loosened
- Suffix S indicates a flanged-tongue fork with turned up tips for extra holding protection
- #22-16 and #18-14 AWG stock thickness: .03"
- #12-#10 AWG stock thickness: .04"
- 600V
- Order installation tool on Page 619

## NYLON INSULATED LOCKING FORK—INSULATION GRIP

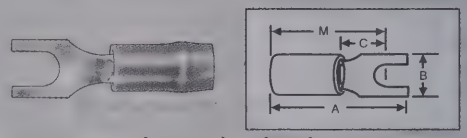
- Locking fork terminals have a specially designed tongue that lets them go on like a fork and stay on like a ring
- #22-16 and #18-14 AWG stock thickness: .03"
- #12-#10 AWG stock thickness: .04"
- 600V
- Order installation tool on Page 619

Thomas&Betts

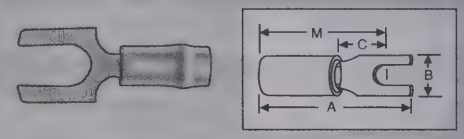
Sold only in package quantities

E9809

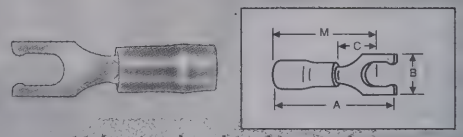
LR4503




Nylon Insulated Fork




Nylon Insulated Fork Flanged Tongue




Nylon Insulated Locking Fork

**NYLON JACKET COLOR CODE SPECIFI-**

| Color Code | Wire Range (AWG) |
|---|---|
| Red | #22-16 |
| Blue | #18-14 |
| Yellow | #12-10 |

| Wire Range (AWG) | Max. Ins. Dia. | Bolt Hole Size | Dimensions (In.) A | B | C | M | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NYLON INSULATED FORK—INSULATION GRIP ORDERING DATA** | | | | | | | | | | | | |
| #22-16 | .136 | #6 | .83 | .25 | .25 | .71 | RA18-6F | **3KG13** | $43.59 | **$33.55** | 100 | 0.2 |
| #22-16 | .136 | #8 | .86 | .31 | .25 | .71 | RA18-8F | **3KG17** | 43.59 | **33.55** | 100 | 0.2 |
| #22-16 | .136 | #10 | .86 | .31 | .25 | .71 | RA18-10F | **3KF98** | 43.59 | **33.55** | 100 | 0.2 |
| #22-16 | .136 | 1/4" | .95 | .44 | .31 | .70 | RA18-14F | **3KG06** | 44.58 | **33.55** | 100 | 0.5 |
| #18-14 | .162 | #6 | .87 | .31 | .25 | .71 | RB14-6F | **3KG39** | 43.59 | **33.55** | 100 | 0.3 |
| #18-14 | .162 | #8 | .87 | .31 | .25 | .71 | RB14-8F | **3KG43** | 43.59 | **33.55** | 100 | 0.1 |
| #18-14 | .162 | #10 | .87 | .38 | .25 | .71 | RB14-10F | **3KG25** | 43.59 | **33.55** | 100 | 0.3 |
| #18-14 | .162 | 1/4" | .95 | .44 | .28 | .74 | RB14-14F | **3KG32** | 47.97 | **45.60** | 100 | 0.3 |
| #12-10 | .210 | #6 | .97 | .31 | .27 | .81 | RC10-6F | **3KG64** | 25.16 | **19.27** | 50 | 0.3 |
| #12-10 | .210 | #8 | 1.00 | .37 | .27 | .81 | RC10-8F | **3KG67** | 26.21 | **20.17** | 50 | 0.3 |
| #12-10 | .210 | #10 | 1.00 | .37 | .27 | .81 | RC10-10F | **3KG52** | 26.21 | **20.17** | 50 | 0.3 |
| #12-10 | .210 | 1/4" | 1.12 | .50 | .27 | .86 | RC10-14F | **3KG57** | 27.33 | **21.25** | 50 | 0.3 |
| **NYLON INSULATED FORK FLANGED TONGUE—INSULATION GRIP ORDERING DATA** | | | | | | | | | | | | |
| #22-16 | .136 | #6 | .75 | .28 | .16 | .62 | RA18-6FS | **3KG15** | 54.66 | **51.95** | 100 | 0.5 |
| #22-16 | .136 | #8 | .89 | .31 | .23 | .65 | RA18-8FS | **3KG19** | 54.66 | **51.95** | 100 | 0.2 |
| #22-16 | .136 | #10 | .93 | .38 | .26 | .68 | RA18-10FS | **3KG01** | 58.87 | **55.95** | 100 | 0.3 |
| #18-14 | .162 | #6 | .74 | .28 | .16 | .60 | RB14-6FS | **3KG41** | 58.83 | **55.90** | 100 | 0.3 |
| #18-14 | .162 | #8 | .89 | .31 | .23 | .66 | RB14-8FS | **3KG45** | 58.83 | **55.90** | 100 | 0.3 |
| #18-14 | .162 | #10 | .94 | .38 | .27 | .69 | RB14-10FS | **3KG27** | 58.83 | **55.90** | 100 | 0.3 |
| #12-10 | .210 | #8 | .97 | .34 | .23 | .73 | RC10-8FS | **3KG69** | 32.76 | **31.15** | 50 | 0.6 |
| #12-10 | .210 | #10 | 1.00 | .38 | .26 | .74 | RC10-10FS | **3KG54** | 35.29 | **33.55** | 50 | 0.3 |
| **NYLON INSULATED LOCKING FORK—INSULATION GRIP ORDERING DATA** | | | | | | | | | | | | |
| #22-16 | .136 | #6 | .86 | .25 | .25 | .71 | RA18-6FL | **3KG14** | 45.04 | **42.80** | 100 | 0.2 |
| #22-16 | .136 | #8 | .86 | .29 | .25 | .71 | RA18-8FL | **3KG18** | 45.04 | **42.80** | 100 | 0.2 |
| #22-16 | .136 | #10 | .86 | .29 | .25 | .71 | RA18-10FL | **3KF99** | 45.04 | **42.80** | 100 | 0.5 |
| #18-14 | .162 | #6 | .87 | .25 | .25 | .71 | RB14-6FL | **3KG40** | 43.18 | **41.05** | 100 | 0.2 |
| #18-14 | .162 | #8 | .87 | .29 | .25 | .71 | RB14-8FL | **3KG44** | 43.18 | **41.05** | 100 | 0.3 |
| #18-14 | .162 | #10 | .87 | .29 | .25 | .71 | RB14-10FL | **3KG26** | 43.18 | **41.05** | 100 | 0.3 |
| #12-10 | .210 | #6 | .97 | .31 | .27 | .81 | RC10-6FL | **3KG65** | 26.41 | **25.10** | 50 | 0.3 |
| #12-10 | .210 | #8 | 1.00 | .37 | .27 | .81 | RC10-8FL | **3KG68** | 28.42 | **27.00** | 50 | 0.3 |
| #12-10 | .210 | #10 | 1.00 | .37 | .27 | .81 | RC10-10FL | **3KG53** | 27.25 | **25.90** | 50 | 0.3 |
| #12-10 | .210 | 1/4" | 1.12 | .50 | .32 | .86 | RC10-14FL | **3KG58** | 28.72 | **27.30** | 50 | 0.4 |



When the spec calls for brand names, you'll find the best here.

# STA-KON® RING AND FLAG TERMINALS

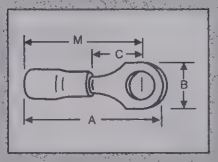
## NYLON INSULATED RING—INSULATION GRIP

- Self-insulated with high dielectric-strength nylon sleeves
- Ring terminals are recommended for temperatures up to 105°C
- An inner bronze insulation grip sleeve lengthens the flexing radius of the conductor and eliminates conductor creep
- #22-16 and #18-14 AWG terminals have stock thickness of .03"
- #12-10 AWG terminals have stock thickness of .04"
- Order installation tools on page 619

| NYLON JACKET COLOR CODE SPECIFICATIONS | |
|---|---|
| **Color Code** | **Wire Range (AWG)** |
| Red | #22-16 |
| Blue | #18-14 |
| Yellow | #12-10 |

Thomas&Betts






E9809

LR4503

Sold only in package quantities

### NYLON INSULATED RING—INSULATION GRIP ORDERING DATA

| Wire Range (AWG) | Max. Ins. Dia. | Bolt Hole Size | Dimensions (In.) A | B | C | M | Thomas & Betts Model | Stock No. | List | Each Package | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **#22-16** | .136 | #4 | .70 | .23 | .14 | .59 | RA18-4 | **3KG10** | $43.60 | **$41.45** | 100 | 0.2 |
| **#22-16** | .136 | #6 | .83 | .26 | .25 | .71 | RA18-6 | **3KG12** | 41.82 | **39.75** | 100 | 0.2 |
| **#22-16** | .136 | #8 | .83 | .26 | .25 | .71 | RA18-8 | **3KG16** | 41.82 | **39.75** | 100 | 0.2 |
| **#22-16** | .136 | #10 | .86 | .31 | .25 | .71 | RA18-10 | **3KF97** | 43.60 | **33.55** | 100 | 0.2 |
| **#22-16** | .136 | 1/4" | 1.07 | .46 | .31 | .84 | RA18-14 | **3KG05** | 47.97 | **45.60** | 100 | 0.3 |
| **#22-16** | .136 | 5/16" | 1.07 | .46 | .31 | .84 | RA18-516 | **3KG11** | 48.01 | **45.65** | 100 | 0.4 |
| **#22-16** | .136 | 3/8" | 1.17 | .53 | .35 | .87 | RA18-38 | **3KG09** | 48.01 | **45.65** | 100 | 0.5 |
| **#22-16** | .136 | 1/2" | 1.27 | .72 | .50 | .92 | RA18-12 | **3KG04** | 101.06 | **96.05** | 100 | 0.4 |
| **#18-14** | .162 | #4 | .72 | .26 | .14 | .59 | RB14-4 | **3KG36** | 43.60 | **33.55** | 100 | 0.2 |
| **#18-14** | .162 | #6 | .89 | .31 | .25 | .71 | RB14-6 | **3KG38** | 43.59 | **33.55** | 100 | 0.3 |
| **#18-14** | .162 | #8 | .89 | .31 | .25 | .71 | RB14-8 | **3KG42** | 43.59 | **33.55** | 100 | 0.2 |
| **#18-14** | .162 | #10 | .89 | .31 | .25 | .71 | RB14-10 | **3KG24** | 43.59 | **33.55** | 100 | 0.2 |
| **#18-14** | .162 | 1/4" | 1.08 | .47 | .31 | .81 | RB14-14 | **3KG31** | 47.56 | **36.20** | 100 | 0.4 |
| **#18-14** | .162 | 5/16" | 1.08 | .47 | .31 | .84 | RB14-516 | **3KG37** | 47.56 | **36.20** | 100 | 0.3 |
| **#18-14** | .162 | 3/8" | 1.17 | .53 | .35 | .87 | RB14-38 | **3KG35** | 47.56 | **36.20** | 100 | 0.3 |
| **#18-14** | .162 | 1/2" | 1.25 | .72 | .50 | .90 | RB14-12 | **3KG30** | 89.22 | **84.80** | 100 | 0.5 |
| **#12-10** | .210 | #6 | 1.00 | .37 | .27 | .81 | RC10-6 | **3KG63** | 26.21 | **20.17** | 50 | 0.3 |
| **#12-10** | .210 | #8 | 1.00 | .37 | .27 | .81 | RC10-8 | **3KG66** | 26.21 | **20.17** | 50 | 0.3 |
| **#12-10** | .210 | #10 | 1.00 | .37 | .27 | .81 | RC10-10 | **3KG51** | 26.21 | **20.17** | 50 | 0.3 |
| **#12-10** | .210 | 1/4" | 1.12 | .53 | .32 | .86 | RC10-14 | **3KG56** | 28.52 | **27.10** | 50 | 0.3 |
| **#12-10** | .210 | 5/16" | 1.21 | .53 | .31 | .94 | RC10-516 | **3KG62** | 27.33 | **26.00** | 50 | 0.3 |
| **#12-10** | .210 | 3/8" | 1.27 | .59 | .35 | .98 | RC10-38 | **3KG61** | 27.33 | **26.00** | 50 | 0.2 |
| **#12-10** | .210 | 1/2" | 1.37 | .72 | .52 | 1.02 | RC10-12 | **3KG55** | 57.45 | **54.60** | 50 | 0.4 |

Thomas&Betts

## HIGH TEMPERATURE NON-INSULATED RING—1200°F MAXIMUM

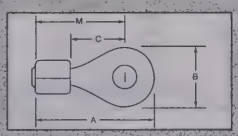
For easily installed, permanent terminations of solid, round, or stranded nichrome wires such as are used in toasters, irons, heaters, etc.

## NON-INSULATED FLAG TERMINALS

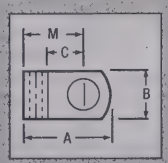
Flag terminals allow a 90° connection to the terminal block without bending the wire

NON-INSULATED RING






NON-INSULATED FLAG TERMINAL







Sold only in package quantities

### HIGH TEMPERATURE NON-INSULATED RING—1200° MAX. ORDERING DATA

| Wire Range (AWG) | Stock Thickness | Bolt Hole Size | Dimensions (In.) A | B | C | M | Thomas & Betts Model | Stock No. | List | Each Package | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **#20-18** | 0.032 | #10 | .63 | .31 | .28 | .38 | NW18-10 | **3KF93** | $47.34 | **$45.00** | 100 | 0.3 |
| **#16-14** | 0.040 | #10 | .66 | .31 | .28 | .51 | NW14-10 | **3KF92** | 59.91 | **56.95** | 100 | 0.3 |
| **#12-10** | 0.040 | #10 | .66 | .31 | .28 | .51 | NW10-10 | **3KF91** | 35.28 | **33.55** | 50 | 0.1 |

### NON-INSULATED FLAG TERMINAL ORDERING DATA

| Wire Range (AWG) | Stock Thickness | Bolt Hole Size | Dimensions (In.) A | B | C | M | Thomas & Betts Model | Stock No. | List | Each Package | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **#22-14** | 0.03 | #6 | .55 | .31 | .22 | .39 | AB14-6A | **3KF56** | $38.93 | **$37.00** | 100 | 0.3 |
| **#22-14** | 0.03 | #8 | .55 | .31 | .22 | .39 | AB14-8A | **3KF57** | 38.93 | **37.00** | 100 | 0.3 |
| **#22-14** | 0.03 | #10 | .55 | .31 | .22 | .39 | AB14-10A | **3KF55** | 36.14 | **34.35** | 100 | 0.3 |
| **#12-10** | 0.04 | #8 | .66 | .31 | .25 | .48 | C10-8A | **3KF59** | 24.60 | **23.38** | 50 | 0.2 |
| **#12-10** | 0.04 | #10 | .66 | .31 | .25 | .48 | C10-10A | **3KF58** | 22.85 | **21.71** | 50 | 0.2 |

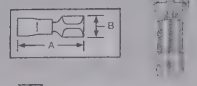
# STA-KON® DISCONNECTS AND SPLICE CONNECTORS

E9809

LR4503

Thomas&Betts

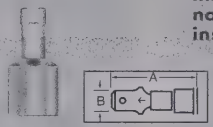
- Material: Brass
- Finish: Tin plated
- Insulated terminals have nylon insulation



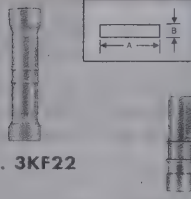
A Standard Female Partially Insulated



D Standard Male Fully Insulated

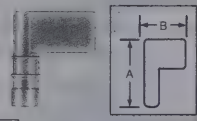


B Standard Female Fully Insulated



E No. 3KF22

Sold only in package quantities



C 90° Flag Female Open Top Partially Insulated

Disconnect terminals provide a quick, reliable method of connection to terminal blocks and boards without the use of tools. They are supplied in a variety of styles to meet virtually all quick-disconnect requirements. Female disconnect terminals and matching male tabs accommodate a range of 22-10 AWG, and are available in non-insulated, partially insulated, and fully insulated styles. Insulated terminals have nylon insulation. They are available in various tab widths including .250, .187, and .110". A unique construction of the female disconnect offers long-terdependability. In butt splices, the wires are butted together and crimped at each end of the splice. Nylon insulated splices meet or exceed the requirements of MIL-T-7928.

## 250 SERIES DISCONNECT ORDERING DATA

| Key | Wire Range (AWG) | Max. Ins. Dia. | Tab Size (In.) | Insulation Type | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD FEMALE TYPE** | | | | | | | | | | | | |
| A | 22-18 | .136 | .250 x .032 | Partial | .91 | .29 | RA18-250F | **3KG08** | $42.06 | **$40.00** | 100 | 0.2 |
| | 16-14 | .162 | .250 x .032 | Partial | .91 | .29 | RB14-250F | **3KG34** | 43.81 | **41.65** | 100 | 0.4 |
| | 12-10 | .215 | .250 x .032 | Partial | 1.04 | .29 | RC10-250F | **3KG60** | 28.67 | **27.25** | 50 | 0.3 |
| B | 22-18 | .165 | .250 x .032 | Full | .97 | .38 | 18RA-2577 | **3KF19** | 42.87 | **40.75** | 100 | 0.2 |
| | 16-14 | .185 | .250 x .032 | Full | .97 | .38 | 14RB-2577 | **3KF09** | 42.47 | **40.40** | 100 | 0.4 |
| | 12-10 | .225 | .250 x .032 | Full | 1.04 | .38 | 10RC-2577 | **3KF06** | 26.08 | **24.78** | 50 | 0.4 |
| **90° FLAG FEMALE DISCONNECT** | | | | | | | | | | | | |
| C | 22-18 | .170 | .250 x .032 | Partial | .80 | .71 | RA18-250A | **3KG07** | 23.70 | **22.52** | 50 | 0.2 |
| | 16-14 | .190 | .250 x .032 | Partial | .80 | .71 | RB14-250A | **3KG33** | 26.03 | **24.73** | 50 | 0.2 |
| | 12-10 | .245 | .250 x .032 | Partial | .80 | .88 | RC10-250A | **3KG59** | 30.75 | **29.25** | 50 | 0.4 |
| **MALE TYPE** | | | | | | | | | | | | |
| D | 22-18 | .150 | .250 x .032 | Full | 1.13 | .45 | 18RA-251T | **3KF18** | 20.56 | **19.53** | 50 | 0.2 |
| | 16-14 | .170 | .250 x .032 | Full | 1.13 | .45 | 14RB-251T | **3KF08** | 21.24 | **20.18** | 50 | 0.2 |
| | 12-10 | .210 | .250 x .032 | Full | 1.17 | .45 | 10RC-251T | **3KF05** | 13.09 | **12.44** | 25 | 0.3 |

## 187 SERIES DISCONNECT ORDERING DATA

| Key | Wire Range (AWG) | Max. Ins. Dia. | Tab Size | Insulation Type | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD FEMALE TYPE** | | | | | | | | | | | | |
| A | 22-18 | .136 | .187 x .032 | Partial | .83 | .23 | RAD18-183 | **3KG21** | $45.15 | **$42.90** | 100 | 0.3 |
| | 22-18 | .136 | .187 x .020 | Partial | .83 | .23 | RAD18-182 | **3KG20** | 45.15 | **42.90** | 100 | 0.3 |
| | 16-14 | .163 | .187 x .032 | Partial | .83 | .23 | RBD14-183 | **3KG47** | 49.33 | **46.90** | 100 | 0.3 |
| | 16-14 | .163 | .187 x .020 | Partial | .83 | .23 | RBD14-182 | **3KG46** | 51.40 | **48.85** | 100 | 1.9 |
| B | 22-18 | .150 | .187 x .032 | Full | .89 | .30 | 18RAD-18377 | **3KF21** | 43.32 | **41.15** | 100 | 0.3 |
| | 22-18 | .150 | .187 x .020 | Full | .89 | .30 | 18RAD-18277 | **3KF20** | 43.32 | **41.15** | 100 | 0.3 |
| | 16-14 | .170 | .187 x .032 | Full | .89 | .30 | 14RBD-18377 | **3KF11** | 42.91 | **40.80** | 100 | 0.3 |
| | 16-14 | .170 | .187 x .020 | Full | .89 | .30 | 14RBD-18277 | **3KF10** | 42.91 | **40.80** | 100 | 0.3 |

## 110 SERIES DISCONNECT ORDERING DATA

| Key | Wire Range (AWG) | Max. Ins. Dia. | Tab Size (In.) | Insulation Type | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD FEMALE TYPE** | | | | | | | | | | | | |
| A* | 22-18 | .110 | .110 x .032 | None | .75 | .15 | RA18-110F | **3KG02** | $44.56 | **$42.35** | 1 | 0.1 |
| | 22-18 | .110 | .110 x .020 | None | .75 | .15 | RA18-111F | **3KG03** | 46.47 | **44.15** | 1 | 0.1 |
| | 16-14 | .135 | .110 x .032 | None | .75 | .15 | RB14-110F | **3KG28** | 44.56 | **42.35** | 1 | 0.2 |
| | 16-14 | .135 | .110 x .020 | None | .75 | .15 | RB14-111F | **3KG29** | 46.47 | **44.15** | 1 | 0.2 |

(*) Similar to Key A except non-insulated.

## NYLON INSULATED – BUTT SPLICES WITH INSULATION SUPPORT ORDERING DATA

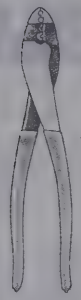
| Key | Wire Range (AWG) | Max. Ins. Dia. | Insulation Type | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E | 22-18 | .115 | Full | 1.19 | .18 | 2RA18 | **3KF22** | $39.38 | **$37.45** | 1 | 0.3 |
| | 16-14 | .148 | Full | 1.19 | .21 | 2RB14 | **3KF23** | 39.38 | **37.45** | 1 | 0.3 |
| | 12-10 | .210 | Full | 1.26 | .28 | 2RC10 | **3KF24** | 28.84 | **27.40** | 1 | 0.3 |
| | 8 | .340 | Full | 1.69 | .36 | 2RD8 | **3KF25** | 31.34 | **29.80** | 1 | 0.4 |
| | 6 | .420 | Full | 1.85 | .45 | 2RE6 | **3KF26** | 29.31 | **27.85** | 1 | 0.4 |
| | 4 | .510 | Full | 1.85 | .52 | 2RF4 | **3KF27** | 29.31 | **27.85** | 1 | 0.1 |



When the spec calls for brand names, you'll find the best here.

# STA-KON® CRIMPING TOOLS

Thomas&Betts New



A No. 3KH44



B No. 3KH45



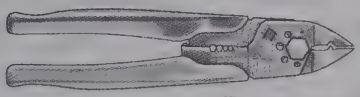
C No. 3KH46



D No. 4LV85



E No. 3LT13



F No. 3KH52



G No. 3KF66

## A No. 3KH44 Pliers Type

- Installs Series A, B, C non-insulated terminals and splices, and Series A and B non insulated terminals with insulation grip
- Terminal gauges accepted: Series A & B: .030–.050: Series C: .075–.095

## B No. 3KH45 Pliers Type

- Installs Series A, B, C, PT non-insulated terminals and splices
- Includes wire cutters
- Terminal gauges accepted: Series A & B: .027–.053; Series C: .072–.098
- Plastisol handles
- Wire stripper for removal of most types of insulation from #22-10 AWG stranded wire and #18-8 AWG solid wire

## C No. 3KH46 Pliers Type

- Installs Series RA, RB, A, B, C non-insulated and RC insulated nylon and vinyl terminals and splices
- Includes wire cutters
- Plastisol handles

## D No. 4LV85 Mechanical Type

- Installs NW series non-insulated high temperature terminals
- Use front nest to install 22-18 awg
- Use rear nest to install 16-10 awg
- Shure-Stake mechanism helps ensure a complete crimp cycle before it releases the tool

## E No. 3LT13 Mechanical Type

- Installs Sta-Kon nylon insulated terminals and splices sizes RD - RM
- Shure-Stake mechanism helps ensure a complete crimp cycle before it releases the tool
- Use 4LV59 for 6 AWG wire and use 4LV60 for 4 or 3 AWG wire. Order separately below. See page 613 for more dies

### Nos. 4LV59 and 4LV60 Crimping Tool Dies

For use with No. 3LT13 Sta-Kon crimping tool

***New*** **No. 4LV59.** Shpg. wt. 0.7 lbs. List..$288.51. Each.....$267.00▲

***New*** **No. 4LV60.** Shpg. wt. 0.7 lbs. List..$288.51. Each.....$267.00▲

## F No. 3KH52 Pliers Type

- Installs Series A, B, C, AB, PT, RA, RB, RC insulated and non-insulated terminals and splices
- Wire cutters for #10 AWG and smaller solid or stranded wire
- Wire stripper for removal of most types of insulation from #22-10 AWG stranded wire and #18-8 AWG solid wire
- Cutters chasing feature for screws, sizes 4-40, 6-32, 8-32, 10-24, 10-32

## G No. 3KF66 Ergonomical Design

- Installs Series RA, RB, RC nylon & vinyl terminals, splices, and disconnects
- Ergonomically designed to reduce the risk of carpal tunnel syndrome
- Delivers the same crimp with up to 60% less handle force than other terminal hand tools
- Rubberized thermoplastic handle
- Shure-Stake mechanism helps ensure a complete crimp cycle before it releases the tool
- Terminal gauges accepted: Series A: .100–.106; Series B: .116–.124; Series C: .148–.156

## STA-KON CRIMPING TOOL ORDERING DATA

| Series A/RA 22 to 18 AWG | | | Series BN/RB 16 to 14 AWG | | | Series C/RC 12 to 10 AWG | | | Series AB 22 to 14 AWG | | | Other Terminals and Splices | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nylon | Vinyl | Non-insulated | Nylon | Vinyl | Non-insulated | Nylon | Vinyl | Non-insulated | Nylon | Vinyl | Non-insulated | | | | | | |
| | | x | | | x | | | x | | | | | WT110M | **3KH44** | $47.19 | **$43.70▲** | 2.0 |
| | | x | | | x | | | x | | | | PT | WT111M | **3KH45** | 37.27 | **34.50▲** | 0.9 |
| x | x | x | x | x | x | x | x | x | | | | | WT112M | **3KH46** | 39.94 | **36.95▲** | 1.0 |
| | | | | | | | | | | | | High Temp. NW | WT1377 | ***New*** **4LV85** | 347.46 | **321.50▲** | 1.0 |
| x | x | x | x | x | x | x | x | x | x | x | x | RD-RM PT | TBM6S<br>WT1377 | **3LT13**<br>**3KH52** | 685.75<br>33.49 | **634.50▲**<br>**31.00▲** | 22.0<br>0.6 |
| x | x | | x | x | | x | x | | | | | | ERG-2001 | **3KF66** | 192.16 | **177.75▲** | 1.3 |

Net price, not subject to discount.

# SOLDERLESS TERMINALS AND CONNECTORS

- 105°C/221°F
- Manufactured with high quality electrotin plated copper
- Highland™ and Scotchlok™ terminals
- CSA Certified (LR22190)
- UL Listed when used with No. 4X316 or 1A076 crimping tool; Quick disconnects (E70512), remaining terminals (E23438)
- No. 6X578 is not UL Listed or CSA Certified

3M

## SPECIFICATIONS AND ORDERING DATA

| Key | Color | Range (AWG) | Stud Size | C | E | L | T* | W | Barrel Lgt. | Barrel I.D. | Mfr's. Model | Trade Name | Stock No. | Each | Box / Lot | Qty. / Box | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **QUICK DISCONNECTS** | | | | | | | | | | | | | | | | | |
| A | — | 16-14 | — | — | — | .730 | .032 | .250 | .250 | .085 | MT14-250 | Highland | **4X292** | $5.45 | **$4.62/5** | 100 | 0.2 |
| B | — | 16-14 | — | — | — | .660 | .032 | .250 | .250 | .080 | FD14-250 | Highland | **4X293** | 5.69 | **4.83/5** | 100 | 0.2 |
| B | — | 16-14 | — | — | — | .580 | .020 | .187 | .250 | .085 | FD14-187 | Highland | **4X869** | 5.68 | **4.66/5** | 100 | 0.1 |
| C | — | 16-14 | — | — | — | .470 | .020 | .187 | .200 | .095 | FDF14-187 | Highland | **5X540** | 6.69 | **5.68/5** | 100 | 0.2 |
| C | — | 22-18 | — | — | — | .460 | .020 | .187 | .200 | .075 | FDF18-187 | Highland | **5X539** | 6.69 | **5.68/5** | 100 | 0.1 |
| D | — | 16-14 | — | — | — | .510 | .032 | .250 | .260 | .095 | FDF14-250 | Highland | **4X423** | 6.69 | **5.68/5** | 100 | 0.2 |
| D | — | 22-18 | — | — | — | .500 | .032 | .250 | .250 | .075 | FDF18-250 | Highland | **5X538** | 6.69 | **5.68/5** | 100 | 0.1 |
| E | Blue | 16-14 | — | — | — | .930 | .032 | .250 | .250 | .085 | MTV14-250 | Highland | **1A092** | 10.35 | **8.78/5** | 100 | 0.3 |
| F | Blue | 16-14 | — | — | — | .870 | .032 | .250 | .250 | .080 | FDV14-250 | Highland | **4X315** | 10.61 | **9.01/5** | 100 | 0.3 |
| F | Blue | 16-14 | — | — | — | .784 | .020 | .187 | .250 | .085 | FDV14-187 | Highland | **1A093** | 10.66 | **9.04/5** | 100 | 0.2 |
| **1/4 SCREW TERMINAL** | | | | | | | | | | | | | | | | | |
| G | — | 6-32 Screw | — | .312 | .359 | .480 | .025 | .260 | — | — | 7S-250 | Highland | **6X578** | 15.59 | **13.22/5** | 100 | 0.4 |
| **INSULATED SNAP SPADE** | | | | | | | | | | | | | | | | | |
| H | Red | 22-18 | 6 | .250 | .700 | .880 | .030 | .250 | .250 | .070 | LFV18-6 | Highland | **1A084** | 10.76 | **9.13/5** | 100 | 0.2 |
| H | Red | 22-18 | 10 | .250 | .700 | .880 | .030 | .320 | .250 | .070 | LFV18-10 | Highland | **1A085** | 10.77 | **9.13/5** | 100 | 0.1 |
| H | Blue | 16-14 | 6 | .250 | .700 | .880 | .030 | .250 | .250 | .090 | LFV14-6 | Highland | **1A086** | 10.79 | **9.15/5** | 100 | 0.3 |
| H | Blue | 16-14 | 10 | .250 | .700 | .880 | .030 | .320 | .250 | .090 | LFV14-10 | Highland | **1A087** | 10.79 | **9.15/5** | 100 | 0.3 |
| H | Yellow | 12 10 | 10 | .280 | .830 | 1.03 | .040 | .320 | .250 | .130 | LFV10-10 | Highland | **1A088** | 8.04 | **6.83/10** | 50 | 0.3 |
| H | Yellow | 12-10 | 1/4 | .440 | .990 | 1.24 | .040 | .430 | .250 | .135 | LFV10-14 | Highland | **1A089** | 9.19 | **7.80/10** | 50 | 0.2 |
| **SPADE TONGUE†** | | | | | | | | | | | | | | | | | |
| I | — | 22-18 | 6 | .250 | .500 | .650 | .030 | .300 | .250 | .070 | BF18-6 | Highland | **4X260** | 5.00 | **4.24/5** | 100 | 0.2 |
| I | — | 22-18 | 10 | .250 | .500 | .650 | .030 | .300 | .250 | .070 | BF18-10 | Highland | **4X262** | 4.71 | **3.98/5** | 100 | 0.2 |
| I | — | 16-14 | 6 | .250 | .500 | .650 | .030 | .300 | .250 | .090 | BF14-6 | Highland | **4X264** | 5.00 | **4.24/5** | 100 | 0.2 |
| I | — | 16-14 | 10 | .290 | .540 | .700 | .030 | .340 | .250 | .090 | F14-10 | Highland | **4X265** | 5.00 | **4.24/5** | 100 | 0.2 |
| I | — | 12-10 | 10 | .290 | .540 | .730 | .040 | .380 | .250 | .135 | F10-10 | Highland | **4X266** | 3.78 | **3.20/10** | 50 | 0.2 |
| J | Red | 22-18 | 6 | .250 | .700 | .850 | .030 | .300 | .250 | .070 | BFV18-6 | Highland | **4X296** | 10.01 | **8.49/5** | 100 | 0.2 |
| J | Red | 22-18 | 10 | .250 | .700 | .850 | .030 | .300 | .250 | .070 | BFV18-10 | Highland | **1A083** | 10.01 | **8.49/5** | 100 | 0.2 |
| J | Blue | 16-14 | 6 | .250 | .700 | .850 | .030 | .300 | .250 | .090 | BFV14-6 | Highland | **4X298** | 10.04 | **8.51/5** | 100 | 0.3 |
| J | Blue | 16-14 | 10 | .290 | .740 | .900 | .030 | .340 | .250 | .090 | FV14-10 | Highland | **4X299** | 10.01 | **8.49/5** | 100 | 0.2 |
| J | Yellow | 12-10 | 10 | .290 | .840 | 1.03 | .030 | .380 | .250 | .135 | FV10-10 | Highland | **5X528** | 6.46 | **5.47/10** | 50 | 0.2 |
| **RING TONGUE†** | | | | | | | | | | | | | | | | | |
| K | — | 22-18 | 6 | .220 | .470 | .600 | .030 | .250 | .250 | .070 | R18-6 | Highland | **4X274** | 5.00 | **4.24/5** | 100 | 0.2 |
| K | — | 22-18 | 10 | .290 | .540 | .700 | .030 | .250 | .250 | .070 | R18-10 | Highland | **4X276** | 5.00 | **4.24/5** | 100 | 0.2 |
| K | — | 16-14 | 6 | .220 | .470 | .600 | .030 | .250 | .250 | .090 | R14-6 | Highland | **4X280** | 5.00 | **4.24/5** | 100 | 0.2 |
| K | — | 16-14 | 10 | .290 | .540 | .700 | .030 | .330 | .250 | .090 | R14-10 | Highland | **4X283** | 5.00 | **4.24/5** | 100 | 0.2 |
| K | — | 12-10 | 10 | .290 | .540 | .730 | .040 | .380 | .250 | .135 | R10-10 | Highland | **4X286** | 3.78 | **3.20/10** | 50 | 0.2 |
| K | — | 8 | 1/4 | .400 | .720 | .950 | .050 | .470 | .310 | .175 | M8-14R SX | Scotchlok | **5X533** | 8.76 | **7.44/10** | 25 | 0.1 |
| K | — | 8 | 3/8 | .520 | .910 | 1.14 | .050 | .470 | .390 | .250 | M8-38RX | Scotchlok | **1A077** | 12.66 | **10.74/10** | 25 | 0.2 |
| K | — | 6 | 1/4 | .400 | .720 | .950 | .050 | .590 | .310 | .175 | M6-14RSX | Scotchlok | **5X534** | 10.90 | **9.26/10** | 20 | 0.2 |
| K | — | 4 | 3/8 | .530 | 1.00 | 1.34 | .075 | .680 | .470 | .280 | M4-38RX | Scotchlok | **5X535** | 15.85 | **13.47/10** | 20 | 0.4 |
| L | Red | 22-18 | 6 | .220 | .670 | .800 | .030 | .250 | .250 | .070 | RV18-6 | Highland | **1A078** | 10.01 | **8.49/5** | 100 | 0.1 |
| L | Red | 22-18 | 10 | .290 | .740 | .900 | .030 | .330 | .250 | .070 | RV18-10 | Highland | **4X304** | 10.01 | **8.49/5** | 100 | 0.2 |
| L | Blue | 16-14 | 6 | .220 | .670 | .800 | .030 | .250 | .250 | .080 | RV14-6 | Highland | **4X306** | 10.49 | **8.91/5** | 100 | 0.2 |
| L | Blue | 16-14 | 10 | .290 | .740 | .900 | .030 | .330 | .250 | .090 | RV14-10 | Highland | **4X308** | 10.04 | **8.51/5** | 100 | 0.3 |
| L | Yellow | 12-10 | 10 | .290 | .840 | 1.03 | .040 | .380 | .250 | .135 | RV10-10 | Highland | **4X310** | 6.72 | **5.70/10** | 50 | 0.2 |
| L | Red | 8 | 1/4 | .400 | 1.03 | 1.26 | .050 | .470 | .310 | .175 | MN8-14R SX | Scotchlok | **1A079** | 13.17 | **11.18/10** | 25 | 0.2 |
| L | Red | 8 | 3/8 | .450 | 1.08 | 1.38 | .050 | .590 | .310 | .175 | MN8-38RX | Scotchlok | **1A080** | 15.09 | **12.81/10** | 25 | 0.2 |
| L | Blue | 6 | 1/4 | .520 | 1.27 | 1.50 | .050 | .470 | .390 | .250 | MN6-14R-SX | Scotchlok | **1A081** | 16.82 | **14.27/10** | 20 | 0.4 |
| L | Yellow | 4 | 3/8 | .530 | 1.41 | 1.74 | .075 | .680 | .470 | .280 | MN4-38RX | Scotchlok | **1A082** | 18.47 | **15.68/10** | 20 | 0.5 |
| **NYLON INSULATED CLOSED END** | | | | | | | | | | | | | | | | | |
| M | - | 22-14 | — | — | — | — | — | — | .312 | .250 | S-11 | Scotchlok | **4X294** | 10.65 | **9.04/5** | 100 | 0.1 |
| M | - | 18-10 | — | — | — | — | — | — | .406 | .375 | S-31 | Scotchlok | **4X839** | 6.84 | **5.81/10** | 50 | 0.2 |
| **BUTT CONNECTORS†** | | | | | | | | | | | | | | | | | |
| N | — | 22-18 | — | — | — | 0.63 | .030 | — | 0.28 | 0.062 | BS18 | Highland | **4X289** | 5.30 | **4.51/5** | 100 | 0.3 |
| N | — | 16-14 | — | — | — | 0.66 | .030 | — | 0.30 | 0.095 | BS14 | Highland | **4X290** | 5.34 | **4.53/5** | 100 | 0.3 |
| N | — | 12-10 | — | — | — | 0.81 | .030 | — | 0.38 | 0.142 | BS10 | Highland | **4X291** | 4.47 | **3.79/10** | 50 | 0.3 |
| O | Red | 22-18 | — | — | — | 1.02 | .030 | — | 0.28 | 0.062 | BSV14 | Highland | **4X312** | 10.64 | **9.03/5** | 100 | 0.3 |
| O | Blue | 16-14 | — | — | — | 1.12 | .030 | — | 0.30 | 0.095 | BSV18 | Highland | **4X313** | 10.64 | **9.03/5** | 100 | 0.3 |
| O | Yellow | 12-10 | — | — | — | 1.26 | .040 | — | 0.38 | 0.142 | BSV10 | Highland | **5X541** | 6.90 | **5.86/10** | 50 | 0.3 |
| O | Blue | 6 | — | — | — | 1.69 | .050 | — | 0.47 | 0.250 | MV6 BCX | Scotchlok | **1A090** | 18.87 | **16.02/10** | 20 | 0.4 |
| O | Yellow | 4 | — | — | — | 2.12 | .075 | — | 0.53 | 0.280 | MV4 BCX | Scotchlok | **1A091** | 22.07 | **18.73/5** | 20 | 0.5 |

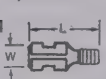
(*) T= Thickness. (†) See Key: I = Insulated, NI = Non-insulated.

Quick Disconnects

A NI†



B NI



C NI



D NI



E I†



F I



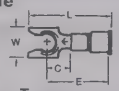
1/4 Screw Terminal

G NI




Insulated Snap Spade

H I

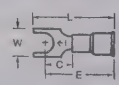


Spade Tongue

I NI



J I

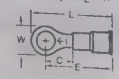


Ring Tongue

K NI



L I



Nylon Insulated Closed End

M NI



Butt Connectors

N NI



O I





When the spec calls for brand names, you'll find the best here.

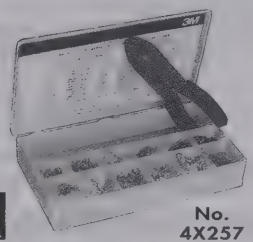
## SOLDERLESS TERMINAL KITS

Each kit contains 5 popular sizes of terminals and connectors (indicated below) in a heavy-duty plastic box

Includes No. 4X316 crimping tool

Each item is clearly labeled for easy identification

Dimensions: 11W x 6⅝D x 1⅞"H



No. 4X257

| Type of Terminals in Kit | Qty. / Kit | 3M Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| y Insulated | 96 | G-102 | **2W521** | $47.49 | **$38.95** | **$34.86** | 1.7 |
| ılated | 134 | G-101 | **4X258** | 42.39 | **34.70** | **31.12** | 1.6 |
| -Insulated | 214 | G-100 | **4X257** | 40.31 | **33.05** | **29.59** | 1.9 |

### FULLY INSULATED TERMINAL KIT No. 2W521

**6 terminals • Includes crimping tool**

| Stock No. | Wire Range | Tab/Width (In.) | Style | Qty. |
|---|---|---|---|---|
| 5X427 | 22-18 | 1/4 Male | Quick Discount | 8 |
| 5X428 | 16-14 | 1/4 Male | Quick Discount | 8 |
| 5X429 | 12-10 | 1/4 Male | Quick Discount | 8 |
| A075 | 18-14 | – | Tap and Run | 16 |
| A074 | 18-14 | 1/4 Female | T-Tap Quick Disconnect | 16 |
| 1X294 | 22-14 | – | Pigtail | 8 |
| 5X424 | 22-18 | 1/4 Female | Quick Discount | 8 |
| 5X425 | 16-14 | 1/4 Female | Quick Discount | 8 |
| 5X426 | 12-10 | 1/4 Female | Quick Discount | 8 |
| 1X839 | 18-10 | – | Pigtail | 8 |

### INSULATED TERMINAL KIT No. 4X258

**34 terminals and connectors • Includes crimping tool**

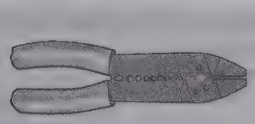
| Stock No. | Wire Range | Stud Size | Style | Qty. |
|---|---|---|---|---|
| X304 | 22-18 | 8-10 | Ring Tongue | 12 |
| X306 | 16-14 | 4-6 | Ring Tongue | 12 |
| X308 | 16-14 | 8-10 | Ring Tongue | 12 |
| X310 | 12-10 | 8-10 | Ring Tongue | 8 |
| X296 | 22-18 | 4-6 | Block Fork | 12 |
| X298 | 16-14 | 4-6 | Block Fork | 12 |
| X299 | 16-14 | 8-10 | Fork | 12 |
| X315 | 16-14 | #1/4" Female | Quick Discount | 12 |
| X312 | 22-18 | – | Butt Splice | 11 |
| X313 | 16-14 | – | Butt Splice | 10 |
| X294 | 22-14 | – | Nylon Closed-End Connector | 13 |
| X839 | 16-10 | – | Nylon Closed-End Connector | 8 |

### NON- INSULATED TERMINAL KIT No. 4X257

**14 terminals and connectors • Includes crimping tool**

| Stock No. | Wire Range | Tab Width/ Stud Size (In.) | Style | Qty. |
|---|---|---|---|---|
| – | 22-18 | 4-6 | Flanged Block Fork | 18 |
| – | 16-14 | 4-6 | Flanged Block Fork | 18 |
| 4X276 | 22-18 | 8-10 | Ring Tongue | 18 |
| 4X280 | 16-14 | 4-6 | Ring Tongue | 18 |
| 1X283 | 16-14 | 8-10 | Ring Tongue | 18 |
| 4X286 | 12-10 | 8-10 | Ring Tongue | 17 |
| 4X264 | 16-14 | 4-6 | Block Fork | 18 |
| 4X265 | 16-14 | 8-10 | Fork | 18 |
| 1X292 | 16-14 | 1/4" Male | Quick Discount | 18 |
| 4X293 | 16-14 | 1/4" Female | Quick Discount | 18 |
| 4X423 | 16-14 | #1/4" Female Flag | Quick Discount | 17 |
| 4X490 | 16-14 | | Butt Splice | 18 |

## CRIMPING TOOLS



No. 4X316

Designed for a broad range of insulated and non-insulated terminals and connectors. Both tools cut bolts and strip wire. High-strength heat-treated carbon steel provides dependable service and long life. Cushioned insulated handles for comfortable grip.

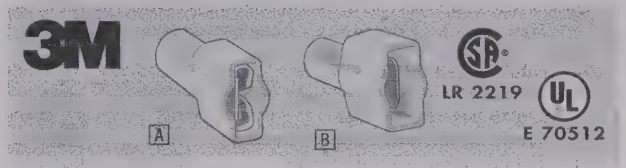
**Standard Tool** strips and cuts 22 to 10 gauge wire, cuts 10-40, 10-32, 8-32, 6-32, and 4-40 bolts.

**No. 4X316.** (TH-440)Shpg. wt. 0.4 lbs. List $15.13. Each.....$12.38; Lots 3.....$11.10

**Heavy-duty Tool** strips and cuts 24 to 8 AWG wire, cuts 10-32, 10-24, 8-32, 6-32, and 4-40 bolts.

**No. 1A076.** (TH-450) Shpg. wt. 0.6 lbs. List $27.65. Each .....$22.62; Lots 3.....$20.29

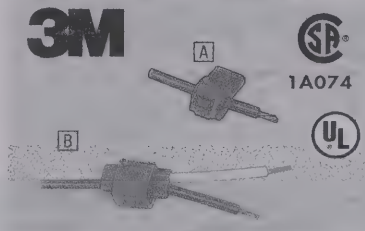
## FULLY INSULATED TERMINALS

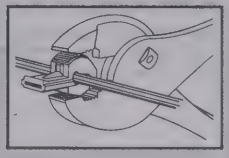



Quick slide terminals provide fast, easy connections. Corrosion and arc resistant. Funnel barrel allows easy insertion of wire. Centered male blade provides reversible entry. Female connector has corrugated barrel. Tab width 0.250", thickness 0.032". Highland brand.

| Key | Type | Wire Gauge | Length (In.) | Qty. / Box | 3M Model | Stock No. | List | Each | Each / Lots | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Female | 22-18 | 0.89 | 100 | FDI18-250 | **5X424** | $18.52 | **$14.84** | **$12.58 / 5** | 0.3 |
| A | Female | 16-14 | 0.89 | 100 | FDI14-250 | **5X425** | 18.52 | **14.84** | **12.58 / 5** | 0.3 |
| A | Female | 12-10 | 0.99 | 50 | FDI10-250 | **5X426** | 12.96 | **10.38** | **8.81 /10** | 0.2 |
| B | Male | 22-18 | 0.95 | 100 | MTI18-250 | **5X427** | 19.32 | **15.46** | **13.12 / 5** | 0.3 |
| B | Male | 16-14 | 0.95 | 100 | MTI14-250 | **5X428** | 19.32 | **15.46** | **13.12 / 5** | 0.4 |
| B | Male | 12-10 | 1.05 | 50 | MTI10-250 | **5X429** | 13.63 | **10.90** | **9.26 /10** | 0.2 |

## SELF-STRIPPING INSULATION DISPLACEMENT CONNECTORS



**1A075 is manufactured under a quality system registered to ISO 9002.**

Fully insulated connectors eliminate wire stripping. No. 1A074 T-Tap gives fully insulated mid-span connection when mated with No. 5X428 male quick slide. No. 1A075 U-Element provides tap, inline, and pigtail connections. UL Listed. Scotchlok™ terminals.

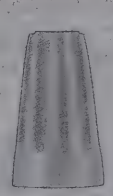
| Key | Type | Wire Gauge | Qty/ Box | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A** | T-Tap | 18-14 | 50 | 952 | **1A074** | $12.76 | **$10.21** | 0.2 |
| **B** | U-Element | 18-14 | 50 | 801 | **1A075** | 10.24 | **8.20** | 0.2 |

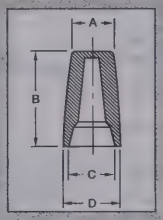
## WIRE CONNECTORS

**For making branch circuit wire or fixture wire connections on numerous combinations of solid and/or stranded copper wire.**

- Five space efficient, color-coded sizes
- Wire range #22-10 AWG copper only
- Flame retardant thermoplastic shells
- Deep, wide connector entry
- Plated steel, square wire springs
- Rated 105°C (221°F)

E17010 LR6591






Thomas&Betts

Sold only in packages of 100

### FIXED SPRING® WIRE CONNECTOR ORDERING DATA

| Description | Wire Range (AWG) | Wire Combinations Min. | Wire Combinations Max. | Dimensions (In.) A | B | C | D | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gray | 22-16 | (1) #20 w/(1) #22 | (2) #16 | 13/64 | 19/32 | 17/64 | 23/64 | 329P | **3KH81** | $5.77 | **$4.18** | 100 | 0.1 |
| Blue | 22-14 | (3) #20 | (3) #16 | 1/4 | 47/64 | 21-64 | 13/32 | 330P | **6X683** | 4.71 | **3.42** | 100 | 0.3 |
| Orange | 22-14 | (2) #18 | (3) #14 | 21/64 | 55/64 | 3/8 | 29/64 | 331P | **6X684** | 5.61 | **4.07** | 100 | 0.5 |
| Yellow | 18-10 | (1) #14 w/(2) #18 | (1) #10 w/(2) #14 | 13/32 | 31/32 | 27/64 | 35/64 | 333P | **6X685** | 6.68 | **4.85** | 100 | 0.8 |
| Red | 18-10 | (2) #16 w/ (2) #18 | (3) #10 | 7/16 | 1 1/32 | 33/64 | 21/32 | 335P | **6X686** | 9.44 | **6.84** | 100 | 0.9 |

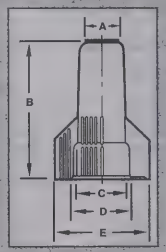
## FREESPRING® WIRE CONNECTORS

**For making branch circuit wire or fixture wire connections on numerous combinations of solid and/or stranded copper wire.**

- Each size joins a wide range of conductor sizes and combinations
- Four color-coded sizes
- Wire range #22-6 AWG copper only
- No need to pre-twist wires
- Flame retardant thermoplastic shells
- Plated steel, square wire springs
- Rated 105°C (221°F)

E17010 LR6591






Thomas&Betts

Sold only in package quantities

### FREESPRING® WIRE CONNECTOR ORDERING DATA

| Description | Wire Range (AWG) | Wire Combinations Min. | Wire Combinations Max. | Dimensions (In.) A | B | C | D | E | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Yellow | #22-10 | (2) #18 | (3) #12 Sol. | 15/64 | 1 3/64 | 5/16 | 27/64 | 41/64 | 10-602H | **6X687** | $7.20 | **$5.22** | 100 | 0.4 |
| Red | 18-8 | (2) #16 | (5) #12 Sol. | 19/64 | 1 3/16 | 7/16 | 33/64 | 25/32 | 10-604H | **6X688** | 9.68 | **7.02** | 100 | 0.7 |
| Gray | 18-8 | (2) #12 | (3) #10 w/(1) #12 | 5/16 | 1 5/16 | 15/32 | 37/64 | 27/32 | 10-606H | **3KF02** | 12.39 | **8.99** | 50 | 0.5 |
| Blue | 14-6 | (1) #10 w/(1) #12 | (1) #6 w/ (2) #8 | 3/8 | 1 39/64 | 37/64 | 11/16 | 1 3/32 | 10-608 | **3KF03** | 15.05 | **10.91** | 50 | 0.8 |

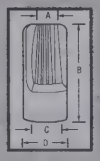
## EXTENDED RANGE WIRE CONNECTORS

- Wide range capabilities: One size does the job of over six
- Unique contoured thumb grip and textured matte finish for comfort and is easy to grip every time
- Quick and deep bite
- Flexible spring grabs the wires that come in, helping prevent them from backing out
- Slim, low profile wings take up less room

Thomas&Betts

E17010 LR6591






No. 3KD97

Sold only in package quantities

### EXTENDED RANGE WIRE CONNECTOR ORDERING DATA

| Color Code | Wire Range (AWG) | Wire Combinations Min. | Wire Combinations Max. | Dimensions (In.) A | B | C | D | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Yellow | 18-10 | (2) #18 | (3) #12 | 19/64 | 1 3/4 | 7/16 | 9/16 | 733P | **3KD97** | $9.78 | **$7.09** | 100 | 0.3 |
| Red | 18-8 | (2) #14 | (2) #10 w/(2) #12 | 23/64 | 1 3/4 | 33/64 | 41/64 | 735P | **3KD98** | 11.29 | **8.19** | 100 | 0.6 |
| Blue | 14-6 | (3) #12 | (1) #6 w/(2) #8 | 27/64 | 1 3/4 | 43/64 | 51/64 | 739P | **3KD96** | 14.95 | **10.84** | 50 | 0.8 |

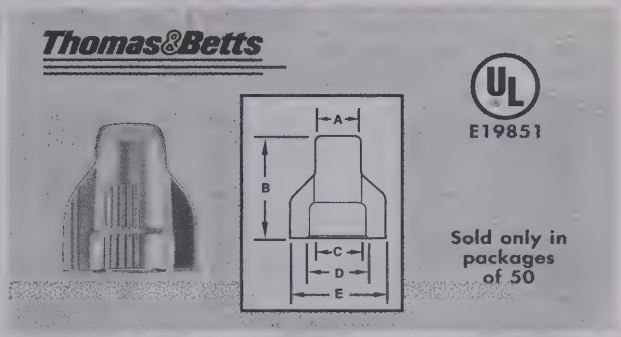
### YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

## HI-GR® GROUNDING WIRE CONNECTORS

L Listed—Pressure type grounding wire connector for solid ire combinations of copper to copper, aluminum to aluinum, copper to aluminum (dry locations only). National ectrical code 250-74.

- For joining multiple ground wires
- Feed-thru design provides easy method to ground receptacles and/or metal boxes
- Small size fits easily into crowded boxes
- Flame retardant thermoplastic shell
- Plated steel, square wire springs
- Rated 105°C (221°F)
- Wire range #14-10 AWG

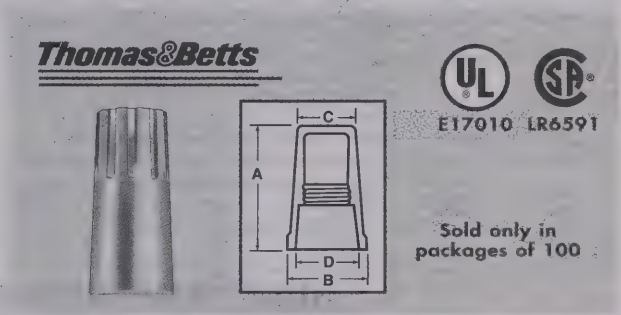



### HI-GR® GROUNDING WIRE CONNECTOR ORDERING DATA

| Color | Wire Range (AWG) | Wire Combinations Min. | Wire Combinations Max. | Dimensions (In.) A | B | C | D | E | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Green | #14-10 | (2) #14 | (1) #10 w/(3) #12 | 13/32 | 55/64 | 27/64 | 31/64 | 25/32 | 11-200 | **3KF07** | $8.01 | **$5.81** | 50 | 0.3 |

## ET SCREW WIRE CONNECTORS

- Threaded brass inserts provide vibration resistant connections that are easily removed for disconnection, visual inspection or rewiring
- Flexible, color-coded nylon insulating shells
- Compact for tight applications
- Resists heat, cold and impact with a temperature rating of 105°C (221°F) max.
- Rated: 600 Volt
- Easily removed

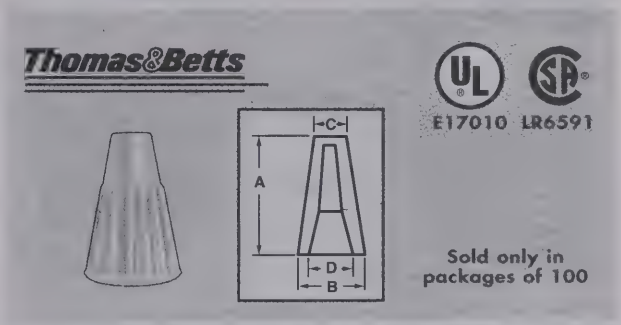



### SET SCREW WIRE CONNECTOR ORDERING DATA

| Color | Wire Range (AWG) | Wire Combinations Min. | Wire Combinations Max. | Dimensions (In.) A | B | C | D | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-0) Orange | #18-12 | (2) #18 | (1) #12 w/(3) #18 | 15/16 | 7/16 | 23/64 | 3/8 | 10-305 | **3KD99** | $59.47 | **$43.15** | 100 | 0.7 |
| SS-2) Red | 18-10 | (6) #18 | (2) #10 w/(1) #12 | 1 3/32 | 39/64 | 33/64 | 35/64 | 10-307 | **3KF01** | 80.84 | **58.65** | 100 | 1.6 |

## PORCELAIN WIRE CONNECTORS—HIGH TEMPERATURE

- For high temperature applications over 105°C
- Three sizes accommodate #18-14 AWG stranded copper
- 300 Volt rated
- UL Listed and CSA Certified
- UL Standard 486C



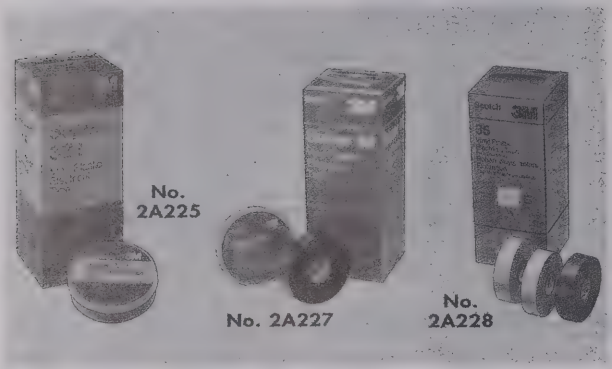

### PORCELAIN WIRE CONNECTORS—HIGH TEMPERATURE

| Description | Wire Range (AWG) | Wire Combinations Min. | Wire Combinations Max. | Dimensions (In.) A | B | C | D | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hi-1 | #18-14 | (2) #18 | (1) #18 w/(2) #16 | 11/16 | 13/32 | 3/16 | 1/4 | 10-401 | **3XK09** | $16.64 | **$12.06** | 100 | 0.4 |
| Hi-5 | 18-14 | (2) #18 | (2) #16 w/(2) #18 | 3/4 | 31/64 | 13/64 | 5/16 | 10-405 | **3XK10** | 18.20 | **13.20** | 100 | 0.4 |
| Hi-7 | 18-14 | (2) #18 | (4) #16 | 27/32 | 17/32 | 7/32 | 13/32 | 10-407 | **3XK11** | 19.06 | **13.82** | 100 | 0.7 |

USE THE INDEX AT THE BACK OF THE CATALOG TO QUICKLY LOCATE THE PRODUCTS YOU NEED

# ELECTRICAL TAPE

## VINYL PLASTIC ELECTRICAL TAPE




Scotch™ Brand — Registered to ISO 9002 — E129200 — LR48769

**Super 33+ Vinyl Plastic Electrical Tape** is a premium-grade 7-mil vinyl plastic electrical tape with an aggressive adhesive that provides fast, sure grab. Use as a primary insulation for wire cable splices up to 600V and for fixture and wire splices up to 1000V. Flexible vinyl backing conforms readily to irregular surfaces and goes on smoothly at temperatures as low as 0°F and seals safely up to 220°F. Super 33+ is flame retardant, resists weather, ultraviolet (UV) rays, abrasion, alkalis, acids, and corrosion. Meets requirements of ASTMD-3005, Type 1; UL510; HHI-595C; and CSA 22.2.

Tape is 3/4" wide. No. 2A225 is sold in individual plastic cans, No. 2A226 is sold in 10-roll cartons, priced per carton in table below.

| Roll Size | No. of Rolls | Stock No. | List | Pack, Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4" x 66 ft. | 1 | 2A225 | $4.08 | $3.65 | 0.3 |
| 3/4 x 20 | 10 | 2A226 | 15.77 | 15.59 | 0.8 |

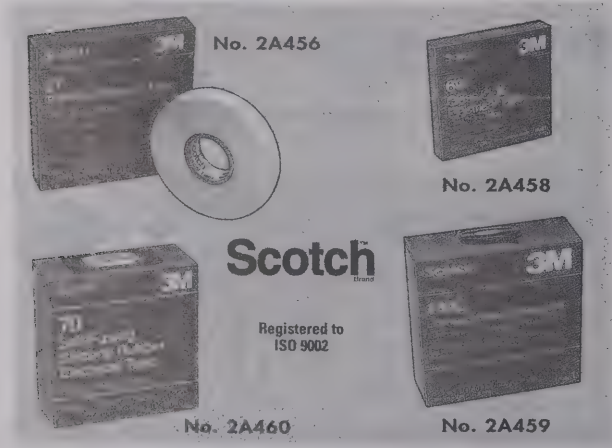
**Super 88 Vinyl Plastic Electrical Tape** is a heavy-duty 8.5 mil, flam retardant, cold and weather resistant plastic tape with superio cold weather handling features. Super 88 resists UV rays, mois ture, alkalis, acids and corrosion. Temperature range: 0°F to 220 F. Meets requirements of ASTMD-3005, Type II; UL510, MIL-I 24391, and CSA 22.2. Sold in one roll individual plastic containe each roll 3/4" wide x 66 ft. long.

**No. 2A227.** Shpg. wt. 0.4 lbs. List $4.61. Each ..... $4.35

**35 Vinyl Plastic Electric Tape for Color Coding** is a 7-mil, flame reta dant, weather resistant tape available in nine colors. Resist abrasion, UV rays, moisture, alkalis, solvents and many acids Temp. range: 32°F to 220°F. Use indoors and in protected ou door applications for phase identification, identifying moto leads, insulating splices, terminations and harnesses, and mark ing safety areas. Meets requirements of UL510 and CSA 22.2. Sol per roll in individual plastic container, each roll 3/4" wide x 66 f long.

| Color | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| White | 2A228 | $4.06 | $3.80 | 0.3 |
| Red | 2A229 | 4.06 | 3.80 | 0.3 |
| Blue | 2A230 | 4.06 | 3.80 | 0.3 |
| Green | 2A231 | 4.06 | 3.80 | 0.3 |
| Yellow | 2A232 | 4.06 | 3.80 | 0.3 |
| Orange | 3A184 | 4.06 | 3.80 | 0.3 |
| Grey | 3A185 | 4.06 | 3.80 | 0.3 |
| Brown | 3A186 | 4.06 | 3.80 | 0.3 |
| Violet | 3A187 | 4.06 | 3.80 | 0.3 |

## HIGH TEMPERATURE ELECTRICAL TAPE




**27 Glass Cloth Electrical Tape** is a 7-mil glass cloth tape with thermosetting, pressure-sensitive adhesive which performs at Class B temperatures (130°C/266°F). Scotch 27 provides heat-stable insulation for hot-spot applications such as furnace and oven controls, motor leads, and switches. CSA Certified for 130°C (LR93411). UL Recognized Component listing for 150°C (Guide OANZ2, E17385).

| Roll Size | Stock No. | List | Per Roll Each | Shpg. Wt. |
|---|---|---|---|---|
| 1/2" x 66 ft. | 2A456 | $8.37 | $8.28 | 0.2 |
| 3/4 x 66 | 2A457 | 12.42 | 12.29 | 0.3 |

**69 Glass Cloth Electrical Tape** is a 7.5-mil tape with thermosettin silicone adhesive which performs at Class H temperature (180°C/356°F). Scotch™ 69 is used to secure insulation in hig temperature areas, and to splice wire rated at 150°C, 180°C 200°C SF and SFF. Also, 69 can reinforce insulation in electric installations where heavy loads cause high heat and breakdow of insulation such as in motor control exciter feeds; splicing sil cone-covered glass wire; insulating Class H dry-type transforme leads; and insulating splices made on SA-type wire in heat tre areas. 3/4" wide x 66 ft. long roll. Meets Requirements of Mil-19166C and has UL Accepted Component listing for 200°C (Guid OANZ2, E17385); CSA Certified for 180°C (LR93411).

**No. 2A458.** Shpg. wt. 0.2 lbs. List $16.03. Each ..... $15.85

**130C Linerless Rubber Splicing Tape** is a self-bonding, 30-mil, EPR-based, corona-resistant insulating tape. Provides a tight, void free moisture-resistant insulation without loss of electrical characteristics. Use 130C tape as a primary electrical insulation for splicing all solid dielectric cables through 69 kV, and for building stress cones on cables up to 35 kV. Also use for jacket ing on high-voltage splices and terminations; moisture sealing electrical connections; bus bar insulations; and end-sealing high-voltage cables. 3/4" wide x 30 ft. long roll. Meets Requirements of HHI-553C. Grade A•B, & ASTM D-4388, Type III. Rated for up to 90°C continuous operating temperature and short term 130°C overload service. UL Recognized (E17385).

**No. 2A459.** Shpg. wt. 0.5 lbs. List $9.45. Each ..... $9.34

**70 Self-Fusing Silicone Rubber Electrical Tape** is a self-fusing, 12-mil high temperature, track-resistant tape composed of inorganic silicone rubber. It is designed as a protective overwrap for terminating high-voltage cables. Scotch™70 can also be used as pr mary cable insulation where Class H temperatures (180°C/356°F) are encountered. Roll is 1" wide x 30 ft. long.

**No. 2A460.** Shpg. wt. 0.3 lbs. List $30.46. Each ..... $30.20

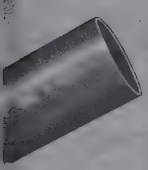


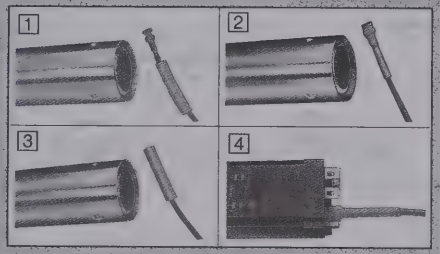
Here's all the power you need to get it running and keep it running.

# SHRINK-KON® HEAT SHRINK TUBING

Thomas&Betts

LR52390 E79546






Sold only in package quantities

## THIN WALL HEAT SHRINK TUBING

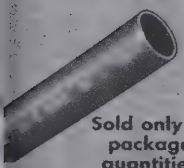
1. Prepare electrical connections. Before crimping connection together, slip appropriately sized shrinkable tubing over wire.
2. After crimping connection, slip shrinkable tubing over connection, then apply heat.
3. Apply heat with a suitably sized heat gun to the entire surface of the shrinkable tubing for a neat, clean insulator.
4. Heat shrinkable tubing, when properly applied, provides a form-fitting insulator around electrical and mechanical connections.
5. Do not store in areas where temperature may exceed 100°F.

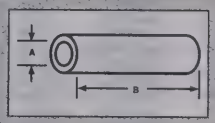
- **Designed to insulate and protect electrical wiring**
- **Flame retardant**
- **Material: Cross-linked polyolefin**
- **Temp. range: 125°C**
- **Voltage rating: 600 Volts continuous**
- **Shrink ratio: 2:1**
- **6 Inch lengths**

## THIN WALL TUBING STYLES

| Minimum Expanded I.D (in.) (mm) | Maximum Reduced I.D. (In.) (mm) | Nom. Recovered Wall Thickness (In.) (mm) | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| .187 (4.7) | .093 (2.4) | .020 (.5) | CPO18706 | **3KH56** | $6.27 | **$4.39** | 20 | 0.1 |
| .250 (6.4) | .125 (3.2) | .025 (.6) | CPO25006 | **3KH57** | 6.57 | **4.60** | 20 | 0.1 |
| .375 (9.5) | .187 (4.7) | .025 (.6) | CPO37506 | **3KH58** | 6.83 | **4.79** | 20 | 0.2 |
| .500 (12.8) | .250 (6.4) | .025 (.6) | CPO50006 | **3KH59** | 4.13 | **2.90** | 10 | 0.1 |
| .750 (19.1) | .375 (9.5) | .030 (.8) | CPO75006 | **3KH60** | 6.11 | **4.28** | 10 | 0.2 |
| 1.000 (25.4) | .500 (12.8) | .035 (.9) | CPO100006 | **3KH61** | 5.45 | **3.82** | 5 | 0.1 |

Thomas&Betts






Sold only in package quantities

E9809 LR52390

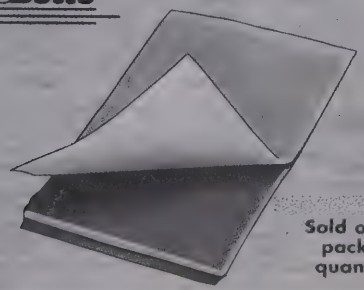
## HEAVY WALL HEAT SHRINK INSULATING TUBING

- **Heavy duty protection**
- **Full range of sizes from #16 to 1000MCM**
- **Field proven reliability—rated 600V, 90°C**
- **Internally applied sealant offers protection against moisture**
- **Listed for direct burial per U.L. 486D to meet most environmental and temperature conditions as noted**
- **Material: cross-linked polyolefin**
- **Shrinks at 250° to 275°F • Shrink ratio: 3 to 1**
- **May be used over lead, steel, aluminum, copper, standard plastic and elastomeric insulating materials**

## HEAVY WALL HEAT SHRINK INSULATING TUBING

| Cable Range | Min. Expanded I.D. (In.) | Max. Recovered I.D. (In.) | Nom. Recovered Wall (In.) | Std. Lgth. | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| .6 to #12 AWG | 0.350 | 0.120 | 0.070 | 6 in. | HS16-12L | **3KH62** | $145.84 | **$102.10** | 25 | 0.4 |
| .6 to #12 AWG | 0.350 | 0.120 | 0.070 | 4 ft. | HS16-12-4 | **3KH63** | 135.12 | **94.60** | 5 | 2.5 |
| .2 to #6 AWG | 0.510 | 0.160 | 0.090 | 6 in. | HS12-6L | **3KH64** | 135.12 | **106.50** | 25 | 0.5 |
| i to #1 AWG | 0.750 | 0.240 | 0.090 | 4 ft. | HS6-1-4 | **3KH65** | 147.98 | **103.60** | 5 | 2.0 |
| - to 3/0 AWG | 1.100 | 0.350 | 0.120 | 9 in. | HS4-30-L | **3KH66** | 90.93 | **63.65** | 10 | 9.5 |
| - to 3/0 AWG | 1.100 | 0.350 | 0.120 | 4 ft. | HS4-30-4 | **3KH67** | 167.71 | **117.40** | 5 | 2.8 |
| ) to 400 MCM | 1.500 | 0.470 | 0.160 | 12 in. | HS40-400L | **3KH68** | 68.42 | **47.90** | 5 | 2.0 |
| ) to 400 MCM | 1.500 | 0.470 | 0.160 | 4 ft. | HS40-400-4 | **3KH69** | 261.85 | **183.50** | 5 | 4.1 |
| 0 to 1000 MCM | 2.000 | 0.630 | 0.160 | 15 in. | HS500-1000L | **3KH70** | 44.39 | **31.10** | 2 | 1.0 |
| 0 to 1000 MCM | 2.000 | 0.630 | 0.160 | 4 ft. | HS500-1000-4 | **3KH71** | 109.62 | **76.75** | 2 | 3.1 |

Thomas&Betts



E9809

Sold only in package quantities

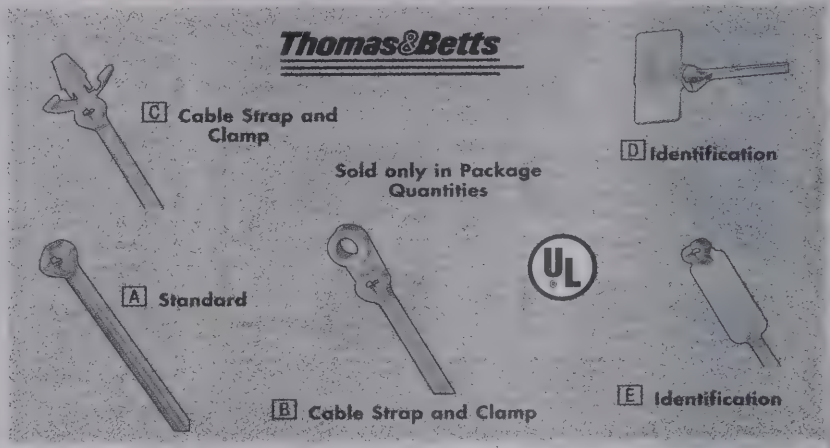
## ADHESIVE INSULATING COVERS

- **Material: 6 mil electrical vinyl backing, butyl rubber mastic adhesive approx. 1/8" thick**
- **Rated up to 600 Volts**
- **Adheres to metals, rubber and synthetic materials**
- **Seals against moisture**
- **Workable from 14°F to 120°F**
- **Maximum operating temperature 176°F**
- **No installing tools required**
- **For use with compression connectors**

| Dimensions (In.) L | W | Thomas & Betts Model | Stock No. | List | Each Package | Package Quantity | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **5.0** | **3.0** | AC 5 x 3 | **3KH72** | $22.53 | **$20.29** | 10 | 1.2 |
| **5.0** | **7.0** | AC 5 x 7 | **3KH73** | 50.99 | **45.90** | 10 | 2.3 |
| **8.5** | **7.5** | AC 85 x 75 | **3KH74** | 37.90 | **34.15** | 5 | 2.1 |
| **8.5** | **10.5** | AC 85 x 105 | **3KH75** | 47.84 | **43.10** | 5 | 3.0 |

# TY-RAP® CABLE TIES

- Made from nylon 6/6
- Stainless steel lock maintains right tension
- Infinitely adjustable design
- Less stress-sensitive than notched type ties
- Registered under Standard 1565
- Qualified under OPC 23190
- Recommended for use in temperatures between 185°F and –40°F
- Black weather-resistant ties are recommended for outdoor use. The addition of carbon black provides good ultraviolet resistance and prolongs useful life.
- Identification ties may be marked with Red (No. 3KH48) or Black (No. 3KH47) marking pens or may be heat stamped (See page 629)




## TY-RAP® CABLE TIE ORDERING DATA

| Key | Color | Weather Resistant | Body Width (In.) | Length (In.) | Max. Wire Bundle Dia. (In.) | Military Standard Part No. | Tensile Strength (Lbs.) | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | White | — | .091 | 3.62 | .625 | MS3367-4 | 18 | TY523M | **3KG93‡** | $9.87 | **$7.97** | 100 | 0.1 |
| | Black | Yes | .091 | 3.62 | .625 | MS3367-4 | 18 | TY523MX | **3KG94‡** | 12.87 | **12.23** | 100 | 0.1 |
| | White | — | .091 | 7.00 | 1.500 | — | 18 | TY52315M | **3KG87‡** | 12.87 | **12.23** | 100 | 0.2 |
| | Black | Yes | .091 | 7.00 | 1.500 | — | 18 | TY52315MX | **3KG88‡** | 17.05 | **16.20** | 100 | 0.1 |
| | White | — | .091 | 8.00 | 2.000 | — | 18 | TY5232M | **3KG89‡** | 13.68 | **13.00** | 100 | 0.1 |
| | Black | Yes | .091 | 8.00 | 2.000 | — | 18 | TY5232MX | **3KG90‡** | 17.30 | **16.44** | 100 | 0.1 |
| | White | — | .091 | 14.00 | 4.000 | — | 18 | TY5234M | **3KG91‡** | 19.65 | **18.67** | 100 | 0.2 |
| | Black | Yes | .091 | 14.00 | 4.000 | — | 18 | TY5234MX | **3KG92‡** | 26.01 | **24.71** | 100 | 0.4 |
| | White | — | .140 | 5.50 | 1.125 | MS3367-5 | 40 | TY524M | **3KG99‡** | 11.43 | **10.86** | 100 | 0.1 |
| | Black | Yes | .140 | 5.50 | 1.125 | MS3367-5 | 40 | TY524MX | **3KH01‡** | 14.09 | **13.39** | 100 | 0.1 |
| | White | — | .140 | 8.19 | 2.000 | — | 40 | TY5242M | **3KG95‡** | 17.08 | **16.23** | 100 | 0.2 |
| | Black | Yes | .140 | 8.19 | 2.000 | — | 40 | TY5242MX | **3KG96‡** | 20.49 | **19.47** | 100 | 0.2 |
| | White | — | .140 | 11.10 | 3.000 | — | 40 | TY526M | **3KH06‡** | 22.55 | **18.21** | 100 | 0.3 |
| | Black | Yes | .140 | 11.10 | 3.000 | — | 40 | TY526MX | **3KH07‡** | 28.44 | **27.05** | 100 | 0.3 |
| | White | — | .140 | 14.50 | 4.000 | — | 40 | TY5244M | **3KG97‡** | 29.66 | **28.20** | 100 | 0.4 |
| | Black | Yes | .140 | 14.50 | 4.000 | — | 40 | TY5244MX | **3KG98†** | 37.06 | **35.25** | 100 | 0.4 |
| | White | — | .184 | 7.31 | 1.750 | MS3367-1 | 50 | TY525M | **3KH04‡** | 14.41 | **11.20** | 100 | 0.3 |
| | Black | Yes | .184 | 7.31 | 1.750 | MS3367-1 | 50 | TY525MX | **3KH05‡** | 16.07 | **12.97** | 100 | 0.3 |
| | White | — | .184 | 11.40 | 3.000 | MS3367-7 | 50 | TY5253M | **3KH02‡** | 29.15 | **27.70** | 100 | 0.5 |
| | Black | Yes | .184 | 11.40 | 3.000 | MS3367-7 | 50 | TY5253MX | **3KH03‡** | 31.22 | **29.70** | 100 | 0.5 |
| | White | — | .184 | 14.20 | 4.000 | MS3367-2 | 50 | TY528M | **3KH14‡** | 33.20 | **25.80** | 100 | 0.6 |
| | Black | Yes | .184 | 14.20 | 4.000 | MS3367-2 | 50 | TY528MX | **3KH15‡** | 35.54 | **33.80** | 100 | 0.5 |
| | White | — | .270 | 8.00 | 2.000 | — | 120 | TY5272M | **3KH08†** | 16.91 | **16.06** | 50 | 0.3 |
| | Black | Yes | .270 | 8.00 | 2.000 | — | 120 | TY5272MX | **3KH09†** | 19.24 | **18.28** | 50 | 0.4 |
| | White | — | .270 | 13.40 | 3.500 | MS3367-3 | 120 | TY527M | **3KH12†** | 24.18 | **22.97** | 50 | 0.5 |
| | Black | Yes | .270 | 13.40 | 3.500 | MS3367-3 | 120 | TY527MX | **3KH13†** | 26.28 | **24.97** | 50 | 0.5 |
| | White | — | .270 | 18.00 | 5.000 | — | 120 | TY5275M | **3KH10†** | 32.82 | **31.20** | 50 | 0.7 |
| | Black | Yes | .270 | 18.00 | 5.000 | — | 120 | TY5275MX | **3KH11†** | 37.74 | **35.90** | 50 | 0.7 |
| | White | — | .301 | 30.00 | 9.000 | MS3367-6 | 120 | TY529M | **3KH16‡** | 51.50 | **48.95** | 50 | 1.3 |
| | Black | Yes | .301 | 30.00 | 9.000 | MS3367-6 | 120 | TY529MX | **3KH17‡** | 58.36 | **55.45** | 50 | 1.1 |

## TY-RAP ® CABLE STRAP AND CLAMP ORDERING DATA

| Key | Color | Weather Resistant | Body Width (In.) | Length (In.) | Max. Wire Bundle Dia. (In.) | Mounting Hole | Tensile Strength (Lbs.) | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | White | — | .091 | 4.00 | .625 | #4 | 18 | TY533M | **3KH18†** | $19.65 | **$18.67** | 100 | 0.1 |
| | Black | Yes | .091 | 4.00 | .625 | #4 | 18 | TY533MX | **3KH19†** | 34.50 | **32.80** | 100 | 0.1 |
| | White | — | .140 | 6.00 | 1.125 | #8 | 40 | TY534M | **3KH20†** | 19.87 | **18.88** | 100 | 0.2 |
| | Black | Yes | .140 | 6.00 | 1.125 | #8 | 40 | TY534MX | **3KH21†** | 23.95 | **22.76** | 100 | 0.2 |
| | White | — | .184 | 7.80 | 1.750 | #10 | 50 | TY535M | **3KH22†** | 22.35 | **21.24** | 100 | 0.4 |
| | Black | Yes | .184 | 7.80 | 1.750 | #10 | 50 | TY535MX | **3KH23†** | 26.89 | **25.55** | 100 | 0.4 |
| | White | — | .301 | 13.90 | 3.500 | 1/4 | 120 | TY537M | **3KH24†** | 33.15 | **31.50** | 50 | 0.7 |
| | Black | Yes | .301 | 13.90 | 3.500 | 1/4 | 120 | TY537MX | **3KH25†** | 46.30 | **44.00** | 50 | 0.7 |
| C | White | — | .184 | 7.80 | 1.750 | 1/4 | 50 | TY538M | **3KH26†** | 24.17 | **22.96** | 100 | 0.6 |

## IDENTIFICATION CABLE TIE ORDERING DATA

| Key | Color | Weather Resistant | Body Width (In.) | Length (In.) | Max. Wire Bundle Dia. (In.) | Military Standard Part No. | Marking Pad Size (In.), W x H | Tensile Strength (Lbs.) | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | White | — | .091 | 3.60 | 0.625 | MS3368-5 | 1 x .313 | 18 | TY551M | **3KH29†** | $11.22 | **$10.66** | 50 | 0.1 |
| | White | — | .091 | 4.00 | 0.625 | — | .813 x .359 | 18 | TY553M | **3KH30†** | 10.76 | **10.23** | 50 | 0.1 |
| E | White | — | .184 | 7.25 | 1.75 | MS3368-1 | 5 x .875 | 50 | TY546M | **3KH27†** | 42.26 | **40.15** | 100 | 0.3 |
| | White | — | .184 | 14.20 | 4 | MS3368-2 | 5 x 2.125 | 50 | TY548M | **3KH28†** | 58.41 | **55.50** | 100 | 0.7 |

(†) UL Listed (E 49405). (‡) UL Listed (E 160899).



When the spec calls for brand names, you'll find the best here.

# TY-RAP® STAINLESS STEEL CABLE TIES AND INSTALLATION TOOLS

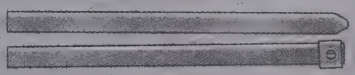
## STANDARD STAINLESS STEEL CABLE TIES

- Type 304 stainless steel
- Strong, safe, low-profile permanent single wrap ties
- Unique dual lock design
- 0.015" (38mm) thick
- For use in damaging environments such as boiler rooms, chemical plants, refineries, and pulp and paper mills
- Fireproof
- Resistant to corrosion and UV light

Thomas&Betts

E161695

Sold only in packages of 100



### STANDARD STAINLESS STEEL CABLE TIE ORDERING DATA

| Wire Bundle Dia. (In.) | Tensile Strength (Lbs.) | Width (In.) | Length (In.) | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Standard | | | | | |
| 2 | 200 | .25 | 10.0 | SS10-250 | 3KG77 | $83.74 | $79.55 | 100 | 1.1 |
| 4 | 200 | .25 | 16.5 | SS17-250 | 3KG79 | 109.77 | 104.30 | 100 | 1.8 |
| 6 | 200 | .25 | 22.5 | SS23-250 | 3KG80 | 135.99 | 129.20 | 100 | 2.5 |
| 8 | 200 | .25 | 29.0 | SS29-250 | 3KG81 | 162.96 | 155.00 | 100 | 3.2 |
| | | | | Mini | | | | | |
| 1 | 100 | .177 | 6.5 | SS7-180 | 3KG82 | 72.92 | 69.30 | 100 | 0.7 |
| 2 | 100 | .177 | 10.0 | SS10-180 | 3KG76 | 80.03 | 76.05 | 100 | 0.9 |
| 4 | 100 | .177 | 16.0 | SS16-180 | 3KG78 | 104.93 | 99.70 | 100 | 1.3 |

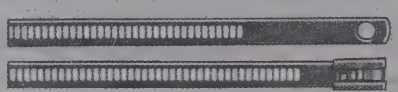
## MULTI-LOK STAINLESS STEEL SELF-LOCKING CABLE TIES

- Quickly and easily applied by hand
- Multi-Lok Ties feature a unique, self-locking, multiple-locking system that holds in excess of 200 lbs.
- Type 316 stainless steel
- 0.010" (.245mm) thick
- Available uncoated or coated with Nylon 11
- Coated ties are coated with halogen free, non-toxic black Nylon 11 which makes them weather resistant and unaffected by UV sunlight

Thomas&Betts

E161695

Sold only in packages of 100



### MULTI-LOK STAINLESS STEEL SELF-LOCKING CABLE TIE ORDERING DATA

| Tensile Strength (Lbs.) | Width (In.) | Length (In.) | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | Nylon 11 Coated | | | | | |
| 250 | .28 | 6 | TYS6-280C | 3KH38 | $166.31 | $158.00 | 100 | 0.7 |
| 250 | .28 | 12 | TYS12-280C | 3KH32 | 202.37 | 192.25 | 100 | 1.2 |
| 250 | .47 | 12 | TYS12-470C | 3KH34 | 220.74 | 209.75 | 100 | 2.2 |
| | | | Uncoated | | | | | |
| 250 | .28 | 6 | TYS6-280 | 3KH37 | 106.22 | 100.95 | 100 | 0.7 |
| 250 | .28 | 12 | TYS12-280 | 3KH31 | 137.94 | 131.05 | 100 | 1.2 |
| 250 | .28 | 24 | TYS24-280 | 3KH35 | 187.60 | 178.25 | 100 | 2.6 |
| 250 | .47 | 12 | TYS12-470 | 3KH33 | 149.57 | 142.10 | 100 | 2.2 |
| 250 | .47 | 24 | TYS24-470 | 3KH36 | 220.74 | 209.75 | 100 | 4.3 |

## INSTALLATION TOOLS

### Mini Stainless Steel Tie Tool

Hand tool to apply mini stainless steel cable ties. Easy to use tool applies tension, locks tie with patented dual lock, and cuts off band flush with top surface of buckle. Thomas & Betts brand (WTA290).

**No. 3KH55.** Mini Tie Tool. Shpg. wt. 2.0 lbs. List .....$237.57.
Each .....$220.00▲

### Standard Stainless Steel Tie Tool

A lightweight, pocket size hand tool to apply standard stainless steel cable ties. Easy to use tool applies tension, locks tie with the patented dual lock, and cuts off band flush with top surface of buckle. Thomas & Betts brand (WTA250).

**No. 3KH54.** Standard Tie Tool. Shpg. wt. 2.5 lbs. List .....$226.26.
Each .....$209.50▲

Thomas&Betts



Mini Stainless Steel Tie



Standard Stainless Steel Tie

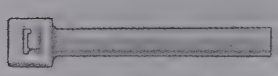
(▲) Net prices, not subject to discounts.

# CABLE TIES

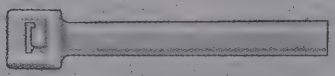
Thomas&Betts

E66683

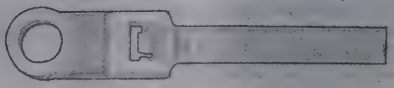
Sold only in package quantities



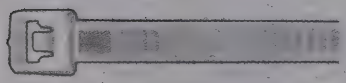
A Miniature



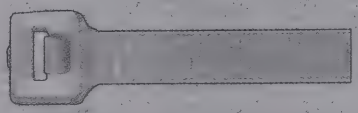
C Standard



E Mounting Head



B Intermediate



D Heavy Duty



F Releasable

- Nylon construction
- Self-locking and releasable types available
- Standard and weather resistant types available
- Reinforced head and strap transition for added strength
- Bent tip design for easier assembly
- For heavy-duty type use No. 3KH50 or No. 3KH53 installation tool
- For miniature, intermediate, standard, mounting head and releasable types use No. 5A308 or No. 1A887 installation tool
- Mounting head ties use No. 10 size screw

## CABLE TIE ORDERING DATA

| Key | Material | Color | Weather Resistant | Bundle Dia. (In.) | Length (In.) | Width (In.) | Min. Loop Tensile Lb. | Thomas & Betts Model | Stock No. | List | Each | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | MINIATURE | | | | | | | |
| A | Nylon | Natural | — | 1/16–5/8 | 4.0 | .100 | 18 | L-4-18-9-C | **6X750** | $2.28 | **$2.06** | 100 | 0.1 |
| | UV Nylon | Black | Yes | 1/16–5/8 | 4.0 | .100 | 18 | L-4-18-0-C | **3LP30** | 2.62 | **2.37** | 100 | 0.1 |
| | Nylon | Natural | — | 1/16–2 | 8.0 | .100 | 18 | L-8-18-9-C | **3LP34** | 5.20 | **4.68** | 100 | 0.2 |
| | | | | | | INTERMEDIATE | | | | | | | |
| B | Nylon | Natural | — | 1/16–1¼ | 5.6 | .130 | 30 | L-5-30-9-C | **6X752** | 3.64 | **3.28** | 100 | 0.2 |
| | UV Nylon | Black | Yes | 1/16–2 | 8.5 | .130 | 40 | L-8-40-0-C | **3LP35** | 4.92 | **4.43** | 100 | 0.2 |
| | Nylon | Natural | — | 1/16–2 | 8.5 | .130 | 40 | L-8-40-9-C | **6X753** | 4.28 | **3.85** | 100 | 0.2 |
| | UV Nylon | Black | Yes | 1/16–3 | 11.5 | .146 | 40 | L-11-40-0-C | **3LP20** | 10.13 | **9.12** | 100 | 0.3 |
| | UV Nylon | Black | Yes | 1/16–4 | 14.5 | .146 | 40 | L-14-40-0-C | **3LP24** | 12.30 | **11.08** | 100 | 0.4 |
| | Nylon | Natural | — | 1/16–4 | 14.5 | .146 | 40 | L-14-40-9-C | **3LP25** | 10.76 | **9.68** | 100 | 0.4 |
| | | | | | | STANDARD | | | | | | | |
| C | Nylon | Natural | — | 1/16–1 | 5.5 | .187 | 50 | L-5-50-9-C | **3LP32** | 4.05 | **3.65** | 100 | 0.2 |
| | UV Nylon | Black | Yes | 1/16–1 | 5.5 | .187 | 50 | L-5-50-0-C | **3LP31** | 4.57 | **4.12** | 100 | 0.2 |
| | Nylon | Natural | — | 1/16–1¾ | 7.5 | .187 | 50 | L-7-50-9-C | **6X754** | 4.37 | **3.94** | 100 | 0.3 |
| | UV Nylon | Black | Yes | 1/16–1¾ | 7.5 | .187 | 50 | L-7-50-0-C | **1A868** | 5.02 | **4.52** | 100 | 0.3 |
| | Nylon | Natural | — | 1/16–3 | 11.1 | .187 | 50 | L-11-50-9-C | **3LP22** | 9.78 | **8.81** | 100 | 0.5 |
| | UV Nylon | Black | Yes | 1/16–3 | 11.1 | .187 | 50 | L-11-50-0-C | **3LP21** | 11.17 | **10.05** | 100 | 0.5 |
| | Nylon | Natural | — | 1/16–4 | 14.1 | .187 | 50 | L-14-50-9-C | **3LP27** | 11.87 | **10.69** | 100 | 0.6 |
| | UV Nylon | Black | Yes | 1/16–4 | 14.1 | .187 | 50 | L-14-50-0-C | **3LP26** | 13.57 | **12.22** | 100 | 0.6 |
| | | | | | | HEAVY DUTY | | | | | | | |
| D | Nylon | Natural | — | 3/16–4 | 14.2 | .300 | 120 | L-14-120-9-C | **1A372** | 17.54 | **15.79** | 100 | 1.1 |
| | UV Nylon | Black | Yes | 3/16–4 | 14.2 | .300 | 120 | L-14-120-0-C | **3LP23** | 20.18 | **18.16** | 100 | 1.1 |
| | Nylon | Natural | — | 3/16–7 | 24.2 | .300 | 120 | L-24-120-9-L | **3LP28** | 14.14 | **12.73** | 50 | 0.5 |
| | Nylon | Natural | — | 3/16–9 | 28.0 | .300 | 120 | L-28-120-9-L | **3LP29** | 15.50 | **13.96** | 50 | 1.1 |
| | UV Nylon | Black | Yes | 2¾–10¾ | 36.0 | .345 | 175 | L-36-175-0-L | **4JC49** | 24.98 | **22.48** | 50 | 2.1 |
| | Nylon | Natural | — | 2¾–10¾ | 36.0 | .345 | 175 | L-36-175-9-L | **4JC50** | 21.72 | **19.56** | 50 | 2.1 |
| | Nylon | Gray | — | 3/16–15 | 48.0 | .345 | 175 | L-48-175-8-L | **4JC51** | 33.61 | **30.25** | 50 | 2.9 |
| | | | | | | MOUNTING HEAD TIES | | | | | | | |
| E | Nylon | Natural | — | 1/16-1¾ | 7.5 | .185 | 50 | L-7-50MH-9-C | **1A373** * | 8.19 | **7.37** | 100 | 0.3 |
| | UV Nylon | Black | Yes | 1/16–1¾ | 7.5 | .185 | 50 | L-7-50MH-0-C | **3LP33** * | 9.34 | **8.41** | 100 | 0.3 |
| | | | | | | RELEASABLE TIES | | | | | | | |
| F | Nylon | Natural | — | 1/8–2 | 7.8 | .298 | 50 | L-8-50R-9-C | **5A306** | 8.43 | **7.59** | 100 | 0.6 |
| | UV Nylon | Black | Yes | 1/8–2 | 7.8 | .298 | 50 | L-8-50R-0-C | **3LP36** | 9.19 | **8.27** | 100 | 0.6 |
| | Nylon | Natural | — | 1/8–3 | 11.75 | .298 | 50 | L-10-50R-9-C | **3LP19** | 12.34 | **11.11** | 100 | 0.8 |
| | UV Nylon | Black | Yes | 1/8–3 | 11.75 | .298 | 50 | L-10-50R-0-C | **3LP18** | 13.57 | **12.22** | 100 | 0.7 |

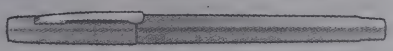
(*) #10 Mounting screw.



When the spec calls for brand names, you'll find the best here.

# CABLE TIE TOOLS AND MARKING PENS

Thomas&Betts



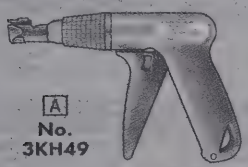
No. 3KH47

## MARKING PENS

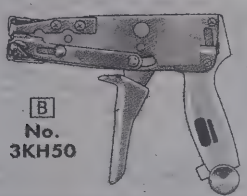
- For use on Ty-Rap® identification cable ties

**MARKING PEN ORDERING DATA**

| Color Ink | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Black | WT163M-1 | **3KH47** | $11.38 | **$10.53** | 0.1 |
| Red | WT163M-3 | **3KH48** | 11.86 | **10.97** | 0.1 |

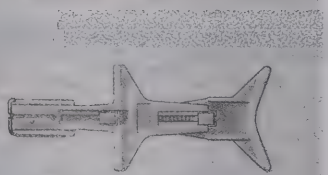


A
No. 3KH49



B
No. 3KH50

Thomas&Betts



C
No. 3KH51

## TY-RAP® CABLE TIE INSTALLATION TOOLS

Nos. 3KH49 and 3KH50:

- Wider insertion gap for cable tie means easier tie insertion
- 380° rotatable nose allows the Ty-Gun tool to be used in any position
- Quick tension adjustment wheel is located towards front for easy access and fast changes
- Adjustable handle span fits large and smaller hands
- Anti-recoil mechanism reduces vibration shock
- Weighs only 8.5 ounces, with a balanced center of gravity
- Smooth grip handles, no sharp edges on surface

**Nos. 3KH51 and 3KH53.** Compact hand tool made of high-impact plastic, preset tension, cuts off flush. Lightweight and economical.

**CABLE TIE INSTALLATION TOOL ORDERING DATA**

| Key | Body Width Range (In.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | .094–.184 | ERG299 | **3KH49** | $144.57 | **$133.75** | 1.0 |
| B | .184–.301 | ERG297 | **3KH50** | 276.15 | **255.50** | 0.8 |
| C | .091–.184 | WT1-TB | **3KH51** | 24.91 | **23.05** | 0.1 |
| C | .184–.301 | WT2-TB | **3KH53** | 33.44 | **31.80** | 0.1 |

## CABLE TIE INSTALLATION TOOLS

A lightweight tool for least critical applications. Clinch tie to desired bundle and twist tool to remove excess strap. Recommended for use with 18–50 pound ties. Thomas & Betts brand (GQC-100).

**No. 5A308.** Shpg. wt. 0.3 lbs. List $16.78. Each ..... $15.11

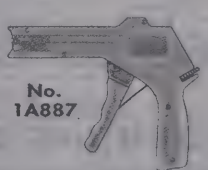
Heavy duty tool for use with 18–50 pound ties. Automatic cut-off and adjustable tensioning for dependable use in assembly applications. Thomas & Betts brand (GL-400).

**No. 1A887.** Shpg. wt. 0.5 lbs. List $68.43. Each ..... $61.60

Thomas&Betts



No. 5A308



No. 1A887

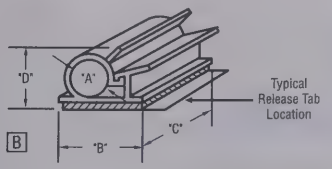
## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

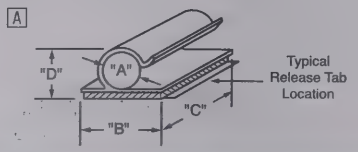
Thomas&Betts

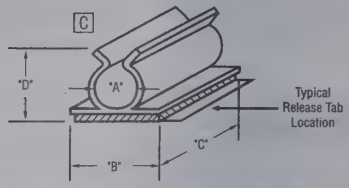
## KWIK-KLIPS CABLE CLIPS

- All models designed to withstand −140 to 185°F
- Adhesive backing mounts quickly and easily
- Adhesive is 1/16" thick
- Gray PVC




Sold only in Packages of 25




### CABLE CLIP ORDERING DATA

| Key | A (Holding Capacity) | Dimensions (In.) B | C ±.02/In. | D Typ. | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/4 | 3/4 | 3/4 | 3/8 | GC250RT | **1A873** | $8.83 | **$7.29** | 25 | 0.1 |
| | 1/2 | 1 | 1 | 5/8 | GC500RT | **1A874** | 10.98 | **9.06** | 25 | 0.2 |
| B | 1/4 | 3/4 | 3/4 | 9/16 | GL250RT | **1A875** | 9.35 | **7.72** | 25 | 0.1 |
| | 1/2 | 1 | 1 | 27/32 | GL500RT | **1A876** | 11.76 | **9.70** | 25 | 0.2 |
| C | 1/4 | 3/4 | 3/4 | 15/32 | GU250RT | **1A877** | 8.83 | **7.29** | 25 | 0.1 |
| | 1/2 | 1 | 1 | 11/16 | GU500RT | **1A878** | 10.92 | **9.02** | 25 | 0.2 |

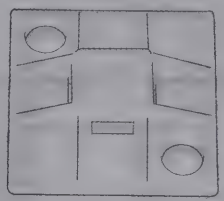
## CABLE TIE MOUNTING PADS

- 3/4" and 1" mounts for use with 18# through 50# tensile strength cable ties
- UL Flammability 94 V-2 (clip)
- Constructed of 6/6 natural nylon

Thomas&Betts

E66683

Sold only in Packages of 100



No. 1A871

### MOUNTING PAD ORDERING DATA

| Mount Method | Base Height (In.) | Base Length (In.) | Base Width (In.) | Slot Height (In.) | Slot Width (In.) | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Acrylic based adhesive | .205 | .750 | .750 | .050 | .140 | MPNY-750A-9-C | **1A871** | $11.36 | **$10.23** | 100 | 0.2 |
| Acrylic based adhesive | .215 | 1.000 | 1.000 | .070 | .203 | MPNY-1000A-9-C | **1A872** | 15.44 | **13.90** | 100 | 0.4 |

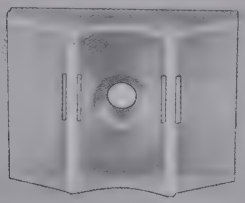
## CABLE TIE MOUNTING CRADLES

- Accepts cable ties up to 50# tensile strength (miniature through standard)
- Use #6 self-tapping screw for added strength if desired
- UL Flammability 94 V-2 (mount)
- Mount molded in 6/6 natural nylon

Thomas&Betts

E66683

Sold only in Packages of 100



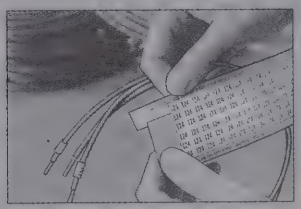
No. 1A870

### MOUNTING CRADLE ORDERING DATA

| Mount Method | Base Height (In.) | Base Length (In.) | Base Width (In.) | Slot Height (In.) | Slot Width (In.) | Thomas & Betts Model | Stock No. | List | Each Package | Package Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Synthetic polymer rubber adhesive | .285 | 1.250 | 1.000 | .090 | .300 | MCNY-1250-9-D | **1A870** | $15.44 | **$13.90** | 100 | 3.0 |

### DON'T DELAY... ORDER FROM GRAINGER NOW!

Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.



BRADY

Registered to ISO 9001

## WIRE MARKER CARDS

Large selection of wire marker cards allows you to choose the wire marking product that precisely meets your application requirements. Brady's exclusive Zip-Strip® release card lets you easily remove just the markers you need, when you need them. Brady USA brand.

## VINYL CLOTH WIRE MARKER CARDS

- **Wire markers are 0.25 inches wide and 1.5 inches long**

### VINYL CLOTH WIRE MARKER CARD SPECIFICATIONS AND ORDERING DATA

| Legend | Markers Per Card | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0** | 36 | WM-0 | **3TP36** | $2.05 | **$1.68** | **$1.60** | 0.1 |
| **1** | 36 | WM-1 | **3TP37** | 2.05 | **1.68** | **1.60** | 0.1 |
| **2** | 36 | WM-2 | **3TP41** | 2.05 | **1.68** | **1.60** | 0.1 |
| **3** | 36 | WM-3 | **3TP42** | 2.05 | **1.68** | **1.60** | 0.1 |
| **4** | 36 | WM-4 | **3TP44** | 2.05 | **1.68** | **1.60** | 0.1 |
| **5** | 36 | WM-5 | **3TP45** | 2.05 | **1.68** | **1.60** | 0.1 |
| **6** | 36 | WM-6 | **3TP46** | 2.05 | **1.68** | **1.60** | 0.1 |
| **7** | 36 | WM-7 | **3TP48** | 2.05 | **1.68** | **1.60** | 0.1 |
| **8** | 36 | WM-8 | **3TP49** | 2.05 | **1.68** | **1.60** | 0.1 |
| **9** | 36 | WM-9 | **3TP50** | 2.05 | **1.68** | **1.60** | 0.1 |
| **1 thru 33** | 33 | WM-1-33 | **3TP38** | 2.05 | **1.68** | **1.60** | 0.1 |
| **34 thru 66** | 33 | WM-34-66 | **3TP43** | 2.05 | **1.68** | **1.60** | 0.1 |
| **67 thru 99** | 33 | WM-67-99 | **3TP47** | 2.05 | **1.68** | **1.60** | 0.1 |
| **100 thru 124** | 25 | WM-100-124 | **3TP39** | 2.05 | **1.68** | **1.60** | 0.1 |
| **125 thru 149** | 25 | WM-125-149 | **3TP40** | 2.05 | **1.68** | **1.60** | 0.1 |
| **A thru Z** | 26 | WM-A-Z | **3TP51** | 2.05 | **1.68** | **1.60** | 0.1 |
| **(—)** | 26 | WM-MIN | **3TP52** | 2.05 | **1.68** | **1.60** | 0.1 |
| **(+)** | 26 | WM-PLS | **3TP53** | 2.05 | **1.68** | **1.60** | 0.1 |

## SELF-LAMINATING WIRE MARKER CARDS

- **Wire markers are 0.25 inches wide and 1.5 inches long**

### SELF-LAMINATING MARKER CARD SPECIFICATIONS AND ORDERING DATA

| Legend | Markers per Card | Write-on Area Inch (mm) W | L | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1 thru 33** | 33 | N/A | N/A | SLF-1-33 | **3TP31** | $2.17 | **$1.98** | **$1.78** | 0.1 |
| **Blank/ Write-on** | 18 | .50(12.5) | .75(19.0) | SLFW-500 | **3TP32** | 2.17 | **1.98** | **1.78** | 0.1 |
| **Blank/ Write-on** | 12 | .75(19.0) | .75(19.0) | SLFW-750 | **3TP33** | 2.17 | **1.98** | **1.78** | 0.1 |

## ALUMINUM FOIL WIRE MARKER CARDS

- **Wire markers are 0.25 inches wide and 1.5 inches long**

### ALUMINUM FOIL MARKER CARD SPECIFICATIONS AND ORDERING DATA

| Legend | Markers per Card | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1 thru 33** | 33 | AF-1-33 | **3TN85** | $2.32 | **$2.11** | **$1.90** | 0.1 |

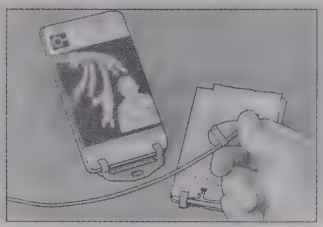
## MINIATURE WIRE MARKER CARDS

- **Wire markers are 0.25 inches wide and 0.5 inches long**

### MINIATURE WIRE MARKER CARD SPECIFICATIONS AND ORDERING DATA

| Legend | Markers per Card | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0 thru 49** | 150 | TMM-0-49 | **3TP34** | $2.71 | **$2.47** | **$2.22** | 0.1 |
| **50 thru 99** | 150 | TMM 50-99 | **3TP35** | 2.71 | **2.47** | **2.22** | 0.1 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**



BRADY

## PORTA-PACK® WIRE MARKER BOOKS

Brady Porta-Pack® books come ten pages per book with a unique comb design that allows for easy refill of the books. The slim, lightweight, pocket-sized book is easy to carry and easy to use.

These books contain vinyl cloth labels with a large selection of legends available: numbers, letters, special symbols, and more. Each wire marker also includes a terminal marker. Brady USA brand.

### WIRE MARKER BOOK SPECIFICATIONS AND ORDERING DATA

| Legend | Markers Each Legend | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0 thru 9** | 45 | PWM-PK-1 | **3TP18** | $21.23 | **$19.30** | **$17.37** | 0.2 |
| **A-Z and 0-15, (+), (—), ( / )** | 10 | PWM-PK-2 | **3TP19** | 21.23 | **19.30** | **17.37** | 0.2 |
| **1 thru 45** | 10 | PWM-PK-3 | **3TP20** | 21.23 | **19.30** | **17.37** | 0.2 |
| **1 thru 15** | 6 | | | | | | |
| **16 thru 90** | 4 | PWM-PK-8 | **3TP21** | 21.23 | **19.30** | **17.37** | 0.2 |
| **A thru Z, (+), (—), ( / ), (0)** | 2 | | | | | | |
| **Load Center and Residential** | 5 cards each of two legends | PWM-LC-3 | **3TP17** | 21.23 | **19.30** | **17.37** | 0.2 |



BRADY

## WRITE-ON SELF-LAMINATING WIRE AND CABLE MARKERS

These books contain white/transparent self-laminating vinyl and can be used for applications above or below ground. The transparent portion of the label over-wraps to provide a snug fitting, self-laminating shield that resists oil, water, and solvents. Brady USA brand.

### WIRE AND CABLE MARKER SPECIFICATIONS AND ORDERING DATA

| Legend | Markers Per Book | Size of Write-on Area Inch (mm) W | Size of Write-on Area Inch (mm) H | Marker Size Inch (mm) W | Marker Size Inch (mm) H | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Blank/ Write-on** | 180 | .50(12.7) | .75(19.0) | .50(12.7) | 1.5(38.0) | PWS-PK-14 | **3TP22** | $26.11 | **$23.74** | **$21.37** | 0.2 |
| **Blank/ Write-on** | 120 | .75(19.0) | .50(12.7) | .75(19.0) | 1.75(44.4) | PWC-PK-1 | **3TP14** | 26.11 | **23.74** | **21.37** | 0.2 |
| **Blank/ Write-on** | 60 | 1.0(25.4) | .75(19.0) | 1.00(25.4) | 3.00(76.2) | PWC-PK-3 | **3TP15** | 26.11 | **23.74** | **21.37** | 0.2 |
| **Blank/ Write-on** | 30 | 1.0(25.4) | 1.00(25.4) | 1.00(25.4) | 6.00(152.4) | PWC-PK-6 | **3TP16** | 26.11 | **23.74** | **21.37** | 0.2 |



BRADY

## CLIP SLEEVE WIRE MARKERS

The clip sleeve markers apply quickly with a special Quick-Wand applicator. Markers are split sleeve with "chevron" locking design cut snaps on the wire, won't slip or slide. Made of nylon material. **Each package contains 10 wands with thirty sleeves per wand.** Brady USA brand.

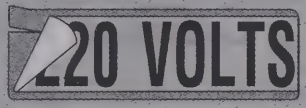
### WIRE MARKER SPECIFICATIONS AND ORDERING DATA

| Legend | Approx. Wire Guage | For Wire Size Inch (mm) | Color | Brady USA Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0 thru 9** | 16,14 | .110-.134(2.8-3.4) | Red | SCNC-10 | **3TP30** | $24.53 | **$22.30** | **$20.07** | 0.1 |
| **1** | 16,14 | .110-.134(2.8-3.4) | Red | SCN10-1 | **3TP24** | 24.53 | **22.30** | **20.07** | 0.1 |
| **2** | 16,14 | .110-.134(2.8-3.4) | Red | SCN10-2 | **3TP25** | 24.53 | **22.30** | **20.07** | 0.1 |
| **A thru M** | 16,14 | .110-.134(2.8-3.4) | Red | SCN10-A-M | **3TP26** | 28.05 | **25.50** | **22.95** | 0.1 |
| **N thru Z** | 16,14 | .110-.134(2.8-3.4) | Red | SCN10-N-Z | **3TP27** | 28.05 | **25.50** | **22.95** | 0.1 |
| **1** | 14 | .134-.181(3.4-4.6) | Dark Blue | SCN13-1 | **3TP28** | 24.53 | **22.30** | **20.07** | 0.1 |
| **2** | 14 | .134-.181(3.4-4.6) | Dark Blue | SCN13-2 | **3TP29** | 24.53 | **22.30** | **20.07** | 0.1 |

**IF YOU'RE IN A BIND, CALL GRAINGER**

**If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

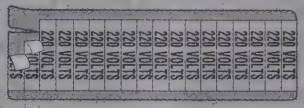
## CARD STYLES (MARKERS PER CARD)




1 Marker Per Card
(Style A)
Marker Size: 2¼ x 9"
Character Height: 1⅞"




4 Markers Per Card
(Style B)
Marker Size: 1⅛ x 4½"
Character Height: ⅞"




18 Markers Per Card
(Style C)
Marker Size: 2¼ x ½"
Character Height: 5/16"

Registered to ISO 9001

BRADY

## CONDUIT & VOLTAGE MARKERS

These black on orange, highly visible markers are designed for quick identification on conduit, busways, circuit breakers, switches, fuse boxes, and other electrical equipment. Brady USA brand.

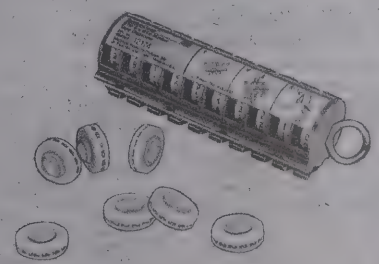
### CONDUIT AND VOLTAGE MARKER SPECIFICATIONS AND ORDERING DATA

| Legend | Style A: 1/Card Brady USA Model | Stock No. | List | Each | Lots 25 | Shpg. Wt. | Style B: 4/Card Brady USA Model | Stock No. | List | Each | Lots 25 | Shpg. Wt. | Style C: 18/Card Brady USA Model | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **110 Volts** | 44101 | **6GX08** | $2.05 | **$1.87** | **$1.68** | 0.1 | 44201 | **6GX41** | $2.05 | **$1.87** | **$1.68** | 0.1 | 44301 | **6GX74** | $2.05 | **$1.87** | **$1.68** | 0.1 |
| **115 Volts** | 44102 | **6GX09** | 2.05 | **1.87** | **1.68** | 0.1 | 44202 | **6GX42** | 2.05 | **1.87** | **1.68** | 0.1 | 44302 | **6GX75** | 2.05 | **1.87** | **1.68** | 0.1 |
| **120 Volts** | 44104 | **6GX10** | 2.05 | **1.87** | **1.68** | 0.1 | 44204 | **6GX43** | 2.05 | **1.87** | **1.68** | 0.1 | 44304 | **6GX76** | 2.05 | **1.87** | **1.68** | 0.1 |
| **120/208 Volts** | 44159 | **6GX39** | 2.05 | **1.87** | **1.68** | 0.1 | 44259 | **6GX72** | 2.05 | **1.87** | **1.68** | 0.1 | 44359 | **6GX94** | 2.05 | **1.87** | **1.68** | 0.1 |
| **208 Volts** | 44106 | **6GX11** | 2.05 | **1.87** | **1.68** | 0.1 | 44206 | **6GX44** | 2.05 | **1.87** | **1.68** | 0.1 | 44306 | **6GX77** | 2.05 | **1.87** | **1.68** | 0.1 |
| **220 Volts** | 44107 | **6GX12** | 2.05 | **1.87** | **1.68** | 0.1 | 44207 | **6GX45** | 2.05 | **1.87** | **1.68** | 0.1 | 44307 | **6GX78** | 2.05 | **1.87** | **1.68** | 0.1 |
| **230 Volts** | 44108 | **6GX13** | 2.05 | **1.87** | **1.68** | 0.1 | 44208 | **6GX46** | 2.05 | **1.87** | **1.68** | 0.1 | 44308 | **6GX79** | 2.05 | **1.87** | **1.68** | 0.1 |
| **240 Volts** | 44110 | **6GX14** | 2.05 | **1.87** | **1.68** | 0.1 | 44210 | **6GX47** | 2.05 | **1.87** | **1.68** | 0.1 | 44310 | **6GX80** | 2.05 | **1.87** | **1.68** | 0.1 |
| **277 Volts** | 44112 | **6GX16** | 2.05 | **1.87** | **1.68** | 0.1 | 44212 | **6GX49** | 2.05 | **1.87** | **1.68** | 0.1 | N/A | — | — | — | — | — |
| **277/480 Volts** | 44160 | **6GX40** | 2.05 | **1.87** | **1.68** | 0.1 | 44260 | **6GX73** | 2.05 | **1.87** | **1.68** | 0.1 | 44360 | **6GX95** | 2.05 | **1.87** | **1.68** | 0.1 |
| **440 Volts** | 44113 | **6GX17** | 2.05 | **1.87** | **1.68** | 0.1 | 44213 | **6GX50** | 2.05 | **1.87** | **1.68** | 0.1 | 44313 | **6GX82** | 2.05 | **1.87** | **1.68** | 0.1 |
| **460 Volts** | 44114 | **6GX18** | 2.05 | **1.87** | **1.68** | 0.1 | 44214 | **6GX51** | 2.05 | **1.87** | **1.68** | 0.1 | 44314 | **6GX83** | 2.05 | **1.87** | **1.68** | 0.1 |
| **480 Volts** | 44115 | **6GX19** | 2.05 | **1.87** | **1.68** | 0.1 | 44215 | **6GX52** | 2.05 | **1.87** | **1.68** | 0.1 | 44315 | **6GX84** | 2.05 | **1.87** | **1.68** | 0.1 |
| **600 Volts** | 44118 | **6GX21** | 2.05 | **1.87** | **1.68** | 0.1 | 44218 | **6GX54** | 2.05 | **1.87** | **1.68** | 0.1 | N/A | — | — | — | — | — |
| **4160 Volts** | 44122 | **6GX23** | 2.05 | **1.87** | **1.68** | 0.1 | 44222 | **6GX56** | 2.05 | **1.87** | **1.68** | 0.1 | N/A | — | — | — | — | — |
| **13,200 Volts** | 44151 | **6GX35** | 2.05 | **1.87** | **1.68** | 0.1 | N/A | — | — | — | — | — | N/A | — | — | — | — | — |
| **AC** | 44127 | **6GX27** | 2.05 | **1.87** | **1.68** | 0.1 | 44227 | **6GX57** | 2.05 | **1.87** | **1.68** | 0.1 | 44327 | **6GX85** | 2.05 | **1.87** | **1.68** | 0.1 |
| **DC** | 44138 | **6GX33** | 2.05 | **1.87** | **1.68** | 0.1 | 44238 | **6GX63** | 2.05 | **1.87** | **1.68** | 0.1 | 44338 | **6GX91** | 2.05 | **1.87** | **1.68** | 0.1 |
| **Emergency Service** | N/A | — | — | — | — | — | N/A | — | — | — | — | — | 44328 | **6GX86** | 2.05 | **1.87** | **1.68** | 0.1 |
| **Power** | 44132 | **6GX30** | 2.05 | **1.87** | **1.68** | 0.1 | 44232 | **6GX60** | 2.05 | **1.87** | **1.68** | 0.1 | 44332 | **6GX89** | 2.05 | **1.87** | **1.68** | 0.1 |
| **Single Phase** | 44129 | **6GX28** | 2.05 | **1.87** | **1.68** | 0.1 | 44229 | **6GX58** | 2.05 | **1.87** | **1.68** | 0.1 | 44329 | **6GX87** | 2.05 | **1.87** | **1.68** | 0.1 |
| **Three Phase** | 44131 | **6GX29** | 2.05 | **1.87** | **1.68** | 0.1 | 44231 | **6GX59** | 2.05 | **1.87** | **1.68** | 0.1 | 44331 | **6GX88** | 2.05 | **1.87** | **1.68** | 0.1 |

## SCOTCHCODE™ STD WIRE MARKER TAPE DISPENSER

3M

Registered to ISO 9002



**ScotchCode™ STD Wire Marker Tape Dispenser** is a compact refillable dispenser which provides a fast, convenient method for marking wire and cable. Easy cut-off, no waste. Applications include all types of marking or identifying: load center panels, repair and replacement parts, wires and hoses, terminals, sub-assemblies, etc. Dispenser has 10 refillable compartments filled with ScotchCode™ SDR Wire Marker Tape numbered 0 through 9 inclusive. ScotchCode™ SDR tape is polyester film combined with an acrylic adhesive for superior oil/solvent resistance. Tape is white with black numerals; each roll 0.125 inch wide x 11 feet long. Dispenser: 1¼" diameter x 5" long (STD-0-9).

**No. 2A233.** Shpg. wt. 0.2 lbs. List $31.41. Each .....**$31.15**

Refills for numbered or colored tape are available. Call 1-800-323-0620 for fastest service.

# WIRE MARKING PRINTER AND ACCESSORIES



Registered to ISO 9001

**BRADY 90-DAY WARRANTY**

See page opposite inside back cover.

## I.D. PRO™ PLUS PRINTER AND ACCESSORIES

- **Printer features rechargeable battery pack and easy-load cartridge**
- **Prints labels, markers, and sleeves**
- **Automatic serialization**
- **Bold text capability**
- **Upgradable print speed and 8 lines of variable text**

The I.D. PRO Plus from Brady is the smallest, most affordable method available to print wire markers on site and on demand. Desinged for versatility as well as portability, the printer can accommodate three different material widths from .5" to 1.5". The self-adjusting printhead accepts a wide variety of labeling materials including self-laminating and vinyl cloth, plus BradySleeve™ and PermaSleeve™ heat shrink wire markers (see page 636). Brady USA Brand.

### PORTABLE PRINTER MATERIAL GUIDE

| Type | Item | Max. Service Temp. °F (°C) | Use | Special Properties |
|---|---|---|---|---|
| **Nylon Cloth** | B-499 | 193(90) | Low profile through-conduit wire marker | Low-profile; permanent adhesive |
| **Polyester** | B-619 | 311(155) | White permanent label | Solvent and heat resistant; CSA approved and UL listed |
| | B-969 | 311(155) | Metallized permanent label | Print receptive; CSA approved and UL listed |
| **Polyolefin** | B-321 | 221(105) Heat Shrink | Sleeve markers | Permanent; shrinkable |
| | B-341 | 275(135) Heat Shrink | Wire ID and insulation | Permanent; shrinkable |
| **Vinyl** | B-292 | 150(66) | Wire and cable labels | Heat and solvent resistant; conformable |
| | B-607 | 211(100) | Non-removable applications | Tamper resistant |
| **Vinyl Cloth** | B-502 | 180(82) | General marking | Oil, water and humidity resistant; permanent or removable |

### PORTABLE PRINTER ORDERING DATA

| Description | Brady USA Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Printer (includes R5300 ribbon, battery pack, users' manual, battery charger, and wrist/belt cord)** | IDPRO PLUS | **3TP09** | $427.90 | **$389.00** | 2.6 |
| **Hard Side Carrying Case** | IDPRO-HC | **3TP08** | 44.00 | **40.00** | 2.7 |
| **Battery Charger** | IDPRO-BC | **3TP04** | 19.80 | **18.00** | 0.6 |
| **Black, High-performance Ribbon for all labels and sleeves** | R5300 | **3TP23** | 8.25 | **7.50** | 0.1 |
| **12-volt Battery Charger (plugs into auto cigarette lighter)** | IDPRO-BC12V | **3TP05** | 27.50 | **25.00** | 0.4 |
| **Battery Pack** | IDPRO-BP | **3TP07** | 44.00 | **40.00** | 0.6 |
| **Belt Holster** | IDPRO-BH | **3TP06** | 35.20 | **32.00** | 0.6 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

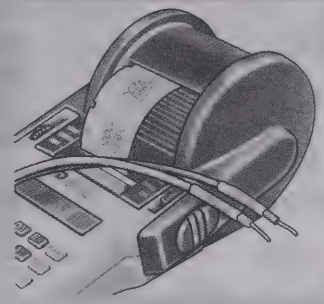
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# I.D. PRO™ PLUS WIRE MARKING LABELS

These labels are designed for use with the I.D. PRO Plus portable printer (sold separately on page 634). They are highly durable and easily visible; perfect for all your on-site label or wire marking applications. Brady USA brand.

BRADY

Registered to ISO 9001



## GENERAL WIRE MARKING LABELS SPECIFICATIONS AND ORDERING DATA

| Label Material | Labels per Roll | Approx. Wire Gauge | Label Dimensions Inch (mm) Width | Height | Max. Lines of Print | Maximum Characters Across Large | Small | Brady USA Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nylon Cloth, Permanent Adhesive | 500 | 16-22 | .5(12.7) | .5(12.7) | 3 | 3 | 4 | WML-305-499 | **3TP61** | $32.56 | **$29.60** | **$26.64** | 0.1 |
| General-Purpose Vinyl Cloth | 500 | 16-22 | .5(12.7) | .5(12.7) | 3 | 3 | 4 | WML-305-502 | **3TP62** | 31.57 | **28.70** | **25.83** | 0.1 |
| Nylon Cloth, Permanent Adhesive | 250 | 10-16 | .5(12.7) | .75(19.05) | 4 | 3 | 4 | WML-505-499 | **3TP65** | 20.58 | **18.71** | **16.84** | 0.1 |
| General-Purpose Vinyl Cloth | 250 | 10-16 | .5(12.7) | .75(19.05) | 4 | 3 | 4 | WML-505-502 | **3TP67** | 19.88 | **18.08** | **16.27** | 0.1 |
| Nylon Cloth, Permanent Adhesive | 250 | 10-16 | 1.0(25.4) | .75(19.05) | 4 | 7 | 10 | WML-511-499 | **3TP70** | 24.48 | **22.26** | **20.03** | 0.1 |
| General-Purpose Vinyl Cloth | 250 | 10-16 | 1.0(25.4) | .75(19.05) | 4 | 7 | 10 | WML-511-502 | **3TP71** | 23.79 | **21.63** | **19.47** | 0.1 |
| Nylon Cloth, Permanent Adhesive | 250 | 10-12 | .5(12.7) | 1.0(25.4) | 6 | 3 | 4 | WML-705-499 | **3TP73** | 22.22 | **20.20** | **18.18** | 0.1 |
| General-Purpose Vinyl Cloth | 250 | 10-12 | .5(12.7) | 1.0(25.4) | 6 | 3 | 4 | WML-705-502 | **3TP74** | 21.45 | **19.50** | **17.55** | 0.1 |
| Nylon Cloth, Permanent Adhesive | 250 | 10-12 | 1.0(25.4) | 1.0(25.4) | 6 | 7 | 10 | WML-711-499 | **3TP76** | 26.55 | **24.14** | **21.73** | 0.1 |
| General-Purpose Vinyl Cloth | 250 | 10-12 | 1.0(25.4) | 1.0(25.4) | 6 | 7 | 10 | WML-711-502 | **3TP77** | 25.86 | **23.51** | **21.16** | 0.1 |
| General-Purpose Vinyl Cloth | 250 | 6-10 | .5(12.7) | 1.25(31.75) | 8 | 3 | 4 | WML-905-502 | **3TP79** | 23.21 | **21.10** | **18.99** | 0.1 |
| Nylon Cloth, Permanent Adhesive | 250 | 6-10 | 1.0(25.4) | 1.25(31.75) | 8 | 7 | 10 | WML-911-499 | **3TP80** | 28.49 | **25.90** | **23.31** | 0.1 |
| General-Purpose Vinyl Cloth | 250 | 6-10 | 1.0(25.4) | 1.25(31.75) | 8 | 7 | 10 | WML-911-502 | **3TP81** | 27.61 | **25.10** | **22.59** | 0.1 |

## MULTIPLE-ACROSS WIRE MARKING STRIPS ORDERING DATA - APPROXIMATE WIRE GAUGE - 10-14

| Label Material | Number of Strips Across | Quantity Per Roll Strips/Sets | Label Dimensions Inch (mm) Width | Height | Max. Lines of Print | Maximum Characters Across Large | Small | Brady USA Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nylon Cloth | 2 | 500/250 | .50(12.7) | .75(19.05) | 4 | 3 | 4 | WML-505-499-2S | **3TP66** | $29.70 | **$27.00** | **$24.30** | 0.1 |
| White Vinyl Cloth | 2 | 500/250 | .50(12.7) | .75(19.05) | 4 | 3 | 4 | WML-505-502-2S | **3TP68** | 28.82 | **26.20** | **23.58** | 0.1 |

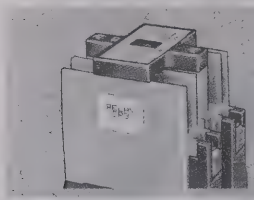
## SELF-LAMINATING WIRE MARKING LABELS ORDERING DATA - SELF-LAMINATING VINYL, 250 LABELS PER ROLL

| Approx. Wire Gauge | Max. Wire Diameter Inch (mm) | Label Dimensions Inch (mm) Width | Height | Write-on Area Height | Max. Lines of Print | Maximum Characters Across Large | Small | Brady USA Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10-12** | .21(5.3) | .5(12.7) | 1.0(25.4) | .375(9.53) | 2 | 3 | 4 | WML-205-292-1 | **3TP54** | $18.73 | **$17.03** | **$15.33** | 0.1 |
| **10-14** | .185(4.7) | .5(12.7) | .75(19.05) | .4(10.16) | 2 | 3 | 4 | WML-205-292-2S* | **3TP55** | 27.39 | **24.90** | **22.41** | 0.1 |
| **10-16** | .16(4.1) | .5(12.7) | .75(19.05) | .375(9.53) | 2 | 3 | 4 | WML-205-292-75 | **3TP56** | 15.86 | **14.42** | **12.98** | 0.1 |
| **10-12** | .21(5.3) | 1.0(25.4) | 1.0(25.4) | .375(9.53) | 2 | 7 | 10 | WML-211-292-1 | **3TP57** | 23.10 | **21.00** | **18.90** | 0.1 |
| **10-16** | .16(4.1) | 1.0(25.4) | .75(19.05) | .375(9.53) | 2 | 7 | 10 | WML-211-292-75 | **3TP58** | 20.92 | **19.02** | **17.12** | 0.1 |
| **6-10** | .26(6.6) | .50(12.7) | 1.25(31.75) | .5(12.7) | 3 | 3 | 4 | WML-305-292 | **3TP59** | 18.62 | **16.93** | **15.24** | 0.1 |
| **6-10** | .26(6.6) | .50(12.7) | 1.25(31.75) | .52(13.21) | 3 | 3 | 4 | WML-305-292-2S* | **3TP60** | 31.35 | **28.50** | **25.65** | 0.1 |
| **6-10** | .26(6.6) | 1.0(25.4) | 1.25(31.75) | .5(12.7) | 3 | 7 | 10 | WML-311-292 | **3TP63** | 25.05 | **22.78** | **20.50** | 0.1 |
| **6-10** | .26(6.6) | 1.5(38.1) | 1.25(31.75) | .5(12.7) | 3 | 10 | 15 | WML-317-292 | **3TP64** | 29.70 | **27.00** | **24.30** | 0.1 |

(*) The suffix 2S signifies that the labels are scored in half, length-wise. The width is only .25".

## CABLE MARKING LABELS ORDERING DATA

| Label Material | Labels per Roll | Label Dimensions Inch (mm) Width | Height | Write-on Area Height | Max. Lines of Print | Maximum Characters Across Large | Small | Brady USA Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Self-Laminating Vinyl | 100 | 1.0(25.4) | 2.5(63.5) | .75(19.05) | 4 | 7 | 10 | WML-511-292 | **3TP69** | $17.69 | **$16.09** | **$14.48** | 0.1 |
| | | 1.5(38.1) | 2.5(63.5) | .75(19.05) | 4 | 10 | 15 | WML-517-292 | **3TP72** | 22.18 | **20.17** | **18.15** | 0.1 |
| | | 1.0(25.4) | 4.0(101.6) | 1.0(25.4) | 6 | 7 | 10 | WML-711-292 | **3TP75** | 21.03 | **19.12** | **17.21** | 0.1 |
| | | 1.5(38.1) | 4.0(101.6) | 1.0(25.4) | 6 | 10 | 15 | WML-717-292 | **3TP78** | 28.54 | **25.95** | **23.36** | 0.1 |



Registered to ISO 9001

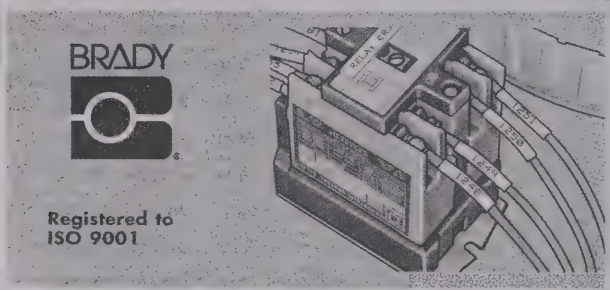
## I.D. PRO™ PLUS COMPONENT & GENERAL IDENTIFICATION LABELS

These labels are for use on components in control panels, electronic components and circuit boards, faceplates, and electrical receptacles. Brady USA Brand.

### I.D. PRO™ PLUS COMPONENT AND GENERAL IDENTIFICATION LABELS SPECIFICATIONS AND ORDERING DATA

| Label Material | Labels per Roll | Label Dimensions Inch (mm) Width | Height | Max. Lines of Print | Maximum Characters Across Large | Small | Brady USA Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Polyester** | 500 | .5(12.7) | .275(7.0) | 1 | 3 | 4 | CL-105-619 | **3TN90** | $18.16 | **$16.51** | **$14.86** | 0.1 |
| **Vinyl Cloth** | 500 | 1.0(25.4) | .275(7.0) | 1 | 7 | 10 | CL-111-502 | **3TN91** | 28.38 | **25.80** | **23.22** | 0.1 |
| **Tamper-Proof Vinyl** | 500 | 1.0(25.4) | .275(7.0) | 1 | 7 | 10 | CL-111-607 | **3TN92** | 30.14 | **27.40** | **24.66** | 0.1 |
| **Polyester** | 500 | 1.0(25.4) | .275(7.0) | 1 | 7 | 10 | CL-111-619 | **3TN93** | 21.95 | **19.96** | **17.96** | 0.1 |
| **Metallized Polyester** | 500 | 1.0(25.4) | .275(7.0) | 1 | 7 | 10 | CL-111-969 | **3TN94** | 28.82 | **26.20** | **23.58** | 0.1 |
| **Polyester** | 500 | 1.5(38.1) | .275(7.0) | 1 | 10 | 15 | CL-117-619 | **3TN95** | 24.82 | **22.57** | **20.31** | 0.1 |
| **Vinyl Cloth** | 500 | 1.0(25.4) | .50(12.7) | 3 | 7 | 10 | CL-311-502 | **3TN96** | 35.42 | **32.20** | **28.98** | 0.1 |
| **Polyester** | 500 | 1.0(25.4) | .50(12.7) | 3 | 7 | 10 | CL-311-619 | **3TN97** | 27.12 | **24.66** | **22.19** | 0.1 |
| **Metallized Polyester** | 500 | 1.0(25.4) | .50(12.7) | 3 | 7 | 10 | CL-311-969 | **3TN98** | 36.30 | **33.00** | **29.70** | 0.1 |
| **Polyester** | 500 | 1.5(38.1) | .50(12.7) | 3 | 10 | 15 | CL-317-619 | **3TN99** | 30.36 | **27.60** | **24.84** | 0.1 |
| **Polyester** | 250 | 1.5(38.1) | .75(19.05) | 4 | 10 | 15 | CL-517-619 | **3TP01** | 20.68 | **18.80** | **16.92** | 0.1 |
| **Polyester** | 250 | 1.5(38.1) | 1.25(31.75) | 8 | 10 | 15 | CL-917-619 | **3TP02** | 25.52 | **23.20** | **20.88** | 0.1 |

## WIRE MARKING SLEEVES



Registered to ISO 9001

### PERMASLEEVE™ - B-341 - HEAT-SHRINK WHITE POLYOLEFIN SLEEVES - 100 PER ROLL

Brady PermaSleeve full-circle insulating wire markers meet the rigid insulating and marking requirements of MIL-I-23053/5 Class 1, MIL-M-81531, MIL-STD-220F, Method 215, and UL224. The heat-shrinkable irradiated polyolefin does not smudge or fade when printed, while the unique flattened, full-circle design provides fast, permanent wire marking. Brady USA Brand.

### BRADYSLEEVE™ - B-321 - HEAT SHRINK WHITE POLYOLEFIN SLEEVES - 500 PER ROLL

Durable BradySleeve markers stand up to tough conditions, assuring long life and permanent legend. The exclusive topcoat "soaks up" ink and retains it permanently, without additional curing. Brady USA Brand.

### PERMASLEEVE™ - B-341 - HEAT-SHRINK WHITE POLYOLEFIN SLEEVES SPECIFICATIONS AND ORDERING DATA - 100 PER ROLL

| Approx. Wire Gauge | Range of Wire Diameter Inch (mm) Min. | Max. | Sleeve Dimensions Inch (mm) Width | Height | Max. Lines of Print | Maximum Characters Across Large | Small | Brady USA Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18-16** | .062(1.57) | .110(2.79) | 1.0(25.4) | .235(6.0) | 1 | 8 | 11 | PSIDP-111-125 | **3TP10** | $34.26 | **$31.15** | **$28.04** | 0.8 |
| **16-12** | .094(2.39) | .150(3.81) | 1.0(25.4) | .335(8.5) | 1 | 8 | 11 | PSIDP-111-187 | **3TP11** | 38.06 | **34.60** | **31.14** | 0.2 |
| **12-10** | .125(3.18) | .215(5.46) | 1.0(25.4) | .439(11.2) | 2 | 8 | 11 | PSIDP-211-250 | **3TP12** | 46.25 | **42.05** | **37.85** | 0.8 |
| **8-6** | .188(4.78) | .320(8.13) | 1.0(25.4) | .645(16.4) | 3 | 8 | 11 | PSIDP-311-375 | **3TP13** | 68.09 | **61.90** | **55.71** | 0.8 |

### BRADYSLEEVE™ - B-321 - HEAT-SHRINK WHITE POLYOLEFIN SLEEVES SPECIFICATIONS AND ORDERING DATA - 500 PER ROLL

| Approx. Wire Gauge | Range of Wire Diameter Inch (mm) Min. | Max. | Sleeve Dimensions Inch (mm) Width | Height | Max. Lines of Print | Maximum Characters Across Large | Small | Brady USA Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12-18** | .075(1.90) | .13(3.30) | 1.0(25.40) | .35(8.90) | 1 | 7 | 10 | WMS-111-321 | **3TP82** | $146.79 | **$133.45** | **$120.11** | 0.3 |

## BRADYPACK™ WIRE MARKERS



Registered to ISO 9001

### DISPENSER

Wire marking is simple, clean and fast. Just pull tape out, tear and wrap. The compact size fits in pocket or hangs from work belt. Unique design allows easy access to all legends during use or when refilling. Wire marking tape is of a polyester material. Brady USA brand.

### BRADYPACK™ WIRE MARKERS ORDERING DATA

| Description | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Loaded Dispenser with Legends 0-9** | BPL | **3TN86** | $38.88 | **$35.35** | **$31.82** | 0.3 |

### REFILLS ORDERING DATA

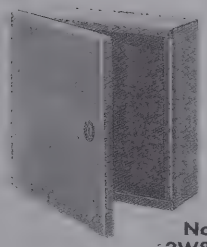
| Legend | Rolls per Legend | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1** | 10 | BPR-1 | **3TN87** | $23.98 | **$21.80** | **$19.62** | 0.1 |
| **2** | 10 | BPR-2 | **3TN88** | 23.98 | **21.80** | **19.62** | 0.1 |
| **3** | 10 | BPR-3 | **3TN89** | 23.98 | **21.80** | **19.62** | 0.1 |

# NEMA TYPE 1 ENCLOSURES

## GENERAL PURPOSE ENCLOSURES

HUBBELL WIEGMANN™

E6924 LL66078-2



No. 2W818

**For General Purpose Use**

- 14-gauge steel ANSI-61 gray polyester powder finish
- Cover with coin slot latch
- Four mounting holes in back of enclosure
- In most cases, interior panel sold separately below

### GENERAL PURPOSE ENCLOSURE SPECIFICATIONS AND ORDERING DATA

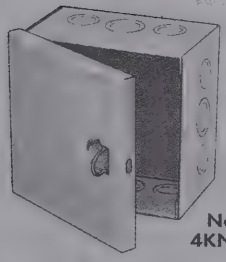
| Dimensions (In.) Height | Width | Depth | J‡ | Interior Panel Used | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 6 | 4 | 3½ | 2W821 | N1C060804 | **2W818** | $35.07 | **$25.35** | 5.0 |
| 10 | 8 | 4 | 3½ | 3A904 | N1C081004 | **3A903** | 42.74 | **32.50** | 7.0 |
| 12 | 12 | 4 | 3½ | 2W822 | N1C121204 | **2W819** | 56.24 | **39.80** | 10.0 |
| 12 | 10 | 6 | 5½ | 3A937 | N1C101206 | **3A905** | 58.16 | **48.00** | 11.0 |
| 14 | 12 | 6 | 5½ | 2W823 | N1C121406 | **2W820** | 69.47 | **57.35** | 15.0 |
| 14 | 12 | 8 | 7½ | 2W823 | N1C121408 | **3A940** | 77.50 | **63.95** | 16.0 |
| 16 | 12 | 6⅝ | 6 | | N1C121606 | **3A906** | 124.88 | **103.05** | 19.0 |
| 20 | 16 | 6⅝ | 6 | | N1C162006 | **3A907** | 157.73 | **130.15** | 33.0 |
| 20 | 16 | 8⅝ | 8 | Panels Included With Enclosure | N1C162008 | **3A908** | 171.00 | **141.10** | 30.0 |
| 24 | 20 | 6⅝ | 6 | | N1C202406 | **6C714** | 196.35 | **162.00** | 50.0 |
| 24 | 20 | 8⅝ | 8 | | N1C202408 | **5W275** | 212.68 | **175.50** | 43.0 |
| 30 | 24 | 8⅝ | 8 | | N1C243008 | **6C715** | 272.06 | **224.50** | 78.0 |
| 30 | 24 | 10⅝ | 10 | | N1C243010 | **5W276** | 292.32 | **241.25** | 83.0 |
| 36 | 30 | 12⅝ | 12 | | N1C303612 | **5W277** | 406.10 | **335.25** | 120.0 |
| 36 | 24 | 8⅝ | 8 | | N1C243608 | **6C716** | 307.96 | **254.25** | 93.0 |

(‡) Distance from inside cover to surface mounting panel.

### INTERIOR PANEL SPECIFICATIONS AND ORDERING DATA

| Dimensions (In.) L | W | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6¼ | 4¼ | N1P0608 | **2W821** | $3.56 | **$2.94** | 0.6 |
| 8¼ | 6¼ | N1P0810 | **3A904** | 4.97 | **4.10** | 1.1 |
| 10¼ | 10¼ | N1P1212 | **2W822** | 8.13 | **6.71** | 2.3 |
| 10¼ | 8¼ | N1P1012 | **3A937** | 6.81 | **5.62** | 2.2 |
| 12¼ | 10¼ | N1P1214 | **2W823** | 9.04 | **7.46** | 3.1 |

E6924 LL66078



No. 4KN71

## HINGED CUTOUT BOXES

**For Indoor Use**

- 16-gauge steel, ANSI-61 gray polyester powder finish
- Formed steel hinge, pull handle, and friction catch
- Various sizes of knockouts on all four sides; mounting holes on back

**Listings and Certifications:**

- UL50 Listed, Type 1
- CSA Certified, Type 1
- NEMA/EEMAC, Type 1

### HINGED CUTOUT BOX SPECIFICATIONS AND ORDERING DATA

| Dimensions (In.) Height | Width | Depth | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 6 | 6 | 4 | A060604 | **4KN71** | $12.38 | **$10.21** | 3.5 |
| 8 | 8 | 4 | A080804 | **4KN72** | 17.04 | **14.06** | 5.0 |
| 12 | 12 | 4 | A121204 | **4KN73** | 28.77 | **23.74** | 9.2 |

E23553 LL66078



No. 4KP28

## SCREWCOVER ENCLOSURES

**For Indoor Use**

- 16-gauge steel, ANSI-61 gray polyester powder finish
- Flat removable covers fastened with plated steel screws
- Mounting holes on back

**Listings and Certifications:**

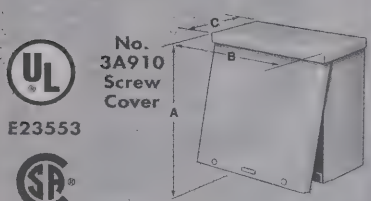
- UL50 Listed, Type 1 (except 4KP26)
- CSA Certified, Type 1
- NEMA/EEMAC, Type 1

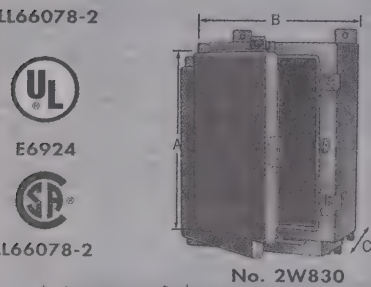
### SCREWCOVER ENCLOSURE SPECIFICATIONS AND ORDERING DATA

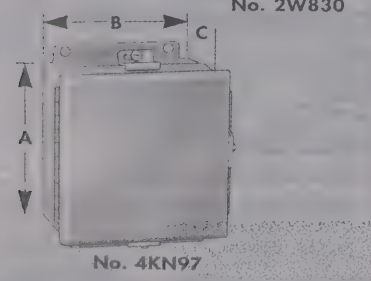
| Dimensions (In.) Height | Width | Depth | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4 | 4 | 4 | SC040404 | **4KP26** | $9.90 | **$8.17** | 2.1 |
| 6 | 6 | 4 | SC060604 | **4KP27** | 11.72 | **9.67** | 3.4 |
| 8 | 8 | 4 | SC080804 | **4KP28** | 16.10 | **13.28** | 2.5 |
| 8 | 8 | 6 | SC080806 | **4KP29** | 19.28 | **15.91** | 5.0 |
| 10 | 10 | 4 | SC101004 | **4KP30** | 21.20 | **17.49** | 7.6 |
| 10 | 10 | 6 | SC101006 | **4KP31** | 25.16 | **20.76** | 8.8 |
| 12 | 12 | 4 | SC121204 | **4KP32** | 27.16 | **22.41** | 9.2 |
| 12 | 12 | 6 | SC121206 | **4KP33** | 31.86 | **26.30** | 12.0 |

HUBBELL WIEGMANN




## NEMA TYPE 3R ENCLOSURES

For Outdoor Use Where Exposed to Rain, Sleet, and Noncorrosive Liquids

- 16-gauge zinc coated steel, 14-gauge on Nos. 6C719 and 6C720
- Finish: ANSI 61 powder paint on inside and outside
- Comes with dripshield and rear mounting holes
- Interior panels sold separately (see data below)
- Screw cover has removable cover fastened at bottom by screws and is lockable (except No. 3A909)
- Hinged cover has continuous hinge door with hasp for padlocking

### NEMA TYPE 3R SPECIFICATIONS AND ORDERING DATA

| Cover Type | Dimensions (In.) A | B | C | Interior Panel Used | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Hinged Draw Latch | 8 | 6 | 4 | 2W821 | RHC060804 | 3A913 | $36.90 | $27.65 | 5.4 |
| | 8 | 8 | 6 | 6C754 | RHC080806 | 6C717 | 46.80 | 34.70 | 8.0 |
| | 12 | 10 | 6 | 3A937 | RHC101206 | 3A939 | 62.98 | 44.90 | 11.0 |
| Hinged Hasp and Staple | 16 | 12 | 6 | 2W827 | RHC161206 | 3A921 | 90.07 | 74.35 | 20.0 |
| | 20 | 16 | 6 | 2W828 | RHC201606 | 6C718 | 120.91 | 99.75 | 33.0 |
| | 20 | 20 | 8 | 3A922 | RHC202008 | 5W278 | 164.80 | 136.00 | 43.0 |
| | 24 | 24 | 8 | 2W829 | RHC242408 | 4KP25 | 209.22 | 172.75 | 57.0 |
| | 30 | 24 | 8 | 3A924 | RHC302408 | 6C719 | 244.59 | 202.00 | 65.0 |
| | 36 | 24 | 12 | 3A932 | RHC362412 | 6C720 | 364.11 | 300.50 | 85.0 |
| Screw | 6 | 4 | 4 | None | RSC040604 | 3A909 | 18.64 | 15.38 | 2.7 |
| | 8 | 6 | 4 | | RSC060804 | 6C725 | 22.36 | 18.45 | 5.0 |
| | 8 | 6 | 6 | | RSC060806 | 6C727 | 26.28 | 21.68 | 6.0 |
| | 8 | 8 | 4 | | RSC080804 | 3A910 | 25.74 | 21.24 | 5.3 |
| | 10 | 8 | 6 | | RSC081006 | 6C728 | 34.18 | 28.20 | 8.0 |
| | 10 | 8 | 4 | | RSC081004 | 3A911 | 29.08 | 23.99 | 6.0 |
| | 12 | 10 | 4 | | RSC101204 | 6C726 | 38.40 | 31.70 | 8.6 |
| | 12 | 10 | 6 | | RSC101206 | 3A912 | 43.21 | 35.65 | 10.0 |
| | 15 | 12 | 4 | | RSC121504 | 2W833 | 48.29 | 39.85 | 13.0 |
| | 18 | 15 | 6 | | RSC151806 | 6C729 | 85.26 | 70.35 | 18.0 |

## NEMA TYPE 4 AND TYPE 4 (JIC) ENCLOSURES

Provides nonsubmersible watertight protection for indoor/outdoor use where splashing, dripping, or hose down of noncorrosive liquids can occur.

- Heavy-duty gasketing; 14 gauge steel
- Finish: ANSI 61 powder paint inside and outside
- Cover mounted to box with a continuous hinge
- Stainless steel hinge pin and screw clamp latches
- Pocket on inside cover holds circuit diagrams; includes padlock hasp
- Interior panels sold separately below

| Dimensions (In.) A | B | C | Interior Panel Used | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **TYPE 4 (JIC) ENCLOSURES** | | | | | | | | |
| 6 | 6 | 4 | 6XC20 | BN4060604CH | 4KN97 | $58.28 | $48.10 | 5.1 |
| 8 | 6 | 3 | 3A926 | BN4080603CH | 4KN98 | 61.78 | 51.00 | 5.8 |
| 10 | 8 | 4 | 3A928 | BN4100804CH | 4KP01 | 76.61 | 63.20 | 8.5 |
| 10 | 8 | 6 | 3A928 | BN4100806CH | 4KP02 | 86.26 | 71.20 | 10.0 |
| 12 | 10 | 5 | 6XC22 | BN4121005CH | 4KP03 | 97.91 | 80.80 | 13.0 |
| 12 | 12 | 6 | 4KP36 | BN4121206CH | 4KP06 | 103.25 | 85.20 | 15.0 |
| 14 | 12 | 6 | 6XC23 | BN4141206CH | 4KP08 | 123.49 | 101.90 | 18.0 |
| 16 | 14 | 6 | 3A930 | BN4161406CH | 4KP10 | 145.27 | 119.85 | 21.0 |
| **TYPE 4 ENCLOSURES** | | | | | | | | |
| 16 | 12 | 6 | 2W827 | N4161206 | 2W830 | 259.69 | 214.25 | 23.0 |
| 16 | 12 | 8 | 2W827 | N4161208 | 6XC16 | 272.60 | 225.00 | 25.0 |
| 20 | 16 | 6 | 2W828 | N4201606 | 2W831 | 299.88 | 247.50 | 32.0 |
| 20 | 16 | 8 | 2W828 | N4201608 | 6C732 | 316.13 | 261.00 | 36.0 |
| 20 | 20 | 8 | 3A922 | N4202008 | 3A923 | 341.87 | 282.25 | 39.0 |
| 24 | 20 | 6 | 6XC19 | N4242006 | 6XC15 | 347.21 | 286.50 | 43.0 |
| 24 | 24 | 8 | 2W829 | N4242408 | 2W832 | 396.32 | 327.00 | 50.0 |
| 30 | 24 | 8 | 3A924 | N4302408 | 6C733 | 440.05 | 363.25 | 67.0 |
| 30 | 24 | 10 | 3A924 | N4302410 | 5W279 | 464.69 | 383.50 | 62.0 |
| 36 | 24 | 8 | 3A932 | N4362408 | 6XC17 | 483.73 | 399.25 | 71.0 |

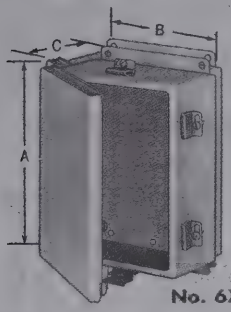
### INTERIOR PANEL SPECIFICATIONS AND ORDERING DATA

| Dimensions (In.) L | W | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 4⅞ | 4⅞ | P0606 | 6XC20 | $3.54 | $2.93 | 0.5 |
| 6¼ | 4¼ | N1P0608 | 2W821 | 3.56 | 2.94 | 0.6 |
| 6¼ | 6¼ | N1P0808 | 6C754 | 4.21 | 3.48 | 1.0 |
| 6¾ | 1⅞ | P0806 | 3A926 | 4.08 | 3.37 | 0.7 |
| 8¾ | 6⅝ | P1008 | 3A928 | 5.75 | 4.75 | 1.3 |
| 10¼ | 8¼ | N1P1012 | 3A937 | 6.81 | 5.62 | 2.2 |
| 10⅞ | 8⅝ | P1210 | 6XC22 | 7.44 | 6.14 | 2.2 |
| 10⅞ | 10⅝ | P1212 | 4KP36 | 8.36 | 6.90 | 2.6 |
| 12⅞ | 10⅝ | P1412 | 6XC23 | 9.75 | 8.05 | 3.0 |
| 13 | 9 | NP1612 | 2W827 | $18.90 | $15.60 | 3.5 |
| 14¾ | 12⅝ | P1614 | 3A930 | 12.93 | 10.67 | 4.3 |
| 17 | 13 | NP2016 | 2W828 | 27.47 | 22.67 | 7.0 |
| 17 | 17 | NP2020 | 3A922 | 32.88 | 27.15 | 8.0 |
| 21 | 17 | NP2120 | 6XC19 | 43.41 | 35.85 | 12.0 |
| 21 | 21 | NP2424 | 2W829 | 54.03 | 44.60 | 16.0 |
| 27 | 21 | NP3024 | 3A924 | 64.07 | 52.90 | 18.0 |
| 33 | 21 | NP3624 | 3A932 | 74.00 | 61.05 | 22.0 |

# NEMA TYPES 4 (JIC) AND 4X STAINLESS STEEL ENCLOSURES

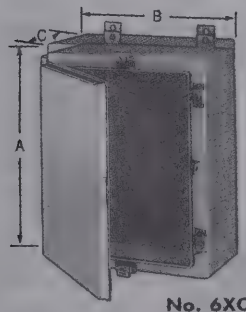
WIEGMANN

E6924 LL66078-2




No. 6XC08

E6924 LL66078-2




No. 6XC24

## NEMA 4 (JIC) STAINLESS STEEL

For regularly hosed down or other wet applications

- Continuous hinge enclosures
- 14 gauge stainless steel with grained exterior finish; available in both 304 and 316 stainless
- Conform to NEMA 4, 12, 13, and Joint Industrial Council standards
- Interior panels sold separately below; panels are not stainless steel

### NEMA TYPE 4 (JIC) SPECIFICATIONS AND ORDERING DATA

| Dimensions (In.) A | B | C | Interior Panel Used | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6 | 6 | 4 | 304 6XC20 | BN4060604CHSS | 6XC06 | $171.77 | $150.50 | 5.0 |
| 8 | 6 | 4 | 304 3A926 | BN4080604CHSS | 6XC07 | 190.90 | 167.25 | 5.9 |
| 12 | 10 | 6 | 304 6XC22 | BN4121006CHSS | 4KP05 | 397.40 | 347.75 | 13.0 |
| 10 | 8 | 4 | 304 3A928 | BN4100804CHSS | 6XC08 | 236.31 | 207.00 | 8.0 |
| 14 | 12 | 6 | 304 6XC23 | BN4141206CHSS | 6XC09 | 399.46 | 349.75 | 17.0 |
| 16 | 14 | 6 | 304 3A930 | BN4161406CHSS | 6XC10 | 475.34 | 416.00 | 21.0 |
| 6 | 6 | 4 | 316 6XC20 | BN4060604CHSSA | 4KN96 | 183.25 | 160.50 | 4.0 |
| 10 | 8 | 4 | 316 3A928 | BN4100804CHSSA | 4KN99 | 283.57 | 248.25 | 9.0 |
| 12 | 10 | 6 | 316 6XC22 | BN4121006CHSSA | 4KP04 | 331.18 | 290.00 | 13.0 |
| 14 | 12 | 6 | 316 6XC23 | BN4141206CHSSA | 4KP07 | 479.36 | 419.50 | 13.0 |
| 16 | 14 | 6 | 316 3A930 | BN4161406CHSSA | 4KP09 | 570.42 | 499.25 | 21.0 |

## NEMA 4X STAINLESS STEEL

Designed to hold electrical controls, terminals, and instruments in areas that are regularly hosed down

- Single door enclosure
- Doors have hasp and staple for padlocking. Removable print pocket
- External feet for mounting
- Grained exterior finish
- Conform to NEMA 3, 4, 12, & 13 standards
- Interior panels sold separately below; panels are not stainless steel

### NEMA TYPE 4X SPECIFICATIONS AND ORDERING DATA

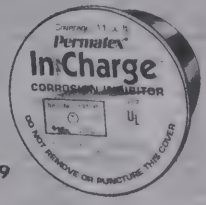
| Dimensions (In.) A | B | C | Interior Panel Used | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 16 | 12 | 6 | 2W827 | SSN4161206 | 6XC24 | $555.88 | $486.50 | 22.0 |
| 16 | 12 | 8 | 2W827 | SSN4161208 | 6XC26 | 594.13 | 520.00 | 24.0 |
| 20 | 16 | 6 | 2W828 | SSN4201606 | 6C734 | 675.85 | 591.50 | 36.0 |
| 24 | 20 | 6 | 6XC19 | SSN4242006 | 6XC25 | 817.73 | 716.00 | 44.0 |
| 24 | 24 | 8 | 2W829 | SSN4242408 | 6XC27 | 964.89 | 844.50 | 55.0 |
| 36 | 24 | 8 | 3A932 | SSN4362408 | 6XC28 | 1226.66 | 1074.00 | 76.0 |
| 36 | 30 | 12 | 3A933 | SSN4363012 | 6XC29 | 1586.75 | 1389.00 | 107.0 |

### INTERIOR PANEL SPECIFICATIONS AND ORDERING DATA

| Dimensions (In.) L | W | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 4 7/8 | 4 7/8 | P0606 | 6XC20 | $3.54 | $2.93 | 0.5 |
| 6 3/4 | 4 7/8 | P0806 | 3A926 | 4.08 | 3.37 | 0.7 |
| 8 3/4 | 6 7/8 | P1008 | 3A928 | 5.75 | 4.75 | 1.3 |
| 10 7/8 | 8 7/8 | P1210 | 6XC22 | 7.44 | 6.14 | 2.2 |
| 12 7/8 | 10 7/8 | P1412 | 6XC23 | 9.75 | 8.05 | 3.0 |
| 13 | 9 | NP1612 | 2W827 | 18.90 | 15.60 | 3.5 |
| 14 3/4 | 12 7/8 | P1614 | 3A930 | 12.93 | 10.67 | 4.3 |
| 17 | 13 | NP2016 | 2W828 | 27.47 | 22.67 | 7.0 |
| 21 | 17 | NP2420 | 6XC19 | 43.41 | 35.85 | 12.0 |
| 21 | 21 | NP2424 | 2W829 | 54.03 | 44.60 | 16.0 |
| 33 | 21 | NP3624 | 3A932 | 74.00 | 61.05 | 22.0 |
| 33 | 27 | NP3630 | 3A933 | 95.07 | 78.45 | 28.0 |

## IN-CHARGE™ CORROSION INHIBITOR

- Contains ingredients that absorb moisture and release a vapor that coats and protects surfaces inside enclosed areas
- Sold in packages of 2
- Applications include junction boxes and control panels
- Ideal for environments subject to salt, moisture, contaminants and corrosive substances




No. 4KL39

**No. 4KL38.** (24106). 7-gm Inhibitor protects 5 cu.-ft. Shpg. wt. 0.2 lbs. Each Pkg. ..... $10.80

**No. 4KL39.** (24108). 11-gm Inhibitor protects 11 cu.-ft. Shpg. wt. 0.2 lbs. Each Pkg. ..... $18.60

# ELECTRICAL ENCLOSURES

## NEMA TYPE 12/13 ENCLOSURES

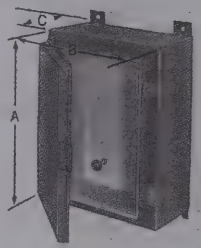
HUBBELL WIEGMANN

LL66078

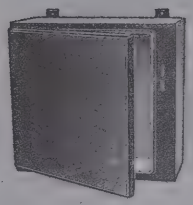
E6924 (Hinged)
E23553 (Screw)
E64791 (Hinged/ Flange-Mounted)

New

Interior panels sold separately—see below




N12
No. 2W824



SDN
No. 6C735

### JIC AND NEMA TYPE 12/13

- NEMA type 12 & 13 enclosures and NEMA type 13 models meet Joint Industrial Council (JIC) standards
- 14 gauge steel, ANSI 61 enamel inside and outside on NEMA 12 types
- Gray polyester powder exterior and interior on JIC types
- Neoprene gasketing
- Pocket on inside cover to hold circuit diagrams on NEMA 12 types
- Screw cover has removable cover fastened at corners with captive plated screws
- Hinged cover has continuous hinge door with plated screw fastened clamps with hasp
- N12 Series has hasp for padlocking

### FLANGE-MOUNTED DISCONNECT-NEMA TYPE 12/13

- Designed to house the following flange-mounted disconnects and operating mechanisms: Allen-Bradley 1494V, Cutler Hammer C3611C371, GE TDA, ITE maxi-flex and Square D Class 9422
- Will not accept Allen-Bradley 1494F or 1494D Series
- 14 gauge steel; ANSI 61 enamel inside and outside
- Removable print pocket
- External mounting feet
- Disconnect switch, operating mechanism and door hardware are not included

#### JIC & NEMA TYPE 12/13 SPECIFICATIONS AND ORDERING DATA

| Cover Type | NEMA Type | Dimensions (In.) A | B | C | Interior Panel Used | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Hinged | JIC, 12&13 | 4 | 4 | 3 | None | B040403CH | 6C730 | $33.01 | $27.25 | 2.3 |
| Hinged | JIC, 12&13 | 6 | 4 | 3 | 4LV58 | B060403CH | 4KN93 | 36.55 | 30.15 | 3.0 |
| Hinged | JIC, 12&13 | 6 | 6 | 4 | 6XC20 | B060604CH | 6XC00 | 43.02 | 31.95 | 4.0 |
| Hinged | JIC, 12&13 | 8 | 6 | 3½ | 3A926 | B080603CH | 6C731 | 45.66 | 37.70 | 6.0 |
| Hinged | JIC, 12&13 | 8 | 8 | 4 | 6XC21 | B080804CH | 6XC01 | 51.83 | 38.55 | 7.0 |
| Hinged | JIC, 12&13 | 10 | 8 | 4 | 3A928 | B100804CH | 4KN94 | 54.48 | 44.95 | 7.9 |
| Hinged | JIC, 12&13 | 10 | 8 | 6 | 3A928 | B100806CH | 6XC02 | 63.85 | 52.70 | 10.0 |
| Hinged | JIC, 12&13 | 12 | 10 | 5 | 6XC22 | B121005CH | 6XC03 | 72.44 | 59.80 | 12.0 |
| Hinged | JIC, 12&13 | 12 | 12 | 6 | 4KP36 | B121206CH | 4KN95 | 80.85 | 66.70 | 7.9 |
| Hinged | JIC, 12&13 | 14 | 12 | 6 | 6XC23 | B141206CH | 6XC04 | 91.33 | 75.35 | 16.0 |
| Hinged | JIC, 12&13 | 16 | 14 | 6 | 3A930 | B161406CH | 6XC05 | 107.46 | 88.70 | 21.0 |
| Hinged | JIC, 12 | 20 | 16 | 7 | 2W828 | B201607CH | 6C721 | 183.15 | 151.25 | 31.0 |
| Hinged | JIC, 12 | 20 | 20 | 7 | 3A922 | B202007CH | 6C722 | 202.90 | 167.50 | 37.0 |
| Hinged | JIC, 12 | 24 | 20 | 7 | 6XC19 | B242007CH | 6C723 | 222.39 | 183.50 | 43.0 |
| Hinged | JIC, 12 | 24 | 24 | 9 | 2W829 | B242409CH | 6C724 | 262.48 | 216.75 | 54.0 |
| Screw | JIC, 13 | 8 | 6 | 3½ | 3A926 | B080603SC | 3A925 | 46.74 | 38.60 | 5.7 |
| Screw | JIC, 13 | 10 | 8 | 6 | 3A928 | B100806SC | 3A927 | 65.50 | 54.05 | 10.0 |
| Screw | JIC, 13 | 16 | 14 | 6 | 3A930 | B161406SC | 3A929 | 110.51 | 91.20 | 19.0 |
| Hinged | 12 | 16 | 12 | 6 | 2W827 | N12161206 | 2W824 | 204.61 | 169.00 | 23.0 |
| Hinged | 12 | 20 | 16 | 6 | 2W828 | N12201606 | 2W825 | 236.13 | 195.00 | 32.0 |
| Hinged | 12 | 20 | 16 | 8 | 2W828 | N12201608 | 6XC12 | 249.07 | 205.50 | 35.0 |
| Hinged | 12 | 20 | 20 | 8 | 3A922 | N12202008 | 3A931 | 269.21 | 222.25 | 38.0 |
| Hinged | 12 | 24 | 16 | 8 | 6XC18 | N12241608 | 6XC13 | 266.22 | 219.75 | 39.0 |
| Hinged | 12 | 24 | 24 | 6 | 2W829 | N12242406 | 6XC11 | 294.93 | 243.50 | 49.0 |
| Hinged | 12 | 24 | 24 | 8 | 2W829 | N12242408 | 2W826 | 312.19 | 257.75 | 50.0 |
| Hinged | 12 | 30 | 24 | 8 | 3A924 | N12302408 | 6C748 | 346.82 | 286.25 | 63.0 |
| Hinged | 12 | 30 | 24 | 10 | 3A924 | N12302410 | 5W280 | 365.94 | 302.00 | 75.0 |
| Hinged | 12 | 36 | 24 | 8 | 3A932 | N12362408 | 6XC14 | 380.98 | 314.50 | 71.0 |
| Hinged | 12 | 36 | 24 | 10 | 3A932 | N12362410 | 5W281 | 402.57 | 332.25 | 71.0 |
| Hinged | 12 | 36 | 30 | 12 | 3A933 | N12363012 | 5W282 | 475.73 | 392.50 | 104.0 |

#### FLANGE-MOUNTED DISCONNECT-NEMA TYPE 12/13

| Cover Type | NEMA Type | Dimensions (In.) H | W | D | Interior Panel Used | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Hinged | 12/13 | 20 | 21⅜ | 8 | 3A922 | SDN12202108 | 6C735 | $336.44 | $277.75 | 44.0 |
| Hinged | 12/13 | 24 | 25⅜ | 8 | 2W829 | SDN12242508 | 6C736 | 390.17 | 322.00 | 58.0 |
| Hinged | 12/13 | 30 | 21⅜ | 8 | 6C755 | SDN12302108 | 6C737 | 399.19 | 329.50 | 59.0 |
| Hinged | 12/13 | 30 | 25⅜ | 10 | 3A924 | SDN12302510 | 6C738 | 457.51 | 377.50 | 71.0 |
| Hinged | 12/13 | 36 | 25⅜ | 8 | 3A932 | SDN12362508 | 4KP34 | 458.06 | 378.00 | 77.0 |
| Hinged | 12/13 | 36 | 31⅜ | 10 | 3A933 | SDN12363110 | 4KP35 | 543.30 | 448.25 | 105.0 |

#### INTERIOR PANEL SPECIFICATIONS AND ORDERING DATA

| Dimensions (In.) L | W | Wiegmann Model | | Stock No. | List | Each | Shpg. Wt. | Dimensions (In.) L | W | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4⅞ | 2¾ | P0604 | New | 4LV58 | $2.86 | $2.36 | 0.3 | 17 | 13 | NP2016 | 2W828 | $27.47 | $22.67 | 7.0 |
| 4⅞ | 4⅞ | P0606 | | 6XC20 | 3.54 | 2.93 | 0.5 | 17 | 17 | NP2020 | 3A922 | 32.88 | 27.15 | 8.0 |
| 6¾ | 4⅞ | P0806 | | 3A926 | 4.08 | 3.37 | 0.7 | 21 | 13 | NP2416 | 6XC18 | 37.27 | 30.75 | 10.0 |
| 6⅞ | 6¾ | P0808 | | 6XC21 | 4.73 | 3.91 | 1.0 | 21 | 17 | NP2420 | 6XC19 | 43.41 | 35.85 | 12.0 |
| 8¾ | 6⅞ | P1008 | | 3A928 | 5.75 | 4.75 | 1.3 | 21 | 21 | NP2424 | 2W829 | 54.03 | 44.60 | 16.0 |
| 10⅞ | 8¾ | P1210 | | 6XC22 | 7.44 | 6.14 | 2.2 | 27 | 21 | NP3024 | 3A924 | 64.07 | 52.90 | 18.0 |
| 10⅞ | 10¾ | P1212 | New | 4KP36 | 8.36 | 6.90 | 2.6 | 27 | 17 | NP3020 | 6C755 | 51.67 | 42.65 | 14.0 |
| 12⅞ | 10¾ | P1412 | | 6XC23 | 9.75 | 8.05 | 3.0 | 33 | 21 | NP3624 | 3A932 | 74.00 | 61.05 | 22.0 |
| 13 | 9 | NP1612 | | 2W827 | 18.90 | 15.60 | 3.5 | 33 | 27 | NP3630 | 3A933 | 95.07 | 78.45 | 28.0 |
| 14¾ | 12¾ | P1614 | | 3A930 | 12.93 | 10.67 | 4.3 | | | | | | | |



When the spec calls for brand names, you'll find the best here.

# AM NEMA 12/IP55 TYPE & OIL TIGHT PUSHBUTTON ENCLOSURES

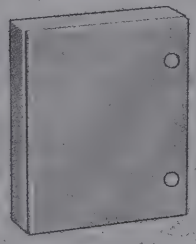
## AM NEMA 12/IP55 TYPE ENCLOSURES

HUBBELL WIEGMANN

- 16-gauge steel, RAL 7032 textured beige finish
- Robotic seam welded construction with concealed hinges
- Molded polyurethane 1-piece gasket
- 1/4-Turn DIN lock
- Grounded studs on body, door, and mounting plate
- Optional mounting brackets available on page 642

Listings and Certifications:

- UL508 Listed, Types 1, 12, & 13
- CSA Certified, Type 12 meets NEMA.EEMAC Types 1, 12, & 13 requirements
- IEC Ingress Protection IP55



No. 4KN83

### ENCLOSURE SPECIFICATIONS AND ORDERING DATA

| Dimensions (In.) Height | Width | Depth | Interior Panel Used | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **9.84** | 7.87 | 5.91 | 4KN86 | AM0252015 | **4KN74** | $80.27 | **$66.25** | 7.0 |
| **11.81** | 9.84 | 5.91 | 4KN87 | AM0302515 | **4KN75** | 92.85 | **76.60** | 9.0 |
| **11.81** | 11.81 | 5.91 | 4KN88 | AM0303015 | **4KN76** | 104.12 | **85.90** | 9.0 |
| **11.81** | 11.81 | 7.87 | 4KN88 | AM0303020 | **4KN77** | 108.45 | **89.50** | 12.0 |
| **15.75** | 11.81 | 7.87 | 4KN89 | AM0403020 | **4KN78** | 124.38 | **102.65** | 14.0 |
| **19.69** | 15.75 | 5.91 | 4KN90 | AM0504015 | **4KN79** | 130.87 | **108.00** | 18.0 |
| **19.69** | 15.75 | 7.87 | 4KN90 | AM0504020 | **4KN80** | 155.46 | **128.25** | 20.0 |
| **23.62** | 15.75 | 7.87 | 4KN91 | AM0604020 | **4KN81** | 166.30 | **137.20** | 25.0 |
| **23.62** | 19.69 | 5.91 | 4KN92 | AM0605015 | **4KN82** | 151.09 | **124.65** | 25.0 |
| **23.62** | 19.69 | 7.87 | 4KN92 | AM0605020 | **4KN83** | 178.94 | **147.65** | 28.0 |

## AM NEMA 12/IP55 TYPE INTERIOR ENCLOSURE PANELS

- 12 Gauge (2.5mm) steel
- Zinc-plated finish



No. 4KN86

### INTERIOR PANEL SPECIFICATIONS AND ORDERING DATA

| Dimensions (In.) Length | Width | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **8.66** | 5.91 | AMPN02520 | **4KN86** | $8.53 | **$7.04** | 1.3 |
| **10.63** | 7.87 | AMPN03025 | **4KN87** | 9.71 | **8.01** | 1.3 |
| **10.63** | 9.84 | AMPN03030 | **4KN88** | 11.15 | **9.20** | 2.9 |
| **14.57** | 9.84 | AMPN04030 | **4KN89** | 16.35 | **13.49** | 4.0 |
| **18.50** | 13.78 | AMPN05040 | **4KN90** | 21.84 | **18.02** | 7.1 |
| **22.44** | 13.78 | AMPN06040 | **4KN91** | 31.53 | **26.05** | 8.8 |
| **22.44** | 17.72 | AMPN06050 | **4KN92** | 35.76 | **29.50** | 11.0 |

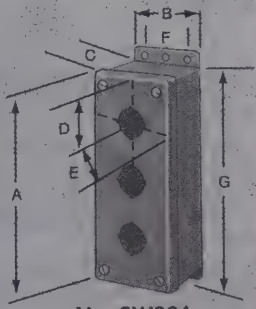
## OIL TIGHT PUSHBUTTON ELECTRICAL ENCLOSURES

HUBBELL WIEGMANN

- Oil tight pushbutton enclosure housings made of 14 gauge steel or stainless steel
- ANSI 61 powder paint inside and outside or stainless grained finish
- Neoprene gasketing and mounting flange included
- Pushbutton holes are (1 13/64") 30mm in diameter
- Conform with Joint Industrial Council (JIC) Standard EGP-1-1967

LL66078-2

E64791




No. 2W836

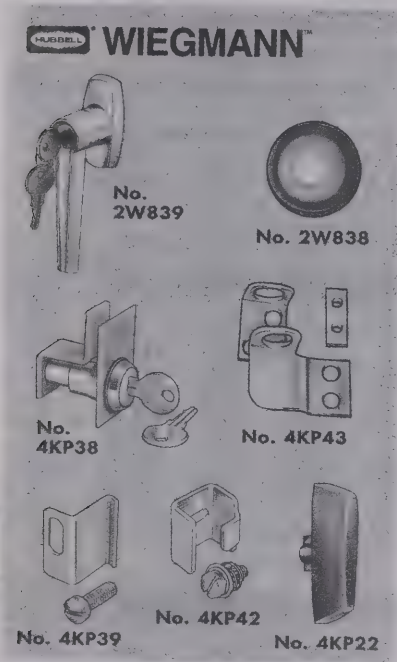
### OILTIGHT PUSHBUTTON ENCLOSURE SPECIFICATIONS AND ORDERING DATA

| No. Holes | No. Columns | Dimensions (In.) A | B | C | D | E | F | G | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14 Gauge Steel** | | | | | | | | | | | | | |
| **1** | 1 | 3 1/2 | 3 1/4 | 2 3/4 | 1 7/8 | 1 3/4 | 2 3/8 | 4 | PB-1 | **2W834** | $39.35 | **$32.50** | 2.0 |
| **2** | 1 | 5 3/4 | 3 1/4 | 2 3/4 | 1 7/8 | 1 3/4 | 2 3/8 | 6 1/4 | PB-2 | **2W835** | 43.65 | **36.05** | 2.8 |
| **3** | 1 | 8 | 3 1/4 | 2 3/4 | 1 7/8 | 1 3/4 | 2 3/8 | 8 1/2 | PB-3 | **2W836** | 49.04 | **40.50** | 3.3 |
| **4** | 1 | 10 1/4 | 3 1/4 | 2 3/4 | 1 7/8 | 1 3/4 | 2 3/8 | 10 3/4 | PB-4 | **3A934** | 54.42 | **44.90** | 3.8 |
| **6** | 2 | 9 1/2 | 6 1/4 | 3 | 2 5/8 | 2 1/8 | 5 3/8 | 10 | PB-6 | **2W837** | 69.02 | **56.95** | 6.0 |
| **9** | 3 | 9 1/2 | 8 1/2 | 3 | 2 5/8 | 2 1/8 | 7 5/8 | 10 | PB-9 | **3A935** | 80.50 | **66.45** | 7.0 |
| **12** | 3 | 11 3/4 | 8 1/2 | 3 | 2 5/8 | 2 1/8 | 7 5/8 | 12 1/4 | PB-12 | **3A936** | 90.77 | **74.90** | 7.9 |
| **Stainless Steel** | | | | | | | | | | | | | |
| **1** | 1 | 3 1/2 | 3 1/4 | 2 3/4 | 1 7/8 | 1 3/4 | 2 3/8 | 4 | PBSS01 | **4KP15** | 107.72 | **94.30** | 2.0 |
| **2** | 1 | 5 3/4 | 3 1/4 | 2 3/4 | 1 7/8 | 1 3/4 | 2 3/8 | 6 1/4 | PBSS02 | **4KP16** | 126.96 | **111.10** | 2.5 |
| **3** | 1 | 8 | 3 1/4 | 2 3/4 | 1 7/8 | 1 3/4 | 2 3/8 | 8 1/2 | PBSS03 | **4KP17** | 141.64 | **123.95** | 3.0 |
| **4** | 1 | 10 1/4 | 3 1/4 | 2 3/4 | 1 7/8 | 1 3/4 | 2 3/8 | 10 3/4 | PBSS04 | **4KP18** | 160.52 | **140.50** | 4.0 |
| **6** | 2 | 9 1/2 | 6 1/4 | 3 | 2 5/8 | 2 1/8 | 5 3/8 | 10 | PBSS06 | **4KP19** | 211.58 | **185.25** | 6.0 |

### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# ELECTRICAL ENCLOSURE ACCESSORIES




**Latch Kit** for NEMA 12 enclosures. Single point key locking. Includes handle, cam plate, hardware and instructions. Wiegmann brand (WA-L2A).

**No. 2W839.** Shpg. wt. 0.8 lbs. List.....$41.38. Each.....**$34.15**

**Replacement Clamp Assembly** for NEMA 12 enclosures. Includes clamp, screw, spring, and washers (2). Wiegmann brand (WAN12RA).

**No. 4KP41.** Shpg. wt. 0.1 lbs. List.....$15.50. Each.....**$12.79**

**Cylinder Lock Kit** for JIC enclosures. Keyed alike. Wiegmann brand (WACLJIC).

**No. 4KP38.** Shpg. wt. 1.0 lbs. List.....$29.02. Each.....**$23.94**

**Padlock Kit** for JIC enclosures. Wiegmann brand (WAPLKJIC).

**No. 4KP43.** Shpg. wt. 1.0 lbs. List.....$16.95. Each.....**$13.98**

**Replacement Clamp Assembly** for JIC enclosures. Includes clamp and screw. Wiegmann brand (WAJICRA).

**No. 4KP39.** Shpg. wt. 0.1 lbs. List.....$14.44. Each.....**$11.91**

**Replacement Clamp Assembly** for NEMA 4X enclosures. Includes clamp, screw, spring, and washers (2). Wiegmann brand (WAN4XRA).

**No. 4KP42.** Shpg. wt. 1.0 lbs. List.....$20.68. Each.....**$17.06**

### ACCESSORIES FOR AM ENCLOSURES

Standard DIN 3mm Replacement Lock for use on AM enclosures. Wiegmann brand (AMLS 2532).

**No. 4KN84.** Shpg. wt. 1.0 lbs. List.....$12.65. Each.....**$10.44**

**Key** for No. 4KN84 lock above. Wiegmann brand (RAO172).

**No. 4KP22.** Shpg. wt. 1.0 lbs. List.....$2.58. Each.....**$2.13**

Slotted Screwdriver Insert for No. 4KN84 above. Wiegmann brand (AMLS 2550)

**No. 4KN85.** Shpg. wt. 1.0 lbs. List.....$9.95. Each.....**$8.21**

**Key Lock** for use on AM enclosures. Wiegmann brand (RCA0013).

**No. 4KP24.** Shpg. wt. 1.0 lbs. List.....$13.37. Each.....**$11.03**

**Mounting Bracket** for AM enclosures. Pack of 4. Wiegmann brand (RAO240).

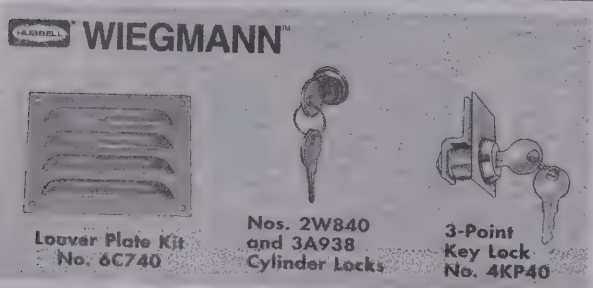
**No. 4KP23.** Shpg. wt. 1.0 lbs. List.....$6.20. Each.....**$5.12**

### OIL TIGHT HOLE SEALS

Seal unused pushbutton or conduit holes. See ordering data below.

## OIL TIGHT HOLE SEALS SPECIFICATIONS AND ORDERING DATA

| Material | Application | Hole Diameter (In.) | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Steel | Standard Pushbutton | 1 13/64 | WA-SPB | **2W838** | $5.12 | **$4.23** | 0.3 |
| Stainless Steel | Standard Pushbutton | 1 13/64 | WA-SPBSS | **6C744** | 14.04 | **12.29** | 0.3 |
| Steel | 1/2" Conduit holes | 7/8 | WA-S050 | **6C749** | 3.65 | **3.02** | 0.3 |
| Stainless Steel | 1/2" Conduit holes | 7/8 | WA-S050SS | **6C742** | 9.97 | **8.73** | 0.3 |
| Steel | 3/4" Conduit holes | 1 1/8 | WA-S075 | **6C750** | 4.75 | **3.93** | 0.3 |
| Stainless Steel | 3/4" Conduit holes | 1 1/8 | WA-S075SS | **6C743** | 12.73 | **11.14** | 0.3 |
| Steel | 1" Conduit holes | 1 3/8 | WA-S100 | **6C756** | 6.53 | **5.39** | 0.3 |
| Stainless Steel | 1" Conduit holes | 1 3/8 | WA-S100SS | **6C757** | 17.07 | **14.94** | 0.3 |
| Steel | 1 1/4" Conduit holes | 1 5/8 | WA-S125 | **6C751** | 7.33 | **6.05** | 0.3 |
| Stainless Steel | 1 1/4" Conduit holes | 1 5/8 | WA-S125SS | **6C745** | 19.62 | **17.17** | 0.3 |
| Steel | 1 1/2" Conduit holes | 2 | WA-S150 | **6C752** | 8.35 | **6.89** | 0.3 |
| Stainless Steel | 1 1/2" Conduit holes | 2 | WA-S150SS | **6C746** | 22.02 | **19.27** | 0.3 |
| Steel | 2" Conduit holes | 2 1/2 | WA-S200 | **6C753** | 9.23 | **7.62** | 0.3 |
| Stainless Steel | 2" Conduit holes | 2 1/2 | WA-S200SS | **6C747** | 24.44 | **21.39** | 0.3 |
| Steel | 2 1/2" Conduit holes | 3 | WA-S250 | **4KP50** | 18.57 | **15.32** | 0.5 |




Louver Plate Kits provides ventilation or cooling in enclosures when required. Includes all hardware for field installations. 14 gauge steel. ANSI enamel finish. See ordering data below.

**Cylinder Lock** for use on NEMA 1 enclosures. Keyed alike. Wiegmann brand (WA-L12B)

**No. 2W840.** Shpg. wt. 0.3 lbs. List $30.17. Each.....**$24.90**

**Cylinder Lock** for use on NEMA 12 enclosures. Keyed alike. Wiegmann brand (WA-CLSN12).

**No. 3A938.** Shpg. wt. 0.3 lbs. List $30.17. Each.....**$24.90**

**3-Point Key Lock** for for large N1C enclosures. Wiegmann brand (WAL12AR).

**No. 4KP40.** Shpg. wt. 1.0 lbs. List $29.02. Each.....**$23.94**

## LOUVER PLATE KIT SPECIFICATIONS AND ORDERING DATA

| Cutout Size (In.) H | Cutout Size (In.) W | No. of Louvers | Louver Length (In.) | Louver (In.) H | Louver (In.) W | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 1/2 | 4 1/4 | 3 | 4 | 4 1/2 | 5 1/2 | WAVK0403 | **6C739** | $16.66 | **$13.75** | 1.0 |
| 4 3/8 | 6 1/4 | 4 | 6 | 5 5/8 | 7 1/2 | WAVK0604 | **6C740** | 17.69 | **14.60** | 1.3 |
| 6 15/16 | 8 1/4 | 6 | 8 | 8 3/16 | 9 1/2 | WAVK0806 | **6C741** | 21.09 | **17.40** | 2.0 |



*When the spec calls for brand names, you'll find the best here.*

# NEMA 12/IP55 TYPE COMPUTER CABINETS




- 14 Gauge steel, RAL 7032 textured beige finish
- 1-Piece molded polyurethane gasket
- Keyboard panel: hinged, with stop; sliding mouse pad
- Monitor shelf with mounting clamps; glass viewing window (14-15" or 19-21")
- 4-Point locking with swing handle and round cylinder on rear door; small wing handle with lock cylinder on front doors (top & bottom), cylinder lock on hinged panel

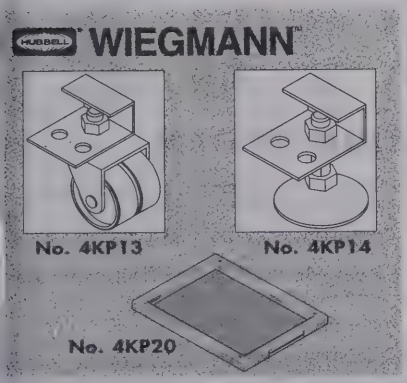
**Listings and Certifications:**

- UL508 Listed, Type 12
- CSA Certified, Type 12
- Meets NEMA/EEMAC Type 12 requirements
- IEC Ingress Protection IP55

**COMPUTER CABINET SPECIFICATIONS AND ORDERING DATA**

| Dimensions (In.) Height | Width | Depth | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **63** | 23.6 | 23.6 | CPC16066 | **4KP11** | $3527.08 | **$2910.00** | 220.0 |
| **63** | 23.6 | 31.5 | CPC16068 | **4KP12** | 3651.11 | **3013.00** | 242.0 |

# ACCESSORIES FOR COMPUTER CABINETS




**Base For Computer Cabinets** is made of 2mm (ga) steel with textured beige RAL 7032 polyester powder paint finish. Provides an easy and safe entry for cables through gasketed side opening. 1.97" high. See ordering data below.

**Caster Kit for computer cabinets.** Mounts directly to PCP base below. Wiegmann brand (CTR70).

**No. 4KP13.** Shpg. wt. 20.0 lbs. List .....$782.52. Each .....**$646.00**

**Leveling Kit for computer cabinets.** Mounts directly to PCP base below. Wiegmann brand (LF30).

**No. 4KP14.** Shpg. wt. 6.0 lbs. List $102.09. Each **$84.25**; Lots 5 **$80.04**; Lots 10.....**$75.85**

**COMPUTER CABINET BASE SPECIFICATIONS AND ORDERING DATA**

| Dimensions (In.) Width | Depth | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **23.6** | 23.6 | PCP0566 | **4KP20** | $148.57 | **$122.60** | 40.0 |
| **23.6** | 31.5 | PCP0568 | **4KP21** | 167.13 | **137.90** | 45.0 |

# ELECTRICAL ENCLOSURE ACCESSORIES

## ENCLOSURE WINDOW KITS




- Steel windows kits are designed to be used indoors on NEMA 4 and 12 enclosures
- Stainless steel window kits are suitable for NEMA 4, 4X, 12, and 13 enclosures in indoor and outdoor applications where corrosion is a problem
- Easily installed by making a cutout in the enclosure and attaching window and frame in place; all necessary hardware is included
- Fully gasketed to maintain water-tight seal
- Heavy steel frames with ANSI 61 polyester powder finish over phosphotized surface, or Type 304 stainless steel with a grained finish

**ENCLOSURE WINDOW KITS SPECIFICATIONS AND ORDERING DATA**

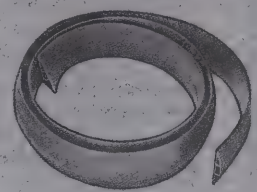
| Window Size (In.) Height | Width | Frame Size (In.) Height | Width | Required Cut-Out (In.) Height | Width | Wiegmann Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Steel Window Kits** | | | | | | | | | | |
| **5** | 3.0 | 7.5 | 5.5 | 6.69 | 4.69 | WAPWK0503NF | **4KP44** | $75.11 | **$62.00** | 2.0 |
| **9** | 5.5 | 11.5 | 8.5 | 10.69 | 7.19 | WAPWK0905NF | **4KP46** | 90.00 | **74.25** | 3.0 |
| **13** | 8.0 | 15.5 | 10.5 | 14.69 | 6.69 | WAPWK1308NF | **4KP48** | 113.90 | **94.00** | 4.0 |
| **Stainless Steel Window Kits** | | | | | | | | | | |
| **5** | 3.0 | 7.5 | 5.5 | 6.69 | 4.69 | WAPWK0503SS | **4KP45** | 119.37 | **104.45** | 2.0 |
| **9** | 5.5 | 11.5 | 8.5 | 10.69 | 7.19 | WAPWK0905SS | **4KP47** | 143.83 | **125.85** | 3.0 |
| **13** | 8.0 | 15.5 | 10.5 | 14.69 | 6.69 | WAPWK1308SS | **4KP49** | 182.04 | **159.50** | 4.0 |

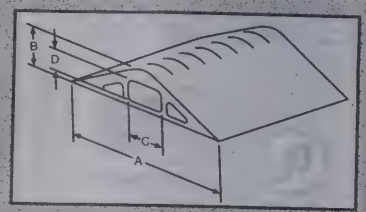
# CABLE POSITIONING DUCT AND MODULAR PROTECTION SYSTEMS

## CABLE POSITIONING DUCT—FLOORTRAK™

- For portable cords and cables
- Flexible nonmetallic construction (PVC)
- Reduces tripping hazards
- Protects and organizes cords
- Pre-slit bottom
- Available in three sizes

HUBBELL® Wiring Device-Kellems

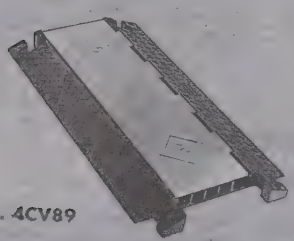



| Color | Length (Ft.) | Dimensions (In.) A | B | C | D | Max. Cable Dia. (In.) | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Black | 10 | 2.68 | .46 | .50 | .31 | .31 | FT2BK10 | 5D684 | $19.29 | $15.43 | $13.89 | 3.5 |
| Brown | 10 | 2.68 | .46 | .50 | .31 | .31 | FT2BR10 | 5D690 | 19.39 | 15.51 | 13.96 | 4.2 |
| Beige | 10 | 2.68 | .46 | .50 | .31 | .31 | FT2BG10 | 5D683 | 19.30 | 15.45 | 13.90 | 3.6 |
| Gray | 10 | 2.68 | .46 | .50 | .31 | .31 | FT2GY10 | 5D685 | 19.30 | 15.45 | 13.90 | 3.6 |
| Yellow | 10 | 2.68 | .46 | .50 | .31 | .31 | FT2Y10 | 5D691 | 19.29 | 15.43 | 13.89 | 3.5 |
| Black | 5 | 2.98 | .61 | .75 | .50 | .50 | FT3BK5 | 5D686 | 15.17 | 12.14 | 10.92 | 2.3 |
| Black | 25 | 2.98 | .61 | .75 | .50 | .50 | FT3BK25 | 5D687 | 61.50 | 49.20 | 44.28 | 6.3 |
| Yellow | 5 | 2.98 | .61 | .75 | .50 | .50 | FT3Y5 | 5D688 | 14.38 | 11.51 | 10.36 | 2.5 |
| Brown | 5 | 2.98 | .61 | .75 | .50 | .50 | FT3BR5 | 5D695 | 14.38 | 11.51 | 10.36 | 2.5 |
| Brown | 25 | 2.98 | .61 | .75 | .50 | .50 | FT3BR25 | 5D694 | 62.31 | 49.85 | 44.86 | 12.0 |
| Beige | 5 | 2.98 | .61 | .75 | .50 | .50 | FT3BG5 | 5D693 | 14.38 | 11.51 | 10.36 | 2.5 |
| Beige | 25 | 2.98 | .61 | .75 | .50 | .50 | FT3BG25 | 5D692 | 62.31 | 49.85 | 44.86 | 12.0 |
| Gray | 5 | 2.98 | .61 | .75 | .50 | .50 | FT3GY5 | 5D697 | 14.38 | 11.51 | 10.36 | 2.5 |
| Gray | 25 | 2.98 | .61 | .75 | .50 | .50 | FT3GY25 | 5D696 | 62.17 | 49.75 | 44.76 | 11.0 |
| Black | 5 | 2.98 | .85 | 1.00 | .75 | .75 | FT4BK5 | 5D689 | 17.83 | 14.26 | 12.84 | 2.8 |
| Black | 25 | 2.98 | .85 | 1.00 | .75 | .75 | FT4BK25 | 5D698 | 77.38 | 61.90 | 55.71 | 7.8 |
| Gray | 25 | 2.98 | .85 | 1.00 | .75 | .75 | FT4GY25 | 5D699 | 77.38 | 61.90 | 55.71 | 7.8 |
| Yellow | 5 | 2.98 | .85 | 1.00 | .75 | .75 | FT4Y5 | 5D700 | 17.87 | 14.30 | 12.87 | 3.1 |

## TRUKTRAK™ MODULAR CABLE PROTECTION SYSTEM

HUBBELL® Wiring Device-Kellems




### FEATURES & BENEFITS

- Modular nonmetallic cable protection system that protects valuable cables and cords from damage
- Provides a safe means for vehicle and pedestrian crossover traffic
- Made of all-weather polyurethane with heavy load capacity
- Multiple channels and sizes
- Modular interlocking design with yellow liftcover and end caps
- For indoor and outdoor use

### APPLICATIONS

- Industrial, convention centers, amusement parks, utilities, municipalities

### TRUKTRAK™ CABLE PROTECTION SYSTEM ORDERING DATA

| Description | Dimensions (In.) Length | Width | Height | Channel Dim (In.) Width | Height | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 Channel | 36 | 20 | 2.31 | 1.25 | 1.25 | HBLTT5 | 4CV89 | $460.57 | $368.50 | 35.0 |
| 5 Channel End Caps (Female) (pair only) | 7.5 | 20 | 2.31 | 1.25 | 1.25 | HBLTT5EC | 4CV92 | 192.95 | 154.50 | 11.0 |
| (Male) | 5.25 | 20 | 2.31 | 1.25 | 1.25 | | | | | |
| 5 Channel 45° Right Turn | 25 | 20 | 2.31 | 1.25 | 1.25 | HBLTT545R | 4CV90 | 243.82 | 195.25 | 16.0 |
| 5 Channel 45° Left Turn | 25 | 20 | 2.31 | 1.25 | 1.25 | HBLTT545L | 4CV91 | 243.82 | 195.25 | 16.0 |
| 3 Channel | 36 | 20 | 3.05 | 2.25 | 2.25 | HBLTT3 | 4CV85 | 577.73 | 462.25 | 38.0 |
| 3 Channel End Caps (Female) (pair only) | 8.25 | 20 | 3.05 | 2.25 | 2.25 | HBLTT3EC | 4CV88 | 243.82 | 195.25 | 16.0 |
| (Male) | 6 | 20 | 3.05 | 2.25 | 2.25 | | | | | |
| 3 Channel 45° Right Turn | 25 | 20 | 3.05 | 2.25 | 2.25 | HBLTT345R | 4CV86 | 426.48 | 341.25 | 19.0 |
| 3 Channel 45° Left Turn | 25 | 20 | 3.05 | 2.25 | 2.25 | HBLTT345L | 4CV87 | 426.48 | 341.25 | 19.0 |
| 2 Channel | 36 | 22 | 4.13 | 3.25 | 3.25 | HBLTT2 | 4CV84 | 800.89 | 641.00 | 47.0 |

## TREDTRAK™ MODULAR CABLE PROTECTION SYSTEM

### APPLICATIONS

- Designed to support pedestrian and light vehicle traffic

### FEATURES AND BENEFITS

- 5-Channel modular cable protection system protects cable diameters up to 1.28"
- Screw down cover is tamper resistant
- High-density polyurethane construction is weather resistant

HUBBELL® Wiring Device-Kellems

| Description | Dimensions (In.) Length | Width | Height | Channel Dim. (In.) Width | Height | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 Channel | 36 | 17.5 | 1.95 | 1.3 | 1.3 | HBLTRED5 | 4HD47 | $301.95 | $241.75 | 18.0 |
| 5 Channel End Caps (Female) (pair only) | 4.75 | 17.5 | 1.95 | 1.3 | 1.3 | HBLTRED5EC | 4HD48 | 118.09 | 94.50 | 5.0 |
| (Male) | 6.75 | 17.5 | 1.95 | 1.3 | 1.3 | | | | | |



When the spec calls for brand names, you'll find the best here.

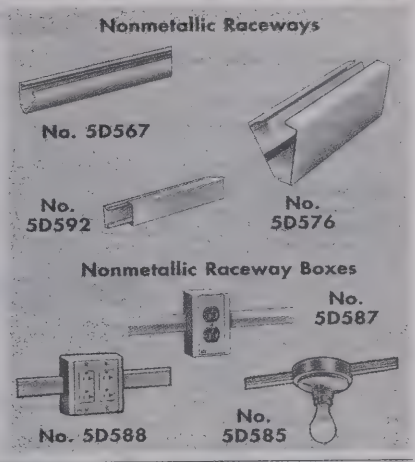
HUBBELL Wiring Device-Kellems

## WALLTRAK 1/ WALLTRAK 22

- Single channel raceway—WallTrak 1
- Two channel raceway—WallTrak 22
- Low profile, locking hinge design
- Available with adhesive mounting
- Comes in 5 ft. length
- "Office white" color

## PREMISETRAK 1/ PREMISETRAK 2

- 2-piece square profile
- PremiseTrak 1 available with adhesive mounting
- Comes in 5 ft. length
- "Office white" color



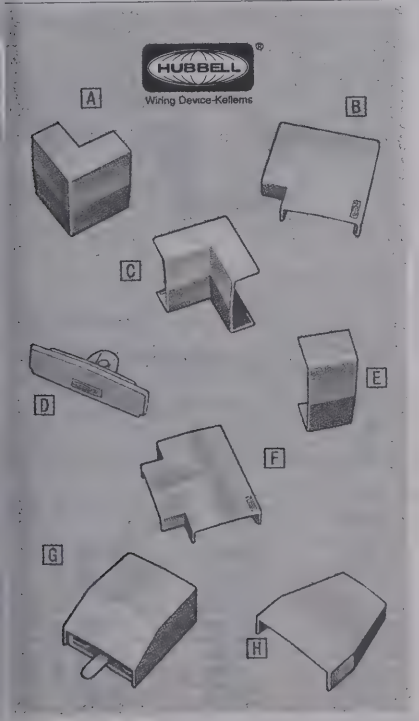

## NONMETALLIC RACEWAY ORDERING DATA

| Dimensions H (In.) | W (In.) | L (Ft.) | Adhesive | Kellems Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| .50 | 1.23 | 5 | No | WT1BC5 | 5D567 | $7.69 | $6.16 | $5.54 | 0.7 |
| .50 | 1.23 | 5 | Yes | WT1ABC5 | 5D566 | 9.20 | 7.36 | 6.63 | 0.8 |
| .70 | 2.16 | 5 | No | WT22BC5 | 5D576 | 12.94 | 10.36 | 9.32 | 1.2 |
| .70 | 2.16 | 5 | Yes | WT22ABC5 | 5D575 | 14.45 | 11.56 | 10.41 | 1.3 |
| .68 | 0.75 | 5 | No | PT1BC5 | 5D592 | 5.50 | 4.40 | 3.96 | 0.7 |
| .68 | 0.75 | 5 | Yes | PT1ABC5 | 5D591 | 7.46 | 5.97 | 5.38 | 0.7 |
| .90 | 1.41 | 5 | No | PT2BC5 | 5D600 | 9.94 | 7.96 | 7.16 | 1.2 |

## NONMETALLIC RACEWAY BOXES*

| Description | Used with Raceway | Dimensions (In.) H | W | L | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1-gang Low Profile | WallTrak 1&22 | 1.12 | 3.25 | 4.90 | WT12LPB | 5D586 | $4.61 | $3.69 | $3.32 | 0.2 |
| 1-gang Standard | WallTrak 1&22 | 1.63 | 3.25 | 4.90 | WT12SBA | 5D587 | 4.85 | 3.88 | 3.50 | 0.3 |
| 1-gang Deep | WallTrak 1&22 | 1.91 | 3.25 | 4.90 | WT12DBA | 5D584 | 5.29 | 4.24 | 3.81 | 0.3 |
| 2-gang Deep | WallTrak 1&22 | 1.91 | 5.06 | 4.90 | WT12TGBD | 5D588 | 13.55 | 10.84 | 9.76 | 0.5 |
| Light Fixture | WallTrak 1&22 | 1.04 | 5.31 | — | WT12LFB | 5D585 | 12.45 | 9.96 | 8.96 | 0.4 |
| 1-gang Low Profile | PremiseTrak 1&2 | 1.12 | 3.25 | 4.90 | PT12LPB | 5D614 | 4.61 | 3.69 | 3.32 | 0.2 |
| 1-gang Standard | PremiseTrak 1&2 | 1.63 | 3.25 | 4.90 | PT12SBA | 5D615 | 4.85 | 3.88 | 3.50 | 0.3 |
| 1-gang Deep | PremiseTrak 1&2 | 1.91 | 3.25 | 4.90 | PT12DBA | 5D612 | 6.19 | 4.96 | 4.46 | 0.3 |
| 2-gang Deep | PremiseTrak 1&2 | 1.91 | 5.06 | 4.90 | PT12TGB | 5D616 | 10.04 | 8.03 | 7.23 | 0.5 |
| Light Fixture | PremiseTrak 1&2 | 1.04 | 5.31 | — | PT12LFB | 5D613 | 12.46 | 9.97 | 8.97 | 0.5 |

(*) Wallplates and fixtures sold separately.




## NONMETALLIC RACEWAY FITTINGS

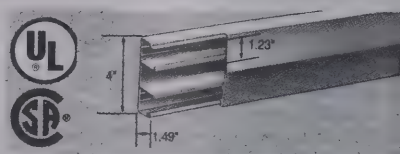
| Key | Description | Used with Raceway | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | External Elbow | WallTrak 1 | WT1EE | 5D570 | $2.05 | $1.65 | $1.48 | 0.1 |
| | | WallTrak 22 | WT2EE | 5D579 | 2.38 | 1.91 | 1.72 | 0.1 |
| | | PremiseTrak 1 | PT1EE | 5D594 | 1.51 | 1.21 | 1.09 | 0.1 |
| | | PremiseTrak 2 | PT2EE | 5D603 | 3.01 | 2.41 | 2.17 | 0.1 |
| B | Flat Elbow | WallTrak 1 | WT1FE | 5D571 | 1.67 | 1.34 | 1.20 | 0.1 |
| | | WallTrak 22 | WT2FE | 5D580 | 2.38 | 1.91 | 1.72 | 0.1 |
| | | PremiseTrak 1 | PT1FE | 5D595 | 1.51 | 1.21 | 1.09 | 0.1 |
| | | PremiseTrak 2 | PT2FE | 5D604 | 3.01 | 2.41 | 2.17 | 0.1 |
| C | Internal Elbow | WallTrak 1 | WT1IE | 5D572 | 1.55 | 1.25 | 1.12 | 0.1 |
| | | WallTrak 22 | WT2IE | 5D581 | 2.38 | 1.91 | 1.72 | 0.1 |
| | | PremiseTrak 1 | PT1IE | 5D596 | 1.51 | 1.21 | 1.09 | 0.1 |
| | | PremiseTrak 2 | PT2IE | 5D605 | 2.87 | 2.30 | 2.07 | 0.1 |
| D | End Cap | WallTrak 1 | WT1EC | 5D569 | 1.45 | 1.17 | 1.05 | 0.1 |
| | | WallTrak 22 | WT2EC | 5D578 | 1.86 | 1.49 | 1.34 | 0.1 |
| | | PremiseTrak 1 | PT1EC | 5D593 | 1.10 | 0.88 | 0.79 | 0.1 |
| | | PremiseTrak 2 | PT2EC | 5D602 | 1.37 | 1.10 | 0.99 | 0.1 |
| E | Splice Cover | WallTrak 1 | WT1SC | 5D573 | 0.68 | 0.54 | 0.49 | 0.1 |
| | | WallTrak 22 | WT2SC | 5D582 | 1.04 | 0.84 | 0.76 | 0.1 |
| | | PremiseTrak 1 | PT1SC | 5D597 | 0.58 | 0.47 | 0.42 | 0.1 |
| | | PremiseTrak 2 | PT2SC | 5D606 | 1.10 | 0.88 | 0.79 | 0.1 |
| F | Tee Cover | WallTrak 1 | WT1TC | 5D574 | 2.73 | 2.19 | 1.97 | 0.1 |
| | | WallTrak 22 | WT2TC | 5D583 | 2.71 | 2.17 | 1.95 | 0.1 |
| | | PremiseTrak 1 | PT1TC | 5D598 | 2.33 | 1.86 | 1.68 | 0.1 |
| | | PremiseTrak 2 | PT2TC | 5D608 | 3.36 | 2.69 | 2.42 | 0.1 |
| — | Tee Fitting | WallTrak22 | WT2TF | 4CW38 | 10.69 | 8.55 | 7.70 | 0.2 |
| G | Conduit Adapter | WallTrak 1 | WT1CA | 5D568 | 4.85 | 3.88 | 3.49 | 0.2 |
| | | WallTrak 22 | WT2CA | 5D577 | 5.87 | 4.70 | 4.23 | 0.1 |
| | | PremiseTrak 1 & 2 | PT12CA | 5D601 | 4.80 | 3.85 | 3.46 | 0.1 |
| H | Profile Reducer | From WallTrak 22 to WallTrak 1 | WT12R | 5D589 | 4.01 | 3.21 | 2.89 | 0.1 |
| | | From PremiseTrak 1 to WallTrak 1 | PT1WTA | 5D599 | 3.57 | 2.86 | 2.57 | 0.1 |
| | | From PremiseTrak 2 to WallTrak 1 | PT2WTA | 5D611 | 4.55 | 3.65 | 3.28 | 0.1 |

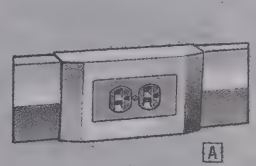
# KELLEMS THREE CHANNEL & PREWIRED RACEWAY SYSTEMS

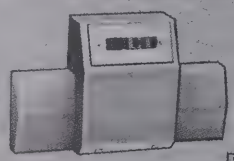
## BASETRAK

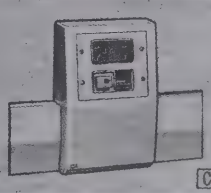
- Nonmetallic construction, easy to cut, install
- "Office white" color
- Power and low voltage combination
- 5 ft. length
- UL Listed, CSA Certified
- Kellems brand (BT3BC5)

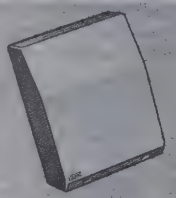
No. 5D552. Shpg. wt. 3.8 lbs.
List $31.70. Each.....$25.40





A

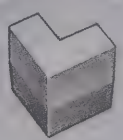

B


C


D

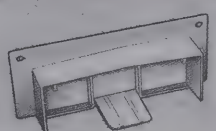
| Key | Description | Dimensions (In.) H | W | L | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Inline Device Box | 1.77 | 4.20 | 7.50 | BT3IND | **5D558** | $9.29 | **$7.44** | **$6.70** | 0.6 |
| B | 1-Gang Raised Box | 2.48 | 5.21 | 6.91 | BT3RDB | **5D559** | 12.56 | **10.05** | **9.05** | 0.9 |
| C | 2-Gang Raised Box | 2.48 | 5.83 | 9.00 | BT3RDB2G | **5D560** | 18.11 | **14.50** | **13.05** | 1.1 |
| D | Tee Fitting | 2.48 | 5.21 | 6.91 | BT3TCA | **5D562** | 16.47 | **13.18** | **11.86** | 0.9 |

## THREE CHANNEL RACEWAY FITTINGS

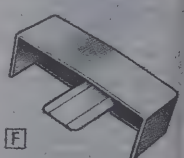

A

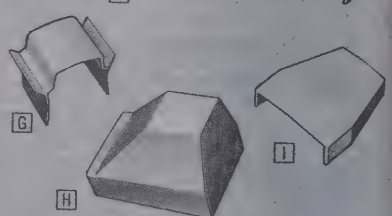

B


C


D


E

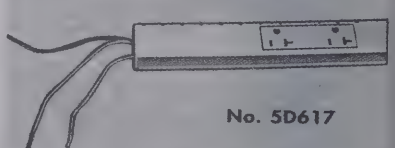

F




| Key | Description | Kellems Model | Stock No. | List | Each | Lot 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | External Elbow | BT3EE | **5D555** | $7.86 | **$6.29** | **$5.66** | 0.2 |
| B | Internal Elbow | BT3IE | **5D557** | 6.89 | **5.52** | **4.97** | 0.2 |
| C | Splice Cover | BT3SC | **5D561** | 2.73 | **2.19** | **1.97** | 0.1 |
| D | Surface Panel Connector | BT3SPC | **5D565** | 7.77 | **6.22** | **5.60** | 0.1 |
| E | Flat Elbow | BT3FE | **5D556** | 7.43 | **5.95** | **5.36** | 0.3 |
| F | End Cap | BT3EC | **5D554** | 4.91 | **3.93** | **3.54** | 0.1 |
| G | Wire Clip | BT3WC | **5D563** | 0.28 | **0.23** | **0.21** | 0.1 |
| H | Conduit Adapter | BT3CA | **5D553** | 24.58 | **19.67** | **17.70** | 0.5 |
| I | BaseTrak-WallTrak Reducer | WT23R | **5D590** | 5.21 | **4.17** | **3.76** | 0.2 |

## PLUGTRAK—PREWIRED HARDWIRED RACEWAY STRIPS

- Nonmetallic construction (PVC)
- Prewired 15 amp or 20 amp 120 VAC duplex receptacles
- "Office white" color
- Built-in isolated ground capability
- Voltage surge suppression available
- 5 or 6 ft. lengths
- #12 AWG standard wire leads


No. 5D617

| Length (Ft.) | No. of Duplex | Duplex Spacing (In.) | Amps | No. of Circuits | Built-in Surge | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 5 | 12 | 15 | One | No | PT5112C | **5D617** | $41.77 | **$33.45** | **$30.09** | 2.2 |
| 5 | 5 | 12 | 20 | One | No | PT5112 | **5D620** | 51.80 | **41.45** | **37.31** | 2.2 |
| 5 | 4 | 15 | 20 | One | No | PT5115 | **5D621** | 57.91 | **46.35** | **41.69** | 2.1 |
| 5 | 5 | 12 | 20 | Two | No | PT5212 | **5D625** | 62.53 | **50.05** | **45.05** | 2.3 |
| 6 | 6 | 12 | 15 | One | No | PT6112C | **5D618** | 48.39 | **38.75** | **34.86** | 2.6 |
| 6 | 4 | 18 | 15 | One | No | PT6118C | **5D619** | 44.10 | **35.30** | **31.77** | 2.4 |
| 6 | 6 | 12 | 20 | One | No | PT6112 | **5D622** | 59.34 | **47.50** | **42.75** | 2.6 |
| 6 | 4 | 18 | 20 | One | No | PT6118 | **6D264** | 44.56 | **35.70** | **32.10** | 2.4 |
| 6 | 6 | 12 | 20 | Two | No | PT6212 | **5D626** | 70.65 | **56.55** | **50.90** | 2.7 |
| 6 | 4 | 18 | 20 | Two | No | PT6218 | **5D627** | 58.75 | **47.05** | **42.32** | 2.5 |



When the spec calls for brand names, you'll find the best here.

# PLUGTRAK BOXES AND FITTINGS

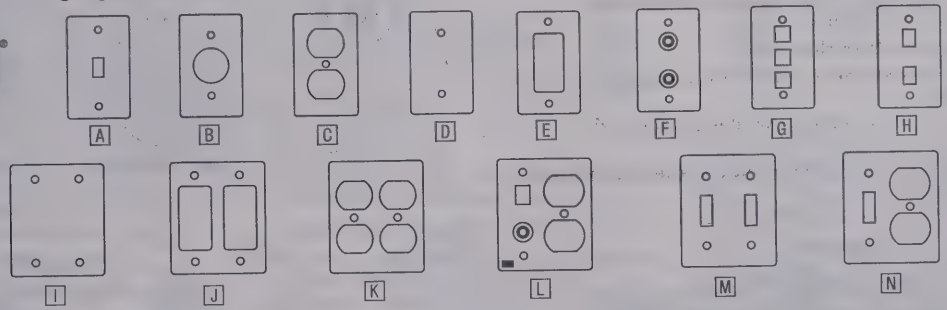



| Key | Description | Amps 125V | Box Gangs | Dimensions (In.) H | W | D | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | External Elbow | — | — | — | — | — | PT2EE | 5D603 | $3.01 | $2.41 | $2.17 | 0.1 |
| B | Splice Cover | — | — | — | — | — | PT2SC | 5D606 | 1.10 | 0.88 | 0.79 | 0.1 |
| C | Profile Reducer | — | — | — | — | — | PT2WTA | 5D611 | 4.55 | 3.65 | 3.28 | 0.1 |
| D | Internal Elbow | — | — | — | — | — | PT2IE | 5D605 | 2.87 | 2.30 | 2.07 | 0.1 |
| E | Flat Elbow | — | — | — | — | — | PT2FE | 5D604 | 3.01 | 2.41 | 2.17 | 0.1 |
| F | Tee Cover | — | — | — | — | — | PT2TC | 5D608 | 3.36 | 2.69 | 2.42 | 0.1 |
| G | Conduit Adapter | — | — | — | — | — | PT12CA | 5D601 | 4.80 | 3.85 | 3.46 | 0.1 |
| H | End Cap | — | — | — | — | — | PT2EC | 5D602 | 1.37 | 1.10 | 0.99 | 0.1 |
| I | Replacement Receptacle | 15 | — | — | — | — | PT2RC | 5D610 | 12.10 | 9.69 | 8.72 | 0.1 |
| I | Replacement Receptacle | 20 | — | — | — | — | PT2R | 5D609 | 12.15 | 9.72 | 8.75 | 0.2 |
| — | Low Profile Box | — | One | 1.12 | 3.25 | 4.90 | PT12LPB | 5D614 | 4.61 | 3.69 | 3.32 | 0.2 |
| — | Standard Box | — | One | 1.63 | 3.25 | 4.90 | PT12SBA | 5D615 | 4.85 | 3.88 | 3.50 | 0.3 |
| — | Deep Box | — | One | 1.91 | 3.25 | 4.90 | PT12DBA | 5D612 | 6.19 | 4.96 | 4.46 | 0.3 |
| — | 2-Gang Box | — | Two | 1.91 | 4.06 | 4.90 | PT12TGB | 5D616 | 10.04 | 8.03 | 7.23 | 0.5 |
| — | Blank Face Plate | — | — | — | — | — | KP14 | 5D640 | 2.04 | 1.63 | 1.47 | 0.1 |

# FACE PLATES

- For use with all Hubbell WallTrak, PremiseTrak, and BaseTrak raceway boxes
- Nonmetallic construction (PVC)
- One-gang and two-gang
- "Office white" color
- Power and low voltage applications
- Jacks and connectors sold separately

HUBBELL® Wiring Device-Kellems



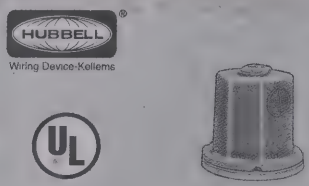

| Key | Description | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Toggle Switch | KP1 | 5D639 | $2.04 | $1.63 | $1.47 | 0.1 |
| B | Single Receptacle | KP7 | 5D648 | 2.41 | 1.93 | 1.74 | 0.1 |
| C | Duplex Receptacle | KP8 | 5D649 | 1.92 | 1.54 | 1.39 | 0.1 |
| D | Blank | KP14 | 5D640 | 2.04 | 1.63 | 1.47 | 0.1 |
| E | GFCI or Style Line | KP26 | 5D646 | 2.04 | 1.63 | 1.47 | 0.1 |
| F | Coaxial/Coaxial | KP212 | 5D641 | 2.52 | 2.02 | 1.81 | 0.1 |
| G | Jack/Jack/Jack | KP2163 | 5D644 | 2.04 | 1.63 | 1.47 | 0.1 |
| H | Jack/Jack | KP2162 | 5D643 | 2.04 | 1.63 | 1.47 | 0.1 |
| I | Blank | KP24 | 5D645 | 2.73 | 2.19 | 1.97 | 0.1 |
| J | GFCI or Style Line | KP262 | 5D647 | 2.73 | 2.19 | 1.97 | 0.1 |
| K | Duplex/Duplex | KP82 | 5D650 | 2.87 | 2.30 | 2.07 | 0.1 |
| L | Jack, Coaxial/Duplex | KP2148 | 5D642 | 2.73 | 2.19 | 1.97 | 0.1 |
| M | Toggle/Toggle | KP2 | 5D653 | 2.87 | 2.30 | 2.07 | 0.1 |
| N | Toggle/Duplex | KP18 | 5D652 | 3.03 | 2.43 | 2.19 | 0.1 |

# METAL AND PLASTIC FLOOR BOXES AND PORTABLE POWER STRIPS

## METAL FLOOR BOXES

### FEATURES & BENEFITS

- Steel box is fully adjustable for height and leveling
- Cast iron box provides service in existing wood floors
- Full line of brass covers and aluminum above-floor fittings fit variety of office or store needs






No. 3D309



No. 3D439



No. 3D440

| Description | Opening Sizes | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Round, Fully Adjustable, Stamped Steel Floor Box | Three 1/2" & Two 3/4" | B2529 | **3D308** | $38.78 | **$31.05** | 2.3 |
| Round, Non-adjustable, Cast Iron Floor Box for Wood Floors | Two 3/4 & Two 1/2 | B2588275 | **3D309** | 70.67 | **56.55** | 2.1 |
| Round Brass Cover, Duplex Flap | Flaps Cover Duplex | S3925 | **3D444** | 45.98 | **36.80** | 0.8 |
| Round Brass Cover, Duplex Screw | 1½ & 1½ | S3725 | **3D442** | 34.99 | **28.00** | 0.5 |
| Round Brass Cover, Combination | 2⅛ x ¾ | S2525 | **3D439** | 30.96 | **24.77** | 0.5 |
| Rectangular Brass Cover, Duplex Flap | Flaps Cover Duplex | S3825 | **3D443** | 61.51 | **49.25** | 0.5 |
| Rectangular Brass Cover, Duplex Screw | 1½ & 1½ | S3625 | **3D441** | 35.80 | **28.65** | 0.5 |
| Rectangular Brass Cover, Combination | 2⅛ x ¾ | S2425 | **3D438** | 33.30 | **26.65** | 0.8 |
| Round Brass Carpet Flange | 6¾" Dia. | S3082 | **3D440** | 61.09 | **48.90** | 0.8 |
| Brushed Aluminum Above Floor Housing Only | 3/4" Chase Nipple | SC3098 | **3D447** | 43.94 | **35.15** | 0.6 |
| Stainless Steel Blank Plate for No. 3D447 | Blank | SS309B | **3D456** | 15.70 | **12.56** | 0.3 |
| Stainless Steel Duplex Receptacle Plate for No. 3D447 | Duplex Receptacle | SS309D | **3D457** | 15.67 | **12.54** | 0.1 |
| Stainless Steel Furniture Feed Plate for No. 3D447 | 1.109" KO for 3/4" Connector | SS309SF | **3D458** | 16.90 | **13.52** | 0.1 |
| Stainless Steel Phone & Data Plate for No. 3D447 | 1- 1" ID & 2⅛" | SS309T | **3D459** | 16.22 | **12.98** | 0.1 |

Note: Rectangular brass covers listed above are for replacement use with Hubbell rectangular floor boxes. They do not fit round floor boxes listed above.

## PLASTIC FLOOR BOXES

### FEATURES & BENEFITS

- Rugged box is molded from non-conductive, non-corroding PVC and 100 cubic inch volume provides extra capacity and wiring room
- Plastic box is adjustable for height; can also be leveled
- Optional low voltage divider permits power and voice/data in same floor box
- Adapter ring adjusts to floor level
- Heavy-duty hub entrances withstand rigors of both installation and pour
- Flush brass 3-service fitting provides power and voice/data
- Duplex cover flaps are spring-loaded; keeps debris out when not in use






No. 3D418



No. 3D421



No. 3D452



No. 3D419

| Description | Opening Sizes | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Round PVC Floor Box with Concrete Cover<br>Adapter Ring (One Required for Each No. 3D418 Floor Box)<br>Low Voltage Divider for 3 Service Capability in No. 3D418 | 2¾" & 2-1" Hubs | PFB1<br>PFBA1<br>PFBT1 | **3D418**<br>**3D419**<br>**3D421** | $14.45<br>9.95<br>25.19 | **$11.57**<br>**7.96**<br>**20.16** | **$10.41**<br>**7.17**<br>**18.15** | 2.3<br>0.3<br>0.5 |
| Brushed Brass 3 Service Cover & Carpet Flange | Duplex Flaps & 2 Low Voltage KOs | SF39253 | **3D452** | 138.60 | **110.90** | **99.83** | 2.0 |

## PORTABLE TEMPORARY POWER STRIPS—PLUGTRAK

- Nonmetallic construction (PVC )
- Power switch and circuit breaker
- 15 Amp 120VAC duplex receptacles
- Office white color
- 6 ft. molded cord set
- No. 6D265 comes in 3 ft. length; No. 6D266 comes in 5 ft. length
- 12 inch receptacle spacing

**No. 6D265.** 3 ft. length. Kellems brand (PTP3112C). Shpg. wt. 2.3 lbs. List $70.26. Each **$56.25**; Lots 5 ..... **$50.61**

**No. 6D266.** 5 ft. length. Kellems brand (PTP5112C). Shpg. wt. 3.0 lbs. List $85.10. Each **$68.10**; Lots 5 ..... **$61.30**




No. 6D265

# FIRE-RATED POKE-THROUGH SERVICE BOXES

## APPLICATIONS

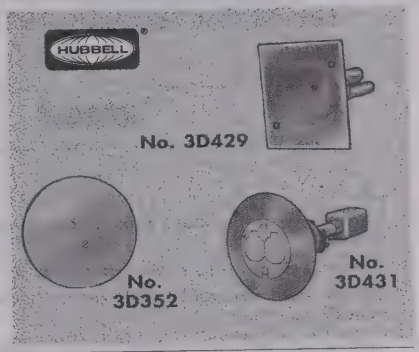
- Institutions, offices, wholesale/retail
- Provides power and/or phone/data after concrete has been poured; maintain floor's integrity against fire as required by NEC

## LISTINGS & APPROVALS

- UL Classified for fire resistance in 1-4 hour rated floors

## FEATURES & BENEFITS

- A 2" diameter poke-through has separate EMT tubes for power and voice/data; 3" diameter allows for larger capacity of service
- Flush poke-throughs can be wired and installed from above the floor
- Adjustable fire barrier allows for installation in a variety of floor thicknesses, from 2¼ -7"
- Maximum flexibility is offered in above-floor fittings with either complete pedestals or ability to create your own




| Description | Floor Hole Size/ Conduit Sizes | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Standard Capacity Through Floor Fitting, 4-Hour Fire Rating. Use with 3D350 pedestal. | 2" Dia. Hole Required<br>1/2" EMT for Power<br>3/4" EMT for Voice/Data | PT27A | **3D429** | $71.80 | **$57.45** | 1.7 |
| Large Capacity Through Floor Fitting, 4-Hour Fire Rating. Use with 3D350 pedestal. | 3" Dia. Hole Required<br>1/2" EMT for Power<br>1¼" EMT for Voice/Data | PT7XC | **3D434** | 138.88 | **111.15** | 2.4 |
| Flush Through Floor Fitting, 3 Service | 3" Dia. Hole Required<br>3/4" Conduit | PT73SD | **3D430** | 72.38 | **57.95** | 2.7 |
| Flush Through Floor Fitting, Brass Flange/Cover, with 1, 20A Duplex and 2 Voice/Data KOs | 3" Dia. Hole Required<br>3/4" Conduit | PT7FSDBRS2 | **3D431** | 340.44 | **258.50** | 4.5 |
| Flush Through Floor Fitting, Gray Flange/Cover with 1, 20A Duplex and 2 Voice/Data KOs | 3" Dia. Hole Required<br>3/4" Conduit | PT7FSDGY | **3D432** | 162.99 | **134.05** | 3.5 |
| Flush Through Floor Fitting, Ivory Flange/Cover with 1, 20A Duplex and 2 Voice/Data KOs | 3" Dia. Hole Required<br>3/4" Conduit | PT7FSDI | **3D433** | 162.99 | **134.05** | 3.5 |
| Flush 3 Service Fitting—Furniture Feed & 2 Voice/Data OIs, Gray (use with 3D430) | | FRF3GY | **3D351** | 78.54 | **62.85** | 1.2 |
| 4 Gang Service Pedestal, Gray, with Housing Frame and Low Voltage Barrier, Excludes Devices, Throughfloor Fitting and Face Plates. Use with 3D429 or 3D434. | | FR480 | **3D350** | 95.70 | **76.60** | 2.9 |
| Face Plate for 3D350, 1 Gang, with Duplex Receptacle Openings | | FP8 | **3D345** | 13.27 | **10.62** | 0.1 |
| Face Plate for 3D350, 1 Gang, with 20A and 30A Twist-Lock Receptacle Opening | | FP720 | **3D344** | 13.27 | **10.62** | 0.1 |
| Face Plate for 3D350, 1 Gang, with Furniture Feed Opening (to accept 3/4" Connector) | | FPFF1 | **3D347** | 16.03 | **12.83** | 0.1 |
| Face Plate for 3D350, 1 Gang, with Voice/Data Opening (1" ID Bushed Opening) | | FPT0 | **3D348** | 16.03 | **12.83** | 0.1 |
| Face Plate for 3D350, 1 Gang, Blank | | FP13 | **3D342** | 16.15 | **12.92** | 0.1 |
| Fire Rated Closure Plug to Close or Abandon Unused 3" Core Drilled Hole | | FRP250 | **3D352** | 98.23 | **78.60** | 1.2 |

# SURGE STRIPS

## APPLICATIONS

- Industrials, institutions, hospitals, offices, labs, wholesale/retail
- For personal computers, fax machines, CAD/CAM & test equipment, point-of-purchase terminals, medical devices, etc.

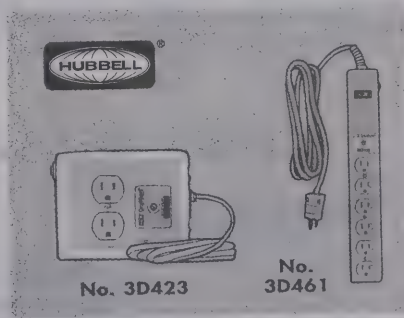
## LISTING & APPROVALS

- UL Listed to Standard 1449 (Transient Voltage Surge Supp.), 1363 (Temp. Power Taps), 498 (receptacles). CSA Certified to Spec C22.2 No. 42M.

Suitable for ANSI/IEEE C62.41-1980 (IEEE 587) installation cat. "A" & "B"

## FEATURES & BENEFITS

- Protect sensitive electronic equipment from transient voltage surges
- Rugged tamperproof metal enclosure
- Power cords are 6 ft., 14/3 AWG-SJT
- Noise filtering reduces possibility of EMI/RFI interference •Visual and audible surge status indicators
- Resettable circuit breaker with overload/short circuit protection




| Rating | Description | Input | No. of Outlets | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 15A 125V | Power Strip with Filtering, Surge Protection, Hospital Grade Receptacles and Plug | Power Cord | 6 | SS6HG | **3D462** | $271.30 | **$217.25** | **$195.31** | 2.8 |
| | Power Strip with Filtering, Surge Protection | Power Cord | 6 | SS6 | **3D461** | 225.12 | **180.25** | **162.07** | 2.8 |
| | Power Strip with Filtering, Surge Protection | Power Cord | 4 | SS4 | **3D460** | 193.21 | **154.75** | **139.10** | 2.5 |
| | Power Strip only (no Filtering, no Surge Protection) | Power Cord | 6 | PS6 | **3D428** | 83.18 | **66.55** | **59.88** | 2.6 |
| | Plug-In Adapter with Filtering, Power & FAX/Modem Surge Protection, 2 RJ11 Jacks, 4" phone cord | Plug-In | 2 | SPI2M | **3D423** | 200.30 | **160.25** | **144.20** | 1.6 |
| | Plug-In Adapter with Filtering, Surge Protection | Plug-In | 2 | SPI2 | **3D422** | 170.57 | **136.45** | **122.79** | 1.3 |

# CONDUIT

PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING.

## ELECTRICAL METALLIC TUBING (EMT)

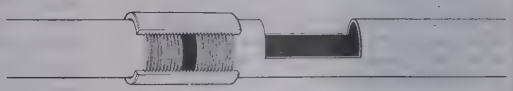


- Uniform wall thickness provides resistance to physical damage
- Galvanized coating seals out corrosion
- Ductile steel cuts and bends easily to reduce waste and installation time
- Interior coated with protective lubricant for easy wire pulling
- UL Listed (E32464); ANSI C-80.3

allied TUBE & CONDUIT

UL

## INTERMEDIATE METAL CONDUIT (IMC)



- Uniform wall thickness provides resistance to damage
- Galvanized coating seals out corrosion
- Larger internal diameter than Rigid for easier wire pulling
- Direct replacement to Rigid conduit for all applications
- NPT threads cut and galvanized to comply with all UL standards
- One coupling installed on each 10 ft. piece
- Provides radiation protection and magnetic shielding
- UL Listed (E58688); ANSI C-80.6

| Trade Size (In.) | Length per Piece (Ft.) | Nominal Outside Diameter (In.) | Wall Thickness (In.) | Allied Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. Each Pc. |
|---|---|---|---|---|---|---|---|---|---|
| **EMT CONDUIT** | | | | | | | | | |
| 1/2 | 10 | 0.706 | 0.042 | 1/2" EMT | **6XC30** | $2.75 | **$2.05** | **$1.95** | 2.9 |
| 3/4 | 10 | 0.922 | 0.049 | 3/4 EMT | **6XC31** | 4.43 | **3.24** | **3.07** | 4.4 |
| 1 | 10 | 1.163 | 0.057 | 1 EMT | **6XC32** | 7.24 | **5.22** | **4.95** | 6.4 |
| **IMC CONDUIT** | | | | | | | | | |
| 1/2 | 10 | 0.815 | 0.070 | 1/2" IMC | **6XC33** | 7.95 | **5.59** | **5.30** | 6.4 |
| 3/4 | 10 | 1.029 | 0.075 | 3/4 IMC | **6XC34** | 9.21 | **6.61** | **6.28** | 8.3 |
| 1 | 10 | 1.290 | 0.085 | 1 IMC | **6XC35** | 13.93 | **11.09** | **9.75** | 12.0 |
| 2 | 10 | 2.360 | 0.095 | 2 IMC | **6XC36** | 28.65 | **23.08** | **20.30** | 26.0 |

## BEAM CLAMPS—MALLEABLE IRON—ELECTROPLATED FINISH

- For 1/4" through 1/2" threaded rod
- Tapped holes in base and back to accept bolt or hanger rod
- Jaw openings accommodate I-beam, column or angle flanges up to 2" thickness
- Hardened steel cup-point set screw is tapped at an angle for maximum locking action and holding power

Thomas&Betts



No. 3KF30

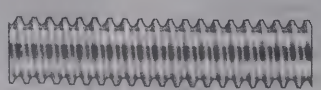
Sold in package quantities only

### BEAM CLAMPS—MALLEABLE IRON—ELECTROPLATED FINISH ORDERING DATA

| Base Size (In.) A | Base Size (In.) B | Jaw Opening (In.) | Tapping of Base and Back Holes | Load Rating (Lbs.) | Thomas & Betts Model | Stock No. | List | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 1/4 | 15/16 | 1/4-20 | 450 | 500-SC | **3KF30** | $81.24 | **$58.90** | 50 | 11.0 |
| 2 | 2 | 1 | 3/8-16 | 1300 | 502 | **3KF31** | 136.05 | **98.65** | 25 | 24.0 |
| 2 1/2 | 2 3/8 | 2 1/8 | 1/2-13 | 1700 | 508 | **3LK73** | 133.73 | **97.00** | 10 | 17.0 |

## R SERIES THREADED ROD—ELECTROPLATED

Thomas&Betts



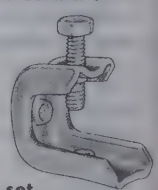
No. 3KF94

### R SERIES THREADED ROD—ELECTROPLATED ORDERING DATA

| Size (In. x Ft.) | Rod Size | Root Area Thread | Wt. Lbs./100 | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4-20 x 10 | 1/4-20 | .027 | 120 | R1028 | **3KF94** | $6.66 | **$4.83** | 2.4 |
| 3/8-16 x 10 | 3/8-16 | .068 | 290 | R1038 | **3KF95** | 7.83 | **5.68** | 2.9 |
| 1/2-13 x 10 | 1/2-13 | .126 | 530 | R1048 | **3KF96** | 14.11 | **10.23** | 5.2 |

## UNIVERSAL BEAM CLAMPS

Dimensions: 2 15/16" x 1 61/64" Inside dim.: 25/32"



- Tapped for 1/4" rod, bottom and back
- Case hardened steel set screw tapped at an angle—locks on beam
- Fits 1/2" flange
- Safe load 75 lbs.

**No. 6H375.** Shpg. wt. 7.0 lbs. List $40.95. Each Pkg. of 50 ..... **$29.70**



When the spec calls for brand names, you'll find the best here.

# CONDUIT HANGERS AND CLAMPS

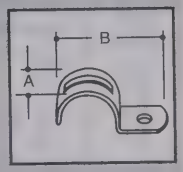
## ONE AND TWO HOLE PIPE STRAPS

Galvanized formed steel
One hole pipe straps for surface mounting of rigid or IMC conduit

- Two hole pipe straps for surface mounting of rigid or IMC conduit

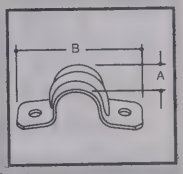
Thomas&Betts






One Hole Strap






Two Hole Strap

### STEEL/ZINC PLATED ONE HOLE STRAP ORDERING DATA

| Nom. Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each Pkg. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/8 | 3/4 | 1 7/64 | HS-100-SC | 3KF71 | $38.95 | $28.25 | 100 | 2.2 |
| 1/2 | 1 | 1 5/16 | HS-101 | 6XC44 | 15.17 | 11.00 | 50 | 2.3 |
| 3/4 | 1 | 2 5/64 | HS-102 | 6XC45 | 18.59 | 13.48 | 50 | 2.3 |
| 1 | 1 | 2 13/32 | HS-103 | 6XC46 | 18.56 | 13.46 | 25 | 2.1 |
| 1 1/4 | 1 | 3 1/32 | HS-104 | 3KF72 | 29.27 | 21.22 | 25 | 2.8 |
| 1 1/2 | 1 3/16 | 3 13/32 | HS-105 | 3KF73 | 34.51 | 25.05 | 25 | 3.7 |
| 2 | 1 5/16 | 3 27/32 | HS-106 | 6XC47 | 23.26 | 16.86 | 10 | 1.7 |
| 2 1/2 | 1 1/4 | 5 1/16 | HS-107 | 3KF74 | 93.52 | 67.85 | 25 | 17.0 |
| 3 | 1 3/8 | 5 5/8 | HS-108 | 3KF75 | 104.20 | 75.55 | 25 | 19.0 |
| 3 1/2 | 1 3/8 | 6 1/4 | HS-109 | 3KF76 | 61.90 | 44.90 | 10 | 12.0 |
| 4 | 1 3/8 | 6 7/8 | HS-110 | 3KF77 | 78.87 | 57.20 | 10 | 13.0 |

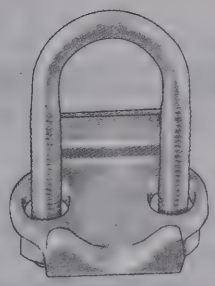
### STEEL/ZINC PLATED TWO HOLE STRAP ORDERING DATA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 3/4 | 2 7/16 | HS-901 | 3KF78 | 37.00 | 26.85 | 200 | 5.0 |
| 3/4 | 3/4 | 2 11/16 | HS-902 | 3KF79 | 33.32 | 24.16 | 150 | 6.7 |
| 1 | 3/4 | 3 1/16 | HS-903 | 3KF80 | 36.19 | 26.25 | 100 | 5.6 |
| 1 1/4 | 3/4 | 3 27/32 | HS-904 | 3KF81 | 42.94 | 31.15 | 75 | 6.1 |
| 1 1/2 | 3/4 | 4 1/16 | HS-905 | 3KF82 | 33.55 | 24.33 | 50 | 6.3 |
| 2 | 3/4 | 4 7/16 | HS-906 | 3KF83 | 20.67 | 14.99 | 25 | 3.6 |
| 2 1/2 | 1 | 5 1/8 | HS-907 | 3KF84 | 40.35 | 29.30 | 25 | 4.6 |
| 3 | 1 | 6 9/16 | HS-908 | 3KF85 | 20.05 | 14.54 | 10 | 2.6 |
| 3 1/2 | 1 | 7 9/16 | HS-909 | 3KF86 | 25.72 | 18.65 | 10 | 2.7 |
| 4 | 1 | 8 11/16 | HS-910 | 3KF87 | 28.34 | 20.55 | 10 | 3.0 |

## CONDUIT/PIPE TO BEAM CLAMPS

- Conduit/Pipe to Beam Clamps—Hot-Dipped Galvanized
- Right angle type for corrosive environments
- Typical applications include petrochemical plants, refineries, pulp and paper mills, waste and water treatment plants, ship building, and coastal areas
- Made of malleable iron saddles with steel hardware
- Malleable iron saddles are hot-dipped galvanized after fabrication in accordance with ASTM A153-82
- Hardware mechanically galvanized in accordance with ASTM B695-85
- Sold only in package quantities

Thomas&Betts



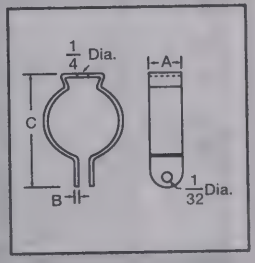
| Dimensions (In.) O.D. of Conduit or Pipe | Nom. Conduit or Pipe Size | Wt. Lbs. Per 100 | Thomas & Betts Model | Stock No. | List | Each Pkg. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 0.840 | 1/2 | 34 | RC-1/2 HDG | 3KG72 | $174.86 | $126.80 | 50 | 20.0 |
| 1.050 | 3/4 | 38 | RC-3/4 HDG | 3KG75 | 182.66 | 132.45 | 50 | 22.0 |
| 1.315 | 1 | 45 | RC-1 HDG | 3KG73 | 181.04 | 131.30 | 50 | 25.0 |
| 1.660 | 1 1/4 | 48 | RC-11/4 HDG | 3KG71 | 202.29 | 146.70 | 50 | 24.0 |
| 1.900 | 1 1/2 | 50 | RC-11/2 HDG | 3KG70 | 225.77 | 163.75 | 50 | 25.0 |
| 2.375 | 2 | 80 | RC-2-SC HDG | 3KG74 | 332.21 | 241.00 | 50 | 40.0 |

## CONDUIT AND PIPE HANGERS

- Bolts include a combination Slot-Phillips Head.
- For hanging rigid or EMT conduit and pipe.
- Easy and economical to use. May be fastened directly to a #500 beam clamp through a hole in the base of the hanger by means of a 1/4-20 stove bolt or suspended on 1/4" hanger rod.
- Sold only in package quantities

Thomas&Betts






6XC37

| Rigid Conduit or Pipe Size (In.) | EMT Size (In.) | Dimensions (In.) A | B | C | Thomas & Betts Model | Stock No. | List | Each Package | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3/8–1/2 | 1/2 | 3/4 | 0.045 | 1 13/32 | 6H0-B | 6XC37 | $46.95 | $34.05 | 100 | 6.1 |
| 3/4 | 3/4 | 7/8 | 0.045 | 2 5/64 | 6H1-B | 6XC38 | 49.14 | 35.65 | 100 | 7.3 |
| 1 | 1 | 7/8 | 0.045 | 2 13/64 | 6H2-B | 6XC39 | 78.62 | 57.00 | 100 | 8.1 |
| — | 1 1/4 | 7/8 | 0.045 | 2 7/8 | 6H2 1/2-B | 3KF49 | 104.60 | 75.85 | 100 | 9.7 |
| 1 1/4 | 1 1/2 | 7/8 | 0.045 | 2 7/8 | 6H3-B | 3KF50 | 110.70 | 80.30 | 100 | 10.0 |
| 1 1/2 | — | 1 | 0.071 | 3 7/16 | 6H4-B | 3KF51 | 133.68 | 96.95 | 100 | 21.0 |
| 2 | 2 | 1 1/4 | 0.071 | 3 7/8 | 6H5-B | 6XC40 | 72.61 | 52.65 | 50 | 14.0 |
| 2 1/2 | — | 1 1/4 | 0.071 | 4 5/32 | 6H6-B | 3LN19 | 93.71 | 67.95 | 50 | 17.0 |
| 3 | — | 1 1/4 | 0.071 | 5 5/16 | 6H7-B | 3LN20 | 55.95 | 40.60 | 25 | 11.0 |
| 3 1/2 | — | 1 1/4 | 0.071 | 5 7/16 | 6H8-B | 3LN21 | 79.65 | 57.75 | 25 | 10.0 |
| 4 | 4 | 1 1/4 | 0.071 | 5 7/8 | 6H9-B | 3LN22 | 75.19 | 54.55 | 10 | 4.6 |

(*) CSA Certified (LR63683)

# STEEL CITY® CONDUIT HANGERS AND EMT CONDUIT FITTINGS

## ONE HOLE EMT SNAP-STRAPS AND TWO HOLE EMT STRAPS

- Steel
- Zinc Plated
- Pipe straps for surface mounting of EMT conduit

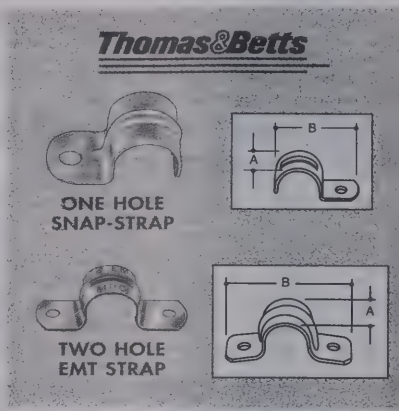
### ONE HOLE EMT SNAP-STRAPS ORDERING DATA

| EMT Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 0.57 | 1.79 | TS-101 | 6XC41† | $28.39 | $20.58 | 100 | 3.6 |
| 3/4 | 0.62 | 1.96 | TS-102 | 6XC42† | 19.75 | 14.32 | 50 | 2.3 |
| 1 | 0.75 | 2.25 | TS-103 | 6XC43† | 32.76 | 23.75 | 50 | 3.6 |
| 1¼ | 0.88 | 2.85 | TS-104 | 3LV26 | 23.12 | 16.76 | 25 | 2.8 |
| 1½ | 0.99 | 3.16 | TS-105 | 3LV27 | 30.55 | 22.15 | 20 | 2.9 |
| 2 | 1.10 | 3.93 | TS-106 | 3LV28 | 23.90 | 17.33 | 10 | 1.9 |

### TWO HOLE EMT STRAPS ORDERING DATA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 0.56 | 2.20 | TS-901 | 3LV29 | 36.54 | 26.50 | 250 | 3.7 |
| 3/4 | 0.62 | 2.67 | TS-902 | 3LV30 | 35.72 | 25.90 | 200 | 4.4 |
| 1 | 0.68 | 2.97 | TS-903 | 3LV31 | 29.11 | 21.11 | 100 | 3.3 |
| 1¼ | 0.75 | 3.67 | TS-904 | 3LV32 | 21.25 | 15.41 | 50 | 2.2 |
| 1½ | 0.88 | 4.22 | TS-905 | 3LV33 | 26.45 | 19.18 | 50 | 2.2 |
| 2 | 1.00 | 4.91 | TS-906 | 3LV34 | 15.91 | 11.53 | 25 | 1.6 |

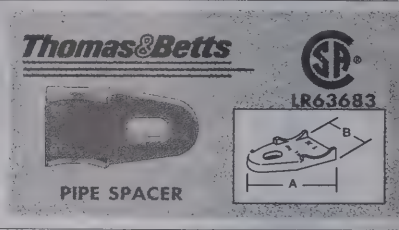
(†) CSA Certified (LR4484)




## DIE CAST PIPE SPACERS FOR EMT OR IMC CONDUIT

### DIE CAST PIPE SPACERS FOR EMT OR IMC CONDUIT ORDERING DATA

| EMT or IMC Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 2 | 1 | CB-201 | 3LN95 | $0.82 | $0.59 | 0.1 |
| 3/4 | 2⅛ | 1 1/16 | CB-202 | 3LN96 | 0.95 | 0.69 | 0.1 |
| 1 | 2¾ | 1 5/16 | CB-203 | 3LN97 | 1.55 | 1.12 | 0.1 |
| 1¼ | 2⅞ | 1½ | CB-204 | 3LN98 | 2.77 | 2.01 | 0.2 |
| 1½ | 3 3/16 | 1⅝ | CB-205 | 3LN99 | 3.55 | 2.57 | 0.2 |
| 2 | 4½ | 2 | CB-206 | 3LP01 | 5.79 | 4.20 | 0.3 |




## NAIL STRAPS

- Stamped Steel
- Zinc Plated

### NAIL STRAP ORDERING DATA

| Rigid/IMC Size (In.) | EMT Size (In.) | Flex Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each Pkg. 100 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| — | 1/2 | 3/8 | 2 5/32 | 1 5/64 | N-101-SC | 3LR58 | $24.91 | $18.06 | 2.2 |
| 1/2 | 3/4 | 1/2 | 2 3/16 | 1 7/32 | N-102-SC | 3LR59 | 27.48 | 19.93 | 2.4 |
| 3/4 | 1 | — | 2 3/8 | 1 15/32 | N-103-SC | 3LR60 | 51.71 | 37.50 | 2.7 |



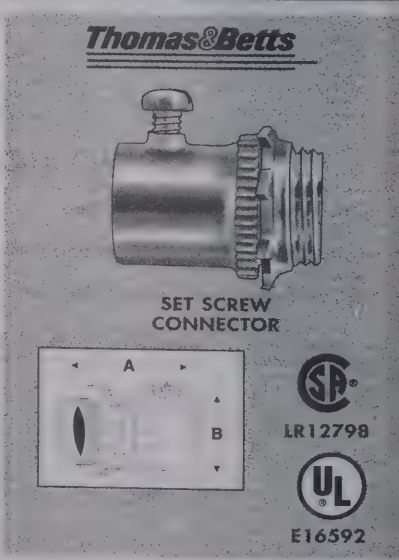

## EMT—STEEL SET SCREW CONNECTORS

- Concrete tight
- Zinc plated

### EMT—STEEL SET SCREW CONNECTOR ORDERING DATA

| EMT Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **NON-INSULATED** | | | | | | | |
| 1/2 | 1 11/32 | 15/16 | TC-121-SC | 5XC24 | $1.21 | $0.88 | 0.1 |
| 3/4 | 1 15/32 | 1 3/16 | TC-122-SC | 5XC25 | 1.97 | 1.43 | 0.1 |
| 1 | 1 25/32 | 1 13/64 | TC-123-SC | 5XC26 | 3.74 | 2.71 | 0.2 |
| 1¼ | 2⅜ | 1 15/32 | TC-124-SC | 3LT25 | 7.09 | 5.15 | 0.3 |
| 1½ | 2½ | 1⅞ | TC-125-SC | 3LT26 | 11.32 | 8.21 | 0.3 |
| 2 | 2⅝ | 2 11/32 | TC-126-SC | 3LT27 | 15.08 | 10.93 | 0.5 |
| 2½ | 3 13/32 | 3 5/32 | TC-127-SC | 3LT28* | 45.31 | 32.90 | 1.2 |
| 3 | 3 11/16 | 3 5/32 | TC-128-SC | 3LT29 | 53.98 | 39.15 | 1.6 |
| 3½ | 3 29/32 | 4 5/32 | TC-129-SC | 3LT30 | 70.77 | 51.35 | 2.0 |
| 4 | 3 11/32 | 4 5/32 | TC-1210-SC | 3LT24* | 81.08 | 58.80 | 2.0 |
| **INSULATED** | | | | | | | |
| 1/2 | 1 13/32 | 15/16 | TC-721 | 3LT54 | 1.76 | 1.28 | 0.1 |
| 3/4 | 1 17/32 | 1 3/16 | TC-722 | 3LT56 | 2.86 | 2.07 | 0.1 |
| 1 | 1 25/32 | 1 13/64 | TC-723 | 3LT57 | 4.87 | 3.53 | 0.2 |
| 1¼ | 2 7/16 | 1 15/32 | TC-724 | 3LT58 | 8.83 | 6.41 | 0.3 |
| 1½ | 2⅝ | 1⅞ | TC-725 | 3LT59 | 13.80 | 10.01 | 0.3 |
| 2 | 2 25/32 | 2 3/4 | TC-726 | 3LT60 | 18.52 | 13.43 | 0.5 |
| 2½ | 3½ | 3 5/32 | TC-727 | 3LT61* | 73.71 | 53.45 | 2.5 |
| 3 | 3 23/32 | 3 5/32 | TC-728 | 3LT62 | 96.88 | 70.25 | 1.6 |
| 3½ | 4 | 4 5/32 | TC-729 | 3LT63 | 130.00 | 94.25 | 2.1 |
| 4 | 3 9/16 | 4 5/32 | TC-7210 | 3LT55* | 141.90 | 102.90 | 2.5 |

(*) Concrete tight when taped.






When the spec calls for brand names, you'll find the best here.

# STEEL CITY® EMT CONDUIT FITTINGS

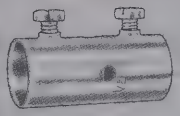
## EMT—STEEL SET SCREW COUPLINGS

Concrete tight, when taped • Zinc plated

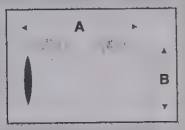
### EMT—STEEL SET SCREW COUPLING ORDERING DATA

| EMT Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1 11/16 | 13/16 | TK-121 | 5XC27 | $1.66 | $1.20 | 0.1 |
| 3/4 | 1 7/8 | 1 1/32 | TK-122 | 5XC28 | 2.42 | 1.76 | 0.1 |
| 1 | 2 1/4 | 1 5/32 | TK-123 | 5XC29 | 3.82 | 2.77 | 0.2 |
| 1 1/4 | 2 13/16 | 1 13/32 | TK-124 | 3LT91 | 8.22 | 5.96 | 0.3 |
| 1 1/2 | 3 1/16 | 1 7/8 | TK-125 | 3LT92 | 12.46 | 9.03 | 0.3 |
| 2 | 3 5/16 | 2 11/32 | TK-126 | 3LT93 | 15.95 | 11.57 | 0.4 |
| 2 1/2 | 3 5/32 | 4 5/32 | TK-127 | 3LT94 | 35.93 | 26.10 | 1.4 |
| 3 | 3 29/32 | 4 1/2 | TK-128 | 3LT95 | 40.51 | 29.40 | 1.8 |
| 3 1/2 | 4 5/32 | 4 11/16 | TK-129 | 3LT96 | 47.38 | 34.35 | 2.3 |
| 4 | 4 25/32 | 4 29/32 | TK-1210 | 3LT90 | 54.37 | 39.45 | 2.7 |

Thomas&Betts



LR12798




E16592

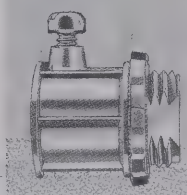
## EMT—DIE CAST ZINC SET SCREW CONNECTORS

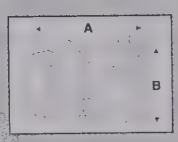
Concrete tight, when taped

### EMT—DIE CAST ZINC SET SCREW CONNECTOR ORDERING DATA

| EMT Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **NON-INSULATED** | | | | | | | |
| 1/2 | 1 5/32 | 15/16 | TC-221-SC | 5XC12 | $0.43 | $0.25 | 0.1 |
| 3/4 | 1 13/32 | 1 5/32 | TC-222-SC | 5XC13 | 0.72 | 0.42 | 0.1 |
| 1 | 1 9/16 | 1 37/64 | TC-223-SC | 5XC14 | 1.15 | 0.83 | 0.1 |
| 1 1/4 | 1 15/16 | 1 13/16 | TC-224-SC | 3LT38 | 2.15 | 1.56 | 0.3 |
| 1 1/2 | 2 5/32 | 2 3/64 | TC-225-SC | 3LT39 | 3.23 | 2.34 | 0.4 |
| 2 | 2 23/64 | 2 17/32 | TC-226-SC | 3LT40 | 4.33 | 3.14 | 0.6 |
| 2 1/2 | 3 1/16 | 3 1/64 | TC-227-SC | 3LT41 | 14.44 | 10.47 | 1.0 |
| 3 | 3 25/64 | 4 1/16 | TC-228-SC | 3LT42 | 16.56 | 12.01 | 1.2 |
| 3 1/2 | 3 31/64 | 4 17/32 | TC-229-SC | 3LT43 | 24.56 | 17.81 | 1.4 |
| **INSULATED** | | | | | | | |
| 1/2 | 1 17/64 | 15/16 | TC-821-SC | 3LT74 | 0.88 | 0.64 | 0.1 |
| 3/4 | 1 3/64 | 1 5/32 | TC-822-SC | 3LT75 | 1.38 | 1.01 | 0.1 |
| 1 | 1 21/32 | 1 37/64 | TC-823-SC | 3LT76 | 2.11 | 1.54 | 0.1 |
| 1 1/4 | 2 1/32 | 1 13/16 | TC-824-SC | 3LT77 | 4.51 | 3.27 | 0.3 |
| 1 1/2 | 2 1/8 | 2 3/64 | TC-825-SC | 3LT78 | 6.06 | 4.39 | 0.4 |
| 2 | 2 5/64 | 2 17/32 | TC-826-SC | 3LT79 | 8.69 | 6.30 | 0.6 |
| 2 1/2 | 3 1/32 | 3 1/64 | TC-827-SC | 3LT80 | 33.31 | 24.15 | 0.8 |
| 3 | 3 1/64 | 4 1/16 | TC-828-SC | 3LT81 | 42.55 | 30.85 | 1.2 |
| 3 1/2 | 3 15/32 | 4 17/32 | TC-829-SC | 3LT82 | 55.03 | 39.90 | 1.3 |

Thomas&Betts






LR12798
(Non-insulated: 1/2–1", 2 1/2–4"; Insulated: 1/2–2")

E16592 (1/2–2")
E1275 (2 1/2–4")

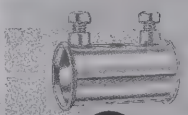
## EMT—DIE CAST ZINC SET SCREW COUPLINGS

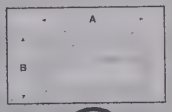
Concrete tight, when taped

### EMT-DIE CAST ZINC SET SCREW COUPLING ORDERING DATA

| Size (In.) | A | B | Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1 33/64 | 59/64 | TK-221 | 5XC15 | $0.47 | $0.28 | 0.1 |
| 3/4 | 1 29/32 | 1 5/32 | TK-222 | 5XC16 | 0.79 | 0.46 | 0.1 |
| 1 | 2 | 1 7/16 | TK-223 | 5XC17 | 1.29 | 0.94 | 0.1 |
| 1 1/4 | 2 33/64 | 1 27/32 | TK-224 | 3LV06 | 2.43 | 1.77 | 0.3 |
| 1 1/2 | 2 27/32 | 2 1/16 | TK-225 | 3LV07 | 3.50 | 2.54 | 0.4 |
| 2 | 3 13/32 | 2 1/2 | TK-226 | 3LV08 | 4.66 | 3.38 | 0.6 |
| 2 1/2 | 4 7/32 | 3 19/64 | TK-227 | 3LV09 | 12.01 | 8.71 | 0.9 |
| 3 | 4 11/16 | 4 3/64 | TK-228 | 3LV10 | 13.47 | 9.77 | 1.3 |
| 3 1/2 | 4 27/32 | 4 17/32 | TK-229 | 3LV11 | 16.41 | 11.90 | 1.5 |
| 4 | 5 15/32 | 4 9/16 | TK-2210 | 3LV05 | 18.06 | 13.09 | 2.0 |

Thomas&Betts






LR12798
(1/2-1 1/4", 2 1/2 -4"

E16592 (1/2–2")
E1275 (2 1/2–4")

## EMT-SET SCREW CONNECTORS

- Simple, one-piece installation with no locknuts
- Available in insulated or noninsulated throat

| EMT Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **NON-INSULATED** | | | | | | | |
| 1/2 | 1 21/64 | 1 1/64 | TC-101-SC | 4LV79 | $1.31 | $5.56 | 0.1 |
| 3/4 | 1 9/16 | 1 11/32 | TC-102-SC | 4LV80 | 2.12 | 1.86 | 0.1 |
| **INSULATED** | | | | | | | |
| 1/2 | 1 21/64 | 1 1/64 | TC-701-SC | 4LV81 | 1.80 | 1.58 | 0.1 |
| 3/4 | 1 9/16 | 1 11/32 | TC-702-SC | 4LV82 | 2.93 | 2.56 | 0.1 |

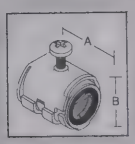
- Screw designed for exceptional pullout resistance
- Captive screw ensures that the screw is intact for installation and resists backing out after installation
- Corrosion-resistant, zinc-chromatic plating
- Concrete tight
- Positive grounding
- Vibration resistant screw design
- UL listed and CSA certified

Thomas&Betts

New



4LV82



# STEEL CITY® EMT CONDUIT FITTINGS

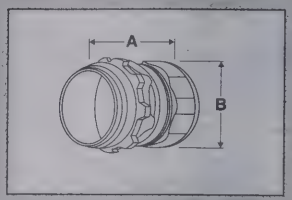
## EMT—STEEL COMPRESSION CONNECTORS

- 1/2–4" Concrete tight
- 1/2–2" Rain tight
- Zinc plated

### EMT—STEEL COMPRESSION CONNECTOR ORDERING DATA

| EMT Size (In.) | Dimensions (In.) A | Dimensions (In.) B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **NON-INSULATED** | | | | | | | |
| 1/2 | 1 1/2 | 15/16 | TC-111-SC | 5XC18 | $2.26 | $1.64 | 0.1 |
| 3/4 | 1 1/2 | 1 3/16 | TC-112-SC | 5XC19 | 3.12 | 2.27 | 0.1 |
| 1 | 1 13/16 | 1 9/16 | TC-113-SC | 5XC20 | 5.06 | 3.67 | 0.2 |
| 1 1/4 | 2 1/8 | 1 29/32 | TC-114-SC | 3LT18 | 10.69 | 7.75 | 0.5 |
| 1 1/2 | 2 3/16 | 2 1/8 | TC-115-SC | 3LT19 | 15.60 | 11.31 | 0.6 |
| 2 | 2 3/8 | 2 5/8 | TC-116-SC | 3LT20 | 22.53 | 16.34 | 0.7 |
| 2 1/2 | 4 3/8 | 4 5/16 | TC-117-SC | 3LT21 | 69.70 | 50.55 | 2.5 |
| 3 | 4 16/16 | 4 3/4 | TC-118-SC | 3LT22 | 96.82 | 70.20 | 2.9 |
| 3 1/2 | 5 1/8 | 5 1/2 | TC-119-SC | 3LT23 | 146.23 | 106.05 | 3.0 |
| 4 | 5 9/16 | 5 15/16 | TC-1110-SC | 3LT17 | 149.67 | 108.55 | 5.0 |
| **INSULATED** | | | | | | | |
| 1/2 | 1/2 | 15/16 | TC-711 | 3LT44 | 2.94 | 2.14 | 0.1 |
| 3/4 | 3/4 | 1 3/16 | TC-712 | 3LT46 | 4.08 | 2.96 | 0.1 |
| 1 | 1 | 1 9/16 | TC-713 | 3LT47 | 6.72 | 4.88 | 0.2 |
| 1 1/4 | 1 1/4 | 1 29/32 | TC-714 | 3LT48 | 13.68 | 9.92 | 0.5 |
| 1 1/2 | 1 1/2 | 2 1/8 | TC-715 | 3LT49 | 20.72 | 15.03 | 0.6 |
| 2 | 2 | 2 5/8 | TC-716 | 3LT50 | 29.23 | 21.19 | 0.5 |
| 2 1/2 | 2 1/2 | 4 5/16 | TC-717 | 3LT51 | 110.96 | 80.45 | 2.5 |
| 3 | 3 | 4 3/4 | TC-718 | 3LT52 | 151.28 | 109.70 | 2.9 |
| 3 1/2 | 3 1/2 | 5 1/2 | TC-719 | 3LT53 | 238.37 | 173.00 | 2.7 |
| 4 | 4 | 5 15/16 | TC-7110 | 3LT45 | 226.39 | 180.00 | 4.6 |

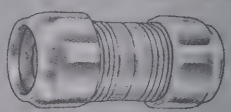
Thomas&Betts

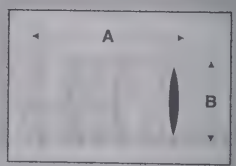



E16592 LR12798

## EMT—STEEL COMPRESSION COUPLINGS

- 1/2-4" Concrete tight
- 1/2-2" Rain tight
- Zinc plated





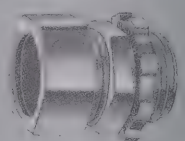

LR12798 E16592

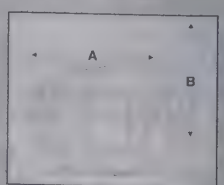
### EMT—STEEL COMPRESSION COUPLING ORDERING DATA

| EMT Size (In.) | Dimensions (In.) A | Dimensions (In.) B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1 7/8 | 1 5/16 | TK-111 | 5XC21 | $2.73 | $1.98 | 0.1 |
| 3/4 | 1 15/16 | 1 5/16 | TK-112 | 5XC22 | 3.74 | 2.72 | 0.1 |
| 1 | 4 3/16 | 2 29/32 | TK-113 | 5XC23 | 5.77 | 4.19 | 0.2 |
| 1 1/4 | 2 9/16 | 1 25/32 | TK-114 | 3LT84 | 11.15 | 8.08 | 0.3 |
| 1 1/2 | 2 5/8 | 2 | TK-115 | 3LT85 | 16.28 | 11.80 | 0.7 |
| 2 | 2 13/16 | 2 15/32 | TK-116 | 3LT86 | 22.23 | 16.12 | 0.6 |
| 2 1/2 | 5 7/8 | 4 5/16 | TK-117 | 3LT87 | 84.30 | 61.15 | 4.1 |
| 3 | 6 1/2 | 4 3/4 | TK-118 | 3LT88 | 105.30 | 76.35 | 4.5 |
| 3 1/2 | 6 5/8 | 5 1/2 | TK-119 | 3LT89 | 171.89 | 124.65 | 7.0 |
| 4 | 7 | 5 15/16 | TK-1110 | 3LT83 | 175.55 | 127.30 | 7.0 |

## EMT—DIE CAST ZINC COMPRESSION CONNECTORS

- 1/2-4" Concrete tight
- 1/2-2" Rain tight






E16592 (1/2-2") E1275 (2 1/2-4") LR12798

### EMT—DIE CAST ZINC COMPRESSION CONNECTOR ORDERING DATA

| EMT Size (In.) | Dimensions (In.) A | Dimensions (In.) B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **NON-INSULATED** | | | | | | | |
| 1/2 | 1 1/4 | 1 | TC-211 | 5XC06 | $0.68 | $0.50 | 0.1 |
| 3/4 | 1 11/32 | 1 5/32 | TC-212 | 5XC07 | 1.15 | 0.83 | 0.2 |
| 1 | 1 29/64 | 1 15/32 | TC-213 | 5XC08 | 1.58 | 1.15 | 0.2 |
| 1 1/4 | 1 13/16 | 1 27/32 | TC-214 | 3LT32 | 3.20 | 2.32 | 0.3 |
| 1 1/2 | 1 7/8 | 2 1/16 | TC-215 | 3LT33 | 4.66 | 3.38 | 0.5 |
| 2 | 2 5/32 | 2 7/32 | TC-216 | 3LT34 | 6.70 | 4.86 | 0.8 |
| 2 1/2 | 2 45/64 | 3 1/4 | TC-217 | 3LT35 | 22.75 | 16.50 | 1.2 |
| 3 | 2 7/8 | 3 15/16 | TC-218 | 3LT36 | 31.82 | 23.07 | 1.8 |
| 3 1/2 | 2 47/64 | 4 7/16 | TC-219 | 3LT37 | 47.77 | 34.65 | 2.0 |
| 4 | 2 13/16 | 4 15/16 | TC-2110 | 3LT31 | 49.47 | 35.90 | 2.3 |
| **INSULATED** | | | | | | | |
| 1/2 | 1 7/64 | 63/64 | TC-811-SC | 3LT65 | 1.01 | 0.74 | 0.1 |
| 3/4 | 1 11/32 | 1 5/16 | TC-812-SC | 3LT66 | 1.52 | 1.11 | 0.1 |
| 1 | 1 29/64 | 1 15/32 | TC-813-SC | 3LT67 | 2.56 | 1.86 | 0.2 |
| 1 1/4 | 1 13/16 | 1 27/32 | TC-814-SC | 3LT68 | 4.81 | 3.49 | 0.4 |
| 1 1/2 | 1 7/8 | 2 1/16 | TC-815-SC | 3LT69 | 7.30 | 5.30 | 0.6 |
| 2 | 2 1/4 | 2 7/32 | TC-816-SC | 3LT70 | 10.60 | 7.69 | 0.9 |
| 2 1/2 | 2 45/64 | 3 1/4 | TC-817-SC | 3LT71 | 53.06 | 38.50 | 1.1 |
| 3 | 2 7/8 | 3 15/16 | TC-818-SC | 3LT72 | 66.83 | 48.45 | 1.8 |
| 3 1/2 | 2 47/64 | 4 7/16 | TC-819-SC | 3LT73 | 89.51 | 64.90 | 1.8 |
| 4 | 2 13/16 | 4 15/16 | TC-8110-SC | 3LT64 | 100.07 | 72.55 | 2.1 |



When the spec calls for brand names, you'll find the best here.

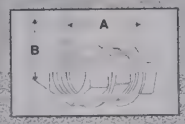
# STEEL CITY® EMT CONDUIT FITTINGS

## EMT—DIE CAST ZINC COMPRESSION COUPLINGS

1/2–4" Concrete tight
1/2–2" Rain tight

Thomas&Betts






E16592 (1/2–2")
E1275 (2½–4")

LR12798

### EMT—DIE CAST ZINC COMPRESSION COUPLING ORDERING DATA

| EMT Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1 1/2 | 1 3/32 | TK-211 | 5XC09 | $0.83 | $0.60 | 0.1 |
| 3/4 | 1 5/8 | 1 5/16 | TK-212 | 5XC10 | 1.15 | 0.83 | 0.1 |
| 1 | 1 7/8 | 1 45/64 | TK-213 | 5XC11 | 1.89 | 1.38 | 0.3 |
| 1 1/4 | 1 13/16 | 2 3/32 | TK-214 | 3LT98 | 3.49 | 2.53 | 0.4 |
| 1 1/2 | 2 9/32 | 2 21/64 | TK-215 | 3LT99 | 5.01 | 3.63 | 0.7 |
| 2 | 2 11/32 | 2 29/32 | TK-216 | 3LV01 | 6.80 | 4.93 | 0.9 |
| 2 1/2 | 3 13/64 | 3 11/64 | TK-217 | 3LV02 | 29.05 | 21.07 | 1.6 |
| 3 | 3 7/32 | 4 1/2 | TK-218 | 3LV03 | 38.40 | 27.85 | 2.3 |
| 3 1/2 | 3 9/64 | 5 1/16 | TK-219 | 3LV04 | 52.05 | 37.75 | 2.7 |
| 4 | 3 9/16 | 5 41/64 | TK-2110 | 3LT97 | 58.07 | 42.10 | 3.1 |

## EMT TO BOX AND EMT TO EMT— DIE CAST ZINC SET SCREW CONNECTORS

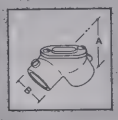


EMT TO BOX





EMT TO EMT



LR12798 (Nos. 3LV12 & 3LV13 only)

### EMT TO BOX—DIE CAST ZINC SET SCREW CONNECTOR ORDERING DATA

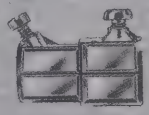
| EMT Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1.31 | 0.93 | TL-211 | 6XC48 | $3.09 | $2.24 | 0.2 |
| 3/4 | 1.47 | 1.22 | TL-212 | 6XC49 | 4.29 | 3.12 | 0.3 |

### EMT TO EMT—DIE CAST ZINC SET SCREW CONNECTOR ORDERING DATA

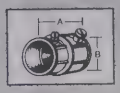
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1/2 | 1.31 | 1.10 | TL-201 | 3LV12 | $2.79 | $2.03 | 0.2 |
| 3/4 | 1.60 | 1.24 | TL-202-SC | 3LV13 | 3.89 | 2.83 | 0.2 |

## EMT TO FLEXIBLE METAL CONDUIT AND EMT TO HEAVYWALL CONDUIT— DIE CAST ZINC COMBINATION SET SCREW COUPLINGS

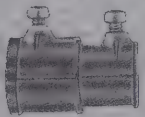
- Concrete tight, when taped



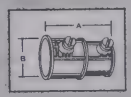
EMT TO FLEXIBLE METAL CONDUIT



E1275



EMT TO HEAVYWALL CONDUIT



### EMT TO FLEXIBLE METAL CONDUIT ORDERING DATA

| Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8 flex to 1/2 EMT | 1 5/8 | 1/2 | TX-220 | 3LV35 | $2.29 | $1.66 | 0.1 |
| 1/2 flex to 1/2 EMT | 1 13/16 | 1 5/32 | TX-221 | 3LV36 | 3.71 | 2.69 | 0.1 |
| 3/4 flex to 3/4 EMT | 1 31/32 | 1 11/32 | TX-222 | 3LV37 | 4.95 | 3.59 | 0.1 |
| 1 flex to 1 EMT | 2 7/64 | 1 5/8 | TX-223 | 3LV38 | 6.83 | 4.96 | 0.2 |

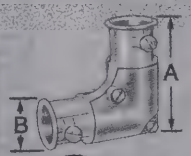
### EMT TO HEAVYWALL CONDUIT ORDERING DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1/2 EMT to 1/2 Rigid | 1.67 | 1.07 | HT-221 | 3LR01 | $1.21 | $0.88 | 0.1 |
| 3/4 EMT to 3/4 Rigid | 1.98 | 1.29 | HT-222 | 3LR02 | 1.80 | 1.31 | 0.1 |
| 1 EMT to 1 Rigid | 2.15 | 1.58 | HT-223 | 3LR03 | 2.50 | 1.81 | 0.2 |

## EMT TO LIQUIDTIGHT FLEXIBLE METAL CONDUIT— STEEL COMBINATION COMPRESSION COUPLINGS

- Rain tight
- Zinc plated

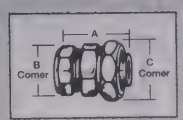
CORNER COUPLING




EMT TO LIQUIDTIGHT FLEXIBLE METAL CONDUIT



E16592




LR1830

### EMT TO LIQUIDTIGHT FLEXIBLE METAL CONDUIT ORDERING DATA

| Size (In.) | Dimensions (In.) A | B | C | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 EMT to 1/2 Liquidtight | 1 3/4 | 1 5/16 | 1 1/8 | LTT-111 | 3LR16 | $3.93 | $2.85 | 0.2 |
| 3/4 EMT to 3/4 Liquidtight | 1 3/4 | 1 11/64 | 1 3/8 | LTT-112 | 3LR17 | 5.56 | 4.04 | 0.2 |
| 1 EMT to 1 Liquidtight | 1 15/16 | 1 1/2 | 1 3/4 | LTT-113 | 3LR18 | 7.62 | 5.53 | 0.4 |

## EMT—DIE CAST ZINC CAPPED CORNER COUPLINGS

- Concrete tight, when taped

### DIE CAST ZINC CAPPED CORNER COUPLING ORDERING DATA

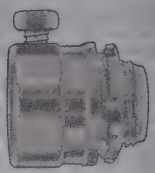
| EMT Size (In.) | Dimension (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1.81 | 1.10 | TL-291 | 3LV14 | $6.90 | $5.00 | 0.2 |
| 3/4 | 1.60 | 1.25 | TL-292 | 3LV15 | 8.80 | 6.38 | 0.3 |

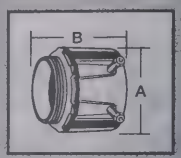
## RIGID STEEL SET SCREW CONNECTORS

- Concrete tight
- Zinc plated
- One set screw 1/2–1½", two set screws 2–4"

Thomas&Betts

UL E1275 (1/2–1¼")






### SET SCREW CONNECTORS ORDERING DATA

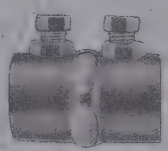
| Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **NON-INSULATED** | | | | | | | |
| **1/2** | 1 1/8 | 1 3/8 | HC-101 | **3LP58** | $2.49 | **$1.81** | 0.1 |
| **3/4** | 1 3/8 | 1 1/2 | HC-102 | **3LP59** | 3.47 | **2.52** | 0.2 |
| **1** | 1 5/8 | 1 13/16 | HC-103 | **3LP60** | 5.78 | **4.20** | 0.3 |
| **1 1/4** | 2 | 2 | HC-104 | **3LP61** | 9.33 | **6.77** | 0.5 |
| **1 1/2** | 2 1/2 | 2 3/8 | HC-105 | **3LP62** | 12.37 | **8.97** | 0.7 |
| **2** | 2 3/4 | 2 3/8 | HC-106 | **3LP63** | 24.54 | **17.80** | 0.9 |
| **2 1/2** | 3 13/32 | 3 5/16 | HC-107 | **3LP64** | 73.25 | **53.15** | 4.4 |
| **3** | 4 1/32 | 3 7/16 | HC-108 | **3LP65** | 88.96 | **64.50** | 3.2 |
| **3 1/2** | 4 9/16 | 3 13/16 | HC-109 | **3LP66** | 135.80 | **98.50** | 3.1 |
| **4** | 5 3/32 | 4 3/32 | HC-110 | **3LP67** | 171.65 | **124.45** | 0.4 |
| **INSULATED** | | | | | | | |
| **1/2** | 1 1/8 | 1 3/8 | HC-701 | **3LP74** | 3.21 | **2.33** | 0.2 |
| **3/4** | 1 3/8 | 1 1/2 | HC-702 | **3LP75** | 4.59 | **3.33** | 0.2 |
| **1** | 1 5/8 | 1 13/16 | HC-703 | **3LP76** | 6.82 | **4.95** | 0.4 |
| **1 1/4** | 2 | 2 | HC-704 | **3LP77** | 10.89 | **7.90** | 0.5 |
| **1 1/2** | 2 1/2 | 2 3/8 | HC-705 | **3LP78** | 15.76 | **11.43** | 0.6 |
| **2** | 2 3/4 | 2 3/8 | HC-706 | **3LP79** | 31.15 | **22.59** | 0.9 |

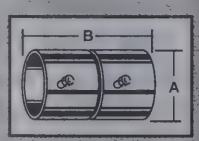
## RIGID/IMC STEEL SET SCREW COUPLINGS

- Concrete tight, when taped
- Zinc plated
- One set screw 1/2–1½", two set screws 2–4"

Thomas&Betts

UL E1275






### SET SCREW COUPLINGS ORDERING DATA

| Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2** | 1 1/8 | 2 13/32 | HK-101 | **3LP80** | $3.98 | **$2.89** | 0.2 |
| **3/4** | 1 3/8 | 2 17/32 | HK-102 | **3LP81** | 4.76 | **3.45** | 0.3 |
| **1** | 1 5/8 | 2 11/16 | HK-103 | **3LP82** | 7.38 | **5.35** | 0.4 |
| **1 1/4** | 2 | 2 25/32 | HK-104 | **3LP83** | 12.75 | **9.25** | 0.7 |
| **1 1/2** | 2 1/4 | 3 11/64 | HK-105 | **3LP84** | 15.25 | **11.06** | 0.9 |
| **2** | 2 3/4 | 3 13/32 | HK-106 | **3LP85** | 34.40 | **24.95** | 1.2 |
| **2 1/2** | 3 7/16 | 3 29/32 | HK-107 | **3LP86** | 78.83 | **57.15** | 5.2 |
| **3** | 4 1/16 | 4 5/32 | HK-108 | **3LP87** | 94.67 | **68.65** | 4.0 |
| **3 1/2** | 4 9/16 | 4 7/8 | HK-109 | **3LP88** | 144.23 | **104.60** | 5.0 |
| **4** | 5 1/16 | 5 5/8 | HK-110 | **3LP89** | 176.24 | **127.80** | 4.8 |

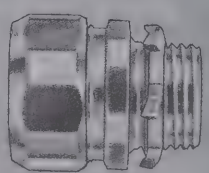
## RIGID THREADLESS COMPRESSION CONNECTORS AND COUPLINGS

- 1/2–2½"—Steel
- 3–4"—Malleable iron/zinc plated
- Suggested use—rigid conduit only

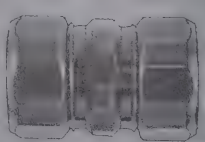
Thomas&Betts

UL E1275 (1/2–1¼")

CSA LR67530 (1/2–1" & 2")



Connector



Coupling

| Size (In.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **THREADLESS COMPRESSION CONNECTORS ORDERING DATA** | | | | | |
| **1/2** | HC-401 | **5XC38** | $3.16 | **$2.29** | 0.1 |
| **3/4** | HC-402 | **5XC39** | 4.98 | **3.61** | 0.2 |
| **1** | HC-403 | **5XC40** | 7.42 | **5.38** | 0.3 |
| **1 1/4** | HC-404 | **3LP68** | 13.91 | **10.09** | 0.5 |
| **1 1/2** | HC-405 | **3LP69** | 19.17 | **13.90** | 0.6 |
| **2** | HC-406 | **5XC41** | 36.48 | **26.45** | 0.7 |
| **2 1/2** | HC-407 | **3LP70** | 119.49 | **86.65** | 2.8 |
| **3** | HC-408 | **3LP71** | 158.29 | **114.80** | 3.5 |
| **3 1/2** | HC-409 | **3LP72** | 226.87 | **164.50** | 4.8 |
| **4** | HC-410 | **3LP73** | 257.87 | **187.00** | 5.5 |
| **THREADLESS COMPRESSION COUPLINGS ORDERING DATA** | | | | | |
| **1/2** | HK-401 | **3LP90** | 5.40 | **3.92** | 0.2 |
| **3/4** | HK-402 | **3LP91** | 7.95 | **5.76** | 0.2 |
| **1** | HK-403 | **3LP92** | 14.58 | **10.58** | 0.4 |
| **1 1/4** | HK-404 | **3LP93** | 21.70 | **15.74** | 0.8 |
| **1 1/2** | HK-405 | **3LP94** | 25.40 | **18.42** | 0.7 |
| **2** | HK-406 | **3LP95** | 57.87 | **42.00** | 0.9 |
| **2 1/2** | HK-407 | **3LP96** | 168.40 | **122.10** | 4.0 |
| **3** | HK-408 | **3LP97** | 222.92 | **161.75** | 5.0 |
| **3 1/2** | HK-409 | **3LP98** | 324.28 | **235.25** | 7.5 |
| **4** | HK-410 | **3LP99** | 385.40 | **279.50** | 7.1 |

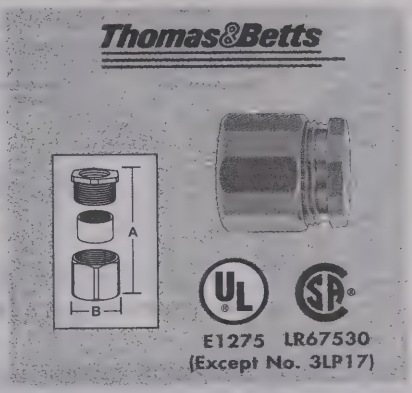


When the spec calls for brand names, you'll find the best here.

# RIGID/IMC CONDUIT FITTINGS

## STEEL CITY® THREE-PIECE COUPLINGS

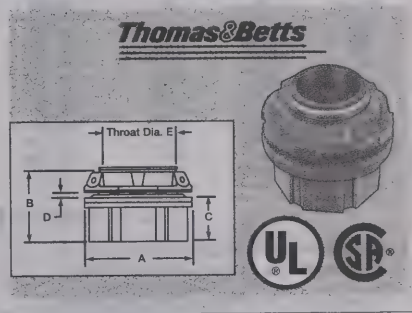
1/2–2½"—Steel
2½–5"—Malleable iron
Zinc plated




### THREE-PIECE COUPLINGS ORDERING DATA

| Size (In.) | Dimensions (In.) A (Assembled) | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1 1/16 | 1 1/8 | EK-401 | 3LP07 | $3.50 | $2.54 | 0.1 |
| 3/4 | 1 1/8 | 1 11/32 | EK-402 | 3LP08 | 4.34 | 3.15 | 0.2 |
| 1 | 1 3/8 | 1 5/8 | EK-403 | 3LP09 | 8.78 | 6.37 | 0.3 |
| 1 1/4 | 1 21/32 | 2 5/32 | EK-404 | 3LP10 | 16.04 | 11.63 | 0.5 |
| 1 1/2 | 1 7/8 | 2 23/32 | EK-405 | 3LP11 | 20.24 | 14.68 | 0.6 |
| 2 | 2 | 3 13/64 | EK-406 | 3LP12 | 38.82 | 28.15 | 0.9 |
| 2 1/2 | 2 1/2 | 3 29/64 | EK-407 | 3LP13 | 83.62 | 60.65 | 2.0 |
| 3 | 3 3/8 | 4 23/32 | EK-408 | 3LP14 | 129.83 | 94.15 | 5.8 |
| 3 1/2 | 3 5/8 | 5 3/32 | EK-409 | 3LP15 | 204.63 | 148.40 | 6.0 |
| 4 | 3 29/32 | 5 29/32 | EK-410 | 3LP16 | 236.04 | 171.25 | 9.2 |
| 5 | 4 5/16 | 7 | EK-411 | 3LP17 | 521.48 | 378.25 | 13.0 |

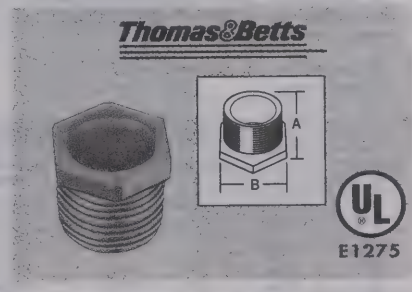
## T & B HUBS




### T & B HUBS ORDERING DATA

| Trade Size (In.) | Dimensions (In.) A Dia. | B | C | D Max. Panel Thickness | E Throat Dia. | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1 7/16 | 1 9/16 | 7/8 | 3/16 | 19/32 | H050-TB | 3LP37 | $5.46 | $4.51 | 0.2 |
| 3/4 | 1 21/32 | 1 19/32 | 29/32 | 3/16 | 25/32 | H075-TB | 3LP38 | 6.21 | 5.13 | 0.3 |
| 1 | 2 | 1 13/16 | 1 1/16 | 1/4 | 1 | H100-TB | 3LP39 | 7.85 | 6.48 | 0.5 |
| 1 1/4 | 2 3/8 | 1 7/8 | 1 1/16 | 1/4 | 1 5/16 | H125-TB | 3LP40 | 8.95 | 7.39 | 0.6 |
| 1 1/2 | 2 3/4 | 1 7/8 | 1 1/16 | 1/4 | 1 17/32 | H150-TB | 3LP41 | 10.29 | 8.49 | 0.9 |
| 2 | 3 1/4 | 1 15/16 | 1 5/32 | 1/4 | 1 31/32 | H200-TB | 3LP42 | 14.66 | 12.10 | 1.0 |
| 2 1/2 | 3 3/4 | 2 9/16 | 1 9/16 | 1/4 | 2 13/32 | H250-TB | 3LP43 | 29.02 | 23.95 | 1.9 |
| 3 | 4 3/8 | 2 21/32 | 1 19/32 | 1/4 | 2 31/32 | H300-TB | 3LP44 | 40.63 | 33.55 | 2.5 |
| 3 1/2 | 5 | 2 23/32 | 1 5/8 | 1/4 | 3 13/32 | H350-TB | 3LP45 | 53.46 | 44.15 | 3.0 |
| 4 | 5 1/2 | 2 23/32 | 1 5/8 | 1/4 | 3 7/8 | H400-TB | 3LP46 | 67.06 | 55.35 | 3.6 |

## T & B CONDUIT NIPPLES—IRON/ZINC PLATED

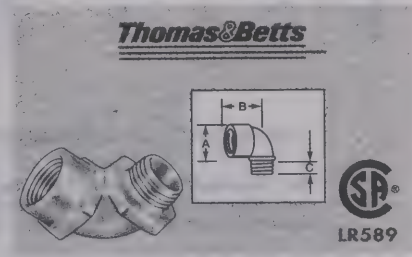



### CONDUIT NIPPLES—IRON/ZINC PLATED ORDERING DATA

| Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8 | 9/16 | 11/16 | HA-400 | 3LP47 | $2.15 | $1.56 | 0.1 |
| 1/2 | 11/16 | 15/16 | HA-401 | 3LP48 | 0.75 | 0.55 | 0.1 |
| 3/4 | 13/16 | 1 7/32 | HA-402 | 3LP49 | 1.04 | 0.76 | 0.1 |
| 1 | 7/8 | 1 7/16 | HA-403 | 3LP50 | 2.04 | 1.48 | 0.1 |
| 1 1/4 | 1 1/8 | 1 3/4 | HA-404 | 3LP51 | 3.03 | 2.20 | 0.2 |
| 1 1/2 | 1 1/8 | 2 1/16 | HA-405 | 3LP52 | 3.86 | 2.80 | 0.2 |
| 2 | 1 7/16 | 2 9/16 | HA-406 | 3LP53 | 5.50 | 3.99 | 0.4 |
| 2 1/2 | 1 1/4 | 3 | HA-407 | 3LP54 | 13.27 | 9.63 | 2.0 |
| 3 | 1 1/2 | 3 7/8 | HA-408 | 3LP55 | 18.07 | 13.10 | 1.0 |
| 3 1/2 | 1 3/4 | 4 3/8 | HA-409 | 3LP56 | 40.49 | 29.40 | 1.3 |
| 4 | 2 | 4 7/8 | HA-410 | 3LP57 | 62.04 | 45.00 | 1.6 |

## T & B SHORT ELBOWS

- When an insulated elbow is not desired, the non-insulated short elbow should be used
- Malleable iron




### SHORT ELBOWS ORDERING DATA

| Size (In.) | Dimensions (In.) A | B | C | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 1 5/16 | 1 1/4 | 7/16 | 4250 | 6XC50 | $2.80 | $2.31 | 0.3 |
| 3/4 | 1 17/32 | 1 5/16 | 1/2 | 4251 | 6XC51 | 3.82 | 3.15 | 0.3 |
| 1 | 1 13/16 | 1 9/16 | 5/8 | 4252 | 6XC52 | 6.31 | 5.21 | 0.5 |
| 2 | 3 3/32 | 2 9/16 | 11/16 | 4255 | 6XC53 | 41.91 | 34.60 | 2.1 |

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

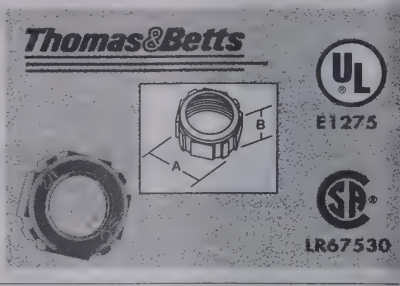
Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.

# RIGID/IMC CONDUIT FITTINGS

## STEEL CITY® BUSHINGS — IRON/ZINC PLATED

### BUSHINGS-IRON/ZINC PLATED ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1 1/32 | 7/16 | BU-401 | 3LN79 | $0.48 | $0.35 | 0.1 |
| 3/4 | 1 1/4 | 7/16 | BU-402 | 3LN80 | 0.71 | 0.51 | 0.1 |
| 1 | 1 9/16 | 1/2 | BU-403 | 3LN81 | 1.08 | 0.78 | 0.1 |
| 1 1/4 | 1 15/16 | 17/32 | BU-404 | 3LN82 | 1.47 | 1.07 | 0.1 |
| 1 1/2 | 2 15/64 | 9/16 | BU-405 | 3LN83 | 2.13 | 1.54 | 0.1 |
| 2 | 2 45/64 | 9/16 | BU-406 | 3LN84 | 3.33 | 2.41 | 0.3 |
| 2 1/2 | 3 3/16 | 19/32 | BU-407 | 3LN85 | 6.63 | 4.81 | 0.3 |
| 3 | 3 5/8 | 25/32 | BU-408 | 3LN86 | 8.25 | 5.99 | 0.5 |
| 3 1/2 | 4 1/16 | 27/32 | BU-409 | 3LN87 | 16.88 | 12.24 | 0.5 |
| 4 | 4 21/64 | 15/16 | BU-410 | 3LN88 | 21.15 | 15.34 | 0.8 |

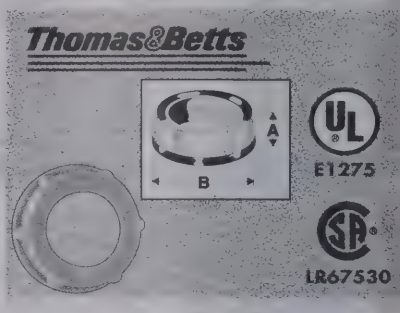



## STEEL CITY® INSULATED PLASTIC BUSHINGS

- Rated 105°C

### INSULATED BUSHINGS PLASTIC ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 13/32 | 1 1/16 | BU-501 | 5XC34 | $0.21 | $0.16 | 0.1 |
| 3/4 | 13/32 | 1 19/64 | BU-502 | 5XC35 | 0.34 | 0.25 | 0.1 |
| 1 | 9/16 | 1 9/16 | BU-503 | 5XC36 | 0.54 | 0.40 | 0.1 |
| 1 1/4 | 9/16 | 1 29/32 | BU-504 | 3LN89 | 0.80 | 0.59 | 0.1 |
| 1 1/2 | 9/16 | 2 3/16 | BU-505 | 3LN90 | 1.12 | 0.82 | 0.1 |
| 2 | 5/8 | 2 11/16 | BU-506 | 5XC37 | 1.92 | 1.40 | 0.1 |
| 2 1/2 | 23/32 | 3 3/16 | BU-507 | 3LN91 | 4.33 | 3.14 | 0.1 |
| 3 | 47/64 | 3 27/32 | BU-508 | 3LN92 | 4.76 | 3.45 | 0.6 |
| 3 1/2 | 3/4 | 4 21/64 | BU-509 | 3LN93 | 6.39 | 4.64 | 0.5 |
| 4 | 25/32 | 4 27/32 | BU-510 | 3LN94 | 7.25 | 5.26 | 0.5 |

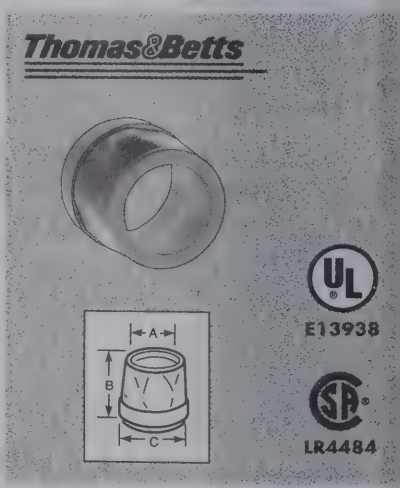



## T & B INSULATED BUSHINGS

- For Threadless Rigid Conduit and Intermediate Metal Conduit (IMC)
- Provides a well rounded insulating surface over which conductors may be pulled or on which conductors may bear while in service
- Designed to be pushed onto conduit end
- High impact thermoplastic construction
- Listed for 105°C (221°F) application
- Flammability Classification UL 94V-1
- Conforms to: UL 514, ANSI C80.4, ANSI C33.84, NFPA 70-1978 (ANSI)

### INSULATED BUSHINGS ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A | B | C | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 19/32 | 1 5/32 | 1 1/16 | TRIB-50 | 3LV24 | $0.76 | $0.67 | 0.1 |
| 3/4 | 25/32 | 1 25/64 | 1 1/4 | TRIB-75 | 3LV25 | 1.12 | 0.98 | 0.1 |
| 1 | 1 | 1 1/2 | 1 9/16 | TRIB-100 | 3LV16 | 1.77 | 1.55 | 0.1 |
| 1 1/4 | 1 5/16 | 1 5/8 | 1 55/64 | TRIB-125 | 3LV17 | 2.73 | 2.40 | 0.1 |
| 1 1/2 | 1 7/32 | 1 21/32 | 2 1/64 | TRIB-150 | 3LV18 | 3.65 | 3.19 | 0.1 |
| 2 | 1 31/32 | 1 13/16 | 2 11/16 | TRIB-200 | 3LV19 | 5.96 | 5.22 | 0.2 |
| 2 1/2 | 2 23/64 | 2 | 3 1/4 | TRIB-250 | 3LV20 | 14.31 | 12.52 | 0.2 |
| 3 | 2 59/64 | 2 7/32 | 3 25/32 | TRIB-300 | 3LV21 | 15.75 | 13.79 | 0.1 |
| 3 1/2 | 3 5/8 | 2 5/16 | 4 25/64 | TRIB-350 | 3LV22 | 19.72 | 17.26 | 0.4 |
| 4 | 3 27/32 | 2 15/32 | 5 | TRIB-400 | 3LV23 | 23.38 | 20.46 | 0.4 |




**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# RIGID/IMC CONDUIT FITTINGS

Thomas&Betts

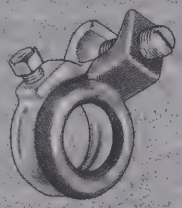
## BLACKJACK™ GROUNDING BUSHINGS

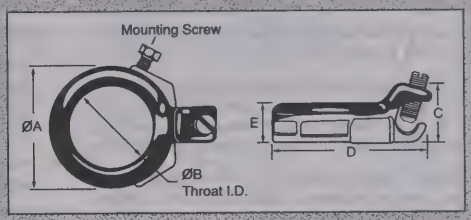
**For threaded and threadless rigid and IMC conduit**

**Ideal for small spaces, corners and multiple conduit runs**

LR2884

E3060






### BLACKJACK™ GROUNDING BUSHINGS ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) ØA Max. | ØB MIN Throat I.D. | C Max. | D Max. | E Max. | Wire Range | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 1.251 | .569 | 1.181 | 2.134 | .696 | 14-2/0 | BG050-14-20 | **3LN48** | $5.84 | **$5.12** | 0.2 |
| **1/2** | 1.251 | .569 | 1.027 | 1.940 | .696 | 14-4 | BG050-14-4 | **3LN49** | 4.26 | **3.73** | 0.2 |
| **3/4** | 1.533 | .772 | 1.221 | 2.414 | .696 | 14-2/0 | BG075-14-20 | **3LN50** | 6.79 | **5.94** | 0.3 |
| **3/4** | 1.533 | .772 | 1.030 | 2.168 | .696 | 14-4 | BG075-14-4 | **3LN51** | 5.95 | **5.21** | 0.2 |
| **1** | 1.783 | .993 | 1.181 | 2.581 | .696 | 14-2/0 | BG100-14-20 | **3LN52** | 7.09 | **6.21** | 0.3 |
| **1** | 1.783 | .993 | 1.027 | 2.368 | .696 | 14-4 | BG100-14-4 | **3LN53** | 6.99 | **6.12** | 0.3 |
| **1 1/4** | 2.220 | 1.319 | 1.181 | 2.987 | .759 | 14-2/0 | BG125-14-20 | **3LN54** | 8.17 | **7.15** | 0.3 |
| **1 1/2** | 2.470 | 1.553 | 1.181 | 3.236 | .696 | 14-2/0 | BG150-14-20 | **3LN55** | 8.96 | **7.85** | 0.5 |
| **2** | 2.830 | 2.010 | 1.181 | 3.766 | .696 | 14-2/0 | BG200-14-20 | **3LN56** | 11.68 | **10.22** | 0.5 |
| **2 1/2** | 3.418 | 2.412 | 1.181 | 4.341 | .978 | 14-2/0 | BG250-14-20 | **3LN57** | 18.27 | **15.99** | 0.8 |
| **2 1/2** | 3.418 | 2.412 | 1.524 | 4.526 | .978 | 6-4/0 | BG250-6-40 | **3LN58** | 26.53 | **23.22** | 0.8 |
| **3** | 4.042 | 3.022 | 1.181 | 4.966 | .978 | 14-2/0 | BG300-14-20 | **3LN59** | 26.64 | **23.32** | 0.9 |
| **3** | 4.042 | 3.022 | 1.524 | 5.139 | .978 | 6-4/0 | BG300-6-40 | **3LN60** | 34.34 | **30.05** | 1.0 |
| **3 1/2** | 4.542 | 3.491 | 1.181 | 5.467 | .978 | 14-2/0 | BG350-14-20 | **3LN61** | 34.58 | **30.30** | 1.1 |
| **4** | 5.042 | 3.975 | 1.181 | 5.966 | .978 | 14-2/0 | BG400-14-20 | **3LN62** | 41.75 | **36.55** | 1.2 |
| **4** | 5.042 | 3.975 | 1.524 | 6.139 | .978 | 6-4/0 | BG400-6-40 | **3LN63** | 48.75 | **42.70** | 1.2 |

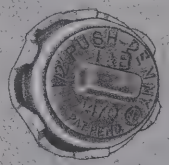
## T & B CAPPED BUSHINGS

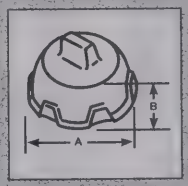
**Makes a workmanlike seal against grit, plaster, and mischief**

**Removable with pliers**

**1/2 through 1½" steel; 1½ and 2" malleable iron**

Thomas&Betts






E23018

LR2884

### CAPPED BUSHINGS ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2** | 1 1/32 | 13/32 | 1460 | **3LK01** | $0.54 | **$0.48** | 0.1 |
| **3/4** | 1 1/4 | 7/16 | 1461 | **3LK02** | 0.69 | **0.61** | 0.1 |
| **1** | 1 9/16 | 1/2 | 1462 | **3LK03** | 0.94 | **0.83** | 0.1 |
| **1 1/2** | 2 5/32 | 19/32 | 1464 | **3LK04** | 1.92 | **1.68** | 0.1 |
| **2** | 2 21/32 | 5/8 | 1465 | **3LK05** | 3.22 | **2.82** | 0.2 |

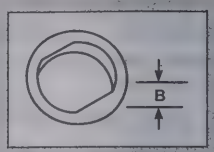
## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

## T & B KNOCKOUT BUSHINGS

- To bush knockout openings in metal boxes or enclosures
- One piece construction designed to snap into outlet box, switch box, or other enclosures left vacant by wiring modifications or maintenance changes
- High impact strength self-extinguishing non-dripping (per UL 94V-1) thermoplastic construction
- Rated for 105°C (221°F) application
- Wall thickness of box or enclosure:
  .095" max. up to 1" trade size
  .140" max., 1¼ through 2" trade size
- Provides smooth, rounded insulation surface for easy wire pulling
- Easily installed by hand

Thomas&Betts






E3803 LR44684

### KNOCKOUT BUSHINGS ORDERING DATA

| Knock-out Size* (In.) | Dim. (In.) B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| .875 | .360 | 3210 | 3LK43 | $0.18 | $0.16 | 0.1 |
| 1.109 | .360 | 3211 | 3LK44 | 0.29 | 0.26 | 0.1 |
| 1.375 | .360 | 3212 | 3LK45 | 0.50 | 0.44 | 0.1 |
| 1.734 | .400 | 3213 | 3LK46 | 0.72 | 0.64 | 0.1 |
| 1.984 | .520 | 3214 | 3LK47 | 0.98 | 0.87 | 0.1 |
| 2.469 | .520 | 3215 | 3LK48 | 1.80 | 1.58 | 0.1 |

(*) Per UL and NEMA Standards.

## STEEL CITY® REDUCING BUSHINGS—STEEL

Thomas&Betts




E1275

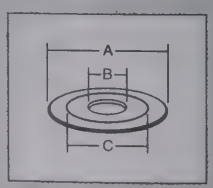
### REDUCING BUSHINGS—STEEL ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/4–1/2 | 9/16 | 7/8 | RB-121 | 3LR78 | $1.12 | $0.82 | 0.1 |
| 1–1/2 | 5/8 | 1 1/8 | RB-131 | 3LR79 | 1.86 | 1.35 | 0.1 |
| 1–3/4 | 5/8 | 1 1/8 | RB-132 | 3LR80 | 1.73 | 1.26 | 0.1 |
| 1 1/4–1/2 | 11/16 | 1 7/16 | RB-141 | 3LR81 | 3.95 | 2.87 | 0.2 |
| 1 1/4–3/4 | 11/16 | 1 7/16 | RB-142 | 3LR82 | 3.95 | 2.87 | 0.2 |
| 1 1/4–1 | 11/16 | 1 7/16 | RB-143 | 3LR83 | 3.66 | 2.66 | 0.1 |
| 1 1/2–1/2 | 23/32 | 1 11/16 | RB-151 | 3LR84 | 4.84 | 3.51 | 0.4 |
| 1 1/2–3/4 | 23/32 | 1 11/16 | RB-152 | 3LR85 | 4.84 | 3.51 | 0.3 |
| 1 1/2–1 | 23/32 | 1 11/16 | RB-153 | 3LR86 | 4.84 | 3.51 | 0.3 |
| 1 1/2–1 1/4 | 23/32 | 1 11/16 | RB-154 | 3LR87 | 4.84 | 3.51 | 0.1 |
| 2–1/2 | 27/32 | 2 3/32 | RB-161 | 3LR88 | 11.05 | 8.01 | 0.8 |
| 2–3/4 | 27/32 | 2 3/32 | RB-162 | 3LR89 | 11.05 | 8.01 | 0.8 |
| 2–1 | 27/32 | 2 3/32 | RB-163 | 3LR90 | 11.90 | 8.63 | 0.6 |
| 2–1 1/4 | 27/32 | 2 3/32 | RB-164 | 3LR91 | 11.90 | 8.63 | 0.5 |
| 2–1 1/2 | 27/32 | 2 3/32 | RB-165 | 3LR92 | 11.05 | 8.01 | 0.3 |

## STEEL CITY® REDUCING WASHERS—STEEL/ZINC PLATED

Thomas&Betts






### REDUCING WASHERS—STEEL/ZINC PLATED ORDERING DATA

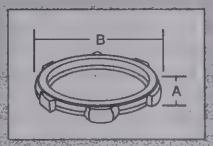
| Conduit Size (In.) | Dimensions (In.) A | B | C | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2–3/8 | 13/16 | 11/16 | 27/32 | WA-110 | 3LV39 | $0.24 | $0.17 | 0.1 |
| 3/4–1/2 | 1 1/2 | 7/8 | 1 1/16 | WA-121 | 3LV40 | 0.21 | 0.16 | 0.1 |
| 1–1/2 | 1 3/4 | 7/8 | 1 5/16 | WA-131 | 3LV41 | 0.37 | 0.27 | 0.1 |
| 1–3/4 | 1 3/4 | 1 3/32 | 1 5/16 | WA-132 | 3LV42 | 0.37 | 0.27 | 0.1 |
| 1 1/4–1/2 | 2 3/16 | 7/8 | 1 11/16 | WA-141 | 3LV43 | 0.67 | 0.49 | 0.1 |
| 1 1/4–3/4 | 2 3/16 | 1 3/32 | 1 11/16 | WA-142 | 3LV44 | 0.66 | 0.48 | 0.1 |
| 1 1/4–1 | 2 3/16 | 1 23/64 | 1 11/16 | WA-143 | 3LV45 | 0.66 | 0.48 | 0.1 |
| 1 1/2–1/2 | 2 5/8 | 7/8 | 1 7/8 | WA-151 | 3LV46 | 0.89 | 0.65 | 0.1 |
| 1 1/2–3/4 | 2 5/8 | 1 3/32 | 1 7/8 | WA-152 | 3LV47 | 0.89 | 0.65 | 0.1 |
| 1 1/2–1 | 2 5/8 | 1 23/64 | 1 7/8 | WA-153 | 3LV48 | 0.80 | 0.59 | 0.1 |
| 1 1/2–1 1/4 | 2 5/8 | 1 23/32 | 1 7/8 | WA-154 | 3LV49 | 0.80 | 0.59 | 0.1 |
| 2–1/2 | 3 1/4 | 7/8 | 2 3/8 | WA-161 | 3LV50 | 1.21 | 0.88 | 0.1 |
| 2–3/4 | 3 1/4 | 1 3/32 | 2 3/8 | WA-162 | 3LV51 | 1.21 | 0.88 | 0.1 |
| 2–1 | 3 1/4 | 1 23/64 | 2 3/8 | WA-163 | 3LV52 | 1.08 | 0.78 | 0.1 |
| 2–1 1/4 | 3 1/4 | 1 23/32 | 2 3/8 | WA-164 | 3LV53 | 1.08 | 0.78 | 0.1 |
| 2–1 1/2 | 3 1/4 | 1 31/32 | 2 3/8 | WA-165 | 3LV54 | 1.08 | 0.78 | 0.1 |
| 2 1/2–1/2 | 3 1/4 | 7/8 | 2 7/8 | WA-171 | 3LV55 | 1.71 | 1.24 | 0.1 |
| 2 1/2–3/4 | 3 1/4 | 1 3/32 | 2 7/8 | WA-172 | 3LV56 | 1.71 | 1.24 | 0.1 |
| 2 1/2–1 | 3 1/4 | 1 23/64 | 2 7/8 | WA-173 | 3LV57 | 1.71 | 1.24 | 0.1 |
| 2 1/2–1 1/4 | 3 1/4 | 1 23/32 | 2 7/8 | WA-174 | 3LV58 | 1.71 | 1.24 | 0.1 |
| 2 1/2–1 1/2 | 3 1/4 | 1 31/32 | 2 7/8 | WA-175 | 3LV59 | 1.71 | 1.24 | 0.1 |
| 2 1/2–2 | 3 1/4 | 2 7/16 | 2 7/8 | WA-176 | 3LV60 | 1.71 | 1.24 | 0.1 |
| 3–1/2 | 4 1/2 | 7/8 | 3 1/2 | WA-181 | 3LV61 | 2.19 | 1.59 | 0.2 |
| 3–3/4 | 4 1/2 | 1 3/32 | 3 1/2 | WA-182 | 3LV62 | 2.19 | 1.59 | 0.2 |
| 3–1 | 4 1/2 | 1 23/64 | 3 1/2 | WA-183 | 3LV63 | 2.19 | 1.59 | 0.2 |
| 3–1 1/4 | 4 1/2 | 1 23/32 | 3 1/2 | WA-184 | 3LV64 | 2.19 | 1.59 | 0.2 |
| 3–1 1/2 | 4 1/2 | 1 31/32 | 3 1/2 | WA-185 | 3LV65 | 2.19 | 1.59 | 0.2 |
| 3–2 | 4 1/2 | 2 7/16 | 3 1/2 | WA-186 | 3LV66 | 2.22 | 1.62 | 0.2 |
| 3–2 1/2 | 4 1/2 | 2 5/16 | 3 1/2 | WA-187 | 3LV67 | 2.22 | 1.62 | 0.2 |

## STEEL CITY® LOCKNUTS—STEEL/ZINC PLATED

### LOCKNUTS—STEEL/ZINC PLATED ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A (Min.) | B (Max.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8 | — | — | LN-100 | 3LR09 | $0.37 | $0.27 | 0.1 |
| 1/2 | 0.125 | 1.140 | LN-101 | 5XC30 | 0.19 | 0.14 | 0.1 |
| 3/4 | 0.140 | 1.420 | LN-102 | 5XC31 | 0.31 | 0.23 | 0.1 |
| 1 | 0.170 | 1.770 | LN-103 | 5XC32 | 0.58 | 0.43 | 0.1 |
| 1 1/4 | 0.170 | 2.281 | LN-104 | 3LR10 | 0.75 | 0.55 | 0.1 |
| 1 1/2 | 0.170 | 2.598 | LN-105 | 3LR11 | 1.15 | 0.84 | 0.1 |
| 2 | 0.187 | 3.175 | LN-106 | 5XC33 | 1.50 | 1.09 | 0.1 |
| 2 1/2 | 0.375 | 3.562 | LN-107 | 3LR12 | 4.20 | 3.05 | 0.3 |
| 3 | 0.375 | 4.250 | LN-108 | 3LR13 | 5.51 | 4.00 | 0.9 |
| 3 1/2 | 0.438 | 4.803 | LN-109 | 3LR14 | 9.32 | 6.76 | 1.0 |
| 4 | 0.438 | 5.402 | LN-110 | 3LR15 | 11.66 | 8.46 | 1.3 |

Thomas&Betts




E1275

LR67530 (1/2-1" & 2")

## T & B KNOCK-OUT PLUGS

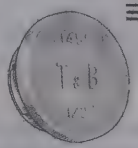
To plug unused knockout openings in a box or enclosure

One-piece construction designed to snap in place

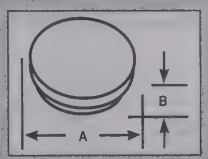
High impact strength self-extinguishing non-dripping (per UL-94) thermoplastic construction

- Rated for 105°C (221°F) application
- Wall thickness of box or enclosure: .095" max. up to 1" trade size .140" max. through 2" trade size
- Meets Coast Guard Regulation CB293

Thomas&Betts




E13938




LR4484

### KNOCK-OUT PLUGS ORDERING DATA

| Knock-out Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1.060 | .400 | 1451 | 3LJ94 | $0.50 | $0.44 | 0.1 |
| 3/4 | 1.300 | .400 | 1452 | 3LJ95 | 0.57 | 0.50 | 0.1 |
| 1 | 1.590 | .400 | 1453 | 3LJ96 | 1.05 | 0.92 | 0.1 |
| 1 1/4 | 1.860 | .450 | 1454 | 3LJ97 | 1.54 | 1.35 | 0.1 |
| 1 1/2 | 2.240 | .570 | 1455 | 3LJ98 | 2.22 | 1.95 | 0.1 |
| 2 | 2.740 | .570 | 1456 | 3LJ99 | 3.04 | 2.66 | 0.1 |

## T & B INSULINER® SLEEVES

High dielectric nylon, 105°C

Snapped into a regular bushing makes a UL Listed insulated bushing

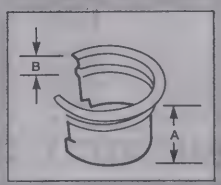
For standard rigid conduit, EMT (thin-wall conduit) or any standard bushed outlet

- Especially suitable for use with flexible metallic conduit
- Converts ordinary bushing to code approved insulated bushing without disturbing wiring

Thomas&Betts



E23018




LR2884

### INSULINER® SLEEVES ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 5/8 | .025 | 422 | 3LK59 | $1.43 | $1.26 | 0.1 |
| 3/4 | 11/16 | .025 | 423 | 3LK60 | 1.96 | 1.72 | 0.1 |
| 1 | 7/8 | .025 | 424 | 3LK61 | 2.32 | 2.04 | 0.1 |
| 1 1/4 | 1 | .030 | 425 | 3LK62 | 2.92 | 2.56 | 0.1 |
| 1 1/2 | 1 | .030 | 426 | 3LK63 | 3.56 | 3.12 | 0.1 |
| 2 | 1 1/8 | .030 | 427 | 3LK64 | 3.81 | 3.34 | 0.1 |
| 2 1/2 | 1 1/4 | .040 | 428 | 3LK65 | 7.99 | 7.00 | 0.1 |
| 3 | 1 1/2 | .040 | 429 | 3LK66 | 10.77 | 9.42 | 0.1 |
| 3 1/2 | 1 25/32 | .055 | 430 | 3LK67 | 13.48 | 11.80 | 0.1 |
| 4 | 2 1/32 | .555 | 431 | 3LK68 | 16.84 | 14.74 | 0.1 |

## SEALING RINGS WITH STAINLESS STEEL RETAINER

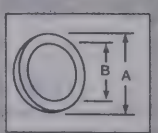
Provides a liquid tight, dust tight, seal of fitting at enclosures

- Buna N Sealing Rings with stainless steel retainer
- Rated NEMA 3R, 4, 6 & 13

Thomas&Betts



E13938




LR2884

### SEALING RINGS WITH STAINLESS STEEL RETAINER ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A | B (±1/64) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 1 11/64 | 3/4 | 5302 | 3LL01 | $1.17 | $1.06 | 0.1 |
| 3/4 | 1 1/2 | 15/16 | 5303 | 3LL02 | 1.40 | 1.26 | 0.1 |
| 1 | 1 3/4 | 1 11/64 | 5304 | 3LL03 | 2.17 | 1.96 | 0.1 |

# CONDUIT BODIES, BODY COVERS AND GASKETS

## CONDUIT BODIES

- Provide convenient access to conductors for easy maintenance
- Allow for bends in conduit system without bending conduit
- For use with threaded Rigid and IMC conduit (compression connector required for threadless)
- For use with EMT conduit when used with proper compression connector
- Flat back design gives extra wiring capacity and simplifies installation
- UL Listed (E2527) and CSA Certified (LR65183)
- Suitable for Class 1, Division 2 classified locations if installed in compliance with NEC501-4(B)
- Appleton brand
- Covers and gaskets sold below

### INDUSTRIAL GRADE

- Features malleable iron for use in high-abuse areas or where extra strength is required

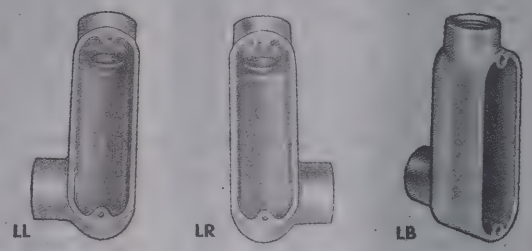
### COMMERCIAL GRADE

- Features copper-free aluminum, ideal for use in corrosive areas where iron conduit bodies are not suitable

Appleton ELECTRIC COMPANY

E2527 LR65183

No. 5E801 No. 5XC62 No. 5XC54




No. 5XC46 No. 5XC70




| Body Style | Hub Size (In.) | Appleton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **INDUSTRIAL GRADE—MALLEABLE IRON** | | | | | | | |
| LL | 1/2 | LL50M | **5E801** | $7.30 | **$5.91** | **$5.02** | 0.9 |
| | 3/4 | LL75M | **5E802** | 8.75 | **7.09** | **6.01** | 0.9 |
| | 1 | LL100M | **5E803** | 13.15 | **10.67** | **9.06** | 1.7 |
| | 2 | LL200M | **5E804** | 44.57 | **36.45** | **30.87** | 6.0 |
| LR | 1/2 | LR50M | **5XC62** | 7.59 | **6.13** | **5.20** | 0.8 |
| | 3/4 | LR75M | **5XC63** | 9.06 | **7.35** | **6.23** | 1.1 |
| | 1 | LR100M | **5XC64** | 13.67 | **11.07** | **9.40** | 1.7 |
| | 2 | LR200M | **5XC65** | 46.26 | **37.80** | **32.02** | 6.9 |
| LB | 1/2 | LB50M | **5XC54** | 7.59 | **6.13** | **5.20** | 0.8 |
| | 3/4 | LB75M | **5XC55** | 9.07 | **7.32** | **6.21** | 1.0 |
| | 1 | LB100M | **5XC56** | 13.68 | **11.00** | **9.34** | 1.4 |
| | 2 | LB200M | **5XC57** | 50.76 | **41.45** | **35.14** | 7.5 |
| C | 1/2 | C50M | **5XC46** | 7.59 | **6.13** | **5.20** | 0.8 |
| | 3/4 | C75M | **5XC47** | 9.06 | **7.35** | **6.23** | 1.1 |
| | 1 | C100M | **5XC48** | 13.67 | **11.05** | **9.38** | 1.6 |
| | 2 | C200M | **5XC49** | 50.82 | **41.40** | **35.10** | 7.2 |
| T | 1/2 | T50M | **5XC70** | 9.49 | **7.67** | **6.51** | 1.1 |
| | 3/4 | T75M | **5XC71** | 11.40 | **9.21** | **7.81** | 1.3 |
| | 1 | T100M | **5XC72** | 17.10 | **13.85** | **11.76** | 2.2 |
| | 2 | T200M | **5XC73** | 51.60 | **41.95** | **35.54** | 6.9 |

| Body Style | Hub Size (In.) | Appleton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **COMMERCIAL GRADE—COPPER-FREE ALUMINUM** | | | | | | | |
| LL | 1/2 | LL50A | **5E805** | $4.72 | **$3.78** | **$3.22** | 0.3 |
| | 3/4 | LL75A | **5E806** | 5.22 | **4.19** | **3.55** | 0.4 |
| | 1 | LL100A | **5E807** | 7.76 | **6.24** | **5.31** | 0.7 |
| | 2 | LL200A | **5E808** | 25.63 | **20.71** | **17.59** | 2.5 |
| LR | 1/2 | LR50A | **5XC58** | 5.77 | **4.64** | **3.96** | 0.3 |
| | 3/4 | LR75A | **5XC59** | 7.08 | **5.70** | **4.85** | 0.4 |
| | 1 | LR100A | **5XC60** | 10.61 | **8.56** | **7.30** | 0.7 |
| | 2 | LR200A | **5XC61** | 34.59 | **28.20** | **24.02** | 3.0 |
| LB | 1/2 | LB50A | **5XC50** | 5.80 | **4.67** | **3.99** | 0.3 |
| | 3/4 | LB75A | **5XC51** | 7.08 | **5.70** | **4.85** | 0.4 |
| | 1 | LB100A | **5XC52** | 10.61 | **8.56** | **7.30** | 0.7 |
| | 2 | LB200A | **5XC53** | 34.72 | **28.40** | **24.12** | 3.0 |
| C | 1/2 | C50A | **5XC42** | 5.77 | **4.64** | **3.96** | 0.3 |
| | 3/4 | C75A | **5XC43** | 7.08 | **5.70** | **4.85** | 0.4 |
| | 1 | C100A | **5XC44** | 10.60 | **8.53** | **7.27** | 0.6 |
| | 2 | C200A | **5XC45** | 34.72 | **28.40** | **24.12** | 3.0 |
| T | 1/2 | T50A | **5XC66** | 7.09 | **5.68** | **4.83** | 0.3 |
| | 3/4 | T75A | **5XC67** | 9.03 | **7.27** | **6.20** | 0.5 |
| | 1 | T100A | **5XC68** | 12.35 | **9.95** | **8.47** | 0.7 |
| | 2 | T200A | **5XC69** | 41.17 | **33.40** | **28.42** | 3.1 |

## CONDUIT BODY COVERS AND GASKETS

- Stainless steel screws prevent freeze-up
- Neoprene gaskets have tear-away design

| Hub Size (In.) | Pkg. Qty. | Steel Covers Stock No. | List | Each* | Shpg. Wt. Each | Aluminum Covers Stock No. | List | Each* | Shpg. Wt. Each | Neoprene Gaskets Stock No. | List | Each* | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ½ | 10 | **5XC82** | $3.01 | **$2.41** | 0.1 | **5XC78** | $1.60 | **$1.29** | 0.1 | **5XC74** | $3.01 | **$2.41** | 0.1 |
| ¾ | 10 | **5XC83** | 3.65 | **2.92** | 0.1 | **5XC79** | 2.22 | **1.78** | 0.1 | **5XC75** | 3.01 | **2.41** | 0.1 |
| **1** | 10 | **5XC84** | 5.03 | **4.03** | 0.2 | **5XC80** | 2.91 | **2.32** | 0.1 | **5XC76** | 4.03 | **3.21** | 0.1 |
| **2** | 5 | **5XC85** | 10.54 | **8.48** | 0.6 | **5XC81** | 5.74 | **4.62** | 0.3 | **5XC77** | 6.01 | **4.78** | 0.1 |

(*) Priced each, sold only in packages.



Appleton ELECTRIC COMPANY

E2527 Except Nos. 5XC76 and 5XC77

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# CONDUIT OUTLET BOXES

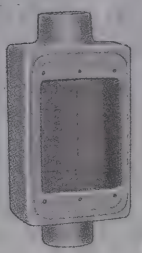
- Accepts standard flush switches and receptacles
- Provides openings for making splices
- Permits access to conductors for maintenance
- Allows connections for branch conduit runs
- Meets UL standard 489 and 514
- Weatherproof, rain-tight and dust-tight when used with cast gasketed covers
- Industrial grade—malleable iron for use in high-abuse areas or where extra strength is required
- Appleton brand

Appleton ELECTRIC COMPANY

UL E2527



No. 5E789



No. 5E795

## CONDUIT BOXES ORDERING DATA

| Type | Body | Hub (In.) | Depth (In.) | Appleton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Shallow | FS | 1/2 | 2.00 | FS150 | **5E788** | $14.30 | **$11.67** | 2.0 |
| | | 3/4 | 2.00 | FS175 | **5E789** | 15.07 | **12.27** | 2.0 |
| Shallow | FSC | 1/2 | 2.00 | FSC150 | **5E790** | 15.03 | **12.88** | 2.3 |
| | | 3/4 | 2.00 | FSC175 | **5E791** | 17.35 | **14.07** | 2.0 |
| Deep | FD | 1/2 | 2.69 | FD150 | **5E792** | 16.60 | **13.64** | 2.7 |
| | | 3/4 | 2.69 | FD175 | **5E793** | 18.09 | **14.83** | 2.9 |
| Deep | FDC | 1/2 | 2.69 | FDC150 | **5E794** | 18.86 | **15.27** | 2.9 |
| | | 3/4 | 2.69 | FDC175 | **5E795** | 20.35 | **16.65** | 3.1 |

# CONDUIT BOX COVERS

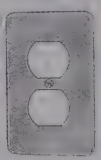
- Stainless steel screws prevent freeze-up

Appleton ELECTRIC COMPANY

UL E2527



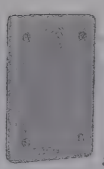
No. 5E796



No. 5E797



No. 5E799



No. 5E800

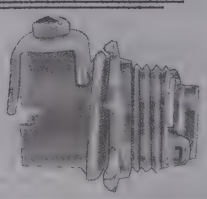
## BOX COVERS ORDERING DATA

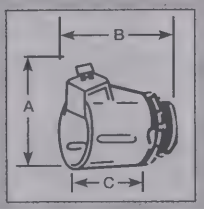
| Description | Appleton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **STEEL COVERS WITHOUT GASKET** | | | | | |
| Toggle Switch | FSK1TS | **5E796** | $3.83 | **$3.03** | 0.2 |
| Duplex Receptacle | FST1DR | **5E797** | 3.83 | **3.03** | 0.2 |
| Blank | FSK1B | **5E798** | 3.05 | **2.40** | 0.2 |
| **CAST COVERS WITH GASKET** | | | | | |
| Single Receptacle 17/16" diameter | FSK1VR | **5E799** | 25.75 | **20.31** | 0.7 |
| Blank | FSK1BC | **5E800** | 8.22 | **6.61** | 0.6 |

# TITE-BITE® CONNECTORS

- Steel or malleable iron
- Easy to install with double grip saddle
- Connectors are completely salvageable
- 3/8" and 1/2" sizes are made of formed steel which produce a uniform high quality and a smooth throat that protects conductor insulation
- 3/4" and larger size are malleable iron

Thomas&Betts






CSA LR2884

UL E23018

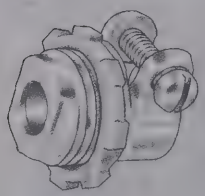
## TITE-BITE® CONNECTOR ORDERING DATA

| Cable Opening (In.) Max. | Min. | Trade Size (In.) | K.O. Size (In.) | Dimensions (In.) At | B | C | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NYLON INSULATED CONNECTORS** | | | | | | | | | | | |
| .656 | .437 | 3/8 | 1/2 | 1 1/4 | 1 1/8 | 7/8 | 3110-TB | **4JC41** | $1.67 | **$1.46** | 0.1 |
| .937 | .750 | 1/2 | 1/2 | 1 1/4 | 1 1/8 | 7/8 | 3112 | **4JC42** | 3.35 | **2.94** | 0.1 |
| 1.125 | .906 | 3/4 | 3/4 | 1 25/32 | 1 3/4 | 1 7/32 | 3115 | **4JC43** | 3.58 | **3.14** | 0.2 |
| 1.468 | 1.250 | 1 | 1 | 2 3/8 | 1 3/4 | 1 1/8 | 3117 | **4JC44** | 8.11 | **7.10** | 0.4 |
| **NON-INSULATED CONNECTORS** | | | | | | | | | | | |
| .656 | .437 | 3/8 | 1/2 | 1 1/4 | 1 5/16 | 7/16 | 300TB* | **3LK37** | 1.18 | **1.04** | 0.1 |
| .937 | .750 | 1/2 | 1/2 | 1 5/8 | 1 11/16 | 1 7/64 | 302TB | **3LK38** | 2.19 | **1.92** | 0.1 |
| 1.093 | .906 | 3/4 | 3/4 | 1 7/8 | 1 11/16 | 1 7/32 | 304 | **3LK39** | 2.94 | **2.58** | 0.2 |
| 1.468 | 1.250 | 1 | 1 | 2 1/16 | 1 3/4 | 1 1/8 | 306 | **3LK40** | 5.11 | **4.48** | 0.4 |

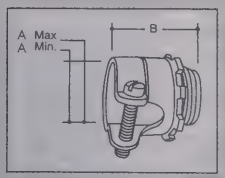
†) Approximate dimension with screw at minimum height. Material: Steel thru 3/4" trade size. (*) UL Listed for armored cable only.

# FLEXIBLE METAL CONDUIT CONNECTORS

## STRAIGHT SQUEEZE TYPE AND 90° CLAMP TYPE CONNECTORS

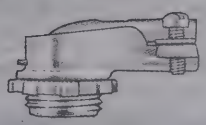


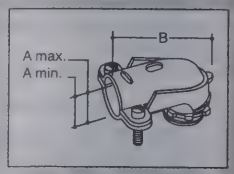
STRAIGHT SQUEEZE TYPE CONNECTORS




Thomas&Betts

E17909 LR12798






90° CLAMP TYPE CONNECTORS

### DIE CAST ZINC—STRAIGHT SQUEEZE TYPE CONNECTOR ORDERING DATA

| Size (In.) | Dimensions (In.) A (Min.) | A (Max.) | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/8 (1/2KO) | 0.45 | 0.6 | 1 | XC-269 | 6A415 | $1.18 | $0.77 | 0.1 |
| 1/2 | 0.74 | 0.92 | 1.4 | XC-270 | 6A416 | 1.22 | 0.80 | 0.1 |
| 3/4 | 0.88 | 1.1 | 1.6 | XC-272 | 3LV68 | 1.68 | 1.22 | 0.1 |
| 1 | 1.1 | 1.35 | 1.6 | XC-273 | 3LV69 | 4.68 | 3.40 | 0.2 |

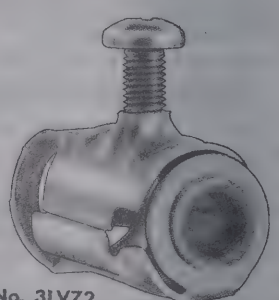
### DIE CAST ZINC—90° CLAMP TYPE CONNECTOR ORDERING DATA

| Size (In.) | Dimensions (In.) A (Min.) | A (Max.) | B | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/8 (1/2KO) | 0.40 | 0.63 | 1.8 | XC-290 | 6A417 | $1.15 | $0.76 | 0.1 |
| 1/2 | 0.65 | 1 | 2.08 | XC-291 | 6A418 | 2.36 | 1.55 | 0.2 |
| 3/4 | 0.83 | 1.25 | 2.27 | XC-292 | 3LV70 | 3.79 | 2.75 | 0.2 |
| 1 | 1.27 | 1.5 | 2.6 | XC-293 | 3LV71 | 4.90 | 3.56 | 0.5 |

## CABLE LOK™ ARMORED CABLE CONNECTORS

- Low profile design for tight-fitting installations
- 105°C rated insulator
- Specially designed lances for tight grip to armored cable
- Body and internal clamp designed to increase pullout resistance, improving ground continuity

Thomas&Betts



No. 3LV72

E17909 LR12798

### CABLE LOK™ SPECIFICATIONS

| | XC-730 1/2" Single | XC-731 1/2" Single | XC-732 3/4" Single | XC-7300 1/2" Duplex |
|---|---|---|---|---|
| AC Steel | 14/2 14/3 14/4<br>12/2 12/3<br>10/2 | 14/2 14/3 14/4<br>12/2 12/4 10/2 | 10/3 10/4 10/5<br>8/3 8/4<br>6/2 | 14/2 14/3 14/4<br>12/2 12/3 12/4<br>10/2 |
| AC Aluminum | 14/2 14/3 14/4<br>12/2 12/3 12/4 | 14/2 14/3 14/4<br>12/2 12/3 12/4 | | 14/2 14/3 14/4<br>12/2 12/3 12/4 |
| MC(I) Steel<br>MC (C) Steel | 14/2 14/3 14/4<br>12/2 12/3 12/4<br>10/2 10/3 | 14/2 14/3 14/4<br>12/2 12/3 12/4<br>10/2 10/3 | 10/4<br>8/4 8/3<br>6/2 | 14/2 14/3 14/4<br>12/2 12/3 12/4<br>10/2 10/3 |
| MC (I) Aluminum | 14/2 14/3 14/4<br>12/2 12/3 12/4<br>10/2 10/3 | 14/2 14/3 14/4<br>12/2 12/3 12/4<br>10/2 10/3 | | 14/2 14/3 14/4<br>12/2 12/3 12/4<br>10/2 10/3 |
| MC (C) Aluminum Seamless | 14/2 14/3 14/4<br>12/2 12/3 12/4<br>10/2 10/3 | 10/4<br>12/2 12/3 12/4<br>10/2 10/3 | | 12/2 12/3 12/4<br>10/2 10/3 |
| Flex RW | 3/8 Steel & Alum | | 1/2 Steel & Alum | 3/8 Steel & Alum |

### CABLE LOK™ ARMORED CABLE CONNECTORS ORDERING DATA

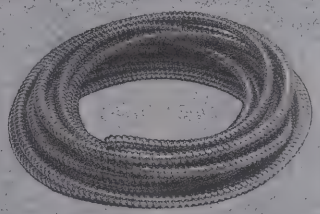
| Size (In.) | Description | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2 | Single | XC-730 | 3LV72 | $1.21 | $0.88 | 0.1 |
| 1/2 | Duplex | XC-7300 | 3LV73 | 1.84 | 1.34 | 0.1 |
| 1/2 | Single | XC-731 | 3LV74 | 1.21 | 0.88 | 0.1 |
| 3/4 | Single | XC-732 | 3LV75 | 1.84 | 1.34 | 0.2 |

### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# FLEXIBLE METAL CONDUIT

electri-flex



E53253 LL18858

No. 6A419

- For use in industrial, commercial, institutional, and residential wiring applications
- Replaces EMT conduit in difficult or impractical locations
- Use with: lighting fixtures, fans, motors, machine tools, switch and receptacle wiring
- Easy to cut, no bending required
- UL Listed (E53253) NEC Article 350 and Fed. Spec. WW-C-566C. For dry locations only
- Electri-Flex brand

## CONDUIT SPECIFICATIONS AND ORDERING DATA

| Size (In.) | Material | Certifications | Length (Ft.) | Electri-Flex Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 3/8 | Steel | UL, CSA | 50 | BR-10 | 6A419 | $14.57 | $12.47 | $11.85 | 9.0 |
| 1/2 | Steel | UL | 50 | BR-11 | 6A420 | 20.40 | 17.51 | 16.63 | 14.0 |
| 3/4 | Steel | UL | 50 | BR-12 | 4JC52 | 28.50 | 23.38 | 21.89 | 17.0 |
| 1 | Steel | UL | 50 | BR-13 | 4JC53 | 57.50 | 46.75 | 43.75 | 26.0 |
| 3/8 | Aluminum | UL, CSA | 50 | ABR-10 | 4JC54 | 17.50 | 13.30 | 12.45 | 3.5 |
| 1/2 | Aluminum | UL | 50 | ABR-11 | 4JC55 | 25.50 | 19.44 | 18.21 | 4.8 |
| 3/4 | Aluminum | UL | 50 | ABR-12 | 4JC56 | 31.50 | 26.15 | 24.46 | 6.8 |
| 1 | Aluminum | UL | 50 | ABR-13 | 4JC57 | 70.50 | 52.60 | 49.23 | 12.0 |

# LIQUID-TIGHT FLEXIBLE CONDUIT

- Provides complete wiring protection from weather, water, dust, most corrosive fumes and vapors, grease, oils and non-concentrated alkalies
- Sunlight and ozone resistant, withstands and absorbs motion, vibration and bending
- Applications include air conditioning, machine tools, presses, cranes, blowers, pumps, hoists, lubrication and irrigation equipment
- Gray color
- Electri-Flex brand

### UL LISTED (E29278) STEEL CORE CONDUIT

Conduit has continuous copper ground for permanent circuit protection with electroplated galvanized steel core. Seamless interior makes wire pulling easy. High tensile strength core design resists unraveling. Suitable for direct burial in poured concrete, air plenums, raised floors in data processing centers, and outdoor electric signs. Temperature range -4 to 140° F, intermittent to 194°F. Suitable for hazardous locations: Class I Div.2, Class II Div. 1&2, Class III Div.1 &2. UL listed E29278, CSA certified LL18858, NEC Article 351-A.

### INDUSTRIAL JIC APPROVED STEEL CORE CONDUIT

Electroplated galvanized steel core is designed with high tensile strength to resist unraveling. Non-wrinkling PVC jacket won't pull away from fittings. Seamless inerior for easy wire pulling. Temperature range is -4 to 176° F.

### NON-METALLIC CONDUIT

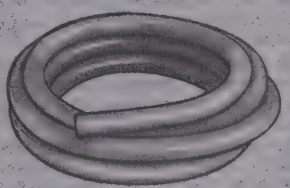
Tough, lightweight, corrosion resistant PVC construction with rigid spiral reinforcement for greater crush resistance. Easy to cut and handle-suitable for all standard duty, direct burial, and poured concrete applications. May be used with non-metallic or metallic liquid-tight fittings. Temperature range is -4 to 176° F bruy, 140° F wet, 158° F oil. UL listed E79308, CSA Certified LL18858, NEC Article 351-B.

### ECONOMY JIC APPROVED STEEL CORE CONDUIT

Corrosion resistant flexible steel core with liquidtight PVC jacket. Temperature range is -4 to 176° F. Conforms to JIC Standards.

electri-flex

liquatite



E29278 LL18858

## SPECIFICATIONS AND ORDERING DATA

| Size (In.) | Length (Ft.) | Electri-Flex Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **UL LISTED STEEL CORE CONDUIT** | | | | | | | |
| 1/2 | 50 | LA-11 | 2W279 | $124.02 | $67.30 | $62.97 | 22.0 |
| 3/4 | | LA-12 | 2W280 | 168.54 | 88.65 | 82.97 | 27.0 |
| 1 | | LA-13 | 2W281 | 260.76 | 131.55 | 123.19 | 45.0 |
| **JIC APPROVED STEEL CORE CONDUIT** | | | | | | | |
| 3/8 | 50 | LT-10 | 2W479 | 75.26 | 36.85 | 34.47 | 12.0 |
| 1/2 | | LT-11 | 2W480 | 80.56 | 42.30 | 39.61 | 15.0 |
| 3/4 | | LT-12 | 2W481 | 107.06 | 56.25 | 52.63 | 19.0 |
| 1 | | LT-13 | 2W482 | 164.83 | 85.20 | 79.73 | 31.0 |
| **NON-METALLIC CONDUIT** | | | | | | | |
| 3/8 | 50 | NM-10 | 4JC62 | 57.00 | 27.85 | 26.07 | 5.0 |
| 1/2 | | NM-11 | 4JC63 | 60.50 | 30.30 | 28.37 | 12.0 |
| 3/4 | | NM-12 | 4JC64 | 84.00 | 42.85 | 40.13 | 7.5 |
| 1 | | NM-13 | 4JC65 | 136.00 | 61.55 | 57.63 | 13.0 |
| **JIC APPROVED ECONOMY STEEL CORE CONDUIT** | | | | | | | |
| 3/8 | 50 | EF-10 | 4JC58 | 50.50 | 25.45 | 23.80 | 10.0 |
| 1/2 | | EF-11 | 4JC59 | 59.00 | 30.00 | 28.07 | 12.0 |
| 3/4 | | EF-12 | 4JC60 | 82.50 | 41.30 | 38.65 | 16.0 |
| 1 | | EF-13 | 4JC61 | 136.50 | 61.10 | 57.21 | 22.0 |

# FLEXIBLE LIQUIDTIGHT NONMETALLIC CONDUIT, TUBING, AND FITTINGS

## POLYTUFF® I CONDUIT

- Fused PVC materials form a rugged, tough, but flexible conduit in standard sizes with no metal core
- Suitable for all standard duty applications
- Nonconductive, lightweight, nonmetallic materials provide corrosion resistance
- Gray color,100 Ft. roll
- Cuts easily and cleanly
- Liquidtight for inside or outside use
- Crush and crimp resistant
- UL Listed (E94909(M)), CSA Certified (LL66786), NEC Article 351-B

## POLYTUFF® II TUBING

- Extra flexible tubing for use in tight spaces and short corners
- Fused PVC materials provide mechanical protection
- Black color, 100 Ft. roll
- Lightweight; suitable for light and standard duty applications
- Cuts easily
- UL Listed (E92035(M)), CSA Certified (LL68808)

## SWIVELLOK™ FITTINGS

- Assumes any position, from straight to 90°
- Replaces all angle fittings
- Feed wires straight through, then twist to desired position for quick installation
- SwivelLock is available in 1/2, 3/4, and 1" sizes, black or gray
- All fittings made of tough, corrosion-resistant nylon for longer life
- All nonmetallic fittings UL Listed (E54121(M)), and CSA Certified LR27278 (PolyTuff I), LR68808 (PolyTuff II)

## FLEXIBLE CONDUIT KITS



HUBBELL® Wiring Device-Kellems

UL

No. 6D267

1/2" Kit contains 2 gray SwivelLok connectors and 6' PolyTuff I conduit. Kellems brand (PS05GY KIT).

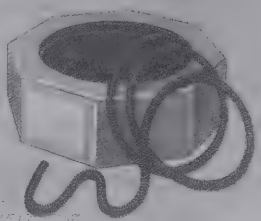
**No. 6D267.** Shpg. wt. 1.2 lbs. List .....$13.86. Each.....$11.09

3/4" Kit contains 2 gray SwivelLok connectors and 6' PolyTuff I conduit. Kellems brand (PS07GY-KIT).

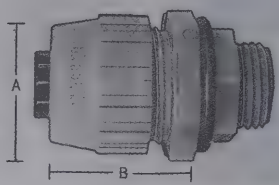
**No. 6D268.** Shpg. wt. 1.7 lbs. List .....$21.76. Each.....$17.41

HUBBELL® Wiring Device-Kellems

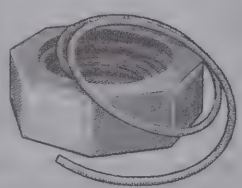
UL NRTL CSA®



**No. 6D074**
**Polytuff® I Conduit**




**No. 6D090**
**Polytuff® I Conduit Fitting**



**No. 6D083**
**Polytuff® II Tubing**

| Trade Size (In.) / Description | Dimensions (In.)‡ A | B | Kellems Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **POLYTUFF I FLEXIBLE LIQUIDTIGHT NONMETALLIC CONDUIT, TYPE B** | | | | | | | |
| 3/8, Gray | .700 | .494 | G1038 | **6D074** | $67.08 | **$53.70** | 12.0 |
| 1/2, Gray | .830 | .632 | G1050 | **6D075** | 72.81 | **58.25** | 14.0 |
| 3/4, Gray | 1.040 | .830 | G1075 | **6D076** | 106.21 | **85.00** | 19.0 |
| 1, Gray | 1.303 | 1.054 | G1100 | **6D077** | 153.92 | **123.15** | 29.0 |
| **POLYTUFF I STRAIGHT NONMETALLIC CONDUIT FITTINGS** | | | | | | | |
| 3/8, Gray | 1.14 | 1.63 | P038N-GY | **6D089** | 3.12 | **2.50** | 0.1 |
| 1/2, Gray | 1.30 | 2.14 | P050N-GY-A | **6D090** | 3.19 | **2.56** | 0.1 |
| 3/4, Gray | 1.53 | 2.22 | P075N-GY-A | **6D091** | 4.39 | **3.52** | 0.1 |
| 1, Gray | 1.83 | 1.84 | P100N-GY-A | **6D092** | 8.14 | **6.52** | 0.2 |
| **POLYTUFF I SWIVELLOK CONDUIT FITTINGS** | | | | | | | |
| 3/8, Gray† | 1.30 | 2.26 | PS0389NGY | **3JC15** | 4.60 | **3.68** | 0.1 |
| 1/2, Gray† | 1.30 | 2.08 | PS0509N-GY | **6D097** | 4.62 | **3.70** | 0.1 |
| 3/4, Gray† | 1.53 | 2.36 | PS0759N-GY | **6D098** | 6.93 | **5.54** | 0.1 |
| 1, Gray† | 1.83 | 2.84 | PS1009N-GY | **6D099** | 14.89 | **11.92** | 0.2 |
| **POLYTUFF II FLEXIBLE LIQUIDTIGHT NONMETALLIC TUBING** | | | | | | | |
| 3/8, Black | .700 | .494 | B2038 | **6D082** | 110.11 | **88.10** | 8.1 |
| 1/2, Black | .830 | .632 | B2050 | **6D083** | 110.18 | **88.15** | 8.6 |
| 3/4, Black | 1.040 | .830 | B2075 | **6D084** | 151.52 | **121.25** | 12.0 |
| 1, Black | 1.303 | 1.054 | B2100 | **6D085** | 247.29 | **198.00** | 15.0 |
| **POLYTUFF II STRAIGHT NONMETALLIC TUBING FITTINGS** | | | | | | | |
| 3/8, Black | 1.14 | 1.63 | P038N-BK-A | **6D101** | 3.12 | **2.50** | 0.1 |
| 1/2, Black | 1.30 | 2.14 | P050N-BK-A | **6D102** | 3.19 | **2.56** | 0.1 |
| 3/4, Black | 1.53 | 2.22 | P075N-BK-A | **6D103** | 4.37 | **3.50** | 0.1 |
| 1, Black | 1.83 | 1.84 | P100N-BK-A | **6D104** | 8.13 | **6.50** | 0.1 |
| **POLYTUFF II SWIVELLOK NONMETALLIC TUBING FITTINGS** | | | | | | | |
| 3/8, Black† | 1.30 | 2.26 | PS0389N-BK | **3JC16** | 4.60 | **3.68** | 0.1 |
| 1/2, Black† | 1.30 | 2.08 | PS0509N-BK | **6D109** | 4.62 | **3.70** | 0.1 |
| 3/4, Black† | 1.53 | 2.36 | PS0759N-BK | **6D110** | 6.93 | **5.54** | 0.1 |
| 1, Black† | 1.83 | 2.84 | PS1009N-BK | **6D111** | 17.59 | **14.08** | 0.2 |

(†) Multi position fitting. (‡) For conduit & tubing dimension A is O.D.", dimension B is I.D.".



When the spec calls for brand names, you'll find the best here.

# LIQUIDTIGHT FLEXIBLE METAL CONDUIT FITTINGS

## STRAIGHT CONNECTOR ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A | B | C | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **NON-INSULATED** | | | | | | | | |
| **3/8** | 15/32 | 1 1/2 | 9/16 | 5231 | **6X920** | $3.35 | **$2.64** | 0.1 |
| **1/2** | 1 3/8 | 1 9/16 | 9/16 | 5232 | **6X770** | 3.35 | **2.48** | 0.2 |
| **3/4** | 1 21/32 | 1 5/8 | 9/16 | 5233 | **6X771** | 4.76 | **3.54** | 0.2 |
| **1** | 1 7/8 | 2 1/16 | 3/4 | 5234TB | **6X772** | 6.99 | **5.77** | 0.4 |
| **1 1/4** | 2 9/32 | 2 1/2 | 13/16 | 5235 | **3LK74** | 12.38 | **10.22** | 0.7 |
| **1 1/2** | 2 23/32 | 2 11/16 | 13/16 | 5236 | **3LK75** | 17.66 | **14.57** | 1.1 |
| **2** | 3 1/4 | 3 1/16 | 7/8 | 5237 | **3LK76** | 32.42 | **26.75** | 1.4 |
| **2 1/2** | 3 3/4 | 4 1/8 | 1 | 5238 | **3LK77** | 149.61 | **123.45** | 3.4 |
| **3** | 4 1/2 | 4 1/4 | 1 | 5239 | **3LK78** | 168.24 | **138.80** | 4.6 |
| **4** | 5 1/2 | 4 1/2 | 1 1/8 | 5240 | **3LK79** | 208.03 | **171.75** | 7.5 |
| **INSULATED** | | | | | | | | |
| **3/8** | 15/32 | 1 1/2 | 9/16 | 5331 | **3LL04** | 3.84 | **3.17** | 0.1 |
| **1/2** | 1 3/8 | 1 9/16 | 9/16 | 5332 | **3LL05** | 3.84 | **3.17** | 0.2 |
| **3/4** | 1 21/32 | 1 5/8 | 9/16 | 5333 | **3LL06** | 5.65 | **4.66** | 0.3 |
| **1** | 1 7/8 | 2 1/16 | 3/4 | 5334-TB | **3LL07** | 8.72 | **7.85** | 0.4 |
| **1 1/4** | 2 9/32 | 2 1/2 | 13/16 | 5335 | **3LL08** | 14.12 | **11.66** | 0.7 |
| **1 1/2** | 2 23/32 | 2 11/16 | 13/16 | 5336 | **3LL09** | 20.22 | **16.69** | 1.1 |
| **2** | 3 1/4 | 3 1/16 | 7/8 | 5337 | **3LL10** | 37.88 | **31.25** | 1.5 |
| **2 1/2** | 3 3/4 | 4 1/8 | 1 | 5338 | **3LL11** | 198.56 | **164.00** | 3.4 |
| **3** | 4 1/2 | 4 1/4 | 1 | 5339 | **3LL12** | 221.65 | **183.00** | 4.6 |
| **4** | 5 1/2 | 4 1/2 | 1 1/8 | 5340 | **3LL13** | 277.86 | **229.25** | 7.2 |

## 45° ANGLE CONNECTOR ORDERING DATA

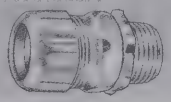
| Conduit Size (In.) | Dimensions (In.) A | B | C | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **NON-INSULATED** | | | | | | | | |
| **3/8** | 1 5/32 | 1 1/16 | 9/16 | 5241 | **4A234** | $5.18 | **$4.28** | 0.2 |
| **1/2** | 1 3/8 | 1 7/8 | 9/16 | 5242 | **4A235** | 5.18 | **4.28** | 0.3 |
| **3/4** | 1 21/32 | 2 1/8 | 9/16 | 5243 | **4A236** | 7.85 | **6.48** | 0.4 |
| **1** | 1 7/8 | 2 1/4 | 3/4 | 5244 | **4A237** | 15.54 | **12.82** | 0.5 |
| **1 1/4** | 2 9/32 | 2 3/4 | 1 3/16 | 5245 | **3LK80** | 25.68 | **21.19** | 1.1 |
| **1 1/2** | 2 23/32 | 3 1/8 | 1 3/16 | 5246 | **3LK81** | 33.40 | **27.60** | 1.4 |
| **2** | 3 1/4 | 3 7/8 | 7/8 | 5247 | **3LK82** | 45.26 | **37.35** | 2.2 |
| **INSULATED** | | | | | | | | |
| **3/8** | 1 5/32 | 1 1/16 | 9/16 | 5341 | **3LL14** | 6.40 | **5.28** | 0.2 |
| **1/2** | 1 3/8 | 1 7/8 | 9/16 | 5342 | **3LL15** | 6.40 | **5.28** | 0.3 |
| **3/4** | 1 21/32 | 2 1/8 | 9/16 | 5343 | **3LL16** | 9.66 | **7.97** | 0.4 |
| **1** | 1 7/8 | 2 1/4 | 3/4 | 5344 | **3LL17** | 18.66 | **15.39** | 0.6 |
| **1 1/4** | 2 9/32 | 2 3/4 | 1 3/16 | 5345 | **3LL18** | 27.70 | **22.85** | 1.1 |
| **1 1/2** | 2 23/32 | 3 1/8 | 1 3/16 | 5346 | **3LL19** | 35.68 | **29.45** | 1.5 |
| **2** | 3 1/4 | 3 7/8 | 7/8 | 5347 | **3LL20** | 50.79 | **41.95** | 2.1 |
| **NYLON INSULATED CHASE® CONNECTORS** | | | | | | | | |
| **3/8** | 1 9/32 | 1 3/8 | 1/8 | 5361 | **3LL36** | 4.85 | **4.37** | 0.2 |
| **1/2** | 1 3/8 | 1 3/8 | 3/16 | 5362 | **3LL37** | 5.23 | **4.71** | 0.2 |
| **3/4** | 1 11/16 | 1 5/8 | 1/4 | 5363 | **3LL38** | 6.62 | **5.97** | 0.3 |
| **1** | 2 1/32 | 2 1/16 | 1/4 | 5364 | **3LL39** | 10.08 | **9.08** | 0.4 |

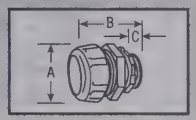
## 90° ANGLE CONNECTOR ORDERING DATA

| Conduit Size (In.) | Dimensions (In.) A | B | C | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **INSULATED** | | | | | | | | |
| **3/8** | 1 5/32 | 1 3/8 | 9/16 | 5351 | **3LL21** | $6.40 | **$5.28** | 0.2 |
| **1/2** | 1 3/8 | 1 9/16 | 9/16 | 5352 | **3LL22** | 6.46 | **5.34** | 0.3 |
| **3/4** | 1 21/32 | 1 3/4 | 9/16 | 5353 | **3LL24** | 9.66 | **7.97** | 0.4 |
| **1** | 1 7/8 | 2 1/16 | 3/4 | 5354 | **3LL26** | 18.30 | **15.10** | 0.7 |
| **1 1/4** | 2 9/32 | 2 1/4 | 13/16 | 5355 | **3LL28** | 26.78 | **22.10** | 1.4 |
| **1 1/2** | 2 23/32 | 2 15/16 | 13/16 | 5356 | **3LL29** | 32.78 | **27.05** | 1.8 |
| **2** | 3 1/4 | 3 7/8 | 7/8 | 5357 | **3LL31** | 49.09 | **40.55** | 2.7 |
| **2 1/2** | 3 3/4 | 8 7/8 | 1 | 5358 | **3LL33** | 244.98 | **202.25** | 8.8 |
| **3** | 4 1/2 | 10 1/4 | 1 | 5359 | **3LL34** | 294.84 | **243.25** | 13.0 |
| **4** | 5 1/2 | 12 5/8 | 1 1/8 | 5360 | **3LL35** | 414.24 | **341.75** | 25.0 |
| **NON-INSULATED** | | | | | | | | |
| **3/8** | 1 5/32 | 1 3/8 | 9/16 | 5251 | **6X921** | 5.18 | **4.28** | 0.2 |
| **1/2** | 1 3/8 | 1 9/16 | 9/16 | 5252 | **6X773** | 5.18 | **3.85** | 0.3 |
| **3/4** | 1 21/32 | 1 3/4 | 9/16 | 5253 | **6X774** | 7.85 | **5.83** | 0.4 |
| **1** | 1 7/8 | 2 1/16 | 3/4 | 5254 | **6X775** | 16.05 | **13.24** | 0.6 |
| **1 1/4** | 2 9/32 | 2 3/4 | 13/16 | 5255 | **3LK83** | 24.47 | **20.19** | 1.3 |
| **1 1/2** | 2 23/32 | 2 15/16 | 13/16 | 5256 | **3LK84** | 29.39 | **24.25** | 1.8 |
| **2** | 3 1/4 | 3 7/8 | 7/8 | 5257 | **3LK85** | 43.10 | **35.60** | 2.7 |
| **2 1/2** | 3 3/4 | 8 7/8 | 1 | 5258 | **3LK86** | 187.08 | **154.50** | 9.1 |
| **3** | 4 1/2 | 10 1/4 | 1 | 5259 | **3LK87** | 226.44 | **187.00** | 13.0 |
| **4** | 5 1/2 | 12 5/8 | 1 1/8 | 5260 | **3LK88** | 314.73 | **259.75** | 26.0 |

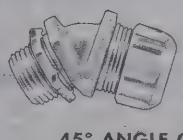
Thomas&Betts

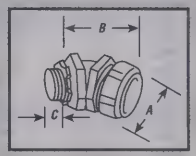
E23018 LR2884





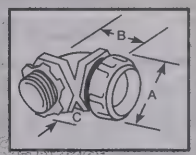

STRAIGHT CONNECTORS






45° ANGLE CONNECTORS






90° ANGLE CONNECTORS

## STRAIGHT CONNECTORS

- Steel malleable iron. Tapped hub threads. With safe-edge ground cone thru 4" and double bevel sealing ring (through 2")
- Suitable as grounding per NEC section 351-9 (up to 1¼")
- Can be reused
- Suitable for hazardous locations use in Class I, Div. 2; Class II, Div. 1 and 2; Class III, Div. 1 and 2, where general purpose equipment is specifically permitted per NEC Section 500-2(a).

## 45° ANGLE CONNECTORS

- Malleable iron, tapered hub thread. With safe-edge ground cone and double bevel sealing ring (through 2").
- Suitable for hazardous locations use in Class I, Div. 2; Class II, Div. 1 and 2; Class III, Div. 1 and 2, where general purpose equipment is specifically permitted per NEC Section 500-2(a).
- Double bevel sealing ring
- Steel O-ring seal

## 90° ANGLE CONNECTORS

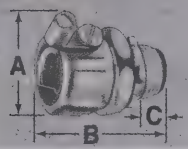
- Suitable for hazardous locations use in Class I, Div. 2; Class II, Div. 1 and 2; Class III, Div. 1 and 2, where general purpose equipment is specifically permitted per NEC Section 500-2(a)

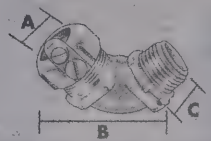
# LIQUIDTIGHT FLEXIBLE METAL CONDUIT FITTINGS AND CORD CONNECTORS

## GROUNDING FITTINGS

Thomas&Betts

- Insulated
- Malleable iron tapered hub threads

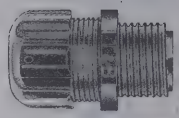



E3060 LR2884

| Conduit Size (In.) | Dimensions (In.) A | B | C | Ground Wire (AWG) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **STRAIGHT GROUNDING FITTINGS** | | | | | | | | | |
| 1/2 | 1 3/8 | 1 9/16 | 9/16 | 14-8 | 5332GR | 4JC45 | $7.49 | $6.75 | 0.2 |
| 3/4 | 1 21/32 | 1 5/8 | 9/16 | 14-4 | 5333GR | 4JC46 | 10.48 | 9.44 | 0.3 |
| 1 1/2 | 3 1/4 | 2 1/16 | 13/16 | 4-2/0 | 5336GR | 4JC47 | 47.80 | 43.05 | 1.0 |
| 2 | 3 13/16 | 3 1/16 | 7/8 | 4-2/0 | 5337GR | 4JC48 | 60.28 | 54.25 | 2.2 |
| **90° ANGLE GROUNDING FITTINGS** | | | | | | | | | |
| 1/2 | 1 3/8 | 1 7/16 | 9/16 | 14-8 | 5352GR | 3LL23 | 10.15 | 9.14 | 0.3 |
| 3/4 | 1 21/32 | 1 13/16 | 9/16 | 14-4 | 5353GR | 3LL25 | 13.50 | 12.16 | 0.4 |
| 1 | 1 7/8 | 2 1/16 | 3/4 | 14-4 | 5354GR | 3LL27 | 27.10 | 24.39 | 0.8 |
| 1 1/2 | 3 1/4 | 2 15/16 | 13/16 | 4-2/0 | 5356GR | 3LL30 | 52.05 | 46.85 | 2.1 |
| 2 | 3 9/16 | 3 7/16 | 7/8 | 4-2/0 | 5357GR | 3LL32 | 71.56 | 64.45 | 3.2 |

Thomas&Betts



E23017

## UNDERGROUND LIQUIDTIGHT FEEDER CABLE FITTING

- 1/2" Hub size
- Cable opening: 0.235 x 0.500 In.

Oil-and water-resistant neoprene bushing is especially designed for sealing around underground feeder cable. Stainless steel retaining ring provides a bearing surface for the glandnut and eliminates cable twist. Ribbed glandnut is strong and easily tightened with a wrench to make a connection of high strength. Thomas & Betts brand (2116).

**No. 2A252.** Shpg. wt. 0.1 lbs. List $4.45.
Each.....$3.67

## SEALING RING WITH STAINLESS STEEL RETAINER

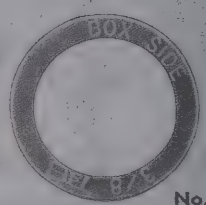
- NEMA 3R, 4, 6 and 13
- For use with T&B Fittings
- Sealing material resists oil, coolants, and hydraulic fluids as well as water
- Stainless steel retainer
- Resilient seal flows and seals rough surfaces
- When used with an externally threaded connector provides a tight seal against oil, fumes or moisture at the K.O.'s opening

| Conduit Size (In.) | Outside Dia. (In.) | Thickness (In.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 | .80 | .11 | 5299 | 3LK99 | $1.01 | $0.91 | 0.1 |
| 3/8 | .95 | .11 | 5261 | 3LK89 | 0.95 | 0.86 | 0.1 |
| 1/2 | 1.16 | .18 | 5262 | 3LK90 | 0.94 | 0.85 | 0.1 |
| 3/4 | 1.49 | .19 | 5263 | 3LK91 | 1.04 | 0.94 | 0.1 |
| 1 | 1.75 | .19 | 5264 | 3LK92 | 1.50 | 1.35 | 0.1 |
| 1 1/4 | 2.15 | .22 | 5265 | 3LK93 | 2.38 | 2.14 | 0.1 |
| 1 1/2 | 2.42 | .23 | 5266 | 3LK94 | 2.86 | 2.58 | 0.1 |
| 2 | 2.92 | .23 | 5267 | 3LK95 | 3.56 | 3.21 | 0.1 |
| 2 1/2 | 3.44 | .23 | 5268 | 3LK96 | 7.96 | 7.17 | 0.1 |
| 3 | 4.08 | .23 | 5269 | 3LK97 | 12.07 | 10.87 | 0.1 |
| 4 | 5.29 | .31 | 5270 | 3LK98 | 14.84 | 13.36 | 0.2 |

Thomas&Betts

E13938

LR2884




No. 3LK89

## LIQUIDTIGHT STRAIN RELIEF CORD CONNECTORS

- Connects flexible cord or power cable to a box or enclosure and provides adequate strain relief
- Taper threaded hub
- Neoprene bushing applies pressure against cable the full length of bushing
- Thermoplastic or stainless steel retaining ring
  (1) Will not abrade cord/cable jacket
  (2) Reduces installing torque effort
- UL Listed for liquidtightness, strain relief and as an outlet bushing; CSA Certified watertight
- Gland, Body Steel/Malleable Iron/Zinc, Die Cast
- Retaining Ring: Thermoplastic/Stainless Steel
- O-ring: Buna N
- Electro Zinc Plated and Chromate Coated

**No. 3LK35 Chase Connector:**

- O-ring seal, nylon insulated throat, and neoprene bushing
- Ideal for installations where space is limited inside the enclosure

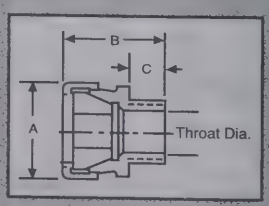
| Cable Size Range Min.–Max. | Hub Size (In.) | Throat Dia. Min. (In.) | Dimensions (In.) A | B | C | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| .125–.250 | 1/2 | 9/16 | 1 1/8 | 1 21/32 | 9/16 | 2520 | 2A246 | $4.43 | $3.65 | 0.1 |
| .250–.375 | 1/2 | 9/16 | 1 1/8 | 1 21/32 | 9/16 | 2521 | 2A247 | 4.43 | 3.65 | 0.1 |
| .375–.500 | 1/2 | 9/16 | 1 1/8 | 1 21/32 | 9/16 | 2522 | 2A248 | 4.43 | 3.65 | 0.1 |
| .500–.625 | 1/2 | 5/8 | 1 1/8 | 1 1/4 | 19/32 | 2524* | 2A251 | 4.93 | 4.07 | 0.2 |
| .125–.250 | 1/2 | 9/16 | 1 1/16 | 1 5/8 | — | 2631 | 3LK35 | 8.19 | 7.37 | 0.2 |

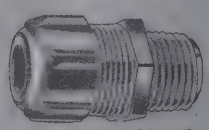
(*) Remove sufficient outer covering of cable to permit conductors to pass through connector body.
Temperature rating 105°C. Suitable for hazardous locationsuse in Class I, Div. 2; Class II, Div. 1 and 2, Class III, Div. 1 and 2, where general purpose equipment is specifically permitted per NEC Section 500-2(a).

Thomas&Betts

LR4484

E13938



No. 2A246

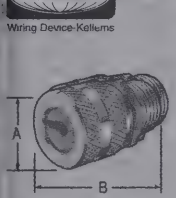


When the spec calls for brand names, you'll find the best here.

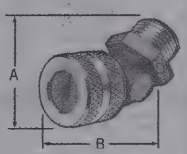
## MACHINED ALUMINUM STRAIN RELIEF CORD CONNECTORS

- Factory lubricated bushing ensures liquidtight seal around cord while minimizing tension on terminals
- Patented Gotcha® Ring, color-coded by cord size, grips conductor through cord jacket
- Machined aluminum components are more durable and reliable than cast metal parts
- UL Listed (E54218(M)), CSA Certified (LR27378)

HUBBELL® Wiring Device-Kellems

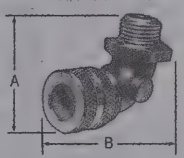



No. 5D712




No. 5D827

No. 5D798




Order locknuts on page 661



No. 5D865

| NPT Hub Size (In.) | Cord Diameter (In.) | Dimensions (In.) A | B | Kellems Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **STRAIGHT CONNECTOR ORDERING DATA** | | | | | | | | |
| 3/8 | .187-.250 | 0.88 | 1.36 | SHC-1009 | **5D712** | $7.81 | **$6.25** | 0.1 |
| 3/8 | .250-.312 | 0.88 | 1.36 | SHC-1010 | **5D713** | 6.27 | **5.02** | 0.1 |
| 3/8 | .312-.375 | 0.88 | 1.36 | SHC-1011 | **5D714** | 6.27 | **5.02** | 0.1 |
| 3/8 | .375-.437 | 0.88 | 1.36 | SHC-1012 | **5D715** | 6.27 | **5.02** | 0.1 |
| 1/2 | .187-.250 | 0.88 | 1.45 | SHC-1015 | **5D716** | 6.55 | **5.24** | 0.1 |
| 1/2 | .250-.312 | 0.88 | 1.45 | SHC-1016 | **5D717** | 8.14 | **6.52** | 0.1 |
| 1/2 | .312-.375 | 0.88 | 1.45 | SHC-1017 | **5D718** | 5.54 | **4.44** | 0.1 |
| 1/2 | .375-.437 | 0.88 | 1.45 | SHC-1018 | **5D719** | 5.54 | **4.44** | 0.1 |
| 1/2 | .125-.187 | 1.13 | 1.65 | SHC-1020 | **5D721** | 6.55 | **5.24** | 0.1 |
| 1/2 | .187-.250 | 1.13 | 1.65 | SHC-1021 | **5D722** | 5.54 | **4.44** | 0.1 |
| 1/2 | .250-.375 | 1.13 | 1.65 | SHC-1022 | **5D723** | 5.54 | **4.44** | 0.1 |
| 1/2 | .375-.500 | 1.13 | 1.65 | SHC-1023 | **5D724** | 5.54 | **4.44** | 0.1 |
| 1/2 | .500-.625 | 1.13 | 1.65 | SHC-1024 | **5D725** | 5.66 | **4.53** | 0.1 |
| 1/2 | .625-.750 | 1.13 | 1.65 | SHC-1027 | **5D726*** | 5.77 | **4.62** | 0.1 |
| 3/4 | .250-.375 | 1.13 | 1.65 | SHC-1032 | **5D731** | 5.77 | **4.62** | 0.1 |
| 3/4 | .375-.500 | 1.13 | 1.65 | SHC-1033 | **5D732** | 5.77 | **4.62** | 0.1 |
| 3/4 | .500-.625 | 1.13 | 1.65 | SHC-1034 | **5D733** | 5.77 | **4.62** | 0.1 |
| 3/4 | .625-.750 | 1.38 | 2.05 | SHC-1037 | **5D735** | 6.81 | **5.45** | 0.1 |
| 3/4 | .750-.875 | 1.38 | 2.05 | SHC-1038 | **5D736*** | 7.18 | **5.75** | 0.2 |
| 1 | .500-.625 | 1.75 | 2.31 | SHC-1040 | **5D738** | 7.64 | **6.12** | 0.2 |
| 1 | .625-.750 | 1.75 | 2.31 | SHC-1041 | **5D739** | 7.64 | **6.12** | 0.3 |
| 1 | .750-.875 | 1.75 | 2.31 | SHC-1042 | **5D740** | 7.87 | **6.30** | 0.3 |
| 1 | .875-1.000 | 1.75 | 2.31 | SHC-1043 | **5D741** | 7.64 | **6.12** | 0.3 |
| **90° CONNECTOR ORDERING DATA** | | | | | | | | |
| 1/2 | .187-.250 | 2.06 | 2.30 | NHC-1021 | **5D798** | 10.92 | **8.74** | 0.2 |
| 1/2 | .250-.375 | 2.06 | 2.30 | NHC-1022 | **5D799** | 9.24 | **7.40** | 0.1 |
| 1/2 | .375-.500 | 2.06 | 2.30 | NHC-1023 | **5D800** | 9.24 | **7.40** | 0.2 |
| 1/2 | .500-.625 | 2.06 | 2.30 | NHC-1024 | **5D801*** | 9.24 | **7.40** | 0.2 |
| 3/4 | .625-.750 | 2.35 | 2.80 | NHC-1037 | **5D804*** | 13.24 | **10.59** | 0.2 |
| 3/4 | .750-.875 | 2.35 | 2.80 | NHC-1038 | **5D805*** | 13.24 | **10.59** | 0.2 |
| **45° CONNECTOR ORDERING DATA** | | | | | | | | |
| 1/2 | .250-.375 | 2.55 | 1.90 | VHC-1022 | **5D827** | 11.46 | **9.17** | 0.2 |
| 1/2 | .375-.500 | 2.55 | 1.90 | VHC-1023 | **5D828** | 11.46 | **9.17** | 0.2 |
| 1/2 | .500-.625 | 2.55 | 1.90 | VHC-1024 | **5D829*** | 11.46 | **9.17** | 0.2 |
| 3/4 | .500-.625 | 2.86 | 2.50 | VHC-1036 | **5D831** | 11.32 | **9.06** | 0.2 |
| 3/4 | .625-.750 | 2.86 | 2.50 | VHC-1037 | **5D832*** | 11.32 | **9.06** | 0.2 |
| **UNDERGROUND FEEDER CONNECTOR ORDERING DATA** | | | | | | | | |
| 1/2 | .250 x .550 | 1.13 | 1.65 | UFC0001 | **5D865** | 5.20 | **4.16** | 0.1 |

(*) Cable jacket may have to be stripped to pass through connector body.

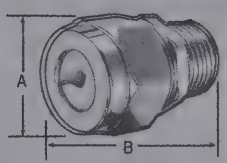
## MACHINED ZINC PLATED STEEL METAL STRAIN RELIEF CORD CONNECTORS

HUBBELL® Wiring Device-Kellems

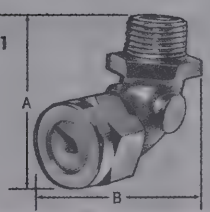
New

- Use steel for highest impact resistance and tensile strength
- Zinc plating provides longer life
- Machined steel parts are more durable and reliable than cast metal parts
- Includes patented, color-coded Gotcha® Ring
- UL Listed (E54218(M)), CSA Certified (LR27378)
- Order locknuts on page 661

No. 5D924




No. 5D971




| NPT Hub Size (In.) | Cord Diameter (In.) | Dimensions (In.) A | B | Kellems Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **STRAIGHT CONNECTORS ORDERING DATA** | | | | | | | | |
| 1/2 | .187-.250 | 1.27 | 1.75 | SHC-1021-ZP | **5D922** | $6.56 | **$5.25** | 0.2 |
| 1/2 | .250-.375 | 1.27 | 1.75 | SHC-1022-ZP | **5D923** | 5.55 | **4.45** | 0.2 |
| 1/2 | .375-.500 | 1.27 | 1.75 | SHC-1023-ZP | **5D924** | 5.55 | **4.45** | 0.2 |
| 1/2 | .500-.625 | 1.27 | 1.75 | SHC-1024-ZP | **5D925** | 5.78 | **4.63** | 0.1 |
| 3/4 | .250-.375 | 1.27 | 1.75 | SHC-1032-ZP | **5D931** | 9.03 | **7.22** | 0.3 |
| 3/4 | .375-.500 | 1.27 | 1.75 | SHC-1033-ZP | **5D932** | 9.03 | **7.22** | 0.3 |
| 3/4 | .500-.625 | 1.27 | 1.75 | SHC-1034-ZP | **5D933** | 7.26 | **5.81** | 0.3 |
| 3/4 | .625-.750 | 1.55 | 1.95 | SHC-1037-ZP | **5D934** | 10.25 | **8.21** | 0.3 |
| 3/4 | .750-.875 | 1.55 | 1.95 | SHC-1038-ZP | **5D935** | 12.75 | **10.21** | 0.3 |
| 1 | .625-.750 | 1.55 | 1.95 | SHC1098ZP | **New 5D966** | 14.74 | **11.79** | 2.0 |
| 1 | .750-.875 | 1.55 | 1.95 | SHC1099ZP | **New 5D967** | 14.80 | **11.85** | 0.4 |
| 1 | .875-1.00 | 1.92 | 2.30 | SHC1043ZP | **5D936** | 22.61 | **18.09** | 0.5 |
| **90° CONNECTOR ORDERING DATA** | | | | | | | | |
| 1/2 | .250-.375 | 2.20 | 2.38 | NHC-1022-ZP | **5D971** | 9.73 | **7.79** | 0.4 |
| 1/2 | .375-.500 | 2.20 | 2.38 | NHC-1023-ZP | **5D972** | 9.73 | **7.79** | 0.4 |
| 1/2 | .500-.625 | 2.20 | 2.38 | NHC-1024-ZP | **5D973** * | 10.19 | **8.16** | 0.4 |

(*) Cable jacket may have to be stripped to pass through connector body.

# NYLON STRAIN RELIEF CORD CONNECTORS

- Nylon construction is highly resistant to corrosion, yet tough, durable
- Provides liquidtight seal around cord minimizes tension on terminals
- Ideal for wash-down areas
- Color-coded, Gotcha® Ring grips conductors through cord jacket
- Factory lubricated bushing ensures even compression inside body for reliable liquidtight seal
- UL Listed (E54218(M)), CSA Certified (LR27378)



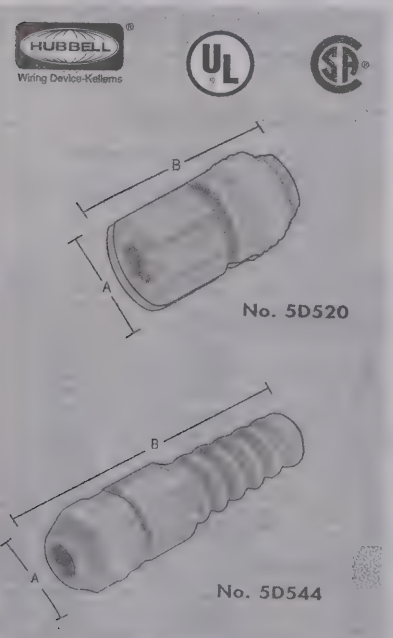

| NPT Hub (In.) | Cord Dia. (In.) | Dimensions (In.) A | B | Kellems Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **CORROSION-RESISTANT STRAIGHT NYLON CONNECTORS** | | | | | | | | |
| 1/2 | .125-.187 | 1.32 | 2.03 | SHC-1020-CR | **5D881** | $6.12 | **$4.90** | 0.1 |
| 1/2 | .187-.250 | 1.32 | 2.03 | SHC-1021-CR | **5D882** | 6.12 | **4.90** | 0.1 |
| 1/2 | .250-.375 | 1.32 | 2.03 | SHC-1022-CR | **5D883** | 6.12 | **4.90** | 0.1 |
| 1/2 | .375-.500 | 1.32 | 2.03 | SHC-1023-CR | **5D884** | 6.12 | **4.90** | 0.1 |
| 1/2 | .500-.625 | 1.32 | 2.03 | SHC-1024-CR | **5D885*** | 6.12 | **4.90** | 0.1 |
| 3/4 | .375-.500 | 1.56 | 2.15 | SHC-1035-CR | **5D886** | 6.58 | **5.27** | 0.1 |
| 3/4 | .500-.625 | 1.56 | 2.15 | SHC-1036-CR | **5D887** | 6.58 | **5.27** | 0.1 |
| 3/4 | .625-.750 | 1.56 | 2.15 | SHC-1037-CR | **5D888** | 6.58 | **5.27** | 0.1 |
| 3/4 | .750-.875 | 1.56 | 2.15 | SHC-1038-CR | **5D889*** | 7.79 | **6.23** | 0.2 |
| 1 | .625-.750 | 1.88 | 2.45 | SHC-1041-CR | **5D892** | 9.97 | **7.98** | 0.2 |
| 1 | .750-.875 | 1.88 | 2.45 | SHC-1042-CR | **5D893** | 10.10 | **8.09** | 0.2 |
| 1 | .875-1.000 | 1.88 | 2.45 | SHC-1043-CR | **5D894** | 10.10 | **8.09** | 0.2 |
| **CORROSION-RESISTANT NYLON, 90° CONNECTORS** | | | | | | | | |
| 1/2 | .250-.375 | 1.96 | 2.50 | NHC-1022-CR | **5D899** | 10.38 | **8.31** | 0.1 |
| 1/2 | .375-.500 | 1.96 | 2.50 | NHC-1023-CR | **5D900** | 10.38 | **8.31** | 0.1 |
| 1/2 | .500-.625 | 1.96 | 2.50 | NHC-1024-CR | **5D901*** | 10.38 | **8.31** | 0.1 |
| 3/4 | .500-.625 | 2.21 | 2.81 | NHC-1036-CR | **5D903** | 15.41 | **12.33** | 0.2 |
| 3/4 | .625-.750 | 2.21 | 2.81 | NHC-1037-CR | **5D904*** | 13.05 | **10.44** | 0.2 |
| **NYLON UNDERGROUND FEEDER CONNECTORS** | | | | | | | | |
| 1/2 | .250 x .550 | 1.32 | 2.05 | UFC0001CR | **5D912** | 5.89 | **4.71** | 0.1 |

(*) Cable jacket may have to be stripped to pass through connector body.

## HUBBELL JUNIORS

- Non-liquidtight snap-in connector provides arc-of-bend control to improve cord life and reduce conductor breakage
- Tough nylon construction
- UL Recognized (E96650), CSA Certified (LR27378)
- Gray in color

| Thickness | Cord Dia. (In.) | Dimensions (In.) A | B | Kellems Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **.100 max.** | .22-.27 | .54 | 1.84 | HS1001G | **6D018** | $0.38 | **$0.30** | 0.1 |
| **.100 max.** | .28-.32 | .59 | 1.84 | HS1002G | **5D513** | 0.49 | **0.40** | 0.1 |
| **.125 max.** | .30-.36 | .65 | 2.18 | HS1003G | **5D514** | 0.49 | **0.40** | 0.1 |
| **.125 max.** | .32-.43 | .75 | 2.60 | HS1004G | **5D515** | 0.61 | **0.49** | 0.1 |




## HUBBELL JUNIORS—LIQUIDTIGHT

- Miniature liquidtight version of full-sized cord connectors
- Complete with Gotcha® Ring and neoprene bushing
- Available with or without arc-of-bend controlling spiral
- Hand tightening installation
- Includes nylon locknut
- Resists corrosion
- UL Listed (E54218(M)) CSA Certified (LR27378)
- Gray in color

| NPT Hub (In.) | Cord Dia. (In.) | Dimensions (In.) A | B | Kellems Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **HUBBELL JUNIORS—LIQUIDTIGHT NYLON** | | | | | | | | |
| 1/4 | .075-.135 | 0.65 | 1.30 | HJ1001G | **5D520** | $2.66 | **$2.13** | 0.1 |
| 1/4 | .135-.200 | 0.65 | 1.30 | HJ1002G | **5D521** | 2.66 | **2.13** | 0.1 |
| 1/4 | .200-.265 | 0.65 | 1.30 | HJ1003G | **5D522** | 2.66 | **2.13** | 0.1 |
| 3/8 | .145-.210 | 0.81 | 1.44 | HJ1004G | **5D523** | 2.66 | **2.13** | 0.1 |
| 3/8 | .210-.275 | 0.81 | 1.44 | HJ1005G | **5D524** | 2.66 | **2.13** | 0.1 |
| 3/8 | .275-.340 | 0.81 | 1.44 | HJ1006G | **5D525** | 2.66 | **2.13** | 0.1 |
| 1/2 | .187-.250 | 1.00 | 1.56 | HJ1057G | **5D528** | 5.31 | **4.25** | 0.1 |
| 1/2 | .250-.312 | 1.00 | 1.56 | HJ1058G | **5D529** | 5.31 | **4.25** | 0.1 |
| 1/2 | .312-.375 | 1.00 | 1.56 | HJ1059G | **5D530** | 5.31 | **4.25** | 0.1 |
| 1/2 | .375-.437 | 1.00 | 1.56 | HJ1060G | **5D531** | 5.31 | **4.25** | 0.1 |
| **HUBBELL JUNIORS—LIQUIDTIGHT NYLON WITH SPIRAL** | | | | | | | | |
| 1/4 | .075-.135 | 0.65 | 2.55 | HJ1010G | **5D544** | 2.89 | **2.32** | 0.1 |
| 1/4 | .135-.200 | 0.65 | 2.55 | HJ1011G | **5D545** | 2.89 | **2.32** | 0.1 |
| 1/4 | .200-.265 | 0.65 | 2.55 | HJ1012G | **5D546** | 2.89 | **2.32** | 0.1 |
| 3/8 | .210-.275 | 0.81 | 3.10 | HJ1014G | **5D548** | 2.89 | **2.32** | 0.1 |
| 3/8 | .275-.340 | 0.81 | 3.10 | HJ1015G | **5D549** | 2.89 | **2.32** | 0.1 |
| 1/2 | .187-.250 | 1.00 | 3.72 | HJ1039G | **6D058** | 5.89 | **4.71** | 0.1 |
| 1/2 | .250-.312 | 1.00 | 3.72 | HJ1040G | **6D059** | 5.89 | **4.71** | 0.1 |
| 1/2 | .312-.375 | 1.00 | 3.72 | HJ1041G | **6D060** | 5.89 | **4.71** | 0.1 |
| 1/2 | .375-.437 | 1.00 | 3.72 | HJ1042G | **6D061** | 5.89 | **4.71** | 0.1 |



When the spec calls for brand names, you'll find the best here.

# LIQUIDTIGHT GRIPS FOR CORD AND CABLE

- Applications include wiring enclosures, pendant stations, construction sites, processing and material handling equipment, pumps, motors, and machine tools
- Deluxe cord grips completely eliminate pull tension on terminals
- Control cable arc-of-bend and prevent cord pull-out
- For indoor or outdoor use to seal out moisture or cutting oils
- Features a stainless steel mesh for cable bend control and corrosion resistance
- Aluminum fitting connects to box or hub sealing out contaminants
- UL Listed



Straight Liquidtight Cord Grip No. 6C101



90° Liquidtight Cord Grip No. 6D170

| Cable Dia. Range | NPT Size (In.) | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **STRAIGHT LIQUIDTIGHT CORD GRIPS ORDERING DATA** | | | | | | | |
| 0.250-0.312 | 3/8 | 074-01-001 | 6D124 | $44.86 | $35.90 | $32.32 | 0.1 |
| 0.312-0.375 | 3/8 | 074-01-002 | 6D125 | 44.86 | 35.90 | 32.32 | 0.1 |
| 0.375-0.437 | 3/8 | 074-01-003 | 5C800 | 42.21 | 33.80 | 30.40 | 0.1 |
| 0.187-0.250 | 1/2 | 074-01-004 | 6D126 | 46.24 | 37.00 | 33.31 | 0.1 |
| 0.250-0.375 | 1/2 | 074-01-006 | 6D127 | 46.24 | 37.00 | 33.31 | 0.1 |
| 0.375-0.500 | 1/2 | 074-01-008 | 6C101 | 43.59 | 34.90 | 31.40 | 0.1 |
| 0.500-0.625 | 1/2 | 074-01-010 | 6C102 | 43.59 | 34.90 | 31.40 | 0.1 |
| 0.625-0.750 | 1/2 | 074-01-1247 | 6D128 | 46.24 | 37.00 | 33.31 | 0.1 |
| 0.250-0.375 | 3/4 | 074-01-013 | 6D131 | 50.52 | 40.45 | 36.39 | 0.2 |
| 0.375-0.500 | 3/4 | 074-01-015 | 6D132 | 50.52 | 40.45 | 36.39 | 0.2 |
| 0.500-0.625 | 3/4 | 074-01-017 | 6C103 | 47.51 | 38.05 | 34.23 | 0.1 |
| 0.625-0.750 | 3/4 | 074-01-018 | 6C104 | 53.40 | 42.75 | 38.47 | 0.2 |
| 0.750-0.875 | 3/4 | 074-01-1249 | 6D133* | 56.29 | 45.05 | 40.55 | 0.2 |
| 0.375-0.500 | 1 | 074-01-1195 | 6D134 | 67.94 | 54.40 | 48.94 | 0.3 |
| 0.500-0.625 | 1 | 074-01-019 | 5C801 | 64.02 | 51.25 | 46.12 | 0.3 |
| 0.625-0.750 | 1 | 074-01-021 | 5C802 | 64.02 | 51.25 | 46.12 | 0.3 |
| 0.750-0.875 | 1 | 074-01-023 | 6C105 | 64.02 | 51.25 | 46.12 | 0.3 |
| 0.875-1.000 | 1 | 074-01-025 | 6C106 | 64.02 | 51.25 | 46.12 | 0.3 |
| 1.000-1.125 | 1 | 074-01-1250 | 6D135* | 67.94 | 54.40 | 48.94 | 0.3 |
| 0.875-1.000 | 1¼ | 074-01-026 | 6D136 | 98.88 | 79.15 | 71.23 | 0.6 |
| 1.000-1.125 | 1¼ | 074-01-027 | 6D137 | 98.88 | 79.15 | 71.23 | 0.6 |
| 1.125-1.250 | 1¼ | 074-01-028 | 6D138 | 98.88 | 79.15 | 71.23 | 0.6 |
| 1.250-1.375 | 1¼ | 074-01-1178 | 6D139* | 98.88 | 79.15 | 71.23 | 0.6 |
| 1.000-1.125 | 1½ | 074-01-030 | 6D142 | 116.29 | 93.05 | 83.77 | 0.6 |
| 1.125-1.250 | 1½ | 074-01-031 | 6D143 | 116.29 | 93.05 | 83.77 | 0.6 |
| 1.250-1.375 | 1½ | 074-01-032 | 6D144 | 116.29 | 93.05 | 83.77 | 0.6 |
| 1.437-1.562 | 2 | 074-01-033 | 6D152 | 154.30 | 123.45 | 111.14 | 1.2 |
| 1.562-1.687 | 2 | 074-01-034 | 6D153 | 154.30 | 123.45 | 111.14 | 1.2 |
| **90° LIQUIDTIGHT CORD GRIPS ORDERING DATA** | | | | | | | |
| 0.187-0.250 | 1/2 | 074-01-074 | 6D170 | 64.23 | 51.40 | 46.27 | 0.1 |
| 0.250-0.375 | 1/2 | 074-01-076 | 6D171 | 64.23 | 51.40 | 46.27 | 0.1 |
| 0.375-0.500 | 1/2 | 074-01-078 | 6D172 | 64.23 | 51.40 | 46.27 | 0.1 |
| 0.500-0.625 | 1/2 | 074-01-080 | 6D173* | 64.23 | 51.40 | 46.27 | 0.1 |
| 0.375-0.500 | 3/4 | 074-01-081 | 6D174 | 83.15 | 66.55 | 59.90 | 0.2 |
| 0.500-0.625 | 3/4 | 074-01-083 | 6D175 | 83.15 | 66.55 | 59.90 | 0.2 |
| 0.625-0.750 | 3/4 | 074-01-084 | 6D176* | 83.15 | 66.55 | 59.90 | 0.2 |
| 0.625-0.750 | 1 | 074-01-087 | 6D178 | 88.36 | 70.70 | 63.65 | 0.4 |
| 0.750-0.875 | 1 | 074-01-089 | 6D179 | 88.36 | 70.70 | 63.65 | 0.4 |

(*) Cable jacket may have to be stripped to pass through connector body.

# DUSTTIGHT GRIPS FOR CORD AND CABLE

- Strain relief grips connect electrical cable to power boxes, cabinets, panel boards, and motor starters using bus drop systems
- For indoor applications only
- Prevents cable pull-out where a dusttight seal is required • UL Listed



Non-Insulated Dusttight Grip No. 6C089

| Cable Dia. Range | NPT Size (In.) | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **NON-INSULATED DUST TIGHT GRIPS ORDERING DATA** | | | | | | | |
| 0.24-0.32 | 1/2 | 073-03-1200 | 6C089 | $13.50 | $10.80 | $9.73 | 0.1 |
| 0.32-0.43 | 1/2 | 073-03-1201 | 6C090 | 13.61 | 10.90 | 9.81 | 0.1 |
| 0.43-0.54 | 1/2 | 073-03-1202 | 6C091 | 16.03 | 12.83 | 11.55 | 0.1 |
| 0.54-0.73 | 3/4 | 073-03-1203 | 6C092 | 17.39 | 13.92 | 12.53 | 0.1 |
| 0.73-0.97 | 1 | 073-03-1204 | 6C093 | 20.05 | 16.04 | 14.44 | 0.1 |
| 0.97-1.25 | 1¼ | 073-03-1205 | 6C094 | 24.58 | 19.67 | 17.71 | 0.2 |

CONTINUED ON NEXT PAGE

# DUSTTIGHT AND FLEXIBLE METAL CONDUIT GRIPS AND STRAIN RELIEF DEVICES

## DUSTTIGHT GRIPS FOR CORD AND CABLE



Dusttight Grip with Insulating Bushing No. 6D113



Straight Conduit Grip No. 6C113

| Cable Dia. Range | Thread Size (In.) | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **DUSTTIGHT GRIPS WITH INSULATING BUSHING ORDERING DATA** | | | | | | | |
| **0.24-0.32** | 1/2 NPS | 073-03-1206 | **6D113** | $20.44 | **$16.35** | **$14.72** | 0.1 |
| **0.32-0.43** | 1/2 NPS | 073-03-1207 | **6D114** | 18.46 | **14.77** | **13.30** | 0.1 |
| **0.43-0.54** | 1/2 NPS | 073-03-1208 | **6D115** | 19.61 | **15.69** | **14.13** | 0.1 |
| **0.54-0.73** | 3/4 NPS | 073-03-1209 | **6D116** | 21.91 | **17.54** | **15.79** | 0.1 |
| **0.73-0.97** | 1 NPS | 073-03-1210 | **6D117** | 23.54 | **18.84** | **16.96** | 0.2 |
| **0.97-1.25** | 1¼ NPS | 073-03-1211 | **6D118** | 29.32 | **23.46** | **21.12** | 0.3 |
| **1.25-1.50** | 1½ NPT | 073-03-1212 | **6D119** | 49.62 | **39.75** | **35.75** | 0.4 |
| **1.50-1.70** | 2 NPT | 073-03-1213 | **6D120** | 61.65 | **49.35** | **44.41** | 0.7 |

## LIQUIDTIGHT FLEXIBLE METAL CONDUIT GRIPS

- Prevents conduit pull-out from connecting fitting
- Eliminate stress, vibration, motion, and strain on connecting fitting
- Features stainless steel mesh grip for superior gripping ability and corrosion resistance
- For indoor or outdoor use
- Includes high quality zinc-plated insulated steel fitting for a liquidtight seal
- UL Listed



90° Conduit Grip No. 6D202



45° Conduit Grip No. 6D209

| Conduit Size (In.) | NPT Size (In.) | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **STRAIGHT CONDUIT GRIPS** | | | | | | | |
| **3/8** | 1/2 | 074-09-3511 | **6C113** | $27.00 | **$21.61** | **$19.45** | 0.2 |
| **1/2** | 1/2 | 074-09-3512 | **6C114** | 27.81 | **22.25** | **20.03** | 0.2 |
| **3/4** | 3/4 | 074-09-3513 | **6C115** | 36.12 | **28.90** | **26.02** | 0.3 |
| **1** | 1 | 074-09-3514 | **6C116** | 42.94 | **34.40** | **30.93** | 0.4 |
| **1¼** | 1¼ | 074-09-3515 | **6D196** | 57.40 | **45.95** | **41.35** | 0.8 |
| **1½** | 1½ | 074-09-3516 | **6D197** | 84.46 | **67.60** | **60.84** | 1.5 |
| **2** | 2 | 074-09-3518 | **6D198** | 130.93 | **104.80** | **94.31** | 1.5 |
| **90° CONDUIT GRIPS** | | | | | | | |
| **3/8** | 1/2 | 074-09-3541 | **6D202** | 33.24 | **26.60** | **23.94** | 0.3 |
| **1/2** | 1/2 | 074-09-3542 | **6D203** | 34.28 | **27.45** | **24.69** | 0.3 |
| **3/4** | 3/4 | 074-09-3543 | **6D204** | 43.97 | **35.20** | **31.68** | 0.4 |
| **1** | 1 | 074-09-3544 | **6D205** | 63.15 | **50.55** | **45.49** | 0.7 |
| **1¼** | 1¼ | 074-09-3545 | **6D206** | 82.71 | **66.20** | **59.58** | 1.3 |
| **1½** | 1½ | 074-09-3546 | **6D207** | 112.32 | **89.90** | **80.91** | 2.1 |
| **45° CONDUIT GRIPS** | | | | | | | |
| **1/2** | 1/2 | 074-09-3562 | **6D209** | 34.28 | **27.45** | **24.69** | 0.3 |
| **3/4** | 3/4 | 074-09-3563 | **6D210** | 43.97 | **35.20** | **31.68** | 0.4 |
| **1** | 1 | 074-09-3564 | **6D211** | 63.15 | **50.55** | **45.49** | 0.7 |

## I-GRIP STRAIN RELIEF DEVICES FOR HUBBELL INSULGRIP® PLUGS AND CONNECTORS



No. 6D190
Grip only, plug not included. See page 709 for plugs.

Kellems I-Grips are made of high strength, plastic coated galvanized steel strand. Six sizes will fit all cable diameters used with Insulgrip products.

- Control cable arc-of-bend and reduce high pull tensions from wiring terminals on cord sets
- Fits all 2, 3, 4 and 5 wire Hubbell Insulgrip plugs and connector bodies
- Eye tabs fit under nylon cord clamp and screws slide through eyelet holes, securing grip in place
- UL Listed

| Cable Dia. Range | Mesh Length (In.) | Eye Length (In.) | Eyelet Hole Diameter | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **I-GRIP ORDERING DATA** | | | | | | | | | |
| **0.32-0.43** | 4 | 1¼ | .203 | 073-10-001 | **6D190** | $26.07 | **$20.86** | **$18.78** | 0.1 |
| **0.43-0.56** | 4¾ | 1¼ | .203 | 073-10-002 | **6D191** | 28.14 | **22.52** | **20.27** | 0.1 |
| **0.56-0.73** | 6 | 1½ | .203 | 073-10-003 | **6D192** | 29.52 | **23.63** | **21.27** | 0.1 |
| **0.73-0.85** | 6½ | 1½ | .203 | 073-10-004 | **6D193** | 31.50 | **25.20** | **22.69** | 0.2 |
| **0.85-1.00** | 8 | 1½ | .203 | 073-10-005 | **6D194** | 32.07 | **25.70** | **23.11** | 0.2 |
| **1.00-1.25** | 10 | 1½ | .203 | 073-10-006 | **6D195** | 34.03 | **27.25** | **24.52** | 0.2 |

# LIQUIDTIGHT GRIPS, SAFETY SPRINGS, AND CABLE SUPPORT GRIPS

## LIQUIDTIGHT CONDUIT GRIPS FOR UL TYPE A, NONMETALLIC, FLEXIBLE CONDUIT

- Provides heavy-duty strain relief for conduit with fitting and stainless mesh
- UL Listed
- Features high quality Hubbell plated steel or malleable iron fitting, complete with sealing O-ring and locknut

| Conduit Size (In.) | NPT Size (In.) | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **STRAIGHT LIQUIDTIGHT CONDUIT GRIPS FOR UL, TYPE A** | | | | | | | |
| **1/2** | 1/2 | H050CNK | **6D219** | $55.76 | **$44.65** | **$40.14** | 0.4 |
| **3/4** | 3/4 | H075CNK | **6D220** | 76.75 | **61.40** | **55.25** | 0.5 |
| **1** | 1 | H100CNK | **6D221** | 98.02 | **78.45** | **70.57** | 0.7 |
| **1 1/4** | 1 | H125CNK | **6D222** | 178.57 | **142.85** | **128.56** | 1.1 |
| **1 1/2** | 1 1/2 | H150CNK | **6D223** | 237.77 | **190.25** | **171.17** | 1.7 |
| **90° LIQUIDTIGHT CONDUIT GRIPS FOR UL, TYPE A** | | | | | | | |
| **1/2** | 1/2 | H0509CNK | **6D224** | 79.73 | **63.80** | **57.40** | 0.4 |
| **3/4** | 3/4 | H0759CNK | **6D225** | 111.61 | **89.30** | **80.35** | 0.5 |
| **1** | 1 | H1009CNK | **6D226** | 178.72 | **143.00** | **128.67** | 1.2 |
| **1 1/4** | 1 1/4 | H1259CNK | **6D227** | 300.03 | **240.00** | **215.99** | 1.8 |

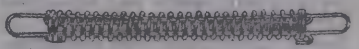



No. 6D223 No. 6D224

## SAFETY SPRINGS

- Made of high quality zinc plated steel
- Used to relieve sudden tensions on cable systems
- Easy to use with Bus Drop and Strain Relief Grips
- Quickly installed

| Description | Approx. Breaking Strength (Lbs.) | Length (In.) (No Load) | Dia. (In.) | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **40 lb. Spring** | 500 | 8 1/4 | 3/4 | 203-02-001 | **6D262** | $8.90 | **$7.12** | **$6.41** | 0.2 |
| **80 lb. Spring** | 850 | 8 1/4 | 1 | 203-02-002 | **6D263** | 13.38 | **10.71** | **9.64** | 0.1 |

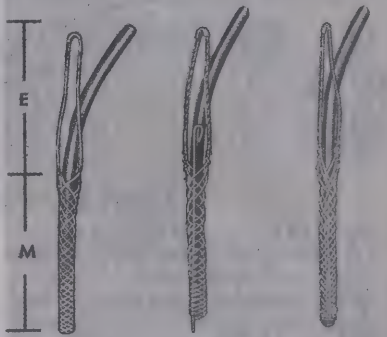


Safety Spring No. 6D262

## SINGLE EYE CABLE SUPPORT GRIPS

- Will hold the weight of electrical cable as it hangs in a vertical, sloping or horizontal position
- Single eye for simple attachment
- Easy to install, reuse, and reposition
- Available in split styles to wrap around cable when cable end is not available
- Tin-coated bronze

| Cable Dia. Range | Approx. Breaking Strength (Lbs.) | Eye (E) Length (In.) | Mesh (M) Length (In.) at Nom. Dia. | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **CABLE SUPPORT GRIPS, CLOSED** | | | | | | | | | |
| **0.50-0.62** | 530 | 7 | 10 | 022-01-013 | **6D229** | $24.68 | **$19.75** | **$17.78** | 0.1 |
| **0.63-0.74** | 790 | 8 | 10 | 022-01-014 | **6D230** | 26.65 | **21.33** | **19.20** | 0.2 |
| **0.75-0.99** | 1020 | 8 | 13 | 022-01-015 | **6D231** | 30.70 | **24.57** | **22.12** | 0.3 |
| **1.00-1.24** | 1610 | 9 | 14 | 022-01-017 | **6D232** | 34.52 | **27.65** | **24.87** | 0.4 |
| **1.25-1.49** | 1610 | 10 | 15 | 022-01-018 | **6D233** | 36.82 | **29.50** | **26.53** | 0.4 |
| **1.50-1.74** | 1610 | 12 | 17 | 022-01-019 | **6D234** | 40.76 | **32.65** | **29.36** | 0.5 |
| **1.75-1.99** | 2150 | 14 | 19 | 022-01-020 | **6D235** | 55.77 | **44.65** | **40.17** | 0.7 |
| **2.00-2.49** | 3260 | 16 | 21 | 022-01-021 | **6D236** | 65.75 | **52.65** | **47.36** | 1.2 |
| **2.50-2.99** | 3260 | 18 | 23 | 022-01-022 | **6D237** | 89.79 | **71.85** | **64.64** | 1.2 |
| **CABLE SUPPORT GRIPS, SPLIT, ROD CLOSING** | | | | | | | | | |
| **0.50-0.62** | 790 | 7 | 8 1/2 | 022-03-013 | **6D240** | 34.49 | **27.60** | **24.85** | 0.2 |
| **0.63-0.74** | 790 | 8 | 8 1/2 | 022-03-014 | **6D241** | 36.58 | **29.30** | **26.35** | 0.3 |
| **0.75-0.99** | 1020 | 8 | 10 1/2 | 022-03-015 | **6D242** | 40.17 | **32.15** | **28.94** | 0.4 |
| **1.00-1.24** | 1610 | 9 | 12 1/2 | 022-03-017 | **6D243** | 42.70 | **34.20** | **30.76** | 0.4 |
| **1.25-1.49** | 1610 | 10 | 14 1/2 | 022-03-018 | **6D244** | 46.98 | **37.60** | **33.84** | 0.5 |
| **1.50-1.74** | 1610 | 12 | 15 1/2 | 022-03-019 | **6D245** | 52.21 | **41.80** | **37.61** | 0.8 |
| **1.75-1.99** | 2150 | 14 | 16 1/2 | 022-03-020 | **6D246** | 68.35 | **54.70** | **49.23** | 0.8 |
| **2.00-2.49** | 3260 | 16 | 19 1/2 | 022-03-021 | **6D247** | 77.85 | **62.30** | **56.08** | 1.2 |
| **2.50-2.99** | 3260 | 18 | 21 1/2 | 022-03-022 | **6D248** | 88.36 | **70.70** | **63.65** | 1.3 |
| **CABLE SUPPORT GRIPS, SPLIT, LACE CLOSING** | | | | | | | | | |
| **0.50-0.62** | 530 | 7 | 10 | 022-02-013 | **6D251** | 28.73 | **22.99** | **20.70** | 0.2 |
| **0.63-0.74** | 790 | 8 | 10 | 022-02-014 | **6D252** | 32.66 | **26.15** | **23.53** | 0.3 |
| **0.75-0.99** | 1020 | 8 | 13 | 022-02-015 | **6D253** | 33.25 | **26.65** | **23.95** | 0.4 |
| **1.00-1.24** | 1610 | 9 | 14 | 022-02-017 | **6D254** | 38.44 | **30.80** | **27.69** | 0.4 |
| **1.25-1.49** | 1610 | 10 | 15 | 022-02-018 | **6D255** | 40.18 | **32.15** | **28.94** | 0.5 |
| **1.50-1.74** | 1610 | 12 | 17 | 022-02-019 | **6D256** | 44.02 | **35.25** | **31.71** | 0.8 |
| **1.75-1.99** | 2150 | 14 | 19 | 022-02-020 | **6D257** | 65.01 | **52.05** | **46.83** | 0.8 |
| **2.00-2.49** | 3260 | 16 | 21 | 022-02-021 | **6D258** | 74.85 | **59.90** | **53.92** | 1.2 |



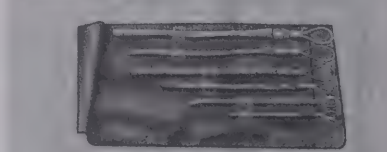

Closed No. 6D229 | Split, Rod Closure No. 6D240 | Split, Lace Closure No. 6D251

**NOTE: Never use grips at tensions up to listed breaking strength. Always use a Safety Factor in application. Recommended Factor of Safety—10.**

## JUNIOR PULLING GRIP KIT

- Kit contains 6 grips, one of each size listed on page 674
- Comes in a reusable, storage pouch
- Kellems brand (033-05-1114)

**No. 6D189**. Shpg. wt. 1.3 lbs. List $181.98. Each **$145.60**; Lots 5 ..... $131.08



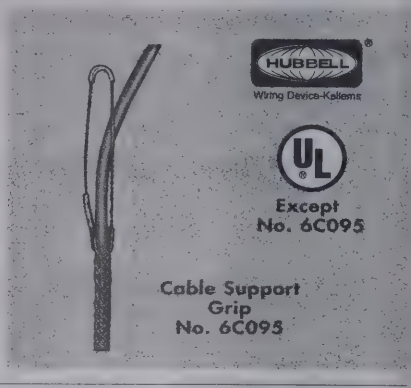

Junior Pulling Grip Kit No. 6D189

# CABLE SUPPORT, PULLING GRIPS AND WIRE SPOOL RACK

## CABLE SUPPORT GRIPS FOR BUS DROP CABLE

- Bus drop grips provide a safe, easy, and economical method to support flexible cord or bus drop cable
- For assembly equipment in manufacturing, processing or material handling applications
- For indoor use only
- Features a galvanized wire mesh grip to ensure holding power
- Single eye provides easy attachment to any hanger
- UL Listed (except No. 6C095)

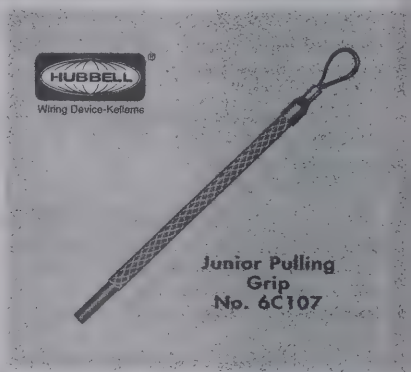
| Cable Diameter Range | Approx. Breaking Strength (Lbs.) | Eye Length (In.) | Mesh Length (In.) at Nominal Diameter | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0.24-0.32** | 350 | 3 | 3½ | 073-04-1276 | **6C095** | $10.73 | **$8.59** | **$7.73** | 0.1 |
| **0.32-0.43** | 450 | 4 | 4 | 073-04-1277 | **6C096** | 11.42 | **9.14** | **8.23** | 0.1 |
| **0.43-0.56** | 550 | 6 | 4¾ | 073-04-1278 | **6C097** | 13.15 | **10.53** | **9.48** | 0.1 |
| **0.56-0.73** | 1000 | 7 | 6 | 073-04-1279 | **6C098** | 15.80 | **12.65** | **11.39** | 0.1 |
| **0.73-0.85** | 1400 | 7 | 6¾ | 073-04-1280 | **6C099** | 17.99 | **14.40** | **12.96** | 0.1 |
| **0.85-1.00** | 1400 | 8 | 8 | 073-04-1281 | **6C100** | 18.46 | **14.77** | **13.30** | 0.1 |
| **1.00-1.25** | 1500 | 9 | 9½ | 073-04-1282 | **6D123** | 20.66 | **16.53** | **14.88** | 0.2 |




## JUNIOR PULLING GRIPS

- Designed to pull electrical, data, and communication wires at low tension through conduit during construction, replacement, repair, and repositioning projects
- Feature galvanized steel mesh grip for positive holding power during the pull
- Rubber boot contains, protects cable ends
- Flexible single eye provides easy attachment to pulling lines and fish tapes

| Cable Diameter Range | Breaking Strength (Lbs.) | Eye Length (In.) | Mesh Length (In.) at Nominal Diameter | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0.25-0.36** | 450 | 3¼ | 4¼ | 033-05-001 | **6C107** | $20.65 | **$16.52** | **$14.87** | 0.1 |
| **0.37-0.49** | 900 | 3¾ | 7 | 033-05-002 | **6C108** | 25.12 | **20.10** | **18.10** | 0.1 |
| **0.50-0.61** | 1300 | 4¼ | 8½ | 033-05-003 | **6C109** | 27.22 | **21.78** | **19.61** | 0.1 |
| **0.62-0.74** | 1950 | 5 | 10 | 033-05-004 | **6C110** | 31.60 | **25.30** | **22.76** | 0.1 |
| **0.75-0.99** | 2800 | 5¾ | 10 | 033-05-005 | **6C111** | 36.01 | **28.85** | **25.94** | 0.3 |
| **1.00-1.24** | 3900 | 6½ | 11½ | 033-05-006 | **6C112** | 38.28 | **30.65** | **27.58** | 1.0 |



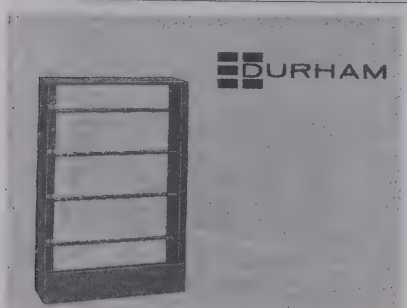

## LIGHT DUTY PULLING GRIPS

- Designed for general in-plant electrical construction where cable pulls are shorter and tension lower
- Strong galvanized steel construction
- Flexible eye connects easily to pulling lines
- Reusable and easily installed

| Cable Diameter Range | Approx. Breaking Strength (Lbs.) | Eye Length (In.) | Mesh Length (In.) at Nominal Diameter | Kellems Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0.50-0.61** | 2800 | 5 | 16 | 033-03-010 | **6D212** | $64.70 | **$51.80** | **$46.61** | 0.2 |
| **0.62-0.74** | 2800 | 5 | 16 | 033-03-011 | **6D213** | 64.70 | **51.80** | **46.61** | 0.2 |
| **0.75-0.99** | 4000 | 6 | 20 | 033-03-012 | **6D214** | 65.87 | **52.70** | **47.45** | 0.3 |
| **1.00-1.24** | 6800 | 7 | 20 | 033-03-013 | **6D215** | 67.76 | **54.25** | **48.81** | 0.7 |
| **1.25-1.49** | 6800 | 7 | 21 | 033-03-015 | **6D216** | 69.95 | **56.00** | **50.39** | 0.7 |
| **1.50-1.99** | 6800 | 8 | 23 | 033-03-016 | **6D217** | 70.30 | **56.25** | **50.64** | 0.7 |
| **2.00-2.49** | 8500 | 9 | 25 | 033-03-017 | **6D218** | 84.54 | **67.65** | **60.90** | 1.2 |




**Note:** Never use grips at tensions up to listed breaking strength. Always use a safety factor in applications. Recommended Factor of Safety—5.




## WIRE SPOOL RACK

**Wire Spool Rack** has four removable plated-steel rods for storing and dispensing spools of wire in stockroom, maintenance, or industrial settings.

- Accommodates spools of wire up to 10" diameter
- Easily assembled
- Measures 26⅛W x 36½H x 5¾"D
- Can be counter, wall, or vehicle-mounted using lag holes and keyhole slots provided
- All steel construction
- Gray baked enamel finish
- Durham brand

**No. 5W887.** Shpg. wt. 20.0 lbs. List.....$94.95. Each .....**$71.70**

# STEEL CITY® UTILITY BOXES AND COVERS


A


B


C

E2969 LR12798

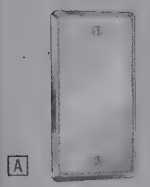
## STEEL CITY® UTILITY BOXES

- Factory provided raised ground screw location
- Protected from rust and corrosion by zinc galvanizing

### STEEL CITY® UTILITY BOXES

| Key | Capacity (Cu. In.) | Depth (In.) | Knockouts: Ea. Side Conduit (In.) | Ea. Side Cable | Ea. End Conduit (In.) | Ea. End Cable | Back Conduit (In.) | Back Cable | Gangable | Clamps Type | Ears | Bracket Type* | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4 X 2 1/8" UTILITY BOXES** | | | | | | | | | | | | | | | | | |
| **A** | 10.3 | 1½ | (3) 1/2 | — | (1) 1/2 | — | (2) 1/2 | — | No | — | — | — | 58351-1/2 | **6XC56** | $2.21 | **$1.05** | 0.4 |
| — | 13.0 | 1⅞ | (3) 1/2 | — | (1) 1/2 | — | (2) 1/2 | — | No | — | — | — | 58361-1/2 | **4A238** | 2.27 | **1.07** | 0.5 |
| — | 14.5 | 2⅛ | (3) 1/2 | — | (1) 1/2 | — | (2) 1/2 | — | No | — | — | — | 58371-1/2 | **4A239** | 2.57 | **1.22** | 0.6 |
| **B** | 13.0 | 1⅞ | (3) 1/2 | — | (1) 1/2 | — | (2) 1/2 | — | No | — | — | CV | 58361-V-1/2 | **6XC57** | 3.77 | **1.78** | 0.6 |
| **4 X 2 1/8" UTILITY BOX EXTENSION RING** | | | | | | | | | | | | | | | | | |
| **C** | 13.0 | 1⅞ | (3) 1/2 | — | (1) 1/2 | — | — | — | — | — | — | — | 59361-1/2 | **6XC58** | 2.91 | **1.62** | 0.4 |

*) See page 681 for bracket specifications.


A


B


C

## STEEL CITY® UTILITY BOX COVERS

- Captive screws
- Raised 1/4"

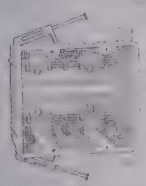
E2969 LR12798

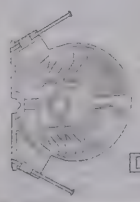
### STEEL CITY® UTILITY BOX COVERS

| Key | Description | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **A** | Blank | 58-C-1 | **4A240** | $0.77 | **$0.43** | 0.1 |
| — | 1/2" Knockout | 58-C-6 | **3KF48** | 1.59 | **0.89** | 0.1 |
| **B** | Duplex flush receptacle | 58-C-7 | **4A241** | 0.74 | **0.42** | 0.1 |
| **C** | Single toggle switch | 58-C-30 | **4A242** | 0.88 | **0.49** | 0.1 |


A


B


C


D


E

E2969 LR12798

## UNION™ THERMOPLASTIC BOXES

- Approved for new and manufactured housing
- Classified for 2 hour firewall
- 80°F heat rated material
- Nos. 6XC59, 6XC60, and 6XC61 are permissible for use with 90°F insulated conductors

### UNION™ THERMOPLASTIC BOX ORDERING DATA

| Key | Capacity Cu. In. | Dimensions (In.) Length | Width | Depth | Description | Mounting Means | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 14.0 | 3 15/16 | 2 9/32 | 2⅝ | Old work, Switch box with molded fast clamps | Molded ears #4 Swing Bracket | E-14-4 | **6XC60** | $2.15 | **$2.05** | 0.2 |
| **B** | 18.0 | 3 11/16 | 2 9/32 | 2 11/16 | Switch box | Angled side nails | SN-18 | **6XC59** | 0.99 | **0.94** | 0.2 |
| **C** | 36.0 | 3 9/16 | 3⅝ | 3⅛ | Two gang, 3/8" offset wallboard, Tabs molded, Fast clamp | Compound Angled nails | SN-236 | **6XC61** | 2.62 | **2.50** | 0.1 |
| **D** | 22.5 | 4 | 4 | 2 3/16 | Round box with molded fast clamps | Angled side nails | N-423-C | **6XC62** | 2.35 | **2.24** | 0.1 |
| **E** | 21.5 | 4 | 4 | 2⅛ | Ceiling fan box with high clamps for Romex cable | #8 fetter ring nails | 4170-CFB | **3KF29** | 9.52 | **6.90** | 0.6 |
| — | 21.5 | 4 | 4 | 2⅛ | Ceiling fan box with high clamps for Romex cable | #8 fetter ring nails and #3 style metal bracket | 4170-3-CFB | **3KF28** | 8.58 | **6.22** | 0.8 |

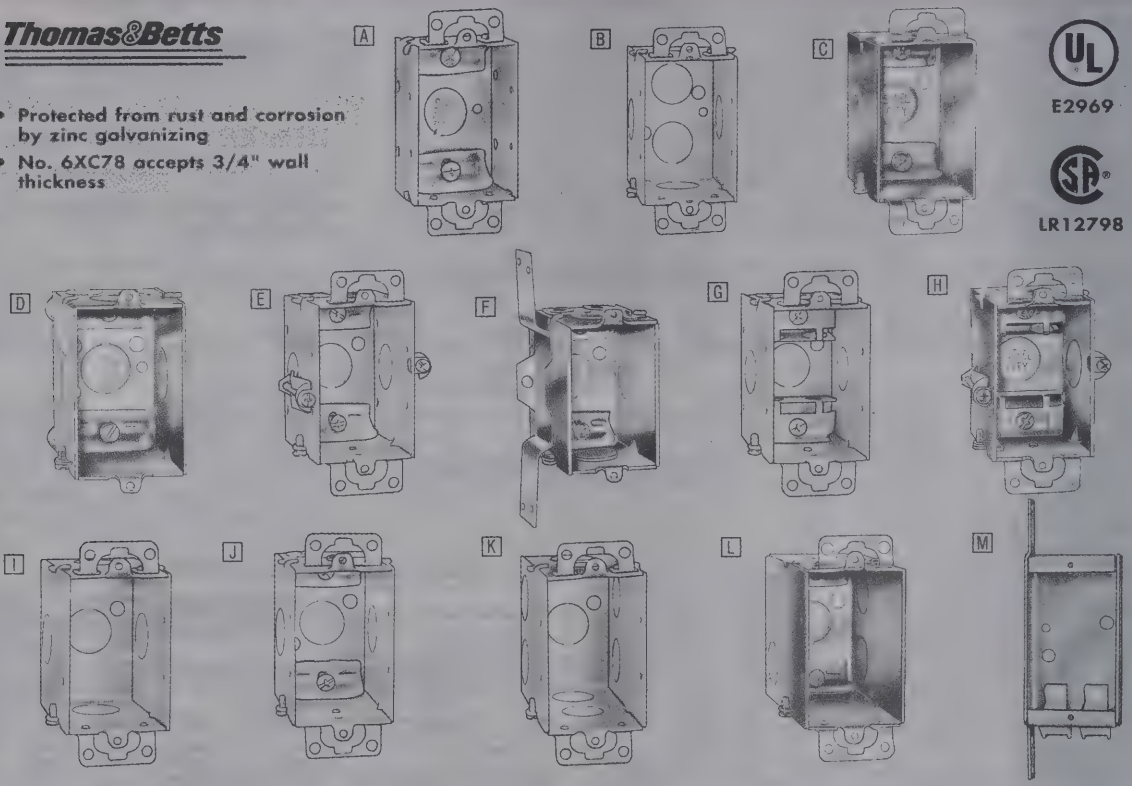
# STEEL CITY® SWITCH BOXES & SWITCH BOX SUPPORT

**Thomas&Betts**

- Protected from rust and corrosion by zinc galvanizing
- No. 6XC78 accepts 3/4" wall thickness

E2969

LR12798




| Key | Capacity (Cu. In.) | Depth (In.) | Knockouts: Ea. Side (In.) Conduit | Ea. Side (In.) Cable | Ea. End Conduit (In.) | Ea. End Cable | Back Conduit (In.) | Back Cable | Gangable | Clamp Type | Ears | Bracket Type* | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3 X 2" SWITCH BOXES** | | | | | | | | | | | | | | | | | |
| A | 7.5 | 1½ | — | — | — | (2) Romex | — | (2) Romex | No | Romex | Yes | — | SWB-25 | **6XC73** | $2.88 | **$1.44** | 0.4 |
| — | 10.5 | 2 | — | — | — | (2) Romex | (1) 1/2 | — | Yes | Romex | Yes | — | LXMWOW | **3XK14** | 4.84 | **2.69** | 0.5 |
| — | 10.5 | 2¼ | — | — | (1) 1/2 | (2) Romex | (1) 1/2 | — | Yes | Romex | Yes | — | LCOW-25 | **1XC35** | 2.98 | **1.66** | 0.5 |
| B | 12.5 | 2½ | (1) 1/2 | — | (1) 1/2 | — | (2) 1/2 | — | Yes | — | Yes | — | CDOW | **3XK13** | 2.80 | **1.40** | 0.7 |
| C | 12.5 | 2½ | (1) 1/2 | — | — | (2) Romex | (1) 1/2 | — | Yes | Romex | Yes | — | LXWOW-25 | **5A056** | 3.15 | **1.58** | 0.6 |
| D | 12.5 | 2½ | (1) 1/2 | — | (1) 1/2 | (2) Romex | (1) 1/2 | — | Yes | Romex | No | — | LXWLE-25 | **6XC75** | 2.63 | **1.46** | 0.6 |
| E | 12.5 | 2½ | (1) 1/2 | — | — | (2) Romex | (1) 1/2 | — | Yes | Romex | Yes | — | LXWOWC-25 | **1XC36** | 7.53 | **4.18** | 0.7 |
| F | 12.5 | 2½ | (1) 1/2 | — | (1) 1/2 | (2) Romex | (1) 1/2 | — | Yes | Romex | No | CV | LXWV-25 | **6XC77** | 3.15 | **1.75** | 0.5 |
| G | 12.5 | 2½ | (1) 1/2 | — | — | (2) Armored | (1) 1/2 | — | Yes | Armored | Yes | — | LXOW-25 | **1XC34** | 3.66 | **2.03** | 0.7 |
| H | 12.5 | 2½ | (1) 1/2 | — | — | (2) Armored | (1) 1/2 | — | Yes | Armored | Yes | — | LXOWC-25 | **6XC78** | 6.28 | **3.49** | 0.6 |
| I | 14.0 | 2¾ | (1) 1/2 | — | (1) 1/2 | — | (1) 1/2 | — | Yes | — | Yes | — | CW-1/2 | **3KF63** | 3.26 | **1.81** | 0.6 |
| J | 14.0 | 2¾ | (1) 1/2 | — | — | (2) Romex | (1) 1/2 | — | Yes | Romex | Yes | — | CWN | **3KF64** | 4.19 | **2.33** | 0.6 |
| K | 18.0 | 3½ | (1) 1/2 | — | (1) 1/2 | — | (1) 1/2 | — | Yes | — | Yes | — | CY-1/2 | **3KF65** | 3.85 | **2.14** | 0.7 |
| L | 18.0 | 3½ | (1) 1/2 | — | (1) 1/2 | (2) Romex | (1) 1/2 | — | Yes | Romex | Yes | — | CXWOW | **6XC66** | 5.66 | **3.15** | 0.4 |
| **3 3/4 X 2" SWITCH BOXES** | | | | | | | | | | | | | | | | | |
| M | 6.5 | 1 | — | — | (2)† | — | — | — | No | Romex | No | Flat | SSQV | **6XC72** | 4.69 | **2.61** | 0.4 |

(*) See page 681 for bracket specifications. (†) Box has 2 knockouts on one end.

**Thomas&Betts**



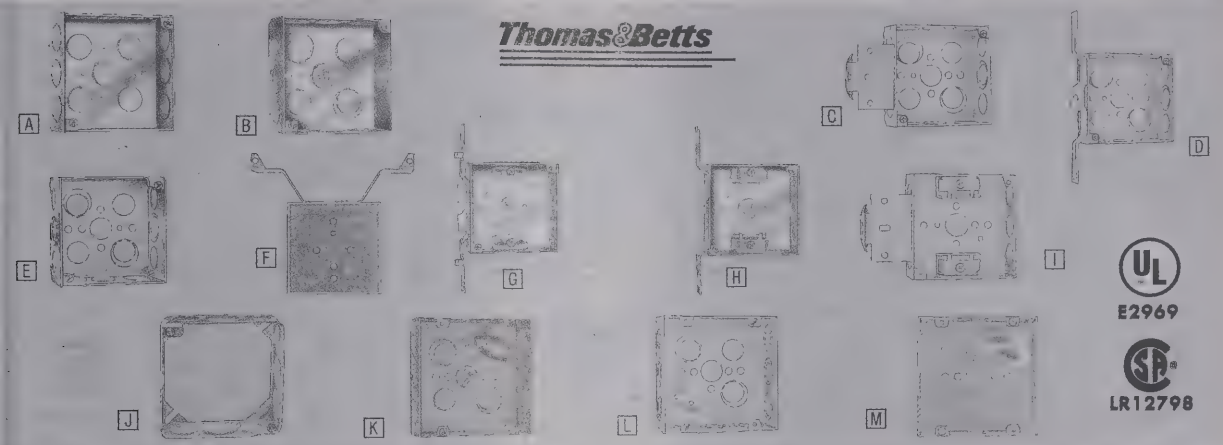
No. 3XK12

## SWITCH BOX SUPPORT

- 2 Metal holders for mounting old-work switch boxes in all types of wall materials (1⅛" max. thickness)
- Package of 25

**No. 3XK12.** Switch Box Support. Thomas & Betts brand (820-D). Shpg. wt. 1.6 lbs.. List $19.62. Each.....$10.89

# STEEL CITY® SQUARE BOXES




E2969

LR12798

- Protected from rust and corrosion by zinc galvanizing

## STEEL CITY® SQUARE BOX ORDERING DATA

| Key | Capacity Cu. In. | Depth (In.) | Knockouts: Ea. Side Conduit (In.) | Ea. Side Cable | Ea. End Conduit (In.) | Ea. End Cable | Back Conduit (In.) | Back Cable | Gangable | Clamp Type | Ears | Bracket Type* | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4" SQUARE BOXES** | | | | | | | | | | | | | | | | | |
| A | 21.0 | 1½ | (3) 1/2 | — | (3) 1/2 | — | (5) 1/2 | — | No | — | — | — | 52151-1/2 | **5A050** | $2.62 | **$1.31** | 0.6 |
| — | 21.0 | 1½ | (2) 1/2<br>(1) 3/4 | —<br>— | (2) 1/2<br>(1) 3/4 | —<br>— | (3) 1/2<br>(2) 3/4 | —<br>— | No | — | — | — | 52151-1/2&3/4 | **5A051** | 2.71 | **1.36** | 0.6 |
| B | 21.0 | 1½ | (3) 1/2<br>(1) 3/4 | —<br>— | (3) 1/2<br>(1) 3/4 | —<br>— | (5) 1/2<br>(2) 3/4 | —<br>— | No | — | — | — | 52151-1/2&3/4-EW | **6XC65** | 2.50 | **1.25** | 0.7 |
| C | 21.0 | 1½ | (3) 1/2<br>(1) 3/4 | —<br>— | (3) 1/2<br>(1) 3/4 | —<br>— | (5) 1/2<br>(2) 3/4 | —<br>— | No | — | — | MS | 52151-MS-1/2&3/4 | **3KF34** | 4.77 | **2.65** | 0.8 |
| D | 21.0 | 1½ | (3) 1/2<br>(1) 3/4 | —<br>— | (3) 1/2<br>(1) 3/4 | —<br>— | (5) 1/2<br>(2) 3/4 | —<br>— | No | — | — | CV | 52151-CV-1/2&3/4 | **3KF32** | 3.86 | **2.14** | 0.8 |
| E | 30.3 | 2⅛ | (3) 1/2<br>(1) 3/4 | —<br>— | (3) 1/2<br>(1) 3/4 | —<br>— | (5) 1/2<br>(2) 3/4 | —<br>— | No | — | — | — | 52171-1/2&3/4-E | **5A052** | 4.27 | **2.37** | 0.8 |
| F | 21.0 | 1½ | (2) 1/2&3/4 | — | (3) 1/2&3/4 | — | (3) 1/2&3/4 | — | No | — | — | DV | 52151-DV-1/2 | **3KF33** | 4.03 | **2.24** | 0.8 |
| G | 21.0 | 1½ | (3) 1/2&3/4<br>(3) 1/2&3/4 | — | — | (2) Romex | (1) 1/2 | — | No | Romex | | SV | 52151-VN | **6XC63** | 4.11 | **2.28** | 0.9 |
| H | 21.0 | 1½ | (3) 1/2&3/4 | — | — | (2) Armored | (1) 1/2 | — | No | Armored | — | CV | 52151-CVX | **6XC64** | 4.79 | **2.66** | 0.9 |
| I | 21.0 | 1½ | (3) 1/2&3/4 | — | — | (2) Armored | (1) 1/2 | — | No | Armored | — | MS | 52151-MSX | **3KF35** | 7.25 | **4.03** | 0.9 |
| **4" SQUARE BOX EXTENSION RING** | | | | | | | | | | | | | | | | | |
| J | 21.0 | 1½ | (3) 1/2 | — | (3) 1/2 | — | — | — | No | — | — | — | 53151-1/2 | **6XC71** | 3.51 | **1.95** | 0.5 |
| **4 11/16" SQUARE BOXES** | | | | | | | | | | | | | | | | | |
| K | 29.5 | 1½ | (3) 1/2&3/4 | — | (2) 1/2&3/4 | — | (2) 3/4<br>(4) 1/2 | —<br>— | No | — | — | — | 72151-1/2&3/4-E | **3LN23** | 6.23 | **3.46** | 0.9 |
| L | 42.0 | 2⅛ | (3) 1/2&3/4 | — | (3) 1/2&3/4 | — | (2) 1/2&3/4<br>(1) 1/2 | —<br>— | No | — | — | — | 72171-1/2&3/4-E | **3LN25** | 6.50 | **3.61** | 1.1 |
| M | 42.0 | 2⅛ | (2) 1 | — | (2) 1 | — | (2) 1/2<br>(2) 3/4 | —<br>— | No | — | — | — | 72171-1 | **3LN24** | 6.29 | **3.49** | 1.1 |

(*)See page 681 for bracket specifications.

## WEATHERPROOF DECORATIVE BOX AND COVER




No. 2V654 No. 2V655

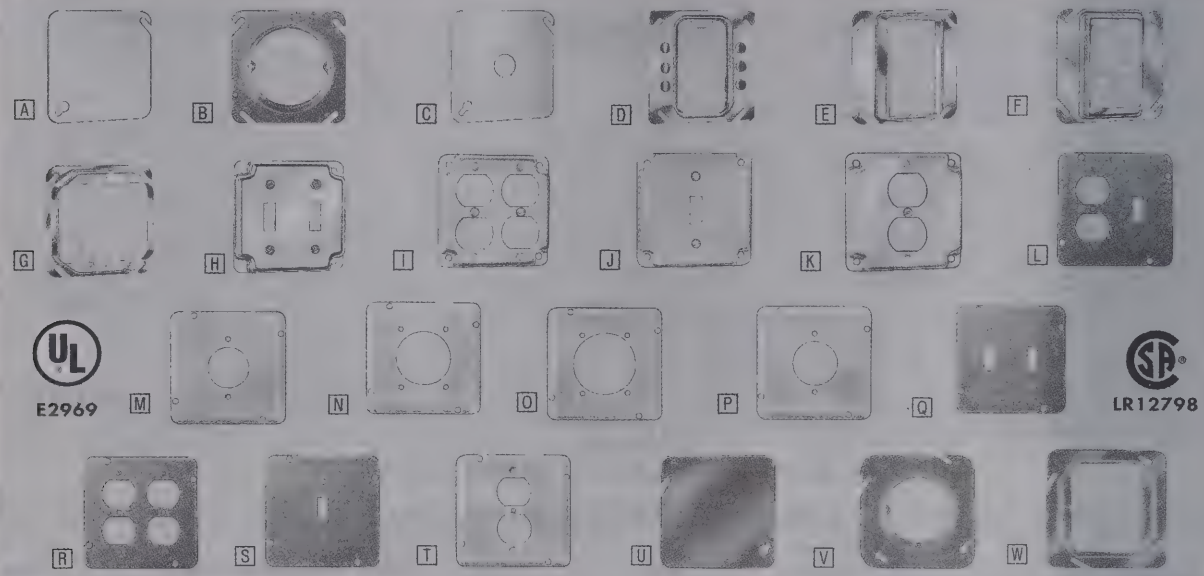
**Decorative Electrical Box.** Die-cast aluminum with black epoxy finish. Four side and one 1/2" NPT tapped holes. Four closure plugs. 5 5/16L x 5 5/16W x 1½"D. Stonco brand (69-41B).

**No. 2V654.** Shpg. wt. 0.5 lbs. List $36.97. Each.....$23.61

**Decorative Canopy Cover Plate.** Die-cast aluminum with matte black finish. Three 1/2" NPT tapped holes. Two closure plugs. Fits No. 2V654. Stonco brand (67-3B).

**No. 2V655.** Shpg. wt. 0.5 lbs. List $21.33. Each.....$12.02

# STEEL CITY® SQUARE BOX COVERS




## STEEL CITY® SQUARE BOX COVERS

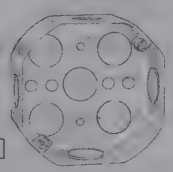
| Key | Description | Raised (In.) | Capacity (Cu. In.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | **4" SQUARE COVERS** | | | | | | | |
| A | Flat, blank | — | — | 52-C-1 | **5A053** | $0.99 | **$0.55** | 0.3 |
| B | Center blanked with tapped ears on 2¾" center | 5/8 | 4.3 | 52-C-3 | **6XC70** | 1.78 | **0.99** | 0.3 |
| — | Center blanked with tapped ears on 2¾" center | 1/2 | 3.5 | 53-C-3-1/2 | **1XC29** | 1.54 | **0.86** | 0.2 |
| C | Flat with 1/2" knockout | — | — | 52-C-6 | **3KF44** | 1.08 | **0.60** | 0.3 |
| | **4" SQUARE SINGLE DEVICE COVERS** | | | | | | | |
| D | Keyed for plaster | 1/4 | 1.5 | 52-C-62 | **3KF45** | 1.81 | **1.00** | 0.2 |
| — | Offset, keyed for plaster | 1/2 | 3.0 | 52-C-13 | **5A054** | 1.36 | **0.76** | 0.3 |
| E | Offset, keyed for plaster | 3/4 | 5.0 | 52-C-14 | **3KF36** | 1.69 | **0.94** | 0.3 |
| — | Offset, keyed for plaster | 5/8 | 4.0 | 52-C-14-5/8 | **1XC32** | 1.55 | **0.86** | 0.3 |
| — | Offset, keyed for plaster | 1 | 7.0 | 52-C-15 | **3KF37** | 2.58 | **1.44** | 0.3 |
| — | Offset, keyed for plaster | 1¼ | 8.3 | 52-C-16 | **3KF38** | 2.75 | **1.53** | 0.4 |
| F | Cut tile wall cover (steel) | 1/2 | 3.5 | 52-C-49-1/2 | **3KF41** | 3.71 | **2.06** | 0.3 |
| — | Cut tile wall cover (steel) | 1½ | 11.0 | 52-C-50-1-1/2-25 | **3KF42** | 4.08 | **2.27** | 0.5 |
| — | Cut tile wall cover (steel) | 2 | 14.8 | 52C512-25 | **3KF43** | 4.30 | **2.39** | 0.6 |
| | **4" SQUARE TWO DEVICE COVERS** | | | | | | | |
| — | Flat | 1/2 | 6.3 | 52-C-17-25 | **1XC33** | 1.91 | **1.06** | 0.2 |
| — | Flat | 3/4 | 9.0 | 52-C-18 | **3KF39** | 2.70 | **1.50** | 0.2 |
| G | For drywall construction | 5/8 | 7.3 | 52-C-18-5/8-25 | **3KF40** | 2.63 | **1.46** | 0.2 |
| | **4" SQUARE SURFACE COVERS** | | | | | | | |
| — | One toggle switch and one duplex receptacle | 1/2 | 5.0 | RS-2 | **6XC69** | 3.37 | **1.87** | 0.3 |
| H | Two toggle switches | 1/2 | 5.0 | RS-5 | **6XC68** | 3.37 | **1.87** | 0.4 |
| I | Two duplex receptacles, flush | 1/2 | 5.0 | RS-8 | **1XC31** | 2.29 | **1.27** | 0.3 |
| J | One toggle switch | 1/2 | 5.0 | RS-9 | **6XC67** | 2.71 | **1.51** | 0.4 |
| K | One duplex receptacle, flush | 1/2 | 5.0 | RS-12 | **1XC30** | 2.29 | **1.27** | 0.4 |
| | **4 11/16" SQUARE SURFACE COVERS** | | | | | | | |
| L | One toggle switch and one duplex receptacle, flush | 1/2 | 7.5 | RSL-2 | **3LR97** | 9.00 | **5.00** | 0.5 |
| M | Single 4-wire twist -lock receptacle (1 17/32" dia.) | 1/2 | 7.5 | RSL-1 | **3LR98** | 9.00 | **5.00** | 0.5 |
| N | Single 30 or 50A dryer/range receptacle (2 9/32" dia.) | 1/2 | 7.5 | RSL-13 | **3LR94** | 9.00 | **5.00** | 0.5 |
| O | Single receptacle (2 15/32" dia.) | 1/2 | 7.5 | RSL-14 | **3LR95** | 9.00 | **5.00** | 0.5 |
| P | Single 30A 250V twist-lock receptacle (1¾" dia.) | 1/2 | 7.5 | RSL-15 | **3LR96** | 9.00 | **5.00** | 0.5 |
| Q | Two toggle switches | 1/2 | 7.5 | RSL-5 | **3LR99** | 9.00 | **5.00** | 0.5 |
| R | Two duplex receptacles, flush | 1/2 | 7.5 | RSL-8 | **3LT01** | 9.00 | **5.00** | 0.4 |
| S | One toggle switch | 1/2 | 7.5 | RSL-9 | **3LT02** | 9.00 | **5.00** | 0.5 |
| T | One duplex receptacle, flush | 1/2 | 7.5 | RSL-12 | **3LR93** | 9.00 | **5.00** | 0.5 |
| | **4 11/16" SQUARE COVERS** | | | | | | | |
| U | Flat, blank | — | — | 72-C-1 | **3LN26** | 1.84 | **1.02** | 0.4 |
| V | Center blanked with tapped ears on 2 23/32" center | 5/8 | 3.5 | 72-C-3 | **3LN29** | 4.73 | **2.63** | 0.4 |
| — | Single device cover | 1/2 | 3.0 | 72-C-13 | **3LN27** | 4.23 | **2.35** | 0.3 |
| W | Two device cover | 1/2 | 6.3 | 72-C-17 | **3LN28** | 4.59 | **2.55** | 0.3 |

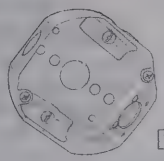


When the spec calls for brand names, you'll find the best here.

# STEEL CITY® OCTAGON BOXES AND COVERS

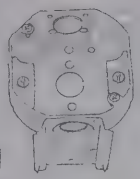
Thomas&Betts


A

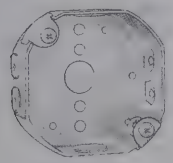

B

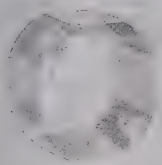
E2968

LR12798


C


D


E


F


G


H

- **Protected from rust and corrosion by zinc galvanizing**
- **No. 6XC54 ceiling fan box meets NEC 370-17(c) up to 35 lb. fan**

## STEEL CITY® OCTAGON BOX ORDERING DATA

| Key | Capacity (Cu. In.) | Depth (In.) | Knockouts: Each Side Conduit (In.) | Each Side Cable | Each End Conduit (In.) | Each End Cable | Back Conduit (In.) | Back Cable | Gangable | Clamp Type | Ears | Bracket Type* | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4" OCTAGON BOXES** | | | | | | | | | | | | | | | | | |
| A | 15.8 | 1½ | (1) 1/2 | — | (1) 1/2 | — | (5) 1/2 | — | No | — | — | — | 54151-1/2 | **5A047** | $2.15 | **$1.19** | 0.5 |
| — | 15.8 | 1½ | (1) 1/2 | — | (1) 3/4 | — | (3) 1/2<br>(2) 3/4 | —<br>— | No | — | — | — | 54151-1/2-3/4 | **6XC79** | 2.56 | **1.43** | 0.5 |
| B | 15.8 | 1½ | (1) 1/2 | — | — | (2) Romex | (1) 1/2 | — | No | Romex | — | — | 54151-N | **5A048** | 2.95 | **1.64** | 0.6 |
| C | 15.8 | 1½ | (1) 1/2 | — | — | (2) Romex | (1) 1/2 | — | No | Romex | — | L | 54151-NL | **1XC28** | 3.69 | **2.05** | 0.7 |
| D | 15.8 | 1½ | (1) 1/2 | — | — | (2) Romex | (1) 1/2 | — | No | Romex | — | V | 54151-NV | **6XC80** | 3.85 | **2.14** | 0.6 |
| **4" OCTAGON CEILING FAN BOX** | | | | | | | | | | | | | | | | | |
| E | 15.8 | 1½ | (1) 1/2 | — | — | (2) Romex | (1) 1/2 | — | No | Romex | — | — | 54151-CFB | **6XC54** † | 11.67 | **6.48** | 0.7 |
| F | 22.0 | 2⅛ | (1) 1/2 | — | — | (2) Romex | (1) 1/2 | — | No | Romex | — | — | 54171-CFB | **3KF46** | 22.85 | **16.57** | 0.8 |
| G | 22.0 | 2⅛ | (1) 1/2 | — | — | (1) Romex | — | — | No | Romex | — | F | 54171-F-CFB | **3KF47** | 25.81 | **18.72** | 1.3 |
| **4" OCTAGON BOX EXTENSION RING** | | | | | | | | | | | | | | | | | |
| H | 15.8 | 1½ | (1) 1/2 | — | (1) 1/2 | — | — | — | No | — | — | — | 55151-1/2-25 | **6XC81** | 2.83 | **1.57** | 0.4 |

) See page 681 for bracket specifications. (†) Meets NEC 370-17(C) up to 35 lb. fan.

Thomas&Betts

LR12798

E2969


A


B


C


D

## STEEL CITY® OCTAGON AND ROUND BOX COVER ORDERING DATA

| Key | Description | Raised (In.) | Capacity (Cu. In.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Flat, blank | — | — | 54-C-1 | **5A049** | $0.78 | **$0.44** | 0.2 |
| B | Flat with 1/2" knockout | — | — | 54-C-6 | **6XC82** | 0.82 | **0.46** | 0.2 |
| C | 1/2" knockout | 5/8 | 3.5 | 5402-C | **3LM76** | 2.51 | **1.41** | 0.3 |
| D | Flat, for duplex receptacle | — | — | 5402-LR | **6XC83** | 2.50 | **1.39** | 0.2 |

## CEILING BOX COVERS

Thomas&Betts



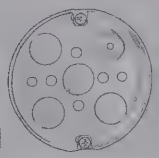
- **Stamped steel**
- **Painted white finish**
- **Flat, for 4" box (beveled edge)**

Thomas & Betts brand (CF5).

**No. 3KF62.** Shpg. wt. 0.2 lbs. List .....$2.53.
Each .....$1.84

# STEEL CITY® ROUND AND GANGABLE MASONRY BOXES


A


B


C

E2969

LR2798

Thomas&Betts

## STEEL CITY® ROUND BOXES

- Protected from rust and corrosion by zinc galvanizing
- No. 6XC86 meets NEC 370-17(c) up to 35 lb. fan

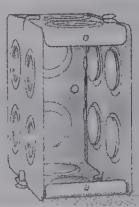
### STEEL CITY® ROUND BOX ORDERNG DATA

| Key | Capacity (Cu. In.) | Depth (In.) | Knockouts Conduit (In.) | Knockouts Cable | Clamps Type | Ears | Bracket Type* | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 3 1/4" ROUND BOXES | | | | | | | | |
| A | 4.0 | 1/2 | (1) 1/2 | (4) Romex | Romex | — | — | 36115-C-30 | **6XC84** | $2.37 | **$1.32** | 3.3 |
| | | | | 4" ROUND BOXES | | | | | | | | |
| B | 6.0 | 1/2 | (4) 1/2 | — | — | — | — | 56111 | **6XC85** | 2.61 | **1.45** | 0.4 |
| C | 6.0 | 1/2 | (2) 1/2 | — | — | — | — | 56111-CFB | **6XC86** | 7.37 | **4.09** | 0.4 |

(*) See page 681 for bracket specificatons

Thomas&Betts


A


B

## STEEL CITY® GANGABLE MASONRY BOXES

- Protected from rust and corrosion by zinc galvanizing
- All knockouts are Eccentric 1/2" and 3/4"
- Suitable for use without a bonding jumper in circuits above or below 250V

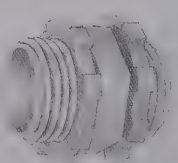
### STEEL CITY® GANGABLE MASONRY BOX ORDERNG DATA

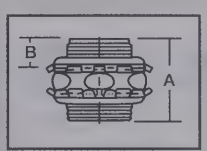
| Key | Capacity (Cu. In.) | Dimensions (In.) Length | Height | Depth | Knockouts Ea. Side Conduit | Ea. End Conduit | Back Conduit | Gangable | Clamps Type | Ears | Bracket Type* | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 15.0 | 1 15/16 | 3 3/4 | 2 1/2 | 2 | 2 | 2 | Yes | — | — | — | GW-125-G | **3KF68** | $7.23 | **$4.02** | 0.6 |
| B | 22.0 | 1 15/16 | 3 3/4 | 3 1/2 | 4 | 2 | 2 | Yes | — | — | — | GW-135-G | **3KF69** | 6.42 | **3.57** | 0.8 |
| — | 46.9 | 3 3/4 | 3 3/4 | 3 1/2 | 4 | 4 | 4 | Yes | — | — | — | GW-235-G | **3KF70** | 9.88 | **5.49** | 1.2 |

(*) See page 681 for bracket specifications.

Thomas&Betts


SNAP IN BLANKS





BOX SPACER

### SNAP IN BLANK ORDERING DATA

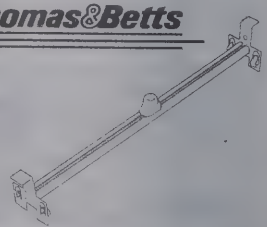
| KO Size (In.) | Diameter (In.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/2** | 1 5/64 | BL-111 | **3LN64** | $0.32 | **$0.24** | 0.1 |
| **3/4** | 1 1/4 | BL-112 | **3LN65** | 0.39 | **0.28** | 0.1 |
| **1** | 1 1/2 | BL-113 | **3LN66** | 0.76 | **0.55** | 0.1 |
| **1 1/4** | 1 13/16 | BL-114 | **3LN67** | 1.00 | **0.73** | 0.1 |
| **1 1/2** | 2 7/32 | BL-115 | **3LN68** | 1.38 | **1.01** | 0.1 |
| **2** | 2 11/16 | BL 116 | **3LN69** | 1.92 | **1.39** | 0.1 |

### DIE-CAST ZINC (1/4" SPACE) BOX SPACER ORDERING DATA

| KO Size (In.) | Dimensions (In.) A | B | Thomas & Betts Model | Stock No. (*) | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2** | 1 1/8 | 13/32 | BS-201 | **3LN70** | $0.88 | **$0.64** | 0.1 |

(*) CSA Certified (LR12798).

Thomas&Betts



## STEEL CITY® ADJUSTABLE BAR HANGER

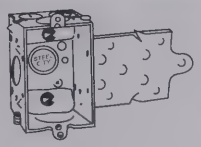
- For use with 3/8, 1/2 and 5/8" wall board
- 50 lb. maximum load
- Stud mount
- End plate depth 1 3/16"
- Bar length is adjustable between 14 1/2 and 26 1/2"

**No. 6XC55.** Thomas & Betts brand (6010-ADW-25). Shpg. wt. 0.7lbs. List..... $3.83. Each .....**$2.78**

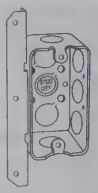
# ELECTRICAL BOX INFORMATION

## STEEL BOX BRACKETS

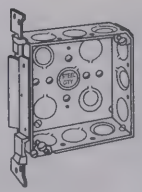
**"S" or "B" BRACKET**
Mounts to face of stud. Used on switch, handy, or square boxes. 2" long, 2⅛" wide.



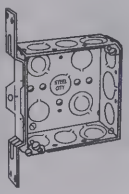
**"T" BRACKET**
Positions handy box against the face and side of stud. 5½" long, ⅛" wide.



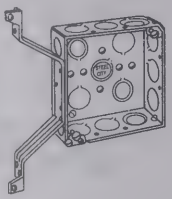
**"SV" BRACKET**
Mounts to side of stud with positioning spikes. 7⅜" long, 1" wide, ⅜" offset.



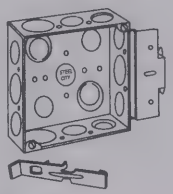
**"CV" BRACKET**
Mounts to flat side of metal studs or wood studs. 7⅜" long, 1" wide, ⅜" offset.



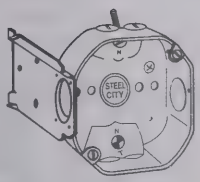
**"DV" BRACKET**
Mounts box offset from stud 1½". 6¹³⁄₁₆" long, 1" wide, 1½" offset.



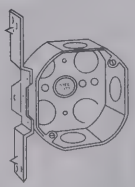
**"MS" BRACKET**
Mounts to any depth of metal stud, open or closed side. Patented bracket. 2½" long, 1¹¹⁄₁₆" wide, ⅜" offset.



**"L" BRACKET**
Used to mount octagon boxes. 2⅝" long, 3⅝" wide, ¼" offset.



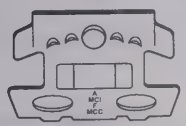
**"V" BRACKET**
Mounts to flat side of stud. 5¹¹⁄₁₆" long, ¹⁵⁄₁₆" wide, ⅜" offset.



## CLAMPS




**"C-1" CLAMPS**
Standard for armored cable boxes.



**"C-3" CLAMPS**
For armored cable.




**"C-5" CLAMPS**
Standard for most nonmetallic cable boxes.



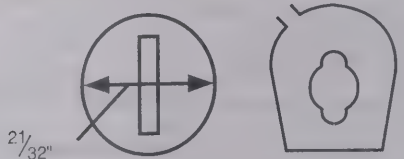

**"C-8" CLAMPS**
Loom only. For non-metallic sheathed cable and non-metallic tubing (loom).




**"C-10" CLAMPS**
Supplied in 3/4" deep ceiling pans.

## KNOCKOUTS AND PRI-OUTS

Steel City® conduit KO's have standard trade size dimensions. KO's are uniform and true for attachment of cable or conduit connectors. Pri-outs for cable entrance are slotted — a twist with screw driver removes them. KO's and Pri-outs are precision stamped to permit easy removal, but remain sufficiently strong and sturdy when not removed.



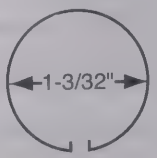

**Cable pri-outs are always in pairs.**



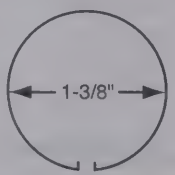
**1/2" and 3/4" Knockout**




**1/2" Conduit KO**




**3/4" Conduit KO**




**1" Conduit KO**

# PERFECT-LINE® WEATHERPROOF OUTLET BOXES

Thomas&Betts

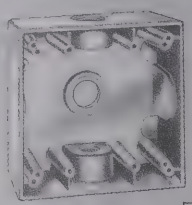
- Heavy-duty die-cast aluminum
- Thermoset protective silver gray finish
- Extension ring (No. 3KF67) provides extra depth for increased capacity

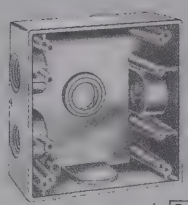
UL E18407

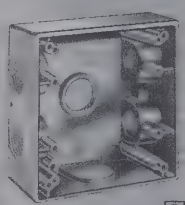
CSA LR18685

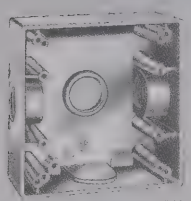

A

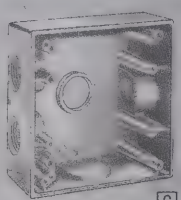

B

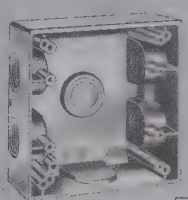

C

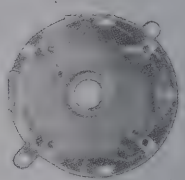

D


E


F


G


H


I

## SINGLE GANG BOXES

- Knockout or lug mounting methods available
- Boxes supplied with two closure plugs & tapped ground screw location and mounting lugs (except No. 3KG85)

## TWO GANG BOXES

- Lug mountable
- Boxes supplied with two closure plugs and self-threading ground screw

## 4" ROUND BOXES

- Lug mountable
- Boxes supplied with 4 closure plugs, self-threading ground screw and cover screws

## PERFECT-LINE® WEATHERPROOF OUTLET BOX ORDERING DATA

| Key | Capacity (Cu. In.) | Dimensions (In.) L | W | D | No. of Outlets | Size of Outlets (In.) | Mounting Method | Color | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE GANG OUTLET BOXES** | | | | | | | | | | | | | |
| — | 17.4 | 4.56 | 2.88 | 2.00 | 4 | 1/2 | Knockouts/Lugs | Gray | T11-2 | **3KG84*** | $10.47 | **$7.59** | 0.5 |
| A | 18.0 | 4.56 | 2.88 | 2.00 | 3 | 1/2 | Knockouts | Gray | T11 | **3KG83*** | 7.00 | **5.08** | 0.7 |
| — | 18.0 | 4.56 | 2.88 | 2.00 | 3 | 1/2 | Lugs | Gray | T11-L | **2V625** | 8.51 | **6.18** | 0.6 |
| — | 18.0 | 4.56 | 2.88 | 2.00 | 3 | 3/4 | Knockouts | Gray | T14-PL | **3KG85*** | 9.91 | **7.19** | 0.6 |
| **SINGLE GANG BOX EXTENSIONS** | | | | | | | | | | | | | |
| B | 9.5 | 5.25 | 3.50 | 1.38 | 4 | 1/2 | Screws | Gray | ET11-22 | **3KF67** | 10.87 | **7.88** | 0.5 |
| **TWO GANG OUTLET BOXES** | | | | | | | | | | | | | |
| C | 30.0 | 4.56 | 4.63 | 2.00 | 3 | 1/2 | Lugs | Gray | LT11 | **4A243** | 17.05 | **12.37** | 1.1 |
| D | 30.0 | 4.56 | 4.63 | 2.00 | 4 | 1/2 | Lugs | Gray | LT11-2 | **3KF88*** | 17.84 | **12.93** | 1.6 |
| E | 30.0 | 4.56 | 4.63 | 2.00 | 5 | 1/2 | Lugs | Gray | LT11-3 | **4A244** | 18.62 | **13.50** | 1.0 |
| F | 30.0 | 4.56 | 4.63 | 2.00 | 3 | 3/4 | Lugs | Gray | LT14 | **3KF89*** | 19.34 | **14.02** | 1.0 |
| G | 30.0 | 4.56 | 4.63 | 2.00 | 4 | 3/4 | Lugs | Gray | LT14-2 | **3KF90*** | 19.98 | **14.49** | 1.0 |
| H | 30.0 | 4.56 | 4.63 | 2.00 | 5 | 3/4 | Lugs | Gray | LT14-3 | **4A245** | 21.48 | **15.58** | 1.0 |
| **4" ROUND BOXES** | | | | | | | | | | | | | |
| I | 13.6 | — | — | 1.50 | 5 | 1/2 | Lugs | Gray | TR11-4 | **2V567** | 10.22 | **7.41** | 0.7 |
| — | 13.6 | — | — | 1.50 | 5 | 3/4 | Lugs | Gray | TR11-4 | **3KG86*** | 13.52 | **9.81** | 0.6 |

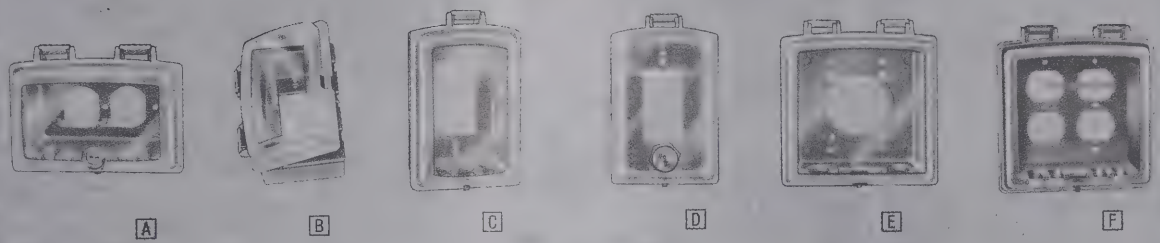
(*) CSA Certified (LR12798).

# WHILE IN USE WEATHERPROOF COVERS

Thomas&Betts

E18407

LR18685



A B C D E F

**Heavy duty NORYL™ base with clear LEXAN™ cover**
**UL Listed and CSA Certified for wet locations while in use (Article 470-10-NEC)**

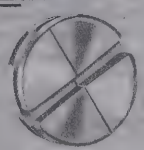
- **Corner drill points for box mounting**
- **Sealing gasket and stainless steel screws included**
- **Rated NEMA 3R**

## WHILE IN USE WEATHERPROOF COVERS ORDERING DATA

| Key | No. of Gangs | Description | Mounting Orientation | Dimensions (In.) W | D | H | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| — | 1 | Duplex receptacle | Horizontal | 5.44 | 2.50 | 5.44 | WTSD15A-C | **5U752** | $26.03 | **$18.87** | 0.7 |
| A | 1 | Duplex receptacle with integral lock | Horizontal | 5.44 | 2.50 | 5.44 | WTSD15A-C-L | **3XK26** | 23.21 | **16.83** | 0.7 |
| B | 1 | GFCI receptacle | Horizontal | 5.44 | 2.50 | 5.44 | WTSG15A-C | **5U753** | 33.53 | **24.31** | 0.7 |
| — | 1 | GFCI receptacle with integral lock | Horizontal | 5.44 | 2.50 | 5.44 | WTSG15A-C-L | **3XK27** | 28.72 | **20.83** | 0.7 |
| C | 1 | Duplex receptacle | Vertical | 3.69 | 2.50 | 5.44 | WTD81-CV | **5U749** | 35.21 | **25.55** | 0.5 |
| — | 1 | Duplex receptacle with integral lock | Vertical | 3.69 | 3.50 | 5.44 | WTD81-CV-L | **3XK20** | 28.50 | **20.67** | 0.5 |
| — | 1 | Duplex receptacle - deep lid | Vertical | 3.69 | 3.50 | 5.44 | WTD81-CV-D | **5U757** | 29.09 | **21.09** | 0.7 |
| — | 1 | Duplex receptacle - deep lid w/integral lock | Vertical | 3.69 | 3.50 | 5.44 | WTD81-CV-D-L | **3XK19** | 28.50 | **20.67** | 1.0 |
| D | 1 | GFCI receptacle | Vertical | 3.69 | 2.50 | 5.44 | WTG100-CV | **5U750** | 37.14 | **26.95** | 0.5 |
| — | 1 | GFCI receptacle with integral lock | Vertical | 3.69 | 2.50 | 5.44 | WTG100-CV-L | **3XK23** | 29.78 | **21.60** | 0.5 |
| — | 1 | GFCI receptacle - deep lid | Vertical | 3.69 | 3.50 | 5.44 | WTG100-CV-D | **5U758** | 35.83 | **26.00** | 0.8 |
| — | 1 | GFCI receptacle - deep lid w/integral lock | Vertical | 3.69 | 3.50 | 5.44 | WTG100-CV-D-L | **3XK22** | 28.61 | **20.74** | 1.0 |
| — | 1 | Single receptacle 1.406" dia. | Vertical | 3.69 | 2.50 | 5.44 | WTD15A-CV | **5U751** | 29.09 | **21.09** | 0.7 |
| — | 1 | Single receptacle 1.406" dia. w/integral lock | Vertical | 3.69 | 2.50 | 5.44 | WTD15A-CV-L | **3XK17** | 23.21 | **16.83** | 0.7 |
| F | 2 | 2 Duplex receptacles | Vertical | 5.44 | 2.50 | 5.44 | WTD281-C | **5U754** | 42.15 | **30.60** | 0.7 |
| — | 2 | 2 Duplex receptacles with integral lock | Vertical | 5.44 | 2.50 | 5.44 | WTG281-C-L | **3XK18** | 33.09 | **23.99** | 1.0 |
| — | 2 | 2 GFCI receptacles | Vertical | 5.44 | 2.50 | 5.44 | WTG200-C | **5U755** | 44.21 | **32.10** | 3.8 |
| — | 2 | 2 GFCI receptacles with integral lock | Vertical | 5.44 | 2.50 | 5.44 | WTG200-C-L | **3XK24** | 34.46 | **24.98** | 1.0 |
| — | 2 | 1 Duplex & 1 GFCI receptacle | Vertical | 5.44 | 2.50 | 5.44 | WTDG100-C | **5U756** | 35.37 | **25.65** | 0.3 |
| — | 2 | 1 Duplex & 1 GFCI receptacle w/integral lock | Vertical | 5.44 | 2.50 | 5.44 | WTDG100-C-L | **3XK21** | 34.45 | **24.98** | 1.0 |
| E | 2 | 1 Single receptacle 1.406 or1.75" dia. | Vertical | 5.44 | 2.50 | 5.44 | WTS74-C | **5U759** | 38.28 | **27.75** | 0.1 |
| — | 2 | 1 Single receptacle 1.406 or 1.75" dia. with integral lock | Vertical | 5.44 | 2.50 | 5.44 | WTS74-C-L | **3XK25** | 30.74 | **22.29** | 1.0 |
| E | 2 | 1 Single receptacle 2.156 or 2.656" dia. | Vertical | 5.44 | 2.50 | 5.44 | WTS5060-C | **5U760** | 41.34 | **30.00** | 0.7 |

Thomas&Betts

E53977



No. 4A249

LR18685

# CLOSURE PLUGS

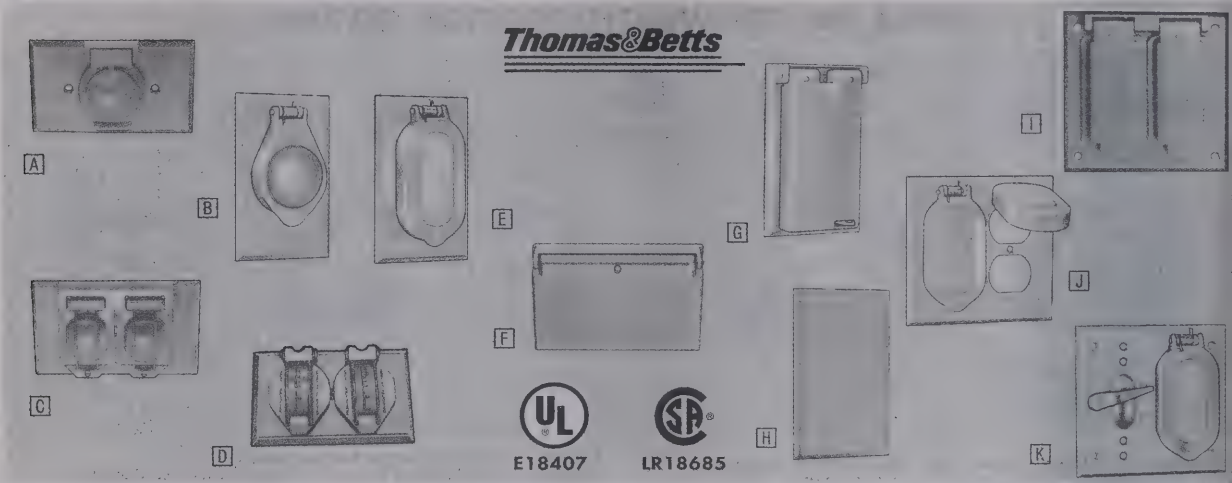
- **Use with outlet boxes to seal off knockouts outlets**
- **Gray Finish**
- **Sold in package quantities only**

## CLOSURE PLUGS ORDERING DATA

| Description | Thomas & Betts Model | Stock No. | List | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/2" Plug** | PC-1/2-PL | **4A249** | $0.53 | **$0.30** | 100 | 0.1 |
| **3/4" Plug** | PC-3/4-PL | **3XK15** | 0.49 | **0.36** | 50 | 0.1 |

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG

# PERFECT-LINE® WEATHERPROOF COVERS

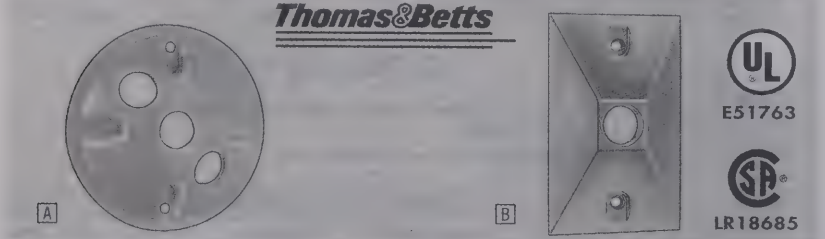



## DEVICE MOUNTED WEATHERPROOF COVERS

- Stainless steel spring on stay-open covers
- Coiled steel spring is zinc plated on self-closing covers
- Stainless steel mounting screws
- Complete with sealing gasket

| Key | No. of Gangs | Description | Mounting Orientation | Lid Style | Cap Material | Plate Material | Finish/ Color | Dim. (In.) W | Dim. (In.) H | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 | Single receptacle 1.590" dia. | Horizontal | Stay-open | Die-cast zinc | Die-cast zinc | Gray | 4.50 | 2.75 | WR74-C | 3KH42 | $5.67 | $4.12 | 0.2 |
| B | 1 | Single receptacle 1.590"dia. | Vertical | Self-closing | Die-cast zinc | Die-cast zinc | Gray | 2.75 | 4.50 | WR104-CV | 2V704 | 6.75 | 4.90 | 0.3 |
| C | 1 | Duplex receptacle | Horizontal | Stay-open | Die-cast zinc | Die-cast zinc | Gray | 4.6 | 2.81 | WR81-C | 3KH43 | 6.34 | 4.60 | 0.4 |
| D | 1 | Duplex receptacle | Horizontal | Self-closing | Die-cast zinc | Die-cast zinc | Gray | 4.6 | 2.81 | WR100-C | 2V705 | 6.36 | 4.62 | 0.3 |
| E | 1 | Duplex receptacle | Vertical | Self-closing | Die-cast zinc | Die-cast zinc | Gray | 2.75 | 4.5 | WR181-C | 3KH41 | 8.19 | 5.94 | 0.4 |
| F | 1 | GFCI receptacle | Horizontal | Self-closing | Die-cast zinc | Die-cast zinc | Gray | 4.63 | 3 | WGF100-C | 3KH39 | 15.96 | 11.57 | 0.7 |
| — | 1 | GFCI receptacle | Vertical | Self-closing | Die-cast zinc | Die-cast zinc | Gray | 2.81 | 4.63 | WGF100-CV | 3KH40 | 15.96 | 11.57 | 0.4 |
| G | 1 | Tamper resistant hasp lock GFCI receptacle | Vertical | Self-closing | Die-cast zinc | Die-cast zinc | Gray | 2.81 | 4.63 | WGFL100-CV | 5X914 | 19.57 | 14.19 | 0.4 |
| H | 1 | Blank—box mount | — | — | — | Aluminum | Gray | 4.5 | 2.75 | SP41-G | 2V706* | 2.10 | 1.17 | 0.1 |
| I | 2 | Duplex and GFCI receptacle | Horizontal | Self-closing | Die-cast zinc | Die-cast zinc | Gray | 4.63 | 4.56 | WDGF100-C | 4LV83 | 24.45 | 17.72 | 0.1 |
| I | 2 | GFCI receptacle | Horizontal | Self-closing | Die-cast zinc | Die-cast zinc | Gray | 4.63 | 4.56 | WGF200-C | 4LV84 | 27.34 | 19.82 | 0.1 |
| J | 2 | 2 Duplex receptacles | Horizontal | Self-closing | Die-cast zinc | Aluminum | Gray | 4.63 | 4.56 | WR281-C | 4A247 | 17.59 | 12.76 | 0.6 |
| — | 2 | Blank | — | — | — | Aluminum | Gray | 4.63 | 4.50 | SP411-G | 4A246 | 4.19 | 2.33 | 0.2 |
| K | 2 | Duplex receptacle & switch cover | Horizontal | Self-closing | Die-cast zinc | Die-cast zinc | Gray | 4.63 | 4.56 | WSR81-C | 3XK16 | 14.38 | 10.43 | 0.5 |

(*) CSA Certified (LR12798)




## LAMP HOLDER WEATHERPROOF COVERS

- Heavy-duty die-cast construction
- Thermoset protective finish
- Three hole covers supplied with a 1/2" closure plug
- Complete with sealing ring and gasket
- No. 2V627 has knockout provisions for mounting on 3" box

### LAMP HOLDER WEATHERPROOF COVER ORDERING DATA

| Key | No. of Outlet Holes | Description | Plate Material | Finish/ Color | Dimensions (In.) W | Dimensions (In.) D | Dimensions (In.) H | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3 | Round | Die-cast zinc | Silver Gray | — | — | — | Y3 | 2V627 | $6.27 | $3.48 | 0.4 |
| B | 1 | Rectangular | Die-cast zinc | Silver Gray | 2.88 | 0.56 | 4.63 | C1-PL | 3KF60 | 4.62 | 3.35 | 0.2 |
| — | 2 | Rectangular | Die-cast zinc | Silver Gray | 2.88 | 0.56 | 4.63 | C2-PL | 3KF61 | 5.88 | 4.27 | 0.3 |
| — | 3 | Rectangular | Die-cast zinc | Silver Gray | 2.88 | 1.06 | 4.63 | C3-PL | 2V626 | 6.27 | 3.48 | 0.3 |



When the spec calls for brand names, you'll find the best here.

# WEATHERPROOF PLATES

**PPLICATIONS**

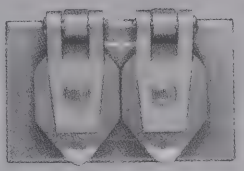
- Industrials, institutions, offices, convention centers, wholesale/retail, hotel/motel
- Use indoors and outdoors to protect devices from the elements and to protect people from accidental contact

**STING & APPROVALS**

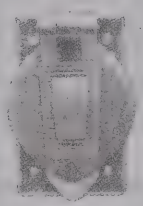
- UL Listed and CSA Certified

**EATURES & BENEFITS**

- All thermoplastic weatherproof plates have stainless steel metallic parts and are corrosion resistant
- All weatherproof plates ending in "WO" are UL Listed for wet and damp locations, cover open. All others are UL Listed for wet and damp locations, cover closed
- 3D249 is furnished with a fiber shield which provides an effective means of weatherproofing toggle and lock type switches when used in combination with the plate



No. 6C592



No. 6C615



No. 6C594



No. 6C657

| Description | No. of Gangs | Dimensions (In.) | Twist-Lock® Accessory Group | Type | Color / Finish | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| uplex, Vertical, Device Mount | 1 | | A | Thermoplastic | Gray | HBL5222 | 6C595 | $47.83 | $38.30 | $34.44 | 0.2 |
| | | | | | Yellow | HBL52CM22 | 3D195 | 59.49 | 47.60 | 42.83 | 0.2 |
| uplex, Vertical, FS/FD Box Mount | 1 | | A | Thermoplastic | Gray | HBL5221 | 6C594 | 47.83 | 38.30 | 34.44 | 0.2 |
| | | | | | Yellow | HBL52CM21 | 3D194 | 59.49 | 47.60 | 42.83 | 0.2 |
| uplex, Horizontal, Device Mount | 1 | | A | Cast Aluminum | Gray | HBL5205WO | 6C592 | 51.54 | 41.25 | 37.10 | 0.4 |
| uplex, Horizontal, FS/FD Box Mount | 1 | | A | Cast Aluminum | Gray | HBL5206WO | 6C593 | 51.54 | 41.25 | 37.10 | 0.4 |
| FCI / Style Line, Vertical, Device Mount | 1 | | A | Cast Aluminum | Gray | WP26 | 6C657 | 28.74 | 23.00 | 20.71 | 0.3 |
| FCI / Style Line, Vertical, FS/FD Box Mount | 1 | | A | Cast Aluminum | Gray | WPFS26 | 6C658 | 28.74 | 23.00 | 20.71 | 0.3 |
| FCI / Style Line, Horizontal, Device Mount | 1 | | A | Zinc | Gray | CWP26H | 3D339 | 16.38 | 13.11 | 11.80 | 0.3 |
| ingle, FS/FD Box Mount | 1 | 1.36 - 1.39 | A | Thermoplastic | Gray | HBL7423WO | 6C615 | 56.83 | 45.50 | 40.92 | 0.3 |
| | | | | | Yellow | HBL74CM23WO | 3D255 | 56.90 | 45.55 | 40.97 | 0.8 |
| ingle (3W 30A & 50A Straight Blade) | 1 | 2.09 - 2.13 | — | Aluminum | Gray | HBL9420 | 3D297 | 65.30 | 52.25 | 47.01 | 0.5 |
| ingle (4W 30-50-60A Straight Blade) | 2 | | — | Thermoplastic | Gray | HBL7777A | 3D279 | 68.83 | 55.10 | 49.56 | 0.4 |
| ingle (Old 30-50-60A Straight Blade) | 2 | | — | Thermoplastic | Gray | HBL7777 | 3D278 | 68.83 | 55.10 | 49.56 | 0.4 |
| ingle, FS (20 & 30A Twist-Lock®) | 1 | 1.55 - 1.58 | B | Thermoplastic | Gray | HBL7425WOA | 5C991 | 70.69 | 56.55 | 50.89 | 0.3 |
| | | | B | Thermoplastic | Yellow | HBL74CM25WOA | 3D257 | 70.69 | 56.55 | 50.89 | 0.3 |
| | | | A, B | Cast Aluminum | Gray | HBL7420 | 3D249 | 41.10 | 32.90 | 29.61 | 0.5 |
| ingle (Old Style 30A Twist-Lock®) | 1 | 1.68 - 1.72 | C | Thermoplastic | Gray | HBL7424WO | 3D250 | 56.83 | 45.50 | 40.92 | 0.3 |
| | | | | | Yellow | HBL74CM24WO | 3D256 | 56.83 | 45.50 | 40.92 | 0.3 |
| ingle (50A Twist-Lock®) | 1 | | — | Cast Aluminum | Gray | HBL7770 | 3D276 | 54.98 | 44.00 | 39.59 | 0.7 |
| | | | | Thermoplastic | Gray | HBL7774WO | 3D277 | 59.30 | 47.45 | 42.69 | 0.4 |
| | | | | Thermoplastic | Yellow | HBL77CM74WO | 3D280 | 59.30 | 47.45 | 42.69 | 0.4 |
| ift Cover Plate (15 & 20A; 2 Pole, 2 & 3 Wire Insulgrip Flanged Inlets and Outlets) | 1 | 2.56 | – | Polycarbonate | Gray | WP1 | 3D463 | 60.36 | 48.30 | 43.45 | 0.3 |
| ift Cover Plate (20 & 30A; 3, 4, & 5 Wire Insulgrip Flanged Inlets and Outlets) | 1 | 2.88 | B, C | Polycarbonate | Gray | WP2 | 3D464 | 60.36 | 48.30 | 43.45 | 0.3 |

## ELECTRICITY AND BASIC ELECTRONICS

By Stephen R. Matt. Intended for high school, vocational and technical schools, and adult classes. Covers basic laws, circuit networks, meters, semi-conductors, integrated circuits, computers, fiber optics, and power supplies. 368 pages. Hard cover. 1998 Edition.

**No. 5H553.** Shpg. wt. 2.6 lbs. List..... $41.00. Each..... **$36.00**

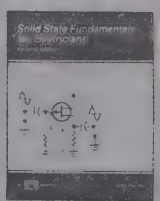
## SOLID STATE FUNDAMENTALS FOR ELECTRICIANS

By Gary Rockis. The latest, most up-to-date textbook on the construction, operation and applications of solid state components used in industry. Designed and written for electrical students or workers already familiar with electrical concepts who require a background in solid state. Provides a logical and sequential approach including the study of fundamentals, theories, systems, with "how-to" testing procedures for typical components. 240 pages, hard cover.

**No. 5H670.** Shpg. wt. 1.5 lbs. List.....$32.85. Each **$32.10**; Lots 10.....**$30.50**



No. 5H553




No. 5H670

# HOSPITAL GRADE STRAIGHT BLADE RECEPTACLES

## APPLICATIONS

- Hospitals, laboratories, emergency care facilities and prisons
- Used in patient rooms, ICU/CCU, emergency rooms, treatment rooms and hallways

## LISTING & APPROVALS

- All are UL Hospital Grade Listed, CSA Certified (except configuration 5-20R), and meet Fed. Spec. WC596

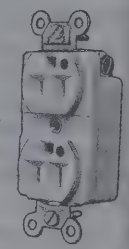
## FEATURES & BENEFITS

- One piece mounting strap and integral ground contacts ensure positive, low-resistance ground continuity
- Patented "Bypass" design of power contacts increases contact force and provides constant contact pressure
- Tough, reinforced thermoplastic polyester base is heat resistant; thermoplastic, polyester face resists chipping, cracking and breaking
- External back wiring clamp and large head, oxide cutting, silicon-bronze terminal screws provide positive secure terminations
- Nickel plated metallic components provide corrosion resistance

## SPECIALTY VERSIONS

- Style Line decorator duplex—a rectangular face for a more contemporary appearance
- Safety Duplex—Tamper resistant receptacle requires insertion of both current-carrying blades of plug to energize receptacle. Device has lead wires instead of screw terminals.
- Lighted Duplex—Built-in, long lasting neon lamp makes it easy to locate the receptacle in dark areas

HUBBELL Wiring Device-Kellems



No. 5Z829



No. 5A078



No. 6C656

NEMA Configuration



5-15R 5-20R

## HOSPITAL GRADE STRAIGHT BLADE RECEPTACLE ORDERING DATA

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A 125V 0.5 AC HP | 5-15R | Duplex | Brown | HBL8200 | 1XC01 | $25.97 | $18.45 | $17.53 | 0.3 |
| | | | | Gray | HBL8200GY | 5Z825 | 25.97 | 18.45 | 17.53 | 0.3 |
| | | | | Ivory | HBL8200I | 5A078 | 25.96 | 18.45 | 17.53 | 0.2 |
| | | | | Red | HBL8200R | 5Z823 | 25.97 | 18.45 | 17.53 | 0.3 |
| | | | | White | HBL8200WHI | 3D285 | 25.97 | 18.45 | 17.53 | 0.3 |
| | | | Single | Brown | HBL8210 | 5Z821 | 21.71 | 17.37 | 15.64 | 0.3 |
| | | | | Ivory | HBL8210I | 3D286 | 21.71 | 17.37 | 15.64 | 0.3 |
| | | | Style Line Decorator | Ivory | HBL2172I | 5Z853 | 26.20 | 20.97 | 18.88 | 0.3 |
| | | | | White | HBL2172WA | 5Z854 | 26.20 | 20.97 | 18.88 | 0.3 |
| | | | Tamper Resistant Duplex* | Brown | HBLSG62H | 6C656 | 34.71 | 27.80 | 25.01 | 0.3 |
| | | | | Gray | HBLSG62HGY | 3D453 | 34.71 | 27.80 | 25.01 | 0.3 |
| | | | | Ivory | HBLSG62HI | 5Z829 | 34.71 | 27.80 | 25.01 | 0.3 |
| | | | | Red | HBLSG62HR | 3D454 | 34.71 | 27.80 | 25.01 | 0.3 |
| | | | | White | HBLSG62HW | 3D455 | 34.71 | 27.80 | 25.01 | 0.3 |
| | | | Lighted Duplex | Ivory | HBL8200ILI | 3D283 | 42.94 | 34.35 | 30.92 | 0.3 |
| | | | | Red | HBL8200ILR | 3D284 | 42.94 | 34.35 | 30.92 | 0.3 |
| | 20A 125V 1 AC HP | 5-20R | Duplex | Brown | HBL8300 | 1XC02 | 28.63 | 20.30 | 19.29 | 0.3 |
| | | | | Gray | HBL8300GY | 5Z826 | 28.63 | 20.30 | 19.29 | 0.3 |
| | | | | Ivory | HBL8300I | 5A084 | 28.61 | 20.30 | 19.29 | 0.2 |
| | | | | Red | HBL8300R | 5Z824 | 28.63 | 20.30 | 19.29 | 0.3 |
| | | | | White | HBL8300WHI | 3D291 | 28.63 | 20.30 | 19.29 | 0.3 |
| | | | Single | Brown | HBL8310 | 5Z822 | 24.36 | 19.49 | 17.55 | 0.3 |
| | | | | Ivory | HBL8310I | 3D292 | 24.36 | 19.49 | 17.55 | 0.3 |
| | | | | Red | HBL8310R | 3D293 | 24.36 | 19.49 | 17.55 | 0.3 |
| | | | Style Line Decorator | Ivory | HBL2182I | 5Z855 | 29.09 | 23.28 | 20.95 | 0.3 |
| | | | | White | HBL2182WA | 5Z856 | 29.09 | 23.28 | 20.95 | 0.3 |
| | | | Tamper Resistant Duplex* | Brown | HBLSG63H | 4CV77 | 42.00 | 33.65 | 30.26 | 0.3 |
| | | | | Gray | HBLSG63HGY | 4CV78 | 42.00 | 33.65 | 30.26 | 0.3 |
| | | | | Ivory | HBLSG63HI | 4CV79 | 42.00 | 33.65 | 30.26 | 0.3 |
| | | | | Red | HBLSG63HR | 4CV80 | 42.00 | 33.65 | 30.26 | 0.3 |
| | | | | White | HBLSG63HW | 4CV81 | 42.00 | 33.65 | 30.26 | 0.3 |
| | | | Lighted Duplex | Ivory | HBL8300ILI | 3D289 | 46.35 | 37.10 | 33.37 | 0.3 |
| | | | | Red | HBL8300ILR | 3D290 | 46.35 | 37.10 | 33.37 | 0.3 |

(*) Not intended for use for electrical life support equipment applications.

# INDUSTRIAL/INSTITUTIONAL STRAIGHT BLADE RECEPTACLES

## APPLICATIONS

**Industrial facilities, institutions, utilities, laboratories and offices**

**For industrial equipment, fans/blowers, test equipment, lighting fixtures, etc.**

## LISTINGS & APPROVALS

**UL Listed and CSA Certified (except configurations 5-20R & 6-20R)**

## FEATURES & BENEFITS

**One piece mounting strap and integral ground contacts ensure positive, low-resistance ground continuity**

**Patented "Bypass" design of power contacts increases contact force and provides constant contact pressure**

**Thick walled thermoset base is heat resistant; impact resistant thermoplastic face resists cracking and breaking**

**External back wiring clamp and large head, oxide cutting, brass terminal screws provide positive secure terminations**

**Body and bridge are locked together on 3 places; solid brass center rivet provides maximum strength**

## SPECIALTY VERSIONS

**Corrosion-resistant—nickel-plated metallic components resist effects of salt and chemicals**



No. 4A257



No. 3D196



No. 3D180

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **2 Pole 2 Wire** | 20A 250V 2AC HP | 2-20R | Single | Black | HBL5552B | **3D213** | $21.82 | **$17.45** | **$15.71** | 0.2 |
| | 15A 125V 0.5 AC HP | 5-15R | Duplex, Heavy Duty | Brown | HBL5262 | **6A666** | 20.31 | **14.45** | **13.73** | 0.2 |
| | | | | Gray | HBL5262GRY | **6C599** | 20.32 | **14.45** | **13.73** | 0.3 |
| | | | | Ivory | HBL5262I | **6A667** | 20.31 | **14.45** | **13.73** | 0.2 |
| | | | | White | HBL5262WHI | **6C600** | 20.32 | **14.45** | **13.73** | 0.3 |
| | | | Duplex, Compact | Brown | HBL5252 | **5A079** | 12.38 | **9.91** | **8.92** | 0.4 |
| | | | | Gray | HBL5252GRY | **6C597** | 12.37 | **9.90** | **8.91** | 0.3 |
| | | | | Ivory | HBL5252I | **4A252** | 12.37 | **9.90** | **8.91** | 0.3 |
| | | | | White | HBL5252WHI | **3D185** | 12.37 | **9.90** | **8.91** | 0.2 |
| | | | | Brown | HBL5242 | **3D181*** | 8.90 | **7.12** | **6.41** | 0.2 |
| | | | | Ivory | HBL5242I | **3D182*** | 8.90 | **7.12** | **6.41** | 0.2 |
| | | | Duplex, Corrosion Resistant | Yellow | HBL52CM62 | **3D196** | 39.35 | **31.50** | **28.33** | 0.3 |
| | | | Duplex, 4" Round Cover | Brown | HBL5282 | **3D191** | 32.70 | **26.20** | **23.54** | 0.1 |
| | | | Single, Heavy Duty | Brown | HBL5261 | **1X987** | 18.02 | **14.42** | **12.98** | 0.3 |
| | | | | Ivory | HBL5261I | **5Z813** | 18.02 | **14.42** | **12.98** | 0.3 |
| | | | Single, General Duty | Brown | HBL5251 | **5C799** | 10.41 | **8.33** | **7.50** | 0.3 |
| | | | | Ivory | HBL5251I | **6C596** | 10.41 | **8.33** | **7.50** | 0.3 |
| | | | Single, Panel Mount | Brown | HBL5284 | **3D192** | 19.83 | **15.87** | **14.28** | 0.1 |
| | | | | Brown | HBL5258 | **3D187** | 12.27 | **9.82** | **8.83** | 0.1 |
| | | | Clock Hanger Outlet, Stainless | Brown | HBL5235 | **6C117** | 49.64 | **39.75** | **35.74** | 0.5 |
| | | | Floor Receptacle, with Brass Cover | Brown | HBL5236 | **3D180** | 98.52 | **78.85** | **70.93** | 0.6 |
| **2 Pole 3 Wire** | 15A 250V 2 AC HP | 6-15R | Duplex, Heavy Duty | Brown | HBL5662 | **1X994** | 24.80 | **19.84** | **17.87** | 0.3 |
| | | | | Ivory | HBL5662I | **3D220** | 24.80 | **19.84** | **17.87** | 0.3 |
| | | | Single, Heavy Duty | Brown | HBL5661 | **1X993** | 21.47 | **17.18** | **15.46** | 0.2 |
| | | | | Ivory | HBL5661I | **5Z832** | 21.48 | **17.19** | **15.47** | 0.3 |
| | | | Single, Panel Mount | Brown | HBL5658 | **3D219** | 14.92 | **11.94** | **10.74** | 0.1 |
| | 15A 277V 2 AC HP | 7-15R | Duplex, Heavy Duty | Brown | HBL5302 | **3D199** | 27.96 | **22.37** | **20.13** | 0.3 |
| | 20A 125V 1AC HP | 5-20R | Duplex, Heavy Duty | Brown | HBL5362 | **6A668** | 23.89 | **16.95** | **14.80** | 0.2 |
| | | | | Gray | HBL5362GRY | **6C606** | 23.90 | **16.95** | **14.80** | 0.3 |
| | | | | Ivory | HBL5362I | **6A669** | 23.89 | **16.95** | **14.80** | 0.2 |
| | | | | White | HBL5362WHI | **6C607** | 23.90 | **16.95** | **14.80** | 0.3 |
| | | | Duplex, Compact | Brown | HBL5352 | **5A085** | 17.56 | **12.45** | **11.83** | 0.3 |
| | | | | Gray | HBL5352GRY | **6C604** | 17.56 | **12.45** | **11.83** | 0.3 |
| | | | | Ivory | HBL5352I | **4A257** | 17.55 | **12.46** | **11.84** | 0.2 |
| | | | | White | HBL5352WHI | **3D206** | 17.56 | **12.45** | **11.83** | 0.3 |
| | | | | Brown | HBL5342 | **3D202*** | 13.16 | **10.54** | **9.49** | 0.2 |
| | | | | Ivory | HBL5342I | **3D203*** | 13.16 | **10.54** | **9.49** | 0.2 |
| | | | Duplex, Corrosion Resistant | Yellow | HBL53CM62 | **3D210** | 52.19 | **41.75** | **37.57** | 0.3 |
| | | | Single, Heavy Duty | Brown | HBL5361 | **1X988** | 20.20 | **16.16** | **14.55** | 0.2 |
| | | | | Ivory | HBL5361I | **5Z814** | 20.21 | **16.17** | **14.56** | 0.3 |
| | 20A 250V 2 AC HP | 6-20R | Duplex, Heavy Duty | Brown | HBL5462 | **1X990** | 30.45 | **24.36** | **21.93** | 0.3 |
| | | | | Ivory | HBL5462I | **3D212** | 30.42 | **24.35** | **21.92** | 0.3 |
| | | | Single, Heavy Duty | Brown | HBL5461 | **1X989** | 23.54 | **18.84** | **16.96** | 0.2 |
| | | | | Ivory | HBL5461I | **5Z833** | 23.54 | **18.84** | **16.96** | 0.2 |

(*) Side wired only. All others back & side wired.

# ISOLATED GROUND RECEPTACLES AND SURGE SUPPRESSION RECEPTACLES

## ISOLATED GROUND RECEPTACLES

### APPLICATIONS

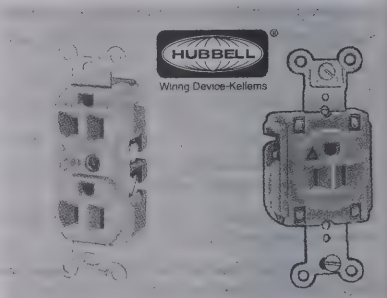
- Hospitals, laboratories, emergency care facilities, institutions, stores, and offices
- Use for sensitive electronic equipment such as test equipment, point-of-purchase terminals, medical and communications equipment, etc.

### LISTING & APPROVALS

- For use in accordance with NEC/NFPA Article 250-74, Exception #4
- ANSI #C73, NEMA WD-6
- UL Listed to Standard #498; CSA Certified (except configuration 5-20R); CSA C22.2 #42

### FEATURES & BENEFITS

- Insulation barrier construction isolates ground contacts from mounting strap for a noise-free ground
- IG triangle indicates isolated ground device on face of receptacle
- Impact resistant nylon face protects against cracking and chipping
- Reinforced thermoplastic polyester base provides impact strength and heat and flame resistance




No. 5Z827 No. 3D400

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A 125V 0.5 AC HP | 5-15R | Hospital Grade Duplex | Orange | IG8200 | **5Z827** | $36.95 | **$29.60** | **$26.60** | 0.3 |
| | | | Specification Grade Duplex | Orange | IG5262 | **5A075** | 25.39 | **20.31** | **18.29** | 0.2 |
| | | | Specification Grade Duplex | Gray | IG5262GY | **3D401** | 25.40 | **20.32** | **18.30** | 0.3 |
| | | | Specification Grade Duplex | Ivory | IG5262I | **3D402** | 25.40 | **20.32** | **18.30** | 0.3 |
| | | | Specification Grade Single | Orange | IG5261 | **3D400** | 36.93 | **29.55** | **26.59** | 0.2 |
| | 20A 125V 1 AC HP | 5-20R | Hospital Grade Duplex | Orange | IG8300 | **5Z828** | 41.85 | **33.50** | **30.13** | 0.3 |
| | | | Specification Grade Duplex | Orange | IG5362 | **5A083** | 31.61 | **25.30** | **22.77** | 0.2 |
| | | | Specification Grade Duplex | Gray | IG5362GY | **3D405** | 31.62 | **25.35** | **22.78** | 0.3 |
| | | | Specification Grade Duplex | Ivory | IG5362I | **3D406** | 31.62 | **25.35** | **22.78** | 0.3 |
| | | | Specification Grade Single | Orange | IG5361 | **3D404** | 36.00 | **28.80** | **25.92** | 0.3 |

## SURGE SUPPRESSION RECEPTACLES

### APPLICATIONS

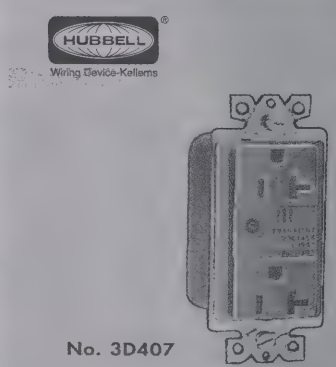
- Hospitals, laboratories, factories, institutions, schools, stores, and offices
- Use for sensitive electronic equipment such as personal computers, fax machines, CAD/CAM and test equipment, point-of-purchase terminals, medical and communications equipment, etc.

### LISTING & APPROVALS

- For use in accordance with NEC/NFPA Article 250-74, Exception #2
- ANSI/IEEE C 62.41-1980 (IEEE 587) installation categories "A" & "B"
- UL Listed to Standards #1449 & #498; CSA Certified (except configuration 5-20R)

### FEATURES & BENEFITS

- 210 joules protection per mode
- 4 metal oxide varisters absorb transients providing high level of surge protection
- Power-on indicator light verifies power is available and suppression circuit is functional; light off means power has been interrupted; surge protection has been damaged if indicator light is flashing
- Most models have alarm that sounds when surge protection is no longer functioning; continuous beeping (muting switch included)
- High impact nylon face resists breakage
- Isolated Ground versions protect equipment from effects of "noise" on ground circuit




No. 3D407

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A 125V | 5-15 | Isolated Ground Duplex | Blue | IG5262S | **6C134** | $87.48 | **$70.00** | **$62.98** | 0. |
| | | | Isolated Ground Duplex | Ivory | IG5262IS | **3D399** | 87.48 | **70.00** | **62.98** | 0. |
| | | | Specification Grade Duplex | Blue | HBL5262S | **6C132** | 78.90 | **63.15** | **56.80** | 0. |
| | | | Specification Grade Duplex | Ivory | HBL5262IS | **6C598** | 78.90 | **63.15** | **56.80** | 0. |
| | | | Specification Grade Duplex (No Alarm) | Blue | HBL5260S | **3D184** | 58.88 | **47.10** | **42.39** | 0. |
| | | | Specification Grade Duplex (No Alarm) | Ivory | HBL5260IS | **3D183** | 58.88 | **47.10** | **42.39** | 0. |
| | 20A 125V | 5-20R | Hospital Grade Isolated Ground Duplex | Blue | IG8362S | **3D407** | 95.24 | **76.20** | **68.57** | 0. |
| | | | Isolated Ground Duplex | Blue | IG5362S | **6C135** | 90.75 | **72.60** | **65.33** | 0. |
| | | | Isolated Ground Duplex | Ivory | IG5362IS | **3D403** | 90.75 | **72.60** | **65.33** | 0. |
| | | | Hospital Grade Duplex | Blue | HBL8362S | **6C136** | 84.62 | **67.70** | **60.92** | 0. |
| | | | Hospital Grade Duplex | Ivory | HBL8362IS | **3D287** | 84.62 | **67.70** | **60.92** | 0. |
| | | | Specification Grade Duplex | Blue | HBL5362S | **6C133** | 82.85 | **66.30** | **59.65** | 0. |
| | | | Specification Grade Duplex | Ivory | HBL5362IS | **6C605** | 82.85 | **66.30** | **59.65** | 0. |
| | | | Specification Grade Duplex (No Alarm) | Blue | HBL5360S | **3D205** | 67.32 | **53.90** | **48.47** | 0. |
| | | | Specification Grade Duplex (No Alarm) | Ivory | HBL5360IS | **3D204** | 67.32 | **53.90** | **48.47** | 0. |

# GROUND FAULT CIRCUIT INTERRUPTERS

## HOSPITAL & INDUSTRIAL/INSTITUTIONAL SPECIFICATION GRADE RECEPTACLES

### APPLICATIONS

- Hospitals, industry, institutions, hotel/motel, schools, workshops, and offices
- Protects people from line-to-ground electrical shock hazards in job sites, around spas and pools, and outdoors with weatherproof protection

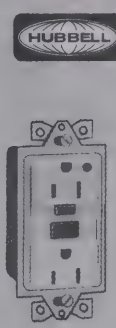
### LISTING & APPROVALS

- UL Listed 498 & 943 Class A, conforms to 1993 NEC requirements
- 15A models are CSA Certified

### FEATURES & BENEFITS

- Nylon face resists impact and abuse
- Pre-stripped 4" wire leads make installation quick and easy
- Feed-through feature provides GFCI protection for receptacles downstream
- 1½" receptacle depth permits installation in any standard 2½" box
- Band on reset button provides visible indication of ground fault trip
- All models have a 20A circuit rating of the GFCI
- Come with wire-nuts, matching color nylon and stainless steel wall plates

Note: GFCI-type receptacles should not be used in critical care patient areas or for electrical life support equipment applications because of the possibility of power interruptions.



No. 5Z830



No. 5Z816

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A 120V | 5-15R | Hospital Grade Duplex | Brown | GF8200 | 6C644 | $154.92 | $123.95 | $111.59 | 0.6 |
| | | | Hospital Grade Duplex | Ivory | GF8200I | 5Z830 | 154.90 | 123.95 | 111.58 | 0.5 |
| | | | Specification Grade Duplex | Brown | GF5262 | 5Z815 | 134.05 | 107.25 | 96.56 | 0.6 |
| | | | Specification Grade Duplex | Gray | GF5262GY | 3D354 | 134.05 | 107.25 | 96.56 | 0.6 |
| | | | Specification Grade Duplex | Ivory | GF5262I | 5Z817 | 134.05 | 107.25 | 96.56 | 0.6 |
| | | | Specification Grade Duplex | White | GF5262W | 5Z819 | 134.05 | 107.25 | 96.56 | 0.6 |
| | 20A 120V | 5-20R | Hospital Grade Duplex | Brown | GF8300 | 6C645 | 161.60 | 129.30 | 116.41 | 0.6 |
| | | | Hospital Grade Duplex | Gray | GF8300GY | 3D356 | 161.60 | 129.30 | 116.41 | 0.6 |
| | | | Hospital Grade Duplex | Ivory | GF8300I | 5Z831 | 161.59 | 129.30 | 116.40 | 0.5 |
| | | | Hospital Grade Duplex | White | GF8300W | 3D357 | 161.60 | 129.30 | 116.41 | 0.6 |
| | | | Specification Grade Duplex | Brown | GF5362 | 5Z816 | 140.16 | 112.15 | 100.96 | 0.6 |
| | | | Specification Grade Duplex | Gray | GF5362GY | 6C643 | 140.16 | 112.15 | 100.96 | 0.6 |
| | | | Specification Grade Duplex | Ivory | GF5362I | 5Z818 | 140.16 | 112.15 | 100.96 | 0.6 |
| | | | Specification Grade Duplex | Red | GF5362R | 3D355 | 140.16 | 112.15 | 100.96 | 0.6 |
| | | | Specification Grade Duplex | White | GF5362W | 5Z820 | 140.16 | 112.15 | 100.96 | 0.6 |

## COMMERCIAL SPECIFICATION GRADE GFCI RECEPTACLES

### APPLICATIONS

- Hotel/motel, schools, workshops, offices, and homes
- Used to protect people from line-to-ground electrical shock hazards in bathrooms, kitchens, garages, basements, around spas and pools, etc.

### LISTING & APPROVALS

- UL Listed 498 & 943 Class A, conforms to 1993 NEC requirements
- 15A and faceless models are CSA Certified

### FEATURES & BENEFITS

- Feed-through feature provides GFCI protection for receptacles downstream
- Screw terminal feature speeds installation
- All models have a 20A circuit rating of GFCI
- 1⅛" receptacle depth permits installation in any standard 2½" box
- Faceless model can be used as a motor control or in damp or humid areas such as dairies, food processing plants, marinas, and within 10 ft. of swimming pools
- Matching color nylon wall plate included

Note: GFCI type receptacles should not be used in critical care patient areas or for electrical life support equipment applications because of the possibility of power interruptions.



No. 5Z752

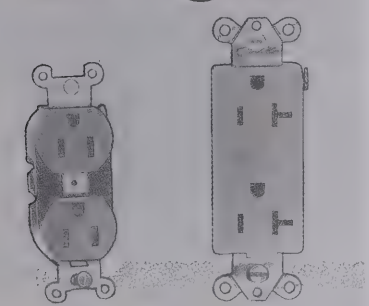


No. 5Z974

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A 120V | 5-15R | Commercial Duplex | Brown | GF5252 | 5Z749 | $15.96 | $12.77 | $11.50 | 0.4 |
| | | | | Black | GF5252BK | 3D353 | 15.96 | 12.77 | 11.50 | 0.4 |
| | | | | Gray | GF5252GY | 6C641 | 15.96 | 12.77 | 11.50 | 0.4 |
| | | | | Ivory | GF5252I | 1XC23 | 15.97 | 12.78 | 11.50 | 0.5 |
| | | | | White | GF5252W | 5Z750 | 15.97 | 12.78 | 11.50 | 0.5 |
| | 20A 120V | 5-20R | Commercial Duplex | Brown | GF5352 | 5Z751 | 17.12 | 13.70 | 12.33 | 0.5 |
| | | | | Gray | GF5352GY | 6C642 | 17.12 | 13.70 | 12.33 | 0.5 |
| | | | | Ivory | GF5352I | 1XC24 | 17.12 | 13.70 | 12.33 | 0.5 |
| | | | | White | GF5352W | 5Z752 | 17.12 | 13.70 | 12.33 | 0.5 |
| | | | Faceless GFCI | Ivory | GF5350I | 5Z974 | 17.12 | 13.70 | 12.33 | 0.5 |

# COMMERCIAL STRAIGHT BLADE RECEPTACLES AND FOUR OUTLET CLUSTER

## COMMERCIAL STRAIGHT BLADE RECEPTACLES




No. 1XC11 No. 5Z850

### APPLICATIONS

- Offices, retail stores, wholesale facilities, hotels/motels
- Used for office equipment, lighting, light duty equipment

### LISTING & APPROVALS

- UL Listed and CSA Certified (except configuration 5-20R)

### FEATURES & BENEFITS

- Smooth face design provides clean, contemporary look
- Thermoplastic face provides impact resistance
- Wraparound, locked-on bridge ensures a secure assembly and support
- Pre-tensioned ground contacts provide positive ground continuity
- T-type power contacts ensure reliable uninterrupted power
- Exclusive anchor hole with wire restraint feature on side wired devices facilitates wiring ease and provides a high quality terminal connection
- Back and side wired devices have 8 internal holes with wire restraint for stranded and multiple conductor connections
- Open terminals allows for fork terminal application as well as looping of wires

### VERSIONS AVAILABLE

- Style Line decorator series—a rectangular face
- CBR series—back and side wired
- CR series—side wired only
- CRO series—open terminal

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A, 125V 0.5 AC HP | 5-15R | Style Line, Decorator | Brown | HBL2152 | **5Z845** | $12.02 | **$9.62** | **$8.66** | 0.3 |
| | | | | Gray | HBL2152GY | **5Z848** | 12.02 | **9.62** | **8.66** | 0.3 |
| | | | | Ivory | HBL2152I | **5Z846** | 12.02 | **9.62** | **8.66** | 0.3 |
| | | | Duplex, Back & Side Wired | Brown | CR5252 | **1XC11** | 4.29 | **3.43** | **3.09** | 0.2 |
| | | | | Gray | CR5252GY | **6C635** | 4.29 | **3.43** | **3.09** | 0.2 |
| | | | | Ivory | CR5252I | **1XC12** | 4.29 | **3.43** | **3.09** | 0.2 |
| | | | | White | CR5252W | **6C636** | 4.29 | **3.43** | **3.09** | 0.2 |
| | | | Duplex, Side Wired Only | Brown | CR15 | **1XC03** | 1.86 | **1.50** | **1.35** | 0.2 |
| | | | | Gray | CR15GRY | **5Z836** | 1.86 | **1.50** | **1.35** | 0.2 |
| | | | | Ivory | CR15I | **6A670** | 1.86 | **1.50** | **1.35** | 0.2 |
| | | | | White | CR15WHI | **5Z834** | 1.86 | **1.50** | **1.35** | 0.2 |
| | | | Duplex Open Terminal | Brown | CRO15 | **4CT42** | 1.85 | **1.49** | **1.34** | 0.1 |
| | | | | Ivory | CRO151 | **4CT44** | 1.86 | **1.50** | **1.35** | 0.2 |
| | | | | Gray | CRO15GRY | **4CT43** | 1.85 | **1.49** | **1.34** | 0.1 |
| | 20A, 125V 1 AC HP | 5-20R | Style Line, Decorator | Brown | HBL2162 | **5Z849** | 15.71 | **12.57** | **11.32** | 0.3 |
| | | | | Gray | HBL2162GY | **5Z852** | 15.71 | **12.57** | **11.32** | 0.3 |
| | | | | Ivory | HBL2162I | **5Z850** | 15.71 | **12.57** | **11.32** | 0.3 |
| | | | | White | HBL2162WA | **5Z851** | 15.71 | **12.57** | **11.32** | 0.3 |
| | | | Duplex, Back & Side Wired | Brown | CR5352 | **1XC13** | 5.09 | **4.08** | **3.67** | 0.2 |
| | | | | Gray | CR5352GY | **6C637** | 5.09 | **4.08** | **3.67** | 0.2 |
| | | | | Ivory | CR5352I | **1XC14** | 5.09 | **4.08** | **3.67** | 0.2 |
| | | | | White | CR5352W | **6C638** | 5.09 | **4.08** | **3.67** | 0.2 |
| | | | Duplex, Side Wired Only | Brown | CR20 | **1XC04** | 2.30 | **1.85** | **1.66** | 0.2 |
| | | | | Gray | CR20GRY | **5Z837** | 2.30 | **1.85** | **1.66** | 0.2 |
| | | | | Ivory | CR20I | **6A671** | 2.30 | **1.85** | **1.66** | 0.2 |
| | | | | White | CR20WHI | **5Z835** | 2.30 | **1.85** | **1.66** | 0.2 |
| | | | Duplex, Open Terminal | Brown | CRO20 | **4CT46** | 2.37 | **1.90** | **1.71** | 0.2 |
| | | | | Ivory | CRO201 | **4CT48** | 2.36 | **1.90** | **1.71** | 0.1 |
| | | | | Black | CRO20BLK | **4CT47** | 2.37 | **1.90** | **1.71** | 0.2 |
| | | | | Gray | CRO20GRY | **4CT51** | 2.36 | **1.90** | **1.71** | 0.1 |
| | | | | White | CRO20WHI | **4CT49** | 2.36 | **1.90** | **1.71** | 0.1 |

## FOUR OUTLET CLUSTER

- Cluster with four 15A, 125V receptacles (NEMA 5-15R) is ideal for temporary use in workshops and garages to easily provide multiple plug-ins
- Unit is brown phenolic with steel cover and swivel hook
- Accepts cord from .296 - .562" in diameter (cord not supplied)
- Hubbell brand (HBL9259)

**Note:** This device is not UL Listed.

**No. 3D296.** Shpg. wt. 0.8 lbs.. List $108.38. Each.....**$86.70**




No. 3D296

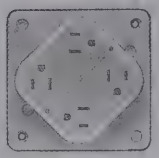
HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG

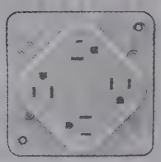
# 4-PLEX RECEPTACLES

HUBBELL®


A


B

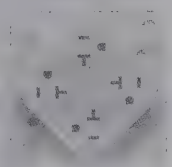

C

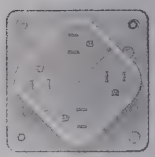

D

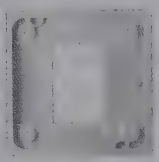
**NEMA Configuration**

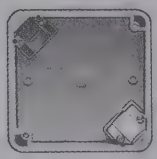

5-15R


5-20R


E


F


G


H

## APPLICATIONS

- Laboratories, hospitals, schools, stores and offices
- Use on test equipment, monitoring devices, office equipment, personal computers and point of purchase terminals

## LISTING & APPROVALS

- All are UL Listed and CSA Certified (except configuration 5-20R) except the portable box and 4-PLEX receptacles when the portable box is used

## FEATURES & BENEFITS

- 4 outlets in one replaces existing single or duplex receptacles
- Eliminates need to replace duplex receptacle and box with 2 gang box, 2 receptacles and a wall plate
- Impact resistant thermoplastic construction protects against cracking and chipping
- Adapter plate adapts 4-PLEX receptacles flush to 1 or 2 gang device box or 4" square boxes
- Portable box with integral cord grip ideal for temporary power

## AVAILABLE VERSIONS

- Industrial/Institutional Specification Grade for heavy duty applications
- UL Listed Hospital Grade for use in health care facilities
- Surge Suppression for use with sensitive electronic equipment
- Isolated Ground for a noise free grounding path for electronic equipment

| Key | Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 2 Pole 3 Wire | 15A 125V 0.5 AC HP | 5-15R | Hospital Grade | Brown | HBL415H | **6C560** | $28.42 | **$22.74** | **$20.47** | 0.5 |
| | | | | Hospital Grade | Ivory | HBL415HI | **6C561** | 28.42 | **22.74** | **20.47** | 0.5 |
| | | | | Isolated Ground | Orange | IG415 | **6C652** | 41.57 | **33.25** | **29.93** | 0.4 |
| B | 2 Pole 3 Wire | 15A 125V 0.5 AC HP | 5-15R | Specification Grade | Brown | HBL415 | **6C559** | 21.96 | **17.58** | **15.82** | 0.5 |
| | | | | Specification Grade | Ivory | HBL415I | **6C562** | 21.97 | **17.59** | **15.83** | 0.6 |
| | | | | Specification Grade | White | HBL415W | **3D134** | 21.96 | **17.58** | **15.82** | 0.5 |
| C | 2 Pole 3 Wire | 15A 125V 0.5 AC HP | 5-15R | Surge Suppression | Blue | HBL415S | **6C564** | 74.30 | **59.45** | **53.49** | 0.5 |
| | | | | Surge Suppression | Ivory | HBL415IS | **6C563** | 74.30 | **59.45** | **53.49** | 0.5 |
| D | 2 Pole 3 Wire | 20A 125V 1 AC HP | 5-20R | Hospital Grade | Brown | HBL420H | **6C566** | 30.73 | **24.59** | **22.13** | 0.5 |
| | | | | Hospital Grade | Ivory | HBL420HI | **6C567** | 30.73 | **24.59** | **22.13** | 0.5 |
| | | | | Isolated Ground | Orange | IG420 | **6C653** | 49.19 | **39.35** | **35.42** | 0.4 |
| E | 2 Pole 3 Wire | 20A 125V 1 AC HP | 5-20R | Specification Grade | Brown | HBL420 | **6C565** | 26.11 | **20.90** | **18.81** | 0.5 |
| | | | | Specification Grade | Ivory | HBL420I | **6C568** | 26.11 | **20.90** | **18.81** | 0.5 |
| | | | | Specification Grade | White | HBL420W | **3D142** | 26.11 | **20.90** | **18.81** | 0.5 |
| F | 2 Pole 3 Wire | 20A 125V 1 AC HP | 5-20R | Surge Suppression | Blue | HBL420S | **6C570** | 80.97 | **64.80** | **58.29** | 0.5 |
| | | | | Surge Suppression | Ivory | HBL420IS | **6C569** | 80.97 | **64.80** | **58.29** | 0.5 |
| G | 2 Pole 3 Wire | 20A 125V 1 AC HP | 5-20R | Adapter Plate | Brown | HBL4AP | **6C586** | 6.82 | **5.46** | **4.92** | 0.2 |
| | | | | Adapter Plate | Blue | HBL4APBL | **3D830** | 6.82 | **5.46** | **4.92** | 0.2 |
| | | | | Adapter Plate | Ivory | HBL4API | **6C587** | 6.81 | **5.45** | **4.91** | 0.1 |
| | | | | Adapter Plate | Orange | HBL4APO | **6C588** | 6.82 | **5.46** | **4.92** | 0.2 |
| | | | | Adapter Plate | White | HBL4APW | **3D172** | 6.82 | **5.46** | **4.92** | 0.2 |
| H | 2 Pole 3 Wire | 20A 125V 1 AC HP | 5-20R | Portable Box | Brown | HBL4PB | **6C589** | 6.83 | **5.47** | **4.93** | 0.3 |
| | | | | Portable Box | Ivory | HBL4PBI | **6C590** | 6.82 | **5.46** | **4.92** | 0.2 |

**GRAINGER HAS OVER 350 BRANCHES NATIONWIDE**

We're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who care about your business. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# PREWIRED ELECTRICAL RACEWAY AND OUTLET STRIPS

WIREMOLD® Wire Management Systems

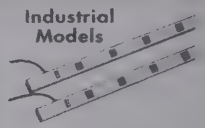
## WHY YOU SHOULD CHOOSE A WIREMOLD PLUG-IN OUTLET CENTER

Wiremold® Plug-In Outlet Centers let you bring power safely to wherever you need it. Connect appliances, audio/video equipment, power tools, computers, test equipment, office machines, lighting and more. All Plug-In Outlet Centers feature:

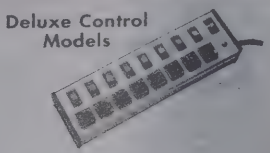
- **Resettable overload circuit breakers**
- **Aluminum Housing (unless otherwise noted)**
- **15 Amps, 120 Volts (unless otherwise noted)**
- **14/3-SJT color coordinated cord**

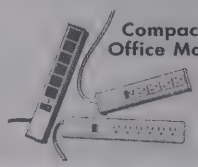
### PLUG-IN OUTLET CENTER® UNITS ARE IDEAL FOR:

- **Computer Rooms**
- **Offices**
- **Factories**
- **Workstations**
- **Retail store displays**
- **Home workshops**
- **Entertainment centers**
- **Schools**




E66421




LR62645 Except 1A948




| Outlets | Switch/Pilot Light | Housing Color | Cord (Ft.) | Dimensions (In.) H | W | L | Wiremold Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDUSTRIAL MODELS** | | | | | | | | | | | | |
| **8** | Yes | Gray | 6 | 1⅝ | 1¾ | 24 | UL300BC | **1A947** | $53.93 | **$46.90** | **$43.86** | 3.3 |
| **8** | No | Gray | 6 | 1⅝ | 1¾ | 48 | UL403BC | **3W210** | 52.72 | **45.85** | **42.88** | 3.8 |
| **8** | Yes | Gray | 6 | 1⅝ | 1¾ | 48 | UL401BC | **3W211** | 58.56 | **50.95** | **47.63** | 3.8 |
| **12** | Yes | Gray | 6 | 1⅝ | 1¾ | 72 | UL2064BC | **3W168** | 60.36 | **52.50** | **49.09** | 5.0 |
| **COMPACT MODELS** | | | | | | | | | | | | |
| **4** | Yes | Gray | 6 | 1⅝ | 1⅞ | 9⅛ | UL104BC | **3X732** | 28.33 | **24.63** | **23.04** | 2.0 |
| **5** | No | Gray | 6 | 1⅝ | 1⅞ | 9⅛ | UL100BC | **6X952** | 24.64 | **21.43** | **20.04** | 1.8 |
| **6** | Yes | Gray | 6 | 1⅝ | 1¾ | 12¼ | UL207BC | **6X953** | 34.56 | **30.10** | **28.11** | 1.8 |
| **6** | Yes | Gray | 15 | 1⅝ | 1¾ | 12¼ | UL207BD | **3X733** | 34.56 | **30.10** | **28.11** | 3.0 |
| **10** | Yes | Putty | 6 | 6 | 2 | 12⅜ | UL210BC | **1A946** | 47.02 | **40.90** | **38.24** | 2.8 |
| **DELUXE CONTROL MODELS** with individually switched receptacles | | | | | | | | | | | | |
| **4** | Yes | Putty | 6 | 2 | 3½ | 7½ | UL208BC | **1A944** | 57.85 | **50.35** | **47.05** | 2.4 |
| **8** | Yes | Putty | 6 | 2 | 3½ | 13 | UL209BC | **1A945** | 81.90 | **71.25** | **66.61** | 2.4 |
| **OFFICE MODELS** | | | | | | | | | | | | |
| **4** | Yes | Putty | 6 | 1¾ | 2 | 9¼ | R410 | **2A151** | 19.26 | **16.75** | **14.84** | 2.0 |
| **6** | Yes | Putty | 6 | 1¾ | 2 | 12¼ | R610 | **2A153** | 20.17 | **15.38** | **14.61** | 2.0 |
| **6** | Yes | Putty* | 6 | 1⅝ | 2¼ | 12 | P6 | **5A311** † | 15.25 | **11.29** | **10.73** | 1.3 |
| **20 AMP MODELS** | | | | | | | | | | | | |
| **6** | Yes | Putty | 6 | 1¾ | 2 | 13⅜ | ULB620-6 | **1A948** | 89.87 | **78.15** | **73.09** | 3.0 |
| **MEDICAL MODELS** with hospital grade receptacles and plugs, not for use in critical care environments | | | | | | | | | | | | |
| **4** | No | White | 6 | 1¾ | 2 | 9⅞ | ULBH4-6 | **1A949** | 57.40 | **49.95** | **46.68** | 2.4 |
| **6** | No | White | 6 | 1¾ | 2 | 13 | ULBH6-6 | **1A950** | 70.49 | **61.30** | **57.33** | 2.4 |

(*) Plastic housing. (†) UL Listed (E111219) and CSA Certified (LR69225)

WIREMOLD® Wire Management Systems



Hard-Wired for Permanent Mounting

LR28650 E83390

## PLUGMOLD® PREWIRED RACEWAY

- **Provides multiple outlet convenience**
- **Includes two end caps and 1 wire clip**
- **Available in 3, 5, and 6 ft. lengths**
- **6 or 12" centers—up to 12 outlets**
- **Prewired with 12-gauge insulated solid wire**
- **Ivory color**
- **120VAC receptacles (NEMA 5-15)**
- **15 Amps maximum**

| Length (Ft.) | No. of Outlets | Distance (In.) Between Centers of Outlets | Wiremold Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3** | 6 | 6 | V20GB306 | **2W603** | $24.45 | **$21.26** | **$18.84** | 1.9 |
| **5** | 5 | 12 | V20GB512 | **2W604** | 26.54 | **23.08** | **20.45** | 4.5 |
| **5** | 10 | 6 | V20GB506 | **2W605** | 36.81 | **32.05** | **28.36** | 5.0 |
| **6** | 6 | 12 | V20GB612 | **2W606** | 31.55 | **27.45** | **24.31** | 3.5 |
| **6** | 12 | 6 | V20GB606 | **2W607** | 42.05 | **36.60** | **32.40** | 5.5 |

## OPTIONAL ENTRANCE FITTING

- **Adapts outlet strip to existing power circuits**
- **Mounts to existing electrical box**
- **UL Listed (E121188)**
- **CSA Certified (LR350)**

No. 2W608. Shpg. wt. 0.2 lbs. List..... $3.80. Each $3.31; Lots 10..... **$2.93**



When the spec calls for brand names, you'll find the best here.

# ALUMINUM SERVICE POLES

**APPLICATIONS**

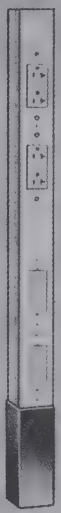
- Institutions, offices, laboratories
- Power poles provide power and voice/data from ceiling to any point in a room

**LISTINGS & APPROVALS**

- UL Listed

**FEATURES & BENEFITS**

- Divider allows a single pole to accommodate power, voice, and data
- Aluminum construction for strength
- All (except blank pole) are prewired and ready to install
- Accessible data/communications section accommodates mounting of 2 Style Line communications outlets
- Power and communication devices mount on the same side of the service pole
- Variety of heights to fit most ceilings
- Ceiling trim plate/mounting bracket makes for easy installation and relocation (included)
- Optional T-Bar assembly No. 3D307 allows fastening pole between suspended ceiling grid



No. 4LM32

## ALUMINUM SERVICE POLES ORDERING DATA

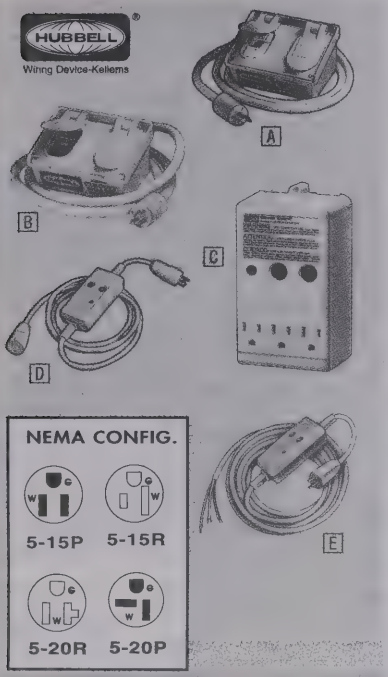
| Description | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 10'2" Pole, gray color, two channel, with two duplex Style Line receptacles and knockouts for two Style Line communicatlons outlets | PP10A | **4LM32** | $112.59 | **$90.10** | **$81.10** | 12.0 |
| 10'2" Pole, gray color, two channel, with one orange isolated ground 20A duplex receptacle and one 20A Style Line receptacle, and knockouts for two Style Line receptacles | PP10IGA | **4LM33** | 165.02 | **132.05** | **118.80** | 14.0 |
| 12'2" Pole, gray color, two channel, with two duplex Style Line receptacles and knockouts for voice data | PP12A | **4LM35** | 145.46 | **116.40** | **104.78** | 14.0 |
| 15'2" Pole, gray color, two channel, with two duplex Style Line receptacles and provisions for voice/data | PP15A | **4LM36** | 217.20 | **173.75** | **156.37** | 17.0 |
| 10'2" Pole, gray color, two channel, with two orange isolated ground 20A 125V duplex Style Line receptacles and one ground surge suppression 20A 125V duplex Style Line receptacle. Knockouts provided for two additional Style Line communications outlets. | PP10SA | **4LM34** | 308.44 | **246.75** | **222.05** | 14.0 |
| 10'2" Blank pole, gray color, one channel without divider. No receptacles or data knockouts provided | PP0A | **4LM37** | 97.71 | **78.20** | **70.38** | 10.0 |
| Adjustable T-bar assembly for mounting in middle of ceiling tile | ATB | **3D307** | 42.26 | **33.85** | **30.44** | 1.0 |

SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# GROUND FAULT CIRCUIT INTERRUPTERS AND ACCESSORIES

## GROUND FAULT CIRCUIT INTERRUPTERS




### 4 OUTLET PORTABLES

- UL Listed and CSA Certified
- Lift covers protect receptacles from dirt and damage
- Impact resistant polycarbonate housing and covers resist abuse
- STOW-A power cord with plug and sliding hanger for strain relief
- GFCI duplex provides downstream protection to second duplex for use by multiple users

### PLUG-IN PORTABLES

- UL Listed, Class A
- Turns any standard outlet into a GFCI (indoor only unless protected from rain)
- Optional permanent mounting
- 3 outlet model has retractable ground pin; use with either 2 or 3 wire systems
- Single outlet model has rugged case for impact resistance

### GFCI LINE CORDS

- Use manual set models with drills, saws, floor polishers, battery chargers, hedge trimmers, wet/dry vacuums, high pressure washers
- Use automatic set models with equipment intended for continuous use where temporary power failure is likely and undesirable. Examples include pumps, pressure washers, portable signs or lighting, and engine heaters
- UL Listed, Class A, Group 1, and CSA Certified
- Waterproof GFCI mechanism allows indoor and outdoor use
- Manual set GFCI line cord requires the GFCI to be manually set by pressing the reset button upon plug in and after loss of primary power
- Provides protection for grounded appliances and tools
- PVC housing resists moisture, chemicals and sunlight

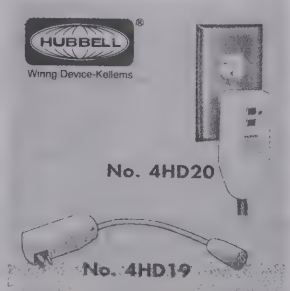
| Key | Rating | NEMA Recep. Config. | NEMA Plug Config. | Cord Length | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **4 OUTLET PORTABLES** | | | | | | | | | |
| A | 15A 120V | 5-15R | 5-15P | 6' | GFP15M | **5Z977** | $371.60 | **$297.25** | 3.5 |
| A | 15A 120V | 5-15R | 5-15P | 6' | GFP201 | **6C646** | 2518.83 | **2015.00** | 5.9 |
| B | 20A 125V | 5-20R | 5-20P | 6' | GFP20M | **5Z978** | 394.30 | **315.50** | 3.5 |
| **PLUG-IN PORTABLES** | | | | | | | | | |
| C | | 3/5-15R | 1-15P/5-15P | — | GFP315 | **5Z975** | 71.67 | **57.35** | 0.6 |
| **GFCI LINE CORDS** | | | | | | | | | |
| **AUTOMATIC RESET** | | | | | | | | | |
| D | 15A 120V | 5-15R | 5-15P | 25' | GFP25C15A | **3D358** | 115.49 | **92.40** | 3.5 |
| D | 15A 120V | 5-15R | 5-15P | 6' | GFP6C15A | **6A676** | 80.25 | **64.25** | 1.0 |
| D | 15A 120V | 5-15R | 5-15P | 18" | GFP4C15A | **6A675** | 74.95 | **60.00** | 1.0 |
| **MANUAL RESET** | | | | | | | | | |
| D | 15A 125V | 5-15R | 5-15P | 25' | GFP25C15M | **4CT52** | 115.50 | **92.45** | 3.6 |
| D | 15A 125V | 5-15R | 5-15P | 6' | GFP6C15M | **4CT54** | 80.32 | **64.30** | 1.6 |
| D | 15A 125V | 5-15R | 5-15P | 18" | GFP4C15M | **4CT53** | 74.95 | **60.00** | 1.0 |
| D | 20A 120V | 5-20R | 5-20P | 3' | GFP3C20M | **3HZ78** | 102.47 | **82.00** | 1.7 |
| **GFCI POWER SUPPLY CORD** | | | | | | | | | |
| E | 15A 120V | 5-15R | — | 15' | GFPOEMM | **4CT55** | 118.43 | **94.80** | 2.1 |

### SPECIFICATIONS

- Trip level—4-6 mA.; Trip time—.025 seconds nominal; Class A
- Input voltage—120V +10% -15%; Frequency—60Hz
- Max. interrupting capacity—2000 amperes; Operating temperature -30°F (-35°C) to 150°F (66°C)
- All units have "no-voltage" release feature

## GROUND FAULT CIRCUIT INTERRUPTER PLUGS

- For industrial applications, construction sites, hospitals, school and universities
- High-impact, UV-resistant PVC housing
- Heavy-duty cord clamp relieves cable strain and prevents pull out
- Large "On" light verifies power status
- Manual set prevents unintentional restart of equipment after loss of primary power
- Rated 15A, 120VAC




| Color | NEMA Plug Configuration | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Black** | 5-15P w/1 Ft. Cord | GFP1C | **4HD19** | $63.59 | **$50.90** | 1.5 |
| **Black** | 5-15P | GFP5266C | **4HD20** | 57.05 | **45.65** | 0.8 |
| **Yellow** | 5-15P | GFP5266CY | **4HD21** | 57.05 | **45.65** | 0.8 |

## GROUND FAULT CIRCUIT INTERRUPTER TESTER

- Measure milliamp (mA) trip level of GFCI breakers, GFCI receptacles, GFCI portables and wired in GFCIs within any range from 2 to 7 mA, or leakage of electric drills, extension cords, electric saws, small appliances, and pumps within a leakage range of 1 to 7 mA
- Easy to read instructions are printed on laminated band around tester body
- Impact resistant nylon body resists abuse
- Sturdy knob dials in trip level and is easy to use
- Use on any AC circuit of 110, 120 or 130V at 15A or 20A and circuits above 20A with use of one of the adapters on page 715
- Hubbell brand (GFT2G)

**Note:** This GFCI Tester is not intended to determine: incorrect receptacle polarity, "quality" of ground or any combination of incorrect wiring.

**No. 3D360.** Shpg. wt. 0.9 lbs. List $211.23. Each .....$169.00



When the spec calls for brand names, you'll find the best here.

# SURGE PROTECTION DEVICES

**SENTREX™**
*Power & Data Quality Systems*

- **All models feature an extended manufacturer's warranty**
- **All models feature an aluminium housing unless otherwise noted**

## WHY YOU NEED SURGE PROTECTION

Surge protectors provide prtection for computers and electronic equipment from transient power surges, spikes, and EMI/RFI nois and help prevent:

- **System crashes**
- **Corrupted data files**
- **Disk drive errors**
- **Computer lock-up**
- **Hardware failure**

Select the right surge protector for the application.

## SENTREX® HIGH PERFORMANCE MODELS

Helps protect advanced and critical electronic and computer applications. Features a 4 stage, 4 element hybrid circuit, UL 330V clamping, maximum surge current of 33,000 amps.

## PERMA POWER COMPUTER GRADE MODELS

Helps protect computer equipment and hardware. Features a 2 stage, 2 element hybrid circuit, UL 400V clamping, maximum surge current of 13,000 amps.

## PERMA POWER HOME ENTERTAINMENT MODELS

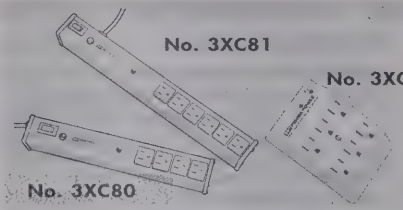
Helps protect TVs, VCRs, stereos, and phone answering machines with coax and phone line inputs. Features UL 330V clamping, maximum surge current of 20,000 amps.

## PERMA POWER ELECTRONIC GRADE MODELS

Helps protect personal computers, office equipment and small appliances. Features UL 400V clamping, maximum surge current of 6,500 amps.

## SENTREX PANEL ZONE® HARDWIRED MODELS

Provides maximum protection at the main service entrance or at distribution panels.

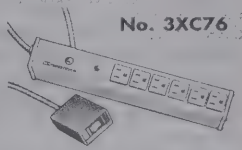



**SURGE PROTECTORS**
- **Available in many configurations to protect against surges, spikes and EMI/RFI noise**




**PHONE/FAX/MODEM SURGE PROTECTORS**
- **Provides protection for power outlets and phone lines**

**REMOTE SWITCH SURGE PROTECTOR**
- **Lighted, remote switch on a 44" cord allows easy power up of all equipment**




UL SP

LR62645 except No. 3XC84

**HARDWIRED SURGE PROTECTORS**
- **Provides maximum protection at the electrical distribution panel for a floor, area or room**




### SURGE PROTECTORS—6 Ft. CORDS

| Grade | Outlets | Dimensions (In.) L | W | D | Max. Surge Current (Amps) | UL 1449 Clamping (Volts) | Wiremold Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **High-Performance** | 4 | 13½ | 2 | 1¼ | 33,000 | 330 | M4S | **3XC80** | $129.52 | **$112.65** | 2.5 |
| **High-Performance** | 6 | 16 | 2 | 1¼ | 33,000 | 330 | M6S | **3XC81** | 132.66 | **115.35** | 2.8 |
| **Computer** | 6 | 13¼ | 2½ | 1⁹⁄₁₆ | 13,000 | 400 | SR10 | **3XC77** * | 32.02 | **27.85** | 1.7 |
| **Electronic** | 6 | 11¾ | 2¼ | 1½ | 6,500 | 400 | PR610 | **4JC29** * | 18.85 | **13.94** | 1.5 |
| **Electronic/ Plug-In** | 6 | 5 | 3⅛ | 1¼ | 6,500 | 400 | PR609 | **3XC84** * | 14.44 | **10.81** | 0.8 |
| **Home Entertnmnt.** | 8 | 11 | 3⅝ | 1½ | 20,000 | 330 | LS810 | **4JC28** * | 41.31 | **35.95** | 2.5 |

### SURGE PROTECTORS WITH FAIL-SAFE AUTO SHUTDOWN—6 Ft. CORDS
**Stops the power it the surge element fails**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **High-Performance** | 4 | 12⅞ | 2 | 1¼ | 33,000 | 330 | RS410 | **5A310** | 87.91 | **76.45** | 2.4 |
| **High-Performance** | 6 | 12¾ | 2 | 1¾ | 33,000 | 330 | RS610 | **1A267** | 91.41 | **79.50** | 3.0 |
| **Computer** | 4 | 10¾ | 2 | 1¾ | 13,000 | 400 | RT410 | **5A309** | 52.47 | **45.65** | 2.3 |
| **Computer** | 6 | 13¼ | 2 | 1¾ | 13,000 | 400 | RT610 | **1A815** | 55.48 | **44.25** | 2.7 |

### REMOTE SWITCH SURGE PROTECTORS—6 Ft. PLUG/CORD
**Lighted remote switch on 44" cord**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **High-Performance** | 6 | 16 | 2 | 1¼ | 33,000 | 330 | M6SR | **3XC78** | 135.90 | **118.20** | 3.5 |
| **Computer** | 6 | 13 | 2 | 1¾ | 13,000 | 400 | M6BZR | **3XC76** | 68.14 | **59.25** | 2.8 |

### MEDICAL GROUP SURGE PROTECTOR—6 Ft. PLUG/CORD
**With hospital grade outlets and plugs, not for use in critical care environments**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **High-Performance** | 6 | 17½ | 2 | 1¼ | 33,000 | 330 | M6HGS | **3XC79** | 170.41 | **148.20** | 3.3 |

### SURGE PROTECTOR WITH PHONE/FAX MODEM PROTECTION

| Grade | AC Outlets | Phone/Fax Modem Protection | Dim. (In.) L | W | D | Wiremold Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Computer** | 3 | 1 Phone Line | 4¾ | 3 | 2¼ | PXD309 | **3XC85** *† | $14.83 | **$12.95** | 0.8 |
| **Home Entertainment** | 6 | 1 Phone Line | 11 | 3⅝ | 1½ | LS610D | **4JC26** * | 46.94 | **40.85** | 2.5 |
| | 6 | 1 Phone Line/1 Coax | 11 | 3⅝ | 1½ | LS610DC | **4JC27** * | 54.55 | **47.50** | 2.5 |

### HARDWIRED SURGE PROTECTORS, 60KA MAXIMUM SURGE CURRENT

| Description | Dimensions (In.) L | W | D | Wiremold Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **120/240V, 1 Phase 3 wire & Ground** | 7½ | 4⅛ | 3⅛ | JA120T | **3XC86**# | $237.51 | **$206.75** | 5.0 |
| **120/208V, 3 Phase 4 wire & Ground** | 7½ | 4⅛ | 3⅛ | JA120Y | **3XC87**# | 258.28 | **224.75** | 5.0 |
| **120/240/120V, Hi Leg Delta** | 7½ | 4⅛ | 3⅛ | JA240DCT | **3XC88**# | 303.71 | **264.25** | 5.0 |

(*) Plastic housing (†) Wall plug in (#) NEMA Type 1 enclosure.
Note: maximum surge current is based on the sum of components. Actual maximum could be less.

# PASSIVE INFRARED MOTION SENSORS

## PASSIVE INFRARED WALL SWITCH SENSORS

### APPLICATIONS

- Automatic control of lighting loads through use of passive infrared (motion/heat) sensing
- Lights turn on when entering the sensing area and remain on until leaving
- May be used with fluorescent & incandescent lighting loads; compatible with energy efficient electronic ballasts
- For commercial or private offices, industrial, institutional, wholesale/retail & hotel/motel

### FEATURES & BENEFITS

- Indoor use, box mount
- Fluorescent & incandescent ratings: 1500 watts max. load 120-277VAC
- Meets California Title 24 requirements
- Install in less than 15 minutes when replacing standard wall switch
- May qualify for local utility rebates as an energy saving device
- Time On adjustable from 1 to 20 minutes

HUBBELL Wiring Device-Kellems

E103666

LR700758



No. 4CW33

| Field of View | Coverage | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 180° | 1200 sq. ft. | Ivory | WSS1200 | **4CW33** | $103.83 | **$83.10** | 0.5 |
| 180° | 1200 sq. ft. | White | WSS1200W | **4CW34** | 103.83 | **83.10** | 0.5 |

## CEILING AND WALL MOUNTED SENSORS

### APPLICATIONS

- Industrials, institutions, offices, convention centers, wholesale/retail, hotel/motel
- Infrared sensor is in control of lighting—walk into a room, lights go on, leave and lights go off automatically

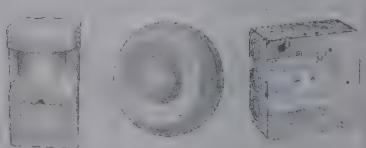
### LISTING & APPROVALS

- UL Listed 88C1 (Industrial Controls Equipment) and CSA Certified

### FEATURES & BENEFITS

- Passive infrared technology is sensitive to small movements so lights stay on when room is occupied
- No. 3D067 has a 360° degree field of view which offers wall to wall coverage, even in off-center applications
- One control unit can control 1 to 15 sensors
- Lens masking segments included. Allows custom installation and prevent unwanted areas from being detected

HUBBELL Wiring Device-Kellems



No. 3D069 No. 3D067 No. 3D065

| Rating | Description | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1800W 120V Incandescent 1800W 120V Fluorescent 3000W 277V Fluorescent** | Passive Infrared Motion Sensing Control Unit controls 1 to 15 sensors, 30 second to 30 minute adjustable time out | HMC | **3D065** | $78.63 | **$62.95** | **$56.64** | 1.9 |
| **Sensor must be used in conjuction with No. 3D065** | Small Area Sensor, Covers 1000 Sq. Feet | HMC1DC | **3D067** | 126.89 | **101.55** | **91.40** | 0.5 |
| | Hallway Sensor Covers 75' x 10' Area | HMHW1DC | **3D068** | 126.96 | **101.60** | **91.45** | 1.1 |
| | Wide Area Sensor, Covers 1600 Sq. Feet | HMW1DC | **3D069** | 126.96 | **101.60** | **91.45** | 1.1 |
| | Bracket for Mounting 3D067 on 4" Octagon Box | HMCAP | **4LM31** | 4.22 | **3.38** | **3.04** | 1.0 |

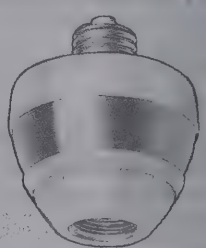
## BRK PASSIVE INFRARED MOTION SENSOR

- Designed as a ceiling-mounted, bare bulb light socket
- Handles 25 to 100W incandescent at 120 VAC
- Detects motion in all directions—approximately 360°. Senses activity across 15-ft. dia. (when mounted 8 ft. above floor). Works in any light level

Sensor detects changes in temperature caused by the motion of persons or objects. Sensor turns on lights providing safety, security, convenience, and energy savings in residential, commercial, and industrial applications. UL Listed (E103200).

BRK ELECTRONICS

E103200



No. 4V233

| Description | BRK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 120VAC Indoor Socket | PIR720R | **4V233** | $39.42 | **$32.15** | 0.5 |

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

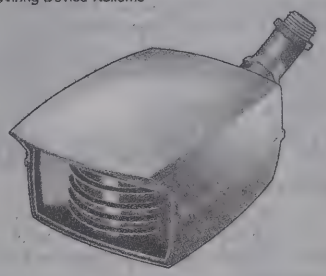
Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.

## MOTION ALERT OUTSIDE SENSOR

- Applications include parking lots, driveways, walkways, agricultural areas
- Sensor controls outdoor lighting—move in area and lights go on; leave area and lights go off
- Passive infrared technology is extremely sensitive to movement
- 100° field of view with a 60 ft. range covers up to 3100 sq. ft. with coverage for large areas outdoors
- Raintight unit is virtually impregnable to moisture; ideal for all-weather use in humid environments, marinas, etc.
- Operates on 120V AC
- Contact ratings: 1000 watts for tungsten, halogen and quartz loads; 250 watts for fluorescent loads
- Time interval ranging from 8 sec. to 10 minutes can be set by user
- Adjustable photocell control disables unit at any light level desired
- Operates at temperatures of -40 to +150°F to withstand harsh conditions
- Raintight to UL Standard 773A

**No. 3D408.** Motion Alert Outside Sensor. Hubbell brand (OS120A). Shpg. wt. 1.0 lbs.
List$85.44. Each ..... $68.40

HUBBELL®
Wiring Device-Kellems



No. 3D408

## YARD-SCAN™ INFRARED MOTION DETECTOR

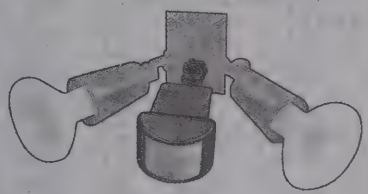
- Detects motion outside the home or office. Turns lights On automatically. Includes dusk to dawn 24 hour reset
- Die-cast aluminum housing with rain-tight construction makes unit suitable for all-weather outdoor operation
- Passive infrared sensor detects moving people or vehicles up to 60 ft. away. 110° horizontal width; 180° right angle adjustment
- Built-in photocell distinguishes daylight from darkness
- Use existing wall switch (no modifications needed) to control all operating modes (off, auto, test, dusk to dawn manual override)
- Combination of heat and movement turns lights On. When motion stops, lights remain On for 5 minutes and then shut Off
- Switching capacity: 300W fluorescent load, 500W max. incandescent load, switched by a relay, 120VAC, 60 Hz
- UL Listed; NEMA 4X rated

**For optional weatherproof lampholders, see page 934. For boxes and covers, see pages 682 and 684.**

**No. 2V946.** Motion Dector. Regent brand (PIR2ES). Shpg. wt. 1.3 lbs. List ..... $137.33.
Each ..... $88.90

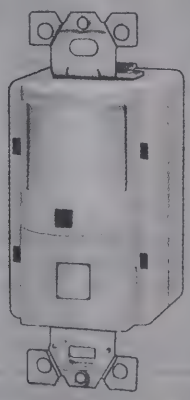
Regent™

UL E103501



No. 2V946

HUBBELL®
Wiring Device-Kellems



No. 4HC92

## H-MOSS® ADAPTIVE TECHNOLOGY OCCUPANCY SENSOR WALL SWITCHES

- Sensor automatically adjusts the time delay to fit the application, eliminating the need for manual adjustment and reducing installation time and cost
- Push-button control allows for quick, accurate setting of the ambient light level threshold
- Three-color LED display provides visual indication of sensor status
- Front press switch allows occupant to switch from Auto mode to Momentary Off mode; 30 minutes after the last motion, switch returns to Auto mode
- Flame retardant UL 94 V-0 ABS housing and polyethylene lens
- Operates at temperatures between 32 and 122°F
- Soft tone alert provides warning of sensor time-out 15 seconds prior to switching lights off
- UL Listed

| Voltage (VAC) | Maximum Load (Watts) | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 120 | 25-1500, Incandescent or Fluorescent | Ivory<br>White | AT120I<br>AT120W | **4HC92**<br>**4HC93** | $126.90<br>126.90 | **$101.55**<br>**101.55** | 0.6<br>0.6 |
| 277 | 25-1500, Fluorescent | Ivory<br>White | AT277I<br>AT277W | **4HC94**<br>**4HC95** | 126.90<br>126.90 | **101.55**<br>**101.55** | 0.6<br>0.6 |

# SPECIFICATION GRADE HEAVY-DUTY SWITCHES

HUBBELL® Wiring Device-Kellems

## APPLICATIONS

- Industrial, institutional, hospital, office, retail and agricultural
- Use on lighting, motor loads, heating & AC, pumps, blowers, & oil burners

## LISTING & APPROVALS

- UL Listed and CSA Certified. 15 and 20A versions meet Fed. Spec. WS896

## FEATURES & BENEFITS

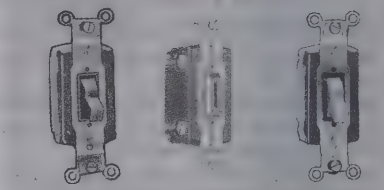
- One piece, rivetless spring contact arm and terminal plate eliminate stress, weak points and contact misalignment
- Silver cadmium oxide contacts reduce contact erosion and prevent welding
- User-ready back and side wiring on most switches provide wiring ease
- Grounding terminal standard on switches; allows compliance with NEC 380-12
- Stainless steel automatic grounding clip assures ground continuity between mounting strap and metal wall box

## SPECIALTY VERSIONS

- IL versions have neon lamp that glows when switch is off; PL versions have neon lamp that glows when on
- Locking versions require special key (provided with each locking switch) to operate, preventing unauthorized use

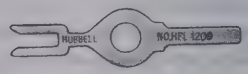
### HP CONVERSION GUIDE

| Amps | 120V | 240V |
|---|---|---|
| 15 | 1/2 | 2 |
| 20 | 1 | 2 |
| 30 | 2 | 2 |



No. 1X969 No. 5Z724 No. 5Z731

### KEY FOR LOCK-TYPE SWITCHES




Extra key turns switch on and off. Hubbell brand (HBL1209).

**No. 5Z730.** Shpg. wt. 0.1 lbs. List .....$3.44. Each **$2.76**; Lots 10 .....**$2.48**

| Rating | Type | Voltage | Description | Wiring Method | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15A | Single Pole | 120-277 | Toggle | Back/Side | Brown | HBL1201 | **1X969** | $12.47 | **$9.98** | **$8.99** | 0.2 |
| | | | Toggle | Back/Side | Ivory | HBL1201I | **6A699** | 12.47 | **9.98** | **8.99** | 0.2 |
| | | | Locking | Back/Side | Black | HBL1201L | **5Z724***† | 25.10 | **20.08** | **18.07** | 0.3 |
| | | | Toggle, Illuminated | Back/Side | Ivory | HBL1201IL | **5Z731** | 24.01 | **19.22** | **17.30** | 0.3 |
| | | 120-277 | Toggle, Pilot Light | Back/Side | Red | HBL1201PL | **5Z735** | 23.78 | **19.03** | **17.13** | 0.3 |
| | Double Pole | 120-277 | Toggle | Back/Side | Brown | HBL1202 | **5Z718** | 21.25 | **17.00** | **15.31** | 0.3 |
| | | | Toggle | Back/Side | Ivory | HBL1202I | **5Z721** | 21.25 | **17.00** | **15.31** | 0.3 |
| | Three Way | 120-277 | Toggle | Back/Side | Brown | HBL1203 | **5Z719** | 18.94 | **15.16** | **13.65** | 0.3 |
| | | | Toggle | Back/Side | Ivory | HBL1203I | **5Z722** | 18.94 | **15.16** | **13.65** | 0.3 |
| | | | Locking | Back/Side | Black | HBL1203L | **5Z725**† | 30.00 | **24.00** | **21.60** | 0.3 |
| | | | Toggle, Illuminated | Back/Side | Ivory | HBL1203IL | **5Z732** | 36.35 | **29.10** | **26.19** | 0.3 |
| | | 120-277 | Toggle, Pilot Light | Back/Side | Red | HBL1203PL | **5Z736** | 48.23 | **38.60** | **34.74** | 0.3 |
| | Four Way | 120-277 | Toggle | Back/Side | Brown | HBL1204 | **5Z720** | 50.43 | **40.35** | **36.31** | 0.3 |
| | | | Toggle | Back/Side | Ivory | HBL1204I | **5Z723** | 50.43 | **40.35** | **36.31** | 0.3 |
| 20A | Single Pole | 120-277 | Toggle | Back/Side | Brown | HBL1221 | **1X970** | 20.31 | **16.26** | **14.63** | 0.2 |
| | | | Toggle | Back/Side | Gray | HBL1221GY | **6C540** | 20.31 | **16.26** | **14.63** | 0.2 |
| | | | Toggle | Back/Side | Ivory | HBL1221I | **6A700** | 20.31 | **16.26** | **14.63** | 0.2 |
| | | | Toggle | Back/Side | Red | HBL1221R | **3D362** | 20.31 | **16.26** | **14.63** | 0.2 |
| | | | Toggle | Back/Side | White | HBL1221W | **6C541** | 20.31 | **16.26** | **14.63** | 0.2 |
| | | | Locking | Back/Side | Black | HBL1221L | **5Z728**† | 33.54 | **26.85** | **24.15** | 0.3 |
| | | | Toggle, Illuminated | Back/Side | Ivory | HBL1221IL | **5Z733** | 35.31 | **28.30** | **25.44** | 0.3 |
| | | | PresSwitch | Side | Brown | HBL1281 | **3D004** | 25.39 | **20.31** | **18.29** | 0.2 |
| | | 120-277 | Toggle, Pilot Light | Back/Side | Red | HBL1221PL | **5Z737** | 36.70 | **29.40** | **26.44** | 0.3 |
| | | 120-277 | Toggle, Pilot Light | Back/Side | Green | HBL1221PLG | **5Z739** | 36.70 | **29.40** | **26.44** | 0.3 |
| | | 120 | PresSwitch, Pilot Light | Side | Red | HBL1297 | **3D006** | 41.41 | **33.15** | **29.83** | 0.2 |
| | Double Pole | 120-277 | Toggle | Back/Side | Brown | HBL1222 | **1X971** | 23.54 | **18.84** | **16.96** | 0.2 |
| | | | Toggle | Back/Side | Ivory | HBL1222I | **1X972** | 23.54 | **18.84** | **16.96** | 0.2 |
| | | | Locking | Back/Side | Black | HBL1222L | **3D363**† | 38.16 | **30.55** | **27.47** | 0.2 |
| | Three Way | 120-277 | Toggle | Back/Side | Brown | HBL1223 | **1X973** | 21.70 | **17.36** | **15.63** | 0.2 |
| | | | Toggle | Back/Side | Gray | HBL1223GY | **6C542** | 21.70 | **17.36** | **15.63** | 0.3 |
| | | | Toggle | Back/Side | Ivory | HBL1223I | **1X974** | 21.70 | **17.36** | **15.63** | 0.2 |
| | | | Toggle | Back/Side | Red | HBL1223R | **3D365** | 21.70 | **17.36** | **15.63** | 0.2 |
| | | | Toggle | Back/Side | White | HBL1223W | **6C543** | 21.70 | **17.36** | **15.63** | 0.2 |
| | | | Locking | Back/Side | Black | HBL1223L | **5Z729**† | 37.08 | **29.70** | **26.70** | 0.3 |
| | | | Toggle, Illuminated | Back/Side | Ivory | HBL1223IL | **5Z734** | 45.92 | **36.75** | **33.08** | 0.3 |
| | | | PresSwitch | Side | Brown | HBL1283 | **3D005*** | 29.42 | **23.54** | **21.20** | 0.2 |
| | | 120-277 | Toggle, Pilot Light | Back/Side | Red | HBL1223PL | **5Z738** | 65.05 | **52.05** | **46.86** | 0.3 |
| | | | Toggle, Pilot Light | Back/Side | Green | HBL1223PLG | **5Z740** | 65.05 | **52.05** | **46.86** | 0.2 |
| | Four Way | 120-277 | Toggle | Back/Side | Brown | HBL1224 | **5Z726** | 58.06 | **46.45** | **41.80** | 0.3 |
| | | | Toggle | Back/Side | Ivory | HBL1224I | **5Z727** | 58.06 | **46.45** | **41.80** | 0.3 |
| | | | Locking | Back/Side | Black | HBL1224L | **3D366**† | 85.41 | **68.35** | **61.49** | 0.2 |
| 30A | Single Pole | 120-277 | Toggle | Back/Side | Brown | HBL3031 | **5Z806** | 27.93 | **22.35** | **20.12** | 0.3 |
| | | | Toggle | Back/Side | Ivory | HBL3031I | **5Z809** | 27.93 | **22.35** | **20.12** | 0.3 |
| | Double Pole | 120-277 | Toggle | Back/Side | Brown | HBL3032 | **5Z807** | 42.40 | **33.95** | **30.52** | 0.3 |
| | | | Toggle | Back/Side | Ivory | HBL3032I | **5Z810** | 42.40 | **33.95** | **30.52** | 0.3 |
| | Three Way | 120-277 | Toggle | Back/Side | Brown | HBL3033 | **5Z808** | 41.72 | **33.40** | **30.03** | 0.3 |
| | | | Toggle | Back/Side | Ivory | HBL3033I | **5Z811** | 41.72 | **33.40** | **30.03** | 0.3 |

(*) Not UL Listed or CSA Certified. (†) Locking Switch.

# GENERAL DUTY SWITCHES AND FIBERGLASS FD BOX

## APPLICATIONS

- General purpose switches for lighting, fans, and appliances
- Offices, retail establishments, hotel/motel and storage areas
- Style Line versions offer low profile rocker design with aesthetic appeal for upscale applications

## LISTING & APPROVALS

- UL Listed and CSA Certified

## FEATURES & BENEFITS

- One piece spring contact design ensures contact alignment
- Silver cadmium oxide contacts reduce contact erosion and prevent welding
- Large binding screws with deep-cut screwdriver slots aid in proper torque when making wire connections

## VERSIONS

- CS versions are side wired only toggle switches providing secure, visible terminations
- CSB versions and Style Line versions offer back and side wiring options and are popular for stranded wire connections



No. 5Z786



No. 1XC05

| Rating | Type | Voltage | Description | Wiring Method | Color | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15A | Single Pole | 120-277VAC | Style Line | Back/Side | Brown | HBL2101 | 5Z778 | $11.56 | $9.25 | $8.33 | 0.3 |
| | | | Style Line | Back/Side | Gray | HBL2101GY | 5Z781 | 11.56 | 9.25 | 8.33 | 0.3 |
| | | | Style Line | Back/Side | Ivory | HBL2101I | 5Z779 | 11.56 | 9.25 | 8.33 | 0.3 |
| | | | Style Line | Back/Side | White | HBL2101WA | 5Z780 | 11.56 | 9.25 | 8.33 | 0.3 |
| | | | Toggle | Back/Side | Brown | CS1201 | 1XC15 | 4.52 | 3.62 | 3.26 | 0.2 |
| | | | Toggle | Back/Side | Ivory | CS1201I | 1XC16 | 4.52 | 3.62 | 3.26 | 0.2 |
| | | | Toggle | Side | Brown | CS115 | 1XC05 | 3.06 | 2.45 | 2.21 | 0.2 |
| | | | Toggle | Side | Gray | CS115G | 5Z743 | 3.06 | 2.45 | 2.21 | 0.2 |
| | | | Toggle | Side | Ivory | CS115I | 6A672 | 3.06 | 2.45 | 2.21 | 0.2 |
| | | | Toggle | Side | White | CS115W | 5Z741 | 3.06 | 2.45 | 2.21 | 0.2 |
| 15A | Three Way | 120-277VAC | Style Line | Back/Side | Brown | HBL2103 | 5Z782 | 19.17 | 15.34 | 13.81 | 0.3 |
| | | | Style Line | Back/Side | Gray | HBL2103GY | 5Z785 | 19.17 | 15.34 | 13.81 | 0.3 |
| | | | Style Line | Back/Side | Ivory | HBL2103I | 5Z783 | 19.17 | 15.34 | 13.81 | 0.3 |
| | | | Style Line | Back/Side | White | HBL2103WA | 5Z784 | 19.17 | 15.34 | 13.81 | 0.3 |
| | | | Toggle | Back/Side | Brown | CS1203 | 1XC17 | 5.78 | 4.63 | 4.17 | 0.2 |
| | | | Toggle | Back/Side | Ivory | CS1221 | 1XC18 | 5.78 | 4.63 | 4.17 | 0.2 |
| | | | Toggle | Side | Brown | CS315 | 1XC09 | 5.42 | 4.34 | 3.90 | 0.2 |
| | | | Toggle | Side | Gray | CS315G | 5Z744 | 5.42 | 4.34 | 3.90 | 0.2 |
| | | | Toggle | Side | Ivory | CS315I | 1XC07 | 5.42 | 4.34 | 3.90 | 0.2 |
| | | | Toggle | Side | White | CS315W | 5Z742 | 5.42 | 4.34 | 3.90 | 0.2 |
| 20A | Single Pole | 120-277VAC | Style Line | Back/Side | Brown | HBL2121 | 5Z786 | 21.97 | 16.10 | 15.30 | 0.3 |
| | | | Style Line | Back/Side | Gray | HBL2121GY | 5Z789 | 21.97 | 16.10 | 15.30 | 0.3 |
| | | | Style Line | Back/Side | Ivory | HBL2121I | 5Z787 | 21.97 | 16.10 | 15.30 | 0.3 |
| | | | Style Line | Back/Side | White | HBL2121WA | 5Z788 | 21.97 | 16.10 | 15.30 | 0.3 |
| | Single Pole | 120V | Style Line, Lighted | Back/Side | Ivory | HBL2121IL | 5Z794 | 31.56 | 23.25 | 22.09 | 0.3 |
| | | | Style Line, Lighted | Back/Side | White | HBL2121ILWA | 5Z795 | 31.56 | 23.25 | 22.09 | 0.3 |
| | Single Pole | 120-277VAC | Toggle | Back/Side | Brown | CSB120 | 1XC19 | 5.78 | 4.63 | 4.17 | 0.2 |
| | | | Toggle | Back/Side | Ivory | CS1221I | 1XC20 | 5.78 | 4.63 | 4.17 | 0.2 |
| | | | Toggle | Side | Brown | CS120 | 1XC06 | 4.42 | 3.54 | 3.19 | 0.2 |
| | | | Toggle | Side | Gray | CS120G | 5Z747 | 4.42 | 3.54 | 3.19 | 0.2 |
| | | | Toggle | Side | Ivory | CS120I | 6A673 | 4.42 | 3.54 | 3.19 | 0.2 |
| | | | Toggle | Side | White | CS120W | 5Z745 | 4.42 | 3.54 | 3.19 | 0.2 |
| 20A | Three Way | 120-277VAC | Style Line | Back/Side | Brown | HBL2123 | 5Z790 | 31.77 | 25.45 | 22.88 | 0.3 |
| | | | Style Line | Back/Side | Gray | HBL2123GY | 5Z793 | 31.77 | 25.45 | 22.88 | 0.3 |
| | | | Style Line | Back/Side | Ivory | HBL2123I | 5Z791 | 31.77 | 25.45 | 22.88 | 0.3 |
| | | | Style Line | Back/Side | White | HBL2123WA | 5Z792 | 31.77 | 25.45 | 22.88 | 0.3 |
| | Three Way | 120V | Style Line, Lighted | Back/Side | Ivory | HBL2123IL | 5Z796 | 35.45 | 28.40 | 25.52 | 0.3 |
| | | | Style Line, Lighted | Back/Side | White | HBL2123ILWA | 5Z797 | 35.45 | 28.40 | 25.52 | 0.3 |
| | Three Way | 120-277VAC | Toggle | Back/Side | Brown | CS1223 | 1XC21 | 6.94 | 5.55 | 5.00 | 0.2 |
| | | | Toggle | Back/Side | Ivory | CS1223I | 1XC22 | 6.94 | 5.55 | 5.00 | 0.2 |
| | | | Toggle | Side | Brown | CS320 | 1XC10 | 6.81 | 5.45 | 4.91 | 0.2 |
| | | | Toggle | Side | Gray | CS320G | 5Z748 | 6.81 | 5.45 | 4.91 | 0.2 |
| | | | Toggle | Side | Ivory | CS320I | 1XC08 | 6.81 | 5.45 | 4.91 | 0.2 |
| | | | Toggle | Side | White | CS320W | 5Z746 | 6.81 | 5.45 | 4.91 | 0.1 |

## FIBERGLASS FD BOX

- For factory, institution, marina, and construction site applications
- Yellow corrosion-resistant box with threaded 3/4" hubs
- Ridge around front surface prevents water from getting between box and weatherproof plate
- 4 9/16H x 2 15/16W x 3 1/4"D
- Brass inserts for screws to attach to allow more torque without stripping
- 22 cu.-in. capacity provides room for conductors

**No. 3D234.** Hubbell brand (60CM83). Shpg. wt. 0.9 lbs. List..... $55.65. Each $44.55; Lots 5 ..... $40.07



No. 3D234

# WALL PLATES

## SMOOTH PLASTIC & METAL WALL PLATES

### APPLICATIONS

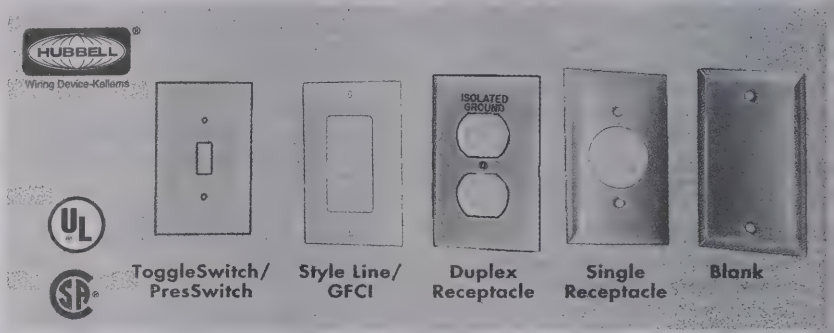
- Industrials, institutions, offices, convention centers, wholesale/retail, hotel/motel
- Use indoors to protect devices from the elements and to protect people from accidental contact with the devices

### LISTING & APPROVALS

- UL Listed and CSA Certified

### FEATURES & BENEFITS

- Smooth styling of all nylon and metal plates provides a contemporary look and makes cleaning easy
- Virtually unbreakable nylon plates resisting cracking during installation and use
- All metal plates feature a brushed finish to complement smooth styling




- Stainless steel plates are Type 302/304 with a high nickel and chromium content for improved corrosion resistance
- Anodized aluminum plates offer corrosion resistance of stainless steel
- .040 brass plates are ideal where a rich, plush finish is desired

| Illustration/Description | No. of Gangs | Type | Color/ Finish | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Toggle Switch/PresSwitch** | 1 | Anodized Aluminum | Brushed | A1 | **5Z992** | $3.69 | **$2.95** | **$2.66** | 0.1 |
| | | .040 Brass | Brushed | B1 | **5Z993** | 7.36 | **5.89** | **5.30** | 0.1 |
| | | Stainless Steel | Brushed | S1 | **5Z994** | 1.48 | **1.19** | **1.07** | 0.1 |
| | | Nylon | Brown | P1X | **5Z990** | 0.38 | **0.30** | **0.27** | 0.1 |
| | | | Gray | P1G | **6C138** | 0.38 | **0.30** | **0.27** | 0.1 |
| | | | Ivory | HBLP1 | **5Z986** | 0.38 | **0.30** | **0.27** | 0.1 |
| | | | White | P1W | **5Z988** | 0.38 | **0.30** | **0.27** | 0.1 |
| | 2 | Stainless Steel | Brushed | S2 | **5Z995** | 5.32 | **4.26** | **3.84** | 0.2 |
| | | Nylon | Brown | P2X | **5Z991** | 1.21 | **0.97** | **0.87** | 0.1 |
| | | | Gray | P2G | **6C139** | 1.21 | **0.97** | **0.87** | 0.1 |
| | | | Ivory | P2 | **5Z987** | 1.21 | **0.97** | **0.87** | 0.1 |
| | | | White | P2W | **5Z989** | 1.21 | **0.97** | **0.87** | 0.1 |
| | 3 | Stainless Steel | Brushed | S3 | **5Z996** | 8.45 | **6.76** | **6.09** | 0.3 |
| | | Nylon | Ivory | P3 | **3D412** | 1.82 | **1.46** | **1.31** | 0.2 |
| | 4 | Nylon | Ivory | P4 | **3D413** | 2.86 | **2.29** | **2.06** | 0.2 |
| **Style Line / GFCI** | 1 | Stainless Steel | Brushed | S26 | **5C235** | 2.43 | **1.95** | **1.75** | 0.1 |
| | | Nylon | Black | HPS1B | **3D386** | 0.54 | **0.43** | **0.39** | 0.1 |
| | | | Brown | HPS1 | **6C142** | 0.54 | **0.43** | **0.39** | 0.1 |
| | | | Gray | HPS1GY | **5C234** | 0.54 | **0.43** | **0.39** | 0.1 |
| | | | Ivory | HPS1I | **5C232** | 0.54 | **0.43** | **0.39** | 0.1 |
| | | | White | HPS1WA | **5C233** | 0.54 | **0.43** | **0.39** | 0.1 |
| | | Nylon | Blue | SPJ26 | **6C137** | 2.49 | **1.99** | **1.79** | 0.1 |
| | 2 | Stainless Steel | Brushed | S262 | **5C236** | 9.69 | **7.75** | **6.98** | 0.2 |
| | | Nylon | Black | HPS2B | **3D388** | 1.85 | **1.49** | **1.34** | 0.1 |
| | | | Brown | HPS2 | **3D387** | 1.85 | **1.49** | **1.34** | 0.1 |
| | | | Gray | HPS2GY | **3D389** | 1.85 | **1.49** | **1.34** | 0.1 |
| | | | Ivory | HPS2I | **3D390** | 1.85 | **1.49** | **1.34** | 0.1 |
| | | | White | HPS2WA | **3D391** | 1.85 | **1.49** | **1.34** | 0.1 |
| | 3 | Nylon | Black | HPS3B | **3D393** | 5.77 | **4.62** | **4.16** | 0.1 |
| | | | Brown | HPS3 | **3D392** | 5.77 | **4.62** | **4.16** | 0.1 |
| | | | Gray | HPS3GY | **3D394** | 5.77 | **4.62** | **4.16** | 0.1 |
| | | | Ivory | HPS3I | **3D395** | 5.77 | **4.62** | **4.16** | 0.1 |
| | | | White | HPS3WA | **3D396** | 5.77 | **4.62** | **4.16** | 0.1 |
| **Duplex** | 1 | Anodized Alum. | Brushed | A8 | **5C226** | 3.69 | **2.95** | **2.66** | 0.1 |
| | | .040 Brass | Brushed | B8 | **5C227** | 7.36 | **5.89** | **5.30** | 0.1 |
| | | Stainless Steel | Brushed | S8 | **5C228** | 2.54 | **2.04** | **1.84** | 0.1 |
| | | Nylon | Brown | P8X | **5C224** | 0.38 | **0.30** | **0.27** | 0.1 |
| | | | Gray | P8G | **6C155** | 0.38 | **0.30** | **0.27** | 0.1 |
| | | | Ivory | P8 | **5Z997** | 0.38 | **0.30** | **0.27** | 0.1 |
| | | | Red | P8R | **3D414** | 0.38 | **0.30** | **0.27** | 0.1 |
| | | | White | P8W | **5Z999** | 0.38 | **0.30** | **0.27** | 0.1 |
| | 2 | Stainless Steel | Brushed | S82 | **5C229** | 6.70 | **5.36** | **4.82** | 0.2 |
| | | Nylon | Brown | P82X | **5C225** | 1.43 | **1.14** | **1.03** | 0.1 |
| | | | Gray | P82G | **6C156** | 1.43 | **1.14** | **1.03** | 0.1 |
| | | | Ivory | P82 | **5Z998** | 1.43 | **1.14** | **1.03** | 0.1 |
| | | | White | P82W | **5C223** | 1.43 | **1.14** | **1.03** | 0.1 |
| | 3 | Stainless Steel | Brushed | S83 | **5C230** | 13.26 | **10.61** | **9.55** | 0.3 |

CONTINUED ON NEXT PAGE



When the spec calls for brand names, you'll find the best here.

# WALL PLATES, SECURITY WALL PLATES, AND SPECIAL COVERS FOR SWITCHES

## WALLPLATE ORDERING DATA, CONTINUED

| Description | No. of Gangs | Type | Color / Finish | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Duplex, Emergency** | 1 | Stainless Steel<br>Nylon, Red | Red Letters<br>White Letters | S8MEV<br>PJSRMEV | **3D446**<br>**3D424** | $47.95<br>13.23 | **$38.40**<br>**10.58** | **$34.52**<br>**9.52** | 0.1<br>0.1 |
| **Duplex, Isolated Ground** | 1 | Nylon, Orange | Black Letters | IGP8 | **5C269** | 6.27 | **5.02** | **4.52** | 0.1 |
| **Toggle Switch / Duplex** | 2<br>2 | Stainless Steel<br>Nylon | Brushed<br>Ivory | S18<br>P18 | **3D437**<br>**3D410** | 6.02<br>1.21 | **4.82**<br>**0.97** | **4.34**<br>**0.87** | 0.2<br>0.1 |
| **Blank (Direct Box Mount) (1- and 2-gang)** | 1<br>2 | Stainless Steel<br>Stainless Steel | Brushed<br>Brushed | S13<br>S23 | **5C266**<br>**5C267** | 4.10<br>8.33 | **3.28**<br>**6.67** | **2.95**<br>**6.00** | 0.2<br>0.2 |
| **Blank (Strap Mount) (1- and 2-gang)** | 1<br>2 | Nylon<br>Nylon | Ivory<br>Ivory | P14<br>P24 | **6C654**<br>**3D411** | 0.84<br>2.98 | **0.67**<br>**2.39** | **0.61**<br>**2.15** | 0.1<br>0.1 |
| **Blank / Duplex (2-gang)** | 2 | Stainless Steel | Brushed | S138 | **3D436** | 19.34 | **15.48** | **13.93** | 0.2 |
| **Telephone, Strap Mount (1-gang)** | 1 | Stainless Steel | Brushed | S12 | **3D435** | 3.16 | **2.53** | **2.28** | 0.2 |

## SINGLE WALL PLATE COVERS

| Description | Diameter (In.) | Type | Color / Finish | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Single** | 1.360 - 1.390 | Stainless Steel | Brushed | S7 | **5C231** | $2.77 | **$2.22** | **$2.00** | 0.1 |
| | 1.360 - 1.390 | Nylon | Brown | P7X | **6C141** | 0.72 | **0.58** | **0.52** | 0.1 |
| | 1.360 - 1.390 | | Ivory | P7 | **6C140** | 0.72 | **0.58** | **0.52** | 0.1 |
| **Single (3W 30A & 50A Straight Blade)** | 2.093 - 2.125 | | | S723 | **6C120** | 4.19 | **3.36** | **3.02** | 0.2 |
| **Single (3W 30A & 50A Straight Blade)** | 2.093 - 2.125 | | | S703 | **6C154*** | 7.65 | **6.12** | **5.51** | 0.2 |
| **Single (4W 30-50-60A Straight Blade)** | 2.405 - 2.437 | Stainless Steel | Brushed | S701 | **3D445*** | 7.64 | **6.11** | **5.50** | 0.1 |
| **Single (20A & 30A Twist-Lock®)** | 1.550 - 1.580 | | | S720 | **5C268** | 4.31 | **3.45** | **3.11** | 0.1 |
| **Single (Old 20A & 30A Twist-Lock®)** | 1.675 - 1.705 | | | S725 | **3D465** | 4.18 | **3.35** | **3.01** | 0.1 |

(*) Double gang sized, for single receptacle only.

## SECURITY WALL PLATES

### APPLICATIONS

- **Prisons, institutions, industrials, state and city owned recreational areas and other high abuse areas**

HUBBELL® Wiring Device-Kellems



Switch Plate No. 3KT90

| Description | No. of Gangs | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Switch Plate** | 1 | SWP1 | **3KT90** | $34.71 | **$27.80** | 1.0 |
| **Switch Plate** | 2 | SWP2 | **3KT94** | 54.69 | **43.75** | 1.5 |
| **Duplex Plate** | 1 | SWP8 | **3KT99** | 34.71 | **27.80** | 1.0 |
| **Duplex Plate** | 2 | SWP82 | **3KV03** | 54.69 | **43.75** | 1.5 |
| **Switch/Duplex Plate** | 2 | SWP18 | **3KT93** | 54.69 | **43.75** | 1.5 |
| **GFCI Plate** | 1 | SWP26 | **3KT96** | 34.71 | **27.80** | 1.0 |
| **GFCI Plate** | 2 | SWP262 | **3KT97** | 54.69 | **43.75** | 1.5 |
| **Telephone Plate** | 1 | SWP12 | **3KT91** | 41.00 | **32.80** | 1.0 |
| **Blank Plate** | 1 | SWP13 | **3KT92** | 41.07 | **32.90** | 1.5 |
| **Duplex/TV Plate** | 2 | SWP812 | **3KV01** | 54.69 | **43.75** | 1.5 |
| **Duplex/Blank Plate** | 2 | SWP813 | **3KV02** | 54.69 | **43.75** | 1.5 |
| **Blank Plate** | 2 | SWP23 | **3KT95** | 54.69 | **43.75** | 1.5 |
| **2 Switch/Duplex Plate** | 3 | SWP28 | **3KT98** | 82.00 | **65.60** | 2.0 |
| **Torx Driver w/Bit** | Torx Driver | SWPBIT | **3KV04** | 15.07 | **12.06** | 0.7 |

### FEATURES & BENEFITS

- **Security wall plates are made of two-piece cold rolled steel construction**
- **White powder epoxy paint**
- **TORX tamper resistant mounting screws**
- **Plates are available in 1, 2, and 3 gang versions in multiple configurations**
- **Mount to standard boxes with adapter plate (included)**

## SPECIAL COVERS FOR SWITCHES

- **Protect switches from water, rain, dirt, etc.**
- **No. 3D012 for use with FS/FD and standard type boxes**
- **No. 3D013 has 120V pilot light to indicate when load is on**
- **No. 3D014 used with all standard length toggle switches and PresSwitches**
- **No. 3D014 has clear silicone bubble so switch handle position is visible on Lighted and Pilot Light switches**
- **No. 3D298 fits over standard metal switch plate and has a keyed lock. Key is provided with locking cover**



No. 3D012



No. 3D013

HUBBELL® Wiring Device-Kellems



No. 3D298

| Description | Fits | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Silicone Bubble Plate** | All Standard Toggle & PresSwitches | Clear | HBL1795 | **3D014** | $33.27 | **$26.65** | 0.3 |
| **Weatherproof Plate** | PresSwitches | Gray | HBL1750 | **3D012** | 41.38 | **33.10** | 0.3 |
| **Weatherproof Plate with 120V Pilot Light** | PresSwitches | Gray | HBL1785 | **3D013** | 53.94 | **43.15** | 0.4 |
| **Locking Switch Cover** | All Switches | Brushed Brass | HBL96061 | **3D298** | 144.06 | **115.25** | 0.1 |

# THREE-POSITION SWITCHES AND MANUAL MOTOR STARTING SWITCH

## THREE-POSITION SWITCHES

### APPLICATIONS

- Industrial, institutional, hospital, office, retail, and agricultural applications
- Use on lighting, motor loads, motorized projection screens, heating & AC, pumps, blowers, and oil burners
- Momentary contact switches are single pole, double throw and control two AC circuits; handle remains at center-OFF position until pushed and held up to close Circuit 1 or held down to close Circuit 2

### LISTING & APPROVALS

- UL Listed and CSA Certified

### FEATURES & BENEFITS

- One piece, rivetless spring contact arm and terminal plate eliminate stress, weak points, and contact misalignment
- Silver cadmium oxide contacts reduce contact erosion, prevent welding
- Grounding terminal standard on switches; allows compliance with NEC 380-12

HUBBELL® Wiring Device-Kellems



No. 3D376

### THREE-POSITION SWITCHES SPECIFICATIONS AND ORDERING DATA

| Rating | Description | Type | Wiring Method | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 15A 120-277VAC | Momentary Contact | Single Pole Double Throw | Back/Side | Brown | HBL1556 | **3D376** | $31.62 | **$25.30** | 0.2 |
| | | | | Gray | HBL1556GY | **3D377** | 31.62 | **25.30** | 0.2 |
| | | | | Ivory | HBL1556I | **3D378** | 31.62 | **25.30** | 0.2 |
| | | | | Black | HBL1556L | **3D379*** | 50.85 | **40.70** | 0.2 |
| 20A 120-277VAC | Momentary Contact | Single Pole Double Throw | Back/Side | Brown | HBL1557 | **3D380** | 40.34 | **32.30** | 0.2 |
| | | | | Ivory | HBL1557I | **3D381** | 40.34 | **32.30** | 0.2 |
| | | | | Black | HBL1557L | **3D382*** | 61.01 | **48.85** | 0.2 |
| 15A 120-277VAC | Maintained Contact | Single Pole, Double Throw | Back/Side | Brown | HBL1381 | **3D367** | 71.41 | **57.15** | 0.3 |
| | | | | Ivory | HBL1381I | **3D368** | 71.41 | **57.15** | 0.3 |
| 15A 120-277VAC | Maintained Contact | Double Pole, Double Throw | Back/Side | Brown | HBL1382 | **3D369** | 72.50 | **58.00** | 0.3 |
| | | | | Ivory | HBL1382I | **3D370** | 72.50 | **58.00** | 0.3 |
| 20A 120-277VAC | Maintained Contact | Single Pole, Double Throw | Back/Side | Brown | HBL1385 | **3D371** | 80.94 | **64.75** | 0.3 |
| | | | | Ivory | HBL1385I | **3D372** | 80.94 | **64.75** | 0.3 |
| 20A 120-277VAC | Maintained Contact | Double Pole, Double Throw | Back/Side | Brown | HBL1386 | **3D373** | 82.03 | **65.65** | 0.3 |
| | | | | Ivory | HBL1386I | **3D374** | 82.03 | **65.65** | 0.3 |
| 30A 120-277VAC | Maintained Contact | Double Pole Double Throw | Back/Side | Brown | HBL1388 | **3D375** | 91.16 | **72.95** | 0.3 |

(*) Locking switch.

## MANUAL MOTOR STARTING SWITCH

### APPLICATIONS

- Industrial, institutional, hospital, and agricultural applications
- Used on 3 phase AC motor loads

### LISTING & APPROVALS

- UL Listed and CSA Certified

### FEATURES & BENEFITS

- Heavy duty manual motor control switch provides On/Off modes where overload protection is not required or is provided separately
- No. 3D007 NEMA 1 enclosure has an impact resistant, non-conductive cover for safety
- Integral toggle guard on enclosure with lockout capability helps meet OSHA lockout/tagout regulations

HUBBELL® Wiring Device-Kellems



No. 1X975

### MANUAL MOTOR STARTING SWITCHES SPECIFICATIONS AND ORDERING DATA

| Rating | Description | Type | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 30A 600VAC | Manual Motor Start Switch NEMA 1 Enclosure Only | 3 Pole | Black | HBL7810UD | **1X975** | $72.21 | **$57.80** | 0.3 |
| | | 3 Pole | Black | HBL1390 | **3D007** | 21.46 | **17.17** | 1.1 |
| 40A 600VAC | Manual Motor Starting Switch | 2 Pole | – | HBL7842 | **4CT30** | 58.63 | **46.95** | 0.5 |
| | | 3 Pole | – | HBL7843 | **4CT31** | 95.52 | **76.45** | 0.5 |

### DON'T DELAY... ORDER FROM GRAINGER NOW!

Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

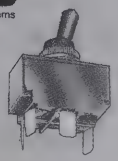
# PANEL MOUNT TOGGLE AND ROCKER SWITCHES



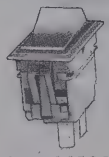
No. 3HZ86
Toggle



No. 3HZ81
Lighted Toggle



No. 3HZ83
Lighted-tip Toggle



No. 3JC02
Rocker



No. 3HZ92
Toggle



No. 3JC04
Lighted Rocker



No. 3HZ93
Toggle



No. 3HZ96
Toggle



No. 3JC12



No. 3HZ97



No. 3HZ98

## 12 Volt DC Rated, 5 Amp Lamp Load, 15A Inductive Load

### TOGGLE SWITCH

Fits panels up to 1/4" thick when not using the back-up nut provided; fits panels up to 3/16" thick when using the back-up nut. Requires a 1/2" mounting hole.

### LIGHTED TOGGLE SWITCH

Built-up pilot light (red and green) for night vision. Fits panels up to 1/4" thick when not using the back-up nut provided; fits panels up to 3/16" thick when using the back-up nut. Requires a 1/2" mounting hole.

### LIGHTED-TIP TOGGLE SWITCH

Red pilot light visible in tip of toggle only. Fits panels up to 1/4" thick when not using the back-up nut provided; fits panels up to 3/16" thick when using the back-up nut. Requires a 1/2" mounting hole.

### ROCKER SWITCH

Requires a 1½H x 7/8"W rectangular opening.

### LIGHTED ROCKER SWITCH

Built-in red pilot light for night vision. Requires a 1½H x 7/8"W rectangular opening.

## PANEL MOUNT TOGGLE AND ROCKER SWITCH ORDERING DATA

| Application | Description | Switch Type | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Lights, bilge blower, bilge pumps, accessories | Single pole, single throw On/Off | Toggle | M11SP | **3HZ86** | $8.91 | **$7.13** | 0.6 |
| | | Lighted toggle | M11LRSP | **3HZ82** | 27.02 | **21.62** | 0.7 |
| | | Lighted toggle | M11LRGSP | **3HZ81** | 28.58 | **22.86** | 0.7 |
| | | Lighted-tip toggle | M11LTR | **3HZ83** | 27.02 | **21.62** | 0.7 |
| | | Rocker | MR11SP | **3JC02** | 11.50 | **9.20** | 0.7 |
| | | Lighted Rocker | MR11LRSP | **3HZ99** | 35.08 | **28.10** | 0.7 |
| Horn, starter, winches, gauges | Single pole, single throw Momentary On/Off | Toggle | M11MSP | **3HZ85** | 10.93 | **8.74** | 0.7 |
| | | Lighted-tip toggle | M11LTRM | **3HZ84** | 35.05 | **28.05** | 0.7 |
| | | Rocker | MR11MSP | **3JC01** | 13.03 | **10.42** | 0.7 |
| Bilge pumps, speed selector, lights, navigation lights | Single pole, double throw On/Off/On | Toggle | M123SP | **3HZ92** | 10.28 | **8.23** | 0.7 |
| | | Lighted toggle | M123LRGSP | **3HZ87** | 29.80 | **23.84** | 0.7 |
| | | Lighted-tip toggle | M123LTR | **3HZ88** | 30.14 | **24.11** | 0.7 |
| | | Rocker | MR123SP | **3JC07** | 12.15 | **9.72** | 0.7 |
| | | Lighted rocker | MR123LRSP | **3JC04** | 37.25 | **29.80** | 0.7 |
| Bilge pumps | Single pole, double throw Momentary On/Off/On | Toggle | M123MSP | **3HZ91** | 11.79 | **9.43** | 0.6 |
| | | Rocker | MR123MSP | **3JC06** | 15.43 | **12.35** | 0.7 |
| Trim tabs | Single pole, double throw Momentary On/Off/Momentary On | Toggle | M123MMSP | **3HZ90** | 12.15 | **9.72** | 0.7 |
| | | Lighted-tip toggle | M123LTRMM | **3HZ89** | 34.95 | **28.00** | 0.7 |
| | | Rocker | MR123MMSP | **3JC05** | 14.79 | **11.83** | 0.7 |
| | | Lighted rocker | MR123LRMM | **3JC03** | 43.61 | **34.90** | 0.8 |
| Lights, accessories | Double pole, single throw On/Off | Toggle | M21SP | **3HZ93** | 12.96 | **10.37** | 0.7 |
| | | Rocker | MR21SP | **3JC08** | 14.37 | **11.50** | 0.8 |
| Navigation lights, wipers, dual fuel tanks | Double pole, double throw On/Off/On | Toggle | M223SP | **3HZ96** | 13.15 | **10.52** | 0.8 |
| | | Rocker | MR223SP | **3JC11** | 15.28 | **12.23** | 0.8 |
| | | Lighted rocker | MR223LRSP | **3JC09** | 45.88 | **36.70** | 0.8 |
| Navigation lights, windlass | Double pole, double throw On/Off/On (with jumper) | Toggle | M223JSP | **3HZ94** | 16.75 | **13.41** | 0.7 |
| Winches, trim tabs, dual fuel tanks | Double pole, double throw Momentary On/Off/Momentary On | Toggle | M223MMSP | **3HZ95** | 16.77 | **13.42** | 0.8 |
| | | Rocker | MR223MMSP | **3JC10** | 19.50 | **15.60** | 0.9 |
| Provides positive seal against moisture, oil, etc. Fits any non-lighted toggle switch | Black silicone rubber boot bonded to brass nut | — | MSB1 | **3JC12** | 12.97 | **10.38** | 0.1 |
| For remote operation of horn | Pushbutton horn switch with 15/32" long nickel plated brass mounting stem. Terminals are 0.25" spade | — | MH11 | **3HZ97** | 13.01 | **10.41** | 0.6 |
| Fits No. 3HZ97 horn switch (listed above) | Black pushbutton (horn) boot | — | MHB11 | **3HZ98** | 12.84 | **10.27** | 0.4 |

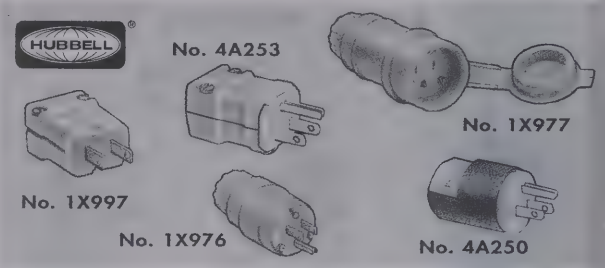
# INDUSTRIAL/INSTITUTIONAL/COMMERCIAL PLUGS & CONNECTORS

## APPLICATIONS

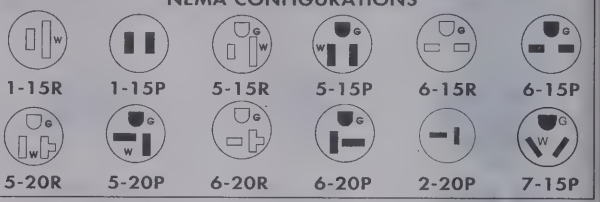
- **Factories, light assembly areas, shipyards, utilities, schools, construction sites, restaurants, agricultural environments, and offices**
- **Use on motors, tools, grinders, high pressure washers, lighting, test equipment, and other portable electrical equipment**

## LISTINGS & APPROVALS

- **All devices are UL Listed and (except configurations 5-20R & 6-20R) are CSA Certified**




## NEMA CONFIGURATIONS




## FEATURES & BENEFITS

**Insulgrip Style:** Tough, ribbed nylon housing withstands heavy abuse; offers secure, non-slip holding. "Picture window" wiring lets you see if conductors are inserted correctly and angled wiring entrance holes permit "straight in" conductor insertion. Vari-Size™ cord grop adjusts to a wide range of cord sizes. Accepts 10/3 SO to 18/3 SJ cord.

**Anchor Locking:** Thumb screw through ground blade locks plug into connector body or receptacle when fully engaged to prevent accidental pull-out. UL Recognized.

**Angle Style:** Enables cord connected equipment to be placed closer to wall as cord can be positioned at a right angle to receptacle. Outer shell is keyed to accept blade holder in any of 8 right-angle positions.

**Elastogrip Style:** Thermoplastic elastomer housing resists weathering from sun and ozone. Dust and moisture seal around cord on standard device keeps out liquids and metal filings.

**Elastogrip watertight versions** have nylon compression nut and rubber grommet to seal out water, dust, mud and other contaminants. Watertight versions provide seal at plug/connector interface (watertight to NEMA Standard 250, Type 4).

**Valise Style:** Powerful cord grip resists conductor slippage, prevents strain on terminals and accommodates a wide range of cords. Large, easy-to-wire clamp type terminals feature a "bundling" effect on conductors for improved terminations. 1-piece nylon construction with 2 assembly screws and system of special locking lugs for security, and quick assembly.

**Rubber Finger Grip:** Dead front nylon blade holder with rubber body and metallic cord clamp.

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 2 Wire | 15A 125V 0.5 AC HP* | 1-15P | Valise Polarized Plug | Yellow | HBL5866VY | **1X997** | $9.12 | **$7.30** | **$6.57** | 0.1 |
| | | | Valise Non-Polarized Plug | Yellow | HBL5865VY | **5Z881** | 7.85 | **6.28** | **5.66** | 0.1 |
| | | | Valise Connector | Yellow | HBL5869VY | **5Z882** | 13.63 | **10.90** | **9.82** | 0.2 |
| | 20A 250V 2 AC HP* | 2-20P | Valise Plug | Yellow | HBL9758VY | **3D299** | 20.98 | **16.79** | **15.11** | 0.1 |
| | 15A 125V 0.5 AC HP* | 5-15P | Insulgrip Plug | Black & White | HBL5266C | **4A250** | 13.51 | **9.60** | **9.12** | 0.2 |
| | | | Insulgrip Plug† | Yellow | HBL52CM66C | **3D197** | 21.21 | **16.97** | **15.27** | 0.2 |
| | | | Insulgrip Anchor Locking Plug | Black & White | HBL5280C | **3D190** | 29.44 | **23.56** | **21.20** | 0.2 |
| | | | Insulgrip Angle Plug | Black & White | HBL5266CA | **6A665** | 17.45 | **13.97** | **12.58** | 0.4 |
| | | | Elastogrip Plug | Yellow | HBL1447 | **5Z867** | 12.01 | **9.61** | **8.65** | 0.2 |
| | | | Elastogrip Watertight Plug | Yellow | HBL14W47 | **1X976** | 21.35 | **17.09** | **15.38** | 0.2 |
| | | | Valise Plug | Yellow | HBL5965VY | **4A253** | 9.12 | **6.50** | **6.18** | 0.1 |
| | | | Valise Plug | Black | HBL5965VBLK | **3D224** | 9.69 | **7.76** | **6.98** | 0.1 |
| | | | Rubber Finger Grip Plug | Black | HBL5921 | **3D222** | 14.77 | **11.82** | **10.64** | 0.1 |
| | | 5-15R | Insulgrip Connector | Black & White | HBL5269C | **4A251** | 23.66 | **16.80** | **15.96** | 0.2 |
| | | | Insulgrip Connector† | Yellow | HBL52CM69C | **3D198** | 36.79 | **29.45** | **26.49** | 0.2 |
| | | | Elastogrip Connector | Yellow | HBL1547 | **5Z872** | 24.81 | **19.85** | **17.87** | 0.2 |
| | | | Elastogrip Watertight Connector | Yellow | HBL15W47 | **1X977** | 36.96 | **29.60** | **26.61** | 0.4 |
| | | | Valise Connector | Yellow | HBL5969VY | **4A254** | 18.12 | **12.86** | **12.22** | 0.2 |
| | | | Valise Connector | Black | HBL5969VBLK | **3D225** | 19.27 | **15.43** | **13.89** | 0.2 |
| 2 Pole 3 Wire | 15A 250V 1.5 AC HP* | 6-15P | Insulgrip Plug | Black & White | HBL5666C | **1X995** | 16.39 | **13.12** | **11.81** | 0.2 |
| | | | Insulgrip Angle Plug | Black & White | HBL5666CA | **5Z879** | 23.60 | **18.88** | **16.99** | 0.3 |
| | | | Valise Plug | Yellow | HBL5666VY | **3D221** | 11.54 | **9.23** | **8.31** | 0.1 |
| | | 6-15R | Insulgrip Connector | Black & White | HBL5669C | **1X996** | 28.50 | **22.81** | **20.53** | 0.2 |
| | 15A 277V 2 AC HP* | 7-15P | Finger Grip Plug | Black | HBL5929 | **3D223** | 26.60 | **21.28** | **19.15** | 0.3 |
| | 20A 125V 1 AC HP* | 5-20P | Insulgrip Plug | Black & White | HBL5366C | **4A255** | 18.58 | **14.87** | **13.39** | 0.2 |
| | | | Insulgrip Angle Plug | Black & White | HBL5366CA | **5Z866** | 26.84 | **21.47** | **19.33** | 0.1 |
| | | | Elastogrip Plug | Yellow | HBL1433 | **3D008** | 18.27 | **14.62** | **13.16** | 0.2 |
| | | | Elastogrip Watertight Plug | Yellow | HBL14W33 | **3D009** | 24.35 | **19.48** | **17.54** | 0.2 |
| | | | Valise Plug | Yellow | HBL5361VY | **3D207** | 13.84 | **11.08** | **9.97** | 0.1 |
| | | 5-20R | Insulgrip Connector | Black & White | HBL5369C | **4A256** | 31.04 | **24.83** | **22.36** | 0.2 |
| | | | Elastogrip Connector | Yellow | HBL1533 | **3D010** | 26.31 | **21.05** | **18.94** | 0.2 |
| | | | Elastogrip Watertight Connector | Yellow | HBL15W33 | **3D011** | 33.37 | **26.70** | **24.04** | 0.4 |
| | | | Valise Connector | Yellow | HBL5369VY | **3D208** | 21.81 | **17.45** | **15.71** | 0.2 |
| | 20A 250V 2 AC HP* | 6-20P | Insulgrip Plug | Black & White | HBL5466C | **1X991** | 21.35 | **17.09** | **15.38** | 0.2 |
| | | | Insulgrip Angle Plug | Black & White | HBL5466CA | **5Z880** | 30.81 | **24.65** | **22.18** | 0.2 |
| | | 6-20R | Insulgrip Connector | Black & White | HBL5469C | **1X992** | 33.80 | **27.05** | **24.35** | 0.2 |

(*) HP ratings shown are Phase-to-Phase. HP ratings are applicable to plugs & receptacles only and do not apply to connector bodies. (†) Corrosion resistant.

# LOCKOUT DEVICES FOR ELECTRICAL PLUGS

**APPLICATIONS**

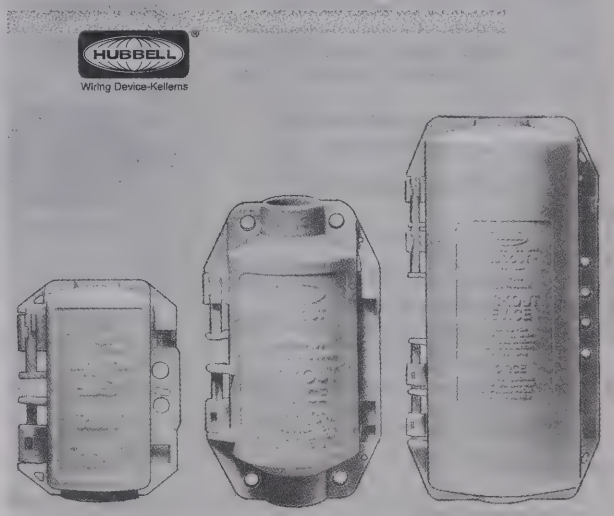
- Factories, service industry, hospitals, restaurants, food processing plants, contractors
- Provides assured method of complying with OSHA Lockout/Tagout regulations
- Provides for "locking out" of plug for cord connected electrical equipment when performing maintenance and servicing activities. When installed in accordance with installation instructions, device protects against unexpected energization or start-up of equipment

**FEATURES & BENEFITS FOR PLUGOUT DEVICES**

- 3 devices handle a wide range of plugs, from 15A molded cords to 60A Pin & Sleeve
- Accepts up to 3/8" lock shackle diameter and has multiple padlock capability
- Impact resistant UV stabilized polymer for indoor or outdoor use
- User information molded into housing for permanent guidance information
- Optional holes for identification tags provide identification for authorized user

**FEATURES & BENEFITS FOR SWITCHOUT DEVICE**

- For standard toggle switches
- Accepts up to two padlocks with up to 5/16" shackle diameter
- Housing is nylon, heavy metal free colorant
- Installs without removal of existing wall plate screws




No. 3D384 No. 6C647 No. 6C648

| Description | Color | Hubbell Model | Stock No. | List | Each | Lot / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Plugout to accept 15A Molded Plugs** | Yellow | HLDMP | **3D384** | $18.82 | **$15.06** | **$13.55/10** | 0.2 |
| **Plugout to accept up to 5W 30A Twist-Lock Devices** | Yellow | HLD | **6C647** | 28.26 | **22.61** | **20.35/10** | 0.5 |
| **Plugout to accept up to 60A Pin & SleeveDevices** | Yellow | HLD2 | **6C648** | 44.75 | **35.80** | **32.22/ 5** | 1.5 |
| **Switchout to lockout a Standard Toggle Switch** | Yellow | HSLD | **3D385** | 13.90 | **11.12** | **10.01/ 5** | 0.1 |
| **Lockout Kit (Contains one of each device above)** | — | HLD Kit | **3HZ80** | 90.58 | **72.50** | **65.21/ 5** | 2.0 |

# HAZARDOUS AREA U-LINE PLUG AND RECEPTACLE

For use in areas made hazardous by the presence of ignitable gases, vapors, dusts, or fibers. Also for areas subject to corrosion or moisture. Suitable for use in Class I, Division 1 and 2, Groups B*, C, and D; Class II, Divisions 1 and 2, Groups F† and G; Class III.

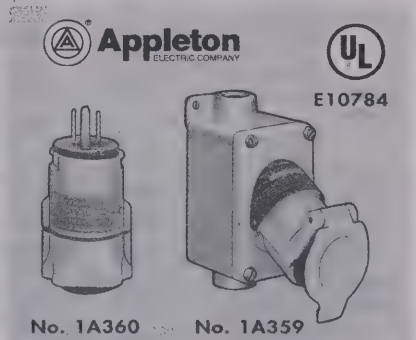
**No. 1A360 Plug.** 15A, 125VAC, 60 Hz, 1HP, 2 Wire, 3 Pole. Constructed of copper-free aluminum. A twist of the plug produces audible "click" to indicate fast make and break of built-in switch contacts. Twisting locks plug in place—cannot be accidentally pulled out. Fits NEMA 5 or 6 receptacles in non-classified areas. Appleton brand (ECP-1523).

**No. 1A360.** Shpg. wt. 0.5 lbs. List .....$61.89.
Each .....**$49.60**

**No. 1A359 Receptacle.** 20A, 125VAC, 60 Hz, 1HP, 2 Wire, 3 Pole with 1/2" feed-through hubs. Both copper-free aluminum receptacle and malleable iron mounting box have epoxy finish. Stainless steel screws mount receptacle to box. Ordinary location plug (NEMA 5 or 6) will not activate receptacle. Appleton brand (EFSC150-2023).

**No. 1A359.** Shpg. wt. 4.3 lbs. List.....$205.06.
Each .....**$164.25**

(*) Suitable for Group B, providing that external seals are used.
(†) Do not use where electrically-conductive dusts are present (most coal dusts are not electrically conductive).




No. 1A360 No. 1A359

UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY

**Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, listed in the front of this catalog.**

# HEAVY-DUTY STRAIGHT BLADE DEVICES

## APPLICATIONS

- Hospitals, institutions, schools, restaurants, offices, and factories
- For use with food processing equipment, ranges, dryers, portable generators, photocopiers, conveyors, and machine tools

## LISTINGS & APPROVALS

- UL Listed and CSA Certified

## FEATURES & BENEFITS

### PLUGS

- Nylon bodies withstand severe abuse
- Heavy-duty cord clamps handle a wide range of cable sizes and hold conductors securely in place
- 4 position angle versions allow cord to enter from top, bottom or either side and stay close to wall
- Ribs on body provide a secure gripping area and make plug insertion/removal easier

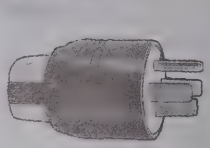
### RECEPTACLES

- One-piece contacts provide low operating temperatures
- Large head terminal screws permit high clamping pressure and torque necessary for larger conductors
- Can be mounted to either standard or FS/FD type boxes

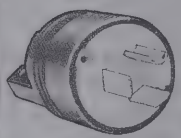
**Note:** HP ratings shown are Phase-to-Phase. Values in parentheses are Phase-to-Neutral. HP ratings are applicable to plugs and receptacles only and do not apply to connector bodies.

## PLUGS AND RECEPTACLES

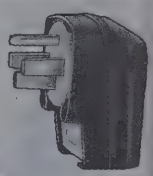


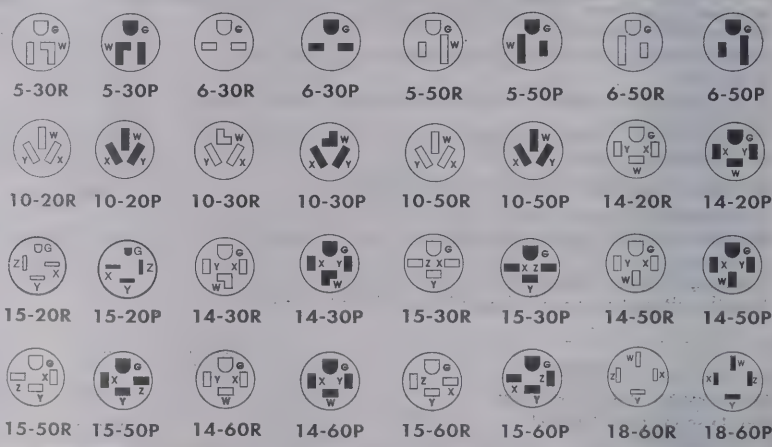


No. 5Z886


No. 5Z896


No. 5Z843


No. 5Z841


No. 5C791




| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 30A 125V 2 AC HP | 5-30R 5-30P | Receptacle | Black | HBL9308 | **5Z904** | $24.95 | **$19.96** | 0.4 |
| | | | Angle Plug | Black & White | HBL9309 | **5Z911** | 60.83 | **48.70** | 0.6 |
| | 30A 250V 2 AC HP | 6-30R 6-30P | Receptacle | Black | HBL9330 | **5Z895** | 28.52 | **22.82** | 0.4 |
| | | | Angle Plug | Black & White | HBL9331 | **5Z985** | 63.02 | **50.45** | 0.6 |
| | 50A 125V 2 AC HP | 5-50R 5-50P | Receptacle | Black | HBL9360 | **5Z896** | 33.02 | **26.45** | 0.4 |
| | | | Angle Plug | Black & White | HBL9361 | **6C118** | 66.71 | **53.40** | 0.6 |
| | 50A 250V 3 AC HP | 6-50R 6-50P | Receptacle | Black | HBL9367 | **5Z897** | 32.56 | **26.05** | 0.4 |
| | | | Angle plug | Black & White | HBL9368 | **6C119** | 65.56 | **52.50** | 0.6 |
| 3 Pole 3 Wire | 20A 125/250V 2(1) AC HP | 10-20R 10-20P | Receptacle | Black | HBL6810 | **5Z839** | 28.50 | **22.80** | 0.3 |
| | | | Plug | Black & White | HBL9977C | **5Z842** | 30.27 | **24.22** | 0.3 |
| | 30A 125/250V 2(2) AC HP | 10-30R 10-30P | Receptacle | Brown | HBL9350 | **5Z841** | 20.12 | **16.10** | 0.5 |
| | | | Plug | Black & White | HBL9337C | **5Z843** | 42.87 | **34.30** | 0.8 |
| | 50A 125/250V 3(2) AC HP | 10-50R 10-50P | Receptacle | Black | HBL7962 | **5Z840** | 29.08 | **23.26** | 0.5 |
| | | | Receptacle, Surface Mount | Black w/Alum. Cover | HBL7940 | **3D281** | 53.65 | **42.95** | 0.9 |
| | | | Connector | Black & White | HBL7515C | **3D259** | 71.37 | **57.10** | 1.0 |
| | | | Plug | Black & White | HBL7513C | **5Z844** | 82.20 | **65.75** | 0.5 |
| | | | Angle Plug | Black & White | HBL7977 | **3D282** | 89.17 | **71.35** | 0.7 |
| 3 Pole 4 Wire | 20A 125/250V 2(1) AC HP | 14-20R 14-20P | Receptacle | Black | HBL8410 | **6C630** | 36.00 | **28.80** | 0.3 |
| | | | Angle Plug | Black & White | HBL8411C | **6C631** | 60.12 | **48.10** | 0.4 |
| | 20A 3Ph 250V 3 AC HP | 15-20R 15-20P | Receptacle | Black | HBL8420 | **5C793** | 37.49 | **30.00** | 0.3 |
| | | | Angle Plug | Black & White | HBL8421C | **5C794** | 63.25 | **50.60** | 0.4 |
| | 30A 125/250V 2(2) AC HP | 14-30R 14-30P | Receptacle | Black | HBL9430A | **5Z883** | 46.39 | **37.15** | 0.6 |
| | | | Plug | Black & White | HBL9431C | **5Z884** | 70.54 | **56.45** | 0.9 |
| | | | Angle Plug | Black & White | HBL9432C | **5C790** | 78.29 | **62.65** | 0.8 |
| | 30A 3 Ph 250V 3 AC HP | 15-30R 15-30P | Receptacle | Black | HBL8430A | **5Z889** | 74.58 | **59.70** | 0.6 |
| | | | Plug | Black & White | HBL8431C | **5Z890** | 74.08 | **59.30** | 0.9 |
| | | | Angle Plug | Black & White | HBL8432C | **5C795** | 82.51 | **66.05** | 0.8 |

CONTINUED ON NEXT PAGE

## HEAVY-DUTY 4-WIRE DEVICES ORDERING DATA, CONTINUED

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 3 Pole 4 Wire | 50A 125/250V 3(2) AC HP | 14-50R | Receptacle | Black | HBL9450A | **5Z885** | $102.91 | **$82.35** | 0.6 |
| | | 14-50P | Plug | Black & White | HBL9451C | **5Z886** | 85.66 | **68.55** | 0.9 |
| | | | Angle Plug | Black & White | HBL9452C | **5C791** | 94.63 | **75.70** | 0.8 |
| | 50A 3Ph 250V 7.5 AC HP | 15-50R | Receptacle | Black | HBL8450A | **5Z891** | 101.82 | **81.45** | 0.6 |
| | | 15-50P | Plug | Black & White | HBL8451C | **5Z892** | 89.74 | **71.80** | 0.9 |
| | | | Angle Plug | Black & White | HBL8452C | **5C796** | 99.26 | **79.45** | 0.8 |
| | 60A 125/250V 3(2) AC HP | 14-60R | Receptacle | Black | HBL9460A | **5Z887** | 114.35 | **91.50** | 0.6 |
| | | 14-60P | Plug | Black & White | HBL9461C | **5Z888** | 99.00 | **79.20** | 0.9 |
| | | | Angle Plug | Black & White | HBL9462C | **5C792** | 110.84 | **88.70** | 0.8 |
| | 60A 3Ph 250V 10 AC HP | 15-60R | Receptacle | Black | HBL8460A | **5Z893** | 119.66 | **95.75** | 0.6 |
| | | 15-60P | Plug | Black & White | HBL8461C | **5Z894** | 105.81 | **84.65** | 0.9 |
| | | | Angle Plug | Black & White | HBL8462C | **5C797** | 115.06 | **92.05** | 0.8 |
| 4 Pole 4 Wire | 60A 3 Ph WYE 120/208V 7.5 AC HP | 18-60R | Receptacle | Black | HBL7301A | **3D240** | 122.25 | **97.80** | 0.6 |
| | | 18-60P | Plug | Black & White | HBL7303C | **3D242** | 106.77 | **85.45** | 0.9 |
| | | | Angle Plug | Black & White | HBL7302C | **3D241** | 115.35 | **92.30** | 0.9 |

## PLATES FOR HEAVY-DUTY STRAIGHT BLADE RECEPTACLE ORDERING DATA*

| Description | No. of Gangs | Color/ Finish | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Single for 3 Wire Receptacles Above* | 1 | Brushed | S723 | **6C120** | $4.19 | **$3.36** | 0.2 |
| Single for 3 Wire Receptacles Above* | 2 | Brushed | S703 | **6C154** | 7.65 | **6.12** | 0.2 |
| Weatherproof for 3 Wire Receptacles Above* | 1 | Gray | 9420 | **3D297** | 65.30 | **52.25** | 0.5 |
| Single for 4 Wire Receptacles Above | 2 | Brushed | S701 | **3D445** | 7.64 | **6.11** | 0.1 |
| Weatherproof for 4 Wire receptacles Above | 2 | Gray | 7777A | **3D279** | 68.83 | **55.10** | 0.4 |
| Weatherproof for Old Style 4 Wire Receptacles | 2 | Gray | 7777 | **3D278** | 68.83 | **55.10** | 0.4 |

*) Plates for Nos. 5Z839 and 5C793 are found on pages 649 and 685.

## FLANGED INLETS & RECEPTACLES

### APPLICATIONS

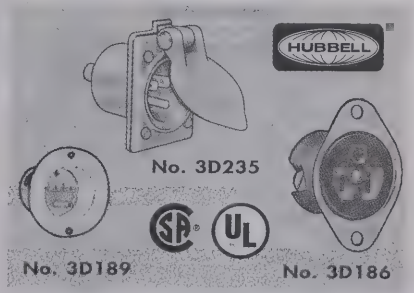
- Factories, restaurants, hospitals, offices
- Use on panel mounting surfaces in applications where a permanently attached cord is not desired

### LISTINGS & APPROVALS

- UL Listed and (except configuration 5-20R) CSA Certified

### FEATURES & BENEFITS

- Nylon flange for mechanical mounting strength will not stress-crack when exposed to hydrocarbons
- "Picture window" wiring facilitates proper wiring connections
- Angled entrance holes permit easier conductor insertion
- "CM" versions are corrosion resistant, one piece with integral weatherproof cover and boot to protect cable entry and terminations




| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A125V | 5-15P | Flanged Inlet | White | HBL5278C | **3D189** | $19.21 | **$15.37** | **$13.84** | 0.1 |
| | | | Corrosion Resistant Weatherproof Inlet | Gray | HBL61CM64 | **3D235** | 61.13 | **48.90** | **44.01** | 0.3 |
| | | 5-15R | Flanged Receptacle | White | HBL5279C | **5Z875** | 26.86 | **21.49** | **19.34** | 0.2 |
| | | | Metal Flanged Receptacle | Brown | HBL5256 | **3D186** | 32.20 | **25.80** | **23.18** | 0.1 |
| | 20A125V | 5-20P | Flanged Inlet | White | HBL5378C | **3D209** | 24.95 | **19.96** | **17.96** | 0.2 |
| | | 5-20R | Corrosion Resistant Weatherproof Receptacle | Gray | HBL61CM65 | **3D236** | 62.18 | **49.75** | **44.77** | 0.3 |
| | 15A 250V | 6-15R | Metal Flanged Receptacle | Brown | HBL5656 | **3D218** | 25.62 | **20.49** | **18.44** | 0.1 |

## WEATHERPROOF PLATE FOR FLANGED INLETS & RECEPTACLES

### APPLICATION

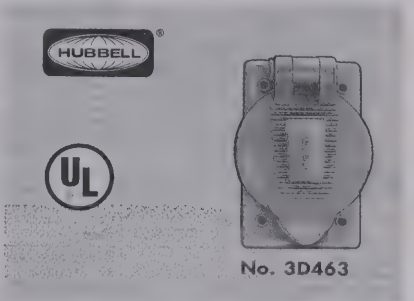
- Factories, food processing plants, restaurants, job sites
- Protect flanged inlets and receptacles from liquids, dust, metal filings, etc.

### LISTING

- UL Listed as "WDL closed" weatherproof plate

### FEATURES & BENEFITS

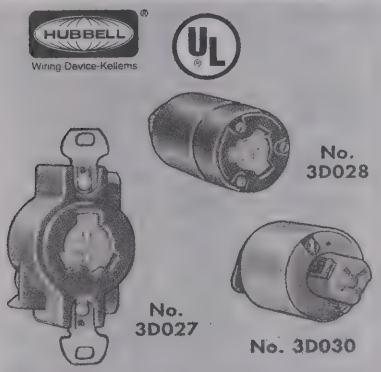
- Nickel plated and stainless steel metallic parts resist corrosion
- Gray thermoplastic base and cover resist impact and twisting
- Fully protects from contaminants when cover closed
- For use with 15 and 20 Amp 2-pole, 3-wire flanged inlets and receptacles above
- Hubbell brand (WP1)




**No. 3D463**. Shpg. wt. 0.3 lbs. List $60.36. Each.....$48.30

# HOSPITAL HUBBELLOCK AND INDUSTRIAL HUBBELLOCK DEVICES

## HOSPITAL HUBBELLOCK




**APPLICATIONS**
- Hospitals, health care facilities
- Used on diagnostic equipment, mobile X-ray equipment

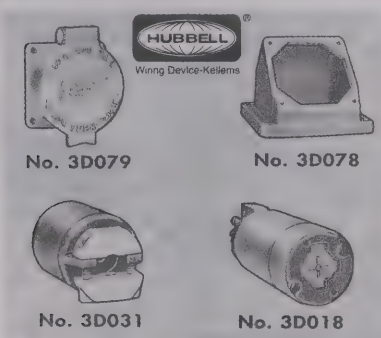
**LISTING & APPROVALS**
- UL Listed

**FEATURES & BENEFITS**
- Spring-loaded safety shutter automatically ejects plug if not properly locked into female device
- Spring-loaded safety shutter snuffs out arcs when devices are connected or disconnected under load
- Positive locking ensured by nose of plug keying into a detent in mating device
- Lock is independent of contacts or a separate mechanical lock
- Access to contact springs of connectors/receptacles is restricted by spring-loaded safety shutter
- Longer life assured by supplementary springs
- Explosion-proof devices are designed for hospital operating rooms and other Class 1, Division 1, Group C atmospheres

**Note:** 50A X-ray Plug fits either 50A or 60A Hubbell Hospital Hubbellock Mobile X-ray Receptacles. Hubbell 24312 plug will fit any of the 20A 125V receptacles listed below. 23000 Series plugs will only fit the 23000HG Receptacle.

| Type | Rating | Description | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 20A 125V | Receptacle | Black | HBL23000HG | **3D027** | $76.01 | **$60.85** | 0.3 |
| | | Connector Body | Gray | HBL23001HGB | **3D028** | 108.20 | **86.60** | 0.4 |
| | | Plug, Epoxy Filled | Gray | HBL23004HG | **3D030** | 151.46 | **121.20** | 0.6 |
| | | Plug | Gray | HBL23014HGB | **3D033** | 113.14 | **90.55** | 0.3 |
| | | Weatherproof Plate for Receptacle | Gray | 7423WO | **6C615** | 56.83 | **45.50** | 0.3 |
| | | Explosion Proof Receptacle Only | Black | HBL24301 | **3D050** | 1195.72 | **956.50** | 2.1 |
| | | Plug with Epoxy Kit | Gray | HBL24312 | **3D051** | 323.48 | **259.00** | 0.6 |
| | 50A 250V | X-Ray Receptacle w/ Plate | Cast Aluminum | HBL25503 | **3D061** | 1529.38 | **1224.00** | 3.8 |
| | | X-Ray Plug | Gray | HBL25525 | **3D062** | 479.99 | **384.00** | 2.1 |

## INDUSTRIAL HUBBELLOCK DEVICES




**APPLICATIONS**
- Factories, convention centers, food processing plants, oil processing
- Use on portable generators, food processing equipment, oil well equipment, injection molding machines, machine tools

**LISTINGS & APPROVALS**
- UL Listed unless otherwise noted

**FEATURES & BENEFITS**
- Nylon plugs and connectors withstand impact and heavy abuse
- Spring-loaded safety shutter ejects plug if not properly locked into connector/receptacle; shutter snuffs out arcs when devices are connected or disconnected under load
- Positive locking ensured by nose of plug keying into a detent in mating device; lock independent of contacts or separate mechanical lock
- Wire terminations are assured with box terminals with pressure pads
- Nylon versions have large, 2-piece cord grip that secures cable in place, reducing terminal strain
- Internal neoprene grommets on nylon devices make cord end watertight

| Type | Rating | Description | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 20A 125V AC or DC or 10A 250V DC or 10A 480V AC | Receptacle* | Black | HBL23000G | **3D026** | $83.39 | **$66.75** | 0.3 |
| | | Connector Body* | Gray | HBL23002GB | **3D029** | 135.71 | **108.60** | 0.4 |
| | | Plug* | Gray | HBL23005GB | **3D031** | 88.57 | **70.85** | 0.3 |
| 3 Pole 4 Wire | 30A 600V AC 20A 600V DC | Receptacle | Black | HBL20403 | **3D015** | 111.09 | **88.90** | 0.5 |
| | | Connector Body, Nylon | Black | HBL21414B | **5C993** | 177.08 | **141.65** | 1.1 |
| | | Plug, Nylon | Black | HBL21415B | **5C994** | 113.79 | **91.05** | 0.9 |
| | | Weatherproof Plate | Aluminum | HBL20405 | **3D016** | 58.18 | **46.55** | 0.4 |
| | 30A 480V AC | Receptacle | Black w/ Red Shutter | HBL20443 | **3D017** | 101.53 | **81.25** | 0.6 |
| | | Connector Body, Nylon | Red | HBL20444B | **3D018** | 160.28 | **128.25** | 1.1 |
| | | Plug, Nylon | Red | HBL20445B | **3D019** | 112.64 | **90.15** | 0.9 |
| | 60A 600V AC | Receptacle w/ Lift Cover | Black w/ Aluminum | HBL26410 | **3D079** | 343.50 | **275.00** | 2.1 |
| | | Long Receptacle w/ Lift Cover | Black w/ Aluminum | HBL26420 | **3D082** | 434.81 | **348.00** | 3.0 |
| | | Connector Body | Yellow | HBL26418 | **3D080** | 364.86 | **292.00** | 2.4 |
| | | Plug | Yellow | HBL26419 | **3D081** | 304.40 | **243.75** | 2.0 |
| 4 Pole 5 Wire | 30A 600V AC or 20A 250V DC | Receptacle for FS/FD Box | Blue | HBL25403 | **3D057** | 237.29 | **190.00** | 1.0 |
| | | Receptacle, Weatherproof, for FS/FD Box | Blue | HBL25250 | **3D056** | 413.90 | **331.25** | 1.3 |
| | | Connector Body, Nylon | Black | HBL25414B | **3D058** | 188.82 | **151.25** | 1.6 |
| | | Plug, Nylon | Black | HBL25415B | **3D059** | 149.94 | **120.00** | 1.4 |
| | 60A 600V AC | Receptacle w/ Lift Cover | Black w/ Aluminum | HBL26520 | **3D085** | 552.25 | **442.00** | 2.6 |
| | | Flanged Receptacle | Black w/ Steel | HBL26521 | **3D086** | 582.92 | **466.50** | 2.0 |
| | | Connector Body | Blue | HBL26516 | **3D083** | 543.23 | **434.75** | 2.4 |
| | | Plug | Blue | HBL26519 | **3D084** | 495.37 | **396.50** | 2.0 |
| For 60A Hubbellock Recep. Only | 60A 600V AC | Receptacle Box | Aluminum | HBL26401 | **3D076** | 125.88 | **100.75** | 1.7 |
| | | 45° Straight Adapter | Aluminum | HBL26404 | **3D078** | 147.75 | **118.25** | 1.4 |
| | | | Aluminum | HBL26402 | **3D077** | 94.59 | **75.70** | 0.4 |

(*) Not UL Listed.



When the spec calls for brand names, you'll find the best here.

# HOSPITAL GRADE PLUGS AND CONNECTORS, WEATHERPROOF BOOTS, & RECEPTACLE TESTER

## HOSPITAL GRADE PLUGS & CONNECTORS

### APPLICATIONS

- Hospitals, laboratories, emergency care facilities and prisons
- Use on test equipment, monitoring devices, electrically powered beds, other portable electrical equipment

### LISTINGS & APPROVALS

- UL Hospital Grade Listed, CSA Certified (except config. 5-20R)
- Meet Fed. Spec. WC596 (15A only)

### FEATURES & BENEFITS

**Insulgrip Style**

- Tough, ribbed nylon housing withstands heavy abuse and offers secure, non-slip hold
- Powerful cable grip jaws offset cable to prevent strain, eliminate cord pullout
- Accepts 10/3 SO to 18/3 SV cord

**Transparent Style**

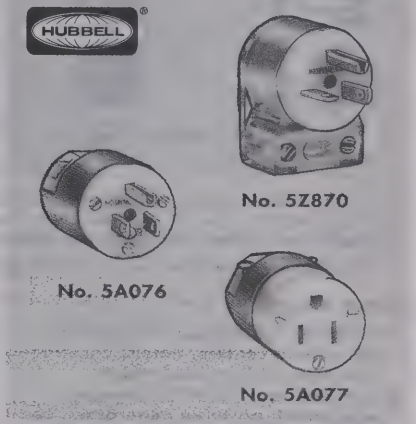
- Clear housing and wiring chamber allow quick inspection of terminations

**Angle Style**

- Outer shell is keyed to accept blade holder in any of 8 right-angle positions

**Valise Style**

- Powerful cord grip resists conductor slippage, prevents strain on terminals, and accommodates a wide range of cords
- Large, easy-to-wire clamp type terminals feature a "bundling" effect on conductors for improved terminations
- 1-piece nylon construction with 2 assembly screws and system of special locking lugs for security and quick assembly




| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A 125V 0.5 AC HP* | 5-15P | Insulgrip Plug | Black & White | HBL8215C | **5A076** | $14.78 | **$11.83** | **$10.65** | 0.2 |
| | | | Insulgrip Plug | Transparent | HBL8215CT | **6C627** | 23.04 | **18.44** | **16.59** | 0.2 |
| | | | Insulgrip Angle Plug | Transparent | HBL8215CAT | **5Z869** | 23.86 | **19.09** | **17.18** | 0.2 |
| | | | Valise Plug | White | HBL8115V | **5Z871** | 10.86 | **8.69** | **7.82** | 0.2 |
| | | | Insulgrip Connector | Black & White | HBL8219C | **5A077** | 25.96 | **20.78** | **18.70** | 0.2 |
| | | | Insulgrip Connector | Transparent | HBL8219CT | **6C628** | 37.48 | **30.00** | **26.98** | 0.2 |
| | | | Valise Connector | White | HBL8119V | **5Z874** | 19.40 | **15.53** | **13.98** | 0.3 |
| | 20A 125V 1 AC HP* | 5-20P | Insulgrip Plug | Black & White | HBL8315C | **5Z868** | 19.62 | **15.70** | **14.14** | 0.2 |
| | | | Insulgrip Plug | Transparent | HBL8315CT | **6C629** | 28.76 | **23.01** | **20.71** | 0.2 |
| | | | Insulgrip Angle Plug | Transparent | HBL8315CAT | **5Z870** | 30.96 | **24.77** | **22.29** | 0.3 |
| | | | Insulgrip Connector | Black & White | HBL8319C | **5Z873** | 31.97 | **25.60** | **23.03** | 0.3 |

*) HP ratings are applicable to plugs & receptacles only and do not apply to connector bodies.

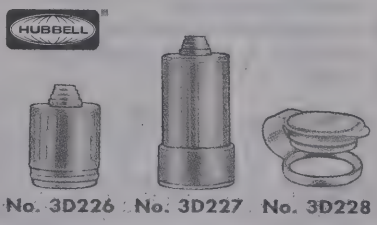
## WEATHERPROOF BOOTS FOR 15A & 20A INSULGRIP PLUGS & CONNECTORS

### APPLICATIONS

- Food processing plants, restaurants, job sites, marinas
- Use on electrical equipment, such as tools, extension cords and food processing equipment exposed to water, mud, and other liquids

### FEATURES & BENEFITS

- Elastomer material withstands harmful UV rays and many chemicals
- Heavy hand-grip knurl provides an improved no-slip gripping area
- Graduated step design at cord entry enables easy boot cutting, allowing use with a wide range of cord sizes
- Closure plug slips over long boot used with connectors to keep liquids from entering front of device when not plugged in




| Description | Color | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Short weatherproof boot for Insulgrip plugs | Black | HBL6017 | **3D226** | $11.55 | **$9.24** | **$8.32** | 0.2 |
| Long weatherproof boot for Insulgrip connectors | Black | HBL6018 | **3D227** | 12.82 | **10.26** | **9.24** | 0.2 |
| Closure plug for long weatherproof boot above | Black | HBL6019 | **3D228** | 15.34 | **12.28** | **11.05** | 0.1 |

**Note:** Weatherproof boots are for use only with Hubbell Insulgrip straight blade plugs and connectors on page 704.

## RECEPTACLE CIRCUIT TESTER

### APPLICATIONS

Hospitals, factories, institutions, offices, contractors

Arrangement of neon lights indicate and identify various fault conditions in electrical circuits

### LISTING

UL Listed

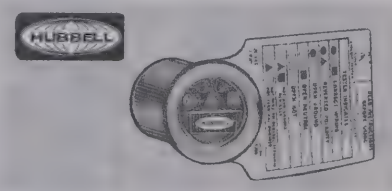
### OPERATION

Plug tester into single phase 125V, 2 Pole 3 Wire outlet and combination of lighted and/or unlighted lamps will indicate circuit condition

### FEATURES & BENEFITS

- Large easy-to-read symbols make indication quick and easy
- Recessed indicating lamps with one-piece polycarbonate lens less susceptible to breaking
- Impact resistant nylon housing withstands abuse
- Instructions printed on attached rotatable polyester labels for easier reading •Hubbell brand (HBL5200)

**Note:** To test single phase, 125V 2 Pole 3 Wire receptacles other than NEMA 5-15R, use an adapter shown on page 715.




**Caution:** When testing other receptacle types, use this tester only with polarized adapters. Do not use on circuits supplying cardiac catheterized patients—may be a shock hazard.

**No. 3D176.** Shpg. wt. 0.2 lbs.
List $57.60. Each.....$46.10

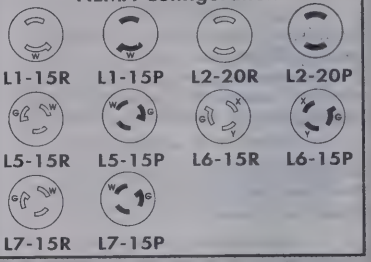
# TWIST-LOCK® DEVICES


No. 5A072


No. 5A073


No. 5A074

**NEMA Configuration**




NOTE: For weatherproof boots for plugs and connectors, weatherproof plates for flanged inlets or receptacles, or wall plates for receptacles, note the item's accessory group and see pages 685 and 714.

## APPLICATION

- Factories, institutions, restaurants, convention centers, hotels, construction sites, utilities and offices
- Use with tools, food processing equipment, portable generators, conveyors, motors, high bay lighting, and other heavy equipment

## LISTINGS & APPROVALS

- UL Listed and CSA Certified

## PLUGS & CONNECTORS

### FEATURES & BENEFITS

- Nylon body and housing are impact and crush resistant and withstand industrial chemicals, solvents and hydrocarbons
- Cord grips have offset jaws to hold conductors in place and prevent strain on terminals
- Two part cord grip has broad gripping area to accommodate a wide range of cable diameters
- Totally insulated dead front construction keeps non-current carrying parts from becoming energized
- Ribbed nylon housing provides secure gripping; makes plug insertion/removal easier
- Individual wiring terminals enclosed in separate chambers prevent stray strands from contacting other terminals

For details on Elastogrip and Watertight Elastogrip style devices, see page 704.

## RECEPTACLES

### FEATURES & BENEFITS

- Thermoset base provides excellent heat and flame resistance and dimensional stability
- Impact and abuse resistant nylon face protects against breaking, chipping and cracking
- All brass grounding system provides a lower resistance ground path and greater resistance to corrosion
- One piece contact with long spring arm and oxide cutting nibs prevent stress and overheating
- External back wiring "wraparound" clamp with anti-rotation strand containment feature also bundles conductor strands for better termination and lower heat rise
- Wire restraint recess for both back and side wiring greatly reduces possibility of loosening terminal connections
- Wire indentor with bump and barbs achieve oxide cutting and retention of conductors
- Face color coding band by voltage facilitates locating and mating of proper devices
- Wall plates for receptacles on page 701

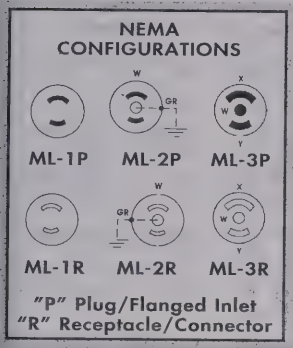
NOTE: Horsepower ratings shown ar Phase-to-Phase. Horsepower ratings ar applicable to plugs and receptacles onl and do not apply to connector bodies.

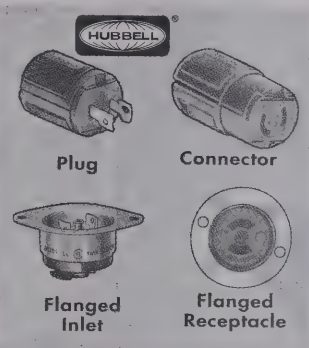
| Type | Rating | NEMA Config. | Description | Color | Accessory Group | Hubbell Model | Stock No. | List | Each | Shp wt |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 2 Wire | 15A 125V 0.5 HP* | L1-15R | Single Receptacle | Black | A | HBL7535 | **3D260** | $23.07 | **$18.46** | 0. |
| | | | Connector Body | Black & White | A | HBL7506C | **3D258** | 25.44 | **20.35** | 0. |
| | | L1-15P | Plug | Black & White | A | HBL7545C | **3D261** | 20.68 | **16.55** | 0. |
| | 20A 250V 2 HP* | L2-20R | Single Receptacle | Black | A | HBL7210B | **3D239** | 17.55 | **14.04** | 0. |
| | | | Connector Body | Black & White | A | HBL7101C | **3D237** | 18.24 | **14.59** | 0. |
| | | L2-20P | Plug | Black & White | A | HBL7102C | **3D238** | 14.89 | **11.92** | 0. |
| 2 Pole 3 Wire | 15A 125V 0.5 HP* | L5-15R | Duplex Recepatcle | Brown | A | HBL4700 | **6A664** | 32.19 | **25.80** | 0. |
| | | | Duplex, Combination 5-15R & L5-15R | Brown | A | HBL4792 | **3D171** | 41.85 | **33.50** | 0. |
| | | | Single Receptacle | Black | A | HBL4710 | **5A072** | 21.47 | **17.18** | 0. |
| | | | Single Receptacle, Panel Mount | Black | N/A | HBL4713 | **3D166** | 31.54 | **25.25** | 0. |
| | | | Flanged Receptacle, Nylon | White | A | HBL4715C | **3D168** | 25.90 | **20.72** | 0. |
| | | | Flanged Receptacle, Metal | Brown | N/A | HBL4715 | **3D167** | 45.80 | **36.65** | 0. |
| | | | Connector Body | Black & White | A | HBL4729C | **5A074** | 27.81 | **22.25** | 0. |
| | | | Connector Body, Elastogrip | Yellow | N/A | HBL2547 | **3D060** | 27.81 | **22.25** | 0. |
| | | | Connector Body, Watertight Elastogrip | Yellow | N/A | HBL25W47 | **3D071** | 37.78 | **30.25** | 0. |
| | | L5-15P | Plug | Black & White | A | HBL4720C | **5A073** | 15.70 | **12.57** | 0. |
| | | | Plug, Elastogrip | Yellow | N/A | HBL2447 | **3D054** | 16.91 | **13.53** | 0. |
| | | | Plug, Watertight Elastogrip | Yellow | N/A | HBL24W47 | **3D055** | 25.36 | **20.29** | 0. |
| | | | Flanged Inlet, Nylon | White | A | HBL4716C | **3D170** | 17.55 | **14.04** | 0. |
| | | | Flanged Inlet, Metal | Brown | N/A | HBL4716 | **3D169** | 25.16 | **20.13** | 0. |
| | 15A 250V 2 HP* | L6-15R | Duplex Receptacle | Brown | A | HBL4550 | **6C575** | 36.70 | **29.40** | 0. |
| | | | Single Receptacle | Black | A | HBL4560 | **6C576** | 24.23 | **19.39** | 0. |
| | | | Single Receptacle, Panel Mount | Black | N/A | HBL4563 | **6C577** | 35.93 | **28.75** | 0. |
| | | | Flanged Receptacle, Nylon | White | A | HBL4585C | **3D153** | 30.26 | **24.21** | 0. |
| | | | Connector Body | Black & White | A | HBL4579C | **6C579** | 28.61 | **22.90** | 0. |
| | | L6-15P | Plug | Black & White | A | HBL4570C | **6C578** | 16.62 | **13.30** | 0. |
| | 15A 277V 2 HP* | L7-15R | Duplex Receptacle | Brown | A | HBL4750 | **5Z899** | 35.77 | **28.65** | 0. |
| | | | Single Receptacle | Black | A | HBL4760 | **6C122** | 24.00 | **19.21** | 0. |
| | | L7-15P | Connector Body | Black & White | A | HBL4779C | **1X986** | 29.77 | **23.82** | 0. |
| | | | Plug | Black & White | A | HBL4770C | **1X985** | 18.01 | **14.41** | 0. |

(*) HP ratings are AC only.

# MIDGET AND ISOLATED GROUND LOCKING DEVICES

## MIDGET LOCKING DEVICES




### APPLICATIONS

- Factories, institutions, laboratories, offices, health facilities
- Used for electronic equipment, lighting, lab & test equipment

### LISTING & APPROVALS

- UL Listed; CSA Certified

### FEATURES & BENEFITS

- Nylon plugs and connector bodies are impact and abuse resistant
- Valise devices have offset jaw cord grips to prevent strain on terminals
- 2 Wire Valise devices have bundling clamp screw terminals; 3 Wire Valise devices have insulation displacement terminals
- Angle devices provide low profile for limited space usage
- Weatherproof boots protect devices from moisture, dust, metal filings, etc.

| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 2 Wire | 15A 125V | ML-1R | Flanged Receptacle, Exposed Terminals | Nickel | HBL7468 | **1XC00** | $17.17 | **$13.74** | 0.1 |
| | | | Valise Connector Body | Black | HBL7464V | **1X998** | 18.99 | **15.19** | 0.1 |
| | | | Weatherproof Boot for 2 Wire Valise Connector | Black | HBL7459V | **3D252** | 9.00 | **7.21** | 0.1 |
| | | ML-1P | Flanged Inlet, Exposed Terminals | Nickel | HBL7467 | **6C616** | 17.72 | **14.17** | 0.1 |
| | | | Valise Plug | Black | HBL7465V | **1X999** | 17.63 | **14.11** | 0.1 |
| | | | Weatherproof Boot for 2 Wire Valise Plug | Black | HBL7490V | **3D253** | 9.00 | **7.21** | 0.1 |
| 2 Pole 3 Wire | 15A 125V | ML-2R | Flanged Receptacle, Exposed Terminals | Nickel | HBL7596 | **5Z912** | 21.45 | **17.17** | 0.1 |
| | | | Flanged Receptacle, Nylon, Exposed Terminals | Black | HBL7596N | **3D271** | 15.46 | **12.37** | 0.1 |
| | | | Valise Connector Body | Black | HBL7593V | **6C145** | 17.76 | **14.22** | 0.1 |
| | | | Connector Body | Black | HBL7593 | **6C625** | 20.53 | **16.43** | 0.1 |
| | | | Angle Connector Body | Black | HBL7571 | **3D267** | 33.55 | **26.85** | 0.1 |
| | | ML-2P | Flanged Inlet, Nylon, Exposed Terminals | Black | HBL7595N | **3D270** | 12.69 | **10.16** | 0.1 |
| | | | Flanged Inlet, Exposed Terminals | Nickel | HBL7595 | **5C798** | 17.76 | **14.22** | 0.1 |
| | | | Valise Plug | Black | HBL7594V | **6C146** | 13.84 | **11.08** | 0.1 |
| | | | Plug | Black | HBL7594 | **6C626** | 15.69 | **12.56** | 0.1 |
| | | | Angle Plug | Black | HBL7570 | **3D266** | 25.76 | **20.61** | 0.1 |
| 3 Pole 3 Wire | 15A 125/250V | ML-3R | Flanged Receptacle, Exposed Terminals | Nickel | HBL7487 | **6C620** | 24.22 | **19.38** | 0.1 |
| | | | Valise Connector Body | Black | HBL7484V | **6C617** | 18.01 | **14.41** | 0.2 |
| | | | Connector Body | Black | HBL7484 | **5Z910** | 21.11 | **16.89** | 0.1 |
| | | ML-3P | Valise Plug | Black | HBL7485V | **6C618** | 14.07 | **11.26** | 0.1 |
| | | | Plug | Black | HBL7485 | **5Z909** | 15.46 | **12.37** | 0.1 |
| **Weatherproof Boot for 3 Wire Valise Connectors** | | | | Black | HBL7495V | **3D254** | 9.23 | **7.39** | 0.1 |
| **Weatherproof Boot for 3 Wire Valise Plugs** | | | | Black | HBL7440V | **3D251** | 9.23 | **7.39** | 0.1 |

## ISOLATED GROUND TWIST-LOCK RECEPTACLES

### APPLICATIONS

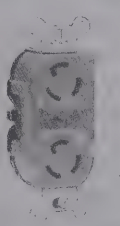
- Hospitals, labs, emergency care facilities, institutions, stores, and offices
- Used for sensitive electronic equipment such as test equipment, point of purchase terminals, medical and communications equipment, etc.

### LISTINGS & APPROVALS

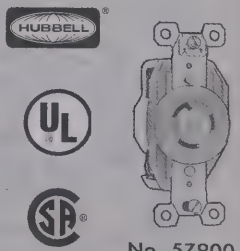
- For use in accordance with NEC/NFPA Article 250-74, Exception #4
- ANSI #C73, NEMA WD-6
- UL Listed to Standard #498 and CSA Certified, CSA C22.2 #42

### FEATURES & BENEFITS

- Insulation barrier construction isolates ground contacts from mounting strap for a noise-free ground
- Green grounding screw connected directly to grounding contacts
- IG triangle indicates isolated ground device on face of receptacle
- Impact resistant nylon face protects against cracking and chipping
- Reinforced thermoplastic polyester base provides impact strength in addition to heat and flame resistance



No. 6C121



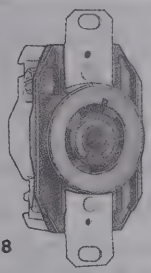


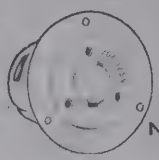

No. 5Z900

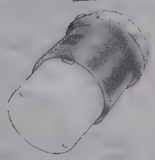
| Type | Rating | NEMA Config. | Description | Color | Hubbell Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Pole Wire | 15A 125V 0.5 AC HP | L5-15R | Duplex | Orange | IG4700A | **6C121** | $45.41 | **$36.35** | **$32.69** | 0.4 |
| | 15A 125V 0.5 AC HP | L5-15R | Single | Orange | IG4710 | **5Z898** | 43.47 | **34.80** | **31.30** | 0.2 |
| | 15A 250V 2 AC HP | L6-15R | Single | Orange | IG4560 | **3D398** | 43.61 | **34.90** | **31.40** | 0.2 |
| | 20A 125V 1 AC HP | L5-20R | Single | Orange | IG2310 | **5Z900** | 30.01 | **24.01** | **21.62** | 0.3 |
| | 20A 250V 2 AC HP | L6-20R | Single | Orange | IG2320 | **6C649** | 31.05 | **24.84** | **22.37** | 0.3 |
| | 30A 125V 2 AC HP | L5-30R | Single | Orange | IG2610 | **5Z903** | 41.42 | **33.15** | **29.84** | 0.3 |
| | 30A 250V 3 AC HP | L6-30R | Single | Orange | IG2620 | **6C650** | 53.43 | **42.75** | **38.47** | 0.3 |
| Pole Wire | 20A 3Ph Y 120/208V 3AC HP | L21-20R | Single | Orange | IG2510 | **3D397** | 57.51 | **46.05** | **41.41** | 0.3 |
| | 30A 3Ph Y 120/208V 5AC HP | L21-30R | Single | Orange | IG2810 | **6C651** | 81.76 | **65.40** | **58.86** | 0.3 |

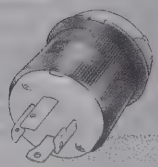
# NEMA TWIST-LOCK® DEVICES

HUBBELL
Wiring Device-Kellems


No. 4A258

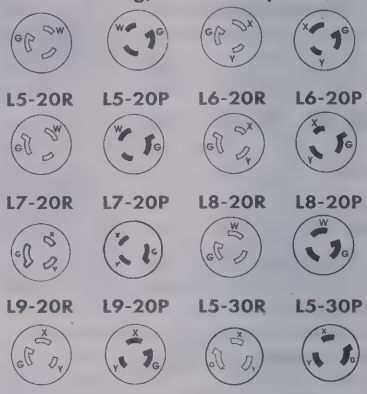

No. 3D035


No. 4A260


No. 4A268

**Note: For weatherproof boots for plugs and connectors, weatherproof plates for flanged inlets or receptacles, or wall plates for receptacles, note the item's accessory group and see pages 685 and 714.**

**NEMA CONFIGURATIONS**
**"P" = Plug; "R" = Receptacle**



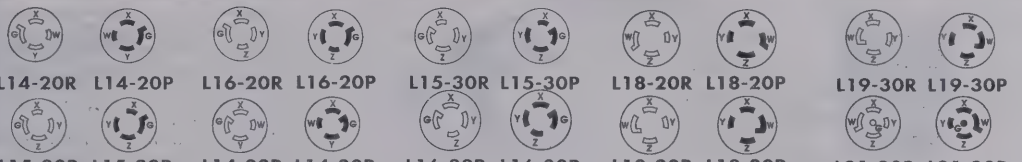

| Type | Rating | NEMA Config. | Description | Color | Accessory Group | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 20A 125V 1 HP† | L5-20R | Single Receptacle | Black | B | HBL2310 | **4A258** | $25.16 | **$20.13** | 0.2 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2316 | **3D035** | 42.91 | **34.35** | 0.1 |
| | | | Connector Body | Black & White | B | HBL2313 | **4A260** | 30.70 | **24.57** | 0.3 |
| | | | Connector Body | Yellow | B | HBL23CM13 | **3D046*** | 38.69 | **30.95** | 0.3 |
| | | L5-20P | Plug | Black & White | B | HBL2311 | **4A259** | 19.76 | **15.81** | 0.4 |
| | | | Plug | Yellow | B | HBL23CM11 | **3D045*** | 25.34 | **20.28** | 0.3 |
| | | | Flanged Inlet, Nylon | White | B | HBL2315 | **3D034** | 25.89 | **20.71** | 0.1 |
| | 20A 250V 2 HP† | L6-20R | Single Receptacle | Black | B | HBL2320 | **5A080** | 25.16 | **20.13** | 0.2 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2326 | **3D037** | 43.35 | **34.70** | 0.3 |
| | | | Connector Body | Black & White | B | HBL2323 | **5A082** | 30.70 | **24.57** | 0.3 |
| | | L6-20P | Plug | Black & White | B | HBL2321 | **5A081** | 19.74 | **15.79** | 0.2 |
| | | | Flanged Inlet, Nylon | White | B | HBL2325 | **3D036** | 25.89 | **20.71** | 0.1 |
| | 20A 277V 2 HP† | L7-20R | Single Receptacle | Black | B | HBL2330 | **1X978** | 25.17 | **20.14** | 0.3 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2336 | **3D038** | 43.32 | **34.70** | 0.1 |
| | | | Connector Body | Black & White | B | HBL2333 | **5Z901** | 30.82 | **24.66** | 0.3 |
| | | L7-20P | Plug | Black & White | B | HBL2331 | **1X979** | 19.75 | **15.80** | 0.3 |
| | 20A 480V 5 HP† | L8-20R | Single Receptacle | Black | B | HBL2340 | **5Z902** | 32.32 | **25.90** | 0.3 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2346 | **3D039** | 55.58 | **44.50** | 0.1 |
| | | | Connector Body | Black & White | B | HBL2343 | **6C124** | 48.16 | **38.55** | 0.3 |
| | | L8-20P | Plug | Black & White | B | HBL2341 | **6C123** | 25.10 | **20.08** | 0.3 |
| | 20A 600V | L9-20R | Single Receptacle | Black | B | HBL2350 | **3D040** | 50.53 | **40.45** | 0.3 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2356 | **3D043** | 57.95 | **46.40** | 0.1 |
| | | | Connector Body | Black & White | B | HBL2353 | **3D042** | 48.16 | **38.55** | 0.3 |
| | | L9-20P | Plug | Black & White | B | HBL2351 | **3D041** | 30.88 | **24.70** | 0.3 |
| | 30A 125V 2 HP† | L5-30R | Single Receptacle | Black | B | HBL2610 | **4A261** | 35.65 | **28.55** | 0.2 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2616 | **3D073** | 55.58 | **44.50** | 0.1 |
| | | | Connector Body | Black & White | B | HBL2613 | **4A263** | 61.14 | **48.95** | 0.3 |
| | | | Connector Body | Yellow | B | HBL26CM13 | **3D089*** | 90.34 | **72.30** | 0.3 |
| | | L5-30P | Plug | Black & White | B | HBL2611 | **4A262** | 30.70 | **24.57** | 0.3 |
| | | | Plug | Yellow | B | HBL26CM11 | **3D088*** | 45.62 | **36.50** | 0.3 |
| | | | Flanged Inlet, Nylon | White | B | HBL2615 | **3D072** | 46.05 | **36.85** | 0.1 |
| | 30A 250V 2 HP† | L6-30R | Single Receptacle | Black | B | HBL2620 | **5A086** | 38.54 | **30.85** | 0.3 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2626 | **3D075** | 55.74 | **44.60** | 0.3 |
| | | | Connector Body | Black & White | B | HBL2623 | **5A088** | 61.59 | **49.30** | 0.2 |
| | | L6-30P | Plug | Black & White | B | HBL2621 | **5A087** | 30.92 | **24.74** | 0.2 |
| | | | Flanged Inlet, Nylon | White | B | HBL2625 | **3D074** | 46.05 | **36.85** | 0.1 |
| | 30A 480V 5 HP† | L8-30R | Single Receptacle | Black | B | HBL2640 | **6C546** | 46.89 | **37.55** | 0.3 |
| | | | Connector Body | Black & White | B | HBL2643 | **6C548** | 74.13 | **59.30** | 0.3 |
| | | L8-30P | Plug | Black & White | B | HBL2641 | **6C547** | 37.07 | **29.70** | 0.2 |

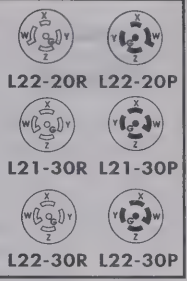
(*) Corrosion resistant. (†) HP ratings are AC only.

CONTINUED ON NEXT PAGE

# NEMA TWIST-LOCK® DEVICES

Applications, features and benefits, listings, and approvals for these devices can be found on page 710.




**Note:** For weatherproof boots for plugs and connectors, weatherproof plates for flanged inlets or receptacles, or wall plates for receptacles, notice the item's accessory group and see pages 707 and 711.

| Type | Rating | NEMA Config. | Description | Color | Accessory Group | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 Pole 4 Wire | 20A 125/250V 2(1) HP† | L14-20R | Single Receptacle | Black | B | HBL2410 | **4A264** | $35.30 | **$28.25** | 0.2 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2416 | **3D048** | 51.25 | **41.00** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2413 | **4A266** | 42.00 | **33.65** | 0.3 |
| | | L14-20P | Plug | Black & White | C | HBL2411 | **4A265** | 30.01 | **24.01** | 0.3 |
| | | | Flanged Inlet, Nylon | White | B | HBL2415 | **3D047** | 36.40 | **29.15** | 0.3 |
| | 20A 3Ph 250V 3 HP† | L15-20R | Single Receptacle | Black | B | HBL2420 | **4A267** | 35.42 | **28.35** | 0.2 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2426 | **3D049** | 51.25 | **41.00** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2423 | **4A269** | 42.01 | **33.65** | 0.4 |
| | | L15-20P | Plug | Black & White | C | HBL2421 | **4A268** | 32.10 | **25.70** | 0.4 |
| | 20A 3Ph 480V 5 HP† | L16-20R | Single Receptacle | Black | B | HBL2430 | **6A661** | 42.52 | **34.05** | 0.2 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2436 | **3D052** | 66.11 | **52.90** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2433 | **6A663** | 51.28 | **41.05** | 0.5 |
| | | L16-20P | Plug | Black & White | C | HBL2431 | **6A662** | 38.20 | **30.60** | 0.5 |
| | 30A 125/250V 2 HP† | L14-30R | Single Receptacle | Black | B | HBL2710 | **6A655** | 55.94 | **44.80** | 0.2 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2716 | **3D091** | 66.50 | **53.20** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2713 | **6A657** | 84.92 | **67.95** | 0.5 |
| | | L14-30P | Plug | Black & White | C | HBL2711 | **6A656** | 41.10 | **32.90** | 0.5 |
| | | | Flanged Inlet, Nylon | White | B | HBL2715 | **3D090** | 57.79 | **46.25** | 0.3 |
| | 30A 3Ph 250V 3 HP† | L15-30R | Single Receptacle | Black | B | HBL2720 | **4A270** | 56.29 | **45.05** | 0.2 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2726 | **3D093** | 66.50 | **53.20** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2723 | **4A272** | 85.15 | **68.15** | 0.5 |
| | | L15-30P | Plug | Black & White | C | HBL2721 | **4A271** | 41.32 | **33.10** | 0.4 |
| | | | Flanged Inlet, Nylon | White | B | HBL2725 | **3D092** | 57.79 | **46.25** | 0.3 |
| | 30A 3Ph 480V 10 HP† | L16-30R | Single Receptacle | Black | B | HBL2730 | **6A658** | 66.79 | **53.45** | 0.4 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2736 | **3D094** | 85.77 | **68.65** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2733 | **6A660** | 103.58 | **82.90** | 0.5 |
| | | L16-30P | Plug | Black & White | C | HBL2731 | **6A659** | 49.10 | **39.30** | 0.5 |
| | 30A 3Ph 600V | L17-30R | Single Receptacle | Black | B | HBL2740 | **3D095** | 64.87 | **51.90** | 0.3 |
| | | | Flanged Receptacle, Nylon | White | B | HBL2746 | **3D098** | 85.78 | **68.65** | 0.4 |
| | | | Connector Body | Black & White | C | HBL2743 | **3D097** | 103.84 | **83.10** | 0.4 |
| | | L17-30P | Plug | Black & White | C | HBL2741 | **3D096** | 49.63 | **39.70** | 0.4 |
| 4 Pole 4 Wire | 20A 3Ph Y 120/208V 2 HP† | L18-20R | Single Receptacle | Black | B | HBL2440 | **3D053** | 56.97 | **45.60** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2443 | **5C972** | 70.20 | **56.15** | 0.4 |
| | | L18-20P | Plug | Black & White | C | HBL2441 | **5C971** | 50.53 | **40.45** | 0.3 |
| | 30A 3Ph Y 120/208V 3 HP† | L18-30R | Single Receptacle | Black | B | HBL2750 | **3D099** | 84.07 | **67.25** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2753 | **5C970** | 133.89 | **107.10** | 0.4 |
| | | L18-30P | Plug | Black & White | C | HBL2751 | **5C969** | 63.42 | **50.75** | 0.4 |
| | 30A 3Ph Y 277/480V 10 HP† | L19-30R | Single Receptacle | Black | B | HBL2760 | **3D100** | 84.07 | **67.25** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2763 | **3D102** | 134.23 | **107.40** | 0.4 |
| | | L19-30P | Plug | Black & White | C | HBL2761 | **3D101** | 63.44 | **50.75** | 0.5 |
| 4 Pole 5 Wire | 20A 3Ph Y 120/208V 2 HP† | L21-20R | Single Receptacle | Black | B | HBL2510 | **1X980** | 42.91 | **34.35** | 0.2 |
| | | | Flanged Receptacle | White | B | HBL2516 | **5C996** | 108.88 | **87.10** | 0.4 |
| | | | Connector Body | Black & White | C | HBL2513 | **5Z906** | 66.24 | **53.00** | 0.5 |
| | | L21-20P | Plug | Black & White | C | HBL2511 | **1X981** | 38.55 | **30.85** | 0.4 |
| | | | Flanged Inlet | White | B | HBL2515 | **5C995** | 59.15 | **47.35** | 0.3 |
| | 20A 3 Ph Y 277/480V 5 HP† | L22-20R | Single Receptacle | Black | B | HBL2520 | **6C153** | 52.20 | **41.80** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2523 | **6C545** | 80.68 | **64.55** | 0.4 |
| | | L22-20P | Plug | Black & White | C | HBL2521 | **6C544** | 46.91 | **37.55** | 0.4 |
| | 30A 3Ph Y 120/208V 3 HP† | L21-30R | Single Receptacle | Black | B | HBL2810 | **1X982** | 59.65 | **47.75** | 0.4 |
| | | | Flanged Receptacle | White | B | HBL2816 | **3D104** | 118.55 | **94.85** | 0.4 |
| | | | Connector Body | Black & White | C | HBL2813 | **1X984** | 84.22 | **67.40** | 0.5 |
| | | L21-30P | Plug | Black & White | C | HBL2811 | **1X983** | 45.70 | **36.60** | 0.4 |
| | | | Flanged Inlet | White | B | HBL2815 | **3D103** | 61.46 | **49.20** | 0.3 |
| | 30A 3Ph Y 277/480V 10 HP† | L22-30R | Single Receptacle | Black | B | HBL2820 | **5Z908** | 72.22 | **57.80** | 0.3 |
| | | | Connector Body | Black & White | C | HBL2823 | **6C549** | 102.20 | **81.80** | 0.4 |
| | | L22-30P | Plug | Black & White | C | HBL2821 | **5C789** | 55.64 | **44.55** | 0.5 |

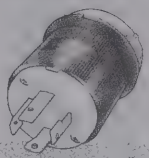
†) HP ratings are AC only.

# NON-NEMA TWIST-LOCK® DEVICES

HUBBELL® Wiring Device-Kellems



No. 3D243



No. 3D300

**Note:** For weatherproof boots for plugs and connectors, weatherproof plates for flanged inlets and receptacles, or wall plates for receptacles, please note the item's accessory group and see below and page 685. For mating Kellems grips, see page 672.

| Type | Rating | Description | Color | Accessory Group | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 20A 250V | Single Receptacle* | Black | A | HBL7310BG | 3D243 | $35.66 | $28.55 | 0.3 |
| | | Plug* | Black & White | B | HBL9965GCB | 3D300 | 27.01 | 21.62 | 0.3 |
| 3 Pole 3 Wire | 10A 250V 15A 125V | Duplex Receptacle* | Black | A | HBL7580 | 3D268 | 42.35 | 33.90 | 0.3 |
| | | Single Receptacle* | Black | A | HBL7582 | 3D269 | 27.92 | 22.34 | 0.2 |
| | | Flanged Receptacle, Metal* | Brown | N/A | HBL7557 | 3D263 | 32.97 | 26.40 | 0.1 |
| | | Connector Body* | Black & White | A | HBL7565C | 3D264 | 34.03 | 27.25 | 0.2 |
| | | Connector Body, Phenolic* | Black | N/A | HBL7555 | 3D262 | 55.92 | 44.75 | 0.1 |
| | | Plug* | Black & White | A | HBL7567C | 3D265 | 20.77 | 16.62 | 0.2 |
| | 20A 125/250V | Single Receptacle | Black | A | HBL7310B | 6C610 | 34.05 | 27.25 | 0.3 |
| | | Flanged Receptacle | White | B | HBL3326C | 3D108 | 57.24 | 45.80 | 0.3 |
| | | Connector Body | Black & White | B | HBL7314C | 6C611 | 39.46 | 31.60 | 0.3 |
| | | Plug | Black & White | B | HBL9965C | 6C632 | 24.00 | 19.21 | 0.2 |
| | | Flanged Inlet | White | B | HBL3325C | 3D107 | 33.26 | 26.65 | 0.2 |
| | 30A 125/250V | Single Receptacle | Black | C | HBL3330 | 3D109 | 47.55 | 38.05 | 0.4 |
| | | Flanged Receptacle | White | B | HBL3335C | 3D113 | 69.36 | 55.50 | 0.3 |
| | | Connector Body | Black & White | B | HBL3333C | 3D111 | 68.75 | 55.05 | 0.3 |
| | | Plug | Black & White | B | HBL3331C | 3D110 | 35.30 | 28.25 | 0.2 |
| | | Flanged Inlet | White | B | HBL3334C | 3D112 | 56.40 | 45.15 | 0.1 |
| 3 Pole 4 Wire | 20A 250VAC | Single Receptacle* | Black | B | HBL7410BG | 3D246 | 43.38 | 34.75 | 0.3 |
| | | Connector Body* | Black & White | C | HBL7413GCB | 3D248 | 48.93 | 39.15 | 0.4 |
| | | Plug* | Black & White | C | HBL7411GCB | 3D247 | 36.48 | 29.20 | 0.4 |
| | 30A 250VAC | Single Receptacle* | Black | C | HBL3430G | 6C550 | 65.06 | 52.10 | 0.3 |
| | | Connector Body* | Black & White | C | HBL3433GC | 6C552 | 104.97 | 84.00 | 0.4 |
| | | Plug* | Black & White | C | HBL3431GCB | 6C551 | 50.31 | 40.30 | 0.4 |
| 4 Pole 4 Wire | 20A 3Ph 120/208V | Single Receptacle | Black | B | HBL7410B | 6C612 | 41.54 | 33.25 | 0.3 |
| | | Connector Body | Black & White | C | HBL7413C | 6C614 | 47.09 | 37.70 | 0.4 |
| | | Plug | Black & White | C | HBL7411C | 6C613 | 35.89 | 28.75 | 0.3 |
| | 30A 3Ph 120/208V | Single Receptacle | Black | C | HBL3430 | 3D114 | 62.29 | 49.85 | 0.3 |
| | | Connector Body | Black & White | C | HBL3433C | 3D116 | 104.27 | 83.45 | 0.4 |
| | | Plug | Black & White | C | HBL3431C | 3D115 | 47.07 | 37.70 | 0.3 |
| 4 Pole 5 Wire | 20A 250V 10A 600V | Single Receptacle | Black | B | HBL3520 | 3D117 | 52.61 | 42.10 | 0.3 |
| | | Connector Body | Black & White | C | HBL3523C | 3D119 | 78.22 | 62.60 | 0.4 |
| | | Plug | Black & White | C | HBL3521C | 3D118 | 47.66 | 38.15 | 0.4 |

(*) Not UL Listed.

## WEATHERPROOF BOOTS FOR TWIST-LOCK® PLUGS & CONNECTORS

### APPLICATIONS

- **Food processing plants, restaurants, job sites, marinas**
- **Used on electrical equipment such as tools, extension cords and food processing equipment exposed to water, mud, and other liquids**

### FEATURES & BENEFITS

- **Black elastomer material withstands harmful effects of UV rays and many chemicals**
- **Heavy hand-grip knurl provides improved no-slip gripping area**
- **Graduated step design at cord entry enables boot to be easily cut, for use with a wide range of cord sizes**

HUBBELL® Wiring Device-Kellems



No. 3D230

### GROUP A
**15A Insulgrip Straightblade plugs & connectors**

**No. 3D229.** Short Weatherproof Boot for Insulgrip Plugs. Black. Hubbell brand (HBL6023). Shpg. wt. 0.1lbs. List.....$13.36. Each .....**$10.69**

**No. 3D230.** Long Weatherproof Boot for Insulgrip Connectors. Black. Hubbell brand (HBL6024). Shpg. wt. 0.3 lbs. List .....$14.88. Each .....**$11.91**

### GROUP B
**20 & 30A 3-Wire Twist Lock plugs & connectors**

**No. 3D231.** Short Weatherproof Boot for Insulgrip Plugs. Black. Hubbell brand (HBL6031). Shpg. wt. 0.3 lbs. List.....$16.93. Each .....**$13.54**

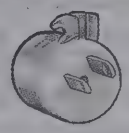
**No. 3D232.** Long Weatherproof Boot for Insulgrip Connectors. Black. Hubbell brand (HBL6032). Shpg. wt. 0.4 lbs. List .....$18.98 Each .....**$15.19**

### GROUP C
**20 & 30A 4 & 5-Wire Twist Lock plugs & connectors**

**No. 5C992.** Short Weatherproof Boot for Insulgrip Plugs. Black. Hubbell brand (HBL6035). Shpg. wt. 0.3 lbs. List.....$21.01 Each .....**$16.8**

**No. 3D233.** Long Weatherproof Boot for Insulgrip Connectors. Black. Hubbell brand (HBL6036). Shpg. wt. 0.6 lbs.List .....$23.9- Each .....**$19.1**

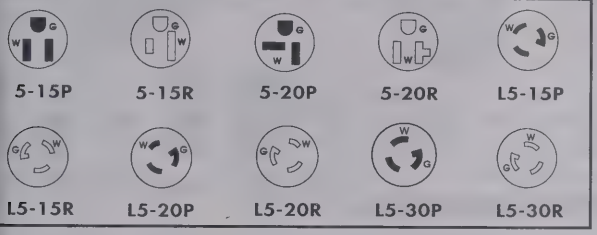
# ADAPTERS



No. 3D188



No. 3D294




### APPLICATIONS

- Factories, construction sites, utilities
- For use with tools and other portable equipment where the plug on equipment does not match receptacle to be plugged into

### LISTINGS & APPROVALS

- UL lists only those adapters where rating of both ends is the same even though configurations may differ (i.e. they list an adapter with NEMA configuration 5-20R on one end and L5-20P on the other)

### FEATURES & BENEFITS

- One piece construction for compact size
- Nylon bodies are impact resistant and withstand abuse

**Caution:** Where adapters have different ratings on blade and slot ends, the following precautions must be exercised in their use:

1. Over current protection is determined by blade end
2. Adapter use should be limited to lowest rated end of adapter in order to prevent overheating

| Slot End Rating | NEMA Config. | Slot End Style | Blade End Rating | NEMA Config. | Blade End Style | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 15A 125V | 5-15R | Straight Blade | 15A 125V | 1-15P | Straight Blade | 5273L | **3D188** | $16.73 | **$13.39** | 0.1 |
| 15A 125V | 5-15R | Straight Blade | 10A 250V<br>15A 125V | Non-NEMA | Twist-Lock | 9053A | **3D294*** | 78.48 | **62.80** | 0.3 |
| 20A 125V | 5-20R | Straight Blade | 15A 125V | 5-15P | Straight Blade | HBL2270 | **3D023** | 107.11 | **85.70** | 0.3 |
| 20A 125V | 5-20R | Straight Blade | 15A 125V | L5-15P | Twist-Lock | HBL2274 | **3D025** | 107.11 | **85.70** | 0.3 |
| 20A 125V | 5-20R | Straight Blade | 20A 125V | L5-20P | Twist-Lock | HBL2129 | **3D021** | 106.77 | **85.45** | 0.3 |
| 20A 125V | 5-20R | Straight Blade | 30A 125V | L5-30P | Twist-Lock | HBL31CM29 | **3D106*** | 90.84 | **72.30** | 0.3 |
| 10A 250V, 15A 125V | Non-NEMA | Twist-Lock | 15A 125V | 5-15R | Straight Blade | 9054A | **3D295*** | 63.74 | **51.00** | 0.3 |
| 15A 125V | L5-15R | Twist-Lock | 15A 125V | 5-15P | Straight Blade | HBL2271 | **3D024** | 104.23 | **83.40** | 0.3 |
| 20A 125V | L5-20R | Twist-Lock | 15A 125V | 5-15P | Straight Blade | HBL2128 | **3D020** | 106.79 | **85.45** | 0.4 |
| 30A 125V | L5-30R | Twist-Lock | 15A 125V | 5-15P | Straight Blade | HBL31CM28 | **3D105*** | 90.48 | **72.40** | 1.1 |

*) Not UL Listed.

# PENDANT STATIONS



No. 5C317

- Momentary operation
- For electric motor hoists and remote control of machinery
- Durable yellow polymer housing resists industrial abuse
- No. 5C317 is a two-button single speed pendant with mechanical interlock to prevent actuating both buttons simultaneously; No. 3D319 has no mechanical interlock
- Both fit 0.375-0.625" diameter cords
- Nylon cord grip and sealing ring keep out dust and moisture
- Rated at 6A for 120V and 3A for 240V
- 5C317 has two normally open contacts; 3D319 has a normally open and a normally closed contact
- Operating temperature range: 25 to 140°F (32° to 60°C)
- Approximately 9.2L x 1.1W x 2.4"D
- UL Listed (E12119); CSA Certified (LR12268); NEMA 4X rating

**No. 5C317.** (CPB21) Shpg. wt. 0.8 lbs. List $79.65. Each ..... **$63.75**

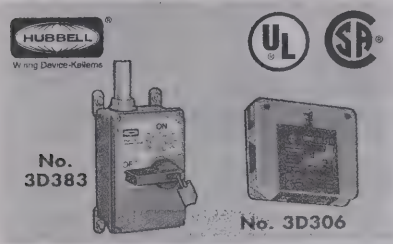
**No. 3D319.** (CPB20) Shpg. wt. 0.8 lbs. List $94.09. Each ..... **$75.30**

## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# DISCONNECT SWITCH, TWIST-LOCK® DEVICES, & WEATHERPROOF BOOTS

## CIRCUIT-LOCK DISCONNECT SWITCH




- Nonmetallic enclosure is NEMA Type 4X, Type 12K
- Galvanized steel internal frame bonds grounds and assures structural integrity
- Horsepower rated disconnect switch
- Accepts auxiliary contact capable of signaling PLC controllers
- Large, high visibility, padlockable, red switch handle accepts a 5/16" padlock for lockout provision
- 3/4" NPT watertight conduit fitting

- Use to provide On/Off switched control of direct wired motor loads.
- Meets NEC Article 430 requirements for a separate disconnect means within sight of all motor loads
- Directly locks wired motor loads in Off position to comply with OSHA lockout/tagout regulations

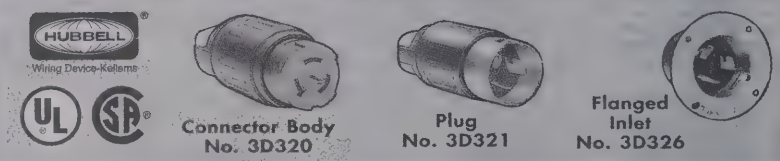
### HP CONVERSION GUIDE

| Amps | Single Phase 120V | Single Phase 208-277V | Single Phase 480V | Three Phase 208-240V | Three Phase 480V | Three Phase 600V | Three Phase 120/208V | Three Phase 277/480V | Three Phase 347/600V |
|---|---|---|---|---|---|---|---|---|---|
| 30 | 1 | 2.5 | 5 | 5 | 10 | 10 | 5 | 15 | 20 |
| 60 | 3 | — | 20 | 7.5 | 20 | 40 | — | — | — |
| 100 | 5 | — | 30 | — | 30 | 50 | — | — | — |

| Description | Type | Rating | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Disconnect Switch | 3 Pole+Earth+Neutral | 30A 600V AC | HBLDS3 | 3D383 | $255.63 | $204.50 | 2.8 |
| Auxiliary Contact Kit | For 30A | 10A 600V AC | ACSE30 | 3D306 | 48.77 | 39.05 | 0.1 |
| Auxiliary Contact Kit | For 60A | A600, 10A 600VAC | ACMI60 | 3D305 | 65.11 | 52.10 | 0.1 |

## 50A TWIST-LOCK® DEVICES

- Used with tools, food processing equipment, portable generators, conveyors, motors, etc.




### PLUGS & CONNECTORS

- Supertough ribbed nylon housing offers superior impact/crush resistance and secure gripping; withstands industrial chemicals, solvents and hydrocarbons
- Three-piece thermoplastic clamp assembly with stainless steel fast lead screws provides durable grip
- 6/6 nylon nose—Rynite terminal cover is heat and impact resistant
- Stainless steel shroud on plugs protects plug blades from damage
- One piece grounding contact on 4 wire devices provides a more reliable grounding system for a safer device
- Box terminal with Allen-head threaded slug permits high clamping pressure on conductors without damaging strands

### RECEPTACLES

- Base provides excellent heat/flame resistance and dimensional stability
- Metallic nose piece can not be distorted to mate with wrong device
- Mounting and grounding system provides low resistance ground path
- Box terminal with threaded slug permits high clamping pressure on conductors without damaging threads

| Type | Rating | Description | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 50A 125V | Receptacle | Black | CS6370 | 3D325 | $87.02 | $69.65 | 0.7 |
| | | Connector Body | Black & White | CS6360C | 3D320 | 114.16 | 91.35 | 1.1 |
| | | Plug | Black & White | CS6361C | 3D321 | 89.61 | 71.70 | 1.2 |
| | 50A 250V | Receptacle | Black | CS8269 | 3D332 | 88.28 | 70.65 | 0.7 |
| | | Connector Body | Black & White | CS8264C | 3D330 | 114.16 | 91.35 | 1.1 |
| | | Plug | Black & White | CS8265C | 3D331 | 93.42 | 74.75 | 1.2 |
| | 50A 480V | Receptacle | Black | CS8469 | 3D338 | 88.28 | 70.65 | 0.7 |
| | | Connector Body | Black & White | CS8464C | 3D336 | 115.43 | 92.40 | 1.1 |
| | | Plug | Black & White | CS8465C | 3D337 | 91.00 | 72.85 | 1.2 |
| | 50A 250V DC 600V AC | Receptacle | Black | 3771 | 3D128 | 153.73 | 123.00 | 0.7 |
| | | Connector Body | Black & White | 3762C | 3D123 | 205.49 | 164.50 | 1.0 |
| | | Plug | Black & White | 3763C | 3D124 | 169.44 | 135.55 | 1.2 |
| 3 Pole 4 Wire | 50A 125/250V | Receptacle | Black | CS6369 | 3D324 | 94.87 | 75.95 | 0.8 |
| | | Connector Body | Black & White | CS6364C | 3D322 | 123.27 | 98.65 | 1.1 |
| | | Plug | Black & White | CS6365C | 3D323 | 94.93 | 75.95 | 1.3 |
| | | Flanged Inlet | Black w/ Steel | CS6375 | 3D326 | 139.05 | 111.25 | 0.8 |
| | 50A 3Ph 250V | Receptacle | Black | CS8369 | 3D335 | 96.02 | 76.85 | 0.8 |
| | | Connector Body | Black & White | CS8364C | 3D333 | 123.27 | 98.65 | 1.1 |
| | | Plug | Black & White | CS8365C | 3D334 | 94.93 | 75.95 | 1.3 |
| | 50A 3Ph 480V | Receptacle | Black | CS8169 | 3D329 | 96.02 | 76.85 | 0.8 |
| | | Connector Body | Black & White | CS8164C | 3D327 | 123.27 | 98.65 | 1.1 |
| | | Plug | Black & White | CS8165C | 3D328 | 94.93 | 75.95 | 1.3 |
| | 50A 250V DC 600V AC | Receptacle | Black | 3769 | 3D127* | 146.52 | 117.25 | 0.8 |
| | | Connector Body | Black & White | 3764C | 3D125* | 209.91 | 168.00 | 1.1 |
| | | Plug | Black & White | 3765C | 3D126* | 142.92 | 114.35 | 1.3 |
| | 50A 250V DC 600V AC | Receptacle | Black | 7379 | 3D245† | 166.66 | 133.35 | 0.8 |
| | | Connector Body | Black & White | 7764C | 3D274† | 166.86 | 133.50 | 1.1 |
| | | Plug | Black & White | 7765C | 3D275† | 160.65 | 128.50 | 1.3 |

(*) Nos. 3D125, 3D126, and 3D127 do not interchange with any other devices in this section.
(†) Nos. 3D245, 3D274, and 3D275 for replacement use only. See other singly-rated 50A Twist-Lock® devices above.

## WEATHERPROOF BOOTS

### WEATHERPROOF BOOTS SPECIFICATIONS AND ORDERING DATA

| Description | Color | Hubbell Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Short Seal-Tite Boot for 50A Plugs | Black | 7716C | 3D272 | $46.29 | $37.05 | $33.33 | 0.3 |
| Long Seal-Tite Boot for 50A Connector Bodies | Black | 7717C | 3D273 | 46.31 | 37.05 | 33.34 | 0.4 |

- For tools, extension cords, & food processing equipment exposed to water, mud, and other liquids
- Elastomer material withstands harmful UV rays and many chemicals
- Heavy hand-grip knurl provides an improved no-slip gripping area
- Covers easily slip over device housin without requiring cable removal



When the spec calls for brand names, you'll find the best here.

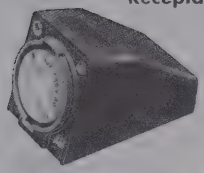
# SAFETY SHROUD™ TWIST-LOCK® SYSTEM

SAFETY-SHROUD ™ TWIST-LOCK® SYSTEM

HUBBELL Wiring Device-Kellems

WATERTIGHT SAFETY-SHROUD ™ TWIST-LOCK® SYSTEM

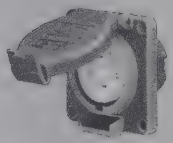
No. 4CV48 Angle Housing Receptacle



No. 4CV49 Surface Mounting Receptacle



No. 4CV51 Receptacle

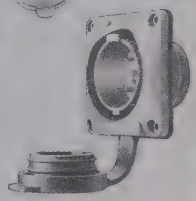


No. 4CV53 Male Plug





No. 4CV54 Connector Body



No. 4CV50 Semi-flush Receptacle



No. 4CV52 Safety-Shroud™ Plug



No. 4CV55 Male Inlet

## SAFETY-SHROUD™ TWIST-LOCK® SYSTEM

APPLICATIONS

- General manufacturing, assembly areas, shipyards, utilities, convention centers, and construction sites ,
- Use in heavy-duty industrial areas, tools, portable generators, conveyors, motors, and portable lighting

LISTINGS AND CERTIFICATIONS

- UL Listed and CSA Certified

SAFETY-SHROUD™ PLUG FEATURES AND BENEFITS

- Helps eliminate bent and broken plug blades
- Mates with most NEMA locking connector bodies
- Provides protection to personnel by reducing the chance of inadvertent contact with blades when connecting or disconnecting energized devices
- Reduces exposure to arcing when disconnecting and connecting plugs under load
- Lockout/tagout hole allows compliance to OSHA regulation 29 CFR 1910.147
- Allows engagement with mechanical interlock enclosure which helps prevent make and break under load

SAFETY-SHROUD™ RECEPTACLE FEATURES AND BENEFITS

- Semi-flush receptacle mounting provides lowest installed profile when plug is not in use with receptacle. Designed for installation on 2 gang boxes
- Straight receptacle housing provides a low installed profile when the plug is not in use with receptacle. Designed for installation on single gang boxes
- Angle receptacle housing provides low installed profile when plug is in use with receptacle. Designed for use on single gang boxes
- Internal keying on receptacle aligns blades for quick mating of devices
- Accepts all NEMA locking plugs, allowing interchangeability with existing devices

## WATERTIGHT SAFETY-SHROUD™ TWIST-LOCK® SYSTEM

APPLICATIONS

- Food processing, pharmaceuticals, paper industry, shipyards and general manufacturing facilities
- Watertight Safety-Shroud™ Twist-Lock® will perform in any hostile environment

LISTINGS AND CERTIFICATIONS

- UL Listed and CSA Certified: Type 4, 4X, 12
- IP66 Suitability
- Compliance with California Code of Regulations Title 8, Article 51, Subsection 2510.7(b), which requires shrouding for devices exceeding 300 volts

SAFETY-SHROUD™ PLUG FEATURES AND BENEFITS

- Helps eliminate bent and broken plug blades, leading to longer equipment life
- Extends life of mating receptacles by eliminating damage caused by insertion of bent blades
- Extra protection of personnel by significantly reducing chance of inadvertent contact with blades when connecting or disconnecting energized receptacles or connectors
- Reduces exposure to arcing when connecting or disconnecting plugs under load
- Lockout/tagout hole allows compliance with OSHA regulation 29 CFR 1910.147
- Sealing gland and thermoplastic guard assure sealing when fully connected

SAFETY-SHROUD™ PANEL OR BOX MOUNT RECEPTACLES AND INLETS FEATURES AND BENEFITS

- One-step push-to-close spring-loaded cover with latch allows for fast opening and closing of lift cover. Result: environmental sealing is assured
- High impact, thermoplastic housing for heavy-duty industrial environments
- Mfg. number and color-coded voltage rating are easily visible when in use

CONTINUED ON NEXT PAGE

# SAFETY-SHROUD™ TWIST-LOCK®

## ORDERING DATA

| Rating | Amperage | Voltage | NEMA Number | AC HP Rating | Description | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 20 Amps | 125 | L5-20 | 1 | Angle Housing Receptacle | HBL2310AR | 4CT60 | $25.22 | $20.18 | 0.7 |
| | | 125 | L5-20 | 1 | Surface Mounting Receptacle | HBL2310SR | 4CT61 | 25.19 | 20.16 | 0.5 |
| | | 125 | L5-20 | 1 | Semi-flush Receptacle | HBL2310SR2 | 4CT62 | 25.31 | 20.25 | 0.5 |
| | | 125 | L5-20 | 1 | Safety-Shroud Male Plug | HBL2311S | 4CT64 | 19.76 | 15.81 | 0.4 |
| | | 125 | L5-20 | 1 | Twist-Lock Connector Body | HBL2313 | 4A260 | 30.70 | 24.57 | 0.3 |
| | | 125 | L5-20 | 1 | Twist-Lock Flanged Male Inlet | HBL2315 | 3D034 | 25.89 | 20.71 | 0.1 |
| | | 250* | L6-20 | 2 | Angle Housing Receptacle | HBL2320AR | 4CT68 | 25.22 | 20.18 | 0.7 |
| | | 250* | L6-20 | 2 | Surface Mounting Receptacle | HBL2320SR | 4CT69 | 25.19 | 20.16 | 0.5 |
| | | 250* | L6-20 | 2 | Semi-flush Receptacle | HBL2320SR2 | 4CT70 | 25.19 | 20.16 | 0.5 |
| | | 250* | L6-20 | 2 | Safety-Shroud Male Plug | HBL2321S | 4CT72 | 19.76 | 15.81 | 0.4 |
| | | 250* | L6-20 | 2 | Twist-Lock Connector Body | HBL2323 | 5A082 | 30.70 | 24.57 | 0.3 |
| | | 250* | L6-20 | 2 | Twist-Lock Flanged Male Inlet | HBL2325 | 3D036 | 25.89 | 20.71 | 0.1 |
| | | 277V AC | L7-20 | 2 | Angle Mounting Receptacle | HBL2330AR | 4CT76 | 29.79 | 23.83 | 0.7 |
| | | 277V AC | L7-20 | 2 | Surface Mounting Receptacle | HBL2330SR | 4CT77 | 29.76 | 23.81 | 0.5 |
| | | 277V AC | L7-20 | 2 | Semi flush Receptacle | HBL2330SR2 | 4CT78 | 29.76 | 23.81 | 0.5 |
| | | 277V AC | L7-20 | 2 | Safety-Shroud Plug | HBL2331S | 4CT80 | 23.34 | 18.68 | 0.4 |
| | | 277V AC | L7-20 | 2 | Twist-Lock Connector Body | HBL2333 | 5Z901 | 30.82 | 24.66 | 0.3 |
| | | 277V AC | L7-20 | 2 | Twist-Lock Flanged Male Inlet | HBL2335 | 3D559 | 25.90 | 20.72 | 0.2 |
| 3 Pole 4 Wire | 20 Amps | 125/250 | L14-20 | 2 | Angle Housing Receptacle | HBL2410AR | 4CT84 | 35.36 | 28.30 | 0.7 |
| | | 125/250 | L14-20 | 2 | Surface Mounting Receptacle | HBL2410SR | 4CT85 | 35.34 | 28.30 | 0.5 |
| | | 125/250 | L14-20 | 2 | Semi-flush Receptacle | HBL2410SR2 | 4CT86 | 35.34 | 28.30 | 0.5 |
| | | 125/250 | L14-20 | 2 | Safety-Shroud Male Plug | HBL2411S | 4CT88 | 30.02 | 24.02 | 0.4 |
| | | 125/250 | L14-20 | 2 | Twist-Lock Connector Body | HBL2413 | 4A266 | 42.00 | 33.65 | 0.3 |
| | | 125/250 | L14-20 | 2 | Twist-Lock Flanged Male Inlet | HBL2415 | 3D047 | 36.40 | 29.15 | 0.3 |
| | | 3 Phase 250V AC | L15-20 | 3 | Angle Housing Receptacle | HBL2420AR | 4CT92 | 35.48 | 28.40 | 0.7 |
| | | 3 Phase 250V AC | L15-20 | 3 | Surface Mounting Receptacle | HBL2420SR | 4CT93 | 35.45 | 28.40 | 0.5 |
| | | 3 Phase 250V AC | L15-20 | 3 | Semi flush Receptacle | HBL2420SR2 | 4CT94 | 35.45 | 28.40 | 0.5 |
| | | 3 Phase 250V AC | L15-20 | 3 | Safety-Shroud Plug | HBL2421S | 4CT96 | 32.11 | 25.70 | 0.5 |
| | | 3 Phase 250V AC | L15-20 | 3 | Twist-Lock Connector Body | HBL2423 | 4A269 | 42.01 | 33.65 | 0.4 |
| | | 3 Phase 250V AC | L15-20 | 3 | Twist-Lock Flanged Male Inlet | HBL2425 | 3D566 | 36.40 | 29.15 | 0.3 |
| | | 3 Phase 480V AC | L16-20 | 5 | Angle Housing Receptacle | HBL2430AR | 4CV01 | 36.05 | 28.85 | 0.7 |
| | | 3 Phase 480V AC | L16-20 | 5 | Surface Mounting Receptacle | HBL2430SR | 4CV02 | 36.03 | 28.85 | 0.5 |
| | | 3 Phase 480V AC | L16-20 | 5 | Semi flush Receptacle | HBL2430SR2 | 4CV03 | 36.03 | 28.85 | 0.5 |
| | | 3 Phase 480V AC | L16-20 | 5 | Safety-Shroud Plug | HBL2431S | 4CV05 | 32.34 | 25.90 | 0.5 |
| | | 3 Phase 480V AC | L16-20 | 5 | Twist-Lock Connector Body | HBL2433 | 6A663 | 51.28 | 41.05 | 0.5 |
| | | 3 Phase 480V AC | L16-20 | 5 | Twist-Lock Flanged Male Inlet | HBL2435 | 3D572 | 46.97 | 37.60 | 0.3 |
| 4 Pole 5 Wire | 20 Amps | 3 Phase Y 120/208V | L21-20 | 2 | Angle Housing Receptacle | HBL2510AR | 4CV09 | 46.13 | 36.90 | 0.7 |
| | | 3 Phase Y 120/208V | L21-20 | 2 | Surface Mounting Receptacle | HBL2510SR | 4CV10 | 46.10 | 36.90 | 0.5 |
| | | 3 Phase Y 120/208V | L21-20 | 2 | Semi flush Receptacle | HBL2510SR2 | 4CV11 | 46.10 | 36.90 | 0.5 |
| | | 3 Phase Y 120/208V | L21-20 | 2 | Safety-Shroud Plug | HBL2511S | 4CV13 | 45.56 | 36.45 | 0.5 |
| | | 3 Phase Y 120/208V | L21-20 | 2 | Twist-Lock Connector Body | HBL2513 | 5Z906 | 66.24 | 53.00 | 0.5 |
| | | 3 Phase Y 120/208V | L21-20 | 2 | Twist Lock Flanged Male Inlet | HBL2515 | 5C995 | 59.15 | 47.35 | 0.3 |
| 2 Pole 3 Wire | 30 Amps | 125 | L5-30 | 2 | Angle Housing Receptacle | HBL2610AR | 4CV17 | 35.71 | 28.60 | 0.7 |
| | | 125 | L5-30 | 2 | Surface Mounting Receptacle | HBL2610SR | 4CV18 | 35.68 | 28.55 | 0.5 |
| | | 125 | L5-30 | 2 | Semi-flush Receptacle | HBL2610SR2 | 4CV19 | 35.68 | 28.55 | 0.5 |
| | | 125 | L5-30 | 2 | Safety-Shroud Plug | HBL2611S | 4CV20 | 30.73 | 24.59 | 0.5 |
| | | 125 | L5-30 | 2 | Twist-Lock Connector Body | HBL2613 | 4A263 | 61.14 | 48.95 | 0.3 |
| | | 125 | L5-30 | 2 | Twist-Lock Flanged Male Inlet | HBL2615 | 3D072 | 46.05 | 36.85 | 0.1 |
| | | 250* | L6-30 | 2 | Angle Housing Receptacle | HBL2620AR | 4CV24 | 38.59 | 30.90 | 0.7 |
| | | 250* | L6-30 | 2 | Surface Mounting Receptacle | HBL2620SR | 4CV25 | 38.57 | 30.90 | 0.5 |
| | | 250* | L6-30 | 2 | Semi-flush Receptacle | HBL2620SR2 | 4CV26 | 38.57 | 30.90 | 0.5 |
| | | 250* | L6-30 | 2 | Safety-Shroud Plug | HBL2621S | 4CV28 | 30.94 | 24.76 | 0.4 |
| | | 250* | L6-30 | 2 | Twist-Lock Connector Body | HBL2623 | 5A088 | 61.59 | 49.30 | 0.2 |
| | | 250* | L6-30 | 2 | Twist-Lock Flanged Male Inlet | HBL2625 | 3D074 | 46.05 | 36.85 | 0.1 |
| 3 Pole 4 Wire | 30 Amps | 125/250 | L14-30 | 2 | Angle Housing Receptacle | HBL2710AR | 4CV32 | 56.00 | 44.85 | 0.7 |
| | | 125/250 | L14-30 | 2 | Surface Mounting Receptacle | HBL2710SR | 4CV33 | 55.98 | 44.80 | 0.5 |
| | | 125/250 | L14-30 | 2 | Semi-flush Receptacle | HBL2710SR2 | 4CV34 | 55.98 | 44.80 | 0.5 |
| | | 125/250 | L14-30 | 2 | Safety-Shroud Plug | HBL2711S | 4CV36 | 41.10 | 32.90 | 0.5 |
| | | 125/250 | L14-30 | 2 | Twist-Lock Connector Body | HBL2713 | 6A657 | 84.92 | 67.95 | 0.5 |
| | | 125/250 | L14-30 | 2 | Twist-Lock Flanged Male Inlet | HBL2715 | 3D090 | 57.79 | 46.25 | 0.3 |
| | | 3 Phase 250V AC | L15-30 | 3 | Angle Housing Receptacle | HBL2720AR | 4CV40 | 56.35 | 45.10 | 0.7 |
| | | 3 Phase 250V AC | L15-30 | 3 | Surface Mounting Receptacle | HBL2720SR | 4CV41 | 56.32 | 45.10 | 0.5 |
| | | 3 Phase 250V AC | L15-30 | 3 | Semi-flush Receptacle | HBL2720SR2 | 4CV42 | 56.32 | 45.10 | 0.5 |
| | | 3 Phase 250V AC | L15-30 | 3 | Safety-Shroud Plug | HBL2721S | 4CV44 | 41.33 | 33.10 | 0.5 |
| | | 3 Phase 250V AC | L15-30 | 3 | Twist-Lock Connector Body | HBL2723 | 4A272 | 85.15 | 68.15 | 0.5 |
| | | 3 Phase 250V AC | L15-30 | 3 | Twist-Lock Flanged Male Inlet | HBL2725 | 3D092 | 57.79 | 46.25 | 0.3 |
| | | 3 Phase 480V AC | L16-30 | 10 | Angle Housing Receptacle | HBL2730AR | 4CV48 | 56.58 | 45.30 | 0.7 |
| | | 3 Phase 480V AC | L16-30 | 10 | Surface Mounting Receptacle | HBL2730SR | 4CV49 | 56.55 | 45.25 | 0.5 |
| | | 3 Phase 480V AC | L16-30 | 10 | Semi-flush Receptacle | HBL2730SR2 | 4CV50 | 56.55 | 45.25 | 0.5 |
| | | 3 Phase 480V AC | L16-30 | 10 | Safety-Shroud Plug | HBL2731S | 4CV52 | 41.56 | 33.30 | 0.5 |
| | | 3 Phase 480V AC | L16-30 | 10 | Twist Lock Connector Body | HBL2733 | 6A660 | 103.58 | 82.90 | 0.5 |
| | | 3 Phase 480V AC | L16-30 | 10 | Twist-Lock Flanged Male Inlet | HBL2735 | 3D641 | 74.58 | 59.70 | 0.3 |
| | | 3 Phase 600V AC | L17-30 | N/A | Angle Housing Receptacle | HBL2740AR | 4CV56 | 54.96 | 44.00 | 0.7 |
| | | 3 Phase 600V AC | L17-30 | N/A | Surface Mounting Receptacle | HBL2740SR | 4CV57 | 54.94 | 44.00 | 0.5 |
| | | 3 Phase 600V AC | L17-30 | N/A | Semi-flush Receptacle | HBL2740SR2 | 4CV58 | 54.94 | 44.00 | 0.5 |
| | | 3 Phase 600V AC | L17-30 | N/A | Safety-Shroud Plug | HBL2741S | 4CV60 | 42.03 | 33.65 | 0.5 |
| | | 3 Phase 600V AC | L17-30 | N/A | Twist-Lock Connector Body | HBL2743 | 3D097 | 103.84 | 83.10 | 0.4 |
| | | 3 Phase 600V AC | L17-30 | N/A | Twist-Lock Flanged Male Inlet | HBL2745 | 3D642 | 74.92 | 59.95 | 0.3 |

(*) Suitable for 208VAC.

CONTINUED ON NEXT PAGE

# SAFETY-SHROUD™ AND WATERTIGHT SAFETY-SHROUD™ TWIST-LOCK® SYSTEM

## SAFETY-SHROUD™ TWIST-LOCK® ORDERING DATA

| Rating | Amps | Voltage | NEMA Number | AC HP Rating | Description | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Pole, 5 Wire | 30 | 3 Phase Y 120/208 AC | L21-30 | 3 | Angle Housing Receptacle | HBL2810AR | **4CV64** | $70.51 | **$56.45** | 0.7 |
| | | 3 Phase Y 120/208 AC | L21-30 | 3 | Surface Mounting Receptacle | HBL2810SR | **4CV65** | 70.48 | **56.40** | 0.5 |
| | | 3 Phase Y 120/208 AC | L21-30 | 3 | Semi-flush Receptacle | HBL2810SR2 | **4CV66** | 70.48 | **56.40** | 0.5 |
| | | 3 Phase Y 120/208 AC | L21-30 | 3 | Safety-Shroud Plug | HBL2811S | **4CV68** | 54.00 | **43.20** | 0.5 |
| | | 3 Phase Y 120/208 AC | L21-30 | 3 | Twist-Lock Connector Body HBL | 2813 | **1X984** | 84.22 | **67.40** | 0.5 |
| | | 3 Phase Y 120/208 AC | L21-30 | 3 | Twist-Lock Flanged Male Inlet HBL | HBL2815 | **3D103** | 61.46 | **49.20** | 0.3 |
| Wire | 20 & 30 | — | — | — | Add-A-Shroud Device for Twist-Lock Plugs | HBLSS3 | **4CV82** | 9.92 | **7.94** | 0.1 |
| & 5 Wire | 20 & 30 | — | — | — | Add-A-Shroud Device for Twist-Lock Plugs | HBLSS45 | **4CV83** | 10.38 | **8.31** | 0.1 |
| & 5 Wire | 20 & 30 | — | — | — | Non-Metallic Back Box : Type 4X | BB2030N | **4CT37** | 39.45 | **31.60** | 0.5 |

## WATERTIGHT SAFETY-SHROUD™ TWIST-LOCK® ORDERING DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pole Wire | 20 Amps | 125 | L5-20 | 1 | Receptacle | HBL2310SW | **4CT63** | 73.62 | **58.90** | 0.5 |
| | | 125 | L5-20 | 1 | Male Plug | HBL2311SW | **4CT65** | 59.32 | **47.50** | 0.5 |
| | | 125 | L5-20 | 1 | Connector Body | HBL2313SW | **4CT66** | 66.48 | **53.20** | 0.6 |
| | | 125 | L5-20 | 1 | Male Inlet | HBL2315SW | **4CT67** | 50.49 | **40.40** | 0.7 |
| | | 250 | L6-20 | 2* | Receptacle | HBL2320SW | **4CT71** | 73.63 | **58.95** | 0.6 |
| | | 250 | L6-20 | 2* | Male Plug | HBL2321SW | **4CT73** | 59.33 | **47.50** | 0.6 |
| | | 250 | L6-20 | 2* | Connector Body | HBL2323SW | **4CT74** | 66.48 | **53.20** | 0.6 |
| | | 250 | L6-20 | 2* | Male Inlet | HBL2325SW | **4CT75** | 53.49 | **42.80** | 0.7 |
| | | 277 | L7-20 | 2 | Receptacle | HBL2330SW | **4CT79** | 86.98 | **69.60** | 0.6 |
| | | 277 | L7-20 | 2 | Male Plug | HBL2331SW | **4CT81** | 70.09 | **56.10** | 0.6 |
| | | 277 | L7-20 | 2 | Connector Body | HBL2333SW | **4CT82** | 78.53 | **62.85** | 0.6 |
| | | 277 | L7-20 | 2 | Male Inlet | HBL2335SW | **4CT83** | 66.52 | **53.25** | 0.7 |
| Pole Wire | 20 Amps | 125/250 | L14-20 | 2 | Receptacle | HBL2410SW | **4CT87** | 76.05 | **60.85** | 0.6 |
| | | 125/250 | L14-20 | 2 | Male Plug | HBL2411SW | **4CT89** | 64.19 | **51.40** | 0.7 |
| | | 125/250 | L14-20 | 2 | Connector Body | HBL2413SW | **4CT90** | 80.79 | **64.65** | 0.7 |
| | | 125/250 | L14-20 | 2 | Male Inlet | HBL2415SW | **4CT91** | 58.93 | **47.15** | 0.7 |
| | | 3 Phase 250V AC | L15-20 | 3 | Receptacle | HBL2420SW | **4CT95** | 76.05 | **60.85** | 0.6 |
| | | 3 Phase 250V AC | L15-20 | 3 | Male Plug | HBL2421SW | **4CT97** | 64.19 | **51.40** | 0.7 |
| | | 3 Phase 250V AC | L15-20 | 3 | Connector Body | HBL2423SW | **4CT98** | 80.79 | **64.65** | 0.7 |
| | | 3 Phase 250V AC | L15-20 | 3 | Male Inlet | HBL2425SW | **4CT99** | 58.93 | **47.15** | 0.7 |
| | | 3 Phase 480V AC | L16-20 | 5 | Receptacle | HBL2430SW | **4CV04** | 76.05 | **60.85** | 0.6 |
| | | 3 Phase 480V AC | L16-20 | 5 | Male Plug | HBL2431SW | **4CV06** | 64.19 | **51.40** | 0.7 |
| | | 3 Phase 480V AC | L16-20 | 5 | Connector Body | HBL2433SW | **4CV07** | 80.79 | **64.65** | 0.7 |
| | | 3 Phase 480V AC | L16-20 | 5 | Male Inlet | HBL2435SW | **4CV08** | 58.93 | **47.15** | 0.7 |
| Pole Wire | 20 Amps | 3 Phase Y 120/208V AC | L21-20 | 2 | Receptacle | HBL2510SW | **4CV12** | 87.93 | **70.35** | 0.6 |
| | | 3 Phase Y 120/208V AC | L21-20 | 2 | Male Plug | HBL2511SW | **4CV14** | 76.06 | **60.90** | 0.7 |
| | | 3 Phase Y 120/208V AC | L21-20 | 2 | Connector Body | HBL2513SW | **4CV15** | 87.94 | **70.40** | 0.7 |
| | | 3 Phase Y 120/208V AC | L21-20 | 2 | Male Inlet | HBL2515SW | **4CV16** | 73.10 | **58.50** | 0.7 |
| Pole Wire | 30 Amps | 125 | L5-30 | 2 | Receptacle | HBL2610SW | **3HZ79** | 80.78 | **64.65** | 0.6 |
| | | 125 | L5-30 | 2 | Male Plug | HBL2611SW | **4CV21** | 87.94 | **70.40** | 0.7 |
| | | 125 | L5-30 | 2 | Connector Body | HBL2613SW | **4CV22** | 90.24 | **72.25** | 0.7 |
| | | 125 | L5-30 | 2 | Male Inlet | HBL2615SW | **4CV23** | 103.88 | **83.10** | 0.7 |
| | | 250 | L6-30 | 2* | Receptacle | HBL2620SW | **4CV27** | 80.78 | **64.65** | 0.6 |
| | | 250 | L6-30 | 2* | Male Plug | HBL2621SW | **4CV29** | 87.94 | **70.40** | 0.7 |
| | | 250 | L6-30 | 2* | Connector Body | HBL2623SW | **4CV30** | 90.23 | **72.20** | 0.6 |
| | | 250 | L6-30 | 2* | Male Inlet | HBL2625SW | **4CV31** | 103.88 | **83.10** | 0.7 |
| Pole Wire | 30 Amps | 125/250 | L14-30 | 2 | Receptacle | HBL2710SW | **4CV35** | 90.23 | **72.20** | 0.6 |
| | | 125/250 | L14-30 | 2 | Male Plug | HBL2711SW | **4CV37** | 95.09 | **76.10** | 0.7 |
| | | 125/250 | L14-30 | 2 | Connector Body | HBL2713SW | **4CV38** | 99.69 | **79.80** | 0.6 |
| | | 125/250 | L14-30 | 2 | Male Inlet | HBL2715SW | **4CV39** | 115.05 | **92.05** | 0.7 |
| | | 3 Phase 250V AC | L15-30 | 3 | Receptacle | HBL2720SW | **4CV43** | 90.23 | **72.20** | 0.6 |
| | | 3 Phase 250V AC | L15-30 | 3 | Male Plug | HBL2721SW | **4CV45** | 95.09 | **76.10** | 0.7 |
| | | 3 Phase 250V AC | L15-30 | 3 | Connector Body | HBL2723SW | **4CV46** | 99.69 | **79.80** | 0.6 |
| | | 3 Phase 250V AC | L15-30 | 3 | Male Inlet | HBL2725SW | **4CV47** | 115.05 | **92.05** | 0.7 |
| | | 3 Phase 480V AC | L16-30 | 10 | Receptacle | HBL2730SW | **4CV51** | 90.23 | **72.20** | 0.6 |
| | | 3 Phase 480V AC | L16-30 | 10 | Male Plug | HBL2731SW | **4CV53** | 95.09 | **76.10** | 0.7 |
| | | 3 Phase 480V AC | L16-30 | 10 | Connector Body | HBL2733SW | **4CV54** | 99.70 | **79.80** | 0.7 |
| | | 3 Phase 480V AC | L16-30 | 10 | Male Inlet | HBL2735SW | **4CV55** | 115.05 | **92.05** | 0.7 |
| | | 3 Phase 600V | L17-30 | 10 | Receptacle | HBL2740SW | **4CV59** | 90.23 | **72.20** | 0.6 |
| | | 3 Phase 600V | L17-30 | 10 | Male Plug | HBL2741SW | **4CV61** | 95.09 | **76.10** | 0.7 |
| | | 3 Phase 600V | L17-30 | 10 | Connector Body | HBL2743SW | **4CV62** | 117.76 | **94.20** | 0.6 |
| | | 3 Phase 600V | L17-30 | 10 | Male Inlet | HBL2745SW | **4CV63** | 115.05 | **92.05** | 0.7 |
| Pole Wire | 30 Amps | 3 Phase Y 120/208V AC | L21-30 | 3 | Receptacle | HBL2810SW | **4CV67** | 102.22 | **81.80** | 0.6 |
| | | 3 Phase Y 120/208V AC | L21-30 | 3 | Male Plug | HBL2811SW | **4CV69** | 118.84 | **95.10** | 0.7 |
| | | 3 Phase Y 120/208V AC | L21-30 | 3 | Connector Body | HBL2813SW | **4CV70** | 118.83 | **95.10** | 0.6 |
| | | 3 Phase Y 120/208V AC | L21-30 | 3 | Male Inlet | HBL2815SW | **4CV71** | 137.38 | **109.90** | 0.7 |

Also suitable for 208V. Only receptacles and plugs 480V AC or less are HP rated.
NOTE: Watertight Safety-Shroud™ receptacles can be used with Type 4X mechnically interlocked Twist-Lock® enclosure No. 4CV76.

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

# CIRCUIT-LOCK FUSED MECHANICAL INTERLOCK DEVICES

**APPLICATIONS**

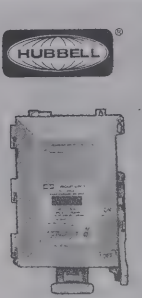
- Factories, convention centers, job sites
- Used on welders, conveyors, portable motors, food processing equipment

**LISTING & APPROVALS**

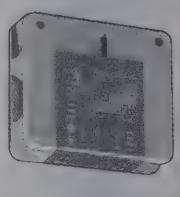
- UL Listed & CSA Certified

**FEATURES & BENEFITS**

- Incorporates fused disconnect switch and receptacle in one compact, non-metallic unit
- Helps meet NEC requirement for a separate disconnect means within sight of all motor loads; provides over-current protection at point-of-use
- Mechanism detects presence of plug, and if plug is inserted properly, switch engages and turns ON. Eliminates abuse and handle breakage due to heavily applied forces when plug is incorrectly mated
- Rated as a watertight NEMA 4X, 12K enclosure
- Nonmetallic enclosure can be connected to metallic conduit and not interfere with ground continuity
- Use appropriate Class J time delay fuse
- Handle accepts up to 5/16" padlock shackle and can be locked in off position for compliance with OSHA lockout requirements
- Offset conduit entry prevents condensation from falling directly on interior electrical components
- Horsepower rated disconnect switch handles large motor loads
- Adjustable mounting feet can be used in three positions for tight fit applications and are ductile to allow mounting on irregular surfaces
- Auxiliary contact kit permits the use of control circuits to signal external equipment, especially PLC controllers



No. 3D148



No. 3D303

| Type | Rating | HP | Accepts Plug No.* | Hubbell Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| 3 Pole 4 Wire | 30A 3Ph 240V | 7.5 | 5Z938 (HBL430P9W) | HBL430F9W | **3D148** | $1938.09 | **$1551.00** | 17.0 |
| | 30A 3Ph 480V | 15 | 5Z941 (HBL430P7W) | HBL430MIF7W | **3D147** | 1938.09 | **1551.00** | 17.0 |
| | 30A 3Ph 600V | 20 | 3D150(HBL430P5W) | HBL430MIF5W | **3D146** | 1938.09 | **1551.00** | 17.0 |
| | 60A 3Ph 240V | 15 | 5Z914 (HBL460P9W) | HBL460MIF9W | **3D161** | 2048.43 | **1639.00** | 19.0 |
| | 60A 3Ph 480V | 30 | 5Z917 (HBL460P7W) | HBL460MIF7W | **3D160** | 2048.14 | **1639.00** | 17.0 |
| | 60A 3Ph 600V | 40 | 3D162(HBL460P5W) | HBL460MIF5W | **3D159** | 2048.43 | **1639.00** | 19.0 |
| Auxiliary Contact Kit, Fused Switch, Normally Closed ACFSNC, 10A Contact Rating | | | | | **3D302** | 81.32 | **65.05** | 0.1 |
| Auxiliary Contact Kit, Fused Switch, Normally Open ACFSNO, 10A Contact Rating | | | | | **3D303** | 81.32 | **65.05** | 0.1 |

# CIRCUIT-LOCK UNFUSED MECHANICIAL INTERLOCK DEVICES

**APPLICATIONS**

- Factories, convention centers, job sites
- Used on welders, conveyors, portable motors, food processing equipment

**LISTING & APPROVALS**

- UL Listed & CSA Certified

**FEATURES & BENEFITS**

- Unit incorporates disconnect switch and receptacle
- Helps meet NEC requirement for a separate disconnect means within sight of all motor loads
- Switch cannot be turned ON until plug is inserted properly; plug cannot be removed until switch is turned OFF
- Nonmetallic enclosure can be connected to metallic conduit with no ground continuity interfere
- Rated as watertight NEMA 4X, 12K enclosure
- Horsepower rated disconnect switch
- 3-position adjustable mounting feet
- Auxiliary contact kit permits use of control circuits to signal external equipment, especially PLC controllers




No. 6C574

| Type | Rating | HP | Accepts Plug No.* | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 100A, 240V | 15 | 5Z923 (HBL3100P6W) | HBL3100MI6W | **4CT25** | $1411.43 | **$1130.00** | 9.0 |
| 3 Pole 4 Wire | 30A, 3Ph 240V | 7.5 | 5Z938 (HBL430P9W) | HBL430MI9W | **6C574** | 1099.74 | **880.00** | 6.2 |
| | 30A, 3Ph 480V | 15 | 5Z941 (HBL430P7W) | HBL430MI7W | **6C573** | 1099.71 | **880.00** | 6.0 |
| | 30A, 3Ph 600V | 20 | 3D150 (HBL430P5W) | HBL430MI5W | **6C572** | 1099.75 | **880.00** | 6.3 |
| | 60A, 3Ph 240V | 15 | 5Z914 (HBL460P9W) | HBL460MI9W | **6C583** | 1502.83 | **1203.00** | 8.6 |
| | 60A, 3Ph 480V | 30 | 5Z917 (HBL460P7W) | HBL460MI7W | **6C582** | 1502.67 | **1203.00** | 7.5 |
| | 60A, 3Ph 600V | 40 | 3D162 (HBL460P5W) | HBL460MI5W | **6C581** | 1502.67 | **1203.00** | 7.5 |
| | 100A, 3Ph 600V | 50 | 3D132 (HBL4100P5W) | HBL4100MI5W | **4CT26** | 1475.54 | **1181.00** | 9.0 |
| | 100A, 3Ph 480V | 50 | 5Z926 (HBL4100P7W) | HBL4100MI7W | **4CT27** | 1475.54 | **1181.00** | 9.0 |
| | 100A, 3Ph 240V | 25 | 6C556 (HBL4100P9W) | HBL4100MI9W | **3HZ77** | 1475.50 | **1181.00** | 8.7 |
| | 100A, 3Ph Y 120 / 208V | 20 | 5Z929 (HBL5100P9W) | HBL5100MI9W | **4CT28** | 1526.85 | **1222.00** | 9.0 |
| 4 Pole 5 Wire | 60A, 3Ph 120 / 208V | 15 | 5Z920 (HBL560P9W) | HBL560MI9W | **6C609** | 1673.33 | **1339.00** | 7.5 |
| | 60A, 3Ph 347 / 600V | 40 | 3D919 (HBL560P5W) | HBL560MI5W | **6C608** | 1673.17 | **1339.00** | 8.5 |
| Auxiliary Contact Kit, 30A Mechanical Interlock, 10A Contact Rating | | | | ACMI30 | **3D304** | 18.91 | **39.15** | 0.1 |
| Auxiliary Contact Kit, 60A and 100A Mech. Interlock, 10A Contact Rating | | | | ACMI60 | **3D305** | 65.11 | **52.10** | 0.1 |

(*) Plugs can be found on page 722 and 723

# SWITCHED TWIST-LOCK® ENCLOSURES




No.6C655

- Receptacle (not included, order separately) is angled down to provide low profile and helps control cable arc of bend
- Compact design rated NEMA 3R and 12K
- Large, replaceable, gasketless door and hinge assembly provides easy access and weatherproofing
- Movable feet may be used in horizontal or vertical position, or may be removed and premarked holes drilled for Type 1 or 3R installations
- Complies with OSHA lockout requirements
- No. 4CV76 is a Type 4X mechanically interlocked Twist-Lock® enclosure that accepts any 20A or 30A Hubbell watertight safety-shroud Twist-Lock® receptacle (receptacle not included)

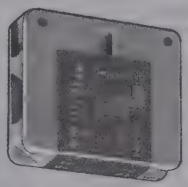
| Description | NEMA Config. | Receptacle Rating | HP Rating | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Switched Enclosure Without Receptacle | None | Based on Receptacle Selected | Based on Receptacle Selected | SETL3 | **6C655** | $240.39 | **$192.50** | 3.8 |
| Type 4X Switched Enclosure | None | Based on Receptacle Selected | Based on Receptacle Selected | HBLMITL | **4CV76** | 373.67 | **299.00** | 3.4 |
| Auxiliary Contact Kit for 30A Switched Enclosure (NO/NC Contacts) | — | 10A, A600 Pilot Duty | — | ACSE30 | **3D306** | 48.77 | **39.05** | 0.1 |

# CIRCUIT-LOCK FUSED DISCONNECT SWITCH

- Applications include industrial, institutional, hospital, and agricultural
- Used to provide on/off switched control of direct wired motor loads
- UL Listed and CSA Certified
- Accepts J class fuses for superior interrupting ability
- Fuses cannot be accessed until switch is turned OFF for safety
- Meets NEC Article 430 requirements for separate disconnect means within sight of all motor loads
- Offers ability to lock directly wired motor loads in OFF position to comply with OSHA lockout/tagout regulations
- Nonmetallic enclosure is NEMA Type 4X (washdown, corrosion resistant) and Type 12K (dust-tight)
- Galvanized steel internal frame bonds grounds and assures structural integrity
- Horsepower rated disconnect switch for making and breaking under loads
- Accepts auxiliary contact capable of signalling PLC controllers
- Large, high visibility, padlockable, red switch handle accepts 5/16" padlock for lockout provision
- Two 3/4" NPT watertight conduit fittings for easy installation



Fused Disconnect Switch No. 3D340



Auxiliary Contact Kit No. 3D303

## HP CONVERSION GUIDE

| Amps | Single Phase 120V | Single Phase 240V | Three Phase 240V | Three Phase 480V | Three Phase 600V | Three Phase 120 / 208V | Three Phase 277 / 480V | Three Phase 347 / 600V |
|---|---|---|---|---|---|---|---|---|
| 30 | 2 | 3 | 7.5 | 15 | 20 | 5 | 15 | 20 |
| 60 | 3 | 7.5 | 15 | 30 | 40 | 15 | 30 | 40 |

| Description | Type | Rating | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| ised Disconnect Switch | 3 Pole + Earth + Neutral | 30A 600V AC | FDS30 | **3D340** | $910.72 | **$729.00** | 14.0 |
| ised Disconnect Switch | 3 Pole + Earth + Neutral | 60A 600V AC | FDS60 | **3D341** | 1062.60 | **850.00** | 17.0 |
| xiliary Contact Kit, Normally Closed | A600 Pilot Duty | 10A 600V AC | ACFSNC | **3D302** | 81.32 | **65.05** | 0.1 |
| xiliary Contact Kit, Normally Open | A600 Pilot Duty | 10A 600V AC | ACFSNO | **3D303** | 81.32 | **65.05** | 0.1 |

# BOXES FOR PIN & SLEEVE RECEPTACLES

- For mounting pin & sleeve receptacles shown on previous pages
- Meets IP67 requirements: Dust-tight and watertight
- Non-metallic models are high-grade thermoplastic, resist chemicals, abuse and UV rays. Meet Type 4X when installed with watertight conduit hub
- Metallic models are cast aluminum with gray enamel paint for corrosion resistance. Back box is high grade thermoplastic
- Four way box can be rotated so conduit enters from top, bottom or sides
- Angle wall box adapter allows 20A & 30A receptacles to be mounted to a standard outlet box (1 or 2 gang, or 4 or 4 11/16" square)



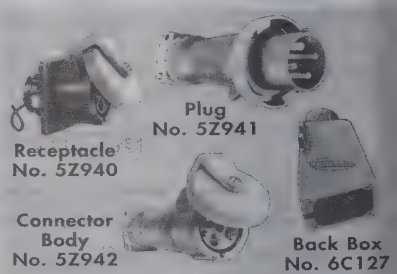
Back Box
No. 4CT37

- No. 4CT37 can be used with watertight safety-shroud 20A and 30A Twist-Lock™ receptacles. Hub not included

| Used With | Style | Type | Hub Size (in.) | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 20A & 30A | Back Box | Metallic | 3/4 | BB20-1W | 6C127 | $47.80 | $38.25 | 1.5 |
| | Back Box | Metallic | 1 | BB30-1W | 6C128 | 50.10 | 40.10 | 1.5 |
| | Back Box | Non-metallic | 1 | BB2030N | 4CT37 | 39.45 | 31.60 | 0.5 |
| | Angle Adapter | Metallic | N/A | AA20/30PS | 3D301 | 101.13 | 80.90 | 1.9 |
| 60A | Back Box | Metallic | 1¼ | BB60-1W | 6C130 | 69.83 | 55.90 | 2.6 |
| | Back Box | Non-metallic | 1¼ | BB60N | 4CT38 | 52.58 | 42.10 | 1.0 |
| 60A & 100A | Four Way | Metallic | 1½ | FW60/100 | 6C640 | 266.14 | 213.00 | 6.8 |
| 100A | Back Box | Metallic | 1½ | BB100-1W | 6C131 | 167.78 | 134.25 | 3.7 |
| | Back Box | Non-metallic | 1½ | BB100N | 4CT36 | 139.48 | 111.60 | 2.0 |

# PIN & SLEEVE DEVICES

- Used for heavy equipment, computers, welders, temporary power, tools, food preparation and processing equipment motors, pumps and commercial fishing vessels
- All devices built to IEC 309 standards
- Rated by amperage and voltage with a distinct non-interchangeable configuration for each rating
- Color coded by voltage for quicker identification of mating devices
- Nylon housing provides corrosion and impact resistance
- Gasketed locking ring, spring-loaded cover provide a dust-proof, watertight seal between plug/connector
- Neoprene sealing glands give watertight seal at cable entry point
- Heavy-duty cable grips handle a wide range of cable sizes and prevent strain on terminals
- Thermoset polyester contact carrier resists arcing, internal heat build-up
- Solid pins provide long life, reliable electrical contact, maximum conductivity
- Self-adjusting sleeves with beryllium copper insert springs provide constant contact pressure and a wiping action for minimum temperature rise, tight fit and easy insertion
- Box terminals permit high clamping pressure on conductors without damaging strands
- Shroud on plugs protect pins against impact and abuse




| Type | Rating | Configuration Recept. / Conn. | Configuration Plug | Color | Description | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 20A 125V | | | Yellow | Receptacle | HBL320R4W | 5Z930 | $103.66 | $82.95 | 1.0 |
| | | | | Yellow | Connector Body | HBL320C4W | 5Z932 | 146.92 | 117.55 | 1.2 |
| | | | | Yellow | Plug | HBL320P4W | 5Z931 | 132.24 | 105.85 | 0.9 |
| | 20A 250V | | | Blue | Receptacle | HBL320R6W | 5Z933 | 107.69 | 86.20 | 1.0 |
| | | | | Blue | Connector Body | HBL320C6W | 5Z935 | 149.68 | 119.80 | 1.2 |
| | | | | Blue | Plug | HBL320P6W | 5Z934 | 134.89 | 107.95 | 0.9 |
| | 30A 250V | | | Blue | Receptacle | HBL330R6W | 6C150 | 168.95 | 135.20 | 1.3 |
| | | | | Blue | Connector Body | HBL330C6W | 6C149 | 239.52 | 191.75 | 2.5 |
| | | | | Blue | Plug | HBL330P6W | 6C148 | 197.22 | 158.00 | 1.5 |
| | 60A 250V | | | Blue | Receptacle | HBL360R6W | 3D122 | 306.12 | 245.00 | 2.5 |
| | | | | Blue | Connector Body | HBL360C6W | 3D120 | 394.72 | 315.75 | 3.0 |
| | | | | Blue | Plug | HBL360P6W | 3D121 | 330.73 | 264.75 | 2.2 |
| | 100A 250V | | | Blue | Receptacle | HBL3100R6W | 5Z922 | 386.00 | 309.00 | 3.9 |
| | | | | Blue | Connector Body | HBL3100C6W | 5Z924 | 551.50 | 441.25 | 5.0 |
| | | | | Blue | Plug | HBL3100P6W | 5Z923 | 465.39 | 372.50 | 3.8 |
| 3 Pole 4 Wire | 20A 125/250V | | | Orange | Receptacle | HBL420R12W | 3D139 | 146.33 | 117.10 | 1.1 |
| | | | | Orange | Connector Body | HBL420C12W | 6C151 | 167.34 | 133.90 | 1.3 |
| | | | | Orange | Plug | HBL420P12W | 6C152 | 142.40 | 113.95 | 1.0 |
| | 20A 3Ph 250V | | | Blue | Receptacle | HBL420R9W | 3D141 | 146.33 | 117.10 | 1.1 |
| | | | | Blue | Connector Body | HBL420C9W | 3D136 | 167.34 | 133.90 | 1.3 |
| | | | | Blue | Plug | HBL420P9W | 3D138 | 142.40 | 113.95 | 1.0 |
| | 20A 3Ph 480V | | | Red | Receptacle | HBL420R7W | 6C126 | 146.33 | 117.10 | 1.1 |
| | | | | Red | Connector Body | HBL420C7W | 5Z936 | 167.34 | 133.90 | 1.3 |
| | | | | Red | Plug | HBL420P7W | 6C125 | 142.40 | 113.95 | 1.0 |
| | 20A 3Ph 600V | | | Black | Receptacle | HBL420R5W | 3D140 | 172.85 | 138.30 | 1.1 |
| | | | | Black | Connector Body | HBL420C5W | 3D135 | 197.67 | 158.25 | 1.3 |
| | | | | Black | Plug | HBL420P5W | 3D137 | 168.21 | 134.60 | 1.0 |

CONTINUED ON NEXT PAGE

| Type | Rating | Configuration Recept. / Conn. | Configuration Plug | Color | Description | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| | 30A 125/250V |  |  | Orange | Receptacle | HBL430R12W | **3D151** | $180.61 | **$144.55** | 1.4 |
| | | | | Orange | Connector Body | HBL430C12W | **3D144** | 223.21 | **178.75** | 1.9 |
| | | | | Orange | Plug | HBL430P12W | **3D149** | 214.06 | **171.50** | 1.5 |
| | 30A 3Ph 250 |  |  | Blue | Receptacle | HBL430R9W | **5Z937** | 180.61 | **144.55** | 1.4 |
| | | | | Blue | Connector Body | HBL430C9W | **5Z939** | 223.29 | **178.75** | 2.5 |
| | | | | Blue | Plug | HBL430P9W | **5Z938** | 214.06 | **171.50** | 1.5 |
| | | | | Blue | Inlet | HBL430B9W | **3D143** | 258.24 | **206.75** | 1.0 |
| | 30A 3Ph 480V |  |  | Red | Receptacle | HBL430R7W | **5Z940** | 180.61 | **144.55** | 1.4 |
| | | | | Red | Connector Body | HBL430C7W | **5Z942** | 223.29 | **178.75** | 2.5 |
| | | | | Red | Plug | HBL430P7W | **5Z941** | 252.86 | **202.50** | 1.5 |
| | | | | Red | Inlet | HBL430B7W | **3D765** | 258.24 | **206.75** | 1.0 |
| | 30A 3Ph 600V |  |  | Black | Receptacle | HBL430R5W | **3D152** | 180.61 | **144.55** | 1.4 |
| | | | | Black | Connector Body | HBL430C5W | **3D145** | 263.68 | **211.00** | 1.9 |
| | | | | Black | Plug | HBL430P5W | **3D150** | 252.86 | **202.50** | 1.5 |
| | 60A 125/250V |  |  | Orange | Receptacle | HBL460R12W | **6C585** | 303.66 | **243.00** | 2.6 |
| | | | | Orange | Connector Body | HBL460C12W | **6C580** | 381.55 | **305.50** | 3.1 |
| | | | | Orange | Plug | HBL460P12W | **6C584** | 325.76 | **260.75** | 2.3 |
| | | | | Orange | Inlet | HBL460B12W | **3D154** | 377.27 | **302.00** | 1.9 |
| 3 Pole 4 Wire | 60A 3Ph 250V |  |  | Blue | Receptacle | HBL460R9W | **5Z913** | 302.40 | **242.00** | 2.6 |
| | | | | Blue | Receptacle, Valox | HBL460R9V0 | **3D165** | 357.21 | **285.75** | 2.6 |
| | | | | Blue | Connector Body | HBL460C9W | **5Z915** | 381.55 | **305.50** | 3.1 |
| | | | | Blue | Connector Body, Valox | HBL460C9V05 | **3D158** | 450.71 | **360.75** | 3.1 |
| | | | | Blue | Plug | HBL460P9W | **5Z914** | 319.44 | **255.75** | 2.4 |
| | | | | Blue | Plug, Valox | HBL460P9V05 | **3D163** | 377.34 | **302.00** | 2.4 |
| | | | | Blue | Inlet | HBL460B9W | **3D156** | 377.27 | **302.00** | 1.9 |
| | 60A 3Ph 480V |  |  | Red | Receptacle | HBL460R7W | **5Z916** | 302.40 | **242.00** | 2.6 |
| | | | | Red | Connector Body | HBL460C7W | **5Z918** | 381.55 | **305.50** | 3.1 |
| | | | | Red | Plug | HBL460P7W | **5Z917** | 319.42 | **255.75** | 2.3 |
| | | | | Red | Inlet | HBL460B7W | **3D155** | 377.27 | **302.00** | 1.9 |
| | 60A 3Ph 600V |  |  | Black | Receptacle | HBL460R5W | **3D164** | 302.40 | **242.00** | 2.6 |
| | | | | Black | Connector Body | HBL460C5W | **3D157** | 450.71 | **360.75** | 3.1 |
| | | | | Black | Plug | HBL460P5W | **3D162** | 325.78 | **260.75** | 2.4 |
| | 100A 125/250V |  |  | Orange | Receptacle | HBL4100R12W | **6C557** | 382.59 | **306.25** | 4.1 |
| | | | | Orange | Connector Body | HBL4100C12W | **6C553** | 532.25 | **426.00** | 5.0 |
| | | | | Orange | Plug | HBL4100P12W | **6C555** | 415.10 | **332.25** | 4.0 |
| | | | | Orange | Inlet | HBL4100B12W | **3D129** | 571.96 | **457.75** | 3.3 |
| | 100A 3Ph 250V |  |  | Blue | Receptacle | HBL4100R9W | **6C558** | 382.58 | **306.25** | 4.0 |
| | | | | Blue | Connector Body | HBL4100C9W | **6C554** | 532.14 | **426.00** | 4.1 |
| | | | | Blue | Plug | HBL4100P9W | **6C556** | 415.10 | **332.25** | 4.0 |
| | | | | Blue | Inlet | HBL4100B9W | **3D130** | 571.96 | **457.75** | 3.3 |
| | 100A 3Ph 480V |  |  | Red | Receptacle | HBL4100R7W | **5Z925** | 382.58 | **306.25** | 4.0 |
| | | | | Red | Connector Body | HBL4100C7W | **5Z927** | 532.25 | **426.00** | 5.0 |
| | | | | Red | Plug | HBL4100P7W | **5Z926** | 415.11 | **332.25** | 4.1 |
| | 100A 3Ph 600V |  |  | Black | Receptacle | HBL4100R5W | **3D133** | 382.59 | **306.25** | 4.1 |
| | | | | Black | Connector Body | HBL4100C5W | **3D131** | 532.25 | **426.00** | 5.0 |
| | | | | Black | Plug | HBL4100P5W | **3D132** | 415.10 | **332.25** | 4.0 |
| | 20A 3Ph Y 120/208V |  |  | Blue | Receptacle | HBL520R9W | **5C778** | 163.53 | **130.85** | 1.3 |
| | | | | Blue | Connector | HBL520C9W | **5C780** | 191.71 | **153.50** | 1.7 |
| | | | | Blue | Plug | HBL520P9W | **5C779** | 157.08 | **125.70** | 1.3 |
| | 20A 3Ph Y 277/480V |  |  | Red | Receptacle | HBL520R7W | **3D179** | 163.52 | **130.85** | 1.2 |
| | | | | Red | Connector | HBL520C7W | **3D177** | 191.70 | **153.50** | 1.6 |
| | | | | Red | Plug | HBL520P7W | **3D178** | 157.08 | **125.70** | 1.3 |
| | 30A 3Ph Y 120/208V |  |  | Blue | Receptacle | HBL530R9W | **1XC54** | 225.02 | **180.25** | 1.6 |
| | | | | Blue | Connector | HBL530C9W | **1XC62** | 256.95 | **205.75** | 2.5 |
| | | | | Blue | Plug | HBL530P9W | **5C781** | 259.14 | **207.50** | 1.5 |
| | 30A 3Ph Y 277/480V |  |  | Red | Receptacle | HBL530R7W | **6C602** | 225.04 | **180.25** | 1.7 |
| | | | | Red | Connector | HBL530C7W | **3D201** | 256.92 | **205.75** | 2.2 |
| | | | | Red | Plug | HBL530P7W | **6C601** | 259.16 | **207.50** | 1.7 |
| Pole Wire | 60A 3Ph Y 120/208V |  |  | Blue | Receptacle | HBL560R9W | **5Z919** | 364.18 | **291.50** | 2.5 |
| | | | | Blue | Connector | HBL560C9W | **5Z921** | 390.11 | **312.25** | 3.3 |
| | | | | Blue | Plug | HBL560P9W | **5Z920** | 342.85 | **274.50** | 2.5 |
| | | | | Blue | Inlet | HBL560B9W | **3D214** | 340.60 | **272.75** | 2.0 |
| | 60A 3Ph Y 277/480V |  |  | Red | Receptacle | HBL560R7W | **3D217** | 364.20 | **291.50** | 2.6 |
| | | | | Red | Connector | HBL560C7W | **3D215** | 390.08 | **312.25** | 3.1 |
| | | | | Red | Plug | HBL560P7W | **3D216** | 342.84 | **274.50** | 2.4 |
| | 60A 3Ph Y 347/600V |  |  | Black | Receptacle | HBL560R5W | **3D920** | 446.69 | **357.50** | 2.6 |
| | | | | Black | Connector | HBL560C5W | **3D918** | 460.79 | **368.75** | 3.1 |
| | | | | Black | Plug | HBL560P5W | **3D919** | 404.99 | **324.00** | 2.4 |
| | 100A 3Ph Y 120/208V |  |  | Blue | Receptacle | HBL5100R9W | **5Z928** | 399.32 | **319.50** | 4.2 |
| | | | | Blue | Connector | HBL5100C9W | **6C129** | 546.54 | **437.50** | 5.0 |
| | | | | Blue | Plug | HBL5100P9W | **5Z929** | 465.06 | **372.25** | 4.3 |
| | | | | Blue | Inlet | HBL5100B9W | **6C591** | 628.92 | **503.50** | 3.5 |
| | 125A 220/380V 240/415V |  |  | Red | Receptacle | HBL5125R6W | **3D175** | 454.13 | **363.50** | 4.1 |
| | | | | Red | Connector | HBL5125C6W | **3D173** | 633.51 | **507.00** | 5.1 |
| | | | | Red | Plug | HBL5125P6W | **3D174** | 539.13 | **431.50** | 4.2 |

# INDUSTRIAL CORROSION RESISTANT/HIGH VISIBILITY 15 & 20A STRAIGHT BLADE DEVICES

## APPLICATIONS

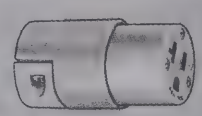
- Food processing facilities
- Chemical platting facilities
- Outdoor recreation—tents, carnivals, circus, concerts
- Recreational Vehicles
- Marine—Ship to Shore Power

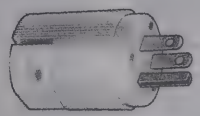
## LISTINGS & CERTIFICATIONS

- All are UL Listed
- All are CSA Certified except 20A straight blade T slot devices

## FEATURES & BENEFITS

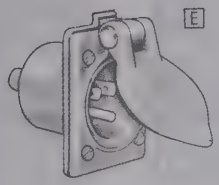
- Nickel plated brass components
- Heat resistant interiors
- Resistant to chemical and harsh marine environment

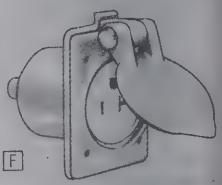

A


B


C

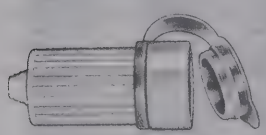

D

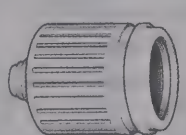

E

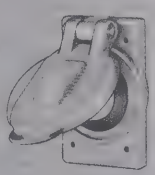

F

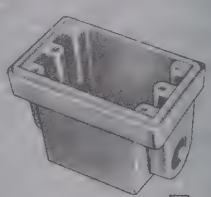
## INDUSTRIAL CORROSION RESISTANT/HIGH VISIBILITY 15 & 20A STRAIGHT BLADE DEVICES

| Key | Type | Rating | Description | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 2 Pole, 3 Wire | 15A, 125V | Connector | HBL52CM69C | **3D198** | $36.79 | **$29.45** | 0.2 |
| B | | | Plug | HBL52CM66C | **3D197** | 21.21 | **16.97** | 0.2 |
| — | | | Anchor Locking Plug | HBL52CM80C | **3D877** | 37.13 | **29.70** | 0.2 |
| C | | | Single Receptacle | HBL52CM61 | **3D874** | 30.42 | **24.34** | 0.2 |
| D | | | Duplex Receptacle | HBL52CM62 | **3D196** | 39.35 | **31.50** | 0.3 |
| A | 2 Pole, 3 Wire | 20A, 125V | Connector | HBL53CM69C | **3D906** | 50.17 | **40.15** | 0.2 |
| B | | | Plug | HBL53CM66C | **3D905** | 30.66 | **24.53** | 0.2 |
| C | | | Single Receptacle | HBL53CM61 | **3D904** | 37.57 | **30.10** | 0.2 |
| D | | | Duplex Receptacle | HBL53CM62 | **3D210** | 52.19 | **41.75** | 0.3 |
| E | 2 Pole, 3 Wire | 15/20A, 125V | Inlet | HBL61CM64 | **3D235** | 61.13 | **48.90** | 0.3 |
| F | | | Outlet | HBL61CM65 | **3D236** | 62.18 | **49.75** | 0.3 |


A


B


C


D

## ACCESSORIES FOR INDUSTRIAL CORROSION RESISTANT/HIGH VISIBILITY 15 AND 20A STRAIGHT BLADE DEVICES

| Key | Description | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Seal-Tite boot for 3D906 and 3D198 | Yellow | HBL60CM18 | **3D945** | $13.39 | **$10.72** | 0.2 |
| A | Seal-Tite closure plug for HBL60CM18 | Yellow | HBL60CM19 | **3D946** | 15.92 | **12.74** | 0.1 |
| B | Seal-Tite boot for 3D905 and 3D197 | Yellow | HBL60CM17 | **3D944** | 12.01 | **9.61** | 0.2 |
| C | Weatherproof liftcover plate for 15 and 20A single receptacle | Yellow | HBL74CM23WO | **3D255** | 56.90 | **45.55** | 0.8 |
| — | Weatherproof liftcover plate for 15 and 20A duplex receptacle | Yellow | HBL52CM21 | **3D194** | 59.49 | **47.60** | 0.2 |
| D | Weatherproof Seal-Tite Box: 4⁹⁄₁₆H x 2⁵⁄₁₆W x 3¹⁄₂"D | Black | HBL6080 | **3D939** | 37.08 | **29.70** | 0.7 |
| D | Weatherproof Seal-Tite Box: 4⁹⁄₁₆H x 2⁵⁄₁₆W x 2⁹⁄₁₆"D | Black | HBL6080OS | **3D940** | 33.54 | **26.85** | 0.6 |

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# INDUSTRIAL CORROSION RESISTANT/HIGH VISIBILITY 20 & 30A TWIST-LOCK® DEVICES

## APPLICATIONS

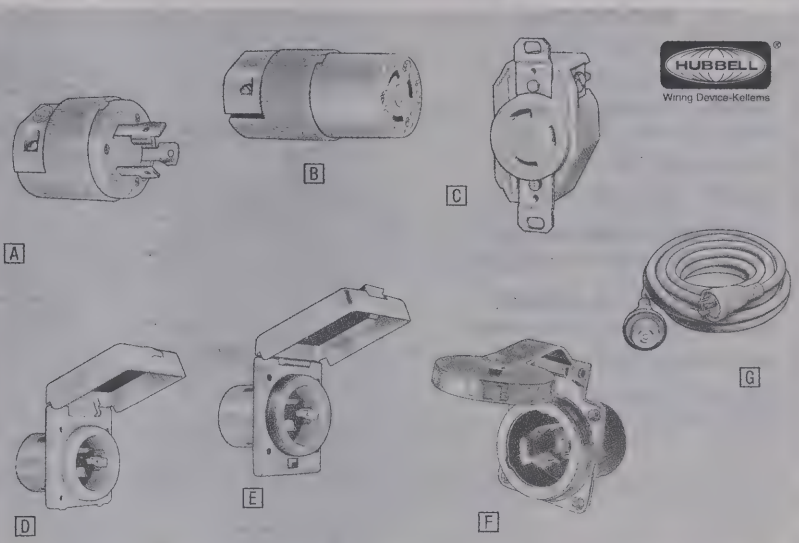
- Food processing facilities
- Chemical platting facilities
- Outdoor recreation—tents, carnivals, circus, concerts
- Recreational Vehicles
- Marine—Ship to Shore Power

## LISTINGS & CERTIFICATIONS

- All are UL Listed and CSA Certified

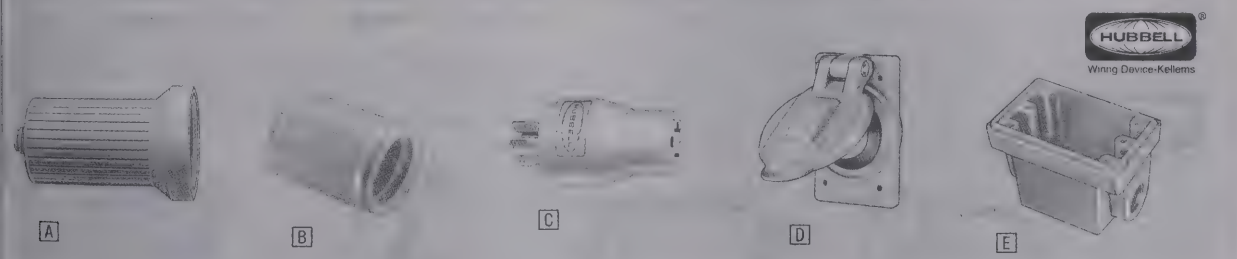
## FEATURES & BENEFITS

- Nickel plated brass components
- Heat resistant interiors
- Resistant to chemical and harsh marine environment




## INDUSTRIAL CORROSION RESISTANT/HIGH VISIBILITY SHIP-TO-SHORE 20 & 30A TWIST-LOCK® DEVICES

| Key | Type | Rating | Description | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 2 Pole, 3 Wire | 20A, 125V | Plug | HBL23CM11 | **3D045** | $25.34 | **$20.28** | 0.3 |
| B | | | Connector | HBL23CM13 | **3D046** | 38.69 | **30.95** | 0.3 |
| C | | | Twist-Lock Receptacle | HBL23CM10A | **3D044** | 32.26 | **25.85** | 0.3 |
| A | 2 Pole, 3 Wire | 30A, 125V | Plug | HBL26CM11 | **3D088** | 45.62 | **36.50** | 0.3 |
| B | | | Connector | HBL26CM13 | **3D089** | 90.34 | **72.30** | 0.3 |
| C | | | Twist-Lock Receptacle | HBL26CM10A | **3D087** | 55.00 | **44.00** | 0.3 |
| D | 2 Pole, 3 Wire | 30A, 125V | Non-Metallic Inlet | HBL303NM | **4D351** | 104.20 | **83.35** | 0.7 |
| E | | | Stainless Steel Inlet | HBL303SSBL | **4D587** | 134.02 | **107.20** | 1.1 |
| F | | | Chrome Plated Brass Inlet | HBL303SS | **3D954** | 198.98 | **159.25** | 1.4 |
| G | 2 Pole, 3 Wire | 30A, 125V | 50 ft. Cable Set | HBL61CM08 | **3D961** | 193.31 | **154.75** | 17.0 |




## ACCESSORIES FOR INDUSTRIAL CORROSION RESISTANT/HIGH VISIBILITY SHIP-TO-SHORE 20 AND 30A TWIST-LOCK®

| Key | Description | Color | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Seal-Tite boot for weatherproofing 20 and 30A plugs | Yellow | HBL60CM31 | **3D949** | $17.74 | **$14.20** | 0.3 |
| B | Seal-Tite boot for weatherproofing 20 and 30A connectors | Yellow | HBL60CM32 | **3D950** | 19.80 | **15.84** | 0.4 |
| C | Adapter—permits use of 20A 125V Twist-Lock locking type plug with 15A 125V straight blade receptacle | White | HBL21CM28 | **3D536** | 86.85 | **69.50** | 0.3 |
| | Adapter—permits use of 15A or 20A 125V straight blade plug with 20A Twist-Lock locking type receptacle | White | HBL21CM29 | **3D537** | 86.85 | **69.50** | 0.3 |
| | Adapter—permits use of 30A 125V Twist-Lock locking type plug with 15A 125V straight blade receptacle | White | HBL31CM28 | **3D105** | 90.48 | **72.40** | 1.1 |
| | Adapter—permits use of 15A or 20A 125V straight blade plug with 30A 125V Twist-Lock locking type receptacle | White | HBL31CM29 | **3D106** | 90.34 | **72.30** | 0.3 |
| D | Weatherproof liftcover plate for 20 and 30A Twist-Lock receptacle | Yellow | HBL74CM25WO | **3D257** | 70.69 | **56.55** | 0.3 |
| E | Weatherproof Seal-Tite Box: 4⁹/₁₆"H x 2¹⁵/₁₆"W x 3¹/₄"D | Black | HBL6080 | **3D939** | 37.08 | **29.70** | 0.7 |
| | Weatherproof Seal-Tite Box: 4⁹/₁₆"H x 2¹⁵/₁₆"W x 2⁹/₁₆"D | Black | HBL6080OS | **3D940** | 33.54 | **26.85** | 0.6 |

# INDUSTRIAL CORROSION RESISTANT/ SHIP-TO-SHORE 50A TWIST-LOCK® DEVICES

## APPLICATIONS

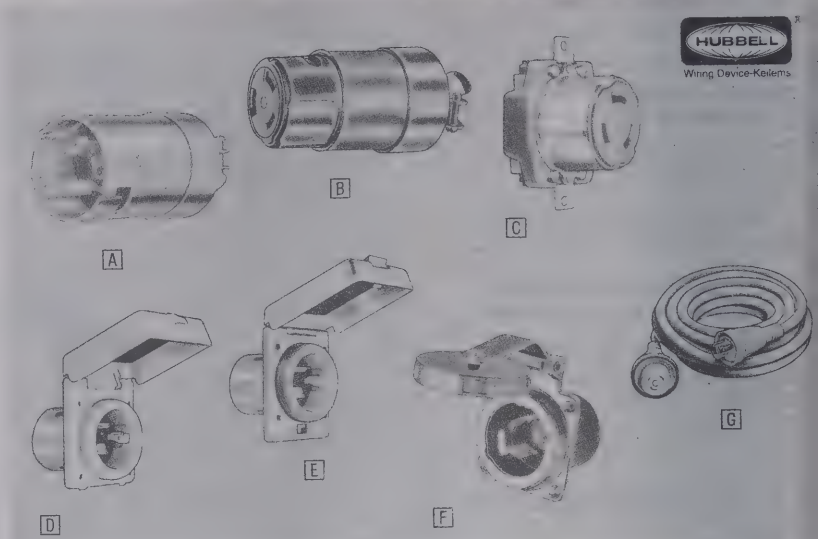
- Food processing facilities
- Chemical platting facilities
- Outdoor recreation—tents, carnivals, circus, concerts
- Recreational Vehicles
- Marine—Ship to Shore Power

## LISTINGS & CERTIFICATIONS

- All are UL Listed and CSA Certified

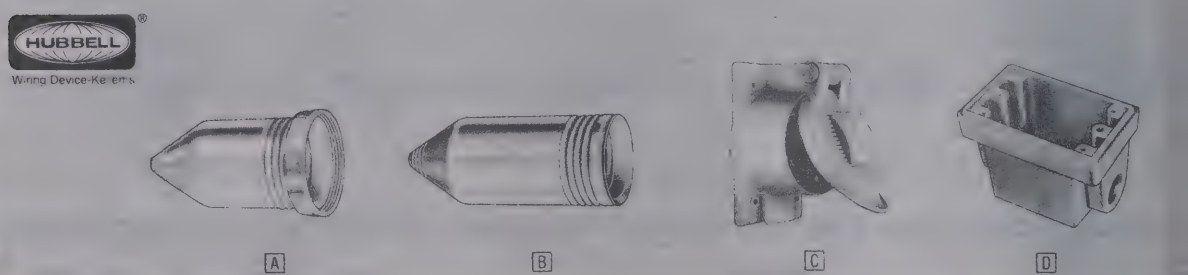
## FEATURES & BENEFITS

- Nickel plated brass components
- Heat resistant interiors
- Resistant to chemical and harsh marine environment




## INDUSTRIAL CORROSION RESISTANT/SHIP-TO-SHORE 50A TWIST-LOCK DEVICES

| Key | Type | Rating | Description | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 2 Pole, 3 Wire | 50A, 125V | Plug | HBL63CM61 | **3D976** | $155.02 | **$124.00** | 1.3 |
| B | | | Connector | HBL63CM60 | **3D975** | 174.61 | **139.70** | 1.5 |
| C | | | Twist-Lock Receptacle | HBL63CM70 | **3D980** | 188.88 | **151.25** | 0.8 |
| D | | | Non-Metallic Inlet | NM503 | **4D352** | 184.70 | **147.75** | 0.9 |
| E | | | Stainless Steel Inlet | SS503 | **4D591** | 209.16 | **167.50** | 1.1 |
| F | | | Chrome Plated Brass Inlet | HBL503SS | **3D981** | 303.59 | **243.00** | 1.9 |
| G | — | 50A, 125V | 50 ft. Cable Set | HBL61CM53 | **3D967** | 1373.20 | **1099.00** | 37.0 |
| A | 3 Pole, 4 Wire | 50A, 125/250V | Plug | HBL63CM65 | **3D978** | 151.30 | **121.05** | 1.3 |
| B | | | Connector | HBL63CM64 | **3D977** | 171.69 | **137.35** | 1.5 |
| C | | | Twist-Lock Receptacle | HBL63CM69 | **3D979** | 193.83 | **155.25** | 0.8 |
| D | | | Non-Metallic Inlet | NM504 | **4D353** | 186.87 | **149.50** | 0.9 |
| E | | | Stainless Steel Inlet | SS504 | **4D592** | 216.72 | **173.50** | 1.1 |
| F | | | Chrome Plated Brass Inlet | HBL504SS | **3D982** | 310.71 | **248.75** | 1.9 |
| G | — | 50A, 125/250V | 50 ft. Cable Set | HBL61CM52 | **3D966** | 1413.00 | **1131.00** | 44.0 |




## ACCESSORIES FOR INDUSTRIAL CORROSION RESISTANT/SHIP-TO-SHORE 50A TWIST-LOCK® DEVICES

| Key | Description | Color | Hubbell Model | Stock No. | List | Each | Ship Wt. |
|---|---|---|---|---|---|---|---|
| A | Seal-Tite boot for weatherproofing 50A connectors | Yellow | HBL77CM15 | **4D024** | $57.17 | **$45.75** | 0.5 |
| B | Seal-Tite boot for weatherproofing 50A plugs | Yellow | HBL77CM16 | **4D025** | 28.42 | **22.74** | 0.4 |
| C | Weatherproof lifteover plate for 50A Twist-Lock receptacle | Yellow | HBL77CM74WO | **3D280** | 59.30 | **47.45** | 0.4 |
| D | Weatherproof Seal-Tite Box with two 3/4" I.P.S. molded in knockouts 4 7/16"H x 2 7/16"W x 3 3/4" D | Yellow | HBL60CM83 | **3D234** | 55.65 | **44.55** | 0.9 |
| D | Weatherproof Seal-Tite Box with two 1" I.P.S. molded in knockouts 4 7/16"H x 2 7/16"W x 2 7/16"D | Yellow | HBL60CM84 | **3D957** | 62.36 | **49.90** | 0.9 |

# INDUSTRIAL CORROSION RESISTANT/SHIP-TO-SHORE 100A PIN AND SLEEVE DEVICES

## APPLICATIONS

- Food processing facilities
- Chemical platting facilities
- Outdoor recreation—tents, carnivals, circus, concerts
- Recreational vehicles
- Marine—ship-to-shore power

## LISTINGS & CERTIFICATIONS

- All are UL Listed and CSA Certified

## FEATURES & BENEFITS

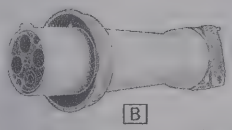
- Nickel plated brass components
- Heat resistant interiors
- Resistant to chemical and harsh marine environment

HUBBELL Wiring Device-Kellems



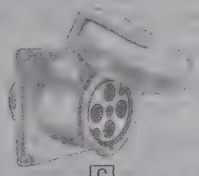
A

INLET



B

CONNECTOR BODY



C

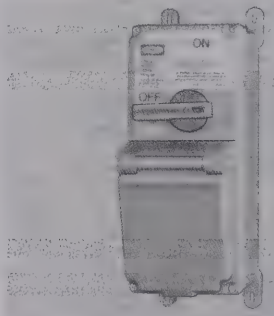
RECEPTACLE

## INDUSTRIAL CORROSION RESISTANT/SHIP-TO-SHORE 100A PIN AND SLEEVE DEVICES

| Key | Type | Rating | Description | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 3 Pole, 4 Wire | 100A, 125/250V | Inlet | M4100B12R | 4D340 | $902.25 | $722.00 | 3.4 |
| B | | | Connector | M4100C12R | 4D342 | 966.39 | 773.00 | 5.0 |
| — | | | Plug | M4100P12 | 4D343 | 921.63 | 737.50 | 4.0 |
| C | | | Receptacle | M4100R12 | 4D344 | 964.85 | 772.00 | 4.1 |
| — | | | Back Box | BB100N | 4CT36 | 139.48 | 111.60 | 2.0 |
| A | 4 Pole, 5 Wire | 100A, 120V/280V 3Ø Y | Inlet | M5100B9R | 4D345 | 1027.33 | 822.00 | 3.6 |
| B | | | Connector | M5100C9R | 4D347 | 1099.09 | 879.50 | 5.1 |
| — | | | Plug | M5100P9 | 4D348 | 997.22 | 798.00 | 4.2 |
| C | | | Receptacle | M5100R9 | 4D349 | 1045.06 | 836.00 | 4.6 |
| — | | | Back Box | BB100N | 4CT36 | 139.48 | 111.60 | 2.0 |

## SWITCHED TWIST-LOCK® ENCLOSURES

- Receptacle is angled down to provide low profile and helps control cable arc of bend
- Compact design rated NEMA 3R and 12K
- Large, replaceable, gasketless door and hinge assembly provides easy access and weatherproofing
- Movable feet may be used in horizontal or vertical position, or may be removed and premarked holes drilled for Type 1 or 3R installations
- Complies with OSHA lockout requirements
- No. 4CV76 is a Type 4X mechanically interlocked Twist-Lock® enclosure that accepts any 20A or 30A Hubbell watertight safety-shroud Twist-Lock® receptacle (receptacle not included)




No. 6C655

HUBBELL Wiring Device-Kellems

| Description | NEMA Config. | Receptacle Rating | HP Rating | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Switched Enclosure Without Receptacle | None | Based on Receptacle Selected | Based on Receptacle Selected | SETL3 | 6C655 | $240.39 | $192.50 | 3.8 |
| Type 4X Switched Enclosure | None | Based on Receptacle Selected | Based on Receptacle Selected | HBLMITL | 4CV76 | 373.67 | 299.00 | 3.4 |
| Switched Enclosure With a Prewired #2310A Receptacle | L5-20R | 20A 120V | 1 | SE2310A | 3D448 | 266.94 | 213.75 | 4.0 |
| Switched Enclosure With a Prewired #2320A Receptacle | L6-20R | 20A 240V | 2 (208 - 240V) | SE2320A | 3D449 | 315.32 | 252.25 | 4.0 |
| Switched Enclosure With a Prewired #2720A Receptacle | L15-30R | 30A 3Ph 240V | 3 | SE2720A | 3D450 | 346.92 | 277.75 | 4.0 |
| Switched Enclosure With a Prewired #2730A Receptacle | L16-30R | 30A 3Ph 480V | 10 | SE2730A | 3D451 | 346.92 | 277.75 | 4.0 |
| Auxiliary Contact Kit for 30A Switched Enclosure | — | 10A, A600 Pilot Duty | — | ACSE30 | 3D306 | 48.77 | 39.05 | 0.1 |

**ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY**

Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items. See Index under Energy Saving Products.

# STRAIGHT BLADE PLUGS AND CONNECTORS

### APPLICATIONS

- Factories, light assembly areas, schools, offices and homes
- Use on tools, lighting, test equipment, and other portable equipment

### LISTING & APPROVALS

- UL Listed and CSA Certified (except configurations 5-20R & 6-20R)

### FEATURES & BENEFITS

- Nylon devices have fluted body design providing sure grip
- Clear wiring for termination inspection; provides molded-in wire gauge
- Cord clamp seats flush with body for all cables rated 10/3 ST to 18/3 SVT
- Removable snap-in cable grip insert for smaller cable sizes. Molded-in cable gauge indicates when insert is required
- Rubber devices resist cold, abrasion, grease, oils, acids and impact

LEVITON

E13393 LR406



Plug No. 6X783 | Plug No. 5C369 | Connector No. 5C370 | Plug No. 5C377 | Plug No. 6X785

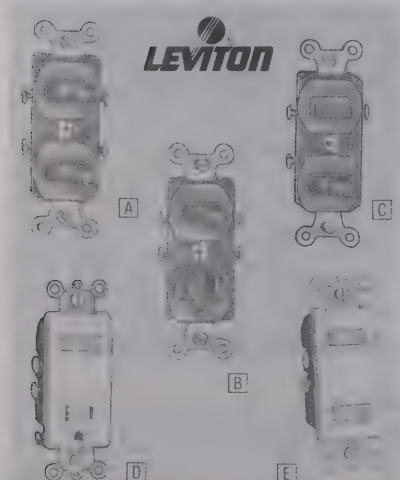
**Note:** Horsepower ratings shown are Phase-to-Phase. HP ratings are applicable to plugs and receptacles only and do not apply to connector bodies.

| Type | NEMA Rating | Config. | Description | Color | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 2 Wire | 15A 125V 0.5 AC HP | 1-15P 1-15R | Commercial Grade Plug | Black | 115PR | **6X783** | $2.75 | **$2.25** | **$2.02** | 0.1 |
| | | | Commercial Grade Connector | Black | 115CR | **6X784** | 3.79 | **3.09** | **2.78** | 0.2 |
| | | | Industrial Grade Nylon Plug | Black & White | 5266C | **5C369** | 12.46 | **10.08** | **9.11** | 0.2 |
| | | | Industrial Grade Nylon Connector | Black & White | 5269C | **5C370** | 21.86 | **17.67** | **15.97** | 0.2 |
| | 15A 125V 0.5 AC HP | 5-15P 5-15R | Commercial Grade Plug | Black | 515PR | **5C377** | 3.62 | **2.96** | **2.66** | 0.1 |
| | | | Commercial Grade Connector | Black | 515CR | **5C378** | 4.21 | **3.43** | **3.09** | 0.1 |
| | | | Commercial Grade Armored Plug | Yellow | 515PA | **6X785** | 4.14 | **3.38** | **3.04** | 0.1 |
| | | | Commercial Grade Armored Connector | Yellow | 515CA | **6X786** | 5.15 | **4.21** | **3.78** | 0.2 |
| 2 Pole 3 Wire | 15A 250V 2 AC HP | 6-15P 6-15R | Industrial Grade Nylon Plug | Black & White | 5666C | **5C371** | 14.43 | **11.67** | **10.54** | 0.1 |
| | | | Industrial Grade Nylon Connector | Black & White | 5669C | **5C372** | 25.13 | **20.30** | **18.34** | 0.2 |
| | 20A 125V 1 AC HP | 5-20P 5-20R | Industrial Grade Nylon Plug | Black & White | 5366C | **5C373** | 16.41 | **13.28** | **11.99** | 0.1 |
| | | | Industrial Grade Nylon Connector | Black & White | 5369C | **5C374** | 27.35 | **22.10** | **19.96** | 0.2 |
| | 20A 250V 2 AC HP | 6-20P 6-20R | Industrial Grade Nylon Plug | Black & White | 5466C | **5C375** | 18.84 | **15.23** | **13.76** | 0.1 |
| | | | Industrial Grade Nylon Connector | Black & White | 5469C | **5C376** | 29.91 | **24.16** | **21.83** | 0.2 |

## COMBINATION DEVICES

Grounded combination devices fit standard wallplates. Decora-style combination devices fit decorator wallplates. Break-off tabs allow separate feed or common feed. Accepts up to #10 AWG copper or copper-clad conductors. Red pilot light on pilot switches. UL Listed (E7458). CSA Certified (LR3413).

5-15R E7458 LR3413




| Key | Description | Poles | Ratings | Color | Leviton Model | Stock No | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Duplex Switch | Single | 15A, 120VAC | Brown | 5224-2 | **1A181** | $8.42 | **$6.87** | 0.2 |
| | | | | Ivory | 5224-2I | **5A061** | 8.42 | **6.87** | 0.2 |
| | | | | White | 5224-2W | **5Z858** | 8.42 | **6.87** | 0.2 |
| B | Switch/ Receptacle | Single | 15A, 120VAC | Brown | 5225 | **1A182** | 9.87 | **8.06** | 0.2 |
| | | | | Ivory | 5225-I | **5A062** | 9.87 | **8.06** | 0.2 |
| | | | | White | 5225-WSP | **5Z857** | 9.87 | **8.06** | 0.3 |
| C | Switch Pilot | Single | 15A, 120VAC* | Brown | 5226 | **1A183** | 8.62 | **7.02** | 0.2 |
| | | | | Ivory | 5226-I | **5A063** | 8.62 | **7.02** | 0.2 |
| | | | | White | 5226-W | **5Z859** | 8.62 | **7.02** | 0.2 |
| D | Decora Switch/ Receptacle | Single | 15A, 120VAC | Brown | 5625 | **5Z860** | 16.28 | **12.99** | 0.3 |
| | | | | Ivory | 5625-I | **5Z861** | 16.28 | **12.99** | 0.2 |
| | | | | White | 5625-W | **5Z862** | 16.28 | **12.99** | 0.2 |
| E | Decora Duplex Switch | Single | 15A, 120VAC | Brown | 5634 | **5Z863** | 15.36 | **12.25** | 0.3 |
| | | | | Ivory | 5634-I | **5Z864** | 15.36 | **12.25** | 0.3 |
| | | | | White | 5634-W | **5Z865** | 15.36 | **12.25** | 0.1 |

(*) Switch rating only, pilot light rated 1/25W 120 VAC.

# GROUND FAULT CIRCUIT INTERRUPTERS



No. 5C394

LEVITON

E48380

- Provided with Decora wallplate

**APPLICATIONS**

- Hospitals, hotel/motel, offices, retail
- Used to protect people from line-to-ground electrical shock hazards in areas like bathrooms, kitchens, and around spas & pools

**LISTING**

- Conforms to UL Standard 943 Class A (GFCI), and 498 (receptacle)

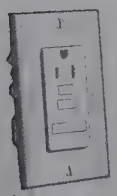
**FEATURES**

- Lexan face on Hospital Grade version for extra impact resistance and LED indicator light
- Feed-through ready
- 1⅛" receptacle depth for extra wall-box room
- Silver alloy contacts
- Temperature tolerance range –31 to 158°F

**Note:** GFCI-type receptacles should not be used in critical care patient areas or for electrical life support equipment applications because of the possibility of power interruptions.

| Type | Rating | NEMA Config. | Description | Color | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A 120V | 5-15R | Commercial Grade Duplex | Brown | 6599 | **5C393** | $15.32 | **$12.26** | **$11.03** | 0.4 |
| | | | Commercial Grade Duplex | Gray | 6599GY | **5C367** | 15.32 | **12.26** | **11.03** | 0.4 |
| | | | Commercial Grade Duplex | Ivory | 6599I | **5C394** | 15.32 | **12.26** | **11.03** | 0.2 |
| | | | Commercial Grade Duplex | White | 6599W | **5C395** | 15.32 | **12.26** | **11.03** | 0.2 |
| | 20A 120V | 5-20R | Hospital Grade Duplex | Ivory | 6898HGI | **3W915** | 27.68 | **22.15** | **19.93** | 0.4 |
| | | | Commercial Grade Duplex | Brown | 6899 | **5C396** | 16.61 | **13.29** | **11.96** | 0.4 |
| | | | Commercial Grade Duplex | Ivory | 6899I | **5C398** | 16.61 | **13.29** | **11.96** | 0.3 |
| | | | Commercial Grade Duplex | White | 6899W | **5C397** | 16.61 | **13.29** | **11.96** | 0.3 |

# COMBINATION SWITCH/GFCI OUTLETS



No. 5C410

LEVITON

E48380

**APPLICATIONS**

- For bathrooms & kitchenettes in hotels, motels, homes and efficiency housing
- Replaces switch/outlet combination device

**LISTING**

- Conforms to UL Standard 943 Class A (GFCI), and 498 (receptacle)

**FEATURES**

- Can be common- or split-feed wired
- 1⅛" receptacle depth for extra wall-box room
- Temp. tolerance range -31 to 158°F
- Switch rating is 1000W 125V AC; Outlet 15A 125V AC; Feed-Through 20A 125V AC

**Note:** GFCI type receptacles should not be used in critical care patient areas or for electrical life support equipment applications because of the possibility of power interruptions.

| Type | Rating | NEMA Config. | Description | Color | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Pole 3 Wire | 15A 125V | 5-15R | Comb. Switch/GFCI | Ivory | 5299I | **5C410** | $47.74 | **$38.05** | **$34.24** | 0.3 |
| | | | Comb. Switch/GFCI | White | 5299W | **5C411** | 47.74 | **38.05** | **34.24** | 0.5 |

SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.

It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.

# STRAIGHT BLADE RECEPTACLES

## HOSPITAL & SPECIFICATION GRADE RECEPTACLES

### APPLICATIONS

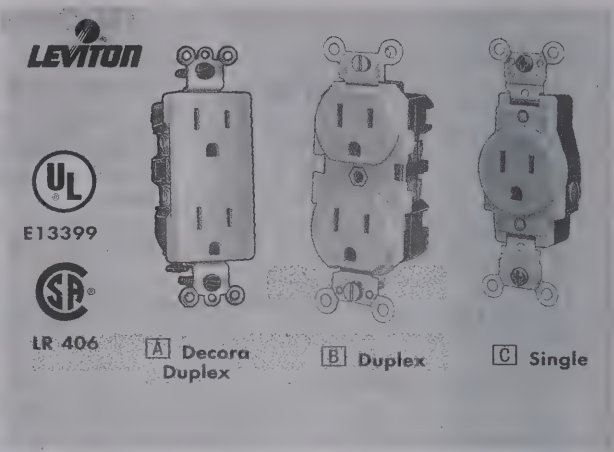
- Hospitals, laboratories, emergency care facilities, factories, institutions, offices
- Used in patient and treatment rooms, for industrial and test equipment, fans/blowers, lighting fixtures, etc.

### LISTING & APPROVALS

- Hospital Grade—UL Hospital Grade Listed; CSA Certified (except config. 5-20R); meet Fed. Spec. WC596
- Specification Grade—UL Listed, CSA Certified (except config. 5-20R); meet Fed. Spec. WC596

### FEATURES & BENEFITS

- Molded nylon body and cover for impact resistance
- Double-wipe, corrosion-resistant power contacts on Hospital Grade. Specification Grade versions utilize copper alloy double wipe contacts
- Spring-backed, large head terminal screws
- Hospital versions have Groundamatic self-grounding clips riveted at one end of mounting strap and a locked-in strap; Specification versions have Groundamatic self-grounding strap, locked into base




## COMMERCIAL & RESIDENTIAL GRADE RECEPTACLES

### APPLICATIONS

- Offices, retail, homes
- For light fixtures, office equipment, small appliances, etc.

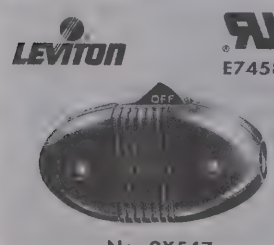
### LISTING & APPROVALS

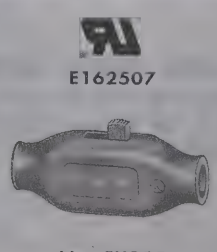
- UL Listed, CSA Certified (except config. 5-20R)

### FEATURES & BENEFITS

- Large-head terminal screws accept up to #10AWG copper or copper-clad wire
- Residential devices have Quickwire push-in terminals that accept up to #14AWG copper or copper-clad wire
- Break-off plaster ears for best flush alignment

| Key | Type | Rating | NEMA Config. | Description | Wiring Method | Color | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 2 Pole 3 Wire | 15A 125V | 5-15R | Commercial GradeDecora Duplex | Back/Side | Ivory | 16252-I | **5C349** | $9.52 | **$7.78** | **$6.99** | 0.3 |
| | | | | | | White | 16252-W | **5C350** | 9.52 | **7.78** | **6.99** | 0.2 |
| | | | | | | Gray | 16252-GY | **5C351** | 9.52 | **7.78** | **6.99** | 0.2 |
| | | | | Residential Grade Decora Duplex | Push/Side | Brown | 5325 | **5A068** | 3.23 | **2.60** | **2.34** | 0.2 |
| | | | | | | Ivory | 5325-I | **5A069** | 3.23 | **2.60** | **2.34** | 0.2 |
| | | | | | | White | 5325-W | **6A680** | 3.23 | **2.60** | **2.34** | 0.2 |
| | | 20A 125V | 5-20R | Commercial GradeDecora Duplex | Side | Brown | 16342 | **5C364** | 9.22 | **7.54** | **6.78** | 0.2 |
| | | | | | | Ivory | 16342-I | **5C365** | 9.22 | **7.54** | **6.78** | 0.1 |
| | | | | | | White | 16342-W | **5C366** | 9.22 | **7.54** | **6.78** | 0.2 |
| B | 2 Pole 3 Wire | 15A 125V | 5-15R | Hospital Grade Duplex | Back/Side | Brown | 8200 | **5C352** | 11.76 | **9.53** | **8.61** | 0.2 |
| | | | | | | Ivory | 8200-I | **5C353** | 11.76 | **9.53** | **8.61** | 0.3 |
| | | | | | | Red | 8200-R | **5C354** | 11.76 | **9.53** | **8.61** | 0.2 |
| | | | | | | Gray | 8200-GY | **5C355** | 11.76 | **9.53** | **8.61** | 0.2 |
| | | | | Specification Grade Duplex | Back/Side | Brown | 5262 | **5C356** | 8.31 | **6.65** | **5.98** | 0.2 |
| | | | | | | Ivory | 5262-I | **5C357** | 8.31 | **6.65** | **5.98** | 0.3 |
| | | | | Commercial Grade Duplex | Side | Ivory | CR15-I | **6A701** | 2.21 | **1.77** | **1.60** | 0.2 |
| | | | | Residential Grade Duplex | Push/Side | Brown | 5320 | **6X064** | 0.95 | **0.62** | **0.59** | 0.2 |
| | | | | | | Ivory | 5320-I | **6X279** | 0.95 | **0.62** | **0.59** | 0.2 |
| | | | | | | White | 5320-W | **6C087** | 0.94 | **0.62** | **0.59** | 0.2 |
| | | 20A 125V | 5-20R | Specification Grade Duplex | Back/Side | Brown | 5362 | **5C360** | 11.03 | **8.82** | **7.94** | 0.3 |
| | | | | | Back/Side | Ivory | 5362I | **5C361** | 11.03 | **8.82** | **7.94** | 0.2 |
| | | | | Commercial Grade Duplex | Side | Ivory | CR20-I | **6A702** | 2.58 | **2.06** | **1.86** | 0.2 |
| C | 2 Pole 3 Wire | 15A 125V | 5-15R | Specification Grade Single | Back/Side | Brown | 5261 | **5C358** | 9.22 | **7.37** | **6.65** | 0.2 |
| | | | | | | Ivory | 5261-I | **5C359** | 9.22 | **7.37** | **6.65** | 0.2 |
| | | 20A 125V | 5-20R | Specification Grade Single | Back/Side | Brown | 5361 | **5C362** | 10.02 | **8.00** | **7.22** | 0.2 |
| | | | | | | Ivory | 5361-I | **5C363** | 10.02 | **8.00** | **7.22** | 0.2 |




## FEED-THROUGH CORD SWITCHES

**No. 2X547 Feed-Through Cord Switch** provides On-Off positions. Accepts 2-wire, 18 AWG SJ and SJT cords up to 0.25" diameter. Rated 10A at 125VAC and 5A at 250VAC. UL Recognized (E7458). Brown. Leviton brand (5410).

**No. 2X547.** Shpg. wt. 0.1 lbs. List $2.99. Each.....**$2.43**; Lots 10.....**$2.19**; Lots 20.....**$2.02**

**No. 5X855 Feed-Through Cord Switch** provides LO-HI-OFF positions. Widely used for 2-speed fan control. Accepts 3-wire, 16 AWG SJ and SJT cords up to 0.34" diameter. Rated 10A at 125VAC and 5A at 250VAC. UL Recognized (E162507). Black.

**No. 5X855.** Shpg. wt. 0.1 lbs. List $3.29. Each.....**$3.13**; Lots 10.....**$2.97**



*When the spec calls for brand names, you'll find the best here.*

# WALL SWITCHES

## SPECIFICATION GRADE

**APPLICATIONS**
- Institutional, office, school, retail, and agricultural
- Use on lighting, motor loads, heating & AC, pumps, blowers & oil burners

**LISTINGS & APPROVALS**
- UL Listed, CSA Certified, and meet Fed. Spec. WS896

**FEATURES & BENEFITS**
- Switch mechanism fully enclosed in rugged housing providing strength, track and arc resistance
- One-piece, movable contact arm of heavy gauge copper alloy guarantees smooth, quiet, firm toggle action
- Silver-cadmium oxide contacts
- Deep wire wells and large head, deep slotted-terminal screws
- Heavy-gauge rust-resistant steel grounding screw and clip
- Shallow (3/4" deep) body allows quick installation

**SPECIALTY VERSION**
- PL versions have neon lamp that glows, indicating when load is on

## COMMERCIAL AND RESIDENTIAL GRADE

**APPLICATIONS**
- Use for lighting, appliances, and fans in offices, retail, homes

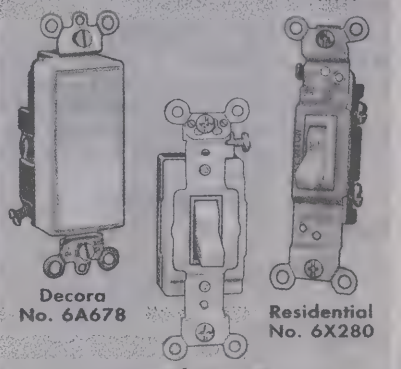
**LISTINGS & APPROVALS**
- UL Listed and CSA Certified except as noted below

**FEATURES & BENEFITS**
- Large-head terminal screws accept up to #10 AWG copper or copper-clad wire
- Captive mounting screws
- Silver-cadmium oxide contacts for maximum conductivity
- Heavy gauge, rust-resistant steel mounting strap
- Residential devices have Quickwire push-in terminals that accept up to #12 AWG copper or copper-clad wire
- Break-off plaster ears for best flush alignment

**SPECIALTY VERSION**
- Illuminated versions have neon lamp that glows, indicating when power is on

LEVITON

E7458 LR3413 (Except where noted below)



Decora No. 6A678

Residential No. 6X280

Specification & Commercial Grade No. 5C320

| Rating | Wiring Type | Description | Wiring Method | Color | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 15A 120/277V | Single Pole | Specification Grade | Back/Side | Brown | 1201-2 | 5C319 | $8.23 | $6.60 | $5.92 | 0.2 |
| | | Specification Grade | Back/Side | Ivory | 1201-2I | 5C320 | 8.23 | 6.60 | 5.92 | 0.2 |
| | | Commercial Grade | Side | Brown | CS115-2 | 5C327* | 2.82 | 2.25 | 2.02 | 0.2 |
| | | Commercial Grade | Side | Ivory | CS115-2I | 6A703* | 2.82 | 2.25 | 2.02 | 0.2 |
| | | Commercial Grade | Side | White | CS115-2W | 5C329* | 2.82 | 2.25 | 2.02 | 0.2 |
| | | Commercial Grade, Decora | Push/Side | Brown | 5601-2 | 5A064* | 5.11 | 4.10 | 3.69 | 0.2 |
| | | Commercial Grade, Decora | Push/Side | Gray | 5601-2GY | 5Z798* | 5.11 | 4.10 | 3.69 | 0.2 |
| | | Commercial Grade, Decora | Push/Side | Ivory | 5601-2I | 5A065* | 5.11 | 4.10 | 3.69 | 0.2 |
| | | Commercial Grade, Decora | Push/Side | White | 5601-2W | 6A678* | 5.11 | 4.10 | 3.69 | 0.2 |
| | | Commercial, Decora Illuminated | Push/Side | Ivory | 5611-2I | 5Z802* | 10.40 | 8.30 | 7.48 | 0.2 |
| | | Commercial, Decora Illuminated | Push/Side | White | 5611-2W | 5Z803* | 10.40 | 8.30 | 7.48 | 0.2 |
| 15A 120V | Single Pole | Residential Grade | Push/Side | Brown | 1451-2SP | 6X063* | 1.18 | 0.76 | 0.72 | 0.1 |
| | | Residential Grade | Push/Side | Ivory | 1451-2IS | 6X280* | 1.18 | 0.76 | 0.72 | 0.1 |
| | | Residential Grade | Push/Side | White | 1451-2W | 5Z755* | 1.18 | 0.76 | 0.72 | 0.1 |
| | | Specification, Pilot Light | Back/Side | Red | 1201-PLR | 5C325 | 16.14 | 12.91 | 11.59 | 0.2 |
| | | Specification, Pilot Light | Back/Side | Green | 1201-PLG | 5Z753 | 16.14 | 12.91 | 11.59 | 0.2 |
| 15A 120/277V | Double Pole | Specification Grade | Back/Side | Brown | 1202-2 | 5C321 | 13.66 | 10.93 | 9.83 | 0.2 |
| | | Specification Grade | Back/Side | Ivory | 1202-2I | 5C322 | 13.66 | 10.93 | 9.83 | 0.2 |
| 15A 120/277V | Three Way | Specification Grade | Back/Side | Brown | 1203-2 | 5C323 | 9.05 | 7.25 | 6.51 | 0.2 |
| | | Specification Grade | Back/Side | Ivory | 1203-2I | 5C324 | 9.05 | 7.25 | 6.51 | 0.2 |
| | | Commercial Grade | Side | Brown | CS315-2 | 5C330* | 4.56 | 3.63 | 3.25 | 0.2 |
| | | Commercial Grade | Side | Ivory | CS315-2I | 5C331* | 4.56 | 3.63 | 3.25 | 0.2 |
| | | Commercial Grade | Side | White | CS315-2W | 5C332* | 4.56 | 3.63 | 3.25 | 0.2 |
| | | Commercial Grade, Decora | Push/Side | Brown | 5603-2 | 5A066* | 7.10 | 5.68 | 5.11 | 0.2 |
| | | Commercial Grade, Decora | Push/Side | Gray | 5603-2GY | 5Z799* | 7.10 | 5.68 | 5.11 | 0.2 |
| | | Commercial Grade, Decora | Push/Side | Ivory | 5603-2I | 5A067* | 7.10 | 5.68 | 5.11 | 0.2 |
| | | Commercial Grade, Decora | Push/Side | White | 5603-2W | 6A679* | 7.10 | 5.68 | 5.11 | 0.2 |
| | | Commercial, Decora Illuminated | Push/Side | Ivory | 5613-2I | 5Z804* | 13.01 | 10.38 | 9.35 | 0.2 |
| | | Commercial, Decora Illuminated | Push/Side | White | 5613-2W | 5Z805* | 13.01 | 10.38 | 9.35 | 0.1 |
| 15A 120V | Single Pole | Residential Grade | Push/Side | Brown | 1453-2SP | 5A059* | 1.90 | 1.53 | 1.39 | 0.1 |
| | | Residential Grade | Push/Side | Ivory | 1453-2IS | 5A060* | 1.90 | 1.53 | 1.39 | 0.1 |
| | | Residential Grade | Push/Side | White | 1453-2W | 5Z756* | 1.90 | 1.53 | 1.39 | 0.1 |
| 15A 120V | Three Way | Specification, Pilot Light | Back/Side | Red | 1203-PLR | 5C326 | 20.59 | 16.44 | 14.78 | 0.2 |
| | | Specification, Pilot Light | Back/Side | Green | 1203-PLG | 5Z754 | 20.59 | 16.44 | 14.78 | 0.2 |
| 15A 120/277V | Four Way | Commercial Grade, Decora | Back/Side | Ivory | 5604-2I | 5Z800 | 24.38 | 19.42 | 17.48 | 0.2 |
| | | Commercial Grade, Decora | Back/Side | White | 5604-2W | 5Z801 | 24.38 | 19.42 | 17.48 | 0.2 |
| 20A 120/277V | Single Pole | Commercial Grade | Side | Ivory | CS120-2I | 6A704* | 3.72 | 3.02 | 2.72 | 0.2 |
| | | Commercial Grade, Decora | Back/Side | Brown | 5621-2 | 5C333 | 9.77 | 7.81 | 7.02 | 0.2 |
| | | Commercial Grade, Decora | Back/Side | Gray | 5621-2GY | 5C385 | 9.77 | 7.81 | 7.02 | 0.2 |
| | | Commercial Grade, Decora | Back/Side | Ivory | 5621-2I | 5C334 | 9.77 | 7.81 | 7.02 | 0.2 |
| | | Commercial Grade, Decora | Back/Side | White | 5621-2W | 5C335 | 9.77 | 7.81 | 7.02 | 0.2 |
| 20A 120/277V | Three Way | Commercial Grade, Decora | Back/Side | Brown | 5623-2 | 5C336 | 15.79 | 12.59 | 11.34 | 0.2 |
| | | Commercial Grade, Decora | Back/Side | Gray | 5623-2GY | 5C386 | 15.79 | 12.59 | 11.34 | 0.2 |
| | | Commercial Grade, Decora | Back/Side | Ivory | 5623-2I | 5C337 | 15.79 | 12.59 | 11.34 | 0.2 |
| | | Commercial Grade, Decora | Back/Side | White | 5623-2W | 5C338 | 15.79 | 12.59 | 11.34 | 0.2 |

(*) Not CSA Certified.

# WALL PLATES

## APPLICATIONS

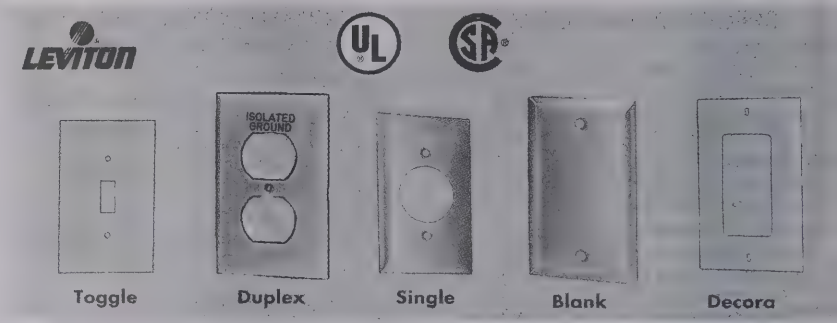
- Institutions, offices, wholesale/retail, hotel/motel
- Used indoor to protect devices from the elements and protect people from accidental contact with devices

## LISTINGS & APPROVALS

- UL Listed and CSA Certified

## FEATURES & BENEFITS

- Molded of urea or phenolic for high dielectric strength and arc resistance
- Resistant to fading, discoloration, oils, grease, organic solvents, and moisture

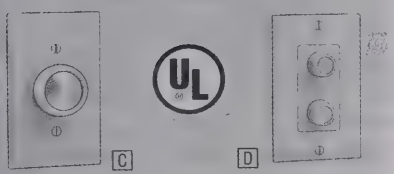



| Illustration / Description | No. of Gangs | Color / Finish | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Toggle** | 1 | Brown | 85001 | **6X740** | $0.39 | **$0.32** | **$0.29** | 0.1 |
| | | Ivory | 86001 | **6X739** | 0.39 | **0.32** | **0.29** | 0.1 |
| | | White | 88001 | **5C237** | 0.39 | **0.32** | **0.29** | 0.1 |
| | | Ivory | 80501-I | **5C273†** | 0.57 | **0.47** | **0.42** | 0.1 |
| | | White | 80501-W | **5C274†** | 0.57 | **0.47** | **0.42** | 0.1 |
| | 2 | Brown | 85009 | **5A057** | 0.79 | **0.64** | **0.58** | 0.1 |
| | | Ivory | 86009 | **5A058** | 0.79 | **0.64** | **0.58** | 0.1 |
| | | White | 88009 | **5C238** | 0.79 | **0.64** | **0.58** | 0.2 |
| | | Ivory | 80509-I | **5C275†** | 1.16 | **0.95** | **0.85** | 0.2 |
| | | White | 80509-W | **5C276†** | 1.16 | **0.95** | **0.85** | 0.2 |
| | 3 | Brown | 85011 | **5C239** | 1.13 | **0.93** | **0.83** | 0.2 |
| | | Ivory | 86011 | **5C240** | 1.13 | **0.93** | **0.83** | 0.2 |
| | | White | 88011 | **5C241** | 1.13 | **0.93** | **0.83** | 0.2 |
| | 4 | Brown | 85012 | **5C242** | 2.24 | **1.81** | **1.64** | 0.3 |
| | | Ivory | 86012 | **5C243** | 2.24 | **1.81** | **1.64** | 0.3 |
| | | White | 88012 | **5C244** | 2.24 | **1.81** | **1.64** | 0.3 |
| **Decora, GFCI** | 1 | Brown | 80401 | **5A070** | 0.60 | **0.49** | **0.44** | 0.1 |
| | | Gray | 80401-GY | **5C408** | 0.60 | **0.49** | **0.44** | 0.1 |
| | | Ivory | 80401-I | **5A071** | 0.60 | **0.49** | **0.44** | 0.1 |
| | | White | 80401-W | **6A677** | 0.60 | **0.49** | **0.44** | 0.1 |
| | 2 | Brown | 80409 | **5C255** | 1.16 | **0.94** | **0.84** | 0.1 |
| | | Gray | 80409-GY | **5C409** | 1.16 | **0.94** | **0.84** | 0.1 |
| | | Ivory | 80409-I | **5C256** | 1.16 | **0.94** | **0.84** | 0.1 |
| | | White | 80409-W | **5C257** | 1.16 | **0.94** | **0.84** | 0.1 |
| | 3 | Ivory | 80411-I | **5C262** | 1.68 | **1.36** | **1.23** | 0.1 |
| | | White | 80411-W | **5C263** | 1.68 | **1.36** | **1.23** | 0.1 |
| | 4 | Ivory | 80412-I | **5C264** | 5.43 | **4.35** | **3.91** | 0.2 |
| | | White | 80412-W | **5C265** | 5.43 | **4.35** | **3.91** | 0.2 |
| **Duplex** | 1 | Brown | 85003 | **6X738** | 0.39 | **0.34** | **0.30** | 0.1 |
| | | Ivory | 86003 | **6X737** | 0.39 | **0.34** | **0.30** | 0.1 |
| | | White | 88003 | **5C245** | 0.39 | **0.34** | **0.30** | 0.1 |
| | | Ivory | 80503-I | **5C277†** | 0.57 | **0.47** | **0.43** | 0.1 |
| | | White | 80503-W | **5C278†** | 0.57 | **0.47** | **0.43** | 0.1 |
| | 2 | Brown | 85016 | **5C246** | 0.79 | **0.64** | **0.58** | 0.1 |
| | | Ivory | 86016 | **5C247** | 0.79 | **0.64** | **0.58** | 0.1 |
| | | White | 88016 | **5C248** | 0.79 | **0.64** | **0.58** | 0.1 |
| | | Ivory | 80516-I | **5C279†** | 2.97 | **2.39** | **2.15** | 0.1 |
| | | White | 80516-W | **5C280†** | 2.97 | **2.39** | **2.15** | 0.1 |
| **Single** | 1 | Brown | 85004 | **5C249*** | 0.79 | **0.64** | **0.58** | 0.1 |
| | | Ivory | 86004 | **5C250*** | 0.79 | **0.64** | **0.58** | 0.1 |
| | | White | 88004 | **5C251*** | 0.79 | **0.64** | **0.58** | 0.1 |
| **Toggle/Duplex** | 2 | Brown | 85005 | **5C252** | 0.79 | **0.64** | **0.58** | 0.1 |
| | | Ivory | 86005 | **5C253** | 0.79 | **0.64** | **0.58** | 0.1 |
| | | White | 88005 | **5C254** | 0.79 | **0.64** | **0.58** | 0.1 |
| **Blank (Direct Box Mount)** | 1 | Brown | 85014 | **5C270** | 0.62 | **0.52** | **0.46** | 0.1 |
| | | Ivory | 86014 | **5C271** | 0.62 | **0.52** | **0.46** | 0.1 |
| | | White | 88014 | **5C272** | 0.62 | **0.52** | **0.46** | 0.1 |
| | | Ivory | 80514-I | **5C281†** | 0.76 | **0.62** | **0.56** | 0.1 |
| | | White | 80514-W | **5C282†** | 0.76 | **0.62** | **0.56** | 0.1 |
| **Toggle/ Decora, GFCI** | 2 | Ivory | 80405-I | **5C258** | 1.16 | **0.94** | **0.84** | 0.1 |
| | | White | 80405-W | **5C259** | 1.16 | **0.94** | **0.84** | 0.1 |
| **Duplex / Decora, GFCI** | 2 | Ivory | 80455-I | **5C260** | 1.97 | **1.59** | **1.43** | 0.1 |
| | | White | 80455-W | **5C261** | 1.97 | **1.59** | **1.43** | 0.1 |

(†) Mid-way wall plates are 3/8" higher and 3/8" wider than standard size plates to cover wall imperfections. (*) Inside diameter is 1.406".

# DECORA DIMMERS AND FAN SPEED CONTROLS




**For Use In Restaurants, Hotels, Stores, and Residential Installations**

## A TOUCH DIMMERS

- **Features touch on and off operation; ivory has ivory touch panel; white has white touch panel**
- **Solid state circuitry includes radio interference filter**
- **For incandescent lighting only**
- **120VAC, 60Hz only; max. watts: 600**
- **UL Listed (E31373)**

**Note:** When 2 units are ganged together, each unit should not be loaded beyond 500W. When 3 or more are ganged together, each unit should not be loaded beyond 400W.

## B, C & D FAN SPEED CONTROLS

- **For ceiling, attic, kitchen, or bathroom fans with split capacitor or shaded pole motors only**
- **Nos. 5C343 and 5C344 have manual low-speed trim adjustment ensures proper restart after power interruption to prevent motor overheating**
- **Compact size fits standard wall box and is suitable for ganging**
- **Silver-center rotary knobs**
- **UL Listed (E54101)**
- **CSA Certified (LR3413)**

**Nos. 5C347 and 5C348.** Slide control, 5A 120VAC. 60 Hz only.

**Nos. 5C343 and 5C344.** Wall mounted controls operate 1 or 2 units within rating limits. **Rating:** 600W, 5A, 120VAC.

**Nos. 5C345 and 5C346.** Wall mounted controls have full range dimmer. Operates 1 fan and 1 light within range limits. **Rating:** Speed control 300W, 2.5A, 120VAC; Dimmer 300W, 2.5A, 120VAC.

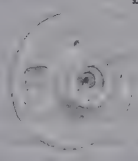
### DECORA DIMMERS AND FAN SPEED CONTROLS SPECIFICATIONS AND ORDERING DATA

| Key | Color | Switch Type | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Ivory | Single Pole | 6606-AI | **5C339** | $29.72 | **$24.05** | **$21.72** | 0.5 |
| A | White | Single Pole | 6606-AW | **5C340** | 29.72 | **24.05** | **21.72** | 0.5 |
| A | Ivory | 3-Way | 6607-AI | **5C341** * | 58.81 | **47.65** | **42.99** | 1.1 |
| A | White | 3-Way | 6607-AW | **5C342** * | 58.81 | **47.65** | **42.99** | 1.1 |
| B | Ivory | Single Pole | 6627-II | **5C347** | 37.32 | **29.85** | **26.83** | 0.4 |
| B | White | Single Pole | 6627-1W | **5C348** | 37.32 | **29.85** | **26.84** | 0.5 |
| C | Ivory | Single Pole | 6616-1XI | **5C343** | 20.65 | **16.50** | **14.86** | 0.7 |
| C | White | Single Pole | 6616-1XW | **5C344** | 20.65 | **16.50** | **14.86** | 0.7 |
| D | Ivory | Single Pole | 6617-XI | **5C345** | 30.99 | **24.75** | **22.29** | 0.6 |
| D | White | Single Pole | 6617-XW | **5C346** | 30.99 | **24.75** | **22.29** | 0.6 |

*) Includes both units for 3-way circuit.

# PORCELAIN LAMPHOLDERS

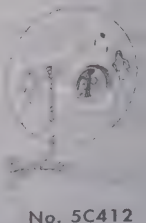
LEVITON E3810



No. 5C406



No. 5C407



No. 5C412

**Porcelain lampholders** are for use in industrial, commercial and residential applications. Screw terminal connections. Mount directly to 3¼" or 4" ceiling box. Top wired. Accepts medium screw base lamps not to exceed ratings shown in chart. Pull chain models have short chain with connector and 3 feet of braided cord and bell at end.

**No. 5C407** has removable interior mechanism with captive mounting screws. **No. 5C412** includes outlet. Used for pull-chain lampholders and hanging fixture bowls. Removable interior mechanism.

### PORCELAIN LAMPHOLDERS SPECIFICATIONS AND ORDERING DATA

| Description | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 660W / 250V, 2 terminal screws | 9875 | **5C406** | $2.81 | **$2.32** | **$2.09** | 0.7 |
| 250W / 250V with pull chain, 2 terminal screws | 29816-C | **5C407** | 4.82 | **3.96** | **3.55** | 0.8 |
| 250W / 250V with pull chain and NEMA 5-15R outlet (15A/125V) | 9526-C | **5C412** | 7.69 | **6.24** | **5.62** | 0.9 |

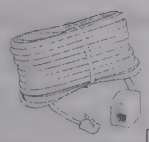
Single-pin lampholders are sold on page 934.

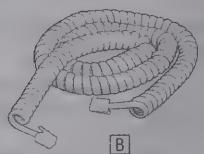
# MODULAR TELEPHONE CORDS AND TEST EQUIPMENT

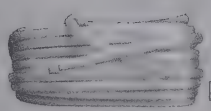
## MODULAR TELEPHONE CORDS

LEVITON TELCOM VOICE/DATA PRODUCTS

UL E109712


A


B


C


D

- Durable PVC jacket will not blemish or discolor surfaces

| Key | Phone Cord Type | Gauge | Length (Ft.) | Color | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | **Modular Extension Cord:** features 4-contact modular plug and 4-contact modular connector | 26 | 25 | Ivory | 42406-25I | **6C072** | $6.54 | **$5.24** | **$4.73** | 0.3 |
| B | **Modular Handset Cord:** features 4-contact modular plugs at both ends | 26 | 15 | Ivory | 42407-15I | **6C073** | 5.88 | **4.70** | **4.23** | 0.1 |
| | | 26 | 15 | White | 42407-15W | **6C074** | 5.88 | **4.70** | **4.23** | 0.1 |
| | | 26 | 15 | Beige | 42407-15B | **6C075** | 5.88 | **4.70** | **4.23** | 0.1 |
| | | 26 | 25 | Ivory | 42407-25I | **6C076** | 7.41 | **5.93** | **5.35** | 0.2 |
| | | 26 | 25 | White | 42407-25W | **6C077** | 7.41 | **5.93** | **5.35** | 0.2 |
| C | **Modular Replacement Cord:** features 4-contact modular plugs on each end | 26 | 25 | Ivory | 42413-25I | **6C078** | 6.14 | **4.92** | **4.43** | 0.3 |
| D | **22 AWG 4 Conductor Telephone Wire** | 22 | 100 | Ivory | 93109-1CI | **6C079** | 13.63 | **11.05** | **9.96** | 1.7 |

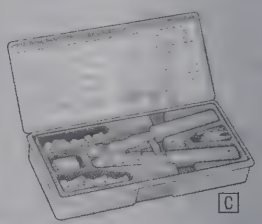
## TELEPHONE TEST EQUIPMENT

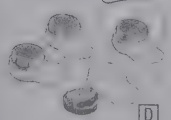

A

LEVITON TELCOM VOICE/DATA PRODUCTS


B

UL E109712


C


D


E

### A TONE TEST SET

- Isolates & tests telephone, data, HVAC systems, security or alarm wiring appls.
- Emits 2 different traceable tones for tracing pairs or locating broken wire pairs in walls
- Tests for continuity, shorts or open lines • Verifies line condition and polarity
- Rubber grommet prevents chafing on test leads

### B SPEAKER PROBE

- Used with tone test set No. 6C082 to trace and identify single wires or wire pairs
- Includes two replaceable tips and one 9-volt battery

### C SPLICEPRO TOOL KIT

- Kit includes 1 crimping tool; 1 space cutting blade; 20 B-type splices; 20 UR-type splices
- Tool crimps 22-26 gauge wire using UR or B-type splices
- Calibrated for exact compression to maximize splice reliability
- Adjustable for right or left handed use
- Replacement splices sold separately below

### D and E REPLACEMENT SPLICES

- B and UR-type splices • Sold in packages of 100

Greenlee Telcom crimpers available on pg 1323

| Key | Description | Leviton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Tone test set | 49560-TTS | **6C082** | $52.75 | **$42.10** | 0.4 |
| B | Inductive speaker probe | 49561-SSP | **6C083** | 89.69 | **71.55** | 0.5 |
| C | Splicepro tool kit | 49550-KIT | **6C084** | 83.35 | **66.55** | 1.2 |
| D | 100 UR-type splice connectors | 49551-1CU | **6C085** | 30.60 | **24.40** | 0.3 |
| E | 100 B-type splice connectors | 49551-1CB | **6C086** | 15.48 | **12.39** | 0.5 |

## TELEPHONE PRODUCT TESTER

- Provides basic operation tests for corded and cordless telephones, answering machines, and automatic dialers, and low and normal ring test
- Checks line and handset cords for continuity, shorts, and intermittents
- Verifies number dialed or redialed (pulse or touch-tone)
- Verifies voice and DTMF levels are above minimum required levels



B&K PRECISION

No. 1T169

PREMIER 143



No. 6T100

**No. 1T169.** B&K Precision brand (1045B). Shpg. wt. 4.5 lbs. Each .....**$625.00**

## TELEPHONE LINE TEST SET

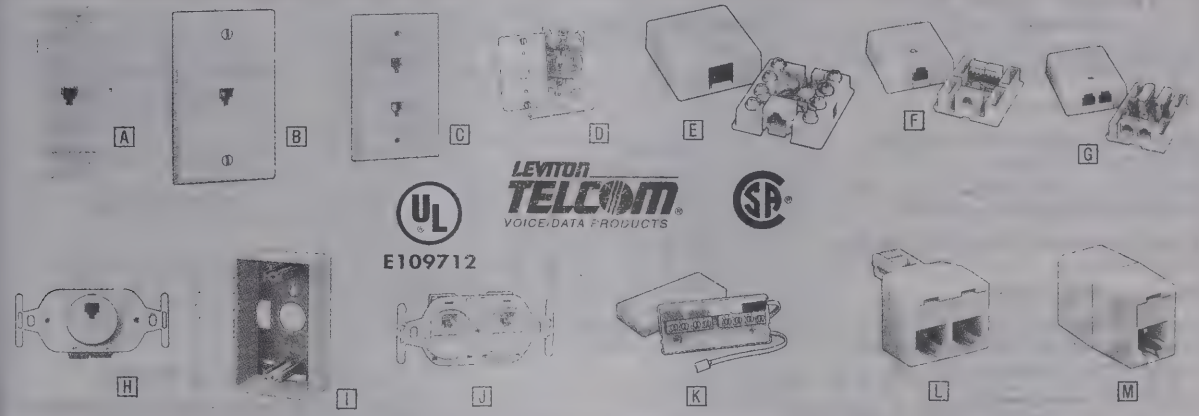
- For use by telephone repair technicians and installers to test lines and provide temporary communications
- Features audible ringer for incoming calls
- Last number redial holds up to 31 digits
- Tone and pulse switchable
- Mute and polarity button with LED
- Provides DTMF output

**No. 6T100.** Premier brand (PT-311). Shpg. wt. 1.8 lbs. List $225.00. Each ....**$180.00**



When the spec calls for brand names, you'll find the best here.

# MODULAR TELEPHONE JACKS AND ACCESSORIES




- **Modular telephone devices are designed for communications premise wiring**
- **Rugged construction resists cracking, chipping and breaking**
- **4, 6, or 8 conductor configuration available for voice or data communications**
- **Mounting options include surface or flush style**
- **Termination styles include screw or quick connect**
- **Colors match standard electrical devices for consistency**
- **UL Listed and CSA Certified; Meet FCC part 68 requirements**
- **Leviton Telcom brand**

| Key | Description | Conductor Configuration | Color | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | **Flush Mount Modular Jack Type 625;** for use with any Decora wall plate | 4 | Ivory | 40649-I | **5C384** | $4.35 | **$3.48** | **$3.13** | 0.1 |
| | | 4 | White | 40649-W | **5C390** | 4.35 | **3.48** | **3.13** | 0.1 |
| B | **Flush Mount Modular Jack Type 625B4;** for smooth finish—includes jack, plate, mounting hardware | 4 | Ivory | 40249-I | **5C379** | 3.11 | **2.49** | **2.25** | 0.1 |
| | | 4 | White | 40249-W | **5C387** | 3.11 | **2.49** | **2.25** | 0.1 |
| | | 6 | Ivory | 40238-I | **6C069** | 3.61 | **2.89** | **2.61** | 0.1 |
| | | 6 | White | 40238-W | **6C070** | 3.61 | **2.89** | **2.61** | 0.1 |
| | | 8 | Ivory | 40280-I | **6C071** | 5.45 | **4.36** | **3.92** | 0.1 |
| C | **Duplex Flush Mount Modular Jack Type 625B3;** includes two 4-conductor jacks, plate, and smooth finish mounting hardware; accepts 2 modular plugs | 4 | Ivory | 40244-I | **5C392** | 5.43 | **4.34** | **3.90** | 0.1 |
| D | **Wall Phone Jack with Quick Connect Terminals Type 630A;** Includes wallplate, metal bracket, mounting equipment, installation tool. Converts from wall phone jack to flush mount jack | 4 | Ivory | 40253-I | **5C388** | 5.83 | **4.67** | **4.20** | 0.2 |
| | | 4 | White | 40253-W | **5C382** | 5.83 | **4.67** | **4.20** | 0.2 |
| E | **Surface Mount Modular Jack Type 625A2** | 4 | Ivory | 40274-I | **5C380** | 2.66 | **2.13** | **1.93** | 0.1 |
| | | 6 | Ivory | 40276-I | **5C381** | 3.32 | **2.66** | **2.40** | 0.1 |
| | | 8 | Ivory | 40278-I | **5C383** | 4.98 | **4.00** | **3.59** | 0.1 |
| F | **Surface Mount Jack with Quick Connect Terminal Type 103** | 6 | Ivory | 41063-IDA | **6C062** | 7.43 | **5.94** | **5.36** | 0.2 |
| | | 8 | Ivory | 41068-IDB | **6C063** | 7.70 | **6.16** | **5.55** | 0.2 |
| G | **Duplex Surface Mount Jack Type 104;** two 6-conductor jacks with quick connect terminals | 6 | Ivory | 41046-IDA | **6C064** | 12.45 | **9.94** | **8.95** | 0.2 |
| | **Duplex Surface Mount Jack Type 104;** two WECO wired 8-conductor jacks with quick connect terminals | 8 | Ivory | 41048-IDB | **6C065** | 13.11 | **10.46** | **9.42** | 0.2 |
| H | **Flush Mount Jack with Quick Connect Terminals Type 105** | 6 | Ivory | 41056-IDD | **6C066** | 6.38 | **5.10** | **4.59** | 0.1 |
| | **Flush Mount Jack with Quick Connect Terminals Type 105;** WECO style wiring | 8 | Ivory | 41058-IDA | **6C067** | 6.61 | **5.30** | **4.78** | 0.1 |
| I | **Surface Mount Backbox** | — | Ivory | 41777-IBB | **6C068** * | 4.61 | **3.70** | **3.33** | 0.2 |
| J | **Duplex Flush Mount Jack Type 106;** two 4-conductor jacks with quick connect terminals | 4 | Ivory | 41364-IDI | **5C389** | 9.41 | **7.53** | **6.79** | 0.1 |
| | **Duplex Flush Mount Jack Type 106;** two 6-conductor jacks with quick connect terminals | 6 | Ivory | 41366-IDI | **6C060** | 9.65 | **7.70** | **6.93** | 0.1 |
| | **Duplex Flush Mount Jack Type 106;** two WECO wired 8-conductor jacks with quick connect terminals | 8 | Ivory | 41367-IDI | **6C061** | 9.91 | **7.91** | **7.13** | 0.1 |
| K | **Wire Junction Block with Modular Plug;** central connecting point for wiring up to four 4-conductor telephone extensions. Includes terminal strip, mounting screws and 12" 4-conductor cord with modular plug | — | Ivory | 40218-I | **5C391** | 8.46 | **6.77** | **6.10** | 0.2 |
| L | **Modular Y Adapter;** connects 2 phones/answering machines into 4-conductor modular jack | 1 | Ivory | 40217-I | **6C080** | 3.90 | **3.11** | **2.80** | 0.1 |
| M | **Modular Cord Coupler;** connects two 4-conductor cords | 4 | Ivory | 40250-I | **6C081** | 3.14 | **2.50** | **2.26** | 0.1 |

*) Not CSA Certified.

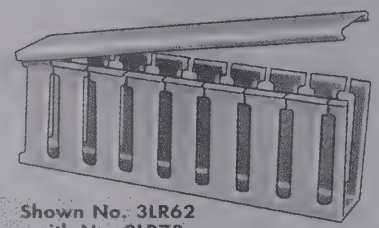
# TAYLOR® OPEN SLOT WIRING DUCT

## TAYLOR® OPEN SLOT WIRING DUCT

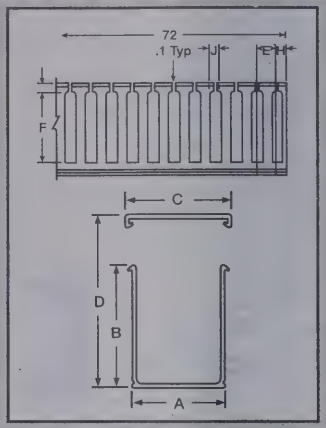
- Used in panels or applications requiring neat wire layout
- Vinyl (PVC) construction
- Snap-back wire retention feature traps installed wires
- Straight deep slots allow larger wire sizes all the way to the bottom
- Edges are buffed smooth to minimize wire chafing
- Standard 6 ft. length
- Patented "no slip" snap-on covers interlock with duct sidewalls to prevent vibration slippage
- Meets JIC requirements

Thomas&Betts

E49405



Shown No. 3LR62 with No. 3LR73




## TAYLOR® OPEN SLOT WIRING DUCT ORDERING DATA

| WIRE DUCT | | | | | | | | | | | | | | COVERS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Color | Nominal Dimensions (In.) A | B | C | D | E | F | H | J | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. | Width (In.) | Thomas & Betts Model | Stock No. | List | Each | Shpg. Wt. |
| Gray | 1.18 | 2.00 | 1.38 | 2.10 | 0.73 | 1.25 | 0.5 | 0.38 | 91020 | **3LR61** | $27.70 | **$20.78** | 1.3 | | | | | | |
| | 1.18 | 3.00 | 1.38 | 3.10 | 1.00 | 2.25 | 0.5 | 0.38 | 91030 | **3LR62** | 35.93 | **26.95** | 2.0 | 1 | 99010 | **3LR73** | $6.11 | **$4.58** | 0.5 |
| | 1.20 | 4.00 | 1.38 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 91040 | **3LR63** | 43.80 | **32.85** | 2.5 | | | | | | |
| Gray | 1.68 | 2.00 | 1.88 | 2.10 | 0.73 | 1.25 | 0.5 | 0.38 | 91520 | **3LR64** | 27.48 | **20.61** | 1.4 | | | | | | |
| | 1.68 | 3.00 | 1.88 | 3.10 | 1.00 | 2.25 | 0.5 | 0.38 | 91530 | **3LR65** | 37.80 | **28.40** | 2.0 | 1.5 | 99015 | **3LR74** | 7.48 | **5.61** | 0.9 |
| | 1.70 | 4.00 | 1.88 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 91540 | **3LR66** | 44.67 | **33.55** | 2.8 | | | | | | |
| Gray | 2.18 | 2.00 | 2.38 | 2.10 | 0.73 | 1.25 | 0.5 | 0.38 | 92020 | **3LR67** | 29.94 | **22.46** | 1.6 | | | | | | |
| | 2.18 | 3.00 | 2.38 | 3.10 | 1.00 | 2.25 | 0.5 | 0.38 | 92030 | **3LR68** | 39.06 | **29.30** | 2.4 | 2 | 99020 | **3LR75** | 8.98 | **6.74** | 0.8 |
| | 2.20 | 4.00 | 2.38 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 92040 | **3LR69** | 47.17 | **35.40** | 3.2 | | | | | | |
| Gray | 3.18 | 3.00 | 3.38 | 3.10 | 1.00 | 3.25 | 0.5 | 0.38 | 93030 | **3LR70** | 45.17 | **33.90** | 2.6 | | | | | | |
| | 3.20 | 4.00 | 3.38 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 93040 | **3LR71** | 54.52 | **40.90** | 3.6 | 3 | 99030 | **3LR76** | 13.72 | **10.29** | 1.1 |
| Gray | 4.20 | 4.00 | 4.38 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 94040 | **3LR72** | 60.52 | **45.40** | 4.0 | 4 | 99040 | **3LR77** | 16.35 | **12.26** | 1.5 |
| White | 1.18 | 2.00 | 1.38 | 2.10 | 0.73 | 1.25 | 0.5 | 0.38 | 71020TR | **5A677** | 23.08 | **17.32** | 1.3 | | | | | | |
| | 1.18 | 3.00 | 1.38 | 3.10 | 1.00 | 2.25 | 0.5 | 0.38 | 71030 | **5A678** | 29.84 | **22.38** | 1.8 | 1 | 79010TR | **5A682** | 5.06 | **3.80** | 0.7 |
| | 1.20 | 4.00 | 1.38 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 71040 | **4XK29** | 35.66 | **26.75** | 2.5 | | | | | | |
| White | 1.68 | 2.00 | 1.88 | 2.10 | 0.73 | 1.25 | 0.5 | 0.38 | 71520 | **4XK28** | 24.96 | **18.72** | 1.3 | | | | | | |
| | 1.68 | 3.00 | 1.88 | 3.10 | 1.00 | 2.25 | 0.5 | 0.38 | 71530 | **4XK24** | 31.72 | **23.79** | 2.2 | 1.5 | 79015 | **4XK30** | 6.18 | **4.64** | 0.8 |
| | 1.70 | 4.00 | 1.88 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 71540 | **4XK26** | 37.00 | **27.75** | 2.8 | | | | | | |
| White | 2.18 | 2.00 | 2.38 | 2.10 | 0.73 | 1.25 | 0.5 | 0.38 | 72020 | **5A679** | 25.24 | **18.93** | 1.5 | | | | | | |
| | 2.18 | 3.00 | 2.38 | 3.10 | 1.00 | 2.25 | 0.5 | 0.38 | 72030 | **5A680** | 32.66 | **24.50** | 2.1 | 2 | 79020TR | **5A683** | 7.69 | **5.77** | 0.9 |
| | 2.20 | 4.00 | 2.38 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 72040 | **5A681** | 38.38 | **28.80** | 2.8 | | | | | | |
| White | 3.18 | 3.00 | 3.38 | 3.10 | 1.00 | 3.25 | 0.5 | 0.38 | 73030 | **5A676** | 37.73 | **28.30** | 2.3 | | | | | | |
| | 3.20 | 1.00 | 3.38 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 73040 | **4XK27** | 38.95 | **29.25** | 3.2 | 3 | 79030TR | **5A684** | 11.25 | **8.44** | 1.2 |
| White | 4.20 | 4.00 | 4.38 | 4.10 | 1.00 | 3.25 | 0.5 | 0.38 | 74040 | **4XK25** | 50.49 | **37.90** | 3.6 | 4 | 79040 | **4XK31** | 12.85 | **9.64** | 1.7 |

### DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

### UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.




No. 1X219
3½ Digit 1/8 DIN Advanced Digital Panel Meter



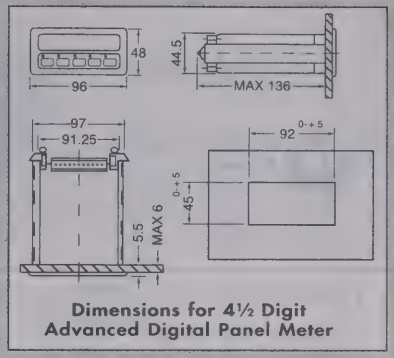

No. 2T864
4½ Digit
1/8 DIN DC Voltmeter

Simpson




No. 1X309
3½ Digit Mini.-Max.
3/64 DIN Miniature DC Voltmeter

Minority-Owned Business




Dimensions for 4½ Digit Advanced Digital Panel Meter

## 1/8 DIN ADVANCED DIGITAL PANEL METERS

- 3½ digit
- Red LED display, 0.56" high
- Peak-Valley values
- Screw terminal connector for easy installation
- NEMA 4/IP 65 front panel
- Easily programmed from the front panel
- 120 VAC powered
- Dual 5A @ 240V Relays

| Signal Input | Relays | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **DC VOLTAGE** | | | | | |
| 200mV | 2 | H235-1-0110-0-2-0 | 1X219 | $209.00 | 1.0 |
| 20V | 2 | H235-1-0130-0-2-0 | 2T889 | 209.00 | 1.0 |
| **DC PROCESS Display scaled 0-100%** | | | | | |
| 4-20mA | 2 | H235-1-0710-0-2-0 | 2T888 | 209.00 | 1.0 |
| 4-20mA | 2 | H235-1-0710-0-2-1 | 2T896* | 249.00 | 1.0 |
| **AC CURRENT Display scaleable for use with AC Current Transformer** | | | | | |
| 0-5A | 2 | H235-1-0460-0-2-0 | 1X221 | 249.00 | 1.0 |
| **TEMPERATURE (°F)** | | | | | |
| Type J T/C | 2 | H235-1-0910-0-2-0 | 1X239 | 269.00 | 1.0 |
| Type K T/C | 2 | H235-1-0920-0-2-0 | 1X241 | 269.00 | 1.0 |
| RTD Pt100 | 2 | H235-1-0930-0-2-0 | 1X243 | 279.00 | 1.0 |

(*) 12VDC excitation power for use with current transducers or temp. transmitters.

## 1/8 DIN DC VOLTMETERS

- 3½ digit or 4½ digit displays
- Bright red display, 0.56" high
- Display Scaleable
- Screw terminal connectors standard
- Jumper selectable decimal point
- 120 VAC or 9-32 VDC powered
- Display hold

| Signal Input | Display Digits | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 200mVDC | 3½ | F35-1-11-0 | 2T859 | $105.00 | 1.3 |
| 2VDC | 3½ | F35-1-12-0 | 2T860 | 105.00 | 1.3 |
| 20VDC | 3½ | F35-1-13-0 | 2T861 | 105.00 | 1.3 |
| 20VDC | 3½ | F35-3-13-0 | 1X165* | 169.00 | 1.3 |
| 20VDC | 4½ | F45-1-13-0 | 2T864 | 189.00 | 1.3 |
| 20VDC | 4½ | F45-3-13-0 | 1X215* | 249.00 | 1.3 |
| 200VDC | 3½ | F35-1-14-0 | 2T862 | 105.00 | 1.3 |
| 200VDC | 3½ | F35-3-14-0 | 1X167* | 169.00 | 1.3 |
| 200VDC | 4½ | F45-1-14-0 | 2T865 | 189.00 | 1.3 |

(*) 9-32 VDC power supply.

## 1/8 DIN ADVANCED DIGITAL PANEL METERS

- 4½ digit
- Red LED display, 0.56" high
- Two piece screw terminal connector for easy installation

| Signal Input | Relays | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **DC PROCESS Display scaled 0-100%** | | | | | |
| 4-20mA | 2 | HK45-1-0710-0-2-0 | 2T890 | $349.00 | 1.6 |
| 4-20mA | 2 | HK45-1-0710-0-2-1 | 2T898* | 399.00 | 1.6 |
| **AC CURRENT Display scaleable for use with AC Current Transformer** | | | | | |
| 5A | 2 | HK45-1-0460-0-2-0 | 1X255 | 379.00 | 1.6 |
| **TEMPERATURE (°F)** | | | | | |
| Type J T/C | 2 | HK45-1-1720-0-2-0 | 1X265 | 399.00 | 1.6 |
| Type K T/C | 2 | HK45-1-1820-0-2-0 | 1X267 | 399.00 | 1.6 |

(*) 12VDC excitation power for use with current transducers or temp. transmitters.

SEE ADDITIONAL DIMENSIONS ON NEAR BY PAGE

## 3/64 DIN MINI-MAX DC VOLTMETERS

- 3½ or 4½ digit LCD display
- Shallow depth behind panel
- Negative image, bright red backlighting available
- 85-250 VAC or 9-32 VDC powered, depth only 2.36"
- Display hold

| Signal Input | Display Span | Backlit | Display Digits | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 200mVDC | 1999 | No | 3½ | M235-0-0-11-0 | 1X309 | $89.00 | 0.3 |
| 200mVDC | 1999 | Yes | 3½ | M235-1-0-11-0 | 3T478 | 109.00 | 0.3 |
| 200mVDC | 1999 | No | 3½ | M235-0-2-11-0 | 1X340* | 119.00 | 0.3 |
| 2VDC | 1999 | No | 3½ | M235-0-0-12-0 | 1X315 | 89.00 | 0.3 |
| 2VDC | 1999 | Yes | 3½ | M235-1-0-12-0 | 3T479 | 109.00 | 0.3 |
| 20VDC | 1999 | No | 3½ | M235-0-0-13-0 | 1X317 | 89.00 | 0.3 |
| 20VDC | 1999 | Yes | 3½ | M235-1-0-13-0 | 3T480 | 109.00 | 0.3 |
| 20VDC | 1999 | No | 3½ | M235-0-2-13-0 | 1X345* | 119.00 | 0.3 |
| 20VDC | 19999 | Yes | 3½ | M245-1-0-13-0 | 1X421 | 149.00 | 0.3 |
| 200VDC | 1999 | No | 3½ | M235-0-0-14-0 | 1X319 | 89.00 | 0.3 |
| 200VDC | 1999 | Yes | 3½ | M235-1-0-14-0 | 3T481 | 109.00 | 0.3 |
| 750VDC | 19999 | No | 4½ | M245-0-0-15-0 | 1X378 | 125.00 | 0.3 |
| 750VDC | 19999 | Yes | 4½ | M245-1-0-15-0 | 1X425 | 149.00 | 0.3 |
| 750VDC | 19999 | No | 4½ | M245-0-2-15-0 | 1X412* | 155.00 | 0.3 |

(*) 9-32 VDC power supply.

# DIGITAL PANEL METERS

Simpson®

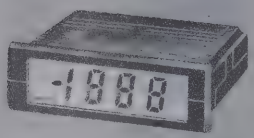
Minority-Owned Business



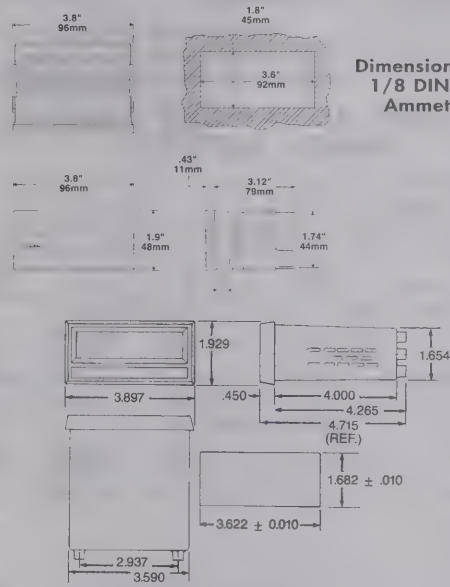
No. 1T899
3 1/2 Digit DC Voltmeter



No. 1X145
1/8 DIN DC Ammeter



No. 1X313 Mini-Max
3/64 DIN DC Ammeter




Dimensions for 1/8 DIN DC Ammeter

Digital Panel Meters

## 3 1/2 DIGIT DC VOLTMETERS

- Bright red LED display, 0.56" high
- Automatic zero and polarity indication
- 0.1% of reading accuracy
- Fits standard 1.682" x 3.622" cutouts
- Includes template and mounting hardware
- 120VAC powered

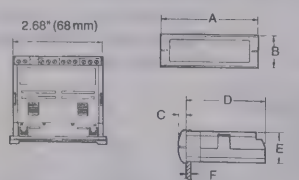
| Signal Input | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 200mVDC | 24500 | 1T899 | $169.00 | 0.8 |
| 2VDC | 24501 | 1T900 | 169.00 | 0.8 |
| 20VDC | 24502 | 1T901 | 169.00 | 0.8 |
| 200VDC | 24503 | 1T902 | 169.00 | 0.8 |

## 1/8 DIN DC AMMETER

- Bright red LED display, 0.56" high
- 3 1/2 or 4 1/2 digit display
- Screw terminal connectors standard
- Display scaled for use with external DC 50mV shunt
- 120VAC powered
- Display hold

| Signal Input | Display Span | Display (Digits) | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 50mVDC | 0-150 A DC | 3 1/2 | F35-1-11-0-L | 1X145 | $105.00 | 1.3 |
| 50mVDC | 0-200 A DC | 3 1/2 | F35-1-11-0-M | 1X147 | 105.00 | 1.3 |
| 50mVDC | 0-300 A DC | 3 1/2 | F35-1-11-0-N | 1X149 | 105.00 | 1.3 |
| 50mVDC | 0-300 A DC | 4 1/2 | F45-1-11-0-N | 1X171 | 189.00 | 1.3 |
| 50mVDC | 0-500 A DC | 4 1/2 | F45-1-11-0-P | 1X173 | 189.00 | 1.3 |

Dimensions for 3/64 DIN Mini-Max Miniature DC Ammeter




A 2.84" (72 mm)

B .945" (24 mm)

C .158" (4 mm)

D 2.36" (60 mm)

E .874" (22.2 mm)

F .125" (3.18) Max. Panel Thickness

## 3/64 DIN MINI-MAX DC AMMETERS

- 3 1/2 or 4 1/2 digit display
- Negative image, bright red backlighting available
- Shallow depth behind panel
- Display hold

| Signal Input | Display Span | Backlit | Display (Digits) | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| MINI-MAX: 85-250 VAC powered, Display scaled for use with 50mV shunt | | | | | | | |
| 50mVDC | 0-100 A DC | No | 3 1/2 | M235-0-0-11-0-Q | 1X313 | $89.00 | 0.3 |
| 50mVDC | 0-100 A DC | Yes | 3 1/2 | M235-1-0-11-0-Q | 1X355 | 109.00 | 0.3 |
| 50mVDC | 0-150 A DC | No | 3 1/2 | M235-0-0-11-0-L | 1X311 | 89.00 | 0.3 |
| 50mVDC | 0-150 A DC | Yes | 3 1/2 | M235-1-0-11-0-L | 1X352 | 109.00 | 0.3 |
| 50mVDC | 0-200 A DC | No | 4 1/2 | M245-0-0-11-0-M | 1X368 | 125.00 | 0.3 |
| 50mVDC | 0-200 A DC | Yes | 4 1/2 | M245-1-0-11-0-M | 1X415 | 145.00 | 0.3 |
| 50mVDC | 0-300 A DC | No | 4 1/2 | M245-0-0-11-0-N | 1X370 | 125.00 | 0.3 |
| 50mVDC | 0-300 A DC | Yes | 4 1/2 | M245-1-0-11-0-N | 1X417 | 145.00 | 0.3 |
| 50mVDC | 0-500 A DC | No | 4 1/2 | M245-0-0-11-0-P | 1X372 | 125.00 | 0.3 |
| 50mVDC | 0-500 A DC | Yes | 4 1/2 | M245-1-0-11-0-P | 1X419 | 145.00 | 0.3 |

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# DIGITAL PANEL METERS



No. 1X323
3/64 DIN Mini-Max
AC Ammeter

Minority-Owned Business

New



No. 2T872
1/8 DIN AC Ammeter

## 3/64 DIN MINI-MAX AC VOLTMETER

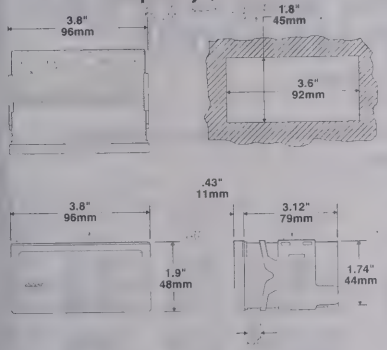
- Shallow depth, only 2.36"
- 3½ or 4½ digit LCD display
- Negative image, bright red backlighting available
- 85-120 VAC powered

| Signal Input | Display Span | Display | Backlit | Simpson Model | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 200VAC | 1999 | 3½ | No | M235-0-0-34-0 | | 1X321 | $125.00 | 0.3 |
| 200VAC | 1999 | 3½ | Yes | M235-1-0-34-0 | | 1X357 | 145.00 | 0.3 |
| 200VAC | 19999 | 4½ | No | M245-0-0-34-0 | | 1X380 | 159.00 | 0.3 |
| 200VAC | 19999 | 4½ | Yes | M245-1-0-34-0 | | 1X427 | 179.00 | 0.3 |
| 750VAC | 19999 | 4½ | No | M245-0-0-35-0 | | 1X382 | 159.00 | 0.3 |
| 750VAC | 19999 | 4½ | Yes | M245-1-0-35-0 | | 1X429 | 179.00 | 0.3 |

## 1/8 DIN AC AMMETERS AND FREQUENCY METERS

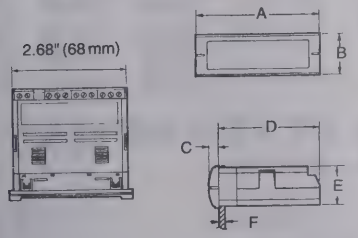
- 120 VAC powered
- 3½ or 4½ digit bright red LED display, 0.56" high
- Screw terminal connectors standard
- Jumper-selectable decimal point
- Display scaled for use with AC Current Transformer
- Display hold

**Dimensions for 1/8 DIN AC Ammeter and Frequency Meters**




| Signal Input | Display Span | Display | | Simpson Model | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 0-5A AC | 0-10/100/1000 | 3½ | | F35-1-46-0-A | | 2T872 | $139.00 | 1.3 |
| 0-5A AC | 0-15/150/1500 | 3½ | | F35-1-46-0-B | | 2T873 | 139.00 | 1.3 |
| 0-5A AC | 0-20/200/2000 | 3½ | | F35-1-46-0-K | | 2T874 | 139.00 | 1.3 |
| 0-5A AC | 0-30/300 | 3½ | | F35-1-46-0-E | | 2T875 | 139.00 | 1.3 |
| 0-5A AC | 0-40/400 | 3½ | | F35-1-46-0-G | | 2T876 | 139.00 | 1.3 |
| 0-5A AC | 0-50/500 | 3½ | | F35-1-46-0-H | | 2T877 | 139.00 | 1.3 |
| 0-5A AC | 0-60/600 | 3½ | | F35-1-46-0-I | | 2T878 | 139.00 | 1.3 |
| 0-5A AC | 0-80/800 | 3½ | | F35-1-46-0-J | | 2T879 | 139.00 | 1.3 |
| 0-5A AC | 0-10/100/1000 | 4½ | | F45-1-46-0-A | | 1X181 | 219.00 | 1.3 |
| 0-5A AC | 0-15/150/1500 | 4½ | | F45-1-46-0-B | | 1X183 | 219.00 | 1.3 |
| 0-5A AC | 0-20/200/2000 | 4½ | | F45-1-46-0-D | | 1X185 | 219.00 | 1.3 |
| 0-5A AC | 0-30/300 | 4½ | | F45-1-46-0-E | | 1X187 | 219.00 | 1.3 |
| 0-5A AC | 0-40/400 | 4½ | | F45-1-46-0-G | | 1X189 | 219.00 | 1.3 |
| 0-5A AC | 0-50/500 | 4½ | | F45-1-46-O-H | | 1X191 | 219.00 | 1.3 |
| 0-5A AC | 0-60/600 | 4½ | | F45-1-46-0-I | | 1X193 | 219.00 | 1.3 |
| 0-5A AC | 0-80/800 | 4½ | | F45-1-46-0-J | | 1X195 | 219.00 | 1.3 |
| 20-199.9 Hz | 20-199.9 | 3½ | | F35-1-91-0 | New | 4TL78 | 104.00 | 0.8 |
| 20-199.9 Hz | 20-1999 | 3½ | | F35-1-92-0 | New | 4TL79 | 104.00 | 0.8 |

**Dimensions for 3/64 DIN Mini-Max Miniature DC Ammeter**




A 2.84" (72 min)
B .945" (24 min)
C .158" (4min)
D 2.36" (60)
E .874" (22.2 min)
F .125" (3.18) Max.
Panel Thickness

## 3/64 DIN MINI-MAX AC AMMETERS

- Shallow depth, only 2.36"
- 85-120 VAC powered
- 3½ or 4½ digit LCD display
- Negative image, bright red backlighting available
- Display scaled for use with AC Current Transformer
- Display hold

| Signal Input | Display Span | Display | Backlit | Simpson Model | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 0-5A AC | 0-10/100/1000 | 3½ | No | M235-0-0-46-0-A | | 1X323 | $125.00 | 0.3 |
| 0-5A AC | 0-10/100/1000 | 3½ | Yes | M235-1-0-46-0-A | | 1X359 | 145.00 | 0.3 |
| 0-5A AC | 0-20/200 | 3½ | No | M235-0-0-46-0-K | | 1X329 | 125.00 | 0.3 |
| 0-5A AC | 0-20/200 | 3½ | Yes | M235-1-0-46-0-K | | 1X366 | 145.00 | 0.3 |
| 0-5A AC | 0-30/300 | 3½ | No | M235-0-0-46-0-E | | 1X325 | 125.00 | 0.3 |
| 0-5A AC | 0-30/300 | 3½ | Yes | M235-1-0-46-0-E | | 1X362 | 145.00 | 0.3 |
| 0-5A AC | 0-50/500 | 3½ | No | M235-0-0-46-0-H | | 1X327 | 125.00 | 0.3 |
| 0-5A AC | 0-50/500 | 3½ | Yes | M235-1-0-46-0-H | | 1X364 | 145.00 | 0.3 |
| 0-5A AC | 0-10/100/1000 | 4½ | No | M245-0-0-46-0-A | | 1X384 | 159.00 | 0.3 |
| 0-5A AC | 0-10/100/1000 | 4½ | Yes | M245-1-0-46-0-A | | 1X431 | 179.00 | 0.3 |
| 0-5A AC | 0-20/200/2000 | 4½ | No | M245-0-0-46-0-D | | 1X386 | 159.00 | 0.3 |
| 0-5A AC | 0-20/200/2000 | 4½ | Yes | M245-1-0-46-0-D | | 1X433 | 179.00 | 0.3 |
| 0-5A AC | 0-30/300 | 4½ | No | M245-0-0-46-0-E | | 1X388 | 159.00 | 0.3 |
| 0-5A AC | 0-30/300 | 4½ | Yes | M245-1-0-46-0-E | | 1X435 | 179.00 | 0.3 |
| 0-5A AC | 0-50/500 | 4½ | No | M245-0-0-46-0-H | | 1X391 | 159.00 | 0.3 |
| 0-5A AC | 0-50/500 | 4½ | Yes | M245-1-0-46-0-H | | 1X437 | 179.00 | 0.3 |
| 20-199.9 Hz | 20-199.9 | 3½ | No | M235-0-0-81-0 | New | 4TL80 | 89.00 | 0.3 |
| 20-199.9 Hz | 20-199.9 | 3½ | Yes | M235-1-0-81-0 | New | 4TL82 | 109.00 | 0.3 |
| 20-1999 Hz | 20-1999 | 3½ | No | M235-0-0-82-0 | New | 4TL81 | 89.00 | 0.3 |
| 20-1999 Hz | 20-1999 | 3½ | Yes | M235-1-0-82-0 | New | 4TL83 | 109.00 | 0.3 |

# DIGITAL PANEL METERS

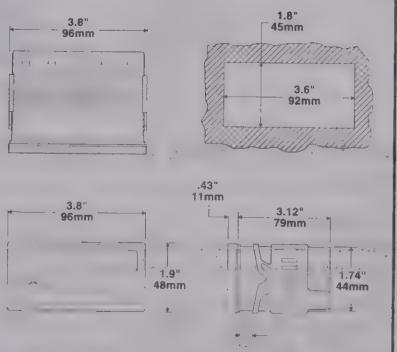



No. 1X331
3/64 DIN Mini-Max DC Process Meter

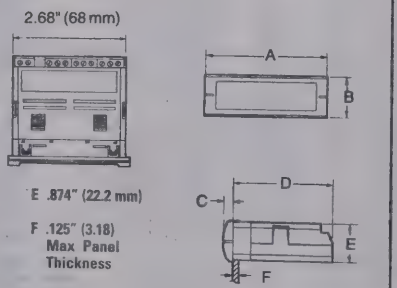
Minority-Owned Business




No. 2T870
1/8 DIN AC Voltmeter




Dimensions for 1/8 DIN AC Voltmeters and DC Process Meters




Dimensions for 3/64 DIN Mini-Max DC Process Meters

A 2.84" (72 mm)
B .945" (24 mm)
C .158" (4 mm)
D 2.36" (60 mm)
E .874" (22.2 mm)
F .125" (3.18) Max Panel Thickness

## 1/8 DIN DC PROCESS METERS

- Bright red LED display, 0.56" high
- 3½ or 4½ digit displays
- Screw terminal connectors standard
- 120 VAC powered
- Display hold

| Signal Input | Display Span | Display | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4-20mADC** | 0-100% | 3½ | F35-1-71-0 | **2T884** | **$135.00** | 1.4 |
| **1-5VDC** | 0-100% | 3½ | F35-1-72-0 | **1X159** | **135.00** | 1.4 |
| **0-10VDC** | 0-100% | 3½ | F35-1-73-0 | **2T885** | **135.00** | 1.4 |
| **4-20mADC** | 0-100% | 4½ | F45-1-71-0 | **2T886** | **189.00** | 1.4 |
| **1-5VDC** | 0-100% | 4½ | F45-1-72-0 | **1X207** | **185.00** | 1.4 |
| **0-10VDC** | 0-100% | 4½ | F45-1-73-0 | **2T887** | **189.00** | 1.4 |
| **With 24 VDC excitation, display scaled for current transducer or temperature transmitter** | | | | | | |
| **4-20mADC** | 0-5/50 ACA | 3½ | F35-1-71-2-R | **1X151** | **189.00** | 1.4 |
| **4-20mADC** | 0-100 ACA | 3½ | F35-1-71-2-S | **1X153** | **189.00** | 1.4 |
| **4-20mADC** | 0-150 ACA | 3½ | F35-1-71-2-T | **1X155** | **189.00** | 1.4 |
| **4-20mADC** | 0-300 ACA | 3½ | F35-1-71-2-U | **1X157** | **189.00** | 1.4 |
| **4-20mADC** | 0-300 Deg. | 4½ | F45-1-71-2-V | **1X197** | **239.00** | 1.4 |
| **4-20mADC** | 0-400 Deg. | 4½ | F45-1-71-2-W | **1X199** | **239.00** | 1.4 |
| **4-20mADC** | 0-500 Deg. | 4½ | F45-1-71-2-X | **1X201** | **239.00** | 1.4 |
| **4-20mADC** | 0-1000 Deg. | 4½ | F45-1-71-2-Y | **1X203** | **239.00** | 1.4 |
| **4-20mADC** | 0-1500 Deg. | 4½ | F45-1-71-2-Z | **1X205** | **239.00** | 1.4 |

## 3/64 DIN MINI-MAX DC PROCESS METERS

- 3½ or 4½ digit LCD display
- Display scaled 0-100%
- Negative image, bright red backlighting available
- 85-250 VAC powered
- Display hold

| Signal Input | Display | Backlit | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4-20mADC** | 3½ | No | M235-0-0-71-0 | **1X331** | **$105.00** | 0.3 |
| **4-20mADC** | 3½ | Yes | M235-1-0-71-0 | **3T482** | **122.00** | 0.3 |
| **4-20mADC** | 4½ | No | M245-0-0-71-0 | **1X393** | **139.00** | 0.3 |
| **4-20mADC** | 4½ | Yes | M245-1-0-71-0 | **1X439** | **159.00** | 0.3 |
| **1-5VDC** | 3½ | No | M235-0-0-72-0 | **1X334** | **105.00** | 0.3 |
| **1-5VDC** | 3½ | Yes | M235-1-0-72-0 | **3T483** | **122.00** | 0.3 |
| **1-5VDC** | 4½ | No | M245-0-0-72-0 | **1X395** | **139.00** | 0.3 |
| **1-5VDC** | 4½ | Yes | M245-1-0-72-0 | **1X441** | **159.00** | 0.3 |
| **0-10VDC** | 3½ | No | M235-0-0-73-0 | **1X336** | **105.00** | 0.3 |
| **0-10VDC** | 3½ | Yes | M235-1-0-73-0 | **3T484** | **122.00** | 0.3 |
| **0-10VDC** | 4½ | No | M245-0-0-73-0 | **1X397** | **139.00** | 0.3 |
| **0-10VDC** | 4½ | Yes | M245-1-0-73-0 | **1X443** | **159.00** | 0.3 |
| **0-100VDC** | 3½ | No | M235-0-0-74-0 | **1X338** | **105.00** | 0.3 |
| **0-100VDC** | 3½ | Yes | M235-1-0-74-0 | **3T485** | **122.00** | 0.3 |
| **0-100VDC** | 4½ | No | M245-0-0-74-0 | **1X399** | **139.00** | 0.3 |
| **0-100VDC** | 4½ | Yes | M245-1-0-74-0 | **1X445** | **159.00** | 0.3 |

## 1/8 DIN AC VOLTMETERS

- Bright red LED display, 0.56" high
- 3½ or 4½ digit
- 120 VAC powered
- Screw terminal connectors standard
- Jumper-selectable decimal point
- Display hold

| Signal Input | Display | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **200VAC** | 3½ | F35-1-34-0 | **2T870** | **$139.00** | 1.3 |
| **200VAC** | 4½ | F45-1-34-0 | **1X177** | **219.00** | 1.3 |
| **750VAC** | 3½ | F35-1-35-0 | **2T871** | **139.00** | 1.3 |
| **750VAC** | 4½ | F45-1-35-0 | **1X179** | **219.00** | 1.3 |



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# DIGITAL PANEL TEMPERATURE METERS AND CURRENT CALIBRATORS



No. 2T907
Temperature Meter



No. 3LW52



No. 2T900
Isolated Two-Wire Transmitter
(Protective Hood Not Included)

Minority-Owned Business

## 1/8 DIN TEMPERATURE METER

- 4½ digit red LED display, 0.56" high
- User selectable °C or °F
- Screw terminals for easy signal and power wiring
- 120 VAC powered

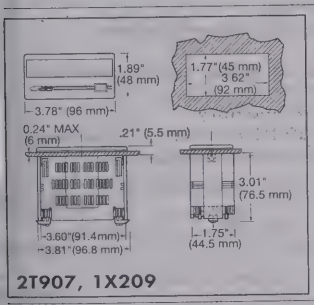
| Signal Type | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| T/C* | F45-1-80-0-F | 2T907 | $189.00 | 1.6 |
| RTD Pt100 | F45-1-90-0-F | 1X209 | 189.00 | 1.6 |

(*) Jumper-configurable for type J, K, T, R, S, or E thermocouples.

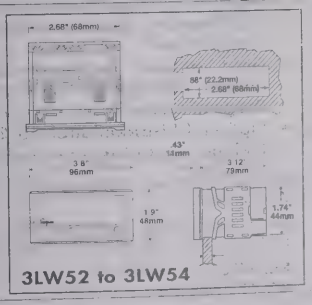
## 3/64 DIN TEMPERATURE METERS

- 4-digit red LED display, 0.56" high
- Fits standard 3/64 DIN cutout
- User selectable input type and °C or °F
- Screw terminal connectors for easy installation
- 85-250 VAC powered

| Signal Input | Temp. Range | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Type J T/C | -328° F to 2192°F<br>-200° C to 1200°C | M240-0-91-0-F | 3LW52 | $165.00 | 0.3 |
| Type K T/C | -328° F to 2498°F<br>-200° C to 1370°C | M240-0-92-0-F | 3LW53 | 165.00 | 0.3 |
| RTD Pt100 | -328° F to 1562°F<br>-200° C to 850°C | M240-0-93-0-F | 3LW54 | 165.00 | 0.3 |




2T907, 1X209




3LW52 to 3LW54

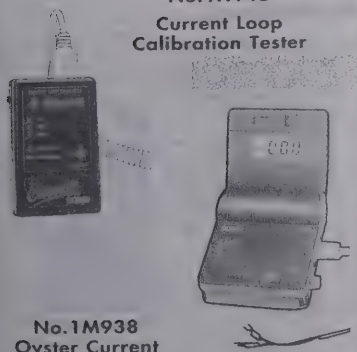
## ISOLATED TWO-WIRE 4-20mA TRANSMITTERS

- 1.73" in diameter
- Can be mounted in almost any size thermal protection head
- Field adjustable input span
- Accuracy of 0.1% of span
- Enhanced RFI and EMI protection

| Signal Type | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Type J | TR700-2-1-2-500° | 2T900 | $209.00 | 1.0 |
| Type K | TR700-2-2-2-400° | 2T901 | 209.00 | 1.0 |
| Type T | TR700-2-3-2-300° | 2T902 | 209.00 | 1.0 |

EXTECH INSTRUMENTS

No.1H146
Current Loop Calibration Tester



No.1M938
Oyster Current Calibrator

## CURRENT LOOP CALIBRATION TESTER

- Simulates output values of 4mA, 12mA and 20mA
- Provides current source for setting up engineering units on process indicator
- Accurate to 0.1mA
- Overload indication when load exceeds 240 ohms
- Complete with calibration cable, spade lugs, case and 9V battery

**No. 1H146.** Extech brand (412440-S). Shpg. wt. 0.7 lbs. Each.....$89.00

## CURRENT CALIBRATORS

- Accuracy (typ.): ±0.075%
- Resolution: 0.01mA (0-19.99mA); 0.1mA (0-24.0mA); 0.1% (-25 to 125.0%)
- Measure: 0-24mA Current signals
- Source: 24mA for loads to 350 ohms
- Input/Output ranges and display: -25.0 to 125% (0-24mA); 0 to 19.99mA; 0 to 24.0mA
- Adjustable 0-24mA source for loads up to 350 ohms
- Displays to 0.01mA, 0.1mA or 0.1%
- Large 3½ digit LCD display built into adjustable cover
- Three modes: Current Source, Current Measurement, Power/Measure 2-wire Transmitters
- Includes 9V battery, calibration cable and neckstrap

## OYSTER CURRENT CALIBRATOR

**No. 1M938.** Extech brand (412300). Shpg. wt. 0.8 lbs. Each.....$199.00

## OYSTER CURRENT CALIBRATOR WITH NIST CERTIFICATE

**No. 1M936.** Extech brand (412300-NIST). Shpg. wt. 0.9 lbs. Each.....$264.00

## VINYL CARRYING CASE

**No. 1M966.** Extech brand (14000). Shpg. wt. 1.1 lbs. Each.....$30.00

# CURRENT AND VOLTAGE CALIBRATORS

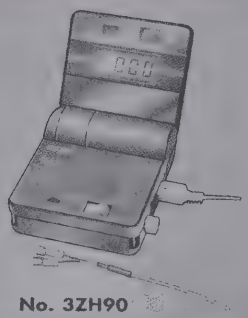
## EXTECH CURRENT AND VOLTAGE CALIBRATORS

- Source: 0-24mA, 0-10V; Measure: 0-50mA, 0-19.99V
- Accurate to ±(0.075% ± 1 digit)
- Display 4.00 to 20.0mA or as 0.0 to 100.0%
- Hand-held or benchtop operation
- Adjustable display with Auto-Off when case is closed
- Includes calibration cable, 9V battery and instructions

**No. 3ZH90.** Extech brand (412355). Shpg. wt. 0.8 lbs. Each ..... $199.00

**No. 3ZH91.** Extech brand (412355-NIST). Shpg. wt. 1.0 lbs. Each ..... $264.00

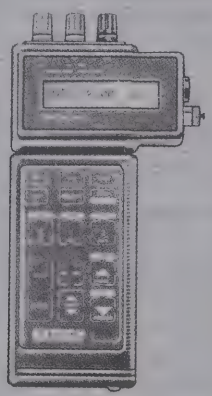
**No. 3ZH64.** 117VAC Adapter for 3ZH90 and 3ZH91. Extech brand (149118). Shpg. wt. 0.4 lbs. Each ..... $17.00



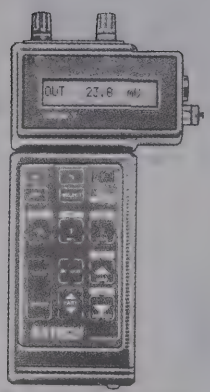
No. 3ZH90



No. 3ZH64



No. 4KC39



No. 4KC37

## EXTECH UNICAL CALIBRATOR SERIES

- Precise single-function calibrators source or measure voltage or current
- Voltage model (4KC37 and 4KC38) ranges: 0-100mV, 0-1V, 1-5V, 0-10V. Accuracy 0.1% of reading
- Current model (4KC39 and 4KC40) ranges: 0-22mA, 4-20mA. Accuracy 0.05% of reading
- Also displays in %
- Membrane keypad and ABS plastic housing for rugged, shock-proof durability
- High contrast 16-character alpha-numeric LCD for output, input and programming displays
- Quick-access fuse protection and slide-off battery compartment
- Gold terminals for banana plug or bare wire connection minimizes thermo-electric errors
- Programmable ramp time with memory
- Optional bi-directional RS-232 PC interface and software
- Includes batteries, carrying case and instructions

**No. 4KC37.** Unical Voltage Calibrator. Extech brand (423404). Shpg. wt. 2.2 lbs. Each ..... $499.00

**No. 4KC38.** Voltage Calibrator with NIST Certificate. Extech brand (423404-NIST). Shpg. wt. 2.2 lbs. Each ..... $599.00

**No. 4KC39.** Unical Current Calibrator . Extech brand (423405). Shpg. wt. 2.2 lbs. Each ..... $499.00

**No. 4KC40.** Current Calibrator with NIST Certificate. Extech brand (423405-NIST). Shpg. wt. 2.2 lbs. Each ..... $599.00

**No. 4KC48.** RS-232 Interface, Cable and Software. Extech brand (423934). Shpg. wt. 0.3 lbs. Each ..... $199.00

## PROCESS CALIBRATOR MULTIMETER™

### Precision Current, Voltage, Frequency Calibrator Plus True RMS Multimeter

- 15 DMM/Calibrator functions including temperature, duty cycle, & resistance
- Calibrator simultaneously sources AND measures with large dual display status
- Programmable output memory for scan, 999 step, and continuous modes
- Bi-polar constant-current output load to 500 ohms with 0.03% accuracy
- Large 4,000/40,000 count backlit LCD for primary/secondary functions
- Includes RS-232 interface cable and software
- 1 microVolt/Amp resolution with 0.03% basic DCV accuracy
- 1ms peak hold, plus data hold and dynamic recording modes
- Separate input and output jacks with fuse protection
- Includes input/output test leads, temperature probe, 9V battery, external battery pack, protective holster, software, interface cable and case

***New*No. 4PC70.** Calibrator/multimeter. Extech brand (CMM-15R). Shpg. wt. 3.0 lbs. Each ..... $499.00

***New*No. 4PC71.** Calibrator/multimeter with NIST Certification. Extech brand (CMM-15R-NIST). Shpg. wt. 3.0 lbs. Each ..... $574.00

***New*No. 4PC63.** RS232 Interface cable and software. Extech brand (423235). Shpg. wt. 0.5 lbs. Each ..... $69.00

New



No. 4PC70

# 710 SERIES PROCESS CALIBRATORS

The Fluke 710 series Process Calibrators are single-function handheld calibrators. Compact, lightweight and easy to transport. Each is EMI tolerant, dust and splash-resistant, and features a removable battery door for quick battery changes. Covered under a 3 year Fluke warranty.

## PROCESS TOOL SELECTION GUIDE

| Function | 712 | 713 30G | 713 100G | 714 | 715 |
|---|---|---|---|---|---|
| **Measure** | | | | | |
| V dc | — | — | — | 75 µV | 10V |
| Ω | 3200Ω | — | — | — | — |
| A dc | — | 24 µA | 24 µA | — | 24 µA |
| Pressure | — | 30 psig/2 bar | 100 psig/7 bar | — | — |
| Temperature - RTDs | — | — | — | — | — |
| Temperature - TCs | — | — | — | 9 types | — |
| **Source/Simulate** | | | | | |
| V dc | — | — | — | 75 µV | 10V |
| Ω | 3200Ω | — | — | — | — |
| µA dc/% scale | — | — | — | — | 24 µA |
| Temperature - RTDs | 7 types | — | — | — | — |
| Temperature - TCs | — | — | — | 9 types | — |
| **Record** | | | | | |
| Min.Max. | — | Yes | Yes | — | — |
| Hold | — | Yes | Yes | — | — |
| 24 volt loop supply | — | — | — | — | Yes |

## FLUKE 710 SERIES CALIBRATORS' SPECIFICATIONS

| Model | Parameters | Range | Resolution | Accuracy | Notes |
|---|---|---|---|---|---|
| 712 RTD | Ω<br>RTD | 15Ω to 3200Ω<br>-200 to 800°<br>(Pt 100) | 0.1Ω<br>0.1°C, 0.1°F | 0.1Ω to 1Ω<br>0.33°C, 0.6°F (Pt 100) | Pt: 100, 200, 500, 1000 (385)<br>Pt 100 (392)<br>Pt 100 (392) JIS<br>Ni 120 (672) |
| 713 30G Pressure<br>Over Pressure<br>3 times Full Scale | Pressure<br>µA | 0-30 psi<br>(207 KPa)<br>0 to 24 µA | 0.001 psi<br>(0.01 KPa)<br>0.001 µA | 0.05% FS<br>0.025% ± 1 count | Gases/liquids (non-corrosive)<br>Zero, Min, Max, Hold, Damp |
| 713 100 Pressure<br>Over pressure<br>2 times Full Scale | Pressure<br>µA | 0-100 psi<br>(690 kPa)<br>0 to 24 µA | 0.01 psi<br>(0.01 kPa) | 0.05% FS<br>0.025% + 1 count | |
| 714 Thermocouple | µV | -10 to 75µV | 0.01µV | 0.025% + 1 count | 9 TC types; J K T E R S B<br>per NIST 175 and ITS-90<br>L U per DIN 43710 and IPTS-68 |
| | TC input/<br>output | -200 to 1800°C<br>depending on type<br>(K -200 to<br>1370°C) | 0.1°C or °F<br>(1°C or °F;<br>B, R, S) | 0.3°C + 10 | |
| 715 Volt/µA | mV | 0 to 100µV | 0.01 µV | 0.02% + 2 counts | Sink (simulate transmitter),<br>display µA or % of span,<br>24 volt loop supply<br>Drive, 20µA into 1000w for 5.8 to 6.8V |
| | V | 0 o 10V | 0.001V | 0.02% + 2 Counts | |
| | µA%<br>of span | 0 to 24 mA<br>(-25% to 125%) | 0.001 µA | 0.02% + 2 counts | |
| | Loop<br>Supply | 24 Vdc | N/A | ± 10% | |

**New No. 4TR01.** RTD calibrator. Fluke brand (712). Shpg. wt. 2.0 lbs.
Each ..... $845.00

**New No. 4TP99*.** RTD calibrator with certification. Fluke brand (712 NIST). Shpg. wt. 2.0 lbs.
Each ..... $920.00

**New No. 4TP96.** Pressure calibrator. Fluke brand (713 30G). Shpg. wt. 2.0 lbs.
Each ..... $795.00

**New No. 4TP94*.** Pressure calibrator with certification. Fluke brand (713 30G NIST). Shpg. wt. 2.0 lbs. Each ..... $870.00

**New No. 4TP95.** Pressure calibrator. Fluke brand (713 100G). Shpg. wt. 2.0 lbs.
Each ..... $795.00

**New No. 4TP93*.** Pressure calibrator with certification. Fluke brand (713 100G NIST). Shpg. wt. 2.0 lbs. Each ..... $870.00

**New No. 4TR03.** Thermalcouple calibrator. Fluke brand (714). Shpg. wt. 2.0 lbs.
Each ..... $795.00

**New No. 4TR02*.** Thermalcouple calibrator with certification. Fluke brand (714 NIST). Shpg. wt. 2.0 lbs. Each ..... $870.00

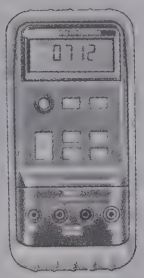
**New No. 4TR05.** Volt/mA calibrator with certification. Fluke brand (715). Shpg. wt. 2.0 lbs.
Each ..... $945.00

**New No. 4TR04*.** Volt/mA calibrator. Fluke brand (715 NIST). Shpg. wt. 2.0 lbs.
Each ..... $1020.00

(*) Contact your local Grainger branch for delivery time.

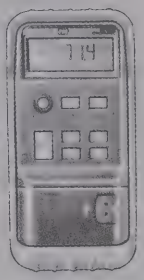
TERMINOLOGY AND TECHNICAL DATA
See Pages at back of Catalog

FLUKE

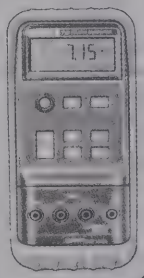


No. 4TR01

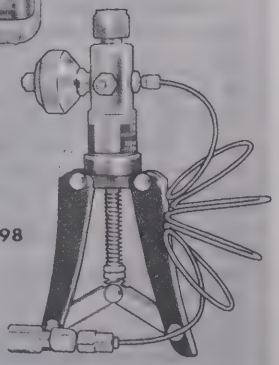
New



No. 4TR02



No. 4TR04



No. 4TP98

## ACCESSORIES

### PNEUMATIC TEST PUMP

- Rugged handheld pressure pump
- Generates either vacuum to -11.6 psi/-0.8 bar or pressure to 360 psi/25 bar
- 3/8-BSP (ISO228) female parallel thread fitting for the reference gauge or pressure module
- 1/8-BSP (ISO228) female parallel thread fitting for the unit under test

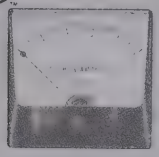
**New No. 4TP98.** Shpg. wt. 3.0 lbs.
Each ..... $395.00

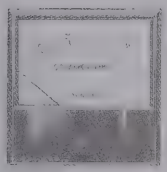
# ANALOG PANEL METERS

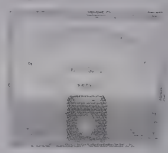
Minority-Owned Business

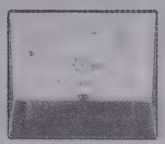
Simpson

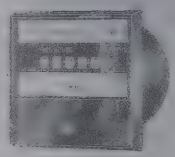
New


A WIDE Vue Meter


B Century Meter


C Tru-Vue Meter


D Percent Load Meter


E Elapsed Time Meters

## A WIDE-VUE METERS

- 2½, 3½, and 4½" sizes
- Phenolic case • ±2% accuracy
- Clear acrylic window for easy viewing
- AC meters iron-vane type
- DC meters self-shielded movement
- UL Recognized (E91015N)
- Includes template and mounting screws

## B CENTURY METERS

- 2½, 3½, and 4½" sizes
- Phenolic case • ±2% accuracy
- Glass window resists scratches
- DC meters self-shielded movement
- AC meters iron-vane type
- UL Recognized (E91015N)
- Includes template and mounting screws

## C TRU-VUE METERS

- 3½ and 4½" sizes
- Clear acrylic windows for modern look
- ±2% accuracy
- DC meters self-shielded movement
- AC meters iron-vane type

## D PERCENT LOAD METERS

- Provide visual monitoring of load conditions of AC or DC motors while running
- Help prevent overloading and motor burnout
- Three-color segmented scale for easy reading
- ±2% accuracy
- Must be used with appropriate current transformer (AC type) or shunt and potentiometer (DC type). Not furnished with units
- UL Recognized (E91015N)

## E ELAPSED TIME METERS

- 0.1% of reading accuracy (per 24 hrs.)
- Non-resettable
- Maintain life and performance records based on operating time
- Used extensively on generators, gasoline and diesel engines, computers, copy machines, telephone equipment, production lines

## ANALOG PANEL METERS

| Key | Dimensional Diagram† | Size (In.) | Range | Simpson Model | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 3 | 3½ | 0-50 DC µA | 04380 | | 1T875 | $85.00 | 0.8 |
| A | 4 | 4½ | 0-50 DC µA | 04480 | | 1T876 | 95.00 | 0.8 |
| A | 4 | 4½ | 0-200 DC µA | 04500 | | 1T877 | 79.00 | 0.8 |
| A | 4 | 4½ | 0-500 DC µA | 04510 | | 1T878 | 77.00 | 0.8 |
| A | 1 | 2½ | 0-1 DC mA | 06175 | | 1T879 | 69.00 | 0.5 |
| A | 3 | 3½ | 0-1 DC mA | 06310 | | 1T880 | 69.00 | 0.7 |
| A | 4 | 4½ | 0-1 DC mA | 06470 | | 1T881 | 73.50 | 0.9 |
| A | 1 | 2½ | 0-10 DC A | 02490 | | 1T854 | 69.00 | 0.8 |
| A | 3 | 3½ | 0-10 DC A | 02690 | | 1W817 | 69.00 | 0.7 |
| A | 4 | 4½ | 0-10 DC A | 02870 | | 1X019 | 75.00 | 0.8 |
| A | 1 | 2½ | 0-25 DC A | 02510 | | 1T855 | 69.00 | 0.6 |
| A | 3 | 3½ | 0-25 DC A | 02710 | | 1X001 | 69.00 | 0.7 |
| A | 4 | 4½ | 0-25 DC A | 02890 | | 1X021 | 75.00 | 0.8 |
| A | 1 | 2½ | 0-50 DC A | 02530 | | 1T856 | 69.00 | 0.5 |
| A | 3 | 3½ | 0-50 DC A | 02730 | | 1T861 | 69.00 | 0.8 |
| A | 4 | 4½ | 0-50 DC A | 02910 | | 1X023 | 75.00 | 0.8 |
| A | 1 | 2½ | 0-100 DC A | 02540 | | 1W736* | 69.00 | 0.5 |
| A | 3 | 3½ | 0-100 DC A | 02740 | | 1X003* | 69.00 | 0.7 |
| A | 4 | 4½ | 0-100 DC A | 02920 | | 1X025* | 75.00 | 0.8 |
| A | 1 | 2½ | 0-150 DC A | 02550 | | 1W738* | 69.00 | 0.5 |
| A | 3 | 3½ | 0-150 DC A | 02750 | | 1X005* | 69.00 | 0.7 |
| A | 4 | 4½ | 0-150 DC A | 02930 | | 1X027* | 75.00 | 0.8 |
| A | 3 | 3½ | 0-200 DC A | 02760 | | 1X007* | 69.00 | 0.7 |
| A | 4 | 4½ | 0-200 DC A | 02940 | | 1X029* | 75.00 | 0.8 |
| A | 1 | 2½ | 0-300 DC A | 02554 | | 1W744* | 69.00 | 0.5 |
| A | 2 | 3½ | 0-300 DC A | 02770 | | 1X009* | 69.00 | 0.7 |
| A | 4 | 4½ | 0-300 DC A | 02950 | | 1X031* | 75.00 | 0.8 |
| A | 3 | 3½ | 0-500 DC A | 02780 | | 1X011* | 69.00 | 0.7 |
| A | 4 | 4½ | 0-500 DC A | 02960 | | 1X033* | 75.00 | 0.8 |
| A | 3 | 3½ | 15-0-15 DC A | 02790 | | 1X013 | 74.50 | 0.7 |
| A | 3 | 3½ | 30-0-30 DC A | 02800 | | 1X015 | 74.50 | 0.7 |
| A | 3 | 3½ | 50-0-50 DC A | 02810 | | 1X017 | 74.50 | 0.7 |
| A | 1 | 2½ | 0-15 DC V | 09570 | | 1T884 | 69.00 | 0.8 |
| A | 3 | 3½ | 0-15 DC V | 09750 | | 1T886 | 73.00 | 0.8 |
| A | 1 | 2½ | 0-30 DC V | 09590 | | 1T885 | 69.00 | 0.8 |
| A | 3 | 3½ | 0-30 DC V | 09770 | | 1X087 | 73.00 | 0.7 |
| A | 4 | 4½ | 0-30 DC V | 09920 | | 1X091 | 79.00 | 0.8 |
| A | 1 | 2½ | 0-50 DC V | 09600 | | 1X077 | 69.00 | 0.5 |
| A | 3 | 3½ | 0-50 DC V | 09780 | | 1T887 | 73.00 | 0.8 |
| A | 4 | 4½ | 0-50 DC V | 09930 | | 1T888 | 79.00 | 0.8 |
| A | 1 | 2½ | 0-150 DC V | 09620 | | 1X079 | 69.00 | 0.5 |
| A | 3 | 3½ | 0-150 DC V | 09800 | | 1X089 | 73.00 | 0.7 |
| A | 4 | 4½ | 0-150 DC V | 09950 | | 1T889 | 79.00 | 0.8 |
| A | 3 | 3½ | 0-1 AC A | 03130 | | 1T862 | 65.00 | 0.5 |
| A | 1 | 2½ | 0-5 AC A | 02580 | | 1T857 | 62.00 | 0.3 |
| A | 3 | 3½ | 0-5 AC A | 03170 | | 1T863 | 65.00 | 0.5 |
| A | 4 | 4½ | 0-5 AC A | 03300 | | 1T868 | 69.00 | 0.5 |
| A | 1 | 2½ | 0-10 AC A | 02590 | | 1T858 | 62.00 | 0.5 |
| A | 3 | 3½ | 0-10 AC A | 03180 | | 1T865 | 67.00 | 0.5 |
| A | 3 | 3½ | 0-10 AC A | 35073 | New | 4TL70** | 63.50 | 0.7 |
| A | 4 | 4½ | 0-10 AC A | 03310 | | 1T870 | 74.00 | 0.4 |
| A | 4 | 4½ | 0-10 AC A | 35077 | New | 4TL74** | 66.95 | 1.3 |
| A | 1 | 2½ | 0-15 AC A | 02599 | | 1T859 | 62.00 | 0.2 |
| A | 3 | 3½ | 0-15 AC A | 03190 | | 1X035 | 67.00 | 0.6 |
| A | 4 | 4½ | 0-15 AC A | 03320 | | 1T866 | 69.00 | 0.8 |
| A | 1 | 2½ | 0-25 AC A | 02609 | | 1T860 | 65.00 | 0.5 |

(*) External 50mV shunt required (†) See adjacent page for mounting dimensions.
(**) External 5 Amp current transformer required

CONTINUED ON NEXT PAGE



Measure it, record it, calibrate it — You'll get it right with Grainger.

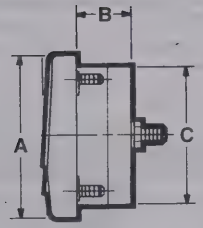
# ANALOG PANEL METERS AND DIMENSIONS

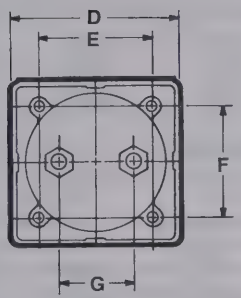
Simpson

New

Minority-Owned Business

Dimensions for Analog Panel Meters (See Chart Below)




| Key | Dimension Diagram† | Size | Range | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 3 | 3½ | 0-25 AC A | 03200 | 1X037 | $69.00 | 0.6 |
| A | 3 | 3½ | 0-25 AC A | 35074 | *New* 4TL71** | 63.50 | 0.7 |
| A | 4 | 4½ | 0-25 AC A | 03330 | 1X049 | 72.00 | 0.7 |
| A | 4 | 4½ | 0-25 AC A | 35078 | *New* 4TL75** | 66.95 | 1.3 |
| A | 1 | 2½ | 0-50 AC A | 02619 | 1W746 | 65.00 | 0.4 |
| A | 3 | 3½ | 0-50 AC A | 03210 | 1T867 | 69.00 | 0.5 |
| A | 3 | 3½ | 0-50 AC A | 35075 | *New* 4TL72** | 63.50 | 0.7 |
| A | 4 | 4½ | 0-50 AC A | 03340 | 1X051 | 72.00 | 0.4 |
| A | 4 | 4½ | 0-50 AC A | 35079 | *New* 4TL76** | 66.95 | 1.3 |
| A | 3 | 3½ | 0-75 AC A | 35076 | *New* 4TL73** | 63.50 | 0.7 |
| A | 4 | 4½ | 0-75 AC A | 35080 | *New* 4TL77** | 66.95 | 1.3 |
| A | 1 | 2½ | 0-100 AC A | 02622 | 1W749** | 62.00 | 0.4 |
| A | 3 | 3½ | 0-100 AC A | 03220 | 1X041** | 65.00 | 0.6 |
| A | 4 | 4½ | 0-100 AC A | 03350 | 1X053** | 72.00 | 0.7 |
| A | 1 | 2½ | 0-150 AC A | 02624 | 1W751** | 62.00 | 0.4 |
| A | 3 | 3½ | 0-150 AC A | 03230 | 1X043** | 65.00 | 0.6 |
| A | 4 | 4½ | 0-150 AC A | 03360 | 1X055** | 72.00 | 0.7 |
| A | 1 | 2½ | 0-200 AC A | 02626 | 1W753** | 62.00 | 0.4 |
| A | 3 | 3½ | 0-200 AC A | 03240 | 1X045** | 65.00 | 0.6 |
| A | 4 | 4½ | 0-200 AC A | 03370 | 1X057** | 72.00 | 0.7 |
| A | 1 | 2½ | 0-300 AC A | 02627 | 1W797** | 62.00 | 0.4 |
| A | 3 | 3½ | 0-300 AC A | 03250 | 1X047** | 65.00 | 0.6 |
| A | 4 | 4½ | 0-300 AC A | 03380 | 1X059** | 72.00 | 0.7 |
| A | 2 | 2½ | 0-150 AC V | 09700 | 1X081 | 69.00 | 0.4 |
| A | 3 | 3½ | 0-150 AC V | 10220 | 1X097 | 74.00 | 0.7 |
| A | 4 | 4½ | 0-150 AC V | 10320 | 1T891 | 79.00 | 0.8 |
| A | 2 | 2½ | 0-300 AC V | 09710 | 1X083 | 69.00 | 0.4 |
| A | 3 | 3½ | 0-300 AC V | 10240 | 1T890 | 73.00 | 0.7 |
| A | 4 | 4½ | 0-300 AC V | 10340 | 1T892 | 79.00 | 0.8 |
| A | 2 | 2½ | 0-500 AC V | 09715 | 1X085 | 89.00 | 0.9 |
| A | 3 | 3½ | 0-500 AC V | 10250 | 1X099 | 92.00 | 1.1 |
| A | 4 | 4½ | 0-500 AC V | 10350 | 1X101 | 97.95 | 1.5 |
| B | 6 | 2½ | 0-25 AC A | 17671 | 1T895 | 65.00 | 0.8 |
| B | 7 | 3½ | 0-50 AC A | 17704 | 1T896 | 69.00 | 0.8 |
| B | 8 | 4½ | 0-50 AC A | 17749 | 1X109 | 72.00 | 0.9 |
| B | 7 | 3½ | 0-150 AC V | 17731 | 1T898 | 74.00 | 1.5 |
| B | 8 | 4½ | 0-150 AC V | 17776 | 1X111 | 79.00 | 1.2 |
| B | 7 | 3½ | 0-500 AC V | 17734 | 1X107 | 89.00 | 1.2 |
| B | 8 | 4½ | 0-500 AC V | 17779 | 1X113 | 99.95 | 1.4 |
| — | 14 | 3½ | 0-5 AC A DSP | 21633 | 1X127* | 499.00 | 2.1 |
| — | 15 | 4½ | 0-5 AC A DSP | 21637 | 1X129* | 499.00 | 2.8 |
| — | 15 | 4½ | 0-150% Load SSP | 21683 *** | 1X133†† | 425.00 | 2.8 |
| — | 15 | 4½ | 0-150% Load DSP | 21643 *** | 1X131* | 499.00 | 2.8 |
| C | 9 | 3½ | 0-1 DC mA | TV3DMA001 | 1X456 | 59.00 | 0.7 |
| C | 10 | 4½ | 0-1 DC mA | TV4DMA001 | 1X465 | 65.00 | 0.8 |
| C | 9 | 3½ | 0-5 AC A | TV3AAA005 | 1X449 | 59.95 | 0.7 |
| C | 10 | 4½ | 0-5 AC A | TV4AAA005 | 1X458 | 65.00 | 0.8 |
| C | 9 | 3½ | 0-150 AC V | TV3AVV150 | 1X451 | 63.50 | 0.7 |
| C | 10 | 4½ | 0-150 AC V | TV4AVV150 | 1X461 | 69.00 | 0.8 |
| D | 3 | 3½ | 0-150% 5 AC A | 03171 *** | 1T864 | 79.00 | 0.5 |
| D | 4 | 4½ | 0-150% 5 AC A | 03301 *** | 1T869 | 95.00 | 1.0 |
| D | 11 | 3½ | 0-150% 30 DC mV | 07028 *** | 1T882 | 79.00 | 0.5 |
| D | 5 | 4½ | 0-150% 30 DC mV | 07029 *** | 1T883 | 87.00 | 1.0 |
| E | 7 | 3½ | 99,999.9 (117 VAC) | 17720 | 1T897 | 85.00 | 0.8 |
| E | 12 | 3½ | 99,999.9 (117 VAC) | 03580‡ | 1T871 | 85.00 | 1.0 |
| E | 3 | 3½ | 99,999.9 (117 VAC) | 03595 | 1T872 | 85.00 | 0.5 |
| E | 13 | 1½ | 99,999.9 (117 VAC) | 03622 | 1T874 | 34.50 | 0.3 |

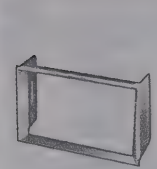
(*) Dual set point relays included. (†) See below for mounting dimensions. (**) External 5 Amp current transformer required. (‡) Round shape. (***) Load meter must be used with its appropriate current transformer (AC type) or shunt with DC model not furnished with unit. Rule of thumb on DC units: Multiply load motor rating on back panel of motor by 1.25. For AC models multiply by 1.5. (††) Single set point relay included.

## PANEL METER DIMENSIONS

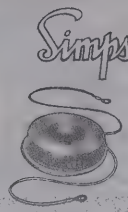
| Meter Diagram Key | Dimensions in Inches A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | 2.47 | 1.15 | 2.17 | 2.47 | 1.88 | 1.88 | 1.00 |
| 2 | 2.47 | 1.06 | 2.17 | 2.47 | 1.88 | 1.88 | 1.00 |
| 3 | 3.25 | 1.22 | 2.73 | 3.25 | 2.25 | 2.25 | 1.50 |
| 4 | 4.00 | 1.20 | 2.75 | 4.68 | 4.00 | 3.56 | 1.50 |
| 5 | 4.00 | 1.08 | 2.75 | 4.68 | 4.00 | 3.56 | 1.50 |
| 6 | 2.38 | 1.34 | 2.16 | 2.38 | 1.88 | 1.88 | 1.40 |
| 7 | 3.00 | 1.34 | 2.69 | 3.00 | 2.25 | 2.25 | 1.40 |
| 8 | 4.20 | 1.34 | 2.69 | 4.66 | 4.00 | 3.57 | 1.40 |
| 9 | 3.00 | 1.19 | 2.75 | 3.46 | 2.25 | 2.25 | 1.40 |
| 10 | 4.00 | 1.19 | 2.73 | 4.70 | 4.00 | 3.56 | 1.40 |
| 11 | 3.25 | 1.08 | 2.73 | 3.25 | 2.25 | 2.25 | 1.50 |
| 12* | 3.50 | 1.41 | 2.75 | — | — | — | 1.50 |
| 13 | 1.89 | 1.25 | 1.97 | 1.89 | 1.77 | 1.77 | — |
| 14 | 3.25 | 4.25 | 2.72 | 3.25 | 2.25 | 2.25 | — |
| 15 | 4.15 | 4.25 | 2.72 | 4.68 | 4.00 | 3.56 | — |

*) Round meter. Mounting studs are 120° apart.

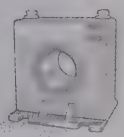
# PANEL METER ACCESSORIES



No. 1W697 Bezel Kit



No. 1T850 Donut Current Transformer

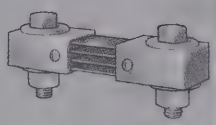


No. 1X135 AC to DC Current Transducer

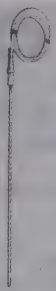
Minority-Owned Business



No. 1T994 Portable Switchboard Shunt



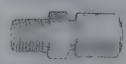
No. 1T996 External Switchboard Shunt



No. 3LW50



No. 3LW49



No. 3LW51

## DONUT CURRENT TRANSFORMERS

- For use with AC panel mount and switch board ammeters where external transformers are required
- Inserted one turn primary type
- Rated at 2 VA

| Range Primary | Range Secondary | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 50A | 5A | 01293 | 1T849 | $33.50 | 1.0 |
| 75 | 5 | 01306 | 1W715 | 35.00 | 1.0 |
| 100 | 5 | 01297 | 1T850 | 34.50 | 1.1 |
| 150 | 5 | 01298 | 1W700 | 35.00 | 0.7 |
| 200 | 5 | 01299 | 1T851 | 34.50 | 0.8 |
| 250 | 5 | 01313 | 1W722 | 35.00 | 0.8 |
| 300 | 5 | 01300 | 1T852 | 34.50 | 0.7 |
| 400 | 5 | 01305 | 1W710 | 35.00 | 0.8 |
| 500 | 5 | 01301 | 1T853 | 34.50 | 1.0 |
| 600 | 5 | 02303 | 1W724 | 35.00 | 0.8 |
| 750 | 5 | 02459 | 1W734 | 43.00 | 0.8 |
| 1000 | 5 | 02304 | 1W731 | 59.95 | 0.8 |

## AC TO DC CURRENT TRANSDUCERS

- For use with 4-20mADC digital panel indicators and controllers to measure higher levels of AC current
- 24V DC power required; can be from meter excitation output
- Terminals are No. 10-32 brass screws with flatwasher and lockwasher

| Range Primary | Range Secondary | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 5 AC A | 4-20 DC mA | 37000 | 1X135 | $235.00 | 1.6 |
| 50 | 4-20 | 37001 | 1X137 | 263.00 | 1.6 |
| 100 | 4-20 | 37003 | 1X139 | 279.00 | 1.6 |
| 150 | 4-20 | 37004 | 1X141 | 289.00 | 1.6 |
| 300 | 4-20 | 37006 | 1X143 | 312.00 | 1.6 |

## METAL TRANSITION RTD ASSEMBLY

- Rugged 316 stainless steel probe resists corrosion
- 48 inches of FEP Teflon-coated wire and stripped leads
- Maximum operating temperature 1600° F
- .118 dia. x 12" long

| Type | Material | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| RTD Pt100 | 316 SS | 21244 | 3LW50 | $149.00 | 0.4 |

## COMPRESSION FITTINGS

Used to mount RTD assembly at a given depth, or to mount a thermocouple head on an assembly. Can be applied to any point along a sheath. Single-threaded. 3/16" O.D. 1/8" NPT connection.

| Type | Length (In.) | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Non-Adjustable | 1¼ | 21237 | 3LW49 | $23.95 | 0.1 |
| Adjustable | 1¼ | 21253 | 3LW51 | 23.95 | 0.1 |

## EXTERNAL PORTABLE AND SWITCHBOARD SHUNTS

- For use with DC panel mount and switchboard ammeters where external shunts are required
- Adjusted for 50 mV drop
- Portable shunt has phenolic base

| Range | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **PORTABLE MODELS** | | | | |
| 5A | 06703 | 1X065 | $45.00 | 0.6 |
| 10 | 06704 | 1X067 | 45.00 | 0.6 |
| 25 | 06707 | 1X069 | 45.00 | 0.6 |
| 50 | 06709 | 1T994 | 45.00 | 1.0 |
| 100 | 06713 | 1X071 | 45.00 | 1.0 |
| 150 | 06714 | 1X073 | 45.00 | 1.0 |
| 200 | 06715 | 1X075 | 45.00 | 1.0 |
| **SWITCHBOARD MODELS** | | | | |
| 100A | 06500 | 1T995 | 45.00 | 0.9 |
| 150 | 06503 | 1X061 | 47.50 | 0.9 |
| 200 | 06504 | 1T996 | 49.00 | 1.5 |
| 300 | 06506 | 1T997 | 49.00 | 2.5 |
| 500 | 06508 | 1T998 | 69.00 | 2.6 |

## BEZEL KITS

- Provides attractive, modern finish for analog panel meters
- Die cast with black satin finish
- Designed for behind panel mounting

| Meter Size (In.) | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3½ Wide-Vue | 01253 | 1W697 | $16.50 | 0.3 |
| 4½ Wide-Vue | 01123 | 1W695 | 18.50 | 0.4 |
| 3½ Tru-Vue | TV3BK | 1X453 | 13.00 | 0.3 |
| 4½ Tru-Vue | TV4BK | 1X463 | 16.00 | 0.4 |

## SPLASH-PROOF COVER



- Fits 1/8 DIN Simpson panel meters and controllers
- Provides NEMA 4 protection against dust and water in rough industrial conditions
- Easily removed for access to meter buttons

**No. 2T912.** Simpson Model 45003. Shpg. wt. 0.3 lbs.
Each ..... $37.00



Measure it, record it, calibrate it — You'll get it right with Grainger.

# HAND-CRANKED AND BATTERY-OPERATED MEGOHMMETERS

TEST INSTRUMENTS

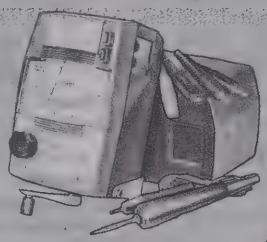
Megohmmeters can be used to detect insulation deterioration caused by moisture, corrosion, dirt, or normal aging. Also, for all types of electrical maintenance tests on cables, motors, generators, electronic components, and wiring circuits. Hand cranked models do not need batteries, providing reliability even in cold temperatures. Always consult user manual and applicable local electrical and safety codes prior to use.

AMPROBE INSTRUMENT

FREE DELIVERY on orders of $900 or more
See Freight Policy

## A AMPROBE Nos. 1T039 & 1T041

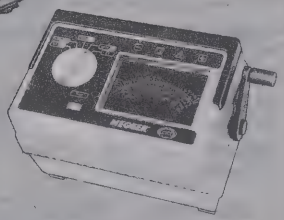
- Constant voltage generator
- Accuracy (typ.): ±5% (0.1 to 50MΩ)
- High impact housing
- Megohm and low ohm ranges
- Rugged cross coil movement
- Supplied with test leads and carrying case



A No. 1T039

## B BIDDLE No. 3T841 MAJOR MEGGER®

- For safe testing of sensitive electronic components
- Accuracy (typ.): ±1.25% of scale length
- Continuity range up to 5000 ohms
- Lightweight, only weighs 2.25 lbs.
- Easy-to-read white-on-black scale uses no multipliers
- Impact-resistant housing
- Safety check, AC voltage range with automatic discharge
- Supplied with carrying case and test leads

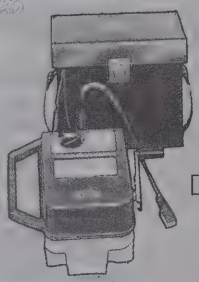


B No. 3T841

BIDDLE INSTRUMENTS

## C BIDDLE No. 3T843 MAJOR MEGGER®

- Extended range up to 20,000 megohms for high-grade insulation testing
- Accuracy (typ.): ±1.25% of scale length
- Lightweight, only weighs 5 lbs.
- Molded handle for easy grip
- Supplied with test leads and rigid vinyl case

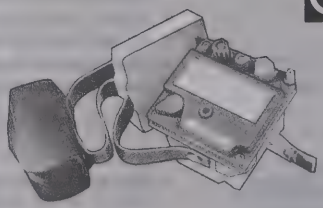


C No. 3T843

## D AEMC No. 2T600

- Designed to withstand harsh marine environments
- Brushless alternator with solid state rectifier
- Constant test voltage across entire range
- Fuse protected on ohms range
- Aluminum alloy case and lid sealed against water and dust
- 3 test voltages
- Accuracy (typ.): ±2.0% of full scale
- 3 terminal guard lead system for stable reading
- Supplied with test leads, strap and lead pouch

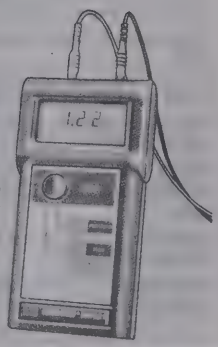
AEMC® INSTRUMENTS



D No. 2T600

## E AVO Nos. 4TM47 & 4TM48

- Continuity range measures down to 0.01Ω to assist fault finding in electrical circuits
- Automatic discharge of the item under test to safe levels
- "V" symbol flashes if more than 25V AC or DC are present to prevent contact with dangerous voltages
- Single test voltage avoids accidental application of excessive volts
- Automatic power down after five minutes inactivity to preserve battery life



New

E No. 4TM47

Replacement Parts Available
1-800-323-0620

| Key | Range | Output Test Voltage | Safety Check Voltage Range | Mfr. | Mfr. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 200Ω/100MΩ | 500V DC | — | Amprobe | AMC-2 | 1T039 | $487.00 | 1.8 |
| | 200Ω/100MΩ/500MΩ | 500/1000V DC | — | Amprobe | AMC-4 | 1T041 | 786.00 | 5.0 |
| B | 5000Ω/2000MΩ | 100/250/500/1000V DC | 600V AC | Biddle | MJ159 | 3T841 | 885.00 | 4.8 |
| C | 5000Ω/2000MΩ | 100/250/ | 600V AC | Biddle | 210170 | 3T843 | 1050.00 | 7.3 |
| | 5000MΩ/10,000MΩ/20,000MΩ | 500/1000V DC | | | | | | |
| D | 500MΩ/5000MΩ | 250/500/1000V DC | 600V AC | AEMC | 1250 | 2T600 | 679.00 | 3.8 |
| E | 99.9Ω/999MΩ | 500V DC | — | AVO | BM121 | New 4TM47 | 315.00 | 1.3 |
| | 99.9Ω/999MΩ | 1000V DC | — | AVO | BM122 | New 4TM48 | 335.00 | 1.3 |

# BATTERY-OPERATED MEGOHMMETERS

Megohmmeters can be used to detect insulation deterioration which can be caused by moisture, corrosion, dirt, or normal aging. These instruments are ideal for all types of electrical maintenance tests on cables, motors, generators, as well as tests on electronic components and wiring circuits. Always consult user manual and applicable local electrical and safety codes prior to use.

## [A] SUPCO No. 3T105 MEGOHM TESTER

- Full range scale up to 1000 megohms
- Inexpensive alternative to taut band type megohmmeters
- LED display
- Includes test leads with alligator clips, carrying case
- Requires two 1.5V "C" batteries (not included)

## [B] B&K Nos. 3GD33, 3GD34, and 3GD35

- Accuracy (typ.): ±5% of reading
- Built-in battery check
- Includes 6 "AA" batteries, carrying case, test leads, and instructions

## [C] AMPROBE No. 3T243

- Accuracy (typ.): ±5% FS
- Mirrored scale
- Fuse protected
- Voltage test range AC/DC
- Automatic discharge
- Rugged taut band meter movement
- Includes test leads, carrying case, adapter clips, and fuse
- Requires 8 "AA" batteries (not included)

## [D] AMPROBE No. 6T372

- Accuracy (typ.): ±3% of reading, ±2 digits
- Built-in timer and signal automatically performs dielectric absorption ratio test
- Sampling rate of no less than 2 times/second
- Audible and visual indication in the auto mode
- Automatic shut-off after 3 minutes
- Requires 6 "AA" batteries (not included)
- Includes test leads, alligator clips, and carrying case

## [E] BIDDLE No. 3T847 ANALOG MEGGERS®

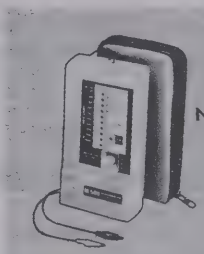
- For single-voltage spot testing
- Accuracy (typ.): ±2.5% of scale length
- Automatically discharges capacitive circuits
- Automatically indicates voltage if connected to an energized circuit
- All models supplied with test leads, "9V" battery, fuse and case

## [F] BIDDLE No. 3T850 ANALOG/DIGITAL MEGGER®

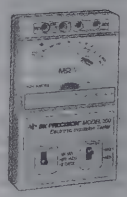
- Accuracy (typ.): Analog ±1.5% of scale length; Digital ±2% of rdg. ± 2 digits
- Analog and digital LCD display
- Analog scale gives a rapid indication of insulation condition or permits monitoring of variable measurements as experienced with capacitive test specimens
- 3 digit digital display provides easy to read, precise measurement
- Automatic discharge of capacitive circuits
- Audible continuity indicator
- Visual warning of connection to energized circuit exceeding 25V
- Includes test leads, 6 "AA" batteries, two fuses and case

## [G] AEMC No. 3JD09

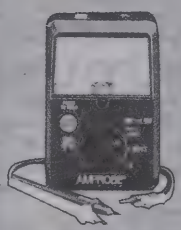
- Accuracy (typ.): ±5% of reading
- Compact, lightweight, designed for use in harsh environments
- Fuse protected input
- Built-in self battery test
- True Megohmeter® constant test voltage
- Complies with IEC, UL, CSA, GS, VDE standards
- Includes shock-proof rubber housing, case, test leads and alligator clip, 4 "AA" batteries, and manual



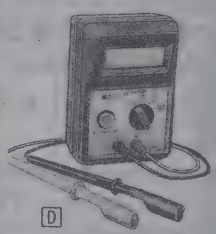
[A] No. 3T105



[B] No. 3GD33



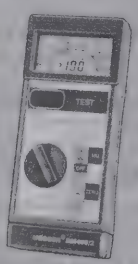
[C] No. 3T243



[D] No. 6T372



[E] No. 3T847



[F] No. 3T850



[G] No. 3JD09

| Key | Resistance Range | Output Test Voltage (DC) | Safety Check Voltage Range | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 20MΩ/40MΩ/60MΩ/100MΩ/150MΩ/200MΩ/300MΩ/400MΩ/700MΩ/1000MΩ | 1000 | — | Supco | M-500 | 3T105 | $99.95 | 1.0 |
| B | 2000MΩ | 1000 | 600VAC | B&K | 300 | 3GD33 | 135.00 | 2.0 |
| | 1000MΩ | 500 | 600VAC | B&K | 305 | 3GD34 | 135.00 | 2.0 |
| | 50MΩ/100MΩ/200MΩ | 250/500/1000 | — | B&K | 307 | 3GD35 | 195.00 | 3.0 |
| C | 100Ω/50MΩ/100MΩ | 0.3/250/500 | 600V AC/DC | Amprobe | AMB-2 | 3T243 | 317.00 | 4.0 |
| D | 200Ω/200MΩ/2000MΩ | 250/500/1000 | — | Amprobe | AMB-4D | 6T372 | 361.00 | 3.5 |
| E | 2Ω/200Ω/200MΩ | 500 | 600VAC | Biddle | 210800-3CL | 3T847 | 480.00 | 3.5 |
| F | 10Ω/100Ω/100KΩ/999MΩ | 500/1000 | 600VAC | Biddle | BM400/2 | 3T850 | 660.00 | 2.1 |
| G | 1000Ω/1000MΩ | 500V/1000 | 600VAC | AEMC | 1015 | 3JD09 | 425.00 | 2.5 |



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# BATTERY-OPERATED MEGOHMMETERS

## [A] B&K PRECISION No. 3GD36

- High-accuracy digital readout
- Accuracy (Typ.): 1.5%
- Integral water resistant carrying case stores test leads

## [B] BIDDLE Nos. 3T852 & 3T853 MAJOR MEGGER® SERIES

- Accuracy (typ.): ±1.25% of scale length
- Lightweight, weighs 2.25 lbs. or less
- Dual operation model No. 3T853 operates off internal rechargeable battery or line power for long-term or in-shop testing
- Easy-to-read white-on-black scale uses no multipliers
- Impact-resistant safety yellow case
- 6 "AA" alkaline (No. 3T852) or NiCad (No. 3T853) batteries
- Includes test leads, batteries, internal charger and rigid vinyl carrying case

## [C] BIDDLE No. 3T854 DIGITAL AUTORANGING MEGGER®

- Autoranging on four insulation ranges to 5000 megohms
- Autoranging on four continuity ranges to 5000KΩ
- Accuracy (typ.): ± 2% RDG ± 2 digits
- 3½ digit LCD shows reading plus units of measurement
- Tone indicator sounds for range changes, providing fast measurements
- Tone also indicates the presence of low resistance or high voltage, providing greater safety to user
- Includes test leads, 6 "AA" alkaline batteries, and carrying case

## [D] BIDDLE No. 3T856 BENCHTOP MEGGER® TEST SET

- All-purpose test set recommended for benchtop applications requiring high sensitivity up to 200GΩ
- Accuracy (typ.): ±2% + 2 digits
- Low-voltage range (50V DC) ideal for safe testing of sensitive electronic components
- Pushbutton testing with safety interlock switch for 1000 volt operation
- Includes 6 "AA" batteries, leads, prods, clips, and protective cover

## [E] BIDDLE No. 3T857 MEDIUM-DUTY MEGGER® TEST SET

- Ideal for field tests where high voltage tests at high sensitivity are required
- Accuracy (typ.): ±1.5% of scale length at 68°F (20°C); scale is 4.84" long
- Completely portable
- Direct reading to 100,000MΩ
- Test button can be locked for extended test periods
- Safety voltmeter acts as a capacitive discharge monitor
- Guard terminal prevents surface leakage errors
- Complete with NiCad battery pack, built-in charger and charger cord
- Includes (3) 10 ft. test leads and case

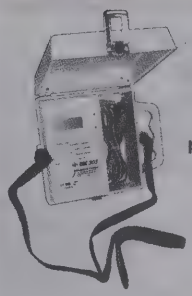
## [F] AEMC Nos. 2T593 & 2T594 MEGOHMMETERS

- Fast charging circuit for high capacitance samples
- Accuracy (typ.): ±5% of reading
- Lock-on switch for hands-free testing
- Fuse protection built-in
- Includes test leads, spare fuse, case and eight 1.5V "AA" alkaline batteries
- Dual operation, batteries or AC module
- AC Module not supplied; order No. 2T604 AC module listed below

## No. 2T604 AC MODULE

- For use with Nos. 2T593 and 2T594

**No. 2T604.** AC Module.. Shpg. wt. 2.4 lbs.
Each.....$193.50



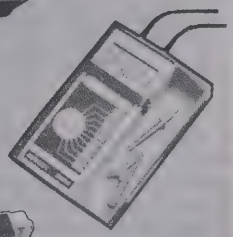
[A] No. 3GD36



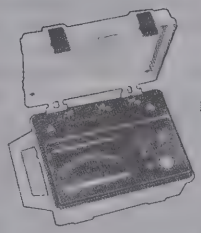
[B] No. 3T852



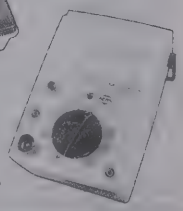
[C] No. 3T854



[D] No. 3T856



[E] No. 3T857



[F] No. 2T593

| Key | Resistance Range | Output Test Voltage (VDC) | Safety Check Voltage Range | Mfr. | Mfr. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 2000MΩ | 250/500/1000 | — | B&K | 308 | 3GD36 | $265.00 | 3.0 |
| B | 5000Ω/2000MΩ | 100/250/500/1000 | 600V AC/DC | Biddle | MJ459 | 3T852 | 885.00 | 4.8 |
| B | 5000Ω/2000MΩ | 100/250/500/1000 | 600V AC/DC | Biddle | MJ559 | 3T853 | 935.00 | 5.0 |
| C | 2000Ω/2000MΩ | 500/1000 | 600V AC | Biddle | 210600 | 3T854 | 905.00 | 4.3 |
| D | 100KΩ/10GΩ/20GΩ/50GΩ/100GΩ/200GΩ | 50/100/250/500/1000 | 600V AC/DC | Biddle | BMS02 | 3T856 | 1195.00 | 19.0 |
| E | 100,000MΩ | 500/1000/2500/5000 | 1000V AC/DC | Biddle | 218650 | 3T857 | 4595.00 | 16.0 |
| F | 100Ω/1MΩ/1000MΩ/1,000,000MΩ | 50/100/250/500/1000 | 600V AC/DC | AEMC | 1000N | 2T593 | 995.00 | 5.7 |
| F | 10KΩ/30MΩ/3000MΩ/3000GΩ | 500/1000/2500/5000 | 600V AC/DC | AEMC | 5000N | 2T594 | 1595.00 | 5.2 |

# BATTERY AND LINE-OPERATED MEGOHMMETERS, INSULATION BREAKDOWN & DIELECTRIC TESTERS

## BATTERY-OPERATED MEGOHMMETERS

### [A] EXTECH No. 3ZH75

- Accuracy (typ.): ±3% + 5 digits
- 0.65" Digital LCD display
- Power lock for 3 minute test
- Auto power-off and data hold functions
- Includes 6 AA batteries, 30" test leads and case with neckstrap

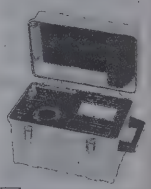
### [B] AEMC No. 3JD08

- Accuracy (typ.) ± 5% of reading
- Rugged, weather-proofed field case
- Fuse protected input, 600V safety test range
- Rechargeable battery with low battery indicator
- Built in clock/timer, earth and guard terminals for stable reading
- Complies with IEC, UL standards
- Includes Ni-Cad battery, set of three leads, AC line cord and manual



[A] No. 3ZH75

EXTECH INSTRUMENTS

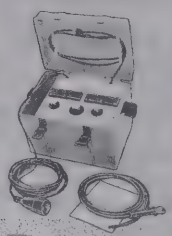


[B] No. 3JD08

## LINE-OPERATED MEGOHMMETERS

### [C] [D] BIDDLE Nos. 3T859 & 3T860

- Accuracy (typ.): 2% FS
- Variable test voltages up to 5kV for No. 3T859 and up to 15kV for No. 3T860
- Highly sensitive to 100,000MΩ for No. 3T859 and up to 300,000MΩ for No. 3T860
- Line-powered for extensive testing
- Circuit breaker protected
- Light enough to hand-carry
- Supplied with ground lead and shielded high voltage lead
- Impact resistant case with removable lid, lead storage space, and adjustable carrying strap



[C] No. 3T859

BIDDLE INSTRUMENTS



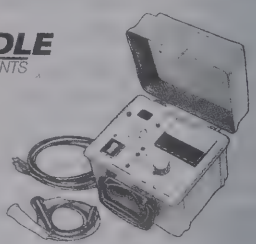
[D] No. 3T860

| Key | Resistance Range | Output Test Voltage (VDC) | Safety Check Voltage Range | Mfr. | Mfr. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 200Ω, 200MΩ, 2000MΩ | 250, 500, 1000 | 750VAC | Extech | 380360 | **3ZH75** | **$199.00** | 2.0 |
| B | 30-30,000MΩ/ 3-3000GΩ | 500/1000/ 2500/5000 | 600V AC/DC | AEMC | 5100 | **3JD08** | **3249.00** | 23.0 |
| C | 50,000MΩ/100,000MΩ | 0-2.5/0-5K | — | Biddle | 210400 | **3T859** | **2015.00** | 23.0 |
| D | 150,000MΩ/300,000MΩ | 0-7.5/0-15K | — | Biddle | 210415 | **3T860** | **2880.00** | 41.0 |

## INSULATION BREAKDOWN TESTERS

- Performs withstand tests to meet UL specifications
- Accuracy (typ.): ±2% of meter scale
- Suitable for production, maintenance or lab applications
- Visual and audible failure indications
- Adjustable leakage current 0.3mA-12mA AC, 0.43mA-17m A DC
- Packed with safety features: automatic failure shutdown, recessed high voltage connections, push-to-test switches and interlocked ground circuit
- Nos. 3T874 and 3T875 have three-prong NEMA 5-15R receptacles

BIDDLE INSTRUMENTS



No. 3T874

| Output Voltage Range | Max. Ouput Current | Biddle Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **0-3 KVAC** | 12.6 mA | 230315 | **3T874** | **$1170.00** | 13.0 |
| **0-4 KVAC** | 12.6 mA | 230415 | **3T875** | **1170.00** | 17.0 |
| **0-4 KVAC/0-5 KVDC** | 12.6 mA | 230425 | **3T876** | **1580.00** | 17.0 |

## DIELECTRIC TESTERS

- Multi-range voltmeters and microammeters to measure leakage current down to 0.1mA
- Accuracy (typ.): ±2% of meter scale
- Contin. variable output voltage with excellent resolution
- Fast-charging of high capacitance samples
- Protected against overloads or test sample breakdown
- Includes 10 ft. 3 wire input line cable, 15 ft. shielded HV output cable with guard terminal and heavy spring clip, and 10 ft. ground connection cable with heavy spring clip



BIDDLE INSTRUMENTS

No. 3T877



No. 3T878

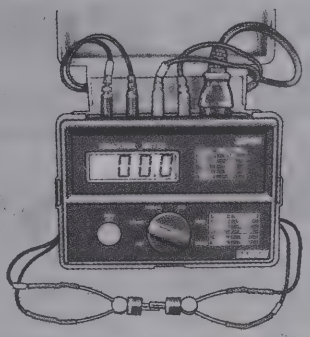
| Output Voltage Range | Current Range (μA) | Biddle Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **0-2.5/ 5KVDC** | 0-5/50/500/5000 | 220005 | **3T877** | **$1830.00** | 23.0 |
| **0-7.5/15KVDC** | 0-5/50/500/5000 | 220015 | **3T878** | **2585.00** | 39.0 |

(†) Always consult user manual and applicable local electrical and safety codes prior to use.

# MILLIOHM METER, MICRO OHM METER AND EARTH/GROUND RESISTANCE TESTER

## PRECISION MILLIOHM METER

- Accuracy (typ.) ± 0.75% of reading
- Measure resistance of motor coils, transformers and printed circuit board layout. Aerospace composite repair, weld testing (ground systems)
- 5 Resistance ranges: 200mΩ/2000mΩ/20Ω/200Ω/2KΩ: smallest resolution on 200mΩ range 100μΩ
- Large 0.7" (18mm) LCD 1999 count
- 4-wire cables with Kelvin clip connectors
- Manual zero display adjust
- Overange indication
- Built into compact, durable field service housing with protective cover
- Wide operating conditions: 32-122°F < 80% RH
- Complete with Kelvin clip connectors and power cord built into case



New

EXTECH INSTRUMENTS

No. 4PC52

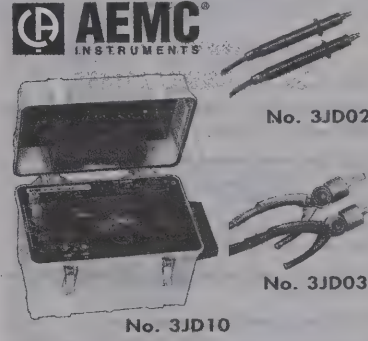
**No. 4PC52.** Extech brand (380460). Shpg. wt. 2.7 lbs. Each .....$349.00

Always consult user manual and applicable local electrical and safety codes prior to use.

## MICRO OHM METER

- Accuracy (typ.) ± 0.25% of reading
- Resistance range (Ohms): 2000μ/20m/200m/2000m/20/200.
- Test current: 10A/1A/1A/100mA/10mA/10mA
- Rugged, weather-proof field case
- Rechargeable battery with low battery indicator
- Four terminal Kelvin resistance measurement
- Complies with IEC, UL standards
- Includes Ni-Cad battery, AC line cord and manual
- Test leads sold separately below

AEMC® INSTRUMENTS



No. 3JD02

No. 3JD03

No. 3JD10

No. 3JD04

**No. 3JD10.** AEMC brand (5600). Shpg. wt. 23.0 lbs. Each.....$2495.00

### ACCESSORIES FOR No. 3JD10

**No. 3JD02.** 2 Kelvin probes (10 amp). AEMC brand (1017.82). Shpg. wt. 0.5 lbs. Each.....$158.00

**No. 3JD03.** 2 color-coded Kelvin clips (1 amp). AEMC brand (1017.83). Shpg. wt. 0.5 lbs. Each.....$109.00

**No. 3JD04.** 2 large color-coded Kelvin clips (10 amps). AEMC brand (1017.84). Shpg. wt. 2.0 lbs. Each.....$199.00

**No. 3JD17.** Carrying bag. Will hold all 3 sets of leads. AEMC brand (211.32). Shpg. wt. 0.4 lbs. Each.....$56.90

## EARTH/GROUND RESISTANCE TESTER

Earth/ground resistance testers are used to determine the resistance of earth surrounding a ground rod. Used to check grounds to determine compliance with NEC, OSHA and other specifications. Always consult user manual and applicable local electrical and safety codes prior to use.

- Accuracy (typ.): ±1.5% + 0.1Ω on 1.0 to 50.0Ω range
- Clamp-on measurement of ground resistance and current without disconnecting any conductors
- Digital auto-ranging display
- Reading hold switch
- Battery life indicator and auto shut-off
- Rugged Lexan jaws accommodate 1000 MCM cable
- Includes carrying case calibration test loop, "9V" battery and manual

AEMC® INSTRUMENTS



No. 3T104

| Ground Resistance Range (Ω) | Resolution (Ω) | Operating Frequency (Hz) | Measuring Current (mA) | Earth Voltage (AC) | Power Supply | Display (In.) | Mfr. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1-50<br>50-100<br>100-200<br>200-400<br>400-600<br>600-1200 | 0.1<br>0.5<br>1<br>5<br>10<br>50 | 1,689 | 1-300<br>300-3000<br>3-30A | — | Battery | 3¾ LCD, Digital | 3710 | **3T104** | **$1895.00** | 6.0 |

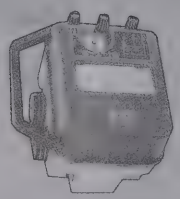
**DON'T DELAY... ORDER FROM GRAINGER NOW!**

Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

# PORTABLE EARTH/GROUND RESISTANCE TESTERS

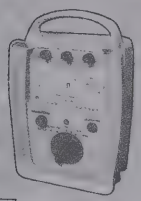
BIDDLE INSTRUMENTS

Ⓐ No. 3T865



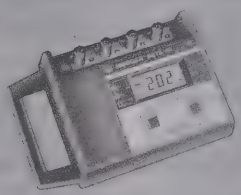
Replacement Parts Available
1-800-323-0620

AEMC® INSTRUMENTS



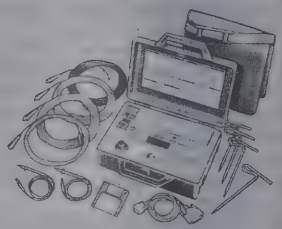
Ⓑ No. 2T597

BIDDLE INSTRUMENTS



Ⓒ No. 3T867

AMPROBE INSTRUMENT



Ⓓ No. 4JC30

## EARTH/GROUND RESISTANCE TESTERS

Earth/ground resistance testers are used to determine the resistance of earth surrounding a ground rod. Used by electrical contractors, power utilities, telephone and CATV technicians, and inspectors who check grounds to determine compliance with NEC, OSHA, and other specifications. Always consult user manual and applicable local electrical and safety codes prior to use.

### Ⓐ BIDDLE No. 3T865

- Accuracy (typ.): ±2% FS (100Ω)
- "READ/OFF/CHECK" switch for quick and simple testing
- For three-terminal fall-of-potential measurements or two-terminal reference checks
- "CHECK" switch to verify probe resistance and continuity
- Easy-to-read analog scale requires no multipliers
- Molded handle for easy grip
- Requires no zero or calibration adjustment before testing
- Comes with 4 "C" alkaline batteries
- Requires the use of No. 3T868 ground kit; order separately

### Ⓑ AEMC No. 2T597

- Accuracy (typ.): ±3% of range
- Built-in battery check
- Direct reading—4.9" easy-to-read linear scales
- Rugged taut band meter movement, 25Ω mid scale
- Built-in calibration switch compensates for temperature variations, high auxiliary rod resistance, and battery voltage drops
- 3-terminal fall-of-potential method
- Includes three 1.5V "AA" batteries
- Requires the use of No. 2T603 ground kit; order separately

### Ⓒ BIDDLE No. 3T867

- Accuracy (typ.): ±2% of rdg. ±3 dig
- Four-terminal method allows for soil resistivity measurements
- Versatile resistance range from 0.01 to 19.99K ohms for simple to complex applications
- Warns of interference from excessive noise or high probe resistance to ensure greater accuracy
- Includes rechargeable batteries with internal charger
- Requires the use of 3T869 ground kit; order separately

### Ⓓ AMPROBE No. 4JZ30

- Accuracy ± 2% of reading ±2 digits
- Measures earth ground resistance (Ω)
- Water resistant unit is autoranging, with 100 memory locations
- Powered by 4 D batteries (not supplied)
- RS-232 download
- Includes: 4 measuring rods and cables, safety test lead, RS232 interface cable, software, soft carrying case and instructions

### PORTABLE EARTH/GROUND RESISTANCE TESTER SPECIFICATIONS AND ORDERING DATA

| Key | Ground Resistance Range (Ω) | Resolution (Ω) | Operating Frequency (Hz) | Measuring Current (mA) | Earth Voltage (AC) | Power Supply | Display | Mfr. | Mfr.'s Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 0.5 to 500 | NA | 135 | 5 | 50V | Battery | Log Scale | Biddle | 250260 | 3T865 | $695.00 | 4.0 |
| B | 0 to 50, 0 to 500 | 1, 10 | 325 | 3.2 | NA | Battery | Analog | AEMC | 3610 | 2T597 | 495.00 | 3.3 |
| C | 0.01 to 19.99<br>0.1 to 199.9<br>0.001K to 1.999K<br>0.01K to 19.99K | 0.01<br>0.1<br>0.001K<br>0.01K | 128 | 10mA to 100µA | 50V | Battery | 3½ LCD, Digital | Biddle | DET5/4R | 3T867 | 1850.00 | 4.8 |
| D | 0 to 19.99<br>20.0 to 199.9<br>200 to 1999 | 0.01<br>0.1<br>1.0 | 135 | 10mA | 600V | Battery | 3½ LCD, Digital | Amprobe | GP-1 | 4JZ30 | 1886.00 | 7.0 |

### ACCESSORY KITS FOR PORTABLE EARTH/GROUND RESISTANCE TESTERS

| For Use With Stock No. | Accessory Description | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3T865 | 10, 31, 50 ft. test leads, pair of 12" ground rods, and calibration standard for 5Ω and 100Ω checks | Biddle | 250560 | 3T868 | $150.00 | 2.0 |
| 2T597 | One 16 ft. lead, two 98 ft. leads, two T-shaped ground rods, and case | AEMC | 100.132A | 2T603 | 203.00 | 5.4 |
| 3T867 | 25 ft. red, 50 ft. black and 100 ft. blue test leads, pair of 20" ground rods and padded case | Biddle | 250583 | 3T869 | 365.00 | 15.0 |

# GROUND FAULT/CURRENT LEAKAGE DETECTOR AND TOOL/APPLIANCE TESTER

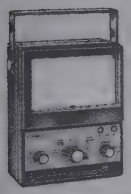
Simpson

SUPPLIER DIVERSITY™

Minority-Owned Business

EXTECH INSTRUMENTS

AEMC INSTRUMENTS



A No. 1T809
AC Current Leakage Tester



B No. 4KC26
AC Leakage Current Tester

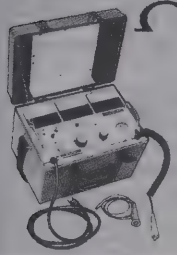


D No. 3JH49
Digital Leakage Current Clamp-On



E No. 3JD06
Ground Faults/ Current Leakage Detector

BIDDLE INSTRUMENTS



C No. 3T861
Tool/Appliance Tester

AMPROBE INSTRUMENT

F No. 3JD11
Artificial Neutral



## D DIGITAL LEAKAGE CURRENT CLAMP-ON AMPROBE No. 3JH49

- Measures AC leakage current, AC low current, AC voltage
- Used to determine presence of current on ground panel conductors
- 0.01-20mA AC range
- Data hold, 3½ digit LCD, 40 Hz to 1 KHz Frequency response on 0-500V AC range
- Batteries last about 100 hours
- Includes carrying case, test leads, two AA batteries, and instructions

**No. 3JH49.** Amprobe brand (DLC-100). Shpg. wt. 1.6 lbs. Each.....$486.00

## A AC CURRENT LEAKAGE TESTER SIMPSON No. 1T809

- For measurement of leakage current in 120/240V AC appliances and electrical equipment in accordance with ANSI C101.1-1992, IEC 990 and UL 1459
- Leakage current: .3, 1, 3, 10 M.I.U.
- Frequency response current (unweighted): 0-100 mA RMS
- Accuracy: ±2% F.S. @ 60 Hz

**No. 1T809.** Simpson brand (228). Shpg. wt. 3.5 lbs. Each.....$549.00

## B EXTECH AC LEAKAGE CURRENT TESTER No. 4KC26

- Large shielded clamp jaw (1.2") measures to 10µA resolution
- 4 digit 4000 count LCD with fast (50ms) bargraph transients display
- 50/60Hz filter minimizes high frequency noise and harmonics
- Five AC current ranges; 40mA, 400mA, 4A, 40A, 60A
- Accuracy (typ.): ±(1.0% ± 3 digits)
- Wide frequency response 40Hz-1KHz
- AC voltage (400V) and resistance (400 Ohms) functions
- Automatic power off with override and low battery indicator
- Max/Min and Data Hold with Push-button zero
- Complete with two 1.5V AA batteries, test leads and carrying case

**No. 4KC26.** Extech brand (380943). Shpg. wt. 1.0 lbs. Each.....$299.00

## C TOOL/APPLIANCE TESTER BIDDLE No. 3T861

- For performing electrical safety checks to reduce possibility of shock hazard
- Three-in-one instrument tests ground continuity, leakage and insulation breakdown, plus operational test
- Complete UL and ANSI testing in less than one minute
- Maintains compliance with OSHA safety regulations
- Ground checks: 3V AC, 25A, 0.10Ω pass/fail threshold
- Leakage test: 0-10mA AC
- Insulation breakdown test: 0-3 KVAC, 0.3-12mA
- Operational test: 15A AC max.
- Provides meter readings for current and voltage
- Meets UL 45 testing requirements
- Easy to use; color coded panel leads you through test
- Audible and visual failure indications
- Completely self-contained for easy portability
- Front panel NEMA 5-15 output receptacle, with adapters available to convert to a 20 ampere plug or twist lock up to 30 amperes
- Operates on 120V AC, 60 Hz

**No. 3T861.** Biddle brand (235303). Shpg. wt. 34.0 lbs. Each.....$2960.00

## E GROUND FAULT/CURRENT LEAKAGE DETECTOR AEMC No. 3JD06

- Accuracy (typ.) ± 0.5% of reading
- Clamps around conductor without interrupting AC service
- Works with digital multimeters having AC mV range
- For use on grounded single and three-phase systems
- Ungrounded systems require optional artificial neutral 3JD11
- Optional carrying case (No. 3JD16)
- Current range: 500µ to 6A; 500mA to 200A

**No. 3JD06.** AEMC brand (1201.42). Shpg. wt. 4.0 lbs. Each.....$749.00

**No. 3JD16.** Carrying Case. AEMC brand (2118.09). Shpg. wt. 2.0 lbs. Each.....$59.95

## F AEMC ARTIFICIAL NEUTRAL No. 3JD11

- For use with No. 3JD06 ground fault detector
- Generates artificial neutral conductor for measurement of fault current on 3 wire systems
- Internal buzzer sounds when neutral connection is grounded
- Three LEDs indicate the presence of voltage on each phase
- Includes four 5 ft. leads with detachable clips, eight AA batteries and carrying case
- Voltage range: 30-600V; frequency: 45-65Hz; phase resistance: 3.9 KΩ ± 5%; power supply: eight AA batteries

**No. 3JD11.** AEMC brand (1971.01). Shpg. wt. 5.0 lbs. Each.....$649.00

# ANALOG CLAMP-ON METERS



No. 1T019



No. 4X221

AMPROBE INSTRUMENT



No. 3T005

Replacement Parts Available
1-800-323-0620
FULL LINE OF AMPROBE CASES, TEST LEADS AND ACCESSORIES

## A AMPROBE ROTARY SCALE, ANALOG CLAMP-ON METERS

- Rotary volt and amp scales show one range at a time
- Accuracy (typ.): ±3% FS
- High-energy protection; 600V fusing provides additional protection for user and meter
- Unbreakable magnifying window
- Pointer lock "freezes" pointer at reading
- No. 1T008 and No. 1T009 have manual-set surge indication capability. Measures motor starting currents and voltage increases lasting 1/6 second or longer
- Includes carrying case and leads
- No. 1T010 includes extendo leads and deluxe carrying case
- No. 6T263 features drop-proof construction and 3500V case breakdown voltage
- Prepackaged electrical service kits include:

**No. 1T589** includes No. 4X221 meter, current extender to 1200 amps, pencil-type leads, alligator clip, line splitter, and master carrying case

**No. 1T018** includes No. 4X221 meter, current extender to 1200 amps, pencil-type leads, alligator clip, line splitter, master carrying case, and 3-phase line sequence indicator

**No. 1T019** includes No. 4X221 meter, pencil-type leads, alligator clip, line splitter, and front fold case

## B AMPROBE FLAT SCALE, ANALOG CLAMP-ON METERS

- Drop-proof up to 5 ft.
- Accuracy (typ.): ±3% FS
- Ohmmeter fused to 250V AC
- Average sensing, RMS calibrated
- Pointer lock
- Temperature measurement capability with optional temperature probes
- Includes test leads. Requires one "AA" battery (not supplied)
- No. 2T967 includes carrying case

| Key | Current (Amps AC) | Voltage (Volts AC) | Resistance (Ohms) Range | Resistance (Ohms) Midscale | Calibration Frequency (Hz) | Jaw Capacity (In.) | Scale Type | Manufacturer | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 6/15/40/100 | 150/600 | — | — | 60 | 1 | Rotary | Amprobe | RS-1 | 1T003 | $73.85 | 1.1 |
| | 15/40/100/300/1000 | 150/300/750 | 1000 | 25 | 60 | 2 | Rotary | Amprobe | RS-1007S | 1T009* | 125.85 | 1.5 |
| | 6/15/40/100/300 | 150/300/600 | 1000 | 25 | 60 | 1 | Rotary | Amprobe | RS-3A | 1T010* | 93.85 | 3.0 |
| | 6/15/40/100/300 | 150/300/600 | 1000 | 25 | 60 | 1 | Rotary | Amprobe | RS-3 | 4X221* | 84.85 | 1.2 |
| | 6/15/40/100/300 | 150/300/600 | 1000 | 25 | 50-400 | 1 | Rotary | Amprobe | RS-3SUPER | 6T263* | 89.85 | 1.2 |
| | 6/15/40/100/300 | 150/300/600 | 1000 | 25 | 60 | 1 | Rotary | Amprobe | TM33A | 1T589* | 211.00 | 4.3 |
| | 6/15/40/100/300 | 150/300/600 | 1000 | 25 | 60 | 1 | Rotary | Amprobe | TM43A | 1T018* | 240.00 | 5.5 |
| | 6/15/40/100/300 | 150/300/600 | 1000 | 25 | 60 | 1 | Rotary | Amprobe | TM63 | 1T019* | 114.85 | 1.9 |
| B | 6/15/40/100/300 | 150/300/600 | 1K/100K | 25 | 50-60 | 1 | Flat | Amprobe | FS-3L | 2T967 | 54.85 | 1.3 |
| | 6/15/40/100/300 | 150/300/600 | 1K/100K | 25 | 50-60 | 1 | Flat | Amprobe | FS-3 | 3T005 | 49.85 | 1.0 |

(*) Requires one "AAA" battery, not supplied.

## AMPROBE ENERGIZER/LINE SPLITTER

- Increase current measuring sensitivity of clamp-ons by 10 times for more precise current readings on small appliances and fractional horsepower motors
- 15 amp capacity
- "Splits" two-conductor line cord for readings at outlets under load
- Permits voltage measurement at outlet under actual conditions
- Ground adapter No. 1T691 (not supplied) for No. 1T073 enables energizer to maintain existing equipment ground while taking current measurements on 115V AC/15A equipment
- No. 1T073 includes carrying case and adapter that permits series connection of energizer for low current readings on permanently wired equipment

**No. 1T073.** Line Splitter. Amprobe brand (A-47L). Shpg. wt. 0.3 lbs. Each.....$32.85

**No. 1T691.** Ground Adapter. Amprobe brand (ADP-46). Shpg. wt. 0.3 lbs. Each.....$15.25

AMPROBE INSTRUMENT



No. 1T691 Shown With No. 1T073

EXTECH INSTRUMENTS



No. 3ZH94

## EXTECH THREE-WIRE AC LINE SEPARATOR

- Allows clamp meter measurements of AC current on power cords to 15 amps
- Separates high conductor from neutral and ground
- Two cavities: X1 for direct readings, X10 for increased sensitivity
- Simultaneous check for high/neutral voltage

**No. 3ZH94.** Extech brand (480172). Shpg. wt. 0.3 lbs. Each.....$15.00

# DIGITAL CLAMP-ON METERS

AMPROBE INSTRUMENT


No. 5U765


No. 1TC60


No. 6T373


No. 3JH43


No. 5U767


No. 6T065


No. 5U766


No. 4JZ22

**Replacement Parts Available**
**1-800-323-0620**

**FULL LINE OF AMPROBE ACCESSORIES AVAILABLE**

Digital display adds reading convenience and measurement accuracy to the analog type clamp-on. Digital clamp-ons typically offer an expanded frequency range.

**Use 9V battery; included with Nos. 1TC60, 6T373, 5U764, and 5U765**

- **Both 4JZ21 and 4JZ22 meet IEC-1010 600V Cat. III**
- **4JZ22 measures temperature; -50 to 1372°C (-58 to 2502°F)**
- **All include: carrying case, test leads (except 5U765 and 5U766) and instructions**
- **3JH43 features only backlit dual display and relative zero**

## DIGITAL CLAMP-ON METERS FEATURE COMPARISON CHART

| Stock No. | Amprobe Model | Auto Power Off | Data Hold | Peak Hold | Agency Approval | Audible Continuity | Counts | Accuracy (typ.) | Frequency Counter | Multi-Sensing | Bar Graph | Capacitance | Min/Max Record |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1TC60** | ACD-10 SUPER | — | • | — | CE | • | 4000 | ± 1.5% ± 3 digits | — | — | — | — | — |
| **6T373** | ACD-11 | — | • | — | CE | • | 4000 | ± 2.5% ± 5 digits | — | — | — | — | — |
| **2T446** | ACD-8A | — | • | • | CE | — | 2000 | ± 2% ± 2 digits | — | — | — | — | — |
| **2T447** | ACD-9A | — | • | • | CE | — | 2000 | ± 2% ± 2 digits | — | — | — | — | — |
| **3A360** | ACDC-1000 | — | — | • | — | — | 2000 | ± 1% ± 5 digits | — | — | — | — | — |
| **5U764** | ACD-12 | • | • | — | UL/CE | • | 4000 | ± 1.2% ± 3 digits | — | — | — | — | — |
| **5U765** | ACDC-600A | • | • | — | CE | — | 2000 | ± 1.9% ± 5 digits | — | — | — | — | — |
| **5U767** | ACDC-610 | • | • | • | CE | • | 4000 | ± 1.25% ± 4 digits | 20Hz to 4MHz | — | — | — | — |
| **6T064** | ACD-2000A | — | — | • | — | — | 4000 | ± 2% ± 2 digits | — | • | — | — | — |
| **6T065** | ACD-2001A | — | — | • | — | — | 4000 | ± 2% ± 2 digits | — | • | — | — | — |
| **5U766** | ACDC-600AT | • | • | — | CE | — | 2000 | ± 1.9% ± 5 digits | — | — | — | — | — |
| **3JH43** | ACDC-3000 | • | • | • | UL/ULC/CE | • | 4000/20,000 | ± 2% ± 5 digits | 200Hz to 200KHz | — | 43 segments | — | • |
| **4JZ22** | ACDC-620T | • | • | • | ULC/CE | • | 4000 | ± 2% ± 5 digits | — | — | 43 segments | 40µf to 4000µf | • |
| **4JZ21** | ACD-330T | • | • | • | ULC/CE | • | 4000 | ± 1.5% ± 5 digits | — | — | 43 segments | — | — |

Note: (•) Feature of Meter; (—) Not a feature or range of meter.

## DIGITAL CLAMP-ON METERS ORDERING DATA

| Current (Amps AC) | Current (Amps DC) | Voltage (Volts AC) | Voltage (Volts DC) | Resistance (Ohms) | Calibration Freq. (Hz) | Jaw Capacity (In.) | Display (In.) | Auto Range | True RMS | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300 | — | 400/600 | — | 200-40K | 50/60 | 1.29 | 3¾ LCD | Yes | No | ACD-10 Super | **1TC60** | **$99.85** | 1.0 |
| 1000 | — | 400/750 | — | 200-40K | 50/60 | 2.14 | 3¾ LCD | Yes | No | ACD-11 | **6T373** | **131.85** | 1.3 |
| 199.9/300 | — | 199.9/999 | 199.9/999 | 199.9/1999 | 40-400 | 1 | 3½ LCD | No | No | ACD-8A | **2T446** | **199.00** | 1.8 |
| 199.9/999 | — | 199.9/999 | 199.9/999 | 199.9/1999 | 40-400 | 2 | 3½ LCD | No | No | ACD-9A | **2T447** | **211.00** | 1.8 |
| 199.9/999 | 199.9/999 | 199.9/999 | 199.9/999 | 1999/1999 | 40-400 | 2 | 3½ LCD | Yes | No | ACDC-1000A | **3A360** | **396.00** | 1.8 |
| 400 | — | 400/600 | 0.4/4/40/400 | 199.9/1999K/1M | 50/60 | 1.1 | 3¾ LCD | Yes | No | ACD-12 | **5U764** | **129.85** | 1.1 |
| 200/600 | 200/600 | — | — | 1K | 40-400 | 1.33 | 3¾ LCD | Yes | No | ACDC-600A | **5U765** | **156.00** | 1.0 |
| 400/600 | 400/600 | 400/750 | 400/1000 | 0.1-199.9/999 | 40-400 | 1.65 | 3¾ LCD | No | No | ACDC-610 | **5U767** | **281.00** | 1.5 |
| 199.9/999 | — | 0.1-199.9/999 | — | 0.1-199.9/999 | 40-400 | 2 | 3¾ LCD | Yes | Yes | ACD-2000A | **6T064** | **290.00** | 1.9 |
| 199.9/300 | — | 0.1-199.9/999 | — | 0.1-199.9/999 | 40-400 | 1 | 3½ LCD | Yes | Yes | ACD-2001A | **6T065** | **268.00** | 2.0 |
| 200/600 | 200/600 | | | | 40-400 | 1.33 | 3¾ LCD | Yes | Yes | ACDC-600AT | **5U766** | **200.00** | 1.1 |
| 40/400/1000 | 40/400/1000 | 4/40/400/750 | 4/40/400/1000 | 100-1K/40K | 40-2kHz | 2 | 4 LCD | Yes | Yes | ACDC-3000 | **3JH43** | **396.00** | 2.4 |
| 400/1000 | 400/1000 | 400/1000 | 400/1000 | 100-1K | 15-400 | 3 | 4 LCD | Yes | Yes | ACD-620T | **4JZ22** | **250.00** | 4.0 |
| 400/1000 | — | 400/1000 | 400/1000 | 100-1K | 15-400 | 3 | 4 LCD | Yes | Yes | ACD-330T | **4JZ21** | **186.00** | 3.0 |

# DIGITAL CLAMP-ON METERS

BK PRECISION®



No. 3GD37



No. 4KC22

New

EXTECH INSTRUMENTS



No. 4PC56

**B & K Nos. 1T149, 1T150, 3GD37, and 3GD38**

- Accuracy (typ.): 1T049 ± 1.5% reading ± 5 digits; 1T150: ± 1.5% RDG ± 5 dig; 3GD37: ± 1.5% RDG ± 5 dig; 3GD38: ± 1.5% RDG ± 5 dig
- Analog bar graph on 1T150, 3GD37
- Data hold on all, peak hold on Nos. 1T150, 3GD37, and 3GD38
- Min/Max on 3GD37
- Includes test leads, battery, carrying case and instructions
- 1T150 measures frequency (with test leads): 320 Hz / 3.2 KHz / 32 KHz
- 3GD37 measures frequency (with test leads): 100 Hz / 1 KHz / 10 KHz / 100 KHz / 400 KHz
- 3GD37 capacitance: 4nf / 40nf / 400nf / 4μf / 40μf

**EXTECH AC/DC CLAMP-ON AMMETERS Nos. 4KC22, 4KC23, 4KC24, 4KC25, and 4TM12**

- 4TM12, 4KC24, and 4KC25 measure temperatures to 1400°F with K-type thermocouple
- 4KC22 and 4KC23 have a 200mV DC range
- Resistance measurements plus diode check, overload protection in all ranges
- No. 4TM12 includes true RMS and temperature functions
- Adjustable zero, data hold and peak hold for recalling in-rush current
- Hand-guard complies with IEC-1010-1 safety requirements
- Includes 9V battery, test leads, carrying case and bead wire thermocouple probe (for Nos. 4TM12, 4KC24 and 4KC25)

**EXTECH No. 4PC53**

- 200A mini clamp digital multimeter
- Economical DC/AC current clamp-on
- AC current measurements to 10mA, DC current to 100mA
- Accuracy (Typ.) ±1.2% ±5 digits
- Bright 0.5" (1999 count) LCD with data hold
- Low battery and over-range indication
- Includes test leads, battery, and case

**EXTECH No. 4PC56**

- 200A mini clamp digital multimeter
- DC/AC current measurements to 10 mA plus voltage, frequency and resistance
- Accuracy (Typ.) ±1.0% ±2 digits
- 4000 count full function LCD with 40 segment bargraph
- Auto zero for DC current, data hold, Min/Max recall, and continuity check
- Includes case, test leads, wrist strap, and two "AA" batteries

**EXTECH No. 4PC57**

- Clamp meter with true RMS measurements on distorted waveforms up to 400A
- 1mA AC or 10mA DC resolution plus 0.1Hz
- Accuracy (Typ.) ±1.5% ±7 digits
- Full function 0.5", 3¾ digit (3999 count) LCD with data hold and Min/Max recall
- Non-contact frequency measurements to 1Mhz
- One touch auto-zero for DC current
- Low battery and over-range indication
- Includes two "AA" batteries and case
- Mini size for portability

| Current (Amps AC) | Current (Amps DC) | Voltage (AC) | Voltage (DC) | Resistance (OHMS) | Calibration Frequency (Hz) | Jaw Capacity (In.) | Display | Auto Range | True RMS | Mfr. | Mfr's. Model | | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200/1000 | — | 750 | 1000 | 200/20K/2m/2000m | 50/60 | 2.54 | 3½ LCD | No | No | B&K | 330B | | 1T149 | $95.00 | 1.0 |
| 32/320/1000 | — | 320m/3.2/32/320/1000 | | 320/3.2K/32K/320K/3.2m/30m | 50/60 | 2.24 | 3¾ LCD | Yes | No | B&K | 350B | | 1T150 | 155.00 | 2.1 |
| 200/2000 | 200/2000 | 750 | 200 | 2K | 50/60 | 2.15 | 3½ LCD | No | No | B&K | 367 | | 3GD38 | 175.00 | 2.0 |
| 400/1000 | 400/1000 | 400m/4/40/400/1000 | | 400/4K/40K/400K/4m/40m | 50/60 | 2.24 | 3½ LCD | Yes | Yes | B&K | 369B | | 3GD37 | 205.00 | 1.5 |
| | | | | | | | | No | No | Extech | 380922 | | 4KC22 | 149.00 | 1.7 |
| | | | | | | | | No | No | Extech | 380922-NIST | | 4KC23 | 209.00 | 1.7 |
| 200/1000 | 200/1000 | 200/600 | 200/600 | 2000 | 40/400 | 1.30 | 3¾ LCD | No | No | Extech | 38092F | | 4KC24 | 169.00 | 1.7 |
| | | | | | | | | No | No | Extech | 38092F-NIST | | 4KC25 | 229.00 | 1.7 |
| | | | | | | | | No | Yes | Extech | 38095F | New | 4TM12 | 189.00 | 1.8 |
| 20/200 | 200 | 500 | 200 | 200 | 50/60 | 0.75 | 3½ LCD | No | No | Extech | 380652 | New | 4PC53 | 149.00 | 1.0 |
| 40/200 | 40/200 | 400 | 400 | 400 | 50/60 | 0.90 | 4000 count LCD | No | No | Extech | 380941 | New | 4PC56 | 229.00 | 1.0 |
| 4/40/100/400 | 40/400 | — | — | — | 50/60 | 0.90 | 3¾ LCD | No | Yes | Extech | 380947 | New | 4PC57 | 249.00 | 1.0 |

**ORDERING HAS NEVER BEEN EASIER!**

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

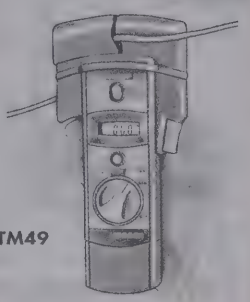
# CLAMP-ON METERS

## MEGGER® Flexicamp® CLAMP-ON-METER

- Eliminates the requirement of splitting cable or removing covers
- Operates as both a "traditional" single-wire and unique multi-wire current clamp-on meter
- Measures current, voltage and resistance
- Includes a "data hold" feature for making measurements in awkward locations
- Complies to IEC1010-2-032 Category III international safety standards
- Measures current in one-, two- or three-wire cables

Circuitry of No. 4TM49 eliminates zeroing effect in multi-conductor cables requiring cable be split to get a proper current reading. Use in applications where current needs to be measured without breaking circuit or splitting cables. Can also be used as a traditional single-wire clampmeter for general maintenance work in electrical machinery and installations.

New
AVO



No. 4TM49

| Operating Mode | Current (AMPS AC) | Voltage (AC) | Resistance OHMS | Calibration Frequency (HZ) | Jaw Capacity (In.) | Display | Auto Range | Data Hold | Mfr. | Mfr's Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Single-wire<br>2-or-3-Wire | 199.9<br>100.0 | 200/600 | 200 | 60 | 1 | 3½ LCD | Yes | Yes | AVO | FC230 | *New*4TM49 | $295.00 | 1.0 |

## FLUKE® DIGITAL CLAMP-ON METERS

FLUKE



No. 3LV92



No. 1W550



No. 6T127

FLUKE Nos. 3LV91 and 3LV92
- Accuracy (typ.): 1.0% + 3 digits DC volts to 600 V maximum, 1.9% DC current to 1000A maximum
- Maximum hold button captures readings - use for motor starting current applications
- Includes soft case, 9V battery, test leads, and manual
- No. 3LV91 same as 3LV92, but includes NIST certified calibration

FLUKES Nos. 5U836 and 1W550
- General purpose meter measures AC current, voltage, resistance and continuity
- Display hold button captures readings for later viewing
- Accuracy (typ.): 1.2% of reading ± 3 digits (AC volts)
- Low battery indicator
- Meets UL, CSA and TUV certification standards
- No. 1W550 same as 5U836 but true RMS
- Includes soft case, test leads and 9V battery

FLUKE Nos. 6T127, 6T128, 1W548 and 1W554
- Accuracy (typ.): ±2%
- Display hold
- Combination digital/analog display 10,000 count LCD
- Frequency capability: 0.5 Hz to 10KHz
- Beeper provides audible feedback
- Clip on holster No. 6T201 included replacement holster available, see Index
- Auto and manual ranging
- Includes 9V batteries

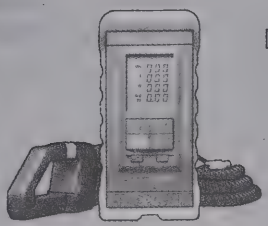
Nos. 6T128 and 1W554 Only:
- Crest-Instantaneous peak current readings
- Records maximum, minimum and average frequency or RMS current
- 3 second running average of RMS current or frequency
- 1W548 same as 6T127 but NIST traceable calibration included
- 1W554 same as 6T128 but NIST traceable calibration included

| Current (Amps AC) | (Amps DC) | Voltage (AC) | (DC) | Resistance (OHMS) | Calibration Frequency (Hz) | Jaw Capacity | Display | Auto Range | True RMS | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200/600 | 200/1000 | 200/600 | 200/600 | 200 | 45-400 | 1.5 | 3½ LCD | No | Yes | 36<br>36 NIST | 3LV92<br>3LV91 | $224.00<br>274.00 | 2.0<br>2.0 |
| 200/400<br>200/600 | —<br>— | 200/600<br>200/600 | —<br>— | 200<br>200 | 50-60<br>50-60 | 1.18<br>1.18 | 3½ LCD<br>3½ LCD | No<br>No | No<br>Yes | 30<br>32 | 5U836<br>1W550 | 109.00<br>155.00 | 15.0<br>2.0 |
| 0.30-99.99/0.3-700.0 | — | — | — | — | 20-1000 | 1.5 | 4, LCD | Yes | Yes | 31<br>31NIST | 6T127<br>1W548 | 239.00<br>289.00 | 3.0<br>3.0 |
| 0.30-99.99/0.3-700.0 | | | — | — | 20-1000 | 1.5 | 4, LCD | Yes | Yes | 33<br>33NIST | 6T128<br>1W554 | 279.00<br>329.00 | 2.0<br>2.0 |

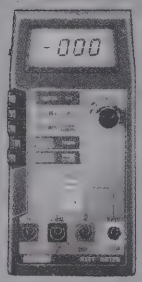
# WATTMETERS, DATALOGGING WATTMETER AND POWER ANALYZERS



A No. 1A227



B No. 2T592

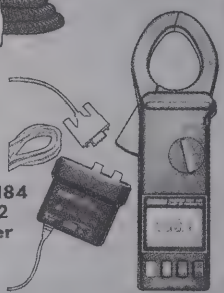


C No. 3ZH76



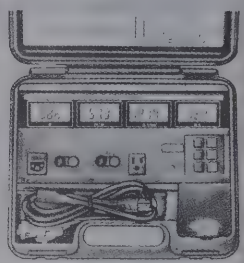
New

D No. 4PC54



No. 3ZH84 RS-232 Adapter

E No. 3ZH82



F No. 4KC20

## A TIF WATTMETER No. 1A227

- Reads true power
- Accuracy (typ.): ±2% reading ±1 digit
- For single, split and three-phase power sources
- Reads 0.01KW to 199.9KW
- Dual range for low and high kilowatts
- Includes 9V battery and carrying case

## B AEMC POWER METER No. 2T592

- Power 0-300KW
- True RMS measurements
- Displays amps, volts, power factor, KW, KVar, KVa, Hz
- Auto-ranging
- Peak and memory functions
- Single and three phase balanced power measurement
- LCD display shows four different measurements
- Accuracy (typ.): ±2%
- Includes holster, 500 amp c.t., voltage leads, test probes, 4 "AA" batteries and carrying case

## C EXTECH WATT METER DMM No. 3ZH76

- Measures true power up to 6000W. Includes test leads and 9V battery

## D EXTECH 400A DC/AC WATT CLAMP-ON No. 4PC54

- High resolution (10W or 100 mA) power clamp meter
- Measures AC/DC power, voltage, and frequency
- Large 4000 count LCD with 40 segment bargraph
- Basic DC Accuracy of 1.5%±3 digits
- 0.9" Jaw opening
- One-touch auto zero adjust for DC current
- Data hold, Max/Min recall, and low battery alert
- Includes two 1.5V "AA" batteries, test leads, and carrying case
- No. 4PC55 is the same as 4PC54 but includes NIST certification

## E EXTECH CLAMP-ON POWER DATALOGGER No. 3ZH82

- Measure true power, apparent power, power factor, current, voltage, resistance, continuity and frequency
- Display true RMS, volts, amps, watts, Max/Min and average
- Datalog up to 1600 measurements
- 4-Digit (10,000 count) LCD with 40 segment bargraph
- 1.8" jaw capacity, AC/DC to 1000A, 1000KW power
- Autorange/Manual override, diode test, continuity beeper
- Optional RS-232 adapter with PC software
- Optional 3-phase adapter for balanced or unbalanced loads
- Includes 9V battery, alligator clips, test leads and case

**No. 3ZH84.** RS-232 Adapter with Windows™ Software. Extech brand (382062). Shpg. wt. 0.6 lbs. Each.....$79.00

**No. 3ZH83.** 3-Phase Adapter. Extech brand (382061). Shpg. wt. 0.4 lbs. Each .....$79.00

## F EXTECH TRUE RMS POWER ANALYZER No. 3JC99 & POWER ANALYZER/ DATALOGGER No. 4KC20

- Accuracy (typ.): ± 0.9% ± 4 digits
- No. 4KC20 stores over 1000 records
- Four simultaneous displays of watts, PF or VA, V or Hz, amps
- Measure and monitor single-phase power, power factor, voltage, current, and frequency
- Supplied with RS232 interface and Windows based software to monitor readings on PC, display of KWH, phase angle, and print reports plus data manipulation
- Analyze single-phase device (appliance, PC, motor, etc.) power demands
- Connect device to be tested via standard wall socket or binding posts
- Includes Windows™ software, serial cable, 8 AA batteries, case, power test cord, AC adapter, and instructions

| Key | True Power (W) | Apparent Power (VA) | Power Factor | Current AC (A) | Current DC (A) | Voltage AC (V) | Voltage DC (V) | Crest Factor | Frequency (Hz) | Resistance (Ohms) | Mfr. | Mfr.'s Model | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 20K/200K | — | — | 200/500 | — | 280/560 | — | — | 60 | — | TIF | 2000A | | 1A227 | $389.00 | 1.5 |
| B | 30 - 300K | 30 - 300K | -0.0 to +0.0 | 500 | | 600 | — | — | 30-1000 | — | AEMC | 3910 | | 2T592 | 895.00 | 4.0 |
| C | 2000/6000 | — | — | 10 | 10 | 200/750 | 200/1000 | — | 60 | — | Extech | 380660 | | 3ZH76 | 179.00 | 1.3 |
| D | 40K/240K | — | - | 400 | 400 | 600 | 600 | — | 1 MHz | — | Extech | 380940 | New | 4PC54 | 299.00 | 1.0 |
| D | 40K/240K | — | — | 400 | 400 | 600 | 600 | — | 1 MHz | — | Extech | 380940-N | New | 4PC55 | 359.00 | 1.0 |
| E | 1000K | 1000K | 0.3 to 1.0 | 1000 | 1000 | 750 | 1000 | — | 1, 10, 100, 300K | 10K | Extech | 382060 | | 3ZH82 | 599.00 | 2.0 |
| F | 200/2000 | — | 0.0 to 1.0 | 20 | — | 200/750 | — | — | 2K, 20M | — | Extech | 380803 | | 3JC99 | 599.00 | 5.1 |
| F | 200/2000 | — | 0.0 to 1.0 | 20 | — | 200/750 | — | — | 2K, 20M | — | Extech | 380801 | | 4KC20 | 699.00 | 5.7 |



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# AMPROBE KILOWATT-HOUR METERS

**Accuracy (typ.): ±1% (1-400 full load)**

**Pre-wired for easy installation**

**Digital display**

**Wide current range**

**Single and polyphase**

**Non-demand**

**Utility grade accuracy and reliability**

**6-digit cyclometer displays electromechanical measurement, even during power failures**

**Battery back-up to display memory is not needed**

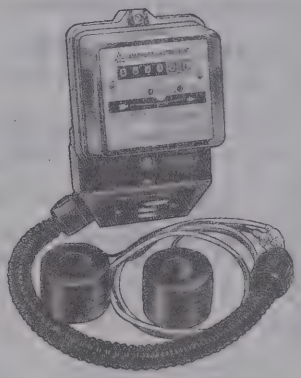
**Unbreakable poly-carbonate covers/non-combustible bases**

**25-Year Warranty—text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover**

**ilowatt-Hour Meters** are designed to meet the needs of building wners and contractors. Meters utilize a lower magnetic bearing hich reduces rotor friction, mimimizes wear, eliminates maintenance, and reduces tilt error. Quick slide interconnect plugs in the pre-wired bus, within the flexible conduit, to the industry standard current transformers. All corresponding interconects are labeled to simplify installation. An anti-reverse device included to prevent theft of energy. Amprobe brand.

Replacement Parts Available
1-800-323-0620

AMPROBE INSTRUMENT

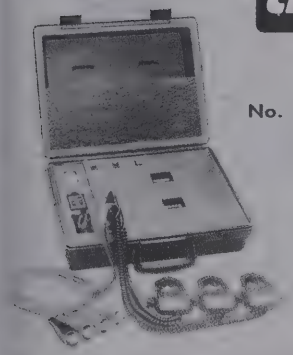


No. 6B458

## KILOWATT-HOUR METERS SPECIFICATIONS AND ORDERING DATA

| Description | Volts | Amps | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Kilowatt-Hour Meter** | 120/208 3Ø, 4-Wire Y | 100 | WH1V1A4WY | **6B458** | **$589.00** | 19.0 |
| **Kilowatt-Hour Meter** | 120/208 3Ø, 4-Wire Y | 200 | WH1V2A4WY | **6B459** | **589.00** | 19.0 |
| **Kilowatt-Hour Meter** | 277/480 3Ø, 4-Wire Y | 100 | WH2V1A4WY | **6B533** | **589.00** | 19.0 |
| **Kilowatt-Hour Meter** | 277/480 3Ø, 4-Wire Y | 200 | WH2V2A4WY | **6B534** | **589.00** | 19.0 |
| **Kilowatt-Hour Meter** | 120/240 1Ø, 3-Wire | 100 | WH2V1A1P3W | **6B545** | **346.00** | 6.8 |
| **Kilowatt-Hour Meter** | 120/240 1Ø, 3-Wire | 200 | WH2V2A1P3W | **6B546** | **346.00** | 6.8 |
| **Kilowatt-Hour Meter** | 120/240 1Ø, 3-Wire | 400 | WH2V4A1P3W | **6B547** | **346.00** | 6.8 |

# TIF KILOWATT-HOUR METER



No. 1T967

- **Measures true power (KW) consumed at any instant, not apparent power (KVA)**
- **Combination kilowatt and kilowatt-hour meter**
- **Cumulative total of power used up to 10,000 KWH**
- **Accuracy ±2% at unity power factor above 90 volts input**
- **Electronic monitors warn of potential problems such as power interruption or input overrange**
- **Measures 3-phase unbalanced loads and 4-wire systems**
- **Battery back-up protects data up to 30 minutes**
- **0 to 2.5V DC analog output for chart recorders, data loggers or meters**
- **Use Datalogging Multimeter No. 1M964. See Index for listings**
- **LCD display reads KW, KWH and volts/amps; low battery indicator**
- **Clamp-on current transducers; use with any power factor**
- **Includes 60 Hz current probe, 3-phase volt probe, 115-9V adapter**
- **200 KW, 60 Hz**
- **90-530V AC**
- **1 to 500 amps AC continuous; max. 600 amps intermittent; 1.25" jaw capacity**
- **3½ digit LCD display**

No. 1T967. Tif brand (TIFKW220-3AV). Shpg. wt. 9.0 lbs. Each.....$980.00

## VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

**ink up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# POWER FACTOR METERS AND CLAMP-ON CURRENT TRANSFORMERS

## ANALOG MODEL

### [A] TIF No. 1T965

- Reads as low as 3 amps without connecting add-ons
- Accuracy (typ.): ±3% FS
- Indicating meter cannot be damaged when overranging
- Needs no batteries—self-powers from the "hot" line
- Includes carrying case and 3 voltage probes

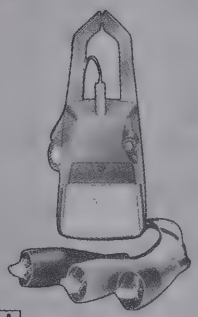
## DIGITAL MODEL

### [B] AMPROBE No. 1T595

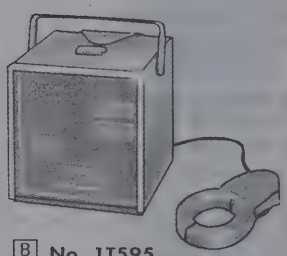
- Switchable LED readout indicates volts, amps, or power factor and allows determination of KVA, KW, KVAR and exact value of capacitance needed for power factor correction capacitors
- Accuracy (typ.): Volts—±1% of reading ±2 LSD; Amps—±2% of reading ±2 LSD
- Overrange and leading power factor indication
- Optional current transformers extend current range to 3600A (No. 1T082) or 6000A (No. 1T081); see Index for listings
- Supplied with clamp-on probes and 115V AC, 60 Hz line cord

tif

AMPROBE INSTRUMENT



[A] No. 1T965



[B] No. 1T595

Replacement Parts Available
1-800-323-0620

| Key | Power Factor % | Current (Amps AC) | Voltage (Volts AC) | Calibration Frequency (Hz) | Jaw Capacity (In.) | Manufacturer | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0-100 | 500 | 600 | 50-60 | 1.25 | TIF | TIF2300 | 1T965 | $289.00 | 1.8 |
| B | 30.0-99.9 | 99.9/999 | 99.9/999 | 60 | 2.0 | Amprobe | PF1000 | 1T595 | 739.00 | 6.5 |

## CLAMP-ON CURRENT TRANSFORMERS

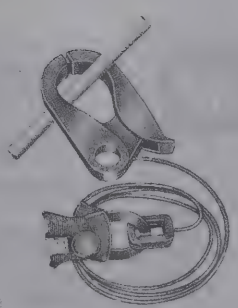
### AMPROBE DECA-TRAN®

- Extends current ranges by 10 times up to 1200 amps intermittent duty (20 seconds maximum)
- Accommodates cable up to 2" in diameter or 2000 MCM, and bus bar 3/4" x 2½"
- Insulated for use on circuits up to 3000 volts, 4200 volts peak accuracy is ± 3%
- Instrument clamps around pick-up coil at end of 2 ft. line cord

### AMPROBE AMPTRAN®

- Flexible-link, clamp-on current transformers extend the current ranges of Amprobe clamp-on instruments by 50 times
- With four link, 3600A intermittent (No. 1T082)
- With 6 link, 6000A intermittent (No. 1T081)
- Supplied with carrying case
- No. 1T081 with centering bars, and nonconductive wing nuts

AMPROBE INSTRUMENT



No. 1T132



No. 1T081

| Amp Ranges (Continuous) Input (AC) | Output (AC) | Dimensions (In.) A | B | Mfr. | Mfr.'s Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 600 | 60 | — | — | Amprobe | A50-1 | 1T132 | $111.85 | 1.0 |
| 3000 | 60 | 3.88 | 3.88 | Amprobe | CT50-2 | 1T082 | 355.00 | 5.8 |
| 5000 | 100 | 8.88 | 3.94 | Amprobe | CT50-1 | 1T081 | 554.00 | 9.0 |

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG

# ANALOG MULTIMETERS

esigned for the maintenance and service of air conditioning, heating, refrigeration, ppliances, electric motors, electrical devices, and equipment. Always consult user manal and applicable local electrical and safety codes prior to use. Built for everyday use. nalog meters have a mechanical method of displaying the applied signal which is better than digital multimeters for observing changes, adjusting for peak or dip, and for istantaneous response.

## AMPROBE Nos. 1T034 to 1T036, 6B576, 6B577, and 1T032

- Taut band meter movement
- Accuracy (typ.): ±3% of full scale (V-DC), ±4% of full scale for No. 6B576
- Sensitivity: 10KΩ/V-AC, 30KΩ/V-DC (except No. 1T036 is 100KΩ/V-DC, No. 6B577 is 2000Ω/V-DC)
- Fuse protected; Nos. 1T036 & 6B577 can withstand momentary misapplicaton of 250V max.
- No. 1T035 is drop-proof
- No. 6B576 has 13 ranges including three battery test ranges
- Nos. 1T032, 1T034, 1T035 & 1T036 measure temperature with optional temperature probe (available thru Grainger Parts Operations)
- Unique features of No. 1T036: Mirrored, color-coded scale reduces parallax error; self-locking stand/handle; recessed glass window reduces scratches and static electricity
- Battery powered—Nos. 1T032, 1T034, 1T035 & 6B577 use one 1.5V "AA" (not supplied), No. 1T036 uses two "C" cells (not supplied), No. 6B576 uses one "AA" battery (included)
- Include all-weather test leads and fuse; No. 6B576 & 6B577 include test leads, one "AA" battery and instructions

AMPROBE INSTRUMENT



No. 6B576





No. 1T032

No. 1T036

## WAVETEK No. 4JZ97

- Accuracy (typ.): ±5% of full scale (V-DC)
- Small, compact size: 5.1 x 2.6 x 1.7"
- Battery test function
- Fused current input
- Zero adjust for ohms
- Includes test leads, holster, and one "AA" battery

WAVETEK



No. 4JZ97

Replacement Parts Available 1-800-323-0620™

CASES, FUSES, AND TEST LEADS AVAILABLE AT GRAINGER PARTS OPERATIONS

## ANALOG MULTIMETER SPECIFICATIONS AND ORDERING DATA

| Voltage (Volts AC) | Voltage (Volts DC) | Resistance (Ohms) | Current (Amps DC) | Temperature | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 50/250/500 | 10/50/250/500 | 1M | 50m/250m | — | Amprobe | PY-13 | **6B576** | **$14.85** | 0.4 |
| 30/120/300/600 | 0.3/3/12/30/300/600 | 2K/200K1M (30/3K/10K MID) | 250µ/3m/30m/300m | — | Amprobe | AM-6B | **6B577** | **35.85** | 0.6 |
| 30/150/300/600 | 60mV/1200mV/3/15/30/300/600 | 200/2K/20K/200K (5/50/500/5K MID) | 30/150m | 70 to 1200°F | Amprobe | AM-1E | **1T032** | **66.85** | 1.0 |
| 10/50/125/250/1000 | 0.5/2.5/10/25/125/250/1000 | 500/5K/1M (20/200/10K MID) | 50µ/25m/250m | –50 to 100°F/0 to 250°F | Amprobe<br>Amprobe | AM-2E<br>AM-2EDP | **1T034**<br>**1T035** | **51.85**<br>**64.85** | 1.0<br>1.0 |
| 30/150/300/750 | 3/30/150/300; 75/750/1500mV @ 10µA; 0-300mV | 0.5K/5K/50K/5M(5/50/500/50K MID) | 10/15/150µ @ 300mV; 1.5/150m 300mV | –10 to 250°F/70 to 1200°F | Amprobe | AM-3E | **1T036** | **152.00** | 1.8 |
| 10/50/250/500 | 2.5/10/50/250/500 | 20K/2M | 0.5/10/250mA | — | Wavetek | AM8 | **4JZ97** | **17.46** | 0.9 |

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# ANALOG MULTIMETERS

## [A] SIMPSON No. 1T811

- Self-shielding, taut band movement
- Accuracy (typ.): ±2% FS (V-DC)
- Sensitivity: 20KΩ/V-DC; 5KΩ/V-AC
- Shock and drop resistant multimeter
- Varistor protected from overloads
- Includes test leads and batteries

## [B] SIMPSON 260 SERIES

- External access battery and fuse compartment
- Accuracy (typ.): ±2% FS (V-DC)
- Sensitivity: 20KΩ(V-DC), 5KΩ(V-AC)
- Taut band; varistor protected movement
- AC frequency response to 100KHz
- Up to 250 amp AC capability with Amp-Clamp® Current Extender No. 2T416 or 2T978
- Nos. 1TC61 and 1TC62 feature yellow meter case for visibility and user safety awareness; ABS plastic provides high-impact protection
- UL Listed (E65244)
- Separate jack for 500V DC range
- Additional features (see Features Comparison Chart above)
- Includes "9V" and "D" cell batteries, test leads, and fuse; optional carrying cases for Nos. 1A587, 3T438, 1TC61, 1TC62, and 1T779 available below

**Exclusive Features No. 3T438:**

- Drop resistant construction
- Extra large viewing area
- 4 color keyed scales
- More ranges including lower power ohms

## SIMPSON FEATURE COMPARISON CHART

| Stock No. | Simpson Model | Mirrored Scale | Roll Top Case | Audible Continuity | Resettable Overload Protection |
|---|---|---|---|---|---|
| 1T811 | 160 | Yes | — | — | — |
| 1TC61 | 260-8Xi | Yes | — | Yes | — |
| 1TC62 | 260-8XPi | Yes | — | Yes | Yes |
| 1A587 | 260-8 | Yes | — | — | — |
| 1T812 | 260-8RT | Yes | Yes | — | — |
| 1T779 | 260-8P | Yes | — | Yes | Yes |
| 1T848 | 260-8PRT | Yes | Yes | Yes | Yes |
| 3T438 | 260-6XLPM | Yes | — | — | Yes |

## CARRYING CASES FOR SIMPSON METERS

**No. 1A588.** Case, front loading with storage below meter, for Simpson 260 Series. Simpson brand (00805). Shpg. wt. 2.0 lbs. Each ..... $69.95

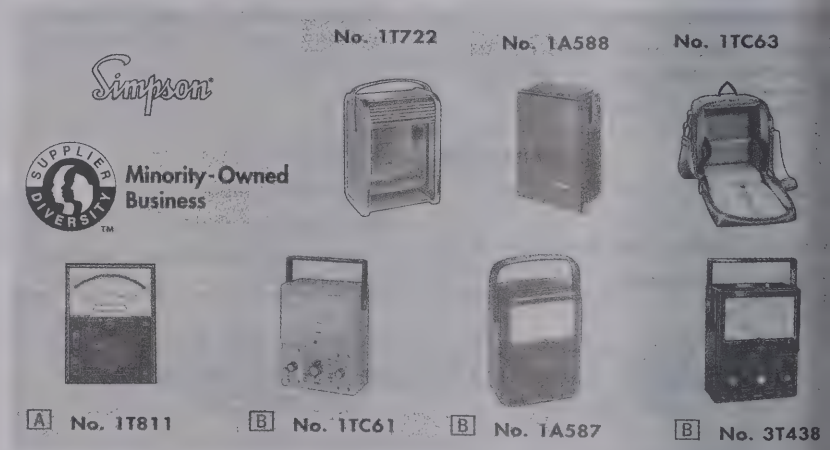
**No. 1TC63.** Case, yellow padded nylon for Simpson 260 Series. Simpson brand (00832). Shpg. wt. 0.5 lbs. Each ..... $56.00

**No. 1T722.** Case, rolltop type for Simpson 260 Series. Simpson brand (00248). Shpg. wt. 4.3 lbs. Each ..... $56.00

**No. 1T786.** Case, molded type for Simpson 260 Series. Simpson brand (45028). Shpg. wt. 3.8 lbs. Each ..... $56.00

Simpson

SUPPLIER DIVERSITY™ Minority-Owned Business




| Key | AC Voltage (Volts) | DC Voltage (Volts) | Resistance (Ohms) | AC Current (Amps) | DC Current (Amps) | Decibels | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2.5/10/50/ 250/500/ 1000 | 0.25/1/2.5/ 10/50/250/ 500/1000 | 3K/30K/300K/ 3M/30M | — | 0.05/1/10/ 100/250/ 500m | –20 to +50dB | 160 | 1T811 | $189.00 | 1.2 |
| B | 2.5/10/25/50/ 250/500/1000 | 0.25/2.5/ 10/25/50/250/500/1000 | 2K/200K/ 20M | 250* | 50µ/1/10/100/ 500m/10A | –20 to +50dB | 260-8Xi<br>260-8XPi | 1TC61<br>1TC62 | 202.50<br>265.00 | 3.0<br>3.2 |
| B | 2.5/10/25/50/ 250/500/1000 | 0.25/2.5/ 10/25/50/250/500/1000 | 2K/200K/ 20M | 250* | 50µ/1/10/ 100/500m/10A | –20 to +50dB | 260-8<br>260-8RT<br>260 SP<br>260-8PRT | 1A587<br>1T812<br>1T779<br>1T848 | 187.50<br>229.00<br>259.00<br>289.00 | 3.9<br>6.8<br>3.9<br>6.8 |
| B | 2.5/10/25/ 100/250/500/ 1000 | 0.25/1/2.5/10/ 25/100/250/ 500/1000 | 1K/100K/ 1M/10M Low Power Ohms 1K/10K | 250* | 50µ/0.5/5/ 50/500m/ 5A | –20 to +49dB | 260-6XLPM | 3T438 | 309.00 | 3.2 |

(*) Requires optional Amp Clamp (current extender) No. 2T416 or 2T978

## VOLTAGE LEADS FOR SIMPSON METERS

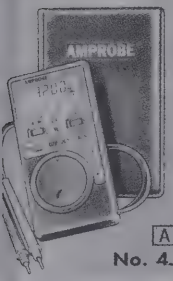
Extra leads, fuses, and batteries extend the usefulness of your instrument. Accessories, depending on duty, can wear out, become lost or damaged, or may need replacement. Some instruments are even more versatile with optional accessories.

| For Use With | Simpson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 260-7, 260-8 Series; Std. | 00013 | 1T608 | $17.00 | 0.4 |
| 260-8XI, 260-6XL; Std. | 00125 | 1T645 | 17.00 | 0.3 |
| Deluxe 23 Piece Kit | 00818 | 1T791 | 135.00 | 1.2 |
| 160 | 02055 | 1T799 | 19.95 | 0.3 |
| 14 Piece Kit | 05577 | 1T802 | 79.95 | 0.7 |
| Alligator Clip Set | 07500 | 1T803 | 14.50 | 0.3 |

NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY

AMPROBE INSTRUMENT

Replacement Parts Available
1-800-323-0620




A No. 4JZ27



B No. 1T033



C No. 6B548



D No. 6B580



E No. 1T020



No. 6T058 Jaw Adapter

## A AMPROBE No. 4JZ27

- Shirt pocket size: 2.1W x 4.3H x 0.5" thick
- 32 Segment analog bar graph
- Accuracy (typ.): ± 0.7% of reading ± 2 digits
- Diode check and audible continuity
- Data Hold
- Includes two watch batteries (357), permanently attached non-replaceable leads, carrying case and instructions

## AMPROBE Nos. 6B582 and 1T033

- Accuracy (typ.): ± 1% of reading ± 2 digits
- DCV, ACV, DCA, audible continuity and diode test
- No. 1T033 measures frequency from 1Hz to 20MHz

## C AMPROBE Nos. 6B548, 6B550 and 6B551

- Accuracy (typ.): 6B548; ± 0.5% of reading ± 2 digits, 6B550; ± 0.8% of reading ± 1 digit, 6B551; 0.3% of reading ± 2 digits
- 6B551 only measures frequency from 0 to 1MHz, capacitance from 3.999mF to 39.99µF
- 6B550 is true RMS and average responding for comparison of readings due to harmonics
- All models come with leads, batteries, holsters and manuals

## D AMPROBE No. 6B580

- Accuracy (typ.): ±0.8% + 2 digits
- Auto and manual ranging
- Data hold button
- Diode test and continuity beeper
- Includes protective holster, tilt stand, test probe holders, battery, test leads and instruction manual
- Choice of Low or High power ohms
- Push button offset to compensate for lead resistance
- Auto power OFF

## ACCESSORY HEADS FOR 1T020

- Accuracy (typ.): ±0.7% of reading + 2 digits
- 3200 counts, 65 segment bar graph
- 3/8" LCD display, Auto power OFF
- Diode check and continuity beeper
- UL listed, CE certified
- Includes meter, test leads, case and 2 "AA" batteries

**No. 6T058.** Jaw adapter for No. 1T020. 300 AC amp capacity with 1.18" jaw opening. Accuracy (typ.): ±1.9%. Amprobe brand (PMM-C).
Shpg. wt. 0.4 lbs. Each.....$49.85

**No. 4JZ34.** Dual K-Type Thermocouple Transducer. -58 to 1832°F with optional K-probes. Amprobe brand (PRT-2).
Shpg. wt. 1.0 lbs. Each.....$94.85

**No. 4JZ35.** Relative Humidity Transducer. 10 to 95% range. Amprobe brand (PRH-2).
Shpg. wt. 1.0 lbs. Each.....$95.85

**No. 4JZ32.** Capacitance Transducer. 0.1 to 4200µF range. Amprobe brand (PCAP-2).
Shpg. wt. 1.0 lbs. Each.....$54.85

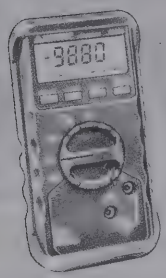
**No. 4JZ31.** DC Microamp Current Transducer. 1mVDC per 1µA. Amprobe brand (PMAP-Z).
Shpg. wt. 1.0 lbs. Each.....$19.85

## HAND-HELD DIGITAL MULTIMETERS SPECIFICATIONS AND ORDERING DATA

| Voltage (Volts AC) | Voltage (Volts DC) | Current (Amps AC) | Current (Amps DC) | Resistance (Ohms) | Display Type | Auto-Ranging | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3.2/32/ 320/450 | 320m/3.2/ 32/320 | — | — | 320/3.2K/32K 320K/3.2M | 3½, LCD | Yes | CDM-1 | **4JZ27** | **$36.85** | 0.3 |
| 200/500 | 200m/2/20/ 200/1000 | — | 200µ/20m/ 200m/10 | 200/2k/20k/ 200K/2M/20M | 3½, LCD | No | AM-20 | **6B582** | **31.85** | 0.6 |
| 2/20/200/ 500 | 200m/2/20/ 200/1000 | 200µ/20m 2000m/10 | 200µ/20m 2000m/10 | 200/2k/20k/ 200K/2M/20M | 3½, LCD | No | AM-22 | **1T033** | **50.85** | 0.6 |
| 1999m/199.9/ 750 | 1999m/19.9m/ 199.9m/1000 | 19.99m/199.9m/ 1999m/10 | 1999m/19.99m/ 199.9m/1999m/10 | 199.9/1999/19.99K/ 199.9K/1.999M | 3½, LCD | No | AM-1200 | **6B548** | **62.00** | 1.0 |
| 199.9m/1.999/ 19.99/199.9/750 | 199.9.9m/1.999/ 19.99/1.999/1000 | 1.999m/19.99m/ 199.9m/1999/10 | 1.999m/19.99m/ 199.9m/1999/10 | 199.9/1.999K/19.99K/ 199.9K/1.999M/19.99M | 3½, LCD | No | AM-1260 | **6B550** | **141.85** | 1.0 |
| 400m/3.999/ 39.99/399.9/750 | 400m/3.999/ 39.99/399.9/1000 | 3.999m/39.99m/ 399.9m/10 | 3.999m/39.99m/ 399.9m/10 | 399.9/3.999K/39.99/ 399.9K/3.999M/39.99M | 3¾, LCD | Yes | AM-1280 | **6B551** | **170.00** | 1.4 |
| 2/20/200/ 600 | 200m/2/20 200/600 | — | — | 200/2k/20k/ 200K/2M/20M | 3½, LCD | Yes | AM-16 | **6B580** | **64.85** | 1.1 |
| 3.2/32 320/600 | 320m/3.2/32/ 320/600 | — | — | 300/3K/30K/ 300K/3M/300M | 3¾, LCD | Yes | PMM-1 | **1T020** | **69.85** | 0.3 |

# DIGITAL MULTIMETERS

AMPROBE INSTRUMENT



No. 4JZ23



No. 3JH46



No. 1T049



No. 3T249

Replacement Parts Available 1-800-323-0620

FULL LINE OF AMPROBE ACCESSORIES AVAILABLE

## AMPROBE Nos. 4JZ23, 4JZ24, 4JZ25 and 4JZ26

- Accuracy (typ.): ± 0.3% of reading ± 3 digits
- 50 mS record, max, min, max-min, average readings and analog bar graph
- Measures temperature (0 to 932°F), with 'K' type thermocouple (not included) continuity, diodes, relative mode/zero
- 4JZ24, 4JZ25 and 4JZ26 measure frequency (10Hz to 50KHz) and measure capacitance (1μF to 10mF)
- 4JZ26 has harmonics index(HIX) % value displayed, high HIX means presence of harmonics
- All meters include holster, test leads, 9V battery and instructions

## AMPROBE Nos. 1T049 and 3T249

- Accuracy (typ.): ± 0.8% of reading ± 1 digit
- Industrial quality with bench-top multimeter features
- No. 3T249 is true RMS and has backlit display
- Dual readings (AC voltage and frequency)
- 41 segment analog bar graph
- Read frequency from 5Hz to 4MHz
- Read capacitors from 4nf to 4mf
- Modes: record, max/min, max/min/ave, sort
- 3 year warranty
- Includes meter, test leads, holster, 9V battery and instructions

## AMPROBE No. 3JH46

- Accuracy (typ.): DC voltage ± 0.2% ± 2 digits
- Dual display on 8 ranges LCD
- 3¾ digit 4000 count, 4¾ 40,000 count
- Min/max average, store and recall
- Manual and auto-ranging
- Capacitance 4nf to 4mf
- Frequency 5Hz to 250KHz
- Bar graph
- Fuse protected, overload protected, auto off
- Audible continuity
- Includes 9V battery, holster, test leads and instructions

## DIGITAL MULTIMETERS SPECIFICATIONS AND ORDERING DATA

| Voltage (Volts AC) | Voltage (Volts DC) | Current (Amps AC) | Current (Amps DC) | Resistance (Ohms) | True RMS | Temp. | Display Type | Auto-Ranging | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000mV/ 10/100/600 | 1000mV/ 10/100/600 | — | — | 999.9/9.999K 99.99K/999.9K 1.00M/40.00M | No | Yes | 4, LCD | Yes | AM-50 | **4JZ23** | **$99.85** | 1.0 |
| 1000mV/ 10/100/600 | 1000mV/ 10/100/600 | — | — | 999.9/9.999K 99.99K/999.9K 1.00M/40.00M | Yes | Yes | 4, LCD | Yes | AM-53 | **4JZ24** | **145.85** | 1.1 |
| 1000mV/ 10/100/600 | 1000mV/ 10/100/600 | 4000mA 10A | 4000mA 10A | 999.9/9.999K 99.99K/999.9K 1.00M/40.00M | No | Yes | 4, LCD | Yes | AM-55 | **4JZ25** | **134.85** | 1.0 |
| 1000mV/ 10/100/600 | 1000mV/ 10/100/600 | 4000mA 10A | 4000mA 10A | 999.9/9.999K 99.99K/999.9K 1.00M/40.00M | Yes | Yes | 4, LCD | Yes | AM-56 | **4JZ26** | **168.00** | 1.0 |
| 400mV/4/40 400/750 | 400mV/4/40/ 400/1000 | 4000μ/ 400m/10 | 4000μ/ 400m/10 | 400/4k/40k/400k/ 4n/40n/400ns* | No | No | 4¾, LCD | Yes | AM-71 | **3JH46** | **200.00** | 1.8 |
| 400mV/4/40 400/750 | 40mV/400mV/ 4/40/400 1000 | 400u/4000u/ 40m/400m 4/10 | 400u/4000u/ 40m/400m 4/10 | 40/400/4K 40K/400K/4M/40M 400nS* | No | No | 4¾, LCD | Yes | AM-90 | **1T049** | **250.00** | 1.0 |
| 400mV/4/40 400/750 | 40mV/400mV/ 4/40/400 1000 | 400u/4000u/ 40m/400m 4/10 | 400u/4000u/ 40m/400m 4/10 | 40/400/4K 40K/400K/4M/40M 400nS* | Yes | No | 4¾, LCD | Yes | AM-91 | **3T249** | **300.00** | 1.0 |

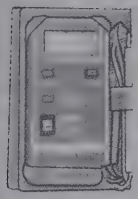
(*) 1Seiman = 1/Ohms



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# DIGITAL MULTIMETERS AND MULTIMETER SELECTION GUIDE

B&K PRECISION



No. 1T417



No. 3T059

## B&K PRECISION No. 1T417

- Accuracy (typ.): 0.7% of reading + 2 digits
- Continuity buzzer
- 32-segment bar graph
- 4.4H x 2.2W x 0.4"D
- Range hold
- Auto power OFF
- Data hold
- Over-range indicator
- 3200 count LCD display
- Includes test leads, batteries, case, and instructions

## B&K PRECISION No. 3T059

- Accuracy (typ.): ±0.5% reading + 1 digit
- Capability of 5 instruments in 1; volt-ohm-ammeter, capacitance meter, frequency counter, logic probe, transistor, and diode tester
- Impedance (typ.): 20MΩ
- Audible continuity beeper and Peak Hold™
- Low battery, polarity, and overrange indication
- Frequency counter range: 20 Hz to 4MHz
- Capacitance range: 4 nF to 40 mf
- Transistor gain ($h_{FE}$): 0-1000
- Includes detachable tilt stand, test leads, fuse, battery, and holster

## DIGITAL MULTIMETERS SPECIFICATIONS AND ORDERING DATA

| Voltage (Volts AC) | Voltage (Volts DC) | Current (Amps AC) | Current (Amps DC) | Resistance (Ohms) | Display Type | Auto-Ranging | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/30/300/450** | 300m/3/30/300/450 | — | — | 300/3K/30K/300K/3M/30M | 3½, LCD | Yes | B&K Precision | 2700 | **1T417** | **$35.00** | 0.3 |
| **400m/4/40/400/750** | 400m/4/40/400/1000 | 400µ/4m/40m/400m/2/20 | 400µ/4m/40m/400m/2/20 | 400/4K/40K/400K/4M/40M | 3¾, LCD | No | B&K Precision | 388A | **3T059** | **125.00** | 1.5 |

# MULTIMETER SELECTION CONSIDERATIONS

**. Analog or Digital Multimeter?**

igital meters. Easy-to-read, high resolution displays reduce eading errors; accurate readings from a distance. Many meters rovide analog bar graphs to measure fast changing signals. eads accuracy as a percent of reading. Typical accuracies: ±0.1 0 0.5%. Electrical protection provided in current ranges by fuses nd input limiting on volts and ohms.

nalog meters. Best for observing changes, adjusting for peak or ip, and for instantaneous response. User needs to identify prop- r scale and determine exact needle location. Scale division lim- s resolution. Reads accuracy as a percent of full scale. Typical ccuracies: ±1.0 to 5.0%. Meters can be damaged while measuring n wrong mode or range.

**. Portable meter or stationary?**

ortable meters are either pocket size or hand-held. Pocket size eters are useful for quick reference and are generally less xpensive. Hand-held meters are more durable and accurate; usu- lly for more advanced applications.

tationary (benchtop) meters are used in applications that emand high accuracy. They are higher in price and usually offer dditional features.

**. What use/environment will you be working in?**

xample: There are meters made especially for harsh environ- ents or meters that can be read in dark areas.

**4. What ranges do you need?**

Example: Consider that some low-cost multimeters may have only one current range, limiting the use on some applications. Other meters may have an upper voltage limit of 750V to 1000V, depending on the model.

**5. What accuracy do you need?**

Example: Much of the cost of a meter is based on its accuracy. 0.7% accuracy is usually sufficient for field use while 0.04 to 0.1% is usually required for a lab environment.

**6. What special features do you need?**

Example: Autoranging—High-speed autoranging instantly selects the correct range and automatically places the decimal point; there is no need to choose manually from ranges per function. Touch Hold—Locks reading on display with an audible tone, even after removing test leads. Holds reading until a new reading is taken. Provides additional safety when the user must watch placement of test leads. Other features include O-Ring Sealed, Test Lead Storage, Holster... these are just a few.

**7. Is versatility valuable to you?**

Accessories extend the capabilities of multimeters for use in high voltage, current, power, and frequency applications. Some also allow for temperature measurement.

YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# WAVETEK MULTIMETER SELECTION GUIDES

## WAVETEK MULTIMETER FEATURE COMPARISON

| Wavetek Model<br>Grainger Stock No. | ST75<br>4KC07 | DM73A<br>2A154 | DM7<br>4JZ98 | DM9<br>4JZ99 | 5XL<br>4JZ95 | 10XL<br>4JZ86 | 15XL<br>4JZ87 | 16XL<br>4JZ88 | 30XL<br>4JZ93 | 35XL<br>4JZ94 | RMS225A<br>3T267 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Basic DC Accuracy** | 0.25% rdg. +1 digit | 0.5% rdg. +4 digits | 0.8% rdg. +1 digit | 0.8% rdg. +1 digit | 0.8% rdg. +1 digit | 0.7% rdg. +1 digit | 0.5% rdg. +1 digit | 0.5% rdg. +1 digit | 0.5% rdg. +1 digit | 0.5% rdg. +1 digit | 0.25% rdg. +3 digits |
| **Display Digits** | 3 1/2 | 3 3/4 | 3 1/2 | 3 3/4 | 3 1/2 | 3 1/2 | 3 1/2 | 3 1/2 | 3 3/4 | 3 3/4 | 4 |
| **Back Lit Display** | — | — | — | — | — | — | — | — | — | — | ● |
| **Auto Ranging** | ● | ● | — | ● | — | — | — | — | ● | ● | ● |
| **Audible Continuity Beeper** | ● | ● | — | ● | ● | ● | ● | ● | ● | ● | ● |
| **Auto Min/Max** | — | — | — | — | — | — | — | — | — | — | ● |
| **Auto Rel (Relative Mode)** | — | — | — | — | — | — | — | — | — | — | ● |
| **Transient Protected** | — | — | — | — | — | — | — | — | — | — | ● |
| **O Ring Sealed** | — | — | — | — | — | — | — | — | — | — | — |
| **Diode Test** | ● | — | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Battery Test Function** | — | — | ● | ● | — | — | — | — | — | — | — |
| **Analog Bar Graph** | ● | — | — | — | — | — | — | — | ● | ● | ● |
| **Holster** | — | — | ● | ● | — | — | — | — | — | — | ● |
| **True RMS** | — | — | — | — | — | — | — | — | — | — | ● |
| **Max Hold** | — | — | — | — | — | — | — | — | — | — | — |
| **Frequency** | — | — | — | — | — | — | — | ● | — | — | — |
| **Duty Cycle** | — | — | — | — | — | — | — | — | — | — | — |
| **Capacitance** | — | — | — | — | — | — | — | ● | — | ● | — |
| **Inductance** | — | — | — | — | — | — | — | — | — | — | — |
| **Transistor Test** | — | — | — | — | — | — | — | ● | — | — | — |
| **Temperature** | — | — | — | — | — | — | — | — | — | — | — |
| **Logic Test** | — | — | — | — | — | — | ● | ● | — | — | — |
| **Intermittent Fault Finder** | — | — | — | — | — | — | — | — | — | — | — |
| **Safety Test Volt Tester** | — | — | — | — | — | ● | — | — | — | — | — |
| **Data Hold** | ● | ● | — | — | — | — | — | ● | ● | ● | — |
| **Probe Hold** | — | ● | — | — | — | — | — | — | — | — | ● |
| **Auto Off** | ● | ● | — | — | — | — | — | — | ● | ● | ● |
| **"IEC1010-1, Cat II"** | — | ● | ● | ● | ● | ● | ● | — | — | — | — |
| **"IEC1010-1, Cat III"** | ● | — | — | — | — | — | — | ● | ● | ● | ● |
| **CE** | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

## WAVETEK MULTIMETER FEATURE COMPARISON CONTINUED

| Wavetek Model<br>Grainger Stock No. | 23XT<br>1T424 | 25XT<br>1T421 | 27XT<br>4JZ91 | 28XT<br>4JZ92 | 85XT<br>4JZ96 | 2005<br>4JZ89 | 2015<br>1T423 | 2030<br>4JZ90 | HD150<br>3T075 | HD110B<br>4KC05 | HD115B<br>4KC06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Basic DC Accuracy** | 0.5% rdg. +1 digit | 0.5% rdg. +1 digit | 0.5% rdg. +1 digit | 0.5% rdg. +1 digit | 0.05% rdg. +3 digits | 0.25% rdg. +2 digit | 0.25% rdg. +2 digit | 0.10% rdg. +2 digit | 0.25% rdg. +1 digit | 0.25% rdg. +2 digit | 0.25% rdg. +2 digit |
| **Display Digits** | 3 1/2 | 3 1/2 | 3 1/2 | 3 1/2 | 4 1/2 | 3 3/4 | 3 3/4 | 4 | 4 | 3 1/2 | 3 1/2 |
| **Back Lit Display** | — | — | — | — | — | — | — | ● | — | — | ● |
| **Auto Ranging** | — | — | — | — | — | ● | ● | ● | ● | ● | ● |
| **Audible Continuity Beeper** | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Auto Min/Max** | — | — | — | — | — | ● | ● | ● | ● | — | ● |
| **Auto Rel (Relative Mode)** | — | — | — | — | — | ● | ● | ● | ● | — | — |
| **Transient Protected** | — | — | — | — | — | — | — | — | ● | ● | ● |
| **O Ring Sealed** | — | — | — | — | — | — | — | — | — | ● | ● |
| **Diode Test** | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Battery Test Function** | — | — | — | — | — | — | — | — | — | — | — |
| **Analog Bar Graph** | — | — | — | — | — | ● | ● | ● | ● | — | — |
| **Holster** | — | — | — | — | — | ● | ● | ● | ● | — | — |
| **True RMS** | — | — | — | — | ● | — | ● | ● | ● | — | — |
| **Max Hold** | — | — | ● | ● | — | — | — | ● | — | — | ● |
| **Frequency** | — | ● | ● | ● | ● | ● | ● | ● | — | — | ● |
| **Duty Cycle** | — | — | — | — | ● | — | — | — | — | — | — |
| **Capacitance** | — | ● | ● | ● | — | ● | ● | ● | — | — | — |
| **Inductance** | — | — | ● | — | — | — | — | — | — | ● | ● |
| **Transistor Test** | ● | ● | — | — | — | — | — | — | — | — | — |
| **Temperature** | ● | — | — | ● | — | — | — | — | — | — | — |
| **Logic Test** | ● | ● | ● | — | — | — | — | — | — | — | — |
| **Intermittent Fault Finder** | — | — | — | — | — | — | — | ● | — | — | — |
| **Safety Test Volt Tester** | ● | — | — | — | — | — | — | — | — | — | — |
| **Data Hold** | ● | ● | — | ● | ● | ● | ● | — | — | ● | ● |
| **Probe Hold** | — | — | — | — | — | — | — | ● | — | — | — |
| **Auto Off** | ● | ● | ● | ● | ● | ● | ● | — | ● | ● | ● |
| **"IEC1010-1, Cat II"** | ● | ● | ● | ● | ● | — | — | — | — | — | — |
| **"IEC1010-1, Cat III"** | — | — | — | — | — | ● | ● | ● | — | ● | ● |
| **CE** | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

Note: (●) Feature of meter; (—) Not a feature of meter

# DIGITAL MULTIMETERS

## [A] WAVETEK No. 4KC07

Accuracy (typ.): ±0.25% + 1 digit
Diode test
Data hold
Auto ranging and auto power OFF
Low battery indicator
6.7H x 1.7W x 1.6"D
Includes replaceable long and short probe tips, one black lead, alligator clip, attached soft case, battery, and instructions

## [B] WAVETEK No. 2A154

Accuracy (typ.): ±0.5% + 4 digits
Audible continuity
Data hold and Probe Hold™
Auto ranging and auto shut-off
Over range indicator
Records maximum voltage or minimum resistance
Low battery indicator
5.2H x 1.1W x 0.7"D
Includes test lead, battery, and instructions

## [C] WAVETEK Nos. 4JZ98 and 4JZ99

Accuracy (typ.): 0.8% + 1 digit
No. 4JZ98 is manual ranging; 4JZ99 is auto-ranging
Include permanently attached test leads, holster, 9V battery, and instructions

**FOR FEATURE COMPARISONS, SEE WAVETEK MULTIMETER SELECTION GUIDES ON NEARBY PAGE**

## [D] WAVETEK Nos. 4JZ95, 4JZ86, 4JZ87, and 4JZ88

- Accuracy:
  No. 4JZ95: 0.8% + 1 digit
  No. 4JZ86: 0.7% + 1 digit
  Nos. 4JZ87 and 4JZ88: 0.5% + 1 digit
- Audible continuity and diode test
- No. 4JZ86 includes safety tester that operates with or without the battery installed
- Nos. 4JZ87 and 4JZ88 include logic tester
- No. 4JZ88 measures capacitance to 20μF and has transistor tester
- All include a pair of test leads, spare fuse, 9V battery, and instructions

## [E] WAVETEK Nos. 4JZ93 and 4JZ94

- Accuracy (typ.): 0.5% + 1 digit
- Both meters have fully fused, current input jacks, incorrect input warning, 10 minute auto OFF, and data hold
- No. 4JZ94 also measures capacitance to 32μF
- Include a pair of test leads, spare fuse, 9V battery, and instructions

## [F] WAVETEK No. 3T267

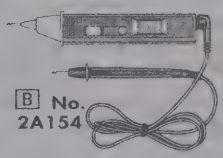
- Accuracy (typ.): 0.25% + 3 digits
- True RMS with full 4 digit, 10,000 count, LCD display
- 41 segment bargraph
- Probe Hold™ and Auto Min./Max™
- Includes holster, one pair test leads, 9V battery, and instructions

**FULL LINE OF CASES, TEST LEADS, FUSES, AND ACCESSORIES AVAILABLE AT GRAINGER PARTS OPERATIONS**

WAVETEK



[A] No. 4KC07



[B] No. 2A154



[C] No. 4JZ98



[D] No. 4JZ95



[E] No. 4JZ94



[F] No. 3T267

**Replacement Parts Available**
**1-800-323-0620**

## DIGITAL MULTIMETER SPECIFICATIONS AND ORDERING DATA

| Key | Voltage (Volt AC) | Voltage (Volt DC) | Current (Amps AC) | Current (Amps DC) | Resistance (Ohms) | Display Type | Wavetek Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 3.2/32/320/600 | 320 mV/3.2/32/320/600 | — | — | 320/3.2K/32K/320K/3.2M/32M | 3½ LCD | ST75 | **4KC07** | **$82.35** | 2.0 |
| B | 4.2/42/300 | 420mV/4.2/42/300 | — | — | 420/4.2K/42K/420K/4.2M | 3¾ LCD | DM73A | **2A154** | **74.15** | 0.4 |
| C | 200/600 | 2/20/200/600 | — | 200mA | 2K/20K/200K/2M | 3½ LCD | DM7 | **4JZ98** | **25.70** | 0.9 |
| C | 4/400/600 | 4/400/600 | 400mA | 40mA/400mA | 400/4K/40K/400K/4M/40M | 3¾ LCD | DM9 | **4JZ99** | **46.30** | 0.9 |
| D | 200mV/2/20/200/500/750 | 200mV/2/20/200/1000 | — | 200uA/2mA/20mA/200mA | 200/2K/20K/200K/2M | 3½ LCD | 5XL | **4JZ95** | **43.25** | 0.9 |
| D | 200mV/2/20/200/500/750 | 200mV/2/20/200/1000 | — | 200uA/2mA/20mA/200mA/10 | 200/2K/20K/200K/2M/20M | 3½ LCD | 10XL | **4JZ86** | **53.55** | 2.0 |
| D | 200mV/2/20/200/500/750 | 200mV/2/20/200/1000 | 200uA/2mA/20mA/200mA/10 | 200uA/2mA/20mA/200mA/10 | 200/2K/20K/200K/2M/20M/2000M | 3½ LCD | 15XL | **4JZ87** | **63.85** | 2.0 |
| D | 200mV/2/20/200/500/750 | 200mV/2/20/200/600 | 20mA/200mA/10 | 20mA/200mA/10 | 200/2K/20K/200K/2M/20M | 3½ LCD | 16XL | **4JZ88** | **82.35** | 2.0 |
| E | 3.2/32/320/600 | 320mV/3.2/32/600 | 320uA/3200uA/32mA/320mA/10 | 320uA/3200uA/32mA/320mA/10 | 320/32K/320K/3.2M/32M | 3¾ LCD | 30XL<br>35XL | **4JZ93**<br>**4JZ94** | **72.05**<br>**82.35** | 2.0<br>2.0 |
| F | 10/100/750 | 1/10/100/1000 | 10mA/40mA/10 | 10mA/40mA/10 | 1K/10K/100K/1M/10M/40M | 4 LCD | RMS225A | **3T267** | **195.75** | 2.0 |

# DIGITAL MULTIMETERS

## [A] WAVETEK Nos. 1T424, 4JZ91, 1T421, and 4JZ92

- Accuracy (typ.): ±0.5% + 1 digit
- All have diode test, continuity beeper, and auto OFF
- Nos. 1T424 and 4JZ92 measure temperature: No. 1T424 -4°F to 1400°F; No. 4JZ92 -22°F to 2000°F. Both include K-type mini-connector bead probe rated -40°F to 500°F
- 4JZ91 and 4JZ92 have 20A AC and DC current range. (limited to 60 sec.)
- Nos. 1T421, 4JZ91, and 4JZ92 measure frequency and capacitance (also include a pair of alligator clips)
- Include one pair of test leads, spare fuse, 9V battery, and instructions

## [B] WAVETEK No. 4JZ96

- Accuracy (Typ.); ± 0.05% + 3 digits
- High accuracy, True RMS with 4½ Digit Display
- Has diode test, continuity beeper, and frequency and duty cycle measurement
- Includes one pair of test leads, 9V battery, and instructions

## [C] WAVETEK Nos. 4JZ89 and 1T423

- Accuracy (typ.): ±0.25% + 2 digits
- No. 4JZ89 is average reading; No. 1T423 is true RMS
- Both read capacitance to 40mF and frequency to 400KHz
- Min/Max, Data Hold and Relative Mode
- Include holster, one pair of test leads, 9V battery, and instructions

## [D] WAVETEK No. 4JZ90

- Accuracy (typ.): ±0.10% + 2 digits
- True RMS or average responding
- Frequency counter to 2MHz and capacitance meter to 2000µF
- Has intermittent detector, Probe Hold™ Auto Min/Max™, 50nS pulse detector, and peak hold
- Backlit display
- Includes holster, one pair of test leads, 9V battery, and instructions

## [E] WAVETEK No. 3T075

- Accuracy (typ.): ±0.25% + 1 digit
- Heavy-duty, high performance, true RMS meter with analog and digital display
- High energy transit protected to 10KV
- Has Probe Hold™ and Auto Min/Max™
- Includes holster, heavy-duty test leads with alligator clips, 9V battery, and instructions

## [F] WAVETEK Nos. 4KC05 and 4KC06

- Accuracy (typ.): ±0.25% + 2 digits
- Drop-proof to 10 feet
- O-ring seals make unit dustproof and leakproof
- No. 4KC06 has backlit display, measures capacitance; has Min/Max and peak hold
- Include holster, one pair of test leads, 9V battery, and instructions



[A] No. 1T424

WAVETEK



[B] No. 4JZ96



[C] No. 1T423



[D] No. 4JZ90



[E] No. 3T075



[F] No. 4KC06

Replacement Parts Available
1-800-323-0620

FULL LINE OF WAVETEK ACCESSORIES AVAILABLE

## DIGITAL MULTIMETER SPECIFICATIONS AND ORDERING DATA

| Key | Voltage (Volt AC) | Voltage (Volt DC) | Current (Amps AC) | Current (Amps DC) | Resistance (Ohms) | Display Type | Wavetek Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 200m 2/20 200/750 | 200m 2/20 200/1000 | 200µA/2mA/ 20mA/200mA/10 | 200µA/2mA/ 20mA/200mA/10A | 200/2K/20K/200K/ 2M/20M/2000M | 3½ LCD | 23XT<br>27XT | **1T424**<br>**4JZ91** | **$94.75**<br>**128.70** | 1.2<br>2.0 |
| A | 200m 2/20 200/750 | 200m 2/20 200/1000 | 200µA/2mA/ 20mA/100mA/10A | 200µA/2mA/ 20mA/100mA/10 | 200/2K/20K/200K/ 2M/20M/2000M | 3½ LCD | 25XT<br>28XT | **1T421**<br>**4JZ92** | **105.05**<br>**128.70** | 1.2<br>2.0 |
| B | 200m/2/20/ 200/750 | 200m/2/20/ 200/1000 | 200µA/2mA/ 20mA/200mA/ 2A/10A | 200µA/2mA/ 20mA/200mA/ 2A/10A | 200/2K/20K/ 200K/2M/20M | 4 LCD | 85XT | **4JZ96** | **195.75** | 2.0 |
| C | 400m/4/40 400/750 | 400m/4/40 400/1000 | 4mA/40mA 400mA/10 | 4mA/40mA 400mA/10 | 400/4K/40K/ 4M/40M | 3½ LCD | 2005<br>2015 | **4JZ89**<br>**1T423** | **170.00**<br>**190.50** | 3.0<br>1.7 |
| D | 100m/1000m/ 10/100/1000 | 100m/1000m/ 10/100/1000 | 1000µA/10mA/ 100mA/1000mA/ 10A | 1000µA/10mA/ 100mA/1000mA/ 10A | 100/1000/10K/ 100K/1000K/ 10M/20M | 4 LCD | 2030 | **4JZ90** | **340.00** | 3.0 |
| E | 10/100/ 1000 | 1/10/100 1000 | 10mA/40mA/ 10A | 10mA/40mA/ 10A | 1K/10K/100K/ 1M/10M/40M | 4 LCD | HD160 | **3T075** | **231.75** | 1.5 |
| F | 200m/2/20/ 200/1000 | 200m/2/20/ 200/1500 | 200µA/2mA/ 20mA/200mA 2A/10A | 200µA/2mA/ 20mA/200mA 2A/10A | 200/2K/20K/ 2M/20M | 3½ LCD | HD110B<br>HD115B | **4KC05**<br>**4KC06** | **154.50**<br>**195.75** | 2.0<br>2.0 |



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

## FLUKE ACCESSORY COMPATIBILITY CHART

**Can be used to find which accessories are compatible with a meter or which meter is compatible with an accessory.**

) find accessories compatible with meter:
Find meter stock number at top of chart
Check column for compatible symbols and follow row across to
id accessory stock number at right

To find meter compatible with accessory:
1. Find accessory stock number in right column
2. Check across row for compatible symbols and follow column up to find meter stock number

**ey: (V) Compatible (—) Not Compatible (v) Included (1) Above 40 amps AC; 1A resolution (2) Min. accuracy is 20A, AC (3) A resolution for AC; 1A resolution above 320A DC (4) Min. accuracy is 10A, AC (5) 1 V resolution DC only (6) 1A resolution r AC or DC current (7) Min. accuracy is 15A, AC (8) Include test leads, alligator clip set, and test probes (9) 1 Degree reso- tion (10) 1 PSIG/1 inch HG resolution**

### FLUKE DIGITAL METER ACCESSORY COMPATIBILITY CHART

| Meter Stock No. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TC35 | 3LV97/ 3LV98 | 6T087 / 6T088 / 6T089/3LV89/4KD91 | 4KF03 / 4KF04 | 4KF05 4KF01 | 4KD95 | 4KD96 | 4KD92 | 4KD97 | 4KD93 | 4KD98 | 4KD94 | 4KF02 | 2A426 | 1A741 / 1T244 | | |
| Fluke Meter Model No. | | | | | | | | | | | | | | | | |
| 45 | 7-300/7-600 | 10 / 11 / 12/12B / 16 | 83-3 / 85-3 | 87-3 / 787 | 70-3 | 73-3 | 21-3 | 75-3 | 23-3 | 77-3 | 26-3 | 79-3 | 27 | 8060A / 8062A | Fluke Model No. | Accessory Stock No. |
| **RF AMPLITUDE PROBE** | | | | | | | | | | | | | | | | |
| ● | — | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 85RF | **1T332** |
| **INFRARED TEMPERATURE PROBE** | | | | | | | | | | | | | | | | |
| ● | — | 9 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 80T-IR | **6T607** |
| ● | — | 9 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 80T-IR/E | **4KD75** |
| **TEMPERATURE MODULE** | | | | | | | | | | | | | | | | |
| ● | — | 9 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 80TK | **2A433** |
| **TEMPERATURE PROBE** | | | | | | | | | | | | | | | | |
| ● | — | 9 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 80T-150U | **1T330** |
| **PRESSURE/VACUUM MODULE** | | | | | | | | | | | | | | | | |
| ● | — | 10 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | PV350 | **6T375** |
| **HIGH VOLTAGE PROBES** | | | | | | | | | | | | | | | | |
| ● | — | 5 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 80K-6 | **1T320** |
| ● | — | 5 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 80K-40 | **1T321** |
| **CURRENT PROBES** | | | | | | | | | | | | | | | | |
| ● | — | — | ● | ● | — | ● | ● | ● | ● | ● | 1 | 1 | ● | ● | Y8101A | **1T343** |
| ● | — | — | ● | ● | — | ● | ● | ● | ● | ● | 1 | 1 | ● | ● | 80i-400 | **2A432** |
| 7 | — | 6 | ● | 2 | 3 | 3 | 3 | 3 | 3 | 3 | ● | ● | ● | 4 | i410 | **4KF12** |
| ● | — | — | ● | ● | — | ● | ● | ● | ● | ● | 1 | 1 | ● | ● | 80i-600A | **1A787** |
| 7 | — | 6 | ● | 2 | 3 | 3 | 3 | 3 | 3 | 3 | ● | ● | ● | 4 | i1010 | **4KF11** |
| **TEST LEAD SETS & KITS** | | | | | | | | | | | | | | | | |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | TL20 | **3T432** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | TL22 | **1TC08** |
| ● | ● | ● | ● | ● | ● | ● | 8 | ● | 8 | ● | 8 | ● | ● | ● | TL24 | **1TC09** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | TL26 | **1TC10** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | TL28 | **1TC11** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | TL74 | **4PD25** |
| ○ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | TL70A | **3LW19** |
| — | ○ | ○ | ○ | ○ | ○ | ○ | ● | ○ | ● | ○ | ● | ○ | ○ | — | TL75 | **1T341** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | Y8132 | **1T349** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | Y8140A | **1T351** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | Y8134 | **1A786** |
| **BATTERY ELIMINATOR** | | | | | | | | | | | | | | | | |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | ● | A81-115 | **1T333** |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# FLUKE DIGITAL MULTIMETER ACCESSORY COMPATIBILITY AND FEATURE CHARTS

CONTINUED FROM PREVIOUS PAGE

| Meter Stock No. | | | | | | | | | | | | | | | FLUKE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1TC35 | 3LV97/ 3LV98 | 6T087/6T088/6T089/ 3LV89/4KD91 | 4KF03 / 4KF04 | 4KF05 / 4KF01 | 4KD95 | 4KD96 | 4KD92 | 4KD97 | 4KD93 | 4KD98 | 4KD94 | 4KF02 | 2A426 | 1A741 / 1T244 | | |
| Fluke Meter Model No. | | | | | | | | | | | | | | | | |
| 45 | 7-300/ 7-600 | 10 / 11 / 12 / 12B / 16 | 83-3 / 85-3 | 87-3 / 787 | 70-3 | 73-3 | 21-3 | 75-3 | 23-3 | 77-3 | 26-3 | 79-3 | 27 | 8060A / 8062A | Fluke Model No. | Accessory Stock No. |
| **HARD CASES** | | | | | | | | | | | | | | | | |
| — | — | — | 1 | 1 | — | — | — | — | — | — | — | — | ● | — | C20 | **2A427** |
| — | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | C100 | **1T336** |
| **SOFT CASES** | | | | | | | | | | | | | | | | |
| — | 1 | 1 | — | — | ● | — | — | — | — | — | — | — | — | — | C17Y | **6T605** |
| — | — | — | 1 | 1 | — | — | — | — | — | — | | — | | — | C28Y | **6T606** |
| — | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | ● | 2 | C25 | **2A428** |
| — | — | — | — | — | ● | ● | — | — | — | — | — | — | | — | C50 | **2A431** |
| — | — | — | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | — | ● | C90 | **1A742** |
| — | ● | ● | — | — | — | — | — | — | — | — | — | — | — | — | C12A | **6T200** |
| ● | — | — | — | — | — | — | — | — | — | — | — | — | — | — | C40 | **4KD77** |
| **HOLSTERS** | | | | | | | | | | | | | | | | |
| — | — | — | — | — | ○ | ○ | — | — | — | — | — | — | — | — | C70Y | **1T335** |
| — | — | — | ● | ● | — | — | — | — | — | — | — | — | — | — | C81G | **1TC05** |
| — | — | — | ○ | ○ | — | — | — | — | — | — | — | — | — | | C81Y | **3T429** |
| — | ● | ●* | — | — | — | — | — | — | — | — | — | — | — | — | C10 | **6T090** |

Key: (●) Compatible (—) Not Compatible (○) Included (1) Holds DMM w/ Holster (2) Loose fit. (*) 4KD91 includes Holster.

## FLUKE MULTIMETER FEATURE COMPARISON CHART

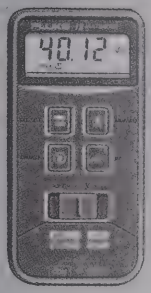
| Fluke Model | 7-300 / 7-600 | 10 | 11 | 12/12B/16 | 83-3 | 85-3 | 87-3 | 787 | 70-3 | 73-3 | 21-3/75-3 | 23-3/77-3 | 26-3 / 79-3 | 27 | 8060 | 8062 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Basic DC Accuracy | ±2.9% +3dig | ±1.5% +2dig | ±0.9% +2dig | ±0.9% +2dig | ±0.1% +1dig | ±0.08% +1dig | ±0.05% +1dig | ±0.1% +1dig | ±0.3% +1dig | ±0.3% +1dig | ±0.3% +1dig | ±0.3% +1dig | ±0.3% +1dig | ±0.1% +1dig | ±0.4% +2dig | ±0.05% +2dig |
| Autorange/Range Hold | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | — | — |
| Touch Hold® | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | — | — |
| Overload Protection | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Impedance (10MΩ) | — | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Impedance (2KΩ) | ● | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Audible Continuity Beeper | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Diode Test | — | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Analog Bargraph | — | — | — | — | ● | ● | ● | — | ● | ● | ● | ● | ● | ● | — | — |
| Holster | — | — | — | — | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — |
| Test Lead Storage | — | — | — | — | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — |
| Overmolded Case | — | — | — | — | — | — | — | — | — | — | ● | ● | ● | — | — | — |
| O-Ring Sealed | — | — | — | — | ● | ● | ● | ● | — | — | — | — | — | ● | — | — |
| True RMS | — | — | — | — | — | ● | ● | ● | — | — | — | — | ● | — | ● | ● |
| Relative/Min-Max Modes | — | — | — | ● | ● | ● | ● | ● | — | — | — | — | — | ● | — | — |
| Peak Hold | — | — | — | — | — | ● | ● | — | — | — | — | — | — | — | — | — |
| Frequency | — | — | — | — | ● | ● | ● | ● | — | — | — | — | ● | — | ● | — |
| Loop Calibrator | — | — | — | — | — | — | — | ● | — | — | — | — | — | — | — | — |
| Duty Cycle | — | — | — | — | — | — | — | ● | — | — | — | — | — | — | — | — |
| Capacitance | — | — | ● | ● | ● | ● | ● | — | — | — | — | — | ● | — | — | — |
| Conductance | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | ● | ● | — |
| Smoothing | — | — | — | — | — | — | — | — | — | — | — | — | ● | — | — | — |
| V-Chek™* | ● | — | ● | ● | — | — | — | — | — | — | — | — | — | — | — | — |
| Lifetime Warranty† | — | — | — | — | ● | ● | ● | ‡ | ● | ● | ● | ● | ● | ● | # | # |
| 2-Year Warranty† | ● | — | ● | ● | — | — | — | — | — | — | — | — | — | — | # | # |

(*) V-Chek—Simplifies measurement of Ohms/Continuity with more than 4.5V present across input jacks by automatically switching to AC or DC volts, whichever is greater. (†) See "Manufacturers Warranties" on page opposite inside back cover. (●) Feature of meter. ( — ) Meter does not have this feature. (‡) 3 year warranty. (#) 1 year warranty.

FLUKE



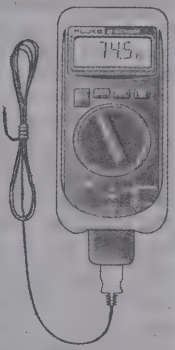
A No 3LV97



B No. 6T089



B No. 3LV89



B No. 4KD91

## A Nos. 3LV97 and 3LV98

**Exceptional value and ease of use, one-hand operation**
**4000 count digital display**
**Auto selection simplifies voltage measurements in power environments. When measuring ohms/continuity with more than 4.5 volts present across the input jacks, the meter automatically switches to measuring AC or DC volts, whichever is greater. Input impedance is approx. 2kΩ, helps to determine if voltage is from leakage ("ghost voltages") or a connection. Overload protection provided if circuit checked on ohms mode**
**Automatic reading of volts AC & DC**
**Continuity beeper**
**High visibility yellow housing**
**Includes test leads, "9V" battery and manual**

### OPTIONAL HOLSTER

**. 6T090.** Shpg. wt. 1.0 lbs.
ch.....$11.00

### THERMAL COUPLE ADAPTER

**. 4PD16.** Fluke brand (80-AK) Shpg. wt. 1.0
. Each .....$14.00

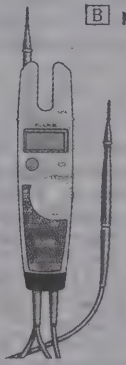
## B Nos. 6T087, 6T088, 6T089, 3LV89 and 4KD91

**All feature:**

- **One-hand operation, 3¾ LCD display**
- **4000 count, autoranging display**
- **Nos. 6T088, 6T089, 3LV89 and 4KD91measure capacitance up to 9999µF and feature a V-Chek™ function that automatically selects and displays AC/DC volts or ohms, whichever is greater**
- **Include test leads, "9V" battery, and manual**
- **UL Listed (E59794); CSA Certified (LR44340)**

**No. 6T089, 3LV89 and 4KD91:**

- **Min./Max. recording mode with relative time clock**
- **Continuity Capture™ provides visual display of opens or shorts as brief as 250µs**
- **No. 3LV89 offers same features of No. 6T089, with easy-to-use rotary dial. High visibility yellow housing makes it easy to locate on the job or in a toolbox**
- **No. 4KD91 offers the same features of Nos. 6T089 and 3LV89 plus temperature -40 to 750°F (-40 to 400°C) microamps measurements to 200µA. Also includes No. 6T090 holster, thermocouple adapter No. 4PD16, and bead probe No. 1T322**



C No. 4KF16

## C Nos. 4KF16 thru 4KF19

- **Automatically measures Volts AC and DC with precise digital resolution.**
- **Continuity beeper**
- **Easy and accurate Open Jaw™ current measurement**
- **Display Hold/Automatic Power Down/Low Battery Indicator**
- **Compact design with neat probe storage**
- **Includes two "AA" batteries and users manual**
- **Two year warranty**
- **Nos. 4KF18 and 4KF16 include NIST Traceable Calibration Certificate**
- **Optional carrying case No. 4PD22**

| Key | Voltage (Volts AC/DC) | Current (Amps AC) | Resistance (Ohms) | Accuracy (Typ.) | LCD Display | Color | Fluke Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 300 | — | 400 | ±2.0% + 3 dig | 3¾ LCD | Yellow | 7-300 | 3LV97 | $54.95 | 2.0 |
| | 600 | | | | 3¾ LCD | Yellow | 7-600 | 3LV98 | 69.95 | 2.0 |
| B | 4000mV/4/ 40/400/ 600 | — | 400/4K/ 40K/400K/ 4M/40M | ±1.5% + 2 dig | 3¾ LCD | Gray | 10 | 6T087 | 74.00 | 2.0 |
| | | | | ±0.9% + 2 dig | 3¾ LCD | Gray | 11 | 6T088 | 84.00 | 2.0 |
| | | | | ±0.9% + 2 dig | 3¾ LCD | Gray | 12 | 6T089 | 99.00 | 2.0 |
| | | | | ±0.9% + 2 dig | 3¾ LCD | Yellow | 12B | 3LV89 | 99.00 | 2.0 |
| | | | | ±0.9% + 2 dig | 3¾ LCD | Gray | 16 | 4KD91 | 129.00 | 2.0 |
| C | 600 | 100 | 1000 | ±1.5% + 2 dig | 3¾ LCD | Yellow | T5-600NIST | 4KF18 | 119.95 | 1.2 |
| | 600 | 100 | 1000 | | 3¾ LCD | Yellow | T5-600 | 4KF19 | 89.95 | 1.2 |
| | 1000 | 100 | 1000 | | 3¾ LCD | Yellow | T5-1000NIST | 4KF16 | 129.95 | 1.2 |
| | 1000 | 100 | 1000 | | 3¾ LCD | Yellow | T5-1000 | 4KF17 | 99.95 | 1.2 |

e: Always consult user manual and applicable electrical codes prior to purchase.

# DIGITAL MULTIMETERS

## FLUKE HAND-HELD DIGITAL MULTIMETERS

**All multimeters on this page feature:**

- Automatic Touch Hold®
- Diode test, sleep mode, Auto/Manual ranging, audible continuity beeper
- Accuracy (typ.): 0.3% ±1 dig.
- Include "9V" battery, fuses and instructions
- 4KD79, 4KD80, 4KD81, 4KD92, 4KD93 and 4KD94 include "Premium Electrician's Test Lead Set". Set includes test lead set, alligator clip, and test probes
- The rest of the meters include test lead set only

**A Nos. 4KD82, 4KD83, 4KD95 and 4KD96**

- 600V CAT II per IEC-1010 safety rating, UL 3111 Listed, CSA & TUV approval
- General purpose models for a wide range of applications
- High-resolution 3200 count display with analog bargraph
- Include protective holster with flex stand
- Nos. 4KD83 and 4KD96 include fused current ranges
- Nos. 4KD82 and 4KD83 include NIST Traceable Calibration Certificate

**B Nos. 4KD79, 4KD92, 4KD84 and 4KD97**

- 600V CAT III per IEC-1010 safety rating, UL 3111 Listed, CSA & TUV approval
- Include all features of the meters listed above
- All four models include fused current ranges to 10.0A
- Larger display, ergonomic styling
- Rugged overmolded case
- Nos. 4KD79 and 4KD84 include NIST Traceable Calibration Certificate

**C Nos. 4KD80, 4KD93, 4KD85 and 4KD98**

- 600V CAT III per IEC-1010 safety rating, UL 3111 Listed, CSA & TUV approval
- Include all features of the meters listed above plus:
- 1000V CAT III per IEC-1010 safety rating
- Nos. 4KD80 and 4KD85 include NIST Traceable Calibration Certificate

**D Nos. 4KD81, 4KD94, 4KD86 and 4KF02**

- 600V CAT III per IEC-1010 safety rating, UL 3111 Listed, CSA & TUV approval
- Include all features of the meters listed above plus:
- High resolution 4000/10,000-count display with analog bargraph
- True-RMS measurements
- Frequency counter (0.8Hz to 20.0KHz), capacitance measurements (0.1nf to 9,999µf)
- Low-ohms range with Zero calibration, Smoothing™ mode




A No. 4KD95 B No. 4KD97

C No. 4KD93 D No. 4KF02

**LIFETIME WARRANTY**

Fluke warrants 20 and 70 Series multimeters for life of product. See "Manufacturers' Warranties" on page opposite inside back cover.

New

### FLUKE MULTIMETER SERVICE KIT NO. 4TR06

Includes fluke 87-3 digital multimeter, 80i-400 AC current clamp on, TL-20 Test lead set, Duracase™, harmonic video, training and application booklets.

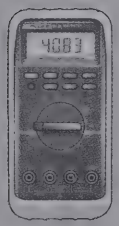
**New No. 4TR06.** Fluke brand (KIT-87). Shpg. wt. 7.0 lbs.
Each ..... $484.00

| Key | Voltage (Volts AC) | Voltage (Volts DC) | Current (Amps AC) | Current (Amps DC) | Resistance (Ohms) | Display | Fluke Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 3.2/32/ 320/600 | 320mV/3.2/ 32/320/600 | — | — | 320/3.2K/ 32K/320K/ 3.2M/32M | 3¾, LCD | 70-3 | 4KD95 | $109.00 | 2.0 |
| | | | | | | | 70-3 NIST* | 4KD82 | 139.00 | 2.0 |
| A | 3.2/32/ 320/600 | 320mV/3.2/ 32/320/ 600 | 32m/320m/ 10 | 32m/320m/ 10 | 320/3.2K/ 32K/320K/ 3.2M/32M | 3¾, LCD | 73-3 | 4KD96 | 135.00 | 2.0 |
| | | | | | | | 73-3 NIST* | 4KD83 | 165.00 | 2.0 |
| B | 3.2/32/ 320/600 | 320mV/3.2/ 32/320/ 600 | 32m/320m/ 10 | 32m/320m/ 10 | 320/3.2K/ 32K/320K/ 3.2M/32M | 3¾, LCD | 21-3 | 4KD92 | 185.00 | 2.0 |
| | | | | | | | 21-3 NIST* | 4KD79 | 215.00 | 2.0 |
| | | | | | | | 75-3 | 4KD97 | 165.00 | 2.0 |
| | | | | | | | 75-3 NIST* | 4KD84 | 195.00 | 2.0 |
| C | 3.2/32/ 320/1000 | 320mV/3.2/ 32/320/ 1000 | 32m/320m/ 10 | 32m/320m/ 10 | 320/3.2K/ 32K/320K/ 3.2M/32M | 3¾, LCD | 23-3 | 4KD93 | 205.00 | 2.0 |
| | | | | | | | 23-3 NIST* | 4KD80 | 235.00 | 2.0 |
| | | | | | | | 77-3 | 4KD98 | 185.00 | 3.0 |
| | | | | | | | 77-3 NIST* | 4KD85 | 215.00 | 3.0 |
| D | 400mV/4/40/ 400/1000 | 40mV/400mV4/ 40/400/1000 | 4m/40m/ 4/10 | 4m/40m/ 4/10 | 400/4K/40K 400K/4M/40M | 3¾, LCD | 26-3 | 4KD94 | 229.00 | 3.0 |
| | | | | | | | 26-3 NIST* | 4KD81 | 259.00 | 3.0 |
| | | | | | | | 79-3 | 4KF02 | 209.00 | 2.0 |
| | | | | | | | 79-3 NIST* | 4KD86 | 239.00 | 2.0 |

(*) Contact your local branch for delivery time.

# DIGITAL MULTIMETERS

## FLUKE



New



Ⓐ No. 4KF03

Ⓑ No. 1A741



Ⓒ No. 2A426



Ⓓ No. 4KD99

**LIFETIME WARRANTY**

**Fluke warrants 20, 70, and 80 Series Multimeters for life of product. Text of warranty available upon request. See "Manufacturers' Warranties" on page opposite inside back cover.**

### Ⓐ Nos. 4KF03, 4KD87, 4KF04, 4KD88, 4KF05, 4KD90, 4PD19, and 4PD20

- Back Light on all models for easier reading
- New LCD display with larger digits and better viewing angle
- 4000 count display updates 4 times per second, analog display updates 40 times per second
- Measures frequency 0.5 Hz to 200K Hz; duty cycle 0.1% to 99.9%; capacitance 10pF to 5mF
- Splash and dust proof; sealed and EMI shielded
- Nos. 4KD90 and 4KF05 have 19,999 count, 4½ digit high resolution mode; 250µS peak, Min-Max hold. 4KF04, 4KF05, 4KD88, and 4KD90 are true RMS
- Includes holster with flex stand, test leads, aligator clips, "9V" battery, and manual
- 4PD19 and 4PD20 include "premium test lead set". Set includes test lead set, alligator clip, and test probes.
- UL Listed (E59794); CSA Certified (LR44340) IEC-1010-1 1000V cat III input protection

### Ⓑ Nos. 1A741, 1W495, 1T244 and 1W497

- Laboratory precision models have 20,000 count display
- Relative reference stores first reading and then measures ± variations from that point
- Nos. 1A741 & 1W495 have frequency measurement capability and dBm or relative dB measurements
- Self diagnostic capability; low battery indicator
- Includes "9V" battery, test leads, spare fuse, and manual
- UL Listed (E59794)

### Ⓒ Nos. 2A426 and 1W542

- Rugged, sealed construction models
- Conforms to power line surge test for major feeders as defined in IEEE-587-190, Category B
- Analog bargraph, fused 10 amp range, impedance (typ.): 10MW
- Nos. 2A426 & 1W542 have min-max recording, store highest and lowest readings to monitor AC/DC voltage, current or resistance for seconds or days
- Relative reference feature on Nos. 2A426 & 1W542 hold input with subsequent readings deviating ± from this point
- Includes "9V" battery, test leads, spare fuse, and manual
- UL Listed (E59794); CSA Certified (LR44340), water and chemical resistant

### Ⓓ Nos. 4KD99 and 4KF01

- New ProcessMeter™is a digital multimeter and loop calibrator in one tool
- Precision 1000V, 440 mA multimeter with similar features to No. 4KF05
- 20 mA DC current source/loop calibrator with simultaneous mA and % of scale readout
- Manual Step (25%, Coarse, Fine) plus Auto Step and Auto Ramp
- 1000V Cat III per IEC-1010 safety rating, 3 year warranty
- Includes test leads, protective holster, "9V" battery and users manual
- No. 4KD99 has same features as 4KF01, but includes NIST Traceable Calibration Certificate

| Key | Voltage (Volts AC) | Voltage (Volts DC) | Current (Amps AC) | Current (Amps DC) | Resistance (Ohms) | Accuracy (typ.) | Display | Fluke Model | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 400mV/4/40/ 400/1000 | 400m/4/40/ 400/1000 | 400µ/4000µ/40m/ 400m/4000m/ 10 | 400µ/4000µ/40m/ 400m/4000m/ 10 | 400/4K/40K/ 400K/4M/40M/ 40nS | ±0.10% + 1 digit | 3¾ LCD | 83-3 | | 4KF03 | $279.00 | 3.0 |
| | | | | | | | | 83-3 NIST† | | 4KD87 | 329.00 | 3.0 |
| | | | | | | ±0.08 + 1 digit | 3¾ LCD | 85-3 | | 4KF04 | 319.00 | 3.0 |
| | | | | | | | | 85-3 NIST† | | 4KD88 | 369.00 | 3.0 |
| | | | | | | ±0.05 + 1 digit | 3½ LCD* | 87-3 | | 4KF05 | 349.00 | 3.0 |
| | | | | | | | | 87-3 NIST† | | 4KD90 | 399.00 | 3.0 |
| | | | | | | ±0.05 + 1 digit | 3¾ LCD* | 87E-3 | New | 4PD20 | 369.00 | 2.0 |
| | | | | | | | | 87E-3 NIST† | New | 4PD19 | 419.00 | 2.0 |
| B | 200mV/2/20/ 200/750 | 200mV/2/20/ 200/1000 | 200µ/2/20/ 200/2000m | 200µ/2/20/ 200/2000m | 200/2K/20K/200K/ 2M/20M/100M/300M | ±0.04% +2 dig | 4½ LCD | 8060A | | 1A741 | 479.00 | 3.0 |
| | | | | | | | | 8060A NIST† | | 1W495 | 529.00 | 3.0 |
| B | 200mV/2/20/ 200/750 | 200mV/2/20/ 200/1000 | 200µ/2/20/ 200/2000m | 200µ/2/20/ 200/2000m | 200/2K/20K/200K/ 2M/20M/100M/300M | ±0.05% +2 dig | 4½ LCD | 8062A | | 1T244 | 389.00 | 3.0 |
| | | | | | | | | 8062A NIST† | | 1W497 | 439.00 | 3.0 |
| C | 320mV/3.2/ 32/320/1000 | 320mV/3.2/ 32/320/1000 | 320µ/3200µ/ 32m/320m/10 | 320µ/3200µ 32m/320m/10 | 320/3.2K/32K/ 320K/3.2M/32M | ±0.1% +1 dig | 3½ LCD | 27 (YEL) | | 2A426 | 299.00 | 3.0 |
| | | | | | | | | 27 (YEL) NIST† | | 1W542 | 329.00 | 4.0 |
| D | 400mV/4/40/ 400/1000 | 400mV/4/40/ 400/1000 | 440mA | 30mA/440mA | 400/4K/40K/ 400K/4M/40M/40nS | ±0.1% +1 dig | 3½ LCD | 787 NIST† | | 4KD99 | 570.00 | 3.0 |
| | | | | | | | | 787 | | 4KF01 | 495.00 | 3.0 |

4½ digit display in high resolution mode. (†) Contact your local branch for delivery time.

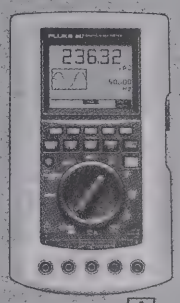
**GRAINGER HAS OVER 350 BRANCHES NATIONWIDE**

**e're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who care bout your business. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# FLUKE GRAPHICAL MULTIMETERS

- A new category of high performance troubleshooting tools
- High accuracy true-RMS or average responding measurements
- DC to 1 Mz digital waveform display
- TrendGraph™ Mode—an electronic strip chart recorder to plot meter readings up to 30 hours
- 10 MHz frequency counter on Nos. 4KD89 and 1W593; 2 MHz on No. 1W586 and 1W583
- In-circuit component test, logic test modes; waveform memory and backlit display on Nos. 4KD89 and 1W593
- Measures conductance to 3000 nS; capacitance from 10000 pf to 10000 uf
- Diode test, Min./Max., peak hold, view mode, duty cycle, pulse width, glitch capture, and backlit display
- All units can be connected to a PC using the 4KF14 software and interface cable sold below
- Include test leads and instruction manual
- Nos. 1W583 and 1W593 include NIST Traceable Calibration Certificate
- Use compact soft case No. 4KD78, see Index for listing

FLUKE




A
No. 1W586




B
No. 4KD89



Soft Carrying Case No. 1W519

## ACCESSORIES FOR GRAPHICAL MULTIMETERS

### ACCESSORIES ORDERING DATA

| Description | Fluke Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| External Battery Charger | BC7210 | 1W512 | $109.00 | 3.0 |
| Replacement Battery | BP7217 | 1W515 | 99.00 | 2.0 |
| Soft Carrying Case | C789 | 1W519 | 80.00 | 3.0 |
| Battery Eliminator | BE860 | 3LV78 | 65.00 | 3.0 |
| FlukeView 860 Software & Optically Isolated Interface Cable | SC860 | 4KF14 | 245.00 | 2.0 |

### GRAPHICAL MULTIMETER SPECIFICATIONS AND ORDERING DATA

| Key | Voltage (Volt AC) | Voltage (Volt DC) | Current (Amps AC) | Current (Amps DC) | Resistance (Ohms) | Accuracy (Typ.) | Display (In.) | Fluke Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 300mV/3/30/ 300/1000 | 300mV/3/30/ 300/1000 | 300u/3000u/ 30m/300m/ 3/10 | 300u/3000u/ 30m/300m/ 3/10 | 300/3K/30K 300K/3M/30M | ± 0.04% + 2 digits | 4½ | 863<br>863 NIST* | 1W586<br>1W583 | $595.00<br>655.00 | 9.0<br>9.0 |
| B | 300mV/3/30/ 300/1000 | 300mV/3/30/ 300/1000 | 300u/3000u/ 30m/300m/ 3/10 | 300u/3000u/ 30m/300m/ 3/10 | 300/3K/30K 300K/3M/30M | ± 0.025% + 2 digits | 4½ | 867BE120<br>867NIST* | 4KD89<br>1W593 | 795.00<br>855.00 | 9.0<br>9.0 |

(*) Contact your local branch for delivery time.

## ORDERING HAS NEVER BEEN EASIER!

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs.

Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

# BENCH-TYPE DIGITAL MULTIMETERS AND CHARTLESS DIGITAL RECORDERS

## LUKE DUAL DISPLAY MODELS

### Nos. 1TC35 thru 1TC38 and 1W556

- Multifunction vacuum fluorescent dual display
- For applications requiring two different measurements of the same signal; e.g. power supply testing, where V-DC output can be viewed on primary display while V-AC ripple is shown on secondary display
- Accuracy (typ.): ±0.02% of reading + 2 digits
- Impedance (typ.): 10MΩ
- True RMS voltage and current. RS-232 interface
- Frequency measurement to 1 MHz
- dB measurements with selectable reference impedances of 2 to 8000 ohms and audio power from 2 to 16 ohms
- Compare (High/Low/Pass) function for quick intolerance tests
- 0.05% DC current accuracy for 4-20mA current loop service
- Touch Hold, Relative, and Min.-Max., audible continuity, and diode test, closed-case calibration
- Includes line cord and test leads
- Nos. 1TC36 and 1TC38 include rechargeable lead acid battery for up to 8 hours operation on 16 hour recharge
- Nos. 1TC37 and 1TC38 include IEEE-488.2 interface
- No. 1W556 same as No. 1TC35, but includes NIST traceable calibration certificate
- CSA Certified (LR44340)

**No. 4KF13.** Quickstart 45 PC software. Fluke brand (S45). Shpg. wt. 5.0 lbs.

Each ..... $95.00

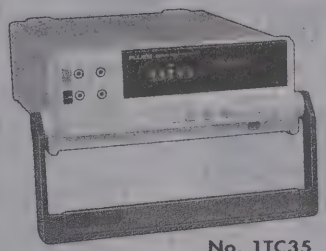
## B & K PRECISION DIGITAL DISPLAY

### Nos. 4KF68, 4KF69, 4KF70

- For applications requiring high accuracy, 50,000 count resolution
- Accuracy: 0.025%, DCV No. 4KF70; 0.05% DCV, No. 4KF69; 0.1% DCV, No. 4KF68
- ACV Response: 100kHz, Nos. 4KF70 and 4KF69; 30kHz, No. 4KF68
- Input Impedance: 10 MΩ or 1 GΩ, Nos. 4KF70 and 4KF69; 10 MΩ, No. 4KF68
- True RMS voltage and current (AC and AC+DC)
- RS-232 interface, dBm, Min./Max./Avg. (Nos. 4KF70 and 4KF69)
- Pulse width, VA, pulse count (No. 4FK70)
- Temperature (No. 4KF69) -200°C to +800°C
- Capacitance to 50,000mF
- Test leads and instruction manual included

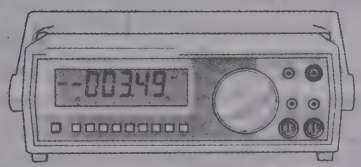
FLUKE

LR44340



No. 1TC35

B&K PRECISION



No. 4KF70

| Voltage (Volts AC) | Voltage (Volts DC) | Current (Amps AC) | Current (Amps DC) | Resistance (Ohms) | Display Type | Auto-Ranging | Mfr. | Mfr.'s Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 100m/1000m/ 10/100/750 | 100m/1000m/ 10/100/1000 | 10m/30m/ 100m/10 | 10m/30m/ 100m/10 | 100/1000/10K/ 100K/1000K/ 10M/100M | 5, LED | Yes | Fluke | 45 | **1TC35** | **$719.00** | 10.0 |
| | | | | | | | | 45-NIST | **1W556** | **779.00** | 10.0 |
| | | | | | | | | 45-01 | **1TC36** | **849.00** | 11.0 |
| | | | | | | | | 45-05 | **1TC37** | **879.00** | 10.0 |
| | | | | | | | | 45-15 | **1TC38** | **1009.00** | 12.0 |
| 500m/5/50/ 500/750 | 500m/5/50/ 500/1000 | 500µ/5m/50m/ 500m/10 | 500µ/5m/50m/ 500m/10 | 500/5k/50k/ 500k/5M/50M | 5, LCD | Yes | B&K Precision | 5490 | **4KF70** | **675.00** | 7.0 |
| | | | | | | | | 5470 | **4KF69** | **525.00** | 7.0 |
| | | | | | | | | 5460 | **4KF68** | **425.00** | 7.0 |

## CHARTLESS DIGITAL RECORDERS Nos. 1T083 and 3JH50

o. 1T083:

- 4 digit LED display recall and display more than 41 days of data from 44 separate functions
- Input range: 0 to 750V AC, 0 to 1000 A AC, 40 to 400 Hz
- Functions include: present readings, peak, time of peak, min.-max. readings, time of min.-max. readings, average readings, sweep of present readings, total time, voltage and amperage

o. 3JH50:

- Information can be downloaded to a computer or displayed on built-in 160 x 160 pixel display
- Records information for 14 to 20 days (The exact recording time depends on the number of parameters that are being recorded)
- Up to 8 channels of information; 4 voltage channels; 4 current channels
- Measures: watts, VARS, VA, PF, KWH
- Input range 0 to 600V AC, 0-1000A AC, 40 to 2000 Hz

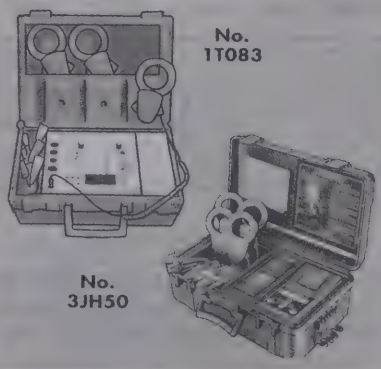
For Both:

- Operational voltage 120 or 240V AC, 50 or 60 Hz
- Auto ranging, true RMS, molded carrying case
- Includes: 3 current clamps, 3 voltage clips, power cord, and instructions. No. 3JH50 also includes computer interface cable and software

**No. 1T083.** Amprobe brand (DM1). Shpg. wt. 8.0 lbs. Each..... $1111.00

**No. 3JH50.** Amprobe brand (DMII). Shpg. wt. 8.0 lbs. Each..... $1895.00

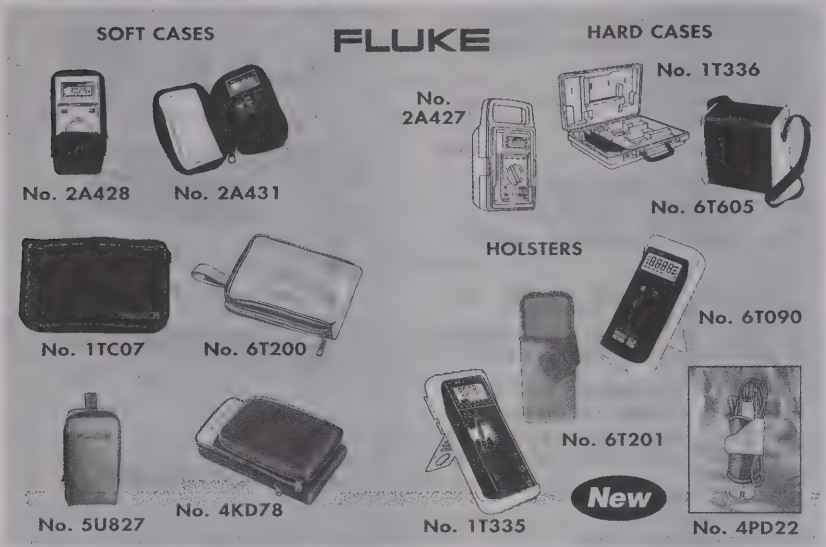
AMPROBE INSTRUMENT



No. 1T083

No. 3JH50

# CARRYING CASES




## SOFT CASES

### RUGGEDIZED SOFT CASE No. 2A428

Compatible with Fluke 20, 70 and 80 series DMMs (with or without optional holster). Water-resistant zipper, inside pocket for test lead storage. Fluke brand (C25).

**No. 2A428.** Shpg. wt. 1.0 lbs. Each.....$22.00

### SOFT CASE No. 1A742

Similar to ruggedized case but smaller and without accessory storage space or water resistant zipper. One internal pocket. Fluke brand (C90).

**No. 1A742.** Shpg. wt. 1.0 lbs. Each.....$17.00

### SOFT CASE No. 6T200

Fluke brand (C12A).

**No. 6T200.** Shpg. wt. 1.0 lbs. Each.....$13.00

### SOFT CASE No. 5U827

Vinyl replacement case holds unit and test leads. Has one inside pocket. Fluke brand (C31).

**No. 5U827.** Shpg. wt. 1.0 lbs. Each.....$16.00

### COMPACT SOFT CASE No. 4KD78

Tough nylon case with detachable front pouch for small accessories. Fluke brand (C781).

**No. 4KD78.** Shpg. wt. 2.0 lbs. Each.....$39.00

### COMPACT SOFT CASE No. 4KD77

Vinyl case with shoulder strap. Test lead and other compact accessory storage in removable upper pouch. Fluke brand (C40).

**No. 4KD77.** Shpg. wt. 2.0 lbs. Each.....$50.00

### COMPACT SOFT CASE No. 2A431

Vinyl case with belt loop holds meter, manual, and leads. Fluke brand (C50).

**No. 2A431.** Shpg. wt. 1.0 lbs. Each.....$17.00

### TEST LEAD CASE No. 1TC07

Vinyl test lead/probe carrying case with two inside pockets. Size: 7¼ x 4¼ x 1½". Fluke brand (C75).

**No. 1TC07.** Shpg. wt. 1.0 lbs. Each.....$9.00

**SEE FLUKE MULTIMETER ACCESSORY CHART FOR COMPATIBILITY OF METERS AND CASES**

## HARD CASES

### HARD CASE No. 2A427

Heavy-duty case has top cover that snap on back of meter to serve as tilt stand. Carrying handle and storage compartment for test leads. Fluke brand (C20).

**No. 2A427.** Shpg. wt. 2.0 lbs. Each.....$30.00

### UNIVERSAL CASE No. 1T336

Use with all Fluke DMM's/accessories and series 50 thermometers. Polypropylene case provides protection against rough handling and bad weather. Fluke brand (C100).

**No. 1T336.** Shpg. wt. 5.0 lbs. Each.....$30.00

### DURA CASES Nos. 6T605 & 6T606

Heavy-duty cases hold meter and accessories in separate internal compartments. Cover converts to a tilt-stand for easy meter viewing. Allows meter use while in case. Comes with adjustable carrying strap. High visibility yellow with gray cover.

**No. 6T605.** Fluke brand (C17Y). Shpg. wt. 4.0 lbs. Each.....$39.00

**No. 6T606.** Fluke brand (C28Y). Shpg. wt. 3.0 lbs. Each.....$39.00

## HOLSTERS

### MULTIPURPOSE HOLSTER No. 1T335

Lead storage on back. Includes flexible tilt stand. Fluke brand (C70Y).

**No. 1T335.** Shpg. wt. 1.0 lbs. Each.....$17.00

### HOLSTERS Nos. 3T429 & 1TC05

Lead and probe storage on back. Includes flexible tilt stand. Fluke brand (C81Y/C81G).

**No. 3T429.** (Yellow). Shpg. wt. 1.0 lbs. Each.....$16.00

**No. 1TC05.** (Grey). Shpg. wt. 1.0 lbs. Each.....$16.00

### HOLSTER No. 4PD22

Fuke brand (H5).

***New*** **No. 4PD22.** Shpg. wt. 0.5 lbs. Each..$14.95

### HOLSTER No. 6T201

Fluke brand (C30).

**No. 6T201.** Shpg. wt. 1.0 lbs. Each.....$15.00

### HOLSTER No. 6T090

Fluke brand (C10).

**No. 6T090.** Shpg. wt. 1.0 lbs. Each.....$11.00

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# SPECIALTY ACCESSORIES

## FIBER OPTIC METER, SOURCES AND JUMPER CABLES

ug into standard diameter banana jacks the front of most multimeters. Quickly d accurately verify fiber optic cable sysm performance. Assists in installation d maintenance of fiber optic cable sysms. Several light sources available for sting different cable types and lengths: 0 nM or 850/1300 nM.

- **Output: 1mV per 1dB**
- **Application range: 800 - 1600 nM**
- **Acceptable fiber types: 9/125 to 100/140 µm**
- **Absolute accuracy: ±0.25 dB**
- **Relative accuracy: ±0.15 dB**
- **Jumper cables and accessory coupling accessories allow for easy connections of fiber optic meter and light sources to the cable under test**

**. 3LW06.** Fiber Optic Meter. Fluke brand. OM) Shpg. wt. 1.0 lbs. Each ..... $295.00

**No. 3LW08.** 850/1300 nM Light Source. Fluke brand. (FOS 850/1300) Shpg. wt. 1.0 lbs. Each ..... $495.00

**No. 3LW09.** 850 nM Light Source. Fluke brand. (FOS 850). Shpg. wt. 1.0 lbs. List $195.00. Each ..... $195.00

**No. 4KF06.** Fiber Optic Accessory Coupling ST/ST. Fluke brand. (FOA-ST/ST). Shpg. wt. 1.0 lbs. Each ..... $12.50

**No. 4KF07.** Fiber Optic Jumper Cable ST/FC. Fluke brand. (FOC-ST/FC). Shpg. wt. 1.0 lbs. Each ..... $49.00

**No. 4KF08.** Fiber Optic Jumper Cable ST/SC. Fluke brand. (FOC-ST/SC). Shpg. wt. 1.0 lbs. Each ..... $39.00

**No. 4KF09.** Fiber Optic Jumper Cable ST/SMA. Fluke brand. (FOC-ST/SMA). Shpg. wt. 1.0 lbs. Each ..... $55.00

**No. 4KF10.** Fiber Optic Jumper Cable ST/ST. Fluke brand. (FOC-ST/ST). Shpg. wt. 1.0 lbs. Each ..... $32.00

## HIGH VOLTAGE PROBES

**UTION:** High voltage probes are not intended for electrical lity applications in which high voltage is also accompanied by h energy. They are only intended for use in lower energy plications such as television and CRT troubleshooting.

easures up to 40KV DC or 28 KV RMS. uke brand (80K-40).

**. 1T321.** Shpg. wt. 2.0 lbs. ch ..... $119.00

ctends measurement capabilities up to KV DC or peak AC, 10 KV RMS. Fluke and (80K-15).

**w No. 4TP90.** Shpg. wt. 2.0 lbs.Each ... $149.00

ctends measurement capabilities to 00V DC or peak AC. Fluke brand (80K-6).

**. 1T320.** Shpg. wt. 2.0 lbs. Each ..... $65.00

## UNIVERSAL TEMPERATURE PROBE

vitch selectable for °C or °F. 350V DC or ak AC isolation. Suitable for air, surface, d non-corrosive liquid measurements. nge: –50° to 150°C (–58° to 320°F). curacy: ±1°C (1.8°F), 0° to 100°C. Fluke and (80T-150U).

**. 1T330.** Shpg. wt. 2.0 lbs. Each ..... $120.00

## HIGH FREQUENCY PROBE

- **DC output for high frequency AC inputs from 0.25 to 30V RMS**
- **Frequency range: 100kHz to 500 MHz**
- **Accuracy (typ.): ±0.5 dB above 0.5V**

**. 1T332.** Fluke brand (85RF). Shpg. wt. 1.0 s. Each ..... $99.00

## THERMOCOUPLE MODULE

Converts any 10M ohm DMM into thermometer via standard banana plugs. Use K-type thermocouple with mini-connectors. Switch selectable for °C or °F. Measurement range: –58° to 1832°F (–50° to 1000°C). Instrument range shown spans various probe types. The probe type will determine the actual range. See Index for probe listings. One No. 1T322 bead probe included. Fluke brand (80TK).

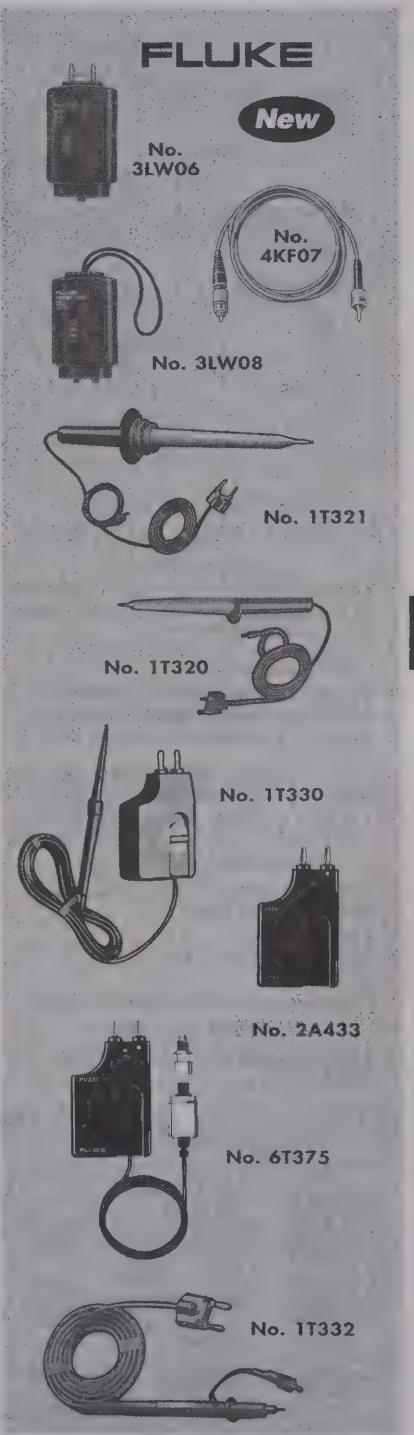
**No. 2A433.** Shpg. wt. 1.0 lbs. Each ..... $70.00

## PRESSURE/VACUUM MODULE

Plugs into standard diameter banana jacks on the front of many multimeters, to add digital pressure and vacuum measurements to its capabilities.

- **Measures HVAC/R, hydraulic and pneumatic pressures; 0.5 to 350 psi**
- **Measures vacuum to 29.99" Hg**
- **Compatible with most popular DMM's**
- **Accuracies (typ.): Vacuum—±1% of reading (±0.5" Hg); Pressure—±1% of reading (±0.3 PSI)**
- **Transducer sealed in 316 stainless steel, compatible with variety of liquids and gases**
- **Displays results in English (PSI or "Hg) or metric (kPa or cm Hg)**

**No. 6T375.** Shpg. wt. 2.0 lbs. Each ..... $269.00




## DON'T DELAY... ORDER FROM GRAINGER NOW!

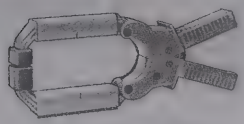
**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

# AC AND AC/DC CLAMP-ON CURRENT PROBES



No. 3JD07

AEMC INSTRUMENTS



No. 3JD15

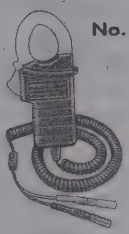
AMPROBE INSTRUMENT



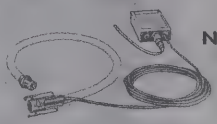
No. 6T374



No. 3JH41

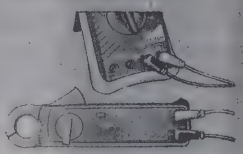


No. 3JH42



No. 3JH44

EXTECH INSTRUMENTS



No. 4KC27



No. 4KC21

## AEMC CURRENT PROBES Nos. 3JD05, 3JD07, 3JD12, 3JD13, and 3JD15

- Extend current measuring capabilities of multimeters, scopes, power instruments, and recorders
- Clamp-on design measure without interrupting power
- AC and AC/DC models available
- True RMS measurement (within frequency) when used with true RMS multimeter
- Accuracy (typ.): Nos. 3JD05 and 3JD07: 2% of reading, No. 3JD12: 1.5% of reading, No. 3JD13: 1% of reading, No. 3JD15: 0.5% of reading

## AMPROBE No. 3JH42

- True RMS clamp-on AC (when used with true RMS DMM
- Coiled cable
- Accuracy (typ.): 1.9%
- UL Listed
- Carrying case and manual included

## AMPROBE No. 3JH41

- AC/DC clamp-on TRMS (use with TRMS DMM)

## AMPROBE No. 3JH44

- Flexible current transducer
- Designed to fit around conductors with limited space
- Compatible with most digital multimeter/chart recorders. data loggers, oscilloscopes
- ACF 3000 is 24" in length and can accommodate a 7" conductor
- Includes 2 AA batteries, lead, and instructions

## AMPROBE No. 6T374

- Overload protection to 800 amps AC/DC
- Accuracy (typ.): 0-100A: 2%±1A, 100-600A: 2%±2A
- Multimeter input impedance 5KΩ
- Universal leads compatible with all makes of multimeters
- Includes "9V" battery and carrying case

## EXTECH LOW CURRENT AC/DC MINI 30A CLAMP-ON ADAPTER No. 4KC2

- Adapter outputs 1mV per count and displays on any DMM with at least a 200mV input range
- Measures low current with high resolution to 0.1mA AC and 1mA DC
- Basic DC accuracy of 2%
- One-touch zero adjust for DC measurements
- Low battery alert
- Includes 1.5V AA batteries, cable for plugging into DMM and carrying cas

## EXTECH 2000A AC/DC CLAMP-ON ADAPTER No. 4KC21

- Accuracy (typ.): 2%
- Adapter outputs 1mV per count and displays on any DMM with at least a 200mV input range
- Non-contact current measurements can also be displayed on oscilloscop
- 2.5" Jaw opening
- Manual zero adjust, low battery aler
- Use No. 1H151 carrying case
- Includes 9V battery and cable terminated with banana plugs

## PROBES SPECIFICATIONS AND ORDERING DATA

| Amps AC (A) | Amps DC (A) | Output | Jaw Capacity (In.) | Calibration Frequency (Hz) | Connector Type | Meter Type | Mfr. | Mfr. Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 50m to 120 | 50m to 150 | 1mV/mA, 1mV/A | 0.47 | DC to 2K | Lead* | Digital | AEMC | SL201 | 3JD05 | $319.00 | 1.0 |
| 10 to 60 | 10 to 80 | 1mV/mA, 10mV/A | 0.47 | DC to 2K | Lead* | Digital | AEMC | SL206 | 3JD07 | 339.00 | 1.0 |
| 1 to 1000 | — | 1mA/1A | 2.52 | 30 to 5K | Lead* | Digital | AEMC | JM800A | 3JD12 | 325.00 | 2.8 |
| 1 to 2000 | — | 1mA/1A | 2.52 | 30 to 5K | Lead* | Digital | AEMC | JM810A | 3JD13 | 350.00 | 3.0 |
| 1 to 3000 | — | 1mA/1A | 2.52 | 30 to 5K | Jack | Digital | AEMC | JM813 | 3JD15 | 495.00 | 3.3 |
| 0.1 to 400 | — | 1mV/A | 1.14 | 50/60 | Plug | Digital | Amprobe | A-400 | 3JH42 | 69.85 | 1.0 |
| 100/1000 | 100/1000 | 1mV/A | 2 | 40 to 2K | Plug | Digital | Amprobe | A-1000 | 3JH41 | 179.00 | 1.1 |
| 300/3000 | — | 1mV/A, 0.1mV/A | 7 | 8 to 20K | Plug | Digital | Amprobe | ACF-3000 | 3JH44† | 350.00 | 1.6 |
| 600 | 600 | 1mV/A | 1.33 | 40 to 400 | Standard Banana Plugs | Digital | Amprobe | CT600 | 6T374 | 114.85 | 0.9 |
| 400m/4/30 | 400m/4/30 | 1mV/mA, 10mV/A | 0.9 | 40-1000 | Lead* | Digital | Extech | 380946 | 4KC27 | 229.00 | 0.6 |
| 200/2000 | 200/2000 | 1mV/A | 2.5 | 50/60 | Lead* | Digital | Extech | 380905 | 4KC21 | 99.00 | 1.5 |

(*) With banana plug. (†) Limited Availablity—contact local branch.

# AC AND AC/DC CLAMP-ON CURRENT PROBES AND REPLACEMENT FUSES

Clamp-on current probes are designed to extend the current-measuring capacity of meters or recorders. They perform current measurements without interrupting circuit connections. Current from the primary is coupled to the secondary and attenuated at the given ratio of the probe. This attenuated current is used to drive the input of the meter or recorder. Always consult user manual and applicable local electrical and safety codes prior to use.

## A FLUKE No. 1T343

- Compact
- Accuracy (typ.): ±2.5% +0.15A

## B FLUKE No. 2A432

- Maximum conductor size: one 1.18" or two 0.98"
- Accuracy (typ.): ±3% + 0.4A

## C FLUKE No. 1A787

- Accuracy (typ.): ±2% of range

## D FLUKE Nos. 4KF11 and 4KF12

- Rugged AC/DC current clamps
- DC current Zero control for nulling out jaw/sensor offset
- Superior noise immunity for use on adjustable speed drives
- Accuracy (typ.): 4KF11 ±2.0% of reading +0.5A; 4KF12 ±3.5% of reading +0.5A
- IEC 1010, CAT III-600V safety rating

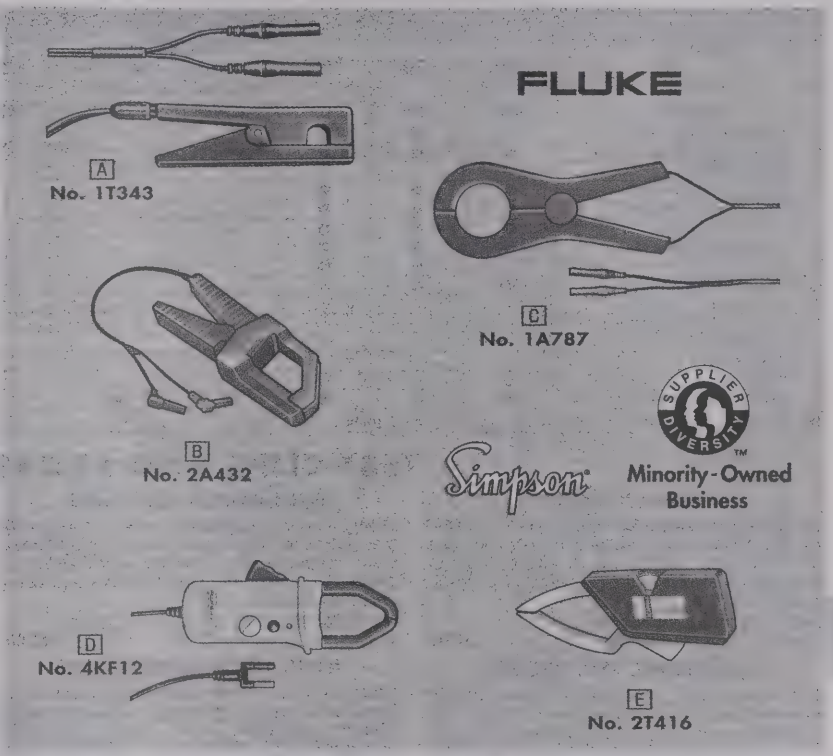
## E SIMPSON Nos. 2T416 and 2T978

- No. 2T416 for analog VOMs having 0-2.5 or 0-3V AC range such as Simpson 260-8 and others with reverse insulated input terminals
- No. 2T978 is compatible with Simpson 260-6XLMP, 260-8Xi, & 260-8XPi
- Accuracy (typ.): ±3% FS
- UL Listed (E65244)

## FLUKE BATTERY ELIMINATOR

For use with Fluke Model Nos. 37, 8020B, 021B, 8026B, 8060A, 8062A and 8024B. Fluke brand (A81-115).

**No. 1T333.** Shpg. wt. 2.0 lbs. Each.....**$32.00**




## FUSES

| Used With | Package Quantity | Fluke Model | Stock No. | Each / Package | Shpg. Wt. |
|---|---|---|---|---|---|
| 21 (F1), 23 (F1), 25 (F2), 27 (F2), 75 (F1) 77 (F1), 21-3 (F1), 73-3 (P1), 75-3 (F1) | 5 | 630mA | 1T337 | $5.00 | 0.1 |
| 29 (F1), 79 (F1), 83 (F1), 85 (F1), 87 (F1), 88 (F1) | 5 | 1A | 6T219 | 10.00 | 0.1 |
| 8000-Series (F1) | 5 | 2A | 1T338 | 6.00 | 1.0 |
| 21 (F2), 25 (F1), 27 (F1), 75 (F2)(‡), 77 (F2)(‡), 8000-Series (F2) | 5 | 3A | 1T339 | 12.00 | 1.0 |
| 23 (F2)(*), 25 (F3)(*), 27 (F3)(*), 29 (F2), 37 (F3)(*), 73 (F1)(†)(*), 75 (F3)(†)(*), 76 (F2) 77 (F3)(†)(*), 83 (F2), 85 (F2), 87 (F2), 79 (F2), 86 (F2), 88 (F2) | 1 | 15A | 3T244 | 6.50 | 0.2 |
| 863(F2), 865(F2), 867 (F2), 867B (F1), 21-3 (F2), 23-3 (F2), 26-3 (F2), 73-3 (F2), 75-3 (F2), 77-3 (F2), 79-3 (F2) | 1 | Fuse 11A | 3LW10 | 9.00 | 1.0 |
| 863 (F1), 865 (F1), 867 (F1), 867B (F1), 23-3 (F1), 26-3 (F1), 77-3 (F1), 79-3 (F1) | 1 | Fuse 440mA | 3LW11 | 6.50 | 0.1 |

Note: F1/F2/F3 are fuse circuit symbols found in the Operator's Manual under "List of Operator Replaceable Parts." (*) Meters that previously used a 20A fuse should have fuse changed to 15A fuse upon replacement. (†) Not used in units with serial numbers lower than 45860000. (‡) Not used in units built after Oct. 1985.

## AC AND AC/DC CLAMP-ON CURRENT PROBE SPECIFICATIONS AND ORDERING DATA

| Key | Amps AC (A) | Amps DC (A) | Output | Jaw Capacity (In.) | AC Frequency Response | Connector Type | Meter Type | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1-150 | – | 1mA/1A | 0.43 | 48-1200Hz | Sheathed Banana Plugs | Digital | Fluke | Y8101A | 1T343 | $79.00 | 1.0 |
| B | 1-400 | – | 1mA/1A | 1.18 | 48-1KHz | Sheathed Banana Plugs | Digital | Fluke | 80i-400 | 2A432 | 85.00 | 2.0 |
| C | 1-600 | – | 1mA/1A | 2.0 | 50Hz-10KHz | Sheathed Banana Plugs | Digital | Fluke | 80i-600A | 1A787 | 119.00 | 3.0 |
| D | 400 | 400 | 1mV/1A | 1.18 | 3kHz | Sheathed Banana Plugs | Digital | Fluke | i410 | 4KF12 | 154.00 | 2.0 |
| D | 600 | 1000 | 1mV/1A | 1.18 | 10 kHz | Sheathed Banana Plugs | Digital | Fluke | i1010 | 4KF11 | 254.00 | 2.0 |
| E | 5/10/25/50/100/250 | – | Selectable | 1.1 | 60 | Sheathed Banana Jacks | Analog | Simpson | 00545 | 2T416 | 105.00 | 1.0 |
| E | 5/10/25/50/100/250 | – | Selectable | 1.1 | 60 | Std. Banana Plugs | Analog | Simpson | 00541 | 2T978 | 105.00 | 1.0 |

# COMPATIBILITY CHART, TEST CLIPS, AND PROBES

## FLUKE ACCESSORY COMPATIBILITY CHART

| Description | Test Lead Stock No. 3T432 / Fluke Test Lead Model No. TL20 | 1TC08 / TL22 | 1TC09 / TL24 | 4PD25 / TL74 | 1T341/ 3LW19 / TL75 / TL70A | 1TC03 / 1T349 / Y8131 / Y8132 | 1T350 / 1A786 / Y8133 / Y8134 | Stock No. | Fluke Model |
|---|---|---|---|---|---|---|---|---|---|
| Industrial Test Clips | ○ | ● | ● | — | — | ● | ● | 1TC21 | AC20 |
| Banana-Jack Alligator Clips | ● | ● | ● | — | — | ● | ○ | 1TC22 | AC75 |
| Alligator Clips | — | — | — | — | ● | ● | ● | 1T334 | AC70A |
| Hook Style Test Clips | ● | ● | ● | — | — | ● | ● | 1TC23 | AC80 |
| Pin-Grabber Test Clips | ● | ● | ● | — | — | ● | ● | 1TC24 | AC83 |
| Large Jaw Alligator Clip | ● | ● | ● | — | — | ● | ● | 1TC25 | AC85A |
| Insulation Piercing Clip | ● | ● | ● | — | — | ● | ● | 1TC26 | AC89 |
| Industrial Test Probes | ○ | ● | ● | — | — | ● | ● | 1TC04 | TP20 |
| Electronic Test Probes | ● | ● | ● | — | — | ● | ● | 1TC20 | TP80 |
| Slim-Reach™ Test Probe | — | — | — | ● | — | — | — | 4PD26 | TP1 |
| Slim-Reach™ Test Probe | — | — | — | ● | — | — | — | 4PD27 | TP2 |
| Slim-Reach™ Test Probe | — | — | — | ● | — | — | — | 4PD28 | TP4 |
| Test Leads | ○ | NA | NA | — | — | ● | ● | 1TC08 | TL22 |
| Test Leads | ● | NA | NA | — | — | ● | ● | 1TC09 | TL24 |
| Test Lead Extension Set | ● | ● | ● | ● | ● | ● | ● | 4PD24 | TL21 |

(●) Compatible. (○) Included with test lead set or kit. (—) Not compatible.

# TEST CLIPS AND PROBES

### ALLIGATOR CLIPS

**Use with Right Angle Test Lead Set** (No. 1T341 or 3LW19) or other standard point probes. 600V Cat. III, 1000V Cat. II, 10A maximum. Includes one red and one black clip. Fluke brand (AC70A).

**No. 1T334.** Shpg. wt. 0.1 lbs.
Each ..... $8.00

### ELECTRONIC TEST PROBES

For electronic probing of high density components or boards. IC insulator cap prevents shorting of adjacent IC legs. Probe has tapered 0.160" (4mm) steel tip. 1000V, 10A maximum. One red and one black probe. Fluke brand (TP80).

**No. 1TC20.** Shpg. wt. 1.0 lbs.
Each ..... $20.00

### LARGE JAW ALLIGATOR CLIPS

Fully insulated, nickel plated banana-jack alligator clips. Large 0.787" (20mm) jaw opening. 600V, 10A maximum. One red and one black clip. Fluke brand (AC85A).

**No. 1TC25.** Shpg. wt. 1.0 lbs.
Each ..... $12.00

### BANANA-JACK ALLIGATOR CLIPS

Standard 0.313" (8mm) jaw opening. 1000V, 10A maximum. Two red and two black clips. Fluke brand (AC75).

**No. 1TC22.** Shpg. wt. 1.0 lbs.
Each ..... $9.00

### INDUSTRIAL TEST CLIPS

Safety-designed, spring-loaded alligator clips. Wide 0.787" (20mm) jaw opening. 1000V, 10A maximum. One red and one black clip. Fluke brand (AC20).

**No. 1TC21.** Shpg. wt. 1.0 lbs.
Each ..... $23.00

### HOOK-STYLE TEST CLIPS

Safety-designed, spring-loaded clips with hook grip. 0.400" x 0.80" (10mm x 2mm) hook size. 1000V, 3A maximum. One red and one black clip. Fluke brand (AC80).

**No. 1TC23.** Shpg. wt. 1.0 lbs.
Each ..... $18.00

### PIN-GRABBER TEST CLIPS

Spring-loaded pin-grabber hooks for use with test points in close contact areas. 4" (100mm) shaft length, grabber extends 0.375" (9.5mm). 1000V, 1A maximum. One red and one black clip. Fluke brand (AC83).

**No. 1TC24.** Shpg. wt. 1.0 lbs.
Each ..... $22.00

### INSULATION PIERCING CLIP

Clamp-type test probe has spring loaded stainless steel tip for piercing insulated wires. Pierces insulated wires from 30 AWG (0.25mm²) to 14 AWG (1.5mm²). 250V, 5A maximum. Contains one probe. Fluke brand (AC89).

**No. 1TC26.** Shpg. wt. 1.0 lbs.
Each ..... $23.00

### INDUSTRIAL TEST PROBES

Very sharp, extra-long 0.750" (19mm) stainless steel tip. For reaching deep test points or recessed components; will pierce insulation. 1000V, 10A maximum. One red and one black probe. Fluke brand (TP20).

**No. 1TC04.** Shpg. wt. 1.0 lbs.
Each ..... $9.00

### SLIM-REACH™ TEST PROBES

Safety-designed probes with slender Slim-Reach bodies have stainless steel tips. Use for reaching closely-spaced deep test points or recessed terminals. Rated for 10A, CAT III 1000V. UL listed. No. 4PD26 has flat 0.07" x 0.11" (1.78 x 2.79mm) blade designed to hold securely in blade-type electrical wall sockets. No. 4PD27 has a 0.08" (2mm) diameter tip for electronics work. Compatible with No. 1T334 alligator clips above. No. 4PD28 has 0.16" (4mm) diameter tip designed to fit securely in IEC electrical wall sockets. Fluke brand (TP1, TP2, and TP4).

***New* No. 4PD26.** Shpg. wt. 1.0 lbs.
Each ..... $9.90

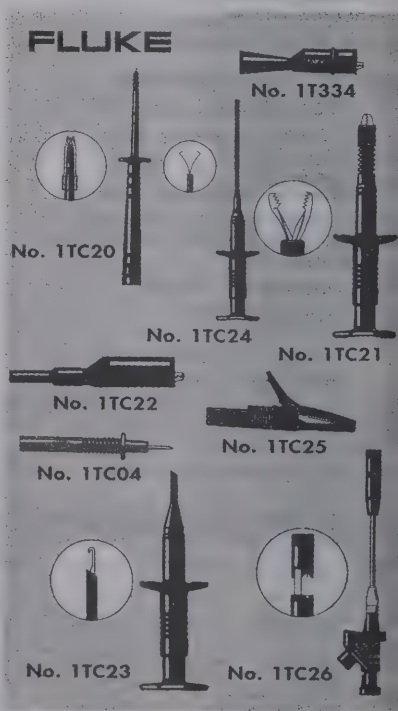
***New* No. 4PD27.** Shpg. wt. 1.0 lbs.
Each ..... $9.90

***New* No. 4PD28.** Shpg. wt. 1.0 lbs.
Each ..... $8.00

### TEST LEAD EXTENSION SET

Extend the length of safety shrouded tes leads an additional 59" (1.5m). Set has on red and one black silicon-insulated exten sion lead with straight, safety shrouded 4mm connectors on both ends. One end is female banana socket; other end is male banana plug. Cat. III 1000V. Fluke brand (TL21).

***New* No. 4PD24.** Shpg. wt. 1.0 lbs.
Each ..... $14.50



# TEST LEADS

## TEST LEADS

### FLEXIBLE TEST LEADS

Shrouded right angle connectors on both ends; 63"L, one red, one black. Fluke brand (TL22).

**No. 1TC08.** Shpg. wt. 1.0 lbs. Each .....**$18.00**

### FLEXIBLE TEST LEADS—STRAIGHT

**Same as No. 1TC08** (TL22) except shrouded right angle connector on one end, shrouded straight connector on the other. Fluke brand (TL24).

**No. 1TC09.** Shpg. wt. 1.0 lbs. Each .....**$18.00**

## TEST LEAD SETS

### 2-WAY CLIP TEST LEAD SET

Solid, spring-loaded copper clips with wide jaw opening and serrated teeth. Large piercing needle for penetrating larger gauge wires. Shrouded right angle connector. 250V, 10A maximum. Fluke brand (TL28).

**No. 1TC11.** Shpg. wt. 1.0 lbs. Each .....**$25.00**

### 4mm DIAMETER TEST LEAD SET

Use with same meters as No. 1TC08 (TL22). Recommended for probing 4mm sockets as well as open terminals and printed circuit boards. Removable insulated IC caps are included for probing closely-spaced leads. Cat III 1000V. Fluke brand (TL74).

***New* No. 4PD25.** Shpg. wt. 1.0 lbs. Each ...**$19.90**

### 5-WAY MULTIPOINT TEST LEAD SET

5 ways to connect: 1) U-shaped nose for blade-shaped terminals; 2) notched jaw for gripping screw heads, bare wire or terminals; 3) serrated teeth for gripping threaded or wire-wrapped terminals; 4) cluster of sharp needles for piercing small gauge (#22-#28 AWG) wires; 5) large piercing needle for penetrating larger gauge wires. Shrouded right angle connector. 250V, 10A maximum. Fluke brand (TL26).

**No. 1TC10.** Shpg. wt. 1.0 lbs. Each .....**$35.00**

### RIGHT ANGLE TEST LEAD SETS

Safety shrouded right angle inputs. 1500V, 10A maximum. Fluke brand (TL75).

**No. 1T341.** Shpg. wt. 1.0 lbs. Each .....**$10.00**

Safety shrouded right angle inputs. Recommended for µV measurements. 1500V, 10A maximum. Fluke brand (TL70A)

**No. 3LW19.** Shpg. wt. 0.3 lbs. Each .....**$11.00**

### REPLACEMENT LEAD SET

Straight shrouded banana plugs on both ends. Detachable probes with standard point tips. 1500V, 10A maximum. Fluke brand (Y8132).

**No. 1T349.** Shpg. wt. 1.0 lbs. Each .....**$15.00**

### REPLACEMENT LEAD SET

**(Not Shown)**

Similar to No. 1T349 above, but with exposed banana plugs on one end. Fluke brand (Y8131).

**No. 1TC03.** Shpg. wt. 1.0 lbs. Each .....**$15.00**

### SLIM-FLEX TEST LEAD SET

Retractable, insulated needle point test leads adjust to desired length. 350V, 2A maximum. Fluke brand (Y8140A).

**No. 1T351.** Shpg. wt. 1.0 lbs. Each .....**$27.00**

## TEST LEAD KITS

### SHROUDED TEST LEAD KIT

Interchangeable tips: 2 alligator clips, 2 spade lugs, 1 retractable hook tip, and 2 standard pointed tips. Shrouded banana plugs and carrying pouch. Fluke brand (Y8134).

**No. 1A786.** Shpg. wt. 1.0 lbs. Each.....**$37.00**

### STANDARD TEST LEAD KIT

Same as kit above, but with exposed banana plugs. Fluke brand (Y8133).

**No. 1T350.** Shpg. wt. 1.0 lbs. Each .....**$36.00**

## INDUSTRIAL TEST LEAD SET

Set consists of 1TC08 leads, stainless steel industrial test probes 1TC04 and industrial alligator clips 1TC21. 1000V 10A max. Suggested for electrical/HVAC applications. Fluke brand (TL20).

**No. 3T432.** Shpg. wt. 2.0 lbs. Each .....**$43.00**

FLUKE **New**



No. 1TC08



No. 1TC11



No. 1TC10



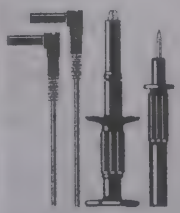
Nos. 1T341 & 3LW19



No. 1T351



No. 1T349



No. 3T432



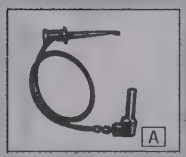
No. 1A786

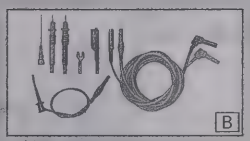
**DON'T DELAY... ORDER FROM GRAINGER NOW!**

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

# TEST LEADS

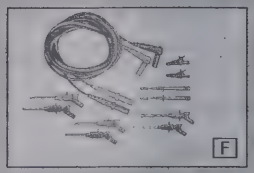
## POMONA

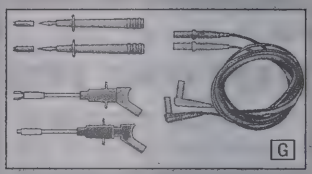


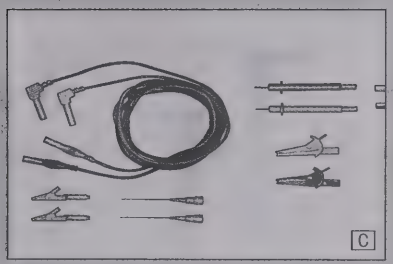



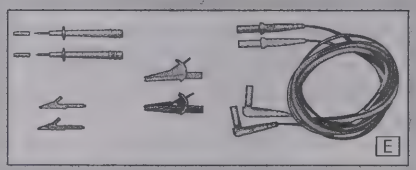


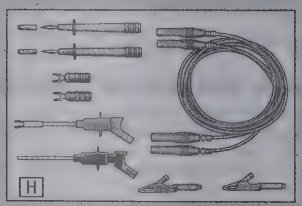





| Key | Description | Features | Pomona Model | Color | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Minigrabber® Test Lead | Minigrabber® Test clip to sheathed banana plug | 5428-48-0<br>5428-48-2 | Black<br>Red | **1TC90**<br>**1TC91** | **$6.10**<br>**6.10** | 0.1<br>0.1 |
| B | Multi-Use Kit for Electronics | 2 each: probe handles, silicone leads with pop jack to sheathed banana plug (1 red, 1 black); alligator clip, spade lug, minigrabber lead, extended slide-on tip, and pouch | 5543A | — | **1TC81** | **38.40** | 0.4 |
| C | Heavy-Duty Kit for Electrical Work | 2 each: probe handles, alligator clips, large test clips, slide-on extended tips, silicone leads with pop jack to sheathed banana plug couplers (1 red, 1 black); 2 spade lugs & pouch | 5673A | — | **1TC82** | **44.00** | 1.0 |
| D | Maxi-Kit | 2 each: extendable tip probe leads, replacement tip probe handles, silicone leads with pop jack to sheathed banana plug, couplers, alligator clips, large test clips, Minigrabber® leads, mini-pincer leads, slide-on IC tips (1 red, 1 black); 2 each: spade lugs, dog leg microtips, needle tips, shouldered microtips; 4 standard brass tips & pouch | 5677A | — | **1TC83** | **95.00** | 0.9 |
| E | Electrical Kit* | 2 each: probe Handles, Extra Large Jaw Alligator Clips, Medium Alligator Clips, Right Angle to Straight Plug Test Leads (1 red, 1 black) & pouch | 6205 | — | **1X951** | **40.00** | 1.0 |
| F | Deluxe Electrical Kit* | 2 each: probe handles, Extra Large Jaw Alligator Clips, Right Angle to Straight Plug Test Leads, Flexible Maxigrabber®, Rigid Maxigrabber®, Maxigrabber®, Grip Clips (1 red, 1 black) & pouch | 5904 | — | **1X953** | **88.00** | 1.5 |
| G | Industrial Test Lead Kit* | 2 each: probe Handles, Maxigrabber® Grip Clips, Right Angle to Straight Plug Test Leads (1 red, 1 black) & pouch. | 5900 | — | **1X957** | **44.00** | 1.0 |
| H | Deluxe Bench Meter/ DMM Kit* | 2 each: probe handles, Flexible Maxigrabber®, Medium Alligator Clips, Straight to Straight Plug Test Leads (1 red, 1 black) 2 Spade Lugs & pouch | 5901 | — | **1X955** | **48.00** | 0.6 |

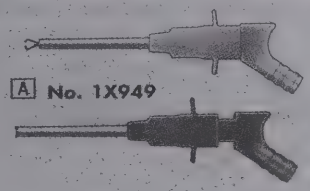
(*) Conforms to IEC 1010 Standards.

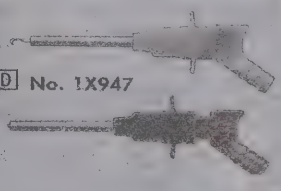


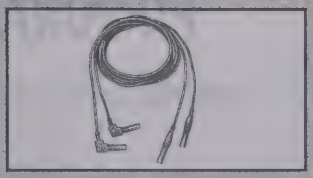
*Measure it, record it, calibrate it — You'll get it right with Grainger.*

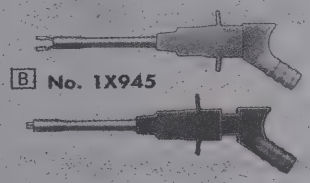
# TEST LEADS

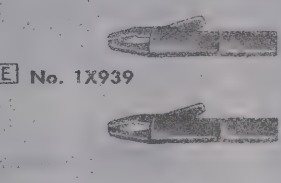
## POMONA


A No. 1X949

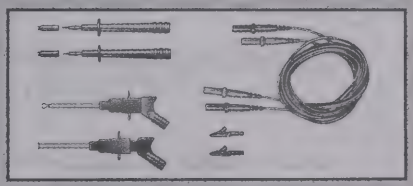

D No. 1X947

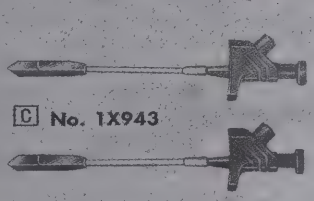

G Nos. 4KK34 & 4KK35

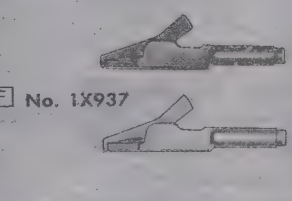

B No. 1X945


E No. 1X939

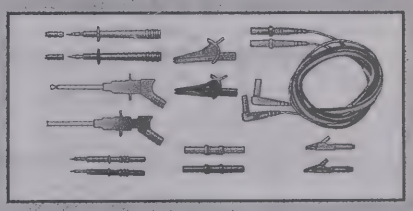
J No. 4KK49




C No. 1X943


F No. 1X937

M No. 4KK46



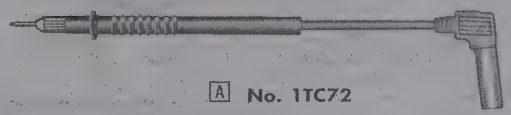
| Key | Description | Ratings | Features | | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Flexible Maxigrabber® Set | 1000 VRMS, 10A | 2 each: grabber with pincer type tip, sheathed 4mm receptacle accepts shrouded banana plugs, black, red | | 5910A | 1X949 | $18.70 | 0.3 |
| B | Maxigrabber® Grip Clip Set | 1000 VRMS, 10A | 2 each: grabber with grip teeth, sheathed 4mm receptacle accepts shrouded banana plug, black, red | | 5912A | 1X945 | 19.80 | 0.3 |
| C | Insulation Piercing Maxigrabber® | 1000 VRMS 5A | 2 each: grabber to pierce cable up 3.5 (.14") sheathed 4mm receptacle accepts shrouded banana plugs, black, red | | 5913 | 1X943 | 27.50 | 0.5 |
| D | Rigid Maxigrabber® Set | 1000 VRMS, 10A | 2 each: grabber with hook tip sheathed 4mm receptacle accepts shrouded banana plugs, black & red | | 5911A | 1X947 | 14.30 | 0.3 |
| E | Heavy Duty Large Alligator Set | — | 2 each: fully insulated clips with .37" opening, black & red | | 6041B | 1X939 | 8.80 | 0.2 |
| F | Medium Alligator Set | — | 2 each: fully insulated clips with .28" opening, black & red | | 5916 | 1X937 | 7.15 | 0.1 |
| G | Flexible DMM Test Lead* | 1,000V, 10A | Silicone DMM Test Lead. 4' long. | Black<br>Red | 5547-48-0<br>5547-48-2 | 4KK34<br>4KK35 | 6.15<br>6.15 | 0.1<br>0.1 |
| H | Silicone DMM Test Lead* | IEC-1010, Cat III, P2, 1,000V, 10A | Silicone DMM Test Lead. 4' long with one right angle plug. Set of two, red & black. | | 5907A | 4KK36 | 13.20 | 0.5 |
| I | Silicone DMM Test Lead* | IEC-1010, Cat III, P2, 1,000V, 10A | Silicone DMM Test Lead. 4' Long with two straight plugs. Set of two, red & black. | | 5908A | 4KK37 | 13.20 | 0.2 |
| J | DMM Test Lead Kit** | — | Companion kit for use with Fluke Series 10 DMM. Shoulder pack style carrying case. | | 6161 | 4KK49 | 79.00 | 1.2 |
| K | Deluxe DMM Test Lead Kit** | — | Companion kit for use with Fluke Series 70 DMM. Shoulder pack style carrying case. | | 6164 | 4KK50 | 94.00 | 1.0 |
| L | Deluxe DMM Test Lead Kit** | — | Companion kit for use with Fluke Series 80 DMMs Shoulder pack style carrying case. | | 6172 | 4KK51 | 106.00 | 1.4 |
| M | Deluxe DMM Test Lead Kit** | — | Companion kit for use with Fluke Series 80 DMM. Large briefcase style carrying case. | | 6112 | 4KK46 | 185.00 | 4.5 |
| N | Deluxe DMM Test Lead Kit** | — | Companion kit for use with Fluke 860 Series Graphical DMM. Large briefcase style carrying case. | | 6118 | 4KK47 | 215.00 | 4.1 |

(*) For use with most digital multimeters from Fluke, Wavetek, Hewlett-Packard and Tektronics. (**) Test companion kit with IEC-1010 test accessories.

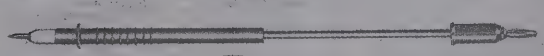
# TEST PROBES, PATCH KITS, AND CABLE ASSEMBLIES

## POMONA

Electronic test accessory products designed to meet rigid industrial application requirements for anyone working with electrical/electronic instruments. Select desired products according to cord length and end connection compatibility.



A No. 1TC72



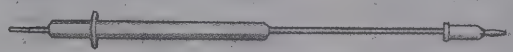
B No. 2T921



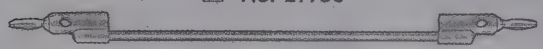
C No. 2T923



D No. 2T952



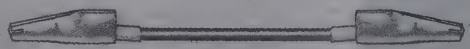
E No. 2T953



F No. 2T927



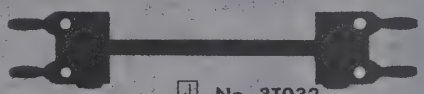
I No. 2T929



H No. 2T931



I No. 2T933



J No. 3T032



K No. 2T940

| Key | Description | Ratings | Features | Color | Length (In.) | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Multimeter Test Probe Kits† | 1500V AC/DC; 10A Max. | Sheathed banana plugs; fits older Amprobe models | Black/ Red | 48 | 5516 | 1TC72 | $13.15 | 0.3 |
| | | | Sheathed banana jacks; fits most Simpson 260-7 and 260-8 series models | Black/ Red | 48 | 5517 | 1TC73 | 13.15 | 0.3 |
| | | | Sheathed banana plugs; fits most newer Amprobe, B&K, HP, TEK, Wavetek & Fluke models | Black/ Red | 48 | 5519 | 1TC75 | 9.90 | 0.3 |
| B | Miniature Test Probes Kits† | 1200V AC/DC; 5A Max. | Miniature test probe to banana plug | Black/ Red | 48 | 5950 | 2T921 | 10.45 | 0.1 |
| C | Miniature Test Probes Kits† | 1500V AC/DC; 3A Max. | Extendable probe tip to stacking banana plug; sharp needle tip | Black/ Red | 48 | 5952 | 2T923 | 16.50 | 0.1 |
| D | Miniature Test Probe Kit† | 1200V AC/DC; 5A Max. | Miniature replaceable tip test probe to stacking banana plug | Black/ Red | 48 | 5309-48 | 2T952 | 11.15 | 0.1 |
| E | Large Test Probe Kit† | 3000W VDC; 7A Max. | Large test probe to banana plug | Black/ Red | 48 | 5311-48 | 2T953 | 15.85 | 0.1 |
| F | Patch Cords | 5000W VDC; 15A Max. | Stacking banana plug ends; nickel plated | Black | 24 | B-24-0 | 2T927 | 3.70 | 0.1 |
| | | | | Red | 24 | B-24-2 | 2T928 | 3.70 | 0.1 |
| | | | | Black | 36 | B-36-0 | 2T936 | 3.70 | 0.1 |
| | | | | Red | 36 | B-36-2 | 2T937 | 3.70 | 0.1 |
| G | Patch Cords | 5000W VDC; 5A Max. | Alligator clip ends; nickel plated | Black | 24 | AL-B-24-0 | 2T929 | 4.10 | 0.1 |
| | | | | Red | 24 | AL-B-24-2 | 2T930 | 4.10 | 0.1 |
| H | Patch Cords | 5000W VDC; 5A Max. | Minigator ends; steel nickel plated | Black | 12 | MG-B-12-0 | 2T931 | 4.20 | 0.1 |
| | | | | Red | 12 | MG-B-12-2 | 2T932 | 4.20 | 0.1 |
| I | Patch Cords | 5000W VDC; 5A Max. | 1st end: alligator clip; 2nd end: stacking banana plug; nickel plated | Black | 12 | 1166-12-0 | 2T933 | 4.10 | 0.1 |
| | | | | Red | 12 | 1166-12-2 | 2T934 | 4.10 | 0.1 |
| | | | | Black | 24 | 1166-24-0 | 2T954 | 4.10 | 0.1 |
| | | | | Red | 24 | 1166-24-2 | 2T955 | 4.10 | 0.1 |
| J | Cable Assembly | 1400V RMS | Double banana plug ends; nickel plated | — | 36 | 2BC-36 | 3T032 | 12.90 | 0.1 |
| K | Cable Assemblies | 500V RMS | Crimp BNC male ends; molded strain relief; brass; gold plated 50Ω cable | — | 36 | 2249-C-36 | 2T940 | 11.75 | 0.1 |
| | | | | — | 60 | 2249-C-60 | 2T941 | 14.65 | 0.1 |

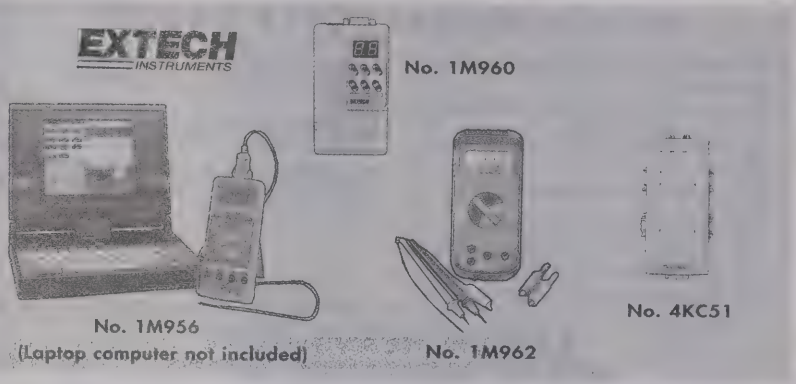
(†) Kits include: 1 red, 1 black test probe.



Measure it, record it, calibrate it — You'll get it right with Grainger.

# DATALOGGING SYSTEM/ PHASE ROTATION MULTIMETER

The MultiMeter/Data Acquisition Datalogging System monitors and records AC/DC voltage/current, frequency, capacitance, resistance, and temperature. With optional multimeter adapters, monitors and records airflow, humidity, light, and RPMs (See Index). Nos. 3ZH85, 3ZH95 and 1M960 are software accessories to the following instruments: No. 1M942 (RH/Temperature Meter), No. 1M944 (Thermo-Anemometer), No. 1M946 (Light Meter) and No. 3JD01 (Pressure and Vacuum Meter), No. 4KC30 (Conductivity Meter), No. 4KC32 (Dissolved Oxygen Meter), No. 4KC34 (Moisture Meter), No. 4KC29 (Anemometer).




### PC INTERFACE MULTIMETER No. 1M956:

- **Large 3½ digit LCD display with Data Hold**
- **Ranges include: DCV to 1000V; ACV to 750V; DCA/ACA to 20A; resistance to 20MΩ, capacitance to 20mF; frequency to 20M Hz; temperature to 1000°C/1999°F**
- **Overload warning**
- **PC Interface: Built-in RS-232 serial port (DB9) with optical isolation**

**No. 1M956.** Extech brand (383273).
Shpg. wt. 2.4 lbs. List $209.00. Each.....$199.00

### COMPUTER SOFTWARE (Included with No. 1M956):

- **Windows™ based**
- **Automatic Data Collection with user selectable timing intervals**
- **Data displayed on PC as Analog Meter, Graph, Digital LED, and/or Data List**
- **Audible High/Low alarms**
- **Data can be saved as ASCII for Lotus™, Excel™, or other graphing and data programs**
- **Includes multimeter with stand, 9V battery, temperature probe and test leads, data acquisition software, RS-232 serial cable, and carrying case**

### DATALOGGING MULTIMETER No. 1M964:

- **Same features as No. 1M956, plus built-in datalogger that stores up to 4000 readings**
- **Go/No-Go digital signal output jack for quality control and industrial automation**
- **Record modes: Normal or Min./Max.**
- **Includes software to configure multimeter (function, time sequences) and to transfer stored data to a PC**

**No. 1M964.** Extech brand (383274).
Shpg. wt. 0.4 lbs.Each .....$399.00

### DATA ACQUISITION SOFTWARE & CABLE No. 3ZH85

- **Recommended for heavy-duty series with RS-232 interface**
- **Programmable sample times from 1 to 3600 sec., used for log times, included analog and digital displays, graphing, data lists, min. and max. values and start and stop recording times**
- **Data can be imported into Lotus™ or Excel™ for analysis**
- **Includes Windows™ software and 36" serial cable**

**No. 3ZH85.** Extech brand (407000).
Shpg. wt. 0.3 lbs. Each .....$49.00

### METERBOSS SOFTWARE No. 3ZH95

- **Displays instruments on screen as digital readout or bargraph**
- **Easy to use pull-down menus with "Hypertext" help utility**
- **Supports Extech instruments with RS-232 interface**
- **Select datalogging time interval for each meter**
- **Displays relationships between meters**
- **Program multiple visual/audible alarms**
- **Graph or playback logged data**
- **Includes DOS software and user manual**

**No. 3ZH95.** Extech brand (480957).
Shpg. wt. 0.5 lbs. Each .....$129.00

### PORTMUX RS-232 MULTIPLEXER No. 4KC51

- **Use with MeterBOSS No. 3ZH95 sold above.**
- **Connect up to 5 instruments to one PC com port**
- **Cascade multiple PortMUX devices to create as many serial ports as desired**
- **Self-contained power supply and circuitry; no boards to install in your PC**
- **Visual indication of TRANSMIT and RECEIVE**
- **Complete with D9M to D9F 3 ft. cable, D25 to D9 adapter and AC adapter**

**No. 4KC51.** Extech brand (480900).
Shpg. wt. 1.8 lbs. Each .....$199.00

### DATALOGGING MODULE No. 1M960:

- **Used with Light Meter No. 1M946, Vane Anemometer No. 1M944, Conductivity Meter No. 4KC30, Dissolved Oxygen Meter No. 4KC32, Moisture Meter No. 4KC34, Anemometer No. 4KC29, and Hygrothermometer No. 1M942**
- **32K RAM memory (stores up to 8000 readings)**
- **User configurable to capture readings at time intervals from 1 second to 99 hours**
- **Low battery indicator**
- **Readings can be transferred to PC for analysis**

**No. 1M960.** Extech brand (380340).
Shpg. wt. 0.9 lbs. Each .....$299.00

**No. 3JC92.** AC Adapter (for Nos. 1M956, 1M964). Shpg. wt. 0.8 lbs. Each .....$19.00

### PHASE ROTATION MULTIMETER No. 1M962

- **3-phase power indicator for motors included multimeter and temperature functions**
- **Phase range: up to 450Hz, 80-480V AC;. Capacitance range: up to 20mF**
- **Frequency range: up to 100KHz**
- **Temp. range: up to 752°F/400°C**
- **Phase indicator identifies correct or incorrect wiring configuration**
- **200/600VAC; 2/20/200/600VDC; 200/2K/20K/200K/2000K/20M/ 200M/2000M ohms measurements**
- **Continuity beeper and diode tests**
- **Includes rubber holster, color coded test leads, alligator clips, multimeter test leads, temp. probe and 9V battery**
- **3½" LCD display. No auto-ranging. UL Listed**

**No. 1M962.** Extech brand (380224).
Shpg. wt. 1.6 lbs. Each.....$89.00

**No. 1M940.** Vinyl Carrying Case. Extech brand (409997)
Shpg. wt. 0.3 lbs. Each.....$19.00

# DIGITAL FORCE AND MOISTURE METERS, THICKNESS GAUGE AND CONTINUITY TESTERS

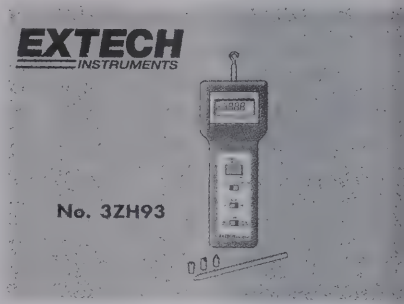
## EXTECH DIGITAL FORCE GAUGE

- Measures tension (Pull) or compression (push)
- Selectable ounces or grams (0.15 to 176 oz., 3 to 5000g)
- ±0.2% accuracy, 0.05 oz/gram resolution
- Zero/Tare (relative) control, Peak Hold
- Battery or optional AC operation
- Includes flat, cone, chisel compression tips, tension hook tip, 5" extension rod, 4 AAA batteries, carrying case and instructions

**No. 3ZH93.** Extech brand (475000).
Shpg. wt. 2.5 lbs..Each ..... **$329.00**

**No. 3ZH65.** AC Adapter 117VAC. Extech brand (153117). Shpg. wt. 0.5 lbs. Each ..... **$15.00**

**No. 3ZH66.** AC Adapter 230 VAC. Extech brand (153230). Shpg. wt. 0.6 lbs. Each ..... **$15.00**



No. 3ZH93

## EXTECH HEAVY-DUTY WOOD MOISTURE METER

- Displays wood moisture from 9-30% with 0.1% resolution and 4% accuracy
- Memory contains 9 groups with calibration data for approx. 150 species of wood
- Built-in self-calibration with manual temperature compensation
- Super large 1.4" (36mm) LCD also displays recalled Min/Max readings
- Data Hold plus automatic power off
- Built-in RS-232 serial interface
- Optional Windows data acquisition software with cable No. 3ZH85 and Datalogger No. 1M960
- Complete with 2-pin moisture probe, 40" cable, 10 spare pins, protective holster, 9V battery and instructions

**No. 4KC34.** Extech brand (407777).
Shpg. wt. 1.4 lbs. Each ..... **$299.00**



No. 4KC34

## CONTINUITY TESTERS

### IDEAL No. 3T897

- Pocket sized tester used for checking continuity for dead circuits, grounds on conduit systems, or identifying wires in multi-wire cables*
- Applications include electrical control equipment, panel-board wiring and many others (not for use on line voltage)
- Requires two "AA" batteries (not supplied)
- Includes 4 ft. removable cord with alligator clip

**No. 3T897.** Ideal brand (61-030).
Shpg. wt. 0.2 lbs. Each ..... **$15.64**

(*) Always consult user manual and applicable local electrical and safety codes prior to use.

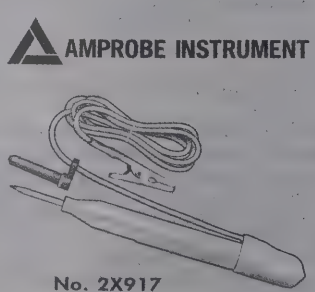


No. 3T897

### AMPROBE No. 2X917

- Pocket size, 6½" long
- Checks continuity with power off
- Tests switches, fuses, circuits, and cables
- 46" test lead
- Includes two "AAA" batteries

**No. 2X917.** Amprobe (PY-11). Shpg. wt. 0.2 lbs. Each ..... **$3.45**

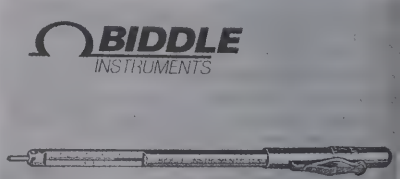


No. 2X917

## BIDDLE COATING THICKNESS GAUGE

- Reaches every contour easily
- Not affected by vibrations or temperature—special stabilized magnet used
- Easy to use—requires no set up time
- Ranges: 0.00025 to 0.020" (0.25 to 20 mils) or 5 to 500 microns
- Measures thickness of non-magnetic materials over a ferrous base
- Calibrated to NIST calibration standards

**No. 3JG87.** Biddle brand (280282).
Shpg. wt. 0.1 lbs. Each ..... **$230.00**



No. 3JG87

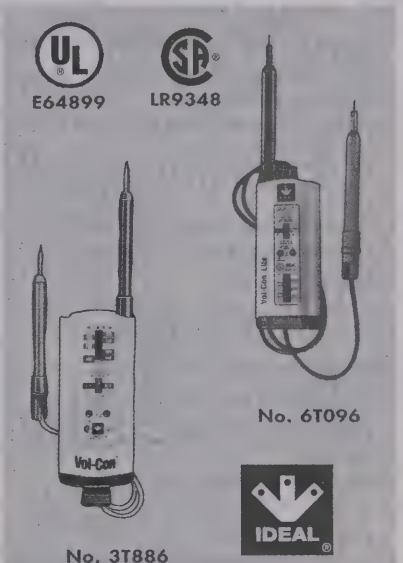
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

## VOLTAGE/CONTINUITY TESTERS

Voltage testers are designed to give approximate voltage readings for power line identification. Can be used to differentiate between 120, 208, 480, etc. volt lines, but do not give exact voltage readings. If exact voltage readings are needed use an analog or digital multimeter.

- Test for circuit continuity, identification of AC or DC, DC polarity, blown fuses, grounding, and current leakage
- Low-voltage indicator: as low as 6V AC or DC
- Non-switching continuity tester: automatically protected against damage from accidental contact with live voltage
- Built-in safety check allows testing of the lead set for breakage before applying the tester to voltage
- No. 6T096 prods include current limiting resistors that act as fuses in case of accidental shorts or breakdowns and limit current in leads to prevent dangerous arcing
- Long-life LED and neon indicator lamps
- Plug-in prod and lead assembly for quick changes
- Spring-loaded safety shields protect prod tips; lock back for open area testing
- Flexible, 30" oil-resistant vinyl leads
- Body of tester has built-in cavities to store and protect prods when not in use; No. 6T096 fits in shirt pocket—4½" long
- High impact plastic case with ultrasonically-welded seams; leather case for No. 3T886 available below
- UL Listed (E64899); CSA Certified (LR9348)




| Voltage | | Frequency Range (Hz) | Ideal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Volts DC | Volts AC | | | | | |
| 120/240/600 | 120/240/480/600 | 25 to 60 | 61-076 | 3T886 | $52.10 | 0.8 |
| 120/240 | 120/240/480 | 25 to 60 | 61-100 | 6T096 | 65.80 | 0.4 |

## VOLTAGE TESTERS

### [A] AMPROBE Nos. 4X822 and 1T025

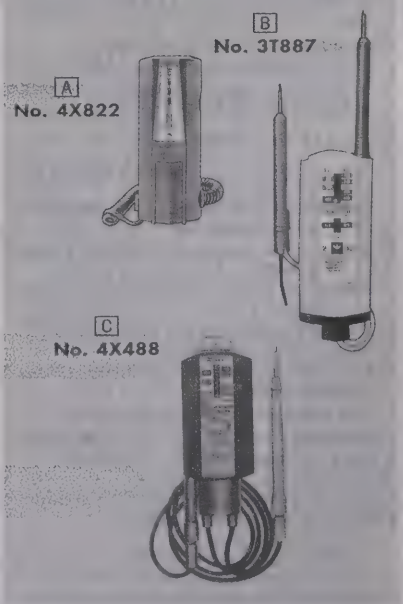
- Shirt pocket sized testers with visual readout
- "Thermometer style", lighted, voltage level display
- 115V AC receptacle check chart on unit to inspect outlets for correct wiring
- No. 1T025 has audible buzzer when voltages as low as 12V are applied
- Neon lamp design does not affect most SCR circuits

### [B] IDEAL No. 3T887

- Two separate voltage indicators, solenoid type and neon test, for backup safety
- Long, slim prod tips permit probing of all types of receptacles
- Spring-loaded safety shields guard prod tips; lockable for open area testing
- Prod and lead assembly plugs in easily for quick change; built-in strain and bend reliefs
- Flexible and oil-resistant vinyl leads; 30" long
- Ultrasonically-welded ABS plastic case is dust and splash proof; leather case available below
- UL Listed (E64899); CSA Certified (LR9348)

### [C] SQUARE D No. 4X488

- Determines nominal DC voltage and 60 Hz AC circuits
- Solenoid type
- Safety designed probe tips with spring loaded retractable shrouds to prevent contact with exposed terminals or bare wires
- Sealed in shockproof molded case
- Includes two 28" test leads and magnetic DC polarity




| Key | Voltage Range | | Frequency Range (Hz) | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | Volts DC | Volts AC | | | | | | |
| A | 115/220/400/600/750 | 115/220/277/440/550 | 25-800 | Amprobe | VT100 | 4X822 | $25.85 | 0.4 |
| A | 115/220/400/600/750 | 24/48/115/220/277/440/550 | 25-800 | Amprobe | VT124B | 1T025 | 37.85 | 0.8 |
| B | 120/240/600 | 120/240/480/600 | 25/60 | IDEAL | 61-065 | 3T887 | 27.05 | 0.8 |
| C | 120/240/600 | 120/240/480/600 | 60 | Square D | 6610VT1 | 4X488 | 21.73 | 0.7 |

**No. 4DC77.** Carrying case for No. 4X488. Square D brand. Shpg. wt. 0.4 lbs. Each ..... $35.60

**No. 6T098.** Leather Case for Nos. 3T887. IDEAL brand (61-010). Shpg. wt. 0.5 lbs. Each ..... $20.44

# VOLTAGE/ CONTINUITY TESTERS

### A IDEAL No. 3T888

- High-resistance voltage and continuity tester
- Tests continuity in the 0 to 2 megohm range and polarity
- Tests semi-conductors for uniformity (diode test)
- Self test for checking tester functions
- Audible signal for continuity and self-test circuit
- Input resistance: over 660 kΩ
- Voltage surge proof: 10 kV 0-PK (1.2/50mS)
- VDE Certified
- 0-100 Hz frequency range
- Includes one "12V" battery

### B GREENLEE No. 3T113

- Voltage and continuity tester
- Switchless, dial-free measurement of AC/DC voltage with automatic range selection
- Indicates continuity or resistance without switching
- Single probe identifies hot side; no ground needed
- In case of accidental contact over 700 volts, protective resistor will open to break current
- Audible buzzer plus LED analog indicator
- Includes two "AA" batteries
- Limited lifetime warranty. See "Manufacturers' Warranties" on page opposite inside back cover

### C IDEAL No. 3T889

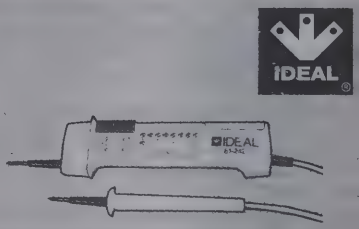
- Microprocessor controlled, digital display, audible signals
- High-input resistance (over 660 kΩ) is safe at high voltages
- Features an automatic On/Off switch to save battery life and automatic change of mode, which indicates type of voltage
- Includes reading hold button and automatic battery check
- Tests semi-conductor, polarity, phase and resistance
- Five per second measuring cycle
- Automatic switch-over in three modes
- Peak voltage stability: 10 kVpk. (1.2/50mS)
- Accuracy of 1.5% of reading ± digit
- Includes one "9V" battery

### D ETCON No. 3T109

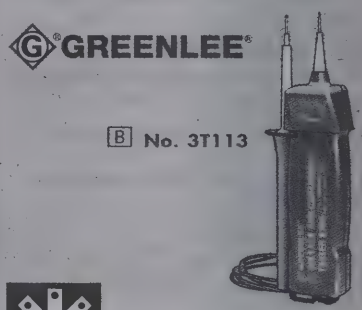
- 4-in-1 vibration sensing/solenoid type audible voltage/continuity tester
- Audible and visual indication from 6 to 80 volts AC/DC
- Audible, visual, and solenoid indication from 80 to 600 volts AC/DC
- Audible and visual continuity indication through 300KΩ
- Automatic testing for continuity through 300KΩ and buzzer for DC voltage and continuity
- Positive/negative pole indication from 6 to 600 volts DC identified by neon lamp
- UL Listed
- Retractable and locking spring loaded shrouds protect metal probes
- Case has provision as prod holder for one-handed operation or for quick prod storage
- Self-extinguishing, high-impact sealed case and prod assemblies
- Replaceable leads with metal piercing probes (order below)
- Test lead strain relief assembly

### E FLUKE No. 4KF15

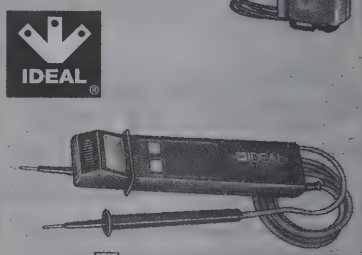
- High resistance voltage and continuity tester with LED and audible indicators
- One piece unit has attached test leads with strain relief
- Automatically switches between volts and continuity
- At low impedance, continuity LED lights and beeper sounds
- Auto On/Off feature
- 1000V maximum operating voltage
- Input Impedance: 1MΩ
- Includes two "AA" batteries
- One year warranty. See "Manufacturers' Warranties" on page opposite inside back cover




A No. 3T888




B No. 3T113




C No. 3T889




E No. 4KF15

New




D No. 3T109

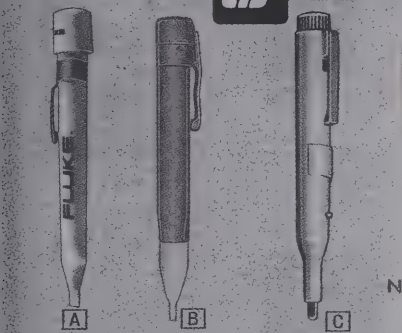
| Key | Volts DC | Voltage Range Volts AC | Frequency Range (Hz) | Mfr. | Mfr.'s Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 6/12/24/48/120/277/480/600 | 6/12/24/48/120/277/480/600 | 0 to 100 | Ideal | 61-242 | 3T888 | $65.70 | 0.4 |
| B | 12/48/120/208/277/480/600 | 12/48/120/208/277/480/600 | 50 to 60 | Greenlee | 6706 | 3T113 | 84.50 | 0.6 |
| C | 1-999 | 1-999 | 20 to 2K | Ideal | 61-249 | 3T889 | 135.80 | 0.7 |
| D | 120/240/600 | 120/240/480/600 | 50 to 60 | Etcon | VT154 | 3T109 | 62.10 | 0.8 |
| E | 6/12/24/36/48/110/220 | 24/120/208/240/277/480/600 | 45 to 66 | Fluke | T2 | 4KF15 | 44.95 | 4.0 |

***New*** **No. 6T099.** Leather Case for Nos. 3T888 or 3T889. Ideal brand (61-011). Shpg. wt. 0.5 lbs. Each.....**$22.50**

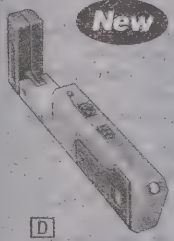
***New*** **No. 1TC34.** Replacement Leads for No. 3T109. Etcon brand (VT154P). Shpg. wt. 3.2 lbs. Each.....**$12.58**

# VOLTAGE DETECTORS

FLUKE tif AMPROBE INSTRUMENT




A No. 3LV90 B No. 6T377 C No. 6T094



New

D No. 4JZ37



E No. 4JZ28



F No. 1T960




G No. 3T472

UL

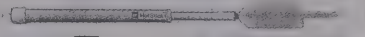
United States Department of Labor
MSHA
Mine Safety and Health Administration



H No. 1T184



I No. 1A756



J No. 1A758

(Shown attached to No. 1A756)

## A FLUKE Nos. 3LV90 & 4PD18

- Easy to use, touch tip to outlet or cord to indicate presence of voltage
- Pocket size—5¾" long
- Visual indicator
- Range: No. 3LV90 Line Voltage—90-600 volts AC; No. 4PD18 Control Voltage—24-90 volts AC
- UL, CSA and TUV listed
- Include 2 "AAA" batteries

**No. 3LV90.** Fluke brand (1AC-A1). Shpg. wt. 0.2 lbs. Each ..... $20.95

**New No. 4PD18.** Fluke brand (1LAC-A). Shpg. wt. 0.2 lbs. Each ..... $21.95

## B AMPROBE No. 6T377

- Distinguishes between live and neutral wires in single and three phase supply
- Pocket-size—5⅝" long
- Visual indicator
- Voltage range: 110-600V AC
- Sensitivity: illuminates red at 0.157" (4mm) distance from wire carrying 220V AC
- Includes 2 "AAA" batteries

**No. 6T377.** Amprobe brand (VP-440). Shpg. wt. 0.1 lbs. Each ..... $17.95

## C GREENLEE No. 6T094

- Senses voltage without contacting live circuits
- Pocket-size—5¼" long
- Range: 50 to 600V AC
- Audible and visual indicators
- Pocket clip acts as On-Off switch
- UL and ULC Listed
- Includes 2 batteries
- Limited lifetime warranty

**No. 6T094.** Greenlee brand (1010). Shpg. wt. 0.2lbs. Each ..... $18.15

## D AMPROBE No. 4JZ37

- Handheld, detects metal
- AC voltage tester (70 to 600VAC)
- Continuity tester with adjustable volume level
- Self-test
- DC polarity and battery check (2-36VDC)
- Diode and fuse tester
- Audible and visual indication
- Comes with 4 button batteries (LR44, AG13, A76 or equivalent)

**New No. 4JZ37.** Amprobe brand (VCM-2). Shpg. wt. 0.3 lbs. Each ..... $17.85

## E AMPROBE No. 4JZ28

- Screwdriver style tester
- AC voltage test (contact 70-250VAC and non-contact 70-600VAC)
- Fuse tester
- DC voltage test to 250VDC
- Polarity test 1.5V-36VDC
- Continuity check 0-50 MΩ

**New No. 4JZ28.** Amprobe brand (CVF-3). Shpg.wt. 0.3 lbs. Each ..... $9.85

## F TIF No. 1T960

- TIC tracer, AC voltage detector (30-1500V)
- Audibly signals when voltage is present
- Ideal for checking fuse boxes and electrical circuits
- Checks for proper grounding of power tools
- UL Listed (E130399)
- Includes batteries

**No. 1T960.** TIF brand (TIF100). Shpg. wt. 0.7 lbs. List $49.93. Each ..... $39.95

## G GREENLEE No. 3T472

- Personal safety tool detects live AC voltage between 24 and 1500V AC without contact to wire
- Adjustable sensitivity, detects voltage up to 3 ft. away in high voltage areas
- Audible and visual warning indicators
- Limited lifetime warranty. See "Manufacturers' Warranties" on page opposite inside back cover

**No. 3T472.** Greenlee brand (2010). Shpg. wt. 0.4 lbs. Each ..... $81.50

## H TIF No. 1T184

- AC voltage and continuity capacitor tester
- Tests capacitors audibly
- Detects AC voltage without connections (30-1500V)
- Tests circuit continuity
- UL Listed (E130399)
- Includes test leads and 9V battery

**No. 1T184.** TIF brand (TIF300CC). Shpg. wt. 0.7 lbs. Each ..... $49.95

## I TIF No. 1A756

- High/low AC voltage detector
- Ranges: low 30 to 1500V AC; high 1500 to 122,000V AC
- Detects AC volts without connections
- Adaptable to No. 1A758 "Hot Stick" for use on high voltage range
- UL Listed (E130399)
- MSHA Approved
- Includes 9V battery

**No. 1A756.** TIF brand (TIF300HV). Shpg. wt. 1.0 lbs. Each ..... $53.00

## J TIF Nos. 1A758 & 1T963

- "Hot Stick" telescoping extension must be used with No. 1A756 when in the high voltage range above 1500VAC. 3 ft. maximum extension

**No. 1A758.** TIF brand (TIF310). Shpg. wt. 1.5 lbs. Each ..... $53.00

**No. 1T963.** Carrying Case for 1A756. TIF brand (TIF303HV). Shpg. wt. 0.3 lbs. Each ..... $14.95

# CAPACITOR, RECEPTACLE, AND GFCI TESTERS

## AUDIBLE CAPACITOR TESTER

### A TIF No. 3X983

- Fast, accurate capacitor testing from 1 to 2000µf
- Pocket size instrument audibly checks all types of capacitor, diodes, continuity in fuses, transformers, motors and circuits
- Checks for leaky, open or shorted capacitors
- Built-in leads and one button control
- Portable, battery operated, includes battery and case

**No. 3X983.** TIF brand (TIF660).
Shpg. wt. 1.0 lbs. Each ..... $29.95

## DIGITAL CAPACITOR CHECKERS

### B SUPCO No. 3T106

- Provides values for start and run capacitors from 0.01 to 10,000 µf
- Checks for open/short conditions
- Pocket size 2⅝W x 1⅜D x 4¼"L
- 5/16 inch, 4-digit LED display
- Two range switch: 0.01 to 10 µf and 10 to 10,000 µf
- 4 "AA" 1.5V batteries (not supplied)
- Includes vinyl carrying case

**No. 3T106.** Supco brand (MFD-10).
Shpg. wt. 0.5 lbs. Each ..... $64.95

### C B&K PRECISION No. 1T578

- 9 ranges from 200pF to 20mFD
- 3½ digit LCD display
- Basic accuracy 0.5%
- Battery powered by 9V battery

**No. 1T578.** B&K Precision brand (810B).
Shpg. wt. 1.0 lbs.Each ..... $99.00

### D B&K PRECISION No. 1A836

- 10 automatically selected ranges
- 3½ digit LCD display with overrange indicator
- Accuracy (typ.): 0.2% of reading
- Full scale range 199.9pFD to 199.9mFD (reads 0.1pFD to 0.2FD)
- Zero control compensates up to 25pFD of test lead capacitance
- Battery powered by 4 "C" size cells, NiCad, alkaline or zinc carbon (not included)

**No. 1A836.** B&K Precision brand (830).
Shpg. wt. 1.6 lbs. Each ..... $350.00

### E RECEPTACLE TESTER

- Test and fault identification in 3-wire, 125V AC circuits
- Tests for open ground, reverse polarity, open hot, open neutral, hot and ground reversed, hot on neutral with hot open
- Features super-bright indicator lights and convenient "push-pull" shape
- Not for use on circuits employing isolation transformers (cardiac care)
- UL Listed (E60043); CSA Certified (LR9348)

**No. 3T885.** Ideal brand (61-035).
Shpg. wt. 0.1 lbs. Each ..... $14.66

## GFCI TESTERS

### F ETCON No. 3T111

- For use on standard ground fault circuit interrupter (GFCI) protected, 120V single-phase receptacle
- Tests 120V AC receptacles for correct wiring and GFCI for trip at 5mA
- UL Listed (E136836) as a receptacle tester and as a GFCI tester
- Tests GFCI protection outlets to ensure units will not trip below 5mA (test current 1.9mA) and will trip above 5mA (test current 6.8mA)
- Compact, shirt-pocket size fits into tight spaces
- High visibility lamps and easy-to-read chart enable convenient usage

**No. 3T111.** ETCON brand (CT101).
Shpg. wt. 0.5 lbs. Each ..... $22.74

### G IDEAL No. 3T884

- Test GFCI wiring sequence and mechanical operations in same test, reducing call backs
- Intentionally overloads the actual GFCI breaker to test mechanical operation, also checking for proper wiring sequence
- Convenient push-pull, non-slip, ergonomic design
- Impact resistant, thermoplastic case
- Automatically tests: correct wiring, open ground, reverse polarity, open hot, open neutral, hot on neutral, hot and ground reversed with open hot, ground fault interruption
- Not for use on circuits employing isolation transformers (such as cardiac care)
- UL Listed (E60043); CSA Certified (LR9348)

**No. 3T884.** Ideal brand (61-051).
Shpg. wt. 0.1 lbs. Each ..... $28.65

### H GREENLEE No. 3T117

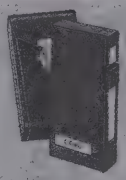
- Tests and indicates condition of GFCI and circuits
- Indicator lights identify wiring errors
- Lightweight, portable
- Tests GFCI trip at 3mA, 5mA, 7mA, 10mA, and 30mA
- Limited Lifetime Warranty; see "Manufacturers' Warranties" on page opposite inside back cover

**No. 3T117.** Greenlee brand (5708). Shpg. wt. 0.5 lbs. Each ..... $99.50

### I ETCON No. 5U746

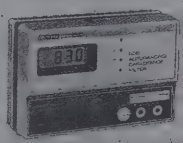
- Digital voltage tester 80 to 150V AC
- Tests receptacle for correct wiring
- Provides a timed GFCI test that trips a GFCI at 6mA independent of voltage present and indicates exact time required to trip the GFCI. Permits field test of a GFCI according to UL standards
- Automatic data hold function
- Instruction manual included

**No. 5U746.** ETCON brand (CT103).
Shpg. wt. 1.0 lbs. Each ..... $92.95


A
No. 3X983

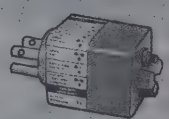

B
No. 3T106


C
No. 1T578


D
No. 1A836


E No. 3T885

F
No. 3T111




G No. 3T884


H
No. 3T117


I
No. 5U746



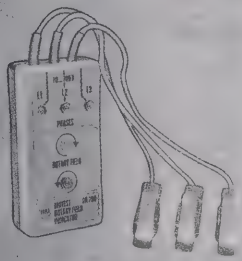
Measure it, record it, calibrate it — You'll get it right with Grainger.

# MOTOR ROTATION METERS

AMPROBE INSTRUMENT GREENLEE AMPROBE INSTRUMENT EXTECH INSTRUMENTS



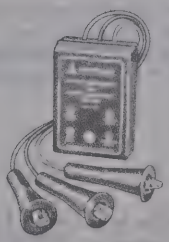
No. 1T100



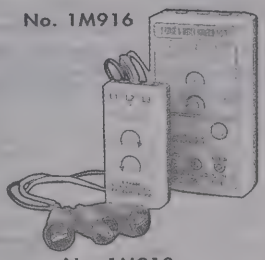
No. 3T471



No. 3T114



No. 4JZ36



No. 1M916

No. 1M918

## PHASE SEQUENCE TESTING APPLICATIONS

- Permits electrical contractor or industrial maintenance electrician to permanently connect the terminals of the motor being installed, without first energizing the motor by a temporary hook-up
- Eliminates the need for temporary connections which can be time consuming, costly and hazardous, particularly where large high voltage motors are involved
- Protects drives that should not be rotated in the wrong direction
- Safeguard solid state electrical devices from reverse polarity damage
- Always consult user manual and applicable local electrical and safety codes prior to use

### PHASE SEQUENCE INDICATORS

### AMPROBE No. 1T100

- Determines phase sequence of 3-phase electrical circuits when used with any Amprobe clamp-on, multimeter or other meter with appropriate voltage range
- Operating Range: 0 to 560V
- Frequency Range: 25 to 60 Hz
- Includes carrying case

**No. 1T100.** Amprobe (PSA-1). Shpg. wt. 0.8 lbs.
Each ..... $46.85

### GREENLEE No. 3T471

- Indicates phase sequence/rotary field from 70 to 700V
- Lights show which phase is lost
- Insulated alligator clips
- No batteries or moving parts
- Limited Lifetime Warranty. See "Manufacturers' Warranties" on page opposite inside back cover

**No. 3T471.** Greenlee brand (5700).
Shpg. wt. 0.5 lbs. Each ..... $93.50

### PHASE SEQUENCE/MOTOR ROTATION INDICATORS

### GREENLEE No. 3T114

- Tests 3-phase power
- Operating range: 70 to 700V
- Combination solid state rotary field/phase sequence indicator and motor rotation indicator
- Independently operated—two units in one
- No AC power required for motor rotation indication
- Includes color-coded, double-insulated leads and carrying case
- Limited Lifetime Warranty. See "Manufacturers' Warranties" on page opposite inside back cover

**No. 3T114.** Greenlee brand (5774).
Shpg. wt. 3.8 lbs. Each ..... $326.00

### AMPROBE No. 4JZ36

- Simple to use, small compact design
- Identifies both the correct phase sequence of live three-phase line voltage and phase/winding sequence of deenergized three-phase motors
- Integrated test leads eliminate the need for test lead swapping
- Voltage range from 20 to 600VRMS
- Frequency range: 50-400Hz
- Phase loss and bright LED indicators
- Includes 9V battery and instructions

**No. 4JZ36.** Amprobe brand (PRM-1).
Shpg. wt. 1.0 lbs.. Each ..... $89.85

### EXTECH Nos. 1M918 and 1M916

- Check phase sequence and live lines
- Test Range: 100 to 660V AC
- Test Phase Orientation: 3-phase power (50-70 Hz freq. range)
- 5-LEDs provide correct/incorrect phase orientation and 3-phase live check
- Include 3 large alligator clips
- Motor Rotation and 3-Phase Tester No. 1M916 also measures the rotation direction of motor shafts; ensuring motor wiring is safe and correct

### PHASE ROTATION INDICATOR/TESTER

**No. 1M918.** Extech brand (480300).
Shpg. wt. 0.5 lbs.. Each ..... $59.00

**No. 1M916.** Extech brand (480303).
Shpg. wt. 0.9 lbs. Each ..... $99.00

### MOTOR ROTATION, 3-PHASE INDICATOR/TESTER

**No. 1M940.** Vinyl Carrying Case for No. 1M916. Extech brand (409997). Shpg. wt. 0.3 lbs.
Each ..... $19.00

**No. 1H152.** Carrying case for 1M918. Extech brand (409992). Shpg. wt. 0.2 lbs.
Each ..... $10.00

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# STRIP CHART RECORDERS

- Easy loading chart paper
- Operate in any position
- Neat, pressure sensitive chart paper
- Access window for making notes on chart
- Portable
- Operates on 115V AC, 60 Hz
- Select from take-up reel or nontake-up reel models
- Portable units supplied with motor line cord
- Use 2½" x 30 ft. strip chart, one supplied with recorder. Take-up reel models capable of using 2½" x 60 ft. charts. For replenishment see below




### Recorder Imprinting Rates (IR) and Time Duration (TD) of Strip Charts

To determine how often the variable will be printed (IR) and how long the chart will last (TD) on all Amprobe Strip Chart Recorders, see Chart below. Note: To find spikes, sags, surges, see No. 2T970.

## CHART SPEED

| | 1" / Hr | | 6" / Hr | | 12" / Hr | | 24" / Hr | |
|---|---|---|---|---|---|---|---|---|
| **Non-Take-Up Reel Models** | **IR** | **TD** | **IR** | **TD** | **IR** | **TD** | **IR** | **TI** |
| Single Variable & Time Sharing (30 Ft. Chart) | 1 per min. | 15 days | 1 per 10 sec. | 2½ days | 1 per 5 sec. | 30 hrs. | — | — |
| **Take-Up Models** | | | | | | | | |
| Single Variable (30 Ft. Chart) | 1 per 2.5 sec. | 15 days | — | — | 1 per 2.5 sec. | 30 hrs. | 1 per 2.5 sec. | 1 hr |
| Single Variable (60 Ft. Chart) | 1 per 2.5 sec. | 30 days | — | — | 1 per 2.5 sec. | 60 hrs. | 1 per 2.5 sec. | 3 hr |
| Time Sharing (30 Ft. Chart) | 1 per 60 sec. | 15 days | 1 per 10 sec. | 2½ days | 1 per 5 sec. | 30 hrs. | — | — |
| Time Sharing (60 Ft. Chart) | 1 per 60 sec. | 30 days | 1 per 10 sec. | 5 days | 1 per 5 sec. | 60 hrs. | — | — |

## TEMPERATURE RECORDER SPECIFICATIONS AND ORDERING DATA

| Temperature Ranges (°F) | Probe† | Take-Up Reel | Chart Speed (In. / Hr.) | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **-40 to 60** | **(2)RBT11, 12, or 13** | No | 1/6/12 | LT8200RFE | **1T059*** | **$594.00** | 4.5 |
| **-3.5 to 118** | **(2)RBT14** | | | | | | |
| **70 to 210** | **(2)RBT15** | Yes | 1/6/12 | LT8200RFET | **1T063*** | **848.00** | 7.7 |
| **32 to 272**<br>**212 to 452**<br>**390 to 830**<br>**750 to 1190** | **TC-6 or any J-Type Iron Constantan Thermocouple Up to 500Ω†** | Yes | 1/12/24 | P3100T | **1T622** | **539.00** | 9.0 |

(†) Probes must be ordered separately. See below.
(*) Time sharing recorder that can record two temperatures and one "On/Off" event. Clamp-on transducer supplied for "On/Off". Two probes with same temperature span must be used together.

## TEMPERATURE PROBES

| Type | Probe Connector | Temperature Range (°F) | Description | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Thermistor** | RCA Plug | –40° to 60 | 15 ft. Immersion | RBT-11 | **5X667** | **$30.65** | 0.4 |
| **Thermistor** | RCA Plug | –40° to 60 | 15 ft. Air Probe | RBT-13 | **5X668** | **30.65** | 0.4 |
| **Thermistor** | RCA Plug | –40° to 60 | 15 ft. Universal | RBT-12 | **1T103** | **30.65** | 0.4 |
| **Thermistor** | RCA Plug | -3.5° to 118 | 15 ft. Immersion | RBT-14 | **1T061** | **55.95** | 0.4 |
| **Thermistor** | RCA Plug | 70° to 210 | 15 ft. Universal | RBT-15 | **1T062** | **64.75** | 0.4 |
| **J** | Bare Wire | 32° to 1190 | 6 ft. Thermocouple | TC-6 | **3T447** | **19.80** | 0.2 |

## STRIP CHARTS FOR TEMPERATURE RECORDERS ABOVE

| Used with Nos. | Temperature Range (°F) | Chart Length (Ft.) | Amprobe Model | Stock No. | Each | Qty. / Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1T059 or 1T063** | –3.5 to 118 | 30 | 3118B | **1T065** | **$45.20** | 6 | 0.5 |
| **1T059 or 1T063** | –40 to 60 | 30 | 4060B | **1T064** | **45.20** | 6 | 0.5 |
| **1T059 or 1T063** | 70 to 210 | 30 | 70210B | **1T066** | **45.20** | 6 | 0.5 |
| **1T622** | 32 to 272 & 212 to 452 | 60 | 452F-6B | **2T989** | **78.20** | 6 | 1.0 |
| **1T622** | 390 to 830 & 750 to 1190 | 60 | 1190F-6B | **1T715** | **78.20** | 6 | 1.0 |

# STRIP CHART RECORDERS

- For complete descriptive information on recorders, recorder imprinting rates and time duration of strip charts, see nearby page
- Models with true RMS sensing capability are for conditions where power does not have a pure sine wave signal

**NOTE:** See the Index for recorders which record spikes, sags, surges, kilowatt/amperes, events, temperature, humidity, and pressure also available.

## AC VOLTAGE RECORDERS

### VOLTAGE RECORDER SPECIFICATIONS AND ORDERING DATA

| Volts | Phase AC | True RMS | Take-Up Reel | Chart Speed In. / Hr. | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 150/300/600V* | 3 | No | No | 1/6/12 | LAV-3E* | 1T098‡ | $663.00 | 5.0 |
| 150/300/600* | 3 | No | Yes | 1/6/12 | LAV3E-T* | 1T097‡ | 792.00 | 7.0 |
| 150/300/600* | 3 | Yes | Yes | 1/6/12 | LAV3RMS-T* | 6T061 | 808.00 | 9.0 |
| 95-130; 190-260 | 1 | No | No | 12 | PAV2X-12 | 1T093‡ | 293.00 | 4.5 |
| 95-130; 190-260; 380-520 | 1 | No | No | 12 | PAV3X-12 | 3A137 | 342.00 | 4.0 |
| 95-130; 190-260; 380-520 | 1 | No | Yes | 1/12/24 | PAV3X-T | 1T099 | 471.00 | 8.3 |

### STRIP CHARTS FOR VOLTAGE RECORDERS ABOVE

| Used With Stock Nos. | Chart Length (Ft) | Amprobe Model | Stock No. | Each | Qty. / Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1T098, 6T058 | 30 | 830AV600B | 2T981 | $45.20 | 6 | 0.9 |
| 3A137, 1T093, 1T099 | 30 | 835X3AB | 3A139 | 45.20 | 6 | 0.3 |
| 1T097, 6T061 | 60 | 830AV600-6B | 1T758 | 78.20 | 6 | 0.8 |

## AC CURRENT RECORDERS

### CURRENT RECORDER SPECIFICATIONS AND ORDERING DATA

| Amps | Phase AC | True RMS | Take-Up Reel | Chart Speed In. / Hr. | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 15/60/150/300A† | 3 | No | No | 1/6/12 | LAA3E† | 3A136‡ | $681.00 | 5.3 |
| 15/60/150/300† | 3 | No | Yes | 1/6/12 | LAA3E-T† | 1T086‡ | 809.00 | 9.8 |
| 15/60/150/300† | 3 | Yes | No | 1/6/12 | LAA3RMS† | 6T059 | 736.00 | 5.0 |
| 15/60/150/300† | 3 | Yes | Yes | 1/6/12 | LAA3RMS-T† | 6T062 | 861.00 | 9.0 |
| 10/50/250/500 | 1 | No | Yes | 1/12/24 | PAA81-T | 1T087 | 469.00 | 8.8 |

### STRIP CHARTS FOR CURRENT RECORDERS ABOVE

| Used With Stock Nos. | Chart Length (Ft) | Amprobe Model | Stock No. | Each | Qty. / Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3A136, 6T059 | 30 | 300SVAB | 3A138 | $45.20 | 6 | 0.9 |
| 1T087 | 60 | 850A-6B | 1T721 | 78.20 | 6 | 1.0 |
| 1T086, 6T062 | 60 | 300SVA-6B | 1T771 | 78.20 | 6 | 1.0 |

## AC VOLTAGE/CURRENT RECORDERS

### VOLTAGE/CURRENT RECORDER SPECIFICATIONS AND ORDERING DATA

| Volts | Phase AC | Amps | Phase AC | True RMS | Take-Up Reel | Chart Speed In. / Hr. | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 150/300/600V | 1 | 15/60/150/300A | 1 | No | No | 1/6/12 | LAV21E# | 3A135‡ | $614.00 | 5.3 |
| 150/300/600 | 1 | 15/60/150/300 | 1 | No | Yes | 1/6/12 | LAV21E-T# | 1T094‡ | 747.00 | 9.0 |
| 150/300/600 | 1 | 15/60/150/300 | 1 | Yes | No | 1/6/12 | LAV21RMS# | 6T060 | 665.00 | 5.0 |
| 150/300/600 | 1 | 15/60/150/300 | 1 | Yes | Yes | 1/6/12 | LAV21RMS-T# | 6T063 | 792.00 | 8.5 |
| 150/300/600 | 1 | 10/50/250/500 | 1 | No | No | 12 | PAVA87-12 | 1T092‡ | 448.00 | 4.0 |
| 150/300/600 | 1 | 10/50/250/500 | 1 | No | Yes | 1/12/24 | PAVA84-T | 1T647 | 608.00 | 9.0 |
| 95-130; 190-260; 380-520 | 1 | 5/25/100/250 | | | | | | | | |
| 95-130; 190-260; 380-520 | 1 | 10/50/250/500 | 1 | No | Yes | 1/12/24 | PAVA83-T | 1T090 | 614.00 | 9.3 |
| 95-130; 190-260; 380-520 | 1 | 10/50/250/500 | 1 | No | No | 12 | PAVA83-12 | 3A134 | 488.00 | 5.0 |

### STRIP CHARTS FOR VOLTAGE/CURRENT RECORDERS ABOVE

| Used With Stock Nos. | Chart Length (Ft) | Amprobe Model | Stock No. | Each | Qty. / Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3A135, 6T060 | 30 | 300SVAB | 3A138 | $45.20 | 6 | 0.9 |
| 3A134, 1T092 | 30 | 850AB | 3A140 | 45.20 | 6 | 0.3 |
| 1T094, 6T063 | 60 | 300SVA-6B | 1T771 | 78.20 | 6 | 1.0 |
| 1T090, 1T647 | 60 | 835X3A-6B | 1T709 | 78.20 | 6 | 1.0 |

*) Time sharing recorder—can be set up to record up to 3 voltage readings (phase voltages or separate circuits) on one chart.
†) Time sharing recorder—can be set up to record up to 3 AC current readings (phase currents or separate circuits) on one chart.
#) Time sharing recorder which can record single phase voltage and current on one chart. (‡) Limited Availability - contact local branch.

# STRIP CHART RECORDERS

## KILOWATT/AMPERE RECORDER MODULES

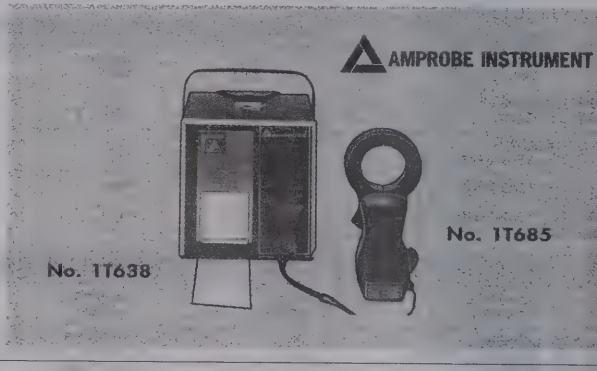
- Provide a permanent record. Easy loading chart paper
- Neat, pressure sensitive chart paper
- Operate in any position
- Access window for making notes on chart
- Portable models
- Select from take-up reel or nontake-up model
- Monitor power consumption or current load over a period of time
- Requires KW/ampere transducer, Stock No. 1T685 or No. 1T684 (not included, order below)
- 800A AC range
- No. 1T637 features a take up reel
- Operates on 115V AC, 60 Hz; line cord supplied

| Kilowatts | When Used w/Transducer | Chart Spd. in./Hr. | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 10 / 20 / 100 / 200<br>20 / 40 / 200 / 400 | AW80<br>AW81 | 12 | LAW82-12 | 1T638 | $355.00 | 6.0 |
| 10 / 20 / 100 / 200<br>20 / 40 / 200 / 400 | AW80<br>AW81 | 1/12/24 | LAW82-T | 1T637 | 492.00 | 10.0 |

### RECORDER CHARTS

**No. 2T450.** 30 ft. chart for 1T638. 6 rolls per box. Amprobe brand (840W82B). Shpg. wt. 1.0 lbs. Each ..... $45.2

**No. 2T983.** 60 ft. chart for 1T637. 6 rolls per box. Amprobe brand (840W82-6B). Shpg. wt. 1.0 lbs. Each ..... $78.2




## KILOWATT/AMPERE TRANSDUCERS

- Measures kilowatts, 1 phase
- Measures amperes AC, 1 phase
- Determine KVA and power factor
- May be used with any digital multimeter that will accept standard banana plug test leads and has ranges of 0-2, 10, or 20V AC/DC; and a 10 megohm input impedance
- Jaw capacity 2" diameter or 2000 MCM
- Case voltage breakdown 3000V AC
- May be used with an accessory recording module No. 1T638 or No. 1T637 to record the power (KW) up to 400KW or current up to 800 amperes

**No. 1T684.** Amprobe brand (AW-81).. Shpg. wt. 2.0 lbs. Each ..... $389.00

**No. 1T685.** Amprobe brand (AW-80).. Shpg. wt. 2.0 lbs. Each ..... $349.00

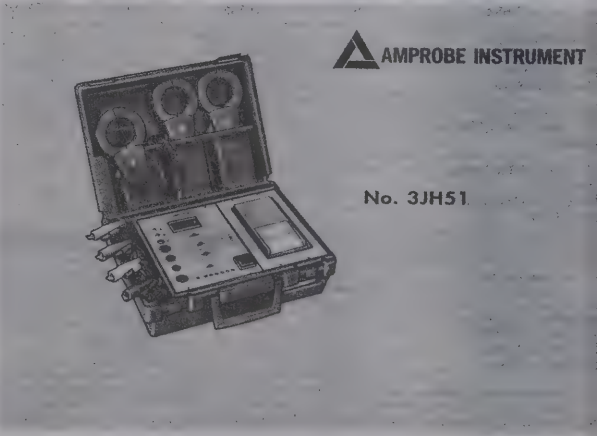
**Specifications:**

- No. 1T685 ranges: 0-1000 amps AC (50-60Hz); 0-20/200KW (single phase) with voltage input of up to 240V AC (+10% maximum) and current input of 0-150A/1000A (50-60Hz)
- No. 1T684 ranges: 0-1000 amps AC (50-60Hz); 0-40/400KW (single phase) with input of 208-550V AC (+10% maximum) and current input of 0-150/1000 amps AC (50-60Hz)
- Accuracy: KW, ±2.8% of reading; amps, ±2% of reading based on Sinusoidal Waveform
- Circuit protection: overload protected to 2000 amps AC and 400V AC No. 1T685; 600V AC No. 1T684

## PORTABLE KWH RECORDER

- Records watts/vars or KWH
- Works on balanced or unbalanced systems and three phase or single phase systems
- Leads are 5' long and can be extended to 100' using 18-gauge copper wire
- Current range: 0-200/400/800 amps
- Voltage range: 0-120/208/220/240/277/480/550 VAC
- Accuracy (typ.): Watts ± 3% full scale; vars. ± 4% full scale
- Complete with test leads, case, and 3 current transducers and instructions

**No. 3JH51.** Amprobe brand (LAW78KWH-T-12). Shpg. wt. 8.0 lbs. Each ..... $1646.00

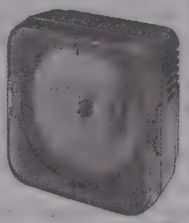


## SUPER COMPACT TEMPERATURE RECORDER

Verify the temperatures of food and other perishable products during transport. Rugged, compact case and special ranges for refrigeration, freezers, incubators and ambient conditions. Dual range capability (Celsius or Fahrenheit recording determined by the chart used on the recorder). Optional tamper seal can be used to insure integrity of the chart.

- Chart Size: 3", Case Size: 3.6 x 3.6 x 2.2"
- Temperature Sensor: Spiral wound bi-metal
- Accuracy: +2°F, (+1°C) of full scale
- Mounting: Free standing, wall mounted or suspended
- Includes "AA" battery and one pen
- Order charts below

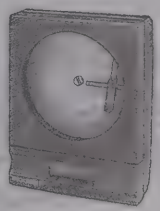
| Range | Rotation | Dickson Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|
| -14° to 32°F/ -25° to 0°C | 24 Hour | SC312 | 3JG81 | $99.95▲ | 2.0 |
| -14° to 32°F/-25° to 0°C | 7 Day | SC317 | 3JG82 | 99.95▲ | 2.0 |
| 4° to 50°F/-15° to 10°C | 24 Hour | SC322 | 3JG83 | 99.95▲ | 2.0 |
| 4° to 50°F/-15° to 10°C | 7 Day | SC327 | 3JG84 | 99.95▲ | 2.0 |
| 50° to 96°F/ 10° to 35°C | 24 Hour | SC332 | 3JG85 | 99.95▲ | 2.0 |
| 50° to 96°F/ 10° to 35°C | 7 Day | SC337 | 3JG86 | 99.95▲ | 2.0 |



No. 3JG81

### Charts for Dickson 3 inch Recorders
60 charts per box

| Recorder | Range | Rotation Day | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3JG81 | -14 to 32° F | 1 | C301 | 3JG30 | $15.00▲ | 1.0 |
| 3JG81 | -25 to 0° C | 1 | C309 | 3JG36 | 15.00▲ | 1.0 |
| 3JG82 | -14 to 32° F | 7 | C302 | 3JG31 | 15.00▲ | 1.0 |
| 3JG82 | -25 to 0° C | 7 | C310 | 3JG37 | 15.00▲ | 1.0 |
| 3JG83 | 4 to 50° F | 1 | C303 | 3JG32 | 15.00▲ | 1.0 |
| 3JG83 | -15 to 10° C | 1 | C311 | 3JG38 | 15.00▲ | 1.0 |
| 3JG84 | 4 to 50° F | 7 | C304 | 3JG33 | 15.00▲ | 1.0 |
| 3JG84 | -15 to 10° C | 7 | C312 | 3JG39 | 15.00▲ | 1.0 |
| 3JG85 | 50 to 96° F | 1 | C305 | 3JG34 | 15.00▲ | 1.0 |
| 3JG85 | 10 to 35° C | 1 | C313 | 3JG40 | 15.00▲ | 1.0 |
| 3JG86 | 50 to 96° F | 7 | C306 | 3JG35 | 15.00▲ | 1.0 |
| 3JG86 | 10 to 35° C | 7 | C314 | 3JG41 | 15.00▲ | 1.0 |

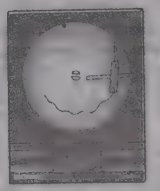


No. 6T382

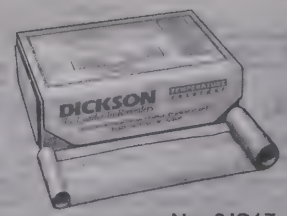
## SELF-CONTAINED TEMPERATURE RECORDERS

- Detect and record temperature changes in warehouses, commercial buildings, and critical storage areas
- Accuracy (typ.): ±2% FS
- Chart Size: 4"
- Nos. 6T379, 6T380, 6T381, 6T382, and 6T383 feature a digital display
- Compact portable unit, can be wall mounted
- On/Off switch and easily accessible battery access
- Includes one box of 60 charts, pen, "AA" alkaline battery and instructions

| Range | 1/2" LCD Temperature Display | Rotation | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0° to100°F | No | 7 Day | SK4100F7 | 2T463 | $199.00▲ | 2.0 |
| -20° to120°F | No | 7 Day | SK4120F7 | 2T462 | 199.00▲ | 2.0 |
| -20° to120°F | No | 24 Hour | SK4120F24 | 3T420 | 199.00▲ | 2.0 |
| 45° to90°F | Yes | 7 Day | SL490F7 | 6T379 | 229.00▲ | 2.0 |
| 0° to100°F | Yes | 7 Day | SL4100F7 | 6T380 | 229.00▲ | 2.0 |
| -20° to120°F | Yes | 7 Day | SL4120F7 | 6T381 | 229.00▲ | 2.0 |
| -20° to120°F | Yes | 24 Hour | SL4120F24 | 6T382 | 229.00▲ | 2.0 |
| -30° to50°C | Yes | 7 Day | SL4350C7 | 6T383 | 229.00▲ | 2.0 |



No. 2T463




No. 3JG67

## DISPOSABLE TEMPERATURE RECORDER

This one-use recorder is suitable for proving the integrity of shipments with temperature critical storage parameters. Includes a tamper proof starting tab, document of shipment sheet and mounting tape.

- Accuracy: +1°F (0.6°C) from 10° to 70°F (-12° to 21°C)
- Chart Type: Pressure sensitive strip 32" to 43" long, 3 1/16" wide
- Spiral wound bi-metal sensor
- Operating Range: -20° to 135°F (see specific ranges below); 0 to 95% RH (Non-condensing)
- Dimensions: 7.18 x 5.75 x 2.12"

| Range | Recording Time | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| -20° to 100°F | 5 Day | D300 | 3JG67 | $30.00▲ | 4.0 |
| -20° to 100°F | 10 Day | D301 | 3JG68 | 30.00▲ | 4.0 |
| -20° to 100°F | 20 Day | D302 | 3JG69 | 30.00▲ | 4.0 |
| -30° to 37.5°C | 5 Day | D303 | 3JG70 | 30.00▲ | 4.0 |
| -30° to 37.5°C | 10 Day | D304 | 3JG71 | 30.00▲ | 4.0 |
| -30° to 37.5°C | 20 Day | D305 | 3JG72 | 30.00▲ | 4.0 |

**DICKSON**
*The Leader In Recorders*

Replacement Parts Available
1-800-323-0620

FULL LINE OF DICKSON REPLACEMENT CHARTS AND ACCESSORIES AVAILABLE

(▲) Net prices not subject to discounts.

## K-THERMOCOUPLE REMOTE SENSING TEMPERATURE RECORDERS

Monitor and record temperature using a K-Thermocouple probe. Accept any type "K" thermocouple plug-in probe with mini-connector. Digital display and 8" diameter chart for easy-to-read results. No. 3JG77 for mid-range temperature recording, No. 3JG79 for high temperature recording.

- **User selection of chart rotation time (1, 7 & 31 day) and temperature range**
- **No. 3JG77 Temperature Ranges: –50 to 50°F/C, 0 to 100°F/C, 0 to 250°F/C, or 0 to 500°F**
- **No. 3JG79 Temperature Ranges: 0 to 250°F/C, 0 to 500°F/C, 0 to 1000°F/C, or 0 to 2000°F**
- **No. 3JG77 Sensor: Flexible 4 ft. bead wire K-thermocouple probe, teflon coated**
- **No. 3JG79 Sensor: 6" high temperature basic K-thermocouple probe with 4 ft. teflon coated cable**
- **Temperature Accuracy: ± 0.3% of reading, ±1°C (±1.8°F)**
- **High/low audio-visual alarm**
- **User calibration**
- **Min./Max. function**
- **Power Supply: 120V AC adapter (4 "D" batteries for back-up power not included)**
- **Dimensions: 10.5 x 13.2 x 2.8"**
- **Includes one probe, one pen, and one box of charts (No. 3JG77 0 to 100°F/C) (No. 3JG79 0 to 1000°F/C)**

| Description | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Temp. Recorder (mid-range)** | KTx | **3JG77** | **$629.00▲** | 12.0 |
| **Temp. Recorder (high-temp)** | KTxE | **3JG79** | **749.00▲** | 6.5 |
| **6" High Temp. Probe 2100°F** | A203 | **3JG24** | **99.00▲** | 1.0 |
| **Stainless Steel Probe, 316SS 1650°F** | D164 | **3JG66** | **90.00▲** | 1.0 |
| **Compression Fitting for Probes 3JG66, 3JG24** | D163 | **3JG65** | **30.00▲** | 1.0 |
| **10 Ft. Straight Extension Cable** | D617 | **3JG75** | **35.00▲** | 0.4 |
| **100 Ft. Straight Extension Cable** | A202 | **3JG23** | **125.00▲** | 0.8 |

## REMOTE SENSING TEMPERATURE RECORDER

- **Temperature Accuracy: .5% of chart range ±1.8°F (1°C) recorder only**
- **User selection of chart rotation time (1 & 7 day) and temperature range 0 to –100°F/C, 0 to –50°F/C, –50 to 50°F/C, 0 to 50°F/C, 50 to 100°F/C, 0 to 100°F/C, 0 to 250°F/C, 0 to 500°F (only)**
- **Chart Size: 6", Case Size: 7 9/16 x 7 9/16"x 3 1/4", Panel Cut-Out Dimensions: 6.9 x 6.9" (DIN compatible)**
- **Power Supply: 120V adapter ("9V" battery back-up)**
- **LCD display (Nos. 4JZ01 & 4JZ02 only), SPST alarm/relay contact with independently adjustable Min./Max. set points (No. 4JZ02 only)**
- **Alarm Contacts: 24V/.5A SPST normally open contact**
- **Sensor: Flexible 4 ft. bead wire K-thermocouple probe, Teflon coated**
- **Power Status: LED indicator**
- **Includes pen, 60 charts (0 to 100°F/C) and bead wire probe**

| Description | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **120V Recorder** | KT601 | **4JX99** | **$299.00 ▲** | 4.9 |
| **120V Recorder w/Display** | KT602 | **4JZ01** | **399.00 ▲** | 4.9 |
| **120V Recorder w/Display, Audible Alarm, and Relay Contacts** | KT603 | **4JZ02** | **499.00 ▲** | 4.9 |

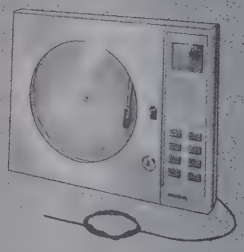
## DUAL-PEN TEMPERATURE RECORDER WITH DATA LOGGING

- **Recorder accuracy: ±.5% of chart range and ±1.8°F (1°C) recorder only**
- **User selection of chart rotation time (1 and 7 day) and temperature range (all F or C) 0 to -100°, 0 to -50°, -50 to 50°, 0 to 50°, 50 to 100°, 0 to 100°, 0 to 250°, 0 to 500° (F only)**
- **Chart size: 6", case size: 7 9/16 x 7 9/16 x 3 1/4", Panel cut-out dimensions: 6.9 x 6.9 (DIN compatible)**
- **Sample interval: 1 min. in 24 hour mode, 6 min. in 7 day mode**
- **Data logger stores: 3,840 sample points (1,920 each pen)**
- **Software: Microsoft Windows™ 3.1, Windows™ 95, Windows™ NT and Windows™ 98 compatible**
- **Download free demo software at www.loggerdemo.com**
- **Power supply: 120VAC adapter ("9V" battery back-up)**
- **LCD display, SPST alarm/relay contact with independently adjustable Min./Max. set points, user calibration**
- **Alarm contact: 24V/.5A SPST normally open contact**
- **Includes two pens, 9V battery, 60 charts, two 4 ft. K-Type teflon coated bead probes**

***New*** **No. 4TK93.** Dickson brand (KT655). Shpg. wt. 5.0 lbs. Each..... **$599.00▲**

(▲) Net prices not subject to discounts.

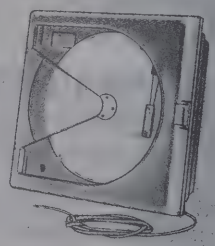
**DICKSON**
*The Leader In Recorders*



**No. 3JG77**

Replacement Parts Available
1-800-323-0620

**FULL LINE OF DICKSON CHARTS AND ACCESSORIES**

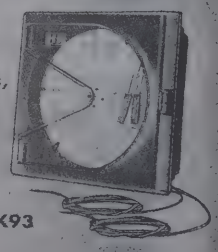


**No. 4JZ02**

**DICKSON**
*The Leader In Recorders*

**New**

- **Remote sensing**
- **Programmable recording times, ranges, and data logging**



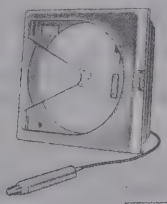
**No. 4TK93**

**NOTE: 4TK88 must accompany the intial purchase of No. 4TK93 in order to operate data logging function**

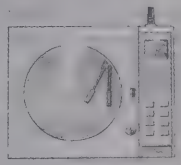
## MICROPROCESSOR-BASED TEMPERATURE/HUMIDITY RECORDER WITH DATALOGGING

- Temperature Accuracy: ±2°F (±1°C)
- Humidity Accuracy: ±0.5% FS, ±2% RH from 0 to 60%, ±0.5% FS, ±3% RH from 61 to 95%
- Temperature Ranges for self-contained models (Nos. 4JZ04 & 4JZ05): 32° to 100°F and 0° to 38°C
- Temperature Ranges for remote probe model (No. 4JZ06): 0° to 100°F, 0° to 85°C, 0° to 185°C, and 0° to 50°F
- Humidity Range: 0 to 95% (non-condensing)
- Chart Size: 6", Case Size: 7⁹⁄₁₆ x 7⁹⁄₁₆ x 3½", Panel Cut-Out Dimensions: 6.9 x 6.9" (DIN compatible)
- User selection of chart rotation time (1 & 7 day) and temperature range
- Datalogger Sample Rate: Samples once every 10 seconds and stores an average reading once every 5 minutes
- Datalogger stores 2000 temperature, 2000 humidity points
- Temperature Sensor: High precision thermistor
- Humidity Sensor: Capacitance type
- Power Supply: 120V adapter ("9V" battery back-up)
- LCD display (Nos. 4JZ05 & 4JZ06 only), audible alarm, remote probe, alarm and relay contacts (No. 4JZ06 only)
- Power Status: LED indicator
- Includes two pens, and 60 charts (0° to 100°F)
- Optional: Software and interface cable No. 4TK83

**DICKSON**
*The Leader In Recorders*



No. 4JZ06



No. 6T084

| Description | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 120V Self-Contained Recorder | TH601 | 4JZ04 | $425.00▲ | 5.0 |
| 120V Self-Contained Recorder w/Display | TH602 | 4JZ05 | 499.00▲ | 5.0 |
| 120V Remote Probe Recorder w/Display, Audible Alarm, and Relay Contacts | TH603 | 4JZ06 | 599.00▲ | 5.0 |

Replacement Parts Available
1-800-323-0620

FULL LINE OF DICKSON CHARTS AND ACCESSORIES

## TEMPERATURE/HUMIDITY/DEW POINT RECORDER

- Records and displays temperature and humidity or temperature and dew point
- Flexible design allows user to choose temperature range, °C or °F, humidity, or dew point recording, and rotation time (1, 7, or 31 day)
- Temperature Ranges: –20° to 120°F, 40° to 110°F, –20° to 50°C, 5° to 40°C
- Temperature Accuracy: ±1.8°F (±1.0°C)
- Humidity Accuracy: ±2% between 0 and 60%, ±3% between 61 and 95%
- High/low audio-visual alarm for all variables
- User calibration of all variables
- Remote sensing capability with optional extension cord No. 6T592
- Dimensions: 10.5 x 13.2 x 2.8" with 8" diameter chart
- Includes two pens, AC adapter, one box of 60 "C417" charts (–20° to 120°F, 7 day)

| Range | Chart Size | Case Size | Rotation (Days) | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| –20° to 120°F | 8" | 10.5 x 13.2 x 2.8" | 1 or 7 | THDx | 6T084 | $629.00▲ | 8.6 |

### ACCESSORIES

**No. 3JG29.** Calibration Kit (A834). Shpg. wt. 1.0 lbs. Each ..... $125.00▲

**No. 6T592.** 10 Ft. Remote Sensing Extension Cord (A860). Shpg. wt. 0.4 lbs. Each ..... $39.00▲

▲) Net prices, not subject to discounts.

## GENERAL-PURPOSE PORTABLE DEWPOINTER®

Quickly and accurately measures dew points of gases from 10° below ambient to –80°F. Suitable for testing gases with low moisture content. Easy-to-use and reliable.

- Liquid in glass thermometer
- Double-Action pump
- Pressure ratio gauge with easy-to-read fluid
- Fog chamber with observation window
- 110V AC or "6V" battery power

**No. 1M772.** Shpg. wt. 23.0 lbs. Each ..... $2620.00

**ALNOR®**
A TSI® Company



No. 1M772

# PRESSURE RECORDERS AND UNIVERSAL INPUT RECORDER

## PRESSURE RECORDERS

- Applications include pipelines, gas distribution and pressure stations, and service and investigatory work in plant maintenance
- Accuracy (typ.): ± 2% FS; battery chart movement
- 4" minicorder packs 7 day or 24 hour pressure recording capability into compact, stem/wall mountable case
- Pressure measuring elements (heat treated) prevent hysteresis-related inaccuracies
- Dial assembly mounted in strong, all-metal case; door sealed against rubber gasket by spring latch
- 1/4" NPT connection
- Case Size: 5¼ x 5¼ x 4"
- Include one box of 60 charts, pen, "AA" alkaline battery, and instructions

| Range (PSI) | Rotation | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0 to 100 | 7 Day | PR4-100P-B-7-S | 2T468 | $349.00▲ | 5.0 |
| 0 to 100 | 24 Hr. | PR4-100P-B-24-S | 2T475 | 349.00▲ | 5.0 |
| 0 to 200 | 7 Day | PR4-200P-B-7-S | 2T469 | 349.00▲ | 5.0 |
| 0 to 200 | 24 Hr. | PR4-200P-B-24-S | 2T473 | 349.00▲ | 6.0 |

## WEATHER-RESISTANT PRESSURE RECORDER

Pressure recorder is housed in a fiberglass NEMA 4X case which provides protection against corrosion, windblown dust and rain, splashing water, and hose-directed water.

- Accuracy: ± 2% full scale; battery chart movement
- Chart Type: 4" diameter
- Response Time: 1 to 5 seconds
- Mount: 1/4" male NPT connection
- Case Dimensions: 6.5H x 6.9W x 4.25"D
- Includes one box of 60 charts, pen, "AA" battery, and instructions

| Range (PSI) | Recording Time | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0 to 100 | 24 Hour | PW401 | 3LC58 | $449.00▲ | 2.0 |
| 0 to 200 | 24 Hour | PW403 | 3LC60 | 449.00▲ | 2.0 |
| 0 to 500 | 24 Hour | PW404 | 3LC61 | 449.00▲ | 7.0 |
| 0 to 100 | 7 Day | PW405 | 3LC62 | 449.00▲ | 7.0 |
| 0 to 200 | 7 Day | PW407 | 3LC64 | 449.00▲ | 7.0 |
| 0 to 500 | 7 Day | PW408 | 3LC65 | 449.00▲ | 7.0 |

### ACCESSORIES FOR PRESSURE RECORDERS

| Description | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Snubber/Filter Kit | R022 | 3LC50 | $25.00▲ | 1.0 |
| Accessory Fitting Kit | A7981 | 3LC51 | 89.00▲ | 1.0 |
| Fire Hydrant Adapter | A7983 | 3LC53 | 139.00▲ | 2.0 |

## UNIVERSAL INPUT RECORDER

Features selectable output ranges, recording times and alarm levels. Remote sensing capability with powered voltage or optional current transmitters. Screw terminals provide easy connection of input transmitter. Microprocessor controlled.

- Input Ranges: 0-20mA, 4-20mA, 0-5Vdc, 1-5Vdc
- Output Ranges: User selectable including decimal point placement

| | | | |
|---|---|---|---|
| 0 to 10 | 0 200 | 0 to 45 | 150 to 250 |
| 0 to 100 | 0 to 2000 | 0 to 500 | -20 to 50 |
| 0 to 1000 | 0 to 250 | 0 to 60 | -20 to 120 |
| 0 to 14 | 0 to 30 | 40 to 110 | -30 to 50 |
| 0 to 150 | 0 to 300 | -.10 to .10 | -50 to 50 |

- Accuracy: Approximately 0.3% full scale ±1 digit (recorder only)
- Sensor Capability: Any powered voltage or current transmitter with specified recorder input
- Ambient Operating Conditions: 32° to 122°F (0° to 50°C); 0 to 90% RH (non-condensing)
- Chart Size: 8" diameter
- User calibration, alarms, Min./Max.
- Power Supply: 120V AC adapter (4 "D" back-up batteries not included)
- Dimensions: 10.5 x 13.2 x 2.8"
- Includes pen, one box of 60 charts (0 to 100, 7 day), AC adapter

**No. 3JG76.** Dickson brand (ESx). Shpg. wt. 12.0 lbs. Each ..... $629.00▲

(▲) Net prices, Not subject to discounts.

Replacement Parts Available
1-800-323-0620

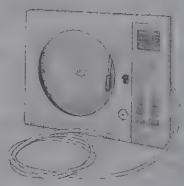
FULL LINE OF DICKSON CHARTS AND ACCESSORIES AVAILABLE

## DIFFERENTIAL PRESSURE RECORDER

- Ideal for isolation and clean room pressure recording
- Accuracy: ±.004 ±3% of full scale
- User selection of chart rotation time (1, 7 & 31 day) and pressure range
- Output Range: User selectable (inches of water column) –.10 to .10, –.15 to .25, 0 to .15, 0 to .25
- Sensor: Differential pressure (subject to no greater than 1" water column)
- High/Low audio-visual alarm
- Power Supply: 120V AC adapter (4 "D" back-up batteries not included)
- Min./Max. function
- Dimensions: 10.5 x 13.2 x 2.8"
- Includes pen, starter box of 8" charts, 6 ft. of tubing, AC adapter, and instruction manual

**No. 4JZ03.** Dickson brand (PRxA).
Shpg. wt. 8.5 lbs. Each..... $899.00▲

DICKSON
*The Leader In Recorders*



No. 4JZ03



No. 2T475



No. 3LC58



No. 3JG76



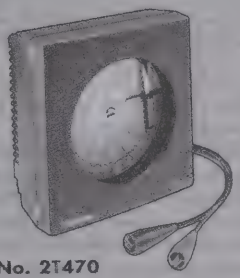
*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# CHART RECORDERS AND DATALOGGERS

## ON/OFF EVENT RECORDER

**DICKSON**
*The Leader In Recorders*

- Records the exact time equipment is energized and the duration of each operation or cycle
- Indicates faulty or abnormal operating of thermostats, controllers, motors, or heating units
- Records total down-time of conveyors, assembly lines or other intermittently operated electrical equipment
- Designed for parallel connection across the line or device terminals
- Used with units of any size operating on standard 120V to 240V AC
- Case Size: 6¼W x 6¼H x 3½"D
- 24 hour chart recording
- Wall mountable
- Five ft. alligator clip cords
- Includes one box of 60 charts, battery, pen and instruction manual



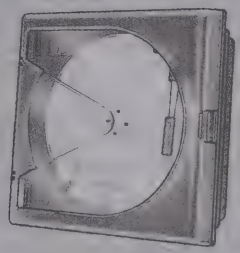
No. 2T470

**o. 2T470.** Dickson brand (EV4-02). Shpg. wt. 5.0 lbs. Each ..... $379.00▲

## ANALOG SIGNAL RECORDER WITH DATA LOGGING

- Programmable recording times and ranges, and data logging
- Analog input signals (user selectable): 0-20mA, 4-20mA, 0-5VDC, 1-5VDC
- Recorder accuracy: 0.5% full scale (recorder only)
- Ambient operating conditions: 32° to 122° F (0 to 50° C), 0 to 95% RH (noncondensing)
- User selection of chart rotation time (1 and 7 day) and ranges (0 to +10, 0 to +100, 0 to +14, 0 to +200, 0 to +300, -.10 to +.10, -20 to +120, -50 to +50)
- Chart size: 6' diameter, Case Size: 7⁹⁄₁₆ x 7⁹⁄₁₆ x 3¼", panel cut-out
- Dimensions: 6.9 x 6.9 (DIN compatible)
- Sample interval: 1 min. in 24 hour mode, 6 min. in 7 day mode
- Data logger stores: 3,840 sample points (1,920 each pen)
- Software: Microsoft Windows™3.1, Windows™ 95, Windows™ NT and Windows™ 98 compatible
- Down load free demo software at www.loggerdemo.com
- Power supply: 120VAC adapter (9V battery back-up)
- LCD display, SPST alarm/relay contact with independently adjustable Min./Max. set points, user calibration
- Sensor compatibility: any powered voltage or current transmitter with specified input range
- Alarm contacts: 24V/.5A SPST normally open contact
- Power status: LED indicator
- Includes pen, 9V battery, 60 charts, instruction manual and calibration statement

NOTE: 4TK88 must accompany the initial purchase of the 4TK92 in order to operate data logging function



No. 4TK92

**lew No. 4TK92.** Analog Signal Recorder with Data Logging. Dickson brand (ET601). Shpg. wt. 5.0 os. Each ..... $399.00▲

**lew No. 4TK88.** Dickson brand (A015).. Shpg. wt. 1.0 lbs. Each ..... $59.00▲

▲) Net prices, Not subject to discounts.

## VR101S VOLTAGE EVENT RECORDER SYSTEM

**FLUKE**

**New**

- Captures and time stamps sags, swells, transients, outages and frequency variations
- Capture limits are user selectable
- Stores up to 4,000 events
- Monitors 120V receptacles, where many critical loads get their power
- VR101S includes everything you need to get started, including EventView™ software for Windows™ and optical interface cable
- Additional VR101 recorders can be purchased separately so you can monitor several locations at once



No. 4TR07
(Laptop computer not included)

**lew No. 4TR08.** Fluke brand (VR101S). Shpg. wt. 1.0 lbs. Each ..... $595.00

**lew No. 4TR07.** Fluke brand (VR101). Shpg. wt. 1.0 lbs. Each ..... $495.00

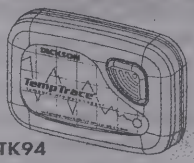
**TECHNICAL REFERENCE LITERATURE**
Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics
See Index under Books.

# DATA LOGGERS

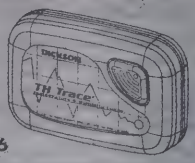
**DICKSON**
*The Leader In Recorders*



4TK91



4TK94



4TK96

New

## CURRENT LOOP AND VOLTAGE DATA LOGGER

- Easy to use, PC-base recording
- Current loop inputs: Number of channels, 2 - selectable between 0-20mA and 4-20mA
- Voltage inputs: Number of channels, 2 - selectable between 0-10VDC and 0-1VDC
- Sensor compatibility: Any powered voltage or current transmitter with specified input range
- Accuracy (Internal Ambient Thermistor Temperature Sensor):±.5°F(.25°C) at +77°F (.25°C). Better than 1°F (.5°) over -22 to +122°F (-30 to 50°C)
- Total number of channels: Five - 1 for on-board temperatures, 2 for voltage (0-1VDC and 0-10VDC) and 2 for current loop (0-20mA and 4-20mA)
- Data storage: 12-bit stored, 21,500 sample points (sample points depending on number of channels used)
- Sample rate: records data in configurable 10 second to 8 hour intervals
- Dimensions: 2.8 x 2.1 x .7"
- Power supply: lithium battery, 10-year life (factory replaceable)
- Input connections: removable screw-type terminal block
- Software: Microsoft Windows™ 3.1, Windows™ 95, Windows™ NT, and Windows™ 98 compatible
- 4TK89 must accompany the initial purchase of the 4TK91 in order to operate
- Download free demo software at www.loggerdemo.com1

***New*** **No. 4TK91.** Dickson brand (D400). Shpg. wt. 1.0 lbs. Each..$599.00▲

***New*** **No. 4TK89.** Software and Computer Interface Cable. Dickson brand (A130). Shpg. wt. 1.0 lbs. Each.....$99.00▲

## TEMPERATURE DATA LOGGER

- Temperature range: -40 to ±176°, -40 to +80°C (non-condensing
- Temperature accuracy: 158°F to 176°F ±2.25°F (70 to 80°C ±1.25°C), 32°F to 158°F ±1.4°F (0 to 70°C ±0.75°C), 32°F to -40°F; -2,25°F, +7.65°F (0 to -40°C; -1°C, +3.5°C)
- Data storage: 7,680 sample points
- Sample interval: records data in configurable 10 second to 24 hour intervals
- Dimensions: 3.1 x 2.1 x 0.9"
- Power supply: 3.0V lithium coin cell, 9 month life at 1-minute sampling (user replaceable)
- Memory: Non-volatile (retains data even when battery is removed) compatible
- Contact your local Grainger branch to order software and computer interface cable

***New*** **No. 4TK94.** Dickson brand (SL100). Shpg. wt. 1.0 lbs. Each..$69.00▲

## DUAL-CHANNEL TEMPERATURE DATA LOGGER

- Temperature range: -40 to +176°, -40 to +80°C (non-condensing)
- Temperature accuracy: 158°F to 176°F ±2.25°F (70 to 80°C ±1.25°C), 32°F to 158°F ±1.4°F (0 to 70°C ±0.75°C), 32°F to -40°F; -2,25°F, +7.65°F (0 to -40°C; -1°C, +3.5°C)
- Remote thermistor probe range: -40° to +248° F, -40 to +120° C
- Data storage: Single channel operation - 7,680 sample points; Dual channel operation - 3,840 point per channel
- Sample interval: records data in configurable 10 second to 24 hour intervals
- Dimensions: 3.1 x 2.1 x 0.9"
- Power supply: 3V lithium coin cell, 9-months life at 1-minute sampling (user replaceable)
- Memory: Non-volatile (retains data even when battery is removed)
- Contact your local Grainger branch to order software and computer interface cable
- Exterior probe not included. Order part number A-150 from Grainger Parts Operations

***New*** **No. 4TK95.** Dickson brand (SL120). Shpg. wt. 1.0lbs. Each.$89.00▲

## TEMPERATURE/HUMIDITY DATA LOGGER

- Temperature range: -40 to ±176° 140 to +80°C (non-condensing)
- Temperature accuracy: 158°F to 176°F ±2.25°F (70 to 80°C ±1.25°C), 32°F to 158°F ±1.4°F (0 to 70°C ±0.75°C), 32°F to -40°F; -2,25°F, +7.65°F (0 to -40°C; -1°C, +3.5°C)
- Humidity range: 25% to 95% RH (non-condensing)
- Humidity accuracy: ±5% over 25 to 95% RH range at 77°F (+25°C)
- Data storage: Single channel operation - 7,680 sample points; Dual channel operation - 3,840 point per channel
- Sample interval: records data in configurable 10 second to 24 hour intervals
- Dimensions: 3.1 x 2.1 x 0.9"
- Power supply: 3.0V lithium coin cell, 9 month life at 1-minute sampling (user replaceable)
- Memory: Non-volatile (retains data even when battery is removed)
- Contact your local Grainger branch to order software and computer interface cable

***New*** **No. 4TK96.** Dickson brand (TL120).Shpg. wt. 1.0 lbs. Each$129.00▲

(▲) Net prices, not subject to discounts

## TEMPERATURE AND HUMIDITY DATA LOGGERS

fordable PC-based recording of temperature and humidity. Selectable recording time d sample rate allow customization of the recording function.

**Temperature Range: –22° to 122°F, –30° to 50°C (non-condensing)**
**Temperature Accuracy: better than .25°C at 25°C, 0.5°F at 75°F**
**Humidity Range: 10% to 90% RH (non-condensing)**
**Humidity Accuracy: ±2% between 10% and 90% RH at 77°F (25°C)**

- **Data Storage: Single channel operation: 11-bit stored - 21,500 sample points; Double Channel Operation: 11-bit stored - 10,750 sample points**
- **Power Supply: Lithium battery, 10 year life (average). Factory replaceable**
- **Software and interface cable ordered separately; Order No. 4TK89**

**DICKSON**
*The Leader In Recorders*




No. 3JG73

| Description | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **mperature & Humidity Logger** | D200 | **3JG73** | **$399.00▲** | 4.0 |

) Net prices, not subject to discount.

## HAND-HELD DIGITAL DATA LOGGER

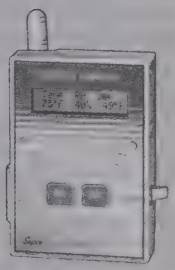
**Dual function capability.—Use as a conventional hand-held instrument or to record and store data for future use**
**Include Windows™ 95 software for data analysis, review, and storage.**
**Logger automatically recognizes each probe and adapter, and becomes five different data loggers in one instrument**
**Records data up to 40 days**

- **Remote probes provide versatile operation for any logging application**
- **Menu-driven operation, set-up on site without a computer**
- **View recording instantly, or print data without the need of a computer by connecting to a parallel printer**
- **Power Supply: 115V AC adapter ("9V" back-up battery not included)**
- **Dimensions: 5⅛ x 3½ x 1½"**

*Supco*

No. 4JZ53

Made In U.S.A.



### DIGITAL DATA LOGGERS AND INTERCHANGEABLE SENSOR KITS

| Sensor & Data Logger Type | SENSOR KITS* Supco Model | Stock No. | Each | Shpg. Wt. | SENSOR SPECIFICATIONS Temp. Range/ Accuracy | Voltage Range | RH Range/ Accuracy | Pressure Range/ Accuracy | Dew Point Range | DIGITAL DATA LOGGERS Supco Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ress/Press** | KPP | **4JZ48** | **$429.00** | 0.8 | — | — | — | 0-500 PSI (0-35 BAR) ±1% FS | — | SLPP | **4JZ53** | **$690.00** | 12.0 |
| **emp/Event** | KTE | **4JZ49** | **135.00** | 3.2 | –40° to 170°F ±2°F (–40° to 75°C ± 1°C) | 24V AC - 270V AC (24V DC - 180V DC) | — | — | — | SLTE | **4JZ54** | **395.00** | 11.0 |
| **emp/RH** | KTH | **4JZ50** | **135.00** | 2.7 | –40° to 170°F ±2°F (–40° to 75°C ± 1°C) | — | 0-100% at 32° to 130°F ±2% (0° to 55°C) ambient | — | 32° to 130°F (0° to 55°C) | SLTH | **4JZ55** | **395.00** | 11.0 |
| **emp/Press** | KTP | **4JZ51** | **235.00** | 4.0 | –40° to 170°F ±2°F (–40° to 75°C ± 1°C) | — | — | 0-500 PSI (0-35 BAR) ±1% FS | — | SLTP | **4JZ56** | **495.00** | 12.0 |
| **emp/Temp** | KTT | **4JZ52** | **135.00** | 2.7 | –40° to 170°F ±2°F (–40° to 75°C ± 1°C) | — | — | — | — | SLTT | **4JZ57** | **395.00** | 11.0 |

1 One sensor kit of same type included with each datalogger. Sensor kits are interchangeable and available for separate purchase.

DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG
TO REVIEW THOUSANDS OF PRODUCTS!

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# AMPROBE AT SERIES—ADVANCED WIRE TRACING KITS

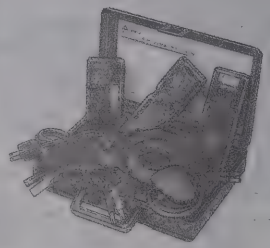
Easy to use, portable tracers designed to handle a majority of wire tracing applications.

- **Nos. 5U768 and 5U769 for use on energized circuits**
- **No. 5U770 for use on unenergized circuits only**
- **No. 5U771 for use on energized or unenergized circuits**
- **Trace conductor buried up to 13 ft.**
- **Trace and identify load-side equipment from the circuit breaker while energized**
- **Trace line-side wiring without power interruption on circuits from 9 to 600V AC or DC (No. 5U768 voltage range: 9-300V AC or DC)**
- **Trace open wires over a mile, wire in conduit or the conduit itself, locate ground faults and shorts, identify individual wires in a bundle**
- **All units are fully fused**

**Receivers:**

- **Two detectors pick up electromagnetic signals (short) or electrostatic signals (open)**
- **Sensitivity selection: x1, x10, x100 coarse gain adjustment; 0-10 fine adjustment**
- **Short/Open Mode performance: 20½ ft. in air under test conditions**
- **60 Hz rejection at 120 dB**
- **10 digit LED display**
- **ABS plastic case**
- **Operate on one "9V" alkaline battery**

AMPROBE INSTRUMENT



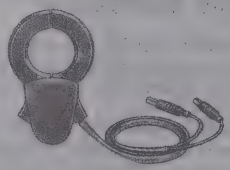
No. 5U771 Kit



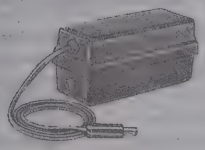
No. 5U778
Load Signal Generator



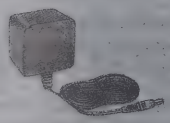
No. 5U779
Transmitter



No. 5U763
Inductive Clamp



No. 5U772
Battery Booster



No. 5U773
Recharger/Converter

**ACCESSORIES FOR WIRE TRACER KITS**

**Kit performance and capabilities may be upgraded with the addition of the accessories listed below.**

## No. 5U768

**Commercial Circuit Tracing Kit** includes receiver, load signal generator (9-300V AC or DC), two cordsets, plug adapter, and manual. Amprobe brand (AT-2001).

**No. 5U768.** Shpg. wt. 5.0 lbs. Each .....**$529.00**

## No. 5U769

**Industrial Circuit Tracing Kit** includes receiver, No. 5U778 load signal generator (9-600V AC or DC), two cordsets, plug adapter, and manual. Amprobe brand (AT-2002).

**No. 5U769.** Shpg. wt. 4.0 lbs. Each.....**$600.00**

## No. 5U771

**Industrial Multipurpose Tracing Kit** includes receiver, No. 5U778 load signal generator (9-600V AC or DC), No. 5U779 transmitter, No. 5U763 clamp-on transmitter, two cordsets, plug adapter, and manual. Amprobe brand (AT-2004).

**No. 5U771.** Shpg. wt. 5.3 lbs. Each..... **$841.00**

## No. 3JH47

**Industrial Multipurpose Tracing Kit** includes everything in No. 5U771 kit plus Battery Pack No. 5U772 and charger No. 5U773. Amprobe brand (AT-2005).

**No. 3JH47.** Shpg. wt. 7.0 lbs. Each ..... **$972.00**

## No. 5U770

**Commercial Open Tracing Kit** for use on unenergized lines only. Traces buried or hidden conductors up to a mile until break is found. Includes receiver, No. 5U779 transmitter, one cordset, plug adapter and manual. Amprobe brand (AT-2003).

**No. 5U770.** Shpg. wt. 4.5 lbs. Each..... **$554.00**

## No. 5U778

**Load Signal Generator** (included with Nos. 5U769 and 5U771 kits). Connects to an energized line to allow tracing of line side conductors when used with kit receivers. Voltage range: 9-600V AC or DC. Operating frequency: 32.768 KHz. Transmits 2 pulses with 0.0625 sec. duration every 0.5 seconds. Current Output: low mode—35 mA peak, 4 mA average; high mode 70 mA peak, 6 mA average. ABS plastic housing. Amprobe brand (S2600).

**No. 5U778.** Shpg. wt. 0.5 lbs. Each .....**$223.00**

## No. 5U779

**Transmitter** (included with No. 5U770 and 5U771 kits). Transmits a signal into an unenergized conductor to locate opens when used with kit receivers. Operating frequency: 32.768 KHz. Transmits 2 pulses with 0.0625 sec. duration every 0.5 seconds. Operates on 9V alkaline battery or with No. 5U772 24V battery booster sold separately below. Amprobe brand (T2200).

**No. 5U779.** Shpg. wt. 0.8 lbs. Each .....**$179.00**

## No. 5U763

**Inductive Clamp** (included with No. 5U771 kit). Clamps around energized line and plugs into No. 5U779 transmitter. Induces a signal onto the load side to enable identification of equipment on that circuit. Amprobe brand (A2201).

**No. 5U763.** Shpg. wt. 0.7 lbs. Each..... **$172.00**

## No. 5U772

**Battery Booster.** 24V Nicad rechargeable battery will triple the output of the No. 5U779 transmitter. For use on runs over one mile or when using No. 5U763 inductive clamp on runs over 200 ft. Amprobe brand (B2024).

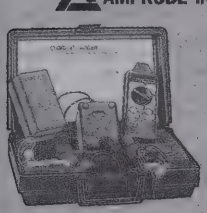
**No. 5U772.** Shpg. wt. 1.3 lbs. Each .....**$128.50**

## No. 5U773

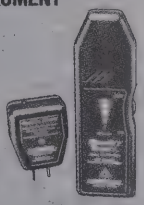
**Recharger/Converter.** 115V AC/24V DC converter to recharge No. 5U772 battery booster (in 8 hours) or to directly boost No. 5U779 transmitter. Amprobe brand (B2025).

**No. 5U773.** Shpg. wt. 1.0 lbs. Each .....**$37.25**

AMPROBE INSTRUMENT

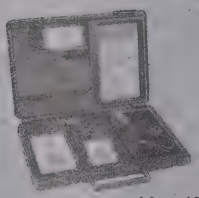


No. 3T029



No. 3JH48

GREENLEE®



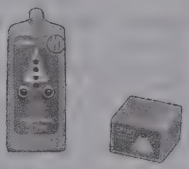
No. 6T095

IDEAL®



No. 3ZK29

ETCON



No. 5U745

## AMPROBE CT SERIES—CIRCUIT TRACER KITS

**For energized circuits—without power interruption**

**Typical applications: locate breakers, neutral/ground lines, shorts and ground faults; locate and follow wires in floors, walls, conduit, computer cables, controls, alarms and under carpet wiring**

**Both models include carrying case, 9V battery, spare fuse**

**No. 6T378 includes probe, transmitter, pigtail connector and power cord**

**No. 3T029 features a minimum long range capability of 13.0 feet to detect telephone wires, traffic signal wires, highway lighting wires, and CATV cables beneath city streets. Includes probe, transmitter, earphone, power cord, high voltage converter, pigtail connector, adapter, and power cord**

SPECIFIC APPLICATIONS FOR CT SERIES VOLTAGE RANGES

9-50V AC/DC:

- Locate fuses
- Trace computer cables, relay control panels
- Trace control wiring for HVAC and security/fire alarms
- Pinpoint shorts to ground in control wiring, cars, boats, aircraft, security/fire and HVAC

50-140V AC/DC:

- Locate circuit breakers, mains, transformers
- Identify neutral lines for installing GFI breakers, one line diagrams
- Pinpoint shorts to ground in distribution systems, equipment, under carpet wiring, heating cables
- Follow path of Romex or wires in conduit through walls, floors, ceilings

140-600V AC only:

- Trace 480-600V Delta or Wye system circuits

| Voltage Range Capability | | | | | | Amprobe Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 9-50V AC / DC | 50-140V AC / DC | 140-600V AC | 6-300V AC / DC | 9-300V AC / DC | 300-600V AC | | | | |
| — | — | — | — | Yes | — | CT100 | **6T378** | **$362.00** | 2.8 |
| Yes | Yes | Yes | Yes | — | Yes | CT326B | **3T029** | **809.00** | 5.0 |

### GREENLEE No. 6T095

**Traces power without interrupting circuits**

**Voltage range 9 to 300V AC and DC 50/60 Hz**

**Applications Include:**

**ocate and identify breakers and fuses**

**race concealed wiring in walls, under floors, and underground**

**ocate junction box, relays, transformers, and switches**

**race wiring in conduit**

**ind shorts to ground**

**Includes receiver, transmitter, adapter plug, receptacle blade, test lead, 9V battery, and carrying case**

**Limited lifetime warranty**

**. 6T095.** Greenlee brand (2007).Shpg. wt. 2.9 s.Each.....$376.00

### IDEAL CIRCUIT BREAKER IDENTIFIER KIT No. 3ZK29

**Positively identify circuit breakers or fuses without guesswork or service interruption**

**Plug-in transmitter lets one person test, identify, and troubleshoot single-phase 120V energized outlets or incandescent light fixtures**

- Multi-functional E-Z Check® Plus transmitter verifies proper wiring sequence and GFCI operation
- Hand-held receiver, with adjustable sensitivity level, identifies specific circuit breakers or fuses with a flashing LED light and audible tone as the operator scans the box

**No. 3ZK29.** Ideal brand (61-052). Shpg. wt. 0.5 lbs.. Each.....$58.65

**No. 3ZK31.** Replacement Transmitter. Ideal brand (LA-2246). Shpg. wt. 0.2 lbs. Each.....$35.40

**No. 3ZK32.** Replacement Receiver.Ideal brand (LA-2247). Shpg. wt. 0.4 lbs. Each.....$41.35

### ETCON No. 5U745

- Circuit tracer quickly and easily traces branch circuits
- Locates circuit breakers, fuses, control circuits, hot neutral and ground wires, conduit, and short circuits in walls and underground
- Voltage range 24 to 300V AC
- Easy-to-read LED display; provides audible and visual indication
- Not affected by line noise from computers, dimmers, and surge protectors
- Includes receiver, transmitter, tracing leads, and instructions. (9V batteries not included, see Index under Batteries, Transistor)

**No. 5U745.** Etcon brand (CP115). Shpg. wt. 0.8 lbs. Each.....$186.00

### AMPROBE No. 3JH48

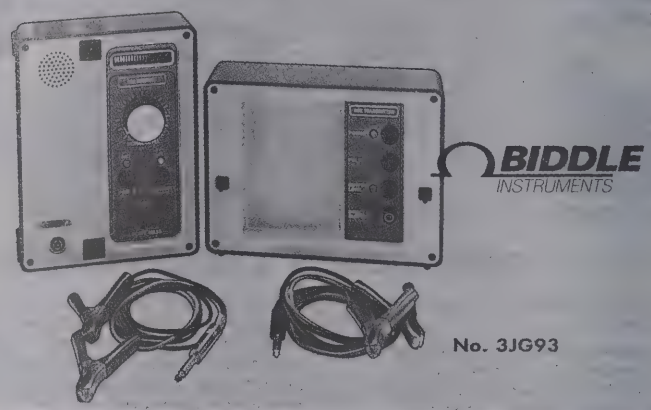
- Identify circuit breakers or fuses in 120V circuits
- For residential applications
- Audible tone and LED display
- Adjustable sensitivity
- Made in the USA
- UL Listed
- Uses 9V battery (not included)
- Includes instructions

**No. 3JH48.** Amprobe brand (BT-100). Shpg. wt. 2.0 lbs.. Each.....$39.85

# CABLE TRACERS

## SPLIT-BOX PIPE AND CABLE LOCATOR No. 3JG93

- Energized or de-energized lines tracing
- Trace buried cable without digging up the cable
- Conductive or inductive coupling
- Virtually indestructible
- Mass locator capabilities
- Peak and null detection capabilities
- Hand-held and lightweight
- Output frequency: 126 kHz
- Includes: Four C batteries, protection tote bag, 3' direct-connect cable, ground rod, and instructions




No. 3JG93

**No. 3JG93.** Shpg. wt. 7.0 lbs. Each .....$920.00

## PREFIXES AND CONVERSION FACTORS

The conversion factors shown below are among those found most useful to instrument engineers. They are accurate to four or five places. Higher accuracy is almost never warranted in industrial instrumentation except in special cases.

Shown also is a set of prefixes, some of which are in common use, as in megatons, kilowatts, millivolts, and centimeters, to indicate decimal multiples and submultiples of units. These prefixes are internationally accepted.

### PREFIXES

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| $10^{12}$ | tera | (T) | 10 | deka | (da) | $10^{-9}$ | nano | (n) |
| $10^{9}$ | giga | (G) | $10^{-1}$ | deci | (d) | $10^{-12}$ | pico | (p) |
| $10^{6}$ | mega | (M) | $10^{-2}$ | centi | (c) | $10^{-15}$ | femto | (f) |
| $10^{3}$ | kilo | (k) | $10^{-3}$ | milli | (m) | $10^{-18}$ | atto | (o) |
| $10^{2}$ | hecto | (h) | $10^{-4}$ | micro | (μ) | | | |

### LENGTH

Centimeters – cm
x 0.394 = Inches

Feet – ft.
x 30.48 = Centimeters
x 0.3048 = Meters

Inches – in.
x 2.540 = Centimeters

Meters – m
x 3.281 = Feet
x 39.37 = Inches
x 1.094 = Yards

### VOLUME

Cubic Centimeters – cu. cm or $cm^3$
x 0.06102 = Cubic inches

Cubic Feet – cu. ft.
x 28320 = Cubic centimeters
x 7.481 = Gallons

Cubic Inches – cu. in.
x 16.39 = Cubic centimeters

Gallons – gal.
X 8.322 = Pounds of water

Liter – l
x 0.2642 = Gallons

### TEMPERATURE

Degrees Celsius – °C
(°C x 9/5) + 32 = °F

Degrees Fahrenheit – °F
(°F - 32) x 5/9 = °C

### WEIGHT

Kilograms – kg
x 2.205 = Pounds

Pounds – lb.
x 453.6 = Grams

### LIGHT

Lux
x 0.0929 = Foot candle

Candles/Square Meter
x 0.2918 = Foot lambert


## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# SEMICONDUCTOR TESTERS, LCR METERS, AND PROBE METER

## SEMICONDUCTOR TESTERS

### [A] B&K PRECISION No. 6T079

**Large, high contrast, 0.8" digit LCD readout**

**26 user ranges for versatile test selection**

**Capacitance range: 0.1pF to 20mF**

**Resistance range: 0.1Ω to 20MΩ**

**Use for testing transistors, SCRS, diodes, LEDs, and batteries under actual load conditions**

**Drop proof at 5 ft.**

**Includes heavy-duty case and tilt stand for bench-top use**

**o. 6T079.** B&K Precision brand (815). Shpg. t. 1.0 lbs. Each ..... **$99.00**

### [B] B&K PRECISION No. 1T156

**Industrial transistor tester**

**Tests diodes, SCRs, FETs, and Darlingtons**

**High/Low drive**

**Works in-circuit**

**Identifies all three transistor leads**

**Random lead connection**

**Audibly and visually indicates good transistor**

**Automatic NPN/PNP determination**

**Positive Si/Ge identification**

**Collector Current: 125mA**

**Base Current: 1mA (LO) or 250mA (HI) at 4% duty cycle**

**Includes 3 test leads with mini-lock clips**

**CSA Certified (LR29957)**

**o. 1T156.** B&K Precision brand (520B). Shpg. t. 5.0 lbs. Each ..... **$435.00**

### [C] B&K PRECISION No. 1T155

**Portable transistor tester**

**In/out-of-circuit tests for good/bad transistors, FETs, SCRs, and Darlingtons**

**Identifies transistor as NPN or PNP and P- or N-channel FETs**

**Identifies FET gate lead, all transistor leads in Low drive, base lead in High drive and all leads of SCR**

**Collector Current: 125mA**

**Base Current: 250mA or 1mA**

**Includes 3 test leads with mini-lock clips and carrying case**

**o. 1T155.** B&K Precision brand (510). Shpg. t. 1.0 lbs. Each ..... **$265.00**

## LCR METERS

### [D] B&K PRECISION No. 1T166

- **Nine capacitance ranges from 200pF to 20mF**
- **Seven resistance ranges from 2Ω to 20MΩ**
- **Seven inductance ranges from 200mH to 200H**
- **3½ digit LCD display**
- **Function and ranges are manually selected**
- **Accuracy (typ.): capacitance, ≤0.5mF ±1% ±1 digit; resistance, ≤1M ±1% ±1 digit; inductance, 2H ±1%**
- **Low battery and overload indicator**
- **Includes test leads, test clips, battery, and spare fuse**

**No. 1T166.** B&K Precision brand (875B). Shpg. wt. 1.5 lbs. Each ..... **$189.00**

### [E] B&K PRECISION No. 2T850

- **Used in component design, inspection, selection, and as a teaching aid**
- **Measures inductance, capacitance, resistance, and loss factor of electronic components**
- **23 capacitance, inductance, and resistance ranges**
- **Typical accuracy ±0.7% of reading**
- **Ranges: inductance, 0.1μH to 10,000H; capacitance, 0.1pF to 10,000μF; resistance, 0.001Ω to 10MΩ**
- **Dissipation and quality factor measurements at 120Hz or 1kHz**

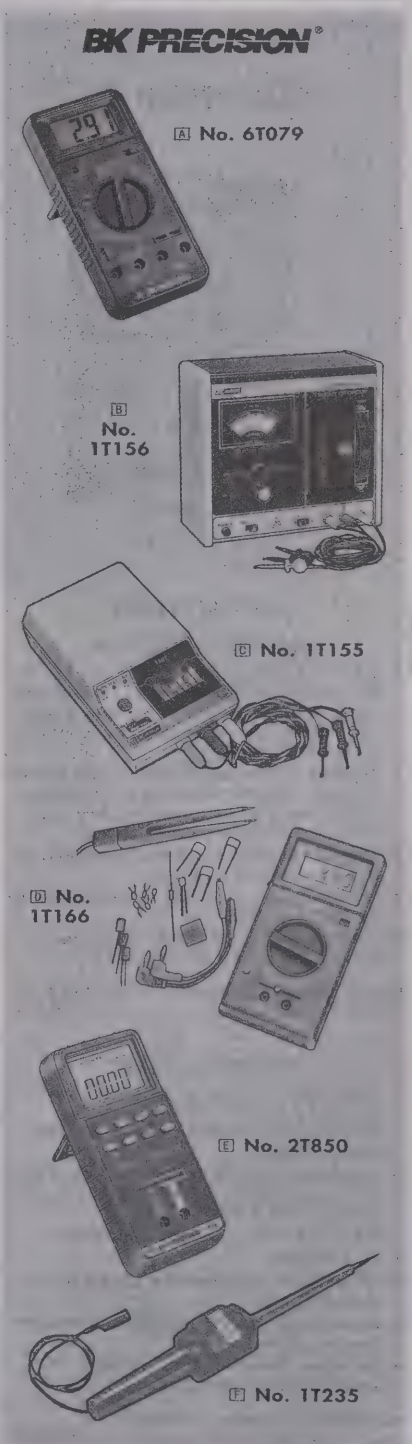
**No. 2T850.** B&K Precision brand (878). Shpg. wt. 4.5 lbs. Each ..... **$275.00**

## HI-VOLT PROBE METER

### [F] B&K PRECISION No. 1T235

- **Measures voltages up to 40,000V DC; for use in low energy applications**
- **Factory calibrated at 25KV (±2% accuracy); full scale ±3% accuracy**
- **Positive polarity only**
- **Includes two tips: conventional round needle type and flat spring type to access CRT anode**

**No. 1T235.** B&K Precision brand (HV-44A). Shpg. wt. 1.0 lbs. Each..... **$109.00**

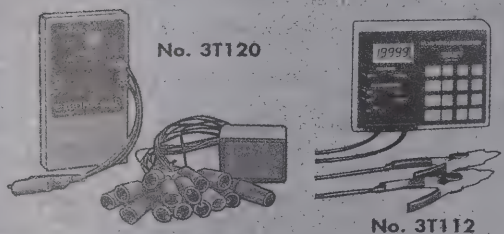


# WIRE SORTERS, WIRE LENGTH METER, AND SPIKE-SAG-SURGE RECORDER

GREENLEE® ETCON AMPROBE INSTRUMENT

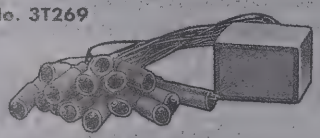


No. 3T119

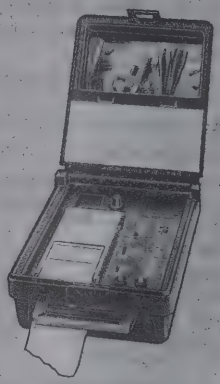


No. 3T120

No. 3T112



No. 3T269



No. 2T970

## WIRE SORTERS

### GREENLEE No. 3T119

- Sorts 10 wires simultaneously; ideal for one-man wire sorting; simplifying cable identification; indicating opens; identifying shorts to ground, conduit, or multiple lines
- Typical system applications: air conditioning control, telephone, computer harnessing, burglar alarm, fire control, and remote control systems
- Digital readout identifies each line at distances up to 3 miles
- Withstands accidental contact with up to 120V AC/DC
- Two-piece digital readout system in drop protected carrying case

**No. 3T119.** Greenlee brand (5775VS). Shpg. wt. 3.8 lbs. Each..... $345.00

### ETCON No. 3T120

- Sorts up to 15 wires with no known ground path, 30 wires using No. 3T269 additional remote unit (order above right)
- Maximum wire length based on 250Ω maximum load; (24 AWG) 1 mile, (12 AWG) 14.9 miles
- Open end short circuit indication
- LCD display
- Withstands accidental voltage up to 280V AC/DC
- Requires four "9V" alkaline batteries (not supplied)
- Includes identifier unit, remote unit, leads, and carrying case

**No. 3T120.** Etcon brand (WS144). Shpg. wt. 1.5 lbs. Each.....$355.00

## WIRE SORTER REMOTE UNIT

### ETCON No. 3T269

- Provides No. 3T120 wire sorter the capability of sorting up to 30 wires. Includes case

**No. 3T269.** Etcon brand (WS144-30). Shpg. wt. 0.5 lbs. Each..... $201.25

## SPIKE-SAG-SURGE RECORDER

- Monitors line and records voltage dips (sags), voltage increases (surges), and high frequency impulses (spikes)
- Determines if, and what type, line protection is necessary to protect electronic equipment
- 0-220/440/880V, full scale, 50 or 60 Hz, 1 phase
- Solid state circuit design
- Low battery indication
- Easy loading chart paper
- All three disturbances appear on the same chart
- Requires two "9V" alkaline batteries (not supplied)

### ACCURACIES

Voltages (nominal) are ±3%FS. Voltages (sag and surge) are ±3%FS, or ±2% reading based on sinusoidal waveforms, with a 1/2 cycle response time. Voltages (spike) are ±3%FS, ±10% reading, specified for a rectangular pulse with a rise time greater than 35 nanoseconds and with a sum of rise plus peak duration of at least 350 nanoseconds. Accuracy for more narrow spikes diminishes.

**Input Impedance:** 220V range—387K ohr (±1%)/15pf, for 440V range—784K ohr (±1%)/15pf, and for 880V range—158( ohms (±1%)/15pf. **Threshold Adjustme Range:** Surge and spike adjustable from to 100%. Sag is adjustable from 0% to 50 **Line Power:** 120 VAC, 60 Hz, 9 Watts (50 I Available). **Chart Speed:** 12"/Hour. **Line Fu** .2 Amp, 250V. **Input Overload:** 50% Full Sca for 1 min.

**No. 2T970.** Amprobe (LAS-800). Shpg. wt. 4.5 lbs. Each..... $1111.0

### REPLACEMENT CHARTS FOR 2T970

- 30 ft. long; 6 charts per box

**No. 2T982.** Amprobe brand (800SB). Shpg. wt 1.7 lbs. Each..... $78.2

## WIRE LENGTH METER

- Measures wire length on reel from 2 AWG to 1000 MCM, stranded and solid, in lengths of 15 ft. to 20,000 ft.; accuracy ±1%
- Useful for electrical contractors, utilities, and warehouses when determining inventories of wire
- Microprocessor based meter with a 4½ digit LCD readout
- Direct readout for both copper and aluminum wire
- Automatic internal adjustment for ambient temperature
- Unique calibration mode measures nonstandard gauge wire
- Only one alligator clip attachment required at each end of wire
- Includes case, alligator clip assemblies, test probe assemblies, two "9V" and four "D" alkaline batteries

**No. 3T112.** Etcon brand (WL140). Shpg. wt. 5. lbs. Each..... $1102.0

## DIGITAL LOGIC PROBE

### No. 1T231

**Multi-family compatible (TTL and CMOS)**

**Displays pulse presence and logic states**

**Memory mode latches single pulse transition**

**Captures pulses as narrow as 30nS and pulse trains to 20MHz**

**1 megohm input impedance**

**o. 1T231.** B&K Precision brand (DP-21).
hpg. wt. 0.3 lbs. Each..... $35.00

## DIGITAL PULSER PROBES

### B&K PRECISION No. 1T232

**Multi-family compatible (TTL or CMOS)**

**Produces 10μ pulse signal at 100mA**

**5Hz or 400Hz pulse rate**

**External square wave terminal and sync input point**

**o. 1T232.** B&K Precision brand (DP-31A).
hpg. wt. 0.3 lbs. Each..... $35.00

### B&K PRECISION No. 1T233

**Displays pulse presence, and logic states to 50MHz**

**Multi-family compatible (TTL and CMOS)**

**Captures 10nS pulse**

**o. 1T233.** B&K Precision brand (DP-52).
hpg. wt. 0.5 lbs. Each..... $45.00

## AC POWER SUPPLIES

### B&K PRECISION No. 1A835

**Variable-isolated output 0-150V AC**

**Power line leakage tester with expanded leakage scale**

**3 amp continuous, 4 amp intermittent output**

**Built-in solid state soldering iron temperature control**

**Circuit breaker overload protection**

**Displays volts, amps, VA, leakage**

**Volt/Amp ranges: 0-240 VA, 0-480 VA @ 120V AC**

**o. 1A835.** B&K Precision brand (1655).
hpg. wt. 22.0 lbs. Each..... $545.00

### B&K PRECISION No. 1T201

- **Variable-isolated 0-150V AC output**
- **2 amp continuous output**
- **Displays voltage or current readings**
- **Isolation transformer prevents shock hazard**

**No. 1T201.** B&K Precision brand (1653A)
Shpg. wt. 15.0 lbs. Each..... $319.00

## ISOLATION TRANSFORMERS

### B&K PRECISION No. 1T193

- **Provides safety factor when servicing "hot chassis" equipment**
- **Isolation leakage less than 0.1mA**
- **Output voltage of 117-124V nominal (120V input)**
- **Output current of 1.25A continuous (2A intermittent)**

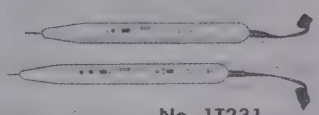
**No. 1T193.** B&K Precision brand (1604A).
Shpg. wt. 6.0 lbs. Each..... $119.00

### B&K PRECISION No. 1T236

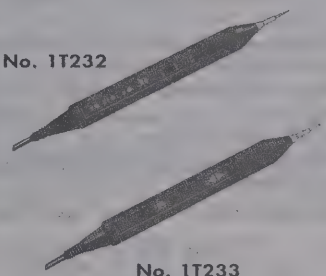
- **Provides safe testing of transformer-less equipment**
- **Direct output: 500VA continuous, isolated output: 350VA continuous, 500VA intermittent**
- **Two 3-position slide switches provide 9 combinations of voltage selection, 90-140V**
- **Self-contained power switch with pilot lamp**
- **Input required: 105-130V AC, 60 Hz**

**No. 1T236.** B&K Precision brand (TR110).
Shpg. wt. 11.0 lbs. Each..... $225.00

BK PRECISION

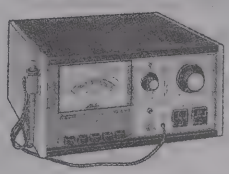


No. 1T231

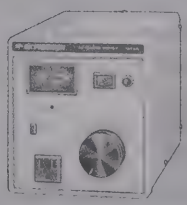


No. 1T232

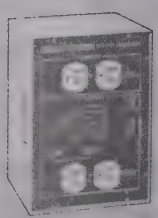
No. 1T233



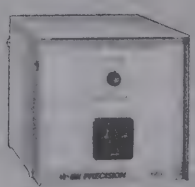
No. 1A835



No. 1T201



No. 1T236



No. 1T193

# SINGLE AND TRIPLE OUTPUT DC POWER SUPPLIES

## SINGLE OUTPUT DC POWER SUPPLIES

### [A] B&K PRECISION Nos. 3A366, 1T196, and 1T197

- Low ripple characteristics
- Regulated outputs for constant volt and current
- Pre-regulator limits internal dissipation
- Isolated output to float or ground either polarity
- Overload protection for circuits being tested and power supply
- Reverse polarity protection
- Parallel or series connection flexibility for dual hook-up
- Two current ranges on Nos. 3A366 and 1T196
- Includes instructions and spare fuse

### [B] B&K PRECISION Nos. 1T192, 4KF57, 4KF58, and 4KF59

- Reverse polarity, overload, thermal, and short circuit protection
- Current limiting
- Rated for continuous operation at maximum power output without overheating
- Constant current or voltage operation

### [C] B&K PRECISION Nos. 6T508 and 4KF56

- For servicing high-powered automotive electronic equipment
- Overload and short circuit protected
- Reverse polarity protection
- Operates continuously without overheating
- Connect two (or more) in parallel to double the current, or in series to double the voltage

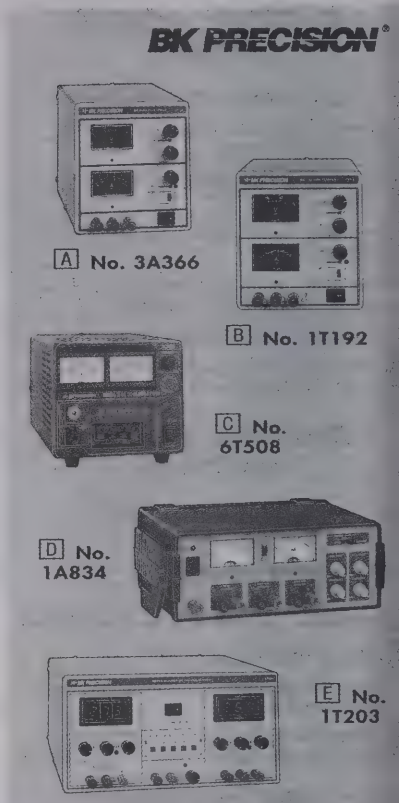
## TRIPLE OUTPUT DC POWER SUPPLIES

### [D] B&K PRECISION No. 1A834

- Short circuit, overload, and reverse polarity protection
- Operates continuously at rated output
- Connects outputs in series for higher voltage output or in parallel for higher current output (switch selectable)
- Adjustable current limiting

### [E] B&K PRECISION No. 1T203

- Low ripple characteristics
- Independent or tracking operation of two 0-30V DC, 2A sections
- Switchable series/parallel operation
- Adjustable current limit controls
- Two 3½digit LED displays to read volts or amps of "slave" or "master" supply
- Constant current and voltage indicators




## SINGLE OUTPUT DC POWER SUPPLIES

| Key | Output Voltage (DC) | Ripple Voltage (RMS) | Line Voltage Regulation | Load Regulation | Output Current | Current Limits | Line Current Regulation | Meter Type | B&K Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 0-30V | ≤ 1mV | ≤ 0.01% + 3mV | ≤ 0.01% + 3mV | 0-0.25A 0-1A | 5%-100% | 0.2% + 3mA | 2 Analog Meters | 1710 | **3A366** | **$235.00** | 9.0 |
| A | 0-30V | ≤ 1mV | ≤ 0.01% + 3mV | ≤ 0.01% + 3mV | 0-0.5A 0-3A | 5%-100% | 0.2% + 3mA | 2 Analog Meters | 1730 | **1T196** | **325.00** | 13.0 |
| A | 0-30V | ≤ 1mV | ≤ 0.01% + 3mV | ≤ 0.01% + 3mV | 0-3A | 5%-100% | 0.2% + 3mA | 2 Digital Meters | 1735 | **1T197** | **395.00** | 12.0 |
| B | 0-60V | ≤ 1mV | ≤ 0.01% + 3mV | ≤ 0.01% + 3mV | 0-2A | 5%-100% | 0.2% + 3mA | 2 Analog Meters | 1711 | **1T192** | **315.00** | 13.0 |
| B | 0-60V | ≤ 1mV | ≤ 0.01% + 3mV | ≤ 0.01% + 3mV | 0-2A | 5%-100% | 0.2% + 3mA | 2 Digital Meters | 1715 | **4KF57** | **390.00** | 14.0 |
| B | 0-60V | ≤ 1mV | ≤ 0.01% + 2mV | ≤ 0.01% + 2mV | 0-4A | 5%-100% | 0.4% + 5mA | 2 Analog Meters | 1740 | **4KF58** | **515.00** | 26.0 |
| B | 0-35V | ≤ 1mV | ≤ 0.2% + 2mV | ≤ 0.04% + 2mV | 0-6A | 5%-100% | 0.04% + 5mA | 2 Digital Meters | 1743 | **4KF59** | **515.00** | 26.0 |
| C | 3-14V | ≤10mV RMS | ≤0.8% | ≤ 0.8% + | 25A @ 13.8 VDC | — | — | 2 Analog Meters | 1688 | **4KF56** | **305.00** | 21.0 |
| C | 3-14V | ≤10mV RMS | ≤0.8% | ≤ 0.8% + | 12A @ 13.8V DC | — | — | 2 Analog Meters | 1686 | **6T508** | **205.00** | 12.0 |

## TRIPLE OUTPUT DC POWER SUPPLIES

| Key | Voltage Output #1 & 2 | Current Output #1 & 2 | Voltage Output #3 | Current Output #3 | Line Regulation | Load Regulation | Meter Type | Mfr's. Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 0-24V | 0-0.5A | 5V | 4A | 0.01% + 3mV | 0.01% + 3mV | 2 Analog Switchable | 1651 | **1A834** | **$435.00** | 13.0 |
| E | 0-30V | 0-2A | 4-6.5V | 5A | ≤ 0.01% + 3mV | ≤ 0.01% + 3mV | 2; 3 Digit, LED | 1760 | **1T203** | **665.00** | 23.0 |

# FREQUENCY COUNTERS AND CIRCUIT BOARD TESTERS

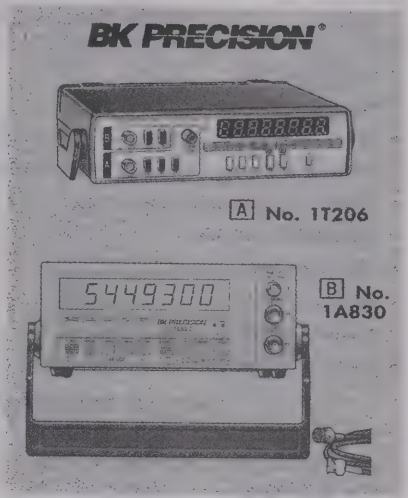
## FREQUENCY COUNTERS

### [ B&K PRECISION No. 1T206

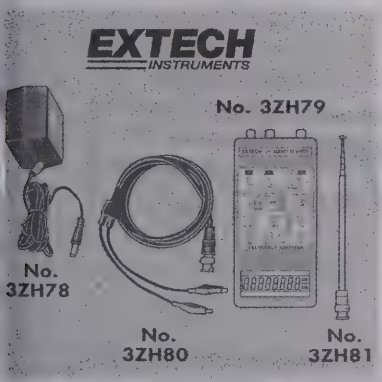
- Range: 5 Hz to 175 MHz
- Switchable low pass 10 KHz filter
- Frequency, period, period average and totalize functions
- Displays ratio of two frequencies
- Time interval functions include single event and averaging
- Totalize control includes manual reset, display hold, and start/stop input with standard TTL logic levels
- Switchable x1/x10 attenuator and positive or negative slope
- Trigger level and slope switch signal controls
- Selectable resolution, self-test mode, and overflow indicator

### [B] B&K PRECISION No. 1A830

- Range: 5 Hz to 2.4 GHz
- Switchable low pass filter and x1/x10 attenuator
- Frequency, period, period average, and totalize functions
- Remote start/stop function
- Prescale capabilities of 50 MHz to 2.4 GHz
- Selectable resolution of CH-A KHz/MHz modes, prescale and display
- Totalize function includes manual reset and hold




| Display | Max. Input Sensitivity | Input Impedance | Maximum Input | Bandwidth | Time Base Stability | B&K Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8LED | 20mVrms | 1MΩ | 250 Vrms | 175 MHz | 10 PPM | 1823 | **1T206** | **$399.00** | 7.5 |
| 8LED | 10mVrms | 1MΩ(5Hz-100MHz)<br>50Ω(50MHz-2.4GHz) | 200V (DC + AC peak) | 2.4 GHz | 0.5 PPM | 1856B | **1A830** | **469.00** | 7.5 |




## HAND-HELD FREQUENCY COUNTER

### EXTECH No. 3ZH79

- Measures 10 Hz to 2.5 GHz
- Max., Min., and Average readings
- Data Hold and Relative measure function
- 0.5" 8-digit LCD display
- Period display from 10 Hz to 10 MHz
- Auto power OFF, manual override
- Includes batteries (AC operation optional)
- Optional carrying case 1H151. See Index

**No. 3ZH79.** Hand-Held Frequency Counter. Extech Brand (381235). Shpg. wt. 1.0 lbs. Each.....$249.00

#### ACCESSORIES

**No. 3ZH81.** Telescoping Antenna. Extech brand (3812RF). Shpg. wt. 0.1 lbs. Each .....$29.00

**No. 3ZH80.** Probe with Alligator Clip. Extech brand (3812AC). Shpg. wt. 0.2 lbs. Each .....$19.00

**No. 3ZH78.** 117VAC Adapter. Extech brand (381217). Shpg. wt. 0.5 lbs. Each .....$15.00

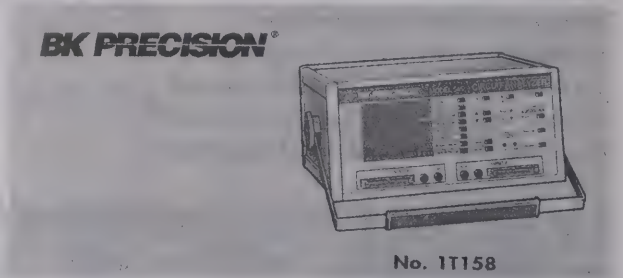
## CIRCUIT BOARD TESTER

### B&K PRECISION No. 1T158

- Test all active and passive components
- Tests digital and analog ICs up to 40-pins
- Autoscan mode gives a positive pass/fail indication
- Built-in pulse generator tests SCRs
- Built-in switcher automatically tests IC pins sequentially
- RS-232 interface

**1T158*.** B&K Precision brand (545). Shpg. wt. 6.0 lbs. Each.....$2950.00

*Limited Availability - contact local branch.




**DON'T DELAY... ORDER FROM GRAINGER NOW!**

Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

# FUNCTION GENERATORS

## [A] B&K PRECISION No. 1A833

- 0.2 Hz-2 MHz
- Function generator
- Sine, square, triangle, pulse, and ramp output
- 20Vp-p into open circuit, 10Vp-p into 50 ohms
- Wide range variable duty cycle
- Variable DC offset
- TTL and CMOS output
- External VCG
- Frequency dial accuracy within 5%
- Low distortion

## [B] B&K PRECISION No. 1T226

- Includes all features of No. 1A833
- 0.5 Hz-5 MHz
- Function generator with digital frequency display
- 4-digital LED display
- Coarse and fine tuning for precision settability

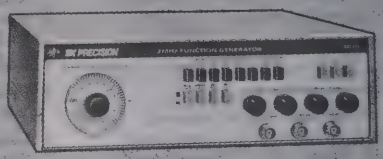
## [C] B&K PRECISION No. 1T225

- Includes all features of No. 1T226
- 0.1 Hz-10 MHz
- Sweep/Function generator with digital frequency display
- 5-digit LED display
- Linear or log sweep
- Sweep width and sweep time variable
- 100:1 sweep range

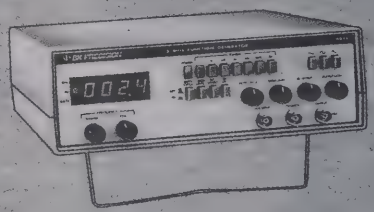
## [D] B&K PRECISION No. 6T507

- Includes all features of No. 1T225
- 0.2 Hz-20 MHz
- Deluxe sweep/function generator
- Operates as frequency counter to 30 MHz
- AM or FM modulation, internal or external
- Gated burst operation, internal or external
- Settable start and stop sweep frequencies

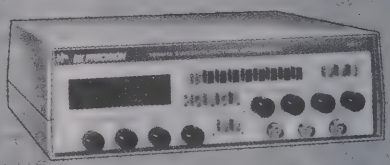
BK PRECISION®



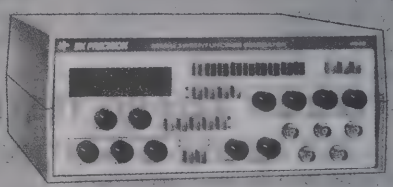
[A] No. 1A833



[B] No. 1T226



[C] No. 1T225



[D] No. 6T507

## FUNCTION GENERATOR ORDERING DATA

| Key | Frequency Range | Sine Wave Distortion (%) | Square Wave Rise/Fall Time (nS) | Output Amplitude | Output Attenuation (dB) | Sweep | AM/FM | Mfr's. Model | Stock No. | Each | S |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 0.2 Hz-2 MHz | 1.0% Typ. | 50 | 20V p-p | 40 dB | Ext. | Ext. FM | 4010 | **1A833** | **$250.00** | |
| B | 0.5 Hz-5 MHz | 1.0% Typ. | 50 | 20V p-p | 40 dB | Ext. | Ext. FM | 4011 | **1T226** | **315.00** | |
| C | 0.1 Hz-10 MHz | 1.0% Typ. | 20 | 20V p-p | 40 dB | Int. Lin-Log | Ext. FM | 4017 | **1T225** | **399.00** | |
| D | 0.2 Hz-20 MHz | 1.0% Typ. | 20 | 20V p-p | 40 dB | Int. Lin-Log | Int./Ext. AM/FM | 4040 | **6T507** | **545.00** | |

## FLUKE 610 LAN CABLEMAPPER

**Quickly verify Unshielded Twisted Pair (UTP) cables to 400 ft.**

**Cable identifiers assist in locating termination points**

**Faults identified: Opens/Shorts/Reversed or Crossed Pairs**

**Detect Split Pairs**

**Varify any UTP cable terminated to a RJ-45 connector**

ıcludes one cable identifiers (#1), soft arry case, user manual, 9V battery and 6103 Cable Kit including one 24" RJ-45 to RJ-45 patch cable, Two RJ-45 to RJ-45 female couplers, and user manual.

**No. 6T609.** Fluke (610). Shpg. wt. 2.0 lbs.
Each ..... $429.00

**ADDITIONAL CABLE IDENTIFIERS #2, #3, #4**

**No. 6T610.** Fluke (N6101). Shpg. wt. 2.0 lbs.
Each ..... $125.00

**ADDITIONAL CABLE IDENTIFIERS #5, #6, #7, #8**

**No. 6T611.** Fluke (N6102). Shpg. wt. 1.0 lbs.
Each ..... $165.00

## FLUKE 620 LAN CABLEMETER

**One-person LAN cable verification tool tests if connection has been made properly without using a remote unit at the other end of the cable**

**Detects wiring problems, locates wiring and connections errors, and measures cable length**

**Measure cable 1 to 999 ft.; accuracy 7% + 3 ft.**

**Tests UTP, STP and coaxial cables**

**Two-line backlit LCD display**

**Portable unit with long battery life**

**Includes 4 ft. UTP patch cable, one RJ45F-RJ45F in-line coupler, cable identifier (#1), 2 "AA" batteries, and case**

**o. 5U831.** Fluke (620). Shpg. wt. 3.0 lbs.
ach ..... $595.00

**ADDITIONAL CABLE IDENTIFIERS #2, #3, #4**

**No. 5U839.** Fluke (N6201). Shpg. wt. 1.0 lbs.
Each ..... $90.00

**ADDITIONAL CABLE IDENTIFIERS #5, #6, #7, #8**

**No. 5U840.** Fluke (N6202). Shpg. wt. 1.0 lbs.
Each ..... $120.00

**STP (IBM type) Cable Kit.** Includes one IBM data connector to DB9 male cable (IBM Type 1, 3 ft. long), and one IBM data connector to RJ45 adapter.

**No. 5U841.** Fluke (N6203). Shpg. wt. 1.0 lbs.
Each ..... $140.00

## FLUKE 650 LAN CABLEMETER

**Troubleshoots coaxial and UTP (unshielded twisted pair) cables used in Ethernet, Token-Ring and other networks**

**Variety of capabilities allow unit to pinpoint faults such as opens, shorts, crossed pairs, split pairs, and reversed connections**

**Verifies and certifies cable to 10 MHz**

**Wire map detects both correct and faulty wiring**

**Built-in TDR finds cable length and distance to fault**

**Measures near-end crosstalk (NEXT) and detects split pairs**

**Time-stamped noise monitoring**

- **Save up to 50 test results for later use**
- **4 line LCD display**
- **Operates on batteries or 120V AC line power**
- **Includes remote unit, two RJ-45 patch cables, RJ-45 clip lead cable, two RJ-45 couplers, 50 OHM BNC cable, AC adapter, five "9V" batteries (2 for cablemeter, 1 for remote unit + 2 spares), soft carrying case and manual**

**No. 5U832.** Fluke (650). Shpg. wt. 8.0 lbs.
Each ..... $1795.00

## REPLACEMENT LAN CABLEMETER ACCESSORIES

or use with Stock No. 5U832 LAN ıblemeter.

**REMOTE UNIT**

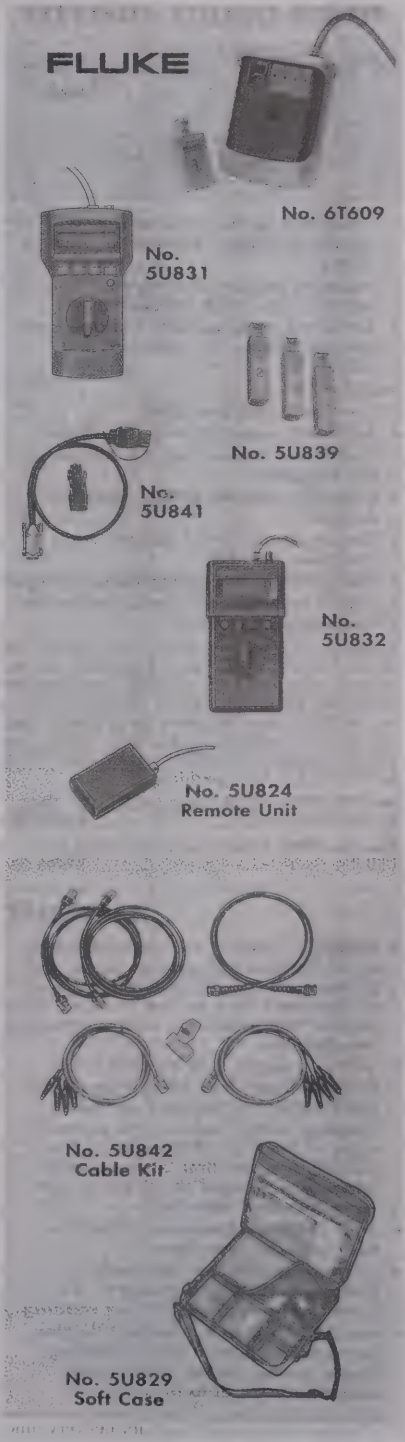
**ı. 5U824.** Fluke (650R). Shpg. wt. 1.0lbs.
ch ..... $185.00

**ble Kit.** Includes two RJ-45 patch cables, o RJ-45 clip lead cables, two RJ-45 female couplers, one 50 OHM coaxial cable, and one printer cable (DB9 to DB25).

**No. 5U842.** Fluke (N6580). Shpg. wt. 2.0 lbs.
Each ..... $125.00

**SOFT CARRYING CASE**

**No. 5U829.** Fluke (C650). Shpg. wt.3.0 lbs.
Each ..... $100.00



# POWER HARMONICS METER, POWER QUALITY AND HARMONIC ANALYZERS

## POWER QUALITY ANALYZER




- **Combines the features of a power quality analyzer, mulitmeter, and scope**
- **Measure power consumption, harmonics, and catch intermittents**
- **Complete package with voltage and current probes, PC software and cable**

**Includes:**

- **Test leads and test clips**
- **500A AC current clamp (80i-500s)**
- **FlukeView Power Quality, software for Windows**
- **Optically Isolated RS232 Interface Adapter**
- **Rechargeable Ni-Cd Battery Pack (installed, BP120)**
- **Line Voltage Adapter/Battery Charger**
- **User's manual and application guide**
- **Power Quality Video**

Displays voltage, current, and power as digits, waveforms, and harmonic spectrums. Advanced recording capabilities make the Fluke 43 a great tool for capturing voltage sags as short as a single line cycle and multiple transients down to 200ns. Approvals: 600V CAT III; CSA Certified; UL 3111 pending.

***New*** **No. 4TP91.** Fluke brand (43 NIST)†. Shpg. wt. 13.0 lbs. Each ..... $2095.00

***New*** **No. 4TP92.** Fluke brand (43). Shpg. wt. 13.0 lbs. Each..... $1995.00

## POWER METER AND POWER HARMONICS ANALYZER




### POWER METER

- **Measures power and power factor on single phase or balanced three phase, three conductor, systems from one single phase measurement**
- **Measure KVAR and K-factor**
- **Display measurements in 3 ways: waveform, bar graph and numeric views**
- **Rated to 600V; meets IEC 1010-1 safety standards**
- **Display individual harmonics up to the 31st**
- **Accuracy (typ.): Volts—±0.3% + 3 digits; Harmonics—fundamental to 15th harmonic, ±2% + 3 digits + probe specs for amps and watts; 16th to 31st, ±3% + 4 digits + probe specs for amps and watts**
- **Measures RMS, peak and total harmonic distortion, and has minimum, maximum, and average recording**
- **Current input rated to 2000A peak. (500A with supplied clamp-on probe. 1000A continuous when used with No. 6T608 probe)**
- **0 to 600KW (KVA) average; 0 to 2000KW (KVA) peak**
- **Displays power factor 0 to 1.0**
- **Frequency displayed 5 Hz to 99.9 Hz**
- **Phase measurement –179° to 180°**
- **Backlit display**
- **Includes AC current probe, test lead set, 4 "C" batteries, and manual**

**No. 3LV94.** Fluke brand (39). Shpg. wt. 5.0 lbs. Each ..... $995.00

- **3LV93 is the same No. 3LV94, but includes NIST Certified Calibration**

**No. 3LV93.** Fluke brand (39 NIST)†. Shpg. wt. 5.0 lbs. Each ..... $1060.00

### HARMONIC ANALYZER

- **Same as No. 3LV94 above plus:**
- **Stores up to 8 measurement sets of voltage and current data**
- **Isolated serial interface to communicate with printer or MS DOS® or Windows™-compatible computer**
- **Includes RS-232 cable, and FlukeView™ software (for computer download), AC current probe, test lead set, 4 "C" batteries, and manual**

**No. 3LV96.** Fluke (41B). Shpg. wt. 5.0 lbs. Each ..... $1795.00

- **3LV95 is the same as 3LV96, but includes NIST Certified Calibration**

**No. 3LV95.** Fluke brand (41B NIST)†. Shpg. wt. 5.0 lbs. Each..... $1860.00

Carrying Case
Available/Order No. 4KD78
See Index for Listing

## HARMONIC ANALYZERS

- **Provide a simple, inexpensive analysis of harmonic distortion levels and power factor, help determine extent of problems such as hot neutrals, premature motor failures and overheated transformers**
- **Voltage range: 1 to 600V AC/DC; current range 1 to 1000 Amps max. (with current transducer included)**
- **Displays actual values and percentages of the first 19 harmonics (No. 5U775 displays first 31 harmonics when downloaded to PC using software included with unit)**
- **True RMS and frequency; displays two cycles of waveform**
- **Current transducer (included): range—1-1000A; frequency—20-2000 Hz; accuracy—±1% of reading**
- **No. 5U775 also has backlit display, provides all power data including watts, power factor, VAR's and downloads all data to a PC**
- **Accuracy (typ.): Volts—±2% of reading, current—±2% of reading (without current transducer). Harmonics: Voltage and current—±2% + 3 LSD; THD (<1%)—±6 digits, (>1%)—±1% of reading ±3 digits (when fundamental (f) is 60 Hz ±0.1 Hz**
- **21 protected memory locations; auto-ranging, auto-Off**

### ANALYZER No. 5U774

Includes voltage leads, current transducer, notepad and pencil, and carrying case. Amprobe brand (HA-1000).

**No. 5U774.** Shpg. wt. 5.5 lbs. Each ..... $649.00

### ANALYZER No. 5U775

Includes voltage leads, current transducer, data cord, computer download software, notepad & pencil, and carrying case. Amprobe brand (HA-2000).

**No. 5U775.** Shpg. wt. 6.0 lbs. Each ..... $989.00

AMPROBE INSTRUMENT



No. 5U775

(†) Contact your local branch for delivery time.

# FLUKE SCOPEMETER® HANDHELD DIGITAL STORAGE OSCILLOSCOPE SELECTION CHART

FLUKE

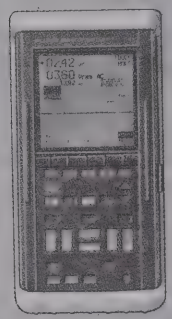
## FLUKE SCOPEMETER® HANDHELD DIGITAL STORAGE OSCILLOSCOPE SELECTION CHART

| Stock Number | 3LV83/ 3LV84 | 3LW04/ 3LW05 | 3LW02/ 3LW03 | 3LV99/ 3LW01 | 3LV85/ 3LV86/ 3LV87/ 3LV88 |
|---|---|---|---|---|---|
| | Fluke 105B | Fluke 99B | Fluke 96B | Fluke 92B | Fluke 123 |
| **illoscope Features** | | | | | |
| ndwidth | 100 MHz | 100 MHz | 60 MHz | 60 MHz | 20 MHz |
| ximum Repetitive Sample Rate | 5 GS/s | 5 GS/s | 2.5 GS/s | 2.5 GS/s | 1.25 GS/s |
| mber of Channels | 2 + Ext. Trig | 2 + Ext. Trig | 2 + Ext. Trig | 2 + Ext. Trig | 2 |
| e Time | 3.5 ns | 3.5 ns | 5.7 ns | 5.7 ns | 17.5 ns |
| ne/Division | 5ns - 60 sec | 5ns - 60 sec | 10ns - 60 sec | 10ns - 60 sec | 20ns - 60 sec |
| ts/Division | 1mV -100V | 1mV -100V | 5mV -100V | 5mV -100V | 5mV - 500V |
| ord Length (bytes) | 512 | 512 | 512 | 512 | 512 |
| een/ Waveform/ Set-up Memories | 10 / 20 / 40 | 10 / 20 / 40 | 5 / 10 / 20 | — / — / — | 2 / — / 10 |
| tinuous AUTOSET | ● | ● | ● | ● | ● |
| ch capture down to 40 ns | ● | ● | ● | ● | ● |
| eo Triggering, NTSC, PAL, SECAM & Hi Resolution Video e & field selectable) | ● | ● | ● | ● | ● |
| ernal Triggering | ● | ● | ● | ● | + (with No. 3LW13) |
| & post trigger adjustment in divisions | -20 to +640 | -20 to +640 | -20 to +640 | -20 to +640 | -10 to +10 |
| elope Mode (Min/Max) and Waveform Smooth | ● | ● | ● | ● | ● |
| sure Amps with optional current clamps | ● | ● | ● | ● | ● |
| peRecord™ 30k memory | ● | ● | ● | — | — |
| sor measurements | ● | ● | ● | — | — |
| reform Math (Integrate, +, -, filter) | ● | ● | — | — | — |
| **ranging True RMS MultiMeter Features** | | | | | |
| mber of DMM channels | 1 | 1 | 1 | 1 | 2 |
| play readout (Basic DC Accuracy 0.5%) | 3000 cnts | 3000 cnts | 3000 cnts | 3000 cnts | 5000 cnts |
| anced Measurements (Temp., Current, % Duty, Pulse dh, dB, Hz, Amps, & more) | ● | ● | ● | ● | ● |
| de Test and Continuity Beeper | ● | ● | ● | ● | ● |
| Max TrendPlot with time and date stamp | 1 channel | 1 channel | 1 channel | 1 channel | 2 channel |
| M measurements with waveform | ● | ● | ● | ● | ● |
| acitance | — | — | — | — | 50nF-500µF |
| **eral Features** | | | | | |
| -contrast, gray scaled backlit display | ● | ● | ● | ● | ● |
| eform & Screen image transfers to a PC and Remote oper- | ● | ● | ● | — | ● |
| en image transfers to a PC | ● | ● | ● | ● | ● |
| ur NiCad Battery Operation & Charger | ● | ● | ● | ● | ● |
| cally Isolated RS-232C Interface for Printer & PC Interface e optional (Included in 105 B) | ● | ● | ● | ● | ● |
| ne Help (information) | ● | ● | ● | ● | — |
| 1010-1 & UL listed for 600 Volts | ● | ● | ● | ● | ● |
| matic setup measurements | 40 | 40 | 40 | 28 | 26 |
| al Generator/Component tester output | ● | ● | — | — | — |
| | 2½ x 5½ x 11" | 2½ x 5½ x 11" | 2½ x 5½ x 11" | 2½ x 5½ x 11" | 2 x 4½ x 9" |
| me | 150 cu. in. | 150 cu. in. | 150 cu. in. | 150 cu. in. | 75 cu. in. |
| ht | 4 lb. | 4 lb. | 4 lb. | 4 lb. | 2.5 lb. |
| oftware for Windows + PM 9080 Cable | ● | + | + | — | + |
| Carrying Case | ● | + | + | + | + |

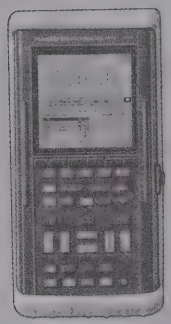
Standard features (—) = Not applicable (+) = Options

# PORTABLE DIGITAL STORAGE OSCILLOSCOPES

## FLUKE SCOPEMETER® 90 SERIES



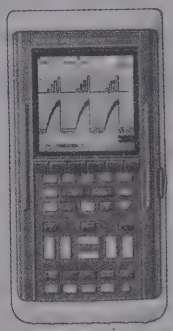
No. 3LW01



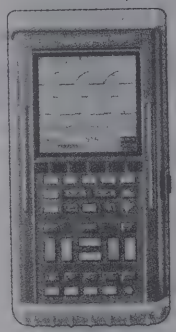
No. 3LW03

FLUKE

1244



No. 3LW05



No. 3LV84

Fluke ScopeMeter 90 Series B is the most powerful family of handheld digital storage oscilloscopes used by more engineers worldwide than any other, in rugged industrial applications.

- Handheld format at just 4 lb. (10.8H x 5.5W x 2.5"D) makes it easy to carry and do measurements wherever you go with 4 hours battery operation. Rechargeable batteries and battery charger included. Will work with standard alkaline batteries
- 100 MHz bandwidth dual channel DSO and 5 GS/s repetitive sampling assures excellent signal fidelity
- Large, high brightness cold cathode fluorescent backlit display has excellent contrast and visibility from dark corners to broad daylight
- Extensive trigger capabilities include edge, video, event, n-cycle and external triggering. Time delay up to 20 divisions pre trigger view and up to 640 divisions post trigger view.
- Video triggering with selectable line number in Field 1 or Field 2 or all Lines. User selectable 2-Field or 4-Field sequence. TV Frame. Select from NTSC, PAL, PAL/M, SECAM or Non-Interlaced video with line selection up to 3200 lines and line frequency up to 65 kHz
- 30k deep memory ScopeRecord™ shows events as long as 125 scope screens to capture long events with good time detail. Use for motor starts, complete machine cycles, power systems, UPS systems
- Extensive memory to save up to 40 user setups, 20 waveforms and 10 screens to recall instantly for quick reference or printing. See selection chart on a nearby page for details
- Versatile cursor measurements include Vmean, VAC True-rms, Hz, Rise/Fall time, Vpeak-peak, Time between cursors, Time at cursors (Time of day or Time from start), Vmin-peak, Phase, dV between cursors, V at cursors. Measurements can be scaled to Amps
- ScopeMeter features AUTOSET, 40 ns Glitch capture and waveform mathematics. Includes add, multiply, filter, subtract, invert and integrate. Instantaneous or mean Watts with optional current probes
- True- RMS DMM with 3000 count 0.5% accuracy includes following measurements : VDC, VAC True-rms, Hz, Duty Cycle, Pulse Width, RPM, dBm, dBV, dBW, Audio or RF Watts, Amps, Temperature, Ohms, Continuity and Diode
- TrendPlot™ meter logging shows a simultaneous graph of the minimum, maximum and average readings of any of the above meter readings ove hours or days. Real time, time, and date stamp to help trace and identify intermittent problems
- Optional printer and PC interface as well as Windows software makes documentation tasks simple. Include in Model 105 B (3LV84, 3LV83)
- Rugged and splash proof design wit holster for long life and reliable ope ation in industrial environments
- Safety designed for measurements o 600 V industrial power systems with included probes. EN61010-1 Cat III, UL 1244, CSA C22.2 No 1010.1, ANSI/ISA S 82
- Comes complete with PM 8907 line adapter/charger, 10:1 600V safety designed probes (UL Listed), industri meter test leads, industrial alligator clips, protective holster, operator manual, soft accessory case and rechargeable battery pack
- 3LV83 and 3LV84 also include hard shell carrying case, optically isolate RS-232 interface cable, and FlukeView for ScopeMeter software.
- Three year warranty ; see "Manufacturers' Warranties" on pa opposite inside back cover

### FLUKE SCOPEMETER® SERIES ORDERING DATA

| Description | Fluke Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Fluke 92B ScopeMeter 60 MHz | FLK-92B/003 | 3LW01 | $1495.00 | 10.0 |
| Fluke 92B ScopeMeter 60 MHz / NIST** | FLK-92B/003 | 3LV99 | 1620.00 | 10.0 |
| Fluke 96B ScopeMeter 60 MHz | FLK-96B/003 | 3LW03 | 1795.00 | 10.0 |
| Fluke 96B ScopeMeter 60 MHz / NIST** | FLK-96B/003 | 3LW02 | 1920.00 | 10.0 |
| Fluke 99B ScopeMeter 100 MHz | FLK-99B/003 | 3LW05 | 2195.00 | 10.0 |
| Fluke 99B ScopeMeter 100 MHz / NIST** | FLK-99B/003 | 3LW04 | 2320.00 | 10.0 |
| Fluke 105B ScopeMeter 100 MHz | FLK-105B/003 | 3LV84 | 2595.00 | 13.0 |
| Fluke 105B ScopeMeter 100 MHz / NIST** | FLK-105B/003 | 3LV83 | 2720.00 | 13.0 |

(**) Contact local branch for delivery time.

# HANDHELD DIGITAL STORAGE OSCILLOSCOPES COMBINATION MULTIMETER AND SCOPES

## FLUKE SCOPEMETER® 120 SERIES HANDHELD DIGITAL STORAGE OSCILLOSCOPES

e Fluke ScopeMeter 123 is the smallest d lightest weight handheld digital scope the world. It is an ideal choice for use by chnicians working in service, maintenance and installation applications.

- Handheld format at just 2.5 lb. (9.1"H x 4.5"W x 2"D) makes it easy to carry and fits comfortably in your hand. Small enough to fit in the pocket of most coveralls
- Intuitive ease of use so that everybody can work with it. Lets you concentrate on your work
- So affordable that every technician can have one
- 20 MHz, dual channel DSO and fully integrated dual channel DMM - single input probe able to access both functions on each channel
- Large, high brightness cold cathode fluorescent backlit display has excellent contrast and visibility from dark corners to broad daylight
- Rock stable automatic (and manual) triggering for "Connect and View" ease of setup. Triggers reliably on the most complex signals including motor drives or video
- ScopeMeter 123 features AUTOSET, 40 ns Glitch capture and non-volatile memory for 2 screen images or 10 user setups
- True- RMS dual channel DMM with 5000 count // 0.5% accuracy covers 26 measurements like VDC, VAC True-rms, Hz, Duty Cycle, Pulse Width, Phase A to B, Amps, Temperature, Crest Factor, dBV, dBm, Ohms, Continuity, Diode and Capacitance
- Dual channel TrendPlot™ shows a simultaneous graph of the minimum and maximum readings over hours and days with time and date stamp to trace intermittent problems. Dual channel TrendPlot capability shows cause and result
- Optional printer and PC interface as well as Windows software makes documentation tasks simple
- Battery powered to let you use ScopeMeter anywhere. 5 hours battery operation and fast recharge
- Rugged and splash proof design with an integral holster for long life and reliable operation in industrial environments
- Safety designed for measurements on 600 V industrial power systems with included test leads. Safety designed to IEC1010-1, EN61010-1 Cat III, UL 3111-1, CSA C22.2 No 1010.1, ANSI/ISA S 82
- Supplied complete with PM 8907 line adapter/charger, STL120 shielded test leads, BB120 shielded BNC adapter, AC120 Alligator Clips, HC120 Hook Clips, User Manual, and BP120 rechargeable battery pack
- Three year warranty; see "Manufacturers' Warranties" on page opposite inside back cover




No. 3LV88
Fluke ScopeMeter® 120 Series

1244

| Description | Fluke Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Fluke 123 ScopeMeter 20 MHz | FLK-123/003 | 3LV86 | $1195.00 | 10.0 |
| Fluke 123 ScopeMeter 20 MHz / NIST** | FLK-123/003 | 3LV85 | 1285.00 | 10.0 |
| Fluke 123 ScopeMeter 20 MHz / OPT SCC† | FLK-123/003S | 3LV88 | 1490.00 | 10.0 |
| Fluke 123 ScopeMeter 20 MHz / OPT SCC† NIST** | FLK-123/003S | 3LV87 | 1580.00 | 10.0 |

Contact local branch for delivery time. (†) OPT SCC includes hard shell carrying case, optically isolated RS-232 interface, and Flukeview for Scopemeter software.

## EXTECH MULTISCOPE™ COMBINATION MULTIMETER AND OSCILLOSCOPE

- Oscilloscope display: 128 x 64 pixel graphical LCD
- Multimeter display: 3¾ digit (3999) LCD with Bargraph
- Oscilloscope functions: single channel, volts/division (1.5 to 800V), glitch capture, pre/post-trigger
- Oscilloscope frequency response: DC to 100kHz with a sample rate of 1 million samples/sec.
- Multimeter functions: AC/DC voltage/current, resistance, capacitance, frequency, timer/counter, TTL level generator, diode/continuity tests
- 4TM14 has Built-in RS-232 PC interface and software
- Record/recall MIN/MAX/AVERAGE
- Built-in timer/counter with 1 MHz range
- Generator output provides 10Hz to 20kHz TTL level output
- 15 step waveform storage with 4-step setup storage and continuous auto-set
- Over-range indication and auto power off
- Complete with test leads, alligator clips and six AA batteries



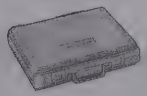

No. 4TM13

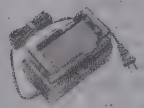
| Description | Extech Model | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Multiscope™ | 381270 | 4TM13 | $299.00 | 2.8 |
| Multiscope™ with software | 381275 | 4TM14 | 349.00 | 3.2 |
| Automotive Adaptor | 381276 | 4TM15 | 29.00 | 0.4 |
| Temperature Adaptor | 381277 | 4TM16 | 29.00 | 0.4 |

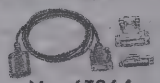
# HANDHELD DIGITAL STORAGE OSCILLOSCOPE ACCESSORIES

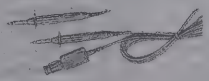
## FLUKE SCOPEMETER® 90 SERIES B ACCESSORIES


No. 6T205

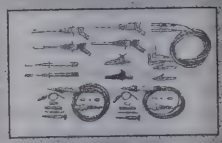

No. 6T124


No. 6T126


No. 6T364


No. 6T365


No. 6T204


No. 4KK48

### FLUKE SCOPEMETER® 90 SERIES B ACCESSORIES

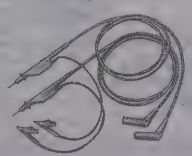
| Description | Fluke Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| ScopeMeter Soft Carrying Case with (2 detachable pouches) | C95 | 6T205 | $105.00 | 4.0 |
| ScopeMeter Hard Carrying Case (holds standard or optional charger, accessories) | C97B | 6T124 | 85.00 | 5.0 |
| North American Fast Battery Charger (3 hours) | PM 8906/803 | 4KN50 | 165.00 | 3.0 |
| Line Voltage Adapter/Battery Charger (North America) | PM 8907/803 | 6T202 | 65.00 | 2.0 |
| Safety-Designed ScopeMeter Probe Set (1 red and 1 gray, 600V rms, 10:1, 10MΩ 15pF, PVC insulation, with adapters for calibration, high frequency or isolated measurements, 5 ft. (1.5m) | PM 8918/002 | 6T203 | 176.00 | 1.0 |
| Safety-Designed ScopeMeter Probe Set (1 red & 1 gray, 600V rms, 10:1, 10MΩ 15pF, PVC insulation, with adapters for calibration, high frequency, or isolated measurements, 8 ft. (2.5m)) | PM 8918/202 | 6T365 | 202.00 | 2.0 |
| Safety Designed Dual Banana Jack to Male BNC Adapter (set of 2) | PM 9082/001 | 6T207 | 27.00 | 1.0 |
| ScopeMeter Probe Industrial Alligator Clip (set of 2) | PM 9084/001 | 6T206 | 37.00 | 1.0 |
| ScopeMeter Probe Hook-Style Clip (set of 2) | PM 9085/001 | 6T366 | 37.00 | 1.0 |
| ScopeMeter Probe Pin-Grabber Flexible Clip (set of 2) | PM 9090/001 | 6T367 | 37.00 | 1.0 |
| NiCad Battery Pack | PM 9086/011 | 4KN51 | 55.00 | 1.5 |
| Automotive Lighter Plug Charging Adapter | PM 9087/002 | 6T204 | 95.00 | 1.0 |
| Optically Isolated RS-232-C Interface Adapter for Fluke 97, 99, 99B, and 105B | PM 9080/001 | 6T364 | 145.00 | 2.0 |

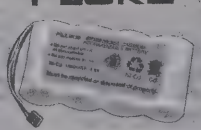
### POMONA CARRYING CASE AND ACCESSORIES

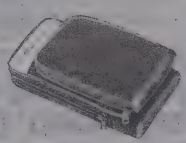
| Description | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Deluxe DMM Test Lead Kit; Test Companion Kit with IEC-1010 test accessories for use with Fluke Scopemeter®. Large briefcase style carrying case. | 6120 | 4KK48 | $375.00 | 4.8 |

## FLUKE SCOPEMETER® 120 SERIES ACCESSORIES


No. 3LW14


No. 3LW16


No. 3LV79


No. 4KD76


No. 3LV76


No. 3LW12

New


No. 3LV77

### FLUKE SCOPEMETER® 120 SERIES HANDHELD DIGITAL STORAGE OSCILLOSCOPE ACCESSORIES

| Description | Fluke Model | | Stock No. | Each | Shpg. W |
|---|---|---|---|---|---|
| Hard Carrying Case | C120 | | 3LV80 | $55.00 | 5.0 |
| Soft Carrying Case | C125 | | 4KD76 | 25.00 | 2.0 |
| Shielded Test Leads (Set of 2: 1 Rd, 1 Gy) | STL120 | | 3LW16 | 99.00 | 1.0 |
| Differential Probe | DP120 | *New* | 4PD17 | 395.00 | 2.0 |
| Banana to BNC Adapter | BB120 | | 3LV77 | 25.00 | 2.0 |
| Isolated Trigger Probe | ITP120 | | 3LW13 | 195.00 | 2.0 |
| Alligator Clips (Set of 3: Rd, Gy, Bk) | AC120 | | 3LV76 | 20.00 | 2.0 |
| Hook Clips (Set of 2 : Rd, Gy) | HC120 | | 3LW12 | 30.00 | 1.0 |
| Battery Pack | BP120 | | 3LV79 | 40.00 | 2.0 |
| Software, Cable, Carrying Case - kit | SCC120 | | 3LW15 | 295.00 | 6.0 |
| FlukeView for Windows Fluke 97, 99, 99B, 105B, and 123 | SW90W/012E | | 3LW17 | 195.00 | 2.0 |
| Printer Adapter Cable | PAC91 | | 3LW14 | 195.00 | 2.0 |

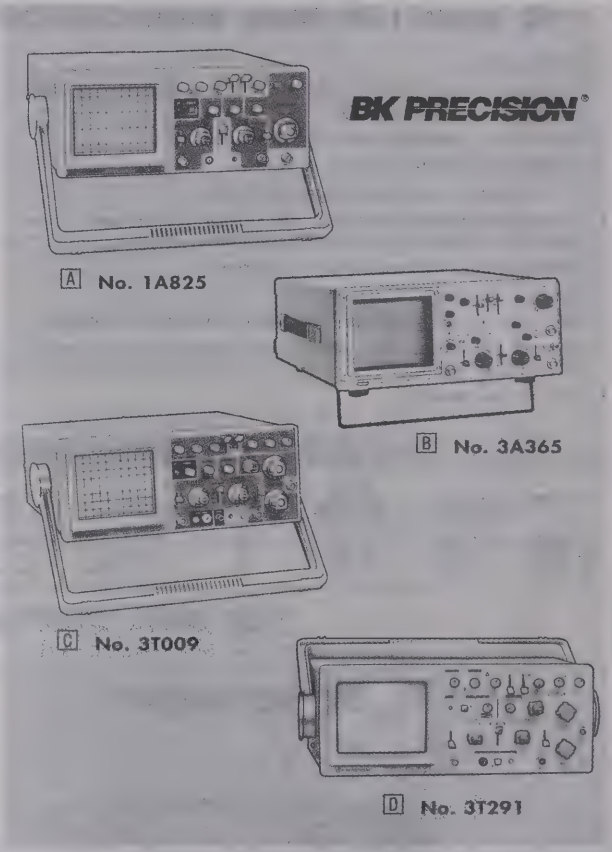
# 20 TO 100 MHz ANALOG OSCILLOSCOPES

## [A] B &K PRECISION Nos. 1A825 and 3A364

- Auto/norm triggered sweep mode with AC, TV-H, TV-V, and line coupling
- Dual trace with Ch-1, Ch-2, alt, line, and external trigger source
- XY mode with x10 magnification and + or – slope
- 23 step time base
- Polarity reversal, Ch-2
- Ch-1, Ch-2, alt/chop, and add operating modes
- Delayed sweep function on No. 3A364
- Built-in component tester for capacitors, inductors, diodes, and transducers on No. 3A364
- 6" CRT screen
- Includes test two 10:1 probes, power cord, and spare fuse
- Two year warranty (No. 1A825), 3 year warranty (No. 3A364); see "Manufacturers' Warranties" on page opposite inside back cover

## [B] B&K PRECISION No. 3A365

- Dual trace with Ch-1, Ch-2, V-mode, line, and external trigger sources
- Auto/Norm triggered sweep with FIX function to maintain trigger level at center of waveform
- 19 calibrated sweeps with x10 magnification and variable hold off
- Single sweep mode permits viewing of one-time events
- Operating modes: Ch-1, Ch-2, add, alt/chop, Ch-1 output
- High frequency filter and video sync separators
- XY operation with polarity reversal on Ch-2 only
- Z-axis input modulation and Ch-1 output
- 6" CRT screen
- Includes 2 each 1x/10x test probes




## [C] B&K PRECISION No. 3T009

- 8 x 10 CM internal graticule CRT screen
- 5mV sensitivity, sweep to 0.1μS/Div, 20 calibrated ranges main time base
- 20 calibrated range—delayed time base
- 12 KV accelerated voltage, single delay line; beam finder
- Component tester
- Channel B output
- Z-axis input, X-Y operation
- Includes 2 test probes, power cord, fuse, and instructions

## [D] B&K PRECISION No. 3T291

- Three channels, dual time base
- 1mV sensitivity
- 23 calibrated sweeps
- Rectangular CRT with internal scale
- 19 KV accelerating voltage
- True Dual Beam Operation
- Sweep mode with AC, TV-H, TV-V, and Line Coupling
- Channel 2 Output
- Probe calibrator
- Includes 2 test probes, power cord, fuse, and instructions

## ANALOG OSCILLOSCOPE SPECIFICATIONS AND ORDERING DATA

| ey | Bandwidth (MHz) | Vertical Deflection (Per Division) | Rise Time | Max. Voltage | Sweep Speed Max. / Min. (Per Division) | Trigger Sensitivity Internal / External | B&K Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| ) | 20 | 1mV/5V | 17.5nS | 400V (DC + AC peak) | 0.1μS/2S | 1.5 Div/100mV | 2120B | **1A825** | **$549.00** | 20.0 |
| ) | 20 | 1mV/5V | 17.5nS | 400V (DC + AC peak) | 0.1μS/2S | 0.5 Div/0.5V | 2125A | **3A364** | **646.00** | 21.0 |
| ) | 40 | 1mV/5V | 8.8nS | 500Vp-p or 250V | 0.2μS/0.2S | 1.5 Div/800mV | 1541C | **3A365** | **799.00** | 22.0 |
| ) | 60 | 5mV/5V | 5.8nS | 400V* | 0.05μS/1.0S | 1.5 Div/0.1V | 2160A | **3T009** | **1099.00** | 17.0 |
| ) | 100 | 1mV/5V | 3.5nS | 400V p-p or 250V* | 20nS/0.5S | 1.5 Div/600mV | 2190B | **3T291** | **1599.00** | 17.0 |

)C and AC Peak.

# 20 AND 100MHz ANALOG/DIGITAL STORAGE AND 150 MHz DIGITAL OSCILLOSCOPES

## 20 AND 100 MHz ANALOG/DIGITAL STORAGE OSCILLOSCOPES

- 2 Channels
- 100 MHz bandwidth on Nos. 4KF65 and 4KF66; 20 MHz bandwidth on No. 4KF62
- 40 MS/sec sampling rate per channel
- Autoset waveform display
- 17 Automatic waveform measurements
- Acquisition modes: Refresh, roll, single, pre-trigger, envelope (all models). Glitch capture on Nos. 4KF62 and 4KF66
- Extended trigger functions: TV trigger
- RS-232 interface
- IEEE-488 interface included on Nos. 4KF62 and 4KF66
- Four 8K memories (No. 4KF62 and 4KF66); two 4K memories on No. 4KF65
- Include two probes



No. 4KF66

### ANALOG/DIGITAL STORAGE OSCILLOSCOPE SPECIFICATIONS AND ORDERING DATA

| Sampling Rate | Real Time Bandwidth | Digital Storage Bandwidth | Vertical Resolution | Horizontal Resolution | Sweep Rate Real/Storage | Vertical Deflection | B&K Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **40 MS/S** | 100 MHz | 100 MHz | 8K | 100/Division | 50ns/div/100ms/div. | 1mV/20V | 5105 | **4KF66** | **$2695.00** | 17.0 |
| **40 MS/S** | 100 MHz | 100 MHz | 4K | 100/Division | 50ns/div/100ms/div. | 1mV/20V | 5100 | **4KF65** | **2495.00** | 17.0 |
| **40 MS/S** | 20 MHz | 20 MHz | 8K | 100/Division | 0.5µs/div/200ms/div. | 1mV/20V | 5020 | **4KF62** | **2219.00** | 21.0 |

## 150 MHz DIGITAL OSCILLOSCOPE



No. 4KF67

- 4 Channels; 200MS/sec sampling rate CH-1, 100 MS/sec sampling rate CH 1-4
- Autoset waveform display
- 16 Automatic waveform measurements
- Aquisition modes: Direct Sampling, Roll, Envelope, Glitch Capture (to 10n/S)
- Extended trigger functions: delayed trigger, event counter, acquisition delay, pre- and post trigger, TV rigger with selectable line trigger
- RS-232 and IEEE-488 interfaces
- 40K memory expandable to 1MB via PCMCIA card
- VGA output for external monitor
- Includes four probes

### DIGITAL OSCILLOSCOPE SPECIFICATIONS AND ORDERING DATA

| Sampling Rate | Real Time Bandwidth | Digital Storage Bandwidth | Vertical Resolution | Horizontal Resolution | Sweep Rate Real | Vertical Deflection | Manufacturer | B&K Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **200 MS/S Ch-1 100 MS/S Ch 1-4** | 150 MHz | 150 MHz | 40K | 100/Division | 0.2ns/div/50s/div. | 2mV/10V | B&K Precision | 5150 | **4KF67** | **$4995.00** | 17.0 |

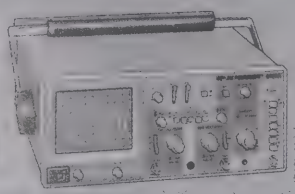

## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# 20 & 30 MHz ANALOG/DIGITAL OSCILLOSCOPES AND SPECTRUM ANALYZERS

## 20 MHz ANALOG/DIGITAL OSCILLOSCOPE

- Ch-1, Ch-2, or external trigger source with auto trigger
- AC, TV line, and TV frame trigger coupling
- + or – slope, X10 magnification and trace hold capacity
- Display modes: Ch-1, Ch-2, dual alt/chop, add, X-Y, and Ch-2 invert
- Digital display modes: roll, refreshed, armed, hold all/Ch2, and pre-trigger storage (50%, 100%)
- Digital storage of 2048 x 8 bits per channel with dot joining
- Plot output includes analog stored display, sweep rate, impedances, and pen lift
- 8 x 10 cm mono accelerator CRT screen
- Includes 2 each 10:1 test probes, spare fuse, power cord, and instructions



BK PRECISION

No. 1T185

3 YEAR LIMITED WARRANTY

See "Manufacturers' Warranties" on page opposite inside back cover.

### 20 MHz DIGITAL OSCILLOSCOPE ORDERING DATA

| Sampling Rate | Real Time Bandwidth | Digital Storage Bandwidth | Memory Size | Vertical Resolution | Horizontal Resolution | Sweep Rate Real/Storage | Vertical Deflection | B & K Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 MS/S | 20 MHz | 1 MHz | 2K/ch | 8 Bit | 200/ Division | 0.1µS/2 Sec. 0.05mS/50 Sec. | 5mV/5V | 2522B | 1T185 | $1099.00 | 13.0 |

## 20 AND 30 MHz ANALOG/DIGITAL STORAGE OSCILLOSCOPES

BK PRECISION



No. 4KF63

- Safely measures high common-mode voltage situations or allows direct viewing of line voltage and load current
- Two channels
- Full differential input on both channels and external trigger

- 20 MHz bandwidth on No. 4KF63; 30 MHz bandwidth on No. 4KF64
- Full feature analog and digital operation
- Autoset waveform display
- Automatic waveform measurements
- 40 MS/s sampling rate Ch-1, Ch-2
- Acquisition modes: Roll, Refresh, Single, Envelope
- RS-232 interface

No. 4KF71. Stand alone software package allows control of oscilloscope from a virtual front panel. For Nos. 4KF62, 4KF63, 4KF64, 4KF65, and 4KF68. Runs under Windows 3.1. Includes manual, software, and interface cable.

**No. 4KF71.** B & K Precision brand (AK-5100). Shpg. wt. 1.0 lbs.
Each ..... $75.00

### 20 AND 30 MHz ANALOG/DIGITAL OSCILLOSCOPE ORDERING DATA

| Sampling Rate | Real Time Bandwidth | Digital Storage Bandwidth | Memory Size | Vertical Resolution | Horizontal Resolution | Sweep Rate Real/Storage | Vertical Deflection | B & K Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0MS/s/ch | 20 MHz | 20 MHz | 2 x 4K | 8 Bit | 100/Division | 0.5µS/200mSec. | 10mV/200V | 5024 | 4KF63 | $2290.00 | 21.0 |
| 0MS/s/ch | 30 MHz | 30 MHz | 2 x 4K | 8 Bit | 100/Division | 0.2µS/200mSec. | 10mV/200V | 5034 | 4KF64 | 2330.00 | 22.0 |

## 500 MHz AND 1.05 GHz SPECTRUM ANALYZERS

- Used to test cable TV signal levels and frequency response
- Also used to measure spurious and unwanted emissions, locate sources of RF interference, and locate hidden transmitters
- AM and FM demod included
- 150 kHz/hr stability
- Includes power cord and instruction manual



BK PRECISION

No. 4KF60

### SPECTRUM ANALYZER ORDERING DATA

| Frequency Range | Dynamic Range | Resolution | B & K Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0 kHz to 500 MHz | 80 dB | 125 and 250 kHz | 2612A | 4KF60 | $1395.00 | 18.0 |
| 0 kHz to 1.05 GHz | 80 dB | 20 and 400 kHz | 2625 | 4KF61 | 2195.00 | 18.0 |

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

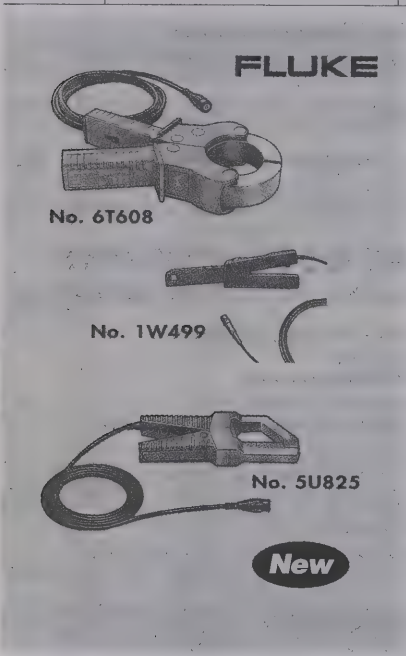
# OSCILLOSCOPE AND ELECTRONIC EQUIPMENT PROBES

## B&K PRECISION ELECTRONIC EQUIPMENT PROBES

**Used on Many Oscilloscopes & Frequency Counters with BNC Type Connectors**

### SPECIFICATIONS AND ORDERING DATA

| Bandwidth | Attenuation | Loading MΩ | pF | Nominal Length (In.) | Compensation Range | Color | B&K Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 MHz | 1X/10X | 10 | 15 | 52 | 15-35 pF | Grey | PR37AG | 2T319 | $56.00 | 0.3 |
| 100 | 1X/10X | 10 | 15 | 52 | 15-35 pF | Red | PR37AR | 2T320 | 56.00 | 0.3 |
| 250 | 100X | 100 | 6.5 | 64 | 15-35 pF | Black | PR100A | 2T353 | 72.00 | 0.3 |
| 250 | RF Demodulator/ Detector Probe | | | 36 | — | Black | PR32A | 2T318 | 60.00 | 0.3 |




## FLUKE CLAMP-ON CURRENT PROBES FOR OSCILLOSCOPES AND POWER METERS

### No. 6T608

- Accurately displays current waveforms on oscilloscopes, as they occur
- AC Current Ranges 0.1A to 10A, 0.5A to 100A, 5A to 1000A, continuous (2000A instantaneous peak)
- Accuracy 0.5A to 1000A, 2% of reading; 0.1A to 10A, 3% of reading ±100 mA
- Usable Frequency Range (with current derating): 5 Hz to 100 kHz
- Built-in safety feature: 600V RMS rating at input jaws, output cable, and BNC connector for use in industrial and commercial power distribution systems

**No. 6T608.** Fluke brand (80I-1000S). Shpg. wt. 3.0 lbs. Each.....$395.00

### No. 5U825

- Measures AC current to 500A
- Accuracy: 1 to 20A, ±(5% + 0.3)A; 20 to 100A, ±5%; 100 to 500A, ±2%
- Protected to 600V
- Replacement probes for use with Nos. 3LV93, 3LV94, 3LV95 and 3LV96 power meters
- Fluke brand (80i-500s)

**No. 5U825.** Shpg. wt. 2.0 lbs. Each.....$170.0

### No. 1W499

- Measures AC and DC current in two ranges from 0 to 100A
- Accuracy: 3% of reading (dc to 5kHz 12% of reading (above 20kHz)

**No. 1W499.** Fluke brand (80I-110S). Shpg. wt. 3.0 lbs. Each.....$395.0

### No. 4PD23

- Measures AC current in three range from 1A to 2400A RMS
- Accuracy: 2% of reading + 2A at full scale
- Protected to 600V
- Includes BNC to banana adaptor

***New*** **No. 4PD23.** Fluke brand (I3000S) Shpg. wt. 6.0 lbs. Each.....$395.0

## AEMC CLAMP-ON CURRENT PROBE FOR OSCILLOSCOPES

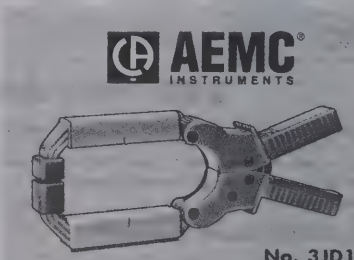
- Large jaw opening for up to 2.52" cables, cables or bus bars 1.97 x 5.31" or Bus bars 2.52 x 3.94"
- Accuracy (TYP): ±2% or reading ± 0.2 mV
- Frequency range 10 to 100 KHZ
- Load impedance: 1MΩ, 47pF; Rated working voltage: 660V AC

**THREE CURRENT RANGES**

| Input (A) | Output to Oscilloscope |
|---|---|
| 1 TO 30 | 10mV/A |
| 1 TO 300 | 1mV/A |
| 1 TO 2400* | 1mV/A |

(*) 3000A if temperature is below 95°F

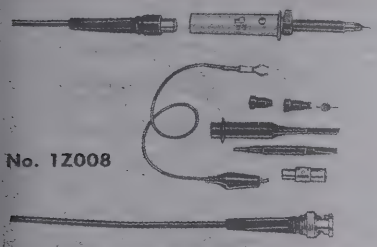
**No. 3JD14.** AEMC brand (JM861). Shpg. wt. 3.2 lbs.. Each .....$595.00



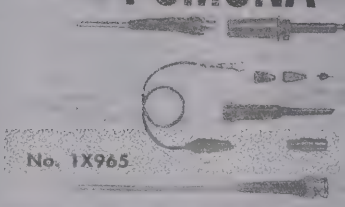

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

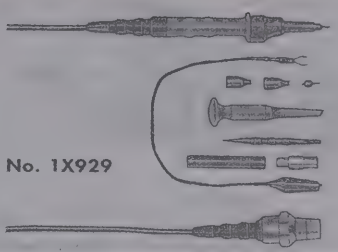
POMONA



No. 1Z008



No. 1X965



No. 1X929

## INSULATED OSCILLOSCOPE PROBES FOR FLUKE SCOPEMETER

se this probe as a replacement for Fluke Series 90 Scopemeter. No. 1X931 contains two fully insulated, 600 volt, X10 probes, one ray and one red plug accessories. Nos. 1X927 and 1X929 are 600 volt, X1 / X10 switchable probes available in red (No. 1X929) or Gray No. 1X927).

| BW MHz | Attenuation | Input Impedance Resistance (MΩ) | Capacitance (pF) | Cable Lgth. (m) | Max. Voltage | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 200 | X10 | 10 | 15 | 1.2 | 360 | 6033 | 1X931 | $138.00 | 0.5 |
| 20/200 | X1/X10 | 1/10 | 47/15 | 1.2 | 360 | 6035-2 | 1X929 | 105.00 | 0.6 |
| 20/200 | X1/X10 | 1/10 | 47/15 | 1.2 | 360 | 6035-8 | 1X927 | 105.00 | 0.6 |

## MODULAR OSCILLOSCOPE PROBES

emi-modular probes are general purpose passive-voltage probes featuring dual band width performance for greater flexibility. omplete accessory kit included.

| BW (MHz) | Attn. | Cable Lgth. (m) | Input Impedance Resistance (MΩ) | Capacitance (pf) | Approx. Risetime (nsec) | Voltage (V Max.) | Compensation Range (pf) | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | X10 | 1.2 | 10 | 15 | 3.5 | 600 | 10-60 | 5795 | 1Z008 | $38.50 | 0.5 |
| 5/100 | X1 /X10 | 1.2 | 1/10 | 55/16 | 23.3 3.5 | 600 | 10-60 | 4550A | 1Z026 | 47.00 | 0.3 |
| 30 | X1 | 1.2 | 1/10 | 45 | 11.7 | 600 | — | 5800 | 1Z006 | 45.00 | 0.3 |
| 0/200 | X1 /X10 | 1.2 | 1/10 | 55/15.5 | 17.5 / 1.6 | 600 | 10-60 | 5806 | 1Z002 | 54.00 | 0.3 |
| 200 | X100 | 1.2 | 100 | 6.5 | 1.8 | 1200 | 15-50 | 5827 | 1X963 | 88.00 | 0.5 |
| 300 | X10 | 1.2 | 10 | 15 | 1.2 | 600 | 10-60 | 5809 | 1Y119 | 87.00 | 0.6 |
| 300 | X10 | 1.2 | 10 | 15 | 1.2 | 600 | 10-60 | 5812 | 1X967* | 92.00 | 0.5 |

With readout actuator.

## MICRO-LC™ OSCILLOSCOPE PROBES

ıese probes offer top performance in a small, narrow body. Meet IEC 1010 standards.

| Bandwidth (MHz) | Attenuation | Input Impedance Resistance (MΩ)* | Approx. Capacitance (pF) | Risetime (nS) | Voltage (V Max.)† | Compensation Range (pF) | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 150 | X10 | 10 | 12 | 2.3 | 600 | 10-30 | 6049 | 1X923 | $39.60 | 0.3 |
| 200 | X10 | 10 | 15 | 1.8 | 600 | 10-60 | 5803 | 1Z004 | 50.00 | 0.3 |
| 250 | X10 | 10 | 12 | 1.4 | 600 | 10-30 | 6069 | 1X916 | 50.00 | 0.3 |

## RF DETECTOR OSCILLOSCOPE PROBE

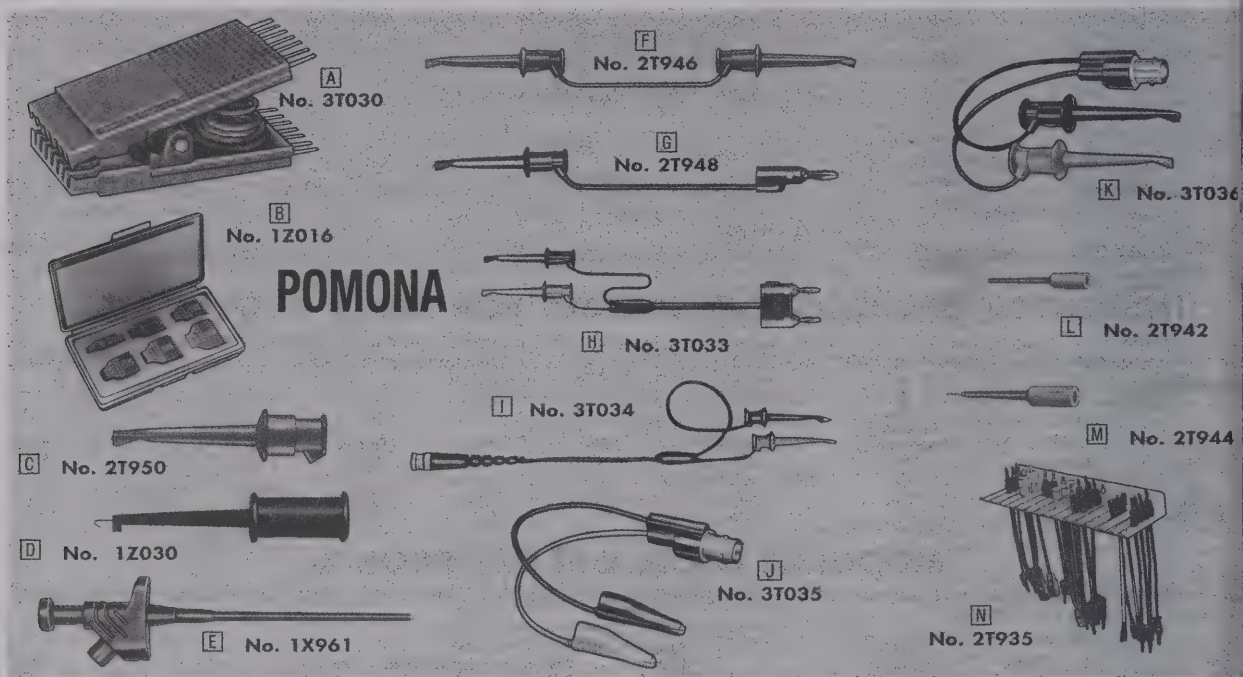
is probe works with any oscilloscope having 10MΩ input.

| BW (MHz) | Diode Turn on Voltage (mV) | Cable Lgth. (m) | Capacitance Input (pf) | Peak AC Input (V) | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 100KHz-800MHz±3dB | 200 | 1.2 | 5 | 50 | 5815 | 1X965 | $83.00 | 0.3 |

ESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

ur Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information rom our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# TEST CLIPS, MOLDED BREAKOUTS, TEST ADAPTERS & TEST LEAD HOLDER




| Key | Description | Ratings | Features | No. of Pins | Pomona Model | Stock No. | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|
| A | Dip Clip® Test Clips | 500V RMS; 1A Max. | Test dual in-line IC packages; nickel silver plated contacts | 14<br>16 | 5014<br>3916A | **3T030**<br>**3T031** | **$7.60**<br>**6.85** | 0.<br>0. |
| B | SOIC Clip Kit® | 500V RMS; 1A Max. | Test SOIC & SOJ pkgs. 6 different sizes | 8, 14, 16, 20, 24, 28 | 5514 | **1Z016** | **65.00** | 0. |

## TEST CLIPS (Contacts—Beryllium Copper; Springs—Stainless Steel; Gold Plated Contact Finish)

| Key | Description | Ratings | Features | Color | Length (In.) | Pomona Model | Stock No. | Each | Shp Wt. |
|---|---|---|---|---|---|---|---|---|---|
| C | Do-It-Yourself Minigrabber® | 3000WVDC; 12A Max. | Minigrabber® test clip | Black<br>Red | —<br>— | 3925-0<br>3925-2 | **2T950**<br>**2T951** | **$1.35**<br>**1.35** | 0.1<br>0.1 |
| D | Do-It-Yourself Micrograbber® | 1000WVDC; 3A Max. | Micrograbber® test clip, Pkg. of 10 per color | Black<br>Red | —<br>— | 4233-0<br>4233-2 | **1Z030**<br>**1Z028** | **1.40**<br>**1.40** | 0.1<br>0.1 |
| E | Do-It-Yourself Maxigrabber® | 1000WVDC; 5A Max. | Maxigrabber® test clip with rotating pincer | Black<br>Red | —<br>— | 5830-0<br>5830-2 | **1X961**<br>**1X959** | **7.45**<br>**7.45** | 0.3<br>0.3 |
| F | Minigrabber® Test Clip | 3000WVDC; 5A Max. | Minigrabber® test clip each end | Black<br>Red<br>Black<br>Red | 12<br>12<br>24<br>24 | 3781-12-0<br>3781-12-2<br>3781-24-0<br>3781-24-2 | **2T946**<br>**2T947**<br>**3T272**<br>**3T273** | **3.40**<br>**3.40**<br>**3.40**<br>**3.40** | 0.1<br>0.1<br>0.1<br>0.1 |
| G | Minigrabber® Test Clip | 3000WVDC; 5A Max. | Minigrabber® test clip to stacking banana plug | Black<br>Red<br>Black<br>Red | 24<br>24<br>60<br>60 | 3782-24-0<br>3782-24-2<br>3782-60-0<br>3782-60-2 | **2T948**<br>**2T949**<br>**3T060**<br>**3T061** | **3.40**<br>**3.40**<br>**3.70**<br>**3.70** | 0.1<br>0.1<br>0.1<br>0.1 |
| H | Minigrabber® Test Clip | 1400V RMS Max. | 2 Minigrabber® test clips to double banana plug | — | 36 | 3786-C-36 | **3T033** | **13.65** | 0.1 |
| I | Minigrabber® Test Clip | 500V RMS Max. | 2 Minigrabber® test clips to BNC male | — | 36 | 5187-C-36 | **3T034** | **14.50** | 0.1 |
| J | Molded Breakout | 500V RMS Max. | BNC female to Minigators® | — | 7 | 2631 | **3T035** | **8.50** | 0.1 |
| K | Molded Breakout | 500V RMS Max. | BNC female to Minigrabbers® | — | 7 | 3788 | **3T036** | **8.20** | 0.1 |
| L | Connecter Test Adapters† | 2500WVDC Max. | Copper socket and brass, nickel plated banana jack | Black<br>Red | —<br>— | 3560-0<br>3560-2 | **2T942**<br>**2T943** | **3.10**<br>**3.10** | 0.1<br>0.1 |
| M | Connecter Test Adapters† | 2500WVDC Max. | Brass, gold plated pin and brass, nickel plated banana jack | Black<br>Red | —<br>— | 3561-0<br>3561-2 | **2T944**<br>**2T945** | **3.35**<br>**3.35** | 0.1<br>0.1 |
| N | Test Lead Holder | — | Max. cable diameter: 5.3mm (0.210") | Orange | — | 1508 | **2T935** | **5.85** | 0.9 |

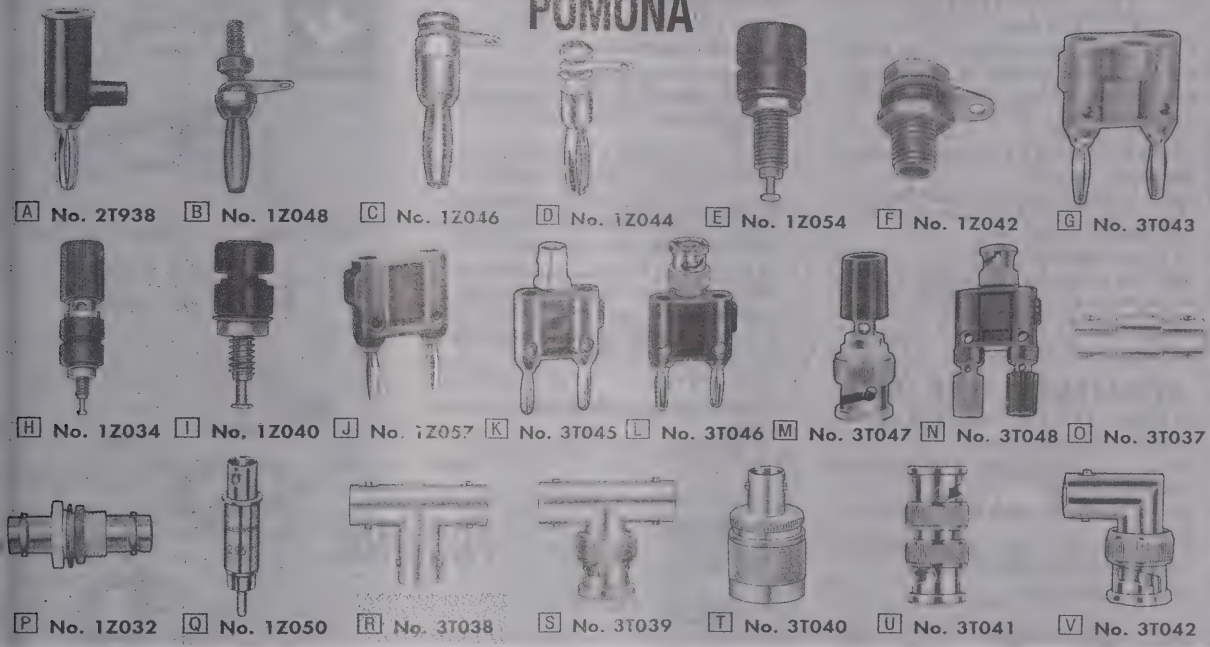
(†) Contact size: 1.02mm (0.40") dia.



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# BANANA PLUGS AND BNC ADAPTERS

POMONA



A No. 2T938 B No. 1Z048 C No. 1Z046 D No. 1Z044 E No. 1Z054 F No. 1Z042 G No. 3T043

H No. 1Z034 I No. 1Z040 J No. 1Z057 K No. 3T045 L No. 3T046 M No. 3T047 N No. 3T048 O No. 3T037

P No. 1Z032 Q No. 1Z050 R No. 3T038 S No. 3T039 T No. 3T040 U No. 3T041 V No. 3T042

Electronic test accessory products designed to meet rigid industrial application requirements for anyone working with electrical/electronic instruments. Select desired product according to end connection compatibility.

## STANDARD BANANA PLUGS & JACKS

**5000W VDC @ 15A Max.**

### ORDERING DATA

| ey | Color | Ratings | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Black<br>Red | Single plug with internal set screw; pkg. of 10 | 1825-0<br>1825-2 | 2T938<br>2T939 | $1.25*<br>1.25* | 0.1<br>0.1 |
| B | — | Banana plug w/6-32 stud; pkg. of 10 | 3263 | 1Z048 | 1.35* | 0.1 |
| C | — | Banana plug w/6-32 screw; pkg. of 10 | 3265 | 1Z046 | 1.60* | 0.1 |
| D | — | Banana plug w/8-32 screw; pkg. of 10 | 3266 | 1Z044 | 1.60* | 0.1 |
| E | Black<br>Red | Single banana jack package 10 per color | 1581-0<br>1581-2 | 1Z054<br>1Z052 | 0.90*<br>0.90* | 0.1<br>0.1 |
| F | — | Uninsulated banana jack; pkg. of 10 | 3267 | 1Z042 | 0.85* | 0.1 |
| G | Black<br>Red | 3/4" Molded double plug with internal set screw | MDP-0<br>MDP-2 | 3T043<br>3T044 | 2.15<br>2.15 | 0.1<br>0.1 |

## BINDING POST, PIN JACKS AND COMPONENT PLUGS

### ORDERING DATA

| ey | Color | Description | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| I | Black<br>Red | Single binding post | 3760-0<br>3760-2 | 1Z036<br>1Z034 | $2.45<br>2.45 | 0.3<br>0.3 |
| J | Black<br>Red | 0.08 dia. pin jack pkg. of 10 per color | 3542-0<br>3542-2 | 1Z040<br>1Z038 | 1.35*<br>1.35* | 0.1<br>0.1 |
| K | Black<br>Red | Component mouting double banana plug | 1330-0<br>1330-2 | 1Z059<br>1Z057 | 2.35<br>2.35 | 0.1<br>0.3 |

Priced each sold in packages of 10 only.

## BNC ADAPTERS

### ORDERING DATA

| Key | Adapter Type | Ratings V RMS Max. | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| K | BNC Female to Double Banana Plug | 500 | 1269 | 3T045 | $5.80 | 0.1 |
| L | BNC Male to Double Banana Plug | 500 | 1270 | 3T046 | 9.05 | 0.1 |
| M | BNC Male to Single Binding Post | 500 | 3430-0 | 3T047 | 5.35 | 0.1 |
| N | BNC Male to Double Binding Post | 500 | 1296 | 3T048 | 10.75 | 0.1 |

- Tarnish resistant plated shell
- Gold plated center contact

### ORDERING DATA

| Key | Adapter Type | Ratings V RMS Max. | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| O | BNC Female to Female | 500 | 3283 | 3T037 | $4.65 | 0.1 |
| P | Isolated BNC female to female | — | 3846 | 1Z032 | 15.00 | 0.3 |
| Q | BNC female to phono plug | — | 2957 | 1Z050 | 8.40 | 0.3 |
| R | BNC Female to Female to Female | 500 | 3284 | 3T038 | 13.55 | 0.1 |
| S | BNC Female to Male to Female | 500 | 3285 | 3T039 | 12.25 | 0.1 |
| T | BNC Female to "N" Male | 500 | 3288 | 3T040 | 8.40 | 0.1 |
| U | BNC Male to Male | 500 | 3533 | 3T041 | 8.70 | 0.1 |
| V | BNC Female to Male | 500 | 3534 | 3T042 | 10.60 | 0.1 |

# STATIC GROUNDING SYSTEM

## ESD GROUNDING SYSTEM No. 3T890

- Continuously drains static from body
- Individual can handle static sensitive components without electrostatic discharge damage (ESD)
- Neon lamp indicators check ground circuit for wiring faults before components are handled
- Static prevention system can be purchased as a complete system or as individual components
- UL Listed (E64899)
- Includes grounding plug (No. 3T891), large wrist strap (No. 3T894), and 10 ft. lead set (No. 3T895)

**No. 3T890.** IDEAL brand (61-1076). Shpg. wt. 0.4 lbs. Each.....**$47.60**

## REPLACEMENT LEAD SETS Nos. 3T895 and 3T896

- Built-in megohm resistor
- Silver conductive fibers for maximum static discharge
- Strain reliefs on both ends withstand flexing
- End-plug with spring contacts fits any standard banana-type jack
- UL Listed (E64899)

| Length (Ft.) | IDEAL Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 10 | 61-1071 | 3T895 | $17.66 | 0.2 |
| 15 | 61-1072 | 3T896 | 18.78 | 0.2 |

## REPLACEMENT WRIST STRAPS Nos. 3T892, 3T893, and 3T894

- Stainless-steel backplate and silver conductive fibers provide maximum absorption of static charges
- Comfortable elastic band is easy to put on and remove
- Washable with mild detergent and warm water
- Can be used with non-IDEAL static-prevention devices
- UL Listed (E64899)

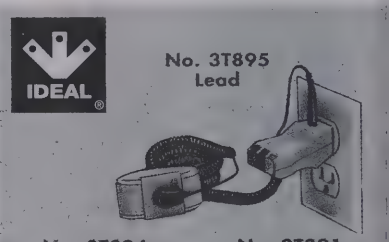
| Size | IDEAL Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Small | 61-1073 | 3T892 | $8.60 | 0.1 |
| Medium | 61-1074 | 3T893 | 8.60 | 0.1 |
| Large | 61-1075 | 3T894 | 8.60 | 0.1 |

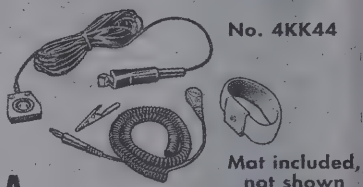
DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

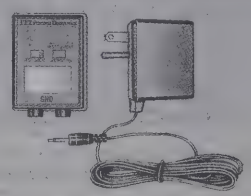
## REPLACEMENT GROUNDING PLUG No. 3T891

- UL Listed (E64899)
- ESD grounding plug provides for proper ground of static charges and prevents new charges from accumulating
- Positively indicates effective ground if 120V circuit is wired properly
- Bright long-life neon lamp indicators have wrap-around lens covers to provide visibility from all angles
- Checks all of these wiring faults on 3-wire, 125V circuits: open ground, open neutral, open hot, hot on neutral with hot open, reverse polarity, hot and ground reversed
- Push-pull shape assures easy use
- Ultrasonically welded impact-resistant case

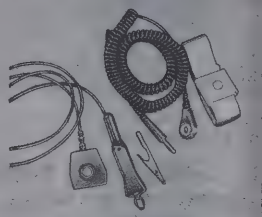
**No. 3T891.** IDEAL brand (61-1070). Shpg. wt. 0.1 lbs. Each .....**$24.31**




POMONA




## POMONA GROUNDING ACCESSORIES

| Description | Features | Pomona Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Static Control Kit** | Field Service Kit contains an 18 x 22" static-safe work mat with grounding cord. | 6087 | **4KK44** | **$51.00** | 0.9 |
| **Static Control Kit** | Large Service Kit contains an 22 x 24" static-safe work mat with grounding cord. | 6088 | **4KK45** | **62.00** | 0.9 |
| **Static Control Kit** | Adjustable Elastic Wrist Strap Kit contains wrist strap, cord, and alligator clip | 6082 | **4KK39** | **18.40** | 0.2 |
| **Static Control Kit** | Adjustable Metal Wrist Strap Kit contains wrist strap, cord, and alligator clip | 6084 | **4KK41** | **28.35** | 0.2 |
| **Ground Terminal** | Attaches to any ground point for use with static control cords with banana plug. | 5531 | **4KK30** | **1.35** | 0.1 |
| **Ground Lug with Snap** | Attaches to any ground point for use with static control cords with snap or banana plug. | 5532 | **4KK31** | **2.50** | 0.1 |
| **Snap Stud with Screw** | Attaches to any ground point for use with static control cords with snap. | 5533 | **4KK32** | **0.85** | 0.1 |
| **Static Control Cord** | Connect static control wrist strap to ground point. Built in MegOhm resistor for safety. | 5534 | **4KK33** | **14.50** | 0.1 |
| **Static Control Wrist Strap** | Adjustable, conductive fabric wrist strap with 4mm snap. For use with 4KK33 cord. Adjusts to fit all sizes. | 6081 | **4KK38** | **7.35** | 0.1 |
| **Static Control Wrist Strap** | Speidel Twist-O-Flex adjustable metal wrist band with 4mm snap. For use with 4KK33 cord. | 6083 | **4KK40** | **17.35** | 0.1 |
| **Static Control Cord** | Grounding cord for use with static-safe work mat. In 4KK44 and 4KK45 kits. | 6085 | **4KK42** | **15.45** | 0.1 |
| **Static Control Wrist Strap Tester** | Touch Type On Demand Tester for wrist strap and ground cord. Provides ground point for continuous protection and convenient use. Test static control wrist strap for correct operation. | 6086 | **4KK43** | **72.00** | 0.8 |

## SOUND MEASURING SYSTEM

- Includes self-contained combination dosimeter/sound level meter (No. 1T835), nose cone, microphone clips, windscreen, calibrator (No. 1T833), calibration screwdriver, multi-spline wrench, parallel cable, battery, manual, and carrying case

**No. 2T409.** Simpson brand (12646).
Shpg. wt. 5.9 lbs. Each.....$1200.00

## RS-232 SERIAL CABLE No. 2T414

Adapts dosimeter/sound level meter (No. 1T835) to IBM compatible computers with 9 pin RS-232 serial port.

**No. 2T414.** Simpson brand (02233).
Shpg. wt. 0.3 lbs.Each.....$54.95

## SOUND LEVEL METER

- Measures noise levels to monitor compliance with OSHA regulations
- Two easy-to-read scales with single selection switch
- Special integrated circuits and signal oscillator calibration for reliability
- Ranges: 35 to 80 dB, 75 to 120 dB
- "A" weighted
- Accuracy (typ): ±3dB
- Capacitive microphone and low battery indicator
- Includes carrying case and 9V battery
- Limited lifetime warranty. See "Manufacturers' Warranties" on page opposite inside back cover

**No. 3T084.** Greenlee brand (93-20).
Shpg. wt. 0.7 lbs. Each.....$147.00

## OCTAVE BAND FILTER

- Provides active filtration over 10 selectable ranges from 31.5 Hz to 16 KHz when used with No. 1T832
- Gain can be set to 0 dB, + 10 dB, or + 20 dB
- Filter transmission characteristics meet ANSI S1.11-1966 (R1976) Type E Class II filter set requirements
- Mounts directly to No. 1T832 for handheld use or can be attached to a tripod for extended noise monitoring
- Calibration externally adjustable
- Includes 9V battery

**No. 3T883.** Simpson brand (02231).
Shpg. wt. 1.2 lbs. Each.....$479.00

## SOUND LEVEL METER

- MSHA approved; meets OSHA and Walsh-Healy requirements for noise control
- Conforms to ANSI S1.4-1983, IEC 651 specifications for meter type
- 40-140 dB, zero dB REF = 20μ PASCALS
- AC voltage output jack permits interfacing with recorders, analyzers and other testers
- Built-in tripod mount
- "A" weighting
- Microphone: omnidirectional, condenser-type, L size—per ANSI S1.12-1976
- Impedance: 350Ω ±20% at 23°C
- Screwdriver adjustable calibration using No. 1T831 calibrator
- Includes 9V batteries and instructions

**No. 1T832.** Simpson brand (40003).
Shpg. wt. 0.7 lbs. Each.....$400.00

## CALIBRATOR

- For calibrating No. 1T832 sound level meter
- 1000 Hz, ±1% acoustical output frequency
- 114 dB ±0.5 dB output sound pressure level at reference conditions
- Less than 1% distortion
- 0 to 50°C temperature range
- Reference conditions: 23°C, 760 mmHg and 30% to 50% RH; 0 dB = 0.0002μ bar
- Includes 9V battery

**No. 1T831.** Simpson brand (12890).
Shpg. wt. 1.2 lbs. Each.....$265.00

**No. 1T680.** Carrying Case for No. 1T832 and 1T831. Simpson brand (45022).
Shpg. wt. 3.0 lbs. Each.....$74.95

## SOUND LEVEL KIT

- Includes sound level meter No. 1T832, sound level calibrator No. 1T831 and attache carrying case No. 1T680, listed on this page

**No. 1T830.** Simpson brand (40006).
Shpg. wt. 5.0 lbs. Each.....$649.00

GREENLEE



No. 3T084



No. 1T832



No. 1T831

Simpson

SUPPLIER DIVERSITY™

Minority-Owned Business



No. 1T830

# SOUND LEVEL METERS AND DOSIMETERS

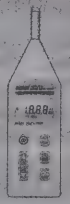


EXTECH INSTRUMENTS

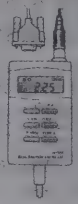
Ⓐ No. 3ZH87



Ⓑ No. 3ZH88



Ⓒ No. 3ZH89



Ⓓ No. 4KC31

## Ⓐ ANALOG SOUND LEVEL METER No. 3ZH87

- **Ranges: High (80-120dB) and Low (40-80dB)**
- **Accurate to ±3dB**
- **Built-in 70dB calibrator based on frequency weighting A**
- **Includes pouch case, 9V battery and instructions**

**No. 3ZH87.** Extech brand (407703).
Shpg. wt. 0.7 lbs. Each.....$99.00

## Ⓑ DIGITAL SOUND LEVEL METER No. 3ZH88

- **Ranges: Low (35-100dB) and High (65-130dB)**
- **±1.5dB accuracy, 0.1dB resolution**
- **Fast/Slow response, A & C frequency weightings**
- **Large 0.5" display with Max Hold**
- **Built-in 94dB calibration check**
- **Analog 10mV/dB output for recorders**
- **Meets IEC 651 Type 2 and ANSI standards**
- **Includes hard vinyl case, 9V battery and instructions**

**No. 3ZH88.** Extech brand (407736).
Shpg. wt. 1.3 lbs. Each.....$249.00

## Ⓒ SOUND LEVEL METER DATALOGGER No. 3ZH89

- **Built-in datalogger stores 4048 measurements**
- **User selectable sample intervals**
- **±1.5dB accuracy and 0.1dB resolution**
- **Measures 30 to 130dB on LCD display with bargraph**
- **Meets IEC 651 and ANSI S1.4 Type 2 standards**
- **Max hold, auto self-test when turned on**
- **Selectable fast/slow response and A or C weighting**
- **Analog 10mV/dB for recorders**
- **AC adapter available, order No. 3JC92 (see Index in back of catalog for listing)**
- **Includes microphone wind cover, RS-232 port with Windows software, 9/9 pin cable, carrying case, 9V battery and instructions**

**No. 3ZH89.** Extech brand (407762).
Shpg. wt. 3.0 lbs. Each.....$599.00

## Ⓓ NOISE DOSIMETER No. 4KC31

- **Provides 6 front-panel slide switches and 4000 count LCD**
- **Measures and stores % dose, exposure time and sound level readings**
- **Ranges include 0.01 to 9999% dose and 70-140dB sound level**
- **5-Survey storage, RS-232 hardware/setup software, real time clock**
- **Adjustable criterion level, exchange rate and threshold parameters**
- **Windows™ software offers 8-hour % dose, flags (rms or peak), exposure time and peak events**
- **Includes belt clip, clip-on microphone, 4 AAA batteries, screwdriver, case, software, cables and instructions**

**No. 4KC31.** Extech brand (407355).
Shpg. wt. 1.9 lbs. Each.....$599.00

### ACCESSORIES

**No. 4KC33.** Sound Level Calibrator. Fits 1" and 1/2" microphones and provides 94dB 1kHz reference levels to 0.5dB. Extech brand (407769).
Shpg. wt. 0.6 lbs. Each.....$399.00

**No. 4KC28.** AC/DC Recorder Output Cable. Extech brand (40705X).
Shpg. wt. 0.1 lbs. Each.....$15.00

## UNIVERSAL NOISE DOSIMETER

Dosimeter with integrated data logger measures OSHA requirements for noise levels in industrial environments. Can also be used as a sound level meter to survey areas and locations suspected of excess noise levels. Stored data can be viewed on a compatible computer monitor (order cable No. 2T414) or it can be documented via a compatible parallel printer port (cable included). Accuracies meet ANSI S1.4-1983, ANSI S1.25-1978, and IEC-651 (for slow response type S2A instruments).

**Dosimeter Mode**

- **Criteria levels: 70, 80, 84, or 90 dB**
- **Threshold levels: 50 through 99 dB**
- **Exchange data: 3, 4, 5 or dB**

**Sound Level Mode**

- **Input ranges: 50 to 100 dB, 80 to 130 dB, and 140 dB peak detection on either input range**

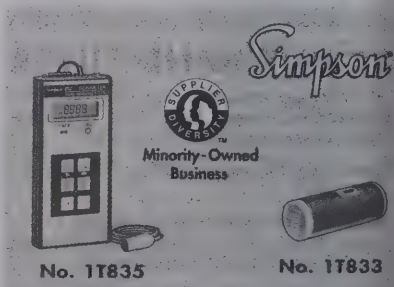
**Data Logger Function**

- **Records up to 31 hours at 1 minute intervals of Lavg and Lmax and number of detected 140 dB peak occurrences per minute; includes real-time information of time and date**
- **Data accumulation ceasing becomes retained in HOLD mode**
- **Output capability to Centronics compatible parallel printer with cable (included) or RS-232 serial port with No. 2T414 cable**

**INCLUDES:**

- **Nose cone, parallel cable, AC adapter (110/120/220/440V AC), microphone clip, wind screen, calibration screwdriver, multi-spline wrench, and manual**

**No. 1T835.** Simpson brand (12645).
Shpg. wt. 4.9 lbs. Each.....$849.00




No. 1T835 No. 1T833

## CALIBRATOR

- **For use with Universal Noise Dosimeter No. 1T835**
- **Includes calibration screwdriver, 9V battery and manual**

**No. 1T833.** Simpson brand (12648).
Shpg. wt. 1.0 lbs. Each.....$309.00

## VIBRATION METERS

ibration meters provide an early warning of developing defects machinery. This kind of maintenance prevents costly, unexected emergency shutdown of equipment.

**Applications† Include:**

**Preventative Maintenance—locate machine troubles early**
**Engineering/Research—measure machine vibration in the lab, plant, or field**
**Noise Control—measure sound to comply with government regulations**
**Quality Control—inspect final product to reduce field problems**

## VIBRATION METER No. 1TC86

**Troubleshoots existing problems in rotating machinery or confirms normal operation**
**Measures vibration in velocity (inches/ second pk.) considered the best parameter for the overall condition of a piece of rotating machinery**
**Digital display**
**Pocket-sized; low battery indicator**
**Intrinsically safe for NEC Class 1, Division 1, Group C and D hazardous areas (Factory Mutual Approved)**
**Includes case and "9V" alkaline battery, data log and instructions**

## VIBRATION/SOUND LEVEL METER No. 1TC87

**Rugged, durable meter**
**Measure vibration in velocity (inches/ second pk. or mm/sec pk), displacement (mils., pk.-pk. or microns pk.-pk.), and noise (dB)**
**Displacement measurements for low frequency related problems**
**Noise measurements for audio related problems; A, B, and C weighted scales**
**"Fast Response" pushbutton measures impact and rapid noise change**
**Analog display; output capability**
**Includes case, (2) 9V alkaline batteries, microphone, straight probe, vibration pickup, cable and instructions**

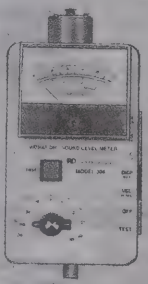
## VIBRATION-SPIKE ENERGY METER No. 1TC88

**Heavy-duty meter detects and measures "bursts" of spike energy (SE) from defects such as micro spalls/ cracks, and lack of lubrication in bearings and gears**
**Measures displacement (mils., pk.-pk.), velocity (inches/second pk.), acceleration (g's pk.), and bearing/gear check (g's SE)**
**Displacement measurements for low frequency related problems**
**Acceleration measurements for high frequency related problems**
**High-Low battery test for indicating remaining battery life**
**Output capability**
**Includes accelerometer, straight probe, pickup cable, case, and (2) 9V alkaline batteries and instructions**

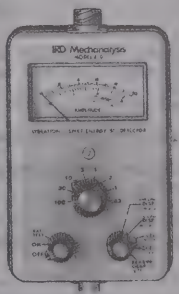
## IRD Mechanalysis



No. 1TC86 Vibration Meter



No. 1TC87 Vibration/ Sound Meter



No. 1TC88 Vibration-Spike Energy Meter

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

| Type of Meter | Velocity | Displacement | Ranges Sound Level | Acceleration | Bearing / Gear Check | Calibration Frequency | Entek IRD Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| ration | 0-1.99 in./sec. | — | — | — | — | 600-60,000 CPM | 808 | 1TC86 | $730.00 | 1.5 |
| ration / Sound | 0-100 | 0-100 mils. pk.-pk. | 45-140dB | — | — | 600-600,000 | 308 | 1TC87 | 3495.00 | 8.1 |
| ration-ke Energy | .03/.1/.3/1/ 3/10/30/100 | .03/.1/.3/1/ 3/10/30/100 | — | .03/.1/.3/1/ 3/10/30/100g* | .03/.1/.3/1/ 3/10/30/100g* | 350-600,000 | 810 | 1TC88 | 3815.00 | 5.5 |

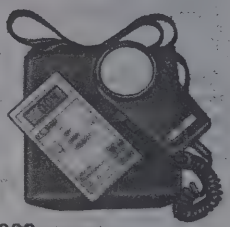
1g = 386 in./sec.² (†) Always consult user manual and applicable local electrical and safety codes prior to use.

# LIGHT METERS

## GREENLEE No. 3T082

- Measures incandescent lighting
- Digital meter with 3½ digit LCD readout
- Data hold function for easy readout
- Low battery display
- Sensor extension to 4½ feet
- Output terminal for permanent recording
- Accuracy 4% of reading ±0.5% full scale
- Range: 0 to 20, 0 to 200, 0 to 2000 footcandles; Conversion Equivalents: 1 footcandle = 10.76 lux
- Includes carrying pouch, 9V battery, and remote sensor
- Limited lifetime warranty

**No. 3T082.** Greenlee brand (93-1065F). Shpg. wt. 1.2 lbs. Each.....$146.00




No. 3T082

## EXTECH No. 1H153
## FOOT CANDLE/LUX METER

- Measures up to 50,000 lux or 5000 foot candles (Fc) in 3 ranges
- Accuracy 5% ±2 digits
- Large 0.5" LCD with Data Hold
- 1mV/count analog output for recording
- Includes sensor made of selenium photo voltaic cells and 9V battery
- Measuring ranges from 0-2000, 0-20,000, 0-50,000 lux (1 lux resolution); 0-200, 0-2000, 0-5000 FC (0.1 FC resolution)

**No. 1H153.** Extech brand (401025). Shpg. wt. 0.8 lbs. Each.....$119.00

**No. 1H151.** Extech brand (409996). Shpg. wt. 0.4 lbs. Each.....$15.00




No. 1H153

## EXTECH HEAVY-DUTY LIGHT METER No. 1M946

- Accuracy: 4% (0.4-second response)
- Ranges: 0-200.0; 2,000; 5,000 Fc; 0-2,000; 20,000; 50,000 lux
- Simultaneous display of foot candles or Lux Plus lighting type
- Large 1.4" LCD display with Data Hold
- Min./Max. and Avg. readings
- Selenium photovoltaic sensor provides cosine and color corrected readings
- 4 lighting types: Tungsten/Daylight, Fluorescent, Sodium, and Mercury
- Zero-adjust, % Differential, and Auto Shut-off
- Heavy-duty design
- Includes rubber holster with stand and 9V battery
- AC power adapter available, use 3ZH67
- Compatible with Datalogger Module No. 1M960 and No. 3ZH85 software

**No. 1M946.** Extech brand (407026). Shpg. wt. 1.4 lbs. Each.....$169.00



No. 1M946

### Vinyl Carrying Case for No. 1M946

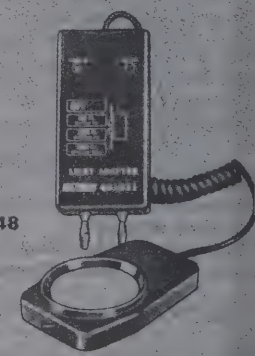
**No. 1M940.** Vinyl Carrying Case. Extech brand (409997). Shpg. wt. 0.3 lbs. Each.....$19.00

## EXTECH MULTIMETER LIGHT ADAPTERS
## Nos. 1M948 and 1M950

- Turn any digital multimeter with a 200mV DC range into a light meter
- No. 1M948 measures 0 to 5,000 foot candles in the following ranges:
  0 to 200 FC (0.1 FC resolution) 1 mV/FC output;
  200 to 2000 FC (1 FC resolution) 0.1 mV/FC output;
  2000 to 5000 FC (10 FC resolution) 0.1 mV/10 FC output
- No. 1M950 measures 0 to 50,000 lux in the following ranges:
  0 to 2000 lux (1 lux resolution) 0.1 mV/lux output;
  2000 to 20,000 lux (10 lux resolution) 0.1 mV/10 lux output;
  20,000 to 50,000 lux (100 lux resolution) 0.1 mV/100 lux output
- Includes 9V battery and instructions

**No. 1M948.** Extech brand (401021). Shpg. wt. 0.5 lbs. Each.....$59.00

**No. 1M950.** Extech brand (401020). Shpg. wt. 0.5 lbs. Each.....$59.00



No. 1M948

# MECHANICAL AND DIGITAL TIMERS AND STOPWATCH/TIMERS

## EXTECH DIGITAL STOPWATCH/TIMER

- Stopwatch timing capacity to 9 hours 59 minutes and 59.99 seconds, built-in memory recalls up to 10 laps, dual display shows total and lap time
- 12 or 24 hour clock with alarm and chime displays day, month, and date
- Countdown timer with 1 minute to 9 hours, 59 minutes input range
- Water resistant
- Includes lithium battery and 39" neckstrap

**No. 3ZH74.** Extech brand (365528). Shpg. wt. 0.2 lbs. Each..... $29.00

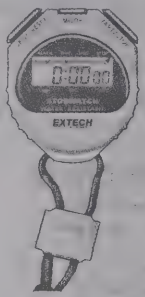


No. 3ZH74

## EXTECH DIGITAL STOPWATCH CLOCK

- Colorful, yellow stopwatch counts up to 23 hours, 59 minutes and 59 seconds
- Accurate to ±3 seconds per day
- Displays elapsed time and split time measurements
- Accurately time 2-contestant competitions
- 12/24 hour clock operation with settable hour chime
- Wake and snooze alarm
- Data hold freezes displayed value
- Water resistant housing; complete with 39" neckstrap and battery

**New No. 4TM11.** Digital Stopwatch Clock. Extech brand (365510). Shpg. wt. 0.2 lbs. Each..... $19.00

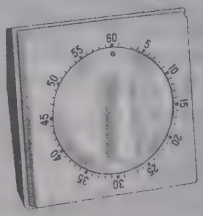


No. 4TM11

## TAYLOR COMPACT MECHANICAL TIMER

- 3" square plastic case
- One hour capacity
- Long bell alarm

**No. 4JZ09.** Taylor brand (5810). Shpg. wt. 0.3 lbs. Each..... $8.99



No. 4JZ09

## TAYLOR SMALL DIGITAL TIMER

- 2⅜ x 2" with 5/8 x 1/2" readout
- 20 hour countdown
- "Visual Logic" control buttons
- Continuous alarm
- Pocket clip, magnetic back, or stand
- Includes "AAA" battery

**No. 4JZ10.** Taylor brand (5811). Shpg. wt. 0.1 lbs. Each..... $8.99



No. 4JZ10

## TAYLOR LARGE DIGITAL TIMER

- 3 x 2¾" with 1⅞ x 3/4" readout
- 20 hour countdown
- "Visual Logic" control buttons
- Extra loud continuous alarm
- Magnetic back or stand
- Includes "AAA" battery

**No. 4JZ11.** Taylor brand (5812). Shpg. wt. 0.5 lbs. Each..... $17.99

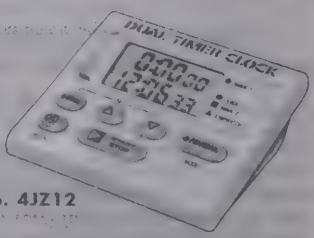


No. 4JZ11

## TAYLOR LARGE DIGITAL STOPWATCH/TIMER

- 3½ x 3¼" with clock, stopwatch, and timer modes
- 24 hour countdown
- Dual readout of timer mode and second mode of choice simultaneously
- "Visual Logic" control buttons
- Continuous alarm
- Includes "AAA" battery

**No. 4JZ12*.** Taylor brand (5814). Shpg. wt. 0.3 lbs.Each..... $21.99



No. 4JZ12

Limited Availability, contact local branch.

# pH TESTERS, pH CALIBRATION TESTER, pH METER, AND TDS PEN TESTERS

## EXTECH POCKET pH TESTER

- Microprocessor based with Automatic Temperature Compensation
- Easy-to-read LCD display
- Wide measuring range of −1.0 to 15.0 pH up to 50°C
- Accuracy: 0.1 pH
- Can be calibrated at 4, 7 and 10 pH using buffer tripak No. 1H141 sold below.
- Features splash proof keypad, Hold function, and Auto Power OFF
- Includes three watch-type batteries

**No. 1H157.** Extech brand (050450). Shpg. wt. 0.3 lbs. Each .....$67.00

### VINYL CARRYING CASE (For Nos. 1H157, 3ZH68 & 3ZH69)

**No. 1H154.** Belt Loop Vinyl Case. Extech brand (392999). Shpg. wt. 0.1 lbs. Each .....$7.00

## EXTECH WATERPROOF pH PEN TESTER

- Waterproof and dustproof—meets or exceeds IP67
- −1.0 to 15.0 pH range, 0.1 pH resolution, +0.2 pH accuracy
- Replaceable electrode No. 3ZH63 included
- Microprocessor control, one button calibration
- Can be calibrated at 4, 7 and 10 pH using buffer tripak No. 1H141 sold below.
- Self-diagnostic, Auto-OFF, Hold function

**No. 3ZH62.** Extech brand (050560). Shpg. wt. 0.4 lbs. Each.....$68.00

### REPLACEMENT ELECTRODE

**No. 3ZH63.** Extech brand (050569). Shpg. wt. 0.1 lbs. Each .....$32.00




## EXTECH pH METER

- Measures pH to 0.01 resolution over full 0-14.00 pH range
- Accuracy: 0.02 pH
- "Flip up" display provides best viewing angle and auto shut-off when cover is closed
- Benchtop or handheld with neckstrap for "hands-free" operation
- Manual temperature compensation (0-100°C)
- Neckstrap, electrode, sample buffer solutions, case and 9V battery included

**No. 1H156.** ❸ Extech brand (120505). Shpg. wt. 1.8 lbs. Each ... $189.00

### ACCESSORIES

**No. 1H143.** Mini Electrode Replacement. Extech brand (60120B). Shpg. wt. 0.2 lbs. Each ..... $45.00

**No. 1H141.** ❸ Buffer Tripak pH 4.0, 7.0, and 10.0. Extech brand (650470). Shpg. wt. 0.3 lbs. Each ..... $20.00

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## EXTECH pH CALIBRATION TESTER

- Detects faults in electrodes, pH meters, recorders, transmitters, etc.
- Pushbutton switch simulates 4, 7, and 10 pH values
- High ohm range (1000 MOHM) for checking impedence values of pH devices
- Accuracy: 0.1% reading
- Compact size fits into shirt pocket
- Includes calibration cable with BNC connector, carrying case and 9V battery

**No. 1H142.** Extech brand (610022-B). Shpg. wt. 0.7 lbs. Each .....$89.00

## HANNA CHECKER® 1 pH TESTER

- Large and easy-to-read LCD
- High accuracy with 0.01 pH resolution
- Replaceable screw-type, combination pH electrode No. 4KF26 included
- Two-point fast and accurate calibration
- 0.00 to 14.00 pH range
- Battery life: 3,000 hours of continuous use

**No. 4KF20.** Hanna brand (CHECKER1). Shpg. wt. 0.5 lbs. Each... $34.50

### REPLACEMENT ELECTRODE

**No. 4KF26.** Replacement Electrode. Combination, single junction, screw-type. Hanna brand (HI1270). Shpg. wt. 0.1 lbs. Each ..... $16.00

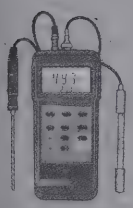
## EXTECH TDS/CONDUCTIVITY PEN TESTERS

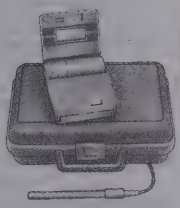
- Select PPM/PPT (TDS) or Siemens (conductivity) models
- Dual ranges: 10 to 1990 PPM, 2.0 to 19.99 PPT
- 20 to 1990 µS, 2.0 to 19.90 mS
- +2% accuracy full scale
- Microprocessor control, one button calibration
- Self-diagnostic, Auto-OFF, Hold function
- Includes batteries and instructions; optional carrying case No. 1H154 sold on this page

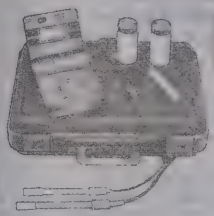
**No. 3ZH68.** TDS Pen Tester 10, PPM/PPT. Extech brand (321850). Shpg. wt. 0.3 lbs. Each ..... $95.00

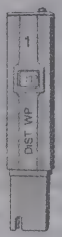
**No. 3ZH69.** TDS Tester 20, Siemens. Extech brand (321950). Shpg. wt. 0.3 lbs. Each..... $95.00

# PH AND CONDUCTIVITY TESTERS


No. 3ZH86


No. 3ZH70


No. 3ZH72



No. 4KF21

## EXTECH HEAVY-DUTY pH/mV/TEMPERATURE METER KIT

- Extra large dual display LCD
- Read pH/temperature or mV/temperature in °F or °C
- Ranges: 0-14pH, 0-1999mV, 0-100°C, 32-212°F
- Min./Max./Average with Recall
- Auto OFF and Data Hold
- Easy slope and calibration adjustments
- Manual and auto temperature compensation
- Optional serial cable and data acquisition software (No. 3ZH85) and datalogger (No. 1M960)
- Includes pH electrode, temperature probe (No. 3ZJ04), protective holster, 9V battery, and carrying case

**No. 3ZH86.** Extech brand (407228). Shpg. wt. 1.4 lbs. Each ..... $269.00

### OPTIONAL FLAT SURFACE ELECTRODE

- Ideal for testing pH on solid products such as cheese or soils
- Polymer bodied electrode makes clean-up easy
- End mounted, large flat sensor for fast, efficient response
- Probe dimensions are 5mm Diameter x 114mm Long; includes 39" cable

**No. 3ZH98.** Flat Surface Electrode. Extech brand (60110B). Shpg. wt. 0.3 lbs. Each ..... $65.00

### ACCESSORIES

**No. 3ZJ04.** Stainless Steel Temperature Probe. Extech brand (850188). Shpg. wt. 0.2 lbs. Each ..... $49.00

**No. 3ZH67.** 117V AC Adapter. Extech brand (156119). Shpg. wt. 0.5 lbs. Each ..... $17.00

## HANNA DIST WATERPROOF CONDUCTIVITY AND DISSOLVED SOLIDS TESTERS

- Large and easy-to-read LCD
- Automatic temperature compensation
- Housed in waterproof ABS cases for the best protection against dust and humidity
- Manual one-point calibration through trimmer
- Accuracy: ±2% Full Scale
- Battery life: 350 hours of continuous use

### CONDUCTIVITY CALIBRATION SOLUTIONS

- Used to calibrate Hanna or other brands of instruments
- 30 ml bottles, 2 bottles per unit

**No. 4KF27.** ❸ 84 µS/cm @ 25°C. Hanna brand (HI7033P). Shpg. wt. 0.2 lbs. Each ..... $7.50

**No. 4KF28.** ❸ 5000 µS/cm @ 25°C. Hanna brand (HI7039P). Shpg. wt. 0.2 lbs. Each ..... $7.50

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite back cover.

| Range | Hanna Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1999 ppm | DiST WP 1 | 4KF21 | $46.70 | 0.6 |
| 10.00 ppt | DiST WP 2 | 4KF22 | 46.70 | 0.6 |
| 1999 µS/cm | DiST WP 3 | 4KF23 | 46.70 | 0.6 |
| 19.99 mS/cm | DiST WP 4 | 4KF24 | 46.70 | 0.6 |

## EXTECH TDS/CONDUCTIVITY METER KITS Nos. 3ZH70 and 3ZH71

- Economy models measure TDS (total dissolved solids) or conductivity
- TDS range: 10 to 19,990 PPM; Conductivity range: 10 to 19,990 µS
- +0.5% accuracy; cell adjust for calibration
- Adjustable LCD with Auto OFF when cover is closed
- Includes polymer cell (No. 3ZJ03) with 39" cable, hard vinyl carrying case, and 9V battery

**No. 3ZH70.** Oyster TDS Meter Kit. Extech brand (341150). Shpg. wt. 1.8 lbs. Each ..... $199.00

**No. 3ZH71.** Oyster Conductivity Kit. Extech brand (341250). Shpg. wt. 1.8 lbs. Each ..... $199.00

## EXTECH pH/CONDUCTIVITY/TDS METER KITS Nos. 3ZH72 and 3ZH73

- Measure pH, Conductivity and TDS (Total Dissolved Solids)
- Ranges: 0.01 pH to 14.00 pH, 10 to 19,990 µS, 10 to19,990 PPM
- Accuracy: +0.01pH, +0.5% µS and PPM
- Select Glass Cell (on No. 3ZH72) or durable Polymer Cell (on No. 3ZH73)
- Adjustable LCD with Auto OFF when cover is closed
- Complete with pH electrode, TDS/Conductivity cell, buffer solutions, carrying case, 9V battery, and instructions

**No. 3ZH72.** pH/Conductivity/TDS Kit, Glass Cell. Extech brand (341350). Shpg. wt. 2.9 lbs. Each ..... $379.00

**No. 3ZH73.** pH/Conductivity/TDS Kit, Polymer Cell. Extech brand (341350-P). Shpg. wt. 2.9 lbs. Each ..... $359.00

## CONDUCTIVITY ACCESSORIES

- Glass and polymer conductivity cells provide precise measurements from 0.01 to 200,000 µS/cm with 1.0K constant and automatic temp. control
- Conductivity cells are corrosion resistant with platinized electrodes
- Choice of conductivity solutions permits calibration close to measurement range

**No. 3ZH99.** Glass Conductivity Cell 0.5"Dx5.6"L (12mm x 137mm). Extech brand (800410). Shpg. wt. 0.4 lbs. Each ..... $95.00

**No. 3ZJ03.** Polymer Conductivity Cell 0.5"Dx6.4"L (12mm x 157mm). Extech brand (804010). Shpg. wt. 0.4 lbs. Each ..... $95.00

**No. 3ZJ02.** 1,000 mS/cm Solution, 500ml. Extech brand (800459). Shpg. wt. 1.2 lbs. Each ..... $22.00

**No. 3ZJ01.** 10,000 mScm Solution, 500ml. Extech brand (800458). Shpg. wt. 1.2 lbs. Each ..... $22.00

# CONDUCTIVITY, DISSOLVED OXYGEN, CHLORINE METERS, AND REFRACTOMETERS

## EXTECH CONDUCTIVITY/ TEMPERATURE METER No. 4KC30

- Dual display of conductivity and temperature
- Three Ranges: (200µS/2mS/20mS) with high resolution from 0.1µS and ±3% accuracy
- Measure temperature from 32° to 140°F (0° to 60°C)
- Manual or Automatic temperature compensation
- Super large 1.4" (36mm) LCD also displays recalled Min/Max/Avg readings
- Conductivity cell calibration adjustment
- Data Hold and Auto Power OFF
- Built-in RS-232 interface
- Windows Data Acquisition software (No. 3ZH85), Data Logger (No. 1M960), and AC Power Adapter (No. 3ZH67) available, order separately
- Includes 1K carbon cell with cable (No. 4KC54), rubber holster, 9V battery, and carrying case

**No. 4KC30.** Extech brand (407303) Shpg. wt. 2.5 lbs. Each.....$249.00

### ACCESSORIES

**No. 4KC54.** Replacement Conductivity Cell for No. 4KC30. Extech brand (804407) Shpg. wt. 0.3 lbs. Each.....$69.00

## EXTECH DISSOLVED OXYGEN METER No. 4KC32

- Dual display of dissolved oxygen and temperature
- Measure dissolved oxygen from 0 to 20.0mg/L or 0 - 100% oxygen
- Measure temperature from 32° to 140°F (0° to 60°C)
- Automatic temperature compensation via temperature sensor in oxygen probe (polarographic)
- Super large 1.4" (36mm) LCD also displays recalled Min/Max/Avg readings
- Probe compensation for Salt (0 to 39%) and Altitude (0 to 3900 meters)
- Data Hold and Auto Power OFF
- Built-in RS-232 interface
- Windows Data Acquisition Software (No. 3ZH85), Datalogger (No. 1M960), and AC Power Adapter (No. 3ZH67) available, order separately
- Includes sensor with cable, five membranes, holster, 9V battery, and case

**No. 4KC32.** Extech brand (407510) Shpg. wt. 2.5 lbs. Each.....$399.00

### ACCESSORIES

**No. 4KC52.** Replacement Membranes for No. 4KC32 (5/Pkg.). Extech brand (780407). Shpg. wt. 0.1 lbs. Each.....$15.00

**No. 4KC53.** Replacement KCL Solution for No. 4KC32. Extech brand (780408). Shpg. wt. 0.1 lbs. Each.....$12.00

## EXTECH SUCROSE REFRACTOMETER No. 3ZH96 AND SALINITY REFRACTOMETER No. 3ZH97

- Sucrose Refractometer Range: 0-32% brix, 0.2% resolution, refractive index of 1.333 to 1.384. Determines % solids in liquids
- Salinity Refractometer Range: 0 to 160 ppt, 0.5 ppt resolution refractive index of 1.333 to 1.373. Determines salt density in solutions
- Include carrying case, screwdriver for calibration, and instructions

**No. 3ZH96.** Sucrose Refractometer (0-32%). Extech brand (502132) Shpg. wt. 0.5 lbs. Each.....$249.00

**No. 3ZH97.** Salinity Refractometer (0-160 ppt). Extech brand (588306). Shpg. wt. 1.0 lbs. Each.....$299.00

## HANNA WATERPROOF DISSOLVED OXYGEN METER No. 4KF38

- Large, easy-to-read LCD
- One-point calibration
- Automatic temperature compensation
- Low battery indicator
- Accuracy: ±1.5% full scale
- Resolution: 0.1 mg/L; Range: 0.0-19.9 mg/L

**No. 4KF38.** Hanna brand (HI9142). Shpg. wt. 4.2 lbs. Each.....$495.00

### ACCESSORIES

**No. 4KF37.** Replacement Teflon Membranes for No. 4KF38 (5/Pkg.). Hanna brand (HI76407A/P). Shpg. wt. 0.5 lbs. Each.....$69.00

**No. 4KF30.** Electrolyte Solution for No. 4KF37 (30 mL bottle). Hanna brand (HI7041S). Shpg. wt. 0.5 lbs. Each.....$10.90

**No. 4KF29.** Zero Oxygen Solution (230 mL bottle). Hanna brand (HI7040M). Shpg. wt. 1.0 lbs. Each.....$9.00

## HANNA FREE AND TOTAL CHLORINE COLORIMETER No. 4KF43

- Reads both free and total chlorine; large, easy-to-read tilted LCD display
- Reads in 0.01 mg/L increments
- Accuracy: ±0.03 mg/L ±3% of rdg.
- Range: 0.00-2.50 mg/L free; 0.00-3.50 mg/L total

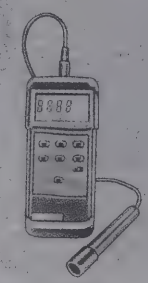
**No. 4KF43.** ❸ Hanna brand (HI93711). Shpg. wt. 2.5 lbs. Each.....$152.00

### ACCESSORIES

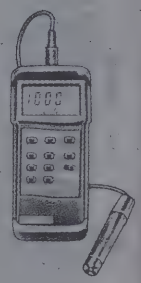
**No. 4KF42.** ❸ Free Chlorine Reagent for No. 4KF43. Provides 100 tests. Hanna brand (HI93701-01). Shpg. wt. 0.1 lbs.Each.....$14.00

**No. 4KF44.** ❸ Total Chlorine Reagent for No. 4KF43. Provides 100 tests. Hanna brand (HI93711-01) . Shpg. wt. 0.1 lbs. Each.....$14.00

EXTECH INSTRUMENTS



No. 4KC30



No. 4KC32

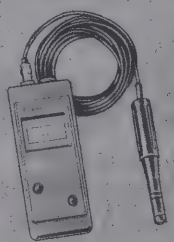


No. 3ZH96



No. 3ZH97

HANNA instruments



No. 4KF38



No. 4KF43

**No. 4KF35.** Pack of 4 Spare Cuvets. For use with No. 4KF43. Hanna brand (HI731321). Shpg. wt. 0.5 lbs. Each.....$12.9

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# MULTI-FUNCTION CONTACT AND NON-CONTACT TACHOMETERS

## CONTACT AND NONCONTACT POCKET TACHOMETERS

- Safe non-contact operation to 30" and 30° from reflective target
- Ergonomic design allows viewing target and display simultaneously
- Contact tip measures rotational and linear speed in english and metric units
- 2.4W x 5.86H x 1.23"D size fits in shirt pocket; weigh 6 oz.

**No. 3T179** Pocket-Tach 100 Non-Contact Tachometer:

- Accuracy: ±1 RPM
- Last measurement memory
- "9V" battery • 6" reflective tape
- Padded carrying case included

**No. 3T181 Pocket-Tach Plus Kit,** 30 Function Non-Contact Tachometer, Totalizer-Counter, Timer-Stopwatch:

- Inches, feet, yards, centimeters or meters per second, minute or hour
- Accuracy ± .01% of reading
- Min./Max. last measurement memory
- Totalizer: 1 to 999,999 counts
- Stopwatch: .01 second to 99 hours
- Includes "9V" battery, 5 ft. roll of reflective tape, contact tip assembly, linear speed wheel, instruction manual, and carrying case

| Range (RPM) | Monarch Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 5-100,000 | Pocket-Tach 100 | 3T179 | $195.00 | 0.5 |
| 5-100,000 (Optical); 2.5-20,000 (Contact) | Pocket-Tach Plus Kit | 3T181 | 269.00 | 3.0 |

## MONARCH PISTOL GRIP DIGITAL PHOTOTACHOMETERS

- Safely measures up to three feet and at angles of up to 45°
- Range: 5-100,000 RPM
- Accuracy: ±1 RPM
- 1 RPM resolution
- Pistol grip convenience
- Trigger lock button for continual monitoring
- 1/4-20 threaded bushing in handle for tripod/bracket mounting
- On-target indicator assures proper aim
- Last measurement memory; low battery indicator
- 6 digit, 0.5" LCD display
- Display update is twice per second
- No. 3T178 also includes internal optics and remote optical sensor with 8 ft. cable and mounting clamp
- Both models include 4 NiCad "AA" rechargeable batteries, recharger, one 5 ft. roll reflective tape and rugged carrying case

| Monarch Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| PHASAR Kit | 5W182 | $394.00 | 5.0 |
| PHASAR-REMOTE Kit | 3T178 | 579.00 | 5.0 |

**No. 3A145.** Monarch Replacement Reflective Tape. For use with many phototachometers. 1/2" x ft. roll. Shpg. wt. 0.1 lbs. Each ..... $10.00

## HIGH ACCURACY/WIDE RANGE TACHOMETER/ TOTALIZER/COUNTER/TIMERS

### TACHOMETER FUNCTIONS

- Autoranging 5 to 500,000 RPM
- Accuracy ± 0.0001 RPM
- Non-contact operation to 3 ft. and 45° from target
- Minimum, maximum and last measurement recall
- NIST traceable certificate supplied
- 6 digit alphanumeric, backlit LCD display
- Single or multiple pulses per revolution and scaling

### TOTALIZER/COUNTER FUNCTIONS

- 1-999,999 counts
- Manual and optical incrementing

### TIMER (STOPWATCH) FUNCTIONS

- Autoranging 0.01 seconds to 100 hours
- Stores 3 lap times

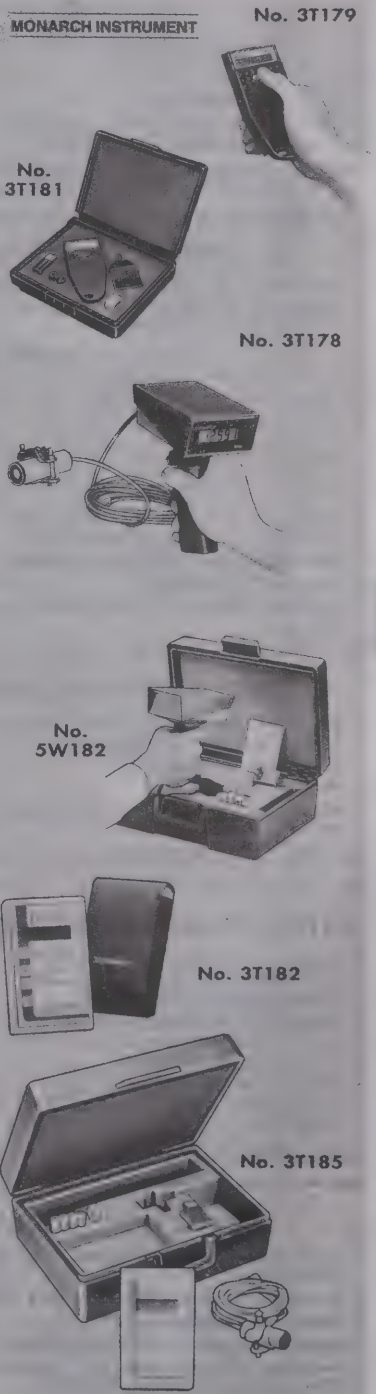
**No. 3T183** includes recharger, reflective tape and carrying case.

**No. 3T184** includes remote optical sensor with 8 ft. cable, mounting bracket, and tape.

**No. 3T185** includes recharger, reflective tape , remote optical sensor with 8 ft. cable, mounting bracket and carrying case.

| Sensor | Battery Supplied (Qty. / Type) | Case | Monarch Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| nternal | 4/AA | Padded | TACH-4A | 3T182 | $395.00 | 1.0 |
| nternal | 4/Ni Cad | Latching | TACH-4A Kit | 3T183 | 520.00 | 5.0 |
| nternal & Remote | 4/AA | Padded | TACH-4AR/ROS-5P | 3T184 | 580.00 | 1.5 |
| nternal & Remote | 4/Ni Cad | Latching | TACH-4AR Kit | 3T185 | 705.00 | 5.5 |

MONARCH INSTRUMENT



# CONTACT AND NON-CONTACT TACHOMETERS

## STEWART-WARNER HAND-HELD DIAL CONTACT TACHOMETER

- Accuracy (typ.): ±3%
- Range: 50-4000 RPM
- For use on motors, saws, compressors, fans, pumps, and grinders
- Reads directly in RPM; 2½" scale 50 and 100 RPM increments, with large numerals every 500 RPM (clockwise or counter-clockwise)
- Fluid damper for pointer Indication
- Cup haaped tip for flat-end shaft
- cone-shaped tip for shafts with cebter holes

**No. 2X132.** Stewart-Warner brand. Shpg. wt. 0.6 lbs. Each.....$52.40

## AMETEK HAND-HELD DIGITAL TACHOMETER

- Accuracy (typ.): ±0.035% of reading
- Range: 6-25,000 RPM (contact) 6-99,999 RPM (noncontact)
- Contact or non-contact measurement
- 8-segment display with floating decimal

### 16 UNITS OF MEASURE

| Per Time | Units | | | | | | |
|---|---|---|---|---|---|---|---|
| | Rev | Inch | Feet | Yard | Mile | Cm | Meter |
| Second | Yes | Yes | Yes | Yes | — | Yes | — |
| Minute | Yes | Yes | Yes | Yes | — | — | Yes |
| Hour | Yes | Yes | Yes | Yes | Yes | — | Yes |

- Unit of measure always displayed
- Four memories—Last, Minimum, Maximum, and Average readings
- Power: "9V" battery
- Includes reflective tape kit and carrying case
- Photoelectric pickup. Also includes contact adapter utilizing interchangeable tips—conical, concave, and linear speed wheel
- 8-character dot-matrix LCD; 3/8" character height

**No. 2T719.** Ametek brand (1726). Shpg. wt. 2.0 lbs. Each.....$293.00

## TIF HAND-HELD DIGITAL PHOTOTACHOMETER

- Accuracy (typ.): 0.1% of reading or 1 RPM, whichever is greater
- Range: 80-20,000 RPM
- Memory hold feature
- Infrared light, not affected by ambient interference
- On-target indicator
- Auto power OFF
- 4½ digit LCD display
- Non-contact measurement
- One roll reflective tape, one "9V" battery, and case included

**No. 3X982.** TIF brand (780). Shpg. wt. 1.6 lbs. Each.....$214.00

**No. 1T982.** Reflective Tape. ½ x 30". TIF brand (TIF 773). Shpg. wt. 0.1 lbs. Each.....$5.25

## EXTECH COMBINATION PHOTO TACHOMETER/STROBOSCOPE

- Battery operated unit provides tachometer and strobroscope speed/motion analysis
- Large 0.4" full 5-digit LCD display with character reversal based on measurement mode
- Non-contact
- Tachometer range from 5 to 100,000 RPM/FPM
- Strobroscope range from 100 to 100,000 RPM/FPM
- Tachometer memory stores and recalls last, max., and min. readings
- 0.1% basic measurement accuracy with 0.1 RPM resolution
- Includes four 1.5V (AA) bateries, reflective tape and case

***New* No. 4PC67.** Extech brand (461825). Shpg. wt. 1.8 lbs. Each.....$329.00

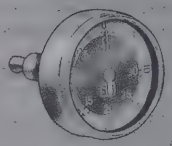
***New* No. 4PC68.** Extech brand. (46185-NIST). Shpg. wt. 1.8 lbs. Each.....$429.00

## EXTECH TACHOMETER ADAPTER No. 1M920

- Turns any digital multimeter with a 200 mV DC range into a non-contact photo tachometer
- 2 ranges: 100 to 1999 RPM and 1000 to 19990 RPM
- Working distance: 2-12"
- Accuracy (typ.): ± 1.2% of reading
- Includes reflective tape, 50" cable with banana plugs to connect to multimeter, 4 "AA" batteries and instructions

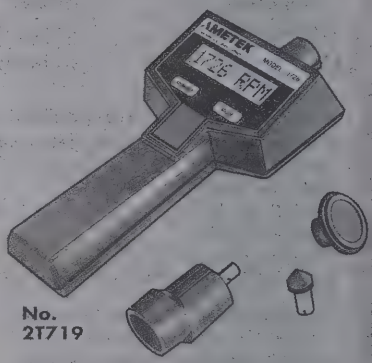
**No. 1M920** Extech brand (461900). Shpg. wt. 0.8 lbs. List $119.00. Each.....$109.00

STEWART-WARNER



No. 2X132

AMETEK




No. 2T719

tif




No. 3X982

EXTECH INSTRUMENTS

New



No. 1M920



No. 4PC67

# PROGRAMMABLE TACHOMETER AND PICKUPS

## DIGITAL PROGRAMMABLE TACHOMETER

**Microprocessor based rate meter/tachometer/process time indicator. Measures linear speed, rotational speed, and units over time**

**Front panel programming**

**0.01% ±1 LSD accuracy**

**Memory recall of Min., Max., Ave. readings**

**0.5" five digit LED display**

**Floating decimal for maximum resolution**

- **Prog., Min., Max., Ave., Dir. modes**
- **"Power ON" self-test**
- **Cast aluminum, panel mount, NEMA, DIN, standard cutout (5.6 x 2.8")**
- **120V AC ±10%, 50-60 Hz operation**
- **Use with Ametek No. 2T972 magnetic or No. 2T973 photoelectric pickups**

**No. 2T724.** Ametek brand (1736). Shpg. wt. 3.0 lbs. Each ..... **$465.75**

AMETEK




## MAGNETIC PICKUPS

Convert mechanical motion to an AC voltage without the need for external power or mechanical linkage. Produce an external magnetic field which generates an AC voltage when disturbed by a ferrous object such as a gear tooth. The frequency of this voltage is proportional to RPM when the pickup is mounted in close proximity to rotating gear teeth. All models self generate a pulse when a ferrous object moves past the pickup tip . . . the faster, the higher the voltage (zero speed equals zero voltage). P-P (peak-to-peak) volts for 0.005" gap with a 20 pitch, 30 tooth steel gear moving at 1000 in./sec. is 90.0 volts.

Combination of pickups and tachometers provides a speed monitoring system for timing, synchronization, and vibration measurement applications.

- **1800Ω nominal coil resistance**
- **Use for slow surface speeds to 100 in./sec. where interference from nearby motors and transformers is not likely**
- **Epoxy potted for protection**
- **5/8"-18 threaded shell with lock nut to facilitate mounting**
- **Includes 8 ft. shielded cable and appropriate connector**

| For Model | Case Material | Connector | Pickup Length (In.) | Ametek Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1736** | Stnl.St. | Tinned | 2⅜ | 813-SXC | **2T972** | **$71.80** | 0.5 |
| **1965** | Brass Nickel Plated | 3 pin | 2 | 892-SXA | **2T736** | **94.30** | 0.5 |

AMETEK



No. 2T736

## PHOTOELECTRIC PICKUPS

Photoelectric pickups are transducers providing a signal voltage output corresponding to a change in light reflected from a target object." Provide both the light source and sensing photocell. In general, the greater the light change on the cell, the greater its voltage output. Therefore, light reflected from a bright surface and a dull or black background will result in maximum output. Silicon cell sensors generate voltage when they "see" light. They are used in the range from 0 to 100,000 events per minute. Can be used with reflective tape—No. 3A145 and No. 1T982.

- **No. 2T738 has provision for threaded mounting**
- **3½" length**
- **Includes 8 ft. shielded cable and appropriate connector**

| Built-in Amplifier | Application Distance (In.) | Connector | Mounting (In.) | Use with Model | Ametek Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Yes** | 1/2 | MS-3106A | 3/4-20 Thrd. | 834 | 836-SXA | **2T738** | **$132.75** | 1.0 |
| **No** | 1/4 to 25 | Tinned | 7/8 dia. | 1736 | 995 SXC | **2T973** | **94.55** | 0.5 |
| **No** | 1/4 to 25 | 3 pin | 7/8 dia. | 1965 | 995-SXA | **2T740** | **99.25** | 0.3 |

AMETEK



No. 2T738


## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

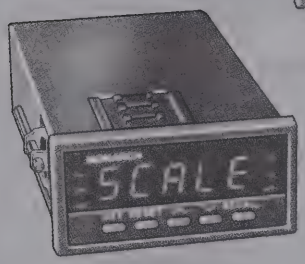
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# TACHOMETER/TOTALIZERS AND SENSORS

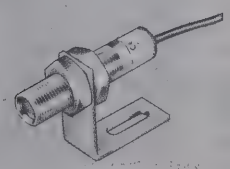
## MONARCH INSTRUMENT



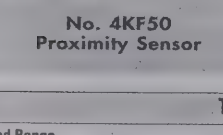

No. 4KF46



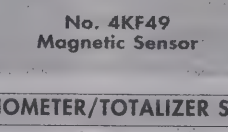

No. 4KF47



No. 4KF55
Optical Sensor



No. 4KF50
Proximity Sensor



No. 4KF49
Magnetic Sensor

**No. 4KF46:**

- **Economical RPM display with an input requirement of 1 pulse per revolution**
- **7-segment LED display**

**No. 4KF47:**

- **Panel tachometer is front panel programmable from one or multiple pulses per revolution with scaling**
- **Totalize independent scaling and count to 99,999**
- **Two alarm set points with High Alarm, Low Alarm, latching, non-latching, low limit lockout and hysteresis. All programmable independently for each alarm**
- **Recall minimum and maximum readings**
- **7-segment LED display**
- **Standard simultaneous outputs include: Offset Analog Voltage (12 bit resolution, 0-5V DC), Offset Current (12 bit resolution, 4-20 ma), Pulse Repeater (0-5V TTL) and RS232 bi-directional interface**
- **Nos. 4KF46 and 4KF47 have universal inputs are are compatible with optical, proximity, and magnetic sensors and direct 0-5V TTL or 200mV to 50V AC signals. See Sensors listed below**

## SENSORS

**Remote Optical Sensor.** 1-150,000 RPM. Visible red LED ligh source and green LED on-target indicator. Complete wit mounting bracket and 8 ft. cable. Operates up to 3 feet and 45 from reflective target. Stainless steel sensor 0.625" diameter x 2.90" long. Operating temperature -10 to 250°F (-23 to 121°C) Use with No. 3A145 reflective tape.

**No. 4KF55.** Remote Optical Sensor. Monarch brand (ROS-5W) Shpg. wt. 0.4 lbs. Each ..... $135.00

**Proximity Sensor.** 1-60,000 RPM. Inductive probe for use up t 0.200 inches to a metallic target. Generate pulses per revolutio from bolt head, keyway with an area of at least 0.5 sq. in Dimensions: M14x1 thread x 1.26" long. Operating temperature -4 to 140°F (-20 to 60°C). Meets IEC standard 144/855420 cate gory I.P. 67, dust-tight and protected against water at one mete immersion. Complete with mounting nuts and 6 ft. cable.

**No. 4KF50.** Proximity Sensor. Monarch brand (P5-11). Shpg. wt. 0.2 lbs. Each ..... $95.00

**Magnetic Sensor.** 1-100,000 RPM. Recommended for use with 6 tooth, 20 pitch gear, 0.05" gap. 0.106" pole piece diameter 1200Ω resistance, 190V p-p at 1000 ips. Dimensions: 5/8 x 1 UNF thread, 2" long. Operating temperature: -100 to 225°F (-7 to 107°C).

**No. 4KF49.** Magnetic Sensor. Monarch brand (M-190). Shpg. wt. 0.2 lbs. Each ..... $90.00

## TACHOMETER/TOTALIZER SPECIFICATIONS AND ORDERING DATA

| Speed Range RPM | Accuracy | Input Configuration | Dimensions | Recommended Sensors | Monarch Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 5-100,000 | ± 1 RPM | 1 pulse/revolution | 1/8 DIN x 4.5" D | 4KF50, 4KF55 | ACT-1B/115 | 4KF46 | $260.00 | 1.5 |
| 5-999,990 | ±0.001% of rdg. | 1 or multiple pulse/revolution | 1/8 DIN x 7" D | 4KF49, 4KF50, 4KF55 | ACT-3/115 | 4KF47 | 495.00 | 2.0 |

## MONARCH STROBOSCOPE ACCESSORIES

**No. 1TC14.** Digital Stroboscope Lamp. (L-1903). Shpg. wt. 0.1 lbs. Each ..... $75.00

**No. 1TC15.** Analog Stroboscope Lamp. (L-1902). Shpg. wt. 0.1 lbs. Each ..... $25.00

**No. 1TC39.** Fast Charger 115V AC, 50/60 Hz (3 hours). (FR-3A). Shpg. wt. 2.4 lbs. Each ..... $110.00

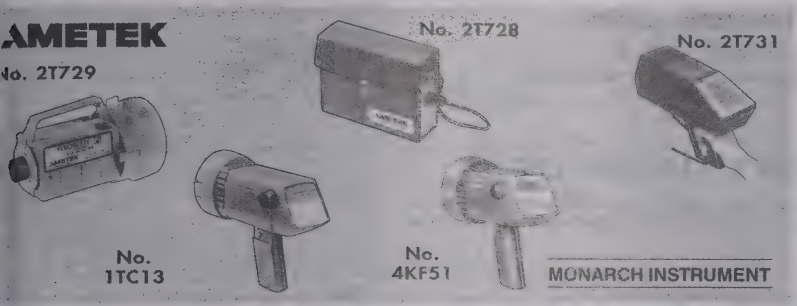
**No. 1TC40.** Latching Carrying Case. (CC-7). Shpg. wt. 2.0 lbs. Each ..... $75.00

**No. 4KF53.** Standard Charger. (R-5). 115VAC, (14 hours). Shpg. wt. 0.4 lbs. Each ..... $25.00

**No. 4KF52.** Power Supply/Battery Charger. (PSC-3). Allows Phaser-Strobe (4KF51) to operate continuously from line power and internal rechargeable batteries. 115VAC, (10 hours). Shpg. wt. 1.8 lbs. Each ..... $125.000

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**




## HAND-HELD DIAL STROBOSCOPE/TACHOMETER

- Adjustable dial varies flash rate
- Accuracy (typ.): ±3% FS; Range: 200 to 6000 flashes/minute
- As a stroboscope it optically slows or stops motion of any moving object
- As a tachometer it provides speed measurement of moving/rotating objects
- Flash duration approximately 10 to 100 microseconds
- High impact case. Plastic lens. Mirror type reflector
- 1/4-20 threaded provision for tripod mount
- 117V AC, 50/60 Hz operation. Optional portable power pack available; see No. 2T728

**). 2T729.** Ametek brand (1000). Shpg. wt. 5.0 s. Each..... $198.25

**). 1TC27.** Replacement Bulb. Ametek brand 10028). Shpg. wt. 0.1 lbs. Each..... $27.85

## AC/DC PORTABLE POWER PACK

- Designed for use as portable power source for Nos. 2T729 and 2T731 stroboscope/tachometers listed above
- Contains rechargeable lead-acid 12V DC battery and 120V AC adapter/charger
- Output power is square wave, 50-70 Hz, 120 Vrms min., fully loaded, via NEMA 5-15 receptacle

**). 2T728.** Ametek brand (996). Shpg. wt. 11.0 s. Each..... $568.50

## HAND-HELD DIGITAL STROBOSCOPE/TACHOMETER

- Versatile, portable, hand-held or stand mountable
- Accuracy (typ.): ±0.01% +1 LSD
- Internal Flash Range: 20.0 to 29,999 flashes/minute
- External Tachometer Range: 120.0 to 99,999 RPM
- Internal/external/line triggering
- LCD readout, 5 digits with floating decimal point
- Microprocessor controlled—no calibration required
- Ultra stable (time and temperature)
- Set-up memory
- Automatic brightness control
- Can be used with permanently mounted magnetic or moveable photoelectric pickup transducers, see Index. Input accessible through 5-pin DIN receptacle
- Flash duration, 70-100 microseconds
- Continuous duty, thermally protected strobe
- High temperature resistant molded noryl case with detachable handle and 1/4-20 socket for tripod mounting
- 115V AC, 50/60 Hz operation Optional portable power pack available; see No. 2T728

**No. 2T731.** Ametek brand (1965 Digistrobe III). Shpg. wt. 4.1 lbs. Each..... $547.00

## INTERNAL RECHARGEABLE BATTERY OPERATED (1TC12 and 1TC13) AND LINE POWERED (4KF45 and 4KF48) STROBOSCOPES/TACHOMETERS

Nos. 1TC13 and 4KF48 have remote synch, external input, trigger output, latching trigger. The 4KF48 and 1TC13 offer continuous internal Phase Shift adjustment through Phase Keys. Continuous cool operation—100% duty cycle. Hand-held or tripod/bracket mountable. 1TC12 and 1TC13 Low battery indication; includes standard 115V AC (14 hr.) charger. Dimensions: Body—3.66W x 3.56H x 9"L; reflector housing—4.8" diameter.

**No. 1TC12.** Battery Operated Analog Stroboscope/Tachometer. Monarch brand (AB 115) . Shpg. wt. 3.8 lbs. Each..... $335.00

**No. 4KF45.** Line Operated Analog Stroboscope. Monarch brand (AA115). Shpg. wt. 3.0 lbs. Each..... $225.00

**No. 1TC13.** Battery Operated Digital Stroboscope/Tachometer. Monarch brand DB+115) Shpg. wt. 3.8 lbs. Each..... $495.00

**No. 4KF48.** Line Operated Digital Stroboscope. Monarch brand (DA+115). Shpg. wt. 3.0 lbs. Each..... $425.00

## PHASE-SHIFTING STROBOSCOPE/TACHOMETER

Includes NIST Traceable Certificate with each instrument. Expanded range of 30 to 32,500 FPM with exceptional resolution up to ±0.05 FPM. External mode offers Dual Function Delay in degrees and seconds. Auto Flash Intensity maximizes brightness throughout the entire range. Auto Set-up Mode provides slow motion viewing for repetitive high speed events. Displays both flashes-per-minute and flashes-per-second on backlit LCD. Stores and recalls three full settings and last measurement in non-volatile memory. Multiply and divide flash rate by two with display panel pushbutton. Dimensions: body—3.66W x 3.56H x 9"L, reflector housing—4.8" diameter. See Chargers on nearby page under "Accessories" for ordering information.

**No. 4KF51.** Phase-Shifting Stroboscope. Monarch brand (PB115). Shpg. wt. 4.0 lbs. Each..... $695.00


CHECK THE INDEX AT THE BACK OF THE BOOK TO HELP YOU FIND THE PRODUCTS YOU NEED QUICKLY


| SPECIFICATIONS | 4KF51 | 4KF45 | 1TC12 | 4KF48 | 1TC13 |
|---|---|---|---|---|---|
| ange-Flashes per minute | 30-32500 | 100-8000 | 100-8000 | 30 - 14000 | 30 - 14000 |
| acklighted Display | Digital-LCD | Analog | Analog | Digital-LCD | Digital-LCD |
| ccuracy | ±0.01% | ± 2% setting | ± 2% setting | ± 0.1 FPM | ± 0.1 FPM |
| verage Power-Watts | 10 W | 7 W | 7 W | 15 W | 10 W |
| hase Delay-Degrees | 0-359 ± 0.1° | — | — | — | — |
| ime Delay-Seconds | 0 to 6.500 Sec. ± 0.0001 Sec. | — | — | — | — |
| uto Step Mode (Range) | Step Size 0.0-180.0° Step Rate 0.0001 to 6.5 sec. per step | — | — | — | — |
| Flash Energy-Typical | 150 mjoule | 100 mjoule | 100 mjoule | 180 mjoule | 180 mjoule |
| xternal Input / Output Trigger | 50 mjoule > 10,000 FPM TTL to 24Vdc max./ 5V TTL | No | No | Yes-TTL | Yes-TTL |
| 1/8" Phone Plug) | | | | | |
| lash Duration | 10-30µsec | 20µsec | 20µsec | 10-30µsec | 10-30µsec |
| ower | Internal Rechargeable Batteries* | 115VAC 50-400 Hz | Internal Rechargeable Batteries | 115VAC 50-400 Hz | Internal Rechargeable Batteries |
| Veight (Lbs.) | 2.5 | 1.5 | 2.5 | 3.0 | 4.0 |

Continuous mains operation available, order No. 4KF52 Power Supply/Charger.

# TIMING LIGHTS, AUTO TRACER, AND BATTERY TESTERS

## [A] INDUCTIVE TIMING LIGHT

- **Bright xenon flash tube**
- **Works on all 12 volt systems**
- **Chrome metal housing**
- **Inductive pick-up**

**No. 4A650.** Kal Equip brand (4155).
Shpg. wt. 3.3 lbs. Each ..... **$98.90**

## [B] ADVANCE INDUCTIVE TIMING LIGHT

Use with 12 volt connectional or electronic ignition systems on domestic and imported cars. Inductive pick-up. Full one-year warranty; see "Manufacturer's Warranties" on page opposite inside back cover.

- **Bright xenon flash tube**
- **Rubber nose cone**
- **Chrome metal housing**
- **Adjustable advance**
- **Detachable lead set**

**No. 4A651.** Kal Equip brand (4185).
Shpg. wt. 4.0 lbs. Each ..... **$102.60**

## [C] AUTO TRACER

Detects voltage in automotive wiring without having to puncture insulation. Consists of two parts, an injector and a hand-held detector. A connectionless unit that checks for continuity, detects shorts and emits a loud beeping signal. Locates broken wires in: trucks, trailers, automobiles, boats, RVs (or any vehicle employing 12V storage battery). Locates and determines if fuses to automobile circuits are good.

- **Locates shorts. Determines the exact location where a cable is accidentally "shorted" to ground (contact car/truck body)**
- **Hand-held battery powered (9V battery supplied)**
- **Determine if headlamps, signal lamps, parking lamps, etc., are functional (filament is good)**

**No. 1T976.** TIF brand (TIF400).
Shpg. wt. 1.6 lbs. Each ..... **$149.95**

## BATTERY TESTERS

### [D] TIF No. 1T987

Compact and portable for testing of batteries up to 600 cold cranking amps. Check battery conditions under load, battery connections and battery cable. Measures DC volts, state of charge, battery condition, and charge voltage. Will not discharge or damage battery. LED display built into a compact storage case.

- **"Electronic load" replaces carbon pile**
- **Safer than carbon pile tester, less chance of explosion**
- **Powered by a battery under test. Protected against improper hook-up**
- **Volts range: 5.5 to 19.9V**
- **Accuracy: ±1 digit**
- **Load ranges: light, 200-300 CCA; medium, 300-450 CCA; heavy, 450-600 CCA**
- **Stainless steel, dual contact probes**

**No. 1T987.** TIF brand (TIF2500).
Shpg. wt. 1.9 lbs. Each ..... **$160.00**

### [E] DAYTON No. 4Z581

Tests 6 and 12 volt car batteries and output voltage of charging systems. Color-coded voltmeter with scale from 1 to 16 volts, 100 amp rated battery clips, and voltage selector switch. Heavy-duty toggle switch places 60 amp load on 6V batteries and 100 amp load on 12V batteries.

- **100 amp load type**
- **Measures 12½H x 6½W x 3½"D**

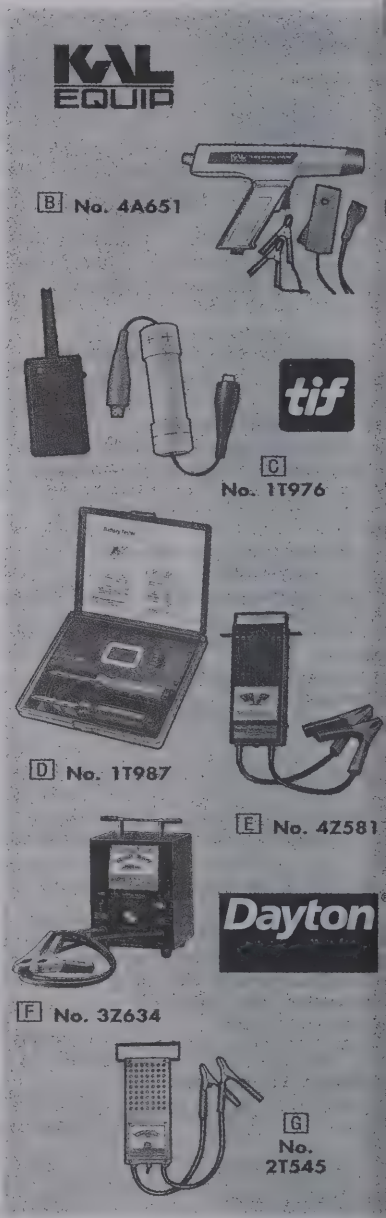
**No. 4Z581.** Dayton brand. Shpg. wt. 5.0 lbs.
List $79.81. Each ..... **$63.85**

### [F] DAYTON No. 3Z634

- **Load type tester with temperature compensation**
- **Easy-to-read face plate shows cubic inch displacement (CID), amp hour, and Delco watt ratings**
- **Pivot and jewel meter movement**
- **Steel case with aluminum instrument panel; measures 12½ x9W x 7¾"D**

Tests 12 volt automotive batteries with a minimum charge of 40% without recharging. Use to check vehicle starting and charging systems, indicate percent of charge, battery performance level, and detect short circuits.

**No. 3Z634.** Dayton brand. Shpg. wt. 11.0 lbs. List $238.75. Each ..... **$191.00**




### [G] KAL EQUIP No. 2T545

Checks battery voltage, cranking a charging volts. Works on 6 and 12-volt sy tems. Heavy-duty ventilated steel case.

- **100 amp internal load capacity**
- **Voltmeter: 0 to 7 & 0 to 15 volts DC**

**No. 2T545.** Kal-Equip brand (4260).
Shpg. wt. 3.1 lbs. Each ..... **$71.**



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# VACUUM/PRESSURE AND COMPRESSION/ LEAK TESTERS, & GAS/EXHAUST ANALYZER

## VACUUM/PRESSURE TESTER

- Engine diagnosis and fuel pump testing
- Full 3½" dial face
- US & metric scales: 0-30" and 0-800 mm (millimeters); 0-10 PSI and 0-700 G/CM²
- Includes universal adapter, "T" and screw-in adapter

**No. 2T553.** Kal-Equip brand (2511). Shpg. wt. 1.1 lbs.
Each ..... $30.80

## COMPRESSION TESTER

- Mechanical tester for domestic and import engine compression
- Screw-in adapter for accurate readings
- External pressure relief valve
- US & metric scales: 0-300 PSI and 0-21 KG/CM2
- Heavy-duty hose with integrated 14 & 18mm screw-in adapter

**No. 2T554.** Kal-Equip brand (2504). Shpg. wt. 1.2 lbs. List $46.09.
Each ..... $38.45

## VACUUM PUMP AND BRAKE BLEED KIT

- Bronze phosphorus bourdon tube (0-30 in. and 0-760 mm)
- Vacuum pump and one man brake bleed kit with all adapters
- Solid brass cyclinders, cyclinder head, and piston
- Vacuum release valve
- Steel handle and frame
- Replaceable O-ring head gasket and piston ring (kit included)
- Includes high-impact, molded carrying case and instruction manual

**No. 3T062.** Kal-Equip brand (2501). Shpg. wt. 5.0 lbs.
Each ..... $89.95

## HEAVY-DUTY COMPRESSION TEST KIT

- Extremely accurate bronze phosphorus bourdon tube
- Polished chrome gauge and all chrome adapters (14mm, 18mm, 14mm long reach, 18mm long reach, 12mm and 10mm)
- Compression: 0 to 300 PSI; 0 to 21 KG/CM²
- Screw on impact resistant lens
- Quick disconnect
- Release valve for quick rechecks
- Test capabilities: cylinder compression, worn piston rings, blown head gaskets
- Comes with high-impact carrying case and repair kit

**No. 3T063.** Kal-Equip brand (2505). Shpg. wt. 4.0 lbs.
Each ..... $106.90

NEW FLUKE PRESSURE/VACUUM MODULES ARE AVAILABLE FOR USE WITH MANY DIGITAL MULTIMETERS
See Index For Listings




## FOUR GAS/EXHAUST GAS ANALYZER

Vacuum leaks, ignition, and other engine mechanical problems show up as changes in exhaust gas not indicated by on-board computer. Optimizes engine exhaust. Peaks engine performance and prepares vehicle for state inspection.

- Test capabilities: air/fuel ratio (rich/lean mixture), propane, air pump, catalytic converter, carburetor/accelerator pump, manifold leak, feedback carburetor, oxygen sensor, ignition problems
- Ranges
  Carbon Monoxide: 0.00 to 9.99%
  Hydrocarbons: 0 to 1999 PPM
  Carbon Dioxide: 0.0 to 20.2%
  Oxygen: 0.0 to 25%
- Response time less than 10 seconds
- 3½ digit backlit digital display
- Standby/run mode, operates on 12V system
- 10 minute or less warm-up time
- 25 ft. sampling hose
- Automatic moisture drain
- Includes stand

**No. 3T053.** Kal-Equip brand (4650). Shpg. wt. 61.0 lbs.
Each ..... $3664.00

### OPTIONAL ACCESSORIES FOR No. 3T053

**CALIBRATION GAS**

**No. 3T054.** Kal-Equip brand. Shpg. wt. 8.0 lbs. Each ..... $69.95

**REGULATOR KIT**

**No. 3T055.** Kal-Equip brand. Shpg. wt. 2.0 lbs. Each ..... $129.60

**POWER ADAPTER FOR STANDARD 120V OUTLET**

**No. 3T056.** Kal-Equip brand. Shpg. wt. 8.0 lbs. Each ..... $189.25

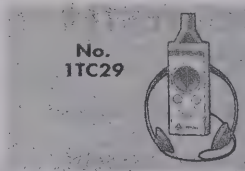
# ULTRASONIC LEAK DETECTORS, ULTRASONIC TRANSMITTER, & MAGNETIC FIELD MEASURING

## ULTRASONIC LEAK DETECTORS

### AMPROBE No. 1TC29

- Detects and pinpoints origin of ultrasonic sound emitted by leaks
- For use in refrigeration/air conditioning systems (valves, hoses, tanks), automotive A/C, vacuum and exhaust systems, and outdoors where conventional specific gas detectors can fail due to a light breeze
- Designed for use on positive pressure or vacuum compressed air or steam systems†
- Frequency response 20K Hz to 100K Hz ±3dB
- LED display; dimensions 1.62H x 2.56W x 7.68"L
- Includes "9V" alkaline battery (50 hour life) and earphone

**No. 1TC29.** Amprobe brand (ULD-100). Shpg. wt. 0.8 lbs.
Each ..... $189.00







### AMPROBE TESTMASTER KIT No. 1TC28

- Kit contains No. 1TC29 leak detector, transmitter, flexible extension with stopper, tubular extension, and headphones
- Useful in detecting automotive window and door leaks

**No. 1TC28.** Amprobe brand (TMULD-100). Shpg. wt. 7.5 lbs.
Each ..... $423.0

## MAGNETIC FIELD MEASURING INSTRUMENTS

### E.M.F./E.L.F. GAUSS METER No. 1H144

- Monitors electromagnetic radiation from CRTs, power lines, fans, etc.
- Single axis
- 0.1 to 199.9 milliGauss; 0.01 to 19.99μ Tesla; over 30-300 Hz
- Accuracy 4% (50-60 Hz range) • Large 0.5" LCD display
- Lightweight, portable, ideal for tool box storage

**No. 1H144.** Extech brand (480823). Shpg. wt. 0.5 lbs.
Each ..... $99.00

**VINYL CARRYING CASE**

**No. 1H152.** Carrying case for 1M918. Extech brand (409992). Shpg. wt. 0.2 lbs.
Each ..... $10.00

### EXTECH EMF MULTIMETER ADAPTOR

- Connects to any DMM for direct display of EMF (electromagnetic field) measurements
- Ranges: 0.1 to 199.9 milliGauss; 0.01 to 19.99 microTesla
- Adaptor output transmits 1.0m V per each unit of measure
- Remote probe provides single axis measurement with 30 to 300Hz optional bandwidth
- 4% basic measurement accuracy in 50 to 60Hz frequency range
- Includes remote probe with 36" (0.9m) cable and 9V battery

***New*** **No. 4PC69.** Extech brand (480824). Shpg. wt. 0.6 lbs. Each ..... $79.00

### GAS LAMP VOLTAGE TESTER

- Lights lamp with no power connection to determine whether bulb is good or bad
- Voltage range: 5/12/24/48/120V AC/DC, 208 to 240V AC/DC, 277V AC/DC, 440 to 600V AC/DC
- Frequency range, 60 Hz
- Tests fluorescent, metal halide, mercury vapor, high and low pressure sodium, and neon bulbs
- Audible continuity to 100KΩ and audible voltage indication
- Tests ballasts, capacitors, ignitors, starters, and photoelectric controls
- Telescoping antenna fully retracts
- Requires three "9V" alkaline batteries (not supplied)
- Includes leather case and leads

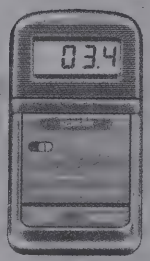
**No. 3T110.** Etcon brand (LT130). Shpg. wt. 2.0 lbs. Each ..... $187.50

### GAS LAMP TESTER

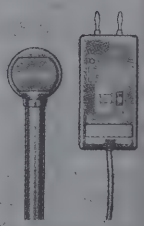
- Tests most gas-filled lamps (fluorescent, high and low pressure sodium, neon, mercury vapor, metal halide)
- Tests fluorescent bulbs in sockets
- Checks continuity in ballasts, ignitors, starters, capacitors, and resistors
- Includes leather holster and detachable antenna
- Limited lifetime warranty; see "Manufacturers' Warranties" on page opposite inside back cover

**No. 3T115.** Greenlee brand (5715). Shpg. wt. 1.8 lbs. Each ..... $205.00

EXTECH INSTRUMENTS *New*

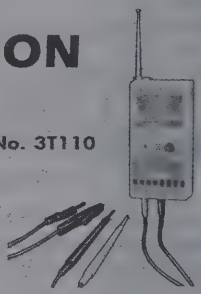



No. 1H144



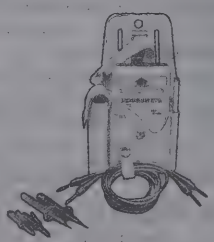
No. 4PC69

ETCON



No. 3T110

GREENLEE



No. 3T115

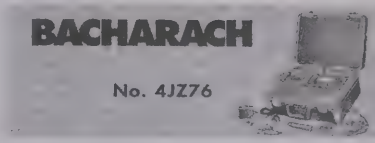
# INDOOR AIR QUALITY AND CO DETECTORS

## BACHARACH AIR QUALITY LABORATORY (AQL)

he Air Quality Laboratory (AQL) mea-
ıres, displays, graphs and datalogs up to
ve critical air quality parameters simulta-
eously. Standard sensors include CO2,
O, %RH and temperature. Graphic display
ffers ability to analyze each parameter
ır trend analysis. Second display shows
ach measured parameter independently
ır quick, on-site problem analysis.
ecords more than 25,000 data points to
rovide days and weeks of information.
ıcludes: probe and hose assembly for
emote sampling, communication cables
ır printer and PC linkup, AC adapter
115/230VAC) , rechargeable lead acid bat-
ry for dual power capability and soft-
are package.

- **Carbon dioxide sensor detects NDIR (non-dispersive infrared) with a range from 0-5,000 PPM and an accuracy of ±75 PPM**
- **Carbon monoxide sensor has an electrochemical sensor with a range from 0-100 PPM and an accuracy of ±3 PPM**
- **Relative humidity sensor has a capacitive detector with a range of 0-100% RH and an accuracy of ±3%**
- **Temperature sensor has a range of 32 to 122°F with an accuracy of ±1/2°F**

**No. 4JZ76.** Shpg. wt. 14.0 lbs.
Each.....**$3895.00**




### ACCESSORIES FOR No. 4JZ76

**No. 4JZ69.** Replacement CO Sensor. Bacharach brand (24-3011). Shpg. wt. 0.5 lbs.
Each.....**$295.00**

**No. 4JZ68.** Replacement Probe and Hose Assembly. Bacharach brand (24-3010). Shpg. wt. 1.5 lbs. Each.....**$60.00**

**No. 4JZ67.** Replacement Charger. Bacharach brand (24-0936). Shpg. wt. 0.8 lbs.
Each.....**$42.00**




## DICKSON $CO_2$ RECORDER

Measures carbon dioxide in PPM and documents the readings on a circular chart. Ideal for checking building ventilation levels to monitor indoor air quality. Keypad and dip switches set recording parameters, changeable as often as needed. Portable and easy-to-use.

- **Sensor: Non-dispersive infrared**
- **Accuracy (type.): ±5% of full scale high range**
- **Allows choice of rotation time (1 or 7-day) and carbon dioxide range 0-1100 PPM or 0-2200 PPM**
- **User calibration**

- **15-min. warm-up time, average**
- **Power supply: 120V AC**
- **Features high/low audio-visual alarm**
- **Includes pen and one box of 60 charts (0-2200/7 day)**
- **Dimensions: 10.5H x 13.2W x 2.8"D**

**No. 4B369.** Dickson brand ($CO_2$x). Shpg. wt. 7.0 lbs. List $979.00. Each.....**$979.00▲**

### ACCESSORIES FOR No. 4B369

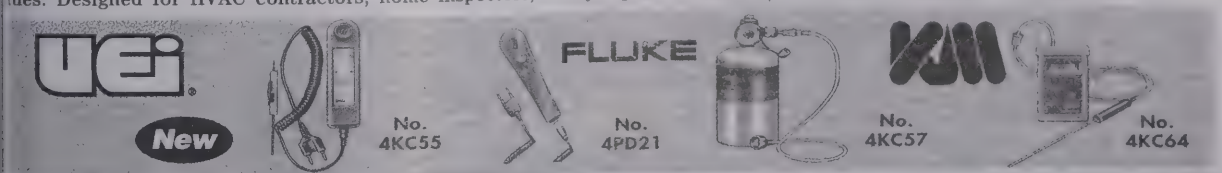
**No. 3JG26.** Calibration Kit. Shpg. wt. 3.0 lbs. List $299.00. Each.....**$299.00▲**

**No. 3JG25.** Replacement CO Cylinder. Shpg. wt. 2.0 lbs. List $75.00. Each.....**$75.00▲**

(▲) Net price not subject to discounts.

## CARBON MONOXIDE SINGLE-GAS ANALYZERS

land-held, digital analyzer and monitors designed to measure arbon monoxide (CO) concentration in air, furnace and boiler lues. Designed for HVAC contractors, home inspectors, utility workers, plant safety and maintenance personnel who perform emission testing, safety testing, CO investigations, indoor air quality testing and boiler or furnace burner testing.




### CO DETECTOR ADAPTER

urns most digital multimeters into a CO
onitor. Plugs directly into the input jacks
f the DMM. Should not be used for flue
sting.

**0-1999 PPM range with 3½" digit DMM display**
**Works with any DMM with 10 megohm input impedance and 2 or 4 VDC range; 1mVDC = 1PPM CO.**
**ncludes 6 ft. coiled cord and adjustment tool**
**Field calibrateable using No. 4KC57 calibration kit**
**Operates on single 9V battery**
**Power and low battery indication**

**o. 4KC55.** UEI brand (ACO100). Shpg. wt. 3.0
s. Each.....**$200.00**

### CARBON MONOXIDE PROBE

- **Multimeter accessory or stand alone instrument**
- **Automatic sensor zeroing and self-test sequence upon start-up**
- **Replaceable sensor extends tool life**
- **Includes No. 2A431 soft case, battery and instructions**

***New*No. 4PD21.** Fluke brand (C0-210).
Shpg. wt. 1.0 lbs. Each.....**$199.00**

### CALIBRATION KIT AND REPLACEMENT CO GAS

For use with Nos. 4KC55. Includes 21 liters of 100 PPM CO gas (No. 4KC58), regulator, fittings, tubing and instrument cuff.

**No. 4KC57.** UEI brand (AJDMM1000). Shpg. wt. 3.0 lbs. Each.....**$185.00**

**No. 4KC58.** CO Calibration Gas includes 21 liters 100 PPM CO gas. UEI brand (CM0159). Shpg. wt. 2.0 lbs.
Each.....**$50.00**

### ELECTRONIC CO ANALYZER

- **Measures 0-2000 PPM CO concentration**
- **Continuous "pump driven" sampling provides quick response**
- **Unique pump standby switch**
- **Large backlit LCD display**
- **Rugged case, protective rubber boot**
- **Low battery indication**
- **Includes flue probe, 5 ft. flexible tube, particle filter and 4 "AA" batteries**

**No. 4KC64.** Kane-May brand (SGA91Kit). Shpg. wt. 6.0 lbs.
Each.....**$495.00**

# SINGLE-GAS ANALYZERS

## CO SINGLE GAS ANALYZERS

Quickly measure and indicate carbon monoxide (CO) concentrations in the air, furnace flues and boilers. Well-suited for use by HVAC-service contractors, energy auditors, plant engineers and utility workers who perform burner energy testing, furnace and boiler servicing, environmental emissions monitoring, indoor air quality (IAQ) testing and safety checks on combustion stack gases.

### MONOXOR II® ELECTRONIC ANALYZER

- Measures 0-2000 ppm CO concentrations
- Continuous sampling with accurate CO readings
- Includes detachable stainless steel probe with handle connected to 4-ft. flexible hose and carrying case
- Highly visible digital LCD display with backlighting
- Durable, impact-resistant case that withstands exposure to fuels and other corrosive liquids
- Operates on 4 replaceable "C" size batteries (not included) for approx 14 hours of continuous operation
- Low battery indication
- Uses 6T148 filter material

**No. 6T143.** Shpg. wt. 4.5 lbs.
Each ..... $499.00

CO Replacement sensor No. 6T134, Calibration Kit No. 6T135 and CO Calibration Gas No. 6T136 available. See Index.

## CO-220 CARBON MONOXIDE METER

- Newest generation of fast responding electrochemical CO sensors
- Measures CO levels from 0 to 1000 PPM with One PPM resolution on display
- Basic Accuracy of ±3%
- Rugged case and electronics
- Automatic sensor zeroing and self-test sequence upon start-up
- Automatic power-off after 20 minutes extends battery life

**New No. 4TP97.** Fluke brand (C0 -220). Shpg. wt. 1.0 lbs.
Each ..... $279.00

FLUKE



No. 4TP97

BACHARACH

New



No. 6T143



No. 4TJ84

## SNIFIT CO ANALYZER

- Offers continuous sampling for quick and accurate CO readings; range 0 to 1999 PPM
- Manual zero function reduces the error of zeroing in a contaminated environment
- Rugged, compact and easy to use; fits in your shirt pocket
- Auto power off feature provides worry-free usage
- Large illuminated display with 1 PPM resolution

**New No. 4TJ84. Bacharach brand (19-7060)** Shpg. wt. 1.0 lbs.
Each ..... $299.0

## NOx AND $O_2$ SINGLE GAS ANALYZERS

Hand-held digital analyzers measure and display levels of either oxides of nitrogen (NOx) or oxygen ($O_2$). Insert probe into stack or air being sampled, and analyzer continuously measures and displays readings of one specific gas. Ideally suited for energy audit testing, furnace and boiler servicing, environmental emissions monitoring, analyzing indoor air quality (IAQ), spot checking continuous emissions systems and performing safety checks on combustion stack gas. Factory calibrated.

Features include: Continuous sampling with accurate readings of the specific gas. Detachable stainless steel probe and 4-ft. flexible hose assy. "Low Battery" indication. Durable, impact-resistant case that withstands fuels and other corrosive liquids. Highly visible digital LCD display with backlighting.

### NONOXOR® II

- Measures 0-2000 PPM NOx in sample
- ±5% accuracy of reading
- Includes carrying case, sampling probe and instructions

**No. 6T144.** Bacharach brand (19-8006).
Shpg. wt. 8.2 lbs. Each ..... $995.00

### NOx REPLACEMENT SENSOR

**No. 6T147.** Bacharach brand (19-8001).
Shpg. wt. 0.5 lbs. Each ..... $315.00

### OXOR III®

- Measures 0-25% Oxygen in sample
- ±0.8% accuracy of reading
- Includes sampling probe and instructions

**No. 6T145.** Bacharach brand. (19-8005).
Shpg. wt. 4.5 lbs. Each ..... $495.00

### $O_2$ REPLACEMENT SENSOR

**No. 6T140.** Bacharach brand (24-7070).
Shpg. wt. 0.1 lbs. Each ..... $110.00

BACHARACH



No. 6T144



No. 6T145

### No. 6T148 FILTER MATERIAL

**No. 6T148.** Shpg. wt. 0.1 lbs.
Each ..... $8.00

**UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY**
**Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.**

# GAS PRESSURE KIT, COMBUSTION KIT, AND OIL AND GAS BURNER COMBUSTION TEST KITS

## DWYER GAS PRESSURE KIT

**Typical applications: checking pressures in virtually all gas appliances, such as water heaters, furnaces, stoves and dryers†**

**Complete kit containing 16" manometer (No. 3T302—for description see Index) includes:**

**-1/8 -1/4" pipe thread bushing**
**-3 ft. x 3/16" rubber tubing**
**-Rubber tubing adapter to fit standard**
**-7/16" dia. spud**
**-Two 1/8" pipe thread rubber tubing adapters**
**-3/4 oz. bottle fluorescein green color**
**-Concentrate with wetting agent**
**-Plastic case 8½ x 7 x 3⅛"**

**3T293.** Dwyer brand (1212). Shpg. wt. 1.7 lbs. Each.....$51.30

## DWYER COMBUSTION TEST KIT

**Typical applications: performs complete combustion efficiency tests on oil, gas, and coal-fired heating installations in residential, commercial, and industrial applications†**

**Test $CO_2$ content, stack temperature, draft and smoke**

**Accuracy to ± 1/2% $CO_2$**

**Stack thermometer has 200° to 1000°F range in 10° divisions, 2¼" dial and 5" stem**

**Differential pressure gage (No. 3T295) has 4" dial and dual scales 0.0 to 0.25" W.C. in 0.005 divisions and 300-2000 FPM velocity. Accuracy 4% of full scale**

**$CO_2$ indicator is made of clear acrylic plastic and has a 4" adjustable scale of 0 to 16% in 0.2 divisions**

**Smoke gage pump conforms with ASTM D-2156-XX standards for smoke density in flue gases from burning distillate fuels; determines the relative amount of smoke resulting from combustion**

**Combustion efficiency, slide rule demonstrates relationship of flame height, temperature, smoke sample, and gauge readings; laminated plastic construction**

**Test kit includes: $CO_2$ indicator, aspirator bulb, filter and tubing assembly, magnehelic® gage, smoke gage pump, smoke filter paper, awl, $CO_2$ absorbent solution, stack thermometer, gage oil, smoke chart, combustion efficiency slide rule, combustion data cards and impact resistant carrying case**

**3T299.** ❷ Dwyer brand (1200B). Shpg. wt. 7 lbs. Each.....$306.90

Always consult user manual and applicable local electrical and safety codes prior to use.

## BACHARACH OIL COMBUSTION TEST KIT

Economically measure and adjust oil burner efficiency in furnaces and boilers. Bacharach brand (10-5022).

**KIT INCLUDES:**

- **1 Fyrite $CO_2$ indicator (20% scale, filled)**
- **Carrying case**

**KIT ALSO INCLUDES INDIVIDUAL COMPONENTS:**

[A] No. 6T158 Fire Efficiency Finder/Stack Loss Slide Rule
[B] No. 6T160 Sampling Hose Assembly
[C] No. 6T148 Moisture Absorbent Material
[D] No. 6T162 Tempoint Thermometer
[E] No. 6T165 True-Spot Smoke Detector
[F] No. 6T164 MZF Draft Gauge

**Components [A] through [F] are also available separately. See Index.**

**No. 6T149.** ❷ Complete Oil Combustion Testing Kit. Shpg. wt. 11.0 lbs. Each.....$495.00

## BACHARACH GAS COMBUSTION TEST KIT

Efficiently measure and adjust gas burner performance in furnaces and boilers. Bacharach brand (10-5030).

**KIT INCLUDES:**

- **Fyrite CO2 Indicator (20% scale, filled)**
- **Fyrite Indicator (21% scale, filled)**
- **High Efficiency Finder. Use to test efficiency of condensing type combustion processes**
- **Gas Service Calculator. Use to size burner orifice for proper gas input at max. gas manifold pressure**
- **Gas Pressure Manometer. Use to determine if gas input and gas pressure adjustments are within recommended limits**
- **Sampling tube**
- **Carrying case**

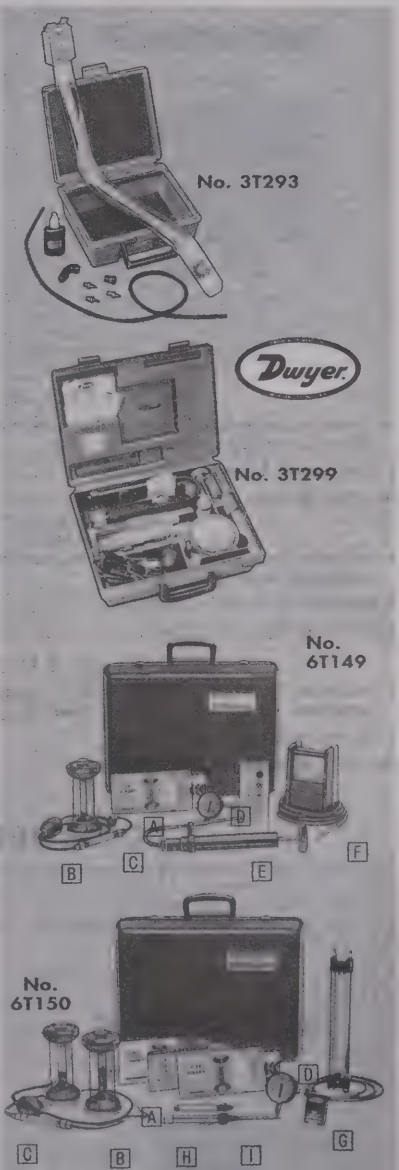
**KIT ALSO INCLUDES INDIVIDUAL COMPONENTS:**

[A] No. 6T158 Fire Efficiency Finder/Stack Loss Slide Rule
[B] No. 6T160 Sampling Hose Assembly
[C] No. 6T148 Moisture Absorbent Material
[D] No. 6T162 Tempoint Thermometer
[G] No. 6T163 Draftrite Pocket Draft Gauge
[H] No. 19-7019 Monoxor® CO Detector
[I] No. 19-5002 Monoxor® Replacement Indicator Tubes

**Components [A] through [D] and [G] are available separately.**

**[H] and [I] available through Grainger Parts Operations.**

**No. 6T150.** ❷ Complete Gas Combustion Testing Kit. Shpg. wt. 11.0 lbs. Each.....$770.00




**BACHARACH**

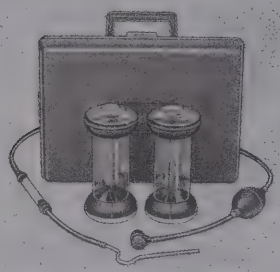
**Replacement Parts Available 1-800-323-0620**

**INDIVIDUAL OIL AND GAS COMBUSTION KIT COMPONENETS AVAILABLE SEPARATELY. See Index.**

These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite the back cover.

# FYRITE GAS ANALYZER KITS AND COMBUSTION ANALYZER

BACHARACH



No. 6T153

## FYRITE GAS ANALYZERS

Fast, accurate, easy to use instruments for measuring and analyzing carbon dioxide ($CO_2$) or oxygen ($O_2$). Each Fyrite Analyzer contains Fyrite absorbing fluid, which is selective in the chemical absorption of carbon dioxide or oxygen. Each Fyrite Analyzer is suitable only for the particular gas for which it has been manufactured.

**TYPICAL APPLICATIONS† OF $CO_2$ ANALYZER**

- **0-20% $CO_2$: Flue gas combustion tests, $CO_2$ tests of heat treating atmospheres and incubator testing**
- **Checking $CO_2$ in insert gas blankets in tankers and barges carrying gasoline and other combustibles; $CO_2$ tests on lime kilns; checking $CO_2$ in sewage plant digesters**

**TYPICAL APPLICATIONS† OF $O_2$ ANALYZER**

- **0-21% $O_2$: Flue gas combustion tests, oxygen deficiency tests. Checking oxygen concentrations in hydrogen cooled generators and oil-sealed inert gas transformers**
- **Oxygen tests in connection with oxygen and gas anesthesiology**

(†) Always consult user manual and applicable local safety codes prior to use.

### No. 6T151 $CO_2$ KIT

- **Includes carbon dioxide Fyrite analyzer, aspirator sampling assembly and carrying case**
- **Bacharach brand (10-5000)**

**No. 6T151.** ❸ Shpg. wt. 5.0 lbs. Each ..... $265.00

### No. 6T152 $O_2$ KIT

- **Includes oxygen Fyrite analyzer, aspirator sampling assembly and carrying case**
- **Bacharach brand (10-5011)**

**No. 6T152.** ❸ Shpg. wt. 4.7 lbs. Each ..... $270.00

### No. 6T153 $CO_2$ & $O_2$ KIT

- **Includes 1 carbon dioxide and 1 oxygen Fyrite analyzer, aspirator sampling assembly and carrying case**
- **Bacharach brand (10-5020)**

**No. 6T153.** ❸ Shpg. wt. 6.6 lbs. Each ..... $400.00

### REPLACEMENT FYRITE FLUID ORDERING DATA

| Description | Range | Bacharach Model | Pkg. Qty. | Stock No. ❸ | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Carbon Dioxide ($CO_2$) Fluid** | 0-20% | 10-5057 | 3 | **6T154** | **$46.00** | 1.5 |
| **Oxygen ($O_2$) Fluid** | 0-21% | 10-5060 | 3 | **6T155** | **82.00** | 1.5 |

### REPAIR KITS SPECIFICATIONS AND ORDERING DATA

| Description | Gas Type | Range | Bacharach Model | Stock No. ❸ | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Contains 1 bottle $CO_2$ or $O_2$ gasket; top gasket, screws, diaphragm and envelope of filtering material** | $CO_2$ | 0-20% | 11-7052 | **6T156** | **$48.00** | 0.9 |
| | $O_2$ | 0-21% | 11-7054 | **6T157** | **59.00** | 1.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

**FYRITE GAS ANALYZERS ARE ALSO INCLUDED IN GAS AND OIL BURNER COMBUSTION KITS. SEE INDEX.**

# COMBUSTION AND EMISSION ANALYZERS

Electronic combustion analyzers measure temperature and flue gas components to automatically or semi-automatically calculate combustion efficiency in boilers and furnaces. Others also measure gases considered air pollutants and will provide a printout of the flue gas makeup. Well suited for use by HVAC service contractors, energy auditors, plant maintenance and safety engineers, utility workers, and commercial and industrial contractors. The range of the electronic combustion analyzer provides an improved method for monitoring boiler processes.

BACHARACH



No. 6T139

## FYRITE® II COMBUSTION ANALYZER

Hand-held electronic combustion analyzer designed for testing furnaces and boilers. It measures oxygen and stack temperatures directly while calculating combustion efficiency. Also used for quick reading energy audits, plant maintenance, industrial and residential energy efficiency programs.

- **Temperature range 0-1000°F (538°C)**
- **Measures flue gas oxygen content from 0.1 to 25.5% (Accuracy ±0.8%)**
- **Computes and displays Combustion Efficiency (0-99.9%), $CO_2$ equivalent, (0-20%) excess air (0-250.0%) and stack loss (0-99.9%)**
- **Preprogrammed for seven selectable fuels**
- **Can be used on high efficiency and standard furnaces and boilers**
- **Performs self test when turned on**
- **Powered by two "9V" batteries (not included)**
- **Bacharach brand (24-7073)**

**No. 6T139.** Shpg. wt. 2.4 lbs. Each ..... $715.00

### FYRITE® II ACCESSORIES

**No. 6T142 CUSTOM CARRY CASE**

**No. 6T142.** Bacharach brand (24-0457). Shpg. wt. 5.3 lbs. Each ..... $65.00

**No. 6T141 115 VOLT BATTERY ELIMINATOR**

**No. 6T141.** Bacharach brand (24-0460). Shpg. wt. 1.1 lbs. Each ..... $75.00

**No. 6T140 REPLACEMENT OXYGEN SENSOR**

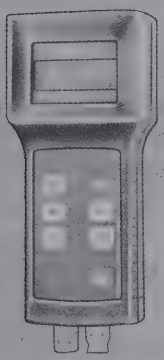
**No. 6T140.** Bacharach brand (24-7070). Shpg. wt. 0.1 lbs. Each ..... $110.00

# COMBUSTION ANALYZERS

## PORTABLE COMBUSTION ANALYZERS PCA®

BACHARACH

New



No. 4JZ74

- Easy to operate tool to determine CO safety and combustion efficiency in fuel burning appliances
- Measure and display flue gas oxygen ($O_2$) and temperature (No. 4JZ75 also measures carbon monoxide (CO) and draft) (4TJ85 also measures NOx)
- Compute and display combustion efficiency, excess air, and carbon dioxide ($CO_2$), and CO in free air
- Up to 10 sets of tests can be stored and downloaded into an infrared printer (4JZ65) for permanent records
- Tests can be recalled to the display screen at any time
- Measurement Ranges: Oxygen, 0 to 20.9% auto calibration; Primary Air/Temperature, 0 to 999°F; Stack Gas Temperature, 0 to 2000°F; Carbon Monoxide, 0 to 2000 ppm; Draft, -8.0 to +8.0 inches water column; NOx, 0-1000 ppm
- Calculation Ranges: Combustion Efficiency, 0.1 to 99.9% (0.1% resolution); Carbon Dioxide, 0.1 to 20.0% (fuel dependent); Stack Gas Temperature, 0 to 2000°F; Carbon Monoxide (Air Free), 0 to 9999 ppm
- Include sampling pump, probe, hose assembly with filter and water trap, 4 AA batteries, carrying case, user guide, and instruction manual

**No. 4JZ74** Analyzer PCA 10 measures oxygen (O2) and temperature with combustion efficiency calculations.

**No. 4JZ74.** Bacharach brand (24-8040).
Shpg.wt. 7.0 lbs. Each..... **$935.00**

**No. 4JZ75** Analyzer PCA-25 measures oxygen ($O_2$), carbon monoxide (CO), temperature, and draft with combustion efficiency calculations.

**No. 4JZ75.** Bacharach brand (24-8043).
Shpg. wt. 7.0 lbs. Each ..... **$1495.00**

**No. 4TJ85** Analyzer PCA-35 measures Oxygen ($O_2$), carbon monoxide (CO), oxides of nitrogen (NOx), temperature, and draft with combustion efficiency calculations.

***New*** **No. 4TJ85.** Bacharach brand (24-8045).
Shpg. wt. 7.0 lbs. Each ..... **$2360.00**

### ANALYZER ACCESSORIES

**INFRARED PRINTER.** Includes one roll of paper.

**No. 4JZ65.** Bacharach brand (24-0886).
Shpg. wt. 1.5 lbs. Each..... **$285.00**

**REPLACEMENT PAPER.** For No. 4JZ65 printer. One roll per package.

**No. 4JZ66.** Bacharach brand (24-0887).
Shpg. wt. 0.5 lbs. Each..... **$9.45**

## PORTABLE COMBUSTION AND ENVIRONMENTAL ANALYZERS

For continuous sampling of flue gas in commercial furnaces and boilers

Multi-function instrument measures and displays oxygen ($O_2$), carbon monoxide (CO), gas temperature, and ambient temperature

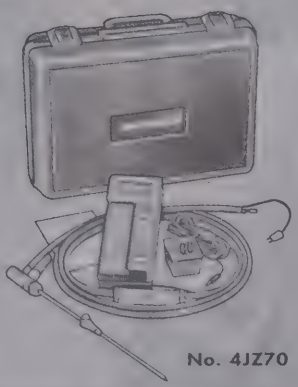
Nos. 4JZ71 and 4JZ72 also measure draft; No 4JZ73 also measures draft and oxides of nitrogen (to meet emission compliance requirements)

Depending on model, units compute and display combustion efficiency, carbon dioxide ($CO_2$) excess air, net stack temperature, and oxides of nitrogen reference to zero percent oxygen

Nos. 4JZ72 and 4JZ73 have a RS232 port for downloading, memory capability to store up to 100 tests, real time clock and date of test, and switch for English, French, or Spanish language settings. Interconnect cable not included

- Measurement Ranges: Oxygen, 0 to 25% auto calibration; Primary/Air Temperature, -100 to 700°F; Stack Gas Temperature, 0 to 2000°F; Carbon Monoxide, 0 to 2500 ppm; Draft, -2.0 to 2.0 inches water column (Nos. 4JZ71, 4JZ72, & 4JZ73 only); Oxides of Nitrogen, 0 to 2000 ppm (No. 4JZ73 only)
- Calculation Ranges: Combustion Efficiency, 0 to 99%; Carbon Dioxide, 0.1 to 20.0% (fuel dependent); Excess Air, 1 to 250%; Stack Gas Temperature, 0 to 2000°F; Carbon Monoxide (Air Free), 0 to 9999 ppm; Oxides of Nitrogen (Ref. 3% $O_2$), 0 to 9999 ppm (No. 4JZ73 only)
- Nicad battery pack provides 8-10 hours of continuous operation when fully charged
- Analyzers include sampling probe and hose, calibrated sensors, battery charger, carrying case, and instructions
- 8H x 3.5W x 4.5"D (instrument only)

BACHARACH



No. 4JZ70

### ANALYZER ACCESSORIES

**PRINTER KIT.** For Nos. 4JZ72 and 4JZ73. Includes printer, printer cable, one roll of paper, and 120V charger.

**No. 4JZ64.** Bacharach brand (24-0730).
Shpg. wt. 5.3 lbs. Each..... **$450.00**

**REPLACEMENT PAPER.** For No. 4JZ64 printer. Package of five rolls of paper.

**No. 4JZ63.** Bacharach brand (24-0730).
Shpg. wt. 0.5 lbs. Each..... **$25.35**

### COMBUSTION AND ENVIRONMENTAL ANALYZER ORDERING DATA

| Description | Bacharach Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| ndard Model CA40H | 24-7118 | 4JZ70 | $1820.00 | 8.0 |
| ndard Model CA40H with draft | 24-7119 | 4JZ71 | 2150.00 | 8.0 |
| vanced Model CA40H with draft | 24-7141 | 4JZ72 | 2550.00 | 8.0 |
| vanced Model CA40H with draft and NOX | 24-7161 | 4JZ73 | 3100.00 | 8.0 |

# COMBUSTION ANALYZERS

## RESIDENTIAL AND SMALL COMMERCIAL ELECTRONIC COMBUSTION ANALYZERS

### KANE-MAY No. 4KC60

- Large LCD display is switchable between oxygen ($O_2$), net temperature, and remaining battery charge
- LED bargraph of carbon monoxide (CO) level with alarm at concentrations >400 ppm
- Temperature range: 0 to 1000°F (0 to 600°C)
- Measures oxygen ($O_2$): 0 to 25%
- Includes flue probe with 9 ft. tube, battery pack with recharger, water trap, particle filter, efficiency chart, carrying case, and instructions

**No. 4KC60.** Kane-May brand (KM9100) Shpg. wt. 14.0 lbs.
Each.....$1095.00

### KANE-MAY No. 4KC61

- Large LCD display is switchable between $O_2$, CO, net temperature, and remaining battery charge
- Measures oxygen ($O_2$), carbon monoxide (CO), and temperature
- LED bargraph of CO level with alarm at concentrations >400 ppm
- Temperature range: 0 to 1000°F (0 to 600°C)
- Measures carbon monoxide 0 to 2000 ppm
- Includes flue probe with 9 ft. tube, battery pack with recharger, water trap, particle filter, efficiency chart, and carrying case and instructions

**No. 4KC61.** Kane-May brand (KM9101). Shpg. wt. 14.0 lbs.
Each.....$1395.00



No. 4KC60

No. 4KC61

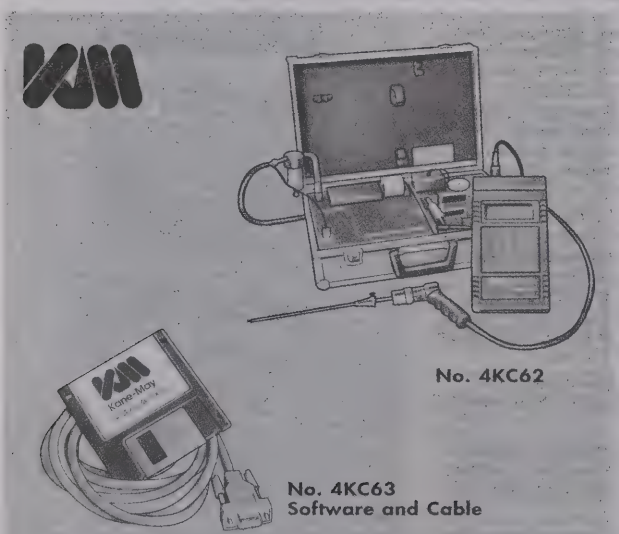
Replacement Parts Available 1-800-323-0620

## COMMERCIAL / INDUSTRIAL ELECTRONIC COMBUSTION ANALYZER

### KANE-MAY No. 4KC62

- Measures oxyen, carbon monoxide (CO), and temperature
- Automatically calculates efficiency, carbon dioxide ($CO_2$), and net temperature
- Remote handset with integral backlit 4-line display; operate analyzer up to 30 ft. from boiler flue access port
- Measures temperatures 0 to 2140°F, carbon monoxide 0 t 4000 ppm
- Includes flue probe with 15 ft. tube, handset with 15 ft. lead, battery pack with recharger, water trap, particle an sulphur dioxide filter, built-in printer, rugged carrying cas
- Serial interface for computer connection

**No. 4KC62.** Kane-May brand (KM9104/P). Shpg. wt. 19.0 lbs.
Each.....$3295.0



No. 4KC62

No. 4KC63
Software and Cable

### SOFTWARE AND CABLE

Connects No. 4KC62 to computer.

**No. 4KC63.** Kane-May brand (KM9104 PC KIT). Shpg. wt. 1.0 lbs.
Each.....$425.0

### REPLACEMENT PAPER AND RIBBON

Includes 10 rolls of paper and 5 ribbons.

**No. 4KC59.** Kane-May brand (DP12).. Shpg. wt. 3.0 lbs.
Each.....$72.0

### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

## BACHARACH MODEL 300 SERIES

ectronic Combustion Analyzers automatically calculate and splay combustion efficiency of any boiler or furnace. Multiple ;D readouts display stack temperature, ppm carbon monoxide O), percent oxygen ($O_2$), percent excess air, percent carbon oxide ($CO_2$) and percent efficiency on seven selectable fuels cluding natural gas, liquid propane, coal, wood, fuel oil 2, fuel 6, and bagasse. A micro-processor controls the sequence of eration while calculating burner efficiency. Programmed rou- ies lead the operator through the proper procedures, signaling e appropriate action, and waiting until correct steps are taken.

**ATURES COMMON TO ALL MODEL 300 SERIES UNITS:**

- **Factory calibrated to measure 0-25% oxygen, 0-3000 ppm CO, and 0-2000°F stack temperature**
- **Unit runs self-test on sensors when turned on**
- **High performance pump continuously draws filtered flue gas into unit for continuous monitoring**
- **Industrial hose, 12" stainless steel probe assembly**
- **120V AC, 60 Hz operation**
- **Compact polyethylene case (18L x 14W x 8"H)**

### No. 6T131 MODEL 300 WITH PRINTER AND BATTERY PACK

- **Runs off of rechargeable lead acid battery (12-16 hours continuous operation; charger included) or also operates on 120V AC line power**
- **Built-in thermal printer with 1½" roll paper**
- **Replenishment paper No. 6T137 available; see chart below**

### No. 6T132 MODEL 300 WITH PRINTER, BATTERY PACK AND ENVIRONMENTAL MONITOR

- **Additional sensors measure 0-2000 ppm sulfer dioxide ($SO_2$) and 0-2000 ppm oxides of nitrogen (NOx) for environmental emmisions monitoring**
- **RS232 output for computer interface**
- **6 easy-to-read digital displays**




No. 6T132

- **Includes time-of-day, date and unit serial number on each printed read-out**
- **Powered by rechargeable lead acid battery (12-16 hours continuous operation; charger included) or operates on 120V AC line power**
- **Built-in thermal printer with 1½" roll paper**
- **Replenishment paper No. 6T137 available; see chart below**

### COMBUSTION ANALYZERS/ENVIRONMENTAL MONITOR ORDERING DATA

| Description | Bacharach Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **lodel 300 With Printer / Battery Pack** | 24-8109 | **6T131** | **$4480.00** | 16.0 |
| **lodel 300 With Printer, Battery Pack, nd $SO_2$ and NOx sensors** | 24-8132 | **6T132** | **5842.00** | 24.0 |

### SERIES 300 MAINTENANCE PARTS SPECIFICATIONS AND ORDERING DATA

| Description | Bacharach Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **:ygen sensor** | 24-0108 | **6T133** | **$165.00** | 0.2 |
| **rbon Monoxide sensor** | 24-0498 | **6T134** | **280.00** | 0.2 |
| **/2" thermal paper (10 roll Qty.)** | 24-0531 | **6T137** | **35.00** | 0.6 |
| **) Micron Filter Elements (Pkg. of 3)** | 24-0683 | **6T138** | **44.00** | 0.3 |
| **:ides of Nitrogen sensor** | 19-8001 | **6T147** | **315.00** | 0.5 |

These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets SDS) are available. See page opposite inside back cover.

### CO CALIBRATION KIT AND CO GAS For Use With Nos. 6T131, 6T132, and 6T143

**No. 6T135 Portable CO Calibration Kit** includes flow meter, tubing, regulator assembly and carry case. Order CO calibration gas separately. Bacharach brand.

**No. 6T135.** (24-7059). Shpg. wt. 0.5 lbs.
Each ..... **$210.00**

**No. 6T136. CO Calibration Gas.** Measures 500 ppm CO in air. Bacharach brand.

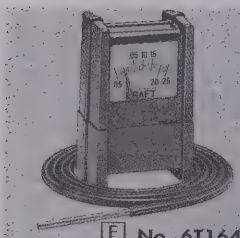
**No. 6T136** (24-0492). Shpg. wt. 1.0 lbs.
Each ..... **$145.00**

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

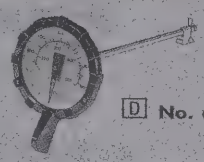
ır Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our eneral Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch r more information.

# OIL AND GAS BURNER COMBUSTION TEST KIT COMPONENTS & AIR VELOCITY MONITOR

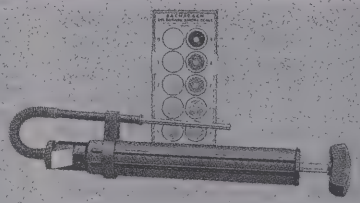
## INDIVIDUAL COMBUSTION KIT COMPONENTS



F No. 6T164



D No. 6T162



E No. 6T165



G No. 6T163

In addition to serving as replacement items for components in the No. 6T149 Oil Combustion Test Kit and No. 6T150 Gas Combustion Burner Kit, these items can be used individually for a variety of industrial and residential applications. Key letters apply to items shown on this page and Bacharach kits on nearby pages.

### FIRE EFFICIENCY FINDER

A quick, uncomplicated means of determining combustion efficiency and stack loss from the results of the $CO_2$ and stack temperature test. Bacharach (11-5064).

**No. 6T158.** Shpg. wt. 0.2 lbs.
Each ..... $12.25

### SAMPLING HOSE ASSEMBLY

Means of extracting a gas sample from sampling location. Use with Bacharach $CO_2$ and $O_2$ Fyrite Gas Analyzers. 4 ft. 6" long. Bacharach brand (11-7029).

**No. 6T160.** Shpg. wt. 1.0 lbs. Each ..... $46.00

### REPLACEMENT ASPIRATOR VALVE

**No. 6T159.** (11-0138).Shpg. wt. 0.1 lbs.
Each ..... $6.95

### MOISTURE ABSORBENT MATERIAL

Replacement filtering for Sampling Hose Assemblies. Each pkg includes ten 5 ft. lengths. Bacharach brand (11-0121).

**No. 6T148.** Shpg. wt. 0.1 lbs.
Each ..... $8.00

### D TEMPOINT THERMOMETER

Use to obtain accurate temperature of a boiler or furnace. Range: 200° to 1000°F. Accuracy is within 10° at any point of indication. Sealed for dust and moisture protection. Bacharach brand (12-7014).

**No. 6T162.** Shpg. wt. 0.4 lbs. Each ..... $54.00

### E TRUE-SPOT SMOKE TESTER

3-component system (pump, scale and filter paper) provides accurate smoke reading in less than a minute. Determines efficiency combustion and evaluates smoke density in flue gases from distillate fuels. Bacharach brand.

#### COMPLETE KIT

**No. 6T165.** (21-7006). Shpg. wt. 1.0 lbs.
Each ..... $82.00

#### SPARE SCALE/FILTER PAPER KIT

Includes one replacement scale and 40 sheets of filter paper.

**No. 6T161.** (21-0020). Shpg. wt. 0.1 lbs.
Each ..... $31.00

#### SMOKE SCALE ONLY

**No. 6T166.** (21-0018). Shpg. wt. 0.1 lbs.
Each ..... $22.00

#### FILTER PAPER ONLY

**No. 6T167.** 40 Sheets (21-0019). Shpg. wt. 0.1 lbs Each ..... $12.50

### F MZF DRAFT GAUGE

Highly sensitive instrument with remote sampling tube to measure draft in furnaces and boilers. Pointer's movement is directly proportional to magnitude of draft at test point. Range +0.05 to 0 to 0.25" W.C. Bacharach (13-7019).

**No. 6T164.** Shpg. wt. 3.0 lbs.
Each ..... $163.00

### G DRAFTRITE POCKET DRAFT GAUGE

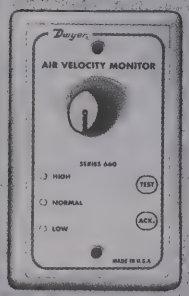
Pinpoints draft trouble and indicates chimney defects. Easily held in one hand. Free floating pointer indicates sudden change from draft to pressure caused by "puffbacks." Range: +0.10 to −0.14" W.C. Bacharach brand (13-3000).

**No. 6T163.** Shpg. wt. 0.3 lbs.
Each ..... $77.00

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

## DWYER AIR VELOCITY MONITOR No. 1W415




No. 1W415

- **Alerts personnel of insufficient exhaust rates in typical laboratory fume hoods**
- **Meets OSHA guidelines for air flow requirements in fume hood applications**
- **Red LED indicates low flow condition and adjustable from 0 to 150 FPM; green LED indicates normal operation; yellow LED indicates high flow conditions and is adjustable from 0 to 275 FPM**
- **Equipped with an audible alarm**
- **No remote sensors or complicated wiring—just a single device with an integral flow sensor powered by 24V AC**
- **Constructed of white plastic; 2¾ x 4½ x 1.939"**

**No. 1W415.** Dwyer brand (660AVM).
Shpg. wt. 0.5 lbs. Each ..... $177.75

#### TRANSFORMER

Step down transformer from 120V AC to 24V AC.

**No. 1W391.** Dwyer brand (A-699). Shpg. wt. 0.
lbs. Each ..... $15.5

#### INSTALLATION KIT

Includes 3 ft., 1½" flexible tubing, 90° bulkhead fitting and 2 nylon tie wraps.

**No. 1W407.** Dwyer brand (A-150). Shpg. wt. 1.
lbs. Each ..... $20.5

**WE OFFER A WIDE RANGE OF ENERGY SAVING PRODUCTS**

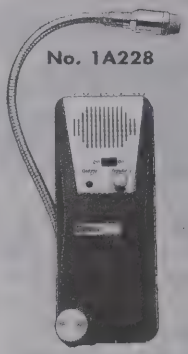
# COMBUSTIBLE GAS DETECTOR, CORONA DETECTOR, AND MICROWAVE LEAKAGE DETECTOR

## COMBUSTIBLE GAS DETECTOR

he TIF Model 8800 gas detector is a portable, battery-operated, olid-state electronic instrument used to identify the presence nd to locate the source of combustible gas leakage.†

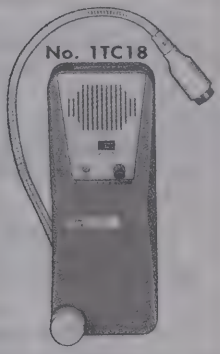
- **"Geiger counter" ticking signal increases in frequency as the gas source is approached**
- **No. 1TC18 features visual leak size indicators**
- **Automatic warm-up**
- **Adjustable sensitivity**
- **Low battery indicator**
- **Long, flexible probe**
- **Includes sensing tip, 115V battery recharger, carrying case, and 2 NiCad batteries**
- **Optional plug-in cigarette lighter recharger available (No. 1T935)**
- **UL Classified only as to intrinsic safety in Class I, Groups A, B, C, and D hazardous locations**
- **MSHA approved. Tested for intrinsic safety in methane-air mixture only**

| Description | TIF Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Gas Leak Detector** | TIF8800 | **1A228** | **$200.00** | 2.9 |
| **Gas Leak Detector** | TIF8800A | **1TC18** | **230.00** | 2.8 |
| **Cigarette Lighter Adapter** | TIF8805 | **1T935** | **19.95** | 0.3 |
| **Recharger** | TIF8803 | **1T933** | **19.95** | 0.3 |
| **NiCad Batteries/Pair** | TIF8806A | **1T936** | **34.95** | 0.3 |
| **Case** | TIF447 | **1T905** | **14.95** | 0.3 |




tif

UL E93208




**TIF Models 8800 & 8800A Gas Leak Detectors Detect:**

**Hydrocarbons:** Methane (Natural Gas), Ethane, Propane, Butane, N-Butane, Isobutane, Pentane, Hexane, Benzene, Acetylene, Gasoline

**Halogenated hydrocarbons:** Methyl chloride, Methylene chloride, Tricholoroethane, Vinyl chloride

**Alcohols:** Methanol, Ethanol, Propanol, Butanol

**Ethers:** Methyl ether

**Ketones:** Methyl acetate, Methyl Ethyl Ketone, Acetone

**Other Gases:** Sulfur dioxide, ammonia, Carbon monoxide, Hydrogen sulfide, Hydrogen, Toluene, Naphtha, Chlorine

**Chemicals:** Industrial solvents, Dry cleaning fluids, Lacquer thinners.

## CORONA DETECTOR

ltrasonic Leak and Corona Detector is useful wherever electrical or pressurized equipment is used. The instrument is designed o locate electrical corona sources and gas leaks, all of which are naudible to the unaided ear.†

- **Can detect a 0.002" diameter gas or air leak at 5 ft. away with only 10 PSI pressure**
- **Ideal for detecting corona leaks on terminations, high voltage bus systems, bushings and transformers**
- **Screens out audible noise levels**
- **Supplied with transducer probe, directional pickup horn, headset, "9V" battery, and carrying case**

**o. 3T870.** Biddle brand (569001). Shpg. wt. 7.0 lbs. Each .....$1275.00

BIDDLE INSTRUMENTS




## MICROWAVE LEAKAGE TESTER

leets measurement requirements of the federal performance tandard for leakage from microwave ovens. Measures icrowave leakage from domestic, industrial, and commercial quipment operating at 2450 MHz. Fast or slow response time for est measurement. Tripod mount for stable measurements. onpolarized, handheld probe for power density measurement rovides automatic 5 cm spacing.†

- **Calibration frequency: 2450 MHz, ±10 MHz**
- **Power density ranges: 0 to 2.5, 10, 25, 100mW/cm² at ±1 dB accuracy**
- **Response time: fast, 1.2 sec. max.; Slow, 3.0 sec. max.**
- **Temperature coefficient: ±0.1 dB/10°C**
- **Power: one "9V" battery (included)**

**o. 1T817.** Simpson brand (40012) Shpg. wt. 5.0 lbs. Each .....$775.00

) Always consult user manual and applicable local electrical and safety codes prior to use.




Simpson

SUPPLIER DIVERSITY™

Minority-Owned Business

# AIR VELOCITY METERS

## DWYER No. 3T297

- Typical applications: for service work on air conditioning, heating and ventilating equipment
- Determines supply and return grille velocities, duct air velocities, furnace draft, pressure drop across air filters
- Dual range capability for greater accuracy
- Includes air meter, return and supply grille probes, angle connector, cleaning materials, instruction card, air velocity calculator, carrying case and extra plastic ball in plastic tube

| Velocity Range FPM | Pressure Range Inches WC | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 260-1200<br>1000-4000 | ±0.005-0.09<br>±0.05-1.0 | 460 | 3T297 | $21.32 | 0.5 |

## ALNOR Nos. 3T092 thru 3T094

- Alnor 8100 Velometer Jr. is palm-sized and lightweight
- Measures 4H x 3W x 1½"D • Accuracy: ±5% FS
- Hold in air stream for hoods, spray booths, HVAC checks; OSHA compliance
- Requires no attachments or batteries
- Includes soft carrying case

| Velocity Range (FPM) | Alnor Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0-200/0-800 | 634.110.018 | 3T092 | $345.00 | 0.9 |
| 0-400/0-1600 | 634.110.025 | 3T093 | 345.00 | 0.9 |
| 0-500/0-2500 | 634.110.032 | 3T094 | 345.00 | 0.9 |

## ALNOR Nos. 4KG26 and 1M732

Airgard® Fume Hood Detectors measure true fume hood face velocity using thermal sensors located inside the instrument. An audible 85dB piezoelectric alarm and red indicator light warn of low air flow conditions. Surface mountable in minutes. Includes mounting hardware, tubing, sidewall adapter and "9V" DC power supply.

**No. 4KG26:**

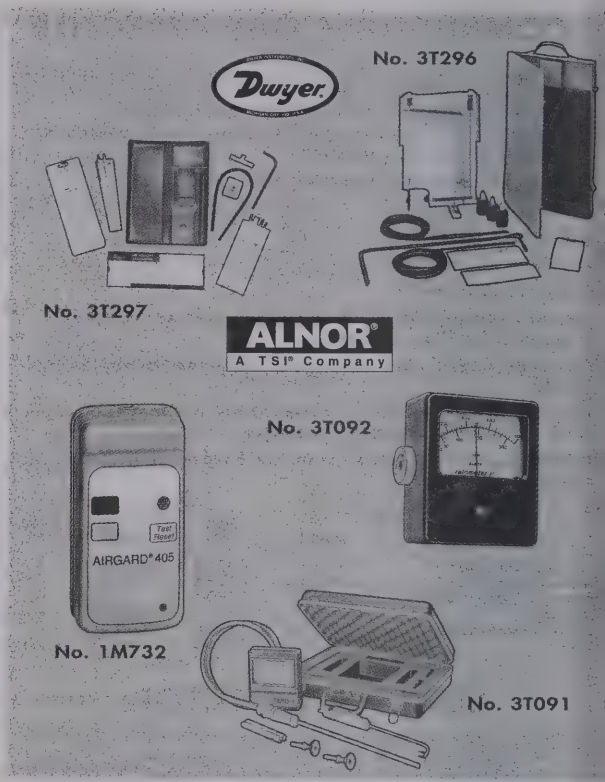
- High/Low flow set points • Digital LCD display
- Datalogging • Operating Temp.: 55° to 86°F
- Usable to 250 FPM
- Alarm Range: 70 to 250 FPM
- Accuracy (typ.): ±10% of reading or 10 FPM (whichever is greater)
- Analog 0-5V DC or relay output • RS-232 computer interface

No. 4KG26. Alnor brand (480). Shpg. wt. 0.8 lbs. Each.....$625.00

**No. 1M732:**

- Low flow set point • Operating Temp.: 55° to 86°F
- Alarm Range: As low as 70 FPM

No. 1M732. Alnor brand (405). Shpg. wt. 1.8 lbs. Each.....$335.00




## ALNOR No. 3T091

- Velometer is a portable, nonelectrical instrument for all ai velocity measurements
- Air velocity range accuracy, ±2% full scale
- Static pressure range: 0-1" and 0-10" WC; accuracy ±5% full scale
- Completely mechanical, swinging vane type anemometer
- Includes 2 range selectors, lo-flow probe, pitot probe, diffuser probe, 2 static pressure probes, 2 hoses, and carrying case

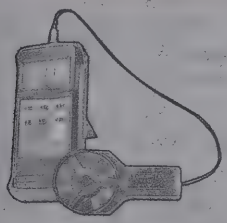
| Velocity Range (FPM) | Alnor Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0-300<br>0-1250<br>0-2500<br>0-5000<br>0-10,000 | 6000AP | 3T091 | $1390.00 | 8.9 |

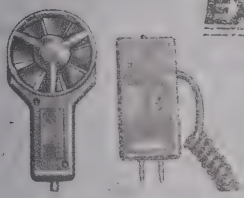
## DWYER No. 3T296

- Typical applications: balance air conditioning systems, measure pressure drop across filters, and test fan blower discharge and inlet pressures as well as air velocity in ducts
- Inclined section for high accuracy and vertical section for extended range
- Easy to read dual scale pressure marked in black, velocity in red
- Requires no reference tables
- Screw leveling adjustment and ground glass bubble level
- Suitable for total pressures to 100 PSIG
- Includes 18" stainless steel calibrated pitot tube (No. 3T087), 2 coils of 3/16" diameter rubber tubing with metal terminal tubes, steel carrying case, air velocity calculator and spare bottle of red gage oil

| Inches WC | Velocity FPM | Minor Scale Divisions and Ranges Inclined Section | Minor Scale Divisions and Ranges Vertical Section | Dimensions Inches | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 0-10 | 400-12,600 | 0.01, 0-1" WC | 0.10, 1-10" WC | 16½H x 11W x 1¼D | 400-10 | 3T296 | $331.25 | 15.0 |

# VANE ANEMOMETERS


No. 1M944


No. 1M922

EXTECH INSTRUMENTS

New


No. 4TM17


No. 1H145

## EXTECH HEAVY-DUTY VANE THERMO-ANEMOMETER

- Air Velocity Measuring Ranges: 80 to 4925 ft./min., 0.9 to 55.9 mph., 1.9 to 38.8 knots, 0.4 to 25m/sec; 1.4 to 90.0 km/hr. with ±2% accuracy
- Temperature Range: 32.0 to 140.0°F; 0.0 to 60.0°C with ±1.5°F; ±0.8°C accuracy
- Large 1.4", 3½ digit LCD display with Data Hold
- Record/Recall and Min./Max./Ave. functions
- Vane is 2.83" diameter
- Includes rubber holster with stand, "9V" battery and instructions
- AC adapter available, use No. 3ZH67
- Uses RS232 Interface and Datalogger Module No. 1M960 or Windows™ data aquisition software No. 3ZH85

**o. 1M944.** Extech brand (407112). Shpg. wt. 1.5 lbs. Each.....$229.00

**o. 1M940.** Vinyl Carrying Case. Extech brand (409997). hpg. wt. 0.3 lbs. Each.....$19.00

## EXTECH VANE ANEMOMETER ADAPTER

- Turns any digital multimeter with at least a 200mV DC range into an air velocity meter
- 4 measuring ranges: 80 to 5910 ft. per minute, 0.4 to 25 meters per second, 0.7 to 108 kilometers per hour, 0.8 to 58.3 nautical miles per hour
- Vane is 2.83" diameter
- Accuracy (typ.): ±2% of reading
- Includes "9V" battery, 55" cable to connect to multimeter and instructions

**o. 1M922.** Extech brand (451212). Shpg. wt. 0.8 lbs. Each.....$129.00

## EXTECH VANE THERMO-ANEMOMETER DATALOGGER

- Air velocity measurement ranges: 60 to 8800 ft./min.; 0.3 to 45 m/sec.; 0-88 knots; 1 to 140 km/hr.; 0-100 MPH
- Measures air volume in CFM (Ft3/min) and CMM (m3/min
- Internal 1000 point datalogger plus PC data transfer via built-in RS-232
- Precise temperature measurements via built-in thermistor (32 to 122°F (0 to 50°C) ± 1.5°F (± 0.8°C)
- Dual 4-digit (9999 count) LCDs displays "air velocity + temperature" or "air flow + air area"
- Record/recall MIN/MAX/AVG readings
- Data hold freezes displayed value
- Complete with Windows™ software, cable, 9V battery and case

*New***No. 4TM17.** Extech brand (451126). Shpg. wt. 1.0 lbs. Each.....$299.00

## EXTECH VANE ANEMOMETER

- Multi-function air velocity meter and K-type thermometer
- Wide ranges include 80-5910 feet/minute; 0.4-25 meters/second; 1.4-108.0 kilometers/hour; 0.8-58.3 knots; 32-140°F (0-60°C) temperature
- Low friction ball bearing vane design (2.83"D)
- Air Velocity Accuracy: 2% reading
- Temperature Accuracy: 1.5°F (0.8°C)
- Super large 0.7" LCD w/data hold
- Includes hard vinyl carrying case, 9V battery and instructions

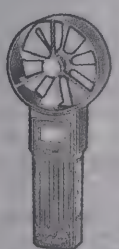
**No. 1H145.** Extech brand (451112). Shpg. wt. 2.0 lbs. Each.....$199.00

# ROTATING VANE ANEMOMETERS

ALNOR® A TSI® Company


No. 4KF77


No. 1M782


No. 1M784

## FOR ALL UNITS:

- Velocity Range: 50 to 6000 ft./min., 0.25 to 30 meters per second
- Operating Temperature: 14° to 122°F
- Dimensions: 10.55 x 4.44 x 1.69"
- Battery: "9V" (NEDA Type 1604), standard, alkaline, or rechargeable

## ALNOR ANEMOMETER

- Intrinsically-safe construction
- Area Input Range: 0.08 to 900 sq. ft. (to measure and display CFM); 4 to 999,999 CFM; 0.002 to 3000 $M^3/S$
- Includes one "9V" battery and protective pouch

**No. 4KF77.** Alnor brand (RVR). Shpg. wt. 1.0 lbs. Each.....$899.00

## ALNOR ANEMOMETER

- Accuracy (typ.): ±1% of reading ±4 FPM
- Area Input Range: 0.08 to 900.0 sq. ft.
- Volume Range Displayable: 4.000 to 999,999 CFM, 0.002 to 3,000 $M^3/S$

Features a slide switch for selecting volumetric flow rate or velocity readout in English or metric units. Can be programmed to read volume (cubic feet per minute) by entering an area factor. Averages air velocity approximately every 3 seconds up to 12 minutes. Battery powered for 50 hours of continuous use.

**No. 1M782.** Alnor brand (RVA). Shpg. wt. 1.4 lbs. Each.....$699.00

## ALNOR ANEMOMETER

- Accuracy (typ.): ±20 FPM below 1000 FPM, 2% of reading above 700 FPM

Single push-button control located in handle, averages air velocity over 6 seconds. Battery powered, 200 hours of continuous use.

**No. 1M784.** Alnor brand (RV). Shpg. wt. 1.4 lbs. Each.....$499.00

# ANEMOMETERS

## DWYER No. 1W431

- Vane Anemometer meets OSHA standards of ventilation for smoke, dust or fume removal
- Measures velocities form 25 to 400 FPM
- Molded from ABS plastic
- For permanent mount or portable use

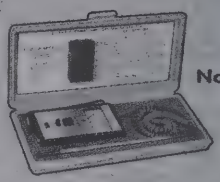
**No. 1W431.** Dwyer brand (480). Shpg. wt. 0.5 lbs. Each.....$21.32




## DWYER No. 2T651

- Ideal for a wide variety of air velocity measurements
- Applications: used to balance heating/air conditioning systems, measure velocity in HVAC ducts, read fume/exhaust hood face velocities, measure wind speed associated with agricultural, forestry, highway and recreational activities
- Two switch selected air velocity ranges; 0-600, 500-6000 FPM
- LED low battery indicator
- Stainless steel probe with depth scale
- ±5% full scale accuracy
- Operating temperature 32° to 160°F
- Response times: 1 sec. (velocity change), 5 sec. (temperature compensation)
- 11L x 5/16" dia. probe with 8" insertion depth and cover
- Includes two "9V" batteries and case

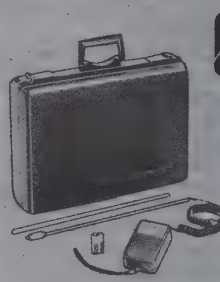
**No. 2T651.** Dwyer brand (470-1). Shpg. wt. 1.2 lbs. Each.....$276.25




## KANE-MAY No. 3T280

- "Hot-Wire," digital temperature/air velocity instrument
- Airflow probe range: airflow, 0 to 6000 FPM; temperature, 14° to 135°F
- Accuracy: airflow, 3% of reading, ±1% full scale
- Includes remote hot wire thermistor sensor probe, 16" probe extension, battery, and carrying case

**No. 3T280.** Kane-May brand (KM4107). Shpg. wt. 6.0 lbs. Each.....$610.00




## ALNOR No. 3T095

Digital temperature and airflow measuring instrument. Eliminates hand calculations. Includes probe, rechargeable batteries, battery charger, detachable straps, insulation duct sleeve, and case.

- Automatic averaging to 250 readings
- Digital readout: english or metric
- Temperature range 32° to 158°F
- Velocity range 20 to 3000 FPM
- Telescoping, 20" articulating probe extendable to 45" and locks at 90°
- Autoranging provides 1 ft./min. increments between 20-700 FPM; 10 ft./min. increments between 700 to 3000 FPM
- Optional micro-printer (No. 3T096) prints one line every 2 secs., 20 characters per line, incl. 2 rolls thermal paper

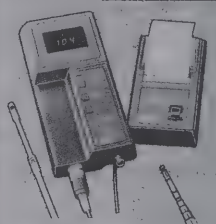
**No. 3T095.** Alnor brand (8565). Shpg. wt. 5.5 lbs. Each.....$1250.00

**PRINTER FOR NO. 3T095 ANEMOMETER**

**No. 3T096.** Alnor brand (8520). Shpg. wt. 3.0 lbs. Each.....$465.00

**THERMAL PAPER FOR No. 3T096**

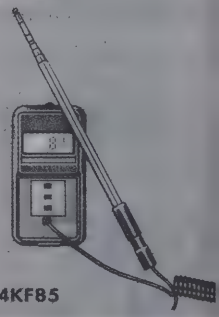
**No. 6T510.** Black Print. Alnor brand (538-493-010). 5 rolls/pkg. Shpg. wt. 1.3 lbs. Each.....$49.00




## ALNOR No. 4KF85

- Digital temperature and air velocity measuring instrument
- Temperature range 0 to 200°F
- Velocity range 0 to 4000 FPM
- Includes 37" probe, carrying case, and 4 AA batteries
- Dimensions: 5.2H x 2.75W x 1.3"D

**No. 4KF85.** Alnor brand (9870) Shpg. wt. 1.0 lbs. Each.....$560.00




### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

## ALNOR No. 3T448
## INTRINSICALLY SAFE THERMAL ANEMOMETER

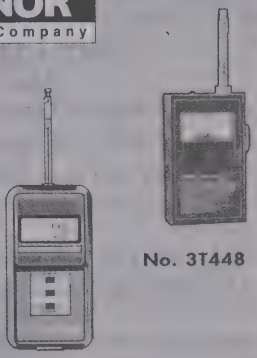
UL Listed as intrinsically safe for Class I, Groups C and D; Class 2, Groups E, F, and G; and Class 3

Retractable 3" probe turns 180° for accurate air velocity readings

Measures from 0 to 300 FPM and 0 to 2000 FPM air flows

- Accuracy of ±3% of reading, ±1% of scale
- Features battery check and calibration without disassembly
- Includes 9V battery, belt carry case

**No. 3T448.** Alnor brand (9850). Shpg. wt. 0.8 lbs. Each.....$515.00




No. 3T448

## ALNOR No. 4KF86
## INTRINSICALLY SAFE THERMAL ANEMOMETER

UL Listed as intrinsically safe for Divisions 1 and 2 in Class I, Groups C and D; Class 2, Groups E, F, and G; and Class 3 when used with alkaline batteries

Velocity range 0 to 2000 FPM

- Includes 3.1" probe, carrying case, and 4 "AA" batteries
- Dimensions: 5.2"H x 2.75"W x 1.3"D

**No. 4KF86.** Alnor brand (9880). Shpg. wt. 1.0 lbs. Each.....$560.00

No. 4KF86

## DWYER No. 4JZ77
## DIGITAL THERMAL ANEMOMETER

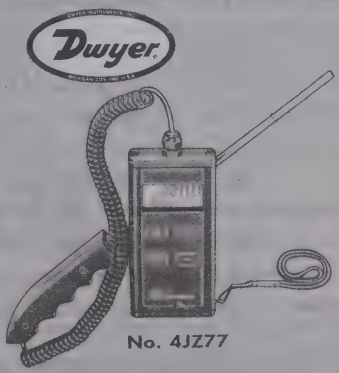
Digital dual purpose instrument measures temperature and air velocity

Used for air balancing, clean rooms, or any other HVAC related application where direct air velocity measurements are required

Four field selectable air velocity ranges (see chart below) 0 to 15,000 feet per minute, 0-70 meters per second

- ±3% full scale accuracy
- Temperature measurement to 200°F (100°C)
- Six-foot coiled cord with 10" long, 5/16" diameter probe attached provides an easy way to get air flow readings in ductwork and traverses
- Kit includes battery, wrist strap, 6-step drill, carrying case, and instructions

| Range No. | Velocity FPM | Velocity MPS | Accuracy (Full Scale) | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | 0-500 | 0-3.0 | ±3% | | | | |
| 2 | 0-1500 | 0-7.0 | ±3% | 471-1 | 4JZ77 | $348.00 | 3.0 |
| 3 | 0-5000 | 0-30 | ±4% | | | | |
| 4 | 0-15,000 | 0-70 | ±5% | | | | |




No. 4JZ77

## EXTECH HEAVY-DUTY HOT WIRE THERMO-ANEMOMETER

Accurately measure temperature in ducts and ventilating systems and air speeds as low as 40 ft./min.

Displays 40 to 3940 ft./min., 0.2 to 20 m./sec., 0.7 to 72 km./hr., 0.5 to 44.7 miles/hour or 1.0 to 31.1 nautical miles/hour

Precise °C and °F temperature measurements via thermistor

Velocity accuracy to ±3%; temp. accuracy ±1.5°F, (±0.8°C)

Super large 1.4" (36mm) LCD indicates air velocity and temperature simultaneously

- Record/Recall, Min/Max readings, Data hold
- Built-in RS-232 interface compatible with optional Windows™ software No. 3ZH85 or Data Logger No. 1M960
- Complete with 37" telescoping probe and 40" cable, plus six AAA batteries, meter holster and instructions
- Optional soft carrying case No. 1M940

**No. 4KC29.** Extech brand (407123). Shpg. wt. 1.6 lbs. Each.....$349.00




No. 4KC29

CHECK THIS COMPREHENSIVE CATALOG
FOR YOUR NEEDS. THOUSANDS OF QUALITY PRODUCTS ARE LISTED

# THERMOANEMOMETER, MICROPRINTER, PROBES, AND ACCESSORIES

Using probes, the ThermoAnemometer and MicroPrinter work together to measure, store and document air velocity, volumetric flow rate, temperature and relative humidity.

## THERMOANEMOMETER No. 1M776:

- **Ambient Operating Range: 32° to 122°F**
- **Stores up to 300 sets of data**
- **LCD display with back lighting**
- **Uses 3 "C" rechargeable NiCad batteries (220 mAhr), included**
- **20 to 6000 FPM with supplied probe**
- **ThermoAnemometer automatically logs and averages up to 300 air flow or temperature readings**
- **Readings in the field can be downloaded to a computer**
- **Kit includes ThermoAnemometer, Air Velocity Temperature Probe No. 1M780, rechargeable batteries with charger, wrist strap, insulation duct sleeve, Instruction Manual with calibration data sheets, and carrying case (accommodates No. 1M774 MicroPrinter)**

**ThermoAnemometer** communicates directly with PC using No. 1M778 interface cable. Features digital display with bar graph (to indicate trends), full calculations of air volume and density corrections, adjustable sensor response (for turbulent airflow).

**No. 1M776.** ThermoAnemometer. Alnor brand (8575). Shpg. wt. 7.0 lbs.
Each ..... $1595.00

## MICROPRINTER No. 1M774:

- **Ambient Operating Range: 50° to 104°F**
- **Prints 1 line per 2 seconds min., 20 characters per line**
- **Recharges in 5 hours with charger supplied**
- **Includes 2 rolls of thermal paper (No. 6T510), rechargeable batteries with charger, and instructions**

**MicroPrinter** provides instant printed documentation of all data taken. Built-in rechargeable power pack provides 500 lines of printing per charge. Thermal printing method.

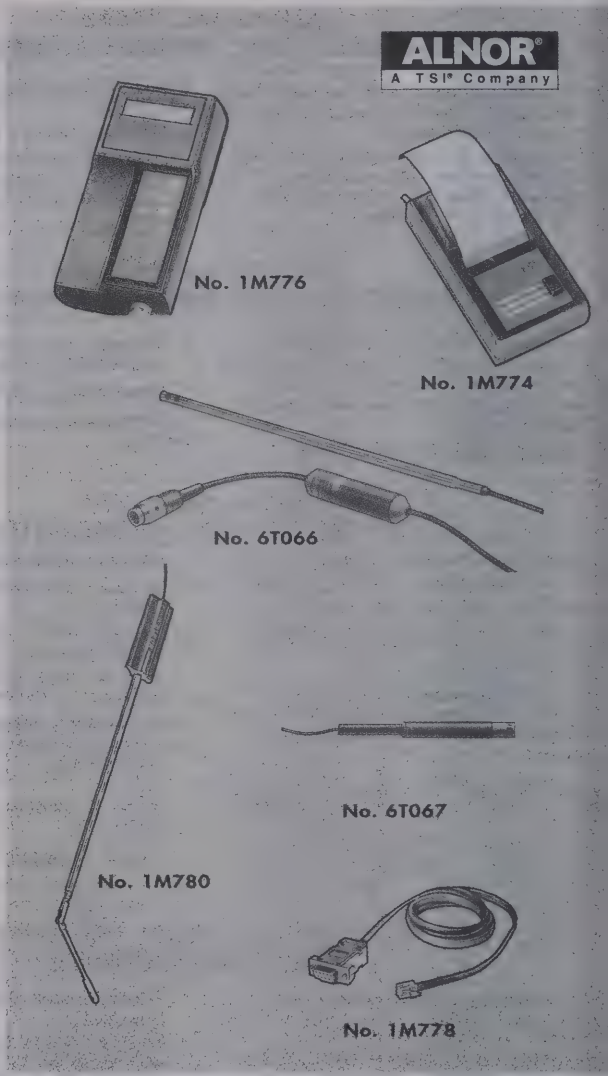
**No. 1M774.** MicroPrinter. Alnor brand. (8521). Shpg. wt. 1.1 lbs.
Each ..... $465.00

## AIR VELOCITY AND TEMPERATURE PROBE Nos. 6T066 AND 1M780

- **Air velocity range 20 to 100 FPM with an accuracy of ±5 FPM**
- **Air velocity range 101 to 700 FPM with an accuracy of ±3% of reading ±2 FPM**
- **Air velocity range 701 to 4000 FPM with an accuracy of ±3% of reading ±20 FPM**
- **Air velocity range 4001 to 6000 FPM with an accuracy of ±3% of reading ±200 FPM**
- **Temperature Range: 32° to 122°F; Accuracy (typ.): 68° to 86°F ± 1.0 FPM**
- **No. 6T066 dimensions: Handle-4 x 1.8 x 1"; Probe tube-12" long x 0.36" dia.**
- **No. 1M780 has telescoping, articulating 0.355" dia. tip. 20" long when closed, extends to 45". Locking nut allows probe to remain straight or pivot to either 90° or 270°**

**No. 6T066.** Alnor brand (175). Shpg. wt. 2.0 lbs. Each ..... $495.00

**No. 1M780.** Alnor brand (275). Shpg. wt. 0.8 lbs. Each ..... $635.00




## TEMPERATURE AND HUMIDITY PROBE No. 6T067

- **Temperature Range: 32° to 140°F with an accuracy of ±0.4% of reading ±1.0 FPM**
- **Humidity Range: 0 to 100%; Accuracy (typ.): 10 to 96% ±2.5% RH**
- **Dimensions: Handle-4 x 1.8 x 1"; Probe tube-6" long x 0.75" dia.**

**No. 6T067.** Alnor brand (220B). Shpg. wt. 2.0 lbs. Each ..... $495.00

## COMPUTER INTERFACE CABLE No. 1M778

- **Used with Nos. 1M776 and 1M774 to transfer data to a computer**

**No. 1M778.** Alnor brand (634.493.404). Shpg. wt. 0.4 lbs.
Each ..... $55.00

# AIR VELOCITY INDICATORS AND VOLUME-AIRE AIR BALANCER

## AIR VELOCITY INDICATORS

### BACHARACH No. 6T179

**Pocket size air flow indicator, ideal for use where resolution of 50 ft./min. is adequate**

**Range 0 to 1000 FPM • Accuracy ±5% FS**

**Detects leaks around doors and windows**

**Instant readings from any held position; no leveling or zero balancing required**

**Entirely self-contained; no hose or probe required**

**Bacharach brand (16-7009)**

**o. 6T179.** Shpg. wt. 0.8 lbs. Each ..... $185.00

### BACHARACH Nos. 6T177 and 6T178

**Florite Air Velocity meters provide instantaneous, direct readings of air velocity without timing or calculations**

**Pocket-sized indicators useful for checking air flows through openings as small as 1/4" dia.**

**Easy to use; hold in air stream, either in open area or against face of flat-surfaced register**

**Grille Velocity Finder Chart converts air velocity to Cubic Feet per Minute (CFM) without calculations. (Additional Grille Velocity Finders, No. 6T180, available below)**

**Two models available. No. 6T177 has single scale ranges of 0 to 1000 FPM (accuracy of reading ±2% FS). No. 6T178 has dual scale range of 0 to 3000 FPM and 0 to 35 MPH (accuracy of reading ±2% FS)**

**Includes soft carrying case**

| Scale Type | Range | Bacharach Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Single | 0-1000 FPM | 16-7001 | **6T177** | **$240.00** | 1.2 |
| Dual | 0-3000 FPM<br>0-35 MPH | 16-7002 | **6T178** | **240.00** | 1.2 |

### No. 6T180 GRILLE VELOCITY FINDER

rille Velocity Finder converts air velocity to Cubic Feet per inute (CFM) without calculations. Bacharach brand (16-0107).

**o. 6T180.** Shpg. wt. 0.4 lbs. Each ..... $7.50

## VOLUME-AIRE AIR BALANCER

### TIF No. 1T937

**Permits measuring CFM directly, easy system balancing**

**Use on any size grille, register, or diffuser**

**Provides true average system outlet conditions**

**Converts turbulent jets to a controlled laminar flow**

**Averages velocity jets**

**Directly reads feet and cubic feet per minute**

**Requires no power or maintenance**

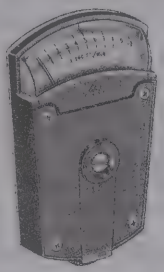
**Measurements area: 50 to 500 sq. in., 300 to 3000 sq. cm**

**Velocity: 250 to 1100 FPM, 125 to 560 cm/sec.**

**Volume: 70 to 3000 CFM, 40 to 1400 liters/sec.**

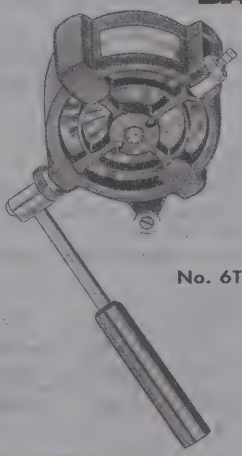
**Simple 3-step process**

**o. 1T937.** TIF brand (TIFVA105) Shpg. wt. 2.3 lbs. Each..... $149.95



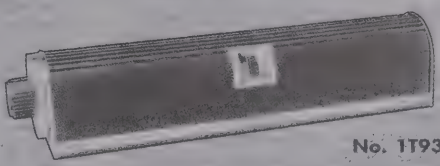
No. 6T179

BACHARACH



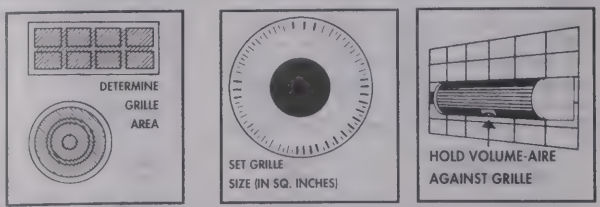
No. 6T177

tif



No. 1T937

**Volume-Aire Balancer Application Diagrams:**




### INSTANT READINGS OF CFM:

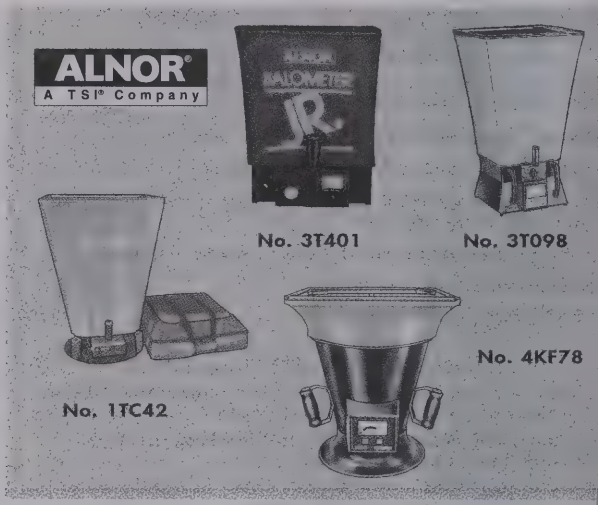
1. Determine grille area (see diagram A)
2. Set grille size (see diagram B)
3. a. Hold Volume-Aire directly against grille (see diagram C)
   b. Turn knob so yellow vane is centered in window
4. Read CFM (black digits on dial) at caret above dial

# BALOMETERS AND ACCESSORIES

## ALNOR BALOMETER JR.

- "Balometer Jr." is a compact lightweight model for measurements in tight spaces
- Base: 14 x 14"; height with 2 x 2 ft. hood: 36"; height with optional 16 x 16" hood (No. 3T402): 21"
- 6.5 lb. operating weight with 2 x 2 ft. hood
- One step readout, ±5% full scale accuracy for both supply and exhaust
- No need for K factor calculations
- CFM ranges: 0-200, 100-600, 400-1400
- Includes base, 2 x 2 ft. hood, two handles, and carrying case
- No. 3T402 16 x 16" hood and frame kit can be ordered separately

**No. 3T401.** Alnor brand (342). Shpg. wt. 18.0 lbs. Each.....$1330.00




## ALNOR ANALOG BALOMETERS

- Direct CFM air flow measurement of both supply and exhaust
- One step readout
- No need for K factor calculation
- ±3% full scale accuracy
- CFM ranges: 0-250, 200-500, 400-1000, 800-2000
- 9.8 lb. operating weight with 2 x 2 ft. hood
- Base: 17 x 17"; height: 40"
- All models include base, range selector, hoods, and carrying case

| Hoods Included (Measured in Feet) | Alnor Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2 x 2 | 6461 | 3T098 | $1840.00 | 30.0 |
| 2 x 2, 1 x 4, 2 x 4 | 6463 | 3T099 | 2200.00 | 36.0 |
| 2 x 2, 1 x 4, 2 x 4, 3 x 3, 1 x 5 | 6465 | 3T400 | 2560.00 | 39.0 |

## ALNOR LOW FLOW BALOMETER

- Lightweight balometer for use in low flow applications where space is tight
- Operating range: 10-500 cfm
- LCD simulated analog meter
- Accuracy: ±3% ±2 cfm
- Battery life: 20 hours (minimum)
- Resolution 0.1 cfm (10-99 cfm), 1 cfm (100-500 cfm)
- Includes base 2 x 2' hood, handles, carrying case and instructions

**No. 4KF78.** Alnor brand (6200). Shpg. wt. 20.0 lbs. Each.....$995.0

## ALNOR ELECTRONIC BALOMETERS

- Digital readings directly in volume; no time is lost on calculations; read supply and exhaust
- One person operation
- Hood fits over grilles or diffusers and channels air flow through a manifold to a specially designed base
- Air flow displayed directly in cubic feet per minute (CFM), cubic meters per hour ($m^3/h$), or liters per second (l/s)
- Ranges: 50 to 2000 CFM (85-3400 $m^3/h$, 24-945 l/s) on a single scale; no flow adapters needed
- Large LCD display is user selectable in English or metric units
- No. 1TC42, 1TC43, and 1TC44 read multiple probes allowing for a variety of applications such as air velocity, temperature, and relative humidity for air velocity readings order probe No. 6T066; for relative humidity readings order probe No. 6T067
- Auto-scaling capabilities for accurate readings in both supply and exhaust air flows at ceilings, walls, and floors
- Nos. 4KF82-4KF84 also enable direct balancing of VMA controller
- Includes base, meter, case, and hood

| Hood Included (Measured in Feet) | Alnor Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2 x 2 | APM 151 | 1TC42 | $2035.00 | 21.0 |
| | DB 151 | 4KF82 | 2135.00 | 28.0 |
| 2 x 2, 1 x 4, 2 x 4 | APM 153 | 1TC43 | 2395.00 | 25.0 |
| | DB 153 | 4KF83 | 2495.00 | 28.0 |
| 2 x 2, 1 x 4, 2 x 4, 1 x 5, 3 x 3 | APM 155 | 1TC44 | 2755.00 | 28.0 |
| | DB 155 | 4KF84 | 2855.00 | 28.0 |

# ACCESSORIES

## HOOD EXTENSION

Extends all 2 x 2Ft. hoods to 30" H.

**No. 4KF81.** Alnor brand (634593350). Shpg. wt. 2.0 lbs. Each .....$185.0

## 16 x 16" HOOD

Used with No. 3T401.

**No. 3T402.** Alnor brand (634543000 Shpg. wt. 2.0 lbs. Each .....$185.0

## HOOD KITS

For all balometers except Nos. 3T401 ar 4KF28. Includes two hoods and hardwa for adding hoods to balometer.

**No. 4KF79.** 2 x 4' and 1 x 4' kit. Alnor bra (634593115). Shpg. wt. 2.5 lbs.Each .....$360.0

**No. 4KF80.** 1 x 5' and 3 x 3' kit. Alnor brand (634593125). Shpg. wt. 2.5 lbs.Each .....$360.0

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!



Measure it, record it, calibrate it — You'll get it right with Grainger.

## MARK II™ MOLDED PLASTIC MANOMETER

**Measures low positive, negative, or differential air, and gas pressures**

**Ranges: 0 to 3" WC (No. 2T650), 0 to 7" WC (No. 3T292)**

**Typical applications: dust collection systems, noxious fumes/airborne particulate exhaust systems, and building HVAC filter banks**

**Mounts on any vertical surface**

**Zero adjustment knob and built-in level indicator**

**Virtually indestructible molded plastic**

**±3% full scale accuracy, maximum working temperature, 140°F**

**Maximum internal working pressure, 10 PSI**

**Includes 2 static pressure taps, 8 ft. of double column plastic tubing, mounting screws, red indicating fluid used with No. 2T650/blue indicating fluid used with No. 3T292, red and green pointer flags**

**. 2T650.** ❸ Dwyer brand (25). Shpg. wt. 1.1 lbs.Each.....$24.63

**. 3T292.** ❸ Dwyer brand (26). Shpg. wt. 1.1 lbs. Each.....$47.10

**. 1TC33.** Stand for No. 2T650 and 3T292 Manometers. Dwyer brand 512). Shpg. wt. 1.0 lbs.Each.....$16.47

These products are covered by OSHA Hazard Communication Standard, and Material ety Data Sheets (MSDS) are available. See page opposite inside back cover.

## SLACK-TUBE® MANOMETERS

**Measures positive, negative, or differential pressure in inches of water column**

**Determines velocity and static pressures for leakage, fan/blower tests, calibrating control devices, and other applications; to check gas pressure, order No. 3T293**

**Magnetic clips firmly hold to any steel surface**

**Rolls up for easy storage**

**Center mounted scale provides sliding zero adjustment between columns**

**Use 3/16" I.D. hose (not supplied)**

**Rapid shut-off tubing connections retain fluid in manometer**

**Has overpressure safety traps in the top of both columns**

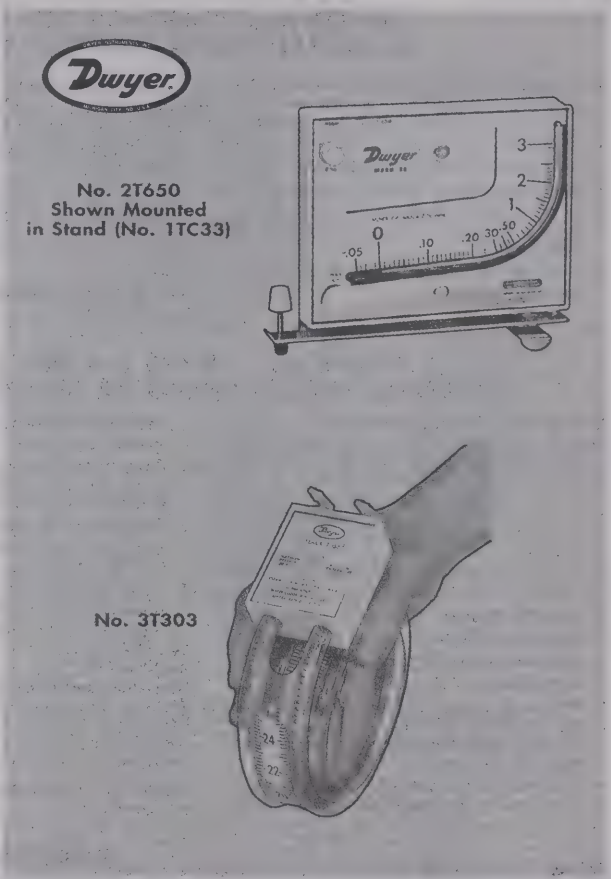
**Can use tap water as the indicating fluid**

**Rated total pressure: 50 PSI intermittent, vacuum not to exceed 20"Hg**

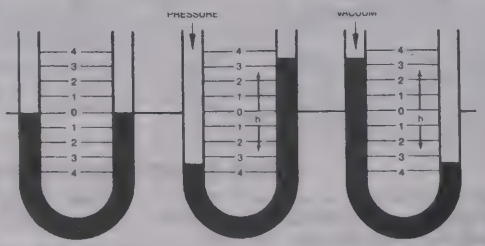
**130°F maximum ambient temperature**

**Includes carrying case, one bottle of fluorescein green color concentrate with wetting agent**

| perating nge (In.) | SlackTube Length (In.) | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4-0-4 | 8 | 1211-8 | 3T300 | $35.30 | 1.5 |
| 6-0-6 | 12 | 1211-12 | 3T301 | 36.95 | 1.1 |
| 8-0-8 | 16 | 1211-16 | 3T302 | 38.85 | 4.2 |
| 2-0-12 | 24 | 1211-24 | 2T971 | 40.80 | 1.4 |
| 8-0-18 | 36 | 1211-36 | 3T404 | 43.10 | 2.0 |
| 4-0-24 | 48 | 1211-48 | 3T303 | 51.50 | 2.1 |
| 0-0-30 | 60 | 1211-60 | 3T304 | 53.35 | 2.4 |
| 6-0-36 | 72 | 1211-72 | 3T305 | 53.35 | 1.0 |
| 0-0-60 | 120 | 1211-120 | 3T306 | 57.45 | 2.0 |




### MEASUREMENT OF PRESSURE WITH A MANOMETER




The simplest form of a manometer is a U-tube half filled with liquid. Both ends of the tube are open and the liquid is at the same height in each leg (Fig. A). When positive pressure is applied to one leg, the liquid is forced down in that leg and up in the other. The difference in height "h", which is the sum of the readings above and below zero, indicates the pressure (Fig. 2). When a vacuum is applied to one leg, the liquid rises in that leg and falls in the other. The difference in height "h", which is the sum of the readings above and below zero, indicates the amount of the vacuum (Fig. C).

# MICROMANOMETERS, DUAL RANGE MANOMETER, AND WIND METERS

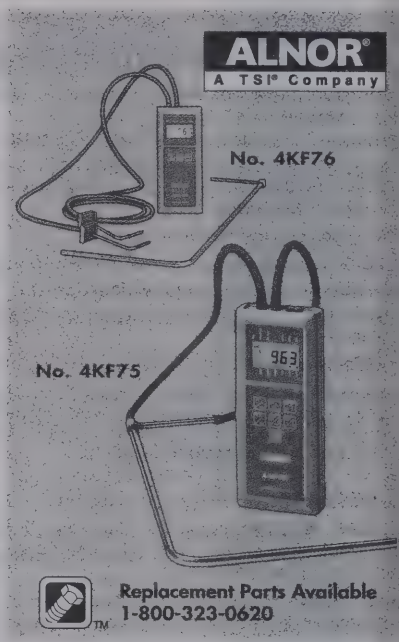
## ALNOR Nos. 3T403 and 4KF76 MICROMANOMETER AND TEST KIT

- Measures differential pressure or air velocity in english or metric units
- Resolution of 0.01" WC or 10 FPM
- Differential pressure of (–1)" to 10"; air velocity 360 to 9990 FPM
- Accuracy (typ.): ±1% of reading (pressure), ±1.5% of reading (air velocity)
- Automatic electronic zeroing; LCD digital display
- Uses all standard pitot tubes, see nearby pages
- 2 Year warranty
- Operating temperature: 32° to 122°F
- Includes 3"AA" batteries, case

**No. 3T403.** Alnor brand (AXD 530). Shpg. wt. 1.0 lbs. Each ..... $515.00

**Micromanometer Test Kit includes:** No. 3T403 micromanometer, 18" pitot probe, two static pressure probes, 100 piece duct plug kit (4KF73), three AA batteries, and carrying case.

**No. 4KF76.** Alnor brand (AXD 532). Shpg. wt. 5.0 lbs. Each ..... $620.00




Replacement Parts Available 1-800-323-0620

## ALNOR Nos. 1M790 and 4KF75 PORTABLE MICROMANOMETER AND TEST KIT

**The Portable Micromanometer** is a compact, digital pressure instrument which uses microprocessor-based electronics to measure, record , and store differential pressure and air velocity readings. Average velocity readings can be displayed from memory and printed with No. 1M774 microprinter. Battery powered for 12 hours of continuous use. Includes meter, Operating Manual, and carrying case.

- Velocity Range: 400 to 17,910 FPM
- Pressure Range: –4.0 to 20.0 in $H_2O$
- Operating Temperature: 14 to 122°F
- Dimensions: 7.5 x 3.2 x 1.3"
- Accuracy (typ.): ±1% of reading from 59° to 95°F, ±4% of reading for rest of operating temperature range with manual zeroing
- Fits easily into a pocket for hands-free operation; position insensitive
- Measures negative pressures without switching hoses
- Automatic "power-down" feature activates after 20 minutes when no function is chosen
- Single button operation holds readings for input into memory; stores up to 100 readings
- 2 Year warranty
- Impact-resistant thermoplastic housing, use 3 AA batteries

**No. 1M790.** Alnor brand (AXD 550) Shpg. wt. 1.0 lbs. Each ..... $745.00

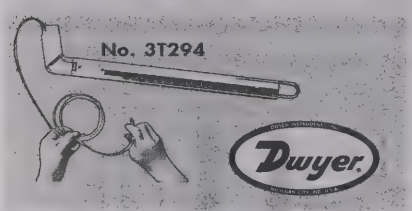
**Micromanometer Test Kit includes:** No. 1M790 micromanometer, No. 1M774 microprinter, 18" pitot probe, two 8 ft. hoses, 100 piece duct plug kit (No. 4KF73), three AA batteries, and carrying case.

**No. 4KF75.** Alnor brand (AXD 552). Shpg. wt. 5.0 lbs. Each ..... $1255.00

## ALNOR No. 4KF73 DUCT PLUG KIT

**100 Piece Sample Kit** includes 20 each o 1/4", 3/8", 1/2", 9/16", and 3/4" tapered duc plugs. Additional duct plugs available a Grainger Parts Operation.

**No. 4KF73.** Alnor brand (593-000-000). Shpg. wt. 1.0 lbs. Each ..... $9.00




## DUAL RANGE FLEX-TUBE, U-INCLINED MANOMETER

- Determines velocity and static pressures for leakage, fan/blower tests, calibrating control devices, and other applications
- As U-tube it reads from 0 to 16" of water; as inclined gage it reads from –0.20 to 0 to 2.6" of water
- Markings 1" major, 0.2" minor
- graduations on high range; 0.02" graduations on low range
- Two magnetic clips to hold instrumen to metal surfaces
- Includes 4½' x 3/8" tygon tube for pressure source connection; 3/4 oz. red gage oil, and vinyl carrying case

**No. 3T294.** ❸ Dwyer brand (1227). Shpg. wt. 2. lbs. Each ..... $42.15

## WIND SPEED INDICATOR

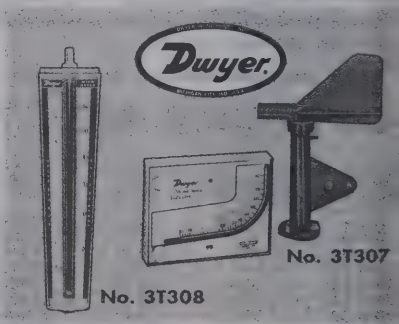
- Reads wind velocity range of 0 to 80 MPH directly on liquid filled tube; calibrated in both miles per hour and Beaufort scales
- Includes 50 ft. of vinyl tubing and rooftop mounted pick-up
- Constructed of white plastic with gold color scale 7⅜ x 5⅞"

**No. 3T307.** ❸ Dwyer brand.. Shpg. wt. 3.0 lbs. Each ..... $63.55

## HAND HELD WIND METER

- Ideal for outdoorsmen, farmers, or yachtsmen—reads wind velocity directly in miles per hour
- Two scales: 2-10 and 4-66 MPH
- White ball in tube indicates wind speed
- Plastic construction; carrying case included

**No. 3T308.** Dwyer brand. Shpg. wt. 0.2 lbs. Each ..... $18.38




❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# DIGITAL MANOMETERS AND PORTABLE MICROMANOMETER

## HAND-HELD DIGITAL MANOMETER KIT

**Measures positive, negative, or differential air pressure**
**Ideal for field calibration, monitoring, or trouble shooting HVAC systems, clean rooms, or low pressure pneumatic systems**
**Measures non-corrosive, non-toxic gases**
**1/2" LCD display with low battery indication**
**Provides air velocity measurement when used with a pitot tube**
**Dual size pressure connectors fit 1/8" or 3/16" I.D. vinyl or rubber tubing**
**User selectable ranges of 0-19.99" WC or 0-4.97 KPa**
**±0.5% full scale accuracy**
**Maximum pressure, 11 PSI or 75 KPa; ambient operating temperature, 32-122°F**
**Kit includes: 4JZ78, two 1W401 static pressure tips, two 9-ft. lengths 3/16" I.D. rubber tubing, No. 166-6 CF pitot tube, A-397 step drill, A-532 air velocity slide chart, and instruction bulletin. Packed in tough molded plastic carrying case with foam liner. 9V alkaline battery**

**No. 6T604.** Dwyer brand (475-1AV). Shpg. wt. 3.5 lbs. Each.....$360.25

## HAND HELD DIGITAL MANOMETERS

**Similar to 6T604 above, but kit is not included**
**Basic meter has the same features as meter No. 6T604, but different ranges**
**No. 4JZ78 range 0-19.99 water column or 0-4.97 KPa; maximum pressure 11 PSI (75 KPa)**
**No. 1W435 range 0-40.0" water column or 0-9.95 KPa; maximum pressure 11 PSI (75 KPa)**
**No. 1W433 range 0-199.9" water column or 49.7 KPa; maximum pressure 11 PSI (75 KPa)**
**No. 4JZ79 range 0-100 PSI or 0-6.89 bar; maximum pressure 150 PSI (10 bar)**
**Accuracy (typ.): ± 0.5% full scale**

**No. 4JZ78.** Dwyer brand (475-1). Shpg. wt. 1.2 lbs.Each.....$209.50
**No. 1W435.** Dwyer brand (475-2). Shpg. wt. 0.7 lbs. Each.....$209.50
**No. 1W433.** Dwyer brand (475-3). Shpg. wt. 0.7 lbs. Each.....$209.50
**No. 4JZ79.** Dwyer brand (475-7). Shpg. wt. 1.2 lbs. Each.....$209.50

## HAND HELD DIGITAL MANOMETERS

**Measure noncorrosive, non-toxic gases**
**Measure positive, negative, or differential pressures**
**Used for laboratory testing, field calibration, and HVAC systems**
**Dual size pressure connectors fit 1/8" or 3/16" ID vinyl or rubber tubing**
**Instant selection from up to nine English/Metric units**
**Store 20 readings in memory for later reference**
**Large, easy-to-read 0.4" LCD display includes switchable backlight for great visibility**
**Both audible and visual overpressure alarms**

| Operating Range (English) Inches W.C. | Operating Range (Metric) KPA | Maximum Pressure PSI (bar) | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0-20 | 0-5 | 11 (0.75) | 477-1 | 4JZ80 | $275.50 | 1.2 |
| 0-40 | 0-10 | 11 (0.75) | 477-2 | 4JZ81 | 275.50 | 2.4 |
| 0-200 | 0-50 | 29 (1.99) | 477-3 | 4JZ82 | 275.50 | 2.4 |
| 0-10 PSI | 0-70 | 58 (3.99) | 477-4 | 4JZ83 | 275.50 | 1.0 |
| 0-30 PSI | 0-200 | 58 (3.99) | 477-5 | 4JZ84 | 275.50 | 1.0 |

## ACCESSORIES

Gray nylon pouch for Nos. 1W435, 1W433, 4JZ78 through 4JZ79.
**No. 1W393.** Dwyer brand (A402). Shpg. wt. 0.8 lbs. Each.....$20.59




## PORTABLE MICROMANOMETER AND TEST KIT

- **Pressure Range: 0-19.99 in. $H_2O$**
- **Resolution: 0.01 in. $H_2O$**
- **Operating Temperature: 14 to 122°F**
- **Dimensions: 7.9 x 3.2 x 1.3"**
- **One 9V battery provides 100 hours of continuous use**
- **Accuracy: ±2.5% of indicated reading**
- **2 Year warranty**
- **Includes protective pouch and manual.**

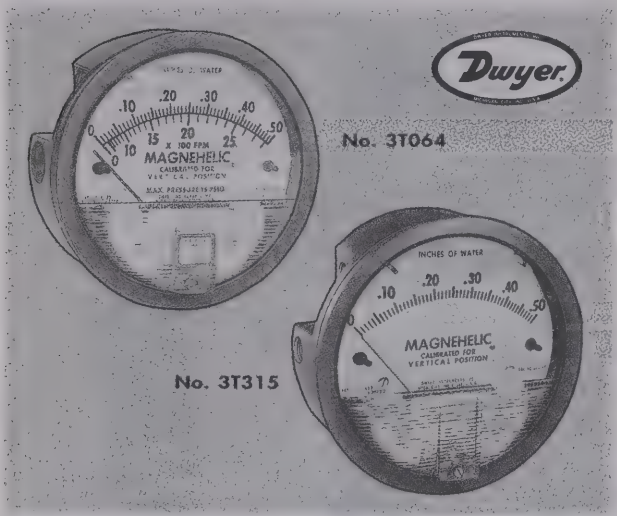
**No. 4KF74.** Alnor brand (AXD 510). Shpg. wt. 1.0 lbs. Each.....$275.00

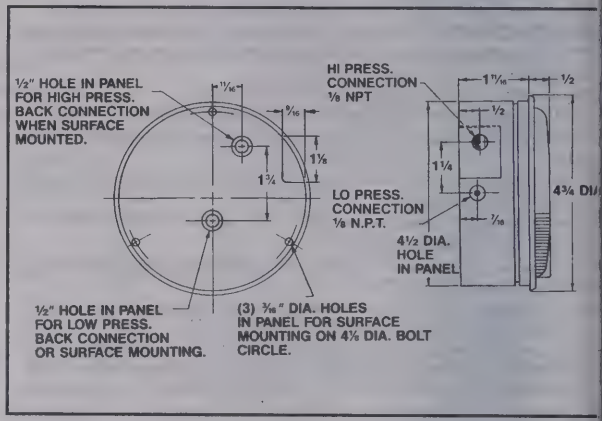
**Portable Micromanometer Test Kit includes:** No. 4KF74 micromanometer, 18" pitot probe, two static pressure tubes, 8 ft. rubber hose, 100 piece duct plug kit (No. 4KF73) and carrying case.

**No. 4KF87.** Alnor brand (AXD 512).Shpg. wt. 5.0 lbs. Each.....$358.00

# DIFFERENTIAL PRESSURE GAGES

## MAGNEHELIC® GAGES




- Typical applications: measures fan and blower pressures, filter resistance, air velocity, furnace draft, pressure drop across orifice plates, liquid levels with bubbler systems, fluid amplifier/fluidic system pressure
- 4" dials indicate low air or gas pressure—positive, negative (vacuum) or differential
- Dual scale models calibrated in inches water column and feet per minute for air velocity measurements using a pitot tube, see Index
- Pressure scale models calibrated in inches water column or PSI
- Rated total pressure:
  - 20" Hg to 15 PSIG, Nos. 3T314-3T323, 2T644, 2T646, 3T064, 3T295, 1W473-1W489
  - 20" Hg to 35 PSIG, Nos. 3T324, 3T325
  - 20" Hg to 80 PSIG, No. 3T326
- ±2% full scale accuracy
- High resistance to shock and vibration
- Side and rear pressure connections
- Includes instructions, two 1/8" NPT plugs, two 1/8" NPT to 3/16" I.D. rubber tubing adapters, and three mounting adapters with screws

### PRESSURE AND AIR VELOCITY SCALE MODELS

| Pressure Range (In. W.C.) | Minor Div. Pressure Range Only | Velocity Range F.P.M. | Dwyer Model | Stock No. | Each | Shp Wt |
|---|---|---|---|---|---|---|
| 0-0.25 | 0.005 | 300-2000 | 2000-00AV | 3T295 | $56.40 | 1.5 |
| 0-0.5 | 0.01 | 500-2800 | 2000-0AV | 3T064 | 51.35 | 1.8 |
| 0-1 | 0.02 | 500-4000 | 2001-AV | 2T644 | 51.35 | 1.8 |
| 0-2 | 0.05 | 1000-5600 | 2002-AV | 2T645 | 51.35 | 1.8 |
| 0-10 | 0.20 | 2000-12,500 | 2010-AV | 2T646 | 51.35 | 1.8 |

### PRESSURE SCALE MODELS

| Pressure Range (In. W.C.) | Minor Div. | Dwyer Model | Stock No. | Each | Shp Wt |
|---|---|---|---|---|---|
| 0-0.25 | 0.005 | 2000-00 | 3T314 | $56.40 | 1.8 |
| 0-0.50 | 0.01 | 2000-0 | 3T315 | 51.35 | 1.5 |
| 0-1.0 | 0.02 | 2001 | 3T316 | 51.35 | 1.5 |
| 0-2.0 | 0.05 | 2002 | 3T317 | 51.35 | 1.8 |
| 0-3.0 | 0.10 | 2003 | 1W489 | 51.35 | 1.5 |
| 0-4.0 | 0.10 | 2004 | 1W487 | 51.35 | 1.9 |
| 0-5.0 | 0.10 | 2005 | 3T318 | 51.35 | 1.8 |
| 0-6.0 | 0.20 | 2006 | 1W485 | 51.35 | 1.9 |
| 0-8.0 | 0.20 | 2008 | 1W483 | 51.35 | 1.9 |
| 0-10 | 0.20 | 2010 | 3T319 | 51.35 | 1.5 |
| 0-15.0 | 0.50 | 2015 | 1W481 | 51.35 | 1.9 |
| 0-20.0 | 0.50 | 2020 | 1W479 | 51.35 | 1.9 |
| 0-25 | 0.50 | 2025 | 3T320 | 51.35 | 1.5 |
| 0-30.0 | 1.00 | 2030 | 1W477 | 51.35 | 1.9 |
| 0-40.0 | 1.00 | 2040 | 1W475 | 51.35 | 1.9 |
| 0-50.0 | 1.00 | 2050 | 3T321 | 51.35 | 1.5 |
| 0-60.0 | 2.00 | 2060 | 1W473 | 51.35 | 1.9 |
| 0-100 | 2.00 | 2100 | 3T322 | 51.35 | 1.5 |
| 0.25-0-0.25 | 0.01 | 2300-0 | 1W471 | 56.40 | 1.9 |
| 1.0-0-1.0 | 0.05 | 2302 | 1W469 | 56.40 | 1.9 |
| 5.0-0-5.0 | 0.20 | 2310 | 1W467 | 56.40 | 1.9 |
| 15.0-0-15.0 | 1.00 | 2330 | 1W465 | 56.40 | 1.9 |
| 0-5 PSI | 0.10 | 2205 | 3T323 | 51.35 | 1.5 |
| 0-10 | 0.20 | 2210 | 3T324 | 84.20 | 1.0 |
| 0-15 | 0.50 | 2215 | 3T325 | 84.20 | 1.5 |
| 0-30 | 1.00 | 2230 | 3T326 | 107.80 | 1.5 |

DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact you local branch for more information.

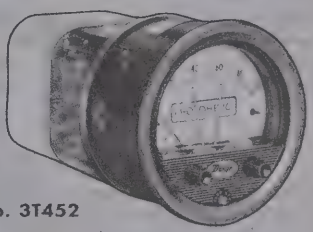
# PHOTOHELIC® PRESSURE SWITCH/GAGES

Typical applications: control pressures in air conditioning systems, clean rooms, fluidic and pneumatic control systems, material handling equipment; alarm or control fume exhaust systems; control pressure in air structures; used for low pressure air reading and control

2 phototransistor circuits and 2 DPDT relays permit both high and low alarms or limit controls

Relays are de-energized when gage pointer is to the left of respective set points

- Provides fail safe protection in the event of a loss of electrical power or pressure
- Rated total pressure:
  –20" Hg to 25 PSIG, Nos. 3T450 & 3T459, 1W449-1W463
  –20" Hg to 35 PSIG, Nos. 3T460 & 3T461
  –20" Hg to 80 PSIG, No. 3T462
- ±2% full scale accuracy
- Gage connections 1/8" NPT
- Power required 110V, 50/60 Hz
- Electrical rating of relays 10 amps @ 110/240V AC; resistive



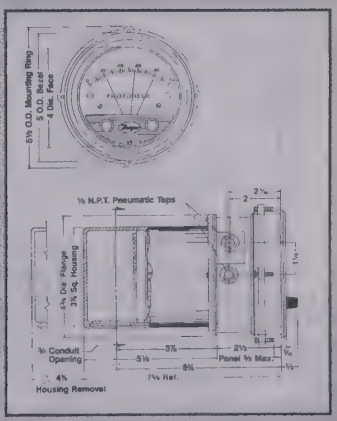
No. 3T452

## PRESSURE AND AIR VELOCITY SCALE MODELS

| Pressure Range (In. W.C.) | Minor Divisions Pressure Range Only | Velocity Range FPM | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0-0.25 | 0.005 | 300-2000 | 3000-00AV | 1W463 | $242.00 | 4.5 |
| 0-0.5 | 0.01 | 500-2800 | 3000-0AV | 1W461 | 231.00 | 4.5 |
| 0-1.0 | 0.02 | 500-4000 | 3001AV | 1W459 | 231.00 | 4.5 |
| 0-2.0 | 0.05 | 1000-5600 | 3002AV | 1W457 | 231.00 | 4.5 |
| 0-10.0 | 0.02 | 2000-12500 | 3010AV | 1W453 | 231.00 | 4.5 |

## PRESSURE SCALE MODELS

| Pressure Range (In. W.C.) | Minor Div. | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0-0.25 | 0.005 | 3000-00 | 3T450 | $206.50 | 5.0 |
| 0-0.50 | 0.01 | 3000-0 | 3T451 | 197.25 | 5.0 |
| 0-1.0 | 0.02 | 3001 | 3T452 | 197.25 | 5.0 |
| 0-2.0 | 0.05 | 3002 | 3T453 | 197.25 | 6.0 |
| 0-3.0 | 0.1 | 3003 | 1W455 | 197.25 | 4.5 |
| 0-5.0 | 0.10 | 3005 | 3T454 | 197.25 | 5.0 |
| 0-10 | 0.20 | 3010 | 3T455 | 197.25 | 4.1 |
| 0-25 | 0.50 | 3025 | 3T456 | 197.25 | 5.0 |
| 0-50 | 1.0 | 3050 | 3T457 | 197.25 | 5.0 |
| 0-100 | 2.0 | 3100 | 3T458 | 197.25 | 5.0 |
| 0.25-0-0.25 | 0.01 | 3300-0 | 1W451 | 200.25 | 4.5 |
| 0.50-0-0.50 | 0.02 | 3301 | 1W449 | 200.25 | 4.5 |
| 0-5 PSI | 0.10 | 3205 | 3T459 | 197.25 | 5.0 |
| 0-10 | 0.20 | 3210 | 3T460 | 197.25 | 5.0 |
| 0-15 | 0.50 | 3215 | 3T461 | 197.25 | 5.0 |
| 0-30 | 1.0 | 3230 | 3T462 | 254.75 | 4.1 |




# MAGNEHELIC® INDICATING TRANSMITTERS

Typical applications: ideal for control applications in building HVAC systems where local indication is desired during routine maintenance checks or necessary when troubleshooting the system; provides visual monitoring and electronic control of very low differential pressure

Current consumption: 38mA DC (maximum)

Power supply: 12 to 35V DC

- Output signal: 4 to 20mA, 2-wire
- Loop resistance: 0-1170 ohms from 12 to 35V DC
- Accuracy: ±2% of full span output
- Pressure connections 1/8" NPT female high and low pressure taps
- Includes span and zero adjust tool, mounting hardware kit




No. 3T311

## SPECIFICATIONS AND ORDERING DATA

| Pressure Range (In. W.C.) | Minor Divisions | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0-0.5 | 0.01 | 605-0 | 1W423 | $169.50 | 2.6 |
| 0-1.0 | 0.02 | 605-1 | 3T311 | 169.50 | 2.5 |
| 0-2.0 | 0.05 | 605-2 | 1W419 | 169.50 | 2.6 |
| 0-3.0 | 0.01 | 605-3 | 3T312 | 169.50 | 1.8 |
| 0-10.0 | 0.20 | 605-10 | 3T313 | 169.50 | 1.8 |
| 0.05-0-2 | 0.005 | 605-00N | 1W421 | 189.50 | 2.6 |

# DWYER ACCESSORIES

## MAGNEHELIC® PORTABLE KIT

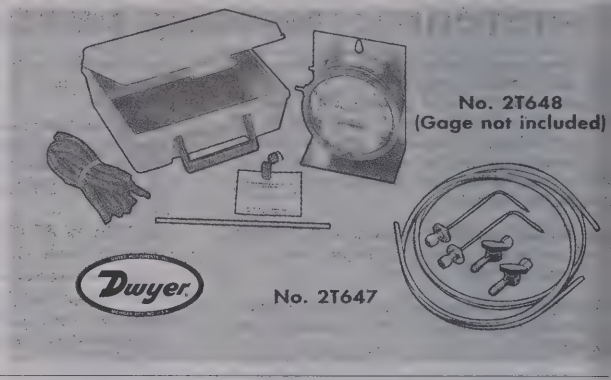
- **Adapts Magnehelic® gage for portable use**
- **Includes carrying case, 9 ft. of 3/16" I.D. rubber tubing, terminal (sensing) tube with holder, and stand hang bracket**

**No. 2T648.** Dwyer brand (A-432). Shpg. wt. 1.4 lbs. Each .....$20.43

## AIR FILTER KIT

- **Adapts Magnehelic gage to an air filter gage**
- **Eliminates guess work of filter replacement when installed across filter bank**
- **Reduces maintenance expense, increases HVAC system operating efficiency**
- **Includes surface mounting bracket, screws, two molded plastic vent valves, integral compression fittings on tips and valves, two 5 ft. lengths of 1/4" I.D. aluminum tubing**

**No. 2T647.** Dwyer brand (A-605). Shpg. wt. 1.0 lbs. Each .....$20.43




## PITOT TUBES

Universally used to check air velocities and static pressures. Companion device for manometers and magnehelic gages. Includes air velocity calculator and direct reading velocity charts. Tube connections, 1/4".

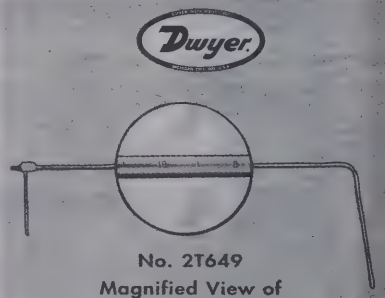
**STANDARD 5/16" DIAMETER MODELS:**

- **For ducts 10" and larger in diameter**
- **Inch graduations show insertion depth**
- **Maximum media temperature, 1500°F**
- **Comply with AMCA and ASHRAE specifications**
- **Test-confirmed unity co-efficients**

**POCKET-SIZE 1/8" DIAMETER MODELS:**

- **For ducts 4" and larger in diameter**
- **Geometrically scaled down per AMCA code**
- **Unity co-efficient design**
- **Withstands flexing without damage**
- **Resists temperatures up to 800°F**

| Insertion Length (In.) | Tube Diameter (In.) | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **8** | 5/16 | 160-8 | **3T086** | **$35.45** | 0.5 |
| **12** | 5/16 | 160-12 | **2T649** | **36.55** | 0.4 |
| **18** | 5/16 | 160-18 | **3T087** | **38.60** | 0.5 |
| **24** | 5/16 | 160-24 | **3T088** | **40.65** | 0.5 |
| **36** | 5/16 | 160-36 | **3T089** | **46.70** | 3.0 |
| **48** | 5/16 | 160-48 | **3T090** | **47.95** | 2.0 |
| **6** | 1/8 | 167-6 | **3T309** | **36.55** | 0.2 |
| **12** | 1/8 | 167-12 | **3T310** | **37.60** | 0.2 |







## PITOT TUBE ACCESSORIES AND STATIC PRESSURE FITTINGS

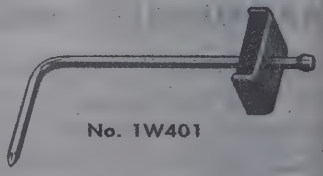
**Split Flange Assembly.** Includes gasket for mounting 5/16" pitot tubes on ducts.
**No. 1W405.** Dwyer brand (A-158). Shpg. wt. 0.5 lbs. Each .....$6.04

**Mounting Gland.** Stainless steel fitting with graphite bushing for 5/16" pitot tubes made after Dec. 1990. Includes washers and jam nut for duct mounting or install in 1/2" NPT flange.
**No. 1W403.** Dwyer brand (A-159). Shpg. wt. 0.5 lbs. Each .....$14.26

**Portable Static Pressure Tip.** Used for 3/16" I.D. rubber or plastic tubing on Dwyer manometers or Magnehelic® gages
**No. 1W401.** Dwyer brand (A-303). Shpg. wt. 0.1 lbs. Each .....$7.00

**Static Pressure Fitting.** Used for 1/4" metal tubing connection.
**No. 1W399.** Dwyer brand (A-307). Shpg. wt. 0.5 lbs. Each .....$2.15

**Static Pressure Fitting.** Used for 3/16" and 1/8" I.D. plastic or rubber tubing.
**No. 1W397.** Dwyer brand (A-308). Shpg. wt. 0.1 lbs. Each .....$2.06



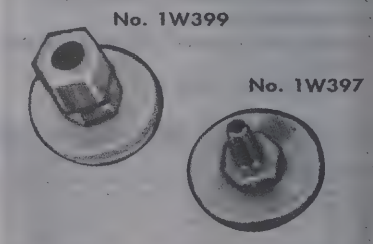

## MANOMETER REPLACEMENT GAGE OIL

**Gage Fluid 0.826 S.G.** Red Gage oil used for Dwyer inclined and U-Tube manometers. 4 oz. bottle.
**No. 1TC00.** ❸ Dwyer brand (A-102). Shpg. wt. 0.2 lbs. Each .....$5.56

**Gage Fluid 1.0 S.G.** Violet gage oil for Dwyer manometers. 3/4 oz. bottle.
**No. 1W411.** ❸ Dwyer brand (A-120). Shpg. wt. 0.8 lbs. Each .....$14.26

**Gage Fluid 1.910 S.G.** Blue gage oil for Dwyer manometers. 3/4 oz bottle.
**No. 1W413.** ❸ Dwyer brand (A-110). Shpg. wt. 0.8 lbs. Each .....$23.60

**Water Coloring Agent.** Flourescein green concentrate for Dwyer manometers. Contains wetting agent to improve meniscus characteristics. Add to 1 qt. water. 3/4 oz. bottle.
**No. 1W409.** ❸ Dwyer brand. (A-126). Shpg. wt. 0.8 lbs. Each .....$3.59




❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## AIR VELOCITY TRANSMITTER

**Permanent mount**
**4 field selectable ranges from 0-200 to 0-1200 FPM**
**Linear, 4-20mA output signal at ±2% accuracy**
**Rugged steel NEMA 13 housing with 12" stainless steel probe on 6 ft. connecting cable**
**Power Supply: 18-24V AC, 22-28V DC**
**Loop resistance from 0-300 ohms with 250mA maximum current consumption**
**Temperature Ranges**
**Dry Air Stream: 0° to 200°F**
**Operating: –32° to 160°F**
**Storage: 0° to 200°F**

**No. 1W417.** Dwyer brand (640 AVT). Shpg. wt. 4.5 lbs. Each..... $400.50

### PROBE EXTENSION ADAPTER

**Optional fitting allows mounting in probe in 1/2" pipe, up to 5 ft.**

**No. 1W395.** Dwyer brand (A-398). Shpg. wt. 0.5 lbs. Each..... $9.13

## PRESSURE SWITCHES

**Ideal for replacing air flow switches in residential and commercial high efficiency furnaces**

**Adjustable set-points provide field flexibility**

**UL Listed and CSA Certified**

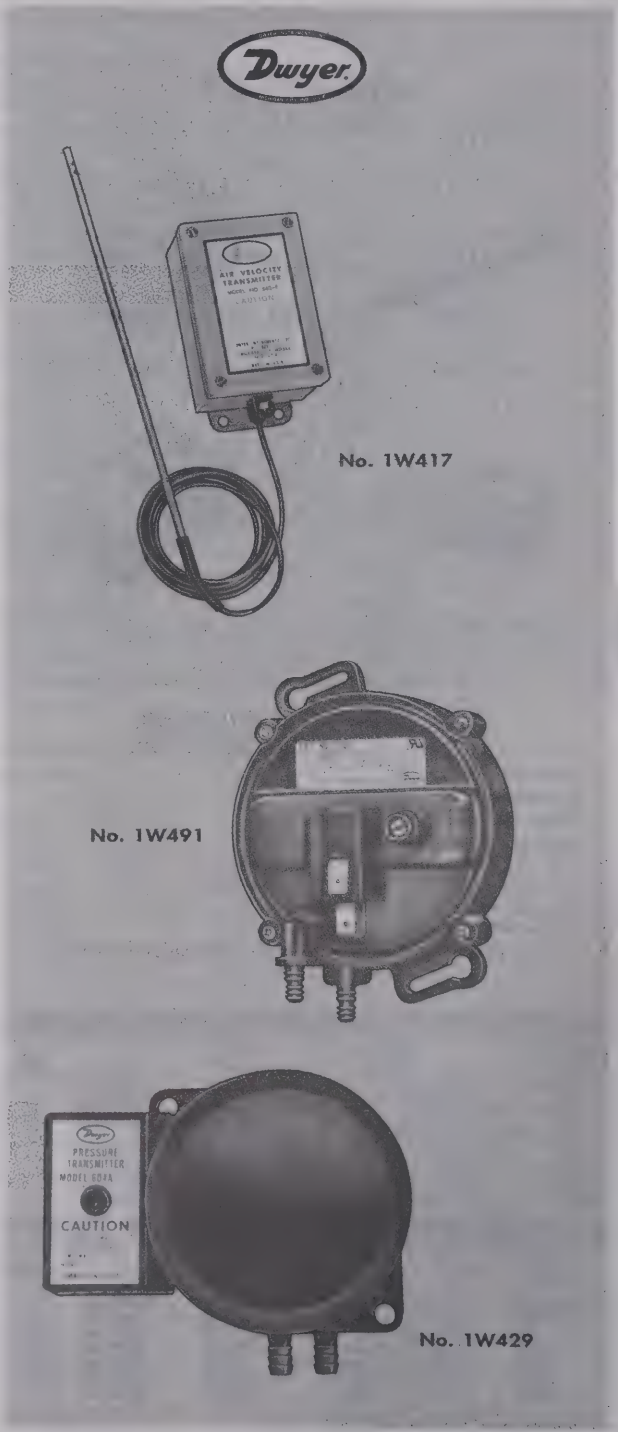
**Max. temperature limit of 190°F; max. static pressure rating of 2 PSI**
**Dual size pressure connections for 1/8" and 3/16" I.D. vinyl or rubber tubing**
**Electrical Rating: 5 amps, 125, 250, 277V AC, 1/10 HP 250V AC, 150 VA**
**Max. diameter 4 11/16" (including mounting slots)**

| Pressure Range (In.) | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0.15 to 0.5 | 1710-0 | 1W493 | $25.20 | 0.4 |
| 0.5 to 7.5 | 1710-5 | 1W491 | 25.20 | 0.4 |

## 604 SERIES TRANSMITTERS

**Non-indicating differential air pressure transmitters**
**4-20mA signal; 2, 3, or 4-wire operation**
**Accuracy: ±2% of full scale**
**Operating Temp.: 20° to 120°F**
**Thermal Errors: ±1%, 50°F typical**
**Power Supply: 13-35V DC, 2, 3, or 4-wire; 18-26V AC, 4-wire**
**4 screw terminal block connections**
**Output Signal: 4-20mA DC (limited at 38mA DC)**
**Loop Resistance: DC, 0-1100 ohms; AC, 0-1130 Ohms**
**Max. pressure: 50 PSIG surge, 30 PSIG continuous to either pressure connection**
**Media Compatibility: Air and non-combustible, non-corrosive gases**
**Includes 2 mounting screws, #10 x 1" long pan head sheet metal screws**

| Pressure Range (In.) | Dwyer Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0 to 0.5 | 604A-0 | 1W429 | $129.30 | 0.5 |
| 0 to 2.0 | 604A-1 | 1W427 | 129.30 | 0.5 |
| 0 to 10.0 | 604A-2 | 1W425 | 129.30 | 0.5 |



# TRANSDUCERS/TRANSMITTERS




## STAINLESS STEEL PRESSURE TRANSDUCER/TRANSMITTER

- Ashcroft brand
- All stainless steel construction
- NEMA 4X enclosure
- Accuracy (typ.): ±1% full scale
- 1/4" NPT male process connection
- 36" wire leads for electrical connection
- Superior long term stability
- –20/+180°F operating temperature
- For any process media compatible with stainless steel

**4 to 20mA OUTPUT 10 to 36V DC POWER SUPPLY REQUIRED**

| Pressure Range PSI | Ashcroft Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 15 | K17M0242C1 15# | 2F257 | $277.00 | 0.5 |
| 30 | K17M0242C1 30# | 2F247 | 277.00 | 0.5 |
| 60 | K17M0242C1 60# | 2F253 | 267.00 | 0.5 |
| 100 | K17M0242C1 100# | 2F243 | 267.00 | 0.5 |
| 300 | K17M0242C1 300# | 2F249 | 267.00 | 0.5 |
| 1000 | K17M0242C1 1000# | 2F245 | 267.00 | 0.5 |
| 3000 | K17M0242C1 3000# | 2F251 | 267.00 | 0.5 |
| 5000 | K17M0242C1 5000# | 2F255 | 267.00 | 0.5 |

**1 to 5V DC OUTPUT 10 to 36V DC POWER SUPPLY REQUIRED**

| Pressure Range PSI | Ashcroft Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| VAC/100* | K17MO215C1 VAC&100# | 2F239 | $267.00 | 1.0 |
| VAC/300* | K17MO215C1 VAC&300# | 2F241 | 267.00 | 1.0 |
| 60 | K17MO215C1 60# | 2F235 | 267.00 | 1.0 |
| 100 | K17MO215C1 100# | 2F229 | 267.00 | 1.0 |
| 300 | K17MO215C1 300# | 2F231 | 267.00 | 1.0 |
| 3000 | K17MO215C1 3000# | 2F233 | 267.00 | 1.0 |
| 5000 | K17MO215C1 5000# | 2F237 | 267.00 | 1.0 |

(*) Compound range, 30" HgVAC and pressure.

## INDUSTRIAL LOW & DIFFERENTIAL PRESSURE TRANSMITTER

- Ashcroft brand
- Stainless steel NEMA 4X enclosure
- FM approved for intrinsic safe applications
- 4-20mA output signal
- 12 to 36V DC power supply is required
- Accuracy (typ.): 0.5% full scale
- Two 1/4" female NPT process connection
- Can be used only on clean, dry and non-corrosive gases. Not to be used on liquids
- Internal zero and span adjustable ±10% FS
- High over pressure protection

| Pressure Range (In.) | Ashcroft Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0.1 $H_2O$ | IX5F0242STP1IW | 2F213 | $515.00 | 1.0 |
| 0.5 $H_2O$ | IX5F0242STP5IW | 2F215 | 455.00 | 1.0 |
| 1.0 $H_2O$ | IX5F0242ST1IW | 2F217 | 440.00 | 1.0 |
| 2.5 $H_2O$ | IX5F0242ST2P5IW | 2F221 | 440.00 | 1.0 |
| 5 $H_2O$ | IX5F0242ST5IW | 2F225 | 440.00 | 1.0 |
| 10 $H_2O$ | IX5F0242ST10IW | 2F219 | 440.00 | 1.0 |
| 25 $H_2O$ | IX5F0242ST25IW | 2F223 | 440.00 | 1.0 |
| 50 $H_2O$ | IX5F0242ST50IW | 2F227 | 440.00 | 1.0 |

## ULTRA-LOW & DIFFERENTIAL PRESSURE TRANSMITTER

- Ashcroft brand
- NEMA 2 black steel enclosure
- 4-20mA output signal
- 12 to 36V DC power supply is required
- Exposed easy access terminal strip wiring
- Two hose barb pressure connections
- Accuracy (typ.): 0.5% full scale
- High over pressure protection
- Can be used only on clean, dry and non-corrosive gases Not to be used on liquids

| Pressure Range (In.) | Ashcroft Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0.1 $H_2O$ | XL5MB242STP1IW | 2F269 | $375.00 | 0.5 |
| ±0.1 $H_2O$ | XL5MB242STP1IWL | 2F277 | 340.00 | 0.5 |
| 0.25 $H_2O$ | XL5MB242STP25IW | 2F271 | 340.00 | 0.5 |
| ±0.25 $H_2O$ | XL5MB242STP25IWL | 2F279 | 315.00 | 0.5 |
| 0.5 $H_2O$ | XL5MB242STP5IW | 2F273 | 315.00 | 0.5 |
| 1.0 $H_2O$ | XL5MB242ST1IW | 2F275 | 300.00 | 0.5 |

## REDUCED SIZE ULTRA-LOW & DIFFERENTIAL PRESSURE TRANSMITTER

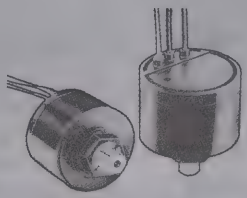
- Ashcroft brand
- NEMA 1 black steel enclosure
- 4-20mA output signal
- 12 to 36V DC power supply is required
- Small size can easily fit in a standard electrical workbox
- Accuracy (typ.): 1% full scale
- Two hose barb pressure connections
- High over pressure protection
- Exposed easy access terminal strip wiring
- Can be used only on clean, dry and non-corrosive gases Not to be used on liquids

| Pressure Range (In.) | Ashcroft Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0.1 $H_2O$ | RX7MB242STP1IW | 2F259 | $253.00 | 0.2 |
| 0.25 $H_2O$ | RX7MB242STP25IW | 2F261 | 238.00 | 0.2 |
| 0.5 $H_2O$ | RX7MB242STP5IW | 2F263 | 218.00 | 0.2 |
| 1.0 $H_2O$ | RX7MB242ST1IW | 2F265 | 218.00 | 0.2 |
| 2.5 $H_2O$ | RX7MB242ST2P5IW | 2F267 | 218.00 | 0.2 |

## INDUSTRIAL TRANSDUCERS

- Ruggedly designed for demanding applications in pumps, compressors, and hydraulic systems
- Shock and vibration resistant
- 1-5V DC output voltage
- Reliable bourdon/LVDT technology
- Weather/corrosion-resistant design with wetted parts
- Infinite resolution output, stable/repeatable output
- RFI resistant, microprocessor compatible
- 9-28V DC for voltage output units
- 15mA maximum supply current
- –40° to 85°C ambient operating temperature range
- 2000 ohms minimum load impedance
- Standard-beryllium copper brazed-to-brass connection bourdon tube
- 1/8-27 ANPT standard pressure connection
- Molded Ultem™ 2300 housing
- Standard 7½" long, 18GA leads electrical connection
- ±2% of span @ 25°C performance accuracy (includes linearity, hysteresis, and repeatability)
- 0.033%/°C typical on zero and span temperature effects (when operated within ambient operating range)

AMETEK



No. 1X738

### SPECIFICATIONS AND ORDERING DATA

| PSI Range | Gauge Type | AMETEK Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0 to 30 | Pressure Transducer | P207 | 1X738 | $99.00 | 0.2 |
| 0 to 100 | Pressure Transducer | P207 | 1X740 | 99.00 | 0.2 |
| 0 to 200 | Pressure Transducer | P207 | 1X742 | 99.00 | 0.2 |
| 0 to 300 | Pressure Transducer | P207 | 1X744 | 99.00 | 0.2 |

## FIXED RANGE PRESSURE TRANSMITTER

- All welded 316 stainless steel construction and wetted parts for stability in tough environmental and media conditions (no aluminum)
- Miniature fixed range transmitter, economically priced
- Accuracy (typ.): ±0.3%
- 4-20mA output @ 12-30V DC
- 3/4" NPT Female conduit connection cable and 1/2" NPT Female port connection
- Includes 24" standard cable
- Liquid, gas or vapor service



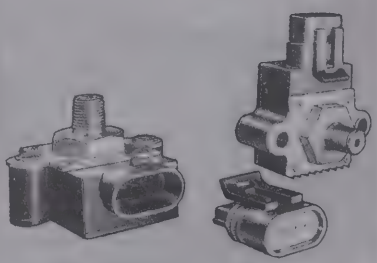
No. 1X815

### SPECIFICATIONS AND ORDERING DATA

| PSI Range | Gauge Type | AMETEK Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0 to 30 | Pressure Transmitter | 831TG0030LS | 1X815 | $295.00 | 0.8 |
| 0 to 100 | Pressure Transmitter | 831TG0100LS | 1X817 | 295.00 | 0.8 |
| 0 to 300 | Pressure Transmitter | 831TG0300LS | 1X819 | 295.00 | 0.8 |
| 0 to 1000 | Pressure Transmitter | 831TG1000LS | 1X821 | 295.00 | 0.8 |
| 0 to 3000 | Pressure Transmitter | 831TG3000LS | 1X823 | 295.00 | 0.8 |

## ISOLATED, AMPLIFIED OUTPUT PRESSURE TRANSDUCER

- General purpose industrial pressure transducer
- Media compatible with all 316 stainless steel wetted parts
- 5X burst pressure rating
- Accuracy (typ.): 0.25%
- Temperature compensated
- Rugged Ultem™ housing provides corrosion resistance
- Stable, solid state/industrial grade
- Amplified output (1-6V DC standard)
- Automotive-style packard connector



No. 1X873

### SPECIFICATIONS AND ORDERING DATA

| PSI Range | Gauge Type | AMETEK Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0 to 25 | Pressure Transducer | SPT0025E | 1X873 | $230.00 | 0.2 |
| 0 to 50 | Pressure Transducer | SPT0050E | 1X875 | 230.00 | 0.2 |
| 0 to 100 | Pressure Transducer | SPT0100E | 1X877 | 230.00 | 0.2 |
| 0 to 200 | Pressure Transducer | SPT0200E | 1X880 | 230.00 | 0.2 |
| 0 to 500 | Pressure Transducer | SPT0500E | 1X882 | 230.00 | 0.2 |
| 0 to 1000 | Pressure Transducer | SPT1000E | 1X884 | 230.00 | 0.2 |
| 0 to 3000 | Pressure Transducer | SPT3000E | 1X886 | 230.00 | 0.2 |

# PRESSURE AND VACUUM GAUGES

## 1½, 2, AND 2½" STANDARD PRESSURE AND VACUUM GAUGES

For Centrifugal Pumps, Air Compressors and Water Systems



No. 4X515
Back Connection

AMETEK



No. 4X512
Bottom Connection

- Phosphor bronze bourdon tube
- Brass socket
- Glass window on 2½"
- Plastic window on 1½ and 2"
- Galvalume Dial
- Aluminum pointer
- Painted steel case
- Ambient temperature 0° to 225°F

U.S. Gauge P-500K utility gauges provide economical, reliable service in a wide range of applications including pumps, compressors, and other equipment. Series P-500K utility gauges come in several ranges with accuracy of ±3-2-3%. Gauges are available in 1½", 2" and 2½" steel construction. General use with water, oil, air, and chemicals compatible with beryllium copper, phosphor bronze, and brass. Individually boxed. U.S. Gauge brand.

The P570K series is the same as P500K series except case is polypropylene with a cellulose acetate window. Available in back connection or lower connection.

| Range (PSI) | Smallest Graduation (PSI) | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2" DIAL, 1/4" NPT CENTER BACK CONNECTION** | | | | | | |
| **100** | 2 | P570K-100CBM | **4X515** | $10.50 | **$5.70** | 0.3 |
| **200** | 5 | P570K-200CBM | **4X516** | 12.50 | **5.70** | 0.3 |
| **300** | 5 | P570K-300CBM | **4X790** | 10.50 | **5.70** | 0.2 |

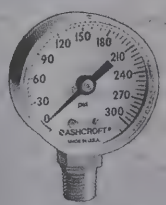
| Range PSI | Smallest Graduations (PSI) | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2" DIAL, 1/4" NPT LOWER CONNECTED** | | | | | | |
| **60** | 2 | P570K-60LM | **5X939** | $8.40 | **$4.10** | 0.3 |
| **100** | 2 | P570K-100LM | **4X512** | 8.90 | **4.10** | 0.2 |
| **200** | 5 | P570K-200LM | **4X513** | 8.40 | **4.10** | 0.2 |
| **300** | 5 | P570K-300LM | **4X514** | 8.45 | **4.10** | 0.2 |

| Range (PSI) | Smallest Graduations (PSI) | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1½" DIAL, 1/8" NPT CENTER BACK MOUNT** | | | | | | |
| **30** | 1 | P500K-30CBM | **1X796** | $18.00 | **$7.65** | 0.2 |
| **60** | 2 | P500K-60CBM | **1X798** | 18.00 | **7.65** | 0.2 |
| **100** | 2 | P500K-100CBM | **1X800** | 18.00 | **7.65** | 0.2 |
| **160** | 5 | P500K-160CBM | **1X802** | 18.00 | **7.65** | 0.2 |
| **200** | 5 | P500K-200CBM | **6X114** | 22.00 | **9.60** | 0.2 |
| **300** | 5 | P500K-300CBM | **1X804** | 18.00 | **7.65** | 0.2 |
| **600** | 20 | P500K-600CBM | **1X806** | 18.00 | **7.65** | 0.2 |
| **1½" DIAL, 1/8" NPT LOWER CONNECTED** | | | | | | |
| **30** | 1 | P500K-30LM | **1X782** | 15.50 | **5.50** | 0.2 |
| **60** | 2 | P500K-60LM | **1X784** | 15.50 | **5.50** | 0.2 |
| **100** | 2 | P500K-100LM | **1X786** | 15.50 | **5.50** | 0.2 |
| **160** | 5 | P500K-160LM | **1X788** | 15.50 | **5.50** | 0.2 |
| **200** | 5 | P500K-200LM | **1X790** | 15.50 | **5.50** | 0.2 |
| **300** | 5 | P500K-300LM | **1X792** | 15.50 | **5.50** | 0.2 |
| **600** | 20 | P500K-600LM | **1X794** | 15.50 | **5.50** | 0.2 |
| **2" DIAL, 1/4" NPT CENTER BACK CONNECTED** | | | | | | |
| **30** | 1 | P500K-30CBM | **1X758** | 16.00 | **6.00** | 0.3 |
| **60** | 2 | P500K-60CBM | **1X760** | 16.00 | **6.00** | 0.3 |
| **100** | 2 | P500K-100CBM | **2A147** | 11.27 | **6.00** | 0.4 |
| **160** | 5 | P500K-160CBM | **1X762** | 16.00 | **6.00** | 0.3 |
| **200** | 5 | P500K-200CBM | **2A148** | 11.27 | **6.00** | 0.4 |
| **300** | 5 | P500K-300CBM | **2A149** | 11.27 | **6.00** | 0.3 |
| **600** | 10 | P500K-600CBM | **1X764** | 16.00 | **6.00** | 0.3 |
| **1000** | 20 | P500K-1000CBM | **1X766** | 16.00 | **6.00** | 0.3 |
| **2" DIAL, 1/4" NPT LOWER CONNECTED** | | | | | | |
| **VAC*** | — | V500-30LM | **6X830** | 12.51 | **8.55** | 0.3 |
| **30** | 1 | P500K-30LM | **1X750** | 14.10 | **4.10** | 0.3 |
| **60** | 2 | P500K-60LM | **1X752** | 14.10 | **4.10** | 0.3 |
| **100** | 2 | P500K-100LM | **2A144** | 9.30 | **4.10** | 0.3 |
| **160** | 5 | P500K-160LM | **1X754** | 14.10 | **4.10** | 0.3 |
| **200** | 5 | P500K-200LM | **2A145** | 9.30 | **4.10** | 0.4 |
| **300** | 5 | P500K-300LM | **2A146** | 9.30 | **4.10** | 0.3 |
| **600** | 10 | P500K-600LM | **1X756** | 14.10 | **4.10** | 0.3 |
| **1000** | 20 | P500K-1000LM | **5X938** | 13.65 | **9.34** | 0.3 |
| **2" DIAL, 1/8" NPT CENTER BACK CONNECTED** | | | | | | |
| **VAC/30**** | — | V500-30CBM | **1A318** | 17.59 | **15.80** | 0.4 |
| **2½" DIAL, 1/4" NPT LOWER CONNECTED** | | | | | | |
| **30** | 1 | P505A-30LM | **1X768** | 15.50 | **5.50** | 0.4 |
| **60** | 2 | P505A-60LM | **1X770** | 15.50 | **5.50** | 0.4 |
| **100** | 2 | P505A-100LM | **1X772** | 16.00 | **5.50** | 0.4 |
| **160** | 5 | P505A-160LM | **1X774** | 15.50 | **5.50** | 0.4 |
| **200** | 5 | P505A-200LM | **1X776** | 15.50 | **5.50** | 0.4 |
| **300** | 5 | P505A-300LM | **1X778** | 15.50 | **5.50** | 0.4 |
| **600** | 10 | P505A-600LM | **1X780** | 15.50 | **5.50** | 0.4 |

(*) Measures vacuum 30"Hg to 0. Smallest graduations 1".
(**) Measures vacuum 30"Hg to 0 + pressure to 30PSI. Smallest graduations 2"/1PSI.

## 2½" AND 3½" STANDARD PRESSURE AND VACUUM GAUGES

ASHCROFT®



No. 2C508

- Ashcroft brand
- Durable ABS case
- 3-2-3% accuracy
- Patented spring suspended movement
- Polycarbonate full view window
- Bronze bourdon tube
- Brass socket

| Range (PSI) | Smallest Graduations (PSI) | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2½" DIAL, 1/4" NPT LOWER CONNECTION** | | | | | | |
| **VAC*** | — | 25W-1005PH | **2C537** | $19.25 | **$8.11** | 0.2 |
| **VAC/30**** | — | 25W-1005PH | **2C515** | 19.25 | **8.11** | 0.4 |
| **30** | 0.5 | 25W-1005PH | **2C506** | 18.25 | **7.66** | 0.4 |
| **60** | 1 | 25W-1005PH | **2C510** | 18.25 | **7.66** | 0.4 |
| **100** | 2 | 25W-1005PH | **2C500** | 18.25 | **7.66** | 0.4 |
| **200** | 5 | 25W-1005PH | **2C502** | 18.25 | **7.66** | 0.4 |
| **300** | 5 | 25W-1005PH | **2C508** | 18.25 | **7.66** | 0.4 |
| **600** | 10 | 25W-1005PH | **2C513** | 18.25 | **7.66** | 0.4 |

| Range (PSI) | Smallest Graduations (PSI) | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3½" DIAL, 1/4" NPT LOWER CONNECTION** | | | | | | |
| **VAC*** | — | 35W-1005PH | **2C786** | $27.25 | **$10.72** | 0.5 |
| **VAC/30**** | — | 35W-1005PH | **2C783** | 27.25 | **10.72** | 0.5 |
| **30** | 0.5 | 35W-1005PH | **2C772** | 26.25 | **10.34** | 0.5 |
| **60** | 1 | 35W-1005PH | **2C779** | 26.25 | **10.34** | 0.5 |
| **100** | 2 | 35W-1005PH | **2C768** | 26.25 | **10.34** | 0.5 |
| **200** | 5 | 35W-1005PH | **2C770** | 26.25 | **10.34** | 0.5 |
| **300** | 5 | 35W-1005PH | **2C774** | 26.25 | **10.34** | 0.5 |

(*) Measures vacuum 30"Hg to 0. Smallest graduations 0.5"
(**) Measures vacuum 30"Hg to 0 + pressure to 30PSI. Smallest graduations 1"/1PSI.



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

AMETEK



No. 1X571



No. 1X510

iel mount gauges can be flush mounted instrument panels, pressure test stands, am cleaners, sterilizers and many other es of equipment. Where a minimum of ice is available the 844 "U" clamp series desirable. All models utilize a unique e piece plastic threaded ring and win-w which can be removed, permitting in-iel pointer adjustment.

- Front flange is drawn steel case with three hole flange, black corrosion resistant paint
- U-clamp gauges are drawn steel case with studs, U-clamp and nuts, black corrosion resistant paint, furnished with two piece U-clamp and nuts, zinc plated
- Threaded, polycarbonate ring and window
- Aluminum, adjustable pointer with black finish
- Steel dial white background with black markings. Utilizes the "zero band" concept where the zero graduation and numeral are replaced with a band representing the total accuracy tolerance at zero
- 3-2-3% Accuracy
- Brass connection

## GENERAL PURPOSE PANEL MOUNT GAUGES

| Range (PSI) | Smallest Graduations (PSI) | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2" DIAL, 1/8" NPT CENTER BACK CONNECTED, FRONT FLANGE** | | | | | | |
| VAC* | — | V845FFK | 1X547 | $54.00 | $15.70 | 0.4 |
| 30 | 1 | P845FFK | 1X549 | 42.00 | 10.40 | 0.4 |
| 60 | 2 | P845FFK | 1X551 | 42.00 | 10.40 | 0.4 |
| 100 | 2 | P845FFK | 1X553 | 42.00 | 10.40 | 0.4 |
| 200 | 5 | P845FFK | 1X555 | 42.00 | 10.40 | 0.4 |
| 600 | 10 | P845FFK | 1X557 | 42.00 | 10.40 | 0.4 |
| **2½" DIAL, 1/8" NPT CENTER BACK CONNECTED, FRONT FLANGE** | | | | | | |
| 15 | 0.5 | P845FFK | 1X559 | 60.00 | 17.00 | 0.4 |
| 30 | 1 | P845FFK | 1X561 | 53.00 | 14.00 | 0.4 |
| 60 | 2 | P845FFK | 1X563 | 53.00 | 14.00 | 0.4 |
| 100 | 2 | P845FFK | 1X565 | 53.00 | 14.00 | 0.4 |
| 160 | 5 | P845FFK | 1X567 | 53.00 | 14.00 | 0.4 |
| 200 | 5 | P845FFK | 1X569 | 53.00 | 14.00 | 0.4 |
| 300 | 5 | P845FFK | 1X571 | 53.00 | 14.00 | 0.4 |
| 600 | 10 | P845FFK | 1X573 | 53.00 | 14.00 | 0.4 |
| **3½" DIAL, 1/4" NPT CENTER BACK CONNECTED, FRONT FLANGE** | | | | | | |
| 30 | 1 | P845FFK | 1X575 | 65.00 | 16.40 | 0.8 |
| 60 | 2 | P845FFK | 1X577 | 65.00 | 16.40 | 0.8 |
| 100 | 2 | P845FFK | 1X579 | 65.00 | 16.40 | 0.8 |
| 200 | 5 | P845FFK | 1X581 | 65.00 | 16.40 | 0.8 |
| **2" DIAL, 1/8" NPT CENTER BACK CONNECTED, U-CLAMP MOUNT** | | | | | | |
| VAC* | — | V844UK | 1X501 | 57.00 | 14.80 | 0.4 |
| 30 | 1 | P844UK | 1X503 | 44.00 | 11.00 | 0.4 |
| 60 | 2 | P844UK | 1X506 | 44.00 | 11.00 | 0.4 |
| 100 | 2 | P844UK | 1X508 | 44.00 | 11.00 | 0.4 |
| 200 | 5 | P844UK | 1X510 | 44.00 | 11.00 | 0.4 |
| 300 | 5 | P844UK | 1X512 | 44.00 | 11.00 | 0.4 |
| 600 | 10 | P844UK | 1X514 | 46.00 | 11.50 | 0.4 |
| **2½" DIAL, 1/8" NPT CENTER BACK CONNECTED, U-CLAMP MOUNT** | | | | | | |
| VAC* | — | V844UK | 1X516 | 65.00 | 17.30 | 0.6 |
| 30 | 1 | P844UK | 1X518 | 55.00 | 14.50 | 0.6 |
| 60 | 2 | P844UK | 1X520 | 55.00 | 14.50 | 0.6 |
| 100 | 2 | P844UK | 1X522 | 55.00 | 14.50 | 0.6 |
| 200 | 5 | P844UK | 1X524 | 55.00 | 14.50 | 0.6 |
| 300 | 5 | P844UK | 1X526 | 55.00 | 14.50 | 0.6 |
| 400 | 10 | P844UK | 1X529 | 57.00 | 15.15 | 0.6 |
| 600 | 10 | P844UK | 1X531 | 57.00 | 15.25 | 0.6 |
| **2½" DIAL, 1/4" NPT CENTER BACK CONNECTED, U-CLAMP MOUNT** | | | | | | |
| 1000 | 20 | P844UK | 1X533 | 67.00 | 17.30 | 0.6 |
| 3000 | 100 | P844UK | 1X535 | 80.00 | 23.00 | 0.6 |
| **3½" DIAL, 1/4" NPT CENTER BACK CONNECTED, U-CLAMP MOUNT** | | | | | | |
| VAC* | — | V844U | 1X537 | 72.00 | 20.30 | 0.8 |
| 30 | 1 | P844U | 1X539 | 66.00 | 17.00 | 0.8 |
| 60 | 2 | P844U | 1X541 | 66.00 | 17.00 | 0.8 |
| 100 | 2 | P844U | 1X543 | 66.00 | 17.00 | 0.8 |
| 200 | 5 | P844U | 1X545 | 66.00 | 17.00 | 0.8 |

(*) Measures vacuum 30" HG to 0. Smallest graduations 1".

## PRESSURE GAUGE CONNECTION SPECIFICATIONS

tional Pipe Thread (NPT) connections measure larger than y are described. This chart shows the connection name and actual measured outside dimension of the connection.

| Connection Size (In.) | Nominal Outside Measurement (In.) |
|---|---|
| 1/8 NPT | 0.405 |
| 1/4 NPT | 0.540 |
| 1/2 NPT | 0.840 |
| 3/4 NPT | 1.050 |
| 1 NPT | 1.315 |

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

ross the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our anch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.

# LIQUID FILLED PRESSURE AND VACUUM GAUGES

## SERIES 559L 2½" LIQUID FILLED PRESSURE GAUGES

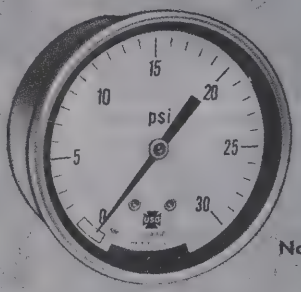
Use with water, oil, air, and chemicals compatible with beryllium copper and brass.

- **Stainless steel case and crimped ring**
- **Polycarbonate window**
- **Phosphor bronze or Beryllium copper bourdon tube**
- **1/4" ANPT Brass connection**
- **±3-2-3% accuracy**
- **Glycerin-filled to dampen pulse and vibration**
- **Ambient temperature 40° to 160°F**

**No. 5A046.** Panel Mounting Kit for Series 559L back connection gauges. Contains bracket and bolts. Shpg. wt. 0.2 lbs. Each ..... **$4.20**

| PSI Range | Smallest Graduation (PSI) | Tube Type* | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **2½" DIAL, 1/4" NPT CENTER BACK CONNECTION** | | | | | | | |
| **30** | **1** | PB | P559L-30 | **5A041** ❸ | $34.75 | **$27.85** | 0.7 |
| **100** | **2** | PB | P559L-100 | **5A042** | 34.75 | **27.85** | 0.5 |
| **200** | **5** | PB | P559L-200 | **5A043** | 34.75 | **27.85** | 0.5 |
| **1000** | **20** | BC | P559L-1000 | **5A044** | 34.75 | **27.85** | 0.5 |
| **3000** | **100** | BC | P559L-3000 | **5A045** | 34.75 | **27.85** | 0.5 |

(*) PB = Phosphor bronze; BC = Beryllium copper

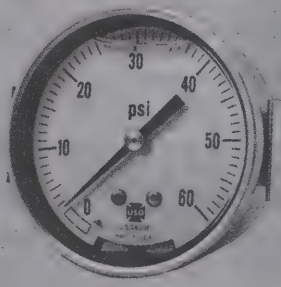



**No. 5A041**

## SERIES 552 63 mm PRESSURE GAUGES

- **Same as 559L series, but low back mount, U-clamp for panel mounting, 316 stainless steel connection and Bourdon tube**
- **±3-2-3% accuracy**

| Range PSI | Smallest Graduations (PSI) | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2½" DIAL 1/4" LOWER BACK CONNECTED** | | | | | | |
| **30" Hg*** | — | V552L | **1X704** ❸ | $86.70 | **$36.80** | 0.6 |
| **30" Hg-0-30**** | — | C552L | **1X706** | 86.70 | **38.20** | 0.6 |
| **15** | 0.5 | P552L | **1X708** | 84.10 | **36.95** | 0.6 |
| **30** | 1 | P552L | **1X710** | 84.10 | **36.95** | 0.6 |
| **60** | 2 | P552L | **1X712** | 84.10 | **36.95** | 0.6 |
| **100** | 2 | P552L | **1X714** | 84.10 | **36.95** | 0.6 |
| **160** | 5 | P552L | **1X716** | 84.10 | **36.95** | 0.6 |
| **200** | 5 | P552L | **1X718** | 84.10 | **36.95** | 0.6 |
| **300** | 5 | P552L | **1X720** | 84.10 | **36.95** | 0.6 |
| **600** | 10 | P552L | **1X722** | 84.10 | **36.95** | 0.6 |
| **1000** | 20 | P552L | **1X724** | 84.10 | **36.95** | 0.6 |

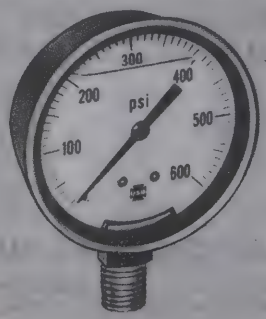



**No. 1X712**

## SERIES 550 63 mm PRESSURE GAUGES

- **Same as 559L series, but lower stem connection, with 316 stainless steel connection and Bourdon tube**
- **±3-2-3% accuracy**

| Range PSI | Smallest Graduations (PSI) | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2½" DIAL, 1/4" NPT LOWER CONNECTED** | | | | | | |
| **30" Hg*** | — | V550L | **1X676** ❸ | $67.30 | **$29.00** | 0.5 |
| **30" Hg-0-30**** | — | C550L | **1X678** | 67.30 | **29.95** | 0.5 |
| **15** | **0.5** | P550L | **1X680** | 62.70 | **27.75** | 0.5 |
| **30** | **1** | P550L | **1X682** | 62.70 | **27.75** | 0.5 |
| **60** | **2** | P550L | **1X684** | 62.70 | **27.75** | 0.5 |
| **100** | **2** | P550L | **1X686** | 62.70 | **27.75** | 0.5 |
| **160** | **5** | P550L | **1X689** | 62.70 | **27.75** | 0.5 |
| **200** | **5** | P550L | **1X691** | 62.70 | **27.75** | 0.5 |
| **300** | **5** | P550L | **1X694** | 62.70 | **27.75** | 0.5 |
| **400** | **10** | P550L | **1X696** | 62.70 | **27.75** | 0.5 |
| **600** | **10** | P550L | **1X698** | 62.70 | **27.75** | 0.5 |
| **1000** | **20** | P550L | **1X700** | 62.70 | **27.75** | 0.5 |
| **2000** | **50** | P550L | **1X702** | 69.30 | **28.15** | 0.5 |



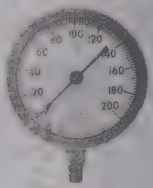

**No. 1X698**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(*) Measures vacuum 30" HG to 0. Smallest graduations 1"
(**) Measures vacuum 30" HG to 30 PSI. Smallest graduations 2"/1PSI

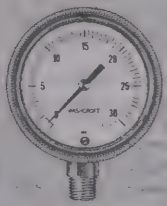
ASHCROFT®



No. 2C835



No. 2E002



No. 2C639

## 2½" AND 3½" INDUSTRIAL PRESSURE AND VACUUM GAUGES

- Ashcroft brand
- Accuracy (typ.): 1% full scale
- 316SS bourdon tube
- Polished stainless steel case and ring
- Polycarbonate lens
- Patented stainless steel spring suspended movement
- 1/4" NPT lower connection
- Brushed aluminum dial

| Pressure Range (PSI) | Smallest Graduation (PSI) | Dial Size (In.) | Socket | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2 1/2" DIAL BRASS SOCKET** | | | | | | | | |
| VAC* | — | 2½ | Brass | 25-1009AW | **2C569** | $54.10 | **$45.35** | 0.3 |
| 30 | 0.5 | 2½ | Brass | 25-1009AW | **2C554** | 54.10 | **45.35** | 0.3 |
| 60 | 1 | 2½ | Brass | 25-1009AW | **2C561** | 51.50 | **43.20** | 0.3 |
| 100 | 1 | 2½ | Brass | 25-1009AW | **2C546** | 51.50 | **43.20** | 0.3 |
| 200 | 2 | 2½ | Brass | 25-1009AW | **2C550** | 51.50 | **43.20** | 0.3 |
| 300 | 5 | 2½ | Brass | 25-1009AW | **2C557** | 51.50 | **43.20** | 0.3 |
| 600 | 10 | 2½ | Brass | 25-1009AW | **2C563** | 51.50 | **43.20** | 0.3 |
| **2 1/2" DIAL 316SS SOCKET** | | | | | | | | |
| VAC* | — | 2½ | 316SS | 25-1009SW | **2C615** | $77.80 | **$65.30** | 0.3 |
| 30 | 0.5 | 2½ | 316SS | 25-1009SW | **2C606** | 77.80 | **65.30** | 0.3 |
| 60 | 1 | 2½ | 316SS | 25-1009SW | **2C611** | 74.40 | **62.35** | 0.3 |
| 100 | 1 | 2½ | 316SS | 25-1009SW | **2C594** | 74.40 | **62.35** | 0.3 |
| 200 | 2 | 2½ | 316SS | 25-1009SW | **2C604** | 74.40 | **62.35** | 0.3 |
| 300 | 5 | 2½ | 316SS | 25-1009SW | **2C608** | 74.40 | **62.35** | 0.3 |
| 600 | 10 | 2½ | 316SS | 25-1009SW | **2C613** | 74.40 | **62.35** | 0.3 |
| 1000 | 10 | 2½ | 316SS | 25-1009SW | **2C598** | 74.40 | **62.35** | 0.3 |
| **3 1/2" DIAL BRASS SOCKET** | | | | | | | | |
| VAC* | — | 3½ | Brass | 35-1009AW | **2C835** | $66.70 | **$56.00** | 0.6 |
| 30 | 0.5 | 3½ | Brass | 35-1009AW | **2C801** | 66.70 | **56.00** | 0.6 |
| 60 | 1 | 3½ | Brass | 35-1009AW | **2C821** | 63.60 | **53.45** | 0.6 |
| 100 | 1 | 3½ | Brass | 35-1009AW | **2C788** | 63.60 | **53.45** | 0.6 |
| 200 | 2 | 3½ | Brass | 35-1009AW | **2C790** | 63.60 | **53.45** | 0.6 |
| 300 | 5 | 3½ | Brass | 35-1009AW | **2C807** | 63.60 | **53.45** | 0.6 |
| 600 | 10 | 3½ | Brass | 35-1009AW | **2C833** | 63.60 | **53.45** | 0.6 |
| **3 1/2" DIAL 316SS SOCKET** | | | | | | | | |
| VAC* | — | 3½ | 316SS | 35-1009SW | **2C879** | $89.70 | **$75.30** | 0.6 |
| 30 | 0.5 | 3½ | 316SS | 35-1009SW | **2C853** | 89.70 | **75.30** | 0.6 |
| 60 | 1 | 3½ | 316SS | 35-1009SW | **2C871** | 85.80 | **72.00** | 0.6 |
| 100 | 1 | 3½ | 316SS | 35-1009SW | **2C837** | 85.80 | **72.00** | 0.6 |
| 200 | 2 | 3½ | 316SS | 35-1009SW | **2C847** | 85.80 | **72.00** | 0.6 |
| 300 | 5 | 3½ | 316SS | 35-1009SW | **2C869** | 85.80 | **72.00** | 0.6 |
| 600 | 10 | 3½ | 316SS | 35-1009SW | **2C873** | 85.80 | **72.00** | 0.6 |
| 1000 | 10 | 3½ | 316SS | 35-1009SW | **2C843** | 85.80 | **72.00** | 0.6 |

*Measures vacuum 30"Hg to 0. Smallest graduations 0.5"

## 4½" INDUSTRIAL PRESSURE AND VACUUM GAUGES

- Ashcroft brand
- Accuracy (typ.): 1% full scale
- Polished stainless steel case and ring
- Brass or 316SS bourdon tube
- Glass lens
- Stainless steel movement
- 1/4" NPT lower connection
- Brushed aluminum dial

| Pressure Range (PSI) | Smallest Grad. (PSI) | Bourdon Tube | Socket | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **4½" DIAL BRASS SOCKET & BRONZE TUBE** | | | | | | | | |
| VAC* | | Bronze | Brass | 45-1009A | **2E033** | $93.00 | **$93.00** | 1.6 |
| 30 | 0.5 | Bronze | Brass | 45-1009A | **2E005** | 93.00 | **93.00** | 1.6 |
| 60 | 1 | Bronze | Brass | 45-1009A | **2E010** | 91.20 | **91.00** | 1.6 |
| 100 | 1 | Bronze | Brass | 45-1009A | **2C959** | 94.40 | **92.45** | 1.6 |
| 200 | 2 | Bronze | Brass | 45-1009A | **2E002** | 91.20 | **91.00** | 1.6 |
| 300 | 5 | Bronze | Brass | 45-1009A | **2E008** | 91.20 | **91.00** | 1.6 |
| 600 | 10 | Bronze | Brass | 45-1009A | **2E019** | 91.20 | **91.00** | 1.6 |
| 1000 | 10 | Bronze | Brass | 45-1009A | **2C969** | 94.40 | **92.45** | 1.6 |
| **4½" DIAL 316SS SOCKET & TUBE** | | | | | | | | |
| 30 | 0.5 | 316SS | 316SS | 45-1009S | **2E260** | 166.00 | **166.00** | 1.5 |
| 60 | 1 | 316SS | 316SS | 45-1009S | **2E485** | 169.00 | **164.50** | 1.5 |
| 100 | 1 | 316SS | 316SS | 45-1009S | **2E060** | 163.00 | **163.00** | 1.5 |
| 200 | 2 | 316SS | 316SS | 45-1009S | **2E090** | 163.00 | **163.00** | 1.5 |
| 300 | 5 | 316SS | 316SS | 45-1009S | **2E394** | 169.00 | **164.50** | 1.5 |
| 600 | 10 | 316SS | 316SS | 45-1009S | **2F002** | 169.00 | **164.50** | 1.5 |
| 1000 | 10 | 316SS | 316SS | 45-1009S | **2E072** | 163.00 | **163.00** | 1.5 |

## 2½" INDUSTRIAL LOW PRESSURE GAUGE

- Ashcroft brand
- Glass-filled polysulfone case
- Bronze diaphragm
- Polycarbonate push-on lens
- Use with gases not corrosive with brass or bronze
- 1/4" NPT brass connection
- Adjustable pointer
- ±2-1-2% accuracy

| Pressure Range | Smallest Graduations | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 15" $H_2O$ | 0.2" | 25-1490A | **2C635** | $36.40 | **$36.40** | 0.5 |
| 30" $H_2O$ | 0.5" | 25-1490A | **2C639** | 36.40 | **36.40** | 0.5 |
| 60" $H_2O$ | 1" | 25-1490A | **2C643** | 36.40 | **36.40** | 0.5 |
| 100" $H_2O$ | 1" | 25-1490A | **2C632** | 36.40 | **36.40** | 0.5 |
| 5 PSI | 0.1 PSI | 25-1490A | **2C641** | 36.40 | **36.40** | 0.5 |
| 20 oz./in.²* | 0.5 oz | 25-1490A | **2C637** | 36.40 | **36.40** | 0.5 |

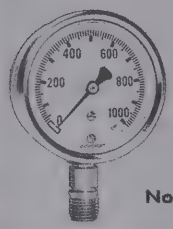
(*) Dual-scaled 0-36" $H_2O$

# PRESSURE, MECHANICAL CONTRACTOR'S, RECEIVER, AND AMMONIA PRESSURE GAUGES

## 2½" STANDARD ALL STAINLESS STEEL PRESSURE GAUGE

- Ashcroft brand
- 1/4" NPT male lower socket
- Polycarbonate window
- Economical corrosion resistant stainless
- ±3-2-3% accuracy
- 316SS bourdon tube
- Compact size to fit restricted areas
- Patented spring suspended movement 300 stainless steel case, Bourdon tube and socket

ASHCROFT®

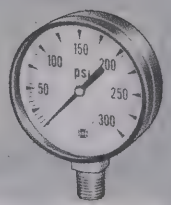


No. 2F185

| Pressure Range PSI | Smallest Graduations (PSI) | Ashcroft Models | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 30 | 0.5 | 63-1008S | 2F189 | $52.80 | $42.10 | 0.3 |
| 60 | 1 | 63-1008S | 2F197 | 50.30 | 40.05 | 0.3 |
| 100 | 1 | 63-1008S | 2F183 | 50.30 | 40.05 | 0.3 |
| 200 | 2 | 63-1008S | 2F187 | 50.30 | 40.05 | 0.3 |
| 300 | 5 | 63-1008S | 2F191 | 50.30 | 40.05 | 0.3 |
| 600 | 10 | 63-1008S | 2F199 | 50.30 | 40.05 | 0.3 |
| 1000 | 10 | 63-1008S | 2F185 | 50.30 | 40.05 | 0.3 |
| 3000 | 50 | 63-1008S | 2F193 | 55.00 | 43.75 | 0.3 |
| 5000 | 50 | 63-1008S | 2F195 | 55.00 | 43.75 | 0.3 |

## MECHANICAL CONTRACTOR'S LEAD GAUGE

AMETEK



No. 1X734

The Series 5105 contractor's gauge is designed for a wide variety of industrial applications, but is especially suited for heating and air conditioning systems. Rugged gauge case is made of aluminum to provide the protection needed in corrosive atmospheres.

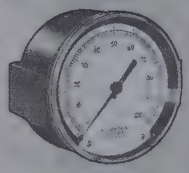
- 4½" size
- Aluminum case with blowout grommet, black finish
- Aluminum pointer, adjustable, black finish
- Steel dial, white background with black markings
- Acrylic window
- Precision geared brass movement
- Phosphor bronze bourdon tube
- 1/4" ANPT, LM, brass connection
- ±1½-1-1½% of span accuracy (exceeds Grade A ANSI-ASME B40.1)

| PSI Range | Smallest Graduation (PSI) | Ametek Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0-30 | 0.2 | 5105 | 1X726 | $16.00 | 0.6 |
| 0-60 | 0.5 | 5105 | 1X728 | 16.00 | 1.0 |
| 0-100 | 1 | 5105 | 1X730 | 16.00 | 0.6 |
| 0-200 | 2 | 5105 | 1X732 | 16.00 | 1.0 |
| 0-300 | 2 | 5105 | 1X734 | 16.00 | 1.0 |
| 0-1000 | 10 | 5105 | 1X736 | 16.00 | 1.0 |

## GENERAL PURPOSE RECEIVER GAUGES

Receiver gauges specifically designed for use with pnuematic transmission of process variables. The most commonly used transmission range is 3-15 PSI. Lowest value of variable measured creates 3 PSI pressure, highest value 15 PSI pressure. Pressure readings indicated with a dial calibrated for variable being measured. Receiver gauges provide a graduation arc of 270° for 3-15 PSI, or a 12 PSI span; and 25 PSI maximum input pressure.

AMETEK



No. 1X475

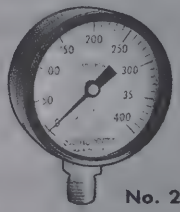
- Black finish, steel case (back connected with U/Clamp)
- On 2½" gauge threaded, polycarbonate ring and windo
- On 3½" acrylic, beveled window, brass, threaded, black finish ring
- Brass plates, pinion, arbor, link screw, sector, link, and minimum stop movement
- Phosphor bronze bourdon tube
- ±1% of span accuracy (.12 PSI) over middle half of scale Balance of scale is ±2% of span (.24 PSI)
- Dial has 3-15 PSI on outside and inner scale marked in terms of process variable

| Process Variable Range | Ametek Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|
| **2½" DIAL 1/4" NPT CENTER BACK CONNECTED** | | | | |
| 100 | 1370 | 1X475 | $52.20 | 0.4 |
| **2½" DIAL, 1/4" NPT LOWER CONNECTED** | | | | |
| 100 | 1370 | 1X477 | 41.50 | 0.4 |
| **3½" DIAL, 1/4" NPT CENTER BACK CONNECTED** | | | | |
| 100 | 1370 | 1X479 | 62.75 | 0.6 |
| 0-10 Sq. Root | 1370 | 1X483 | 62.75 | 0.6 |
| **3½" DIAL, 1/4" NPT LOWER CONNECTED** | | | | |
| 100 | 1370 | 1X481 | 62.75 | 0.6 |
| 0-10 Sq. Root | 1370 | 1X487 | 52.80 | 0.6 |

## 2½" AGRICULTURAL AMMONIA PRESSURE GAUGES

- Ashcroft brand
- Stainless steel bourdon tube/steel socket
- 1/4" NPT lower connection
- Glass window eliminates fogging
- ±3-2-3% accuracy
- Painted steel case
- 100% leak tested
- Patented spring suspended movement

ASHCROFT®



No. 2C49

| Pressure Range PSI | Smallest Graduation (PSI) | Ashcroft Model | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|
| 60 | 1 | 25-1005M | 2C498 | $41.00 | $17.23 | 0 |
| 150 | 5 | 25-1005M | 2C494 | 41.00 | 17.23 | 0 |
| 400 | 10 | 25-1005M | 2C496 | 41.00 | 17.23 | 0 |

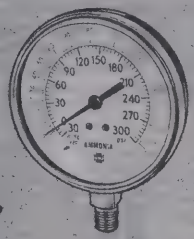


*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# AMMONIA REFRIGERANT, LIQUID FILLED, AND FILTER REPLACEMENT GAUGES

## 2½ AND 3½" AMMONIA REFRIGERANT GAUGES

AMETEK



No. 1X469

- Drawn steel case black corrosion resistant paint
- Threaded, polycarbonate ring and window
- Aluminum pointer, adjustable, black finish
- Steel dial, white background with black markings. Refrigerant temperature scale in red.
- Glasstuf® movement with glass filled nylon link and stainless steel link rivets
- 316 stainless steel, soft soldered bourdon tube
- Smallest graduation 10" / 5PSI

Steel gauges are usually installed in ammonia refrigerant systems. These gauges can also be used to handle other chemicals not injurious to wetted parts. The unique Glasstuf® movement greatly extends gauge life, particularly on tough services like ammonia compressors. Temperature equivalent scale in red provides easy analysis of refrigeration systems.

| Range PSI | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **2½" DIAL, 1/4" NPT LOWER CONNECTED** | | | | | |
| 30" Hg-0-150 | C1706 | **1X467** | $113.00 | **$42.75** | 0.4 |
| 30" Hg-0-300 | C1706 | **1X469** | 113.00 | **42.75** | 0.4 |
| **3½" DIAL, 1/4" NPT LOWER CONNECTED** | | | | | |
| 30" Hg-0-150 | C1706 | **1X471** | $127.00 | **$48.15** | 0.6 |
| 30" Hg-0-300 | C1706 | **1X473** | 127.00 | **48.15** | 0.6 |

## 2½ AND 3½" INDUSTRIAL LIQUID FILLED PRESSURE AND VACUUM GAUGES

| Pressure Range PSI | Smallest Graduations (PSI) | Dial Size (In.) | Socket | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **BRASS SOCKET** | | | | | | | | |
| 30 | 0.5 | 2½ | Brass | 25-1009AWL | **2C578** | $61.50 | **$53.90** | 0.5 |
| 60 | 1 | 2½ | Brass | 25-1009AWL | **2C590** | 60.30 | **52.15** | 0.5 |
| 100 | 1 | 2½ | Brass | 25-1009AWL | **2C572** | 60.30 | **52.15** | 0.5 |
| 200 | 2 | 2½ | Brass | 25-1009AWL | **2C576** | 60.30 | **52.15** | 0.5 |
| 300 | 5 | 2½ | Brass | 25-1009AWL | **2C588** | 60.30 | **52.15** | 0.5 |
| 600 | 10 | 2½ | Brass | 25-1009AWL | **2C592** | 60.30 | **52.15** | 0.5 |
| **316SS SOCKET** | | | | | | | | |
| VAC* | | 3½ | 316SS | 35-1009SWL | **2C927** | $98.40 | **$86.30** | 0.8 |
| 30 | 0.5 | 3½ | 316SS | 35-1009SWL | **2C897** | 98.40 | **86.30** | 0.8 |
| 60 | 1 | 3½ | 316SS | 35-1009SWL | **2C922** | 93.90 | **82.40** | 0.8 |
| 100 | 1 | 3½ | 316SS | 35-1009SWL | **2C881** | 93.90 | **82.40** | 0.8 |
| 200 | 2 | 3½ | 316SS | 35-1009SWL | **2C895** | 93.90 | **82.40** | 0.8 |
| 300 | 5 | 3½ | 316SS | 35-1009SWL | **2C911** | 93.90 | **82.40** | 0.8 |
| 600 | 10 | 3½ | 316SS | 35-1009SWL | **2C924** | 93.90 | **82.40** | 0.8 |
| 1000 | 10 | 3½ | 316SS | 35-1009SWL | **2C893** | 93.90 | **82.40** | 0.8 |
| 3000 | 50 | 3½ | 316SS | 35-1009SWL | **2C920** | 106.00 | **92.65** | 0.8 |

Measures vacuum 30"Hg to 0. Smallest graduation 0.5" hg

ASHCROFT®



No. 2C927

- 1% full scale accuracy
- Glycerin filled case
- 316SS bourdon tube
- Polished stainless steel case and ring
- Polycarbonate lens
- Patented stainless steel spring suspended movement
- 1/4" NPT lower male connection

## 2½" STANDARD LIQUID FILLED PRESSURE GAUGES

ASHCROFT®



No. 2C648

- Durable ABS case
- Acrylic window
- Bronze bourdon tube
- 1/4" NPT brass lower socket
- ±3-2-3% accuracy
- Glycerin filled case
- Patented spring suspended movement

| Pressure Range PSI | Smallest Graduations (PSI) | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 30 | 0.5 | 25-3003HL | **2C669** | $37.00 | **$15.74** | 0.5 |
| 100 | 2 | 25-3003HL | **2C648** | 37.00 | **15.74** | 0.5 |
| 200 | 5 | 25-3003HL | **2C664** | 37.00 | **15.74** | 0.5 |
| 600 | 10 | 25-3003HL | **2C676** | 37.00 | **15.74** | 0.5 |
| 1000 | 20 | 25-3003HL | **2C661** | 43.00 | **18.27** | 0.5 |
| 2000 | 50 | 25-3003HL | **2C666** | 43.00 | **18.27** | 0.5 |
| 3000 | 100 | 25-3003HL | **2C671** | 43.00 | **18.27** | 0.5 |
| 5000 | 100 | 25-3003HL | **2C673** | 43.00 | **18.27** | 0.5 |
| 10,000 | 200 | 25-3003HL | **2C650** | 59.00 | **25.05** | 0.5 |
| 15,000 | 500 | 25-3003HL | **2C653** | 59.00 | **25.05** | 0.5 |

## 4" STANDARD LIQUID FILLED PRESSURE GAUGES

- Bronze bourdon tube
- 1/4" NPT brass socket
- Patented spring suspended ring
- Glycerin filled case
- Polycarbonate window
- ±3-2-3% accuracy
- Stainless steel case and ring crimped

| Pressure Range PSI | Smallest Graduations (PSI) | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 30 | 0.5 | 10-1008AL | **2C458** | $76.00 | **$35.75** | 0.7 |
| 60 | 1 | 10-1008AL | **2C464** | 76.00 | **35.75** | 0.7 |
| 100 | 2 | 10-1008AL | **2C450** | 76.00 | **35.75** | 1.1 |
| 200 | 5 | 10-1008AL | **2C454** | 76.00 | **35.75** | 0.7 |
| 300 | 5 | 10-1008AL | **2C460** | 76.00 | **35.75** | 0.7 |
| 600 | 10 | 10-1008AL | **2C466** | 76.00 | **35.75** | 0.7 |
| 1000 | 20 | 10-1008AL | **2C452** | 85.00 | **39.95** | 0.7 |
| 2000 | 50 | 10-1008AL | **2C456** | 85.00 | **39.95** | 0.7 |
| 3000 | 100 | 10-1008AL | **2C462** | 85.00 | **39.95** | 0.7 |
| 6000 | 200 | 10-1008AL | **2C468** | 85.00 | **39.95** | 0.7 |

ASHCROFT®



No. 2C452

## FILTER REPLACEMENT GAUGE/INDICATOR



ASHCROFT®

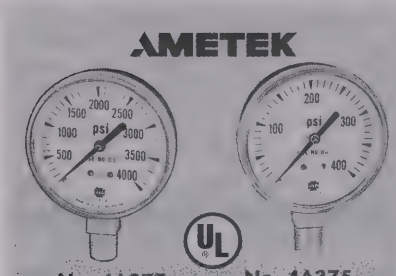
No. 2C492

- Indicator is red-lined at 15 to 60 PSI
- ±3-2-3% full scale accuracy
- ABS case
- 1/8" NPT back connection compound
- Filter replacement indicator
- Brass socket and tube
- Polycarbonate window
- 2" diameter open face dial
- Ashcroft brand
- Enables operator to tell when filter gauge/indicator canister needs replacing

| Pressure Range PSI | Smallest Graduation (PSI) | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 60 | 1 | 20W1005PH | **2C492** | $22.25 | **$8.74** | 0.2 |

# WELDING, REFRIGERATION, BOILER AND SPRINKLER SYSTEM GAUGES

## 2" WELDING AND REGULATOR GAUGES




- Drawn polished brass case and threaded ring
- Polycarbonate window
- Phosphor bronze bourdon tube
- 1/4" Lower male brass socket
- ±3-2-3% accuracy
- High pressure gauge is UL Listed for compressed and LP gas service; cleanliness in accordance with Level IV ANSI B40.1
- High pressure gauge used on tank side to measure cylinder pressure; low pressure gauge used "downstream" of regulator to measure regulated pressure

| PSI Range | Smallest Graduation (PSI) | Gauge Type | AMETEK Model | Stock No. | | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **30** | 1 | Welding | P612-30 | **4A373** | * | $19.90 | **$11.60** | 0.3 |
| **100** | 2 | Welding | P612-100 | **4A374** | * | 19.90 | **11.60** | 0.3 |
| **400** | 10 | Welding | P612-400 | **4A375** | * | 19.90 | **11.60** | 0.3 |
| **600** | 10 | Welding | P612-600 | **4A376** | * | 19.90 | **11.60** | 0.3 |
| **4000** | 20 | Regulator | P601-4000 | **4A377** | † | 24.20 | **16.15** | 0.3 |

(*) Nos. 4A373, 4A374, 4A375, and 4A376 are UL Listed (UL 252A).
(†) No. 4A377 is UL Listed (UL 404).

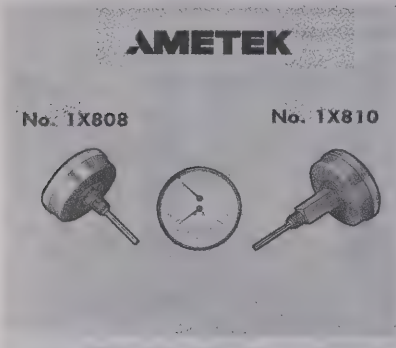
## 2½" REFRIGERATION MANIFOLD GAUGES

- Ashcroft brand
- ABS case and threaded window
- Bronze tube
- For cooling systems or service manifolds
- Patented silicone dampened spring suspended movement
- 1/8" NPT male lower connection
- Polycarbonate window, removable
- Front zero set
- R12, R22 and R502 refrigerant scales
- Brass socket with restriction screw to provide dampening during pressure surges




| PSI Range | Smallest Graduations (PSI) | Case Color | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0-500** | 5 | Red | 25-1007PH | **2C541** | $23.00 | **$9.49** | 0.3 |
| **30-0-120/250*** | 2 | Blue | 25-1007PH | **2C543** | 24.00 | **9.90** | 0.3 |

## BOILER GAUGES




Series 1088K utility gauges are especially constructed to withstand conditions normally encountered in domestic hot water heating systems, and are ideal for installations where mounting space is limited.

- Combination pressure and temperature range
- Brass socket and movement
- Corrosion resistant painted steel case
- Short or long 1/4" NPT center back mount shank
- One piece threaded polycarbonate ring and window
- Steel dial, white background with black markings
- 0 to 75 PSI pressure range. Smallest graduations 5 PSI
- 60 to 320°F (20 to 160°C). Smallest graduations 10°
- Helical bi-metallic temperature element enclosed in a brass bulb
- ±3-2-3% of span pressure accuracy; ±3% of span temperature accuracy

| Gauge Type | Shank Type | Shank Length | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Boiler** | Short | 7/8" | PT-1088K | **1X808** | $46.00 | **$17.90** | 0.4 |
| **Boiler** | Long | 1⅝" | PT-1088K | **1X810** | 53.00 | **20.70** | 0.5 |

## 3½" SPRINKLER SYSTEM GAUGES




- Black Xenoy® case
- Threaded, polycarbonate window
- Brass movement
- Phosphor bronze, soft soldered bourdon tube
- 1/4" ANPT LM, brass connection
- ±3-2-3% of span scarce (applies to retard portion). Accuracy at maximum indicated retard pressure is ±3% of that pressure

Factory Mutual System approved and listed by the Underwriters' Laboratories for use on wet or dry sprinkler systems. No. 1X746 retarded "air" gauge is used on the sprinkler head side of the control valve in dry system to accurately monitor line air pressure to 250 PSI upon system activation. No. 1X748 is used on the water supply side of the system to indicate available source pressure. On a wet system where water is available to the sprinkler heads at all times, only No. 1X748 should be used to monitor total system pressure before and during activation.

| PSI Range | Smallest Graduations (PSI) | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-80*** | 1 | R1590K | **1X746** | $78.00 | **$17.50** | 0.6 |
| **0-300** | 5 | P1590K | **1X748** | 71.00 | **15.50** | 0.6 |

(*) Retarded to 250 PSI.

**PLACE YOUR ORDER TODAY!**



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

## SOLFRUNT 1919 4½" LOW PRESSURE PROCESS GAUGES




**esigned for pressure measurements** as low as few inches of water, ıese gauges utilize a unique sensing element, composed of a ack of diaphragm capsules, each consisting of two plates con- ıured into a convex-concave configuration to nest into one ıother. This results in a low internal mechanism in extremely w pressure ranges. Calibration adjustments (scale shape and nearity) are made from rear of case without removing internals. he pointer is adjusted by removing the front ring and window.

- **Phenolic turret case (black) with glass-filled, threaded, polypropylene ring and plastic pressure-relieving back for stem or wall mounting**
- **Acrylic window**
- **Knife edged, micrometer adjustable, black finish pointer**
- **Aluminum dial with white background and black markings**
- **Heavy brass movement with "U" frame construction with nickel silver rocker arm on stainless steel pivots. Brass sector and nickel silver pinion operate on brass bearings.**
- **Minimum and maximum stops prevent segment and pinion disengagement**
- **Accuracy ±1% of span (Grade A)**

| Range | Smallest Graduations | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4½" DIAL, 1/2" NPT LOWER CONNECTED** | | | | | | |
| **30" $H_2O$ Vac** | 0.2" | 1919 | **1X492** | $304.30 | **$237.50** | 2.0 |
| **60" $H_2O$ Vac** | 0.5" | 1919 | **1X496** | 304.30 | **237.50** | 2.0 |
| **100" H2O** | 1.0" | 1919 | **1X489** | 304.30 | **237.50** | 2.0 |
| **5 PSI** | 0.05 PSI | 1919 | **1X498** | 304.30 | **237.50** | 2.0 |

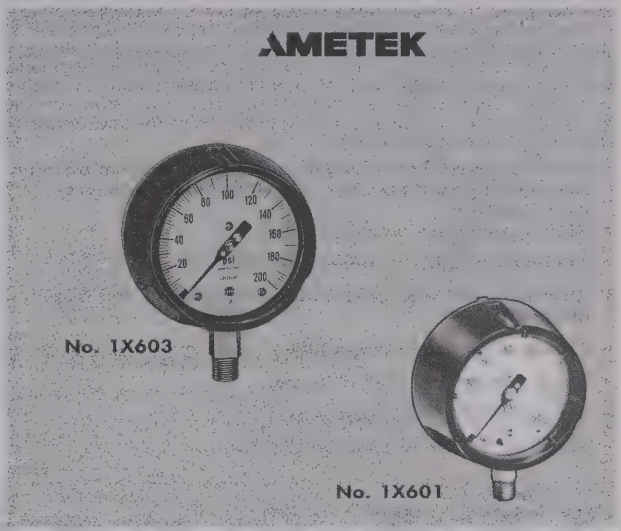
## SOLFRUNT 1981 4½" PROCESS GAUGES

**ame as 1980 series gauges** except that connection and bourdon ıbe are made from 316 stainless steel. U.S. Gauge brand.

| Range PSI | Smallest Graduations | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4½" DIAL, 1/2" NPT LOWER CONNECTED** | | | | | | |
| **30" Hg*** | 0.2" | 1981 | **1X613** | $149.50 | **$74.75** | 2.0 |
| **30" Hg-0-30**** | 1" / 0.5 PSI | 1981 | **1X615** | 149.50 | **74.75** | 2.0 |
| **30" Hg-0-60**** | 1" / 1.0 PSI | 1981 | **1X617** | 149.50 | **74.75** | 2.0 |
| **30" Hg-0-100**** | 2" / 1.0 PSI | 1981 | **1X619** | 149.50 | **74.75** | 2.0 |
| **30" Hg-0-150**** | 5" / 2 PSI | 1981 | **1X621** | 149.50 | **74.75** | 2.0 |
| **15** | 0.1 PSI | 1981 | **1X623** | 144.00 | **72.00** | 2.0 |
| **30** | 0.2 PSI | 1981 | **1X626** | 144.00 | **72.00** | 2.0 |
| **60** | 0.5 PSI | 1981 | **1X628** | 144.00 | **72.00** | 2.0 |
| **100** | 1 | 1981 | **1X630** | 144.00 | **72.00** | 2.0 |
| **160** | 1 | 1981 | **1X632** | 144.00 | **72.00** | 2.0 |
| **200** | 2 | 1981 | **1X634** | 144.00 | **72.00** | 2.0 |
| **300** | 2 | 1981 | **1X636** | 144.00 | **72.00** | 2.0 |
| **400** | 5 | 1981 | **1X638** | 144.00 | **72.00** | 2.0 |
| **600** | 5 | 1981 | **1X640** | 144.00 | **72.00** | 2.0 |
| **1000** | 10 | 1981 | **1X642** | 144.00 | **72.00** | 2.0 |
| **1500** | 10 | 1981 | **1X644** | 189.20 | **81.00** | 2.0 |
| **3000** | 20 | 1981 | **1X646** | 189.20 | **81.00** | 2.0 |
| **5000** | 50 | 1981 | **1X648** | 189.20 | **81.00** | 2.0 |

*) Measures vacuum 30" HG to 0.
**) Measures vacuum 30" to 0, plus pressure.

## SOLFRUNT 1980 4½" PROCESS GAUGES




**4½" Solfrunt gauge** with phosphor bronze internals. Calibration adjustments (scale shape and span) can be accompanied from rear of case without disturbing the gauge internals. Pointer adjustments are easily made by removing ring and window.

- **Pet turret case (black) with glass-filled polypropylene threaded ring and pressure-relieving back**
- **High-temperature acrylic window**
- **Anodized aluminum pointer, micro-adjustable with black finish**
- **Aluminum dial with baked white background and black markings**
- **Geared ARC-LOC® movement with components of corrosion resistant 300 series stainless steel. Movement can be removed for examination and cleaning without disturbing span and scale shape adjustments**
- **Phosphor bronze bourdon tube**
- **Brass lower connection, 1/2" ANPT**
- **Accuracy ±0.5% of span (Grade 2A)**

| Range PSI | Smallest Graduations | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4½" DIAL, 1/2" NPT LOWER CONNECTED** | | | | | | |
| **30" Hg*** | 0.2" | 1980 | **1X583** | $89.90 | **$45.00** | 2.0 |
| **30" Hg-0-30**** | 1" / 0.5 PSI | 1980 | **1X585** | 89.90 | **45.00** | 2.0 |
| **30" Hg-0-60**** | 1" / 1.0 PSI | 1980 | **1X587** | 89.90 | **45.00** | 2.0 |
| **30" Hg-0-100**** | 2" / 1.0 PSI | 1980 | **1X589** | 89.90 | **45.00** | 2.0 |
| **30" Hg-0-150**** | 5" / 2 PSI | 1980 | **1X591** | 89.90 | **45.00** | 2.0 |
| **15** | 0.1 PSI | 1980 | **1X593** | 86.60 | **43.25** | 2.0 |
| **30** | 0.2 | 1980 | **1X595** | 86.60 | **43.25** | 2.0 |
| **60** | 0.5 | 1980 | **1X597** | 86.60 | **43.25** | 2.0 |
| **100** | 1 | 1980 | **1X599** | 86.60 | **43.25** | 2.0 |
| **160** | 1 | 1980 | **1X601** | 86.60 | **43.25** | 2.0 |
| **200** | 2 | 1980 | **1X603** | 86.60 | **43.25** | 2.0 |
| **300** | 2 | 1980 | **1X605** | 86.60 | **43.25** | 2.0 |
| **400** | 5 | 1980 | **1X607** | 86.60 | **43.25** | 2.0 |
| **600** | 5 | 1980 | **1X609** | 86.60 | **43.25** | 2.0 |
| **1000** | 10 | 1980 | **1X611** | 86.60 | **43.25** | 2.0 |

(*) Measures vacuum 30" to 0.
(**) Measures vacuum 30" to 0, plus pressure.

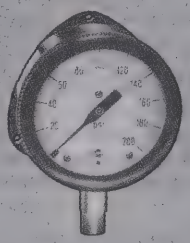
# PROCESS GAUGES AND DIGITAL PRESSURE METER

## SOLFRUNT 1901L 4½" LIQUID FILLED PROCESS GAUGES

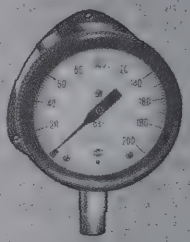
Aluminum cased Solfrunt Series 1901 liquid-filled process gauges are designed to extend service life wherever corrosive atmosphere and/or severe operating conditions (such as compressors, pulsating pumps, machine tool applications, etc.) affect the performance of standard gauges. The liquid effectively dampens mechanism and pointer oscillation and vibration while providing continuous lubrication and protection from corrosion for the gauge internals. A vent for atmospheric pressure and temperature compensation is standard.

- **Cast aluminum, back-flanged case with aluminum bayonet ring, black finish; BUNA-N "O" ring-sealed, pressure relieving back**
- **High temperature acrylic window**
- **Anodized aluminum pointer with black finish**
- **Aluminum dial with baked white background and black markings**
- **Phosphor bronze bourdon tube**
- **Brass connection, 1/2" NPT, std.**
- **Standard liquid fill is glycerin**
- **Accuracy ± 0.5% of span (grade 2A)**

AMETEK



No. 1X657



No. 1X670

| Range PSI | Smallest Graduations (PSI) | Ametek Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4½" DIAL, 1/2" NPT LOWER CONNECTED** | | | | | | |
| **30** | 0.2 | 1901L | **1X651** | $153.60 | **$72.00** | 2.5 |
| **60** | 0.5 | 1901L | **1X653** | 153.60 | **72.00** | 2.5 |
| **100** | 1 | 1901L | **1X655** | 153.60 | **72.00** | 2.5 |
| **200** | 2 | 1901L | **1X657** | 153.60 | **72.00** | 2.5 |
| **300** | 2 | 1901L | **1X659** | 153.60 | **72.00** | 2.5 |
| **600** | 5 | 1901L | **1X661** | 153.60 | **72.00** | 2.5 |

## SOLFRUNT 1931L 4½" LIQUID FILLED PROCESS GAUGES

- **Same as 1901L series except stem connection and bourdon tube are 316 stainless steel**

| Range PSI | Smallest Graduations (PSI) | Ametek Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4½" DIAL, 1/2" NPT LOWER CONNECTED** | | | | | | |
| **30** | 0.2 | 1931L | **1X663** | $217.10 | **$104.00** | 2.5 |
| **60** | 0.5 | 1931L | **1X666** | 217.10 | **104.00** | 2.5 |
| **100** | 1 | 1931L | **1X668** | 217.10 | **104.00** | 2.5 |
| **200** | 2 | 1931L | **1X670** | 217.10 | **104.00** | 2.5 |
| **300** | 2 | 1931L | **1X672** | 217.10 | **104.00** | 2.5 |
| **600** | 5 | 1931L | **1X674** | 217.10 | **104.00** | 2.5 |

❸ These projects are covered by OSHA Hazardous Communication Standard, and Material Safety Data Sheet (MSDS) are available. See page opposite inside back cover.

EXTECH INSTRUMENTS



No. 3JD01

## EXTECH PRESSURE METER

- **Heavy-duty pressure meter**
- **Measure or monitor up to 30- psi (0.1 psi resolution)**
- **Includes 316 stainless transducer, 1/8" NPT fitting, and 40" cable**
- **Dual display of value and engineering units (PSI, Bar, mm of Hg, Inches of H20 or Atmospheres)**
- **Accurate to 0.25% of FS +1 digit**
- **Records Max., Min. and Average**
- **Use with data logger 1M160 or windows software 3ZH85**
- **Includes: pressure transducer, holster, 9V battery, and instructions**
- **AC Power Adapter available use 3ZH67**

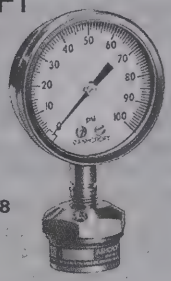
**No. 3JD01.** Shpg. wt. 1.5 lbs. List $525.00. Each.....**$499.00**

# INDUSTRIAL PRESSURE GAUGES WITH DIAPHRAGM SEALS

## INDUSTRIAL PRESSURE GAUGE WITH MINI DIAPHRAGM SEAL

- 1% full scale accuracy
- 316SS Bourdon tube
- Polished stainless steel case
- Polycarbonate lens
- 2½" dial size
- Designed to protect pressure gauge from corrosion, plugging or freeze up
- 1/4" NPT lower connection socket
- Polycarbonate window
- Compact size to fit confined areas
- Patented spring suspended movement
- Glycerin filled seal
- All-welded 316SS construction to prevent process leaks

ASHCROFT®



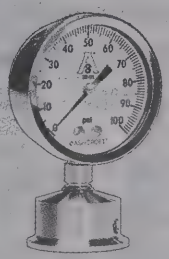
No. 2C548

| Pressure Range (PSI) | Smallest Graduations (PSI) | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 60 | 1 | 25-1009AW w/310SSL | 2C567 | $108.00 | $102.75 | 1.1 |
| 100 | 1 | 25-1009AW w/310SSL | 2C548 | 108.00 | 102.75 | 1.1 |
| 200 | 2 | 25-1009AW w/310SSL | 2C552 | 108.00 | 102.75 | 1.1 |
| 300 | 5 | 25-1009AW w/310SSL | 2C559 | 108.00 | 102.75 | 1.1 |
| 600 | 10 | 25-1009AW w/310SSL | 2C565 | 108.00 | 102.75 | 1.1 |

## SANITARY INDUSTRIAL PRESSURE GAUGE

- Ashcroft brand
- 2½" & 3½" dial size
- 1½" & 2" Triclamp* process connection
- All stainless steel construction
- Diaphragm seal filled with 99.5% USP grade glycerin
- Meets 3A Standard 37-01
- 1.5% full scale accuracy
- Electropolished process connection
- Patented spring suspended movement

ASHCROFT®



No. 2C618

### 2½" DIAL, 1½" TRICLAMP™ CONNECTION

| Pressure Range (PSI) | Smallest Graduations (PSI) | Ashcroft Model | Stock No.* | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 30 | 0.5 | 25-1032S-15L | 2C623 | $271.00 | $270.75 | 1.1 |
| 60 | 1 | 25-1032S-15L | 2C629 | 271.00 | 270.75 | 1.1 |
| 100 | 1 | 25-1032S-15L | 2C618 | 262.00 | 262.00 | 1.1 |
| 200 | 2 | 25-1032S-15L | 2C621 | 262.00 | 262.00 | 1.1 |
| 300 | 5 | 25-1032S-15L | 2C625 | 262.00 | 262.00 | 1.1 |

### 3½" DIAL, 2" TRICLAMP™ CONNECTION

| Pressure Range (PSI) | Smallest Graduations (PSI) | Ashcroft Model | Stock No.* | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 30 | 0.5 | 35-1032S-20L | 2C943 | $284.00 | $281.50 | 1.7 |
| 60 | 1 | 35-1032S-20L | 2C957 | 284.00 | 281.50 | 1.7 |
| 100 | 1 | 35-1032S-20L | 2C932 | 276.00 | 276.00 | 1.7 |
| 200 | 2 | 35-1032S-20L | 2C935 | 276.00 | 276.00 | 1.7 |
| 300 | 5 | 35-1032S-20L | 2C955 | 276.00 | 276.00 | 1.7 |

) Clamps not included.

## 4½" 1980 PROCESS GAUGE WITH SB STEEL EXPOSED DIAPHRAGM SEAL

lansfield & Green SB steel exposed diaphragm seals are protective devices designed to solate a Ametek Series 1980 Solfrunt Process Gauge from potentially damaging process ıedia.

- Upper and lower housing material of seal is carbon steel
- Seal connected to a Series 1980 Solfrunt Process Gauge No. 1X825
- Dry gauge; seal is filled with M&G Instrument Oil (30°F to 300°F)
- Accuracy: ± 0.5% of span (grade 2A)
- 1/2" NPT connection

AMETEK



No. 1X831

### 4½" 1980 PROCESS GAUGE WITH SB STEEL EXPOSED DIAPHRAGM SEAL

| Pressure Range (PSI) | Smallest Graduations (PSI) | Seal Type | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 30 | 0.2 | SB Steel Exposed | S1865-1 | 1X825 | $233.00 | $144.25 | 8.0 |
| 60 | 0.5 | SB Steel Exposed | S1865-2 | 1X827 | 233.00 | 144.25 | 8.0 |
| 100 | 1 | SB Steel Exposed | S1865-3 | 1X829 | 233.00 | 144.25 | 8.0 |
| 160 | 1 | SB Steel Exposed | S1865-4 | 1X831 | 233.00 | 144.25 | 8.0 |
| 200 | 2 | SB Steel Exposed | S1865-5 | 1X833 | 233.00 | 144.25 | 8.0 |
| 300 | 2 | SB Steel Exposed | S1865-6 | 1X842 | 233.00 | 144.25 | 8.0 |
| 400 | 5 | SB Steel Exposed | S1865-7 | 1X844 | 233.00 | 144.25 | 8.0 |
| 600 | 5 | SB Steel Exposed | S1865-8 | 1X848 | 233.00 | 144.25 | 8.0 |

# PROCESS AND TEST GAUGES

## 4½" 1980 PROCESS GAUGE WITH SB STAINLESS STEEL DIAPHRAGM SEAL

Mansfield & Green SB stainless steel diaphragm seals are protective devices designed to isolate an Ametek Series 1980 Solfrunt Process Gauge from potentially damaging process media.

- **Upper housing material of seal is carbon steel**
- **Lower housing material of seal is a 300 Series Stainless Steel**
- **Seal connected to a Series 1980 Solfrunt Process Gauge**
- **Dry gauge; diaphragm filled with M&G Instrument Oil (30°F to 300°F)**
- **1/2" NPT socket**




### 4½" 1980 PROCESS GAUGE WITH SB STAINLESS STEEL DIAPHRAGM SEAL

| Range (PSI) | Smallest Graduations (PSI) | Seal Type | AMETEK Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **30** | 0.2 | SB Stainless Steel | S1866-1 | **1X850** | $326.00 | **$210.00** | 8.0 |
| **60** | 0.5 | SB Stainless Steel | S1866-2 | **1X852** | 326.00 | **210.00** | 8.0 |
| **100** | 1 | SB Stainless Steel | S1866-3 | **1X854** | 326.00 | **210.00** | 8.0 |
| **160** | 1 | SB Stainless Steel | S1866-4 | **1X856** | 326.00 | **210.00** | 8.0 |
| **200** | 2 | SB Stainless Steel | S1866-5 | **1X858** | 326.00 | **210.00** | 8.0 |
| **300** | 2 | SB Stainless Steel | S1866-6 | **1X860** | 326.00 | **210.00** | 8.0 |
| **400** | 5 | SB Stainless Steel | S1866-7 | **1X862** | 326.00 | **210.00** | 8.0 |
| **600** | 5 | SB Stainless Steel | S1866-8 | **1X864** | 326.00 | **210.00** | 8.0 |

## ASHCROFT®

## PRESSURE INSTRUMENT TEST GAUGES

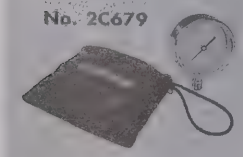
Test gauges can be used as a transfer standard for periodically checking the accuracy of pressure instruments or as a laboratory instrument for research and test lab. Widely used for process application where high accuracy in pressure measurement is essential.

- **Accuracy (typ.): ±0.25% full scale**
- **Stainless steel rotary design, Teflon™ (S) coated bearings, micrometer span adjustment, bi-metallic temperature compensator movement**
- **Stem or flush mounting, 1/4 NPT lower connection**
- **Features hinged steel ring and glass window**
- **Black aluminum pointer with red painted knife edged tip, friction adjustable and self-locking**
- **White coated aluminum dial with black numerals and polished mirror band**
- **Black epoxy coated aluminum case**
- **Exterior zero adjustment**
- **See ordering data below**

### PRESSURE INSTRUMENT TEST GAUGES SPECIFICATIONS AND ORDERING DATA

| Dial Size (In.) | Pressure Range (PSI) | Minor Graduation | Connection Size (NPT) | Tube Material | Socket Material | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **4½** | VAC* | 0.1 | 1/4" | Bronze | Brass | 451082AS02L VAC | **2F018** | $226.00 | **$199.00** | 4.1 |
| **4½** | 0-15 | 0.05 | 1/4 | Bronze | Brass | 451082AS02L15# | **2F006** | 226.00 | **199.00** | 4.1 |
| **4½** | 0-30 | 0.1 | 1/4 | Bronze | Brass | 451082AS02L30# | **2F010** | 226.00 | **199.00** | 4.1 |
| **4½** | 0-60 | 0.2 | 1/4 | Bronze | Brass | 451082AS02L60# | **2F016** | 226.00 | **199.00** | 4.1 |
| **4½** | 0-100 | 0.5 | 1/4 | Bronze | Brass | 451082AS02L100# | **2F004** | 226.00 | **199.00** | 4.1 |
| **4½** | 0-200 | 0.5 | 1/4 | Bronze | Brass | 451082AS02L200# | **2F008** | 226.00 | **199.00** | 4.1 |
| **4½** | 0-300 | 1 | 1/4 | Bronze | Brass | 451082AS02L300# | **2F012** | 226.00 | **199.00** | 4.1 |
| **4½** | 0-400 | 1 | 1/4 | Bronze | Brass | 451082AS02L400# | **2F014** | 226.00 | **199.00** | 4.1 |
| **4½** | 0-600 | 2 | 1/4 | Monel | Monel | 451082PS02L600# | **2F030** | 317.00 | **279.25** | 4.1 |
| **4½** | 0-1000 | 5 | 1/4 | Monel | Monel | 451082PS02L1000# | **2F022** | 317.00 | **279.25** | 4.1 |
| **4½** | 0-2000 | 10 | 1/4 | Monel | Monel | 451082PS02L2000# | **2F024** | 317.00 | **279.25** | 4.1 |
| **4½** | 0-3000 | 10 | 1/4 | Monel | Monel | 451082PS02L3000# | **2F026** | 317.00 | **279.25** | 4.1 |
| **4½** | 0-5000 | 20 | 1/4 | Monel | Monel | 451082PS02L5000# | **2F028** | 317.00 | **279.25** | 4.1 |
| **4½** | 0-10,000 | 50 | 1/4 | Monel | Monel | 451082PS02L10,000# | **2F020** | 317.00 | **279.25** | 4.1 |
| **6** | VAC* | 0.1 | 1/4 | Bronze | Brass | 601082AS02L VAC | **2F169** | 271.00 | **239.25** | 5.0 |
| **6** | 0-15 | 0.05 | 1/4 | Bronze | Brass | 601082AS02L15# | **2F157** | 271.00 | **239.25** | 5.0 |
| **6** | 0-30 | 0.1 | 1/4 | Bronze | Brass | 601082AS02L30# | **2F161** | 271.00 | **239.25** | 5.0 |
| **6** | 0-60 | 0.2 | 1/4 | Bronze | Brass | 601082AS02L60# | **2F167** | 271.00 | **239.25** | 5.0 |
| **6** | 0-100 | 0.2 | 1/4 | Bronze | Brass | 601082AS02L100# | **2F155** | 271.00 | **239.25** | 5.0 |
| **6** | 0-200 | 0.5 | 1/4 | Bronze | Brass | 601082AS02L200# | **2F159** | 271.00 | **239.25** | 5.0 |
| **6** | 0-300 | 1 | 1/4 | Bronze | Brass | 601082AS02L300# | **2F163** | 271.00 | **239.25** | 5.0 |
| **6** | 0-400 | 1 | 1/4 | Bronze | Brass | 601082AS02L400# | **2F165** | 271.00 | **239.25** | 5.0 |
| **6** | 0-600 | 2 | 1/4 | Monel | Monel | 601082PS02L600# | **2F181** | 391.00 | **345.00** | 5.0 |
| **6** | 0-1000 | 2 | 1/4 | Monel | Monel | 601082PS02L1000# | **2F173** | 391.00 | **345.00** | 5.0 |
| **6** | 0-2000 | 5 | 1/4 | Monel | Monel | 601082PS02L2000# | **2F175** | 391.00 | **345.00** | 5.0 |
| **6** | 0-3000 | 10 | 1/4 | Monel | Monel | 601082PS02L3000# | **2F177** | 391.00 | **345.00** | 5.0 |
| **6** | 0-5000 | 10 | 1/4 | Monel | Monel | 601082PS02L5000# | **2F179** | 391.00 | **345.00** | 5.0 |
| **6** | 0-10,000 | 20 | 1/4 | Monel | Monel | 601082PS02L10,000# | **2F171** | 391.00 | **345.00** | 5.0 |

(*) Measures vacuum 30"Hg to 0.




## ASHCROFT®

## 3" TEST PRESSURE & VACUUM GAUGES

- **All stainless steel construction**
- **Zero adjustable dial**
- **Polished mirror band on dial**
- **0.5% Grade 2A accuracy**
- **1/4" 316SS NPT lower connection**
- **Red tipped knife edge pointer**
- **Supplied with nylon carrying pouch**

| Pressure Range (PSI) | Smallest Graduations (PSI) | Ashcroft Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| **VAC*** | | 30-1084S | **2C696** | $136.00 | **$136.00** | 1.0 |
| **30** | 0.2 | 30-1084S | **2C688** | 136.00 | **136.00** | 1.0 |
| **60** | 0.2 | 30-1084S | **2C692** | 136.00 | **136.00** | 1.0 |
| **100** | 1 | 30-1084S | **2C679** | 136.00 | **136.00** | 1.0 |
| **200** | 2 | 30-1084S | **2C686** | 136.00 | **136.00** | 1.0 |
| **300** | 2 | 30-1084S | **2C690** | 136.00 | **136.00** | 1.0 |
| **600** | 5 | 30-1084S | **2C694** | 136.00 | **136.00** | 1.0 |
| **1000** | 10 | 30-1084S | **2C684** | 136.00 | **136.00** | 1.0 |

(*) Measures vacuum 30" Hg to 0. Smallest graduations 0.2" Hg



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# PSYCHROMETERS AND RELATIVE HUMIDITY METERS


No. 2T703


No. 6T173


No. 3T811


No. 1M924


No. 1P124


No. 4JZ85

## PSYCHROMETERS

### TAYLOR No. 2T703

**Sling-type psychrometer for relative humidity measurement, range of 10 to 100%. Temp. range from 20 to 120°F**
**Weather bureau type wet/dry bulb thermometers**
**Self-contained case, slide rule design, pocket-size**

| Liquid | Taylor Model | Stock No.[2][3] | Each | Shpg. Wt. |
|---|---|---|---|---|
| Mercury | 1330 | 2T703 | $75.00 | 0.4 |

### BACHARACH Nos. 6T173 and 6T174

**Sling-type psychrometers determines % relative humidity over the range of 10 to 100%. Temp. range from 25 to 120°F**
**Built-in slide rule calculator correlates wet and dry bulb thermometer indications for direct reading of RH**
**1-piece construction prevents "fly-away" and requires no assembly prior to use**
**Highly portable; when not in use, thermometer case telescopes into handle for protection**
**Dual range (high and low temperature) for better resolution**
**Available with either red spirit filled tubes (No. 6T173) or mercury filled tubes (No. 6T174)**

| Liquid | Bacharach Model | Stock No.[3] | Each | Shpg. Wt. |
|---|---|---|---|---|
| Red Spirit | 12-7012 | 6T173 | $65.95 | 0.5 |
| Mercury | 12-7011 | 6T174 | 66.95 | 0.5 |
| **REPLACEMENT THERMOMETERS** | | | | |
| Red Spirit | 12-0266 | 6T175 | 25.00 | 0.1 |
| Mercury | 12-0267 | 6T176 | 26.50 | 0.1 |

### ERTCO Nos. 3T811, 3T812 and 3T813

**Sling-type psychrometer for relative humidity measurement, range of 10 to 100%**
**No assembly required, compact one-piece construction**
**Temperature range from 20 to 120°F except for No. 3T812 with temperature range of -5 to 50°C**
**Complete slide rule scale on one side**
**One-piece wick and water well assembly**
**Dimensions: 8¼H x 1¼W x 5/8"L**

| Liquid | ERTCO Model | Stock No.[3] | Each | Shpg. Wt. |
|---|---|---|---|---|
| Mercury | PS100F | 3T811[2] | $48.20 | 0.2 |
| Mercury | PS100C | 3T812[2] | 48.20 | 0.2 |
| Red Spirit | PS100FS | 3T813 | 48.20 | 0.2 |

[2] These products are covered by California Proposition 65. California purchases or shipment, see first page of Grainger Branch Listing or call any California branch.
[3] These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

### EXTECH RELATIVE HUMIDITY 4-20MA TRANSMITTER

- **Transmits 4-20mA signal to remote devices such as panel meter and controllers**
- **Provides direct reading 10 to 95% RH measurement**
- **4-wire configuration for loop provides 3% measurement accuracy**
- **Includes banana plugs, probe with 36" cable, and 9V battery**
- **Uses vinyl carrying case No. 1H152**

Relative Humidity 4-20mA Transmitter. Extech brand (445604)
**New No. 4PC64.** Shpg. wt. 0.6 lbs. List $159.00. Each ..... $159.00

## RELATIVE HUMIDITY METERS

### AMPROBE DIGITAL HYGRO-THERMOMETER No. 1P124

- **Temperature range from –10 to 50°C ±1°C or 14 to 122°F with ±1°F**
- **Relative humidity from 5 to 95%; accuracy ±3% @ 25°C from 10 to 90% RH; ±5% all other ranges**
- **Min./Max. memory, data hold**
- **Auto power OFF after 20 min.**
- **80 second response time is typical**
- **Includes 2 "AAA" batteries, sensor cover with pocket clip, and instructions**

**No. 1P124.** Amprobe brand (TH-2). Shpg. wt. 0.3 lbs.
Each ..... $59.85

### AMPROBE POCKET HYGRO-THERMOMETER No. 1M924

- **Humidity range 0 to 100%; accuracy ±3% of reading**
- **Temp. range –10 to 50°C ± 1°C; 14 to 122°F ± 1°F**
- **Responds within 80 seconds**
- **Measures and displays wet bulb temperature or dew point**
- **Data hold, auto power OFF, and Min./Max. recall**
- **Includes pocket clip, 2 "AAA" batteries, protective cap and instructions**

**No. 1M924.** Amprobe brand (THWD-1). Shpg. wt. 0.3 lbs.
Each ..... $99.85

### DWYER THERMO HYGROMETER No. 4JZ85

- **Displays 0 to 100% humidity with ±2% accuracy and 0.1% resolution**
- **Integral probe provides field flexibility for measurements in ductwork or open environments**
- **Measures temperatures from -20 to 185°F (-30 to 85°C) at ±1°F (±0.5°C) accuracy and 0.1° resolution**
- **Low battery indicator, auto off, min/max, dewpoint, wet bulb and hold, backlit display**
- **Stores up to 25 readings in memory for later analysis**

**No. 4JZ85.** Dwyer brand (485-2). Shpg. wt. 3.0 lbs.
Each ..... $299.50

# RELATIVE HUMIDITY METERS AND THERMOHYGROMETER

## COOPER No. 6T444

- Measures relative humidity, calculates wet bulb temperature and differential temperature between probes 1 and 2
- –40° to 300°F with temp. probes
- Accuracy (typ.): ±0.3°F or ±0.5% of reading
- Humidity range 10 to 95%
- Accuracy (typ.): ±2% from 20 to 80% relative humidity (RH)
- Accuracy (typ.): ±3% from below 20% and above 80% RH
- Humidity probe temperature range 0° to 130°F
- Backlit display for dark environments; auto shut-off for extended battery life; sealed membrane touch pad
- Scan mode stores data until function is stopped
- Annunciators for over range, under range, battery discharged, and clear Min/Max memory

**No. 6T444.** Cooper brand (SRH77A). Shpg. wt. 2.0 lbs. Each ..... $299.75

## DICKSON No. 4PC72

- Range: –22° to 185°F (–30° to +85°C), 0 to 95% RH (non-condensing)
- Accuracy: temperature ±1.8°F (±1°C), ±2% RH from 0 to 60% RH, ±3% from 61 to 95%
- Large digital display, °F/°C switchable, min./max., hold key, low battery indicator
- Includes 1point NIST traceable certificate of calibration, 9V battery, carrying case and manual
- Stores and recalls 16 readings, including temperature, humidity and calculated dew point
- Smooth ergonomic body design

**New No. 4PC72.** Dickson brand (TH300). Shpg. wt. 1.0 lbs. Each ..... $389.00▲

### CALIBRATION KIT FOR No. 4PC72

**No. 3JG29.** Dickson brand (A834). Shpg. wt. 1.0 lbs. Each ..... $125.00▲

## KANE-MAY No. 3T331

- Instant humidity and temperature measurement
- 3 digit LCD display, low battery warning
- Integral hygropolymer capacitive humidity sensor and integral platinum RTD temperature sensor
- Measuring range: 0% to 98% RH; 32° to 160°F
- Accuracy: ±2% RH; 0.7% rdg. ±1°F
- Includes 9V alkaline battery

**No. 3T331.** Kane-May brand (KM8106). Shpg. wt. 1.0 lbs. Each ..... $395.00

## KANE-MAY No. 3T330

- Instant remote humidity and temperature measurement
- 3 digit LCD display
- Measuring range: 0% to 98% RH; 32° to 160°F
- Accuracy: ±2% RH; 0.7% rdg. ±1°F
- 1% RH sensor and temperature sensor located in detachable probe with 40" cord, wrist strap, 9V alkaline battery, and case

**No. 3T330.** Kane-May brand (KM8104). Shpg. wt. 6.0 lbs. Each ..... $670.00

## CHECK-IT SUPERHEAT-HUMIDITY SET No. 4KC12

- Accuracy: ±1% reading ±1 digit (-100 to 212°F), ±2% range ±1 digit (212 to 500°F), ±2% (0 to 100% RH)
- Resolution: 1°F/1% RH
- Instruction for three methods of measuring superheat, built-in humidity and ambient temperature sensors
- 3 Sensor jacks read 3 locations and differentials between them
- Includes meter, 9V battery, No. 4KC13 probe, No. 4KC14 probe, No. 4KC15 probe, No. 2T346 probe, three velcro straps, wet bulb/dew point calculator, and carrying case

**No. 4KC12.** Check-It brand (0628). Shpg. wt. 3.0 lbs. Each ..... $190.00

## HANNA PRINTING AND LOGGING THERMOHYGROMETER No. 4KF39

- Logging capacity: Stores up to 8,000 readings in memory—scroll on the LCD or download to a PC
- Download using cordless infrared transmission to No. 4KF40 RS 232 receiver
- Prints sample #, date, time, printing interval, RH, and °F
- Relative humidity: 5.0 to 95%; Temperature: -4 to 140°F
- Accuracy: ±2% full scale
- Includes No. 4KF31 (RH Probe), 4KF36 (Temp. Probe), carrying case and instructions
- Printer uses plain, non-fading paper (No. 4KF33)
- Uses 4 AA batteries (not included)

**No. 4KF39.** Hanna brand (HI91610F). Shpg. wt. 4.3 lbs. Each ..... $730.00

### ACCESSORIES FOR No. 4KF39

**Relative Humidity (RH) Probes.** Thin-film polymer capacitance. Rapid response and high accuracy. Screw-type connector. No. 4KF31 has 7 ft. (2m) cable. No. 4KF32 has 16.5 ft. (5m) cable.

**No. 4KF31.** Hanna brand (HI70604/2). Shpg. wt. 1.2 lbs. Each ..... $205.00

**No. 4KF32.** Hanna brand (HI70604/5). Shpg. wt. 1.2 lbs. Each ..... $250.00

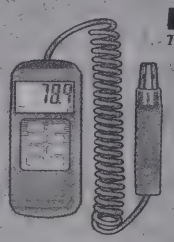
**Thermistor Probe.** For air and liquid applications. Stainless steel with white handle. Temperature range: -58 to 302°F. Accuracy: ±0.4°F. 7 ft. (2m) cable.

**No. 4KF36.** Hanna brand (HI762L/2). Shpg. wt. 0.5 lbs. Each ..... $50.00



Includes 2 temperature and 1 humidity probe

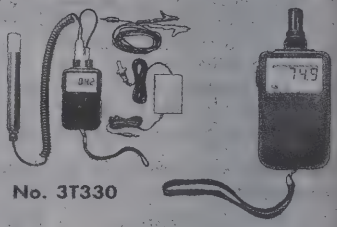
No. 6T444

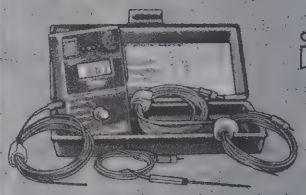


No. 4PC72

New


No. 3T331


No. 3T330


No. 4KC12



No. 4KF36

No. 4KF31

No. 4KF39
(Shown with probe Nos. 4KF31 and 4KF36)

(▲) Net prices, not subject to discounts.

# HYGROMETER, WATERPROOF THERMOMETER, AND COOKING THERMOMETERS

## EXTECH HEAVY DUTY HYGRO-THERMOMETER No. 1M942

- Accuracy (typ.): ±3% RH, ±1.5°F, ±0.8°C
- Rugged dual display for temperature and humidity
- Fast response using thin film capacitor sensor over 10 to 95% RH range
- °C/°F switchable 32° to 140°F (0-60°C) to 0.1°
- Thermistor sensor for temperature
- Compatible with Data Logger No. 1M960 and software No. 3ZH85
- AC power adapter available, use No. 3HZ67
- Max./Min. and Avg. readings
- Includes holster, 9V battery, remote probe (36" cable), and instructions

**No. 1M942.** Extech brand (407445).
Shpg. wt. 1.4 lbs. Each..... $199.00

## EXTECH RELATIVE HUMIDITY ADAPTER No. 1M926

- Turns any digital multimeter with a 200mV DC range into a relative humidity meter
- Measures relative humidity from 15 to 90% with ±4% accuracy
- Includes 9V battery, 54" connecting cord and instructions

**No. 1M926.** Extech brand (445602).
Shpg. wt. 0.7 lbs. Each..... $99.00

## HANNA EITH® WATERPROOF ELECTRONIC THERMOMETER No. 4KF25

- Easy-to-read LCD
- Temperature range: -58 to 338°F ±2°F accuracy
- Waterproof ABS case protects against dust and humidity
- Manual single-point calibration through trimmer
- Stainless steel probe
- 4 watch type batteries provide 700 hours of continuous use

**No. 4KF25.** Hanna brand (ELTHWPF).
Shpg. wt. 0.3 lbs. Each..... $37.45

# COOKING THERMOMETERS

## TAYLOR GRILL THERMOMETER No. 4JZ19

- 1⅝" dial
- Stainless steel case with magnetic back, safety spring handle

## TAYLOR HIGH TEMPERATURE THERMOMETER No. 4JZ20

- 2" dial with 15" stem
- Tempered glass crystal, pan clip with splash guard

## TAYLOR CANDY THERMOMETER No. 4JZ13

- 2¾" dial with 6" stem
- Heavy-duty stainless steel
- Adjustable pan clip, preset indicator
- Dishwasher safe. NSF Listed

## TAYLOR CANDY THERMOMETER No. 4JZ15

- Heavy-duty stainless steel
- Also used for deep fry applications
- Insulated handle with pan clip
- Overall length 12"

## TAYLOR OVEN THERMOMETER No. 4JZ16

- 3" dial with bold color graphics
- Tempered glass crystal; stainless steel construction. NSF Listed

## TAYLOR COLD TEMPERATURE THERMOMETER No. 4JZ17

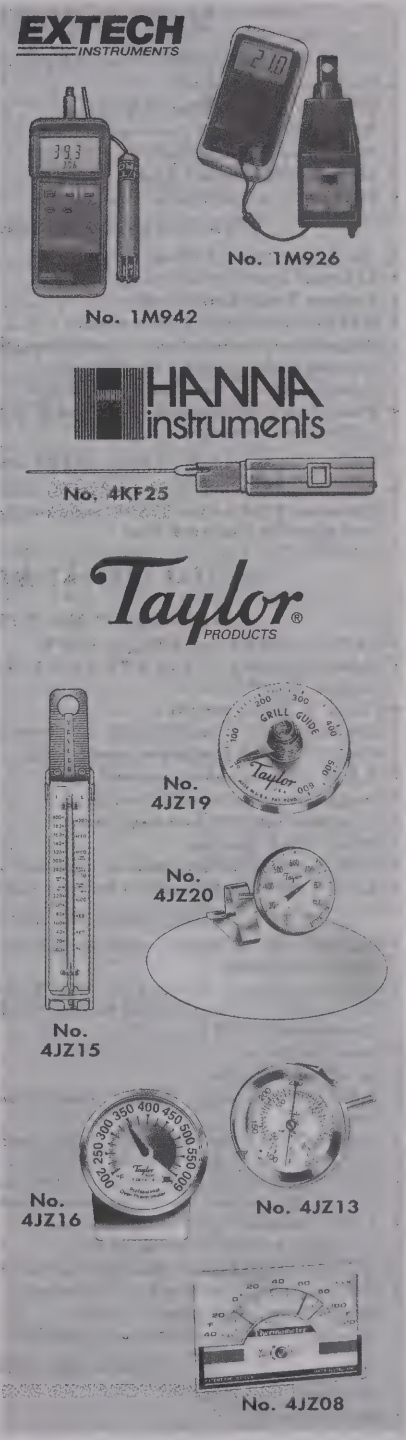
- 3" dial with bold color graphics
- Safe food storage zones for refrigerator and freezer
- Tempered glass crystal; stainless steel construction. NSF Listed

## TAYLOR MAXIMUM/MINIMUM THERMOMETER No. 4JZ08

- Compact design; 5¼ x 3½" plastic case
- Records present, highest, and lowest temperature
- For indoor use, wall or desk mount

## COOKING THERMOMETER ORDERING DATA

| Thermometer Type | Temperature Range (°F) | Taylor Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| rill | 50 to 600 | 6020 | 4JZ19 | $21.99 | 0.3 |
| igh Temperature | 200 to 1000 | 6246 | 4JZ20 | 42.00 | 1.0 |
| andy | 100 to 400 | 5911 | 4JZ13 | 13.99 | 0.3 |
| andy | 65 to 400 | 5983 | 4JZ15 | 15.99 | 0.3 |
| ven | 175 to 515 | 5995 | 4JZ16 | 9.99 | 0.3 |
| old Temperature | -30 to 70 | 5996 | 4JZ17 | 9.99 | 0.2 |
| aximum/Minimum | -40 to 120 | 5422 | 4JZ08 | 14.99 | 0.3 |



# 1" DIAL DIAMETER BIMETAL AND DIGITAL POCKET TEST THERMOMETERS

## BI-METAL MODELS

### A ASHCROFT Nos. 2A625 and 2A626

- Accuracy (typ.): ±1%
- External recalibration adjustment
- 304 stainless steel case and 5" stem
- Polycarbonate window
- Hermetically sealed case
- Protective polyethylene clip-sheath

### B TAYLOR Nos. 2T694 and 2T695

- Accuracy (typ.): ±1% of range
- External recalibration adjustment
- Unique 3-point calibration
- 304 stainless steel construction
- Polycarbonate window, 5" stem length
- Unique high visibility dial layout
- Dampened coil for shock protection
- Protective polyethylene clip-sheath with molded-in calibration wrench

### C TAYLOR Nos. 2T696 and 2T697

- Accuracy (typ.): ±1% at midpoint, ±2% at scale ends
- Same as 2T694 and 2T695 with single point calibration and glow-in-the-dark dial

## DIGITAL DISPLAY MODELS

### D TAYLOR No. 2T708

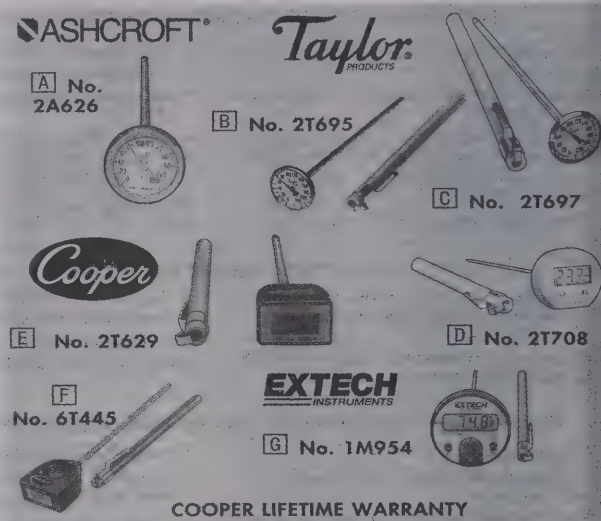
- -58° F to 302°F or -50°C to 150°C
- Accuracy (typ.): -58 to 13°F ±3.6°F, 14 to 221°F ±1.8°F, 222 to 302°F ±3.6°F
- °F or °C select switch
- Resolution: 0.1° to 199.9°F, 1°F from 200° to 302°F
- On/Off switch lengthens battery life
- 4.75" stainless steel pointed stem
- Large, easy-to-read LCD display
- 1 second update/fast response
- Non-rolling design
- Clip sheath provides stem protection, usable as a holder
- Extra 1.5V watch/camera battery included

### D TAYLOR No. 2T710

- Range: –58° to 500°F, –50° to 260°C, widest industry range available
- Accuracy (typ.): -58 to 13°F ±3.6°F, 14 to 221°F ±1.8°F, 222 to 302°F ±3.6°F, 303 to 500°F ±5.0°F
- Resolution: 0.1°F
- Recalibratable
- Thermistor sensor
- Max./Min. memory button—saves readings when power is turned off
- Can be left on indefinitely for min/max recording, manual instant off or 6 to 7 minute auto-off
- On/Update frequency select button displays in 1 to 2 second or 10 second intervals; resets Max./Min. memory
- 4.75" stainless steel pointed stem
- F/C slide switch located on side
- Clip sheath provides stem protection, usable as a holder
- Ribbed, plastic casing for secure grip
- Non-rolling, streamlined design
- 1.5V watch/camera battery installed

### E COOPER No. 2T629

- Accuracy (typ.): ±2°F
- Resolution: 0.1°F




**COOPER LIFETIME WARRANTY**

Cooper warrants Nos. 2T629 and 6T445 for life of the product. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- Easy reading convenience of 5/16" digital LCD display
- Fast response
- Auto shut-off with instant update
- 304 stainless steel stem; 5" length
- 1.5V silver oxide watch battery installed and polypropylene clip-sheath

### F COOPER No. 6T445

- Flat case to better fit in shirt pocket
- 5/16" high LCD display with 0.1°F resolution
- Stainless steel stem
- Auto shut-off
- Instant update button
- Supplied with 1.5V silver oxide battery and protective pocket sheath with clip

### G EXTECH No. 1M954

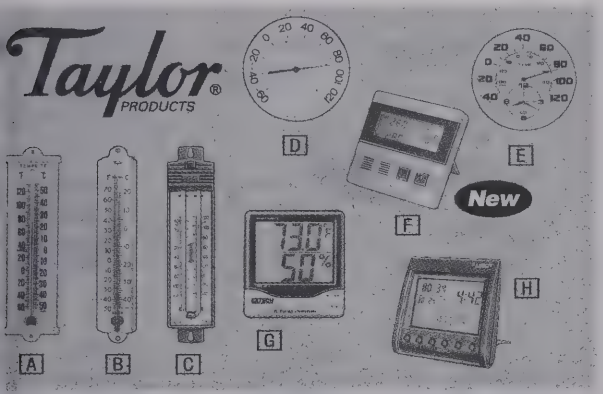
- Accuracy (typ.): ±1°C/± 2°F
- Resolution: 0.1° (to 199.9°); 1° (over 200°)
- Wide °C/°F Switchable Measuring Range: –58° to 302°F; –50° to 150°C
- 0.4" LCD display, 2" diameter dial head
- 5" stainless steel thermistor probe
- On/Off switch saves battery life
- Includes plastic protective sheath, pocket clip, and button style battery

| Key | Range °F | Degree Divisions | Mfr. | Mfr's. Model | Stock No. | Each | Ship Wt |
|---|---|---|---|---|---|---|---|
| A | -40 to 160 | 2° | Ashcroft | 10FT50R-40/160 | **2A625** | **$13.34** | 0 |
| A | 0 to 220 | 2° | Ashcroft | 10FT50R0/220 | **2A626** | **13.34** | 0 |
| B | -40 to 160 | 2° | Taylor | 6076-1 | **2T694** | **11.50** | 0 |
| B | 0 to 220 | 2° | Taylor | 6072-1 | **2T695** | **11.50** | 0 |
| C | -40 to 160 | 2° | Taylor | 6096-L | **2T696** | **9.20** | 0 |
| C | 0 to 220 | 2° | Taylor | 6092-L | **2T697** | **9.20** | 0 |
| D | -58 to 302 | — | Taylor | 9841 | **2T708** | **15.95** | 0 |
| D | -58 to 500 | — | Taylor | 9878 | **2T710** | **28.75** | 0 |
| E | -40 to 300 | — | Cooper | DFP300 | **2T629** | **29.35** | 0 |
| F | -40 to 450 | — | Cooper | DFP450 | **6T445** | **29.35** | 0 |
| G | -58 to 302 | — | Extech | 392050 | **1M954** | **25.00** | 0 |



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# WALL MOUNT AND DESKTOP THERMOMETERS, HUMIGUIDE, AND HYGROMETERS




### A UTILITY WALL THERMOMETER

White aluminum back, 9¼" long
Non-toxic liquid fill, °F and °C scales

### B COLD ROOM THERMOMETERS

Readable in poor lighting
Non-toxic liquid fill, °F and °C scales

### C MAXIMUM-MINIMUM THERMOMETER

Registers high and low readings from last setting
Push button or magnet reset
Plastic case, °F and °C scales

### D DIAL THERMOMETERS

12" (No. 3T194) or 18" dial (No. 3T195)
All metal construction with plastic crystal
Outdoor and indoor use
No. 3T194 large blue outer Fahrenheit and black inner Celsius scale
No. 3T195 white outer Fahrenheit and black inner Celcius scale

### E TIME/TEMPERATURE COMBINATION THERMOMETER

Weather resistant construction for indoor or outdoor use

### F EXTECH RECORDING THERMOMETER CLOCK

Records indoor & outdoor Max/Min temperatures with date-time stamp

- Case with built-in stand and wall mount brackets
- Indoor measurements from 14 to 122°F (-10 to 50°C)
- Outdoor measurements from -40 to 176°F (-40 to 80°C)
- Switchable °C/°F with ±1° accuracy and 0.5° resolution
- Includes outdoor temperature sensor with 79" (2m) cable, and three 1.5V (AAA) batteries

### G EXTECH BIG DIGIT HYGRO-THERMOMETER

- 1" digits on super large LCD displays %RH and temperature simultaneously
- Max/Min memory recall of temperature and humidity plus reset function
- Measurement ranges: 14 to 140°F (-10 to 60°C) and 10 to 99% RH
- Switchable °C/°F with ±1° (1.8°F) / 5% RH accuracy
- Dimensions: 4.3 x 3.9 x 0.78"
- Includes built-in tilt stand, wall mount bracket and battery

### H EXTECH HYGRO-THERMOMETER CALENDAR/CLOCK

- Large LCD displays %RH, temperature, time, date, monthly calendar, and clock alarm
- Portable desk- or bench-top unit displays numeric week, day, and month
- Alarm clock features 4 minute snooze function
- Measurement ranges: 14 to 140°F (-10 to 60°C) and 20 to 90% RH
- Switchable °C/°F with ±1° temperature and 5% RH accuracy
- Includes built-in stand, case, and two SG13 batteries

| Key | Range | Divisions | Taylor Model | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | –60° to 120°F (–50° to 50°C) | 2° | 5132 | | 2T707❸ | $6.95 | 0.1 |
| B | –40° to 70°F (–40° to 20°C) | 1° | 1106 | | 2T705❸ | 24.95 | 0.3 |
| B | –30° to 120°F (–40° to 50°C) | 2° | 1105 | | 2T706❸ | 24.95 | 0.3 |
| C | –40° to 120°C (–40 to 55°C) | 2° | 5460 F/C-10 | | 2T700❷❸ | 22.95 | 0.5 |
| D | –60° to 120°F (–50° to 50°C) | 2° | 49562 | | 3T194 | 14.95 | 1.3 |
| D | –60° to 120°F (–50° to 50°C) | 2° | 682 | | 3T195 | 31.50 | 3.0 |
| E | –40° to 120°F (–30° to 40°C) | 5° | 162 | | 3T196 | 44.95 | 2.9 |
| F | 14 to 122°F (–40 to 80°C) | 5° | 40102F | *New* | 4PC58 | 29.00 | 0.3 |
| G | 14 to 140°F (–10 to 60°C) | 5° | 445703 | *New* | 4PC65 | 39.00 | 0.4 |
| H | 14 to 140°F (–10 to 60°C) | 5° | 445800 | *New* | 4PC66 | 29.00 | 0.3 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

### A DIGITAL HUMIDIGUIDE®

Temperature range –58° to 158°F; relative humidity range 20 to 95%
Accuracy: humidity ±5% from 35% to 75% at 25°C ± 0.5°C; temperature ± 3.6°F from –58°F to 122°F
Large, 1/2" digits for easy reading
Built-in desk stand and keyhole slots for desktop or wall locations
Includes 1 "AAA" size battery
No. 1TC16. Taylor brand (5566). Shpg. wt. 0.2 lbs. Each.....$70.00

### B TAYLOR DIAL HYGROMETER

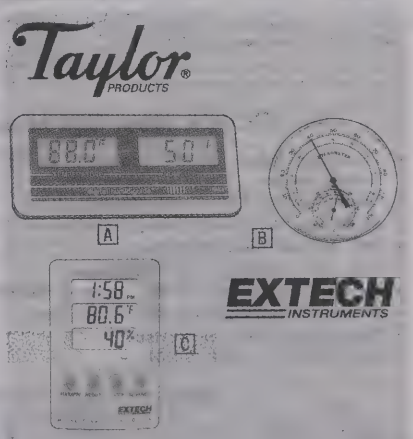
Precision dial hygrometer
Direct reading of percent relative humidity from synthetic hair hygrometer movement
Accuracy: humidity ±5%; temp ±2°F
Measures 10-90% RH scale with 10° to 130°F, –16° to 55°C thermometer
- 5" diameter steel case with chrome bezel and glass crystal

No. 2T701. Taylor brand (5565). Shpg. wt. 0.5 lbs. Each.....$80.00

### C EXTECH THERMO-HYGROMETER CLOCK

- Simultaneous display of time, temperature and humidity
- Selectable 12-hour clock with °F or 24-hour clock with °C
- Min and max memory for both temperature and humidity
- Measures -4 to 122°F (-20 to 50°C) with ±1.8°F (±1°C) accuracy; 25 to 95% RH with 6% accuracy
- Includes a built in stand, wall mounting bracket, and (1) AAA battery

No. 3ZH92. Extech brand (445702). Shpg. wt. 0.3 lbs. Each.....$29.00



# PANEL MOUNT TEMPERATURE MEASURING

## [A] TAYLOR DIGITAL DISPLAY THERMOMETERS

- Accuracy: ±2.0°F • Resolution: 0.1°F
- 0.5" LCD display; white polystyrene housing
- Panel dimensions: 2⅝W x 1⅜H x 1½"D
- Sensor diameter: 9/32", 10 ft. cable
- Air/immersion probe • 10 second update interval
- Requires "1.5V-AA" battery (not supplied). 3¾" metal flange (where supplied) used to mount thermometer to cabinet walls, or flush mount without flange

| Range | Flange | Taylor Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| –40 to 120°F | No | 9900 | 2T711 | $23.50 | 0.3 |
| –40 to 120°F | Yes | 9900-2 | 2T714 | 30.95 | 0.4 |
| 14 to 230°F | No | 9930 | 2T713 | 23.50 | 0.1 |
| 14 to 230°F | Yes | 9930-2 | 2T716 | 30.95 | 0.4 |

## [B] COOPER VAPOR TENSION–REMOTE THERMOMETERS

- Accuracy: ±2%
- 2" dial vapor tension–remote reading; can be recalibrated
- Color-zoned dual (F/C) scale dials; tin plated 48" capillaries with air/immersion probe
- Sensor dimensions: 2.2"L x 0.312" Dia. on Nos. 2T640 & 2T637; 3.6"L x 0.375" Dia. on Nos. 2T638 & 2T639
- Nos. 2T637, 2T638, 2T639 NSF listed

| Range | Mounting | Cooper Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| –40° to 60°F; –40° to 15°C | "L" Bracket | 6642-06 | 2T640 | $25.40 | 0.5 |
| –40° to 60°F; –40° to 15°C | Front Flange | 6142-20 | 2T637 | 25.55 | 0.4 |
| –40° to 120°F; –40° to 50°C | Front Flange | 6142-13 | 2T638 | 32.65 | 0.4 |
| 40° to 240°F; 10° to 115°C | Front Flange | 6142-06 | 2T639 | 34.35 | 0.4 |

## [C] COOPER PANEL TEMPERATURE DISPLAYS

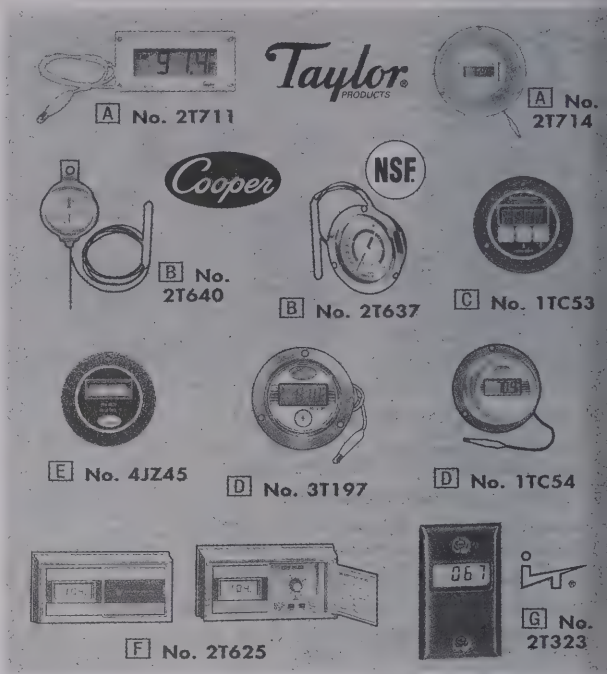
- Front flange mounted 2¹³⁄₁₆" molded case diameter
- Programmable high/low temperature points
- Audio/visual alarm
- Nos. 4JZ43 and 4JZ44 have SPST relay for external alarm
- Thermistor sensors not supplied. Order by calling Grainger Parts Operations 1-800-323-0620
- Display warnings: open probe, high/low temperature

| Temperature Range | Type | LED Display | Operating Voltage | Cooper Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| –40° to 300°F | Thermistor | 0.3" | 115V AC | PM200A61 | 1TC53 | $207.75 | 0.3 |
| | | | 115V AC | PM200A76 | 4JZ44 | 204.00 | 0.5 |
| | | | 12V DC | PM200A01 | 4JZ42 | 183.50 | 0.5 |
| | | | 12V DC | PM200A16 | 4JZ43 | 179.25 | 0.5 |

## [D] COOPER Nos. 3T197 and 1TC54

- Accuracy (typ.): ±0.2°F from -4° to 77°F or ±4°F over entire range
- Resolution: 0.1°F
- Stainless steel front flange mounts in 2" cut-out
- 39" sensor lead included
- 3½ LCD display, 0.5" high
- Battery operated, "1.5V" battery included
- 2" diameter high impact plastic lens
- Thermistor type air sensor
- No. 3T197 is NSF listed

| Range | Mounting Type | Cooper Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| –40° to 120°F | Front Flange | DM120 | 3T197 | $35.70 | 0.3 |
| –40° to 120°F | Back Flange | DM120S | 1TC54 | 37.85 | 0.4 |




## [E] COOPER No. 4JZ45

- Accuracy (typ.): ±2°F or ±2% of reading; whichever is greater
- Range: -40 to 999°F
- Bright, easy to read LED display
- 115V AC operating voltage
- Accepts Type K thermocouples

**No. 4JZ45.** Cooper brand (PM400K61). Shpg. wt. 0.1 lbs.
Each ..... $121.20

## [F] COOPER No. 2T625

- Accuracy: ±1° • Resolution: 1°
- Range: –40° to 300°F (–40° to 150°C); thermistor based
- 3 digit LCD display °F/°C; Hi/Lo memory
- Monitors up to 12 remote locations up to 1000 ft. away by selector switch
- Requires 10KΩ thermistor probes (not supplied); order by calling Grainger Parts Operations at 1-800-323-0620
- Looks and mounts like a wall thermostat—beige, brown, and gold case; includes sub-base, ID stickers, and mounting hardware
- Requires 24V AC power at 150MA • Use transformer No. 3TZ67

**No. 2T625.** Cooper brand (MP300). Shpg. wt. 1.0 lbs.
Each ..... $415.00

## [G] CHECK-IT No. 2T323

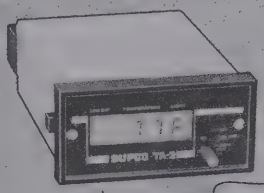
- Accuracy: ±1°F • Resolution: 1°F
- Range: –150° to 300°F; 3 digit, 1/2" high LCD display
- Mounts on standard 2" electrical box
- 1 reading per second; low battery indicator
- 3 ft. wire air/immersion probe included
- Modifiable to place sensor up to 1000 ft. away with 18-2 gauge thermostat wire such as No. 1W511
- Requires 9V battery (not supplied)

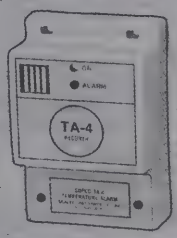
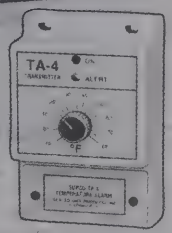
**No. 2T323.** Check-It brand (603). Shpg. wt. 0.3 lbs. Each ..... $65.9

# TEMPERATURE ALARMS

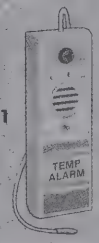
Supco


No. 3T186

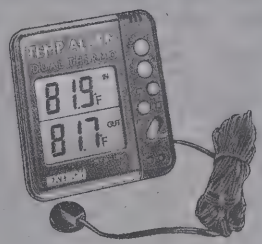

No. 3T187



No. 3T188


No 4JZ60


No. 4JZ61

EXTECH INSTRUMENTS


No. 1M952

## SUPCO No. 3T186

- Alarm adjustment from −10° to 80°F
- Switch for temp rising or dropping
- Switch for alarm delay or no delay
- Light flashes for one hour before activating alarm
- Audible buzzer warning after 1 hour in delay mode, immediately in non-delay mode
- Remote connections: 120V AC, 5 amps activates with audible buzzer
- 120V AC operation; 6 ft. power cord
- Encapsulated sensor with 6 ft. cord
- Sensor wire can be extended with standard speaker wire (not supplied) up to 200 ft.
- 4⅞H x 3W x 1⅝"D

**No. 3T186.** Supco brand (TA-2). Shpg. wt. 0.8 lbs. Each.....$57.75

## SUPCO No. 3T187

- Alarm adjustment from −50° to 170°F
- Display blinks one hour before activating alarm
- LCD display of temperature
- Front panel switch to deactivate alarm; field select switch for rise or fall in temperature; field select switch for delay/no delay
- Supplied with locking arms for panel mount
- Remote connections: 120V AC, 0.1 amps
- 120V AC operation, "9V" battery backup (not supplied)
- Encapsulated sensor with 4 ft. cord. Can be extended to 1000 ft. using No. 6A852 thermocouple wire
- 1¹¹⁄₁₆H x 3⁹⁄₁₆W x 5⁹⁄₁₆"D

**No. 3T187.** Supco brand (TA-3). Shpg. wt. 1.8 lbs. Each.....$118.75

## SUPCO No. 4JZ61

- Alarm adjustment from −10°F to 80°F
- Slide switch for immediate alarm response or 1 hour delay
- Loud, audible alarm
- Automatic low battery beeper
- Encapsulated sensor probe with 6 ft. cord
- Fast one minute installation. Use adhesive pads provided or keyhole opening
- Sensor wire can be extended up to 100 ft. using standard speaker wire
- Uses standard "9V" battery (not included)

**No. 4JZ61.** Supco brand (TA-7). Shpg. wt. 0.5 lbs. Each.....$24.95

## SUPCO No. 3T188

- Sensing unit transmits signal to remote receiving unit
- Alarm adjustment from −10° to 80°F
- Switch for temperature rising or dropping
- Warning light flashes on transmitter above or below setting
- Audible buzzer warning on receiving unit after one hour or immediately
- Remote connections: 120V AC, 0.1 amps
- 120V AC operation
- Sensor has 6 ft. cord
- 4⅝H x 3W x 1⅞,"D

**No. 3T188.** Supco brand (TA-4). Shpg. wt. 4.5 lbs. Each.....$171.50

**No. 4JZ58.** Replacement Receiver. Supco brand (TA-4R). Shpg. wt. 1.0 lbs. Each.....$84.95

**No. 4JZ59.** Replacement Transmitter. Supco brand (TA-4T). Shpg. wt. 1.0 lbs. Each.....$84.95

## SUPCO No. 4JZ60

- Dual settings...warns of rising and falling temperatures
- For use in freezers, refrigerators, greenhouses and tropical aquariums
- Alarm variables from −10°F to 80°F
- Concealed "Delay" – "No Delay" alarm slide switch
- Remote alarm terminals
- Power "ON" indicator light
- Alert flashing warning light
- Audible alarm beeper
- 120V operation
- Encapsulated sensor with 6 ft. cord
- Probe wire can be cut in field and extended up to 200 ft. using any standard 22 gauge wire
- Remote alarm connections: screw type, 120VAC, 5 amp max. (dry contacts)

**No. 4JZ60.** Supco brand (TA6). Shpg. wt. 1.0 lbs. Each.....$89.95

## EXTECH No. 1M952

- Indoor/outdoor temperature alarm
- Accuracy (typ.): ±2.5°
- Wide Measuring Range: −58° to 158°F
- Large 1.5" LCD display
- Single and dual pt. alarms
- Audible alarm alerts user
- Includes internal sensor, 10-ft. weatherproof external sensor with adhesive backing, built-in stand, "AAA" battery and wall mounting kit

**No. 1M952.** Extech brand (401012). Shpg. wt. 0.3 lbs. Each.....$19.00

# INDUSTRIAL DIAL THERMOMETERS

## BI-METAL 2" DIAL THERMOMETERS

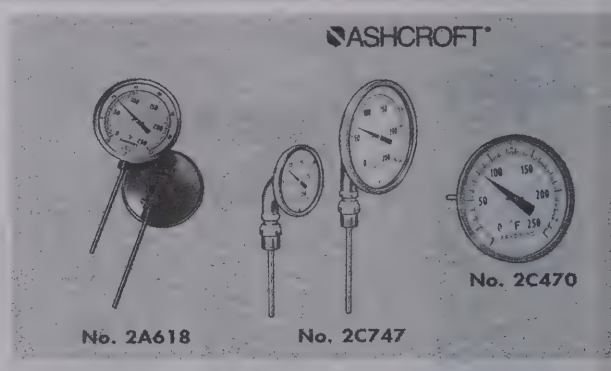
- Ashcroft brand
- Single temperature scale
- 2" dial in stem lengths from 2½ x through 9"
- Back stem locations with 1/4" NPT connection
- Single scale maxivision dial to eliminate parallax
- Same features as 3" and 5" thermometers below

| Temp Range (°F) | Max.* Temp. (°F) | Stem Length | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 0 to 250 | 500 | 2.5 | 20E160R025 | 2C470 | $50.80 | $40.50 | 0.3 |
| 50 to 550 | 800 | 2.5 | 20E160R025 | 2C472 | 50.80 | 40.50 | 0.3 |
| -20 to 120 | 240 | 4 | 20E160R040 | 2C474 | 50.80 | 40.50 | 0.3 |
| 0 to 250 | 500 | 4 | 20E160R040 | 2C476 | 50.80 | 40.50 | 0.3 |
| 50 to 550 | 800 | 4 | 20E160R040 | 2C478 | 50.80 | 40.50 | 0.3 |
| -20 to 120 | 240 | 6 | 20E160R060 | 2C480 | 50.80 | 40.50 | 0.3 |
| 0 to 250 | 500 | 6 | 20E160R060 | 2C482 | 50.80 | 40.50 | 0.3 |
| 50 to 550 | 800 | 6 | 20E160R060 | 2C484 | 50.80 | 40.50 | 0.3 |
| -20 to 120 | 240 | 9 | 20E160R090 | 2C486 | 50.80 | 40.50 | 0.4 |
| 0 to 250 | 500 | 9 | 20E160R090 | 2C488 | 50.80 | 40.50 | 0.4 |
| 50 to 550 | 800 | 9 | 20E160R090 | 2C490 | 50.80 | 40.50 | 0.4 |

## BI-METAL 3" & 5" DIAL THERMOMETERS

- 2½, 4, 6, 9 and 12" stem lengths in a variety of temp ranges
- Connection locations on back, bottom, and EveryAngle™ with 1/2" NPT connection; stems are 1/4" Dia.
- Case rotation on EveryAngle™ models is achieved without need for pointer adjustment; dial can be rotated 360° and angled 180° (tipped to any side)
- Maxivision dial eliminates parallax by placing pointer on the same plane as graduations, allowing accurate temperature readings from any angle
- Dual scale dials in F° and C°
- Stainless steel cases and stems
- Cases hermetically sealed—prevent icing/fogging inside case
- Heavy-duty glass windows stay clear and, with maxivision dial, readings are precise
- Silicone on coil for superior time response and vibration dampening
- 1% FS accuracy with external adjustment for recalibration
- Thermowells available. Match stem length (4, 6, 9 and 12" models) with bore depth (dimension S)

| Temp. Range (°F) | (°C) | Max.* Temp. (°F) | Stem Length (In.) | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3" DIAL BACK CONNECTION** | | | | | | | | |
| 0 to 250 | -20 to 120 | 500 | 2.5 | 30EI60R025 | 2A606 | $50.80 | $42.25 | 0.5 |
| 50 to 550 | 10 to 290 | 800 | 2.5 | 30EI60R025 | 2A607 | 50.80 | 42.25 | 0.5 |
| 0 to 250 | -20 to 120 | 500 | 4 | 30EI60R040 | 2A608 | 50.80 | 42.25 | 0.5 |
| 50 to 550 | 10 to 290 | 800 | 4 | 30EI60R040 | 2A609 | 50.80 | 42.25 | 0.5 |
| -20 to 120 | -30 to 50 | 240 | 4 | 30EI60R040 | 2A610 | 50.80 | 42.25 | 0.5 |
| 0 to 250 | -20 to 120 | 500 | 6 | 30EI60R060 | 2A611 | 50.80 | 42.25 | 0.5 |
| 50 to 550 | 10 to 290 | 800 | 6 | 30EI60R060 | 2A612 | 50.80 | 42.25 | 0.5 |
| -20 to 120 | -30 to 50 | 240 | 6 | 30EI60R060 | 2C762 | 50.80 | 42.25 | 0.5 |
| 0 to 250 | -20 to 120 | 500 | 9 | 30EI60R090 | 6T075 | 50.80 | 42.25 | 0.5 |
| 50 to 550 | 10 to 290 | 800 | 9 | 30EI60R090 | 6T076 | 50.80 | 42.25 | 0.5 |
| -20 to 120 | -30 to 50 | 240 | 9 | 30EI60R090 | 2C764 | 50.80 | 42.25 | 0.5 |
| -20 to 120 | -30 to 50 | 240 | 12 | 30EI60R120 | 2C757 | 57.00 | 45.30 | 0.5 |
| 0 to 250 | -20 to 120 | 500 | 12 | 30EI60R120 | 2C760 | 57.00 | 45.30 | 0.5 |
| 50 to 550 | 10 to 290 | 800 | 12 | 30EI60R120 | 2C766 | 57.00 | 45.30 | 0.5 |
| **3" DIAL BOTTOM CONNECTION** | | | | | | | | |
| 0 to 250 | -20 to 120 | 500 | 2.5 | 30EI60L025 | 2A613 | 85.20 | 65.50 | 0.8 |
| 50 to 550 | 10 to 290 | 800 | 2.5 | 30EI60L025 | 2A614 | 85.20 | 65.50 | 0.8 |
| 0 to 250 | -20 to 120 | 500 | 4 | 30EI60L040 | 2A615 | 85.20 | 65.50 | 0.8 |
| 50 to 550 | 10 to 290 | 800 | 4 | 30EI60L040 | 2A616 | 85.20 | 65.50 | 0.8 |
| -20 to 120 | -30 to 50 | 240 | 4 | 30EI60L040 | 2A617 | 85.20 | 65.50 | 0.8 |
| 0 to 250 | -20 to 120 | 500 | 6 | 30EI60L060 | 2C747 | 85.20 | 65.50 | 0.8 |
| 50 to 550 | 10 to 290 | 800 | 6 | 30EI60L060 | 2C749 | 85.20 | 65.50 | 0.8 |
| -20 to 120 | -30 to 50 | 240 | 6 | 30EI60L060 | 2C745 | 85.20 | 65.50 | 0.8 |
| 0 to 250 | -20 to 120 | 500 | 9 | 30EI60L090 | 2C753 | 85.20 | 65.50 | 0.8 |
| 50 to 550 | 10 to 290 | 800 | 9 | 30EI60L090 | 2C755 | 85.20 | 65.50 | 0.8 |
| -20 to 120 | -30 to 50 | 240 | 9 | 30EI60L090 | 2C751 | 85.20 | 65.50 | 0.8 |




| Temp. Range (°F) | (°C) | Max. * Temp (°F) | Stem Length (In.) | Ashcroft Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **3" DIAL EVERYANGLE CONNECTION** | | | | | | | | |
| 0 to 250 | -20 to 120 | 500 | 2.5 | 30EI60E025 | 2C715 | $99.00 | $77.55 | 1.0 |
| 50 to 550 | 10 to 290 | 800 | 2.5 | 30EI60E025 | 2C724 | 99.00 | 77.55 | 1.0 |
| -20 to 120 | -30 to 50 | 240 | 4 | 30EI60E040 | 2C726 | 99.00 | 77.55 | 1.0 |
| 0 to 250 | -20 to 120 | 500 | 4 | 30EI60E040 | 2C728 | 99.00 | 77.55 | 1.0 |
| 50 to 550 | 10 to 290 | 800 | 4 | 30EI60E040 | 2C730 | 99.00 | 77.55 | 1.0 |
| -20 to 120 | -30 to 50 | 240 | 6 | 30EI60E060 | 2C732 | 99.00 | 77.55 | 1.0 |
| 0 to 250 | -20 to 120 | 500 | 6 | 30EI60E060 | 2C734 | 99.00 | 77.55 | 1.0 |
| 50 to 550 | 10 to 290 | 800 | 6 | 30EI60E060 | 2C736 | 99.00 | 77.55 | 1.0 |
| -20 to 120 | -30 to 50 | 240 | 9 | 30EI60E090 | 2C738 | 99.00 | 77.55 | 1.0 |
| 0 to 250 | -20 to 120 | 500 | 9 | 30EI60E090 | 2C741 | 99.00 | 77.55 | 1.0 |
| 50 to 550 | 10 to 290 | 800 | 9 | 30EI60E090 | 2C743 | 99.00 | 77.55 | 1.0 |
| -20 to 120 | -30 to 50 | 240 | 12 | 30EI60E120 | 2C700 | 104.00 | 80.55 | 1.0 |
| 0 to 250 | -20 to 120 | 500 | 12 | 30EI60E120 | 2C709 | 104.00 | 80.55 | 1.0 |
| 50 to 550 | 10 to 290 | 800 | 12 | 30EI60E120 | 2C712 | 104.00 | 80.55 | 1.0 |
| **5" DIAL BACK CONNECTION** | | | | | | | | |
| 0 to 250 | -20 to 120 | 500 | 2.5 | 50EI60R025 | 2F070 | 77.50 | 53.00 | 1.3 |
| 50 to 550 | 10 to 290 | 800 | 2.5 | 50EI60R025 | 2F072 | 77.50 | 53.00 | 1.3 |
| -20 to 120 | -30 to 50 | 240 | 4 | 50EI60R040 | 2F074 | 77.50 | 53.00 | 1.3 |
| 0 to 250 | -20 to 120 | 500 | 4 | 50EI60R040 | 2F076 | 77.50 | 53.00 | 1.3 |
| 50 to 550 | 10 to 290 | 800 | 4 | 50EI60R040 | 2F078 | 77.50 | 53.00 | 1.3 |
| -20 to 120 | -30 to 50 | 240 | 6 | 50EI60R060 | 2F080 | 77.50 | 53.00 | 1.3 |
| 0 to 250 | -20 to 120 | 500 | 6 | 50EI60R060 | 2F082 | 77.50 | 53.00 | 1.3 |
| 50 to 550 | 10 to 290 | 800 | 6 | 50EI60R060 | 2F084 | 77.50 | 53.00 | 1.3 |
| -20 to 120 | -30 to 50 | 240 | 9 | 50EI60R090 | 2F086 | 77.50 | 53.00 | 1.3 |
| 0 to 250 | -20 to 120 | 500 | 9 | 50EI60R090 | 2F088 | 77.50 | 53.00 | 1.3 |
| 50 to 550 | 10 to 290 | 800 | 9 | 50EI60R090 | 2F090 | 77.50 | 53.00 | 1.3 |
| -20 to 120 | -30 to 50 | 240 | 12 | 50EI60R120 | 2F064 | 81.40 | 55.75 | 1.3 |
| 0 to 250 | -20 to 120 | 500 | 12 | 50EI60R120 | 2F066 | 81.40 | 55.75 | 1.3 |
| 50 to 550 | 10 to 290 | 800 | 12 | 50EI60R120 | 2F068 | 81.40 | 55.75 | 1.3 |
| **5" DIAL BOTTOM CONNECTION** | | | | | | | | |
| 0 to 250 | -20 to 120 | 500 | 2.5 | 50EI60L025 | 2F042 | 117.00 | 93.60 | 1.5 |
| 50 to 550 | 10 to 290 | 800 | 2.5 | 50EI60L025 | 2F044 | 117.00 | 93.60 | 1.5 |
| -20 to 120 | -30 to 50 | 240 | 4 | 50EI60L040 | 2F046 | 117.00 | 93.60 | 1.5 |
| 0 to 250 | -20 to 120 | 500 | 4 | 50EI60L040 | 2F048 | 117.00 | 93.60 | 1.5 |
| 50 to 550 | 10 to 290 | 800 | 4 | 50EI60L040 | 2F050 | 117.00 | 93.60 | 1.5 |
| -20 to 120 | -30 to 50 | 240 | 6 | 50EI60L060 | 2F052 | 117.00 | 93.60 | 1.5 |
| 0 to 250 | -20 to 120 | 500 | 6 | 50EI60L060 | 2F054 | 117.00 | 93.60 | 1.5 |
| 50 to 550 | 10 to 290 | 800 | 6 | 50EI60L060 | 2F056 | 117.00 | 93.60 | 1.5 |
| -20 to 120 | -30 to 50 | 240 | 9 | 50EI60L090 | 2F058 | 117.00 | 93.60 | 1.5 |
| 0 to 250 | -20 to 120 | 500 | 9 | 50EI60L090 | 2F060 | 117.00 | 93.60 | 1.5 |
| 50 to 550 | 10 to 290 | 800 | 9 | 50EI60L090 | 2F062 | 117.00 | 93.60 | 1.5 |
| **5" DIAL EVERYANGLE CONNECTION** | | | | | | | | |
| 0 to 250 | -20 to 120 | 500 | 2.5 | 50EI60E025 | 2A623 | 119.00 | 104.25 | 1.5 |
| 50 to 550 | 10 to 290 | 800 | 2.5 | 50EI60E025 | 2A624 | 119.00 | 104.25 | 1.5 |
| 0 to 250 | -20 to 120 | 500 | 4 | 50EI60E040 | 2A618 | 119.00 | 104.25 | 1.5 |
| 50 to 550 | 10 to 290 | 800 | 4 | 50EI60E040 | 2A619 | 119.00 | 104.25 | 1.5 |
| -20 to 120 | -30 to 50 | 240 | 4 | 50EI60E040 | 2A620 | 119.00 | 104.25 | 1.5 |
| 0 to 250 | -20 to 120 | 500 | 6 | 50EI60E060 | 2A621 | 119.00 | 104.25 | 1.5 |
| 50 to 550 | 10 to 290 | 800 | 6 | 50EI60E060 | 2A622 | 119.00 | 104.25 | 1.5 |
| -20 to 120 | -30 to 50 | 240 | 6 | 50EI60E060 | 2F038 | 119.00 | 104.25 | 1.5 |
| 0 to 250 | -20 to 120 | 500 | 9 | 50EI60E090 | 6T077 | 119.00 | 104.25 | 1.5 |
| 50 to 550 | 10 to 290 | 800 | 9 | 50EI60E090 | 6T078 | 119.00 | 104.25 | 1.5 |
| -20 to 120 | -30 to 50 | 240 | 9 | 50EI60E090 | 2F040 | 119.00 | 104.25 | 1.5 |
| 0 to 250 | -20 to 120 | 500 | 12 | 50EI60E120 | 2F034 | 126.00 | 107.25 | 1.5 |
| 50 to 550 | 10 to 290 | 800 | 12 | 50EI60E120 | 2F036 | 126.00 | 107.25 | 1.5 |
| -20 to 120 | -30 to 50 | 240 | 12 | 50EI60E120 | 2F032 | 126.00 | 107.25 | 1.5 |

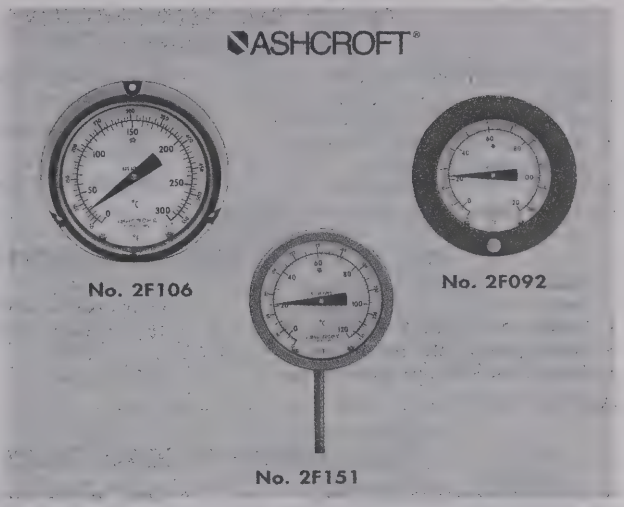
(*) Maximum temperatures thermometers can withstand without damage.



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# 4½" INDUSTRIAL GAS-ACTUATED DURATEMP THERMOMETERS

- Ashcroft brand
- Unique direct drive bourdon tube silicone dampened to resist vibration and shock meets MIL-T-19646
- Mercury free inert gas-actuated
- No head or elevation error
- Zero adjustable
- High over range protection
- 300 stainless steel capillary and/or stem
- Thermowells available; see below
- Maxivision anti-parallax two-piece dial
- 1% full scale accuracy



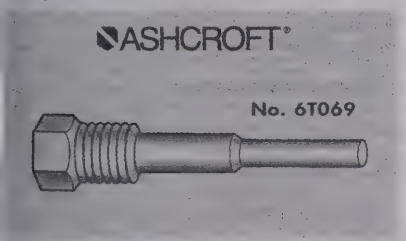

| Temp. Range (°F) | (°C) | Stem Length (In.) | Ashcroft Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4½" DIAL DIRECT MOUNTED STAINLESS STEEL CASE** | | | | | | |
| **20 to 240** | 0 to 120 | 6 | 600B01 | **2F151** | **$356.00** | 2.2 |
| **50 to 550** | 10 to 290 | 6 | 600B01 | **2F153** | **356.00** | 2.2 |
| **-100 to 100** | — | 6 | 600B01 | **2F124** | **356.00** | 2.2 |
| **50 to 750** | — | 6 | 600B01 | **2F149** | **356.00** | 2.2 |

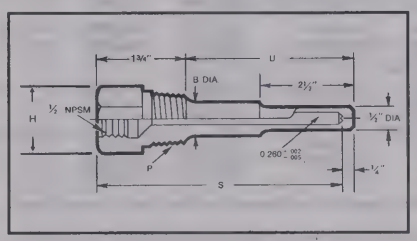
| Temp. Range (°F) | (°C) | Line Length (Ft.) | Ashcroft Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4½" DIAL PANEL MOUNT REMOTE READING ALUMINUM92 CASE** | | | | | | |
| **20 to 240** | 0 to 120 | 5 | 600A02 | **2F092** | **$334.00** | 3.0 |
| **50 to 550** | 10 to 290 | 5 | 600A02 | **2F094** | **334.00** | 3.0 |
| **20 to 240** | 0 to 120 | 10 | 600A02 | **2F096** | **381.00** | 3.0 |
| **50 to 550** | 10 to 290 | 10 | 600A02 | **2F098** | **381.00** | 3.0 |
| **20 to 240** | 0 to 120 | 20 | 600A02 | **2F120** | **477.75** | 3.0 |
| **50 to 550** | 10 to 290 | 20 | 600A02 | **2F122** | **477.75** | 3.0 |

| Temp. Range (°F) | (°C) | Line Length (Ft.) | Ashcroft Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4½" DIAL SURFACE MOUNT REMOTE READING PHENOLIC CASE** | | | | | | |
| **20 to 240** | 0 to 120 | 5 | 600A04 | **2F104** | **$334.00** | 2.6 |
| **50 to 550** | 10 to 290 | 5 | 600A04 | **2F106** | **334.00** | 2.6 |
| **–100 to 100** | — | 5 | 600A04 | **2F100** | **334.00** | 2.6 |
| **50 to 750** | — | 5 | 600A04 | **2F102** | **334.00** | 2.6 |
| **20 to 240** | 0 to 120 | 10 | 600A04 | **2F112** | **382.00** | 2.6 |
| **50 to 550** | 10 to 290 | 10 | 600A04 | **2F114** | **382.00** | 2.6 |
| **–100 to 100** | — | 10 | 600A04 | **2F108** | **382.00** | 2.6 |
| **50 to 750** | — | 10 | 600A04 | **2F110** | **382.00** | 2.6 |
| **20 to 240** | 0 to 120 | 20 | 600A04 | **2F116** | **477.50** | 2.6 |
| **50 to 550** | 10 to 290 | 20 | 600A04 | **2F118** | **477.50** | 2.6 |

# THERMOWELLS

Thermowells must be used on any application where the stem of a thermometer may be exposed to high pressure, corrosive fluids, or high velocities. Thermowells also allow instrument interchange and calibrate checks without interrupting the process. Use with Ashcroft thermometers above. Match bore depth (S) with stem length.




**Dimension Key**

S = Bore depth. Instrument element length includes threads
U = Shank length under threads.
P = Process connection NPT.
H = Hex size across flats.
B = Shank base diameter

## THREADED THERMOWELLS for Bimetals Thermometers—1/4" Nominal Bore

| Material | S (In.) | U (In.) | Dimensions P(NPT) | H (In.) | B (In.) | Ashcroft Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Brass** | 4 | 2½ | 3/4 | 1⅛ | 3/4 | 75W0250ST260AA | **6T069** | **$22.46** | 0.5 |
| | 6 | 4½ | 3/4 | 1⅛ | 3/4 | 75W0450RT260AA | **6T072** | **28.10** | 0.8 |
| | 9 | 7½ | 3/4 | 1⅛ | 3/4 | 75W0750RT260AA | **2F203** | **44.90** | 1.0 |
| | 12 | 10½ | 3/4 | 1⅛ | 3/4 | 75W1050RT260AA | **2F207** | **59.00** | 1.0 |
| **Carbon Steel** | 4 | 2½ | 3/4 | 1⅛ | 3/4 | 75W0250ST260B | **6T070** | **22.46** | 0.5 |
| | 6 | 4½ | 3/4 | 1⅛ | 3/4 | 75W0450RT260B | **6T073** | **28.10** | 0.8 |
| **316 Stainless Steel** | 4 | 2½ | 3/4 | 1⅛ | 3/4 | 75W0250ST260S | **6T071** | **33.70** | 0.8 |
| | 6 | 4½ | 3/4 | 1⅛ | 3/4 | 75W0450RT260S | **6T074** | **44.05** | 0.7 |
| | 9 | 7½ | 3/4 | 1⅛ | 3/4 | 75W0750RT260S | **2F205** | **79.70** | 1.0 |
| | 12 | 10½ | 3/4 | 1⅛ | 3/4 | 75W1050RT260S | **2F209** | **95.05** | 1.0 |

## THREADED THERMOWELLS for Duratemp Thermometers—3/8" Nominal Bore

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **316 SS** | 6 | 4½ | 3/4 | 1⅛ | 3/4 | 75W0450ST385S | **2F201** | **54.45** | 1.0 |

# REFRIGERATOR/FREEZER AND INDUSTRIAL LIQUID THERMOMETERS AND SOCKETS

## TAYLOR DIAL REFRIGERATOR/ FREEZER THERMOMETER

- High visibility dial graphics
- Hang or stand; rotating case protected by shatterproof plastic crystal
- Temperature Range: –30° to 70°F with equivalent Celsius
- Stainless steel construction
- Meets National Sanitation Foundation specifications
- Food storage and freezing zone markings
- Dimensions: 2½ x 2¾"

**No. 1TC69.** Taylor brand (5923FC-10). Shpg. wt. 0.1 lbs. Each ..... $6.95

## TAYLOR FREEZE-GUIDE® THERMOMETER

- Stainless steel clips provide hang or stand use
- Range –40° to 80°F (–40° to 27°C)
- Shatterproof clear plastic lens
- Glass tube has non-toxic filling
- 4⅞ x 1¼"
- Meets NSF specifications
- Taylor brand (5925 F/C-10)

**No. 2T704.** Shpg. wt. 0.1 lbs. Each ..... $5.95

## H.O. TRERICE 9" SCALE CASES

- Adjustable angle and swivel
- Accuracy (typ.): ±1 scale division
- Coupling matches sockets listed below
- Die cast aluminum case; metallic blue black finish
- Red appearing mercury filled tube
- Clear acrylic window; Nos. 3T363, 3T364, 3T372, and 3T373 have glass window
- White background with black embossed scale markings
- 1⅛ x 18" straight thread
- Tapered bulb chamber to fit matched socket

| Temp. Range (°F) | Length (In.) Stem | Insertion | Scale Divisions | Window Type | H.O. Trerice Model | Stock No. ❷ ❸ | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| –40/110 | 3½ | 2½ | 2 | Acrylic | BX91403½-01 | 3T356 | $39.45 | 1.5 |
| 0/100 | 3½ | 2½ | 1 | Acrylic | BX91403½-02 | 3T357 | 39.45 | 1.5 |
| 30/130 | 3½ | 2½ | 1 | Acrylic | BX91403½-03 | 3T358 | 39.45 | 1.8 |
| 0/160 | 3½ | 2½ | 2 | Acrylic | BX91403½-04 | 3T359 | 39.45 | 1.8 |
| 30/180 | 3½ | 2½ | 2 | Acrylic | BX91403½-06 | 3T360 | 39.45 | 1.8 |
| 30/240 | 3½ | 2½ | 2 | Acrylic | BX91403½-07 | 3T361 | 39.45 | 1.5 |
| 30/300 | 3½ | 2½ | 2 | Acrylic | BX91403½-08 | 3T362 | 39.45 | 1.6 |
| 50/400 | 3½ | 2½ | 5 | Glass | BX91403½-09 | 3T363 | 39.45 | 1.8 |
| 100/550 | 3½ | 2½ | 5 | Glass | BX91403½-10 | 3T364 | 39.45 | 1.8 |
| –40/110 | 6 | 5 | 2 | Acrylic | BX91406-01 | 3T365 | 42.80 | 1.8 |
| 0/100 | 6 | 5 | 1 | Acrylic | BX91406-02 | 3T366 | 42.80 | 1.8 |
| 30/130 | 6 | 5 | 1 | Acrylic | BX91406-03 | 3T367 | 42.80 | 2.0 |
| 0/160 | 6 | 5 | 2 | Acrylic | BX91406-04 | 3T368 | 42.80 | 1.8 |
| 30/180 | 6 | 5 | 2 | Acrylic | BX91406-06 | 3T369 | 42.80 | 2.0 |
| 30/240 | 6 | 5 | 2 | Acrylic | BX91406-07 | 3T370 | 42.80 | 1.8 |
| 30/300 | 6 | 5 | 2 | Acrylic | BX91406-08 | 3T371 | 42.80 | 1.8 |
| 50/400 | 6 | 5 | 5 | Glass | BX91406-09 | 3T372 | 42.80 | 2.0 |
| 100/550 | 6 | 5 | 5 | Glass | BX91406-10 | 3T373 | 42.80 | 1.8 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## H.O. TRERICE SOCKETS FOR 3½" AND 6" STEM THERMOMETERS

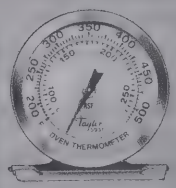
- Tapered sockets fit matched bulb chamber
- 3/4" NPT mounting
- Brass or 316 stainless steel
- 1/2" Inside diameter
- 1¹/₁₆" - 18 I.D. Thread

| Socket Length (In.) | Insertion Length (In.) | Neck Extension (In.) | Construction | H.O. Trerice Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3½ | 2½ | — | Brass | 3-4F2 | 3T374 | $6.12 | 0.4 |
| 3½ | 2½ | — | 316SS | 3-4F6 | 3T375 | 56.55 | 0.5 |
| 6 | 5 | — | Brass | 3-4J2 | 3T376 | 12.93 | 0.7 |
| 6 | 2½ | 2½ | Brass | 3-4JD2 | 3T377 | 12.93 | 0.7 |
| 6 | 5 | — | 316SS | 3-4J6 | 3T378 | 78.60 | 0.7 |
| 6 | 2½ | 2½ | 316SS | 3-4JD6 | 3T379 | 78.60 | 0.7 |

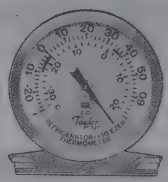
## TAYLOR OVEN THERMOMETER

- 2⅜" dial
- Temperature Range: 175° to 500°F
- Tempered glass crystal window
- Stainless steel construction
- Meets National Sanitation Foundation specifications
- Includes swivel case for stand or hang use

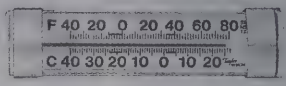
**No. 4JZ14.** Taylor brand (5931). Shpg. wt. 0.2 lbs. Each ..... $6.79




No. 4JZ14

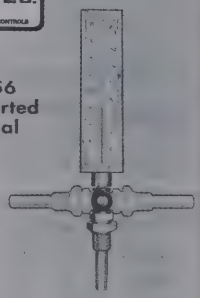



No. 1TC69

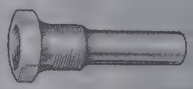



No. 2T704



No. 3T356 Shown Inserted in Optional Socket



No. 3T374 Socket



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

# THERMISTOR THERMOMETERS

**A** TAYLOR No. 3T917
- Accuracy: ±2.0°F
- Resolution: 0.1°
- Pocket size: 4½H x 2¼W x 11/16"D
- Switchable internal temperature sensor and external 34" extendable temperature probe
- Slide open cover for controls
- Includes 1.5V "AAA" battery
- Provides time and programmable High and Low temperature alarm limits within the 0° to 160°F range
- Built-in tilt stand and spring clip
- Selectable 1 or 10 sec. sampling period

**B** SUPCO No. 3T189
- Accuracy (typ.): ±0.2°F surface, ±1°F air
- Resolution: 0.1°F
- Probe senses air or surface temperature
- Reading hold
- Requires "9V" battery (not supplied)
- 6¼H x 1½W x 7/8"D

**C** COOPER Nos. 2T641, 2T619 and 4JZ46
- Accuracy: ±0.3°F or ±0.5% of reading
- Resolution: 0.1°F or °C
- No. 4JZ46 UL Listed Class 1, Groups C and D
- Backlit display easier to see in dark environments
- Sealed membrane touch pad; °F or °C selectable
- Hold button freezes reading; auto shutoff extends battery life; Min./Max. memory records highest and lowest temperature
- Annunciator for Low temperature, High temperature, and discharged battery
- General purpose insertion probe and case included.
- Nos. 2T641 and 4JZ46 include "9V" battery; No. 2T619 includes NiCad battery and recharger

**D** COOPER No. 2T618
- Accuracy: ±0.3° or ±0.5% of reading
- Resolution: 0.1°F or °C
- Measures up to three temperatures plus T1-T2 differential
- Backlit display easier to see in dark environments
- Sealed membrane touch pad; °F or °C selectable; auto shutoff extends battery life
- Min./Max. memory collects highest and lowest temperatures; scan feature stores Min./Max. data from all three probes
- Includes three interchangeable probes (air, surface, and insertion) and "9V" battery
- Built into moisture resistant polyurethane case with detachable cover
- Annunciators for overrange, under range, and battery discharged
- Auto shut-off for extended battery life




**E** COOPER PROVER KIT No. 4JZ39
- For checking calibration of thermistor thermometers
- Includes calibration box with connector cord

**No. 4JZ39.** Cooper brand (9315). Shpg. wt. 0.1 lbs. Each ..... $68.25

| Key | Type | Range* | Display | Probe Connector | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Thermistor | 0° to 160°F | 3½, LCD | ✓ | Taylor | 5395 | **3T917** | **$35.00** | 0.3 |
| B | Precision I.C. | –60° to 199.9°F | 3½, LCD | — | Supco | PT-100 | **3T189** | **49.95** | 0.2 |
| C | Thermistor | –40° to 300°F (–40° to 150°C) | 3½, LCD | Tip Jack | Cooper | TM99A | **2T641** | **135.10** | 1.8 |
| | | | | | | TC100A | **2T619** | **184.00** | 2.0 |
| | | | | | | TM99A-UL | **4JZ46** | **155.25** | 1.8 |
| D | Thermistor | –40° to 300°F (–40° to 150°C) | 2½, LCD | Tip Jack | Cooper | SH66A | **2T618** | **197.75** | 1.1 |

*) Instrument ranges shown span various probe types. The probe will determine the actual range.

# THERMOCOUPLE THERMOMETERS

## [A] COOPER No. 4TJ83

- For use in food processing plants, science labs, agriculture, and building maitenance
- Ergonomic, hand-held design
- Waterproof
- Sealed membrane keypad
- Field calibration
- Wall mount bracket
- -100° to 999°F/-73 to 537°C
- Quick response time
- Minimum 500 hours of "on time" battery life

## [B] COOPER No. 4JZ47

- Waterproof, suitable for wet and steam filled environments
- Sealed touchpad protects against spills and dust
- 3.25 x 5.62 x 1.5"
- Rugged polyethylene construction
- 9V DC NiCad battery runs about 50 hours on full charge
- Includes general purpose probe and battery charger

## [C] CHECK-IT No. 2T321

- Accuracy ±1% of reading ±1 digit (-100° to 1000°F) ±2% of reading ±1 digit full range (1000°F to 1999°F)
- Resolution: 1°F
- Sensitive 3-in-1 air, surface, liquid probe, retractable coil probe cord extends to 3 feet
- Black anodized aluminum housing built into high impact plastic case
- Annunciators for open probe, over-range and low battery
- Includes 9V battery and No. 2T348 3-in-1 probe

## [D] CHECK-IT STEAM TRAP TESTER No. 4KC10

- Accuracy: ±1°F of reading ±1 digit (-100 to 1000°F) ±2%°F of reading ±1 digit (1000 to 1999°F)
- Resolution: 1°F
- Quickly and accurately measures pipe temperatures at upstream and downstream sides of a steam trap
- Also measures welding preheat, interpass and postheat temperatures
- Increases efficiency and decreases energy loss
- Sensitive quick response, type K thermocouple, surface probe
- Includes meter, 9V battery, No. 4KC08 surface probe

## [E] FLUKE Nos. 3A024 and 1W559

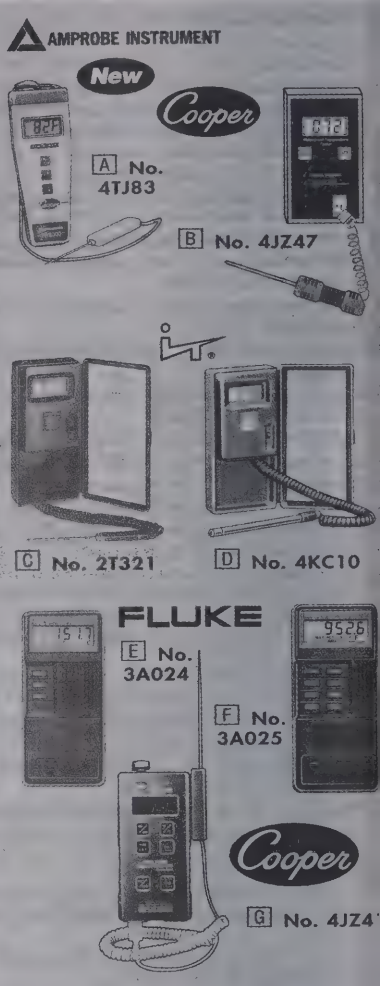
- Accuracy: ±0.1% of reading +1.3°F
- Resolution: 0.2°F
- °F or °C select switch and data hold
- K or J-type thermocouple selectable
- 1 second per reading update
- Includes drop resistant case, 9V battery and K-type bead probe (No. 1T322); 1200 hour battery life
- CSA Certified (LR44340)
- Three year warranty; see "Manufacturers' Warranties" on page opposite inside back cover
- No. 1W559 same as No. 3A024 but NIST traceable calibration

## [F] FLUKE Nos. 3A025 and 3MC16

- Accuracy: ±0.1% of reading +1.3°F
- Resolution: 0.2°F (High) 1.0°F (Low)
- Same features as No. 3A024. Include 2 K-type bead probes (No. 1T322)
- Dual point or differential capability
- Min./Max. storage and view
- Scan mode and selectable resolution
- CSA Certified (LR44340)
- No. 3MC16 same as No. 3A025 but includes NIST traceable calibration

## [G] COOPER No. 4JZ41

- Accuracy: ±1°F or ±1% of reading
- Resolution: 0.1°F or °C
- Records temperature, time, and location; stores approximately 1000 data points
- Downloading feature allows data to be graphed and charted for review, analysis, or record-keeping
- Adhesive reader tabs for determining which locations will be monitored
- °F and °C selectable
- J, K, and T probes are attachable for one-hand operation
- Water resistant for wet environments, sealed keypad for easy cleaning
- Annunciators for over range, under range, battery discharged, and thermocouple type selected




- Includes 12 adhesive reader tabs, software, cable, 9V battery, and desk/wall bracket

### 12 SPARE ADHESIVE READER TABS

**No. 4JZ40.** Cooper brand (933).
Shpg. wt. 0.1 lbs. Each.....$60.1

| Key | Type | Range* | Display | Probe Connector | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Thermocouple | -100° to 999°F | 3, LCD | K | Cooper | FW2000 | *New* **4TJ83** | **$280.00** | 0.8 |
| B | Thermocouple | -5° to 999°F | 3½, LCD | Mini-K | Cooper | WP400K | **4JZ47** | **211.25** | 1.2 |
| C | Thermocouple | -100° to 1999°F | 3½, LCD | RCA | Check-it | 626 | **2T321** | **128.00** | 0.7 |
| D | Thermocouple | -100° to 1999°F | 3½, LCD | RCA | Check-it | 0616 | **4KC10** | **121.25** | 1.0 |
| E | Thermocouple | -328° to 2498°F (-200° to 1370°C) | 3½, LCD | Mini-J/K | Fluke | Fluke-51<br>Fluke-51 NIST** | **3A024**<br>**1W559** | **155.00**<br>**205.00** | 1.0<br>1.0 |
| F | Thermocouple | -328° to 2498°F (-200° to 1370°C) | 3½, LCD | Mini-J/K | Fluke | Fluke-52<br>Fluke-52 NIST** | **3A025**<br>**3MC16** | **205.00**<br>**255.00** | 2.0<br>2.0 |
| G | Thermocouple | -58° to 999°F (-50° to 532°C) | 4 LCD | Mini-J, K, T | Cooper | HT3000 | **4JZ41** | **540.00** | 2.1 |

(*) Instrument ranges shown span various probe types. The probe will determine the actual range. (**) Contact local branch for delivery time.



*Measure it, record it, calibrate it — You'll get it right with Grainger.*

## EXTECH PRINTING THERMOMETER No. 4KC35 AND DATALOGGING THERMOMETER No. 4KC36

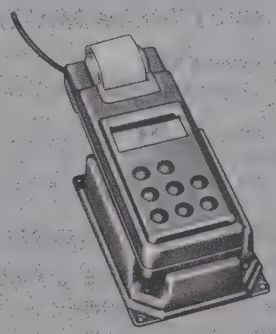
- Dual channel display T1, T2, or T1-T2 differential
- No. 4KC35 records Min./Max./Avg.; No. 4KC36 records Max./Min. and stores 5000 readings
- High/Low temp. alarm settings; real time calendar clock
- Go/No-Go digital signal outputs for control and automation
- Resolution to 0.2°F or 0.1°C
- Accuracy (typ.): ±0.1% +1.4°F (0.1% +0.8°C)
- No. 4KC35 includes: 6 AAA batteries, 2 rolls thermal paper, Go/No-Go mini DIN cable, carrying case and instructions
- No. 4KC36 includes: 6 AAA batteries, software, RS-232 interface cable, 9-pin to 25-pin adapter, Go/No-Go mini DIN cable and instructions



No. 4KC35

## HANNA THERMOCOUPLE LOGGING THERMOMETER No. 4KF41

- High resolution 4-channel datalogger
- Infrared data transfer system (using No. 4KF40) for downloading readings to your personal computer
- Accuracy: ±0.3% of reading or ±1°F
- Resolution: 0.1°F/1°F
- Logging intervals (min.): 1, 2, 5, 10, 15, 30, 60, 120, or 180
- Powered by 4 AA batteries
- Includes printer, carrying case and instructions
- Order probes on nearby pages



No. 4KF41

## ACCESSORIES FOR No. 4KF41

### INFRARED TRANSMITTER

- 25-pin RS232 connection
- For data transmission to your personal computer

**No. 4KF40.** Infrared Transmitter. Hanna brand (HI9200).
Shpg. wt. 0.8 lbs. Each.....$104.00

### REPLACEMENT PAPER ROLLS

**No. 4KF33.** Replacement Rolls/Pkg. of 10. Hanna brand (HI710034).
Shpg. wt. 0.8 lbs. Each.....$9.90

### REPLACEMENT INK CARTRIDGES

**No. 4KF34.** Replacement Ink Cartridges. Hanna brand (HI710035).
Shpg. wt. 0.5 lbs. Each.....$29.90

| Type | | Range* | Display | Probe Connection | Mfr. | Mfr.'s Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Thermocouple | K | –328 to 2498°F<br>–200 to 1370°C | 4½, LCD | Mini-K, J, E, T | Extech | 422314 | 4KC35 | $549.00 | 0.8 |
| | J | –328 to 1400°F<br>–200 to 760°C | | | | | | | |
| | E | –328 to 1832°F<br>–200 to 1000°C | | | Extech | 422315 | 4KC36 | 649.00 | 6.8 |
| | T | –328 to 752°F<br>–200 to 400°C | | | | | | | |
| Thermocouple | K | –300 to 999.9°F<br>1000 to 2500°F | 4, LCD | Mini-K | Hanna | HI92804F | 4KF41 | 387.00 | 3.9 |

(*) Instrument ranges shown span various probe types. The probe will determine the actual range.

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

## EXTECH TYPE K AND DUAL J/K THERMOMETERS

- Super large 3½ (No. 4PC59) or 4½ digit (No. 4PC60) LCD (0.8") with resolution to 0.1°
- Rugged design with protective holster/stand
- Max and hold features (No. 4PC59); Max/Min/Avg, Relative mode, Hold, and Alarm (No. 4PC60)
- No. 4PC59 ranges from -58°F to 2000°F (-50°C to 1300°C)
- No. 4PC60 ranges from -328°F to 2498°F (-200 to 1370°C)
- Switchable °C/°F with basic accuracy of 0.3% (4PC59) and 0.05% (No. 4PC60)
- Watertight housing and backlit LCD (No. 4PC59)
- No. 4PC60 features two-channel (Type J or K) displays, elapsed time, and programmable HI/LO alarms
- Includes protective holster/stand, type-K temperature probe(s), and 9V battery
- Use case No. 1M940 (Not included)

***New*** **No. 4PC59.** Type K Thermometer. Extech brand (421500). Shpg. wt. 1.0 lbs. Each.....$89.00

***New*** **No. 4PC60.** Type J/K Dual Thermometer/Alarm. Extech brand (421502). Shpg. wt. 1.0 lbs. Each .....$119.00

## EXTECH RTD DUAL INPUT THERMOMETER

- Large 0.8" 4½ digit (19,999 count) LCD
- Displays two RTD channels, elapsed time and programming functions
- Accepts 100 ohm platinum RTDs with DIN connector for 3850 or 3926 alpha curves
- Measures and displays T1, T2, and T1 - T2 temperature functions
- Max/Min Avg, Relative mode, Data Hold, Alarm, and Auto power off functions
- Measures ranges from -58°F to 2000°F (-50°C to 1000°C)
- Switchable °C/°F with basic accuracy of 0.05%
- Programmable HI/LO alarms
- Rugged watertight housing
- Includes protective holster/stand, RTD probe, 9V battery

***New*** **No. 4PC61.** RTD Dual Input Thermometer with Probe. Extech Brand (421506). Shpg. wt. 1.2 lbs. Each.....$179.00

## EXTECH RTD THERMOMETER

- Large 0.5" 4½ digit (19,999 count) LCD display with Data Hold
- Accepts 4-wire 100 ohm platinum RTD with DIN connector (included)
- High, selectable 0.1/0.01° resolution with basic accuracy of ±0.1%
- Built-in fast responding linearity correction with 0.4 second sampling time
- Wide measurment range from -328.0°F to 1472°F (-199.99°C to 800.0°C)
- Switchable °C/°F with basic accuracy of 0.05%
- Includes RTD probe and 9V battery

***New*** **No. 4PC62.** RTD Thermometer. Extech brand (421708). Shpg. wt. 0.8 lbs. Each.....$299.00

EXTECH INSTRUMENTS

New



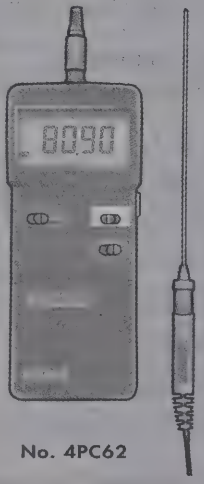
No. 4PC59



No. 4PC60



No. 4PC61



No. 4PC62

# THERMOCOUPLE THERMOMETERS AND SAFETY-FLAME CONTROL TESTER

## [A] COOPER No. 2T623

- Automatically calculates super heat–no chart needed
- Has Min./Max. of temperature and pressure for diagnostic readings
- High accuracy temperature ±0.3°F or ±0.5% of reading, Pressure ±1% full scale
- Pre-programmed with 16 of the most common refrigerants used currently
- Measures temperature, gauge pressure, and temperature differential (T1-T2)
- Auto shut-off, easy-to-read backlit numerals, pressure zero adjust
- Temperature in °F or °C; pressure in PSI, Bar, Kg/cm2
- Includes 6 "AA" batteries, surface probe, pressure probe, case and instructions

## [B] CHECK-IT No. 1A720

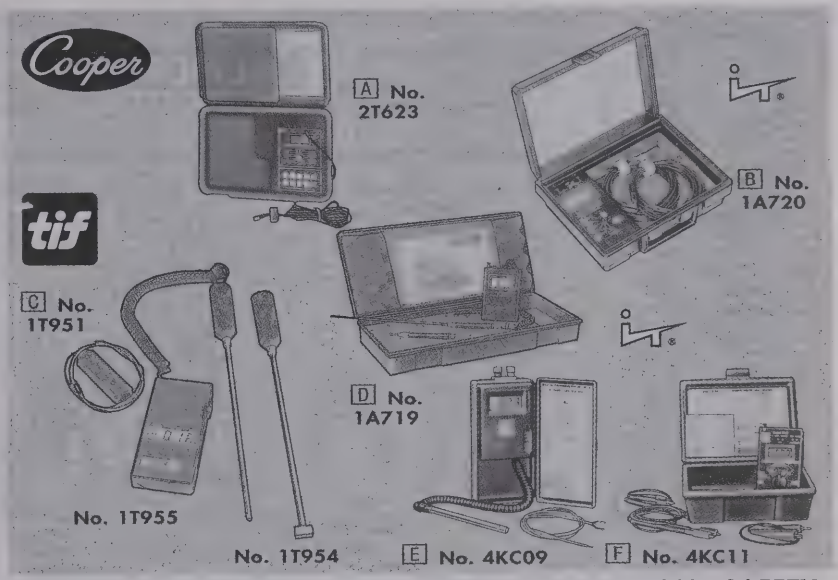
- Accuracy: ±1% of reading ±1 digit (–100°to 212°F) ±2% range ±1 digit full range
- Resolution: 1°F
- Superheat capability with full instructions for three methods of measuring super heat
- °C or °F selectable
- 3 inputs for interchangeable 15-foot color-coded sensors; provides 3 individual sensor temperatures plus A-B, B-C, and C-A differentials
- Includes 9V battery, (3) No. 2T343 15 ft. color-coded J-type wire sensors and (3) velcro attachment straps, dropproof molded case, and instructions

## [C] TIF Nos. 1T951 and 2T403

- Accuracy: ±1% (32° to 212°F) ±3% of full range
- Resolution: ±1°
- Type "K" thermocouple; telephone type cord and connectors
- Response time less than 1 second; 3 times/second display update
- Open probe and overrange indication
- Superheat capability with No. 2T403
- Switch selectable °F or °C
- Includes case, 9V battery, and three test probes
- No. 1T951 includes No. 1T954 air probe, No. 1T955 surface probe, and No. 1T956 immersion probe
- No. 2T403 includes No. 1T954 air probe, No. 1T955 surface probe, and No. 1T957 superheat probe
- Other probes available, see the Index under Temperature Probes

## [D] CHECK-IT No. 1A719

- Accuracy: ±1% of reading + 1digit (–100°F to 1000°F); 1001 to 1999°F ±2% of reading + 1 digit
- Resolution: 1°F




- Backlit display, probe storage well
- 1 second response, low battery indication
- Black anodized aluminum housing
- 1.5 update readings per second
- Kit includes thermometer, one No. 2T327 air probe, one No. 2T328 contact probe, 9V battery, and case

## [E] CHECK-IT No. 4KC09

- For high temperature oven testing
- Accuracy: ±1% reading ±1 digit (-100° to 1000°F) 1001 to1999°F ±2% reading ± 1 digit
- Resolution: 1°F
- Stainless steel band surface probe usable from -100° to 1200°F included; wire probes for -100° to 1999°F depending on insulation
- Simple instructions included to make your own wire probes to any length needed. Use No. 3HL41 through 3HL44 thermocouple wire (see Index for listing)
- Binding posts to connect type K thermocouple wire probes
- Includes meter, 9V battery, No. 4KC16 surface probe, and sample wire probe

## [F] CHECK-IT FLAME SAFETY CONTROL TESTER No. 4KC11

- Accuracy: ±1/2% reading ±1 digit
- Full range digital multimeter, measures currents to 0.01 microamps
- For testing burner controls, flame safety controls, and intermittent ignition systems
- Audible continuity tester
- Equipped with protection circuitry to prevent burnout should the power line voltage be connected on any range
- Includes meter, 9V battery, No. 4KC17 test lead set, No. 4KC18 current plug cable, No. 4KC19 flame simulator cable, and carrying case

**No. 4KC11.** Flame Safety Control Tester. Check-It brand (0619). Shpg. wt. 2.1 lbs.
Each ..... $184.50

### ACCESSORIES FOR No. 4KC11

**No. 4KC17.** Test Lead Set. Check-It brand (1288). Shpg. wt. 0.2 lbs.
Each ..... $40.35

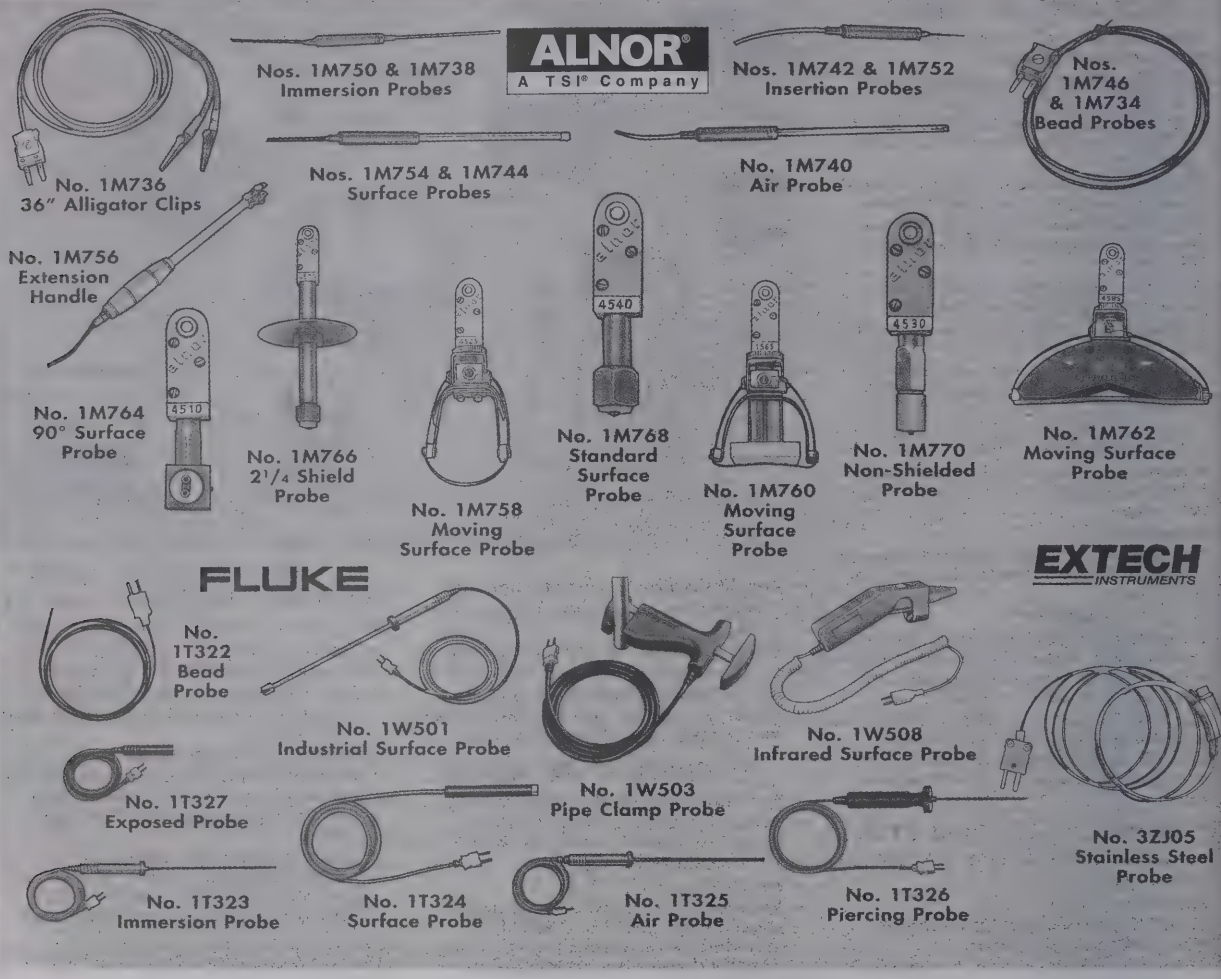
**No. 4KC18.** Current Plug Cable. Check-It brand (1290). Shpg. wt. 0.1 lbs.
Each ..... $33.75

**No. 4KC19.** Flame Simulator Cable. Check-It brand (1292). Shpg. wt. 0.1 lbs.
Each ..... $38.00

| Key | Type | Range* | Display | Probe Connector | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Thermistor | -40° to 300°F (-40° to 150°C) 0 to 300 PSI | 4, LCD | 5-Pin DIN | Cooper | SH88A | **2T623** | **$472.50** | 4.0 |
| B | Thermocouple | –100° to 500°F –70° to 260°C | 3½, LCD | RCA | Check-It | 613 | **1A720** | **139.95** | 1.9 |
| C | Thermocouple | – 40° to 1999°F – 40° to 1100°C | 3½, LCD | Phone | TIF<br>TIF | TIF7000<br>TIF7000AC | **1T951**<br>**2T403** | **200.00**<br>**200.00** | 3.0<br>2.5 |
| D | Thermocouple | –100° to 1999°F | 3½, LCD | BNC | Check-It | 602 | **1A719** | **230.00** | 2.7 |
| E | Thermocouple | –100° to 1999°F | 3½, LCD | RCA | Check-It | 0615 | **4KC09** | **133.25** | 1.0 |

(*) Instrument ranges shown span various probe types. The probe will determine the actual range.

# TEMPERATURE PROBES




## TEMPERATURE PROBES SPECIFICATIONS AND ORDERING DATA

| Type | Probe Connection | Range | Description | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| K | Mini/Standard | — | Adapter, Mini Connector to Standard | Alnor | ALN/4092J-K | **4KF72** | **$9.77** | 1.0 |
| J | Mini-Connector | –40° to 400°F | 1/8 x 4" Fixed Immersion Probe | Alnor | 9500 | **4KF99** | **65.00** | 1.0 |
| K | Mini-Connector | –40° to 400°F | 1/8 x 4" Fixed Immersion Probe | Alnor | 9600 | **4KG14** | **65.00** | 1.0 |
| J | Mini-Connector | –40° to 400°F | 1/8 x 8" Adjustable Immersion Probe | Alnor | 9510 | **4KG01** | **65.00** | 1.0 |
| K | Mini-Connector | –40° to 400°F | 1/8 x 8" Adjustable Immersion Probe | Alnor | 9610 | **4KG15** | **65.00** | 1.0 |
| J | Mini-Connector | –40° to 1350°F | MgO Immersion Probe | Alnor | 9520 | **4KG02** | **105.00** | 2.0 |
| K | Mini-Connector | –40° to 2000°F | MgO Immersion Probe | Alnor | 9620 | **4KG16** | **105.00** | 2.0 |
| J | Mini-Connector | –40° to 300°F | Compost Probe, 72" long | Alnor | 9530 | **4KG03** | **250.00** | 3.0 |
| K | Mini-Connector | –40° to 300°F | Compost Probe, 72" long | Alnor | 9630 | **4KG17** | **250.00** | 3.0 |
| J | Mini-Connector | –320° to 900°F | Bare Tip Probe, 36" cable | Alnor | 6207 | **1M746** | **23.00** | 1.0 |
| K | Mini-Connector | –320° to 900°F | Bare Tip Probe, 36" cable | Alnor | 6307 | **1M734** | **23.00** | 1.0 |
| T | Mini-Connector | –328° to 400°F | Bare Tip Probe, 36" cable | Alnor | 6407 | **4KF88** | **23.00** | 1.0 |
| J | Mini-Connector | –320° to 1200°F | Surface Probe, 6" shaft, 36" cable | Alnor | 6201 | **1M754** | **128.00** | 0.2 |
| K | Mini-Connector | –320° to 1200°F | Surface Probe, 6" shaft, 36" cable | Alnor | 6301 | **1M744** | **140.00** | 1.0 |
| K | Mini-Connector | –320° to 200°F | Air Probe, 10" shaft, 36" cable | Alnor | 6304 | **1M740** | **139.00** | 1.0 |
| J | Mini-Connector | –320° to 1000°F | Immersion Probe, 5 3/4" long by 3/16" dia. shaft, 36" cable | Alnor | 6203 | **1M750** | **124.00** | 1.0 |
| K | Mini-Connector | –320° to 1000°F | Immersion Probe, 5 3/4" long by 3/16" dia. shaft, 36" cable | Alnor | 6303 | **1M738** | **124.00** | 1.0 |
| K | Mini-Connector | –320° to 1000°F | Insertion Probe, 4 1/16" long by 1/16" dia. shaft, 36" cable | Alnor | 6309 | **1M728** | **120.00** | 1.0 |
| J | Mini-Connector | –320° to 1000°F | Insertion Probe, 1 1/2" long by 1/16" dia. shaft, 36" cable | Alnor | 6202 | **1M752** | **118.00** | 1.0 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# TEMPERATURE PROBES

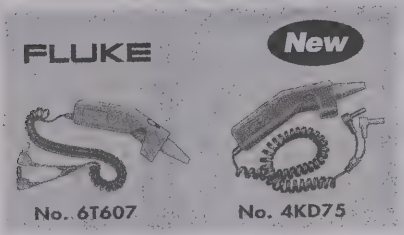
## TEMPERATURE PROBES SPECIFICATIONS AND ORDERING DATA (Continued)

| Type | Probe Connector | Range | Description | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| K | Mini-Connector | –320° to 1000°F | Insertion Probe, 1½" long by 1/16" dia. shaft, 36" cable | Alnor | 6302 | 1M742 | $124.00 | 1.0 |
| J | Mini-Connector | –320° to 900° F | Alligator Clips, 36" cable | Alnor | 6205 | 1M748 | 68.50 | 1.0 |
| K | Mini-Connector | –320° to 900° F | Alligator Clips, 36" cable | Alnor | 6305 | 1M736 | 80.00 | 1.0 |
| K | Mini-Connector | — | Extension Handle, 10" shaft, 36" cable (order probes separately) | Alnor | 6306 | 1M756 | 150.00 | 1.0 |
| K | — | –320° to 1200°F | Surface Probe | Alnor | 4530 | 1M770 | 90.50 | 1.0 |
| K | — | –320° to 1600°F | Surface Probe with 2¼" shield | Alnor | 4570 | 1M766 | 115.50 | 1.0 |
| K | — | –320° to 1200°F | Surface Probe | Alnor | 4540 | 1M768 | 90.50 | 0.5 |
| K | — | –320° to 1200°F | 90° surface Probe | Alnor | 4510 | 1M764 | 113.50 | 1.0 |
| K | — | –320° to 500°F | Moving Surface | Alnor | 4585 | 1M762 | 219.50 | 1.0 |
| K | — | –320° to 500°F | Moving Surface | Alnor | 4565 | 1M760 | 180.00 | 1.0 |
| K | — | –320° to 1000°F | Moving Surface | Alnor | 4525 | 1M758 | 172.00 | 1.0 |
| J | Mini-Connector | –100° to 900°F | Bare Tip Probe and Alligator Clip, 36" cable | Alnor | 9200 | 4KF89 | 28.00 | 1.0 |
| K | Mini-Connector | –100° to 900°F | Bare Tip Probe and Alligator Clip, 36" cable | Alnor | 9300 | 4KG04 | 28.00 | 1.0 |
| J | Mini-Connector | –85° to 400°F | 1/8" Dia., 4" Quick Response Insertion Probe, 48" cable | Alnor | 9210 | 4KF90 | 77.00 | 1.0 |
| K | Mini-Connector | –85° to 400°F | 1/8" Dia., 4" Quick Response Insertion Probe, 48" cable | Alnor | 9310 | 4KG05 | 77.00 | 0.2 |
| T | Mini-Connector | –85° to 400°F | 1/8" Dia., 4" Quick Response Insertion Probe, 48" cable | Alnor | 9410 | 4KG18 | 77.00 | 1.0 |
| J | Mini-Connector | –85° to 500°F | 1/4" Dia., 6" Air Probe, 48" cable | Alnor | 9220 | 4KF91 | 44.00 | 1.0 |
| K | Mini-Connector | –85° to 500°F | 1/4" Dia., 6" Air Probe, 48" cable | Alnor | 9320 | 4KG06 | 44.00 | 0.4 |
| T | Mini-Connector | –85° to 500°F | 1/4" Dia., 6" Air Probe, 48" cable | Alnor | 9420 | 4KG19 | 44.00 | 1.0 |
| J | Mini-Connector | –40° to 1200°F | 4" Surface Probe, 48" cable | Alnor | 9230 | 4KF92 | 64.00 | 1.0 |
| K | Mini-Connector | –40° to 1200°F | 4" Surface Probe, 48" cable | Alnor | 9330 | 4KG07 | 64.00 | 0.4 |
| T | Mini-Connector | –40° to 750°F | 4" Surface Probe, 48" cable | Alnor | 9430 | 4KG20 | 64.00 | 1.0 |
| J | Mini-Connector | –40° to 1200°F | Right Angle Surface Probe | Alnor | 9240 | 4KF93 | 64.00 | 0.4 |
| K | Mini-Connector | –40° to 1200°F | Right Angle Surface Probe | Alnor | 9340 | 4KG08 | 64.00 | 0.4 |
| T | Mini-Connector | –40° to 750°F | Right Angle Surface Probe | Alnor | 9440 | 4KG21 | 64.00 | 1.0 |
| J | Mini-Connector | –85° to 400°F | 1/8" Dia., 4" Insertion Needle Probe, 48" cable | Alnor | 9250 | 4KF94 | 41.00 | 1.0 |
| K | Mini-Connector | –85° to 400°F | 1/8" Dia., 4" Insertion Needle Probe, 48" cable | Alnor | 9350 | 4KG09 | 41.00 | 1.0 |
| T | Mini-Connector | –85° to 400°F | 1/8" Dia., 4" Insertion Needle Probe, 48" cable | Alnor | 9450 | 4KG22 | 41.00 | 1.0 |
| J | Mini-Connector | –40° to 500°F | Bell Diaphragm Surface, Stretch Coil to 48" | Alnor | 9260 | 4KF95 | 59.00 | 0.4 |
| K | Mini-Connector | –40° to 500°F | Bell Diaphragm Surface, Stretch Coil to 48" | Alnor | 9360 | 4KG10 | 59.00 | 0.4 |
| T | Mini-Connector | –40° to 500°F | Bell Diaphragm Surface, Stretch Coil to 48" | Alnor | 9460 | 4KG23 | 59.00 | 0.4 |
| J | Mini-Connector | –100° to 1350°F | 1/16" Dia. 7" Bendable Tip Probe, 36" cable | Alnor | 9270 | 4KF96 | 51.00 | 1.0 |
| K | Mini-Connector | –100° to 1350°F | 1/16" Dia. 7" Bendable Tip Probe, 36" cable | Alnor | 9370 | 4KG11 | 51.00 | 1.0 |
| J | Mini-Connector | –100° to 900°F | 1/8" Dia., 4" Reduced Tip Probe, 48" cable | Alnor | 9280 | 4KF97 | 70.00 | 1.0 |
| K | Mini-Connector | –100° to 900°F | 1/8" Dia., 4" Reduced Tip Probe, 48" cable | Alnor | 9380 | 4KG12 | 70.00 | 1.0 |
| T | Mini-Connector | –100° to 750°F | 1/8" Dia., 4" Reduced Tip Probe, 48" cable | Alnor | 9480 | 4KG24 | 70.00 | 1.0 |
| J | Mini-Connector | 32° to 500°F | Moving Surface Bow Probe | Alnor | 9290 | 4KF98 | 78.00 | 0.4 |
| K | Mini-Connector | 32° to 500°F | Moving Surface Bow Probe | Alnor | 9390 | 4KG13 | 78.00 | 1.0 |
| T | Mini-Connector | 32° to 500°F | Moving Surface Bow Probe | Alnor | 9490 | 4KG25 | 78.00 | 1.0 |
| T | — | — | Thermocouple Jack, T-Alloy | Alnor | 4002F-T | 4JZ38 | 5.00 | 1.0 |
| K | Mini-Connector | 0° to 662°F | Stainless Steel Pipe Surface 1 to 3" Dia. 36" Wire | Extech | 881552 | 3ZJ05 | 39.00 | 0.1 |
| J | Mini-Connector | 0° to 662°F | Stainless Steel Pipe Surface 1 to 3" Dia. 36" Wire | Extech | 901552 | 3ZJ11 | 39.00 | 0.5 |
| T | Mini-Connector | 0° to 662°F | Stainless Steel Pipe Surface 1 to 3" Dia. 36" Wire | Extech | 971552 | 3ZJ13 | 39.00 | 0.5 |
| K | Mini-Connector | — | Replacement Jack for Extension Cords | Extech | 8915FK | 3ZJ07 | 4.00 | 0.1 |
| J | Mini-Connector | — | Replacement Jack for Extension Cords | Extech | 9215FJ | 3ZJ12 | 4.00 | 0.1 |
| K | — | — | Thermocouple Wire, 100 ft., 20 gauge, 900°F Max. | Extech | 890004 | 3ZJ06 | 55.00 | 0.8 |
| K | Mini-Connector | –40° to 500°F | Bead Probe on 4 ft. Teflon* Coated Wire | Fluke | 80PK-1 | 1T322 | 13.00 | 1.0 |
| K | Mini-Connector | –320° to 1900°F | General Purpose Immersion Probe with 4 ft. wire | Fluke | 80PK-2A | 1T323 | 47.00 | 1.0 |
| K | Mini-Connector | 32° to 500°F | Surface Probe with 4 ft. wire | Fluke | 80PK-3A | 1T324 | 87.00 | 1.0 |
| K | Mini-Connector | –320° to 1500°F | Shrouded Air Probe with 4 ft. wire | Fluke | 80PK-4A | 1T325 | 64.00 | 1.0 |
| K | Mini-Connector | –320° to 1500°F | Piercing Probe (Suitable for Food) with 4 ft. wire | Fluke | 80PK-5A | 1T326 | 58.00 | 1.0 |
| K | Mini-Connector | –320° to 1500°F | Exposed Junction with 4 ft. wire | Fluke | 80PK-6A | 1T327 | 65.00 | 1.0 |
| K | Mini-Connector | –320° to 1112°F | Industrial Surface Probe with 4 ft. wire | Fluke | 80PK-7 | 1W501 | 189.00 | 1.0 |
| K | Mini-Connector | –28° to 300°F | Pipe Clamp Probe with 4 ft. wire | Fluke | 80PK-8 | 1W503 | 99.00 | 1.0 |
| K | Mini-Connector | 0° to 500°F | Infrared Surface Probe with 4 ft. wire | Fluke | 80PK-IR | 1W508 | 159.00 | 1.0 |
| K | Thermocouple Adapter | — | Replacement Adapter for Fluke 16 | Fluke | 80AK | *New* 4PD16 | 14.00 | 1.0 |
| K | Mini-Connector | — | Replacement Connectors for attaching K-type Thermocouple Wire (pkg. of 2) | Fluke | 80CK-M | 1T318 | 11.00 | 1.0 |
| J | Mini-Connector | — | Replacement Connectors for attaching J-type Thermocouple Wire (pkg. of 2) | Fluke | 80CJ-M | 1TC02 | 11.00 | 1.0 |
| K | BNC | –100° to 1999°F | Air Probe—for 602 | Check-It | 0199 | 2T327 | 53.95 | 0.1 |
| K | BNC | –100° to 1999°F | Needle Probe—for 602 | Check-It | 0200 | 2T328 | 39.45 | 0.2 |
| K | BNC | 10% to 100% RH | Psychrometric Probe—for 602 | Check-It | 0424 | 1A721 | 102.45 | 0.7 |
| J | RCA Plug | –100° to 500°F | Wire Probe, 15 ft., Yellow—for 613 | Check-It | 0654 | 2T343 | 22.75 | 0.1 |
| J | RCA Plug | –100° to 500°F | High Temp. Probe, 3 ft—for 613 | Check-It | 0990 | 2T347 | 22.75 | 0.1 |
| J | RCA Plug | –100° to 500°F | Air-Surface-Liquid Probe—for 613 | Check-It | 1120 | 2T346 | 48.25 | 0.2 |
| K | RCA Jack | –100° to 600°F | Universal Probe—for 626 | Check-It | 1130 | 2T348 | 48.25 | 0.2 |
| K | RCA Jack | –100° to 1200°F | Surface Probe—for 0616 | Check-It | 04260276 | 4KC08 | 73.85 | 0.1 |
| J | RCA Plug | –100° to 500°F | Wire Probe, 15 ft., Yellow—for 0628, 0613 | Check-It | 1081 | 4KC13 | 22.75 | 0.1 |
| J | RCA Plug | –100° to 500°F | Wire Probe, 15 ft., Red—for 0628, 0613 | Check-It | 1082 | 4KC14 | 22.75 | 0.1 |
| J | RCA Plug | –100° to 500°F | Wire Probe, 15 ft., Green—for 0628, 0613 | Check-It | 1083 | 4KC15 | 22.75 | 0.1 |
| K | RCA Jack | –100° to 1200°F | Surface Probe, SS Band—for 0615 | Check-It | 1250 | 4KC16 | 38.50 | 0.1 |
| K | Telephone | –40° to 1000°F | Air Probe—for TIF 7000 and 7000AC, 12" long | TIF | TIF7003 | 1T954 | 54.95 | 0.1 |
| K | Telephone | –40° to 1999°F | Surface Probe—for TIF 7000 and 7000AC, 12" long | TIF | TIF7002 | 1T955 | 54.95 | 0.1 |
| K | Telephone | –40° to 500°F | Liquid Probe—for TIF 7000 and 7000AC 48" long | TIF | TIF7004 | 1T956 | 43.95 | 0.1 |
| K | Telephone | 0° to 300°F | Superheat Probe—for TIF 7000 and 7000AC | TIF | TIF7007 | 1T957 | 43.95 | 0.1 |
| K | Telephone | –40° to 500°F | Tire Probe—for TIF 7000 and 7000AC | TIF | TIF7008 | 1T958 | 54.95 | 0.1 |

*) Teflon is a registered trademark of DuPont.

# INFRARED THERMOMETERS AND ACCESSORIES

## FLUKE INFRARED TEMPERATURE PROBES Nos. 6T607 and 4KD75




- DMM Compatibility—Any DMM with 10MΩ input impedance accepting .160" (4mm) diameter safety-shrouded test leads
- Temperature ranges: 6T607 0° to 500°F (–18° to 260°C), 4KD75 -32° to 1000°F (measures °F only)
- Internal selection switch for °F or °C (No. 6T607 only)
- Accuracy ±3% of reading or ±5°F (±3°C), whichever is greater
- 5" spot size at 20"
- Ambient operating range 32° to 150°F (0° to 260°C)
- Response time 1 second

**No. 6T607.** Fluke brand (80T-IR). Shpg. wt. 1.0 lbs. Each ..... $159.00

**No. 4KD75.** Extended Range Probe. Fluke brand (80T-IR/E). Shpg. wt. 1.0 lbs. Each ..... $195.00

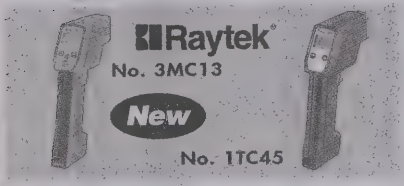
## AMPROBE INFRARED SCANNING PROBE No. 5U776

- Check electrical connection by non-contact infrared probe
- Worked with almost any DMM
- Automatic emissity adjustment
- No battery needed—works off power from DMM
- Drop proof, completely sealed with no movable parts
- Field of view, 4:1
- Output signal on temperature rise
- Target temperature range: –50° to 1200°F (–46° to 650°C)




**No. 5U776.** Amprobe brand (IR100). Shpg. wt. 0.5 lbs. Each ..... $116.45

## RAYTEK RAYNGERS




**No. 1TC45:**

- Accuracy: ±1% or 2°F, whichever is greater
- Lightweight, hand-held with digital display
- 8:1 optical resolution
- F or C temperature display, switch selectable
- Emissivity fixed at 0.95
- Backlit display with On/Off switch
- Trigger actuated
- Includes 9V battery

**No. 3MC10:**

- Same features as 1TC45 but also includes hard carrying case

**No. 3MC11:**

- Same features as 1TC45 but also includes NIST Certified Calibration

**No. 4PD54:**

- Laser sighting for target pinpointing
- Accuracy: ±1% or 2°F, whichever is greater
- 8:1 optical resolution
- MAX Temperature (displayed simultaneously)
- Emissivity fixed at 0.95
- Tenth-degree display to 199.9F (or C)
- LCD backlit display
- Laser (Class II)
- C of F selectable
- Includes 9V battery, hard case and instructions

**No. 3MC13**

- Laser sighting for target pinpointing
- Accuracy: ±1% or 2°F, whichever is greater
- 8:1 optical resolution
- °F or °C selectable temperature display
- Max scan with audible buzzer (buzzer can be switched off)
- Recalls last reading (minimum/maximum, differential and average temperature calculation)
- Backlit display with on/off switch
- Audible and visual alarm for highes temperature sensed
- Emissivity 0.3 to 1.0 digitably adjustable
- Includes 9V battery, hard case and instructions

**Nos. 4TP88 and 4TP89:**

- 30:1 optics. Increases distance from target
- Accuracy: ±1% or 2°F, whichever is greater
- MAX, MIN, DIF and AVG temperatur
- Audible, visible and Hi/Lo Alarms
- Emissivity 0.3 to 1.0 digitally adjustable
- No. 4TP89 has NIST Certified calibra tion
- Tenth-degree display to 199.9F (or C
- LCD backlit display
- Laser (Class II)
- C of F selectable
- Includes 9V battery, hard case and instructions

| Temperature Range | Spectral Response | Focus Spot Size and Distance | Repeatability | Response Time | Ambient Operating Range | Raytek Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| -25° to 750°F (-32° to 400°C) | 7 to 18µ | 2.5" @ 20" | ±1% Rdg. ±1 Digit | 500mSec. | 32° to 120°F | ST2X | 1TC45 | $169.00 | 1.0 |
| -25° to 750°F (-32° to 400°C) | 7 to 18µ | 2.5" @ 20" | ±1% Rdg. ±1 Digit | 500mSec. | 32° to 120°F | ST2XHC | 3MC10 | 189.00 | 1.6 |
| -25° to 750°F ( 32° to 400°C) | 7 to 18µ | 2.5" @ 20" | ±1% Rdg. ±1 Digit | 500mSec. | 32° to 120°F | ST2XCR | 3MC11* | 204.00 | 1.0 |
| -25° to 750°F (-32° to 400°C) | 7 to 18µ | 2.5" @ 20" | ±1% Rdg. ±1 Digit | 500mSec. | 32° to 120°F | ST3LX | *New* 4PD54 | 249.00 | 1.0 |
| -25° to 932°F (-20° to 500°C) | 7 to 18µ | 2.5" @ 20" | ±1% Rdg. ±1 Digit | 500mSec. | 32° to 120°F | ST6LX | 3MC13 | 349.00 | 4.5 |
| -25° to 1000°F (-32° to 540°C) | 7 to 18µ | 1" @ 30" | ±1% Rdg. ±1 Digit | 500mSec. | 32° to 120°F | ST8LX | *New* 4TP88 | 449.00 | 1.0 |
| -25° to 1000°F (-32° to 540°C) | 7 to 18µ | 1" @ 30" | ±1% Rdg. ±1 Digit | 500mSec. | 32° to 120°F | ST8LXCR | *New* 4TP89* | 499.00 | 1.0 |

(*) Contact local branch for delivery time.

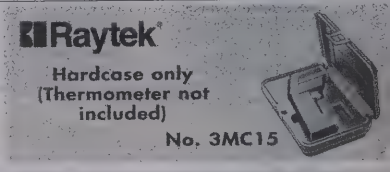
## ST SERIES ACCESSORIES

Pouch Carrying Kit includes wrist strap, belt clip, and padded pouch with 2 belt loops, and built-in cable loop for holster.

**No. 1TC48.** Raytek brand (STACPK). Shpg. wt. 0.4 lbs. Each ..... $30.00

**Hard Case.** Water resistant, dustproof hard case that holds unit. Measures 9.6 x 6.6 x 2".

**No. 3MC15.** Raytek brand (STACHC). Shpg. wt. 0.5 lbs. Each ..... $30.00



# INFRARED THERMOMETERS

### RAYTEK RAYNGER® SERIES

**Nos. 4KM98 & 4TP76**
- New innovative circular laser
- 60:1 optical resolution
- Backlit display shows actual and maximum temperature, °F or °C switchable. Accuracy ±1%. Adjustable emissivity. High alarm is audible and visible; buzzer can be switched off. Lockable trigger
- Includes 2 "AA" batteries and carrying case
- No. 4TP76 includes NIST certified calibration

**Nos. 4KM99 & 4TP77**
- All features of No. 4KM98, plus:
- Digital (RS-232) and analog (1mV/degree) outputs
- Data logging of up to 100 points
- Time or date stamp
- Can display max/min, differential and average temperatures
- Inputs include J or K thermocouple, thermistor; as well as power
- Memory recall, high or low alarms
- No. 4TP77 includes NIST certified calibration

**Nos. 4KN01 & 4TP78**
- All features of No. 4KM99, plus:
- 100-point datalogging memory interface
- Specialized software which includes custom emissivity tables, help screens, graphs, tables, IR theory and glossary
- Temperature probe and computer cable
- Power supply (110V or 220V)
- No. 4TP78 includes NIST certified calibration

### ACCESSORIES

**No. 4TP79—Pouch and Carrying Kit**
- Soft pouch protects unit during transportation
- Easy to pack in with other tools

**No. 4TP86—Thermistor (NTC) Probe**
- Probe allows temperature measurement
- Metal tip is easy to insert
- Cleans up easily

**No. 4TP80—RS232 Interface Cable**
- Allows digital communications
- Facilitates downloading of temperature information
- Permits transfer up to 10,000 data points

**No. 4TP81—Printer Cable**
- Portable printer RS232 cable allows transfer of temperature data
- Works with all enhanced units
- 5-ft. long cable allows remote measurements

**No. 4TP82—Windows™ Software**
- Use for temperature analysis
- Allows table and graph creation
- Customized log locations alarms and emissivity for reports

**No. 4TP83—Printer Paper**
- Ideal for recording data




- Easy to read and store
- Sufficient supply for most applications

**No. 4TP84—Printer, Hardcase, Adapter & Cable**
- Portable printer provides temperature data
- Data format can be a single point of multi-points
- Each point is time and date stamped for accuracy

**No. 4TP85—Thermocouple K Probe**
- Ideal for surface temperature measurement
- Allows corrections for emissivity
- Sturdy and easy to use

**No. 4TP87—110VAC Adapter**
- Allows the use of 110 volt current for less wear on batteries
- Ideal for long term measurements

| Range | Spectral Response | Focus Spot Size & Distance | Repeatability | Response Time | Ambient Operating Range | Raytek Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| -25 to 1600°F (-30 to 900°C) | 8-14µ | 1" @ 60 in. | ±0.5% of Rdg; ±1 Digit | 250mSec. | 32–120°F | MX2 | 4KM98 | $795.00 | 2.0 |
| | | | | | | MX2CR | *New* 4TP76* | 895.00 | 1.0 |
| | | | | | | MX4 | 4KM99 | 995.00 | 3.0 |
| | | | | | | MX4CR | *New* 4TP77* | 1095.00 | 4.0 |
| | | | | | | MX4P | 4KN01 | 1295.00 | 4.0 |
| | | | | | | MX4PCR | *New* 4TP78* | 1395.00 | 5.0 |

(*) Contact local branch for delivery time.

## ACCESSORIES ORDERING DATA

| Description | Raytek Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Pouch and Carrying Kit | MXAPK | 4TP79 | $45.00 | $45.00 | 0.2 |
| Thermistor (NTC) Probe | MXTP | 4TP86 | 125.00 | 125.00 | 0.4 |
| RS232 Interface Cable | MXCBC | 4TP80 | 50.00 | 50.00 | 0.1 |
| Printer Cable | MXCBP | 4TP81 | 50.00 | 50.00 | 0.2 |
| Windows software | MXDT | 4TP82 | 195.00 | 195.00 | 1.5 |
| Printer Paper | MXPA | 4TP83 | 50.00 | 50.00 | 2.0 |
| Printer, Hardcase, Adapter, and Cable | MXPRV1 | 4TP84 | 495.00 | 495.00 | 5.3 |
| Thermocouple K Probe | MXTCK | 4TP85 | 95.00 | 95.00 | 0.7 |
| 110 VAC Adapter | MXV1 | 4TP87 | 50.00 | 50.00 | 0.3 |

## NON-CONTACT INFRARED THERMOMETER WITH PULSE LASER

- Temperature Range: -40° to +950°F, (-40° to +510°C)
- Accuracy: Less than 0° ±3°C, 0° to 510°C ±2°C; or 1% of reading less than +32°F ±4.5°F; +32° to 950°F ±3°F; or 1% of reading
- Large 1/2" digital display, °F/C° switchable
- Adjustable (Bright/Dark) emissivity Bright (.70), Dark (.95)
- Data hold of last reading for 20 seconds
- Field of View: 1" @ 10 in.
- Includes two AA batteries and instruction manual
- Pocket size design
- Offset pulse laser sighting method

*New* **No. 4TK90.** Dickson brand (D161). Shpg. wt. 1.0 lbs. List $279.00. Each....**$279.00▲**



DICKSON
*The Leader In Recorders*

New

No. 4TK90

# THERMOCOUPLE THERMOMETERS AND CALIBRATORS

## THERMOCOUPLE CALIBRATION TESTERS

- **Instantly determines if measuring device needs calibration or sensor needs replacement**
- **Simulate Type J thermocouple ranges: 32°F (0°C); 212°F (100°C); 392°F (200°C); 752°F (400°C)**
- **Simulate Type K thermocouple ranges: 32°F (0°C); 212°F (100°C); 932°F (500°C); 1832°F (1000°C)**
- **Temperature accuracy: +(0.25% +1°C or F)**
- **Compact size fits into shirt pocket**
- **Includes calibration cable, carrying case, and 9V battery**

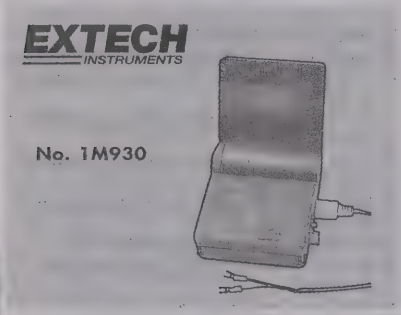
**No. 1H150.** Type J Thermocouple Tester, Subminiature Connector. Extech brand (41233J-P). Shpg. wt. 0.7 lbs. Each ..... **$99.00**

**No. 1H149.** Type J Thermocouple Tester, Spade Lug Connector. Extech brand (41233J-S). Shpg. wt. 0.7 lbs. Each..... **$99.00**

**No. 1H148.** Type K Thermocouple Tester, Subminiature Connector. Extech brand (41233K-P). Shpg. wt. 0.7 lbs. Each ..... **$99.00**

**No. 1H147.** Type K Thermocouple Tester, Spade Lug Connector. Extech brand (41233K-S). Shpg. wt. 0.7 lbs. Each ..... **$99.00**




## THERMOCOUPLE THERMOMETERS/CALIBRATORS

- **Calibrates and measures Thermocouple Types J, K, T, E, C, R, S, and N. Switches from °F/°C**
- **Accuracy (typ.): Microprocessor based for ±0.15% of reading ±1°**
- **Resolution: 0.1°/1° for J ,K, T, and E Types; 1° for C, R, S, and N Types**
- **Displays output in terms of millivolts or temperature based on thermocouple tables**
- **Bright 4-digit LED display built into adjustable cover**
- **Optional vinyl carrying case No. 1M966**
- **Includes copper calibration cable, "9V" battery, neckstrap and AC adapter/recharger**

**No. 1M930.** 115v Microprocessor Calibrator Thermometer. Extech brand (433201). Shpg. wt. 1.4 lbs. Each ..... **$299.00**

- **Calibrated for K-type thermocouple**

**No. 1M928.** Calibrator Thermometer with NIST Certificate. Extech brand (433201-NIST). Shpg. wt. 1.5 lbs. Each ..... **$404.00**

## EXTECH UNICAL CALIBRATOR SERIES

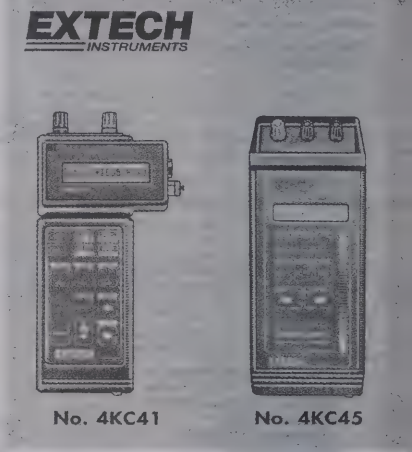
- **Precise single-function calibrators source or measure thermocouples, RTD**
- **Temperature ranges for 12 thermocouples (Nos. 4KC41 and 4KC42) from -202°F to 4172°F (-130°C to 2300°C)**
- **RTD temperature ranges for 8 types (Nos. 4KC43 and 4KC44) from -328 to 1562°F (-200 to 850°C)**
- **Membrane keypad and ABS plastic housing for rugged, shock-proof durability**
- **High contrast 16 character alphanumeric LCD for output, input and programming displays**
- **Quick-access fuse protection and slide-off battery compartment**
- **Gold terminals for banana plug or bare wire connection minimizes thermo-electric errors**
- **Programmable ramp time with memory**
- **Optional bi-directional RS-232 PC interface and software (No. 4KC48) see Index**
- **Includes batteries, case and instructions**

**No. 4KC41.** Unical Thermocouple Calibrator. Extech brand (423408). Shpg. wt. 2.2 lbs. Each ..... **$849.00**

**No. 4KC42.** Unical Thermocouple Calibrator with NIST Certificate. Extech brand (423408-NIST). Shpg. wt. 2.2 lbs. Each..... **$949.00**

**No. 4KC43.** Unical RTD Calibrator. Extech brand (423412). Shpg. wt. 2.2 lbs. Each ..... **$899.00**

**No. 4KC44.** Unical RTD Calibrator with NIST Certificate. Extech brand (423412-NIST). Shpg. wt. 2.2 lbs. Each ..... **$999.00**




## EXTECH PRECISION MULTIFUNCTION CALIBRATORS

- **2 Handheld, precise thermocouple, RTD, resistance and process (mV/mA) calibrators**
- **Source or measure on Nos. 4KC45 and 4KC46, simultaneously source and measure on Nos. 4KC49 and 4KC50**
- **13 Thermocouples, 3 RTD, (12 thermocouple, 2 RTD on Nos. 4KC49 and 4KC50) plus mV, mA and resistance**
- **16-Character LCD (2 line display with backlight on Nos. 4KC49 and 4KC50)**
- **Program and store 7 simulations with up to 60 values (1 simulation on Nos. 4KC49 and 4KC50)**
- **3 Non-isolated banana terminals (5 isolated on Nos. 4KC49 and 4KC50) or bare wire color coded connections**
- **Accuracy 0.03% declared for 1 year**
- **Optional bi-directional RS-232 PC interface with software (No. 4KC47)**
- **Includes AC adapter/recharger, NiCad batteries and leather case**

**No. 4KC45.** Extech brand (423901). Shpg. wt. 4.3 lbs. Each..... **$1699.00**

**No. 4KC46.** With NIST Certificate. Extech brand (423901-NIST). Shpg. wt. 4.3 lbs. Each ..... **$1849.00**

**No. 4KC49.** Extech brand (423940). Shpg. wt. 4.2 lbs. Each..... **$1899.00**

**No. 4KC50.** With NIST Certificate. Extech brand (423940-NIST). Shpg. wt. 4.2 lbs. Each ..... **$2049.00**

**No. 4KC47.** RS-232 Interface, Cable and Software. Extech brand (423923). Shpg. wt. 0.3 lbs.Each ..... **$199.00**

# ANSWERS TO THE MOST COMMON QUESTIONS ABOUT 2-WAY RADIOS

**Q: How do VHF and UHF Radios compare to Citizen Band and 49 MHz?**

| A: | UHF | VHF | 49 MHz Walkie Talkie | CB Citizen Band |
|---|---|---|---|---|
| Uses Commercial FM Channels | Yes (460 MHz FM) | Yes (150 MHz FM) | No (49 MHz FM) | No (27 MHz AM) |
| Talk Range Outdoors | 2 to 5 mile | 2 to 4 mile | 1/4 to 1/2 mile (Line of sight) | 1/2 to 1 mile |
| Talk In and Around Buildings | High Performance | Medium Performance | Low Performance (Line of sight) | Low Performance |
| Talk in Buildings with Many Floors | High Performance (Up to 15-30 floors) | Medium Performance (Up to 5-10 floors) | Low Performance (Line of sight) | Low Performance |
| Talk in Industrial Buildings | High Performance (Up to 250,000 sq. ft.) | Medium Performance (Up to 150,000 sq. ft.) | Low Performance (Line of sight) | Low Performance |
| Interference from Electrical | None | None | Some | Extreme Amount |
| Channels Shared With | Jobsite Business Users | Jobsite Business Users | Cordless Phone, Baby Monitor | Any Consumer |
| FCC License Required | Yes | Yes | No | No |

**Q: Do the VHF or UHF radios featured require a FCC license to operate?**
**A:** These radios do require a FCC license, consult the products owners manual, or contact the FCC information line at 888-225-5322 for additional information.

**Q: When do I use VHF or UHF?**
**A:** VHF and UHF frequencies offer similar range and coverage in most cases. However, UHF band radios are recommended for use in steel and concrete structures.

**Q: Which frequency should I use?**
**A:** If you are operating within a 75 mile radius of registered address, use local. If you are operating beyond a 75 mile radius, use itinerant.

**Q: How many radios can I use in my group?**
**A:** You can have as few as 2 radios or as many as you want. As long as you are on the same channel and in range of each other, you will be able to communicate.

**Q: What is "Coded Squelch" and "Quiet Call"?**
**A:** When this feature is added to each of your radios, all your radios will communicate with each other while electronically ELIMINATING OTHER RADIOGROUP'S CHATTER. Also known as "Private Line".

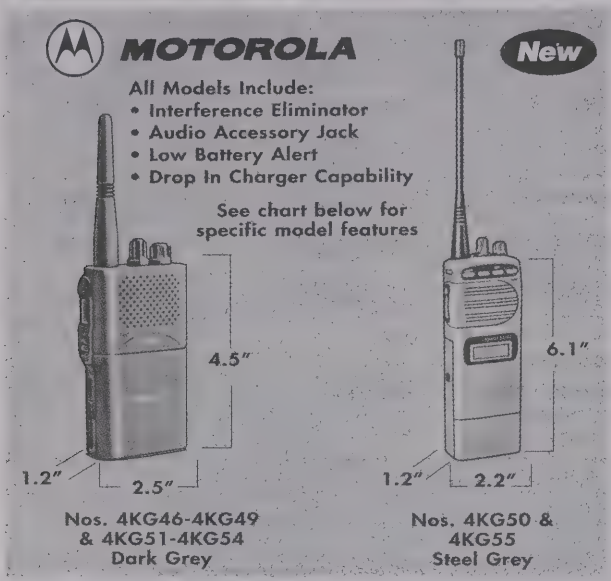
**Q: How long will the rechargeable battery last?**
**A:** The battery should last about one year with normal 8-12 hour daily use. The battery lasts 8-13 hours on a single charge based on 90% standby, 5% transmit, and 5% receive. It takes 10 hours to completely charge battery while in radio, if radio is off.

**Some business applications will require complex equipment that is beyond the capabilities of the low cost, low power radios offered in this catalog. If your application is beyond the above requirements, contact the manufacturer.**

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# MOTOROLA SPIRIT PROFESSIONAL 2-WAY RADIOS




Nos. 4KG46-4KG49 & 4KG51-4KG54 Dark Grey

Nos. 4KG50 & 4KG55 Steel Grey

**Motorola's Spirit Two-Way Radios** are the ultimate communication tools for your application. With more features and frequencies, these radios are specifically designed to increase the productivity and flexibility of work group operations.

**Motorola's Spirit Features: (see chart below for specific model features)**

**Multiple Channels:** Great for separate work groups; allows you to easily communicate between different groups within your company by turning a knob on the top of the radio.

**Selectable Frequencies:** Choose from up to 9 frequencies for 1 watt VHF models, 6 frequencies for 2 watt VHF models, and 8 frequencies for 2 watt UHF models.

**Channel Scan:** Don't miss any conversations. Hear voice transmissions on different channels without manually switching channels.

**Hands Free:** Keep your hands free with voice activated transmission by using headset w/swivel boom mic No. 6T485 or earpiece w/mic No. 6T486. **Models without Internal Vox require the use of No. 6T487 VOX adapter. See page 399.**

**Multi-functional LCD Screen:** Know at a glance your channel, signal strength, low battery alert and much more.

**Voice-assisted Programming:** Audio messages tell you the frequency and interference eliminator code settings.

**Interference Eliminator (PL)/Coded Squelch:** Blocks out uninvited channel chatter.

## SPIRIT RADIO SPECIFICATIONS, TECHNICAL & ORDERING DATA

| | VHF (150 MHZ) MODELS | | | | | UHF (460 MHZ) MODELS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Motorola Model** | MV11-C | MV21-CV | MV22-CVS | MV24-CVST | SV52-CST | MU21-CV | MU22-CV | MU22-CVS | MU24-CVST | SU42-CST |
| **Power Output** | 1 Watt | 2 Watts | 2 Watts | 2 Watts | 5 Watts | 2 Watts | 2 Watts | 2 Watts | 2 Watts | 4 Watts |
| **External Channel Selection** | 1 | 1 | 2 | 4 | 2 | 1 | 2 | 2 | 4 | 2 |
| **Selectable Frequencies** | 9 | 6 | 6 | 6 | 2 | 8 | 8 | 8 | 8 | 2 |
| **Channel Scan *New!*** | | | ● | ● | ● | | | ● | ● | ● |
| **Internal VOX *New!*** | | ● | ● | ● | | ● | ● | ● | ● | |
| **Multi-Functional LCD *New!*** | | | | | ● | | | | | ● |
| **Voice-Assisted Programming *New!*** | ● | ● | ● | ● | | ● | ● | ● | ● | |
| **Drop-in Charger Tray (Incl.)** | | | | ● | ● | | | | ● | ● |
| **151.625 MHz (Red Dot)** | ● | ● | ● | ● | ● | | | | | |
| **151.955 MHz (Purple Dot)** | ● | ● | ● | ● | ● | | | | | |
| **154.570 MHz (Blue Dot)** | ● | ● | ● | ● | | | | | | |
| **154.600 MHz (Green Dot)** | ● | ● | ● | ● | | | | | | |
| **151.700 MHz** | ● | ● | ● | ● | | | | | | |
| **151.760 MHz** | ● | ● | ● | ● | | | | | | |
| **151.820 MHz** | ● | | | | | | | | | |
| **151.880 MHz** | ● | | | | | | | | | |
| **151.940 MHz** | ● | | | | | | | | | |
| **464.500 MHz (Brown Dot)** | | | | | | ● | ● | ● | ● | ● |
| **464.550 MHz (Yellow Dot)** | | | | | | ● | ● | ● | ● | ● |
| **467.850 MHz (Silver Star)** | | | | | | ● | ● | ● | ● | |
| **467.875 MHz (Gold Star)** | | | | | | ● | ● | ● | ● | |
| **467.900 MHz (Red Star)** | | | | | | ● | ● | ● | ● | |
| **467.925 MHz (Blue Star)** | | | | | | ● | ● | ● | ● | |
| **467.7625 MHz (J Dot)** | | | | | | ● | ● | ● | ● | |
| **467.8125 MHz (K Dot)** | | | | | | ● | ● | ● | ● | |
| **Outside Range* - Up to:** | 4 Miles | 5 Miles | | | Up to: 20% more coverage than 2W models | 5 Miles | | | | Up to: 20% more coverage than 2W models |
| **Outside Range** - Up to:** | 2 Miles | 2.5 Miles | | | | 2 Miles | | | | |
| **Medium Range*** - Up to:** | 8 Floors | 10 Floors | | | | 20 Floors | | | | |
| **Minimum Range**** - Up to:** | 150,000 sq. ft. | 180,000 sq. ft. | | | | 250,000 sq. ft. | | | | |

**RANGES LISTED ARE GIVEN AS REFERENCE INFORMATION ONLY. ACTUAL RANGE MAY VARY, DEPENDING ON LOCAL CONDITIONS.**

| **Stock No.** | **4KG46** | **4KG47** | **4KG48** | **4KG49** | **4KG50** | **4KG51** | **4KG52** | **4KG53** | **4KG54** | **4KG55** |
|---|---|---|---|---|---|---|---|---|---|---|
| **List** | $210.00 | $260.00 | $305.00 | $360.00 | $470.00 | $275.00 | $305.00 | $335.00 | $380.00 | $530.00 |
| **Each** | **$189.00** | **$234.00** | **$289.00** | **$334.00** | **$449.00** | **$249.00** | **$289.00** | **$319.00** | **$359.00** | **$489.00** |
| **Shipping Weight (Lbs.)** | 1.6 | 1.6 | 1.6 | 1.6 | 2.1 | 1.6 | 1.6 | 1.6 | 1.6 | 2.1 |
| **Dimensions (Inches) (not including antenna)** | 4.5 x 2.5 x 1.2" | 4.5 x 2.5 x 1.2" | 4.5 x 2.5 x 1.2" | 4.5 x 2.5 x 1.2" | 6.1 x 2.2 x 1.2" | 4.5 x 2.5 x 1.2" | 4.5 x 2.5 x 1.2" | 4.5 x 2.5 x 1.2" | 4.5 x 2.5 x 1.2" | 6.1 x 2.2 x 1.2" |

# MOTOROLA SPIRIT PROFESSIONAL 2-WAY RADIO ACCESSORIES



Motorola 2-way radio accessories are for use with Spirit 2-way radios shown on previous page. All radios include the following accessories:

- Belt clip
- Antenna
- Ni-Cad rechargeable battery
- Cube charge
- Interference eliminator
- Drop-in charger capability




## SPIRIT RADIO ACCESSORIES

| Description | Fits Motorola Spirit Models: Previous Spirit Pro/Pro+ Models | 4KG40 through 4KG49 & 4KG51 through 4KG54 | 4KG50 4KG55 | Motorola Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **AUDIO ACCESSORIES** | | | | | | | | |
| External VOX Adapter | ● | ● | ● | HMN9037 | 6T487 | $40.85 | $40.00 | 0.4 |
| Headset with Swivel Boom Microphone | ● | ● | ● | HMN9038 | 6T485 | 61.42 | 58.50 | 0.4 |
| Earpiece with Microphone | ● | ● | ● | HMN9039 | 6T486 | 55.28 | 52.65 | 0.1 |
| Earbud | ● | ● | ● | HMN9024 | 6B524 | 19.00 | 17.00 | 0.1 |
| Earbud with Clip Microphone & Push-To-Talk | ● | ● | ● | HMN9025 | 6B525 | 45.00 | 40.00 | 0.2 |
| Remote Speaker Microphone | ● | ● | ● | HMN9026 | 6T483 | 61.24 | 57.50 | 0.6 |
| **BATTERIES AND CHARGERS** | | | | | | | | |
| Ni-Cad Rechargeable Battery | ● | ● | — | HNN9056 | 6T472 | 36.75 | 35.00 | 0.3 |
| Ni-Cad Rechargeable Compact Battery | — | — | ● | PMNN4003 | 4KG60 | 33.15 | 31.50 | 0.3 |
| Ni-Cad Rechargeable High Capacity Battery | — | — | ● | PMNN4002 | 4KG61 | 41.60 | 39.50 | 0.4 |
| Drop-In Charger Converter Kit (Light Gray)* | ● | — | — | HLN9250 | 6B526 | 19.00 | 15.00 | 0.2 |
| 120V, 10-Hr. Desktop Charging Tray† | ● | ● | — | HTN9204 | 6B527 | 17.35 | 17.00 | 0.4 |
| 120V, 3-Hr. Desktop Charger | ● | ● | — | HTN9205 | 6T473 | 58.70 | 55.95 | 1.0 |
| 3-Hr. Vehicular Charger Adapter & Bracket‡ | ● | ● | — | HLN9310 | 6B529 | 45.00 | 40.00 | 0.9 |
| Replacement Cube Charger | ● | ● | — | HLN9309 | 6T474 | 7.18 | 6.85 | 0.4 |
| 6-Unit Charger Kit (Trays not included)‡ | ● | ● | — | HLN9388 | 4KG64 | 128.95 | 122.50 | 8.0 |
| 3 Hour Desktop Charger | — | — | ● | PMTN4020 | 4KG62 | 67.90 | 64.50 | 1.0 |
| 10 Hour Desktop Charger | — | — | ● | PMTN4021 | 4KG63 | 33.15 | 32.00 | 1.0 |
| **HOLSTERS AND BELT CLIPS** | | | | | | | | |
| Hard Leather Carry Case, Short, w/belt loop** | ● | — | ● | HLN9556 | 4KG57 | 18.00 | 17.00 | 0.2 |
| Nylon Carry Case, Short, w/belt loop** | ● | — | ● | HLN9557 | 4KG56 | 13.75 | 13.00 | 0.2 |
| Hard Leather Carry Case, Tall, w/belt loop*** | — | — | ● | HLN9554 | 4KG59 | 18.00 | 17.00 | 0.2 |
| Nylon Carry Case, Tall, w/belt loop*** | — | — | ● | HLN9555 | 4KG58 | 13.75 | 13.00 | 0.2 |
| Hard Leather Carry Case w/belt loop | — | ● | — | HLN9898 | 4KG66 | 19.00 | 17.80 | 0.2 |
| Nylon Carry Case w/belt loop | — | ● | — | HLN9897 | 4KG65 | 15.00 | 14.40 | 0.2 |
| Spring Action 3" Belt Clip | ● | ● | ● | HLN9775 | 6B528 | 7.00 | 6.00 | 0.1 |
| **ANTENNAS** | | | | | | | | |
| VHF Antenna | ● | — | ● | HAD9206 | 6T481 | 10.72 | 10.50 | 0.1 |
| UHF Antenna | ● | — | ● | HAE9217 | 6T482 | 10.72 | 10.50 | 0.1 |
| VHF Magnetic Mount External Antenna, 17¾" High | ● | ● | ● | HAD9207 | 6B532 | 39.00 | 35.00 | 1.0 |
| UHF Magnetic Mount External Antenna, 6¼" High | ● | ● | ● | HAE9208 | 6B531 | 39.00 | 35.00 | 1.1 |
| Replacement VHF Antenna for MV Series | ● | ● | — | PMAD4203A | 4LT44 | 12.63 | 10.52 | 0.2 |
| Replacement UHF Antenna for MU Series | ● | ● | — | PMAE4003A | 4LT45 | 12.63 | 10.52 | 0.2 |
| **INTERFERENCE ELIMINATOR** | | | | | | | | |
| Interference Eliminator (Coded Squelch/PL) Kit | ● | Included | Included | HLN3039 | 6T480 | 53.55 | 51.00 | 0.2 |

(*) Compatible with No. 6B527 or No. 6T473. (†) Requires use of No. 6T474 shipped standard w/1 and 2 watt power Spirit Radios. (‡) Requires 6T473 (sold seprately). (‡‡) For use with charger trays 6T473 and 6B527 (sold separately). (††) Limited number available. (**) 4KG50/4KG55 w/compact battery only. (***) 4KG50/4KG55 w/high capacity battery only.

# COMMUNICATIONS EQUIPMENT

# JOBCOM PROFESSIONAL 2-WAY RADIOS

### Nos. 5H650, 5H651, & 5H652
- VHF
- Economical
- Plug-in Quiet Call Capability
- Reliable, Rugged

Made in U.S.A.

All Models



No. 5H650

### Nos. 6T024, 6T025, & 6T028
- UHF
- Economical
- Earphone Capable
- Plug-in Quiet Call Capability
- Reliable, Rugged

New



No. 6T028

### Nos. 5H679, 5H680, & 5H681
- VHF
- Built-in VOX
- Comes w/ One Ear Headset
- Audio Accessory Jack
- Plug-In Quiet Call Capability
- Reliable, Rugged



| Watts | #Chan. | Batt. Life (hrs.) | Range (mi.) | Dimensions (In.) H | W | D | Color Code | JOBCOM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 14 | 1-2 | | | | Blue Dot | JBC-100 | 5H650 | $165.55 | $149.00 | 2.0 |
| 1 | 1 | 14 | 1-2 | | | | Green Dot | JBC-100 | 5H651 | 165.55 | 149.00 | 2.0 |
| 1 | 1 | 14 | 1-2 | | | | Red Dot | JBC-100 | 5H652 | 165.55 | 149.00 | 2.0 |
| 1 | 1 | 12 | 1-2 | | | | Silver Star | JBC-45A | 6T024 | 210.00 | 189.00 | 2.0 |
| 1 | 1 | 12 | 1-2 | 7¼ | 2½ | 1⅞ | Yellow Dot | JBC-45A | 6T025 | 210.00 | 189.00 | 2.0 |
| 1 | 1 | 12 | 1-2 | | | | Blue Star | JBC-45A | 6T028 | 210.00 | 189.00 | 2.0 |
| 1 | 1 | 12 | 1-2 | | | | Blue Dot | VOX-100 | 5H679 | 261.53 | 249.25 | 2.0 |
| 1 | 1 | 12 | 1-2 | | | | Green Dot | VOX-100 | 5H680 | 261.53 | 249.25 | 2.0 |
| 1 | 1 | 12 | 1-2 | | | | Red Dot | VOX-100 | 5H681 | 261.53 | 249.25 | 2.0 |

Above units include battery, charger, antenna, belt clip, owner's manual. Operating ranges are estimated and will vary by application.
Battery life listings are based on 10% transmitt/receive and 90% idle time.

### Nos. 4VP69, 4VP70, & 4VP71
- VHF
- Quick Change Battery
- Local/DX Squelch
- Audio Accessory Jack
- Drop-in Charger Capability

All Models Made in U.S.A.



### Nos. 4VM34 and 4VM35
- VHF
- Built-in Quiet Call
- Weather Scan
- Quick Change Battery
- Drop-in Charger Capability
- Audio Accessory Jack
- 18 Selectable Frequency Codes

New



### Nos. 4VM36 and 4VM37
- UHF
- Built-in Quiet Call
- Quick Change Battery
- Drop-in Charger Capability
- Audio Accessory Jack
- 20 Selectable Frequency Codes



| Watts | #Chan. | Batt. Life (Hrs.) | Range (Min.) | Dimensions (In.) H | W | D | Color Code | JOBCOM Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | 1 | 16 | 1-2 | | | | Blue Dot | JMX-102 | 4VP69 | $184.00 | $169.00 | 1.4 |
| 1.5 | 1 | 16 | 1-2 | | | | Green Dot | JMX-102 | 4VP70 | 184.00 | 169.00 | 1.4 |
| 1.5 | 1 | 16 | 1-2 | | | | Red Dot | JMX-102 | 4VP71 | 184.00 | 169.00 | 1.4 |
| 2 | 2 | 14 | 2-3 | 4¾ | 2¼ | 1⅞ | Blue/Green Dot | JMX-152 | 4VM34 | 249.00 | 229.00 | 2.0 |
| 2 | 2 | 14 | 2-3 | | | | Red/Purple Dot | JMX-152 | 4VM35 | 249.00 | 229.00 | 2.0 |
| 2 | 2 | 14 | 2-3 | | | | Yellow/Brown Dot | JMX-452 | 4VM36 | 269.00 | 249.00 | 2.0 |
| 2 | 2 | 14 | 2-3 | | | | Blue/Silver Star | JMX-452 | 4VM37 | 269.00 | 249.00 | 2.0 |

Above units include battery, charger, antenna, belt clip, owner's manual. Operating ranges are estimated and will vary by application.
Battery life listings are based on 10% transmitt/receive and 90% idle time.

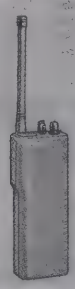
### Nos. 6T208, 6T209, & 6T210
- VHF
- Plug-in Quiet Call Option
- Quick Change Battery
- Drop-in Charger Capability
- Audio Accessory Jack

Made in U.S.A.



No. 6T208

### No. 1W656
- VHF
- Built-in Quiet Call
- Channel Scan
- Weather Scan
- Quick Change Battery
- Drop-in Charging Capability
- Audio Accessory Jack



### No. 1W678
- UHF
- Built-in Quiet Call
- Channel Scan
- Quick Change Battery
- Drop-in Charger Capability
- Audio Accessory Jack

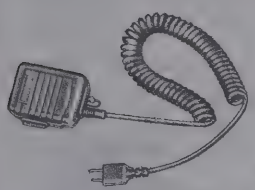


| Watts | #Chan. | Batt. Life (hrs.) | Range (mi.) | Dimensions (In.) H | W | D | Color Code | JOBCOM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | 12 | 2-3 | | | | Blue Dot | JBX-151 | 6T210 | $245.00 | $229.00 | 2.0 |
| 2 | 1 | 12 | 2-3 | | | | Green Dot | JBX-151 | 6T209 | 245.00 | 229.00 | 2.0 |
| 3 | 1 | 12 | 2-3 | | | | Red Dot | JBX-151 | 6T208 | 245.00 | 229.00 | 2.0 |
| 5 | 4 | 8 | 3-5 | 6¾ | 2½ | 1½ | Blue/Green Dot<br>Red/Purple Dot | JBX-155 | 1W656 | 454.45 | 409.00 | 1.7 |
| 5 | 4 | 8 | 3-5 | | | | Blue/Silver Star<br>Yellow/Brown Dot | JBX-455 | 1W678 | 476.65 | 429.00 | 1.7 |

Above units include battery, charger, antenna, belt clip, owner's manual. Operating ranges are estimated and will vary by application.
Battery life listings are based on 10% transmitt/receive and 90% idle time.

# JOBCOM 2-WAY RADIO ACCESSORIES

JOBCOM
The Leader In Jobsite Radios

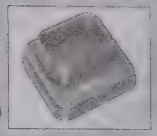


No. 6T212



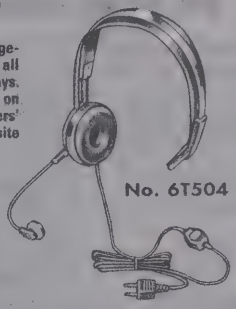
New

No. 4VM32 Drop-In Charger (Radio Not Included)

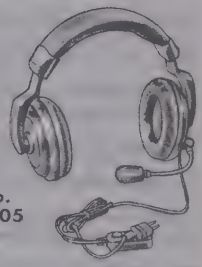


**RITRON LIMITED WARRANTY**

Ritron warrants its rechargeable batteries for one year, all other accessories for 90 days. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



No. 6T504



No. 6T505

| Description | Fits Stock Nos. | | | | | JOBCOM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CARRYING ACCESSORIES** | | | | | | | | | | |
| Holster | 5H650 5H651 5H652 6T024 6T025 6T028 | | | | | MH-A | 5H654 | $31.50 | $30.00 | 0.5 |
| Nylon Holster | | 5H679 5H680 5H681 | 5H830 5H831 5H832 | 6T208 6T209 6T210 1W656 1W678 | 4VP69 4VP70 4VP71 4VM34 4VM35 4VM36 4VM37 | MHX-A | 6T214 | 31.50 | 30.00 | 0.3 |
| Nylon Holster | | | • | • | • | MHS-A | 3VH89 | 29.00 | 27.60 | 0.2 |
| Leather Belt Holder | | | • | | • | MH-BLS | 3VH88 | 31.50 | 30.00 | 0.2 |
| **AUDIO ACCESSORIES** | | | | | | | | | | |
| Speaker Mic w/Single Plug | | • | | | | RSM-23 | 5A038 | 64.31 | 56.85 | 0.5 |
| Speaker Mic w/Dual Plug | | | • | • | • | RSM-3X | 6T212 | 57.50 | 56.65 | 0.3 |
| Single Ear Headset w/Remote Push-To-Talk | | | • | • | • | RHD-1X | 6T504 | 33.37 | 31.80 | 0.2 |
| Dual Ear Headset w/Remote Push-To-Talk | | | • | • | • | RHD-4X | 6T505 | 131.35 | 125.80 | 0.9 |
| Single Ear Headset | | • | | | | KHM-7603C | 3A110 | 31.58 | 30.00 | 0.2 |
| Dual Ear Headset | | • | | | | RHD-24 | 3A111 | 136.10 | 125.60 | 1.0 |
| Earphone | | • | • | • | • | REP-3 | 5A039 | 10.50 | 10.00 | 0.2 |
| **CHARGERS** | | | | | | | | | | |
| Cube Charger, 110VAC | • | • | • | • | • | BC-A | 5H678 | 12.50 | 10.00 | 0.3 |
| Drop-In Fast Charge, 110VAC | | | | | • | BCJ-FS | 6T217 | 82.95 | 79.00 | 2.0 |
| Drop-In Charger, 110VAC† | | | • | | • | BCJS-AD | *New!* 4VM32 | 29.00 | 24.00 | 1.0 |
| Cigarette Lighter Charger, 12VDC | • | • | | | | CCL-B | 5H675 | 16.80 | 16.00 | 0.1 |
| **QUIET CALL MODULES (Eliminate Co-Channel Interference)** | | | | | | | | | | |
| Quiet Call Module | • | • | | | | RTS-2P | 5H653 | 63.15 | 60.00 | 0.1 |
| Quiet Call Module | | | | • | | RTS-5PA | 5H833 | 78.30 | 74.65 | 0.3 |
| **BATTERY PACKS** | | | | | | | | | | |
| Replacement Battery | • | • | | | | BP-5NM | 5H674 | 35.48 | 33.80 | 0.3 |
| Replacement Battery | • | | | | | BP-6NM | 6T005 | 39.20 | 37.30 | 0.5 |
| Replacement Battery Pack | | | | • | | BPX-8N | 6T215 | 53.00 | 52.55 | 0.5 |
| Replacement Battery Pack | | | • | | | BPJ-6N | 3VH86 | 45.00 | 44.10 | 0.2 |
| Replacement Battery Pack | | | | | • | BPJS-6N | *New!* 4VM33 | 45.00 | 40.00 | 1.0 |
| **ANTENNAS** | | | | | | | | | | |
| 6" Flex Antenna (VHF models only) | • | • | | • | | AFM-150SY | 5H836 | 10.50 | 10.00 | 0.1 |
| 6" Flex Antenna (UHF models only) | • | | | • | | AFM-450-Y | 6T030 | 10.50 | 10.00 | 0.1 |
| 6" Flex Antenna (VHF models only) | | | • | | • | AFS-150 | 3VH84 | 12.50 | 12.00 | 0.1 |
| 6" Flex Antenna (UHF models only) | | | • | | • | AFS-450 | 3VH85 | 12.50 | 12.00 | 0.1 |
| **BELT CLIPS** | | | | | | | | | | |
| Belt Clip | • | • | | | | CB-A | 5A040 | 12.60 | 12.00 | 0.1 |
| Replacement Belt Clip | | | | • | | CBX-A | 6T213 | 11.55 | 11.00 | 0.1 |
| Replacement Belt Clip | | | • | | • | CBJ A | 3VH87 | 10.50 | 10.00 | 0.1 |
| Replacement Belt Loop for Holsters | Fits all holsters | | | | | MH-BL | 6T029 | 11.55 | 11.00 | 0.1 |

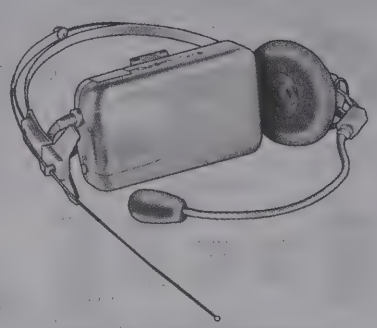
(*) Earphone with Nos. 6T024, 6T025, and 6T028 only.
(†) Drop-in charger requires cube charger No. 5H678

# 49 MHz HANDS-FREE 2-WAY RADIOS

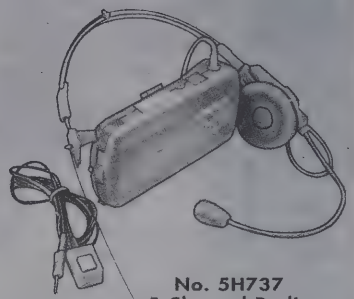
- Voice activated (VOX) radios provide hands-free operation. Transmit as you talk; stop talking and you receive
- Can be switched to manual "push-to-talk" transmission
- Average outdoor range between 1/4 to 1/2 mile. Range indoors will be reduced depending on structure
- Adjustable headset holds boom microphone, earphone, and antenna
- Low battery indicator. Nos. 5H598 and 5H599 use two "AA" size batteries. No. 5H737 uses three "AA" size batteries
- No. 5H737 has an additional remote "push-to-talk" switch and has a helmet adaptable headset

**Note:** Communication must be made on same type channel. For example, those communicating on Channel A models cannot communicate to those communicating on Channel E models. Maxon brand. Batteries not included.

## MAXON



Nos. 5H598 and 5H599
1-Channel Radios



No. 5H737
5-Channel Radio

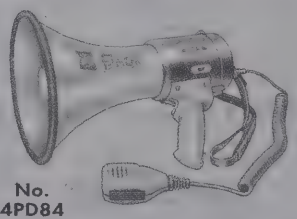
## 2-WAY RADIO SPECIFICATIONS AND ORDERING DATA

| Channel | Frequency (MHz.) | Dimensions (In.) Length | Width | Height | Maxon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 49.830 | 4 15/16 | 2 1/2 | 27/32 | 49-SX | **5H598** | $59.95 | **$42.00** | 0.9 |
| E | 49.890 | 4 15/16 | 2 1/2 | 27/32 | 49-SX | **5H599** | 59.95 | **42.00** | 0.9 |
| A, B, C, D, E | † | 6 1/4 | 2 5/8 | 7/8 | 49-HX | **5H737** | 89.95 | **60.00** | 2.0 |

(†) Channel A—49.830 MHz, Channel B—49.845 MHz, Channel C—49.860 MHz, Channel D—49.875 MHz and Channel E—49.890 MHz

# MEGAPHONES

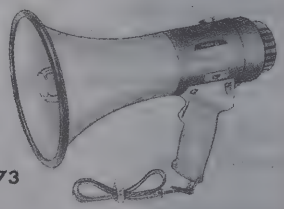
- Feature volume control and trigger-talk switch
- ABS plastic bell and weatherproof microphone for indoor and outdoor use
- Built-in signal for use as warning alert or fog horn
- No. 4PD84 features detachable microphone
- Include carrying strap



No. 4PD84

FANON®

New



No. 4H973

| Peak Watts | Operating Range (Yds.) | Batteries Required | Number of Batteries | Bell Dia. (In.) | Length (In.) | Fanon Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 1000 | "C" | 8 | 9½ | 15 | MV-20S | *New* | **4PD84** | $262.55 | **$185.50** | 7.0 |
| 16 | 600 | "C" | 6 | 7 | 14 | MV-10S | | **4H973** | 183.95 | **125.65** | 4.0 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

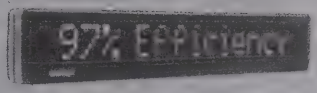
**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# ELECTRONIC MESSAGE DISPLAY SIGNS, INFRARED MESSAGE LOADER, AND U.S. FLAGS

## ELECTRONIC MESSAGE DISPLAY SIGNS

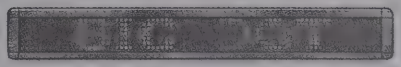
- For attention-getting messages in employee lunchrooms, personnel areas, and other high-traffic locations
- Time of day and message scheduling
- Store up to 80 separate messages
- 6000 character memory; 30,000 character memory standard on No. 1N142
- 5 changeable speeds
- One month message retention
- Wireless hand-held keyboard on all units
- External UL Listed power transformer for 115VAC, UL Listed/CSA Certified for No. 1N142
- Patented LED display technology
- Not for outdoor use

**ALPHA®**




No. 6T268
14-27 Character, One-Line Display

ADAPTIVE
Adaptive Micro Systems Inc



No. 1N142
15-27 Big Dot Characters, One-Line Display

### 14-27-CHARACTER COLOR DISPLAY No. 6T268

- Visibility range: 6 to 100 feet
- Displays 14-27, 2" characters in 8 colors: yellow, red, green, orange, brown, light red, light green, amber
- Includes infrared programming kit
- Includes brackets for wall or ceiling mounting

### CHARACTER DISPLAY No. 1N142

- Visibility range: 6 to 250 feet
- Displays 1 line up to 27, 4" characters
- 30,000 character memory standard, 80 pre-programmed messages
- Character colors: Each dot may be any of 8 colors
- Includes brackets for wall or ceiling mounting

### MESSAGE DISPLAY SIGN ORDERING DATA

| Description | Dimensions (In.) L | W | H | Display Dimensions H x L (In.) | Display Array Dot Matrix | Printer Watts | Alpha Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14-27-Character 1-Line Display/Color | 28.9 | 2.2 | 4.5 | 2 x 24 | 7 x 80 | 40 | Beta | **6T268** | $349.00 | **$296.75** | 6.0 |
| Large 27-Character 1-Line Display | 49.0 | 4.3 | 6.3 | 4 x 45.6 | 7 x 80 | 100 | 1038-1113 | **1N142** | 923.30 | **735.50** | 12.0 |

## INFRARED MESSAGE LOADER

- Allows storage and transfer of information between displays
- Eliminates need to individually reenter same information into multiple models; simply enter message, record it in loader, and load in another message center
- 30,000 character memory
- For use with electronic message display signs listed above

**No. 1N143.** Shpg. wt. 0.8 lbs. List $169.00. Each.....$159.00

**ALPHA®**



No. 1N143
Message Loader

OLYMPUS

SUPPLIER DIVERSITY

Woman-Owned Business

- Durable, 200 denier nylon fabric meets government standards
- Stars are embroidered; stripes are sewn with two rows of lock stitching
- Fly-end of flag is finished with four rows of lock stitching
- Canvas header and two brass grommets



**OLYMPUS 90-DAY LIMITED WARRANTY**

Olympus warrants U.S. Flags for 90 days. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover

## U.S. FLAGS

**Recommended flag size:** Width of the flag should be approximately 25% of flag pole height.

**Longevity:** Government standards indicate that a nylon flag will last approximately 90 days, based on daily usage during daylight hours, but not during periods of inclement weather. Tests have shown that in some cases a flag flown 24 hours a day will last only one fourth as long as a flag flown during daylight hours only. Regular maintenance will extend flag life.

**Maintenance:** Flags should be checked periodically and taken down for repair when the fly-end begins to tear. Rotating flags on a regular basis will allow for maintenance repairs extending the life of the flags. Olympus brand.

| Flag Height (Ft.) | Width (Ft.) | Recom. Flagpole Height (Ft.) | Olympus Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3** | 5 | 20 | RK611G | **3JN76** | $28.00 | **$26.65** | 0.6 |
| **4** | 6 | 25 | RKUS46NG | **3JN77** | 42.00 | **39.95** | 0.8 |
| **5** | 8 | 30 | RKUS58NG | **3JN78** | 70.00 | **66.60** | 1.2 |

# EMERGENCY PHONES AND SPEAKER SELECTION GUIDE

## ADA COMPLIANT EMERGENCY PHONES

**BOTH UNITS FEATURE:**

- **ADA Compliant LED indicator for the hearing impaired and built-in raised letters and Braille signage for the visually impaired**
- **Vandal-resistant stainless steel faceplate, enclosure, and metal button**
- **Push button once to call, then speak, hands-free**

### ADA COMPLIANT ELEVATOR EMERGENCY PHONE No. 4RR11

- **Installs easily in standard elevator phone box**

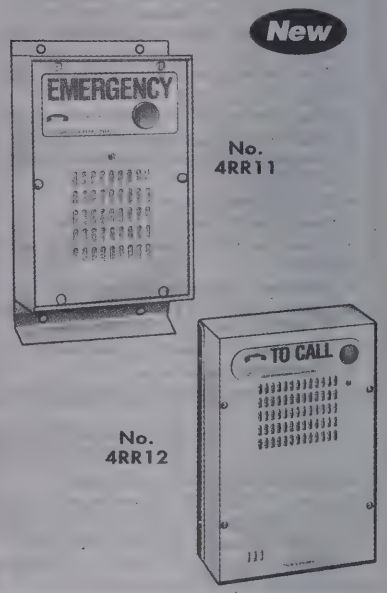
### ADA COMPLIANT EMERGENCY/ACCESS PHONE No. 4RR12

- **For indoor or outdoor use**
- **Ideal for access control at gates, doors or any location where remote communication is needed**
- **Has auxiliary input and two outputs to permit connection to accessories such as CCTV, gate openers, and strobe lights**

**Both units provide easy installation** for new construction, or as a retrofit for existing properties to comply with the Americans with Disabilities Act (ADA). Features a built-in auto-dialer that calls a primary number and then calls a second number if the first one doesn't answer, or is busy. Once answered, these units automatically transmit a location identifier recorded message, which can be entered and/or changed by the administrator remotely via telephone.

**Operates on regular phone line or PBX.** Phone line powered to eliminate the need for battery back-up and/or an external power source.

TALK-A-PHONE CO.
*Creating Communication Solutions*




| Description | Dimensions (In.) W | H | D | Talk-A-Phone Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Elevator Emergency Phone** | 4¾ | 8¼ | 2½ | ETP-100MBV | **4RR11** | $529.20 | **$450.00** | 6.5 |
| **Emergency Access Phone** | 6¼ | 10 | 2 5/16 | ETP-401C | **4RR12** | 707.88 | **602.00** | 8.5 |

## BOGEN SPEAKER SELECTION GUIDE

### SELECTING THE PROPER TYPE OF LOUDSPEAKERS

| Type of Area: | Type of Speaker: | Stock Nos. |
|---|---|---|
| Manufacturing areas | Horn loudspeaker | 5H805, 5H806*, 5H807 |
| Shipping docks | Horn loudspeaker | 5H805, 5H806*, 5H807 |
| Warehouses | Horn loudspeaker | 5H805, 5H806*, 5H807 |
| Office/Store (no ceiling mount) | Wall-mount loudspeaker | 5H809 |
| Office/Store (can mount in ceiling) | Ceiling loudspeaker | 4PD75, 4PD76** |
| Outdoors | Horn louddspeaker | 5H805, 5H806*, 5H807 |

(*) If system requires NO MORE than 2 horns, these 8 ohm models can be used. Connect them in parallel to the amplifier's 25 vct output.

(**) 4PD76 has integral volume control know; Model 4PD75 and 4PD76 sound better/provide conduit connection when installed with 4PD74 back box/enclosure

### DETERMINING QUANTITY OF LOUDSPEAKERS

| Type of Speaer/Stock No. | Coverage (Sq. Ft.) | Spacing |
|---|---|---|
| Horn speaker (5H805-5H806) | 5,000 | 50 ft. centers |
| Wall Mount (5H809) | 500 | 20 ft. centers |
| Ceiling speaker (8 ft.) 4PD75-76 | 250 | 16 ft. centers |
| Ceiling speaker (10 ft.) 4PD75-76 | 400 | 20 ft. centers |
| Ceiling speaker (12 ft.+) 4PD75-76 | 575 | 25 ft. centers |

### DETERMINE PROPER AMPLIFIER TO USE

**Multiply power taps x number of each type of speaker = Total watts required**

| | 1-35 Watts | 1-60 Watts | 1-100 Watts | 1-150 Watts |
|---|---|---|---|---|
| Use Stock No. | 4PD78 | 4PD79, 5H800 | 5H799 | 4PD72 |

### DETERMINING POWER TAPPING OF SPEAKERS

| Type | Description | dB |
|---|---|---|
| Low | Quiet Office | 50 |
| | Hospital | 55 |
| | Hotel Lobby | 55 |
| | Doctor's Offfice | 55 |
| | Normal Conversation | 60 |
| Medium | Bank/Public Area | 65 |
| | Department Store | 65 |
| | Quiet Restaurant | 70 |
| | Noisy Office | 75 |
| | Shipping/Warehouse | 75 |
| | Supermarket | 75 |
| Med/High | Noisy Restaurant | 80 |
| | Assembly Line | 80 |
| High | Printing Shop | 85* |
| | Noisy Manufacturing | 85* |
| Very High | Machine Shop | 90* |
| | Construction Site | 100* |

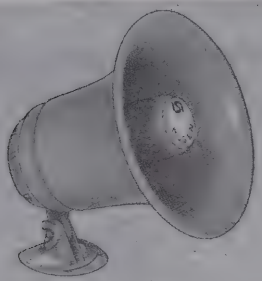
(*) Consult with Bogen Applications Engineering - may be too loud to effectively cover with paging system.

| Type | Stock No. | Low Noise | Medium Noise | Med/High Noise | High Noise |
|---|---|---|---|---|---|
| Horn | 5H805<br>5H806 | .9 watt tap | 3.8 watt tap | 7.5 watt tap | N/A |
| Horn | 5H807 | N/A | N/A | 7.5 watt tap | 15 watt tap |
| Wall | 5H809 | 1/2 watt tap | 1 watt ap | N/A | N/A |
| Ceiling | 4PD75<br>4PD76 | 1/2 watt tap | 1 watt tap | N/A | N/A |

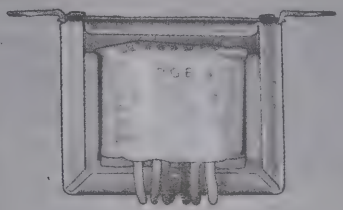
# SPEAKERS AND ACCESSORIES

## BOGEN

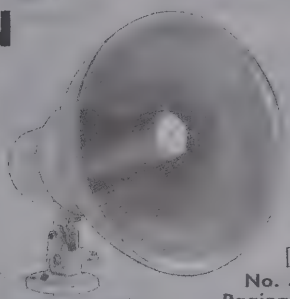
New



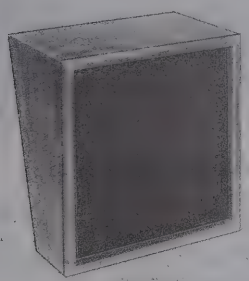
A
No. 5H798
Talk-Back Speaker



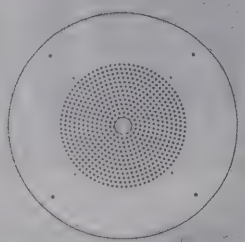
B
No. 4PD77
Matching Transformer



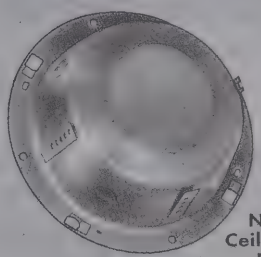
C
No. 5H805
Paging Speaker



D
No. 5H809
Wall-Mount Speaker



E
Nos. 4PD76 & 4PD75
Ceiling Speakers



F
No. 4PD74
Ceiling Speaker Enclosure

## A TALK-BACK SPEAKER

- For indoor/outdoor use; 8 ohm, 15 watt
- Dimensions: 6½" dia. x 6⅝" deep
- Bogen brand (IH-8A)

**No. 5H798.** Shpg. wt. 2.6 lbs. List $50.82. Each ..... $50.55

## B MATCHING TRANSFORMER

- 8 ohm/70V or 25V
- Power taps 4, 2, 1, 1/2, 1/4, 1/8 on 70V systems
- Small size 2⅜" by 1½"
- Color coded tap wires
- Flange mount

***New*** **No. 4PD77.** Shpg. wt. 0.5 lbs. List $9.95. Each ..... $7.55

## C PAGING SPEAKERS

- Indoor/outdoor use
- No. 5H806 is 8 ohm impedance type
- Nos. 5H805 and 5H807 are transformer type

| Power Watts | Power Taps @25V | Power Taps @75V | Bogen Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 15 | 15, 7.5, 1.8, 0.94, 0.48 | 15, 7.5, 3.8, 1.8, 0.9 | SPT-15A | 5H805 | $82.72 | $81.70 | 4.2 |
| 15 | — | — | SP15-8A | 5H806 | 65.49 | 65.30 | 5.0 |
| 30 | 30, 15, 7.5, 3.8, 1.8 | 30, 15, 7.5, 3.8, 1.8 | SPT30A | 5H807 | 101.61 | 101.10 | 6.1 |

## D WALL-MOUNT SPEAKER

- For indoor use; 1/8, 1/4, 1/2, 1, 2, 4 watt
- Includes 25/70V constant voltage line transformer
- Walnut vinyl with black grille
- Dimensions: 9½W x 11⅝H x 6⅝"D
- Bogen brand (WBS810T725)

**No. 5H809.** Shpg. wt. 4.9 lbs. List $40.46. Each ..... $36.95

## E 70/25V CEILING SPEAKERS WITH GRILLE

- Steel ceiling grille finished in white semi-gloss enamel
- Includes 4-watt transformer for 70V & 25V audio systems
- 1/8 Watt through 4W power taps
- 70Hz - 15Khz frequency response
- Efficiency of 96dBspl (1 w)

Eight inch ceiling speaker with transformer for connecting to 70V and 25V sound systems. Speaker has 10 oz. magnet with 1 inch voice coil. Speaker is pre-assembled onto grille. No. 4PD76 features volume control with knob mounted on grille. Bogen brand.

***New*** **No. 4PD75.** Ceiling Speaker with Grille. (S810T725PG8W). Shpg. wt. 5.0 lbs. List $38.50. Each ..... $28.15

***New*** **No. 4PD76.** Ceiling Speaker with Grille and Volume Control. (S810T725PG8WVK). Shpg. wt. 5.0 lbs. List $59.00. Each ..... $38.35

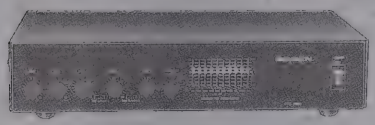
## F CEILING SPEAKER ENCLOSURE

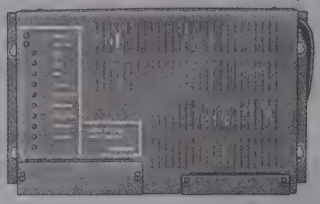
High quality steel speaker backbox designed for 8" ceiling speaker installations. One-piece enclosure measures 9⅝" dia. x 4" deep. Includes integral mounting ring and foam insert to reduce metallic resonance. Sound absorbing inner liner. Finished in rust-resistant black primer. Bogen brand.

***New*** **No. 4PD74.** Shpg. wt. 2.0 lbs. List $23.00. Each ..... $16.56

# PA AMPLIFIERS, TELEPHONE PAGING, AND ZONE PAGING UNITS

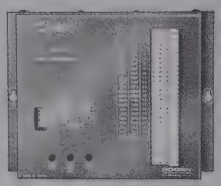
## BOGEN *New*

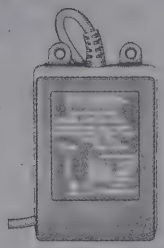

No. 5H800

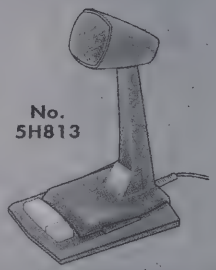

No. 4PD79


No. 5H801


No. 4PD72


No. 4PD80


No. 4PD73


No. 5H813

## PUBLIC ADDRESS AMPLIFIERS

- **Up to 5 input signals; output 8-16 ohms or 25 VAC or 70 VAC constant voltage**
- **For background music, use AM/FM tuner No. 5H801**
- **Dimensions: 3¾H x 16¼W x 12¾"D**
- **UL Listed (E15903); CSA Certified (LR64890)**

| Output Watts | Bogen Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **60** | CTS1060 | **5H800** | $527.21 | **$492.50** | 19.0 |
| **100** | CTS1100 | **5H799** | 601.29 | **577.50** | 22.0 |

## MIXER/AMPLIFIER

- **7 Inputs – 4 Mic, 1 Aux, Mic/Tel and Mic/Aux**
- **4, 8-ohm, 25V, 70V outputs**
- **Dual function 10-band graphic equalizer**
- **Voice-activated Aux muting on Tel input**
- **Aphex® Aural Exciter for improved intelligibility**

Dual function equalizer allows for either sound shaping or feedback control. Aphex Aural Exciter circuitry improves the intelligibility of announcements. UL and C-UL Listed. Dimensions: 3½ H x 16½ W x 12" D. Bogen brand (GS150).

***New* No. 4PD72.** Shpg. wt. 33.0 lbs. List $1189.00. Each.....**$860.00**

## TELEPHONE PAGING AMPLIFIERS

- **Designed for easy integration with telephone systems**
- **Wall-mount design**
- **Inputs for 600-ohm balanced telephone line, LO-Z balanced microphone, and background music**
- **Built-in Night Ringer**
- **Voice-activated, variable level, music muting/fading circuit**

Features Aphex® Aural Exciter circuit for improved intelligibility. 16-ohm, 25V, 25VCT, 70V outputs. Permits paging from telephone and/or microphone, telephone input has automatic level control. The signal-activated paging channel automatically mutes background music when paging from a telephone. The muting level of background music during a page is adjustable, and the music gradually returns to its normal level after a page.

### *New!* AMPLIFIER SPECIFICATIONS AND ORDERING DATA

| Output Watts | Bogen Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **35** | TPU35B | **4PD78** | $652.00 | **$369.50** | 16.0 |
| **60** | TPU60B | **4PD79** | 878.00 | **498.75** | 17.0 |

## ZONE PAGING DEVICE

- **Touch tone controlled with All Call**
- **3 Separate paging zones**
- **Field programmable paging groups**
- **100W Total power switching capacity**
- **Direct connection to telephone systems**
- **Preannounce & confirmation tones; built in night ringer**

Telephone-compatible zone paging device with all call and talk back capabilities. Background music input, auxiliary relay contacts and telephone style punch bock. Emergency override and night ringer inputs from 90V ring signal or contact closure. Requires 24V power supply No. 4PD73. Dimensions: 9⅛ W x 7¼ H x 1⅝" D. FCC registered. Bogen brand (ZMP3).

***New* No. 4PD80.** Shpg. wt. 3.0 lbs. List $536.00. Each.....**$303.75**

## 24VDC POWER SUPPLY

- **Use with No. 4PD80 Zone Paging Device**
- **35 mA loop current source for telephone applications**
- **24V/450mA regulated supply**
- **24V Loop current source**
- **Usable as interface to PBX and Key telephone systems**

3 Ft. power cord. UL Listed and CSA Certified. Bogen brand.

***New* No. 4PD73** (PRSASAC). Shpg. wt. 3.0 lbs. List $136.00. Each.....**$76.35**

## DIGITAL AM/FM TUNER

- **18 FM and 12 AM presets**
- **Lighted LCD display**
- **UL Listed; CSA Certified**
- **Dimensions: 10½ W x 1⅝ H x 7¼" D**
- **Bogen brand (TP30D)**

**No. 5H801.** Shpg. wt. 7.0 lbs. List $210.18. Each.....**$200.25**

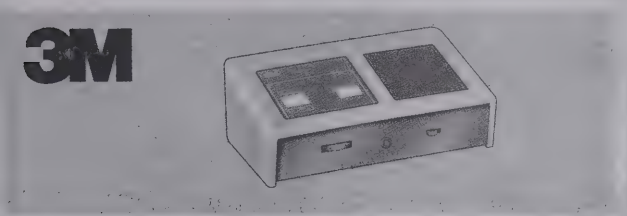
## DESK MICROPHONE

- **Press-to-talk bar with locking mechanism**
- **Bogen brand (MBS1000)**

**No. 5H813.** Shpg. wt. 4.0 lbs. List $160.23. Each.....**$155.25**

# SPECIALTY INTERCOMS

## SINGLE CHANNEL INTERCOM

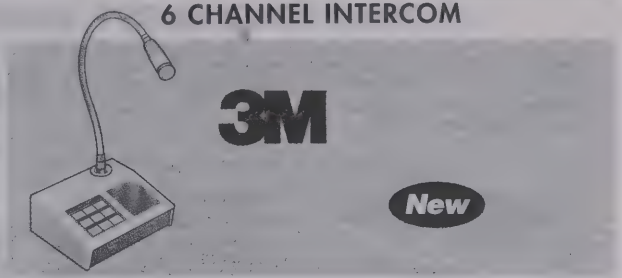


- **Point-to-point communications; touch panel switches**
- **Red, yellow, and green indicators for Power-On, Standby, Presence Alert, Talk and Listen**
- **Separate Talk, Listen, and Alert Tone volume controls**
- **High-impact console**

5 Watts talk channel. 2.5 Watts listen channel. Measures 5 1/16" D x 8 9/32" W x 3 3/32" H. 120VAC at 60 Hz. Class 2 plug-in cord connected power supply, UL Listed (E84666). 3M brand (D-15).

**No. 5H619.** Shpg. wt. 5.6 lbs. List $738.07. Each ..... $686.50

## 6 CHANNEL INTERCOM



- **Hands-free, voice-activated communication**
- **Communicates to 6 seperate locations**
- **Accepts external music and message source**
- **Annunciator and lights indicate calls**

Speak with all 6 stations simultaneously. Combines rugged design with call device compatability. 5 Watts talk channel. 2 to 5 watts listen channel. 120VAC, 60 Hz Plug-In Transformer at 14VAC. Size is 7 1/16" diameter x 3 3/32" high x 8 9/32" wide. Made in USA. UL Listed. 3M brand (D20V).

***New*** **No. 4PD55.** Shpg. wt. 6.8 lbs. List $1073.00. Each ..... $998.00

## MAGNETIC LOOP DETECTOR

- **Used with buried loop**
- **Self-tuning**
- **Grounded loop operation**
- **Intermittent loop monitor**
- **Two delay time settings**
- **Made in USA**

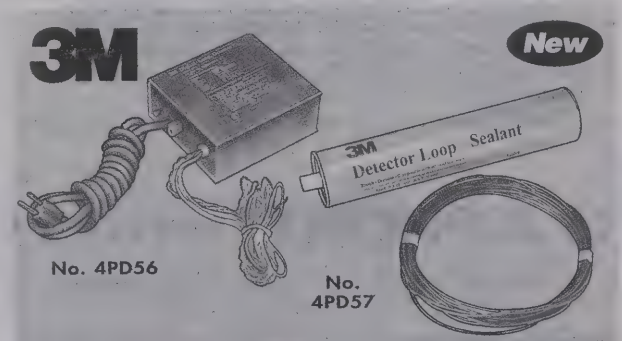
Detects vehicles at drive-thru windows, loading docks, and weigh-in facilities. Requires Magnetic Loop Saw-In Kit, No. 4PD57, to operate. UL Listed.

***New*** **No. 4PD56.** 3M brand (5111140079). Shpg. wt. 1.7 lbs. List $446.15. Each ..... $415.00

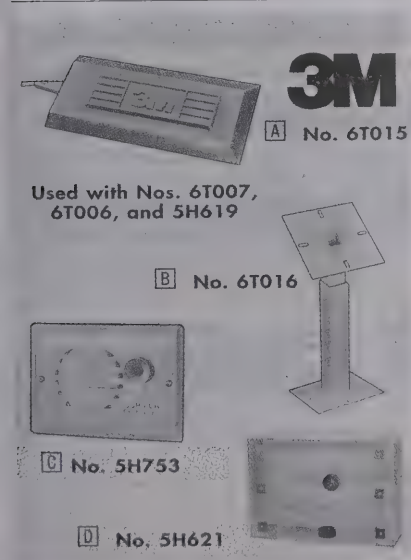
## MAGNETIC LOOP SAW-IN KIT

For existing road surfaces. Includes sealant. Approximate size: 54 x 18". Made in USA.

***New*** **No. 4PD57.** 3M brand (5111149387).. Shpg. wt. 8.0 lbs. List $169.55. Each ..... $157.75




## INTERCOM ACCESSORIES




### A No. 6T015 FOOT SWITCH

- **Heavy-duty foot-operated switch permits hands-free operation for controlling the Talk/Listen functions of the intercom**
- **Brown molded vinyl rubber, totally immersible**
- **Can be used to switch other electronic circuits**
- **Activation pressure: 8-12 lbs.**
- **Normally open contacts**

**No. 6T015.** Foot Switch. 3M brand. Shpg. wt. 2.0. Each ..... $112.05

### B No. 6T016 INTERCOM PEDESTAL MOUNT

- **Adjusts to 30, 45, or 60° angle**
- **Adjustable height 7-12"**
- **Protects all cables**

For use with intercom No. 5H519 above. 3M brand.

**No. 6T016.** Shpg. wt. 3.0 lbs. List $105.00. Each ..... $101.35

### C No. 5H753 SPEAKER/MIC AND CALL SWITCH ASSEMBLY

- **Indoor/outdoor**
- **Pushbutton triggers call signal and provides hands-free communication to master intercom**
- **Flush mount or attach to back box (No. 5H621, sold below)**
- **3 1/2" cone speaker, 8 ohms, 5 watts**
- **Dimensions: 5 1/4 x 7 1/2"**

For use with No. 5H619 above. 3M brand.

**No. 5H753.** Shpg. wt. 1.5 lbs. List $130.50. Each ..... $120.50

### D No. 5H621 STAINLESS STEEL BACK BOX

- **Indoor/outdoor**
- **Includes wiring grommets**
- **Dimensions: 2D x 5 1/4H x 7 1/2"W**

For use with No. 5H753 above. 3M brand.

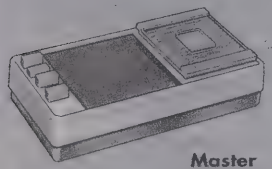
**No. 5H621.** Shpg. wt. 1.3 lbs. List $57.89. Each ..... $53.50

# INTERCOMS AND SPECIALTY INTERCOMS AND INTERCOM SYSTEM WIRE CHART

## MASTER/REMOTE WIRED INTERCOM SYSTEMS

- Allows up to three additional remote stations No. 5H098 (see below)
- Push-to-talk rocker bar switch with lock for continuous talk

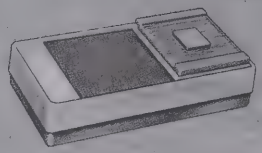
FANON®



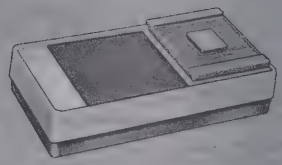
Master

Includes one Master Station and one Remote Station

No. 5H100 Master Station



Remote



No. 5H098 Remote Station

### MASTER STATION

- On/Off switch with volume control
- Maximum distance 250 feet master to remote
- Includes one remote station and 50 foot plug-in cable
- For additional wire, use No. 2W996 sold on page 604
- Charcoal brown, black, and woodgrain finish
- High impact plastic case, 7W x 3½D x 2"H overall
- Fanon/Courier brand (IN-402)

**No. 5H100.** Shpg. wt. 2.4 lbs. List $86.95. Each .....**$60.25**

### REMOTE STATION

- For indoor use
- Includes 50 foot plug-in cable
- Charcoal brown, black, and woodgrain finish
- High impact plastic case, 7W x 3½D x 2"H overall
- Fanon/Courier brand (IN-2)

**No. 5H098.** Shpg. wt. 1.1 lbs. List $32.50. Each .....**$22.41**

## AIPHONE® INTERCOM SYSTEM WIRE CHART

| From Model: | to | To Model: | 22AWG Wire | 18AWG Wire | Wire Type | Max. Distance | Length |
|---|---|---|---|---|---|---|---|
| **LEF SYSTEM** | | | | | | | |
| **Master to Sub Stations:** | | | | | | | |
| 4PD58-60 (LEF-3, 5, 10) | to | 4PD63 (LE-D) | 2W978 | 2W981 | 3 cond. Shielded | 650' w/22AWG; 1600' w/18AWG | 500' |
| 4PD58-60 (LEF-3, 5, 10) | to | 4PD61 (LE-AN) | 2W978 | 2w981 | 3 cond. Shielded | 650' w/22AWG; 1600' w/18AWG | 500' |
| 4PD58-60 (LEF-3, 5, 10) | to | 4PD62 (LE-AN3) | Aiph. #822206 | N/A | 6 cond. Shielded | 650' w/22AWG; 1600' w/18AWG | 500' |
| 4PD58-60 (LEF-3, 5, 10) | to | 4PD68 (PS-12C) | 2W978 | 2W981 | 3 cond. Shielded | 25' w/22AWG; 50' w/18AWG | 500' |
| **Master to Master Stations:** | | | | | | | |
| 4PD58 (LEF-3) | to | 4PD58 (LEF-3) | 501-4600† | N/A | 12 cond. Shielded | 650' w/22AWG; 1600' w/18AWG | 500' |
| 4PD59 (LEF-5) | to | 4PD59 (LEF-5) | 501-4618† | N/A | 12 cond. Shielded | 650' w/22AWG; 1600' w/18AWG | 500' |
| 4PD60 (LEF-10) | to | 4PD60 (LEF-10) | 501-4626† | N/A | 20 cond. Shielded | 650' w/22AWG; 1600' w/18AWG | 500' |
| **Master to Accessories:** | | | | | | | |
| 4PD58, 59 (LEF-5, 10) | to | 2W937 Relay | 2W977 | 2W595* | 2 cond. Shielded | 650' w/22AWG; 1600' w/18AWG | 500', 1000' |
| 2W937 Relay | to | 4PD71 (EL-9S) | 2W977 | 2W595* | 2 cond. Shielded | 650' w/22AWG; 1600' w/18AWG | 500', 1000' |
| 2W937 Relay | to | 4PD70 (PT-1210N) | 2W977 | 2W595* | 2 cond. Shielded | 650' w/22AWG; 1600' w/18AWG | 500', 1000' |
| **NEM SYSTEM** | | | | | | | |
| 4PD64 (NEM-20A) | to | 4PD65 (NA-AN) | 2W977 | 2W595* | 2 cond. Shielded | 420' w/22AWG; 1000' w/18AWG | 500', 1000' |
| 4PD64 (NEM-20A) | to | 4PD66 (NB-L) | 2W977 | 2W595* | 2 cond. Shielded | 420' w/22AWG; 1000' w/18AWG | 500', 1000' |
| 4PD66 (NB-L) | to | 4PD67 (NAR-6A) | 2W977 | 2W595* | 2 cond. Shielded | 420' w/22AWG; 1000' w/18AWG | 500', 1000' |
| 4PD64 (NEM-20A) | to | 4PD69 (PS-24C) | 2W977 | 2W595* | 2 cond. Shielded | 25' w/22AWG; 50' w/18AWG | 500', 1000' |

(*) 2W595 is available in 1000' spool only.
N/A: Not available in 18AWG. (†) Available at Grainger Parts Operation. Call 1-800-323-0620.

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

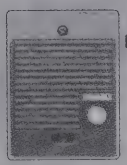
**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# INTERCOM SYSTEMS

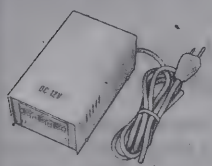
## SELECTIVE CALLING OPEN VOICE INTERCOM SYSTEM


No. 4PD58

AIPHONE® New


No. 4PD63


No. 4PD61


No. 4PD68


No. 4PD70

- 3-, 5-, & 10-call, masters, fully intermixable with other master or sub stations up to maximum capacity
- 1- and 3-call sub stations with privacy
- 3-call substation selectively calls up to 3 masters
- Selective calling from any master with hands-free reply
- Room monitoring capability from a master
- Selective door release on 5-, 10-call masters (*12VDC, 100mA relay for each door)
- Order 1 power supply, No. 4PD68, per system
- AiPhone Intercom System Wire Chart can be found on page 908

A wide variety of business applicatons require a system that provides door answering, selective calling between stations, and hands free response. The LEF System can provide time saving communications between multiple locations. Voice and call tone volume controls. LED and momentary electronic call tone indicate an incoming call from a remote station. The 5 and 10-call masters can selectively release multiple doors.

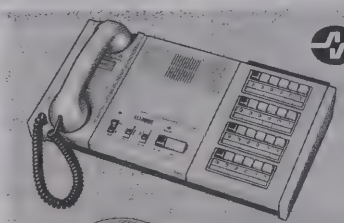
| Description | Wiring Cond. | Dimensions (In.) H x W x D | Aiphone Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3-call Master Station** | 9 | 7 1/16 x 5 5/8 x 2 3/16 | LEF-3 | **4PD58** | $165.20 | **$117.25** | 1.2 |
| **5-call Master Station with Door Release** | 12 | 8 1/8 x 7 1/2 x 2 3/16 | LEF-5 | **4PD59** | 239.40 | **170.00** | 1.6 |
| **10-call Master Station with Door release** | 17 | 8 1/8 x 7 1/2 x 2 3/16 | LEF-10 | **4PD60** | 271.00 | **192.50** | 1.7 |
| **Sub station with Privacy, surface mount** | 3 | 6 1/4 x 5 1/8 x 2 1/8 | LE-AN | **4PD61** | 44.20 | **31.50** | 0.7 |
| **3-call Sub station with Privacy, surface mount** | 5 | 7 1/16 x 5 5/8 x 2 3/16 | LE-AN3 | **4PD62** | 59.40 | **42.25** | 0.9 |
| **Door Station, surface mount** | 3 | 4 1/2 x 3 1/2 x 1 1/8 | LE-D | **4PD63** | 30.60 | **21.85** | 0.5 |
| **12V DC Power Supply** | 2 | 2 3/4 x 3 3/16 x 6 3/8 | PS-12C | **4PD68** | 123.60 | **87.75** | 3.9 |
| **Electric Door Strike*** | 2 | 5 1/8 x 1" x 1 1/4 | EL-9S | **4PD71** | 82.00 | **58.25** | 0.8 |
| **12V AC Transformer** | 2 | 2 3/4 x 1 7/8 x 1 9/16 | PT-1210N | **4PD70** | 12.20 | **8.81** | 0.6 |

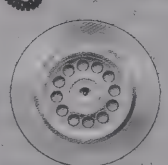
(*) Electric door strike requires 1 relay, No. 2W937, and 1 12V AC transformer, No. 4PD70, sold separately.

## LAMP MEMORY AND CALL INTERCOM SYSTEM

- 20-call Console master station with handset
- Lamp memory: call-in LED and tone signal remains until answered
- Press-to-talk or handset communication at master, hands-free at remotes
- Selective calling, group call (up to 5), or All Call
- Heavy-duty, rugged console for years of trouble-free service
- Order 1 power supply, No. 4PD69, per system

Commercial intercom for selective internal calling and two-way communications, with facility-wide all call for up to 20 stations (expandable with other items). Lamp memory function provides a tone and light indicating which remote is calling, remaining on the master until answered. Applications: parking garage, auto service centers, factories, schools, day care centers, bowling alleys, general commercial facilities.


AIPHONE® New
No. 4PD64


No. 4PD66


No. 4PD67


No. 4PD65

| Description | Wiring Cond. | Dimensions (in.) H x W x D | Aiphone Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **20-call Master station w/handset** | 2 | 6 1/16 x 17 7/16 x 10 1/4 | NEM-20A | **4PD64** | $1346.60 | **$955.00** | 14.0 |
| **Sub station w/privacy, surface mount** | 2 | 6 3/4 x 5 7/16 x 2 7/8 | NA-AN | **4PD65** | 104.20 | **74.10** | 1.2 |
| **Ceiling speaker sub station, flush mount** | 2 | 7 1/8 dia. x 2 5/16" D | NB-L | **4PD66** | 90.60 | **64.20** | 1.3 |
| **Call button, flush mount** | 2 | 4 1/2 x 2 1/4 x 1 11/16 | NAR-6A | **4PD67** | 23.00 | **16.30** | 0.2 |
| **24V DC Power supply** | 2 | 4 1/8 x 2 1/2 x 1 1/4 | PS-2410A | **4PD69** | 141.80 | **77.20** | 1.2 |

### TECHNICAL REFERENCE LITERATURE

**Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics. See Index under Books.**

COMMUNICATIONS EQUIPMENT

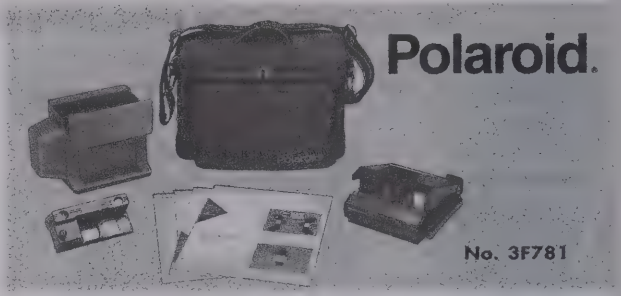
# INSTANT INDUSTRIAL DOCUMENTATION CAMERA AND MAINTENANCE SOFTWARE

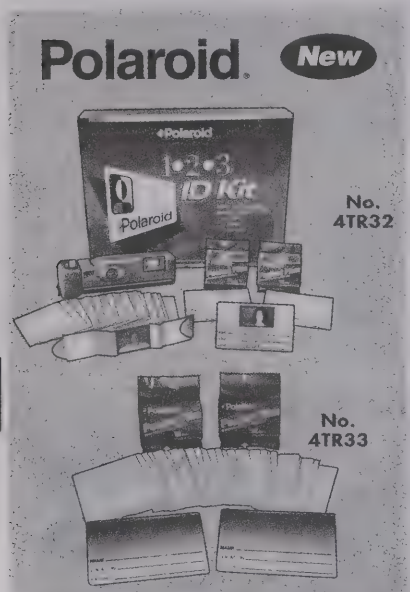
## INDUSTRIAL DOCUMENTATION KIT

- **Includes Polaroid Spectra™ Instant camera**
- **Use to record assembly and manufacturing processes; visual aid for training instructions; ISO 9000 documentation; quality management/improvement**
- **Polaroid Spectra™ instant camera has a variable focus lens with clear focus of small objects as close as 10". Uses Spectra Platinum™ film No. 6W718**

Instant imaging camera kit specifically designed for manufacturing and industrial documentation needs. Includes the Polaroid Spectra™ instant camera, close-up lens, copy stand (allows 1:1 ratio), carrying case, and instructions. Polaroid brand (619212).

**No. 3F781.** Shpg. wt. 7.8 lbs. List $349.00. Each.....**$299.00▲**




## PHOTO IDENTIFICATION CARDS/BADGES

### POLAROID INSTANT PHOTO ID 1-2-3 CAMERA KIT

**INCLUDES THE FOLLOWING:**

- **Fixed-focus instant ID camera with flash (uses single AA battery-included)**
- **2 packs (12 ID portraits per pack) instant color ID film**
- **30 pre-printed employee data cards and 30 tamper-resistant clear plastic laminates with easy-to-follow instructions**
- **Polaroid brand**

New instant photo ID kit that lets you make instant, tamper-resistant, color photo ID cards or badges for employees, vendors or visitors. No special equipment or training required. Includes everything you need to make 24 instant photo ID cards or badges.

***New*** **No. 4TR32.** Instant Photo ID Camera Kit (630656). Shpg. wt. 0.5 lbs. List $69.99. Each.....**$64.05▲**

### INSTANT PHOTO ID RE-ORDER KIT

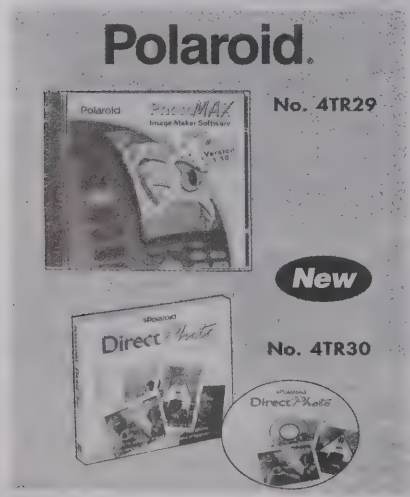
**INCLUDES THE FOLLOWING:**

- **2 packs (12 ID portraits per pack) instant color ID film**
- **30 pre-printed employee data cards and 30 tamper-resistant clear plastic laminates with easy-to-follow instructions**
- **Polaroid brand**

Re-order supplies kit for Polaroid Instant Photo ID 1-2-3 Camera. Includes everything you need to make 24 instant photo ID cards or badges (camera not included).

***New*** **No. 4TR33.** Instant Photo ID Re-Order Kit (630657). Shpg. wt. 0.3 lbs. List $34.99. Each.....**$32.05▲**

(▲) Net prices, not subject to discounts.




## DIGITAL PHOTO SOFTWARE

### POLAROID PHOTOMAX SOFTWARE

Edit, retouch...even add text and special effects to your photographs with Polaroid's PhotoMax Retouch Photo tools.

Minimum system requirements: IBM PC or compatible computer, 486 CPU or higher, Microsoft Windows 95 or higher, CD-ROM drive, 8 MB RAM (16 MB recommended), 60 MD available on hard drive, color monitor-16-bit display card (24-bit display card recommended), mouse.

Compatible with: Digital Cameras: All TWAIN-complaint cameras including Polaroid PDC 300 and PDC 2000, Apple Quicktake 150, Epson photo PC, Kodak DC40, DC50 and DC120. Scanners: All TWAIN-complaint scanners including most popular models from Polaroid, Agfa, Nikon, Epson, Hewlett-Packard, Microtek, Mustek, Umax. Polaroid brand (624208).

***New*** **No. 4TR29.** PhotoMax Software. Shpg. wt. 0.6 lbs. List $55.99. Each.....**$50.75▲**

### POLAROID DIRECT PHOTO SOFTWARE

A powerful, easy-to-use utility for capturing, enhancing, e-mailing and merging photos from your scanner or digital camera.

Minimum System Requirements: IBM compatible 486 processor, (Pentium Processor Recommended), 16 MB RAM, 20 MB available hard-disk space, 640 x 480 screen resolution, 256 color display, Windows 3.1 or Windows 95 operating system. Polaroid brand (625374).

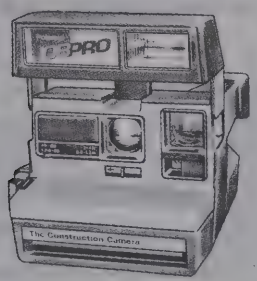
***New*** **No. 4TR30.** Direct Photo Software. Shpg. wt. 0.4 lbs. List $35.99. Each.....**$33.30▲**

(▲) Net prices, not subject to discounts.

# INSTANT CAMERA KITS

## POLAROID JOBPRO™ INSTANT CAMERA

Polaroid



JobPro Camera
No. 3W837

- Designed exclusively to meet the demands of the industry
- Provides instant photography for: documentation, estimating, sales, communication of job status, liability settlements, "before and after" shots
- Rugged, high impact construction with yellow and black finish for high visibility
- Focus-free lens; special two-foot close-up option
- Never needs batteries
- Automatic flash; flash override
- Film not included; sold separately.

Full lifetime warranty with "no questions" camera repair or replacement. Includes handy quick-tips and operating instructions. Polaroid brand (616873).

**No. 3W837.** Shpg. wt. 2.2 lbs. List .....$54.95.
Each .....**$49.50▲**

### POLAROID 600™ 4-PACK INSTANT FILM

**600 Platinum™** economy pack contains four instant film packets, 10 shots per pack. For use in No. 3W837 instant camera above, and any Polaroid camera that shoots 600 film. Polaroid brand (627324).

**No. 3W838.** Shpg. wt. 1.5 lbs. List .....$55.00.
Each .....**$49.50▲**

(▲) Net prices, not subject to discounts.

## POLAROID ALTERIMAGE 600™ FILM

Polaroid

New




New matte finish enables user to write or draw directly on photo surface. Finger print resistant. 10 instant pictures. For use in No. 3W837 Instant Camera, or any Polaroid camera that uses 600 film. Polaroid brand (625712).

***New*** **No. 4TR31.** AlterImage Film. Shpg. wt. 0.3 lbs. List $15.99.
Each .....**$14.35▲**

## POLAROID PROCAM™ INSTANT CAMERA

- Designed exclusively to meet the demands of the business user
- Rugged, reliable, and durable; protected against moisture and dirt
- Features include wide-angle lens and close-up capability to 10 inches (auxiliary lens included), automatic focus with manual overide, date imprint option, automatic flash; flash range from 18" to 18'
- Never needs batteries
- Polaroid Spectra Platinum Instant Film sold separately.

Full lifetime warranty with "no questions" camera repair or replacement. Polaroid brand (617314).

**No. 6W717.** Shpg. wt. 2.2 lbs. List.....$299.00.
Each .....**$199.50▲**

### POLAROID SPECTRA™ 4-PACK INSTANT FILM

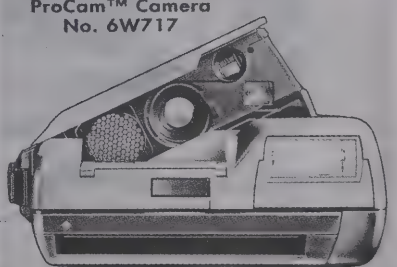
**Spectra Platinum™** economy pack contains four instant film packets, 10 shots per pack. Fits Procam instant camera No. 6W717, and all other Spectra cameras. Polaroid brand (627323).

**No. 6W718.** Shpg. wt. 1.5 lbs. List.....$55.00.
Each .....**$49.50▲**

(▲) Net prices, not subject to discounts.

Polaroid

ProCam™ Camera
No. 6W717

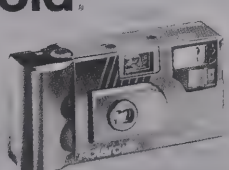


4-Pack Spectra/ProCam™
Instant Film No. 6W718

## POLAROID SIDE KICK MINI FLASH CAMERA

Polaroid

New



- Single use camera with flash
- Use indoors or outdoors
- No loading

Comes with Polaroid 35mm ISO400, 27 exposure high definition film. Polaroid brand (619900).

***New*** **No. 4TR28.** Shpg. wt. 0.25 lbs. List ..$12.25.
Each .....**$8.99▲**

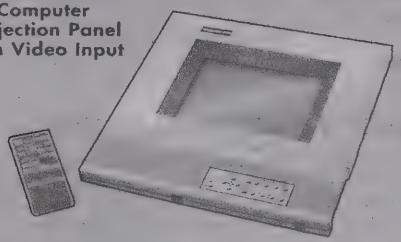
(▲) Net prices, not subject to discounts.

# POLAROID COMPUTER PROJECTOR PANELS AND CIRCULAR POLARIZING FILTERS

## COMPUTER PROJECTION PANELS

Polaroid

No. 3ZJ42
Computer
Projection Panel
with Video Input



- **Compatible with Cyclops interactive pointer, IBM, Macintosh, and other personal computers**
- **Fast response time ideal for video, animation, and rapid mouse movements**
- **Easy-to-use remote control**
- **Lightweight & compact for portability**

**Polaroid Polaview LCD Projection Panels** add impact to your electronic presentations. Simple to use—just place on an overhead projector, connect to your computer, and start. The active-matrix LCD panel projects two million colors for sharp vivid images. Offers 640 x 480 pixel resolution on a 8.4" diagonal display area.

**Panel No. 3ZJ42** (Polaview 1900)has built-in video compatibility supporting worldwide video standards (NTSC, PAL, and SECAM).

**Panel No. 3ZJ43** (Polaview 1700) can add video compatibility with an external video adapter.

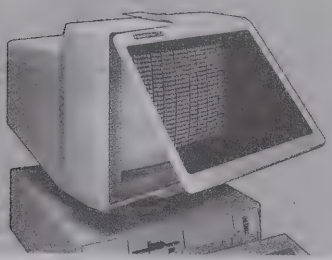
**No. 3ZJ42.** Computer Projection Panel with Video Input Compatibility. Polaroid brand (621792). Shpg. wt. 19.0 lbs. List $3995.00.
Each ..... **$3796.00▲**

**No. 3ZJ43.** Computer Projection Panel. Polaroid brand (621793). Shpg. wt. 16.0 lbs. List $2495.00. Each ..... **$2371.00▲**

(▲) Net prices, not subject to discounts.

## POLAROID CIRCULAR POLARIZING FILTERS

No. 5M633
Triacetate Filter



Polaroid

**Circular Polarizing Filters** solve computer screen glare problems by suppressing up to 99% of reflected light, and improving contrast up to 14 times that of other filters.

No. 5M635
Glass Filter



### POLARIZING FILTERS SPECIFICATIONS AND ORDERING DATA

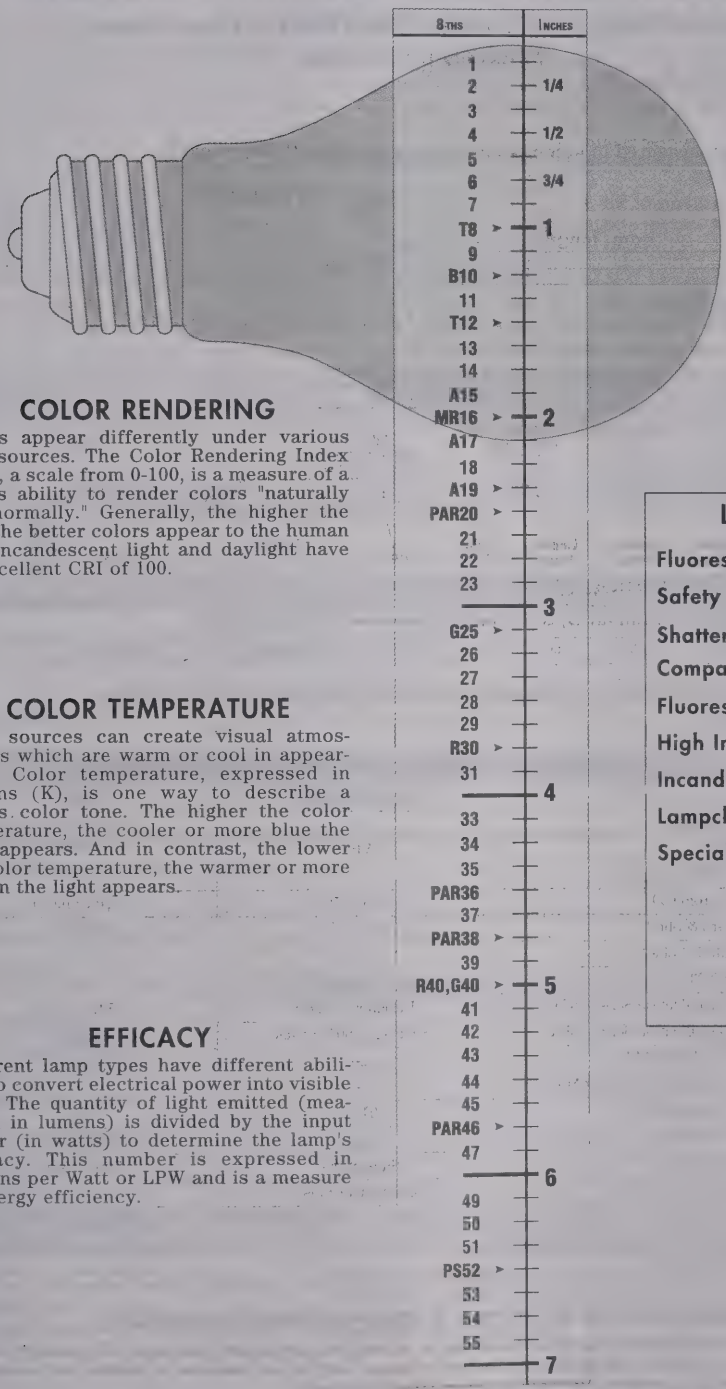
| Type | Description | Diagonal Monitor Size | Polaroid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Triacetate Filters** | Reduces glare, improves contrast. | 13-15" | CP-60 | **5M633** | $39.95 | **$32.00** | 1.0 |
| | Reduces glare & ELF radiation, improves contrast, eliminates static. | 13-15 | CP-60SC | **5M634** | 59.95 | **48.00** | 1.0 |
| **Glass Filter** | Reduces glare & 98%VLF/ELF radiation, improves contrast. Optical quality glass with durable anti-reflection coating. | 13-15 | CP-80 | **5M635** | 89.95 | **72.00** | 2.5 |
| **Workstation Filters** | Reduces glare & 98%VLF/ELF radiation, improves contrast. Optical quality glass with multi-layer vacuum deposition coating for highest level of durability. | 13-15 | CP-90 | **5M631** | 129.95 | **104.00** | 2.5 |
| | Same type as No. 5M631 above. | 16-18 | CP-90 | **5M632** | 209.95 | **170.00** | 5.0 |
| | Same type as No. 5M631 above. | 19-21 | CP-90 | **5M630** | 199.95 | **160.00** | 5.0 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# AN INTRODUCTION TO LAMPS

## LAMP SIZE AND COMPARISON FEATURES




### LAMP SIZE

Lamp size (maximum lamp diameter) is expressed by the letter "A" and then a number representing eighths of an inch (⅛ in. = 3.2mm). For example: an "A17" size bulb is 17-eighths of an inch or 2⅛ in. (54mm) in diameter at its maximum dimension.

### COLOR RENDERING

Colors appear differently under various light sources. The Color Rendering Index (CRI), a scale from 0-100, is a measure of a lamp's ability to render colors "naturally and normally." Generally, the higher the CRI, the better colors appear to the human eye. Incandescent light and daylight have an excellent CRI of 100.

### COLOR TEMPERATURE

Light sources can create visual atmospheres which are warm or cool in appearance. Color temperature, expressed in Kelvins (K), is one way to describe a lamp's color tone. The higher the color temperature, the cooler or more blue the light appears. And in contrast, the lower the color temperature, the warmer or more golden the light appears.

### EFFICACY

Different lamp types have different abilities to convert electrical power into visible light. The quantity of light emitted (measured in lumens) is divided by the input power (in watts) to determine the lamp's efficacy. This number is expressed in Lumens per Watt or LPW and is a measure of energy efficiency.

### LAMP TABLE OF CONTENTS


| | |
|---|---|
| Fluorescent | 914 |
| Safety Sleeves | 925 |
| Shatterproof | 925 |
| Compact Fluorescent | 927 |
| Fluorescent Starters | 933 |
| High Intensity Discharge (HID) | 936 |
| Incandescent/Halogen | 949 |
| Lampchangers | 983 |
| Specialty Lamps | |
| Miniature | 986 |
| Sealed Beam | 997 |
| Projection | 1002 |
| Stage/Studio | 1007 |

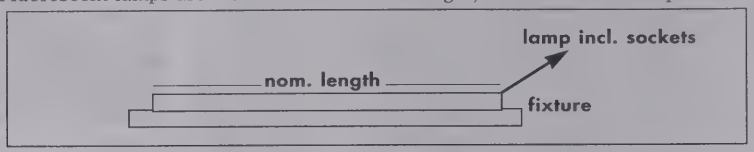
# FLUORESCENT LAMP INTRODUCTION

## HOW TO USE THE FLUORESCENT LAMP PRODUCT SECTION

- **Our Fluorescent lamp section is organized by lamp length, order of diameter/lamp shape and lamp wattage.**

1. **Identify lamp length*, and go to that section**
2. **Identify lamp diameter/shape**, you can utilize the shape icon found to the side of the product chart**
3. **Identify lamp wattage**

* Fluorescent lamps are measured in nominal length, which includes lamp sockets:




** If unsure of of lamp diameter/shape, refer to p. 913 and measure your lamp diameter

**Special Features:** points out unique aspects of Fluorescent lamps: aquarium use, germicidal, black-light, reduced mercury, etc.

**Rated Average Life Hours:** Average Life Hours figure represents the lamp's median value of life expectancy @ 3 hours per start.

**Lumens Initial:** Lamp's approximate light output after 100 hrs. of operation

**Lumens Mean:** Light output at 40% of rated lamp life.

**Color Temp:** "Warmth" or "Coolness" of the lamp, measured in Kelvins (K). The higher the temperature, the cooler the appearance of the light.

**CRI:** Color Rendering Index. The higher the number, the truer the color.

Ⓔ Meets Federal Minimum Efficiency Standards.

| Lamp Designation | Description /Special Features | Rated Avg. Life Hours | Lumens Initial | Lumen Mean | Color Temp | CRI | Stock No. | List | Ⓔ | Each | Ship. Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **6" NOMINAL LENGTH LAMPS** | | | | | | | | | | | | |
| **Preheat Lamps, 4 Watt, T6 Diameter 5/8" (16mm) Miniature Bipin Base (G5)** | | | | | | | | | | | | |
| **F4T5/CW** | Cool White | 6000 | 135 | 100 | 4150 | 62 | **4V954** | $14.81 | | **$13.34** | 1 | 0.9 |

**NOTE:** Lamp drawings are not to scale. Be sure to check size and dimension information when identifying each lamp. All ratings are subject to change without notice.

## FLUORESCENT LAMP TABLE OF CONTENTS


| | |
|---|---|
| Linear Fluorescent Lamps | Page 916 |
| U-Shaped Fluorescent Lamps | Page 924 |
| Circline Fluorescent Lamps | Page 924 |
| Compact Fluorescent Lamps | Page 928 |


## FLUORESCENT LAMP BRAND NAME CROSS REFERENCE

| GE | OSRAM /SYLVANIA | PHILIPS |
|---|---|---|
| Aquarium | — | — |
| 1500 | VHO | VHO |
| Power Groove® | — | — |
| Chroma 50 | Design 50® | Colortone 50 |
| Gro & Sho® | GRO-LUX | Agro-Lite |
| Mod-U-Line® | Curvalume® | U-Bent |
| SP 30 | Interior Design® (D30) | Softone Pastel FL (SPEC30) |
| Specification Series (SP) | Designer® Series | SPEC Series |
| Specification Series (SPX) | Designer® "800" Series | Ultralume™ |
| StayBright™ XL | — | Advantage X™ |
| StayBright™ XL Watt-Miser® | — | — |
| T10 /1500MA | VHO/LT | — |
| Trimline™ T8 | Octron® | TL70/TL80™ |
| Watt-Miser® | SuperSaver® | Econ-o-Watt |
| Watt-Miser® Plus | Supersaver Plus® | — |

ATTENTION: This brand name cross-reference chart is provided only as a quick reference. Other lamp company brand listings may only represent a near equivalent, versus an identical match to GE Lighting brands. Individual lamp manufacturer's performance specifications should be consulted. Lamp performance may be affected by environmental conditions, ballast type, and/or auxiliary equipment.


### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# FLUORESCENT LAMPS

## COLOR SELECTION GUIDE

### Better Color Rendering for Better Appearance

The color rendering of a light source describes that source's ability to accurately render the colors of perceived objects—people and things. As a general rule, the higher a light source's color rendering index (CRI or Ra) number, the better the lamp will make things appear. SP Lamps have CRI's of 70+ making them better color-rendering light sources than older, standard fluorescent lamps. SPX lamps have a CRI of 80+ for even higher color rendering with the same high efficiency.

### Great Color — Without Giving Up Light

Specially developed rare-earth phosphors provide what conventional phosphors cannot—both high efficiency and good color rendering lamps, made with conventional phosphors, produced only 60% to 70% of the light of their standard counterparts. Now, in SP and SPX lamps GE technology has produced color-enhancing fluorescent lamps that actually deliver more light than older, standard lamp designs.

- **SP lamps use a double coat of conventional and rare-earth phosphors for a moderately priced, good color rendering lamp**
- **SPX lamps use much more of the rare-earth phosphors for a premium-price, very good color rendering lamp**

### SP and SPX Fluorescent Lamps

| IF YOU NEED: | Better color emphasis than color white or warm white, plus higher light output... | Brighter, more vibrant colors than even the SP colors, plus the same high light output |
|---|---|---|
| **CHOOSE:** | **SP** | **SPX** |
| **A WARM TONE:** | SP30—Especially good for low light levels. Use where you want people and furnishings to look good. | SPX30—Warm, but brings out high color contrast. Especially good for low light levels where colors must look very good - dining areas, exclusive stores etc. |
| **A MODERATE TONE*:** | SP35—A tone acceptable to nearly everyone. Good for for nearly any application where you want people and furnishings to look good. | SPX35—Moderate tone acceptable to nearly everyone. Brings out colors stongly. Especially good for all kinds of merchandising and areas such as executive suites, conference rooms... Use wherever colors must look very good. |
| **A COOL TONE:** | SP41—A tone similar to cool white, but better color. Especially good for higher light levels wherever people and furnishings must look good. | SPX41—Cool tone and very good color. Renders all colors well, but emphasizes blues and greens. Use for offices, merchandising areas, and color-important industrial applications |
| **A VERY COOL TONE: (Daylight-simulating)** | SP65—A tone similiar to Daylight lamps, but more efficient. | SPX50 and SPX65—Provide a unique crisp clean look and blend well with outdoor daylight. Use for daylighted spaces, industrial clean rooms, special retailing and commercial areas. Renders all colors well, but emphasizes cool tones. May be too cool for some applications—especially at low light levels. |

*The moderate color temperature of the SP35 and SPX35 is usually acceptable to both those who like warm or cool environments. These colors are also useful for well-shielded lighting systems (wedge louvres, deep-cell parabolics) which tend to "cool off" the space visually.

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

| COLOR TEMP | COLOR DESIGNATION |
|---|---|
| 2700K | Soft White, SPX27 |
| 3000K | Warm White (WW), SP30, SPX30, Kitchen/Bath |
| 3500K | Neutral White, SP35, SPX35 |
| 4100K | Cool White (CW), SP41, SPX41 |
| 4200K | Lite White (LW) |
| 5000K | Chroma 50, SP50, SPX50 |
| 6500K | Daylight, Daylight Deluxe, SP65, SPX65 |
| 7500K | Chroma 75 |

**ORDERING HAS NEVER BEEN EASIER!**

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# FLUORESCENT LAMPS



T8 Med. Bipin

| Lamp Designation | Description/Special Features | Rated Avg. Life (Hrs.) | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6" NOMINAL LAMPS** | | | | | | | | | | | |
| **Preheat Lamps, 4 Watt, T5 Diameter 5/8"(16mm) - Miniature Bipin Base (G5)** | | | | | | | | | | | |
| **F4T5/CW** | Cool White | 6000 | 135 | 100 | 4150 | 62 | **4V594** | $7.18 | **$6.46** | 24 | 0.1 |
| **F4T5/BL** | Blacklight, UVA Source | 6000 | — | — | — | — | **6V118** | 11.87 | **10.68** | 24 | 0.1 |
| **F4T5/BLB** | Blacklight Blue, UVA Source Integral Filter | 6000 | — | — | — | — | **6V119** | 20.24 | **18.22** | 24 | 0.1 |
| **9" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Preheat Lamps, 6 Watt, T5 Diameter 5/8" (16 mm) - Miniature Bipin Base(G5)** | | | | | | | | | | | |
| **F6T5/CW** | Cool White | 7500 | 295 | 235 | 4150 | 62 | **2V805** | 6.47 | **4.49** | 3 | 0.1 |
| **F6T5/D** | Daylight | 7500 | 230 | 185 | 6250 | 75 | **5V950** | 9.38 | **8.44** | 24 | 0.1 |
| **12" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Preheat Lamps, 8 Watt, T5 Diameter 5/8" (16mm) - Miniature Bipin Base(G5)** | | | | | | | | | | | |
| **F8T5/WW** | Warm White | 7500 | 410 | 330 | 3000 | 52 | **4V081** | 9.60 | **8.64** | 24 | 0.1 |
| **F8T5/CW** | Cool White | 7500 | 400 | 320 | 4150 | 62 | **2V235** | 6.47 | **4.49** | 24 | 0.1 |
| **F8T5/D** | Daylight | 7500 | 330 | 265 | 6250 | 75 | **5V952** | 9.38 | **8.44** | 24 | 0.1 |
| **F8T5/BLB** | Blacklight Blue, UVA Source Integral Filter | 7500 | — | — | — | — | **6V122** | 20.24 | **18.22** | 24 | 0.1 |
| **G8T5** | Germicidal, Clear | 7500 | — | — | — | — | **6VR35** | 38.36 | **34.60** | 24 | 0.1 |
| **Preheat Lamp, 13 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base(G13)** | | | | | | | | | | | |
| **F13T8/CW** | Cool White | 7500 | 565 | 480 | 4150 | 62 | **5V477** | 10.40 | **9.36** | 24 | 0.2 |
| **15" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Preheat Lamp, 14 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base(G13)** | | | | | | | | | | | |
| **F14T8/CW** | Cool White | 7500 | 685 | 580 | 4150 | 62 | **5V479** | 11.13 | **10.02** | 24 | 0.2 |
| **Preheat Lamps, 14 Watt, T12 Diameter 1½, (38mm) - Medium Bipin Base(G13)** | | | | | | | | | | | |
| **F14T12/CW** | Cool White | 9000 | 650 | 550 | 4150 | 62 | **4V440** | 7.56 | **6.43** | 6 | 0.3 |
| **F14T12/KB** | Kitchen/Bath | 9000 | 700 | 650 | 3000 | 70 | **3JK61** | 9.09 | **8.64** | 6 | 0.3 |

T12 Med. Bipin

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **18" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Preheat Lamps, 15 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base(G13)** | | | | | | | | | | | |
| **F15T8/WW** | Warm White | 7500 | 845 | 745 | 3000 | 52 | **4V522** | 7.65 | **6.88** | 24 | 0.3 |
| **F15T8/CW** | Cool White | 7500 | 825 | 725 | 4150 | 62 | **1V173** | 6.84 | **3.99** | 6 | 0.3 |
| **F15T8/D** | Daylight | 7500 | 700 | 615 | 6250 | 75 | **5V489** | 7.86 | **6.72** | 24 | 0.2 |
| **F15T8/C50** | Chroma 50 | 7500 | 620 | 525 | 5000 | 90 | **4V082** ** | 10.23 | **9.20** | 24 | 0.2 |
| **F15T8/KB** | Kitchen/Bath | 7500 | 940 | 850 | 3000 | 75 | **3JK51** | 8.65 | **8.21** | 6 | 0.3 |
| **F15T8/SP35** | RE 735 Phosphor | 7500 | 940 | 850 | 3500 | 75 | **5V474** | 8.56 | **8.14** | 24 | 0.2 |
| **F15T8/SP41** | RE 741 Phosphor | 7500 | 940 | 850 | 4100 | 75 | **1E012** | 8.56 | **8.14** | 24 | 0.2 |
| **F15T8/SPX30** | RE 830 Phosphor | 7500 | 1000 | 900 | 3000 | 82 | **5V878** | 15.62 | **14.05** | 24 | 0.2 |
| **F15T8/SPX35** | RE 835 Phosphor | 7500 | 1000 | 900 | 3500 | 82 | **1E010** | 15.62 | **14.05** | 24 | 0.2 |
| **F15T8/SPX41** | RE 841 Phosphor | 7500 | 1000 | 900 | 4100 | 80 | **5V879** ** | 15.61 | **14.04** | 24 | 0.2 |
| **F15T8/SPX50** | RE 850 Phosphor | 7500 | 940 | 850 | 5000 | 80 | **5V880** ** | 7.80 | **7.42** | 24 | 0.3 |
| **F15T8/PL/AQ** | Plant & Aquarium | 7500 | 510 | — | 3050 | 90 | **6V164** | 10.84 | **9.75** | 6 | 0.3 |
| **F15T8/BL** | Blacklight, UVA Source | 7500 | — | — | — | — | **5V872** | 27.66 | **24.89** | 6 | 0.5 |
| **F15T8/BLB** | Blacklight Blue, UVA Source | 7500 | — | — | — | — | **5V873** | 27.66 | **24.89** | 3 | 0.5 |
| **G15T8** | Germicidal, Clear | 7500 | — | — | — | — | **6VR36** | 39.01 | **35.20** | 24 | 0.3 |
| **Preheat Lamp, 25 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base(G13)** | | | | | | | | | | | |
| **G25T8** | Germicidal, Clear | 7500 | — | — | — | — | **1F298** | 39.01 | **35.20** | 24 | 0.3 |
| **Preheat Lamps, 15 Watt, T12 Diameter 1½" (38mm) - Medium Bipin Base(G13)** | | | | | | | | | | | |
| **F15T12/CW** | Cool White | 9000 | 760 | 685 | 4150 | 62 | **2V429** | 7.47 | **6.72** | 24 | 0.3 |
| **F15T12/KB** | Kitchen/Bath | 9000 | 785 | 730 | 3000 | 70 | **3JK59** | 8.70 | **8.26** | 6 | 0.3 |

T12 R.D.C.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **High Output Lamp (800mA), 25 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base(R17d)** | | | | | | | | | | | |
| **F18T12/CW/HO** | Cool White | 9000 | 1000 | 750 | 4150 | 62 | **1F414** | 16.19 | **14.58** | 3 | 1.0 |
| **21" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Preheat Lamps, 13 Watt, T5 Diameter 5/8" (16mm) - Miniature Bipin Base(G5)** | | | | | | | | | | | |
| **F13T5/CW** | Cool White | 7500 | 850 | 705 | 4150 | 62 | **2V806** | 8.05 | **7.25** | 24 | 0.1 |
| **F13T5/WW** | Warm White | 7500 | 870 | 720 | 3000 | 52 | **1F420** | 10.82 | **10.28** | 24 | 0.1 |

T5 Min. Bipin

(*) See Fluorescent Lamp footnotes on page 926. (**) Limited availability. Contact local branch.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**

# FLUORESCENT LAMPS

| Lamp Designation | Description /Special Features | Rated Avg. Life Hrs. | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **22" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Preheat Lamp, 18 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base(G13)** | | | | | | | | | | | |
| F22T8/D/4 | Daylight, Appliance | 7500 | 925 | 790 | 6250 | 75 | 1F408 | $11.26 | $10.70 | 24 | 0.3 |
| **24" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Rapid Start Lamps, 17 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | |
| F17T8/SP30 | RE 730 Phosphor | 20000 | 1325 | 1190 | 3000 | 75 | 6VR58 † | 7.30 | 6.57 | 24 | 0.3 |
| F17T8/SP35 | RE 735 Phosphor | 20000 | 1325 | 1190 | 3500 | 75 | 6VR59 † | 7.30 | 6.57 | 24 | 0.3 |
| F17T8/SP41 | RE 741 Phosphor | 20000 | 1325 | 1190 | 4100 | 75 | 6VR60 † | 7.30 | 6.57 | 24 | 0.3 |
| F17T8/SPX30 | RE 830 Phosphor | 20000 | 1375 | 1230 | 3000 | 84 | 6VR85 † | 10.23 | 9.20 | 24 | 0.3 |
| F17T8/SPX35 | RE 835 Phosphor | 20000 | 1375 | 1230 | 3500 | 84 | 6VR55 † | 10.23 | 9.20 | 24 | 0.3 |
| F17T8/SPX41 | RE 841 Phosphor | 20000 | 1375 | 1230 | 4100 | 80 | 6VR86 † | 10.23 | 9.20 | 24 | 0.3 |
| **Preheat Lamp, 18 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | |
| F24T8/CW/4 | Cool White, Appliance | 7500 | 1225 | 1040 | 4150 | 62 | 1F406 | 11.26 | 10.70 | 24 | 0.7 |
| **Preheat Lamps, 20 Watt, T12 Diameter 1½" (38mm) - Medium Bipin Base (G13)** | | | | | | | | | | | |
| F20T12/C50 | Chroma 50 | 9000 | 875 | 790 | 5000 | 90 | 5V571 | 10.51 | 9.46 | 24 | 0.4 |
| F20T12/WW | Warm White | 9000 | 1250 | 1150 | 3000 | 52 | 2V564 | 6.52 | 5.86 | 24 | 0.4 |
| F20T12/CW | Cool White | 9000 | 1200 | 1150 | 4150 | 62 | 2V896 | 6.08 | 2.99 | 24 | 0.4 |
| F20T12/D | Daylight | 9000 | 1025 | 945 | 6250 | 75 | 1V170 | 7.34 | 6.35 | 24 | 0.4 |
| F20T12/G | Green | 9000 | 1575 | 975 | — | — | 1F410 | 17.04 | 16.19 | 6 | 0.4 |
| F20T12/KB | Kitchen/Bath | 9000 | 1275 | 1200 | 3000 | 70 | 1K263 | 8.98 | 8.53 | 6 | 0.4 |
| F20T12/SP35 | RE 735 Phosphor | 9000 | 1275 | 1200 | 3500 | 73 | 5V476 | 9.18 | 8.25 | 24 | 0.4 |
| F20T12/SP41 | RE 741 Phosphor | 9000 | 1275 | 1200 | 4100 | 72 | 1E370 | 9.18 | 8.25 | 24 | 0.4 |
| F20T12/SPX30 | RE 830 Phosphor | 9000 | 1300 | 1220 | 3000 | 82 | 5V881 ** | 15.28 | 13.76 | 24 | 0.4 |
| F20T12/SPX35 | RE 835 Phosphor | 9000 | 1300 | 1220 | 3500 | 82 | 6V290 | 15.29 | 13.76 | 24 | 0.4 |
| F20T12/B | Blue | 9000 | 450 | 330 | — | — | 1F412 | 17.04 | 16.19 | 6 | 0.4 |
| F20T12/BL | Blacklight, UVA Source | 9000 | — | — | — | — | 5V780 | 13.25 | 11.92 | 6 | 0.5 |
| F20T12/BLB | Blacklight Blue, UVA Source, Integral Filter | 9000 | — | — | — | — | 5V871 | 40.96 | 36.95 | 3 | 0.4 |
| F20T12/PL/AQ | Plant & Aquarium | 9000 | 750 | — | 3050 | 90 | 1C247 | 8.00 | 7.60 | 6 | 0.4 |
| **Instant Start Lamp, 20 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8)** | | | | | | | | | | | |
| F24T12/CW | Cool White | 7500 | 1165 | 1050 | 4150 | 62 | 5V528 | 16.10 | 14.50 | 24 | 0.4 |
| **High Output Lamps (800mA), 35 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | |
| F24T12/CW/HO | Cool White | 9000 | 1620 | 1345 | 4150 | 62 | 4V528 | 16.19 | 14.58 | 24 | 0.4 |
| F24T12/D/HO | Daylight | 9000 | 1400 | 1160 | 6250 | 75 | 5V527 | 19.04 | 17.15 | 24 | 0.4 |
| F24T12/SP41/HO | RE 741 Phosphor | 9000 | 1700 | 1460 | 4100 | 72 | 1E579 ** | 21.62 | 20.53 | 24 | 0.3 |
| **26" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Preheat Lamp, 18 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | |
| F26T8/CW/4 | Cool White, Appliance | 7500 | 1275 | 1085 | 4150 | 62 | 1F340 | 11.26 | 10.70 | 24 | 0.7 |
| **Preheat Lamp, 20 Watt, T12 Diameter 1½" (38mm) - Medium Bipin Base (G13)** | | | | | | | | | | | |
| F20T12/CW/26 | Cool White, Appliance | 7500 | 1175 | 1060 | 4150 | 62 | 5V496 | 10.64 | 9.57 | 6 | 0.4 |
| **28" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Preheat Lamp, 19 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | |
| F28T8/CW/4 | Cool White, Appliance | 7500 | 1350 | 1145 | 4150 | 62 | 1F338 | 11.26 | 10.70 | 24 | 0.7 |
| **Preheat Lamps, 25 Watt, T12 Diameter 1½" (38mm) - Medium Bipin Base (G13)** | | | | | | | | | | | |
| F25T12/CW/28 | Cool White, Appliance | 7500 | 1665 | 1500 | 4150 | 62 | 5V501 | 11.63 | 10.47 | 24 | 0.5 |
| F25T12/D/28 | Daylight, Appliance | 7500 | 1450 | 1310 | 6250 | 75 | 1F404 | 13.12 | 11.80 | 24 | 0.4 |
| **30" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **High Output Lamp (800mA), 40 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | |
| F30T12/CW/HO | Cool White | 9000 | 2250 | 1950 | 4150 | 62 | 4V480 | 19.32 | 17.39 | 24 | 0.5 |
| **Preheat Lamp, 18 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | |
| F30T8/CW/4 | Cool White, Appliance | 7500 | 1375 | 1170 | 4150 | 62 | 5V495 | 11.26 | 10.70 | 24 | 0.3 |
| **Preheat Lamp, 21 Watt, T12 Diameter 1½" (38mm) Medium Bipin Base (G13)** | | | | | | | | | | | |
| F30T12/CW | Cool White, Appliance | 7500 | 1350 | 1220 | 4150 | 62 | 1F400 | 11.68 | 10.51 | 24 | 0.5 |
| **33" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Preheat Lamps, 25 Watt, T12 Diameter 1½" (38mm) - Medium Bipin Base (G13)** | | | | | | | | | | | |
| F25T12/WW/33 | Warm White, Appliance | 7500 | 1910 | 1720 | 3000 | 52 | 1F402 | 14.52 | 13.79 | 24 | 0.5 |
| F25T12/CW/33 | Cool White, Appliance | 7500 | 1800 | 1675 | 4150 | 62 | 4V524 | 12.62 | 11.35 | 24 | 0.5 |
| F25T12/D/33 | Daylight, Appliance | 7500 | 1600 | 1440 | 6250 | 75 | 5V502 | 14.52 | 13.79 | 24 | 0.5 |


T8 Med. Bipin


T12 Med. Bipin


T12 Single Pin

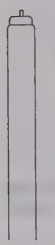

T12 Med. R.D.C.

(*) See Fluorescent Lamp footnotes on page 926 (**) Limited availability. Contact local branch. (✓)Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# FLUORESCENT LAMPS

GE Lighting

ENERGY RIGHT®


T6 Single Pin


T12 Single Pin


T12 R.D.C.


T8 Med. Bipin

| Lamp Designation | Description/Special Features | Rated Avg. Life Hrs. | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | © | List | Each | Ship Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **36" NOMINAL LENGTH LAMPS** | | | | | | | | | | | | |
| **Preheat Lamps, 30 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | | |
| F30T8/WW | Warm White | 7500 | 2250 | 1980 | 3000 | 52 | 5V506 | | $10.05 | $9.04 | 24 | 0.4 |
| F30T8/CW | Cool White | 7500 | 2175 | 1980 | 4150 | 62 | 4V439 | | 9.33 | 8.39 | 6 | 0.4 |
| F30T8/D | Daylight | 7500 | 1850 | 1628 | 6250 | 62 | 5V508 | | 10.64 | 9.57 | 24 | 0.4 |
| F30T8/KB | Kitchen/Bath | 7500 | 2125 | 1910 | 3000 | 75 | 3JK60 | | 10.14 | 9.63 | 6 | 0.4 |
| F30T8/SPX30 | RE 830 Phosphor | 7500 | 2300 | 2140 | 3000 | 82 | 1E293 | | 17.22 | 16.36 | 3 | 1.0 |
| G30T8 | Germicidal, Clear | 7500 | — | — | — | — | 6VR37 | | 54.00 | 48.70 | 24 | 0.5 |
| **Rapid Start Lamps, 25 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | | |
| F25T8/SP30 | RE 730 Phosphor | 20000 | 2080 | 1910 | 3000 | 75 | 6VR61 † | | 7.30 | 6.57 | 24 | 0.5 |
| F25T8/SP35 | RE 735 Phosphor | 20000 | 2080 | 1910 | 3500 | 75 | 6VR62 † | | 7.30 | 6.57 | 24 | 0.5 |
| F25T8/SP41 | RE 741 Phosphor | 20000 | 2080 | 1910 | 4100 | 75 | 6VR63 † | | 7.30 | 6.57 | 24 | 0.5 |
| F25T8/SPX30 | RE 830 Phosphor | 20000 | 2150 | 1980 | 3000 | 84 | 6VR87 † | | 10.23 | 9.20 | 24 | 0.5 |
| F25T8/SPX35 | RE 835 Phosphor | 20000 | 2150 | 1980 | 3500 | 84 | 6VR56 † | | 10.23 | 9.20 | 24 | 0.5 |
| F25T8/SPX41 | RE 841 Phosphor | 20000 | 2150 | 1980 | 4100 | 80 | 6VR88 † | | 10.23 | 9.20 | 24 | 0.5 |
| F25T8/GO | Gold | 20000 | 1360 | 1140 | — | — | 3VK15 † | | 17.59 | 16.71 | 24 | 0.5 |
| **Rapid Start Lamps, 25 Watt, T12 Diameter 1½" (38mm) - Medium Bipin Base (G13)** | | | | | | | | | | | | |
| F30T12/WW/RS/WM | Warm White, Watt-Miser® (1)* | 18000 | 1975 | 1680 | 3000 | 52 | 4V611 ** | | 11.06 | 9.95 | 24 | 0.5 |
| F30T12/CW/RS/WM | Cool White, Watt-Miser® (1)* | 18000 | 1925 | 1640 | 4150 | 62 | 4V610 ** | | 9.20 | 6.25 | 24 | 0.5 |
| F30T12/SP30/RS/WM | RE 730 Phosphor, Watt-Miser® (1)* | 18000 | 2025 | 1780 | 3000 | 70 | 1E442 ** | | 14.17 | 13.47 | 24 | 0.5 |
| F30T12/SP35/RS/WM | RE 735 Phosphor, Watt-Miser® (1)* | 18000 | 2025 | 1780 | 3500 | 73 | 1E444 ** | | 14.19 | 13.48 | 24 | 0.5 |
| **Rapid Start Lamps, 30 Watt, T12 Diameter 1½" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | | |
| F30T12/WW/RS | Warm White | 18000 | 2275 | 1980 | 3000 | 52 | 2V770 | | 9.86 | 8.87 | 24 | 0.5 |
| F30T12/CW/RS | Cool White | 18000 | 2225 | 1940 | 4150 | 62 | 2V897 | | 7.72 | 5.29 | 24 | 0.5 |
| F30T12/D/RS | Daylight | 18000 | 1900 | 1650 | 6250 | 75 | 4V088 | | 11.32 | 9.70 | 24 | 0.5 |
| F30T12/C50/RS | Chroma 50 | 18000 | 1650 | 1350 | 5000 | 90 | 5V572 | | 12.95 | 11.66 | 24 | 0.5 |
| F30T12/SP35/RS | RE 735 Phosphor | 18000 | 2350 | 2120 | 3500 | 73 | 4V467 | | 4.84 | 4.36 | 3 | 0.1 |
| F30T12/SP41/RS | RE 741 Phosphor | 18000 | 2350 | 2120 | 4100 | 72 | 5V626 | | 12.03 | 10.82 | 24 | 0.5 |
| F30T12/SPX30/RS | RE 830 Phosphor | 18000 | 2375 | 2140 | 3000 | 82 | 5V884 | | 17.85 | 16.07 | 24 | 0.5 |
| F30T12/SPX35/RS | RE 835 Phosphor | 18000 | 2375 | 2140 | 3500 | 82 | 6V291 | | 17.85 | 16.07 | 24 | 0.5 |
| **Instant Start Lamps, 30 Watt, T12 Diameter 1½" (38mm) - Single Pin Base(Fa8)** | | | | | | | | | | | | |
| F36T12/CW | Cool White | 7500 | 2000 | 1800 | 4150 | 62 | 5V531 | | 16.10 | 14.50 | 24 | 0.6 |
| **High Output Lamps (800mA), 45 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F36T12/CW/HO | Cool White | 9000 | 2800 | 2440 | 4150 | 62 | 4V529 | | 17.20 | 15.48 | 24 | 0.6 |
| F36T12/D/HO | Daylight | 9000 | 2350 | 2040 | 6250 | 75 | 5V533 | | 19.23 | 17.32 | 24 | 0.6 |
| **42" NOMINAL LENGTH LAMPS** | | | | | | | | | | | | |
| **Instant Start Lamps, 25 Watt, T6 Diameter 3/4" (19mm) - Single Pin Base (Fa8)** | | | | | | | | | | | | |
| F42T6/WW | Warm White | 7500 | 1825 | 1640 | 3000 | 52 | 1F336 | | 22.82 | 21.69 | 24 | 0.4 |
| F42T6/CW | Cool White | 7500 | 1750 | 1580 | 4150 | 62 | 3V633 | | 20.70 | 18.64 | 24 | 0.4 |
| F42T6/SP35 | RE 735 Phosphor | 7500 | 1830 | 1700 | 3500 | 73 | 1E815 | | 28.70 | 27.30 | 3 | 1.0 |
| **Instant Start Lamp, 35 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8)** | | | | | | | | | | | | |
| F42T12/CW | Cool White | 7500 | 2400 | 2210 | 4150 | 62 | 5V534 | | 16.10 | 14.50 | 24 | 0.6 |
| **High Output Lamps (800mA), 55 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F42T12/CW/HO | Cool White | 9000 | 3400 | 2960 | 4150 | 62 | 4V530 | | 18.03 | 16.23 | 24 | 0.6 |
| F42T12/D/HO | Daylight | 9000 | 2900 | 2520 | 6250 | 75 | 5V536 | | 19.87 | 17.88 | 24 | 0.6 |
| **48" NOMINAL LENGTH LAMPS** | | | | | | | | | | | | |
| **Rapid Start Lamps, 32 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | | |
| F32T8/SP30 | RE 730 Phosphor | 20000 | 2850 | 2710 | 3000 | 78 | 6VR64 † | © | 4.77 | 2.48 | 36 | 0.6 |
| F32T8/SP35 | RE 735 Phosphor | 20000 | 2850 | 2710 | 3500 | 78 | 6VR65 † | © | 4.77 | 2.48 | 36 | 0.6 |
| F32T8/SP41 | RE 741 Phosphor | 20000 | 2850 | 2710 | 4100 | 78 | 6VR66 † | © | 4.77 | 2.48 | 36 | 0.6 |
| F32T8/SP50 | RE 750 Phosphor | 20000 | 2750 | 2610 | 5000 | 78 | 3VK11 † | © | 5.35 | 5.09 | 36 | 0.5 |
| F32T8/SP65 | RE 765 Phosphor | 20000 | 2700 | 2565 | 6500 | 78 | 3JJ79 † | © | 5.92 | 5.62 | 36 | 0.6 |

(*) See Fluorescent Lamp footnotes on page 926 (**) Limited availability. Contact local branch. (†) Excluded product. © Lamp meets Federal Minimum Efficiency Standards (✓) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**

# FLUORESCENT LAMPS

GE Lighting

New

ENERGY RIGHT®

| Lamp Designation | Description/ Special Features | Rated Avg. Life Hrs. | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | Ⓔ | List | Each | Ship Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **48" NOMINAL LENGTH LAMPS (CONT.)** | | | | | | | | | | | | |
| **Rapid Start Lamps, 32 Watt, T8 Diameter 1" (26mm) - Medium Bi-Pin Base (G13)** | | | | | | | | | | | | |
| F32T8/SPX30 | RE 830 Phosphor | 20000 | 2950 | 2800 | 3000 | 86 | 6VR89 † | Ⓔ | $6.96 | $3.78 | 36 | 0.6 |
| F32T8/SPX35 | RE 835 Phosphor | 20000 | 2950 | 2800 | 3500 | 86 | 6VR90 † | Ⓔ | 6.96 | 3.78 | 36 | 0.6 |
| F32T8/SPX41 | RE 841 Phosphor | 20000 | 2950 | 2800 | 4100 | 86 | 6VR91 † | Ⓔ | 6.96 | 3.78 | 36 | 0.6 |
| F32T8/SPX50 | RE 850 Phosphor | 20000 | 2800 | 2660 | 5000 | 86 | 1G946 † | Ⓔ | 8.65 | 8.21 | 36 | 0.6 |
| F32T8/SXL/SPX30 | RE 830 Phosphor | 24000 | 2950 | 2800 | 3000 | 86 | 2F946 † | Ⓔ | 10.82 | 10.28 | 36 | 0.6 |
| F32T8/SXL/SPX35 | RE 835 Phosphor | 24000 | 2950 | 2800 | 3500 | 86 | 2F948 † | Ⓔ | 10.82 | 10.28 | 36 | 0.6 |
| F32T8/SXL/SPX41 | RE 841 Phosphor | 24000 | 2950 | 2800 | 4100 | 86 | 2F950 † | Ⓔ | 10.82 | 10.28 | 36 | 0.6 |
| F32T8/SXL/SPX50 | RE 850 Phosphor | 24000 | 2950 | 2660 | 5000 | 86 | 2F966 † | Ⓔ | 10.82 | 10.28 | 36 | 0.6 |
| F32T8/SP30/ECO | RE 730 Phosphor, Reduced Mercury | 20000 | 2850 | 2570 | 3000 | 78 | New 4PL14 † | Ⓔ | 5.88 | 2.73 | 36 | 0.4 |
| F32T8/SP35/ECO | RE 735 Phosphor, Reduced Mercury | 20000 | 2850 | 2570 | 3500 | 78 | New 4PL15 † | Ⓔ | 5.88 | 2.73 | 36 | 0.4 |
| F32T8/SP41/ECO | RE 741 Phosphor, Reduced Mercury | 20000 | 2850 | 2570 | 4100 | 78 | New 4PL16 † | Ⓔ | 5.88 | 2.73 | 36 | 0.4 |
| F32T8/SP30/ECO | RE 830 Phosphor, Reduced Mercury | 20000 | 2950 | 2650 | 3000 | 86 | 3VK28 † | Ⓔ | 9.51 | 4.16 | 36 | 0.5 |
| F32T8/SP35/ECO | RE 835 Phosphor, Reduced Mercury | 20000 | 2950 | 2650 | 3500 | 86 | 3VK29 † | Ⓔ | 9.51 | 4.16 | 36 | 0.5 |
| F32T8/SP41/ECO | RE 841 Phosphor, Reduced Mercury | 20000 | 2950 | 2650 | 4100 | 86 | 3VK30 † | Ⓔ | 9.51 | 4.16 | 36 | 0.5 |
| F32T8/GO | Gold | 20000 | 1750 | 1470 | — | | 3VK16 † | Ⓔ | 16.58 | 15.76 | 36 | 0.5 |
| **Very High Output Lamps (1500mA), 110 Watt, T10 Diameter 1¼" (32mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F48T10/CW | Cool White | 9000 | 6200 | — | 4150 | 62 | 1F334 | | 25.67 | 24.39 | 24 | 0.7 |
| F48T10J/CW | Cool White, 1 ⅜" (46 mm) Diameter | 9000 | 6000 | — | 4150 | 62 | 1F332 | | 41.03 | 39.10 | 12 | 1.9 |
| **Rapid Start Lamps, 25 Watt, T12 Diameter 1½" (38mm) - Medium Bi-Pin Base (G13)** | | | | | | | | | | | | |
| F25T12/SP30 | RE 730 Phosphor, use w/hybrid ballast only | 20000 | 2300 | 2140 | 3000 | 70 | 1E961 † | | 6.22 | 5.92 | 30 | 0.7 |
| F25T12/SP35 | RE 735 Phosphor, use w/hybrid ballast only | 20000 | 2300 | 2140 | 3500 | 73 | 1E952 † | | 6.22 | 5.92 | 30 | 0.7 |
| F25T12/SP41 | RE 741 Phosphor, use w/hybrid ballast only | 20000 | 2300 | 2140 | 4100 | 72 | 1E944 † | | 6.22 | 5.92 | 30 | 0.7 |
| **Rapid Start Lamps, 32 Watt, T12 Diameter 1½" (38mm) - Medium Bi-Pin Base (G13)** | | | | | | | | | | | | |
| F40CW/RS/WMP | Cool White, Watt-Miser® Plus (1,2)* | 15000 | 2535 | 2220 | 4150 | 62 | 3V455 | Ⓔ | 5.46 | 5.20 | 30 | 0.8 |
| F40SP35/RS/WMP | RE 735 Phosphor, Watt-Miser® Plus (1,2)* | 15000 | 2650 | 2410 | 3500 | 73 | 3V519 | Ⓔ | 8.43 | 8.00 | 30 | 0.7 |
| **Rapid Start Lamps, 34 Watt, T12 Diameter 1½" (38mm) - Medium Bi-Pin Base (G13)** | | | | | | | | | | | | |
| F40WW/RS/WM | Warm White, Watt-Miser® (1)* | 20000 | 2750 | 2370 | 3000 | 52 | 3V353 | Ⓔ | 4.77 | 2.49 | 30 | 0.7 |
| F40CW/RS/WM | Cool White, Watt-Miser® (1)* | 20000 | 2650 | 2280 | 4150 | 62 | 3V477 | | 4.14 | 1.56 | 30 | 0.7 |
| F40LW/RS/WM | Lite White, Watt-Miser® (1)* | 20000 | 2825 | 2430 | 4200 | 49 | 3V361 | Ⓔ | 4.56 | 2.89 | 30 | 0.7 |
| F40DX/RS/WM | Daylight Deluxe, Watt-Miser® (1,7)* | 20000 | 1950 | 1620 | 6500 | 84 | 3JK17 | | 6.97 | 5.19 | 30 | 0.7 |
| F40/C50/RS/WM | Chroma 50, Watt-Miser® (1)* | 20000 | 2000 | 1720 | 5000 | 90 | 1E051 | | 10.82 | 10.28 | 30 | 0.7 |
| F40SP30/RS/WM | RE 730 Phosphor, Watt-Miser® (1)* | 20000 | 2750 | 2475 | 3000 | 70 | 3V521 | Ⓔ | 7.24 | 4.59 | 30 | 0.7 |
| F40SP35/RS/WM | RE 735 Phosphor, Watt-Miser® (1)* | 20000 | 2750 | 2475 | 3500 | 73 | 3V522 | Ⓔ | 7.24 | 4.59 | 30 | 0.7 |
| F40SP41/RS/WM | RE 741 Phosphor, Watt-Miser® (1)* | 20000 | 2750 | 2475 | 4100 | 72 | 3V523 | Ⓔ | 7.24 | 4.59 | 30 | 0.7 |
| F40SP65/RS/WM | RE 765 Phosphor, Watt-Miser® (1)* | 20000 | 2650 | 2430 | 6500 | 75 | 2F065 | Ⓔ | 8.02 | 6.23 | 30 | 0.7 |
| F40SPX30/RS/WM | RE 830 Phosphor, Watt-Miser® (1)* | 15000 | 2900 | 2610 | 3000 | 82 | 4V574 | Ⓔ | 13.25 | 10.58 | 30 | 0.7 |
| F40SPX35/RS/WM | RE 835 Phosphor, Watt-Miser® (1)* | 20000 | 2900 | 2610 | 3500 | 82 | 4V633 | Ⓔ | 13.25 | 10.58 | 30 | 0.7 |
| F40SPX41/RS/WM | RE 841 Phosphor, Watt-Miser® (1)* | 20000 | 2800 | 2610 | 4100 | 80 | 4V575 | Ⓔ | 14.68 | 11.01 | 30 | 0.7 |
| F40SPX50/RS/WM | RE 850 Phosphor, Watt-Miser® (1)* | 20000 | 2700 | 2430 | 5000 | 80 | 4V576 | Ⓔ | 14.68 | 10.58 | 30 | 0.7 |
| F40CW/RS/WM/ECO | Cool White, Watt-Miser | 20000 | 2650 | 2280 | 4150 | 62 | 3VK17 | | 5.67 | 1.72 | 30 | 0.7 |
| F40SP30/RS/WM/ECO | RE 730 Phosphor, Watt-Miser | 20000 | 2750 | 2475 | 3000 | 70 | 3VK25 | | 7.97 | 5.05 | 30 | 0.7 |
| F40SP35/RS/WM/ECO | RE 735 Phosphor, Watt-Miser | 20000 | 2750 | 2475 | 3500 | 73 | 3VK26 | | 7.97 | 5.05 | 30 | 0.7 |
| F40SP41/RS/WM/ECO | RE 741 Phosphor, Watt-Miser | 20000 | 2750 | 2475 | 4100 | 72 | 3VK27 | | 7.97 | 5.05 | 30 | 0.7 |
| F40SPX30/RS/WM/ECO | RE 830 Phosphor, Watt-Miser | 20000 | 2900 | 2610 | 3000 | 82 | 3VK22 | | 14.57 | 11.64 | 30 | 0.7 |
| F40SPX35/RS/WM/ECO | RE 835 Phosphor, Watt-Miser | 20000 | 2900 | 2610 | 3500 | 82 | 3VK23 | | 14.57 | 11.64 | 30 | 0.7 |
| F40SPX41/RS/WM/ECO | RE 841 Phosphor, Watt-Miser | 20000 | 2900 | 2610 | 4100 | 80 | 3VK24 | | 16.16 | 11.64 | 30 | 0.7 |
| **Rapid Start Lamps, 40 Watt, T12 Diameter 1½" (38mm) - Medium Bi-Pin Base (G13)** | | | | | | | | | | | | |
| F40N | Natural | 20000 | 2100 | 1740 | 3700 | 90 | 5V796 | | 8.96 | 8.05 | 30 | 0.7 |
| F40/C50 | Chroma 50 | 20000 | 2250 | 1870 | 5000 | 90 | 3V524 | | 7.74 | 4.99 | 30 | 0.7 |
| F40DX | Daylight Deluxe (7)* | 20000 | 2250 | 1910 | 6500 | 84 | 3JK16 | | 8.76 | 7.88 | 30 | 0.7 |
| F40/C75 | Chroma 75 | 20000 | 1950 | 1680 | 7500 | 92 | 5V960 | | 6.88 | 3.99 | 30 | 0.7 |
| F40SP30 | RE 730 Phosphor | 20000 | 3200 | 2910 | 3000 | 70 | 3V525 | Ⓔ | 6.88 | 3.99 | 30 | 0.7 |
| F40SP35 | RE 735 Phosphor | 20000 | 3200 | 2910 | 3500 | 73 | 3V526 | Ⓔ | 6.21 | 3.99 | 30 | 0.7 |
| F40SP41 | RE 741 Phosphor | 20000 | 3200 | 2910 | 4100 | 72 | 3V527 | Ⓔ | 5.54 | 3.99 | 30 | 0.7 |
| F40SP65 | RE 765 Phosphor | 20000 | 3050 | 2775 | 6500 | 75 | 2F063 | Ⓔ | 6.88 | 3.99 | 30 | 0.7 |
| F40SPX30 | RE 830 Phosphor | 20000 | 3350 | 3050 | 3000 | 82 | 4V577 | Ⓔ | 12.67 | 11.41 | 30 | 0.7 |
| F40SPX35 | RE 835 Phosphor | 20000 | 3350 | 3050 | 3500 | 82 | 4V632 | Ⓔ | 12.67 | 11.41 | 30 | 0.7 |
| F40SPX41 | RE 841 Phosphor | 20000 | 3350 | 3050 | 4100 | 80 | 4V578 | Ⓔ | 14.04 | 10.53 | 30 | 0.7 |
| F40SPX50 | RE 850 Phosphor | 20000 | 3100 | 2820 | 5000 | 82 | 4V579 | Ⓔ | 14.04 | 12.21 | 30 | 0.7 |


T8 Med. Bi-Pin


T10 R.D.C.

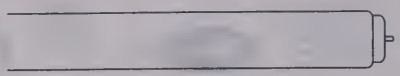

T12 Med. Bi-Pin

(*) See Fluorescent Lamp footnotes on page 926 (†) Excluded product. Ⓔ Lamp meets Federal Minimum Efficiency Standards (✓) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

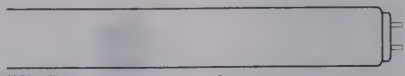
# FLUORESCENT LAMPS

GE Lighting

ENERGY RIGHT®



T12 Single Pin



T12 Med. Bipin



Power-groove PG17 R.D.C.



T12 R.D.C.



T8 Med. Bipin

| Lamp Designation | Description /Special Features | Rated Avg. Life Hrs. | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | © | List | Each | Ship Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **48" NOMINAL LENGTH LAMPS (CONT.)** | | | | | | | | | | | | |
| **Rapid Start Lamps, 40 Watt, T12 Diameter 1½" (38mm) - Medium Bipin Base (G13) (Cont.)** | | | | | | | | | | | | |
| F40SXL/SP30 | RE 730 Phosphor | 24000 | 3300 | 2970 | 3000 | 75 | 1E149 † | © | $8.61 | $8.18 | 30 | 0.7 |
| F40SXL/SP35 | RE 735 Phosphor | 24000 | 3300 | 2970 | 3500 | 75 | 1E147 † | © | 8.61 | 8.18 | 30 | 0.7 |
| F40SXL/SP41 | RE 741 Phosphor | 24000 | 3300 | 2970 | 4100 | 73 | 1E145 † | © | 8.61 | 8.18 | 30 | 0.7 |
| F40SXL/SPX30 | RE 830 Phosphor | 24000 | 3400 | 3060 | 3000 | 82 | 4V517 † | © | 17.55 | 15.08 | 30 | 0.7 |
| F40SXL/SPX35 | RE 835 Phosphor | 24000 | 3400 | 3060 | 3500 | 82 | 4V512 † | © | 17.55 | 15.08 | 30 | 0.7 |
| F40SXL/SPX41 | RE 841 Phosphor | 24000 | 3400 | 3060 | 4100 | 80 | 4V513 † | © | 17.55 | 15.08 | 30 | 0.7 |
| F40SXL/SPX50 | RE 850 Phosphor | 24000 | 3350 | 3050 | 5000 | 80 | 2F310 † | © | 17.55 | 15.08 | 30 | 0.7 |
| F40G | Green | 20000 | 4000 | 2000 | — | — | 1F368 | | 16.23 | 15.43 | 6 | 0.8 |
| F40GO | Gold | 20000 | 2150 | 1830 | — | — | 4V635 | | 16.23 | 14.61 | 6 | 0.8 |
| F40B | Blue | 20000 | 1200 | 720 | — | — | 6V327 | | 16.23 | 14.61 | 6 | 0.8 |
| F40 BL | Blacklight, UVA Source | 20000 | — | — | — | — | 5V875 | | 16.27 | 14.65 | 6 | 0.8 |
| F40BLB | Blacklight Blue, UVA Source, Integral Filter | 20000 | — | — | — | — | 5V876 | | 54.92 | 49.60 | 6 | 1.0 |
| F40PL/AQ | Plant & Aquarium | 20000 | 1900 | — | 3050 | 90 | 4V727 | | 7.47 | 7.10 | 6 | 0.8 |
| **Instant Start Lamps, 30 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8)** | | | | | | | | | | | | |
| F48T12/CW/WM | Cool White, Watt-Miser® (1)* | 9000 | 2175 | 2280 | 1150 | 62 | 4V948 | | 12.79 | 11.51 | 24 | 0.7 |
| F48T12/SP35/WM | RE 735 Phosphor, Watt-Miser® (1)* | 9000 | 2575 | 2420 | 3500 | 73 | 6V722 | | 16.74 | 15.07 | 24 | 0.7 |
| F48T12/SP41/WM | RE 741 Phosphor, Watt-Miser® (1)* | 9000 | 2575 | 2420 | 4100 | 72 | 6V723 ** | | 16.74 | 15.07 | 24 | 0.7 |
| **Instant Start Lamps, 40 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8)** | | | | | | | | | | | | |
| F48T12/CW | Cool White | 9000 | 2875 | 2650 | 4150 | 62 | 3V348 | | 10.46 | 6.99 | 24 | 0.7 |
| F48T12/D | Daylight | 9000 | 2450 | 2250 | 6250 | 75 | 4V951 | | 13.06 | 11.75 | 24 | 0.7 |
| F48T12/SP35 | RE 735 Phosphor | 9000 | 3000 | 2820 | 3500 | 73 | 5V563 | | 15.46 | 13.91 | 24 | 0.7 |
| F48T12/SPX30 | RE 830 Phosphor | 9000 | 3050 | 2870 | 3000 | 82 | 4V958 | | 20.79 | 18.71 | 24 | 0.7 |
| F48T12/SPX35 | RE 835 Phosphor | 9000 | 3050 | 2870 | 3500 | 82 | 1E388 | | 20.79 | 18.71 | 24 | 0.7 |
| **High Output Lamps (800mA), 55 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F48T12/SP30/HO/WM | RE 730 Phosphor, Watt-Miser® (1)* | 12000 | 3850 | 3465 | 3000 | 70 | 1E374 ** | | 16.83 | 15.99 | 24 | 0.7 |
| F48T12/SP35/HO/WM | RE 735 Phosphor, Watt-Miser® (1)* | 12000 | 3850 | 3465 | 3500 | 73 | 1E372 | | 16.84 | 16.00 | 24 | 0.7 |
| **High Output Lamps (800mA), 60 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F48T12/CW/HO | Cool White | 12000 | 4050 | 3520 | 4150 | 62 | 3V443 | | 12.04 | 8.00 | 24 | 0.7 |
| F48T12/SGN/HO | Sign White | 12000 | 3100 | 2640 | 5200 | 82 | 1F362 ** | | 17.39 | 16.52 | 24 | 0.7 |
| F48T12/CW/HO/HT | Cool White, High Temp | 12000 | 4000 | 3400 | 4150 | 62 | 2C784 | | 22.79 | 21.65 | 24 | 0.7 |
| F48T12/D/HO | Daylight | 12000 | 3400 | 2960 | 6250 | 75 | 4V924 | | 16.38 | 14.75 | 24 | 0.7 |
| F48T12/SP35/HO | RE 735 Phosphor | 12000 | 4250 | 3830 | 3500 | 73 | 5V564 | | 16.38 | 14.75 | 24 | 0.7 |
| F48T12/SP41/HO | RE 741 Phosphor | 12000 | 4250 | 3830 | 4100 | 72 | 6V719 | | 16.38 | 14.75 | 24 | 0.7 |
| F48T12/SPX35/HO | RE 835 Phosphor | 12000 | 4350 | 3920 | 3500 | 82 | 1E390 | | 23.09 | 21.93 | 24 | 0.7 |
| **Very High Output Lamps (1500mA), 95 Watt, PG17 Diameter 2⅛" (54mm) Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F48PG17/CW/WM | Cool White, Watt-Miser® (1,4)* | 12000 | 5700 | 3990 | 4150 | 62 | 1C281 | | 29.81 | 28.40 | 12 | 1.8 |
| **Very High Output Lamps (1500mA), 110 Watt, PG17 Diameter 2⅛" (54mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F48PG17/CW | Cool White (4)* | 12000 | 6800 | 4760 | 4150 | 62 | 1F328 | | 27.42 | 26.10 | 12 | 1.8 |
| F48PG17/D | Daylight (4)* | 12000 | 5700 | 3990 | 6250 | 75 | 1F326 ** | | 30.82 | 29.40 | 12 | 1.8 |
| **Very High Output Lamps (1500mA), 110 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F48T12/CW/1500 | Cool White (4)* | 10000 | 6200 | 4030 | 4150 | 62 | 4V940 | | 23.83 | 21.45 | 24 | 0.7 |
| F48T12/CW/1500/O | Cool White | 10000 | 7000 | — | 4150 | 62 | 4V944 | | 22.45 | 20.21 | 24 | 0.7 |
| F48T12J/CW/1500/O | Cool White 1¹⁹⁄₁₆" (46 mm) | 10000 | 6800 | — | 4150 | 62 | 5V670 | | 34.32 | 31.00 | 12 | 2.2 |
| **54" NOMINAL LAMPS** | | | | | | | | | | | | |
| **Very High Output Lamps (1500mA), 120 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F54T12/SPB | Super Blue - Reprographic | 1000 | — | — | — | — | 2F582 | | 29.07 | 27.70 | 24 | 0.9 |
| **60" NOMINAL LENGTH LAMPS** | | | | | | | | | | | | |
| **Rapid Start Lamps, 40 Watt, T8 Diameter 1" (26mm) - Medium Bipin Base (G13)** | | | | | | | | | | | | |
| F40T8/SP30 | RE 730 Phosphor | 20000 | 3600 | 3240 | 3000 | 75 | 6VR67 † | | $7.40 | $6.66 | 24 | 0.7 |
| F40T8/SP35 | RE 735 Phosphor | 20000 | 3600 | 3240 | 3500 | 75 | 6VR68 † | | 7.40 | 6.66 | 24 | 0.7 |
| F40T8/SP41 | RE 741 Phosphor | 20000 | 3600 | 3240 | 4100 | 75 | 6VR69 † | | 7.40 | 6.66 | 24 | 0.7 |
| F40T8/SPX30 | RE 830 Phosphor | 20000 | 3725 | 3350 | 3000 | 84 | 6VR92 † | | 10.41 | 9.37 | 24 | 0.7 |
| F40T8/SPX35 | RE 835 Phosphor | 20000 | 3725 | 3350 | 3500 | 84 | 6VR57 † | | 10.41 | 9.37 | 24 | 0.7 |
| F40T8/SPX41 | RE 841 Phosphor | 20000 | 3725 | 3350 | 4100 | 80 | 6VR93 † | | 10.41 | 9.37 | 24 | 0.7 |
| F40T8/SPX50 | RE 850 Phosphor | 20000 | 3550 | 3180 | 5000 | 80 | 1F386 † | ** | 10.01 | 9.51 | 24 | 0.7 |

(*) See Fluorescent Lamp footnotes on page 926 (**) Limited availability. Contact local branch. (†) Excluded product. © Lamp meets Federal Minimum Efficiency Standards (✓) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# FLUORESCENT LAMPS




GE Lighting



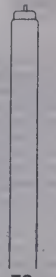

| Lamp Designation | Description /Special Features | Rated Avg. Life Hrs. | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **60" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Instant Start Lamp, 40 Watt, T17 Diameter 2⅛" (54mm) - Mogul Bipin Base (G20)** | | | | | | | | | | | |
| **F40T17/CW/I** | Cool White, Instant Start Only (3)* | 7500 | 2850 | 2620 | 4150 | 62 | **3V713** | $25.02 | **$22.51** | 12 | 1.9 |
| **Very High Output Lamps (1500mA), 135 Watt, T10 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | |
| **F60T10/CW** | Cool White | 9000 | 8200 | — | 4150 | 62 | **1C560** | 25.07 | **23.82** | 24 | 0.9 |
| **F60T10/SP30** | RE 730 Phosphor | 9000 | 8500 | — | 3000 | 70 | **1E241** | 33.30 | **31.70** | 24 | 0.9 |
| **F60T10J/CW** | Cool White, 1⅞" (46 mm) | 9000 | 8000 | — | 4150 | 62 | **1C494** | 44.34 | **42.25** | 12 | 2.3 |
| **Very High Output Lamp (1500mA), 125 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact (R17d)** | | | | | | | | | | | |
| **F59T12/SPB** | Reprographic, 1500 mA. | 1000 | — | — | — | — | **1C530** | 36.25 | **34.55** | 24 | 0.9 |
| **Instant Start Lamps, 50 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8)** | | | | | | | | | | | |
| **F60T12/CW** | Cool White | 12000 | 3600 | 3310 | 4150 | 62 | **4V954** | 14.81 | **13.34** | 15 | 0.9 |
| **F60T12/D** | Daylight | 12000 | 3000 | 2760 | 6250 | 75 | **4V955** | 16.93 | **15.23** | 15 | 0.9 |
| **High Output Lamps (800mA), 75 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | |
| **F60T12/CW/HO** | Cool White | 12000 | 5150 | 4480 | 4150 | 62 | **4V476** | 13.45 | **11.49** | 15 | 0.9 |
| **F60T12/SGN/HO** | Sign White | 12000 | 4000 | 3400 | 5200 | 82 | **1G974** ** | 20.88 | **19.84** | 15 | 0.9 |
| **F60T12/D/HO** | Daylight | 12000 | 4400 | 3830 | 6250 | 75 | **4V931** | 17.48 | **15.73** | 15 | 0.9 |
| **F60T12/SP41/HO** | RE 741 Phosphor | 12000 | 5350 | 4820 | 4100 | 72 | **1E571** ** | 20.06 | **19.05** | 24 | 0.9 |
| **Instant Start Lamps, 82 Watt, T17 Diameter 2⅛" (54mm) - Mogul Bipin Base (G20)** | | | | | | | | | | | |
| **F90T17/CW/WM** | Cool White, Watt-Miser® (1)* | 9000 | 5750 | 5060 | 4150 | 62 | **1C378** | 23.37 | **22.20** | 12 | 1.8 |
| **Preheat Lamp, 90 Watt, T17 Diameter 2⅛" (54mm) - Mogul Bipin Base (G20)** | | | | | | | | | | | |
| **F90T17/CW** | Cool White | 9000 | 6000 | 5280 | 4150 | 62 | **6W667** | 21.90 | **18.61** | 12 | 1.0 |
| **64" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Instant Start Lamps, 40 Watt, T6 Diameter 3/4" (19mm) - Single Pin Base (Fa8)** | | | | | | | | | | | |
| **F64T6/WW** | Warm White | 7500 | 2900 | 2610 | 3000 | 52 | **1F320** | 23.09 | **21.94** | 24 | 0.6 |
| **F64T6/CW** | Cool White | 7500 | 2800 | 2520 | 4150 | 62 | **3V595** | 21.07 | **16.85** | 24 | 0.6 |
| **F64T6/SP35** | RE 735 Phosphor | 7500 | 2930 | 2720 | 3500 | 73 | **1E813** | 29.16 | **27.75** | 24 | 0.6 |
| **Instant Start Lamp, 65 Watt, T6 Diameter 3/4" (19mm) - Single Pin Base (Fa8)** | | | | | | | | | | | |
| **G64T6** | Germicidal, Clear | 7500 | — | — | — | — | **1F296** | 158.70 | **151.00** | 24 | 0.6 |
| **Instant Start Lamps, 50 Watt, T12 Diameter 1½" (38mm) Single Pin Base (Fa8)** | | | | | | | | | | | |
| **F64T12/CW** | Cool White | 12000 | 3850 | 3540 | 4150 | 62 | **4V956** | 15.00 | **13.12** | 15 | 1.0 |
| **F64T12/D** | Daylight | 12000 | 3300 | 3040 | 6250 | 75 | **4V957** | 16.74 | **13.72** | 15 | 1.0 |
| **F64T12/SP41** | RE 741 Phosphor | 12000 | 4000 | 3760 | 4100 | 72 | **3JJ83** ** | 21.08 | **20.03** | 24 | 1.0 |
| **High Output Lamps (800mA), 80 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | |
| **F64T12/CW/HO** | Cool White | 12000 | 5600 | 4870 | 4150 | 62 | **4V937** | 15.18 | **13.00** | 15 | 1.0 |
| **F64T12/D/HO** | Daylight | 12000 | 1750 | 4130 | 6250 | 75 | **4V938** | 17.66 | **15.01** | 15 | 1.0 |
| **72" NOMINAL LENGTH LAMPS** | | | | | | | | | | | |
| **Instant Start Lamps, 35 Watt, T8 Diameter 1" (26mm) - Single Pin Base (Fa8)** | | | | | | | | | | | |
| **F72T8/WW** | Warm White | 7500 | 3100 | 2820 | 3000 | 52 | **1F316** | $22.91 | **$21.76** | 6 | 0.9 |
| **F72T8/CW** | Cool White | 7500 | 3000 | 2730 | 4150 | 62 | **1F318** | 21.07 | **20.02** | 24 | 0.8 |
| **Instant Start Lamps, 70 Watt, T8 Diameter 1" (26mm) - Single Pin Base (Fa8)** | | | | | | | | | | | |
| **F70W/T8/835** | RE 835 Phosphor | 18000 | 6550 | 6200 | 3500 | 80 | **3VK37** | 13.80 | **13.11** | 25 | 0.8 |
| **F70W/T8/840** | RE 840 Phosphor | 18000 | 6550 | 6200 | 4100 | 80 | **3VK38** | 13.80 | **13.11** | 25 | 0.8 |
| **Instant Start Lamps, 55 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8)** | | | | | | | | | | | |
| **F72T12/WW** | Warm White | 12000 | 4650 | 4280 | 3000 | 52 | **4V776** | 14.90 | **12.74** | 15 | 1.2 |
| **F72T12/CW** | Cool White | 12000 | 4500 | 4140 | 4150 | 62 | **3V403** | 12.04 | **10.31** | 15 | 0.9 |
| **F72T12/D** | Daylight | 12000 | 3800 | 3500 | 6250 | 75 | **4V773** | 14.90 | **12.74** | 15 | 1.2 |
| **F72T12/GO** | Gold | 12000 | 3200 | 2840 | — | — | **1F310** | 28.34 | **27.00** | 10 | 1.1 |
| **F72T12/SP35** | RE 735 Phospor | 12000 | 4700 | 4420 | 3500 | 73 | **6V724** | 17.85 | **16.07** | 15 | 1.1 |
| **F72T12/SP41** | RE 741 Phosphor | 12000 | 4700 | 4420 | 4100 | 72 | **1E394** | 17.85 | **16.07** | 15 | 1.1 |
| **F72T12/SPX30** | RE 830 Phosphor | 12000 | 4800 | 4510 | 3000 | 82 | **4V777** | 31.19 | **28.15** | 15 | 1.2 |
| **F72T12/SPX35** | RE 835 Phosphor | 12000 | 4800 | 4510 | 3500 | 82 | **5V567** | 31.19 | **28.15** | 15 | 1.1 |









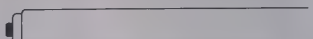




(*) See Fluorescent Lamp footnotes on page 926 (**) Limited availability. Contact local branch
Note: Minnesota Mercury Emmision Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# FLUORESCENT LAMPS

GE Lighting | ENERGY RIGHT® | New


T10 R.D.C.


T12 R.D.C.

| Lamp Designation | Description /Special Features | Rated Avg. Life Hrs. | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | © | List | Each | Ship Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **72" NOMINAL LENGTH LAMPS (Cont.)** | | | | | | | | | | | | |
| **Very High Output Lamps (1500mA), 160 Watt T10 Diameter 1¼" (33mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F72T10/CW | Cool White | 9000 | 9700 | — | 4150 | 62 | 1E480 | | $31.00 | $29.55 | 15 | 1.1 |
| F72T10J/CW | Cool White, 1 13/16" (46 mm) | 9000 | 9600 | — | 4150 | 62 | 1F314 | | 45.82 | 43.60 | 8 | 2.8 |
| **High Output Lamps (800mA), 85 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F72T12/WW/HO | Warm White | 12000 | 6550 | 5700 | 3000 | 52 | 4V964 | | 16.56 | 14.91 | 15 | 1.4 |
| F72T12/CW/HO | Cool White | 12000 | 6350 | 5520 | 4150 | 62 | 3V438 | | 12.37 | 8.15 | 15 | 1.2 |
| F72T12/D/HO | Daylight | 12000 | 5350 | 4650 | 6250 | 75 | 4V444 | | 16.38 | 14.08 | 15 | 1.2 |
| F72T12/SGN/HO | Sign White | 12000 | 4900 | 4170 | 5200 | 82 | 1E484 | ** | 21.25 | 20.19 | 15 | 1.1 |
| F72T12/N/HO | Natural | 12000 | 4300 | 3610 | 3700 | 90 | 4V768 | | 22.54 | 20.30 | 10 | 1.2 |
| F72T12/SP30/HO | RE 730 Phosphor | 12000 | 6650 | 5990 | 3000 | 70 | 5V629 | | 19.14 | 17.24 | 15 | 1.2 |
| F72T12/SP35/HO | RE 735 Phosphor | 12000 | 6650 | 5990 | 3500 | 73 | 5V756 | | 19.14 | 17.24 | 15 | 1.1 |
| F72T12/SP41/HO | RE 741 Phosphor | 12000 | 6650 | 5990 | 4100 | 72 | 6V720 | | 19.14 | 17.24 | 15 | 1.1 |
| F72T12/SPX30/HO | RE 830 Phosphor | 12000 | 6800 | 6120 | 3000 | 82 | 5V633 | | 36.16 | 32.65 | 15 | 1.2 |
| F72T12/SPX35/HO | RE 835 Phosphor | 12000 | 6800 | 6120 | 3500 | 82 | 5V566 | | 36.16 | 32.65 | 15 | 1.1 |
| **Very High Output Lamps (1500mA), 165 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F72T12/CW/1500 | Cool White (4)* | 10000 | 9700 | 6790 | 4150 | 62 | 4V770 | | 24.84 | 22.36 | 15 | 1.1 |
| **Very High Output Lamps (1500mA), 170 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F72T12/CW/1500/O | Cool White | 10000 | 10800 | — | 4150 | 62 | 4V771 | | 23.83 | 21.45 | 15 | 1.1 |
| F72T12J/CW/1500/O | Cool White, 1 13/16" (46 mm) | 10000 | 10500 | — | 4150 | 62 | 5V671 | | 37.35 | 33.70 | 8 | 3.0 |
| **84" NOMINAL LENGTH LAMPS** | | | | | | | | | | | | |
| **Instant Start Lamp, 65 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8)** | | | | | | | | | | | | |
| F84T12/CW | Cool White | 12000 | 5300 | 4880 | 4150 | 62 | 4V780 | | $15.73 | $14.16 | 15 | 1.4 |
| **High Output Lamp (800mA), 100 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F84T12/SGN/HO | Sign White | 12000 | 6000 | 5280 | 5200 | 82 | 2F206 | ** | 20.52 | 19.49 | 15 | 1.2 |
| F84T12/CW/HO | Cool White | 12000 | 7700 | 6700 | 4150 | 62 | 4V445 | | 13.20 | 11.88 | 15 | 1.4 |
| F84T12/D/HO | Daylight | 12000 | 6500 | 5660 | 6250 | 75 | 4V446 | | 16.56 | 14.91 | 15 | 1.4 |
| **96" NOMINAL LENGTH LAMPS** | | | | | | | | | | | | |
| **Instant Start Lamp, 51 Watt, T8 Diameter 1" (26mm) - Single Pin Base (Fa8)** | | | | | | | | | | | | |
| F96T8/CW | Cool White | 7500 | 4050 | 3730 | 4150 | 62 | 1F308 | | 17.39 | 16.52 | 24 | 1.1 |
| **Instant Start Lamps, 59 Watt, T8 Diameter 1" (26mm) - Single Pin Base (Fa8)** | | | | | | | | | | | | |
| F96T8/SP30 | RE 730 Phosphor | 15000 | 5800 | 5310 | 3000 | 75 | ✓ 2D048 | † Ⓔ | 10.29 | 7.79 | 24 | 1.3 |
| F96T8/SP35 | RE 735 Phosphor | 15000 | 5800 | 5310 | 3500 | 75 | ✓ 2D049 | † Ⓔ | 10.29 | 7.79 | 24 | 1.3 |
| F96T8/SP41 | RE 741 Phosphor | 15000 | 5800 | 5310 | 4100 | 75 | ✓ 2D002 | † Ⓔ | 10.29 | 7.79 | 24 | 1.3 |
| F96T8/SPX30 | RE 830 Phosphor | 15000 | 5950 | 5440 | 3000 | 84 | ✓ 2D050 | † Ⓔ | 14.95 | 13.46 | 24 | 1.3 |
| F96T8/SPX35 | RE 835 Phosphor | 15000 | 5950 | 5440 | 3500 | 84 | ✓ 2D051 | † Ⓔ | 14.95 | 13.46 | 24 | 1.3 |
| F96T8/SPX41 | RE 841 Phosphor | 15000 | 5950 | 5440 | 4100 | 80 | ✓ 2D052 | † Ⓔ | 14.95 | 13.46 | 24 | 1.3 |
| F96T8/SPX50 | RE 850 Phosphor | 15000 | 5650 | 5300 | 5000 | 80 | ✓ 1G936 | † Ⓔ | 18.58 | 16.73 | 24 | 1.1 |
| **Very High Output Lamps, (1500mA), 205 Watt, T10 Diameter 1¼" (33mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96T10J/CW | Cool White, 1 13/16" (46 mm) | 9000 | 13300 | — | 4150 | 62 | 1F306 | | 48.30 | 46.00 | 8 | 3.7 |
| F96T10/CW | Cool White | 9000 | 13500 | — | 4150 | 62 | 1E478 | ** | 31.37 | 29.90 | 10 | 1.4 |
| **Instant Start Lamps, 60 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8)** | | | | | | | | | | | | |
| F96T12/WW/WM | Warm White, Watt-Miser® (1)* | 12000 | 5700 | 5240 | 3000 | 52 | 3V533 | Ⓔ | 10.73 | 9.26 | 15 | 1.5 |
| F96T12/CW/WM | Cool White, Watt-Miser® (1)* | 12000 | 5500 | 5060 | 4150 | 62 | 3V480 | Ⓔ | 8.95 | 4.29 | 15 | 1.3 |
| F96T12/LW/WM | Lite White, Watt-Miser® (1)* | 12000 | 5800 | 5340 | 4200 | 49 | 3V362 | Ⓔ | 9.84 | 7.82 | 15 | 1.5 |
| F96T12/C50/WM | Chroma 50, Watt-Miser® (1)* | 12000 | 4000 | 3520 | 5000 | 90 | 5V999 | | 18.31 | 16.48 | 15 | 1.5 |
| F96T12/SP30/WM | RE 730 Phosphor, Watt-Miser® (1)* | 12000 | 5700 | 5360 | 3000 | 70 | 3V530 | Ⓔ | 16.38 | 9.50 | 15 | 1.5 |
| F96T12/SP35/WM | RE 735 Phosphor, Watt-Miser® (1)* | 12000 | 5700 | 5360 | 3500 | 73 | 3V531 | Ⓔ | 14.77 | 9.50 | 15 | 1.5 |
| F96T12/SP35/WM/C | RE 735 Phosphor, Watt-Miser® (1)* | 12000 | 5700 | 5360 | 3500 | 73 | 1F010 | † Ⓔ | 15.11 | 14.36 | 10 | 1.5 |
| F96T12/SP41/WM | RE 741 Phosphor, Watt-Miser® (1)* | 12000 | 5700 | 5360 | 4100 | 72 | 3V532 | Ⓔ | 14.77 | 9.50 | 15 | 1.5 |
| F96T12/SP65/WM | RE 765 Phosphor, Watt-Miser® (1)* | 12000 | 5100 | 4800 | 6500 | 75 | 1E845 | † Ⓔ | 16.38 | 15.55 | 15 | 1.4 |
| F96T12/SPX30/WM | RE 830 Phosphor, Watt-Miser® (1)* | 12000 | 6000 | 5640 | 3000 | 82 | 4V599 | Ⓔ | 26.50 | 23.85 | 15 | 1.5 |
| F96T12/SPX35/WM | RE 835 Phosphor, Watt-Miser® (1)* | 12000 | 6000 | 5640 | 3500 | 82 | 4V911 | Ⓔ | 26.50 | 23.85 | 15 | 1.5 |
| F96T12/SPX41/WM | RE 841 Phosphor, Watt-Miser® (1)* | 12000 | 6000 | 5640 | 4100 | 82 | 6V002 | Ⓔ | 26.50 | 23.85 | 15 | 1.5 |
| F96T12/SXL/SP30/WM | RE 830 Phosphor, Watt-Miser® (1)* | 15000 | 5900 | 5480 | 3000 | 75 | 1E726 | † Ⓔ | 20.52 | 19.50 | 15 | 1.4 |
| F96T12/SXL/SP35/WM | RE 835 Phosphor, Watt-Miser® (1)* | 15000 | 5900 | 5480 | 3500 | 75 | 1E724 | † Ⓔ | 20.52 | 19.50 | 15 | 1.4 |
| F96T12/SXL/SP41/WM | RE 841 Phosphor, Watt-Miser® (1)* | 15000 | 5900 | 5480 | 4100 | 75 | 1E722 | † Ⓔ | 20.52 | 19.50 | 15 | 1.4 |
| F96T12/CW/MW/ECO | Cool White, Watt-Miser®, Reduced Mercury (1)* | 12000 | 5500 | 5060 | 4150 | 62 | *New* 4PL17 | | 12.24 | 4.72 | 15 | 1.4 |

T12 Single Pin

T8 Single Pin

(*) See Fluorescent Lamp footnotes on page 926 (**) Limited availability. Contact local branch. (†) Excluded product. Ⓔ Lamp meets Federal Minimum Efficiency Standards
(✓) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# FLUORESCENT LAMPS

| Lamp Designation | Description/ Special Features | Rated Avg. Life Hrs. | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | Ⓔ | List | Each | Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **96" NOMINAL LENGTH LAMPS (Cont.)** | | | | | | | | | | | | |
| **Instant Start Lamps, 60 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8) Cont.** | | | | | | | | | | | | |
| F96T12/SP30/WM/ECO | RE 730 Phosphor, Watt-Miser®, Reduced Mercury (1)* | 12000 | 5700 | 5360 | 3000 | 70 | ***New*** 4PL18 | | $18.01 | **$9.89** | 15 | 1.4 |
| F96T12/SP35/WM/ECO | RE 735 Phosphor, Watt-Miser®, Reduced Mercury (1)* | 12000 | 5700 | 5360 | 3500 | 73 | ***New*** 4PL19 | | 18.01 | **9.89** | 15 | 1.4 |
| F96T12/SP41/WM/ECO | RE 741 Phosphor, Watt-Miser®, Reduced Mercury (1)* | 12000 | 5700 | 5360 | 4100 | 72 | ***New*** 4PL20 | | 18.01 | **9.89** | 15 | 1.4 |
| F96T12/SPX30/WM/ECO | RE 830 Phosphor, Watt-Miser®, Reduced Mercury (1)* | 12000 | 6000 | 5640 | 3000 | 82 | ***New*** 4PL21 | | 29.15 | **26.25** | 15 | 1.4 |
| F96T12/SPX35/WM/ECO | RE 835 Phosphor, Watt-Miser®, Reduced Mercury (1)* | 12000 | 6000 | 5640 | 3500 | 82 | ***New*** 4PL22 | | 29.15 | **26.25** | 15 | 1.4 |
| F96T12/SPX41/WM/ECO | RE 841 Phosphor, Watt-Miser®, Reduced Mercury (1)* | 12000 | 6000 | 5640 | 4100 | 80 | ***New*** 4PL23 | | 29.15 | **26.25** | 15 | 1.4 |
| **Instant Start Lamps, 75 Watt, T12 Diameter 1½" (38mm) - Single Pin Base (Fa8)** | | | | | | | | | | | | |
| F96T12/N | Natural | 12000 | 4250 | 3740 | 3700 | 90 | 5V982 | | 16.84 | **15.15** | 15 | 1.5 |
| F96T12/C50 | Chroma 50 | 12000 | 4600 | 4050 | 5000 | 90 | 3V535 | | 16.84 | **12.90** | 15 | 1.5 |
| F96T12/DX | Daylight Deluxe (7)* | 12000 | 4500 | 4050 | 6500 | 84 | 3JK14 | | 11.45 | **10.88** | 15 | 1.4 |
| F96T12/SP30 | RE 730 Phosphor | 12000 | 6500 | 6110 | 3000 | 70 | 4V536 | Ⓔ | 15.73 | **8.99** | 15 | 1.5 |
| F96T12/SP35 | RE 735 Phosphor | 12000 | 6500 | 6110 | 3500 | 73 | 4V468 | Ⓔ | 14.19 | **8.99** | 15 | 1.5 |
| F96T12/SP41 | RE 741 Phosphor | 12000 | 6500 | 6110 | 4100 | 72 | 4V537 | Ⓔ | 15.73 | **8.99** | 15 | 1.5 |
| F96T12/SP65 | RE 765 Phosphor | 12000 | 6125 | 5760 | 6500 | 75 | 2F061 † | Ⓔ | 15.73 | **12.25** | 15 | 1.4 |
| F96T12/SPX30 | RE 830 Phosphor | 12000 | 6800 | 6390 | 3000 | 82 | 4V598 | Ⓔ | 25.67 | **23.10** | 15 | 1.6 |
| F96T12/SPX35 | RE 835 Phosphor | 12000 | 6800 | 6390 | 3500 | 82 | 6V292 | Ⓔ | 25.67 | **23.10** | 15 | 1.5 |
| F96T12/SPX41 | RE 841 Phosphor | 12000 | 6800 | 6390 | 4100 | 80 | 6V000 | Ⓔ | 25.67 | **23.10** | 15 | 1.5 |
| F96T12/SPX50 | RE 850 Phosphor | 12000 | 6250 | 5880 | 5000 | 82 | 6V001 | Ⓔ | 25.67 | **23.10** | 15 | 1.5 |
| F96T12/SXL/SP30 | RE 730 Phosphor | 15000 | 6700 | 6180 | 3000 | 75 | 1E913 † | Ⓔ | 19.69 | **18.70** | 15 | 1.4 |
| F96T12/SXL/SP35 | RE 735 Phosphor | 15000 | 6700 | 6180 | 3500 | 75 | 1G934 † | Ⓔ | 19.69 | **18.70** | 15 | 1.4 |
| F96T12/SXL/SP41 | RE 741 Phosphor | 15000 | 6700 | 6180 | 4100 | 73 | 1E911 † | Ⓔ | 19.69 | **18.70** | 15 | 1.4 |
| F96T12/SXL/SPX30 | RE 830 Phosphor | 15000 | 6900 | 6370 | 3000 | 82 | 1E907 † | Ⓔ | 32.11 | **30.60** | 15 | 1.4 |
| F96T12/SXL/SPX35 | RE 835 Phosphor | 15000 | 6900 | 6370 | 3500 | 82 | 1E905 † | Ⓔ | 32.11 | **30.60** | 15 | 1.4 |
| F96T12/SXL/SPX41 | RE 841 Phosphor | 15000 | 6900 | 6370 | 4100 | 80 | 1E899 † | Ⓔ | 32.11 | **30.60** | 15 | 1.4 |
| F96T12/SXL/SPX50 | RE 850 Phosphor | 15000 | 6425 | 5930 | 5000 | 80 | 2C925 † | Ⓔ | 32.11 | **30.60** | 15 | 1.4 |
| F96T12/GO | Gold | 12000 | 4350 | 3870 | — | — | 5V993 | | 27.05 | **24.34** | 10 | 1.5 |
| **High Output Lamps (800mA), 86 Watt, T8 Diameter 1" (26mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96T8/SP30/HO | RE 730 Phosphor | 18000 | 8000 | 7200 | 3000 | 75 | 2F960 † | Ⓔ | 18.58 | **17.65** | 24 | 1.1 |
| F96T8/SP35/HO | RE 735 Phosphor | 18000 | 8000 | 7200 | 3500 | 75 | 2F962 † | Ⓔ | 18.58 | **17.65** | 24 | 1.1 |
| F96T8/SP41/HO | RE 741 Phosphor | 18000 | 8000 | 7200 | 4100 | 75 | 2F964 † | Ⓔ | 18.58 | **17.65** | 24 | 1.1 |
| F96T8/SPX30/HO | RE 830 Phosphor | 18000 | 8200 | 7380 | 3000 | 82 | 2F952 † | Ⓔ | 21.44 | **20.36** | 24 | 1.1 |
| F96T8/SPX35/HO | RE 835 Phosphor | 18000 | 8200 | 7380 | 3500 | 82 | 2F954 † | Ⓔ | 21.44 | **20.36** | 24 | 1.1 |
| F96T8/SPX41/HO | RE 841 Phosphor | 18000 | 8200 | 7380 | 4100 | 80 | 2F956 † | Ⓔ | 21.44 | **20.36** | 24 | 1.1 |
| F96T8/SPX50/HO | RE 850 Phosphor | 18000 | 8200 | 7380 | 5000 | 80 | 2F958 † | Ⓔ | 21.44 | **20.36** | 24 | 1.1 |
| **High Output Lamps (800mA), 95 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96T12/WW/HO/WM | Warm White, Watt-Miser® (1)* | 12000 | 8200 | 7130 | 3000 | 52 | 3V536 | Ⓔ | 15.73 | **10.53** | 15 | 1.5 |
| F96T12/CW/HO/WM | Cool White, Watt-Miser® (1)* | 12000 | 8000 | 6960 | 4150 | 62 | 3V351 | Ⓔ | 11.03 | **7.81** | 15 | 1.5 |
| F96T12/LW/HO/WM | Lite White, Watt-Miser® (1)* | 12000 | 8500 | 7900 | 4200 | 49 | 3V363 | Ⓔ | 13.36 | **11.41** | 15 | 1.5 |
| F96T12/SP30/HO/WM | RE 730 Phosphor, Watt-Miser® (1)* | 12000 | 8450 | 7520 | 3000 | 70 | 3V537 | Ⓔ | 18.77 | **16.10** | 15 | 1.5 |
| F96T12/SP35/HO/WM | RE 735 Phosphor, Watt-Miser® (1)* | 12000 | 8450 | 7520 | 3500 | 73 | 3V538 | Ⓔ | 18.77 | **16.10** | 15 | 1.5 |
| F96T12/SP41/HO/WM | RE 741 Phosphor, Watt-Miser® (1)* | 12000 | 8450 | 7520 | 4100 | 72 | 3V539 | Ⓔ | 18.77 | **16.10** | 15 | 1.5 |
| F96T12/SP65/HO/WM | RE 765 Phosphor, Watt-Miser® (1)* | 12000 | 7700 | 6930 | 6500 | 75 | 1E841 † | Ⓔ | 18.77 | **16.10** | 15 | 1.4 |
| F96T12/SPX30/HO/WM | RE 830 Phosphor, Watt-Miser® (1)* | 12000 | 8500 | 7650 | 3000 | 82 | 5V634 | Ⓔ | 36.52 | **32.95** | 15 | 1.5 |
| F96T12/SPX35/HO/WM | RE 835 Phosphor, Watt-Miser® (1)* | 12000 | 8500 | 7650 | 3500 | 82 | 1E386 | Ⓔ | 36.52 | **32.95** | 15 | 1.4 |
| F96T12/SPX41/HO/WM | RE 841 Phosphor, Watt-Miser® (1)* | 12000 | 8500 | 7650 | 4100 | 80 | 6V061 | Ⓔ | 36.52 | **32.95** | 15 | 1.5 |
| **High Output Lamps (800mA), 110 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96T12/N/HO | Natural | 12000 | 6200 | 5210 | 3700 | 90 | 6V009 | | 18.77 | **16.90** | 15 | 1.5 |
| F96T12/C50/HO | Chroma 50 | 12000 | 6750 | 5670 | 5000 | 90 | 3V540 | | 18.77 | **12.99** | 15 | 1.5 |
| F96T12/DX/HO | Daylight Deluxe (7)* | 12000 | 6600 | 5610 | 6500 | 84 | 3JK15 | | 14.90 | **14.15** | 15 | 1.4 |
| F96T12/SP30/HO | RE 730 Phosphor | 12000 | 9200 | 8280 | 3000 | 70 | 5V630 | Ⓔ | 18.31 | **15.69** | 15 | 1.5 |
| F96T12/SP35/HO | RE 735 Phosphor | 12000 | 9200 | 8280 | 3500 | 73 | 5V650 | Ⓔ | 18.31 | **15.69** | 15 | 1.5 |
| F96T12/SP41/HO | RE 741 Phosphor | 12000 | 9200 | 8280 | 4100 | 72 | 5V631 | Ⓔ | 18.31 | **15.69** | 15 | 1.5 |
| F96T12/SP65/HO | RE 765 Phosphor | 12000 | 8900 | 8010 | 6500 | 75 | 1E843 † | Ⓔ | 18.31 | **15.69** | 15 | 1.4 |
| F96T12/SPX30/HO | RE 830 Phosphor | 12000 | 9350 | 8420 | 3000 | 82 | 6V062 | Ⓔ | 33.67 | **30.40** | 15 | 1.5 |
| F96T12/SPX35/HO | RE 835 Phosphor | 12000 | 9350 | 8420 | 3500 | 82 | 5V565 | Ⓔ | 33.67 | **30.40** | 15 | 1.5 |
| F96T12/SPX41/HO | RE 841 Phosphor | 12000 | 9350 | 8420 | 4100 | 80 | 6V063 | Ⓔ | 33.67 | **30.40** | 15 | 1.5 |
| F96T12/GO/HO | Gold | 12000 | 6300 | 5300 | — | — | 6V013 | | 29.99 | **27.05** | 10 | 1.5 |
| **High Output Lamps (800mA), 110 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96T12/CW/HO/CT | Cool White, Cold Temperature Use Only (6)* | 12000 | 8900 | 7740 | 4150 | 62 | 2F043 † | | 17.76 | **12.99** | 15 | 1.4 |
| F96T12/D/HO/CT | Daylight, Cold Temperature Use Only (6)* | 12000 | 7600 | 6610 | 6250 | 75 | 2F045 † | | 17.76 | **12.99** | 15 | 1.4 |


T12 Single Pin


T8 R.D.C.


T12 R.D.C.

(*) See Fluorescent Lamp footnotes on page 926 (†) Excluded product. (Ⓔ) Lamp meets Federal Minimum Efficiency Standards (🍃) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

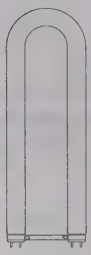
**DON'T DELAY... ORDER FROM GRAINGER NOW!**

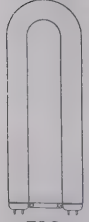
**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

# FLUORESCENT LAMPS


T12 R.D.C.


Power-Groove PG17 R.D.C.


T8 U-Bend Med. Bi-Pin


T12 U-Bend Med. Bi-Pin


T9 Circular 4-Pin

| Lamp Designation | Description /Special Features | Rated Avg. Life Hrs. | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | © | List | Each | Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **96" NOMINAL LENGTH LAMPS (Cont.)** | | | | | | | | | | | | |
| **Very High Output Lamps (1500mA), 185 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96T12/CW/1500/WM | Cool White, Watt-Miser® (1,4)* | 9000 | 12500 | 9380 | 4150 | 62 | 3V374 | | $23.57 | $14.79 | 15 | 1.5 |
| **Very High Output Lamps (1500mA), 215 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96T12/WW/1500 | Warm White (4)* | 10000 | 14000 | 10500 | 3000 | 52 | 4V602 | | 29.35 | 26.50 | 15 | 1.5 |
| F96T12/CW/1500 | Cool White (4)* | 10000 | 13500 | 10125 | 4150 | 62 | 3V256 | | 22.91 | 14.00 | 15 | 1.7 |
| F96T12/D/1500 | Daylight (4)* | 10000 | 11500 | 8630 | 6250 | 75 | 6V011 | | 29.35 | 26.50 | 15 | 1.7 |
| **Very High Output Lamps (1500mA), 220 Watt, T12 Diameter 1½" (38mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96T12/CW/1500/O | Cool White | 10000 | 14400 | — | 4150 | 62 | 6V012 | | 25.67 | 23.11 | 15 | 1.5 |
| F96T12J/CW/1500/O | Cool White, 1 15⁄16" (46 mm) | 10000 | 14000 | — | 4150 | 62 | 4V543 | | 39.01 | 33.55 | 8 | 4.3 |
| **Very High Output Lamps (1500mA), 185 Watt, PG17 Diameter 2⅛" (54mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96PG17/CW/WM | Cool White, Watt-Miser® (1,4)* | 12000 | 13500 | 10530 | 4150 | 62 | 1C409 | | 28.05 | 26.70 | 8 | 3.4 |
| **Very High Output Lamps (1500mA), 215 Watt, PG17 Diameter 2⅛" (54mm) - Recessed Double Contact Base (R17d)** | | | | | | | | | | | | |
| F96PG17/CW | Cool White (4)* | 12000 | 15300 | 11930 | 4150 | 62 | 1F304 | | 25.90 | 24.61 | 8 | 3.4 |
| F96PG17/D | Daylight (4)* | 12000 | 12700 | 9910 | 6250 | 75 | 1F302 | | 32.84 | 31.35 | 8 | 3.4 |
| **U SHAPED LAMPS** | | | | | | | | | | | | |
| **U-Shaped Rapid Start Lamps, 32 Watt, T8 Diameter 1" (26mm) - Medium Bi-Pin Base (G13)** | | | | | | | | | | | | |
| F32T8/SP30/U/6 | RE 730 Phosphor 6" Bend | 20000 | 2700 | 2565 | 3000 | 75 | ✓ 3V978 † | Ⓔ | 15.38 | 12.13 | 12 | 0.8 |
| F32T8/SP35/U/6 | RE 735 Phosphor 6" Bend | 20000 | 2700 | 2565 | 3500 | 75 | ✓ 3V979 † | Ⓔ | 15.38 | 12.13 | 12 | 0.8 |
| F32T8/SP41/U/6 | RE 741 Phosphor 6" Bend | 20000 | 2700 | 2565 | 4100 | 75 | ✓ 3V980 † | Ⓔ | 15.38 | 12.13 | 12 | 0.8 |
| F32T8/SPX30/U/6 | RE 830 Phosphor 6" Bend | 20000 | 2800 | 2630 | 3000 | 84 | ✓ 3V975 † | Ⓔ | 22.58 | 18.07 | 12 | 0.8 |
| F32T8/SPX35/U/6 | RE 835 Phosphor 6" Bend | 20000 | 2800 | 2630 | 3500 | 84 | ✓ 3V976 † | Ⓔ | 22.58 | 18.07 | 12 | 0.8 |
| F32T8/SPX41/U/6 | RE 841 Phosphor 6" Bend | 20000 | 2800 | 2630 | 4100 | 80 | ✓ 3V977 † | Ⓔ | 22.58 | 18.07 | 12 | 0.8 |
| F32T8/SPX50/U/6 | RE 850 Phosphor 6" Bend | 20000 | 2660 | 2510 | 5000 | 80 | ✓ 1F376 † | Ⓔ | 22.58 | 18.07 | 12 | 0.8 |
| **U-Shaped Rapid Start Lamps, 35 Watt, T12 Diameter 1½" (38mm) - Medium Bi-Pin Base (G13)** | | | | | | | | | | | | |
| F40WW/U/3/WM | Warm White, Watt-Miser® (1)* 3" Bend | 18000 | 2425 | 2130 | 3000 | 52 | 1E821 | Ⓒ | 18.53 | 17.59 | 12 | 1.2 |
| F40CW/U/3/WM | Cool White, Watt-Miser® (1)* 3" Bend | 18000 | 2350 | 2070 | 4150 | 62 | 1E823 | Ⓒ | 18.53 | 17.59 | 12 | 1.2 |
| F40WW/U/6/WM | Warm White, Watt-Miser® (1)* 6" Bend | 18000 | 2500 | 2200 | 3000 | 52 | 3V529 | Ⓒ | 16.72 | 11.25 | 12 | 0.9 |
| F40CW/U/6/WM | Cool White, Watt-Miser® (1)* 6" Bend | 18000 | 2400 | 2110 | 4150 | 62 | 3V528 | Ⓒ | 16.72 | 7.99 | 12 | 0.9 |
| **U-Shaped Rapid Start Lamps, 40 Watt, T12 Diameter 1½" (38mm) - Medium Bi-Pin Base (G13)** | | | | | | | | | | | | |
| F40SWW/U/3 | Super Warm White, 3" Bend | 18000 | 2725 | 2400 | 3000 | 70 | 3JK09 | | 18.53 | 17.60 | 12 | 1.2 |
| F40SCW/U/3 | Super Cool White, 3" Bend | 18000 | 2725 | 2400 | 4100 | 70 | 3JK13 | | 18.53 | 17.60 | 12 | 1.2 |
| F40SP30/U/3 | RE 730 Phosphor, 3" Bend | 18000 | 2925 | 2660 | 3000 | 70 | 1E380 | Ⓒ | 19.52 | 18.54 | 12 | 1.2 |
| F40SP35/U/3 | RE 735 Phosphor, 3" Bend | 18000 | 2925 | 2660 | 3500 | 73 | 1E458 | Ⓒ | 19.52 | 18.54 | 12 | 1.2 |
| F40SP41/U/3 | RE 741 Phosphor, 3" Bend | 18000 | 2925 | 2660 | 4100 | 70 | 1E378 | Ⓒ | 19.52 | 18.54 | 3 | 1.5 |
| F40SPX30/U/3 | RE 830 Phosphor, 3" Bend | 18000 | 3000 | 2730 | 3000 | 82 | 1E408 | Ⓒ | 23.70 | 17.78 | 3 | 1.5 |
| F40SPX35/U/3 | RE 835 Phosphor, 3" Bend | 18000 | 3000 | 2730 | 3500 | 82 | 1E410 | Ⓒ | 23.70 | 17.78 | 3 | 1.5 |
| F40BL/U/3 | Blacklight, UVA Source, 3" Bend | 12000 | — | — | — | — | 1C492 | Ⓒ | 22.30 | 21.19 | 12 | 1.2 |
| F40SWW/U/6 | Super Warm White, 6" Bend | 18000 | 2800 | 2460 | 3000 | 70 | 3JK11 | Ⓒ | 18.53 | 10.99 | 12 | 1.3 |
| F40SCW/U/6 | Super Cool White, 6" Bend | 18000 | 2800 | 2460 | 4100 | 70 | 3JK12 | Ⓒ | 18.53 | 9.99 | 12 | 1.3 |
| F40SP30/U/6 | RE 730 Phosphor, 6" Bend | 18000 | 3050 | 2780 | 3000 | 70 | 6V726 | Ⓒ | 19.52 | 16.60 | 12 | 0.9 |
| F40SP35/U/6 | RE 735 Phosphor, 6" Bend | 18000 | 3050 | 2780 | 3500 | 73 | 4V509 | Ⓒ | 17.61 | 15.85 | 12 | 1.0 |
| F40SP41/U/6 | RE 741 Phosphor, 6" Bend | 18000 | 3050 | 2780 | 4100 | 72 | 6V727 | Ⓒ | 19.52 | 16.60 | 12 | 1.0 |
| F40SPX30/U/6 | RE 830 Phosphor, 6" Bend | 18000 | 3100 | 2820 | 3000 | 82 | 4V605 | Ⓒ | 21.38 | 19.25 | 12 | 1.0 |
| F40SPX35/U/6 | RE 835 Phosphor, 6" Bend | 18000 | 3100 | 2820 | 3500 | 82 | 4V470 | Ⓒ | 23.70 | 17.78 | 12 | 0.9 |
| **CIRCULAR SHAPED LAMPS** | | | | | | | | | | | | |
| **Rapid Start Lamp - Circular, 20 Watt, T9 Diameter 1⅛" (31mm) - 4-Pin Base (G10q)** | | | | | | | | | | | | |
| FC6T9/CW | Cool White | 12000 | 800 | 560 | 4150 | 62 | 2V633 | | 10.40 | 9.35 | 12 | 0.4 |
| **Rapid Start Lamps - Circular, 22 Watt, T9 Diameter 1⅛" (31mm) - 4-Pin Base (G10q)** | | | | | | | | | | | | |
| FC8T9/CW | Cool White | 12000 | 1100 | 825 | 4150 | 62 | 1V860 | | 8.88 | 6.50 | 12 | 0.5 |
| FC8T9/D | Daylight | 12000 | 925 | 690 | 6250 | 75 | 5V522 | | 11.59 | 10.43 | 12 | 0.5 |
| FC8T9/KB | Kitchen and Bath | 9000 | 1400 | 1120 | 3000 | 80 | 2C827 | | 12.24 | 11.62 | 6 | 0.9 |
| **Rapid Start Lamps - Circular, 27 Watt, T9 Diameter 1⅛" (31mm) - 4-Pin Base (G10q)** | | | | | | | | | | | | |
| FCA21/BLB | Blacklight Blue, Min. Start Temp. 32°F | 10000 | — | — | — | — | 3JK18 | | 48.76 | 46.50 | 4 | 1.9 |
| FCA21/CD | RE830 Phosphor/(8)* Min. Start Temp. 32°F | 10000 | 1200 | 1020 | 3000 | 82 | 3MK68 | | 13.98 | 13.27 | 4 | 1.3 |
| **Rapid Start Lamps - Circular, 32 Watt, T9 Diameter 1⅛" (31mm) - 4-Pin Base (G10q)** | | | | | | | | | | | | |
| FC12T9/CW | Cool White | 12000 | 1950 | 1460 | 4150 | 62 | 1V776 | | 9.46 | 7.25 | 12 | 0.8 |
| FC12T9/D | Daylight | 12000 | 1675 | 1260 | 6250 | 75 | 4V526 | | 14.17 | 12.76 | 12 | 0.9 |
| FC12T9/KB | Kitchen and Bath | 9000 | 2400 | 1920 | 3000 | 70 | 2C836 | | 13.34 | 12.67 | 6 | 0.9 |
| **Rapid Start Lamps - Circular, 40 Watt, T9 Diameter 1⅛" (31mm) - 4-Pin Base (G10q)** | | | | | | | | | | | | |
| FC16T9/CW | Cool White | 12000 | 2700 | 2030 | 4150 | 62 | 1V880 | | 13.80 | 12.43 | 3 | 1.2 |
| FC16T9/D | Daylight | 12000 | 2250 | 1690 | 6250 | 75 | 1F300 | | 17.66 | 16.78 | 12 | 1.2 |

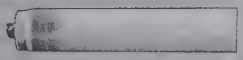
(*) See Fluorescent Lamp footnotes on page 926 (†) Excluded product. (Ⓒ) Lamp meets Federal Minimum Efficiency Standards (✓) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# FLUORESCENT SHATTERPROOF LAMPS



shat-r-shield

ENERGY RIGHT®



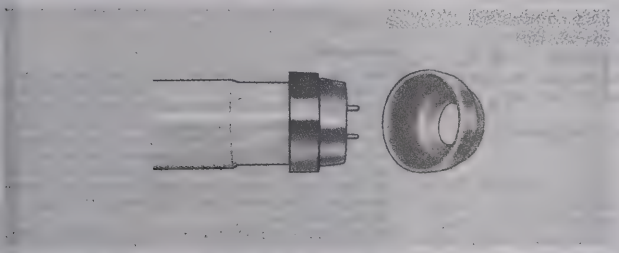
- Coated with tough, clear surlyn coating
- High output lamps have special combination of Teflon® which coats the cathode ends, and surlyn that coats the center of the lamp
- Lamps block all UV emissions from 180 to 390 nanometers
- T-8 fluorescent lamps offer energy savings and higher color-rendering index than T12 lamps; for use with electronic ballasts only

USDA approved and meet FDA and OSHA requirements. Lamps will not shatter, explode, or contaminate when damaged. Virtually all glass fragments and phosphors stay contained within safety skin. Shat-R-Shield brand.

| Watts | Length (In.) | Base | Lamp Designation | Stock No. | List | Each | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|
| **FLUORESCENT T8 LAMPS** | | | | | | | |
| 32 | 48 | Med. BiPin | F32T8/85CRI/30K Coated | ✓1F772 | $16.02 | $12.32 | 0.6 |
| 32 | 48 | Med. BiPin | F32T8/85CRI/35K Coated | ✓1F770 | 16.02 | 12.32 | 0.6 |
| 32 | 48 | Med. BiPin | F32T8/85CRI/41K Coated | ✓1F768 | 16.02 | 12.32 | 0.6 |
| 32 | 48 | Med. BiPin | F32T8/75CRI/30K Coated | ✓1F778 | 13.32 | 10.25 | 0.6 |
| 32 | 48 | Med. BiPin | F32T8/75CRI/35K Coated | ✓1F776 | 13.32 | 10.25 | 0.6 |
| 32 | 48 | Med. BiPin | F32T8/75CRI/41K Coated | ✓1F774 | 13.32 | 10.25 | 0.6 |
| 59 | 96 | Sin. Pin | F96T8/85CRI/30K Coated | ✓1F784 | 36.53 | 28.20 | 1.4 |
| 59 | 96 | Sin. Pin | F96T8/85CRI/35K Coated | ✓1F782 | 36.53 | 28.20 | 1.4 |
| 59 | 96 | Sin. Pin | F96T8/85CRI/41K Coated | ✓1F780 | 36.53 | 28.20 | 1.4 |
| 59 | 96 | Sin. Pin | F96T8/75CRI/30K Coated | ✓1F790 | 31.99 | 24.61 | 1.4 |
| 59 | 96 | Sin. Pin | F96T8/75CRI/35K Coated | ✓1F788 | 31.99 | 24.61 | 1.4 |
| 59 | 96 | Sin. Pin | F96T8/75CRI/41K Coated | ✓1F786 | 31.99 | 24.61 | 1.4 |
| **FLUORESCENT T12 LAMPS** | | | | | | | |
| 34 | 48 | Med. BiPin | F40CW/ES/Coated | 6V604 | 11.40 | 8.19 | 0.7 |
| 40 | 48 | Med. BiPin | F40CW/Coated | 4V300 | 10.73 | 7.48 | 0.7 |
| 60 | 48 | R.D.C. | F48T12CW/HO/TSC | 4VC46 | 48.79 | 33.60 | 0.7 |
| 60 | 96 | Sin. Pin | F96T12CW/ES/Coated | 6V605 | 23.65 | 16.80 | 1.5 |
| 75 | 96 | Sin. Pin | F96T12CW/Coated | 4V301 | 21.20 | 15.68 | 1.5 |
| 95 | 96 | R.D.C | F96T12CW/HO/ES/TSC | 4VC47 | 53.37 | 37.75 | 1.5 |
| 110 | 96 | R.D.C. | F96T12CW/HO/TSC | 4VC48 | 51.92 | 35.70 | 1.5 |

(✓) Denotes energy efficient product. Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# ARM-A-LITE™ SAFETY SLEEVES



Arm-A-Lite Safety Sleeves are used in food processing plants, bakeries, dairies, schools, warehouses, factories, restaurants, and stores. Sleeves slip easily over fluorescent tubes and retain shattering glass and phosphors if the tube breaks, falls, or bursts. Fail safe cap assures a snug fit between tube and sleeve. Colored sleeves may be used to mark exits, fire extinguishers, safety zones, etc. Meets safety standards prescribed by NEC (National Electric Code), USDA, OSHA. When used outdoors, or indoors in low temperature applications, Arm-A-Lite sleeves maintain a warm "air zone" around the lamp for more effective and efficient lighting. Thermoplastic Processes, Inc. brand.

| Color | End Cap | Thermoplastic Process Model | Stock No.† | List | Each | Sleeves Per Ship Case | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|
| **48" Lamp Length** | | | | | | | |
| Clear | Universal Pin | TW312W/T12 | 3V319 | $2.37 | $1.68 | 24 | 0.4 |
| Red | Universal Pin | TW312W/R/T12 | 4VC49 | 4.58 | 3.10 | 24 | 0.4 |
| Yellow | Universal Pin | TP312W/Y/T12 | 4VC50 | 4.58 | 3.10 | 24 | 0.4 |
| Clear | Universal Pin | T125W/T8 | 1E522 | 2.10 | 1.60 | 48 | 0.3 |
| Red | Universal Pin | T125W/T8/Red | 1E518 | 5.23 | 4.01 | 48 | 0.3 |
| Yellow | Universal Pin | T125W/T8/Yellow | 1E520 | 5.23 | 4.01 | 48 | 0.3 |
| **96" Lamp Length** | | | | | | | |
| Clear | Universal Pin | TP625S/T12 | 3V320* | $5.13 | $3.54 | 24 | 0.8 |
| Red | Universal Pin | TP625S/R/T12 | 4VC51* | 8.21 | 5.55 | 24 | 0.8 |
| Yellow | Universal Pin | TP625S/Y/T12 | 4VC52* | 8.21 | 5.55 | 24 | 0.8 |
| Clear | Universal Pin | T140S/T8 | 1E516* | 3.76 | 2.87 | 48 | 0.4 |
| Red | Universal Pin | T140S/T8/Red | 1E512* | 7.14 | 5.46 | 48 | 0.4 |
| Yellow | Universal Pin | T140S/T8/Yellow | 1E514* | 7.14 | 5.46 | 48 | 0.4 |

(*) Not for use with high output lamps over 400mA. (†) Priced and sold per sleeve.

**No. 3VH26 HO/HVO Safety Sleeve.** Safety Shield-T12 with heat sink screens and two end caps. 8 ft. long. Thermoplastic brand (58625C).
Shp. wt. 0.6. Each ..... **$6.28**

NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# FLUORESCENT LAMPS

GE Lighting

### General Information

#### Nominal Lumens

The nominal lumen rating is an approximation based on the performance of lamps operated under laboratory conditions within industry standard tolerances. A self-ballasted lamp is measured using its integral ballast. Lamps without an integral ballast are measured using reference ballasts.

Lumens produced by lamps operated on commercial ballasts may not be equivalent to reference ballast ratings. For lighting design calculations, refer to the ballast manufacturer's published data for the appropriate "Ballast Factor."

#### Nominal Initial Lumens

The nominal light output of the lamp after 100 hours of operation.

#### Nominal Mean Lumens

The nominal light output of the lamp after it has been operated for 40% of its rated life.

#### Nominal Watts

Catalog wattage is classified in accordance with ANSI standards and may not be the same as the wattage run on a reference ballast. Watts consumed by lamps operated on commercial ballasts may not be equivalent to reference ballast ratings. The watts shown for self-ballasted lamps are nominal system watts.

#### Rated Life

The rated life (hours) is the approximate median life when lamps are operated for three hours per start under laboratory conditions using ballasts which meet industry standards or GE Lighting specifications where no industry standards exist. Rated life for self-ballasted lamps is the approximate median life when operated for three hours per start under laboratory conditions.

#### Color Temperature/Chromaticity

Color temperature/chromaticity is measured in Kelvins using industry standard measurements.

Color temperature describes the overall warmth or coolness produced by the source.

- **3000 Kelvin (K) and lower are described as "warm" in tone and slightly enhance reds and yellows**
- **3500 K is considered moderate in tone, producing a balance between warmth and coolness**
- **4100 K and higher are considered "cool" in tone, slightly biased towards blues and greens**

#### Color Rendering Index (CRI)

The color rendering index shows how well (normal and natural) a source makes objects appear. Generally, the higher the CRI, the better it makes people and objects appear. The CRI of different sources can be compared only if the sources have the same color temperature. The nominal (or approximate) CRI rating is an approximation based on the performance of lamps operated under laboratory conditions within industry standards tolerances.

#### Dimensions

The nominal lamp length shown in inches is the overall dimension of the lamp, including the lampholders in which it is seated, except as noted.

#### Operation

All GE fluorescent lamps should be used only with auxiliary equipment designed to produce proper characteristics. Specifications for auxiliary equipment are covered by ANSI. Specifications for auxiliary equipment not included in ANSI Standards are available from Technical Support.

#### Ratings

**Ratings published in this catalog are based on laboratory tests conducted under controlled conditions. Design improvements are frequently made in fluorescent lamps, which tend to obsolete ratings after a period of time.**

### Factors Affecting Lamp Performance

#### The Ballast

The three basic types of ballasts for fluorescent lamps are Preheat (PH), Instant Start (IS) and Rapid Start (RS). In general, lamps identified as preheat, rapid start or instant start should be used only on the corresponding ballast type. Electronic ballasts are presently available in both instant start and rapid start designs.

Operating Characteristics — The life of a fluorescent lamp is strongly affected by the ballast. The American National Standards Institute has set standards for fluorescent ballasts that will ensure proper operation of fluorescent lamps. Ballast characteristics that have a significant effect on lamp life are Current Crest Factor, Starting Time, Cathode Voltage and Open Circuit Voltage.

**Ballast Factor** — This is the percentage of a lamp's rated lumen output that can be expected when operated on a specific, commercially available ballast. For example, a ballast having a ballast factor of 0.93 will result in the lamp emitting 93% of its rated lumen output.

**High Frequency** — All fluorescent lamps operate more efficiently when driven at frequencies greater than 15 kHz. Four-foot fluorescent lamps operate approximately 10% more efficiently, while eight-foot lamps improve by about 5%. This efficiency improvement is one reason for the popularity of electronic ballasts.

### Other Factors

**Temperature** — The characteristics of a fluorescent lamp — light output and watts — are affected by the ambient temperature, or by drafts. Most fluorescent lamps reach their maximum light output at room temperatures or at "luminaire temperatures." All-Weather fluorescent lamps are designed with glass jackets that permit them to reach optimum performance at outdoor and sub-zero temperatures.

**Luminaire** — The design of the lighting fixture (luminaire) affects the ambient temperature in which the fluorescent lamps will be operating. A fixture that operates too cool or warm will result in lower light output from the lamps and reduce illumination levels.

**Switching** — The life of a fluorescent lamp is affected by the number of times the lamp is started. Frequent switching results in shorter lamp life, while continuous operation will provide the longest lamp life. All fluorescent lamps, except where noted, have life ratings based on 3 hours per start.

### Footnotes

1. Watt-Miser® lamps are recommended for use only on high power factor, indoor ballasts that meet ANSI standards. They are not recommended for drafty areas or where thelamp ambient temperature is below 60°F (16°C). Watt-Miser® lamps are not recommended for use on low power factor ballasts, reduced current or reduced light output bal lasts or dimming ballasts. They are not recommended for use on inverter operated emergency lighting systems. Use on high frequency ballast systems may sometimes result in lamp starting difficulties.
2. F40 Watt-Miser ® Plus lamps are not recommended for use with cathode cut-out ballasts. The F40 Watt-Miser® Plus lamp is not recommended for use with electronic ballasts and may require up to one minute to restart if a circuit inter ruption of up to 60 seconds occurs.
3. F40T17/CW/IS lamps are for use only in fixtures equipped with instant start ballasts.
4. Because Power Groove and Very High Ouput lamps are most used in commercial applications, the life rating is based on 12 hrs. per start.
5. When base pins or Recessed Double Contact bases are hori zontal, the window opening is centered in a vertical plane through the lamp axis.
6. Cold Temperature lamps are designed for use where ambi ent temperatures drop below 60°F (16°C).
7. Performance data based on engineering estimates.
8. Engineering estimates.

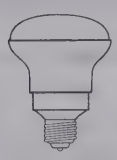
**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# HOW TO USE THE COMPACT FLUORESCENT LAMP PRODUCT SECTION

- **Our compact fluorescent lamp section is organized by lamp shape. Within each section, lamps are sorted by wattage and base type.**

1. **Identify your lamp by looking at illustrations below**
2. **Turn to catalog page referenced under illustration**
3. **Identify lamp wattage**
4. **Identify lamp base**



**Genura EL23/R25**



**FLG/E**



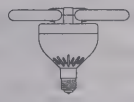
**FLG**



**FLB**



**FLA**



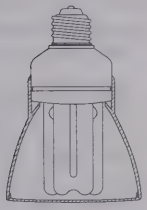
**FEA/2D**



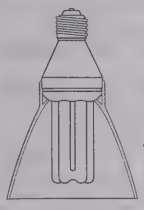
**FLE Quad Biax**



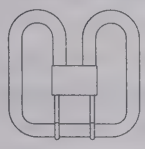
**FLE Triple Biax**



**FLE Triple Biax R30 Med**



**FLE Triple Biax R40 Med**



**2D**



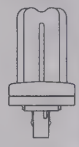
**High Lumen Biax**



**Biax**



**Double Biax**



**Triple Biax**

**Special Features:** Point out unique aspects of compact fluorescent lamps such as "75W Incandescent Equivalent".

**Initial Lumens:** Lamp's approximate light output after 100 hours of lumination.

**Color Temp:** "Warmth" or "Coolness" of the lamp, measured in Kelvins (K). The higher the temperature, the cooler the appearance of the light.

**Rated Average Life Hours:** Average Life Hours figure represents the lamp's median value of life expectancy @ 3 hours per start.

**Mean Lumens:** Light output at 40% of rated lamp life.

**CRI:** Color Rendering Index. The higher the number, the truer the color.

## COMPACT FLUORESCENTS WITH SEPARABLE BALLAST/ADAPTER, SOFT WHITE, (CONT.)

### 39 Watt, Medium Base, Electronic Ballast

| Bulb | Nom. Length | Lamp Designation | Description / Special Features | Rated Avg. Life Hours | Nom. Lumens Initial | Nom. Lumens Mean | Color Temp | CRI | Min. Start Temp (°F) | Stock No. | List | Each | Ship. Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2D | 4.3 | FEA382D/SW/EC/CD | RE 827 Phosphor, Carded, Uses F382D/827 replacement lamp / 150 Watt Incandescent Equivalent. | 10000 | 2780 | 2365 | 2700 | 82 | 32 | 1E933 † | $31.08 | $21.99 | 4 | 1.0 |

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

## COMPACT FLUORESCENT LAMP BRAND NAME CROSS-REFERENCE

| GE | OSRAM /SYLVANIA | PHILIPS |
|---|---|---|
| 2D™ | — | — |
| Biax™ | Dulux® S/Twin Tube | PL |
| Compax™, Biax™ | Dulux® EL/Electric Compact | Earthlight® PL |
| Double Biax™ | Dulux® Double Twin Tube | PL - C |
| High Lumen Biax™ | Dulux® L | PL - L |
| Triple Biax™ | Dulux® T/E | PL - T |
| Genura™ | — | — |

**ATTENTION:** This brand name cross-reference chart is only as a quick reference. Other lamp company brand listings may only represent a near equivalent, versus an identical match to GE Lighting brands. Individual lamp manufacturer's performance specification should be consulted. Lamp performance may be affected by environmental conditions, ballast type, and/or other auxiliary equipment.

# COMPACT FLUORESCENT LAMPS















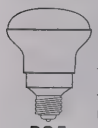




















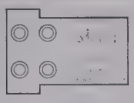





| Bulb | Nom. Length | Lamp Designation | Description / Special Features | Rated Avg. Life Hours | Nom. Lumens Initial | Nom. Lumens Mean | Color Temp | CRI | Min. Start Temp (°F) | Stock No. | List | Each | Ship. Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMPACT FLUORESCENTS WITH ONE PIECE BALLAST/ADAPTER** | | | | | | | | | | | | | | |
| **15 Watt, Medium Base, Electronic Ballast** | | | | | | | | | | | | | | |
| T4 | 5.4 | FLE15TBX/SPX27/EC | RE 827 Phosphor / 60Watt incandescent equivalent; Locking Device Available | 10000 | 825 | 700 | 2700 | 82 | -10 | 3V746 † | $25.63 | **$18.00** | 6 | 0.3 |
| T4 | 6.0 | FLE15TBX/HPF/SPX27 | RE 827 Phosphor / 60Watt incandescent equivalent; Locking Device Available | 10000 | 825 | 700 | 2700 | 82 | -10 | 1E591 † | 34.06 | **31.00** | 6 | 0.4 |
| T19 | 7.2 | FLE15TBX/S/T19 | RE 827 Phosphor / 60Watt incandescent equivalent; soft white | 10000 | 775 | 650 | 2700 | 82 | -10 | 4LV97 † | 33.87 | **24.13** | 6 | 0.3 |
| R30 | 5.6 | FLE15TBX/S/R30 | RE 827 Phosphor (3,13)* / 75Watt incandescent equivalent. | 10000 | 390 | 330 | 2700 | 82 | -10 | 1P069 † | 35.88 | **21.99** | 6 | 1.0 |
| R40 | 6.2 | FLE15TBX/S/R40 | RE 827 Phosphor - R30 Reflector / 75Watt incandescent equivalent | 10000 | 615 | 550 | 2700 | 82 | -10 | 4LV96 † ** | 35.88 | **22.51** | 6 | 0.7 |
| **16 Watt Medium Base, Magnetic Ballast** | | | | | | | | | | | | | | |
| Bullet | 6.7 | FLB17 | RE 827 Phosphor / 60 watt incandescent equivalent | 9000 | 700 | 595 | 2700 | 82 | 32 | 1C149 | 14.61 | **10.99** | 6 | 1.2 |
| Globe | 6.4 | FLG17 | RE 827 Phosphor / 60 watt incandescent equivalent | 9000 | 700 | 595 | 2700 | 82 | 32 | 1C147 | 14.61 | **10.99** | 6 | 1.3 |
| **16 Watt, Medium Base, Electronic Ballast** | | | | | | | | | | | | | | |
| Globe | 5.1 | FLG16/E | RE 827 Phosphor / 60 watt incandescent equivalent | 10000 | 850 | 600 | 2700 | 82 | 0 | 1C143 † | 27.32 | **20.50** | 6 | 0.7 |
| **20 Watt, Medium Base, Electronic Ballast** | | | | | | | | | | | | | | |
| T4 | 6.0 | FLE20TBX/SPX27/EC | RE 827 Phosphor / Locking Device Available / 75 watt incandescent equivalent | 10000 | 1200 | 1020 | 2700 | 82 | -10 | 3V747 † | 25.63 | **18.00** | 6 | 0.3 |
| R40 | 7.1 | FLE20TBX/HPF/RFL/SW | RE 827 Phosphor; 75 watt incandescent equivalent | 10000 | 800 | 680 | 2700 | 82 | -10 | 1E559 † | 35.88 | **22.69** | 6 | 1.0 |
| T4 | 6.6 | FLE20TBX/HPF/SPX27/SW | RE 827 Phosphor / Locking Device Available / 75 watt incandescent equivalent | 10000 | 1200 | 1020 | 2700 | 82 | -10 | 2D022 † | 34.06 | **28.90** | 6 | 0.3 |
| **23 Watt, Medium Base, Electronic Ballast** | | | | | | | | | | | | | | |
| R25 | 4.9 | EL23/R25 | Genura, Warm White / 90Watt incandescent equivalent; Long Life Lamp | 15000 | 1100 | 900 | 3000 | 82 | 32 | 3JJ80 † | 49.77 | **38.00** | 3 | 1.0 |
| **24 Watt, Medium Base, Electronic Ballast** | | | | | | | | | | | | | | |
| T4 | 6.7 | FLE24TBX/SPX27/EC | RE 827 Phosphor / 90Watt incandescent equivalent; Locking Device Available | 10000 | 1520 | 1290 | 2700 | 82 | -10 | 3V748 † | 25.63 | **18.00** | 6 | 0.3 |
| **25 Watt, Medium Base, Electronic Ballast** | | | | | | | | | | | | | | |
| T4 | 6.9 | FLE25TBX/HPF/SPK27 | RE 827 Phosphor / 90Watt incandescent equivalent; Locking Device Available | 10000 | 1520 | 1290 | 2700 | 82 | -10 | 1E589 † | 34.06 | **21.99** | 6 | 0.4 |
| **28 Watt, Medium Base, Electronic Ballast** | | | | | | | | | | | | | | |
| T4 | 6.6 | FLE28QBX/SPX27/EC | RE 827 Phosphor / 100Watt incandescent equivalent; Locking Device Available | 10000 | 1750 | 1485 | 2700 | 82 | -10 | 1E563 † | 34.06 | **20.99** | 6 | 0.4 |
| **COMPACT FLUORESCENTS WITH SEPARABLE BALLAST/ADAPTER, (9, 11, 14)*** | | | | | | | | | | | | | | |
| **9 Watt, Medium Base, Magnetic Ballast** | | | | | | | | | | | | | | |
| T4 | 6.5 | FLA5/SPX27 | RE 827 Phosphor, 25Watt incandescent equivalent | 10000 | 250 | 210 | 2700 | 82 | 32 | 2V933 | 12.05 | **11.68** | 6 | 0.9 |
| T4 | 7.7 | FLA7/SPX27 | RE 827 Phosphor, 40Watt incandescent equivalent | 10000 | 375 | 320 | 2700 | 82 | 32 | 2V892 | 12.05 | **11.68** | 3 | 0.8 |
| T4 | 8.8 | FLA9/SPX27 | RE 827 Phosphor, 40Watt incandescent equivalent | 10000 | 500 | 425 | 2700 | 82 | 32 | 1C141 | 12.05 | **11.68** | 6 | 0.9 |
| **17 Watt, Medium Base, Magnetic Ballast** | | | | | | | | | | | | | | |
| T4 | 7.2 | FLA13/SPX27 | RE 827 Phosphor, 60Watt incandescent equivalent | 10000 | 750 | 635 | 2700 | 82 | 32 | 6VX20 | 13.06 | **12.65** | 6 | 0.9 |
| **21 Watt, Medium Base, Electronic Ballast** | | | | | | | | | | | | | | |
| T9 Circular | 3.4 | FCA/21/CD | RE 830 Phosphor, Uses 22W Circular Lamp, 60 Watt incandescent equivalent | — | 1200 | 1020 | 3000 | 82 | 32 | 3MK68 | 13.98 | **13.27** | 4 | 1.3 |
| 2D | 4 | FEA21/2D/SW/EC/CD | RE 827 Phosphor, Carded, Uses F212D/827 replacement lamp, 60Watt incandescent equivalent | 10000 | 1300 | 1105 | 2700 | 82 | 32 | 1E935 | 22.52 | **21.82** | 4 | 1.3 |

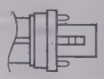
(*) See Compact Fluorescent Lamp footnote and page 933. (**) Limited availability. Contact your local Branch. (†) Excluded product. (✓) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# COMPACT FLUORESCENT LAMPS



GR10Q-4
2D
4 Pin





G23
Biax
2 Pin

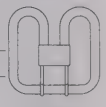
ENERGY RIGHT®

GE Lighting

| Bulb | Nom. Length | Lamp Designation | Description / Special Features | Rated Avg. Life Hours | Nom. Lumens Initial | Nom. Lumens Mean | Color Temp | CRI | Min. Start Temp (°F) | Stock No. | List | Each | Ship. Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMPACT FLUORESCENTS WITH SEPARABLE BALLAST/ADAPTER, SOFT WHITE, (CONT.)** | | | | | | | | | | | | | | |
| **39 Watt, Medium Base; Electronic Ballast** | | | | | | | | | | | | | | |
| 2D | 4.3 | FEA382D/SW/EC/CD | RE 827 Phosphor, Carded, Uses F382D/827 replacement lamp / 150 Watt Incandescent Equivalent. | 10000 | 2780 | 2365 | 2700 | 82 | 32 | 1E933 † | $31.08 | **$21.99** | 4 | 1.0 |
| 2D | 4.3 | FEA38/2D/3WAY/CD | RE 827 Phosphor, 3-Way Uses F382D/ 827 replacement lamp / 150Watt max. Incandescent Equivalent; Electronic Ballast | 10000 | 750 | 640 | 2700 | 82 | 32 | 4PL24 † | 37.20 | **35.45** | 4 | 1.1 |
| **COMPACT FLUORESCENTS 2D™ SHAPE PLUG-IN LAMPS Temp (°F)** | | | | | | | | | | | | | | |
| **10 Watt, 4-Pin GR10q-4 Base** | | | | | | | | | | | | | | |
| 2D | 3.6 | F10/2D/835/4P | RE 835 Phosphor / 40Watt Incandescent Equivalent; neutral tone | 10000 | 650 | 545 | 3500 | 82 | — | 1K199 † | 11.15 | **10.59** | 60 | 0.2 |
| 2D | 3.6 | F10/2D/827/4P | RE 827 Phosphor / 40Watt Incandescent Equivalent; soft tone | 10000 | 650 | COM-PACT | 2700 | 82 | — | 1K275 † | 11.15 | **10.59** | 60 | 0.2 |
| **16 Watt, 4-Pin GR10q-4 Base** | | | | | | | | | | | | | | |
| 2D | 5.5 | F16/2D/827/4P | RE 827 Phosphor / 60Watt Incandescent Equivalent; soft white | 8000 | 1050 | 880 | 2700 | 82 | — | 1K203 † | 16.47 | **15.64** | 50 | 0.2 |
| 2D | 5.5 | F16/2D/835/4P | RE 835 Phosphor / 60Watt Incandescent Equivalent; neutral tone | 8000 | 1050 | 880 | 3500 | 82 | — | 1K195 † | 16.47 | **15.64** | 50 | 0.2 |
| **21 Watt, 4-Pin GR10q-4 Base** | | | | | | | | | | | | | | |
| 2D | 5.5 | F21/2D/827/4P | RE 827 Phosphor / 75Watt Incandescent Equivalent; soft white | 10000 | 1350 | 1135 | 2700 | 82 | — | 1K271 † | 16.47 | **15.64** | 50 | 0.2 |
| 2D | 5.5 | F21/2D/835/4P | RE 835 Phosphor / 75Watt Incandescent Equivalent; neutral tone | 10000 | 1350 | 1135 | 3500 | 82 | — | 1K193 † | 16.47 | **15.64** | 50 | 0.2 |
| **28 Watt, 4-Pin GR10q-4 Base** | | | | | | | | | | | | | | |
| 2D | 8.1 | F28/2D/827/4P | RE 827 Phosphor / 100Watt Incandescent Equivalent; soft white | 10000 | 2050 | 1720 | 2700 | 82 | — | 1K201 † | 17.19 | **16.33** | 20 | 0.5 |
| 2D | 8.1 | F28/2D/835/4P | RE 835 Phosphor / 100Watt Incandescent Equivalent; neutral tone | 10000 | 2050 | 1720 | 3500 | 82 | — | 1K189 † | 17.19 | **16.33** | 20 | 0.5 |
| **38 Watt, 4-Pin GR10q-4 Base** | | | | | | | | | | | | | | |
| 2D | 8.1 | F38/2D/827/4P | RE 827 Phosphor / 150Watt Incandescent Equivalent; soft white | 10000 | 2850 | 2395 | 2700 | 82 | — | 1K267 † | 17.19 | **16.33** | 3 | 0.5 |
| 2D | 8.1 | F38/2D/835/4P | RE 835 Phosphor / 150Watt Incandescent Equivalent; neutral tone | 10000 | 2850 | 2395 | 3500 | 82 | — | 1K187 † | 17.19 | **16.33** | 20 | 0.5 |
| **COMPACT FLUORESCENTS LOW WATTAGE BIAX PREHEAT PLUG-IN** | | | | | | | | | | | | | | |
| **5 Watt, 2-Pin G23 Base** | | | | | | | | | | | | | | |
| T4 | 4.2 | F5BX/SPX27 | RE 827 Phosphor / 25 Watt Incandescent Equivalent; soft white | 10000 | 250 | 210 | 2700 | 82 | — | 2V891 | 8.52 | **5.11** | 10 | 0.1 |
| T4 | 4.2 | F5BX/SPX41 | RE 841 Phosphor / 25 Watt Incandescent Equivalent; cool tone | 10000 | 250 | 210 | 4100 | 82 | — | 3JK72 | 8.52 | **8.09** | 10 | 0.1 |
| **7 Watt, 2-Pin G23 Base** | | | | | | | | | | | | | | |
| T4 | 5.3 | F7BX/SPX27 | RE 827 Phosphor / 40 Watt Incandescent Equivalent; soft white | 10000 | 400 | 330 | 2700 | 82 | — | 2V833 | 7.27 | **4.66** | 10 | 0.1 |
| T4 | 5.3 | F7BX/SPX35 | RE 835 Phosphor / 40 Watt Incandescent Equivalent; neutral tone | 10000 | 400 | 330 | 3500 | 82 | — | 3V630 | 8.06 | **6.46** | 10 | 0.1 |
| T4 | 5.3 | F7BX/SPX41 | RE 841 Phosphor / 40 Watt Incandescent Equivalent; cool tone | 10000 | 400 | 330 | 4100 | 82 | — | 6W665 | 8.06 | **6.46** | 10 | 0.1 |
| **9 Watt, 2-Pin G23 Base** | | | | | | | | | | | | | | |
| T4 | 6.6 | F9BX/SPX27 | RE 827 Phosphor / 40 Watt Incandescent Equivalent; soft white | 10000 | 600 | 500 | 2700 | 82 | — | 2V834 | 6.48 | **4.44** | 10 | 0.1 |
| T4 | 6.6 | F9BX/SPX35 | RE 835 Phosphor / 40 Watt Incandescent Equivalent; neutral tone | 10000 | 600 | 500 | 3500 | 82 | — | 3V631 | 8.06 | **6.46** | 10 | 0.1 |
| T4 | 6.6 | F9BX/SPX41 | RE 841 Phosphor / 40 Watt Incandescent Equivalent; cool tone | 10000 | 600 | 500 | 4100 | 82 | — | 6W666 | 8.06 | **6.46** | 10 | 0.1 |
| **11 Watt, 2-Pin G23 Base** | | | | | | | | | | | | | | |
| T4 | 8.5 | F11BX/SPX27 | RE 827 Phosphor / 50 Watt Incandescent Equivalent; soft white | 10000 | 900 | 750 | 2700 | 82 | — | 3JK73 | 8.37 | **7.95** | 10 | 0.2 |
| T4 | 8.5 | F11BX/SPX35 | RE 835 Phosphor / 50 Watt Incandescent Equivalent; neutral tone | 10000 | 900 | 750 | 3500 | 82 | — | 3JK74 | 8.37 | **7.95** | 10 | 0.2 |
| T4 | 8.5 | F11BX/SPX41 | RE 841 Phosphor / 50 Watt Incandescent Equivalent; cool tone | 10000 | 900 | 750 | 4100 | 82 | — | 3JK75 | 8.37 | **7.95** | 10 | 0.2 |



2D
Med.
Base



2D
4Pin



T4
Biax
2 Pin

(*) See Compact Fluorescent Lamp footnotes on page 933. (†) Excluded product. (✓) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# COMPACT FLUORESCENT LAMPS

GE Lighting | ENERGY RIGHT®

GX23 Biax 2-Pin | G23-2 Double Biax 2-Pin | G24D-1 Double Biax 2-Pin | G24Q-1 Triple Biax 4-Pin | G24D-2 Double Biax Bi-Pin



T4 Biax 2-Pin



T4 Double Biax 2-Pin



T4 Double Biax 4-Pin

| Bulb | Nom. Length | Lamp Designation | Description /Special Features | Rated Avg. Life Hours | Nom. Lumens Initial | Nom. Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Ship. Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMPACT FLUORESCENTS LOW WATTAGE BIAX PREHEAT PLUG-IN (CONT.)** | | | | | | | | | | | | | |
| **13 Watt, 2-Pin GX23 Base** | | | | | | | | | | | | | |
| T4 | 7.5 | F13BX/SPX27 | RE 827 Phosphor / 60 Watt Incandescent Equivalent; soft white | 10000 | 825 | 710 | 2700 | 82 | 2V835 | $7.00 | **$4.79** | 10 | 0.1 |
| T4 | 7.5 | F13BX/SPX30 | RE 830 Phosphor / 60 Watt Incandescent Equivalent; warm tone | 10000 | 825 | 710 | 3000 | 82 | 1E223 | 8.70 | **7.83** | 10 | 0.1 |
| T4 | 7.5 | F13BX/SPX35 | RE 835 Phosphor / 60 Watt Incandescent Equivalent; neutral tone | 10000 | 825 | 710 | 3500 | 82 | 3V632 | 8.70 | **7.83** | 10 | 0.2 |
| T4 | 7.5 | F13BX/SPX41 | RE 841 Phosphor / 60 Watt Incandescent Equivalent; cool tone | 10000 | 825 | 710 | 4100 | 82 | 6V712 | 8.70 | **7.83** | 10 | 0.1 |
| T4 | 7.5 | F13BX/SPX50 | RE 850 Phosphor / 60 Watt Incandescent Equivalent; very cool tone | 10000 | 784 | 675 | 5000 | 80 | 3V742 | 8.70 | **7.83** | 10 | 0.1 |
| **COMPACT FLUORESCENTS - DOUBLE BIAX PLUG IN (1,2)*** | | | | | | | | | | | | | |
| **9 Watt, 2-Pin G23-2 Base, Preheat** | | | | | | | | | | | | | |
| T4 | 4.3 | F9DBX/23T4/SPX27 | RE 827 Phosphor / Not Suitable for Use with Dimming Ballasts; 40 Watt Incandescent Equivalent; soft white | 10000 | 550 | 470 | 2700 | 82 | 2F075 † | 13.67 | **12.98** | 10 | 0.2 |
| **13 Watt, 2-Pin GX23-2 Base, Preheat** | | | | | | | | | | | | | |
| T4 | 4.7 | F13DBX/23T4/SPX27 | RE 827 Phosphor / Not Suitable for Use with Dimming Ballasts; 60 Watt Incandescent Equivalent; soft white | 10000 | 810 | 680 | 2700 | 82 | 4V302 † | 14.20 | **12.79** | 10 | 0.2 |
| T4 | 4.7 | F13DBX/23T4/SPX30 | RE 830 Phosphor / Not Suitable for Use with Dimming Ballasts; 60 Watt Incandescent Equivalent; warm tone | 10000 | 810 | 680 | 3000 | 82 | 1F360 † | 14.20 | **12.79** | 10 | 0.2 |
| T4 | 4.7 | F13DBX/23T4/SPX35 | RE 835 Phosphor / Not Suitable for Use with Dimming Ballasts; 60 Watt Incandescent Equivalent; neutral tone | 10000 | 810 | 680 | 3500 | 82 | 2D037 † | 14.20 | **12.79** | 10 | 0.2 |
| T4 | 4.7 | F13DBX/23T4/SPX41 | RE 841 Phosphor / Not Suitable for Use with Dimming Ballasts; 60 Watt Incandescent Equivalent; cool tone | 10000 | 810 | 680 | 4100 | 82 | 3V997 † | 14.20 | **12.79** | 10 | 0.2 |
| **13 Watt, 2-Pin G24d-1 Base, Preheat** | | | | | | | | | | | | | |
| T4 | 5.3 | F13DBX/T4/SPX27 | RE 827 Phosphor / Not Suitable for Use with Dimming Ballasts; 60 Watt Incandescent Equivalent; soft white | 10000 | 900 | 765 | 2700 | 82 | 6V068 † | 16.60 | **14.95** | 10 | 0.2 |
| T4 | 5.3 | F13DBX/T4/SPX30 | RE 830 Phosphor / Not Suitable for Use with Dimming Ballasts; 60 Watt Incandescent Equivalent; warm tone | 10000 | 900 | 765 | 3000 | 82 | 2F172 † | 17.50 | **16.63** | 3 | 0.3 |
| T4 | 5.3 | F13DBX/T4/SPX35 | RE 835 Phosphor / Not Suitable for Use with Dimming Ballasts; 60 Watt Incandescent Equivalent; neutral tone | 10000 | 900 | 765 | 3500 | 82 | 1E121 † | 16.60 | **15.77** | 10 | 0.2 |
| T4 | 5.3 | F13DBX/T4/SPX41 | RE 841 Phosphor / Not Suitable for Use with Dimming Ballasts; 60 Watt Incandescent Equivalent; cool tone | 10000 | 900 | 765 | 4100 | 82 | 1K381 † | 16.60 | **15.77** | 10 | 0.2 |
| **13 Watt, 4-Pin, G24q-1 Base, Rapid Start** | | | | | | | | | | | | | |
| T4 | 5.2 | F13DBX/SPX27/4P | RE 827 Phosphor / Dimmable; soft white 60 Watt, Incandescent Equivalent | 10000 | 900 | 765 | 2700 | 82 | 3V994 † | $16.60 | **$14.95** | 3 | 0.2 |
| T4 | 5.2 | F13DBX/SPX30/4P | RE 830 Phosphor / Dimmable; warm tone 60 Watt Incandescent Equivalent | 10000 | 900 | 765 | 3000 | 82 | 1F354 † | 16.60 | **15.77** | 10 | 0.2 |
| T4 | 5.2 | F13DBX/SPX35/4P | RE 835 Phosphor / Dimmable; neutral tone 60 Watt, Incandescent Equivalent | 10000 | 900 | 765 | 3500 | 82 | 1C800 † | 16.60 | **15.77** | 10 | 0.2 |
| T4 | 5.2 | F13DBX/SPX41/4P | RE 841 Phosphor / Dimmable; cool tone 60 Watt, Incadescent Equivalent | 10000 | 900 | 765 | 4100 | 82 | 1C798 † | 16.60 | **15.77** | 10 | 0.2 |
| **18 Watt, 2 Pin, G24d-2 Base, Preheat** | | | | | | | | | | | | | |
| T4 | 6.1 | F18DBX/T4/SPX27 | RE 827 Phosphor (6)*/ Not Suitable for Use with Dimming Ballasts; 75 Watt Incandescent Equivalent; soft white | 10000 | 1150 | 980 | 2700 | 82 | 6V069 † | 20.59 | **18.54** | 3 | 0.2 |
| T4 | 6.1 | F18DBX/T4/SPX30 | RE 830 Phosphor (6)*/ Not Suitable for Use with Dimming Ballasts; 75 Watt Incandescent Equivalent; warm tone | 10000 | 1150 | 980 | 3000 | 82 | 2F156 † | 20.59 | **18.54** | 10 | 0.2 |
| T4 | 6.1 | F18DBX/T4/SPX35 | RE 835 Phosphor (6)*/ Not Suitable for Use with Dimming Ballasts; 75 Watt Incandescent Equivalent; neutral tone | 10000 | 1150 | 980 | 3500 | 82 | 2D039 † | 20.59 | **18.54** | 3 | 0.4 |
| T4 | 6.1 | F18DBX/T4/SPX41 | RE 841 Phosphor (6)*/ Not Suitable for Use with Dimming Ballasts; 75 Watt Incandescent Equivalent; cool tone | 10000 | 1150 | 980 | 4100 | 82 | 2D034 † | 20.59 | **18.54** | 3 | 0.4 |

(*) See Compact Fluorescent Lamp footnotes on page 933. (†) Excluded product. (✓) Denotes energy efficient product.
Note: Minnesota Mercury Emmision Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.



When it comes to lighting, no distributor outshines Grainger.

# COMPACT FLUORESCENT LAMPS

G24D-3 Double Biax 2-Pin | G24Q-2 Triple Biax 4-Pin | G24Q-3 Triple Biax 4-Pin | G24Q-1 Triple Biax 4-Pin

GE Lighting

ENERGY RIGHT®

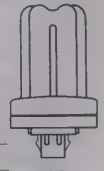
| Bulb | Nom. Length | LampDesignation | Description / Special Features | Rated Avg. Life Hours | Nom. Lumens Initial | Nom. Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Ship. Case Qty. | Ship. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMPACT FLUORESCENT DOUBLE BIAX PLUG-IN (Cont.) (1,2)*** | | | | | | | | | | | | | |
| **18 Watt, 4-Pin, G24q-2 Base, Rapid Start** | | | | | | | | | | | | | |
| T4 | 5.8 | F18DBX/SPX27/4P | RE 827 Phosphor (6)* / Dimmable; soft white 75 Watt Incandescent Equivalent | 10000 | 1150 | 980 | 2700 | 82 | 3V995 † | $22.71 | $20.44 | 10 | 0.2 |
| T4 | 5.8 | F18DBX/SPX30/4P | RE 830 Phosphor (6)* / Dimmable; warm tone 75 Watt Incandescent Equivalent | 10000 | 1150 | 980 | 3000 | 82 | 1E597 † | 22.71 | 20.44 | 10 | 0.2 |
| T4 | 5.8 | F18DBX/SPX35/4P | RE 835 Phosphor (6)* / Dimmable; neutral tone 75 Watt Incandescent Equivalent | 10000 | 1150 | 980 | 3500 | 82 | 1E595 † | 22.71 | 20.44 | 10 | 0.2 |
| T4 | 5.8 | F18DBX/SPX41/4P | RE 841 Phosphor (6)* / Dimmable; cool tone 75 Watt Incandescent Equivalent | 10000 | 1150 | 980 | 4100 | 82 | 1E593 † | 22.71 | 20.44 | 10 | 0.2 |
| **26 Watt, 2-Pin, G24d-3 Base, Rapid Start** | | | | | | | | | | | | | |
| T4 | 6.7 | F26DBX/T4/SPX27 | RE 827 Phosphor / Not Suitable for Use with Dimming Ballasts; 100 Watt Incandescent Equivalent; soft white | 10000 | 1710 | 1468 | 2700 | 82 | 6V070 † | 22.71 | 16.05 | 10 | 0.2 |
| T4 | 6.7 | F26DBX/T4/SPX30 | RE 830 Phosphor / Not Suitable for Use with Dimming Ballasts; 10 Watt Incandescent Equivalent; warm tone | 10000 | 1710 | 1468 | 3000 | 82 | 1F356 † | 22.71 | 16.05 | 10 | 1.1 |
| T4 | 6.7 | F26DBX/T4/SPX35 | RE 835 Phosphor / Not Suitable for Use with Dimming Ballasts; 100 Watt Incandescent Equivalent; neutral tone | 10000 | 1710 | 1468 | 3500 | 82 | 2D036 † | $22.71 | $16.05 | 10 | 0.2 |
| T4 | 6.7 | F26DBX/T4/SPX41 | RE 841 Phosphor / Not Suitable for Use with Dimming Ballasts; 100 Watt Incandescent Equivalent; cool tone | 10000 | 1710 | 1468 | 4100 | 82 | 2D038 † | 22.71 | 16.05 | 3 | 0.3 |
| **26 Watt, 4-Pin, G24q-3 Base, Rapid Start** | | | | | | | | | | | | | |
| T4 | 6.4 | F26DBX/SPX27/4P | RE 827 Phosphor / Dimmable; soft white 100 Watt Incandescent Equivalent | 10000 | 1700 | 1440 | 2700 | 82 | 3V996 † | 22.71 | 20.44 | 10 | 0.2 |
| T4 | 6.4 | F26DBX/SPX30/4P | RE 830 Phosphor / Dimmable; warm tone 100 Watt Incandescent Equivalent | 10000 | 1700 | 1440 | 3000 | 82 | 1F350 † | 22.71 | 20.44 | 10 | 0.2 |
| T4 | 6.4 | F26DBX/SPX35/4P | RE 835 Phosphor / Dimmable; neutral tone 100 Watt Incandescent Equivalent | 10000 | 1700 | 1440 | 3500 | 82 | 2D046 † | 22.71 | 20.44 | 3 | 0.3 |
| T4 | 6.4 | F26DBX/SPX41/4P | RE 841 Phosphor / Dimmable; cool tone 100 Watt Incandescent Equivalent | 10000 | 1700 | 1440 | 4100 | 82 | 2D047 † | 22.71 | 20.44 | 10 | 0.2 |
| **COMPACT FLUORESCENTS - TRIPLE BIAX RAPID START-PLUG IN (1,2,7,8)*** | | | | | | | | | | | | | |
| **13 Watt, 4-Pin, GX24q-1 Base** | | | | | | | | | | | | | |
| T4 | 4.2 | F13TBX/SPX27/A/4P | RE 827 Phosphor / Dimmable; soft tone 60 Watt Incandescent Equivalent | 10000 | 900 | 765 | 2700 | 82 | 1E877 † | 25.30 | 24.04 | 6 | 0.2 |
| T4 | 4.2 | F13TBX/SPX30/A/4P | RE 830 Phosphor / Dimmable; warm tone 60 Watt Incandescent Equivalent | 10000 | 900 | 765 | 3000 | 82 | 1E875 † | 25.30 | 24.04 | 6 | 0.3 |
| T4 | 4.2 | F13TBX/SPX35/A/4P | RE 835 Phosphor / Dimmable neutral tone 60 Watt Incandescent Equivalent | 10000 | 900 | 765 | 3500 | 82 | 1E873 † | 25.30 | 24.04 | 6 | 0.3 |
| T4 | 4.2 | F13TBX/SPX41/A/4P | RE 841 Phosphor / Dimmable; cool tone 60 Watt Incandescent Equivalent | 10000 | 900 | 765 | 4100 | 82 | 1E613 † | 25.30 | 24.04 | 6 | 0.2 |
| **18 Watt, 4-Pin, GX24q-2 Base** | | | | | | | | | | | | | |
| T4 | 4.8 | F18TBX/SPX27/A/4P | RE 827 Phosphor / Dimmable; soft white 75 Watt Incandescent Equivalent | 10000 | 1200 | 1020 | 2700 | 82 | 1F382 † | 24.53 | 23.31 | 6 | 0.3 |
| T4 | 4.8 | F18TBX/SPX30/A/4P | RE 830 Phosphor / Dimmable; warm tone 75 Watt Incandescent Equivalent | 10000 | 1200 | 1020 | 3000 | 82 | 2F051 † | 25.50 | 24.23 | 6 | 0.3 |
| T4 | 4.8 | F18TBX/SPX35/A/4P | RE 835 Phosphor / Dimmable; neutral tone 75 Watt Incandescent Equivalent | 10000 | 1200 | 1020 | 3500 | 82 | 2F053 † | 25.50 | 24.23 | 6 | 0.3 |
| T4 | 4.8 | F18TBX/SPX41/A/4P | RE 841 Phosphor / Dimmable; cool tone 75 Watt Incandescent Equivalent | 10000 | 1200 | 1020 | 4100 | 82 | 1E611 † | 25.50 | 24.23 | 6 | 0.3 |
| **26 Watt, 4-Pin, GX24q-3 Base** | | | | | | | | | | | | | |
| T4 | 5.2 | F26TBX/SPX27/A/4P | RE 827 Phosphor / Dimmable; soft white 100 Watt Incandescent Equivalent | 10000 | 1800 | 1530 | 2700 | 82 | 1E807 † | 25.50 | 24.23 | 3 | 0.4 |
| T4 | 5.2 | F26TBX/SPX30/A/4P | RE 830 Phosphor / Dimmable; warm tone 100 Watt Incandescent Equivalent | 10000 | 1800 | 1530 | 3000 | 82 | 2D023 † | 25.50 | 24.23 | 3 | 0.2 |
| T4 | 5.2 | F26TBX/SPX35/A/4P | RE 835 Phosphor / Dimmable; neutral tone 100 Watt Incandescent Equivalent | 10000 | 1800 | 1530 | 3500 | 82 | 2D024 † | 25.50 | 24.23 | 3 | 0.2 |
| T4 | 5.2 | F26TBX/SPX41/A/4P | RE 841 Phosphor / Dimmable; cool tone 100 Watt Incandescent Equivalent | 10000 | 1800 | 1530 | 4100 | 82 | 1E609 † | 25.50 | 24.23 | 6 | 0.2 |



T4 Double Biax 4-Pin



T4 Double Biax 2-Pin



T4 Triple Biax 4-Pin

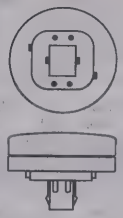
(*) See Compact Fluorescent Lamp footnotes on page 933. (†) Excluded product. (✓) Denotes energy effcient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# COMPACT FLUORESCENT LAMPS

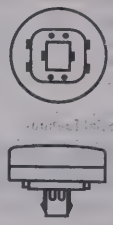
GE Lighting

ENERGY RIGHT®

GX24Q-3 Triple Biax 4 Pin

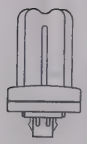


GX24Q-4 Quad Biax 4 Pin



2G11 High Lumen Biax 4 Pin





T4 Triple Biax 4 Pin



T4 Quad Biax 4 Pin



T5 High Lumen Biax 4 Pin

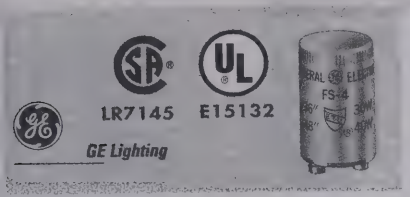
| Bulb | Nom. Length | Lamp Designation | Description / Special Features | Rated Avg. Life Hours | Nom. Lumens Initial | Nom. Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Ship. Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMPACT FLUORESCENTS – TRIPLE BIAX RAPID START – PLUG IN (CONT.) (1,2,7,8)*** | | | | | | | | | | | | | |
| **32 Watt, 4-Pin, GX24q–3 Base** | | | | | | | | | | | | | |
| T4 | 5.8 | F32TBX/SPX27/A/4P | RE 827 Phosphor, Softwhite 150W Incandescent Equivalent, dimmable | 10000 | 2200 | 1870 | 2700 | 82 | 1E635 † | $25.50 | $24.23 | 3 | 0.5 |
| T4 | 5.8 | F32TBX/SPX30/A/4P | RE 830 Phosphor, Warm tone 150W Incandescent Equivalent, dimmable | 10000 | 2200 | 1870 | 3000 | 82 | 2F093 † | 25.50 | 24.23 | 3 | 0.3 |
| T4 | 5.8 | F32TBX/SPX35/A/4P | RE 835 Phosphor, Neutral tone 150W Incandescent Equivalent, dimmable | 10000 | 2200 | 1870 | 3500 | 82 | 2F095 † | 25.50 | 24.23 | 6 | 0.2 |
| T4 | 5.8 | F32TBX/SPX41/A/4P | RE 841 Phosphor, Cool tone 150W Incandescent Equivalent, dimmable | 10000 | 2200 | 1870 | 4100 | 82 | 1E607 † | 25.50 | 24.23 | 6 | 0.3 |
| **COMPACT FLUORESCENT QUAD BIAX-PLUG (8)*** | | | | | | | | | | | | | |
| **42 Watt, 4-Pin, GX24q-2 Base** | | | | | | | | | | | | | |
| T4 | 6.0 | F42QBX/SPX30/A/4P | RE 830 Phosphor / Dimmable; 150 Watt Incandescent Equivalent; warm tone | 10000 | 3200 | 2720 | 3000 | 82 | 4HP32 † | 27.53 | 26.20 | 6 | 0.3 |
| T4 | 6.0 | F42QBX/SPX35/A/4P | RE 835 Phosphor / Dimmable; 150 Watt Incandescent Equivalent; neutral tone | 10000 | 3200 | 2720 | 3500 | 82 | 4HP30 † | 27.53 | 26.20 | 10 | 0.3 |
| T4 | 6.0 | F42QBX/SPX41/A/4P | RE 841 Phosphor / Dimmable; 150 Watt Incandescent Equivalent; cool tone | 10000 | 3200 | 2720 | 4100 | 82 | 4HP33 † | 27.53 | 26.20 | 10 | 0.4 |
| **COMPACT FLUORESCENT - HIGH LUMEN BIAX - PREHEAT LAMPS (1,2,5)*** | | | | | | | | | | | | | |
| **18 Watt, 4-Pin, 2G11 Base** | | | | | | | | | | | | | |
| T5 | 9 | F18BX/SPX30 | RE 830 Phosphor; warm tone | 10000 | 1200 | 1080 | 3000 | 82 | 6V032 | 14.74 | 12.66 | 10 | 0.3 |
| T5 | 9 | F18BX/SPX35 | RE 835 Phosphor; neutral tone | 10000 | 1200 | 1080 | 3500 | 82 | 1E305 | 14.74 | 12.66 | 10 | 0.3 |
| T5 | 9 | F18BX/SPX41 | RE 841 Phosphor; cool tone | 10000 | 1200 | 1080 | 4100 | 82 | 6V033 | 14.74 | 12.66 | 10 | 0.3 |
| **COMPACT FLUORESCENT - HIGH LUMEN BIAX - RAPID START LAMPS (1,2,5,8)*** | | | | | | | | | | | | | |
| **18 Watt, 4-Pin, 2G11 Base** | | | | | | | | | | | | | |
| T5 | 10.5 | F18BX/SPX30/RS | RE 830 Phosphor; warm tone | 20000 | 1250 | 1130 | 3000 | 82 | 1E239 † | 15.35 | 14.58 | 10 | 0.3 |
| T5 | 10.5 | F18BX/SPX35/RS | RE 835 Phosphor; neutral tone | 20000 | 1250 | 1130 | 3500 | 82 | 1E237 † | 15.35 | 14.58 | 10 | 0.3 |
| T5 | 10.5 | F18BX/SPX41/RS | RE 841 Phosphor; cool tone | 20000 | 1250 | 1130 | 4100 | 82 | 1E235 † | 15.35 | 14.58 | 10 | 0.3 |
| **27 Watt, 4-Pin, 2G11 Base** | | | | | | | | | | | | | |
| T5 | 12.8 | F27BX/SPX30/RS | RE 830 Phosphor; warm tone | 12000 | 1800 | 1620 | 3000 | 82 | 6V035 † | 15.75 | 14.17 | 10 | 0.5 |
| T5 | 12.8 | F27BX/SPX35/RS | RE 835 Phosphor; neutral tone | 12000 | 1800 | 1620 | 3500 | 82 | 1E259 † | 15.75 | 14.17 | 3 | 0.4 |
| T5 | 12.8 | F27BX/SPX41/RS | RE 841 Phosphor; cool tone | 12000 | 1800 | 1620 | 4100 | 82 | 6V036 | 15.75 | 14.17 | 3 | 0.4 |
| **39 Watt, 4-Pin, 2G11 Base** | | | | | | | | | | | | | |
| T5 | 16.5 | F39/36BX/SPX30 | RE 830 Phosphor; warm tone | 12000 | 2850 | 2510 | 3000 | 82 | 6V038 † | 17.00 | 15.29 | 10 | 0.5 |
| T5 | 16.5 | F39/36BX/SPX35 | RE 835 Phosphor; neutral tone | 12000 | 2850 | 2510 | 3500 | 82 | 6V066 † | 17.00 | 15.29 | 10 | 0.5 |
| T5 | 16.5 | F39/36BX/SPX41 | RE 841 Phosphor; cool tone | 12000 | 2850 | 2510 | 4100 | 82 | 6V039 † | 17.00 | 15.29 | 10 | 0.5 |
| T5 | 22.5 | F40/30BX/SPX30 | RE 830 Phosphor; warm tone | 20000 | 3150 | 2840 | 3000 | 82 | 4VC25 † | 16.89 | 15.20 | 10 | 1.4 |
| T5 | 22.5 | F40/30BX/SPX35 | RE 835 Phosphor; neutral tone | 20000 | 3150 | 2840 | 3500 | 82 | 4VC26 † | 15.24 | 13.10 | 10 | 0.7 |
| T5 | 22.5 | F40/30BX/SPX41 | RE 841 Phosphor; cool tone | 20000 | 3150 | 2840 | 4100 | 82 | 4VC27 † | 16.89 | 15.20 | 10 | 0.7 |
| T5 | 22.5 | F40/30BX/SPX50 | RE 850 Phosphor; very cool tone | 20000 | 2900 | 2700 | 5000 | 80 | 1X562 † | 16.89 | 16.04 | 36 | 0.7 |
| **50 Watt, 4-Pin, 2G11 Base** | | | | | | | | | | | | | |
| T5 | 22.5 | F50BX/SPX30/RS | RE 830 Phosphor; warm tone | 14000 | 4000 | 3400 | 3000 | 82 | 1K303 † | 18.49 | 17.57 | 10 | 0.7 |
| T5 | 22.5 | F50BX/SPX35/RS | RE 835 Phosphor; neutral tone | 14000 | 4000 | 3400 | 3500 | 82 | 1K301 † | 18.49 | 17.57 | 10 | 0.7 |
| T5 | 22.5 | F50BX/SPX41/RS | RE 841 Phosphor; cool tone | 14000 | 4000 | 3400 | 4100 | 82 | 1K299 † | 18.49 | 17.57 | 10 | 0.7 |

(*) See Compact Fluorescent Lamp footnotes on page 933. (†) Excluded product. (↝) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.



When it comes to lighting, no distributor outshines Grainger.

# COMPACT FLUORESCENT LOCKING DEVICES AND FLUORESCENT STARTERS



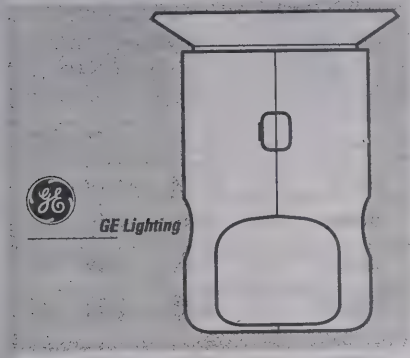

GE Starters meet all IEC 15S standards as well as meet the 6000 cycle switch test established by UL.

GE Starters have a capacitor for RFI suppression, which also serves to protect the glow switch starter mechanism.

GE Starters are listed under UL Standard WS-755C, and are Certified by ETL, Certified by CSA, and conform to ANSI Spec. C78.180.

## FLUORESCENT STARTERS

| Lamp Wattage | Starter Designation | Replacements | No. of Pins | Size | Stock No. | List | Each | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|
| **STANDARD STARTERS** | | | | | | | | | |
| 4, 6, 8 | FS-5 | S2 | 2 | Medium | 2F974 | $2.79 | $1.16 | 10 | 0.1 |
| 14, 15, 20 | FS-2 | FS-22, S2 | 2 | Medium | 1X835 | 1.84 | 0.95 | 200 | 0.1 |
| 13, 30, 40 | FS-4, FS-12, FS-200 | FS-12, S10 | 2 | Medium | 1X836 | 1.84 | 0.95 | 200 | 0.1 |
| 32 | FS-12G | FS-12 | 2 | Medium | 3JK88 | 1.05 | 1.00 | 100 | 0.1 |
| 20 | FS-20G | FS-20 | 2 | Medium | 3JK89 | 2.84 | 2.70 | 200 | 0.1 |
| 22, 25 | FS-25 | FS-25 | 2 | Medium | 3JK90 | 1.42 | 1.35 | 200 | 0.1 |
| **WATCH DOG® STARTER** | | | | | | | | | |
| 40 | FS-40/400, FS-85, FS-85G, FS-850 | FS40/400 | 2 | Standard | 1X834 | 5.30 | 1.94 | 10 | 0.1 |
| 90, 100 | FS-85G | FS-85 | 2 | Mogul | 3JK91 | 3.78 | 3.59 | 100 | 0.1 |
| 90, 100 | FS-850 | FS-850 | 4 | Mogul | 3JK92 | 4.25 | 4.04 | 100 | 0.1 |




## GE LOCKING DEVICES

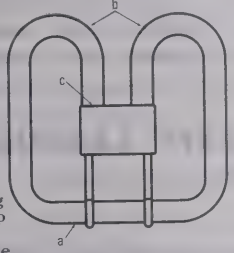
- **Designed to secure GE FLE Series screw-in compact fluorescent lamps into base to prevent theft**
- **Fits into standard medium screw base**
- **Priced each, sold in packages of 10 only**

### GE LOCKING DEVICES

| Description | For use w/stock no. | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|
| Standard Shell CFL Compatible | 3V748, 1E563, 1E591, 2D022, 1E589, 1E559 | 25454 | 4HP27 | 2.58 | 2.46 | 30 | 0.4 |
| Short Shell CFL Compatible | 3V746, 3V747, 1P069, 4LV96 | 25455 | 4HP28 | 2.58 | 2.46 | 30 | 0.4 |

**Footnotes:**

1. Fluorescent lamp lumens decline during life.
2. Based on 60Hz reference ballast.
3. Engineering estimates.
4. 10-watt, 16-watt and 28-watt 2D lamps may be operated in any position. 21-watt and 38-watt 2D lamps must not be used with the leg marked (a) in the diagram below the bend (b), in order to avoid overheating the end of the cap marked (c).




5. Life ratings for the F18BX Preheat lamps are based on operating the lamp at 3 hrs. per start on a preheat type circuit. Operation on rapid start and instant start ballasts is not recommended. Life ratings for all other Rapid Start High Lumen Biax lamps are based on operating the lamp at 3 hrs. per start on a rapid start type ballast. Life rating on a preheat type of ballast is 25% lower. Life ratings for the F40/30BX is 15,000 hours when operated on an instant start ballast.
6. Cold cathode resistance is approximately 6.0 Ohms.
7. Typically not used in under cabinet applications.
8. 4-pin lamp minimum starting temperature is a function of the ballast. Magnetic ballast minimums are 50°F (10°C). Electronic ballast minimums can be as low as -20°F (-29°C).
9. One-piece screw-in lamps for incandescent sockets and plug-in lamps with screw-in adapters do not work with clip-on shades.
10. Lumens on one-piece lamp systems are measured base up. Lumen output when operated base down may be more than 5% less.
11. Best performance if operated base up and at 77°F (25°C) ambient temperature.
12. Use only on 120V 60Hz circuits. Do not use on dimming circuits. Use indoors and do not use in wet locations. Not for use in totally enclosed recessed fixtures.
13. Fits most R30 applications.
14. Adapters rated at 40,000 hours.
15. Typically not used in enclosed outdoor applications
16. Lumen measured with reflector lens.
17. This product may cause interference to radio equipment operating in the frequency range of 2.2-2.8Mhz. Avoid placing this product near these devices. To reduce the possibility of radio interference to maritime safety communications, this device should not be installed: (1) on board cargo vessels of more than 300 tons, (2) on board vessels carrying more than 12 passengers for hire, and (3) at any medium frequency public coast station Further, installation is not recommended on board vessels equipped with medium frequency single side-band marine radios. If interference occurs, move this product away from the device or plug either into a different outlet. Such interference com plaints should be reported to: Technical leader, Regulatory and Industry Standards at the General Electric Company, 1975 Noble Road, Cleveland, Ohio 44112, or call toll free (800) 435-4448 from 8:00am-6:00pm EST.

**ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY**
Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items. See Index under Energy Saving Products.

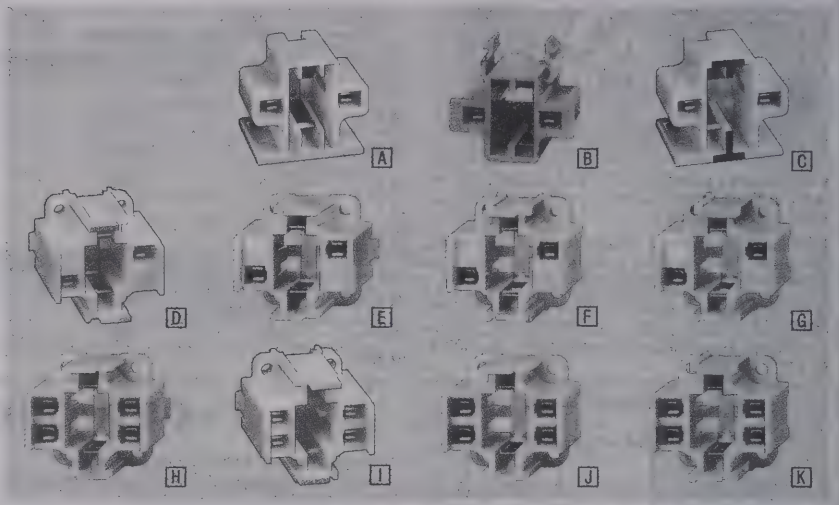
# FLUORESCENT LAMPHOLDERS AND FIXTURE SWITCH

## COMPACT FLUORESCENT LAMPHOLDERS

LEVITON

E5833 LR1863

- Available in 5-32 watt versions
- White horizontal and bottom snap-in or screw down mounting
- Quickwire push-in wire terminals accept #18 AWG solid or tinned wire
- 75W - 600V rating

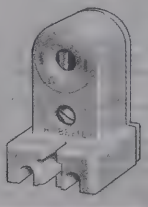



| Key | Mounting | Lamp Base | Lamp Manufacturer GE | Phillips | OSRAM | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Horz screw-down | G23, G23-2 | BIAX 5W, 7W, 9W | PL-S 5W, 7W, 9W | Dulux S 5W, 7W, 9W<br>Dulux D 9W | 26719-200 | **3ZK91** | $4.76 | **$4.54** | **$4.09** | 0.2 |
| B | Horz snap-in | GX23, GX23-2 | BIAX 13W<br>Double BIAX 13W | PL-S 13W;<br>PL-C 13W | Dulux S 13W<br>Dulux D 13W | 26720-100 | **3ZK92** | 5.15 | **4.91** | **4.42** | 0.2 |
| C | Horz screw-down | GX23, GX23-2 | BIAX 13W<br>Double BIAX 13W | PL-S 13W<br>PL-C 13W | Dulux S 13W<br>Dulux D 13W | 26720-200 | **3ZK93** | 5.15 | **4.91** | **4.42** | 0.2 |
| D | Bottom snap-in | G24d-2 | Double BIAX 18W | PL-C 18W | Dulux D 18W | 26725-202 | **3ZK94** | 6.18 | **5.99** | **5.40** | 0.2 |
| E | Bottom snap-in | G24d-3 | Double BIAX 26W | PL-C 26W | Dulux D 26W<br>Dulux T 26W | 26725-203 | **3ZK95** | 6.18 | **5.99** | **5.40** | 0.2 |
| F | Bottom screw-down, 4 hole | G24d-2 | Double BIAX 18W | PL-C 18W | Dulux D 18W | 26725-212 | **3ZK96** | 7.72 | **7.40** | **6.65** | 0.2 |
| G | Bottom screw-down, 4 hole | G24d-3 | Double BIAX 26W | PL-C 26W | Dulux D 26W<br>Dulux T 26W | 26725-213 | **3ZK97** | 7.72 | **7.40** | **6.65** | 0.2 |
| H | Bottom snap-in | G24q-2 | Double BIAX 18W | PL-C 18W | Dulux D/E 18W | 26725-402 | **3ZK98*** | 8.44 | **8.03** | **7.23** | 0.2 |
| I | Bottom snap-in | G24q-3<br>GX24q-3 | Double BIAX 18W | PL-C 26W<br>PL-T 26, 32W | Dulux D/E 26W<br>Dulux T/E 26, 32W | 26725-403 | **3ZK99*** | 9.29 | **8.83** | **7.94** | 0.2 |
| J | Bottom screw-down, 4 hole | G24q-2 | Double BIAX 18W | PL-C 18W | Dulux D/E 18W | 26725-412 | **3ZL01*** | 8.44 | **8.03** | **7.23** | 0.2 |
| K | Bottom screw-down, 4 hole | G24q-3<br>GX24q-3 | Double BIAX 26W | PL-C 26W<br>PL-T 26, 32W | Dulux D/E 26W<br>Dulux T/E 26, 32W | 26725-413 | **3ZL02*** | 9.29 | **8.83** | **7.94** | 0.2 |

(*) Suitable for dimming or electronic ballasts.

HUBBELL Wiring Device-Kellems


No. 3D672


No. 3D673

## FLUORESCENT LAMPHOLDERS

- For slimline fixtures, single pin-lamps
- White in color
- Straight-in wiring
- Plunger No. 3D672 rated 600 watts, 1000V
- Fixed No. 3D673 rated 660 watts, 250V
- Hubbell brand

**No. 3D672.** (2988). Shpg. wt. 0.1 lbs. List $8.08. Each ..... **$6.47**

**No. 3D673.** (2989). Shpg. wt. 0.1 lbs. List $11.87. Each ..... **$9.50**

## FIXTURE SWITCH

Heavy-duty SPST pull-on/pull-off fixture switch. Phenolic body, polycarbonate cover with aluminum bushing, and knurled bellmouth. Mounts in panels up to 27/32" thick. 15/32" diameter stem, 3¾" steel pull chain. 18 AWG, 105°C plastic insulated leads. Tungsten rated 3 amps, 120VAC for lamp loads. UL Listed (E7458) and CSA Certified (LR3413). Leviton brand (1689-75).

**No. 2X373.** Shpg. wt. 0.1 lbs. List $5.63. Each ..... **$4.56**

LEVITON


No. 2X373



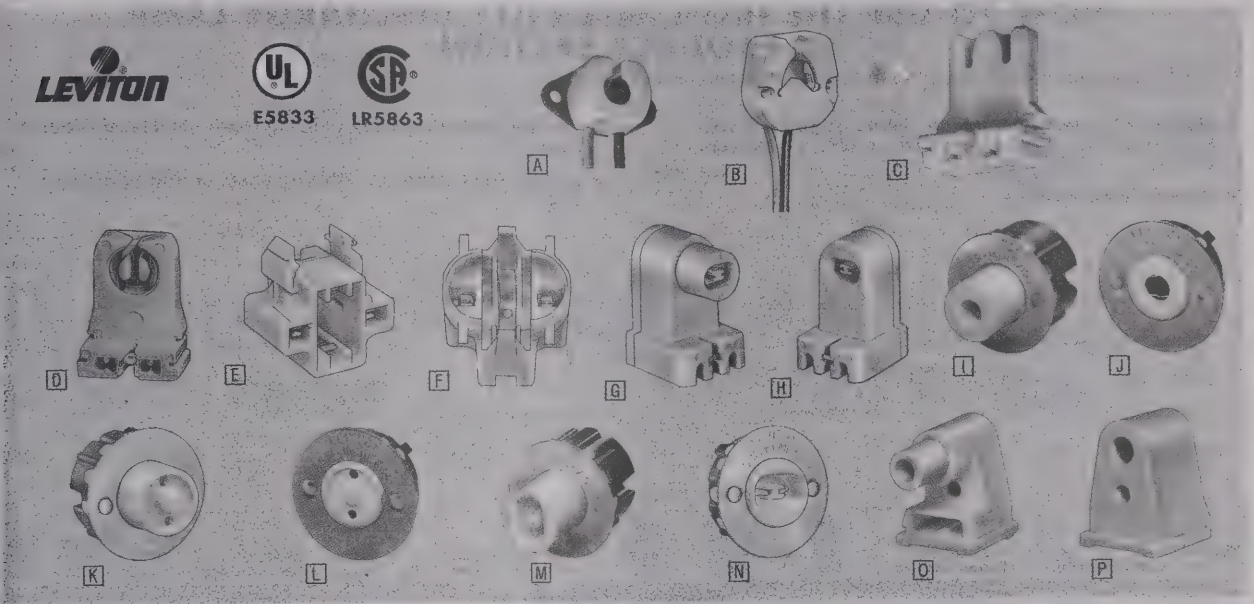
When it comes to lighting, no distributor outshines Grainger.

# FLUORESCENT LAMPHOLDERS

LEVITON

UL E5833

CSA LR5863




## A MINIATURE BI-PIN FOR T5 LAMP

- White surface mount
- Includes 6" 18 AWG 105 C AWM-TEW leads

## B MEDIUM/MINIATURE BI-PIN

- White surface mount
- Includes 9" long leads #18 AWG, 105°C plastic

## C MEDIUM BI-PIN FOR U-SHAPE LAMPS

- White slide-on mount
- Quickwire push-in wire terminals

## D MEDIUM BI-PIN SLIDE-ON & SCREW MOUNT

- No. 5C402 is short, slide-on with captive nut
- No. 5C403 is slide-on with captive nut

## E & F COMPACT TWIN-TUBE

- No. 5C404 is horizontal snap-in
- No. 5C405 is vertical snap-in
- White color

## G & H HIGH OUTPUT PLUNGER & FIXED

- Recessed, double contact double pedestal type
- Silver plated contacts
- Straight-in wiring through wireways or screw terminals
- Order in pairs (1) 5C399 and (1) 5C400

## I THRU N SNAP-IN LAMPHOLDERS

- Available for Slimline, Medium Bi-pin, and High Output 800ma thru 1500ma lamps
- Snap-in 1.52" diameter opening
- Quickwire push-in wire terminals accept #18 AWG solid or tinned wire
- Order in pairs

## O & P SLIMLINE FLUORESCENT PLUNGER & STATIONARY

- White slide-on mounting for 20 ga. panels
- Quickwire push-in wire terminals accept #18 AWG solid or tinned wire
- Order in pairs (1) 3ZK89 and (1) 3ZK90

| Key | Lampholder Description | Rating | Leviton Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Miniature Bi-Pin for T5 Lamp | 75W - 250V | 420-W | 3ZL03 | $5.03 | $4.83 | $4.35 | 0.4 |
| B | Medium/Miniature Bi-Pin | 660W - 600V | 395-W | 5C401 | 3.85 | 3.14 | 2.82 | 0.1 |
| C | Medium Bi-Pin for U-Shape Lamps | 660W - 600V | 13180-U | 3ZK88 | 5.15 | 4.81 | 4.33 | 0.2 |
| D | Medium Bi-Pin Slide-on & Screw Mount | 660W - 600V | 13053-UN | 5C402 | 1.97 | 1.62 | 1.45 | 0.1 |
| D | Medium Bi-Pin Slide-on & Screw Mount | 660W - 600V | 13357-N | 5C403 | 2.17 | 1.77 | 1.60 | 0.1 |
| E | Compact Twin-Tube for 5, 7, & 9W CTTF Lamps | 75W - 600V | 26719-100 | 5C404 | 3.59 | 2.94 | 2.64 | 0.1 |
| F | Compact Twin-Tube for 5, 7, & 9W CTTF Lamps | 75W - 600V | 26719-300* | 5C405 | 3.59 | 2.94 | 2.64 | 0.1 |
| G | High Output Plunger | 660W - 600V | 464 | 5C399 | 8.09 | 6.60 | 5.93 | 0.2 |
| H | High Output Fixed | 660W - 600V | 465 | 5C400 | 6.41 | 5.23 | 4.71 | 0.2 |
| I | Snap-in Slimline Plunger | 660W - 1000V | 516 | 3ZL04 | 6.92 | 6.58 | 5.92 | 0.2 |
| J | Snap-in Slimline Stationary | 660W - 600V | 517 | 3ZL05 | 5.69 | 5.42 | 4.87 | 0.2 |
| K | Snap-in Medium Bi-Pin Plunger | 660W - 600V | 518 | 3ZL06 | 7.78 | 7.40 | 6.65 | 0.2 |
| L | Snap-in Medium Bi-Pin Stationary | 660W - 600V | 519 | 3ZL07 | 6.63 | 6.31 | 5.69 | 0.2 |
| M | Snap-in High Output Plunger | 660W - 600V | 523 | 3ZL08 | 7.62 | 7.24 | 6.52 | 0.2 |
| N | Snap-in High Output Stationary | 660W - 600V | 524 | 3ZL09 | 6.76 | 6.45 | 5.80 | 0.2 |
| O | Slimline Plunger | 660W - 1000V | 2536 | 3ZK89 | 9.27 | 8.42 | 7.57 | 0.1 |
| P | Slimline Stationary | 660W - 600V | 2537 | 3ZK90 | 6.69 | 6.24 | 5.61 | 0.1 |

(*) Not compatible with 9-watt DTT lamp.

# HIGH INTENSITY DISCHARGE (HID) LAMP INTRODUCTION

## HOW TO USE THE HIGH INTENSITY DISCHARGE LAMP PRODUCT SECTION

Our HID lamp section is organized by lamp type and then order of wattage

1. **Identify HID lamp type (Metal Halide, High Pressure Sodium (HPS), Low Pressure Sodium (LPS) or Mercury Vapor)**
2. **Identify lamp wattage**
3. **Identify lamp shape (by utilizing icons on side of product chart)**
4. **Identify lamp base (by utilizing icons on top of product page)**

**Color Temp:** "Warmth" or "Coolness" of the lamp's appearance, measured in Kelvins (K). The higher the temperature, the cooler the appearance of the light.

**Lumens Initial:** Lamp's approximate light output after 100 hours of operation.

**Special features:** points our unique aspects of HID lamps: open or enclosed fixtures, ceramic metal halide, self-extinguishing incandescent retrofit.

**Rated Average Life Hours:** Average Life Hours figure represents the lamp's median value of life expectancy.

**CRI:** Color Rendering Index. The higher the number the truer the color.

**Lumens Mean:** Light output at 40% of rated lamp life for Metal Halide, 50% for Lucalox and Mercury.

**ANSI Ballast Code:** Reference only.

| ANSI Ref. No. | Lamp Designation | Description/ Special Features | Rated Avg. Life Hours | Maximum Overall Length (In.) | Light Center Length (In.) | Lumens Initial | Lumens Mean | Color Temp. | CRI | Energy Right | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Metal Halide Lamps** | | | | | | | | | | | | | | | |
| **32 Watt, ED17, Medium Base** | | | | | | | | | | | | | | | |
| **M100** | MXR32/C/VBU/O | Coated, VBU +- 15(3)* | 10000 | 5 7/16 | 3 1/16 | 2500 | 1900 | 3200 | 70 | ✓ | **1E279** | $101.38 | **$96.40** | 1 | 0.2 |

**Note:** Lamp drawings are not to scale. Be sure to check size and dimension information when identifying each lamp. All ratings are subject to change without prior notice.

### QUICK GUIDE TO COLOR:

| Color Temperature | Color Designation |
|---|---|
| 1800K | Orange |
| 1900-2200K | Warm Yellow |
| 2700K | Soft White |
| 3000-3200K | Warm White, SP30 |
| 3400-3700K | Neutral White |
| 3800-4500K | Cool White |
| 5200-5700K | Blue White |

### HID LAMP BRAND NAME CROSS-REFERENCE

| GE | OSRAM /SYLVANIA | PHILIPS |
|---|---|---|
| Arcstream™ MQI | BRITE-LINE™, HQI® | MHN-TD |
| E-Z Lux® | Unalux® | Econolux/RETRO-LUX |
| E-Z Merc® | — | — |
| ChromaFit™ Multi-Vapor® | — | — |
| DeLuxe Lucalox® | — | Cermalux™ Comfort |
| Halarc™ | — | — |
| Halarc™ Output Multi-Vapor® | Metalarc® Pro-Tech | — |
| High Output Multi-Vapor® | Super Metalarc® | Metal Halide |
| Horizontal Multi Vapor® | Super Metalarc® | — |
| I-Line Multi-Vapor® | — | — |
| Lucalox® | Lumalux® | Cermalux™ |
| Multi-Vapor® | Metalarc® | Metal Halide |
| Protected High Output MV Lamp | — | — |
| Saf-T-Gard™ Multi-Vapor® | Metalarc Safeline® | Safety Lifeguard Metal Halide |
| Standby Lucalox® | Lumalux® Standby | Instant Strike Cermalux |

**ATTENTION:** This brand name cross-reference chart is provided only as a quick reference. Other lamp company brand listings may only represent a near equivalent, versus an identical match to GE Lighting brands. Individual lamp manufacturer's performance specifications should be consulted. Lamp performance may be environmental conditions, ballast type, and/or other auxiliary equipment.

### HID LAMP TABLE OF CONTENTS


MVR (Metal Halide) Page 937

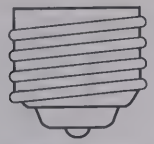
HPS (High Pressure Sodium) Page 941

LPS (Low Pressure Sodium) Page 944

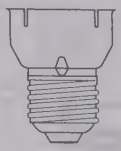
MV (Mercury Vapor) Page 945

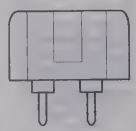

**COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS**

# HIGH INTENSITY DISCHARGE (HID) LAMPS


Medium E26


E27


Medium Skirt E26


BiPin G12


Recessed Single Contact R7S

GE Lighting

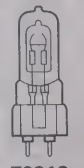
New

| ANSI Ref. No. | Lamp Designation | Description/ Special Features | Rated Average Life Hrs. | Maximum Overall Length (In.) | Light Center Length (In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Shpg. Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **METAL HALIDE LAMPS** | | | | | | | | | | | | |
| | | **32 Watt, ED17, Medium Base** | | | | | | | | | | | | |
| M100 | MXR32/C/VBU/O | Coated, VBU ±15°(3)* | 10000 | 5 7/16 | 3 3/16 | 2500 | 1900 | 3200 | 70 | 1E279† | $101.38 | $96.40 | 1 | 0.2 |
| M100 | MXR32/C/VBD/O | Coated, VBD ±15°(3)* | 10000 | 5 7/16 | 3 3/16 | 2500 | 1900 | 3200 | 70 | 1E679† | 105.52 | 100.40 | 6 | 0.2 |
| | | **32 Watt, ED17, E27 Base** | | | | | | | | | | | | |
| M100 | MXR32/C/VBU/O/27 | Coated, VBU ±15° Export Only(3)* | 10000 | 5 1/2 | 3 1/2 | 2500 | 1900 | 3200 | 70 | 1E261† | 101.38 | 96.40 | 6 | 0.3 |
| | | **50 Watt, BD17, Medium Base** | | | | | | | | | | | | |
| M110 | MVR50/U/MED | Clear(3)* | 5000 | 5 7/16 | 3 3/16 | 3000 | 2200 | 4000 | 75 | 3JJ88 | 82.16 | 78.15 | 6 | 0.3 |
| M110 | MVR50/C/U/MED | Coated(3)* | 5000 | 5 7/16 | 3 3/16 | 2800 | 2000 | 4000 | 75 | 3JJ89 | 87.22 | 83.00 | 6 | 0.3 |
| M110 | MXR50/U/MED | Clear(3)* | 5000 | 5 7/16 | 3 3/16 | 3500 | 2550 | 3200 | 70 | 1F398† | 422.61 | 422.75 | 0 | 1.7 |
| M110 | MXR50/C/U/MED | Coated(3)* | 5000 | 5 7/16 | 3 3/16 | 3300 | 2500 | 3200 | 70 | 1F396† | 87.22 | 78.65 | 6 | 0.2 |
| | | **70 Watt, BD17, Medium Base** | | | | | | | | | | | | |
| M98 | MVR70/U/MED | Clear(3)* | 12000 | 5 7/16 | 3 3/16 | 4700 | 3400 | 4000 | 75 | 1E694† | 11.86 | 8.96 | 12 | 0.1 |
| M98 | MVR70/C/U/MED | Coated(3)* | 12000 | 5 7/16 | 3 3/16 | 4500 | 2900 | 4000 | 75 | 1E692† | 82.89 | 78.85 | 6 | 0.3 |
| M98 | MXR70/U/MED | Clear(3)* | 12000 | 5 7/16 | 3 3/16 | 5500 | 4000 | 3200 | 70 | 6V746† | 77.83 | 70.20 | 3 | 0.2 |
| M98 | MXR70/C/U/MED | Coated(3)* | 12000 | 5 7/16 | 3 3/16 | 5300 | 3400 | 3200 | 70 | 6V747† | 82.89 | 74.75 | 3 | 0.3 |
| M98 | CMH70/U/841/MED | RE841 Phosphor Coated | 7500 | 5 7/16 | 3 3/16 | 6200 | 4470 | 4100 | 85 | 4HP23† | 93.47 | 88.85 | 6 | 0.3 |
| M98 | CMH70/C/U/830/MED | RE830 Phosphor Coated | 7500 | 5 7/16 | 3 3/16 | 5890 | 3800 | 3000 | 85 | 4HP24† | 98.07 | 93.25 | 6 | 0.3 |
| | | **70 Watt, ED17, Medium Base** | | | | | | | | | | | | |
| M98 | MXR70/U/MED/O | Clear(3)* | 12000 | 5 7/16 | 3 3/16 | 5500 | 4000 | 3200 | 70 | 2F942 | 89.79 | 85.40 | 3 | 0.3 |
| M98 | MXR70/C/U/MED/O | Coated(3)* | 12000 | 5 7/16 | 3 3/16 | 5300 | 3400 | 3200 | 70 | 2F968 | 94.94 | 90.25 | 6 | 0.3 |
| | | **70 Watt, PAR38, Medium Base** | | | | | | | | | | | | |
| M98 | MXR70/U/PAR/SP | Clear, Spot, 12° 50000 CBCP(3)* | 7500 | 5 7/16 | — | 3700 | 2740 | 3000 | 70 | 2F103† | 92.00 | 87.50 | 12 | 0.9 |
| M98 | MXR70/U/PAR/FL | Clear, Flood, 40° 6500 CBCP(3)* | 7500 | 5 7/16 | — | 3700 | 2740 | 3000 | 70 | 2F105† | 92.00 | 87.50 | 12 | 0.9 |
| M98 | MXR70/U/PAR/WFL | Clear, Wide Flood, 60° 3600 CBCP(3)* | 7500 | 5 7/16 | — | 3700 | 2740 | 3000 | 70 | 2F107† | 92.00 | 87.50 | 12 | 0.9 |
| | | **70 Watt, PAR30L, Medium Base** | | | | | | | | | | | | |
| M98 | CMH70/U/PAR30/15 | Spot 13° | 6000 | 4 1/4 | — | 4100 | 3140 | 3000 | 85 | New 4LV87 | 102.30 | 97.80 | 6 | 1.0 |
| M98 | CMH70/U/PAR30/40 | Flood 40° | 6000 | 4 1/4 | — | 4100 | 3140 | 3000 | 85 | New 4LV88 | 102.30 | 97.80 | 6 | 1.0 |
| | | **70 Watt, T6, G12 Base** | | | | | | | | | | | | |
| M85 | CMH70/T/835/G12 | RE 835 Phosphor Clear | 6000 | 3 15/16 | 2 1/16 | 6200 | 4750 | 3000 | 85 | 4HP31† | 127.14 | 120.85 | 10 | 0.1 |
| | | **70 Watt, T6, R7S Base** | | | | | | | | | | | | |
| M85 | MQI/70/T6/30 | Clear, Horiz ±45° | 6000 | 4 13/16 | 2 1/4 | 6000 | 3900 | 3000 | 75 | 6V698† | 122.36 | 110.20 | 3 | 0.3 |
| M85 | MQI/70/T6/43 | Clear, Horiz ±45° | 6000 | 4 13/16 | 2 1/4 | 6000 | 4100 | 4300 | 75 | 2F510† | 122.36 | 110.20 | 3 | 0.3 |
| | | **100 Watt, BD17, Medium Base** | | | | | | | | | | | | |
| M90 | MVR100/U/MED | Clear(3)* | 15000 | 5 7/16 | 3 3/16 | 8100 | 5800 | 4000 | 75 | 1E674† | 77.83 | 74.00 | 6 | 0.3 |
| M90 | MVR100/C/U/MED | Coated(3)* | 15000 | 5 7/16 | 3 3/16 | 7600 | 4900 | 4000 | 75 | 1E671† | 82.89 | 78.85 | 6 | 0.3 |
| M90 | MXR100/U/MED | Clear(3)* | 15000 | 5 7/16 | 3 3/16 | 9000 | 6400 | 3200 | 70 | 6V749† | 77.83 | 67.15 | 3 | 0.3 |
| M90 | MXR100/C/U/MED | Coated(3)* | 15000 | 5 7/16 | 3 3/16 | 8500 | 5400 | 3200 | 70 | 6V748† | 82.89 | 74.75 | 3 | 0.3 |
| | | **100 Watt, ED17, Medium Base** | | | | | | | | | | | | |
| M90 | MXR100/U/MED/O | Clear(3)* | 15000 | 5 7/16 | 3 3/16 | 9000 | 6400 | 3200 | 70 | 2F944 | 89.79 | 85.40 | 3 | 0.1 |
| M90 | MXR100/C/U/MED/O | Coated(3)* | 15000 | 5 7/16 | 3 3/16 | 8500 | 5400 | 3200 | 70 | 2F970 | 94.94 | 90.25 | 6 | 0.3 |
| | | **100 Watt, PAR38, Medium Skirt** | | | | | | | | | | | | |
| M90 | MXR/100/U/PAR/SP | Clear, Spot, 12° 54000 CBCP(3)* | 7500 | 5 7/16 | — | 5700 | 4330 | 3000 | 70 | 2F109† | 92.00 | 87.50 | 12 | 0.9 |
| M90 | MXR/100/U/PAR/FL | Clear, Flood, 40° 10000 CBCP(3)* | 7500 | 5 7/16 | — | 5700 | 4330 | 3000 | 70 | 2F111† | 92.00 | 87.50 | 12 | 0.9 |
| M90 | MXR/100/U/PAR/WFL | Clear, Wide Flood, 60° 5000 CBCP(3)* | 7500 | 5 7/16 | — | 5700 | 4330 | 3000 | 70 | 2F113† | 92.00 | 87.50 | 12 | 0.9 |


ED17


BD17


PAR30


T6G12


T6 R.S.C.


PAR38

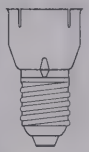
(*) See HID Lamp footnotes on page 948. (†) Excluded product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# HIGH INTENSITY DISCHARGE (HID) LAMPS

GE Lighting

ENERGY RIGHT®

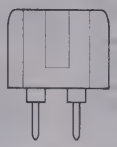

Medium E26

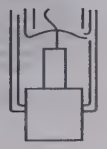

Medium Skirt E26

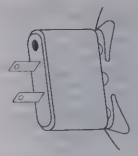

Mogul E39


E40/45

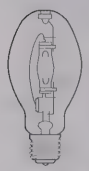

E27


BiPin G12


Recessed Single Contact R7S


Extended Mog. End Prong


BD17


ED28


T7


PAR 64

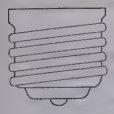

PAR 38


E23½

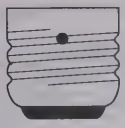
| ANSI Ref. No. | Lamp Designation | Description/Special Features | Rated Average Life Hrs. ** | Maximum Overall Length(In.) | Light Center Length(In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Ship Case Qty | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **METAL HALIDE LAMPS (Cont.)** | | | | | | | | | | | | |
| | | **100 Watt, BD17, E27 Base** | | | | | | | | | | | | |
| — | MXR/100/U/27 | Clear, Export Only (3)* | 15000 | 5½ | 3⁷⁄₁₆ | 9000 | 6400 | 3200 | 70 | **1E101** † | $77.83 | **$74.00** | 6 | 0.9 |
| — | MXR/100/C/U/27 | Coated, Export Only (3)* | 15000 | 5½ | 3⁷⁄₁₆ | 8500 | 5400 | 3200 | 70 | **1E103** † | 82.89 | **78.85** | 6 | 0.9 |
| | | **150 Watt, BD17, Medium Base** | | | | | | | | | | | | |
| **M102** | MVR/150/U/MED | Clear (3)* | 15000 | 5⁷⁄₁₆ | 3⁷⁄₁₆ | 11700 | 7850 | 4000 | 75 | **1E690** † | 85.93 | **81.75** | 6 | 0.3 |
| **M102** | MVR/150/C/U/MED | Coated (3)* | 15000 | 5⁷⁄₁₆ | 3⁷⁄₁₆ | 11200 | 7100 | 4000 | 75 | **1E688** † | 90.80 | **86.30** | 3 | 0.5 |
| **M102** | MXR/150/U/MED | Clear (3)* | 15000 | 5⁷⁄₁₆ | 3⁷⁄₁₆ | 13000 | 8700 | 3200 | 70 | **1G980** † | 85.93 | **81.75** | 6 | 0.3 |
| **M102** | MXR/150/C/U/MED | Coated (3)* | 15000 | 5⁷⁄₁₆ | 3⁷⁄₁₆ | 12500 | 7875 | 3200 | 70 | **1G978** † | 90.80 | **86.30** | 6 | 0.3 |
| | | **150 Watt, ED28, Mogul Base** | | | | | | | | | | | | |
| **M57** | MVR150/U/WM | Clear, Watt-Miser® (8,14)* | 10000V<br>7500H | 8¼ | 5 | 13500V<br>11500H | 10100V<br>8600H | 4000 | 65 | **2F192** † | 79.03 | **75.15** | 12 | 0.5 |
| **M57** | MVR150/C/U/WM | Clear, Watt-Miser® (8,14)* | 10000V<br>7500H | 8¼ | 5 | 12800V<br>10900H | 9600V<br>7200H | 3700 | 70 | **2F196** † | 83.35 | **79.30** | 12 | 0.5 |
| | | **150 Watt, T7, BiPin Base** | | | | | | | | | | | | |
| **M81** | MBI150/T/30 | Clear | 6000 | 3 | 2¼ | 11500 | 9000 | 3000 | 80 | **1K291** † | 131.56 | **125.10** | 10 | 0.1 |
| **M81** | MBI150/T/40 | Clear | 6000 | 3 | 2¼ | 11250 | 8800 | 4000 | 80 | **1K289** † | 131.74 | **125.20** | 10 | 0.1 |
| | | **150 Watt, PAR64, Extended Mogul Prong Base** | | | | | | | | | | | | |
| **M81** | MBI150PAR64/30M | Medium Beam, 13°, 50000 CBCP | 6000 | 5¼ | — | 11500 | 9000 | 3000 | 80 | **1C794** † | 403.97 | **384.25** | 3 | 2.0 |
| **M81** | MBI150PAR64/30N | Narrow Beam, 3°, 300000 CBCP | 6000 | 5¼ | — | 11500 | 9000 | 3000 | 80 | **1K277** † | 403.97 | **384.25** | 3 | 2.3 |
| | | **150 Watt, T7, R7S Base** | | | | | | | | | | | | |
| **M81** | MQI/150/T7/30 | Clear, Horiz ± 45° | 6000 | 5⅜ | 2⅝ | 12000 | 9500 | 3000 | 75 | **3JK76** † | 122.36 | **116.35** | 12 | 0.1 |
| **M81** | MQI/150/T7/43 | Clear, Horiz ± 45° | 6000 | 5⅜ | 2⅝ | 11500 | 10000 | 4300 | 75 | **6V699** † | 122.36 | **110.20** | 3 | 0.1 |
| | | **175 Watt, BD17, Medium Base** | | | | | | | | | | | | |
| **M57** | MVR175/U/MED | Clear, Compact (8,14)* | 10000V<br>6000H | 5¾ | 3⁷⁄₁₆ | 14000V<br>12000H | 10350V<br>8300H | 4000 | 65 | **6V751** † | 76.27 | **65.85** | 3 | 0.2 |
| **M57** | MVR175C/U/MED | Coated, Compact (8,14)* | 10000V<br>6000H | 5¾ | 3⁷⁄₁₆ | 12350V<br>11400H | 9950V<br>7800H | 3900 | 65 | **6V752** † | 80.04 | **72.15** | 3 | 0.1 |
| **M137** | MVR175/VBU/MED/PA | Clear, VBU ± 15° (3,29)* | 15000 | 5¾ | 3⁷⁄₁₆ | 16800 | 13800 | 4000 | 75 | **3JJ92** | 93.01 | **88.45** | 6 | 0.7 |
| **M137** | MVR175C/VBU/MED/PA | Clear, VBU ± 15° (3,29)* | 15000 | 5¾ | 3⁷⁄₁₆ | 15750 | 12100 | 4000 | 75 | **3JJ93** | 97.15 | **92.40** | 6 | 0.7 |
| | | **175 Watt, PAR38, Medium Skirt Base** | | | | | | | | | | | | |
| **M57** | MVR175/PAR38/FL/1 | Clear, Flood 50 Beam (3)* | 7500 | 5⅝ | 3¾ | 12000 | 8000 | 3800 | 65 | **6V756** | 158.98 | **151.25** | 3 | 0.5 |
| | | **175 Watt, E23½, Mogul Base** | | | | | | | | | | | | |
| **M57** | MXR175/VBU | Clear, VBU ±15° (4,13)* | 10000 | 7¾ | 5 | 16600 | 13300 | 3200 | 70 | **1E973** † | 111.32 | **105.90** | 3 | 0.5 |
| **M57** | MXR175/C/VBU | Coated, VBU ±15° (4,13)* | 10000 | 7¾ | 5 | 15750 | 12150 | 3200 | 70 | **1F258** † | 116.75 | **111.00** | 3 | 1.0 |
| **M57** | MXR175/VBD | Clear, VBD ±15° (4, 13)* | 10000 | 7¾ | 5 | 16600 | 13300 | 3200 | 70 | **2C880** † | 111.32 | **105.90** | 6 | 0.7 |
| | | **175 Watt, ED23½, Mogul Base** | | | | | | | | | | | | |
| **M137** | MVR175/VBU/PA | Clear VBU ±15° (3,29)* | 15000 | 7½ | 5 | 16800 | 13775 | 4000 | 75 | **1E686** | 77.19 | **73.50** | 6 | 0.3 |
| **M137** | MVR175/C/VBU/PA | Coated, VBU ±15° (3,29)* | 15000 | 7½ | 5 | 15750 | 12130 | 4000 | 75 | **1E681** | 81.33 | **77.35** | 6 | 0.3 |
| **M137** | MXR175/VBU/PA | Clear, VBU ±15° (3,29)* | 15000 | 7¼ | 5 | 17100 | 14000 | 3200 | 65 | **1K015** † | 77.19 | **73.45** | 3 | 1.5 |
| **M137** | MXR175/C/VBU/PA | Coated, VBU ±15° (3,29)* | 15000 | 7½ | 5 | 16250 | 12500 | 3200 | 65 | **1F260** † | 81.33 | **77.35** | 6 | 0.7 |
| | | **175 Watt, E23½, E40/45 Base** | | | | | | | | | | | | |
| — | MXR175/C/VBU/40 | Coated, VBU ±15° Export Only (4,13)* | 10000 | 7⅞ | 5⅛ | 15750 | 12150 | 3200 | 70 | **1E067** † | 116.75 | **111.00** | 6 | 0.5 |

(*) See HID Lamp footnotes on page 948. (†) Excluded product. (**) Values are for Vertical Burn unless both are listed, then V=Vertical and H=Horizontal.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law. (↝) Denotes energy efficient product

# HIGH INTENSITY DISCHARGE (HID) LAMPS



Mogul E39



Position Mogul EP39



New

E40/45

ENERGY RIGHT®

GE Lighting

| ANSI Ref. No. | Lamp Designation | Description/Special Features | Rated Average Life Hours** | Maximum Overall Length (In.) | Light Center Length(In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | | Stock No. | List | Each | Shpg. Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **METAL HALIDE LAMPS (Cont.)** | | | | | | | | | | | | | | | |
| **175 Watt, ED28, Mogul Base** | | | | | | | | | | | | | | | |
| M57 | MVR175/U | Clear, (8,14)* | 10000V 6000H | 8¼ | 5 | 14000V 12000H | 10350V 8300H | 4000 | 65 | | 4V550 | $50.32 | $35.00 | 3 | 0.4 |
| M57 | MVR175/C/U | Coated, (8,14)* | 10000V 6000H | 8¼ | 5 | 13200V 11300H | 9750V 7800H | 3900 | 70 | | 5V691 | 60.09 | 51.90 | 3 | 0.4 |
| M57 | MVR175/SP30/U | RE730 Phosphor Coated, (5,14)* | 10000V 6000H | 8¼ | 5 | 12000V 10300H | 8300V 7100H | 3000 | 70 | | 6V753 | 81.33 | 70.20 | 3 | 1.0 |
| **175 Watt, ED28, Position Mogul Base** | | | | | | | | | | | | | | | |
| M57 | MVR175/HOR | Clear, Horiz ±15° High Output (7)* | 10000 | 8¼ | 5 | 15000 | 12000 | 4000 | 65 | | 6V754 | 79.03 | 71.25 | 3 | 0.4 |
| M57 | MVR175/C/HOR | Coated, Horiz ±15° High Output (7)* | 10000 | 8¼ | 5 | 14100 | 11300 | 3500 | 70 | | 6V755 | 83.44 | 75.20 | 3 | 1.0 |
| **175 Watt, ED28, E40/45 Base** | | | | | | | | | | | | | | | |
| — | MVR175/U/40 | Clear, Export Only (8,14)* | 10000V | 8½ | 5⅛ | 14000 | 10350 | 4000 | 65 | | 1C279 | 62.56 | 59.60 | 12 | 0.5 |
| — | MVR175/C/U/40 | Coated, Export Only (8,14)* | 10000V | 8½ | 5⅛ | 13200 | 9750 | 3900 | 70 | | 1C277 | 66.61 | 63.35 | 12 | 0.5 |
| — | MVR175/SP30/U/40 | RE730, Phosphor Coated, Export Only (5,14)* | 10000V | 8½ | 5⅛ | 12000 | 8300 | 3000 | 70 | | 1E219 | 81.33 | 77.35 | 12 | 0.5 |
| **250 Watt, ED28, Mogul Base** | | | | | | | | | | | | | | | |
| M58 | MVR250/U | Clear (6,14)* | 10000V 6000H | 8¼ | 5 | 21500V 6000H | 17500V 14500H | 4200 | 65 | | 2V712 † | 56.83 | 31.00 | 3 | 0.4 |
| M58 | MVR250/C/U | Coated (6,14)* | 10000V 6000H | 8¼ | 5 | 19800V 18800H | 16400V 13600H | 3900 | 70 | | 4V561 † | 67.40 | 41.60 | 3 | 0.5 |
| M58 | MVR250/SP30/U | RE730 Phosphor Coated (6,14)* | 10000V 6000H | 8¼ | 5 | 18000V 17600H | 14200V 13950H | 3000 | 70 | | 6V757 † | 89.88 | 77.60 | 3 | 0.2 |
| M138 | MVR250/VBU/PA | Clear, Vertical Base Up ±15° | 15000 | 8¼ | 5 | 21500 | 16200 | 4200 | 65 | New | 4PL07 | 86.20 | 73.65 | 3 | 0.4 |
| M138 | MVR250/C/VBU/PA | Coated, Vertical Base Up ±15° | 15000 | 8¼ | 5 | 21000 | 15800 | 3900 | 65 | New | 4PL08 | 90.07 | 76.60 | 12 | 0.4 |
| S50 | MVR250/VBU/R | HPS Retrofit, Clear, VBU ±15° ( 3)* | 10000 | 8¼ | 5¾ | 18500 | 13875 | 4500 | 65 | | 1E643 † | 75.81 | 72.15 | 3 | 1.0 |
| S50 | MVR250/C/VBU/R | HPS Retrofit, Coated, VBU ±15° ( 3)* | 10000 | 8¼ | 5¾ | 18000 | 12960 | 4000 | 70 | | 1E641 † | 80.22 | 76.25 | 12 | 0.7 |
| **250 Watt, ED28, E40/45 Base** | | | | | | | | | | | | | | | |
| — | MVR250/U/40 | Clear, Export Only (6,14)* | 10000V 6000H | 8½ | 5⅛ | 21500 | 17500 | 4200 | 65 | | 1C312 | 70.66 | 67.20 | 12 | 0.5 |
| — | MVR250/C/U/40 | Coated, Export Only (6,14)* | 10000V 6000H | 8½ | 5⅛ | 19800 | 16400 | 3900 | 70 | | 1C310 | 74.70 | 71.05 | 12 | 0.5 |
| — | MVR250/SP30/U/40 | RE730 Phosphor Coated, Export Only (6,14)* | 10000V 6000H | 8½ | 5⅛ | 18000 | 14200 | 3000 | 70 | | 1E216 | 89.88 | 85.45 | 12 | 0.5 |
| **250 Watt, ED28, Position Mogul Base** | | | | | | | | | | | | | | | |
| M58 | MVR250/HOR | Clear, Horiz ±15° High Output (7)* | 15000 | 8¼ | 5 | 23000 | 16800 | 4200 | 65 | | 6V758 | 87.49 | 78.90 | 3 | 0.5 |
| M58 | MVR250/C/HOR | Coated, Horiz ±15° High Output (7)* | 15000 | 8¼ | 5 | 21600 | 15800 | 3600 | 70 | | 6V759 | 92.00 | 82.95 | 3 | 0.3 |
| **325 Watt, ED37, Mogul Base** | | | | | | | | | | | | | | | |
| H33 | MVR325/I/U/WM | Mercury Retrofit, Watt-Miser, Clear (5,14,19)* | 20000V 10000H | 11⅝ | 7 | 28000V | 18200V | 4000 | 65 | ✓ | 1F348 | 97.24 | 92.50 | 3 | 0.9 |
| H33 | MVR325/C/I/U/WM | Mercury Retrofit, Watt-Miser, Coated (5,14,19)* | 20000V 10000H | 11⅝ | 7 | 26300V 26000H | 17100V 15800H | 3700 | 70 | ✓ | 1F346 | 105.52 | 100.35 | 3 | 0.8 |
| **360 Watt, ED37, Mogul Base** | | | | | | | | | | | | | | | |
| M59 | MVR360/VBU/WM | Clear, VBU ±15° Watt-Miser® (7)* | 20000 | 11½ | 7 | 36000 | 27000 | 4000 | 65 | ✓ | 2F198 † | 73.95 | 43.00 | 3 | 1.0 |
| M59 | MVR360/C/VBU/WM | Coated, VBU ±15° Watt-Miser® (7)* | 20000 | 11½ | 7 | 34200 | 25700 | 3700 | 70 | ✓ | 2F200 † | 77.85 | 57.50 | 6 | 0.8 |
| **400 Watt, ED28, Mogul Base** | | | | | | | | | | | | | | | |
| M59 | MVR400/U/ED28 | Clear, Compact (8)* | 20000V 15000H | 8¼ | 5 | 36000V 32000H | 28800V 23700H | 4000 | 65 | | 5V658 | 95.40 | 82.30 | 3 | 0.5 |
| M59 | MVR400/C/U/ED28 | Coated, Compact (8)* | 20000V 15000H | 8¼ | 5 | 33900V 30100H | 25000V 23500H | 3700 | 70 | | 1K425 | 28.81 | 27.40 | 10 | 0.1 |
| **400 Watt, ED37, Mogul Base** | | | | | | | | | | | | | | | |
| M59 | MVR400/U | Clear, (7,14)* | 20000V 15000H | 11⅝ | 7 | 36000V 32000H | 28800V 23700H | 4000 | 65 | | 2V658 | 54.17 | 28.00 | 6 | 1.0 |
| M59 | MVR400/C/U | Coated, (7,14)* | 20000V 15000H | 11⅝ | 7 | 35000V 30100H | 28000V 23500H | 3700 | 70 | | 4V603 | 68.64 | 38.00 | 3 | 0.8 |
| M59 | MVR400/SP30/U | RE730 Phosphor, Coated, (6,14)* | 20000V 15000H | 11⅝ | 7 | 33000V 30100H | 25000V 23500H | 3000 | 70 | | 6V631 | 93.66 | 89.10 | 3 | 0.6 |
| M59 | MVR400/VBU | Clear, VBU ±15° High Output (7)* | 20000 | 11⅝ | 7 | 41000 | 32000 | 4000 | 65 | | 5V792 | 67.04 | 62.05 | 3 | 0.8 |
| M59 | MVR400/VBD | Clear, VBD® ±15° High Output (7)* | 20000 | 11⅝ | 7 | 40000 | 32000 | 4000 | 65 | | 1C263 | 90.80 | 86.35 | 3 | 1.0 |
| M59 | MVR400/C/VBU | Coated, VBU ±15° (7)* | 20000 | 11⅝ | 7 | 41000 | 32000 | 3700 | 70 | | 5V793 | 81.67 | 73.65 | 3 | 1.0 |



ED28



ED37

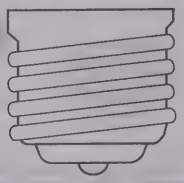
(*) See HID Lamp footnotes on page 948. (**) Values are for Vertical Burn unless both are listed, then V–Vertical and H–Horizontal.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance by law. (✓) Denotes energy efficient product.

# HIGH INTENSITY DISCHARGE (HID) LAMPS

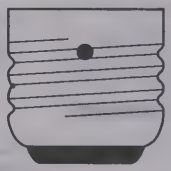
GE Lighting

New

ENERGY RIGHT®



Mogul E39



Position Mogul EP39



E40/45 Base

| ANSI No. | Lamp Designation | Description /Special Features | Rated Average Life Hours** | Maximum Overall Length(In.) | Light Length (In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Shpg. Case Qty | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **METAL HALIDE LAMPS (Cont.)** | | | | | | | | | | | | | | |
| **400 Watt, ED37, Mogul Base** | | | | | | | | | | | | | | |
| M59 | MVR400/SP30/VBU | RE 730 Phosphor, Coated, VBU ±15° High Output (6)* | 20000 | 11 5/16 | 7 | 36000 | 27300 | 3200 | 70 | 6V630 | $122.91 | $86.20 | 3 | 0.3 |
| M59 | MVR400/HOR/MOG | Clear, Horizontal burn ±15°, fits Standard or Position -oriented Socket | 20000 | 11½ | 7 | 38000 | 30400 | 4200 | 65 | New 4PL05 | 84.92 | 75.95 | 6 | 0.8 |
| M59 | MVR400/C/HOR/MOG | Coated, Horizontal burn ±15°, fits Standard or Position -oriented Socket | 20000 | 11½ | 7 | 36800 | 29440 | 3900 | 70 | New 4PL06 | 92.64 | 79.85 | 6 | 0.8 |
| M135 | MVR400/VBU/PA | Clear, VBU±15°(3, 29)* | 20000 | 11 5/16 | 7 | 44000 | 33900 | 4000 | 65 | 3JJ96 | 87.77 | 83.50 | 6 | 0.8 |
| M135 | MVR400/C/VBU/PA | Coated, VBU ±15°, (3,29)* | 20000 | 11 5/16 | 7 | 42000 | 30250 | 4000 | 65 | 3JJ97 | 89.79 | 85.40 | 6 | 0.8 |
| M59 | MVR400/VBU/XL | Clear, VBU ±15°, (6)* | 20000 | 11 5/16 | 7 | 44000 | 34000 | 4000 | 65 | 3JK01 | 79.10 | 75.30 | 3 | 1.0 |
| M59 | MVR400/C/VBU/XL | Coated, VBU ± 15°, (6*) | 20000 | 11 5/16 | 7 | 43000 | 33500 | 3700 | 70 | 3JK02 | 85.49 | 81.30 | 3 | 1.0 |
| M59 | MPR400/VBU/O | Clear, VBU ±15° Open Fixtures (7)* | 20000 | 11 5/16 | 7 | 38000 | 30500 | 3400 | 65 | 1E099 | 116.01 | 110.30 | 6 | 1.1 |
| M59 | MPR400/C/VBU/O | Coated, VBU ±15°, Open Fixtures (7)* | 20000 | 11 5/16 | 7 | 35000 | 27000 | 3200 | 70 | 2F202 | 120.61 | 114.70 | 6 | 1.1 |
| H33 | MVR400/I/U | Mercury Retrofit, Clear (14, 21)* | 15000V 10000H | 11 5/16 | 7 | 36000V 32000H | 21600V 18400H | 4000 | 65 | 1C347 | 99.82 | 94.95 | 3 | 0.5 |
| H33 | MVR400/C/I/U | Mercury Retrofit, Coated (14, 22)* | 15000V 10000H | 11 5/16 | 7 | 33800V 32000H | 20300V 15600H | 3700 | 70 | 1C344 | 108.19 | 102.95 | 6 | 0.9 |
| H33 | MVT400/I/U | Mercury Retrofit, Clear (14,25)* | 15000V 10000H | 11 5/16 | 7 | 34300V 32000H | 20600V 17600H | 4000 | 65 | 6V040 | 149.96 | 127.55 | 3 | 0.2 |
| H33 | MVT400/C/I/U | Mercury Retrofit, Coated (14,26)* | 15000V 10000H | 11 5/16 | 7 | 32200V 32000H | 19400V 17600H | 3700 | 70 | 6V041 | 158.52 | 134.85 | 3 | 0.5 |
| M59 | MVT400/VBU | Clear, VBU ±15°(7)* | 20000 | 11 5/16 | 7 | 37400 | 29900 | 4000 | 65 | 1F278 | 138.74 | 131.95 | 6 | 0.9 |
| M59 | MVT400/C/VBU | Coated, VBU ±15°.(7)* | 20000 | 11 5/16 | 7 | 35500 | 28100 | 3700 | 70 | 1F276 | 147.20 | 139.95 | 6 | 0.9 |
| S51 | MVR400/VBU/R | HPS Retrofit, Clear,VBU±15° (3)* | 20000 | 11½ | 5¾ | 40000 | 30000 | 4500 | 65 | 1E639 † | 78.29 | 74.45 | 12 | 0.1 |
| S51 | MVR400/C/VBU/R | HPS Retrofit, Coated, VBU±15°(3)* | 20000 | 11½ | 5¾ | 36500 | 26280 | 4000 | 70 | 1E637 † | 87.40 | 83.10 | 12 | 0.1 |
| **400 Watt, ED37, Position Mogul Base** | | | | | | | | | | | | | | |
| M59 | MVR400/HOR | Clear, Horiz ±15° High Output (7)* | 20000 | 11½ | 7 | 40000 | 32000 | 4200 | 65 | 5V685 | 84.92 | 76.50 | 3 | 0.7 |
| **400 Watt, ED37, E40/45 Base** | | | | | | | | | | | | | | |
| — | MVR400/U/40 | Clear, Export Only (7, 14)* | 20000 | 11⅝ | 7 3/16 | 36000 | 27000 | 4000 | 65 | 1C342 | 67.34 | 64.05 | 6 | 1.0 |
| — | MVR400/C/U/40 | Coated, Export Only (7,14)* | 20000 | 11⅝ | 7 3/16 | 33900 | 25900 | 3700 | 70 | 1C340 | 76.08 | 72.40 | 6 | 1.0 |
| — | MVR400/C/VBU/40 | Coated, VBU ±15°, High Output (7)* | 20000 | 11⅝ | 7 3/16 | 37600 | 30100 | 3700 | 70 | 1C257 | 90.53 | 86.05 | 6 | 1.0 |
| — | MVR400/SP30/U | RE730 Phosphor, Coated, Export Only (6, 14)* | 20000 | 11⅝ | 7 3/16 | 20000 | 33000 | 3000 | 70 | 1E212 | 93.66 | 89.10 | 6 | 0.8 |
| — | MVR400/SP30/VBU/40 | Coated, VBU ±15°, Export Only (6)* | 20000 | 11⅝ | 7 3/16 | 36000 | 27300 | 3200 | 70 | 1K253 | 122.91 | 86.20 | 6 | 0.9 |
| — | MVR400/VBU/40 | Clear, VBU ±15°, High Output (7)* | 20000 | 11⅝ | 7 3/16 | 40000 | 32000 | 4000 | 65 | 1C251 | 83.35 | 79.30 | 6 | 1.0 |
| — | MPR400/VBU/O/40 | Clear, VBU ±15° Open Fixtures, Export Only (7)* | 20000 | 11⅝ | 7 3/16 | 38000 | 30500 | 3400 | 65 | 1E097 | 116.01 | 110.30 | 6 | 1.1 |
| **950 Watt, BT56, Mogul Base** | | | | | | | | | | | | | | |
| H36 | MVR950/I/VBU | Mercury Retrofit, Clear VBU ±15°(27)* | 12000 | 15 1/16 | 9½ | 100000 | 80000 | 3800 | 65 | 1C568 | 243.80 | 232.00 | 6 | 1.4 |



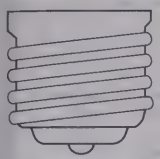
ED37



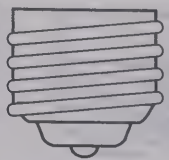
BT56

(*) See HID Lamp footnotes on page 948. (†). Excluded product. Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law. (**) Values are for vertical burn unless both are listed, then V=Vertical and H=Horizontal. (✓) Denotes energy efficient product.

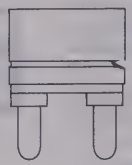
# HIGH INTENSITY DISCHARGE (HID) LAMPS


Mogul E39


E40


Medium E26


R.S.C. R7S


Mogul BiPost

GE Lighting

New

| ANSI Ref. No. | Lamp Designation | Description /Special Features | Rated Average Life Hours | Maximum Overall Length(In.) | Light Center Length (In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Shpg. Case Qty | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **METAL HALIDE LAMPS (Cont.)** | | | | | | | | | | | | |
| | | **1000 Watt, BT37, Mogul Base** | | | | | | | | | | | | |
| M47 | MVR1000/U/BT37 | Clear | 12000 | 11 5/16 | 7 | 110000 | 88000 | 4000 | 65 | 3JK41 | $162.56 | $154.75 | 3 | 0.8 |
| | | **1000 Watt, BT56, Mogul Base** | | | | | | | | | | | | |
| M47 | MVR1000/U | Clear (6)* | 12000V 9000H | 15 3/8 | 9 1/2 | 110000V 107800H | 88000V 86240H | 4000 | 65 | 2V659 | 146.66 | 71.00 | 6 | 1.8 |
| M47 | MVR1000/C/U | Coated | 12000V 9000H | 15 3/8 | 9 1/2 | 105000V 100000H | 79800V 76000H | 3400 | 70 | 4V565 | 162.18 | 113.65 | 3 | 1.0 |
| M47 | MVR1000/VBU | Clear, VBU ±15° High Output (6)* | 12000 | 15 3/8 | 9 1/2 | 115000 | 92000 | 3800 | 65 | 4V516 | 204.06 | 132.75 | 6 | 1.6 |
| M47 | MVR1000/C/VBU | Coated, VBU ±15° High Output (6)* | 12000 | 15 3/8 | 9 1/2 | 110000 | 83600 | 3400 | 70 | 4V518 | 229.91 | 149.55 | 3 | 1.6 |
| | | **1000 Watt, BT56, E40/45 Base** | | | | | | | | | | | | |
| — | MVR1000/U/40 | Clear, Export Only (6)* | 11000 | 15 7/32 | 9 7/32 | 110000 | 88000 | 4000 | 65 | 1C427 | 162.56 | 154.75 | 6 | 1.4 |
| — | MVR1000/C/U/40 | Coated, Export Only (6)* | 12000 | 15 7/32 | 9 7/32 | 105000 | 79800 | 3400 | 70 | 1C425 | 179.77 | 171.50 | 6 | 1.4 |
| | | **1000 Watt, PAR64, Mogul BiPost Base** | | | | | | | | | | | | |
| — | CSI1000/SB/G38 | Narrow Spot, Clear, 6° | 3500 | 6 7/8 | — | 76000 | 55000 | 4000 | 80 | 1C854 † | 504.07 | 479.25 | 3 | 3.8 |
| — | CSI1000/SB/HR/G38 | Narrow Spot, Clear, 6° Hot Restrike | 3500 | 6 7/8 | — | 76000 | 55000 | 4000 | 80 | 1C852 † | 607.48 | 578.50 | 3 | 3.8 |
| | | **1500 Watt, BT56, Mogul Base** | | | | | | | | | | | | |
| M48 | MVR1500/HBU | Clear, BU to ±15° Below Horiz (6, 17)* | 3000V 3000H | 15 3/8 | 9 1/2 | 155000V 150000H | 140000V 135000H | 3600 | 65 | 4V484 | 171.31 | 128.55 | 3 | 1.6 |
| M48 | MVR1500/HBD | Clear, BD to ±15° Above Horiz (6, 17)* | 3000V 3000H | 15 3/8 | 9 1/2 | 155000V 150000H | 140000V 135000H | 3600 | 65 | 5V075 | 189.89 | 171.25 | 3 | 0.3 |
| | | **1500 Watt, T7, R7S Base** | | | | | | | | | | | | |
| — | MBI1500/L/H | Clear | 6000 | 10 1/8 | 5 | 120000 | 90000 | 5200 | 65 | 1C796 † | 236.99 | 225.75 | 3 | 0.3 |
| | | **1650 Watt, BT56, Mogul Base** | | | | | | | | | | | | |
| M112 | MVR1650/HOR | Clear, Horizontal burn ±60°, Position-oriented Socket required | 3000 | 15 3/8 | 9 1/2 | 177000 | 141600 | 3200 | 65 | New 4PL04 | 189.15 | 148.20 | 6 | 2.0 |
| | | **HIGH PRESSURE SODIUM LAMPS** | | | | | | | | | | | | |
| | | **35 Watt, B17, Medium Base** | | | | | | | | | | | | |
| S76 | LU35/MED | Clear (3)* | 16000 | 5 7/16 | 3 7/16 | 2250 | 2025 | 1900 | 22 | 2V656 | 60.18 | 28.00 | 6 | 0.3 |
| S76 | LU35/D/MED | Diffuse (3)* | 16000 | 5 7/16 | 3 7/16 | 2150 | 1935 | 1900 | 22 | 5V817 | 62.08 | 55.95 | 3 | 0.1 |
| | | **50 Watt, B17, Medium Base** | | | | | | | | | | | | |
| S68 | LU50/MED | Clear (3)* | 24000+ | 5 7/16 | 3 7/16 | 4000 | 3600 | 1900 | 22 | 2V657 | 60.18 | 28.00 | 3 | 0.3 |
| S68 | LU50/D/MED | Diffuse (3)* | 24000+ | 5 7/16 | 3 7/16 | 3800 | 3420 | 1900 | 22 | 5V805 | 62.08 | 55.95 | 3 | 0.1 |
| | | **50 Watt, ED23 1/2, Mogul Base** | | | | | | | | | | | | |
| S68 | LU50 | Clear (3)* | 24000+ | 7 3/4 | 5 | 4000 | 3600 | 1900 | 22 | 1C292 | 73.70 | 47.95 | 3 | 0.4 |
| S68 | LU50/D | Diffuse (3)* | 24000+ | 7 3/4 | 5 | 3800 | 3420 | 1900 | 22 | 5V938 | 85.47 | 76.95 | 3 | 0.2 |
| | | **70 Watt, B17, Medium Base** | | | | | | | | | | | | |
| S62 | LU70/MED | Clear (3)* | 24000+ | 5 7/16 | 3 7/16 | 6400 | 5450 | 1900 | 22 | 2V632 | 60.18 | 28.00 | 3 | 0.2 |
| S62 | LU70/D/MED | Diffuse (3)* | 24000+ | 5 7/16 | 3 7/16 | 5950 | 5050 | 1900 | 22 | 5V943 | 62.17 | 56.05 | 6 | 0.3 |
| S62 | LU70/DX/MED | Clear Deluxe (3)* | 10000 | 5 1/2 | 3 1/2 | 3800 | 3040 | 2200 | 65 | 6V730 † | 58.33 | 52.60 | 23 | 0.1 |


BT37


Mogul BiPost


BT56 Mog.


T7


B17

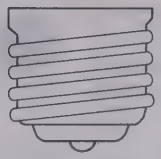

ED23

See HID Lamp footnotes on page 948. (†) Excluded product. (**) Values are for Vertical Burn unless both are listed,then, V=Vertical and H=Horizontal
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# HIGH INTENSITY DISCHARGE (HID) LAMPS

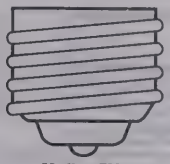
GE Lighting

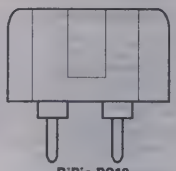
ENERGY RIGHT®


Mogul E39


E27


E40/45


Medium E26

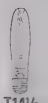

BiPin PG12


E21


T10


B17


ED23½

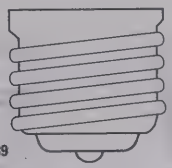

T14½


ED28

| ANSI Ref. No. | Lamp Designation | Description/ Special Features | Rated Average Life Hours | Maximum Overall Length (In.) | Light Center Length (In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HIGH PRESSURE SODIUM LAMPS** | | | | | | | | | | | | | | |
| **70 Watt, ED23½, Mogul Base** | | | | | | | | | | | | | | |
| S62 | LU70 | Clear(3)* | 24000+ | 7¾ | 5 | 6400 | 5450 | 1900 | 22 | 2V513 | $58.46 | $26.00 | 3 | 0.4 |
| S62 | LU70/D | Diffuse (3)* | 24000+ | 7¾ | 5 | 5950 | 5050 | 1900 | 22 | 5V944 | 84.92 | 76.45 | 3 | 0.2 |
| S62 | LU70/SBY/LL | Clear, Standby (3)* | 40000 | 7¾ | 5 | 6400 | 5050 | 2000 | 22 | 5V551 | 130.18 | 117.20 | 3 | 0.1 |
| **70 Watt, E21, E27 Base** | | | | | | | | | | | | | | |
| — | LU70/90/27 | Clear, Export Only (3)* | 24000+ | 5⁹⁄₁₆ | 4½₂ | 6000 | 5400 | 1900 | 22 | 1F392 | 90.62 | 86.15 | 12 | 0.4 |
| — | LU70/90/D/27 | Diffuse, Export Only (3)* | 24000+ | 5⁹⁄₁₆ | 4½₂ | 5800 | 5220 | 1900 | 22 | 1F418 | 93.75 | 89.20 | 12 | 0.3 |
| **95 Watt, T10, PG12 Base** | | | | | | | | | | | | | | |
| — | LU95/SP28/PG12 | Clear, White Lucalox, Export Only (3)* | 10000 | 5⅛ | 3⁷⁄₁₆ | 5200 | 4160 | 2800 | 70 | 1E077† | 27.09 | 149.00 | 12 | 0.3 |
| **100 Watt, B17, Medium Base** | | | | | | | | | | | | | | |
| S54 | LU100/MED | Clear (3)* | 24000+ | 5½ | 3⁷⁄₁₆ | 9500 | 8550 | 2000 | 22 | 4V604 | 60.83 | 29.00 | 3 | 0.3 |
| S54 | LU100/D/MED | Diffuse (3)* | 24000+ | 5½ | 3⁷⁄₁₆ | 8800 | 7920 | 2000 | 22 | 6V028 | 70.14 | 42.10 | 3 | 0.2 |
| **100 Watt, ED23½, Mogul Base** | | | | | | | | | | | | | | |
| S54 | LU100 | Clear (3)* | 24000+ | 7¾ | 5 | 9500 | 8550 | 2000 | 22 | 2V519 | 61.12 | 27.00 | 3 | 0.4 |
| S54 | LU100/D | Diffuse (3)* | 24000+ | 7¾ | 5 | 8800 | 7920 | 2000 | 22 | 5V945 | 88.50 | 79.75 | 3 | 0.2 |
| S54 | LU100/SBY/LL | Clear, Standby (3)* | 40000 | 7¾ | 5 | 9500 | 8190 | 2000 | 22 | 5V552 | 135.52 | 122.10 | 3 | 0.3 |
| **100 Watt, T14½, E40/45 Base** | | | | | | | | | | | | | | |
| — | LU100/100/T/40 | Clear, Export Only (3)* | 24000+ | 8¼ | 5 | 9600 | 8160 | 2000 | 22 | 1E225** | 83.81 | 79.70 | 12 | 0.4 |
| **100 Watt, ED23½, E40/45 Base** | | | | | | | | | | | | | | |
| — | LU100/100/D/40 | Diffuse, Export Only (3)* | 24000+ | 7⁵⁄₁₆ | 5 | 9200 | 7820 | 2000 | 22 | 1E227 | 94.12 | 89.55 | 12 | 0.4 |
| **110 Watt, E23½, E27 Base** | | | | | | | | | | | | | | |
| — | LUH110/D/27 | Mercury Retrofit, 125w, Diffuse, Export Only (6,12)* | 10000 | 6⅞ | 4⁵⁄₁₆ | 8800 | 7920 | 1900 | 22 | 1E895 | 115.64 | 109.95 | 12 | 0.4 |
| **150 Watt, B17, Medium Base** | | | | | | | | | | | | | | |
| S55 | LU150/MED | Clear (2,10)* | 24000+ | 5¾ | 3½ | 16000 | 14400 | 2000 | 22 | 2V713 | 64.31 | 28.00 | 3 | 0.3 |
| S55 | LU150/D/MED | Diffuse (2,10)* | 24000+ | 5¾ | 3½ | 15000 | 13500 | 2000 | 22 | 5V806 | 74.29 | 44.65 | 3 | 0.2 |
| S55 | LU150/DX/MED | Clear Deluxe (2)* | 15000 | 5¾ | 3½ | 10500 | 9135 | 2200 | 65 | 6V737† | 62.01 | 55.95 | 3 | 0.3 |
| **150 Watt, ED23½, Mogul Base** | | | | | | | | | | | | | | |
| S55 | LU150/55 | Clear (2)* | 24000+ | 7¾ | 5 | 16000 | 14400 | 2000 | 22 | 2V452 | 62.75 | 26.00 | 3 | 0.4 |
| S55 | LU150/55/D | Diffuse (2,10)* | 24000+ | 7¾ | 5 | 15000 | 13500 | 2000 | 22 | 5V946 | 81.79 | 73.70 | 3 | 0.2 |
| S55 | LU150/55/DX | Clear Deluxe (2)* | 15000 | 7¾ | 5 | 10500 | 9135 | 2200 | 65 | 6V739† | 60.72 | 54.70 | 3 | 0.2 |
| S55 | LU150/55/SBY/LL | Clear, Standby (2,10)* | 40000 | 7¾ | 5 | 16000 | 14000 | 2000 | 22 | 4V531 | 140.76 | 126.80 | 3 | 0.5 |
| **150 Watt, ED28, Mogul Base** | | | | | | | | | | | | | | |
| S56 | LU150/100 | Clear (2,11)* | 24000+ | 8⁹⁄₁₆ | 5 | 15000 | 13500 | 2000 | 22 | 4V593 | 96.69 | 87.10 | 3 | 0.5 |
| S56 | LU150/100/D | Diffuse (2,11)* | 24000+ | 8⁹⁄₁₆ | 5 | 14000 | 12600 | 2000 | 22 | 1E155 | 100.46 | 95.50 | 12 | 0.5 |
| H39 | LUH150/EZ | Mercury Retrofit, 175w, Clear (6,12)* | 13000 | 9 | 5 | 12500 | 12000 | 1900 | 22 | 6VR53 | 106.54 | 101.35 | 3 | 0.3 |
| **150 Watt, T14½, E40/45 Base** | | | | | | | | | | | | | | |
| — | LU150/100/40 | Clear, Export Only (2,11)* | 24000+ | 8¼ | 5½₂ | 15000 | 13500 | 2000 | 22 | 1C322 | 96.69 | 91.95 | 12 | 0.4 |

(*) See HID Lamp footnotes on page 948. (†) Excluded project. (**) Limited availability. Contact local branch. (✓) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# HIGH INTENSITY DISCHARGE (HID) LAMPS



Mogul E39



E40/45 Base

New

ENERGY RIGHT®

GE Lighting

| ANSI Ref. No. | Lamp Designation | Description /Special Features | Rated Average Life(Hrs.) | Maximum Overall Length(In.) | Light Center Length(In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | | Stock No. | List | Each | Shpg. Case Qty | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HIGH PRESSURE SODIUM LAMPS (Cont.)** | | | | | | | | | | | | | | | |
| **150 Watt, ED23 ½, E40/45 Base** | | | | | | | | | | | | | | | |
| — | LU150/55/40 | Clear, Export Only (2,10)* | 24000+ | 7 15/16 | 5 1/2 | 16000 | 14400 | 2000 | 22 | | 1C334 | $78.02 | $74.20 | 12 | 0.4 |
| **150 Watt, ED28, E40/45 Base** | | | | | | | | | | | | | | | |
| — | LU150/100/D/40 | Diffuse, Export Only (2,11)* | 24000+ | 8 7/16 | 5 1/2 | 14000 | 12600 | 2000 | 22 | | 1C320 | 100.46 | 95.50 | 12 | 0.5 |
| **200 Watt, ED18, Mogul Base** | | | | | | | | | | | | | | | |
| S66 | LU200 | Clear (2)* | 24000+ | 9 3/4 | 5 3/4 | 22000 | 19800 | 2100 | 22 | | 2V514 | 81.92 | 41.10 | 12 | 0.5 |
| S66 | LU200/SBY/LL | Clear, Standby Longlife, Dual Arc Tube | 40000 | 9 3/4 | 5 1/2 | 21500 | 18150 | 2000 | 22 | New | 4PL03 | 148.12 | 116.40 | 12 | 0.4 |
| **215 Watt, ED28, Mogul Base** | | | | | | | | | | | | | | | |
| H37 | LUH215/EZ | Mercury Retrofit, 250w, Clear (6,12)* | 12000 | 9 | 5 | 20200 | 18600 | 1900 | 22 | ✓ | 6VR52 | 114.36 | 108.75 | 3 | 0.5 |
| **215 Watt, ED28, E40/45 Base** | | | | | | | | | | | | | | | |
| — | LUH215/D/EZ/40 | Mercury Retrofit, 250w, Diffuse, Export Only (6,12)* | 12000 | 9 1/8 | 5 1/2 | 20200 | 18600 | 1900 | 22 | ✓ | 1C239 | 119.88 | 113.95 | 12 | 0.5 |
| **250 Watt, ED18, Mogul Base** | | | | | | | | | | | | | | | |
| S50 | LU250 | Clear (1)* | 24000+ | 9 3/4 | 5 3/4 | 28000 | 27000 | 2100 | 22 | | 2V520 | 66.60 | 23.99 | 3 | 0.5 |
| S50 | LU250/S | Clear (3)* | 24000+ | 9 3/4 | 5 3/4 | 30000 | 28000 | 2100 | 22 | | 5V940 | 114.26 | 102.95 | 3 | 0.3 |
| S50 | LU250/D | Diffuse (1)* | 24000+ | 9 | 5 | 26000 | 23400 | 2100 | 22 | | 5V941 | 95.96 | 86.45 | 3 | 0.3 |
| S50 | LU250/DX | Clear Deluxe (2)* | 15000 | 9 15/16 | 5 3/4 | 22500 | 20700 | 2200 | 65 | | 6V250 † | 62.01 | 55.95 | 3 | 0.2 |
| S50 | LU250/SBY/LL | Clear, Standby (1)* | 40000+ | 9 3/4 | 5 3/4 | 27500 | 24750 | 2000 | 22 | | 2V869 | 156.77 | 141.15 | 3 | 0.4 |
| **250 Watt, ED28, Mogul Base** | | | | | | | | | | | | | | | |
| S50 | MVR250/VBU/R | HPS Retrofit, Clear, VBU ±15°, (3)* | 10000 | 8 1/4 | 5 3/4 | 18500 | 13875 | 4500 | 65 | | 1E643 † | 75.81 | 72.15 | 3 | 1.0 |
| S50 | MVR250/C/VBU/R | HPS Retrofit, Coated, VBU ±15°, (3)* | 10000 | 8 1/4 | 5 3/4 | 18000 | 12960 | 4000 | 70 | | 1E641 † | 80.22 | 76.25 | 12 | 0.7 |
| **250 Watt, ED18, E40/45 Base** | | | | | | | | | | | | | | | |
| — | LU250/40 | Clear, Export Only (1)* | 24000+ | 9 15/16 | 5 29/32 | 28000 | 27000 | 2100 | 22 | | 1C332 | 82.80 | 78.75 | 12 | 0.5 |
| — | LU250/D/40 | Diffuse, Export Only (1)* | 24000+ | 9 1/4 | 5 1/4 | 26000 | 23400 | 2000 | 22 | | 1C330 | 95.96 | 91.20 | 12 | 0.5 |
| **310 Watt, ED18, Mogul Base** | | | | | | | | | | | | | | | |
| S67 | LU310 | Clear (2)* | 24000+ | 9 3/4 | 5 3/4 | 37000 | 33300 | 2100 | 22 | | 4V667 | 125.49 | 69.10 | 3 | 0.2 |
| **360 Watt, BT37, Mogul Base** | | | | | | | | | | | | | | | |
| H33 | LUH360/EZ | Clear, Retrofit for 400w Mercury | 24000 | 11 5/16 | 7 1/8 | 45000 | 40500 | 2100 | 25 | ✓ | 6VR49 | 138.74 | 124.95 | 3 | 0.8 |
| **400 Watt, ED18, Mogul Base** | | | | | | | | | | | | | | | |
| S51 | LU400 | Clear (2)* | 24000+ | 9 3/4 | 5 3/4 | 51000 | 45000 | 2100 | 22 | | 2V453 | 68.38 | 23.99 | 3 | 0.4 |
| S51 | LU400/SBY/LL | Clear, Standby (2)* | 40000 | 9 3/4 | 5 3/4 | 50000 | 45000 | 2000 | 22 | | 4V629 | 68.78 | 22.23 | 0 | 9.5 |
| S51 | MVR400/VBU/R | HPS Retrofit, Clear, VBU ±15°, (3)* | 20000 | 11 1/2 | 5 3/4 | 40000 | 30000 | 4500 | 65 | | 1E639 | 78.29 | 74.45 | 3 | 1.0 |
| S51 | MVR400/C/VBU/R | HPS Retrofit, Coated, VBU ±15°, (3)* | 20000 | 11 1/2 | 5 3/4 | 36500 | 26280 | 4000 | 70 | | 1E637 | 87.40 | 83.10 | 3 | 0.5 |



ED23½



ED18



ED28



BT37

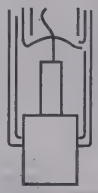
(*) See HID Lamp footnotes on page 948. (†) Excluded product. (✓) Denotes energy efficient product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

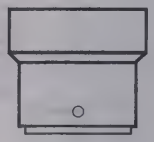
# HIGH INTENSITY DISCHARGE (HID) LAMPS

GE Lighting


Mogul E39


E40/45


Recessed Single Contact RX7S


2-Lug Sleeve B22d


E28


ED37


ED18


T7


ED37


E25

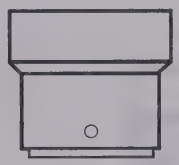

T18


T16

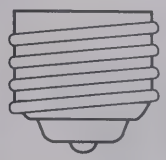
| ANSI Ref. No. | Lamp Designation | Description /Special Features | Rated Average Life Hours | Maximum Overall Length (In.) | Light Center Length | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | | List | Each | Shpg. Case Qty. | Shpg. Case Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HIGH PRESSURE SODIUM LAMPS (Cont.)** | | | | | | | | | | | | | | | |
| **400 Watt, E28, Mogul Base** | | | | | | | | | | | | | | | |
| S51 | LU400/DX | Clear Deluxe (2)* | 15000 | 9 | 5⁹⁄₁₆ | 37400 | 34400 | 2200 | 70 | 6VR48 | † | $75.99 | ~~$68.50~~ | 3 | 0.5 |
| **400 Watt, ED37, Mogul Base** | | | | | | | | | | | | | | | |
| S51 | LU400/D | Diffuse (2)* | 24000+ | 11¹⁵⁄₁₆ | 7 | 47500 | 42750 | 2100 | 22 | 6V042 | | 101.38 | **91.30** | 6 | 0.8 |
| **400 Watt, ED18, E40/45 Base** | | | | | | | | | | | | | | | |
| — | LU400/40 | Clear, Export Only (2)* | 24000+ | 9¹⁵⁄₁₆ | 5²⁹⁄₃₂ | 51000 | 45000 | 2100 | 22 | 1C328 | | 85.01 | **80.90** | 12 | 0.5 |
| **400 Watt, ED37, E40/45 Base** | | | | | | | | | | | | | | | |
| — | LU400/D/40 | Diffuse, Export Only (2)* | 24000+ | 11½ | 7⁹⁄₁₆ | 47500 | 42750 | 2100 | 22 | 1C326 | | 101.38 | **96.40** | 6 | 0.8 |
| **400 Watt, T7, Rx7s Base** | | | | | | | | | | | | | | | |
| S51 | LU400/TD | Clear, Double Ended, Horiz±20° | 24000 | 10⅛ | — | 48000 | 41600 | 2000 | 25 | 1C778 | † | 157.87 | **150.25** | 10 | 0.6 |
| **750 Watt, ED37, Mogul Base** | | | | | | | | | | | | | | | |
| S111 | LU750 | Clear | 24000+ | 11½ | 7 | 110000 | 99000 | 2100 | 22 | 4HP19 | | 233.22 | **222.00** | 6 | 0.9 |
| **1000 Watt, E25, Mogul Base** | | | | | | | | | | | | | | | |
| S52 | LU1000 | Clear (3)* | 24000+ | 15⁹⁄₁₆ | 8¾ | 140000 | 126000 | 2100 | 22 | 2V754 | | 209.82 | **83.00** | 6 | 1.3 |
| **1000 Watt, T7, Rx7s Base** | | | | | | | | | | | | | | | |
| S52 | LU1000/TD | Clear, Double Ended, Horiz±20° | 24000 | 13⁹⁄₁₆ | — | 137500 | 118200 | 2000 | 25 | 1C776 | † | 230.92 | **220.00** | 3 | 0.5 |
| **1000 Watt, T18, E40/45 Base** | | | | | | | | | | | | | | | |
| — | LU1000/T18/40 | Clear, Export Only (3)* | 24000+ | 15⁹⁄₁₆ | 8¹³⁄₁₆ | 140000 | 126000 | 2100 | 22 | 1C318 | | 318.23 | **302.75** | 6 | 1.0 |
| **1000 Watt, E25, E40/45 Base** | | | | | | | | | | | | | | | |
| — | LU1000/40 | Clear, Export Only (3)* | 24000+ | 15⁹⁄₁₆ | 8¹³⁄₁₆ | 140000 | 126000 | 2100 | 22 | 1C324 | | 232.58 | **221.50** | 6 | 0.9 |
| **LOW PRESSURE SODIUM LAMPS (Cont.)** | | | | | | | | | | | | | | | |
| **18 Watt, T16, B22d(Bayonet) Base** | | | | | | | | | | | | | | | |
| L69 | SOX18 | Clear, Horiz±20°, VBU±15° | 18000 | 8½ | 5⅜ | 1800 | 1570 | 1800 | — | 4V500 | † | 63.85 | **57.60** | 3 | 0.2 |

(*) See HID Lamp footnotes on page 948. (†) Excluded product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

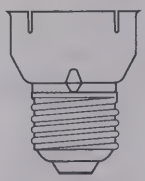
# HIGH INTENSITY DISCHARGE (HID) LAMPS



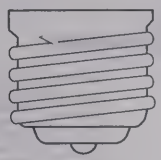
2-Slug Sleeve B22d



Medium E26



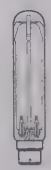
Medium Skirt E26



Mogul E39

GE Lighting

| ANSI Ref. No. | Lamp Designation | Description /Special Features | Rated Average Life Hours | Maximum Overall Length (In.) | Light Center Length (In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LOW PRESSURE SODIUM LAMPS (Cont.)** | | | | | | | | | | | | | | |
| **35 Watt, T16, B22d (Bayonet) Base** | | | | | | | | | | | | | | |
| **L70** | SOX35 | Clear, Horiz ±20°, VBU±15 | 18000 | 12¼ | 7¼ | 4600 | 4000 | 1800 | — | **4V587** † | $70.75 | **$63.75** | 3 | 0.7 |
| **55 Watt, T16, B22d (Bayonet) Base** | | | | | | | | | | | | | | |
| **L71** | SOX55 | Clear, Horiz ±20°, VBU±15 | 18000 | 16¾ | 9½ | 7650 | 6655 | 1800 | — | **4V588** † | 77.74 | **70.05** | 3 | 0.9 |
| **90 Watt, T21, B22d (Bayonet) Base** | | | | | | | | | | | | | | |
| **L72** | SOX90 | Clear, Horiz ±20° | 16000 | 20¾ | 11½ | 12750 | 11095 | 1800 | — | **4V589** † | 90.16 | **81.20** | 3 | 1.4 |
| **135 Watt, T21, B22d (Bayonet) Base** | | | | | | | | | | | | | | |
| **L73** | SOX135 | Clear, Horiz ±20° | 16000 | 30½ | 16⅜ | 22000 | 19140 | 1800 | — | **4V590** † | 115.37 | **103.95** | 3 | 2.1 |
| **180 Watt, T21, B22d (Bayonet) Base** | | | | | | | | | | | | | | |
| **L74** | SOX180 | Clear, Horiz ±20° | 18000 | 44⅛ | 22⅞ | 33000 | 28710 | 1800 | — | **4V591** † | 126.41 | **120.15** | 9 | 3.3 |
| **MERCURY LAMPS** | | | | | | | | | | | | | | |
| **40 Watt, B17, Medium Base** | | | | | | | | | | | | | | |
| **H45**<br>**H46** | HR40/50DX45-46 | Deluxe White, 40W on H45 Ballast<br>50W on H46 Ballast | 16000 | 5⅛ | 3⅛ | 1140<br>1575 | 910<br>1250 | 3900 | 50 | **2V530** | 76.64 | **53.75** | 3 | 0.2 |
| **75 Watt, B17, Medium Base** | | | | | | | | | | | | | | |
| **H43** | HR75DX43 | Deluxe White | 16000 | 5⅞ | 3½ | 2800 | 2250 | 3900 | 50 | **5V640** | 76.64 | **69.10** | 5 | 0.2 |
| **100 Watt, A23½, Medium Base** | | | | | | | | | | | | | | |
| **H38**<br>**H38** | HR100A38/A23<br>HR100DX38/A23 | Clear<br>Deluxe White | 18000<br>18000 | 5⅞<br>5⅞ | 3½<br>3½ | 3700<br>4000 | 3000<br>3050 | 5700<br>3800 | 15<br>50 | **1E717**<br>**4V609** | 68.36<br>59.84 | **65.05**<br>**53.95** | 5<br>3 | 0.2<br>0.2 |
| **100 Watt, B17, Medium Base** | | | | | | | | | | | | | | |
| **H38** | HR100DX38/MED | Deluxe White (6)* | 18000 | 5⅞ | 3½ | 4000 | 3800 | 3900 | 50 | **1E245** | 70.75 | **67.30** | 3 | 1.0 |
| **100 Watt, ED23½, Mogul Base** | | | | | | | | | | | | | | |
| **H38**<br>**H38** | HR100A38<br>HR100DX38 | Clear (6)*<br>Deluxe White (6)* | 24000<br>24000 | 7½<br>7½ | 5<br>5 | 3850<br>4200 | 2800<br>3200 | 2800<br>3900 | 15<br>50 | **4V582**<br>**2V447** | 45.17<br>39.59 | **40.75**<br>**25.75** | 3<br>3 | 0.5<br>0.5 |
| **100 Watt, PAR38, Medium Skirted Base** | | | | | | | | | | | | | | |
| **H44**<br>**H44** | HR100PSP44/MED<br>HR100PFL44/MED | PAR Spot<br>PAR Flood | 12000<br>12000 | 5⅞<br>5⅞ | —<br>— | 2450<br>2450 | 1700<br>1700 | 5700<br>5700 | 15<br>15 | **5V576**<br>**1E008** | 128.89<br>125.03 | **116.10**<br>**112.60** | 3<br>3 | 0.5<br>1.0 |



T16, T21



B17



ED23



A23

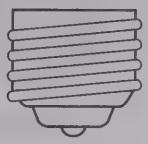


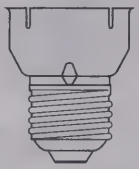
PAR38

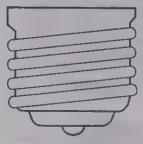
(*) See HID Lamp footnotes on page 948. (†) Excluded product.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.

# HIGH INTENSITY DISCHARGE (HID) LAMPS

GE Lighting


Medium E26


AdMedium Skirt


Mogul E39


E40/45


R40


PAR38


ED28


T16


BT37


ED37

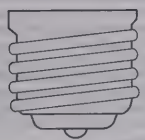

R52

| ANSI Ref. No. | Lamp Designation | Description /Special Features | Rated Average Life Hours | Maximum Overall Length | Light Center Length (In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Shpg. Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **MERCURY LAMPS (Cont.)** | | | | | | | | | | | | |
| | | **100 Watt, R40, Medium Base** | | | | | | | | | | | | |
| H38 | HR100RFL38 | Reflector Flood (6)* | 24000 | 7 | — | 2450 | 2000 | 5700 | 15 | 1C624 | $110.03 | **$104.60** | 12 | 0.6 |
| H38 | HR100RDXFL38 | Reflector WFL, Deluxe White (6)* | 24000 | 7 | — | 2450 | 2050 | 3900 | 50 | 4V581 | 113.07 | **101.90** | 3 | 0.6 |
| | | **100 Watt, PAR38, AdMedium Skirted Base** | | | | | | | | | | | | |
| H44 | HR100PSP44 | PAR Spot | 12000 | 5 1/16 | — | 2450 | 1700 | 5700 | 15 | 5V430 | 128.89 | **116.10** | 3 | 0.1 |
| | | **175 Watt, ED28, Mogul Base** | | | | | | | | | | | | |
| H39 | HR175A39/CP | Clear, Consumer Pack (6)* | 24000 | 8 1/4 | 5 | 7950 | 7000 | 5700 | 15 | 4V583 | 30.64 | **24.52** | 3 | 0.5 |
| H39 | HR175DX39/CP | Deluxe White, Consumer Pack (6)* | 24000 | 8 1/4 | 5 | 8600 | 7200 | 3900 | 50 | 5V686 | 32.48 | **19.49** | 5 | 0.7 |
| H39 | HT175DX39 | Deluxe White Saf-T-Gard® | 16000 | 8 1/4 | 5 | 7700 | 6450 | 3900 | 50 | 5V437 | 93.38 | **84.10** | 3 | 0.2 |
| | | **175 Watt, R40, Medium Base** | | | | | | | | | | | | |
| H39 | HR175RFL39 | Reflector Flood (6)* | 24000 | 7 | — | 5700 | 4800 | 5700 | 15 | 5V907 | 94.67 | **85.30** | 3 | 0.6 |
| H39 | HR175RDXFL39 | Reflector WFL, Deluxe White (6)* | 24000 | 7 | — | 5700 | 4350 | 3900 | 50 | 5V774 | 109.48 | **98.60** | 3 | 0.6 |
| | | **175 Watt, R40,Mogul Base** | | | | | | | | | | | | |
| H39 | HR175RFL39/M | Reflector Flood (6)* | 24000 | 7 1/2 | — | 5700 | 4800 | 5700 | 15 | 1C622 | 90.07 | **85.65** | 3 | 0.6 |
| | | **250 Watt, ED28, Mogul Base** | | | | | | | | | | | | |
| H37 | HR250A37 | Clear (6)* | 24000 | 8 1/4 | 5 | 11200 | 9850 | 5700 | 15 | 4V584 | 113.07 | **101.90** | 3 | 0.6 |
| H37 | HR250DX37 | Deluxe White (6)* | 24000 | 8 1/4 | 5 | 12100 | 9800 | 3900 | 50 | 2V449 | 52.21 | **31.40** | 3 | 0.4 |
| | | **250 Watt, ED28, E40/45 Base** | | | | | | | | | | | | |
| — | HR250DX37/40 | Deluxe White, Export Only (7)* | 24000 | 8 3/8 | 5 5/32 | 12100 | 9800 | 3900 | 50 | 1C688 | 57.87 | **55.10** | 12 | 0.5 |
| | | **400 Watt, T16, Mogul Base** | | | | | | | | | | | | |
| H33 | H400A33/T16 | Special / Black Light, Clear | 12000 | 11 | 7 | 20000 | 18200 | 5700 | 15 | 1G898 | 151.25 | **143.80** | 3 | 0.5 |
| | | **400 Watt, ED37, Mogul Base** | | | | | | | | | | | | |
| H33 | HR400A33 | Clear (7)* | 24000 | 11 5/16 | 7 | 21000 | 18200 | 5700 | 15 | 4V519 | 38.93 | **35.10** | 3 | 0.8 |
| H33 | HR400DX33 | Deluxe White (7)* | 24000 | 11 5/16 | 7 | 22500 | 17500 | 3900 | 50 | 2V358 | 42.00 | **27.40** | 6 | 1.1 |
| H33 | HT400DX33 | Deluxe White Saf-T-Gard® | 24000 | 11 5/16 | 7 | 20000 | 11400 | 3900 | 50 | 4V520 | 104.24 | **93.90** | 3 | 0.8 |
| | | **400 Watt, BT37, Mogul Base** | | | | | | | | | | | | |
| H33 | HR400DX33/BT | Deluxe White (7)* | 24000 | 11 5/16 | 7 | 22100 | 16500 | 3900 | 50 | 6V271 | 61.73 | **55.65** | 3 | 1.0 |
| | | **400 Watt, ED37, E40/45 Base** | | | | | | | | | | | | |
| — | HR400DX33/40 | Deluxe White, Export Only (6)* | 24000 | 11 7/16 | 7 11/64 | 22500 | 17500 | 3900 | 50 | 1C694 | 46.55 | **44.30** | 6 | 1.0 |
| | | **400 Watt, R52, Mogul Base** | | | | | | | | | | | | |
| H33 | HR400RDX33 | Reflector, Deluxe White (7)* | 24000 | 11 3/4 | — | 22000 | 17100 | 3900 | 50 | 6V112 | 127.70 | **115.00** | 6 | 1.4 |

(*) See HID Lamp footnotes on page 948.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance regulated by law.


When it comes to lighting, no distributor outshines Grainger.

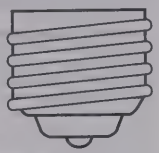
# HIGH INTENSITY DISCHARGE (HID) LAMPS



Medium E26



Mogul E39



E40/45

GE Lighting



R60



BT56



E24



E28



BT37



R57

| ANSI Ref. No. | Lamp Designation | Description /Special Features | Rated Average Life Hrs. | Maximum Overall Length (In.) | Light Center Length (In.) | Lumens Initial | Lumens Mean | Color Temp | CRI | Stock No. | List | Each | Shpg. Case Qty | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MERCURY LAMPS (Cont.)** | | | | | | | | | | | | | | |
| **400 Watt, R60, Mogul Base** | | | | | | | | | | | | | | |
| H33 | HR400RDXFL33 | Reflector WFL, Deluxe White Clear Face (7)* | 24000 | 10⅛ | — | 15500 | 8950 | 3900 | 50 | **6V113** | $175.35 | **$158.25** | 6 | 1.5 |
| **1000 Watt, BT56, Mogul Base** | | | | | | | | | | | | | | |
| H36 | HR1000A36 | Clear (6)* | 24000 | 15⅛ | 9½ | 57000 | 44450 | 5700 | 15 | **5V414** | 113.99 | **102.70** | 6 | 1.9 |
| H34 | HR1000DX34 | Deluxe White (28)* | 16000 | 15⅛ | 9⅜ | 62000 | 47700 | 3900 | 50 | **6V111** | 168.82 | **152.25** | 6 | 2.1 |
| H36 | HR1000DX36 | Deluxe White (6)* | 24000 | 15⅛ | 9½ | 63000 | 40000 | 3900 | 50 | **2V450** | 97.44 | **63.45** | 6 | 1.9 |
| **1000 Watt, BT56, E40/45 Base** | | | | | | | | | | | | | | |
| — | HR1000DX34/40 | Deluxe White, Export Only | 16000 | 15⅛ | 9⅜ | 62000 | 47700 | 3900 | 50 | **1E871** | 168.82 | **160.75** | 6 | 2.0 |
| **SELF-BALLASTED MERCURY LAMPS** | | | | | | | | | | | | | | |
| **160 Watt, E24, Medium Base** | | | | | | | | | | | | | | |
| — | HSB160/MED | Deluxe White, Self Ballasted (9)* 120 Volt | 12000 | 7 | 4⅜ | 2300 | 1600 | 3900 | 50 | **4V596** | 113.34 | **102.15** | 3 | 0.2 |
| **250 Watt, ED28, Medium Base** | | | | | | | | | | | | | | |
| — | HSB250MED | Deluxe White, Self Ballasted (9)* 120 Volt | 12000 | 8½ | 5⅜ | 5000 | 3750 | 3900 | 50 | **5V977** | 181.24 | **163.25** | 3 | 0.4 |
| **250 Watt, ED28, Mogul Base** | | | | | | | | | | | | | | |
| — | HSB250 | Deluxe White, Self Ballasted (9)* 120 Volt | 12000 | 8½ | 5⅜ | 5000 | 3750 | 3900 | 50 | **5V978** | 181.24 | **163.25** | 3 | 0.5 |
| **450 Watt, BT37, Mogul Base** | | | | | | | | | | | | | | |
| — | HSB450 | Deluxe White, Self Ballasted (9)* 120 Volt | 16000 | 11¹³⁄₃₂ | 7⅜ | 9100 | 8280 | 3900 | 50 | **1C510** | 322.28 | **306.75** | 3 | 1.0 |
| **750 Watt, R57, Mogul Base** | | | | | | | | | | | | | | |
| — | HSB750R/120 | Reflector Flood, Deluxe White, Self Ballasted (9)* | 16000 | 12¾ | 8⅜ | 14000 | 11200 | 3900 | 50 | **5V721** | 473.98 | **427.00** | 3 | 0.2 |

(*) See HID lamp footnotes on page 948.
Note: Minnesota Mercury Emission Legislation states that fluorescent and HID lamps contain mercury, a hazardous substance by law.


## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

# HIGH INTENSITY DISCHARGE (HID) LAMPS

All metal halide lamps, except I-Line, will start at ambient temperatures of -22°F(-30°C) when used on ballasts meeting these specifications. Halarc ®MXR32 lamps will start at ambient temperatures of -22°F (-30°C). I-Line Multi-Vapor® will start at ambient temperatures of 5°F (-15°C) when used on approved mercury ballasts.

### Start Characteristics.

Full light output does not occur immediately when power is applied. Instead, there is a time delay for the lamp to reach 90% total light output. The starting delay for Lucalox is 3-4 minutes, for Multi-Vapor 2-5 minutes, and for mercury 5-7 minutes.

### Restart Characteristics.

With a power interruption of half cycle or more the arc will extinguish. When power is immediately reapplied, full light output does not occur immediately. For HPS lamps there is a delay of 1 minute to reach 90% total light output; however, the Lucalox® LU1000 requires 2 minutes and the E-Z Lux® lamps require 3 minutes to reach 90% total light output. For Multi-Vapor lamps, when the power is immediately reapplied, there will be a delay of 15 to 20 minutes before the lamps reach the 90% light output level. The restart delay for mercury lamps is 3 to 6 minutes to reach 90% total light output.

### E-Z Lux® Lucalox® Lamps Operating Notes

Use 150-watt E-Z Lux only with H39 175-watt mercury ballasts: high reactance lag-type auto transformer, 240-volt or 277-volt reactor. Use 215-watt E-Z Lux only with H37 250-watt mercury ballasts: high reactance lag-type auto transformer, 240-volt or 277-volt reactor type meeting current ANSI H37 ballast specs. Do not use either with CW (lead-type) or CWA ballasts.

### Lucalox® Export Base Lamps

Note: Export Only lamps have a non-domestic (U.S.) base and are not intended for use in the United States due to potential shock hazard.

### Halarc® Operating Notes - Electronic Ballasts

The 32-watt Halarc lamps must be operated on special GE lighting-approved ballasts. A suitable high power factor electronic ballast is Hal 32/120 (No. 1E089) for 120 volt applications. The outside dimensions are 9.25" (235mm) long, 3.125" (78mm) wide and 1.75" (45mm) high.

### I-Line Multi-Vapor Lamps—Operating Position

Universal—U: Burn any position, but in positions other than vertical base up or base down, use only in enclosed fixtures which can contain fragments of hot quartz or glass.
Vertical—VBU/VBD: Vertical base up or vert. base down—lamp must be operated only within 15° of vertical.

### Saf-T-Gard® Multi-Vapor and Mercury Lamps Operating Notes

Caution: If the outer glass envelope of a Saf-T-Gard lamp is broken, although the arc tube will have self-extinguished, its supporting structure will still be electrically connected. Be sure power is off and the lamp has cooled before removing to avoid possible electrical shock from contact with the arc tube support or burn from the hot arc tube.

### Arcstream™ Metal Halide Lamps Operating Notes

It is important the tubular shaped lamps are operated in suitably enclosed luminaires with a UV absorbing cover glass. Full enclosure will also retain any fragments of quartz in the unusual event of the outer bulb shattering. All Arcstream™ lamps can operate on the relevant double-ended metal halide ballasts.

### Multi-Vapor® Export Base Lamps Wattage Range: 32 - 1000

Export Only lamps have a non-domestic (U.S.) base and are not intended for use in the United States due to potential shock hazard.

### Caution Notice - Metal Halide Lamps

The following operating instructions must be complied with to help avoid possible shattering and early failure of the lamp. Metal Halide lamps are constructed of an outer bulb with an internal arc tube made of quartz. The arc tube operates under high pressure at very high temperatures—as high as approximately 1100°C.
The arc tube and outer bulb may unexpectedly rupture due to internal causes or external factors such as a system failure or misapplication.
—Lamp may only be operated in the types of fixtures prescribed in the applicable specification bulletin. Fixture lens/diffuser material must be able to contain fragments of hot quartz or glass (up to 1100°C). If in doubt, contact your fixture manufacturer.
—Electrically insulate any metal to glass support in fixture to avoid decomposition of the glass.
—Protect lamp from direct contact with liquids (such as water) to avoid breakage from thermal shock.
—In continuously operating systems (24 hours/day, 7 days/week), turn lamps off once per week for at least 15 min. Failure to comply increases risk of rupture.
—Screw lamp firmly but not forcibly into the socket to minimize loosening due to vibration. Do not use excessive force as the glass bulb may break.
—Do not scratch glass bulb because it may break during installation or later during lamp operation.
—Relamp fixtures at or before the end of rated life. Beyond rated life, light output diminishes while energy consumption and risk of rupture increase.
—Turn power off and let lamp cool before removal to avoid potential burn and electrical shock hazard during lamp replacement.
—Use In Enclosed Fixtures. For lamps requiring enclosed fixtures, fixture lens/diffuser material must be able to contain fragments of hot quartz or glass (up to 1100°C).
—Use In Open Fixtures. For lamps operated in the vertical position that are not designated "Enclosed Fixtures only," lamp may be used in an open or enclosed lighting fixture depending upon the application and operating environment. For example, if the lamp is located near combustible material or in an area which is unoccupied for extended periods, an enclosed fixture which can contain fragments of hot quartz or glass is recommended.
Arcstream™ tubular lamps must be used in enclosed fixtures with UV absorbing glass. Enclosed fixtures must be capable of containing fragments of hot quartz or glass (up to 1100°C).

### Important Notice

In accordance with Federal Standard 21 CFR 1040.30, the following notice applies to the Multi-Vapor, Halarc, and Arcstream™ PAR 64 (those having Ordering Codes beginning with the letters "MVR...," "MXR..." or "MBI150PAR64..."):"WARNING. This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured, and the arc tube continues to operate. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain types of lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available from General Electric Company." These are the self extinguishing Saf-T-Gard Mercury and Multi-Vapor lamps.

### Mercury Export Base Lamps Wattage Range: 250 - 1000

Note: Export Only lamps have a non-domestic (U.S.) base and are not intended for use in the United States due to potential shock hazard.

### Caution Notice - Mercury Lamps

Mercury lamps are constructed of an outer bulb with an internal arc tube made of quartz. The arc tube operates under high pressure at very high temperatures—as high as approximately 1100°C. The arc tube and outer bulb may unexpectedly rupture due to internal causes or external factors such as a system failure or misapplication.
—Lamp may be operated in any position. Lamp must only be operated with compatible electrical equipment in the types of fixtures prescribed in the applicable specification bulletin. Fixture lens/diffuser material must be able to contain fragments of hot quartz or glass (up to 1100°C). If in doubt, contact your fixture manufacturer.
—Electrically insulate any metal to glass support in fixture to avoid decomposition of the glass.
—Protect lamps from direct contact with liquids (rain, sleet or snow) to avoid breakage from thermal shock.
—Screw lamp firmly but not forcibly into the socket to minimize loosening due to vibration. Do not use excessive force as the glass bulb may break.
—Do not scratch glass bulb because it may break during installation or later during lamp operation.
—Turn power off and let lamp cool before removal, to avoid potential burn and electrical shock hazard during lamp replacement.
—Relamp fixtures at or before the end of rated life. Beyond rated life, light output diminishes while energy consumption and risk of rupture increase.

### Important Notice

In accordance with Federal Standard 21 CFR 1040.30, the following notice applies to all Standard Mercury Lamps (those having Ordering Codes beginning with the letters "HR..."):"WARNING: This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured, and the arc tube continues to operate. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain types of lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available from General Electric Company." These are self-extinguishing Saf-T-Gard mercury and Multi-Vapor lamps.

### Footnotes

1. Design Factor 1.1
2. Design Factor 1.05
3. Design Factor 1.0
4. Design Factor .90
5. Design Factor .85
6. Design Factor .80
7. Design Factor .75
8. Design Factor .70
9. Do not use this lamp in fixtures designed for less than rated lamp wattage.
10. When operated on ANSI specification "S56" High Pressure Sodium ballasts, lumen ratings will decrease by about 50%.
11. When operated on ANSI "S55" High Pressure Sodium ballasts, intermittent cycle and short lamp life will occur.
12. On suitable mercury ballasts, lamp wattage will slowly drop as the lamp ages.
13. For use only in 175-watt metal halide luminaires that do not exceed maximum temperatures of 160°C at the point where metallic base meets the heat resistant collar and 245°C on the solder button of the plastic collar for this lamp.
14. Life shown is for vertical ±15°C operation.
16. Approx. Lumen Ratings at 45°. Burning position initial - 145,000, mean - 135,500.
17. Mean lumens and rated life based on 5 or more burning hours per start.
19. Mean lumens shown are for operation on approved CW/CWA mercury ballasts at 10 hours per start. For continuous operation, mean lumens are 22,800 for vertical burning and 21,000 for horizontal.
20. Mean lumens shown are for operation on approved CW/CWA mercury ballasts at 10 hours per start. For continuous operation, mean lumens are 22,000 for vertical burning and 20,200 for horizontal.
21. When operated vertically on metal halide-type ballasts at 10 hours per start, approximate mean lumens are 27,000. This value also applies when lamp is operated continuously on approved CW/CWA ballasts. When operated horizontally, initial and mean lumens decrease by about 2000 lumens
22. When operated vertically on metal halide-type ballasts at 10 hours per start, approximate mean lumens are 26,300. This value also applies when lamp is operated continuously on approved CW/CWA ballasts. When operated horizontally, initial and mean lumens decrease by about 2000 lumens.
23. Mean lumens shown are for operation on approved CW/CWA mercury ballasts at 10 hours per start. For continuous operation, mean lumens are 21,650 for vertical burning and 19,850 for horizontal burning.
24. Mean lumens shown are for operation on approved CW/CWA mercury ballasts at 10 hours per start. For continuous operation, mean lumens are 21,100 for vertical burning and 19,350 for horizontal burning.
25. Mean lumens shown are for operation on approved CW/CWA mercury ballasts at 10 hours per start. For continuous operation, mean lumens are 25,700 for vertical burning and 23,600 for horizontal burning.
26. Mean lumens shown are for operation on approved CW/CWA mercury ballasts at 10 hours per start. For continuous operation, mean lumens are 25,500 for vertical operation, 22,600 for horizontal burning.
27. Data shown are for operation on typical CW/CWA mercury ballasts. On lag-type mercury ballasts: approx. initial lumens 109,200; mean lumens 87,350; lamp wattage approximately 970 watts. On M47 metal halide ballasts; approximate initial lumens 115,000; mean lumens 92,000; lamp watts 1000.
28. Use only 1000-watt H12 or H34-type ballasts. Do not use on 1000-watt H36-type ballasts.
29. Operate only on magnetic-regulating ballasts or CWA ballast with ignitors.


When it comes to lighting, no distributor outshines Grainger.

# INCANDESCENT LAMP INTRODUCTION

## HOW TO USE THE INCANDESCENT/ HALOGEN LAMP PRODUCT SECTION

**Our Incandescent/halogen lamp section is organized by lamp wattage and then lamp shape.**

1. **Identify lamp wattage and go to that section**
2. **Identify lamp shape by utilizing the icons on the side of the product chart**
3. **Identify the base by utilizing the icons on the top of the product page**

**Special Features:** Point out unique aspects of compact fluorescent lamps such as "75W Incandescent Equivalent".

**Rated Average Life Hours:** Average Life Hours figure represents the lamp's median value of life expectancy @ 3 hours per start.

**Lumens:** Lamp's approximate light output after 2 hours of operation.

Ⓔ Lamp meets Federal Efficiency Standard

| Lamp Designation | Description | Special Features | Volts | Watts | Rated Avg. Life Hours | Max. Overall Length (In.) | Lumens | Stock No. | Ⓔ | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **135 Watts** | | | | | | | | | | | | | |
| **150A21/135WM/TS,** | Watt-Miser®, Clear, Traffic Signal, Krypton BDTH (23)‡ | | 120 | 135 | 700 | 4 11/16 | 1750 | **6V258** | | $11.87 | **$9.50** | 1 | 0.1 |

**NOTE:** Lamp drawings are not to scale. Be sure to check size and dimension information when identifying each lamp. All ratings and data are subject to change without notice.
To save energy costs, find the bulbs with the light output you need then choose the one with the lowest watts.

## TABLE OF CONTENTS


Lamps listed by Amps & Volts — Page 982
Shatterproof — Page 984
Miniature — Page 986
Sealed Beam — Page 997
Projection — Page1002
Stage/Studio — Page1007


## INCANDESCENT LAMP BRAND NAME CROSS-REFERENCE

| GE | OSRAM/SYLVANIA | PHILIPS |
|---|---|---|
| Bug-Lite | Bug-Lite | Bug-A-Way |
| Cool Beam | Cool-Lux | Cool Beam |
| Cov-R-Guard™ | Safeline | Silicone Coated |
| Soft Pink | Soft Pink | Softone Pastels |
| Soft White Miser | Energy Saver Soft White | Energy Saving |
| Extended Service | Excel-Line® | Extended Service |
| Gro &Sho | Spot-GRO | Agro-Lite |
| Long Life Soft White | Double Life™ Soft White | Longer Life Soft White |
| Lumiline | — | Philinea |
| Party Bulb | — | — |
| Survivor™ | — | Industrial Service |
| Watt-Miser® | Super Saver® | Econ-o-Watt |
| Watt-Miser® PAR | Super Saver Par® | Econ-o-Par |
| Watt-Miser® Plus | Super Saver Excel® | Extended Service |

## HALOGEN LAMP CROSS-REFERENCE

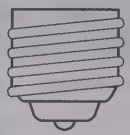
| GE | OSRAM/SYLVANIA | PHILIPS |
|---|---|---|
| Cool Beam | Cool-Lux | Cool Beam |
| ConstantColor™ Precise™ | TRU-AIM® | Masterline™ (MR16) |
| Halogen A-Line | Capsylite® A-Line (Midbreak) | Halogen A™ |
| Halogen-IR | — | — |
| Performance Plus™ | Capsylite® Par | Masterline™ Par |
| Precise™ | TRU-Aim® | Masterline™ (MR16) |
| Performance Plus™ Long Neck | Long Neck Capsylite® | Masterline™ |
| Twist and Lock (TAL) | — | — |

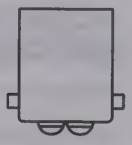
ATTENTION: This brand name cross-reference chart is provided only as a quick reference. Other lamp company brand listings may only represent a near equivalent, versus an identical match to GE Lighting brands. Individual lamp manufacturer's performance specifications should be consulted. Lamp performance may be affected by environmental conditions, ballast type, and/or auxiliary equipment.

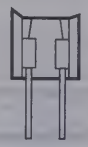
# INCANDESCENT LAMPS: 3W-7.4W

GE Lighting


Candelabra Screw E12


Intermediate E17


DC Bay


2-Pin G4


S6 Cand.


C7 Cand.


T3 2-Pin


S6 Inter.


T4½ Cand.

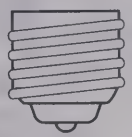

T6½ DC Bay

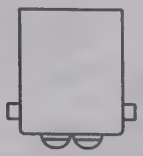
| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Ship. Pkg Qty | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3 WATT LAMPS** | | | | | | | | | | | | |
| **S6, 3/4" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 3S6/5 | Indicator, Clear | | 120 | 3000 | 1⅞ | 11 | 4V745 | $3.48 | **$3.14** | 1 | 24 | 0.1 |
| 3S6/5 | Indicator, Clear | | 130 | 3000 | 1⅞ | 11 | 4V746 | 4.69 | **4.21** | 1 | 24 | 0.1 |
| **4 WATT LAMPS** | | | | | | | | | | | | |
| **C7, 7/8" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 4C7 CD2 | Night Light, Cool Burning, Clear (9)* | Energy Saving Nite Light | 120 | 3000 | 2⅛ | 16 | 1C399 | 1.26 | **1.20** | 2 | 6 | 0.1 |
| 4C7/BL CD2 | Night Light, Cool Burning, Blue (9)* | | 120 | 3000 | 2⅛ | — | 3JK53 | 1.35 | **1.29** | 2 | 24 | 0.1 |
| 4C7/PK CD2 | Night Light, Cool Burning, Pink (9)* | | 120 | 3000 | 2⅛ | — | 3JK52 | 1.35 | **1.29** | 2 | 24 | 0.1 |
| 4C7/S CD4 | Night Light, Standard, Clear (44)* | | 120 | 2000 | 2⅛ | 19 | 5V451 | 1.18 | **1.12** | 4 | 48 | 0.1 |
| 4C7/W CD2 | Night Light, Cool Burning, White (9)* | | 120 | 3000 | 2⅛ | 12 | 5V452 | 1.26 | **1.19** | 2 | 6 | 0.1 |
| 4C7/W/S CD4 | Night Light, Standard, White (44)* | | 120 | 2000 | 2⅛ | 14 | 1K377 | 1.18 | **1.12** | 4 | 48 | 0.1 |
| **5 WATT LAMP** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/2-Pin G4 Base** | | | | | | | | | | | | |
| Q5T3/CL | Clear (132)* | | 12 | 2000 | 1¼ | 60 | 5V100 | 9.18 | **8.26** | 1 | 3 | 0.1 |
| **6 WATT LAMPS** | | | | | | | | | | | | |
| **S6, 3/8" Diameter, w/ Candelabra Base** | | | | | | | | | | | | |
| 6S6 | Indicator, Clear (53)* | | 12 | 1500 | 1⅞ | 50 | 5V256 | 3.96 | **3.57** | 1 | 24 | 0.1 |
| 6S6 | Indicator, Clear (53)* | | 24 | 1500 | 1⅞ | 50 | 5V259 | 3.96 | **3.57** | 1 | 12 | 0.1 |
| 6S6 | Train, Clear (53)* | | 30 | 1500 | 1⅞ | 50 | 5V260 | 4.07 | **3.66** | 1 | 24 | 0.1 |
| 6S6/BB | Train, Clear (23,53)* | Brass Base | 32 | 1500 | 1⅞ | 50 | 1C382 | 4.07 | **3.86** | 1 | 12 | 0.1 |
| 6S6 TRAY | Indicator, Clear, 12-Lamp Tray | | 120 | 1500 | 1⅞ | 41 | 4V442 | 1.36 | **1.23** | 12 | 36 | 0.1 |
| 6S6/3 | Signal Light, Clear (6)* | | 120 | 5000 | 1⅞ | 23 | 1E924 | 5.63 | **5.35** | 1 | 12 | 0.1 |
| 6S6/R TRAY | Indicator, Transparent Red, 12-Lamp Tray | | 120 | 1500 | 1⅞ | — | 1E938 | 2.70 | **2.57** | 12 | 36 | 0.1 |
| 6S6 TRAY | Indicator, Clear, 12-Lamp Tray | | 130 | 1500 | 1⅞ | 41 | 4V443 | 1.90 | **1.64** | 12 | 36 | 0.1 |
| 6S6 | Indicator, Clear | | 135 | 1500 | 1⅞ | 41 | 4V750 | 3.42 | **3.09** | 1 | 12 | 0.1 |
| 6S6 | Indicator, Clear | | 145 | 1500 | 1⅞ | 41 | 4V751 | 3.42 | **3.09** | 1 | 12 | 0.1 |
| 6S6 | Indicator, Clear | | 155 | 1500 | 1⅞ | 41 | 4V753 | 3.42 | **3.09** | 1 | 12 | 0.1 |
| **S6, 3/4" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 6S6DC | Indicator, Clear | | 24 | 1500 | 1 13/16 | 50 | 1E915 | 4.88 | **4.63** | 1 | 24 | 0.1 |
| 6S6DC | Indicator, Clear | | 75 | 1500 | 1 13/16 | 45 | 1E976 | 4.62 | **4.39** | 1 | 24 | 0.1 |
| 6S6/DC TRAY | Indicator, Clear, 12-Lamp Tray | | 120 | 1500 | 1 13/16 | 41 | 4V754 | 2.50 | **2.25** | 12 | 36 | 0.1 |
| 6S6/DC TRAY | Indicator, Clear, 12-Lamp Tray | | 130 | 1500 | 1 13/16 | 41 | 4V756 | 3.40 | **3.07** | 12 | 36 | 0.1 |
| 6S6/DC TRAY | Indicator, Clear, 12-Lamp Tray | | 145 | 1500 | 1 13/16 | 41 | 4V757 | 4.47 | **4.01** | 12 | 36 | 0.1 |
| **S6, 3/4" Diameter, w/Intermediate Base** | | | | | | | | | | | | |
| 6S6/7 TRAY | Indicator, Clear, 12-Lamp Tray | | 120 | 1500 | 1 13/16 | 41 | 4V759 | 3.86 | **3.48** | 12 | 36 | 0.1 |
| **T4½, 9/16" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 6T4 1/2 /1 | Indicator, Clear | | 120 | 1500 | 1⅞ | 42 | 4V765 | 4.56 | **4.11** | 1 | 10 | 0.1 |
| 6T4 1/2 /1 | Indicator, Clear | | 130 | 1500 | 1⅞ | 42 | 4V766 | 6.15 | **5.54** | 1 | 10 | 0.1 |
| **7 WATT LAMPS** | | | | | | | | | | | | |
| **C7, 7/8" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 7C7 TRAY | Indicator, Clear, 12-Lamp Tray | | 120 | 3000 | 2⅛ | 46 | 5V141 | 1.18 | **1.08** | 12 | 36 | 0.1 |
| 7C7/R TRAY | Indicator, Red, 12-Lamp Tray | | 120 | 3000 | 2⅛ | — | 5V237 | 2.21 | **1.99** | 12 | 36 | 0.1 |
| 7C7/W TRAY | Indicator, White, 12-Lamp Tray | | 120 | 3000 | 2⅛ | 36 | 5V144 | 1.49 | **1.20** | 12 | 36 | 0.1 |
| 7C7 TRAY | Indicator, Clear, 12-Lamp Tray | | 130 | 3000 | 2⅛ | 46 | 4V508 | 1.60 | **1.45** | 12 | 36 | 0.1 |
| **7.4 WATT LAMPS** | | | | | | | | | | | | |
| **T6½,13/16" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 7.4T6 1/2 DC/F | Exit Sign, Frost | | 10.5 | 10000 | 5½ | 55 | 1C380 | 30.05 | **28.65** | 1 | 3 | 0.3 |

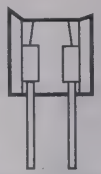
(*) See Incandescent Lamp footnotes on page 984.

# INCANDESCENT LAMPS: 7.5W-10W


Candelabra E12


Intermediate E17


DC Bay


2-Pin G4


Medium Screw E26

GE Lighting

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg Qty | Ship Case Qty | Shpg Wt Ea |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **7.5 WATT LAMPS** | | | | | | | | | | | | |
| **S11, 1⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 7 1/2 S TRAY | Clear, 12-Lamp Tray | | 120 | 1400 | 2¼ | 53 | 5V163 | $1.99 | $1.79 | 12 | 36 | 36 |
| 7 1/2 S TRAY | Clear, 12-Lamp Tray | | 130 | 1400 | 2¼ | 53 | 5V142 | 2.70 | 2.43 | 12 | 36 | 36 |
| 7 1/2 S/CW | White, 12-Lamp Tray | | 120 | 1400 | 2¼ | 39 | 5V164 | 2.37 | 2.13 | 12 | 36 | 36 |
| 7 1/2 S/CW | White | | 120 | 1400 | 2¼ | 39 | 5V737 | 2.54 | 2.42 | 1 | 12 | 12 |
| 7 1/2 S/CW | White, 12-Lamp Tray | | 130 | 1400 | 2¼ | 39 | 5V172 | 3.15 | 2.84 | 12 | 36 | 36 |
| 7 1/2 S/CR | Red, 12-Lamp Tray | | 120 | 1400 | 2¼ | — | 5V173 | 2.54 | 2.42 | 12 | 36 | 36 |
| 7 1/2 S/CR | Red, 12-Lamp Tray | | 130 | 1400 | 2¼ | — | 1E881 | 3.39 | 3.21 | 12 | 36 | 36 |
| 7 1/2 S/CB | Blue, 12-Lamp Tray | | 120 | 1400 | 2¼ | — | 1E885 | 2.54 | 2.42 | 12 | 36 | 36 |
| 7 1/2 S/CG | Green, 12-Lamp Tray | | 120 | 1400 | 2¼ | — | 1E883 | 2.54 | 2.42 | 12 | 36 | 36 |
| 7 1/2 S/CO | Orange, 12-Lamp Tray | | 120 | 1400 | 2¼ | — | 5V179 | 2.54 | 2.42 | 12 | 36 | 36 |
| **10 WATT LAMPS** | | | | | | | | | | | | |
| **C7, 7/8" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 10C7 TRAY | Indicator, Clear, 12-Lamp Tray (6)* | | 120 | 5000 | 2⅛ | 42 | 4V769 | 2.47 | 1.98 | 12 | 36 | 0.1 |
| **C7, 7/8" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 10C7DC TRAY | Indicator, Clear, 12-Lamp Tray (6)* | | 120 | 5000 | 2⅛ | 40 | 4V774 | 3.05 | 1.69 | 12 | 36 | 0.1 |
| **S6, 3/4" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 10S6/10 | Indicator, Clear | | 230 | 1500 | 1⅞ | 66 | 5V323 | 3.94 | 3.54 | 1 | 24 | 0.1 |
| 10S6/10 | Indicator, Clear | | 250 | 1500 | 1⅞ | 66 | 5V324 | 3.94 | 3.54 | 1 | 24 | 0.1 |
| **S6, 3/4" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 10S6/10DC | Indicator, Clear | | 230 | 1500 | 1 13/16 | 66 | 1E867 | 4.97 | 4.72 | 1 | 24 | 0.1 |
| **S11, 1⅜" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 10S11/79 | Indicator, Clear | | 120 | 1500 | 2¼ | 80 | 4V778 | 3.88 | 3.50 | 1 | 6 | 0.1 |
| **S11, 1⅜" Diameter, w/Intermediate Base** | | | | | | | | | | | | |
| 10S11N | Sign, Clear (23)* | Brass Base | 120 | 1500 | 2 5/16 | 80 | 5V190 | 4.77 | 4.29 | 1 | 6 | 0.1 |
| 10S11N | Sign, Clear (23)* | Brass Base | 130 | 1500 | 2 5/16 | 80 | 5V191 | 6.16 | 5.55 | 1 | 6 | 0.1 |
| 10S11N/F | Appliance, Frost | | 120 | 1500 | 2 5/16 | 79 | 5V411 | 3.29 | 2.97 | 6 | 6 | 0.1 |
| 10S11N/CW | Sign & Decorative, White (23)* | Brass Base | 130 | 1500 | 2 5/16 | 64 | 1E811 | 3.57 | 3.39 | 6 | 6 | 0.1 |
| **S11, 1⅜" Diameter, w/Single Contact Bayonet Base** | | | | | | | | | | | | |
| 10S11/5SC | Railway Signal Light, Clear (69)* | | 120 | 1500 | 2⅜ | 80 | 1E835 | 7.03 | 6.69 | 6 | 6 | 0.1 |
| **S14, 1⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 10S14 | Sign, Clear (23)* | Brass Base | 120 | 1500 | 3½ | 77 | 4V791 | 3.15 | 2.84 | 6 | 6 | 0.1 |
| 10S14/CR | Sign & Decorative, Red (23)* | Brass Base | 120 | 1500 | 3½ | — | 1E719 | 4.16 | 3.95 | 6 | 6 | 0.1 |
| 10S14/IF | Sign, I.F. (23)* | Brass Base | 120 | 1500 | 3½ | 76 | 4V794 | 4.95 | 4.70 | 6 | 6 | 0.1 |
| **T3, 3/8" Diameter, w/2-Pin G4 Base** | | | | | | | | | | | | |
| Q10T3/CL | Clear (132)* | | 12 | 2000 | 1¼ | 140 | 1E141 | 9.18 | 8.26 | 3 | 3 | 0.3 |

(*) See Incandescent Lamp footnotes on page 984.


S11 Med. Screw


C7 Cand.


C7 DC Bay


S6 Cand.


S6 DC Bay


S11 Cand.


S11 Intermed.


S11 DC Bay

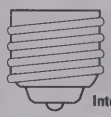

S14 Med. Screw

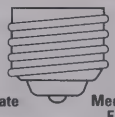

T3 2-Pin

# INCANDESCENT LAMPS: 11W - 15W

GE Lighting

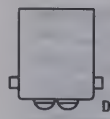

Candelabra E12


Intermediate E17


Medium E26


3 Contact Medium E26


SC Bay B15


DC Bay

| Lamp Designation | Description | Special Feature | Volts | Rated Average Life Hours | Maximum Overall Length (In.) | Lumens | Stock No. | Price Ea. Sold Only in Pkg. Qtys. List | Price Ea. Sold Only in Pkg. Qtys. Each | Pkg Qty | Ship Case Qty | Shpg Wt Ea |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **11 WATT LAMPS** | | | | | | | | | | | | |
| **S11, 1⅜" Diameter, w/Intermediate Base** | | | | | | | | | | | | |
| **11S11/N** | Sign, Clear (23)* | Brass Base | 130 | 5000 | 2⁹⁄₁₆ | 74 | **1E153** | $4.80 | **$4.56** | 1 | 6 | 0.1 |
| **S14, 1⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| **11S14** | Sign, Clear (23)* | Brass Base | 130 | 3000 | 3½ | 77 | **1E700** | 2.91 | **2.62** | 1 | 6 | 0.1 |
| **11S14/IF** | Sign, Inside Frost (23)* | Brass Base | 130 | 3000 | 3½ | 76 | **1E696** | 4.95 | **4.70** | 1 | 6 | 0.1 |
| **11S14/R** | Sign, Red (23)* | Brass Base | 130 | 3000 | 3½ | — | **4V804** | 3.83 | **3.64** | 1 | 6 | 0.1 |
| **11S14/W** | Sign, White (23)* | Brass Base | 130 | 3000 | 3½ | — | **1E683** | 3.83 | **3.64** | 1 | 6 | 0.1 |
| **11S14/Y** | Sign, Yellow (23)* | Brass Base | 130 | 3000 | 3½ | — | **4V806** | 3.83 | **3.64** | 1 | 6 | 0.1 |
| **11S14/TB** | Sign, Transparent Blue (23)* | Brass Base | 130 | 3000 | 3½ | — | **6V314** | 5.26 | **4.73** | 1 | 6 | 0.1 |
| **11S14/TG** | Sign, Transparent Green (23)* | Brass Base | 130 | 3000 | 3½ | — | **6V319** | 5.26 | **4.73** | 1 | 6 | 0.1 |
| **11S14/TR** | Sign, Transparent Red (23)* | Brass Base | 130 | 3000 | 3½ | — | **6V313** | 5.26 | **4.73** | 1 | 6 | 0.1 |
| **11S14/TY** | Sign, Transparent Yellow (23)* | Brass Base | 130 | 3000 | 3½ | — | **6V320** | 5.26 | **4.73** | 1 | 6 | 0.1 |
| **12 WATT LAMP** | | | | | | | | | | | | |
| **S8, 1" Diameter, w/Single Contact Bayonet Base** | | | | | | | | | | | | |
| **12S8/93T CD2** | High Intensity, Clear, 15CP (9,66,74)* | High Intensity Lamp Fixtures | 12 | 1000 | 2 | 200 | **1F344** | 2.05 | **1.74** | 2 | 12 | 0.1 |
| **13.5 WATT LAMP** | | | | | | | | | | | | |
| **S11, 1⅜" Diameter, w/Single Contact Bayonet Base** | | | | | | | | | | | | |
| **13/3 1/2 S11/95** | Railway Signal Light, Clear (70)* | | 10 | 1000 | 2⅜ | 180 | **5V272** | 23.92 | **21.53** | 1 | 6 | 0.1 |
| **15 WATT LAMPS** | | | | | | | | | | | | |
| **A15, 1⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| **15A/W** | Soft White (9)* | | 120 | 2500 | 3½ | 110 | **6V629** | 1.73 | **1.55** | 2 | 24 | 0.1 |
| **15A15** | Inside Frost | | 130 | 2500 | 3½ | 125 | **2V512** | 2.30 | **2.06** | 1 | 2 | 0.1 |
| **15A/GR/CL/8** | Sign, Long Life, Grp Repl, Clear (23)* | Brass Base | 130 | 8000 | 3½ | 90 | **1E047** | 5.06 | **4.81** | 1 | 12 | 0.1 |
| **15A15/CL/BB** | Sign, Clear (23)* | Brass Base | 130 | 3000 | 3½ | 110 | **4V448** | 5.06 | **4.81** | 1 | 120 | 0.1 |
| **A17, 2⅛" Diameter, w/Medium Base** | | | | | | | | | | | | |
| **15A** | Train, Inside Frost (53)* | | 34 | 1000 | 3⅝ | 115 | **1E633** | 9.57 | **9.09** | 1 | 12 | 0.1 |
| **A21, 2⅝" Diameter, w/3C Medium Base** | | | | | | | | | | | | |
| **15/135/150 SECURITY** | Security, 3-Way (15,25,46)* | Energy Saving 3 Way | 120<br>135<br>150 | 3000<br>1200<br>1200 | 5¼ | 80<br>2280<br>2360 | **1G976** | 3.61 | **3.43** | 1 | 12 | 0.1 |
| **CA8, 1" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| **15CAC** | Bent Tip, Crystal (Clear) | Decorative Lamp | 120 | 1500 | 4⅛ | 90 | **6V649** | 1.49 | **1.33** | 1 | 12 | 0.1 |
| **15CAC/F CD2** | Bent Tip, Satin (Frost) (9)* | Decorative Lamp | 120 | 1500 | 4⅛ | 90 | **6V650** | 1.39 | **1.33** | 2 | 12 | 0.1 |
| **15CAC/L** | Bent Tip, Crystal (Clear), LL | Long Life Decorative Lamp | 120 | 4000 | 4⅛ | 90 | **1C451** | 1.60 | **1.53** | 1 | 6 | 0.1 |
| **F10, 1¼" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| **15FC CD2** | Flame, Crystal (Clear) (9)* | Decorative Lamp | 120 | 1500 | 3⅛ | 136 | **6V651** | 1.75 | **1.67** | 2 | 6 | 0.1 |
| **15FC/A CD2** | Flame, Amber (9)* | Decorative Lamp | 120 | 1500 | 3⅛ | — | **1C271** | 1.78 | **1.69** | 2 | 12 | 0.1 |
| **15FC/AU CD2** | Flame, Auradescent (9)* | Decorative Lamp | 120 | 1500 | 3⅛ | 136 | **1C269** | 1.78 | **1.69** | 2 | 12 | 0.1 |
| **G16½, 2¹⁄₁₆" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| **15GC** | Globe, Crystal (Clear) | Decorative Lamp | 120 | 1500 | 3 | 130 | **1E335** | 1.49 | **1.43** | 1 | 25 | 0.1 |
| **15GC/L** | Globe, Crystal (Clear), LL | Long Life Decorative Lamp | 120 | 4000 | 3 | 100 | **1E698** | 1.93 | **1.85** | 1 | 60 | 0.1 |
| **15GC/W** | Globe, Pearl (White) | Decorative Lamp | 120 | 1500 | 3 | 120 | **2F244** | 1.49 | **1.43** | 1 | 25 | 0.1 |
| **15GC/W/L** | Globe, Pearl (White), LL | Long Life Decorative Lamp | 120 | 4000 | 3 | 90 | **1C458** | 1.93 | **1.85** | 1 | 60 | 0.1 |
| **R14, 1⅞" Diameter, w/Single Contact Bayonet Base** | | | | | | | | | | | | |
| **15R14SC/SP** | Reflector Spot, Light I.F. (4,23)* | Brass Base | 12 | 2000 | 2⅛ | 135 | **1C672** | 14.68 | **13.96** | 1 | 6 | 0.1 |


S11 Med. Screw


S14 Med.


S8 SC Bay


S11 SC Bay


A15, A17, A21 Med.


CA8 Cand.


F10 Cand.


G16½ Cand.


R14 SC Bay

(*) See Incandescent Lamp footnotes on page 984.

# INCANDESCENT LAMPS: 15-18W

GE Lighting


S11 Cand.


S11 DC Bay


S11 Med.


S14


T6


T7 Cand.


T7 DC Bay


Intermed.


T8


T10

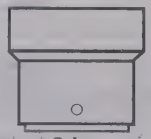

A15

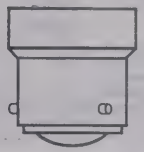

Candelabra E12


Intermediate E17


Medium E26


DC Bay


2-Lug Sleeve B22d


3-Lug Sleeve B22-3

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Each Sold Only in Pkg. Qty. List | Each | Pkg. Qty. | Shpg. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **S11, 1⅜" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 15S11/13 | Decorative, Clear | | 120 | 750 | 2¼ | 137 | 1E557 | $3.16 | $2.99 | 1 | 6 | 0.1 |
| 15S11/14 | Medical Spot, Clear | | 120 | 200 | 2¼ | 150 | 4V816 | 6.84 | 6.15 | 1 | 6 | 0.1 |
| **S11, 1⅜" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 15S11/3DC | Train, Clear | | 75 | 1000 | 2⅜ | 138 | 5V273 | 9.40 | 8.47 | 1 | 3 | 0.1 |
| **S11, 1⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 15S11/102 | Refrigerator, Clear 12-Lamp Tray | | 120 | 400 | 2¼ | 137 | 5V332 | 3.28 | 2.96 | 1 | 36 | 0.1 |
| **S14, 1⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 15S14/FBB | Locomotive Cab, Frost (23, 53)* | Brass Base | 34 | 1000 | 3½ | 144 | 1C415 | 7.54 | 7.16 | 1 | 6 | 0.1 |
| 15S14/GR/CL | Sign, Clear, Grp Repl (23)* | Brass Base | 130 | 3000 | 3½ | 110 | 1C696 | 2.87 | 2.73 | 1 | 6 | 0.1 |
| 15S14/GR/CL/8 | Sign, Clear, Grp Repl (23)* | Brass Base | 130 | 3000 | 3½ | 90 | 1F286 | 3.26 | 3.09 | 1 | 6 | 0.1 |
| **T6, 3/4" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 15T6 | Switchboard, Exit Sign, Clear | | 120 | 2000 | 3⅛ | 107 | 1D545 | 3.86 | 3.66 | 1 | 10 | 0.1 |
| 15T6 | Switchboard, Exit Sign, Clear | | 145 | 2000 | 3⅛ | 102 | 4V450 | 4.33 | 3.76 | 1 | 12 | 0.1 |
| **T7, 7/8" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 15T7C | Appliance, Signal Light, Clear (29,62)* | | 120 | 3000 | 2¼ | 108 | 4V820 | 3.18 | 2.87 | 1 | 12 | 0.1 |
| **T7, 7/8" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 15T7DC | Appliance, Clear (29,62)* | | 120 | — | 2¼ | 108 | 4V822 | 3.22 | 2.90 | 1 | 12 | 0.1 |
| 15T7DC CD | Appliance, Clear (29,62)* | | 120 | — | 2¼ | 108 | 1P035 | 3.31 | 3.13 | 1 | | 0.3 |
| 15T7DC/IF | Appliance, Frost (29,62)* | | 120 | — | 2¼ | 106 | 1E541 | 3.99 | 3.78 | 1 | 12 | 0.1 |
| **T7, 7/8" Diameter, w/Intermediate Base** | | | | | | | | | | | | |
| 15T7N CD | Appliance, Clear (29,62)* | | 120 | | 2¼ | 108 | 4V451 | 3.28 | 2.96 | 1 | 12 | 0.1 |
| **T8, 1" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 15T8C | Clear | | 120 | 750 | 3⅛ | 150 | 4V826 | 3.20 | 2.89 | 1 | 6 | 0.1 |
| **T10, 1¼" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 15T10 | Aquarium, Clear | | 120 | 2500 | 5⅛ | 120 | 6V261 | 4.05 | 3.65 | 1 | 3 | 0.1 |
| **18 WATT LAMPS** | | | | | | | | | | | | |
| **A15, 1⅞" Diameter, w/2-Lug Sleeve Base** | | | | | | | | | | | | |
| 18/3.5A15/5 | Railway Signal Light, Clear (10)* | | 10 | 1500 | 3¼ | 235 | 5V281 | 40.57 | 34.60 | 1 | 3 | 0.1 |
| 18A15/3 | Railway Signal Light, Clear (10)* | | 10 | 1500 | 3¼ | 235 | 5V280 | 42.78 | 38.55 | 1 | 3 | 0.1 |
| **A15, 1⅞" Diameter, w/3-Lug Sleeve Base** | | | | | | | | | | | | |
| 18/3.5A15/7 | Railway Signal Light, Clear (10)* | | 10 | 1500 | 3¼ | 235 | 1E504 | 39.38 | 37.50 | 1 | 3 | 0.1 |

(*) See Incandescent Lamp footnotes on page 984.

# INCANDESCENT LAMPS: 18W-25W

GE Lighting

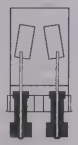
New

ENERGY RIGHT®



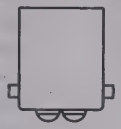


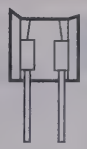








































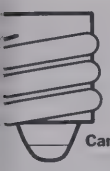

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship Case Qty. | Ship Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **S11, 1⅜" Diameter, w/Single Contact Bayonet Base** | | | | | | | | | | | | |
| 18/3 1/2 S11SC | Railway Signal Light, Clear (70)* | | 10 | 1000 | 2⅜ | 300 | 1E494 | 21.44 | **20.37** | 1 | 6 | 0.1 |
| 18S11/1SC | Railway Signal Light, Clear (70)* | | 10 | 2000 | 2⅜ | 250 | 5V284 | 11.50 | **10.35** | 1 | 6 | 0.1 |
| **20 WATT LAMPS** | | | | | | | | | | | | |
| **MR11, 1⅜" Diameter, w/GU4 2-Pin Base** | | | | | | | | | | | | |
| Q20MR11/NFL30 | Narrow Flood, ANSI: FTD (132)* | | 12 | 3500 | 1⅜ | | 1C736 | 15.84 | **15.05** | 1 | 10 | 0.1 |
| **MR16, 2" Diameter, w/GX5.3 2-Pin Base** | | | | | | | | | | | | |
| Q20MR16/C/VNSP7 | Very Narrow Spot, ANSI: EZX (132)* | Constant Color Precise | 12 | 3000 | 1⅞ | — | 2F286 † | 20.28 | **19.27** | 1 | 10 | 0.1 |
| Q20/MR16/C/NSP15 | Narrow Spot, ANSI: ESX (132)* | Constant Color Precise | 12 | 4000 | 1⅞ | — | 1K357 † | 14.92 | **14.18** | 1 | 10 | 0.1 |
| Q20MR16/SP | Spot 12° Beam (132)* | Standard MR16 | 12 | 2000 | 1⅞ | — | *New* 4LV93 | 13.27 | **12.65** | 1 | 20 | 0.1 |
| Q20MR16/C/FL40 | Flood, ANSI: BAB (132)* | Constant Color Precise | 12 | 4000 | 1⅞ | — | 1K359 † | 14.92 | **14.18** | 1 | 10 | 0.1 |
| Q20/MR16/FL | Flood 36° Beam (132)* | Standard MR16 | 12 | 2000 | 1⅞ | — | *New* 4LV92 | 13.27 | **12.65** | 1 | 20 | 0.1 |
| Q20MR16C/CG15 | Narrow Spot, ANSI: ESX (132)* | Constant Color Precise; Cover Glass (CG) | 12 | 4000 | 1⅞ | — | 1K333 † | 15.97 | **15.17** | 1 | 3 | 0.3 |
| Q20MR16C/CG40 | Flood, ANSI: BAB (132)* | Constant Color Precise; Cover Glass (CG) | 12 | 4000 | 1⅞ | — | 1K335 † | 15.97 | **15.17** | 1 | 10 | 0.1 |
| **MR16, 2" Diameter, w/Turn and Lock (TAL) Base** | | | | | | | | | | | | |
| 20MR16/Q25/TL | Narrow Flood (132)* | Turn and Lock Base | 12 | 3500 | 2 | — | 1C720 † ** | 15.66 | **14.87** | 1 | 10 | 0.1 |
| **T2½, 5/16" Diameter, w/G4 2-Pin Base** | | | | | | | | | | | | |
| Q20 T2 1/2 /12V/CL | Clear (132)* | | 12 | 2000 | 1¼ | 350 | 2F522 | 7.43 | **7.06** | 1 | 3 | 0.1 |
| **T6½, 13/16" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 20T6 1/2 DC/F | Exit Light, Frost (6)* | Exit Sign Application | 120 | 5000 | 5⅝ | 90 | 4V996 | 6.67 | **6.01** | 1 | 3 | 0.1 |
| **T6½, 13/16" Diameter, w/Intermediate Base** | | | | | | | | | | | | |
| 20T6 1/2 /F | Exit Light, Frost (6)* | Exit Sign Application | 120 | 7000 | 5½ | 90 | 4V479 | 5.58 | **4.78** | 1 | 3 | 0.1 |
| **25 WATT LAMPS** | | | | | | | | | | | | |
| **A15, 1⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 25A15/RFL | Sign, Reflector, Light I.F. (23)* | | 130 | 3000 | 3½ | 150 | 5V015 | 9.18 | **8.27** | 1 | 3 | 0.1 |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 25A | Inside Frost (53)* | | 12 | 1000 | 3⅜ | 378 | 6V207 | 4.58 | **4.34** | 1 | 3 | 0.1 |
| 25A | Train, I.F. (53)* | | 34 | 1000 | 3⅜ | 390 | 5V292 | 3.96 | **3.56** | 1 | 3 | 0.1 |
| 25A/CL | Decorative, Clear | Brass Base | 120 | 2500 | 4¼ | 215 | 4V452 | 1.80 | **1.62** | 1 | 120 | 0.1 |
| 25A/CL | Clear | | 130 | 2500 | 4¼ | 215 | 4V453 | 2.39 | **2.15** | 1 | 120 | 0.1 |
| 25A/RS | Rough Service, I.F. (95)* | | 120 | 1000 | 3⅜ | 190 | 4V834 | 3.92 | **3.52** | 1 | 24 | 0.1 |
| 25A/Y | Yellow (9, 23)* | Brass Base; Bug Light | 120 | 2500 | 3⅜ | — | 4V832 | 2.83 | **2.55** | 2 | 24 | 0.1 |
| 25A/B | Blue (9,23)* | Brass Base | 120 | 2500 | 3⅜ | — | 4V828 | 2.83 | **2.55** | 2 | 24 | 0.1 |
| 25A/G | Green (9,23)* | Brass Base | 120 | 2500 | 3⅜ | — | 4V829 | 2.83 | **2.55** | 2 | 24 | 0.1 |
| 25A/O | Orange (23)* | Brass Base | 120 | 2500 | 3⅜ | — | 4V827 | 2.83 | **2.55** | 1 | 3 | 0.1 |
| 25A/R | Red (9,23)* | Brass Base | 120 | 2500 | 3⅜ | — | 4V830 | 2.83 | **2.55** | 2 | 24 | 0.1 |
| 25A/TB | Transparent Blue | Brass Base | 120 | 2500 | 3⅜ | — | 6V133 | 2.80 | **2.52** | 1 | 6 | 0.1 |
| 25A/TG | Transparent Green | Brass Base | 120 | 2500 | 3⅜ | — | 6V134 | 2.80 | **2.52** | 1 | 6 | 0.1 |
| 25A/TR | Transparent Red | Brass Base | 120 | 2500 | 3⅜ | — | 6V135 | 2.80 | **2.52** | 1 | 3 | 0.3 |
| 25A/TY | Transparent Yellow | Brass Base | 120 | 2500 | 3⅜ | — | 6V136 | 2.80 | **2.52** | 1 | 6 | 0.1 |
| 25A | Inside Frost | | 130 | 2500 | 4¼ | 215 | 2V511 | 2.30 | **1.61** | 1 | 120 | 0.1 |
| 25A/GR/CL/8 | Sign, Long Life, Grp Repl, Clear (23)* | Brass Base | 130 | 8000 | 3⅜ | 120 | 1E049 | 4.45 | **4.23** | 1 | 3 | 0.1 |
| 25A19/GR/CL | Sign, Grp Repl, Clear (23)* | Brass Base | 130 | 3000 | 3⅜ | 190 | 1E456 | 2.80 | **2.66** | 1 | 3 | 0.1 |
| 25A | Inside Frost | | 250 | 1000 | 3⅜ | 220 | 5V336 | 5.34 | **4.81** | 1 | 3 | 0.1 |
| 25A/W | Soft White (9)* | | 120 | 2500 | 4¼ | 210 | 2V281 | 1.73 | **1.21** | 2 | 24 | 0.1 |

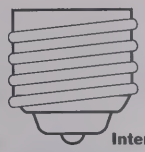
(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (✓) Denotes energy efficient product. (**) Limited availability. Contact local branch.

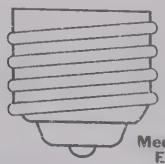


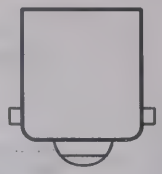
When it comes to lighting, no distributor outshines Grainger.

# INCANDESCENT LAMPS: 25 WATT


Candelabra E12


Intermediate E17


Medium E26


SC Bay B15


Screw Terminal

GE Lighting

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (in.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **25 WATTS LAMPS (Cont.)** | | | | | | | | | | | | |
| **B10, 1¼" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 25BC | Blunt Tip, Crystal (Clear), BDTH | Decorative Lamp | 120 | 1500 | 3¾ | 235 | 1E339 | $1.34 | **$1.28** | 1 | 25 | 0.1 |
| **B13, 1⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 25BM CD2 | Blunt Tip, Crystal (Clear) (9)* | Decorative Lamp | 120 | 1500 | 4⅜ | 220 | 6V661 | 1.39 | **1.33** | 2 | 12 | 0.1 |
| **CA9, 1⅛" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 25CAM/L | Bent Tip, Crystal (Clear), LL | Long Life Decorative Lamp | 120 | 4000 | 4⅜ | 185 | 1C516 | 1.60 | **1.53** | 1 | 6 | 0.1 |
| **CA10, 1¼" Diameter, w/ Candelabra Base** | | | | | | | | | | | | |
| 25CAC | Bent Tip, Crystal (Clear), BDTH | Decorative Lamp | 120 | 1500 | 4⅜ | 235 | 1E343 | 1.34 | **1.28** | 1 | 25 | 0.1 |
| 25CAC/F CD2 | Bent Tip, Satin (Frost), BDTH (9)* | Decorative Lamp | 120 | 1500 | 4⅜ | — | 2F664 | 1.39 | **1.32** | 2 | 12 | 0.1 |
| 25CAC/L | Bent Tip, Crystal (Clear), LL, BDTH | Long Life Decorative Lamp | 120 | 4000 | 4⅜ | 180 | 1C514 | 1.60 | **1.53** | 1 | 6 | 0.1 |
| **F15, 1⅞" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| 25FM | Flame, Crystal (Clear) | Decorative Lamp | 120 | 1500 | 4⅜ | 215 | 1P065 | 1.82 | **1.74** | 1 | 12 | 0.1 |
| 25FM/A | Flame, Amber | Decorative Lamp | 120 | 1500 | 4⅜ | — | 1P063 | 2.19 | **2.08** | 1 | 12 | 0.1 |
| 25FM/AU CD2 | Flame, Auradescent (9)* | Decorative Lamp | 120 | 1500 | 4⅜ | — | 2F264 | 2.08 | **1.98** | 2 | 12 | 0.1 |
| 25FM/W | Flame, Pearl (White) | Decorative Lamp | 120 | 1500 | 4⅜ | 179 | 1E446 | 1.82 | **1.74** | 1 | 12 | 0.1 |
| **G16½, 2 1/16" Diameter, w/ Candelabra Base** | | | | | | | | | | | | |
| 25GC | Globe, Crystal (Clear) Auradescent | Decorative Lamp | 120 | 1500 | 3 | 235 | 6V665 | 1.49 | **1.43** | 1 | 12 | 0.1 |
| 25GC/AU CD/2 | Globe, Auradescent | Decorative Lamp | 120 | 1500 | 3 | 235 | 3JK63 | 1.64 | **1.57** | 2 | 12 | 0.1 |
| 25GC/L | Globe, Crystal (Clear), LL | Long Life Decorative Lamp | 120 | 4000 | 3 | 190 | 6V094 | 1.93 | **1.73** | 1 | 6 | 0.1 |
| 25GC/W | Globe, Pearl (White) | Decorative Lamp | 120 | 1500 | 3 | 210 | 6V666 | 1.66 | **1.42** | 1 | 12 | 0.1 |
| **G16½, 2 1/16" Diameter, w/ Single Contact Bayonet Base** | | | | | | | | | | | | |
| 25G16 1/2 SC | Railway Signal Light, Clear (69)* | | 120 | 1000 | 3 | 220 | 1E440 | 23.28 | **22.10** | 1 | 60 | 0.1 |
| **G25, 3⅛" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| 25G25 | Globe, Crystal (Clear) | Decorative Lamp | 120 | 1500 | 4½ | 210 | 6V693 | 2.91 | **2.33** | 3 | 9 | 0.2 |
| 25G25/L | Globe, Crystal (Clear), LL | Long Life Decorative Lamp | 120 | 4000 | 4½ | 185 | 1K395 | 3.24 | **3.08** | 1 | 24 | 0.2 |
| 25G25/W | Globe, Pearl (White) | Decorative Lamp | 120 | 1500 | 4½ | 190 | 4V422 | 2.91 | **2.33** | 1 | 6 | 0.2 |
| 25G25/W/L | Globe, Pearl (White), LL | Long Life Decorative Lamp | 120 | 4000 | 4½ | 170 | 1K393 | 3.24 | **3.08** | 1 | 24 | 0.2 |
| **G40, 5" Diameter w/ Medium Base** | | | | | | | | | | | | |
| 25G40/CL | Globe, Crystal (Clear) | Decorative Lamp | 120 | 2500 | 6 5/16 | 235 | 2F972 | 6.64 | **6.31** | 1 | 24 | 0.3 |
| **PAR36, 4½" Diameter, w/ Screw Terminal Base** | | | | | | | | | | | | |
| 25PAR36 | Pin Spot, Filament Shield (15)* | | 5.5 | 1000 | 2¾ | 130 | 4V539 | 18.86 | **16.97** | 1 | 3 | 0.4 |
| 25PAR36/NSP | Narrow Spot, Filament Shield (15)* | | 12 | 2000 | 2¾ | 150 | 4V415 | 18.86 | **16.97** | 1 | 12 | 0.6 |
| 25PAR36/VWFL | Very Wide Flood, Filament Shield (15)* | | 12 | 2000 | 2¾ | 150 | 1E436 | 18.86 | **17.92** | 1 | 12 | 0.2 |
| 25PAR36/WFL | Wide Flood, Filament Shield (15)* | | 12 | 2000 | 2¾ | 150 | 1E438 | 18.86 | **17.92** | 1 | 12 | 0.6 |
| **PAR46, 4½" Diameter, w/ Screw Terminal Base** | | | | | | | | | | | | |
| 25PAR46 | Pin Spot, Filament Shield (15)* | | 5.5 | 1000 | 3¾ | 140 | 4V538 | 18.86 | **16.97** | 1 | 3 | 0.8 |
| **R14, 1¾" Diameter, w/ Intermediate Base** | | | | | | | | | | | | |
| 25R14N | Reflector, Light I.F. (4.23)* | Brass Base | 120 | 1500 | 2 5/16 | 180 | 6VX30 | 10.91 | **9.22** | 1 | 6 | 0.1 |
| 25R14N | Reflector, Light I.F. (4.23)* | Brass Base | 130 | 1500 | 2 5/16 | 180 | 1E163 | 14.39 | **13.68** | 1 | 6 | 0.1 |
| **R14, 1¾" Diameter, w/ Single Contact Bayonet Base** | | | | | | | | | | | | |
| 25R14SC/SP | Reflector Spot, Light I.F. (4.23)* | Brass Base | 12 | 2000 | 2⅝ | 230 | 1C670 | 13.43 | **12.76** | 1 | 6 | 0.1 |


B10


B13


CA9


CA10


F15


G16 Cand.


G16 SC Bay


G25


G40


PAR36


PAR46

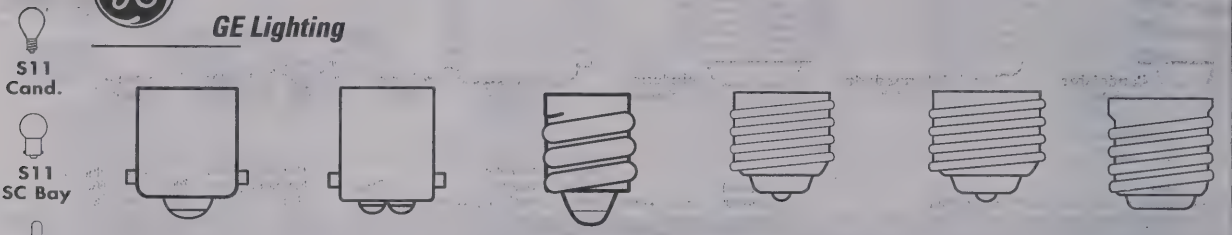

R14 Intermed.


R14 SC Bay

(*) See Incandescent Lamp footnotes on page 984.

# INCANDESCENT LAMPS: 25W-30W

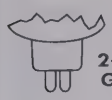
GE Lighting




| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg Qty | Ship Case Qty | Shpg Wt Ea |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **25 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **S11, 1⅜" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 25S11/2C | Medical Spotlight, Clear | | 120 | 500 | 2¼ | 260 | 4V848 | $5.46 | **$4.91** | 1 | 6 | 0.1 |
| 25S11/5C | Reprographic, Frost, Printer | | 120 | 500 | 2¼ | 260 | 1E432 | 5.76 | **5.48** | 1 | 6 | 0.1 |
| **S11, 1⅜" Diameter, w/Single Contact Bayonet Base** | | | | | | | | | | | | |
| 25S11/4SC | Railway Signal Light, Clear (70)* | | 10 | 1000 | 2⅜ | 360 | 5V295 | 13.25 | **11.93** | 1 | 6 | 0.1 |
| **T6½, 13/16" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 25T6 1/2 DC | Appliance, Scale Illuminator, Clear | | 120 | 1000 | 5⅜6 | 244 | 4V454 | 6.22 | **5.60** | 1 | 3 | 0.1 |
| 25T6 1/2 DC | Appliance, Scale Illuminator, Clear | | 130 | 1000 | 5⅜6 | 244 | 4V455 | 8.35 | **7.52** | 1 | 3 | 0.1 |
| 25T6 1/2 DC/F | Appliance, Scale Illuminator, Frost | | 120 | 1000 | 5⅜6 | 240 | 1E426 | 7.75 | **7.38** | 1 | 60 | 0.1 |
| 25T6 1/2 DC/F | Appliance, Scale Illuminator, Frost | | 130 | 1000 | 5⅜6 | 240 | 4V851 | 10.47 | **9.42** | 1 | 3 | 0.1 |
| **T6½, 13/16" Diameter, w/Intermediate Base** | | | | | | | | | | | | |
| 25T6 1/2 | Showcase, Clear | | 120 | 1000 | 5½ | 244 | 4V456 | 4.58 | **4.12** | 1 | 3 | 0.1 |
| 25T6 1/2 | Showcase, Clear | | 130 | 1000 | 5½ | 244 | 4V458 | 6.07 | **5.47** | 1 | 3 | 0.1 |
| 25T6 1/2 /F | Showcase, Frost | | 120 | 1000 | 5½ | 240 | 4V457 | 4.84 | **4.36** | 1 | 3 | 0.1 |
| 25T6 1/2 /F | Showcase, Frost | | 130 | 1000 | 5½ | 240 | 4V459 | 6.51 | **5.87** | 1 | 3 | 0.1 |
| **T8, 1" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 25T8C | Microwave, Clear | | 120 | 200 | 2⅜ | 195 | 4V852 | 3.57 | **3.22** | 1 | 6 | 0.1 |
| **T8, 1" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 25T8DC | Appliance, Clear | | 120 | 200 | 2⅜ | 195 | 4V460 | 3.44 | **3.10** | 1 | 60 | 0.1 |
| **T8, 1" Diameter, w/Intermediate Base** | | | | | | | | | | | | |
| 25T8N | Appliance, Clear | | 120 | 200 | 2⅜ | 195 | 4V645 | 3.77 | **3.40** | 1 | 6 | 0.1 |
| **T10, 1¼" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 25T10 | Showcase, Clear | | 120 | 1000 | 5⅜ | 248 | 4V461 | 3.39 | **2.88** | 1 | 24 | 0.1 |
| 25T10 | Showcase, Clear | | 130 | 1000 | 5⅜ | 248 | 4V857 | 4.27 | **3.83** | 1 | 3 | 0.1 |
| 25T10/F | Showcase, Frost | | 120 | 1000 | 5⅜ | 244 | 4V856 | 3.66 | **3.30** | 1 | 24 | 0.1 |
| 25T10/F | Showcase, Frost | | 130 | 1000 | 5⅜ | 244 | 4V858 | 4.78 | **4.29** | 1 | 3 | 0.1 |
| 25T10 | Showcase, Clear (53)* | | 250 | 1000 | 5⅜ | 240 | 1E406 | 6.20 | **5.90** | 1 | 3 | 0.5 |
| **27 WATT LAMPS** | | | | | | | | | | | | |
| **R20, 2½" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 27R20/MI/1 | Miser, Reflector Flood | Energy Saving | 120 | 2000 | 3⅝6 | 210 | 3JK23 | 3.02 | **2.72** | 1 | 3 | 0.1 |
| **30 WATT LAMPS** | | | | | | | | | | | | |
| **A15, 1⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 30A15 | Sign, Changing Msg, I.F. (23)* | Brass Base | 130 | 5000 | 3½ | 215 | 4V664 | 3.02 | **2.72** | 1 | 3 | 0.1 |
| 30A15/8 | Sign, Inside Frost (23)* | Brass Base | 130 | 8000 | 3½ | 180 | 1E043 | 3.02 | **2.86** | 1 | 3 | 0.1 |
| 30A15/CL | Sign, Changing Msg, Clear (23)* | Brass Base | 130 | 5000 | 3½ | 215 | 4V665 | 3.02 | **2.72** | 1 | 3 | 0.1 |
| **A21, 2⅝" Diameter, w/3C Medium Base** | | | | | | | | | | | | |
| 30/70/100 | Soft White, 3-Way (25,46)* | 30 Watt | 120 | 1500 | 5¼ | 280 | 6V191 | 3.46 | **2.60** | 1 | 12 | 0.2 |
| | | 70 Watt | 120 | 1200 | | 1035 | | | | | | |
| | | 100 Watt | 120 | 1200 | | 1315 | | | | | | |

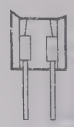
(*) See Incandescent Lamp footnotes on page 984.

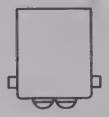
# INCANDESCENT LAMPS: 30W-40W



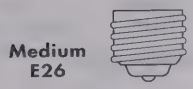


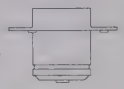





GE Lighting







ENERGY RIGHT®

| Lamp Designation | Description | Special Feature | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Ship. Pkg. Qty. | Shpg. Case Qty. | Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **R20, 2½" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 30R20 | Reflector, Light I.F. | | 120 | 2000 | 3 15/16 | 200 | 2V561 | $7.64 | $5.74 | 1 | 60 | 0.1 |
| 30R20 | Reflector, Light I.F. | | 130 | 2000 | 3 15/16 | 200 | 6V239 | 10.67 | 9.59 | 1 | 3 | 0.1 |
| 30R20/6 | Sign, Flashing Msg, Refl., Light I.F. (23,76)* | Long Life, Brass Base | 130 | 6000 | 3 15/16 | 150 | 4V676 | 13.45 | 10.77 | 1 | 3 | 0.1 |
| **S11, 1⅜" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 30S11DC | Train Marker Control, Clear, BDTH | | 75 | 500 | 2⅜ | 350 | 5V303 | 5.54 | 4.98 | 1 | 3 | 0.1 |
| 30S11DC/RS | Train, Clear | | 75 | 2000 | 2⅜ | 300 | 1E187 | 8.68 | 8.25 | 1 | 6 | 0.1 |
| **T10, 1¼" Diameter, w/Medium Prefocus Base** | | | | | | | | | | | | |
| 6.6A/T10/1P | Airport, Clear, 30W (1)* | | 4.5 | 1000 | 3 1/16 | 400 | 5V305 | 16.84 | 15.15 | 1 | 3 | 0.1 |
| **T8, 1" Diameter, w/Disc Base** | | | | | | | | | | | | |
| L30 | Lumiline, Clear (9)* | | 120 | 1500 | 17¾ | 230 | 6V275 | 25.39 | 22.86 | 1 | 3 | 0.3 |
| L30/W | Lumiline, White (9)* | | 120 | 1500 | 17¾ | 210 | 6V276 | 29.07 | 26.20 | 1 | 3 | 0.3 |
| **33 WATT LAMPS** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 33A19/5 | Sign, Changing Msg, Grp Repl, Clear, Gas Filled (23)* | Brass Base | 130 | 3000 | 3⅞ | 270 | 4V904 | 5.06 | 4.55 | 1 | 3 | 0.1 |
| 33A19/5/V | Sign, Changing Msg, Grp Repl, Clear, Vacuum (23)* | Brass Base | 130 | 3000 | 3⅞ | 270 | 5V815 | 2.61 | 2.48 | 1 | 3 | 0.1 |
| **34 WATT LAMPS** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 40A/34WM | Watt-Miser®, Diffuse Coating (9)* | Energy Saving | 120 | 2000 | 4 7/16 | 380 | 4V552 | 1.32 | 0.99 | 2 | 120 | 0.1 |
| 40A/34WM | Watt-Miser®, Diffuse Coating (9)* | Energy Saving | 130 | 2000 | 4 7/16 | 365 | 4V562 | 1.66 | 1.26 | 2 | 6 | 0.1 |
| | Ratings @120V | | | 5400 | | 270 | | | | | | |
| 40A/34WMP/99 | Watt-Miser® Plus, Diffuse Coat, LL (9)* | Energy Saving; Long Life | 120 | 2500 | 4 7/16 | 375 | 5V705 | 2.08 | 1.87 | 1 | 2 | 0.1 |
| 40A/34WMP/99 | Watt-Miser® Plus, Diffuse Coat, LL (9)* | Energy Saving; Long Life | 130 | 2500 | 4 7/16 | 360 | 5V706 | 2.69 | 2.43 | 1 | 2 | 0.1 |
| | Ratings @ 120V | | | 6800 | | 265 | | | | | | |
| **35 WATT LAMPS** | | | | | | | | | | | | |
| **MR11, 1⅜" Diameter, w/GU4 2-Pin Base** | | | | | | | | | | | | |
| Q35MR11/NFL30 | Narrow Flood, ANSI: FTH (132)* | | 12 | 3500 | 1¾ | — | 1C734 | 15.84 | 15.05 | 1 | 10 | 0.1 |
| **MR16, 2" Diameter, w/GX5.3 2-Pin Base** | | | | | | | | | | | | |
| Q35MR16/C/SP20 | Spot, ANSI: FRA (132)* | Constant Color Precise | 12 | 4000 | 1⅞ | — | 1K353 † | 14.92 | 14.18 | 1 | 10 | 0.1 |
| Q35MR16/C/CG20 | Spot, ANSI: FRA (132)* | Constant Color Precise; Cover Glass (CG) | 12 | 4000 | 1⅞ | — | 1K329 † | 15.97 | 15.17 | 1 | 10 | 0.1 |
| Q35MR16/C/FL40 | Flood, ANSI: FMW (132)* | Constant Color Precise | 12 | 4000 | 1⅞ | — | 1K355 † | 14.92 | 14.18 | 1 | 10 | 0.1 |
| Q35MR16/C/CG40 | Flood, ANSI: FMW (132)* | Constant Color Precise; Cover Glass (CG) | 12 | 4000 | 1⅞ | — | 1K331 † | 15.97 | 15.17 | 1 | 10 | 0.1 |
| **PAR36, 4½" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | |
| 35PAR36/H/VNSP5 | Halogen, Very Narrow Spot (15)* | Halogen | 12 | 4000 | 2¾ | 250 | 4V090 † | 17.48 | 14.87 | 1 | 3 | 0.4 |
| 35PAR36/H/NSP8° | Halogen, Narrow Spot (15)* | Halogen | 12 | 4000 | 2¾ | 250 | 3JK48 † | 17.48 | 16.60 | 1 | 12 | 0.5 |
| 35PAR36/H/WFL30 | Halogen, Wide Flood (15)* | Halogen | 12 | 4000 | 2¾ | 250 | 4V091 † | 17.48 | 14.87 | 1 | 3 | 0.4 |
| **T3, ⅜" Diameter, w/GY6.35 2-Pin Base** | | | | | | | | | | | | |
| Q35 T3/12V/CL | Clear (132)* | | 12 | 2000 | 1⅞ | 550 | 2F520 | 7.43 | 7.06 | 1 | 3 | 0.1 |
| **40 WATT LAMPS** | | | | | | | | | | | | |
| **A15, 1⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 40A15 CD | Appliance/Oven, Clear, Vib. Res. | — | 120 | 1500 | 3½ | 435 | 5V755 | 1.73 | 1.56 | 1 | 12 | 0.1 |
| 40A15/CF CD2 | Ceiling Fan, Vib. Res., Clear (9)* | Decorative Lamp | 120 | 1500 | 3½ | 435 | 1K387 | 1.66 | 1.58 | 2 | 6 | 0.3 |
| 40A15/W/CF CD2 | Ceiling Fan, Vib. Res., White (9)* | Decorative Lamp | 120 | 1500 | 3½ | 355 | 1K385 | 1.66 | 1.58 | 2 | 24 | 0.1 |


R20


S11


T10


T8


A19


MR11


MR16


MR16 CG


PAR36


T3


A15, A19

(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (✓) Denotes energy efficient product.

# INCANDESCENT LAMPS: 40W

GE Lighting



A19, A21



B10



B13



CA9



CA10



F15



G16½



G25



G40



Medium E26



Candelabra E12

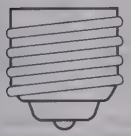
| Lamp Designation | Description | Special Feature | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Price Ea. Sold Only in Pkg. Qtys. List | Price Ea. Sold Only in Pkg. Qtys. Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **40 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 40A | Standard, I.F. (44)* | | 120 | 1000 | 4⅞ | 505 | 5V597 | $1.32 | $0.49 | 4 | 48 | 0.1 |
| 40A | Inside Frost | | 130 | 1000 | 4⅞ | 495 | 2V482 | 1.66 | 0.71 | 1 | 120 | 0.1 |
| | Ratings @ 120V | | | 2600 | | 365 | | | | | | |
| 40A/CL | Crystal Clear (9)* | | 120 | 1500 | 4⅞ | 470 | 6V188 | 1.80 | 1.62 | 2 | 6 | 0.2 |
| 40A/CL | Clear | | 130 | 1500 | 4⅞ | 470 | 4V463 | 2.39 | 2.15 | 1 | 120 | 0.1 |
| | Ratings @ 120V | | | 4000 | | 345 | | | | | | |
| 40A/CVG | CVG, I.F. (23,47,83,95)* | Cov-R-Guard; Shatter Rest.; Teflon Coated; Brass Base | 120 | 1500 | 4⅞ | 480 | 5V761 | 4.75 | 4.28 | 1 | 24 | 0.1 |
| 40A/W | Soft White (44)* | | 120 | 1000 | 4⅞ | 490 | 5V609 | 1.40 | 1.27 | 1 | 48 | 0.1 |
| 40A/S | Survivor ™, LL. I.F. Vib. & Shock Res. (23)* | Commercial Long Life; Brass Base | 130 | 3000 | 4⅞ | 360 | 1E329 | 3.39 | 3.22 | 1 | 2 | 0.1 |
| | Ratings @ 120V | | | 8300 | | 265 | | | | | | |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 40A/TS | Traffic Signal, Clear, BDTH (23)* | Traffic Signal; Brass Base | 130 | 2000 | 4⅜ | 380 | 4V869 | 3.85 | 3.46 | 1 | 3 | 0.1 |
| **B10, 1¼" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 40BC | Blunt Tip, Crystal (Clear), BDTH | Decorative Lamp | 120 | 1500 | 3¾ | 370 | 1E337 | 1.34 | 1.28 | 1 | 25 | 0.1 |
| 40BC/L | Blunt Tip, Crystal (Clear), LL, BDTH | Long Life Decorative Lamp | 120 | 4000 | 3¾ | 310 | 1E575 | 1.60 | 1.53 | 1 | 6 | 0.1 |
| **B13, 1⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 40BM CD2 | Blunt Tip, Crystal (Clear) (9)* | Decorative Lamp | 120 | 1500 | 4⅝ | 455 | 6V674 | 1.39 | 1.33 | 2 | 12 | 0.1 |
| **CA9, 1⅛" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 40CAM CD2 | Bent Tip, Crystal (Clear) | Decorative Lamp | 120 | 1500 | 4⅜ | 330 | 6V672 | 1.39 | 1.33 | 2 | 12 | 0.1 |
| 40CAM/F CD2 | Bent Tip, Satin (Frost) (9)* | Decorative Lamp | 120 | 1500 | 4⅜ | 330 | 1E587 | 1.39 | 1.32 | 2 | 6 | 0.1 |
| **CA10, 1¼" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 40CAC | Bent Tip, Crystal (Clear), BDTH | Decorative Lamp | 120 | 1500 | 4⅛ | 370 | 6V670 | 1.34 | 1.28 | 1 | 12 | 0.1 |
| 40CAC/F CD2 | Bent Tip Satin (Frost), BDTH | Decorative Lamp | 120 | 1500 | 4⅛ | 370 | 6V671 | 1.39 | 1.12 | 2 | 6 | 0.1 |
| 40CAC/L | Bent Tip, Crystal (Clear), LL, BDTH | Long Life Decorative Lamp | 120 | 4000 | 4⅛ | 310 | 6V088 | 1.60 | 1.53 | 1 | 6 | 0.1 |
| **F15, 1⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 40FM | Flame, Crystal (Clear) | Decorative Lamp | 120 | 1500 | 4⅜ | 455 | 6V677 | 1.82 | 1.74 | 1 | 12 | 0.1 |
| 40FM/AU CD2 | Flame, Auradescent | Decorative Lamp | 120 | 1500 | 4⅜ | 455 | 1E354 | 2.08 | 1.98 | 2 | 12 | 0.1 |
| 40FM/W | Flame, Pearl (White) | Decorative Lamp | 120 | 1500 | 4⅜ | 390 | 1P059 | 1.82 | 1.74 | 1 | 12 | 0.1 |
| **G16½", 1/16" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 40GC | Globe, Crystal (Clear), BDTH (4)* | Decorative Lamp | 120 | 1500 | 3 | 260 | 1P061 | 1.66 | 1.42 | 1 | 12 | 0.1 |
| 40GC/AU CD2 | Globe, Auradescent | Decorative Lamp | 120 | 1500 | 3 | 260 | 3JK64 | 1.64 | 1.57 | 2 | 12 | 0.1 |
| 40GC/L | Globe, Crystal (Clear), LL, BDTH (4)* | Long Life Decorative Lamp | 120 | 4000 | 3 | 220 | 5V589 | 1.93 | 1.73 | 1 | 60 | 0.1 |
| 40GC/W | Globe - Pearl (White), BDTH (4)* | Decorative Lamp | 120 | 1500 | 3 | 245 | 1E333 | 1.66 | 1.59 | 1 | 12 | 0.1 |
| **G25, 3⅛" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 40G25 | Globe, Crystal (Clear) | Decorative Lamp | 120 | 1500 | 4½ | 410 | 4V414 | 2.91 | 2.33 | 1 | 6 | 0.2 |
| 40G25/L | Globe, Crystal (Clear), LL | Long Life Decorative Lamp | 120 | 4000 | 4½ | 360 | 1K391 | 3.24 | 3.07 | 1 | 24 | 0.2 |
| 40G25/W | Globe, Pearl (White) | Decorative Lamp | 120 | 1500 | 4½ | 370 | 4V412 | 2.91 | 2.33 | 1 | 6 | 0.2 |
| 40G25/W/L | Globe, Pearl (White), LL | Long Life Decorative Lamp | 120 | 4000 | 4½ | 325 | 1K389 | 3.24 | 3.07 | 1 | 24 | 0.2 |
| **G40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 40G40/CL | Globe, Crystal (Clear) | Decorative Lamp | 120 | 2500 | 6⅛ | 440 | 6V140 | 6.64 | 5.97 | 1 | 24 | 0.4 |
| 40G40/W | Globe, Pearl (White) | Decorative Lamp | 120 | 2500 | 6⅛ | 400 | 1C630 | 6.64 | 6.31 | 1 | 6 | 0.4 |

(*) See Incandescent Lamp footnotes on page 984.

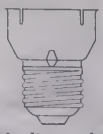


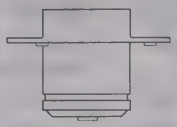
When it comes to lighting, no distributor outshines Grainger.

# INCANDESCENT LAMPS: 40W-45W


Intermediate E17

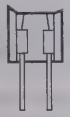

Medium E26


Medium Skirt E26


Medium PreFocus P28S

GE Lighting

ENERGY RIGHT®


2-Pin G4


Screw Terminal


Disc

S11

T6

T8

T10

T10 Med. PF

MR16

R20

R30

PAR38

PAR56

| Lamp Designation | Description | Special Feature | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Ⓔ | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **40 WATT LAMPS (Cont.)** | | | | | | | | | | | | | |
| **S11, 1⅜" Diameter, w/Intermediate Base** | | | | | | | | | | | | | |
| 40S11N/1 | High Intensity, Clear, (14,99)* | | 120 | 500 | 2⅞ | 440 | 5V757 | | $4.23 | $3.81 | 1 | 3 | 0.1 |
| 40S11N/1/F | High Intensity, Frost (14,99)* | | 120 | 500 | 2⅞ | 440 | 5V908 | | 4.27 | 3.84 | 1 | 6 | 0.1 |
| **T6½", 13/16" Diameter, w/Intermediate Base** | | | | | | | | | | | | | |
| 40T6 1/2 /2 | Refrigerator, Clear | | 120 | 750 | 5½ | 420 | 4V708 | | 4.69 | 4.22 | 1 | 2 | 0.1 |
| 40T6 1/2/2F | Appliance, Frost | | 120 | 750 | 5½ | 420 | 4V874 | | 6.37 | 5.74 | 1 | 3 | 0.1 |
| **T8, 1" Diameter, w/Disc Base** | | | | | | | | | | | | | |
| 40 | Lumiline, Clear (9) * | | 120 | 1500 | 11¾ | 325 | 6V270 | | 25.39 | 22.86 | 1 | 3 | 0.4 |
| 40/W | Lumiline, White (9)* | | 120 | 1500 | 11¾ | 295 | 6V273 | | 29.07 | 26.20 | 1 | 3 | 0.2 |
| **T8, 1" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| 40T8 | Showcase, Clear | | 120 | 1000 | 11¾ | 430 | 1E345 | | 13.34 | 12.67 | 1 | 3 | 0.3 |
| 40T8/F | Showcase, Frost | | 120 | 1000 | 11¾ | 425 | 1E341 | | 16.65 | 15.82 | 1 | 24 | 0.2 |
| **T10, 1¼" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| 40T10 | Showcase, Clear | | 120 | 1000 | 5⅝ | 420 | 4V464 | | 3.39 | 2.88 | 1 | 3 | 0.1 |
| 40T10 | Showcase, Clear | | 130 | 1000 | 5⅝ | 420 | 4V879 | | 4.27 | 3.83 | 1 | 3 | 0.1 |
| 40T10/F | Showcase, Frost | | 120 | 1000 | 5⅝ | 415 | 4V877 | | 3.66 | 3.30 | 1 | 3 | 0.1 |
| 40T10/F | Showcase, Frost | | 130 | 1000 | 5⅝ | 415 | 4V880 | | 4.78 | 4.29 | 1 | 3 | 0.1 |
| **T10, 1¼" Diameter, w/Medium Prefocus Base** | | | | | | | | | | | | | |
| 40T10P | Airport, Clear (1)* | | 120 | 1000 | 3⅝ | 400 | 4V881 | | 57.41 | 51.75 | 1 | 3 | 0.5 |
| **42 WATT LAMPS** | | | | | | | | | | | | | |
| **MR16, 2" Diameter, w/GX5.3 2-Pin Base** | | | | | | | | | | | | | |
| 42MR16/C/VNSP9 | Very Narrow Spot, ANSI: EZY (132)* | Constant Color Precise | 12 | 3500 | 1⅞ | — | 2F288 | † | 20.00 | 19.00 | 1 | 10 | 0.1 |
| **45 WATT LAMPS** | | | | | | | | | | | | | |
| **R20, 2½" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| 45R20MI/1 | Miser®, Reflector Flood | Energy Saving | 120 | 2000 | 3⅝ | 440 | 3JK22 | | 8.92 | 8.48 | 1 | 6 | 0.2 |
| **BR30, 3¾" Diameter w/Medium Base** | | | | | | | | | | | | | |
| 45R30/FL/LL | Krypton Flood | Energy Saving | 120 | 2000 | 5⅜ | 470 | 1E887 | | 25.30 | 24.04 | 1 | 6 | 0.2 |
| 45R/FL/MI/1 | Miser®, Reflector Flood | Energy Saving | 130 | 2000 | 5⅜ | 485 | 1K403 | | 8.37 | 7.95 | 1 | 6 | 0.3 |
| **PAR38, 4¾" Diameter, w/Medium Skirted Base** | | | | | | | | | | | | | |
| 45PAR/H/SP11 | Halogen, Spot (15,23,56,88,96)* | Halogen | 120 | 2500 | 5⅛ | 510 | 4V096 | Ⓔ | 11.31 | 7.70 | 1 | 3 | 0.8 |
| 45PAR/H/NFL25 | Halogen, Narrow Flood (15,23,56,88,96)* | Halogen | 120 | 2500 | 5⅛ | 510 | 4V094 | Ⓔ | 11.31 | 7.70 | 1 | 12 | 0.7 |
| 45PAR/H/SP11 | Halogen, Spot (15,23,56,88,96)* | Halogen | 130 | 2500 | 5⅛ | 510 | 4V097 | Ⓔ | 13.62 | 8.80 | 1 | 3 | 0.8 |
| | Ratings @ 120V | | | 5000 | | 385 | | | | | | | |
| 45PAR/H/NFL25 | Halogen, Narrow Flood (15, 23,56,88,96)* | Halogen | 130 | 2500 | 5⅛ | 510 | 4V095 | Ⓔ | 13.62 | 8.80 | 1 | 3 | 0.8 |
| | Ratings @ 120V | | 6.8 | 5000 | | 385 | | | | | | | |
| 45PAR38/6.6 | Airport, Flood (15,23)* | Halogen | | 800 | 5⅛ | 700 | 1E309 | Ⓔ | 27.69 | 26.35 | 1 | 12 | 0.9 |
| 45PAR/FL/H/STG | Saf-T-Gard ® "Dawn to Dusk", Halogen, Flood (15,23,56,88,96)* | Brass Base | 120 | 3000 | 5⅛ | 510 | 2F067 † | Ⓔ | 17.57 | 16.69 | 1 | 6 | 0.9 |
| **PAR56, 7" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | | |
| 6.6A/PAR56/5 | Airport, Stippled cover, 45W (15)* | Airport Application | 6.8 | 1000 | 4½ | 700 | 1G954 | | 36.43 | 34.70 | 1 | 12 | 1.4 |

(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. Ⓔ Lamp meets Federal Minimum Efficiency Standards. To save energy cost, find the lamp with the light output you need, then choose the one with the lowest wattage. (✓) Denotes energy efficient product.

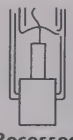
# INCANDESCENT: LAMPS 45W-50W

GE Lighting

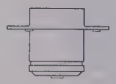
ENERGY RIGHT® New


Pin Ribbon Lead


2-Pin Prefocus


Recessed Single Contact R7S


DC Bay


Medium Prefocus


Medium E26


3 Contact Medium E26

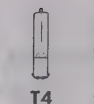

2-Pin GX5.3


T10 Med. PF

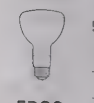

T2½ R.S.C.


T4 Pin Ribbon Lead

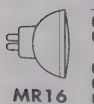

T4 PF


T4 DC Bay


A19 A21


ER30

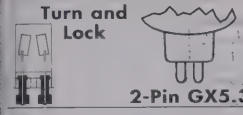

MR16


MR16 CG

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Pkg. Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **45 WATTS LAMPS (Cont.)** | | | | | | | | | | | | |
| **T10, 1¼" Diameter, w/Medium Prefocus Base** | | | | | | | | | | | | |
| 6.6A/T10P | Airport, Clear, 45W (1)* | Airport Application | 6.8 | 1000 | 3 15/16 | 675 | 5V307 | $16.84 | $15.15 | 1 | 3 | 0.1 |
| **T2½", 5/16," Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q45T2 1/2 /CL | Instrument, Clear (137)* | | 7 | 1000 | 2 1/16 | 710 | 1G904 | 42.78 | 40.75 | 1 | 12 | 0.1 |
| **T2½", 5/16" Diameter, w/Special Base** | | | | | | | | | | | | |
| Q6.6A/T2 1/2 /1CL | Airport, Clear (134,137,151,161)* | Airport Application | 6.8 | 1000 | 1¾ | 710 | 6V214 | 47.20 | 44.95 | 1 | 3 | 0.1 |
| **T4, ½" Diameter, w/2-Pin Prefocus Base** | | | | | | | | | | | | |
| Q45T4/CL | Airport, Clear, Base Down | Airport Application | 6.8 | 500 | 2 3/8 | 835 | 1C449 | 77.83 | 74.05 | 1 | 12 | 0.1 |
| **T4, ½" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| Q45T4/CL/DCR | Airport, Clear, Ringed, 2850K (129)* | | 6.8 | 500 | 2 1/16 | 845 | 2F228 | 84.82 | 80.60 | 1 | 12 | 0.1 |
| **50 WATT LAMPS** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 50A/RS | Train, Rough Service, I.F. (53,95)* | | 32 | 1000 | 3⅜ | 560 | 1E301 ** | 9.28 | 8.82 | 1 | 3 | 0.1 |
| 50A19/RS | Train, Rough Service, I.F. (53,95)* | | 75 | 1000 | 3⅜ | 545 | 5V310 | 4.88 | 4.39 | 1 | 3 | 0.1 |
| 50A/RS | Rough Service, I.F. (95)* | | 120 | 1000 | 3⅜ | 490 | 1M508 | 3.62 | 3.43 | 1 | 24 | 0.1 |
| 50A/RS | Rough Service, I.F. (95)* | | 130 | 1000 | 3⅜ | 480 | 4V889 | 4.88 | 4.39 | 1 | 3 | 0.3 |
| | Ratings @ 120v | | | 2600 | | 355 | | | | | | |
| 50A/RS/CVG | Rough Service, CVG, I.F. (47,83,95)* | Cov-R-Guard; Shatter Resistant; Teflon Coated | 120 | 1000 | 3⅜ | 480 | 5V762 | 7.21 | 6.49 | 1 | 2 | 0.3 |
| 50A | Inside Frost | | 250 | 1000 | 3⅜ | 490 | 5V345 | 5.34 | 4.81 | 1 | 3 | 0.1 |
| 50A/RS | Rough Service, I.F. (95)* | | 250 | 1000 | 3⅜ | 470 | 5V346 | 5.61 | 5.05 | 1 | 3 | 0.3 |
| 50A19 | Inside Frost | | 300 | 1000 | 3⅜ | 460 | 5V351 | 6.16 | 5.55 | 1 | 3 | 0.1 |
| **A21, 2⅝" Diameter, w/3C Medium Base** | | | | | | | | | | | | |
| 50/100/150 | Soft White, 3-Way (1,25,46)* | 50 Watt | 120 | 1500 | 5¼ | 580 | 4V617 | $3.12 | $2.64 | 1 | 12 | 0.2 |
| | | 100 Watt | 120 | 1200 | | 1640 | | | | | | |
| | | 150 Watt | 120 | 1200 | | 2220 | | | | | | |
| 50/100/150SPK | Soft Pink, 3-Way (1,25,46)* | 50 Watt | 120 | 1500 | 5¼ | 560 | 6VX25 | 4.12 | 3.92 | 1 | 3 | 0.1 |
| | | 100 Watt | 120 | 1200 | | 1300 | | | | | | |
| | | 150 Watt | 120 | 1200 | | 1860 | | | | | | |
| 50/135/185/SW/MI | Soft White, 3-Way Miser ® (1,25,46)* | Residential Energy Saving 3 Way (50 Watt) | 120 | 1500 | 5¼ | 580 | 1E869 | 3.46 | 3.29 | 1 | 12 | 0.1 |
| | | 135 Watt | 120 | 1200 | | 2280 | | | | | | |
| | | 185 Watt | 120 | 1200 | | 2860 | | | | | | |
| 50/200/250-1 | Soft White, 3-Way (1,25,46)* | 50 Watt | 120 | 1500 | 5¼ | 580 | 4V435 | 4.21 | 3.58 | 1 | 12 | 0.2 |
| | | 200 Watt | 120 | 1200 | | 3440 | | | | | | |
| | | 250 Watt | 120 | 1200 | | 4020 | | | | | | |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 50A21 | Inside Frost (53)* | | 12 | 1000 | 4⅛ | 875 | 1E291 | 4.77 | 4.53 | 1 | 3 | 0.1 |
| 50A21/RV | RV and Marine, I.F. (53)* | | 12 | 1000 | 4⅛ | 875 | 2V795 | 4.62 | 3.93 | 2 | 6 | 0.2 |
| 50A21 | Train, I.F. (53)* | | 30 | 1000 | 4⅛ | 805 | 1E289 | 4.16 | 3.95 | 1 | 60 | 0.1 |
| 50A21 | Train, I.F. (53)* | | 34 | 1000 | 4⅛ | 805 | 1E287 | 4.16 | 3.95 | 1 | 3 | 0.1 |
| **ER30, 3¾" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 50ER30 | Elliptical Refl, Light I.F. (4,35,56)* | Downlight Applications | 120 | 2000 | 6¼ | 525 | 2V661 | 8.05 | 5.49 | 1 | 3 | 0.5 |
| 50ER30 | Elliptical Refl, Light I.F. (4,35,56)* | Downlight Applications | 130 | 2000 | 6¼ | 525 | 4V128 | 11.78 | 7.49 | 1 | 3 | 0.2 |
| 50ER30/PK | Elliptical Refl, Pink (4,35,56)* | Downlight Applications | 120 | 2000 | 6¼ | 480 | 1C275 | 18.86 | 17.92 | 1 | 24 | 0.2 |
| **MR16, 2" Diameter, w/GX5.3 2-Pin Base** | | | | | | | | | | | | |
| Q50MR16/C/NSP15 | Narrow Spot, ANSI: EXT (132)* | ConstantColor Precise | 12 | 5000 | 1⅞ | — | 1K343 † | 13.46 | 12.78 | 1 | 10 | 0.1 |
| Q50MR16C/CG15 | Narrow Spot, ANSI: EXT (132)* | ConstantColor Precise; Cover Glass (CG) | 12 | 5000 | 1⅞ | — | 1K321 † | 15.97 | 15.17 | 1 | 10 | 0.1 |
| Q50MR16/SP | Spot, 12° Beam (132)* | Standard MR16 | 12 | 2000 | 1⅞ | — | New 4LV95 | 13.27 | 12.65 | 1 | 20 | 0.1 |
| Q50MR16/C/NFL25 | Narrow Flood, ANSI: EXZ (132)* | ConstantColor Precise | 12 | 5000 | 1⅞ | — | 1K345 † | 13.46 | 12.78 | 1 | 10 | 0.1 |
| Q50MR16C/CG25 | Narrow Flood, ANSI: EXZ (132)* | ConstantColor Precise; Cover Glass (CG) | 12 | 5000 | 1⅞ | — | 1K323 † | 15.97 | 15.17 | 1 | 10 | 0.1 |

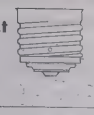
(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (🗲) Denotes energy efficient product. (**) Limited availability. Contact local branch.

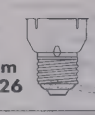
# INCANDESCENT LAMPS: 50 WATT











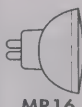


New

GE Lighting

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Ⓔ | Price Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50 WATT LAMP (Cont.)** | | | | | | | | | | | | | |
| **MR16, 2" Diameter, w/GX5.3 2-Pin Base** | | | | | | | | | | | | | |
| Q50MR16/C/NFL30 | Narrow Flood, ANSI: EXK (132)* | Constant Color Precise | 12 | 5000 | 1⅞ | — | 1K347 † | | $14.92 | $14.18 | 1 | 10 | 0.1 |
| Q50MR16/FL | Flood 36° Beam (132)* | Standard MR16 | 12 | 200 | 1⅞ | — | New 4LV94 | | 13.27 | 12.65 | 1 | 20 | 0.1 |
| Q50MR16/C/FL40 | Flood, ANSI: EXN (132)* | Constant Color Precise | 12 | 5000 | 1⅞ | — | 1K349 † | | 13.46 | 12.78 | 1 | 10 | 0.1 |
| Q50MR16C/CG40 | Flood, CG, ANSI: EXN (132)* | Constant Color Precise; Cover Glass | 12 | 5000 | 1⅞ | — | 1K325 † | | 15.97 | 15.17 | 1 | 10 | 0.1 |
| Q50MR16/C/WFL55 | Wide Flood, ANSI: FNV (132)* | Constant Color Precise | 12 | 5000 | 1⅞ | — | 1K351 † | | 14.92 | 14.18 | 1 | 10 | 0.1 |
| Q50MR16C/CG55 | Wide Flood, CG, ANSI: FNV (132)* | Constant Color Precise; Cover Glass | 12 | 5000 | 1⅞ | — | 1K327 † | | 15.97 | 15.17 | 1 | 10 | 0.1 |
| Q50MR16 | Display/Microfilm, ANSI: EPZ | Precise | 13.8 | 1000 | 1¾ | — | 6VM73 † | | 22.02 | 20.91 | 1 | 3 | 0.1 |
| **MR16, 2" Diameter, w/Turn and Lock (TAL) Base** | | | | | | | | | | | | | |
| 50MR16/Q/10/TL | Narrow Spot (132)* | Turn & Lock Base | 12 | 3500 | 2 | — | 1C724 † | | 15.66 | 14.87 | 1 | 10 | 0.1 |
| 50MR16/Q/20/TL | Narrow Flood (132)* | Turn & Lock Base | 12 | 3500 | 2 | — | 1C726 † | | 15.66 | 14.87 | 1 | 10 | 0.1 |
| 50MR16/Q/40/TL | Flood (132)* | Turn & Lock Base | 12 | 3500 | 2 | — | 1C728 † | | 15.66 | 14.87 | 1 | 3 | 0.3 |
| **P25, 3⅛" Diameter, w/3C Mogul Base** | | | | | | | | | | | | | |
| 50/50P25/28 | Marine Run. Light, 2-filament, Clear (1,23)* | Brass Base | 120 | 750 | 5⅛ | 400 | 4V891 | | 69.83 | 63.00 | 1 | 3 | 0.1 |
| **PAR20, 2½" Diameter, w/Medium NP Base** | | | | | | | | | | | | | |
| 50PAR20/H/NSP8 | Narrow Spot (15,55,56,80,88)* | Halogen | 120 | 2000 | 3⅛ | 570 | 4V102 † | | 12.70 | 7.70 | 1 | 15 | 0.3 |
| 50PAR20/H/NSP8 | Narrow Spot (15,55, 56, 80, 88) | Halogen | 130 | 2000 | 3⅛ | 570 | 1E199 † | | 15.35 | 8.80 | 1 | 15 | 0.3 |
| | Ratings @ 120V | | | 4000 | | 498 | | | | | | | |
| 50PAR20/H/SP10 | Spot (15,55,56,80,88)* | Halogen | 120 | 2000 | 3⅛ | 570 | 3V705 † | | 12.70 | 10.80 | 1 | 6 | 0.3 |
| 50PAR20/H/NFL25 | Narrow Flood (15,55,80,88)* | Halogen | 120 | 2000 | 3⅛ | 570 | 4V100 † | | 11.45 | 7.70 | 1 | 3 | 0.2 |
| 50PAR20/H/NFL25 | Narrow Flood (15,55,80,88)* | Halogen | 130 | 2000 | 3⅛ | 570 | 4V101 † | | 15.35 | 8.80 | 1 | 15 | 0.3 |
| | Ratings @ 120V | | | 4000 | | 498 | | | | | | | |
| **PAR30, 3¾" Diameter, w/Medium NP Base** | | | | | | | | | | | | | |
| 50PAR30/H/NSP8 | Narrow Spot (15,55,56,80,88)* | Halogen | 120 | 2000 | 3⅝ | 610 | 1E197 † | Ⓔ | 12.60 | 11.97 | 1 | 15 | 0.4 |
| 50PAR30/H/NSP8 | Narrow Spot (15,55,56,80,88)* | Halogen | 130 | 2000 | 3⅝ | 477 | 1P053 † | Ⓔ | 15.25 | 14.48 | 1 | 15 | 0.4 |
| | Ratings @ 120V | | | 4000 | | 477 | | | | | | | |
| 50PAR30/HIR/NSP8 | Narrow Spot (15,55,56,80,88)* | Halogen-IR | 120 | 3000 | 3⅝ | 770 | 1K431 † | Ⓔ | 16.19 | 15.38 | 1 | 15 | 0.3 |
| 50PAR30/HIR/NSP8 | Narrow Spot (15,55,56,80,88)* | Halogen-IR | 130 | 3000 | 3⅝ | 770 | 1K247 † | Ⓔ | 18.95 | 18.00 | 1 | 15 | 0.4 |
| | Ratings @ 120V | | | 6000 | | 570 | | | | | | | |
| 50PAR30L/H/12 | Spot (15,55,56,80,88)* | Long Neck; Halogen | 120 | 2000 | 4¾ | 580 | 4V106 † | Ⓔ | 10.98 | 7.70 | 1 | 3 | 0.4 |
| 50PAR30L/H/12 | Spot (15,55,56,80,88)* | Long Neck; Halogen | 130 | 2000 | 4¾ | 458 | 1F290 † | Ⓔ | 13.33 | 8.80 | 1 | 15 | 0.4 |
| | Ratings @ 120V | | | 4000 | | 458 | | | | | | | |
| 50PAR30/H/NFL25 | Narrow Flood (15,55,56,80,88)* | Halogen | 120 | 2000 | 3⅝ | 610 | 1E195 † | Ⓔ | 12.60 | 11.97 | 1 | 15 | 0.4 |
| 50PAR30/HIR/NFL25 | Narrow Flood (15,55,56,80,88)* | Halogen-IR | 120 | 3000 | 3⅝ | 770 | 1K433 † | Ⓔ | 16.19 | 15.38 | 1 | 15 | 0.5 |
| 50PAR30L/H/25 | Narrow Flood (15,55,56,80,88)* | Long Neck, Halogen | 120 | 2000 | 4¾ | 580 | 4V104 † | Ⓔ | 10.98 | 7.70 | 1 | 6 | 0.3 |
| 50PAR30/H/FL35 | Flood (15,55,56,80,88)* | Halogen | 120 | 2000 | 3⅝ | 610 | 1E191 † | Ⓔ | 12.60 | 11.97 | 1 | 15 | 0.4 |
| 50PAR30/H/FL35 | Flood (15,55,56,80,88)* | Halogen | 130 | 2000 | 3⅝ | 610 | 1E189 † | Ⓔ | 15.25 | 14.48 | 1 | 3 | 0.4 |
| | Ratings @ 120V | | | 4000 | | 477 | | | | | | | |
| 50PAR30/HIR/FL35 | Flood (15,55,56,80,88)* | Halogen-IR | 120 | 3000 | 3⅝ | 770 | 1K435 † | Ⓔ | 16.19 | 15.38 | 1 | 3 | 0.5 |
| 50PAR30/HIR/FL35 | Flood (15,55,56,80,88)* | Halogen-IR | 130 | 3000 | 3⅝ | 770 | 1K429 † | Ⓔ | 18.95 | 18.00 | 1 | 15 | 0.4 |
| | Ratings @ 120V | | | 6000 | | 570 | | | | | | | |
| 50PAR30L/H/40 | Flood (15,55,56,80,88)* | Long Neck; Halogen | 120 | 2000 | 4¾ | 580 | 6VR75 † | Ⓔ | 13.65 | 10.93 | 1 | 3 | 0.6 |
| 50PAR30L/H/40 | Flood (15,55,56,80,88)* | Long Neck; Halogen | 130 | 2000 | 4¾ | 580 | 6VR76 † | Ⓔ | 16.58 | 13.26 | 1 | 15 | 0.7 |
| | Ratings @ 120V | | | 4000 | | 458 | | | | | | | |
| 50PAR30L/H/60 | Wide Flood (15,55,56,80,88)* | Long Neck; Halogen | 120 | 2000 | 4¾ | 630 | 1F282 † | Ⓔ | 10.98 | 10.62 | 1 | 6 | 0.3 |
| **PAR36, 4½" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | | |
| 50PAR36/H/NSP8* | Narrow Spot (15)* | Halogen | 12 | 4000 | 2¾ | 400 | 3JK49 | | 17.15 | 16.28 | 1 | 12 | 0.5 |
| 50PAR36/H/VNSP5 | Very Narrow Spot (15,56,88,96)* | Halogen | 12 | 4000 | 2¾ | 400 | 6V634 † | | 17.15 | 15.43 | 1 | 3 | 0.5 |
| 50PAR36/H/WFL30 | Wide Flood (15,56,88,96)* | Halogen | 12 | 4000 | 2¾ | 400 | 1K439 † | | 17.15 | 16.28 | 1 | 3 | 0.5 |
| 50PAR36/NSP | Narrow Spot, Filament Shield (15)* | | 12 | 2000 | 2¾ | 330 | 4V482 | | 18.86 | 16.97 | 1 | 3 | 0.5 |
| 50PAR36/VNSP | Very Narrow Spot, Filament Shield (15)* | | 12 | 2000 | 2¾ | 330 | 4V534 | | 18.86 | 16.97 | 1 | 12 | 0.5 |
| 50PAR36/VWFL | Very Wide Flood, Filament Shield (15)* | | 12 | 2000 | 2¾ | 330 | 1E277 | | 18.86 | 17.92 | 1 | 12 | 0.6 |
| 50PAR36/WFL | Wide Flood, Filament Shield (15)* | | 12 | 2000 | 2¾ | 330 | 4V564 | | 18.86 | 16.97 | 1 | 12 | 0.7 |
| 50PAR36/WFL/4 | Wide Flood, Filament Shield (15)* | | 12 | 4000 | 2¾ | 300 | 1E940 | | 18.86 | 17.91 | 1 | 3 | 0.5 |
| **PAR38, 4¾" Diameter, w/Medium Skirt Base** | | | | | | | | | | | | | |
| 50PAR/SP/S/HAL-120 | Spot (15,23,56,88,96)* | Halogen | 120 | 2000 | 5⅝ | 590 | 3JK32 † | Ⓔ | 11.78 | 6.60 | 1 | 3 | 0.7 |
| 50PAR/HIR/NSP9 | Narrow Spot (15,23,56,88,96)* | Halogen-IR | 120 | 3000 | 5⅝ | 850 | 1E730 † | Ⓔ | 14.19 | 13.17 | 1 | 12 | 0.9 |
| 50PAR/HIR/NSP9 | Narrow Spot (15,23,56,88,96)* | Halogen-IR | 130 | 3000 | 4¾ | 850 | 3VK13 | | 18.68 | 17.74 | 1 | 12 | 0.9 |
| 50PAR/HIR/25 | Narrow Flood (15,23,56,88,96)* | Halogen-IR | 120 | 3000 | 5⅝ | 850 | 1E728 † | Ⓔ | 14.19 | 13.48 | 1 | 12 | 0.9 |
| 50PAR/HIR/25 | Narrow Flood (15,23,56,88,96)* | Halogen-IR | 130 | 3000 | 4¾ | 850 | 3VK14 | | 18.68 | 17.74 | 1 | 12 | 0.9 |
| 50PAR/H/FL | Flood (15,23,56,88,96)* | Halogen | 120 | 4000 | 5⅝ | 450 | 3JK30 † | Ⓔ | 10.62 | 6.60 | 1 | 12 | 0.9 |
| 50PAR/H/FL | Flood (15,23,56,88,96)* | Halogen | 130 | 2000 | 5⅝ | 590 | 3JK31 † | Ⓔ | 13.63 | 7.70 | 1 | 12 | 0.9 |
| | Ratings @ 120V | | | 4000 | | 450 | | | | | | | |

























(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. Ⓔ Lamp meets Federal Minimum Efficiency Standards. To save energy cost, find the lamp with the light output you need, then choose the one with the lowest wattage. (✓) Denotes energy efficient product.

# INCANDESCENT LAMPS: 50W - 60W

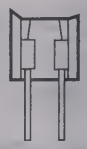
GE Lighting

ENERGY RIGHT®


Candelabra Screw E12


Medium Screw E26


3 Contact Medium E26


2-Pin G4


R20


S11


T12


T3

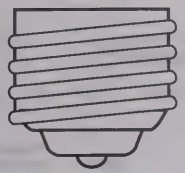

TB19


A15, A19, A21

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Ship. Pkg. Qty. | Shpg. Case Qty. | Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **R20, 2½" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 50R20 | Reflector, Light I.F. | — | 120 | 2000 | 3 15/16 | 410 | 2V562 | $7.64 | $3.99 | 1 | 6 | 0.1 |
| 50R20 | Reflector, Light I.F. | — | 130 | 2000 | 3 15/16 | 410 | 4V619 | 10.67 | 5.99 | 1 | 3 | 0.1 |
| 50R20/PK | Pink, Reflector | — | 120 | 2000 | 3 15/16 | 200 | 5V561 | 15.18 | 13.67 | 1 | 3 | 0.1 |
| 50R20/PL | Plant Light, Gro & Sho™ (4,56)* | — | 120 | 2000 | 3 15/16 | — | 1C447 | 8.92 | 8.48 | 1 | 3 | 0.3 |
| 50R20/SW/1 | Reflector, Soft White | | 120 | 2000 | 3 15/16 | 380 | 3JK24 | 9.38 | 8.91 | 1 | 3 | 0.5 |
| **S11, 1⅜" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 50S11/1 | Reprographic, Frost | — | 120 | 50 | 2¼ | | 2F250 | 11.68 | 11.10 | 1 | 120 | 0.1 |
| **T12, 1½" Diameter, w/3C Medium Base** | | | | | | | | | | | | |
| 50/50T12 | Marine Run. Light, 2-Filament, Clear (23)* | Brass Base | 115 | 750 | 5 5/16 | 400 | 6V253 | 89.06 | 80.20 | 1 | 3 | 0.1 |
| **T3, ⅜" Diameter, w/G4 2-Pin Base** | | | | | | | | | | | | |
| Q50 T3/12V/CL | Clear (132)* | — | 12 | 2000 | 1¾ | 850 | 2F518 | 7.43 | 7.06 | 1 | 3 | 0.1 |
| **TB19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 50TB/H | Frost (15,23,56,88)* | Halogen; Brass Base | 120 | 2000 | 4 7/16 | 710 | ✓1E265 † | 6.81 | 6.47 | 1 | 60 | 0.4 |
| 50TB/H | Frost (15,23,56,88)* | Halogen; Brass Base | 130 | 2000 | 4 7/16 | 710 | ✓1E263 † | 8.17 | 7.76 | 1 | 6 | 0.1 |
| | Ratings @ 120V | | | 4000 | | 540 | | | | | | |
| **52 WATT LAMPS** | | | | | | | | | | | | |
| **A19, 2 ⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 60A/52WM | Watt-Miser®, Diffuse Coating (9)* | Energy Saving | 120 | 1330 | 4 7/16 | 730 | 4V553 | 1.07 | 0.85 | 2 | 120 | 0.1 |
| 60A/52WM | Watt-Miser®, Diffuse Coating (9)* | Energy Saving | 130 | 1330 | 4 7/16 | 710 | 4V554 | 1.49 | 1.35 | 2 | 120 | 0.1 |
| | Ratings @ 120V | | | 3500 | | 530 | | | | | | |
| 60A/52WM/CL | Watt-Miser®, Clear | Energy Saving | 120 | 1330 | 4 7/16 | 740 | 1E534 | 1.80 | 1.72 | 1 | 2 | 0.1 |
| 60A/52WM/CL | Watt-Miser®, Clear | Energy Saving | 130 | 1330 | 4 7/16 | 720 | 1E532 | 2.39 | 2.28 | 1 | 2 | 0.1 |
| | Ratings @ 120V | | | 3500 | | 540 | | | | | | |
| 60A/52WMP/99 | Watt-Miser® Plus, Diffuse Coat, LL (9,23)* | Energy Saving; Long Life | 120 | 2500 | 4 7/16 | 670 | 2V612 | 2.08 | 1.87 | 2 | 120 | 0.1 |
| 60A/52WMP/99 | Watt-Miser® Plus, Diffuse Coat, LL (9,23)* | Energy Saving; Long Life | 130 | 2500 | 4 7/16 | 640 | 4V108 | 2.69 | 2.43 | 2 | 120 | 0.1 |
| | Ratings @ 120V | | | 6800 | | 480 | | | | | | |
| **54 WATT LAMPS** | | | | | | | | | | | | |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 60A21/54WM/TS | Traffic Signal, Krypton, Watt-Miser ®, Clear, BDTH (23)* | Energy Saving; Brass Base | 120 | 8000 | 4⅜ | 530 | 1E185 | 7.67 | 7.30 | 1 | 3 | 0.1 |
| 60A21/54WM/TS | Traffic Signal, Krypton, Watt-Miser ®, Clear, BDTH (23)* | Energy Saving; Brass Base | 130 | 8000 | 4⅜ | 530 | 1E183 | 8.96 | 8.51 | 1 | 3 | 0.1 |
| **55 WATT LAMP** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 55A/SW/MI | Soft White, Miser ® (44)* | Residential Energy Saving | 120 | 1000 | 4 7/16 | 800 | 2F037 | 1.40 | 1.34 | 4 | 12 | 0.1 |
| **60 WATT LAMPS** | | | | | | | | | | | | |
| **A15, 1⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 60A15/CF CD2 | Ceiling Fan/Appliance, Clear (9)* | Decorative Lamp | 120 | 1500 | 3½ | 650 | 1E207 | 1.66 | 1.58 | 2 | 24 | 0.1 |
| 60A15/W/CF CD2 | Ceiling Fan/Appliance, White (9)* | Decorative Lamp | 120 | 1500 | 3½ | 650 | 3JK03 | 1.66 | 1.57 | 2 | 6 | 0.1 |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 60A | Standard, I.F. (44)* | | 120 | 1000 | 4 7/16 | 865 | 5V598 | 1.07 | 0.44 | 4 | 48 | 0.1 |
| 60A | Inside Frost | | 130 | 1000 | 4 7/16 | 850 | 2V327 | 1.33 | 0.63 | 1 | 120 | 0.1 |
| | Ratings @ 120V | | | 2600 | | 640 | | | | | | |
| 60A/CL | Crystal Clear (9)* | | 120 | 1000 | 4 7/16 | 870 | 4V649 | 1.80 | 1.62 | 2 | 6 | 0.3 |
| 60A/S | Survivor ™, LL, I.F., Vib. & Shock Res. (23)* | Commercial Long Life; Brass Base | 120 | 3000 | 4 7/16 | 635 | 4V465 | 2.52 | 2.41 | 1 | 120 | 0.1 |

(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (✓) Denotes energy efficient product.

# INCANDESCENT LAMPS: 60W



Medium E26



Candelabra E12

GE Lighting

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **60 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **A19, 2 3/8" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 60A/S | Survivor ™, LL., I.F., Vib. & Shock Res. (23)* Ratings @ 120V | Commercial Long Life; Brass Base | 130 | 3000<br>8300 | 4 7/16 | 625<br>460 | 5V466 | $3.39 | $3.22 | 1 | 2 | 0.1 |
| 60A/CVG | CVG, I.F. (23,47,83,95)* | Cov-R-Guard; Shatter Resistant; Teflon Coated | 120 | 1000 | 4 7/16 | 850 | 5V763 | 4.75 | 4.28 | 1 | 24 | 0.1 |
| 60A/W | Soft White (44)* | | 120 | 1000 | 4 7/16 | 840 | 5V612 | 1.40 | 1.27 | 4 | 48 | 0.1 |
| 60A/W/LL | Soft White, LongLife (9)* | Residential Long Life | 120 | 1500 | 4 7/16 | 820 | 5V613 | 1.88 | 1.03 | 2 | 24 | 0.1 |
| 60A/D | Daylight, I.F. | | 120 | 1000 | 4 7/16 | 390 | 4V894 | 4.60 | 3.44 | 1 | 6 | 0.1 |
| 60A/GD | Garage Door, Vib. Res., Light I.F. (9)* | Garage Door Applications | 120 | 3000 | 4 7/16 | 635 | 1K007 | 2.82 | 2.69 | 2 | 24 | 0.1 |
| 60A/PL | Plant Light, Gro & Sho™ (4,23)* | Plant Light; Brass Base | 120 | 1000 | 4 7/16 | 630 | 6V150 | 6.15 | 5.54 | 1 | 6 | 0.2 |
| 60A/SPK | Soft Pink (9,46)* | | 120 | 1000 | 4 7/16 | 675 | 6V641 | 2.67 | 2.26 | 2 | 6 | 0.3 |
| 60A/SSW | Super Soft White | | 120 | 1000 | 4 7/16 | 840 | 3JK04 | 1.64 | 1.57 | 1 | 2 | 0.1 |
| 60A/SBIF | Silvered Bowl, I.F. | | 120 | 1000 | 4 7/16 | 740 | 5V238 | 8.74 | 7.86 | 1 | 3 | 0.4 |
| 60A/Y | Bug-Lite, Yellow (9)* | | 120 | 1000 | 4 7/16 | 550 | 2V290 | 2.34 | 2.11 | 2 | 24 | 0.1 |
| **A21, 2 5/8" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 60A21/B | Blue (46)* | | 120 | 1000 | 4 7/8 | — | 1E253 | 4.08 | 3.87 | 1 | 3 | 0.1 |
| 60A21/G | Green (46)* | | 120 | 1000 | 4 7/8 | — | 1E251 | 4.08 | 3.87 | 1 | 3 | 0.1 |
| 60A21/R | Red (46)* | | 120 | 1000 | 4 7/8 | — | 1E249 | 4.08 | 3.87 | 1 | 3 | 0.3 |
| 60A21/60WM/TS | Traffic Signal., Krypton, Watt-Miser ®, Clear, BDTH (23)* | Brass Base | 120 | 8000 | 4 3/8 | 610 | 1E181 | 7.67 | 7.30 | 1 | 3 | 0.1 |
| 60A21/60WM/TS | Traffic Signal., Krypton, Watt-Miser ®, Clear, BDTH (23)* | Brass Base | 130 | 8000 | 4 3/8 | 610 | 4V752 | 8.96 | 5.37 | 1 | 3 | 0.1 |
| 60A21 | Inside Frost | | 230 | 1000 | 4 3/8 | 585 | 1E243 | 5.34 | 5.07 | 1 | 3 | 0.1 |
| **B10, 1 1/4" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 60BC | Blunt Tip, Crystal (Clear), BDTH (13)* | Decorative Lamp | 120 | 1500 | 3 3/4 | 650 | 6V681 | 1.34 | 1.28 | 1 | 12 | 0.1 |
| 60BC CD/2 | Crystal (Clear)-Blunt Tip, BDTH (9,13)* | Decorative Lamp | 120 | 1500 | 3 3/4 | 650 | 3JK87 | 1.39 | 1.32 | 2 | 12 | 0.1 |
| **B13, 1 5/8" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 60BM CD2 | Blunt Tip, Crystal (Clear) (9)* | Decorative Lamp | 120 | 1500 | 4 5/8 | 650 | 1G988 | 1.39 | 1.32 | 2 | 12 | 0.1 |
| **CA9, 1 1/8" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 60CAM | Bent Tip, Crystal (Clear) (13)* | Decorative Lamp | 120 | 1500 | 4 1/16 | | 1P040 | 1.49 | 1.43 | 1 | 12 | 0.1 |
| **CA10, 1 1/4" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 60CAC | Bent Tip, Crystal (Clear), BDTH (13)* | Decorative Lamp | 120 | 1500 | 4 3/8 | 650 | 6V684 | 1.34 | 1.28 | 1 | 12 | 0.1 |
| 60CAC/F CD2 | Bent Tip, Satin (Frost), BDTH (9,13)* | Decorative Lamp | 120 | 1500 | 4 3/8 | 650 | 1C265 | 1.39 | 1.32 | 2 | 12 | 0.1 |
| 60CAC/L | Bent Tip, Crystal (Clear), BDTH (13)* | Long Life; Decorative Lamp | 120 | 4000 | 4 3/8 | 580 | 1C512 | 1.60 | 1.53 | 1 | 6 | 0.1 |
| **G16 1/2, 2 1/16" Diameter, w/Candelabra Base** | | | | | | | | | | | | |
| 60GC CD2 | Globe, Crystal (Clear), BDTH (4,9)* | Decorative Lamp | 120 | 1500 | 3 | 450 | 1G970 | 1.55 | 1.47 | 2 | 12 | 0.1 |
| 60GC/W CD2 | Globe, Pearl (White), BDTH (4,9)* | Decorative Lamp | 120 | 1500 | 3 | 405 | 1G968 | 1.55 | 1.47 | 2 | 12 | 0.1 |
| **G25, 3 1/8" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 60G25 | Globe, Crystal (Clear) | Decorative Lamp | 120 | 1500 | 4 1/2 | 710 | 6V102 | 2.91 | 2.63 | 1 | 24 | 0.2 |
| 60G25/W | Globe, Pearl (White) | Decorative Lamp | 120 | 1500 | 4 1/2 | 660 | 6V284 | 2.91 | 2.63 | 1 | 3 | 0.3 |



A19, A21



B10



B13



BR30



CA9



CA10



G16½



G25

(*) See Incandescent Lamp footnotes on page 984

# INCANDESCENT LAMPS: 60W-65W

GE Lighting

ENERGY RIGHT®


Medium E26


Medium Skirt E26


Disc


Screw Terminal

New


G30


G40


PAR38


PAR46


T10


T8


BR30

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | | Stock No. | Ⓔ | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **60 WATTS LAMPS (Cont.)** | | | | | | | | | | | | | | |
| **G30, 3¾" Diameter, w/Medium Base** | | | | | | | | | | | | | | |
| 60G30/W | Globe, Pearl (White) | Decorative Lamp | 120 | 2500 | 5 | 660 | | 6V029 | | $4.86 | $4.37 | 1 | 3 | 0.3 |
| **G40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | | | |
| 60G40 | Globe, Crystal (Clear) | Decorative Lamp | 120 | 2500 | 6 15/16 | 740 | | 1E462 | | 6.64 | 6.31 | 1 | 3 | 0.5 |
| 60G40/W | Globe, Pearl (White) | Decorative Lamp | 120 | 2500 | 6 15/16 | 680 | | 1C259 | | 6.64 | 6.31 | 1 | 6 | 0.4 |
| **PAR38, 4¾" Diameter, w/Medium Base** | | | | | | | | | | | | | | |
| 60PAR/HIR/SP10 | Spot (55,56,80,88)* | Halogen | 120 | 2500 | 5 5/16 | 810 | New | 4LV89 | | 14.78 | 14.06 | 1 | 12 | 0.9 |
| 60PAR/HIR/SP10 | Spot (15,23,56,88,96)* | Highest Light Output; Halogen IR Reflective Coating | 120 | 3000 | 5 5/16 | 1110 | | 1E117 | † Ⓔ | 14.19 | 13.48 | 1 | 12 | 0.9 |
| 60PAR/HIR/SP10 | Spot (15,23,56,88,96)* | Highest Light Output; Halogen IR Reflective Coating | 130 | 3000 | 5 5/16 | 1110 | | 1E113 | † Ⓔ | 18.68 | 17.75 | 1 | 3 | 0.9 |
| 60PAR/HIR/12 | Spot (15,23,56,88,96)* | Highest Light Output; Halogen IR Reflective Coating | 120 | 3000 | 4¾ | 1110 | | 3VK31 | † Ⓔ | 15.73 | 14.94 | 1 | 12 | 0.9 |
| 60PAR/H/FL25 | Narrow Flood (55,56,80,88)* | Halogen | 120 | 2500 | 5 5/16 | 810 | New | 4LV90 | | 14.78 | 14.06 | 1 | 12 | 0.9 |
| 60PAR/H/FL25 | Narrow Flood (55,56,80,88)* | Halogen | 130 | 2000 | 5 5/16 | 900 | New | 4LV91 | | 17.98 | 17.03 | 1 | 12 | 0.9 |
| 60PAR/HIR/FL30 | Narrow Flood (15,23,56,88,96)* | Highest Light Output; Halogen IR Reflective Coating | 120 | 3000 | 5 5/16 | 1110 | | 1E119 | † Ⓔ | 14.19 | 13.48 | 1 | 12 | 0.9 |
| 60PAR/HIR/FL30 | Narrow Flood (15,23,56,88,96)* Ratings @ 120V, 54 Watts | High Light Output; Halogen IR Reflective Coating | 130 | 3000<br>6000 | 5 5/16 | 1110<br>840 | | 1E115 | † Ⓔ | 18.68 | 17.75 | 1 | 3 | 0.9 |
| 60PAR/HIR/40 | Flood (15,23,56,88,96)* | Highest Light Output; Halogen IR Reflective Coating | 120 | 3000 | 5 5/16 | 1110 | | 1F380 | † Ⓔ | 15.73 | 14.94 | 1 | 12 | 0.9 |
| 60PAR/HIR/WFL | Halogen-IR, Wide Flood (15,23,56,88,96)* | Highest Light Output; Halogen IR Reflective Coating | 120 | 3000 | 5 5/16 | 1110 | | 1K295 | † Ⓔ | 15.73 | 14.94 | 1 | 12 | 0.9 |
| 60PAR/HIR/WFL | Halogen-IR, Wide Flood (15,23,56,88,96)* Ratings @ 120V, 54 Watts | High Light Output; Halogen IR Reflective Coating | 130 | 3000<br>6000 | 5 5/16 | 1110<br>840 | | 1K293 | † Ⓔ | 18.68 | 17.75 | 1 | 12 | 0.9 |
| **PAR46, 5¾" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | | | |
| 60PAR/2/R | Train Warning, Red Lens (15,23,71)* | | 38 | 800 | 3 3/4 | — | | 5V248 | | 50.32 | 45.40 | 1 | 3 | 1.0 |
| **T10, 1¼" Diameter, w/Medium Base** | | | | | | | | | | | | | | |
| 60T10 CD | Showcase, Clear, BDTH | | 120 | 1000 | 5 5/8 | 740 | | 2C778 | | 3.55 | 3.37 | 1 | 6 | 0.1 |
| 60T10/64 | Showcase, Clear, BDTH | | 120 | 1000 | 5 5/8 | 745 | | 4V912 | | 4.69 | 4.21 | 1 | 24 | 0.1 |
| 60T10/F | Showcase, Frost, BDTH | | 120 | 1000 | 5 5/8 | 745 | | 4V913 | | 4.36 | 4.14 | 1 | 24 | 0.1 |
| **T8, 1" Diameter, w/Disc Base** | | | | | | | | | | | | | | |
| L60 | Lumiline, Clear | | 120 | 1500 | 17¾ | 480 | | 6V278 | | 25.39 | 22.86 | 1 | 3 | 0.3 |
| L60/W | Lumiline, White | | 120 | 1500 | 17¾ | 450 | | 6V279 | | 29.07 | 26.20 | 1 | 3 | 0.1 |
| **65 WATT LAMPS** | | | | | | | | | | | | | | |
| **BR30, 3¾" Diameter, w/Medium Base** | | | | | | | | | | | | | | |
| 65R30/PL-1 | Plant Light, Gro & Sho™ Reflector, (4,23,56)* | Plant Light; Brass Base | 120 | 2000 | 5 3/8 | 770 | | 3MK69 | | 9.20 | 8.28 | 1 | 6 | 0.3 |
| 65R30/SW | Soft White, Reflector | | 120 | 2000 | 5 3/8 | 770 | | 3MK71 | | 9.20 | 8.74 | 1 | 6 | 0.3 |
| 60R30/FL/LL | Krypton, Reflector Flood | Energy Saving | 120 | 2000 | 5 3/8 | 775 | | 2F033 | | 9.20 | 8.74 | 1 | 6 | 0.3 |
| 60R30/SP/LL | Krypton, Reflector Spot | Energy Saving | 120 | 2000 | 5 3/8 | 775 | | 2F035 | | 9.20 | 8.74 | 1 | 6 | 0.3 |
| 65R/FL/MI-1 | Watt-Miser®, Reflector Flood | Energy Saving | 120 | 2000 | 5 3/8 | 770 | | 1K401 | | 8.37 | 7.95 | 1 | 3 | 0.5 |
| 65R/SP/MI-1 | Watt-Miser®, Reflector Spot | Energy Saving | 120 | 2000 | 5 3/8 | 770 | | 1K399 | | 8.37 | 7.95 | 1 | 6 | 0.3 |
| 75R30/FL/65WM | Watt-Miser®, Reflector Flood | Energy Saving | 120 | 2000 | 5 3/8 | 770 | | 1E351 | | 14.92 | 14.18 | 1 | 10 | 0.1 |
| 75R30/FL/65WM | Watt-Miser®, Reflector Flood | Energy Saving | 130 | 2000 | 5 3/8 | 725 | | 2F214 | | 9.71 | 6.10 | 1 | 24 | 0.2 |
| 75R30/SP/65WM | Watt-Miser®, Reflector Spot | Energy Saving | 120 | 2000 | 5 3/8 | 770 | | 1E349 | | 8.37 | 4.99 | 1 | 3 | 0.2 |
| 75R30/SP/65WM | Watt-Miser®, Reflector Spot | Energy Saving | 130 | 2000 | 5 3/8 | 725 | | 2F216 | | 10.76 | 6.10 | 1 | 3 | 1.0 |
| 75R30/FL/65WM/CVG | Reflector Flood, COV-R-GUARD, Inside Frost (23,47,83,95)* | Energy Saving; Shatter Res.,Teflon Coat | 120 | 2000 | 5 3/8 | 880 | | 5V298 | | 13.71 | 12.33 | 1 | 3 | 0.5 |
| 75R30/FL/65WM/A | Amber, Reflector | Energy Saving | 120 | 2000 | 5 3/8 | — | | 6V151 | | 17.68 | 15.91 | 1 | 3 | 0.4 |
| 75R30/FL/65WM/B | Blue, Reflector | Energy Saving | 120 | 2000 | 5 3/8 | — | | 6V152 | | 17.68 | 15.91 | 1 | 3 | 0.3 |
| 75R30/FL/65WM/G | Green, Reflector | Energy Saving | 120 | 2000 | 5 3/8 | — | New | 4PL11 | | 17.68 | 12.02 | 1 | 24 | 0.2 |
| 75R30/FL/65WM/R | Red, Reflector | Energy Saving | 120 | 2000 | 5 3/8 | — | New | 4PL12 | | 17.68 | 12.02 | 1 | 24 | 0.2 |
| 75R30/FL/65WM/Y | Yellow, Reflector | Energy Saving | 120 | 2000 | 5 3/8 | — | New | 4PL13 | | 17.68 | 12.02 | 1 | 24 | 0.2 |
| 75R30/FL/65WM/PK | Pink, Reflector | Energy Saving | 120 | 2000 | 5 3/8 | — | | 6V154 | | 17.68 | 15.91 | 1 | 3 | 0.2 |

(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (↗) Denotes energy efficient product. Ⓔ Lamp meets Federal Minimum Efficiency Standards. To save energy costs, find the lamps with the light output you need, then choose the one with the lowest wattage.

# INCANDESCENT LAMPS: 65W - 75W


Medium E26


2-Pin G4


Medium Side Prong

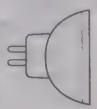
GE Lighting

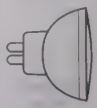
| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | List | Each | Pkg. Qty. | Ship Case Qty. | Ship Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **65 WATTS LAMP (Cont.)** | | | | | | | | | | | | |
| **BR40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 75R/FL/65WM | Watt-Miser®, Flood I.F. (4,35,46,56)* | Energy Saving | 120 | 2000 | 6⅜ | 730 | 2F218 | $8.83 | $8.39 | 1 | 3 | 0.3 |
| 75R/FL/65WM | Watt-Miser®, Flood I.F. (4,35,46,56)* | Energy Saving | 130 | 2000 | 6⅜ | 700 | 2F220 | 11.41 | 10.84 | 1 | 24 | 0.3 |
| **PAR38, 4¾" Diameter, w/Medium Side Prong Base** | | | | | | | | | | | | |
| 75PAR/3FL/65WM | Watt-Miser®, Flood (15)* | Energy Saving | 120 | 2000 | 4⅝ | 675 | 1E601 | 14.90 | 14.16 | 1 | 12 | 0.9 |
| 75PAR/SP/65WM | Watt-Miser®, Spot (15)* | Energy Saving | 120 | 2000 | 4⅝ | 675 | 1E559 | 14.90 | 14.16 | 1 | 3 | 1.5 |
| **67 WATT LAMPS** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 75A/67WM | Watt-Miser®, Diffuse Coating (9)* | Energy Saving | 120 | 1000 | 4⅞ | 1030 | 4V555 | 1.07 | 0.85 | 2 | 120 | 0.1 |
| 75A/67WM | Watt-Miser®, Diffuse Coating (9)* | Energy Saving | 130 | 1000 | 4⅞ | 1000 | 4V556 | 1.49 | 1.35 | 2 | 120 | 0.1 |
| | Ratings @ 120V | | | 2600 | | 755 | | | | | | |
| 75A/67WMP/99 | Watt-Miser® Plus, Diffuse Coating (9,23)* | Energy Saving; Long Life | 120 | 2500 | 4⅞ | 940 | 2V613 | 2.08 | 1.87 | 2 | 120 | 0.1 |
| 75A/67WMP/99 | Watt-Miser® Plus, Diffuse Coating (9,23)* | Energy Saving; Long Life | 130 | 2500 | 4⅞ | 910 | 4V111 | 2.69 | 2.43 | 2 | 120 | 0.1 |
| | Ratings @ 120V | | | 6800 | | 685 | | | | | | |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 67A21/TS | Traffic Signal, Clear, BDTH (23)* | Brass Base | 120 | 8000 | 4⅜ | 635 | 4V914 | 2.74 | 2.47 | 1 | 3 | 0.1 |
| 67A21/TS | Traffic Signal, Clear, BDTH (23)* | Brass Base | 125 | 8000 | 4⅜ | 635 | 1C580 | 3.22 | 3.05 | 1 | 3 | 0.1 |
| 67A21/TS | Traffic Signal, Clear, BDTH (23)* | Brass Base | 130 | 8000 | 4⅜ | 635 | 4V915 | 3.68 | 3.32 | 1 | 3 | 0.1 |
| **69 WATT LAMPS** | | | | | | | | | | | | |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 69A21/TS | Traffic Signal, Clear, BDTH (23)* | Brass Base | 120 | 8000 | 4⅜ | 675 | 4V916 | 3.02 | 2.72 | 1 | 3 | 0.1 |
| 69A21/TS | Traffic Signal, Clear, BDTH (23)* | Brass Base | 130 | 8000 | 4⅜ | 675 | 4V918 | 4.08 | 3.67 | 1 | 3 | 0.1 |
| **70 WATT LAMP** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 70A/SW/MI | Soft White, Miser® (44)* | Residential Energy Saving | 120 | 750 | 4⅞ | 1125 | 2F039 | 1.40 | 1.34 | 4 | 48 | 0.1 |
| **71 WATT LAMPS** | | | | | | | | | | | | |
| **MR16, 2" Diameter, w/GX5.3 2-Pin Base** | | | | | | | | | | | | |
| 71MR16/C/NSP15 | Narrow Spot, ANSI: EYF (132)* | Constant Color Precise | 12 | 4000 | 1⅞ | — | 1K337 † | 17.04 | 16.19 | 1 | 10 | 0.1 |
| 71MR16C/CG15 | Narrow Spot, ANSI: EYF (132)* | Constant Color Precise; Cover Glass (CG) | 12 | 4000 | 1⅞ | — | 1K315 † | 18.27 | 17.35 | 1 | 10 | 0.1 |
| 71MR16/C/NFL25 | Narrow Flood, ANSI: EYJ (132)* | Constant Color Precise | 12 | 4000 | 1⅞ | — | 1K339 † | 17.04 | 16.19 | 1 | 3 | 0.3 |
| 71MR16C/CG25 | Narrow Flood, ANSI: EYJ (132)* | Constant Color Precise; Cover Glass (CG) | 12 | 4000 | 1⅞ | — | 1K317 † | 18.27 | 17.35 | 1 | 10 | 0.1 |
| 71MR16/C/FL40 | Flood, ANSI: EYC (132)* | Constant Color Precise | 12 | 4000 | 1⅞ | — | 1K341 † | 15.37 | 14.60 | 1 | 10 | 0.1 |
| 71MR16C/CG40 | Flood, ANSI: EYC (132)* | Constant Color Precise; Cover Glass (CG) | 12 | 4000 | 1⅞ | — | 1K319 † | 18.27 | 17.35 | 1 | 3 | 0.3 |
| **75 WATT LAMPS** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 75A | Standard, I.F. (44)* | | 120 | 750 | 4⅞ | 1190 | 5V599 | 1.07 | 0.44 | 4 | 48 | 0.1 |
| 75A | Inside Frost | | 130 | 750 | 4⅞ | 1170 | 2V476 | 1.33 | 0.63 | 1 | 120 | 0.1 |
| | Ratings @ 120V | | | 1950 | | 885 | | | | | | |
| 75A/CL | Crystal Clear (9)* | | 120 | 750 | 4⅞ | 1200 | 4V472 | 1.80 | 1.62 | 1 | 24 | 0.1 |
| 75A/S | Survivor ™, LL, I.F., Vib. & Shock Res. (23)* | Commercial Long Life; Brass Base | 120 | 3000 | 4⅞ | 825 | 1E327 | 2.52 | 2.41 | 1 | 2 | 0.1 |
| 75A/S | Survivor ™, LL, I.F., Vib. & Shock Res. (23)* | Commercial Long Life; Brass Base | 130 | 3000 | 4⅞ | 815 | 1E325 | 3.39 | 3.22 | 1 | 2 | 0.1 |
| | Ratings @ 120V | | | 8300 | | 615 | | | | | | |
| 75A/W | Soft White (44)* | | 120 | 750 | 4⅞ | 1170 | 5V615 | 1.40 | 1.27 | 4 | 48 | 0.1 |
| 75A/W/LL | Soft White, LongLife | Residential Long Life | 120 | 1125 | 4⅞ | 1125 | 5V616 | 1.88 | 1.03 | 2 | 24 | 0.1 |


BR40 Med.


PAR38 MSP


A19 A21


MR16


MR16 CG

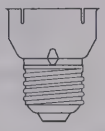
*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (✓) Denotes energy efficient product.

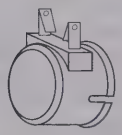
# INCANDESCENT LAMPS: 75W

GE Lighting

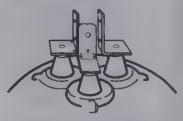
ENERGY RIGHT®


Medium E26


Medium Skirt E26


Medium Side Prong


Screw Terminal


3 Prong


A21


E17


ER30


G40


PAR30


PAR30 Longnk.


PAR36


PAR38 Med.


PAR38 Med. Skirt


PAR46

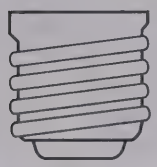

R20

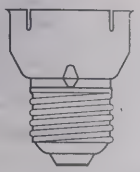

T10

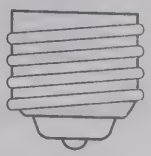
| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Ⓔ | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Ship. Pkg. Qty. | Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **75 WATT LAMPS (Cont.)** | | | | | | | | | | | | | |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **75A21** | Inside Frost (53)* | | 12 | 1000 | 5¼ | 1500 | **5V314** | | $4.99 | **$4.49** | 1 | 3 | 0.2 |
| **75A/RS** | Rough Service, I.F. (95)* | | 120 | 1000 | 5¼ | 750 | **2V563** | | 2.87 | **2.58** | 1 | 3 | 0.7 |
| **75A/RS** | Rough Service, I.F. (95)* | | 130 | 1000 | 5¼ | 740 | **4V563** | | 3.83 | **3.44** | 1 | 3 | 0.1 |
| | Ratings @ 120V | | | 2600 | | 560 | | | | | | | |
| **75A/RS/CVG** | Rough Service, CVG, I.F. (9,23,47,83,95)* | Cov-R-Guard; Shatter Resistant; Teflon Coated | 120 | 1000 | 5¼ | 740 | **2V660** | | 6.37 | **5.73** | 2 | 24 | 0.1 |
| **E17, 2⅛" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **75E17/TF** | Post Lamp,Teflon®, Coated (23,47)* | Post Top Light; Long Life; Brass Base | 120 | 4000 | 5 | 900 | **1F342** | | 5.06 | **4.81** | 1 | 6 | 0.1 |
| **ER30, 3¾" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **75ER30** | Elliptical Refl, Light I.F. (4,35,56)* | Downlight Applications | 120 | 2000 | 6¼ | 850 | **2V662** | | 8.05 | **5.49** | 1 | 24 | 0.3 |
| **75ER30** | Elliptical Refl, Light I.F. (4,35,56)* | Downlight Applications | 130 | 2000 | 6¼ | 850 | **4V129** | | 10.62 | **7.49** | 1 | 3 | 0.2 |
| **G40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **75G40/W** | Globe, Pearl (White) | Decorative Lamp | 120 | 2500 | 6 15/16 | 910 | **1C626** | | 6.64 | **6.31** | 1 | 3 | 1.0 |
| **PAR30, 3¾" Diameter, w/Medium NP Base** | | | | | | | | | | | | | |
| **75PAR30/H/NSP9** | Narrow Spot (15,55,56,80,88)* | Halogen | 120 | 2000 | 3⅝ | 1030 | **1E175** † | Ⓔ | 12.60 | **11.97** | 1 | 15 | 0.4 |
| **75PAR30/H/NSP9** | Narrow Spot (15,55,56,80,88)* | Halogen | 130 | 2000 | 3⅝ | 1030 | **1E173** † | Ⓔ | 15.25 | **14.48** | 1 | 15 | 0.4 |
| | Ratings @ 120V | | | 4000 | | 790 | | | | | | | |
| **75PAR30L/H/12** | Narrow Spot (15,55,56,80,88)* | Long Neck; Halogen | 120 | 2000 | 4¾ | 940 | **6VR77** † | Ⓔ | 13.65 | **7.70** | 1 | 3 | 0.5 |
| **75PAR30L/H/12** | Narrow Spot (15,55,56,80,88)* | Long Neck; Halogen | 130 | 2000 | 4¾ | 940 | **6VR79** † | Ⓔ | 16.58 | **8.80** | 1 | 15 | 0.5 |
| | Ratings @ 120V | | | 4000 | | 751 | | | | | | | |
| **75PAR30/H/NFL25** | Narrow Flood (15,55,56,80,88)* | Halogen | 120 | 2000 | 3⅝ | 1030 | **1E171** † | Ⓔ | 12.60 | **11.97** | 1 | 3 | 0.3 |
| **75PAR30L/H/NFL25** | Narrow Flood (15,55,56,80,88)* | Long Neck; Halogen | 130 | 2000 | 4¾ | 940 | **6VR82** † | Ⓔ | 16.58 | **8.80** | 1 | 15 | 0.5 |
| | Ratings @ 120V | | | 4000 | | 751 | | | | | | | |
| **75PAR30L/H/NFL25** | Narrow Flood (15,55,56,80,88)* | Long Neck; Halogen | 120 | 2000 | 4¾ | 940 | **6VR81** † | Ⓔ | 13.65 | **7.70** | 1 | 6 | 0.3 |
| **75PAR30/H/FL35** | Flood (15,55,56,80,88)* | Halogen | 120 | 2000 | 3⅝ | 1030 | **1E167** † | Ⓔ | 11.37 | **10.80** | 1 | 15 | 0.4 |
| **75PAR30/H/FL35** | Flood (15,55,56,80,88)* | Halogen | 130 | 2000 | 3⅝ | 1030 | **1E165** † | Ⓔ | 15.25 | **14.48** | 1 | 15 | 0.4 |
| | Ratings @ 120V | | | 4000 | | 790 | | | | | | | |
| **75PAR30L/H/FL60** | Wide Flood (15,55,56,80,88)* | Long Neck; Halogen | 120 | 2000 | 4¾ | 1050 | **1F268** † | Ⓔ | 13.65 | **10.93** | 1 | 6 | 0.7 |
| **PAR36, 4½" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | | |
| **75PAR36/RS** | Train Warning, PAR, Rough Service (15,23)* | | 75 | 500 | 2¾ | 740 | **1C650** | | 43.24 | **41.15** | 1 | 12 | 0.6 |
| **PAR38, 4¾" Diameter, w/Medium Side Prong Base** | | | | | | | | | | | | | |
| **75PAR/3FL/MINE** | Mine, Flood (15,56,58,96)* | | 120 | 2000 | 4 5/16 | 765 | **4V487** | | 15.73 | **14.17** | 1 | 12 | 0.9 |
| **75PAR/3SP/MINE** | Mine, Spot (15,56,58,96)* | | 120 | 2000 | 4 5/16 | 765 | **4V488** | | 15.73 | **14.17** | 1 | 12 | 0.8 |
| **PAR38, 4¾" Diameter, w/Medium Skirted Base** | | | | | | | | | | | | | |
| **75PAR/H/NFL25** | Narrow Flood (15,23,46,56,88,96)* | Halogen | 120 | 2500 | 5 5/16 | 1030 | **3V708** † | Ⓔ | 14.65 | **10.98** | 1 | 3 | 0.8 |
| **75PAR/H/NSP9** | Narrow Spot (15,23,46,56,88,96)* | Halogen | 120 | 2500 | 5 5/16 | 1030 | **3V709** † | Ⓔ | 14.65 | **10.98** | 1 | 12 | 0.1 |
| **75PAR/H/NFL25** | Narrow Flood (15,23,46,56,88,96)* | Halogen | 130 | 2500 | 5 5/16 | 1030 | **3V707** † | Ⓔ | 17.79 | **13.35** | 1 | 3 | 0.8 |
| **PAR46, 5¾" Diameter, w/3 Prong Base** | | | | | | | | | | | | | |
| **75PAR46/TS** | Pedestrian Traffic Signal, Burn Horiz. (15)* | | 120 | 6000 | 3⅞ | 700 | **1C620** † | | 35.33 | **33.65** | 1 | 12 | 0.9 |
| **R20, 2½" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **75R20** | Reflector Flood, I.F. | | 120 | 2000 | 3 15/16 | 650 | **4V497** | | 8.46 | **7.61** | 1 | 6 | 0.1 |
| **T10, 1¼" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **75T10/1** | Showcase, Frost | | 120 | 1000 | 11⅞ | 800 | **1E209** | | 20.46 | **19.44** | 1 | 24 | 0.3 |
| **75T10/45** | Showcase, Clear | | 120 | 1000 | 11⅞ | 800 | **4V923** | | 15.44 | **13.90** | 1 | 3 | 0.1 |

(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (✓) Denotes energy efficient product. ©Lamp meets Federal Minimum Efficiency Standards. To save energy costs, find the lamps with the light output you need, then choose the one with the lowest wattage.

# INCANDESCENT LAMPS: 75W-90W


3 Contact Medium E26


Medium Skirt E26


Medium E26


Screw Term.


Mini Screw E10

GE Lighting

New

ENERGY RIGHT®


T3


A23


PAR38


PAR36


A19, A21


BR40


TB19

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | | Stock No. | © | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **75 WATT LAMPS Cont.)** | | | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Miniature Screw Base** | | | | | | | | | | | | | | |
| 75CL | Clear | | 28 | 2000 | 2½ | 1350 | | 1C542 | | $44.44 | $42.30 | 1 | 20 | 0.1 |
| **80 WATT LAMPS** | | | | | | | | | | | | | | |
| **A23, 2 7/8" Diameter,w/3C Medium Base** | | | | | | | | | | | | | | |
| V170/250A/RL/SW | Reader Light™, Soft White, 3-Way (1,25,46)* | Reading Applications (80 Watts) | 120 | 1000 | 5 15/16 | 1000 | | 1E311 | | 5.76 | 5.48 | 1 | 2 | 0.2 |
| | | 170 Watts | 120 | 1000 | | 2800 | | | | | | | | |
| | | 250 Watts | 120 | 1000 | | 3800 | | | | | | | | |
| **85 WATT LAMPS** | | | | | | | | | | | | | | |
| **PAR38, 4¾" Diameter,w/Medium Skirt Base** | | | | | | | | | | | | | | |
| 0PAR/B/85WM | Blue, Miser® (15, 23)* | Energy Saving | 120 | 2000 | 5 5/16 | — | *New* | 4V657 | | 11.85 | 5.06 | 1 | 6 | 0.7 |
| 0PAR/G/85WM | Green, Miser® (15, 23)* | Energy Saving | 120 | 2000 | 5 5/16 | — | | 4V410 | | 14.81 | 12.84 | 1 | 6 | 1.0 |
| 0PAR/R/85WM | Red, Miser® (15, 23)* | Energy Saving | 120 | 2000 | 5 5/16 | — | | 4V420 | | 14.81 | 12.84 | 1 | 6 | 1.0 |
| 0PAR/Y/85WM | Yellow, Miser® (15, 23)* | Energy Saving | 120 | 2000 | 5 5/16 | — | | 4V421 | | 14.81 | 12.84 | 1 | 6 | 1.8 |
| PAR/FL/BG | Bug-Lite, Flood (15, 23)* | | 120 | 3000 | 5 5/16 | — | | 1K297 | | 14.81 | 14.07 | 1 | 3 | 0.5 |
| **88 WATT LAMP** | | | | | | | | | | | | | | |
| **PAR36, 4½" Diameter,w/Screw Terminal Base** | | | | | | | | | | | | | | |
| PAR36/FL | Train Warning, Flood (15,23)* | | 75 | 1500 | 2¾ | 810 | | 1C526 | | 39.56 | 37.65 | 1 | 3 | 1.0 |
| **90 WATT LAMPS** | | | | | | | | | | | | | | |
| **A19, 2 3/8" Diameter,w/Medium Base** | | | | | | | | | | | | | | |
| 0A/90WM | Watt-Miser®, Diffuse Coating | Energy Saving | 120 | 1000 | 4 7/16 | 1465 | | 4V557 | | 1.07 | 0.85 | 1 | 120 | 0.1 |
| 0A/90WM | Watt-Miser®, Diffuse Coating | Energy Saving | 130 | 1000 | 4 7/16 | 1440 | | 4V558 | | 1.49 | 1.35 | 2 | 120 | 0.1 |
| | Ratings@ 120V | | | 2600 | | 1095 | | | | | | | | |
| 0A/90WMP/99 | Watt-Miser® Plus, Diffuse Coating (9,23)* | Energy Saving; Long Life | 120 | 2500 | 4 7/16 | 1285 | | 2V614 | | 2.08 | 1.87 | 2 | 120 | 0.1 |
| 0A/90WMP/99 | Watt-Miser® Plus, Diffuse Coating (9,23)* | Energy Saving; Long Life | 130 | 2500 | 4 7/16 | 1260 | | 4V114 | | 2.69 | 2.43 | 2 | 120 | 0.1 |
| | Ratings @ 120V | | | 6800 | | 960 | | | | | | | | |
| **A21, 2 7/8" Diameter, w/Medium Base** | | | | | | | | | | | | | | |
| 0A21/90WM/TS | Traffic Signal, Krypton, Watt-Miser®, Clear, BDTH (23)* | Brass Base | 130 | 8000 | 4 3/8 | 1040 | | 1E179 | | 8.96 | 8.51 | 1 | 3 | 0.1 |
| **BR40, 5" Diameter,w/Medium Base** | | | | | | | | | | | | | | |
| 0R/FL/90WM | Watt-Miser®, Flood I.F. (4, 35, 46, 56)* | Energy Saving | 120 | 2000 | 6 5/16 | 1100 | | 2F222 | | 8.83 | 8.39 | 1 | 3 | 0.5 |
| 0R/FL/90WM | Watt-Miser®, Flood I.F. (4,35,46,56)* | Energy Saving | 130 | 2000 | 6 5/16 | 1050 | | 2F224 | | 11.41 | 10.84 | 1 | 3 | 0.5 |
| **PAR38, 4¾" Diameter, w/Medium Skirt Base** | | | | | | | | | | | | | | |
| PAR/H/SP10 | Spot (14,15, 23,56,88,96)* | Halogen | 120 | 2500 | 5 5/16 | 1260 | ✓ | 2V792 | © | 11.31 | 6.99 | 1 | 3 | 0.8 |
| PAR/H/SP10 | Spot (14, 15, 23,56,88,96)* | Halogen | 130 | 2000 | 5 5/16 | 1260 | ✓ | 4V631 | © | 13.62 | 8.99 | 1 | 3 | 0.8 |
| | Ratings @ 120V | | | 5000 | | 940 | | | | | | | | |
| PAR/CB/H/NFL25 | Narrow Flood (15, 23,78)* | Cool Beam; Perishables Applications | 120 | 2500 | 5 5/16 | 1260 | ✓ | 1E221 | © | 31.28 | 29.80 | 1 | 3 | 1.0 |
| PAR/H/NFL25 | Flood (15, 23)* | Halogen | 120 | 2500 | 5 5/16 | 1260 | ✓ | 2V791 | © | 11.31 | 6.99 | 1 | 12 | 0.7 |
| PAR/H/NFL25 | Narrow Flood (15, 23,56,88,96)* | Halogen | 130 | 2500 | 5 5/16 | 1260 | ✓ | 4V115 | © | 13.62 | 8.99 | 1 | 12 | 0.7 |
| | Ratings @ 120V | | | 5000 | | 940 | | | | | | | | |
| **TB19, 2 3/8" Diameter/Medium Base** | | | | | | | | | | | | | | |
| TB/H | Frost (23,88)* | Halogen; Brass Base | 120 | 2000 | 4 7/16 | 1580 | ✓ | 1E269 | † | 6.81 | 6.47 | 1 | 60 | 0.4 |
| TB/H | Frost (23,88)* | Halogen; Brass Base | 130 | 2000 | 4 7/16 | 1580 | ✓ | 1E267 | † | 8.17 | 7.76 | 1 | 60 | 0.4 |
| | Ratings @ 120V | | | 4000 | | 1220 | | | | | | | | |

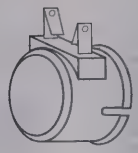
See Incandescent Lamp footnotes on page 984 (†) Excluded product. (✓) Denotes energy efficient product. © Lamp meets Federal Minimum Efficiency Standards. To save ergy costs, find the lamps with the light output you need, then choose the one with the lowest wattage.

# INCANDESCENT LAMPS: 95W-100W

GE Lighting


DC Bay


Medium E26


Medium Side Prong

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Price Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **95 WATT LAMP** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 95A/SW/MI | Soft White, Miser ® (44)* | Residential Energy Saving | 120 | 750 | 4⅞16 | 1610 | 2F041 | $1.40 | **$1.34** | 4 | 48 | 0.1 |
| **100 WATT LAMPS** | | | | | | | | | | | | |
| **A19, 2⅜" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 100A | Standard, I.F. (44)* | | 120 | 750 | 4⅞16 | 1710 | 5V600 | 1.07 | **0.44** | 4 | 48 | 0.1 |
| 100A | Inside Frost | | 130 | 750 | 4⅞16 | 1680 | 2V328 | 1.33 | **0.63** | 1 | 120 | 0.1 |
| | Ratings @ 120V | | | 1950 | | 1275 | | | | | | |
| 100A/CL | Crystal Clear (9)* | | 120 | 750 | 4⅞16 | 1730 | 4V650 | 1.80 | **1.62** | 2 | 24 | 0.1 |
| 100A/S | Survivor ™, LL, I.F., Vib. & Shock Res. (9,23,46)* | Commercial Long Life; Brass Base | 120 | 3000 | 4⅞16 | 1190 | 5V460 | 2.76 | **2.48** | 2 | 6 | 0.1 |
| 100A/S | Survivor ™, LL, I.F., Vib. & Shock Res. (9,23,46)* | Commercial Long Life; Brass Base | 130 | 3000 | 4⅞16 | 1170 | 1E323 | 3.61 | **3.42** | 2 | 6 | 0.1 |
| | Ratings @ 120V | | | 8300 | | 880 | | | | | | |
| 100A/W | Soft White (44)* | | 120 | 750 | 4⅞16 | 1690 | 5V619 | 1.40 | **1.27** | 4 | 48 | 0.1 |
| 100A/W/LL | Soft White, LongLife (9)* | Residential Long Life | 120 | 1125 | 4⅞16 | 1600 | 5V621 | 1.88 | **1.03** | 2 | 24 | 0.1 |
| 100A/LHT/IF | Left Hand Thread, I.F. (23)* | | 120 | 750 | 4⅞16 | 1710 | 6V197 | 2.67 | **2.41** | 1 | 3 | 0.1 |
| 100A/SPK | Soft Pink (9,46)* | | 120 | 1000 | 4⅞16 | 1330 | 1K405 | 2.67 | **2.54** | 2 | 24 | 0.1 |
| 100A/SSW | Super Soft White | | 120 | 750 | 4⅞16 | 1690 | 3JK05 | 1.64 | **1.57** | 1 | 3 | 0.5 |
| 100A/Y | Bug-Lite (9,14)* | | 120 | 1000 | 4⅞16 | 1010 | 2V291 | 2.34 | **2.11** | 2 | 24 | 0.1 |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 100A21 | Inside Frost | | 120 | 750 | 5¼ | 1710 | 4V943 | 1.93 | **1.73** | 1 | 60 | 0.1 |
| 100A21 | Inside Frost | | 130 | 750 | 5¼ | 1690 | 4V969 | 2.58 | **2.32** | 1 | 60 | 0.1 |
| | Ratings @ 120V | | | 1950 | | 1285 | | | | | | |
| 100A21/99 | Extended Service, Diffuse Coating (23)* | Long Life | 120 | 2500 | 5¼ | 1440 | 4V946 | 2.72 | **2.45** | 1 | 60 | 0.1 |
| 100A21/99 | Extended Service, Diffuse Coating (23)* | Long Life | 130 | 2500 | 5¼ | 1420 | 4V971 | 3.68 | **3.32** | 1 | 60 | 0.1 |
| | Ratings @ 120V | | | 6800 | | 1080 | | | | | | |
| 100A/RS/CVG | Rough Service, CVG, I.F. (9,23,47,83,95)* | Cov-R-Guard; Shatter Resistant; Teflon Coated | 120 | 1000 | 5¼ | 1230 | 2V393 | 5.16 | **4.64** | 2 | 6 | 0.1 |
| 100A21/SB | Silvered Bowl,Clear (28)* | | 120 | 1000 | 5¼ | 1400 | 1E229 | 9.16 | **8.69** | 1 | 3 | 0.1 |
| 100A21/SBIF | Silvered Bowl, I.F. (28)* | | 120 | 1000 | 5¼ | 1400 | 5V240 | 10.21 | **8.17** | 1 | 3 | 0.1 |
| 100A/RS | Rough Service, I.F. (95)* | | 120 | 1000 | 5¼ | 1160 | 2V293 | 2.59 | **2.23** | 1 | 12 | 0.1 |
| 100A/RS | Rough Service, I.F. (95)* | | 130 | 1000 | 5¼ | 1150 | 4V427 | 3.45 | **3.12** | 1 | 60 | 0.1 |
| | Ratings @ 120V | | | 2600 | | 875 | | | | | | |
| 100A/RS/BB | Rough Service, I.F. (23,95)* | Brass Base | 130 | 1000 | 5¼ | 1150 | 2F252 | 3.81 | **3.61** | 1 | 3 | 0.1 |
| | Ratings @ 120V | | | 2600 | | 875 | | | | | | |
| 100A21/TS | Traffic Signal, Clear, BDTH, Rated @ 98W (23)* | Brass Base | 130 | 3000 | 4⅜ | 1280 | 4V967 | 4.34 | **3.91** | 1 | 3 | 0.1 |
| 100A | Inside Frost | | 230 | 750 | 5¼ | 1280 | 5V753 | 5.34 | **4.81** | 1 | 3 | 0.1 |
| 100A | Inside Frost | | 250 | 750 | 5¼ | 1280 | 5V752 | 5.34 | **4.81** | 1 | 3 | 0.1 |
| 100A/RS | Rough Service, I.F. (95)* | | 250 | 1000 | 5¼ | 960 | 5V728 | 4.75 | **4.27** | 1 | 3 | 0.1 |
| 100A | Inside Frost (32)* | | 277 | 750 | 5¼ | 1250 | 5V358 | 5.34 | **4.81** | 1 | 60 | 0.1 |
| **A23, 2⅞" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 100A23 | Inside Frost (53)* | | 12 | 1000 | 5⅝16 | 1750 | 1E127 | 8.50 | **8.08** | 1 | 3 | 0.1 |
| 100A | Train, I.F. (53)* | | 34 | 1000 | 5⅝16 | 2160 | 6V051 | 5.34 | **4.81** | 1 | 3 | 0.1 |
| 100A23/20 | Commercial Oven, Clear (3,23)* | Brass Base | 120 | 1000 | 5⅝16 | 1530 | 4V973 | 5.45 | **4.91** | 1 | 3 | 0.1 |
| 100A23/IF | Inside Frost | | 120 | 750 | 5⅝16 | 1600 | 4V478 | 3.04 | **2.74** | 1 | 120 | 0.1 |
| 100A23/VS | Vibration Service, I.F. (12)* | | 120 | 1000 | 5⅝16 | 1360 | 1C668 | 9.72 | **9.23** | 1 | 24 | 0.1 |
| 100A23/VS | Vibration Service, I.F. (12)* | | 130 | 1000 | 5⅝16 | 1340 | 1C666 | 13.12 | **12.47** | 1 | 3 | 0.1 |
| | Ratings @ 120V | | | 2600 | | 1020 | | | | | | |
| **G16½, 2 1⁄16" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| 100G16 1/2 /29DC | Spotlight, Clear BDTH (7,23,99)* | | 120 | 200 | .3 | 1660 | 1E093 | 28.06 | **26.70** | 1 | 60 | 0.1 |
| **G40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 100G40 CPK | Globe, Crystal (Clear) | Long Life; Decorative Lamp | 120 | 2500 | 6⅝16 | 1380 | 1E247 | 5.99 | **5.70** | 1 | 3 | 1.0 |
| 100G40/W | Globe, Pearl (White) | Decorative Lamp | 120 | 2500 | 6⅝16 | 1280 | 4V674 | 6.64 | **6.31** | 1 | 6 | 0.1 |
| **PAR38, 4¾" Diameter, w/Medium Side Prong Base** | | | | | | | | | | | | |
| 100PAR38/FL | Mine, PAR, Flood (15, 58)* | | 12 | 1000 | 4⅝16 | 1400 | 1E081 | 36.52 | **34.85** | 1 | 12 | 0.1 |

(*) See Incandescent Lamp footnotes on page 984.



When it comes to lighting, no distributor outshines Grainger.

# INCANDESCENT LAMPS: 100W-105W
















GE Lighting













ENERGY RIGHT®

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length | Lumens | Stock No. | Ⓔ | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **100 WATT LAMPS (Cont.)** | | | | | | | | | | | | | |
| **PAR38, 4¾" Diameter, w/Medium Skirted Base** | | | | | | | | | | | | | |
| 100PAR/SP/S/HAL 120 | Spot (15,23,56,88,95)* | Halogen | 120 | 2000 | 5⅞ | 1400 | 3JK36 | Ⓔ | $11.78 | $6.60 | 1 | 12 | 1.6 |
| 100PAR/HIR/SP10 | Spot (23,56,88,96)* | Highest Light Output; Halogen IR Reflective Coating | 120 | 3000 | 5⅞ | 2070 | 1E107 † | Ⓔ | 18.77 | $6.60 | 1 | 3 | 0.9 |
| 100PAR/HIR/SP10 | Spot (23,56,88,96)* Ratings @ 120V | Highest Light Output; Halogen IR Reflective Coating | 130 | 3000<br>6000 | 5⅞ | 2070<br>1570 | 1E105 † | Ⓔ | 21.53 | 17.83 | 1 | 3 | 0.5 |
| 100PAR/HIR/NFL25 | Narrow Flood (15, 23,56,88,96)* | Highest Light Output; Halogen IR Reflective Coating | 120 | 3000 | 5⅞ | 2070 | 1E111 † | Ⓔ | 18.77 | 20.45 | 1 | 12 | 0.9 |
| 100PAR/HIR/NFL25 | Narrow Flood (15, 23,56,88,96)* Ratings @ 120V | Highest Light Output; Halogen IR Reflective Coating | 130 | 3000<br>6000 | 5⅞ | 2070<br>1570 | 1E109 † | Ⓔ | 21.53 | 17.83 | 1 | 3 | 0.9 |
| 100PAR/H/FL | Flood (15,23,56,88,96)* | Halogen | 120 | 2000 | 5⅞ | 1400 | 3JK34 | Ⓔ | 9.47 | 20.45 | 1 | 12 | 0.9 |
| 100PAR/H/FL | Flood (15,23,56,88,95)* | Halogen | 130 | 2000 | 5⅞ | 1400 | 3JK35 | Ⓔ | 13.63 | 6.60 | 1 | 12 | 0.9 |
| 100PAR/HIR/40 | Halogen-IR, Flood (15,23,56,88,96)* | Highest Light Output; Halogen IR Reflective Coating | 120 | 3000 | 5⅞ | 2070 | 1F378 † | Ⓔ | 18.77 | 7.70 | 1 | 3 | 1.5 |
| **PAR46, 5¾" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | | |
| 100PAR46 | Mine Locomotive Headlight (15,53,71)* | | 60 | 800 | 3⅛ | 1290 | 5V065 | | 37.63 | 33.95 | 1 | 12 | 0.9 |
| **PS25, 3⅛" Diameter, w/3C Mogul** | | | | | | | | | | | | | |
| 100/200/300 | Soft White, 3-Way (1,25,46)* | 100 Watt<br>200 Watt<br>300 Watt | 120<br>120<br>120 | 1500<br>1200<br>1200 | 6⅛ | 1320<br>3300<br>4620 | 6V195 | | 6.02 | 5.41 | 1 | 6 | 0.2 |
| 100/200/300/2 | Soft White, 3-Way, Red Neck (1,25,46)* | 100 Watt<br>200 Watt<br>300 Watt | 120<br>120<br>120 | 1500<br>1200<br>1200 | 6⅛ | 1320<br>3300<br>4620 | 1E085 | | 11.50 | 10.93 | 1 | 60 | 0.2 |
| **R30, 3¾" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| 100R30/CL | Swimming Pool, Refl. Flood. Clear (4,15,23,46,53,93)* | | 12 | 2000 | 5⅜ | 1200 | 1C544 | | 20.70 | 19.66 | 1 | 3 | 0.2 |
| **T3, ⅜" Diameter, w/GY6.35 2-Pin Base** | | | | | | | | | | | | | |
| 1100 T3/12V/CL | Clear (132)* | | 12 | 2000 | 1¾ | 2350 | 2F514 | | 13.14 | 12.49 | 1 | 3 | 0.1 |
| 1100 T3/24V/CL | Clear (132)* | | 24 | 2000 | 1¾ | 2000 | 2F512 | | 11.30 | 10.20 | 1 | 3 | 0.1 |
| **T3, ⅜" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | | |
| 1100T3/CL/CD | Clear, Horiz 2950°K (100)* | | 120 | 1500 | 3¼ | 1650 | 1G996 | | 13.20 | 12.55 | 1 | 5 | 0.1 |
| **T4, ½" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | | |
| 1100CL/DC | Clear, ANSI: ESR | | 120 | 750 | 2⅞ | 1800 | 6V366 | | 46.83 | 42.25 | 1 | 6 | 0.1 |
| 1100CL/DC | Clear | | 120 | 2000 | 2⅞ | 1600 | 1E362 | | 31.00 | 23.99 | 1 | 3 | 0.1 |
| 1100DC | Frosted | | 120 | 2000 | 2⅞ | 1550 | 1E285 | | 33.12 | 31.55 | 1 | 6 | 0.1 |
| 1100DC | Frosted, ANSI: ETD | | 120 | 750 | 2⅞ | 1750 | 1P031 | | 48.30 | 46.00 | 1 | 6 | 0.1 |
| **T4, ½" Diameter, w/Miniature Candelabra Base** | | | | | | | | | | | | | |
| 1100CL/MC | Clear, ANSI: ESN | | 120 | 750 | 2⅜ | 1800 | 5V823 | | 46.83 | 25.80 | 1 | 6 | 0.1 |
| 1100CL/MC | Clear | | 120 | 2000 | 2⅜ | 1600 | 6V701 | | 31.00 | 29.55 | 1 | 3 | 0.3 |
| 1100MC | Frosted, ANSI: ETE | | 120 | 750 | 2⅜ | 1750 | 1C308 | | 48.30 | 46.00 | 1 | 6 | 0.1 |
| 1100MC | Frosted | | 120 | 2000 | 2⅜ | 1550 | 1E283 | | 33.12 | 31.55 | 1 | 6 | 0.1 |
| **T8, 1" Diameter, w/Single Contact Bayonet Base** | | | | | | | | | | | | | |
| 100T8/1SC | Contour Map, Clear, ANSI:BZA (8,31,61,94)* | | 20 | 50 | 3 | 2600 | 1E073 | | 21.34 | 20.27 | 1 | 6 | 0.1 |
| **105 WATT LAMP** | | | | | | | | | | | | | |
| **A23, 2⅞" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| 105A23/12 | Ext. Grp. Repl, Clear, Nom. Lumens 1000 (23)* | | 125 | 12000 | 5⅛ | — | 1C417 | | 9.38 | 8.92 | 1 | 3 | 0.1 |



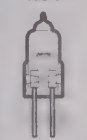


























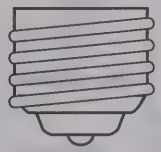


*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. Ⓔ Lamp meets Federal Minimum Efficiency Standards. To save energy cost, find the lamp with the light output you need, then choose the one with the lowest wattage. (↝) Denotes energy efficient product.

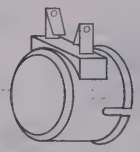
# INCANDESCENT LAMPS: 110W-135W

GE Lighting

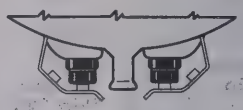
New



Medium E26



Medium Side Prong



Screw Terminal



R30



A21



BR40



ER40



PAR38



PAR56



PAR64

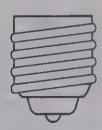


R40

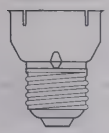
| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Ea. | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **110 WATT LAMP** | | | | | | | | | | | | | |
| **R30, 3¾" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **110R30/FL/RS** | Rough Service, Reflector Flood, I.F. (23)* Brass Base | | 120 | 2000 | 5⅜ | 1080 | | **5V296** | $11.87 | **$10.68** | 1 | 3 | 0.1 |
| **116 WATT LAMPS** | | | | | | | | | | | | | |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **116A21/TS** | Traffic Signal, Clear, BDTH (23)* | Brass Base | 120 | 8000 | 4⅜ | 1280 | | **4V985** | 3.31 | **2.99** | 1 | 3 | 0.2 |
| **116A21/TS** | Traffic Signal, Clear, BDTH (23)* | Brass Base | 125 | 8000 | 4⅜ | 1280 | | **1E065** | 3.88 | **3.68** | 10 | 3 | 0.1 |
| **116A21/TS** | Traffic Signal, Clear, BDTH (23)* | Brass Base | 130 | 8000 | 4⅜ | 1280 | | **4V986** | 4.45 | **4.00** | 1 | 3 | 0.1 |
| **120 WATT LAMPS** | | | | | | | | | | | | | |
| **BR40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **150R/FL/120WM** | Watt-Miser®,Flood, I.F. (4,35,46,56)* | Energy Saving | 120 | 2000 | 6⅜6 | 1600 | | **1E396** | 7.97 | **5.99** | 1 | 24 | 0.3 |
| **150R/FL/120WM** | Watt-Miser®, Flood, I.F. (4,35,46,56)* | Energy Saving | 120 | 2000 | 6⅜6 | 1600 | | **1E347** | 9.88 | **6.80** | 1 | 24 | 0.1 |
| **150R/SP/120WM** | Watt-Miser®, Spot, I.F. (4,35,46,56)* | Energy Saving | 120 | 2000 | 6⅜6 | 1600 | | **1E398** | 8.83 | **8.39** | 1 | 3 | 0.5 |
| **150R/SP/120WM** | Watt-Miser®-Reflector Spot-Light I.F. | Energy Saving | 130 | 2000 | 6⅜6 | 1600 | | **3JK26** | 10.95 | **10.40** | 1 | 3 | 0.5 |
| **150R/FL120WM/CVG** | Shatter Proof | Energy Saving; Cov R-Guard; Shatter Resistant; Teflon Coated; Brass Base | 130 | 2000 | 6⅜6 | 1560 | ***New*** | **4PL25** | 21.45 | **18.23** | 1 | 24 | 0.3 |
| **150R/FL/120WM/B** | Blue, Reflector | Energy Saving | 120 | 2000 | 5⅜ | — | ***New*** | **4PL26** | 17.77 | **15.11** | 1 | 24 | 0.3 |
| **150R/FL/120WM/PK** | Pink, Reflector | Energy Saving | 120 | 2000 | 5⅜ | — | ***New*** | **4PL27** | 17.77 | **15.11** | 1 | 24 | 0.3 |
| **150R/FL/120WM/TB** | Transparent Blue, Reflector | Energy Saving | 120 | 2000 | 5⅜ | — | ***New*** | **4PL28** | 16.23 | **14.61** | 1 | 24 | 0.4 |
| **150R40/PL-1** | Plant Light, Gro & Sho™, Reflector Flood I.F. (4,23,46,56)* | Energy Saving; | 120 | 2000 | 6⅜6 | 1600 | | **3MK70** | 9.66 | **8.68** | 1 | 6 | 0.5 |
| **ER40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **120ER40** | Elliptical Refl, I.F. (4,35,56)* | Downlight Applications | 120 | 2000 | 7⅜ | 1425 | | **2V663** | 10.12 | **6.99** | 1 | 3 | 0.2 |
| **120ER40** | Elliptical Refl, I.F. (4,35,56)* | Downlight Applications | 130 | 2000 | 7⅜ | 1425 | | **4V130** | 13.43 | **8.99** | 1 | 24 | 0.4 |
| **PAR38, 4¾" Diameter, w/Medium Side Prong Base** | | | | | | | | | | | | | |
| **150PAR/3FL/120WM** | Watt-Miser®, Flood (15,56,58,96)* | Energy Saving | 120 | 2000 | 4⅜6 | 1370 | | **1E625** | 15.36 | **14.59** | 1 | 12 | 0.9 |
| **150PAR/3SP/120WM** | Watt-Miser®, Spot (15,56,58,96)* | Energy Saving | 120 | 2000 | 4⅜6 | 1370 | | **1E623** | 15.36 | **14.59** | 1 | 3 | 1.0 |
| **PAR56, 7" Diameter,w/Screw Terminal Base** | | | | | | | | | | | | | |
| **120 PAR56 MFL** | Medium Flood, Filament Shield (11,15,56,59)* | | 12 | 2000 | 4½ | 1050 | | **1E061** | 33.30 | **31.75** | 1 | 12 | 1.4 |
| **120 PAR56 VNSP** | Very Narrow, Spot Filament Shield (11,15,56,59)* | | 12 | 2000 | 4½ | 1050 | | **1E063** | 33.30 | **31.75** | 1 | 12 | 1.4 |
| **120 PAR56 WFL** | Wide Flood, Filament Shield (11,15,56,59)* | | 12 | 2000 | 4½ | 1050 | | **1E059** | 33.30 | **31.75** | 1 | 3 | 0.5 |
| **PAR64, 8" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | | |
| **120PAR** | Transmissometer, Filament Shield, VNSP (15)* | | 16.6 | 3000 | 4 | 780 | | **1C554** | 73.60 | **70.00** | 1 | 3 | 2.5 |
| **125 WATT LAMP** | | | | | | | | | | | | | |
| **R40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **125R40/1** | Refl. Flood, Infrared Heat, Clear (2A,4,46,56,94)* | Heat Lamp | 120 | 5000 | 6⅜6 | — | | **6V159** | 8.65 | **7.78** | 1 | 24 | 0.3 |
| **135 WATT LAMPS** | | | | | | | | | | | | | |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | | |
| **150A/135WM** | Watt-Miser®, Diffuse Coating | Energy Saving | 120 | 1000 | 5⅜ | 2380 | | **4V559** | 1.94 | **1.74** | 1 | 60 | 0.1 |
| **150A/135WM** | Watt-Miser®, Diffuse Coating Ratings @ 120V | Energy Saving | 130 | 1000<br>2600 | 5⅜ | 2340<br>1790 | | **4V560** | 2.74 | **2.46** | 1 | 60 | 0.1 |
| **150A/135WMP/99** | Watt-Miser® Plus, Diffuse Coating | Energy Saving; Long Life | 120 | 2500 | 5⅜ | 2100 | | **2V615** | 3.26 | **2.94** | 1 | 60 | 0.1 |
| **150A/135WMP/99** | Watt-Miser® Plus, Diffuse Coating Ratings @ 120V | Energy Saving; Long Life | 130 | 2500<br>6800 | 5⅜ | 2060<br>1580 | | **4V116** | 4.45 | **4.00** | 1 | 3 | 0.1 |

(*) See Incandescent Lamp footnotes on page 984.

# INCANDESCENT LAMPS: 135W - 150W



Medium E26



Medium Skirt E26



Medium Side Prong



Screw Terminal



3 Prong

GE Lighting

New

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship Case Qty. | Shpg Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **135 WATT LAMP (Cont.)** | | | | | | | | | | | | |
| **A21, 2⅝" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| 50A21/135WM/TS | Traffic Signal, Krypton, Watt-Miser ®, Clear, BDTH (23)* | Energy Saving; Brass Base | 120 | 7000 | 4 11/16 | 1750 | 6V258 | $11.87 | $9.50 | 1 | 3 | 0.1 |
| 50A21/135WM/TS | Traffic Signal, Krypton, Watt-Miser ®, Clear, BDTH (23)* | Energy Saving; Brass Base | 130 | 7000 | 4 11/16 | 1750 | 1E177 | 15.46 | 14.68 | 1 | 3 | 0.1 |
| **150 WATT LAMPS** | | | | | | | | | | | | |
| **A21, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 50A | Standard, I.F. | | 120 | 750 | 5⅜ | 2850 | 2V286 | 1.96 | 1.77 | 1 | 24 | 0.1 |
| 50A | Inside Frost | | 130 | 750 | 5⅜ | 2800 | 2V329 | 2.83 | 2.11 | 1 | 3 | 0.1 |
| | Ratings @ 120V | | | 1950 | | 2140 | | | | | | |
| 50A/CL | Crystal Clear | | 120 | 750 | 5⅜ | 2850 | 6V190 | 2.61 | 2.21 | 1 | 12 | 0.1 |
| 50A21/RS | Rough Service, I.F. (95)* | | 120 | 1000 | 5¼ | 2100 | 2V303 | 5.59 | 5.03 | 1 | 3 | 0.1 |
| 50A21/RS | Rough Service, I.F. (95)* | | 130 | 1000 | 5¼ | 2065 | 4V586 | 8.34 | 7.51 | 1 | 3 | 0.1 |
| | Ratings @ 120V | | | 2600 | | 1580 | | | | | | |
| 50A/S | Survivor ™, LL, I.F., Vib. & Shock Res. (23,46)* | Commercial Long Life; Brass Base | 120 | 3000 | 4 15/16 | 1950 | 1E321 | 3.85 | 2.89 | 1 | 60 | 0.1 |
| 50A/S | Survivor ™, LL, I.F., Vib. & Shock Res. (23,46)* | Commercial Long Life; Brass Base | 130 | 3000 | 4 15/16 | 1925 | 1E319 | 4.95 | 3.96 | 1 | 3 | 0.3 |
| | Ratings @ 120V | | | 8300 | | 8470 | | | | | | |
| 50A21/99/IF | Extended Service, I.F. (23)* | Long Life | 120 | 2500 | 6⅜ | 2350 | 1E055 | 3.24 | 3.07 | 1 | 3 | 0.5 |
| 50A21/99/IF | Extended Service, I.F. (23)* | Long Life | 130 | 2500 | 5⅜ | 2310 | 1E053 | 4.42 | 4.19 | 1 | 60 | 0.1 |
| | Ratings @ 120V | | | 6800 | | 1765 | | | | | | |
| 50A/W | Soft White | | 120 | 750 | 5⅜ | 2780 | 1F384 | 2.30 | 2.19 | 1 | 12 | 0.1 |
| **G40, 5" Diameter,w/ Medium Base** | | | | | | | | | | | | |
| 50G40/W | Globe, Pearl (White) | Decorative Lamp | 120 | 2500 | 6 15/16 | 1950 | 1E273 | 8.89 | 8.45 | 1 | 3 | 0.5 |
| **PS25, 3⅛" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| 50P25/10 | I.F Spot, Hard glass button (23, 53)* | Brass Base | 24 | 200 | 4¾ | — | 2F270** | 54.44 | 51.85 | 1 | 3 | 0.4 |
| 50P25/10 | Spot, L.I.F., Hard glass button (23)* | Brass Base | 120 | 200 | 4¾ | 2100 | 5V169 | 34.04 | 30.70 | 1 | 3 | 0.1 |
| 50P25/2SB | Silvered Bowl, Spot, Clear (23,28)* | Brass Base | 120 | 200 | 4¾ | 2100 | 5V384 | 31.00 | 27.95 | 1 | 3 | 0.5 |
| **PAR38, 4¾" Diameter, w/ Medium Side Prong Base** | | | | | | | | | | | | |
| 50PAR/3FL/MINE | Mine, Flood (15, 56,58,96)* | | 120 | 2000 | 4 5/16 | 1740 | 4V491 | 15.73 | 14.17 | 1 | 12 | 0.8 |
| 50PAR/3FL/MINE | Mine, Flood (15, 56,58,96)* | | 130 | 2000 | 4 5/16 | 1740 | 4V493 | 20.61 | 18.56 | 1 | 3 | 0.8 |
| 50PAR/3SP-MINE | Mine, Spot (15, 56,58,96)* | | 120 | 2000 | 4 5/16 | 1740 | 4V490 | 15.73 | 14.17 | 1 | 3 | 0.8 |
| 50PAR/3SP/MINE | Mine, Spot (15, 56,58,96)* | | 130 | 2000 | 4 5/16 | 1740 | 4V492 | 20.61 | 18.56 | 1 | 3 | 0.8 |
| **PAR38, 4¾" Diameter, w/ Medium Skirt Base** | | | | | | | | | | | | |
| 50PAR/FL/CVG | Shatter Proof | Cov R Guard, Shatter-Resistant, Teflon coated | 120 | 2000 | 5 5/16 | 1690 | New 4PL09 | 14.81 | 13.34 | 1 | 12 | 0.9 |
| 50PAR/SP/CVG | Shatter Proof | Cov R Guard, Shatter-Resistant, Teflon coated | 120 | 2000 | 5 5/16 | 1690 | New 4PL10 | 14.81 | 13.34 | 1 | 12 | 0.9 |
| 50PAR/FL/A | Amber, Dichro. Flood (14,15,23,56,79) | | 120 | 2000 | 5 5/16 | — | 3JK47 | 41.49 | 39.55 | 1 | 12 | 0.9 |
| 50PAR/FL/B | Blue, Dichro. Flood (14,15,23,56,79)* | | 120 | 2000 | 5 5/16 | — | 1E033 | 41.49 | 39.55 | 1 | 3 | 0.5 |
| 50PAR/FL/G | Green, Dichro. Flood (14,15,23,56,79)* | | 120 | 2000 | 5 5/16 | — | 1E030 | 41.49 | 39.55 | 1 | 12 | 0.9 |
| 50PAR/FL/R | Red, Dicho. Flood (14,15,23,56,79)* | | 120 | 2000 | 5 5/16 | — | 1E028 | 41.49 | 39.55 | 1 | 12 | 0.9 |
| **PAR46, 5¾" Diameter, w/3 Prong Base** | | | | | | | | | | | | |
| 50PAR46/TS | Traffic Signal, Stippled Refl., Burn Horiz (15)* | Brass Base | 115 | 6000 | 3¾ | 1750 | 3V993† | 35.33 | 31.85 | 1 | 3 | 0.9 |
| **PAR46, 5¾" Diameter, w/ Medium Side Prong Base** | | | | | | | | | | | | |
| 50PAR46/3MFL | Medium Flood (4,11,15, 56,58,96)* | | 125 | 2000 | 4 | 1500 | 1C419 | 39.10 | 37.20 | 1 | 12 | 1.0 |
| **PAR46, 5¾" Diameter, w/ Screw Terminal Base** | | | | | | | | | | | | |
| 50PAR46/1 | Mine Locomotive Headlight (15,56)* | | 32 | 800 | 3¾ | 1950 | 5V117 | 39.10 | 35.30 | 1 | 3 | 0.3 |
| 50PAR46 | Mine Locomotive Headlight (15, 23)* | | 125 | 1000 | 3¾ | 1250 | 4V494 | 43.70 | 39.45 | 1 | 3 | 1.0 |



A21



G40



PS25



PAR38 Med. Side Pr.



PAR38



PAR46 3 Prong



PAR46 Med. Side Pr.

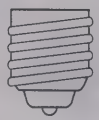


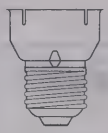
PAR46 Screw Term.

(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (**) Limited availability. Contact your local branch.

# INCANDESCENT LAMPS: 150W - 175W

GE Lighting


Medium Screw E26


Medium Skirt E26

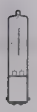

Mini Candelabra E11


DC Bay


Recessed Single Contact R7S


PS25, PS30


T3, T4 R.S.C.


T4 DC Bay


T4 Mini Cand.


PS25 Med.


A23

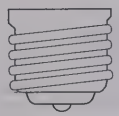

PAR38

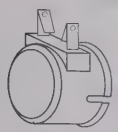
| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship Case Qty. | Ship Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **150 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **PS25, 3 1/8" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| 150/IF | Inside Frost | | 120 | 750 | 6 15/16 | 2570 | 5V002 | $3.77 | **$3.39** | 1 | 60 | 0.2 |
| 150/IF | Inside Frost | | 130 | 750 | 6 15/16 | 2520 | 5V012 | 5.04 | **4.55** | 1 | 3 | 0.2 |
| | Ratings @ 120V | | | 1950 | | 1930 | | | | | | |
| 150/99/IF | Extended Service, I.F. (23)* | Long Life; Brass Base | 120 | 2500 | 6 15/16 | 2250 | 1E004 | 3.86 | **3.66** | 1 | 60 | 0.2 |
| 150/99/IF | Extended Service, I.F. (23)* | Long Life; Brass Base | 130 | 2500 | 6 15/16 | 2200 | 5V014 | 5.19 | **4.67** | 1 | 60 | 0.2 |
| | Ratings @ 120V | | | 6800 | | 1680 | | | | | | |
| 150/RS | Rough Service, I.F. (95)* | | 120 | 1000 | 6 15/16 | 2190 | 1E018 | 7.29 | **6.94** | 1 | 60 | 0.2 |
| 150/RS | Rough Service, I.F. (95)* | | 130 | 1000 | 6 15/16 | 2160 | 1E016 | 9.75 | **9.26** | 1 | 60 | 0.2 |
| | Ratings @ 120V | | | 2600 | | 1650 | | | | | | |
| 150/RS/CVG | Rough Service, CVG, I.F. (23,47,83,95)* | Cov-R-Guard; Shatter Resistant; Teflon Coated; Brass Base | 120 | 1000 | 6 15/16 | 2120 | 4V566 | 11.02 | **9.91** | 1 | 60 | 0.2 |
| 150PS25/CVG | CVG, I.F. (23,47,83,95)* | Cov-R-Guard; Shatter Resistant; Teflon Coated | 120 | 1000 | 6 15/16 | 2630 | 2V391 | 8.52 | **7.67** | 1 | 3 | 0.2 |
| 150/SBIF | Silver Bowl, I.F. (28)* | | 120 | 1000 | 6 15/16 | 2370 | 5V241 | 10.21 | **9.19** | 1 | 3 | 0.2 |
| 150/99CL | Extended Service, Clear (23)* | Long Life; Brass Base | 130 | 2500 | 6 15/16 | 2200 | 1E002 | 4.86 | **4.14** | 1 | 60 | 0.2 |
| | Ratings @ 120V | | | 6800 | | 1680 | | | | | | |
| 150/VS | Vibration Service, I.F. | | 130 | 1000 | 6 15/16 | 2270 | 1C662 | 15.92 | **15.12** | 1 | 3 | 0.5 |
| | Ratings @ 120V | | | 2600 | | 1735 | | | | | | |
| **PS30, 3 3/4" Diameter, w/ Medium base** | | | | | | | | | | | | |
| 150PS30 | Clear, Reflector, Silvered Neck (23, 43, 53)* | Brass Base | 240 | 1000 | 8 1/16 | 1950 | 1K443 | 10.86 | **10.32** | 1 | 60 | 0.3 |
| **T3, 3/8" Diameter, w/ Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q150T3/CL/CD | Clear, Horizontal, 2850K, (100)* | | 120 | 1500 | 3 1/8 | 2400 | 1E041 | 18.12 | **17.21** | 1 | 3 | 0.3 |
| **T4, 1/2" Diameter, w/ Double Contact Bayonet Base** | | | | | | | | | | | | |
| Q150CL/DC | Clear, ANSI: ETC | | 120 | 2000 | 2 1/2 | 2800 | 2V702 | 467.01 | **273.75** | 1 | 0 | 2.1 |
| Q150CL/DC | Clear, ANSI: ESP | | 120 | 1000 | 2 7/16 | 2800 | 1C314 | 46.83 | **44.60** | 1 | 3 | 0.3 |
| Q150DC | Frosted, ANSI: ETF | | 120 | 2000 | 2 1/2 | 2700 | 5V733 | 41.03 | **37.00** | 1 | 6 | 0.1 |
| **T4, 1/2" Diameter, w/ Miniature Candelabra Base** | | | | | | | | | | | | |
| Q150CL/MC | Clear, ANSI: ETG | | 120 | 2000 | 3 | 2800 | 2V701 | 28.06 | **13.99** | 1 | 6 | 0.1 |
| Q150CL/MC/2V | Clear, ANSI: ESL | | 120 | 1000 | 2 13/16 | 2800 | 1C316 | 46.83 | **44.60** | 1 | 6 | 0.1 |
| Q150MC | Frosted, ANSI: ETH | | 120 | 2000 | 3 | 2700 | 5V735 | 41.03 | **37.00** | 1 | 3 | 0.1 |
| **T4, 1/2" Diameter, w/ Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q150T4/CL | Dental Spotlight, Clear, Horiz (139)* | | 25 | 3000 | 2 9/16 | 2760 | 1G932 | 74.15 | **70.55** | 1 | 3 | 0.3 |
| **165 WATT LAMPS** | | | | | | | | | | | | |
| **P25, 3 1/8" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| 1950L/P25/TS | Traffic Signal, Clear, BDTH (23)* | Brass Base | 120 | 8000 | 4 3/4 | 1950 | 4V709 | 5.48 | **4.93** | 1 | 3 | 0.2 |
| 1950L/P25/TS | Traffic Signal, Clear, BDTH (23)* | Brass Base | 125 | 8000 | 4 3/4 | 1950 | 1K419 | 6.48 | **6.16** | 1 | 60 | 0.2 |
| 1950L/P25/TS | Traffic Signal, Clear, BDTH (23)* | Brass Base | 130 | 8000 | 4 3/4 | 1950 | 1K417 | 7.38 | **7.01** | 1 | 3 | 0.5 |
| **170 WATT LAMPS** | | | | | | | | | | | | |
| **A23, 2 7/8" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| 170A/RL/SW | Reader Light™, Soft White | Reading Applications | 120 | 750 | 5 15/16 | 3100 | 1E315 | 3.24 | **3.07** | 1 | 6 | 0.2 |
| **175 WATT LAMPS** | | | | | | | | | | | | |
| **PAR38, 4 3/4" Diameter, w/ Medium Skirted Base** | | | | | | | | | | | | |
| 175PAR38/HEAT | Infrared, Clear (15, 46,56,96)* | Heat Lamp Applications; Heat Resist. Glass (HRG) | 120 | 5000+ | 5 5/16 | — | 4V630 | 14.54 | **13.82** | 1 | 3 | 0.9 |

(*) See Incandescent Lamp footnotes on page 984.

# INCANDESCENT LAMPS: 189W-200W

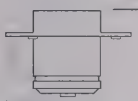

3 Contact Medium


Mogul Screw


Medium Side Prong


Screw Terminal

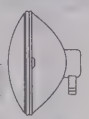

Mogul End Prong

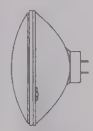

Medium Prefocus

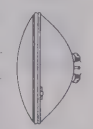
GE Lighting


PS25


A21


PAR46


PAR56


PAR56 Screw Term.


PS30 Med.


PS30 Mog.


T14

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **189 WATT LAMPS** | | | | | | | | | | | | |
| **PS25, 3⅛" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| **89PS25/64** | Grp. Repl, Clear, Nom. Lumens 2500 (23)* | Multiple Street Lighting Lamps; Brass Base | 120 | 3000 | 6⅝ | 2910 | **5V393** | $10.12 | **$9.10** | 1 | 3 | 0.1 |
| **89PS25/64** | Grp. Repl, Clear, Nom. Lumens 2500 (23)* | Multiple Street Lighting Lamps; Brass Base | 130 | 3000 | 6⅝ | — | **6V331** | 11.50 | **10.34** | 1 | 3 | 0.5 |
| **200 WATT LAMPS** | | | | | | | | | | | | |
| **A21, 2⅝" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| **00A21/IF** | Standard, Inside Frost | | 120 | 750 | 5⅜ | 3920 | **2V287** | 3.07 | **2.76** | 1 | 12 | 0.1 |
| **00A21/IF** | Inside Frost | | 130 | 750 | 5⅜ | 3850 | **2V337** | 4.12 | **3.71** | 1 | 60 | 0.1 |
| | | Ratings @ 120V | | 1950 | | 2965 | | | | | | |
| **00A/CL-1** | Crystal Clear | | 120 | 750 | 5⅜ | 3980 | **6V137** | 3.13 | **2.82** | 1 | 12 | 0.2 |
| **00A21/CL** | Clear | | 130 | 750 | 5⅜ | 3850 | **6V353** | 4.32 | **3.89** | 1 | 3 | 0.5 |
| | | Ratings @ 120V | | 1950 | | 2965 | | | | | | |
| **00A21/99/IF** | Extended Service, I.F. (23)* | Long Life | 120 | 2500 | 5⅜ | 3320 | **5V921** | 5.50 | **4.95** | 1 | 3 | 0.3 |
| **00A21/99/IF** | Extended Service, I.F. (23)* | Long Life | 130 | 2500 | 5⅜ | 3250 | **5V922** | 7.29 | **6.55** | 1 | 3 | 0.3 |
| | | Ratings @ 120V | | 6800 | | 2500 | | | | | | |
| **00A/W-1** | Soft White | | 120 | 750 | 5⅜ | 3910 | **1E917** | 3.04 | **2.89** | 1 | 12 | 0.1 |
| **00A21/99/CL** | Extended Service, I.F. (23)* | Long Life | 130 | 2500 | 5⅜ | 3250 | **5V916** | 6.02 | **5.42** | 1 | 3 | 0.3 |
| | | Ratings @ 120V | | 6800 | | 2500 | | | | | | |
| **PAR46, 5¾" Diameter, w/ Medium Side Prong Base** | | | | | | | | | | | | |
| **00PAR46/3MFL** | Medium Flood (4,11,15,36,56,58,96)* | | 120 | 2000 | 4 | 2270 | **4V495** | 34.50 | **31.15** | 1 | 3 | 1.0 |
| **00PAR46/3MFL** | Medium Flood (4,11,15,36,56,58,96)* | | 130 | 2000 | 4 | 2270 | **5V119** | 46.28 | **41.75** | 1 | 3 | 0.2 |
| **00PAR46/3NSP** | Narrow Spot (4,11,15,36,56,58,96)* | | 120 | 2000 | 4 | 2270 | **4V496** | 34.50 | **31.15** | 1 | 3 | 1.0 |
| **00PAR46/3NSP** | Narrow Spot (4,11,15,36,56,58,96)* | | 130 | 2000 | 4 | 2270 | **5V121** | 46.28 | **41.75** | 1 | 3 | 0.3 |
| **PAR56, 7" Diameter, w/ Mogul End Prong Base** | | | | | | | | | | | | |
| **6.6A/PAR56/2** | Airport, BDTH (106)* | Airport Applications | 30.3 | 1000 | 5 | — | **1C584** | 116.20 | **110.50** | 1 | 12 | 1.5 |
| **00PAR56/MFL** | Medium Flood (4,11,15,56,59)* | | 120 | 2000 | 5 | 2270 | **1C249** | 41.95 | **40.00** | 1 | 3 | 1.5 |
| **PAR56, 7" Diameter, w/ Screw Terminal Base** | | | | | | | | | | | | |
| **00PAR** | Locomotive Headlight (2,15)* | | 30 | 500 | 4½ | 3700 | **5V123** | 41.68 | **37.60** | 1 | 3 | 0.2 |
| **6.6A/PAR56/3** | Airport, BDTH (106)* | Airport Applications | 30.3 | 1000 | 4½ | — | **1C676** | 104.79 | **99.70** | 1 | 12 | 1.4 |
| **PS30, 3¾" Diameter, w/ Medium Base** | | | | | | | | | | | | |
| **00** | Clear | | 120 | 750 | 8⅛ | 3600 | **5V023** | 4.56 | **4.10** | 1 | 60 | 0.3 |
| **00** | Clear | | 130 | 750 | 8⅛ | 3540 | **5V029** | 6.16 | **5.55** | 1 | 60 | 0.3 |
| | | Ratings @ 120V | | 1950 | | 2725 | | | | | | |
| **00/IF** | Inside Frost | | 120 | 750 | 8⅛ | 3600 | **5V027** | 4.75 | **4.28** | 1 | 60 | 0.3 |
| **00/IF** | Inside Frost | | 130 | 750 | 8⅛ | 3540 | **4V481** | 6.37 | **5.73** | 1 | 3 | 0.2 |
| | | Ratings @ 120V | | 1950 | | 2725 | | | | | | |
| **00/99/IF** | Extended Service, I.F. (23)* | Long Life; Brass Base | 120 | 2500 | 8⅛ | 3050 | **5V026** | 6.07 | **5.46** | 1 | 60 | 0.3 |
| **00/99/IF** | Extended Service, I.F. (23)* | Long Life; Brass Base | 130 | 2500 | 8⅛ | 3000 | **5V032** | 8.13 | **7.32** | 1 | 60 | 0.3 |
| | | Ratings @ 120V | | 6800 | | 2310 | | | | | | |
| **00PS30/CVG** | CVG, I.F. (23,47,83,95)* | Cov-R-Guard; Shatter Resistant; Teflon Coated; Brass Base | 120 | 1000 | 8⅛ | 3480 | **2V392** | 11.30 | **10.17** | 1 | 3 | 0.2 |
| **00PS30/RS/CVG** | Rough Service, CVG, I.F. (23,47,83,95)* | Cov-R-Guard; Shatter Resistant; Teflon Coated; Brass Base | 120 | 1000 | 8⅛ | 3330 | **5V758** | 14.15 | **12.73** | 1 | 3 | 0.3 |
| **00PS30/23** | Rough Service, I.F. (95)* | | 120 | 1000 | 8⅛ | 3300 | **5V025** | 7.88 | **7.09** | 1 | 24 | 0.3 |
| **00PS30/23** | Rough Service, I.F. (95)* | | 130 | 1000 | 8⅛ | 3240 | **5V031** | 10.64 | **9.59** | 1 | 3 | 0.5 |
| | | Ratings @ 120V | | 2600 | | 2495 | | | | | | |
| **00/SBIF** | Silvered Bowl, I.F. (28)* | | 120 | 1000 | 8⅛ | 3320 | **5V243** | 10.21 | **9.19** | 1 | 3 | 0.3 |
| **00PS30/24** | Rough Service, Clear (95)* | | 130 | 1000 | 8⅛ | 3240 | **5V028** | 10.03 | **9.03** | 1 | 60 | 0.3 |
| | | Ratings @ 120V | | 2600 | | 2495 | | | | | | |
| **00** | Clear | | 250 | 1000 | 8⅛ | 2980 | **1K415** | 8.28 | **7.86** | 1 | 3 | 0.5 |
| **PS30, 3¾" Diameter, w/ Mogul Base** | | | | | | | | | | | | |
| **00PS30/12** | Clear | | 130 | 750 | 8⅛ | 3710 | **5V035** | 8.00 | **7.19** | 1 | 3 | 0.3 |
| **T14, 1¾" Diameter, w/ Medium Prefocus Base** | | | | | | | | | | | | |
| **6.6A/T14P** | Airport, Clear, 200W (1)* | Airport Applications | 30.3 | | 5¾ | 4900 | **1G958** | 72.86 | **69.30** | 1 | 24 | 0.2 |

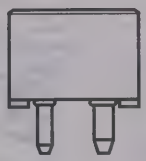
(*) See Incandescent Lamp footnotes on page 984.

# INCANDESCENT LAMPS: 200W-235W

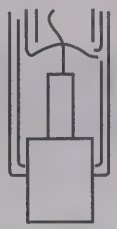
GE Lighting

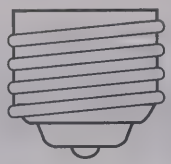
ENERGY RIGHT®

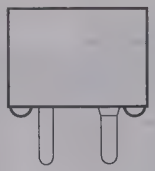

1" Ribbon Lead


2-Pin PreFocus


DC Bay


Recessed Single Contact R7S


Medium Screw E26


2-Pin PreFocus GZ9.5


T3


T4 2-Pin PF


T4 DC Bay


T4 Ribbon Leads


PS25 Med.


T14


T14 Med. PF


T2

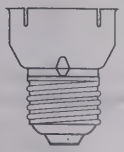

T4 GZ9.5

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **200 WATT LAMP (Cont.)** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q200T3 | Frosted, Horiz (100)* | | 120 | 1500 | 3⅛ | 3350 | 1E275 | $56.95 | **$54.20** | 1 | 6 | 0.1 |
| Q200T3/CL | Clear, Horiz (100)* | | 120 | 1500 | 3⅛ | 3460 | 1C349 | 53.08 | **50.55** | 1 | 6 | 0.1 |
| **T4, 1/2" Diameter, w/2-Pin Prefocus Base** | | | | | | | | | | | | |
| Q200T4/CL | Airport, Clear, Base Down | | 30.3 | 500 | 2½ | 4500 | 5V635 | 77.83 | **53.10** | 1 | 3 | 0.3 |
| **T4, 1/2" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| Q6.6AT4/DCR | Airport, Clear, Ringed (129)* | Airport Applications | 30.3 | 500 | 2½ | 5150 | 5V936 | 84.00 | **75.75** | 1 | 12 | 0.1 |
| **T4, 1/2" Diameter, w/Special 1" Ribbon Leads Base** | | | | | | | | | | | | |
| Q6.6A/T4/5CL | Airport, Clear (134,135,175)* | Airport Applications | 30.3 | 500 | 3 | 5000 | 3VK32 | 85.10 | **80.90** | 1 | 12 | 0.1 |
| **202 WATT LAMP** | | | | | | | | | | | | |
| **PS25, 3⅛" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 202PS25 | Clear, Nom. Lumens 2500 (23)* | Extended Group Replacement Service; Brass Base | 125 | 6000 | 6 15/16 | — | 4V712 | 10.12 | **9.11** | 1 | 3 | 0.2 |
| **204 WATT LAMP** | | | | | | | | | | | | |
| **T14, 1¾" Diameter, w/Medium Prefocus Base** | | | | | | | | | | | | |
| 6.6A/T14/2P | Airport, Clear, 204W (1)* | Airport Applications | 30.9 | 500 | 5¾ | 4220 | 1G956 | 71.48 | **68.00** | 1 | 24 | 0.2 |
| **205 WATT LAMP** | | | | | | | | | | | | |
| **PS25, 3⅛" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 205PS25/12 | Clear, Nom. Lumens 2500 (23)* | Extended Group Replacement Service; Brass Base | 125 | 12000 | 6 15/16 | — | 5V972 | 11.96 | **10.75** | 1 | 3 | 0.2 |
| **210 WATT LAMP** | | | | | | | | | | | | |
| **T14, 1¾" Diameter, w/Medium Prefocus Base** | | | | | | | | | | | | |
| 6.6A/T14/3P | Airport, Clear, 210W (1,15)* | Airport Applications | 31.8 | 300 | 5¾ | 4800 | 1C648 | 50.97 | **48.50** | 1 | 24 | 0.2 |
| **225 WATT LAMP** | | | | | | | | | | | | |
| **T2, 1/4" Diameter, w/ Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q225T2CL/ULTRA | Clear, Horizontal | Energy Saving; Halogen IR Reflective Coating | 120 | 3000 | 4 11/16 | 5950 | ✓ 2F071 † | 20.42 | **19.41** | 1 | 5 | 0.1 |
| **235 WATT LAMP** | | | | | | | | | | | | |
| **T4, 1/2" Diameter, w/2-Pin Prefocus GZ9.5 Base** | | | | | | | | | | | | |
| Q235T4/3 | Instrument Prefocus, Frosted (103)* | — | 33 | 150 | 2⅜ | 6000 | 1E930 | 42.32 | **40.35** | 1 | 12 | 0.1 |

(*) See Incandescent Lamp footnotes on page 984. (✓) Denotes energy efficient product. (†) Excluded product.

# INCANDESCENT LAMPS: 240W-300W


Medium Screw E26

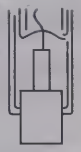

Medium Skirt E26


Mogul E39


Screw Terminal


Mogul End Prong

GE Lighting


Recessed Single Contact R7S


DC Bay


Mini Candelabra

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. List | Qtys. Each | Pkg. Qty. | Shpg. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **240 WATT LAMPS** | | | | | | | | | | | | |
| **PAR56, 7" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | |
| 240PAR56/MFL | Medium Flood, Filament Shield (4,11,15,56,59)* | | 12 | 2000 | 4½ | 2570 | 1K373 | $36.34 | $34.60 | 1 | 3 | 2.0 |
| 240PAR56/VNSP | Very Narrow Spot, Filament Shield (4,11,15,56,59)* | | 12 | 2000 | 4½ | 2570 | 1K375 | 36.34 | 34.60 | 1 | 12 | 1.4 |
| 240PAR56/WFL | Wide Flood, Filament Shield (4,11,15,56,59)* | | 12 | 2000 | 4½ | 2570 | 1K371 | 36.34 | 34.60 | 1 | 3 | 0.5 |
| **250 WATT LAMPS** | | | | | | | | | | | | |
| **A23, 2⅝" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 250A/RL/SW | Reader Light™, Soft White (1)* | Reading Applications | 120 | 750 | 5⅛ | 4500 | 1E313 | 3.24 | 3.07 | 1 | 6 | 0.2 |
| **PAR38, 4¾" Diameter, w/Medium Skirt Base** | | | | | | | | | | | | |
| 1250PAR/FL30 | Flood, Ceramic Socket Only (112,120)* | | 120 | 4200 | 5⅛ | 3600 | 1G928 | 32.04 | 30.55 | 1 | 3 | 0.9 |
| 1250PAR/SP11 | Spot, Ceramic Socket Only (112)* | | 120 | 4200 | 5⅛ | 3600 | 1G926 | 35.51 | 33.80 | 1 | 3 | 0.9 |
| **R40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 150R40/1 | Refl. Flood, Infrared Heat, Clear (2A,4,6,34,46,56,94,95)* | Heat Lamp Applications; Clear | 120 | 5000 | 6⅞ | 2200 | 4V673 | 8.46 | 5.99 | 1 | 6 | 0.3 |
| 150R40/1/CVG | Refl. Flood, Infrared Heat, CVG, Clear (6,34,46,47,56,83,94,95)* | Cov-R-Guard; Shatter Resistant; Teflon Coated | 120 | 5000 | 6⅞ | 2150 | 1E295 | 14.26 | 13.55 | 1 | 3 | 0.5 |
| 150R40/10 | Refl. Flood, Infrared Heat, Red (2A,4,6,15,34,46,56,94,95)* | Heat Lamp Applications; Heat Resistant Glass (HRG) Red | 120 | 5000 | 6⅞ | — | 2V294 | 19.87 | 17.89 | 1 | 6 | 0.6 |
| **R40, 5" Diameter, w/Medium Skirt Base** | | | | | | | | | | | | |
| 150R40/4 | Refl. Flood, Infrared Heat., L.I.F. (2A,4,6,23,34,46,56,95)* | Heat Lamp Applications; Inside Frost | 120 | 5000 | 7⅛ | — | 1F422 | 23.55 | 22.38 | 1 | 24 | 0.4 |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| 1250T3/CL | Clear, Horiz | | 120 | 1500 | 3⅛ | 4000 | 1G982 | 16.43 | 15.61 | 1 | 3 | 0.1 |
| **T4, 1/2" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| Q250CL/DC | Clear, ANSI: ESS | | 120 | 2000 | 3 | 5000 | 2V703 | 27.69 | 16.99 | 1 | 6 | 0.1 |
| Q250CL/DC | Clear | | 130 | 2000 | 3 | 5000 | 5V053 | 31.56 | 28.50 | 1 | 3 | 0.3 |
| Q250DC | Frosted, ANSI: ETB | | 120 | 2000 | 3 | 4850 | 1C366 | 43.98 | 41.85 | 1 | 6 | 0.1 |
| Q250DC | Frosted | | 130 | 2000 | 3 | 4850 | 1C364 | 47.01 | 44.70 | 1 | 6 | 0.1 |
| **T4, 1/2" Diameter, w/Miniature Candelabra Base** | | | | | | | | | | | | |
| Q250CL/MC | Clear, ANSI: EHT | | 120 | 2000 | 3⅝ | 5000 | 2V265 | 27.69 | 16.99 | 1 | 3 | 0.1 |
| Q250CL/MC | Clear, Carded | | 130 | 2000 | 3⅝ | 5000 | 4V483 | 31.56 | 28.50 | 1 | 3 | 0.1 |
| Q250MC | Frosted, ANSI: ESM | | 120 | 2000 | 3⅝ | 4850 | 1C370 | 43.98 | 41.85 | 1 | 6 | 0.1 |
| Q250MC | Frosted | | 130 | 2000 | 3⅝ | 4850 | 1C368 | 47.01 | 44.70 | 1 | 6 | 0.1 |
| **295 WATT LAMP** | | | | | | | | | | | | |
| **PS35, 4⅜" Diameter, w/Mogul Base** | | | | | | | | | | | | |
| 295PS35/58 | Grp. Repl, Clear, Nom. Lumens 4000 (23)* | Multiple Street Lighting Lamps; Brass Base | 125 | 3000 | 9⅜ | — | 1K363 | 10.12 | 9.62 | 1 | 24 | 0.4 |
| **300 WATT LAMPS** | | | | | | | | | | | | |
| **PAR56, 7" Diameter, w/Mogul End Prong Base** | | | | | | | | | | | | |
| 300PAR56/NSP | Narrow Spot (4,11,15,56,59)* | | 120 | 2000 | 5 | 3840 | 5V125 | 40.76 | 36.75 | 1 | 12 | 1.4 |
| 300PAR56/MFL | Medium Flood (4,11,15,56,59)* | | 120 | 2000 | 5 | 3840 | 4V498 | 40.76 | 36.75 | 1 | 3 | 1.4 |
| 300PAR56/MFL | Medium Flood (4,11,15,56,59)* | | 130 | 2000 | 5 | 3840 | 4V501 | 54.37 | 49.00 | 1 | 3 | 1.4 |
| 300PAR56/WFL | Wide Flood (4,11,15,56,59)* | | 120 | 2000 | 5 | 3840 | 4V499 | 40.76 | 36.75 | 1 | 3 | 1.4 |
| 300PAR56/WFL | Wide Flood (4,11,15,56,59)* | | 130 | 2000 | 5 | 3840 | 4V502 | 54.37 | 49.00 | 1 | 3 | 1.5 |
| 300PAR56/WFL | Wide Flood (4,11,15,56,59)* | | 15 | 500 | 5 | — | 1E366 | 155.57 | 147.85 | 1 | 12 | 1.5 |
| 1020A/PAR56/C | Airport, Burn pos: Any (47,106,113)* | Teflon Coated; Airport Applications | | | | | | | | | | |

*) See Incandescent Lamp footnotes on page 984.

PAR56 Screw Term


A23


PAR 38


R40 Med


R40 Med Skirt


T3


T4


PS35


PAR56 Mog. End Prong

# INCANDESCENT LAMPS: 300W

GE Lighting


Medium Screw E26


Mogul E39


Screw Terminal


Mogul End Prong


Recessed Single Contact R7S

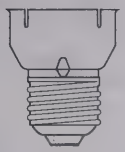

Mogul BiPost G38

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea Sold Only in Pkg. Qtys. List | Each | Ship. Pkg. Qty. | Shpg. Case Qty. | Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **300 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **PAR56, 7" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | |
| PAR56 | | | | | | | | | | | | |
| 300PAR56/WFL | Swimming Pool, Wide Flood (4,15,93)* | | 12 | 1000 | 4½ | 6000 | 5V511 | $40.94 | **$36.95** | 1 | 3 | 1.4 |
| Q20A/PAR56/2 | Airport, Burn pos: Any (106)* | Airport Applications | 15 | 500 | 4½ | — | 1C682 | 117.76 | **111.95** | 1 | 12 | 1.4 |
| **PAR64, 8" Diameter, w/Mogul End Prong Base** | | | | | | | | | | | | |
| PAR64 | | | | | | | | | | | | |
| Q6.6A/PAR64/3P | Airport, BDTH (106)* | Airport Applications | 45.4 | 2000 | 4½ | — | 1E553 | 156.77 | **149.05** | 1 | 6 | 2.3 |
| **PS25, 3⅛" Diameter, w/Medium Base** | | | | | | | | | | | | |
| PS25 | | | | | | | | | | | | |
| 300M | Clear | | 120 | 750 | 6⅝ | 6200 | 4V625 | 4.64 | **4.18** | 1 | 3 | 0.2 |
| 300M | Clear | | 130 | 750 | 6⅝ | 6120 | 4V626 | 6.15 | **5.54** | 1 | 60 | 0.2 |
| | Ratings @ 120V | | | 1950 | | 4710 | | | | | | |
| 300M/IF | Inside Frost | | 120 | 750 | 6⅝ | 6200 | 6V148 | 4.84 | **4.37** | 1 | 3 | 0.3 |
| 300M/IF | Inside Frost | | 130 | 750 | 6⅝ | 6120 | 6V217 | 6.61 | **5.94** | 1 | 60 | 0.2 |
| | Ratings @ 120V | | | 1950 | | 4710 | | | | | | |
| **PS30, 3¾" Diameter, w/Medium Base** | | | | | | | | | | | | |
| PS30 | | | | | | | | | | | | |
| 300M/99 | Extended Service, Clear (23)* | Long Life; Brass Base | 120 | 2500 | 8⅛ | 5190 | 1K305 | 9.11 | **8.64** | 1 | 60 | 0.3 |
| 300M/99 | Extended Service, Clear (23)* | Long Life; Brass Base | 120 | 2500 | 8⅛ | 5190 | 1K307 | 7.36 | **6.99** | 1 | 3 | 0.5 |
| | Ratings @ 120V | | | 6800 | | 3935 | | | | | | |
| 300M/99IF | Extended Service, Clear (23)* | Long Life; Brass Base | 130 | 2500 | 8⅛ | 5110 | 6V082 | 7.82 | **7.44** | 1 | 60 | 0.3 |
| 300M/99IF | Extended Service, I.F. (23)* | Long Life; Brass Base | 120 | 2500 | 8⅛ | 5190 | 6V345 | 9.84 | **9.35** | 1 | 60 | 0.3 |
| | Ratings @ 120V | | | 6800 | | 3935 | | | | | | |
| **PS35, 4⅜ Diameter, w/Mogul Base** | | | | | | | | | | | | |
| PS35 | | | | | | | | | | | | |
| 300 | Clear | | 120 | 1000 | 9⅜ | 5820 | 5V047 | 6.72 | **6.05** | 1 | 24 | 0.4 |
| 300 | Clear | | 130 | 1000 | 9⅜ | 5820 | 5V051 | 8.92 | **7.58** | 1 | 24 | 0.4 |
| 300/IF | Inside Frost | | 120 | 1000 | 9⅜ | 5820 | 2V752 | 7.08 | **5.31** | 1 | 3 | 0.4 |
| 300/IF | Inside Frost | | 130 | 1000 | 9⅜ | 5820 | 5V054 | 9.38 | **8.44** | 1 | 24 | 0.4 |
| 300/SBIF | Silver Bowl, I.F., Burn BU (28)* | | 120 | 1000 | 9⅜ | 5410 | 5V247 | 13.89 | **12.50** | 1 | 3 | 2.7 |
| 300/SBIF | Silver Bowl, I.F., Burn BU(28)* | | 130 | 1000 | 9⅜ | 5410 | 5V249 | 18.40 | **16.55** | 1 | 3 | 0.4 |
| 300/99 | Extended Service, Clear (23)* | Long Life | 130 | 2500 | 9⅜ | 5190 | 5V052 | 9.84 | **8.86** | 1 | 3 | 0.5 |
| 300/99IF | Extended Service, I.F. (23)* | Long Life; Brass Base | 130 | 2500 | 9⅜ | 5190 | 5V055 | 11.13 | **10.01** | 1 | 24 | 0.4 |
| 300/RS | Rough Service, Clear (23)* | Brass Base | 130 | 1000 | 9⅜ | 5340 | 6V339 | 17.94 | **16.15** | 1 | 24 | 0.4 |
| **R40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | |
| R40 Med. | | | | | | | | | | | | |
| 300R/SP | Reflector Spot, I.I.F. (4,35,46,56,73)* | | 120 | 2000 | 6⅜ | 3700 | 1K281 | 18.84 | **17.89** | 1 | 24 | 0.3 |
| 300R/FL | Reflector Flood, I.F. (4,35,46,56,73)* | | 120 | 2000 | 6⅜ | 3700 | 2V411 | 18.84 | **16.96** | 1 | 3 | 0.3 |
| 300R/FL | Reflector Flood, I.F. (4,35,46,56,73)* | | 130 | 2000 | 6⅜ | 3465 | 5V151 | 25.12 | **22.61** | 1 | 3 | 0.3 |
| | Ratings @ 120V | | | 5400 | | 2670 | | | | | | |
| 300R/FL/1 | Reflector Flood, I.F. (15,23,35,46,56,73)* | Brass Base; Heat Resistant Glass (HRG) | 120 | 2000 | 6¾ | 3700 | 5V149 | 25.12 | **22.61** | 1 | 3 | 0.4 |
| **R40, 5" Diameter, w/Mogul Base** | | | | | | | | | | | | |
| R40 Mog. | | | | | | | | | | | | |
| 300R/3FL | Reflector Flood, I.F. (4,15,23,33,73)* | Brass Base | 120 | 2000 | 7¼ | 3750 | 5V154 | 26.86 | **24.18** | 1 | 3 | 0.4 |
| 300R/3FL | Reflector Flood, I.F. (4,15,23,33,73)* | Brass Base | 130 | 2000 | 7¼ | 3750 | 5V155 | 34.96 | **31.50** | 1 | 3 | 0.2 |
| 300R/3FL | Reflector Flood, I.F. (4,15,23,33,73)* | Brass Base | 250 | 2000 | 7¼ | 3300 | 5V375 | 34.96 | **31.50** | 1 | 3 | 0.2 |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| T3 | | | | | | | | | | | | |
| Q300T3 | Frosted, Horiz, ANSI: EHZ | | 120 | 2000 | 4¹⁵⁄₁₆ | 5900 | 6V299 | 67.62 | **60.95** | 1 | 3 | 0.1 |
| **T20, 2½" Diameter, w/Medium BiPost Base** | | | | | | | | | | | | |
| T20 | | | | | | | | | | | | |
| 300T20/1 | Inside Frost (15,52,73,89,99)* | Heat Resistant Glass (HRG) | 120 | 1000 | 6½ | 5500 | 1K279 † | 121.44 | **115.50** | 1 | 12 | 0.4 |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q300T3/CL | Clear, Horiz, ANSI: EHM | | 120 | 2000 | 4¹⁵⁄₁₆ | 5950 | 2V529 | 15.69 | **5.29** | 1 | 6 | 0.1 |

(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product.

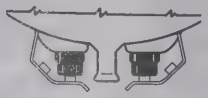
# INCANDESCENT LAMPS: 300W-400W









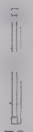







GE Lighting

ENERGY RIGHT®




| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg Qtys List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **300 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| H300T3/CL | Infrared, Clear (100)* | Heat Lamp Applications | 120 | 5000 | 8 5/32 | — | 4V961 | $47.47 | $42.85 | 1 | 3 | 0.1 |
| **T4, 1/2" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| 300T4/CL | Clear, Horiz, ANSI: EHP | | 120 | 2000 | 3 1/8 | 5650 | 1C362 | 52.35 | 49.80 | 1 | 3 | 0.3 |
| **327 WATT LAMP** | | | | | | | | | | | | |
| **PS35, 4 3/8" Diameter, w/Mogul Base** | | | | | | | | | | | | |
| 27PS35 | Clear, Nom. Lumens 4000 (23)* | Extended Group Replacement Service; Brass Base | 125 | 6000 | 9 3/8 | — | 1K265 | 17.20 | 16.34 | 1 | 24 | 0.4 |
| **350 WATT LAMPS** | | | | | | | | | | | | |
| **PAR56, 7" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | |
| 50PAR56/SP | Ditch Light, Locomotive (4, 15, 59)* | | 75 | 500 | 4 1/2 | 6200 | 1K441† | 47.84 | 45.60 | 1 | 24 | 1.4 |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| 350T3/CL/HIR | Clear, Horiz | Energy Saving; Halogen IR Reflective Coating | 120 | 2000 | 4 11/16 | 10000 | 1E468 | 22.26 | 21.14 | 1 | 6 | 0.1 |
| 350T3/CL/HIR | Clear, Horiz | Energy Saving; Halogen IR Reflective Coating | 130 | 2000 | 4 11/16 | 9600 | 1E452 | 24.38 | 23.18 | 1 | 6 | 0.1 |
| **375 WATT LAMPS** | | | | | | | | | | | | |
| **G30, 3 3/4" Diameter, w/Medium Skirted Base** | | | | | | | | | | | | |
| 75G30 | Infrared Heat, Clear (4,6,23,46,53)* | Heat Lamp Applications; Brass Base | 115 | 5000 | 7 7/16 | — | 1K261 | 25.58 | 24.29 | 1 | 3 | 0.5 |
| **R40, 5" Diameter, w/Medium Skirted Base** | | | | | | | | | | | | |
| 75R40 | Reflector, Infrared Heat, L.I.F. (2A,4,6,23,46,56)* | Heat Lamp Applications; Brass Base | 115 | 5000 | 7 3/8 | — | 5V210 | 21.34 | 19.21 | 1 | 3 | 0.4 |
| 75R40/1 | Reflector, Infrared Heat, Clear (2A,4,6,15,23,46,56)* | Heat Lamp Applications; Heat Resistant Glass (HRG); Brass Base | 115 | 5000 | 7 1/2 | — | 5V211 | 23.00 | 20.70 | 1 | 3 | 0.5 |
| 75R40/10 | Reflector, Infrared Heat, Red Bowl (2A,4,6,15,23,46,56)* | Heat Lamp Applications; Heat Resistant Glass (HRG); Brass Base | 115 | 5000 | 7 1/2 | — | 1K259 | 31.19 | 29.75 | 1 | 24 | 0.4 |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| IH375T3/CL | Infrared, Clear (100)* | Heat Lamp Applications | 115 | 5000 | 8 5/16 | — | 1K257 | 46.18 | 43.95 | 1 | 3 | 0.3 |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| IH375T3/CL/7 | Infrared, Clear (100)* | Heat Lamp Applications | 115 | 5000 | 8 5/16 | — | 6V162 | 48.67 | 43.90 | 1 | 3 | 0.2 |
| **400 WATT LAMPS** | | | | | | | | | | | | |
| **G30, 3 3/4" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 00G/FL | Floodlight, Clear, BDTH (23,99)* | Brass Base | 120 | 800 | 5 1/8 | 6800 | 5V186 | 25.39 | 22.86 | 1 | 3 | 0.1 |



















*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (✓) Denotes energy efficient product.

# INCANDESCENT LAMPS: 400W-500W


R40


T4 Mini. Cand.

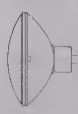

T3 & T4


PAR56 Screw Term


PS40

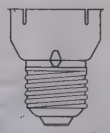

G30


PAR56 Mogul End Prong


PAR56 Ext. Mogul End Prong

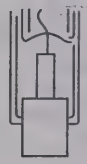

GE Lighting


Medium Screw E26


Medium Skirt E26

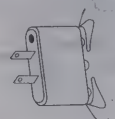

Mogul E39


Mini Candelabra E11


Recessed Single Contact R7S


Screw Terminal


Mogul End Prong


Extended Mogul End Prong

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **400 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **R40, 5" Diameter,w/Medium Base** | | | | | | | | | | | | |
| **400R40/FL** | Swimming Pool, Reflector, Flood (15,23,35,36,93)* | Swimming Pool Applications.; Heat Resistant Glass (HRG); Brass Base | 120 | 2000 | 6¾ | 5000 | **6V647** | $36.52 | **$32.95** | 1 | 3 | 0.3 |
| **T4, 1/2" Diameter, w/Miniature Candelabra Base** | | | | | | | | | | | | |
| **Q400CL/MC** | Clear | | 120 | 2000 | 3⅝ | 8250 | **1C358** | 47.47 | **45.20** | 1 | 6 | 0.1 |
| **Q400MC** | Frosted | | 120 | 2000 | 3⅝ | 7850 | **1C360** | 52.35 | **49.80** | 1 | 3 | 0.3 |
| **T4, 1/2" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| **Q400T4/CL** | Clear, Horiz, ANSI: EHR | | 120 | 2000 | 3⅛ | 7750 | **4V144** | 46.28 | **18.51** | 1 | 3 | 0.1 |
| **405 WATT LAMPS** | | | | | | | | | | | | |
| **PS40, 5" Diameter, w/Mogul Base** | | | | | | | | | | | | |
| **405PS40/54** | Grp. Repl, Clear, Nom. Lumens 6000 (23)* | Multiple Street Lighting Lamps; Brass Base | 120 | 3000 | 9¾ | 6850 | **5V400** | 11.96 | **9.58** | 1 | 24 | 0.5 |
| **425 WATT LAMP** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| **Q425T3/CL** | Clear, Horiz | | 120 | 2000 | 4¹¹⁄₁₆ | 8900 | **1F264** | 39.01 | **37.15** | 1 | 12 | 0.1 |
| **499 WATT LAMP** | | | | | | | | | | | | |
| **PAR56, 7" Diameter, w/Screw Terminal Base** | | | | | | | | | | | | |
| **Q20A/PAR56/3** | Airport, BDTH (106)* | Airport Applications | 25 | 500 | 4½ | — | **1G900** | 131.19 | **124.80** | 1 | 12 | 1.5 |
| **500 WATT LAMPS** | | | | | | | | | | | | |
| **G30, 3¾" Diameter, w/Medium Skirted Base** | | | | | | | | | | | | |
| **500G30/1** | Infrared Heat, Clear (2A,4,6,23,46,53)* | Heat Lamp Applications; Brass Base | 115 | 5000 | 7⅛ | — | **1K255** | 30.91 | **29.40** | 1 | 60 | 0.3 |
| **PAR56, 7" Diameter, w/Mogul End Prong Base** | | | | | | | | | | | | |
| **Q20A/PAR56/1/C** | Airport, 20A, Teflon™ Coated, | Airport Applications | 25 | 500 | 5 | — | **1E364** | 182.53 | **174.00** | 1 | 12 | 1.5 |
| **Q500PAR56MFL** | Medium Flood (106,131)* | | 120 | 4000 | 5 | 8000 | **4V608** | 96.97 | **87.30** | 1 | 3 | 1.4 |
| **Q500PAR56NSP** | Narrow Spot (106,131)* | | 120 | 4000 | 5 | 8000 | **6V109** | 96.97 | **87.30** | 1 | 3 | 0.5 |
| **Q500PAR56WFL** | Wide Flood (106,131)* | | 120 | 4000 | 5 | 8000 | **4V607** | 96.97 | **87.30** | 1 | 3 | 1.5 |
| **PAR64, 8" Diameter, w/Extended Mogul End Prong Base** | | | | | | | | | | | | |
| **500PAR64/MFL** | Medium Flood (4,11, 15, 56,59)* | | 120 | 2000 | 6¾ | 6500 | **4V504** | 74.34 | **67.00** | 1 | 3 | 2.2 |
| **500PAR64/NSP** | Narrow Spot (4,11, 15, 56,59)* | | 120 | 2000 | 6¾ | 6500 | **4V503** | 74.34 | **67.00** | 1 | 3 | 2.2 |
| **500PAR64/WFL** | Wide Flood (4,11, 15, 56,59)* | | 120 | 2000 | 6¾ | 6500 | **5V132** | 74.34 | **67.00** | 1 | 3 | 0.3 |
| **PAR64, 8" Diameter, w/Mogul End Prong Base** | | | | | | | | | | | | |
| **500PAR64/MFL** | Medium Flood (4,11, 15, 56,59)* | | 230 | 2000 | 6 | 5500 | **1C548** | 93.75 | **89.20** | 1 | 3 | 0.6 |
| **500PAR64/WFL** | Wide Flood (4,11, 15, 56,59)* | | 230 | 2000 | 6 | 5500 | **1C546** | 93.75 | **89.20** | 1 | 12 | 2.2 |

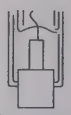
(*) See Incandescent Lamp footnotes on page 984.

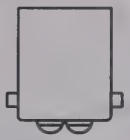
# INCANDESCENT LAMPS: 500W

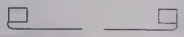
GE Lighting

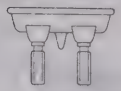

Medium E26


Mogul Screw E39


Recessed Single Contact R7S


DC Bay


6" Flexible Leads


Medium BiPost G22


PS35

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Ship Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **500 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **PS35, 4⅜" Diameter, w/Mogul Base** | | | | | | | | | | | | |
| 500 | Clear (23)* | Brass Base | 120 | 1000 | 9⅜ | 10850 | 5V059 | $11.13 | $10.01 | 1 | 24 | 0.4 |
| 500 | Clear (23)* | Brass Base | 130 | 1000 | 9⅜ | 10850 | 5V060 | 14.72 | 13.24 | 1 | 24 | 0.4 |
| 500/IF | Inside Frost (23)* | Brass Base | 120 | 1000 | 9⅜ | 10850 | 2V753 | 11.59 | 10.43 | 1 | 3 | 0.4 |
| 500/IF | Inside Frost (23)* | Brass Base | 130 | 1000 | 9⅜ | 10850 | 4V641 | 15.73 | 14.16 | 1 | 24 | 0.4 |


PS40

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PS40, 5" Diameter, w/Mogul Base** | | | | | | | | | | | | |
| 500PS40 | Clear (23)* | Brass Base | 120 | 1000 | 9¾ | 9900 | 5V062 | 11.96 | 10.76 | 1 | 24 | 0.5 |
| 500/99 | Extended Service, Clear (23)* | Long Life; Brass Base | 130 | 2500 | 9¾ | 9070 | 1K241 | 17.48 | 16.60 | 1 | 3 | 1.0 |
| 500/99IF | Extended Service, I.F. (23)* | Long Life; Brass Base | 130 | 2500 | 9¾ | 9070 | 1K237 | 19.32 | 18.36 | 1 | 24 | 0.5 |


R40 Medium

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R40, 5" Diameter, w/Medium Base** | | | | | | | | | | | | |
| 500R40/5FL | Swimming Pool, Reflector, Flood (2A,15,23,35,36,93)* | Swimming Pool App.; Heat Resistant Glass (HRG); Brass Base | 120 | 2000 | 6¾ | 6500 | 1C421 | 36.52 | 34.75 | 1 | 3 | 0.4 |


R40

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R40, 5" Diameter, w/Mogul Base** | | | | | | | | | | | | |
| 500R/3FL | Reflector, Flood, I.F. (4,23,33,73)* | Brass Base; Heat Resistant Glass (HRG) | 120 | 2000 | 7¼ | 6500 | 5V157 | 31.28 | 28.20 | 1 | 24 | 0.4 |
| 500R/3FL | Reflector, Flood, I.F. (4,23,33,73)* | Brass Base; Heat Resistant Glass (HRG) | 130 | 2000 | 7¼ | 6500 | 5V158 | 38.73 | 35.00 | 1 | 24 | 0.4 |
| 500R/3FL | Reflector Flood, I.F. (4,23,33,73)* | Brass Base; Heat Resistant Glass (HRG) | 250 | 2000 | 7¼ | 6400 | 5V380 | 45.54 | 41.05 | 1 | 3 | 0.4 |


R52

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R52, 6½ Diameter, w/Mogul Base** | | | | | | | | | | | | |
| 500R52 | Hi Bay, Reflector, Flood, I.I.F. (4,19,23,34,73,92)* | Brass Base | 130 | 2000 | 11¾ | 7600 | 5V913 | 55.20 | 49.85 | 1 | 3 | 0.9 |


T4 & T20

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T14, 1¾" Diameter, w/Medium BiPost Base** | | | | | | | | | | | | |
| 500T14/7 | Clear BU ±30° (29)* | | 120 | 800 | 6⅞ | 9000 | 1K227 | 230.86 | 220.25 | 1 | 3 | 0.5 |
| **T2½, 5/16" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q500T21/2/2CL | Clear, Reprographic, 3200K, Horiz (103)* | | 120 | 2000 | 4¹⁵⁄₁₆ | 13200 | 2F542 | 20.42 | 19.39 | 1 | 3 | 0.3 |


T2½ & T3 R.S.C

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T20, 2½" Diameter, w/Medium BiPost Base** | | | | | | | | | | | | |
| 500T20/50 | Inside Frost (15,52,73,89,99)* | Heat Resistant Glass (HRG) | 130 | 1000 | 6½ | 9800 | 1K221 | 167.44 | 159.25 | 1 | 3 | 0.5 |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q500T3/CL | Clear, Horiz, ANSI: FCL | | 120 | 2000 | 4¹⁵⁄₁₆ | 11100 | 2V384 | 12.95 | 5.29 | 1 | 12 | 0.1 |
| Q500T3/CL | Clear, Horiz, ANSI: DVS | | 130 | 2000 | 4¹⁵⁄₁₆ | 10550 | 2V510 | 14.13 | 6.79 | 1 | 12 | 0.1 |
| Q500T3/CL/6 | Clear, 6 Support, Horiz (103,133)* | Rough Service | 120 | 1500 | 4¹⁵⁄₁₆ | 10950 | 1G920 | 52.35 | 49.80 | 1 | 12 | 0.1 |
| Q500T3 | Frosted, Horiz | | 130 | 2000 | 4¹⁵⁄₁₆ | 10300 | 1G930 | 54.83 | 52.15 | 1 | 12 | 0.1 |


T3 Sleeve

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| QH500T3/CL | Infrared, Clear (100)* | Heat Lamp Applications | 115 | 5000 | 8¹³⁄₁₆ | | 5V215 | 73.23 | 42.80 | 1 | 3 | 0.3 |
| **T3, 3/8" Diameter, w/R7S** | | | | | | | | | | | | |
| QH500T3/CL/7 | Infrared, Clear (100)* | Heat Lamp Applications | 115 | 5000 | 8¹³⁄₁₆ | | 5V217 | 49.22 | 44.35 | 1 | 3 | 0.1 |


T4

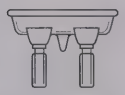
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T4, 1/2" Diameter, w/Double Contact Bayonet Base** | | | | | | | | | | | | |
| Q500CL/DC | Clear | | 120 | 2000 | 3⅞ | 10450 | 1C353 | 48.21 | 45.85 | 1 | 6 | 0.1 |
| Q500DC | Frosted | | 120 | 2000 | 3⅞ | 10100 | 1C356 | 52.35 | 49.80 | 1 | 6 | 0.1 |

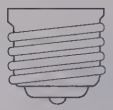
(*) See Incandescent Lamp footnotes on page 984.

# INCANDESCENT LAMPS: 500W-1000W

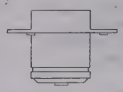
GE Lighting

ENERGY RIGHT®


Medium BiPost G22


Mogul Screw E39


Ext. Mogul End Prong


Mogul Prefocus


Recessed Single Contact R7s


T20


PS40


PS52


R52


T24 Med.


T3

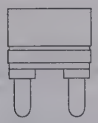

PAR64

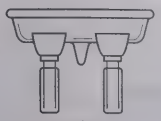

R60

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in List | Priced Ea. Sold Pkg. Qtys. Each | Pkg. Qty. | Ship. Case Qty. | Ship. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **500 WATT LAMP (Cont.)** | | | | | | | | | | | | |
| **T8, 1" Diameter, w/ Flexible Leads Base** | | | | | | | | | | | | |
| Q500T8/1CL | Clear - Airport Special bulb (128,124)* Burn pos: Any (47, 106, 113)* | | 25 | 500 | 4¼ (108) | 13400 | 3VK39 | $178.48 | **$170.25** | 1 | 20 | 0.2 |
| **503 WATT LAMP** | | | | | | | | | | | | |
| **T20, 2½" Diameter, w/ Medium BiPost Base** | | | | | | | | | | | | |
| 20A/T20/3 | Airport, Clear (1,15,73,89)* | Airport Applications; Heat Resistant Glass (HRG) | 25.1 | 500 | 6½ | 10300 | 1G948 † | 136.53 | **129.75** | 1 | 12 | 0.4 |
| **620 WATT LAMPS** | | | | | | | | | | | | |
| **PS40, 5" Diameter, w/ Mogul Prefocus Base** | | | | | | | | | | | | |
| 620PS40P | Airport, Clear | Airport Applications | 120 | 3000 | 10⅛ | 11200 | 5V072 | 32.20 | **29.05** | 1 | 24 | 0.5 |
| 620PS40P | Airport, Clear | Airport Applications | 130 | 3000 | 10⅛ | 11200 | 5V073 | 39.74 | **35.90** | 1 | 3 | 0.2 |
| **750 WATT LAMPS** | | | | | | | | | | | | |
| **PS52, 6½" Diameter, w/ Mogul Base** | | | | | | | | | | | | |
| 750 | Clear (4,23,92)* | Brass Base | 120 | 1000 | 13 | 17040 | 1K215 | 25.76 | **24.48** | 1 | 3 | 0.3 |
| 750 | Clear (4,23,92)* | Brass Base | 130 | 1000 | 13 | 17040 | 5V836 | 34.78 | **31.40** | 1 | 3 | 0.3 |
| **R52, 6½" Diameter, w/ Mogul Base** | | | | | | | | | | | | |
| 750R52 | Hi Bay, Reflector, Flood, L.I.F. (14,19,23,34,73,92)* | Brass Base | 120 | 2000 | 11¾ | 13000 | 1K211 | 44.25 | **42.20** | 1 | 3 | 1.0 |
| 750R52 | Hi Bay, Reflector, Flood, L.I.F. (14,19,23,34,73,92)* | Brass Base | 130 | 2000 | 11¾ | 13000 | 5V911 | 55.20 | **49.80** | 1 | 3 | 0.5 |
| **T24, 3" Diameter, w/ Medium BiPost Base** | | | | | | | | | | | | |
| 750T24 | Inside Frost (52,73,89,99)* | Heat Resistant Glass (HRG) | 130 | 1000 | 9⅜ | 14800 | 1K205 | 167.44 | **159.25** | 1 | 24 | 0.5 |
| **900 WATT LAMPS** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/ Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q900T3/CL/HIR | Clear, Horiz | Energy Saving; Halogen IR Reflective Coating | 240 | 2000 | 10⅛ | 32000 | ✓1E506 | 66.61 | **63.45** | 1 | 6 | 0.1 |
| Q900T3/CL/HIR | Clear, Horiz | Energy Saving; Halogen IR Reflective Coating | 277 | 2000 | 10⅛ | 31000 | ✓1E448 | 71.30 | **67.80** | 1 | 6 | 0.1 |
| **1000 WATT LAMPS** | | | | | | | | | | | | |
| **PAR64, 8" Diameter, w/ Extended Mogul End Prong Base** | | | | | | | | | | | | |
| Q1000PAR64/WFL | Wide Flood (106,131)* | | 120 | 4000 | 6¾ | 19400 | 5V648 | 155.66 | **140.15** | 1 | 3 | 0.7 |
| Q1000PAR64MFL | Medium Flood (106,131)* | | 120 | 4000 | 6¾ | 19400 | 5V646 | 155.66 | **140.15** | 1 | 3 | 2.3 |
| Q1000PAR64NSP | Narrow Spot (106,131)* | | 120 | 4000 | 6¾ | 19400 | 5V645 | 155.66 | **140.15** | 1 | 3 | 2.0 |
| **PS52, 6½" Diameter, w/ Mogul Base** | | | | | | | | | | | | |
| 1000 | Clear (4,23,92)* | Brass Base | 120 | 1000 | 13 | 23740 | 5V844 | 26.40 | **23.76** | 1 | 3 | 0.5 |
| 1000 | Clear (4,23,92)* | Brass Base | 130 | 1000 | 13 | 23740 | 5V849 | 35.60 | **32.10** | 1 | 3 | 0.5 |
| 1000/99 | Extended Service, Clear (4,23,92)* | Long Life; Brass Base | 130 | 2500 | 13 | 19800 | 1K019 | 51.06 | **48.60** | 1 | 12 | 0.9 |
| 1000 | Clear (4,23,92)* | Brass Base | 250 | 2000 | 13 | 17700 | 5V919 | 32.75 | **29.55** | 1 | 3 | 0.9 |
| 1000 | Clear (4,23,92)* | Brass Base | 277 | 2000 | 13 | 17700 | 1K021 | 50.23 | **47.80** | 1 | 12 | 0.9 |
| **R60, 7½" Diameter w/ Mogul Base** | | | | | | | | | | | | |
| Q1000R60/FL | Reflector Flood, I.F. (55, 108, 114, 172)* | | 120 | 3000 | 10⅛ | 18300 | 1G916 | 211.60 | **201.50** | 1 | 6 | 1.8 |

(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product. (✓) Denotes energy efficient product.

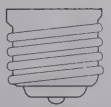
# INCANDESCENT LAMPS: 1000W-1500W


Mogul BiPost G38


Medium BiPost


Recessed Single Contact R7S


6" Flexible Leads


Mogul E39

GE Lighting

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (in.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Ship. Pkg. Qty. | Ship. Case Qty. | Ship. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1000 WATT LAMPS (Cont.)** | | | | | | | | | | | | |
| **T20, 2½" Diameter, w/Mogul BiPost Base** | | | | | | | | | | | | |
| 1M/T20BP | Airway, Beacon, Clear (1,15)* | | 120 | 500 | 9½ | 22000 | 1K003 † | $239.66 | $228.50 | 1 | 12 | 0.7 |
| Q1000T20BP | Lighthouse, Clear, Base Down | | 120 | 3000 | 9½ | 22400 | 1C429 | 330.46 | 314.50 | 1 | 6 | 1.5 |
| **T24, 3" Diameter, w/Medium BiPost Base** | | | | | | | | | | | | |
| 1M/T24 | Inside Frost (15,52,73,89,99)* | | 120 | 1000 | 9⅜ | 21200 | 1G998 | 165.60 | 157.50 | 1 | 3 | 0.2 |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q1000T3/CL | Clear, Horiz | | 220 | 2000 | 10⅛ | 21500 | 1C351 | 69.74 | 66.35 | 1 | 3 | 0.3 |
| Q1000T3/CL | Clear, Horiz | | 240 | 2000 | 10⅛ | 21500 | 2V616 | 69.74 | 48.90 | 1 | 3 | 0.1 |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| QH1000T3/CL | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 200 | 5000 | 13⅜ | — | 1K011 | 61.92 | 58.90 | 1 | 12 | 0.2 |
| QH1000T3/2CL/HT | Infrared, Clear, Hi-Temp, Horiz (125)* | Heat Lamp Applications; High Temperature Construction | 230 | 5000 | 13⅜ | — | 1K009 | 110.49 | 105.05 | 1 | 12 | 0.2 |
| QH1000T3/CL | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 230 | 5000 | 13⅜ | — | 5V223 | 58.97 | 53.15 | 1 | 3 | 0.2 |
| QH1000T3/CL/I | Infrared, Clear, Horiz (100,125)* | Heat Lamp Applications | 230 | 5000 | 11⅞ | — | 5V224 | 79.21 | 71.35 | 1 | 3 | 0.2 |
| **T6, 3/4" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q1000T6/CL | Clear, ANSI: DWT | | 120 | 2000 | 5⅝ | 23400 | 6V306 | 107.82 | 97.15 | 1 | 3 | 0.1 |
| **1200 WATT LAMPS** | | | | | | | | | | | | |
| **T20, 2½" Diameter, w/Mogul BiPost Base** | | | | | | | | | | | | |
| 1200T20 | Airway, Beacon, Clear (1,15,73,99)* | | 115 | 750 | 9½ | 29600 | 1G994 † | 239.66 | 228.25 | 1 | 12 | 0.7 |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| QH1200T3/CL | Infrared, Clear, Horiz (100,125)* | Heat Lamp Applications | 144 | 5000 | 8⅜ | — | 5V696 | 94.94 | 85.60 | 1 | 3 | 0.2 |
| QH1200T3/CL/HT | Infrared, Clear, Hi-Temp, Horiz (125)* | Heat Lamp Applications; High Temperature Construction | 144 | 5000 | 8⅜ | — | 1G992 | 126.22 | 120.00 | 1 | 3 | 0.3 |
| **1500 WATT LAMPS** | | | | | | | | | | | | |
| **PS52, 6½" Diameter, w/Mogul Base** | | | | | | | | | | | | |
| 1500 | Clear (4,20,23,92)* | Brass Base | 130 | 1000 | 13 | 34400 | 5V860 | 55.20 | 49.75 | 1 | 3 | 0.5 |
| **T3, 3/8" Diameter, w/Recessed Single Contact R7S Base** | | | | | | | | | | | | |
| Q1500T3/CL | Clear, Horiz | | 208 | 2000 | 10⅛ | 35800 | 2V617 | 55.29 | 38.80 | 1 | 3 | 0.1 |
| Q1500T3/CL | Clear, Horiz | | 220 | 2000 | 10⅛ | 35800 | 6V254 | 55.29 | 49.90 | 1 | 3 | 0.1 |
| Q1500T3/CL | Clear, Horiz | | 240 | 2000 | 10⅛ | 35800 | 2V618 | 19.09 | 13.99 | 1 | 3 | 0.1 |
| Q1500T3/CL/6 | Clear, 14 Support, RS, Horiz (103,133)* | Rough Service | 240 | 1000 | 10⅛ | 35800 | 1G912 | 78.20 | 74.35 | 1 | 12 | 0.1 |
| Q1500T3/CL | Clear, Horiz | | 277 | 2000 | 10⅛ | 34400 | 2V619 | 20.05 | 14.99 | 1 | 3 | 0.1 |


T20


T24


T3 R.S.C.


T3 Sleeve


T6


T20


PS52

(*) See Incandescent Lamp footnotes on page 984. (†) Excluded product.

# INCANDESCENT LAMPS: 1600W-6000W

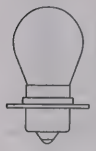
GE Lighting



T3 Sleeve



T3 R.C.C.



S8 SC Pf



T8 SC Pf



T8 SC Bay



R40 Med.

| Lamp Designation | Description | Special Features | Volts | Rated Average Life Hrs. | Maximum Overall Length (In.) | Lumens | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1600 WATT LAMPS** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| QH1600T3/CL | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 200 | 5000 | 19 15/16 | — | 5V228 | $82.89 | $74.75 | 1 | 3 | 0.2 |
| QH1600T3/CL | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 230 | 5000 | 19 13/16 | — | 5V229 | 123.74 | 71.45 | 1 | 3 | 0.3 |
| QH1600T3/CL | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 277 | 5000 | 19 13/16 | — | 6V700 | 91.26 | 82.20 | 1 | 3 | 0.2 |
| **T3, 3/8" Diameter, w/R7S Base** | | | | | | | | | | | | |
| QH1600T3/CL/7 | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 200 | 5000 | 19 5/8 | — | 5V714 | 84.64 | 76.35 | 1 | 3 | 0.2 |
| QH1600T3/CL/7 | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 230 | 5000 | 19 5/8 | — | 5V711 | 80.96 | 73.00 | 1 | 3 | 0.2 |
| **2000 WATT LAMPS** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| QH2M/T3/1CL/HT | Infrared, Clear, Hi-Temp, Horiz (125)* | Heat Lamp App.; High Temperature Construction | 230 | 5000 | 11 15/16 | — | 4V738 | 158.52 | 142.75 | 1 | 3 | 0.2 |
| QH2M/T3/CL/HT | Infrared, Clear, Hi-Temp, Horiz (125)* | Heat Lamp App.; High Temperature Construction | 230 | 5000 | 13 13/16 | — | 1G986 | 159.25 | 151.50 | 1 | 3 | 0.3 |
| QH2MT3/1CL/HT/VB | Infrared, Clear, Hi-Temp, Vert-Burn (125)* | Heat Lamp App.; High Temperature Construction | 230 | 500 | 11 15/16 | — | 5V381 | 204.79 | 143.45 | 1 | 12 | 0.3 |
| QH2MT3/CL/HT/R | Infrared, Clear, Hi-Temp, Horiz, Reflector 170° (125)* | Heat Lamp App.; High Temperature Construction | 230 | 5000 | 13 29/32 | — | 6V285 | 165.69 | 111.90 | 1 | 3 | 0.2 |
| QH2M/T3/CL/VB | Clear, Vert. Burn (100)* | Heat Lamp Applications | 220 | — | 13 3/4 | — | 6V115 | 189.52 | 180.25 | 1 | 3 | 0.3 |
| **T3, 3/8" Diameter, w/Special Base** | | | | | | | | | | | | |
| Q2MT3/CL | Infrared, Clear (100)* | | 240 | 5000 | 13 3/4 | — | 2F212 | 82.98 | 78.85 | 1 | 12 | 0.2 |
| **2500 WATT LAMPS** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| QH2500T3/CL | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 460 | 5000 | 28 13/16 | — | 1G984 | 159.71 | 75.10 | 1 | 12 | 0.3 |
| **T3, 3/8" Diameter, w/R7S Base** | | | | | | | | | | | | |
| QH2500T3/CL/7 | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 460 | 5000 | 28 5/8 | — | 5V713 | 95.77 | 86.25 | 1 | 3 | 0.2 |
| **3650 WATT LAMPS** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| QH3650T3/CL/5 | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 480 | 5000 | 41 5/8 | — | 1F312 | 137.63 | 130.85 | 1 | 6 | 0.6 |
| **3800 WATT LAMPS** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| QH3800T3/CL | Infrared, Clear, Horiz (100)* | Heat Lamp Applications | 550 | 5000 | 41 13/16 | — | 5V235 | 6.47 | 4.49 | 1 | 24 | 0.1 |
| QH3800T3/CL/VB | Infrared, Clear, Universal Burn (100)* | Heat Lamp Applications | 550 | 5000 | 41 13/16 | — | 4V687 | 198.17 | 148.70 | 1 | 6 | 0.8 |
| QH3800T3/CL/1 | Infrared, Clear (100)* | Heat Lamp Applications | 575 | 5000 | 41 5/8 | — | 2F204 | 145.27 | 130.80 | 1 | 6 | 0.3 |
| **5000 WATT LAMP** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| QH5M/T3/1CL/HT | Infrared, Clear, Hi-Temp, Horiz (100, 125)* | Heat Lamp App.; High Temperature Construction | 575 | 5000 | 28 15/16 | — | 6V212 | 289.34 | 261.00 | 1 | 12 | 0.3 |
| **6000 WATT LAMPS** | | | | | | | | | | | | |
| **T3, 3/8" Diameter, w/Sleeve Base** | | | | | | | | | | | | |
| Q6000T3/CL | Clear, Infrared, Horiz (100,103,122,125)* | | 480 | 150 | 11 15/16 | — | 1E536 | 81.33 | 77.35 | 1 | 6 | 0.2 |
| Q6M/T3/CL/HT | Clear, Infrared, Hi-Temp, Horiz (103,122,125)* | Heat Lamp App.; High Temperature Construction | 480 | 100 | 11 15/16 | — | 1G908 | 115.46 | 109.80 | 1 | 12 | 0.2 |

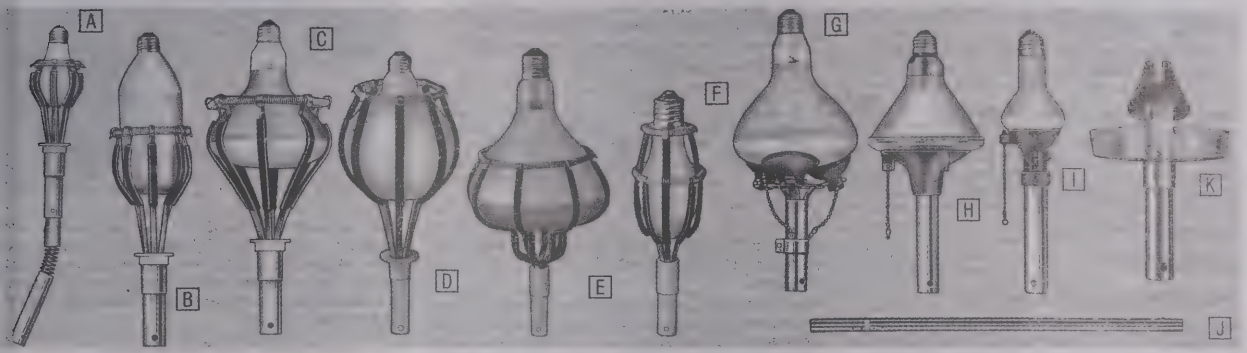
| Bulb | Base | Lamp Designation | Description | Volts | Rated Avg. Life Hours | Max. Overall Length (in.) | Lumens | Stock No. | List | Each | Pkg. Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LAMPS LISTED BY AMPS AND VOLTS** | | | | | | | | | | | | | |
| S8 | SC Pf | 55A/S8 | Marine Signal, Clear, Spiral Lead (0.55Amps)(37)* | 12 | 500 | 2 | — | 5V090 | $29.26 | $27.90 | 1 | 10 | 0.1 |
| S8 | SC Pf | 77A/S8 | Marine Signal, Clear, Spiral Lead (0.77Amps)(37)* | 12 | 500 | 2 | — | 1G942 | 26.59 | 25.30 | 1 | 10 | 0.1 |
| T8 | SC Pf | 4A/T8SCP | Sound Reproducer, Clear; ANSI: BXM (1,37,55,61) | 9 | 500 | 3 1/4 | 560 | 1G962 | 23.83 | 22.63 | 1 | 24 | 0.1 |
| T8 | SC Bay | 7.5A/T8/92SC | Sound Reproducer, ANSI:BXE Opt Comp, Clear (1,23,61)* | 10 | 100 | 3 1/8 | 1620 | 1G952 | 17.94 | 17.04 | 1 | 24 | 0.1 |
| R40 | Med | 21A/R40/FL | Swimming Pool, Refl, Flood, I.F., BDTH (15,21,23,35,53)* | 12 | 1000 | 6 1/16 | — | 1G944 | 58.05 | 23.22 | 1 | 24 | 0.4 |

(*) See Incandescent Lamp footnotes on page 984.



When it comes to lighting, no distributor outshines Grainger.

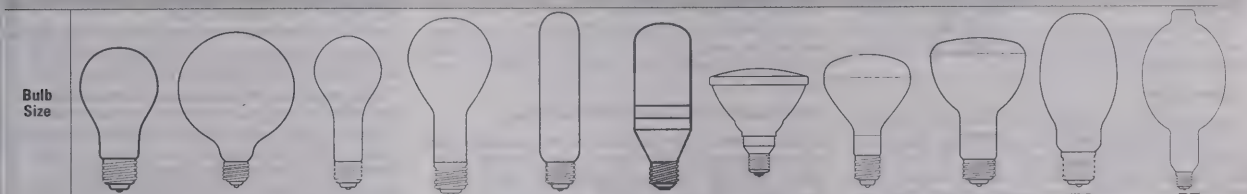
# INCANDESCENT LAMP CHANGERS




**Designed for industrial and commercial applications.** Changes high and hard-to-reach lamps safely and quickly without using ladders or platforms. A variety of sizes are available to fit the most commonly used lamps. Styles include rubber suction cup models for lamps where space surrounding the lamp is limited. To determine proper selection, match lamp changer to bulb size. Lamp changers are lightweight for ease of use and poles are insulated to protect against shock.

**Accessories** include a 5 ft. insulated, steel pole section with spring-loaded button enabling quick and secure assembly of poles to desired lengths. Up to 4 poles can be securely locked together to reach heights up to 25 ft. The broken base remover has a plastic shield designed to catch fragments and help protect the user. The broken base remover fits the lamp changer pole to provide a safe and sure way to remove broken medium and mogul base lamps. Made in USA. McGill brand.

## LAMP CHANGER SELECTION GUIDE



| Bulb Size | A | G | P | PS | T | FLE15/T19 | PAR | R | ER | E/BD | BT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Use Changer No. | 3V690, 3V691 | 3V690, 3V691, 2D008, 2D011 | 3V691 | 3V691, 2D008, 2D011 | 2D010 | 3V691 | 3V692, 3V694 | 3V692, 3V693, 3V695, 2D005, 2D009 | 3V692, 3V695 | 2D006, 2D007, 2D012 | 2D007 |

| Key | Lamp Changer Head Description | Bulb Size | Wattage | McGill Model | Stock No. | List | Each | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|
| | **RUBBER COVERED FINGERS WITH GARTER SPRINGS** | | | | | | | |
| A | Lamp changer w/angle adjustment* | A-15,-17, -19; G-16½, -18½ | 15-100 Incan. | 150-CA | **3V690** | $31.31 | **$28.80** | 0.7 |
| B | Lamp changer w/angle adjustment* | A-19, -21, -23; P-25; PS-25, -30, -35; G-25, -30; FLE20/T19 | 25-500 Incan. | 151-CA | **3V691** | 22.56 | **20.71** | 0.7 |
| B | Lamp changer head only | PS-35, -40; G-40, -48 | 25-500 Incan. | 152-C | **2D008** | 26.97 | **25.65** | 0.7 |
| C | Lamp changer head only | BR/R-30, -40; PAR 30, 36, 38, ER 30,40 | 50-500 Incan.; 100-175 Merc. | 156-C | **3V692** | 39.94 | **37.70** | 0.6 |
| C | Lamp changer head only | R-52, -57 | 500-1000 Incan. Flood; 400-750 Merc. | 155-C | **2D009** | 42.58 | **40.50** | 1.0 |
| D | Lamp changer head only | PS-52; G-48, -64 | 750-1500 Incan. | 153-C | **2D011** | 27.20 | **25.85** | 0.7 |
| D | Lamp changer head only | E-37; BT-37, -46; ED-37 | 400-700 Merc.; 400-1000 MH | 158-C | **2D007** | 55.66 | **52.95** | 0.7 |
| E | Lamp changer head only | R-60 | 400 Merc. Flood; 750 Incan. | 159-C | **2D005** | 57.12 | **54.30** | 1.0 |
| F | Lamp changer head only | T-16, -18, -20 | 1000-1500 Incan.; 400-1000 Merc. | 154-C | **2D010** | 27.60 | **26.30** | 0.5 |
| F | Lamp changer head only | BT-28, E-21, -23, -23½, -25, 28; ED-23½, -28 | 75-250 Merc.; 175-400 MH; 50-1000 Sodium | 161-C | **2D006** | 21.99 | **20.89** | 0.5 |
| F | Lamp changer head only | E-17, -18; ED-17, -18; B-17 | 50 Merc.; 35-400 Sodium; 70-175 MH | 163-C | **2D012** | 39.52 | **37.60** | 0.5 |
| | **RUBBER SUCTION CUP** | | | | | | | |
| G | Lamp changer w/rubber suction cups† | R-40, -52, RB-52 | 75-1000 Incan.; 100-400 Merc. | 157-C | **3V693** | 33.64 | **30.90** | 0.7 |
| H | Lamp changer w/rubber suction cup† | PAR-30, -36, -38 | 25-150 Incan.; 75-100 Merc. | 162-C | **3V694** | 12.94 | **11.89** | 0.8 |
| I | Lamp changer w/rubber suction cup† | R-20, -30, ER-30, PAR20 | 30-75 Incan. | 166-C | **3V695** | 12.45 | **11.43** | 0.5 |
| | **ACCESSORIES** | | | | | | | |
| J | 5 ft. wood insulated, steel pole | N/A | N/A | 160-P | **3V698** | 15.11 | **13.86** | 1.8 |
| K | Broken lamp base remover | N/A | N/A | 200 | **3V699** | 12.53 | **11.51** | 0.3 |

(*) Includes jointed angle adapter for easy removal of horizontally or angle mounted bulbs. Use with small headed bulbs only. (†) Use on smooth surfaced bulbs only.
Note: Bulb size, not wattage determines changer to be used.

# SHATTERPROOF INCANDESCENT LAMPS

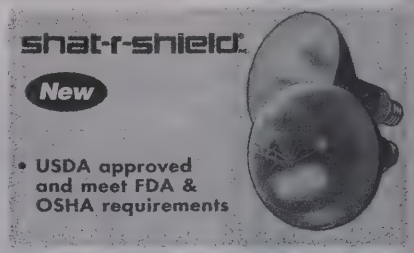
- **Clear Teflon® coating is resistant to chemical contamination**
- **Easy to clean; shatter resistant**

**INFRARED HEAT LAMPS**

- **Withstand temperatures up to 500°F for over 2000 Hrs.**
- **Red bowl filters undesirable white light**
- **Applications include food warming, thawing, bathrooms, heating, and animal brooding areas (except fowl-chickens, turkeys, birds, etc.)**

| Watts | Bulb | Base | Volts | Description | Rated Avg. Life (Hrs.) | Lamp Designation | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **100** | PAR38 | Med.Skt. | 120 | Incandescant, Flood | 2000 | 100PAR38FL | *New* | **4LV86** | $20.51 | **$14.99** | 0.9 |
| **250** | BR40 | Med. | 120 | Heat Lamp Red (3)* | 5000 | 250BR40/RED | | **4VC44** | 22.42 | **17.25** | 0.5 |
| **250** | BR40 | Med. | 120 | Heat Lamp Clear (3)* | 5000 | 250BR40/1 | | **4VC45** | 16.36 | **11.55** | 0.5 |

(*) See footnote on page 985.




## General Information

### INCANDESCENT

#### Protection From Moisture

When HRG (Heat Resistant Glass) or footnote designation (15)* appears in the Lamp Designation or Description column, the outer bulbs are made of special thermal-shock-resistant glass. However, sometimes external protection of the lamps is also needed to eliminate the chance of bulb breakage due to contact with water during operation. Footnotes will indicate when external protection is needed. Where HRG or footnote designation (15)* is not shown, the bulb glass is such that the lamps require protection from exposure to mist or condensation as well as direct contact with water during operation. Cov-R-Guard™ lamps and some Saf-T-Gard™ lamps (lamps coated with Teflon®) need no such protection from water. (Teflon® is a registered trademark of DuPont.)

#### Rated Life

Values are based on a large number of representative lamps under controlled conditions. Individual lamps or groups of lamps may vary from the Rated Life shown. Rated Life is a median value of life expectancy — the total operating time at which under normal conditions, 50% of any large group of initially installed lamps are expected to be still burning.

#### Bases

When Footnote 23 or BB (Brass Base) appears in the Lamp Designation or Description column, the lamp is supplied only with a brass base. If Brass Base (Footnote 23 or BB) does not appear, the lamp is supplied only with an aluminum base. Brass Bases are recommended for outdoor lighting applications.

#### Burning Position

Unless otherwise stated, the lamp can be burned in any position. Limitations on lamp operating position are shown in the Description column.

The following abbreviations are used:

**BDTH** (Burn lamp in Base Down To Horizontal Position)

**BUTV** (Burn lamp in Base Up To Vertical Position).

### HALOGEN LAMPS

#### Halogen Lamp Operating Precautions

The lamps listed in this catalog are filled to high internal gas pressures to maximize lamp efficacy (lumens per watt). Some general cautions are given below.

#### High Operating Temperatures

Since operating temperatures are critical to the effective self-cleaning properties of halogen lamps, filament tube wall temperatures should not go below 482°F (250°C). Hot spots on the bulb wall itself can go as high as 1230°F (700°C) in normal operation.

Substantial heat is generated in all halogen lamps, so equipment design should make allowance for the dissipation of excessive heat. Certain lamps and extremely confined fixtures may require additional ventilation or heat sinking to ensure proper operation of the halogen cycle and to prevent damage to the fixture. It is a good practice to test the lamp in the operating environment early in the design cycle to ensure adequate performance. Precautions must be taken in the selection of materials for lampholders, reflectors and lamp housings because the 1230°F (700°C) bulb wall temperature is greater than the kindling temperature of many materials. Lamp base temperatures should not exceed 662°F (350°C) because, above that point, lead wires may deteriorate and the basing cement loosen, causing premature lamp failure.

#### Distribution of Spectral Radiation

Halogen lamps offer large amounts of visible and infrared energy from a small light source, with about 90% of the energy in the infrared. Some halogen lamps can be used for special applications where small amounts of ultraviolet energy are required. The slight ultraviolet radiation that comes from unprotected sources could cause skin and eye irritation following extended direct exposure. Passing the light through ordinary glass or plastic provides adequate protection. The lenses of the PAR, TAL or Cover Glass Precise lamps provide this protection.

#### Quartz Heat Lamps

GE standard quartz heat products are primarily pressurized halogen lamps. Many standard tungsten coil filaments have been converted to a deflection coil winding design that eliminates the need for filament supports through an integral coil/support construction. These changes will improve lamp life as well as keep the bulb wall cleaner during operation and throughout the life of the lamp.

In general, halogen lamps are more efficient than ordinary incandescent lamps. Halogen-IR lamps are the most efficient halogen lamps we offer. For each application, check life, lumens, wattage, beam spread and lamp dimensions to determine proper bulb selection.

GE has added a reflectorized heat lamp with a patented design that directs the infrared to a surface rather than in 360° angle.

### HALOGEN LAMPS - CAUTION NOTICE

The filament tubes or bulbs used in all halogen lamps generate intense heat, are pressurized and could shatter if scratched or damaged. Glass halogen bulbs should be protected against liquids when in use. Provide glass or plastic protective shielding with equipment in which halogen bulbs are installed or used. PAR, TAL and Cover Glass lamps have integral shields and do not require extra protection. Do not operate in proximity to substances or materials that are flammable or adversely affected by heat or drying.

#### For satisfactory performance:

- Do not operate above rated voltage
- For 2 Pin (GU4, GU5.3) lamps, care must be taken to ensure that the lamp seal area is not strained, cracked, chipped or otherwise damaged to avoid premature lamp failure
- GU5.3 lamp caps are compatible with GX5.3 lamp holders; GU4 caps are compatible with GZ4 lamp holders.
- Limit seal and outer lead wire temperature to 662°F (350°C) to avoid lead wire deterioration, except for high temperature (HT) lamps
- Maintain a minimum bulb wall temperature of 482°F (250°C) for operation of the halogen cycle
- Remove grease or fingerprints from quartz halogen bulbs with a grease-free solvent before use

Use appropriate protection to avoid risk of injury when handling or disposing of all halogen bulbs. Wear eye protection. Turn power off when installing and before removing lamp. Allow lamp to cool before removal.

Halogen PAR lamps use an inner halogen bulb. If the outer sealed envelope is broken replace the entire unit. Do not use even though it appears to be operable.

Remove carefully and dispose of the lamp by placing it in a closed container.

A complete statement of precautions is provided with each halogen lamp.

#### Operating Notes

Low voltage tungsten-halogen lamps are sensitive to voltage variations. Even a small change in voltage can have a considerable impact on lamp life. Designers should match fixture transformer ratings to actual line voltages to ensure that the lamps operate at as close to 12 volts as possible.

Rapid cycling can also shorten lamp life, and designers should check before using these lamps in flashing or blinking applications.

The lamps may be dimmed by reducing voltage. However, this may cause the bulbs to blacken. If this occurs the lamp should be run at full voltage for fifteen minutes, thereby clearing the problem. Note that the nature of low voltage lighting systems requires the use of fluorescent-type dimmers. Lamp can be operated on AC or DC currents.

CONTINUED ON NEXT PAGE

# INCANDESCENT AND HALOGEN LAMP FOOTNOTES

## Footnotes

. Burning position - base down only
A. Do not allow the bulb to be dragged across or to strike a hard surface since this action may cause minute cracks. Do not place lamp directly over the exposed person unless a protective screen or mesh is between lamp and user.
. Burning position - horizontal
. Burning position - base up.
. Avoid contact of hot glass bulb with liquid or metal, as glass may shatter.
. Design life in excess of 5000 hours. Actual life depends on service conditions.
. Base pins approximately parallel to plane of lead wires.
. For use only in equipment specially designed to maintain bulb and base temperatures within safe limits.
. Indicates total sold in 2-lamp packs only. End caps not included.
0. Single contact medium bayonet base without pins, with a lug focusing sleeve as indicated. LCL and A.A. tolerance: 1/64 in.
1. To protect persons against risk of breakage, use a protective screen external to the lamp.
2. Not recommended for horizontal burning.
3. Unsatisfactory lamp operation is likely to occur in burning position between horizontal and base up, particularly between 45° from base up and base up.
4. In "base up" use, heat eventually may deteriorate paper-lined or plastic sockets.
5. Lamp is made of heat resistant glass (HRG).
8. Operating position horizontal with locating lug up or down and with lamp supported by bulb rim.
9. Burn within 25° of vertically base up.
0. Recommended burning position: any within 60° of vertically base up or down; but lumen maintenance is best when burned vertically base up.
1. May not give satisfactory performance if any accessory equipment is attached to or touches the glass bulb. The bulb, although made of heat-resistant glass, may break if moisture falls on it.
3. Lamp base is a brass base (BB).
5. To produce all three levels of light, this lamp should be tightened firmly but not forcibly in the socket to assure that all contacts are connected.
8. For use only in porcelain sockets and fixtures so designed that the temperatures of the lamp and fixture do not exceed limits for satisfactory operation.
9. Average laboratory life is 200 hours for vacuum cleaners and 600 hours for sewing machine services.
1. Bulb top selected for minimum glass imperfections.
2. This 277-volt lamp should be enclosed if it is used on high-capacity low impedance electrical distribution systems. At the end of lamp life on such systems, the lamp may shatter, with risk of injury to persons or property if it is not suitably enclosed.
3. Light output is maintained best when burned within 45° of vertically base up.
4. May not give satisfactory performance if any accessory equipment is attached to or touches the glass bulb.
5. Should not be used in equipment where the base temperature will exceed 500°F (260°C)
6. Should be shielded against moisture falling on the bulb.
7. The plane containing the base axis and the major locking eyelet (the eyelet that is equidistant from the other two eyelets) is at right angles to the plane of the filament or lead wires. Distance from bottom base contact to bottom of the collar is .406.
0. Operate base down within 45° of vertical. Any tilt should be in direction in which the filament plane faces.
3. Design volts of range: 240
4. Indicates sold in 4-lamp packs only.
6. This lamp produces base temperatures which may deteriorate paper-lined or plastic sockets. Use only in fixtures approved for this type and wattage bulb.
7. Teflon® coated. Teflon® is a registered trademark of DuPont.
2. Operate base up, within 30° of vertical.
3. Use lamp only on circuits supplying the same voltage as marked on the bulb. DO NOT insert in household sockets.
5. Lamp base is a nickel plated brass base (NPBB).
6. Avoid use at short distances on materials that are inflammable or susceptible to heat damage.
8. For use only with heat-resistant connector and with lamp supported by bulb rim or metal shell of base.
9. For use only with heat-resistant connector and with lamp supported by bulb rim.
1. Maximum Excursion Radius: 5/8 in.
2. Wattage shown is nominal. Design current is 0.139 amps at 120 volts.
6. Rated average life based on 14V operation.
9. Light center length and A.A. tolerance: 1/16 in.
0. Light center length and A.A. tolerance: 1/64 in.
1. Burning position – plane through lamp axis and base terminals is horizontal.
2. Burning position - plane through lamp axis and base prongs is horizontal. Base is without insulator.
3. Collector grid.
4. High Intensity (Supplementary Lighting) lamps should be replaced only with an equivalent lamp having correct volts and watts for the fixture used. Substituting higher wattage lamps may cause damage to fixture.
6. Burn base up to horizontal.
8. Use only in fixtures rated for Cool Beam lamp operation.
9. For use only in fixtures that adequately dissipate heat. Blue and green lamps should be protected from falling rain and snow if aimed above horizontal.
0. Do not use lamp in application where it may be exposed to direct water splash. If lamp is used outdoors, it must be protected by an enclosed fixture or an overhang. Failure to properly protect the lamp can result in premature failure of the lamp.
3. Will operate in any burning position, but fixed-socket usage other than base up or continuous burning in any position in ambient temperatures above 150°F (66°C), may result in some loss of protective coating. Reflectors and accessories may raise bulb temperature and cause some loss of protective coating.
8. If lamp is cracked or broken, replace immediately. The lamp may continue to light, but the inner bulb is pressurized and could unexpectedly shatter. Dispose of with care.
9. Insertion in "twist-in" type sockets requires only a slight clockwise turn - excessive force may break the bulb.
2. Lamp should be screwed firmly into the socket, although not forcibly so that it will not loosen and fall out. Use lamp-grip sockets or wire guards where vibration is present, particularly if lamp is used above or close to people. Do not attempt to use the lamp if the filament has been broken even though ends of filament are in contact. Also, have circuits properly fused. Do not use if glass is cracked.
3. Use only in swimming pool fixtures that comply with applicable safety standards and codes.
4. Observe operating and exposure limitations stated on packaging material, fixture and/or instruction booklet enclosed.
5. Do not use in hazardous locations such as near gasoline or other combustible materials or vapor.
6. Under moist conditions, metal parts of lamp and lampholder may become a shock hazard. Therefore, disconnect from circuit before touching.
7. While this lamp was carefully inspected before shipment, the glass bulb may crack when subjected to abnormal pressure. Therefore, it is recommended that the bulb be grasped with a cloth or glove when removing or installing the lamp in a tight-fitting socket.
9. For use only in equipment designed for lamps of this type and wattage, having ventilation adequate to maintain bulb and base temperatures within safe limits.
0. For use only where seal temperature does not exceed 662°F (350°C). For satisfactory lamp operation a minimum bulb wall temperature of 482°F (250°C) is required.
3. Life dependent on service conditions.
5. For a more uniform lighting pattern in display applications calling for ENL, use Precise lamp (Q50MR16/NFL30 (EXK).
6. Although made of heat-resistant glass, the bulb and lens should be protected from moisture or breakage may result. The lens or bulb may break during usage under certain other conditions beyond the control of the manufacturer. Therefore, screening techniques are recommended where appropriate to protect people and surroundings from hot fragments.
8. The bulb, although made of heat-resistant glass, may break if moisture falls on it. Lamp not recommended for use in enclosed close-fitting housings.
1. Flexible leads not included in maximum overall length.
2. This lamp is made of heat-resistant glass. It can be used indoors in an open fixture, and outdoors without moisture protection if burned base up to base horizontal in a neck sealed gasketed-type lampholder. In other burning positions outdoors, protect lens and bulb from moisture, or breakage may result. Lamp is not recommended for enclosed, close-fitting housings.
3. Continuous operation of the lamp at full amperage for extended periods (longer than 100 hours), or high duty cycle at high temperature may cause coating to delaminate (peel) near the center of the lamp lens.
4. Nickel plated brass base (NPBB).
0. Initial Avg. Max. Candlepower (Average over a 5 cone for SP and NSP and over a 10 cone for FL and NFL).
2. 36mm stranded leads with lug terminals.
3. Can be operated in any position, even vertically; however, when burned other than horizontally, the end marked "This End Up" on the sleeve base must be higher than other end of lamp.
5. Generally limited to intermittent burning in special equipment.
9. D.C. Bayonet (Ba15d) base with ring collar added. Light Center Length measured from plane of the three bosses on ring collar.
1. For use only with heat-resistant connector and with lamp supported by bulb rim.
2. For use only in equipment designed for lamps of this type and wattage, having ventilation adequate to maintain bulb and base temperatures within safe limits.
3. Lamp provides maximum filament straightness under severe operating conditions.
4. MOL dimension includes only length of quartz.
5. Filament: diameter, 3.6mm; length, 5.5mm (10%).
7. Filament: diameter, 1.5mm; length, 4.5mm (10%).
8. Filament: diameter, 1.5mm; length, 10mm (10%).
9. Filament: diameter, 3mm; length, 10mm (10%).
0. Filament dimension: diameter, 1.9mm; length, 6.4mm (10%)
1. Filament offset 0.0359 from center axis of lamp.
1. Approx. 1" (25mm) ribbon leads extending along axis of the lamp.
2. Initial average beam candlepower within cone is 15, 500.
5. Approx. 1" ribbon leads extending normal to lamp axis in same plane as seals.
6. Recessed Single Contact base with metal ferrule. Designed for use only in special equipment.
7. Average laboratory life in excess of 5000 hours in-service life depends upon service conditions.]

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# MINIATURE LAMP INTRODUCTION

## HOW TO USE THE MINIATURE LAMP PRODUCT SECTION

- **Our miniature lamp product section is organized alpha-numerically by Industry Trade Lamp number.**

1. Identify the industry trade number found on the lamp in order to search for a match



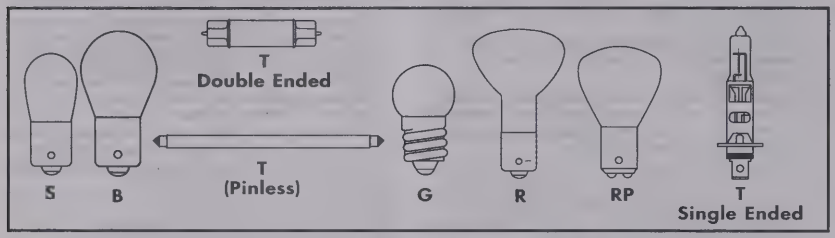

**Trade Lamp Number:** The lamp's identification code.

**Design-Voltage & Watts/Amps:** Voltage at which the lamp is designed.

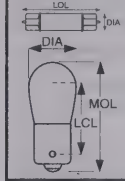
**Approximate Mean Spherical Candle Power:** Light output at design voltage.

**Rated Average Life Hours:** Average Life Hours figure represents the lamp's median value of life expectancy.

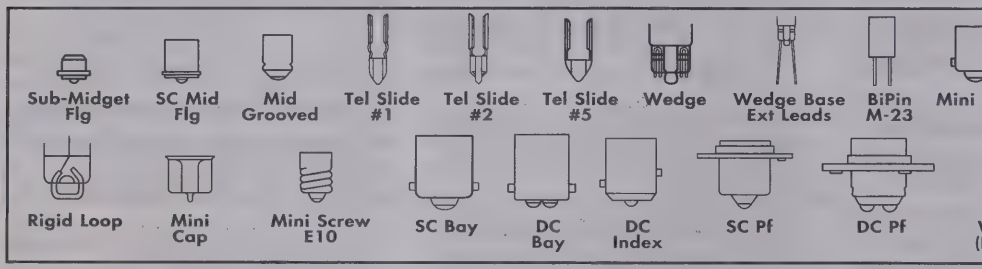
| Trade Lamp Number | Bulb | Base | Description | Voltage | Design Watts/Amps | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship Case Qty. | Shpg Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H3-55/BP1 | T-3 1/2 | PK22S | Auto ECE | 13.20 | 6200W | 115.00 | 225 | 1.65 | 12239 | 1E757 | $6.61 | $6.28 | 6 | 1 | 0.1 |




**Lamp Size Identification**




**DIA.:** Diameter of bulb (from outer edge to outer edge).
**MOL:** Maximum Overall Length in inches.




GE miniature lamps are designed for those applications requiring specific size, long life, and low cost.

- **Wide range of voltages**
- **Wide variety of filament constructions and bases**
- **Designed for operation on low voltage power sources—battery generator systems, dry cell or storage batteries, or transformers**

Glass Halogen Miniature Lamps

- **Increased range in candlepower & wattages of these halogen-cycle lamps allows for many new & current design applications**
- **Lamp design consists of a hemispherical bulb top with more uniform light output than a top-tipped halogen lamp**
- **Sturdy nickel-plated iron leads in two-pin types allow for positive electrical connection, minimizing voltage drops due to intermittent connections**
- **Although these lamps can be damaged by thermal shock, they are not subject to devitrification**
- **Electrical connections to lamps offered with molybdenum leads can be made by crimping or welding**

Quartzline® Fused-Quartz Miniature Lamps

- **Normally used in special applications, but can also be used in many general applications**
- **Can withstand thermal shock — i.e. it will not crack or break even when suddenly exposed to water or ice**

Halogen-Cycle Lamps

Higher Light Output from Less Energy and a Smaller Lamp Package

- **Typical halogen-cycle miniature lamp rated at 45 watts produces as much light as a standard 60-watt household bulb... yet the halogen-cycle lamp is 1/6 the size of the household lamp**

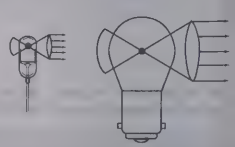
Higher Maintained Light Output Over Life

- **Can be operated at high wattages without sacrificing the light output over life**
- **Most halogen-cycle lamps produce 85 to 95% of their initial light output at 70% of their life expectancy**
- **Bulb blackening due to tungsten deposits on the bulb wall is virtually eliminated**

Available in Full Range of Types and Sizes

- **GE halogen-cycle lamps are available in voltages ranging from 4 to 32**
- **Candlepower ranges from 3.8 to 660**
- **Lamp sizes range from 7.5 mm to 16 mm miniature diameters**
- **Sockets for GE halogen-cycle lamps are commercially available from a number of manufacturers**

- **Halogen-cycle lamps are much smaller in size than conventional incandescent lamps**

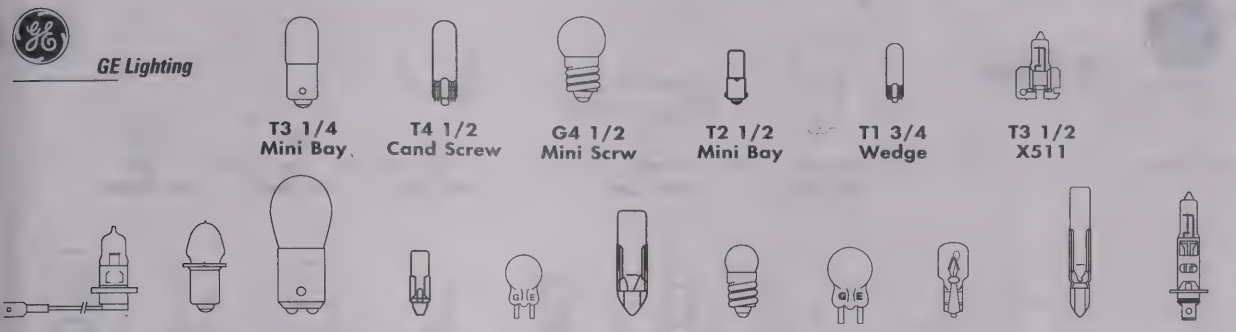




When it comes to lighting, no distributor outshines Grainger.

# MINIATURE LAMPS

GE Lighting




| Trade Lamp Number | Bulb | Base | Description | Design Voltage | Design Watts/Amps | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Priced Ea. Sold Only in Pkg. Qtys. Each | Pkg. Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31A/NEON | T-3 1/4 | Mini Bay | (NE-51) Neon Glow Ind | 105.00 | .0003A | — | 15000 | 1.19 | 12064 | **1E865** | $1.49 | **$1.42** | 10 | 600 | 0.1 |
| 32A/NEON | T-3 1/4 | Mini Bay | (NE-51H) Neon Glow Ind | 105.00 | .0012A | — | 25000 | 1.19 | 12065 | **1E863** | 1.49 | **1.42** | 10 | 600 | 0.1 |
| 37A/NEON | T-4 1/2 | Cand Screw | (NE-45) Neon Glow Ind | 105.00 | .0020A | — | 7500 | 1.53 | 31675 | **1C706** | 7.24 | **6.88** | 10 | 200 | 0.1 |
| 41-55 | T-3 1/2 | P14.5S | Auto ECE (114)* | 13.20 | 62.00W | 123.00 | 225 | 2.66 | 20727 | **1K369** | 6.13 | **5.83** | 10 | 100 | 0.1 |
| 42-55 | T-3 1/2 | X511 | Auto ECE (114)* | 13.20 | 62.00W | 143.00 | 225 | 1.22 | 20734 | **6VL13** | 6.13 | **5.21** | 10 | 200 | 0.1 |
| 43-70 | T-3 1/2 | PK22S | C.I.M. (114)* | 28.00 | 73.00W | 135.00 | 225 | 1.65 | 27332 | **6VL19** | 7.26 | **6.90** | 10 | 200 | 0.1 |
| 43-55/BP1 | T-3 1/2 | PK22S | Auto ECE | 13.20 | 62.00W | 115.00 | 225 | 1.65 | 12339 | **1E757** | 6.61 | **6.28** | 1 | 6 | 0.1 |
| 43-100/BP1 | T-3 1/2 | PK22S | Off Road Auxillary | 13.20 | 92.00W | 187.00 | 100 | 1.65 | 12341 | **1E754** | 9.72 | **9.23** | 1 | 6 | 0.1 |
| 44-60BP1 | T-5 | P43T-38 | Auto (131, 155)* | 13.20 | 71.00W | 131.00 | 150 | 3.62 | 18132 | **3JK40** | 11.32 | **10.75** | 1 | 6 | 0.4 |
| | | | | 13.20 | 64.00W | 80.00 | 300 | | | | | | | | |
| 4PR102/BP2 | B-3 1/2 | S.C. Min Flg | Flashlight, 2D Cells | 2.40 | .70A | 1.30 | 15 | 1.25 | 22961 | **6VC11** | 1.72 | **1.55** | 2 | 12 | 0.1 |
| 4PR2/BP2 | B-3 1/2 | S.C. Min Flg | Flashlight, 2D Cells | 2.35 | .50A | .80 | 15 | 1.25 | 12675 | **1E667** | 1.32 | **0.86** | 2 | 12 | 0.1 |
| 4PR103/BP2 | B-3 1/2 | S.C. Min Flg | Flashlight, 3D Cells | 3.60 | .75A | 2.70 | 20 | 1.22 | 23150 | **3VK18** | 1.72 | **1.64** | 2 | 12 | 0.1 |
| 4PR3/BP2 | B-3 1/2 | S.C. Min Flg | Flashlight, 3D Cells | 3.57 | .50A | 1.50 | 15 | 1.25 | 12676 | **1E665** | 1.24 | **0.87** | 2 | 12 | 0.2 |
| 4PR104/BP2 | B-3 1/2 | S.C. Min Flg | Flashlight, 2AA/2C Cells | 2.20 | .47A | .47 | 15 | 1.22 | 23151 | **3VK19** | 1.72 | **1.64** | 2 | 12 | 0.1 |
| 4PR4/BP2 | B-3 1/2 | S.C. Min Flg | Flashlight, 2C Cells | 2.33 | .27A | .40 | 10 | 1.25 | 12677 | **1E663** | 1.27 | **0.89** | 2 | 12 | 0.2 |
| 4PR6 | B-3 1/2 | S.C. Min Flg | Flashlight, 2D Ind Cells (116)* | 2.47 | .30A | .45 | 30 | 1.25 | 25222 | **6VC04** | 1.23 | **0.87** | 10 | 500 | 0.1 |
| 4PR7 | B-3 1/2 | S.C. Min Flg | Flashlight, 3D Ind Cells (116)* | 3.70 | .30A | .90 | 30 | 1.25 | 25235 | **6VC05** | 1.21 | **0.84** | 10 | 500 | 0.1 |
| 4PR12/BP2 | B-3 1/2 | S.C. Min Flg | Flashlight, 5D Cells | 5.95 | .50A | .50 | 15 | 1.25 | 12680 | **1E660** | 1.32 | **0.92** | 2 | 12 | 0.1 |
| 4PR113/BP2 | B-3 1/2 | S.C. Min Flg | Flashlight, 4D Cells | 4.80 | .75A | 4.06 | 20 | 1.22 | 23153 | **3VK20** | 1.72 | **1.64** | 2 | 12 | 0.1 |
| 4PR13/BP2 | B-3 1/2 | S.C. Min Flg | Hand Lantern, 4F Cells | 4.75 | .50A | 2.20 | 15 | 1.25 | 12681 | **1E658** | 1.32 | **0.92** | 2 | 12 | 0.2 |
| 4PR118/BP2 | B-3 1/2 | S.C. Min Flg | Flashlight, 6D Cells | 7.20 | .55A | 5.23 | 15 | 1.22 | 23154 | **3VK21** | 1.72 | **1.64** | 2 | 12 | 0.1 |
| 4PR18 | B-3 1/2 | S.C. Min Flg | Flashlight, 6D Cells (14.116)* | 7.20 | .55A | 5.50 | 3 | 1.25 | 25289 | **6VC09** | 1.32 | **0.93** | 10 | 500 | 0.1 |
| 5 | S-8 | D.C. Bay | Special Svc, Sewing Mach | 6.40 | 3.00A | 23.00 | 500 | 2.00 | 25299 | **1G848** | 2.85 | **2.70** | 10 | 500 | 0.1 |
| 5PSB | T-2 | Slide #5 | Indicator | 6.00 | .14A | — | 20000 | 1.11 | 12756 | **1E649** | 2.12 | **2.02** | 10 | 500 | 0.1 |
| 10 | G-3 1/2 | Min 2-Pin | Indicator (69)* | 2.50 | .50A | .50 | 3000 | 0.94 | 25312 | **1G846** | 1.60 | **1.53** | 10 | 500 | 0.1 |
| 12 | G-3 1/2 | Min 2-Pin | Radio (5,44,69)* | 6.30 | .15A | .35 | 5000 | 0.94 | 25319 | **1G844** | 1.27 | **1.21** | 10 | 500 | 0.1 |
| 12PSB | T-2 | Slide #5 | Indicator | 12.00 | .17A | — | 12000 | 1.11 | 12760 | **1E647** | 2.12 | **2.02** | 10 | 500 | 0.1 |
| 13 | G-3 1/2 | Min Scrw | Flashlight, 3D Cells (116)* | 3.70 | .30A | .98 | 15 | 0.94 | 25331 | **6VC25** | 1.02 | **0.81** | 10 | 500 | 0.1 |
| 14/BP2 | G-3 1/2 | Min Scrw | Flashlight, 2D Cells (116)* | 2.47 | .30A | .50 | 15 | 0.94 | 12689 | **6VC26** | 1.05 | **0.84** | 2 | 12 | 0.1 |
| 15 | G-4 1/2 | Min 2-Pin | Indicator (69)* | 7.00 | .40A | 2.00 | 500 | 1.07 | 25371 | **1G842** | 1.27 | **1.21** | 10 | 500 | 0.1 |
| 19 | G-3 1/2 | Min 2-Pin | Toy Train (69)* | 14.40 | .10A | .90 | 1000 | 0.94 | 25377 | **1G840** | 1.84 | **1.75** | 10 | 500 | 0.1 |
| 24 | T-2 3/4 | Wedge | Auto, Side Marker | 14.00 | .24A | 2.00 | 1500 | 0.91 | 17853 | **6VC27** | 1.02 | **0.87** | 10 | 500 | 0.1 |
| 24E2/TEL | T-2 | Tel. Slide #1 | Telephone | 24.00 | .03A | .20 | 5000 | 1.69 | 29001 | **2F446** | 3.89 | **3.69** | 10 | 500 | 0.1 |
| 24NA/BP2 | T-2 3/4 | Wedge | Auto, Side Marker | 14.00 | .24A | 1.50 | 1500 | 0.91 | 12316 | **6VC28** | 1.53 | **1.30** | 2 | 500 | 0.1 |
| 24PSB | T-2 | Slide #5 | Indicator | 24.00 | .07A | — | 10000 | 1.11 | 12071 | **1E861** | 1.97 | **1.87** | 10 | 500 | 0.1 |
| 27 | G-4 1/2 | Min Scrw | Hand Lantern, 4F Cells (116)* | 4.90 | .30A | 1.40 | 30 | 1.07 | 25388 | **6VC29** | 1.40 | **0.92** | 10 | 500 | 0.1 |
| 28MB | T-2 1/2 | Mini Bay | Indicator | 28.00 | .04A | .29 | 5000 | 1.19 | 12761 | **1E645** | 2.42 | **2.30** | 10 | 500 | 0.1 |
| 28PSB | T-2 | Slide #5 | Indicator | 28.00 | .04A | — | 5000 | 1.11 | 12072 | **1E859** | 1.97 | **1.87** | 10 | 500 | 0.1 |
| 37 | T-1 3/4 | Wedge | Auto (133)* | 14.00 | .09A | .50 | 2500 | 0.80 | 39220 | **6VC31** | 0.95 | **0.66** | 10 | 500 | 0.1 |
| 43 | T-3 1/4 | Mini Bay | Indicator | 2.50 | .50A | .50 | 3000 | 1.19 | 25412 | **1G836** | 1.14 | **1.09** | 10 | 500 | 0.1 |
| 44 | T-3 1/4 | Mini Bay | Indicator, Radio, TV | 6.30 | .25A | .90 | 3000 | 1.19 | 25450 | **6VC35** | 0.58 | **0.40** | 10 | 500 | 0.1 |
| 47 | T-3 1/4 | Mini Bay | Indicator, Radio, TV | 6.30 | .15A | .52 | 3000 | 1.19 | 25485 | **6VC38** | 0.56 | **0.46** | 10 | 500 | 0.1 |
| 48C2/TEL | T-2 | Tel. Slide #2 | Telephone (79)* | 48.00 | .035A | .40 | 5000 | 1.69 | 29011 | **3JK66** | 2.18 | **2.08** | 10 | 500 | 0.1 |
| 48PSB | T-2 | Slide #5 | Indicator | 48.00 | .05A | | 10000 | 1.11 | 12075 | **2F057** | 2.27 | **2.16** | 10 | 500 | 0.1 |

*) See Miniature Lamp footnotes on page 996.

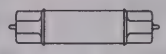
GRAINGER...YOUR ONE STOP SHOPPING SOURCE!

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

# MINIATURE LAMPS

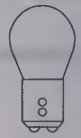
GE Lighting

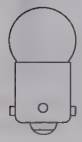

G4 1/2 Mini Bay

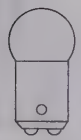

T3 Mini Cap


B6 SC Bay


B6 DC Bay


S8 DC Index


G6 SC Bay


G6 DC Bay


S8 SC Bay


S8 DC Bay


T2 1/2 Mini Bay


T2 Slide #5


T1 3/4 Wedge


G3 1/2 Mini Bay


TL3 Mini Scrw


T3 1/4 Wedge

| Trade Lamp Number | Bulb | Base | Description | Design Voltage | Design Watts/Amps | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Priced Ea. Sold Only in Pkg. Qtys. Each | Pkg. Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | G-3 1/2 | Mini Bay | Indicator | 7.50 | .22A | 1.00 | 1000 | 0.94 | 25529 | 1G834 | $0.91 | $0.87 | 10 | 500 | 0.1 |
| 53/BP2 | G-3 1/2 | Mini Bay | Auto, Indicator | 14.40 | .12A | 1.00 | 1000 | 0.94 | 12333 | 1E760 | 1.07 | 0.84 | 2 | 12 | 0.1 |
| 55 | G-4 1/2 | Mini Bay | Instrument | 7.00 | .41A | 2.00 | 500 | 1.07 | 25576 | 6VC43 | 1.10 | 0.77 | 10 | 500 | 0.1 |
| 57 | G-4 1/2 | Mini Bay | Auto, Instrument (13)* | 14.00 | .24A | 2.00 | 500 | 1.07 | 25591 | 6VC44 | 0.73 | 0.56 | 10 | 500 | 0.1 |
| 60MB | T-2 1/2 | Mini Bay | Indicator | 60.00 | .05A | .73 | 7500 | 1.19 | 12076 | 2F059 | 2.33 | 2.22 | 10 | 500 | 0.1 |
| 60PSB | T-2 | Slide #5 | Indicator | 60.00 | .05A | — | 7500 | 1.11 | 12077 | 1E857 | 2.18 | 2.08 | 10 | 500 | 0.1 |
| 63/BP2 | G-6 | S.C. Bay | Coin Machine | 7.00 | .63A | 3.00 | 1000 | 1.44 | 12321 | 1E775 | 1.05 | 0.65 | 2 | 12 | 0.1 |
| 64 | G-6 | D.C. Bay | Aircraft, Marine | 7.00 | .63A | 3.00 | 1000 | 1.44 | 25643 | 6VC47 | 1.47 | 1.11 | 10 | 500 | 0.1 |
| 67 | G-6 | S.C. Bay | Auto (4)* | 13.50 | .59A | 4.00 | 5000 | 1.44 | 25652 | 6VC48 | 0.84 | 0.64 | 10 | 500 | 0.1 |
| 68 | G-6 | D.C. Bay | Auto, Marine (4)* | 13.50 | .59A | 4.00 | 5000 | 1.44 | 25692 | 6VC49 | 1.58 | 1.18 | 10 | 500 | 0.1 |
| 70 | T-1 3/4 | Wedge | Auto (14,126)* | 14.00 | .15A | 1.50 | 100 | 0.80 | 43606 | 1C372 | 1.36 | 1.30 | 10 | 500 | 0.1 |
| 73/BP2 | T-1 3/4 | Wedge | Indicator (79,133)* | 14.00 | .08A | .30 | 15000 | 0.80 | 23015 | 6VC51 | 0.82 | 0.57 | 2 | 50 | 0.1 |
| 74/BP2 | T-1 3/4 | Wedge | Auto | 14.00 | .10A | .70 | 1000 | 0.80 | 21029 | 6VC52 | 0.76 | 0.53 | 2 | 50 | 0.1 |
| 81 | G-6 | S.C. Bay | Auto, Aircraft, Coin Mach | 6.50 | 1.02A | 6.00 | 500 | 1.44 | 25736 | 1G828 | 1.58 | 1.51 | 10 | 500 | 0.1 |
| 82 | G-6 | D.C. Bay | Auto, Marine | 6.50 | 1.02A | 6.00 | 500 | 1.44 | 25751 | 6VC54 | 1.21 | 0.84 | 10 | 500 | 0.1 |
| 85 | T-1 3/4 | Wedge | Indicator (79)* | 28.00 | .04A | .30 | 7000 | 0.80 | 40969 | 1C460 | 0.80 | 0.77 | 10 | 500 | 0.1 |
| 86 | T-1 3/4 | Wedge | Indicator (79,130)* | 6.30 | .20A | .40 | 20000 | 0.80 | 40967 | 1C462 | 0.99 | 0.94 | 10 | 500 | 0.1 |
| 88 | S-8 | D.C. Bay | Indicator | 6.80 | 1.91A | 15.00 | 300 | 2.00 | 25772 | 1G826 | 1.77 | 1.69 | 10 | 500 | 0.1 |
| 89/BP2 | G-6 | S.C. Bay | Auto | 13.00 | .58A | 6.00 | 750 | 1.44 | 12363 | 1E742 | 1.00 | 0.67 | 2 | 12 | 0.1 |
| 90/BP2 | G-6 | D.C. Bay | Auto, Marine | 13.00 | .58A | 6.00 | 750 | 1.44 | 12364 | 1E740 | 1.10 | 0.74 | 2 | 12 | 0.1 |
| 93 | S-8 | S.C. Bay | Auto (147)* | 12.80 | 1.04A | 15.00 | 700 | 2.00 | 25811 | 6VC57 | 1.51 | 0.90 | 10 | 500 | 0.1 |
| 94 | S-8 | D.C. Bay | Auto, Marine (147)* | 12.80 | 1.04A | 15.00 | 700 | 2.00 | 25829 | 6VC58 | 1.84 | 1.20 | 10 | 500 | 0.1 |
| 97/BP2 | G-6 | S.C. Bay | Auto, Heavy Duty | 13.50 | .69A | 4.00 | 5000 | 1.44 | 12322 | 1P071 | 0.86 | 0.59 | 2 | 12 | 0.1 |
| 98 | G-6 | S.C. Bay | Auto, Heavy Duty | 13.00 | .62A | 6.00 | 800 | 1.44 | 16287 | 6VC62 | 0.91 | 0.87 | 10 | 500 | 0.1 |
| 105 | B-6 | S.C. Bay | Auto Interior, Hvy Duty | 12.80 | 1.00A | 12.00 | 500 | 1.75 | 36147 | 6VC65 | 1.88 | 1.40 | 10 | 500 | 0.1 |
| 112 | TL-3 | Mini Scrw | Flashlight, 1AA, C/D Cell (116)* | 1.20 | .22A | — | 5 | 0.93 | 25848 | 1G824 | 1.58 | 1.51 | 10 | 500 | 0.1 |
| 120MB | T-2 1/2 | Mini Bay | Indicator | 120.00 | .03A | .36 | 7500 | 1.19 | 12078 | 1E855 | 2.48 | 2.37 | 10 | 500 | 0.1 |
| 120PSB | T-2 | Slide #5 | Indicator | 120.00 | .03A | — | 7500 | 1.11 | 12080 | 1E853 | 2.10 | 2.01 | 10 | 500 | 0.1 |
| 147 | T-3 1/4 | Wedge | Indicator | 7.00 | .43A | 2.00 | 1500 | 1.06 | 25916 | 1G820 | 3.67 | 3.48 | 10 | 500 | 0.1 |
| 157 | G-6 | Mini Scrw | Medical (8,127)* | 5.80 | 1.10A | 8.10 | 50 | 1.22 | 25927 | 1G818 | 5.68 | 5.40 | 10 | 1000 | 0.1 |
| 158 | T-3 1/4 | Wedge | Auto, Instrument, Indicator (13)* | 14.00 | .24A | 2.00 | 500 | 1.06 | 25931 | 6VC69 | 1.06 | 0.80 | 10 | 500 | 0.1 |
| 161/BP2 | T-3 1/4 | Wedge | Auto, Instrument | 14.00 | .19A | 1.00 | 4000 | 1.06 | 23016 | 6VC71 | 0.92 | 0.60 | 2 | 50 | 0.1 |
| 161B | T-3 1/4 | Wedge | Auto, Instrument, Blue | 14.00 | .19A | — | — | 1.06 | 20273 | 2F282 | 1.66 | 1.58 | 4000 | 4000 | 0.1 |
| 168/BP2 | T-3 1/4 | Wedge | Auto, Instrument | 14.00 | .35A | 3.00 | 1500 | 1.06 | 12327 | 1E773 | 0.96 | 0.59 | 2 | 12 | 0.1 |
| 193 | T-3 1/4 | Wedge | Truck, Heavy Duty | 14.00 | .33A | 2.00 | 15000 | 1.07 | 19553 | 6VC76 | 1.17 | 0.99 | 10 | 500 | 0.1 |
| 194 | T-3 1/4 | Wedge | Auto, Instrument | 14.00 | .27A | 2.00 | 2500 | 1.06 | 12328 | 6VC77 | 0.77 | 0.59 | 2 | 12 | 0.1 |
| 194NA/BP2 | T-3 1/4 | Wedge | Auto, Side Mrk, N. Amber, Hvy Duty | 14.00 | .27A | 1.50 | 2500 | 1.06 | 12319 | 6VC78 | 1.76 | 1.18 | 2 | 12 | 0.1 |
| 194R/BP2 | T3 1/2 | Wedge | Auto, Courtesy, Red, Hvy Duty (132)* | 14.00 | .27A | — | 2500 | 1.06 | 12355 | 3JJ81 | 1.79 | 1.71 | 2 | 48 | 0.1 |
| 198 | S-8 | D.C. Index | Truck, Stop, Signal, Hvy Duty (110,147)* | 12.80 | 2.25A | 32.00 | 1200 | 2.00 | 37983 | 6VC79 | 1.68 | 1.27 | 10 | 500 | 0.1 |
| 199 | S-8 | S.C. Bay | Truck, Signal, Hvy Duty (110)* | 12.80 | 2.25A | 32.00 | 1200 | 2.00 | 37985 | 6VC80 | 1.60 | 1.20 | 10 | 500 | 0.1 |
| 210 | B-6 | D.C. Bay | Instrument | 6.50 | 1.78A | 15.00 | 100 | 1.75 | 25988 | 1G816 | 2.64 | 2.52 | 10 | 500 | 0.1 |
| 211-2/BP2 | T-3 | Mini Cap | Auto | 12.80 | .97A | 12.00 | 1000 | 1.72 | 12673 | 1E669 | 1.44 | 0.89 | 2 | 12 | 0.1 |

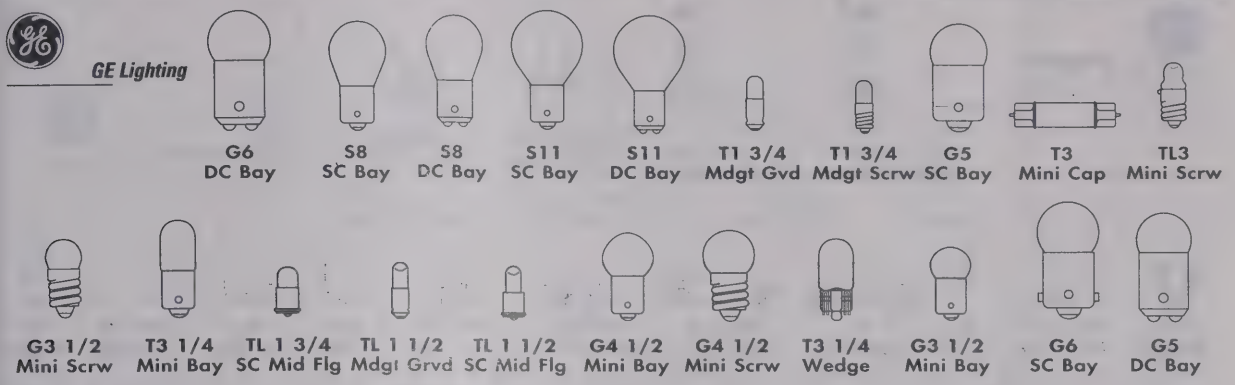
(*) See Miniature Lamp footnotes on page 996.

THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.

It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.

# MINIATURE LAMPS

GE Lighting



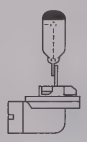

| Trade Lamp Number | Bulb | Base | Description | Design Voltage | Design Watts/Amps | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Each | Pkg. Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 212-2/BP2 | T-3 | Mini Cap | Auto (4)* | 13.50 | .74A | 6.00 | 2000 | 1.72 | 23220 | 6VC84 | $1.75 | $1.31 | 2 | 500 | 0.5 |
| 214-2 | T-3 | Mini Cap | Auto (4)* | 13.50 | .52A | 4.00 | 1000 | 1.72 | 39356 | 1C558 | 2.12 | 2.02 | 10 | 500 | 0.1 |
| 222 | TL-3 | Mini Scrw | Flashlight, AA Cells (116)* | 2.25 | .25A | — | 5 | 0.93 | 26008 | 6VC86 | 1.04 | 0.73 | 10 | 500 | 0.1 |
| 238 | T-3 1/4 | Mini Bay | Indicator (62,144)* | 6.30 | .50A | 2.00 | 2000 | 1.19 | 26052 | 1G814 | 3.33 | 3.15 | 10 | 500 | 0.1 |
| 243 | TL-3 | Mini Scrw | Flashlight, 2C Cells (116)* | 2.33 | .27A | — | 10 | 0.93 | 26063 | 1G812 | 2.27 | 2.16 | 10 | 500 | 0.1 |
| 245 | G-3 1/2 | Mini Scrw | Flashlight, 2D Cells (116)* | 2.46 | .50A | .90 | 15 | 0.94 | 26070 | 1F374 | 1.14 | 1.09 | 10 | 500 | 0.1 |
| 251 | TL-1 3/4 | S.C. Mid Flg | Indicator (116)* | 2.47 | .30A | .45 | 30 | 0.63 | 28464 | 2F432 | 3.11 | 2.95 | 10 | 500 | 0.1 |
| 252 | TL-1 1/2 | S.C. Mid Flg | Instrument, Lens End (53,80,116,117)* | 2.50 | .35A | — | 10000 | 0.69 | 28466 | 2F434 | 7.75 | 7.36 | 10 | 500 | 0.1 |
| 253X | TL-1 1/2 | Mdgt Grvd | Instrument, Lens End (116,117)* | 2.50 | .35A | — | 10000 | 0.69 | 28470 | 2F436 | 9.37 | 8.90 | 10 | 500 | 0.1 |
| 257 | G-4 1/2 | Mini Bay | Auto/Toy Train, Flasher (3,70,147)* | 14.00 | .27A | 1.60 | 500 | 1.07 | 26088 | 1F372 | 1.88 | 1.79 | 10 | 500 | 0.1 |
| 258 | G-4 1/2 | Mini Scrw | Toy Train, Flasher (3)* | 14.00 | .27A | 1.60 | 500 | 1.07 | 26095 | 2F358 | 2.44 | 2.33 | 10 | 500 | 0.1 |
| 259 | T-3 1/4 | Wedge | Radio, TV, Indicator (44,147)* | 6.30 | .25A | .65 | 5000 | 1.06 | 26099 | 1F370 | 0.69 | 0.66 | 10 | 500 | 0.1 |
| 265 | G-3 1/2 | Mini Bay | Indicator | 28.00 | .08A | .75 | 5000 | 0.94 | 44719 | 2F646 | 4.92 | 4.67 | 10 | 500 | 0.1 |
| 267 | T-3 1/4 | Mini Bay | Indicator, Flasher (3,70)* | 6.30 | .15A | .33 | 5000 | 1.19 | 42758 | 1C407 | 4.21 | 3.99 | 10 | 500 | 0.1 |
| 293 | G-4 1/2 | Mini Bay | Auto, Radio | 14.00 | .33A | 2.00 | 7500 | 1.07 | 32688 | 6VC91 | 0.97 | 0.78 | 10 | 500 | 0.1 |
| 301 | G-5 | S.C. Bay | Aircraft | 28.00 | .17A | 3.00 | 500 | 1.25 | 26112 | 2F360 | 2.57 | 2.45 | 10 | 1000 | 0.1 |
| 302 | G-5 | D.C. Bay | Aircraft | 28.00 | .17A | 3.00 | 500 | 1.25 | 26120 | 2F362 | 2.33 | 2.22 | 10 | 1000 | 0.1 |
| 303 | G-6 | S.C. Bay | Aircraft | 28.00 | .30A | 6.00 | 500 | 1.44 | 26127 | 6VC93 | 2.22 | 1.45 | 10 | 1000 | 0.1 |
| 304 | G-6 | D.C. Bay | Aircraft | 28.00 | .30A | 6.00 | 500 | 1.44 | 26136 | 1F324 | 2.64 | 2.52 | 10 | 1000 | 0.1 |
| 305 | S-8 | S.C. Bay | Aircraft (13)* | 28.00 | .51A | 15.00 | 300 | 2.00 | 26143 | 1E998 | 2.55 | 2.43 | 10 | 500 | 0.1 |
| 306 | S-8 | D.C. Bay | Aircraft (13)* | 28.00 | .51A | 15.00 | 300 | 2.00 | 26152 | 1E990 | 4.64 | 4.40 | 10 | 500 | 0.1 |
| 307 | S-8 | S.C. Bay | Aircraft (13)* | 28.00 | .67A | 21.00 | 300 | 2.00 | 26157 | 1E970 | 2.55 | 2.43 | 10 | 500 | 0.1 |
| 307AF | S-8 | S.C. Bay | Aircraft, All Frosted (13)* | 28.00 | .67A | — | 300 | 2.00 | 26161 | 2F364 | 3.74 | 3.54 | 10 | 500 | 0.1 |
| 307R | S-8 | S.C. Bay | Aircraft, Outside Coated Red (13)* | 28.00 | .67A | — | 300 | 2.00 | 26163 | 2F366 | 6.52 | 6.20 | 10 | 500 | 0.1 |
| 307SB | S-8 | S.C. Bay | Aircraft, Reflectorized Bowl (13)* | 28.00 | .67A | — | 300 | 2.00 | 26166 | 2F368 | 20.26 | 19.25 | 10 | 500 | 0.1 |
| 308AF | S-8 | D.C. Bay | Aircraft, All Frosted (13)* | 28.00 | .67A | — | 300 | 2.00 | 26171 | 2F370 | 3.20 | 3.04 | 10 | 500 | 0.1 |
| 308 | S-8 | D.C. Bay | Aircraft (13)* | 28.00 | .67A | 21.00 | 300 | 2.00 | 26168 | 6VC98 | 3.11 | 2.64 | 10 | 500 | 0.1 |
| 309 | S-11 | S.C. Bay | Aircraft (13)* | 28.00 | .90A | 32.00 | 300 | 2.38 | 26175 | 2F372 | 3.67 | 3.48 | 10 | 500 | 0.1 |
| 310 | S-11 | D.C. Bay | Aircraft (13)* | 28.00 | .90A | 32.00 | 300 | 2.38 | 26183 | 2F374 | 6.05 | 5.75 | 10 | 500 | 0.1 |
| 311 | S-11 | S.C. Bay | Aircraft (13)* | 28.00 | 1.29A | 50.00 | 300 | 2.38 | 26191 | 1E968 | 3.78 | 3.60 | 10 | 500 | 0.1 |
| 313 | T-3 1/4 | Mini Bay | Aircraft | 28.00 | .17A | 3.50 | 500 | 1.19 | 26212 | 6VF02 | 1.27 | 0.89 | 10 | 500 | 0.1 |
| 315 | S-8 | S.C. Bay | Aircraft (13)* | 28.00 | .90A | 32.00 | 300 | 2.00 | 26238 | 2F378 | 5.27 | 5.00 | 10 | 500 | 0.1 |
| 316 | T-3 1/4 | Mini Bay | Aircraft (144)* | 6.00 | .70A | 3.40 | 500 | 1.19 | 26243 | 2F380 | 3.56 | 3.38 | 10 | 500 | 0.1 |
| 327 | TL-1 3/4 | S.C. Mid Flg | Aircraft (79)* | 28.00 | .04A | .34 | 4000 | 0.63 | 28519 | 1C908 | 0.91 | 0.87 | 10 | 500 | 0.1 |
| 328 | TL-1 3/4 | S.C. Mid Flg | Aircraft (10)* | 6.00 | .20A | .34 | 1000 | 0.63 | 28546 | 1C906 | 0.93 | 0.89 | 10 | 500 | 0.1 |
| 330 | TL-1 3/4 | S.C. Mid Flg | Aircraft | 14.00 | .08A | .50 | 1500 | 0.63 | 28567 | 1C904 | 1.12 | 1.06 | 10 | 500 | 0.1 |
| 334 | T-1 3/4 | Mdgt Grvd | Aircraft (79)* | 28.00 | .04A | .34 | 4000 | 0.63 | 28588 | 1C896 | 1.27 | 1.21 | 10 | 500 | 0.1 |
| 335 | T-1 3/4 | Mdgt Scrw | Indicator (79)* | 28.00 | .04A | .34 | 4000 | 0.72 | 28601 | 1C894 | 1.27 | 1.21 | 10 | 500 | 0.1 |
| 356 | G-3 1/2 | Mini Bay | Aircraft (14)* | 28.00 | .17A | 3.50 | 500 | 0.94 | 26255 | 6VF03 | 2.31 | 1.61 | 10 | 500 | 0.1 |
| 370 | TL-1 3/4 | S.C. Mid Flg | Indicator (79)* | 18.00 | .04A | .15 | 10000 | 0.63 | 28641 | 2F438 | 1.60 | 1.53 | 10 | 500 | 0.1 |
| 381 | TL-1 3/4 | S.C. Mid Flg | Indicator (75,79)* | 6.30 | .20A | .40 | 20000 | 0.63 | 28653 | 1C892 | 1.10 | 1.04 | 10 | 500 | 0.1 |
| 382 | TL-1 3/4 | S.C. Mid Flg | Indicator (43,79)* | 14.00 | .08A | .30 | 40000 | 0.63 | 28657 | 1C890 | 1.10 | 1.04 | 10 | 500 | 0.1 |
| 385 | TL-1 3/4 | S.C. Mid Flg | Indicator (43,78,79,147)* | 28.00 | .04A | .15 | 10000 | 0.81 | 28660 | 1C888 | 1.32 | 1.26 | 10 | 500 | 0.1 |
| 386 | T-1 3/4 | Mdgt Grvd | Indicator (43,79)* | 14.00 | .08A | .30 | 40000 | 0.63 | 28662 | 2F440 | 1.53 | 1.45 | 10 | 500 | 0.1 |
| 387 | TL-1 3/4 | S.C. Mid Flg | Indicator (42,79)* | 28.00 | .04A | .30 | 7000 | 0.63 | 28664 | 1C886 | 0.91 | 0.87 | 10 | 500 | 0.1 |
| 388 | T-1 3/4 | Mdgt Grvd | Indicator (42,79)* | 28.00 | .04A | .30 | 7000 | 0.63 | 28672 | 1C884 | 1.58 | 1.51 | 10 | 500 | 0.1 |
| 394 | TL-1 3/4 | S.C. Mid Flg | Indicator (79)* | 12.00 | .04A | .10 | 10000 | 0.63 | 28675 | 2F442 | 1.51 | 1.44 | 10 | 500 | 0.1 |
| 400 | T-3 1/4 | Wedge | Aircraft | 28.00 | .10A | 1.60 | 1000 | 1.06 | 38918 | 2F566 | 1.21 | 1.16 | 10 | 500 | 0.1 |
| 407 | G-4 1/4 | Mini Scrw | Hand Lantern Flasher, 4F Cells | 4.90 | .30A | 1.20 | 50 | 1.07 | 26324 | 6VF04 | 1.62 | 1.30 | 10 | 500 | 0.1 |

(*) See Miniature Lamp footnotes on page 996.

# MINIATURE LAMPS

GE Lighting


T3 1/4
Axial, Plastic, Pf


T3 1/4
Rt Ang, Pf


T2 1/4
G4 2-Pin

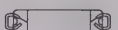

G4 1/2
Mini Scrw

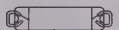

S8
SC Bay


T3 1/4
Wedge


G4 1/2
Mini Bay

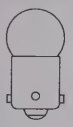

G6
Cand


T3
Rgd Loop


T4 3/4
Rgd Loop


T4 3/4
Dbl End Cap


G3 1/2
Mini 2-Pin


G6
SC Bay


G6
DC Bay


T3 1/4
Mini Bay


T4
SC Bay

| Trade Lamp Number | Bulb | Base | Description | Design Voltage | Design Watts/Amps | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Priced Ea. Sold Only in Pkg. Qtys. Each | Pkg. Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **425** | G-4 1/2 | Mini Scrw | Hand Lantern, 4F Cells (116)* | 5.00 | .50A | 2.30 | 15 | 1.07 | 26354 | **6VF05** | $1.56 | **$1.25** | 10 | 500 | 0.1 |
| **455** | G-4 1/2 | Mini Bay | Indicator, Flasher Lamp (3,70)* | 6.50 | .50A | 1.90 | 500 | 1.07 | 26436 | **2F382** | 2.18 | **2.08** | 10 | 500 | 0.1 |
| **456** | G-4 1/2 | Mini Bay | Instrument | 28.00 | .17A | 2.00 | 5000 | 1.07 | 26441 | **1E928** | 2.74 | **2.60** | 10 | 500 | 0.1 |
| **464** | T-3 1/4 | Wedge | Aircraft | 28.00 | .17A | 3.00 | 1500 | 1.06 | 39645 | **1C536** | 1.23 | **1.17** | 10 | 500 | 0.1 |
| **502** | G-4 1/2 | Mini Scrw | Hand Lantern, 4F Cells (116)* | 5.10 | .15A | .60 | 100 | 1.07 | 26460 | **6VF07** | 0.76 | **0.61** | 10 | 500 | 0.1 |
| **503** | G-4 1/2 | Mini Bay | Hand Lantern, 4F Cells (116)* | 5.10 | .15A | .60 | 100 | 1.07 | 26469 | **2F384** | 1.23 | **1.17** | 10 | 500 | 0.1 |
| **509K** | G-6 | Cand | Indicator (72)* | 24.00 | .18A | 2.80 | 1000 | 1.38 | 26485 | **1E889** | 1.75 | **1.67** | 10 | 1000 | 0.1 |
| **555** | T-3 1/4 | Wedge | Coin, Novelty | 6.30 | .25A | .90 | 3000 | 1.06 | 44773 | **1C298** | 0.71 | **0.68** | 10 | 500 | 0.1 |
| **558** | T 3 1/4 | Wedge | Auto , Indicator, Lens End (13, 68)* | 13.00 | .33A | — | 500 | 1.06 | 38269 | **3JK80** | 1.81 | **1.73** | 10 | 500 | 0.1 |
| **561/BP2** | T-3 | Rgd Loop | Auto | 12.80 | .97A | 12.00 | 1000 | 1.72 | 12358 | **1E744** | 1.74 | **1.34** | 2 | 12 | 0.1 |
| **562/BP2** | T-3 | Rgd Loop | Auto (4)* | 13.50 | .74A | 6.00 | 2000 | 1.72 | 23019 | **6VF11** | 1.78 | **1.43** | 2 | 500 | 0.1 |
| **563 BULK** | T-3 | Rgd Loop | Auto | 13.50 | .52A | 4.00 | 1000 | 1.72 | 40025 | **6VF12** | 1.70 | **1.44** | 1 | 1000 | 0.1 |
| **570/BP2** | T-4 3/4 | Rgd Loop | Truck, Bed Light | 12.80 | 2.10A | 32.00 | 600 | 1.72 | 12672 | **1K223** | 2.40 | **2.28** | 2 | 48 | 0.1 |
| **577/BP2** | T-4 3/4 | Dbl End Cap | Auto | 12.80 | 1.40A | 21.00 | 1000 | 1.72 | 23020 | **1K411** | 2.53 | **2.42** | 2 | 12 | 0.1 |
| **585** | T-3 1/4 | Wedge | Indicator (75,79)* | 28.00 | .04A | .30 | 7000 | 1.06 | 49936 | **1C241** | 1.62 | **1.55** | 10 | 500 | 0.1 |
| **590** | T-3 1/4 | Wedge | Auto, Strip, Sign, Xenon | 13.50 | .37A | 4.00 | 2000 | 1.06 | 18442 | **3JK43** | 1.12 | **1.07** | 10 | 500 | 0.1 |
| **605** | G-4 1/2 | Mini Scrw | Flashlight, 5D Cells (116)* | 6.15 | .50A | 3.40 | 15 | 1.07 | 26549 | **6VF13** | 2.05 | **1.65** | 10 | 500 | 0.1 |
| **612** | G-3 1/2 | Mini 2-Pin | Special Service (5,69)* | 6.30 | .25A | .65 | 5000 | 0.94 | 36935 | **2F548** | 2.14 | **2.04** | 10 | 500 | 0.1 |
| **623** | G-6 | S.C. Bay | Instrument, 2-Filaments (13)* | 28.00 | .37A | 6.00 | 1000 | 1.44 | 26561 | **1E817** | 3.52 | **3.35** | 10 | 1000 | 0.1 |
| **624** | G-6 | D.C. Bay | Marine, 2-Filaments (13)* | 28.00 | .37A | 6.00 | 1000 | 1.44 | 26567 | **6VF15** | 5.27 | **4.48** | 10 | 1000 | 0.1 |
| **631/BP2** | G-6 | S.C. Bay | Auto, 2-Filaments, Heavy Duty | 14.00 | .63A | 6.00 | 1000 | 1.44 | 23023 | **6VF16** | 2.05 | **1.65** | 2 | 500 | 0.1 |
| **656** | T-3 1/4 | Wedge | Indicator | 28.00 | .06A | .62 | 2500 | 1.06 | 38866 | **1C572** | 0.86 | **0.82** | 10 | 500 | 0.1 |
| **657** | T-3 1/4 | Wedge | Indicator (43,79)* | 28.00 | .08A | .62 | 15000 | 1.06 | 38196 | **1C588** | 0.86 | **0.82** | 10 | 500 | 0.1 |
| **658** | T-3 1/4 | Wedge | Indicator (43)* | 14.00 | .08A | .31 | 15000 | 1.06 | 39999 | **2F580** | 1.04 | **0.99** | 10 | 500 | 0.1 |
| **705** | S-8 | S.C. Bay | Aircraft | 28.00 | .51A | 15.00 | 900 | 2.00 | 43132 | **2F616** | 6.05 | **5.75** | 10 | 500 | 0.1 |
| **755** | T-3 1/4 | Mini Bay | Indicator (43)* | 6.30 | .15A | .33 | 20000 | 1.19 | 26591 | **6VF17** | 1.17 | **0.83** | 10 | 500 | 0.1 |
| **756** | T-3 1/4 | Mini Bay | Indicator (43)* | 14.00 | .08A | .31 | 15000 | 1.19 | 26593 | **1E619** | 1.47 | **1.40** | 10 | 500 | 0.1 |
| **757** | T-3 1/4 | Mini Bay | Indicator (43,79)* | 28.00 | .08A | .62 | 15000 | 1.19 | 26599 | **1E472** | 1.21 | **1.16** | 10 | 500 | 0.1 |
| **767** | T-2 1/4 | Mini Bay | Instrument, Halogen (75,131)* | 6.00 | 2.00A | 19.00 | 50 | 1.13 | 11014 | **2C806** | 26.61 | **25.30** | 1 | 100 | 0.1 |
| **773** | T-2 3/4 | G-4 2-Pin | Special Service, Halogen (75,124,131)* | 12.00 | .67A | 10.00 | 1000 | 1.05 | 11250 | **2C872** | 12.10 | **11.50** | 1 | 100 | 0.1 |
| **774** | T-2 1/4 | G-4 2-Pin | Emergency Lighting, Halogen (124,131)* | 12.00 | .67A | 13.00 | 50 | 1.00 | 12723 | **2F101** | 9.03 | **8.58** | 1 | 100 | 0.1 |
| **778** | T-2 3/4 | G-4 2-Pin | Instrument, Halogen, Hi Temp (124,131)* | 6.00 | 3.33A | 32.00 | 100 | 1.05 | 49718 | **1C261** | 10.07 | **9.56** | 1 | 100 | 0.1 |
| **780** | T-2 3/4 | G-4 2-Pin | Strip Light, Halogen (124,131)* | 12.00 | 10.00W | 12.00 | 2000 | 1.05 | 18344 | **2F262** | 10.86 | **10.31** | 10 | 100 | 0.1 |
| **782** | T-2 3/4 | G-4 2-Pin | Special Service, Halogen (124,131)* | 12.00 | 1.66A | 25.00 | 2000 | 1.05 | 44840 | **2F652** | 10.86 | **10.31** | 1 | 100 | 0.1 |
| **783** | T-2 1/4 | G-4 2-Pin | Emergency Lighting, Halogen (124,131)* | 12.00 | 1.00A | 22.00 | 50 | 1.00 | 44500 | **2F640** | 9.03 | **8.58** | 1 | 100 | 0.1 |
| **784** | T-2 1/4 | G-4 2-Pin | Emergency Lighting, Halogen (124,131)* | 6.00 | 1.00A | 9.00 | 50 | 1.00 | 43760 | **2F630** | 8.92 | **8.47** | 1 | 100 | 0.1 |
| **785** | T-2 1/4 | G-4 2-Pin | Emergency Lighting, Halogen (124,131)* | 6.00 | 1.33A | 13.00 | 50 | 1.00 | 43762 | **2F632** | 8.92 | **8.47** | 1 | 100 | 0.1 |
| **786** | T-2 1/4 | G-4 2-Pin | Emergency Lighting, Halogen (124,131)* | 6.00 | 2.00A | 19.00 | 50 | 1.00 | 43764 | **2F634** | 8.92 | **8.47** | 1 | 100 | 0.1 |
| **787** | T-2 1/4 | G-4 2-Pin | Instrument, Halogen (124,131)* | 6.00 | 1.67A | 16.00 | 100 | 1.00 | 43115 | **1C393** | 9.03 | **8.58** | 1 | 100 | 0.1 |
| **788** | T-2 1/4 | G-4 2-Pin | Instrument, Halogen (124,131)* | 6.00 | 3.33A | 32.00 | 100 | 1.00 | 43117 | **2F610** | 9.03 | **8.58** | 1 | 100 | 0.1 |
| **789** | T-2 3/4 | G-4 2-Pin | Instrument, Halogen (124,131)* | 12.00 | 1.17A | 22.00 | 200 | 1.05 | 43119 | **2F612** | 9.85 | **9.36** | 10 | 100 | 0.1 |
| **790** | T-2 3/4 | G-4 2-Pin | Instrument, Halogen (124,131)* | 14.00 | 1.79A | 42.00 | 200 | 1.05 | 43121 | **2F614** | 9.85 | **9.36** | 1 | 100 | 0.1 |
| **791** | T-2 3/4 | G-4 2-Pin | Instrument, Halogen (124,131)* | 14.00 | 2.50A | 61.00 | 200 | 1.05 | 43123 | **1C391** | 9.85 | **9.36** | 1 | 100 | 0.1 |
| **795** | T-4 | S.C. Bay | Signal, Halogen (4,114)* | 12.80 | 50.00W | 108.00 | 200 | 2.50 | 20469 | **1K383** | 11.53 | **10.95** | 1 | 100 | 0.1 |
| **880/BP1** | T-3 1/4 | Axial, Plstc, Pf | Auto, Fog Halogen (17,131,156,160)* | 12.80 | 2.10A | 43.00 | 300 | 2.68 | 12320 | **2F117** | 8.70 | **8.27** | 1 | 48 | 0.1 |
| **881/BP1** | T-3 1/4 | Rt Ang Pf | Auto, Fog Halogen (17,131,156,160)* | 12.80 | 2.10A | 43.00 | 300 | 2.68 | 12334 | **2F152** | 8.70 | **8.27** | 1 | 48 | 0.1 |
| **882-X** | T-2 1/4 | G-4 2-Pin | Auto Inst, Halogen (124,131,150)* | 12.80 | .35A | 3.80 | 2000 | 1.00 | 18167 | **2F258** | 8.70 | **8.27** | 1 | 100 | 0.1 |
| **882** | T-2 1/4 | Printed Circ Socket | Auto Inst, Halogen (131,150)* | 12.80 | .35A | 3.80 | 2000 | 1.18 | 13158 | **2F184** | 8.70 | **8.27** | 1 | 100 | 0.1 |
| **884** | T-3 1/4 | Axial, Plstc | Special Service, Halogen (131,156)* | 12.80 | 2.10A | 43.00 | 300 | 2.68 | 14072 | **2F210** | 8.70 | **8.27** | 1 | 100 | 0.1 |

(*) See Miniature Lamp footnotes on page 996.

# MINIATURE LAMPS

GE Lighting

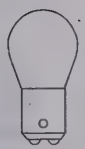

T3 1/4
Axial Plstic Pf


T3 1/4
Rt Ang Pf

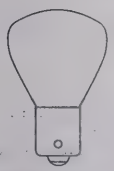

T2 1/4
G4 2-Pin

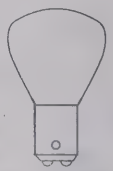

T5
Wedge


B6
SC Bay


B6
DC Bay

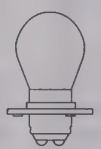

S8
DC Index

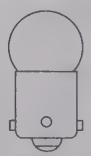

RP11
SC Bay


RP11
DC Bay


S8
SC Bay


S8
DC Bay


S8
DC Pf(s)


G6
SC Bay

| Trade Lamp Number | Bulb | Base | Description | Design Voltage | Design Watts/Amps | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Priced Ea. Sold Only in Pkg. Qtys. Each | Ship Pkg. Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **885/BP1** | T-3 1/4 | Axial, Plstc, Pf | Auto, Fog Halogen (4,131,156)* | 12.80 | 3.90A | 100.00 | 200 | 2.68 | 12335 | **1E414** | $8.70 | **$8.27** | 1 | 100 | 0.1 |
| **886/BP1** | T-3 1/4 | Rt Ang Pf | Auto, Fog Halogen (4,131,156)* | 12.80 | 3.90A | 100.00 | 200 | 2.68 | 14689 | **2F278** | 8.70 | **8.27** | 1 | 100 | 0.1 |
| **889/BP1** | T-3 1/4 | Rt Ang, Plstc | Auto, Halogen (131,156)* | 12.80 | 2.10A | 43.00 | 300 | 2.68 | 12336 | **1E384** | 8.70 | **8.27** | 1 | 100 | 0.3 |
| **890/BP1** | T-3 1/4 | Axial, Plstc | Auto, Halogen (131,156)* | 12.80 | 2.10A | 43.00 | 300 | 2.68 | 12337 | **1M510** | 8.70 | **8.27** | 1 | 100 | 0.1 |
| **891/BP1** | T-2 1/4 | G-4 2-Pin | Auto, Hi Mntd Stop, Hal (124,131,156)* | 12.80 | .63A | 11.00 | 500 | 1.00 | 12308 | **1E382** | 7.43 | **7.07** | 1 | 100 | 0.1 |
| **892** | T-3 1/4 | Axial, Plstc, Pf | Auto, Signal, Halogen (131,156)* | 12.80 | 1.25A | 28.00 | 300 | 2.68 | 16481 | **2F248** | 8.70 | **8.27** | 1 | 100 | 0.1 |
| **893/BP1** | T-3 1/4 | Axial, Plstc, Pf | Auto, Fog Halogen (4,17,131,156,160)* | 12.80 | 2.93A | 75.00 | 200 | 2.68 | 12338 | **1K413** | 8.70 | **8.27** | 1 | 100 | 0.1 |
| **894/BP1** | T-3 1/4 | Rt Ang Pf | Tractor Halogen (4,131,156)* | 12.80 | 2.93A | 75.00 | 200 | 2.68 | 22112 | **2F274** | 8.70 | **8.27** | 1 | 100 | 0.1 |
| **896/BP1** | T-3 1/4 | Rt Ang Pf | Auto, Fog (4,17,131,156,160)* | 12.80 | 2.93A | 75.00 | 200 | 2.68 | 22113 | **2F276** | 8.70 | **8.27** | 1 | 100 | 0.1 |
| **901/BP2** | T-5 | Wedge | Garden, Security | 12.80 | .31A | 2.90 | 500 | 1.49 | 14273 | **3JK06** | 1.65 | **1.57** | 2 | 48 | 0.1 |
| **904/BP2** | T-5 | Wedge | Auto, Heavy Duty (4)* | 13.50 | .69A | 4.00 | 5000 | 1.49 | 23024 | **6VF18** | 1.54 | **1.23** | 2 | 500 | 0.1 |
| **906/BP2** | T-5 | Wedge | Auto, Heavy Duty | 13.00 | .69A | 6.00 | 1000 | 1.49 | 12366 | **1E736** | 1.74 | **1.13** | 2 | 12 | 0.1 |
| **908** | T-5 | Wedge | Emergency Lighting | 6.00 | 1.50A | 12.00 | 50 | 1.49 | 44754 | **6VF20** | 0.99 | **0.79** | 10 | 500 | 0.1 |
| **909** | T-5 | Wedge | Emergency Lighting | 6.00 | .62A | 3.00 | 50 | 1.49 | 44756 | **1C304** | 0.99 | **0.94** | 10 | 500 | 0.1 |
| **912/BP2** | T-5 | Wedge | Auto, Heavy Duty | 12.80 | 1.00A | 12.00 | 1000 | 1.49 | 12365 | **1E738** | 1.74 | **1.13** | 2 | 12 | 0.1 |
| **914** | T-5 | Wedge | Emergency Lighting | 4.00 | .90A | 3.50 | 50 | 1.49 | 44769 | **6VF22** | 1.02 | **0.87** | 10 | 500 | 0.1 |
| **915** | T-5 | Wedge | Emergency Lighting | 12.00 | .75A | 11.00 | 50 | 1.49 | 44771 | **1C300** | 0.99 | **0.94** | 10 | 500 | 0.1 |
| **916/BP2** | T-5 | Wedge | Auto, Side Marker | 13.50 | .54A | 2.00 | 10000 | 1.49 | 23025 | **6VF23** | 1.56 | **1.18** | 2 | 96 | 0.1 |
| **916NA/BP2** | T-5 | Wedge | Auto, Side Marker, N. Amber | 13.00 | .54A | — | 10000 | 1.49 | 23206 | **3JK54** | 3.93 | **3.74** | 2 | 500 | 0.1 |
| **917** | T-5 | Wedge | Home Appliance | 12.00 | 1.20A | 10.00 | 1200 | 1.49 | 44800 | **2F650** | 1.45 | **1.38** | 10 | 500 | 0.1 |
| **918** | T-5 | Wedge | Garden & Security Lighting | 12.80 | .56A | 6.50 | 500 | 1.49 | 17837 | **4VC14** | 1.45 | **1.38** | 10 | 500 | 0.1 |
| **921/BP2** | T-5 | Wedge | Auto, Heavy Duty | 12.80 | 1.40A | 21.00 | 500 | 1.49 | 12307 | **1E785** | 2.74 | **1.59** | 2 | 12 | 0.1 |
| **922/BP2** | T-5 | Wedge | Auto, Heavy Duty | 12.80 | .98A | 15.00 | 200 | 1.49 | 23027 | **6VF25** | 1.34 | **1.07** | 2 | 500 | 0.1 |
| **923** | T-5 | Wedge | Garden & Security Lighting | 12.80 | .91A | 12.50 | 500 | 1.49 | 16955 | **1E257** | 1.45 | **1.38** | 10 | 500 | 0.1 |
| **926** | T-5 | Wedge | Emergency Lighting | 4.00 | 1.80A | 7.50 | 50 | 1.49 | 13483 | **2F194** | 0.99 | **0.94** | 10 | 500 | 0.1 |
| **927** | T-5 | Wedge | Emergency Lighting | 6.00 | 1.20A | 8.00 | 50 | 1.49 | 13485 | **1E538** | 0.99 | **0.94** | 10 | 500 | 0.1 |
| **939** | T-5 | Wedge | Emergency Lighting | 6.00 | .90A | 5.40 | 50 | 1.49 | 16975 | **1E255** | 0.84 | **0.80** | 10 | 500 | 0.1 |
| **1003/BP2** | B-6 | S.C. Bay | Auto Interior | 12.80 | .94A | 15.00 | 200 | 1.75 | 12367 | **1E734** | 1.36 | **0.69** | 2 | 12 | 0.1 |
| **1004/BP2** | B-6 | D.C. Bay | Auto Interior, Marine | 12.80 | .94A | 15.00 | 200 | 1.75 | 12373 | **1E732** | 1.36 | **0.92** | 2 | 12 | 0.1 |
| **1034** | S-8 | D.C. Index | Auto, Stop, Tail | 12.80 | 1.80A | 32.00 | 200 | 2.00 | 26775 | **1E464** | 1.27 | **1.21** | 10 | 500 | 0.1 |
| | | | | 12.80 | .59A | 3.00 | 5000 | | | | | | | | |
| **1047** | RP-11 | S.C. Bay | Aircraft (73)* | 26.00 | 2.70A | 105.00 | 300 | 2.25 | 26815 | **2F386** | 8.04 | **7.63** | 10 | 500 | 0.1 |
| **1062** | RP-11 | D.C. Bay | Special Service, Emer. Ltg. (73)* | 40.00 | .92A | 50.00 | 100 | 2.25 | 32147 | **1C698** | 12.03 | **11.43** | 10 | 500 | 0.1 |
| **1073** | S-8 | S.C. Bay | Auto, Signal | 12.80 | 1.80A | 32.00 | 200 | 2.00 | 26838 | **6VF33** | 1.38 | **0.97** | 10 | 500 | 0.1 |
| **1076** | S-8 | D.C. Bay | Auto | 12.80 | 1.80A | 32.00 | 200 | 2.00 | 26854 | **6VF34** | 2.25 | **1.69** | 10 | 500 | 0.1 |
| **1096** | S-8 | D.C. Pf. (S) | Instrument, Microscope Illum (7)* | 6.00 | 4.50A | 30.00 | 500 | 2.00 | 37169 | **2F552** | 25.23 | **23.97** | 10 | 500 | 0.1 |
| **1129** | S-8 | S.C. Bay | Special Service | 6.40 | 2.63A | 21.00 | 200 | 2.00 | 26872 | **6VF36** | 1.81 | **1.27** | 10 | 500 | 0.1 |
| **1133** | RP-11 | S.C. Bay | Instrument (73)* | 6.20 | 3.91A | 32.00 | 200 | 2.25 | 26885 | **6VF37** | 3.11 | **2.49** | 1 | 10 | 0.1 |
| **1141/BP2** | S-8 | S.C. Bay | Auto | 12.80 | 1.44A | 21.00 | 1000 | 2.00 | 12316 | **1E750** | 1.36 | **0.69** | 2 | 12 | 0.1 |
| **1142** | S-8 | D.C. Bay | Auto | 12.80 | 1.44A | 21.00 | 1000 | 2.00 | 26917 | **6VF39** | 1.86 | **1.21** | 10 | 500 | 0.1 |
| **1152** | S-8 | D.C. Bay | Special Service (7)* | 12.80 | 1.34A | 21.00 | 500 | 2.00 | 26945 | **1E454** | 5.96 | **5.66** | 10 | 500 | 0.1 |
| **1154/BP2** | S-8 | D.C. Index | Auto, Stop, Tail | 6.40 | 2.63A | 21.00 | 200 | 2.00 | 12297 | **1E795** | 1.82 | **1.33** | 2 | 12 | 0.1 |
| | | | | 7.00 | .75A | 3.00 | 1000 | | | | | | | | |
| **1155** | G-6 | S.C. Bay | Auto, Truck Marker, Hvy Dty (4,158)* | 13.50 | .59A | 4.00 | 5000 | 1.44 | 26955 | **1E360** | 1.60 | **1.53** | 10 | 500 | 0.1 |

(*) See Miniature Lamp footnotes on page 996.

# MINIATURE LAMPS

GE Lighting


T3 1/4 & T4 1/2 Mini Bay


T5 SC Bay


G3 1/2 Mini Bay


G3 1/2 Mini Scrw

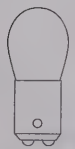

S8 DC Pf(a)


S8 DC Pf(s)


T3 1/4 Mini Scrw

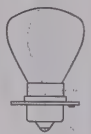

S8 SC Bay


S8 DC Index


S8 DC Bay

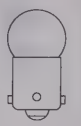

RP11 SC Bay


RP11 DC Bay

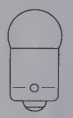

RP11 SC Pf(b)


G6 DC Bay


S8 DC Bay


G6 SC Bay


G16 1/2 DC Pf(a)


G5 SC Bay


B6 SC Bay


R12 SC Bay

| Trade Lamp Number | Bulb | Base | Description | Design Voltage | Design Watts/Amps | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Priced Ea. Sold Only in Pkg. Qtys. Each | Pkg. Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1156/BP2** | S-8 | S.C. Bay | Auto/Truck, Heavy Duty | 12.80 | 2.10A | 32.00 | 1200 | 2.00 | 12344 | **1E752** | $1.36 | **$0.69** | 2 | 12 | 0.1 |
| **1156NA** | S-8 | S.C. Bay | Auto/Truck, N. Amber | 12.80 | 2.10A | 24.00 | 1200 | 2.00 | 20248 | **3JK50** | 1.73 | **1.65** | 10 | 500 | 0.1 |
| **1157/BP2** | S-8 | D.C. Index | Auto/Truck, Stop, Heavy Duty | 12.80 | 2.10A | 32.00 | 1200 | 2.00 | 12294 | **1E799** | 0.73 | **0.59** | 2 | 12 | 0.1 |
| | | | | 14.00 | .59A | 3.00 | 1500 | | | | | | | | |
| **1157NA/BP2** | S-8 | D.C. Index | Auto, Park, N. Amber, Hvy Duty | 12.80 | 2.10A | 24.00 | 1200 | 2.00 | 12310 | **1E783** | 2.36 | **1.49** | 2 | 12 | 0.1 |
| | | | | 14.00 | .59A | 2.20 | 5000 | | | | | | | | |
| **1176** | S-8 | D.C. Bay | Auto, Stop, Tail | 12.80 | 1.34A | 21.00 | 1500 | 2.00 | 27004 | **6VF50** | 1.99 | **1.60** | 10 | 500 | 0.1 |
| **1195** | RP-11 | S.C. Bay | Auto, Nickel-plated base (13,73)* | 12.50 | 30.00A | 50.00 | 300 | 2.25 | 27021 | **6VF53** | 6.98 | **5.25** | 10 | 500 | 0.1 |
| **1196** | RP-11 | D.C. Bay | Auto (13,73)* | 12.50 | 30.00A | 50.00 | 300 | 2.25 | 27026 | **1E358** | 7.43 | **7.07** | 10 | 500 | 0.1 |
| **1203** | S-8 | S.C. Bay | Special Service (13)* | 28.00 | .71A | 21.00 | 400 | 2.00 | 27032 | **1E356** | 5.23 | **4.97** | 10 | 500 | 0.1 |
| **1209** | RP-11 | S.C. Pf. (b) | Instrument (73)* | 6.10 | 4.10A | 32.00 | 125 | 2.25 | 27040 | **1E087** | 12.40 | **11.78** | 10 | 500 | 0.1 |
| **1224** | G-6 | D.C. Bay | Marine (147)* | 34.00 | .16A | 3.80 | 500 | 1.44 | 27044 | **6VF57** | 3.46 | **2.77** | 10 | 1000 | 0.1 |
| **1229** | S-8 | D.C. Bay | Special Service, Emer. Ltg. (13)* | 40.00 | .38A | 15.00 | 400 | 2.00 | 39904 | **2F574** | 11.45 | **10.87** | 10 | 500 | 0.1 |
| **1240** | G-16 1/2 | D.C. Pf. (a) | Special Service (73)* | 32.00 | 3.60A | 250.00 | 35 | 3.00 | 27081 | **1C997** | 9.14 | **8.68** | 1 | 10 | 0.1 |
| **1251** | G-6 | S.C. Bay | Instrument, 2-Filaments (13)* | 28.00 | .23A | 3.00 | 2000 | 1.44 | 27092 | **1C995** | 3.18 | **3.02** | 10 | 1000 | 0.1 |
| **1252** | G-6 | D.C. Bay | Instrument, 2-Filaments (13)* | 28.00 | .23A | 3.00 | 2000 | 1.44 | 27097 | **6VF60** | 3.22 | **2.74** | 10 | 1000 | 0.1 |
| **1295NA** | S-8 | S.C. Bay | Auto, Signal, N. Amber | 12.50 | 3.00A | 37.00 | 200 | 2.00 | 22523 | **3JK58** | 4.54 | **4.31** | 10 | 10 | 0.1 |
| **1308** | B-6 | S.C. Bay | Aircraft, Reading Light | 28.00 | .56A | 16.00 | 2000 | 1.75 | 12824 | **1E605** | 6.91 | **6.57** | 10 | 500 | 0.1 |
| **1309** | B-6 | S.C. Bay | Aircraft, Interior | 28.00 | .52A | 15.00 | 300 | 1.75 | 27118 | **1C979** | 9.01 | **8.56** | 10 | 500 | 0.1 |
| **1315** | G-5 | S.C. Bay | Aircraft, Emergency Lighting (116)* | 2.50 | 1.00A | 1.75 | 20 | 1.25 | 32098 | **2F490** | 3.97 | **3.77** | 1 | 50 | 0.1 |
| **1317** | B-6 | S.C. Bay | Aircraft, Emergency Lighting (116)* | 6.00 | .51A | 3.40 | 100 | 1.75 | 34265 | **2F504** | 10.99 | **10.44** | 10 | 500 | 0.1 |
| **1383** | R-12 | S.C. Bay | Auto, Reading Light (21)* | 13.00 | 20.00W | — | 300 | 2.63 | 27150 | **1C977** | 15.90 | **15.11** | 1 | 10 | 1.0 |
| **1385** | R-12 | S.C. Bay | Spec Srv, Reading Light (21)* | 28.00 | 20.00W | — | 300 | 2.63 | 27154 | **1C975** | 17.45 | **16.57** | 10 | 100 | 0.1 |
| **1388** | R-12 | D.C. Bay | Special Service, Telephone Trouble (21)* | 24.00 | 20.00W | — | 500 | 2.63 | 27159 | **2F388** | 26.40 | **25.10** | 10 | 100 | 0.1 |
| **1408** | T-3 1/4 | Mini Bay | Signal (13)* | 10.00 | .13A | .85 | 250 | 1.19 | 27179 | **1C973** | 1.25 | **1.19** | 10 | 500 | 0.1 |
| **1414** | T-4 1/2 | Mini Bay | Aircraft (144)* | 14.00 | .46A | 6.00 | 500 | 1.38 | 27181 | **2F390** | 3.33 | **3.15** | 10 | 100 | 0.1 |
| **1434** | T-5 | S.C. Bay | Instrument, Photocell Exciter (8)* | 3.70 | 2.75A | 11.00 | 100 | 1.75 | 27193 | **1C971** | 16.55 | **15.73** | 10 | 100 | 0.1 |
| **1445/BP2** | G-3 1/2 | Mini Bay | Auto | 14.40 | .14A | .70 | 2000 | 0.94 | 12329 | **1E771** | 0.79 | **0.59** | 2 | 12 | 0.1 |
| **1449** | G-3 1/2 | Mini Scrw | Toy Train (13)* | 14.00 | .20A | 2.00 | 250 | 0.94 | 27252 | **1C968** | 0.97 | **0.92** | 10 | 500 | 0.1 |
| **1450** | G-3 1/2 | Mini Bay | Indicator | 24.00 | .04A | .23 | 3000 | 0.94 | 27263 | **1C961** | 4.49 | **4.26** | 10 | 500 | 0.1 |
| **1460** | S-8 | D.C. Pf. (a) | Medical (7)* | 6.50 | 2.75A | 23.00 | 100 | 2.00 | 28310 | **6VF67** | 11.36 | **9.08** | 10 | 500 | 0.1 |
| **1460X** | S-8 | D.C. Pf. (a) | Microscope Illuminator (7)* | 6.50 | 2.75A | 23.00 | 100 | 2.00 | 37342 | **1C602** | 15.85 | **15.06** | 10 | 500 | 0.1 |
| **1468** | S-8 | D.C. Pf. (s) | Medical Instrument BUTH (7)* | 6.00 | 4.50A | 30.00 | 500 | 2.00 | 27305 | **2F392** | 21.38 | **20.31** | 10 | 500 | 0.1 |
| **1468X** | S-8 | D.C. Pf. (s) | Medical Instrument BUTH | 6.00 | 4.50A | 30.00 | 500 | 2.00 | 42677 | **2F604** | 16.80 | **15.97** | 10 | 500 | 0.1 |
| **1487** | T-3 1/4 | Mini Scrw | Indicator | 14.00 | .20A | 1.40 | 3000 | 1.19 | 27356 | **1C959** | 1.06 | **1.01** | 10 | 500 | 0.1 |
| **1489** | T-5 | S.C. Bay | Instrument | 6.50 | 2.75A | 24.00 | 125 | 1.75 | 27369 | **2F394** | 16.87 | **16.03** | 10 | 100 | 0.1 |
| **1493** | S-8 | D.C. Bay | Instrument, Microscope Illum (7)* | 6.50 | 2.75A | 23.00 | 100 | 2.00 | 27382 | **6VF71** | 5.68 | **4.55** | 10 | 500 | 0.1 |
| **1495** | T-4 1/2 | Mini Bay | Aircraft (14)* | 28.00 | .30A | 6.00 | 500 | 1.38 | 27392 | **2F396** | 2.22 | **2.12** | 10 | 100 | 0.1 |

(*) See Miniature Lamp footnotes on page 996.

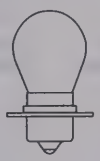
**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# MINIATURE LAMPS

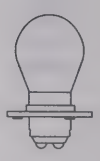
GE Lighting

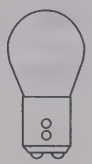

T4 1/2 Mini Bay


S8 SC Pf(s)


S8 SC Bay


S8 DC Bay


S8 DC Pf(a)


S8 DC Index


S11 SC Bay


S11 SC Pf(b)


T3 1/4 Mini Bay


T5 SC Bay

| Trade Lamp Number | Bulb | Base | Description | Design Voltage | Design Watts/Amp | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Priced Ea. Sold Only in Pkg. Qtys. Each | Pkg Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1495X** | T-4 1/2 | Mini Bay | Aircraft, Gas Filled | 28.00 | .30A | 6.00 | 500 | 1.38 | 44842 | **2F654** | $3.46 | **$3.28** | 10 | 100 | 0.1 |
| **1534** | S-6 | D.C. Index | Aircraft (15,69,75,144)* | 5.00 | .55A | 2.00 | 50 | 1.82 | 47773 | **2F660** | 44.32 | **42.15** | 10 | 100 | 0.1 |
| | | | | 28.00 | — | — | 1000 | | | | | | | | |
| **1561** | S-11 | S.C. Pf. (b) | Instrument, Colorimeter (7)* | 6.30 | 4.00A | 24.00 | 1500 | 2.38 | 27431 | **2F400** | 21.15 | **20.10** | 10 | 500 | 0.1 |
| **1565** | S-8 | S.C. Pf. (s) | Instrument, Photoelectric Scanner (7,26)* | 5.10 | 1.75A | 4.80 | 5000 | 2.00 | 27434 | **2F402** | 29.40 | **28.00** | 10 | 500 | 0.1 |
| **1591** | S-8 | S.C. Bay | Auto (13)* | 28.00 | .61A | 15.00 | 1000 | 2.00 | 40943 | **1C464** | 4.00 | **3.79** | 10 | 500 | 0.1 |
| **1594** | S-8 | D.C. Bay | Instrument, Microscope BDTH (7)* | 6.00 | 5.00A | 36.00 | 250 | 2.00 | 27439 | **2F404** | 11.58 | **11.00** | 10 | 500 | 0.1 |
| **1612** | S-8 | D.C. Bay | Instrument (7,147)* | 5.40 | 1.90A | 10.00 | 1000 | 2.00 | 27461 | **1C957** | 10.43 | **9.90** | 10 | 500 | 0.1 |
| **1619** | S-8 | S.C. Bay | Instrument (7)* | 6.70 | 1.90A | 15.00 | 500 | 2.00 | 27472 | **1C955** | 7.39 | **7.03** | 10 | 500 | 0.1 |
| **1630** | S-8 | D.C. Pf. (a) | Instrument, Microscope Illum (7)* | 6.50 | 2.75A | 23.00 | 100 | 2.00 | 27488 | **6VF72** | 7.39 | **6.28** | 10 | 500 | 0.1 |
| **1631X** | S-8 | D.C. Pf. (a) | Instrument, Colorimeter (7)* | 6.50 | 2.75A | 23.00 | 100 | 2.00 | 27491 | **1C953** | 17.58 | **16.70** | 10 | 500 | 0.1 |
| **1634** | S-8 | D.C. Pf. (a) | Instrument, Micrscp Illum, BUTH (8)* | 20.00 | 1.00A | 24.00 | 200 | 2.00 | 27496 | **1C951** | 15.85 | **15.06** | 10 | 500 | 0.1 |
| **1638** | S-8 | D.C. Bay | Marine, 2 Filaments | 28.00 | 1.02A | 32.00 | 500 | 2.00 | 27504 | **6VF74** | 7.82 | **6.25** | 10 | 500 | 0.1 |
| **1649** | S-8 | D.C. Pf. (a) | Instrument, Microscope Illum (8)* | 6.50 | 2.75A | 23.00 | 100 | 2.00 | 27513 | **2F406** | 44.65 | **42.45** | 10 | 500 | 0.1 |
| **1651** | S-8 | S.C. Bay | Hand Lantern, 4F or 8F Cells (116)* | 5.00 | .60A | 3.00 | 20 | 2.00 | 27515 | **1C949** | 5.81 | **5.52** | 10 | 500 | 0.1 |
| **1662** | S-8 | D.C. Index | Aircraft, C-2V Filament Inverted (15,33,144)* | 28.00 | .93A | 32.00 | 400 | 2.00 | 27529 | **6VF76** | 13.39 | **11.39** | 10 | 500 | 0.1 |
| **1665** | S-8 | S.C. Bay | Aircraft (13)* | 28.00 | .80A | 21.00 | 1000 | 2.00 | 27532 | **1C947** | 4.47 | **4.24** | 10 | 500 | 0.1 |
| **1680** | S-8 | S.C. Bay | Aircraft | 6.00 | 4.10A | 32.00 | 300 | 2.00 | 27548 | **1C945** | 3.30 | **3.13** | 10 | 500 | 0.1 |
| **1680X** | S-8 | S.C. Bay | Aircraft, Solid Silver Contact | 6.00 | 4.10A | 32.00 | 300 | 2.00 | 33995 | **2F500** | 9.72 | **9.23** | 10 | 500 | 0.1 |
| **1683** | S-8 | S.C. Bay | Aircraft, 2-Filaments | 28.00 | 1.02A | 32.00 | 500 | 2.00 | 27557 | **6VF80** | 4.88 | **4.15** | 10 | 500 | 0.1 |
| **1691** | S-8 | S.C. Bay | Aircraft, 2-Filaments | 28.00 | .61A | 15.00 | 1000 | 2.00 | 27566 | **6VF81** | 6.22 | **4.35** | 10 | 500 | 0.1 |
| **1691AF** | S-8 | S.C. Bay | Aircraft, 2-Filaments; All frosted | 28.00 | .61A | — | 1000 | 2.00 | 27568 | **2F408** | 7.86 | **7.05** | 10 | 50 | 0.1 |
| **1692** | S-8 | D.C. Bay | Marine, 2-Filaments | 28.00 | .61A | 15.00 | 1000 | 2.00 | 27571 | **6VF82** | 8.21 | **6.98** | 10 | 500 | 0.1 |
| **1723** | S-11 | S.C. Bay | Aircraft | 6.20 | 4.50A | 32.00 | 400 | 2.38 | 27596 | **2F410** | 10.86 | **10.31** | 10 | 500 | 0.1 |
| **1731** | S-11 | S.C. Pf. (b) | Instrument, Silver Contact, BDTH (7)* | 6.30 | 6.60A | 47.00 | 1000 | 2.38 | 27608 | **2F412** | 24.28 | **23.07** | 10 | 500 | 0.1 |
| **1763** | S-11 | S.C. Pf. (b) | Instrument, Colorimeter (7)* | 6.10 | 4.10A | 32.00 | 125 | 2.38 | 27627 | **2F414** | 9.03 | **8.58** | 10 | 500 | 0.1 |
| **1777** | S-8 | S.C. Bay | Aircraft Tail Light | 12.80 | 1.52A | 26.00 | 400 | 2.00 | 27630 | **2F416** | 6.74 | **6.40** | 10 | 500 | 0.1 |
| **1810** | T-3 1/4 | Mini Bay | Special Service | 6.30 | .40A | 1.50 | 3000 | 1.19 | 27659 | **1C943** | 4.41 | **4.18** | 10 | 500 | 0.1 |
| **1813** | T-3 1/4 | Mini Bay | Radio (13)* | 14.40 | .10A | .86 | 1000 | 1.19 | 27667 | **1C941** | 1.60 | **1.53** | 10 | 500 | 0.1 |
| **1815** | T-3 1/4 | Mini Bay | Indicator (147)* | 14.00 | .20A | 1.40 | 3000 | 1.19 | 27677 | **6VF85** | 1.27 | **0.89** | 10 | 500 | 0.1 |
| **1816** | T-3 1/4 | Mini Bay | Aircraft, Auto (13)* | 13.00 | .33A | 3.00 | 1000 | 1.19 | 27688 | **6VF86** | 1.10 | **0.72** | 10 | 500 | 0.1 |
| **1818** | T-3 1/4 | Mini Bay | Aircraft (147)* | 24.00 | .17A | 3.30 | 250 | 1.19 | 27707 | **1C937** | 2.83 | **2.68** | 10 | 500 | 0.1 |
| **1819** | T-3 1/4 | Mini Bay | Indicator | 28.00 | .04A | .34 | 2500 | 1.19 | 27711 | **6VF87** | 1.06 | **0.73** | 10 | 500 | 0.1 |
| **1820** | T-3 1/4 | Mini Bay | Indicator | 28.00 | .10A | 1.60 | 1000 | 1.19 | 27727 | **6VF88** | 1.06 | **0.73** | 10 | 500 | 0.1 |
| **1822** | T-3 1/4 | Mini Bay | Indicator | 36.00 | .10A | 2.10 | 1000 | 1.19 | 27749 | **1C935** | 2.72 | **2.58** | 10 | 500 | 0.1 |
| **1828** | T-3 1/4 | Mini Bay | Indicator | 37.50 | .05A | .65 | 3000 | 1.19 | 27772 | **6VF91** | 2.87 | **2.02** | 10 | 500 | 0.1 |
| **1829** | T-3 1/4 | Mini Bay | Indicator | 28.00 | .07A | 1.00 | 1000 | 1.19 | 27776 | **6VF92** | 0.99 | **0.79** | 10 | 500 | 0.1 |
| **1835** | T-3 1/4 | Mini Bay | Indicator | 55.00 | .05A | 1.10 | 5000 | 1.19 | 27804 | **6VF93** | 3.30 | **2.31** | 10 | 500 | 0.1 |
| **1843** | T-3 1/4 | Mini Bay | Indicator (15)* | 28.00 | .02A | .20 | 3000 | 1.19 | 27816 | **1C933** | 4.47 | **4.24** | 10 | 500 | 0.1 |
| **1847** | T-3 1/4 | Mini Bay | Radio, TV, Indicator (44)* | 6.30 | .15A | .38 | 5000 | 1.19 | 27819 | **6VF94** | 0.80 | **0.72** | 10 | 500 | 0.1 |
| **1850** | T-3 1/4 | Mini Bay | Signal (116)* | 5.00 | .09A | .25 | 1500 | 1.19 | 27833 | **1C931** | 3.05 | **2.90** | 10 | 500 | 0.1 |
| **1864** | T-3 1/4 | Mini Bay | Aircraft | 28.00 | .17A | 3.50 | 1500 | 1.19 | 27862 | **6VF96** | 1.14 | **0.86** | 10 | 500 | 0.1 |
| **1866** | T-3 1/4 | Mini Bay | Radio (44)* | 6.30 | .25A | .65 | 5000 | 1.19 | 27868 | **6VF97** | 0.99 | **0.69** | 10 | 500 | 0.1 |
| **1873** | T-3 1/4 | Mini Bay | Aircraft | 28.00 | .20A | 3.00 | 7000 | 1.19 | 40383 | **1C496** | 2.81 | **2.67** | 10 | 500 | 0.1 |
| **1874** | T-5 | S.C. Bay | Instrument (8)* | 3.70 | 2.75A | 11.00 | 100 | 1.75 | 27882 | **2F418** | 15.85 | **15.06** | 10 | 100 | 0.1 |
| **1876** | T-5 | S.C. Bay | Spec Srv, Photoelectric Scan | 3.50 | 2.50A | 6.50 | 2000 | 1.75 | 27889 | **1C928** | 20.50 | **19.47** | 10 | 100 | 0.1 |
| **1876X** | T-5 | S.C. Bay | Spec Srv, Photoelectric Scan | 3.50 | 2.50A | 6.50 | 2000 | 1.75 | 36774 | **2F544**** | 16.31 | **15.50** | 10 | 100 | 0.1 |
| **1889** | T-3 1/4 | Mini Bay | Auto, Heavy Duty | 14.00 | .27A | 2.00 | 2000 | 1.19 | 27907 | **6VF98** | 1.06 | **0.90** | 10 | 500 | 0.1 |
| **1891/BP2** | T-3 1/4 | Mini Bay | Auto, Radio, Indicator | 14.00 | .24A | 2.00 | 500 | 1.19 | 12331 | **1E764** | 1.10 | **0.74** | 2 | 12 | 0.2 |
| **1892** | T-3 1/4 | Mini Bay | Auto, Indicator | 14.40 | .12A | .75 | 1000 | 1.19 | 27927 | **6VH00** | 1.17 | **0.83** | 10 | 500 | 0.1 |
| **1893/BP2** | T-3 1/4 | Mini Bay | Auto, Heavy Duty | 14.00 | .33A | 2.00 | 7500 | 1.19 | 12332 | **1E762** | 1.13 | **0.80** | 2 | 12 | 0.1 |

(*) See Miniature Lamp footnotes on page 996. (**) Limited availability. Contact your local Branch.


## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

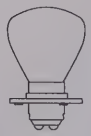
# MINIATURE LAMPS

GE Lighting


G4 1/2
Mini Bay


S11
SC Bay

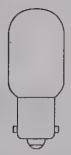

S8
Wedge


RP11
DC Pf(s)

S6
SC Bay


TL2 3/4
G4 2-Pin

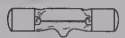

T3
Double Slide


T7
SC Bay


T4
Tab

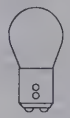

T3
Special Slv


T3
Wire Term


T3
Special


T3
SC Bay


T4
2 Pin


S8
DC Index


S8
SC Bay

| Trade Lamp Number | Bulb | Base | Description | Design Voltage | Design Watts/Amps | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Priced Ea. Sold Only in Pkg. Qtys. Each | Pkg. Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1895/BP2** | G-4 1/2 | Mini Bay | Auto/Truck Marker | 14.00 | .27A | 2.00 | 2000 | 1.07 | 12330 | **1E769** | $0.76 | **$0.59** | 2 | 12 | 0.1 |
| **1939X** | T-7 | S.C. Bay | Aircraft, Marker (13,67)* | 28.00 | 1.79A | 70.00 | 300 | 2.16 | 34021 | **2F502** | 16.07 | **15.27** | 1 | 100 | 0.1 |
| **1940** | T-7 | S.C. Bay | Aircraft, Marker (67)* | 14.00 | 3.57A | 75.00 | 300 | 2.16 | 28008 | **2F420** | 12.72 | **12.09** | 1 | 100 | 0.1 |
| **1944** | T-7 | S.C. Bay | Special Service, Silver Contact (14)* | 14.00 | 3.57A | 75.00 | 300 | 2.25 | 37034 | **2F550** | 16.87 | **16.03** | 1 | 100 | 0.1 |
| **1944X** | T-7 | S.C. Bay | Special Service, Silver Contact (14)* | 14.00 | 3.57A | 75.00 | 300 | 2.25 | 45087 | **2F656** | 30.28 | **28.85** | 1 | 100 | 0.1 |
| **1958** | T-4 | Tab | Aircraft, Halogen (114)* | 28.00 | 150.00W | 250.00 | 300 | 2.25 | 28011 | **2F422** | 64.69 | **61.50** | 1 | 100 | 0.1 |
| **1967** | T-3 | Special Slv | Aircraft, Halogen (13,114)* | 28.00 | 150.00W | 210.00 | 1000 | 2.25 | 28019 | **2F424** | 90.18 | **85.75** | 1 | 100 | 0.1 |
| **1968** | T-3 | Double Slide | Aircraft, Gunsight, Halogen (13,114)* | 28.00 | 25.00W | 15.00 | 500 | 1.17 | 28034 | **2F426** | 106.16 | **100.90** | 1 | 100 | 0.1 |
| **1970** | T-3 | Special Slv | Aircraft, Halogen (114)* | 28.00 | 100.00W | 150.00 | 1000 | 2.25 | 28036 | **2F428** | 96.23 | **91.50** | 1 | 100 | 0.1 |
| **1970X** | T-3 | Special Slv | Aircraft, Halogen (13,75,114)* | 28.00 | 100.00W | 140.00 | 1000 | 2.25 | 41938 | **2F602** | 91.04 | **86.55** | 1 | 100 | 0.1 |
| **1974** | T-3 | Wire Term | Instrument, Halogen (114)* | 6.00 | 20.00W | 10.00 | 10000 | 1.14 | 32780 | **1C686** | 91.15 | **86.65** | 1 | 10 | 0.1 |
| **1978X** | T-3 | Special | Aircraft, Navigation, Halogen (114)* | 10.00 | 100.00W | 130.00 | 2000 | 2.15 | 38545 | **1C582** | 115.56 | **109.80** | 1 | 10 | 0.1 |
| **1982** | T-3 | S.C. Bay | Aircraft, Navigation, Halogen (13,114)* | 28.00 | 75.00W | 110.00 | 1000 | 1.88 | 38627 | **2F564** | 103.14 | **98.05** | 1 | 100 | 0.1 |
| **1982SP** | T-3 | S.C. Bay | Aircraft | 28.00 | 75.00W | 107.00 | 2000 | 1.88 | 21061 | **2F292** | 28.30 | **26.95** | 1 | 400 | 0.1 |
| **1983** | T-4 | 2-Pin | Aircraft, Navigation, Halogen (114)* | 10.00 | 100.00W | 130.00 | 2000 | 1.80 | 39718 | **2F572** | 103.68 | **98.55** | 1 | 10 | 0.1 |
| **1986** | T-4 | Pf Collar | Aircraft, Halogen (114)* | 28.00 | 250.00W | 600.00 | 100 | 2.00 | 44717 | **2F644** | 54.54 | **51.85** | 1 | 100 | 0.1 |
| **1987** | T-4 | D.C. Bay | Aircraft, Halogen (114)* | 28.00 | 150.00W | 240.00 | 700 | 2.44 | 47695 | **2F658** | 53.78 | **51.15** | 1 | 100 | 0.1 |
| **1988** | T-3 | Special Slv | Aircraft, Gunsight, Halogen (114)* | 10.00 | 100.00W | 130.00 | 2000 | 2.15 | 38535 | **2F562** | 114.59 | **108.95** | 1 | 100 | 0.1 |
| **2040** | T-2 1/4 | Wedge | Auto Light Bar, Halogen (156)* | 12.80 | .63A | 10.50 | 500 | 1.25 | 19280 | **2F268** | 8.92 | **8.47** | 1 | 100 | 0.1 |
| **2057/BP2** | S-8 | D.C. Index | Auto, Stop, Heavy Duty | 12.80 | 2.10A | 32.00 | 1200 | 2.00 | 12296 | **1E797** | 1.27 | **0.89** | 2 | 12 | 0.1 |
| | | | | 14.00 | .48A | 2.00 | 5000 | | | | | | | | |
| **2057NA/BP2** | S-8 | D.C. Index | Auto, Park, N. Amber, Hvy Duty | 12.80 | .48A | 24.00 | 1200 | 2.00 | 12312 | **1E781** | 2.98 | **2.40** | 2 | 12 | 0.1 |
| | | | | 14.00 | .48A | 1.50 | 5000 | | | | | | | | |
| **2232** | S-8 | S.C. Bay | Aircraft, Spiral Lead | 28.00 | .64A | 18.00 | 2000 | 2.00 | 34763 | **1C646** | 7.19 | **6.83** | 10 | 500 | 0.1 |
| **2232SB** | S-8 | S.C. Bay | Aircraft, Spiral Lead, Top of bulb Reflectorized | 28.00 | .64A | — | 2000 | 2.00 | 43134 | **2F618** | 18.81 | **17.86** | 10 | 500 | 0.1 |
| **2233** | S-8 | S.C. Bay | Aircraft, Spiral Lead | 28.00 | .77A | 21.00 | 2000 | 2.00 | 36906 | **2F546** | 8.06 | **7.65** | 10 | 500 | 0.1 |
| **2331** | RP-11 | D.C. Pf. (s) | Instrument (73)* | 5.90 | 4.66A | 32.00 | 400 | 2.25 | 28100 | **2F430** | 8.34 | **7.92** | 10 | 500 | 0.1 |
| | | | | 6.20 | — | — | 400 | | | | | | | | |
| **2357/BP2** | S-8 | D.C. Index | Auto, Stop, Heavy Duty | 12.80 | 2.20A | 40.00 | 400 | 2.00 | 12298 | **1E793** | 1.38 | **1.05** | 2 | 12 | 0.1 |
| | | | | 14.00 | .59A | 3.00 | 5000 | | | | | | | | |
| **2357NA/BP2** | S-8 | D.C. Index | Auto/Truck, N. Amber, Hvy Duty | 12.80 | 2.20A | 30.00 | 400 | 2.00 | 12299 | **1E791** | 3.22 | **2.77** | 2 | 12 | 0.1 |
| | | | | 14.00 | .59A | 2.20 | 5000 | | | | | | | | |
| **2396** | S-8 | S.C. Bay | Auto, Stop | 12.80 | 2.23A | 40.00 | 400 | 2.00 | 18047 | **3JK39** | 1.71 | **1.63** | 10 | 500 | 0.1 |
| **2577** | S-6 | S.C. Bay | Pin Spotter | 3.50 | 2.50A | 6.50 | 2500 | 1.75 | 20246 | **2F280** | 20.50 | **19.47** | 10 | 100 | 0.1 |
| **2604X** | TL-2 3/4 | G-4 2-Pin | Instrument, Halogen, Lens End (128,131)* | 5.00 | 2.00A | .00 | 5000 | 1.18 | 43805 | **2F636** | 23.13 | **21.98** | 10 | 100 | 0.1 |
| **3011** | S-11 | S.C. Bay | Aircraft (13)* | 28.00 | 1.29A | 44.00 | 1000 | 2.38 | 36508 | **2F540** | 6.33 | **6.01** | 10 | 500 | 0.1 |
| **3057/BP2** | S-8 | Wedge | Auto, Stop, Heavy Duty | 12.80 | 2.10A | 32.00 | 1200 | 2.09 | 12305 | **1E789** | 1.57 | **0.99** | 2 | 12 | 0.1 |
| | | | | 14.00 | .48A | 2.00 | 5000 | | | | | | | | |

(*) See Miniature Lamp footnotes on page 996.

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

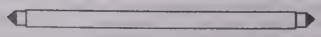
**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# MINIATURE LAMPS

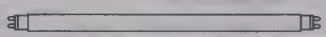
GE Lighting



58
Wedge



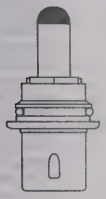
T5
Mini Pinless



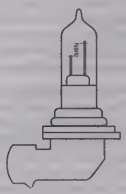
T5
Mini Pipin



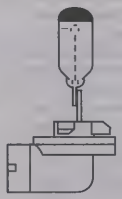
T1 3/4
Bipin M23



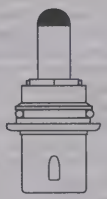
T4 3/4
AxialL Plstc Pf



T3 1/4
Rt Ang Plstc
Pf



T3 1/4
Rt Ang Plstc Pf



T4 3/4
Axial Plstc Pf

| Trade Lamp Number | Bulb | Base | Description | Design Voltage | Design Watts/Amps | Approx. Spherical C.P. | Rated Avg. Life Hours | Maximum Overall Length (in.) | GE Product Code | Stock No. | Priced Ea. Sold Only in Pkg. Qtys. List | Priced Ea. Sold Only in Pkg. Qtys. Each | Pkg. Qty. | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3057/NA/BP2** | S-8 | Wedge | Auto, Park, N. Amber | 12.80<br>14.00 | 2.10A<br>.59A | 24.00<br>2.00 | 1200<br>5000 | 2.09 | 12313 | **1E779** | $3.41 | **$2.94** | 2 | 12 | 0.1 |
| **3155/BP2** | S-8 | Wedge | Auto, Signal | 12.80 | 1.60A | 21.00 | 1500 | 2.09 | 23028 | **6VH14** | 1.60 | **1.53** | 2 | 500 | 0.1 |
| **3156/BP2** | S-8 | Wedge | Auto, Signal | 12.80 | 2.10A | 32.00 | 1200 | 2.09 | 12351 | **1E748** | 1.55 | **1.48** | 2 | 12 | 0.1 |
| **3157/BP2** | S-8 | Wedge | Auto, Stop, Heavy Duty | 12.80<br>14.00 | 2.10A<br>.48A | 32.00<br>2.00 | 1200<br>5000 | 2.09 | 12306 | **1E787** | 1.55 | **0.99** | 2 | 12 | 0.1 |
| **3157NA/BP2** | S-8 | Wedge | Auto, Park, N. Amber | 12.80<br>14.00 | 2.10A<br>.48A | 24.00<br>1.50 | 1200<br>5000 | 2.09 | 12314 | **1E777** | 3.41 | **2.68** | 2 | 12 | 0.1 |
| **3357/BP2** | S-8 | PI Wedge | Auto, Stop, Signal, Heavy Duty | 12.80<br>14.00 | 2.23A<br>.50A | 40.00<br>30.00 | 400<br>5000 | 2.09 | 14387 | **3JK07** | 1.87 | **1.77** | 2 | 48 | 0.1 |
| **3357/NA/BP2** | S-8 | PI Wedge | Auto, Stop, Park, Heavy Duty, N. Amber | 12.80<br>14.00 | 2.23A<br>.59A | 30.00<br>2.20 | 400<br>5000 | 2.09 | 14388 | **3JK08** | 3.97 | **3.77** | 2 | 48 | 0.1 |
| **5004CW** | T-5 | Mini Pinless | Aircraft, Cool White (32,71,162)* | — | 4.00W | — | 7500 | 6.00 | 28154 | **1C926** | 12.40 | **11.78** | 1 | 24 | 0.1 |
| **5004WW** | T-5 | Mini Pinless | Aircraft, Warm White (32,71,162)* | — | 4.00W | — | 7500 | 6.00 | 28155 | **1C924** | 24.49 | **23.26** | 1 | 24 | 0.1 |
| **5008CW** | T-5 | Mini Pinless | Aircraft, Cool White (32,71,162)* | — | 8.00W | — | 7500 | 12.00 | 28160 | **1C922** | 11.23 | **10.66** | 1 | 24 | 0.1 |
| **5008WW** | T-5 | Mini Pinless | Aircraft, Warm White (32,71,162)* | — | 8.00W | — | 7500 | 12.00 | 28163 | **1C920** | 11.79 | **11.20** | 1 | 24 | 0.1 |
| **5013CW** | T-5 | Mini Pinless | Aircraft, Cool White (32,71,162)* | — | 13.00W | — | 7500 | 21.00 | 28168 | **1C918** | 11.79 | **11.20** | 1 | 24 | 0.1 |
| **5013WW** | T-5 | Mini Pinless | Aircraft, Warm White (32,71,162)* | — | 13.00W | — | 7500 | 21.00 | 28169 | **1C916** | 12.72 | **12.09** | 1 | 24 | 0.1 |
| **5104WW** | T-5 | Mini BiPin | Aircraft, Warm White (32,71,162)* | — | 4.00W | — | 7500 | 6.00 | 28173 | **1C914** | 12.38 | **11.76** | 1 | 24 | 0.1 |
| **5106WW** | T-5 | Mini BiPin | Aircraft, Warm White (32,71,162)* | — | 6.00W | — | 7500 | 9.00 | 33612 | **1C656** | 8.10 | **7.69** | 1 | 24 | 0.1 |
| **5108WW** | T-5 | Mini BiPin | Aircraft, Warm White (32,71,162)* | — | 8.00W | — | 7500 | 12.00 | 28175 | **1C912** | 9.72 | **9.23** | 1 | 24 | 0.1 |
| **5113WW** | T-5 | Mini BiPin | Aircraft, Warm White (32,71,162)* | — | 13.00W | — | 7500 | 21.00 | 28178 | **1C910** | 10.99 | **10.44** | 1 | 24 | 0.1 |
| **7387** | T-1 3/4 | Bi-Pin M-23 | Indicator (42,79) | 28.00 | .04A | .30 | 7000 | 0.61 | 28926 | **1C882** | 2.89 | **2.75** | 1 | 500 | 0.1 |
| **9003/BP** | T-5 | P43T-38 | Auto Headlamp, Hi/Lo Beam | 12.80<br>12.80 | 72.00W<br>65.00W | 119.00<br>72.00 | 150<br>800 | 3.62 | 22432 | **2F298** | 2.70 | **2.59** | 1 | 6 | 0.1 |
| **9004/BP** | T-4 3/4 | Axial, Plstc, Pf | Auto Headlamp, Hi/Lo Beam | 12.80 | 65.00W | 95.00 | 150 | 4.17 | 18541 | **1E123** | 21.28 | **20.22** | 1 | 6 | 0.7 |
| **9004XL/BP** | T-4 3/4 | Axial, Plstc, Pf | Auto Headlamp, Long Life, Hi/Lo Beam | 12.80<br>12.80 | 65.00W<br>65.00W | 95.00<br>55.00 | 150<br>850 | 4.17 | 13993 | **2C857** | 27.22 | **9.99** | 1 | 10 | 0.2 |
| **9005/BP** | T-3 1/4 | Rt. Ang, Plstc, Pf | Auto Headlamp, High Beam | 12.80 | 65.00W | 135.00 | 150 | — | 18509 | **1E131** | 20.52 | **8.99** | 1 | 6 | 0.1 |
| **9006/BP** | T-3 1/4 | Rt. Ang, Plstc, Pf | Auto Headlamp, Low Beam | 12.80 | 55.00W | 80.00 | 320 | — | 18510 | **1E129** | 20.52 | **8.99** | 1 | 6 | 0.1 |
| **9007/BP** | T-4 3/4 | Axial, Pf | Auto Headlamp, Long Life, Hi/Lo Bm (4,131,155,161)* | 12.80<br>12.80 | 65.00W<br>55.00W | 107.00<br>79.00 | 150<br>320 | 4.17 | 22388 | **3JK57** | 27.22 | **8.99** | 1 | 6 | 0.2 |

(*) See Miniature Lamp footnoes on page 996.

ORDER DIRECT FROM GRAINGER

You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.

*Ordering is easy — Call, fax, visit or go online @ www.grainger.com*

GE Lighting

### High Operating Temperatures

Because operating temperatures (watts plus environment) are critical to the effectiveness of the self-cleaning properties of halogen-cycle lamps, bulb wall temperatures should not go below 250°C. Hot spots on the bulb wall itself can go as high as 700°C in normal operation.

Substantial heat is generated in all halogen-cycle lamps, so allowances should be made for the dissipation of excessive heat in equipment design. Certain lamps and extremely confined fixtures may require additional ventilation or heat sinking to ensure proper operation of the halogen cycle and prevent damage to the fixture. It is a good practice to test the lamp in the operating environment early in the design cycle to ensure adequate performance. Precautions must be taken in the selection of materials for lamp-holders, reflectors, and lamp housings because the 700°C bulb wall temperature is greater than the kindling temperatures of many materials. Lamp base temperatures should not exceed 350°C because, above that point, lead wires may deteriorate and the basing cement may loosen, causing premature lamp failure.

### Distribution of Spectral Radiation

Halogen-cycle lamps offer great amounts of visible and infrared energy from a small light source, with about 90% of the energy in the infrared. Some GE lamps can be used for special applications where small amounts of ultraviolet energy are required.

**Footnotes:**

3. Useful hours.
7. Entire bulb selected for minimum glass imperfections.
8. Bulb top selected for minimum glass imperfections.
10. At 5 volts.
12. Average overall length.
13. Supported.
14. This lamp is specially designed for a particular purchaser and may not be suitable for other uses because of its excessive wattage requirements for the bulb size.
15. This lamp is specially designed for a particular purchaser and may not be suitable for other uses because of its limited mechanical strength.
17. Filament shielded.
21. Top of bulb light outside frosted.
32. Designed and rated for operation in supplementary cathode preheat circuits for which specifications are available from the lamp manufacturer.
42. Actual life depends upon use and environment. Theoretical design average life is 25,000 hours.
43. Actual life depends upon use and environment. Theoretical design average life is 50,000 hours.
44. At 6.6 volts.
52. Light center length measured from open end of base to filament center. Three-part base with inner sleeve approximately 7/32" long, and with outer part of base threaded and knurled.
62. Tolerance for light center length ± 1/32" and axial alignment ± .060".
69. Not recommended for new OEM applications—suggested for new design are wedge base lamps such as GE Lamp Numbers 159, 259, and 161.
70. These lamps produce a random flashing indication only. While the majority should flash between 40-160 flashes per minute at normal room temperature, some will be outside this range. As ambient temperature and/or input voltage changes, the flash rate may vary considerably. At rated voltage and room temperature most lamps will flash within 60 seconds.
71. Use these lamps with auxiliary equipment specially designed to produce proper electrical values conforming to established specifications. For total load, add auxiliary watts to lamp watts.
72. CAUTION: This is a low-voltage lamp and is not for use in ordinary household circuits. The bulb may shatter if used in circuits of 110-120 volts or higher.
73. CAUTION: While this lamp is carefully inspected before shipment, the glass may crack when subjected to abnormal pressure. Therefore, it is recommended that the bulb be grasped with a cloth or glove when removing or installing the lamp in a tight fitting socket.
74. This butt seal wire terminal lamp is normally considered a subassembly. The glass-to-metal seal and glass tip are fragile. Therefore, any bending or soldering of the wire terminal closer than 1/8" from glass should be avoided since the bending or heat can cause leaks in the seal. Solderability may be adversely affected by storage for an external period in excess of six months or by storage in a high humidity environment. Lamps with tinned leads would not be subject to these storage restrictions.
75. Estimated. Based on limited test information.
78. GE Lamp #385 is not interchangeable with other manufacturers' lamp #385. ANSI specifies .38" light center length and .63" maximum overall length.
79. Life shown is AC voltage only. DC life will be approx. 50% of AC.
109. Special fixture required for highway use.
110. To be used with variable load flasher in applications where bulb outage indication is not required, or with an appropriate fixed load flasher. Bulb outage indication not required on a truck, bus, or mullet-purpose passenger vehicle 80 or more inches in overall width; on a truck that is capable of accommodating a slide-in camper; or any vehicle equipped to tow trailers. Flash rate may be altered if used with incorrect fixed load flasher.
114. CAUTION: This halogen-cycle bulb could shatter if scratched or damaged. Use appropriate protection for eyes and exposed skin when handling, using or disposing. Use in fixtures designed for the high temperature required for proper operation and that offer protection in case the bulb shatters. Turn power off when changing lamps. Allow lamp to cool before removal. For satisfactory performance: 1) limit seal and outer lead wire temperature to 350°C or lead wire deterioration may occur; (2) maintain a minimum bulb wall temperature of 250°C for operation of the halogen cycle; (3) remove fingerprints from bulb by cleaning with a grease-free solvent; (4) operate at design volts.
116. Life tests are performed on DC voltage only.
120. This lamp is specially designed for a particular purchaser and may not be suitable for other uses because of its nonpermanent color coating.
121. To minimize the possible adverse effects on lamp life due to excessive wattage in relation to bulb size: Burn Base Down to Base 45° Above Horizontal. Regardless of burning position, this excessive wattage will abnormally decrease light output during life.
122. This is a wire terminal lamp. The glass-to-metal seal (and tip where applicable) are susceptible to damage by thermal shock, and soldering or welding within 1/8" of the glass should be avoided as glass cracks and air leaks may develop. Solderability may be adversely affected by storage for an extended period in excess of six months or by storage in a high humidity environment. Lamps with tinned leads would be subject to these storage restrictions. Nickel-plated leads are not recommended for soldering; however, their ability to be welded is not affected by these storage restrictions.
124. .028" metal pins spaced 44mm (.157") apart. GE's all-glass two-pin lamps might not be compatible with all G-4 sockets since many sockets do not provide clearance for the exhaust tip.
126. Intermittent service only.
127. LCL measured to top of filament.
128. Minimum 1/4" spot at .100" from bulb top.
129. Leads cleaned and solderable.
130. Subminiature wedge base lamps under 12 volts have copper-clad outer lead wires to decrease contact resistance at the expense of corrosion resistance in severe environments.
131. CAUTION: This halogen-cycle lamp is pressurized and may shatter. Do not operate lamp in excess of rated voltage as this will increase lamp pressure and the risk of shattering. Protect lamp against abrasions and scratches and against liquids when lamp is operating. To guard against personal injury, wear protective eyeglasses and clothing when handling lamp. Provide protective screen or shield with equipment in which lamp is installed or used. Turn power off when installing and before removing lamp. Dispose of lamp with care. Because of heat generated by lamp, use only with sockets and housing designed to withstand the lamp's high operating temperatures. Do not operate in proximity to substances or materials that are flammable or adversely affected by heat or drying. Allow lamp to cool before removing. If further processing of the leads, such as bending, welding, crimping, etc., is required, care must be taken to assure that the lamp seal area is not strained, cracked, chipped, or otherwise damaged, or premature lamp failure may occur. For satisfactory performance: (1) limit seal and outer lead wire temperature to 350°C or lead wire deterioration may occur; (2) maintain a minimum bulb wall temperature of 250°C for operation of the halogen cycle; (3) operate at design volts.
133. Satisfactory for use when noise requirements apply.
144. Potentially limited availability in large quantities at certain times of the year.
147. Differs from ANSI.
155. CAUTION: This halogen bulb contains gas under pressure and could shatter (with resultant flying fragments). Protect bulb against abrasions or scratches and against liquids when lighted. Turn on the bulb only when installed in a headlamp. Replace headlamp if damaged or cracked. Keep bulb out of the reach of children and dispose of used bulb with care.
156. CAUTION: This halogen-cycle inner bulb is pressurized. It may shatter if glass is cracked or scratched, or if moisture or liquids hit hot bulb. Never operate outside of housing.
160. Filament will generate specified MSCP in a non-shielded bulb.
161. MSCP measured with black top.
162. Based on three hours of burning per start.
164. Life to approximately 50% of initial output. Values shown apply to use on AC unless otherwise shown. Life on DC is approximately 60% of AC values when DC current is equal to R.M.S. (Root Mean Square) AC value. When equal DC and R.M.S. AC voltages and equal resistances are utilized, life will be approximately the same.
165. For DC operation of high, brightness lamps, use minimum of 150 circuit volts. Maximum initial breakdown voltage—95V AC, 135V DC in light.
168. High brightness.
170. Dark effect reduced.
171. Values shown apply to use on AC unless otherwise shown. End of life occurs when breakdown voltage increases to line voltage and lamp will no longer start. With equal DC and R.M.S. AC current life will be somewhat lower than the 60% value quoted for standard brightness lamp, and current and wattage will increase over AC values shown.
200. Normally an acceptable substitute for a 1978X.

# SEALED BEAM LAMPS

## HOW TO USE THE SEALED BEAM LAMP PRODUCT SECTION:

- **Our sealed beam lamp section is organized numerically by Industry Lamp Trade number.**

1. Identify the industry trade number found on the lamp in order to search for a match.




**Industry Code:** The lamp's identification code.

**Approximate Initial Maximum Beam Candle Power:** Maximum light intensity at a point in the beam.

**Rated Average Life Hours:** Average Life Hours figure represents the lamp's median value of life expectancy

| Industry Code | Bulb | Base | Description | Design Voltage | Design Watts | Appr. Init. Max. Beam Candle Power | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4000** | PAR46 | 3 Lugs | Auto Headlamp, Hi/Lo Bm (4,26)* | 12.8 | 37.5 | SAE | 200 | 4.00 | 18511 | **6VH84** | $7.34 | **$5.88** | 6 | 0.5 |

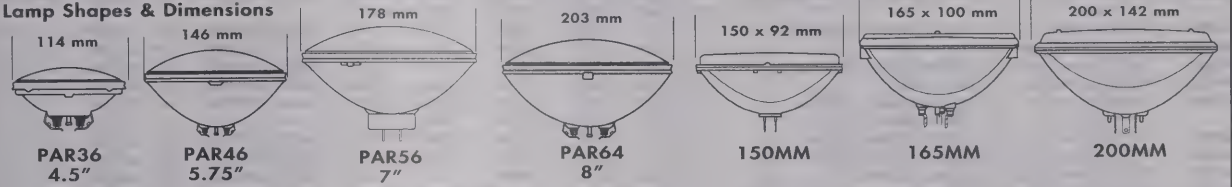
**Note:**
Lamp drawings are not to scale. Be sure to check size and dimension information when identifying each lamp.

All ratings and data are subject to change without notice.

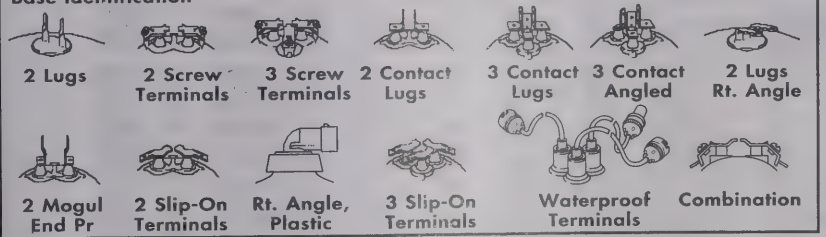
SAE –

**SAE:**
SAE specifications are found in SAE Ground Vehicle Light Standard Manual SAE HS-34

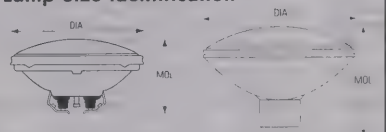
### Lamp Shapes & Dimensions




### Base Identification




### Lamp Size Identification




**DIA.: Diameter of bulb (from outer edge to outer edge).**

**MOL: Maximum Overall Length in inches.**

GE Lighting

### Sealed Beam Lamps

GE sealed beam lamps are designed for those applications requiring specific size, projected light and basically the same light output throughout life.

- **Wide range of voltages and watts**
- **Wide variety of filament constructions and bases**
- **Designed to operate on low voltage power sources—battery generator systems, dry cell or storage batteries or transformers**

### Glass Halogen and Quartzline® Fused-Quartz Sealed Beam Lamps

- **Designated in this catalog by the prefixes H and Q**
- **Can be used in many applications to take advantage of their higher light output compared with standard incandescent sealed beam lamps**
- **Standard PAR36, PAR46, PAR56, PAR64 and rectangular 140 mm, 150 mm, 165 mm, and 200 mm sizes allow possible use in existing housings**
- **Several different beam patterns are available for a variety of applications**
- **Sealed to prevent moisture, dust and dirt from deteriorating the reflector**

### Consider These Factors When Selecting GE Halogen-Cycle Sealed Beam Lamps

#### Lamp Efficacy and Operating Precautions

The lamps listed in this catalog are filled to high internal gas pressures to maximize lamp efficacy (candlepower or lumens per watt). Because both lamp bulb material and pressure vary by lamp design, different CAUTION notices apply. Be sure to see the appropriate notice(s) for the lamp(s) you select.

#### High Operating Temperatures

Because operating temperatures (watts plus environment) are critical to the effectiveness of the self-cleaning properties of halogen-cycle lamps, bulb wall temperatures should not go below 250°C. Hot spots on the bulb wall itself can go as high as 700°C in normal operation.

Substantial heat is generated in all halogen-cycle lamps, so allowances should be made for the dissipation of excessive heat in equipment design. Certain lamps and extremely confined fixtures may require additional ventilation or heat sinking to ensure proper operation of the halogen cycle and prevent damage to the fixture. It is a good practice to test the lamp in the operating environment early in the design cycle to ensure adequate performance. Precautions must be taken in the selection of materials for lampholders, reflectors, and lamp housings because the 700°C bulb wall temperature is greater than the kindling temperatures of many materials. Lamp base temperatures should not exceed 350°C because, above that point, lead wires may deteriorate and the basing cement may loosen, causing premature lamp failure.

#### Distribution of Spectral Radiation

Halogen-cycle lamps offer great amounts of visible and infrared energy from a small light source, with about 90% of the energy in the infrared.

Some GE lamps can be used for special applications where small amounts of ultraviolet energy are required.

# SEALED BEAM LAMPS

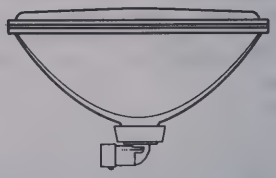
**GE Lighting**



PAR36



PAR46



140mm

| Industry Code | Bulb | Base | Description | Design Voltage | Design Watts | Appr. Init. Max. Beam Candle Power | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4000** | PAR46 | 3 Lugs | Auto Headlamp, Hi/Lo Bm (4,26)* | 12.8 | 37.5 | SAE | 200 | 4.00 | 18511 | **6VH84** | $7.34 | **$5.88** | 6 | 0.5 |
| | | | | 12.8 | 60.0 | SAE | 320 | | | | | | | |
| **4001** | PAR46 | 2 Lugs | Auto Headlamp, Hi Bm (4)* | 12.8 | 37.5 | SAE | 300 | 4.00 | 18516 | **1P051** | 7.34 | **6.98** | 12 | 0.5 |
| **4013** | PAR46 | Scrw Term | Tractor, Flood | 6.4 | 25.0 | 800 | 300 | 3.75 | 24327 | **1G890** | 14.36 | **13.64** | 12 | 1.0 |
| **4014** | PAR36 | Scrw Term | Emergency Bldg. Lighting | 6.4 | 18.0 | 1500 | 200 | 2.75 | 24339 | **1G888** | 17.06 | **16.20** | 12 | 0.5 |
| **4019** | PAR46 | Scrw Term | Tractor (23)* | 6.2 | 30.0 | 1200 | 300 | 3.75 | 24369 | **6VH91** | 13.61 | **10.88** | 12 | 0.3 |
| **4040** | PAR46 | 3 Lugs | Truck Headlamp, Hvy Dty, Hi/Lo Bm (4,26,146)* | 12.8 | 37.5 | SAE | 300 | 4.00 | 38418 | **6VH92** | 11.88 | **10.09** | 12 | 0.2 |
| | | | | 12.8 | 60.0 | SAE | 500 | | | | | | | |
| **4042** | PAR36 | Scrw Term | Emergency Bldg. Lighting | 6.4 | 12.0 | 1100 | 150 | 2.75 | 39585 | **2F568** | 21.06 | **20.00** | 60 | 0.9 |
| **4044** | PAR36 | Scrw Term | Emergency Bldg. Lighting | 12.0 | 12.0 | 1100 | 150 | 2.75 | 40588 | **6VH93** | 18.90 | **15.12** | 12 | 0.5 |
| **4313** | PAR36 | Scrw Term | Aircraft, Landing | 13.0 | 250.0 | 140000 | 25 | 2.75 | 25051 | **2F356** | 31.00 | **29.50** | 12 | 0.6 |
| **4340** | PAR36 | Slip-on Term | Electric Truck Work Light (15)* | 48.0 | 80.0 | 2500 | 400 | 2.75 | 39366 | **6VH95** | 35.96 | **28.85** | 12 | 0.3 |
| **4350** | PAR36 | Slip-on Term | Electric Truck Work Light (15)* | 36.0 | 60.0 | 2100 | 400 | 2.75 | 39362 | **1C556** | 34.56 | **32.90** | 12 | 0.5 |
| **H4351** | 140mm | Rt Ang, Plastic | Electric Truck Work Light (15)* | 12.8 | 55.0 | SAE | 500 | 4.00 | 22386 | **3JK55** | 58.32 | **28.00** | 12 | 0.8 |
| **H4352** | 140mm | Rt Ang, Plastic | Auto Headlamp, Low Beam Type K (116)* | 12.8 | 65.0 | SAE | 150 | 4.00 | 22387 | **3JK56** | 58.32 | **28.00** | 6 | 1.0 |
| **H4405** | PAR36 | Scrw Term | Spotlamp, Shielded Bulb (118)* | 12.8 | 30.0 | 66000 | 100 | 2.75 | 15129 | **2F234** | 15.44 | **14.67** | 12 | 0.6 |
| **4402A** | PAR36 | Scrw Term | C.I.M. Signal | 28.0 | 50.0 | 1000 | 400 | 2.75 | 12961 | **3JJ98** | 20.84 | **19.80** | 12 | 0.5 |
| **4405** | PAR36 | Scrw Term | Spotlight (82)* | 12.8 | 30.0 | 50000 | 100 | 2.75 | 24425 | **6VH97** | 14.26 | **12.84** | 12 | 0.5 |
| **4406** | PAR36 | Scrw Term | Tractor, Flood (4,134)* | 12.8 | 35.0 | 600 | 300 | 2.75 | 24430 | **6VH99** | 13.50 | **10.79** | 12 | 0.5 |
| **4411** | PAR36 | Scrw Term | Tractor (4)* | 12.8 | 35.0 | 3000 | 300 | 2.75 | 24448 | **6VK00** | 10.80 | **8.64** | 12 | 0.5 |
| **4411-1** | PAR36 | Slip-on Term | Tractor (4)* | 12.8 | 35.0 | 3000 | 300 | 2.75 | 37889 | **1C590** | 10.80 | **10.26** | 12 | 1.0 |
| **4412** | PAR46 | Scrw Term | Fog (81)* | 12.8 | 35.0 | 11000 | 300 | 3.75 | 24454 | **6VK01** | 12.64 | **10.11** | 12 | 0.9 |
| **4412A** | PAR46 | Scrw Term | Fog, Yellow (81)* | 12.8 | 35.0 | 8800 | 300 | 3.75 | 24460 | **6VK02** | 20.63 | **17.54** | 12 | 0.5 |
| **4413** | PAR46 | Scrw Term | Tractor, Flood (134)* | 12.8 | 35.0 | 1100 | 300 | 3.75 | 22981 | **1G886** | 12.31 | **11.69** | 12 | 0.9 |
| **4414** | PAR36 | Scrw Term | Warning Signal, Emergency | 12.8 | 18.0 | 1500 | 300 | 2.75 | 24478 | **6VK04** | 14.15 | **11.31** | 12 | 0.5 |
| **4414A** | PAR36 | Scrw Term | Turn/Warning Signal, Yellow Lens | 12.8 | 18.0 | 450 | 300 | 2.75 | 24483 | **6VK06** | 20.84 | **19.80** | 12 | 0.6 |
| **4414R** | PAR36 | Scrw Term | Turn/Warning Signal, Red Lens | 12.8 | 18.0 | 275 | 300 | 2.75 | 24487 | **1P049** | 20.84 | **19.80** | 12 | 0.6 |
| **4415** | PAR36 | Scrw Term | Fog (81)* | 12.8 | 35.0 | 9000 | 300 | 2.75 | 22982 | **1G884** | 14.04 | **13.33** | 12 | 0.7 |
| **4415A** | PAR36 | Scrw Term | Fog, Yellow Lens (81)* | 12.8 | 35.0 | 7000 | 300 | 2.75 | 24499 | **6VK09** | 16.63 | **13.30** | 12 | 0.6 |
| **4416** | PAR36 | Scrw Term | Spotlamp, Signal | 12.8 | 30.0 | 35000 | 100 | 2.75 | 22983 | **1G882** | 12.10 | **11.49** | 12 | 0.4 |
| **4416A** | PAR36 | Scrw Term | Signal, Yellow Lens Cover | 12.8 | 30.0 | 26000 | 100 | 2.75 | 24506 | **2F318** | 24.95 | **23.70** | 12 | 0.6 |
| **4416R** | PAR36 | Scrw Term | Signal, Red Lens Cover | 12.8 | 30.0 | 4000 | 100 | 2.75 | 24513 | **6VK11** | 30.13 | **24.10** | 12 | 0.1 |
| **4419** | PAR46 | Scrw Term | Tractor (4,94)* | 12.8 | 35.0 | 1600 | 300 | 3.75 | 24531 | **6VK12** | 12.20 | **9.76** | 12 | 0.5 |
| **4420** | PAR46 | 3 Lugs | Cycle Headlamp (146)* | 12.8 | 30.0 | SAE | 300 | 4.00 | 24536 | **1G880**† | 16.96 | **16.11** | 12 | 0.9 |
| **4421** | PAR46 | Slip-on Term | Auto/Truck, Special Svc (82, 109)* | 13.0 | 100.0 | 23000 | 300 | 3.75 | 24539 | **6VK14** | 23.22 | **19.73** | 12 | 1.0 |
| **4422** | PAR36 | Scrw Term | Tractor (4)* | 12.8 | 35.0 | 600 | 300 | 2.75 | 24542 | **2F320** | 12.96 | **12.31** | 60 | 0.5 |
| **4434A** | PAR46 | Scrw Term | School Bus Signal, Amber Lens | 12.8 | 40.0 | 1000 | 100 | 3.75 | 24572 | **2F324** | 22.36 | **21.25** | 12 | 1.0 |
| **4435** | PAR46 | Scrw Term | Spotlamp (82)* | 12.8 | 30.0 | 75000 | 100 | 3.75 | 24577 | **6VK15** | 18.25 | **15.51** | 12 | 0.2 |
| **4436** | PAR46 | Scrw Term | Signal | 12.8 | 35.0 | 60000 | 300 | 3.75 | 24582 | **1G878** | 12.85 | **12.21** | 12 | 0.5 |
| **4440X** | PAR36 | 3 Lugs | Tractor (4)* | 12.8 | 40.0 | 6000 | 320 | 3.00 | 39932 | **1C520** | 18.90 | **17.96** | 12 | 0.5 |
| | | | | 12.8 | 40.0 | 4500 | 320 | | | | | | | |
| **4446** | PAR36 | Scrw Term | Emergency Bldg. Lighting | 12.8 | 25.0 | 400 | 300 | 2.75 | 37046 | **6VK18** | 16.31 | **13.04** | 12 | 0.6 |
| **4459** | PAR46 | 3 Slip-on Term | Tractor (4,94)* | 12.8 | 40.0 | 1400 | 320 | 3.32 | 24589 | **2F326**† | 23.00 | **21.86** | 12 | 0.9 |
| | | | | 12.8 | 40.0 | 1300 | 320 | | | | | | | |
| **4460X** | PAR36 | Scrw Term | Tractor (4)* | 12.8 | 40.0 | 6500 | 320 | 2.75 | 40176 | **1C506** | 15.23 | **14.46** | 12 | 0.6 |
| | | | | 12.8 | 40.0 | 5000 | 320 | | | | | | | |
| **4461** | PAR36 | Scrw Term | Tractor (4)* | 12.8 | 60.0 | 6000 | 300 | 2.75 | 24592 | **6VK19** | 15.01 | **12.00** | 12 | 0.1 |
| **4466** | PAR36 | Scrw Term | Tractor (4,134)* | 12.8 | 60.0 | 1000 | 300 | 2.75 | 24596 | **1G876** | 20.20 | **19.18** | 12 | 0.6 |

(*) See Sealed Beam Lamp footnotes on page 1001. (†) Limited availability. Contact local branch.

## UL LISTING AND CSA CERTIFICATION

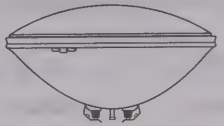
When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

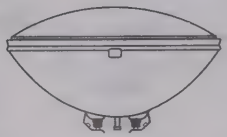
# SEALED BEAM LAMPS

GE Lighting


PAR36


PAR46


PAR56

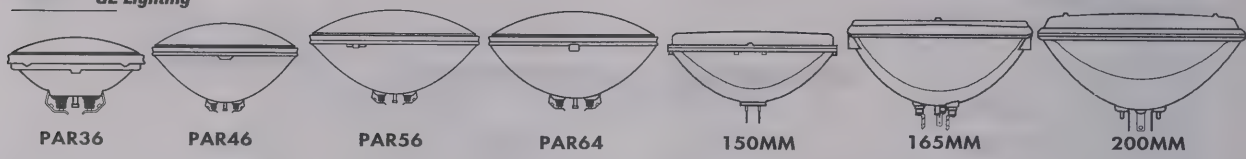

PAR64

| Industry Code | Bulb | Base | Description | Design Voltage | Design Watts | Appr. Init. Max. Beam Candle Power | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | List | Each | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4478** | PAR46 | 2 Lugs | C.I.M. Flood (4)* | 13.0 | 60.0 | 1600 | 800 | 4.00 | 24613 | **6VK21** | $17.06 | **$13.64** | 12 | 0.9 |
| **4502** | PAR36 | Scrw Term | Auto Headlamp, Military | 28.0 | 50.0 | 10000 | 400 | 2.75 | 24627 | **6VK22** | 17.60 | **14.08** | 12 | 1.0 |
| **4505** | PAR36 | Scrw Term | Aircraft, Navigation | 28.0 | 50.0 | 45000 | 400 | 2.75 | 24640 | **6VK23** | 19.12 | **15.30** | 12 | 0.6 |
| **Q4509** | PAR36 | Scrw Term | Aircraft, Landing Halogen (98,118)* | 13.0 | 100.0 | 140000 | 100 | 2.75 | 22109 | **2F294** | 38.66 | **36.80** | 12 | 0.6 |
| **4509** | PAR36 | Scrw Term | Aircraft, Landing, Spotlamp (98)* | 13.0 | 100.0 | 110000 | 25 | 2.75 | 24650 | **6VK26** | 16.96 | **13.57** | 12 | 0.6 |
| **4509X** | PAR36 | Scrw Term | Marine, Spotlamp (82)* | 13.0 | 100.0 | 110000 | 25 | 2.75 | 41503 | **2F596** | 23.11 | **21.96** | 12 | 0.5 |
| **4510** | PAR36 | Scrw Term | Tractor, Flood, Emergency Bldg. | 6.4 | 25.0 | 800 | 300 | 2.75 | 24654 | **6VK28** | 14.58 | **12.40** | 12 | 0.6 |
| **4511** | PAR36 | Scrw Term | Tractor (23)* | 6.2 | 30.0 | 2300 | 300 | 2.75 | 24663 | **6VK29** | 14.04 | **11.23** | 12 | 0.1 |
| **H4515** | PAR36 | Scrw Term | Spotlamp, Shielded Bulb (118)* | 6.4 | 30.0 | 67000 | 100 | 2.75 | 15133 | **2F236** | 14.04 | **13.33** | 12 | 0.6 |
| **4515** | PAR36 | Scrw Term | Spotlamp (82)* | 6.4 | 30.0 | 55000 | 100 | 2.75 | 24673 | **6VK31** | 15.98 | **13.59** | 12 | 1.0 |
| **4516** | PAR36 | Scrw Term | Spotlamp | 6.2 | 30.0 | 45000 | 300 | 2.75 | 24678 | **6VK32** | 17.60 | **14.08** | 12 | 0.5 |
| **4519** | PAR36 | Scrw Term | Marine | 13.0 | 100.0 | 30000 | 25 | 2.75 | 24690 | **2F328** | 29.70 | **28.30** | 12 | 0.6 |
| **4522** | PAR46 | Scrw Term | Aircraft, Landing (83,92,138)* | 13.0 | 250.0 | 290000 | 25 | 3.13 | 24700 | **1P046** | 39.53 | **37.60** | 12 | 0.9 |
| **4530** | PAR46 | Scrw Term | Signal, Flashing (86)* | 26.0 | 5.30A | 100000 | 50 | 3.75 | 24721 | **2F330** | 38.66 | **36.80** | 12 | 1.0 |
| **4531** | PAR46 | Scrw Term | Auto Headlamp, Military | 12.5 | 40.0 | 30000 | 400 | 3.75 | 24726 | **6VK34** | 13.18 | **11.20** | 12 | 0.2 |
| **4535** | PAR46 | Scrw Term | Spotlamp (82)* | 6.4 | 30.0 | 95000 | 100 | 3.75 | 24735 | **6VK35** | 16.31 | **13.04** | 12 | 1.0 |
| **4537** | PAR46 | Scrw Term | Aircraft, Landing (20,83,98)* | 13.0 | 100.0 | 200000 | 25 | 3.13 | 24742 | **6VK36** | 19.22 | **16.34** | 12 | 0.9 |
| **4537-2** | PAR46 | Scrw Term | Spotlamp (20,98)* | 13.0 | 100.0 | 200000 | 25 | 3.13 | 40822 | **6VK37** | 23.76 | **22.57** | 12 | 0.9 |
| **4541** | PAR56 | Scrw Term | Aircraft, Landing (34,83)* | 28.0 | 450.0 | 470000 | 25 | 4.50 | 24756 | **2F332** | 39.96 | **38.00** | 12 | 0.5 |
| **4543** | PAR56 | Scrw Term | Marine, Spotlamp | 12.5 | 100.0 | 250000 | 50 | 4.50 | 24764 | **6VK38** | 47.52 | **38.10** | 12 | 0.3 |
| **4545** | PAR56 | Scrw Term | Marine, Searchlight (82)* | 12.0 | 100.0 | 225000 | 100 | 4.50 | 24768 | **6VK39** | 38.45 | **30.85** | 12 | 0.2 |
| **4546** | PAR36 | Scrw Term | Hand Lantern | 4.7 | 0.50A | 6300 | 100 | 2.75 | 24780 | **6VK40** | 12.31 | **9.85** | 12 | 0.5 |
| **4547** | PAR36 | Scrw Term | Hand Lantern | 4.75 | 1.25A | 20000 | 100 | 2.75 | 24788 | **6VK42** | 20.09 | **16.07** | 12 | 0.5 |
| **4551** | PAR46 | Scrw Term | Aircraft, Taxiing (138)* | 28.0 | 250.0 | 75000 | 25 | 3.75 | 24795 | **6VK43** | 22.68 | **19.27** | 12 | 0.2 |
| **4552** | PAR64 | Scrw Term | Aircraft, Landing (83,138)* | 28.0 | 250.0 | 500000 | 25 | 3.75 | 40576 | **1C472** | 75.82 | **72.10** | 12 | 2.1 |
| **4553** | PAR46 | Scrw Term | Aircraft, Landing (83,138)* | 28.0 | 250.0 | 300000 | 25 | 3.13 | 24799 | **1G872** | 30.35 | **28.90** | 12 | 0.9 |
| **Q4554** | PAR46 | Scrw Term | Aircraft, Taxiing, Halogen (114,118)* | 28.0 | 450.0 | 65000 | 100 | 2.63 | 37706 | **2F556** | 142.34 | **135.30** | 12 | 1.5 |
| **4554** | PAR46 | Scrw Term | Aircraft, Taxiing (14)* | 28.0 | 450.0 | 90000 | 25 | 3.13 | 24802 | **2F334** | 93.64 | **89.00** | 12 | 1.0 |
| **4555** | PAR64 | Scrw Term | Aircraft, Landing (14,138)* | 115.0 | 1000.0 | 600000 | 25 | 3.75 | 40583 | **2F590** | 150.12 | **142.70** | 12 | 1.0 |
| **4556** | PAR64 | Scrw Term | Aircraft, Landing (14,20)* | 28.0 | 1000.0 | 700000 | 25 | 3.75 | 40580 | **2F586** | 52.27 | **49.70** | 12 | 1.5 |
| **4557** | PAR64 | 3 Scrw Term | Aircraft, Landing/Taxiing (11)* | 28.0 | 1000.0 | 540000 | 25 | 3.75 | 40581 | **2F588** | 78.08 | **74.30** | 12 | 2.1 |
| **Q4559** | PAR64 | Scrw Term | Aircraft, Landing, Halogen (118,138)* | 28.0 | 400.0 | 100000 | 100 | 3.75 | 40579 | **6VK45** | 89.96 | **76.55** | 12 | 0.3 |
| **4559** | PAR64 | Scrw Term | Aircraft, Landing (83,138)* | 28.0 | 600.0 | 600000 | 25 | 3.75 | 40578 | **6VK44** | 47.52 | **40.45** | 12 | 0.3 |
| **Q4559X** | PAR64 | Scrw Term | Aircraft, Landing, Halogen (118,138)* | 28.0 | 600.0 | 765000 | 100 | 3.72 | 42552 | **6VK46** | 78.52 | **66.80** | 12 | 2.0 |
| **Q4566** | PAR46 | Scrw Term | Aircraft, Halogen (14,118)* | 28.0 | 450.0 | 150000 | 1000 | 3.31 | 41097 | **2F592** | 107.46 | **102.15** | 12 | 0.9 |
| **4570** | PAR46 | Scrw Term | Aircraft, Taxiing | 28.0 | 150.0 | 32000 | 300 | 3.75 | 24828 | **6VK48** | 21.38 | **18.17** | 12 | 0.5 |
| **4571** | PAR46 | Scrw Term | Flood, Special Service | 28.0 | 150.0 | 7000 | 300 | 3.75 | 24830 | **1G870** | 27.43 | **26.10** | 12 | 1.0 |
| **4572** | PAR46 | Scrw Term | Auto, Flood, Military | 28.0 | 150.0 | 4500 | 300 | 3.75 | 24833 | **2F336** | 41.47 | **39.45** | 12 | 1.0 |
| **4578** | PAR46 | 2 Lugs | C.I.M. Flood | 28.0 | 60.0 | 1600 | 800 | 4.00 | 25005 | **6VK49** | 16.63 | **13.30** | 12 | 0.5 |
| **4579** | PAR46 | 3 Lugs | C.I.M. Headlamp | 28.0 | 80.0 | 24000 | 400 | 4.00 | 25009 | **6VK50** | 28.84 | **21.63** | 12 | 0.5 |
| **4580** | PAR46 | Scrw Term | Aircraft, Landing (14,118)* | 28.0 | 60.0 | 11000 | 400 | | | | | | | |
| **4581** | PAR46 | Scrw Term | Aircraft, Landing (14,20)* | 28.0 | 450.0 | 400000 | 10 | 3.75 | 24859 | **2F340** | 34.99 | **33.30** | 12 | 0.9 |
| **4582** | PAR46 | Scrw Term | Aircraft/Helicopter, Flood (14)* | 28.0 | 450.0 | 400000 | 10 | 3.13 | 24862 | **6VK51** | 37.15 | **29.80** | 12 | 1.0 |
| **4587** | PAR36 | Scrw Term | Aircraft, Taxiing (11)* | 28.0 | 450.0 | 20000 | 10 | 3.75 | 24853 | **2F338** | 45.25 | **43.05** | 12 | 0.9 |
| **4589** | PAR36 | Scrw Term | Aircraft, Cockpit Flood, C.I.M. Flood | 28.0 | 250.0 | 40000 | 25 | 2.75 | 24867 | **2F342** | 26.57 | **25.25** | 12 | 0.6 |
| **4591** | PAR36 | Scrw Term | Aircraft, Landing | 28.0 | 50.0 | 5000 | 400 | 2.75 | 24873 | **6VK52** | 17.28 | **13.82** | 12 | 0.5 |
| **4593** | PAR36 | Scrw Term | Aircraft, In-Air Refueling | 28.0 | 100.0 | 90000 | 25 | 2.75 | 24882 | **2F344** | 36.83 | **35.05** | 12 | 0.6 |
| **4594** | PAR36 | Scrw Term | Aircraft, Navigation | 28.0 | 50.0 | 1500 | 400 | 2.75 | 24887 | **1G868** | 17.71 | **16.83** | 12 | 0.6 |
| **4595** | PAR36 | Scrw Term | Aircraft, Navigation | 28.0 | 100.0 | 70000 | 300 | 2.75 | 24891 | **1G866** | 18.14 | **17.23** | 12 | 0.6 |
| **4596** | PAR36 | Scrw Term | Aircraft, Landing (14)* | 13.0 | 100.0 | 60000 | 300 | 2.75 | 24892 | **2F346** | 23.76 | **22.57** | 12 | 0.5 |
| **Q4597** | PAR46 | Scrw Term | Aircraft, Flood, Halogen (14,118)* | 28.0 | 250.0 | 150000 | 25 | 2.75 | 24898 | **1G864** | 27.43 | **26.10** | 12 | 0.5 |
| **4614** | PAR36 | Scrw Term | Aircraft, Navigation (82)* | 28.0 | 450.0 | 16000 | 1000 | 3.31 | 37372 | **2F554** | 180.47 | **171.75** | 12 | 1.5 |
| **4626** | PAR36 | Scrw Term | Aircraft, Taxiing | 6.0 | 100.0 | 85000 | 300 | 2.75 | 24940 | **2F348** | 46.76 | **44.45** | 12 | 0.6 |
| **4627** | PAR36 | Scrw Term | Aircraft, Flood | 28.0 | 150.0 | 25000 | 300 | 2.75 | 24964 | **2F350** | 28.08 | **26.75** | 12 | 0.6 |
| **Q4629** | PAR64 | Scrw Term | Aircraft, Logo, Halogen (118)* | 28.0 | 100.0 | 3000 | 300 | 2.75 | 24966 | **2F352** | 45.14 | **42.95** | 12 | 0.6 |
| | | | | 28.0 | 600.0 | 20000 | 1000 | 3.75 | 40577 | **2F584** | 112.32 | **106.75** | 12 | 0.5 |

(*) See Sealed Beam Lamps footnotes on page 1001.

# SEALED BEAM LAMPS

GE Lighting




| Industry Code | Bulb | Base | Description | Design Voltage | Design Watts | Appr. Init. Max. Beam Candle Power | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | List | Each | Ship. Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q4631** | PAR36 | Scrw Term | Aircraft, Halogen (14,118)* | 13.0 | 250.0 | 80000 | 500 | 2.75 | 34537 | **6VK55** | $79.81 | **$75.90** | 12 | 0.6 |
| **Q4632** | PAR36 | Scrw Term | Aircraft, Logo, Halogen (14,96,118)* | 13.0 | 250.0 | 75000 | 500 | 2.75 | 39112 | **6VK56** | 94.61 | **89.95** | 12 | 0.6 |
| **4635** | PAR46 | Scrw Term | Aircraft, Landing (14)* | 16.5 | 450.0 | 325000 | 25 | 3.75 | 33284 | **2F498** | 38.66 | **36.80** | 12 | 0.3 |
| **4636-3** | PAR46 | Comb | Signal | 14.0 | 80.0 | 90000 | 200 | 3.75 | 19632 | **1E014** | 22.03 | **20.93** | 12 | 0.8 |
| **H4651** | 165 mm | 2 Lugs | Auto Headlamp, Halogen, Hi Bm (4,118,151)* | 12.8 | 50.0 | SAE | 200 | 4.80 | 18532 | **6VK59** | 17.28 | **5.99** | 6 | 0.5 |
| **4651** | 165 mm | 2 Lugs | Auto Headlamp, Hi Bm (4)* | 12.8 | 50.0 | SAE | 200 | 4.80 | 18517 | **6VK57** | 14.69 | **12.49** | 6 | 0.5 |
| **HP4651** | 165 mm | 2 Lugs | Auto Headlamp, Halogen, Hi Bm (4,118,151,163)* | 12.8 | 50.0 | SAE | 200 | 4.80 | 18541 | **1E123** | 21.28 | **20.22** | 6 | 0.7 |
| **4652** | 165 mm | 3 Lugs | Auto Headlamp, Hi/Lo Bm (4,26)* | 12.8 | 40.0 | SAE | 200 | 4.80 | 18518 | **6VK62** | 14.69 | **12.49** | 6 | 1.3 |
| | | | | 12.8 | 60.0 | SAE | 320 | | | | | | | |
| **H4656HO** | 165 mm | 3 Lugs | Auto Headlamp, Type 2A1 | 12.8 | 40.0 | SAE | 200 | 4.80 | 14753 | **3JK21** | 18.47 | **11.99** | 6 | 0.5 |
| | | | Hi Output Hi/Lo Bm (118, 151, 163)* | 12.8 | 55.0 | SAE | 320 | | | | | | | |
| **H4656** | 165 mm | 3 Lugs | Auto Headlamp, Halogen, | 12.8 | 55.0 | SAE | 200 | 4.80 | 18533 | **6VK64** | 17.28 | **5.99** | 6 | 1.5 |
| | | | Hi/Lo Bm (4,118,151)* | 12.8 | 35.0 | SAE | 320 | | | | | | | |
| **HP4656** | 165 mm | 3 Lugs | Auto Headlamp, | 12.8 | 55.0 | SAE | 200 | 4.80 | 18540 | **3JK44** | 21.28 | **20.22** | 6 | 0.7 |
| | | | Type 2A1 Hi/Lo Bm (4, 118, 151)* | 12.8 | 35.0 | SAE | 320 | | | | | | | |
| **H4666** | 165 mm | 3 Lugs | Auto Headlamp, Halogen, | 12.8 | 65.0 | SAE | 150 | 4.80 | 18535 | **6VK65** | 35.64 | **12.50** | 6 | 0.3 |
| | | | Hi/Lo Bm (4,118,166)* | 12.8 | 55.0 | SAE | 320 | | | | | | | |
| **Q4681** | PAR46 | Scrw Term | Aircraft, Landing, Halogen (14,118)* | 28.0 | 450.0 | 310000 | 50 | 2.63 | 36271 | **2F538** | 127.76 | **121.40** | 12 | 1.0 |
| **4700** | PAR36 | 3 Scrw Term | Spot/Flood | 13.0 | 100.0 | 100000 | 25 | 2.75 | 39906 | **1C522** | 33.26 | **31.65** | 12 | 0.6 |
| | | | | 13.0 | 100.0 | 50000 | 25 | | | | | | | |
| **H4701** | 150 mm | 2 Lugs | Auto Headlamp, Halogen, Hi Bm (4,118)* | 12.8 | 65.0 | SAE | 150 | 3.40 | 18536 | **6VK66** | 21.82 | **12.50** | 6 | 0.1 |
| **H4703** | 150 mm | 2 Lugs | Auto Headlamp, Halogen, Lo Bm (4,118)* | 12.8 | 55.0 | SAE | 320 | 3.40 | 18538 | **6VK67** | 21.82 | **12.50** | 6 | 0.1 |
| **4752** | PAR36 | Scrw Term | C.I.M. Flood | 28.0 | 60.0 | 2000 | 800 | 2.75 | 44724 | **2F648** | 21.71 | **20.63** | 12 | 0.5 |
| **4800** | PAR56 | 3 Lugs | Auto Headlamp, Military | 28.0 | 50.0 | SAE | 400 | 5.00 | 24973 | **2F354** | 34.45 | **32.80** | 12 | 1.4 |
| | | | | 28.0 | 40.0 | SAE | 400 | | | | | | | |
| **4811** | PAR36 | 3 Lugs | Auto Headlamp, Military | 28.0 | 110.0 | SAE | 400 | 3.00 | 24980 | **1G862** | 46.22 | **43.95** | 12 | 0.6 |
| | | | | 28.0 | 55.0 | SAE | 400 | | | | | | | |
| **4825R** | PAR36 | 3 Scrw Term | C.I.M. Stop/Tail (98,108)* | 28.0 | 50.0 | 200 | 200 | 2.75 | 24981 | **1G860** | 48.71 | **46.30** | 12 | 0.6 |
| | | | | 28.0 | 18.0 | 40 | 200 | | | | | | | |
| **4860** | PAR56 | Waterproof Term | Auto Headlamp, Military | 28.0 | 80.0 | SAE | 400 | 5.00 | 40663 | **3JK83** | 112.21 | **106.65** | 12 | 1.6 |
| **4880** | PAR46 | 2 Lugs | C.I.M. Headlamp | 28.0 | 60.0 | 6000 | 800 | 4.00 | 24995 | **1G858** | 17.50 | **16.62** | 12 | 0.9 |
| **4921-1** | 165 mm | Slip-on Term | Auto/Truck, Special Svc (109)* | 13.0 | 100.0 | 25000 | 300 | 4.53 | 45116 | **6VK72** | 20.09 | **15.07** | 12 | 0.2 |
| **H5001** | PAR46 | 2 Lugs | Auto Headlamp, Halogen, Hi Bm (4,118)* | 12.8 | 50.0 | SAE | 200 | 4.00 | 18522 | **6VK75** | 15.44 | **7.00** | 6 | 0.5 |
| **H5006** | PAR46 | 3 Lugs | Auto Headlamp, Halogen, | 12.8 | 35.0 | SAE | 200 | 4.00 | 18523 | **6VK74** | 15.44 | **7.00** | 6 | 0.3 |
| | | | Hi/Lo Bm (4,118)* | 12.8 | 35.0 | SAE | 320 | | | | | | | |
| **H5024** | PAR56 | 3 Lugs | Truck Headlamp, Halogen, | 12.8 | 65.0 | SAE | 400 | 5.00 | 19428 | **1E037** | 36.72 | **34.95** | 6 | 1.8 |
| | | | Hi/Lo Bm (4,118)* | 12.8 | 42.0 | SAE | 2000 | | | | | | | |
| **H5051** | 165 mm | 2 Lugs | Truck Headlamp, Hi Bm, Type 1A (4, 118, 151)* | 12.8 | 50.0 | SAE | 500 | 4.80 | 19411 | **3JK46** | 21.92 | **20.82** | 6 | 1.5 |
| **H5054** | 200 mm | 3 Lugs | Truck Headlamp, Halogen, | 12.8 | 65.0 | SAE | 400 | 5.44 | 19429 | **1E035** | 42.12 | **40.05** | 6 | 2.1 |
| | | | Hi/Lo Bm (4,118,151)* | 12.8 | 42.0 | SAE | 2000 | | | | | | | |
| **H5062** | 165 mm | 3 Lugs | Truck Headlamp, Halogen, | 12.8 | 40.0 | SAE | 400 | 4.80 | 19412 | **1E039** | 21.92 | **20.82** | 6 | 1.5 |
| | | | Hi/Lo Bm (4,118,151)* | 12.8 | 55.0 | SAE | 2000 | | | | | | | |
| **5557** | PAR64 | 3 Scrw Term | Aircraft, Landing/Taxiing (14)* | 28.0 | 1000.0 | 540000 | 50 | 3.75 | 16152 | **2F246** | 89.86 | **85.45** | 12 | 2.3 |
| | | | | 28.0 | 400.0 | 100000 | 100 | | | | | | | |
| **6006** | PAR56 | 3 Lugs | Auto Headlamp, Hi/Lo Bm (26)* | 6.1 | 50.0 | SAE | 300 | 5.00 | 25114 | **6VK76** | 10.58 | **10.05** | 12 | 0.2 |
| | | | | 6.2 | 40.0 | SAE | 500 | | | | | | | |
| **6014** | PAR56 | 3 Lugs | Auto Headlamp, Hi/Lo Bm (4,26)* | 12.8 | 60.0 | SAE | 200 | 5.00 | 18519 | **6VK77** | 8.42 | **7.15** | 6 | 1.4 |
| | | | | 12.8 | 50.0 | SAE | 320 | | | | | | | |
| **6015** | PAR56 | 3 Lugs | Auto/Truck Headlamp, | 12.8 | 50.0 | SAE | 300 | 5.00 | 38416 | **6VK78** | 10.26 | **8.21** | 12 | 0.3 |
| | | | Hi/Lo Bm (26,146)* | 12.8 | 50.0 | SAE | 500 | | | | | | | |
| **H6024** | PAR56 | 3 Lugs | Auto Headlamp, Halogen, | 12.8 | 65.0 | SAE | 150 | 5.00 | 18525 | **1E125** | 29.59 | **7.99** | 6 | 1.6 |
| | | | Hi/Lo Bm (4,118)* | 12.8 | 35.0 | SAE | 320 | | | | | | | |

(*) See Sealed Beam Lamp footnotes on page 1001.



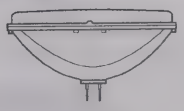
When it comes to lighting, no distributor outshines Grainger.

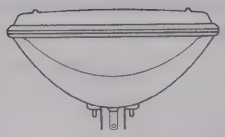
# SEALED BEAM LAMPS

## GE Lighting


PAR36


PAR46


150MM


200MM

| Industry Code | Bulb | Base | Description | Design Voltage | Design Watts | Appr. Init. Max. Beam Candle Power | Rated Avg. Life Hours | Maximum Overall Length (In.) | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6052 | 200 mm | 3 Lugs | Auto Headlamp, Hi/Lo Bm (4,26)* | 12.8 | 65.0 | SAE | 150 | 5.44 | 18521 | 6VK83 | $20.63 | $17.54 | 6 | 0.3 |
| | | | | 12.8 | 55.0 | SAE | 320 | | | | | | | |
| 6053 | 200 mm | 3 Lugs | Truck Headlamp, Hi/Lo Bm (4,26)* | 12.8 | 65.0 | SAE | 150 | 5.44 | 18298 | 6VK85 | 22.90 | 21.76 | 12 | 1.9 |
| | | | | 12.8 | 55.0 | SAE | 640 | | | | | | | |
| H6054HO | 200 mm | 3 Lugs | Auto Headlamp, | 12.8 | 65.0 | SAE | 150 | 5.44 | 14752 | 3JK20 | 35.64 | 12.99 | 6 | 2.0 |
| | | | High Output Type 2B1 (118, 151)* | 12.8 | 35.0 | SAE | 320 | | | | | | | |
| H6054 | 200 mm | 3 Lugs | Auto Headlamp, Halogen, | 12.8 | 65.0 | SAE | 150 | 5.44 | 18534 | 6VK86 | 33.26 | 7.99 | 6 | 2.0 |
| | | | Hi/Lo Bm (4,118,151)* | 12.8 | 35.0 | SAE | 320 | | | | | | | |
| HP6054 | 200 mm | 3 Lugs | Truck Headlamp, Type 2B1 (4, 118, 151, 163)* | 12.8 | 65.0 | SAE | 150 | 5.44 | 18544 | 3JK45 | 40.93 | 38.95 | 6 | 1.1 |
| | | | | 12.8 | 35.0 | SAE | 320 | | | | | | | |
| 7400 | PAR36 | Slip-on Term | Signal, Rotating Beacon | 12.8 | 35.0 | 33000 | 300 | 2.75 | 40190 | 6VK88 | 13.72 | 10.97 | 12 | 0.6 |
| 7414Y | PAR36 | Screw Term | Signal, Light Yellow Lens | 12.8 | 18.0 | 1000 | 300 | 2.75 | 39987 | 2F578 | 12.42 | 11.80 | 12 | 1.0 |
| H7550 | PAR36 | Screw Term | Hand Lantern, Halogen (118)* | 6.0 | 8.0 | 25000 | 50 | 2.75 | 43561 | 1C376 | 20.74 | 19.71 | 12 | 1.0 |
| H7551 | PAR36 | Screw Term | Emergency Bldg. Lighting, Halogen (118)* | 6.0 | 8.0 | 550 | 50 | 2.75 | 43564 | 2F622 | 20.74 | 19.71 | 12 | 0.5 |
| H7552 | PAR36 | Screw Term | Emergency Bldg. Lighting, Halogen (118)* | 6.0 | 10.0 | 650 | 50 | 2.75 | 43567 | 2F624 | 20.74 | 19.71 | 12 | 0.6 |
| H7553 | PAR36 | Screw Term | Emergency Bldg. Lighting, Halogen (118)* | 6.0 | 12.0 | 850 | 50 | 2.75 | 43570 | 2F626 | 20.74 | 19.71 | 12 | 0.5 |
| H7555 | PAR36 | Screw Term | Emergency Bldg. Lighting, Halogen (118)* | 12.0 | 8.0 | 550 | 50 | 2.75 | 44642 | 2F642 | 20.74 | 19.71 | 12 | 0.6 |
| H7556 | PAR36 | Screw Term | Emergency Building (118)* | 6.0 | 6.0 | 400 | 50 | 2.75 | 44924 | 3JK86 | 20.74 | 19.70 | 12 | 0.5 |
| H7557 | PAR36 | Screw Term | Emergency Bldg. Lighting, Halogen (118)* | 12.0 | 12.0 | 850 | 50 | 2.75 | 12720 | 2F099 | 18.04 | 17.14 | 12 | 0.6 |
| H7600 | PAR36 | Screw Term | Signal, Rotating Beacon, Halogen (118)* | 12.8 | 37.5 | 60000 | 300 | 2.75 | 42841 | 1C403 | 19.87 | 18.87 | 12 | 0.6 |
| H7604 | PAR36 | Screw Term | Spotlamp, Halogen (118)* | 12.8 | 50.0 | 100000 | 100 | 2.75 | 43576 | 1C374 | 23.87 | 22.68 | 12 | 0.5 |
| H7606 | PAR36 | Screw Term | Tractor, Flood, Halogen (4,118)* | 12.8 | 50.0 | 1000 | 400 | 2.75 | 14616 | 1E430 | 23.44 | 22.27 | 6 | 0.6 |
| H7607 | PAR36 | Screw Term | Tractor, Flood (4,118)* | 12.8 | 65.0 | 1500 | 600 | 2.75 | 19276 | 2F266 | 25.81 | 24.52 | 12 | 0.5 |
| H7609 | PAR46 | Screw Term | Tractor, Flood, Halogen (4,118)* | 12.8 | 50.0 | 2200 | 400 | 3.75 | 14617 | 2F230 | 25.27 | 24.01 | 6 | 1.0 |
| H7610 | PAR36 | Screw Term | Tractor, Halogen (4,118)* | 12.8 | 50.0 | 5200 | 400 | 2.75 | 14618 | 1E428 | 23.44 | 22.27 | 6 | 0.6 |
| H7612 | PAR46 | Screw Term | Fog, Halogen (118)* | 12.8 | 37.5 | 15000 | 450 | 3.75 | 49695 | 2F666 | 17.17 | 16.31 | 12 | 0.9 |
| 7613 | PAR36 | Screw Term | Emergency Bldg. Lighting | 6.0 | 8.0 | 400 | 50 | 2.75 | 41865 | 6VK92 | 12.42 | 9.94 | 12 | 0.5 |
| H7614 | PAR36 | Screw Term | Flood, Halogen (118)* | 12.8 | 50.0 | 2000 | 100 | 2.75 | 49731 | 2F668 | 19.33 | 18.36 | 12 | 0.6 |
| H7616 | PAR36 | Screw Term | Spotlamp, Halogen (118)* | 12.8 | 37.5 | 70000 | 300 | 2.75 | 42838 | 2F608 | 19.87 | 18.87 | 12 | 0.6 |
| H7619 | PAR46 | Screw Term | Tractor, Halogen (4,94,118)* | 12.8 | 50.0 | 6000 | 400 | 3.75 | 14619 | 2F232 | 26.78 | 25.45 | 12 | 1.0 |
| H7635 | PAR46 | Screw Term | Spotlamp, Halogen (118)* | 12.8 | 50.0 | 160000 | 100 | 3.75 | 43591 | 6VK93 | 25.27 | 21.48 | 12 | 0.5 |
| 7672-1 | PAR36 | Slip-on Term | Emergency Bldg. Lighting | 6.0 | 7.2 | 350 | 50 | 2.75 | 11421 | 1E963 | 15.23 | 14.46 | 12 | 0.5 |
| H9406 | 150mm | 2 Lugs | Tractor, Flood, Halogen (4,118)* | 12.8 | 50.0 | 1350 | 400 | 3.00 | 15769 | 2F240 | 23.65 | 22.47 | 12 | 1.0 |
| H9411 | 150mm | 2 Lugs | Tractor, Trapezoidal, Halogen (4, 118)* | 12.8 | 50.0 | 5400 | 400 | 3.00 | 15771 | 2F242 | 23.65 | 22.47 | 12 | 1.0 |
| H9415 | 150mm | 2 Rt. Angle Lugs | Auto, Fog (4, 118)* | 12.8 | 37.5 | 12,000 | 200 | 3.00 | 16484 | 3JK28 | 25.06 | 23.81 | 12 | 0.5 |
| H9415A | 150mm | 2 Rt. Angle Lugs | Auto, Fog, Amber (4, 118)* | 12.8 | 37.5 | — | 200 | 3.00 | 17988 | 3JK38 | 26.03 | 24.73 | 12 | 0.5 |
| H9420 | 150mm | 2 Rt. Angle Lugs | Auto, Driving (4, 118)* | 12.8 | 50.0 | SAE | 200 | 3.00 | 16976 | 3JK29 | 25.06 | 23.81 | 12 | 1.0 |
| H9421 | 150mm | 2 Rt. Angle Lugs | Auto, Truck, Special Service (4, 118)* | 12.8 | 50.0 | — | 200 | 3.00 | 16482 | 3JK27 | 25.06 | 23.81 | 12 | 1.0 |

(*) See Sealed Beam Lamp footnotes below.

### Sealed Beam Lamp Footnotes

4. At 14 volts.
14. This lamp is specially designed for a particular purchaser and may not be suitable for other uses because of its excessive wattage requirements for the bulb size. Consult the nearest Grainger sales office for application information.
15. This lamp is specially designed for a particular purchaser and may not be suitable for other uses because of its limited mechanical strength. Consult the nearest Grainger sales office for application information.
20. Slightly rounded cover.
23. At 7 volts.
26. Lower beam filament shielded.
81. 90° spherical shield above filament which masks all upward direct light.
82. Hemispherical shield in front of filament which masks all direct light.
83. 120° cylindrical shield positioned to the side of the filament.
92. Filament segments parallel.
94. Trapezoidal beam, spread to 10% measured through the center of the beam pattern.
96. Lens stippled.
98. Not for highway use.
108. The process of applying this permanent red finish may impart a slight iridescence and gradation of color to the lens, but this will not affect lamp's performance.
109. Special fixture required for highway use.
118. CAUTION: This sealed beam lamp has an inner halogen-cycle bulb. This pressure-filled inner bulb could shatter if scratched or damaged. If the outer sealed envelope is intact, this will be no problem. If the outer sealed envelope is broken, however, do not operate the lamp. Instead, carefully remove and dispose of the lamp by placing it in a used headlamp carton or other closed container.

INFORMATION NOTICE: The inner bulb will continue to burn if the outer envelope is cracked or broken. Cracked or broken envelopes will result in reflector deterioration such as the discoloration and disappearance of the aluminized coating. This deterioration will also reduce light output. Promptly replace any sealed beam lamp showing reflector deterioration.

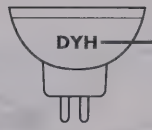
134. Wide flood beam lamps are used for forward illumination as well as for lighting implements at the rear of the tractor.
138. Life under specified test conditions: Cycled 5 minutes off.
146. Ceramic bridge.
151. Alternative construction may be adhesive seal.
163. Plastic lens and reflector.
166. Contact lugs are angled.

# PROJECTION LAMPS

## HOW TO USE THE PROJECTION LAMP PRODUCT SECTION

- **Our projection lamp section is organized alphabetically by the three-letter ANSI industry code.**

1. Identify the ANSI code found on the lamp in order to search for a match.




**ANSI Code:** The lamp's identification code.

**Rated Average Life Hours:** Average Life Hours figure represents the lamps median value of life expectancy.

**Initial Lumens:** Lamp's approximate light output after 100 hours of operation.

**Color Temp:** "Warmth" or "Coolness" of the lamp measured in Kelvins (K). The higher the temperature, the cooler the appearance of the light.

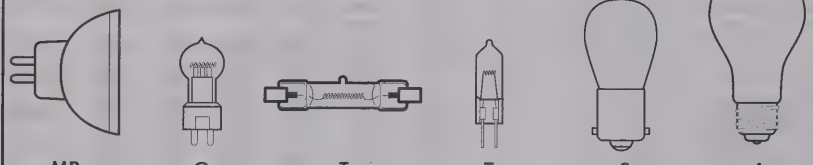
| ANSI Code | Bulb | Base | Description | Watts | Volts | Rated Avg. Life Hours | Maximum Overall Length (In.) | Initial Lumens | Color Temp. | Filament | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BAK | A21 | Med | Frosted | 300 | 120 | 20 | $4^{15}/_{16}$ | 9000 | 3200 | — | 40886 | **1C466** | $4.66 | **$4.62** | 24 | 0.3 |

Identifies ANSI Code

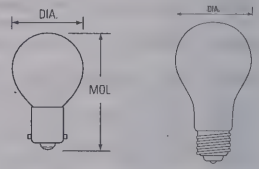
**Note:** Lamp drawings are not to scale. Be sure to check size and dimension information when identifying each lamp.

All ratings and data are subject to change without notice.

### Lamp Shapes



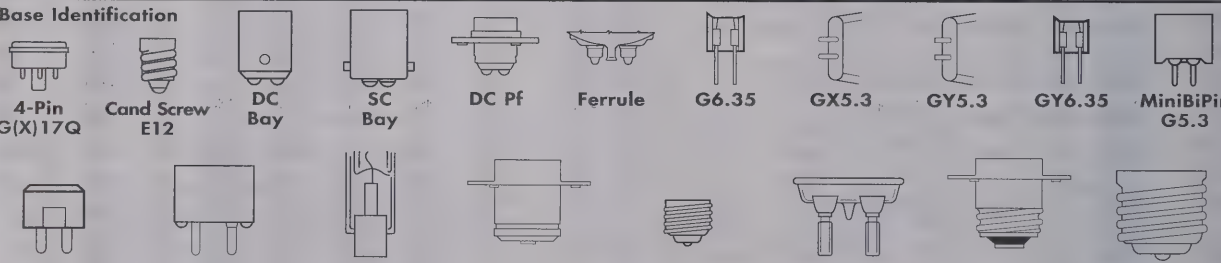

### Lamp Size Identification




**DIA.:**
Diameter of bulb (from outer edge to outer edge)

**MOL:**
Maximum Overall length in Inches.

### Base Identification




### GE Projection Lamps...Quality products that fill many needs

**Introduction**

GE Projection Lamps are designed for a wide variety of applications, extending well beyond the original picture-taking and audio-visual projection uses into such fields as: fiber optical systems, graphic arts, video camera lights, airport runway markers, micrographics, photo printers and enlargers, medical/scientific instruments, and many others.

GE Lighting

**GE Projection Lamps Feature:**

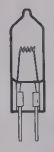
- **Precisely manufactured, tailored filaments that maximize source brightness, for optimum performance in precision optical devices**
- **High light-generating efficiency (lumens per watt) to help minimize power requirements and heat generation**
- **Prefocus type bases, or rim-reference mounting for Multi-Mirror® lamps to position the filament accurately in relation to the associated optics**
- **Designed life Rated Average life (per ANSI Standard)**
- **Lamps with internal or external reflectors (as in Multi-Mirror® and some 4-pin projection lamps) permitting high-efficiency illumination system designs with a minimum of additional optical control elements**



*When it comes to lighting, no distributor outshines Grainger.*

# PROJECTION LAMPS

GE Lighting


T3 1/2 2-Pin


A21 Med

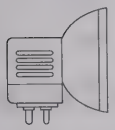

T6 4-Pin

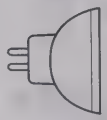

T10 & T12 4-Pin

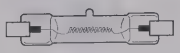

S11 SC Bay


S11 DC Bay

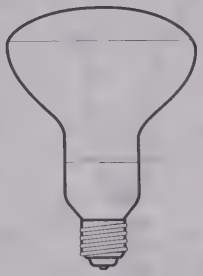

S11 Cand

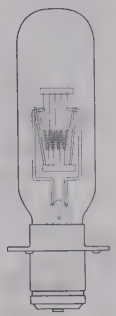

MR14 2-Pin V


MR16 2-Pin


T3 & T5 RSC


T6 2-Pin Pf.


R30 Med

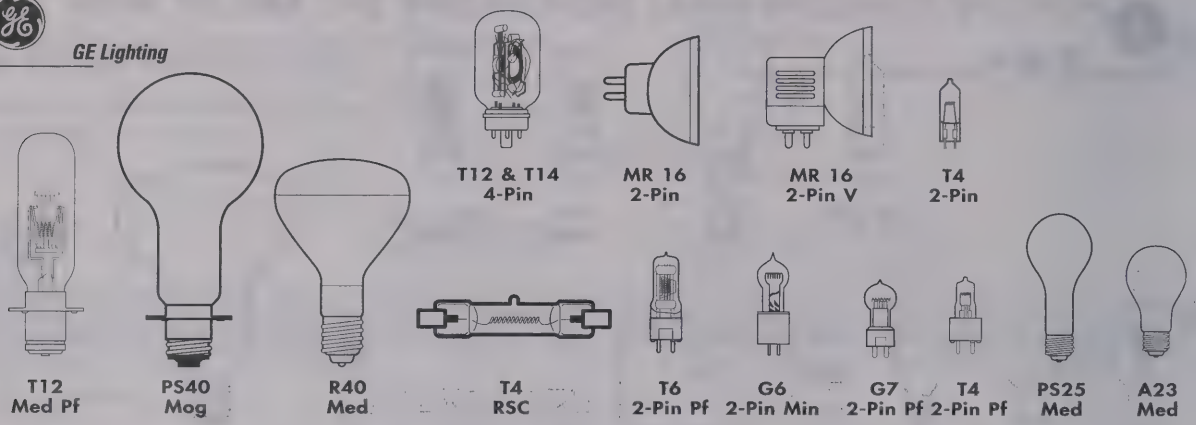

T10 & T12 Med Pf

| ANSI Code | Bulb | Base | Description | Watts | Volts | Rated Avg. Life Hours | Maximum Overall Length (In.) | Initial Lumens | Color Temp. | Filament | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BAH** | A21 | Med | Frosted | 300 | 120 | 20 | 4 15/16 | 9000 | 3200 | — | 40886 | **1C466** | $4.66 | **$4.62** | 24 | 0.3 |
| **BBA** | A21 | Med | Frosted | 250 | 120 | 3 | 4 15/16 | 8000 | 3400 | — | 40563 | **1C490** | 3.82 | **3.63** | 24 | 0.3 |
| **BCA** | A21 | Med | Frosted | 250 | 120 | 3 | 4 15/16 | 5000 | 4800 | — | 40564 | **1C488** | 5.66 | **5.38** | 24 | 0.1 |
| **BCK** | T6 | 4-Pin | Slide Projection | 500 | 120 | 50 | 3 3/4 | — | 3200 | C-13D | 36178 | **1C632** | 55.97 | **53.25** | 24 | 0.3 |
| **BEP** | R30 | Med | Medium Beam-I.F. | 300 | 120 | 4 | 5 3/16 | 11000 | 3400 | C-9 | 30182 | **2F478** | 10.77 | **10.23** | 24 | 0.3 |
| **BFL/BFK** | T20 | Med Pf | Bowling Proj. | 750 | 120 | 200 | 5 3/4 | 13500 | 3050 | C-13 | 29890 | **2F460†** | 49.18 | **48.65** | 24 | 0.4 |
| **BHB** | MR14 | 2-Pin V | 16mm Projection | 250 | 120 | 25 | 1 2/3 | — | 3350 | CC-8 | 40658 | **1C468** | 39.19 | **37.30** | 24 | 0.1 |
| **BLC** | S11 | DC Bay | Editor Projection | 30 | 115 | 50 | 2 3/8 | 400 | 2775 | CC-2V | 29140 | **1C876** | 6.69 | **6.66** | 120 | 0.1 |
| **BLK** | S11 | Cand. | Photocopy, Inside Frost | 30 | 120 | 50 | 2 1/4 | 400 | 2700 | CC-2V | 30232 | **1C780** | 10.67 | **10.14** | 120 | 0.1 |
| **BLX** | S11 | DC Bay | Toy Projection | 50 | 115 | 50 | 2 3/8 | 780 | 2850 | CC-2V | 29156 | **1C870** | 8.71 | **8.65** | 120 | 0.1 |
| **BMY** | S11 | SC Bay | Toy Projection | 100 | 115 | 50 | 2 3/8 | 1860 | 2950 | CC-13 | 29224 | **1C862** | 14.36 | **14.34** | 120 | 0.1 |
| **BNF** | S11 | DC Bay | Toy Projection | 75 | 115 | 25 | 2 3/8 | 1300 | 2900 | CC-2V | 32137 | **1C700** | 8.83 | **8.39** | 120 | 0.1 |
| **BRH** | T5 | R S C | Overhead Projector | 1000 | 120 | 75 | 3 3/4 | 30000 | 3350 | CC-8 | 29604 | **1C828** | 49.66 | **49.55** | 24 | 0.5 |
| **BRJ/EVB** | T3 1/2 | G6.35 | Overhead Projector | 150 | 15 | 50 | 1 3/4 | 5000 | 3400 | C-6 | 18235 | **3JK42†** | 15.85 | **15.05** | 100 | 0.1 |
| **BRK** | T5 | SC Pf | Sound Reproduction | 0.75A | 4 | 50 | 2 3/8 | 28 | — | C-8 | 39705 | **2F570** | 15.23 | **15.15** | 24 | 0.1 |
| **BRL** | T3 1/2 | 2-Pin | Projection, Microfilm, Studio, Etc. | 50 | 12 | 50 | 1 3/4 | 1400 | 3400 | C-6 | 18234 | **6VL60** | 9.84 | **9.35** | 100 | 0.1 |
| **BVE** | T6 | 2-Pin Pf | Projection, Microfilm, Studio, Etc. | 600 | 120 | 75 | 3 1/2 | — | 3200 | C-13D | 38675 | **1C578** | 52.77 | **50.15** | 24 | 0.3 |
| **BXB** | T8 | SC Pf | Sound Reproduction | 34 | 8.5 | 100 | 3 1/8 | 690 | — | C-8 | 30421 | **1C755** | 15.81 | **15.72** | 24 | 0.1 |
| **CAL** | T10 | 4-Pin | Slide, Film Strip | 300 | 120 | 25 | 4 | — | 3200 | C-13 | 29525 | **4V235** | 48.69 | **43.75** | 24 | 0.3 |
| **CAR** | T10 | 4-Pin | Slide, Film Strip | 150 | 120 | 15 | 3 1/8 | — | 3100 | 2CC-8 | 29380 | **1C840** | 22.80 | **21.66** | 24 | 0.1 |
| **CAX** | T8 | DC Bay | Optical Projection | 50 | 130 | 50 | 3 1/8 | 775 | 2875 | CC-13 | 29169 | **1C868** | 11.25 | **10.70** | 24 | 0.1 |
| **CAX** | T8 | DC Bay | Optical Projection | 50 | 115 | 50 | 3 1/8 | 775 | 2875 | CC-13 | 29171 | **1C866** | 9.05 | **8.60** | 24 | 0.1 |
| **CBX/CBS** | T8 | DC Bay | Slide Projection | 75 | 115 | 50 | 3 1/8 | 1200 | 2925 | CC-13 | 29208 | **1C864** | 19.30 | **19.17** | 24 | 0.1 |
| **CDD** | T8 | SC Bay | Slide Projection | 100 | 120 | 50 | 3 1/8 | 2000 | 2975 | CC-2V | 29257 | **1C858** | 18.43 | **17.50** | 24 | 0.1 |
| **CDJ** | T8 | DC Bay | Slide Projection | 100 | 115 | 50 | 3 1/8 | 2000 | 2975 | CC-2V | 29266 | **1C856** | 16.01 | **15.20** | 24 | 0.1 |
| **CEB** | T8 | DC Bay | Slide Projection | 100 | 115 | 50 | 3 1/8 | 1850 | 2975 | CC-13 | 29244 | **1C860** | 16.10 | **16.06** | 24 | 0.1 |
| **CEM** | T8 | SC Bay | Wheel Align Projection | 120 | 120 | 25 | 3 1/8 | 1950 | 3000 | 2CC-8 | 43330 | **1C384** | 15.79 | **15.00** | 24 | 0.3 |
| **CLS/CLG** | T8 1/2 | SC Bay | Slide Projection | 300 | 120 | 25 | 4 1/8 | 7600 | 3200 | C-13 | 29494 | **1C836** | 18.27 | **18.17** | 24 | 0.3 |
| **CZA/CZB** | T10 | 4-Pin | Slide Projection | 500 | 120 | 25 | 4 | — | 3300 | C-13D | 29664 | **1C826** | 28.81 | **27.40** | 24 | 0.2 |
| **CZX/DAB** | T10 | Med Pf | 8mm Projection | 500 | 115 | 25 | 5 1/4 | 12500 | 3200 | C-13D | 29677 | **1C824** | 38.51 | **36.60** | 24 | 0.2 |
| **DAT/DAK** | T10 | 4-Pin | Slide Projection | 400 | 120 | 25 | 4 | 9800 | 3200 | C-13D | 40214 | **1C504** | 24.15 | **22.94** | 24 | 0.3 |
| **DAY/DAK** | T10 | 4-Pin | Slide Projection | 500 | 120 | 30 | 4 | 12500 | 3200 | C-13D | 29695 | **1C822** | 36.67 | **34.95** | 24 | 0.3 |
| **DCA** | T12 | 4-Pin | 8mm Projection | 150 | 21 | 15 | 3 9/16 | — | 3250 | CC-6 | 29360 | **1C848** | 40.16 | **38.25** | 24 | 0.3 |
| **DCH/DJA/DFP** | T12 | 4-Pin | 8mm Projection | 150 | 120 | 15 | 3 3/8 | — | 3150 | CC-6 | 29364 | **1C846** | 34.73 | **33.05** | 24 | 0.3 |
| **DDB** | T12 | Med Pf | 16mm Projection | 750 | 115 | 25 | 5 1/4 | 19500 | 3250 | C-13D | 29836 | **1C816** | 43.84 | **41.70** | 24 | 0.2 |
| **DDF** | MR16 | 2-Pin | Enlarger, Projection | 55 | 17 | 300 | 1 3/4 | — | 3100 | CC-6 | 43986 | **2F638** | 38.70 | **36.85** | 20 | 0.1 |
| **DDL** | MR16 | 2-Pin | Microfilm | 150 | 20 | 500 | 1 3/4 | — | 3150 | C-6 | 43537 | **6VM01** | 18.04 | **17.14** | 10 | 0.1 |
| **DDM** | MR16 | 2-Pin | Slide Projection | 80 | 19 | 50 | 1 3/4 | — | 3150 | CC-6 | 43206 | **1C389** | 27.65 | **26.30** | 10 | 0.1 |
| **DDN** | T3 | R S C | Microfilm | 200 | 20 | 100 | 2 3/8 | 5000 | 3150 | CC-8 | 34570 | **2F508** | 32.11 | **31.95** | 24 | 0.1 |
| **DDS** | MR16 | 2-Pin | Microfilm | 80 | 21 | 1000 | 1 3/4 | | 3125 | CC-6 | 43988 | **6VM03** | 19.30 | **18.33** | 10 | 0.1 |
| **DED** | MR16 | 2-Pin | Microfilm | 85 | 13.8 | 1000 | 1 3/4 | — | 3150 | C-6 | 43950 | **4V239** | 18.14 | **13.83** | 10 | 0.1 |

(†) Limited availability. Contact local branch.

# PROJECTION LAMPS

GE Lighting




| ANSI Code | Bulb | Base | Description | Watts | Volts | Rated Avg. Life Hours | Maximum Overall Length (in.) | Initial Lumens | Color Temp. | Filament | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DEK/DFW/DHN** | T12 | 4-Pin | Slide Projection | 500 | 120 | 25 | 3 5/8 | — | 3250 | C-13D | 29737 | **1C820** | $30.36 | **$28.90** | 24 | 0.3 |
| **DFE** | T12 | 4-Pin | 8mm Projection | 80 | 30 | 15 | 3 3/16 | — | 3400 | CC-8 | 36122 | **2F536** | 34.53 | **32.90** | 24 | 0.3 |
| **DFN/DFC** | T12 | 4-Pin | 8mm Projection | 150 | 125 | 15 | 3 3/16 | — | 3150 | CC-8 | 29386 | **2F452** | 39.58 | **39.15** | 24 | 0.3 |
| **DJL** | T14 | 4-Pin | 8mm Projection | 150 | 120 | 15 | 3 1/2 | — | 3150 | CC-8 | 29338 | **1C850** | 42.00 | **40.00** | 24 | 0.3 |
| **DJT** | MR16 | 2-Pin | Microfilm | 50 | 13.8 | 1000 | 1 3/4 | — | 3150 | CC-6 | 44854 | **6VM13** | 21.05 | **20.00** | 10 | 0.1 |
| **DLD/DFZ** | T14 | 4-Pin | 8mm Projection | 80 | 30 | 15 | 3 1/2 | — | 3400 | CC-6 | 40216 | **1C502** | 38.51 | **36.60** | 24 | 0.3 |
| **DLS/DLG/DHX** | T14 | 4-Pin | 8mm Projection | 150 | 22 | 15 | 3 7/16 | — | 3300 | CC-6 | 29366 | **1C844** | 39.58 | **39.55** | 24 | 0.3 |
| **DNE** | MR16 | 2-Pin V | 8mm Projection | 150 | 120 | 12 | 1 3/4 | — | 3350 | CC-8 | 40161 | **1C508** | 39.19 | **37.30** | 24 | 0.3 |
| **DNF** | MR16 | 2-Pin V | 8mm Projection | 150 | 21 | 25 | 1 3/4 | — | 3400 | CC-6 | 39742 | **4V241** | 32.01 | **25.75** | 24 | 0.2 |
| **DPT** | T20 | Mog | Opaque Projection | 1000 | 115 | 50 | 9 1/16 | 28000 | 3200 | C-13 | 29959 | **1C810** | 57.72 | **54.90** | 12 | 0.6 |
| **DRA** | T4 | 2-Pin | Projection | 300 | 120 | 300 | 2 5/8 | 6900 | 3300 | CC-6 | 18239 | **2F260** | 39.77 | **37.85** | 20 | 0.3 |
| **DRB** | T20 | Med Pf | Overhead Projection | 1000 | 115 | 25 | 5 3/4 | 32000 | 3350 | C-13 | 29968 | **1C806** | 45.59 | **43.40** | 24 | 0.3 |
| **DRC** | T20 | Med Pf | Overhead & Opaque Projection | 1000 | 120 | 50 | 5 3/4 | 30000 | 3250 | C-13 | 29979 | **1C804** | 49.57 | **47.20** | 24 | 0.3 |
| **DRS** | T20 | Med Pf | Overhead Projection | 1000 | 120 | 25 | 5 3/4 | 28500 | 3325 | C-13D | 29947 | **1C812** | 38.61 | **36.75** | 24 | 0.3 |
| **DSW** | T14 | 4 -Pin | 8mm Projection | 200 | 24 | 25 | 3 3/8 | — | 3300 | CC-8 | 29405 | **1C838** | 46.46 | **44.20** | 24 | 0.3 |
| **DVY** | G6 | 2-Pin Min | Projection | 650 | 120 | 25 | 2 1/2 | 20000 | 3300 | CC-6 | 30304 | **2F482** | 29.29 | **27.90** | 24 | 0.1 |
| **DWK** | T20 | Med Pf | Projection & Studio | 1000 | 230 | 50 | 5 3/4 | 23500 | 3100 | CC-13 | 29953 | **2F462†** | 58.30 | **57.85** | 24 | 0.3 |
| **DWZ** | T4 | R S C | Bowling Score Projection | 375 | 30 | 1000 | 3 1/8 | 7500 | 3000 | CC-8 | 29578 | **6VM28** | 38.61 | **32.90** | 24 | 0.1 |
| **DXB** | R40 | Med | Spot Beam, I.F. (RSP-2) | 500 | 115 | 6 | 6 5/8 | — | 3300 | CC-2V | 30151 | **1C786** | 15.52 | **15.49** | 24 | 0.3 |
| **DXC** | R40 | Med | Flood Beam, I.F. (RFL-2) | 500 | 115 | 6 | 6 5/8 | — | 3300 | C-9 | 30145 | **1C788** | 13.10 | **12.44** | 24 | 0.3 |
| **DYP** | G7 | 2 Button | Projection, Microfilm, Studio, Etc. | 600 | 120 | 75 | 2 1/4 | 17000 | 3200 | CC-6 | 32071 | **1C702** | 37.54 | **35.75** | 24 | 0.3 |
| **DYR** | G7 | 2-Pin Pf | Projection | 650 | 240 | 50 | 2 1/2 | 16500 | 3200 | 2CC-8 | 33250 | **2F496** | 42.00 | **41.95** | 24 | 0.1 |
| **DYR** | G7 | 2-Pin Pf | Projection | 650 | 220 | 50 | 2 1/2 | 16500 | 3200 | 2CC-8 | 33248 | **2F494** | 39.96 | **39.90** | 24 | 0.1 |
| **DYS-5** | G7 | 2-Pin Pf | Projection, Microfilm, Studio, Etc. | 600 | 120 | 150 | 2 1/2 | 15500 | 3200 | CC-6 | 19479 | **1E024** | 22.80 | **21.67** | 24 | 0.3 |
| **DYS/DYV/BHC** | G7 | 2-Pin Pf | Projection, Microfilm, Studio, Etc. | 600 | 120 | 75 | 2 1/2 | 17000 | 3200 | CC-6 | 32955 | **4V234** | 17.40 | **15.85** | 24 | 0.1 |
| **DZA** | T3 1/2 | 2-Pin Min | Projection, Microfilm, Studio, Etc. | 30 | 10.8 | 400 | 2 | 800 | 3100 | C-6 | 37346 | **1C600** | 24.35 | **24.30** | 24 | 0.1 |
| **DZE/FDS** | T4 | 2-Pin Pf | Projection, Microfilm, Studio, Etc. | 150 | 24 | 100 | 2 11/16 | 4500 | 3250 | C-6 | 37695 | **6VM96** | 15.04 | **14.29** | 24 | 0.1 |
| **EAJ** | T6 1/2 | DC Bay | Flashtube Modeling | 35 | 12 | 300 | 1 | 620 | — | C-6 | 30202 | **1C782** | 20.66 | **19.63** | 24 | 0.1 |
| **EAL** | R40 | Med | Medium Beam, I.F. | 500 | 120 | 15 | 6 5/8 | — | 3200 | CC-2V | 30281 | **1C774** | 16.68 | **15.84** | 24 | 0.3 |
| **EBV** | PS25 | Med | Frosted | 500 | 120 | 6 | 6 15/16 | 17000 | 3400 | — | 40566 | **1C484** | 5.76 | **5.47** | 24 | 0.2 |
| **EBW** | PS25 | Med | Frosted | 500 | 120 | 6 | 6 15/16 | 10500 | 4800 | — | 40567 | **1C482** | 8.28 | **7.86** | 24 | 0.2 |
| **ECA** | A23 | Med | Frosted | 250 | 120 | 20 | 6 15/16 | 6500 | 3200 | — | 40565 | **1C486** | 4.95 | **4.71** | 24 | 0.3 |
| **ECT** | PS25 | Med | Frosted | 500 | 120 | 60 | 6 15/16 | 13650 | 3200 | — | 40568 | **1C480** | 6.73 | **6.40** | 24 | 0.2 |
| **ECV** | PS40 | Mog | Photoflood, I.F. | 1000 | 120 | 60 | 9 3/4 | 26500 | 3200 | C-7A | 30358 | **2F486** | 21.18 | **21.17** | 24 | 0.1 |
| **EFM** | MR16 | 2-Pin | 8mm Projection | 50 | 8 | 50 | 1 3/4 | — | 3300 | C-6 | 41251 | **6VM44** | 31.04 | **24.73** | 10 | 0.1 |
| **EFN** | MR16 | 2-Pin | 8mm Projection | 75 | 12 | 50 | 1 3/4 | — | 3350 | CC-6 | 41252 | **6VM45** | 33.85 | **32.70** | 10 | 0.3 |
| **EFP** | MR16 | 2-Pin | 8mm Projection | 100 | 12 | 50 | 1 3/4 | — | 3350 | CC-6 | 41253 | **6VM46** | 33.47 | **31.90** | 10 | 0.1 |
| **EFR** | MR16 | 2-Pin | 8mm Projection | 150 | 15 | 50 | 1 3/4 | — | 3350 | CC-6 | 41254 | **6VM47** | 33.95 | **32.30** | 10 | 0.1 |
| **EHA** | T6 | 2-Pin Pf. | Projection, Microfilm, Studio, Etc. | 500 | 120 | 50 | 3 | — | 3300 | C-13D | 37527 | **4V244** | 51.80 | **45.90** | 24 | 0.1 |
| **EHJ** | T4 | 2-Pin | Projection, Microfilm, Studio, Etc. | 250 | 24 | 50 | 2 1/4 | 8000 | 3400 | C-6 Oval | 14874 | **6VM50** | 21.53 | **20.46** | 100 | 0.1 |
| **EJA** | MR16 | 2-Pin | Fiberoptics | 150 | 21 | 40 | 1 3/4 | — | 3350 | CC-6 | 32882 | **6VM51** | 32.38 | **30.85** | 10 | 0.1 |
| **EJL** | MR16 | 2-Pin | 16mm, Color Printer | 200 | 24 | 50 | 1 3/4 | — | 3400 | CC-6 | 29150 | **6VM52** | 24.35 | **23.13** | 10 | 0.1 |
| **EJM** | MR16 | 2-Pin | 8mm Projection | 150 | 21 | 40 | 1 3/4 | — | 3350 | CC-6 | 29151 | **1C874** | 28.23 | **28.05** | 10 | 0.1 |
| **EJV** | MR16 | 2-Pin | 8mm, Printer | 150 | 21 | 40 | 1 3/4 | — | 3350 | CC-6 | 32831 | **1C684** | 29.78 | **28.35** | 10 | 0.1 |
| **EJY** | MR16 | 2-Pin | Fiberoptics | 80 | 19 | 25 | 1 3/4 | — | 3400 | CC-6 | 32886 | **1C680** | 32.98 | **32.95** | 10 | 0.1 |
| **EKE** | MR16 | 2-Pin | 8mm Projection | 150 | 21 | 200 | 1 3/4 | — | 3250 | CC-6 | 35200 | **6VM56** | 28.64 | **27.25** | 10 | 0.1 |
| **EKN** | MR16 | 2-Pin | Microfilm | 120 | 17.5 | 130 | 1 3/4 | — | 3200 | CC-6 | 34865 | **1C644** | 19.69 | **19.56** | 10 | 0.1 |

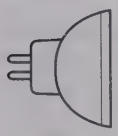
(†) Limited availability. Contact local branch.

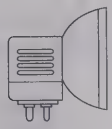


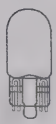
When it comes to lighting, no distributor outshines Grainger.

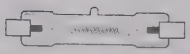
# PROJECTION LAMPS

**GE Lighting**


MR16 2-Pin


MR14 2-Pin V

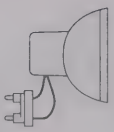

T3 1/4 Wedge


T5 RSC


T3 1/2, T4, & T5 2-Pin


T3 1/2 & T4 2-Pin Pf.


G6 2-Pin Min

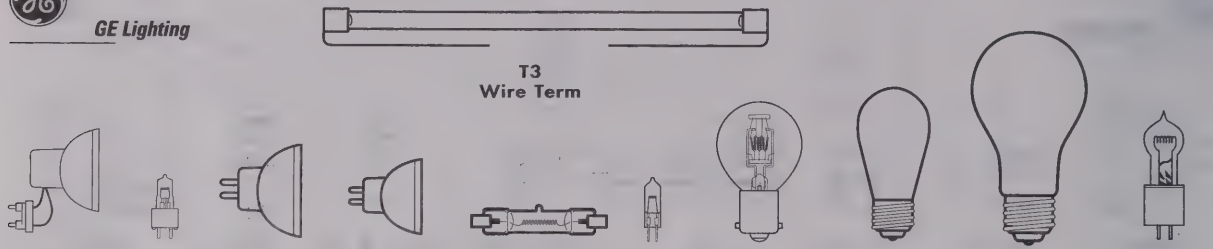

MR16 Spec 2-Pin

| ANSI Code | Bulb | Base | Description | Watts | Volts | Rated Avg. Life Hours | Maximum Overall Length (In.) | Initial Lumens | Color Temp. | Filament | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EKP/ENA** | MR16 | 2-Pin | 8mm Projection | 80 | 30 | 25 | 1¾ | — | 3350 | CC-6 | 35800 | **1C638** | $31.82 | **$30.25** | 10 | 0.1 |
| **EKX** | MR16 | 2-Pin | Microfilm | 200 | 24 | 25 | 1¾ | — | 3400 | CC-6 | 36899 | **1C614** | 22.99 | **22.96** | 10 | 0.1 |
| **EKZ** | MR16 | 2-Pin | 16mm Projection | 30 | 10.8 | 200 | 1¾ | — | 3100 | C-6 | 36902 | **1C612** | 30.65 | **30.50** | 10 | 0.1 |
| **ELB** | MR16 | 2-Pin | 8mm Projection | 80 | 30 | 18 | 1¾ | — | 3400 | CC-6 | 37412 | **1C598** | 28.62 | **28.55** | 10 | 0.1 |
| **ELC** | MR16 | 2-Pin | 16mm, Fiberoptics | 250 | 24 | 50 | 1¾ | — | 3400 | CC-6 | 37462 | **1C594** | 21.17 | **20.13** | 10 | 0.1 |
| **ELC/C** | MR16 | 2-Pin | Color Printer | 250 | 24 | 50 | 1¾ | — | 3400 | C-8 | 22023 | **1K213** † | 32.59 | **31.05** | 10 | 0.1 |
| **ELD/EJN** | MR16 | 2-Pin | Microfilm | 150 | 21 | 40 | 1¾ | — | 3350 | CC-6 | 38306 | **6VM63** | 20.37 | **19.35** | 10 | 0.3 |
| **ELH** | MR16 | 2-Pin O | Slide Projection, Flat Pins | 300 | 120 | 35 | 1¾ | — | 3350 | CC-8 | 38476 | **4V246** | 21.66 | **19.73** | 10 | 0.1 |
| **ELS/ELR** | MR14 | 2-Pin-V | Microfilm | 50 | 16 | 650 | 1 7/16 | — | 3100 | CC-6 | 41885 | **2F600** | 30.46 | **29.00** | 24 | 0.1 |
| **EML** | T4 | 2-Pin Min. | Projection, Microfilm, Studio, Etc. | 175 | 24 | 125 | 2⅛ | 5000 | 3200 | C-6 | 42612 | **1C413** | 25.71 | **25.65** | 24 | 0.3 |
| **EMM/EKS** | MR14 | 2-Pin V | 16mm Projection | 250 | 24 | 50 | 1⅜ | — | 3400 | CC-6 | 40017 | **1C518** | 38.22 | **36.40** | 24 | 0.1 |
| **ENG** | MR16 | 2-Pin O | Slide Projection, Flat Pins | 300 | 120 | 15 | 1¾ | — | 3450 | CC-8 | 38685 | **1C576** | 35.60 | **35.45** | 10 | 0.1 |
| **ENH** | MR16 | 2-Pin O | Slide Projection, Flat Pins | 250 | 120 | 175 | 1¾ | — | 3250 | CC-8 | 38686 | **4V247** | 33.49 | **27.75** | 10 | 0.1 |
| **ENW/ENC** | MR16 | 2-Pin | 8mm Projection | 80 | 19 | 200 | 1¾ | — | 3200 | CC-6 | 40248 | **1C500** | 39.09 | **38.85** | 10 | 0.1 |
| **ENX** | MR16 | 2-Pin O | Overhead Projection, Flat Pins | 360 | 82 | 75 | 1¾ | — | 3300 | CC-8 | 41705 | **4V248** | 21.99 | **20.89** | 10 | 0.1 |
| **ENX-5** | MR16 | 2-Pin O | Overhead Projection, Flat Pins | 360 | 82 | 75 | 1¾ | — | 3300 | CC-8 | 19475 | **1E026** | 28.81 | **27.40** | 10 | 0.1 |
| **ENZ** | MR16 | 2-Pin | 8mm Projection | 50 | 30 | 25 | 1¾ | — | 3450 | CC-6 | 40598 | **1C470** | 24.74 | **23.49** | 10 | 0.1 |
| **EPN** | MR16 | 2-Pin | 8mm Projection | 35 | 12 | 50 | 1¾ | — | 3300 | C-6 | 41430 | **2F594** | 31.82 | **31.45** | 20 | 0.1 |
| **EPR** | T6 | TF | Projection | 500 | 120 | 50 | 1 9/16 | — | 3250 | C-13D | 19897 | **2F272** | 52.48 | **49.95** | 24 | 0.1 |
| **EPT** | MR16 | 2-Pin | Fiberoptics | 42 | 10.8 | 10000 | 1¾ | — | 2900 | C-6 | 41729 | **1C431** | 32.40 | **30.85** | 10 | 0.1 |
| **EPV** | MR16 | 2-Pin | Microfilm | 90 | 14.5 | 500 | 1¾ | — | 3150 | CC-6 | 41882 | **1C423** | 18.33 | **18.27** | 10 | 0.1 |
| **EPW** | MR16 | 2-Pin O | Overhead Projection, Flat Pins | 360 | 100 | 75 | 1¾ | — | 3250 | CC-8 | 41702 | **1C433** | 35.89 | **34.15** | 10 | 0.1 |
| **EPX** | MR16 | 2-Pin | Microfilm | 90 | 14.5 | 500 | 1¾ | — | 3150 | CC-6 | 42614 | **1C411** | 20.27 | **20.24** | 10 | 0.3 |
| **ERF** | T3 1/4 | Wedge | Projection, Microfilm, Studio, Etc. | 50 | 14 | 200 | 1⅛ | — | 3200 | CC-6 | 19550 | **1E020** | 22.89 | **21.75** | 24 | 0.1 |
| **ERV** | MR16 | 2-Pin | Overhead Projection | 340 | 36 | 75 | 1¾ | — | 3300 | CC-8 | 41874 | **2F598** | 37.44 | **37.10** | 20 | 0.1 |
| **ESD** | MR16 | 2-Pin O | Enlarger, Projection, Flat Pins | 150 | 120 | 12 | 1¾ | — | 3350 | CC-8 | 43756 | **2F628** | 37.73 | **37.40** | 20 | 0.1 |
| **ESJ** | MR16 | 2-Pin O | Enlarger, Projection, Flat Pins | 85 | 82 | 85 | 1¾ | — | 3350 | CC-8 | 11698 | **1E893** | 29.39 | **28.00** | 10 | 0.1 |
| **ETJ** | MR16 | 2-Pin O | Fiberoptics, Flat Pins | 250 | 120 | 175 | 1¾ | — | 3300 | CC-8 | 11322 | **1E992** | 39.29 | **37.40** | 10 | 0.1 |
| **ETT** | T5 | R S C | Special | 1000 | 120 | 70 | 3½ | — | 3350 | CC-8 | 38311 | **2F560** | 45.40 | **44.95** | 24 | 0.3 |
| **EVC** | T5 | 2-Pin | Photo | 250 | 24 | 300 | 2¼ | 8400 | — | C-6F | 18237 | **6VM79** † | 49.86 | **45.95** | 100 | 0.1 |
| **EVD** | T6 | 2-Pin | Projection, Microfilm, Studio, Etc. | 400 | 36 | 50 | 2 13/32 | 14,500 | 3200 | C-6 | 18238 | **1E161** | 28.13 | **26.75** | 25 | 0.3 |
| **EVV** | T4 | 2-Pin Pf. | Airport | 120 | 6.6A | 500 | 2½ | 3150 | 3200 | C-6 Oval | 10099 | **2C638** | 29.00 | **28.75** | 24 | 0.1 |
| **EVW** | MR16 | 2-Pin O | Overhead Projection, Flat Pins (4)* | 250 | 82 | 50 | 1¾ | — | 3300 | CC-8 | 11110 | **6VM81** | 27.55 | **26.25** | 10 | 0.1 |
| **EWF** | MR16 | 2-Pin | Overhead Projection | 200 | 24 | 50 | 1¾ | — | 3300 | CC-8 | 11132 | **2C845** | 31.33 | **31.00** | 20 | 0.1 |
| **EWR** | T4 | 2-Pin Pf. | Airport | 150 | 6.6A | 500 | 2½ | 4100 | 3200 | C-6 Oval | 11427 | **2C894** | 41.00 | **40.95** | 24 | 0.1 |
| **EXL** | T3 1/2 | 2-Pin Pf. | Airport | 30 | 6.6A | 1000 | 1¾ | 375 | 2900 | C-8 | 11478 | **2C898** | 25.03 | **23.78** | 24 | 0.1 |
| **EXM** | T3 1/2 | 2-Pin Pf. | Airport | 45 | 6.6A | 1000 | 1¾ | 750 | 2950 | C-8 | 11482 | **2C921** | 25.03 | **23.78** | 24 | 0.1 |
| **EXR** | MR13 | 2-Pin | Slide Projection | 300 | 82 | 35 | 1¼ | — | 3350 | CC-8 | 12092 | **4V249** | 23.00 | **21.85** | 10 | 0.1 |
| **EXV** | MR16 | 2-Pin | Camera Light | 100 | 12 | 50 | 1¾ | 3100 | 3350 | CC-6 | 12003 | **2F055** | 33.47 | **33.45** | 20 | 0.1 |
| **EXW** | MR13 | 2-Pin | Slide Projection | 300 | 82 | 15 | 1¼ | — | 3450 | CC-8 | 12095 | **1E851** | 34.24 | **34.10** | 10 | 0.1 |
| **EXX** | MR16 | 2-Pin O | Camera Light, Flat Pins | 250 | 120 | 25 | 1¼ | 6750 | 3300 | CC-8 | 11750 | **2F031** | 22.60 | **22.19** | 20 | 0.1 |
| **EXY** | MR13 | 2-Pin | Slide Projection | 250 | 82 | 200 | 1¾ | — | 3200 | CC-8 | 12097 | **1E849** | 32.66 | **32.50** | 10 | 0.1 |
| **EYA** | MR16 | 2-Pin O | Enlarger, Flat Pins | 200 | 82 | 50 | 1¼ | — | 3300 | CC-8 | 13152 | **1E561** | 23.77 | **22.58** | 10 | 0.1 |
| **EYB** | T3 1/2 | 2-Pin Min | Projection, Microfilm, Studio, Etc. | 360 | 82 | 75 | 2¼ | 10,000 | 3300 | CC-8 | 12696 | **1E656** | 17.85 | **16.96** | 24 | 0.1 |
| **EYB-5** | T3 1/2 | 2-Pin Min | Projection, Microfilm, Studio, Etc. | 360 | 86 | 75 | 2¼ | 10,000 | 3200 | CC-8 | 19822 | **1E045** | 23.38 | **22.22** | 24 | 0.1 |
| **EYH/FKT** | G6 | 2-Pin Min | Projection, Microfilm, Studio, Etc. (10)* | 250 | 120 | 300 | 2¼ | 6000 | 3000 | CC-6 | 13617 | **1E530** | 25.80 | **25.75** | 24 | 0.3 |
| **EZC** | MR16 | 2-Pin | Airport | 45 | 6.6A | 1000 | 1¼ | — | 2950 | C-8 | 23071 | **2F306** | 29.78 | **28.35** | 20 | 0.1 |
| **EZF/EZJ** | MR13 | 2-Pin | Color Printer | 225 | 68 | 500 | 1¾ | — | — | CC-8 | 15832 | **1E317** | 39.38 | **37.50** | 10 | 0.1 |
| **EZG** | MR16 | Spec 2-Pin | High Intensity Arc (11,12)* | 300 | 35 | 75 | — | — | 6000 | — | 11134 | **1F288** | 143.37 | **136.20** | 4 | 0.3 |
| **EZK** | MR16 | 2-Pin O | Camera Light, Flat Pins | 150 | 120 | 200 | 1¾ | — | 3200 | CC-8 | 15477 | **1E368** | 21.63 | **21.51** | 10 | 0.1 |
| **EZL** | T4 | 2-Pin Pf. | Airport | 200 | 6.6A | 500 | 2½ | 5000 | 3100 | C-6 Oval | 15243 | **2F238** | 31.91 | **31.60** | 24 | 0.1 |

(*) See Projection Lamp footnotes on page 1006. (†) Limited availability. Contact local branch.

# PROJECTION LAMPS

GE Lighting




| ANSI Code | Bulb | Base | Description | Watts | Volts/ Amp | Rated Avg. Life Hours | Maximum Overall Length (In.) | Initial Lumens | Color Temp. | Filament | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EZM** | 3" | Spec 2-Pin | MARC-300/16 | 300 | 37.5 | 25 | — | — | 5500 | — | 29469 | **2F454** | $119.31 | **$118.30** | 4 | 0.4 |
| **EZT** | 3" | Spec 2-Pin | MARC-350/16T | 350 | 45 | 50 | — | — | 5000 | — | 39936 | **2F576** | 170.33 | **162.00** | 4 | 0.5 |
| **FAL** | T4 | R S C | Printer, Overhead (10)* | 420 | 120 | 75 | 1 5/8 | 11000 | 3200 | CC-8 | 29581 | **1C834** | 26.68 | **25.35** | 24 | 0.1 |
| **FBG/FBD** | G6 | 2-Pin Min | Projection, Microfilm, Studio, Etc. | 500 | 120 | 50 | 3 | 13200 | 3200 | CC-6 | 33663 | **1C652** | 35.41 | **33.70** | 24 | 0.3 |
| **FCB** | T4 | R S C | Overhead Projection (10)* | 600 | 120 | 75 | 3 3/4 | 17000 | 3250 | CC-8 | 29598 | **1C830** | 33.37 | **31.70** | 24 | 0.3 |
| **FCR** | T3 | 2-Pin | Projection, Microfilm, Studio, Etc. | 100 | 12 | 50 | 1 3/4 | 2800 | 3300 | C-6 Oval | 14876 | **6VM91** | 11.45 | **10.88** | 100 | 0.1 |
| **FCS** | T4 | 2-Pin | Projection, Microfilm, Studio, Etc. | 150 | 24 | 50 | 2 | 4500 | 3300 | C-6 Oval | 13598 | **6VM92** | 9.95 | **9.45** | 100 | 0.1 |
| **FDT** | T3 | 2-Pin Pf | Projection, Microfilm, Studio, Etc. | 100 | 12 | 50 | 2 1/8 | 2900 | 3300 | C-6 Oval | 35321 | **1C642** | 14.65 | **14.61** | 24 | 0.1 |
| **FDV** | T4 | 2-Pin | Projection, Microfilm, Studio, Etc. | 150 | 24 | 100 | 2 | 4300 | 3050 | C-6 Oval | 36878 | **1C616** | 26.19 | **26.10** | 24 | 0.3 |
| **FFJ** | T4 | R S C | Printer, Overhead (10)* | 600 | 120 | 75 | 2 5/8 | 17000 | 3250 | CC-8 | 29592 | **1C832** | 29.39 | **29.35** | 24 | 0.1 |
| **FHS** | MR13 | 2-Pin | Slide Projection | 300 | 82 | 70 | 1 3/4 | — | 3300 | CC-8 | 47614 | **6VN06** | 26.31 | **25.00** | 10 | 0.1 |
| **FHX** | MR16 | 2-Pin | Microfilm | 25 | 13.8 | 250 | 1 3/4 | — | 3200 | CC-6 | 47914 | **1C273** | 20.76 | **20.57** | 10 | 0.1 |
| **FLS** | MR11 | 2-Pin | Microfilm | 28 | 12 | 1000 | 1 3/8 | — | 3000 | CC-6 | 30894 | **2F488** | 23.47 | **23.21** | 10 | 0.1 |
| **FLT** | MR11 | 2-Pin | Microfilm | 28 | 13.8 | 500 | 1 3/8 | — | 3050 | CC-6 | 31964 | **1C704** | 25.22 | **23.95** | 10 | 0.1 |
| **FLW** | T4 | 2-Pin | Projection, Microfilm, Studio, Etc. | 300 | 24 | 50 | 2 3/16 | 10200 | 3500 | C-6 Oval | 19886 | **1K437** | 28.52 | **27.15** | 20 | 0.1 |
| **FML** | MR16 | 2-Pin | Microfilm | 50 | 13.8 | 1000 | 1 3/4 | — | 3150 | CC-6 | 14887 | **1E404** | 22.12 | **21.02** | 10 | 0.3 |
| **FNT** | T4 | 2-Pin | Projection, Microfilm, Studio, Etc. | 275 | 24 | 50 | 2 1/4 | 10000 | 3400 | C-6 | 18241 | **1E159** | 22.60 | **22.55** | 100 | 0.3 |
| **FXL** | MR16 | 2-Pin O | Overhead Projection, Flat Pins | 410 | 82 | 50 | 1 3/4 | — | 3300 | CC-8 | 21613 | **1K245** | 28.81 | **27.40** | 10 | 0.1 |
| **PH/111A** | S11 | SC Bay | Enlarger, White | 75 | 125 | 25 | 2 3/8 | 1120 | 2900 | — | 30162 | **1C784** | 11.50 | **10.93** | 120 | 0.1 |
| **PH/140** | S14 | Med | Enlarger, White | 75 | 120 | 50 | 2 3/8 | 1150 | 2900 | — | 43220 | **1C387** | 10.71 | **10.18** | 120 | 0.1 |
| **PH/1400** | S14 | Med | Enlarger, White | 75 | 230 | 50 | 3 3/8 | 1100 | 2900 | — | 43222 | **2F620** | 14.08 | **13.38** | 120 | 0.1 |
| **PH/211** | A21 | Med | Enlarger, White | 75 | 115 | 100 | 4 15/16 | 1000 | 3000 | — | 40569 | **1C478** | 5.14 | **4.88** | 24 | 0.1 |
| **PH/212** | A21 | Med | Enlarger, White | 150 | 115 | 100 | 4 15/16 | 2300 | 3050 | — | 40570 | **1C476** | 5.14 | **4.88** | 24 | 0.1 |
| **PH/213** | A21 | Med | Enlarger, White | 150 | 115 | 3 | 4 15/16 | 7000 | 3400 | — | 40571 | **1C474** | 4.87 | **4.62** | 24 | 0.1 |
| **PXA-45** | T3 | Wire Term | Pulsed Xenon Arc | 1500 | — | — | 15 1/2 | 37500 | — | — | 30120 | **2F474** | 97.97 | **97.20** | 12 | 0.5 |
| **PXA-50** | HELIX | Wire Term | Pulsed Xenon Arc | 4000 | — | — | 4 5/8 | 125000 | — | — | 30124 | **2F476** | 182.75 | **181.00** | 6 | 0.5 |
| **PXA-80** | HELIX | Wire Term | Graphic Arts, Pulsed Xenon Arc | 8000 | — | — | 4 5/8 | 240000 | — | — | 30129 | **3JK77** | 313.21 | **298.00** | 6 | 0.6 |

(*) See Projection Lamp footnotes below.

### Caution Notice: Incandescent Projection, Enlarger, and Printer Lamps

**Caution—General Electric Glass Projection Lamps with three-letter ANSI codes operate under pressure, above room temperature and may unexpectedly shatter. Protect people and surroundings from the possibility of injury or fire from hot, flying fragments with a suitable enclosure, shield, lens or screen. Do not operate projection equipment with the lamp compartment open. Observation of the following operating instructions will help avoid early lamp failure.**

1. Use lamp only in equipment specifying this lamp type and which provides adequate ventilation to maintain lamp within safe operating temperatures. If in doubt, contact equipment manufacturer.
2. Operate lamp only in the position indicated by the instructions on the lamp or lamp package, or as noted in the GE catalog description of the lamp.
3. Do not bump or bounce equipment during operation.
4. Protect lamp from moisture, scratches or abrasions.
5. Replace lamp if it blisters or prematurely darkens.
6. Replace lamp socket if deterioration of socket is noticed. To avoid electrical shock or burns, be sure power is off and lamp has fully cooled before replacing lamp.

### Caution Notice: Quartzline Projection Lamps

**Caution—General Electric Quartzline® (tungsten halogen) Projection Lamps operate under pressure at high temperature and may unexpectedly shatter. Protect people and surroundings from the possibility of injury or fire from hot, flying fragments with a suitable enclosure, shield, lens or screen. Do not operate equipment with lamp compartment open. Observation of the following operating instructions will help avoid early lamp failure and possible shattering of the lamp.**

1. Use lamp only in equipment specifying this lamp type and which provides adequate ventilation to maintain lamp within safe operating temperatures. If in doubt, contact equipment manufacturer.
2. Operate lamp only in the position indicated by the instructions on the lamp or lamp package, or as noted in the GE catalog description of the lamp.
3. Do not operate equipment in excess of 110% of rated voltage.
4. Do not bump or bounce equipment during operation.
5. Protect lamp from moisture, scratches or abrasions. Avoid touching bulb or inside of reflector since fingerprints may affect performance.
6. Replace lamp if it blisters or prematurely darkens.
7. Replace lamp socket if deterioration of socket is noticed. Extended direct exposure to Quartzline Projection lamps not enclosed in an outer glass envelope may case ultraviolet irritation of skin and eyes. Use of a glass or plastic lens will provide adequate protection from this ultraviolet light. To avoid electrical shock or burns, be sure power is off and lamp has fully cooled before replacing lamp.

### Footnotes:

4. Operate base down to 22° base up.
10. For these tungsten halogen lamps (unless completely enclosed within a projector or other optical device), screening techniques should be used where appropriate to protect people and surroundings in case of shattering.
11. Should not be operated for less than 3 minutes. Short operating cycles reduce life and degrade performance.
12. Special power supply required.



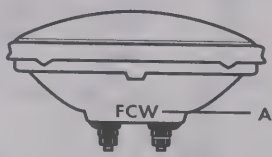
When it comes to lighting, no distributor outshines Grainger.

# STAGE & STUDIO LAMP INTRODUCTION

## HOW TO USE THE STAGE AND STUDIO LAMP PRODUCT SECTION:

- **Our stage & studio lamp section is organized by lamp wattage. Within the wattage section, these lamps will be alphabetically listed by the ANSI lamp industry code.**

1. Identify the lamp wattage
2. Identify the ANSI lamp industry code




**ANSI Code**
The lamp's identification code.

**Rated Average Life Hours:**
Average Life Hours figure represents the lamp's median value of life expectancy

**Max. Overall Length:**
Expressed in inches.

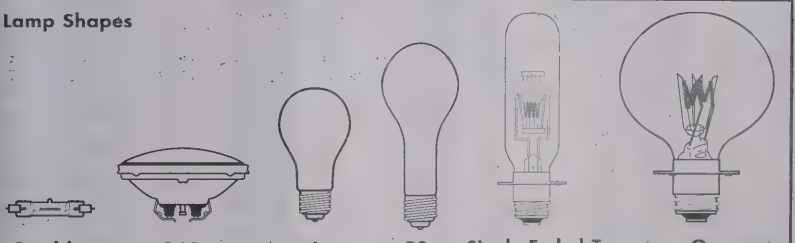
**Light Center Length (LCL)**

**Initial Lumens:**
Lamp's approximate light output after 100 hours of operation.

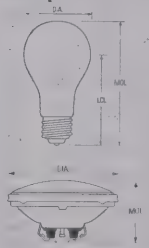
**Color Temp:**
"Warmth" or "Coolness" of the lamp measured in Kelvins (K). The higher the temperature, the cooler the appearance of the light.

| Watts | Lamp Designation | Bulb | Base | Description | Volts | Rated Avg. Life Hours | Max. Overall Length (in.) | Light Center Length (in.) | Initial Lumens | Color Temp. | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **500** | FDF-Q500T3/4CL | T3 | R7S | Clear (31)* | 120 | 400 | 4 1/16 | 2 3/8 | 13250 | 3200 | 23735 | **1G922** | $000.00 | **$000.00** | 0.3 | 0.5 |

### Lamp Shapes



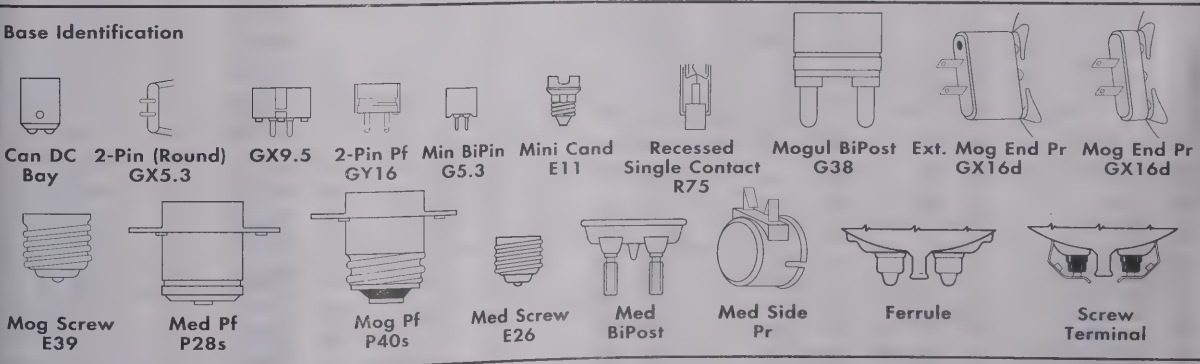

### Lamp Size Identification




**DIA:** Diameter of bulb (from outer edge to outer edge).

**MOL:** Maximum Overall Length in inches.

### Base Identification




GE Lighting

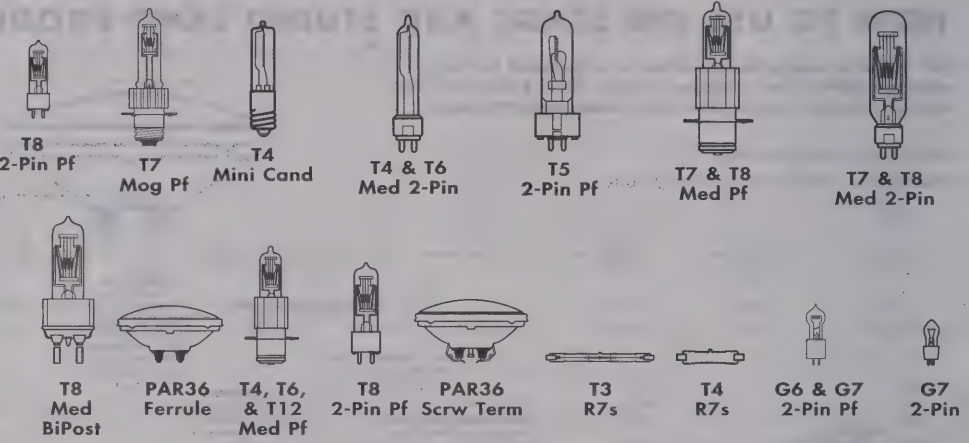
**GE Stage/Studio Products Provide:**

- Outstanding color rendition
- Excellent versatility in existing fixtures
- Dimmability
- Long life
- Reliability ...scene after scene

# STAGE & STUDIO LAMPS

GE Lighting

ENERGY RIGHT®




| Watts | Lamp Designation | Bulb | Base | Description | Volts | Rated Avg. Life Hours | Max. Overall Length (In.) | Light Center Length (In.) | Initial Lumens | Color Temp. | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **QUARTZLINE®** | | | | | | | | | | | | |
| **200** | FEV-Q200/4CL/DC | T4 | DC Bay | Clear | 120 | 50 | 2 7/16 | 1 3/8 | 5500 | 3200 | 14119 | **6VP23** † | $32.48 | **$29.30** | 6 | 0.1 |
| **350** | FDF/HIR-Q350T2/4CL | T3 | R7S | Halogen-IR, Clear (31)* | 120 | 400 | 4 11/16 | 2 3/8 | 13250 | 3200 | 20881 | **1K313** † | 37.17 | **35.35** | 6 | 0.1 |
| **420** | EKB-Q420/4CL/2PP | G7 | 2-Pin Pf | Clear (15)* | 120 | 75 | 2 1/2 | 1 7/16 | 11000 | 3200 | 33934 | **1P044** † | 38.46 | **36.65** | 24 | 0.1 |
| **420** | FFM | T4 | R7S | Clear | 120 | 75 | 3 3/16 | 1/2 | 11000 | 3200 | 30276 | **6VP26** † | 37.44 | **35.65** | 24 | 0.3 |
| **500** | FDF-Q500T3/4CL | T3 | R7S | Clear (31)* | 120 | 400 | 4 11/16 | 2 3/8 | 13250 | 3200 | 23735 | **1G922** † | 35.60 | **33.90** | 12 | 0.3 |
| **500** | FDN-Q500T3/4 | T3 | R7S | Frosted (26,31)* | 120 | 400 | 4 11/16 | 2 3/8 | 12800 | 3200 | 23734 | **1G924** † | 35.14 | **33.45** | 12 | 0.1 |
| **500** | EGE-Q500CL/P | T4 | Med Pf | Clear (15)* | 120 | 2000 | 6 | 3 1/2 | 10450 | 2950 | 39135 | **6VN70** † | 65.32 | **58.90** | 12 | 0.3 |
| **500** | EHC-Q500/5CL | T4 | Med 2-Pin | Clear (15,29)* | 120 | 500 | 4 | 2 3/8 | 12700 | 3150 | 37082 | **1C608** † | 59.16 | **56.30** | 6 | 0.1 |
| **500** | EHD-Q500CL/TP | T4 | Med 2-Pin | Clear (15)* | 120 | 2000 | 4 | 2 3/8 | 10450 | 2950 | 37083 | **5V592** † | 59.16 | **53.30** | 6 | 0.2 |
| **500** | EVR-Q500CL/MC | T4 | Mini-Cand | Clear (15,19)* | 120 | 2000 | 3 5/8 | 2 | 10450 | 2950 | 47950 | **2V266** † | 39.56 | **35.70** | 6 | 0.1 |
| **500** | BTL-Q500T6/CL/P | T6 | Med Pf | Clear (17)* | 120 | 500 | 5 1/4 | 2 3/16 | 11000 | 3000 | 11966 | **6VN47** † | 49.31 | **44.45** | 12 | 0.3 |
| **500** | BTM-Q500T64CL/2P | T6 | Med Pf | Clear (17)* | 120 | 150 | 5 1/4 | 2 3/16 | 13000 | 3200 | 16465 | **1E281** † | 59.16 | **56.30** | 12 | 0.4 |
| **500** | EGN-Q500T8 | T8 | Med BiPost | Clear (12)* | 120 | 150 | 5 1/2 | 2 1/2 | 13000 | 3200 | 30373 | **1C761** † | 56.86 | **54.10** | 12 | 0.3 |
| **500** | FRG-Q500T8 | T8 | 2-Pin Pf | Clear (17)* | 120 | 150 | 3 7/16 | 1 13/16 | 13000 | 3200 | 30458 | **1C753** † | 50.32 | **47.90** | 24 | 0.2 |
| **500** | EGC-Q500/5CL/P | T12 | Med Pf | Clear (15)* | 120 | 500 | 6 | 3 1/2 | 12700 | 3150 | 39134 | **1C566** † | 68.87 | **65.50** | 12 | 0.3 |
| **525** | EJG/HIRQ525T2-1/2/4 | T3 | R7S | Halogen-IR, Horiz. (31)* | 120 | 400 | 4 11/16 | 2 1/2 | 20600 | 3250 | 20883 | **1K311** † | 50.51 | **48.10** | 6 | 0.1 |
| **575** | FLK-Q575T6 | T6 | G9.5 | Clear (15)* | 115 | 300 | 3 31/32 | 2 3/8 | 16500 | 3200 | 11450 | **1E942** † | 59.71 | **56.85** | 24 | 0.1 |
| **575** | FLK/LL-Q575T6/4 | T6 | G9.5 | Clear, Long Life (15)* | 115 | 1500 | 3 31/32 | 2 3/8 | 12800 | 2950 | 14327 | **2F226** † | 59.71 | **56.85** | 50 | 0.1 |
| **600** | DYH | G7 | 2-Pin | Clear (15)* | 120 | 75 | 2 1/2 | 1 7/16 | 17000 | 3200 | 30364 | **1C763** † | 28.62 | **28.55** | 24 | 0.3 |
| **600** | FMR-Q600T5 | T5 | 2-Pin Pf | Clear (15)* | 120 | 2000 | 3 7/8 | 2 | 12600 | 3050 | 30475 | **1C751** † | 41.68 | **39.70** | 24 | 0.1 |
| **650** | EKD-Q650/3CL/2PP | G6 | 2-Pin Pf | Clear HTBD(15,16)* | 120 | 25 | 2 1/2 | 1 7/16 | 20000 | 3300 | 34328 | **1P042** † | 35.14 | **33.45** | 24 | 0.1 |
| **650** | DWE-Q650PAR36/1 | PAR36 | Scrw Term | Medium Flood (3,4)* | 120 | 100 | 2 9/16 | — | — | 3200 | 41667 | **1C445** † | 47.47 | **45.20** | 12 | 0.6 |
| **650** | FAY-Q650PAR36/3D | PAR36 | Ferrule | Spot (3,4)* | 120 | 30 | 2 7/16 | — | — | 5000 | 41668 | **1C443** † | 70.75 | **67.35** | 12 | 1.0 |
| **650** | FBE-Q650PAR36/5D | PAR36 | Scrw Term | Spot (3,4)* | 120 | 30 | 2 7/16 | — | — | 5000 | 41669 | **1C441** † | 76.27 | **72.60** | 12 | 0.6 |
| **650** | FBO-Q650PAR36/5 | PAR36 | Scrw Term | Spot (3,4)* | 120 | 30 | 2 7/16 | — | — | 3400 | 41671 | **1C439** † | 77.41 | **73.60** | 12 | 0.5 |
| **650** | FCW-Q650PAR36/6 | PAR36 | Ferrule | Flood (3,4)* | 120 | 100 | 2 7/16 | — | — | 3200 | 41672 | **1C437** † | 73.33 | **69.75** | 12 | 1.0 |
| **650** | FCX-Q650PAR36/7 | PAR36 | Ferrule | Medium Flood (3,4)* | 120 | 100 | 2 7/16 | — | — | 3200 | 41673 | **1C435** † | 43.98 | **41.85** | 12 | 0.5 |
| **650** | FCM/HIR-Q650T3/4 | T3 | R7S | Halogen-IR, Clear (31)* | 120 | 400 | 4 11/16 | 2 3/8 | 25200 | 3275 | 13895 | **1E466** † | 40.30 | **38.40** | 6 | 0.1 |
| **650** | FAD-Q650T4/4CL | T4 | R7S | Clear | 120 | 100 | 3 3/16 | 5/8 | 16500 | 3200 | 30325 | **1C772** † | 29.26 | **27.90** | 24 | 0.1 |
| **650** | FBX-Q650T4/4 | T4 | R7S | Frosted (14,26)* | 120 | 100 | 3 3/16 | 5/8 | 16500 | 3200 | 30343 | **1C770** † | 36.06 | **34.35** | 24 | 0.1 |
| **650** | FKB-Q650T8 | T8 | Med Pf | Clear | 220 | 750 | 5 1/8 | 2 3/16 | 13500 | 3000 | 30541 | **1C738** † | 60.08 | **57.20** | 12 | 0.3 |
| **650** | FRK-Q650T8 | T8 | 2-Pin Pf | Clear (17)* | 120 | 200 | 3 7/16 | 1 13/16 | 16900 | 3200 | 30481 | **1C749** † | 50.32 | **47.90** | 50 | 0.1 |
| **675** | FFT/HIR-Q675T3/4 | T3 | R7S | Halogen-IR (31)* | 120 | 400 | 6 9/16 | 2 5/8 | 26400 | 3250 | 20884 | **1K309** † | 64.40 | **61.30** | 6 | 0.1 |
| **750** | EJG-Q750T3/4CL | T3 | R7S | Clear (31)* | 120 | 400 | 4 11/16 | 2 1/2 | 20600 | 3200 | 23756 | **6VN87** † | 49.31 | **44.45** | 12 | 0.3 |
| **750** | EMD-Q750T3/4 | T3 | R7S | Frosted (31)* | 120 | 400 | 4 11/16 | 2 1/2 | 19500 | 3200 | 23755 | **1G918** † | 50.44 | **48.00** | 12 | 0.1 |
| **750** | EGF-Q750/4CL/P | T6 | Med Pf | Clear (15)* | 120 | 500 | 6 | 3 1/2 | 20400 | 3200 | 39136 | **1C564** † | 73.42 | **69.85** | 12 | 0.3 |
| **750** | EGG-Q750CL/P | T6 | Med Pf | Clear (15)* | 120 | 2000 | 6 | 3 1/2 | 15750 | 3000 | 39137 | **4V242** † | 71.21 | **64.20** | 12 | 0.2 |
| **750** | EHF-Q750/4CL | T6 | Med 2-Pin | Clear BD (15)* | 120 | 500 | 4 | 2 3/8 | 20400 | 3200 | 37051 | **1C610** † | 64.22 | **61.10** | 6 | 0.2 |
| **750** | EHG-Q750/CL/TP | T6 | Med 2-Pin | Clear (15)* | 120 | 2000 | 4 | 2 3/8 | 15400 | 3000 | 43167 | **5V593** † | 62.47 | **56.35** | 6 | 0.3 |
| **750** | BTP-Q750T7/4CL2P | T7 | Med Pf | Clear (15)* | 120 | 200 | 4 3/4 | 2 3/16 | 21000 | 3200 | 11954 | **6VN49** † | 53.08 | **42.60** | 12 | 4.7 |

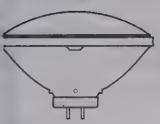
(*) See Stage & Studio Lamp footnotes on page 1010. (†) Excluded product. (✓) Denotes energy efficient product.

## ORDERING HAS NEVER BEEN EASIER!

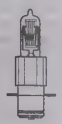
**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# STAGE & STUDIO LAMPS

GE Lighting


PAR64 ExMogEndPr


T7 Mog Pf


T6 & T7 Med Pf

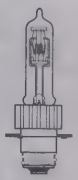

T8 Mog BiPost


T6 Med 2-Pin


T3, T4, T5, & T8 R7s


T7 Med 2-Pin


T8 & T9 Mog


T10 Mog Pf


T20 Mog BiPost


T24 Mog BiPost

| Watts | Lamp Designation | Bulb | Base | Description | Volts | Rated Avg. Life Hours | Max. Overall Length (In.) | Light Center Length (In.) | Initial Lumens | Color Temp. | GE Product Code | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **QUARTZLINE® (cont.)** | | | | | | | | | | | | | | | | |
| **750** | EGR-Q750T7/4CL | T7 | Med BiPost | Clear (17)* | 120 | 200 | 5 | 2½ | 21000 | 3200 | 39190 | **6VN76**† | $78.66 | **$70.85** | 12 | 0.5 |
| **750** | BWM-Q750T7/4CLTP | T7 | Med 2-Pin | Clear (17)* | 120 | 200 | 4½ | 2⅜ | 21000 | 3200 | 39680 | **1C534**† | 96.42 | **91.75** | 6 | 0.1 |
| **800** | EME-Q800T3/P2/11 | T3 | R7S | Clear (31)* | 240 | 250 | 4⅝ | 2 13/16 | 22000 | 3200 | 23760 | **6VN37**† | 46.56 | **32.75** | 12 | 0.1 |
| **1000** | FFN-Q1000PAR64/1 | PAR64 | ExMogEndPr | Very Narrow Spot, Clear (3)* | 120 | 800 | 6¾ | — | 11000 | 3200 | 13233 | **4V252**† | 92.18 | **83.10** | 6 | 1.5 |
| **1000** | FFP-Q1000PAR64/2 | PAR64 | ExMogEndPr | Narrow Spot, Clear (3)* | 120 | 800 | 6¾ | — | 12000 | 3200 | 13229 | **6VP27**† | 92.18 | **83.10** | 6 | 2.3 |
| **1000** | FFR-Q1000PAR64/5 | PAR64 | ExMogEndPr | Medium Flood, Clear (3)* | 120 | 800 | 6¾ | — | 14000 | 3200 | 13228 | **6VP28**† | 92.18 | **83.10** | 6 | 2.3 |
| **1000** | FFS-Q1000PAR64/6 | PAR64 | ExMogEndPr | Wide Flood, Clear (3)* | 120 | 800 | 6¾ | — | 19000 | 3200 | 13227 | **6VP29**† | 92.18 | **83.10** | 6 | 2.3 |
| **1000** | FGN-Q1000PAR64/7D | PAR64 | ExMogEndPr | Medium Flood (3)* | 120 | 200 | 6¾ | — | 8200 | 5200 | 13225 | **1E549**† | 260.83 | **248.00** | 6 | 2.3 |
| **1000** | DKZ/DSE-Q1000PS5 | PS52 | Mog | I.F., Scoop Lamp (15,22)* | 120 | 750 | 13 | 9½ | 28000 | 3200 | 39582 | **1C540**† | 75.99 | **72.30** | 12 | 0.5 |
| **1000** | EJD-Q1000T3/3CL | T3 | R7S | Clear (31)* | 185 | 100 | 4 11/16 | 2¾ | 33600 | 3350 | 23788 | **1G914**† | 49.96 | **47.55** | 12 | 0.1 |
| **1000** | EKM-Q1MT3/4CL2P/7 | T3 | R7S | Clear (31)* | 225 | 300 | 7/16 | 4 23/32 | 28000 | 3200 | 20249 | **1K409**† | 40.20 | **38.30** | 12 | 0.1 |
| **1000** | FCM-Q1000T3/4CL | T3 | R7S | Clear (31)* | 120 | 400 | 4 11/16 | 2⅜ | 28000 | 3200 | 23797 | **4V250**† | 33.49 | **31.90** | 12 | 0.3 |
| **1000** | FFT-Q1000T3/1CL | T3 | R7S | Clear (31)* | 120 | 400 | 6 9/16 | 2⅝ | 26400 | 3200 | 33280 | **6VP30**† | 63.20 | **57.05** | 12 | 0.1 |
| **1000** | FHM-Q1000T3/4 | T3 | R7S | Frosted (26,31)* | 120 | 400 | 4 11/16 | 2⅜ | 27300 | 3200 | 23792 | **6VN04**† | 39.28 | **35.45** | 12 | 0.1 |
| **1000** | DXN | T5 | R7S | Clear | 120 | 50 | 3¾ | 3¼ | 33000 | 3400 | 30313 | **6VM30**† | 46.56 | **44.30** | 24 | 0.1 |
| **1000** | DXW-Q1000T5/4CL | T5 | R7S | Clear (27)* | 120 | 150 | 3¾ | 7⅛ | 28000 | 3200 | 30157 | **6VM32**† | 47.84 | **43.20** | 24 | 0.1 |
| **1000** | FBY-Q1000T5/4 | T5 | R7S | Frosted (26,27)* | 120 | 150 | 3¾ | 7⅛ | 26000 | 3200 | 30374 | **1C757**† | 51.61 | **49.15** | 24 | 0.1 |
| **1000** | EGJ-Q1000/4CL/P | T6 | Med Pf | Clear (15)* | 120 | 300 | 6 | 3 1/2 | 27500 | 3200 | 38853 | **6VN72**† | 76.91 | **69.25** | 12 | 0.3 |
| **1000** | EGK-Q1000/4/P | T6 | Med Pf | Frosted (15)* | 120 | 300 | 6 | 3½ | 26500 | 3200 | 38852 | **1C574**† | 84.18 | **80.10** | 12 | 0.3 |
| **1000** | EGM-Q1000CL/P | T6 | Med Pf | Clear (15)* | 120 | 2000 | 6 | 3½ | 21500 | 3000 | 39138 | **1C562**† | 94.96 | **90.25** | 12 | 0.3 |
| **1000** | FCV-Q1000/4 | T6 | Med 2-Pin | Frosted (15,20)* | 120 | 375 | 4 | 2⅜ | 26500 | 3200 | 35853 | **1C636**† | 64.68 | **61.55** | 6 | 0.2 |
| **1000** | FEL-Q1000/4CL | T6 | Med 2-Pin | Clear (15,20)* | 120 | 375 | 4 | 2⅜ | 27500 | 3200 | 35607 | **4V251**† | 52.29 | **47.15** | 6 | 0.2 |
| **1000** | FER-Q1000T6/4CL | T6 | R7S | Clear | 120 | 500 | 5⅝ | 13⁵ | 27500 | 3200 | 33760 | **6VP22**† | 71.39 | **64.35** | 6 | 0.2 |
| **1000** | BTR-Q1000T74CL2P | T7 | Med Pf | Clear (15)* | 120 | 250 | 4¼ | 2 1/16 | 28500 | 3200 | 11955 | **6VN50**† | 60.26 | **54.35** | 12 | 0.5 |
| **1000** | BVT-Q1MT7/CL/MP | T7 | Mog Pf | Clear (15)* | 120 | 500 | 7¼ | 3 15/16 | 24500 | 3050 | 12554 | **1E704**† | 86.48 | **82.25** | 6 | 0.5 |
| **1000** | BVV-Q1MT7/4CL/MP | T7 | Mog Pf | Clear (15)* | 120 | 200 | 7¼ | 3 15/16 | 28500 | 3200 | 12553 | **1E706**† | 79.86 | **75.90** | 6 | 0.9 |
| **1000** | BWN-Q1000T74CL/TP | T7 | Med 2-Pin | Clear (17)* | 120 | 250 | 4½ | 2⅜ | 28500 | 3200 | 39681 | **1C532**† | 102.04 | **97.00** | 6 | 0.1 |
| **1000** | CYV-Q1000T7/4CL/BP | T7 | Mog BiPost | Clear (17)* | 120 | 200 | 8 | 5 | 28500 | 3200 | 42697 | **6VN54**† | 100.65 | **90.65** | 6 | 0.9 |
| **1000** | EGT-Q1000T7/4CL | T7 | Med BiPost | Clear (17)* | 120 | 250 | 5 | 2½ | 28500 | 3200 | 39191 | **4V243**† | 84.82 | **76.45** | 12 | 0.3 |
| **1200** | GFA-Q1200PAR64/5 | PAR64 | ExMogEnd | Medium Flood, Clear (3)* | 120 | 400 | 6¾ | — | — | 3200 | 34812 | **2F532**† | 115.74 | **110.05** | 6 | 0.2 |
| **1200** | GFB-Q1200PAR64/2 | PAR64 | ExMogEnd | Narrow Spot, Clear (3)* | 120 | 400 | 6¾ | — | — | 3200 | 34810 | **2F530**† | 115.74 | **110.05** | 6 | 0.2 |
| **1200** | GFC-Q1200PAR64/1 | PAR64 | ExMogEnd | Very Narrow Spot, Clear (3)* | 120 | 400 | 6¾ | — | — | 3200 | 34808 | **2F528**† | 115.74 | **110.05** | 6 | 2.0 |
| **1200** | GFE-Q1200PAR64/6 | PAR64 | ExMogEnd | Wide Flood, Clear (3)* | 120 | 400 | 6¾ | — | — | 3200 | 34806 | **2F526**† | 115.74 | **110.05** | 6 | 0.2 |
| **1500** | DKX/DFS-Q1500PS52/4 | PS52 | Mog | I.F., Scoop Lamp (15,22)* | 120 | 1000 | 13 | — | 41000 | 3200 | 40357 | **1C498**† | 80.22 | **76.35** | 12 | 1.0 |
| **1500** | FDB-Q1500T4/4CL | T4 | R7S | Clear (31)* | 120 | 400 | 6 9/16 | 2 7/16 | 41200 | 3200 | 23841 | **1G910**† | 68.26 | **64.95** | 12 | 0.1 |
| **1500** | FGT-Q1500T4/4 | T4 | R7S | Frosted (26,31)* | 120 | 400 | 6 9/16 | 2 1/32 | 40200 | 3200 | 41229 | **1C455**† | 82.64 | **78.60** | 12 | 0.1 |
| **1500** | CXZ-Q1500T10/4CL | T10 | Mog BiPost | Clear (17)* | 120 | 400 | 8½ | 5 | 44500 | 3200 | 37564 | **1C592**† | 128.43 | **122.15** | 6 | 0.7 |
| **2000** | FEY-Q2000T8/4CL | T8 | R7S | Clear (4)* | 120 | 400 | 5⅝ | 1 | 57000 | 3200 | 33761 | **6VP25**† | 119.88 | **108.00** | 6 | 0.3 |
| **2000** | BWA-Q2000/4CL/BP | T8 | Mog BiPost | Clear (23)* | 120 | 500 | 8¼ | 5 | 54000 | 3200 | 39587 | **1C538**† | 139.29 | **132.45** | 6 | 0.6 |
| **2000** | BWF-Q2000/4CL | T8 | Mog | Clear (15)* | 120 | 500 | 7½ | 5¼ | 54000 | 3200 | 37086 | **1C606**† | 151.80 | **144.35** | 6 | 0.6 |
| **2000** | FEX-Q2MT8/4CL | T8 | R7S | Clear | 220 | 300 | 5⅝ | 1 7/16 | 50000 | 3200 | 35338 | **1K407**† | 115.55 | **109.90** | 12 | 0.3 |
| **2000** | BWG-Q2MT9 | T9 | Mog | Frosted (15)* | 120 | 400 | 7½ | — | 56000 | 3200 | 30491 | **1C747**† | 148.49 | **141.20** | 6 | 0.9 |
| **2000** | BVWQ2MT10/4CL/MP | T10 | Mog Pf | Clear (15)* | 120 | 350 | 8 3/32 | 3 1/16 | 59000 | 3200 | 12555 | **1E702**† | 97.98 | **93.15** | 6 | 0.3 |
| **2000** | CYX-Q2000T10/4CL | T10 | Mog BiPost | Clear BDH (17)* | 120 | 350 | 8 | 5 | 59000 | 3200 | 36636 | **4V236**† | 134.23 | **120.90** | 6 | 0.5 |
| **5000** | DPY-Q5000T20/4CL | T20 | Mog BiPost | Clear BDH (9)* | 120 | 500 | 11 | 6½ | 143000 | 3200 | 41736 | **6VN59**† | 616.68 | **587.50** | 6 | 1.5 |
| **10000** | DTY-Q10M/T24/4CL | T24 | Mog BiPost | Clear (9)* | 120 | 300 | 15 3/4 | 10 | 290000 | 3200 | 18305 | **1E151**† | 1186.80 | **1129.00** | 4 | 4.1 |

(*) See Stage & Studio Lamp footnotes on page 1010 (†) Excluded product.

# STAGE & STUDIO LAMPS

### General Information

### Operational Characteristics

Quartz halogen lamps are designed to be operated within close voltage tolerances, and excessive voltage can lead to drastically shortened life, albeit with significantly higher light output.

A second important variable is temperature. The tungsten halogen cycle does not operate properly below about 482°F (250°C) and quartz may begin to devitrify above about 1832°F (1000°C). Bulb envelopes should therefore be held in the range 482-1472°F (250-800°C).

The rate of oxidation of the sealing foil carrying current from the base to the filament through the quartz envelope increases with temperature above 662°F (350°C), and lamp life may be severely curtailed by premature seal failure if this temperature is exceeded.

The contact pins are plated to ensure good electrical connection with the lampholder. However, at temperatures above 662°F (350°C), the plating may lose adhesion, leading to deterioration in contact and possibly local hot spots, arcing and consequent irreparable damage to both lamp and holder. Note that if there is evidence that this has occurred, the lampholder should be replaced before the next lamp is fitted, otherwise it is likely to fail prematurely for the same reason.

Lamps normally fail by fusing of the filament. This is often followed by arcing, leading to very high currents which can cause the envelope and seals to fail and the lamp to shatter. A quick-acting, high-breaking capacity fuse should therefore be connected to the supply line in all applications. Suitable types are given in IEC 127, 241 and 269.

### Lamp Codes

GE Stage & Studio lamps are coded as such:

Lamp Designation. This may be either an American National Standards Institute (ANSI) three letter code such as EJG, or a descriptive code in the general form Q750T3/4CL. ANSI codes are assigned to lamp specifications—mechanical, electrical and photometric characteristics—filed with the Institute.

They ensure interchangeability among similarly coded lamps from different manufacturers. Most of these lamps are rated for 120-volt operation. In a few cases a pair of ANSI codes are given (e.g. BFL/BFK), where the first is the official code for the lamp and the second code describes lamps the specifications of which are met or exceeded. In such cases, the lamps may be used to replace lamps with either code. Base designations conform to IEC standards.

### Footnotes

1. Hemispherical shield in front of filament masking all direct light.
2. If lamp is cracked or broken, replace immediately. It may continue to operate, but the inner bulb is pressurized and could shatter unexpectedly. Dispose of with care.
3. Although made of heat-resistant glass, the bulb and lens should be protected from moisture or breakage may result. The lens or bulb may break during usage under certain other conditions beyond the control of the manufacturer. Therefore, screening techniques are recommended, where appropriate, to protect people and surroundings from possible hot fragments. If lamp is cracked or broken, replace immediately. It may continue to operate, but the inner bulb is pressurized and could shatter unexpectedly.
4. Operate at or near horizontal.
5. Although this lamp is made of heat-resistant glass, the bulb and lens should be protected from moisture or breakage may result. To protect persons against risk of breakage, use a protective screen external to the lamp.
6. To protect persons against risk of breakage, use a protective screen external to lamp.
7. Use only in fixture designed for Cool Beam PAR lamps.
8. Burning position - vertical base down ±30°.
9. Burning position - vertical base down ±45°.
10. Has blackening protector grid.
11. Non-stock item available to special order.
12. 21mm max bulb.
13. Staggered filament.
14. Frosted bulb.
15. Universal operating position.
16. Ultra-violet absorbing bulb.
17. Burning position—Base Down To Horizontal (BDTH).
18. Top end of bulb is opaque-coated to absorb upward light.
19. Life depends on service conditions; for use only in equipment specially designed to maintain bulb and base temperatures within safe limits.
20. To avoid possible overheating, this lamp is not recommended for use without force-cooling in deep-bowled fixtures.
21. Blue glass bulb; apparent color temperature may vary from lamp to lamp.
22. Silica coated.
23. Burn BDTH but avoid horizontal burning with support spine beneath filament to prevent premature arcing.
25. 15mm max bulb.
26. Apparent lighted length slightly longer than similar clear lamp.
27. No filament support rod.
28. Hot (instant) restrike; other lamps require 10-minute pause before restrike.
29. Low noise construction to minimize generation of audible noise when operated on A.C. circuits.
30. Operate base down within 30° of vertical. Any tilt should be in direction in which the filament plane faces.
31. Burning position—horizontal ±4°.

GE Lighting



### Fresnel and Spotlight Lamps

The CP, T and allied ranges of quartz halogen lamps feature small, efficient lamps with long lives and virtually constant color temperature through life. The lamps, rated from 300 to 10,000 watts, are offered with a wide variety of commonly used bases, providing a degree of interchangeability (subject of course, to the physical compatibility of bulb and fixture). Fixture manufacturers are taking advantage of the smaller size and greater efficiency of new lamp technology to design smaller, lighter and more efficient luminaires.

The format of the filament has an effect on the beam performance, particularly of Fresnel-lensed luminaires. Spotlights benefit from the smaller light source offered by biplanar (C-13D) filament arrays, giving a narrower spot with slightly higher peak intensity than a monoplanar filament. The converse is true in medium and flood positions since minimal light is lost through "shadowing" by filament elements. Ellipsoidal optics are designed around a specific filament area and GE lighting offers a wide variety of filament configurations to match luminaire design as well as user preference. Note: Most lamps with planar or grid-form filaments may be operated at an angle to the vertical (from base down to 30°—90° depending upon the particular lamp); however, the axis of rotation must always be in the filament (or electrode) plane.

The majority of lamps in these groups are designed either for use with color film balanced for a cooler temperature of 3200K, or for use in the theater, where a lower color temperature is usually appropriate. GE Lighting's theater lamps have extended average lives, which is a considerable advantage when they are installed in hard-to-reach auditorium or proscenium spotlights.

Special lamps have been developed for use in ellipsoidal spotlights, where the optics of the systems can result in some of the reflected light being directed onto the lamp base, leading to overheating and, on occasions, to premature lamp failure. GE's solution has been to reduce the size of the base and at the same time lengthen the neck of the lamp, thereby removing the critical seal area from reflected radiation and prolonging lamp life.

GRAINGER HAS OVER 350 BRANCHES NATIONWIDE

We're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who care about your business. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# LIGHTING DEFINITIONS

**Amps—**
Measure of electrical current. In incandescent lamps, amps are related to voltage and power as follows: Current (Amps) = Power (Watts) / Voltage (Volts)

**ANSI—**
American National Standards Institute: Coordinates voluntary standards to promote the interchangeability of lamps, lamp holders, bases and ballasts.

**Average Rated Life—**
Median value of life expectancy - the total operating time at which under normal conditions, 50% of any large group of initially installed lamps are expected to be still burning.

**Ballast—**
An auxiliary piece of equipment required to start and operate gas discharge light sources like fluorescent and high intensity discharge (HID) types.

**Base Type—**
The contact point of the lamp that goes into socket of the fixture. See respective lamp sections for pictorial references.

**Beam Spread—**
Measure of the angular spread of light from reflectorized lamps such as R and PAR types, typically including the central part of the beam within 50% of the maximum intensity (center beam candlepower - CBCP).

**Beam Angle—**
Same as beam spread measured at 50% of the maximum intensity, often included in the lamp ordering code.

**Biax™ Lamp—**
GE registered trademark for some Compact fluorescent lamp families.

**Candela (CD)—**
The International System (SI) unit of luminous intensity. The term has evolved from considering a standard candle, similar to a lumber's candle, as the basis of evaluating the intensity of other light sources. Sometimes the term "candlepower" is used to describe the relative intensity of a source. (See Lumen.)

**Candlepower—**
A measure of intensity of light in a given direction (see candela).

**Center Beam Candlepower (CBCP)—**
Light intensity in the center of the beam which is usually the maximum intensity.

**CBM—**
Certified Ballast Manufacturers Association (CBM) approval on ballasts indicates that ballasts are tested by ETL to meet the requirements of ANSI specifications.

**Coefficient of Utilization (CU)—**
A percent of initial lamp lumens that reaches the work plane as determined by surface reflectances, room shape (RCR), and fixture efficiency.

**Color Rendering Index (CRI)—**
A measurement of the color shift an object undergoes when illuminated by the light source, as compared to a reference source at the same color temperature. Color rendering is measured on an index from 0-100, with natural daylight and incandescent lighting both equal to 100. Objects and people viewed under lamps with a high color rendering index (CRI) generally appear more true to life.

**Color Temperature (Chromaticity)—**
A scientific measurement of the balance of wavelengths making up any "white" light. The unit of measurement is the Kelvin, abbreviated K. Although it may not seem sensible, a higher color temperature means a cooler, bluer light source. Typical color temperatures are 2800K (incandescent), 3000K (halogen), 4100K (cool white fluorescent) or SP41, and 5000K (daylight-simulating fluorescent) such as SPX50 or Chroma 50.

**Compact Fluorescent Lamp (CFL)—**
The general term applied to families of smaller diameter fluorescent lamps (e.g. T4, T5), some of which have built-in ballasts and medium screw bases for easy replacement of incandescent lamps.

**CSA—**
Canadian Standards Association. Canada's largest standards writing, testing, and certification organization. It can test and certify per its own standards and per the standards of others, such as UL. Canadian provincial law mandates that all electrical products sold for consumer use must bear a CSA Certification mark or the equivalent.

**Electromagnetic Spectrum—**
An orderly arrangement of radiant energy by wavelength or frequency. In the visible spectrum, the eye is sensitive to radiant energy between 380 nanometers (violet) and 770 nanometers (red) by wavelength.

**Elliptical Reflector (ER)—**
A lamp with an elliptical-shaped reflector designed to focus light in front of the lamp. Used in deeply shielded downlights.

**Energy Policy Act (EPACT)—**
Comprehensive energy legislation passed in 1992 which includes lamp labeling and minimum energy efficiency requirements for many commonly used incandescent and fluorescent lamp types.

**FCC—**
Federal Communications Commission. A Federal agency; part of the legislative branch. Mandatory regulation FCC - Part 18 deals with EMI (electromagnetic interference) from all lighting devices with operating frequencies higher than 9kHz. Typical electronic compact fluorescent lamps operate at a range of 24-100kHz.

**Fluorescent Lamp—**
A lamp in which electric discharge of ultraviolet energy excites a fluorescing coating (phosphor) and transforms some of that energy to visible light.

**Footcandle (FC)—**
The unit used to measure how much total light is reaching a surface, such as a wall or table. One lumen falling on one square foot of surface produces illumination of one footcandle.

**Halogen Lamp (Tungsten Halogen Lamp)—**
A more energy-efficient incandescent lamp containing a halogen gas which recycles tungsten (which would ordinarily be deposited on the bulb wall) back onto the filament surface.

**Halogen IR™ (HIR) Lamp—**
GE designation for a new form of high-efficiency tungsten halogen lamp. HIR lamps utilize shaped filament tubes coated with numerous layers of materials which selectively reflect and transmit infrared energy and light. Reflecting the infrared back onto the filament reduces the power needed to keep the filament hot.

**High-Intensity Discharge Lamp (HID)—**
A general term for mercury, metal halide (GE Multi-Vapor, MXR or Arcstream) and high-pressure sodium (GE Lucalox) lamp. HID lamps contain compact arc tubes which enclose various gases and metal salts operating at relatively high pressures and temperatures.

**High-Pressure Sodium Lamp—**
A high-intensity discharge light source in which the light is primarily produced by the radiation from sodium vapor. (GE tradename Lucalox® Lamp).

**Illuminance—**
The "density" of light (lumens/area) incident on a surface. Illuminance is measured in footcandles or lux.

**Incandescent Lamp—**
A lamp that provides light when a filament is heated to incandescence by an electric current. Incandescent lamps are the oldest form of electric lighting technology.

**Infrared Radiation—**
For practical purposes, any radiant energy within the range 770-106 nanometers. This energy is sensed as heat.

**Instant Start—**
A circuit used to start specially designed fluorescent lamps without the aid of a starter. To strike the arc instantly, the circuit utilizes higher open-circuit voltage than is required for the same length preheat or rapid start lamp. Slimline lamps operate on instant start ballasts.

**Kilowatt (kw)—**
A larger unit of power; a thousand watts (watts x 1000 = kilowatts).

**Kilowatt Hour (kwh)—**
The measure of electrical usage from which electricity billing is determined. For example, a 100-watt lamp operated for 1000 hours would consume 100 kilowatt hours, (100 watts x 1000 hours = 100 kwh). At a billing rate of $0.10/kwh, this lamp would cost $10.00 (100 kwh x $0.10/kwh) to operate.

**Lamp—**
This is actually the technical word meaning light bulb or tube - the part that provides light until it burns out. However, "lamp" is also commonly used to refer to a type of fixture, such as a desk lamp.

**Light—**
The term generally applied to the visible energy from a source. Light is usually measured in lumens or candlepower. When light strikes a surface, it is either absorbed, reflected or transmitted. Light is said to travel in straight lines.

**Light Center Length (L.C.L.)—**
The distance between the center of the filament and the L.C.L. reference plane.

**Lumen—**
The international unit of luminous flux or quantity of light. For example, a dinner candle provides about 12 lumens. A 60-watt Soft White incandescent lamp provides 840 lumens.

**Lumen Maintenance—**
How a lamp maintains its light output over its life, often expressed as percent initial lumens vs. percent rated life.

CONTINUED ON NEXT PAGE

# LIGHTING DEFINITIONS

**Lumens Per Watt (lpw)—**
A measure of the efficacy of a light source in terms of the light produced for the power consumed. For example, a 100-watt lamp producing 1750 lumens gives 17.5 lumens per watt.
Examples:
Edison's first lamp .....1.4 lpw
Incandescent lamps .....10-40 lpw
Fluorescent lamps.....35-100 lpw
Halogen lamps .....20-45 lpw
Mercury lamps .....50-60 lpw
Metal halide lamps.....80-125 lpw
High-pressure sodium lamps .....90-140 lpw

**Luminaire—**
A complete lighting unit consisting of a lamp (or lamps), together with the parts designed to distribute the light, position and protect lamps and connect them to the power supply.

**Luminaire Efficiency—**
The ratio of lumens emitted by a luminaire to those emitted by the lamp or lamps used.

**Luminance—**
Formerly, a measure of photometric brightness. Luminance has rather complicated mathematical definition involving the intensity and direction of light. It should be expressed in candelas per square inch or candelas per square meter although an older unit, the "footlambert"; is still sometimes used. Luminance is a measurable quantity whereas brightness is a subjective sensation.

**Lux—**
The SI (International System) unit of illumination: one lumen uniformly distributed over an area of one square meter.

**Maximum Overall Length (M.O.L.)—**
The maximum extent of a light source measured end-to-end, expressed in inches or millimeters.

**Mean Lumens—**
The average light output of a lamp over its traded life. For fluorescent and metal halide lamps, mean lumen ratings are measured at 40% of rated lamp life. For mercury, high pressure sodium and incandescent lamps, mean lumen ratings are measured at 50% of rated lamp life.

**Mercury Lamps—**
A high-intensity discharge light source in which radiation from the mercury vapor produces visible light.

**Metal Halide Lamp—**
A high-intensity discharge light source in which the light is produced by the radiation from mercury, together with halides of metals such as sodium and scandium. GE trade names include: Multi-Vapor™, Halarc™, Arcstream™, etc.

**Nanometer—**
A unit of wavelength equal to 10-9 meter.

**Parabolic Aluminized Reflector (PAR) Lamp—**
PAR is an acronym for parabolic aluminized reflector. A PAR lamp which may utilize either an incandescent filament, a halogen filament tube or HID arc tube is a precision pressed-glass reflector lamp. PAR lamps rely on both the internal reflector and prisms in the lens for the control of the light beam.

**Phosphor—**
A coating, deposited on the inner bulb surface of fluorescent and some mercury and metal halide lamp types, which converts ultraviolet energy typically into visible light.

**Power Factor (PF)—**
A measure of how efficiently a device uses power. Power factor may range from 0 to 1, with 1 being the ideal. A device that converts all the power supplied to it by the power utility into "watts" is said to have a power factor of 1. Devices with PF greater than or equal to 0.90 are referred to as High Power Factor (HPF) devices, whereas devices with PF less than 0.60 are referred to as low power factor devices.

**Precise™—**
GE trade name for MR-16 and MR-11 low voltage halogen dichroic "cool beam" reflectorized spots and floods.

**Preheat—**
A circuit used on fluorescent lamps wherein the electrodes are heated or warmed to a glow stage by an auxiliary switch or starter (can be a glow switch, thermal type, or a mechanical device like a push button) before the lamps are lighted.

**Quartzline™—**
GE registered trademark for some halogen lamp families.

**Rapid Start—**
A circuit designed to start lamps by continuously heating or preheating the electrodes. Unlike preheat, the ballast does not require a separate starter. In the rapid start two-lamp circuit, one end of each lamp is connected to a separate starting winding. The other end of each lamp is connected to a common winding.

**Reflector (R) Lamp—**
An incandescent lamp with a built-in reflecting surface. The glass bulb is blow-molded in one piece and may be of soft or hard glass.

**Specification Series (SP)—**
Tri-phosphor fluorescent lamp colors that provide good color rendering without the sacrifice in light output normally associated with deluxe colors. CRI ranges from 70 to 75. Available color tones include Warm (SP30), Moderate (SP35), Cool (SP41), and Very Cool (SP65).

**Specification Series Deluxe (SPX)—**
Tri-phosphor fluorescent lamp colors that provide very good color rendering (even better than Specification Series colors) without the sacrifice in light output normally associated with deluxe colors. CRI ranges from 80 to 84. Available color tones include Warm (SPX27, SPX30), Moderate (SPX35), Cool (SPX41), and Very Cool (SPX50, SPX65).

**Spectral Power Distribution (SPD) Curves—**
A visual profile of the color characteristics of a light source. It shows the radiant power emitted by a light source at each wavelength or band of wavelengths over the visible region.

**Total Harmonic Distortion (THD)—**
A measure of the distortion of the sine wave on alternating current (ac) systems caused by higher order waves superimposed on the fundamental (usually 60Hz.) frequency of the system. THD is expressed in percent and may refer to individual electrical loads (such as a ballast) or a total electrical circuit or system in a building. The ANSI recommendation is for THD to be no greater than 32% although some electrical utilities may require lower THD's on some systems. Excessive THD's on electrical systems can cause efficiency losses as well as overheating and deterioration of system components.

**Voltage—**
A measurement of electromotive force or the pressure of electricity. This is analogous to the pressure in a waterline; i.e., pounds per square inch. The voltage of a circuit is the electrical pressure it provides. In an incandescent lamp, "voltage" designates the supply voltage to which the lamp should be connected, and is related to current and power as follows: Voltage (Volts) = Power (Watts) / Current (Amps).
In other lamp types, it may refer to "operating voltage" of a lighted arc discharge lamp.

**Watt—**
Unit used to measure power consumption. For Incandescent lamps, Watts is related to voltage and amps as follows: Power (Watts) = Voltage (Volts) x Current (Amps).

**Watt-Miser® (WM) Lamp—**
GE registered trademark for a direct replacement energy-saving lamp. Available in a wide range of incandescent, fluorescent, and HID lamps.

**UL—**
Underwriters Laboratories. A not-for-profit independent U.S. organization that tests products and materials for public safety and security. It can test and certify per its own standards and per the standards of others, such as CSA. UL Listing or Recognition, or the equivalent, of potentially hazardous products and materials is required by most U.S. municipalities.

**Ultraviolet Radiation—**
Radiant energy in the range of about 100-380 nanometers (nm). For practical applications, the UV band is broken down further as follows:
Ozone-producing .....180-220nm
Bactericidal (germicidal).....220-300nm
Exrythemal (skin reddening).....280-320nm
"Black" light .....320-400nm
The Internal Commission on Illumination (CIE) defines the UV band as UV-A (315-400 nm); UV-B (280-315 nm) and UV-C (100-280 nm).

### Lumens, Candlepower, and Footcandles

In lighting, the basic measure for the amount of light produced by a light source is called a lumen. As with any unit of measure, one must start with a standard. The starting point for lumens is historically a candle. If it is of specific composition and size, it emits 1 candlepower. If this candle is placed in a sphere with a 1-foot radius, 1 lumen by definition will fall on 1 square foot of the sphere's surface. Since, from geometry, the total surface area of a 1-foot-radius sphere is 12.57 square feet, there are 12.57 lumens given off by that candle. One lumen falling on 1 square foot of a surface produces illumination of 1 footcandle.


When it comes to lighting, no distributor outshines Grainger.

# INTRODUCTION/HOW TO USE THE BALLAST SECTION

**The Ballast Section** is organized to help you find the right ballast based on *Lamp Compatibility* (lamp type), *Number of Lamps per Ballast*, and *Voltage*.

**Select a Ballast** by using the ballast tables; finding a compatible lamp, and knowing how many lamps per ballast and what voltage you will need.

**To determine an Electronic Ballast**, check for the Energy Right symbol (✓) next to the Grainger stock numbers. To know what type of Ballast you have, check the Ballast Code.

**Ballast Codes** let you know what type of Ballast you have, i.e. Rapid Start Normal Light Output is RS-N. Ballast Codes are defined on the top of every Ballast page.

**Lamp Quantity** — **Voltage** — **Lamp Compatibility** — **Ballast Code** — **Energy Right Electronic Ballast**

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F72T12 Slimline** | | | | | | | | | | | | | | | | |
| **57 Watts, 6' Lamp Length** | | | | | | | | | | | | | | | | |
| **1** | 120 | 72 | 0.85 | 0 | 0.9 | 30% | R-6 | 24 | Advance | RSM-175-S-TP | MAG | **3X963** | $51.21 | **$32.35** | 10 | 6.2 |
| **1** | 120 | 70 | 0.62 | 50 | 1.1 | 30% | R-8 | 32,53,54 | Advance | REL-2P60-S | IS-N | ✓**3V600** | 118.69 | **44.20** | 6 | 5.1 |
| **1** | 277 | 72 | 0.35 | 0 | 0.92 | 30% | R-6 | 24 | Advance | VSM-175-S-TP | MAG | **6V942** | 54.58 | **33.35** | 10 | 5.9 |
| **1** | 277 | 70 | 0.27 | 50 | 1.1 | 30% | R-8 | 32,53 | Advance | VEL-2P75-S | IS-N | ✓**3V972** | 121.75 | **45.45** | 6 | 4.5 |
| **2** | 120 | 135 | 1.2 | 0 | 0.93 | 30% | R-8 | 26 | Advance | SM-2E57-S-TP | MAG | **6V993** | 98.79 | **58.70** | 6 | 7.5 |
| **2** | 120 | 142 | 1.35 | 50 | 0.95 | 30% | R-8 | 26,28,29 | Advance | R-2E75-S-TP | MAG | **6X923** | 62.46 | **27.25** | 6 | 8.4 |
| **2** | 120 | 144 | 1.65 | 0 | 0.96 | 30% | R-11 | 22 | Advance | S-275-S-TP | MAG | **6V911** | 102.00 | **64.40** | 4 | 14.0 |
| **2** | 120 | 110 | 0.95 | 50 | 0.92 | 20% | R-8 | 32,53,54 | Advance | REL-2P60-S | IS-N | ✓**3V600** | 118.69 | **44.20** | 6 | 5.1 |

Some of our larger sections might have *No. of Lamps* (Lamp Quantity) in the header due to the large number of ballasts that go with that particular lamp type.

**RS-CIC** - Dimmable electronic ballast. Works on occupancy sensors, and automated building system. Compatible w/10V controls, AC/DC and 50/60 Hz. Soft start feature for extended lamp life.

**RS-IC** - IC chip allows for AC/DC and 50/60Hz operation. Soft start feature for extended lamp life.

**IS-N** - Same as RS-N except instant start circuit which reduces rated avg. life by 25%.

**DIM. MAG.** - Non-electronic ballast that dims to 20% of full light output. Requires compatible dimmer.

**RS-H** - Ballast that produces 40% more light than normal light output. Ballast rapid start circuit maintains rated avg. lamp life.

**DIM. ELEC.** - Continuous dimming to 10% light level compatible with 1-10V controls.

**BALLAST CODES**

| | | |
|---|---|---|
| **RS-CIC** - Rapid Start Controllable Integrated Circuit | **RS-IC** - Rapid Start Integrated Circuit | **DIM-MAG** - Dimmable Electromagnetic |
| **RS-H** - Rapid Start High Light Output | **IS-N** - Instant Start Normal Light Output | **DIM. ELEC** - Dimmable Electronic |
| **RS-N** - Rapid Start Normal Light Output | **IS-H** - Instant Start High Light Output | **HYBRID** - PowrKut® Electromagnetic |
| **RS-L** - Rapid Start Low Light Output | **IS-L** - Instant Start Low Light Output | **MAG** - Electromagnetic |

**RS-N** - Ballast that produces normal light output as listed in catalog under Lumen Ratings. Rapid start circuit maintains rated avg. lamp life.

**HYBRID** - Magnetic ballast that cuts out cathode heating circuit in ballast saving up to 20% on energy.

**RS-L** - Ballast that consumes 20-25% less energy than RS-N ballasts. Reduces lumen output by the same amount. Rapid start circuit maintains rated avg. life.

**IS-H** - Same as RS-H except instant start circuit which reduces rated avg. life by 25%.

**IS-L** - Same as RS-L except instant start circuit which reduces rated avg. life by 25%.

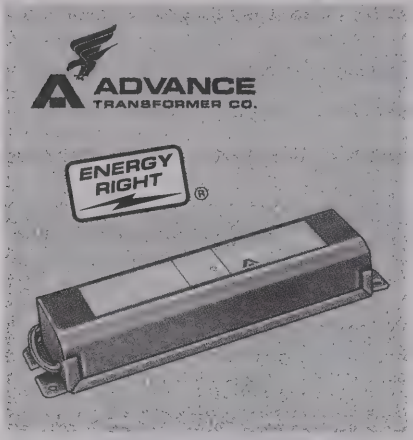
**MAG** - The most basic non-electronic ballast available.


## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS.
THOUSANDS OF QUALITY PRODUCTS ARE LISTED

# ADVANCE FLUORESCENT BALLASTS




## ADVANCE STANDARD ELECTRONIC BALLASTS

Advance electronic ballasts save energy, reduce maintenance, operate cooler, and last longer.

- **Maximum energy savings; 26-38% more energy efficient than conventional ballasts**
- **30°C (54°F) cooler operating temperature than conventional ballasts**
- **75% quieter than "A" sound rated conventional electromagnetic ballasts**
- **Total harmonic distortion of less than 20%**
- **Double the life expectancy of conventional ballasts**
- **LW (low wattage) models feature extra energy savings with slightly reduced light output (ballast factor 0.75)**
- **"S" in model number indicates series operation, "P" indicates parallel operation; parallel ballasts will instant start rapid start lamps, allow remaining lamps to stay fully lit if companion lamps fail**
- **Fully potted design allows high temperature ratings for superior reliability and application flexibility**
- **Advance Standard ballasts can be identified by the codes REL (120V) or VEL (277V) found in the manufacturer's model number**
- **Five-year limited warranty on Advance electronic ballasts and up to 3 years for GE lamps when used together. See "Manufacturers' Warranties" on page opposite inside back cover**

## ADVANCE CENTIUM™ ELECTRONIC BALLASTS

Advance Centium electronic ballasts are high-value, high-performance units that provide all the energy savings of Advance Standard electronic ballasts, plus very low total harmonic distortion (under 10%).

- **Maximum energy savings; 26-38% more energy efficient than conventional ballasts**
- **Total harmonic distortion of less than 10%; exceeds all electric utility specifications**
- **LW (low wattage) models available for extra energy savings at slightly reduced light output (ballast factor 0.76-0.79)**
- **HL (high light) models provide extra light output (ballast factor 1.15) with slightly higher input wattage**
- **"S" in model number indicates series operation, "P" indicates parallel operation; parallel ballasts will instant start rapid start lamps, allow remaining lamps to stay fully lit if companion lamps fail**
- **75% quieter than "A" sound rated conventional electromagnetic ballasts**
- **Fully potted design allows high temperature ratings for superior reliability and application flexibility**
- **High frequency operation eliminates annoying lamp flicker**
- **Double the life expectancy of conventional electromagnetic ballasts**
- **Advance Centium ballasts can be identified by the codes RCN (120V) or VCN (277V) found in the manufacturer's model number**
- **Five-year limited warranty on Advance electronic ballasts and up to 3 years for GE lamps when used together. See "Manufacturers' Warranties" on page opposite inside back cover**



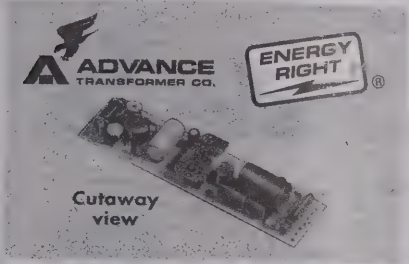




## ADVANCE MARK V INTEGRATED CIRCUIT (IC) ELECTRONIC BALLASTS

These ballasts offer the same features as Advance Standard Electronic Ballasts, plus the following:

- **0°F minimum starting temperature for extended lamp life in low temperature applications**
- **Total harmonic distortion <10%**
- **Maintains constant light output over operating ranges of 100V to 145V (120V ballasts) and 200V to 305V (277V ballasts)**
- **AC/DC operation; 50/60 Hz**
- **Features sequenced "soft start" for extended lamp life**
- **Five-year limited warranty on Advance electronic ballasts and up to 3 years for GE lamps when used together. See "Manufacturers' Warranties" on page opposite inside back cover**




## ADVANCE MARK VII CONTROLLABLE INTEGRATED CIRCUIT (CIC) ELECTRONIC BALLASTS

Feature the same advantages as Advance Mark V (IC) ballasts, plus lighting controllability. Can be used with compatible remote or manual dimming controls, ambient light sensors, occupancy/motion sensors as well as emergency lighting controls.

- **Controls light output from 5% to 100% of maximum in response to compatible controls**
- **May be used with compatible dimming systems, occupancy sensors, and daylight sensors**
- **All the lamp and energy saving features of Advance Mark V, plus controllability, making total energy savings of up to 45% possible**
- **Available for 1, 2 and 3 lamp F25T8 and F32T8 applications only**

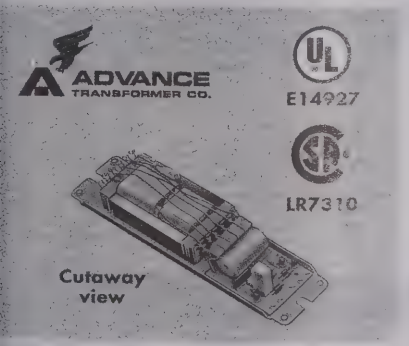
## ADVANCE MARK X ARCHITECTURAL DIMMING ELECTRONIC BALLASTS

Advance Mark X ballasts are cost-effective, electronic architectural dimming ballasts for T8 lighting systems. They combine long life, energy efficiency and other advantages of electronically ballasted fluorescent lamps, with the controllability and full-range dimming capability of incandescent systems. Mark X ballasts are controlled by the Mark X two-wire phase-cut style dimmer or other compatible dimmers.

- **Available for 1, 2, and 3 F32T8 and F25T8 rapid start linear and U-bend fluorescent lamps only**
- **Delivers continuous, flicker-free full-range dimming from 100% to 5% of rated lumen output**
- **Operates from Mark X two-wire and other compatible dimmers; no extra wiring required when retrofitting for ease of installation**
- **Energy efficient with lighting efficacies 40-50% higher than Magnetic T12 dimming ballasts**
- **Provides lamp ignition at any light output setting; ballast does not have to ramp up to full light output and then dim**
- **Operates above 42 kHz, reducing potential for interference with infrared remote control systems**
- **Advance Mark X ballasts can be identified by the codes REZ (120V) or VEZ (277V) found in the manufacturer's model number**




No. 3VK05
Mark X Dimmer
sold on page 1019




## ADVANCE POWRKUT® ENERGY-SAVER BALLASTS

Advance PowrKut® low-frequency electronic (hybrid) ballasts provide energy savings in most cases equivalent to those provided by high frequency electronic designs. To maximize power savings, an internal electronic switching circuit cuts off power to lamp electrodes after lamps are started.

- **PowrKut® ballasts for T8 lamps provide savings equivalent to electronic designs at equivalent light output levels**
- **PowrKut® ballasts for T10 and T12 lamps provide energy savings equivalent to electronic designs at 93-95% of their light output**
- **PowrKut® Mark IV ballasts for T10 and T12 lamps save 17% in energy over conventional ballasts while maintaining full light output**
- **PowrKut® ballasts for T12 high output lamps save 20% in energy over conventional ballasts at equivalent light output**
- **Low total harmonic distortion (less than 15% for T8 lamps)**
- **Low frequency operation minimizes potential for EMI/RFI interference**
- **UL Listed (E14927); CSA Certified (LR7310)**

## ADVANCE MARK III ELECTROMAGNETIC FLUORESCENT BALLASTS

Mark III ballasts provide energy savings while delivering full light output consistent with rigid CBM standards. Replaces standard ballasts and can be used with either energy-saving or standard fluorescent lamps. UL Listed (E14927), CSA Certified (LR7310), and CBM Certified to meet ANSI specifications. Non-PCB capacitor. Class P ballast protection, High power factor.

- **10% more energy efficient than conventional ballasts**
- **Operates 20°C cooler than conventional ballasts reducing air conditioning costs**
- **Double life expectancy reducing changeouts**
- **Ballast factor of 0.95 operating standard lamps**
- **CBM Certified assuring maximum light output and longest lamp life**
- **Sound Class rating A**
- **Three-year limited warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover**



# ADVANCE FLUORESCENT BALLAST DIMENSIONAL DATA

## ENCLOSED AND COVERED BALLASTS

### ENCLOSED AND COVERED BALLAST DIMENSIONAL DRAWINGS

| Fig. | Length (L) (In.) | Width (W) (In.) | Height (H) (In.) | Mounting (M) (In.) |
|---|---|---|---|---|
| BLS1 | 9½ | 2¼ | 1½ | 2 |
| C-1 | 3 1/8 | 1 3/8 | 1 25/32 | 2 3/4 |
| C-2 | 3 1/16 | 1 19/32 | 1 13/16 | 2 3/4 |
| D-2 | 17 | 2 3/8 | 1 1/2 | 16 5/16 |
| LS-1 | 6 1/2 | 1 15/16 | 1 | 2 3/8 |
| R-1 | 4 1/4 | 2 | 1 7/16 | 3 9/16 |
| R-2 | 4 3/4 | 2 7/32 | 1 5/8 | 4 3/8 |
| R-3 | 6 1/4 | 2 | 1 7/16 | 5 9/16 |
| R-4 | 6 1/2 | 1 15/16 | 1 3/8 | 6 |
| R-5 | 9 1/2 | 2 3/8 | 1 11/16 | 8 29/32 |
| R-6 | 9 1/2 | 3 7/64 | 1 25/32 | 8 29/32 |
| R-7 | 11 3/4 | 2 3/8 | 1 11/16 | 11 1/4 |
| R-8 | 11 3/4 | 3 7/64 | 1 25/32 | 11 9/64 |
| R-9 | 11 3/4 | 3 3/16 | 2 5/8 | 11 9/64 |
| R-10 | 14 15/16 | 3 7/64 | 1 25/32 | 13 3/4 |
| R-11 | 14 5/16 | 3 3/16 | 2 5/8 | 13 3/4 |
| R-12 | 15 3/4 | 2 3/8 | 1 11/16 | 14 7/16 |
| R-13 | 16 11/16 | 3 3/16 | 2 5/8 | 16 1/8 |
| R-14 | 19 9/16 | 3 3/16 | 2 5/8 | 18 5/8 |
| S-1 | 8 1/4 | 2 3/8 | 1 11/16 | 7 13/16 |
| T-1 | 6 1/2 | 2 3/8 | 1 1/2 | 6 |
| T-2 | 9 1/2 | 2 3/8 | 1 1/2 | 8 29/32 |
| T-3 | 9 1/2 | 2 3/8 | 1 3/8 | 8 29/32 |
| T-4 | 9 1/2 | 2 3/8 | 1 5/8 | 8 29/32 |
| T-5 | 11 3/4 | 3 3/16 | 1 3/4 | 11 9/64 |
| T-6 | 9½ | 1 7/10 | 1⅛ | 8¾ |

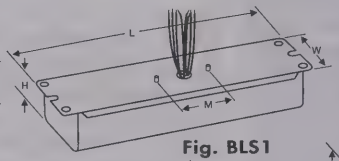


Fig. BLS1

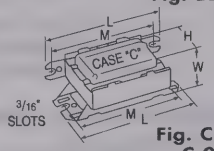


Fig. C-1, C-2

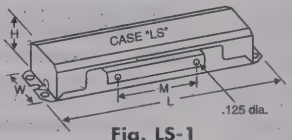


Fig. LS-1

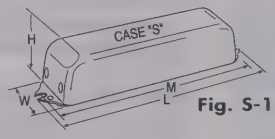


Fig. S-1

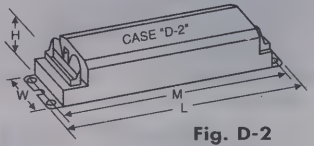


Fig. D-2

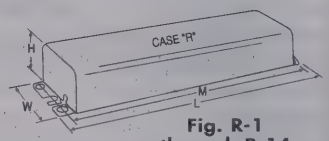


Fig. R-1 through R-14

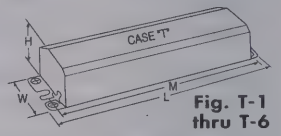


Fig. T-1 thru T-6

## OPEN CORE AND COIL BALLASTS

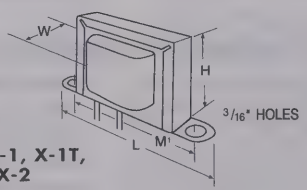


Fig. X-1, X-1T, X-2

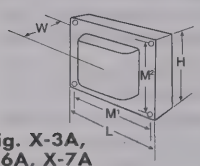


Fig. X-3A, X-6A, X-7A

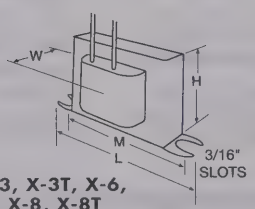


Fig. X-3, X-3T, X-6, X-7, X-8, X-8T

### OPEN CORE AND COIL BALLAST DIMENSIONAL DRAWINGS

#### Open Core and Coil Ballasts With Mounting Feet

| Fig. | Length (L) (In.) | Width (W) (In.) | Height (H) (In.) | Mounting (M) (In.) |
|---|---|---|---|---|
| X-1 | 2 3/8 | 1 1/8 | 1 3/8 | 2 |
| X-1T | 2 3/8 | 1 3/8 | 1 3/8 | 2 |
| X-2 | 2 3/8 | 1 5/16 | 1 3/8 | 2 |
| X-3 | 3 1/16 | 1 1/4 | 1 13/16 | 2 3/4 |
| X-3T | 3 1/16 | 1 7/16 | 1 13/16 | 2 3/4 |
| X-6 | 3 1/16 | 1 5/8 | 1 13/16 | 2 3/4 |
| X-7 | 3 1/16 | 1 3/8 | 1 13/16 | 2 3/4 |
| X-8 | 3¼ | 1½ | 1⅝ | 2 13/16 |
| X-8T | 3¼ | 1¾ | 2 | 2 13/16 |

#### Open Core and Coil Ballasts Without Mounting Feet

| Fig. | Length (L) (In.) | Width (W) (In.) | Height (H) (In.) | Mounting (In.) M¹ | Mounting (In.) M² |
|---|---|---|---|---|---|
| X-3A | 2 1/32 | 1 1/4 | 1 23/32 | 1 13/16 | 1 23/32 |
| X-6A | 2 1/32 | 1 5/8 | 1 23/32 | 1 13/16 | 1 23/32 |
| X-7A | 2 1/32 | 1 3/8 | 1 23/32 | 1 13/16 | 1 23/32 |

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

GE Lighting

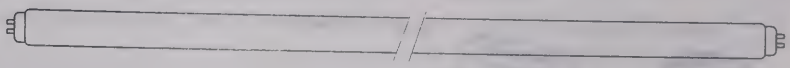
New

ENERGY RIGHT®

## BALLAST CODES

- RS-CIC—Rapid Start Controllable Integrated Circuit
- RS-H—Rapid Start High Light Output
- RS-N—Rapid Start Normal Light Output
- RS-L—Rapid Start Low Light Output
- RS-IC—Rapid Start Integrated Circuit
- IS-H—Instant Start High Light Output
- IS-N—Instant Start Normal Light Output
- IS-L—Instant Start Low Light Output
- DIM-MAG—Dimmable Electromagnetic
- DIM. ELEC—Dimmable Electronic
- HYBRID—PowrKut® Electromagnetic
- MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F17T8

| Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F17T8** | | | | | | | | | | | | | | | |
| **17 Watts, 2' Lamp Length, 1 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 24 | 0.21 | 50 | 1.01 | 20% | T-2 | — | Advance | R-1PS17TP | MAG | **6V890** | $52.39 | **$32.10** | 1 | 3.5 |
| **120** | 18 | 0.16 | 0 | 0.93 | 32% | T-3 | — | GE/Magnetek | B132I120RH | IS-N | ***New*** **4PJ48** | 81.99 | **28.30** | 1 | 2.5 |
| **120** | 18 | 0.16 | 0 | 0.92 | 20% | T-3 | — | GE/Magnetek | B132I120HP | IS-N | ***New*** **4PJ40** | 100.66 | **34.75** | 1 | 2.5 |
| **120** | 19 | 0.17 | 0 | 1.07 | 20% | T-2 | 55 | Advance | RCN-1P32 | IS-N | ✓**3G783** | 96.08 | **33.10** | 1 | 2.5 |
| **277** | 26 | 0.10 | 50 | 1.04 | 20% | T-2 | — | Advance | V-1P817-TP | IS-N | **6V955** | 55.00 | **33.10** | 1 | 4.0 |
| **277** | 18 | 0.07 | 0 | 0.93 | 32% | T-3 | — | GE/Magnetek | B132I277RH | IS-N | ***New*** **4PJ49** | 87.30 | **30.15** | 1 | 2.5 |
| **277** | 18 | 0.07 | 0 | 0.92 | 10% | T-3 | — | GE/Magnetek | B132I277HP | IS-N | ***New*** **4PJ41** | 106.97 | **34.75** | 1 | 2.5 |
| **277** | 19 | 0.07 | 0 | 1.07 | 20% | T-2 | 55 | Advance | VCN-1P32 | IS-N | ✓**3G807** | 99.21 | **34.10** | 1 | 2.6 |
| **17 Watts, 2' Lamp Length, 2 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 47 | 0.40 | 50 | 0.94 | 20% | T-2 | — | Advance | R-2P817-TP | MAG | ✓**6V896** | 52.39 | **32.10** | 1 | 3.5 |
| **120** | 41 | 0.35 | 50 | 1.06 | 20% | T-2 | — | Advance | RCN-2S32 | RS-N | ✓**3G793** | 97.56 | **36.15** | 1 | 2.6 |
| **120** | 29 | 0.26 | 0 | 0.82 | 32% | T-3 | — | GE/Magnetek | B232I120L | IS-L | ***New*** **4PJ62** | 81.99 | **28.30** | 1 | 2.5 |
| **120** | 37 | 0.31 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B232R120HP | RS-N | ***New*** **4PJ56** | 100.64 | **36.95** | 1 | 2.5 |
| **120** | 34 | 0.31 | 0 | 0.96 | 20% | T-2 | 48,55 | Advance | RCN-2P32 | IS-N | ✓**3G785** | 96.08 | **33.10** | 1 | 2.5 |
| **120** | 32 | 0.29 | 0 | 0.93 | 32% | T-3 | — | GE/Magnetek | B232I120RH | IS-N | ***New*** **4PJ50** | 81.99 | **22.25** | 1 | 2.5 |
| **120** | 33 | 0.29 | 0 | 0.92 | 20% | T-3 | — | GE/Magnetek | B232I120HP | IS-N | ***New*** **4PJ42** | 100.66 | **34.75** | 1 | 2.5 |
| **277** | 45 | 0.17 | 50 | 0.98 | 20% | T-2 | — | Advance | V-2P817-TP | MAG | **6V960** | 55.00 | **33.10** | 1 | 3.5 |
| **277** | 41 | 0.15 | 50 | 1.06 | 20% | T-2 | — | Advance | VCN-2S32 | RS-N | ✓**3G817** | 100.74 | **37.15** | 1 | 2.5 |
| **277** | 34 | 0.13 | 0 | 0.96 | 20% | T-2 | 48,55 | Advance | VCN-2P32 | IS-N | ✓**3G809** | 99.21 | **34.10** | 1 | 3.0 |
| **277** | 33 | 0.12 | 0 | 0.92 | 20% | T-3 | — | GE/Magnetek | B232I277HP | IS-N | ***New*** **4PJ43** | 106.97 | **34.75** | 1 | 2.5 |
| **277** | 29 | 0.11 | 0 | 0.82 | 32% | T-3 | — | GE/Magnetek | B232I277L | IS-L | ***New*** **4PJ63** | 87.30 | **30.15** | 1 | 2.5 |
| **277** | 37 | 0.14 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B232R277HP | RS-N | ***New*** **4PJ57** | 106.97 | **36.95** | 1 | 2.4 |
| **277** | 18 | 0.07 | 0 | 0.93 | 32% | T-3 | — | GE/Magnetek | B232I277RH | IS-N | ***New*** **4PJ51** | 87.30 | **23.25** | 1 | 2.5 |
| **17 Watts, 2' Lamp Length, 3 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 49 | 0.42 | 0 | 0.96 | 20% | T-2 | 48,55 | Advance | RCN-3P32 | IS-N | ✓**3G799** | 101.87 | **37.05** | 1 | 2.0 |
| **120** | 43 | 0.39 | 0 | 0.80 | 20% | T-3 | — | GE/Magnetek | B332I120L | IS-L | ***New*** **4PJ64** | 90.61 | **32.40** | 1 | 2.5 |
| **120** | 52 | 0.45 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B332R120HP | RS-N | ***New*** **4PJ58** | 111.21 | **41.00** | 1 | 2.3 |
| **120** | 47 | 0.43 | 0 | 0.92 | 32% | T-3 | — | GE/Magnetek | B332I120RH | IS-N | ***New*** **4PJ52** | 90.61 | **28.50** | 1 | 2.5 |
| **120** | 48 | 0.41 | 0 | 0.92 | 10% | T-3 | — | GE/Magnetek | B332I120HP | IS-N | ***New*** **4PJ44** | 111.21 | **38.40** | 1 | 2.5 |
| **277** | 49 | 0.18 | 0 | 0.96 | 20% | T-2 | 48,55 | Advance | VCN-3P32 | IS-N | ✓**3G823** | 105.02 | **38.05** | 1 | 3.0 |
| **277** | 47 | 0.19 | 0 | 0.92 | 32% | T-3 | — | GE/Magnetek | B332I277RH | IS-N | ***New*** **4PJ53** | 96.90 | **29.50** | 1 | 2.5 |
| **277** | 48 | 0.18 | 0 | 0.92 | 10% | T-3 | — | GE/Magnetek | B332I277HP | IS-N | ***New*** **4PJ45** | 118.71 | **41.00** | 1 | 2.5 |
| **277** | 43 | 0.17 | 0 | 0.80 | 20% | T-3 | — | GE/Magnetek | B332I277L | IS-L | ***New*** **4PJ65** | 96.90 | **34.35** | 1 | 2.5 |
| **277** | 52 | 0.20 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B332R277HP | RS-N | ***New*** **4PJ59** | 118.71 | **41.00** | 1 | 2.3 |
| **17 Watts, 2' Lamp Length, 4 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 61 | 0.52 | 0 | 0.92 | 20% | T-2 | 48,55 | Advance | RCN-4P32 | IS-N | ✓**3G803** | 110.25 | **39.05** | 1 | 2.5 |
| **120** | 56 | 0.50 | 50 | 0.82 | 32% | T-3 | — | GE/Magnetek | B432I120L | IS-L | ***New*** **4PJ66** | 96.90 | **33.45** | 1 | 2.5 |
| **120** | 70 | 0.59 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B432R120HP | RS-N | ***New*** **4PJ60** | 118.92 | **43.40** | 1 | 2.3 |
| **120** | 62 | 0.55 | 50 | 0.91 | 32% | T-3 | — | GE/Magnetek | B432I120RH | IS-N | ***New*** **4PJ54** | 96.90 | **30.50** | 1 | 2.8 |
| **120** | 62 | 0.53 | 50 | 0.90 | 10% | T-3 | — | GE/Magnetek | B432I120HP | IS-N | ***New*** **4PJ46** | 118.93 | **41.75** | 1 | 2.5 |
| **277** | 61 | 0.22 | 0 | 0.92 | 20% | T-2 | 48,55 | Advance | VCN-4P32 | IS-N | ✓**3G827** | 113.37 | **40.05** | 1 | 3.0 |
| **277** | 56 | 0.21 | 50 | 0.82 | 32% | T-3 | — | GE/Magnetek | B432I277L | IS-L | ***New*** **4PJ67** | 102.64 | **35.45** | 1 | 2.5 |
| **277** | 70 | 0.26 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B432R277HP | RS-N | ***New*** **4PJ61** | 125.77 | **43.40** | 1 | 2.3 |
| **277** | 62 | 0.24 | 50 | 0.91 | 32% | T-3 | — | GE/Magnetek | B432I277RH | IS-N | ***New*** **4PJ55** | 102.64 | **31.50** | 1 | 2.8 |
| **277** | 62 | 0.23 | 50 | 0.90 | 10% | T-3 | — | GE/Magnetek | B432I277HP | IS-N | ***New*** **4PJ47** | 125.77 | **43.40** | 1 | 2.5 |

✓) Denotes energy efficient product.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

GE Lighting

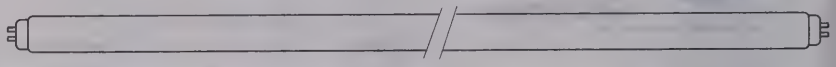
New

ENERGY RIGHT®

## BALLAST CODES

RS-CIC—Rapid Start Controllable Integrated Circuit
RS-H—Rapid Start High Light Output
RS-N—Rapid Start Normal Light Output
RS-L—Rapid Start Low Light Output
RS-IC—Rapid Start Integrated Circuit
IS-H—Instant Start High Light Output
IS-N—Instant Start Normal Light Output
IS-L—Instant Start Low Light Output
DIM-MAG—Dimmable Electromagnetic
DIM. ELEC—Dimmable Electronic
HYBRID—PowrKut® Electromagnetic
MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F25T8

| Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F25T8** | | | | | | | | | | | | | | | |
| **25 Watts, 3' Lamp Length, 1 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 31 | 0.28 | 50 | 0.94 | 20% | T-2 | — | Advance | R-1P825-TP | MAG | **6V891** | $52.39 | **$33.65** | 1 | 3.6 |
| **120** | 25 | 0.21 | 0 | 0.99 | 20% | T-2 | 55 | Advance | RCN-1P32 | IS-N | ✓**3G783** | 96.08 | **33.10** | 1 | 2.5 |
| **120** | 24 | 0.21 | 0 | 0.92 | 25% | T-2 | 54,55 | Advance | REL-1P32-RH-TP | IS-N | ✓**3V965** | 90.05 | **31.15** | 1 | 2.7 |
| **120** | 25 | 0.21 | 0 | 0.85 | 10% | T-2 | 37 | Advance | RIC-132 | RS-IC | ✓**3V556** | 114.61 | **43.65** | 1 | 1.4 |
| **120** | 25 | 0.21 | 50 | 0.85 | 10% | T-2 | 37 | Advance | RZT-132 | RS-CIC | ✓**3V609** | 233.49 | **82.05** | 1 | 1.6 |
| **120** | 25 | 0.22 | 0 | 0.92 | 20% | T-3 | — | GE/Magnetek | B132I120RH | IS-N | New ✓**4PJ48** | 81.99 | **28.30** | 1 | 2.5 |
| **120** | 25 | 0.22 | 0 | 0.91 | 10% | T-3 | — | GE/Magnetek | B132I120HP | IS-N | New ✓**4PJ40** | 100.66 | **34.75** | 1 | 2.5 |
| **120** | 30 | 0.26 | 50 | 1.05 | 10% | T-2 | — | Advance | REZ-132 | DIM.ELEC | ✓**3VK02** | 222.38 | **78.20** | 1 | 2.4 |
| **277** | 30 | 0.12 | 50 | 0.97 | 20% | T-2 | — | Advance | V-1P825-TP | MAG | **6V956** | 55.00 | **35.35** | 1 | 3.6 |
| **277** | 25 | 0.10 | 0 | 0.92 | 20% | T-3 | — | GE/Magnetek | B132I277RH | IS-N | New ✓**4PJ49** | 87.30 | **30.15** | 1 | 2.5 |
| **277** | 25 | 0.09 | 0 | 0.91 | 10% | T-3 | — | GE/Magnetek | B132I277HP | IS-N | New ✓**4PJ41** | 106.97 | **34.75** | 1 | 2.5 |
| **277** | 25 | 0.09 | 0 | 0.99 | 20% | T-2 | 55 | Advance | VCN-1P32 | IS-N | ✓**3G807** | 99.21 | **34.10** | 1 | 2.6 |
| **277** | 24 | 0.09 | 0 | 0.92 | 25% | T-2 | 54,55 | Advance | VEL-1P32-RH-TP | IS-N | ✓**3V970** | 93.10 | **32.15** | 1 | 2.7 |
| **277** | 30 | 0.11 | 50 | 1.00 | 10% | T-2 | — | Advance | VEZ-132 | DIM.ELEC | ✓**3VK06** | 233.49 | **82.10** | 1 | 2.4 |
| **277** | 25 | 0.09 | 0 | 0.85 | 10% | T-2 | 37 | Advance | VIC-132 | RS-IC | ✓**3V557** | 118.69 | **44.65** | 1 | 1.3 |
| **277** | 25 | 0.09 | 50 | 0.85 | 10% | T-2 | 37 | Advance | VZT-132 | RS-CIC | ✓**3V610** | 245.16 | **86.20** | 1 | 2.3 |
| **25 Watts, 3' Lamp Length, 2 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 62 | 0.53 | 50 | 0.97 | 20% | T-2 | — | Advance | R-2P825-TP | MAG | **6V897** | 52.39 | **33.65** | 1 | 3.6 |
| **120** | 53 | 0.45 | 50 | 0.98 | 20% | T-2 | — | Advance | RCN-2S32 | RS-N | ✓**3G793** | 97.56 | **36.15** | 1 | 2.6 |
| **120** | 46 | 0.41 | 0 | 0.90 | 20% | T-3 | — | GE/Magnetek | B232I120RH | IS-N | New ✓**4PJ50** | 81.99 | **22.25** | 1 | 2.5 |
| **120** | 47 | 0.40 | 0 | 0.90 | 20% | T-3 | — | GE/Magnetek | B232I120HP | IS-N | New ✓**4PJ42** | 100.66 | **34.75** | 1 | 2.5 |
| **120** | 41 | 0.36 | 0 | 0.80 | 20% | T-3 | — | GE/Magnetek | B232I120L | IS-L | New ✓**4PJ62** | 81.99 | **28.30** | 1 | 2.5 |
| **120** | 51 | 0.43 | 50 | 0.92 | 10% | T-3 | 48,54,55 | GE/Magnetek | B232R120HP | RS-N | New ✓**4PJ56** | 100.64 | **36.95** | 1 | 2.5 |
| **120** | 46 | 0.40 | 0 | 0.90 | 25% | T-2 | 48,55 | Advance | REL-2P32-RH-TP | IS-N | ✓**3V603** | 90.05 | **22.25** | 1 | 1.2 |
| **120** | 46 | 0.39 | 0 | 0.89 | 20% | T-2 | — | Advance | RCN-2P32 | IS-N | ✓**3G785** | 96.08 | **33.10** | 1 | 2.5 |
| **120** | 59 | 0.50 | 50 | 1.05 | 10% | T-2 | 37 | Advance | REZ-232 | DIM.ELEC | ✓**3VK03** | 210.95 | **74.15** | 1 | 2.4 |
| **120** | 49 | 0.42 | 0 | 0.85 | 10% | T-2 | 37 | Advance | RIC-2S32 | RC-IC | ✓**3V545** | 114.61 | **43.60** | 1 | 1.6 |
| **120** | 49 | 0.42 | 50 | 0.85 | 10% | T-2 | — | Advance | RZT-2S32 | RS-CIC | ✓**3V611** | 233.49 | **82.05** | 1 | 1.4 |
| **277** | 62 | 0.23 | 50 | 0.96 | 20% | T-2 | — | Advance | V-2P825-TP | MAG | **6V961** | 55.00 | **35.35** | 1 | 3.6 |
| **277** | 53 | 0.19 | 50 | 0.98 | 20% | T-2 | — | Advance | VCN-2S32 | RS-N | ✓**3G817** | 100.74 | **37.15** | 1 | 2.5 |
| **277** | 47 | 0.17 | 0 | 0.90 | 20% | T-3 | — | GE/Magnetek | B232I277HP | IS-N | New ✓**4PJ43** | 106.97 | **34.75** | 1 | 2.5 |
| **277** | 51 | 0.19 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B232R277HP | RS-N | New ✓**4PJ57** | 106.97 | **36.95** | 1 | 2.4 |
| **277** | 41 | 0.16 | 0 | 0.80 | 20% | T-3 | — | GE/Magnetek | B232I277L | IS-L | New ✓**4PJ63** | 87.30 | **30.15** | 1 | 2.5 |
| **277** | 46 | 0.18 | 0 | 0.90 | 20% | T-3 | — | GE/Magnetek | B232I277RH | IS-N | New ✓**4PJ51** | 87.30 | **23.25** | 1 | 2.5 |
| **277** | 46 | 0.17 | 0 | 0.90 | 25% | T-2 | 48,54,55 | Advance | VEL-2P32-RH-TP | IS-N | ✓**3V604** | 93.10 | **23.25** | 1 | 2.4 |
| **277** | 46 | 0.17 | 0 | 0.89 | 20% | T-2 | 48,55 | Advance | VCN-2P32 | IS-N | ✓**3G809** | 99.21 | **34.10** | 1 | 3.0 |
| **277** | 59 | 0.22 | 50 | 1.05 | 10% | T-2 | — | Advance | VEZ-2S32 | DIM.ELEC | ✓**3VK07** | 221.52 | **77.85** | 1 | 2.4 |
| **277** | 49 | 0.18 | 0 | 0.85 | 10% | T-2 | 37 | Advance | VIC-2S32 | RS-IC | ✓**3V546** | 118.69 | **44.60** | 1 | 1.6 |
| **277** | 49 | 0.18 | 50 | 0.85 | 10% | T-2 | 37 | Advance | VZT-2S32 | RS-CIC | ✓**3V612** | 232.59 | **81.75** | 1 | 1.4 |
| **25 Watts, 3' Lamp Length, 3 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 70 | 0.61 | 0 | 0.95 | 25% | T-2 | 48,54,55 | Advance | REL-3P32-RH-TP | IS-N | ✓**3V551** | 96.16 | **28.50** | 1 | 2.5 |
| **120** | 76 | 0.66 | 0 | 0.85 | 10% | T-2 | 37 | Advance | RIC-3S32-TP | RS-IC | ✓**3V547** | 124.80 | **47.45** | 1 | 1.9 |
| **120** | 76 | 0.66 | 50 | 0.85 | 10% | T-2 | 37 | Advance | RZT-3S32 | RS-CIC | ✓**3V613** | 269.40 | **94.70** | 1 | 1.9 |
| **120** | 68 | 0.57 | 0 | 0.91 | 10% | T-3 | — | GE/Magnetek | B332I120HP | IS-N | New ✓**4PJ44** | 111.21 | **38.40** | 1 | 2.5 |
| **120** | 74 | 0.62 | 50 | 0.91 | 10% | T-3 | — | GE/Magnetek | B332R120HP | RS-N | New ✓**4PJ58** | 111.21 | **41.00** | 1 | 2.3 |
| **120** | 62 | 0.53 | 0 | 0.80 | 20% | T-3 | — | GE/Magnetek | B332I120L | IS-L | New ✓**4PJ64** | 90.61 | **32.40** | 1 | 2.5 |
| **120** | 68 | 0.58 | 0 | 0.92 | 20% | T-3 | — | GE/Magnetek | B332I120RH | IS-N | New ✓**4PJ52** | 90.61 | **28.50** | 1 | 2.5 |
| **120** | 68 | 0.57 | 0 | 0.93 | 10% | T-2 | 48,55 | Advance | RCN-3P32 | IS-N | ✓**3G799** | 101.87 | **37.05** | 1 | 2.0 |
| **120** | 87 | 0.74 | 50 | 1.05 | 10% | T-2 | — | Advance | REZ-3S32 | DIM.ELEC | ✓**3VK04** | 256.58 | **90.20** | 1 | 2.4 |

(✓) Denotes energy efficient product.



When it comes to lighting, no distributor outshines Grainger.

# FLUORESCENT BALLASTS AND DIMMERS

ADVANCE TRANSFORMER CO.

GE Lighting

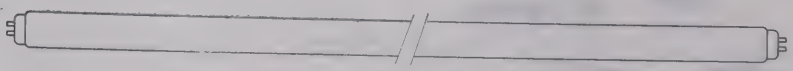
New

ENERGY RIGHT®

## BALLAST CODES

- RS-CIC—Rapid Start Controllable Integrated Circuit
- RS-H—Rapid Start High Light Output
- RS-N—Rapid Start Normal Light Output
- RS-L—Rapid Start Low Light Output
- RS-IC—Rapid Start Integrated Circuit
- IS-H—Instant Start High Light Output
- IS-N—Instant Start Normal Light Output
- IS-L—Instant Start Low Light Output
- DIM-MAG—Dimmable Electromagnetic
- DIM. ELEC—Dimmable Electronic
- HYBRID—PowrKut® Electromagnetic
- MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F25T8 – F32T8

| Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F25T8 (Cont.)** | | | | | | | | | | | | | | | |
| **25 Watts, 3' Lamp Length, 3 Lamp Quantity** | | | | | | | | | | | | | | | |
| **277** | 70 | 0.26 | 0 | 0.95 | 25% | T-2 | 48,54,55 | Advance | VEL-3P32-RH-TP | IS-N | ✓3V552 | $99.24 | **$29.50** | 3 | 2.2 |
| **277** | 48 | 0.18 | 0 | 0.92 | 10% | T-3 | — | GE/Magnetek | B32I1277HP | IS-N | New ✓4PJ45 | 118.71 | **41.00** | 10 | 2.5 |
| **277** | 52 | 0.20 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B32R277HP | RS-N | New ✓4PJ59 | 118.71 | **41.00** | 10 | 2.3 |
| **277** | 43 | 0.17 | 0 | 0.80 | 20% | T-3 | — | GE/Magnetek | B32I1277L | IS-L | New ✓4PJ65 | 96.90 | **34.35** | 10 | 2.5 |
| **277** | 47 | 0.19 | 0 | 0.92 | 32% | T-3 | — | GE/Magnetek | B32I1277RH | IS-N | New ✓4PJ53 | 96.90 | **29.50** | 10 | 2.5 |
| **277** | 76 | 0.28 | 0 | 0.85 | 10% | T-2 | 37 | Advance | VIC-3S32 | RS-IC | ✓3V548 | 128.92 | **48.45** | 10 | 1.9 |
| **277** | 87 | 0.32 | 50 | 1.05 | 10% | T-2 | — | Advance | VEZ-3S32 | DIM.ELEC | ✓3VK08 | 269.43 | **94.70** | 3 | 2.4 |
| **277** | 76 | 0.28 | 50 | 0.85 | 10% | T-2 | 37 | Advance | VZT-3S32 | RS-CIC | ✓3V614 | 282.90 | **99.45** | 3 | 1.9 |
| **277** | 68 | 0.25 | 0 | 0.93 | 10% | T-2 | 48,55 | Advance | VCN-3P32 | IS-N | ✓3G823 | 105.02 | **38.05** | 10 | 3.0 |
| **25 Watts, 3' Lamp Length, 4 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 90 | 0.76 | 50 | 0.90 | 10% | T-3 | — | GE/Magnetek | B432I120HP | IS-N | New ✓4PJ46 | 118.93 | **41.75** | 1 | 2.5 |
| **120** | 96 | 0.81 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B432R120HP | RS-N | New ✓4PJ60 | 118.92 | **43.40** | 1 | 2.3 |
| **120** | 80 | 0.69 | 50 | 0.82 | 20% | T-3 | — | GE/Magnetek | B432I120L | IS-L | New ✓4PJ66 | 96.90 | **33.45** | 1 | 2.5 |
| **120** | 90 | 0.76 | 50 | 0.91 | 20% | T-3 | — | GE/Magnetek | B432I120RH | IS-N | New ✓4PJ54 | 96.90 | **30.50** | 1 | 2.8 |
| **120** | 86 | 0.73 | 0 | 0.91 | 10% | T-2 | 48,55 | Advance | RCN-4P32 | IS-N | ✓3G803 | 110.25 | **39.05** | 1 | 2.5 |
| **120** | 85 | 0.74 | 0 | 0.88 | 25% | T-2 | 48,54,55 | Advance | REL-4P32-RH-TP | IS-N | ✓3V553 | 104.36 | **30.50** | 1 | 2.9 |
| **277** | 90 | 0.33 | 50 | 0.90 | 10% | T-3 | — | GE/Magnetek | B432I277HP | IS-N | New ✓4PJ47 | 125.77 | **43.40** | 1 | 2.5 |
| **277** | 96 | 0.35 | 50 | 0.92 | 10% | T-3 | — | GE/Magnetek | B432R277HP | RS-N | New ✓4PJ61 | 125.77 | **43.40** | 1 | 2.3 |
| **277** | 80 | 0.30 | 50 | 0.82 | 20% | T-3 | — | GE/Magnetek | B432I277L | IS-L | New ✓4PJ67 | 102.64 | **35.45** | 1 | 2.5 |
| **277** | 90 | 0.33 | 50 | 0.91 | 20% | T-3 | — | GE/Magnetek | B432I277RH | IS-N | New ✓4PJ55 | 102.64 | **31.50** | 1 | 2.8 |
| **277** | 85 | 0.32 | 0 | 0.88 | 25% | T-2 | 48,54,55 | Advance | VEL-4P32-RH-TP | IS-N | ✓3V554 | 107.41 | **31.50** | 1 | 2.3 |
| **277** | 86 | 0.31 | 0 | 0.91 | 10% | T-2 | 48,55 | Advance | VCN-4P32 | IS-N | ✓3G827 | 113.37 | **40.05** | 1 | 3.0 |
| **Lamp Compatibility F32T8 and F32T8 U-Bend** | | | | | | | | | | | | | | | |
| **32 Watts, 4' Lamp Length, 1 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 35 | 0.32 | 50 | 0.95 | 15% | T-2 | — | Advance | R-1P32-TP | MAG | 6V889 | 46.55 | **30.30** | 3 | 3.6 |
| **120** | 18 | 0.16 | 0 | 0.92 | 20% | T-3 | — | GE/Magnetek | B132I120HP | IS-N | New ✓4PJ40 | 100.66 | **34.75** | 10 | 2.5 |
| **120** | 32 | 0.28 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B132R120V20 | DIM.ELEC | New ✓4PJ72 | 165.58 | **87.25** | 10 | 2.3 |
| **120** | 62 | 0.52 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B132R120S30 | DIM.ELEC | New ✓4PK03 | 130.25 | **77.30** | 10 | 2.5 |
| **120** | 33 | 0.28 | 50 | 0.89 | 10% | T-4 | — | GE/Magnetek | B132R120S50 | DIM.ELEC | New ✓4PK07 | 128.23 | **77.30** | 10 | 2.5 |
| **120** | 30 | 0.26 | 0 | 0.88 | 20% | T-3 | — | GE/Magnetek | B132I120RH | IS-N | New ✓4PJ48 | 81.99 | **28.30** | 10 | 2.5 |
| **120** | 34 | 0.31 | 50 | 0.88 | 15% | T-2 | 39 | Advance | RK-1S2-TP | HYBRID | ✓1N129 | 69.38 | **32.05** | 3 | 3.0 |
| **120** | 32 | 0.28 | 0 | 0.92 | 10% | T-2 | 55 | Advance | RCN-1P32 | IS-N | ✓3G783 | 96.08 | **33.10** | 10 | 2.5 |
| **120** | 33 | 0.28 | 0 | 0.87 | 10% | T-2 | 37 | Advance | RIC-1S2 | RS-IC | ✓3V556 | 114.61 | **43.65** | 3 | 1.4 |
| **120** | 33 | 0.28 | 50 | 0.87 | 10% | T-2 | 37 | Advance | RZT-1S2 | RS-CIC | ✓3V609 | 233.49 | **82.05** | 3 | 1.6 |
| **120** | 35 | 0.30 | 50 | 1.00 | 10% | T-2 | — | Advance | REZ-1S2 | DIM.ELEC | ✓3VK02 | 222.38 | **78.20** | 3 | 2.4 |
| **120** | 32 | 0.28 | 0 | 0.92 | 20% | T-6 | 48,55,72 | Advance | REL-1P32-SC | IS-N | New ✓4PL68 | 89.94 | **27.70** | 3 | 1.6 |
| **120** | 32 | 0.28 | 0 | 0.90 | 20% | T-2 | 54,55 | Advance | REL-1P32-RH-TP | IS-N | ✓3V965 | 90.05 | **31.15** | 10 | 2.7 |

✓) Denotes energy efficient product.



No. 3VK05

## ADVANCE MARK X DIMMERS

- For use with Advance Mark X architectural dimming ballasts only
- For use with 1, 2, or 3 F25T8 or F32T8 lamps
- Maximum wattage single gang is 500W; double gang or higher is 400W
- Almond color

| Input Voltage | Max. Input Current (Amps) | Advance Model | Stock No. | List | Each Case | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 120 | 4.2 | REZ-C500-A | 3VK05 | $61.43 | **$45.50** | 0.3 |
| 277 | 1.8 | VEZ-C500-A | 3VK09 | 66.35 | **49.15** | 0.3 |

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

GE Lighting

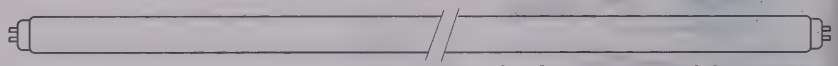
New

ENERGY RIGHT®

## BALLAST CODES

**RS-CIC**—Rapid Start Controllable Integrated Circuit
**RS-H**—Rapid Start High Light Output
**RS-N**—Rapid Start Normal Light Output
**RS-L**—Rapid Start Low Light Output
**RS-IC**—Rapid Start Integrated Circuit
**IS-H**—Instant Start High Light Output
**IS-N**—Instant Start Normal Light Output
**IS-L**—Instant Start Low Light Output
**DIM-MAG**—Dimmable Electromagnetic
**DIM. ELEC**—Dimmable Electronic
**HYBRID**—PowrKut® Electromagnetic
**MAG**—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F32T8

| Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F32T8 and F32T8 U-Bend (con't.)** | | | | | | | | | | | | | | | |
| **32 Watts, 4' Lamp Length, 1 Lamp Quantity** | | | | | | | | | | | | | | | |
| **277** | 41 | 0.16 | 50 | 0.98 | 15% | T-2 | 39 | Advance | V-1P32-TP | MAG | **6V954** | $48.87 | **$31.30** | 1 | 3.7 |
| **277** | 31 | 0.11 | 0 | 0.88 | 10% | T-3 | — | GE/Magnetek | B132I277HP | IS-N | **New 4PJ41** | 106.97 | **34.75** | 1 | 2.5 |
| **277** | 33 | 0.12 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B132R277V20 | DIM. ELEC | **New 4PJ73** | 169.28 | **87.25** | 1 | 2.3 |
| **277** | 62 | 0.23 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B132R277S30 | DIM. ELEC | **New 4PK04** | 136.27 | **77.30** | 1 | 2.5 |
| **277** | 33 | 0.12 | 50 | 0.89 | 10% | T-4 | — | GE/Magnetek | B132R277S50 | DIM. ELEC | **New 4PK08** | 134.25 | **77.30** | 1 | 2.5 |
| **277** | 30 | 0.11 | 0 | 0.88 | 20% | T-3 | — | GE/Magnetek | B1321277RH | IS-N | **New 4PJ49** | 87.30 | **30.15** | 1 | 2.5 |
| **277** | 34 | 0.13 | 50 | 0.88 | 15% | T-2 | 39 | Advance | VK-132-TP | HYBRID | **1N140** | 65.62 | **33.05** | 1 | 3.4 |
| **277** | 32 | 0.12 | 0 | 0.92 | 10% | T-2 | 55 | Advance | VCN-1P32 | IS-N | **3G807** | 99.21 | **34.10** | 1 | 2.6 |
| **277** | 33 | 0.12 | 0 | 0.87 | 10% | T-2 | 37 | Advance | VIC-132 | RS-IC | **3V557** | 118.69 | **44.65** | 1 | 1.3 |
| **277** | 33 | 0.12 | 50 | 0.87 | 10% | T-2 | 37 | Advance | VZT-132 | RS-CIC | **3V610** | 245.16 | **86.20** | 1 | 2.3 |
| **277** | 32 | 0.12 | 0 | 0.92 | 20% | T-6 | 48, 55, 72 | Advance | VEL-1P32-SC | IS-N | **New 4PL76** | 92.99 | **27.70** | 1 | 1.6 |
| **277** | 35 | 0.13 | 50 | 1.00 | 10% | T-2 | — | Advance | VEZ-132 | DIM. ELEC | **3VK06** | 233.49 | **82.10** | 1 | 2.4 |
| **277** | 32 | 0.12 | 0 | 0.92 | 20% | T-2 | 54, 55 | Advance | VEL-1P32-RH-TP | IS-N | **3V970** | 93.10 | **32.15** | 1 | 2.7 |
| **32 Watts, 4' Lamp Length, 2 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 71 | 0.61 | 50 | 0.99 | 10% | T-2 | — | Advance | R-2P32-TP | MAG | **6V613** | 46.55 | **30.30** | 1 | 3.7 |
| **120** | 62 | 0.56 | 50 | 0.88 | 15% | T-2 | — | Advance | RK-2S32-TP | HYBRID | **6W669** | 61.95 | **32.05** | 1 | 4.0 |
| **120** | 62 | 0.52 | 50 | 0.88 | 10% | T-2 | — | Advance | RCN-2S32 | RS-N | **3G793** | 97.56 | **36.15** | 1 | 2.6 |
| **120** | 64 | 0.54 | 0 | 0.87 | 10% | T-2 | 37 | Advance | RIC-2S32-TP | RS-IC | **3V545** | 114.61 | **43.60** | 1 | 1.6 |
| **120** | 64 | 0.54 | 50 | 0.87 | 10% | T-2 | 37 | Advance | RZT-2S32 | RS-CIC | **3V611** | 233.49 | **82.05** | 1 | 1.4 |
| **120** | 70 | 0.60 | 50 | 1.00 | 10% | T-2 | — | Advance | REZ-2S32 | DIM.ELEC | **3VK03** | 210.95 | **74.15** | 1 | 2.4 |
| **120** | 76 | 0.64 | 0 | 1.15 | 20% | T-2 | 48,55 | Advance | REL-2P32-HL-RH-TP | IS-H | **3G787** | 101.16 | **33.05** | 1 | 2.7 |
| **120** | 58 | 0.49 | 0 | 0.88 | 20% | T-6 | 48, 55, 72 | Advance | REL-2P32-SC | IS-N | **New 4PL72** | 89.94 | **27.70** | 1 | 1.6 |
| **120** | 63 | 0.53 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B232R120HP | RS-N | **New 4PJ56** | 100.64 | **36.95** | 1 | 2.5 |
| **120** | 59 | 0.50 | 0 | 0.88 | 10% | T-3 | — | GE/Magnetek | B232I120HP | IS-N | **New 4PJ42** | 100.66 | **34.75** | 1 | 2.5 |
| **120** | 51 | 0.45 | 0 | 0.78 | 20% | T-3 | — | GE/Magnetek | B232I120L | IS-L | **New 4PJ62** | 81.99 | **28.30** | 1 | 2.5 |
| **120** | 76 | 0.65 | 0 | 1.18 | 20% | T-3 | — | GE/Magnetek | B232I120RHH | IS-H | **New 4PJ68** | 106.97 | **36.95** | 1 | 2.5 |
| **120** | 63 | 0.52 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B232SR120V20 | DIM. ELEC | **New 4PJ74** | 165.58 | **87.25** | 1 | 2.3 |
| **120** | 62 | 0.52 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B232SR120S30 | DIM. ELEC | **New 4PK05** | 130.25 | **77.30** | 1 | 2.5 |
| **120** | 62 | 0.53 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B232SR120S50 | DIM. ELEC | **New 4PK09** | 128.23 | **77.30** | 1 | 2.5 |
| **120** | 58 | 0.49 | 0 | 0.88 | 20% | T-3 | — | GE/Magnetek | B232I120RH | IS-N | **New 4PJ50** | 81.99 | **22.25** | 1 | 2.5 |
| **120** | 58 | 0.49 | 0 | 0.88 | 20% | T-2 | 48, 54, 55 | Advance | REL-2P32-RH-TP | IS-N | **3V603** | 90.05 | **22.25** | 1 | 1.2 |
| **120** | 58 | 0.49 | 0 | 0.87 | 10% | T-2 | 48, 55 | Advance | RCN-2P32 | IS-N | **3G785** | 96.08 | **33.10** | 1 | 2.5 |
| **120** | 54 | 0.46 | 50 | 0.75 | 10% | T-2 | — | Advance | RCN-2S32-LW | RS-L | **3G795** | 99.09 | **34.90** | 1 | 2.7 |
| **120** | 51 | 0.43 | 0 | 0.75 | 20% | T-2 | 48, 54, 55 | Advance | REL-2P32-LW-RH-TP | IS-L | **1N123** | 90.05 | **32.05** | 1 | 2.4 |
| **120** | 50 | 0.43 | 0 | 0.78 | 10% | T-2 | 48, 55 | Advance | RCN-2P32-LW | IS-L | **3G789** | 97.56 | **33.90** | 1 | 2.5 |
| **220** | 59 | 0.28 | 0 | 0.88 | 20% | T-3 | — | GE/Magnetek | B232I220RH | IS-N | **New 4PK01** | 123.20 | **42.55** | 1 | 2.5 |
| **277** | 76 | 0.28 | 0 | 1.15 | 20% | T-2 | 48, 55 | Advance | VCN-2P32-HW | IS-H | **3G811** | 104.36 | **34.05** | 1 | 2.7 |
| **277** | 76 | 0.29 | 50 | 0.95 | 10% | T-2 | — | Advance | V-2P32-TP | MAG | **6V959** | 48.87 | **31.30** | 1 | 3.7 |
| **277** | 62 | 0.24 | 50 | 0.88 | 15% | T-2 | — | Advance | VK-2S32-TP | HYBRID | **6W670** | 65.62 | **33.05** | 1 | 4.0 |
| **277** | 62 | 0.23 | 50 | 0.88 | 10% | T-2 | — | Advance | VCN-2S32 | RS-N | **3G817** | 100.74 | **37.15** | 1 | 2.5 |
| **277** | 64 | 0.24 | 0 | 0.87 | 10% | T-2 | 37 | Advance | VIC-2S32 | RS-IC | **3V546** | 118.69 | **44.60** | 1 | 1.6 |
| **277** | 64 | 0.24 | 50 | 0.87 | 10% | T-2 | 37 | Advance | VZT-2S32 | RS-CIC | **3V612** | 232.59 | **81.75** | 1 | 1.4 |
| **277** | 70 | 0.26 | 50 | 1.00 | 10% | T-2 | — | Advance | VEZ-2S32 | DIM. ELEC | **3VK07** | 221.52 | **77.85** | 1 | 2.4 |
| **277** | 58 | 0.21 | 0 | 0.88 | 20% | T-6 | 48, 55, 72 | Advance | VEL-2P32-SC | IS-N | **New 4PL80** | 92.99 | **27.70** | 1 | 1.6 |
| **277** | 63 | 0.23 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B232R277HP | RS-N | **New 4PJ57** | 106.97 | **36.95** | 1 | 2.4 |
| **277** | 59 | 0.22 | 0 | 0.88 | 10% | T-3 | — | GE/Magnetek | B232I277HP | IS-N | **New 4PJ43** | 106.97 | **34.75** | 1 | 2.5 |
| **277** | 51 | 0.19 | 0 | 0.78 | 20% | T-3 | — | GE/Magnetek | B232I277L | IS-L | **New 4PJ63** | 87.30 | **30.15** | 1 | 2.5 |
| **277** | 76 | 0.28 | 0 | 1.18 | 20% | T-3 | — | GE/Magnetek | B232I277RHH | IS-H | **New 4PJ69** | 113.38 | **39.15** | 1 | 2.5 |
| **277** | 63 | 0.23 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B232SR277V20 | DIM. ELEC | **New 4PJ75** | 169.28 | **87.25** | 1 | 2.3 |
| **277** | 62 | 0.23 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B232SR277S30 | DIM. ELEC | **New 4PK06** | 136.27 | **77.30** | 1 | 2.5 |
| **277** | 62 | 0.23 | 50 | 0.88 | 10% | T-4 | — | GE/Magnetek | B232SR277S50 | DIM. ELEC | **New 4PK10** | 134.25 | **77.30** | 1 | 2.5 |

(✓) Denotes energy efficient product.



When it comes to lighting, no distributor outshines Grainger.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

GE Lighting

ENERGY RIGHT®

New

## BALLAST CODES

RS-CIC—Rapid Start Controllable Integrated Circuit
RS-H—Rapid Start High Light Output
RS-N—Rapid Start Normal Light Output
RS-L—Rapid Start Low Light Output
RS-IC—Rapid Start Integrated Circuit
IS-H—Instant Start High Light Output
IS-N—Instant Start Normal Light Output
IS-L—Instant Start Low Light Output
DIM-MAG—Dimmable Electromagnetic
DIM. ELEC—Dimmable Electronic
HYBRID—PowrKut® Electromagnetic
MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatability F32T8

| Input Volts | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion Less Than | Dim. Ref. Figure (Pg. 1016) | Notes (See page 1038) | Mfr. | Mfr's. Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F32T8 and F32T8 U-Bend (cont.)** | | | | | | | | | | | | | | | |
| **32 Watts, 4' Lamp Length, 2 Lamp Quantity** | | | | | | | | | | | | | | | |
| **277** | 58 | 0.21 | 0 | 0.88 | 20% | T-3 | — | GE/Magnetek | B232I277RH | IS-N | New ✓ **4PJ51** | $87.30 | **$23.25** | 1 | 2.5 |
| **277** | 58 | 0.21 | 0 | 0.88 | 20% | T-2 | 48, 54, 55 | Advance | VEL-2P32-RH-TP | IS-N | ✓ **3V604** | 93.10 | **23.25** | 1 | 2.4 |
| **277** | 58 | 0.21 | 0 | 0.87 | 10% | T-2 | 48, 55 | Advance | VCN-2P32 | IS-N | ✓ **3G809** | 99.21 | **34.10** | 1 | 3.0 |
| **277** | 54 | 0.20 | 50 | 0.75 | 10% | T-2 | — | Advance | VCN-2S32-LW | RS-L | ✓ **3G819** | 102.27 | **35.90** | 1 | 2.7 |
| **277** | 51 | 0.18 | 0 | 0.75 | 20% | T-2 | 48, 54, 55 | Advance | VEL-2P32-LW-RH-TP | IS-L | ✓ **1N134** | 93.10 | **33.05** | 1 | 2.4 |
| **277** | 50 | 0.18 | 0 | 0.78 | 10% | T-2 | 48, 55 | Advance | VCN-2P32-LW | IS-L | ✓ **3G813** | 100.74 | **34.90** | 1 | 2.6 |
| **32 Watts, 4' Lamp Length, 3 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 93 | 0.79 | 0 | 0.87 | 10% | T-2 | 37 | Advance | RIC-3S32 | RS-IC | ✓ **3V547** | 124.80 | **47.45** | 1 | 1.9 |
| **120** | 93 | 0.79 | 50 | 0.87 | 10% | T-2 | 37 | Advance | RZT-3S32 | RS-CIC | ✓ **3V613** | 269.40 | **94.70** | 1 | 1.9 |
| **120** | 104 | 0.88 | 50 | 1.00 | 10% | T-2 | — | Advance | REZ-3S32 | DIM. ELEC | ✓ **3VK04** | 256.58 | **90.20** | 1 | 2.4 |
| **120** | 93 | 0.78 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B332R120HP | RS-N | New ✓ **4PJ58** | 111.21 | **41.00** | 1 | 2.3 |
| **120** | 88 | 0.74 | 0 | 0.88 | 10% | T-3 | — | GE/Magnetek | B332I120HP | IS-N | New ✓ **4PJ44** | 111.21 | **38.40** | 1 | 2.5 |
| **120** | 77 | 0.65 | 0 | 0.78 | 20% | T-3 | — | GE/Magnetek | B332I120L | IS-L | New ✓ **4PJ64** | 90.61 | **32.40** | 1 | 2.5 |
| **120** | 113 | 0.97 | 50 | 1.18 | 20% | T-3 | — | GE/Magnetek | B332I120RHH | IS-H | New ✓ **4PJ70** | 97.36 | **44.95** | 1 | 2.5 |
| **120** | 87 | 0.74 | 0 | 0.88 | 20% | T-3 | — | GE/Magnetek | B332I120RH | IS-N | New ✓ **4PJ52** | 90.61 | **28.50** | 1 | 2.5 |
| **120** | 88 | 0.75 | 0 | 0.90 | 20% | T-2 | 48, 54, 55 | Advance | REL-3P32-RH-TP | IS-N | ✓ **3V551** | 96.16 | **28.50** | 1 | 2.5 |
| **120** | 88 | 0.74 | 0 | 0.92 | 10% | T-2 | 48, 55 | Advance | RCN-3P32 | IS-N | ✓ **3G799** | 101.87 | **37.05** | 1 | 2.0 |
| **120** | 76 | 0.63 | 0 | 0.75 | 20% | T-2 | 48, 54, 55 | Advance | REL-3P32-LW-RH-TP | IS-L | ✓ **1N127** | 96.16 | **34.65** | 1 | 2.8 |
| **120** | 75 | 0.64 | 0 | 0.79 | 10% | T-2 | 48, 55 | Advance | RCN-3P32-LW | IS-L | ✓ **3G801** | 103.30 | **36.65** | 1 | 2.9 |
| **277** | 93 | 0.34 | 0 | 0.87 | 10% | T-2 | 37 | Advance | VIC-3S32 | RS-IC | ✓ **3V548** | 128.92 | **48.45** | 1 | 1.9 |
| **277** | 93 | 0.34 | 50 | 0.87 | 10% | T-2 | 37 | Advance | VZT-3S32 | RS-CIC | ✓ **3V614** | 282.90 | **99.45** | 1 | 1.9 |
| **277** | 104 | 0.38 | 50 | 1.00 | 10% | T-2 | — | Advance | VEZ-3S32 | DIM. ELEC | ✓ **3VK08** | 269.43 | **94.70** | 1 | 2.4 |
| **277** | 93 | 0.34 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B332R277HP | RS-N | New ✓ **4PJ59** | 118.71 | **41.00** | 1 | 2.3 |
| **277** | 88 | 0.32 | 0 | 0.88 | 10% | T-3 | — | GE/Magnetek | B332I277HP | IS-N | New ✓ **4PJ45** | 118.71 | **41.00** | 1 | 2.5 |
| **277** | 77 | 0.38 | 0 | 0.78 | 20% | T-3 | — | GE/Magnetek | B332I277L | IS-L | New ✓ **4PJ65** | 96.90 | **34.35** | 1 | 2.5 |
| **277** | 113 | 0.42 | 0 | 1.18 | 20% | T-3 | — | GE/Magnetek | B332I277RHH | IS-H | New ✓ **4PJ71** | 106.86 | **50.25** | 1 | 2.5 |
| **277** | 87 | 0.32 | 0 | 0.88 | 20% | T-3 | — | GE/Magnetek | B332I277RH | IS-N | New ✓ **4PJ53** | 96.90 | **29.50** | 1 | 2.5 |
| **277** | 88 | 0.32 | 0 | 0.90 | 20% | T-2 | 48, 54, 55 | Advance | VEL-3P32-RH-TP | IS-N | ✓ **3V552** | 99.24 | **29.50** | 1 | 2.2 |
| **277** | 88 | 0.32 | 0 | 0.92 | 10% | T-2 | 48, 55 | Advance | VCN-3P32 | IS-N | ✓ **3G823** | 105.02 | **38.05** | 1 | 3.0 |
| **277** | 76 | 0.27 | 0 | 0.75 | 20% | T-2 | 48, 54, 55 | Advance | VEL-3P32-LW-RH-TP | IS-L | ✓ **1N138** | 99.24 | **35.65** | 1 | 2.6 |
| **277** | 75 | 0.28 | 0 | 0.79 | 10% | T-2 | 48, 55 | Advance | VCN-3P32-LW | IS-L | **3G825** | 106.45 | **37.65** | 1 | 2.8 |
| **32 Watts, 4' Lamp Length, 4 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 114 | 0.97 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | B432I120RH | IS-N | New ✓ **4PJ54** | 96.90 | **30.50** | 1 | 2.8 |
| **120** | 114 | 0.96 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B432I120HP | IS-N | New ✓ **4PJ46** | 118.93 | **41.75** | 1 | 2.5 |
| **120** | 100 | 0.85 | 50 | 0.78 | 20% | T-3 | — | GE/Magnetek | B432I120L | IS-L | New ✓ **4PJ66** | 96.90 | **33.45** | 1 | 2.5 |
| **120** | 121 | 1.02 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B432R120HP | RS-N | New ✓ **4PJ60** | 118.92 | **43.40** | 1 | 2.3 |
| **120** | 110 | 0.94 | 32 | 0.87 | 20% | T-6 | 48, 55 | Advance | REL-4P32-2LS | IS-N | New ✓ **4PL73** | 207.03 | **66.25** | 1 | 2.4 |
| **120** | 108 | 0.95 | 0 | 0.85 | 20% | T-2 | 48, 54, 55 | Advance | REL-4P32-RH-TP | IS-N | ✓ **3V553** | 104.36 | **30.50** | 1 | 2.9 |
| **120** | 112 | 0.94 | 0 | 0.88 | 10% | T-2 | 48, 55 | Advance | RCN-4P32 | IS-N | ✓ **3G803** | 110.25 | **39.05** | 1 | 2.5 |
| **120** | 99 | 0.84 | 0 | 0.76 | 10% | T-2 | 48, 55 | Advance | RCN-4P32-LW | IS-L | ✓ **3G805** | 111.70 | **38.95** | 1 | 3.0 |
| **120** | 98 | 0.83 | 0 | 0.75 | 20% | T-2 | 48, 54, 55 | Advance | REL-4P32-LW-RH-TP | IS-L | ✓ **1N128** | 104.36 | **36.95** | 1 | 3.0 |
| **277** | 113 | 0.42 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | B432I277RH | IS-N | New ✓ **4PJ55** | 102.64 | **31.50** | 1 | 2.8 |
| **277** | 114 | 0.96 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B432I277HP | IS-N | New ✓ **4PJ47** | 125.77 | **43.40** | 1 | 2.5 |
| **277** | 100 | 0.70 | 50 | 0.78 | 20% | T-3 | — | GE/Magnetek | B432I277L | IS-L | New ✓ **4PJ67** | 102.64 | **35.45** | 1 | 2.5 |
| **277** | 121 | 0.44 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B432R277HP | RS-N | New ✓ **4PJ61** | 125.77 | **43.40** | 1 | 2.3 |
| **277** | 110 | 0.41 | 32 | 0.87 | 20% | T-6 | 48, 55 | Advance | VEL-4P32-2LS | IS-N | New ✓ **4PL81** | 217.37 | **66.25** | 1 | 2.4 |
| **277** | 112 | 0.41 | 0 | 0.88 | 10% | T-2 | 48, 55 | Advance | VCN-4P32 | IS-N | ✓ **3G827** | 113.37 | **40.05** | 1 | 3.0 |
| **277** | 108 | 0.41 | 0 | 0.85 | 20% | T-2 | 48, 54, 55 | Advance | VEL-4P32-RH-TP | IS-N | ✓ **3V554** | 107.41 | **31.50** | 1 | 2.3 |
| **277** | 99 | 0.36 | 0 | 0.76 | 10% | T-2 | 48, 55 | Advance | VCN-4P32-LW | IS-L | ✓ **3G829** | 114.85 | **39.95** | 1 | 3.0 |
| **277** | 98 | 0.36 | 0 | 0.75 | 20% | T-2 | 48, 54, 55 | Advance | VEL-4P32-LW-RH-TP | IS-L | ✓ **1N139** | 107.41 | **37.95** | 1 | 2.6 |

(✓) Denotes energy efficient product.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

GE Lighting

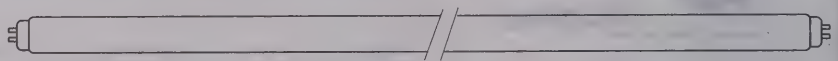
New

ENERGY RIGHT®

## BALLAST CODES

- RS-CIC—Rapid Start Controllable Integrated Circuit
- RS-H—Rapid Start High Light Output
- RS-N—Rapid Start Normal Light Output
- RS-L—Rapid Start Low Light Output
- RS-IC—Rapid Start Integrated Circuit
- IS-H—Instant Start High Light Output
- IS-N—Instant Start Normal Light Output
- IS-L—Instant Start Low Light Output
- DIM-MAG—Dimmable Electromagnetic
- DIM. ELEC—Dimmable Electronic
- HYBRID—PowrKut® Electromagnetic
- MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F40T8



Example of Lamp Compatibility F30T12

| Input Volts | Input Watts | Line Amps | Min. Start Temp (° F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (see page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F40T8** | | | | | | | | | | | | | | | |
| **40 Watts, 5' Lamp Length, 1 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 52 | 0.45 | 50 | 1.02 | 20% | T-2 | — | Advance | R-1P840-TP | MAG | **6V892** | $82.57 | **$53.35** | 1 | 3.6 |
| **120** | 36 | 0.31 | 0 | 0.87 | 20% | T-3 | — | GE/Magnetek | B132I120RH | IS-N | **New 4PJ48** | 81.99 | **28.30** | 1 | 2.5 |
| **220** | 69 | 0.33 | 0 | 0.86 | 20% | T-3 | — | GE/Magnetek | B232I220RH | IS-N | **New 4PK01** | 123.20 | **42.55** | 1 | 2.5 |
| **277** | 50 | 0.19 | 50 | 0.99 | 20% | T-2 | — | Advance | V-1P840-TP | MAG | **6V966** | 86.97 | **56.20** | 1 | 3.7 |
| **277** | 36 | 0.13 | 0 | 0.87 | 20% | T-3 | — | GE/Magnetek | B132I277RH | IS-N | **New 4PJ49** | 87.30 | **30.15** | 1 | 2.5 |
| **277** | 42 | 0.16 | 50 | 1.00 | 20% | T-3 | — | GE/Magnetek | B232I277RH | IS-N | **New 4PJ51** | 87.30 | **23.25** | 1 | 2.5 |
| **277** | 37 | 0.14 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | B232I277L | IS-L | **New 4PJ63** | 87.30 | **30.15** | 1 | 2.5 |
| **40 Watts, 5' Lamp Length, 2 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 87 | 0.73 | 50 | 0.87 | 20% | T-2 | — | Advance | R-2P840-TP | MAG | **6V898** | 82.57 | **53.35** | 1 | 3.7 |
| **120** | 80 | 0.68 | 50 | 0.98 | 20% | T-3 | — | GE/Magnetek | B332I120RH | IS-N | **New 4PJ52** | 90.61 | **28.50** | 1 | 2.5 |
| **120** | 70 | 0.60 | 50 | 0.86 | 20% | T-3 | — | GE/Magnetek | B332I120L | IS-L | **New 4PJ64** | 90.61 | **32.40** | 1 | 2.5 |
| **220** | 69 | 0.33 | 0 | 0.86 | 20% | T-3 | — | GE/Magnetek | B232I220RH | IS-N | **New 4PK01** | 123.20 | **42.55** | 1 | 2.5 |
| **277** | 86 | 0.31 | 50 | 0.88 | 20% | T-2 | — | Advance | V-2P840-P | MAG | **6V962** | 86.97 | **56.20** | 1 | 3.7 |
| **277** | 80 | 0.29 | 50 | 0.98 | 20% | T-3 | — | GE/Magnetek | B332I277RH | IS-N | **New 4PJ53** | 96.90 | **29.50** | 1 | 2.5 |
| **277** | 70 | 0.26 | 50 | 0.86 | 20% | T-3 | — | GE/Magnetek | B332I277L | IS-L | **New 4PJ65** | 96.90 | **34.35** | 1 | 2.5 |
| **40 Watts, 5' Lamp Length, 3 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 106 | 0.88 | 50 | 0.93 | 10% | T-2 | 48,55 | Advance | RCN-3P32 | IS-N | **3G799*** | 101.87 | **37.05** | 1 | 2.0 |
| **277** | 106 | 0.38 | 50 | 0.93 | 10% | T-2 | 48,55 | Advance | VCN-3P32 | IS-N | **3G823*** | 105.02 | **38.05** | 1 | 3.0 |
| **Lamp Compatibility F30T12 & F30T12 WM*** | | | | | | | | | | | | | | | |
| ***25 Watt Energy Saver or 30 Watt Standard, 3' Lamp Length, 1 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 47 | 0.40 | 50 | 0.96 | 20% | T-2 | — | Advance | HM-1P30-TP | MAG | **6V831** | 56.94 | **36.65** | 1 | 3.5 |
| **120** | 33 | 0.60 | 50 | 0.71 | 10% | R-4 | 32,36 | Advance | RL-140-TP | MAG | **5X788** | 18.82 | **11.92** | 1 | 2.1 |
| **120** | 41 | 0.34 | 0 | 0.79 | 15% | R-5 | 1 | Advance | RC-1P40-TP | MAG | **6V849** | 73.91 | **47.70** | 1 | 3.8 |
| **120** | 31 | 0.27 | 50 | 0.91 | 10% | T-3 | — | GE/Magnetek | B140R120HP | RS-N | **New 4PJ86** | 82.68 | **40.25** | 1 | 2.5 |
| **277** | 49 | 0.18 | 50 | 0.99 | 15% | T-2 | — | Advance | VM-1P30-TP | MAG | **6V936** | 60.46 | **37.65** | 1 | 3.4 |
| **277** | 40 | 0.15 | 0 | 0.83 | 15% | R-5 | — | Advance | VC-1P40-TP | MAG | **6V914** | 78.28 | **48.70** | 1 | 3.8 |
| **277** | 31 | 0.12 | 50 | 0.91 | 10% | T-3 | — | GE/Magnetek | B140R277HP | RS-N | **New 4PJ87** | 88.27 | **40.25** | 1 | 2.5 |
| ***25 Watt Energy Saver or 30 Watt Standard, 3' Lamp Length, 2 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 79 | 0.66 | 50 | 0.97 | 10% | T-2 | — | Advance | RM-2SP30-TP | MAG | **6V877** | 50.37 | **32.30** | 1 | 3.7 |
| **120** | 75 | 0.63 | 50 | 0.96 | 15% | T-2 | — | Advance | R-2SP30-TP | MAG | **6V901** | 61.61 | **39.60** | 1 | 3.6 |
| **120** | 60 | 0.51 | 50 | 0.95 | 20% | T-2 | 43,54 | Advance | REL-2S40RH-TP | RS-N | **3V601** | 88.00 | **25.50** | 1 | 2.7 |
| **120** | 60 | 0.51 | 50 | 0.95 | 20% | T-2 | 43 | Advance | RCN-2S40 | RS-N | **3G797** | 97.56 | **33.00** | 1 | 2.7 |
| **120** | 74 | 0.62 | 0 | 0.85 | 15% | R-5 | — | Advance | RC-2SP40-TP | MAG | **6V859** | 66.00 | **42.40** | 1 | 4.2 |
| **120** | 51 | 0.44 | 60 | 0.82 | 20% | T-2 | 63 | Advance | RK-2S34-TP | HYBRID | **6V870** | 54.88 | **34.00** | 1 | 0.3 |
| **120** | 53 | 0.45 | 60 | 0.88 | 10% | T-3 | — | GE/Magnetek | B240R120HP | RS-N | **New 4PJ88** | 95.54 | **37.25** | 1 | 2.5 |
| **220** | 54 | 0.25 | 60 | 0.91 | 20% | T-3 | — | GE/Magnetek | B240R220RH | RS-N | **New 4PK02** | 82.13 | **46.00** | 1 | 2.5 |
| **277** | 81 | 0.29 | 50 | 0.97 | 10% | T-2 | — | Advance | VM-2SP30-TP | MAG | **6V939** | 54.30 | **33.30** | 1 | 3.7 |
| **277** | 74 | 0.27 | 50 | 0.95 | 10% | T-2 | — | Advance | V-2SP30-TP | MAG | **6V964** | 65.54 | **40.60** | 1 | 3.7 |
| **277** | 60 | 0.22 | 50 | 0.95 | 20% | T-2 | 43,54 | Advance | VEL-2S40-RH-TP | RS-N | **3V602** | 91.06 | **26.50** | 1 | 1.5 |
| **277** | 60 | 0.22 | 50 | 0.95 | 20% | T-2 | 43 | Advance | VCN-2S40 | RS-N | **3G821** | 100.74 | **34.00** | 1 | 2.7 |
| **277** | 73 | 0.27 | 0 | 0.86 | 15% | R-5 | — | Advance | VC-2SP40-TP | MAG | **6V921** | 79.49 | **51.25** | 1 | 4.1 |
| **277** | 55 | 0.20 | 60 | 0.82 | 20% | T-2 | 63 | Advance | VK-2S34-TP | HYBRID | **6V931** | 58.42 | **35.00** | 1 | 2.5 |
| **277** | 53 | 0.20 | 60 | 0.88 | 10% | T-3 | — | GE/Magnetek | B240R277HP | RS-N | **New 4PJ89** | 102.01 | **37.25** | 1 | 2.5 |

(✓) Denotes energy efficient product. (*) Minimum start temperature for energy saver lamp(s) is 60°F for any ballast.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

GE Lighting

ENERGY RIGHT®

## BALLAST CODES

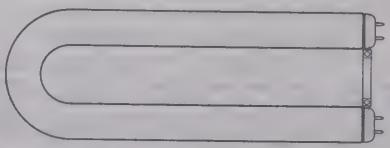
RS-CIC—Rapid Start Controllable Integrated Circuit
RS-H—Rapid Start High Light Output
RS-N—Rapid Start Normal Light Output
RS-L—Rapid Start Low Light Output
RS-IC—Rapid Start Integrated Circuit
IS-H—Instant Start High Light Output
IS-N—Instant Start Normal Light Output
IS-L—Instant Start Low Light Output
DIM-MAG—Dimmable Electromagnetic
DIM.ELEC—Dimmable Electronic
HYBRID—PowrKut® Electromagnetic
MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.

New



Example of Lamp Compatibility F30T12



Example of Lamp Compatibility F40T12/U

| Input Volts | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F30T12 (cont.)** | | | | | | | | | | | | | | | |
| ***25 Watt Energy Saver or 30 Watt Standard, 4' Lamp Length, Lamp Quantity 1** | | | | | | | | | | | | | | | |
| **120** | 90 | 0.76 | 50 | 0.91 | 10% | T-3 | — | GE/Magnetek | B340R120HP | RS-N | New ✓ **4PJ90** | $102.96 | **$42.25** | 1 | 2.3 |
| **277** | 90 | 0.33 | 50 | 0.91 | 10% | T-3 | — | GE/Magnetek | B340R277HP | RS-N | New ✓ **4PJ91** | 108.67 | **42.25** | 1 | 2.3 |
| **Lamp Compatibility F40T10, F40T12, F40T12WM*** | | | | | | | | | | | | | | | |
| ***34 Watt Energy Saver or 40 Watt Standard, 4' Lamp Length, 1 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 39 | 0.33 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B140R120HP | RS-N | New ✓ **4PJ86** | 82.68 | **40.25** | 1 | 2.5 |
| **120** | 53 | 0.46 | 50 | 0.95 | 15% | T-2 | 6 | Advance | R-140-TP | MAG | **3X960** | 37.14 | **17.25** | 1 | 3.5 |
| **120** | 45 | 0.38 | 50 | 0.85 | 20% | T-2 | 39,63 | Advance | RK-134-TP | HYBRID | **6V991** | 44.04 | **27.45** | 1 | 3.4 |
| **120** | 58 | 0.52 | 50 | — | — | R-5 | 61 | Advance | DIM-140-H-TP | DIM.MAG | **6V826**** | 75.16 | **48.55** | 1 | 3.7 |
| **120** | 50 | 0.42 | 0 | 0.80 | 15% | R-5 | 1 | Advance | RC-1P40-TP | MAG | **6V849** | 73.91 | **47.70** | 1 | 3.8 |
| **220** | 54 | 0.25 | 50 | 0.95 | 10% | T-2 | — | Advance | XHQM-1P40-TP | MAG | **6V967** | 72.57 | **46.80** | 1 | 3.7 |
| **240** | 52 | 0.23 | 50 | 0.80 | 15% | T-2 | — | Advance | X-140-TP | MAG | **6V969** | 67.88 | **43.80** | 1 | 4.0 |
| **277** | 39 | 0.14 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B140R277HP | RS-N | New ✓ **4PJ87** | 88.27 | **40.25** | 1 | 2.5 |
| **277** | 53 | 0.20 | 50 | 0.95 | 10% | T-2 | 6 | Advance | V-140-TP | MAG | **6V950** | 38.82 | **23.20** | 1 | 3.5 |
| **277** | 45 | 0.17 | 50 | 0.85 | 20% | T-2 | 39,63 | Advance | VK-134-TP | HYBRID | **6V992** | 47.51 | **28.45** | 1 | 3.4 |
| **277** | 51 | 0.19 | 0 | 0.82 | 15% | R-5 | 1 | Advance | VC-1P40-TP | MAG | **6V914** | 78.28 | **48.70** | 1 | 3.8 |
| **F40T12 U-Bend** | | | | | | | | | | | | | | | |
| ***34 Watt Energy Saver or 40 Watt Standard, 4' Lamp Length, 1 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 52 | 0.44 | 50 | 0.98 | 25% | T-2 | — | Advance | R-1U40-TP | MAG | **6V628** | 45.98 | **29.40** | 1 | 3.6 |
| **277** | 49 | 0.18 | 50 | 0.98 | 25% | T-2 | — | Advance | V-1U40-TP | MAG | **6V643** | 48.06 | **28.50** | 1 | 3.6 |
| **Lamp Compatibility F40T10, F40T12, F40T12WM*, & F40T12 U-Bend** | | | | | | | | | | | | | | | |
| ***34 Watt Energy Saver or 40 Watt Standard, 4' Lamp Length, 2 Lamp Quantity** | | | | | | | | | | | | | | | |
| **120** | 86 | 0.73 | 50 | 0.98 | 50% | T-2 | 66 | Advance | R-2S40-TP-MC | MAG | **3VJ99** | 47.75 | **31.85** | 1 | 3.5 |
| **120** | 86 | 0.73 | 50 | 0.95 | 15% | T-2 | — | Advance | R-2S40-TP | MAG | **6X922** | 37.14 | **16.25** | 1 | 4.0 |
| **120** | 63 | 0.56 | 50 | 0.65 | 20% | T-2 | 41 | Advance | RM-2S35-TP | MAG | **6V899** | 40.35 | **25.80** | 1 | 3.5 |
| **120** | 76 | 0.64 | 50 | 0.84 | 20% | T-2 | 63 | Advance | RK-2S34-TP | HYBRID | **6V870** | 54.88 | **34.00** | 1 | 0.3 |
| **120** | 80 | 0.69 | 50 | 0.95 | 15% | T-2 | 51 | Advance | RK-2S40-TP | HYBRID | **3V543** | 57.86 | **30.10** | 1 | 3.8 |
| **120** | 68 | 0.57 | 50 | 0.87 | 15% | T-2 | 64 | Advance | R-2S34-TP | MAG | **3JN63** | 37.14 | **21.80** | 1 | 3.8 |
| **120** | 103 | 0.94 | 50 | — | — | R-12 | 61 | Advance | DIM-240-H-TP | DIM.MAG | **6V827**** | 121.84 | **78.65** | 1 | 6.2 |
| **120** | 72 | 0.61 | 50 | 0.87 | 20% | T-2 | 43,54 | Advance | REL-2S40-RH-TP | RS-N | ✓**3V601** | 88.00 | **25.50** | 1 | 2.7 |
| **120** | 76 | 0.61 | 50 | 0.87 | 10% | T-2 | 43 | Advance | RCN-2S40 | RS-N | ✓**3G797** | 97.56 | **33.00** | 1 | 2.7 |
| **120** | 82 | 0.69 | 0 | 0.84 | 20% | R-5 | — | Advance | RC-2SP40-TP | MAG | **6V859** | 66.00 | **42.40** | 1 | 4.2 |
| **220** | 74 | 0.35 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | B240R220HP | RS-N | New ✓ **4PK02** | 82.13 | **46.00** | 1 | 2.5 |
| **220** | 93 | 0.43 | 50 | 0.97 | 20% | T-2 | — | Advance | XQM-2S40-TP | MAG | **6V968** | 72.70 | **46.90** | 1 | 3.5 |
| **240** | 98 | 0.42 | 50 | 0.99 | 20% | T-2 | — | Advance | YQM-2S40-TP | MAG | **6V971** | 59.72 | **38.40** | 1 | 3.2 |
| **277** | 86 | 0.32 | 50 | 0.95 | 20% | T-2 | — | Advance | V-2S40-TP | MAG | **5X419** | 38.82 | **17.25** | 1 | 3.5 |
| **277** | 80 | 0.29 | 50 | 0.90 | 10% | T-3 | — | GE/Magnetek | B240R277HP | RS-N | New ✓ **4PJ89** | 102.01 | **37.25** | 1 | 2.5 |
| **277** | 71 | 0.27 | 50 | 0.85 | 20% | T-2 | 63 | Advance | VK-2S34-TP | HYBRID | **6V931** | 58.42 | **35.00** | 1 | 2.5 |
| **277** | 80 | 0.31 | 50 | 0.95 | 20% | T-2 | 51 | Advance | VK-2S40-TP | HYBRID | **3V544** | 61.43 | **31.10** | 1 | 4.0 |
| **277** | 72 | 0.27 | 50 | 0.87 | 20% | T-2 | 43,54 | Advance | VEL-2S40-RH-TP | RS-N | ✓**3V602** | 91.06 | **26.50** | 1 | 1.5 |
| **277** | 72 | 0.27 | 50 | 0.87 | 10% | T-2 | 43 | Advance | VCN-2S40 | RS-N | ✓**3G821** | 100.74 | **34.00** | 1 | 2.7 |
| **277** | 90 | 0.33 | 0 | 0.87 | 15% | R-5 | — | Advance | VC-2SP40-TP | MAG | **6V921** | 79.49 | **51.25** | 1 | 4.1 |
| **277** | 68 | 0.25 | 50 | 0.87 | 15% | T-2 | 64 | Advance | VC-2S34-TP | MAG | **3JN65** | 38.82 | **22.80** | 1 | 3.8 |

(✓) Denotes energy efficient product. Minimum start temperature for energy saver lamps is 60°F for any ballast. **Will not operate energy saver lamps.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

ENERGY RIGHT®

New

GE Lighting

## BALLAST CODES

RS-CIC—Rapid Start Controllable Integrated Circuit
RS-H—Rapid Start High Light Output
RS-N—Rapid Start Normal Light Output
RS-L—Rapid Start Low Light Output
RS-IC—Rapid Start Integrated Circuit
IS-H—Instant Start High Light Output
IS-N—Instant Start Normal Light Output
IS-L—Instant Start Low Light Output
DIM-MAG—Dimmable Electromagnetic
DIM.ELEC—Dimmable Electronic
HYBRID—PowrKut® Electromagnetic
MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F42T6 - F96T8



Example of Lamp Compatibility F40T12

| Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model | Ballast Code | | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F40T10, F40T12, & F40T12 U-BEND** | | | | | | | | | | | | | | | | |
| ***34 Watt Energy Saver or 40 Watt Standard, 4' Lamp Length, 3 Lamp Quantity** | | | | | | | | | | | | | | | | |
| **120** | 103 | 0.88 | 60 | 0.88 | 20% | T-2 | 6, 35, 64 | Advance | R-3S34-TP | MAG | | **6V903** | $85.41 | **$55.30** | 1 | 3.8 |
| **120** | 87 | 0.75 | 60 | 0.81 | 15% | T-2 | 63, 64 | Advance | RK-3S34-TP | HYBRID | | **3V988** | 84.33 | **48.85** | 1 | 3.6 |
| **120** | 113 | 0.95 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B340R120HP | RS-N | New | **4PJ90** | 102.96 | **42.25** | 1 | 2.3 |
| **277** | 103 | 0.37 | 60 | 0.88 | 20% | T-2 | 6, 36, 64 | Advance | V-3S34-TP | MAG | | **6V965** | 89.07 | **56.30** | 1 | 3.7 |
| **277** | 87 | 0.33 | 60 | 0.80 | 20% | T-2 | 63, 64 | Advance | VK-3S34-TP | HYBRID | | **3V989** | 89.83 | **49.95** | 1 | 4.0 |
| **277** | 113 | 0.41 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B340R277HP | RS-N | New | **4PJ91** | 108.67 | **42.25** | 1 | 2.3 |
| **Lamp Compatibility F40T10 & F40T12** | | | | | | | | | | | | | | | | |
| ***34 Watt Energy Saver or 40 Watt Standard, 4' Lamp Length, 4 Lamp Quantity** | | | | | | | | | | | | | | | | |
| **120** | 172 | 1.46 | 50 | 0.95 | 20% | D-2 | 66 | Advance | R-4S40-A-TP-AC | MAG | | **3VK01** | 84.77 | **56.50** | 1 | 6.5 |

## SLIMLINE/INSTANT START LAMPS

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | | Stock No. | List | Each | Shpg. Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F42T6 Slimline (Appliance)** | | | | | | | | | | | | | | | | | |
| **25 Watts, 42" Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 37 | 0.32 | 0 | 0.92 | 25% | R-5 | — | Advance | SM-125-S-TP | MAG | | **6V906** | $53.00 | **$34.00** | 1 | 3.7 |
| **2** | 120 | 71 | 0.66 | 0 | 0.95 | 15% | R-8 | 22 | Advance | SM-225-S-TP | MAG | | **6V909** | 125.20 | **80.60** | 1 | 7.6 |
| **Lamp Compatibility F64T6 Slimline (Appliance)** | | | | | | | | | | | | | | | | | |
| **38 Watts, 64" Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 50 | 0.43 | 0 | 0.92 | 25% | R-10 | — | Advance | SM-151-S-TP | MAG | | **6V908** | 79.07 | **50.20** | 1 | 9.0 |
| **2** | 120 | 106 | 1.00 | 0 | 1.00 | 35% | R-11 | 22 | Advance | S-251-S-TP | MAG | | **6V910** | 87.05 | **54.95** | 1 | 12.0 |
| **Lamp Compatibility F72T8 Slimline (Appliance)** | | | | | | | | | | | | | | | | | |
| **38 Watts, 8' Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 49 | 0.42 | 0 | 0.92 | 25% | R-10 | — | Advance | SM-151-S-TP | MAG | | **6V908** | 79.07 | **50.20** | 1 | 9.0 |
| **2** | 120 | 100 | 0.94 | 0 | 1.00 | 35% | R-11 | 22 | Advance | S-251-S-TP | MAG | | **6V910** | 87.05 | **54.95** | 1 | 12.0 |
| **Lamp Compatibility F96T8 Slimline (Appliance)** | | | | | | | | | | | | | | | | | |
| **51 Watts, 8' Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 58 | 0.50 | 0 | 0.90 | 20% | R-10 | — | Advance | SM-151-S-TP | MAG | | **6V908** | 79.07 | **50.20** | 1 | 9.0 |
| **2** | 120 | 135 | 1.30 | 0 | 0.98 | 35% | R-11 | 22 | Advance | S-251-S-TP | MAG | | **6V910** | 87.05 | **54.95** | 1 | 12.0 |
| **Lamp Compatibility F96T8 Slimline** | | | | | | | | | | | | | | | | | |
| **59 Watts, 8' Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 70 | 0.62 | 0 | 1.10 | 30% | T-2 | 32 | Advance | REL-2P59-S-RH-TP | IS-N | | **2D003** | $143.25 | **$52.15** | 1 | 2.8 |
| **1** | 120 | 58 | 0.50 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | B159I120RH | IS-N | New | **4PJ78** | 109.99 | **48.15** | 1 | 2.5 |
| **1** | 277 | 70 | 0.27 | 0 | 1.10 | 30% | T-2 | 32 | Advance | VEL-2P59-S-RH-TP | IS-N | | **2D004** | 145.79 | **53.15** | 1 | 2.6 |
| **1** | 277 | 58 | 0.50 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | B159I277RH | IS-N | New | **4PJ79** | 117.14 | **48.15** | 1 | 2.5 |
| **2** | 120 | 110 | 0.93 | 50 | 0.88 | 10% | T-2 | 48 | Advance | RCN-2P59 | IS-N | | **3G791** | 152.86 | **54.30** | 1 | 1.8 |
| **2** | 120 | 112 | 0.95 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | B259I120RH | IS-N | New | **4PJ80** | 109.99 | **48.15** | 1 | 2.7 |
| **2** | 120 | 112 | 0.94 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B259I120HP | IS-N | New | **4PJ84** | 115.79 | **51.25** | 1 | 2.5 |
| **2** | 120 | 100 | 0.84 | 50 | 0.78 | 10% | T-3 | — | GE/Magnetek | B259I120HPL | IS-L | New | **4PJ76** | 115.79 | **56.25** | 1 | 2.5 |
| **2** | 120 | 150 | 1.28 | 32 | 1.18 | 20% | T-3 | — | GE/Magnetek | B259I120RHH | IS-H | New | **4PJ82** | 145.99 | **51.75** | 1 | 3.9 |
| **2** | 120 | 110 | 0.94 | 0 | 0.85 | 20% | T-2 | 32,54 | Advance | REL-2P59-S-RH-TP | IS-N | | **2D003** | 143.25 | **52.15** | 1 | 2.8 |
| **2** | 277 | 112 | 0.41 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | B259I277RH | IS-N | New | **4PJ81** | 117.14 | **48.15** | 1 | 2.5 |
| **2** | 277 | 112 | 0.41 | 50 | 0.88 | 10% | T-3 | — | GE/Magnetek | B259I277HP | IS-N | New | **4PJ85** | 123.29 | **51.25** | 1 | 2.5 |
| **2** | 277 | 100 | 0.36 | 50 | 0.78 | 10% | T-3 | — | GE/Magnetek | B259I277HPL | IS-L | New | **4PJ77** | 123.29 | **58.55** | 1 | 2.5 |
| **2** | 277 | 150 | 0.55 | 32 | 1.18 | 20% | T-3 | — | GE/Magnetek | B259I277RHH | IS-H | New | **4PJ83** | 149.96 | **51.75** | 1 | 3.9 |
| **2** | 277 | 110 | 0.41 | 0 | 0.85 | 20% | T-2 | 32,54 | Advance | VEL-2P59-S-RH-TP | IS-N | | **2D004** | 145.79 | **53.15** | 1 | 2.6 |
| **2** | 277 | 110 | 0.40 | 50 | 0.88 | 10% | T-2 | 48 | Advance | VCR-2P59 | IS-N | | **3G815** | 155.59 | **55.30** | 1 | 3.6 |

(✓) Denotes energy efficient product. (*) Minimum start temperature for energy saver lamp(s) is 60°F for any ballast.



When it comes to lighting, no distributor outshines Grainger.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

GE Lighting

New

ENERGY RIGHT®

## BALLAST CODES

- RS-CIC—Rapid Start Controllable Integrated Circuit
- RS-H—Rapid Start High Light Output
- RS-N—Rapid Start Normal Light Output
- RS-L—Rapid Start Low Light Output
- RS-IC—Rapid Start Integrated Circuit
- IS-H—Instant Start High Light Output
- IS-N—Instant Start Normal Light Output
- IS-L—Instant Start Low Light Output
- DIM-MAG—Dimmable Electromagnetic
- DIM.ELEC—Dimmable Electronic
- HYBRID—PowrKut® Electromagnetic
- MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F24T12 - F64T12

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F24T12 Slimline** | | | | | | | | | | | | | | | | | |
| **20 Watts, 2' Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 45 | 0.45 | 0 | 0.93 | 35% | R-8 | 23 | Advance | SM-140-S-TP | MAG | | **6V907** | $59.17 | **$37.55** | 1 | 6.8 |
| **2** | 120 | 67 | 0.62 | 0 | 0.99 | 30% | R-11 | 22 | Advance | SI-240 TP | MAG | | **6V905** | 76.08 | **47.95** | 1 | 11.0 |
| **Lamp Compatibility F36T12 Slimline** | | | | | | | | | | | | | | | | | |
| **30 Watts, 3' Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 57 | 0.50 | 0 | 0.92 | 35% | R-8 | 23 | Advance | SM-140-S-TP | MAG | | **6V907** | 59.17 | **37.55** | 1 | 6.8 |
| **2** | 120 | 88 | 0.78 | 0 | 0.99 | 35% | R-11 | 22 | Advance | SI-240-S-TP | MAG | | **6V905** | 76.08 | **47.95** | 1 | 11.0 |
| **2** | 120 | 83 | 0.73 | 50 | 0.97 | 30% | R-6 | 26 | Advance | SM-240-S-TP | MAG | | **2W772** | 49.80 | **31.55** | 1 | 5.7 |
| **Lamp Compatibility F42T12 Slimline** | | | | | | | | | | | | | | | | | |
| **34 Watts, 42" Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 57 | 0.51 | 0 | 0.90 | 35% | R-8 | 23 | Advance | SM-140-S-TP | MAG | | **6V907** | 59.17 | **37.55** | 1 | 6.8 |
| **2** | 120 | 92 | 0.82 | 0 | 0.98 | 30% | R-11 | 22 | Advance | SI-240-S-TP | MAG | | **6V905** | 76.08 | **47.95** | 1 | 11.0 |
| **2** | 120 | 87 | 0.74 | 50 | 0.95 | 25% | R-6 | 26 | Advance | SM-2E40-S-TP | MAG | | **2W772** | 49.80 | **31.55** | 1 | 5.7 |
| **2** | 277 | 91 | 0.34 | 50 | 0.93 | 25% | R-6 | 26 | Advance | VSM-2E40-TP | MAG | | **6V943** | 56.35 | **35.85** | 1 | 3.5 |
| **Lamp Compatibility F48T12 Slimline** | | | | | | | | | | | | | | | | | |
| ***30 Watt Energy Saver or 40 Watt Standard, 4' Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 62 | 0.54 | 0 | 0.90 | 30% | R-8 | 23 | Advance | SM-140-S-TP | MAG | | **6V907** | 59.17 | **37.55** | 1 | 6.8 |
| **2** | 120 | 96 | 0.82 | 50 | 0.90 | 30% | R-6 | 26 | Advance | SM-2E40-S-TP | MAG | | **2W772** | 49.80 | **31.55** | 1 | 5.7 |
| **2** | 120 | 107 | 0.97 | 0 | 0.98 | 35% | R-11 | 22 | Advance | SI-240-S-TP | MAG | | **6V905** | 76.08 | **47.95** | 1 | 11.0 |
| **2** | 120 | 76 | 0.66 | 0 | 0.92 | 32% | T-5 | — | GE/Magnetek | B260I120RH | IS-N | *New* ✓ | **4PJ92** | 97.34 | **47.80** | 1 | 4.6 |
| **2** | 277 | 98 | 0.36 | 50 | 0.96 | 25% | R-6 | 26 | Advance | VSM-2E40-S-TP | MAG | | **6V943** | 56.35 | **35.85** | 1 | 3.5 |
| **2** | 277 | 76 | 0.29 | 0 | 0.92 | 32% | T-5 | — | GE/Magnetek | B260I277RH | IS-N | *New* ✓ | **4PJ93** | 104.41 | **47.80** | 1 | 3.9 |
| **Lamp Compatibility F60T12 Slimline** | | | | | | | | | | | | | | | | | |
| **50 Watts, 5' Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 73 | 0.74 | 0 | 0.93 | 50% | R-6 | 24 | Advance | RSM-175-S-TP | MAG | | **3X963** | 51.21 | **32.35** | 1 | 6.2 |
| **1** | 277 | 72 | 0.31 | 0 | 0.92 | 50% | R-6 | 24 | Advance | VSM-175-S-TP | MAG | | **6V942** | 54.58 | **33.35** | 1 | 5.9 |
| **2** | 120 | 111 | 1.03 | 50 | 0.94 | 30% | R-8 | 26, 28 | Advance | R-2E75-S-TP | MAG | | **6X923** | 62.46 | **27.25** | 1 | 8.4 |
| **2** | 120 | 122 | 1.14 | 0 | 0.90 | 25% | R-8 | 26 | Advance | SM-2E57-S-TP | MAG | | **6V993** | 98.79 | **58.70** | 1 | 7.5 |
| **2** | 120 | 142 | 1.30 | 0 | 0.89 | 35% | R-11 | 22 | Advance | S-S75-S-TP | MAG | | **6V911** | 102.00 | **64.40** | 1 | 14.0 |
| **2** | 277 | 118 | 0.47 | 50 | 0.93 | 30% | R-8 | 26, 28 | Advance | V-2E75-S-TP | MAG | | **5X420** | 65.37 | **28.25** | 1 | 8.0 |
| **Lamp Compatibility F64T12 Slimline** | | | | | | | | | | | | | | | | | |
| **50 Watts, 64" Lamp Length** | | | | | | | | | | | | | | | | | |
| **1** | 120 | 73 | 0.74 | 0 | 0.93 | 50% | R-6 | 24 | Advance | RSM-175-S-TP | MAG | | **3X963** | 51.21 | **32.35** | 1 | 6.2 |
| **1** | 277 | 72 | 0.31 | 0 | 0.92 | 50% | R-6 | 24 | Advance | VSM 175-S TP | MAG | | **6V942** | 54.58 | **33.35** | 1 | 5.9 |
| **2** | 120 | 111 | 1.03 | 50 | 0.94 | 30% | R-8 | 26, 28 | Advance | R-2E75-S-TP | MAG | | **6X923** | 62.46 | **27.25** | 1 | 8.4 |
| **2** | 120 | 122 | 1.14 | 0 | 0.90 | 25% | R-8 | 26 | Advance | SM-2E57-S-TP | MAG | | **6V993** | 98.79 | **58.70** | 1 | 7.5 |
| **2** | 120 | 142 | 1.30 | 0 | 0.89 | 35% | R-11 | 22 | Advance | S-275-S-TP | MAG | | **6V911** | 102.00 | **64.40** | 1 | 14.0 |
| **2** | 277 | 118 | 0.47 | 50 | 0.93 | 30% | R-8 | 26, 28 | Advance | V-2E75-S-TP | MAG | | **5X420** | 65.37 | **28.25** | 1 | 8.0 |

(✓) Denotes energy efficient product. (*) Minimum start temperature for energy saver lamp(s) is 60°F for any ballast.

VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

GE Lighting

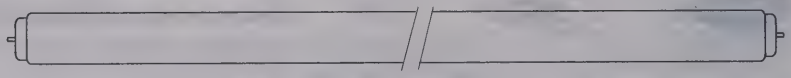
## BALLAST CODES

**RS-CIC**—Rapid Start Controllable Integrated Circuit
**RS-H**—Rapid Start High Light Output
**RS-N**—Rapid Start Normal Light Output
**RS-L**—Rapid Start Low Light Output
**RS-IC**—Rapid Start Integrated Circuit
**IS-H**—Instant Start High Light Output
**IS-N**—Instant Start Normal Light Output
**IS-L**—Instant Start Low Light Output
**DIM-MAG**—Dimmable Electromagnetic
**DIM.ELEC**—Dimmable Electronic
**HYBRID**—PowrKut® Electromagnetic
**MAG**—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.

New

ENERGY RIGHT®



Example of Lamp Compatibility F72T12-F96T12

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F72T12 Slimline** | | | | | | | | | | | | | | | | |
| **55 Watts, 6' Lamp Length** | | | | | | | | | | | | | | | | |
| **1** | 120 | 80 | 0.73 | 0 | 0.95 | 35% | R-6 | 24 | Advance | RSM-175-S-TP | MAG | **3X963** | $51.21 | **$32.35** | 1 | 6.2 |
| **1** | 120 | 70 | 0.62 | 50 | 1.10 | 30% | R-8 | 32,53,54 | Advance | REL-2P60-S | IS-N | ✓ **3V600** | 118.69 | **44.20** | 1 | 5.1 |
| **1** | 120 | 66 | 0.59 | 0 | 1.04 | 32% | T-5 | — | GE/Magnetek | B260I120RH | IS-N | **New** ✓ **4PJ92** | 97.34 | **47.80** | 1 | 4.6 |
| **1** | 277 | 81 | 0.32 | 0 | 0.94 | 35% | R-6 | 24 | Advance | VSM-175-S-TP | MAG | **6V942** | 54.58 | **33.35** | 1 | 5.9 |
| **1** | 277 | 70 | 0.27 | 50 | 1.10 | 30% | R-8 | 32,53 | Advance | VEL-2P75-S | IS-N | ✓ **3V972** | 245.68 | **46.60** | 1 | 19.8 |
| **1** | 277 | 66 | 0.25 | 0 | 1.04 | 32% | T-5 | — | GE/Magnetek | B260I277RH | IS-N | **New** ✓ **4PJ93** | 104.41 | **47.80** | 1 | 3.9 |
| **2** | 120 | 132 | 1.18 | 50 | 1.00 | 30% | R-8 | 26,28 | Advance | R-2E75-S-TP | MAG | **6X923** | 62.46 | **27.25** | 1 | 8.4 |
| **2** | 120 | 140 | 1.25 | 0 | 0.95 | 20% | R-8 | 26 | Advance | SM-2E57-S-TP | MAG | **6V993** | 98.79 | **58.70** | 1 | 7.5 |
| **2** | 120 | 147 | 1.48 | 0 | 0.99 | 30% | R-11 | 22 | Advance | S-275-S-TP | MAG | **6V911** | 102.00 | **64.40** | 1 | 14.0 |
| **2** | 120 | 110 | 0.95 | 50 | 0.90 | 20% | R-8 | 32,53,54 | Advance | REL-2P60-S | IS-N | ✓ **3V600** | 118.69 | **44.20** | 1 | 5.1 |
| **2** | 120 | 107 | 0.92 | 0 | 0.90 | 20% | T-5 | — | GE/Magnetek | B260I120RH | IS-N | **New** ✓ **4PJ92** | 97.34 | **47.80** | 1 | 4.6 |
| **2** | 277 | 132 | 0.51 | 50 | 0.94 | 25% | R-8 | 26,28 | Advance | V-2E75-S-TP | MAG | **5X420** | 65.37 | **28.25** | 1 | 8.0 |
| **2** | 277 | 136 | 0.51 | 0 | 0.93 | 30% | R-11 | 22,25,28 | Advance | VSH-275-S-TP | MAG | **6V940** | 120.51 | **76.60** | 1 | 13.0 |
| **2** | 277 | 110 | 0.41 | 50 | 0.92 | 20% | R-8 | 32,53,54 | Advance | VEL-2P75-S | IS-N | ✓ **3V972** | 121.75 | **45.45** | 1 | 4.5 |
| **2** | 277 | 107 | 0.40 | 0 | 0.92 | 20% | T-5 | — | GE/Magnetek | B260I277RH | IS-N | **New** ✓ **4PJ93** | 104.41 | **47.80** | 1 | 3.9 |
| **Lamp Compatibility F84T12 Slimline** | | | | | | | | | | | | | | | | |
| **65 Watts, 7' Lamp Length** | | | | | | | | | | | | | | | | |
| **2** | 120 | 147 | 1.28 | 50 | 0.95 | 30% | R-8 | 26,28 | Advance | R-2E75-S-TP | MAG | **6X923** | 62.46 | **27.25** | 1 | 0.6 |
| **2** | 120 | 165 | 1.40 | 0 | 1.00 | 30% | R-11 | 22 | Advance | S-275-S-TP | MAG | **6V911** | 102.00 | **64.40** | 1 | 0.3 |
| **2** | 277 | 151 | 0.57 | 50 | 0.94 | 25% | R-8 | 26,28 | Advance | V-2E75-S-TP | MAG | **5X420** | 65.37 | **28.25** | 1 | 0.7 |
| **2** | 277 | 163 | 0.62 | 0 | 0.90 | 35% | R-11 | 22,25 | Advance | VSH-275-S-TP | MAG | **6V940** | 120.51 | **76.60** | 1 | 0.8 |
| **Lamp Compatibility F96T12 Slimline** | | | | | | | | | | | | | | | | |
| ***60 Watt Energy Saver or 75 Watt Standard, 8' Lamp Length** | | | | | | | | | | | | | | | | |
| **1** | 120 | 92 | 0.82 | 0 | 0.94 | 25% | R-6 | 24 | Advance | RSM-175-S-TP | MAG | **3X963** | 51.21 | **32.35** | 1 | 6.2 |
| **1** | 120 | 85 | 0.75 | 0 | 1.05 | 30% | R-8 | 32,53 | Advance | REL-2P60-S | IS-N | ✓ **3V600** | 118.69 | **44.20** | 1 | 5.1 |
| **1** | 120 | 83 | 0.73 | 0 | 1.02 | 32% | T-5 | — | GE/Magnetek | B260I120RH | IS-N | **New** ✓ **4PJ92** | 97.34 | **47.80** | 1 | 4.6 |
| **1** | 277 | 94 | 0.35 | 0 | 0.94 | 25% | R-6 | 24 | Advance | VSM-175-S-TP | MAG | **6V942** | 54.58 | **33.35** | 1 | 5.9 |
| **1** | 277 | 85 | 0.32 | 0 | 1.05 | 30% | R-8 | 32,53 | Advance | VEL-2P75-S | IS-N | ✓ **3V972** | 121.75 | **45.45** | 1 | 4.5 |
| **1** | 277 | 83 | 0.31 | 0 | 0.86 | 32% | T-5 | — | GE/Magnetek | B260I277RH | IS-N | **New** ✓ **4PJ93** | 104.41 | **47.80** | 1 | 3.9 |
| **2** | 120 | 158 | 1.35 | 50 | 0.94 | 30% | R-8 | 26,28 | Advance | R-2E75-S-TP | MAG | **6X923** | 62.46 | **27.25** | 1 | 8.4 |
| **2** | 120 | 181 | 1.60 | 0 | 0.99 | 35% | R-11 | 22 | Advance | S-275-S-TP | MAG | **6V911** | 102.00 | **64.40** | 1 | 14.0 |
| **2** | 120 | 133 | 1.15 | 0 | 0.86 | 20% | T-5 | — | GE/Magnetek | B260I120RH | IS-N | **New** ✓ **4PJ92** | 97.34 | **47.80** | 1 | 4.6 |
| **2** | 120 | 132 | 1.12 | 0 | 0.85 | 20% | R-8 | 32,53,54 | Advance | REL-2P60-S | IS-N | ✓ **3V600** | 118.69 | **44.20** | 1 | 5.1 |
| **2** | 277 | 158 | 0.60 | 50 | 0.94 | 25% | R-8 | 26,28 | Advance | V-2E75-S-TP | MAG | **5X420** | 65.37 | **28.25** | 1 | 8.0 |
| **2** | 277 | 133 | 0.50 | 0 | 0.86 | 20% | T-5 | — | GE/Magnetek | B260I277RH | IS-N | **New** ✓ **4PJ93** | 104.41 | **47.80** | 1 | 3.9 |
| **2** | 277 | 163 | 0.62 | 0 | 0.90 | 35% | R-11 | 22,25 | Advance | VSH-275-S-TP | MAG | **6V940** | 120.51 | **76.60** | 1 | 13.0 |
| **2** | 277 | 132 | 0.49 | 0 | 0.85 | 20% | R-8 | 32,53,54 | Advance | VEL-2P75-S | IS-N | ✓ **3V972** | 121.75 | **45.45** | 1 | 4.5 |

(✓) Denotes energy efficient product. (*) Minimum start temperature for energy saver lamp is 60°F for any ballast.

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

ADVANCE TRANSFORMER CO.

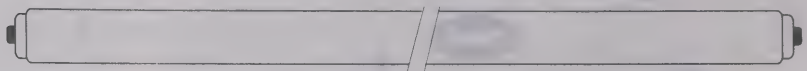
GE Lighting

ENERGY RIGHT®

## BALLAST CODES

**RS-CIC**—Rapid Start Controllable Integrated Circuit
**RS-H**—Rapid Start High Light Output
**RS-N**—Rapid Start Normal Light Output
**RS-L**—Rapid Start Low Light Output
**RS-IC**—Rapid Start Integrated Circuit
**IS-H**—Instant Start High Light Output
**IS-N**—Instant Start Normal Light Output
**IS-L**—Instant Start Low Light Output
**DIM-MAG**—Dimmable Electromagnetic
**DIM.ELEC**—Dimmable Electronic
**HYBRID**—PowrKut® Electromagnetic
**MAG**—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F24T12/HO-F48T12/HO

| No. of Lamps | Input Voltage | Input Watts | Line Amps | Min. Start Temp. | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr's Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F24T12/HO, 800mA** | | | | | | | | | | | | | | | | |
| **36 Watts, 2' Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 66 | 0.57 | -20 | 0.96 | 10% | R-11 | — | Advance | RC-160-TP | MAG | **6V848** | $116.45 | **$73.80** | 1 | 14.0 |
| 1 | 277 | 66 | 0.26 | -20 | 0.89 | 10% | R-11 | 8 | Advance | VC-160-TP | MAG | **6V913** | 119.28 | **75.65** | 1 | 14.0 |
| 2 | 120 | 98 | 0.84 | 50 | 0.93 | 20% | R-8 | 13 | Advance | RS-2S60-TP | MAG | **6V884** | 113.38 | **72.80** | 1 | 7.7 |
| 2 | 120 | 95 | 1.01 | -20 | 0.78 | 50% | R-9 | 7 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 2 | 240 | 92 | 0.55 | -20 | 0.79 | 50% | R-9 | 11 | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 2 | 277 | 101 | 0.37 | 50 | 0.93 | 20% | R-8 | 13 | Advance | VS-2S60-TP | MAG | **6V949** | 119.28 | **76.65** | 1 | 7.8 |
| 2 | 277 | 94 | 0.48 | -20 | 0.86 | 50% | R-9 | 7 | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 3 | 120 | 148 | 1.60 | -20 | 0.94 | 35% | R-9 | 14 | Advance | RC-4S60-TP | MAG | **6V862** | 152.16 | **97.60** | 1 | 11.0 |
| 4 | 120 | 183 | 1.80 | -20 | 1.00 | 30% | R-9 | 14 | Advance | RC-4S60-TP | MAG | **6V862** | 152.16 | **97.60** | 1 | 11.0 |
| **Lamp Compatibility F36T12/HO, 800mA** | | | | | | | | | | | | | | | | |
| **48 watts, 3' Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 71 | 0.61 | -20 | 0.93 | 15% | R-11 | — | Advance | RC-160-TP | MAG | **6V848** | 116.45 | **73.80** | 1 | 14.0 |
| 1 | 277 | 73 | 0.28 | -20 | 0.90 | 10% | R-11 | 8 | Advance | VC-160-TP | MAG | **6V913** | 119.28 | **75.65** | 1 | 14.0 |
| 2 | 120 | 99 | 0.96 | 50 | 0.95 | 15% | R-8 | 13 | Advance | RS-2S60-TP | MAG | **6V884** | 113.38 | **72.80** | 1 | 7.7 |
| 2 | 120 | 107 | 1.00 | -20 | 0.82 | 35% | R-9 | 7 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 2 | 240 | 103 | 0.53 | -20 | 0.80 | 35% | R-9 | 11 | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 2 | 277 | 116 | 0.42 | 50 | 0.95 | 15% | R-8 | 13 | Advance | VS-2S60-85 | MAG | **6V949** | 119.28 | **76.65** | 1 | 7.8 |
| 2 | 277 | 103 | 0.47 | -20 | 0.82 | 35% | R-9 | 7 | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 3 | 120 | 166 | 1.60 | -20 | 0.93 | 30% | R-9 | 14 | Advance | RC-4S60-TP | MAG | **6V862** | 152.16 | **97.60** | 1 | 11.0 |
| 4 | 120 | 212 | 1.90 | -20 | 0.98 | 20% | R-9 | — | Advance | RC-4S60-TP | MAG | **6V862** | 152.16 | **97.60** | 1 | 11.0 |
| **Lamp Compatibility F42T12/HO, 800mA** | | | | | | | | | | | | | | | | |
| **50 watts, 42" Lamp Length** | | | | | | | | | | | | | | | | |
| 2 | 120 | 138 | 1.10 | 50 | 0.94 | 15% | R-8 | 13 | Advance | RS-2S60-TP | MAG | **6V884** | 113.38 | **72.80** | 1 | 7.7 |
| 2 | 120 | 126 | 1.10 | -20 | 0.82 | 25% | R-9 | 7 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 2 | 240 | 119 | 0.58 | -20 | 0.83 | 30% | R-9 | 11 | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 2 | 277 | 134 | 0.51 | 50 | 0.93 | 15% | R-8 | 13 | Advance | VS-2S60-TP | MAG | **6V949** | 119.28 | **76.65** | 1 | 7.8 |
| 2 | 277 | 124 | 0.51 | -20 | 0.80 | 30% | R-9 | 7 | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| **Lamp Compatibility F48T12/HO, 800mA** | | | | | | | | | | | | | | | | |
| ***55 Watt Energy Saver or 60 Watt Standard, 4' Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 87 | 0.76 | 50 | 0.92 | 25% | R-8 | — | Advance | RS-2S60-TP | MAG | **6V884** | 113.38 | **72.80** | 1 | 7.7 |
| 1 | 120 | 85 | 0.71 | -20 | 0.94 | 15% | R-11 | — | Advance | RC-160-TP | MAG | **6V848** | 116.45 | **73.80** | 1 | 14.0 |
| 1 | 120 | 79 | 0.91 | -20 | 0.78 | 50% | R-9 | 9 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 1 | 240 | 82 | 0.53 | -20 | 0.80 | 50% | R-9 | 11 | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 1 | 277 | 87 | 0.32 | 50 | 0.92 | 20% | R-8 | — | Advance | VS-2S60-TP | MAG | **6V949** | 119.28 | **76.65** | 1 | 7.8 |
| 1 | 277 | 86 | 0.32 | -20 | 0.91 | 10% | R-11 | — | Advance | VC-160-TP | MAG | **6V913** | 119.28 | **75.65** | 1 | 14.0 |
| 1 | 277 | 80 | 0.46 | -20 | 0.78 | 50% | R-9 | — | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 2 | 120 | 149 | 1.20 | 50 | 0.96 | 15% | R-8 | 13 | Advance | RS-2S60-TP | MAG | **6V884** | 113.38 | **72.80** | 1 | 7.7 |
| 2 | 120 | 133 | 1.16 | -20 | 0.85 | 20% | R-9 | 7 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 2 | 120 | 125 | 1.13 | -20 | 1.15 | 30% | R-9 | 54, 70 | Advance | REL-2S110 | RS-N | ✓ **3V967** | 159.61 | **59.65** | 1 | 4.5 |
| 2 | 240 | 131 | 0.60 | -20 | 0.84 | 25% | R-9 | 70 | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 2 | 277 | 153 | 0.56 | 50 | 0.96 | 15% | R-8 | 70 | Advance | VS-2S60-TP | MAG | **6V949** | 119.28 | **76.65** | 1 | 7.8 |
| 2 | 277 | 131 | 0.53 | -20 | 0.84 | 25% | R-9 | 7 | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 2 | 277 | 123 | 0.48 | -20 | 1.15 | 30% | R-9 | 54, 70 | Advance | VEL-2S110 | RS-N | ✓ **3V973** | 163.69 | **60.65** | 1 | 4.5 |
| 3 | 120 | 217 | 1.90 | -20 | 0.92 | 20% | R-11 | 14 | Advance | RC-4S60-TP | MAG | **6V862** | 152.16 | **97.60** | 1 | 11.0 |
| 3 | 120 | 198 | 1.70 | -20 | 0.86 | 10% | R-9 | — | Advance | RC-4S85-TP | MAG | **6V863** | 175.64 | **112.40** | 1 | 3.5 |
| 4 | 120 | 288 | 2.40 | -20 | 0.92 | 15% | R-11 | 14 | Advance | RC-4S60-TP | MAG | **6V862** | 152.16 | **97.60** | 1 | 11.0 |
| 4 | 120 | 237 | 1.99 | -20 | 0.81 | 15% | R-9 | — | Advance | RC-4S85-TP | MAG | **6V863** | 175.64 | **112.40** | 1 | 3.5 |

(✓) Denotes evergy efficient product. (*) Minimum start temperature for energy saver lamp(s) is 60°F for any ballast.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

ENERGY RIGHT®

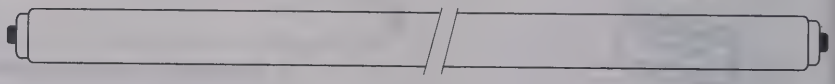
New

GE Lighting

## BALLAST CODES

**RS-CIC**—Rapid Start Controllable Integrated Circuit
**RS-H**—Rapid Start High Light Output
**RS-N**—Rapid Start Normal Light Output
**RS-L**—Rapid Start Low Light Output
**RS-IC**—Rapid Start Integrated Circuit
**IS-H**—Instant Start High Light Output
**IS-N**—Instant Start Normal Light Output
**IS-L**—Instant Start Low Light Output
**DIM-MAG**—Dimmable Electromagnetic
**DIM.ELEC**—Dimmable Electronic
**HYBRID**—PowrKut® Electromagnetic
**MAG**—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F60T12/HO – F72T12/HO

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F60T12/HO, 800mA** | | | | | | | | | | | | | | | | |
| **75 Watts, 5' Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 97 | 0.83 | 50 | 0.95 | 25% | R-8 | — | Advance | RS-2S60-TP | MAG | **6V884** | $113.38 | **$72.80** | 1 | 7.7 |
| 1 | 120 | 90 | 0.94 | -20 | 0.77 | 40% | R-9 | 9 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 1 | 240 | 89 | 0.54 | -20 | 0.79 | 40% | R-9 | 11 | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 1 | 277 | 98 | 0.37 | 50 | 0.95 | 20% | R-8 | — | Advance | VS-2S60-TP | MAG | **6V949** | 119.28 | **76.65** | 1 | 7.8 |
| 1 | 277 | 87 | 0.48 | -20 | 0.87 | 15% | R-9 | — | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 2 | 120 | 178 | 1.50 | -20 | 0.87 | 15% | R-9 | 10 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 2 | 120 | 147 | 1.29 | -20 | 1.00 | 30% | R-9 | 54, 70 | Advance | REL-2S110 | RS-N | **3V967** | 159.61 | **59.65** | 1 | 4.5 |
| 2 | 240 | 166 | 0.75 | -20 | 0.89 | 20% | R-9 | 70 | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 2 | 277 | 170 | 0.65 | -20 | 0.86 | 20% | R-9 | — | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 2 | 271 | 141 | 0.53 | -20 | 1.00 | 30% | R-9 | 54, 70 | Advance | VEL-2S110 | RS-N | **3V973** | 163.69 | **60.65** | 1 | 4.5 |
| 3 | 120 | 223 | 1.90 | -20 | 0.83 | 20% | R-11 | 70 | Advance | RC-4S85-TP | MAG | **6V863** | 175.64 | **112.40** | 1 | 3.5 |
| 4 | 120 | 278 | 2.35 | -20 | 0.80 | 15% | R-11 | — | Advance | RC-4S85-TP | MAG | **6V863** | 175.64 | **112.40** | 1 | 3.5 |
| **Lamp Compatibility F64T12/HO, 800mA** | | | | | | | | | | | | | | | | |
| **80 Watts, 64" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 106 | 0.90 | 50 | 0.98 | 20% | R-8 | — | Advance | RS-2S60-TP | MAG | **6V884** | $113.38 | **$72.80** | 1 | 7.7 |
| 1 | 120 | 99 | 0.99 | -20 | 0.79 | 40% | R-9 | 9 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 1 | 240 | 97 | 0.56 | -20 | 0.80 | 40% | R-9 | 11 | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 1 | 277 | 107 | 0.39 | 50 | 0.94 | 20% | R-8 | — | Advance | VS-2S60-TP | MAG | **6V949** | 119.28 | **76.65** | 1 | 7.8 |
| 1 | 277 | 95 | 0.47 | -20 | 0.78 | 40% | R-9 | — | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 2 | 120 | 178 | 1.50 | -20 | 0.87 | 15% | R-9 | 10 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 2 | 240 | 160 | 0.75 | -20 | 0.89 | 20% | R-9 | — | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 2 | 277 | 170 | 0.65 | -20 | 0.86 | 20% | R-9 | — | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 3 | 120 | 246 | 2.09 | -20 | 0.84 | 15% | R-11 | — | Advance | RC-4S85-TP | MAG | **6V863** | 175.64 | **112.40** | 1 | 3.5 |
| 4 | 120 | 312 | 2.64 | -20 | 0.78 | 10% | R-11 | — | Advance | RC-4S85-TP | MAG | **6V863** | 175.64 | **112.40** | 1 | 3.5 |
| **Lamp Compatibility F72T12/HO, 800mA** | | | | | | | | | | | | | | | | |
| **85 Watts, 6' Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 100 | 0.98 | -20 | 0.82 | 35% | R-9 | 9,10 | Advance | RC-2S85-TP | MAG | **6V858** | $105.99 | **$67.55** | 1 | 10.0 |
| 1 | 120 | 113 | 0.96 | -20 | 0.98 | 30% | R-9 | — | Advance | RS-110-TP | MAG | **6V880** | 98.41 | **62.65** | 1 | 9.6 |
| 1 | 240 | 99 | 0.53 | -20 | 0.83 | 35% | R-9 | 6 | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 1 | 277 | 99 | 0.47 | -20 | 0.81 | 35% | R-9 | 9,10 | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 1 | 277 | 116 | 0.44 | -20 | 0.99 | 30% | R-9 | — | Advance | VS-110-TP | MAG | **6V944** | 118.59 | **75.80** | 1 | 10.0 |
| 2 | 120 | 184 | 1.54 | -20 | 0.91 | 15% | R-9 | 10 | Advance | RC-2S85-TP | MAG | **6V858** | 105.99 | **67.55** | 1 | 10.0 |
| 2 | 120 | 221 | 1.85 | -20 | 1.00 | 15% | R-9 | — | Advance | RS-2S110-TP | MAG | **5X789** | 83.35 | **52.90** | 1 | 9.8 |
| 2 | 120 | 193 | 1.60 | -20 | 0.95 | 15% | R-9 | — | Advance | R-2S110-TP | MAG | **3X961** | 108.18 | **58.60** | 1 | 12.0 |
| 2 | 120 | 169 | 1.42 | -20 | 0.95 | 10% | T-5 | — | GE/Magnetek | B295SR120HP | RS-N | New **4PJ94** | 127.77 | **63.55** | 1 | 3.9 |
| 2 | 120 | 164 | 1.40 | -20 | 0.90 | 20% | R-9 | 54 | Advance | REL-2S110 | RS-N | **3V967** | 159.61 | **59.65** | 1 | 4.5 |
| 2 | 240 | 173 | 0.75 | -50 | 0.89 | 20% | R-9 | — | Advance | YS-2S85-TP | MAG | **6V974** | 136.72 | **87.70** | 1 | 9.7 |
| 2 | 240 | 203 | 0.88 | -20 | 0.99 | 15% | R-11 | 12 | Advance | YS-2S110-TP | MAG | **6V973** | 135.05 | **85.80** | 1 | 10.0 |
| 2 | 277 | 180 | 0.67 | -20 | 0.90 | 20% | R-9 | 10 | Advance | VC-2S85-TP | MAG | **6V920** | 127.64 | **82.90** | 1 | 10.0 |
| 2 | 277 | 207 | 0.80 | -20 | 0.99 | 15% | R-9 | — | Advance | VS-2S110-TP | MAG | **2W773** | 88.62 | **56.25** | 1 | 10.0 |
| 2 | 277 | 201 | 0.75 | -20 | 0.98 | 20% | R-9 | — | Advance | V-2S110-TP | MAG | **3X962** | 110.74 | **59.60** | 1 | 12.0 |
| 2 | 277 | 169 | 0.61 | -20 | 0.95 | 10% | T-5 | — | GE/Magnetek | B259SR277HP | RS-N | New **4PJ95** | 134.73 | **66.00** | 1 | 4.0 |
| 2 | 277 | 164 | 0.61 | -20 | 0.90 | 20% | R-9 | 54 | Advance | VEL-2S110 | RS-N | **3V973** | 163.69 | **60.65** | 1 | 4.5 |
| 3 | 120 | 291 | 2.40 | -20 | 0.90 | 15% | R-9 | 14 | Advance | RC-4S60-TP | MAG | **6V862** | 152.16 | **97.60** | 1 | 11.0 |
| 3 | 120 | 256 | 2.17 | -20 | 0.81 | 15% | R-11 | — | Advance | RC-4S85-TP | MAG | **6V863** | 175.64 | **112.40** | 1 | 3.5 |
| 4 | 120 | 323 | 2.73 | -20 | 0.75 | 10% | R-11 | — | Advance | RC-4S85-TP | MAG | **6V863** | 175.64 | **112.40** | 1 | 3.5 |

(✓) Denotes energy efficient product.



When it comes to lighting, no distributor outshines Grainger.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO. ENERGY RIGHT®

GE Lighting New

## BALLAST CODES

RS-CIC—Rapid Start Controllable Integrated Circuit
RS-H—Rapid Start High Light Output
RS-N—Rapid Start Normal Light Output
RS-L—Rapid Start Low Light Output
RS-IC—Rapid Start Integrated Circuit
IS-H—Instant Start High Light Output
IS-N—Instant Start Normal Light Output
IS-L—Instant Start Low Light Output
DIM-MAG—Dimmable Electromagnetic
DIM.ELEC—Dimmable Electronic
HYBRID—PowrKut® Electromagnetic
MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility
F96T8/HO - F96T12/HO



Example of Lamp Compatibility
F48PG17 - F72PG17 Powergroove

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F96T8HO, 800mA** | | | | | | | | | | | | | | | | | |
| **86 Watts, 8' Lamp Length** | | | | | | | | | | | | | | | | | |
| 2 | 120 | 172 | 1.49 | -20 | 0.96 | 15% | R-9 | 71 | Advance | R-2S86-TP | MAG | New ✓ | 4PL67 | $136.38 | **$96.15** | 1 | 11.0 |
| 2 | 277 | 172 | 0.64 | -20 | 0.96 | 15% | R-9 | — | Advance | V-2S86-TP | MAG | New ✓ | 4PL75 | 145.93 | **102.80** | 1 | 11.0 |
| 2 | 120 | 160 | 1.36 | 50 | 0.98 | 20% | R-8 | — | Advance | REL-2S86 | RS-N | ✓ | 3JN64 | 249.49 | **89.30** | 1 | 4.0 |
| 2 | 277 | 160 | 0.60 | 50 | 0.98 | 20% | R-8 | — | Advance | VEL-2S86 | RS-N | ✓ | 3JN66 | 255.90 | **90.30** | 1 | 4.0 |
| **Lamp Compatibility F96T12/HO, 800mA** | | | | | | | | | | | | | | | | | |
| ***95 Watt Energy Saver or 110 Watt Standard, 8' Lamp Length** | | | | | | | | | | | | | | | | | |
| 1 | 120 | 121 | 1.07 | -20 | 0.84 | 25% | R-9 | 9, 10, 55 | Advance | RC-2S85-TP | MAG | | 6V858 | 105.99 | **67.55** | 1 | 10.0 |
| 1 | 120 | 140 | 1.20 | -20 | 0.98 | 35% | R-9 | — | Advance | RS-110-TP | MAG | | 6V880 | 98.41 | **62.65** | 1 | 9.6 |
| 1 | 240 | 120 | 0.57 | -20 | 0.85 | 30% | R-9 | 6, 65 | Advance | YS-2S85-TP | MAG | | 6V974 | 136.72 | **87.70** | 1 | 9.7 |
| 1 | 277 | 114 | 0.48 | -20 | 0.83 | 30% | R-9 | 9, 10, 65 | Advance | VC-2S85-TP | MAG | | 6V920 | 127.64 | **82.90** | 1 | 10.0 |
| 1 | 277 | 145 | 0.54 | -20 | 1.00 | 30% | R-9 | — | Advance | VS-110-TP | MAG | | 6V944 | 118.59 | **75.80** | 1 | 10.0 |
| 2 | 120 | 255 | 2.14 | -20 | 1.01 | 15% | R-9 | – | Advance | RS-2S110-TP | MAG | | 5X789 | 83.35 | **52.90** | 1 | 9.8 |
| 2 | 120 | 237 | 2.00 | -20 | 0.95 | 15% | R-9 | — | Advance | R-2S110-TP | MAG | | 3X961 | 108.18 | **58.60** | 1 | 12.0 |
| 2 | 120 | 208 | 1.75 | -20 | 0.90 | 10% | T-5 | — | GE/Magnetek | B259SR120HP | RS-N | New ✓ | 4PJ94 | 127.77 | **63.55** | 1 | 3.9 |
| 2 | 120 | 205 | 1.74 | -20 | 0.85 | 20% | R-8 | 54 | Advance | REL-2S110 | RS-N | ✓ | 3V967 | 159.61 | **59.65** | 1 | 4.5 |
| 2 | 120 | 205 | 1.74 | -20 | 0.85 | 20% | R-11 | 12, 65 | Advance | YS-2S110-TP | MAG | | 6V973 | 135.05 | **85.80** | 1 | 10.0 |
| 2 | 240 | 253 | 1.10 | -50 | 0.97 | 15% | R-11 | — | Advance | VS-2S110-TP | MAG | | 2W773 | 88.62 | **56.25** | 1 | 10.0 |
| 2 | 277 | 253 | 0.94 | -20 | 0.99 | 15% | R-9 | — | Advance | VC-2S110-TP | MAG | | 3X962 | 110.74 | **59.60** | 1 | 12.0 |
| 2 | 277 | 245 | 0.90 | -20 | 0.98 | 20% | R-9 | — | Advance | V-2S110-TP | MAG | | | | | | |
| 2 | 277 | 208 | 0.76 | -20 | 0.90 | 10% | T-5 | — | GE/Magnetek | B259SR277HP | RS-N | New ✓ | 4PJ95 | 134.73 | **66.00** | 1 | 4.0 |
| 2 | 277 | 205 | 0.76 | -20 | 0.85 | 20% | R-8 | 54 | Advance | VEL-2S110 | RS-N | ✓ | 3V973 | 163.69 | **60.65** | 1 | 4.5 |
| 3 | 120 | 292 | 2.50 | -20 | 0.75 | 15% | R-11 | 65 | Advance | RC-4S85-TP | MAG | | 6V863 | 175.64 | **112.40** | 1 | 3.5 |
| **VERY HIGH OUTPUT LAMPS** | | | | | | | | | | | | | | | | | |
| **Lamp Compatibility F48T10, F48T12, F48PG17/VHO, SHO, Powergroove, 1500mA** | | | | | | | | | | | | | | | | | |
| **110 Watts, 4' Lamp Length** | | | | | | | | | | | | | | | | | |
| 1 | 120 | 130 | 1.70 | -20 | 0.87 | 30% | R-11 | 15 | Advance | RC-2S102-TP | MAG | | 6V852 | 131.95 | **84.10** | 1 | 12.0 |
| 1 | 277 | 137 | 0.59 | -20 | 0.85 | 35% | R-11 | 15 | Advance | VC-2S102-TP | MAG | | 6V916 | 153.19 | **98.05** | 1 | 12.0 |
| 2 | 120 | 230 | 2.20 | -20 | 0.89 | 35% | R-11 | 17 | Advance | RC-2S102-TP | MAG | | 6V852 | 131.95 | **84.10** | 1 | 12.0 |
| 2 | 277 | 241 | 0.94 | -20 | 0.87 | 35% | R-11 | 17 | Advance | VC-2S102-TP | MAG | | 6V916 | 153.19 | **98.05** | 1 | 12.0 |
| 3 | 120 | 293 | 2.57 | -20 | 0.92 | 20% | R-14 | — | Advance | RC-3S150-TP | MAG | | 6V860 | 250.37 | **160.75** | 1 | 19.0 |
| **Lamp Compatibility F60T10, F60T12/VHO, SHO, Powergroove, 1500mA** | | | | | | | | | | | | | | | | | |
| **135 Watts, 5' Lamp Length** | | | | | | | | | | | | | | | | | |
| 1 | 120 | 140 | 1.75 | -20 | 0.96 | 30% | R-11 | 15 | Advance | RC-2S102-TP | MAG | | 6V852 | 131.95 | **84.10** | 1 | 12.0 |
| 1 | 277 | 157 | 0.65 | -20 | 0.86 | 35% | R-11 | 15 | Advance | VC-2S102-TP | MAG | | 6V916 | 153.19 | **98.05** | 1 | 12.0 |
| 2 | 120 | 250 | 2.70 | -20 | 0.95 | 30% | R-14 | — | Advance | RSC-2S155-TP | MAG | | 6V879 | 204.75 | **130.60** | 1 | 18.0 |
| 3 | 120 | 385 | 3.50 | -20 | 0.88 | 20% | R-14 | — | Advance | RC-3S150-TP | MAG | | 6V860 | 250.37 | **160.75** | 1 | 19.0 |
| **Lamp Compatibility F72T10, F72T12, F72PG17/VHO, SHO, Powergroove, 1500mA** | | | | | | | | | | | | | | | | | |
| **165 Watts, 6' Lamp Length** | | | | | | | | | | | | | | | | | |
| 1 | 120 | 173 | 1.90 | -20 | 0.87 | 30% | R-11 | — | Advance | RC-2S102-TP | MAG | | 6V852 | 131.95 | **84.10** | 1 | 12.0 |
| 1 | 120 | 180 | 2.40 | -20 | 0.81 | 35% | R-14 | 16 | Advance | RSC-2S155-TP | MAG | | 6V879 | 204.75 | **130.60** | 1 | 18.0 |
| 1 | 277 | 168 | 0.69 | -20 | 0.87 | 35% | R-11 | — | Advance | VC-2S102-TP | MAG | | 6V916 | 153.19 | **98.05** | 1 | 12.0 |

(✓) Denotes energy efficient product. (*) Minimum Start Temperature for Energy Saver Lamp(s) is 60°F for any ballast.

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

## BALLAST CODES

**RS-CIC**—Rapid Start Controllable Integrated Circuit
**RS-H**—Rapid Start High Light Output
**RS-N**—Rapid Start Normal Light Output
**RS-L**—Rapid Start Low Light Output
**RS-IC**—Rapid Start Integrated Circuit
**IS-H**—Instant Start High Light Output
**IS-N**—Instant Start Normal Light Output
**IS-L**—Instant Start Low Light Output
**DIM-MAG**—Dimmable Electromagnetic
**DIM.ELEC**—Dimmable Electronic
**HYBRID**—PowrKut™ Electromagnetic
**MAG**—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of lamp Compatibility F4T5 - F8T5



Example of lamp Compatibility F72PG17-F96PG17



Example of Lamp Compatibility F72T12VHO - F96T12VHO

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (see page 1038) | Mfr. | Mfr's Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F72T10, F72T12, F72PG17/VHO, SHO, Powergroove (1500mA) (cont.)** | | | | | | | | | | | | | | | | |
| **165 Watts 6' Lamp Length** | | | | | | | | | | | | | | | | |
| 2 | 120 | 270 | 2.51 | -20 | 0.85 | 20% | R-11 | 19, 21 | Advance | RC-2S200-TP | MAG | **6V855** | $202.38 | **$130.10** | 1 | 14.0 |
| 2 | 120 | 315 | 2.90 | -20 | 0.92 | 25% | R-14 | — | Advance | RSC-2S155-TP | MAG | **6V879** | 204.75 | **130.60** | 1 | 18.0 |
| 2 | 120 | 399 | 3.41 | -20 | 0.99 | 15% | R-11 | — | Advance | RS-2S200-TP | MAG | **5X790** | 151.11 | **96.15** | 1 | 15.0 |
| 2 | 277 | 257 | 0.95 | -20 | 0.78 | 20% | R-11 | 19 | Advance | VC-2S200-TP | MAG | **6V919** | 213.08 | **136.95** | 1 | 15.0 |
| 2 | 277 | 376 | 1.40 | -20 | 0.99 | 15% | R-11 | — | Advance | VS-2S200-TP | MAG | **2W774** | 168.65 | **107.55** | 1 | 15.0 |
| 3 | 120 | 424 | 3.57 | -20 | 0.82 | 15% | R-14 | — | Advance | RC-3S150-TP | MAG | **6V860** | 250.37 | **160.75** | 1 | 19.0 |
| 3 | 120 | 400 | 3.50 | -20 | 0.95 | 15% | R-14 | — | Advance | RC-3S200-TP | MAG | **6V861** | 294.04 | **188.75** | 1 | 21.0 |
| **Lamp Compatibility F96T10, F96T12, F96PG17/VHO, SHO, Powergroove, (1500mA)** | | | | | | | | | | | | | | | | |
| **215 Watts, 8' Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 213 | 2.10 | 50 | 0.87 | 35% | R-11 | — | Advance | RC-2S102-TP | MAG | **6V852** | 131.95 | **84.10** | 1 | 12.0 |
| 1 | 120 | 218 | 2.50 | -20 | 0.84 | 35% | R-14 | 16 | Advance | RSC-2S155-TP | MAG | **6V879** | 204.75 | **130.60** | 1 | 18.0 |
| 1 | 277 | 216 | 0.89 | 50 | 0.88 | 35% | R-11 | — | Advance | VC-2S102-TP | MAG | **6V916** | 153.19 | **98.05** | 1 | 12.0 |
| 2 | 120 | 337 | 2.88 | -20 | 0.82 | 15% | R-11 | 19, 21 | Advance | RC-2S200-TP | MAG | **6V855** | 202.38 | **130.10** | 1 | 14.0 |
| 2 | 120 | 467 | 3.89 | -20 | 1.01 | 10% | R-11 | 18, 20 | Advance | RS-2S200-TP | MAG | **5X790** | 151.11 | **96.15** | 1 | 15.0 |
| 2 | 277 | 310 | 1.20 | -20 | 0.75 | 15% | R-11 | 19 | Advance | RS-2S200-TP | MAG | **6V919** | 213.08 | **136.95** | 1 | 15.0 |
| 2 | 277 | 442 | 1.65 | -20 | 1.00 | 15% | R-11 | 18, 20 | Advance | VS-2S200-TP | MAG | **2W774** | 168.65 | **107.55** | 3 | 15.0 |
| 3 | 120 | 485 | 4.10 | -20 | 0.92 | 15% | R-14 | 65 | Advance | RC-3S200-TP | MAG | **6V861** | 294.04 | **188.75** | 1 | 21.0 |
| **PREHEAT LAMPS** | | | | | | | | | | | | | | | | |
| **Lamp Compatibility F4T5** | | | | | | | | | | | | | | | | |
| **4 Watts, 6" Lamp Length - (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 9 | 0.19 | 50 | 1.01 | 10% | X-1 | — | Advance | LPL-5-9 | MAG | **6V836** | 6.46 | **4.18** | 1 | 0.4 |
| 1 | 120 | 9 | 0.19 | 50 | 1.01 | 10% | X-1T | — | Advance | LPL-5-9-TP | MAG | **1N120** | 8.54 | **5.07** | 1 | 0.5 |
| 1 | 120 | 9 | 0.20 | 50 | 0.98 | 10% | C-2 | 31 | Advance | LC-4-9-C | MAG | **6V834** | 5.72 | **3.40** | 1 | 0.7 |
| **Lamp Compatibility F6T5** | | | | | | | | | | | | | | | | |
| **6 Watts, 9" Lamp Length - Preheat (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 9 | 0.17 | 50 | 1.02 | 10% | X-1 | — | Advance | LPL-5-9 | MAG | **6V836** | 6.46 | **4.18** | 1 | 0.4 |
| 1 | 120 | 9 | 0.17 | 50 | 1.02 | 10% | X-1T | — | Advance | LPL-5-9-TP | MAG | **1N120** | 8.54 | **5.07** | 1 | 0.5 |
| 1 | 120 | 10 | 0.19 | 50 | 0.98 | 10% | C-2 | 31 | Advance | LC-4-9-C | MAG | **6V834** | 5.72 | **3.40** | 1 | 0.7 |
| **Lamp Compatibility F8T5** | | | | | | | | | | | | | | | | |
| **8 Watts, 12" Lamp Length - Preheat (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 9 | 0.14 | 50 | 1.00 | 10% | X-1 | — | Advance | LPL-5-9 | MAG | **6V836** | 6.46 | **4.18** | 1 | 0.4 |
| 1 | 120 | 9 | 0.14 | 50 | 1.00 | 10% | X-1T | — | Advance | LPL-5-9-TP | MAG | **1N120** | 8.54 | **5.07** | 1 | 0.5 |
| 1 | 120 | 11 | 0.17 | 50 | 0.95 | 10% | C-2 | 31 | Advance | LC-4-9-TP | MAG | **6V834** | 5.72 | **3.40** | 1 | 0.7 |
| **Preheat Trigger Start (No Starter Required)** | | | | | | | | | | | | | | | | |
| 1 | 120 | 14 | 0.34 | 50 | 0.86 | 25% | R-4 | — | Advance | LQ-106F-TP | MAG | **6V838** | 28.88 | **18.53** | 1 | 2.0 |
| 1 | 277 | 14 | 0.16 | 50 | 0.96 | 30% | R-4 | — | Advance | VLQ-106F-TP | MAG | **6V934** | 31.78 | **20.39** | 1 | 1.9 |
| 2 | 120 | 21 | 0.47 | 50 | 0.74 | 30% | R-4 | — | Advance | LQ-206-F-TP | MAG | **6V839** | 30.43 | **19.55** | 1 | 1.9 |



*When it comes to lighting, no distributor outshines Grainger.*

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

New

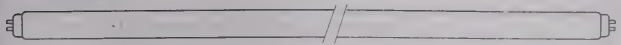
## BALLAST CODES

RS-CIC—Rapid Start Controllable Integrated Circuit
RS-H—Rapid Start High Light Output
RS-N—Rapid Start Normal Light Output
RS-L—Rapid Start Low Light Output
RS-IC—Rapid Start Integrated Circuit
IS-H—Instant Start High Light Output
IS-N—Instant Start Normal Light Output
IS-L—Instant Start Low Light Output
DIM-MAG—Dimmable Electromagnetic
DIM.ELEC—Dimmable Electronic
HYBRID—PowrKut® Electromagnetic
MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F13T5



Example of Lamp Compatibility F14T8-F30T8

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See page 1038) | Mfr. | Mfr's. Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F13T5** | | | | | | | | | | | | | | | | |
| **13 Watts, 21" Lamp Length - Preheat (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 18 | .33 | 50 | 0.90 | 10% | R-4 | — | Advance | L-1Q13-TP | MAG | 6V842 | $21.78 | $13.87 | 1 | 2.0 |
| 1 | 120 | 17 | .28 | 50 | 0.89 | 10% | LS-1 | 67 | Advance | LS-113-TP | MAG | 3VJ98 | 33.40 | 19.77 | 1 | 1.4 |
| 1 | 120 | 13 | .14 | 50 | 0.88 | 15% | LS-1 | 33, 68 | Advance | LSX-113-TP | MAG | New4PL65 | 53.87 | 42.35 | 1 | 1.3 |
| 2 | 120 | 26 | .29 | 50 | 0.88 | 25% | LS-1 | 33, 68, 69 | Advance | LSX-213-TP | MAG | New4PL66 | 53.87 | 42.35 | 1 | 1.3 |
| **Lamp Compatibility F14T8** | | | | | | | | | | | | | | | | |
| **14 Watts, 15" Lamp Length - Preheat (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 18 | 0.32 | 50 | .90 | 15% | X-3 | — | Advance | LO-13-22 | MAG | 6V835 | 6.46 | 5.16 | 1 | 0.6 |
| 1 | 120 | 18 | 0.32 | 50 | .90 | 15% | X-3T | — | Advance | LO-13-22-TP | MAG | 1N119 | 8.54 | 5.07 | 1 | 0.3 |
| 1 | 120 | 20 | 0.37 | 50 | .97 | 15% | C-2 | 31 | Advance | LC-14-20-C | MAG | 2X463 | 5.15 | 3.42 | 1 | 0.7 |
| 1 | 120 | 20 | 0.37 | 50 | .97 | 15% | C-2 | 31 | Advance | LC-14-20-C-TP | MAG | 3JN61 | 8.44 | 4.76 | 1 | 0.7 |
| **Lamp Compatibility F15T8** | | | | | | | | | | | | | | | | |
| **15 Watts, 18" Lamp Length - Preheat (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 18 | 0.28 | 50 | 0.96 | 10% | X-3 | — | Advance | LO-13-22 | MAG | 6V835 | 6.46 | 5.16 | 1 | 0.6 |
| 1 | 120 | 18 | 0.28 | 50 | 0.96 | 10% | X-3T | — | Advance | LO-13-22-TP | MAG | 1N119 | 8.54 | 5.07 | 1 | 0.3 |
| 1 | 120 | 20 | 0.34 | 50 | 1.08 | 10% | C-2 | — | Advance | LC-14-20-C | MAG | 2X463 | 5.15 | 3.42 | 1 | 0.7 |
| 1 | 120 | 20 | 0.34 | 50 | 1.08 | 10% | C-2 | 31 | Advance | LC-14-20-C-TP | MAG | 3JN61 | 8.44 | 4.76 | 1 | 0.7 |
| 2 | 120 | 36 | 0.59 | 50 | 0.97 | 10% | R-4 | 38 | Advance | L-220F | MAG | 6V845 | 16.13 | 10.24 | 1 | 1.8 |
| **Lamp Compatibility F15T8** | | | | | | | | | | | | | | | | |
| **15 Watts, 18" Lamp Length - Preheat Trigger Start (No Starter Required)** | | | | | | | | | | | | | | | | |
| 1 | 120 | 28 | 0.56 | 50 | 1.01 | 10% | R-4 | 32 | Advance | RLQ-120-TP | MAG | 5X791 | 18.94 | 12.00 | 1 | 2.2 |
| 1 | 120 | 27 | 0.24 | 50 | 0.90 | 15% | T-2 | 59 | Advance | HM-1P20-TP | MAG | 6V830 | 66.47 | 39.55 | 1 | 3.3 |
| 1 | 277 | 27 | 0.10 | 50 | 0.99 | 15% | T-2 | 59 | Advance | VHM-1P20-TP | MAG | 6V928 | 70.44 | 42.90 | 1 | 3.2 |
| 2 | 120 | 36 | 0.51 | 50 | 0.78 | 15% | T-1 | — | Advance | RL-2SP20-TP | MAG | 3X964 | 33.85 | 21.65 | 1 | 2.6 |
| 2 | 120 | 51 | 0.47 | 50 | 0.99 | 20% | T-2 | 59 | Advance | HM-2SP20-TP | MAG | 6V832 | 58.50 | 37.60 | 1 | 3.4 |
| 2 | 277 | 55 | 0.21 | 50 | 0.94 | 20% | T-2 | 59 | Advance | VM-2SP20-TP | MAG | 6V938 | 62.02 | 39.85 | 1 | 3.4 |
| 3 | 120 | 64 | 0.80 | 50 | 0.72 | 30% | R-5 | — | Advance | RL-3SP20-TP | MAG | 6V874 | 62.09 | 39.95 | 1 | 4.0 |
| **Lamp Compatibility F18T8** | | | | | | | | | | | | | | | | |
| **19 Watts, 30" Lamp Length - Preheat (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 17 | 0.29 | 50 | 0.80 | 15% | X-3 | — | Advance | LO-13-22 | MAG | 6V835 | 6.46 | 5.16 | 1 | 0.6 |
| 1 | 120 | 17 | 0.29 | 50 | 0.80 | 15% | X-3T | — | Advance | LO-13-22-TP | MAG | 1N119 | 8.54 | 5.07 | 1 | 0.3 |
| 1 | 120 | 20 | 0.33 | 50 | 0.92 | 10% | C-2 | 31 | Advance | LC-14-20-C | MAG | 2X463 | 5.15 | 3.42 | 1 | 0.7 |
| 1 | 120 | 20 | 0.33 | 50 | 0.92 | 10% | C-2 | 31 | Advance | LO-14-20- C-TP | MAG | 3JN61 | 8.44 | 4.76 | 1 | 0.7 |
| **Lamp Compatibility F19T8** | | | | | | | | | | | | | | | | |
| **19 Watts, 30" Lamp Length - Preheat (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 18 | 0.29 | 50 | 0.80 | 15% | X-3 | — | Advance | LO-13-22 | MAG | 6V835 | 6.46 | 5.16 | 1 | 0.6 |
| 1 | 120 | 18 | 0.29 | 50 | 0.80 | 15% | X-3T | — | Advance | LO-13-22-TP | MAG | 1N119 | 8.54 | 5.07 | 1 | 0.3 |
| 1 | 120 | 20 | 0.30 | 50 | 0.92 | 10% | C-2 | 31 | Advance | LC-14-20-C | MAG | 2X463 | 5.15 | 3.42 | 1 | 0.7 |
| 1 | 120 | 20 | 0.33 | 50 | 0.92 | 10% | C-2 | 31 | Advance | LC-14-20-C-TP | MAG | 3JN61 | 8.44 | 4.76 | 1 | 0.7 |
| **Lamp Compatibility F30T8** | | | | | | | | | | | | | | | | |
| **30 Watts, 3' Lamp Length - Preheat (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 40 | .67 | 50 | 0.96 | 15% | R-4 | 38 | Advance | L-140F-TP | MAG | 2W769 | 16.43 | 10.87 | 1 | 2.2 |
| 1 | 120 | 40 | .64 | 50 | 1.00 | 10% | R-4 | 33, 38 | Advance | LX-140F-TP | MAG | 6V840 | 29.79 | 19.12 | 1 | 1.8 |

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

## BALLAST CODES

**RS-CIC**—Rapid Start Controllable Integrated Circuit
**RS-H**—Rapid Start High Light Output
**RS-N**—Rapid Start Normal Light Output
**RS-L**—Rapid Start Low Light Output
**RS-IC**—Rapid Start Integrated Circuit
**IS-H**—Instant Start High Light Output
**IS-N**—Instant Start Normal Light Output
**IS-L**—Instant Start Low Light Output
**DIM-MAG**—Dimmable Electromagnetic
**DIM.ELEC**—Dimmable Electronic
**HYBRID**—PowrKut® Electromagnetic
**MAG**—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F14T12 - F20T12

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F14T12** | | | | | | | | | | | | | | | | |
| **14 Watts, 15" Lamp Length, Preheat-(Starter Required ) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 18 | 0.34 | 50 | 0.92 | 10% | X-3 | — | Advance | LO-13-22 | MAG | **6V835** | $6.46 | **$5.16** | 1 | 0.6 |
| 1 | 120 | 18 | 0.34 | 50 | 0.92 | 10% | X-3T | — | Advance | LO-13-22-TP | MAG | **1N119** | 8.54 | **5.07** | 1 | 0.3 |
| 1 | 120 | 21 | 0.39 | 50 | 1.01 | 10% | C-2 | 31 | Advance | LC-14-20-C | MAG | **2X463** | 5.15 | **3.42** | 1 | 0.7 |
| 1 | 120 | 21 | 0.39 | 50 | 1.01 | 10% | C-2 | 31 | Advance | LC-14-20-C-TP | MAG | **3JN61** | 8.44 | **4.76** | 1 | 0.7 |
| **Preheat Trigger Start (No Starter Required)** | | | | | | | | | | | | | | | | |
| 1 | 120 | 28 | 0.58 | 50 | 0.92 | 10% | R-4 | 32,60 | Advance | RLQ-120-TP | MAG | **5X791** | 18.94 | **12.00** | 1 | 2.2 |
| 1 | 120 | 24 | 0.21 | 50 | 0.82 | 10% | T-2 | — | Advance | HM-1P20-TP | MAG | **6V830** | 66.47 | **39.55** | 1 | 3.3 |
| 1 | 277 | 25 | 0.90 | 50 | 0.84 | 10% | T-2 | — | Advance | VHM-1P20-TP | MAG | **6V928** | 70.44 | **42.90** | 1 | 3.2 |
| 2 | 120 | 46 | 0.43 | 50 | 0.85 | 10% | T-2 | — | Advance | HM-2SP20-TP | MAG | **6V832** | 58.50 | **37.60** | 1 | 3.4 |
| 2 | 277 | 47 | 0.19 | 50 | 0.88 | 15% | T-2 | — | Advance | VM-2SP20-TP | MAG | **6V938** | 62.02 | **39.85** | 1 | 3.4 |
| **Lamp Compatibility F15T12** | | | | | | | | | | | | | | | | |
| **15 Watts, 18" Lamp Length, Preheat - (Starter Required ) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 18 | 0.32 | 50 | 0.97 | 10% | X-3 | — | Advance | LO-13-22 | MAG | **6V835** | 6.46 | **5.16** | 1 | 0.6 |
| 1 | 120 | 18 | 0.32 | 50 | 0.97 | 10% | X-3T | — | Advance | LO-13-22-TP | MAG | **1N119** | 8.54 | **5.07** | 1 | 0.3 |
| 1 | 120 | 19 | 0.29 | 50 | 0.94 | 10% | C-2 | 31 | Advance | LC-14-20-C | MAG | **2X463** | 5.15 | **3.42** | 1 | 0.7 |
| 1 | 120 | 19 | 0.29 | 50 | 0.94 | 10% | C-2 | 31 | Advance | LC-14-20-C-TP | MAG | **3JN61** | 8.44 | **4.76** | 1 | 0.7 |
| 1 | 120 | 18 | 0.30 | 50 | 0.78 | 10% | R-2 | 38 | Advance | L-120F | MAG | **6V841** | 11.01 | **7.03** | 1 | 0.8 |
| 2 | 120 | 36 | 0.62 | 50 | 0.98 | 10% | R-3 | 38 | Advance | L-220F | MAG | **6V845** | 16.13 | **10.24** | 1 | 1.8 |
| **Preheat Trigger Start (No Starter Required)** | | | | | | | | | | | | | | | | |
| 1 | 120 | 29 | 0.58 | 50 | 0.99 | 15% | R-4 | 32,60 | Advance | RLQ-120TP | MAG | **5X791** | 18.94 | **12.00** | 1 | 2.2 |
| 1 | 120 | 27 | 0.23 | 50 | 0.89 | 15% | T-2 | — | Advance | HM-1P20-TP | MAG | **6V830** | 66.47 | **39.55** | 1 | 3.3 |
| 1 | 277 | 27 | 0.10 | 50 | 0.94 | 10% | T-2 | — | Advance | VHM-1P20-TP | MAG | **6V928** | 70.44 | **42.90** | 1 | 3.2 |
| 2 | 120 | 41 | 0.57 | 50 | 0.83 | 10% | T-1 | — | Advance | RL-2SP20-TP | MAG | **3X964** | 33.85 | **21.65** | 1 | 2.6 |
| 2 | 120 | 47 | 0.44 | 50 | 0.92 | 15% | T-2 | — | Advance | HM-2SP20-TP | MAG | **6V832** | 58.50 | **37.60** | 1 | 3.4 |
| 2 | 277 | 46 | 0.18 | 50 | 0.98 | 15% | T-2 | — | Advance | VM-2SP20-TP | MAG | **6V938** | 62.02 | **39.85** | 1 | 3.4 |
| 3 | 120 | 63 | 0.89 | 50 | 0.94 | 10% | R-5 | 60 | Advance | RL-3SP20-TP | MAG | **6V874** | 62.09 | **39.95** | 1 | 4.0 |
| **Lamp Compatibility F20T12** | | | | | | | | | | | | | | | | |
| **20 Watts, 2' Lamp Length, Preheat - (Starter Included) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 18 | 0.28 | 50 | 0.77 | 10% | X-3 | — | Advance | LO-13-22 | MAG | **6V835** | 6.46 | **5.16** | 1 | 0.6 |
| 1 | 120 | 18 | 0.28 | 50 | 0.77 | 10% | X-3T | — | Advance | LO-13-22-TP | MAG | **1N119** | 8.54 | **5.07** | 1 | 0.3 |
| 1 | 120 | 21 | 0.33 | 50 | 0.93 | 10% | C-2 | 31 | Advance | LC-14-20-C | MAG | **2X463** | 5.15 | **3.42** | 1 | 0.7 |
| 1 | 120 | 22 | 0.32 | 50 | 0.90 | 10% | C-2 | 31 | Advance | LC-14-20-C-TP | MAG | **3JN61** | 8.44 | **4.76** | 1 | 0.7 |
| 1 | 120 | 19 | 0.27 | 50 | 0.78 | 10% | R-2 | 38 | Advance | L-120F | MAG | **6V841** | 11.01 | **7.03** | 1 | 0.8 |
| 2 | 120 | 38 | 0.55 | 50 | 0.80 | 10% | R-3 | 38 | Advance | L-220F | MAG | **6V845** | 16.13 | **10.24** | 1 | 1.8 |
| **Preheat Trigger Start (No Starter Required)** | | | | | | | | | | | | | | | | |
| 1 | 120 | 28 | 0.55 | 50 | 0.83 | 10% | R-4 | 32,60 | Advance | RLQ-120TP | MAG | **5X791** | 18.94 | **12.00** | 1 | 2.2 |
| 1 | 120 | 29 | 0.24 | 50 | 0.83 | 20% | T-2 | — | Advance | HM-1P20-TP | MAG | **6V830** | 66.47 | **39.55** | 1 | 3.3 |
| 1 | 277 | 30 | 0.11 | 50 | 0.81 | 15% | T-2 | — | Advance | VHM-1P20-TP | MAG | **6V928** | 70.44 | **42.90** | 1 | 3.2 |
| 2 | 120 | 36 | 0.49 | 50 | 0.61 | 15% | T-1 | 60 | Advance | RL-2SP20-TP | MAG | **3X964** | 33.85 | **21.65** | 1 | 2.6 |
| 2 | 120 | 53 | 0.48 | 50 | 0.90 | 20% | T-2 | — | Advance | HM-2SP20-TP | MAG | **6V832** | 58.50 | **37.60** | 1 | 3.4 |
| 2 | 277 | 54 | 0.21 | 50 | 0.86 | 20% | T-2 | — | Advance | VM-2SP20-TP | MAG | **6V938** | 62.02 | **39.85** | 1 | 3.4 |
| 3 | 120 | 64 | 0.80 | 50 | 0.71 | 15% | R-5 | 60 | Advance | RL-3SP20-TP | MAG | **6V874** | 62.09 | **39.95** | 1 | 4.0 |



*When it comes to lighting, no distributor outshines Grainger.*

ADVANCE TRANSFORMER CO.

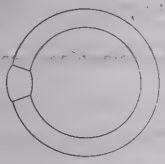
GE Lighting

ENERGY RIGHT®

## BALLAST CODES

- RS-CIC—Rapid Start Controllable Integrated Circuit
- RS-H—Rapid Start High Light Output
- RS-N—Rapid Start Normal Light Output
- RS-L—Rapid Start Low Light Output
- RS-IC—Rapid Start Integrated Circuit
- IS-H—Instant Start High Light Output
- IS-N—Instant Start Normal Light Output
- IS-L—Instant Start Low Light Output
- DIM-MAG—Dimmable Electromagnetic
- DIM.ELEC—Dimmable Electronic
- HYBRID—PowrKut® Electromagnetic
- MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility FC6T9 - FC12T9



Example of Lamp Compatibility F25T12- F40T12

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F25T12** | | | | | | | | | | | | | | | | |
| **25 Watts, 33" Lamp Length, Preheat - (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 24 | 0.36 | 50 | 0.90 | 10% | C-2 | 31 | Advance | LC-25 | MAG | **6V883** | $411.65 | **$265.50** | 1 | 0.7 |
| 1 | 120 | 24 | 0.36 | 50 | 0.90 | 10% | C-2 | 31 | Advance | LC-25-TP | MAG | **3JN62** | 13.57 | **7.64** | 1 | 0.7 |
| **Lamp Compatibility F30T12** | | | | | | | | | | | | | | | | |
| **30 Watts, 3' Lamp Length, Preheat - (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 41 | 0.73 | 50 | 0.95 | 10% | R-4 | 38 | Advance | L-140F-TP | MAG | **2W769** | 16.43 | **10.87** | 1 | 2.2 |
| 1 | 120 | 40 | 0.73 | 50 | 0.95 | 10% | R-4 | 33, 38 | Advance | LX-140F-TP | MAG | **6V840** | 29.79 | **19.12** | 1 | 1.8 |
| **Lamp Compatibility F40T12** | | | | | | | | | | | | | | | | |
| **40 Watts, 4' Lamp Length, Preheat - (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 41 | 0.65 | 50 | 0.79 | 15% | R-4 | 38 | Advance | L-140F-TP | MAG | **2W769** | 16.43 | **10.87** | 1 | 2.2 |
| 1 | 120 | 40 | 0.63 | 50 | 0.83 | 10% | R-4 | 33, 38 | Advance | LX-140F-TP | MAG | **6V840** | 29.79 | **19.12** | 1 | 1.8 |
| **CIRCLINE LAMPS** | | | | | | | | | | | | | | | | |
| **Lamp Compatibility FC6T9** | | | | | | | | | | | | | | | | |
| **20 Watts, 6.5" Lamp Length, Preheat - (Starter Required) Class B Insulation** | | | | | | | | | | | | | | | | |
| 1 | 120 | 19 | 0.30 | 50 | 0.82 | 10% | X-3T | — | Advance | LO-13-22-TP | MAG | **1N119** | 8.54 | **5.07** | 1 | 0.3 |
| 1 | 120 | 21 | 0.35 | 50 | 0.92 | 10% | C-2 | 31 | Advance | LC-14-20C | MAG | **2X463** | 5.15 | **3.42** | 1 | 0.7 |
| 1 | 120 | 21 | 0.35 | 50 | 0.92 | 10% | C-2 | 31 | Advance | LC-14-20C-TP | MAG | **3JN61** | 8.44 | **4.76** | 1 | 0.7 |
| 1 | 120 | 19 | 0.30 | 50 | 0.82 | 10% | X-3 | — | Advance | LO-13-22 | MAG | **6V835** | 6.46 | **5.16** | 1 | 0.6 |
| **Lamp Compatibility FC6T9** | | | | | | | | | | | | | | | | |
| **20 Watts, 6.5" Lamp Length, Rapid Start** | | | | | | | | | | | | | | | | |
| 1 | 120 | 24 | 0.56 | 50 | 0.76 | 10% | R-4 | 44 | Advance | RLQS-122-TP-W | MAG | **6V872*** | 24.87 | **15.85** | 1 | 2.5 |
| **Lamp Compatibility FC8T9** | | | | | | | | | | | | | | | | |
| **20 Watts, 8.25" Lamp Length, Preheat (Starter Required)** | | | | | | | | | | | | | | | | |
| 1 | 120 | 18 | 0.25 | 50 | 0.74 | 10% | X-3T | — | Advance | LO-13-22-TP | MAG | **1N119** | 8.54 | **5.07** | 1 | 0.3 |
| 1 | 120 | 21 | 0.30 | 50 | 0.84 | 10% | C-2 | 31 | Advance | LC-14-20C | MAG | **2X463** | 5.15 | **3.42** | 1 | 0.7 |
| 1 | 120 | 21 | 0.30 | 50 | 0.84 | 10% | C-2 | 31 | Advance | LC-14-20C-TP | MAG | **3JN61** | 8.44 | **4.76** | 1 | 0.7 |
| 1 | 120 | 18 | 0.25 | 50 | 0.74 | 10% | X-3 | — | Advance | LO-13-22 | MAG | **6V835** | 6.46 | **5.16** | 1 | 0.6 |
| **Lamp Compatibility FC8T9** | | | | | | | | | | | | | | | | |
| **22 Watts, 8.25" Lamp Length, Rapid Start** | | | | | | | | | | | | | | | | |
| 1 | 120 | 25 | 0.53 | 50 | 0.75 | 10% | R-4 | 44 | Advance | RLQS-122-TP-W | MAG | **6V872*** | 24.87 | **15.85** | 1 | 2.5 |
| **Lamp Compatibility FC12T9** | | | | | | | | | | | | | | | | |
| **32 Watts, 12" Lamp Length, Preheat (Starter Required)** | | | | | | | | | | | | | | | | |
| 1 | 120 | 40 | 0.75 | 50 | 0.90 | 10% | R-4 | 38 | Advance | L-140F-TP | MAG | **2W769** | 16.43 | **10.87** | 1 | 2.2 |
| 1 | 120 | 40 | 0.71 | 50 | 0.91 | 10% | R-4 | 33, 38 | Advance | LX-140F-TP | MAG | **6V840** | 29.79 | **19.12** | 1 | 1.8 |
| **Lamp Compatibility FC12T9** | | | | | | | | | | | | | | | | |
| **32 Watts, 12" Lamp Length, Rapid Start** | | | | | | | | | | | | | | | | |
| 1 | 120 | 32 | 0.59 | 50 | 0.68 | 15% | R-4 | 32 | Advance | RL-140-TP | MAG | **5X788** | 18.82 | **11.92** | 1 | 2.1 |
| 1 | 120 | 31 | 0.57 | 50 | 0.63 | 10% | R-4 | 44 | Advance | RLCS-140-TP-W | MAG | **6V871*** | 24.87 | **15.85** | 1 | 2.1 |

(*) Includes lamp socket.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

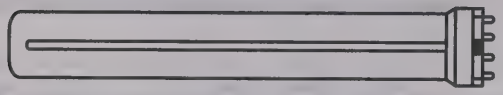
New

ENERGY RIGHT®

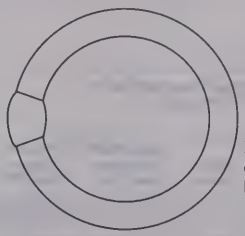
## BALLAST CODES

**RS-CIC**—Rapid Start Controllable Integrated Circuit
**RS-H**—Rapid Start High Light Output
**RS-N**—Rapid Start Normal Light Output
**RS-L**—Rapid Start Low Light Output
**RS-IC**—Rapid Start Integrated Circuit
**IS-H**—Instant Start High Light Output
**IS-N**—Instant Start Normal Light Output
**IS-L**—Instant Start Low Light Output
**DIM-MAG**—Dimmable Electromagnetic
**DIM.ELEC**—Dimmable Electronic
**HYBRID**—PowrKut® Electromagnetic
**MAG**—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of lamp compatibility F18BX – F39BX



Example of lamp compatibility FC8T9 – FC16T9

| No. of Lamps | Input Volts | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See Page 1038) | Mfr. | Mfr's Model No. | Ballast Code | | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility FC16T9** | | | | | | | | | | | | | | | | | |
| **40 Watts, 16" Lamp Length - Preheat (Starter Required)** | | | | | | | | | | | | | | | | | |
| 1 | 120 | 39 | 0.59 | 50 | 0.80 | 15% | R-4 | — | Advance | L-140F-TP | MAG | | **2W769** | $16.43 | **$10.87** | 3 | 2.2 |
| 1 | 120 | 37 | 0.54 | 50 | 0.81 | 15% | R-4 | 33 | Advance | LX-140F-TP | MAG | | **6V840** | 29.79 | **19.12** | 3 | 1.8 |
| **Lamp Compatibility FC16T9** | | | | | | | | | | | | | | | | | |
| **40 Watts, 16" Lamp Length - Rapid Start** | | | | | | | | | | | | | | | | | |
| 1 | 120 | 29 | 0.46 | 50 | 0.55 | 15% | R-4 | — | Advance | RL-140-TP | MAG | | **5X788** | 18.82 | **11.92** | 3 | 2.1 |
| 1 | 120 | 28 | 0.44 | 50 | 0.50 | 15% | R-4 | 44 | Advance | RLCS-140-TP-W | MAG | | **6V871** * | 24.87 | **15.85** | 3 | 2.1 |
| **Lamp Compatibility (1)FC8T9 & (1)FC1T29** | | | | | | | | | | | | | | | | | |
| **22/32 Watts - Rapid Start** | | | | | | | | | | | | | | | | | |
| 2 | 120 | 51 | 0.80 | 50 | 0.80 | 15% | T-1 | 44 | Advance | RS-22-32-TP-W | MAG | | **2W770** * | 30.76 | **20.53** | 10 | 2.8 |
| 2 | 120 | 43 | 0.37 | 50 | 0.71 | 10% | T-1 | 44 | Advance | RMS-22-32-TP-W | MAG | | **6V875** * | 52.42 | **33.80** | 3 | 2.7 |
| **Lamp Compatibility (1) FC12T9 & (1)FC16T9** | | | | | | | | | | | | | | | | | |
| **32/40 Watts - Rapid Start** | | | | | | | | | | | | | | | | | |
| 2 | 120 | 56 | 0.76 | 50 | 0.60 | 20% | T-1 | 44 | Advance | RS-32-40-TP-W | MAG | | **6V885** * | 36.39 | **23.21** | 3 | 3.3 |
| **COMPACT FLUORESCENT LAMPS** | | | | | | | | | | | | | | | | | |
| **Lamp Compatibility, F18BX, PL-L 18, Dulux L-18** | | | | | | | | | | | | | | | | | |
| **18 Watts, 9" Lamp Length** | | | | | | | | | | | | | | | | | |
| 1 | 120 | 25 | 0.22 | 50 | 1.01 | 25% | T-2 | — | Advance | R-1P817-TP | MAG | | **6V890** | 52.39 | **32.10** | 3 | 3.5 |
| 1 | 277 | 24 | 0.10 | 50 | 1.05 | 20% | T-2 | — | Advance | V-1P817-TP | MAG | | **6V955** | 55.00 | **33.10** | 3 | 4.0 |
| 2 | 120 | 48 | 0.41 | 50 | 1.01 | 20% | T-2 | — | Advance | R-2P817-TP | MAG | | **6V896** | 52.39 | **32.10** | 3 | 3.5 |
| 2 | 277 | 40 | 0.15 | 50 | 1.00 | 20% | T-2 | — | Advance | V-2P817-TP | MAG | | **6V960** | 55.00 | **33.10** | 3 | 3.5 |
| **Lamp Compatibility, F27BX, PL-L24, Dulux L-24** | | | | | | | | | | | | | | | | | |
| **24/27 Watts, 13" Lamp Length** | | | | | | | | | | | | | | | | | |
| 1 | 120 | 30 | 0.26 | 50 | 0.88 | 20% | T-2 | — | Advance | R-1BP27-TP | MAG | | **6V887** | 52.39 | **33.65** | 3 | 3.5 |
| 1 | 277 | 31 | 0.12 | 50 | 0.86 | 20% | T-2 | — | Advance | V-1BP27-TP | MAG | | **6V951** | 55.07 | **35.45** | 3 | 3.4 |
| 2 | 120 | 66 | 0.56 | 50 | 0.95 | 15% | T-2 | — | Advance | R-2BP27-TP | MAG | | **6V894** | 52.39 | **33.70** | 3 | 3.4 |
| 2 | 277 | 60 | 0.23 | 50 | 0.96 | 20% | T-2 | — | Advance | V-2BP27-TP | MAG | | **6V957** | 55.07 | **35.40** | 3 | 3.6 |
| **Lamp Compatibility, F39BX, PL-L36, Dulux L-36** | | | | | | | | | | | | | | | | | |
| **36/39 Watts, 16.5" Lamp Length** | | | | | | | | | | | | | | | | | |
| 1 | 120 | 53 | 0.45 | 50 | 0.99 | 20% | T-2 | — | Advance | R-1BP39-TP | MAG | | **6V888** | 52.39 | **33.65** | 3 | 3.5 |
| 1 | 277 | 53 | 0.20 | 50 | 0.95 | 20% | T-2 | — | Advance | V-1BP39-TP | MAG | | **6V952** | 55.07 | **35.40** | 3 | 3.5 |
| 1 | 120 | 39 | 0.35 | 50 | 1.00 | 20% | T-2 | 37, 68 | Advance | REL-1TTS39 | RS-N | *New* | **4PL69** | 87.90 | **31.50** | 3 | 2.4 |
| 1 | 277 | 39 | 0.15 | 50 | 1.00 | 20% | T-2 | 37, 68 | Advance | VEL-1TTS39 | RS-N | *New* | **4PL77** | 90.95 | **32.60** | 3 | 2.4 |
| 2 | 120 | 90 | 0.80 | 50 | 0.88 | 25% | T-2 | — | Advance | R-2BP39-TP | MAG | | **6V895** | 52.39 | **33.65** | 3 | 3.6 |
| 2 | 120 | 70 | 0.59 | 32 | 0.85 | 20% | T-2 | — | Advance | REL-2TTS39 | RS-N | ✓ | **1N124** | 88.00 | **33.10** | 10 | 2.4 |
| 2 | 277 | 84 | 0.33 | 50 | 0.91 | 30% | T-2 | — | Advance | V-2BS39-TP | MAG | | **6V958** | 55.07 | **35.40** | 3 | 3.6 |
| 2 | 277 | 70 | 0.25 | 32 | 0.85 | 20% | T-2 | — | Advance | VEL-2TTS39 | RS-N | ✓ | **1N135** | 91.06 | **34.10** | 10 | 2.4 |

(✓) Denotes energy efficient product. (*) Includes lamp socket



When it comes to lighting, no distributor outshines Grainger.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.

New

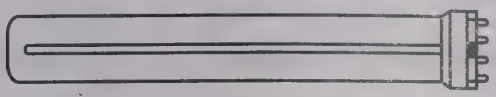
ENERGY RIGHT®

GE Lighting

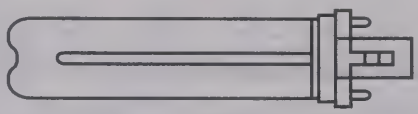
## BALLAST CODES

RS-CIC—Rapid Start Controllable Integrated Circuit
RS-H—Rapid Start High Light Output
RS-N—Rapid Start Normal Light Output
RS-L—Rapid Start Low Light Output
RS-IC—Rapid Start Integrated Circuit
IS-H—Instant Start High Light Output
IS-N—Instant Start Normal Light Output
IS-L—Instant Start Low Light Output
DIM-MAG—Dimmable Electromagnetic
DIM.ELEC—Dimmable Electronic
HYBRID—PowrKut™ Electromagnetic
MAG—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Lamp Compatibility F40BX-F50BX



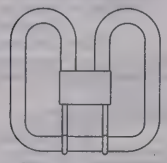
Lamp Compatibility F5BX-F9BX

| No. of Lamps | Input Voltage | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (Page 1038) | Mfr. | Mfr.'s Model No. | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility 40BX, DULUX L-40, PL-40** | | | | | | | | | | | | | | | | |
| **40 Watts, 22.5" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 48 | 0.41 | 50 | 0.97 | 20% | T-2 | — | Advance | R-1BP40-TP | MAG | 6V904 | $52.39 | $33.65 | 1 | 3.7 |
| 1 | 120 | 44 | 0.37 | 50 | 1.00 | 20% | T-2 | 37, 71 | Advance | REL-1TTS40 | RS-N | New 4PL70 | 87.90 | 31.50 | 1 | 2.4 |
| 1 | 277 | 46 | 0.18 | 50 | 0.98 | 25% | T-2 | — | Advance | V-1BP40-TP | MAG | 6V953 | 55.07 | 35.40 | 1 | 3.6 |
| 1 | 277 | 44 | 0.16 | 50 | 1.00 | 20% | T-2 | 37,71 | Advance | VEL-1TTS40 | RS-N | New 4PL78 | 90.95 | 32.60 | 1 | 2.4 |
| 2 | 120 | 77 | 0.65 | 50 | 0.87 | 20% | T-2 | — | Advance | R-2BS40-TP | MAG | 6V975 | 52.39 | 33.65 | 1 | 3.6 |
| 2 | 120 | 69 | 0.61 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | C240I120RH | RS-N | New 4PJ96 | 90.56 | 42.00 | 1 | 2.5 |
| 2 | 120 | 80 | 0.68 | 50 | 1.00 | 10% | BLS1 | 37, 71 | Advance | REZ-2TTS40 | DIM.ELEC | New 4PL74 | 209.10 | 77.50 | 1 | 2.4 |
| 2 | 120 | 71 | 0.60 | 32 | 0.83 | 20% | T-2 | — | Advance | REL-2TTS40 | RS-N | 1N125 | 88.00 | 33.10 | 1 | 2.5 |
| 2 | 277 | 79 | 0.29 | 50 | 0.83 | 15% | T-2 | — | Advance | V-2BS40-TP | MAG | 6V976 | 55.07 | 35.40 | 1 | 3.7 |
| 2 | 277 | 69 | 0.26 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | C240I277RH | RS-N | New 4PJ97 | 98.13 | 42.00 | 1 | 2.5 |
| 2 | 277 | 80 | 0.30 | 50 | 1.00 | 15% | BLS1 | 37, 71 | Advance | VEZ-2TTS40 | DIM.ELEC | New 4PL82 | 221.28 | 82.05 | 1 | 2.4 |
| 2 | 277 | 71 | 0.26 | 32 | 0.83 | 20% | T-2 | — | Advance | VEL-2TTS40 | RS-N | 1N136 | 91.06 | 34.10 | 1 | 2.4 |
| 3 | 120 | 101 | 0.88 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | C340I120RH | RS-N | New 4PJ98 | 105.20 | 46.00 | 1 | 2.5 |
| 3 | 277 | 101 | 0.38 | 50 | 0.88 | 20% | T-3 | — | GE/Magnetek | C340I277RH | RS-N | New 4PJ99 | 112.31 | 46.00 | 1 | 2.5 |
| **Lamp Compatibility F50** | | | | | | | | | | | | | | | | |
| **50 Watts, 22.5" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 54 | 0.46 | 50 | 0.98 | 20% | T-2 | 37, 71 | Advance | REL-1TTS50 | RS-N | New 4PL71 | 103.32 | 33.80 | 1 | 2.4 |
| 1 | 277 | 54 | 0.20 | 50 | 0.98 | 20% | T-2 | 37,71 | Advance | VEL-1TTS50 | RS-N | New 4PL79 | 105.78 | 35.25 | 1 | 2.4 |
| 2 | 120 | 106 | 0.90 | 32 | 0.97 | 20% | T-2 | — | Advance | REL-2TTS50 | RS-N | 1N126 | 94.43 | 35.85 | 1 | 2.4 |
| 2 | 277 | 106 | 0.39 | 32 | 0.97 | 20% | T-2 | — | Advance | VEL-2TTS50 | RS-N | 1N137 | 98.42 | 36.85 | 1 | 2.4 |
| **COMPACT FLUORESCENT** | | | | | | | | | | | | | | | | |
| **Lamp Compatibility F5BX, F5TT, DULUX-S5, PL-S(5W)** | | | | | | | | | | | | | | | | |
| **5 Watts, 4" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 9 | 0.19 | 0 | — | 10% | X-1 | — | Advance | LPL-5-9 | MAG | 6V836 | 6.46 | 4.18 | 1 | 0.4 |
| 1 | 120 | 9 | 0.19 | 0 | — | 10% | X-1T | — | Advance | LPL-5-9-TP | MAG | 1N120 | 8.54 | 5.07 | 1 | 0.5 |
| 1 | 120 | 11 | 0.10 | 25 | — | 20% | R-1 | 59 | Advance | H-1B9-TP-W | MAG | 6V984 | 27.90 | 18.09 | 1 | 0.7 |
| 1 | 120 | 11 | 0.19 | 0 | — | 10% | R-1 | 60 | Advance | L-1B9-TP-W | MAG | 6V980 | 23.45 | 15.19 | 1 | 0.7 |
| 1 | 277 | 11 | 0.05 | 0 | — | 35% | R-2 | 59 | Advance | VH-1B9-TP-W | MAG | 6V985 | 33.54 | 21.70 | 1 | 1.2 |
| 1 | 277 | 12 | 0.17 | 0 | — | 10% | R-2 | 60 | Advance | VL-1B9-TP-W | MAG | 6V981 | 33.54 | 18.37 | 1 | 1.2 |
| **Lamp Compatibility F7BX, F7TT, DULUX-S7, PL-S(7W)** | | | | | | | | | | | | | | | | |
| **7 Watts, 5" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 9 | 0.17 | 0 | — | 10% | X-1 | — | Advance | LPL-5-9 | MAG | 6V836 | 6.46 | 4.18 | 1 | 0.4 |
| 1 | 120 | 9 | 0.17 | 0 | — | 10% | X-1T | — | Advance | LPL-5-9-TP | MAG | 1N120 | 8.54 | 5.07 | 1 | 0.5 |
| 1 | 120 | 10 | 0.19 | 0 | — | 10% | C-2 | 31 | Advance | LC-4-9-C | MAG | 6V834 | 5.72 | 3.40 | 1 | 0.7 |
| 1 | 120 | 11 | 0.10 | 0 | — | 20% | R-1 | 59 | Advance | H-1B9-TP-W | MAG | 6V984 | 27.90 | 18.09 | 1 | 0.7 |
| 1 | 120 | 11 | 0.18 | 0 | — | 10% | R-1 | 60 | Advance | L-1B9-TP-W | MAG | 6V980 | 23.45 | 15.19 | 1 | 0.7 |
| 1 | 277 | 12 | 0.05 | 0 | — | 30% | R-2 | 59 | Advance | VH-1B9-TP-W | MAG | 6V985 | 33.54 | 21.70 | 1 | 1.2 |
| 1 | 277 | 14 | 0.17 | 0 | — | 10% | R-2 | 60 | Advance | VL-1B9-TP-W | MAG | 6V981 | 33.54 | 18.37 | 1 | 1.2 |
| **Lamp Compatibility F9BX, F9TT, F9DTT, DULUX-S9, DOUBLE DULUX-D9, PL-S(9W)** | | | | | | | | | | | | | | | | |
| **9 Watts, 6" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 10 | 0.14 | 25 | — | 10% | X-1 | — | Advance | LPL-5-9 | MAG | 6V836 | 6.46 | 4.18 | 1 | 0.4 |
| 1 | 120 | 10 | 0.14 | 25 | — | 10% | X-1T | — | Advance | LPL-5-9-TP | MAG | 1N120 | 8.54 | 5.07 | 1 | 0.5 |
| 1 | 120 | 10 | 0.14 | 25 | — | 10% | C-2 | 31 | Advance | LC-4-9-C | MAG | 6V834 | 5.72 | 3.40 | 1 | 0.7 |
| 1 | 120 | 11 | 0.16 | 25 | — | 10% | R-1 | 59 | Advance | H-1B9-TP-W | MAG | 6V984 | 27.90 | 18.09 | 1 | 0.7 |
| 1 | 120 | 11 | 0.10 | 25 | — | 20% | R-1 | 60 | Advance | L-1B9-TP-W | MAG | 6V980 | 23.45 | 15.19 | 1 | 0.7 |
| 1 | 120 | 11 | 0.16 | 25 | — | 10% | R-2 | 59 | Advance | VH-1B9-TP-W | MAG | 6V985 | 33.54 | 21.70 | 1 | 1.2 |
| 1 | 277 | 13 | 0.05 | 0 | — | 35% | R-2 | 60 | Advance | VL-1B9-TP-W | MAG | 6V981 | 33.54 | 18.37 | 1 | 1.2 |
| 1 | 277 | 14 | 0.17 | 0 | — | 10% | | | | | | | | | | |

(✓) Denotes energy efficient product.

# FLUORESCENT BALLASTS

ADVANCE TRANSFORMER CO.



Example of Lamp Compatibility 2D

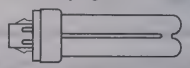
## BALLAST CODES

**RS-CIC**—Rapid Start Controllable Integrated Circuit
**RS-H**—Rapid Start High Light Output
**RS-N**—Rapid Start Normal Light Output
**RS-L**—Rapid Start Low Light Output
**RS-IC**—Rapid Start Integrated Circuit
**IS-H**—Instant Start High Light Output
**IS-N**—Instant Start Normal Light Output
**IS-L**—Instant Start Low Light Output
**DIM-MAG**—Dimmable Electromagnetic
**DIM.ELEC**—Dimmable Electronic
**HYBRID**—PowrKut® Electromagnetic
**MAG**—Electromagnetic

For more information, see page 1013. For complete explanations, see pages 1014-1016.



Example of Lamp Compatibility F13BX



Example of Lamp Compatibility F10BX-F26DB

| No. of Lamps | Input Voltage | Input Watts | Line Amps | Min. Start Temp. (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See page 1038) | Mfr. | Mfr's. Model | Ballast Code | Stock No. | List | Each | Shpg. Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lamp Compatibility F10DBX, Dulux-D10, PLC (10W)** | | | | | | | | | | | | | | | | |
| **10 Watts, 5" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 16 | 0.38 | 0 | — | 10% | R-4 | 60 | Advance | L-1Q13-TP-W | MAG | **6V842** | $21.78 | **$13.87** | 1 | 2.0 |
| **Lamp Compatibility F13DBX, Dulux-D13, PLC (13W)** | | | | | | | | | | | | | | | | |
| **13 Watts, 6" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 18 | 0.35 | 0 | — | 10% | R-4 | 60 | Advance | L-1Q13-TP-W | MAG | **6V842** | 21.78 | **13.87** | 1 | 2.0 |
| **Lamp Compatibility F13BX, F13DBX, F13TT, F13DTT, Dulux S13, Dulux-D13, PL-S (13W), PLC (13W)** | | | | | | | | | | | | | | | | |
| **13 Watts, 7" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 16 | 0.27 | 32 | — | 15% | C-2 | — | Advance | LC-13-TP | MAG | **3JN60** | 8.44 | **4.76** | 1 | 0.6 |
| 1 | 120 | 17 | 0.29 | 32 | — | 15% | X-3 | — | Advance | LO-13-22 | MAG | **6V835** | 6.46 | **5.16** | 1 | 0.6 |
| 1 | 120 | 17 | 0.29 | 32 | — | 15% | X-3T | — | Advance | LO-13-22-TP | MAG | **1N119** | 8.54 | **5.07** | 1 | 0.3 |
| 1 | 120 | 16 | 0.14 | 32 | — | 25% | R-1 | 59 | Advance | H-1B13-TP-W | MAG | **6V986** | 32.35 | **21.01** | 1 | 0.7 |
| 1 | 120 | 16 | 0.26 | 32 | — | 15% | R-1 | 60 | Advance | L-1B13-TP-W | MAG | **6V982** | 24.49 | **15.81** | 1 | 0.9 |
| 1 | 277 | 21 | 0.28 | 32 | — | 10% | X-8 | — | Advance | VLO-13 | MAG | **6V932** | 23.14 | **13.74** | 1 | 0.8 |
| 1 | 277 | 21 | 0.28 | 32 | — | 10% | X-8T | — | Advance | VLO-13-TP | MAG | **3JN67** | 25.22 | **14.19** | 1 | 1.0 |
| 1 | 277 | 24 | 0.10 | 0 | — | 30% | R-2 | 59 | Advance | VH-1B13-TP-W | MAG | **6V987** | 41.29 | **26.70** | 1 | 1.4 |
| 1 | 277 | 24 | 0.26 | 0 | — | 15% | R-2 | 60 | Advance | VL-1B13-TP-W | MAG | **6V983** | 41.29 | **23.57** | 1 | 1.4 |
| 2 | 277 | 34 | 0.31 | 32 | — | 15% | X-8T | — | Advance | VLO-2S13-TP | MAG | **3JN68** | 26.93 | **15.14** | 1 | 1.3 |
| **Lamp Compatibility 2D Square Shaped Lamp—Preheat 2-pin** | | | | | | | | | | | | | | | | |
| **16 Watts, 5.5" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 23 | 0.19 | 25 | — | 10% | T-1 | 59 | Advance | H-1Q18-TP-W | MAG | **3V981** | 47.72 | **30.85** | 1 | 2.5 |
| 1 | 120 | 24 | 0.48 | 25 | — | 10% | R-4 | 60 | Advance | L-1Q18-TP-W | MAG | **6V843** | 23.14 | **14.80** | 1 | 1.9 |
| **Lamp Compatibility F18DBX, F18DTT, Dulux-D18, PLC (18W)** | | | | | | | | | | | | | | | | |
| **18 Watts, 7" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 16 | 0.21 | 50 | — | 20% | X-3 | — | Advance | LO-13-22 | MAG | **6V835** | 6.46 | **5.16** | 1 | 0.6 |
| 1 | 120 | 16 | 0.21 | 50 | — | 20% | X-3T | — | Advance | LO-13-22-TP | MAG | **1N119** | 8.54 | **5.07** | 1 | 0.3 |
| 1 | 120 | 22 | 0.39 | 50 | — | 15% | C-2 | 31 | Advance | LC-25 | MAG | **6V833** | 11.50 | **7.38** | 1 | 0.7 |
| 1 | 120 | 22 | 0.39 | 50 | — | 15% | C-2 | 31 | Advance | LC-25-TP | MAG | **3JN62** | 13.57 | **7.64** | 1 | 0.7 |
| 1 | 120 | 23 | 0.19 | 50 | — | 10% | T-1 | 59 | Advance | H-1Q18-TP-W | MAG | **3V981** | 47.72 | **30.85** | 1 | 2.5 |
| 1 | 120 | 25 | 0.48 | 50 | — | 10% | R-4 | 60 | Advance | L-1Q18-TP-W | MAG | **6V843** | 23.14 | **14.80** | 1 | 1.9 |
| 1 | 277 | 23 | 0.10 | 50 | — | 30% | R-2 | 60 | Advance | VH-1Q18-TP-W | MAG | **3V990** | 42.02 | **26.30** | 1 | 1.5 |
| 1 | 277 | 22 | 0.22 | 50 | — | 15% | R-2 | 59 | Advance | VH-1Q18-TP-W | MAG | **3V982** | 42.02 | **27.20** | 1 | 1.7 |
| **Lamp Compatibility 2D Square Shaped Lamp—Preheat 2-pin** | | | | | | | | | | | | | | | | |
| **21 Watts, 5.5" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 26 | 0.47 | 25 | — | 15% | T-1 | 59 | Advance | H-1Q26-TP-W | MAG | **3V983** | 48.62 | **31.35** | 1 | 2.0 |
| 1 | 120 | 32 | 0.66 | 25 | — | 15% | R-4 | 60 | Advance | L-1Q26-TP-W | MAG | **6V844** | 24.55 | **15.67** | 1 | 2.0 |
| **Lamp Compatibility FDL-22, PL-C(22W)** | | | | | | | | | | | | | | | | |
| **22 Watts, 6" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 25 | 0.51 | 0 | — | 20% | X-7, X-7A | — | Advance | LO-1Q22 | MAG | **6V978** | 15.36 | **9.92** | 1 | 0.7 |
| 1 | 120 | 24 | 0.23 | 0 | — | 20% | R-2 | 59 | Advance | H-1Q22-TP-W | MAG | **6V989** | 42.05 | **27.25** | 1 | 1.2 |
| **Lamp Compatibility F26DBX, F26DTT, Dulux-D26, PLC (26W)** | | | | | | | | | | | | | | | | |
| **26 Watts, 8" Lamp Length** | | | | | | | | | | | | | | | | |
| 1 | 120 | 28 | 0.24 | 50 | — | 20% | T-1 | 59 | Advance | H-1Q26-TP-W | MAG | **3V983** | 48.62 | **31.35** | 1 | 2.0 |
| 1 | 120 | 33 | 0.67 | 50 | — | 15% | R-4 | 60 | Advance | L-1Q26-TP-W | MAG | **6V844** | 24.55 | **15.67** | 1 | 2.0 |
| 1 | 277 | 28 | 0.24 | 50 | — | 10% | X-8 | — | Advance | VLO-13 | MAG | **6V932** | 23.14 | **13.74** | 1 | 0.8 |
| 1 | 277 | 28 | 0.24 | 50 | — | 10% | X-8T | — | Advance | VLO-13-TP | MAG | **3JN67** | 25.22 | **14.19** | 1 | 1.0 |
| 1 | 277 | 32 | 0.11 | 50 | — | 20% | R-2 | 59 | Advance | VH-1Q26-TP-W | MAG | **3V984** | 45.56 | **29.50** | 1 | 1.7 |
| 1 | 277 | 31 | 0.27 | 50 | — | 15% | R-2 | 60 | Advance | VL-1Q26-TP-W | MAG | **3V991** | 45.56 | **26.85** | 1 | 1.7 |



When it comes to lighting, no distributor outshines Grainger.

# FLUORESCENT BALLAST AND FLUORESCENT WEATHERPROOF ELECTROMAGNETIC BALLASTS

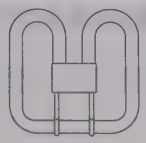
ADVANCE TRANSFORMER CO.

UL E14927

CSA LR7310 (except where noted)



Compatible with F24T12HO - F64T12HO Lamps



Example of Lamp Compatibility 2D

Example of Lamp Compatibility PLC28



| Advance Model Suffix | Dimensions (In.) Length | Width | Height | Mounting |
|---|---|---|---|---|
| -FO | 21⅛ | 3¾ | 3 | 20⁹⁄₁₆ |

## Lamp Compatibility 2D Square Shaped Lamp — Preheat 2-Pin

### 28 Watts, 8" Lamp Length

| No. of Lamps | Input Voltage | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See page 1038) | Mfr. | Mfr's Model | Ballast Code | Stock No. | List | Each | Shpg. Case Qty. | Shpg. Wt. Qty. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 120 | 28 | .24 | 25 | — | 20% | T-1 | 59 | Advance | H-1Q26-TP-W | MAG | **3V983** | $48.62 | **$31.35** | 3 | 2.0 |
| 1 | 120 | 35 | .63 | 25 | — | 15% | R-4 | 60 | Advance | L-1Q26-TP-W | MAG | **6V844** | 24.55 | **15.67** | 3 | 2.0 |

## Lamp Compatibility PL-C (28W)

### 28 Watts, 7" Lamp Length

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 120 | 32 | 0.59 | -20 | — | 10% | — | — | Advance | LO-1Q28 | MAG | **6V979** | 21.32 | **13.70** | 3 | 0.8 |
| 1 | 120 | 32 | 0.27 | -20 | — | 25% | R-2 | 59 | Advance | H-1Q28-TP-W | MAG | **6V990** | 45.58 | **29.55** | 3 | 1.4 |

# WEATHERPROOF BALLASTS

## High Output Rapid Start Lamps (High Power Factor, 800mA)

| No. of Lamps | Length | Watts | Input Volts | Input Watts | Line Amps | Min. Start Temp (°F) | Ballast Factor | Total Harmonic Distortion (Less Than) | Dim. Ref. Figure (Page 1016) | Notes (See page 1038) | Advance Model | Stock No. | List | Each | Shpg. Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **F24T12/HO** | | | | | | | | | | | | | | | | |
| 2 | 2' | 36 | 120 | 95 | 1.01 | -20 | 0.78 | 50% | FO | — | RC-2S85-FO | **6V856** | $222.51 | **$142.05** | 1 | 17.0 |
| **F36T12/HO** | | | | | | | | | | | | | | | | |
| 2 | 3' | 48 | 120 | 126 | 1.10 | -20 | 0.82 | 25% | FO | — | RC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| **F42T12/HO** | | | | | | | | | | | | | | | | |
| 2 | 42" | 50 | 120 | 107 | 1.00 | -20 | 0.82 | 35% | FO | — | RC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| **F48T12/HO** | | | | | | | | | | | | | | | | |
| 1 | 4' | 60 | 120 | 79 | 0.91 | -20 | 0.78 | 50% | FO | — | FC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| 2 | 4' | 60 | 120 | 133 | 1.16 | -20 | 0.85 | 20% | FO | — | RC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| **F60T12/HO** | | | | | | | | | | | | | | | | |
| 1 | 5' | 74 | 120 | 90 | 0.94 | -20 | 0.77 | 40% | FO | — | RC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| **F64T12/HO** | | | | | | | | | | | | | | | | |
| 1 | 64" | 75 | 120 | 99 | 0.99 | -20 | 0.79 | 40% | FO | — | RC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| 2 | 64" | 75 | 120 | 178 | 1.50 | -20 | 0.87 | 15% | FO | — | RC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| **F72T12/HO** | | | | | | | | | | | | | | | | |
| 1 | 6' | 87 | 120 | 100 | 0.98 | -20 | 0.82 | 35% | FO | — | RC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| 2 | 6' | 87 | 120 | 184 | 1.54 | -20 | 0.91 | 15% | FO | — | RC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| 2 | 6' | 87 | 120 | 203 | 1.80 | -20 | 0.99 | 15% | FO | — | RC-2S110-FO | **6V853** | 230.86 | **147.55** | 1 | 17.0 |
| 2 | 6' | 87 | 277 | 205 | 0.78 | -20 | 0.96 | 20% | FO | — | VC-2S110-FO | **6V917** * | 233.64 | **149.90** | 1 | 16.0 |
| **F96T12/HO** | | | | | | | | | | | | | | | | |
| 1 | 8' | 112 | 120 | 121 | 1.07 | -20 | 0.84 | 25% | FO | — | RC-2S85-FO | **6V856** | 222.51 | **142.05** | 1 | 17.0 |
| 2 | 8' | 112 | 120 | 248 | 2.10 | -20 | 0.98 | 15% | FO | — | RC-2S110-FO | **6V853** | 230.86 | **147.55** | 1 | 17.0 |
| 2 | 8' | 112 | 277 | 249 | 0.90 | -20 | 0.98 | 20% | FO | — | VC-2S110-FO | **6V917** * | 233.64 | **149.90** | 1 | 16.0 |

## Very High Output Rapid Start Lamps — VHO, SHO, Powergroove (High Power Factor, 1500mA)

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **F48PG17, F48T12/SHO, VHO** | | | | | | | | | | | | | | | | |
| 1 | 4' | 116 | 120 | 130 | 1.70 | -20 | 0.87 | 30% | FO | 45, 46 | RC-2S102-FO | **6V850** | 239.18 | **153.00** | 1 | 20.0 |
| 1 | 4' | 116 | 277 | 137 | 0.59 | -20 | 0.85 | 35% | FO | 45, 46 | VC-2S102-FO | **6V915*** | 272.61 | **174.75** | 1 | 20.0 |
| 2 | 4' | 116 | 120 | 230 | 2.20 | -20 | 0.89 | 30% | FO | 45, 46 | RC-2S102-FO | **6V850** | 239.18 | **153.00** | 1 | 20.0 |
| 2 | 4' | 116 | 277 | 241 | 0.94 | -20 | 0.87 | 35% | FO | 45, 46 | VC-2S102-FO | **6V915*** | 272.61 | **174.75** | 1 | 20.0 |
| **F60PG17, F60T12/SHO, VHO** | | | | | | | | | | | | | | | | |
| 1 | 5' | 138 | 120 | 140 | 1.75 | -20 | 0.90 | 30% | FO | 45, 46 | RC-2S102-FO | **6V850** | 239.18 | **153.00** | 1 | 20.0 |
| 1 | 5' | 138 | 277 | 157 | 0.65 | -20 | 0.86 | 35% | FO | 45, 46 | VC-2S102-FO | **6V915*** | 272.61 | **174.75** | 1 | 20.0 |
| **F72PG17, F72T12/SHO, VHO** | | | | | | | | | | | | | | | | |
| 1 | 6' | 168 | 120 | 173 | 1.90 | -20 | 0.87 | 30% | FO | 45, 46 | RC-2S102-FO | **6V850** | 239.18 | **153.00** | 1 | 20.0 |
| 1 | 6' | 168 | 277 | 168 | 0.69 | -20 | 0.87 | 35% | FO | 45, 46 | VC-2S102-FO | **6V915*** | 272.61 | **174.75** | 1 | 20.0 |
| 2 | 6' | 168 | 120 | 399 | 3.41 | -20 | 0.99 | 15% | FO | 47 | RS-2S200-FO | **6V882** | 317.03 | **203.75** | 1 | 20.0 |
| 2 | 6' | 168 | 277 | 376 | 1.40 | -20 | 0.99 | 15% | FO | 47 | VS-2S200-FO | **6V947** | 344.87 | **222.25** | 1 | 20.0 |
| **F96PG17, F96T12/SHO, VHO** | | | | | | | | | | | | | | | | |
| 1 | 8' | 215 | 120 | 213 | 2.10 | 50 | 0.87 | 35% | FO | 45, 46 | RC-2S101-FO | **6V850** | 239.18 | **153.00** | 1 | 20.0 |
| 1 | 8' | 215 | 277 | 216 | 0.89 | 50 | 0.88 | 35% | FO | 45, 46 | VC-2S102-FO | **6V915*** | 272.61 | **174.75** | 1 | 20.0 |
| 2 | 8' | 215 | 120 | 467 | 3.89 | -20 | 1.01 | 10% | FO | 47 | RS-2S200-FO | **6V882** | 317.03 | **203.75** | 1 | 20.0 |
| 2 | 8' | 215 | 277 | 442 | 1.65 | -20 | 1.00 | 15% | FO | 47 | VS-2S200-FO | **6V947** | 344.87 | **222.25** | 1 | 20.0 |

(*) Not CSA Certified.

# FLUORESCENT BALLASTS & FLUORESCENT BALLAST NOTES

## PLASTIC SIGN BALLAST DIMENSIONAL DRAWINGS

ADVANCE TRANSFORMER CO.

| Case Fig. | Case Length (In.) (C) | Length (In.) (Overall) (L) | Width (In.) (W) | Height (In.) (H) | Mounting (In.) (M) |
|---|---|---|---|---|---|
| BL-1 | 10 1/2 | 11 3/4 | 3 3/16 | 2 5/8 | 11 9/64 |
| BL-2 | 13 1/16 | 14 5/16 | 3 3/16 | 2 5/8 | 13 3/4 |
| BL-3 | 18 | 19 9/16 | 3 3/16 | 2 5/8 | 18 5/8 |

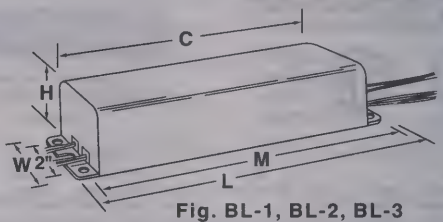


Fig. BL-1, BL-2, BL-3

| H.O. Lamps Per Ballast | Total Lamp Footage Min. | Total Lamp Footage Max. | Volts | Min. Start Temp. (°F) | Max. Input Watts | Dim. Ref. Fig. Above | Advance Model* | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ADVANCE PLASTIC SIGN BALLASTS—HIGH OUTPUT LAMPS, (800mA)** | | | | | | | | | | | | |
| **1, 2** | 4 | 12 | 120 | -20 | 175 | BL-1 | ASB-0412-12-BL-TP | **6V820** | $86.04 | **$55.95** | 1 | 12.0 |
| **2, 3, 4** | 6 | 20 | 120 | -20 | 304 | BL-1 | ASB-0620-24-BL-TP | **6V821** | 113.32 | **74.10** | 1 | 13.0 |
| **2, 3, 4** | 12 | 24 | 120 | -20 | 312 | BL-2 | ASB-1224-24-BL-TP | **6V822** | 123.98 | **81.00** | 1 | 15.0 |
| **2, 3, 4** | 20 | 40 | 120 | -20 | 472 | BL-3 | ASB-2040-24-BL-TP | **6V824** | 170.99 | **111.65** | 1 | 21.0 |
| **4, 5, 6** | 12 | 40 | 120 | -20 | 462 | BL-3 | ASB-1240-46-BL-TP | **6V823** | 185.42 | **121.15** | 1 | 22.0 |
| **4, 5, 6** | 24 | 48 | 120 | -20 | 604 | BL-3 | ASB-2448-46-BL-TP | **3V992** | 210.21 | **137.65** | 1 | 23.0 |

(*) BL suffix models have bottom leads.

## FLUORESCENT BALLAST NOTES

1. Also operates 32W Circline lamp.
2. Also operates F25T12 DSM lamp.
3. Also operates U-Shaped T8 lamps.
4. Will not operate F40BX lamps.
5. Will not operate T8 U-Shaped Watt-Miser® lamps.
6. Not suitable for use with U-shaped lamps.
7. P.F. is 75% for lamps less than 48".
8. P.F. is 70% for lamps less than 48".
9. P.F. is 75% for lamp combination less than 84".
10. Also operates 1 or 2 F84T12/HO lamps.
11. P.F. is 80% for lamp combination less than 72".
12. P.F. is 85% for 72" lamps.
13. CBM approved for 2-F48T12/RS/HO lamps only.
14. Also operates T10 or T10J lamps. P.F. is above 75% for total lamp length less than 10 ft.
15. P.F. for total lamp length is 60" or less is above 75%.
16. P.F. above 70% for total lamp length less than 96".
17. Also operates 2-F48T10 or 2-F48T10J lamps.
18. Also operates F96T10 lamps; not CBM approved.
19. Also operates 2-F72T10 or 2-F72T10J lamps.
20. CBM approved for 96" lamps at 0°F and above.
21. P.F. 83% with 2-F72T10 or 2-F72T10J lamps.
22. Lead Lag Ballast.
23. 24" lamp corrected to 85% P.F.
24. CBM approved for 96" lamps only.
25. Not UL Listed for 60 or 64" lamps.
26. Series Ballast.
28. CBM with 72 and 96" lamps only.
30. Special 4-lead ballast for replacement applications only.
31. Core and coil with cover.
32. Requires circuit-interrupting lamp holders.
33. Ballast includes built-in starter.
35. Also operates Energy-Saver Plus lamps.
36. May be used with F40 lamps for residential use only, per NAECA of 1988.
37. Will not operate lamps remote from ballast.
38. Class "A" insulation.
39. PowrKut® Companion design.
41. Reduced light output. For residential use only.
43. Remote mounting--one or two lamp remote mounting. For single lamp remote mounting, only "red lead" lamp can be mounted remote from fixture. Maximum remote mounting, 20 ft.
44. Supplied with Circline sockets
45. Also operates 2-F48T10 or 2-F48T10J lamps.
46. When used with 1-F96PG17 or 1-F96T12 SHO or VHO, minimum starting temperature is 50°F.
47. Also operates F96T10 lamps.
48. Parallel lamp connections allow remaining lamps to stay fully lit if companion lamps fail.
49. 110% light output.
51. PowrKut® Mark IV ballasts deliver full light output.
52. Minimum starting temperature is for standard lamps. Energy-saving lamp starting temperature per lamp manufacturer's specification.
53. Not for use with F60 or F64 type lamps.
54. RH suffix indicates ballasts maintain "total harmonic distortion" <20%.
55. Will instant start rapid start lamps.
56. Ballast factor 75-80%.
57. Average ballast factor 86% with Energy Saving lamps; 89% with Standard lamps.
58. Total harmonic distortion less than 10%.
59. High Power Factor.
60. Normal Power Factor.
61. Not suitable for use with T10 lamps, or 34W lamps.
62. Not UL Listed.
63. PowrKut® and PowrKut® Companion Design ballasts for T12 lamps deliver approximately 8% less light than energy-saving CBM ballasts operating energy-saving lamps.
64. May only be used with F40 Energy Saving lamps (34W).
65. Not for use with Energy Saving lamps.
66. Leadless ballast for plug-in installation.
67. Includes integral bracket for mounting.
68. Also operates F8T5.
69. Also operates (1) F8T5. and (1) F13T5.
70. Not on label – potential reduced lamp life in frequent starting applications.
71. Includes end of lamp life protection circuit.
72. Remote mounting or tandem wired using 18 AWG or larger wire to maximum of 20 Ft. overall lead length between ballasts and lamps.


When it comes to lighting, no distributor outshines Grainger.

# HOW TO SELECT PROPER HID BALLASTS

**Identify type of ballast** needed from the diagram shown. Select one and turn to the appropriate catalog section.

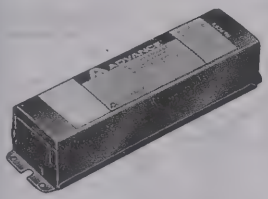
**Identify lamp type, number of lamps, and wattage of lamp.** Ballasts are designed to operate only specific lamp types and lamp wattages. Use the appropriate number of ballasts for the number of lamps. Incorrect matching of ballast and lamp will cause premature lamp and ballast failure.

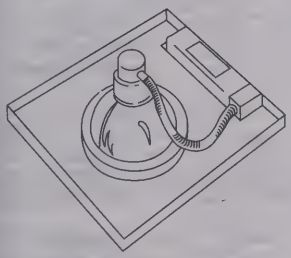
**Identify line voltage.** Many of the core and coil ballasts listed are "Quadri-volt", and can be operated at either 120, 208, 240, or 277 volts. Refer to wiring diagram on previous ballast.

**Identify circuit type.** Check ballast label. CWA type ballasts can replace all CWA, HX-HPF, HX-NPF, and R circuit type ballasts. HX-HPF ballasts can replace all HX-HPF. HX-NPF, and R circuit type ballasts.

**Check dimensions** of existing ballast and fixture ballast housing against new ballast dimensions. Core and coil kits include an all-purpose mounting bracket that accommodates varied mounting installations.

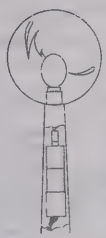
F-CAN





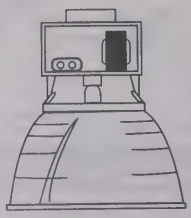
POSTLINE





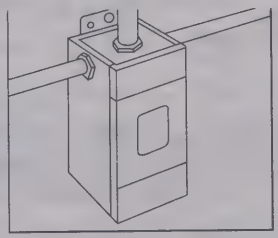
CORE & COIL





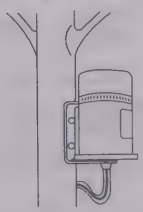
INDOOR ENCLOSED



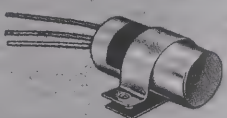


OUTDOOR WEATHERPROOF





# BALLAST IGNITORS



ADVANCE TRANSFORMER CO. No. 3A533

**An ignitor is an electronic component** found in the circuitry of all high pressure sodium (HPS) and low wattage metal halide (MH) lighting systems. The ignitor provides a pulse of at least 2500 volts peak to initiate the lamp arc, thus generating light. When the system is energized, the ignitor provides the required pulse until the lamp is completely lit and then automatically stops pulsing. Under normal conditions the life of an ignitor is 10,000 ignition hours. Includes mounting bracket and hardware. Advance brand.

| Lamp Type | Lamp Watts | Circuit | Case Type | Maximum Distance To Lamp (Ft.) | Advance Model | Stock No. | List | Each | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|
| **Metal Halide** | 50-100 | CWA, Hi Reactance | Round | 2 | LI533-H4 | **3V987** | $119.38 | **$88.35** | 0.3 |
| **High Pressure Sodium** | 70-150* | CWA | Round | 5 | LI551-J4 | **6W971** | 119.41 | **88.30** | 0.2 |
| **High Pressure Sodium** | 35-150* | Reg. Lag, Hi Reactance, Reactor | Round | 2 | LI551-H4 | **3A533** | 74.16 | **51.15** | 0.1 |
| **High Pressure Sodium** | 150-400† | CWA, Reg., Lag Reactor | Round | 2 | LI501-H4 | **3A534** | 74.16 | **51.15** | 0.3 |
| **High Pressure Sodium** | 150-400† | CWA, Reg., Lag Reactor | Round | 50 | LI501-J4 | **1N116** | 119.41 | **71.00** | 0.1 |
| **High Pressure Sodium** | 1000 | CWA | Oval | 2 | LI571-H5 | **1N117** | 98.92 | **58.85** | 0.4 |
| **High Pressure Sodium** | 1000 | CWA | Oval | 75 | LI571-J5 | **1N118** | 159.21 | **94.90** | 0.8 |

(*) Usable with ballast rated from 35 watt to 150 watt S55 (55 volt lamp).
(†) Usable with ballast rated from 150 watt S56 to 400 watts (100 volt lamp).

## WE OFFER A WIDE RANGE OF ENERGY SAVING PRODUCTS

Electric motors, controls, blowers, fans and ventilators, lighting, boilers, ballasts, pumps, furnaces, water heaters, and other products. See Index under Energy Saving Products for complete listings.

# ADVANCE HID BALLASTS

## CORE AND COIL BALLAST KITS (71A SERIES)

- Designed for mounting to HID fixtures
- Ballast may be mounted in the fixture utilizing the mounting holes which run through the laminations, or through holes in the multi-position bracket (included)
- Replacement kits include core and coil, capacitor, ignitor (where applicable), and multi-position mounting bracket. Use only capacitor and ignitor included with kit
- 3VJ90 through 3VJ97 feature plug-in ignitor and poke-in capacitor connectors for fast, easy installation
- All ballasts except No. 6V615 are CWA and HX-HPF circuit type ballasts which are high power factor to allow more units on a circuit load
- Not for use on recessed HID fixtures

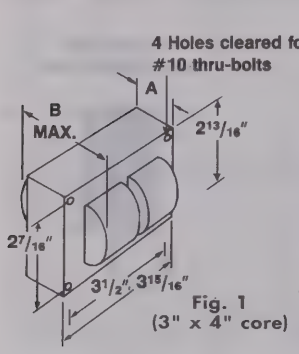


Fig. 1 (3" x 4" core)

New

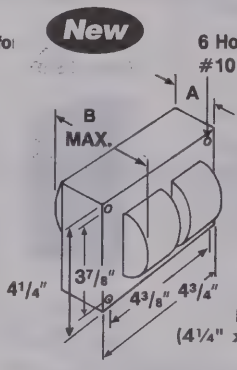


Fig. 2 (4¼" x 4¾" core)

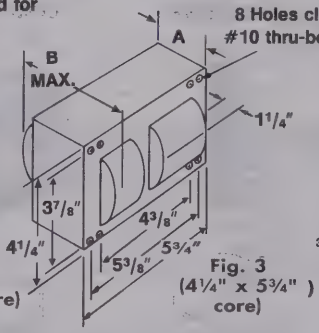


Fig. 3 (4¼" x 5¾" ) core)

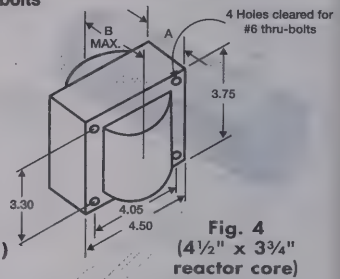


Fig. 4 (4½" x 3¾" reactor core)

| No. of Lamps | Lamp Watts | ANSI Code | Input Volts | Circuit | Input Watts | Operating Line Amps @120V, 60 Hz†† | Fig. | Dimensions A | Dimensions B | Notes (See Page 1038) | Advance Model* | Stock No. | List | Each | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CORE AND COIL KITS* (71A Series)** | | | | | | | | | | | | | | | |
| **Mercury (60 Hz, Minimum Starting Temperature -20°F or -30°C)** | | | | | | | | | | | | | | | |
| 1 | 50 | H-46 | 120 | HX-NPF | 74 | 2.10 | 1 | 13/16 | 2 | — | 71A1800-001‡ | **6V615** | $73.94 | **$49.25** | 3.2 |
| 1 | 100 | H-38 or H-44 | 120/208 240/277 | CWA | 118 | 1.05 | 1 | 1 9/16 | 3 1/8 | 1,6 | 71A2571-001D | **1A024** | 78.28 | **52.40** | 5.9 |
| 1 | 175 | H-39 | 480 | CWA | 200 | 0.44 | 1 | 1 3/4 | 2 15/16 | 6 | 71A3042-001D | **6V616** | 110.00 | **72.90** | 7.0 |
| | | | 120/208 240/277 | CWA | 200 | 1.75 | 1 | 1 5/8 | 3 9/16 | 1,6 | 71A3072-001D | **1A025** | 94.63 | **63.45** | 6.6 |
| 1 | 250 | H-37 | 480 | CWA | 285 | 0.62 | 1 | 2 1/4 | 3 7/16 | 6 | 71A3542-001D | **6V617** | 147.64 | **86.85** | 9.0 |
| | | | 120/208 240/277 | CWA | 285 | 2.50 | 1 | 2 1/2 | 4 1/16 | 1,6 | 71A3572-001D | **1A026** | 113.92 | **76.20** | 8.7 |
| 1 | 400 | H-33 | 480 | CWA | 454 | 0.98 | 2 | 1 11/16 | 3 9/16 | 6 | 71A4041-001D | **6V618** | 134.83 | **88.90** | 12.0 |
| | | | 120/208 240/277 | CWA | 454 | 3.90 | 2 | 1 3/4 | 3 11/16 | 1,6 | 71A4071-001D | **1A027** | 129.48 | **86.10** | 13.0 |
| 1 | 1000 | H-36 | 480 | CWA | 1075 | 2.30 | 3 | 2 7/8 | 4 3/8 | — | 71A5040-001 | **6V619** | 206.95 | **149.45** | 23.0 |
| | | | 120/208 240/277 | CWA | 1075 | 9.20 | 3 | 3 9/16 | 5 5/16 | 1 | 71A5070-001 | **1A028** | 201.63 | **133.25** | 25.0 |
| **Metal Halide (60 Hz, Minimum Starting Temperature -20°F or -30°C)** | | | | | | | | | | | | | | | |
| 1 | 100 | M-90 | 120/208 240/277 | HX-HPF | 129 | 2.60 | 1 | 1 11/16 | 2 7/8 | 1, 6 | 71A5390-001D | **3V555** | 233.52 | **130.45** | 8.5 |
| 1 | 175 | M-57/H-39 | 120/208 240/277 | CWA | 215 | 1.80 | 1 | 2 3/4 | 4 5/16 | 1 | 71A5570-001 | **3A531** | 115.54 | **77.25** | 8.5 |
| 1 | 200 | M-136 | 120/208 240/277 | CWA | 232 | 2.2 | 1 | 2 7/8 | 3 3/8 | 6 | 71A5692-001D | ***New*4PL59** | 148.95 | **89.20** | 8.0 |
| 1 | 250 | M-58/H-37 | 480 | CWA | 310 | 0.65 | 1 | 3 | 4 3/16 | — | 71A5741-001 | **1N107** | 191.25 | **113.60** | 10.0 |
| | | | 480 | CWA | 295 | 0.62 | 2 | 1 5/8 | 3 1/8 | — | 71A5740-001 | **6V620** | 191.25 | **112.40** | 12.0 |
| | | | 120/208 240/277 | CWA | 295 | 2.50 | 2 | 1 15/16 | 3 3/4 | 1 | 71A5770-001 | **3A532** | 149.14 | **99.40** | 13.0 |
| | | | 120/208 240/277 | CWA | 295 | 2.60 | 1 | 3 | 4 7/16 | 1 | 71A5771-001 | **1N108** | 184.64 | **109.70** | 10.0 |
| 1 | 320 | M-132 | 120/208 240/277 | CWA | 365 | 3.25 | 2 | 1 5/8 | 3 3/8 | 6 | 71A5893-001D | ***New*4PL60** | 213.70 | **127.90** | 11.0 |
| 1 | 350 | M-131 | 277 | CWA | 375 | 2.10 | 4 | 1 7/8 | 4 | — | 71A5937-001D | ***New*4PL61** | 228.12 | **136.35** | 10.0 |
| | | | 120/208 240/277 | CWA | 395 | 3.60 | 2 | 1 5/8 | 3 3/8 | — | 71A5992-001D | ***New* 4PL62** | 185.83 | **111.40** | 11.0 |
| 1 | 400 | M-59/H-33 | 480 | CWA | 458 | 1.00 | 2 | 2 3/16 | 4 1/2 | — | 71A6041-001 | **6V621** | 191.38 | **139.20** | 15.0 |
| | | | 120/208 240/277 | CWA | 458 | 4.00 | 2 | 2 3/16 | 4 1/4 | 1 | 71A6071-001 | **1A029** | 186.06 | **124.00** | 16.0 |

(*) Includes core and coil capacitor ignitor (if applicable) and all purpose mounting brackets. (†) Independent lamp operation. (††) 480 volt units shown with line amps at 480V and 277V units shown with line amps at 277V. (‡) Capacitor not included, not required. Note: All items have a ship case quantity of one.



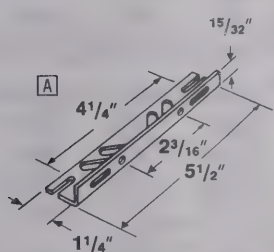
When it comes to lighting, no distributor outshines Grainger.

# ADVANCE HID BALLASTS

| No. of Lamps | Lamp Watts | ANSI Code | Input Volts | Circuit | Input Watts | Operating Line Amps @120V, 60 Hz†† | Fig. (See pg. 1040) | Dimensions A | Dimensions B | Notes (See Page 1038) | Advance Model* | Stock No. | List | Each | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CORE AND COIL KITS* (71A Series)** | | | | | | | | | | | | | | | |
| **Metal Halide (60 Hz, Minimum Starting Temperature -20°F or -30°C)** | | | | | | | | | | | | | | | |
| **2** | 400 | M-59/H-33 | 120/277 | CWA(†) | 890 | 8.20 | 3 | 3 15/16 | 5 3/4 | — | 71A6382-001 | **6V623** | $421.91 | **$279.00** | 31.0 |
| | | | 480 | CWA(†) | 890 | 2.00 | 3 | 4 1/16 | 5 3/4 | — | 71A6342-001 | **6V622** | 421.91 | **279.00** | 31.0 |
| **1** | 400 | M-135 | 120/208 240/277 | CWA | 453 | 4 | 2 | 1 3/4 | 3 7/10 | 6 | 71A6093-001D | ***New*** **4PL63** | 185.83 | **111.40** | 11.0 |
| | | | 277 | CWA | 425 | 2.1 | 4 | 1 3/4 | 2 1/8 | 6 | 71A6137-001D | ***New*** **4PL64** | 228.12 | **136.25** | 9.0 |
| **1** | 1000 | M-47/H-36 | 480 | CWA | 1080 | 2.30 | 3 | 3 9/16 | 5 1/8 | — | 71A6542-001 | **6V624** | 324.56 | **236.50** | 23.0 |
| | | | 120/208 240/277 | CWA | 1080 | 9.20 | 3 | 3 9/16 | 5 1/8 | 1 | 71A6572-001 | **1A030** | 319.24 | **213.75** | 25.0 |
| **1** | 1500 | M-48 | 480 | CWA | 1610 | 3.40 | 3 | 4 1/8 | 6 1/8 | — | 71A6742-001 | **6V625** | 503.77 | **262.25** | 31.0 |
| | | | 120/208 240/277 | CWA | 1610 | 13.50 | 3 | 4 1/8 | 6 1/8 | 1 | 71A6772-001 | **6V626** | 447.61 | **262.25** | 31.0 |
| **High Pressure Sodium (60 Hz, Minimum Starting Temperature -40°F or -40°C)** | | | | | | | | | | | | | | | |
| **1** | 50 | S-68 | 120/277 | HX-HPF | 66 | 0.99 | 1 | 1 | 2 9/16 | 6 | 71A7801-001D | **6V627** | 226.53 | **134.55** | 5.5 |
| **1** | 70 | S-62 | 120/208 240/277 | HX-HPF | 88 | 1.45 | 1 | 1 1/2 | 3 1/16 | 1,6 | 71A7971-001D | **1A975** | 187.64 | **126.65** | 5.9 |
| **1** | 70 | S-62 | 120/208 240/277 | HX-HPF | 88 | 1.45 | 1 | 1 1/2 | 3 1/16 | 1,6,7 | 71A7991-001DC | **3VJ90**** | 247.42 | **134.95** | 5.5 |
| **1** | 100 | S-54 | 120/208 240/277 | HX-HPF | 130 | 2.20 | 1 | 2 | 3 9/16 | 1,6 | 71A8071-001D | **1A031** | 196.31 | **132.30** | 7.4 |
| **1** | 100 | S-54 | 120/208 240/277 | HX-HPF | 130 | 2.20 | 1 | 2 | 3 9/16 | 1,6,7 | 71A8091-001DC | **3VJ91**** | 258.15 | **140.80** | 7.1 |
| **1** | 150 | S-55 (55 Volt) | 480 | HX-HPF | 193 | 0.70 | 1 | 3 | 4 5/16 | 6 | 71A8142-001D | **6V760** | 239.35 | **159.50** | 10.0 |
| | | | 120/208 240/277 | HX-HPF | 188 | 2.80 | 1 | 2 1/2 | 4 1/16 | 1,6 | 71A8172-001D | **1A032** | 212.29 | **142.85** | 9.2 |
| **1** | 150 | S-55 (55 Volt) | 120/208 240/277 | HX-HPF | 188 | 2.80 | 1 | 2 1/2 | 4 1/16 | 1,6,7 | 71A8192-001DC | **3VJ92**** | 277.95 | **151.75** | 8.6 |
| **1** | 200 | S-66 | 480 | CWA | 240 | 0.56 | 2 | 1 1/4 | 3 3/8 | 6 | 71A8940-001D | **6V765** | 261.03 | **193.00** | 8.5 |
| | | | 120/208 240/277 | CWA | 240 | 2.20 | 2 | 1 1/4 | 3 13/16 | 1,6 | 71A8970-001D | **1A285** | 261.03 | **176.75** | 10.0 |
| **1** | 250 | S-50 | 480 | CWA | 300 | 0.69 | 2 | 1 3/4 | 3 3/8 | 6 | 71A8241-001D | **6V761** | 315.54 | **233.25** | 12.0 |
| | | | 120/208 240/277 | CWA | 300 | 2.75 | 2 | 1 3/4 | 3 3/4 | 1,6 | 71A8271-001D | **1A033** | 315.54 | **213.75** | 13.0 |
| **1** | 250 | S-50 | 120/208 240/277 | CWA | 300 | 2.75 | 2 | 1 3/4 | 3 3/4 | 1,6,7 | 71A8291-001DC | **3VJ93**** | 405.80 | **221.50** | 8.6 |
| **1** | 400 | S-51 | 480 | CWA | 457 | 1.00 | 2 | 2 9/16 | 4 1/4 | 6 | 71A8443-001D | **6V762** | 356.13 | **261.25** | 20.0 |
| | | | 480 | CWA | 457 | 1.00 | 2 | 2 9/16 | 4 1/4 | 6, 7 | 71A8443-001DC | **3VJ94** | 456.07 | **249.00** | 16.0 |
| | | | 120/208 240/277 | CWA | 457 | 3.80 | 2 | 2 1/2 | 4 1/8 | 1,6,7 | 71A8473-001D | **1A034** | 356.13 | **240.25** | 19.0 |
| **1** | 400 | S-51 | 120/208 240/277 | CWA | 457 | 3.80 | 2 | 2 1/2 | 4 1/8 | 1,6, 7 | 71A8493-001DC | **3VJ95**** | 456.07 | **249.00** | 16.0 |
| **1** | 1000 | S-52 | 480 | CWA | 1100 | 2.30 | 3 | 3 7/8 | 5 7/8 | — | 71A8743-001 | **6V763** | 490.91 | **359.50** | 31.0 |
| | | | 480 | CWA | 1100 | 2.30 | 3 | 3 7/8 | 5 7/8 | 7 | 71A8743-001C | **3VJ96**** | 622.96 | **340.00** | 30.0 |
| | | | 120/208 240/277 | CWA | 1100 | 9.50 | 3 | 3 3/4 | 5 3/4 | 1,2 | 71A8773-001 | **6V764** | 490.91 | **359.50** | 29.0 |
| **1** | 1000 | S-52 | 120/208 240/277 | CWA | 1100 | 9.50 | 3 | 3 3/4 | 5 3/4 | 1,2,7 | 71A8793-001C | **3VJ97**** | 622.96 | **340.00** | 29.0 |

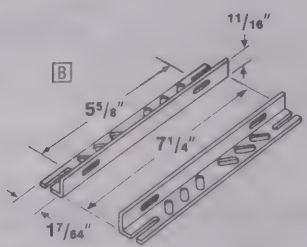
(*) Includes core and coil capacitor ignitor (if applicable) and all purpose mounting brackets. (†) Independent lamp operation. (††) 480 volt units shown with line amps at 480V and 277V units shown with line amps at 277V. (‡) Capacitor not included, not required. Note: All items have a ship case quantity of one. (**) Ignitor is prewired to core and coil

## CORE AND COIL MOUNTING BRACKET KITS




**No. 6V846 Mounting bracket for Fig. 1 Core & Coil Ballasts.**

(On previous page)




**No. 6V847 Mounting bracket for Fig. 2, 3, & 4 Core and Coil Ballasts**

(On previous page)

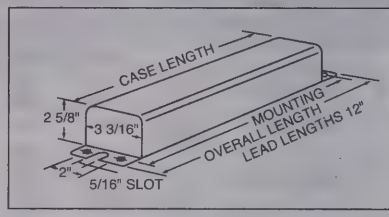
### HID BRACKETS

| Key | Advance Model | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|
| **A** | PKG-848 | **6V846** | $4.17 | **$2.25** | 12 | 0.1 |
| **B** | PKG-849-2 | **6V847** | 8.31 | **4.52** | 12 | 0.2 |

# ADVANCE HID BALLASTS

## PROTECTED DUAL-VOLT F-CAN BALLASTS (72C SERIES)

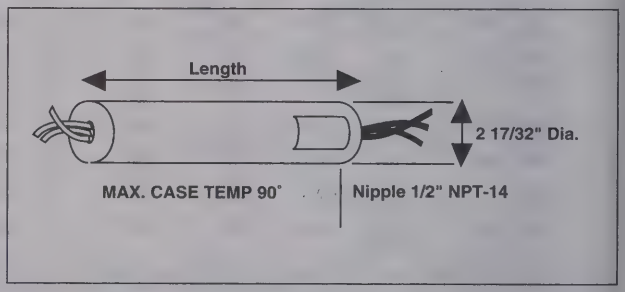
- Can be used in indoor applications and with recessed HID lighting
- Fluorescent case housing provides convenient installation
- Utilizes Class A (90°C maximum) insulating material which minimizes ballast noise
- Designed for dual-volt (120/277) input
- Built-in, automatic reset thermal protection
- Includes capacitor within ballast housing; where required includes integral ignitor




| No. of Lamps | Lamp Watts | ANSI Code | Input Volts | Circuit | Input Watts | Overall Length (In.) | Case Length (In.) | Mtg. Dim. (In.) | Notes (See Page 1038) | Advance Model | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PROTECTED DUAL-VOLT, F-CAN (72C Series)** | | | | | | | | | | | | | | | |
| **Indoor, Outdoor Type 1 Mercury (60 Hz, Minimum Starting Temperature -20°F or -30°C)** | | | | | | | | | | | | | | | |
| 1 | 100 | H38 | 120/277 | CWA | 118 | 11 3/4 | 10 1/2 | 11 1/8 | 3 | 72C2584-N-P | **6V766** | $89.43 | **$52.15** | 1 | 8.5 |
| 1 | 175 | H39 | 120/277 | CWA | 195 | 11 3/4 | 10 1/2 | 11 1/8 | 3 | 72C3084-N-P | **6V767** | 109.69 | **63.90** | 1 | 10.0 |
| **Metal Halide (60 Hz, Minimum Starting Temperature - 20°F or -30°C)** | | | | | | | | | | | | | | | |
| 1 | 70-75 | M98 or M101 | 120/277 | HX-HPF | 94 | 11 3/4 | 10 1/2 | 11 1/8 | 3 | 72C5282-N-P | **3V566** | 182.32 | **97.95** | 1 | 8.9 |
| 1 | 100 | M90 | 120/277 | HX-HPF | 125 | 11 3/4 | 10 1/2 | 11 1/8 | 3 | 72C5381-N-P | **3V564** | 208.23 | **111.90** | 1 | 9.4 |
| 1 | 175 | M57 | 120/277 | CWA | 205 | 11 3/4 | 10 1/2 | 11 1/8 | 3 | 72C5581-N-P | **6V768** | 128.76 | **74.80** | 1 | 11.0 |
| 1 | 250 | M58 | 120/277 | CWA | 290 | 16 11/16 | 15 1/2 | 16 1/8 | 3 | 72C5782-N-P | **3V565** | 157.71 | **83.45** | 1 | 16.0 |
| 1 | 400 | M59 | 120/277 | CWA | 460 | 19 3/16 | 18 | 18 5/8 | 3 | 72C6082-N-P | **1N109** | 249.40 | **148.05** | 1 | 23.0 |
| **High Pressure Sodium (60 Hz, Min. Starting Temperature -40°F or -40°C)** | | | | | | | | | | | | | | | |
| 1 | 70 | S62 | 120/277 | HX-NPF | 90 | 11 3/4 | 10 1/2 | 11 1/8 | 3 | 72C7984-N-P | **6V769** | 193.99 | **114.20** | 1 | 8.3 |
| 1 | 100 | S54 | 120/277 | HX-HPF | 125 | 11 3/4 | 10 1/2 | 11 1/8 | 3 | 72C8084-N-P | **6V770** | 198.87 | **117.20** | 1 | 8.8 |

## POSTLINE BALLASTS (74P SERIES)

- For fixtures mounted on slender poles which require ballasts to fit into the poles
- Special, elongated core and coils are encased and potted in high temperature resin (180°C maximum) in cylindrical cans having a 2 9/16" outside diameter
- Ballasts rated 100 watts and above include spring clip/chain attachment for optimal positioning within pole
- Includes 1/2" NPT threaded nipple for vertical mounting
- Leads extend from both ends of the housing for ease of installation
- Ballasts should be mounted with 1 to 3 ft. of air space above the ballast, and should be positioned against the post interior wall to prevent overheating and provide a heat sink




| No. of Lamps | Lamps Watts | ANSI Codes | Input Volts | Circuit | Input Watts | Length (In.) | Notes (See Page 1038) | Advance Model | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POSTLINE** | | | | | | | | | | | | | |
| **Mercury (60 Hz, Minimum Starting Temperature -20°F or -30°F)** | | | | | | | | | | | | | |
| 1 | 50 | H-46 | 120 | HX-NPF | 74 | 7.0 | — | 74P1801-011 | **6V771** | $101.96 | **$60.15** | 1 | 5.3 |
| 1 | 75 | H-43 | 120 | HX-NPF | 92 | 7.0 | — | 74P2301-011 | **6V772** | 105.87 | **62.50** | 1 | 5.0 |
| 1 | 100 | H-38 | 120 | CWA | 122 | 12.0 | 4 | 74P2503-011P | **6V773** | 266.60 | **178.75** | 1 | 6.5 |
| 1 | 100 | H-38 | 120 | HX-NPF | 120 | 7.0 | — | 74P2802-011 | **1N110** | 99.37 | **59.05** | 1 | 6.0 |
| 1 | 175 | H-39 | 120 | CWA | 215 | 12.0 | 4 | 74P3003-011P | **1N111** | 283.65 | **168.75** | 1 | 7.0 |
| 1 | 175 | H-39 | 120 | HX-NPF | 210 | 7.0 | — | 74P3303-011 | **6V774** | 119.24 | **73.00** | 1 | 5.7 |
| 1 | 175 | H-39 | 277 | CWA | 215 | 12.0 | 4 | 74P3033-011P | **1N112** | 319.23 | **190.00** | 1 | 7.0 |
| **Metal Halide (60 Hz, Minimum Starting Temperature -20°F or -30°C)** | | | | | | | | | | | | | |
| 1 | 50 | M-110 | 120 | HX-NPF | 69 | 7.0 | — | 74P5103-001 | **3V985** | 271.42 | **170.75** | 1 | 6.0 |
| 1 | 50 | M-110 | 120 | HX-PFC | 69 | 12.0 | 4 | 74P5104-011P | **3V986** | 362.95 | **228.50** | 1 | 6.0 |
| **High Pressure Sodium (60 Hz, Minimum Starting Temperature -40°F or -40°C)** | | | | | | | | | | | | | |
| 1 | 35 | S-76 | 120 | R-HPF | 43 | 7.0 | 4 | 74P7703-011P | **6V775** | 359.00 | **214.75** | 1 | 3.2 |
| 1 | 50 | S-68 | 120 | R-HPF | 61 | 12.0 | 4 | 74P7803-011P | **6V776** | 377.90 | **225.50** | 1 | 4.7 |
| 1 | 70 | S-62 | 120 | R-HPF | 84 | 12.0 | 4 | 74P7903-011P | **6V777** | 313.96 | **210.75** | 1 | 5.5 |
| 1 | 100 | S-54 | 120 | R-HPF | 122 | 17.6 | 4 | 74P8003-011P | **1N113** | 361.21 | **214.75** | 1 | 8.0 |
| 1 | 150 | S-55 | 120 | R-HPF | 178 | 17.6 | 4 | 74P8104-011P | **1N114** | 427.94 | **254.50** | 1 | 8.0 |



When it comes to lighting, no distributor outshines Grainger.

# INDOOR ENCLOSED BALLASTS (78E SERIES)

**Designed for indoor use where ballast must be mounted remote from the fixture (often where high ambient temperatures would shorten ballast life if mounted in the fixture)**

**Core and coils are encased and potted in heat dissipating resin (180°C maximum) within the ballast compartment**

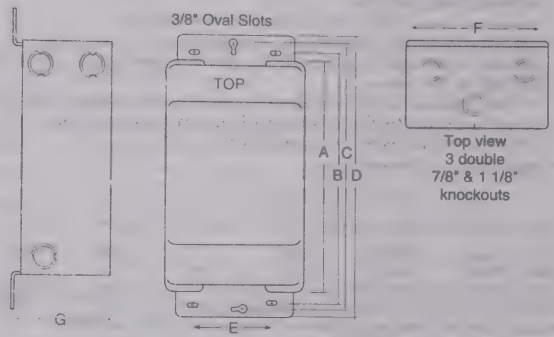
**Case assemblies are constructed of heavy gauge steel, phosphated, painted, and baked for a long-lasting finish**

**7/8" and 1⅛" knockouts in both ends of the case facilitate hook-up**

**Wall mounting is accomplished through flanges on the top and the bottom of the case**

**Includes capacitor and ignitor within ballast housing, where required**

| Case Style | Dimensions (In.) A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| PC-723 | 11 3/8 | 12 | 12 3/4 | 13 3/4 | 3 5/16 | 6 9/16 | 4 3/4 |
| PC-724 | 12 1/16 | 12 11/16 | 13 7/16 | 14 7/16 | 3 5/16 | 7 11/16 | 5 3/4 |
| PC-746 | 17 3/8 | 18 | 18 3/4 | 19 3/4 | 3 5/16 | 7 11/16 | 5 3/4 |



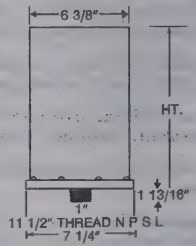

| No. of Lamps | Lamp Watts | ANSI Code | Input Volts | Circuit Type (Max. Ambient Temp.) | Input Watts | Case Style (See Above) | Advance Model | Notes (See Page 1038) | Stock No. | List | Each | Ship Case Qty. | Shpg. Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDOOR ENCLOSED** | | | | | | | | | | | | | |
| **ercury (60 Hz, Minimum Starting Temperature -20°F or -30°C)** | | | | | | | | | | | | | |
| 1 | 175 | H-39 | 120/208/240/277 | CWA 65°C | 200 | PC-723 | 78E3092-001 | — | **6V778** | $205.19 | **$119.25** | 1 | 21.0 |
| 1 | 400 | H-33 | 120/208/240/277 | CWA 65°C | 454 | PC-723 | 78E4041-001 | — | **6V781** | 224.47 | **147.15** | 1 | 25.0 |
| | | | 480 | CWA 65°C | 454 | PC-723 | 78E4041-001 | — | **6V780** | 224.47 | **147.15** | 1 | 24.0 |
| **etal Halide (60 Hz, Minimum Starting Temperature -20°F or -30°C)** | | | | | | | | | | | | | |
| 1 | 175 | M-57 or H-39 | 120/208/240/277 | CWA 65°C | 215 | PC-723 | 78E5590-001 | — | **6V784** | 260.00 | **152.00** | 1 | 23.0 |
| 1 | 250 | M-58 or H-37 | 120/208/240/277 | CWA 65°C | 295 | PC-723 | 78E5790-001 | — | **6V785** | 321.03 | **188.25** | 1 | 25.0 |
| 1 | 400 | M-59 or H-33 | 120/208/240/277 | CWA 65°C | 455 | PC-724 | 78E6091-001 | — | **6V787** | 314.45 | **207.50** | 1 | 34.0 |
| 1 | 400 | M-59 or H-33 | 480 | CWA 55°C | 455 | PC-724 | 78E6041-001 | — | **6V786** | 314.45 | **207.50** | 1 | 34.0 |
| 2 | 400 | M-59 or H-33 | 120/277 | CWA (ILO) 40°C | 890 | PC-746 | 78E6381-001 | — | **6V789** | 626.42 | **365.00** | 1 | 60.0 |
| | | | 480 | CWA (ILO) 40°C | 890 | PC-746 | 78E6341-001 | — | **6V788** | 626.42 | **365.00** | 1 | 60.0 |
| 1 | 1000 | M-47 or H-36 | 120/208/240/277 | CWA 55°C | 1070 | PC-724 | 78E6592-001 | — | **6V791** | 720.29 | **424.25** | 1 | 42.0 |
| | | | 480 | CWA 55°C | 1070 | PC-724 | 78E6542-001 | — | **6V790** | 720.29 | **425.00** | 1 | 42.0 |
| **gh Pressure Sodium (60 Hz, Minimum Starting Temperature -40°F or -40°C)** | | | | | | | | | | | | | |
| 1 | 250 | S-50 | 120/208/240/277 | CWA 50°C | 300 | PC-724 | 78E8291-001 | — | **6V792** | 528.59 | **351.00** | 1 | 34.0 |
| 1 | 400 | S-51 | 120/208/240/277 | CWA 40°C | 457 | PC-724 | 78E8493-001 | — | **6V794** | 657.33 | **388.00** | 1 | 37.0 |
| | | | 480 | CWA 40°C | 457 | PC-724 | 78E8443-001 | — | **6V793** | 657.33 | **387.25** | 1 | 36.0 |
| 1 | 1000 | S-52 | 120/208 240/277 | Protected CWA 40°C | 1100 | PC-746 | 78E8793-001 | 2 | **6V796** | 1033.48 | **610.50** | 1 | 60.0 |
| | | S-52 | 480 | Protected CWA 40°C | 1100 | PC-746 | 78E8743-001 | 2 | **6V795** | 1033.48 | **610.50** | 1 | 60.0 |

# ADVANCE HID BALLASTS & HID BALLAST NOTES

## OUTDOOR WEATHERPROOF BALLASTS (79W SERIES)

- Designed for remote, pole-top mounting outdoors under all weather conditions
- Includes capacitor and ignitor where required
- All components enclosed in a corrosion-resistant aluminum case with anodized aluminum cover, gasketed and bolted to the base
- 1" NPT threaded nipple with locknut on the base facilitates hook up to the mounting bracket (optional No. 1N131) when used on a pole-top
- Not water submersible

ADVANCE TRANSFORMER CO.




| No. of Lamps | Lamp Watts | ANSI Code | Input Volts | Circuit | Input Watts | Height (In.) | Notes (See Page below) | Advance Model | Stock No. | List | Each | Shpg. Qty. | Shpg Wt. Ea. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OUTDOOR WEATHERPROOF** | | | | | | | | | | | | | |
| **Mercury (60 Hz, Minimum Starting Temperature -20°F or -30°C)** | | | | | | | | | | | | | |
| 1 | 100 | H-38 | 120/208/240/277 | CWA | 118 | 6 9/16 | — | 79W2591-001 | **6V797** | $284.13 | **$168.50** | 1 | 10.0 |
| 1 | 175 | H-39 | 120/208/240/277 | CWA | 200 | 6 9/16 | — | 79W3092-001 | **6V798** | 297.31 | **176.25** | 1 | 11.0 |
| 1 | 250 | H-37 | 120/208/240/277 | CWA | 285 | 6 9/16 | — | 79W3592-001 | **6V800** | 318.61 | **188.50** | 1 | 13.0 |
| | | | 480 | CWA | 285 | 6 9/16 | — | 79W3542-001 | **6V799** | 318.61 | **188.50** | 1 | 12.0 |
| 1 | 400 | H-33 | 120/208/240/277 | CWA | 454 | 8 9/16 | — | 79W4091-001 | **6V802** | 293.70 | **195.00** | 1 | 18.0 |
| | | | 480 | CWA | 454 | 8 9/16 | — | 79W4041-001 | **6V801** | 330.95 | **195.00** | 1 | 18.0 |
| 1 | 1000 | H-36 | 120/208/240/277 | CWA | 1075 | 11 5/16 | — | 79W5090-001 | **6V804** | 652.70 | **385.75** | 1 | 28.0 |
| | | | 480 | CWA | 1075 | 11 5/16 | — | 79W5040-001 | **6V803** | 652.70 | **385.75** | 1 | 28.0 |
| **Metal Halide (60 Hz, Minimum Starting Temperature -20°F or -30°C)** | | | | | | | | | | | | | |
| 1 | 175 | M-57 or H-39 | 120/208/240/277 | CWA | 210 | 6 9/16 | — | 79W5590-001 | **6V805** | 366.27 | **217.25** | 1 | 15.0 |
| 1 | 250 | M-58 or H-39 | 120/208/240/277 | CWA | 292 | 8 9/16 | — | 79W5790-001 | **6V806** | 395.91 | **234.25** | 1 | 18.0 |
| 1 | 400 | M-59 or H-33 | 120/208/240/277 | CWA | 455 | 8 9/16 | — | 79W6091-001 | **6V808** | 381.83 | **253.50** | 1 | 21.0 |
| | | | 480 | | 455 | | | 79W6041-001 | **6V807** | 429.73 | **253.50** | 1 | 21.0 |
| 2 | 400 | M-59 or H-33 | 120/240 | CWA (ILO) | 890 | 13 13/16 | — | 79W6351-001 | **6V811** | 667.88 | **392.50** | 1 | 44.0 |
| | | | 480 | CWA (ILO) | 890 | 13 13/16 | — | 79W6341-001 | **6V810** | 667.88 | **392.50** | 1 | 44.0 |
| 1 | 1000 | M-47 or H-36 | 120/208/240/277 | CWA | 1070 | 11 5/16 | — | 79W6592-001 | **6V813** | 862.39 | **510.50** | 1 | 33.0 |
| | | | 480 | CWA | 1070 | 11 5/16 | — | 79W6542-001 | **6V812** | 862.39 | **510.50** | 1 | 29.0 |
| **High Pressure Sodium (60 Hz, Minimum Starting Temperature -40°F or -40°C)** | | | | | | | | | | | | | |
| 1 | 150 | S-55 (55 Volt) | 120/208/240/277 | HX-HPF | 188 | 8 9/16 | 5 | 79W8192-001 | **6V814** | 551.85 | **327.50** | 1 | 14.0 |
| 1 | 250 | S-50 | 120/208/240/277 | CWA | 300 | 11 5/16 | 5 | 79W8291-001 | **6V815** | 689.84 | **411.50** | 1 | 24.0 |
| 1 | 400 | S-51 | 120/208/240/277 | CWA | 465 | 13 13/16 | 5 | 79W8493-001 | **6V817** | 815.56 | **484.25** | 1 | 20.0 |
| | | | 480 | CWA | 457 | 13 13/16 | 5 | 79W8443-001 | **2D060** | 815.56 | **483.00** | 1 | 24.0 |
| 1 | 1000 | S-52 | 120/208/240/277 | CWA Protected | 1100 | 13 13/16 | 2,5 | 79W8793-001 | **6V819** | 1134.33 | **672.00** | 1 | 40.0 |
| | | | 480 | CWA Protected | 1100 | 13 13/16 | 2,5 | 79W8743-001 | **6V818** | 1134.33 | **671.50** | 1 | 54.0 |

**No. 1N131.** Satchel Handle Mounting Bracket (SH-1). Shpg. wt. 1.0 lbs. List $2.15. Each.....**$1.0**

## HID BALLAST NOTES

1. Advance Quadri-Volt Ballasts with pre-insulated lead for each voltage choice.
2. Equipped with an automatic resetting thermal protector to prevent ballast overheating in the event of lamp failure.
3. All Advance dual-volt, F-can ballasts include auto reset thermal protection for 120V and 277V types.
4. Thermal protection included.
5. All Weatherproof High Pressure Sodium Lamp Ballasts are furnished with an Advance Long-Life Ignitor. Maximum lamp-to- ballast distance of 50 ft. (except No. 6V814, distance 35 ft.).
6. 001D; includes Advance dry capacitor, no grounding necessary.
7. Features plug-in-ignitor.


When it comes to lighting, no distributor outshines Grainger.

# DIMMER SELECTION GUIDE

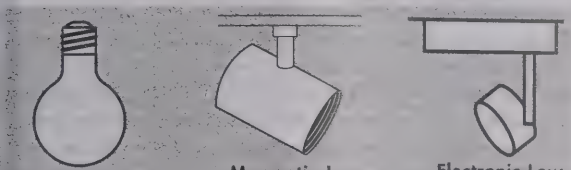
## INCANDESCENT DIMMING

ljusting the amount of lighting to suit the activity increases the ability of every room. It creates a more attractive, warmer, endlier room appearance, producing a more relaxed atmosere. Ideal for use in private offices, conference rooms, lobes/reception areas, restaurants, hotels, retail areas, showoms, and galleries

| Light Level | Electricity Saved | Lamp Life Extended |
|---|---|---|
| 90% | 10% | 2 Times |
| 75% | 20% | 4 Times |
| 50% | 40% | 20 Times |
| 25% | 60% | Greater than 20 Times |

## INCANDESCENT DIMMER SELECTION GUIDE

### LAMP SOURCES—SELECT THE RIGHT DIMMER FOR THE TYPE OF LAMP TO BE DIMMED:



**Incandescent or Halogen (120V) Lamps**

**Magnetic Low Voltage - Magnetic Transformer Supplied 12V**

**Electronic Low Voltage - Electronic Transformer Supplied 12V**

### DIMMER STYLE

Select the preferred dimming action and styling to match your room decor and preferred application:

**Specification Heavy Duty Controls** - Attractive Integral faceplate over cooling fins for higher wattage applications.

**Designer Style Controls** - Use with decorator style wallplate (not included) for commercial and residential applications. Wallplates found on p. 732.

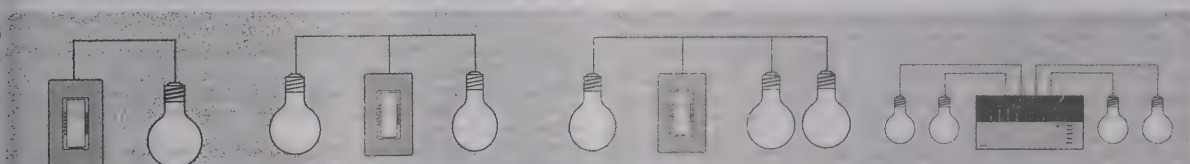
**Traditional Style Controls** - Use with toggle style wallplate (not included) for residential applications. Wallplates found on p. 732

**Slide-to-Off Controls** - Light is off when slider is moved to the full down position.

**Rotate-to-Off Controls** - Light is off when rotary knob is turned completely to left (counter clockwise).

**Preset Controls** - A preferred lighting level can be preselected, bringing the lights to a particular level everytime they are used.

### SWITCH TYPES Select the switching that meets the application:



**Single Pole Controls - Allow full range dimming from one location**

**3-Way Controls - Allow full range dimming from one location (using a 3-way dimmer), and on/off switching from a second location (using a 3-way switch)**

**Multi-Location Controls - Allow full function dimming from up to ten locations for hallways and rooms with multiple entry points**

**Multi-Zone Controls - Allow full function simultaneous dimming of two to six lighting circuits**

## LIGHTING LOADS - Select the right dimmer based on the total lamp wattage on the circuit

dding Hi-Power Modules 4LZ35, 4LZ36 or 4LZ37 allows a single 00W dimmer control to increase to 30,000W on a single circuit.

**anging and derating** - Ganging is the mounting of two or more candescent controls side-by-side in a series of connected wallboxes. When two or more controls are ganged, some controls may equire removing a scored section along adjacent sides of the mounting plate or fins. Removing sections of the mounting plate or fins may reduce the maximum capacity (load) a dimmer can reliably handle. Fluorescent dimming controls do not require derating when used with electronic dimming ballasts.

### DIVA, SKYLARK, MAESTRO, ARIADNI, GLYDER, AND BASIC ROTARY

| Full Rating | Rating with 1 Side Removed | Rating with 2 Sides Removed |
|---|---|---|
| Incandescent 600W | 500W | 400W |
| Incandescent 1000W | 800W | 650W |
| Magnetic Low Volt 600VA (450W) | 450VA (300W) | 250VA (200W) |
| Electronic Low Volt 300W | 250W | 200W |

thena dimmers have no removable side sections. No derating is required when ganging.

### NOVA AND CENTURION

| Full Rating | Rating with 1 Side Removed | Rating with 2 Sides Removed |
|---|---|---|
| 600W | 600W | 500W |
| 1000W | 900W | 700W |
| 1500W | 1250W | 1000W |
| 2000W | 1800W | 1500W |

## GENERAL INCANDESCENT DIMMER INFORMATION

se only one wallbox dimmer per circuit. For two or more dimers in a circuit use Maestro multi-location controls 4LZ38 or LZ39 that feature up to 9 additional remotes (4LZ40 or 4LZ41).

Vhen 3 phase use is required, a separate neutral for each phase ontaining a dimming circuit is recommended. Operation of a immed low-voltage circuit with all lamps burned out or removed ay result in current flow in excess of normal levels. To avoid ossible transformer failure, do not operate dimmed low voltage circuits with inoperative lamps in place. Use transformers that incorporate thermal protection or fused transformer primary windings.

Some lamp types may buzz when dimmed. To decrease the buzzing, use physically smaller lamps or rough service lamps.

During normal operation, dimmers generate heat. The higher the lighting load, the warmer the dimmer will feel. This is normal and safe.

# DIMMER SELECTION GUIDE

## FLUORESCENT DIMMING

Save energy by adding a fluorescent dimmer. You'll be able to adjust light levels to compensate for a particular task at hand or to compensate for outside light sources. Glare will be reduced, especially in computer terminal areas, alleviating eye strain. Productivity can be improved if light levels possess the ability to be adjusted according to visual needs. Ideal for use in rooms that require variable light levels such as conference rooms, classrooms, and meeting rooms. Installation requires dimming ballast and fluorescent dimming control.

**Perceived Light vs. Dimmed Light** - Because the human eye compensates for diminished light by opening the pupil to let more light enter, there is a difference between the amount of light the eye perceived and the actual dimmed light as measured by a light meter. For example, when there is 25% light you see 50%; 10% light, you see 32%. At 1% light you see 10%.

## FLUORESCENT DIMMER SELECTION GUIDE

**Fluorescent Dimming ballasts** are required for installation. Simply select the dimming ballast type for the application.

**Hi-Lume Dimming Ballasts** are used for full range dimming applications such as conference rooms, lecture halls, audio/visual presentation areas, private offices, computer rooms, CAD areas, classrooms, lobbies, and museums. Dimming range of 100% to 1% light output.

**Eco-10 Dimming Ballasts** are used to save energy and are best utilized in situations where moderate dimming is sufficient. Some ideas areas may be open office spaces, computer work stations, perimeter offices, and multi-use work stations. Dimming range of 100% to 10% light output.

**Voltage** - Ballasts are available for 120V or 277V installations. Match the lamp type and length.

**Lamp Type** - Ballasts are available for T-8 or T-12 rapid start lamps

**Lamp Length** - Ballasts are available for 24", 36" or 48" lamps Match the number of lamps in the fixture and the voltage.

**Number of Lamps** - Ballasts are available for 1, 2, or 3 lamp applications. 4 lamp fixtures will require two 2-lamp ballasts

**Note:** Fixtures with instant start sockets should be converted to rapid start sockets for best performance.

**Fluorescent Dimming Controls** - Select the right control for the application.

**NOVA Manual Controls** - Wallbox dimmer allows light level changes for tasks and activities requiring less light. Specification grade heavy-duty controls with attractive integral faceplate over cooling fins for long life. Single pole, 120V or 277V.

**PERSONNA Remote Dimmer** - Dim fluorescent fixtures individually or in groups with a handheld remote control. Controls individual fixture(s) directly above workstations in open, shared office spaces or private offices. Reduces glare created by computer screens, alleviating eye strain. Reduces fatigue, increasing productivity and overall personal comfort. Accommodates differences in age, sensitivity to light and personal preferences. Adjusts to the correct light level for a particular task at hand. Applications include open cubical areas and private offices, customer service, CAD areas, order entry, accounting departments, computer departments, telephone operators, engineering, and general office work.

**MicroWATT Automatic Energy Control System** - Maximizes savings by reducing light output when possible and turning lights off when not needed. Modular system is easily customized by linking to many types of sensors, controls and systems:

**Daylight Sensor** - Lighting may be dimmed automatically in offices illuminated by natural light.

**Occupancy Sensor** - Lights automatically dim or turn on/off in unoccupied areas, then return to the on or brighter position when motion is detected.

**Time Clock** - Lights can be programmed to turn on/off during off peak hours.

**Emergency Fire/Safety System** - Lighting may be linked to safety and security systems to trigger all lights to turn on in the event of an emergency.

**Load Shedding Monitor** - Lighting can be reduced to save peak demand charges in response to building management systems.

**Manual Controls** - Allow lights to be dimmed for tasks requiring less light or to temporarily override time clock programming during off hours.

## DIMMER SELECTION CHART FOR INCANDESCENT & FLUORESCENT LIGHTING

| Dimmer Type | Lamp Compatibility | Dimming Action | Switching | Page No. |
|---|---|---|---|---|
| NOVA | Incandescent/Halogen | Slide-to-Off | Single Pole | 1047 |
| | | Preset, Slide Dim | 3-Way | 1047 |
| | Fluorescent | Slide-to-Off | Single Pole | 1051 |
| Centurion | Incandescent/Halogen | Rotate-to-Off | Single Pole | 1047 |
| Athena | Incandescent/Halogen | Rotate-to-Off | Single Pole | 1047 |
| Maestro | Incandescent/Halogen | Preset, Tap Switch | Multi-Location | 1048 |
| Diva | Incandescent/Halogen | Preset, Slide Dim | Single Pole, 3-Way | 1048 |
| Skylark | Incandescent/Halogen | Slide-to-Off | Single Pole | 1048 |
| | | Preset, Slide Dim | Single Pole, 3-Way | 1048 |
| | Magnetic Low Voltage | Preset, Slide Dim | | 1048 |
| | Electronic Low Voltage | Preset, Slide Dim | | 1048 |
| Ariadni | Incandescent/Halogen | Preset, Slide Dim | Single Pole, 3-Way | 1049 |
| Glyder | Incandescent/Halogen | Preset, Slide Dim | Single Pole, 3-Way | 1049 |

| Dimmer Type | Lamp Compatibility | Dimming Acton | Switching | Page No. |
|---|---|---|---|---|
| Rotary | Incandescent/Halogen | Preset, Rotate Dim | Single Pole, 3-Way | 1049 |
| Personna | Fluorescent | Handheld Remote | Single Pole | 1051 |
| GRAFIK Eye 2000 | Incandescent/Halogen Magnetic Low Voltage | Preset, Push Button | Single Pole, Handheld Remote | 1052 |
| GRAFIK Eye 3100 | Incandescent/Halogen Magnetic Low Voltage Electronic Low Voltage Fluorescent Neon/Cold Cathode | Preset, Push Button | Multi-Location Handheld Remote | 1052 |
| Hi-POWER Dimming Module | Incandescent/Halogen Magnetic Low Voltage Electronic Low Voltage Fluorescent Neon/Cold Cathode | Use within candescent dimmeror GRAFIK Eye | — | 1054 |
| MicroWatt | Fluorescent | Automatic or Manual Control | Multiple Input Controls or Sensors | 1054 |

**UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY**

**Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.**

# INCANDESCENT DIMMING CONTROLS

## SPECIFICATION SERIES INCANDESCENT DIMMERS

:commodate demanding loads in conference rooms, offices, bbies, and reception areas, stores, restaurants, hotels, show-oms, hospitals, homes and other commercial and institutional ghting installations. For use in conjunction with incandescent id halogen lamps. Conserves energy by choosing appropriate ght levels for particular tasks or adjusts light levels according amount of outside lighting. Improves productivity by adjusting ghting to meet visual needs. Increases lamp life up to 20 times. eavy-duty components supress power surges, providing longer mmer life. Voltage compensation circuitry for consistent, nooth lighting control. Superior radio frequency interference FI) filtering to reduce interference with computer systems, tercoms, sound systems, and other electrical equipment. ooling fins prolong dimmer life. Memory feature returns lights previous setting in the event of a power failure. Air gap switch echanism for added safety and reliability. Rated 120VAC, 60 Hz. L Listed, CSA Certified.

### A NOVA SLIDE DIMMER

is full range rugged linear slide dimmer makes precise lighting djustments quick and easy. Available in slide-to-off dimmer odels and preset push on/off slide dimmer models. Includes tractive integral faceplate.

### NOVA LINEAR SWITCHES

atches the Nova style dimmers with the linear slide on/off vitch in a wallbox cluster. Includes attractive integral face-ate.

### B CENTURION ROTARY DIMMER

eatures a full range contemporary rotary style dimmer with cap-ve knob and is operated by rotary on/off style controls. cludes an elegantly styled integral beige faceplate.

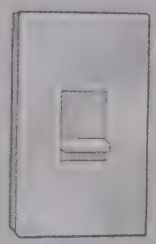
### C ATHENA ROTARY DIMMER

ie Athena dimmer is controlled by a full range rotary mecha-sm with a black radar sweep knob. On/off function is con-olled by the same rotary mechanism. Includes a integral gold-iodized aluminum faceplate.

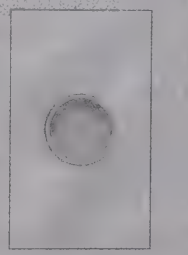
New

LUTRON

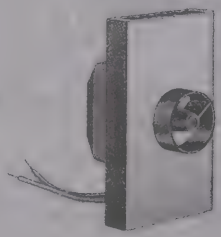
UL E34957 CSA LR24576



A No. 6A681 Nova



B No. 4LX88 Centurion



C No. 5A314 Athena

### SPECIFICATION SERIES DIMMER ORDERING DATA

| Key | Description | Color | Switch Type | Rating | Lutron Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Nova Slide Dimmer | White | Single Pole | 600W | N-600WH | | 6A681 | $29.00 | $24.95 | 0.6 |
| | Nova Slide Dimmer | Ivory | Single Pole | 600W | N-600IV | New | 4LZ57 | 29.00 | 24.95 | 0.6 |
| | Nova Slide Dimmer | Ivory | 3-Way | 600W | N-603P-IV | New | 4LZ58 | 54.00 | 47.65 | 0.6 |
| | Nova Slide Dimmer | White | 3-Way | 600W | N-603P-WH | New | 4LZ59 | 54.00 | 47.65 | 0.6 |
| | Nova Slide Dimmer | White | Single Pole | 1000W | N-1000WH | | 6A682 | 78.00 | 65.15 | 0.7 |
| | Nova Slide Dimmer | Ivory | Single Pole | 1000W | N-1000IV | New | 4LZ46 | 78.00 | 65.15 | 0.6 |
| | Nova Preset Slide Dimmer | White | 3-Way | 1000W | N-1003PWH | New | 4LZ48 | 100.00 | 88.25 | 0.6 |
| | Nova Preset Slide Dimmer | Ivory | 3-Way | 1000W | N-1003PIV | New | 4LZ47 | 100.00 | 88.25 | 0.6 |
| | Nova Slide Dimmer | White | Single Pole | 1500W | N-1500WH | | 6A683 | 146.00 | 121.20 | 0.9 |
| | Nova Slide Dimmer | Ivory | Single Pole | 1500W | N-1500IV | New | 4LZ49 | 146.00 | 121.00 | 0.8 |
| | Nova Preset Slide Dimmer | White | 3-Way | 1500W | N-1503PWH | New | 4LZ51 | 170.00 | 150.00 | 0.8 |
| | Nova Preset Slide Dimmer | Ivory | 3-Way | 1500W | N-1503PIV | New | 4LZ50 | 170.00 | 150.00 | 0.8 |
| | Nova Slide Dimmer | White | Single Pole | 2000W | N-2000WH | | 6A684 | 198.00 | 167.00 | 0.9 |
| | Nova Slide Dimmer | Ivory | Single Pole | 2000W | N-2000IV | New | 4LZ53 | 198.00 | 167.00 | 0.8 |
| | Nova Preset Slide Dimmer | White | 3-Way | 2000W | N-2003PWH | New | 4LZ55 | 252.00 | 222.50 | 0.8 |
| | Nova Preset Slide Dimmer | Ivory | 3-Way | 2000W | N-2003PIV | New | 4LZ54 | 252.00 | 222.50 | 0.9 |
| — | Nova Linear Slide Switch | White | Single Pole | 20A | N-1PSWH | New | 4LZ52 | 18.00 | 14.40 | 0.6 |
| | Nova Linear Slide Switch | White | 3-Way | 20A | N-3PSWH | New | 4LZ56 | 40.00 | 32.30 | 0.1 |
| B | Centurion Rotary Dimmer | Beige | Single Pole | 600W | C-600BE | New | 4LX91 | 27.50 | 20.65 | 0.9 |
| | Centurion Rotary Dimmer | Beige | Single Pole | 1000W | C-1000BE | New | 4LX88 | 54.00 | 40.50 | 0.6 |
| | Centurion Rotary Dimmer | Beige | Single Pole | 1500W | C-1500BE | New | 4LX89 | 115.90 | 86.95 | 0.8 |
| | Centurion Rotary Dimmer | Beige | Single Pole | 2000W | C-2000BE | New | 4LX90 | 172.90 | 129.70 | 0.9 |
| C | Athena Rotary Dimmer | Gold | Single Pole | 600W | T-600 | | 5A314 | 24.00 | 14.99 | 0.6 |
| | Athena Rotary Dimmer | Gold | Single Pole | 1000W | T-1000 | | 3X755 | 48.00 | 30.75 | 0.8 |
| | Athena Rotary Dimmer | Gold | Single Pole | 1500W | T-1500 | | 3X756 | 88.00 | 59.90 | 1.0 |
| | Athena Rotary Dimmer | Gold | Single Pole | 2000W | T-2000 | | 3X757 | 130.00 | 86.00 | 1.0 |

NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY

# INCANDESCENT DIMMING CONTROLS

## DESIGNER SERIES DIMMERS

**Applications:** Use in conference rooms, offices, lobbies, and reception areas, stores, restaurants, hotels, showrooms, hospitals, homes and other commercial, institutional and residential lighting installations. For use in conjunction with incandescent and halogen lamps. Use decorator style wallplates (not included, see page 732). Saves energy by using proper light level for task at hand or to adjust for outside lighting. Increases lamp life up to 20 times. Radio frequency interference (RFI) filtering to reduce interference with intercoms, radios, sound systems, and other electrical equipment. Memory feature returns lights to previous setting after power failure. Rated 120VAC, 60 Hz. UL Listed, CSA Certified.

A **Maestro & Maestro Remote.** Multi-location dimmer offers full range dimming from up to ten locations. Tap switch turns lights on to the preset level or to the off position. Side rocker dims or brightens lights at the touch of a button. LEDs indicate preset light level, and glow softly to double as a night light when light is off. Simple touch operation. Tapping the switch once causes lights to fade up or down smoothly. Tapping the switch twice directs the lights to illuminate at full brightness. Press and hold switch for slow ten second fade to off. 40 watt minimum circuit load.

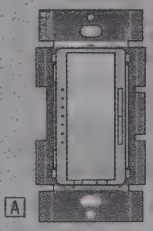
**For multi-location dimming:** Required to use only one Maestro dimmer (either Stock No. 4LZ38 or 4LZ39) per circuit. Up to 9 Maestro Remote dimmers (Stock Nos. 4LZ40 or 4LZ41) can be used. Each location should be wired similar to a standard 3-way switch. Allow 300 ft. for maximum wire length between Maestro dimmer and last Maestro Remote.

B **Diva.** The Diva dimmer consists of a large paddle mechanism used to turn lights on and off, a side mini slider to dim or brighten lights and a convenient soft glow night light feature.

C **Skylark.** Available in slide-to-off dimmer models and preset slide dimmer with mini On/Off rocker switch models. A large linear slider knob makes adjusting light levels easy and fun.

New

LUTRON®

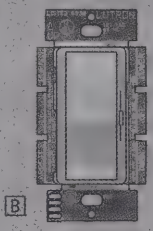


E34957 LR24576



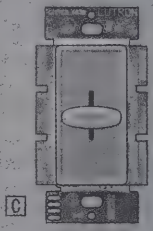
A

No. 4LZ39
Maestro



B

No. 4LX95
Diva



C

No. 4LZ78
Skylark

### DESIGNER SERIES DIMMERS ORDERING DATA

| Key | Description | Color | Switch Type | Rating | Lutron Model No. | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Maestro Smart Dimmer | White | Single Pole/Multi-Location | 600W | MA-600HWH | **4LZ39** | $41.50 | **$39.00** | 0.3 |
| A | Maestro Smart Dimmer | Ivory | Single Pole/Multi-Location | 600W | MA-600HIV | **4LZ38** | 41.50 | **39.00** | 0.3 |
| A | Maestro Remote Dimmer | White | Multi-Location | 600W | MA-RH-WH | **4LZ41** | 27.50 | **24.27** | 0.3 |
| A | Maestro Remote Dimmer | Ivory | Multi-Location | 600W | MA-RH-IV | **4LZ40** | 27.50 | **24.27** | 0.3 |
| B | Diva Mini-Slide Dimmer | White | Single Pole | 600W | DV-600PHWH | **4LX95** | 31.00 | **27.35** | 0.4 |
| B | Diva Mini-Slide Dimmer | Ivory | Single Pole | 600W | DV-600PHIV | **4LX94** | 31.00 | **27.35** | 0.4 |
| B | Diva Mini-Slide Dimmer | White | 3-Way | 600W | DV-603PHWH | **4LX97** | 37.00 | **32.65** | 0.4 |
| B | Diva Mini-Slide Dimmer | Ivory | 3-Way | 600W | DV-603PHIV | **4LX96** | 37.00 | **32.65** | 0.4 |
| C | Skylark Slide Dimmer | White | Single Pole | 600W | S-600HWH | **4LZ78** | 17.00 | **14.75** | 0.3 |
| C | Skylark Slide Dimmer | Ivory | Single Pole | 600W | S-600HIV | **4LZ77** | 17.00 | **14.75** | 0.3 |
| C | Skylark Pre-set Dimmer | White | Single Pole | 600W | S-600PHWH | **4V260** | 23.00 | **18.70** | 0.3 |
| C | Skylark Pre-set Dimmer | Ivory | Single Pole | 600W | S-600PHIV | **3A161** | 23.00 | **18.70** | 0.3 |
| C | Skylark Pre-set Dimmer | White | 3-Way | 600W | S-603PHWH | **4V261** | 31.00 | **24.99** | 0.3 |
| C | Skylark Pre-set Dimmer | Ivory | 3-Way | 600W | S-603PHIV | **3A162** | 31.00 | **24.99** | 0.3 |
| C | Skylark Pre-set Dimmer | White | Single Pole | 1000 | S-10PHWH | **4LZ76** | 78.00 | **68.85** | 0.3 |
| C | Skylark Pre-set Dimmer | Ivory | Single Pole | 1000 | S-10PHIV | **4LZ75** | 78.00 | **68.85** | 0.3 |
| C | Skylark Pre-set Dimmer | White | 3-Way | 1000 | S-103-PHWH | **4LZ74** | 94.00 | **82.95** | 0.3 |
| C | Skylark Pre-set Dimmer | Ivory | 3-Way | 1000 | S-103-PHIV | **4LZ73** | 94.00 | **82.95** | 0.3 |
| C | Skylark - Low Voltage | White | Single Pole | 600VA | SLV-600PWH | **6E030** | 51.00 | **44.20** | 0.3 |
| C | Skylark - Low Voltage | Ivory | Single Pole | 600VA | SLV-600PIV | **4LZ79** | 51.00 | **44.20** | 0.2 |
| C | Skylark - Low Voltage | White | 3-Way | 600VA | SLV-603PWH | **6E031** | 65.00 | **57.40** | 0.3 |
| C | Skylark - Low Voltage | Ivory | 3-Way | 600VA | SLV-603PIV | **4LZ80** | 65.00 | **57.40** | 0.2 |
| C | Skylark - Low Voltage | White | Single Pole | 300VA | SELV-300PWH | **6E028** | 68.00 | **58.20** | 0.3 |
| C | Skylark - Low Voltage | White | 3-Way | 300VA | SELV-303PWH | **6E029** | 82.00 | **70.00** | 0.3 |

**ORDERING HAS NEVER BEEN EASIER!**

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# INCANDESCENT DIMMING CONTROLS

## TRADITIONAL SERIES DIMMING CONTROLS

These traditional series dimmers are designed for use in residential and light commercial settings for applications up to 1000W. Use in conjuction with incandescent and halogen lamps. Toggle style wallplate recommended, but not included. Conserves energy by using appropriate light levels for particular tasks or adjusting light levels according to amount of outside lighting. Increases lamp life up to 20 times. Superior radio frequency interference (RFI) filtering to reduce interference with intercoms, radios, sound systems, and other electrical equipment. Memory feature returns lights to previous setting in the event of a power failure. Rated 120VAC, 60 Hz. UL Listed, CSA Certified.

### A ARIADNI TOGGLE DIMMER

The Ariadni dimmer features a toggle switch and mini slide dimmer that allows user to turn light on/off at selected light levels. Unit is easily wired with a push in or screw terminal.

### B GLYDER SLIDE DIMMER

Features a smooth operating linear slide action dimmer mechanism. Slide-to-off and preset push on/off models are available. Available in 600W and 1000W power models.

### C BASIC ROTARY PUSH ON/OFF DIMMER

This basic dimmer switch operates by pushing on/off, then turning to the right or left to control light levels. Returns to last light level selected when pushed to the on position. Available in 600W power.

### D REPLACEMENT KNOBS FOR ROTARY DIMMERS

Never fear—replacements are available for those times when the knobs are just pushed too hard or too much. Available in neutral white or ivory colors to match any decor. For use with 4X603, 4X852, 4LX92, and 4LX93.

New

LUTRON

UL E34957

CSA LR24576



A Ariadni No. 4LX84



B Glyder No. 4LZ25



C Basic Rotary No. 4LX93

### *New!* TRADITIONAL SERIES INCANDESCENT DIMMER ORDERING DATA

| Key | Description | Color | Switch Type | Rating | Lutron Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Ariadni Toggle Dimmer | White | Single Pole | 600W | AY-600PHWH | **4LX85** | $18.00 | **$15.29** | 0.3 |
| | Ariadni Toggle Dimmer | Ivory | Single Pole | 600W | AY-600PHIV | **4LX84** | 18.00 | **15.29** | 0.3 |
| | Ariadni Toggle Dimmer | White | 3-Way | 600W | AY-603PHWH | **4LX87** | 24.00 | **21.88** | 0.3 |
| | Ariadni Toggle Dimmer | Ivory | 3-Way | 600W | AY-603PHIV | **4LX86** | 24.00 | **21.88** | 0.3 |
| | Ariadni Toggle Dimmer | White | Single Pole | 1000W | AY-10PHWH | **4LX83** | 50.00 | **44.55** | 0.3 |
| | Ariadni Toggle Dimmer | Ivory | Single Pole | 1000W | AY-10PHIV | **4LX82** | 50.00 | **44.55** | 0.3 |
| | Ariadni Toggle Dimmer | White | 3-Way | 1000W | AY-103PHWH | **4LX81** | 56.00 | **49.75** | 0.3 |
| | Ariadni Toggle Dimmer | Ivory | 3-Way | 1000W | AY-103PHIV | **4LX80** | 56.00 | **49.75** | 0.3 |
| B | Glyder Slide Dimmer | White | Single Pole | 600W | GL-600HWH | **4LZ25** | 15.50 | **10.99** | 0.3 |
| | Glyder Slide Dimmer | Ivory | Single Pole | 600W | GL-600HIV | **3X754** | 15.50 | **10.99** | 0.3 |
| | Glyder Slide Dimmer | White | 3-Way | 600W | GL-603PHWH | **4LZ26** | 26.50 | **18.99** | 0.3 |
| | Glyder Slide Dimmer | Ivory | 3-Way | 600W | GL-603PHIV | **5A312** | 26.50 | **18.99** | 0.3 |
| | Glyder Slide Dimmer | Ivory | Single Pole | 1000W | GL-1000HIV | **5A313** | 46.50 | **33.30** | 0.3 |
| C | Push On/Off | White | Single Pole | 600W | D-600PHWH | **4LX92** | 8.10 | **4.67** | 0.3 |
| | Push On/Off | Ivory | Single Pole | 600W | D-600PHIV | **4X603** | 8.10 | **4.67** | 0.3 |
| | Push On/Off | White | 3-Way | 600W | D-603PHWH | **4LX93** | 13.20 | **7.11** | 0.3 |
| | Push On/Off | Ivory | 3-Way | 600W | D-603PHIV | **4X852** | 13.20 | **7.11** | 0.3 |
| D | Replacement Knob | White | — | — | RK-WH | **4LZ72** | 2.50 | **1.55** | 0.3 |
| | Replacement Knob | Ivory | — | — | RK-IV | **4LZ71** | 2.50 | **1.55** | 0.3 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# FLUORESCENT DIMMING BALLASTS AND CONTROLS

## ELECTRONIC DIMMING BALLASTS

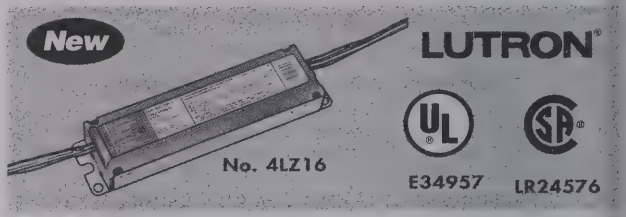
The electronic dimming ballasts provide smooth, quiet, flicker-free dimming. Has a better than Class A sound rating and is Class P thermally protected. Superior line transient protection that meets ANSI C62.41 (IEEE 587, category A) to withstand 4000V surges. Meets FCC part 18 RFI/EMI regulations. Ballasts strike lamps at any light level without first flashing to full light. 50°F (10°C) minimum starting temperature. Ballasts contain no poly-chlorinated biphenyls (PCBs). UL Listed, CSA Certified.

## GENERAL FLUORESCENT BALLAST INSTALLATION INFORMATION

Use these fluorescent ballasts with only rapid start fluorescent lamps. T-12 energy saving lamps are not recommended for usage. Mount each ballast in the fixture with the lamp(s) it is controlling. Restrict the lead length between ballast and lamps under 7 ft. New lamps must be initially operated at full intensity for 100 hours to achieve optimum dimming performance. Please note that all wiring from dimming control to the ballast is Class 1 and may be conveniently combined in the same conduit. Eco-10 and Hi-Lume ballasts protect against damage by miswiring of control wire input. Do no mix magnetic dimming ballasts with electronic ballasts on the same control. Combining Eco-10 and Hi-Lume ballasts on the same control is not recommended, due to the production of different light intensities. Ballast inrush current may not exceed 3A at 277V or 7A at 120V to avoid nuisance circuit breaker trips and control contact malfunctions.

## HI-LUME ARCHITECTURAL DIMMING BALLASTS

Use Hi-Lume architectural dimming ballasts for full range dimming from full light output to 1% of full light in lobbies, audio/visual presentations areas, conference rooms, classrooms, computer rooms, museums and other areas requiring full range dimming. They feature a dimming range of 100%-1% light level output; 100%-10% perceived light level. Ballast factor is equal to .93. The total harmonic distortion consists of less than 10% of full light output and diminishes as dimmed. Lamp current crest factor is less than or equal to 1.6. Frequency of operation is greater than 25Khz.

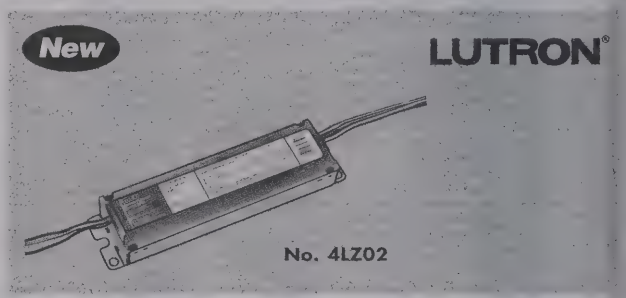



### HI-LUME DIMMING BALLAST ORDERING DATA

| No. Lamps | Lamp Type | Lamp Length (In.) | Volts (60Hz) | Input Wattage | Line Amps | Lutron Model | New! Stock No. | List | Each | Volts (60Hz) | Input Wattage | Line Amps | Lutron Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F25T8 | 36 | 120 | 28 | .24 | FDB-3627-120-1 | 4LZ09 | $170.00 | $142.50 | 277 | 31 | .12 | FDB-3627-277-1 | 4LZ12 | $190.00 | $159.50 | 1.4 |
| 2 | F25T8 | 36 | 120 | 52 | .43 | FDB-3627-120-2 | 4LZ10 | 170.00 | 142.50 | 277 | 53 | .19 | FDB-3627-277-2 | 4LZ13 | 190.00 | 159.50 | 1.4 |
| 3 | F25T8 | 36 | 120 | 74 | .62 | FDB-3627-120-3 | 4LZ11 | 196.00 | 164.50 | 277 | 76 | .28 | FDB-3627-277-3 | 4LZ14 | 218.00 | 183.00 | 1.4 |
| 1 | F32T8 | 48 | 120 | 35 | .30 | FDB-4827-120-1 | 4LZ15 | 170.00 | 142.50 | 277 | 31 | .12 | FDB-4827-277-1 | 4LZ18 | 190.00 | 159.50 | 1.0 |
| 2 | F32T8 | 48 | 120 | 67 | .57 | FDB-4827-120-2 | 4LZ16 | 170.00 | 142.50 | 277 | 53 | .19 | FDB-4827-277-2 | 4LZ19 | 190.00 | 159.50 | 2.0 |
| 3 | F32T8 | 48 | 120 | 97 | .82 | FDB-4827-120-3 | 4LZ17 | 196.00 | 164.50 | 277 | 76 | .28 | FDB-4827-277-3 | 4LZ20 | 218.00 | 183.00 | 1.0 |
| 1 | F40T12 | 48 | 120 | 46 | .39 | FDB-4843-120-1 | 4LZ21 | 150.00 | 125.75 | 277 | 46 | .17 | FDB-4843-277-1 | 4LZ23 | 180.00 | 151.00 | 1.4 |
| 2 | F40T12 | 48 | 120 | 83 | .70 | FDB-4843-120-2 | 4LZ22 | 150.00 | 125.75 | 277 | 83 | .30 | FDB-4843-277-2 | 4LZ24 | 180.00 | 151.00 | 1.4 |

## ECO-10 WORKPLACE DIMMING BALLASTS

Eco-10 Dimming Ballasts are best used for energy management and moderate range dimming down to 10% of full light output in open office spaces, computer work stations, perimeter offices, multi-use work stations and lecture halls. It features a dimming range of 100%-10% light level output; 100%-32% perceived light level. It has a power factor of greater than .95. The ballast factor is equal to .85. Total harmonic distortion consists of less than 10% at full light output and diminishes as dimmed. Lamp current crest factor is less than or equal to 1.6. Ballasts strike lamps at any light level without first flashing to full light.



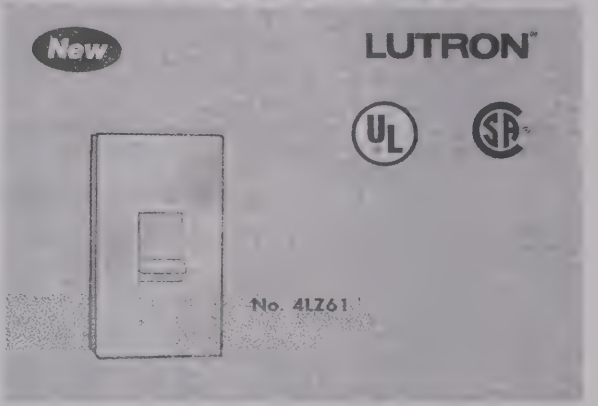

### ECO-10 DIMMING BALLASTS ORDERING DATA

| No. Lamps | Lamp Type | Lamp Length (In.) | Volts (60 Hz) | Input Wattage | Line Amps | Lutron Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F17T8 | 24 | 120 | 21 | .19 | ECO-T817-120-1 | 4LX98 | $130.00 | $109.00 | 1.3 |
| 2 | F17T8 | 24 | 120 | 36 | .31 | ECO-T817-120-2 | 4LX99 | 130.00 | 109.00 | 1.3 |
| 1 | F25T8 | 36 | 120 | 28 | .24 | ECO-T825-120-1 | 4LZ01 | 130.00 | 109.00 | 1.3 |
| 2 | F25T8 | 36 | 120 | 52 | .43 | ECO-T825-120-2 | 4LZ02 | 130.00 | 109.00 | 1.3 |
| 1 | F32T8 | 48 | 120 | 35 | .30 | ECO-T832-120-1 | 4LZ03 | 99.00 | 83.00 | 1.0 |
| 2 | F32T8 | 48 | 120 | 67 | .57 | ECO-T832-120-2 | 4LZ04 | 99.00 | 83.00 | 1.0 |
| 3 | F32T8 | 48 | 120 | 97 | .82 | ECO-T832-120-3 | 4LZ05 | 139.00 | 116.55 | 1.0 |
| 1 | F32T8 | 48 | 277 | 36 | .14 | ECO-T832-277-1 | 4LZ06 | 99.00 | 83.00 | 1.2 |
| 2 | F32T8 | 48 | 277 | 70 | .25 | ECO-T832-277-2 | 4LZ07 | 99.00 | 83.00 | 1.0 |
| 3 | F32T8 | 48 | 277 | 96 | .35 | ECO-T832-277-3 | 4LZ08 | 139.00 | 116.55 | 1.0 |

# FLUORESCENT DIMMING BALLAST AND CONTROLS

## NOVA SPECIFICATION SERIES FLUORESCENT DIMMERS

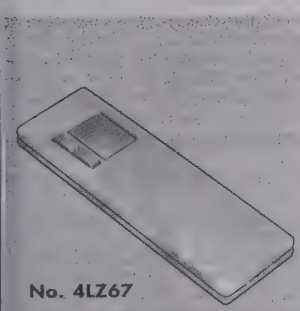
This dimmer has a full range rugged linear slide dimmer for easy, precise lighting adjustment. Heavy duty components surpress power surges and provide longer dimmer life. Voltage compensation circuitry for consistent, smooth lighting control. Features superior radio frequency interference (RFI) filtering, which reduces interference with computer systems, intercoms, sound systems and other electrical equipment. A convenient memory feature returns lights to previous setting after a power failure. Take control of individual fixture(s) directly above workstations in open shared office spaces with this dimmer. Glare from computer screens will be significantly reduced to alleviate fatigue and to increase productivity and personal comfort. Individual controls enable people to adjust lighting levels according to their needs or preferences. The correct light level can be achieved for each task at hand. Ideal for use in open cubical areas, private offices, customer service, CAD areas, order entry, accounting departments, computer departments, telephone operator areas, engineering and general office work areas. Cooling fins have been added to prolong dimmer life. Dimmer includes an integral attractive faceplate that keeps its appearance clean and uniform. Single pole. Neutral white color matches virtually any decor. UL Listed, CSA Certified.

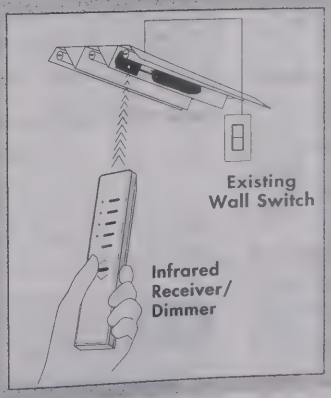



### NOVA FLUORESCENT DIMMER ORDERING DATA

| Description | Volts (60 Hz) | Switch Type | Capacity | Lutron Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Nova Fluorescent Dimmer** | 120 | Single Pole | 10 Lamps | NF-10WH | **4LZ61** | $130.00 | **$114.75** | 0.7 |
| **Nova Fluorescent Dimmer** | 277 | Single Pole | 10 Lamps | NF-10-277WH | **4LZ60** | 242.00 | **213.75** | 0.9 |
| **Nova Fluorescent Dimmer** | 120 | Single Pole | 20 Lamps | NF-20WH | **4LZ63** | 170.00 | **150.00** | 0.8 |
| **Nova Fluorescent Dimmer** | 277 | Single Pole | 20 Lamps | NF-20-277WH | **4LZ62** | 320.00 | **282.50** | 0.8 |

## PERSONNA FIXTURE MOUNTED REMOTE CONTROL DIMMER SYSTEM







Fluorescent fixtures can be dimmed individually or in groups with a convenient handheld wireless remote control. System provides precise control of individual fixture(s) directly above workstations in open shared office spaces according to individual preference. Glare from computer screens will be significantly reduced to alleviate eye strain and fatigue, increasing productivity and performance. Light levels can be easily adjusted to suit changing tasks and personal needs. Ideal for use in work stations, open cubical office spaces, perimeter offices, multi-use work stations, and for office areas that are subject to frequent changes. 1 to 20 ballasts may be connected to a single dimmer/receiver to control one fixture or a group of fixtures. Maximum total wire run between dimmer/receiver and last dimming ballast is 250 ft. Standard wiring is used to connect all light fixtures to the wall switch. Operates at a voltage of 100 - 277VAC, 50/60Hz.

[A] **Dimmer/Receiver** wires are quickly and easily installed directly into existing light fixtures. Fixture must be equipped with HI-Lume or Eco-10 dimming ballasts (not included, see page 1050 for lists of ballasts).

[B] **Remote Controller** - handheld, wireless operation allows you to raise or lower light levels from up to 8 feet away — no more interrupted presentations or meetings.

[C] **Tether/Holster Bracket** may be mounted to a desktop or computer side for fast and easy access. Neutral gray color.

| Key | Description | Lutron Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Fixture-Mounted Dimmer/Receiver | PN-IR | 4LZ68 | $89.00 | $74.95 | 0.2 |
| B | Wireless Remote Control | PN-HT-GR | 4LZ67 | 50.00 | 35.00 | 0.2 |
| C | Tether/Holster Bracket | RCTH-GR | 4PL34 | 10.00 | 9.00 | 0.1 |

# MULTI-ZONE LIGHTING DIMMING SYSTEM

## GRAFIK EYE MULTI-ZONE LIGHTING DIMMING CONTROLS

Provide preset dimming control of multiple lighting zones. A lighting zone is a single light or a group of lights that is controlled by the same dimming circuit. A combination of user defined light level settings may be stored as a scene. Scenes can be stored in memory and recalled at the touch of a button.

- **Lighting zone levels displayed by LEDs**
- **White base with translucent black, hinged cover concealing pushbutton lighting zone controls**
- **Retrofittable into existing switch boxes or new construction.**
- **Power failure memory: After a power outage, the control retains scene settings and returns to the scene in use prior to outage.**
- **UL Listed, CSA Certified**

## GRAFIK EYE 2000 SERIES DIMMING CONTROLS

Designed for use with incandescent and magnetic low voltage lighting. Light commercial and residential applications. Units available to control 2, 3, or 4 lighting circuits. Memory feature stores up to four scenes. Includes hand held infrared wireless remote to turn on, select and raise/lower any of the 4 scenes on main unit or to simply turn lights on from anywhere in the room. Impressively smooth 3 second fade to on (or between scenes) feature and a 10 second fade to off. User adjustable scenes are initially set at factory to 25%, 50%, 75% and 100% light levels. Maximum capacity of each individual zone is 6.7A, 800W/VA.




### *New!* ORDERING INFORMATION

| Lamp Sources | No. Zones | Max No. Scenes | Wallbox Size | Total Watts/VA 120V (60 Hz) | Total Watts/VA 240V (60 Hz) | Lutron Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Incandescent and Magnetic Low Voltage** | 2 | 4 | 2 Gang | 1200 | 1600 | GRX-2402-T-WH | **4PL30** | 420.00 | **378.00** | 0.5 |
| | 3 | 4 | 3 Gang | 1500 | 2400 | GRX-2403-T-WH | **4PL31** | 500.00 | **450.00** | 0.5 |
| | 4 | 4 | 4 Gang | 2000 | 3000 | GRX-2404-T-WH | **4PL32** | 580.00 | **522.00** | 0.5 |

## ACCESSORIES

Wireless Hand Held Remote. This infrared wireless remote is used to turn on, select, and raise/lower any of 4 scenes on main unit or turn all lights off. Use for audio/visual presentations, lectures, projection rooms, conference rooms and other applications. Neutral white color matches any decor. Lutron brand (GRX-IT-WH).

***New* No. 4LZ34.** Shpg. wt. 0.2 lbs. List $100.00. Each.....**$88.25**

**Mounting brackets for Wireless Remote.** Easy wall or table top mounting. Available in black or cream color.

***New* No. 4LZ69.** Black Holster Bracket (PNH-BL). Shpg. wt. 0.1 lbs. List $6.00. Each.....**$5.29**

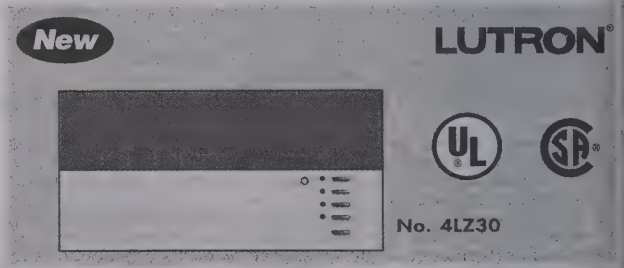
***New* No. 4LZ70.** Cream Holster Bracket (PNH-CR). Shpg. wt. 0.1 lbs. List $6.00. Each.....**$5.29**

**Single Scene Entrance Control.** Additional switch to turn main unit on/off in a 3-way application. Single push button turns lights on to scene 1 or turns all lighting off. Operates with 3 zone 4PL31 and 4 zone 4PL32. Provides easy retrofit in an existing 3-way installation. Line voltage control must not be connected to low voltage terminals on the main unit. Neutral white color matches any decor. UL Listed, CSA Certified. Lutron brand (NTGRX-1S-WH).

***New* No. 4LZ65.** Shpg. wt. 0.4 lbs. List $100.00. Each.....**$88.25**

## GRAFIK EYE 3100 SERIES

The Grafik Eye 3100 series dimming controls are designed for use with fluorescent (with Hi-Lume dimming ballast and interface accessory), magnetic low voltage, electronic low voltage, (with interface accessory), and neon cold cathode lighting. Use in specification grade commercial applications such as conference rooms, small auditoriums, restaurants, and residences. Choose the unit that best suits your needs. Units listed below are available to control 3, 4, or 6 lighting circuits. Up to 16 scenes can be stored in main unit memory. Use up to 3 additional four scene control stations, Stock No. 4LZ66, to access scenes 5-16. Fade times between scenes are programmable from 0-59 seconds or 1 to 60 minutes. Maximum capacity of each individual zone is 6.7, 800W/VA.




### *New!* GRAFIK EYE 3100 SERIES DIMMING CONTROLS SPECIFICATIONS AND ORDERING INFORMATION

| Lamp Sources | No. Zones | Max No. Scenes | Wallbox Size | Total Watts/VA 120V (60 Hz) | Total Watts/VA 240V (60 Hz) | Lutron Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Incandescent, Magnetic Low Voltage,** | 3 | 16 | 3 Gang | 1500 | 2400 | GRX-3103-T-WH | **4LZ30** | $770.00 | **$679.50** | 1.6 |
| **Electronic Low Voltage, Fluorescent and Neon/Cold Cathode** | 4 | 16 | 4 Gang | 2000 | 3000 | GRX-3104-T-WH | **4LZ31** | 850.00 | **750.00** | 1.9 |
| | 6 | 16 | 4 Gang | 2000 | 3000 | GRX-3106-T-WH | **4LZ32** | 1010.00 | **891.50** | 2.0 |

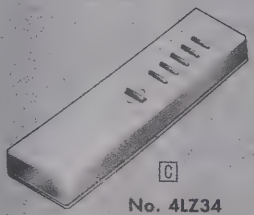
# MULTI-ZONE DIMMING CONTROL ACCESSORIES

LUTRON

New



A
No. 4LZ66



C
No. 4LZ34
Wireless Remote



No. 4LZ70
Wireless Remote
Mounting Brackets
(Shown with No. 4LZ34, not included)



F
No. 4LZ33

] **Four Scene Control System.** Features an additional switch center at allows control of main unit in a 3-way application. The control station can select any of four scenes, temporarily change the ettings for the current scene, or turn all lighting off. Option for ettings to control same 4 scenes as main unit or additional 4 enes. Indicator LEDs show current lighting scene. Uses Class 2 w voltage wiring. Neutral white color. Lutron model (NTGRX-3-WH).

ew No. 4LZ66. Shpg. wt. 0.4 lbs. List $200.00. Each.....$176.50

] **Single Scene Entrance Control.** Features an additional switch to rn main unit on/off in a 3-way application. The push of a single utton turns lights on to Scene 1 or turns all lighting off. perates with all Grafik Eye 3100 Series models. Provides easy etrofit in an existing 3-way installation. Line voltage control ust not be connected to low voltage terminals on the main unit. eutral white color. UL Listed, CSA Certified. Lutron brand NTGRX-1S-WH).

ew No. 4LZ65. Shpg. wt. 0.4 lbs. List $100.00. Each.....$88.25

] **Wireless Hand Held Remote.** Infrared wireless remote used to rn on, select, and raise/lower any of 4 scenes on main unit or rn all lights off. For use in audio/visual presentations, lectures, rojection rooms, conference rooms and other applications. eutral white color. Lutron brand (GRX-IT-WH).

ew No. 4LZ34. Shpg. wt. 0.2 lbs. List $100.00. Each.....$88.25

lounting Brackets for Wireless Remote. Quickly and easily mounts to all or table top. Available in black or cream colors.

ew No. 4LZ69. Black Holster Bracket (PNH-BL). Shpg. wt. 0.1 lbs. ist $6.00. Each.....$5.29

ew No. 4LZ70. Cream Holster Bracket (PNH-CR). Shpg. wt. 0.1 lbs. ist $6.00. Each.....$5.29

] **Power Booster.** Increases the lighting zone capacity to 16A 920W/VA. Use when exceeding 800W per zone or rated capacity f total unit. For use with incandescent, magnetic low voltage or eon cold cathode lighting only. Neutral white color. UL Listed, SA Certified. Lutron brand (NGRX-PB-WH).

ew No. 4LZ64. Shpg. wt. 0.9 lbs. List $230.00. Each.....$203.00

E] **Fluorescent Lamp Dimming Interface.** Connects between 3100 eries Grafik Eye and Hi-Lume or Eco-10 dimming ballast(s). One nterface required per fluorescent lighting zone. Maximum capacty 1920W/VA, 16A. Lutron brand (GRX-FDB1-16A120).

ew No. 4PL33. Shpg. wt. 0.3 lbs. List $210.00. Each.....$189.00

E] **Electronic Low Voltage Lighting Interface.** Connects between 3100 Series Grafik Eye and electronic low voltage lighting transformer. One interface is required per low voltage lighting zone. Incandescent and electonic low voltage sources may be powered on the same zone through this interface. Up to 300W of the 1000W can be incandescent. Maximum capacity 1000W. Lutron Brand (ELV1-1000).

New No. 4PL29. Shpg. wt. 0.3 lbs. List $210.00. Each.....$189.00

F] **Accessory Interface Control.** Allows auxiliary equipment such as projection screens, time clocks, security systems, or occupancy sensors to both access and be controlled by the Grafik Eye.

Unit can be configured for one of four functions at a time:

**Scene Selection Control:** the 4-scene selection control function offers remote control for the main unit to select any 4 scenes or to turn all lighting off. Also allows outputs of up to 5 maintained contact closures or momentary contact closures to projector screens, window shades, or other A/V equipment.

**Special Function Control (Sequencing, Zone Lockout, Scene Lockout, Panic):** Features sequencing through the preset scenes looping indefinitely using the programmed fade times for each scene. Zone Lockout allows only temporary modifications to set light levels. Scene Lockout prevents changing the selected scene or preset light levels. Panic function activates Scene 16 in emergencies and places it in Scene Lockout until toggled again.

**Partition Control:** Provides independent (partion closed) or paralled (partition open) operation of multiple Grafik Eye 3100 series units.

**Occupancy Sensor Control:** May be set to allow occupancy sensor to turn lights on/off or can be programmed to require user to turn lights on manually and sensor to turn lights off. Scene changes are still possible once lights are turned on.

Use Class 2 18 AWG low voltage wiring for installation of system. Easily mounts to 4" square junction box or directly to wall. Unit is configured using DIP switches. UL Listed, CSA Certified. Lutron brand (GRX-AV).

New No. 4LZ33. Shpg. wt. 2.4 lbs. List $350.00. Each.....$309.00

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# DIMMING POWER MODULES AND LIGHTING ENERGY MANAGEMENT SYSTEM

## HI-POWER FLUORESCENT AND INCANDESCENT DIMMING MODULES

Increases load capacity of any wallbox dimmer. Enables a standard 120V incandescent dimmer to control 120V incandescent, 120 & 277 fluorescent (with dimming ballast), 120 & 277V magnetic low voltage, 120V electronic low voltage, and 120V neon cold cathode lighting. Ideal for use in conference rooms, lobbies, restaurants, lecture halls, theaters, houses of worship, and ballrooms. Now multi-ganged wallbox dimmers can be replaced with a single control. For use with wallbox dimmers, Grafik Eye controls or other Class 2 raise/lower control. Each individual circuit must be of the same type. The unit has the capability to control 120 & 277V non-dim applications. Maximum and minimum light levels are fully adjustable. A special filtering feature suppresses interference with radio, audio/video equipment and minimizes lamp buzz. Up to 30,000W/VA per single circuit can be controlled by connecting up to 5 modules. Any combination of the three available modules may be connected together to meet total required lighting load. Use standard wiring to connect a dimming control (not included) with module to existing fixtures for proper installation. Each Hi-Power module controls single zone of 12V or 277V lighting.

LUTRON® New



Control up to 30,000 W/VA of virtually any light source

### *New!* SPECIFICATIONS AND ORDERING INFORMATION

| Max. Load (W/VA) 120V (60 Hz) | Max. Load (W/VA) 277V (60 Hz) | No. of Separate Lighting Circuits | Lutron Model No. | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2000 | 4400 | 1 | HP-2 | **4LZ35** | $600.00 | **$529.50** | 12.0 |
| 4000 | 8800 | 2 | HP-4 | **4LZ36** | 850.00 | **750.00** | 14.0 |
| 6000 | 13200 | 3 | HP-6 | **4LZ37** | 1100.00 | **971.00** | 16.0 |

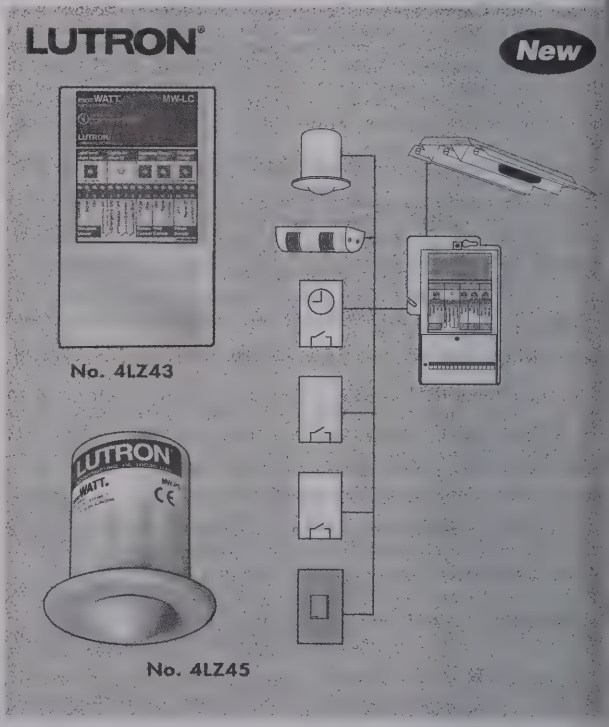
## ENERGY MANAGMENT SYSTEM FOR FLUORESCENT LIGHTING

Saving energy is a snap with the Energy Management System for fluorescent lighting. Save up to 70% of lighting operational costs with this microprocessor controlled energy management system to minimize the energy use of a fluorescent lighting circuit. The controller can combine signals from photosensors, occupancy sensors, time clocks, security and safety systems, manual controls and other building energy management systems for peak period load shedding.

A MicroWATT Lighting Controller continuously monitors all connected inputs to adjust the light level to the lowest level requested by the connected manual or automatic controls. For 120V & 277V (60 Hz) circuit up to 16A. Easy installation on a 4" square junction box. Adjustable trim limits maximum light output from 100% to 60% to save energy and significantly reduce glare. Fixtures must be equipped with Hi-Lume or Eco-10 dimming ballasts (not included) to operate properly.

***New* No. 4LZ43.** Lutron brand (MW-LC). Shpg. wt. 2.8 lbs. List $390.00.
Each ..... **$344.25**

LUTRON® New




No. 4LZ43

No. 4LZ45

## OPTIONAL SYSTEM COMPONENTS

**Daylight Sensor.** Ceiling mounted photocell saves energy when daylight reduces the need for electric light in applications such as perimeter offices, open offices, retail stores and classrooms.

***New* No. 4LZ45.** Lutron brand (MW-PS-WH). Shpg. wt. 0.3 lbs.
List $100.00. Each ..... **$88.25**

**Manual Dimming Controls** may be connected to reduce light levels for reducing glare at computer terminals and other tasks that require less light. Dimmers will temporarily override a time clock, if present, when work occurs during off hours. Up to 5 controls may be connected to the system.

**No. 4LZ42 Diva Manual Controller** has a decorator style paddle on/off switch and preset mini slide dimmer and uses a decorator style wallplate (not included). Neutral white color.

***New* No. 4LZ42.** Lutron brand (MW-DV-WH). Shpg. wt. 0.2 lbs.
List $50.00. Each ..... **$44.15**

**No. 4LZ44 Nova T Manual Controller** has low profile linear slide dimmer with an integral attractive faceplate (included) that provides a clean, uniform appearance. Neutral white color. Manual Dimming Controls may be connected to reduce light levels for reducing glare at computer terminals and other tasks that require less light. Dimmers will temporarily override a time clock, if present, when work occurs during off hours. Up to 5 controls may be connected to the system.

***New* No. 4LZ44.** Lutron brand (MW-NT-WH). Shpg. wt. 0.4 lbs.
List $100.00. Each ..... **$88.25**

**Occupancy sensors**, see page 696, may be connected to a lighting controller to dim or turn off lights in unoccupied areas automatically. Up to 3 sensors may be connected to the system.

**Time clock**, see pages 576 - 580. May be used to trigger lighting controller to dim or turn off lights, saving energy when full light level is not needed. Lights can be left at a dim level for security reasons during off-peak hours in applications such as corridors, open office spaces, retail stores, schools, and municipal buildings.

# I.E.S. INDOOR RECOMMENDED FOOTCANDLE LEVELS

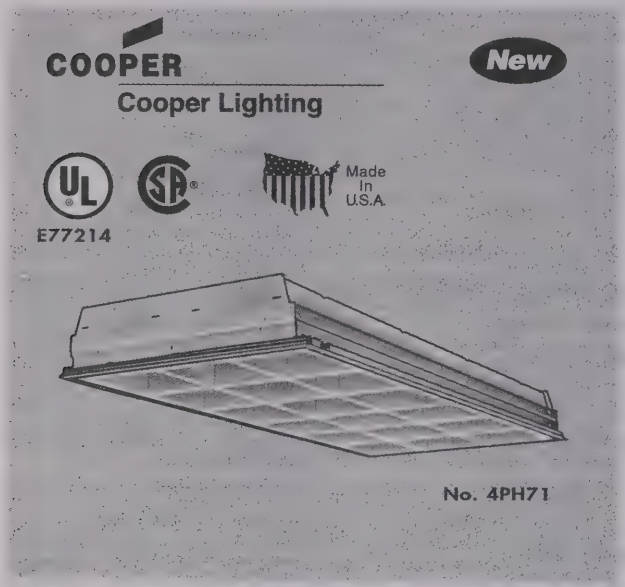
**Recommended Illuminating Engineering Society Minimum Light Levels Needed for Various Tasks**

| IES Recommended | Foot-Candle Level |
|---|---|
| **irplane Manufacturing** | |
| ıssembly, inspection, hangar | 100 |
| Drilling, riveting, screw fastening | 75 |
| Welding | 50 |
| **ssembly** | |
| Rough easy seeing | 30 |
| Rough difficult seeing | 50 |
| Medium | 100 |
| Fine (a) | 500 |
| Extra fine (a) | 1000 |
| **thletic Events** | 50 |
| **uditoriums** | |
| Social activities | 7.5 |
| ıssembly only | 15 |
| Exhibitions | 30 |
| **utomobile Manufacturing** | |
| Final assembly, finishing, inspecting | 200 |
| Body & chassis assembly | 100 |
| Body parts manufacturing | 75 |
| Frame assembly | 50 |
| **anks** | |
| Lobby, general | 15 |
| Writing areas | 30 |
| Tellers' stations, posting & keypunch | 75 |
| **anning & Preserving** | |
| Cutting, pitting, final sorting, continuous belt canning, sink canning | 75 |
| General hand packing | 30 |
| Can unscramblers | 70 |
| Labeling & cartoning | 30 |
| **entral Facilities** | |
| Air conditioning & cable equipment, compressors, switchgear, gauge area, burner platforms, telephone equipment | 15 |
| Visitors gallery | 20 |
| **hemical Works** | |
| Furnaces, generators, filtration, nitractors, extractors, driers & crystallizers | 30 |
| **othing Manufacture** | |
| Receiving, storing, shipping, winding, measuring | 30 |
| Pattern making, trimming | 75 |
| Shops, marking | 100 |
| Cutting, pressing (a) | 200 |
| Sewing, inspection (a) | 300 |
| **ourt Rooms** | |
| Seating area | 15 |
| Bench area | 70 |
| **epots, Terminals, Stations** | |
| Concourse | 7.5 |
| Platforms | 15 |
| Waiting, restrooms | 20 |
| Baggage | 30 |
| Ticket counter | 75 |
| **Electrical Equipment Manufacturing** | |
| Impregnating | 30 |
| Insulating; coil winding, testing | 75 |
| **Farms** | |
| Dairy Equipment Areas | |
| General | 20 |
| Rough work | 50 |
| Cleaning, Inspection | 100 |
| Feeding area | 20 |
| **Poultry** | |
| Feeding, cleaning | 20 |
| Incubator interiors | 30 |
| Egg handling & inspection | 75 |
| Egg processing | 70 |
| Fowl processing, General & inspection | 75 |
| **Food Service Facilities** | |
| Cashier | 30 |
| Intimate dining | 3-10 |
| Leisure dining | 15-30 |
| Fast service dining | 50-100 |
| Kitchen | 70 |
| **Foundries** | |
| Annealing furnaces | 30 |
| Cleaning | 30 |
| Core making | 100 |
| Inspection | |
| Fine | 300 |
| Medium | 150 |
| Molding | 100 |
| Pouring, sorting | 75 |
| **Garages—Motor Vehicles** | |
| Storage | 5 |
| Traffic Lanes | |
| Parking garage | 10 |
| Service garage | 75 |
| Entrances | 50 |
| Repair area | 75 |
| **Glass Manufacturing** | |
| Mix & furnace rooms, pressing & lehr, glass blowing machines | 15 |
| Grinding, cutting, silvering | 30 |
| Fine grinding, leveling, polishing | 75 |
| **Gymnasiums** | |
| Assemblies | 10 |
| General exercise & recreation | 30 |
| Exhibitions, matches | 50 |
| **Inspection** | |
| Ordinary | 50 |
| Difficult | 100 |
| Highly difficult | 150 |
| Very difficult | 300 |
| **Iron & Steel Manufacturing** | |
| Stock, hot top, checker cellar calcining | 10 |
| Building, slag pits, stripping yard | 20 |
| Control platforms, mixer building, repairs | 30 |
| Rolling mills | 30 |
| Shearing & tin plate | 50 |
| Motor room & machine room | 30 |
| Inspection | 100 |
| **Library** | |
| Ordinary reading, stacks | 30 |
| Book repair & binding | 30 |
| Study & notes, cataloging, card files, check desk | 50 |
| **Lodge Rooms** | |
| Lounge & reading | 30 |
| **Machine Shops** | |
| Rough bench | 30 |
| Medium bench, rough grinding, buffing | 75 |
| **Materials Handling** | |
| Loading, trucking | 20 |
| Picking stocks, classifying | 30 |
| Wrapping, packing, labeling | 30 |
| **Meat Packing** | |
| Slaughtering | 30 |
| Cleaning, canning | 50 |
| **Offices** | |
| Corridors, stairways | 10 |
| Reading, transcribing | 30 |
| Regular office work | 50 |
| Accounting, auditing, tabulating, business machine operation, rough drafting | 75 |
| Cartography, designing, detailed drafting | 150 |
| **Paint Shop** | |
| Spraying, rubbing, hand art, stencil | 30 |
| Fine hard painting & finishing | 75 |
| **Paper Manufacturing** | |
| Beaters, grinding | 30 |
| Finishing, cutting | 50 |
| Hand counting | 70 |
| Paper machine reel, inspection | 100 |
| Rewinder | 100 |
| **Post Offices** | |
| Lobby & tables | 30 |
| Mail sorting | 75 |
| **Printing** | |
| Photo engraving, etching, blocking | 30 |
| Color inspecting | 150 |
| Presses | 70 |
| Proofreading | 150 |
| Composing room | 75 |
| **Religious Facilities** | |
| Altars | 100 |
| Choir | 30 |
| Pulpit | 50 |
| Main worship area | 25 |
| **Residences** | |
| Dining area | 15 |
| Grooming area | 30 |
| Food preparation | 75 |
| Laundry | 30 |
| Study | 50 |
| General visual | 7.5 |
| **Rest Rooms** | 15 |
| **Rubber Goods & Tire Manufacturing** | |
| Plasticating, milling | 30 |
| Fabric cutting, hose looms, molding | 50 |
| Building, wrapping, curing | 70 |
| **Schools** | |
| Reading, note-taking, art rooms, typing | 70 |
| Laboratories, shops | 100 |
| **Sheet Metal Works** | |
| General | 50 |
| Tin plate inspection, galvanized, scribing | 150 |
| **Silk & Synthetics** | |
| Soaking, tinting, conditioning | 30 |
| Winding, slashing, light thread | 50 |
| Same as above with dark thread | 200 |
| Others | 100 |
| **Stores** | |
| Circulation area, stockroom | 30 |
| Merchandising, serviced | 100 |
| Merchandising--self service | 200 |
| **Testing, General** | 30 |
| **Textile Mills** | |
| Picking, carding, roving, spinning | 75 |
| Beaming & slashing | 100 |
| Drawing | 150 |
| Others | 50 |
| **Welding, General** | 50 |
| **Warehousing, Storage** | |
| Inactive | 5 |
| Active | |
| Rough bulky | 15 |
| Medium | 25 |
| Fine | 50 |
| **Woodworking** | |
| Rough sawing & bench work | 30 |
| Sizing, planing, gluing, sanding, veneering, medium quality bench work | 50 |
| Fine bench work, fine sanding, finishing | 75 |

Obtained with a combination of general lighting plus specialized supplementary lighting.

# COMMERCIAL FLUORESCENT FIXTURES

## PARABOLIC RECESSED FLUORESCENT TROFFER




- **Compatible with popular ceiling systems**
- **Safety lock T-hinges allow hinging and latching of either side for easy access**
- **3" deep louver is die formed of semi-specular, vertical grain aluminum**
- **Lighting grade, 86% reflective baked white enamel finish**
- **Pressure lock lampholders**

**Applications:** Parabolic louver technology reduces glare. Use in commercial office spaces, schools, hospitals, or retail merchandising areas.

**Housing:** Nominal 5½" deep, para-contoured housing of die-formed code gauge, prime cold rolled steel. Die-embossed housing has full length die-formed stiffeners for added strength.

**Installation:** Deep "V" ballast/wireway cover is easily removed without tools. Lampholder bracket fully encloses lampholder wiring permitting easy lampholder replacement. Heavy end plates are securely attached with interlocking tabs and screws. Four auxiliary fixture and suspension points provided. Knockouts for continuous row wiring. End plates have integral Grid-Lock feature for safety and convenience.

**Ballast:** CBM/ETL Class "P" ballasts are positively secured by mounting bolts. Black steel latches are positive cam action spring loaded and self locking.

**Lamps not included:** For better results use energy saving, high color rendering lamps such as Staybright XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**UL Listed (E77214) and CSA Certified. Made in USA.**

| Qty. | Lamp Description | Watts | Ballast Type | Volts, 60Hz | Line Amps | Dimensions (In.) Length | Width | Height | Metalux Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ***New!* 9 CELL FIXTURE** | | | | | | | |
| 2 | F40T12U6* | 40† | 1 Std. E.S. | 120 | .73 | 24 | 23¾ | 5⅝ | 2EP3GX-2U6S33I-120V-LE3 | **4PH65** | $109.50 | **$64.90** | 23.0 |
| 2 | F40T12U6* | 40† | 1 Std. E.S. | 277 | .32 | 24 | 23¾ | 5⅝ | 2EP3GX-2U6S33I-277V-LE3 | **4PH66** | 109.90 | **66.25** | 23.0 |
| 2 | F32T8U6* | 32 | 1 Elec. T8 | 120 | .50 | 24 | 23¾ | 5⅝ | 2EP3GX-2U6T8S33I-120V-EB81 | **4PH67** | 101.10 | **82.95** | 17.0 |
| 2 | F32T8U6* | 32 | 1 Elec. T8 | 277 | .22 | 24 | 23¾ | 5⅝ | 2EP3GX-2U6T8S33I-277V-EB81 | **4PH68** | 101.10 | **82.95** | 17.0 |
| 2 | F32T8U6* | 32 | 1 Elec. T8 | 120 | .50 | 24 | 23¾ | 5⅝ | 2EP3GX-2U6T8S24I-120V-EB81 | **4PH69** | 151.70 | **90.25** | 20.0 |
| 2 | F32T8U6* | 32 | 1 Elec. T8 | 277 | .22 | 24 | 23¾ | 5⅝ | 2EP3GX-2U6T8S24I-277V-EB81 | **4PH70** | 151.70 | **90.25** | 20.0 |
| | | | | | | ***New!* 12 CELL FIXTURE** | | | | | | | |
| 2 | F32T8 | 32 | 1 Elec. T8 | 120 | .50 | 48 | 23¾ | 5⅝ | 2EP3GX-232S28I-120V-EB81 | **4PH63** | 157.40 | **93.75** | 29.0 |
| 2 | F32T8 | 32 | 1 Elec. T8 | 277 | .22 | 48 | 23¾ | 5⅝ | 2EP3GX-232S28I-277V-EB81 | **4PH64** | 157.40 | **93.75** | 29.0 |
| | | | | | | ***New!* 18 CELL FIXTURE** | | | | | | | |
| 3 | F32T8 | 32 | 1 Elec. T8 | 120 | .74 | 48 | 23¾ | 5⅝ | 2EP3GX-332S36I-120V-EB81 | **4PH71** | 159.20 | **100.10** | 30.0 |
| 3 | F32T8 | 32 | 1 Elec. T8 | 277 | .32 | 48 | 23¾ | 5⅝ | 2EP3GX-332S36I-277V-EB81 | **4PH72** | 159.20 | **100.10** | 30.0 |
| 3 | F40T12 | 40† | 2 Std. E.S. | 120 | 1.16 | 48 | 23¾ | 5⅝ | 2EP3GX-340S36I-120V-LE3 | **4PH73** | 153.10 | **90.15** | 35.0 |
| 3 | F40T12 | 40† | 2 Std. E.S. | 277 | .51 | 48 | 23¾ | 5⅝ | 2EP3GX-340S36I-277V-LE3 | **4PH74** | 155.40 | **92.85** | 35.0 |

(*) U-bent with 6" spacing. (†) Will operate 34W energy saving lamps.

## COST OF A KILOWATT PER YEAR

**ANNUAL ENERGY COST FOR ONE KILOWATT OF ELECTRICITY**

| 5 Day Usage Hours Of Operation | Cost Per Kilowatt Hour ($KWH) .05 | .06 | .07 | .08 | .09 | .10 | .11 | .12 |
|---|---|---|---|---|---|---|---|---|
| 8 | $104 | $125 | $145 | $166 | $187 | $208 | $229 | $250 |
| 10 | 130 | 156 | 182 | 208 | 234 | 260 | 286 | 312 |
| 12 | 156 | 187 | 218 | 250 | 281 | 312 | 343 | 374 |

### Utility Rebate Reminder

Many utilities offer rebate programs for commercial and industrial applications. By utilizing lamps, ballasts, and fixtures that comply with local programs, a significant cost reduction can typically be realized. Added to the cost savings of energy efficient fixtures, significant total savings and reduced simple payback period can be achieved. A utility rebate is usually a one time credit.

For example:

**5 Days x 10 Hours Of Operation x 52 Weeks x $.09 ($KWH) = $234.00 for One Kilowatt of Electricity for One Year.**

NOTE: 1 Kilowatt = 1000 Watts

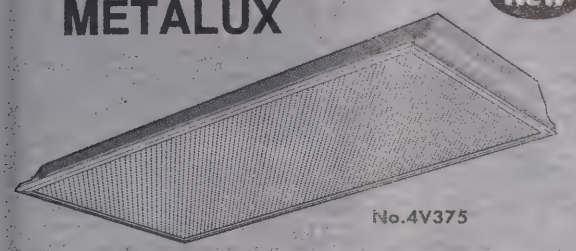
**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

# RECESSED GRID-TYPE TROFFER FIXTURES

## RECESSED GRID-TYPE TROFFER FIXTURES

**COOPER** Lighting
**METALUX**

New

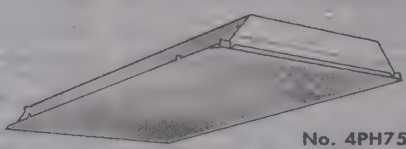


No.4V375

For Indoor Use Only

ENERGY RIGHT®

UL E77214



No. 4PH75

Replacement Parts Available
1-800-323-0620

**pplications:** Grid T-bar applications in areas such as offices, chools, institutions, and residences.

**ousing:** Fully assembled one-piece housing made of 22 gauge, die mbossed steel for rigidity. Full length of housing mechanically esigned to eliminate door frame light leaks. End plates are crewed to the housing. Snap-in ballast covers. Baked white namel finish provides minimum reflectance of 86%. Pressure ock lamp holders.

**nstallation:** Hook tabs on end plate can be pried out and used to ecure fixture on grid.

**ens/Door Frame:** Die-formed flat white steel door with mitered orners. Frame can be hinged and latched from either side for ase of cleaning and relamping. Door frame features positive cam atching and safety hinges. 100% acrylic prismatic lens (No. 12 attern).

**Ballast:** Prewired with standard energy-saving or reduced harmonics electronic ballasts (THD <20%). Complies with Federal Energy Efficiency Standards. Ambient temperature 50°F minimum, 122°F maximum. Units with two ballasts are wired for dual level switching to provide 50% or 100% light output. Includes 4 wires—ground, neutral, and 2 load wires. Nos. 6F563 and 6F564 have one, 2 lamp and one, 1 lamp standard energy saving ballast.

**Lamps not included.** (except pre-lamped fixtures): For better results use energy-saving high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent. Pre-lamped fixtures have 3500K lamps installed, except Nos. 3V515 and 6V447 which have cool white (4100K) lamps installed.

**UL Listed (E77214). IBEW label.**

**Metalux brand.**

### SPECIFICATIONS AND ORDERING DATA

| Qty. | Lamps (Not Included) Watts | Type | Ballast Type** | Volts 60 Hz | Line‡ Amps | Dimensions (In.) Length | Width | Height | Metalux Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD FIXTURES (LESS LAMPS)** | | | | | | | | | | | | | |
| 2 | 40†† | F40T12U6* | 1Std. E.S. | 120 | 0.73 | 24 | 23¾ | 3¾ | 2G2U6A120VLE3 | **4V375** | $84.68 | **$37.45** | 17.0 |
| 2 | 40†† | F40T12U6* | 1Std. E.S. | 277 | 0.32 | 24 | 23¾ | 3¾ | 2G2U6A277VLE3 | **3V697** | 80.93 | **38.95** | 26.0 |
| 2 | 40†† | F40T12 | 1Std. E.S. | 120 | 0.73 | 48 | 23¾ | 3¾ | 2G240A120VLE3 | **3V486** | 91.58 | **37.45** | 26.0 |
| 2 | 40†† | F40T12 | 1Std. E.S. | 277 | 0.32 | 48 | 23¾ | 3¾ | 2G240A277VLE3 | **3V696** | 89.07 | **37.95** | 26.0 |
| 2 | 40†† | F40T12 | 1Std. E.S. | 120 | 0.73 | 48 | 11¾ | 3¾ | GP240A120VLE3 | **6V421** | 53.88 | **37.25** | 31.0 |
| 2 | 40†† | F40T12 | 1Std. E.S. | 277 | 0.32 | 48 | 11¾ | 3¾ | GP240A277VLE3 | **5U947** | 85.35 | **38.75** | 19.0 |
| 2 | 40†† | F40T12 | 1Std. E.S. | 277 | 0.32 | 48 | 11¾ | 3¾ | GP240A277VLE3 | **6F563** | 88.94 | **39.95** | 27.0 |
| 3 | 40†† | F40T12 | 2Std. E.S. | 120 | 1.16 | 48 | 23¾ | 3¾ | 2G340A120VLE3 | **6F564** | 90.59 | **42.95** | 27.0 |
| 3 | 40†† | F40T12 | 2Std. E.S. | 277 | 0.51 | 48 | 23¾ | 3¾ | 2G340A277VLE3 | **3V420** | 97.65 | **34.80** ▲ | 30.0 |
| 4 | 40†† | F40T12 | 2Std. E.S. | 120 | 1.46 | 48 | 23¾ | 3¾ | 2G440A120VLE3 | **3V476** | 102.39 | **38.35** ▲ | 30.0 |
| 4 | 40†† | F40T12 | 2Std. E.S. | 277 | 0.65 | 48 | 23¾ | 3¾ | 2G440A277VLE3 | | | | |
| **T8 ENERGY-SAVING ELECTRONIC BALLAST FIXTURES‡** | | | | | | | | | | | | | |
| 2 | 32 | F32T8U6* | 1Elec.T8 | 120 | 0.57 | 24 | 23¾ | 3¾ | 2G2U6A120VEB81 | ✓**5U939** | 133.22 | **60.95** | 14.0 |
| 2 | 32 | F32T8U6* | 1Elec.T8 | 277 | 0.24 | 24 | 23¾ | 3¾ | 2G2U6A277VEB81 | ✓**5U940** | 137.10 | **60.95** | 14.0 |
| 2 | 32 | F32T8 | 1Elec.T8 | 120 | 0.57 | 48 | 23¾ | 3¾ | 2G232A120VEB81 | ✓**5U937** | 136.31 | **60.95** | 24.0 |
| 2 | 32 | F32T8 | 1Elec.T8 | 277 | 0.24 | 48 | 23¾ | 3¾ | 2G232A277VEB81 | ✓**5U938** | 140.20 | **60.95** | 24.0 |
| 2 | 32 | F32T8 | 1Elec.T8 | 277 | 0.24 | 48 | 23¾ | 3¾ | 2G332A120VEB81 | ✓**6F559** | 140.98 | **62.95** | 23.0 |
| 3 | 32 | F32T8 | 1Elec.T8 | 120 | 0.71 | 48 | 23¾ | 3¾ | 2G432A277VEB81 | ✓**GF560** | 141.90 | **62.95** | 23.0 |
| 3 | 32 | F32T8 | 1Elec.T8 | 277 | 0.31 | 48 | 23¾ | 3¾ | 2G432A120VEB81 | ✓**3V656** | 140.77 | **62.95** | 30.0 |
| 4 | 32 | F32T8 | 1Elec.T8 | 120 | 0.96 | 48 | 23¾ | 3¾ | 2G432A277VEB81 | ✓**3V657** | 147.02 | **62.95** | 30.0 |
| 4 | 32 | F32T8 | 1Elec.T8 | 277 | 0.41 | 48 | 23¾ | 3¾ | 2G432A120VEB82 | *New* ✓**4PH77** | 191.30 | **95.25** | 25.0 |
| 4 | 32 | F32T8 | 1Elec.T8 | 120 | 1.00 | 48 | 23¾ | 3¾ | 2G432A277VEB82 | *New* ✓**4PH78** | 191.30 | **95.25** | 25.0 |
| 4 | 32 | F32T8 | 1Elec.T8 | 277 | 0.44 | 48 | 23¾ | 3¾ | | | | | |
| **STANDARD PRE-LAMPED FIXTURES WITH 6 FT. FLEXIBLE WIRING†** | | | | | | | | | | | | | |
| 4 | 40†† | F40T12 | 2Std. E.S. | 120 | 1.46 | 48 | 23¾ | 3¾ | 2G440A120VLCWM A3/8-3/18 G-LE3 | **3V515** | 118.26 | **55.95** | 31.0 |
| 4 | 40†† | F40T12 | 2Std. E.S. | 277 | 0.65 | 48 | 23¾ | 3¾ | 2G440A277VLCWM A3/8-3/18 G-LE3 | **6V447** | 122.90 | **58.95** | 31.0 |
| **ENERGY-SAVING PRE-LAMPED ELECTRONIC BALLAST FIXTURES WITH 6 FT. FLEXIBLE WIRING†** | | | | | | | | | | | | | |
| 4 | 32 | F32T8 | 1Elec.T8 | 120 | 0.96 | 48 | 23¾ | 3¾ | 2G432A120VEB81L/W | ✓**3V723** | 177.53 | **77.95** | 31.0 |
| 4 | 32 | F32T8 | 1Elec.T8 | 277 | 0.41 | 48 | 23¾ | 3¾ | 2G432A277VEB81L/W | ✓**3V724** | 182.50 | **77.95** | 31.0 |
| 4 | 32 | F32T8 | 1Elec.T8 | 120 | 1.00 | 48 | 23¾ | 3¾ | 2G432A120EB82LF0T8SM/41-A3 | *New* **4PH75** | 221.00 | **122.75** | 28.0 |
| 4 | 32 | F32T8 | 1Elec.T8 | 277 | 0.44 | 48 | 23¾ | 3¾ | 2G432A277EB82LF0T8SM/41-A3 | *New* **4PH76** | 221.00 | **122.75** | 28.0 |

*) U-bent with 6" spacing. (†) 3-18 gauge wires. (**) Std. E.S. = Standard Energy Saver (‡) For standard wattage lamps. Data may vary for energy-saving lamps.
††) Will operate 34W energy saving lamps. (▲) Net prices, not subject to discounts. (✓) Denotes energy efficient product

# COMMERCIAL FLUORESCENT FIXTURES

## RECESSED GRID-TYPE TROFFER FIXTURES

**Applications:** For grid T-bar applications in areas such as schools, institutions and residences.

**Housing:** Fully assembled, one piece housing made of 22-gauge steel. Silver lining applied to housing, ballast/wireway cover and end plates produces efficiency levels of up to 84%.

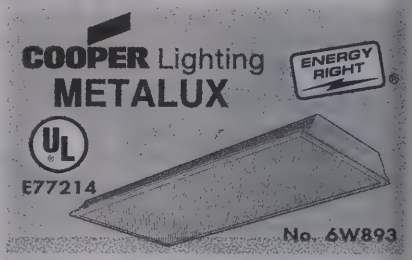
**Installation:** Hook tabs on end plate can be pried out and used to secure fixture on grid. End-plate grid lock feature.

**Lens/Door Frame:** Die formed flat white steel door with mitered corners. Frame can be hinged from either side for ease of cleaning and relamping. Door frame features positive cam latching and safety hinges. 100% acrylic prismatic lens.

**Ballast:** Prewired reduced harmonic electronic T-8 ballast. Complies with Federal Efficiency Standards (<20% THD).

**Lamps not included:** Requires T-8 lamps. See Index under Lamps, Fluorescent.

**UL Listed (E77214).**




| Volts 60 Hz | Line Amps | Lamps | Watts | Type | Dimensions (In.) L | W | H | Metalux Model | Stock No. | List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **120** | 0.51 | 2 | 32 | F32T8 | 48 | 23¾ | ¾ | 2GPSS232A120VEB81 | ✓**6W893** | $255.83 | **$130.50** | 24.0 |
| **277** | 0.22 | 2 | 32 | F32T8 | 48 | 23¾ | ¾ | 2GPSS232A277VEB81 | ✓**6W894** | 256.59 | **131.70** | 24.0 |

(✓) Denotes energy efficient product.

## RECESSED FLANGE-TYPE TROFFER FIXTURES




**Applications:** For offices, recreation rooms, and hallways with plaster or drywall ceilings.

**Installation:** Install in ceiling recesses over plaster drywall or concealed-frame ceiling systems. Mounting brackets are fully adjustable over 3¼" range from within installed fixture; shallow 3¾" depth saves space. Snap-in access panels permit wiring without opening fixtures.

**Housing:** Die-formed, heavy gauge, cold rolled steel; baked on white enamel finish. Minimum reflectance is 86%.

**Lens/Door Frame:** Prismatic acrylic diffuser on hinged frame makes relamping easy (hinges from either side).

**Ballast:** Energy-saving ballast. Complies with Federal Energy Efficiency Standards.

**Lamp not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**UL Listed (E77214). IBEW label.**

**Metalux brand.**

| Qty. | Lamps (Not Included) Watts | Type | Amb. Temp. (°F*) Min. | Max. | Volts 60 Hz | Line* Amps | Dimensions (In.) Length | Width | Height | Metalux Model | Stock No. | List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4** | 40† | F40T12 | 50 | 122 | 120 | 1.46 | 48 | 23¾ | 3¾ | 2FP440A120VLE3 | **6V438** | $86.33 | **$74.90** | 36.0 |
| **2** | 40† | F40T12 | 50 | 122 | 120 | 0.73 | 48 | 11¾ | 3¾ | FP240A120VLE3 | **3V440** | 75.17 | **65.95** | 22.0 |
| **4** | 32 | F32T8 | 50 | 122 | 120 | .96 | 48 | 23¾ | 3¾ | 2FP432A120VEB81 | ✓**3JN12** | 110.58 | **94.00** | 28.0 |
| **2** | 32 | F32T8 | 50 | 122 | 120 | .51 | 48 | 11¾ | 3¾ | FP232A120VEB81 | ✓**3JN24** | 116.29 | **98.85** | 18.0 |

(*) For standard wattage lamps. Data may vary for energy saving lamps. (†) Will operate 34W energy saver lamps. (✓) Denotes energy efficient product.

## ECONOMY RECESSED GRID-TYPE TROFFER FIXTURE




**Applications:** Low cost economy grid lights. For residential use only.

**Housing:** Features rotating lock, medium bi-pin sockets, and white baked enamel finish. 9" reflector.

**Ballast:** Complies with Federal Energy Efficiency Standards. 120V, 60 Hz. Operating temperature 60-104°F. For operating on grounded system only.

**Installation:** May be mounted individually or in continuous rows. Requires 3" clearance above T-bars.

**Lamps not included:** Uses 2 F40T12 lamps, see Index under Lamps, Fluorescent.

**UL Listed (E79102).**

**American Fluorescent brand.**

| Qty. | Lamps (Not Included) Watts | Type | Amb. Temp. (°F) Min. | Max. | Volts 60 Hz | Line Amps | Dimensions (In.) Length | Width | Height | American Fluorescent Model | Stock No. | List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 40 | F40T12 | 50 | 122 | 120 | 0.77 | 48 | 9 | 3 | 240EG35 | **2V887*** | $37.88 | **$25.80** | 11.0 |

(*) For residential use only. Not recommended for use with 34W Energy Saver lamps. UL Listed (E79102). Requires some assembly.



When it comes to lighting, no distributor outshines Grainger.

# RECESSED RECTANGULAR FLUORESCENT FIXTURE




**Applications:** Typically used as an energy-saving alternative to incandescent lighting, in areas such as kitchens, bathrooms, basements, and soffits.

**Housing:** 22 gauge steel with baked white enamel finish. Flat white trim with glass lens eliminates glare.

**Ballast:** Prewired with 120V, 60 Hz trigger start ballast. Complies with Federal Efficiency Standards.

**Installation:** Suitable for drywall and suspended ceilings.

**Lamps not included:** Uses two 20 watt, T12 lamps. For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**UL Listed (E80574).**

**Halo brand.**

| Lamps (Not Included) Qty. | Watts | Type | Housing Dimensions (In.) Length | Width | Height | Halo Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 20 | F20T12 | 24⅛ | 6¼ | 4½ | H1260P | **6VCT6** | $130.16 | **$72.30** | 16.0 |

# HEAVY-DUTY INDUSTRIAL FIXTURES




**Applications:** Use where task lighting is needed in work stations, storage areas, and utility rooms. Appropriate for mounting heights between 8 & 15 ft..

**Housing:** Heavy-duty metal-clad, spring loaded turret lampholders assure positive lamp contact, allow wider lamp spacing. Channels die-formed from heavy 20 gauge steel. High gloss baked white enamel finish.

**Reflector:** Die-embossed reflectors for extra strength. Slotted aperture reflector models provide 20% uplight to reduce glare and light contrast between task and surroundings as well as lessen dirt accumulation on fixture. Apertured reflectors also provide greater heat dissipation for prolonged fixture life and a self cleaning effect that permits air to flow over lamps and interior reflector surface.

**Ballast:** Prewired 120 and 277V, 60 Hz ballast. Complies with Federal Energy Efficiency Standards.

**Installation:** Channel connectors for continuous row installation. All 96" fixtures are comprised of two 4 ft. reflectors, secured by channel connectors. Captive fingergrip fasteners secure reflectors to channel without tools. All fixtures are surface or suspension mounted except Nos. 3V384, 3V385, 3V386, 3V926, 3V927, 3V928 and 3V929 which are suspension mounted only.

**Lamps not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**UL Listed (E71514); IBEW Label.**

Unistrut metal framing is ideal for supporting fluorescent lighting fixtures. See Index under Metal Framing.

2½" spacers No. 132-5075 are available thru Grainger Parts Operation. For fastest service call 1-800-323-0620.

| Length (In.) | Lamps (Not Included) Qty. | Watts | Type | Amb. Temp. (°F) Min. | Max. | Volts 60 Hz | Line Amps‡ | Reflector Type | Metalux Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HEAVY-DUTY FIXTURES** | | | | | | | | | | | | | |
| **48** | 2 | 40** | F40T12 | 50 | 122 | 120 | 0.73 | Apertured | DIM240120VLE3 | **3V380** | $62.49 | **$56.50** | 21.0 |
| **48** | 2 | 40** | F40T12 | 50 | 122 | 277 | 0.32 | Apertured | DIM240277VLE3 | **3V924** | 58.80 | **58.75** | 21.0 |
| **48** | 2 | 40** | F40T12 | 50 | 122 | 120 | 0.73 | Non-Aper. | DCIM240120VLE3 | **3V381** | 62.49 | **56.50** | 21.0 |
| **96** | 2 | 75** | F96T12 | 50 | 122 | 120 | 1.35 | Apertured | DIM296120VLE3 | **3V382** | 92.14 | **87.50** | 35.0 |
| **96** | 2 | 75** | F96T12 | 50 | 122 | 277 | 0.60 | Apertured | DIM296277VLE3 | **3V925** | 92.01 | **91.50** | 35.0 |
| **96** | 2 | 75** | F96T12 | 50 | 122 | 120 | 1.35 | Non-Aper. | DCIM296120VLE3 | **3V383** | 92.14 | **87.50** | 42.0 |
| **96** | 2 | 110 | F96T12HO | 20 | 122 | 120 | 2.05 | Apertured | DIM296HO120VLE3-20 | **3V384** | 123.64 | **111.50** | 36.0 |
| **96** | 2 | 110 | F96T12HO | 20 | 122 | 277 | 0.88 | Apertured | DIM296HO277VLE3-20 | **3V926** | 119.73 | **115.50** | 36.0 |
| **96** | 2 | 110 | F96T12HO | 20 | 122 | 120 | 2.05 | Non-Aper. | DCIM296HO120VLE3-20 | **3V385** | 123.64 | **111.50** | 36.0 |
| **96** | 2 | 215 | F96T12VHO | 20 | 122 | 120 | 3.70 | Apertured | DIM296PG120V | **3V928** | 150.11 | **126.15** | 50.0 |
| **96** | 2 | 215 | F96T12VHO | 20 | 122 | 277 | 1.65 | Apertured | DIM296PG277V | **3V929** | 156.81 | **131.15** | 50.0 |
| **96** | 2 | 215 | F96T12VHO | 20 | 122 | 120 | 3.70 | Non-Aper. | DCIM296PG120V | **3V386** | 151.42 | **126.15** | 50.0 |
| **96** | 2 | 215 | F96T12VHO | 20 | 122 | 277 | 1.65 | Non-Aper. | DCIM296PG277V | **3V927** | 156.81 | **131.15** | 50.0 |
| **T8 ENERGY-SAVING ELECTRONIC BALLAST FIXTURES (Offer High Energy-Savings Potential)** | | | | | | | | | | | | | |
| **48** | 2 | 32 | F32T8 | 50 | 122 | 120 | 0.51 | Apertured | DIM232120VEBS1 | ✓ **5U943** | 142.35 | **81.10** | 20.0 |
| **48** | 2 | 32 | F32T8 | 50 | 122 | 277 | 0.24 | Apertured | DIM232277VEBS1 | ✓ **5U944** | 144.28 | **83.10** | 20.0 |
| **96** | 2 | 59 | F96T8 | 50 | 122 | 120 | 0.99 | Apertured | DIM296T8120VEBS1 | ✓ **5U945** | 210.68 | **120.20** | 34.0 |
| **96** | 2 | 59 | F96T8 | 50 | 122 | 277 | 0.43 | Apertured | DIM296T8277VEBS1 | ✓ **5U946** | 214.64 | **124.20** | 34.0 |
| **96** | 2 | 59 | F96T8 | 50 | 122 | 120 | 0.96 | Apertured | STDIM232120VEBS1 | ✓ **5U941** * | 210.08 | **119.70** | 35.0 |
| **96** | 4 | 32 | F32T8 | 50 | 122 | 277 | 0.41 | Apertured | STDIM232277VEBS1 | ✓ **5U942** * | 212.07 | **121.70** | 35.0 |

) Four lamp-tandem fixture. One pair of lamps, in-line (one ballast).
✓) Denotes energy efficient product.

(‡) For standard wattage lamps. All energy saver lamps have minimum temperature rating of 60°F. (**) Will operate energy saving lamps.

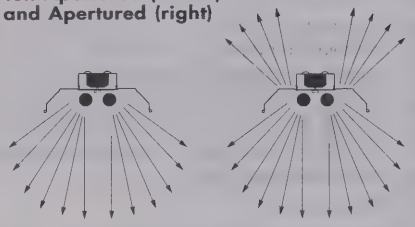
**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings.**
**Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# COMMERCIAL FLUORESCENT FIXTURES

## APERTURED VS. NON-APERTURED

Non-Apertured (below) and Apertured (right)

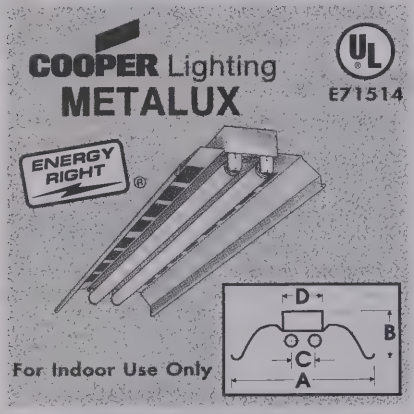


All industrial fluorescent fixtures have reflectors which reflect light for more efficient illumination as well as provide protection for the lamps.

**Non-Apertured Reflectors** (solid reflectors) are designed to reflect 100% of the light directly downward toward the work surface.

**Apertured Reflectors** have slots cut into their tops, allowing approximately 10-20% of the light to be directed upward toward the ceiling. This "uplighting" can help improve the overall illumination of a work area — especially when used with a highly-reflective ceiling. These slots also allow air to circulate through the reflector, keeping the fixture cooler (enhancing ballast and lamp life) and cleaner than those with non-apertured reflectors.

## GENERAL PURPOSE INDUSTRIAL FIXTURES




**Applications:** Light-duty industrial lighting fixtures. Use where task lighting is needed in work stations, storage areas, and utility rooms. Appropriate for mounting heights between 8 to 15 ft..

**Housing:** Rotating pressure lock lampholders. Nos. 3V471, 3V377, and 3V378 feature metal-clad lampholders with spring loaded sockets. High gloss white baked enamel finish.

**Reflector:** Die-formed reflectors and channels for extra strength. Slotted aperture reflector models provide 8% uplight to reduce glare and soften light; No. 3V377 20% uplight. Apertured reflectors provide a cleaning effect, permitting air to flow over lamps and interior reflector surface.

**Ballast:** Prewired ballasts. 120V and 277V models. Complies with Federal Energy Efficiency Standards. T8 energy-saving models utilize energy efficient electronic ballasts with reduced harmonics and total harmonic distortion <20%.

**Installation:** 1/4 turn latch assembly for fast, easy installation without tools. Channel connectors for continuous row installation. All 96" fixtures are comprised of two 4 ft. reflectors secured by channel connectors. Surface or suspension (H.O. fixtures for suspension mounting only). H.O. fixtures can be used in cold temperature applications.

**Lamp not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

| Qty. | Lamps (Not Included) Watts | Type | Ballast Type* | Volts 60 Hz | Line Amps† | Reflector Type | Dimensions (In.) Length | A | B | C | D | Metalux Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD FIXTURES** | | | | | | | | | | | | | | | | |
| 2 | 40** | F40T12 | 1 Std. E.S. | 120 | 0.73 | Apertured | 48 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IA240120VLE3 | 6V439 | $37.28 | $26.95 | 14.0 |
| 2 | 40** | F40T12 | 1 Std. E.S. | 277 | 0.32 | Apertured | 48 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IA240277VLE3 | 5U949 | 52.58 | 28.95 | 18.0 |
| 2 | 40** | F40T12 | 1 Std. E.S. | 120 | 0.73 | Non-Aper. | 48 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC240120VLE3 | 6V440 | 37.28 | 26.95 | 14.0 |
| 2 | 40** | F40T12 | 1 Std. E.S. | 277 | 0.32 | Non-Aper. | 48 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC240277VLE3 | 5U955 | 52.58 | 28.95 | 19.0 |
| 2 | 75** | F96T12 | 1 Std. E.S. | 120 | 1.35 | Apertured | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IA296120VLE3 | 3V491 | 65.14 | 51.75 | 30.0 |
| 2 | 75** | F96T12 | 1 Std. E.S. | 277 | 0.60 | Apertured | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IA296277VLE3 | 6V442 | 65.61 | 54.75 | 30.0 |
| 2 | 75** | F96T12 | 1 Std. E.S. | 120 | 1.35 | Non-Aper. | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC296120VLE3 | 3V492 | 65.14 | 51.75 | 30.0 |
| 2 | 75** | F96T12 | 1 Std. E.S. | 277 | 0.60 | Non-Aper. | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC296277VLE3 | 6V443 | 65.61 | 54.75 | 30.0 |
| 2 | 110 | F96T12HO | 1 Std. E.S. | 120 | 2.05 | Non-Aper. | 96 | 12 | 5 1/4 | 2 5/8 | 4 1/4 | IC296HO120VLE3-20° | 6V441 | 97.93 | 85.00 | 35.0 |
| 2 | 110 | F96T12HO | 1 Std. E.S. | 277 | 0.88 | Non-Aper. | 96 | 12 | 5 1/4 | 2 5/8 | 4 1/4 | IC296HO277VLE3-20° | 3V930 | 103.82 | 88.50 | 35.0 |
| 2 | 110 | F96T12HO | 1 Std. E.S. | 120 | 2.05 | Apertured | 96 | 12 | 5 1/4 | 2 5/8 | 4 1/4 | IA296HO120VLE3-20° | 4V370 | 97.93 | 85.00 | 35.0 |
| 2 | 110 | F96T12HO | 1 Std. E.S. | 277 | 0.88 | Apertured | 96 | 12 | 5 1/4 | 2 5/8 | 4 1/4 | IA296HO277VLE3-20° | 3V931 | 103.82 | 88.50 | 35.0 |
| 2 | 110 | F96T12HO | 1 Std. | 120 | 2.15 | Apertured | 96 | 12 | 5 1/4 | 2 5/8 | 4 1/4 | IA296HO120V-20° | 5U952 | 116.54 | 66.55 | 36.0 |
| 2 | 110 | F96T12HO | 1 Std. | 277 | 0.93 | Apertured | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IA296HO277V-20° | 3V933 | 74.52 | 70.05 | 35.0 |
| 2 | 110 | F96T12HO | 1 Std. | 120 | 2.15 | Non-Aper. | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC296HO120V-20° | 3V484 | 90.65 | 66.55 | 35.0 |
| 2 | 110 | F96T12HO | 1 Std. | 277 | 0.93 | Non-Aper. | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC296HO277V-20° | 3V932 | 76.85 | 70.05 | 35.0 |
| 4 | 40** | F40T12 | 2 Std. E.S. | 120 | 1.46 | Non-Aper. | 48 | 13 | 6 7/8 | 1 1/2 | 4 1/4 | ECIM440120VLE3 | 3V471 | 85.39 | 81.50 | 24.0 |
| 4 | 75** | F96T12 | 2 Std. E.S. | 120 | 2.70 | Apertured | 96 | 13 | 6 7/8 | 1 1/2 | 4 1/4 | EIM496120VLE3 | 3V377 | 141.35 | 122.60 | 49.0 |
| 4 | 75** | F96T12 | 2 Std. E.S. | 120 | 2.70 | Non-Aper. | 96 | 13 | 6 7/8 | 1 1/2 | 4 1/4 | ECIM496120VLE3 | 3V378 | 141.35 | 122.60 | 49.0 |
| **T8 ENERGY-SAVING ELECTRONIC BALLAST FIXTURES** | | | | | | | | | | | | | | | | |
| 2 | 32 | F32T8 | 1 Elec. T8 | 120 | 0.51 | Apertured | 48 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IA232120VEB81 | ✓3V673 | 110.59 | 49.95 | 14.0 |
| 2 | 32 | F32T8 | 1 Elec. T8 | 277 | 0.24 | Apertured | 48 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IA232277VEB81 | ✓5U948 | 117.12 | 49.95 | 16.0 |
| 2 | 32 | F32T8 | 1 Elec. T8 | 120 | 0.51 | Non-Aper. | 48 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC232120VEB81 | ✓5U953 | 115.21 | 49.95 | 17.0 |
| 2 | 32 | F32T8 | 1 Elec. T8 | 277 | 0.24 | Non-Aper. | 48 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC232277VEB81 | ✓5U954 | 117.12 | 49.95 | 17.0 |
| 2 | 59 | F96T8 | 1 Elec. T8 | 120 | 0.99 | Apertured | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IA296T8120VEB81 | ✓5U950 | 176.93 | 71.75 | 25.0 |
| 2 | 59 | F96T8 | 1 Elec. T8 | 277 | 0.43 | Apertured | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IA296T8277VEB81 | ✓5U951 | 179.65 | 71.75 | 25.0 |
| 2 | 59 | F96T8 | 1 Elec. T8 | 120 | 0.99 | Non-Aper. | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC296T8120VEB81 | ✓5U956 | 176.93 | 71.75 | 27.0 |
| 2 | 59 | F96T8 | 1 Elec. T8 | 277 | 0.43 | Non-Aper. | 96 | 12 | 4 1/4 | 2 5/8 | 4 1/4 | IC296T8277VEB81 | ✓5U957 | 179.65 | 71.75 | 27.0 |
| 4 | 32 | F32T8 | 1 Elec. T8 | 120 | 0.96 | Apertured | 96 | 12 | 4 1/4 | — | 4 1/4 | 8TIA232120VEB81 | ✓6W889‡ | 170.64 | 66.95 | 33.0 |
| 4 | 32 | F32T8 | 1 Elec. T8 | 277 | 0.41 | Apertured | 96 | 12 | 4 1/4 | — | 4 1/4 | 8TIA232277VEB81 | ✓6W890‡ | 171.41 | 66.95 | 33.0 |
| 4 | 32 | F32T8 | 1 Elec. T8 | 120 | 0.96 | Non-Aper. | 96 | 12 | 4 1/4 | — | 4 1/4 | 8TIC232120VEB81 | ✓6W891‡ | 170.64 | 66.95 | 33.0 |
| 4 | 32 | F32T8 | 1 Elec. T8 | 277 | 0.41 | Non-Aper. | 96 | 12 | 4 1/4 | — | 4 1/4 | 8TIC232277VEB81 | ✓6W892‡ | 171.41 | 66.95 | 33.0 |

(*) Std. ES=Standard Energy Saver. Std.=Std. Elec.=Electronic. (**) Will operate energy saving lamps. (†) For standard wattage lamps. May vary for energy saving lamps.
(‡) Four lamp tandem fixture. One pair of lamps in-line (one ballast). (✓) Denotes energy efficient product.



When it comes to lighting, no distributor outshines Grainger.

## GENERAL PURPOSE STRIP FIXTURES

**plications:** Multi-purpose, high performance fixtures used in siness and industry.

**using:** Made of die-formed, 20-gauge cold rolled steel. Rotating essure lock lampholders. High gloss white baked enamel ish.

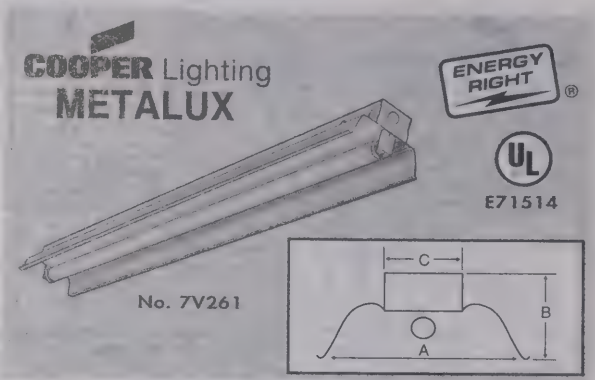
**mps not included:** Requires T8 lamp. See Index under Lamps, uorescent.

**flectors:** 4 foot long, 6" symmetrical semi-specular/aluminum, n-apertured reflectors. Provide more efficient lighting than ndard white reflectors.

**llast:** Prewired reduced harmonic electronic T8 ballasts (120V d 277V) <20% THD comply with Federal Energy Efficiency andards. Minimum start temperature 50°F.

**stallation:** For surface or suspension mounting. Channel connec- rs permit continuous row installation.

**Listed (E71514).**




| Volts 60 Hz | Line Amps | Lamps | Watts | Type | Dimensions (In.) Length | A | B | C | Metalux Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL PURPOSE STRIP FIXTURES WITH SILVER REFLECTOR** | | | | | | | | | | | | | |
| 120 | 0.31 | 1 | 32 | F32T8 | 48 | 6 | 3⅝ | 2¾ | SN132SN-SA-025-140SYM6EB81 | ✓7V261 | $135.57 | **$69.20** | 10.0 |
| 120 | 0.51 | 2 | 32 | F32T8 | 96 | 6 | 3⅝ | 2¾ | 8TSN132SN-SA-025-140SYM6EB81 | ✓7V262* | 141.13 | **70.50** | 18.0 |
| 277 | 0.14 | 1 | 32 | F32T8 | 48 | 6 | 3⅝ | 2¾ | SN132SN-SA-025-140SYM6EB81 | ✓7V263 | 139.08 | **71.30** | 10.0 |
| 277 | 0.22 | 2 | 32 | F32T8 | 96 | 6 | 3⅝ | 2¾ | 8TSN132SN-SA-025-140SYM6EB81 | ✓7V264* | 143.74 | **72.55** | 18.0 |

Two lamp tandem fixture. Two single lamps, in-line (one ballast).

(✓) Denotes energy efficient product.

## INDUSTRIAL WORKSHOP FIXTURES

**plications:** General purpose 24 or 48" fluorescent fixtures pro- de abundant light over workshop benches, tools.

**using:** All steel die-formed channels with full width reflectors. gh-gloss baked white enamel finish.

**flector:** One-piece die-formed reflectors have full length range d rolled edges for extra rigidity. Reflectors attach without ols.

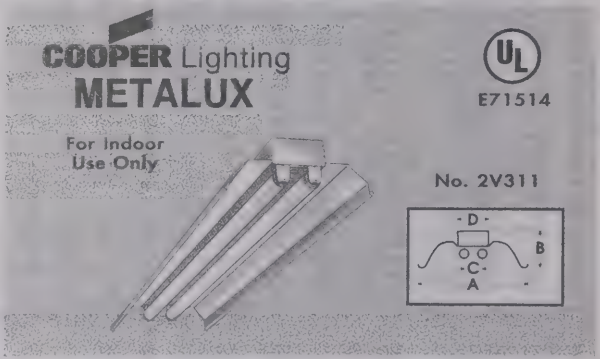
**llast:** Prewired 120V, 60 Hz ballast. Complies with Federal nergy Efficiency Standards.

**stallation:** Includes 3 ft., 3-conductor cordset and 4 ft. chain for spension mounting only.

**mps not included:** For better lighting results use energy-saving, gh color rendering lamps such as Staybright-XL, SP, or SPX mps from GE. See Index under Lamps, Fluorescent.

**Listed (E71514); IBEW Label.**

**etalux brand.**




| ty | Lamps (not included) Watts | Type | Amb. Temp.°F‡ Min. | Max.* | Line Amps* | Dimensions ( In.) Length | A | B | C | D | Metalux Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 20 | F20T12 | 50 | 122 | 0.55 | 24 | 11½ | 4 | 2½ | 4¼ | IC220LTS120V | **2V311** | $36.39 | **$31.60** | 11.0 |
| 2 | 40** | F40T12 | 50 | 122 | 0.73 | 48 | 12 | 4 | 2½ | 4¼ | IC240120VLE3 | **3V473** | 42.54 | **36.95** | 16.0 |

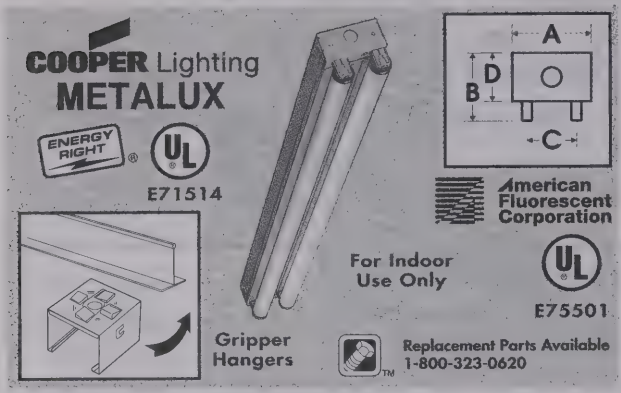
For standard wattage lamps. Data may vary for energy-saving lamps. (‡) All energy saver lamps have minimum temperature rating of 60°F
) Will operate energy saving lamps.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# COMMERCIAL FLUORESCENT FIXTURES

## GENERAL PURPOSE STRIP FIXTURES




**Applications:** Multipurpose strip lighting used in wide strip lighting for utility areas.

**Housing:** Pressure lock lampholders on 15 to 40W fixtures; spring-loaded lampholders in 75W and 110W fixtures. Baked white enamel finish. Die-formed, 20-gauge, cold rolled steel. Channel covers can be removed without tools. Nos. 6W880-6W883 have narrow housing.

**Ballast:** Prewired ballasts. Nos. 2V317, 2V339, 2V809, and 2V810 are preheat models; require preheat lamps. All others are prewired with standard energy-saving or reduced harmonic electronic ballasts (THD <20%). Complies with Federal Energy Efficiency Standards.

**Installation:** Fixtures can be surface or suspension mounted. H.O. fixtures suspension mounted only. Channel connectors for continuous row installations.

**Lamp not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**UL Listed (E71514) for Metalux and (E75501) for American Fluorescent. IBEW Label.**

| Lamps (Not Included) Qty. | Watts | Type | Ballast Type | Amb.† Temp. (°F) Min. | Max. | Volts 60 Hz | Line Amps | Dimensions (In.) Length | A | B | C | D | Mfr. | Mfr's. Model | Stock No. | | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD FIXTURES** | | | | | | | | | | | | | | | | | | | |
| 1 | 8 | F8T5 | 1 Std | 50 | 122 | 120 | 0.16 | 15 1/16 | 1 5/16 | 2 1/2 | — | 1 3/8 | Am. Fluor. | MS108 | 2V809 | | $20.29 | $12.90 | 1.5 |
| 1 | 15 | F15T8 | 1 Std | 50 | 122 | 120 | 0.30 | 21 1/16 | 1 6/16 | 2 1/2 | — | 1 3/8 | Am. Fluor. | MS115 | 2V810 | | 20.10 | 13.00 | 1.8 |
| 1 | 15 | F15T12 | 1 Std | 50 | 122 | 120 | 0.60 | 18 | 2 3/4 | 3 1/2 | — | 1 3/4 | Metalux | SN115LTS120V | 2V427 | | 18.67 | 16.05 | 4.0 |
| 1 | 20 | F20T12 | 1 Std | 50 | 122 | 120 | 0.60 | 24 | 2 3/4 | 3 1/2 | — | 1 3/4 | Metalux | SN120PH120V | 2V317 | | 16.30 | 12.30 | 2.8 |
| 1 | 20 | F20T12 | 1 Std | 50 | 122 | 120 | 0.60 | 24 | 2 3/4 | 3 1/2 | — | 1 3/4 | Metalux | SN120LTS120V | 2V318 | | 18.39 | 15.90 | 5.0 |
| 1 | 30 | F30T12 | 1 Std | 50 | 122 | 120 | 0.65 | 36 | 2 3/4 | 3 5/8 | — | 1 3/4 | Metalux | SN130LRS120V | 2V921 | | 19.63 | 15.90 | 5.5 |
| 1 | 40** | F40T12 | 1 Std | 50 | 122 | 120 | 0.65 | 48 | 2 3/4 | 3 5/8 | — | 1 3/4 | Metalux | SN140LRS120V | 3V409 | | 22.03 | 19.25 | 6.5 |
| 1 | 40** | F40T12 | 1 Std ES | 50 | 122 | 120 | 0.43 | 48 | 2 3/4 | 3 5/8 | — | 1 3/4 | Metalux | SN140HRS120VLE3 | 6V444 | | 25.76 | 22.46 | 6.5 |
| 1 | 40** | F40T12 | 1 Std ES | 50 | 122 | 277 | 0.19 | 48 | 2 3/4 | 3 5/8 | — | 1 3/4 | Metalux | SN140HRS277VLE3 | 3V921 | | 28.01 | 24.46 | 9.0 |
| 1 | 75** | F96T12 | 1 Std | 50 | 122 | 120 | 0.85 | 96 | 4 1/4 | 3 5/8 | — | 1 3/4 | Metalux | SS196120V | 3V410 | | 43.96 | 38.15 | 20.0 |
| 1 | 75** | F96T12 | 1 Std | 50 | 122 | 277 | 0.35 | 96 | 4 1/4 | 3 5/8 | — | 1 3/4 | Metalux | SS196277V | 5U958 | | 71.99 | 41.15 | 18.0 |
| 2 | 40** | F40T12 | 1 Std ES | 50 | 122 | 120 | 0.73 | 96 | 2 1/4 | 3 5/8 | — | 1 3/4 | Metalux | 8TSN140HRS120VLE3 | 6V419 | * | 40.61 | 35.20 | 13.0 |
| 2 | 75** | F96T12 | 1 Std ES | 50 | 122 | 120 | 1.35 | 192 | 4 1/4 | 3 5/8 | 3 1/8 | 1 3/4 | Metalux | SS116120VLE3 | 6W895 | * | 122.97 | 62.85 | 32.0 |
| 2 | 75** | F96T12 | 1 Std ES | 50 | 122 | 277 | 0.60 | 192 | 4 1/4 | 3 5/8 | 3 1/8 | 1 3/4 | Metalux | SS116277VLE3 | 6W896 | * | 124.72 | 64.80 | 32.0 |
| 2 | 110 | F96T12HO | 1 Std ES | -20 | 122 | 120 | 2.05 | 192 | 4 1/4 | 3 5/8 | 3 1/8 | 1 3/4 | Metalux | STN116HO120VLE3-20° | 6W897 | * | 209.24 | 106.85 | 38.0 |
| 2 | 110 | F96T12HO | 1 Std ES | -20 | 122 | 277 | 0.88 | 192 | 4 1/4 | 3 5/8 | 3 1/8 | 1 3/4 | Metalux | STN116HO277VLE3-20° | 6W898 | * | 211.57 | 110.35 | 38.0 |
| 2 | 20 | F20T12 | 1 Std | 50 | 122 | 120 | 0.72 | 24 | 4 3/16 | 3 3/4 | 2 1/2 | 2 1/16 | Metalux | SS220PH120V | 2V339 | | 30.22 | 22.58 | 4.7 |
| 2 | 20 | F20T12 | 1 Std | 50 | 122 | 120 | 0.55 | 24 | 4 3/16 | 3 3/4 | 2 1/2 | 2 1/16 | Metalux | SS220LTS120V | 2V322 | | 29.34 | 25.45 | 6.0 |
| 2 | 40** | F40T12 | 1 Std ES | 50 | 122 | 120 | 0.73 | 48 | 4 1/4 | 3 5/8 | 2 5/8 | 1 3/4 | Metalux | SS240120VLE3 | 3V415 | | 30.16 | 21.00 | 10.0 |
| 2 | 40** | F40T12 | 1 Std ES | 50 | 122 | 277 | 0.32 | 48 | 4 1/4 | 3 5/8 | 2 5/8 | 1 3/4 | Metalux | SS240277VLE3 | 3V474 | | 31.94 | 23.00 | 10.0 |
| 2 | 75** | F96T12 | 1 Std ES | 50 | 122 | 120 | 1.35 | 96 | 4 1/4 | 3 5/8 | 2 5/8 | 1 3/4 | Metalux | SS296120VLE3 | 3V416 | | 50.44 | 34.00 | 20.0 |
| 2 | 75** | F96T12 | 1 Std ES | 50 | 122 | 277 | 0.60 | 96 | 4 1/4 | 3 5/8 | 2 5/8 | 1 3/4 | Metalux | SS296277VLE3 | 3V475 | | 52.63 | 37.00 | 22.0 |
| 2 | 60 | F48T12HO | 1 Std ES | -20 | 122 | 120 | 1.40 | 48 | 4 1/4 | 4 7/8 | 2 5/8 | 3 | Metalux | STN248HO120V-20° | 5U962 | | 103.11 | 58.80 | 18.0 |
| 2 | 60 | F48T12HO | 1 Std ES | -20 | 122 | 277 | 0.61 | 48 | 4 1/4 | 4 7/8 | 2 5/8 | 3 | Metalux | STN248HO277V-20° | 5U963 | | 110.84 | 61.80 | 18.0 |
| 2 | 110 | F96T12HO | 1 Std | -20 | 122 | 120 | 2.15 | 96 | 4 1/4 | 4 7/8 | 2 5/8 | 3 | Metalux | STN296HO120V-20° | 3V297 | | 88.68 | 63.55 | 26.0 |
| 2 | 110 | F96T12HO | 1 Std | -20 | 122 | 277 | 0.93 | 96 | 4 1/4 | 4 7/8 | 2 5/8 | 3 | Metalux | STN296HO277V-20° | 3V923 | | 72.48 | 67.10 | 26.0 |
| 2 | 110 | F96T12HO | 1 Std ES | -20 | 122 | 120 | 2.05 | 96 | 4 1/4 | 4 7/8 | 2 5/8 | 3 | Metalux | STN296HO120VLE3-20° | 6V445 | | 97.36 | 81.40 | 26.0 |
| 2 | 110 | F96T12HO | 1 Std ES | -20 | 122 | 277 | 0.88 | 96 | 4 1/4 | 4 7/8 | 2 5/8 | 3 | Metalux | STN296HO277VLE3-20° | 3V922 | | 100.20 | 84.90 | 26.0 |
| 4 | 75** | F96T12 | 2 Std ES | 50 | 122 | 120 | 2.70 | 96 | 9 | 4 9/16 | 27/16 | 2 9/16 | Metalux | STW496120VLE3 | 3V376 | | 125.48 | 108.85 | 34.0 |
| **T8 ENERGY-SAVING ELECTRONIC BALLAST FIXTURES** | | | | | | | | | | | | | | | | | | | |
| 2 | 32 | F32T8 | 1 Elec. T8 | 50 | 122 | 120 | 0.51 | 48 | 4 1/4 | 3 5/8 | 2 5/8 | 1 3/4 | Metalux | SS232120VEB81 | 3V669 | | 97.97 | 41.50 | 10.0 |
| 2 | 32 | F32T8 | 1 Elec. T8 | 50 | 122 | 277 | 0.22 | 48 | 4 1/4 | 3 5/8 | 2 5/8 | 1 3/4 | Metalux | SS232277VEB81 | 5U959 | | 103.90 | 43.50 | 8.9 |
| 2 | 59 | F96T8 | 1 Elec. T8 | 50 | 122 | 120 | 0.99 | 96 | 4 1/4 | 3 5/8 | 2 5/8 | 1 3/4 | Metalux | SS296T8120VEB81 | 5U960 | | 150.60 | 54.90 | 14.0 |
| 2 | 59 | F96T8 | 1 Elec. T8 | 50 | 122 | 277 | 0.43 | 96 | 4 1/4 | 3 5/8 | 2 5/8 | 1 3/4 | Metalux | SS296T8277VEB81 | 5U961 | | 152.54 | 56.90 | 14.0 |
| 1 | 32 | F32T8 | 1 Elec. T8 | 50 | 122 | 120 | 0.31 | 48 | 2 3/4 | 3 5/8 | 1 1/4 | 1 3/4 | Metalux | SN132120VEB81 | 6W880 | | 112.17 | 42.45 | 8.0 |
| 2 | 32 | F32T8 | 1 Elec. T8 | 50 | 122 | 120 | 0.51 | 96 | 2 3/4 | 3 5/8 | 1 1/4 | 1 3/4 | Metalux | 8TSN132120VEB81 | 6W881 | * | 120.66 | 46.95 | 14.0 |
| 1 | 32 | F32T8 | 1 Elec. T8 | 50 | 122 | 277 | 0.14 | 48 | 2 3/4 | 3 5/8 | 1 1/4 | 1 3/4 | Metalux | SN132277VEB81 | 6W882 | | 113.59 | 42.45 | 8.0 |
| 2 | 32 | F32T8 | 1 Elec. T8 | 50 | 122 | 277 | 0.22 | 96 | 2 3/4 | 3 5/8 | 1 1/4 | 1 3/4 | Metalux | 8TSN132277VEB81 | 6W883 | * | 122.16 | 47.95 | 14.0 |
| 4 | 32 | F32T8 | 1 Elec. T8 | 50 | 122 | 120 | 0.31 | 96 | 4 1/4 | 3 5/8 | 1 1/4 | 1 3/4 | Metalux | 8TSS232120VEB81 | 3JN22 | ‡ | 77.88 | 58.95 | 18.0 |

### FIXTURE ACCESSORIES

| Description | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Gripper Hanger for SS Strips** | Metalux | GRPSSU | 3JN25 | $1.39 | $1.19 | 0.1 |
| **Gripper Hanger for STN Strips** | Metalux | GRPSTN | 3JN26 | 2.43 | 2.07 | 0.1 |
| **24" Stem & Canopy Set. For suspending fixtures from ceiling. Need 2 for 4 ft. fixtures, 3 for 8 ft fixtures.** | American Fluorescent | PMSL-24 | 2V122 | 11.20 | 9.24 | 1.5 |

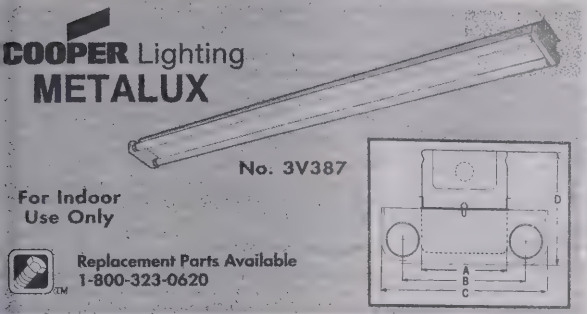
(*) Two lamp tandem fixture. Two single lamps, in-line (one ballast).

(†) Minimum temperature based on standard wattage lamps

(††) Four lamp tandem fixture. One pair of lamps in-line (one ballast).

All Energy Saver lamps have minimum temperature rating of 60°F. (**) Will operate energy saving lamps. (✓) Denotes energy efficient product.

## HEAVY-DUTY UNSHIELDED STRIP FIXTURES




**Applications:** Multipurpose strip lighting used in narrow and wide strip lighting for utility areas.

**Housing:** Metal-clad spring-loaded turret sockets assure positive lamp contact. Wide spacing of lamps provides better light dispersement and heat dissipation. Die-formed, 20 gauge, cold rolled steel, baked white enamel finish. Channel covers can be removed without tools.

**Ballast:** Prewired 120V, 60 Hz ballasts. Complies with Federal Energy Efficiency Standards.

**Installation:** Channel connectors for continuous row installation. No. 3V387 is surface or suspension mounted: Nos. 3V388 and 3V254 are suspension mounted only.

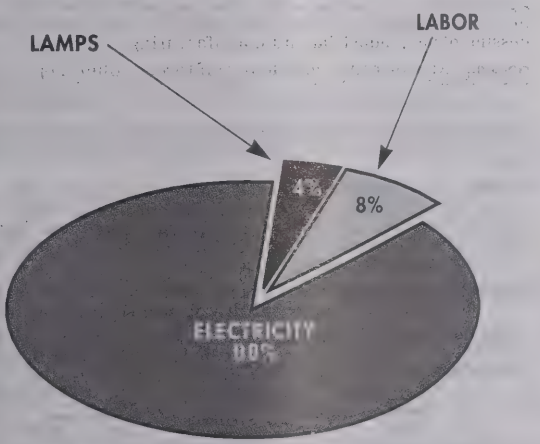
**Lamp not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**UL Listed (E71514); IBEW Label.**

| Lamps (Not Included) Watts | Type | Amb Temp (°F) Min. | Max. | Line Amps | Dimensions (In.) Length | A | B | C | D | Metalux Model | Stock No. | Less Lamps List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75* | F96T12 | 50 | 122 | 1.35 | 96 | 4 1/4 | 6 | 8 1/8 | 5 1/8 | STM296120VLE3 | **3V387** | $61.18 | **$55.75** | 25.0 |
| 110 | F96T12/HO | -20 | 122 | 2.05 | 96 | 4 1/4 | 6 | 8 1/8 | 5 1/8 | STM296HO120VLE3-20° | **3V388** | 81.70 | **74.35** | 26.0 |
| 215 | F96T12VHO | -20 | 122 | 3.70 | 96 | 3 7/8 | 6 9/16 | 8 1/8 | 5 1/8 | STM296PG120V-20° | **3V254** | 114.33 | **109.10** | 34.0 |

* Will operate 60W energy saving lamps.

## COST OF LIGHT




The smallest part of the cost of light is actually the purchase price of the lamp, electricity accounts for 88% of the cost of light. By choosing a more efficient lamp, even one that costs more, you can save money over the life of the lamp.

For example:

| Fixture Stock No. | 3V420 | 3V656 |
|---|---|---|
| Watts/Fixture | 172 | 112 |
| Lamp Type (Stock No.) | F40CWRSWM (3V477) | F32T8SP41 (6VR66) |
| No. of Lamps | 4 | 4 |
| Price of Lamps (Each) | $1.56 | $2.48 |
| Price of Fixture | $34.80 | $62.95 |
| Total Price (Fixture & Lamps) | $41.04 | $72.87 |
| Cost of Electricity | $275.20* | $179.20* |
| Total Comparison Cost* | **$316.24** | **$252.07** |

(*) At $0.08/KWH over average Lamp Life.

DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# INDUSTRIAL FLUORESCENT FIXTURES

## HIGH PRESSURE HOSEDOWN LUMINAIRES




**Application:** For areas subject to extreme humidity or wet conditions such as food processing plants, laundries, washing areas, and loading docks. Withstands water penetration even when subjected to a 1200 PSI high pressure hosedown test.

**Housing:** High impact resistant, DR-blended acrylic tube enclosing heavy gauge aluminum ballast channel and stainless steel ballast channel end plate. 1/2" thick opaque PVC endcaps are fully sealed with closed cell silicone gasketing. Watertight connectors ensure the integrity of the seal at the point of power supply.

**Power Connections:** Five foot, three-wire cord and watertight connector standard.

**Installation:** Stainless steel sash chain and S-hooks standard.

**Reflector:** Heavy gauge aluminum reflector finished with high reflectance white powder coat paint.

**Ballast:** High power factor 120V or 277V electronic ballast, 60Hz. Min. start temperature -20°F, except for 4HP53 and 4HP54 which is 50°F.

**Lamps not included.**

**UL Listed and CSA Certified** for wet locations.

| Lamps (Not Included) Qty. | Watts | Type | Voltage | Ballast Type | Metalux Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 110 | F96T12HO | 120 | Electronic | HDF-0695-2110-120V-EB21 | ✓ 4HP51 | $304.70 | $277.00 | 30.0 |
| 2 | 110 | F96T12HO | 277 | Electronic | HDF-0695-2110-277V-EB21 | ✓ 4HP52 | 304.70 | 277.00 | 30.0 |
| 2 | 32 | F32T8 | 120 | Electronic | HDF-0695-232-120V-EB81 | ✓ 4HP53 | 234.30 | 213.00 | 16.0 |
| 2 | 32 | F32T8 | 277 | Electronic | HDF-0695-232-277V-EB81 | ✓ 4HP54 | 234.30 | 213.00 | 16.0 |
| 2 | 60 | F48T12HO | 120 | Electronic | HDF-0695-260-120V-EB21 | ✓ 4HP55 | 228.80 | 208.00 | 19.0 |
| 2 | 60 | F48T12HO | 277 | Electronic | HDF-0695-260-277V-EB21 | ✓ 4HP56 | 228.80 | 208.00 | 19.0 |

(✓) Denotes energy efficient product.

## WET LOCATION, DUST-RESISTANT FLUORESCENT FIXTURES




**Applications:** Use in areas where dust and/or moisture are present or where sanitation is important such as in kitchens, food processing plants, industrial and manufacturing environments.

**Housing:** Noncorrosive seamless reinforced fiberglass body for indoor/outdoor use. Continuous polyurethane gasketing provides a seamless seal against elements and moisture. Cam latches for a positive seal between housing, gasket, and diffuser. Water tight hubs on each end; accepts 1/2" conduit. UL Listed for wet locations.

**Ballast:** Prewired with standard energy-saving 60 Hz ballast except for No. 6F554 which uses a normal power factor trigger start ballast. Nos. 5U964 and 5U965 use a reduced harmonic (THD <20%) T-8 electronic ballast. Complies with Federal Energy Efficiency Standards. IBEW Label.

**Installation:** Internal/external brass mounting studs. Die formed steel mounting brackets for surface or suspension mounting.

**Lamps not included:** For better lighting results use energy-saving high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

| Lamps Watts | Req. (Not Included) Qty. | Type | Ambient Temp. (°F‡) Min. | Max. | Volts @ 60 Hz | Line Amps | Dimensions (In.) L | W | H | Metalux Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 2 | F20T12 | 50 | 122 | 120 | 0.62 | 25 13/16 | 7 | 5 | VT2-220DR-120V-LE3-WL | 6F554 | $97.26 | $70.50 | 10.0 |
| 40* | 2 | F40T12 | 50 | 122 | 120 | 0.73 | 49 13/16 | 7 | 5 | VT2-240DR-120V-LE3-WL | 6F555 | 102.65 | 77.50 | 17.0 |
| 40* | 2 | F40T12 | 50 | 122 | 277 | 0.32 | 49 13/16 | 7 | 5 | VT2-240DR-277V-LE3-WL | 6F556 | 104.57 | 81.50 | 17.0 |
| 75* | 2 | F96T12 | 50 | 122 | 120 | 1.35 | 97 13/16 | 7 | 5⅞ | VT2-296DR-120V-LE3-WL | 6F557 | 177.56 | 155.00 | 34.0 |
| 75* | 2 | F96T12 | 50 | 122 | 277 | 0.60 | 97 13/16 | 7 | 5⅞ | VT2-296DR-277V-LE3-WL | 6F565 | 182.12 | 159.00 | 34.0 |
| 60 | 2 | F48T12HO | -20 | 122 | 120 | 1.40 | 49 13/16 | 7 | 5⅞ | VT2-248HO-DR-120V-WL | New 4PH79 | 155.40 | 118.75 | 21.0 |
| 60 | 2 | F48T12HO | -20 | 122 | 277 | .61 | 49 13/16 | 7 | 5⅞ | VT2-248HO-DR-277V-WL | New 4PH80 | 159.00 | 120.50 | 21.0 |
| 110 | 2 | F96T12HO | -20 | 122 | 120 | 2.05 | 97 13/16 | 7 | 5⅞ | VT2-296HODR-120V-LE3–20°-WL | 6F553 | 251.72 | 217.25 | 40.0 |
| 110 | 2 | F96T12HO | -20 | 122 | 277 | 0.60 | 97 13/16 | 7 | 5⅞ | VT2-296HODR-277V-LE3–20°-WL | 6F558 | 257.50 | 221.25 | 40.0 |
| **T8 ENERGY-SAVING ELECTRONIC BALLAST FIXTURES** | | | | | | | | | | | | | | |
| 32 | 2 | F32T8 | 50 | 122 | 120 | 0.51 | 49 13/16 | 7 | 5⅞ | VT2-232DR-120V-EB81WL | ✓ 5U964 | 181.50 | 103.80 | 16.0 |
| 59 | 2 | F96T8 | 50 | 122 | 120 | 0.99 | 97 13/16 | 7 | 5⅞ | VT2-296DR-120V-EB81WL | ✓ 5U965 | 325.07 | 185.75 | 33.0 |

(*) Will operateenergy saving lamps. (✓) Denotes energy efficient product. (‡) All Energy Saver lamps have minimum temperature rating of 60°F.

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

# LOW PROFILE LINEAR LIGHTING SYSTEM

**plication:** Designed to provide an attractive, energy efficient, d low brightness lighting system for retail merchandising, commercial and industrial aisle lighting applications. Thin-baffled uver provides visual appeal for surface, stem or cable mounted stallations. The profile appearance of the luminaire and the uver aesthetics blend to create an effective linear lighting sysm. The luminaire can be used as a single lighting element or is excellent choice when the specification calls for a continuous w system.

**using:** Housing, socket track, and ballast cover are die-formed de gauge, prime cold rolled steel. Smooth sides and soft corred housing permits flush joint for continuous row mounting. ousing back has numerous knockouts for easy installation. allast cover easily removed without tools for electrical access. ecorative injection molded white end plates. Couplers for conuous row mounting. Electrostatically applied baked white olyester enamel finish. Iron phosphate coating with rust hibitor. Minimum reflectance 90%.

**ffle:** Thin-blade, baffled louver has a baked white matted finish. uver cross vanes are "scooped" below each lamp to maximize ficiency. The louver is positively secured by spring steel clips d can be easily removed for wiring access and re-lamping. sitive light seal around entire perimeter of louver. Louver has effective lengthwise shielding angle of 40°.

**allast:** prewired with electronic ballasts. Complies with Federal nergy Efficiency Standards. Ambient temperature 50°F minium; 122°F maximum.

**stallation:** Fixture can be surface, stem or cable mounted.

**mps not included**
**L Listed (E71514); IBEW Label**
**etalux brand**

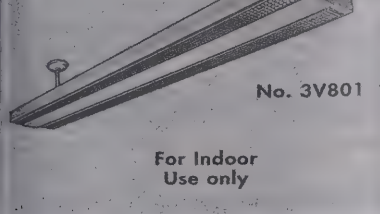



## LOW PROFILE LINEAR LIGHTING SYSTEM SPECIFICATIONS AND ORDERING DATA

| Qty. | Watts | Type | Ballast | Amb. Temp. (°F) Min. | Amb. Temp. (°F) Max. | Volts | Amps | Dimensions (in.) Length | Dimensions (in.) Width | Dimensions (in.) Height | Metalux Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 32 | F32T8 | Elec. T8 | 50 | 122 | 120 | .49 | 48 | 10½ | 3½ | P410232120VEB81U/TBW | 7A434 | $191.76 | $163.00 | 18.3 |
| 4 | 32 | F32T8 | Elec. T8 | 50 | 122 | 120 | .95 | 96 | 10½ | 3½ | 8TP410232120VEB81U/TB | 7A435 | 324.71 | 276.00 | 27.4 |

-) Denotes energy efficient product.

# SEMI INDIRECT FIXTURES




**Applications:** Provide direct/indirect illumination for a wide range of applications—school classrooms, libraries, drafting areas, and rooms with computer terminals.
**Ballast:** Prewired, HPF, high output, energy-saving ballast.
**Housing:** Die-formed rugged steel with white Lektrocote® finish. Die cast socket box with spring loaded coated sockets for easy installation.
**Lens/Louver:** Clear prismatic pattern (No. 12) acrylic lens for widespread distribution or 1/2" x 1/2" x 1/2" silver acrylic parabolic louver provides excellent cutoff. Both closures provide a visual comfort probability (VCP) over 70.
**Lamps (Not Included):** For best lighting results use improved color rendition HO lamps from GE. See Index under Lamps, Fluorescent. CSA Certified (LR94675).

**Accessories:**

**12" Stem & Hanger Assembly.** (Includes stem with hardware, swivel hanger bracket, and decorative canopy). Hangers have 1½" vertical adjustment to allow for uneven ceilings. Up to 25° swivel action from vertical. Hanger may be attached to fixture prior to attaching to ceiling. 3 required per fixture. Hubbell brand.
**No. 3V884.** 12" Stem & Hanger Assembly. (STH12RW). Shpg. wt. 1.0 lbs. List.....$28.71. Each.....**$19.46**

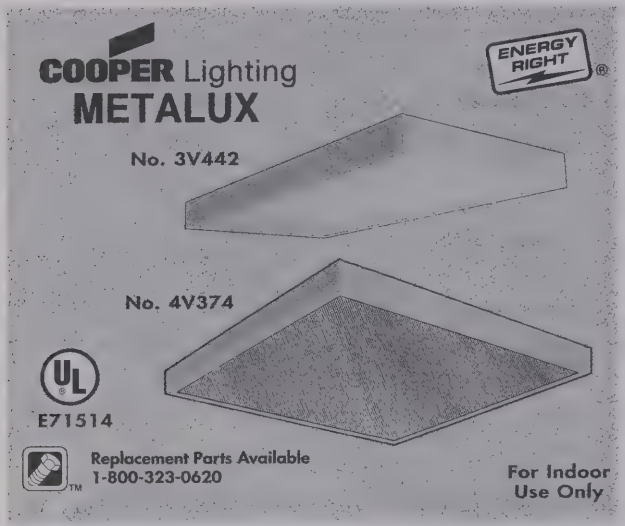
**No. 3V885.** 20" Stem & Hanger Assembly. (STH20RW). Shpg. wt. 1.7 lbs. List.....$31.43. Each.....**$21.45**

**Clamp Hanger.** May be installed along any point of fixture length. Use with stem hanger or mount directly on ceiling.(CLBC). **No. 3V886.** Shpg. wt. 0.8 lbs. List $10.23. Each.....**$7.20**

| Description | Qty. | Lamps (Not Included) Watts | Lamps (Not Included) Type | Volts 60 Hz | Line Amps | Dimensions (in.) L | W | H | Hubbell Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ismatic Pattern 12 ear, Acrylic Lens | 2 | 110* | F96T12HOWM | 120V | 2.10 | 96 | 12 | 3 | VS082HO-A12-E1 | 3V800 | $259.08 | $185.50 | 35.0 |
| | 2 | 110* | F96T12HOWM | 277 | 0.87 | 96 | 12 | 3 | VS082HO-A12-E4 | 3V801 | 270.28 | 192.25 | 35.0 |
| rabolic—½x½x½" uvers—Silver | 2 | 110* | F96T12HOWM | 120 | 2.10 | 96 | 12 | 3 | VS082HO-PS1-E1 | 3V802 | 346.84 | 217.00 | 35.0 |
| | 2 | 110* | F96T12HOWM | 277 | 0.87 | 96 | 12 | 3 | VS082HO-PS1-E4 | 3V803 | 359.04 | 220.00 | 35.0 |

Will operate 95W energy saving lamps.

# SURFACE MODULAR CEILING FIXTURES




**Applications:** Low profile "box type" surface modular fixtures are designed to provide excellent light and appeal to offices, schools, corridors, hallways, and other institutional applications.

**Housing:** All metal sides for clean, crisp appearance. Full seam welded corners. Die-formed, heavy gauge steel construction. 90% minimum reflectance provided by an electrostatically-finished, high gloss baked white enamel. Snap-in pressure lock lamp holders.

**Lens/Door Frame:** 100% acrylic, nonyellowing prismatic diffuser for even, glare-free light distribution (No. 12 pattern). Diffuser framed in heavy gauge steel door. Door frame can be hinged and latched from either side for easy cleaning and relamping. Urethane foam gasket in frame door prevents light leaks, keeps dust out. **No. 4V374** has one-piece acrylic prismatic lens (No. 18 pattern).

**Ballast:** Prewired with 120V, 60 Hz ballast. Complies with Federal Energy Efficiency Standards.

**Installation:** Surface or stem mounted, unit or row installation.

**Lamps not included:** For better lighting results use energy-saving high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE.

**UL Listed (E71514). IBEW Label.**

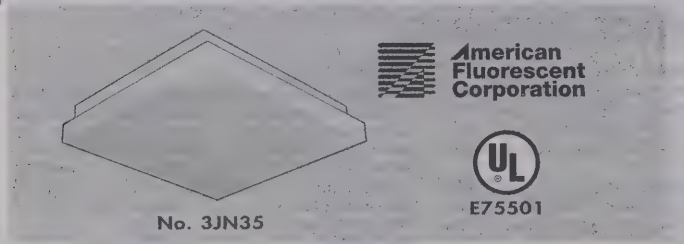
**Metalux brand.**

## MODULAR FIXTURE SPECIFICATIONS AND ORDERING DATA

| Qty. | Lamps (Not Incl.) Watts | Type | Amb. Temp. (°F)† Min. | Max. | Line Amps† | Dimensions (In.) L | W | H | Metalux Model | Stock No. | Less Lamps List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 40** | F40T12U6* | 50 | 122 | 0.73 | 24 | 24 | 3 15/16 | 2M2U6A120VLE3 | **4V373** | $77.94 | **$67.65** | 22.0 |
| 2 | 32 | F32T8U6* | 50 | 122 | .57 | 24 | 24 | 3 15/16 | 2M2U6A120VEB81 | ✓**3JN13** | 110.23 | **93.70** | 21.0 |
| 2 | 40** | F40T12 | 50 | 122 | 0.73 | 48 | 12 | 3 15/16 | MC240A120VLE3 | **4V371** | 80.45 | **69.85** | 24.0 |
| 4 | 40** | F40T12 | 50 | 122 | 1.46 | 48 | 24 | 3 15/16 | 2M440A120VLE3 | **3V442** | 122.88 | **106.65** | 38.0 |
| 4 | 32 | F32T8 | 50 | 122 | .96 | 48 | 24 | 3 15/16 | 2M432A120VEB81 | ✓**3JN14** | 131.23 | **111.55** | 0.7 |
| 6 | 40** | F40T12 | 50 | 122 | 2.19 | 48 | 48 | 3 15/16 | 4M640A15120VLE3 | **4V374** | 299.59 | **260.50** | 72.0 |

(*) U-bent with 6" spacing. (†) For standard wattage lamps. Data may vary for energy-saving lamps. (**) Will operate 34W energy saving lamps. (✓) Denotes energy efficient product.

# SURFACE MODULAR CEILING FIXTURE




**Applications:** Low profile surface, square edged "floating cloud" modular fixtures are designed to provide excellent light and appeal to offices, schools, corridors, hallways, and other institutional applications. Provide low brightness, glare-free even illumination.

**Housing:** White baked enamel finished steel housing.

**Lens:** Smooth white acrylic diffuser.

**Ballast:** 120V 60Hz energy-saving ballast.

**Installation:** Lift and shift ceiling mount.

**American Fluorescent brand.**

## MODULAR FIXTURE SPECIFICATIONS AND ORDERING DATA

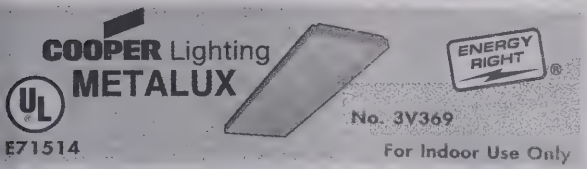
| No. | Lamps (Not Included) Watts | Type | Amb. Temp. (°F) Min. | Max. | Line Amps | Dimensions (In.) Length | Width | Height | Am. Fluor. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 40† | F40T12U6* | 60 | 104 | .73 | 26 | 26 | 5 | MAR2U40 | **3JN35** | $241.64 | **$123.55** | 21.0 |

(†) Will operate 34W energy saving lamps. (*) U-bent with 6" spacing

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust.
More than 900 national brands are listed in the Brand Index at the back of this catalog.

## PREMIUM WRAPAROUND FIXTURES




**plications:** Low profile surface wraparound fixtures feature low ightness, acrylic, prismatic diffusers. Use in offices, schools, id residences.

**using:** Die-formed, 22-gauge steel housing. Injection molded idcaps prevent light leaks. Lift and shift refractor for ease of lamping. Ballast cover can be easily removed without tools. allast pads for cooler operation. White, high gloss, baked enam- finish.

**Ballasts:** Prewired with standard energy-saving or reduced harmonic electronic ballasts (THD<20%). Complies with Federal Energy Efficiency Standards. Ambient temperature 60°F to 80°F.

**Lens:** Nonyellowing, 100% acrylic prismatic lens for glare-free light distribution. Ambient temperature 50° minimum, 122°F maximum.

**Lamps not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**UL Listed (E71514); IBEW Label.**

**Metalux brand.**

2½" spacers No. 132-5075 are available thru Grainger Parts Operations. For fastest service call 1-800-323-0620.

| Qty. | Lamps (Not Included) Watts | Type | Ballast Type* | Line Amps† | Volts 60 Hz | Dimensions (In.) Length | Width | Height | Metalux Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PREMIUM FIXTURES** | | | | | | | | | | | | | |
| 2 | 20 | F20T12 | 1 Std | 0.55 | 120 | 24 | 10 | 2⅛ | WS220ALTS120V | **2V557** | $43.80 | **$39.15** | 8.0 |
| 4 | 20 | F20T12 | 2 Std | 1.10 | 120 | 24 | 15⅜ | 2⅝ | WS420ALTS120V | **2V558** | 76.43 | **66.15** | 14.0 |
| 2 | 40** | F40T12 | 1 Std E.S. | 0.73 | 120 | 48 | 10 | 2⅝ | WS240A120VLE3 | **3V368** | 53.34 | **41.00** | 12.0 |
| 2 | 40** | F40T12 | 1 Std E.S. | 0.32 | 277 | 48 | 10 | 2⅝ | WS240A277VLE3 | **6V426** | 55.46 | **43.00** | 12.0 |
| 4 | 40** | F40T12 | 2 Std E.S. | 1.46 | 120 | 48 | 15⅜ | 2⅝ | WS440A120VLE3 | **3V369** | 88.52 | **69.00** | 19.0 |
| 4 | 40** | F40T12 | 2 Std E.S. | 0.64 | 277 | 48 | 15⅜ | 2⅝ | WS440A277VLE3 | **3V676** | 128.36 | **73.00** | 19.0 |
| **ENERGY-SAVING ELECTRONIC BALLAST FIXTURES (Offer High Energy-Savings Potential)** | | | | | | | | | | | | | |
| 2 | 32 | F32T8 | 1 Elec. T8 | 0.51 | 120 | 48 | 10 | 2⅝ | WS232A120VEB81 | ✓**3V659** | 130.77 | **77.20** | 12.0 |
| 2 | 32 | F32T8 | 1 Elec. T8 | 0.24 | 277 | 48 | 10 | 2⅝ | WS232A277VEB81 | ✓**3JN29** | 81.17 | **69.00** | 13.0 |
| 3 | 32 | F32T8 | 1 Elec. T8 | 0.77 | 120 | 48 | 15⅜ | 2⅝ | WS332A120VEB81 | ✓**5U970** | 173.64 | **99.25** | 13.0 |
| 3 | 32 | F32T8 | 1 Elec. T8 | 0.31 | 277 | 48 | 15⅜ | 2⅞ | WS332A277VEB81 | ✓**5U971** | 177.61 | **101.25** | 13.0 |
| 4 | 32 | F32T8 | 1 Elec. T8 | 0.96 | 120 | 48 | 15⅜ | 2⅝ | WS432A120VEB81 | ✓**3V661** | 164.26 | **98.70** | 19.0 |
| 4 | 32 | F32T8 | 1 Elec. T8 | 0.41 | 277 | 48 | 15⅜ | 2⅝ | WS432A277VEB81 | ✓**3JN30** | 106.00 | **90.10** | 19.0 |

Std. E.S. = Standard Energy Saver. Elec. = Electronic. (†) For standard wattage lamps. Data may vary for energy-saving lamps.
) Will operate 34W energy saving lamps. (✓) Denotes energy efficient product.

## STANDARD WRAPAROUND FIXTURES




**plications:** Low profile surface wraparound fixtures feature low ightness, acrylic, prismatic diffusers. Use in offices, schools, id residences.

**using:** Die-formed, 22 gauge steel housing. Steel end plates with ght-seal embossment. Lift and shift refractor for ease of relamp- g. Convenient ballast cover removes easily without tools.

Ballast pads for cooler operation. Pressure lock lampholders. Baked white enamel finish.

**Ballasts:** Prewired with standard energy-saving or reduced harmonic electronic ballasts (THD <20%). Complies with Federal Energy Efficiency Standards. Ambient temperature 60°F to 80°F.

**Lens:** 100% acrylic prismatic lens for even distribution and brightness, hinges from either side.

**Lamps not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**UL Listed (E71514) for low density mounting; IBEW Label.**

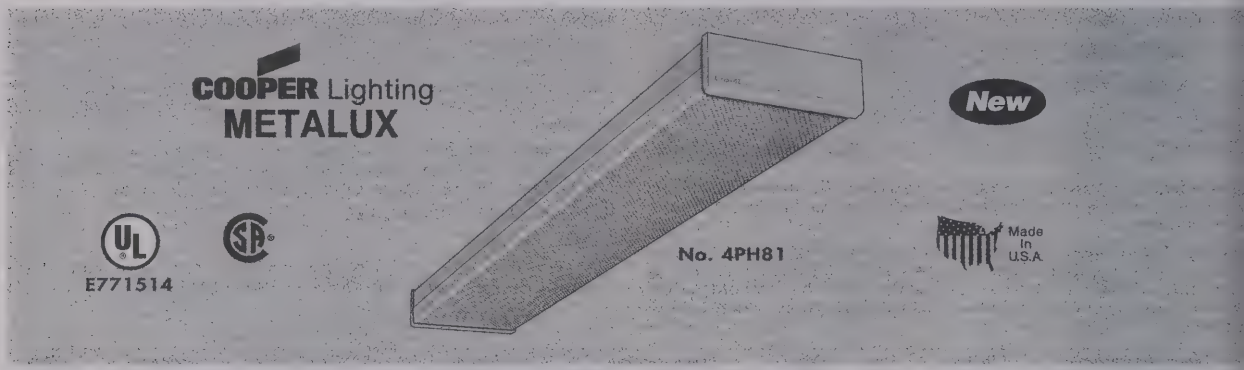
**Metalux brand.**

| y. | Lamps (Not Included) Watts | Type | Ballast Type* | Line Amps† | Volts 60 Hz | Dimensions (In.) Length | Width | Height | Metalux Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD FIXTURES** | | | | | | | | | | | | | |
| 2 | 40** | F40T12 | 1 Std E.S. | 0.73 | 120 | 48 | 8½ | 2⅝ | W240A120VLE3 | **3V456** | $47.01 | **$29.95** | 14.0 |
| 2 | 40** | F40T12 | 1 Std E.S. | 0.32 | 277 | 48 | 8½ | 2⅝ | W240A277VLE3 | **3V666** | 66.90 | **33.95** | 14.0 |
| 4 | 40** | F40T12 | 2 Std E.S. | 1.46 | 120 | 48 | 14 | 2⅝ | W440A120VLE3 | **3V457** | 84.97 | **54.95** | 22.0 |
| 4 | 40** | F40T12 | 2 Std E.S. | 0.64 | 277 | 48 | 14 | 2⅝ | W440A277VLE3 | **3V667** | 120.91 | **58.95** | 22.0 |
| **T8 ENERGY-SAVING ELECTRONIC BALLAST FIXTURES (Offer High Energy-Savings Potential)** | | | | | | | | | | | | | |
| 2 | 32 | F32T8 | 1 Elec. T8 | 0.51 | 120 | 48 | 8½ | 2⅝ | W232A120VEB81 | ✓**3V663** | 115.97 | **61.50** | 14.0 |
| 2 | 32 | F32T8 | 1 Elec. T8 | 0.24 | 277 | 48 | 8½ | 2⅝ | W232A277VEB81 | ✓**5U966** | 112.97 | **64.50** | 13.0 |
| 3 | 32 | F32T8 | 1 Elec. T8 | 0.77 | 120 | 48 | 14 | 2⅝ | W332A120VEB81 | ✓**5U967** | 147.62 | **84.55** | 13.0 |
| 3 | 32 | F32T8 | 1 Elec. T8 | 0.31 | 277 | 48 | 14 | 2⅝ | W332A277VEB81 | ✓**5U968** | 151.53 | **86.55** | 13.0 |
| 4 | 32 | F32T8 | 1 Elec. T8 | 0.96 | 120 | 48 | 14 | 2⅝ | W432A120VEB81 | ✓**3V665** | 162.32 | **96.55** | 22.0 |
| 4 | 32 | F32T8 | 1 Elec. T8 | 0.41 | 277 | 48 | 14 | 2⅝ | W432A277VEB81 | ✓**5U969** | 168.24 | **98.55** | 14.0 |

Std. E.S. = Standard Energy Saver. Elec. = Electronic. (†) For standard wattage lamps. Data may vary for energy-saving lamps.
') Will operate 34W energy saving lamps. (✓) Denotes energy efficient product.

# WRAPAROUND FLUORESCENT FIXTURES

## SURFACE WRAPAROUND FLUORESCENTS




**Applications:** Appealing, functional low profile design. Get an economical and dependable performer for schools, retail, file, copy areas, and storage spaces.

**Construction:** Die formed housing of code gauge prime cold rolled steel. End caps are of ABS plastic with smooth, soft radius corners for clean aesthetics. Pressure lock lampholders.

**Ballast:** Ballast cover is easily removed without tools. Ballasts ar CBM/ETL Class "P" certified and secured by mounting bolts.

**Lamps:** Require two lamps, available separately.

**Dimensions:** 48L x 7½W x 2⅝"H.

**Approvals:** UL Listed E771514 and CSA Certified.

### *New!* WRAPAROUND FLUORESCENT ORDERING DATA

| Qty. | Volts 60 Hz | Lamp Type | Lamp Watts | Line Amps | Ballast Type | Metalux Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 120 | F32T8 | 32 | .49 | 1, Electronic T8 | WE-232A-120V-EB81 | 4PH81 | $110.30 | **$46.20** | 11.0 |
| 2 | 277 | F32T8 | 32 | .21 | 1, Electronic T8 | WE-232A-277V-EB81 | 4PH82 | 110.30 | **46.20** | 11.0 |
| 2 | 120 | F40T12* | 40* | .73 | 1, Energy Saving T12 | WE-240A-120V-LE3 | 4PH83 | 45.00 | **32.50** | 12.0 |
| 2 | 277 | F40T12* | 40* | .32 | 1, Energy Saving T12 | WE-240A-277V-LE3 | 4PH84 | 46.10 | **33.30** | 12.0 |

(*) Will operate 34W energy saving lamps.

## WRAPAROUND CORRIDOR FIXTURES




**Applications:** Designed for lighting corridors and hallways.

**Housing:** Body die-formed from 22-gauge steel with white enamel finish.

**Ballast:** 120V, 60 Hz ballast. Ambient temperature 50-122°F.

**Lens:** One-piece acrylic diffuser.

**Dimensions:** 48L x 6⅛W x 4⅝"H.

**Lamps (Not Included):** For best lightir results use improved color rendition lamp from GE. See Index under Lamp Fluorescent.

**UL Listed (E71514). IBEW Label.**

**Metalux brand.**

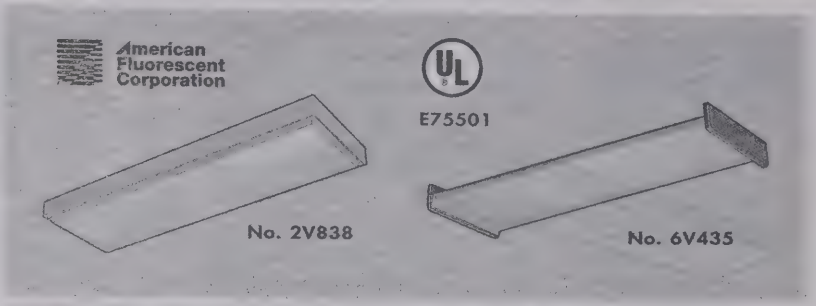
| Lamps | Watts | Type | Metalux Model | Stock No. | List | Each | Shpg. V |
|---|---|---|---|---|---|---|---|
| 1 | 40* | F40T12 | CR140A120VLE3 | 3V472 | $63.16 | **$54.80** | 14.0 |
| 2 | 32 | F32T8 | CR232A120VEB81 | 3JN23 | 91.35 | **77.65** | 12.0 |
| 2 | 40* | F40T12 | CR240A120VLE3 | 3V689 | 91.42 | **56.80** | 16.0 |

(*) Will operate 34W energy saving lamp. (✓) Denotes energy efficient product.

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# DECORATIVE FIXTURES




**pplications:** Aesthetically pleasing fixtures r use in stores, offices, kitchens, dens, creation, and family rooms.

**ousing:** Choice of white enamel, simulated oodgrain or solid oak ends. Die-formed eavy gauge steel construction with sides nged for easy cleaning and relamping.

**ns:** 100% acrylic, non-yellowing, smooth, hite diffuser. Nos. 6V435 and 6V436 have ismatic acrylic bottom with linear sides r glare free lighting.

**allast:** Prewired with HPF, energy saving allast, 120V, 60 Hz. Complies with federal nergy efficiency standards. Operating mperature 60-104°F. For operation on rounded system only.

**mps not included:** For better lighting sults use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

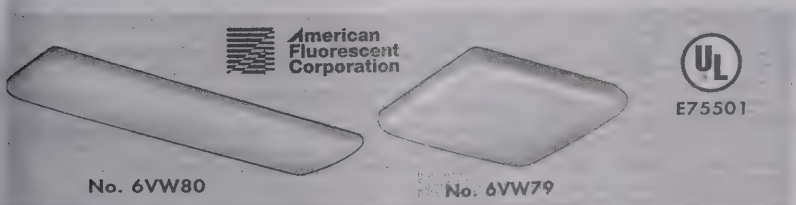
**UL Listed (E75501).**
**For indoor use only.**
**American Fluorescent brand.**

## FIXTURE SPECIFICATIONS AND ORDERING DATA

| ty. | Lamps (not included) Watts | Type | Amb. Temp. (°F) Min. | Max. | Line Amps | Overall Dimensions (In.) Length | Width | Height | Am. Fluor. Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WHITE FINISH FIXTURES** | | | | | | | | | | | | | |
| 2 | 20 | F20T12 | 50 | 122 | 0.55 | 24 | 9 3/8 | 3 1/2 | MFW220 | **2V838** | $65.27 | **$48.05** | 9.5 |
| 2 | 40† | F40T12 | 50 | 122 | 0.73 | 48 | 9 3/8 | 3 1/2 | MFW240ES | **6V414** | 86.58 | **63.70** | 17.0 |
| 2 | 40† | F40T12U6* | 50 | 122 | 0.73 | 24 1/8 | 24 1/8 | 3 5/8 | MFW2U4ES | **6V427** | 94.40 | **69.45** | 18.0 |
| 4 | 40† | F40T12 | 50 | 122 | 1.46 | 48 | 16 1/8 | 3 1/2 | MFW440ES | **6V415** | 126.99 | **93.40** | 26.0 |
| **WALNUT (DARK FINISH) FIXTURES** | | | | | | | | | | | | | |
| 2 | 40† | F40T12 | 50 | 122 | 0.73 | 48 | 9 3/8 | 3 1/2 | MFA240ES | **6V422** | 90.07 | **66.30** | 17.0 |
| 4 | 40† | F40T12 | 50 | 122 | 1.46 | 48 | 16 1/8 | 3 1/2 | MFA440ES | **6V423** | 141.70 | **104.20** | 26.0 |
| **COUNTRY OAK (LIGHT FINISH) FIXTURES** | | | | | | | | | | | | | |
| 2 | 40† | F40T12 | 50 | 122 | 0.73 | 48 | 9 3/8 | 3 1/2 | MFK240ES | **6V424** | 87.55 | **64.50** | 17.0 |
| 4 | 40† | F40T12 | 50 | 122 | 1.46 | 48 | 16 1/8 | 3 1/2 | MFK440ES | **6V425** | 139.65 | **102.70** | 26.0 |
| **SOLID OAK WOOD END WRAPAROUND FIXTURES** | | | | | | | | | | | | | |
| 2 | 40† | F40T12 | 50 | 122 | 0.73 | 48 | 7 9/16 | 3 | LWK240A | **6V435** | 78.00 | **57.40** | 14.0 |
| 4 | 40† | F40T12 | 50 | 122 | 1.46 | 48 1/4 | 13 | 3 3/4 | LWK440A | **6V436** | 131.79 | **97.00** | 25.0 |

U-bent lamp with 6" spacing. (†) Will operate 34W energy saving lamps.

# DECORATIVE TAPERED FLOATING CLOUD FIXTURES




**pplications:** Versatile lighting fixture can e used in kitchens, offices, laundry ooms, family rooms, and retail stores.

**ousing:** Baked white enamel die formed of eavy gauge metal.

**Lens:** White, non-yellowing, acrylic diffuser with tapered round edges, presents a floating cloud look. Diffuser hinges onto either side of white metal housing for easy service.

**Ballast:** Nos. 6VW78 and 6VW81 prewired with NPF ballast. Nos. 6VW79, 6VW80 and 6VW82 prewired with HPF, energy saving ballast, 120V, 60 Hz. Complies with Federal Energy Efficiency Standards. Operating temperature 60-104°F. For operation on grounded system only.

**Lamps not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

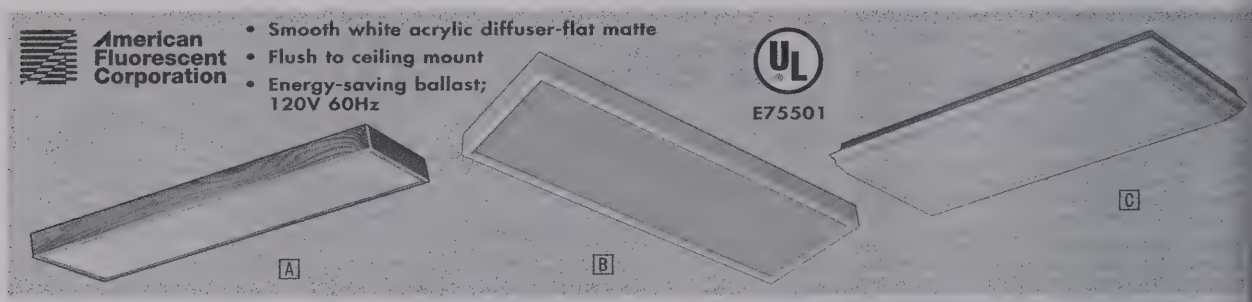
**UL Listed (E75501).**
**For indoor use only.**
**American Fluorescent brand.**

## FIXTURE SPECIFICATIONS AND ORDERING DATA

| r. | Lamps (not included) Watts | Type | Amb. Temp. (°F) Min. | Max. | Line Amps | Overall Dimensions (In.) L | W | H | Am. Fluor. Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 40† | F40T12 | 50 | 122 | 0.73 | 51 1/2 | 12 1/8 | 5 1/4 | RC240ES | **6VW80** | $149.97 | **$110.25** | 18.0 |
| | 20 | F20T12 | 50 | 122 | 1.10 | 27 1/8 | 16 7/8 | 6 | RC120 | **6VW81** | 170.88 | **125.65** | 18.0 |
| | 40† | F40T12 | 50 | 122 | 1.46 | 51 1/2 | 16 3/4 | 6 | RC440ES | **6VW82** | 212.22 | **156.50** | 29.0 |
| | 22/32 | FC8T9 & FC12T9 | 50 | 122 | 0.95 | 15 3/8 | 15 1/4 | 6 | RC2054 | **6VW78** | 114.40 | **84.15** | 7.0 |
| | 32/40 | FC12T9 & FC16T9 | 50 | 122 | 0.55 | 20 3/8 | 20 1/8 | 6 | RC2072 | **6VW79** | 144.68 | **106.45** | 12.0 |

Will operate 34W energy saving lamps.

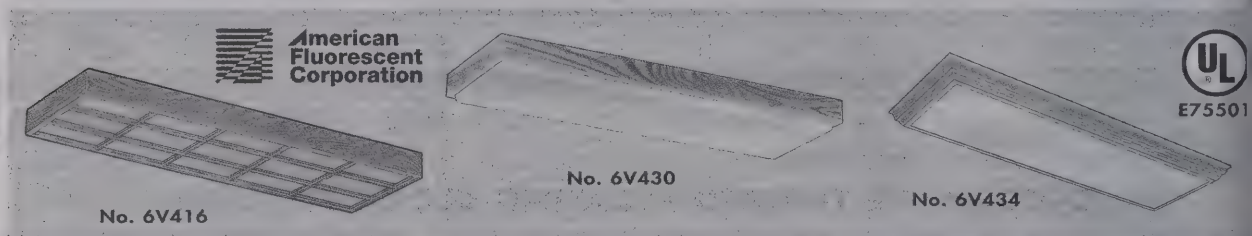
# SOLID OAK & PROCESSED FIBERBOARD FRAME FIXTURES




| Key | No. | Lamps (Not Incl.) Watts | Type | Amb. Temp (°F) Min. | Max. | Line Amps | Dimensions (In.) Length | Width | Height | Am. Flour. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SOLID OAK WOOD FRAME FIXTURES** | | | | | | | | | | | | | | |
| A | 2 | 40† | F40T12 | 50 | 122 | .73 | 48⅞ | 11½ | 3⅜ | KW240ES | **3JN31** | $156.25 | **$114.90** | 23.0 |
| A | 4 | 40† | F40T12 | 50 | 122 | 1.46 | 48⅞ | 16¾ | 3⅜ | KW440ES | **3JN32** | 209.60 | **154.50** | 32.0 |
| **PROCESSED FIBERBOARD FRAME FIXTURES WITH MATTE WHITE VINYL FINISH** | | | | | | | | | | | | | | |
| B | 2 | 40† | F40T12 | 50 | 122 | .73 | 48⅞ | 11½ | 3⅜ | KWW240ES | **3JN33** | 156.25 | **114.90** | 21.0 |
| B | 4 | 40† | F40T12 | 50 | 122 | 1.46 | 48⅞ | 16¾ | 3⅜ | KWW440ES | **3JN34** | 209.60 | **154.50** | 25.0 |
| **DECORATIVE CROWN MOLDING PROCESSED FIBERBOARD FRAME FIXTURES** | | | | | | | | | | | | | | |
| C | 2 | 40† | F40T12 | 50 | 122 | .73 | 51 | 13⅝ | 4½ | WCM240ES | **3JN43** | 177.99 | **130.85** | 27.0 |
| C | 4 | 40† | F40T12 | 50 | 122 | 1.46 | 51 | 18⅞ | 4½ | WCM440ES | **3JN44** | 234.83 | **172.75** | 37.0 |

(†) Will operate 34W energy saving lamps.

# SOLID OAK WOOD FRAME FIXTURES




**Applications:** Premium quality wood frame fixtures enhance any installation and give "fine furniture" appearance while providing energy-saving fluorescent lighting. For use in offices, kitchens, and many commercial applications.

**Housing:** Baked white enamel die formed steel, with decorative solid oak wood frame.

**Lens:** Smooth white acrylic diffusers; Flat matte (Nos. 6V416, 6V428, 6V433 and 6V434); Drop dish (Nos. 6V430 and 6V432).

**Ballast:** Prewired with HPF, 120V, 60 Hz, rapid start energy savin ballasts. Complies with Federal Energy Efficiency Standards. Fo indoor use only. Operating temperature 60-104°F. For operatio on grounded system only.

**Lamps not included.** For better lighting results use energy-saving high color rendering lamps such as Staybright-XL, SP, or SP lamps from GE. See Index under Lamps, Fluorescent.

UL Listed (E75501).

**American Fluorescent brand.**

## SOLID OAK FIXTURES SPECIFICATIONS AND ORDERING DATA

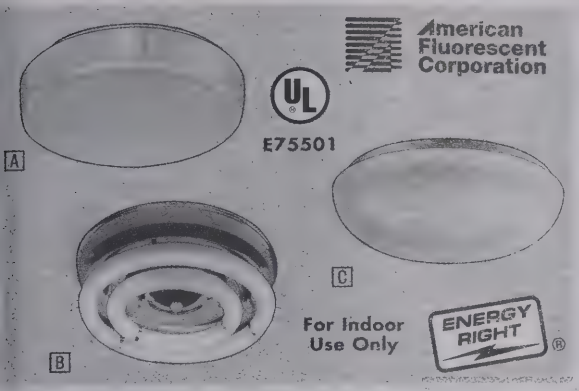
| Qty. | Lamps (Not Incl.) Watts | Type | Amb. Temp (°F) Min. | Max. | Line Amps | Dimensions, (In.) Length | Width | Height | Am. Fluor. Model | Stock No. | Less Lamp List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OAK GRID FIXTURES** | | | | | | | | | | | | | |
| 2 | 40† | F40T12 | 60 | 104 | 0.73 | 48⅞ | 11½ | 3⅜ | KWL240ES | **6V416** | $156.25 | **$114.90** | 21.( |
| 4 | 40† | F40T12 | 60 | 104 | 1.46 | 48⅞ | 16¾ | 3⅜ | KWL440ES | **6V428** | 209.60 | **154.50** | 32.( |
| **OAK DROP DISH FIXTURES** | | | | | | | | | | | | | |
| 2 | 40† | F40T12 | 60 | 104 | 0.73 | 48⅞ | 11½ | 4⅛ | KWD240ES | **6V430** | 154.05 | **113.30** | 21.( |
| 4 | 40† | F40T12 | 60 | 104 | 1.46 | 48⅞ | 16¾ | 4⅛ | KWD440ES | **6V432** | 207.42 | **152.75** | 30.( |
| **CROWN MOLDING OAK FIXTURES** | | | | | | | | | | | | | |
| 2 | 40† | F40T12 | 60 | 104 | 0.73 | 51 | 13⅝ | 4½ | KCM240ES | **6V434** | 180.47 | **132.75** | 28.( |
| 4 | 40† | F40T12 | 60 | 104 | 1.46 | 51 | 18⅞ | 4½ | KCM440ES | **6V433** | 237.41 | **174.75** | 38.( |

(†) Will operate 34W energy saving lamps.



*When it comes to lighting, no distributor outshines Grainger.*

# FLUORESCENT INDOOR CEILING FIXTURES




**Lamps not included:** For circline lamps, see Index under Lamps, Fluorescent. For compact fluorescent lamps suggest 9W, No. 2V834; 13W, No. 2V835.

**Ballast:** Prewired rapid start ballasts (except No. 6VW73, and compact fluorescent models, pre-heat ballasts), 120V, 60 Hz. Operating temperature 60-104°F. For operation on grounded system only. Complies with Federal Energy Efficiency Standards.

**American Fluorescent brand.**

A **Shielded Round Fixtures.** Smooth white, glare-free, acrylic diffuser is completely enclosed to keep out dirt and dust and maintain light output. Stamped metal housing with white baked enamel finish. Can be flush mounted on outlet box.

B **Standard Round Metal Fixtures** with chrome bodies. Can be flush mounted on outlet box. Knockouts for switches provided.

C **Shallow Mushroom Ceiling Fixtures.** Decorative shallow mushroom shaped smooth white acrylic diffuser provides glare-free lighting. White baked enamel housing can be flush mounted on outlet box.

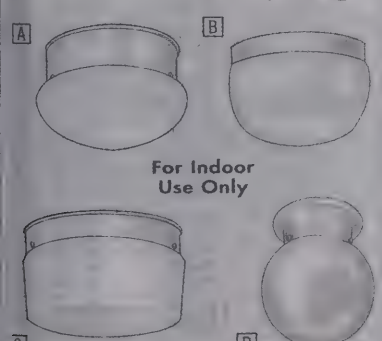
## SPECIFICATIONS AND ORDERING DATA

| Key | Circline & Compact Fluorescent Lamps Quantity | Watts | Incandescent Wattage Equivalent | Dimensions (In.) Diameter | Height | American Fluorescent Model | Stock No. | List | Less Lamps Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CIRCLINE** | | | | | | | | | | | |
| A | 1 | 22 | 60W | 11 | 3¼ | C2022 | 2V696 | $41.41 | $27.95 | $26.55 | 2.8 |
| A | 1 | 32 | 100 | 14 | 3¼ | C2032 | 2V697 | 53.01 | 36.50 | 34.68 | 5.0 |
| A | 2 | 22/32 | 150 | 14 | 3¼ | C2054 | 2V698 | 69.95 | 49.55 | 47.07 | 5.8 |
| A | 2 | 32/40 | 250 | 18⅝ | 4 | C2072 | 2V808 | 95.67 | 65.65 | 62.37 | 8.3 |
| B | 1 | 32 | 100 | 12 | 3¼ | C303 | 2V268 | 36.65 | 25.55 | 24.27 | 3.5 |
| B | 2 | 22/32 | 150 | 12 | 3¼ | C351 | 2V269 | 40.56 | 28.15 | 26.74 | 4.0 |
| B | 2 | 32/40 | 250 | 12 | 3¼ | C405 | 2V312 | 59.25 | 49.25 | 46.79 | 5.5 |
| C | 1 | 22 | 60 | 11¾ | 3¼ | CMS2022 | 6VW73* | 55.11 | 40.60 | 38.57 | 3.0 |
| C | 2 | 22/32 | 150 | 14⅛ | 3¼ | CMS2054 | 6VW74 | 85.79 | 63.15 | 59.99 | 5.5 |
| C | 2 | 32/40 | 250 | 18⅞ | 3¼ | CMS2072 | 6VW75 | 113.03 | 83.15 | 78.99 | 7.5 |
| **COMPACT FLUORESCENT** | | | | | | | | | | | |
| A | 1 | 13 | 60 | 11 | 3¼ | C2013 | 3V634* | 36.19 | 23.04 | 21.89 | 2.5 |
| A | 2 | 9 | 100 | 11 | 3¼ | C2018 | 3V635* | 43.56 | 27.80 | 26.41 | 3.0 |
| A | 2 | 13 | 120 | 11 | 3¼ | C2026 | 3V636* | 47.46 | 30.30 | 28.79 | 3.5 |
| C | 1 | 13 | 60 | 11¾ | 3¼ | CMS2013 | 3V637* | 48.55 | 30.95 | 29.40 | 2.5 |
| C | 2 | 9 | 100 | 11¼ | 3¼ | CMS2018 | 3V638* | 54.61 | 34.80 | 33.06 | 3.0 |
| C | 2 | 13 | 120 | 11¾ | 3¼ | CMS2026 | 3V639* | 56.86 | 36.30 | 34.48 | 3.0 |

Pre-heat ballast. (✓) Denotes energy efficient product.

# INCANDESCENT & COMPACT FLUORESCENT INDOOR CEILING FIXTURES

PROGRESS




**Applications:** Designed for use in kitchens, baths, laundry rooms, halls or as general lighting in commercial applications.

**Mounting:** Nos. 2V988, 2V989, and 2V990 feature easy twist and lock satin, opal cased glass mounting. Nos. 3JJ78, 3JJ72, 3JJ73, and 2V994 mount with thumbscrews. Nos. 2V987 and 2V992 glass is held on by a snap-fitter.

White canopy finish on all fixtures. Lamps not included.

**120V 60Hz**

**UL and C-UL Listed**

**Progress brand.**

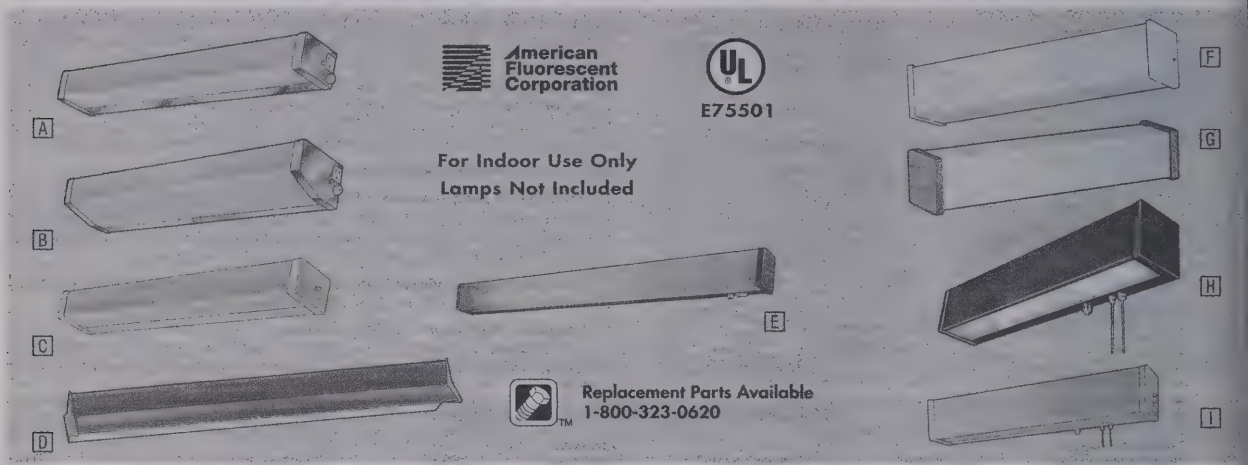
## CEILING LIGHTING SPECIFICATIONS AND ORDERING DATA

| Key | Globe Style | Dim. (In.) Dia. | Ht. | Lamp (Not Included) No. | Watts | Stock No. | Progress Model | Stock No. | Less Lamps List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Cloud | 9½ | 5¼ | 2 | 60 | 5V598 | P3410-30 | 2V987 | $37.08 | $23.00 | 3.0 |
| A | Cloud | 11¾ | 5¾ | 2 | 13 | 2V835 | P7312-30 | 3JJ78 | 90.53 | 54.35 | 7.1 |
| B | Cloud | 8¼ | 5 | 1 | 60 | 5V598 | P3524-60 | 2V988 | 46.04 | 29.15 | 3.5 |
| B | Cloud | 10⅛ | 5¼ | 1 | 100 | 5V600 | P3526-60 | 2V989 | 63.34 | 40.25 | 5.3 |
| B | Cloud | 12 | 6 | 2 | 75 | 5V599 | P3528-60 | 2V990 | 82.81 | 53.65 | 1.0 |
| C | Standard | 8¾ | 5 | 2 | 60 | 5V598 | P3518-30 | 2V992 | 31.20 | 20.12 | 3.0 |
| C | Standard | 10¾ | 5⅝ | 2 | 75 | 5V599 | P3520-30 | 2V994 | 42.64 | 27.95 | 5.3 |
| D | Globe | 6 | 7¼ | 1 | 60 | 5V598 | P3605-30 | 3JJ72 | 16.99 | 9.69 | 13.0 |
| D | Globe | 6 | 7¼ | 1 | 7 | 2V833 | P3623-30 | 3JJ73* | 39.86 | 23.87 | 1.7 |

(*) Compact fluorescent model with shatter-resistant acrylic globe. (✓) Denotes energy efficient product.

# COMMERCIAL/RESIDENTIAL FLUORESCENT FIXTURES

## BRACKET FIXTURES




**Applications:** Decorative 1 and 2 lamp fixtures for wall or ceiling mounting. Designed for use over vanities, mirrors, beds, desks, and as a corridor light.

**Housing:** All units feature die-formed steel housing and smooth white diffuser (except: No. 3V310—no diffuser; No. 3V470—prismatic diffuser). Nos. 3JN41 and 3JN42 have one-piece ribbed white acrylic diffusers.

**Ballast:** Prewired, rapid start, 120V, 60 Hz. Operating temperature 60-104°F. For operation on grounded system only. Complies with Federal Energy Efficiency Standards.

**Lamps not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**UL Listed (E75501).**

**American Fluorescent brand.**

A, B **Contemporary styled fixtures** feature triple chrome plated housing, On/Off switch and grounded convenience outlet.

C **Utility fixtures** with white baked enamel finish for task or general lighting.

D **Steel walnut woodgrain vinyl covered valance fixture.** White inn reflector. Accent light for use over beds or medicine cabinets.

E **Steel oak-grain metal vanity fixture.** One-piece plastic wra around diffuser with prismatic lens on front for glare-free illum nation. On/Off switch and grounded convenience outlet.

F **Decorative white** metal housing with white metal end panel Knockouts provided for On/Off switch and convenience outlet.

G **Solid oak wood end panels** with white metal housin Wraparound diffuser. Knockouts provided for On/Off switch an convenience outlet.

H **2 Lamp Up and Down Light with walnut metal front housing and e panels.** 2-circuit, 4-way pull switch for up and down light. Intern lamp divider separates up and down light. Incandescent nig light includes 6W lamp and On-Off pull switch for separate co trol. Includes 2 single lamp energy saving ballasts.

I **2 Lamp Up and Down Light with white metal front housing and e panels.** 2-circuit, 4-way pull switch for up and down light. Intern lamp divider separates up and down light. Incandescent nig light includes 6W lamp and On-Off pull switch for separate co trol. Includes 2 single lamp energy saving ballasts.

### BRACKET FIXTURE SPECIFICATIONS AND ORDERING DATA

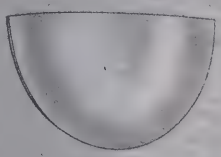
| Key | Lamps (Not Included) Qty. | Watts | Type | Suggested Lamp | Dimensions (In.) L | W | H | American Fluorescent Model | Stock No. | List | Less Lamps Each | Lots 3 | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 | 15 | F15 | 1V173 | 18 3/8 | 4 1/4 | 2 5/8 | AMC115 | **2V687*** | $33.31 | **$24.66** | **$23.43** | 3 |
| | 1 | 20 | F20 | 2V896 | 24 3/8 | 4 1/4 | 2 5/8 | AMC120RS | **2V688** | 45.02 | **31.65** | **30.07** | 5 |
| | 1 | 30 | F30 | 2V897 | 36 3/8 | 4 1/4 | 2 5/8 | AMC130RS | **2V689** | 52.73 | **38.60** | **36.67** | 7 |
| | 1 | 34** | F40 | 3V477 | 48 3/8 | 4 1/4 | 2 5/8 | AMC140RSES | **6F529** | 78.27 | **51.00** | **48.45** | 9 |
| B | 2 | 20 | F20 | 2V896 | 24 3/8 | 5 3/8 | 3 1/4 | AAC220RS | **2V690** | 62.04 | **41.65** | **39.57** | 7 |
| | 2 | 34** | F40 | 3V477 | 48 3/8 | 5 3/8 | 3 1/4 | AAC240RS | **6V448** | 77.74 | **52.45** | **49.83** | 12 |
| C | 1 | 20 | F20 | 2V896 | 24 3/8 | 4 1/4 | 2 5/8 | AMW120RSX01 | **2V695** | 36.43 | **25.95** | **24.65** | 5 |
| | 1 | 34** | F40 | 3V477 | 48 3/8 | 4 1/4 | 2 5/8 | AMW140RSESX1 | **6F530** | 67.68 | **44.05** | **41.85** | 9 |
| D | 1 | 40 | F40 | 3V527 | 48 1/4 | 5 7/8 | 6 1/8 | DV140 | **3V310†** | 88.88 | **62.10** | **59.00** | 13 |
| E | 1 | 40 | F40 | 3V527 | 48 1/4 | 4 1/2 | 4 3/8 | WSP140RSK | **3V470†** | 76.76 | **51.50** | **48.93** | 12 |
| F | 2 | 20 | F20 | 2V896 | 24 1/4 | 4 1/2 | 4 1/2 | VSW220RS | **2V983** | 70.48 | **51.95** | **49.35** | 8 |
| | 2 | 30 | F30 | 2V897 | 36 1/4 | 4 1/2 | 4 1/2 | VSW230RS | **2V984** | 82.03 | **60.35** | **57.33** | 11 |
| | 2 | 34** | F40 | 3V477 | 48 1/4 | 4 1/2 | 4 1/2 | VSW240RS | **6V437** | 81.85 | **60.25** | **57.24** | 13 |
| G | 1 | 20 | F20 | 2V896 | 24 1/4 | 4 1/2 | 4 1/2 | VSK120RS | **2V980** | 71.16 | **52.35** | **49.73** | 7 |
| | 2 | 20 | F20 | 2V896 | 24 1/4 | 4 1/2 | 4 1/2 | VSK220RS | **2V979** | 86.75 | **63.90** | **60.71** | 7 |
| | 1 | 30 | F30 | 2V897 | 36 1/4 | 4 1/2 | 4 1/2 | VSK130RS | **2V981** | 76.02 | **56.00** | **53.20** | 9 |
| | 2 | 30 | F30 | 2V897 | 36 1/4 | 4 1/2 | 4 1/2 | VSK230RS | **2V982** | 97.54 | **71.80** | **68.21** | 11 |
| | 2 | 34** | F40 | 3V477 | 48 1/4 | 4 1/2 | 4 1/2 | VSK240RS | **6V429** | 102.37 | **75.30** | **71.54** | 13 |
| H | 2 | 34** | F40 | 3V477 | 48 1/4 | 4 1/2 | 4 3/8 | WAD240H | **3JN41** | 162.47 | **121.20** | **115.14** | 19 |
| I | 2 | 34** | F40 | 3V477 | 48 1/4 | 4 1/2 | 4 3/8 | WAD240HW | **3JN42** | 162.47 | **121.20** | **115.14** | 19 |

(*) Pre-heat ballast. (†) Residential applications only. Not recommended for use with 34W Energy Saver lamps. (**) Will operate standard wattage lamps.

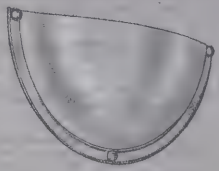
# FLUORESCENT WALL SCONCES

PROGRESS

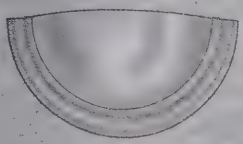
ENERGY RIGHT®



No. 7A431



No. 7A432



No. 7A433

Surface Mount Backplate Included

**Applications:** For use in commercial and residential locations for lighting hallways, lobbys, reception areas, living rooms, dining areas and family rooms. Use sconces where the effects of indirect lighting are desired. Casts light upward.

**Housing:** No. 7A431 has opal white acrylic cloud diffuser. No. 7A432 is polished brass with opalescent white acrylic quarter-sphere. No.7A433 is sandstone white acrylic diffuser with sandstone banding.

**Ballast:** 120V 60Hz normal power factor.

**Lamps not included:** Uses two 13W compact fluorescent lamps (No. 2V835).

**Installation:** Surface mount backplate mounts directly onto junction box.

**Progress brand.**

## WALL SCONCE SPECIFICATIONS AND ORDERING DATA

| Style | Description | Lighting Effect | Lamp Type | Qty. | Watts | Suggested Lamp Stock No. | Dimensions (In.) L | W | H | Progress Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **arter Sphere** | Sphere | Uplight Only | Compact Fluorescent | 2 | 13 | 2V835 | 16 | 3¾ | 8 | P7121-60 | ↝**7A431** | $138.12 | **$69.15** | 3.7 |
| | | | | | | | 16½ | 3⅞ | 8¼ | P7166-10 | ↝**7A432** | 199.92 | **100.05** | 4.0 |
| | | | | | | | 19 | 4 | 9½ | P7152-47 | ↝**7A433** | 212.28 | **109.30** | 5.7 |

↝) Denotes energy efficient product.

# DECORATIVE VANITY FIXTURES

American Fluorescent Corporation

ENERGY RIGHT®

UL E75501



No. 6VW85

**Applications:** For use above vanities, in hallways, corridors or in closets, wall or ceiling mounting.

**Housing:** Baked white enamel, heavy gauge die formed metal.

**Ballast:** Prewired, high power factor, rapid start ballast (No. 3JN39 uses T8, high power factor magnetic ballast). 120V, 60 Hz. Complies with Federal Energy Efficiency Standards. Operating temperature 60-104°F. For operation on grounded system only.

**Lens:** Distinctive white acrylic diffuser with stylish rounded edges presents a floating cloud look. Fits flush to wall or ceiling.

**Lamps not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent. UL Listed (E75501).

| Lamps (Not Included) Watts | Type | Amp Temp. (° F) Min. | Max. | Dimensions (In.) L | W | H | Am. Fluor. Model | Stock No. | Less Lamps List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | F20T12 | 60 | 104 | 26¾ | 6 | 4½ | VPN220RS | **6VW83** | $118.84 | **$87.40** | 9.5 |
| 30 | F30T12 | 60 | 104 | 38¾ | 6 | 4½ | VPN230RS | **6VW84** | 145.92 | **107.30** | 13.0 |
| 32 | F32T8 | 60 | 104 | 50¾ | 4⅝ | 4 | V8PN240 | ↝**3JN39** | 166.49 | **83.80** | 14.0 |
| 40* | F40T12 | 60 | 104 | 50¾ | 6 | 4½ | VPN240RS | **6VW85** | 154.45 | **113.55** | 15.0 |

Will operate 34W energy saving lamps. (↝) Denotes energy efficient product.

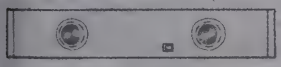
# UNDER CABINET FIXTURES



No. 3JN36

UL E32513

American Fluorescent Corporation



No. 3JN37

c UL E32513



No. 3JN38

- Cast aluminum housing reduces heat build-up
- Frosted lens minimizes glare
- 20 watt halogen lamp included; suggested replacement—No. 2F522
- Three level rocker switching Off/Low/High, 120V, 60Hz
- 60" white cord with standard 2 prong plug can be removed easily
- Includes mounting hardware

| Qty. | Lamps Included Watt | Type | Amb. Temp (°F) Min. | Max. | Line Amps | Dimensions (In.) Length | Width | Height | Am. Fluor. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 20 | Halogen | -20 | 95 | .20 | 11⅝ | 4⅜ | 1¼ | TH1202RCP | **3JN36** | $62.03 | **$42.75** | 2.5 |
| **2** | 20 | Halogen | -20 | 95 | .37 | 23⅝ | 4⅜ | 1¼ | TH2202RCP | **3JN37** | 79.08 | **54.45** | 3.8 |
| **3** | 20 | Halogen | -20 | 95 | .56 | 35⅝ | 4⅜ | 1¼ | TH3202RCP | **3JN38** | 94.18 | **64.35** | 9.0 |

# COMMERCIAL/RESIDENTIAL FLUORESCENT FIXTURES

## "TRIM LITE" UNDER CABINET FIXTURES

**Applications:** Used for lighting work surfaces in kitchens, offices, computer workstations, and workshops. Add extra illumination in dark countertop corners and anyplace extra light is needed.

**Housing:** 20 gauge die-formed steel housing with white bonderized finish resists scratching and marring. On/Off rocker switch. All models 5" wide by 1" deep.

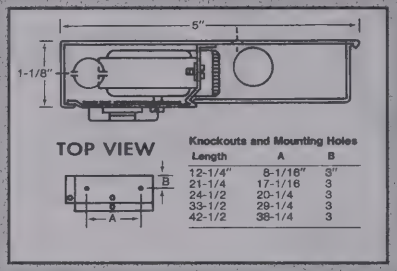
**Ballast:** Preheat 8 or 13 watt normal power factor ballast. Operating temperature 60-104°F. For operation on grounded system only. 120V 60Hz.

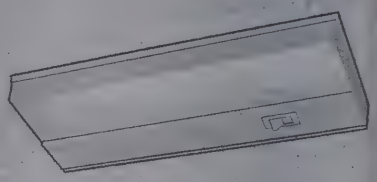
**Lens:** Nonyellowing smooth white acrylic diffuser provides soft glare-free illumination.

**Installation:** Flush ends for continuous row mounting. Slim, 1" profile allows the fixture to be hidden from view in most installations. Hinged and unitized wire-ways. 3/16" diameter mounting holes and four 1/2" diameter knockouts. Combination flex romex conduit connector included.

**Lamp not included:** Use suggested lamp listed in chart or see Index under Lamps, Fluorescent.

**American Fluorescent brand.**



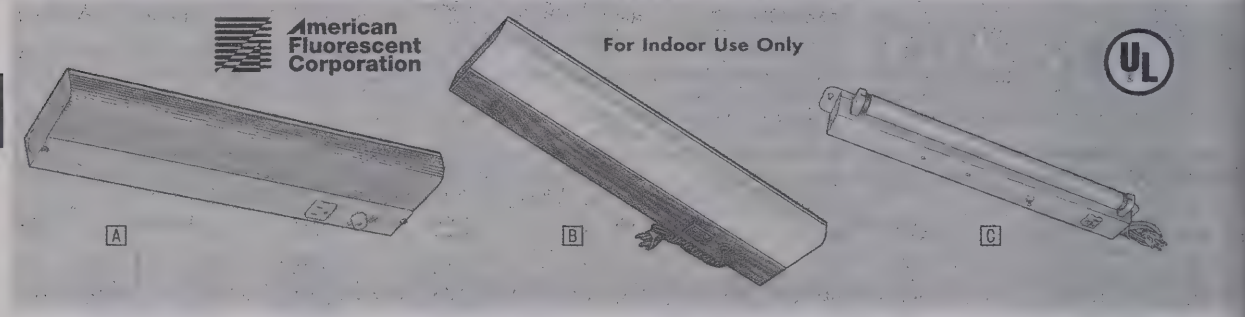
For Indoor Use Only

American Fluorescent Corporation

UL E75501

| Length (In.) | Qty. | Lamps (Not Incl.) Type | Watts | Suggested Lamp Stock No. | Am. Fluorescent Model | Stock No. | Less Lamps List | Less Lamps Each | Shp W |
|---|---|---|---|---|---|---|---|---|---|
| **12¼** | 1 | F8T5 | 8 | 2V235 | TL108R | **2V914** | $37.62 | **$27.75** | 2. |
| **21¼** | 1 | F13T5 | 13 | 2V806 | TL113R | **2V915** | 60.99 | **38.25** | 4. |
| **24¼** | 2 | F8T5 | 8 | 2V235 | TL208R | **2V916** | 61.98 | **49.70** | 3. |
| **33½** | 1 (ea.) | F8T5 & F13T5 | 21 | 2V235 & 2V806 | TL138R | **2V917** | 84.11 | **54.00** | 6. |
| **42½** | 2 | F13T5 | 13 | 2V806 | TL213R | **2V918** | 107.91 | **67.10** | 7. |

## UNDER CABINET FIXTURES




**Housing:** Supplied with On/Off switch and grounded convenience outlet.

**Ballast:** 120V, 60 Hz. Complies with Federal Energy Efficiency Standards. Ambient temperature 60-104°F. For operation on grounded system only.

**Lamp not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**American Fluorescent brand.**

**A Shielded Fixtures for Permanent Hard Wiring Installation.** Shielded units have snap-in white ribbed acrylic diffuser and stamped, all metal housing with white baked enamel finish and ample knockouts. UL Listed (E75501). Nos. 2V691 and 2V692 require preheat type lamps. No. 6F531 includes energy-saving ballast.

**B Shielded Plug-In Fixtures.** White ribb acrylic diffuser; walnut wood-grain fi ished metal housing. 6-ft, 3-conductor co for plug-in installation only. UL List (E32513).

**C Unshielded Plug-In Fixture.** Two keyho slots for pin-up or screw mounting. Plug- installation only. 3-ft., 3-conductor cor set. Baked white enamel finish. UL List (E120171).

| Key | Qty. | Lamps (Not Incl.) Watts | Type | Suggested Lamp | Line Amps | Dimensions, (In.) Length | Width | Height | Am. Fluor. Model | Stock No. | List | Less Lamps Each | Lots 3 | Shp W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 | 15 | F15 | 1V173 | 0.34 | 18¼ | 4½ | 1¼ | VTU115W | **2V691*** | $19.65 | **$14.27** | **$13.56** | 3. |
| | 1 | 20 | F20 | 2V896 | .34 | 24⅛ | 5¼ | 1⅞ | TUQ120WPH | **2V692*** | 25.18 | **19.41** | **18.44** | 4. |
| | 1 | 20 | F20 | 2V896 | .58 | 24⅛ | 5¼ | 1⅞ | TUQ120W | **2V693** | 28.14 | **23.88** | **22.68** | 5. |
| | 1 | 30 | F30 | 2V897 | .65 | 36⅛ | 5¼ | 1⅞ | TUQ130W | **2V694** | 34.22 | **30.00** | **28.50** | 7. |
| | 1 | 40** | F40 | 3V477 | .65 | 48⅜ | 5¼ | 1⅞ | TUQ140WES | **6F531** | 49.14 | **41.50** | **39.43** | 9. |
| B | 1 | 8 | F8 | 2V235 | .17 | 12⅜ | 4½ | 1¼ | VTU108BRX014 | **2V381*** | 26.96 | **18.95** | **18.00** | 2. |
| | 1 | 15 | F15 | 1V173 | .34 | 18¼ | 4½ | 1¼ | VTU115BRX014 | **2V380*** | 24.62 | **17.90** | **17.00** | 3. |
| C | 1 | 15 | F15 | 1V173 | .34 | 20¾ | 2 | 1¼ | PI-115 | **2V153*** | 29.87 | **21.31** | **20.25** | 2. |

(*) Fixtures have preheat ballasts. (**) Will operate 34W energy saving lamps.


*When it comes to lighting, no distributor outshines Grainger.*

## 15W CHROME STRIP FIXTURE

American Fluorescent Corporation

E75501



For Indoor Use Only. Lamp Not Included

**Applications:** Widely used with bathroom mirrors, in kitchens, displays, under cabinets, etc.

**Housing:** Chrome finish on heavy 2½" wide steel channel. On-Off switch and grounded convenience outlet. 19½L x 2½W x 1¾"H.

**Ballast:** Prewired with normal power factor, preheat, 120V, 60 Hz ballast. Complies with Federal Energy Efficiency Standards. For indoor use only. Operating temperature 60-104°F. For operation on grounded systems only. Max. line amps 0.34.

**Lamp not included:** For better lighting results use energy-saving, high color rendering lamps such as SP or SPX lamps from GE. See Index under Lamps, Fluorescent. Fixture uses one, lamp type F15T8. Suggested lamp 1V173.

**UL Listed (E75501).**

**American Fluorescent brand** (SCA115C0).

**No. 2V308.** Chrome Strip Fixture.

Shpg. wt. 2.5 lbs. List.....$25.27.
Each $18.50; Lots 3.....$17.58

## CLOSET/HALLWAY FIXTURES

Slim styling designed for closets, under cabinets or hallways. High impact, injection molded polycarbonate plastic housing. Prewired, pre-heat type ballast. 120V, 60 Hz. Operating temperature 60-104°F. For operation on grounded system only. Complies with Federal Energy Efficiency Standards.

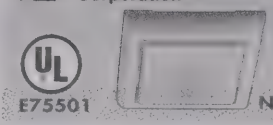
**Lamps not included:** Uses 2 Biax twin tube lamps, use suggested lamp listed below or see Index under Lamps, Fluorescent.

**UL Listed (E75501):** Meets National Electrical Code requirements for closet lighting.

American Fluorescent Corporation

ENERGY RIGHT®

E75501



No. 6VW76

| Description | Lamp (Not Included) Qty. | Watts | Type | Suggested Lamp Stock No. | Dimensions (In.) L | W | H | Am. Fluor. Model | | Stock No. | | List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluorescent | 2 | 9 | F9BX | 2V834 | 9½ | 9½ | 2 | FC209 | ✓ | **6VW76** | * | $55.12 | **$40.65** | 2.5 |
| Fluorescent | 2 | 13 | F13BX | 2V835 | 12 | 12 | 2 | FC213 | ✓ | **6VW77** | * | 59.84 | **44.10** | 3.5 |

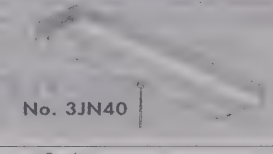
(*) Pre-heat ballasts. (✓) Denotes energy efficient product.

## SLIMLINE CLOSET LIGHT

Slim styling designed for closets. Heavy duty On-Off pull switch. Completely wired, ready for installation. All white steel housing. Snap-in ribbed acrylic diffuser. Prewired, pre-heat type ballast. 120V, 60 Hz. Operating temperatures 60-104°F. For operation on grounded system only. Complies with Federal Energy Efficiency Standards. **Lamp included:** 15T8 fluorescent. UL Listed: Meets National Electrical Code requirements for closet lighting.

American Fluorescent Corporation

E75501



No. 3JN40

| Description | Lamp (Included) Qty. | Watts | Type | Suggested Lamp Stock No. | Dimensions (In.) L | W | H | Am. Fluor. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluorescent | 1 | 15 | F15 | 1V173 | 18¼ | 4¼ | 1¼ | VTU115WTX137 | **3JN40** | $36.20 | **$22.22** | 3.0 |

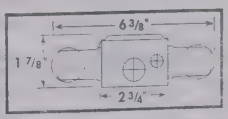
## SIDE MOUNT UNSHIELDED FIXTURES

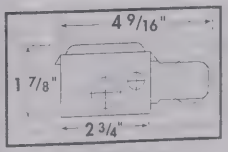
**For Use in Showcases, Displays, Alcoves or Anywhere a Compact Unit is Necessary**

American Fluorescent Corporation

E75501






For Indoor Use Only. Lamp Not Included

**Housing:** Die formed, 20 ga. steel with 2-stage white baked enamel finish. Removable ballast cover.

**Ballast:** 60 Hz, 120V ballast. Preheat on 20 watt units, rapid start on 30 and 40 watt units. Indoor use only. Operating temperature 60-104°F. For operation on grounded systems only.

**Lamp not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

**Mounting:** Knockouts provided for easy installation. Can be individual or continuous row mounted.

**UL Listed (E75501).**

**American Fluorescent brand.**

### SIDEMOUNT UNSHIELDED FIXTURES SPECIFICATIONS AND ORDERING DATA

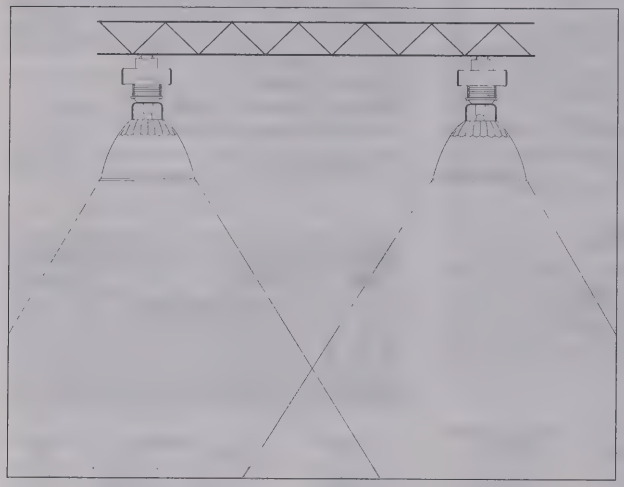
| Qty. | Lamps (Not Incl.) Watts | Type | Volts 60 Hz | Max. Line Amps | Dimensions. (In.) Length | Width | Height | Am. Fluor. Model | Stock No. | List | Less Lamp(s) Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20 | F20T12 | 120 | 0.34 | 24 | 4¾ | 1⅝ | SM120 | **2V811** * | $16.87 | **$11.63** | **$11.04** | 3.0 |
| 1 | 30 | F30T12 | 120 | .65 | 36 | 4¾ | 1⅝ | SM130RS | **2V812** * | 26.21 | **18.38** | **17.46** | 5.8 |
| 1 | 40 | F40T12 | 120 | .68 | 48 | 4¾ | 1⅝ | SM140RS | **3V444** *† | 28.55 | **19.56** | **18.59** | 6.5 |
| 2 | 20 | F20T12 | 120 | .65 | 24 | 6½ | 1⅝ | SM220 | **2V813** * | 24.22 | **16.49** | **15.67** | 3.5 |
| 2 | 40** | F40T12 | 120 | .80 | 48 | 6½ | 1⅝ | SM240PSES | **6V449** | 35.78 | **24.89** | **23.64** | 8.5 |

(*) Low power factor ballast. (†) Energy saving ballast. (**) Will operate 34W energy saving lamps. (††) For residential use only. Not recommended for use with 34W Energy Saver lamps.

# INDUSTRIAL HID FIXTURE GUIDE

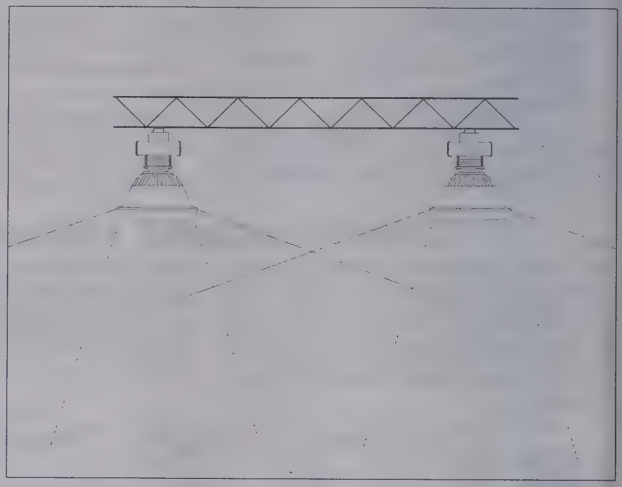
## HIGH BAY VS. LOW BAY HID FIXTURES

### HIGH BAY FIXTURES



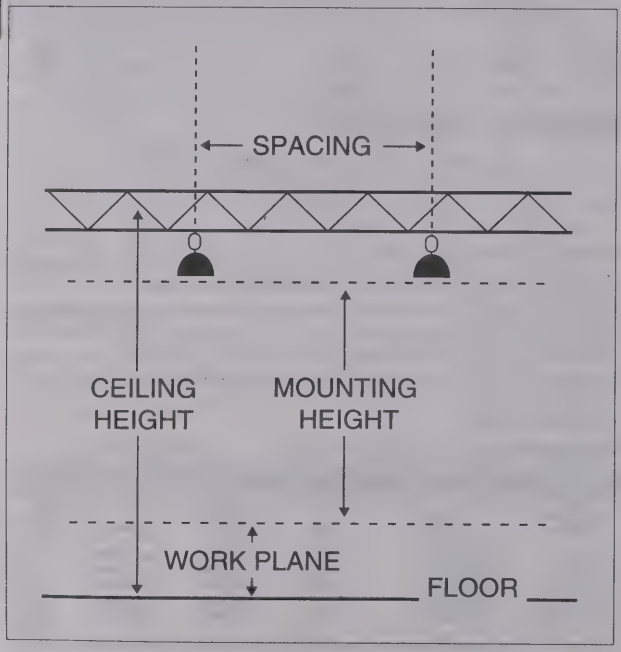
**High Bay Fixtures** are designed to deliver the maximum amount of light onto the work plane. They are not recommended for mounting heights below 20 ft. To accommodate these higher mounting heights, high bay fixtures feature reflectors that produce a concentrated light beam in order to provide effective horizontal illumination. If mounted below 20 ft., high bay fixtures can cause glare, eye fatigue, harsh shadows, and dark spots on the work plane.

### LOW BAY FIXTURES



**Low Bay Fixtures** are designed to deliver a more evenly-spread light onto the work plane. They are recommended for mounting heights below 20 ft. The reflector of low bay fixtures has an acrylic lens on the bottom to diffuse the light and provide excellent horizontal and vertical illumination. This helps to reduce glare while providing a wider beam pattern to accommodate for lower mounting heights.

## HID FIXTURE TECHNICAL INFORMATION




**Ceiling Height** is the measurement from the floor to the ceiling.

**Mounting Height** is the measurement between the work plane to the bottom of the fixtures.

**Work Plane** is a measurement, usually between 2½ to 3' above the floor. This is the level at which foot-candle readings are taken. If readings were to be taken at floor level, then the floor would be considered the work plane.

**Spacing** is the distance between fixtures.

### SPACING TO MOUNTING HEIGHT RATIO

**Spacing to Mounting Height Ratio (S/MH)** determines the optimal spacing between fixture centers for uniform lighting. If the spacing between fixtures exceeds the optimal spacing determined with the S/MH ratio, then dark spots may occur on the work plane. All indoor HID fixtures have a S/MH ratio.

Optimal spacing is calculated by multiplying the S/MH ratio by the mounting height. For example: If the S/MH ratio is 1.5 and the mounting height is 15 ft., then the distance between fixtures should not exceed 1.5 x 15', or 22½'.

| Spacing to Mounting Height ratio (S/MH) | x | Mounting Height | = | Optimal Spacing |
|---|---|---|---|---|

### RECOMMENDED FIXTURE WATTAGES/MOUNTING HEIGHT

| Mounting Height (Ft.) | Recommended Fixture Wattage and Type |
|---|---|
| Under 10 | 70 - 100W Low Bay |
| 10 - 12 | 150 - 175W Low Bay |
| 12 - 15 | 150 - 250W Low Bay |
| 15 - 20 | 250 - 400W Low Bay or 250W High Bay |
| 20 - 25 | 400W Low Bay or 250-400W High Bay |
| 25 - 35 | 400W High Bay |
| 35 or higher | 1000W High Bay |

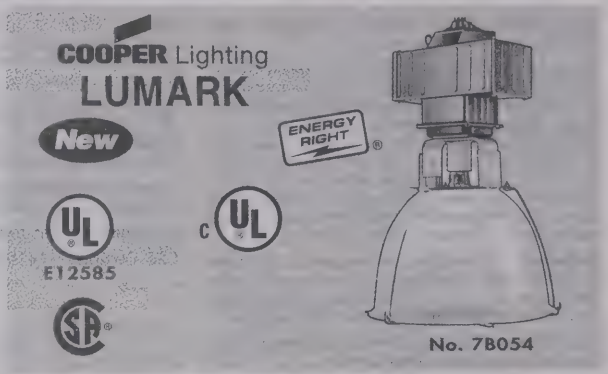


When it comes to lighting, no distributor outshines Grainger.

# INDUSTRIAL HID FIXTURES

## PRISMATIC GLASS REFLECTOR HIGH BAY FIXTURES

**Application:** Retail stores, wholesale warehouses, grocery chains, malls and auto service areas.
**Mounting:** Easy slide-on die-cast aluminum mounting box with tapped opening for 3/4" conduit.
**Housing:** Heavy-duty, formed steel housing with an open air ballast for cooler operation is finished in a dark bronze polyester powder coat.
**Safety Cable:** Safety cable attached from housing to reflector standard
**Ballast:** High power factor ballast with class H insulation. UL listed for 65°C (149°F) ambient temperature operation. Minimum starting temperature -40°C (-40°F) for HPS and -30°C (-20°F) for MH CSA certified.
**Socket:** Mogul-base porcelain socket.
**Reflector:** Easily mounted prismatic borosilicate reflector has three adjustable distribution patterns in 400W and down for precise control. Zinc-plated wire form with optional safety glass bottom for durable performance.




**All models metal halide except 7B056 and 7B057 are HPS.**

| Watts | Max. Starting Line Amps, 60 Hz 120V | 208V | 240V | 277V | 480V | Max. Operating Line Amps, 60 Hz 120V | 208V | 240V | 277V | 480V | Suggested Lamp Stock No. | S/MH | Dimensions (In.) Reflector Ht. | Dia. | Mounting Ht. (Ft.) Min. | Max. | Lumark Model | New! Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16" PRISMATIC GLASS HIGH-BAY** | | | | | | | | | | | | | | | | | | | | | |
| 400 | 3.8 | 2.2 | 1.9 | 1.6 | – | 4.0 | 2.3 | 2.0 | 1.7 | – | 2V658 | 1.8 | 24½ | 16 | 18 | 30 | MHSG-GR16M-400-MT | 7B054 | $344.02 | **$312.75** | 32.0 |
| | – | – | – | – | 9.5 | – | – | – | – | 1.0 | 2V658 | 1.8 | 24½ | 16 | 18 | 30 | MHSG-GR16M-400-480V | 7B055 | 343.47 | **312.25** | 27.0 |
| | 3.35 | 1.93 | 1.68 | 1.45 | – | 4.3 | 2.48 | 2.15 | 1.87 | – | 2V453 | 2.1 | 24½ | 16 | 20 | 45 | HPSG-GR16M-400-MT | 7B056 | 362.72 | **329.75** | 32.0 |
| | – | – | – | – | 8.4 | – | – | – | – | 1.04 | 2V453 | 2.1 | 24½ | 16 | 20 | 45 | HPSG-GR16M-400-480V | 7B057 | 362.17 | **329.25** | 27.0 |
| **21" PRISMATIC GLASS HIGH-BAY** | | | | | | | | | | | | | | | | | | | | | |
| 1000 | 5.5 | 3.15 | 2.8 | 2.4 | – | 9.4 | 5.4 | 4.7 | 4.1 | – | 2V659 | 1.3 | 23¾ | 21 | 30 | 45 | MHSG-GR21M-1000-MT | 7B058 | 493.07 | **448.25** | 52.0 |
| | – | – | – | – | 1.4 | – | – | – | – | 2.3 | 2V659 | 1.3 | 23¾ | 21 | 30 | 45 | MHSG-GR21M-1000-480V | 7B059 | 493.07 | **448.25** | 52.0 |

(✓) Denotes energy efficient product.

## STEELER™ ACRYLIC PRISMATIC HIGH BAY FIXTURES




ACCESSORIES FOR LOW AND HIGH BAY FIXTURES ON PAGE 1086

**Applications:** Provides 22% uplighting to illuminate the ceiling and deliver a clean, bright appearance in commercial applications. Designed for use in retail stores, wholesale warehouses, grocery chains, mall lighting, and automobile showrooms.
**Housing:** Heavy-duty, die-formed steel housing. Embossed for cooler operation and extended ballast life. Mogul base porcelain sockets. Polyester powder coat dark bronze finish.
**Reflector:** Prismatic acrylic reflector for a bright appearance and ample uplight. Field-adjustable reflector allows for 5 distinct beam patterns for precision control.
**Ballast:** High power factor, constant wattage autotransformer type, 60 Hz. Multi-tap ballast allows for field selection of voltage (120/208/240/277). Maximum ambient operating temperature of 55°C (131°F). Minimum starting temp. -40°C (-40°F) for high pressure sodium, and -30°C (-20°F) for metal halide.
**Installation:** Designed for pendant mounting. Features slide-on mounting box with tapped opening for 3/4" conduit.
**Lamp not included:** Use suggested lamp listed below or see Index under Lamps, HID. No. 7B053 requires (1) 2V658 and (1) 2V703.
**UL Listed (E12585); CSA Certified (LR1787).**
**Lumark brand.**

| Watts | Max Starting Line Amps, 60 Hz 120V | 208V | 240V | 277V | Max Operating Line Amps, 60 Hz 120V | 208V | 240V | 277V | Suggested Lamp Stock No. | S/MH | Dimensions (In.) Reflector Ht. | Dia. | Mounting Ht. (Ft.) Min. | Max. | Lumark Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HIGH PRESSURE SODIUM FIXTURES** | | | | | | | | | | | | | | | | | | | |
| 250 | 1.32 | 0.76 | 0.66 | 1.57 | 2.70 | 1.56 | 1.35 | 1.17 | 2V520 | 2.1 | 28½ | 22 | 15 | 25 | HPSS-PD22-250-MT | 7V229 | $368.16 | **$247.75** | 37.0 |
| 400 | 3.35 | 1.93 | 1.68 | 1.45 | 4.30 | 2.48 | 2.15 | 1.87 | 2V453 | 2.1 | 28½ | 22 | 20 | 45 | HPSS-PD22-400-MT | 7V230 | 380.77 | **256.50** | 41.0 |
| **METAL HALIDE FIXTURES** | | | | | | | | | | | | | | | | | | | |
| 400 | 3.80 | 2.20 | 1.90 | 1.60 | 4.00 | 2.30 | 2.00 | 1.70 | 2V658 | 1.8 | 28 | 22 | 18 | 30 | MHSS-PD22-400-MT | 7V231 | 339.19 | **209.00** | 41.0 |
| **METAL HALIDE FIXTURES WITH QUARTZ RESTRIKE** | | | | | | | | | | | | | | | | | | | |
| 400 | 3.80 | 2.20 | 1.90 | 1.60 | 4.00 | 2.30 | 2.00 | 1.70 | 2V658 & 2V703 | 1.8 | 28½ | 22 | 18 | 30 | MHSS-PD22M-400-MT-Q | **New** 7B053 | 270.60 | **246.00** | 52.0 |

(✓) Denotes energy efficient product

# INDUSTRIAL HID FIXTURES

## ENCLOSED AND GASKETED WET LOCATION HIGH BAY FIXTURES

**Applications:** Gyms, foundries, hangars, and industrial/processing areas.

**Housing:** Durable die cast aluminum housing for lasting performance in the harshest environments. **Totally enclosed assembly features gasketing at three points:** door to reflector; reflector to neck; and neck to housing, for sealing out external contaminants. Unique design allows air flow between isolated electrical components for cooler operation. Textured black polyester powder coat finish.

**Reflector:** Computer designed, faceted reflector for maximum photometric performance and beam efficiency. Protective finish for stain and corrosion resistance.

**Lens:** Tempered glass lens with hinged and latched aluminum door frame.

**Ballast:** High power factor ballast with class H insulation. UL Listed for 65°C (149°F) ambient temperature operation. Minimum starting temperature is -40°C (-40°F) for high pressure sodium and -30°C (-20°F) for metal halide.

**Installation:** Heavy duty die cast aluminum mounting box tapped for 3/4" conduit.

**Lamp not included:** Use suggested lamp listed below or see Index under Lamps, HID.

**UL Listed** for wet locations (E12585).

**CSA Certified (LR41075).**




| Watts | HID Type | Max Starting Line Amps Voltage 120 | 208 | 240 | 277 | Max Operating Line Amps Voltage 120 | 208 | 240 | 277 | Suggested Lamp Stock No. | S/MH | Dimensions (In.) Reflector H | Dia. | Mtg. Ht. (Ft.) Min. | Max. | Lumark Model | Stock No. | Less Lamp List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400 | HPS | 3.35 | 1.93 | 1.68 | 1.45 | 4.30 | 2.48 | 2.15 | 1.87 | 2V453 | 1.6 | 26⅝ | 18¾ | 20 | 45 | HPEMENSA18M400MTWL | ✓7V243 | $663.43 | **$331.75** | 49.0 |
| 400 | MH | 3.80 | 2.20 | 1.90 | 1.60 | 4.00 | 2.30 | 2.00 | 1.70 | 2V658 | 1.6 | 26⅝ | 18⅞ | 18 | 30 | MHEMENSA18M400MTWL | ✓7V244 | 622.50 | **311.25** | 41.0 |

(✓) Denotes energy efficient product.

## BENCHMARK™ EX PRISMATIC HIGHBAY FIXTURES

**Description:** Durable heavy-duty die-cast aluminum ballast housing and prismatic acrylic reflector and drop refractor system for specification-level performance.

**Application:** For applications requiring vertical and horizontal illumination on multiple surfaces, including fabrication, manufacturing, assembly areas or retail/commercial/industrial warehousing.

**Mounting:** Easy slide-on die-cast aluminum mounting box tapped opening for 3/4" conduit.

**Housing:** Heavy-duty die-cast aluminum housing for lasting performance in harsh environments. Unique design allows air to flow through isolated components for cooler operation. Finished with textured black polyester powder coat.

**Ballast:** High power factor ballast with class H insulation. Listed for 40°C (140°F) ambient temperature operation. Minimum starting temperature is -40°C (-40°F) for HPS and -30°C (-20°F) for MH.

**Socket:** Mogul-base porcelain socket.

**Reflector:** Acrylic reflector system mounts directly to housing and provides full, even illumination.




| Watts | HID Type | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Max. Operating Line Amps @ Voltage 120 | 208 | 240 | 277 | Suggested Lamp Stock No. | S/MH | Dimensions (In.) Reflector H | Dia. | Mounting Ht. (Ft.) Min. | Max. | Lumark Model | *New!* Stock No. | Less Lamp List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 250 | HPS | 1.32 | 0.76 | 0.66 | 0.57 | 2.70 | 1.56 | 1.35 | 1.17 | 2V520 | 2.3 | 28¾ | 25 | 15 | 25 | HPEX-DB25-250-MT | ✓7B047 | $373.17 | **$339.25** | 60.0 |
| 400 | HPS | 3.35 | 1.93 | 1.68 | 1.45 | 4.30 | 2.48 | 2.15 | 1.87 | 2V453 | 2.3 | 28¾ | 25 | 20 | 35 | HPEX-DB25-400-MT | ✓7B048 | 377.02 | **342.75** | 60.0 |
| 250 | MH | 1.30 | 0.77 | 0.66 | 0.57 | 2.50 | 1.45 | 1.25 | 1.10 | 2V712 | 2.3 | 28¾ | 25 | 15 | 25 | MHEX-DB25-250-MT | ✓7B049 | 340.45 | **309.50** | 57.0 |
| 400 | MH | 3.80 | 2.20 | 1.90 | 1.60 | 4.00 | 2.30 | 2.00 | 1.70 | 2V658 | 2.3 | 28¾ | 25 | 20 | 30 | MHEX-DB25-400-MT | ✓7B050 | 348.15 | **316.50** | 59.0 |

(✓) Denotes energy efficient product.

**DESK SPACE AT A PREMIUM?**
**USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# INDUSTRIAL HID FIXTURES

## STEELER™ HIGH BAY FIXTURES




**Applications:** Warehouses, foundries, gymnasiums, assembly areas, hangars, manufacturing, and automobile service areas.

**Housing:** Features heavy-duty, die-formed steel housing. Embossed for cooler operation and extended ballast life. Mogul base porcelain sockets. Polyester powder coat dark bronze finish.

**Reflector:** Spun aluminum. Screws to mounting bracket on housing to ensure safety. Five field adjustable settings provide concentrated to wide light patterns. Fluted reflector design limits maximum lamp arc tube voltage rise on HPS units to 4.2 volts which promotes lamp life.

**Ballast:** High power factor, constant wattage autotransformer type, 60 Hz. Available with Multi-tap ballast which allows for field selection of 120/208/240/277V. 480V ballast also available. Nos. 7B051 and 7B052 feature a quartz restrike (does not strike at cold start.) All units maximum ambient operating temperature 65°C (149°F), except Nos. 7V197 & 7V272 55°C (131°F). Minimum starting temp. -40°C (-40°F) for high pressure sodium, and -30°C (-20°F) for metal halide.

**Installation:** Designed for pendant mounting. Features slide-on mounting box with tapped opening for 3/4" conduit.

**Lamp not included:** Use suggested lamp listed below or see Index under Lamps, HID. Nos. 7B051 and 7B052 also require one No. 2V703 restrike lamp.

UL Listed (E12585); CSA Certified (LR1787).

Lumark brand.

| Watts | Max Starting Line Amps, @ Voltage 120 | 208 | 240 | 277 | 480 | Max. Operating Line Amps, @ Voltage 120 | 208 | 240 | 277 | 480 | Suggested Lamp Stock No. | S/MH | Dimensions (In.) Reflector Ht. | Dia. | Mounting Ht. (Ft.) Min. | Max. | Lumark Model | | Stock No. | Less Lamp List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HIGH PRESSURE SODIUM FIXTURES** | | | | | | | | | | | | | | | | | | | | | | |
| 250 | 1.32 | 0.76 | 0.66 | 0.57 | — | 2.70 | 1.56 | 1.35 | 1.17 | — | 2V520 | 1.4 | 26⅞ | 18 | 15 | 25 | HPSS-SA18M-250-MT | | ✓7V172 | $223.31 | $125.50 | 25.0 |
| 250 | — | — | — | — | 0.35 | — | — | — | — | 0.68 | 2V520 | 1.4 | 26⅞ | 18 | 15 | 25 | HPSS-SA18M-250-480V | | ✓7V269 | 229.55 | 129.20 | 28.0 |
| 400 | 3.35 | 1.93 | 1.68 | 1.45 | — | 4.30 | 2.48 | 2.15 | 1.87 | — | 2V453 | 1.4 | 26⅞ | 18 | 20 | 45 | HPSS-SA18M-400-MT | | ✓7V173 | 235.83 | 127.60 | 29.0 |
| 400 | — | — | — | — | 0.84 | — | — | — | — | 1.04 | 2V453 | 1.4 | 26⅞ | 18 | 20 | 45 | HPSS-SA18M-400-480V | | ✓7V270 | 242.52 | 131.20 | 33.0 |
| **METAL HALIDE FIXTURES** | | | | | | | | | | | | | | | | | | | | | | |
| 400 | 3.80 | 2.20 | 1.90 | 1.60 | — | 4.00 | 2.30 | 2.00 | 1.70 | — | 2V658 | 1.2 | 26⅞ | 18 | 18 | 30 | MHSS-SA18M-400-MT | | ✓7V171 | 194.57 | 99.50 | 29.0 |
| 400 | — | — | — | — | 0.95 | — | — | — | — | 1.00 | 2V658 | 1.2 | 26⅞ | 18 | 18 | 30 | MHSS-SA18M-400-480V | | ✓7V271 | 199.82 | 102.95 | 30.0 |
| 1000 | 5.50 | 3.15 | 2.80 | 2.40 | — | 9.40 | 5.40 | 4.70 | 4.10 | — | 2V659 | 1.3 | 31¾ | 23 | 30 | 45 | MHSS-SA23M-1000-MT | | ✓7V197 | 289.43 | 179.00 | 42.0 |
| 1000 | — | — | — | — | 1.40 | — | — | — | — | 2.30 | 2V659 | 1.3 | 31¾ | 23 | 30 | 45 | MHSS-SA23M-1000-480V | | ✓7V272 | 289.43 | 179.00 | 43.0 |
| **METAL HALIDE WITH QUARTZ RESTRIKE FIXTURES** | | | | | | | | | | | | | | | | | | | | | | |
| 400 | 3.80 | 2.20 | 1.90 | 1.60 | — | 4.00 | 2.30 | 2.00 | 1.70 | — | 2V658 & 2V703 | 1.2 | 26⅞ | 18 | 18 | 30 | MHSS-SA18M-400-MT-Q | *New* | ✓7B051 | 198.00 | 180.00 | 30.3 |
| 400 | — | — | — | — | .95 | — | — | — | — | 1.00 | 2V658 & 2V703 | 1.2 | 26⅞ | 18 | 18 | 30 | MHSS-SA18M-400-480VQ | *New* | ✓7B052 | 197.45 | 179.50 | 24.3 |

(✓) Denotes energy efficient product.

## STEELER™ HIGH BAY FIXTURES IN UNIT BOXES

Complete fixture in one carton includes ballast, housing, reflector and lamp. Durable cold-rolled steel. Designed and packaged for convenience. Used in warehouses, gymnasiums, assembly areas, hangars, manufacturing and automotive service areas. UL Listed (E12585), CSA Certified. Made in USA.

**Lamp included:** See suggested lamp listed below for replacement.

| Watts | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Max. Operating Line Amps @ Voltage 120 | 208 | 240 | 277 | Suggested Lamp Stock No. | S/MH | Dimensions (In.) Reflector Ht. | Dia. | Mounting Ht. (Ft.) Min. | Max. | Lumark Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***New!* HIGH PRESSURE SODIUM FIXTURES** | | | | | | | | | | | | | | | | | | | |
| 400 | 3.35 | 1.93 | 1.68 | 1.45 | 4.30 | 2.48 | 2.15 | 1.87 | 2V453 | 1.8 | 24⅝ | 15 | 20 | 45 | HPSS40 | ✓4PK69 | $231.20 | $144.65 | 30.0 |
| ***New!* METAL HALIDE FIXTURES** | | | | | | | | | | | | | | | | | | | |
| 400 | 3.80 | 2.20 | 1.90 | 1.60 | 4.00 | 2.30 | 2.00 | 1.70 | 2V658 | 1.6 | 24⅝ | 15 | 18 | 30 | MHSS40 | ✓4PK86 | 205.10 | 119.00 | 26.0 |

(✓) Denotes energy efficient product.

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# INDUSTRIAL HID FIXTURES

## STANDARD HIGH BAY FIXTURES

**Applications:** For use in heavy and light industrial plants, warehouses, retail centers.

**Housing:** Corrosion-resistant Lektrocote finish on housing.

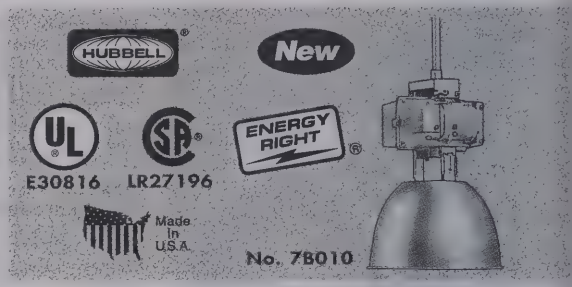
**Reflector:** 14" or 19" diameter reflector. Field adjustable reflector brackets and porcelain mogul base socket.

**Lamp not included:** Use suggested lamp listed below or see index under lamps, HID.

**Mounting:** Choice of premium pendant, or ceiling through-wire Slick-on® (Nos. 7B022, 7B024, 7B026, 7B028, 7B030, 7B032 0nly) or Standard Pendant Quick-on® mounting system.

**Approvals:** UL Listed (E30816) 55° C, damp location; CSA Certified (LR27196).

Hubbell brand.




| HID Type | Watts | Suggested Lamp No. | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Dimensions (In.) Reflector Ht. | Dia. | S/MH | Hubbell Model | New! Stock No. | Less Lamps List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MH** | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 3.25 | 1.90 | 1.65 | 1.40 | 23 31/32 | 14 | 1.3 | BL400H8-BI | **7B010** | $123.20 | **$112.00** | 23.0 |
| **HPS** | 250 | 2V520 | 1.80 | 1.00 | 0.90 | 0.80 | 1.80 | 1.00 | 0.90 | 0.80 | 23 31/32 | 14 | 1.4 | BL250S8-BI | **7B014** | 133.10 | **121.00** | 20.0 |
| **HPS** | 400 | 2V453 | 2.80 | 1.70 | 1.50 | 1.30 | 2.80 | 1.70 | 1.50 | 1.30 | 23 31/32 | 14 | 1.4 | BL400S8-BI | **7B018** | 135.19 | **122.90** | 25.0 |
| **MH** | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 3.25 | 1.90 | 1.65 | 1.40 | 24 7/32 | 14 | 1.3 | BL400H8-BI-SO | **7B022** | 126.50 | **115.00** | 23.0 |
| **HPS** | 250 | 2V520 | 1.80 | 1.00 | 0.90 | 0.80 | 1.80 | 1.00 | 0.90 | 0.80 | 24 7/32 | 14 | 1.4 | BL250S8-BI-SO | **7B026** | 136.40 | **124.00** | 20.0 |
| **HPS** | 400 | 2V453 | 2.80 | 1.70 | 1.50 | 1.30 | 2.80 | 1.70 | 1.50 | 1.30 | 24 7/32 | 14 | 1.4 | BL400S8-BI-SO | **7B030** | 141.07 | **128.25** | 25.0 |
| **MH** | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 3.25 | 1.90 | 1.65 | 1.40 | 22 7/8 | 19 | 1.5 | BL400H8-SU | **7B012** | 145.20 | **132.00** | 24.1 |
| **HPS** | 250 | 2V520 | 1.80 | 1.00 | 0.90 | 0.80 | 1.80 | 1.00 | 0.90 | 0.80 | 22 7/8 | 19 | 1.6 | BL250S8-SU | **7B016** | 155.10 | **141.00** | 21.1 |
| **HPS** | 400 | 2V453 | 2.80 | 1.70 | 1.50 | 1.30 | 2.80 | 1.70 | 1.50 | 1.30 | 22 7/8 | 19 | 1.6 | BL400S8-SU | **7B020** | 156.20 | **142.00** | 26.1 |
| **MH** | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 3.25 | 1.90 | 1.65 | 1.40 | 23 3/4 | 19 | 1.5 | BL400H8-SU-SO | **7B024** | 148.50 | **135.00** | 24.1 |
| **HPS** | 250 | 2V520 | 1.80 | 1.00 | 0.90 | 0.80 | 1.80 | 1.00 | 0.90 | 0.80 | 23 3/4 | 19 | 1.6 | BL250S8-SU-SO | **7B028** | 158.40 | **144.00** | 21.1 |
| **HPS** | 400 | 2V453 | 2.80 | 1.70 | 1.50 | 1.30 | 2.80 | 1.70 | 1.50 | 1.30 | 23 3/4 | 19 | 1.6 | BL400S8-SU-SO | **7B032** | 161.81 | **147.10** | 26.1 |

(✓) Denotes energy efficient product.

## TRIBAY™ OPEN AND ENCLOSED REFLECTOR HIGH BAY FIXTURES

**Applications:** Produces primarily horizontal footcandles in manufacturing plants and storage areas.

**Housing:** Heavy duty die-cast Lektrocote® finished aluminum housing. Nos. 7B043, 7B044, 7B045, and 7B046 have a charcoal filter to keep the optical assembly cool while alleviating heat build-up.

**Reflector:** Superior 19" Anodal® finished aluminum reflectors.

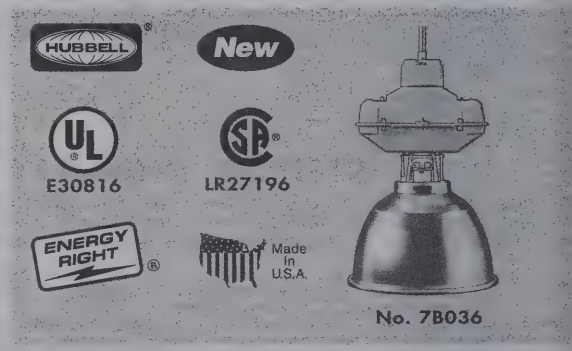
**Ballasts:** Reliable long-life ballasts (Class H insulated) for either metal halide starting down to -20°C, for high pressure sodium starting down to -40°C. All ballasts are quad tap (120, 208, 240, 277 volt).

**Mounting:** Universal mounting box, allows for flexible installation.

**Lamp not included:** Use suggested lamp listed below, or see index under lamps, HID.

**Approvals:** UL Listed (E30816); CSA Certified (LR27196), UL thermal listing; 65°C for long life.

Hubbell brand.




| HID Type | Watts | Suggested Lamp No. | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Dimensions (In.) Reflector Ht. | Dia. | S/MH | Hubbell Model | New! Stock No. | Less Lamps List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEN REFLECTOR HIGHBAY FIXTURES** | | | | | | | | | | | | | | | | | | |
| **HPS** | 400 | 2V453 | 2.80 | 1.70 | 1.50 | 1.30 | 3.90 | 2.30 | 2.00 | 1.70 | 27 7/8 | 19 | 1.6 | CH40S8MOU | **7B037** | $261.53 | **$237.75** | 29.0 |
| **HPS** | 250 | 2V520 | 1.80 | 1.00 | 1.50 | .80 | 2.80 | 1.60 | 1.40 | 1.20 | 27 7/8 | 19 | 1.6 | CH25S8MOU | **7B036** | 255.75 | **232.50** | 25.0 |
| **MH** | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | 27 7/8 | 19 | 1.7 | CH40H8MOU | **7B038** | 250.25 | **227.50** | 26.0 |
| **ENCLOSED REFLECTOR HIGHBAY FIXTURES** | | | | | | | | | | | | | | | | | | |
| **HPS** | 250 | 2V520 | 2.80 | 1.70 | 1.50 | 1.30 | 3.90 | 2.30 | 2.00 | 1.70 | 27 7/8 | 19 | 1.3 | CH25S8MEU | **7B039** | 373.73 | **339.75** | 31.0 |
| **HPS** | 400 | 2V453 | 1.80 | 1.00 | .90 | .80 | 2.80 | 1.60 | 1.40 | 1.20 | 27 7/8 | 19 | 1.3 | CH40S8MEU | **7B040** | 379.23 | **344.75** | 35.0 |
| **MH** | 250 | 2V712 | 2.10 | 1.40 | 1.10 | 1.00 | 2.50 | 1.50 | 1.30 | 1.10 | 27 7/8 | 19 | 1.9 | CH25H8MEU | **7B041** | 351.73 | **319.75** | 29.0 |
| **MH** | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | 27 7/8 | 19 | 1.5 | CH40H8MEU | **7B042** | 368.22 | **334.75** | 32.0 |
| **ENCLOSED REFLECTOR HIGHBAY FIXTURES WITH CHARCOAL FILTER BREATHER** | | | | | | | | | | | | | | | | | | |
| **HPS** | 250 | 2V520 | 2.80 | 1.70 | 1.50 | 1.30 | 3.90 | 2.30 | 2.00 | 1.70 | 27 7/8 | 19 | 1.3 | CH25S8MEUCFB | **7B043** | 385.00 | **350.00** | 30.0 |
| **HPS** | 400 | 2V453 | 1.80 | 1.00 | .90 | .80 | 2.80 | 1.60 | 1.40 | 1.20 | 27 7/8 | 19 | 1.3 | CH40S8MEUCFB | **7B044** | 390.50 | **355.00** | 34.0 |
| **MH** | 250 | 2V712 | 2.10 | 1.40 | 1.10 | 1.00 | 2.50 | 1.50 | 1.30 | 1.10 | 27 7/8 | 19 | 1.9 | CH25H8MEUCFB | **7B045** | 363.00 | **330.00** | 28.0 |
| **MH** | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | 27 7/8 | 19 | 1.5 | CH40H8MEUCFB | **7B046** | 379.50 | **345.00** | 31.0 |

(✓) Denotes energy efficient product.

# INDUSTRIAL HID FIXTURES

## ENTERPRISE™ CIRCULAR LOW BAY FIXTURES




**Applications:** Warehouses, foundries, gyms, assembly areas, and hangars.

**Housing:** Heavy-duty die-formed steel. Embossed housing for cooler operation and extended ballast life. Mogul base porcelain socket. Polyester powder bronze coat.

**Reflector:** Spun aluminum with reflective white polyester powder coat and injection molded prismatic acrylic lens. Enclosed and gasketed assembly. Designed to maximize optical lamp performance with minimal voltage rise.

**Ballast:** High power factor, constant wattage auto transformer type, 60 Hz. Multi-tap ballast units allow for field selection of voltage (120/208/240/277V). 480V ballast also available. Maximum ambient temperature 55°C (131°F). Minimum starting temperature is -40°C (-40°F) for high pressure sodium and -30°C (-20°F) for metal halide.

**Installation:** Features easy, slide-on mounting box with tapped opening 3/4" conduit. Reflector attaches to housing with quick release latches and can be lowered on retaining springs for hands free maintenance. Dimensions: 25" high. No. 7A544 is 24" high with a 28" reflector. Mtg. Ht.: Min. 12 ft., max. 25 ft.

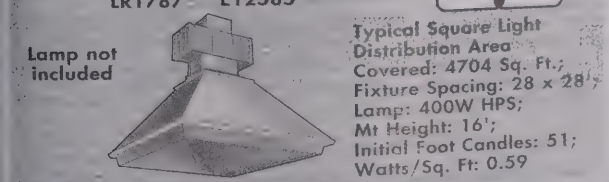
**Lamp not included:** Use suggested lamp listed below or see Index under Lamps, HID.

UL Listed (E12585); CSA Certified (LR41075).

| HID Type | Watts | Max Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | 480 | Max Operating Line Amps @ Voltage 120 | 208 | 240 | 277 | 480 | Suggested Lamp Stock No. | S/MH | Lumark Model | | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LOWBAY FIXTURES WITH 22" DIAMETER REFLECTOR** | | | | | | | | | | | | | | | | | | | |
| **HPS** | 250 | 1.32 | 0.76 | 0.66 | 0.57 | — | 2.70 | 1.56 | 1.35 | 1.17 | — | 2V520 | 1.70 | HPEP-R22-250-MT | ✓ | **7V220** | $356.64 | **$196.50** | 36.0 |
| **HPS** | 400 | 3.35 | 1.93 | 1.68 | 1.45 | — | 4.30 | 2.48 | 2.15 | 1.87 | — | 2V453 | 1.70 | HPEP-R22-400-MT | ✓ | **7V221** | 377.21 | **199.50** | 42.0 |
| **HPS** | 250 | — | — | — | — | 0.35 | — | — | — | — | 0.68 | 2V520 | 1.70 | HPEP-R22-250-480V | ✓ | **7V265** | 364.18 | **200.75** | 44.0 |
| **HPS** | 400 | — | — | — | — | 0.84 | — | — | — | — | 1.04 | 2V453 | 1.70 | HPEP-R22-400-480V | ✓ | **7V266** | 383.56 | **203.00** | 39.0 |
| **MH** | 250 | 1.30 | 0.77 | 0.66 | 0.57 | — | 2.50 | 1.45 | 1.25 | 1.10 | — | 2V712 | 1.70 | MHEP-R22-250-MT | ✓ | **7V242** | 330.43 | **167.00** | 36.0 |
| **MH** | 400 | 3.80 | 2.20 | 1.90 | 1.60 | — | 4.00 | 2.30 | 2.00 | 1.70 | — | 2V658 | 1.70 | MHEP-R22-400-MT | ✓ | **7V222** | 339.80 | **170.00** | 37.0 |
| **MH** | 250 | — | — | — | — | 0.60 | — | — | — | — | 0.65 | 2V712 | 1.70 | MHEP-R22-250-480V | ✓ | **7V267** | 333.60 | **168.75** | 35.0 |
| **MH** | 400 | — | — | — | — | 0.95 | — | — | — | — | 1.00 | 2V658 | 1.70 | MHEP-R22-400-480V | ✓ | **7V268** | 346.75 | **173.00** | 36.0 |
| **LOWBAY FIXTURE WITH 28" DIAMETER REFLECTOR** | | | | | | | | | | | | | | | | | | | |
| **MH** | 400 | 3.80 | 2.20 | 1.90 | 1.60 | — | 4.00 | 2.30 | 2.00 | 1.70 | — | 2V658 | 1.8 | MHEP-R28-400-MT | ***New*** ✓ | **7A544** | 228.80 | **208.00** | 38.0 |

(✓) Denotes energy efficient product.

## APOLLO™ SQUARE LOW BAY FIXTURES




**Application:** Warehouses, foundries, assembly areas, hangers, manufacturing and automobile service areas.

**Housing:** Features heavy-duty die-formed steel. Housing is embossed for cooler operation and extended ballast life. Mogul base porcelain socket. Polyester powder coat bronze finish.

**Reflector:** Die-formed steel reflector with prismatic acrylic lens provides 83% efficiency and a 1.8 spacing to mounting height ratio on HPS models and 1.7 on metal halides. Enclosed and gasketed optical assembly. Superior design limits lamp voltage rise to maximum 5.9 volts in 400 watt HPS lamps which promotes lamp life.

**Ballast:** High power factor, constant wattage auto transformed type, 60 Hz. Multi-tap ballast allows for field selection of voltage (120/208/240/277V). Maximum ambient temperature operation 55°C (131°F). Minimum starting temperature is -40°C (-40°F) for high pressure sodium, and -30°C (-20°F) for metal halide.

**Installation:** Easy, slide-on mounting box with tapped opening for 3/4" conduit. Reflector assembly latches to ballast housing for easy relamping. Dimensions 24" high with a 23 1/4" square reflector. Mtg. Ht.: Min. 12ft. Max. 25ft.

| HID Type | Watts | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Suggested Lamp Stock No. | S/MH | Lumark Model | | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HPS** | 250 | 1.32 | 0.76 | 0.66 | 0.57 | 2.70 | 1.56 | 1.35 | 1.17 | 2V520 | 1.8 | HPLM TR24A-250-MT | ✓ | **7V205** | $432.66 | **$231.50** | 42.0 |
| **HPS** | 400 | 3.35 | 1.93 | 1.68 | 1.45 | 4.30 | 2.48 | 2.15 | 1.87 | 2V453 | 1.8 | HPLM TR24A-400-MT | ✓ | **7V206** | 453.12 | **258.50** | 48.0 |
| **MH** | 250 | 1.30 | 0.77 | 0.66 | 0.57 | 2.50 | 1.45 | 1.25 | 1.10 | 2V712 | 1.7 | MPLM TR24A-250-MT | ✓ | **7V241** | 433.13 | **257.00** | 42.0 |
| **MH** | 400 | 3.80 | 2.20 | 1.90 | 1.60 | 4.00 | 2.30 | 2.00 | 1.70 | 2V658 | 1.7 | MPLM TR24A-400-MT | ✓ | **7V207** | 413.56 | **233.50** | 45.0 |

(✓) Denotes energy efficient product.

# INDUSTRIAL HID FIXTURES

## SUPERBAY I™ LOW BAY FIXTURES

**Applications:** For low to medium mounting heights in areas requiring good horizontal uniformity and high vertical illumination. Quick-On® pendant mounting on units 7B011, 7B013, 7B015, 7B017, 7B019 and 7B021. Slick-On pendant or through-wire mounting on units 7B023, 7B025, 7B027, 7B029, 7B031 and 7B033.

**Housing:** Ballast module is rugged, die-cast aluminum with corrosion resistant Lecktrocote® finish. All electrical components are mounted directly to the module for cool, long life operation.

**Reflector:** Spun from high purity, heavy gauge aluminum with Lecktrocote® finish.

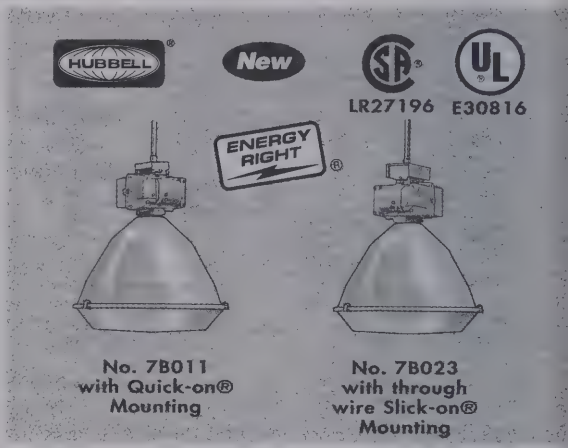
**Refractor:** Hinged and latched with corrosion resistant steel hardware. UV stabilized for long life and durability. Provides square distribution to enhance uniformity and increase fixture spacings.

**Ballast:** High power factor, copper wound, constant wattage regulator, QuadTap® for line voltages of 120, 208, 240 and 277.

**Additional features:** Easy to install. UL listed for 55°C ambient operation in damp locations. Porcelain mogul base socket.

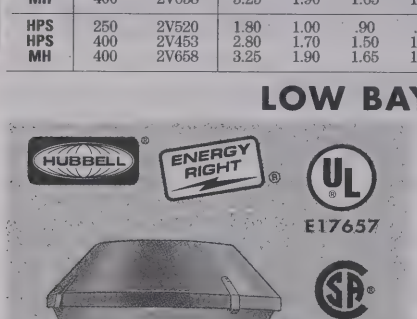
**Lamp not included:** Use suggested lamp below or see index under lamps, HID.

**Approvals:** UL Listed (E30816); CSA Certified (LR27196)




| HID Type | Watts | Suggested Lamp No. | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Max. Running Line Amps @ Voltage 120 | 208 | 240 | 277 | Dimensions (In.) Reflector Ht. | Dia. | S/MH | Hubbell Model | New! Stock No. | List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SUPERBAY I™ LOW BAY FIXTURES WITH QUICK-ON ® MOUNTING SYSTEM** | | | | | | | | | | | | | | | | | | |
| HPS | 250 | 2V520 | 1.80 | 1.00 | .90 | .80 | 2.80 | 1.60 | 1.40 | 1.20 | 25 3/16 | 23 | 1.6 | BL250S8-LB1 | ✓7B015 | $202.95 | **$184.50** | 25.7 |
| HPS | 400 | 2V453 | 2.80 | 1.70 | 1.50 | 1.30 | 3.90 | 2.30 | 2.00 | 1.70 | 25 3/16 | 23 | 1.6 | BL400S8-LB1 | ✓7B019 | 204.05 | **185.50** | 30.7 |
| MH | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | 25 3/16 | 23 | 1.6 | BL400H8-LB1 | ✓7B011 | 193.05 | **175.50** | 28.7 |
| HPS | 250 | 2V520 | 1.80 | 1.00 | .90 | .80 | 2.80 | 1.60 | 1.40 | 1.20 | 32 1/8 | 29 | 1.7 | BL250S8-LM | ✓7B017 | 220.55 | **200.50** | 32.0 |
| HPS | 400 | 2V453 | 2.80 | 1.70 | 1.50 | 1.30 | 3.90 | 2.30 | 3.90 | 1.70 | 32 1/8 | 29 | 1.7 | BL400S8-LM | ✓7B021 | 221.65 | **201.50** | 37.0 |
| MH | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | 32 1/8 | 29 | 1.7 | BL400H8-LM | ✓7B013 | 210.65 | **191.50** | 35.0 |
| **SUPERBAY I™ LOW BAY FIXTURES WITH SLICK-ON MOUNTING** | | | | | | | | | | | | | | | | | | |
| HPS | 250 | 2V520 | 1.80 | 1.00 | .90 | .80 | 2.80 | 1.60 | 1.40 | 1.20 | 26 1/16 | 23 | 1.6 | BL250S8-LB1-SO | ✓7B027 | 206.25 | **187.50** | 25.7 |
| HPS | 400 | 2V453 | 2.80 | 1.70 | 1.50 | 1.30 | 3.90 | 2.30 | 3.90 | 1.70 | 26 1/16 | 23 | 1.6 | BL400S8-LB1-SO | ✓7B031 | 207.35 | **188.50** | 30.7 |
| MH | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | 26 1/16 | 23 | 1.6 | BL400H8-LB1-SO | ✓7B023 | 196.35 | **178.50** | 28.7 |
| HPS | 250 | 2V520 | 1.80 | 1.00 | .90 | .80 | 2.80 | 1.60 | 1.40 | 1.20 | 33 | 29 | 1.7 | BL250S8-LM-SO | ✓7B029 | 223.85 | **203.50** | 32.0 |
| HPS | 400 | 2V453 | 2.80 | 1.70 | 1.50 | 1.30 | 3.90 | 2.30 | 3.90 | 1.70 | 33 | 29 | 1.7 | BL400S8-LM-SO | ✓7B033 | 224.95 | **204.50** | 37.0 |
| MH | 400 | 2V658 | 3.25 | 1.90 | 1.65 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | 33 | 29 | 1.7 | BL400H8-LM-SO | ✓7B025 | 214.50 | **195.00** | 35.0 |

## LOW BAY FIXTURES 250 AND 400 WATT




**Applications:** Used in manufacturing plants, machine shops, assembly areas, warehouses, aisle lighting, and other areas where three dimensional, high illumination levels are required.

**Housing:** High purity spun aluminum with gray corrosion resistant Lektrocote® polyester acrylic powder paint finish.

**Refractor:** Injection molded of high performance acrylic that provides up to 25% uplight, supurb glare control in the 60° to 90° zone, and wide light distribution for excellent vertical illumination. The use of multiple units assures all tasks are illuminated thereby reducing harsh shadows.

**Ballast:** High power factor, copper wound, constant wattage regulator, QuadTap® for line voltages of 120, 208, 240, and 277. UL Listed for 40°C (104°F) ambient operation.

**Installation:** Shipped pre-wired with lamp installed for quick and easy balanced pendant mounting with 3/4" conduit hub installed.

**Dimensions:** 17⅛H x 22¼" Dia.

**Approvals:** UL Listed (E17657); CSA Certified (LR27196) for damp locations

**NOTE:** All Units are Shipped Pre-Wired with Lamp Installed.

### FIXTURE SPECIFICATIONS AND ORDERING DATA

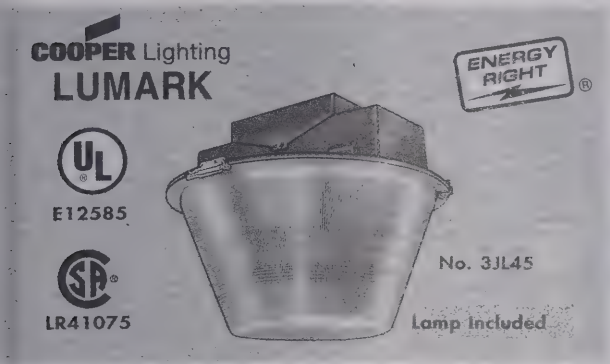
| Watts | Lamps Type | Lamps Suggested Replacement | S/MH | Starting Amps 120 | 208 | 240 | 277 | Running Amps 120 | 208 | 240 | 277 | Hubbell Model | Stock No. | With Lamp List | With Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **250** | HPS | 2V520 | 2.5 | 1.8 | 1.0 | 0.9 | 0.8 | 2.8 | 1.6 | 1.4 | 1.2 | SWD250S-81ASP | ✓**3V788** | $407.87 | **$361.75** | 36.0 |
| **400** | HPS | 2V453 | 2.5 | 2.8 | 1.7 | 1.5 | 1.3 | 4.0 | 2.3 | 2.0 | 1.8 | SWD400S-81ASP | ✓**3V790** | 380.19 | **320.75** | 36.0 |
| **250** | MH | 2V712 | 2.4 | 2.1 | 1.4 | 1.1 | 1.0 | 2.5 | 1.5 | 1.3 | 1.1 | SWD250H-81ASP | ✓**3V787** | 367.19 | **324.75** | 28.0 |
| **400** | MH | 2V658 | 2.4 | 3.3 | 1.9 | 1.7 | 1.4 | 4.0 | 2.3 | 2.0 | 1.8 | SWD400H-81ASP | ✓**3V789** | 402.10 | **352.00** | 30.0 |

(✓) Denotes energy efficient product.



When it comes to lighting, no distributor outshines Grainger.

# VERTIMARK II™ LOW BAY FIXTURES




**Applications:** Warehouses, assembly or manufacturing areas, parking garages.

**Housing:** Die-cast aluminum housing has durable bronze polyester powder coat finish.

**Refractor:** Acrylic prismatic refractor controls light for high vertical and horizontal foot-candles. Refractor is hinged to permit easy relamping without removal of refractor.

**Ballast:** High power factor, constant wattage autotransmitter type for 175W and 250W MH lamps. High power factor high-reactance type for 150W HPS lamps. Minimum starting temperature is -40°C (-40°F) for high pressure sodium, and -30°C (-20°F) for metal halide.

**Installation:** Quick-mounting plate for 3/4" IPS conduit frees both hands to complete wiring.

**Dimensions:** 12½"H x 17" Dia.

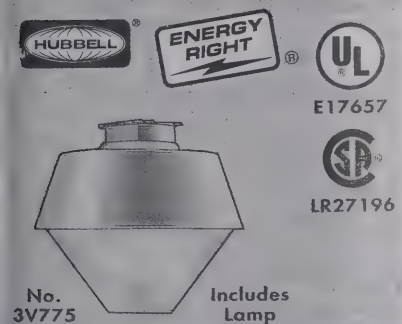
**Approvals:** UL Listed(E12585); CSA Certified (LR41075)

## LOW BAY FIXTURES SPECIFICATIONS AND ORDERING DATA

| HID Type | Watts | Max. Starting Line Amps Voltage 120 | 208 | 240 | 277 | Max. Running Line Amps Voltage 120 | 208 | 240 | 277 | Suggested Lamp Stock No. | S/MH | Lumark Model | Stock No. | With Lamp List | With Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **High Pressure Sodium** | 150 | 1.84 | 1.06 | 0.90 | 0.81 | 1.67 | 0.96 | 0.83 | 0.72 | 2V713 | 1.6 | HPBE-5A-150H-MT-LL | ✓**3JL45** | $209.30 | **$188.00** | 22.0 |
| **Metal Halide** | 175 | 1.00 | 0.58 | 0.50 | 0.43 | 1.75 | 1.01 | 0.87 | 0.76 | 4V550 | 1.7 | MHBE-5A-175H-MT-LL | ✓**3JL46** | 204.50 | **185.50** | 22.0 |
| **Metal Halide** | 250 | 2.42 | 1.40 | 1.21 | 1.05 | 2.60 | 1.50 | 1.30 | 1.13 | 2V712 | 1.7 | MHBE-5A-250H-MT-LL | ✓**3JL47** | 248.45 | **195.50** | 28.0 |

(✓) Denotes energy efficient product.

# LOW BAY FIXTURES 70 TO 175 WATT




**Applications:** Low wattage luminaires are used in parking structures, manufacturing facilities, kitchens, food processing areas, laboratories, assembly areas, machine shops, low level aisle lighting, and other applications requiring three dimensional, high illumination levels.

**Housing:** High purity spun aluminum with corrosion resistant Lektrocote® polyester acrylic powder paint finish.

**Refractor:** Enclosed injection molded high performance acrylic, except Nos. 3V778, 3V782, and 3V786 which have an open bottom protected with a stainless steel screen.

**Ballast:** High power factor, copper wound, constant wattage autoregulator, QuadTap® for line voltages of 120, 208, 240, and 277 volts. All units UL Listed for 40°C (104°F) ambient temperature operation.

**Installation:** Three mounting methods available. Junction box mounting style includes fast mounting adapter plate for 4" junction boxes. Pendant mounting style includes balancing 3/4" conduit hub. Ceiling mounting includes two 3/4" conduit hubs for through-wire mounting and a 3/4" conduit top hub.

**Approvals:** UL Listed (E17657); CSA Certified (LR27196) for damp or wet locations

**Hubbell brand.**

**NOTE:** All Units are Shipped Pre-Wired with Lamp Installed.

## FIXTURE SPECIFICATIONS AND ORDERING DATA

| Mounting Type | Dimensions (In.) H | W | Lamps Included Watts | Type | Suggested Replacement | S/MH | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Running Amps 120 | 208 | 240 | 277 | Hubbell Model | Stock No. | With Lamp List | With Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Junction Box (Damp Loc.)** | 12¼ | 14¾ | 70 | HPS | 2V632 | 2.3 | 0.9 | 0.5 | 0.45 | 0.4 | 0.8 | 0.5 | 0.45 | 0.4 | LWJ-070S8-A | ✓**3V775** | $246.66 | **$176.25** | 14.0 |
| | | | 100 | HPS | 4V604 | 1.6 | 1.3 | 0.8 | 0.7 | 0.6 | 1.1 | 0.7 | 0.6 | 0.5 | LWJ-100S8-A | ✓**3V776** | 268.34 | **185.50** | 11.0 |
| | | | 150 | HPS | 2V713 | 2.1 | 2.0 | 1.2 | 1.0 | 0.9 | 1.7 | 1.0 | 0.8 | 0.7 | LWJ-150S8-A | ✓**3V777** | 271.77 | **190.00** | 12.0 |
| | | | 175 | MH | 4V550 | 1.9 | 1.3 | 0.75 | 0.65 | 0.55 | 1.8 | 1.1 | 0.9 | 0.8 | LWJ-175H8-M | ✓**3V778** | 268.40 | **201.75** | 12.0 |
| **Balanced Pendant (Wet Loc.)** | 14 | 14¾ | 70 | HPS | 2V632 | 2.3 | 0.9 | 0.5 | 0.45 | 0.4 | 0.8 | 0.5 | 0.45 | 0.4 | LWP-070S8-A | ✓**3V779** | 274.96 | **207.50** | 18.0 |
| | | | 100 | HPS | 4V604 | 1.6 | 1.3 | 0.8 | 0.7 | 0.6 | 1.1 | 0.7 | 0.6 | 0.5 | LWP-100S8-A | ✓**3V780** | 286.08 | **225.75** | 11.0 |
| | | | 150 | HPS | 2V713 | 2.1 | 2.0 | 1.2 | 1.0 | 0.9 | 1.7 | 1.0 | 0.8 | 0.7 | LWP-150S8-A | ✓**3V781** | 284.18 | **225.75** | 12.0 |
| | | | 175 | MH | 4V550 | 1.9 | 1.3 | 0.75 | 0.65 | 0.55 | 1.8 | 1.1 | 0.9 | 0.8 | LWP-175H8-M | ✓**3V782** | 301.59 | **237.50** | 22.0 |
| **Through-Wire (Wet Loc.)** | 14¼ | 14¾ | 150 | HPS | 2V713 | 2.1 | 2.0 | 1.2 | 1.0 | 0.9 | 1.7 | 1.0 | 0.8 | 0.7 | LWC-150S8-A | ✓**3V785** | 312.94 | **220.00** | 12.0 |
| | | | 175 | MH | 4V550 | 1.9 | 1.3 | 0.75 | 0.65 | 0.55 | 1.8 | 1.1 | 0.9 | 0.8 | LWC-175H8-M | ✓**3V786** | 326.56 | **241.00** | 12.0 |

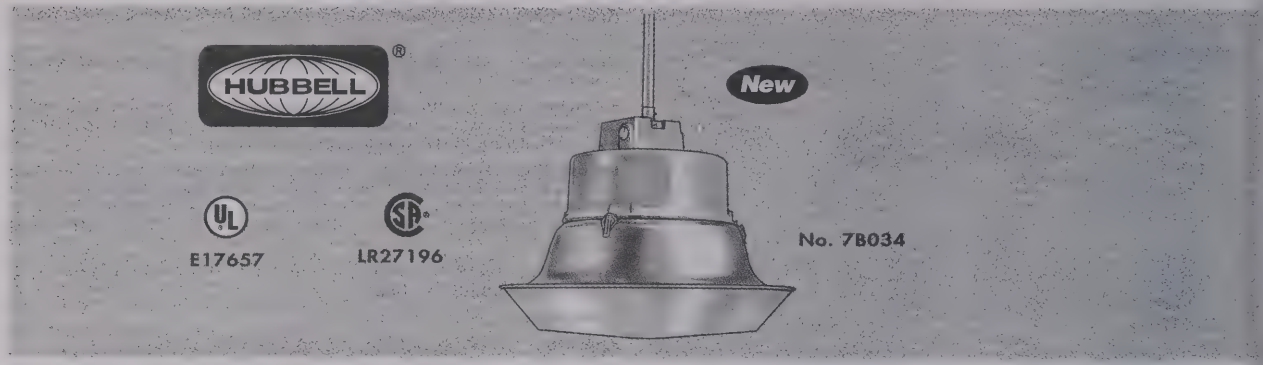
(✓) Denotes energy efficient product.

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

# INDUSTRIAL HID FIXTURES

## MICROLUX™ LOW BAY FIXTURES




**Housing:** Low profile heavy-duty die-cast housing provides cooler operating temperatures for longer life. Three stainless steel latches retain optical system to housing. Patented optical design-high efficiency and glare control. Square light distribution-superior uniformity.

**Ballast:** Minimum start temperature is -40°C (-40°F) for high pressure sodium, and -30°C (-20°F) for metal halide.

**Reflector:** Low brightness reflector provides high vertical illumination and efficiencies over 80%. UV stabilized acrylic refractor.

**Lamps not included:** Use 4V550 for 7B034 and 2V452 for 7B035 or see Index under Lamps, HID.

**Approvals:** UL listed (E17657), CSA Certified (LR27196). Wet location listed.

### LOW BAY FIXTURE ORDERING DATA

| HID Type | Watts | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Max. Operating Line Amps @ Voltage 120 | 208 | 240 | 277 | Dimensions (In.) Reflector Ht. | Dia. | S/MH | Hubbel Model | New! Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MH** | 175 | 1.3 | .75 | .65 | .55 | 1.8 | 1.1 | .9 | .8 | 14½ | 23⅝ | 1.6 | MLP175H8AR | **7B034** | $224.68 | **$204.25** | 27.0 |
| **HPS** | 150 | 2.0 | 1.1 | 1.0 | .9 | 1.7 | 1.0 | .8 | .7 | 14½ | 23⅝ | 1.8 | MLP150S8AR | **7B035** | 216.97 | **197.25** | 28.0 |

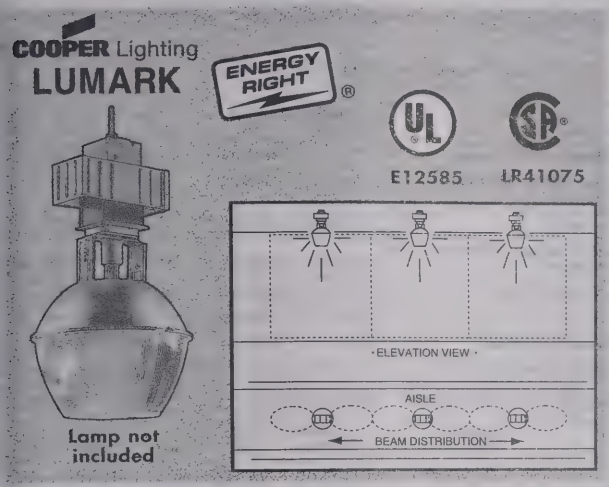
### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

### UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

## PREMIUM HIGH BAY AISLELIGHTER




**Applications:** Warehouses, distribution or assembly areas, hangars, cold storage areas requiring narrow light distribution.

**Housing:** Features heavy-duty, die-formed steel. Embossed for cooler operation and extended ballast life. Mogul base porcelain socket. Polyester powder coat bronze finish.

**Reflector/Refractor:** Spun aluminum reflector with injection molded prismatic acrylic refractor. Optical system produces a long/narrow light pattern for maximum fixture spacing and reduces the fixtures required. The prisms project light up and out at high angles to provide an even light distribution on the vertical face of stacks eliminating dark areas between fixtures. Open bottom design allows easy relamping.

**Ballast:** High power factor, constant wattage autotransformer type, 60 Hz. Multi-tap ballast for field selection of voltage (120/208/240/277V). Maximum ambient temperature operation 65°C (149°F). Minimum starting temperature is -40°C (-40°F) for high pressure sodium and -30°C (-20°F) for metal halide.

**Installation:** Features easy, slide on mounting box with tapped opening for 3/4" conduit.

**Dimensions:** 29" high with a 16" diameter reflector.

**Lamp not included:** Use suggested lamp listed below or see Index under, Lamps, HID.

**UL Listed (E12585); CSA Certified (LR41075).**

**Lumark brand.**

| HID Type | Watts | Max. Starting Line Amps Voltage 120 | 208 | 240 | 277 | Max. Operating Line Amps Voltage 120 | 208 | 240 | 277 | Suggested Lamp Stock No. | S/MH | Lumark Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HP Sodium** | 400 | 3.35 | 1.93 | 1.68 | 1.45 | 4.30 | 2.48 | 2.15 | 1.87 | 2V453 | 2.8 | HPAR-SDA-OB1-400-MT | ✓**7V224** | $408.91 | **$253.00** | 30.0 |
| **Metal Halide** | 400 | 3.80 | 2.20 | 1.90 | 1.60 | 4.00 | 2.30 | 2.00 | 1.70 | 2V658 | 2.4 | MHAR-SDA-OB1-400-MT | ✓**7V223** | 362.99 | **224.75** | 33.0 |

(✓) Denotes energy efficient product.

## ECONOMY HIGH BAY AISLELIGHTER




**Applications:** Warehouses, distribution centers, and assembly areas requiring narrow light distribution.

**Housing:** Features heavy-duty die-formed steel. Embossed housing for cooler operation and extended ballast life. Mogul base porcelain socket. Polyester powder coat bronze finish.

**Reflector:** Spun aluminum reflector with internal anodized baffles to redirect light. Five field adjustable settings provide concentrated wide light distributions. Reflector redirects light to achieve high vertical lighting levels on stacks and maximum horizontal footcandles in aisles.

**Ballast:** High power factor, constant wattage autotransformer type, 60 Hz. Multi-tap ballast for field selection of voltage (120/208/240/277V). Maximum ambient temperature operation 65°C (149°F). Minimum starting temperature is -40°C (-40°F) for high pressure sodium and -30°C (-20°F) for metal halide.

**Installation:** Features slide-on mounting box with tapped opening for 3/4" conduit.

**Lamp not included:** Use suggested lamp listed below or see Index under Lamps, HID.

**UL Listed (E12585); CSA Certified (LR1787).**

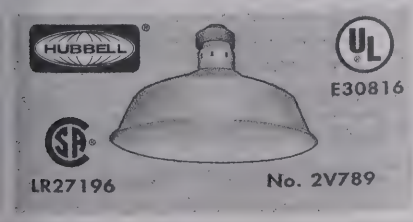
**Lumark brand.**

ACCESSORIES FOR LOW AND HIGH BAY FIXTURES ON PAGE 1086

| HID Type | Watts | Max. Starting Line Amps @ Voltage 120 | 208 | 240 | 277 | Max. Operating Line Amps @ Voltage 120 | 208 | 240 | 277 | Dimensions (In.) Reflector Ht. | Dia. | Suggested Lamp Stock No. | S/MH | Lumark Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HP Sodium** | 400 | 3.35 | 1.93 | 1.68 | 1.45 | 4.30 | 2.48 | 2.15 | 1.87 | 24 | 18 | 2V453 | 1.7 | HPSS-EL18M-400-MT | ✓**7V216** | $280.23 | **$173.50** | 29.0 |
| **Metal Halide** | 400 | 3.80 | 2.20 | 1.90 | 1.60 | 4.00 | 2.30 | 2.00 | 1.70 | 26¼ | 18 | 2V658 | 1.8 | MHSS-EL18M-400-MT | ✓**7V217** | 238.79 | **145.50** | 29.0 |

(✓) Denotes energy efficient product.

## INDUSTRIAL INCANDESCENT FIXTURE




**Reflector:** Durable steel housing with white Lektrocote® finish.

**Socket:** Cast aluminum housing with medium base screw shell. 200W max.

**Mounting:** Unit provides for pendant mounting to 1/2" conduit.

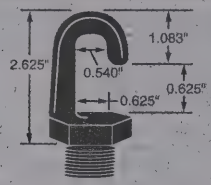
**Dimensions:** 9⅛H x 16¾" Dia.

**Lamp not included:** Accepts 200W, No. 2V287.

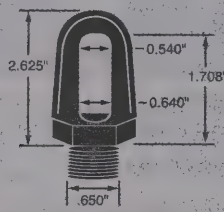
**UL Listed (E30816). CSA Certified (LR27196).**

**No. 2V789.** Hubbell brand (RP-216-RV). Shpg. wt. 5.0 lbs. List $78.84. Each **$46.45**; Lots 3.....**$44.13**

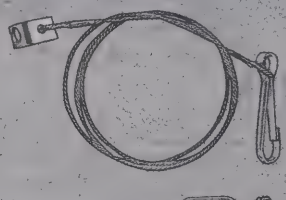
# LOW AND HIGH BAY FIXTURE ACCESSORIES




Fixture Mounting Hook (Male) No. 6VX36

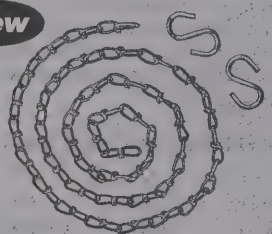



Fixture Mounting Loop (Female) No. 6VX37



Mounting Hook, Cord and Plug No. 3Y791

New



Ballast Safety Chain No. 4PF97



Wire Guard No. 4RG19

## COOPER Lighting LUMARK — LOW AND HIGH BAY FIXTURE ACCESSORIES

- For Lumark Low and High Bay Fixtures

| Description | Lumark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Fixture Mounting Hook (Male)—3/4" Thread** | FH-1 | **6VX36** * | $16.44 | **$10.21** | 0.5 |
| **Fixture Mounting Loop (Male)—3/4" Thread** | FL-1 | **6VX37** * | 16.44 | **10.21** | 0.5 |
| **120V 16/3 Mounting Cord (3 ft.) and NEMA L5-15P Plug (6VX36 or 6VX37 required)** | PC3-120 | **6VX38** * | 57.67 | **35.05** | 0.5 |
| **277V 16/3 Mounting Cord (3 ft.) and NEMA L7-15P Plug (6VX36 or 6VX37 required)** | PC3-277 | **6VX35** * | 57.67 | **35.65** | 0.8 |
| **Ballast Safety Chain (Housing to Ceiling)** | SCF | **6VX39** | 18.15 | **11.22** | 0.5 |
| **5-ft. Safety Chain** | SCF5 | **6VX40** | 28.95 | **17.89** | 0.5 |
| **Optical Safety Chain (Reflector to Ballast)** | SCR | **6VX41** | 11.19 | **6.91** | 0.8 |

(*) UL Listed (E12585) and CSA Certified (LR41075).

- For Nos. 7V171, 7V172, 7V173, 7V197, 7V269-7V272, 7V217, 7B051, 7B052

| Description | Use With Nos. | Lumark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **18" Wire Guard** | 7V172, 7V173, 7V171, 7V269-7V271 | WG-18 | **6VX14** | $59.71 | **$37.00** | 3.0 |
| **18" Safety Glass Bottom** | 7V171, 7V217, 7V271, 7B051, 7B052 | SGB-18 | **2V937** | 71.32 | **44.15** | 6.0 |
| **23" Safety Glass Bottom** | 7V197, 7V272 | SGB-23 | **2V938** | 70.29 | **51.20** | 8.6 |

## HUBBELL — HOOKS, CORD, AND PLUG

- For Hubbell Low and High Bay Fixtures
- Nos. 3V791 and 3V792 are UL Listed (E30816) and CSA Certified (LR27196)

| Description | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **HOOKS, CORD, AND PLUG** | | | | | |
| **120V Mounting Hook, 16/3 Cord, & NEMA L5-20P Plug** | BLA-CHP1 | **3V791** | $36.74 | **$26.65** | 1.0 |
| **277V Mounting Hook, 16/3 Cord, & NEMA L7-20P Plug** | BLA-CHP4 | **3V792** | 36.74 | **26.65** | 1.0 |
| **Fixture Mounting Hook/Loop (Male)** | HOOK/LOOP | **3V794** | 11.00 | **5.51** | 0.1 |

## SAFETY CHAINS

**Optical Assembly Safety Chain**
- Use with Hubbell Superbay I™ Series High and Lowbay fixtures
- Secures optical assembly to ballast
- 2 ft. cable with No. 4PF95 and 4PG09 or a 6 ft. "bulldog" chain with No. 4PF97 and 4PG11

**Ballast Housing Safety Chain**
- Secures ballast housing to structure
- "Bulldog" chain

| Description | Use with No. | Hubbell Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Optical Safety Chain** | 7B010 thru 7B033 | B-LLR | **4PF95** | $11.38 | **$10.35** | 0.3 |
| **Ballast Safety Chain** | 7B010 thru 7B033 | BTLR6 | **4PF97** | 11.93 | **10.85** | 1.6 |
| **Optical Safety Chain** | 7B036 thru 7B046 | CHLLR | **4PG09** | 16.74 | **15.22** | 0.5 |
| **Ballast Safety Chain** | 7B036 thru 7B046 | CHTLR6 | **4PG11** | 13.87 | **12.61** | 1.0 |

## WIREGUARDS

- Use with Hubbell Superbay I™ "BL-BI" Highbay (Stock Nos. Listed Below)
- Corrosion resistant welded steel
- Center lamp access

| Description | Use with No. | Hubbell Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **14" Wireguard** | 7B010, 7B014, 7B018, 7B022, 7B026, 7B030 | RG-14 | **4PG19** | $33.11 | **$30.10** | 1.0 |
| **19" Wireguard** | 7B012, 7B016, 7B020, 7B024, 7B028, 7B032 | WG-19 | **4PF96** | $33.16 | **$30.15** | 1.4 |

# OUTDOOR FIXTURES GUIDE

## GUIDE TO DETERMINING NUMBER OF AREA AND FLOODLIGHT FIXTURES NEEDED

Step 1: Determine footcandle level from Outdoor Footcandle Level table below.

Step 2: Determine square feet of area to be lighted (length x width).

Step 3: Determine type of fixture to be used and proper mounting height.

Step 4: Identify initial lumens of fixture type (listed with lamps, see index for specific lamp type desired).

Step 5: Use formula with data derived from steps above.

Formula: Number of fixtures = 3 times number of footcandles needed x sq. ft. of area to be lighted ÷ initial lumens of selected fixture type.

Step 6: Determine dirt depreciation factor of fixture from Light Depreciation Chart below. Multiply number of fixtures by factor which is applicable. Final number is the approximate number of floodlights needed to light a given area for an indicated task. All fractions should be rounded off. Follow all general guidelines for installation. **Note:** This is not a precise lighting guide.

### RECOMMENDED MOUNTING HEIGHTS (FT.)

| Watts | H.P. Sodium | Metal Halide | Mercury Vapor | Tungsten Halogen |
|---|---|---|---|---|
| 50 | 8–13 | 8–13 | — | — |
| 70 | 10–15 | 10–15 | — | — |
| 100 | 15–20 | 10–15 | — | — |
| 150 | 20–25 | — | — | — |
| 175 | — | 15–20 | 18–23 | — |
| 200 | 20–25 | — | — | — |
| 250 | 22–27 | 20–25 | 20–25 | — |
| 400 | 30–35 | 25–30 | 20–25 | — |
| 500 | — | — | — | 15–20 |
| 1000 | 40–50 | 40–45 | 35–40 | 20–25 |
| 1500 | — | 45+ | - | 25–30 |

### LIGHT DEPRECIATION CHART

| Cleaning Every Year Environment | | | Cleaning Every 3 Years Environment | | | Cleaning Every 6 Years Environment | | |
|---|---|---|---|---|---|---|---|---|
| Clean | Medium | Dirty | Clean | Medium | Dirty | Clean | Medium | Dirty |
| .90 | .93 | .96 | .96 | 1.01 | 1.06 | 1.06 | 1.29 | 1.54 |

## RECOMMENDED OUTDOOR FOOTCANDLE LEVELS

**Recommended Illuminating Engineering Society (IES) Minimum Light Levels For Outdoor Usage. Values Are Minimum Average Maintained Footcandles (FC) on application at all times.**

| Commercial/Industrial Lighting | Minimum Footcandles |
|---|---|
| **Building Construction** | |
| General Construction | 10 |
| Excavation Work | 2 |

| Buildings and Monuments | Environment Dark | Bright |
|---|---|---|
| Light Areas | 5 | 15 |
| Medium Light Areas | 10 | 20 |
| Medium Dark Areas | 15 | 30 |
| Dark Areas | 20 | 50 |

| Sports Lighting | Minimum Footcandles Infield | Outfield |
|---|---|---|
| **Baseball** | | |
| Semi-Pro | 20 | 15 |
| Recreational | 15 | 10 |
| **Softball** | | |
| Professional | 50 | 30 |
| Semi-Pro | 30 | 20 |
| Industrial League | 20 | 15 |
| Recreational (6-Pole) | 10 | 7 |

| Commercial/Industrial Lighting | Minimum Footcandles |
|---|---|
| **Car Sales Lots*** | |
| Front Line First 20 to 25 Ft. | 100-500 |
| Remaining Area | 20-75 |
| **Industrial Yards (Active)*** | 5 |
| **Loading/Unloading Platforms** | 20 |
| **Malls (Open)*** | 10 |
| **Parking Areas** | |
| Self-Parking | 1 |
| Attendant Parking | 2 |

(*) Not recommended IES levels, but considered to be good illumination practice.

| Sports Lighting | Minimum Footcandles |
|---|---|
| **Basketball** | |
| College and Professional | 50 |
| College Intramural and High School | 30 |
| Recreational | 10 |
| **Field Hockey** | 20 |
| **Handball** | |
| Club, Two Courts | 20 |
| Recreational, Two Courts | 10 |
| **Lacrosse** | 20 |
| **Playgrounds** | 5 |
| **Ski Slope** | 1 |

| Commercial/Industrial Lighting | Minimum Footcandles |
|---|---|
| **Pedestrian Walkways** | |
| Commercial Sidewalks | 0.9 |
| Commercial Pedestrian Ways | 0.2 |
| Residential Sidewalks | 0.2 |
| Residential Pedestrian Ways | 0.5 |
| **Railroad Yards** | |
| Switch Points | 2 |
| Hump Area | 20 |
| **Storage Yards** | |
| Active | 20 |
| Inactive | 1 |

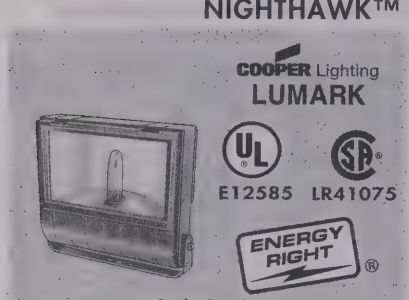
| Sports Lighting | Minimum Footcandles |
|---|---|
| **Swimming** | |
| Exhibitions | 20 |
| Recreational | 10 |
| **Tennis and Badminton** | |
| Tournament | 30 |
| Club | 20 |
| Recreational | 10 |
| **Volleyball** | |
| Tournament | 20 |
| Recreational | 10 |


### YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# HID FLOODLIGHT FIXTURES

## NIGHTHAWK™ HEAVY-DUTY 400 AND 1000 WATT FLOODLIGHTS




**Housing:** Constructed of die-cast aluminum. Meets NEMA heavy-duty type classification. Aerodynamic design has low wind resistance. 1/4" steel trunnion has aiming scale to simplify directing light. Dark bronze polyester powder coat finish. Dimensions: 22½H x 20½W x 9½"D (400 watt models); 10½"D (1000 watt models). Includes capped photocell receptacle for use with locking thermal type photocell sold separately. Order No. 5U792.

**Latches:** Formed aluminum flush draw action latches offer easy access to lamp compartment without tools.

**Reflector:** Three-piece optical design has two distinct finishes for better light control and superior beam efficiency. Foam-in-place silicone gasket provides maximum protection of interior components and allows fixture to be used in areas that require above horizontal aiming.

**Lens:** Thermal shock, heat and impact-resistant glass. All external hardware is stainless steel.

**Ballast:** High power factor multi-tap 120/208/240/277 volt ballast. Ambient temperature: Minimum -20°F (-40°F for high pressure sodium); Maximum 131°F.

**Socket:** Mogul base porcelain socket.

**Approvals:** UL Listed (E12585) for wet locations; CSA Certified (LR41075). IBEW label.

**Lamp Not Included:** Use recommended lamp listed below or see Index.

| Mogul Base Lamp Type | Suggested Lamp Stock No. | Max. Starting Line Amps, 60 Hz 120 | 208 | 240 | 277 | Max. Operating Line Amps, 60 Hz 120 | 208 | 240 | 277 | Lumark Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400W HP Sodium | 2V453 | 3.35 | 1.93 | 1.68 | 1.45 | 4.30 | 2.48 | 2.15 | 1.87 | HPNK-Y76-400-MT-PER-SC | 1N004 | $416.09 | $305.25 | 66.0 |
| 1000W HP Sodium | 2V754 | 7.40 | 4.10 | 3.60 | 3.20 | 9.20 | 3.45 | 4.61 | 4.10 | HPNK-Y76-1000-MT-PER-SC | 1N003 | 756.54 | 469.50 | 73.0 |
| 400W Met. Hal. & Merc. Vap. | 2V658 | 3.80 | 2.20 | 1.90 | 1.60 | 4.00 | 2.30 | 2.00 | 1.70 | MHNK-Y76-400-MT-PER-SC | 1N006 | 494.29 | 279.75 | 62.0 |
| 1000W Met. Hal. & Merc. Vap. | 2V659 | 5.50 | 3.15 | 2.80 | 2.40 | 9.40 | 5.40 | 4.70 | 4.10 | MHNK-Y76-1000-MT-PER-SC | 1N005 | 685.80 | 424.25 | 71.0 |

(✓) Denotes energy efficient product. Mounting accessories found on page 1092.

## THE WARRIOR™ CUTOFF FLOODLIGHT




**Applications:** Parking lots, construction and storage sites, rail yards, light industrial locations, marinas, and service areas.

**Housing:** Die-cast aluminum housing with integral door hinges and watertight housing door. Features 3/16" galvanized steel trunnion mount. Mogul base porcelain socket. Acrylic enamel powder coat bronze finish.

**Lamp not included:** Use suggested lamp listed below or see Index under Lamps, HID.

**Reflector:** Aluminum reflector provides sharp cutoff of light source. Heat and impact-resistant tempered glass lens.

**Ballast:** High power factor, constant wattage auto-transformer type, 60 Hz. Multi-tap ballasts allow field selection of voltage (120/208/240/277V). Minimum starting temperature: -20°F (-40°F for high pressure sodium).

**Installation:** Single bolt mounting for easy installation. Field adjustable aiming angle.

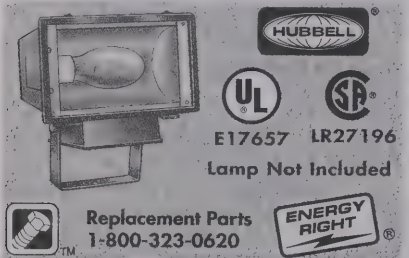
**Dimensions:** 15W x 17H x 7"D.

**Approvals:** UL Listed (E12585) and CSA Certified (LR41075) for wet locations.

| HID Type | Watts | Suggested Lamp Stock No. | Starting Amps @ Voltage 120 | 208 | 240 | 277 | Running Amps @ Voltage 120 | 208 | 240 | 277 | Lumark Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HP Sodium | 250 | 2V520 | 1.40 | 0.81 | 0.70 | 0.61 | 2.60 | 1.50 | 1.30 | 1.11 | HPWR-65T-250-MT | 6VX58 | $328.65 | $229.00 | 40.0 |
| HP Sodium | 400 | 2V453 | 3.35 | 1.93 | 1.68 | 1.45 | 4.30 | 2.48 | 2.15 | 1.87 | HPWR-65T-400-MT | 6VX59 | 328.68 | 224.25 | 45.0 |
| Metal Halide | 250 | 2V712 | 2.42 | 1.40 | 1.21 | 1.05 | 2.60 | 1.50 | 1.30 | 1.13 | MHWR-65T-250-MT | 6VX60 | 296.12 | 198.00 | 40.0 |
| Metal Halide | 400 | 2V658 | 3.25 | 1.90 | 1.63 | 1.40 | 4.00 | 2.30 | 2.00 | 1.70 | MHWR-65T-400-MT | 6VX57 | 319.98 | 199.50 | 45.0 |

(✓) Denotes energy efficient product. Mounting accessories found on page 1092.

## 150, 250 AND 400 WATT GENERAL PURPOSE FLOODLIGHTS




**Housing:** Die-cast aluminum housing with bronze Lektrocote® finish. Three hole trunnion yoke. Center 1⅛" clearance hole allows mounting to 1/2 or 3/4" nipple. Yoke has two ½" dia. holes for bracket mounting. Dimensions: 14⅝H x 14W x 10⅛"D.

**Reflector:** Linear parabolic three piece reflector assembly.

**Lens.** Tempered glass lens in die-cast aluminum door frame with silicone gasket and two stainless steel "no tool" latches for weathertight seal, easy lamp access.

**Ballast:** High power factor, QuadTap™ ballast has heat sink design for cooler operation. Easy-access isolated wiring chamber.

**Socket:** Mogul base porcelain socket.

**Lamp Not Included:** Use recommended lamp listed below or see Index under Lamps, HID.

**Ambient Temp:** Min. -20°F (-40°F HPS); Max. 131°F

**Approvals:** UL Listed (E17657) for indoor/outdoor use; CSA Certified (LR27196) for 120 or 277V, wet locations.

| Mogul Base Lamp Type | Suggested Lamp Stock No. | Dimensions (In.) H | W | D | Max. Starting Line Amps, 60 Hz 120 | 208 | 240 | 277 | Max. Operating Line Amps, 60 Hz 120 | 208 | 240 | 277 | Hubbell Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150W HP Sodium | 2V452 | 14⅝ | 14 | 10⅛ | 2.00 | 1.10 | 1.00 | 0.90 | 1.70 | 1.00 | 0.80 | 0.70 | MHS0150S268LL | 2V676 | $341.38 | $211.00 | 25.0 |
| 250W HP Sodium | 2V520 | 14⅝ | 14 | 10⅛ | 1.80 | 1.00 | 0.90 | 0.80 | 2.80 | 1.60 | 1.40 | 1.20 | MHS0250S268LL | 2V710 | 386.93 | 253.75 | 27.0 |
| 400W HP Sodium | 2V453 | 14⅝ | 14 | 10⅛ | 2.80 | 1.70 | 1.50 | 1.30 | 3.90 | 2.30 | 2.00 | 1.70 | MHS0400S268LL | 2V677 | 417.59 | 265.50 | 28.0 |
| 250W Met. Hal. & Merc. Vap. | 2V712 | 14⅝ | 14 | 10⅛ | 2.10 | 1.40 | 1.10 | 1.00 | 2.50 | 1.50 | 1.30 | 1.10 | MHS0250H268LL | 2V709 | 344.04 | 209.50 | 26.0 |
| 400W Met. Halide | 5V658 | 14⅝ | 14 | 10⅛ | 3.25 | 1.90 | 1.65 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | MHS0400H268LL | 3V829 | 380.31 | 226.25 | 29.0 |

(✓) Denotes energy efficient product. Mounting accessories found on page 1092.

# HID FLOODLIGHT FIXTURES

## FALCON™ LOW WATTAGE FLOODLIGHTS

**Applications:** For all commercial, industrial and residential low-wattage HID lamp floodlighting applications.

**Housing:** Die-cast aluminum housing finished in weather- and abrasion-resistant dark bronze polyester powder coat. Medium base porcelain socket for HID lamps.

**Reflector:** Formed-aluminum stippled reflector optimizes beam efficiency and control.

**Lens:** Tempered glass lens is impact-resistant and thermal shock-resistant.

**Installation:** Can be wall or pole mounted. Adjustable stem mounting arm fits 1/2" NPS outlet box cover.

**Lamp Included:** For replacement lamp use suggested lamp below or see Index under lamps, HID.

**Minimum Start Temperature:** -40°F for high pressure sodium; -20°F for metal halide

**UL listed** (E12585).




| HID Type | Watts | Suggested Lamp Stock No. | Starting Amps @ 120V | Operating Amps @ 120V | Falcon Model | New! Stock No. | Lamp Included List | Lamp Included Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **High Pressure Sodium** | 70 | 2V632 | 2.20 | 1.60 | HPFF70 | ✓ **4PK61** | $146.00 | **$108.50** | 23.0 |
| **High Pressure Sodium** | 150 | 2V713 | 4.50 | 3.20 | HPFF15 | ✓ **4PK60** | 157.00 | **116.50** | 23.0 |
| **Metal Halide** | 70 | 1E694 | 2.65 | 2.25 | MHFF70 | ✓ **4PK77** | 229.00 | **180.25** | 23.0 |

## BANDIT™ MINI-FLOODLIGHT

**Applications:** Landscapes, signs, building facades, homes, and commercial buildings.

**Housing:** Features die-cast aluminum housing with captive, recessed screws and gasketing. Polyester powder coat bronze finish. Dimensions: 7H x 10W x 10"D. Medium base socket.

**Reflector:** Aluminum reflector produces maximum beam efficiency.

**Lens:** Thermal shock and impact-resistant tempered glass lens.

**Ballast:** Nos. 2V861 & 2V862 include normal power factor reactor type ballast for 120V only. No. 4V262 includes high power factor multi-tap ballast for field selection of voltage (120/208/240/ 277V). Minimum starting temperature is -40°F except for metal halide fixture which is -20°F.

**Installation:** Unit can be wall or pole mounted. Ball joint swivel permits adjustable horizontal/vertical aiming, in 9° increments. Adjustable arm fits any 1/2" NPS cover.

**Lamp Included:** For replacement lamp use suggested lamp listed below or see Index under Lamps, HID.

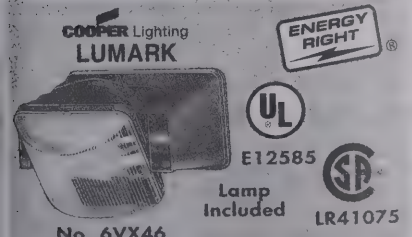
**UL Listed** (E12585) and CSA Certified (LR1787) for wet locations.

**Lumark brand.**




| HID Type | Watts | Suggested Lamp Stock No. | Starting Amps @ 120V | Operating Amps @ 120V | Lumark Model | Stock No. | Lamp Included List | Lamp Included Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **HP Sodium** | 70 | 2V632 | 2.10 | 1.60 | HPBF-GL70-120LL | ✓ **2V861** | $236.07 | **$133.35** | 9.0 |
| **HP Sodium** | 150 | 2V713 | 4.50 | 3.20 | HPBF-GL150-120LL | ✓ **2V862** | 249.78 | **141.15** | 10.0 |
| **Metal Halide** | 175 | 6V751 | 0.90 | 1.80 | MHBF-GL175H-MTLL | ✓ **4V262** | 341.76 | **185.50** | 16.0 |

## CARETAKER™ COMPACT HID FLOODLIGHT




**Applications:** Apartment buildings, shopping centers, hotels, stairways, and other residential or commercial uses.

**Housing:** Injection molded, high-impact polycarbonate housing with weathertight gasket. Medium base porcelain socket.

**Reflector:** Polycarbonate reflector has ratchet-type aiming device that locks in place.

**Lens:** Rotatable polycarbonate lens is impact resistant. Prismatic pattern duplicates light distribution of two 150W PAR lampholders.

**Ballast:** Normal power factor reactor type ballast for 120V only. Minimum starting temperature is -40°F.

**Installation:** Unit can be wall or ceiling mounted either horizontally or vertically; easily installed to existing junction boxes.

**Lamp Included:** For replacement use lamps listed below or see Index; Lamps, HID.

**UL Listed** (E12585) for wet locations; CSA Certified (LR41075).

| HID Type | Watts | Suggested Lamp Stock No. | Finish | Lumark Model | Stock No. | Lamp Included List | Lamp Included Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **HP Sodium** | 50 | 2V657 | Bronze | HPCT-50-120V-LL | ✓ **6VX46** | $191.66 | **$95.90** | 5.0 |
| **HP Sodium** | 50 | 2V657 | White | HPCT-50-120V-LL-WHT | ✓ **6W850** | 191.66 | **95.90** | 4.5 |

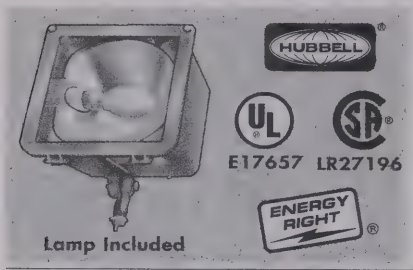
(✓) Denotes energy efficient product.

### ORDER DIRECT FROM GRAINGER

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**

# HID FLOODLIGHT FIXTURES

## 70 TO 175 WATT COMPACT FLOODLIGHT FIXTURES




**Applications:** For small area, sign, or facade lighting. Comparable to 300/500 watt quartz fixtures. 12⁹⁄₆₄H x 9¹⁵⁄₆₄W x 7¹⁄₃₂"D size is easily hidden behind shrubbery.

**Housing:** Rugged, die-cast aluminum with dark bronze Lektrocote® protective finish. Cast lens door with hex head twin screw retention. Tempered glass sealed to housing with silicone gasketing for weather seal. Aim light in any position.

**Reflector:** High reflective Anodal® finish for high efficiencies and uniform wide beam spread. Field adjustable rotatable optics.

**Mounting:** 1/2" knuckle mounts to box or trough.

**Ballast:** 70 and 150 watt HPS models are 120V NPF with -40°F starting. 70 to 175 watt metal halide models are QuadTap (120, 208, 240, 277) HPF with -20°F starting.

**Socket:** Heavy-duty spring loaded porcelain medium base.

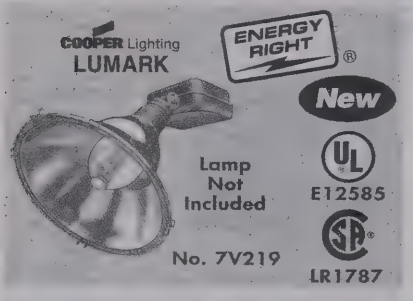
**Lamp Included.** Use replacement lamps listed below or see Index under Lamps, HID.

**Approvals:** UL Listed (E17657) for wet locations; CSA Certified (LR27196) for 120 or 277 volt, indoor/outdoor use.

| Type | Lamp (Included) Voltage | Suggested Lamp Stock No. | Starting Amps 120 | 208 | 240 | 277 | Operating Amps 120 | 208 | 240 | 277 | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **70W HPS** | 120 | 6V730 | 2.1 | — | — | — | 1.6 | — | — | — | MIC-0070S-651 | ✓ **3V827** | $145.73 | **$109.45** | 8.0 |
| **150W HPS** | 120 | 6V737 | 4.4 | — | — | — | 3.2 | — | — | — | MIC-0150S-651 | ✓ **3V828** | 157.34 | **118.45** | 11.0 |
| **70W MH** | 120/208/240/277 | 6V746 | 0.9 | 0.5 | 0.45 | 0.4 | 0.8 | 0.5 | 0.45 | 0.4 | MIC-0070H-358 | ✓ **3V825** | 281.00 | **185.75** | 7.0 |
| **175W MH** | 120/208/240/277 | 6V751 | 1.3 | 0.8 | 0.7 | 0.6 | 1.8 | 1.1 | 0.9 | 0.8 | MIC-0175H-358 | ✓ **3V826** | 302.54 | **190.25** | 15.0 |

(✓) Denotes energy efficient product.

## SPORTS FLOODLIGHT




**Applications:** All outdoor sports facilities including football, baseball, softball and soccer fields, and tennis courts.

**Housing:** Features heavy-duty die-cast aluminum housing. Mogul base socket housing is die-cast aluminum and ribbed for maximum heat dissipation. Polyester powder coat bronze finish is weather-resistant.

**Lamp not included:** Use suggested lamp listed below or see Index under Lamps, HID.

**Reflector:** Spun aluminum reflector features NEMA beam type 4 and 5. Tempered glass lens resists heat and shock.

**Ballast:** High power factor, constant wattage auto-transformer type, 60 Hz. Multi-tap ballasts allow field selection of voltage (120/208/240/277V). Minimum start temperature -20°F.

**Installation:** Single-bolt mounting for fast easy installation. Vertical aiming system enables unit to be pre-aimed, then repositioned after maintenance.

**Dimensions:** Reflector—21¹⁵⁄₁₆" diameter x 20⅞" long; Ballast—5⅝H x 11W x 9¼"D.

**Approvals:** UL Listed (E12585) and CSA Certified (LR1787) for wet locations.

**Lumark Brand.**

| Lamp Type | Watts | NEMA Beam Type | Suggested Lamp Stock No. | Starting Amps @ Voltage 120 | 208 | 240 | 277 | Operating Amps @ Voltage 120 | 208 | 240 | 277 | Lumark Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MH** | 1000 | 4 | 2V659 | 5.50 | 3.5 | 2.8 | 2.4 | 8.4 | 5.4 | 4.70 | 4.10 | MHXL-T4-1000-MT | *New* ✓ **7B061** | $386.65 | **$351.50** | 57.0 |
| **MH** | 1000 | 5 | 2V659 | 5.50 | 3.5 | 2.8 | 2.4 | 8.4 | 5.4 | 4.70 | 4.10 | MHXL-T5-1000-MT | *New* ✓ **7B062** | 385.82 | **350.75** | 48.0 |
| **MH** | 1500 | 4 | 4V484 | 13.1 | 4.7 | 4.1 | 3.5 | 14.2 | 8.2 | 7.10 | 6.15 | MHXL-T4-1500-MT | ✓ **7V219** | 519.09 | **279.00** | 42.0 |
| **MH** | 1500 | 5 | 4V484 | 13.1 | 4.7 | 4.1 | 3.5 | 14.2 | 8.2 | 7.10 | 6.15 | MHXL-T5-1500-MT | *New* ✓ **7B060** | 310.47 | **282.25** | 33.0 |

(✓) Denotes energy efficient product.

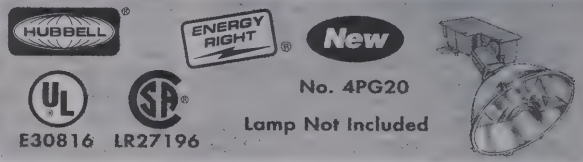
### ACCESSORIES FOR LUMARK SPORTS FLOODLIGHT (Above)

| Description | Lumark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Two-light Cross-Arm Bracket** | S2C2WPP | **6VX10** | $217.78 | **$134.70** | 20.0 |
| **Four-light Cross-Arm Bracket** | S4C4WPP | **6VX11** | 342.99 | **212.25** | 22.0 |

## SPORTSLITER® ENVIRONMENTAL LIGHT CONTROL

- **Reduces glare to surrounding area**
- **Lowers light trespass lighting**
- **Addresses environmental lighting specifications**

For general lighting areas using 40 ft. or higher poles. **Applications include:** tennis courts, parking lots, truck terminals, ball fields, and large storage areas. Horizontally lamped with internal louvers. Medium flood beam distribution. Made in USA. Hubbell brand. Not suitable for above horizontal aiming.




| Lamp Type | Suggested Lamp Stock No. | Max. Starting Line Amps, 60 Hz 120 | 208 | 240 | 277 | Max. Operating Line Amps, 60 Hz 120 | 208 | 240 | 277 | Hubbell Model | *New!* Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1000W MH** | 2V659 | 7.5 | 4.3 | 3.8 | 9 | 9.2 | 5.3 | 4.6 | 4.0 | SLS1000H1M8SG | ✓ **4PG20** | $396.00 | **$360.00** | 64.0 |
| **1500W MH** | 4V484 | 13.4 | 7.7 | 6.7 | 5.8 | 13.5 | 8.0 | 7.0 | 6.0 | SLS1500H1M8SG | ✓ **4PG21** | 412.50 | **375.00** | 64.0 |

(✓) Denotes energy efficient product.

# QUARTZ FLOODLIGHT FIXTURES

## LARGE QUARTZ FLOODLIGHT

**Applications:** High-output instant-on lamps are ideal for small parking lots, signs and billboards, auto sales lots and other outdoor display areas, loading locks, construction areas, and small outdoor sports areas.

**Housing:** Durable die-cast aluminum housing has screw fasteners to provide weatherproof seal. Door is hinged for easy lamp removal.

**Finish:** Flat black paint.

**Lens:** Clear tempered glass lens is heat- and impact-resistant.

**Installation:** Adjustable stem mounting arm fits 1/2" NPS outlet box cover.

**Lamp Not Included:** No. 4PK94 accepts 1500W Quartz lamp (No. 2V617) for 208V; or (2V618) at 240V or (No. 2V619) at 277V. No. 4PK95 uses 500W Quartz lamp No. 2V384.

**UL Listed (E7009)**




| Watts | Volts 60 Hz | Dimensions (In.) Height | Width | Depth | Lumark Model | New! Stock No. | Less Lamp* List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1500** | 208/240/277 | 8½ | 15 | 2½ | QB1500 | **4PK94** | $76.50 | **$56.50** | 35.0 |
| **500** | 120 | 8½ | 15 | 2½ | QB500 | **4PK95** | 79.90 | **36.90** | 22.0 |

(*) Do not install near combustible materials. For outdoor use only.

## WEDGE SMALL QUARTZ FLOODLIGHT

**Applications:** The white light from this quartz unit is ideal for small outdoor floodlighting jobs where color rendition is critical.

**Housing:** Die-cast aluminum housing with heat- and weather-resistant gasket. Hinged door frame has toolless entry latch.

**Finish:** Black paint.

**Reflector:** Anodized aluminum reflector for maximum beam control and efficiency.

**Lens:** Tempered heat- and impact-resistant glass lens.

**Installation:** Adjustable stem mounting arm fits 1/2" NPS outlet box cover.

**Lamp:** 500 W quartz included. Suggest No. 2V384 replacement.

**UL (E19201) and CSA Listed** for wet locations.

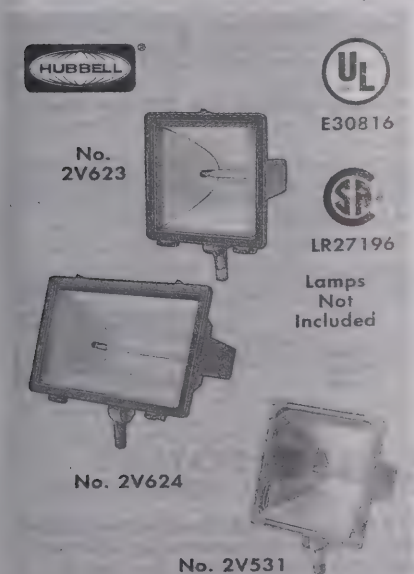



| Watts | Volts 60 Hz | Dimensions (In.) Height | Width | Depth | Lumark Model | New! Stock No. | Less Lamp* List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **500** | 120 | 6¼ | 9 | 4 | QZ5L | **4PK96** | $48.60 | **$19.10** | 3.0 |

(*) Do not install near combustible materials. For outdoor use only.

## 300 TO 1500W QUARTZ FLOODLIGHT FIXTURES

**For Low Cost, Instant-On, Directed Light Installations. UL Listed for Wet Locations**




### HEAVY-DUTY FIXTURES

**Housing:** One-piece die-cast aluminum with cast-in fins for efficient heat dissipation. Adjustable die-cast degree marked 1/2" NPS threaded knuckle mounting with gripping, serrated teeth/lock nut. High temperature leads are connected directly to lamp sockets. Spring loaded socket design eliminates binding while ensuring efficient heat dissipation. Bronze finish.

**Reflector:** Parabolic three-piece aluminum reflector for maximum efficiency and beam distribution.

**Lens:** Tempered, thermal shock and impact-resistant clear glass. Die-cast aluminum door frame is sealed by weathertight gasket and latches—allows easy servicing. Units can be aimed (glass side up) without risk of moisture breaking hot lens while fixture is operating (except 2V624).

**Lamp not included:** No. 2V624 accepts 1000W lamp (No. 2V616) at 240V only, or 1500W (No. 2V617) at 208V, (No. 2V618) at 240V or (No. 2V619) at 277V.

### ECONOMY FIXTURE

**Housing:** Die-cast aluminum with cast-in fins for efficient heat dissipation. Adjustable mounting with 1/2" NPS threaded knuckle. Hardware is corrosion resistant. Socket design eliminates binding while ensuring efficient heat dissipation. Gray finish.

**Reflector:** One-piece parabolic aluminum reflector.

**Lens:** Thermal shock, impact-resistant glass lens held in place by 4 corrosion-resistant pre-galvanized clips. Fixture can be aimed (glass side up) without hazard of breaking hot lens while fixture is operating. Lens is sealed to housing by high temperature silicone rubber gasket.

**Lamp not included:** Nos. 2V623 and 2V531 accept 300W lamp (No. 2V529), or 500W (No. 2V384).

**UL Listed** (E30816); CSA Certified (LR27196).

| Type | Watts | Volts 60 Hz | Dimensions (In.) Height | Width | Depth | Hubbell Model | Stock No. | Less Lamp* List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Heavy-Duty | 300-500 | 120, 130 | 8½ | 8½ | 5¼ | QL505 | **2V623** | $80.85 | **$37.00** | 4.5 |
| Heavy-Duty | 1000-1500 | 208, 240, 277 | 8½ | 11 | 5¼ | QL1505 | **2V624** | 77.06 | **47.75** | 7.6 |
| Economy | 300-500 | 120, 130 | 8⅜ | 8⅜ | 4⅞ | QM500E | **2V531** | 61.45 | **22.83** | 3.0 |

(*) Do not install near combustible materials. For outdoor use only.

# QUARTZ FLOODLIGHT FIXTURES, HID FLOODLIGHT ACCESSORIES AND HID WALL PACKS

## MINI QUARTZ FLOODLIGHT FIXTURES




**Applications:** Outdoor accent and facade lighting, landscape lighting, sign lighting, and security around office buildings, shop ping centers, hospitals, motels, restaurants, schools, and residential buildings. May be used for above horizontal aiming.

**Housing:** Precision die-cast aluminum housing. Spring loaded bayonet base socket. Tempered glass lens sealed to die-cast lens frame. Mounting base and cast aluminum baffle are included.

**Finish:** Housing has architectural bronze polyester powder finish.

**Reflector:** Die-formed semi-specular segmented aluminum reflector surrounds lamp providing wide, smooth light distribution. Black baffle reduces glare.

**Installation:** Mounting plate with cast-in template for retrofitting over recessed boxes allows flexibility in positioning fixture. Serrated teeth on adjustable mounting arm locks fixture in place after aiming.

**Dimensions:** With mounting plate—5L x 5W x 6¾"D.

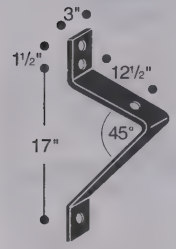
**Lamp included:** Supplied with 250W lamp. No. 2V703 is recommended. Accepts any T-4 bayonet base quartz lamp up to 250W, see Index under Lamps, Incandescent. Rated for 120V.

**UL Listed** (E57163) for wet locations and above horizontal aiming.

**Stonco brand** (MLQ250DXL).

**No. 3V594.** Shpg. wt. 3.1 lbs. List.....$132.78. Each.....**$84.95**

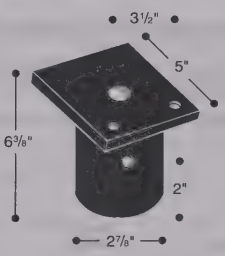
## HID FLOODLIGHT ACCESSORIES




No. 2V645

LUMARK

HUBBELL




No. 2V790

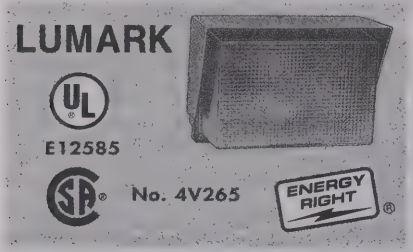
**No. 2V645.** HID Floodlight Mounting Bracket. For use only with 1N003-1N006 and 6VX57-6VX60. Lumark brand (SAB). Shpg. wt. 9.4 lbs. List $76.42. Each.....**$47.30**

**Nos. 2V711 & 2V790. HID Slip Fitters.** Allow floodlights to be attached to 2" dia. (2⅜" O.D.) floodlight poles.

**No. 2V711.** For use only with 2V676, 2V677, 2V709, 2V710, and 3V829. CSA Certified. (LR27196). Hubbell brand (4024C). Shpg. wt. 3.6 lbs. List $37.64. Each.....**$24.77**

**No. 2V790.** For use only with 1N003 -1N006. Lumark brand (TKS). Shpg. wt. 4.0 lbs. List $42.40. Each.....**$28.55**

## 70 & 100 WATT MICRO-PAC MINI WALL FIXTURE




**Applications:** Loading docks, underpasses, tunnels, stairways, building entrances, public garages, and vehicle ramps. For mounting heights up to 15 feet.

**Housing:** Die-cast aluminum housing. Stainless steel external hardware. Fully sealed and gasketed. Architectural dark bronze finish.

**Reflector:** Designed for optimum light distribution. Clear, vandal-resistant prismatic polycarbonate refractor. Medium base lamp socket.

**Lamp included:** Use replacement lamp listed below or see Index under Lamps, HID.

**Ballast:** Normal power factor reactor type for 120V, 60 Hz input. Minimum start temperature -40°F except metal halide model, which is -20°F.

**UL Listed** (E12585) and CSA Certified for wet locations. Suitable for outdoor installations.

**Installation:** Easy and economical to install. Mounts to any vertical surface or 4" octagonal junction box. Knockouts located in side for surface mounted conduit.

**Dimensions:** 10W x 7H x 6¾"D.

### WALL PACK FIXTURE SPECIFICATIONS AND ORDERING DATA

| Medium Base Lamp Type | Suggested Lamp Stock No. | Max. Starting Amps, 120V, 60 Hz | Max. Operating Amps, 120V, 60 Hz | Lumark Model | Stock No. | Lamp Included List | Lamp Included Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **70W HPS** | 2V632 | 2.10 | 1.60 | HPMP-PC-70-120V-LL | ✓**4V265** | $229.19 | **$129.50** | 7.1 |
| **100W HPS** | 4V604 | 3.05 | 2.10 | HPMP-PC-100-120V-LL | ✓**4V266** | 232.91 | **131.75** | 7.5 |
| **70W Metal Halide** | 6V747 | 0.55 | 0.85 | MHMP-PC-70-120V-LL | ✓**6VX08** | 394.67 | **227.00** | 11.0 |

(✓) Denotes energy efficient product.

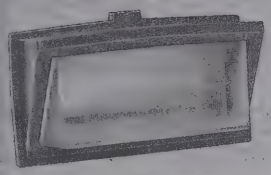
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# HID AND WAL-EYE™ AREA WALL PACKS

## 70 TO 400 WATT HID HEAVY-DUTY WALL PACKS

LUMARK



No. 4V267

ENERGY RIGHT®

E12585

LR41075

**Applications:** Loading docks, underpasses, tunnels, stairways, building entrances, public garages, and vehicle ramps. For mounting heights up to 25 feet.

**Housing:** Die-cast aluminum housing. Stainless steel external hardware. Foam in place silicone gasket provides maximum protection of interior components. Hinged door frame with safety chain. Architectural dark bronze finish.

**Reflector:** Coilzak aluminum reflector. Prismatic glass refractor. Adjustable mogul base socket position and choice of two beam patterns.

**Lamp not included:** Use recommended lamp listed below or see Index; Lamps, HID.

**Ballast:** High power factor multi-tap 120/208/240/277 volt ballast (except No. 4V267 which is 120 volt normal power factor). Minimum starting temperature is -20°F for metal halide models, and -40°F for high pressure sodium models.

**UL Listed** (E12585) and CSA Certified (LR41075) for wet locations and suitable for outdoor use.

**Installation:** Back mount, either 4" outlet box or 3/4" conduit. Also 3/4" tapped entry provided for power supply through surface-mounted conduit.

**Dimensions:** 16W x 9⅝H x 10½"D.

### WALL PACK FIXTURE SPECIFICATIONS AND ORDERING DATA

| Mogul Base Lamp Type | Suggested Lamp Stock No. | Maximum Starting Line Amps, 50 Hz 120V | 208V | 240V | 277V | Maximum Operating Line Amps, 60 Hz 120V | 208V | 240V | 277V | Lumark Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **70W HPS** | 2V513 | 2.10 | — | — | — | 1.60 | — | — | — | HPWL-70120VNPF | ✓**4V267** | $280.75 | **$152.75** | 21.0 |
| **150W HPS** | 2V452 | 1.84 | 1.06 | 0.90 | 0.8 | 1.70 | 1.00 | 0.85 | 0.72 | HPWL-150MT | ✓**4V268** | 279.62 | **160.25** | 25.0 |
| **250W HPS** | 2V520 | 1.40 | 0.81 | 0.70 | 0.61 | 2.60 | 1.50 | 1.30 | 1.11 | HPWL-250MT | ✓**4V269** | 444.64 | **254.75** | 27.0 |
| **400W HPS** | 2V453 | 3.35 | 1.95 | 1.70 | 1.45 | 4.30 | 2.50 | 2.15 | 1.86 | HPWL-400MT | ✓**3V574** | 473.93 | **280.25** | 37.0 |
| **175W Metal Halide** | 4V550 | 1.00 | 0.58 | 0.50 | 0.45 | 1.75 | 1.00 | 0.90 | 0.80 | MHWL-175MT | ✓**4V270** | 278.93 | **139.00** | 22.0 |
| **250W Metal Halide** | 2V712 | 2.42 | 1.40 | 1.21 | 1.05 | 2.60 | 1.50 | 1.30 | 1.13 | MHWL-250MT | ✓**4V271** | 339.08 | **169.00** | 27.0 |
| **400W Metal Halide** | 2V658 | 3.25 | 1.90 | 1.63 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | MHWL-400MT | ✓**3V575** | 459.56 | **208.00** | 36.0 |

(✓) Denotes energy efficient product.

## WAL-EYE™ LARGE AREA WALL PACKS

**Applications:** For walkways and driveways, exterior storage and loading areas, and security.

**Housing:** Base housing is die-cast aluminum with polycarbonate front cover. Cast-in gasket-retaining channel positively locates door gasket.

**Finish:** Specially formulated finish on inside of unit for maximum weather resistance.

**Lens:** Nos. 4PK71, 4PK70, 4PK88 and 4PK89 have clear polycarbonate lens. Nos. 4PK73, 4PK74, and 4PK90 have a prismatic polycarbonate lens.

**Reflector:** Formed, specular anodized aluminum.

**Ballast:** Multi-tap ballast is 120, 208, 240 and 277 Volt.

**Installation:** Easily mounts to walls with back plate.

**Lamp not included:** Use recommended lamp listed below, or see Index; Lamps, HID. All units use mogul-base lamps except 4PK88 which uses a medium base lamp type. Nos. 4PK71, 4PK70, 4PK73, and 4PK74 use high pressure sodium lamps. Nos. 4PK88, 4PK89, and 4PK90 use metal halide lamps.

**UL Listed (E12585)** for wet locations and CSA certified.

LUMARK

New

ENERGY RIGHT®

E12585



No. 4PK70

### WALL PACKS WITH CLEAR LENS ORDERING DATA

| Watt/ Lamp Type | Suggested Lamp Stock No. | Maximum Starting Line Amps, 60 Hz 120V | 208V | 240V | 277V | Maximum Operating Line Amps, 60 Hz 120V | 208V | 240V | 277V | Lumark Model | *New!* Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **70W HPS** | 2V513 | 0.86 | 0.48 | 0.41 | 0.38 | 0.80 | 0.47 | 0.40 | 0.35 | HPWC-70H-MT | ✓**4PK71** | $239.50 | **$176.00** | 20.0 |
| **150W HPS** | 2V452 | 1.84 | 1.06 | 0.90 | 0.81 | 1.67 | 0.96 | 0.83 | 0.72 | HPWC-150H-MT | ✓**4PK70** | 218.20 | **181.25** | 21.0 |
| **100W MH** | 6V749 | 0.96 | 0.52 | 0.48 | 0.43 | 1.17 | 0.67 | 0.58 | 0.51 | MHWC-100H-MT | ✓**4PK88** | 253.10 | **191.50** | 22.0 |
| **175W MH** | 4V550 | 1.00 | 0.58 | 0.50 | 0.43 | 1.75 | 1.01 | 0.90 | 0.76 | MHWC-175H-MT | ✓**4PK89** | 261.10 | **206.75** | 22.0 |

### WALL PACKS WITH PRISMATIC LENS

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **100W HPS** | 2V519 | 0.96 | 0.52 | 0.48 | 0.43 | 1.16 | 0.67 | 0.58 | 0.51 | HPWP-100H-MT | ✓**4PK73** | 332.50 | **168.50** | 20.0 |
| **150W HPS** | 2V452 | 1.84 | 1.06 | 0.90 | 0.81 | 1.67 | 0.96 | 0.83 | 0.72 | HPWP-150H-MT | ✓**4PK74** | 342.00 | **171.00** | 21.0 |
| **175W MH** | 4V550 | 1.00 | 0.58 | 0.50 | 0.43 | 1.75 | 1.01 | 0.90 | 0.76 | MHWP-175H-MT | ✓**4PK90** | 231.20 | **169.00** | 23.0 |

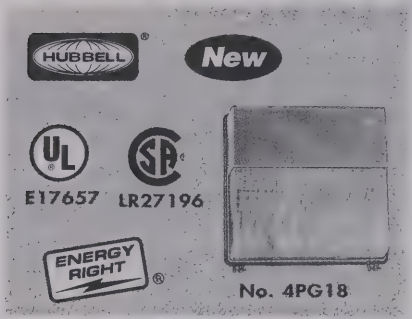
(✓) Denotes energy efficient product.

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# WALL PACK FIXTURES

## 150 TO 175 WATT HID WALL PACKS




**Applications:** Perimeter outdoor illumination of factories, garages, shopping centers, office buildings, warehouses.

**Ballasts:** 120V NPF Reactor type on 4PG18 only. HPF QuadTap® (120, 208, 240, 277V) class H insulated. HPS -40°F starting; MH -20° starting.

**Housing:** One piece polycarbonate door with prismatic lens. Hinged front housing locks with two captive screws to insure proper gasket sealing. Side hub for field installation of photocell, use No. 6P005 for 120V or No. 5U791 for 208-277V. Finished bronze. Rear housing is one piece die cast aluminum. Finished with two 1/2" feed-trim wiring hubs. 14⅜ x 14⅞ x 7⅛"D.

**Reflector:** Anodal® finished, aluminum reflector. Designed optimum beam distribution.

**Installation:** Mounts flush on wall or over recessed outlet box. Surface conduit feed through.

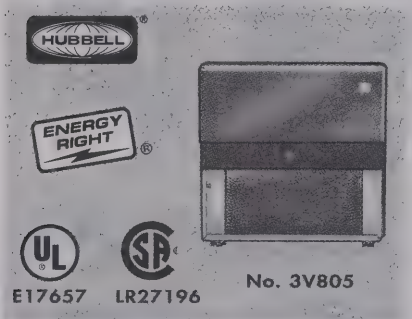
**Lamp not included:** Use suggested lamp listed below or see Index under Lamps, HID.

**UL Listed** (E17657), CSA Certified (LR27196).

| Mogul Base Lamp Type | Suggested Lamp Stock No. | Starting Amps 120V | 208V | 240V | 277V | Operating Amps 120V | 208V | 240V | 277V | Hubbell Model | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **150W HPS** | 2V452 | 4.4 | — | — | — | 3.2 | — | — | — | PVL-150S-521LL | *New* ✓**4PG18** | $151.76 | **$138.00** | 13.0 |
| **150W HPS** | 2V452 | 2.0 | 1.2 | 1.0 | .9 | 1.7 | 1.0 | .8 | .7 | PVL-0150S-118 | ✓**2V674** | 342.81 | **173.25** | 20.0 |
| **175W Metal Halide** | 4V550 | 1.3 | .8 | .7 | .6 | 1.8 | 1.1 | .9 | .8 | PVL-0175H-118 | ✓**2V876** | 239.57 | **170.75** | 21.0 |

(✓) Denotes energy efficient product.

## 70 TO 175 WATT CUTOFF WALL PACKS




**Applications:** Perimeter outdoor illumination of factories, garages, shopping centers, office buildings, warehouses. Vandal resistant wall pack with controlled cutoff light output. For security illumination without glare or light pollution.

**Housing:** Polycarbonate one piece ballast front cover is resistant to rocks. Twin captive screws secure door to die-cast back housing. Mounts over recessed wiring boxes or can be through wired. Bronze finish, painted inside polycarbonate. Provision for photocell, use No. 6P005 for 120V or No. 5U791 for 208-277V. Gasketing provided for use with photocell (not included).

**Reflector:** Directs light down and out while shielding lamp. Medium base porcelain socket adjusts from 90° to 70° cutoff.

**Ballasts:** HPF QuadTap® (120, 208, 240, 277V) class H insulated. HPS -40°F starting; MH -20° starting.

**UL Listed** (E17657) for wet locations; CSA Certified (LR27196) for 120 or 277V indoor/outdoor use.

**Dimensions:** 14⅜H x 14⅞W x 7⅛"D.

**Lamp not included:** Use suggested lamp listed below or see Index under Lamps, HID.

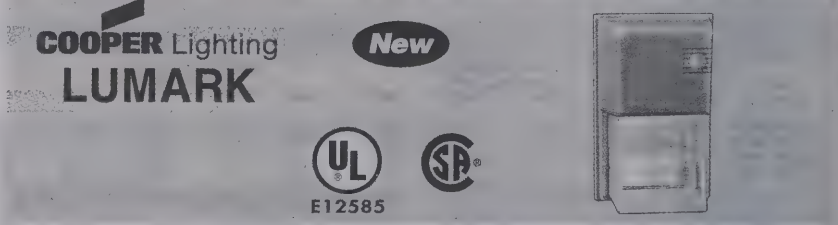
| Medium Base Lamp Type | Suggested Lamp Stock No. | Starting Amps 120V | 208V | 240V | 277V | Operating Amps 120V | 208V | 240V | 277V | Hubbell Model | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **150W HPS** | 2V713 | 2.0 | 1.2 | 1.00 | 0.90 | 1.7 | 1.0 | 0.8 | 0.70 | PRS-0150S-118LL | ✓**3V805** | $228.07 | **$182.50** | 18.0 |
| **175W MH** | 6V751 | 1.3 | 0.8 | 0.70 | 0.60 | 1.8 | 1.1 | 0.9 | 0.80 | PRS-0175H-118LL | ✓**3V807** | 262.88 | **177.00** | 18.0 |

(✓) Denotes energy efficient product.

## 70 WATT SMALL POLYCARBONATE WALL PACK

- One-piece polycarbonate lens
- Prismatic refractors with internal paint
- Die-cast back casting
- Stripped aluminum reflector
- Lamp Included

This small wall pack provides an abundance of light from a very compact package. Internal paint finish assures lasting durability against the elements. Provision for photocell (not included). Suggest No. 6P005.




| Medium Base Lamp Type | Replacement Lamp Stock No. | Starting Amps 120V | Operating Amps 120V | Lumark Model | *New!* Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **70W HPS** | 2V632 | 2.1 | 1.8 | HPWM70 | ✓**4PK72** | $173.20 | **$86.50** | 5.6 |

(✓) Denotes energy efficient product.

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# HID AREA AND ROADWAY FIXTURES

## SCOUT™ DUSK-TO-DAWN AREA LIGHTS

**Applications:** On-at-dusk, off-at-dawn photo control is ideal for small roadway lighting, parking lot security lighting, residential and barnyard lighting.

**Housing:** Die-cast aluminum head finished in grey polyester powder coat.

**Reflector:** Fluted, formed aluminum reflector fastens to main housing with steel spring release latches for secure fit.

**Refractor:** Open bottom refractor is designed for efficient performance at a low initial cost. Type V distribution is standard.

**Dimensions:** 17 ⅞ H x 12" W.

**Installation:** Includes 15" mounting bracket and all hardware.

**Lamp included:** Mogul-base lamps. No. 4PK99 has 100W high pressure sodium lamp. No. 4PL01 has 175W mercury vapor lamp.

Meets NEMA specifications for off-street area lighting. UL Listed (E12585) for wet locations and CSA Certified.




| Lamp Type | Watts | Suggested Lamp Stock No. | Max. Starting Line Amps | Max. Operating Line Amps | Lumark Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **HP Sodium** | 100 | 2V519 | 3.2 | 2.1 | SS10 | **4PK99** | $171.20 | **$99.10** | 11.0 |
| **Mercury Vapor** | 175 | 5V686 | 4.0 | 3.3 | SV17 | **4PL01** | 98.20 | **58.05** | 13.0 |

(✓) Denotes energy efficient product.

## NITE-TO-LITE® AREA FIXTURES

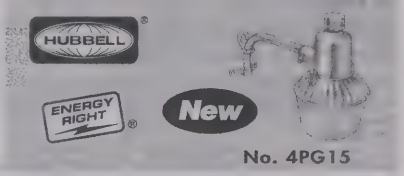
**Applications:** Security light provides dusk-to-dawn lighting for building corner areas, perimeters, low-cost area lighting from a pole, and other general purpose security lighting.

**Housing:** Die-cast aluminum. Head is NEMA rated utility grade with mogul socket for lamp.

**Refractor:** Type V acrylic refractor provides wide light distribution.

**Installation:** Includes arm, fixture, photo control and all hardware.

**Lamp included:** See suggested lamps in table below, or see index under lamps HID.




| Lamp Type | Watts | Suggested Lamp Stock No. | Max. Starting Line Amps | Max. Operating Line Amps | Hubbell Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **HP Sodium** | 100 | 2V519 | 2.9 | 2.1 | NPU-10S1-5A | **4PG15** | $98.94 | **$89.95** | 12.0 |
| **Mercury Vapor** | 175 | 5V686 | 5.1 | 3.3 | NPU-17C1-5A | **4PG16** | 72.76 | **66.15** | 14.0 |

(✓) Denotes energy efficient product.

## COBRAHEAD™ ROADWAY LIGHTING

**Applications:** Designed for use in roadways, storage or construction sites, parking areas, residential neighborhoods, and bridge structures. Fixtures are tested to 3G vibration to ensure reliable operation under severe conditions.

**Housing:** Die-cast aluminum construction with a cast door hinge are finished in gray polyester powder coat for durability. Has adjustable mogul-base percelain socket.

**Reflector:** Precision hydroformed, anodized aluminum with a Dacron polyester filter.

**Lens:** No. 4PK62 has removable acrylic refractor; No. 4PK63 and 4PK64 have a flat glass lens; No. 4PK65, 4PK66, 4PK78 and 4PK79 have a glass reflector. 4PK62-4PK65 have NEMA II distribution; 4PK66, 4PK78 and 4PK79 have NEMA III distribution.

**Ballast:** Hard-mounted ballast with encapsulated starter and plastic terminal block for protection from environmental abuse. Multi-tap ballasts are 120/208/240/277 volts.

**Dimensions:** 26¼ L x 9¾" H.

**Installation:** Two-bolt/one clamp slipfitter for 1¼" or 2" mounting arms.

**Lamp not included:** See suggested lamps in table below, or see Index under Lamps, HID.




| Mogul Base Lamp Type | Watts | Suggested Lamp Stock No. | Maximum Starting Line Amps 120V | 208V | 240V | 277V | Maximum Operating Line Amps 120V | 208V | 240V | 277V | Lumark Model | New! Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HPS** | 150 | 2V452 | 1.84 | 1.06 | 0.90 | 0.81 | 1.67 | 0.96 | 0.83 | 0.72 | HPRY-AL-2-150-120V-PER | **4PK62** | $227.10 | **$116.20** | 21.0 |
| **HPS** | 150 | 2V452 | 1.84 | 1.06 | 0.90 | 0.81 | 1.67 | 0.96 | 0.83 | 0.72 | HPRY-FL-2-150-120V-PER | **4PK63** | 261.10 | **134.80** | 24.0 |
| **HPS** | 250 | 2V520 | 1.32 | 0.76 | 0.66 | 0.57 | 2.70 | 1.56 | 1.35 | 1.17 | HPRY-GL-3-250-MT-PER | **4PK66** | 269.20 | **136.40** | 34.0 |
| **HPS** | 400 | 2V453 | 2.22 | 1.28 | 1.11 | 0.96 | 4.36 | 2.52 | 2.18 | 1.89 | HPRY-FL-2-400-MT PER | **4PK64** | 296.10 | **209.25** | 40.0 |
| **HPS** | 400 | 2V453 | 2.22 | 1.28 | 1.11 | 0.96 | 4.36 | 2.52 | 2.18 | 1.89 | HPRY-GL-2-400-MT-PER | **4PK65** | 291.10 | **199.50** | 35.0 |
| **Metal Halide** | 250 | 2V712 | 2.42 | 1.40 | 1.21 | 1.05 | 2.60 | 1.50 | 1.30 | 1.13 | MHRY-GL-3-250-MT-PER | **4PK78** | 223.10 | **114.10** | 32.0 |
| **Mercury Vapor** | 400 | 2V658 | 3.25 | 1.90 | 1.63 | 1.40 | 4.00 | 2.30 | 2.00 | 1.75 | MHRY-GL-3-400-MT-PER | **4PK79** | 273.50 | **171.25** | 35.0 |

## ACCESSORIES FOR ROADWAY FIXTURES

### 24" MOUNTING BRACKET

Formed aluminum and galvanized steel bracket for use with Nos. 4PK62 thru 4PK66, 4PK78, 4PK79, 4PK99, and 4PL01 fixtures. Fits 1½" OD pipe. Hardware not included. Lumark (P125S020).

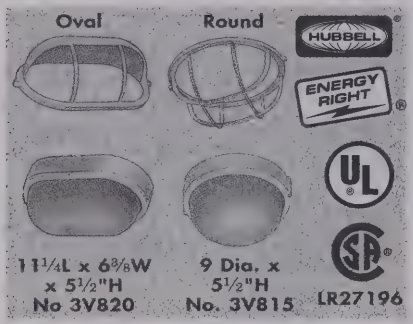
***New!* No. 4PK92.** Shpg. wt. 12.0 lbs. List $99.60. Each ..... **$49.80**

### HEAVY-DUTY TWIST-LOCK SWITCH

Heavy-duty photoelectric switch provides dusk to dawn operation for roadway fixtures listed above. Meets EEI-NEMA standards for locking devices with solid brass terminals. 120-277V. Intermatic brand. (LC4536).

**No. 5U792.** Shpg. wt. 0.2 lbs. List $18.65. Each ..... **$8.55**

# WALL & CEILING OUTDOOR FIXTURES




## DECORATIVE WALL/CEILING FIXTURES

**Applications:** Entries, walkways, corridors, stairwells, and other commercial, residential, and industrial applications. Retrofit fixtures save energy and enhance appearance. Incandescent, and HPS models available.

**Housing:** Sturdy, die-cast aluminum finished in white polyester. Maintains attractive, maintenance-free appearance over long years of use.

**Lamps:** Not included.

**Optical Assembly:** Heavy borosilicate glass diffuser for excellent light distribution; maintains its attractive appearance over years of use in indoor and outdoor applications. Cast guard and half shield available for protection, shielding, and styling.

**Installation:** Mounts directly to or over a recessed junction box.

**Ballasts:** High pressure sodium HPF ballasts (starting –40°F).

**UL Listed** and CSA Certified (LR27196) for wet locations.

| Medium Base Type | Lamp Wattage (Max.) | Lamp Voltage | Starting Temperature (°F) | Suggested Lamp Stock No. | Starting Amps @ 120V | Operating Amps @ 120V | Hubbell Model | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ROUND TYPE FIXTURES** | | | | | | | | | | | |
| **Incandescent** | 100 | 120 | –40 | 2V614 | 0.9 | 0.9 | BRI-04LL | **3V815** | $115.86 | **$83.05** | 6.0 |
| **HP Sodium** | 50 | 120 | –40 | 2V657 | 0.7 | 0.6 | BRS-04LL | ✓**3V817** | 192.78 | **152.25** | 8.0 |

**No. 3V818.** Guard (for oval type fixtures). Hubbell brand (BR-G4). Shpg. wt. 0.5 lbs. List $24.57. Each ..... **$16.35**

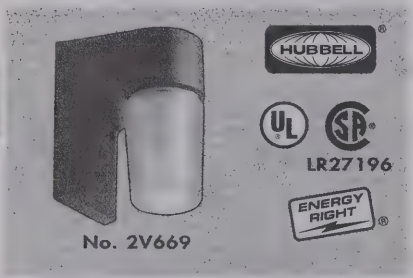
**No. 3V819.** Half Shield (for oval type fixtures). Hubbell brand (BO-S4). Shpg. wt. 0.7 lbs. List $28.15. Each ..... **$23.34**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVAL TYPE FIXTURES** | | | | | | | | | | | |
| **Incandescent** | 100 | 120 | –40 | 2V614 | 0.9 | 0.9 | BOI-04LL | **3V820** | $102.20 | **$85.65** | 4.0 |
| **HP Sodium** | 50 | 120 | –40 | 2V657 | 0.7 | 0.6 | BOS-04LL | ✓**3V822** | 190.31 | **154.00** | 7.0 |

**No. 3V823.** Guard (for oval type fixtures). Hubbell brand (BO-G4). Shpg. wt. 0.5 lbs. List $24.57. Each ..... **$16.35**

**No. 3V824.** Half Shield (for oval type fixtures). Hubbell brand (BO-S4). Shpg. wt. 0.7 lbs. List $28.92. Each ..... **$23.34**

## OUTDOOR WALL FIXTURES




**Applications:** 50W HPS fixture for low maintenance security lighting.

**Housing:** Injection molded bronze polycarbonate. Two-point mount prevents rotation of fixture. Mounting hardware included.

**Lens:** Low glare, clear prismatic polycarbonate, secured by locking set screw. Vandal resistant.

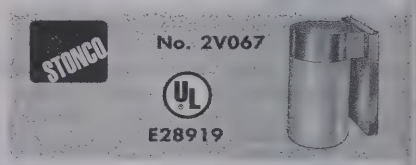
**Dimensions:** 8¾H x 5W x 6⅞"D.

**UL Listed** and CSA Certified (LR27196) for wet locations. 120V.

**Lamp not included.**

| Lamp Type | Watts | Suggested Lamp Stock No. | Ambient Temp. (°F) Min. | Ambient Temp. (°F) Max. | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| HPS Med. Base | 50 | 2V657 | -10 | 122 | NRG121 | ✓**2V669** | $141.15 | **$89.35** | 4.8 |

(✓) Denotes energy efficient product.




**Weatherproof incandescent fixture.**

**Housing:** Die-cast aluminum with natural finish. Weatherproofed by neoprene gasket.

**Lens:** Opal white, screw-on type.

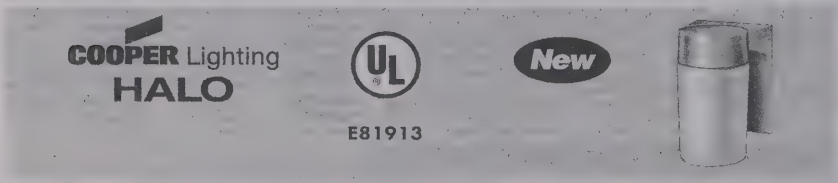
**Dimensions:** 6¾H x 4½W x 4¾"D.

**UL Listed** (E28919) for wet locations.

**Lamp not included:** Use 100W maximum incandescent lamp. Suggested lamp No. 5V600.

**No. 2V067.** Shpg. wt. 2.2 lbs. List..... $24.20. Each **$17.07**; Lots 3..... **$16.22**

## 100 WATT CAST ALUMINUM WALL FIXTURE




Clean, compact design blends well in most architectural settings and environments. Lamp not included. Requires 100W incandescent lamp. Order No. 5V600. UL Listed (E81913). Halo brand (H2411AL).

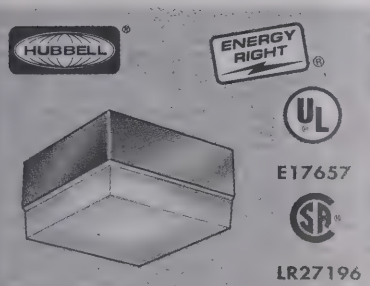
***New* No. 4PH86.** Shpg. wt. 2.2 lbs. List..... $37.23. Each..... **$22.15**

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# HID CANOPY AND AREA FIXTURES

## 150 AND 175 WATT HID CANOPY FIXTURES




**Applications:** Energy-saving HID fixtures for entries, parking garages, walkways, corridors, stairwells, and other commercial/outdoor and industrial applications. Retrofit fixtures reduce maintenance and enhance appearance.

**Housing:** Rugged die-cast aluminum with durable polyester bronze finish. Two 1/2" hubs for surface conduit. Mounts over recessed junction box.

**Reflector:** One-piece hydroformed aluminum. Completely fluted for even light distribution and full lamp life.

**Refractor:** One-piece injection molded clear prismatic acrylic for even light distribution and low side glare. Fully gasketed for weatherproof/bugproof integrity. Slotted drive and Torx screws provided for multiple applications.

**Dimensions:** 14" square x 8⅛"H.

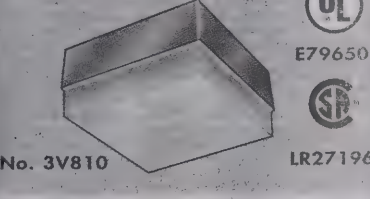
**Ballasts:** High pressure medium base sodium NPF ballast (starting –40°F) or medium base metal halide NPF (starting –20°F).

**Approvals:** UL Listed (E17657) for wet locations; CSA Certified (LR27196) for 120 or 277 volt indoor/outdoor use.

| Lamp Included Type | Wattage | Suggested Replacement Lamp | Voltage | Starting Temperature (°F) | Starting Amps Voltage 120 | 208 | 240 | 277 | Operating Amps Voltage 120 | 208 | 240 | 277 | Hubbell Model | Stock No. | With Lamp List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MH | 175 | 6V751 | 120,208,240,277 | –20 | 1.3 | 0.8 | 0.7 | 0.6 | 1.8 | 1.1 | 0.9 | 0.8 | NRG-414H8 | ✓3V814 | $433.20 | $278.75 | 18.0 |
| HPS | 150 | 2V713 | 120,208,240,277 | –40 | 2.0 | 1.1 | 1.0 | 0.9 | 1.7 | 1.0 | 0.8 | 0.7 | NRG-414S8 | ✓4PG17 | 278.57 | 253.25 | 22.0 |

(✓) Denotes energy efficient product.

## LOW WATTAGE HID & FLUORESCENT CANOPY FIXTURES




**Applications:** Exterior canopies, stairwells, entrances, parking decks, as well as interior halls, lobbies, or storage rooms. Durable construction provides outdoor security for apartments, schools and commercial buildings.

**Housing:** One-piece injection molded bronze polycarbonate. Low 5" profile. Permanent color with textured finish.

**Optical Assembly:** Unique prismatic polycarbonate refractor for low side brightness and even light distribution.

**Installation:** Mounts directly to or over a standard junction box.

**Dimensions:** 10" square x 5"H.

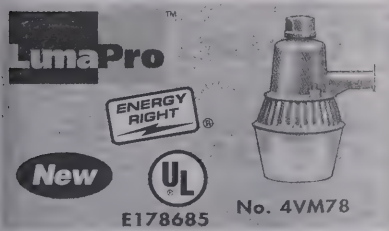
**Ballasts:** High pressure medium base sodium NPF ballast (–40°F starting) or fluorescent NPF (No. 3V808 is 32°).

**Approvals:** UL Listed (E79650) for damp locations; CSA (LR27196) Certified for 120V indoor/outdoor use.

| Lamp Included Type | Wattage | Suggested Replacement Lamp | Voltage | Starting Temperature (°F) | Starting Amps 120V | Operating Amps 120V | Hubbell Model | Stock No. | With Lamp List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HP Sodium | 50 | 2V657 | 120 | –40 | 1.5 | 1.2 | NRG-401 | ✓3V810 | $163.58 | $127.75 | 7.0 |

(✓) Denotes energy efficient product.

## 70 & 175W AREA FIXTURES




**Applications.** Perimeter lighting, parking areas, rural homes, farm yards, loading platforms, and general commercial security lighting.

**Factory pre-wired fixture, ready to install.** Includes die-cast aluminum housing, twist-lock photoelectric cell, 5" mounting arm, and mounting hardware.

**Plug-in twist-lock photoelectric cell.** Automatically turns lights On at dusk and Off at dawn.

**One-piece acrylic prismatic refractor** and aluminum reflector screws directly into housing. Open at bottom for easy maintenance.

**High reactance, 120V, 60 Hz** normal power factor ballast starts lamp to -20°F.

**Lamp Included.** Use replacement lamp listed below or see Index under Lamps, HID.

**UL Listed** (E178685), CSA Certified (LR60920).

| Lamp Type | Watts | Suggested Lamp Stock No. | Max Starting Line Amps | Max Operating Line Amps | *New!* Stock No. | With Lamp List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Mercury Vapor | 175 | 4V583 | 5.10 | 2.70 | ✓4VM78 | $79.15 | $33.15 | 11.0 |
| HP Sodium (Med. Base) | 70 | 2V632 | 2.10 | 1.60 | 4VM79 | 129.90 | 68.10 | 11.0 |

(✓) Denotes energy efficient product.

VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# HIGH ABUSE INDOOR/ OUTDOOR FIXTURES

## VANDAL RESISTANT LIGHTING

- One-piece injection molded UV stabilized polycarbonate lens. Prisms/blondels on inside to reduce dirt build-up and make cleaning easier
- Lens attached to housing with four stainless steel TORX® screws with center reject pin
- Mounting plate 16 ga. CRS with white high reflectance powder coat finish. Cast aluminum SCB housing with 1/2" conduit knockouts
- Sealed with one-piece die cut closed-cell EPDM gasket. UL Listed/CSA Certified for all wet locations
- Fixtures have T20 Torx screw. Use 5F525 Torx bit to unscrew lens from fixture




Used to illuminate areas with a high degree of exposure to unsupervised public traffic. Applications include public restrooms, hallways, stairwells, loading areas, transit stations, loading docks, and minimum security institutions.

Fixtures feature architecturally angled facets with radius corners that increase the ability of the lens to deflect blows and absorb impact.

Extra thick injection molded polycarbonate lens designed to obscure lamp image and spread light evenly over a large area. Black perimeter paint finish. Mounting boxes available below. Fail-Safe brand.

| Max. Watts | Starting Amps @ 120V | Running Amps @ 120V | Lamp Qty. | Suggested Lamp | Dimensions (In.) Length | Width | Depth | Fail-Safe Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9" SQUARE MODELS** | | | | | | | | | | | | |
| **75** | 0.63 | 0.63 | 1 | 5V599 | 9 | 9 | 4 11/16 | INEC-PP-75-120V | **1N012** | $70.62 | **$50.30** | 4.0 |
| **100** | 3.05 | 2.10 | 1 | 4V604 | 9 | 9 | 7 13/16 | HPEC-PP-100N-120V | ✓**1N009** | 341.16 | **162.00** | 9.0 |
| **100** | 4.00 | 3.20 | 1 | 1E674 | 9 | 9 | 7 13/16 | MHEC-PP-100N-120V | ✓**1N015** | 475.43 | **187.75** | 12.0 |
| **12" SQUARE MODELS** | | | | | | | | | | | | |
| **150*** | 1.25 | 1.25 | 2 | 5V599 | 12 | 12 | 5 | INGC-PP-150-120V | **1N013** | 97.23 | **77.75** | 5.0 |
| **150** | 1.84 | 1.67 | 1 | 2V713 | 12 | 12 | 6 11/16 | HPGC-PP-150N-120V | ✓**1N010** | 425.44 | **255.00** | 13.0 |
| **175** | 0.90 | 1.80 | 1 | 6V751 | 12 | 12 | 6 11/16 | MHGC-PP-175H-120V | ✓**1N016** | 510.54 | **253.00** | 20.0 |
| **BRICK MODELS** | | | | | | | | | | | | |
| **100** | 0.63 | 0.63 | 1 | 5V600 | 9 1/4 | 5 1/2 | 4 1/4 | INBC-PP-100-120V | **1N011** | 38.60 | **23.10** | 2.0 |
| **70** | 2.10 | 1.60 | 1 | 2V632 | 9 1/4 | 5 1/2 | 6 3/4 | HPBC-PP-70N-120V | ✓**1N008** | 279.99 | **121.85** | 6.0 |
| **50** | 2.00 | 1.55 | 1 | 1F398 | 9 1/4 | 5 1/2 | 6 3/4 | MHBC-PP-50N-120V | ✓**1N014** | 352.05 | **147.05** | 6.0 |

(*) Fixture takes two 75W A lamps. (✓) Denotes energy efficient product.

### CAST MOUNTING BOXES (Black)

| For Use With Fixture | Inches Added to Depth of Fixture | Fail-Safe Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **9" Square** | 1 7/8 | SCE-BLK | **1N023** | $89.31 | **$43.80** | 2.7 |
| **12" Square** | 1 11/16 | SCG-BLK | **1N024** | 116.82 | **52.75** | 3.8 |
| **Brick** | 2 1/2 | SCB-BLK | **1N021** | 41.78 | **25.40** | 1.5 |

## 12" VANDAL-RESISTANT FLUORESCENT SQUARES

- Safe for wet locations
- Clear prismatic refractor
- Non-shrinking, double-baked neoprene gasket seals out the environment
- Lamp not included

An energy-efficient light for use in public access areas where vandalism may occur. Designed to answer the problem of repeated replacement and downtime. Refractors and diffusers completely surround the backplate, leaving no exposed metal, while providing more than adequate lighting for areas such as building corridors, stairwells, schools, dormitories, or building perimeters. Fasten with tamper-proof TORX® -head screws to prevent unauthorized access. Die-formed 16-gauge cold-rolled steel backplate forms a rigid mounting anchor. Lamp not included. Nos. 4PK35 and 4PK36 have a surface steel junction box and include battery back-up pack. Dimensions: 12L x 12W x 4¾"D. UL Listed, CSA Certified. Fail-Safe brand.




| Lamp Qty. | Suggested Lamp | Volts @ 60Hz | Max Running Amps | Fail-Safe Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **(2) 22W** | 1V860 | 120 | .7 | FSP-44-120 | ✓**4PK34** | $86.15 | **$85.30** | 7.5 |
| **(1) 9W** | 2V834 | 120 | .19 | FSP-1/9-120-EBP-2420 | ✓**4PK35** | 278.23 | **197.50** | 7.5 |
| **(1) 9W** | 2V834 | 277 | .14 | FSP-1/9-277-EBP-2420 | ✓**4PK36** | 278.23 | **197.50** | 7.5 |

(✓) Denotes energy efficient product.

# HIGH ABUSE INDOOR/OUTDOOR FIXTURES

## VANDAL RESISTANT EXIT SIGN

**Housing:** One-piece unbreakable housing/face panel. Injection molded from black UV stabilized, polycarbonate. Wraparound design for maximum resistance to shock, impact and abuse. Polyester powder coat finish. Four captive stainless steel tamper-proof TORX® head screws prevent unauthorized access.

**Installation:** Corrosion resistant cast aluminum backplate with reinforced conduit entrance and mounting holes.

**Dimensions:** 14W x 10"H

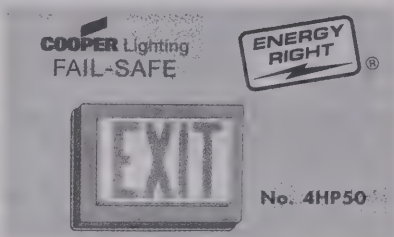
(✓)Denotes energy efficient product.

**Lamps (included)/Circuit Board:** High intensity light emitting diodes (LED's) mounted to a circuit board panel. Control circuit board has short circuit protection, dual 120/277 VAC input and constant current circuitry to eliminate effects of line voltage fluctuations.

**Approvals:** UL Listed, NEMA 4X Certified, standard wet location label.

**Fail-Safe brand** (XLW-W-S-RW-DUAL-TBK)

✓**No. 4HP50.** Shpg. wt. 12.0 lbs.
List $218.08. Each ..... **$198.25**




## VANDAL RESISTANT EXIT SIGNS

- **Energy efficient**
- **Single or double face for mounting versatility**
- **Red letters on white face**

**Housing:** An integrated, impact-resistant polycarbonate textured black housing provides even illumination with an edge glow effect. Four captive stainless steel tamper-proof TORX®-head screws prevent unauthorized access.

**Installation:** One-piece cast aluminum mounting base provides a rigid mounting anchor for housing and ensures a secure installation. Typical areas of use include schools, universities, hospitals, parking structures, public housing and institutions.

**Lamps included:** Uses two compact fluorescent lamps.

**UL Listed (E112980).** Fail-Safe brand.




| Description | Mounting Type | Volts, 60 Hz | Replacement Lamp | Dimensions (In.) H | W | D | Fail-Safe Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Single Face** | Wall | 120 | 2V833 | 9¾ | 13⅝ | 3⅛ | X10-W-1-120-RW-LL | **4PK53** | $107.80 | **$98.95** | 7.3 |
| **Single Face** | Wall | 277 | 2V833 | 9¾ | 13⅝ | 3⅛ | X10-W-1-277-RW-LL | **4PK54** | 115.65 | **107.35** | 7.3 |
| **Double Face** | Ceiling | 120 | 2V833 | 9¾ | 13⅝ | 5½ | X10-C-2-120-RW-LL | **4PK51** | 149.45 | **111.05** | 9.9 |
| **Double Face** | Ceiling | 277 | 2V833 | 9¾ | 13⅝ | 5½ | X10-C-2-277-RW-LL | **4PK52** | 160.74 | **120.00** | 9.9 |

## FLUORESCENT CLEAN ROOM TROFFERS

- **Housing and door are designed to work with 1 or 1½" inverted "T" ceiling grids**
- **Protect against infiltration of airborne bacteria and other contaminant particles**
- **Electronic ballast**
- **Lamps not included, order No. 6VR66**

Versatile troffers are enclosed and gasketed to maintain ceiling integrity. Applications include clean rooms, technical and biomedical labs, and food processing/testing centers. Re-lamp without contaminating clean areas. Features a flush-mounted extruded aluminum door frame with mitered corners, a baked white enamel finish, and a one-piece extruded lens gasket that provides an additional and dependable seal between the lens and lens frame.

**Housing:** Constructed of 4½" deep-recessed, one-piece housing made of 20-gauge cold rolled steel; it is die-formed and seam-welded to create a sealed chamber.

**UL Listed (E113705) and CSA Certified.** Fail-Safe brand.




| Volts, 60 Hz | Line Amps | No. Lamps | Watts | Type | Dimensions (In.) H | W | D | Fail-Safe Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **120** | 0.95 | 4 | 32 | F32T8 | 48 | 23¾ | 4½ | CFE-3-432-120-IK12-EB81 | ✓**4PK24** | $215.60 | **$196.75** | 28.0 |
| **277** | 0.41 | 4 | 32 | F32T8 | 48 | 23¾ | 4½ | CFE-3-432-277-IK12-EB81 | ✓**4PK25** | 217.50 | **198.50** | 28.0 |

(✓) Denotes energy efficient product.

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# HIGH ABUSE FIXTURES

## VANDAL-RESISTANT FLUORESCENT FIXTURES

**Applications:** Strong, energy-saving, vandal resistant lighting for use in corridors, dormitories, public restrooms, rapid transit stations, loading docks, and shower/locker rooms.

**Housing:** Nos. 4PK32 and 4PK33 have a gasketed, wraparound design that prohibits the entrance of environmental contaminants.

**Reflector/Lens:** Angled facets with radius corners increase lens' ability to deflect blows and absorb impact. Extra-thick, easy-cleaning polycarbonate lens incorporates optical design that spreads light evenly. Stainless steel TORX® screws are recessed into the lens to maximize tamper-resistance.

**Ballast:** All units 120V; 60Hz.

**Installation:** Fasteners are captive in the lens and sealed by means of a neoprene o-ring.

**Lamp not included:** See table below

**Approvals:** UL Listed E78458 and CSA Certified for wet locations.




| Qty. | Suggested Lamp | Ballast Type | Suggested Watts | Min. Start Temp (°F) | Dimensions (In.) L | W | H | Fail-Safe Model | New! Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2V896 | 1 STD | 20 | 50 | 26⅜ | 5½ | 4¹¹⁄₁₆ | FLMC-20H-120V | 4PK28 | $117.75 | $98.90 | 7.2 |
| 1 | 3V477* | 1 STD E.S. | 40 | 60 | 50½ | 5½ | 4⅛ | FLPC-40H-120V-LE3 | 4PK30 | 175.50 | 163.50 | 9.3 |
| 1 | 3V527 | 1 STD | 40 | 0 | 50½ | 5½ | 4⅛ | FLPC-40H-120V-LT | 4PK31 | 182.30 | 154.25 | 9.3 |
| 2 | 3V527 | 1 STD | 40 | 0 | 50⅜ | 8¾ | 4⅛ | FPS-240-120V-CWB | 4PK32 | 175.50 | 169.75 | 21.0 |
| 2 | 3V477* | 1 STD E.S. | 40 | 60 | 50⅜ | 8¾ | 4⅛ | FPS-240-120V-LE3 | 4PK33 | 144.80 | 142.70 | 21.0 |

(*) Will operate standard wattage lamps.

## VANDAL-RESISTANT LOW-PROFILE DECORATIVE LUMINAIRES

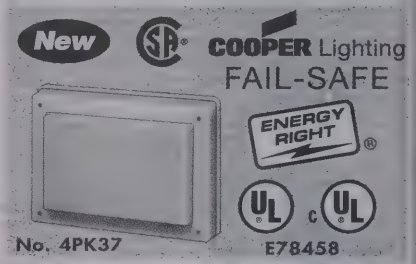
**Applications:** For use in public access areas; ideal for building perimeters, corridors, stairwells, schools and dormitories. Ideal for low ceiling heights and narrow corridors. Vandal-resistant, yet attractive. 120V, 60 Hz., compact flourescent fixture provides high illumination while significantly reducing your maintenance costs.

**Housing:** One-piece polycarbonate housing/lens. Non-shrinking, double-baked neoprene gasket seals out the environment. Fastened with four captive stainless steel tamperproof TORX®-head screws that prevent unauthorized access.

**Installation:** Mounting base is one-piece cast aluminum that provides a rigid mounting anchor for housing that ensures secure installation. Provides a low profile, unbreakable, surface-mounted unit

**Approvals:** UL Listed (E78458) and CSA Certified suitable for wet locations.

**Lamps not included:** See table below




| Qty. | Suggested Lamp | Min. Start Temp (°F) | Finish | Dimensions (In.) D | W | H | Fail-Safe Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2V835 | 32 | Textured Bronze | 3⅛ | 13¹⁵⁄₁₆ | 10¹⁄₁₆ | FSS-W-1/13-120V-TBZ-OPL | 4PK37 * | $98.90 | $66.60 | 8.0 |
| 1 | 2V835 | 32 | Textured White | 3⅛ | 13¹⁵⁄₁₆ | 10¹⁄₁₆ | FSS-W-1/13-120V-NPF | 4PK38 | 91.40 | 66.60 | 8.0 |
| 2 | 2V835 | 32 | Textured Bronze | 3⅛ | 13¹⁵⁄₁₆ | 10¹⁄₁₆ | FSS-W-2/13-120V-NPF-TBZ | 4PK39 | 109.25 | 91.75 | 8.5 |
| 2 | 2V835 | 32 | Textured White | 3⅛ | 13¹⁵⁄₁₆ | 10¹⁄₁₆ | FSS-W-2/13-120V-NPF | 4PK40 | 105.70 | 91.75 | 8.5 |

(*) Comes with opal diffuser insert. (✓) Denotes energy efficient product.

## VANDAL-RESISTANT SURFACE MOUNT AREA LUMINAIRES

**Applications:** For use in public access areas where vandalism may occur, such as parking structures, loading docks, park shelters, schools, and dormitories.

**Housing:** Impact- and corrosion-resistant cast aluminum with a standard bronze polyester powder coat finish. Captive, stainless steel tamperproof TORX® -head screws prevent unauthorized access. Non-shrinking neoprene gasket seals out the environment.

**Reflector/Lamp:** Designed with a vertical burn lamp and symmetrical distribution. Reflectors have a baked white polyester powder coat finish.

**Refractor:** Injection-molded, prismatic polycarbonate refractor withstands environmental abuse.

**Lamps not included:** See table below.

**Approvals:** UL Listed (E71880) and CSA Certified, standard wet label.




| Lamp Type | Suggested Lamp | Min. Start Temp (°F) | Volts 60 Hz | Dimensions (In.) L | W | H | Fail-Safe Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 50W HPS | 2V657 | -40 | 120 | 12¾ | 12¾ | 8½ | HCS-50S-120 | 4PK43 | $242.00 | $232.00 | 16.0 |
| 70W HPS | 2V632 | -40 | 120 | 12¾ | 12¾ | 8½ | HCS-70S-120 | 4PK44 | 252.00 | 238.75 | 16.0 |
| 100W HPS | 2V519 | -40 | 120 | 12¾ | 12¾ | 8½ | HUS-100S-120V-NPF | 4PK47 | 199.90 | 175.50 | 22.0 |
| 150W HPS | 2V713 | -40 | 120 | 12¾ | 12¾ | 8½ | HCS-150S-120 | 4PK42 | 265.00 | 243.50 | 22.0 |
| 150W HPS | 2V452 | -40 | 120/277 | 12¾ | 12¾ | 8½ | HUS-150S-Dual-HPF | 4PK48 | 247.70 | 243.25 | 20.0 |
| 100W MH | 6V749 | -20 | 120 | 12¾ | 12¾ | 8½ | HCS-100M-120 | 4PK41 | 356.75 | 334.25 | 20.0 |
| 175W MH | 6V751 | -20 | 120 | 12¾ | 12¾ | 9¾ | HUD-175M-120 | 4PK46 | 274.00 | 245.75 | 20.0 |

(✓) Denotes energy efficient product.

# HIGH ABUSE FIXTURES

## WORK PAL PORTABLE AREA LIGHT

**Applications:** The Work PAL is designed to provide bright, energy-efficient temporary lighting in virtually any construction environment. Made in U.S.A.

**Housing:** Sturdy, lightweight die-cast aluminum housing and polycarbonate lens. Safety yellow color. Easy-grip handle for carrying and hanging.

**Installation:** Convenient wall mounting with 200 lb. magnet.

**Power source/Power usage:** 6 Ft., 3 conductor SJTOW-A black grounded cord and plug. 120V, 60 Hz.

**Lamp included:** Order 4V604 (100W replacement).

**Approvals:** UL Listed (E182662).

***New*** ✓ **No. 4PK45.** Fail-Safe brand (HPEC-100N-120V-PAL). Shpg. wt. 7.5 lbs. List $265.45. Each.....**$224.00**

(✓) Denotes energy efficient product.




## VANDAL-RESISTANT WALL MOUNT FIXTURE WITH VISOR

**Application:** A low mounted fixture for outdoor lighting that stands up to abuse.

**Housing/Refractor:** Double gaskets and one-piece construction of both the UV stabilized polycarbonate refractor and the corrosion-resistant cast aluminum housing. Tamperproof TORX®-head screws prevent unauthorized access. Standard bronze polyester powder coat finish with a non-shrinking, double-baked neoprene gasket that seals out the environment.

**Additional Features:** Horizontal visor provides upward light cutoff.

**Dimensions:** 9⅜W x 6⅝H x 6½"D.

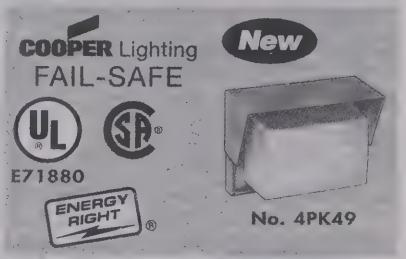
**Power Usage:** 120V. 60 Hz.

**Lamp not included:** Order No. 2V632 (70W HPS Lamp).

**Approvals:** UL Listed (E71880), CSA Certified, standard wet label.

***New*** ✓ **No. 4PK49.** Fail-Safe brand (HVH-705-120V-NPF-LV). Shpg. wt. 7.5 lbs. List $147.30. Each.....**$131.15**

(✓) Denotes energy efficient product.




## VANDAL-RESISTANT HIGH-ABUSE FIXTURES

**Application:** Ideal for building perimeters, corridors, stairwells, schools, and dormitories. A low cost, energy-efficient answer to the problems of repeated replacement and down times in areas where broken lamps could increase owner liability. Made in U.S.A.

**Refractor:** Injection molded, impact-resistant prismatic polycarbonate refractor lens offers high efficiency, low surface brightness and maximum strength. Choice of prismatic refractor or opal diffuser lens.

**Housing/Lens:** Tamperproof TORX®-head screws prevent unauthorized access. Double-baked neoprene gasket seals out the environment. Durable polycarbonate one-piece lens construction.

**Installation:** Versatile mounting capability.

**Power Usage:** 120V, 60 Hz.

**Lamp not included:** See table below.

**Approvals:** UL Listed (E78458) and CSA Certified.




| Qty. | Lamp Type | Suggested Lamp | Lens Type | Watts | Dimensions (In.) H | W | D | Fail-Safe Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | F7BX | 2V833 | Prismatic refractor | 7 | 8½ | 6 | 4½ | FBP-7-120V | ✓ **4PK27** | $35.60 | **$35.05** | 2.4 |
| **2** | F7BX | 2V833 | Prismatic refractor | 14 | 8½ | 6 | 4½ | FBP-14-120V | ✓ **4PK26** | 37.70 | **36.45** | 2.8 |
| **1** | 100W Incandescent | 5V600 | Opal Diffuser | 100 | 8½ | 6 | 4½ | IBO-100-120V | **4PK50** | 29.30 | **23.90** | 1.9 |

(✓) Denotes energy efficient product.

## CONDUIT JUNCTION BOXES

**Application:** For use with vandal-resistant fixtures. Use No. 4PK21 with Nos. 4PK35 and 4PK36. Use No. 4PK22 with Nos. 4PK26, 4PK27, and 4PK50. Use No. 4PK23 when a shallow junction box is needed with Nos. 4PK26, 4PK27, and 4PK50

**Approvals:** UL Listed (E156755).

| Dimensions (In.) L | W | D | Fail-Safe Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **12¼** | **12¼** | **1 15/16** | 2420 | **4PK21** | $23.25 | **$14.28** | 2.5 |
| **9⅛** | **6 15/32** | **2 15/16** | 5105 | **4PK22** | 27.80 | **21.50** | 2.5 |
| **8½** | **5 15/16** | **1 9/64** | 5112 | **4PK23** | 25.20 | **17.34** | 1.5 |



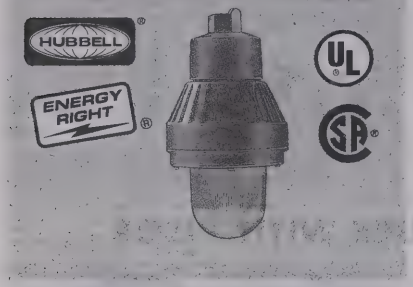

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# SPECIAL APPLICATION FIXTURES

## HAZARDOUS LOCATION FIXTURES

**BX FLUORESCENT FIXTURES FOR CLASS I, DIVISION 1 LOCATIONS**




**Applications:** Compact fixture used in areas classified as hazardous by NEC. For use in Class I, II, and III classified areas. 13 watt fluorescent lamp output equals two, 60 watt incandescent lamps at 120V.

**Housing/Components:** Die-cast, copper-free aluminum with baked epoxy coating for corrosion resistance.

**Mounting:** Ceiling or pendant mountings constructed of die-cast, copper-free aluminum. Optional die-cast globe-guard.

**Ribbed Prismatic Globe:** Uniform surface brightness for glare control and viewing comfort. Good visibility with minimal light levels.

**Installation:** Mounting cap attaches to conduit, independent of fixture housing. Wiring attaches to integral female connecting block. Electrical connection between cap and housing is not complete until a sufficient quantity of the double pitch Acme threads are engaged to meet hazardous requirements. 316 stainless steel set screws secure cap to conduit and housing to cap.

**Approvals:** UL 844 for Class I, Division 1 & 2, Groups C & D. Class II, Division 1 & 2, Groups E, F, & G. Class III, Division 1 & 2. CSA Certified.

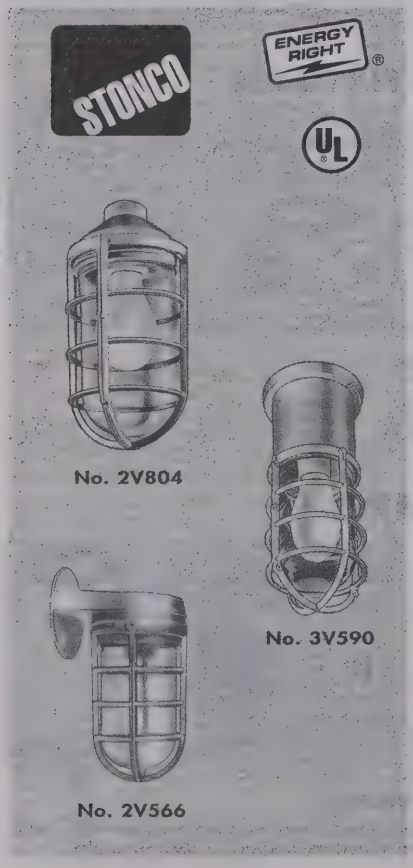
**Dimensions:** 8½ dia. x 14¼"H.

**Lamps not included:** Use two 13W, Biax lamps No. 6V712.

| Mounting Type | Lamps Not Included Wattage | Lamps Not Included Voltage | Class I Div 1 | Class I Div 2 | Class II Div 1 | Class II Div 2 | Class III Div 1 | Class III Div 2 | Hubbell Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pendant** | 26 | 120 | C, D | A, B, C, D | E, F, G | E, F, G | All | All | EBF261A2 | **7V236** | $393.75 | **$345.75** | 13.0 |
| **Pendant** | 26 | 277 | C, D | A, B, C, D | E, F, G | E, F, G | All | All | EBF264A2 | **7V237** | 393.75 | **345.75** | 13.0 |
| **Ceiling** | 26 | 120 | C, D | A, B, C, D | E, F, G | E, F, G | All | All | EBF261X2 | **7V238** | 427.35 | **375.00** | 15.0 |
| **Ceiling** | 26 | 277 | C, D | A, B, C, D | E, F, G | E, F, G | All | All | EBF264X2 | **7V239** | 427.35 | **375.00** | 15.0 |

(✓) Denotes energy efficient product.

**No. 3V799.** Guard for Globe. Hubbell brand (EMGI). Shpg. wt. 0.5 lbs. List $16.00. Each ..... **$11.58**




## VAPOR-TIGHT FIXTURES

**Applications:** Designed for heavy-duty, non-explosive environments. Vapor resistant fixtures for use in weather-exposed, high traffic areas. These include processing plants, cold storage, foundries, factories, loading docks, railways, tunnels, bridges, walkways. Recommended for use whenever dust, or moisture are involved. UL Listed for wet locations if installation has a weatherproof outlet box. Stonco brand.

**Housing:** Die-cast aluminum housing and twist on guard secured by 4 set screws. Premium porcelain socket. Fully enclosed and gasketed.

**Lens:** Clear glass globe is fully enclosed and gasketed.

### INCANDESCENT FIXTURES

**Ceiling Mount No. 2V565 Fixture** fits on standard 3½" round and octagon and 4" round boxes.

**Wall Mount No. 2V566 Fixture** fits on standard 4" round and octagon boxes.

**Pendant Mount No. 2V804 Fixture** fits on standard 1/2" conduit and has tapped 1/2" NPT hub.

**Lamp not included:** Uses 100 watt maximum incandescent lamps, suggest rough service or industrial incandescent lamps listed on page 968. Use No. 2V567 4" weatherproof round box with Nos. 2V565 and 2V566.

**Installation:** Prewired with 11" long leads for mounting on surface or recessed boxes (not included).

**UL Listed (E57163).**

### HIGH PRESSURE SODIUM FIXTURES

**Ballast:** Normal power factor, 120V, suitable for outdoor installations. Ambient temperature down to –20°F.

**Lamp included:** 50 watt high pressure sodium, medium base. For replacement lamp, suggest No. 2V657.

**Ceiling Mount No. 3V590 Fixture** with 3½" round weatherproof box for surface mounting and conduit access.

**Wall Mount No. 3V591 Fixture** supplied with 4" round box.

**UL Listed** (E86021), CSA Certified (LR28586).

### VAPOR-TIGHT FIXTURES ORDERING DATA

| Fixture Type | Dimensions (In.) Height | Dimensions (In.) Width | Stonco Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **INCANDESCENT FIXTURES** | | | | | | | | |
| **Ceiling Mount** | 7 13/16 | 4 3/8 | VK-1GC | **2V565** | $51.97 | **$28.45** | **$27.03** | 2.6 |
| **Wall Mount** | 9 9/16 | 5 3/4 | VW-1GC | **2V566** | 67.97 | **36.25** | **34.44** | 2.8 |
| **Pendant Mount** | 8 7/8 | 4 3/8 | VP-11GC | **2V804** | 53.60 | **29.90** | **28.41** | 2.7 |
| **HIGH PRESSURE SODIUM FIXTURES** | | | | | | | | |
| **Ceiling Mount** | 12 | 3½ | VCXL50NLXL-1 | ✓**3V590** | 160.94 | **143.00** | **135.85** | 5.4 |
| **Wall Mount** | 11 | 7* | VWXL50NLXL-1 | ✓**3V591** | 251.49 | **154.25** | **146.54** | 5.4 |

(*) From wall to front of fixture. (✓) Denotes energy efficient product.



When it comes to lighting, no distributor outshines Grainger.

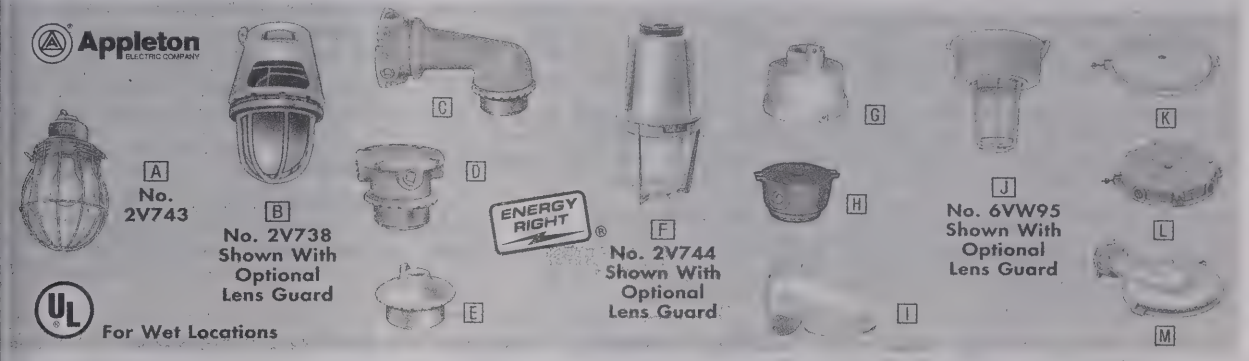
# HAZARDOUS LOCATION FIXTURES

## NATIONAL ELECTRICAL CODE EXPLOSIVE ATMOSPHERE CLASSIFICATIONS

Certain locations are hazardous because the atmosphere does or may contain gas, vapor or dust in explosive quantities. The National Electrical Code (NEC) divides these locations into Classes, Divisions and Groups according to the type of explosive agent which may be present. For complete list, see Section 500 of the National Electrical Code.

Underwriters' Laboratories tests devices for safety in explosive atmospheres and publishes a list of those meeting its standards for each Class, Division and Group.

Use of UL listed devices does not necessarily make an installation conform to the NEC or local codes. Consult Chapter 5 of the NEC, local building codes, OSHA requirements and insurance company inspectors for detailed information as to proper procedures.




### INCANDESCENT HAZARDOUS LOCATION FIXTURES

**No. 2V743 60-200 Watt Incandescent Fixture.**

**Applications:** For use in areas where dust and ignitable fibers may be present. UL Listed (EI0794).

**Lamp not included:** For use with 60-200 watt incandescent lamp. Suggest rough service or industrial incandescent lamps. See Index under Incandescent, Rough Service.

**Installation:** One tapped opening for rigid or flexible conduit mounting, 1/2" hub size.

**No. 2V738 60-300 Watt Incandescent Fixture.** Requires mounting hood Fig. C, D, or E to comply with UL Listing.

**Applications:** For use in chemical and petrochemical plants and other heavy process areas where ignitable vapors, dust, moisture, and corrosive atmospheres may be present. UL Listed (E10444).

**Lamp not included:** For use with 60-300 watt incandescent lamp. Suggest rough service or industrial incandescent lamps. See Index under Incandescent, Rough Service.

**Installation:** Mounting hoods have ¾" opening for rigid or flexible conduit.

### HID HAZARDOUS LOCATION FIXTURES

**Applications:** For use in tunnels, walkways, bridges, storage facilities, processing plants, parking lots, foundries, manufacturing plants, power plants, and wherever moisture, dirt, dust or corrosive atmospheres are present. UL Listed (E10444 and NEMA 4X).

**Installation:** Mounting hoods have ¾" opening for rigid or flexible conduit.

**No. 2V744 70 Watt High Pressure Sodium Fixture.** Requires mounting hood Fig. G, H, or I to comply with UL Listing.

**Ballast:** 120V enclosed and gasketed integral ballast.

**Lamp not included:** Suggest No. 2V632, 70 watt medium base HPS lamp.

**No. 6VW95 150 Watt High Pressure Sodium Fixture.** Requires mounting hood Fig. K, L, or M to comply with UL Listing.

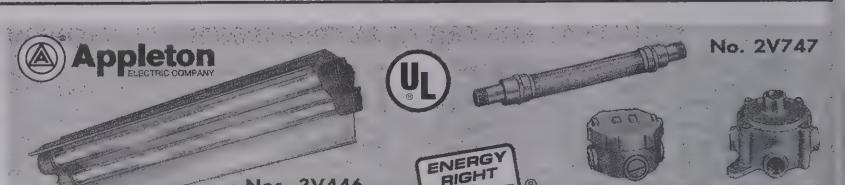
**Ballast:** Multi-tap (120, 208, 240, 277V) enclosed and gasketed integral ballast.

**Lamp not included:** Suggest No. 2V452, 150 watt mogul base HPS lamp.

| Key | Description† | Classifications* Class I Div. 1 | Class I Div. 2 | Class II Div. 1 | Class II Div. 2 | Class III Div. 1 | Class III Div. 2 | Dimensions (In.) Width | Height | Appleton Model | Stock No. | List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **60-200 WATT INCANDESCENT FIXTURE** | | | | | | | | | | | | | |
| **A** | **Incandescent Fixture** | — | — | E,F,G | E,F,G | All | All | 5.25 | 9 | EDTP2050G | **2V743** | $106.82 | **$69.35** | 3.5 |
| | **60-300 WATT INCANDESCENT FIXTURE AND ACCESSORIES** | | | | | | | | | | | | | |
| **B** | **Incandescent Fixture** | C,D | C,D | E,F | E,F | All | All | 8.81 | 13.44 | AAU-15N | **2V738** ‡ | 310.30 | **200.00** | 8.0 |
| **C** | **Long Mounting Hood** | C,D | C,D | E,F | E,F | All | All | 5 | 11.25 | AALB-75 | **2V739** | 170.91 | **110.55** | 12.0 |
| **D** | **Ceiling Mounting Hood** | C,D | C,D | E,F | E,F | All | All | 5.50 | 4.25 | AAC-75 | **2V740** | 115.28 | **75.25** | 4.9 |
| **E** | **Pendant Mounting Hood** | C,D | C,D | E,F | E,F | All | All | 4.69 | 1.37 | AAP-75 | **2V741** | 44.11 | **28.50** | 1.4 |
| **—** | **Aluminum Lens Guard** | — | — | — | — | — | — | 6 | 5 | AAGU-1 | **2V742** | 20.69 | **13.50** | 0.6 |
| | **70 WATT HID FIXTURE AND ACCESSORIES** | | | | | | | | | | | | | |
| **F** | **70W HPS Fixture** | — | A,B,C,D | E,F | E,F | — | — | 7 | 11.78 | MUL70-120 | **2V744** ‡ | 417.32 | **268.75** | 10.0 |
| **G** | **Pendant Mounting Hood** | — | A,B,C,D | E,F | E,F | — | — | 3.84 | 2.88 | VMA75 | **2V745** | 32.38 | **21.15** | 1.0 |
| **H** | **Ceiling Mounting Hood** | — | A,B,C,D | E,F | E,F | — | — | 4.41 | 2.75 | VXHA75-A | **2V746** | 52.24 | **33.90** | 2.0 |
| **I** | **Wall Mount** | — | A,B,C,D | E,F | E,F | — | — | 5.56 | 5.82 | JBW1-A | **4V288** | 52.51 | **34.00** | 1.6 |
| **—** | **Aluminum Lens Guard** | — | — | — | — | — | — | 6.38 | 6.50 | VPGU-1 | **4V292** | 30.95 | **19.99** | 0.5 |
| | **150 WATT HID FIXTURE AND ACCESSORIES** | | | | | | | | | | | | | |
| **J** | **150W HPS Fixture** | — | A,B,C,D | E,F | E,F | All | All | 13.38 | 13.12 | KPBU150L-MT | **6VW95** ‡ | 580.62 | **382.50** | 21.0 |
| **K** | **Pendant Mounting Hood** | — | A,B,C,D | E,F | E,F | All | All | 12.06 | 1.17 | KPA-75 | **6VW96** | 41.30 | **29.30** | 1.1 |
| **L** | **Ceiling Mounting Hood** | — | A,B,C,D | E,F | E,F | All | All | 12.06 | 5.87 | KPC-75 | **6VW97** | 42.98 | **28.10** | 1.5 |
| **M** | **Wall Mount** | — | A,B,C,D | E,F | E,F | All | All | 17.06 | 2.62 | KPWB-75 | **6VW98** | 99.62 | **58.50** | 5.0 |
| **—** | **Aluminum Lens Guard** | — | — | — | — | — | — | 8 | 6.75 | KGU-2 | **6VW99** | 35.46 | **24.68** | 1.2 |

(*) NEC Division 1 includes classes and groups where ignitable mixtures exist under normal conditions. NEC Division 2 includes classes and groups where ignitable mixtures exist under unusual conditions. (†) All fixtures and accessories UL Listed for wet locations. ( ) Shown with optional lens guard. (↝) Denotes energy efficient product.

# HAZARDOUS LOCATION FLUORESCENT FIXTURES




**Applications:** For use in classified areas such as inside paint spray booths, pharmaceutical firms, paint manufacturing plants, and printing plants. Can be used in any location where ignitable dust, fumes, gases, paint residue, paint powder, or corrosive atmospheres may be present. UL Listed for wet locations.

For use in Class I, II and III, Div. 1 and Div. 2 classified areas. 120V operation.

Explosion, dust, and ignition-resistant integrally-balanced fixture can be mounted directly inside a paint spray booth. Complies with NEC 516-3(c) and NFPA No. 33.

**No. 3V446** is a two lamp, 40 watt, F40T12 rapid-start fixture. UL Listed (E10794).

**No. 3V447** is a two lamp, 60 watt, F48T12HO rapid-start fixture. UL Listed (E10794).

**Lamps not included** Nos. 3V446 and 3V447: For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Fluorescent lamps listed in Index under Lamps, Fluorescent.

**No. 6VW94** is a 40 watt, 29" Biax compact fluorescent fixture. UL Listed (E10794).

**Biax lamps included:** For replacement lamp suggest No. 4VC27.

**No. 2V747 Flexible Hanger Coupling.** 3/4" female end fittings with removable male close nipples. Bronze outer braid. Lined brass core. 1½" dia. x 13⁹⁄₁₆"L. UL Listed (E10444).

**No. 2V748 Conduit Outlet Box.** Five 3/4" threaded hubs; 3 close-up plugs. Cast aluminum body and cover with aluminum polymer enamel finish. 4¼" dia. x 2¾"H. UL Listed (E10444).

**No. 2V749 Rigid Fixture Hanger.** For locations where fixture stem does not exceed 12". Plated malleable iron with aluminum polymer enamel finish. Accepts 3/4" fixture stem. Furnished with four 3/4" conduit hubs, four 3/4 to 1/2" reducers and three close-up plugs. 4⅝" dia. x 3¹¹⁄₁₆"H. UL Listed (E10444).

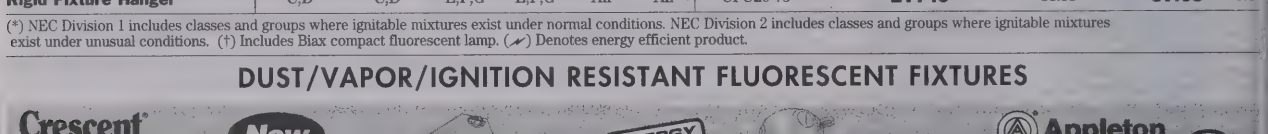
**MOUNTING KIT for fixtures above.** Hooks and clamp included. Appleton brand.

**No. 2V818.** Shpg. wt. 2.1 lbs. List $25.33.
Each ..... $16.37

| Description | Classifications* Class I Div. 1 | Class I Div. 2 | Class II Div. 1 | Class II Div. 2 | Class III Div. 1 | Class III Div. 2 | Appleton Model | Stock No. | List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **40W Rapid-Start Fixture** | C,D | C,D | E,F,G | E,F,G | All | All | ARS240-118ESB | **3V446** | $2615.02 | **$1715.00** | 48.0 |
| **40W Biax Comp. Fl. Fixture** | C,D | C,D | E,F,G | E,F,G | All | All | APL240-120 | **6VW94** † | 1593.90 | **1074.00** | 35.0 |
| **60W Rapid-Start Fixture** | C,D | C,D | E,F,G | E,F,G | All | All | AH260-118 | **3V447** | 3084.72 | **2073.00** | 61.0 |
| **Flexible Hanger Coupling** | A,B,C,D | A,B,C,D | E,F,G | E,F,G | All | All | EXJF28 | **2V747** | 213.96 | **138.55** | 2.3 |
| **Conduit Outlet Box** | C,D | C,D | E,F,G | E,F,G | All | All | GRUE75-A | **2V748** | 53.19 | **34.40** | 1.6 |
| **Rigid Fixture Hanger** | C,D | C,D | E,F,G | E,F,G | All | All | CPU20-75 | **2V749** | 88.53 | **57.05** | 5.6 |

(*) NEC Division 1 includes classes and groups where ignitable mixtures exist under normal conditions. NEC Division 2 includes classes and groups where ignitable mixtures exist under unusual conditions. (†) Includes Biax compact fluorescent lamp. (↙) Denotes energy efficient product.

# DUST/VAPOR/IGNITION RESISTANT FLUORESCENT FIXTURES




## FLUORESCENT FIXTURES

**No. 4PL84 Dust Ignition Resistant Fixture** for use where grain, flour, sugar, textile, chemical, carbon, and wood dusts are present.

**No. 4PL83 Vapor Resistant Fixture** for use where volatile flammable liquids, gases, or vapors are used, but would become hazardous only in case of an accident or of some unusual operating condition.

**Nos. 4PL84 and 4PL83** are two lamp, 48", 40 watt, F40T12 rapid-start energy saving fixtures. 120V, 60 Hz operation. Maximum internal or external temperature of any part of fixture should not exceed 120°C.

**Housing:** Non-corrosive fiberglass reinforced polyester composite housing protects against moisture, dirt, and chipping.

**Dimensions:** 53¾L x 11¹⁵⁄₁₆W x 7⁵⁄₁₆"H

**Installation:** Mounting and wiring accessories Nos. 2V747, 2V748, and 2V749 in above listing are suitable for use with fluorescent fixtures Nos. 4PL84 and 4PL83.

**Lamps not included:** For better lighting results use energy-saving, high color rendering lamps such as Staybright-XL, SP, or SPX lamps from GE. See Index under Lamps, Fluorescent.

UL & C-UL Listed (E12134). Crescent brand.

## MOUNTING AND WIRING ACCESSORIES

**No. 4V289 Conduit Outlet Box.** Four tapped 3/4" openings; 2 close-up plugs. 2¹⁄₁₆" inside depth. Includes mounting lugs. UL Listed (E2527). Appleton brand.

**No. 4V290 Ball Box Cover.** For use with No. 4V289 conduit box. Gasketed; 10-24 mounting screws included. 15° swing. Supports 250 lbs. 2⅜" height. Accepts 1/2" conduit. UL Listed (E2527). Appleton brand.

**No. 4V291 Cushion Box Cover.** For use with No. 4V289 conduit box. Enclosed and gasketed; cushions 40 lbs. 10-24 mounting screws included. 8° swing. Supports 250 lbs. 1¹¹⁄₁₆" height. Accepts 1/2" conduit. UL Listed (E2527). Appleton brand.

**No. 2V818. MOUNTING KIT** for fixtures above. Hooks and clamp included. Appleton brand (AC-KT).

**No. 2V818.** Shpg. wt. 2.1 lbs. List ..... $25.33.
Each ..... $16.37

| Description | Classifications* Class I Div. 1 | Class I Div. 2 | Class II Div. 1 | Class II Div. 2 | Class III Div. 1 | Class III Div. 2 | Mfr. Model | Stock No.‡ | List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **40W Rapid-Start Fixture** | — | A,B,C,D | — | — | — | — | HCLV234 | ***New*** **4PL84** | $428.82 | **$393.25** | 45.0 |
| **40W Rapid-Start Fixture** | — | — | F,G | F,G | All | All | HCLD234 | ***New*** **4PL83** | 396.43 | **346.50** | 46.0 |
| **Conduit Outlet Box** | — | — | — | — | — | — | JBDX-75L | **4V289** | 42.20 | **27.20** | 3.1 |
| **Ball Box Cover** | — | — | — | — | — | — | JBK-50-BS | **4V290** | 32.92 | **21.44** | 1.7 |
| **Cushion Box Cover** | — | — | — | — | — | — | JBK-50-CS | **4V291** | 54.69 | **35.45** | 1.8 |

(*) NEC Division 1 includes classes and groups where ignitable mixtures exist under normal conditions. NEC Division 2 includes classes and groups where ignitable mixtures exist under unusual conditions. (‡) UL Listed for wet locations. (↙) Denotes energy efficient product.

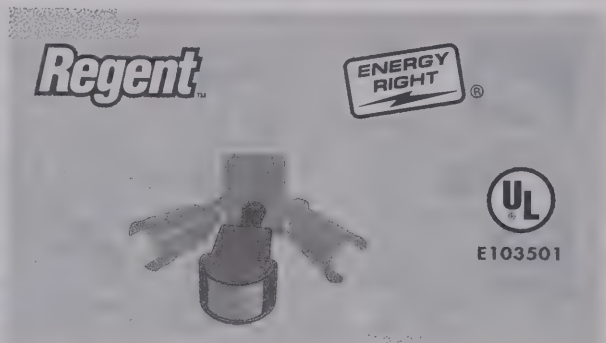
# PASSIVE INFRARED MOTION SENSORS

## OUTDOOR YARD-SCAN™ DIE-CAST, HEAVY-DUTY DETECTOR

- Detects motion outside the home or office. Turns lights On automatically. Includes dusk to dawn 24 hour reset.
- Die-cast aluminum housing with rain-tight construction makes unit suitable for all-weather outdoor operation
- Passive infrared sensor detects moving people or vehicles up to 60 ft. away. 110° horizontal width; 180° right angle adjustment
- Built-in photocell distinguishes daylight from darkness
- Use existing wall switch (no modifications needed) to control all operating modes (Off, Auto, Test, Dusk to Dawn manual override)
- Combination of heat and movement turns lights On. When motion stops, lights remain On for 5 minutes and then shut Off
- Switching capacity: 500W maximum of incandescent load only, switched by a relay, 120VAC, 60 Hz
- UL Listed (E103501); NEMA 4X rated.

**No. 2V946.** Motion Detector. Regent brand (PIR2ES). Shpg. wt. 1.3 lbs. List $137.33. Each ..... $88.90

(✓) Denotes energy efficient product.




## OUTDOOR 110° MOTION ACTIVATED FLOODLIGHT KIT

- Components pre-assembled and prewired for easy installation
- Fixture components: 2 PAR holders, cover plate, and motion detector
- Manual override turns lights On and Off with existing switch
- Motion activated twin floodlight detects movement up to 60 ft. and within 110°
- 4 or 12 minute time selection; multiple sensitivity adjustments
- Test switch allows for easy aiming day or night
- Can be wall or soffit/eave mounted
- Universal weatherproof cover plate mounts to round, octagonal, and rectangular junction cover boxes
- High-impact weatherproof non-metallic construction in white or bronze finish
- Lamps not included. Uses maximum two 150W incandescent PAR type lamps; see Index under Lamps, Incandescent
- UL Listed (E95388) and CSA Certified (LR95695)




| Color | Regent Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| White | MS-37 | ✓3V688 | $41.09 | $25.50 | 1.2 |
| Bronze | MS-35 | ✓3V687 | 41.09 | 25.50 | 1.2 |

(✓) Denotes energy efficient product.

## INDOOR H-MOSS PASSIVE INFRARED MOTION SENSOR

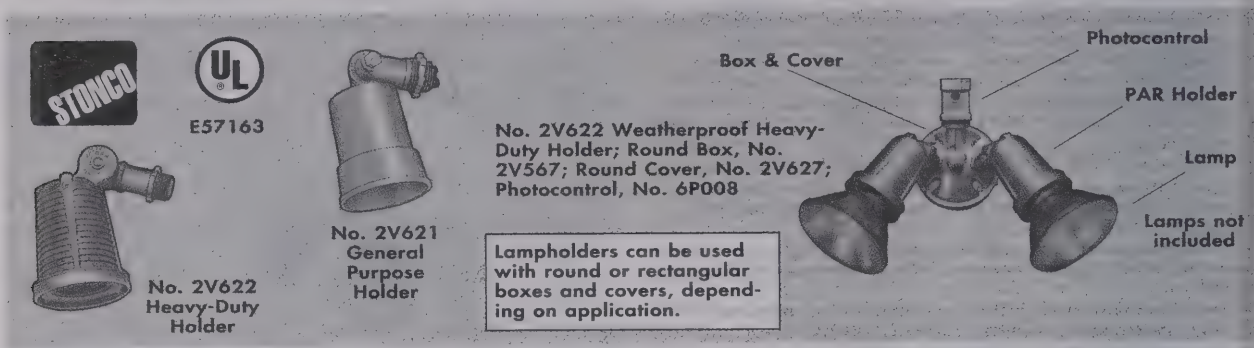
- Passive infrared system scans an area for changes in temperature or motion
- Saves energy by turning lights On only when ambient light is below set level
- Time delay adjusts from 1 to 20 minutes to shut off lights when area is left vacant
- Sensing range up to 40 feet
- Covers 1200 sq. ft. (111.5 sq. m.)
- Works with all incandescent and fluorescent lighting loads including electronic and energy saving ballasts
- Replaces standard toggle switch
- 180° field of view
- Rated 1500 watts at 120 VAC and 277 VAC, incandescent and fluorescent
- Ivory color
- UL Listed (E103666); CSA Certified (LR700758)
- For indoor use only




| Field of View | Coverage | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 180° | 1200 sq. ft. (111.5 sq. m.) | WSSL200 | 4CW33 | $103.83 | $83.10 | 0.5 |

# ARCHITECTURAL LAMPHOLDERS

## WEATHERPROOF INCANDESCENT ALUMINUM LAMPHOLDERS




### HEAVY-DUTY LAMP HOLDER

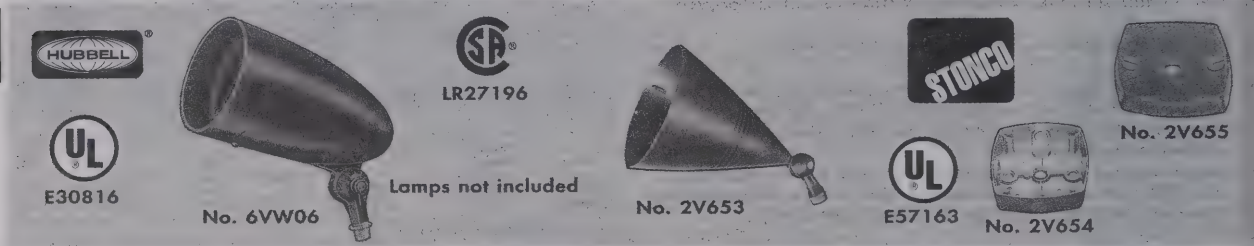
Recommended for use with 250 watt max., medium base PAR38 lamps, see Index under Lamps, Incandescent. UL Listed wet locations, for above horizontal aiming. Ribbed die cast aluminum design to maximize heat dissipation. Porcelain socket. Multi-part gasket with plated steel lock ring. Adjustable threaded 1/2" NPS arm, degree marked for aiming. UL Listed (E57163) for wet locations.

### GENERAL PURPOSE LAMP HOLDER

Recommended for use with 150 watt max., medium base PAR38 lamps, see Index under Lamps, Incandescent. Zinc housing with weather-resistant rubber gasket. Not suitable for aiming above horizontal. Adjustable threaded 1/2" NPS arm. UL Listed (E57163) for wet locations.

| Description | Color | Stonco Model | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **METALLIC LAMPHOLDERS** | | | | | | |
| **Weatherproof Heavy-Duty Parholder** | Aluminum | 150L | **2V622** | $18.56 | **$8.50** | 1.2 |
| **Weatherproof General Purpose Parholder** | Aluminum | 3300 | **2V621** | 13.32 | **4.11** | 1.0 |

## ARCHITECTURAL LAMPHOLDERS, BOX, AND COVER




For use where both light and appearance are important. **Lamps not included.**

**Hubbel Bullet Architectural Lampholders.** Use 120V, 150 watt max. PAR38 lamps. No. 6VW05 designed for indoor or outdoor down aiming application. Die cast design is durable and protects lamp.

No. 6VW06 designed for wet locations with universal aiming. Tempered lens is sealed in extension collar providing weather protection and deep shielding to prevent glare.

Both units mount with 1/2" knuckle and have Lektrocote gray powder finish.

**Stonco Bullet Architectural Lampholder.** For up to 150W PAR-38 incandescent or 250W QPAR-38 quartz-halogen lamps. May be used for above horizontal aiming. Ribbed die-cast aluminum design to maximize heat dissipation. Adjustable 1/2" NPT degree marked threaded arm with serrated locking teeth, and lock nut. Multi-part gasket seal prevents weathering of socket and lamp base. Textured black finish. 10" maximum length; 6" maximum diameter. Stonco brand.

**Approvals:** UL Listed (E57163), CSA Certified (LR27196) for wet locations.

**Electrical Box.** Die-cast aluminum with black polyester powder finish. Four side and one back 1/2" NPS tapped holes. Four closure plugs. 5 3/16L x 5 3/16W x 1 1/2"D. Stonco brand (69-41B).

**No. 2V654.** Shpg. wt. 0.5 lbs. List.....$36.97. Each **$23.61**; Lots 3.....**$22.43**

**Cover Plate.** Die-cast aluminum with matte black epoxy finish. Three 1/2" NPT tapped holes. Two closure plugs. Fits No. 2V654. Stonco brand (67-3B).

**No. 2V655.** Shpg. wt. 0.5 lbs. List.....$21.33. Each **$12.02**; Lots 6.....**$11.42**

| Description | Color | Length (In.) | Type* | Lamp Wattage | Base | Mfr. | Mfr's. Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cast Aluminum** | Gray | 8 1/4 | PAR-38 | 150 | Medium | Hubbell | 308-M | **6VW05** | $36.46 | **$24.72** | 3.0 |
| **Cast Aluminum** | Gray | 9 7/8 | PAR-38 | 150 | Medium | Hubbell | 309-ML | **6VW06** | 48.28 | **31.60** | 3.0 |
| **Cast Aluminum** | Black | 10 | PAR-38 | 150 | Medium | Stonco | 6700B | **2V653** | 49.73 | **31.95** | 2.0 |

(*) Use PAR-38 lamps see Index under Lamps, Incandescent.



When it comes to lighting, no distributor outshines Grainger.

# LANDSCAPE LIGHTING SELECTION GUIDE



Hadco landscape lighting is designed to highlight particular objects or foliage to create dramatic or subtle lighting effects. This step-by-step guide will help you design a lighting system to fit your outdoor lighting applications.

**Step 1** DECIDE WHAT OBJECT(S) ARE TO BE ILLUMINATED

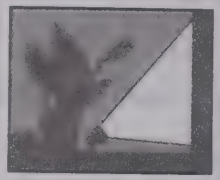
- Trees
- Shrubbery
- Ground Cover
- Pond
- Signage
- Statues
- Sculpture
- Fountain
- Wall
- Architectural Detail
- Walkway
- Driveway
- Steps
- Deck
- Patio
- Entryway

**Step 2** DECIDE WHICH LIGHTING TECHNIQUES WILL ACHIEVE THE DESIRED EFFECT

## Landscape Lighting Techniques

### SILHOUETTING

The silhouette of a plant or object is highlighted using this technique. The light source should be close to the base and concealed directly behind the object. The silhouette is created by projecting the light source directly onto a wall or other vertical surface. This subtle effect can be dramatic when silhouetting plants with unusually shaped leaves or branches.



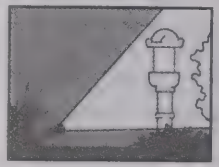
### SHADOWING

Shadowing is similar to silhouetting, however it projects the object's image or shadow onto a wall or other flat surface. The light source is located in front of the object to be highlighted. This effect can be even more dramatic than silhouetting because the shadow is often greatly magnified.



### SPOTLIGHTING

Spotlighting is used to accent a particular object or landscape detail by focusing an intense beam of light directly on it. This technique is best used in combination with other lighting techniques to reduce the potential of glare or ruining the effect with misdirected light.



## Spread/Path Lighting Techniques

### SPREAD LIGHTING

This low area lighting produces symmetrical patterns of illumination and is most effective when used for lighting ground cover and low shrubbery. Use well shielded fixtures set near the plantings to highlight an interesting array of textures, shapes, and colors.



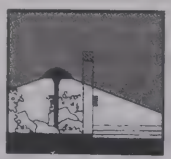
### PATH LIGHTING

Path lighting also casts symmetrical light patterns, but at a lower height. This type of lighting is used to illuminate pathways, sidewalks, borders, steps, and landscape contours. Use lights that are diffused or shielded to reduce glare.



### TRAFFIC LIGHTING

To create effective traffic lighting, it is important to use a combination of spread and path lighting. Traffic lighting is used to illuminate garden spaces that direct visitors through the landscape, show them what obstacles to avoid, and where they should walk.



### SECURITY LIGHTING

Create a secure environment that also enhances the surroundings by strategically combining low level lighting with accent lighting. The result is security lighting that is not harsh or glaring.



CONTINUED ON NEXT PAGE

# LANDSCAPE LIGHTING SELECTION GUIDE

## Step 3 DECIDE *HOW MANY* AND *WHAT STYLE* OF FIXTURES NEEDED TO PROPERLY ILLUMINATE AN AREA OR OBJECT

**Accent or Spot/Flood Lighting.** Choose fixtures that will blend into the landscape or can be hidden from sight behind shrubbery or buried in the ground. Also consider lamp source wattage based on distance to the object and the desired brightness. In general, use just enough light to show what is important in a landscape such as objects, architectural details, and traffic patterns—do not over light.

**Spread/Path Lighting.** Choose these fixtures based on recommended spacing for continuous illumination or space out fixtures to create pools of light. Many styles are available to compliment the surrounding ground cover or low shrubbery.

**Spread/Path Lighting Example**



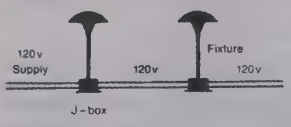
Spacing for Continuous Illumination of Light

Spacing for Pools of Light

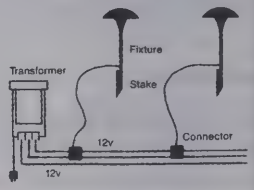
## Step 4 CHOOSE WHETHER TO USE 120 VOLT LINE VOLTAGE OR 12 VOLT LOW VOLTAGE SYSTEM

**120 Volt Line Voltage System.** Normally used for permanent commercial installations and retrofit of previously installed systems. Conduit or direct burial UF cable is usually required for installation (check local codes). Best for applications when 100 ft. or more of cable could be used.

**12 Volt Low Voltage System.** A transformer is plugged or wired into a 120 volt supply line and low voltage wires are then run over or under ground to low voltage fixtures. Low voltage systems are typically safer, more economical to install, and the fixtures are easily moved to fine tune or completely change the installation. Best suited for short distances, generally under 100 feet from the transformer.



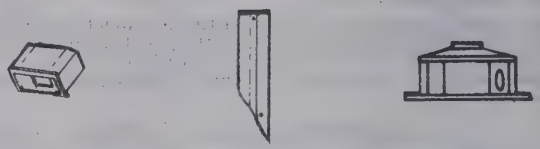

120V System




12V System

## Step 5 DETERMINE MOUNTING ACCESSORIES REQUIRED

Most low voltage fixtures are installed using mounting stakes and quick pin-type connectors to tap into the power line (page 1113). 120V line voltage installations require an approved weatherproof junction box or mounting standard in which to make the wiring connections (page 1113).



## Step 6 DETERMINE THE PROPER POWER TRANSFORMER AND CABLE (FOR LOW VOLTAGE APPLICATIONS ONLY)

**a.** Add up wattages of all lamps

**b.** Add 10% for future additions, changes, lamp wattage increases, etc.

**c.** Select the transformer to handle the number of cable runs and lamp wattages

**d.** Minimize voltage drop by planning cable runs as short as possible. Use larger gauge cable for more light output. Voltage drop can be calculated by the following formula:

$$\frac{\text{(Total Watts x Cable Length)}}{\text{Cable Constant}}$$

Wire Gauge Cable Constant:

14 AWG = 3500 12 AWG = 7500 10 AWG = 11920

Example:

5 fixtures with 27W lamps on 100 ft. of 12 AWG cable will produce a voltage drop of:

$$\frac{(5 \times 27W) \times 100\ ft}{7500} = 1.8V$$

Total voltage on the 12V line will be 10.2V.

Voltage drop will decrease the amount of light a standard, non-halogen lamp will deliver as follows:

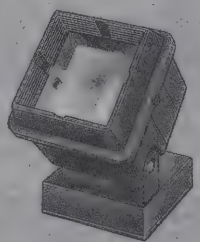
| Voltage | 12.0V | 11.5V | 11.0V | 10.5V | 10.0 |
|---|---|---|---|---|---|
| Light Output | 100% | 80% | 75% | 65% | 50% |

Whenever possible it is advisable to keep the voltage drop at less than 2V. However, with halogen lamps, such as MR11 and MR16, a voltage drop of more than 1.2V may severely affect lamp life.

**Additional Fixtures Commonly Used for Landscape Lighting**



See Page 1106



See Page 1092



See Page 1106

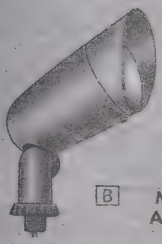
# LANDSCAPE ACCENT LIGHTING FIXTURES

## LOW VOLTAGE (12V) TYPES

### HADCO



A PAR36 Accent Light

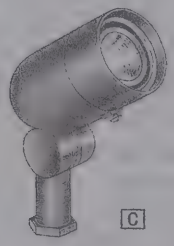


B MR16 Mini Accent Light

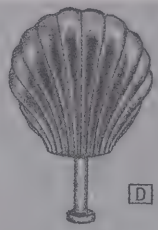
E161028

E161028

Lamp Not Included



C MR11 Micro Accent Light



D Wall Lyter

Accent lighting highlights landscapes at night by illuminating particular objects, details, or foliage. Large plants, shrubs, trees, doorways, walls, statues, fountains, sculptures, decks, and patios can all be enhanced using the techniques described on pages 1107 and 1108. To prevent glare, accent fixtures should be aimed away from observers and concealed behind shrubbery to keep the landscape natural and uncluttered. Use in-ground lights to restrict glare on all sides when lighting an object that is seen from several directions.

**Note:** Low voltage lighting system components need to be ordered separately unless noted. Low voltage components include fixtures, mounting stems, mounting stakes, lamps, cables, transformers, and connectors.

## STAKE MOUNTED ACCENT LIGHTS

**Construction:** Fully adjustable swivel arm with locking teeth for precision aiming capability.

**Installation:** Pre-wired with 36" cable and quick connect (included) for hook-up to low voltage supply line.

**Accessories:** Low voltage mounting stakes (not included). Use No. 3V881 (12") or No. 3V882 (2-14") on page 1113.

### A PAR36 ACCENT LIGHT

**Applications:** Versatile, multi-purpose fixture is popular for uplighting trees, building facades, walls, and spot lighting.

**Construction:** One-piece injection molded Ryton PPS with rotatable shroud to reduce glare.

**Finish:** Color impregnated material in bronze.

**Lamp (not included):** Uses double screw terminal PAR36 lamp up to 50W.

**Approvals:** UL Listed (E161028) for USA and Canada.

### B MR16 MINI ACCENT LIGHT

**Applications:** Small sized fixture with bright halogen light source is easily hidden when uplighting trees, building facades, walls, and spot lighting.

**Construction:** One-piece injection molded Ryton PPS with rotatable shroud to reduce glare. Includes clear tempered glass lens affixed at 10° angle for natural cleaning.

**Finish:** Color impregnated material in bronze.

**Lamp (not included):** Uses bi-pin MR16 lamp up to 50W.

**Approvals:** UL Listed (E161028) for USA and Canada.

### C MR11 MICRO ACCENT LIGHT

**Applications:** Micro size allows fixture to be hidden in planters or among ground cover for spot lighting smaller objects.

**Construction:** Durable cast aluminum housing with shroud. Two-piece construction for easy relamping. Includes clear tempered glass lens.

**Finish:** Bronze powder coat.

**Lamp included:** 20W MR11 wide flood. Fixture uses up to 35W.

**Approvals:** UL Listed (E161028) for USA and Canada.

### D WALL LYTER

**Applications:** Clam shell style fixture is perfect for general wall washing to create silhouetting or shadowing effects.

**Construction:** Durable cast aluminum housing with extruded stem and 1/2" NPT fitter. Includes molded acrylic lens secured with stainless steel spring clips.

**Finish:** Hand rubbed verde antiqued over black thermoset powder coat.

**Lamp included:** 1156 lamp. Suggested replacement No. 1E752.

**Approvals:** UL Listed (E161028) for USA and Canada.

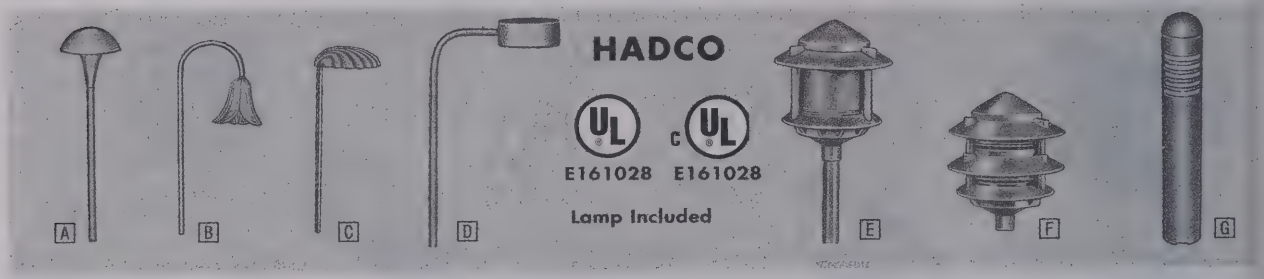
### ACCENT LIGHTING SPECIFICATIONS AND ORDERING DATA

| Key | Recommended Lamp Type (Not Included) | Recommended Lamp Maximum Wattage | Stock No. | Description | Dimensions (In.) Height (Incl. Arm) | Dimensions (In.) Length | Dimensions (In.) Width (Dia.) | HADCO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | PAR36 | 50 | 4V482 | Std. Accent Light | 6¾ | 6⅜ | 5⅛ | BPL36-H | **3V840** | $76.91 | **$57.45** | 2.4 |
| B | MR16 | 50 | 1K345 | Mini Accent Light | 4¼ | 6½ | 3¼ | BCL16-H | **3V841** | 92.38 | **74.00** | 1.0 |
| C | 20W MR11 (Incl.) | 35 | 1C736 | Micro Accent Light | 4¼ | 4 | 2 | BL711-HL | **3V842** | 82.66 | **68.15** | 0.9 |
| D | 1156 (Incl.) | 27 | 1E752 | Clam Shell Wall Lyter | 8 | — | 5⅜ | CAL1-G | **3V857** | 93.69 | **60.15** | 2.3 |

Accessories On Page 1113

# LANDSCAPE SPREAD & PATH LIGHTING FIXTURES

## LOW VOLTAGE (12V) TYPES




### COMMON FEATURES

**Applications:** Spread and path lighting techniques are most effective along pathways, walkways, borders, driveways, low shrubbery, and decorative ground cover (see pages 1107 and 1108 for design details). When properly arranged, the safety, security, and aesthetic quality of a landscape is enhanced.

**Construction:** Heavy-duty cast aluminum housings and aluminum stems; except No. 3V873 has extruded aluminum housing.

**Lamp (included):** 27 watt, 1156 type, single bayonet base lamp. For replacement lamp use No. 1E752.

**Installation:** Pre-wired with 36" cable and quick connector (included) for hook-up to low voltage supply line.

**Accessories:** Low voltage mounting stakes (not included). Use No. 3V881 (12") or No. 3V882 (2 to 14"); order on page 1113.

**Approvals:** UL Listed (E161028) for USA and Canada.

### A MUSHROOM LIGHTS

**Applications:** Mushroom style fixtures compliment traditional as well as contemporary landscapes.

**Construction:** Stainless steel fasteners secure mushroom cap to cone bottom. Aluminum stem (included). Lamp is positioned in the bottom of the mushroom cone to produce a smooth uniform light pattern without any glare.

**Finish:** Hand rubbed verde antiqued over black powder coat gives fixture the appearance of natural weathered copper. Underside of mushroom cap is reflective white.

### B TULIP LIGHTS

**Applications:** Graceful flower shaped lines and petal details of fixture compliment any landscape.

**Construction:** Fixture is open at the bottom for higher light levels and easy re-lamping.

**Finish:** Hand rubbed verde antiqued over black powder coat gives appearance of natural weathered copper.

### C SHELL TYPE PATH LIGHT

**Construction:** Molded acrylic lens secured with stainless steel screw clips included with extruded stem and 1/2" NPT fitter.

**Finish:** Hand rubbed verde antiqued over black powder coat gives fixture an appearance of natural weathered copper.

### D MINI PATH LIGHT

**Applications:** Small contemporary designed fixture remains unobtrusive in the landscape.

**Construction:** Fixture is open at the bottom for higher light levels and easy re-lamping. Black powder coat finish

### E INDIRECT PATH LIGHT

**Applications:** Fixtures create a luminescent ambiance especially suited for special garden areas and around patios and decks.

**Construction:** Stainless steel fasteners secure pagoda cap to the bottom. Aluminum stem included. Glass jar is painted white on the inside for added efficiency and painted verde on the outside to hide light source. Light is reflected off the underside of the pagoda cap to provide a smooth glare-free uniform light pattern.

**Finish:** Hand rubbed verde antiqued over black powder coat gives fixture an appearance of natural weathered copper.

### F PAGODA PATH LIGHT

**Applications:** Pagoda style blends in with gardens, curved pathways, and long driveways.

**Construction:** Stainless steel fasteners secure pagoda cap and louvers to the bottom. Frosted glass jar lens screws into the pagoda bottom. 1/2" NPT threaded bottom for stem (not included). Garden green powder coat finish.

**Accessories:** 12" mounting stem No. 3V920 (not included, see page 1113).

### G MICRO BOLLARD

**Applications:** Durable, high traffic area fixtures. Compact 15" bollard provides 360° light spread.

**Construction:** Compact fixture has extruded aluminum housing and cast aluminum end caps with stainless steel fasteners securing the bollard assembly to the mounting plate and allowing for easy re-lamping. An opal acrylic lens shields the light source. Black powder coat finish.

| Key | Description * | Recommended Fixture Spacing (Ft.) | Dimensions (In.) Height | Width (Dia.) | HADCO Model | Stock No. | List | With Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Small Mushroom Light | 8 | 17 3/4 | 4 1/2 | MUL1-G | **3V859** | $106.60 | **$84.70** | 2.6 |
| | Medium Mushroom Light | 8 | 23 1/4 | 9 | MUL2-G | **3V861** | 159.49 | **95.85** | 3.5 |
| B | Small Tulip Path Light | 8 | 22 | 4 1/2 | TUL1-G | **3V862** | 106.50 | **74.45** | 2.6 |
| | Large Tulip Path Light | 11 | 34 1/2 | 7 | TUL3-G | **3V864** | 163.72 | **100.70** | 5.1 |
| C | Shell Type Path Light | 14 | 18 3/4 | 6 | CSL1-G | **3V858** | 128.61 | **73.05** | 3.0 |
| D | Mini Path Light | 9 | 18 1/2 | 4 | HL1-A | **3V865** | 101.99 | **62.75** | 2.0 |
| E | Indirect Path Light | 7 | 18 1/4 | 6 | PL3-G | **3V867** | 105.72 | **63.70** | 3.0 |
| F | Pagoda Path Light | 10 | 8 (w/o Stem) | 6 | PL39-K | **3V869** | 74.39 | **37.65** | 3.0 |
| G | Micro Bollard | 7 | 15 1/4 | 2 1/2 | DBL2-A | **3V873** | 129.34 | **93.75** | 3.5 |

(*) Lamp type included; 27.5W, 1156 single bayonet base. Order replacement lamp Stock No. 1E752.


When it comes to lighting, no distributor outshines Grainger.

# LOW VOLTAGE (12V) TYPES

## IN-GROUND AND UNDERWATER ACCENT LIGHTS

### [A] WELLYTE

**Applications:** Installation with straight-cut end up allows flush ground mounting for uplighting. Installation with angle-cut end up allows 3" to be mounted above ground for spot lighting with glare cutoff.

**Construction:** Heavy-wall single piece PVC housing allows easy installation and water to run through when installed on drainage material. Durable, silicone rubber lamp holder allows height adjustment and up to a 45° angle adjustment of lamp without tools or any mechanical moving parts that will corrode or rust.

**Installation:** 48" cable with spade terminals and quick connector (included) for hook-up to low voltage supply line.

**Accessories:** Optional bronze finish rockguard No. 3V846 constructed of tough fiberglass reinforced polyester composite that will not fade or peel (see below).

**Lamp not included.**

**Approvals:** UL and C-UL Listed (E161028).

### ROCK GUARD

**Application:** Bronze color rock guard makes light origin less conspicuous in surrounding landscape. Prevents large objects from falling into Wellyte that could damage the lamp. For use with No. 3V845 PAR36 Wellyte.

**Construction:** Tough, fiberglass reinforced polyester composite.

**No. 3V846.** HADCO brand (IG30-H). Shpg. wt. 1.0 lbs. List $36.50.
Each ..... $24.43

### [B] PAR36 ROCKLYTE

**Applications:** Simulated rock with concealed PAR36 lamp inside blends into the landscape for general accent lighting.

**Construction:** Fiberglass reinforced molded concrete construction has natural looking granite shape. Durable silicone rubber lamp holder allows height adjustment and up to a 45° angle adjustment of lamp without tools or any mechanical moving parts that will corrode or rust. Open-ended design allows water to drain through fixture and keeps lamp clean. Natural granite color finish.

**Installation:** 48" cable with spade terminals and quick connector (included) for hook-up to low voltage supply line.

**Lamp not included.**

**Approvals:** UL C-UL Listed (E161028).

### [C] MINI IN-GROUND UPLIGHTS

**Applications:** Flush mount installation for uplighting trees, building facades, and walls.

**Construction:** Single-piece fiberglass reinforced polyester composite housing and guard will not corrode or peel from soil contaminants or weather—including coastal salt spray environments. Self-washing, tempered glass convex lens. Internal gimbal ring lamp holder allows 358° rotation and 15° off vertical adjustability for aiming lamp. Directional guard helps control glare. Bronze finish.

**Installation:** 36" cable and quick connector (included) for hook-up to low voltage supply line.

**Lamp not included.**

**Approvals:** UL C-UL Listed (E161028).




### [D] UNDERWATER POND LIGHT

**Applications:** Weighted bottom allows watertight fixture to remain submerged for uplighting applications in ponds.

**Construction:** Single-piece fiberglass reinforced polyester composite housing with watertight connector will not corrode or peel from weather or soil contaminants. Self-washing, tempered glass convex lens. Internal gimbal ring clamp holder allows 358° rotation and 15° off vertical adjustability for aiming lamp. Bronze finish.

**Installation:** Pre-wired with 10' round cable for wiring directly to low voltage supply line.

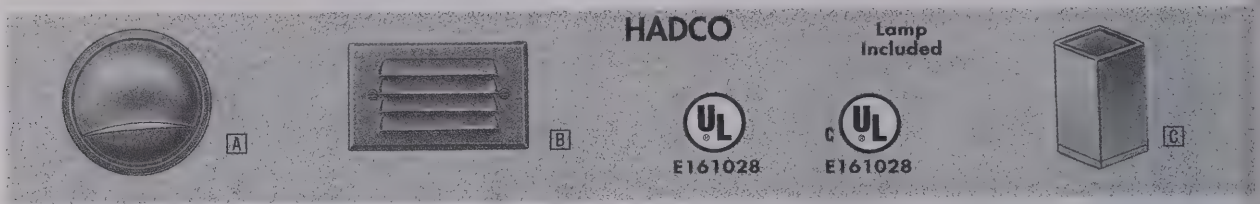
**Lamp not included.**

## ACCENT LIGHTING SPECIFICATIONS AND ORDERING DATA

| Key | Type (Not Included) | Recommended Lamp Max. Wattage | Stock No. | Description | Dimensions (In.) Height (Incl. Arm) | Length | Width (Dia.) | HADCO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | PAR36 | 50 | 4V482 | Wellyte | 8 | — | 6 | IL336-A | 3V845 | $77.92 | $49.75 | 1.6 |
| B | PAR36 | 50 | 4V482 | Rocklyte | 7 | 10 | 9 | RL336-I | 3V847 | 215.24 | 155.50 | 22.0 |
| C | MR16 | 75 | 1K341 | Mini In-Ground with Guard | 6¾ | — | 6¾ | IL116G-H | 3V848 | 198.09 | 116.20 | 4.1 |
| C | PAR36 | 50 | 4V482 | Mini In-Ground with Guard | 6¾ | — | 6¾ | IL336G-H | 3V849 | 198.09 | 116.20 | 4.1 |
| D | PAR36 | 50 | 4V482 | Underwater Pond Light | 6 | — | 6¾ | UWL136-H | 3V851 | 205.13 | 122.00 | 9.0 |

# LOW VOLTAGE OUTDOOR LIGHTING

## LOW VOLTAGE STEP AND DECK LIGHTING FIXTURES




Fixtures can be mounted on walls or posts along steps, pathways, walkways, decks, and borders. Provide illumination for footing safety. Available in surface and recessed mounting configurations.

**UL Listed** (E161028) for USA and Canada.

### [A] SURFACE MOUNT STEP & DECK LIGHT

**Applications:** Rugged, small profile fixture is ideal for mounting to railing posts and along steps, walkways, decks, and pathways.

**Construction:** Cast aluminum back and front cover. Horizontal cut-off and frosted glass shield directs light down for glare-free lighting.

**Finish:** Bronze powder coat.

**Lamp Included:** 18W, 1141-type single bayonet base lamp.

**Installation:** Pre-wired with 72" cable and quick connector (included) for hook-up to low voltage supply line.

### [B] RECESSED LOUVERED STEP LIGHT

**Applications:** For recessed lighting along steps, walkways, hallways, and decks.

**Construction:** Steel housing. Single gang recess box (3½L x 2¼W x2¾"D). Removable cast aluminum louvered faceplate with frosted glass lens directs light downward. Rubber gasketed.

**Finish:** Black powder coat.

**Lamp Included:** 12W, 93-type single bayonet base lamp.

**Installation:** Pre-wired with 72" cable and quick connector (included) for hook-up to low voltage supply line.

### [C] MINI SQUARE SURFACE DOWNLIGHT

**Applications:** Small, compact fixture is especially designed for placement under railings on decks or walkway fences.

**Construction:** Heavy-duty cast aluminum housing with frosted glass lens provides soft wide light distribution. Lens also prevents dirt and insect infiltration.

**Finish:** Black powder coat.

**Lamp (Included):** 18W, 1141-type single bayonet base lamp.

**Installation:** Pre-wired with 6 ft. cable and quick connector (included) for hook-up to low voltage supply line.

| Key | Description | Lamp | | | Dimensions (In.) | | | HADCO Model | Stock No. | With Lamp | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Type (Included) | Maximum Wattage | Repl. Lamp Stock No. | Length | Width (Dia.) | Depth | | | List | Each | |
| A | Surface Mount Step Light | 1141 | 18 | 1E750 | — | 3⅞ | 1⅞ | SRL2-H | **3V852** | $78.11 | **$48.45** | 1.0 |
| B | Recessed Louvered Step Light | 93 | 12 | 6VC57 | 4⁹⁄₁₆ | 2⅝ | 7/16 | RLL1-A | **3V853** | 86.02 | **53.05** | 1.1 |
| C | Mini Square Surface Downlight | 1141 | 18 | 1E750 | 3¼ | 1¾ | 1⅝ | DSL1-A | **3V856** | 82.01 | **51.45** | 1.1 |


**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# LANDSCAPE LIGHTING ACCESSORIES

## LOW VOLTAGE (12V)
### POWER CONSOLE TRANSFORMERS

Used to power and control 12V landscape lighting systems. 300W, 600W and 900W models have provision for optional plug-in timer (not included). 600W models feature two separate 300W circuits. 900W models feature three separate 300W circuits. Formed steel case with dark gray polyester powder coat finish. Epoxy encapsulated transformer. Thermostat protection on 120V primary side. Heavy-duty toggle magnetic circuit breaker protects transformer from overload on 12V circuit.

300W, 600W and 900W transformers feature 3 different voltage selections; 11V output for longer lamp life on short runs; 12V output for normal runs of cable up to 100 ft.; or 13V output for runs between 100 and 250 ft. in length, providing greater power availability. One, two, or three voltages may be utilized at the same time. Consoles supplied with 3 ft., 3-wire cord and plug for use with 120V 15A outlet (GFI protection recommended). Consoles can be 120V direct wired through 1/2" knockouts. Terminal connector strip accepts up to 8 AWG low voltage cable. **For timer use No. 2E274. For automatic dusk-to-dawn operation use photocell control No. 6P008.** UL Listed for wet locations and pool and spa use.

HADCO

E140548 E140548



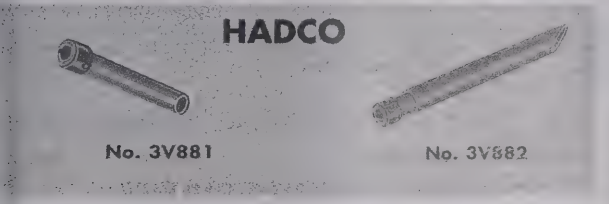
New

No. 4LW16

| Description | Recommended Min. Total Watt | Max. Total Watt | No. of Circuits | HADCO Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 150W Transformer | 50 | 125 | 1 | TC151-12 | 4LW16 | $235.00 | $180.00 | 6.5 |
| 300W Transformer | 125 | 270 | 1 | TC353-13 | 4LW17 | 313.00 | 260.00 | 14.0 |
| 600W Transformer | 250 | 540 | 2 | TC653-13 | 4LW18 | 545.00 | 367.00 | 21.0 |
| 900W Transformer | 375 | 810 | 3 | TC943-13 | 4LW19 | 779.00 | 455.00 | 27.0 |

## MOUNTING STAKES

HADCO



No. 3V881 No. 3V882

**Applications:** For ground installation of most low voltage fixtures requiring a 1/2" threaded NPT. Stakes can be driven into ground prior to installation to prevent damage to fixture.

**Construction:** Heavy wall PVC stake and cap will not corrode in soil. Bottom is cut at 45° angle for driving into ground. Cap is threaded to allow fixture to screw into opening and slotted on the side to allow voltage wire to exit. Stainless steel screws lock cap onto stake.

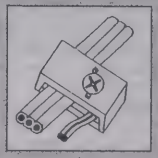
**No. 3V881. 12" Mounting Stake.** For low voltage light fixtures. HADCO brand (S-4). Shpg. wt. 0.5 lbs. List $18.60. Each ..... $10.24

**No. 3V882. Telescopic Mounting Stake.** For low voltage light fixtures. Provides height adjustment 2" to 14" above ground. HADCO brand (S-6). Shpg. wt. 1.5 lbs. List $28.41. Each ..... $17.86

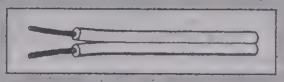
**No. 3V920. 12" Long Mounting Stem.** For Pagoda Style path lighting fixtures. 1/2" NPS. Garden green powder coat finish. HADCO brand (S12-K). Shpg. wt. 0.4 lbs. List $23.20. Each ..... $13.35

## CONNECTOR AND CABLE

HADCO



No. 3V883



No. 3V937

**Connectors:** For quickly and securely connecting low voltage fixture wire to main 12V supply line without cutting or stripping wire or using wire connectors. High impact non-corrosive two-part plastic connector. Top part of connector has heavy-duty contact prongs that pierce cables. Captive stainless steel screw locks connector together. For 18-16 AWG parallel low voltage fixture wire and 14-10 AWG parallel low voltage supply line cable. HADCO brand (LVC-3).

**No. 3V883.** Shpg. wt. 0.1 lbs. List $10.16. Each ..... $6.35

**Cable:** For outdoor surface or direct burial applications. Sunlight resistant. UL Listed (E11368). See pages 1107 and 1108 for additional application information. Carol Cable brand.

| Gauge/ Conductors | Length (Ft.) | Carol Cable Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 14/2 | 100 | 02310-67-01 | 3V937 | $45.29 | $28.40 | 5.4 |
| 14/2 | 500 | 02310-18-01 | 3V938 | 197.76 | 123.60 | 29.0 |
| 12/2 | 500 | 02311-18-01 | 3V947 | 274.23 | 171.50 | 37.0 |
| 10/2 | 500 | 02317-18-01 | 3V948 | 493.61 | 308.75 | 47.0 |

## OUTDOOR LIGHTING MOUNTING STANDARD

**Description:** Ground mounting lighting standard which installs faster, easier, and is less expensive than conventional conduit and FS box installations.

**Applications:** For outdoor ground level mounting of landscape products, sign and accent lighting, and walkway and security lighting.

**Construction:** Heavy wall noncorrosive PVC pipe and cap resist abuse from mowing and chemical fertilizers. Molded-in color won't peel or fade.

**Installation:** Sloped bottom access hole allows conduit or UF cable to enter from different levels. Approved as a wiring chamber with 1/2" NPS metal hub in cap. Includes integral ground wire. Built-in stabilizer prevents tilting or shifting without concrete. Paintable with water based paint.

**Approvals:** UL Listed (E57163) for wet locations.

**Stonco brand.**

STONCO

E57163

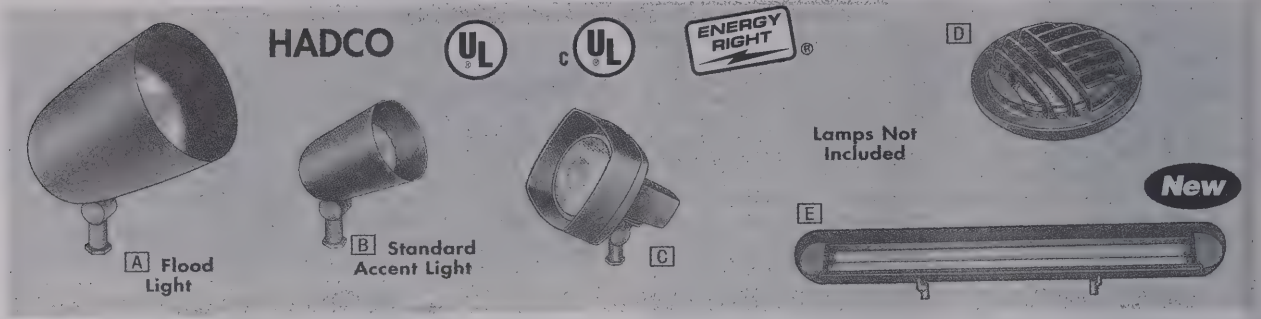


No. 3V586

| Color | Stonco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| White | RPP1 | 3V586 | $33.16 | $26.80 | 2.5 |
| Black | RPP1-BLK | 3V587 | 33.78 | 27.20 | 2.5 |

# LANDSCAPE ACCENT LIGHTING FIXTURES & ACCESSORIES

## LINE VOLTAGE (120V) TYPES




### A & B PAR38 FLOOD LIGHT & PAR20 ACCENT LIGHT

**Applications:** Versatile, multi-purpose fixture is popular for uplighting trees, building facades, walls, and spot lighting.

**Construction:** One-piece injection molded Ryton PPS. Fully adjustable swivel arm with locking teeth for precise aiming capability. Bronze thermoset powder coat finish.

**Lamp (not included):** No. 3V838 uses a PAR38 lamp up to 150W. An R40 up to 150W may be used with optional lens/shroud No. 3V839. No. 3V836 uses a PAR20 lamp up to 50W. An R20 up to 50W may be used with optional lens/shroud No. 3V837.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120 volt circuit. 1/2" NPS mounting arm.

**Accessories:** No. 3V838. Rotatable lens/shroud (No. 3V839) reduces glare and seals fixture.

No. 3V836. Rotatable lens/shroud (No. 3V837) reduces glare and seals fixture.

**UL and C-UL Listed** (E151372).

### C PAR38 CLASSIC ACCENT

**Applications:** Uplighting trees, building facades, walls, and spot lighting. Its attractive design makes it a good choice for applications where it remains in view, such as floodlighting. It also works well for silhouetting and shadowing.

**Construction:** Heavy-duty cast aluminum housing. Large weep areas in shroud allow water and debris to wash off the front of the lamp. Fully adjustable swivel arm with locking teeth provides precise aiming capability. Bronze powder coat finish.

**Lamp (not included):** PAR38, 150 watt maximum.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit. 1/2" NPS mounting arm.

**UL and C-UL Listed** (E151372).

### D MINI IN-GROUND UPLIGHTS

**Applications:** Flush mount installation for uplighting trees, building facades, and walls.

**Construction:** Single-piece fiberglass reinforced polyester composite housing and guard will not corrode or peel from soil contaminants or weather—including coastal salt spray environments. Self-washing tempered glass convex lens. Integral low voltage transformer (included) for MR16 low voltage lamping. Internal gimbal ring lamp holder allows 358° rotation and 15° off vertical adjustability for aiming lamp. Directional guard helps control glare. Architectural bronze finish.

**Lamp (not included):** MR16, 75 watt maximum.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit.

**UL and C-UL Listed** (E116655).

### E FLUORESCENT SIGNLYTER

**Applications:** Use for sign lighting, wall washing building facades, and roof lighting.

**Construction:** Heavy-duty one-piece extruded aluminum housing with architecturally styled, rounded cast aluminum end caps and integral shroud. Highly reflective hammertone aluminum reflector for a smooth beam pattern. Clear acrylic, fully gasketed lens. Bracket is hinged for easy relamping. Twin adjustable mounting arms with vibration proof locking teeth. **Finish:** Tough bronze thermoset powder coat finish.

**Lamp and ballast:** Uses one F32 T8 lamp, (not included) and encapsulated, high efficiency cold weather (0°F) electronic ballast.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit. Two, 1/2" NPS mounting arms with adjustable distance between swivels.

**UL Listed** (E100287) for wet locations.

| Key | Lamp Type (Not Included) | Max. Wattage | Suggested Stock No.* | Description | Dimensions (In.) Height (Incl. Arm) | Length | Width (Dia.) | HADCO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | PAR38 or R40 With Optional Shroud | 150W | 1E111 | Flood Light | 8 | 8¾ | 6 | BC4-H | **3V838** | $79.08 | **$51.80** | 2.3 |
| B | PAR20 or R20 With Optional Shroud | 50 | 6VR71 | Standard Accent Light | 6 | 5½ | 3¾ | BC1-H | **3V836** | 74.37 | **44.60** | 1.5 |
| C | PAR38 | 150 | 1E111 | Classic Accent Light | 7½ | 6 | 5¾ | 1020-H | **3V843** | 118.33 | **74.40** | 2.4 |
| D | MR16 | 75 | 1K341 | Mini In-Ground Uplight with Guard | 8¼ | — | 6¾ | IT216G-H | **3V850** | 334.29 | **213.50** | 7.0 |
| E | F32T8 | 32 | 6VR66 | Signlyter Fluorescent Light | 8¼ | 55½ | 7 | WA2HF32CWE | **New 4LW20** | 518.00 | **317.00** | 15.0 |

(*) Other lamp types available, for a more complete listing see Index under Lamps, Incandescent. (✓) Denotes energy efficient product.

## LINE VOLTAGE (120V) LIGHTING ACCESSORIES

### ROTATABLE LENSES/SHROUDS

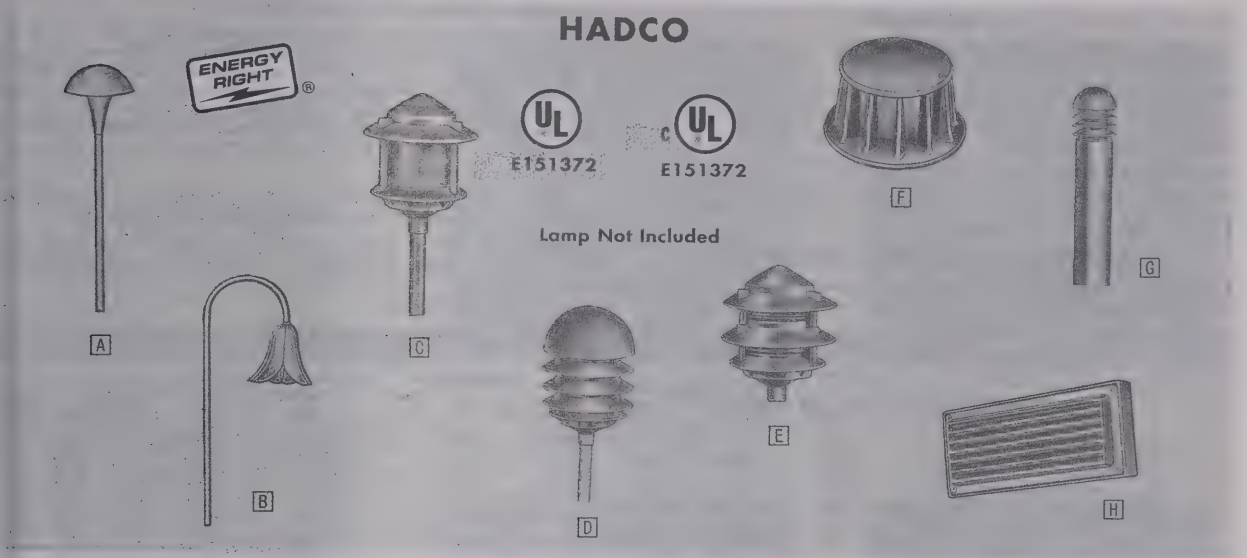
Reduces lighting glare and seals fixtures from moisture and dirt. Must be used with type "R" lamps.

**No. 3V839.** For use on No. 3V838. Hadco brand (4CHLC). Shpg. wt. 0.9 lbs. List $80.92. Each ..... **$47.20**

**No. 3V837.** For use on No. 3V836. Hadco brand (1CHLC). Shpg. wt. 0.8 lbs. List $72.19. Each ..... **$40.95**

# LINE VOLTAGE (120V) TYPES

## HADCO




All fixtures are designed for path, walkway and spread lighting around ground cover and small plantings.

**UL AND C-UL Listed (E151372)**

### A MUSHROOM LIGHT & B TULIP LIGHT

**Applications:** Both styles compliment traditional and contemporary landscapes.

**Construction:** Heavy-duty cast aluminum housing and stem (included). No. 3V860 has hidden stainless steel fasteners that secure mushroom cap to cone bottom. Lamp is positioned in the bottom of mushroom cone to produce a smooth uniform light pattern without any glare. No. 3V863 fixture is open at the bottom for higher light levels and easy re-lamping.

**Finish:** Hand rubbed verde antiqued over black powder coat gives appearance of natural weathered copper. Underside of mushroom cap is a reflective white.

**Lamp (Not Included):** Use A19 lamp up to 100W. Suggest No. 5V600.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit. 1/2" NPS thread stem (included) for mounting.

### C INDIRECT PATH LIGHT

**Applications:** Creates a soft, luminescent ambience especially suited for garden areas and around patios and decks.

**Construction:** Heavy-duty cast aluminum. Stainless steel fasteners secure pagoda cap to the bottom. 12" long aluminum stem (included). Glass jar lens is painted white on the inside for added efficiency and painted verde on the outside to hide light source. Light is reflected off underside of pagoda cap to provide a glare-free smooth uniform light pattern.

**Finish:** Hand rubbed verde antiqued over black powder coat gives appearance of natural weathered copper.

**Lamp (Not Included):** Uses A19 lamp up to 75W. Suggest No. 5V599.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit. 1/2" NPS threaded stem (included) for mounting.

### D DOMED LOUVER PATH LIGHT

**Applications:** Contemporary design of fixture can be used alone or to compliment Bollard accent lights.

**Construction:** Heavy-duty all cast aluminum. Stainless steel fasteners secure domed cap and louvers to the bottom. Clear molded glass lens. 12" long stem (included).

**Finish:** Bronze powder coat.

**Lamp (Not Included):** Uses A19 lamp up to 100W. Suggest No. 5V600.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit. 1/2" NPS threaded stem for mounting.

### E PAGODA PATH LIGHT

**Applications:** Pagoda style is a popular addition to green gardens, curved pathways and long driveways.

**Construction:** Heavy-duty all cast aluminum. Stainless steel fasteners secure pagoda cap and louvers to the bottom. Clear molded glass lens screws into the pagoda bottom.

**Finish:** Green garden powder coat.

**Lamp (Not Included):** Uses A19 lamp up to 60W. Suggest No. 5V598.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit.

**Accessories:** 12" long mounting stem. 1/2" NPS. Green powder coat finish No. 3V920 (not included, see page 1113).

### F GROUND MOUNTED BEACON

**Applications:** For pathway, sidewalk, driveway, poolside, dock and marina lighting. Beacons can be mounted in the ground or semi-recessed in brick, concrete, or wood. Durable fixtures are able to withstand abuse and wear and tear.

**Construction:** Heavy-duty cast aluminum housing. Stainless steel fasteners and removable roof cap for easy relamping. Tough borosilicate glass refractor lens directs light downward to reduce glare and provide 360° light distribution.

**Finish:** Bronze powder coat.

**Lamp (Not Included):** Uses A19 lamp up to 100W. Suggest No. 5V600.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit. Can be hard wired directly to socket terminals eliminating need for additional junction box.

CONTINUED ON NEXT PAGE

# LINE VOLTAGE (120V) TYPES (cont.)

## G BOLLARD

**Applications:** Used when wide, large scale 360° light distribution is desired.

**Construction:** Cast aluminum fixture is secured with stainless steel fasteners to the extruded aluminum bollard. Clear glass lens protects lamp. Top assembly easily removed for re-lamping.

**Finish:** Bronze powder coat.

**Lamp (Not Included):** Uses A19 lamp up to 100W.

**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit. Cast aluminum base plate is anchored with three, 1/2" dia. rods for sturdy mounting.

## H RECESSED LOUVERED BRICKLYTES

**Applications:** Designed as matched replacement for a standard size brick. Light fixtures provide safety and aesthetics along steps, pathways, walkways, decks, and borders.

**Construction:** Rugged, cast aluminum housing has four 1/2" NPT inlets and an internal wiring chamber. Recessed housing dimensions 8¼L x 2¼H x 3½"D. Heavy-duty cast aluminum louvered faceplate with frosted glass lens provides 45° cut-off for low glare light distribution. High performance aluminum reflector to optimize symmetrical light output. Silicone O-ring gasket. Front faceplate easily removed for re-lamping.

**Finish:** Bronze powder coat.

**Lamp (Not Included):** No. 3V854 uses T10 incandescent lamp up to 40W. No. 3V855 uses 9W compact fluorescent F9BX lamp.

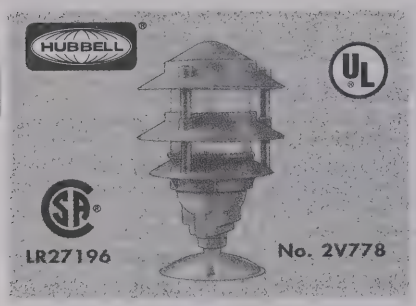
**Installation:** Pre-wired with 18 AWG high temperature wire for 120V circuit. Mounting hardware included for concrete pour applications.

### SPREAD/PATH LIGHTING SPECIFICATIONS AND ORDERING DATA

| Key | Description | Lamp | | | Recommended Fixture Spacing (Ft.) | Dimensions (In.) | | HADCO Model | Stock No. | Less Lamp | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Type (Not Included) | Sugg. Lamp Stock No. | Maximum Wattage | | Height | Width (Dia.) | | | List | Each | |
| A | Mushroom Path Light | A19 | 5V600 | 100 | 13 | 23¼ | 9 | MU2-G | **3V860** | $150.65 | **$95.35** | 3.5 |
| B | Tulip Path Light | A19 | 5V600 | 100 | 13 | 34½ | 7 | TU3-G | **3V863** | 164.04 | **98.85** | 5.1 |
| C | Indirect Path Light | A19 | 5V599 | 75 | 7 | 18¼ | 6 | P3-G | **3V866** | 107.94 | **58.10** | 3.0 |
| D | Domed Louvered Path Light | A19 | 5V600 | 100 | 10 | 17½ | 6 | P49-H | **3V870** | 117.08 | **74.25** | 5.0 |
| E | Pagoda Path Light | A19 | 5V598 | 60 | 14 | 8 (w/o stem) | 6 | P39-K | **3V868** | 56.04 | **30.85** | 2.4 |
| F | Ground Mounted Beacon | A19 | 5V600 | 100 | 14 | 4¾ (above grade) | 8 | 1010-H | **3V871** | 215.91 | **149.90** | 8.0 |
| G | Bollard | A19 | 5V600 | 100 | 16 | 30 | 6 | DB30-H | **3V872** | 386.30 | **236.00** | 12.0 |
| H | Incandescent Bricklyte | T10 | 4V464 | 40 | 8 | 3½ | 9 | RSC2HK5IE | **3V854** | 188.69 | **156.25** | 4.0 |
| | Comp. Fluorescent Bricklyte | Biax | 2V834 | 9 | 8 | 3½ | 9 | RSC2HK5FE | ✓**3V855** | 201.32 | **167.00** | 2.4 |

(✓) Denotes energy efficient product.

# 120V, PERMANENT INSTALLATION FIXTURES




**Available in Incandescent and Energy-Saving Fluorescent Types**

Permanent installation fixtures used to define walkways and driveways, to accent landscapes and provide security lighting.

**Housing:** Weather and corrosion-resistant thermoplastic. 1/2" NPT hub with 16" wire leads. Dark green color.

**Globe:** Clear ribbed lens has weathertight seal and diffuses light. No. 2V778 fluorescent unit has 10 times the life of an incandescent lamp and reduces energy costs.

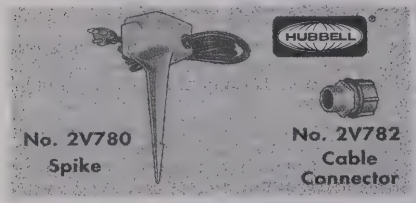
**120 Volt, 60 Hz.** Hubbell Lightscaper® brand.

**Lamp:** Included on No. 2V778, recommended replacement lamp No. 2V833. Lamp not included on No. 2V779, recommended lamp 40W, No. 2V482.

**UL Listed;** CSA Certified (LR27196).

| Type | No. of Louvers | Bulb Included | Max. Watts | Min. Amb. Temp °F | Max. Amps | Dimen. (In.) H | Dimen. (In.) Dia. | Hubbell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Incandescent | 2 | No | 40 | No Limit | 0.34 | 6¾ | 6½ | 587G | **2V779** | $31.99 | **$22.41** | 1.8 |
| Fluorescent (BX) | 2 | Yes | 27 | 0 | .18 | 6½ | 6½ | GL2L7G | **2V778** | 73.50 | **55.50** | 2.7 |

# ACCESSORIES FOR HUBBELL FIXTURES ABOVE




### SPIKE

Cast aluminum with internal splice box. 1/2" NPSM hub for fixture. 6 ft. 18/3 grounded cord. Hubbell brand (1031-3). CSA Certified (LR27196).

**No. 2V780.** Shpg. wt. 1.1 lbs. List.....$43.62. Each.....**$37.00**

### CABLE CONNECTOR

UF watertight connector for 1/2" NPSM hubs. Hubbell brand (GL280).

**No. 2V782.** Shpg. wt. 0.1 lbs. List.....$6.42. Each.....**$4.11**

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly -plus the solutions you need to keep your operation running more profitably.**

# HALO POWER-TRAC® TRACK LIGHTING

## TRACK LIGHTING SELECTION GUIDE

### TRACK LIGHTING

Versatile Halo Power-Trac track lighting allows light to be directed where it is needed to achieve a variety of effects: accent lighting, task lighting, general illumination, and wall washing.

### BROAD SELECTION OF TRACK FIXTURES

Select from a wide variety of fixture styles ranging from contemporary to traditional in colors to match most commercial or residential decor.

Halo standard line voltage and low voltage track fixtures are offered in a wide range of wattages. Each provides maximum efficiency when used with the recommended lamp. Standard line voltage track fixtures accept A-lamps, R and PAR lamps, as well as PAR20, PAR30, and PAR38 tungsten halogen lamps. Low voltage track fixtures accommodate 12V MR16 lamps.

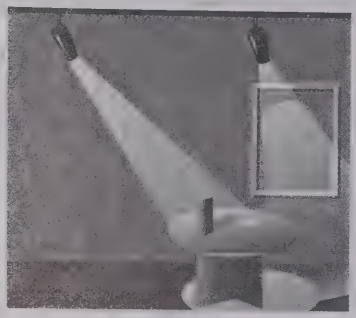
### VARIETY OF FEATURES

Track fixtures are engineered to rotate 358° and adjust horizontally 90°, providing greater lighting flexibility. Halo track fixtures and connectors meet UL standards and provide optimum safety. Fixture adapters are both mechanically and visually keyed. An integral mechanical feature assures safe electrical operation when the polarity lines of the track and the polarity marks of the fixture adapter are aligned.

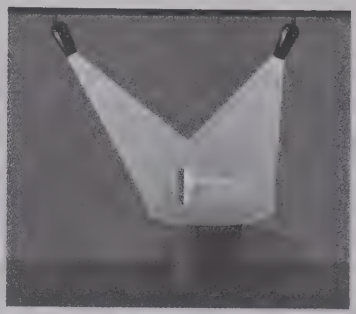
Low voltage track lighting provides additional energy-savings with contemporary accent lighting. Each low voltage fixture requires a transformer to convert line voltage to low voltage—some track fixtures include a built-in transformer while others require a separate solid state transformer. See page 1120 for specific fixtures and transformer options. Electrical lockout prevents accidental operation.

Track fixtures can be snapped in at any point along the track section. Exclusive Quick-Loc Mounting Mechanism makes the track fixtures easy to install. All wires and swivel stops are concealed. Contacts in the adapter are spring loaded to assure proper connection with Power-Trac electrical conductors.

Lamp sockets with nickel plated brass screw shells will not oxidize, therefore relamping is easy.



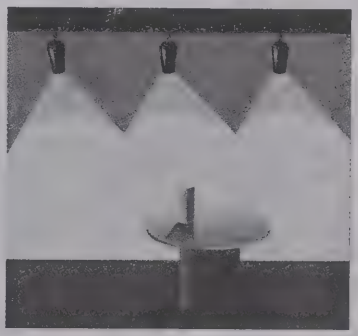
**Accent Lighting—Provides directional lighting to bring out the best selling features of merchandise, pinpoint high key decor, emphasize artwork, make a room look larger by adding contrast and shadows.**



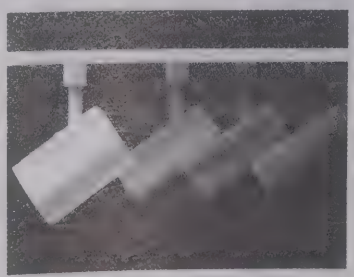
**Task Lighting—Delivers well-focused illumination on work surfaces, desks, or counters.**



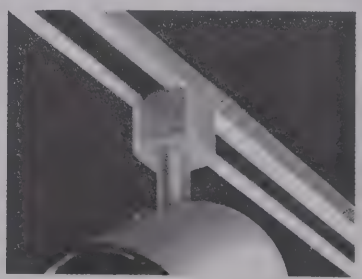
**General Lighting—Provides a uniform level of illumination for entrances, corridors, lobbies and large rooms.**



**Wall Washing—Illuminates vertical surfaces from ceiling to floor. Can be used to expand space visually, define a space, light a wall of pictures, emphasize color or texture.**



**Track fixtures can be snapped in at any point on Power-Trac section.**



**Track fixture adapters are keyed. An integral mechanical feature assures safe electrical operation when the polarity lines of the track section and the fixture are aligned.**

# HALO POWER-TRAC® TRACK LIGHTING

## TRACK LIGHTING INSTALLATION INFORMATION

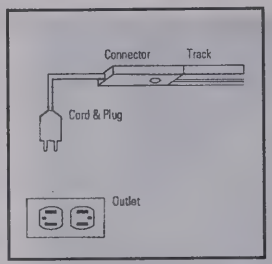
### TRACK ELECTRICAL CONNECTIONS

Halo Power-Trac is rated for a maximum 20 amp capacity. Power-Trac Track Lighting electrical connections can be made in a variety of ways:

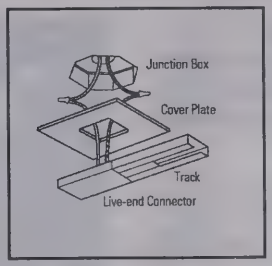
**Cord and Plug Connector.** A simple way to connect track without permanent wiring. Snap the connector into the track and plug the cord into wall outlet.

**Live End Connector.** An easy way to connect the track to the junction box. Join the live end connector with the track, mount to ceiling and attach wires to the live end connection.

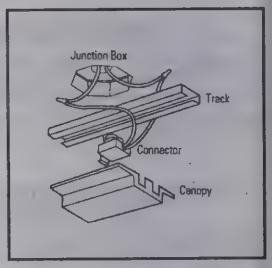
**Floating Canopy.** A convenient way to join the junction box to any point on the track. Connect the junction box wires to the twist lock connector and secure the connector to the track. The canopy should cover the connector and the track.




**Cord and Plug Connector**




**Live-End Connector (shown with outlet box cover)**




**Floating Canopy**

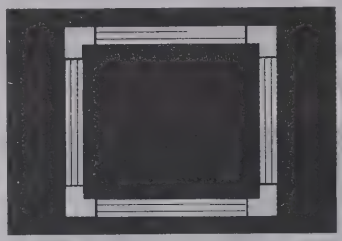
### TRACK LIGHTING LAYOUTS

Halo Power-Trac sections can be surface mounted individually or joined to form continuous runs of any length. The Power-Trac system also allows the formation of any 90° angle or rectangular grid pattern by using appropriate connectors. The flexible connector permits angular layouts from 0-90° on a ceiling or continuous connection from wall to ceiling. Plan layouts using the following steps:

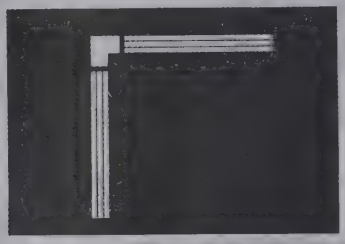
Lay out the track pattern desired. Normally this plan is based on a 4' module since track sections come in 2, 4 and 8' lengths. Note that the module is measured from the center of the outlet box to the center of the connectors.

Should special lengths be required, track sections may be easily cut. Instructions are included with each Power-Trac section.

Upon completing the layout, locate the electrical feed points (outlet box locations). The feed point is generally located at the beginning of a track run requiring the use of a Live End Connector or any connection point (except mini-connector) and an Outlet Box Cover. If more than one length of track is needed, a connector must be ordered for each additional track section.



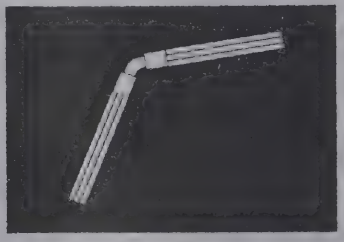
**GRID**
**Component**
**4—Track Sections**
**1—Outlet Box Cover (not shown)**
**4—L Connectors**



**"L"**
**Component**
**2—Track Sections**
**1—Outlet Box Cover (not shown)**
**1—L Connector**



**STRAIGHT**
**Component**
**1—Track Section**
**1—Outlet Box Cover (not shown)**
**1—Live End Connector**



**FLEX**
**Component**
**2—Track Sections**
**1—Flexible Connector**



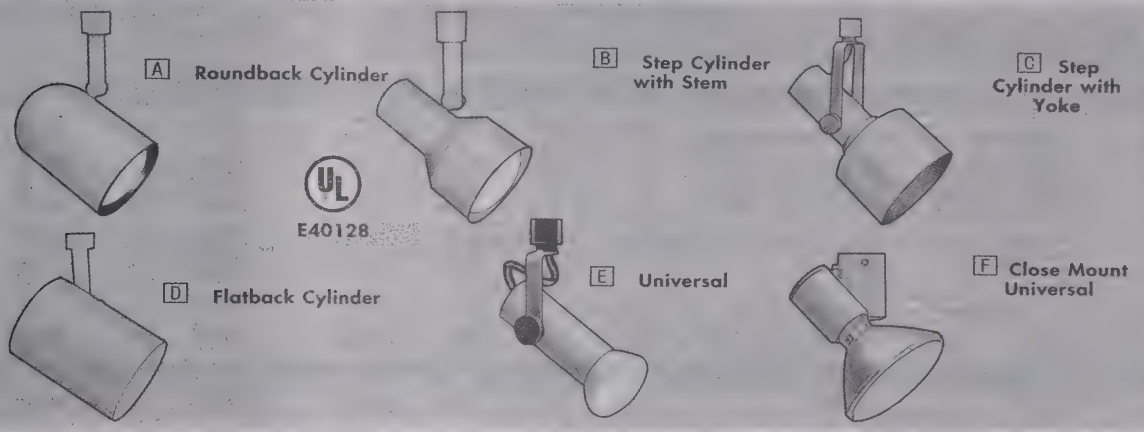
*When it comes to lighting, no distributor outshines Grainger.*

# HALO TRACK LIGHTING

COOPER Lighting HALO

Track Fixtures rotate 358° and adjust horizontally 90° providing precise, effective lighting control. Some units include black coilex baffles to reduce glare and enhance appearance. **Lamps not included.** For high efficiency white light, use GE long neck PAR halogen lamps, see Index under Lamps, Halogen. All Halo products are UL Listed (E40128).

## ECONOMY TRACK LIGHTING



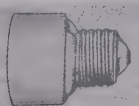

### ECONOMY TRACK FIXTURE SPECIFICATIONS AND ORDERING INFORMATION

| Key | Maximum Wattage/Lamp Type | Diameter (In.) | Length (In.) | Finish | Halo Model | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **ROUNDBACK CYLINDER** | | | | | | | | |
| A | 50W R/PAR20, 75W A19 | 3 7/8 | 5 1/4 | White | L743P | **6VT16** | $25.40 | **$15.02** | 1.3 |
| A | 50W R/PAR20, 75W A19 | 3 7/8 | 5 1/4 | Black | L743MB | **6VT17** | 25.40 | **15.02** | 1.3 |
| A | 50W R/PAR20, 60W A19 | 3 7/8 | 5 1/4 | White | L747P | **6VW03*** | 28.45 | **18.10** | 1.3 |
| A | 50W R/PAR20, 60W A19 | 3 7/8 | 5 1/4 | Black | L747MB | **6VX61 *** | 28.45 | **18.10** | 1.3 |
| A | 65W BR30, 75W PAR30, 75W A19 | 4 1/8 | 6 7/8 | White | L746P | **6VT18 *** | 33.46 | **20.96** | 1.5 |
| A | 65W BR30, 75W PAR30, 75W A19 | 4 1/8 | 6 7/8 | Black | L746MB | **6VT19 *** | 33.46 | **20.96** | 1.5 |
| | **STEP CYLINDER** | | | | | | | | |
| B | 50W R/PAR20, 75W A19 | 3 7/8 | 5 1/4 | White | L735P | **6VT21** | 25.40 | **16.12** | 1.0 |
| B | 50W R/PAR20, 75W A19 | 3 7/8 | 5 1/4 | Black | L735MB | **6VT22** | 25.40 | **16.12** | 1.0 |
| B | 65W BR30, 75W PAR30, 75W A19 | 4 1/8 | 6 1/2 | White | L736P | **6VT23 *** | 29.78 | **21.67** | 1.3 |
| B | 65W BR30, 75W PAR30, 75W A19 | 4 1/8 | 6 1/2 | Black | L736MB | **6VT24 *** | 29.78 | **21.67** | 1.3 |
| C | 300W R40, 250W PAR38 | 5 7/8 | 10 | White | L704P | **6VT25** | 65.68 | **41.70** | 2.2 |
| C | 300W R40, 250W PAR38 | 5 7/8 | 10 | Black | L704MB | **6VT27** | 61.92 | **37.90** | 2.2 |
| C | 300W R40, 250W PAR38 | 5 7/8 | 10 1/8 | White | L734P | **6VR98 *** | 76.82 | **47.10** | 2.8 |
| C | 300W R40, 250W PAR38 | 5 7/8 | 10 1/8 | Black | L734MB | **6VT39 *** | 76.95 | **47.10** | 2.8 |
| | **FLATBACK CYLINDER** | | | | | | | | |
| D | 50W R/PAR20 | 3 3/4 | 5 1/2 | White | L762P | **6VT03 *** | 54.20 | **32.45** | 1.4 |
| D | 50W R/PAR20 | 3 3/4 | 5 1/2 | Black | L762MB | **6VX63 *** | 54.20 | **32.45** | 1.4 |
| D | 65W BR30, 75W PAR30 | 4 7/8 | 6 5/8 | White | L763P | **6VT04 *** | 63.28 | **38.70** | 1.5 |
| D | 65W BR30, 75W PAR30 | 4 7/8 | 6 5/8 | Black | L763MB | **6VX64 *** | 63.26 | **38.70** | 1.5 |
| D | 300W R40, 250W PAR38 | 5 7/8 | 8 | White | L764P | **6VT05 *** | 83.65 | **51.20** | 2.0 |
| D | 300W R40, 250W PAR38 | 5 7/8 | 8 | Black | L764MB | **6VX65 *** | 83.65 | **51.20** | 2.0 |
| | **UNIVERSAL** | | | | | | | | |
| E | 300W R40, 75W PAR30, 250W PAR38 | 2 1/8 | 4 1/4 | White | L1700P | **6VR96** | 42.20 | **25.30** | 0.6 |
| E | 300W R40, 75W PAR30, 250W PAR38 | 2 1/8 | 4 1/4 | Black | L1700MB | **6VT28** | 42.20 | **25.30** | 0.6 |
| F | 300W R40, 250W PAR38 | 1 1/2 | 2 | White | L755P | **6VX62** | 48.37 | **29.60** | 1.0 |

(*) Includes black coilex baffle to reduce glare.

## SOCKET EXTENDER

COOPER Lighting HALO



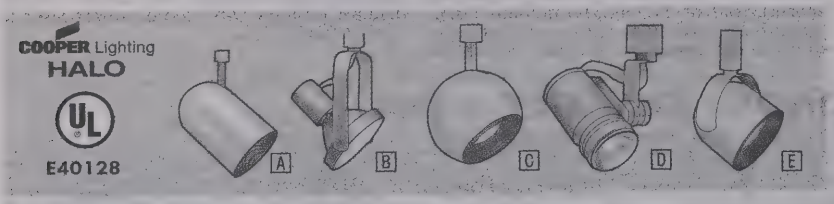
No. 6VT79

Where 1" extender is required. Permits track and recessed downlights to use 50W R20 lamps. Halo brand (H1999).

**No. 6VT79.** Shpg. wt. 0.3 lbs. List $9.81. Each ..... $6.00

# HALO TRACK LIGHTING

## PREMIUM TRACK FIXTURES




Track fixtures rotate 358° and adjust horizontally 90° providing precise, effective lighting control. Lamp sockets with nickel-plated brass screw shells will not oxidize and make relamping easy. **Lamps not included.** For high efficiency white light, use GE long neck PAR halogen lamps, see Index under Lamps, Halogen. All Halo products are UL Listed (E40128).

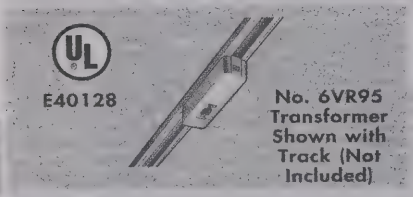
### PREMIUM TRACK FIXTURE SPECIFICATIONS AND ORDERING INFORMATION

| Key | Fixture Type | Maximum Wattage/Lamp Type | Diameter (In.) | Length (In.) | Finish | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Roundback with Baffle | 65W BR30, 75W PAR30 | 5 | 7 1/4 | White | L1542P | **6VT06** | $74.00 | **$45.30** | 1.2 |
| A | Roundback with Baffle | 65W BR30, 75W PAR30 | 5 | 7 1/4 | Black | L1542MB | **6VX81** | 74.00 | **45.30** | 1.2 |
| A | Roundback with Baffle | 300W R40, 250W PAR38 | 5 7/8 | 9 | White | L1543P | **6VT07** | 89.39 | **54.70** | 2.0 |
| A | Roundback with Baffle | 300W R40, 250W PAR38 | 5 7/8 | 9 | Black | L1543MB | **6VX82** | 89.39 | **54.70** | 2.0 |
| B | Gimbal Ring | 75W PAR30 | 3 15/16 | 4 | White | L1730P | **6VX83** | 63.30 | **37.90** | 1.0 |
| B | Gimbal Ring | 75W PAR30 | 3 15/16 | 4 | Black | L1730MB | **6VX84** | 63.30 | **37.90** | 1.0 |
| B | Gimbal Ring | 250W PAR38 | 5 | 5 1/4 | White | L1738P | **6VT29** | 63.30 | **37.90** | 1.3 |
| B | Gimbal Ring | 250W PAR38 | 5 | 5 1/4 | Black | L1738MB | **6VT30** | 63.30 | **37.90** | 1.3 |
| C | Sphere with Baffle | 30/50W R20, 65W BR30 | 6 | 5 | White | L780P | **6VR99** | 77.78 | **47.60** | 1.7 |
| D | Universal | 75W PAR30, 100W PAR38 | 1 7/8 | 2 3/4 | White | L1735P | **6VT32** | 60.14 | **34.85** | 0.8 |
| D | Universal | 75W PAR30, 100W PAR38 | 1 7/8 | 2 3/4 | Black | L1735MB | **6VT33** | 60.14 | **34.85** | 0.8 |

### AMBIENTE SERIES PREMIUM TRACK FIXTURE SPECIFICATIONS AND ORDERING INFORMATION

| Key | Fixture Type | Maximum Wattage/Lamp Type | Diameter (In.) | Length (In.) | Finish | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| E | Roundback | 50W PAR20 | 3 1/2 | 4 1/4 | White | L4010P | **6VCC7** | 49.03 | **29.45** | 1.1 |

## ELECTRONIC SOLID STATE TRANSFORMER



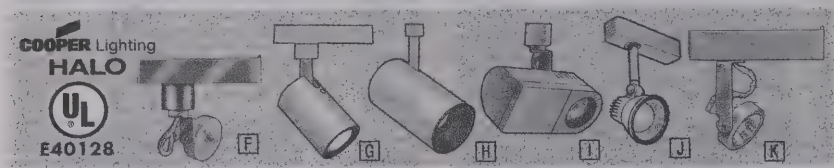

Lightweight, compact unit for use with low voltage fixtures below which do not include transformer. Separate transformer is required for each track fixture used.

Track fixtures easily snap into transformer which locks into track section. To dim system use No. 6E028 (single-pole) or No. 6E029 (3-way). UL Listed (E40128).

### TRANSFORMER SPECIFICATION AND ORDERING DATA

| Description | Finish | Halo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Solid State Transformer** | White | L2001P | **6VR95** | $98.58 | **$60.30** | 0.5 |
| **Solid State Transformer** | Black | L2001MB | **6VT36** | 98.58 | **60.30** | 0.4 |

## LOW VOLTAGE TRACK FIXTURES




Halo Low Voltage lampholders provide energy efficient lighting using 12V MR16 lamps. Lamps not included. See Index under Lamps, Incandescent for MR16 type and 12V, PAR36 type lamps. To dim low voltage track lighting, refer to chart below for recommended dimmer Stock No. All Halo products are UL Listed (E40128).

| Key | Fixture Type | Maximum Wattage/ Lamp Type | Recommended Dimmer | Diameter (In.) | Length (In.) | Finish | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **LOW VOLTAGE TRACK FIXTURES TRANSFORMER REQUIRED*** | | | | | | | | | | | |
| F | Gimbal Ring | 50W 12V MR16 | | 2 1/8 | 1 7/8 | White | L2716P | **6VT34** | $43.13 | **$26.50** | 0.4 |
| F | Gimbal Ring | 50W 12V MR16 | 6E028 (1-pole) or | 2 1/8 | 1 7/8 | Black | L2716MB | **6VT35** | 43.13 | **26.50** | 0.4 |
| G | Flatback Cylinder | 50W 12V MR16 | 6E029 (3-way) | 2 1/2 | 4 1/8 | White | L2761P | **6VT55** | 63.24 | **38.70** | 0.8 |
| G | Flatback Cylinder | 50W 12V MR16 | | 2 1/2 | 4 1/8 | Black | L2761MB | **6VX94** | 63.24 | **38.70** | 0.8 |
| **LOW VOLTAGE TRACK FIXTURES TRANSFORMERS INCLUDED†** | | | | | | | | | | | |
| H | Flatback Cylinder | 50W 12V MR16 | | 3 3/4 | 5 1/2 | White | L1763P | **6VX87** | 144.80 | **88.50** | 3.0 |
| H | Flatback Cylinder | 50W 12V MR16 | 6E030 (1-pole) or | 3 3/4 | 5 1/2 | Black | L1763MB | **6VX88** | 144.80 | **88.50** | 3.0 |
| I | Micro-Style | 50W 12V MR16 | 6E031 (3-way) | 2 3/4 | 2 7/8 | White | L1760P | **6VX85** | 146.39 | **89.50** | 3.1 |
| I | Micro-Style | 50W 12V MR16 | | 2 3/4 | 2 7/8 | Black | L1760MB | **6VX86** | 146.39 | **89.50** | 3.1 |
| **LOW VOLTAGE TRACK FIXTURES TRANSFORMERS INCLUDED#** | | | | | | | | | | | |
| J | Perforated Shade | 75W 12V MR16 | 6E028 (1-pole) or | 3 | 3 | White | L2702P | **6VX89** | 158.03 | **96.60** | 0.8 |
| J | Perforated Shade | 75W 12V MR16 | 6E029 (3-way) | 3 | 3 | Black | L2702MB | **6VX90** | 158.03 | **96.60** | 0.7 |
| K | Gimbal Ring | 75W 12V MR16 | 6E028 (1-pole) or | 2 1/8 | 1 7/8 | Black | L2717MB | **3JL59** | 159.95 | **95.85** | 0.7 |
| K | Gimbal Ring | 75W 12V MR16 | 6E029 (3-way) | 2 1/8 | 1 7/8 | White | L2717P | **3JL60** | 159.95 | **95.85** | 0.7 |

(*) Order electronic solid-state transformer No. 6VR95 or 6VT36 listed above. (†) Includes magnetic transformer.
(#) Includes electronic transformer.

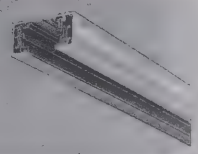


When it comes to lighting, no distributor outshines Grainger.

# HALO POWER-TRAC® LIGHTING SECTIONS AND CONNECTORS

COOPER Lighting HALO

UL E40128



## POWER-TRAC® SECTIONS

- Sections available in 2, 4 and 8' lengths
- Only 11/16" deep by 1⅜" wide
- Available in white or black finishes
- Fully polarized and grounded
- Extruded aluminum channel
- Connectors sold separately below
- Visual polarity line indicates proper electrical installation
- Connectors simply push into the ends of Power-Trac section—no splicing
- Connectors allow assembly in any pattern
- UL Listed (E40128)

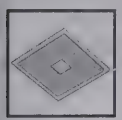
### TRACK SECTION SPECIFICATIONS & ORDERING DATA

| Nominal Length (Ft.) | Actual Length (In.) | Finish | Halo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2 | 20⅛ | White | L650P | **6VT37** | $21.05 | **$12.25** | 0.9 |
| 2 | 20⅛ | Black | L650MB | **6VT38** | 20.08 | **12.25** | 0.9 |
| 4 | 44⅛ | White | L651P | **6VT08** | 37.30 | **21.35** | 1.8 |
| 4 | 44⅛ | Black | L651MB | **6VT40** | 37.30 | **21.35** | 1.8 |
| 8 | 92⅛ | White | L652P | **6VT10** | 70.50 | **42.25** | 3.7 |
| 8 | 92⅛ | Black | L652MB | **6VT41** | 70.50 | **42.25** | 3.7 |

## POWER-TRAC® CONNECTORS

COOPER Lighting HALO

UL E40128 (Except Nos. 6VT12 & 6VT13)



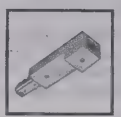
A Outlet Box Cover. Can be used in any electrical feed point.



D Straight Connector. Connects two Power-Trac Sections end-to-end with center feed option.



G Mini-Connector. Joins two straight Power-Trac sections end-to-end. (Not a feed point).



J Live End Conduit Fitter. Accepts standard 1/2" trade size conduit. Use when feeding to track with surface conduit system.



B Live End Connector. To start a run of track.



E L Connector. Connects two track sections at a right angle. Adjustable for either right or left angle applications.



H Floating Canopy and Connector. Power-Trac section connects to existing outlet box located anywhere along the track. Cover, connector, dead-end & mounting hardware.



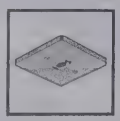
K T-Bar Attachment Clip. Allows track to be attached to inverted T-Bar ceiling. Order as follows: 2 kits for 2 or 4' and 3 kits for 8' Trac.



C Flex Connector. Connects two track sections at any angle up to 90°, wall to ceiling or pitched ceiling application.



F Outlet Box. For use with T-Bar ceiling. Live end connector, straight or L connector also required.



I Canopy Adapter. Mounts permanently to outlet box. 4 ½" square. Allows any lampholder to be converted to canopy installation. Low voltage, use Nos. 6VT11 or 6VT20.



L Cord and Plug Connector. 12' three-wire cord with grounded plug. Maximum capacity is 10 amp.

### CONNECTOR SPECIFICATIONS & ORDERING DATA

| Key | Type of Connector | Finish | Amps/Watts | Halo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Outlet Box Cover | White | — | L900P | **6VT64** | $5.32 | **$3.30** | 0.2 |
| A | Outlet Box Cover | Black | — | L900MB | **6VT65** | 5.32 | **3.30** | 0.4 |
| B | Live End Connector | White | 20/2000 | L901P | **6VT60** | 12.85 | **7.90** | 0.2 |
| B | Live End Connector | Black | 20/2000 | L901MB | **6VT61** | 12.85 | **7.90** | 0.2 |
| C | Flexible Connector | White | 20/2000 | L902P | **6VT42** | 31.94 | **19.50** | 0.1 |
| C | Flexible Connector | Black | 20/2000 | L902MB | **6VT43** | 31.94 | **19.50** | 0.5 |
| D | Straight Connector | White | 20/2000 | L903P | **6VT56** | 15.54 | **9.50** | 0.2 |
| D | Straight Connector | Black | 20/2000 | L903MB | **6VT58** | 15.54 | **9.50** | 0.3 |
| E | L Connector | White | 20/2000 | L904P | **6VT57** | 22.57 | **11.60** | 0.2 |
| E | L Connector | Black | 20/2000 | L904MB | **6VT59** | 22.57 | **11.60** | 0.4 |
| F | Outlet Box (requires connector) | White | — | L907P | **6VT44** | 12.28 | **7.50** | 0.5 |
| F | Outlet Box (requires connector) | Black | — | L907MB | **6VT45** | 12.28 | **7.50** | 0.5 |
| G | Mini Connector | White | 20/2000 | L908P | **6VT66** | 9.85 | **6.00** | 0.1 |
| G | Mini Connector | Black | 20/2000 | L908MB | **6VT67** | 9.85 | **6.00** | 0.1 |
| H | Floating Canopy and Connector | White | 20/2000 | L909P | **6VT14** | 19.57 | **11.60** | 0.4 |
| H | Floating Canopy and Connector | Black | 20/2000 | L909MB | **6VT15** | 19.57 | **11.60** | 0.1 |
| I | Canopy Adapter | White | 20/2000 | L973P | **6VT62** | 15.37 | **10.00** | 0.3 |
| I | Canopy Adapter | Black | 20/2000 | L973MB | **6VT09** | 15.37 | **10.00** | 0.3 |
| I | Canopy Adapter Low Voltage Only | White | 20/2000 | L1973P | **6VT11** | 20.67 | **12.80** | 0.3 |
| I | Canopy Adapter Low Voltage Only | Black | 20/2000 | L1973MB | **6VT20** | 20.67 | **12.80** | 0.1 |
| J | Live End Conduit Fitter | White | 20/2000 | L980P | **6VT68** | 19.95 | **12.30** | 0.4 |
| J | Live End Conduit Fitter | Black | 20/2000 | L980MB | **6VT70** | 19.95 | **12.30** | 0.4 |
| K | T-Bar Clip | — | - | L983 | **6VT71** | 4.01 | **2.55** | 0.1 |
| L | Cord & Plug | White | 10/1200 | L950P | **6VT12** | 34.91 | **21.60** | 1.0 |
| L | Cord & Plug | Black | 10/1200 | L950MB | **6VT13** | 34.91 | **21.60** | 1.0 |

# HALO RECESSED DOWNLIGHTING SELECTION INFORMATION

## RECESSED LIGHTING

- Adds light to an area without affecting the other design elements
- Fixtures are unobtrusive—provide a variety of lighting effects from general illumination to wall washing
- Installation: 1) Choose type of housing that best suits construction requirements; 2) Choose trim required for desired lighting effect

## HOUSING TYPES

The housing is the main element of a recessed lighting installation. They are available in various types and lamp sources to meet specific requirements.

### Standard Recessed Housings

- Used for applications such as new construction or remodeling where there is access above the ceiling
- Fully adjustable, captive bar hangers will span 24" joists or T-bars
- Housing can be positioned at any point along bar hangers; bar hangers can be easily repositioned 90° to fit any installation configuration

### Remodel Housings

- Simplifies installation where there is no access above a ceiling such as between floors in a building
- Housing slips through ceiling opening; flange secures fixture against ceiling
- Includes remodeling clips to secure housing in place and adjusts for different ceiling material thickness

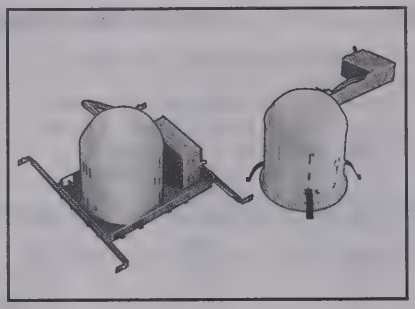
## TRIM TYPES

The trim is the finishing part of a recessed lighting installation.

- Housings accept several different trims to achieve desired lighting effects—general downlighting, directional lighting, wall washing
- No tools necessary
- Different trims may be substituted if lighting needs change

## SAFETY

- All Halo recessed downlights are equipped with thermal protection
- Lights shut off if abnormal heat buildup occurs; problems arise if lamp wattage is too high or insulation is not properly installed around housing
- All Halo housings are UL Listed for damp locations; Meet current NEC requirements
- To ensure safety, use Halo recessed housings with Halo trims only



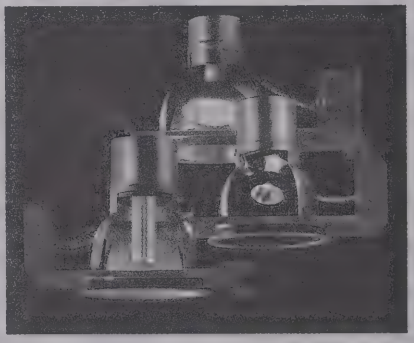
## CHOICE OF HOUSING TYPES

- Standard Recessed Downlights are used for new construction and where there is access above the ceiling
- Remodel Recessed Downlights are used for remodeling installations where there is no access above the ceiling
- Frame-In Recessed Fixtures may be used for either new construction or remodeling



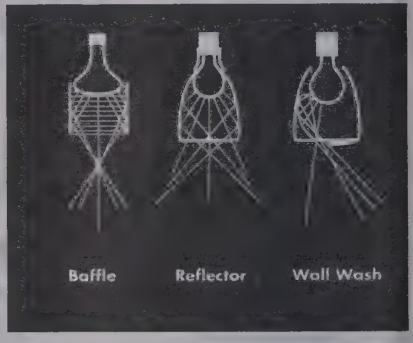
## VARIETY OF LIGHTING EFFECTS

- General lighting provides uniform level of illumination
- Wall washing provides light on walls and makes an area seem larger
- Accent lighting or task lighting provides well-focused illumination on work surfaces



## CHOICE OF LAMP TYPES

- Incandescent housings use low cost A and R type lamps
- Incandescent Low Voltage lamp housing provide dramatic spotlighting and accent lighting
- Compact Fluorescent lamp housings combine high efficiency, low wattage, and good color
- HID recessed Downlights offer the highest efficiency and lowest operating cost

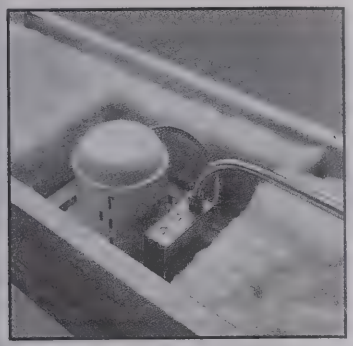



## TRIMS CONTROL LIGHT OUTPUT

- Baffles minimize glare and control light
- Reflectors and reflector cones provide broad lighting coverage
- Wall wash trims direct the light towards the wall
- Eyeball and adjustables direct the light where needed

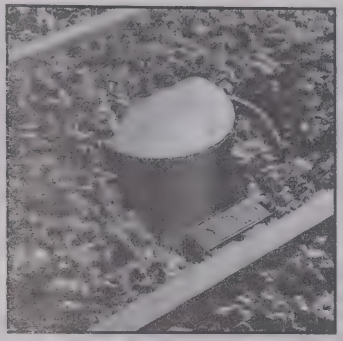
CONTINUED ON NEXT PAGE

# HALO RECESSED DOWNLIGHTING INSTALLATION INFORMATION



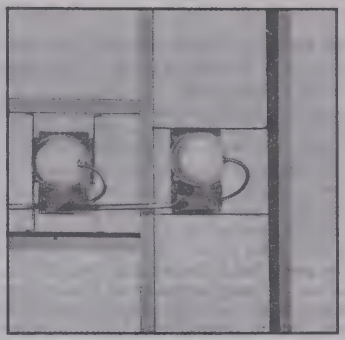
## T HOUSINGS—KEEP INSULATION 3" FROM FIXTURE

- Halo T housings may be used in areas where insulation is present but insulation material must be kept at least 3 inches from the housing
- T housings are equipped with a thermal protector that will shut off the light if insulation material is not properly spaced from the fixture or if the lamp wattage listing is exceeded



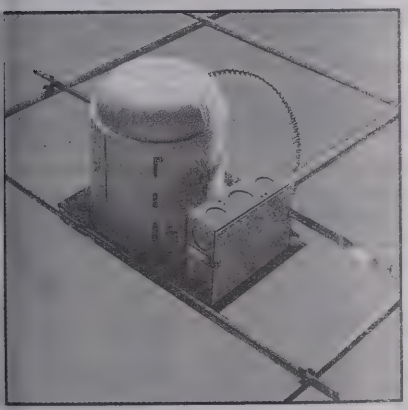
## ICT HOUSINGS—CAN BE COVERED WITH INSULATION

- Halo ICT housings may be completely covered with insulation material; Note that ICT housings usually have lower wattage listings than standard T housings
- ICT housings help maintain heating and air conditioning efficiency
- Constructed of heat dissipating aluminum which provides energy savings and reduces costs



## FEED THROUGH ELECTRICAL WIRING

- Recessed downlights are equipped with "Feed-Thru" junction boxes which allow a series of lights to be wired from one to the other or branch circuits to be fed through the housing junction box
- Housings may be wired with conduit, Romex or BX (be sure to follow local codes)
- All housings and trims are UL Listed



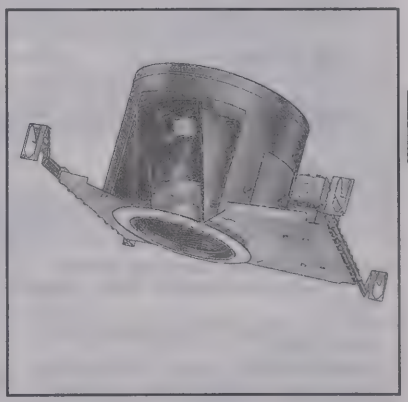
## HOUSINGS FOR NEW CONSTRUCTION/ACCESS ABOVE CEILING

- Recessed downlights include captive, adjustable bar hangers for installation to wooden joists or T-bar grid ceiling members
- Hanger bars may be positioned on either side of housing to simplify installation



## HOUSINGS FOR REMODELING/NO ACCESS ABOVE CEILING

- Remodel housings can be installed from below the ceiling
- Flexible cable is used for power connections
- Remodel springs and clips anchor housing to ceiling and adjust for different ceiling thickness



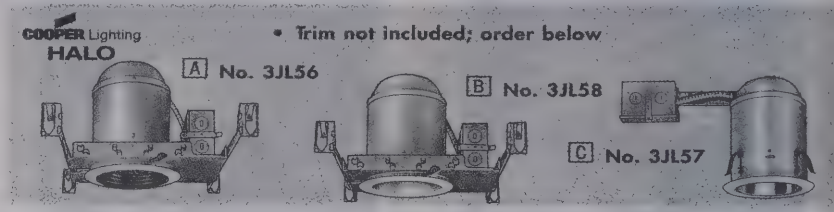
## HOUSINGS FOR SPECIAL APPLICATIONS

- Slope ceiling units are available for vaulted or cathedral slope ceiling installations
- Shallow housings for areas with limited ceiling space
- Deep baffle housings are available for superior visual cutoff

# RECESSED LIGHTING

## 5" RECESSED HOUSINGS

- All housings are thermally protected
- Socket snaps into trim for consistent lamp positioning
- Junction box is approved for through branch circuit wiring; seven 1/2" knockouts with true pry-out slots
- Four Romex pryouts with integral strain relief to simplify installation
- Pre-installed, captive bar hangers allow positioning at any point within a 24" joist span. Score lines provided for easy field shortening for 12" joists. Unique arrowhead design provides "nailless" installation. Bar hangers can be repositioned 90° without tools on plaster frame
- UL Listed for damp locations (E75440); CSA Certified (LR31006) feed through junction box
- 7½" height allows installation in 2 x 8 construction
- Housing adjusts 1⅜" to accommodate various ceiling thicknesses




A **No. 3JL56. ICAT Air-Tite Housing.** For installation where there will be direct contact with ceiling insulation. Integral thermal protector provides positive protection against over-lamping. Meets restricted air flow requirements; prevents valuable energy dollars from being wasted. Halo brand (H5-ICAT).

**No. 3JL56.** Shpg. wt. 3.1 lbs. List $30.95.
Each ..... **$18.55**

B **No. 3JL58. T Housing.** Non-IC thermally protected housing for use in insulated and uninsulated ceilings. When installed in a ceiling with insulation, air space around fixture is required. Halo brand (H5-T).

**No. 3JL58.** Shpg. wt. 3.9 lbs. List $26.55.
Each ..... **$15.89**

C **No. 3JL57. Remodel RT Housing.** Designed for quick and easy installation in new or existing buildings. Can be installed from below a finished ceiling. Spring clips lock the fixture in place. Halo brand (H5-RT).

**No. 3JL57.** Shpg. wt. 2.3 lbs. List $26.55.
Each ..... **$15.89**

## 5" RECESSED HOUSING TRIMS

| Key | Trim Stock No. | Description | Remodel and Standard Housing Stock Nos. (see above) No. 3JL56 | No. 3JL57 | No. 3JL58 |
|---|---|---|---|---|---|
| A | 3JL52 | Open Trim White | 65W BR30<br>75W PAR30 Shortneck | 65W BR30<br>75W PAR30 Shortneck | 65W BR30<br>75W PAR30 Shortneck |
| B | 3JL61 | White Coilex Baffle | 40W BR30<br>50W PAR30 Shortneck | 65W BR30<br>75W PAR30 Shortneck | 65W BR30<br>75W PAR30 Shortneck |
| C | 3JL53 | Black Coilex Baffle | 40W BR30<br>50W PAR30 Shortneck | 65W BR30<br>75W PAR30 Shortneck | 65W BR30<br>75W PAR30 Shortneck |
| D | 3JL54 | Eyeball, White | 75W PAR30 Shortneck | 75W PAR30 Shortneck | 75W PAR30 Shortneck |
| E | 3JL55 | Eyeball, Polished Brass | 75W PAR30 Shortneck | 75W PAR30 Shortneck | 75W PAR30 Shortneck |

- Ideal for PAR30 shortneck lamps (3⅝" long) and smaller sized halogen lamps
- Torsion springs for quick and easy installation
- Socket attaches to trim. Keyed trim slot assures correct lamp position

| Key | Description | Diameter (In.) | Halo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Open Trim White | 6½ | 5000P | **3JL52** | $12.80 | **$7.65** | 0.6 |
| B | White Coilex Baffle | 6½ | 5010W | **3JL61** | 28.13 | **16.63** | 0.5 |
| C | Black Coilex Baffle | 6½ | 5010 | **3JL53** | 25.55 | **15.30** | 0.8 |
| D | Eyeball, White | 6½ | 5070P | **3JL54** | 37.75 | **22.61** | 0.8 |
| E | Eyeball, Polished Brass | 6½ | 5070PB | **3JL55** | 55.50 | **33.25** | 0.8 |

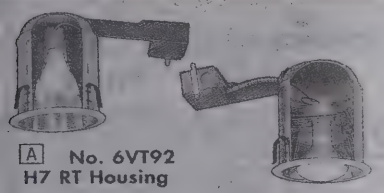
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# REMODEL AND STANDARD RECESSED HOUSING

COOPER Lighting HALO

UL E75440

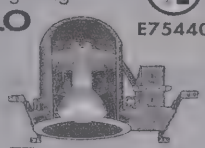


A No. 6VT92 H7 RT Housing

B No. 6VT91 H7 RICT Housing



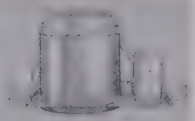
C No. 6VT90 H7 T Housing



D No. 6VT89 H7 ICT Housing



E No. 6W832 H7 UICT Housing



F No. 6F552 ICAT H7 Air Tight Housing

Order trims on page 1126

Order lamps separately; see Index under Lamps, Incandescent

- UL Listed for damp locations
- Feed through junction box

## REMODEL RECESSED HOUSINGS

### A No. 6VT92 H7 RT HOUSING

- Heavy-duty steel housing
- Thermally protected T housing; keep insulation 3" from fixture
- Use in remodeling applications where there is no access above ceiling
- Adjustable socket plate

### B No. 6VT91 H7 RICT HOUSING

- Heat dissipating aluminum housing
- Thermally protected ICT housing; may be covered with insulation providing energy-savings, reducing costs
- Use in remodeling applications where there is no access above ceiling

## STANDARD RECESSED HOUSINGS

### C No. 6VT90 H7 T HOUSING

- Heat dissipating aluminum housing
- Thermally protected ICT housing; may be covered with insulation providing energy-savings, reducing costs
- Use in remodeling applications where there is no access above ceiling

### D No. 6VT89 H7 ICT HOUSING

- Heat dissipating aluminum housing
- Thermally protected ICT housing; may be covered with insulation providing energy-savings, reducing costs
- Use in new construction or where there is access above the ceiling
- Nailess captive bar hangers can be used on either side for ease of installation

### E No. 6W832 H7 UICT HOUSING

- Heat dissipating aluminum housing
- Thermally protected double wall UICT housing permits cool operation with high wattage lamps when covered with insulation providing energy-saving, reducing costs
- Use in new construction or where there is access above the ceiling
- Fixed socket position

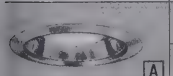
### F No. 6F552 H7 ICAT AIR TIGHT HOUSING

- Heat dissipating aluminum housing
- Housing is thermally protected; can be covered with insulation for energy savings
- Used in new construction, or where there is access above ceiling
- Nailess captive bar hangers can be used on either side for easy installation
- Gasket provided to prevent air leakage into unconditioned space
- Conforms to section 502.4.4 of Washington State Energy Code

## H7 REMODEL/STANDARD RECESSED HOUSING ORDERING DATA

| Key | Description | Diameter (In.) | Height (In.) | Halo Model | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Remodel RT Housing | 6½ | 7½ | H7RT | **6VT92** | $26.84 | **$11.00** | 2.2 |
| B | Remodel RICT Housing | 6½ | 7½ | H7RICT | **6VT91** | 28.03 | **11.00** | 1.8 |
| C | T Housing | 6½ | 7½ | H7T | **6VT90** | 25.00 | **9.50** | 4.1 |
| D | ICT Housing | 6½ | 7½ | H7ICT | **6VT89** | 26.11 | **9.50** | 3.5 |
| E | UICT Housing | 6½ | 7½ | H7UICT | **6W832** | 33.10 | **19.50** | 5.1 |
| F | ICAT Air Tight Housing | 6½ | 7½ | H7ICAT | **6F552** | 33.86 | **14.50** | 3.8 |

## HALO AIR-TITE™ SUPER TRIMS FOR H7 HOUSINGS

| Key | Trim Stock No. | Description | Remodel and Standard Housing Stock Nos. (see next page) No. 6VT92 | No. 6VT91 | No. 6VT90 | No. 6VT89 |
|---|---|---|---|---|---|---|
|  A | 3JL48 | Specular Clear Reflector | 75W PAR30 Longneck, 150W A21/PAR38 | 60W A19/PAR38 75W BR30/PAR30 Longneck | 100W BR30 150W A21/PAR38 | 60W A19/PAR38 75W BR30/PAR30 Longneck |
| | 3JL50 | Residential Gold Reflector | 75W PAR30 Longneck 150W A21/PAR38 | 60W A19/PAR38 75W BR30/PAR30 Longneck | 100W BR30 150W A21/PAR38 | 60W A19/PAR38 75W BR30/PAR30 Longneck |
|  B | 3JL49 | Black Coilex Baffle | 100W A19/BR30 150W PAR38 | 40W A19 60W PAR38 75W BR30/PAR30 Longneck | 100W A19/BR30 150W PAR38 | 40W A19 60W PAR38 75W BR30/PAR30 Longneck |
|  C | 3JL51 | White Coilex Baffle | 100W A19/BR30 150W PAR38 | 40W A19 60W PAR38 75W BR30/PAR30 Longneck | 100W A19/BR30 150W PAR38 | 40W A19 60W PAR38 75W BR30/PAR30 Longneck |

For use with housings above.
Converts any standard housing into Air-Tite™ construction, eliminating air leakage. Ideal for retrofitting to existing housings. Torsion springs provide more positive trim retention with no exposed fasteners. Improved lamp position over standard trims in IC housing with R30 lamps. UL Listed (E75440) CSA Certified (LR31006)

| Key | Description | Diameter (In.) | Halo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Specular Clear Reflector | 7¼ | 30CAT | **3JL48** | $39.85 | **$23.87** | 0.5 |
| A | Residential Gold Reflector | 7¼ | 30RGAT | **3JL50** | 39.85 | **23.87** | 0.5 |
| B | Black Coilex Baffle | 7¼ | 30PAT | **3JL49** | 27.20 | **16.29** | 0.5 |
| C | White Coilex Baffle | 7¼ | 30WAT | **3JL51** | 29.45 | **17.62** | 0.5 |

# REMODEL AND STANDARD RECESSED HOUSING TRIMS

**To Order:** Find housing Stock No. on top of chart and move down the column to desired trim. Compatible trims are indicated by lamp type and maximum wattage.

**Order Lamps Separately, see Index under Lamps, Incandescent, and Halogen.**

New

COOPER Lighting HALO

UL E75440

## H7 HOUSING TRIM SELECTION GUIDE AND LAMP REFERENCE

| Key | Trim Stock No. | Description | Remodel and Standard Housing Stock Nos. (see opposite page) No. 6VT92 | No. 6VT91 | No. 6VT90 | No. 6VT89 | No. 6W832 | No. 6F552 |
|---|---|---|---|---|---|---|---|---|
| | 4PH85 | Specular Clear | — | 60WA19 | — | 60WA19 | — | 60WA19 |
| | 6VT48 | Specular Clear | 100W A19 | — | 100W A19 | — | — | — |
| | 6VT49 | Specular Gold | 100W A19 | — | 100W A19 | — | — | — |
| A | 6VT98 | Specular Clear Reflector Cone | 65W BR30, 75W PAR30 Longneck 120W BR40 | 65W BR30 | 65W BR30, 75W PAR30 Longneck 120W BR40 | 65W BR30 | 75W PAR30 Longneck 100W PAR38/BR40 | 65W BR30 |
| | 6VT51 | Coilex Baffle | 65W BR30, 75W PAR30 Longneck | 65W BR30, 50W PAR30 Longneck | 65W BR30/ 75W PAR30 Longneck | 65W BR30, 50W PAR30 Longneck | 65W BR30, 75W PAR30 Longneck 90W PAR38, 100W BR40 | 65W BR30, 50W PAR30 Longneck |
| B | 6VT47 | Coilex Baffle w/ Reflector | 100W A19 | — | 100W A19 | — | — | — |
| | 6VT52 | Coilex Baffle | 75W PAR30 Longneck 120W BR40 | — | 150W PAR38, 120W BR40 | — | — | — |
| | 6W834 | Coilex Baffle | 75W PAR30 Longneck 120W BR40 | — | 150W PAR38, 120W BR40 | — | — | — |
| C | 6W833 | Coilex Baffle | 65W BR30, 75W PAR30 Longneck | 65W BR30, 50W PAR30 Longneck | 65W BR30, 75W PAR30 Longneck | 65W BR30, 50W PAR30 Longneck | 65W BR30, 75W PAR30 Longneck 90W PAR38, 100W BR40 | 65W BR30, 50W PAR30 Longneck |
| | 6VT97 | Open | 65W BR30, 75W PAR30 Longneck | — | 65W BR30, 75W PAR30 Longneck | — | — | — |
| D | 6VT87 | Open | 120W BR40 | — | 120W BR40 | — | — | — |
| E | 3V679 | Scoop | 60W A19 | — | 60W A19 | — | 50W R30 | — |
| F | 3V567 | Specular Clear | 150W A21 | — | 150W A21 | — | — | — |
| | 6VT93 | Drop Opal | 60W A19 | — | 60W A19 | — | 40W A19 | — |
| G | 6VT50 | Drop Opal | — | 40W A19 | — | 40W A19 | 60W A19 | 40W A19 |
| | 6W836 | Drop Opal Shower | — | 40W A19 | — | 40W A19 | 60W A19 | 40W A19 |
| | 6VT94 | Eyeball | 50W R20/PAR20 | 50W R20 | 50W R20/PAR20 | 50W R20 | 75W R20, 50W PAR 20/R20 | 50W R20 |
| H | 6VW02 | Eyeball | 65W BR30, 50W PAR30 Longneck | 65W BR30 | 65W BR30, 75W PAR30 Longneck | 65W BR30 | 75W PAR30 Longneck, 65 BR30 | 65W BR30 |
| I | 6VT95 | Regressed Eyeball | — | 65W PAR30 Longneck | 65W BR30, 75W PAR30 Longneck | 50W PAR30 Longneck | 65W R30, 75W PAR30 Longneck | 50W PAR30 Longneck |
| J | 6VT53 | Wall Wash | 60W A19 | — | 60W A19 | — | — | — |

(*) Requires socket extender use No. 6VT79.

| Key | Description | Diameter (In.) | Halo Model | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Specular Clear Reflector | 7¼ | 404C | New **4PH85** | $44.20 | **$33.85** | 1.0 |
| A | Specular Clear Reflector | 7¼ | 400SC | **6VT48** | 44.49 | **26.30** | 0.7 |
| A | Specular Gold Reflector | 7¼ | 400RG | **6VT49** | 44.40 | **26.25** | 0.7 |
| A | Specular Clear Reflector Cone | 7¼ | 426 | **6VT98** | 34.59 | **21.30** | 0.1 |
| B | Black Coilex Baffle, White Ring | 7¼ | 310P | **6VT51** | 20.55 | **12.30** | 0.4 |
| B | Black Coilex Baffle with Reflector, White Ring | 7¼ | 409P | **6VT47** | 31.40 | **20.02** | 1.0 |
| B | Black Coilex Baffle, White Ring | 7¼ | 410P | **6VT52** | 20.85 | **12.30** | 0.4 |
| C | Coilex Baffle White | 7¼ | 410W | **6W834** | 22.43 | **13.60** | 0.4 |
| C | Coilex Baffle White | 7¼ | 310W | **6W833** | 22.43 | **13.60** | 0.4 |
| D | Open | 7¼ | 301P | **6VT97** | 10.25 | **6.15** | 0.4 |
| D | Open | 8 | 401P | **6VT87** | 10.25 | **6.15** | 0.4 |
| E | Scoop Wall Wash | 7¼ | 425P | **3V679** | 49.92 | **30.50** | 1.0 |
| F | Specular Clear Reflector | 7¼ | 405SC | **3V567** | 71.83 | **31.15** | 0.8 |
| G | Drop Opal Lens | 8 | 71P | **6VT93** | 21.68 | **13.37** | 0.7 |
| G | Drop Opal Lens | 8 | 171P | **6VT50** | 30.84 | **18.85** | 1.7 |
| G | Drop Opal Shower Light | 8 | 171-PS | **6W836** | 31.50 | **18.90** | 1.0 |
| H | Eyeball | 8 | 77P | **6VT94** | 32.36 | **19.87** | 1.2 |
| H | Eyeball | 8 | 78P | **6VW02** | 32.85 | **18.50** | 1.2 |
| I | Regressed Coilex Eyeball | 7¼ | 420P | **6VT95** | 47.51 | **28.55** | 1.2 |
| J | Wall Wash | 8 | 303P | **6VT53** | 40.17 | **24.75** | 1.4 |



When it comes to lighting, no distributor outshines Grainger.

# COMPACT FLUORESCENT RECESSED HOUSINGS

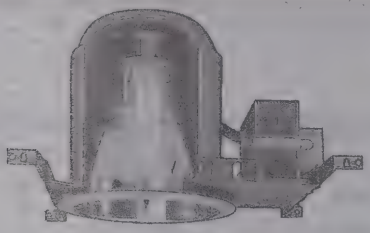
**COOPER Lighting**
**HALO**

ENERGY RIGHT®

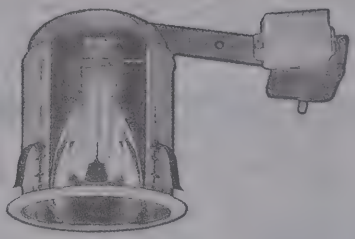
New

E80574

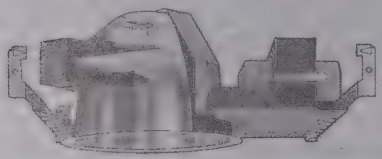
- Order trims on following page
- Order lamps separately; see Index under Lamps, Fluorescent
- UL Listed for damp locations



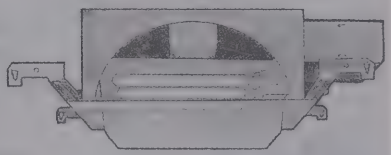
A Nos. 6VT85 & 6VCM8 13W Recessed T Housing



B No. 6VCM9 13W Remodel RT Housing



C Nos. 6VCN2 and 6VCN3, 2/13W Lamp Recessed T Housing and 4PH87 2/26W Lamp Recessed T Housing



D No. 6VCN9 2/13W Lamp Square Recessed T Housing

### A Nos. 6VT85 and 6VCM8 13W RECESSED T HOUSING

- Thermally protected ballast; keep insulation 3" from fixture
- Use in new construction or where there is access above the ceiling
- Feed through junction box with romex connectors and conduit pryouts
- Nailess captive bar hangers may be positioned on either side of housing for ease of installation

### B Nos. 6VCM9 13W REMODEL RT HOUSING

- Thermally protected ballast; keep insulation 3" from fixture
- Use in remodeling installations; may be installed from below ceiling

### C Nos. 6VCN2 and 6VCN3, TWO 13W LAMP RECESSED T HOUSING AND No. 4PH87 TWO 26W LAMP RECESSED T HOUSING

- Thermally protected ballast; keep insulation 3" from fixture
- Use in new construction or where there is access above the ceiling
- Feed through junction box with romex connectors and conduit pryouts
- Nailess captive bar hangers may be positioned on either side of housing for ease of installation

### D No. 6VCN9 TWO 13W LAMP SQUARE RECESSED T HOUSING

- Thermally protected ballast; keep insulation 3" from fixture
- Use in new construction or where there is access above the ceiling; 3½" height allows use in 2 x 4" construction
- Nailess captive bar hangers may be positioned on either side of housing for ease of installation

## COMPACT FLUORESCENT RECESSED HOUSING SPECIFICATIONS AND ORDERING INFORMATION

| Key | Description | Wattage | Voltage | No. Lamps | Recommended Lamp Stock No. | Diameter (In.) | Height (In.) | Halo Model | | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Recessed Downlight | 13 | 120 | 1 | 4V302 | 6½ | 7½ | H274 | | ✓ 6VT85 | $78.28 | $47.90 | 0.8 |
| A | Recessed Downlight | 13 | 277 | 1 | 4V302 | 6½ | 7½ | H275 | | ✓ 6VCM8 | 96.40 | 58.95 | 5.8 |
| B | Remodel Downlight | 13 | 120 | 1 | 4V302 | 6½ | 7½ | H274R | | ✓ 6VCM9 | 78.07 | 47.80 | 0.6 |
| C | Recessed Downlight | 13 | 120 | 2 | 2V835 | 7⅝ | 5¹⁵⁄₁₆ | H800 | | ✓ 6VCN2 | 72.55 | 45.70 | 6.0 |
| C | Recessed Downlight | 13 | 277 | 2 | 2V835 | 7⅝ | 5¹⁵⁄₁₆ | H800-277 | | ✓ 6VCN3 | 109.48 | 69.00 | 7.0 |
| C | Recessed Downlight | 26 | 120 | 2 | 6V070 | 8¾ | 5⅛ | H803HP | New | ✓ 4PH87 | 124.90 | 95.60 | 7.0 |
| D | Square Downlight | 13 | 120 | 2 | 2V835 | 8¾ sq. | 3½ | H242 | | ✓ 6VCN9 | 81.62 | 52.00 | 1.0 |

✓) Denotes enery efficient product.

UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY

Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.

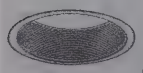
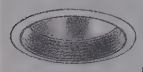
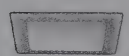
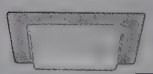
# COMPACT FLUORESCENT RECESSED HOUSING TRIMS

**To Order:** Find housing Stock No. on top of chart and move down the column to desired trim. Compatible trims are indicated by lamp type and maximum wattage.

**Order Lamps Separately, see Index under Lamps, Fluorescent.**

COOPER Lighting HALO

## HOUSING TRIM SELECTION GUIDE AND LAMP REFERENCE

| Key | Trim Stock No. | Description | Compact Fluorescent Housing Stock Nos. (see opposite page) | | | | |
|---|---|---|---|---|---|---|---|
| | | | Nos. 6VT85 & 6VCM8 | No. 6VCM9 | Nos. 6VCN2 & 6VCN3 | No. 6VCN9 | No. 4PH87 |
|  A | 6VT48 | Clear Reflector | 13W | 13W | — | — | — |
| | 6VCN7 | Clear Reflector | — | — | (2) 13W | — | (2) 26W |
| | 6VT49 | Gold Reflector | 13W | 13W | — | — | — |
|  B | 6VCN8 | Coilex Baffle | — | — | (2) 13W | — | (2) 26W |
| | 6VT52 | Coilex Baffle | 13W | 13W | — | — | — |
|  C | 6VT47 | Baffle with Reflector | 13W | 13W | — | — | — |
|  D | 6VT96 | Albalite Lens | 13W | 13W | — | — | — |
| | 6VCN6 | Regressed Albalite Lens | — | — | (2) 13W | — | (2) 26W |
|  E | 6VT93 | Drop Opal Lens | 13W | 13W | — | — | — |
|  F | 6VT53 | Wall Wash | 13W | 13W | — | — | — |
|  G | 6VCK6 | Albalite Lens | — | — | — | (2) 13W | — |
|  H | 6VCK7 | Plastic Drop Diffuser | — | — | — | (2) 13W | — |

## COMPACT FLUORESCENT HOUSING TRIM SPECIFICATIONS AND ORDERING DATA

| Key | Description | Diameter (In.) | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Specular Clear Reflector | 7 1/4 | 400SC | **6VT48** | $44.49 | **$26.30** | 0.7 |
| A | Specular Clear Reflector | 8 1/4 | 810C | **6VCN7** | 61.25 | **39.00** | 1.1 |
| A | Residential Gold Reflector | 7 1/4 | 400RG | **6VT49** | 44.40 | **26.25** | 0.7 |
| B | Coilex Baffle | 8 1/4 | 810BA | **6VCN8** | 80.83 | **51.45** | 1.1 |
| B | Coilex Baffle | 7 1/4 | 410P | **6VT52** | 20.85 | **12.30** | 0.4 |
| C | Baffle with Reflector | 7 1/4 | 409P | **6VT47** | 31.40 | **20.02** | 1.0 |
| D | Albalite Lens | 8 | 70P | **6VT96** | 18.23 | **11.67** | 1.0 |
| D | Regressed Albalite Lens | 8 1/4 | 800P | **6VCN6** | 95.26 | **60.60** | 2.1 |
| E | Drop Opal Lens | 8 | 71P | **6VT93** | 21.68 | **13.37** | 0.7 |
| F | Wall Wash | 8 | 303P | **6VT53** | 40.17 | **24.75** | 1.4 |
| G | Albalite Lens | 9 9/8 Sq. | 10P | **6VCK6** | 17.35 | **10.70** | 0.1 |
| H | Plastic Drop Diffuser | 9 9/8 Sq. | 11P | **6VCK7** | 29.76 | **18.40** | 0.2 |



*When it comes to lighting, no distributor outshines Grainger.*

# 4" RECESSED HOUSING

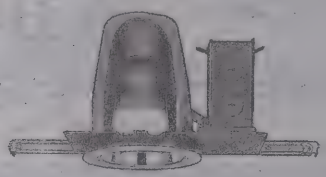
**COOPER Lighting**
**HALO**

E75440

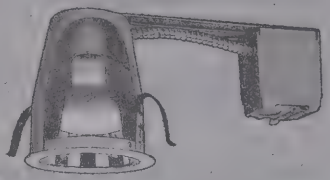
**Order trims on following page**

**Order lamps separately; see Index under Lamps, Incandescent (line voltage models); Lamps, Low Voltage Display (low voltage models)**

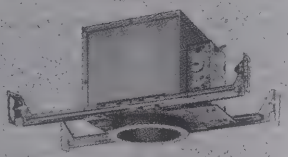
- **UL Listed for damp locations**
- **Feed through junction box**



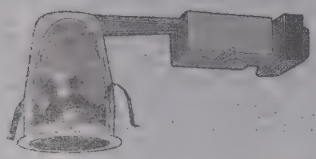
A No. 6VCH9
T Housing



B No. 6VT82
Remodel RT Housing



C No. 6F551 ICAT
Air Tight Housing



D No. 6VCK1
Remodel RT Housing



E No. 6VCK0
T Housing

## LINE VOLTAGE

### A No. 6VCH9 T HOUSING

- Thermally protected T housing; keep insulation 3" from fixture
- Use in new construction or where there is access above the ceiling
- Nailess captive bar hangers may be positioned on either side of housing for ease of installation

### B No. 6VT82 REMODEL RT HOUSING

- Thermally protected T housing; keep insulation 3" from fixture
- Use for remodel applications where there is no ceiling access
- Housing may be removed and replaced

### C No. 6F551 ICAT AIR TIGHT HOUSING

- Heat dissipating aluminum housing
- Housing is thermally protected; can be covered with insulation for energy savings
- Used in new construction where there is access above ceiling
- Gasket provided to prevent air leakage into unconditioned space
- Conforms to section 502.4.4 of Washington State Energy Code

## LOW VOLTAGE

### D No. 6VCK1 REMODEL RT HOUSING

- Thermally protected T housing; keep insulation 3" from fixture
- Use 12V lamps not included, see Index under Lamps, Low Voltage Display
- Integral magnetic transformer steps 120V input down to energy efficient low voltage operation
- To dim system, order No. 6E030 (single pole) or No. 6E031 (3-way)
- Use for remodel applications where there is no ceiling access

### E No. 6VCK0 T HOUSING

- Thermally protected T housing; keep insulation 3" from fixture
- Use 12V lamps not included, see Index under Lamps, Low Voltage
- Integral magnetic transformer steps 120V input down to energy efficient low voltage operation
- To dim system, order No. 6E030 (single pole) or No. 6E031 (3-way)
- Use for new construction or where there is access above the ceiling
- Captive bar hangers may be positioned on either side of housing for ease of installation

## 4"RECESSED HOUSING SPECIFICATIONS AND ORDERING DATA

| Key | Description | Diameter (In.) | Height (In.) | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Line Voltage T Housing | 4¼ | 5½ | H99T | **6VCH9** | $31.80 | **$18.30** | 0.4 |
| B | Line Voltage Remodel RT Housing | 4¼ | 5⅛ | H99RT | **6VT82** | 31.11 | **18.30** | 1.6 |
| C | Line Voltage ICAT Air Tight Housing | 4¼ | 5⅛ | H99ICAT | **6F551** | 55.83 | **31.85** | 2.8 |
| D | Low Voltage Remodel RT Housing | 4¼ | 7¼ | H1499RT | **6VCK1** | 114.51 | **70.25** | 3.8 |
| E | Low Voltage T Housing | 4¼ | 7¼ | H1499T | **6VCK0** | 114.37 | **70.25** | 4.7 |

# 4" RECESSED HOUSING TRIMS

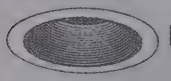
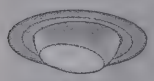
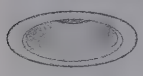
**To Order:** Find housing Stock No. on top of chart and move down the column to desired trim. Compatible trims are indicated by lamp type and max. wattage.

- **Order Lamps Separately, see Index under Lamps, Incandescent, and Halogen (except [C] order No. 6F550 below).**

COOPER Lighting HALO

E75440

## 4" RECESSED HOUSING TRIM SELECTION GUIDE

| Key | Trim Stock No. | Description | Small Aperture Stock No. (see previous page) No. 6VCH9 | No. 6VT82 | No. 6F551 | No. 6VCK1 | No. 6VCK0 |
|---|---|---|---|---|---|---|---|
|  A | 6VT83 | Black Coilex | 50W R20, 40W A19/R16 | 50W R20, 40W A19 | 50W R20 w/6VT79 Socket Extender | — | — |
| | 6VCK2 | Black Coilex (12V) | — | — | — | 12V 50W MR16 | 12V 50W MR16 |
|  B | 6W835 | White Coilex | 50W R20, 40W A19/R16 | 50W R20, 40W A19/R16 | 50W R20 w/6VT79 Socket Extender | — | — |
|  C | 6VT84 | Eyeball | 40W R16* | 40W R16* | 40W R16* | — | — |
|  D | 6VCK4 | Clear Specular | — | — | — | 12V 50W MR16 | 12V 50W MR16 |
|  E | 6VCK3 | Eyeball w/Baffle (12V) | — | — | — | 12V 50W MR16 | 12V 50W MR16 |
|  F | 3V681 | Adjustable Slot Aperture | — | — | — | 12V 50W MR16 | 12V 50W MR16 |

## 4" TRIM ORDERING DATA

| Key | Description | Diameter (In.) | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Black Coilex Baffle | 4¾ | 993P | **6VT83** | $37.09 | **$23.43** | 0.2 |
| A | Black Coilex Baffle for 12V Housing | 4¾ | 1493P | **6VCK2** | 38.87 | **24.30** | 0.4 |
| B | White Coilex Baffle | 4¾ | 993-W | **6W835** | 38.32 | **24.43** | 0.2 |
| C | Eyeball | 4¾ | 998P | **6VT84** | 48.12 | **29.60** | 0.7 |
| D | Clear Specular Cone for 12V Housing | 4¾ | 1421C | **6VCK4** | 55.74 | **34.45** | 0.4 |
| E | Eyeball for 12V Housing w/Baffle | 4¾ | 1498P | **6VCK3** | 52.98 | **32.70** | 0.7 |
| F | Adjustable Slot Aperture | 4¾ | 1420P | **3V681** | 49.73 | **32.15** | 0.4 |

(*) **No. 6F550.** Lamp 40W R16 for C. Halo brand (Z9). Shpg. wt. 0.1. Each ..... **$4.99**

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

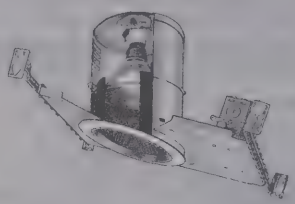
**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**



A No. 6VT63
Shallow T Housing

COOPER Lighting
HALO

UL
E75440

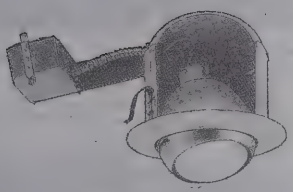


C No. 1N002 Slope
Ceiling T Housing

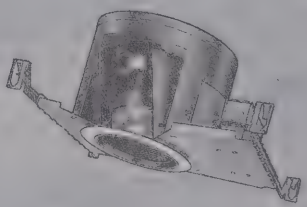
Order trims on following page

Order lamps separately; see Index under Lamps, Incandescent

- UL Listed for damp locations
- Feed through junction box



B No. 6VCF9
Shallow Remodel
RT Housing



D No. 1N001 Slope
Ceiling ICT Housing

### A No. 6VT63 SHALLOW T HOUSING

- For shallow ceilings where 2 x 6" joist construction is used
- Thermally protected T housing; keep insulation 3" from fixture
- For use in new construction or where there is access above ceiling
- 24", nailess captive bar hangers can be positioned on either side of housing

### B No. 6VCF9 SHALLOW REMODEL RT HOUSING

- For shallow ceilings where 2 x 6" joist construction is used
- Thermally protected T housing; keep insulation 3" from fixture
- Remodel housing; use in installations where there is no ceiling access

### C No. 1N002 SLOPE CEILING T HOUSING

- For slope ceilings with ceiling pitch from 10-27°
- Thermally protected T housing; keep insulation 3" from fixture
- For use in new construction or where there is access above the ceiling
- Adjustable socket directs light perpendicular to floor
- Housing can be adjusted for use in shallow ceilings
- 24", captive bar hangers can be positioned on either side of housing

### D No. 1N001 SLOPE CEILING ICT HOUSING

- For slope ceilings with ceiling pitch from 10-27°
- Thermally protected ICT housing; may be covered with insulation
- For use in new construction or where there is access above the ceiling
- Adjustable socket directs light perpendicular to floor
- 24", captive bar hangers can be positioned on either side of housing

## SPECIAL APPLICATION RECESSED HOUSING SPECIFICATIONS AND ORDERING DATA

| Key | Descriptions | Diameter (In.) | Height (In.) | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Shallow T Housing | 6½ | 5¼ | H27T | 6VT63 | $26.29 | $15.50 | 4.2 |
| B | Shallow Remodel RT Housing | 6½ | 5½ | H27RT | 6VCF9 | 24.78 | 15.50 | 2.1 |
| C | Slope Ceiling T Housing | 7¼ | 6⅞-8¾ | H47N | 1N002 | 38.81 | 20.90 | 1.2 |
| D | Slope Ceiling ICT Housing | 7¼ | 7⅛ | H47IC | 1N001 | 33.71 | 24.10 | 0.6 |

# SPECIAL APPLICATION RECESSED HOUSING TRIMS

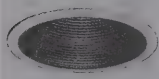
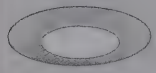
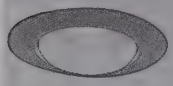
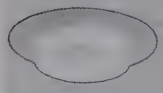
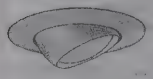
**To Order:** Find housing Stock No. on top of chart and move down the column to desired trim. Compatible trims are indicated by lamp type and maximum wattage.

- **Order Lamps Separately, see Index under Lamps, Incandescent, and Halogen**

COOPER Lighting HALO

E75440

## SPECIAL APPLICATION HOUSING TRIM SELECTION GUIDE AND LAMP REFERENCE

| Key | Trim Stock No. | Description | Special Application Housing Stock Nos. (see previous page) | | | |
|---|---|---|---|---|---|---|
| | | | No. 6VT63 | No. 6VCF9 | No. 1N001 | No. 1N002 |
|  A | 6VT51 | Black Coilex Baffle | 65W BR30 | 65W BR30, 75W PAR30 Longneck | — | — |
| | 1N007 | White Coilex Baffle | — | — | 90W PAR38 | 90W PAR38 |
|  B | 6VT97 | Open | 65W BR30 | 65W BR30, 75W PAR30 Longneck | — | — |
| | 6VT87 | Open | 120W BR40 | — | — | — |
|  C | 6VT96 | Albalite | 60W A19 | — | — | — |
|  D | 6VT93 | Drop Diffuser | 60W A19 | — | — | — |
| | 6VT50 | Drop Diffuser | — | 60W A19 | — | — |
|  E | 6VT94 | Eyeball | 50W R20/ PAR20 | 50W R20/ PAR20 | — | — |
|  F | 6VW02 | Eyeball | 65W BR30, 75W PAR30 Longneck | 65W BR30, 75W PAR30 Longneck | 65W BR30 | 65W BR30 |

## SPECIAL APPLICATION RECESSED HOUSING TRIM SPECIFICATIONS AND ORDERING DATA

| Key | Description | Diameter (In.) | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| A | Coilex Black Baffle | 7 1/4 | 310P | **6VT51** | $20.55 | **$12.30** | 0.4 |
| A | Coilex White Baffle | 7 5/8 x 7 5/8 | 498WN | **1N007** | 31.05 | **19.60** | 1.0 |
| B | Open | 7 1/4 | 301P | **6VT97** | 10.25 | **6.15** | 0.4 |
| B | Open | 8 | 401P | **6VT87** | 10.25 | **6.15** | 0.4 |
| C | Albalite Lens | 8 | 70P | **6VT96** | 18.23 | **11.67** | 1.0 |
| D | Drop Diffuser | 8 | 71P | **6VT93** | 21.68 | **13.37** | 0.7 |
| D | Drop Diffuser | 8 | 171P | **6VT50** | 30.84 | **18.85** | 1.7 |
| E | Eyeball | 8 | 77P | **6VT94** | 32.36 | **19.87** | 1.2 |
| F | Eyeball | 8 | 78P | **6VW02** | 32.85 | **18.50** | 1.2 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# SQUARE HOUSINGS

## T HOUSINGS

alo T Housings may be used in areas here insulation is present, but insulation aterial must be kept at least 3" from the de of the housing. T housings are quipped with a thermal protector that will ut off the light if insulation material is ot properly spaced from the fixture or if ie lamp wattage listing is exceeded.

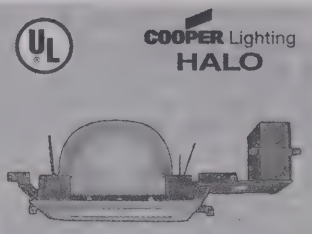
## HOW TO ORDER

**rder trims separately below.**

**o Order:** Find housing Stock No. on top f chart and move down the column to esired trim. Compatible trims are indicat- d by lamp type and maximum wattage.

### No. 6VCK5
### SMALL APERTURE 8" SQUARE T HOUSING

- **Thermally protected T housing; keep insulation 3" from fixture**
- **Use in new construction or where there is access above the ceiling**
- **Uses 100W A19 incandescent lamps, recommend No. 5V600**
- **Feed through junction box**
- **Captive bar hangers, suitable for 24" joist spacing**



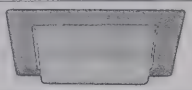

No. 6VCK5

**Order Lamps Separately see Index under Lamps, Incandescent**

| Description | Dimensions (In.) | Height (In.) | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Small Aperture 8" Square** | 8¼ Sq. | 5⅜ | H1T | **6VCK5** | $28.88 | **$17.85** | 0.8 |

## SQUARE TRIMS*

### HOUSING TRIM SELECTION GUIDE AND LAMP REFERENCE

| Key | Trim Stock No. | Description | Square Housing Stock No. 6VCK5 | Key | Trim Stock No. | Description | Square Housing Stock No. 6VCK5 |
|---|---|---|---|---|---|---|---|
|  A | 6VCK6 | Albalite | 100WA19 |  B | 6VCK7 | Drop Diff. | 100WA19 |

### SQUARE RECESSED HOUSING TRIM SPECIFICATIONS AND ORDERING DATA

| Key | Description | Dimensions (In.) | Halo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **A** | Albalite Square Lens | 9⅜ Sq. | 10P | **6VCK6** | $17.35 | **$10.70** | 0.1 |
| **B** | Drop Diffuser Square Lens | 9⅜ Sq. | 11P | **6VCK7** | 29.76 | **18.40** | 0.2 |

UL Listed (E75440)

# HID RECESSED DOWNLIGHTING
## (COMPLETE UNIT = HOUSING + TRIM + BALLAST)

### A HID HOUSING

- **For use in high ceiling areas where above average illumination levels are required**
- **120/277V Dual-tap ballasts with plug-in connectors**
- **Medium base sockets adjust to provide normal to wide light distribution**
- **Reflector mounting system accommodates ceiling thickness to 1½"**
- **Lamp not included, use recommended lamp listed below or see Index under Lamps, HID; 70W HPS, No. 2V632; 100W Metal Halide, No. 1E674**
- **UL Listed (E84023)**

### B HID TRIMS

- **Clear Specular Reflector. No. 6VCP4 HPS, No. 6VCP5—Metal Halide Lamps**
- **Glass Fresnel Lens. No. 6VCP8—HPS, Metal Halide Lamps**

### C HID BALLASTS

- **No. 6VCP1 70W High Pressure Sodium Ballasts**
- **No. 6VCP2 100W Metal Halide Ballasts**
- **UL Listed (E84023)**

| Key | Description | Lamp Type | Diameter (In.) | Halo Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A** | HID Housing (only) | — | 5⅛ | M700-T | **6VCP0** | $59.23 | **$36.10** | 6.0 |
| **B** | Clear Specular Reflector | HPS | 8¼ | 1700C | **6VCP4** | 57.39 | **34.95** | 1.0 |
| **B** | Clear Specular Reflector w/glass lens | Metal Halide | 8¼ | 1705C | **6VCP5** | 80.62 | **49.10** | 1.0 |
| **B** | Fresnel Lens | Metal Halide, HPS | 8¼ | 1773P | **6VCP8** | 66.20 | **40.30** | 1.0 |
| **C** | 70W High Pressure Sodium Ballast | — | — | 630S | ✓ **6VCP1** | 204.03 | **124.15** | 11.0 |
| **C** | 100W Metal Halide Ballast | — | — | 740S | ✓ **6VCP2** | 224.17 | **136.40** | 10.0 |

(✓) Denotes energy efficient product.




**For complete unit order No. 6VCP0 housing, 1 trim, and 1 ballast**



No. 6VCP8



No. 6VCP4

# EMERGENCY AND EXIT LIGHTING

## SELECTION AND APPLICATION INFORMATION

### Emergency Lighting

Emergency lights are designed to provide egress lighting in critical areas during power failures. Although local codes may be more specific, emergency lights should provide illumination in halls, stairways, and other public areas. Some installations may require a remote lighting head at each exitway.

### Exit Lighting

Exit signs are designed to provide safe and dependable egress marking to help direct occupants from public areas of buildings. Local codes may vary, but exit signs should provide directional information on halls, stairways, and corridors.

### CONSTRUCTION

Material used in construction of emergency and exit lighting

**Thermoplastic**

Used extensively in unit heads and some housings. This durable, lightweight, flame resistant (U/L 94-VO) material is a perfect match for the demanding environment of life safety equipment.

**Die-Formed Steel**

No housing material matches the strength of steel. The die-formed housing with baked enamel finish makes this enclosure an economical choice.

**Die Cast Aluminum**

Provides the combination of strength, durability, and style in exit lighting.

**Universal Mounting**

The backplate of all surface mount products include pre-formed punch-out universal mounting holes. This allows the unit or exit to be mounted onto most standard j-boxes. Exits also have similar type holes that allow wall or top mounting the exit with the supplied canopy.

### ELECTRONIC COMPONENTS

All components for charging or activating the fixture in a power failure are solid state—there are no mechanical parts to wear or corrode.

**Dual Voltage**

The unit will accept both 120 or 277 volts on the primary input.

**Line Latching**

Allows connection of the battery before the primary power is activated. It is not necessary for the contractor to return to the job, a second time, to connect the battery when the AC power is permanently turned on.

**Low Voltage Disconnect**

Removes the lamp load from the battery at a preset level. This prevents over-discharging the battery. A condition that can permanently damage the battery. Automatically resets when AC power is restored.

**Brownout**

Activates the emergency lighting when an AC brownout condition exists (80% of normal voltage) on the primary supply. This reduction in power may cause ballasted fixtures to extinguish, leaving the area without lighting, even though a total power failure has not occurred.

**Overload/Short Circuit**

A solid state device in the DC circuit constantly monitors the circuit load and instantly disconnects the lamps when an overload condition occurs. The device automatically resets when the trouble is removed from the circuit.

**Solid State Switching**

Solid state electronic switching ensures a smooth transfer to emergency status every time. Accurate, continuous sensing of the AC power supply provides instant changeover to battery power when a power failure occurs. Upon restoration of power, the unit will switch back to standby mode and begin recharging the battery.

### BATTERIES

**Lead Calcium**

The most popular compact, maintenance free battery is an economical choice for the standby service demands of emergency lighting. Stable internal construction, integrated vents, and a high-impact outer case allows this battery to be installed in any position.

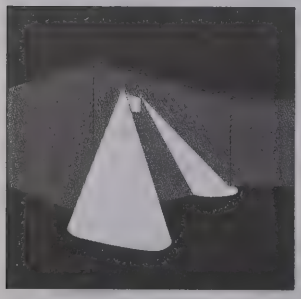
### INSTALLATION

Emergency lights should be installed in accordance with local codes. All emergency lights require a 24 hour unswitched power supply. Some units have a sufficient wattage output to power other units or remote heads. Remotes may be connected to the main unit with only DC wiring.

Batteries are sealed and maintenance free and automatically charged and recharged. A monitor light indicates that the AC power is on and a test switch is available on all units to conduct a test of the battery charger and DC lamps. All units should be tested periodically. For additional information on exit sign and emergency lighting requirements, contact your local authority.

CONTINUED ON NEXT PAGE

## ILLUMINATION

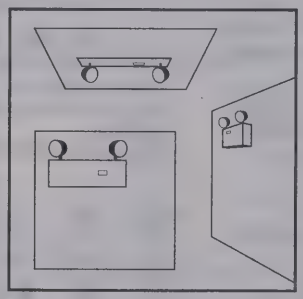


EMERGENCY

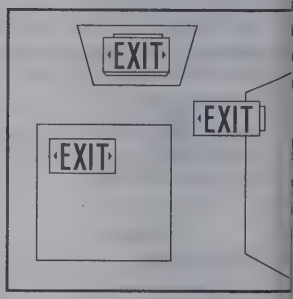



EXIT

## MOUNTING CHOICES



EMERGENCY




EXIT



When it comes to lighting, no distributor outshines Grainger.

# SELECTION AND APPLICATION INFORMATION

## Helpful Hints

### What factors should be considered when designing an emergency exit lighting system?

-Local codes

-Mounting height

-Direction of lamps to minimize glare and
/e contact

-Environment—to be sure that equipment
compatible with explosive or corrosive
mospheres—a concern in areas like oil
elds or industrial plants

-Operating temperature—the placement
the unit in areas with high or low ambi-
nt temperatures can seriously degrade
ther the performance of the unit or life
xpectancy of the battery

-Mobility of visitors and/or their familiar-
y with a facility. In areas where evacua-
on may take extra time because of physi-
al impairments or surroundings unfamil-
r to infrequent visitors, (important in
ospitals, doctors' offices, nursing homes,
c.), it may be desirable to raise the level
f illumination above the minimum
equired or to extend the discharge time
eyond 90 minutes

-Narrow exit stairwells—it may be neces-
ary to increase the level of illumination
here narrow or steep stairwells are used
or exit

### How should emergency lighting be tested?

All emergency lighting equipment is supplied with a test switch for checking illumination. The Life Safety Code 101 addresses testing for the first time and will require that all emergency lighting systems be tested at least monthly for 30 seconds and yearly for 90 minutes. Written records must be kept and provided for verification upon request during inspections.

### How should emergency lighting equipment be maintained?

All emergency lighting including "maintenance-free" equipment requires periodic inspection and maintenance. The words "maintenance-free" refer to the battery. To service "maintainable batteries" the manufacturers instruction manual should be consulted. Maintenance-free batteries should be replaced as required when they no longer provide sufficient output to maintain the lighting load. In addition, the lenses of emergency lighting fixtures should be cleaned periodically to ensure optimum light transmission.

### Can maintenance-free batteries be used as substitutes/replacements in units originally equipped with maintainable batteries?

No, they cannot! Maintenance-free batteries require different charging techniques as well as important safeguards for the discharge of the battery.

### Can maintainable equipment be replaced with maintenance-free equipment?

Typically when replacing maintainable equipment with maintenance-free equipment both the emergency unit and all lamp heads should be replaced. This ensures that wattage requirements do not exceed the battery's capabilities to power the head for a minimum of 90 minutes which conforms with the National Electrical Code. Always check with a local electrical inspector for possible additional local code requirements.

### What standard features should be included in emergency lighting equipment?

The features that a user of emergency lighting equipment should look for are solid state charger, maintenance-free battery, low voltage disconnect, properly designed lighting heads, and overload protection.

### Are all competitive units the same?

All reputable manufacturers' equipment is generally UL Listed which means that the equipment meets the minimum standards set by UL for emergency lighting equipment. However, that is where the similarity in equipment ends. Before purchasing equipment compare the standard features of several brands of equipment.

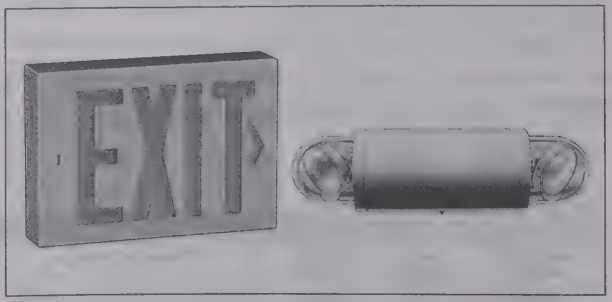
## EMERGENCY/EXIT ECONOMIC COMPARISON

| Description | Incandescent | LED |
|---|---|---|
| ypical Cost | $45.00 | $56.10 |
| amp Cost | $3.00 | N/A** |
| lumber of Lamps | 2 | 2 LED Modules |
| amp Life | 5000 Hours | 20 years |
| abor Rate | $20.00/Hour | $20.00/Hour |
| nput Watts | 30 | 5.9 |
| nergy Costs | 0.10/KWHR | 0.10/KWHR |
| telamping Labor | 0.15 Hours | N/A |
| ystem Life | 10 Years | 20 Years |
| **Annual Costs** | | |
| amp Maintenance* | $15.77 | N/A |
| nergy Costs† | 26.28 | 5.17 |
| perating Costs | 42.05 | 5.17 |
| wning Costs# | 46.55 | 7.98 |

*) Annual lamp maintenance = (Relamping Hours x Labor Rate x 8760 Hours/Lamp Life) + (Number of Lamps x Lamp Cost x 8760 Hours/Lamp Life).
†) Energy Cost = Input Watts x $KWHRS x 8760. (#) Annual Owning Cost = Initial Cost/System Life + Annual Operating Cost.
Assumptions: Analysis does not use time value of money and compares single face exits.
**) LED lamp modules are not replaceable

## EXIT SIGN SELECTION GUIDE

| Housing Type | Lamp Type | | | |
|---|---|---|---|---|
| | Incandescent | Compact Fluorescent | Light Emitting Diode (LED) | Self Diagnostic |
| Steel / Aluminum | p. 1148, 1147 | p. 1148, 1147 | p. 1148, 1147 | p. 1137 |
| Thermoplastic | p. 1147, 1145 | — | p. 1149 | p. 1137, 1146 |
| Die-Cast Aluminum | — | p. 1146 | p. 1145, 1146 | — |
| Vandal Resistant | p. 1149 | — | p. 1149 | — |
| Combination Exit / Emer. Light | p. 1144 | — | p. 1144 | p. 1137 |



# SELF-DIAGNOSTIC EXIT SIGNS & EMERGENCY FIXTURES

Solid-state microprocessor-based system continually monitors the battery, lamps, charger/transfer circuit and input transformer of the fixture to detect functional failures, pinpoints the cause, and communicates the diagnostic information using both visual and audible indicators to alert service personnel.

**Automatic Testing:** Continuous monitoring of battery charger/transfer circuit and input transformer. Lamps are tested once each day for less than 0.1 second to insure components are working. Lamps are continually monitored in emergency mode. A monthly test checks the battery, charger/transfer circuit and lamps. Every 6 months it conducts an automatic full battery capacity test.

**Manual Testing:** Two manual test types are available. A 5-minute confidence test or a full battery capacity test can be executed with a press of the test switch; a second press of the test switch delays the latter test for 36 hours.

**Automatic Lamp Load Calibration:** Automatically measures the system lamp load at AC power up. No potentiometers to adjust and no jumpers to move, thus saving installation labor. Any time a change is required to the lamp load, just disconnect the AC power and battery, and the system recalibrates.

**In-Field Programmability:** Operating parameters are field programmable by pressing the test button. No need to move PC board jumpers or set board switches.

**System Test Abuse Restriction (STAR) Feature:** Prohibits excessive manual testing by limiting the full capacity tests to one per day and 5-minute confidence tests to four per day.

**Solid-state Transfer:** No mechanical relays to reduce fixture reliability.

**Watchdog Timer:** Resets the microprocessor in the event of a fault that interferes with normal operation.

**Sense Resolution:** Senses, measures and calibrates with an accuracy of ±0.1%. This degree of accuracy eliminates the possibility of false indications.

**Visual Diagnostic Indicator:** A single tri-color (red, yellow, green ) LED indicates fixture status by its color and flash rate. In the stand-by mode, the tri-color LED also indicates charge status.

**Audible Diagnostic Indicator:** When a failure occurs, indicator alerts service personnel of the need for attention by beeping in a pulsing fashion. It can also be field programmed to sound continuously or to be disabled.

**COOPER** Lighting
SURE-LITES

**Sure-Lites®**
*WatchGuard EMS*

| | Indicator | Meaning |
|---|---|---|
| Green Indicator Lights | ○ *Steady* | Float Charge |
| | ○ *Pulse* | High Charge |
| Red Indicator Lights | ○ *Pulse* | Battery Capacity Failure |
| | ○-○ | Battery Open |
| | ○-○-○ | Transformer Failure |
| | ○-○-○-○ | Battery Charger Failure |
| Yellow Indicator Lights | ○ *Pulse* | Emergency Lamp Failure |
| | ○-○ | Emer. Lamp Short/Overload |
| | ○-○-○ | Exit Lamp Failure |
| | ○-○-○-○ | Exit Lamp Short/Overload |

**Press test switch to silence failure alarm.**

Sure-Lites self-diagnostic units automatically conduct various tests to ensure optimum system performance and compliance with the NFPA 101 Life Safety Code.

- **Once per day the lamps are tested for less than 0.1 second to ensure that the lamps are in good working condition.**
- **Every 30 days a 60-second test is performed to test the battery, charger/transfer circuit, lamps and transformer.**
- **Every 6 months a full battery capacity test is performed.**
- **A tri-color LED diagnostic indicator alerts service personnel of fixture status or problems prior to an emergency situation.**

# SELF-DIAGNOSTIC EMERGENCY FIXTURE

**Housing:** All components are injection molded, high impact UL 94-5V rated polycarbonate material. White finish.

**Lamps:** Include (2) incandescent 5.4 watt PAR36 type lamps.

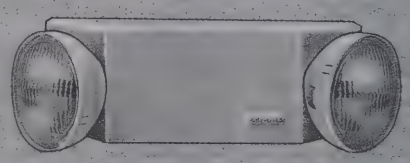
**Battery and Charger:** Maintenance-free long-life lead calcium battery. Fully automatic solid state charging system provides minimum of 90 minutes of emergency power. Low voltage disconnect prevents total battery discharge during long power failures. Brownout circuit activates fixtures even though a total power failure has not occurred.

**Installation:** Housing has keyhole mounting slots and knockouts in rear and side for AC connections. Universal pattern knockouts on rear allow easy mounting to industry standard boxes.

**Approvals:** UL 924 Listed (E65048). Meets all applicable NEC, OSHA, and NFPA Life Safety Codes. Sure-Lites brand.

**COOPER** Lighting
SURE-LITES

UL E65048



## SELF-DIAGNOSTIC EMERGENCY FIXTURES SPECIFICATIONS AND ORDERING DATA

| Wattage @ 90 Min. | Ouput Volts (DC) | Input Volts (AC) | Dimensions (Inches) L | W | H | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **10.8** | 6 | 120/277 | 17½ | 6⅜ | 4¾ | CC-3-WHSD | **3JL32** | $192.31 | **$163.50** | 6.7 |

# SELF-DIAGNOSTIC EXIT SIGNS & EMERGENCY FIXTURES

## SELF-DIAGNOSTIC LED POLYCARBONATE EMERGENCY EXIT SIGN & EMERGENCY EXIT SIGN WITH EMERGENCY FIXTURE

**ousing:** Injection molded, high impact UL-4-5V rated polycarbonate. White textured nish. Snap-fit construction. Reinforcing ibs. Molded-in wireways. Snap-out hevron directional indicators. Red let-ers. Configure as single or double face.

**amps:** Long life LED lamp modules pro-ide uniform diffused illumination. No. JL35 has two 6 volt, 9 watt PAR36 sealed-eam type lamps.

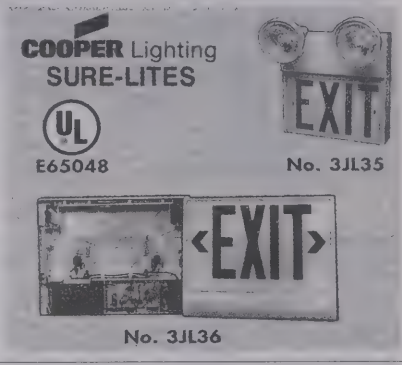
**attery and Charger:** Maintenance-free long-fe lead calcium battery. Fully automatic olid state charging system provides a min-num of 90 minutes of emergency power. Low voltage disconnect, brownout circuit protection. All electronics and battery housed inside. Input volts (AC): 120/277. Output volts (DC): 6.

**Installation:** Snap-fit canopy with captive mounting screws. Backplate has universal mounting pattern for mounting to junction box. Push-in AC power connectors, snap-fit construction throughout.

**Approvals:** UL 924 Listed (E65048). Meets all applicable NEC, OSHA, and NFPA Life Safety Codes.

Accessories and replacement batteries, see 1152

| Description | Dimensions (Inches) L | W | H | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| LED Emergency Exit w/Emerg. Fixture | 17½ | 6⅜ | 12¾ | CCX70RWDHSD | **3JL35** | $333.00 | **$287.50** | 6.7 |
| LED Emergency Exit | 13 | 2¼ | 10 | CCX70RWHSD | **3JL36** | 280.55 | **238.50** | 6.7 |




## SELF-DIAGNOSTIC STEEL LED EXIT SIGN & EXIT SIGN WITH EMERGENCY FIXTURE

**lousing:** 20-gauge steel with corrosion esistant white baked enamel finish. Red etters. Backplate has universal knockout attern for mounting directly to junction ox.

**attery and Charger:** Includes maintenance-ree sealed lead calcium battery. Fully utomatic solid state charging system pro-ides a minimum of 90 minutes of emer-gency power. Low voltage disconnect, rownout circuit protection. All electron-cs and battery housed inside. Input volts AC): 120/277. Output volts (DC): 6.

**amps:** Long life LED lamp modules. No. JL44 has (2) 6 volt, 9 watt PAR36 sealed beam type lamps.

**Exit Face Assembly:** Letters 6" high with 3/4" stroke. Red polycarbonate color panel. Knockout chevrons for conversion to directional sign. Includes two panels for single or double face application.

**Installation:** Includes mounting canopy for wall, ceiling, or end mount applications. Backplate has universal mounting pattern knockouts for installation to junction box.

**Approvals:** UL 924 Listed (E65048). Meets all applicable NEC, OSHA, and NFPA Life Safety Codes.

Accessories and replacement batteries, see page 1152

| Description | Dimensions (Inches) L | W | H | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| LED Emergency Exit | 12¼ | 2¼* | 12⅛* | UN1SRWLEDSD | **3JL42** | $278.75 | **$246.25** | 9.1 |
| LED Emergency Exit w/Emerg. Fixture | 12¼ | 6¾ | 12¾ | UHH1SRWDHLSD | **3JL44** | 330.00 | **287.50** | 9.1 |

*) Using mounting canopy adds 4⅝" to width and 1¼" to height




## SIGNATURE® SELF-DIAGNOSTIC CAST-ALUMINUM LED EMERGENCY EXIT SIGNS

**Diagnostics:** Self-diagnostic testing for five minutes every 30 days and 30 minutes every six months. Single multi-chromatic LED indicator displays two-state charging, test activation, and three-state diagnostic status. Test switch for manual activation of 30-second diagnostic testing. Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition.

**Housing:** Compact, ultra-slim molded die-cast aluminum housing.

**Battery and Charger:** Sealed, maintenance-free nickel-cadmium battery delivers 90 minutes capacity to lamp and automatically recharges after battery discharge. Single-point microcomputer control for all electronic features. Two-state constant-current charging to maximize battery life.

**Lamps:** Long-life LED lamps offer low energy consumption - only 1.5W.

Exit Face Assembly: Letters are 6" H with 3/4" stroke.

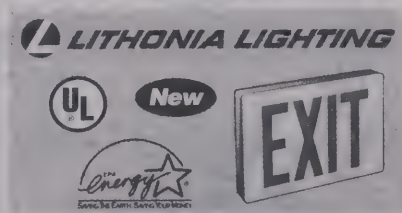
**Installation:** Universal mounting (top, end, or back). No exposed hardware. die-cast aluminum canopy included.

**Dimensions:** 11⅜ L x 7⅞ H x 1¾" W.

**Approvals:** UL listed. Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards. Meets Energy Star standards.

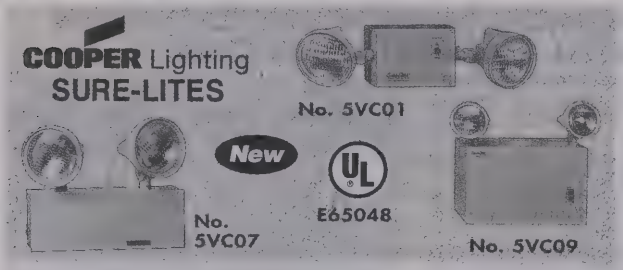
Accessories and replacement batteries, see page 1153

- **120/277 Input Volts (AC)**




| Description | Input Volts (AC) | Watts (Max.) | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **EMERGENCY EXIT SIGNS WITH WHITE FINISH HOUSING** | | | | | | | |
| Red, Single Face | 120/277 | 1.4 | LE S W 1 R 120/277 EL N | **4PH38** | $173.27 | **$161.50** | 6.3 |
| Green, Single Face | 120/277 | 1.7 | LE S W 1 G 120/277 EL N | **4PH34** | 231.13 | **215.00** | 6.3 |
| Red, Double Face | 120/277 | 1.4 | LE S W 2 R 120/277 EL N | **4PH35** | 182.99 | **170.25** | 6.1 |
| Green, Double Face | 120/277 | 1.7 | LE S W 2 G 120/277 EL N | **4PH37** | 250.26 | **232.75** | 6.1 |
| **WITH MATTE BLACK FINISH/BRUSHED ALUMINUM FACE** | | | | | | | |
| Red, Single Face | 120/277 | 1.4 | LE S 1 R 120/277 EL N | **4PH27** | 173.27 | **161.50** | 6.3 |
| Green, Single Face | 120/277 | 1.7 | LE S 1 G 120/277 EL N | **4PH29** | 236.50 | **215.00** | 6.3 |
| Red, Double Face | 120/277 | 1.4 | LE S 2 R 120/277 EL N | **4PH28** | 182.99 | **170.25** | 6.3 |
| Green, Double Face | 120/277 | 1.7 | LE S 2 G 120/277 EL N | **4PH30** | 256.02 | **232.75** | 6.3 |

# COMMERCIAL & INDUSTRIAL EMERGENCY EXIT LIGHTING




## COMMON FEATURES

**Applications:** Commercial, institutional, and public facilities where moderate loads, economy, ease of installation, safety, and reliability are important.

**Housing:** Sturdy, corrosion-resistant metal housings.

**Lamps:** Includes (2) incandescent 9 watt PAR36 type lamps; No. 5VC01 (2) 3.6 watt PAR36 type lamps.

**Battery and Charger:** Maintenance-free long-life lead calcium battery. Fully automatic solid state charging system provides minimum of 90 minutes of emergency power. Low voltage disconnect prevents total battery discharge during long power failures. Brownout circuit activates fixtures even though a total power failure has not occurred. AC line-latching reduces installation labor.

**Installation:** Housing has keyhole mounting slots and knockouts in rear and side for AC connections. Models with remote capability have an additional slot and knockout on top for AC/DC wiring connections. Universal pattern knockouts on rear allow easy mounting to industry standard boxes.

**Approvals:** UL 924 Listed (E65048). Meets all applicable NEC, OSHA, and NFPA Life Safety Codes. Sure-Lites brand.

## ECONOMY, COMMERCIAL EMERGENCY LIGHT

**Housing:** 18-gauge steel housing with white finish. Matching finis thermoplastic Noryl heads adjust 180°.

**Input/Output:** 120/277VAC input, 6V, 10.8 watt output for 90 min utes.

Dimensions: 18½L x 2¾W x 4⅝"H.

## GENERAL PURPOSE, COMMERCIAL EMERGENCY LIGHT

**Housing:** 22-gauge steel housing with white finish. Matching finis thermoplastic Noryl heads permit 80° vertical adjustment an 358° rotation.

**Input/Output:** 120/277VAC input, 6V, 18 watt output for 90 min utes.

Dimensions: 12¼L x 2¼W x 9⅛"H

## COMMERCIAL/INDUSTRIAL EMERGENCY LIGHTS (WITH REMOTE CAPABILITY)

**Applications:** These fixtures offer the extra capacity of a central ized emergency lighting power source. Additional lighting may b added by wiring remote heads, lamps, and exits to the basic unit The number of remote heads possible is determined by totalin the remote wattage load plus 18W fixed load and matching to th fixture's maximum output. Order remote lighting heads below.

**Housing:** 18-gauge steel housing with choice of white or gray fin ish. Matching impact-resistant molded thermoplastic heads Three dimensional swivel assembly allows 80° vertical adjust ment and 358° rotation.

**Input/Output:** 120/277VAC input (see table for output voltages an rated wattages).

**Dimensions:** Nos. 3V888, 3V889, and 5VC08, 12¼L x 2½W x 13¼"H; Nos. 3V890, 3V891, and 5VC09, 12¼L x 4¼W x 13¼"H No. 7V240, 17L x 8W x 16⅞"H.

**For Additional Accessories and Replacement Batteries, See Page 1152.**

| Wattage at 90 Minutes | Output Volts (DC) | No. of 12W* Remotes (Not Included) | Finish | Sure-Lites Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **ECONOMY, COMMERCIAL EMERGENCY LIGHT** | | | | | | | | |
| **10.8W** | 6V | — | White | LM1 | **5VC01** | $93.82 | **$49.75** | 6.0 |
| **GENERAL PURPOSE, COMMERCIAL EMERGENCY LIGHT** | | | | | | | | |
| **18** | 6 | — | White | AA1 | **5VC07** | 114.56 | **66.15** | 7.0 |
| **GENERAL PURPOSE EMERGENCY LIGHTS (with Remote Capability)** | | | | | | | | |
| **27** | 6 | 0 | White | XR3 | **3V888** | 115.04 | **78.45** | 12.0 |
| **36** | 6 | 1 | White | XR7 | **3V889** | 141.67 | **108.20** | 10.0 |
| **54** | 6 | 3 | White | XR11 | ***New*4PJ37** | 262.14 | **159.75** | 15.0 |
| **54** | 12 | 3 | White | XR12208 | **5VC08** | 230.27 | **138.20** | 16.0 |
| **INDUSTRIAL EMERGENCY LIGHTS (with Remote Capability)** | | | | | | | | |
| **87** | 6 | 5 | Gray | HR87 | **3V890** | 268.09 | **262.50** | 19.0 |
| **117** | 6 | 8 | Gray | HR117 | **3V891** | 363.62 | **293.25** | 23.0 |
| **117** | 12 | 8 | Gray | HR12117286 | **5VC09** | 357.59 | **214.50** | 24.0 |
| **360** | 12 | 28 | Gray | HR12360286 | **7V240** | 756.15 | **591.50** | 61.0 |

(*) Recommended maximum number of 12 watt remote heads.

**COOPER Lighting**
**SURE-LITES**
**REMOTE LIGHTING HEADS**

Connect the remote heads to the central fixture with DC wiring connections. The gauge of wire used determines how far the remotes can be mounted from the main fixture. Sealed beam lamps supplied with thermoplastic housing, swivel, and mounting plate. May be remote or fixture mounted. For double head requirements, combine two heads on universal mounting plate (provided). UL924 Listed (E65048). Sure-Lites brand.

## REMOTE LIGHTING HEADS

| For Use With | Wattage | Output Volts (DC) | Finish | Sure-Lites Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **XR7 (3V889), XR11 (4PJ37)** | 12W Incand. | 6 | White | 6X12WHU | **3V914** | $28.24 | **$26.90** | 1.0 |
| | 12W Halogen | 6 | White | 6T12WHU | **3V912** | 28.24 | **26.90** | 1.0 |
| **HR87 (3V890), HR117 (3V891)** | 12W Incand. | 6 | Gray | 6X12GYU | **3V915** | 28.24 | **26.90** | 1.0 |
| | 12W Halogen | 6 | Gray | 6T12GYU | **3V913** | 28.24 | **26.90** | 1.0 |
| **XR12208 (5VC08)** | 12W Incand. | 12 | White | 12X12WHU | **3V918** | 28.24 | **26.90** | 1.0 |
| | 12W Halogen | 12 | White | 12T12WHU | **3V916** | 28.24 | **26.90** | 1.0 |
| **HR12117 (5VC09), HR12360 (7V240)** | 12W Incand. | 12 | Gray | 12X12GYU | **3V919** | 28.24 | **26.90** | 0.5 |
| | 12W Halogen | 12 | Gray | 12T12GYU | **3V917** | 28.24 | **26.90** | 1.0 |

# REMOTE LIGHTING HEADS AND EMERGENCY LIGHTING FIXTURES

## 6 AND 12V METAL REMOTE LIGHTING HEADS

**Housing:** 22-ga. aluminum.

**Lamps included:** Nos. 4PH88 and 4PH89 feature a halogen sealed beam. No. 4PH90 features an incandescent sealed beam.

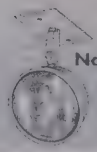
Stainless steel mounting plate (single hang) mounts flush on wall or ceiling. Designed to be used with remote capable emergency lights.

UL listed. NFPA 101 (current Life Safety Code). CSA Certified.

COOPER Lighting SURE-LITES

New

E65048



No. 4PH88

| Wattage/ Lamp Type | Output Volts (DC) | Finish | Sure-Lites Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **7.2W Incandescent** | 6 | White | 6X-7-MHWH | **4PH90** | $50.38 | **$30.25** | 1.3 |
| **12W Halogen** | 6 | White | 6T-12-MWHW | **4PH89** | 27.10 | **16.25** | 1.2 |
| **12W Halogen** | 12 | White | 12T-12-MHWH | **4PH88** | 52.95 | **31.80** | 1.2 |

## 6V REMOTE PLASTIC HEADS

**Housing:** Weatherproof, impact-resistant thermoplastic. Gray color. Single head remote.

**Lamp included:** 6V incandescent sealed beam.

**Installation:** Die-cast gasketed mounting plate.

**Approvals:** UL and C-UL listed. CSA certified.

COOPER Lighting SURE-LITES

New

E65048



No. 4PH91

| Wattage/ Lamp Type | Output Volts (DC) | Finish | Sure-Lites Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **8W Incandescent** | 6 | Gray | 6X-9-W | **4PH91** | $23.46 | **$15.94** | 1.4 |

## TITAN® STEEL EMERGENCY LIGHTS

**Housing:** 20-Gauge steel housing (18 gauge housing with 7D463 and 7D464) in instrument tan color; hinged faceplate for easy maintenance.

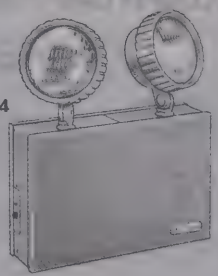
**Battery and Charger:** Maintenance-free lead calcium battery provides 90 minutes of emergency power. 10W voltage disconnect prevents total battery discharge. Short circuit protection reduces risk of shorts and maximizes battery life. Thermal protection and compensation features prevent overheating and charger failure.

**Lampheads:** 4PG94 and 4PG95 supplied with two 8 watt lampheads; 4PG96, 7D463, and 7D464 supplied with two 12 watt lampheads. Additional remote lamp heads (see below) can be used up to maximum battery wattage (except for 4PG94 which is all ready at capacity).

**Approvals:** UL listed—meets: UL 924, NFPA 101, NEC, and OSHA illumination standards. 3-year total customer satisfaction warranty.

LITHONIA LIGHTING

New



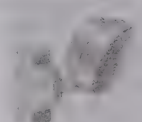
No. 4PG94

| Wattage @ 90 Minutes | Input Volts (AC) | Output Volts (DC) | Dimensions (In.) L | W | H | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **16** | 120/277 | 6 | 11⅝ | 3⅝ | 14 | ELT16 | **4PG94** | $103.95 | **$94.50** | 11.0 |
| **36** | 120/277 | 6 | 11⅝ | 3⅝ | 14 | ELT36 | **4PG95** | 162.80 | **148.00** | 19.0 |
| **50** | 120/277 | 12 | 11⅝ | 3⅝ | 14 | ELT50 | **4PG96** | 169.67 | **154.25** | 20.0 |
| **125** | 120/277 | 12 | 18 | 9 | 18 | ELT125 | **7D463** | 490.12 | **326.75** | 49.0 |
| **275** | 120/277 | 12 | 18 | 9 | 18 | ELT275 | **7D464** | 1038.00 | **692.00** | 76.0 |

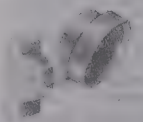
## REMOTE FIXTURES FOR EMERGENCY LIGHTING

**Housing:** Unit is strong, compact and corrosion resistant with a UL94V-0 flame rating. Simple maintenance and lamp replacement. Single heads available.

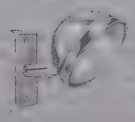
**Installation:** Fully adjustable to satisfy all aiming requirements. Glass sealed beam PAR36 lamp.



No. 4PG65



No. 4PG78



No. 4PG72

LITHONIA LIGHTING

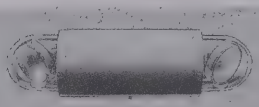
New

| Description | Wattage | Output Volts (DC) | Color | Housing | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Standard Head** | 8 | 6 | Tan | Polycarbonate | ELA N0806 | **4PG65** | $27.00 | **$24.55** | 1.2 |
| **Standard Head** | 8 | 12 | Tan | Polycarbonate | ELA N0812 | **4PG77** | 26.95 | **24.50** | 1.0 |
| **Standard Head** | 25 | 12 | Tan | Polycarbonate | ELA N2512 | **4PG63** | 27.00 | **24.55** | 1.3 |
| **PAR 36 Lighthead** | 8 | 6 | Gray | Polycarbonate | ELA NX H0806 | **4PG78** | 36.52 | **33.20** | 1.7 |
| **Metal Head** | 25 | 12 | Aluminum | Aluminum | ELA MT N2512 | **4PG72** | 32.45 | **29.50** | 1.5 |

# EMERGENCY LIGHTING FIXTURES

## EMERGENCY LIGHTING FIXTURES

COOPER Lighting SURE-LITES



No. 5VC22

E65048

**Housing:** Contemporary styled injection molded high-impact thermoplastic housing with white finish (5VC22) or black finish (3V887) and clear domes over adjustable lighting heads. 18⅛L x 5⁹⁄₁₆W x 5"H.

**Battery and Charger:** Maintenance-free, long-life 6 volt lead calcium battery. Fully automatic solid state charging system provides a minimum of 90 minutes of emergency power. Low voltage disconnect prevents total battery discharge during long power failures. Brownout circuit activates unit even without a total power failure. AC line-latching reduces installation labor.

**Lamps:** Furnished with two 5.4 watt wedge base incandescent lamps. 10.8 watt output for 90 minutes.

**Installation:** Unique wiring module with universal mounting pattern makes installation simple. Single polarized plug makes final connection to unit—tether strap eliminates need to balance unit while making wiring connections.

**Approvals:** UL 924 Listed (E65048); meets all applicable NEC, OSHA, and NFPA Life Safety Codes. Sure-Lites brand.

| Description | Input Volts (AC) | Output Volts (DC) | Finish | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Emerg. Ltg. | 120/277 | 6V | White | CU1 | 5VC22 | $101.29 | $59.00 | 5.0 |
| Emerg. Ltg. | 120/277 | 6V | Black | CU1B | 3V887 | 101.29 | 59.00 | 5.0 |

**Accessories and Replacement Batteries, see page 1152**

COOPER Lighting SURE-LITES



No. 3JL31

E65048

**Designed for installation in under two minutes.** Components snap together to facilitate installation in 2 minutes or less. Both heads have total horizontal and vertical adjustability. Housing: Injection molded, color stable, high impact UL94-5V rated polycarbonate housing and mounting plate. White textured finish.

**Battery and Charger:** Dual voltage input 120/277 VAC, 60Hz., 7.2W output for 90 minutes. Maintenance-free long-life lead calcium battery. Fully automatic solid state charging system provides a minimum of 90 minutes of emergency power. Low voltage disconnect prevents total battery discharge during long power outages. Brownout circuit activates unit even though total power failure has not occurred.

**Lamps:** Includes two incandescent 3.6W lamps. Both heads have total horizontal and vertical adjustability.

**Installation:** Can be snapped together in 2 minutes or less. Backplate has universal mounting pattern for mounting to junction box. Cutouts provided in housing for surface conduit attachment. Suitable for wall or ceiling mount applications.

**Approvals:** UL 924 Listed (E65048). Meets all applicable NEC, OSHA, and NFPA Life Safety Codes.

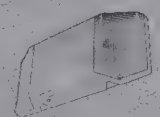
**Dimensions:** 16⅛ L x 5⅜H x 2⅝"W. Sure Lites Brand (CC2)

**No. 3JL31.** . Shpg. wt. 3.5 lbs. List ..... $65.50.
Each ..... $44.00

## QUANTUM® EMERGENCY UNIITS

LITHONIA LIGHTING

New



No. 4PH07



No. 4PH08

**Housing:** UV stabilized polycarbonate to resist discoloration, scatches and corrosion. UL 94 V-O flame rating.

**Battery and charger:** Sealed, maintenance-free, lead calcium battery provides 90 minutes of emergency power. Fully automatic solid-state charging system.

**Lampheads:** Features high temperature acrylic lens. Unique track and swivel design permits full-range adjustment of lampheads.

**Installation:** Quick-mount feature — innovative, snap-together design allows for installation in less than five minutes.

**Approvals:** Meets UL 924, NFPA 101-1991 NEC and OSHA illumination standard.

| Wattage @ 90 Mins. | Input Volts (AC) | Output Volts (DC) | Color | Dimensions (In.) L | W | H | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10.8 | 120/277 | 6 | White | 11¾ | 2⅜ | 5⅛ | ELM | 4PH07 | $53.18 | $48.35 | 3.3 |
| 10.8 | 120/277 | 6 | White | 15½ | 2⅜ | 5⅛ | ELM2 | 4PH08 | 57.69 | 46.00 | 4.1 |
| 10.8 | 120/277 | 6 | Black | 15½ | 2⅜ | 5⅛ | ELM2 B | 4PH10 | 71.55 | 65.05 | 4.1 |

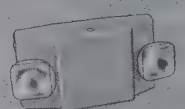
## QUANTUM® POLYCARBONATE EMERGENGY UNITS

LITHONIA LIGHTING

New



No. 4PH01



No. 7D462

**Housing:** High-impact polycarbonate housing is impact resistant, scratch-proof, corrosion-proof and UV-stabilized to resist discoloration from artifical light sources.

**Battery and charger:** Sealed, maintenance-free lead calcium battery provides 90 minutes of emergency power. Fully automatic solid-state charging system.

**Lampheads:** 4PH01 and 4PH02 supplied with two 7.2 watt lampheads. 4PG90 and 7D462 supplied with two 12 watt lampheads. Additional remote lampheads (p. 1139) can be used up to maximum battery wattage (except for 4PH01 which is already at capacity).

**Approvals:** UL Listed. Meets UL 924, NFPA 101, NEC and OSHA illumination standards.

| Wattage @ 90 Min. | Input Volts (AC) | Output Volts (DC) | Color | Dimensions (In.) L | W | H | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 120/277 | 6 | White | 16¼ | 5⅜ | 5 | 6ELM2 | 4PH01 | $77.93 | $70.85 | 5.9 |
| 24 | 120/277 | 6 | White | 16¼ | 5⅜ | 5 | 6ELM2P | 4PH02 | 86.84 | 78.95 | 9.0 |
| 50 | 120/277 | 12 | White | 18⅛ | 6¼ | 7½ | ELM4 | 4PG90 | 162.69 | 147.90 | 14.0 |
| 125 | 120/277 | 12 | White | 17¾ | 7¼ | 8⅝ | ELM10 | 7D462 | 475.50 | 317.00 | 35.1 |



When it comes to lighting, no distributor outshines Grainger.

# DECORATIVE EMERGENCY LIGHTING

## CYLINDER STYLE LIGHTING

LITHONIA LIGHTING

New



No. 4PH59



No. 4PH60

**ousing:** Black 16-gauge steel backplate. UV-stabilized white plas- head with high temperature plastic optical lens

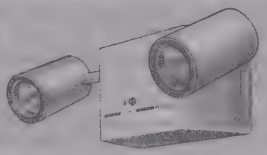
**ttery and Charger:** Sealed, maintenance-free lead calcium bat- ry provides 90 minutes of emergency power. Automatic charge after 90 minute discharge. Low voltage disconnect pre- nts excessively deep discharge that could permanently damage e battery.

**mpheads:** 4PH59 supplied with one 8 watt halogen lamp; 4PH60 pplied two 6 watt halogen lamps.

**mensions:** 4PH59 is 6¾ L x 4¾ D x 13" H; 4PH60 is 13¼ L x 4¾ W 13" H.

**pprovals:** UL Listed. Meets UL 924, NFPA 101 (current Life afety Code), NFPA 70-NEC.

| Description | Wattage 90 Min. | Input Volts (AC) | Output Volts (DC) | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| ngle Cylinder | 8 | 120/277 | 6 | ELCC 120/277 | 4PH59 | $187.82 | $170.75 | 6.5 |
| ouble Cylinder | 12 | 120/277 | 6 | ELCC T 120/277 | 4PH60 | 232.37 | 211.25 | 11.0 |



COOPER Lighting SURE-LITES

E65048

**No. 5VC28 MINIATURE CYLINDER LIGHT**

**Housing:** Sturdy corrosion and flame-resistant 18 gauge metal housing. White finish. Ideal choice for commercial and institutional installations where appearance and easy installation are important. Cylinder style metal head rotates 358° and adjusts 90°.

**Input/Output:** 120/277VAC input, 6 volt (DC) 27 watt output for 90 minutes. 24 watt output for 120 minutes (Chicago Approved).

**Battery and Charger:** Maintenance-free long-life lead calcium battery. Fully automatic solid state charging system provides a minimum of 120 minutes of emergency power. Low voltage disconnect prevents total battery discharge during long power failures. Brownout circuit activates unit even though total power failure has not occurred.

**Lamps:** Includes 2 tungsten halogen 6V, 12 watt bi-pin lamps. AC line-latching reduces installation labor.

**Installation:** Cabinet has keyhole mounting slots and knockouts in rear and side for AC and DC connections and has universal mounting pattern knockouts.

**Approvals:** UL 924 Listed (E65048). Meets all applicable NEC, OSHA, and NFPA Life Safety Codes. Chicago Approved.

**Dimensions:** 16¾L x 4W x 4⅝"H.

**Sure-Lites brand (ST1).**

**Accessories and Replacement Batteries, See Pages 1152**

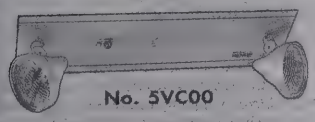
**No. 5VC28.** Shpg. wt. 6.8 lbs. List ..... $345.63.
Each ..... $190.75

## RECESSED EMERGENCY LIGHTING

COOPER Lighting SURE-LITES



No. 3V893



No. 5VC00

E65048

**Applications:** Use in areas that have little wall space or in areas hat require flexible lamp head positioning. Can also be used in lrywall or suspended ceilings.

**Housing:** Corrosion-resistant 20 gauge rough-in section/battery support. 20 gauge steel face plate finished with white polyester paint. Heads are constructed of flame-resistant and impact-resistant Noryl® 190 injection molded thermoplastic with matching white finish. Three dimensional swivel assembly permits 80° aiming adjustment from vertical and 358° rotation.

**Input/Output:** 120/277VAC input, 6VDC output for 90 minutes.

**Battery and Charger:** Long-life, maintenance-free sealed lead calcium battery. Fully automatic solid state charging system provides a minimum of 90 minutes of emergency power. Low voltage disconnect prevents total battery discharge during long power failures. Brownout circuit activates unit even though total power failure has not occurred. AC line latching reduces installation labor.

**Lamps (Included):** No. 5VC00-Two, incandescent, 9 watt PAR36 type lamps. No. 3V893-two, 3.6 watt PAR36 type lamps.

**Installation:** No. 5VC00-Flanged housing mounts easily in grid type ceilings. Cabinet has knockouts on the side for AC/DC wiring

**Connections:** Up to three lighting heads can be mounted on the face plate. No. 3V893-Rough-in section/battery support comes complete with hanger bars for installation in plaster or drywall. Includes T-bar clips for installation in suspended grid type ceilings.

**Approvals:** UL 924 Listed. Complies with NEC, OSHA, NFPA Life Safety Codes.

**Accessories and Replacement Batteries, See Pages 1152**

| Watts | Dimensions (In.) L | W | H | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 10.8 | 12⅞ | 9¼ | 5¾ | RLM1 | 3V893 | $161.30 | $124.50 | 8.0 |
| 27 | 23¾ | 6⅝ | 5⅛ | GC15012 | GC15012 | 279.78 | 163.50 | 20.0 |

**IF YOU'RE IN A BIND, CALL GRAINGER**

If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# RECESSED EMERGENCY LIGHTING

## RECESSED EMERGENCY LIGHTING UNITS

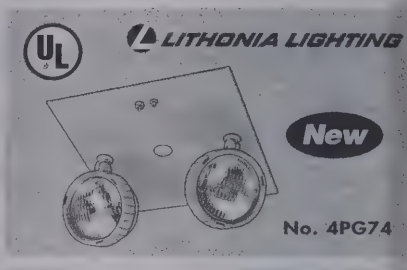
**Housing:** Flush-mount polycarbonate faceplate finished in architectural white. Heads rotate 359° to meet aiming requirements.

**Lamps:** Two 8W (4PG74) or two 12W (4PG75) glass sealed-beam lamps.

**Battery and Charger:** Sealed, maintenance-free lead-calcium battery provides a minimum of 90 minutes of emergency power. Fully automatic solid-state charging system.

**Installation:** Adjustable bar hangers for easy mounting in walls and exposed or concealed suspension ceiling systems.

**Approvals:** UL Listed. UL 924, NFPA 101, NEC and OSHA illumination standards.




| Description | Input Volts AC | Dimensions (In.) L | W | H | Output Volts DC | Wattage 90 Min. | Lithonia Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 Head Recessed Emergency Light | 120/277 | 11 5/16 | 11 5/16 | 5 3/4 | 6 | 16 | ELR2 | **4PG74** | $121.44 | **$110.40** | 7.3 |
| 2 Head Recessed Emergency Light | 120/277 | 11 5/16 | 11 5/16 | 5 3/4 | 12 | 50 | ELR4 | **4PG75** | 188.65 | **171.50** | 10.0 |

## RECESSED EMERGENCY GIMBAL LIGHTING

**Housing:** All metal housing and gimbal assembly features a matte-white baked enamel finish. Lamp adjusts in two planes to 26°.

**Lamp:** High output 8W halogen lamp head.

**Battery and Charger:** 6VDC sealed, maintenance-free lead-calcium battery provides a minimum of 90 minutes of emergency power. Fully automatic solid-state charging system.

**Input/Output:** Dual voltage input 120/277 VAC.

**Approvals:** Approved for use in air handling plenums. UL listed. UL 924, NFPA 101, NEC and OSHA illumination standards.

**Dimensions:** 8⅜ L x 8⅜ W x 8¼" H.

***New*No. 4PH46.** Shpg. wt. 3.0 lbs. List . $182.05. Each ..... **$165.50**




## FLUORESCENT EMERGENCY DOWNLIGHT

**Housing:** Rugged steel frame with integral plaster flange to accommodate plaster, sheet rock or ceiling tile construction. Galvanized steel junction box with bottom-hinged access cover and spring latches.

**Battery and Charger:** Maintenance-free nickel-cadmium batteries provide 90 minutes of emergency power.

**Lamps not included:** Operates 2/F13BX lamps, suggested Stock No. 2V835, in normal mode; powers one lamp at 500-600 lumens in emergency mode.

**Input:** 120V 60 Hz.

**Dimensions:** 13⅞ L X 8½ W x 6½" H.

**Lithonia No:** LF6-2/13TT-120 HPF EL-F602

**Approvals:** UL listed. UL 924, NFPA 101, NEC and OSHA illumination standards.

***New*No. 7D478.** Shpg. wt. 14.8 lbs. List $412.05. Each ..... **$373.00**




## INCANDESCENT EMERGENCY DOWNLIGHT




**Housing:** 20 gauge die-stamped cold rolled steel housing finished with white corrosion-resistant polyester paint. Housing adjusts in the plaster frame 1⅜" to accommodate different ceiling thicknesses. Pre-wired and IC Rated for insulated ceiling applications. Includes gimbal ring type trim with a white polyester paint. Assembly permits 40° vertical adjustment and 358° rotation. Polarized molex connectors between trim ring and housing.

**Operation:** For use as an emergency downlight only.

**Input/Output:** 120/277 VAC input, 6VDC 10.8W output for 90 mins.

**Battery and Charger:** Long-life, maintenance-free sealed lead calcium battery. Fully automatic solid state charging system provides a minimum of 90 minutes of emergency power. Low voltage disconnect prevents total battery discharge during long power failures. Brownout circuit activates unit even though total power failure has not occurred. AC line-latching reduces installation labor.

**Lamps:** Includes 9 watt PAR36 type lamp.

**Installation:** Sliding bar hangers accommodate joist spacing up to 24" on center. Trim held in place with torsion springs.

**Approvals:** UL 924 Listed (E65048), IC Rated. Complies with all applicable NEC, OSHA, and NFPA Life Safety Codes.

**Dimensions:** 13L x 8W x 7⅛"H.

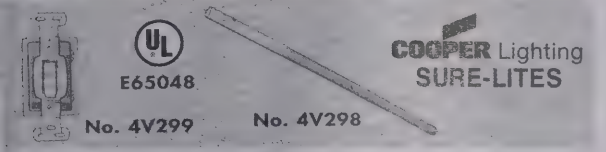
**Sure-Lites brand (RG1).**

**Accessories and Replacement Batteries Available on Page 1152**

**No. 3V894.** Shpg. wt. 8.0 lbs. List $166.43. Each ..... **$136.20**

# FLUORESCENT LIGHT STICK AND FLUORESCENT POWER PACKS

## FLUORESCENT LIGHT STICK AND SWITCH




### FLUORESCENT EMERGENCY LIGHT STICK

**pplications/Installation:** Replaces one standard four foot F40T12 apid-start bi-pin lamp in strip, wraparound, or recessed fluoresent lighting fixtures. No wiring required. 120-minute emergency peration. For switched circuits, use single pole bypass switch lo. 4V299 listed below.

**amp:** Produces 2200 lumens of cool white light under normal onditions and 600-700 initial lumens in emergency mode. **For ıdoor use only. Sure-Lites brand (SLS4).**

**lo. 4V298.** Shpg. wt. 3.5 lbs. List ..... $267.59.-
ach ..... **$170.00**

### SINGLE POLE BYPASS SWITCH

llows installation of No. 4V298 fluorescent emergency light in ny switched circuit. Replaces standard wall switch; will activate mergency light sensor during power failure. Automatically acti-ates emergency mode lamp circuits with switch On or Off. mergency battery pack charges even with bypass switch in the ff position. 120VAC. Ivory color.

**ure-Lites brand (BP12INF).**

**lo. 4V299.** Shpg. wt. 0.5 lbs. List ..... $47.69.
ach ..... **$30.30**

## FIELD INSTALLABLE FLUORESCENT POWER PACKS




**Applications:** Converts new or existing fluorescent fixtures to emergency lights. Economical method of incorporating emergency lighting without adding additional emergency lighting fixtures. May be used with magnetic and electronic ballasts, and will operate T12, T8, and 4-pin long compact fluorescent lamps.

**Installation:** Mounts inside ballast channel of most fluorescent fixtures. Must be used with existing ballast(s). Can be installed in either switched or unswitched troffers. 120/277VAC.

**Battery and Charger:** Long-life maintenance-free nickel cadmium battery. Unit will operate designated lamps at emergency levels for 90 minutes of emergency power. Upon restoration, the solid state charging circuit automatically recharges the battery to rated voltage.

**Test Switch/Indicator Light:** Push-to-test switch simulates a power failure to test the battery pack system. LED indicator light shows AC charger status.

**Approvals:** UL 924 Listed (E65048) for field retrofit installation and conforms to UL924; meets all NEC, OSHA, and NFPA Life Safety Codes. **Sure-Lites brand.**

| No. Fluorescent Lamps Powered (Ft.) | Lumens | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| One Lamp 2-4 ft. | 350-450 | FBP140X | 6VCR8 | $148.68 | $69.80 | 2.1 |
| One Lamp 2-8 ft. | 600-700 | FBP240T | 3V896 | 149.13 | 113.00 | 2.8 |
| One Lamp 2-8 ft. Two Lamps 2-4 ft. | 1100-1200 | FBP240H | 6VCR7 | 231.26 | 135.40 | 4.0 |

## POWER SENTRY® FIELD-INSTALLABLE FLUORESCENT BATTERY PACKS

**Applications:** Converts standard fluorescent fixtures and compact fluorescent downlights to emergency fixtures. Provides glare-free, vandal resistant lighting for a minimum of 90 minutes.

**Installation:** Nos. 4PG83, 4PH45, and 4PH49 have mounts concealed within fixture wireway for most fluorescent fixtures. Nos. 4PH43, 4PH11, and 4PH54 are plenum-rated for mounting next to downlight. All fixtures can be used for either switch or unswitched fixtures. 120/277V AC Input

**Battery Charger:** Sealed, maintenance-free, high-temperature nickel-cadmium battery. Ensures long life over a wide range of temperatures. 24-hour battery recharge after 90-minute discharge. External battery connectors allow battery pack to be disabled for maintenance and installation. Pilot light and test switch provide visual and manual means of monitoring system operation.

**Approvals:** UL Listed. Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards.

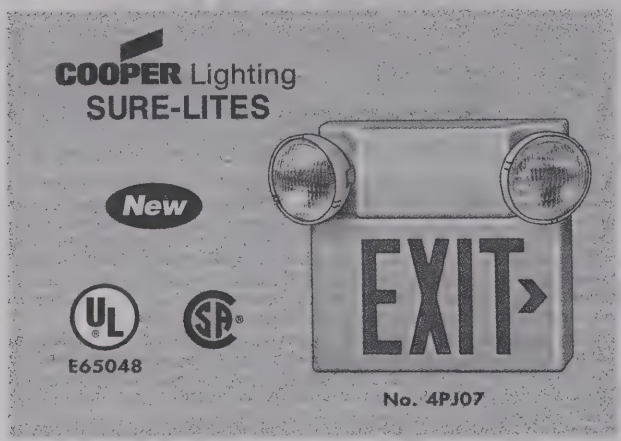



No. 4PH49

| Fluorescent Lamp Type | Housing | No. of Lamps/ Lgth. Powered (ft.) | Lamp Wattage | Lumens | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| T8, T12, HO, VHO, Compact (4-Pin) | 20-gauge steel | 1/2-8<br>2/2-4 | 16-215W<br>16-40 | 1350-1450 | PS1400 | 4PH49 | $163.70 | $157.75 | 3.0 |
| T8, T12, HO, VHO, Compact (4-Pin) | Polycarbonate | 1/2-8<br>2/2-4 | 16-215<br>16-40 | 600-700 | PS600 | 4PH45 | 115.26 | 111.00 | 2.3 |
| T8, T12, Biax | Polycarbonate | 1/2-4 | 16-40 | 300-400 | PS300 | 4PG83 | 72.36 | 69.80 | 1.9 |
| Compact FL Quad-Tube (2-Pin) | 20-gauge steel | 1/Compact | 13-26 | 500-900 | PSDL1 | 4PH43 | 172.82 | 166.75 | 4.4 |
| Compact FL Twin-Tube (2-Pin) | 20-gauge steel | 1/Compact | 9-13 | 500-600 | PSDL2 | 4PH11 | 144.87 | 139.90 | 4.5 |
| Compact FL Triple or Quad-Tube (4-Pin) | 20-gauge steel | 1-2/Compact | 13-26 | 300-750 | PSDL3 | 4PH54 | 209.75 | 202.00 | 3.0 |

# COMBINATION STEEL EXIT SIGN/ EMERGENCY LIGHTING FIXTURE

## COMBINATION STEEL EXIT SIGN/EMERGENCY LIGHTING FIXTURES




No. 4PJ07

- **Contemporary round corner styling**
- **Installation in under 5 minutes**

**Housing:** White injection molded poly-carbonate, low profile housing.

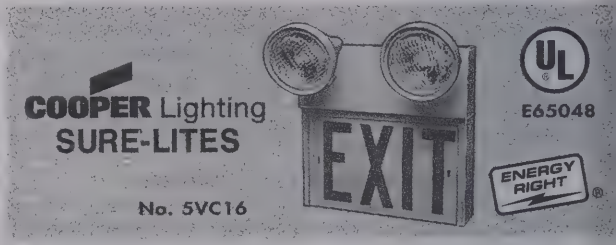
**Battery and Charger:** Sealed lead-calcium battery. Long life maintenance-free. Fully recharges in 24 hrs.

**Lamps:** AC: Incandescent uses two 145V, 15W T-6 candelabra base lamps. Suggested replacement lamp No. 4V450. Emergency lamps are two 6V, 3.6W DC base lamps.

**Installation:** All components, including canopy and chevron directional indicators, are of snap-fit construction. Installation time the fastest in the market.

**Approvals:** UL 924, NFPA 101 (Life Safety), CSA Certified, and NEC/OSHA

| Description | Input Volts (AC) | Output Volts (DC) | Sure-Lites Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Self-Powered Exit/Emergency Light | 120/277 | 6 | CCX-31-RWHDH | 4PJ07 | $293.76 | $149.50 | 12.0 |




No. 5VC16

**Housing:** 20-gauge steel with corrosion-resistant white polyester paint finish. Backplate has universal knockout pattern for mounting directly to junction box. 12¼L x 2¼W x 12¼"H.

**Battery and Charger:** Power pack automatically illuminates EXIT sign for minimum of 90 minutes following interruption of normal AC power. Power pack supplied with 6 volt maintenance free sealed lead calcium battery. AC line-latching reduces installation labor.

**Lamps:** No. 5VC16 includes two 20W, T6 1/2 lamps with 5000 hours plus expected lamp life; No. 3JL43 includes two long life LED lamp modules. Two 6 volt 3.6 watt DC lamps provide EXIT illumination and two 9 watt PAR36 type heads provide emergency illumination. 27 watt output for 90 minutes. Recommend No. 4V479 20W replacement lamps for No. 5VC16.

**Exit Face Assembly:** Letters 6" high with 3/4" stroke. Red fiberglass color panel. Knockout chevrons for conversion to directional sign. Includes two panels for single or double face application.

**Installation:** Universal. Includes mounting canopy for wall, ceiling or end mount applications. Backplate has universal mounting pattern knockouts for installation to junction box.

**Approvals:** UL 924 Listed (E65048); complies with NEC, OSHA, and NFPA Life Safety Codes. Sure-Lites brand.

**Accessories and Replacement Batteries, See Page 1152**

| Description | Input Volts (AC) | Output Volts (DC) | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Exit/Emerg. | 120/277 | 6V | UNH1SRWDH | 5VC16 | $239.43 | $143.75 | 15.0 |
| LED Exit/Emerg | 120/277 | 6V | UNH1SRWDHL | ↙ 3JL43 | 256.80 | 211.75 | 13.0 |

## QUANTUM® POLYCARBONATE EXIT SIGN/ EMERGENCY LIGHTING FIXTURES

**Housing:** Streamlined design is only 10 inches tall. Engineering-grade polycarbonate housing is impact- and scratch-resistant and corrosion-proof. UL94 V-0 flame rating. UV-stable resin resists discoloration from natural man-made light resources. Side-mounted lamp heads have redesigned optics to reduce glare and provide brighter illumination along the path of egress.

**Input:** 120/277 VAC

**Battery and Charger:** Sealed, maintenance-free lead-calcium battery delivers 90 minutes capacity to lamps. Automatic recharge after 90 minutes. Test switch and LED to monitor system.

**Lamps:** Nos. 4PH15 and 4PH16 feature long-life incandescent lamps; 5W, T-6 style. Suggested replacement No. 4V450. Nos. 4PH20 and 4PH19 feature long-life LEDs that offer low energy consumption - only 2.5 watts.

**Installation:** QUICK-MOUNT installation. Innovative, snap-together design allows for installation in less than five minutes.

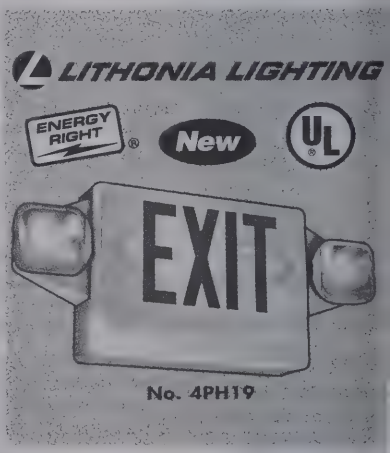
**Approvals:** UL listed. Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards.

**Dimensions:** 22¾"L x 4"Wx 10¼"H

**Accessories and Replacement Batteries, See Page 1153**

| Description | Watts (Max.) | Output Volts (DC) | Lithonia Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Green LED Exit/Emergency | 3 | 6 | LHQM SW 3 G 120/277 | ↙ 4PH20 | $232.65 | $211.50 | 8.0 |
| Red LED Exit/Emergency | 3 | 6 | LHQM SW 3 R 120/277 | ↙ 4PH19 | 225.50 | 205.00 | 8.0 |
| Green Incandescent Exit/Emergency | 23 | 6 | HQM SW 3 G 120/277 | 4PH16 | 155.21 | 141.10 | 8.0 |
| Red Incandescent Exit/Emergency | 23 | 6 | HQM SW 3 R 120/277 | 4PH15 | 169.40 | 154.00 | 10.0 |

(↙) Denotes energy effcient product.




No. 4PH19



*When it comes to lighting, no distributor outshines Grainger.*

# POLYCARBONATE AND CAST ALUMINUM EXIT SIGNS

## INCANDESCENT POLYCARBONATE EXIT SIGNS

**Housing:** Tough, impact resistant, corrosion resistant, UV stable, scratch resistant polycarbonate with molded-in wireways. All electronics housed internally. Snap-fit canopy improves installation and frees hands for wire termination. Soft corner design and attractive white textured finish. Measures 13L x 2¾W x 8"H (AC only) and 13L x 2¾W x 10"H (Emergency).

**Lamps:** Nos. 5VC23 and 5VC24 include two extended life, 15W T6 candelabra base incandescent lamps. For replacement lamp use No. 4V450.

**Battery and Charger:** No. 5CV24 only. Dual voltage 120/277. Automatically illuminates exit sign for a minimum of 90 minutes following the interruption of normal AC power. Includes two 6 volt, 3.6 watt DC lamps for emergency illumination which is provided by a 6 volt maintenance free sealed lead calcium battery.

**Exit Face Assembly:** Injection molded polycarbonate with snap-out chevron directional indicators. Face snaps on to housing—no tools required for easy maintenance. Glass filled polyester diffuser evenly illuminates 6" high 3/4" stroke letters. Two faces provided.

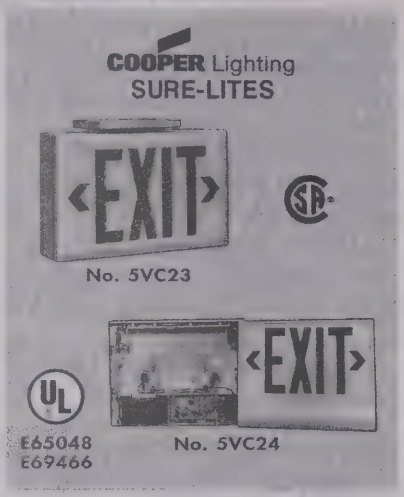
**Installation:** Universal. Snap-fit canopy and push-in wiring connectors included to ease installation. Backplate has universal knockout mounting pattern for mounting directly to junction box.

**Approvals:** UL 924 Listed (5VC23: E69466; 5VC24: E65048); also meets applicable NEC, OSHA, and NFPA Life Safety Codes. Damp Location Listed (5VC23 only). CSA Certified. Suitable for floor proximity installation.

**Sure-Lites Brand.**

**Accessories and Replacement Batteries, See Page 1152**

| Description | Input Volts (AC) | Lamp Type | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **AC (only)** | 120 | Incan. | CCX20RWH | **5VC23** | $44.89 | **$22.60** | 2.9 |
| **Emergency** | 120/277 | Incan. | CCX30RWH | **5VC24** | 44.89 | **22.60** | 6.0 |




## SIGNATURE® CAST-ALUMINUM LED SIGNS

**Housing:** Smallest die-cast aluminum exit in the market.

**Voltage:** AC only. 120/277 VAC.

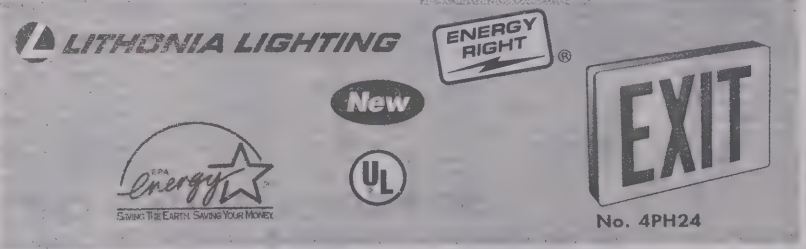
**Lamps:** Long-life LEDs offer low energy consumption — less than one total watt of power. Red or Tru-Green™ LEDs utilize high quality, state-of-the-art LED technology. Provides perfectly uniform illumination. Meets Energy Star standards.

**Exit Face Assembly:** Brushed aluminum with matte black electrostatic polymeric trim. Hinged faceplate and spring latches for easy lamp access. Letters are 6" high with 3/4" stroke.

**Installation:** Top, end or back mounting. Completely concealed, easily removed mounting knockouts.

**Dimensions:** 11⅜"L x 1¾" x W x 7⅞" H.

**Approvals:** UL Listed. Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards.




| Description | Input Volts (AC) | Watts (Max.) | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ALUMINUM EXIT SIGNS WITH WHITE FINISH HOUSING** | | | | | | | |
| **Red, Single Face** | 120/277 | 1.2 | LE SW 1 R 120/277 | ✓ **4PH36** | $125.13 | **$116.55** | 4.7 |
| **Green, Single Face** | 120/277 | 1.3 | LE SW 1 G 120/277 | ✓ **4PH39** | 163.70 | **161.00** | 4.7 |
| **Red, Double Face** | 120/277 | 1.2 | LE SW 2 R 120/277 | ✓ **4PH33** | 134.85 | **127.70** | 4.5 |
| **Green, Double Face** | 120/277 | 1.3 | LE SW 2 G 120/277 | ✓ **4PH40** | 173.27 | **164.25** | 4.7 |
| **ALUMINUM EXIT SIGNS — MATTE BLACK FINISH/BRUSHED ALUMINUM FACE** | | | | | | | |
| **Red, Single Face** | 120/277 | 1.2 | LE S1 R 120/277 | ✓ **4PH24** | 127.49 | **115.90** | 4.7 |
| **Green, Single Face** | 120/277 | 1.2 | LE S 1 G 120/277 | ✓ **4PH25** | 180.40 | **164.00** | 4.7 |
| **Red, Double Face** | 120/277 | 1.3 | LE S 2 R 120/277 | ✓ **4PH23** | 137.99 | **125.45** | 4.5 |
| **Green, Double Face** | 120/277 | 1.3 | LE S 2 G 120/277 | ✓ **4PH26** | 191.12 | **173.75** | 4.5 |

(✓) Denotes energy efficient product.

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away.

Check the Branch Locations listed in the front of this catalog for the location closest to you.

# CAST ALUMINUM AND POLYCARBONATE EXIT SIGNS

## DIE-CAST ALUMINUM EXIT SIGNS

**Housing:** Rugged, die-cast aluminum alloy with white finish. 13⅝L x 8¼H x 2¼"W.

**Exit Face Assembly:** Letters are evenly illuminated to 3/4" stroke required by NFPA101. Knockout chevrons cover LED lamps. Protective optical diffuser.

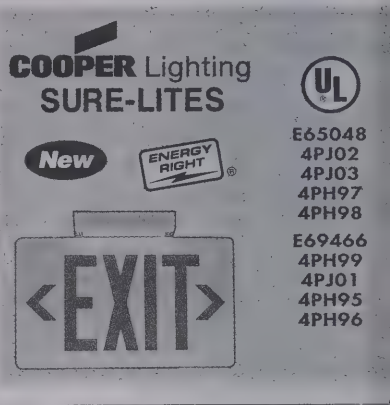
**Lamps:** LED models feature multiple pinpoint LED sources and optical diffusers provide even illumination. LED panel service life: more than 25 years. LED lamp assembly needs no maintenance or replacement under normal operating conditions. No protruding diodes to gather dust, reduce brightness. Flourescent models have two F5 Biax, compact flourescent lamps. Suggested replacement lamp, No. 2V891.

**Installation:** Low-profile canopy included for ceiling or end mounting. Universal knockout pattern for surface mounting directly to junction box.

**Approvals:** UL 924 Listed (6F537, 6F538: E65048; 6F536, 6F539: E69466). Suitable for floor proximity installation. Meets/-exceeds all applicable UL, NEC, OSHA, and NFPA Life Safety Codes. Complies with ADA requirements for surface mounted fixture depth. Damp location listed (6F536 and 6F537 only).

**EMERGENCY EXIT SIGNS**

**Battery and Charger:** Includes maintenance-free sealed nickel cadmium batteries (min. life expectancy of 15 years). Includes labor saving AC line latching, low voltage disconnect, solid-state switching, brown-outprotection,andshort circuit/overload protection. Recharges within maximum time limit allowable per codes. All components located inside exit sign housing.




E65048
4PJ02
4PJ03
4PH97
4PH98

E69466
4PH99
4PJ01
4PH95
4PH96

| Description | Lamp Type | Letter Color | Watts | Input Volts AC | Sure-Lites Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **AC ONLY EXIT SIGNS** | | | | | | | | | | |
| **Single Face** | LED | Red | 5.4 | 120/277 | CAX610000RW | | ✓6F536 | $266.40 | **$150.00** | 6.5 |
| **Single Face** | LED | Green | 5.4 | 120/277 | CAX610000GW | *New* | ✓4PH99 | 266.40 | **150.00** | 6.0 |
| **Double Face** | LED | Red | 7.7 | 120/277 | CAX620000RW | | ✓6F539 | 355.20 | **214.00** | 7.4 |
| **Double Face** | LED | Green | 7.7 | 120/277 | CAX620000GW | *New* | ✓4PJ01 | 355.20 | **214.00** | 7.5 |
| **Single Face** | Fluorescent | Red | 7.7 | 120 | CAX410000RW | *New* | ✓4PH95 | 141.00 | **84.65** | 6.1 |
| **Double Face** | Fluorescent | Red | 7.7 | 120 | CAX420000RW | *New* | ✓4PH96 | 151.00 | **90.80** | 6.2 |
| **EMERGENCY EXIT SIGNS** | | | | | | | | | | |
| **Single Face** | LED | Red | 8.7 | 120/277 | CAX717000RW | | ✓6F538 | 377.40 | **229.00** | 7.6 |
| **Single Face** | LED | Green | 8.7 | 120/277 | CAX717000GW | *New* | ✓4PJ02 | 377.40 | **229.00** | 9.0 |
| **Double Face** | LED | Red | 10.7 | 120/277 | CAX727000RW | | ✓6F537 | 466.20 | **292.00** | 8.4 |
| **Double Face** | LED | Green | 10.7 | 120/277 | CAX727000GW | *New* | ✓4PJ03 | 466.20 | **292.00** | 9.0 |
| **Single Face** | Fluorescent | Red | 10.7 | 120/277 | CAX510000RW | *New* | ✓4PH97 | 282.00 | **169.25** | 12.0 |
| **Double Face** | Fluorescent | Red | 10.7 | 120/277 | CAX520000RW | *New* | ✓4PH98 | 292.00 | **175.50** | 11.0 |

## LED POLYCARBONATE EXIT SIGNS

Available in AC only and self-powered emergency versions. Install in 5 minutes. High visibility LED lamps.

**Housing:** Injection molded, high impact UL-94-5V rated polycarbonate. White textured finish; snap-fit construction; reinforcing ribs. Wireways aid routing, connections. Snap out chevron directional indicators. Configures as single or double face.

**Input/Output:** Dual Voltage input 120/277 VAC, 60 Hz. Provides at least 90 min. of emergency illumination.

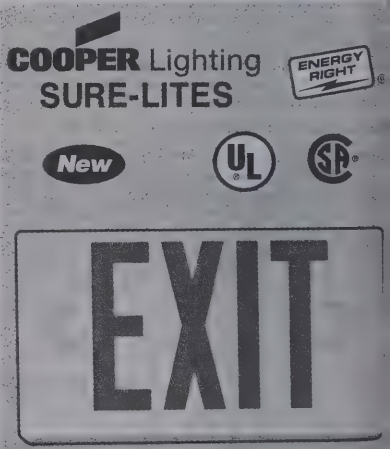
**Battery and Charger:** Emergency self-powered models have maintenance-free long-life lead calcium battery. Fully automatic solid state charging system for at least 90 min. of emergency power. Low voltage disconnect, brownout circuit protection. All electronics and battery are within housing.

**Lamps:** Both fitted with long life LED lamp modules.

**Installation:** Snap-fit canpoy with captive mounting screws. Backplate has universal mounting pattern for mounting to junction box. Push-in AC power connectors.

**Approvals:** UL 924 Listed (E65048). CSA certified. Suitable for floor proximity.

**Dimensions:** 13L x 7½H x 2⅛"W.




No. 4PJ25

| Letter Color | Watts | Input Volts (AC) | Sure-Lites Model | | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **AC ONLY EXIT SIGNS** | | | | | | | | |
| **Red** | 2.5 | 120/277 | LPX60RWH | ✓ | **4PJ26** | $98.10 | **$52.35** | 3.3 |
| **Green** | 5.9 | 120/277 | LPX60GWH | ✓ | **4PJ25** | 101.20 | **56.10** | 3.3 |
| **EMERGENCY EXIT SIGNS** | | | | | | | | |
| **Red** | 2.9 | 120/277 | LPX70RWH | ✓ | **4PJ28** | 110.10 | **67.70** | 3.3 |
| **Green** | 6.4 | 120/277 | LPX70GWH | ✓ | **4PJ27** | 114.60 | **73.80** | 3.3 |

(✓) Denotes energy efficient product

A NATIONWIDE NETWORK OF BRANCH LOCATIONS

Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.

# POLYCARBONATE AND STEEL EXIT SIGNS

## QUANTUM® INCANDESCENT POLYCARBONATE EXIT SIGNS

**ousing:** Precision-molded polycarbonate ousing is corrosion-proof, impact- and cratch-resistant. UL94 V-0 flame rating. JV-stable resin resists discoloration from atural man-made light resources.

**amps:** Use 15W T6 lamp type. Replacement amp is No. 4V450.

**nstallation:** QUICK-MOUNT installation. nnovative, snap-together design allows or installation in less than five minutes.

**xit Face Assembly:** Fully assembled single-face exit with optional extra faceplate for easy field conversion to double face. Uniform graphics illumination without shadows or hot spots. Reinforced, impact-resistant color panels. No. 4PH32 includes red and green panel.

**Installation:** Universal (top, end or back) mounting.

**Approvals:** UL listed for damp locations. Meets UL924, UL 1571, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards.

LITHONIA LIGHTING




No. 4PH18

| Description | Input Volts (AC) | Dimensions (In.) L | W | H | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| ed, AC Only | 120 | 12¼ | 2 | 7½ | QM S W 3 R 120 | 4PH18 | $22.72 | $21.13 | 2.6 |
| ed, Green, AC Only | 120 | 12¼ | 2 | 7½ | QM S W 3 R/G 120 | 4PH32 | 26.66 | 24.24 | 2.0 |
| ed Emergency | 120/277 | 13 | 2⅝ | 9⅞ | QM S W 3 R 120/277 EL | 4PH06 | 101.53 | 92.30 | 7.3 |

## UNIVERSAL AC-POWERED STEEL EXIT SIGNS

**ncandescent, Fluorescent, and LED Models:** Durable, all steel sign for general purpose xit lighting. For use in commercial, institutional, and multi-housing applications.

**lousing:** 20 gauge steel with corrosion-esistant white polyester paint finish. White mounting canopy is impact-resistant Noryl 190 thermoplastic. 12¼L x ¼W x 7½"H.

**amps:** Incandescent model incl. two 20W 6½ intermediate lamps. Fluorescent nodel includes two 5W compact fluores-ent lamps. Replacement lamp No. 4V479 incandescent), No. 2V891 (fluorescent). ED models consume less than 2 watts of ower.

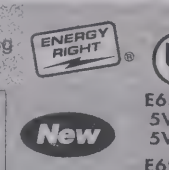
**xit Face Assembly:** Letters 6" high with 3/4" troke. Knockout chevrons for conversion o directional sign. Red fiberglass color anel. 2 faces provided.

**Installation:** Universal. Canopy for easy installation for wall, top, or end mounting. Universal knockout pattern on backplate for direct mounting to junction box.

**Approvals:** UL 924 Listed (5VC15, 5VC17: E65048; 4PJ30, 4PJ29: E69466); also meets applicable NEC, OSHA, and NFPA Life Safety Codes. Damp Location Listed; suitable for floor proximity installation.

**Sure-Lites brand.**

COOPER Lighting SURE-LITES




E65048
5VC15
5VC17
E69466
4PJ29
4PJ30

Accessories and Replacement Batteries, See Page 1152

| Description | Input Volts (AC) | Sure-Lites Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Incandescent-Universal | 120 | R2CX | | 5VC15 | $44.47 | $22.40 | 5.0 |
| Fluorescent-Universal | 120 | PLX5200RP | | 5VC17 | 62.22 | 35.65 | 5.6 |
| Red LED | 120/277 | SLX60RWH | New | 4PJ30 | 98.10 | 52.35 | 5.5 |
| Green LED | 120/277 | SLX60GWH | New | 4PJ29 | 101.20 | 56.10 | 5.0 |

## UNIVERSAL EMERGENCY STEEL EXIT SIGNS

**ncandescent, Fluorescent, and LED Models:** For general purpose applications in commercial, institutional, and multi-housing environments.

**lousing:** 20 gauge steel with corrosion-esistant white polyester paint finish. Mounting canopy made of impact-resistant Noryl 190 thermoplastic in matching finish. Nos. 5VC03 and 5VC18: 12¼ L x 2¼W x 2¼"H. Nos. 4PJ32 and 4PJ31: 12¼L x 2¼W x 7½"H.

**amps:** Incandescent model includes two 20W T6 ½ lamps. Fluorescent model ncludes two 5W compact fluorescent amps. Replacement lamp No. 4V479 incandescent), No. 2V891 (fluorescent).

**lattery and Charger:** Dual voltage 120/277 /AC input. Power pack automatically provides a minimum of 90 minutes of emergency illumination. Two 6-volt 3.6 watt DC amps provide emergency illumination. Power pack includes maintenance-free sealed 6-volt lead calcium battery. Low voltage disconnect prevents total battery lischarge during long power failures. Brownout circuit activates unit even though total power failure has not occurred. AC line-latching reduces installation labor.

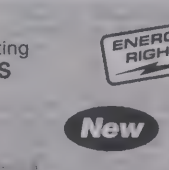
**Universal Exit Face Assembly:** Letters 6" high with 3/4" stroke. Knockout chevrons for conversion to directional sign. Red fiberglass color panel. Two faces provided.

**Installation:** Universal. Canopy permits easy installation for wall, top, or end mount applications. Backplate has universal knockout pattern for mounting directly to junction box.

**Approvals:** UL 924 Listed (E65048); also meets applicable NEC, OSHA, and NFPA Life Safety Codes. Suitable for floor proximity installations.

**Sure-Lites brand.**

COOPER Lighting SURE-LITES




E65048

Accessories and Replacement Batteries, See Page 1152

| Description | Input Volts (AC) | Sure-Lites Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Incandescent | 120/277 | UN1SRW | | 5VC03 | $169.10 | $95.50 | 11.0 |
| Fluorescent | 120/277 | PLX6200RP | | 5VC18 | 212.05 | 124.50 | 11.0 |
| Red LED | 120/277 | SLX70RWH | New | 4PJ32 | 111.10 | 67.70 | 5.5 |
| Green LED | 120/277 | SLX70GWH | New | 4PJ31 | 114.60 | 73.80 | 5.5 |

✓) Denotes energy efficient product.

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# RECESSED SQUARE EMERGENCY LIGHT AND STEEL EXIT SIGNS

## RECESSED SQUARE EMERGENCY LIGHT

**Housing:** Push-to-test lens recessed in mitered corner housing conceals test switch and indicator light. Unobtrusive polycarbonate housing design has ivory white frame. Black base is impact- and fire-resistant. UL94 V-0 flame rating.

**Dimensions:** 10 5/16W x 10 5/16 L x 3 7/16" H.

**Lamp:** White cone reflector and acrylic prismatic lens provide wide beam spread of the 10-watt tungsten halogen lamp.

**Battery and Charger:** Sealed, maintenance-free lead-calcium battery provides a minimum of 90 minutes of emergency power. Fully automatic solid-state charging system. Short-circuit protection helps stop shorts and maximize battery life. Dual voltage input capability (120/277V). 6VDC, 10W rated output.

**Installation:** Surface mounting on wall or ceiling; universal J-box mounting pattern.

**Approvals:** UL listed. Meets current Life Safety Code, NEC and OSHA illumination standards.

***New*** **No. 4PG73.** (ELSQ). Shpg. wt. 5.5 lbs.
List ..... $110.66.
Each ..... **$100.60**




## TITAN® STEEL EXIT SIGNS

### TITAN® INCANDESCENT AND FLUORESCENT POWERED EXIT SIGNS

**Housing:** Sturdy, die-formed 20-gauge steel housing with corrosion-resistant white polyester paint finish.

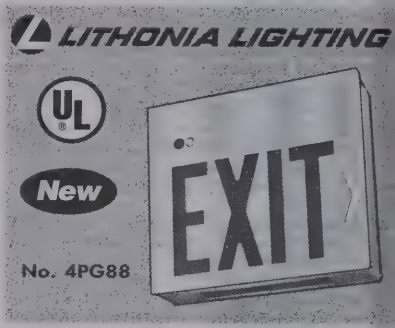
**Lamps:** Two 15W T6, incandescent lamps; two F5TT compact fluorescent lamps provide minimum of 15,000 hours. Replacement lamp No 4V450.

**Exit Face Assembly:** Large, easy to read letters measure 6" high with a 3/4" stroke. Universal directional chevron knockouts are easily removed. Uniform graphics illumination, without shadows or hot spots. Fully assembled single-face exit, plus optional extra faceplate for easy field conversion to double face. Available in red or green incandescent.

**Installation:** Universal (top, end or back) mounting. Easily removed mounting knockouts and universal J-box pattern on back panel.

**Approvals:** UL Listed for damp locations and meets UL 924, NFPA 101, NEC and OSHA illumination standards.

**Accessories and replacement batteries are sold on page 1153.**




| Description | Input Volts (AC) | Watts Max. | Dimensions (In.) L | W | H | Lithonia Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Red, Incandescent, AC only** | 120 | 24 | 11½ | 2½ | 7⅛ | X S W 3 R 120 | **4PH47** | $22.87 | **$21.44** | 6.1 |
| **Green, Incandescent, AC only** | 120 | 24 | 11½ | 2½ | 7⅛ | X S W 3 G 120 | **4PH48** | 25.13 | **22.85** | 10.0 |
| **Green, Incandescent, AC only** | 277 | 26 | 11½ | 2½ | 7⅛ | X S W 3 G 277 | **4PG91** | 38.33 | **34.85** | 7.0 |
| **Red, Incandescent, Emergency** | 120/277 | 30 | 11½ | 2½ | 10⅜ | X S W 3 R 120/277 EL | **4PG79** | 90.25 | **82.05** | 11.0 |
| **Green, Incandescent, Emergency** | 120/277 | 30 | 11½ | 2½ | 10⅜ | X S W 3 G 120/277 EL | **4PG80** | 120.72 | **109.75** | 11.0 |
| **Red, Fluorescent, AC only** | 120 | 16 | 11½ | 2½ | 7⅛ | F2X S W 3 R 120 | **4PG93** | 60.40 | **55.55** | 6.5 |
| **Red, Fluorescent, Emergency** | 120/277 | 16 | 11½ | 2½ | 7⅛ | F2X S W 3 R 120/277 EL | **4PG88** | 139.93 | **138.50** | 13.0 |

## TITAN® LED STEEL EXIT SIGNS

**Housing:** Sturdy, die-formed 20-gauge steel housing with corrosion-resistant white polyester paint finish.

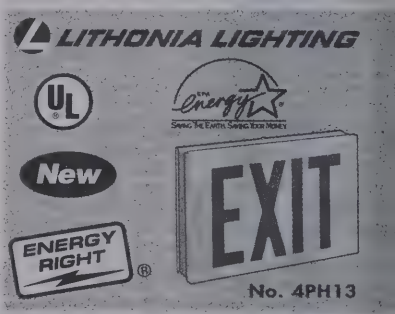
**Lamps:** Long-life LEDs offer low energy consumption — less than one watt.

**Exit Face Assembly:** Letters are 6" high with 3/4" stroke. Uniform graphics illumination without shadows or spots. Universal directional chevron knockouts are easily removed.

**Battery and Charger:** 4PH14 emergency function model features sealed, maintenance-free calcium battery that delivers 90 minutes capacity to emergency lamps.

**Installation:** Universal (top, end or back) mounting. Universal J-Box pattern on back panel.

**Approvals:** UL listed. Meet UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards.




| Description | Input Volts (AC) | Watts Max. | Lithonia Model | | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **AC Only** | 120 | 1.7 | LX S W 3 R 120 | ✓ | **4PH13** | $85.36 | **$77.60** | 4.8 |
| **Emergency** | 120/277 | 4.4 | LX S W 3 R 120/277 EL | ✓ | **4PH14** | 177.92 | **161.75** | 12.0 |

(✓) Denotes energy efficient product.

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# POLYCARBONATE AND HIGH ABUSE EXIT SIGNS AND LED RETROFIT KITS

## QUANTUM® LED POLYCARBONATE EXIT SIGNS

**Housing:** Engineering-grade polycarbonate. Impact- and scratch-resistant and corrosion-proof. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light resources.

**Dimensions:** 12¼L x 2W x 7½"H.

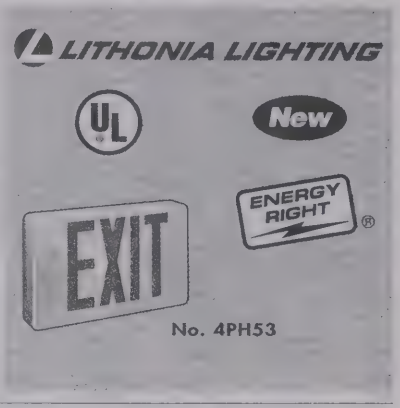
**Exit Face Assembly:** Letters are 6" high with ¾" stroke. Faceplate and back cover are interchangeable on housing. Extra faceplate for easy field conversion to double face. Uniform graphics illumination without shadows or hot spots.

**Lamps:** Long-life LEDs use less than one watt.

**Battery and Charger:** 4PH53 and 4PH51 only have long-life, maintenance-free nickel cadmium battery that delivers 90 minute capacity to lamps. Automatic recharge. Low-voltage disconnect. No battery connection required.

**Installation:** QUICK-MOUNT snap-together design. Universal (top, end or back) mounting. Mounting knockouts. Universal J-box pattern on back panel.

**Approvals:** UL listed. Meet UL 924, NFPA 101, NEC and OSHA illumination standards.



No. 4PH53

| Description | Input Volts (AC) | Watts (Max.) | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Red, AC Only | 120/277 | 0.72 | LQM S W 3 R 120/277 | ✓4PH52 | $65.01 | **$59.10** | 2.6 |
| Green, AC Only | 120/277 | 0.72 | LQM S W 3 G 120/277 | ✓4PH50 | 86.57 | **78.70** | 2.6 |
| Red, Emergency | 120/277 | 0.92 | LQM S W 3 R 120/277 EL N | ✓4PH53 | 80.88 | **68.75** | 2.6 |
| Green, Emergency | 120/277 | 0.92 | LQM S W 3 G 120/277 EL N | ✓4PH51 | 105.65 | **96.05** | 2.6 |

## EXTREME® VANDAL-RESISTANT EXIT SIGNS

**Applications:** Best suited for use in high-abuse environments such as schools, commercial buildings, parking garages, prisons, hallways and stairwells

**Housing:** Low-profile housing is .250" to .325" thick and constructed of durable cast-aluminum. Unit has a vandal-resistant magnetic test switch that maintains the integrity of the housing, while providing a simple means of manual testing.

**Exit Face Assembly:** Polycarbonate faceplate incorporates universal directional chevron knockouts that are concealed and easily removed and replaced. Red letters.

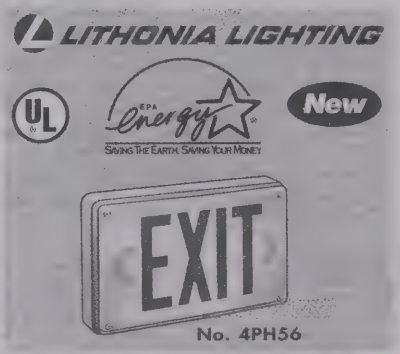
**Installation:** Top, back or end mounting available.

**Lamps:** 4PH42 and 4PH58 use two 15W T6 lamps. Replacement Lamp No. 4V450. All others use long-life LED's that offer low energy consumption using less than 2.5W.

**Battery and Charger:** Emergency LED exit signs are powered by a long-life maintenance-free nickel-cadmium battery that delivers 90 minutes capacity to lamp. Self-diagnostic feature performs a five minute, automatic test once a month on the battery and once every six months for 30 minutes.

**Warranty:** Incandescent units are backed by a 3-year total customer satisfaction warranty (excluding lamps). LED models are covered under a 5-year warranty (including lamps).

**Approvals:** UL listed. Meets UL 924, NFPA 101, and NEC and OSHA Illumination Standards.



No. 4PH56

| Description | No. of Sides | Mount | Input Volts (AC) | Watts (Max.) | Dimensions (In.) L | W | H | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Incandescent, AC Only | 1 | Back | 120 | 2.6 | 13⅞ | 3 | 8¹⁵⁄₁₆ | V S W 1 R 120 | 4PH42 | $83.27 | **$70.80** | 9.0 |
| Incandescent, AC Only | 2 | Top | 120 | 2.6 | 13⅞ | 6 | 9¹⁵⁄₁₆ | V S W 2 R 120 TM | 4PH58 | 127.97 | **108.80** | 11.0 |
| Red LED, AC Only | 1 | Back | 120/277 | 2.3 | 13⅝ | 3 | 8¹⁵⁄₁₆ | LV S W 1 R 120/277 | ✓4PH57 | 178.75 | **162.50** | 9.0 |
| Red LED, AC Only | 2 | Top | 120/277 | 4.6 | 13⅝ | 4⅛ | 9¹⁵⁄₁₆ | LV S W 2 R 120/277 TM | ✓4PH17 | 308.82 | **280.75** | 11.0 |
| Red LED, Emergency | 1 | Back | 120/277 | 3.3 | 13⅝ | 3 | 8¹⁵⁄₁₆ | LV S W 1R 120/277 EL N | ✓4PH56 | 261.25 | **237.50** | 9.0 |
| Red LED, Emergency | 2 | End | 120/277 | 5.2 | 13⅞ | 4⅛ | 8⅝ | LV S W 2R 120/277 EL N | ✓4PH31 | 393.52 | **357.75** | 11.0 |
| Red LED, Emergency | 2 | Top | 120/277 | 5.2 | 13⅞ | 6 | 9¹⁵⁄₁₆ | LV S W 2R 120/277 EL N TM | ✓4PH55 | 515.90 | **469.00** | 11.0 |

## LED RETROFIT KIT FOR EXIT SIGNS

Energy-saving lamps install in seconds. UL listed for use in all manufacturer's exit signs. Designed to replace existing T6½ incandescent lamps typically used in exit signs. Simply remove incandescent lamps and replace with LED retrofit lamps—no additional wiring or fixture modifications required. LED lamps offer low, 1 watt (each) power consumption; estimated to last 25 years under normal operating conditions. Transient voltage surge protected. **Sold in blister pack of two lamps.** T6½ lamp style 5⅜" long.

UL 924 Listed, CSA Certified. Meets all applicable NEC, OSHA, and NFPA Life Safety Codes. Damp location listed. **Sure-Lites brand.**



No. 3JL38

| Base Style | Input Volts (AC) | Led Color | Sure-Lites Model | Stock No. | List | Pack Each | Lots 3 | Ship Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Candelabra | 120 | Red | RKRC | ✓3JL38 | $67.87 | **$35.90** | **$34.11** | 12 | 1.0 |
| M.C. Bayonet | 120 | Red | RKRD | ✓3JL39 | 67.87 | **35.90** | **34.11** | 12 | 1.0 |
| Intermediate | 120 | Red | RKRI | ✓3JL40 | 67.87 | **35.90** | **34.11** | 12 | 1.0 |

✓) Denotes energy efficient product.

# SPECIAL AND GENERAL PURPOSE EMERGENCY AND EXIT FIXTURES

## HARSH ENVIRONMENT EMERGENCY FIXTURES

**Applications:** Used where oil, water, dust, or corrosives are present in the atmosphere. Wet location Listed from 0 to 40°C. For indoor use only.

**Housing:** Tough gray fiberglass construction with internal hinges, gasketed cover, and breather vent.

**Lamps Included:** Two 9 watt incandescent PAR36 sealed beam lamps in Noryl heads with gray finish.

**Battery and Charger:** Sealed, maintenance free lead calcium battery. Fully automatic charging system provides a minimum of 90 minutes of emergency power. Low voltage disconnect prevents total battery discharge during long power failures. Brownout circuit activates unit even though total power failure has not occurred. AC line-latching reduces installation labor.

**Installation:** Suitable for surface mounting. Designed for conduit entry. 120/277VAC operation.

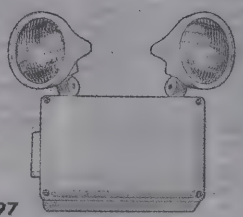
**Approvals:** UL 924 Listed (E65048). Complies with all applicable NEC, OSHA, and NFPA Life Safety Codes.

| Watts | Output Volts (DC) | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **18** | 6 | UMB1 | **3V897** | $307.91 | **$259.00** | 10.0 |
| **54*** | 12 | UMB9 | **3V898** | 448.73 | **393.00** | 17.0 |

(*) 48 watt output at 120 minutes.

E65048

COOPER Lighting SURE-LITES

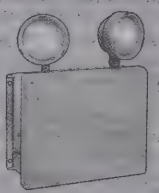


No. 3V897

Accessories and Replacement Batteries See Page 1152

## INDUSTRIAL DUTY EMERGENCY FIXTURES

- **Fiberglass-reinforced, gray/polyester enclosure. Full perimeter gasket seal between front and rear housing.**
- **Two 8W (4PG69) or two 12W (4PG67) glass sealed-beam lamps. Heads rotate 359° to meet aiming requirements.**
- **Sealed, maintenance-free lead-calcium battery. Provides 90 minutes of emergency power.**
- **Lamp housings are sealed, high-impact polycarbonate.**
- **Short circuit protection protects against shorts and maximizes battery life.**



LITHONIA LIGHTING

New

No. 4PG69

| Watts @ 90 Minutes | Input Volts (AC) | Output Volts (DC) | Dimensions (In.) L | W | H | Lithonia Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **16** | 120/277 | 6 | 13¼ | 5½ | 11¼ | ELU2X | **4PG69** | $250.80 | **$228.00** | 15.0 |
| **36** | 120/277 | 12 | 13¼ | 5½ | 11¼ | ELU3X | **4PG67** | 356.40 | **324.00** | 23.0 |

## NEW YORK CITY APPROVED EMERGENCY AND EXIT FIXTURES

### 2 AND 3 HEAD EMERGENCY LIGHTING

- **6" slim design with 2 and 3 head capabilities**
- **Indoor commercial and institutional use emergency lighting**
- **New York City approved**
- **Solid state and transfer circuitry**
- **Dual 120/277 VAC 60Hz input**
- **Test switch for added safety**
- **Battery short circuit and reverse polarity protected**
- **Brown out protection, low voltage disconnect**
- **6 or 12 volt long life, maintenance-free, sealed nickel cadmium battery**

New slim design unit with neutral cream color finish. Double pivoting heads add adjustability and simplify installation. Easy wall or ceiling mounting. UL Listed (E125359). Made in the USA.

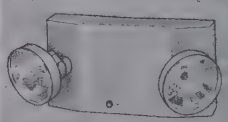
### INCANDESCENT AND LED EXIT SIGNS

- **Standard white powder coat finish**
- **Incandescent light source with AC operation only (4PH92); LED light source with AC operation only (4PJ23) and emergency operation (4PJ24)**
- **20-gauge rolled steel housing**
- **Down light provided by a convenient bottom opening**
- **Operates on 120V 60Hz voltage**
- **Phosphorescent glass face displays red letters on white background**
- **Single face with canopy**
- **Meets or exceeds UL 924 requirements; Made in the USA**

**UL Listed: 4PJ23, 4PH92 (E69631) and 4PJ24 (E125359)**

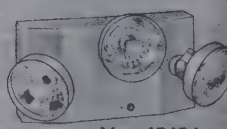
COOPER Lighting AtLite

ENERGY RIGHT®



No. 4PJ04

New



No. 4PJ06




No. 4PH92




No. 4PJ23

| Description | At-Lites Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **6V, 16W, 2-Head Emergency Light** | CB6-16 | **4PJ05** | $60.50 | **$55.00** | 13.0 |
| **12V, 27W, 2-Head Emergency Light** | CB12 | **4PJ04** | 82.50 | **75.00** | 14.0 |
| **6V, 36W, 3-Head Emergency Light** | CB6-3-NY | **4PJ06** | 90.20 | **82.00** | 14.0 |
| **Exit Sign, AC, Incandescent** | 8SPIC-B | **4PH92** | 35.20 | **32.00** | 9.0 |
| **Exit Sign, AC, LED** | LA1-8SR2U | **4PJ23** | 97.35 | **88.50** | 6.0 |
| **Exit Sign, Emergency, LED** | LN1-8SR2U | **4PJ24** | 122.10 | **111.00** | 7.0 |



When it comes to lighting, no distributor outshines Grainger.

# GENERAL PURPOSE EMERGENCY AND EXIT LIGHTING FIXTURES

## NEW YORK CITY APPROVED SELF-DIAGNOSTIC EMERGENCY/EXIT FIXTURES

- Features a convenient self-check diagnostic system that provides visual assurance, where in the event of a power failure, will transfer to battery power
- All 3 units feature incandescent light sources
- Black housing (4PJ22); or beige powder coat finish (4PH93 & 4PH94)
- 20-gauge cold rolled steel housing
- Down light provided by a convenient bottom opening
- Universal directional chevron knockouts that are concealed and easily removed and replaced
- Solid state charging and transfer circuitry
- Dual 120/277 VAC 60Hz input
- Brown out protection
- Meets or exceeds UL 924 requirements; Made in the USA
- Long-life, maintenance-free lead calcium battery (4PJ22). 6 volt output
- Exit sign/emergency light (4PH93 & 4PH94) features a combination of 12 volt output 2 or 3 head unit with an 8" exit sign




| Description | At-Lites Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Emergency Exit Sign | EC1-8SR1C-B | **4PJ22** | $104.50 | **$95.00** | 14.0 |
| 2-Head Emergency/Exit Light w/ Capacity for 1 Remote Head | ACNY8 | **4PH93** | 122.10 | **111.00** | 21.0 |
| 3-Head Emergency/Exit Light | ACNY8-3 | **4PH94** | 130.90 | **119.00** | 22.0 |

## CHICAGO APPROVED EMERGENCY AND EXIT LIGHTING

### Nos. 4PJ38 and 4PJ39

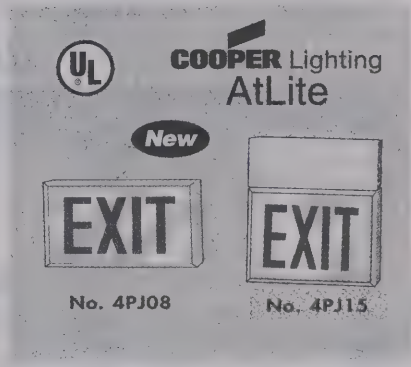
- 22-gauge cold rolled steel construction, coated with a neutral white finish
- Conduit knockouts on back and side for easy wiring
- Universal J-box mounting pattern; keyhole mounting slots
- Dual voltage input 120/277VAC 60 Hz 6 Volt, DC output
- Brown out circuit protection
- Test switch/power indicator light for added safety
- Sealed lead calcium recombination battery that provides minimum 2 hour emergency illumination
- Meets or exceeds UL 924 (E65048) and City of Chicago requirements for emergency illumination
- CSA certified
- Standard two head, fully adjustable, top mounted lamps
- Glare-free lenses
- Heads are metal with die cast metal swivels
- Uses halogen lamps
- 4PJ39 has capacity for 1 additional remote head

### Nos. 4PJ08 - 4PJ14

- 22-gauge cold rolled steel construction, coated with a neutral white finish
- 120 VAC input voltage
- Steel canopy (where supplied) allows ceiling or end mounting
- Red silkscreened lettering applied to white translucent, heat tempered, impact-resistant glass lens
- Lens installs from side of fixture for more convenient, safe maintenance
- Standard louvered downlight
- Full length 3/4" stroke arrow on directional exits
- UL 924 (E69466) and City of Chicago approved; damp location listed

### Nos. 4PJ15 thru 4PJ21

- 22-gauge steel construction, coated with a neutral white finish
- Solid state switching
- Overload/short circuit protection mechanism
- Dual voltage input 120/277 VAC 60 Hz. 6 Volt, DC output
- Brown out circuit protection
- Test switch/power indicator light for added safety
- Steel canopy (where supplied) allows ceiling or end mounting
- Red silkscreened lettering applied to white translucent, heat tempered, impact-resistant glass lens
- Lens installs from side of fixture for more convenient, safe maintenance
- Maintenance-free, long life, sealed lead calcium recombination battery operates lamps for a minimum of 2 hours
- Meets or exceeds UL 924 (E65048) and City of Chicago requirements for emergency illumination
- Uses incandescent lamps




| Description | Mounting | Arrow | Input Volts (AC) | At-Lite Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6V, 2-Head Emergency Light | Back | — | 120/277 | XR-6-C | **4PJ38** | $90.52 | **$75.75** | 10.0 |
| 6V, 2-Head Emergency Light w/Capacity for 1 Remote Head | Back | — | 120/277 | XR-9-C | **4PJ39** | 113.47 | **94.95** | 16.0 |
| Single Face, Exit Sign, AC Only | Wall | None | 120 | CHX-203 | **4PJ08** | 30.60 | **25.60** | 5.3 |
| Single Face, Exit Sign, AC Only | Wall | Right | 120 | CHX-206 | **4PJ09** | 30.60 | **25.60** | 5.3 |
| Single Face, Exit Sign, AC Only | Wall | Left | 120 | CHX-209 | **4PJ10** | 30.60 | **25.60** | 4.0 |
| Single Face, Exit Sign, AC Only, w/Canopy | Wall/Ceiling/End | Double | 120 | CHX-212-C | **4PJ11** | 30.60 | **25.60** | 6.0 |
| Double Face, Exit Sign, AC Only | Ceiling/End | None | 120 | CHX-218-C | **4PJ12** | 35.70 | **29.90** | 6.0 |
| Double Face, Exit Sign, AC Only | Ceiling/End | Right or Left | 120 | CHX-221-C | **4PJ13** | 35.70 | **29.90** | 6.0 |
| Double Face, Exit Sign, AC Only | Ceiling/End | Double | 120 | CHX-224-C | **4PJ14** | 35.70 | **29.90** | 6.0 |
| Single Face Exit Sign, Emergency | Wall | None | 120/277 | CHX-303 | **4PJ15** | 130.60 | **125.60** | 11.0 |
| Single Face Exit Sign, Emergency | Wall | Right | 120/277 | CHX-306 | **4PJ16** | 130.60 | **125.60** | 11.0 |
| Single Face Exit Sign, Emergency | Wall | Left | 120/277 | CHX-309 | **4PJ17** | 130.60 | **125.60** | 11.0 |
| Single Face Exit Sign, Emergency, w/Canopy | Wall/Ceiling/End | Double | 120/277 | CHX-312C | **4PJ18** | 130.60 | **125.60** | 11.0 |
| Double Face Exit Sign, Emergency | Ceiling/End | None | 120/277 | CHX-318-C | **4PJ19** | 135.70 | **129.90** | 12.0 |
| Double Face Exit Sign, Emergency | Ceiling/End | Right or Left | 120/277 | CHX-321-C | **4PJ20** | 135.70 | **129.90** | 13.0 |
| Double Face Exit Sign, Emergency | Ceiling/End | Double | 120/277 | CHX-324-C | **4PJ21** | 135.70 | **129.90** | 13.0 |

# ACCESSORIES AND BATTERIES FOR SURE-LITES EMERGENCY/EXIT LIGHTING FIXTURES

## VANDAL-RESISTANT EMERGENCY LIGHTING/EXIT SHIELD

- Protects from tampering, vandalism, and accidental damage
- Made of durable, high-impact, UV resistant clear polycarbonate.
- Integral mounting holes (6 on 4PJ33, 34, 8 on 4PJ35,36)
- Nos. 4PJ34 and 4PJ36 Self adhesive closed-cell neoprene gaskets provided with weather resistant versions which include gasketed breather vent
- Code Compliance: UL924 Rain Test; UL924 Water Shield Impact Test



No. 4PJ33

| Description | For use with Sure-Lites Stock Nos. | Dimensions (In.) L | H | D | Sure-Lites Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Vandal Resistant | 3JL31, 3JL32, 3JL36, 3V887, 3V899, 3V900, 4PH95, 4PH96, 4PH97, 4PH98, 4PH99, 4PJ01, 4PJ02, 4PJ03, 4PJ04, 4PJ07, 4PJ08, 4PJ09, 4PJ10, 4PJ11, 4PJ12, 4PJ13, 4PJ14, 5VC01, 5VC07, 5VC18, 5VC22, 5VC23, 5VC24, 5VC28, 6F536, 6F537, 6F538, 6F539 | 21 | 11 | 10 | VS1 | 4PJ33 | $102.30 | $49.00 | 4.5 |
| Vandal and Weather Resistant | | | | | VS1WP | 4PJ34 | 111.30 | 69.00 | 4.6 |
| Vandal Resistant | 3JL35, 3JL41, 3JL42, 3JL43, 3JL44, 3V888, 3V889, 3V890, 3V891, 3V897, 3V898, 4PJ15, 4PJ16, 4PJ17, 4PJ18, 4PJ19, 4PJ20, 4PJ21, 5VC03, 5VC08, 5VC09, 5VC16, 5VC18, 7V240 | 21 | 19 | 11 | VS2 | 4PJ35 | 149.10 | 89.00 | 6.5 |
| Vandal and Weather Resistant | | | | | VS2WP | 4PJ36 | 154.30 | 99.00 | 6.6 |

## ACCESSORIES FOR SURE-LITES FIXTURES

### FOR EMERGENCY LIGHTING

| Fixture Stock No. | Wire Guard No. | Mounting Shelf No. |
|---|---|---|
| 3JL31 | 3V901 | 3V904 |
| 3JL32 | 3V901 | 3V904 |
| 3V888 | 3V901 | 3V904 |
| 3V889 | 3V901 | 3V904 |
| 3V890 | 3V902 | 3V905 |
| 3V891 | 3V902 | 3V905 |
| 3V893 | 3V901 | — |
| 3V897 | 3V902 | 3V905 |
| 3V898 | 3V902 | 3V905 |
| 4PJ37 | 3V901 | 3V904 |
| 5VC01 | 3V901 | 3V904 |
| 5VC07 | 3V901 | 3V904 |
| 5VC08 | 3V901 | 3V904 |
| 5VC09 | 3V901 | 3V905 |
| 5VC28 | 3V901 | — |
| 7V240 | 3V902 | — |

(*) Illuminates exit signs for 90 minutes following an interruption to normal AC power.

### FOR EXIT LIGHTING

| Fixture Stock No. | Wire Guard No. | 277VAC Conversion Kit No. | D.C. Lamp Kit No. | Emergency Battery Packs Kit No.* |
|---|---|---|---|---|
| 3JL36, 3JL42, 3V900, 5VC18, 5VC24 | 3V903 | — | — | — |
| 4PJ25, 4PJ26, 4PJ27, 4PJ28, 4PJ29, 4PJ30, 4PJ31, 4PJ32, 4PH95, 4PH96, 4PH97, 4PH98, 4PH99, 4PJ01, 4PJ02, 4PJ03, 5VC05, 6F536, 6F537, 6F538, 6F539 | 3V901 | — | — | — |
| 3JL35, 3JL43, 3JL44, 5VC16 | 3V902 | — | — | — |
| 5VC23 | 3V903 | 5VC25 | — | — |
| 5VC15 | 3V903 | 5VC20 | 5VC19 | 3V906 |
| 5VC17 | 3V903 | 5VC20 | 5VC19 (2) | 3V906 + 5VC19 |

### EMERGENCY ACCESSORY ORDERING DATA

| Description | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Wire Guard (18L x 15H x 6"D) | WG1 | 3V901 | $42.86 | $35.30 | 2.0 |
| Wire Guard (23L x 20H x 12"D) | WG3 | 3V902 | 68.34 | 55.80 | 1.0 |
| Mounting Shelf | 1MSWH | 3V904 | 32.33 | 23.31 | 5.0 |
| Mounting Shelf | 2MSGY | 3V905 | 38.78 | 26.50 | 3.0 |

### EXIT ACCESSORY ORDERING DATA

| Description | Sure-Lites Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Wire Guard (13¾L x 13⅜H x 4⅛"D) | WG10 | 3V903 | $44.10 | $34.50 | 1.5 |
| 277VAC Conversion Kit | PLC277 | 5VC20† | 27.61 | 16.91 | 2.3 |
| 277VAC Conversion Kit | CCX277 | 5VC25† | 27.84 | 17.06 | 1.5 |
| DC Lamp Kits** | DCE12 | 5VC19† | 9.41 | 5.93 | 0.1 |
| Emergency Battery Packs | EPX5000P | 3V906† | 110.21 | 91.25 | 5.0 |

(**) Adds DC emergency capability. (†) UL Listed (E65048).

### REPLACEMENT BATTERIES FOR SURE-LITES EMERGENCY/EXIT FIXTURES**

| For Use With Stock No. | Sure-Lites Model No. | Volts | Amp | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3JL31, 3JL32, 3JL36, 3JL42, 3V887, 3V893, 3V894, 4PH97, 4PH98, 4PJ15, 4PJ16, 4PJ17, 4PJ18, 4PJ19, 4PJ20, 4PJ21, 5VC01, 5VC03, 5VC18, 5VC22, 5VC24 | 026117SP | 6VDC | 4 | 5VC21 | $37.78 | $23.84 | 2.0 |
| 5VC07, 3V889*, 3V897 | 02645SP | 6VDC | 6.5 | 5VC05 | 49.53 | 31.25 | 3.1 |
| 3JL35, 3JL43, 3JL44, 3V888, 3V890-, 3V891† 3V898*, 4PJ07, 4PJ37, 4PJ38, 4PJ39, 5VC00, 5VC08*, 5VC09†, 5VC16, 5VC28 | 02650SP | 6VDC | 10 | 5VC14 | 54.99 | 34.65 | 4.7 |
| 7V240 | 026137SP | 12VDC | 55 | 3V911 | 437.41 | 308.50 | 41.0 |

(*) Requires 2 batteries. (-) Requires 3 batteries. (†) Requires 4 batteries.
(**) Sure-Lites batteries are UL Listed (E65048) for Sure-Lites fixtures only. Replacement of battery by another manufacturer voids warranty and UL Listing.

# ACCESSORIES AND BATTERIES FOR LITHONIA EMERGENCY/EXIT LIGHTING FIXTURES

## VANDAL-RESISTANT EMERGENCY LIGHTING/EXIT SHIELD

nstalls over emergency/exit lighting fixtures for protec- on from vandalism.
/8" thick, high-impact, transparent polycarbonate
its the following Lithonia emergency lighting units: PH01, 4PH02, 4PH07, 4PH08, 4PG73, 4PG90, 7D462
ontemporary rounded-corner design. (10H x 22W x ¾"D)
/6" diameter predrilled mounting holes (hardware not rovided)
ithonia model No. ELA VS2
No. 4PG89. Shpg. wt. 4.2 lbs. List.....$91.41.
h.....$83.10




## ACCESSORIES FOR LITHONIA FIXTURES FOR EMERGENCY LIGHTING FIXTURES

| Fixture Stock No. | Wire Guard Stock No. | Mounting Shelf Stock No. | Fixture Stock No. | Wire Guard Stock No. | Mounting Shelf Stock No. |
|---|---|---|---|---|---|
| 4PG63 | 4PH04 | — | 7D463 | 4PH05 | — |
| 4PG65 | 4PH04 | — | 4PH01 | 4PG64 | 4PG71 |
| 4PG72 | 4PH04 | — | 4PH02 | 4PG64 | 4PG71 |
| 4PG73 | 4PG68 | — | 4PH07 | 4PG68 | 4PG71 |
| 4PG77 | 4PH04 | — | 4PH08 | 4PG68 | 4PG71 |
| 4PG78 | 4PH04 | — | 7D462 | 4PG64 | 4PG66 |
| 7D464 | 4PH05 | 4PG99 | 4PH15 | 4PG64 | — |
| 4PG90 | 4PG64 | 4PG66 | 4PH16 | 4PG64 | — |
| 4PG94 | 4PG68 | 4PG98 | 4PH19 | 4PG64 | — |
| 4PG95 | 4PG68 | 4PG98 | 4PH20 | 4PG64 | — |
| 4PG96 | 4PG68 | 4PG98 | | | |

## EMERGENCY LIGHTING FIXTURE ACCESSORIES ORDERING DATA

| Description | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| eguard (22 15/16H x 22 1/8W x 9 3/8"D) | ELA WG4/8 | **4PG64** | $66.00 | **$60.00** | 6.1 |
| eguard (14 3/8H x 15 1/8W x 8 5/8"D) | ELA WG2 | **4PG68** | 65.45 | **59.50** | 2.8 |
| eguard (12 3/8H x 11 5/16W x 9 3/8"D) | ELA WGRH | **4PH04** | 55.22 | **50.20** | 3.5 |
| eguard (24 3/8H x 22 15/16W x 12 3/8"D) | ELA WGLT | **4PH05** | 73.53 | **66.85** | 8.5 |

| Description | Lithonia Model | New! Stock No | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Mounting Shelf** | ELA MS4/8 | **4PG66** | $65.06 | **$59.15** | 2.9 |
| **Mounting Shelf** | ELA MS2 | **4PG71** | 15.34 | **13.95** | 1.3 |
| **Mounting Shelf** | ELA MSTS | **4PG98** | 15.78 | **14.35** | 5.0 |
| **Mounting Shelf** | ELA MST | **4PG99** | 34.76 | **31.60** | 5.7 |
| **Tamperproof Torx Bit for T20 Center Pin Screw** | ELA TPS T20 | **4PG81** | 14.74 | **13.40** | 1.0 |

## REPLACEMENT BATTERIES FOR LITHONIA EMERGENCY/EXIT FIXTURES

| For Use With Stock No. | Volts | Amp | Lithonia Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 464 | 12 | 55 | ELB 1255 | **4PG70** | $275.53 | **$270.25** | 53.0 |
| G69, 4PG74, 4PG94, 4PH01, H15, 4PH16, 4PH19, 4PH20 | 6 | 7 | ELB 0607 | **4PG76** | 34.09 | **33.10** | 3.1 |
| | 12 | 28 | ELB 1228 | **4PG82** | 128.72 | **126.60** | 28.0 |
| 463, 7D462 | 6 | 12 | ELB 0612 | **4PG85** | 38.87 | **37.95** | 5.4 |
| G75, 4PH02 | 6 | 10 | ELB 0610 | **4PG87** | 38.87 | **37.85** | 4.5 |
| G90 | 5 | 1 | ELB 0501N | **4PH03** | 34.09 | **32.95** | 1.5 |
| H28 | 6 | 9 | ELB 0609 | **4PH12** | 34.09 | **33.35** | 5.5 |
| G67, 4PG95, 4PG96 | | | | | | | |
| H27, 4PH29, 4PH30, 4PH34, H35, 4PH37, 4PH38, 4PH53 | 12 | 1 | ELB 1201N | **4PH41** | 20.33 | **19.54** | 1.0 |
| | 7.2 | 1.4 | EMBCCN7014 | **4PH22** | 44.70 | **43.25** | 3.0 |
| H31, 4PH55 | 4.8 | 1.4 | EMBCC5014 | **4PH21** | 29.00 | **28.25** | 3.0 |
| H56 | — | — | PSDL2 | **4PH11*** | 144.87 | **139.90** | 4.5 |
| H62 (Fluorescent Battery Pack) | | | | | | | |
| G73, 4PG79, 4PG80, 4PG88, 4PH06, H07, 4PH08, 4PH10, 4PH14 | 6 | 4.2 | ELB 06042 | **4PH44** | 28.55 | **27.65** | 2.2 |
| — | 6 | 4 | ELB 0604N1 | **4PG86** | 97.32 | **93.95** | 4.5 |
| — | 12 | 45 | ELB 1245 | **4PG92** | 267.31 | **261.75** | 49.0 |

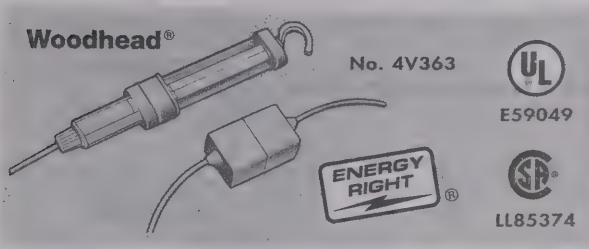
) Inverter for No. 4PH62 Fluorescent battery pack. No voltage or amp rating.

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# FLUORESCENT AND INCANDESCENT HAND LAMPS

## INDUSTRIAL COMPACT FLUORESCENT HAND LAMP

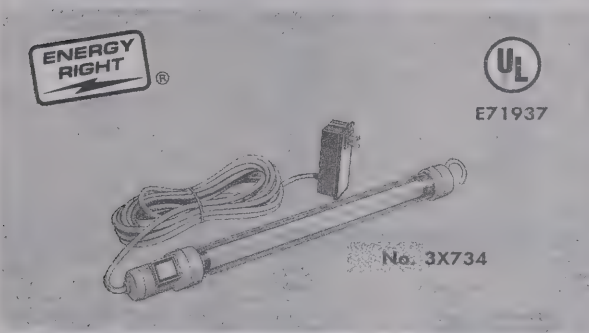



**Rugged 13W Portable Hand Lamp** provides 900 lumens of cool whi light. Compact design (12¾"L) makes the fluorescent lamp ide for inspection and troubleshooting in confined spaces. Featur heavy-duty butyrate shield and sealed NEoTEX® rubber hand with end cap to keep out moisture. Exclusive oval shape preven rolling to better position light source. Includes 25 ft. 18 SJTOOW cord and 13W BX lamp, replacement No. 2V835. Mee National Electrical code 410-42. Not for hazardous or explosiv locations. For hazardous location hand lamps, see page 1155. U Listed (E59049), CSA Certified (LL85374). Woodhead brar (1083-3).

**No. 4V363.** Shpg. wt. 3.3 lbs. List $146.35. Each ..... **$129.5**

(✓) Denotes energy efficient product.

## FLUORESCENT HAND LAMP

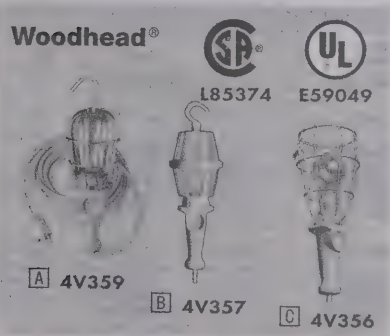



Safety yellow color fluorescent drop lights feature durable sha ter-resistant (in normal use) co-extruded outer lamp shield wit no-glare reflector. Recessed starter switch in handle prevent false operation. Includes fluorescent lamp which is cooler an more energy efficient than conventional incandescent ligh Swivel hook for vertical hanging; Nos. 6X971 and 5X409 are fu nished with two "S" hooks for horizontal hanging. 25 or 50 ft. 18/ SJT cord, 3 prong plug located in separate ballast housing. 115V 60 Hz. Not for use in hazardous locations or explosive atmos pheres. UL Listed (E71937).

| Watts | Cord Length (Ft.) | Mfr. Model | Stock No. | Lamp Included List | Lamp Included Each | Lots 9 | Shp Wt |
|---|---|---|---|---|---|---|---|
| 8 | 25 | 8F-25 | ✓ **3X734*** | $26.57 | **$21.65** | **$21.65** | 2.6 |
| 8 | 50 | 8F-50 | ✓ **3X735*** | 30.68 | **26.55** | **26.55** | 3.6 |
| 15 | 25 | 15F-25 | ✓ **6X971†** | 27.09 | **21.22** | **21.22** | 3.3 |
| 15 | 50 | 15F-50 | ✓ **5X409†** | 32.33 | **27.65** | **27.65** | 4.2 |

(*) Replacement lamp No. 2V235. (†) Replacement lamp No. 1V173.
(✓) Denotes energy efficient product.

## INDUSTRIAL INCANDESCENT HAND LAMPS




**Applications:** Hand lamps light up hard to see work areas. Constructed for rugged use in heavy-duty industrial environments. Not for use in hazardous locations.

**Construction:** One piece Neotex rubber handle and insulated socket for maximum safety and durability. Available in side outlet only or switch and side outlet versions. Rubber diaphragm covers switch, sealing it against dirt and moisture. For added safety, outlet is recessed. Guard and medium base socket included.

**Cord:** 25 foot 16/3 SOW cord included.

**Lamp not included:** Recommend rough service lamp No. 2V563.

**Approvals:** UL Listed (E59049); CS Certified (LL85374).

**Woodhead brand**

A **75-100 Watt Quick Open Guard wit Reflector.** Steel guard for lamp protection optimal direction of light and easy replace ment of lamps.

B **75-100 Watt Nylon Guard.** For use i applications where a steel guard is not fea sible.

C **200-300 Watt Open End Guard.** For quic lamp accessibility.

| Key | Guard Type | Wattage | Handle | Woodhead Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Quick Open w/Reflector | 75-100 | Side Outlet | 105UA163 | **4V360*** | $143.15 | **$128.45** | 5.0 |
| A | Quick Open w/Reflector | 75-100 | Switch w/Side Outlet | 105USA163 | **4V359** | 144.64 | **129.85** | 5.3 |
| B | Nylon | 75-100 | Side Outlet | 118UA163 | **4V358** | 148.47 | **132.95** | 4.5 |
| B | Nylon | 75-100 | Switch w/Side Outlet | 118USA163 | **4V357** | 150.00 | **134.35** | 4.8 |
| C | Open End | 200-300 | Side Outlet | 111UA163 | **4V356*** | 144.34 | **129.50** | 5.4 |
| C | Open End | 200-300 | Switch w/Side Outlet | 111USA163 | **4V355*** | 145.79 | **130.85** | 5.3 |
| — | Nylon | 75-100 | Replacement Guard for Nos. 4V358 and 4V357 | 1168 | **4V361** | 24.03 | **21.49** | 0.3 |

(*) CSA Certified.

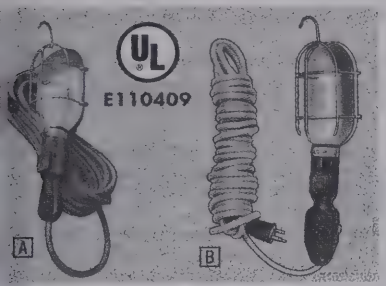
**ORDER DIRECT FROM GRAINGER**

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**



*When it comes to lighting, no distributor outshines Grainger.*

# GENERAL PURPOSE HAND LAMPS




**neral purpose hand lamps** meet a variety light-duty industrial and commercial olications. Each accepts up to a 75W andescent lamp (not included, recomnd rough service lamp No. 2V563) and ludes durable cord in either 25 or 50 ft. gths. Not for hazardous or explosive loions. UL Listed (110409). Alert brand.

A **No. 2W244 Polypropylene Lamp Guard.** Includes push-thru switch with no side outlet.

A **Nos. 2W243 and 2W048 Metal Lamp Guard.** Includes push-thru switch, grounded side outlet and guard. Available with either 25 ft. general purpose cord or 50 ft. oil-resistant cord. 13 amp, 125V, 60 Hz.

A **No. 2W163 Special Duty.** Includes polypropylene lamp guard and oil-resistant cord. No switch or side outlet to create spark hazards. Not for use in explosive or hazardous locations.

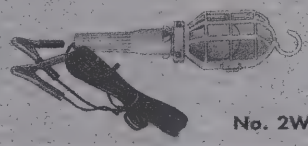
A **No. 6VW72 Weatherproof Cord.** Includes push-thru switch, grounded side outlet and metal lamp guard. All-weather 25 ft. cord is suitable for extreme temperatures (-58°F to 221°F). 13 amp, 125V, 60 Hz.

B **No. 4V346 Circuit Breaker Handle.** Includes push-thru switch, grounded side outlet and metal lamp guard. Features 13 amp resettable circuit breaker in handle for maximum safety. 13 amp, 125V, 60 Hz.

| Key | Gauge / Conductor | Cord Length (Ft.) | Cord Type† | Grounded Side Outlet | Push Thru Switch | Mfr. Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 18/2 | 25 | SJT | No | Yes | TL-25P | **2W244** | $14.95 | **$11.34** | 1.6 |
| A | 16/3 | 25 | SJT | Yes | Yes | TL-25GM | **2W243** | 24.25 | **17.51** | 2.3 |
| A | 16/3 | 50 | SJO | Yes | Yes | TL-50GM | **2W048** | 44.03 | **29.70** | 4.6 |
| A | 18/3 | 25 | SJO | No | No | TL-25G-SJP | **2W163** | 34.70 | **20.14** | 2.0 |
| A | 16/3 | 25 | SJEO | Yes | Yes | TL-25GMP | **6VW72** | 19.80 | **15.90** | 2.0 |
| B | 16/3 | 25 | SJTWA | Yes | Yes | TL-25GMCB | **4V346** | 16.18 | **15.89** | 2.4 |

(†) For cord type explanation, see page 595.

CAROL BRAND



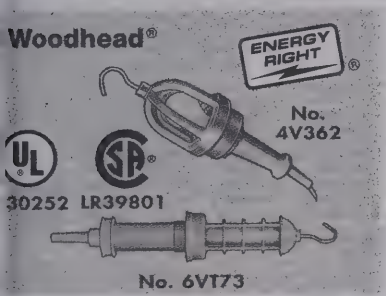

# 12 VOLT DC HAND LAMP

**Incandescent Hand Lamp** has 20 ft. of black cable with color-coded alligator clamps. Full size handle has push-thru On/Off switch; polypropylene guard. Hanger hook and lamp included, replacement lamp No. 2V795. Not for use in hazardous locations. Carol Cable brand (04424).

**No. 2W552.** Shpg. wt. 1.0 lbs. List $20.65. Each ..... **$16.95**

# HAZARDOUS LOCATION HAND LAMPS

Woodhead®




**For use in areas** where ignitable vapors may be present. UL Listed (E30252) for Class I, Div. I Groups C and D, and Class II, Div. I Groups F and G. CSA Certified (LR39801). Lightweight nonsparking aluminum with tempered glass lens. Cord not included. Supplied with rubber grommets to accommodate 16/3 or 14/3 and types S, SO, ST, SOW, or STO cord. Order SOW 16/3 (No. 2W375) and SOW-A 14/3 (No. 2W376) cord; 12/3 ST (No. 1W951) 8' cord. Woodhead brand.

**No. 4V362 Hazardous Location Incandescent Hand Lamp.** Completely field serviceable. Lamp not included, recommend 75 watt incandescent rough service lamp No. 2V563.

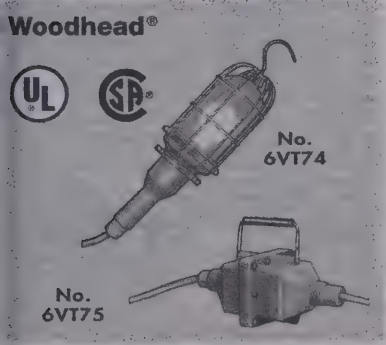
**No. 6VT73 Hazardous Location Fluorescent Hand Lamp.** Fully field serviceable with in-handle ballast for easy transport. 13 Watt BX fluorescent lamp included, recommended replacement lamp No. 2V835.

**No. 4V362.** Hazardous Location Incandescent Hand Lamp. Shpg. wt. 5.4 lbs. List $376.67. Each ..... $279.50

**No. 6VT73.** Hazardous Location Incandescent Hand Lamp. Shpg. wt. 4.1 lbs. List $509.94. Each ..... $466.00

# PORTABLE LOW VOLTAGE INCANDESCENT HAND LAMPS

Woodhead®




**Applications:** Provides portable lighting. UL Listed for NEMA 4X damp locations. Lamp included. For replacement use 75 watt, 12 Volt incandescent lamp No. 5V314. Lightweight, streamlined, rubber coated in-line stepdown transformer with carrying handle, converts 120V service into 12V. Supplied with 10 foot primary 16/3 SOW cord, 50 foot secondary 14/2 SOW cord and NEMA 5-15 plug.

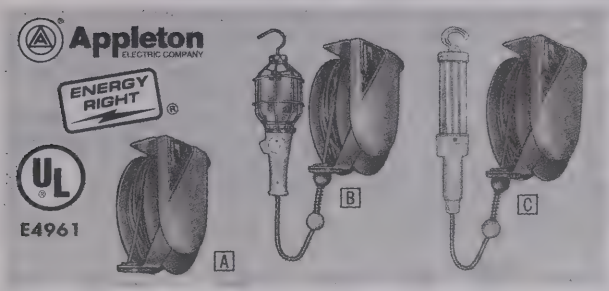
**No. 6VT74 Watertite® Hand Lamp** has an enclosed incandescent lamp in a tempered glass globe and heavy gauge steel guard. It meets OSHA standards 1926.405 and 1910.305. UL Listed (E59049); CSA Certified (LL85374).

**No. 6VT75 Hazardous-duty Hand Lamp** is fully serviceable and constructed of nonsparking aluminum which won't ignite vapors. UL Listed Class I Div 1. Groups C & D, Class II, Div. 1 Groups F & G. UL Listed (E30252); CSA Certified (LR39801).

**NOTE: Keep low-voltage transformer outside of wet and conductive locations to comply with OSHA standards.**

| Type | Woodhead Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **WATERTITE®** | 1621-12B | **6VT74** | $879.23 | **$803.50** | 21.0 |
| **Hazardous** | 1635-12B | **6VT75** | 1119.10 | **1024.00** | 25.0 |

# COMMERCIAL/INDUSTRIAL CORD REELS




Used in heavy-duty applications such as warehouses, loading docks, OEM equipment, OSHA regulated service garages, muffler and oil change shops, institutional/state agencies, and other general industrial areas.

All steel construction finished in epoxy powder coat for dry location application. Suitable for base down, ceiling, or wall mounting. Adjustable cord outlet and locking ratchet, 3 ft. lead-in cord. Brushes are high density copper graphite. 50 ft., 16-3 gauge high visibility yellow cord type SJOOW-A.

Maximum voltage rating: 125V. Meet NEC requirements and ar UL Listed (E4961).

**No. 6F532.** Cord reel only. Hand lamp not included.

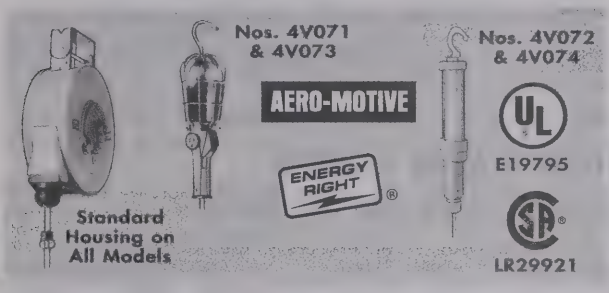
**No. 6F533.** Cord reel with hand lamp includes switch and recep tacle in handle. Use with 100W lamp (not included, recommen No. 2V293).

**No. 6F534.** Cord reel with automatic internal power switch. Han lamp is rubber without switch or receptacle and guard is viny coated metal. Use with 100W lamp (not included, recommend Nc 2V293). Meet OSHA requirements.

**No. 6F535.** Fluorescent hand lamp equipped with twin hook steel spring hanger; built in ballast and on/off swtich located i handle. 13W lamp included. For replacement, use F13BX lam No. 2V835. Meet OSHA requirements.

| Key | Ratings Amp | Recomm. Lamp | Side Outlet | Cord Length (Ft.) | Appleton Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 9A | — | N/A | 50 | RL5360 | 6F532 † | $464.47 | $317.75 | 22.0 |
| B | 9 | 100W | Yes | 50 | RL5365 | 6F533 | 527.52 | 333.50 | 23.0 |
| B | 5 | 100W | No | 50 | RL5367 | 6F534 | 552.93 | 349.25 | 23.0 |
| C | 5 | 13W* | No | 50 | RL5368 | 6F535 | 707.35 | 443.75 | 24.0 |

(*) Lamp included. (†) UL component recognized. (✓) Denotes energy efficient product.




**No. 4V070 Enclosed Cord Reel Less Lamp.** Compact enclosed cord reel for heavy-duty industrial applications including user installed lighting and small outlet boxes. Hoists operating at 120V are often powered by cord reels. Easy to adjust tension. 16/3 SJO cord. Maximum voltage rating of 125V. CSA Certified (LR29921) and UL (E19795) Component Recognized. Aero-Motive brand.

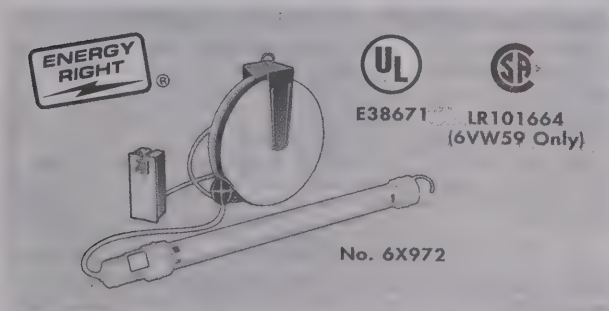
**Nos. 4V071 and 4V073 Cord Reels with Guard and Reflector.** For us with 100W lamp (not included, recommend rough service lam No. 2V293). High impact melamine body with interlocking halve and gasketed cord entry. 16/3 SJTOW(A) cord. Replaceable lam switch and NEMA 5-15R outlet. Complies with National Electri Code (NEC) 410-42. Aero-Motive brand. UL Listed (E19795) an CSA Certified (LR29921).

**✓Nos. 4V072 and 4V074 Cord Reels with Fluorescent Hand Lamp.** Lo temperature, plug-in lamps supply low cost lighting in the wor area. Provide continuous use without On/Off cycles during wor day. 16/3 SJTOW(A) cord. Comply with National Electric Cod (NEC) 410-42, 511-2f. Lamp is included, use F13BX lamp Nc 2V835 for replacement. UL Listed (E19795) and CSA Certifie (LR29921). Aero-Motive brand.

| Cord Length (Ft.) | Ratings* Outlet | Lamp | Aero-Motive Model | Stock No. | List | Each | Lots 3 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| 25 | 7 Amp | — | RI25-3GG | 4V070 | $263.62 | $218.50 | $207.58 | 8.5 |
| 25 | 6 Amp | 100W | RI25-3HGG | 4V071 | 316.99 | 263.00 | 249.85 | 9.0 |
| 35 | 5 Amp | 100W | RI45-3HGG | 4V073 | 418.36 | 319.50 | 303.53 | 14.0 |
| 25 | 7 Amp | 13W† | RI25-13WGG | ✓4V072 | 399.93 | 331.25 | 314.69 | 12.0 |
| 35 | 6 Amp | 13W† | RI45-13WGG | ✓4V074 | 517.25 | 409.75 | 389.26 | 16.0 |

(*) Ratings determined by UL for the service intended. (†) Lamp included.
(✓) Denotes energy efficient product.

## FLUORESCENT HAND LAMP & REEL




Retractable light reel has a slim shape and cooler operation fo use where other trouble lights cannot be used. Unit pulls out t desired length and retracts with slight tug on cord. Feature durable shatter-resistant (in normal use) co-extruded oute shield with no-glare reflector. Recessed starter switch in handl prevents false operation. Includes 15W lamp, replacement No 1V173. Has swivel hook for vertical hanging and is furnished wit 2 "S" hooks for horizontal hanging. 18/2 SJT cord with 3 pron plug is available in 25 or 40 ft. lengths. 115V, 60 Hz. Not for us in hazardous locations or explosive atmospheres. UL Liste (E38671). 6VW59 is CSA Certified (LR101664).

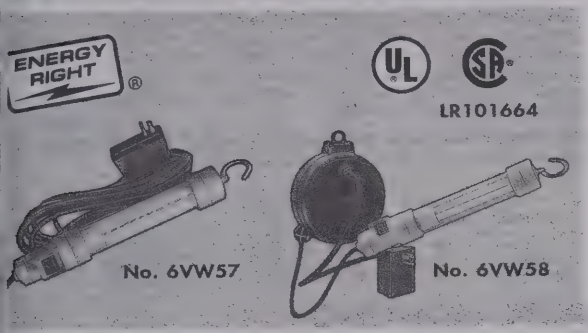
| Cord Length (Ft.) | Mfr. Model | Stock No. | Lamp Included List | Lamp Included Each | Lots 9 | Shpg Wt. |
|---|---|---|---|---|---|---|
| 25 | 15RF-25 | ✓6X972 | $41.50 | $38.55 | $34.70 | 7.4 |
| 40 | 15RF-40 | ✓6VW59 | 55.85 | 50.30 | 45.27 | 11.0 |

(✓) Denotes energy efficient product.

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

## COMPACT FLUORESCENT HAND LAMP AND CORD REEL




**No. 6VW57 Hand Lamp** provides cool 13W fluorescent light in compact size for general purpose temporary lighting. Glare-free, shatter-resistant outer housing with starter switch in handle, 15 ft. 18/2 SJT cord and 3-prong plug-in ballast. Includes 13W BX lamp, replacement No. 6V712 and hanger hook. Not for hazardous or explosive locations. UL Listed (E71937), CSA Certified (LR101664). (13PL-15).

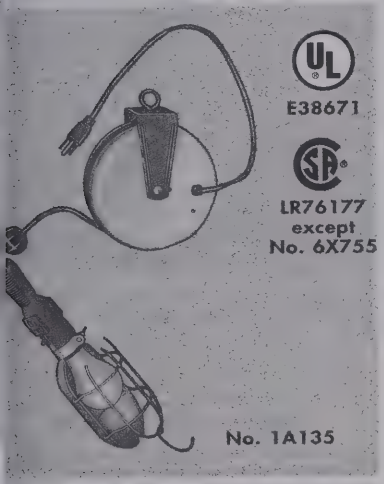
**No. 6VW57.** Shpg. wt. 2.8 lbs. List $34.61. Each ..... **$25.75**

**No. 6VW58 Hand Lamp with Multipurpose 20 ft. 18/2 SVT Cord Reel.** Hand lamp No. 6VW58 pulls out to desired length and locks; automatically retracts with slight tug on cord. Includes hardware for ceiling or wall mounting. Uses replacement lamp No. 6V712. Not for hazardous or explosive locations. UL Listed (E38671), CSA Certified (LR101664). (13RPL-20).

**No. 6VW58.** Shpg. wt. 4.4 lbs. List $47.85. Each ..... **$39.80**

(✓) Denotes energy efficient product.

## GENERAL PURPOSE CORD REEL LIGHTS




**Applications:** Light-duty use in garages or other lighting applications. Cord locks at desired working lengths; retracts with slight pull of cord. Not for use in hazardous or explosive locations, and for continuous duty use. Alert brand.

**Mounting:** Steel housing swivel mounts on wall or ceiling. 2 ft. installation cord.

**Lamp not included:** Recommend 75W rough service lamp No. 2V563, or see Index under Lamps, Incandescent.

**Nos. 1A135 and 6X756 Cord Reel Lights.** Feature a grounded handle with a 7-amp resettable circuit breaker. 1A135 has a thermoplastic enclosure, and 6X756 has a steel enclosure. Handle has tool tap outlet and push-through switch.

**No. 1W943 Cord Reel Light.** Handle has tool tap outlet and push-through switch.

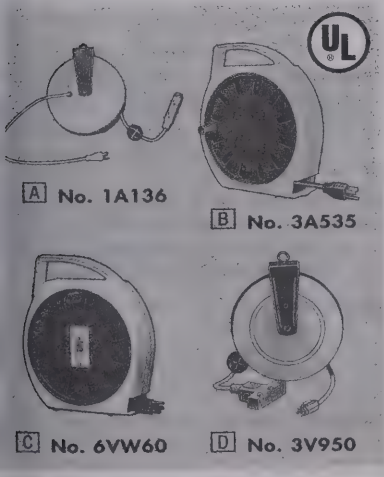
**No. 6X755 Special Purpose Light** does not have handle switch, side-outlet or uncoated metal parts to create spark hazard; lamp automatically lights when lamp cord is withdrawn from housing. Meets OSHA requirements for applications above hazardous locations (18" or more above the floor); for example, where danger caused by sparking exists. 115V, 60 Hz. UL Listed (E38671); CSA Certified (LR76177) except No. 6X755.

**CAUTION:** Not for use in hazardous or explosive locations.

| Gauge / Conductors | Cord | Guard | Cord Length (Ft.) | Max. Amps* | Housing Diameter (In.) | Mfr. Model | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **18/3** | SVT | Steel | 20 | 7 | 6½ | 900GP-TL-CB | **1A135** | $25.59 | **$22.50** | 4.0 |
| **16/3** | SJT | Steel | 25 | 10 | 9½ | 5000A-25G | **1W943** | 44.76 | **35.35** | 9.5 |
| **18/3** | SVT | Steel | 50 | 7 | 9½ | 5000-50GCB | **6X756** | 45.00 | **36.75** | 9.6 |
| **18/3** | SJT | Nylon Poly | 35 | 5 | 9½ | 5000-35G-SS | **6X755** | 51.44 | **40.70** | 10.0 |

(*) Represents total of lamp and other devices plugged into reel lamp.

## MULTI-OUTLET CORD REELS




A **Three Outlet Cord Reel** pulls out and locks at desired working length; automatically retracts with a slight pull of cord. 3 grounded female outlets on a molded tap. 9½" dia. steel housing swivel mounts on wall or ceiling, complete hardware included, has 2 ft. installation cord with 3-conductor male plug. Cord is 30 ft., 16/3 SJT type rated at 10 amps. 125V. Designed for light-duty applications. Not for use in explosive locations. UL Listed (E38671); CSA Certified (LR76177). (5000A-30GF).

**No. 1A136.** Shpg. wt. 10.0 lbs. List..... $41.09. Each ..... **$35.05**

B **Four Outlet Cord Reel** features carrying handle, 25 ft., 16/3 SJT cord with 3 conductor male plug. 10 amp circuit breaker protection and 4 grounded female outlets. 115V, 60 Hz. Yellow finish. UL Listed (E38671). (6000-25G).

**No. 3A535.** Shpg. wt. 3.6 lbs. List..... $19.66. Each ..... **$16.86**

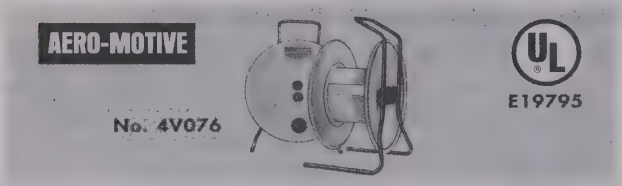
C **2-GFCI Outlet Cord Reel** features 20 ft. 14/3 SJT cord with 3-conductor male plug and resettable ground fault circuit interrupter for added safety. Includes convenient carrying handle and shatter resistant case. UL Listed (E113385) at 15 amps, 125V, 60 Hz. Yellow finish. (6000-20GCI).

**No. 6VW60.** Shpg. wt. 4.3 lbs. List ..... $39.96. Each ..... **$36.00**

D **Resettable, Circuit Breaker Protected 30' Retractable Reel.** Features 3 grounded outlets molded on safety yellow SJT 16/3 cord. Automatically retracts with pull. Rated for 10 amps @ 125V, 60 Hz. UL Listed.(E38671). (5000A-30GF-CB).

**No. 3V950.** Shpg. wt. 11.0 lbs. List..... $43.95. Each ..... **$35.55**

# PORTABLE HAND REWIND REELS AND TEMPORARY JOBSITE LIGHTING




Hand rewind reels provide a portable method of storing and handling wire, cable, extension cords, and hose. Steel construction and powder coated paint finish (yellow) ensure long life. Capacity 16/3 SO (0.430" dia.) is 200 ft., 14/3 SO (0.560" dia.) is 125 ft., and 12/3 SO (0.640" dia.) is 100 ft. Useable spool volume is 500 in. Dimensions: 13¼ Dia. x 17¼H x9⅞"W. UL Listed. Aero-Motive brand.

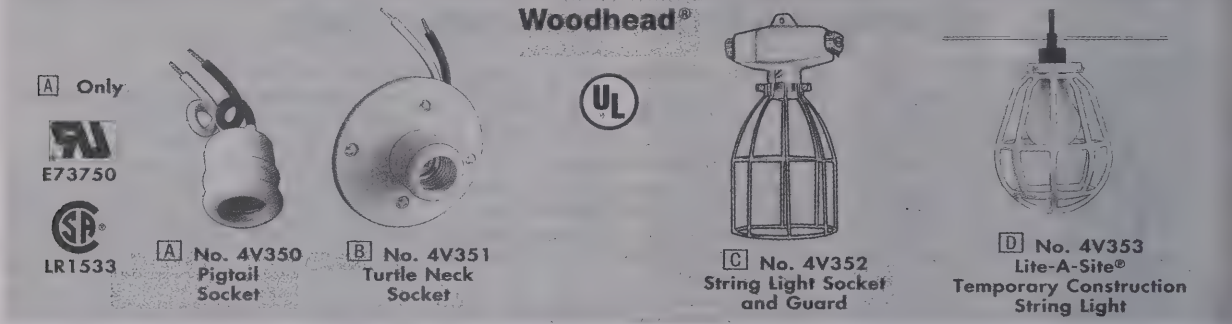
## PORTABLE HAND REWIND REELS

**Nos. 4V075 Reel and 4V077 Reel with Cable.** Feature heavy-dut design and have center cavity for easy access to the end of th conductor. No. 4V077 includes 100 ft., 16/3 SOW(A) cord. Whe using, reel should first be moved to the point of use; require cable should then be taken off reel and plugged into powe source. UL Listed (E19795).

**No. 4V076 Reel with Receptacle.** Equipped with 15 amp duple receptacle in reel housing. UL Listed (E19795).

| Receptacle | Cord Included | Aero-Motive Model | Stock No. | List | Each | Lots 3 | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| None | No | HW100GG | **4V075** | $117.30 | **$102.15** | **$97.04** | 13.0 |
| None | Yes | HW124GG | **4V077** | 198.90 | **177.25** | **168.39** | 24.0 |
| 15A Duplex | No | HW200GG | **4V076** | 128.52 | **110.00** | **104.50** | 13.0 |

## TEMPORARY JOBSITE LIGHTING




**Applications:** For general and electrical contractors. Used in new construction, renovation applications, and anywhere temporary jobsite lighting is required.

**Packaging:** Facilitates easy installation, handling, and storage.

**Lamps not included:** Recommend rough service lamp, No. 2V56 (except No. 4V353 recommend lamp No. 4V478) or see Inde under Lamps, Incandescent.

### A No. 4V350 Pigtail Socket

**Construction:** Weatherproof Safety-Yellow® socket with soft rubber lip to form a positive, watertight seal. Porcelain base interior is molded to cover. Full thread copper screw shell with medium base. Has 4½", 14 gauge wire leads. Woodhead brand. UL Recognized (E73750); CSA Certified (LR1533).

**Rating:** 600V, 15A, 300W.

**No. 4V350.** Shpg. wt. 0.2 lbs. List.....$6.34.
Each ..... **$5.82**

### B No. 4V351 Turtle Neck Socket

**Applications:** Used in areas where vibration might be a problem. Allows a more permanent lighting attachment. Metal reinforced mounting flange allows permanent weatherproof installation on 3½" or 4" boxes.

**Construction:** Floats in a soft rubber collar that absorbs vibration and shock impact. One piece NEOTEX® rubber construction. Supplied with 4½" pigtail leads, spring contact, and 3/8" shadeholder groove. UL Listed (E73750); CSA Certified (LR1533).

**Rating:** 600V, 15A, 300W.

**Dimensions:** 1½" diameter.

Woodhead brand.

**No. 4V351.** Shpg. wt. 06.05 lbs. List..... $81.82
Each ..... **$53.10**

### C No. 4V352 String Socket and Guard

**Applications:** Provides expandable, temporary lighting capable of withstanding weather, dampness, seepage, and corrosive environments. Used by contractors, utilities, mines, steel mills, ship builders, and petrochemical plants.

**Construction:** Tough, Safety-Yellow® NEOTEX ® rubber lampholder, with removable weatherproof socket, can be strung in the field with various types of available wire or cable. Shipped with terminals, ground strip, suspension hooks, and wire guard to protect lamp. Strain relief grips at each end keep out dust and grit that could interfere with electrical connection.

**Cord not included:** Accepts up to 10/3 SO cord (See Index under Cords).

**Dimensions:** NEOTEX® rubber housing is 4½L x 2W x 3¾"H. Socket is 1½" O.D. CSA Certified (LR1533) only. Woodhead brand.

**No. 4V352.** Shpg. wt. 1.3 lbs. List.....$48.69.
Each ..... **$43.10**

### D No. 4V353 Lite-A-Site Temporary Construction String Lights

**Construction:** Nonmetallic guard opens fron bottom, simplifying lamp replacement an protecting lamp (even if guard is unfas tened). String light is 100' long and is com plete with 10 guards and sockets at 1( intervals. Two 14-ga. wires with 100 watt per-socket capacity.

**Packaged:** For easy handling and storage.

**Installation:** Socket hanger brackets sna onto messenger wire (not included), trans ferring strain from the conductor wire and eliminating the need to thread socket onto the messenger wire. Requires n grounding.

**No. 4V353.** Shpg. wt. 6.0 lbs. List.....$81.82.
Each ..... **$53.10**

### No. 4V354 Open-End Replacement String Light Guard (Not shown)

**Applications:** Ideal for use with Nos. 4V350 4V351 and 4V352.

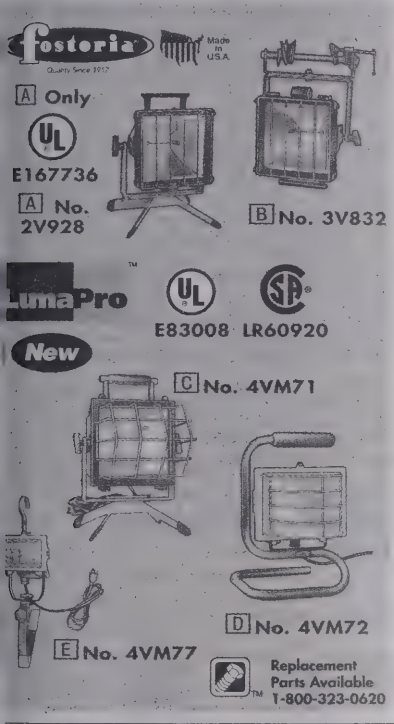
**Construction:** Heavy duty cage type guard i constructed of heavy-gauge steel wire May be grounded if required.

**No. 4V354.** Shpg. wt. 0.4 lbs. List.....$10.58.
Each ..... **$9.35**


When it comes to lighting, no distributor outshines Grainger.

# PORTABLE HAND CARRY LIGHTS AND INCANDESCENT TASK LIGHTS

ortable utility lighting provides rugged wide area, high intensi- floodlighting. Designed for temporary indoor/outdoor lighting pplications such as construction sites, manufacturing plants, aintenance areas, emergency and recreational use.
he Quartz Halogen utility lights provide bright, natural, color correct white light using 1/3 less energy than conventional incandescent lighting. Lightheads supply excellent beam control and instant light. See page 1055 for IES indoor/outdoor recommended task footcandle levels.




## HAND CARRY QUARTZ LIGHTS

### A HEAVY-DUTY HAND CARRY LIGHT

**Housing:** Cool to touch carrying handle. Black & safety yellow powder coat finish. **Lighthead:** Heavy-duty die-cast aluminum, large design and spring-loaded sockets dissipate heat rapidly. Beam adjusts up to 350° vertical aiming. Lens is impact resistant, weatherproof and gasketed. Includes wire lamp guard. 500W lamp included: Replacement lamp 500W, No. 2V384. Fixture can also take a 425W, No. 1F264; or a 300W, No. 2V529. Electrical: Liquid tight connections. All weather 15 ft./18 ga. 3-conductor cord with molded plug. Cord is UL Listed and CSA Certified for Indoor/Outdoor use and resistance to oils and water. Cord temp. range: 0° to 140°F. 120V, 60 Hz. **Approvals:** UL Listed (E167736). **Fostoria brand.**

### B HEAVY-DUTY CLAMP-ON LIGHT

Same Features as A, Except: unique clamp mechanism quickly mounts to any horizontal or vertical round surface up to 1½" in dia. or square surface up to 5½" wide. Unlike magnetic base units, clamp will not release light from surface even if bumped. Clamp parts cast iron. UL Listed (E167736). **Fostoria brand.**

### C PROFESSIONAL'S HAND CARRY LIGHT

**Housing:** Heavy-Duty die-cast aluminum housing. Hinged door frame for easy lamp installation. Foam grip handle and stable base. **Lighthead:** Suitable for outdoor and wet location. Waterproof gasket lens and tempered glass. Large wire guard included for safety. **Lamps Included:** Two 500W quartz lamps; order No. 2V384 for replacement. **Electrical:** Hi/Low switch, 12 ft., 18/3 grounded cord. UL Listed (E159679). **Luma Pro Brand.**

### D GENERAL PURPOSE HAND CARRY LIGHT

**Housing:** Die-cast aluminum housing. Hinged door and "S" handle with foam grip. **Lighthead:** Suitable for outdoor and wet location, waterproof gasket lens and tempered glass. **Lamps included:** 500W quartz lamp; order No. 2V384 for replacement. **Electrical:** 3 position dimmer switch (500W, 250W, Off), 12 ft., 18/3 grounded cord. UL listed (E159679) and CSA Certified (LR88449). **Luma Pro Brand.**

### E 150 WATT QUARTZ HALOGEN CLAMP LIGHT

**Housing:** Die-cast aluminum housing. Hinged door and 6" vinyl coated clamp and hook for versatile mounting. **Lighthead:** Suitable for outdoor and wet location, waterproof gasket lens and tempered glass. **Lamps included:** 150W quartz lamp, order No. 1E041 for replacement. **Electrical:** 12 ft., 18/3 grounded cord with On/Off switch. Operates on 120 volt current. UL Listed (E120560) and CSA certified (LR88449). **Luma Pro Brand.**

| Key | Max. Watt | Max. Lumens | Cord Length (Ft.) | Lumens Per Watt | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 500 | 11,100 | 15 | 22 | Fostoria | PUL-500Q-HC | **2V928** | $188.99 | **$132.45** | 11.0 |
| B | 500 | 11,100 | 15 | 22 | Fostoria | PUL-500Q-CO | **3V832** | 317.43 | **178.75** | 11.0 |
| C | 1000 | 22,200 | 12 | 22 | Luma Pro | — | ***New* 4VM71** | 149.80 | **112.50** | 15.0 |
| D | 500 | 11,100 | 12 | 22 | Luma Pro | — | ***New* 4VM72** | 31.25 | **16.25** | 6.0 |
| E | 150 | 2,400 | 12 | 22 | Luma Pro | — | ***New* 4VM77** | 30.00 | **18.66** | 4.0 |

## INCANDESCENT TASK LIGHTS




**A REFLECTOR LIGHTS.** Aluminum reflector features vinyl coated clamp and swivel ball joint. For indoor non-hazardous areas only. 120V, 60 Hz. Lamp not included. Fostoria brand.

**No. 2V647 has phenolic socket** with aluminum screw shell and 6 ft. 18/2 cord. UL Listed (E24601) for 100 watts. Recommended lamp No. 5V600.

**No. 2V647.** 100W Clamp-on Light (CL100).
Shpg. wt. 1.0 lbs. List ..... $15.99.
Each ..... **$14.13**

**No. 2V648 has deep reflector** and ceramic socket with copper screw shell. 8 ft. 18/3 cord. UL Listed (E24601) for 300 watts. Can be used with 250W heat lamp, No. 2V294, not included.

**No. 2V648.** 300W Reflector Light (CL-300).
Shpg. wt. 1.7 lbs. List ..... $25.98.
Each ..... **$21.03**

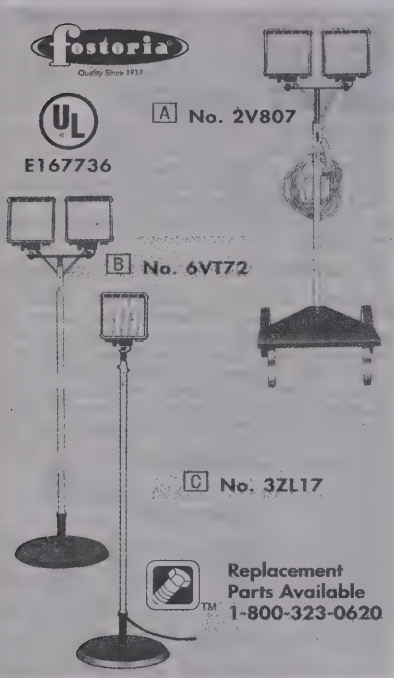
**B BROODER LAMPS.** Designed for use in chicken or pig brooders. Include heat resistant porcelain socket, 10½" diameter aluminum shade with wire guard and 8 ft. 18/2 SJT cord. Available with either vinyl coated clamp or handle for hanging. Accepts up to 250W heat lamp (No. 2V294), not included. UL Listed (E18387). Carol brand.

**No. 2V889.** Hang-up Lamp. Shpg. wt. 1.3 lbs.
List $9.99. Each..... **$9.55**

**No. 2V890.** Clamp-on Lamp. Shpg. wt. 1.7 lbs.
List $13.88. Each..... **$11.44**

# PORTABLE LIGHTCART, LIGHT STANDS, AND PEDESTAL LIGHTS

## HEAVY-DUTY QUARTZ LIGHTCART AND PEDESTAL LIGHTS




### A LIGHTCART

**Housing:** Unit is completely electrically assembled. 10" wheels and handle on mast provide easy transportation. 22" steel tray for supplies or mounting a generator. Welded steel frame construction. Black and safety yellow powder coat steel frame.

**Mast:** 1¼" diameter mast with cord wrap is adjustable to any height setting from 5 ft. 1" to 8 ft. 1".

**Lighthead:** Heavy-duty die-cast aluminum head, large design and spring-loaded sockets dissipate heat rapidly which increases lamp life. Adjustable 360° horizontally and 270° vertically. Allows all direction movement and independent aiming. Easily adjusted. Lens is impact resistant, weatherproof and gasketed. Includes wire lamp guard.

**500W lamps included:** Replacement lamp 500W, No. 2V384. Fixture can also take a 425W, No. 1F264; or 300W, No. 2V529.

**Electrical:** Connections are liquid tight for indoor/outdoor operation. GFCI and 15A duplex receptacle with double-pole On/Off switch on mast. All weather 15 ft. 3-conductor cord with molded plug. Cord is UL Listed and CSA Certified for indoor/outdoor use and resistance to oils and water. Cord temperature range: 0° to 140°F, 120V, 60 Hz.

### B, C PEDESTAL LIGHTS

**Housing:** Units are completely electrically assembled. Pedestal is 18" round. Steel frame construction. Black and safety yellow powder coat steel frame.

**Mast:** 1¼" square steel mast with cord wrap and guide. Adjusts easily every 6" from 5 ft. 2½" to 8 ft. 2½". Safety stop prevents overextension.

**Lighthead:** Heavy-duty die-cast aluminum head, large design and spring-loaded sockets dissipate heat rapidly which increases lamp life. Adjustable 360° horizontally and 270° vertically. Allows all direction movement and independent aiming. Easily adjusted. Lens is impact resistant, weatherproof and gasketed. Includes wire lamp guard.

**500W lamps included:** Replacement lamp 500W, No. 2V384. Fixture can also take a 425W, No. 1F264; or 300W, No. 2V529.

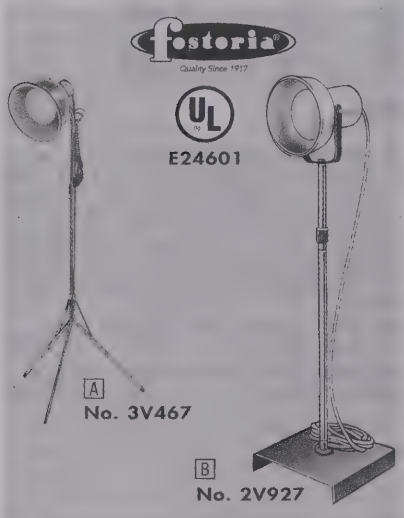
**Electrical:** Connections are liquid tight for indoor/outdoor operation. All weather 15 ft. 3-conductor cord with molded plug. Cord is UL Listed and CSA Certified for indoor/outdoor use and resistance to oils, water, and weather. Cord temperature range: 0° to 140°F, 120V, 60 Hz.

**Approvals:** UL Listed (E167736).

**Fostoria brand.**

| Key | No. of Lamps | Max. Watt | Max. Lumens | Cord Length (Ft.) | Lumens Per Watt | Fostoria Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2 | 1000 | 22,200 | 15 | 22 | PUL-1000Q-CB | **2V807** | $476.68 | **$330.50** | 47.0 |
| B | 2 | 1000 | 22,200 | 15 | 22 | PUL-1000Q-PB | **6VT72** | 470.70 | **329.00** | 58.0 |
| C | 1 | 500 | 11,100 | 15 | 22 | PUL-500Q-PB | **3ZL17** | 346.00 | **227.25** | 42.0 |

## INCANDESCENT LIGHT STANDS AND PEDESTAL LIGHT




Designed for use in maintenance and machinery repair, workshops, garages, body shops, manufacturing, construction, farms, and temporary dock lighting.

### A TRIPOD BASE LIGHT

**Housing:** Chrome-plated collapsible tripod base with rubber tips; spreads to 19" for maximum stability. Adjustable height from 36 to 52". Folds down to 27" for easy storage.

**Lighthead:** Medium base ceramic socket with copper screw shell. Adjustable 8" vented shade. Easy aiming with a 4" flex arm.

**Lamp not included:** Accepts up to 300W R40 (No. 2V411), 250W infrared heat lamp (No. 2V294) or 250W Par 38 lamp (No. 1G928).

**Electrical:** Includes 8 ft. 18/3 cordset. 120V, 60 Hz.

**Approvals:** UL Listed (E24601).

**Fostoria brand (PUL-300-MD).**

**No. 3V467.** Shpg. wt. 4.0 lbs. List.....$55.94. Each.....**$42.15**

### B PEDESTAL BASE LIGHT

**Housing:** Chrome-plated collapsible tripod base with rubber tips; spreads to 19" for maximum stability. Adjustable height from 36 to 52". Folds down to 27" for easy storage.

**Lighthead:** Medium base ceramic socket with copper screw shell. Adjustable 8" vented shade. Easy aiming with a 4" flex arm.

**Lamp not included:** Accepts up to 300W R40 (No. 2V411), 250W infrared heat lamp (No. 2V294) or 250W Par 38 lamp (No. 1G928).

**Electrical:** Includes 8 ft. 18/3 cordset. 120V, 60 Hz.

**Approvals:** UL Listed (E24601).

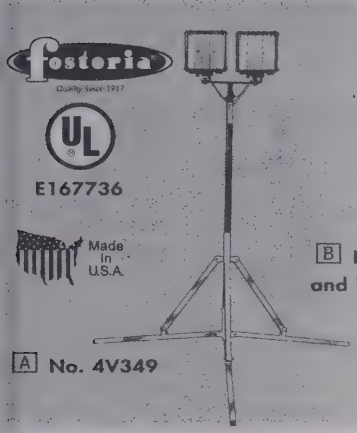
**Fostoria brand (PUL-300-HD).**

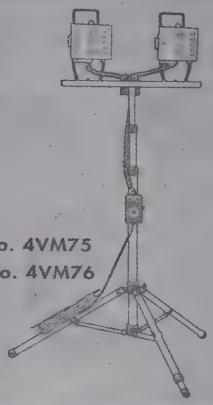
**No. 2V927.** Shpg. wt. 10.0 lbs. List $178.60. Each.....**$125.80**

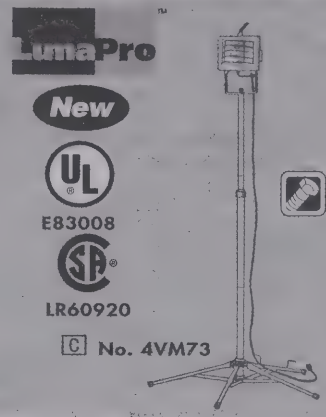

When it comes to lighting, no distributor outshines Grainger.

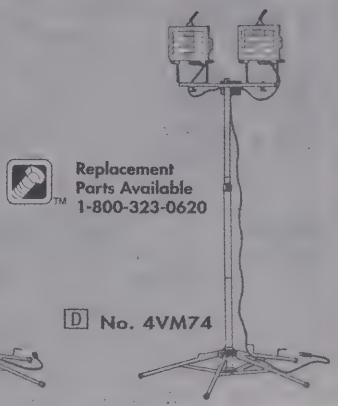
# LIGHT STANDS

## QUARTZ UTILITY LIGHT STANDS




### A HEAVY-DUTY TRIPOD LIGHT STAND

**ousing:** Unit is completely assembled ectrically. Weight balanced for 1-hand rrying. Steel frame construction. Black d safety yellow powder coat finish.

**ast:** 1¼" square steel mast has cord guide prevent tangling and tip-over. Adjusts sily by a spring-loaded plunger every 6" om 5 ft. 10" to a maximum of 11½ ft. fety stop prevents over extension.

**se:** Folds up and locks in place for easy orage. Tripod base has 4 height settings , 12, 18, and 24").

**ghthead:** Heavy-duty die-cast aluminum ad, large design and spring-loaded sock- s dissipate heat rapidly which increases mp life. Adjustable 360° horizontally and 0° vertically. Allows all direction move- ent and independent aiming. Easily djusted without tools. Lens is impact sistant, weatherproof, and gasketed. cludes wire lamp guard.

**500W lamps included:** Replacement lamp 500W, No. 2V384. Fixture can also use a 425W, No. 1F264; or a 300W, No. 2V529.

**Electrical:** Connections are liquid-tight for indoor/outdoor operation. All weather 15 ft., 3-cond. cord with molded plug. Cord is UL Listed for indoor/outdoor use and resistance to oils, water and weather. Cord temperature range: 0° to 140°F. 120V, 60 Hz.

**Approvals:** UL Listed (E167736)
Fostoria brand.

### B PROFESSIONAL'S WORK LIGHTS

**Housing:** Die-cast aluminum housing.

**Mast:** 1½" diameter steel poles adjust from 40" to 84" high.

**Base:** U-Stand base is adjustable for balance and stability.

**Lighthead:** No. 4VM75 includes a 3-position dimmer switch for each lighthead (250W, 500W, Off). No. 4VM76 includes independent On/Off switch for each lighthead. Lightheads adjust to make directing of light easy.

**Lamps Included:** No. 4VM73 uses two 500W quartz halogen lamps. Use No. 2V384 for replacement. 1600W No. 4VM76 includes two 500W and two 300W quartz halogen lamps. Use No. 2V384 for 500W replacement and No. 2V529 for 300W replacement.

**Electrical:** Both units come with 20 ft. grounded cord, 14/3 gauge. Both units have a storage bracket, weatherproof duplex ground fault (GFCI) receptacle and tip over safety switch which automatically shuts light off if fixture falls. Product is suited for outdoor and wet weather applications.

**Approvals:** For No. 4VM75, UL Listed (E159679) and CSA Certified (LR88449). For 4VM76, UL Listed (E159679). LumaPro brand.

### C GENERAL PURPOSE TRIPOD LIGHT STANDS

**Housing:** Die-cast aluminum housing.

**Mast:** 1½" diameter steel poles adjust from 40" to 84" high.

**Base:** U-stand base is adjustable for balance and stability.

**Lighthead:** includes wireguard. Lightheads adjust to make directing of light easy.

**Lamps Included:** No. 4VM73 uses one and No. 4VM74 uses two 500W quartz halogen lamps. Use No. 2V384 for replacement.

**Electrical:** includes 6 ft. 18/3 gauge grounded cord.

**Approvals:** UL Listed (E159679) and CSA Certified (LR88449) LumaPro brand.

### TRIPOD COMPARISON CHART (Nos. 4V349, 4VM75, 4VM76, 4VM73, & 4VM74)

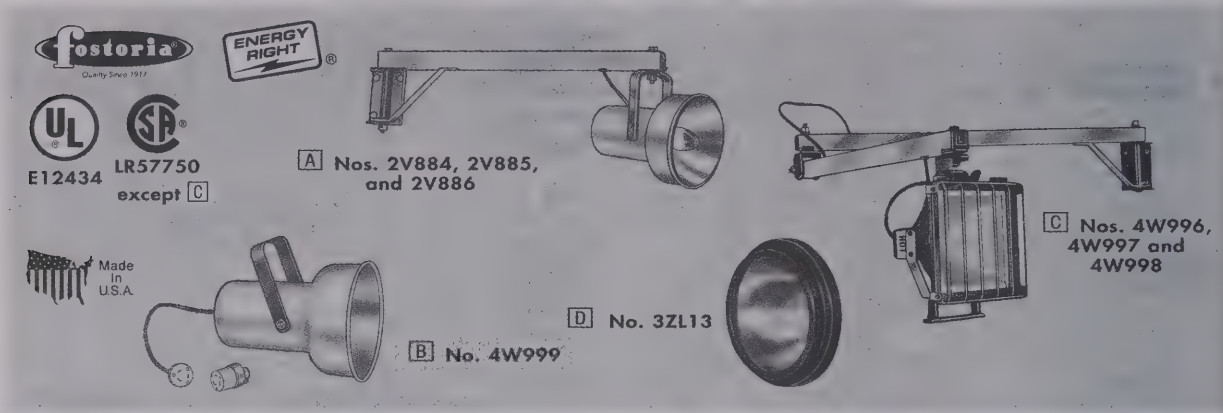
| | No. 4V349—Fostoria | Nos. 4VM75 & 4VM76—Luma Pro | Nos. 4VM73 & 4VM74—Luma Pro |
|---|---|---|---|
| eight | 41 lbs. | 24 lbs. (4VM75) 26 lbs. (4VM76) | 12 lbs. (4VM73) 15 lbs. (4VM74) |
| ax. Height | 11' 6" | 84" | 84" |
| ight Adjust. Method | Auto Engaging Plunger | Exterior Twist Lock | Exterior Twist Lock |
| se Adjustment (Dia.) | Variable: 55", 64", 70", 74" | 29-39" | 29-39" |
| rdset | SJTW-A; All Climate | SJT | SJT |
| rdset Length | 15 ft. | 20 ft. | 6 ft. |
| ghthead Adjustment | 155° | 150° | 150° |
| rtical Aiming | 355° | 360° | 360° |
| fety Stop | Yes | Yes | Yes |
| bing Size—Mast | 1 to 1¼" | 1½" | 1½" |
| bing Gauge—Mast | 12 ga. & 18 ga. | 20 ga. | 20 ga. |
| mp Guard | Heavy-Duty | Heavy-Duty (4VM76) Yes (4VM75) | Yes |
| ish | Safety Yellow & Black Powder Coat | Safety Yellow with Black Heads | Safety Yellow |
| rd Guide | Yes, Prevents Fixture Tipping from Cord | Yes | Yes |

### LIGHT STAND ORDERING DATA

| y | Max. Watt | Max. Lumens | Cord Length (Ft.) | Lumens Per Watt | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1000 | 22,200 | 15 | 22 | Fostoria | PUL-1000Q-TB | **4V349** | $611.57 | **$343.75** | 42.0 |
| | 1000 | 22,200 | 20 | 22 | LumaPro | – | ***New*4VM75** | 182.70 | **119.00** | 24.0 |
| | 1600 | 34,100 | 20 | 21 | LumaPro | – | ***New*4VM76** | 240.60 | **221.25** | 26.0 |
| | 500 | 11,100 | 6 | 22 | LumaPro | – | ***New*4VM73** | 53.50 | **40.55** | 12.0 |
| | 1000 | 22,200 | 6 | 22 | LumaPro | – | ***New*4VM74** | 71.30 | **50.50** | 15.0 |

# INDUSTRIAL DOCK LIGHTS

## HEAVY-DUTY QUARTZ HALOGEN AND HPS DOCK LIGHTS




### A & B HIGH PRESSURE SODIUM (HPS) ENERGY SAVING DOCK LIGHTS

**Applications:** Fixtures provide highest footcandle levels with high efficiency (up to 63% energy savings, versus 150W incandescent PAR lamp). HPS lamps have an average rated lamp-life of 24,000 hours, or twelve times the average rated life of incandescent PAR lamps. HPS models use 50W HPS lamp (No. 2V657, included and installed in fixture). Refer to lamp characteristics chart. HPS models operate on reactor-type NPF 120V, 60 Hz ballast. A 5 ft. SJT/SJTO 3-wire cordset with grounded plug is included (except No. 4W999) for easy connection to a grounded wall receptacle. UL Listed (E12434); CSA Certified (LR57750).

A **24, 40 and 60" Models:** 1½" square tubing arms. No. 2V884 has one 24" arm. No. 2V885 has one 24" and one 16" arm. No. 2V886 has one 34" and one 26" arm.

B **No. 4W999 HPS Dock Light Conversion Kit:** Enables easy conversion to a HPS unit from a previously existing incandescent dock light. Consists of a shade assembly with ballast and ignitor, yoke, high purity aluminum reflector, a 12" length of cord, and connector plugs for connecting to existing incandescent dock lights. Yoke accepts 1/2" bolt. 50W HPS lamp included and installed. 120V, 60 Hz operation.

### C INDOOR/OUTDOOR QUARTZ HALOGEN DOCK LIGHTS

**Applications:** Quartz Halogen is most effective in new, longer trailers.

**Construction:** 500W, Heavy-duty die-cast aluminum lighthead with a wide area beam pattern. Provides up to 11,000 lumens for effectively illuminating new longer truck trailers. Also effective for general illumination at dock areas and work stations. Lighthead is gasketed for weathertight construction, making these models suitable for outdoor applications. Includes an impact-resistant lens and sturdy wire lamp guard. Handle provided for easy movement and positioning. A 5 ft. SJTW-A 3-wire cordset with grounded plug is included for easy connection to a grounded wall receptacle.

**Lamp included:** Replacement lamp 300W, No. 2V529; 425W, No. 1F264; or 500W, No. 2V384.

Same arm construction and movement as incandescent and HPS models. UL Listed (E12434).

Model No. 4W996 has one 24" arm.

Model No. 4W997 has one 24" and one 16" arm.

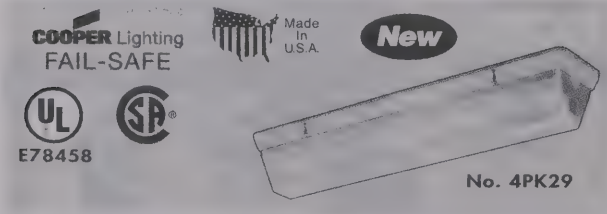
Model No. 4W998 has one 34" and one 26" arm.

D **No. 3ZL13 Optional Polycarbonate Lens** (for HPS models only) added easily to HPS dock light to provide better protection allows dock light to meet OSHA standard for food and pharmaceutical processing industries. Fostoria brand.

| Key | Type | No. of Arms | Max. Length (In.) | Fostoria Model | | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | High Pressure Sodium (HPS) | 1 | 24 | DKL-24-HPS | ✓ | **2V884** | $177.00 | **$147.30** | 12.0 |
| A | High Pressure Sodium (HPS) | 2 | 40 | DKL-40VA-HPS | ✓ | **2V885** | 184.95 | **151.25** | 16.0 |
| A | High Pressure Sodium (HPS) | 2 | 60 | DKL-60VA-HPS | ✓ | **2V886** | 247.02 | **188.50** | 20.0 |
| B | High Pressure Sodium (HPS) | — | — | DKL-CK1-HPS | ✓ | **4W999** | 265.80 | **132.40** | 6.0 |
| C | Quartz Halogen | 1 | 24 | DKL-24-QH | | **4W996** | 256.67 | **129.95** | 15.0 |
| C | Quartz Halogen | 2 | 40 | DKL-40VA-QH | | **4W997** | 288.33 | **134.90** | 18.0 |
| C | Quartz Halogen | 2 | 60 | DKL-60VA-QH | | **4W998** | 339.99 | **161.75** | 22.0 |
| D | Optional Polycarbonate Lens | — | — | PL-1 | | **3ZL13** | 68.00 | **60.20** | 1.0 |

(✓) Denotes energy efficient product.

## HIGH ABUSE DOCK LIGHT




Dependable energy-efficient dock light ensures safe, visible lighting for truck loading docks. Can be mounted on either side of loading dock. Constructed of a sturdy polycarbonate material which ensures years of dependable service. UL Listed E78458 and CSA Certified for wet locations. Lamp not included. Suggested No. 2V869. Fail-Safe brand. (FLMC-20N-120LT-SYL)

***New*** **No. 4PK29.** Shpg. wt. 7.2 lbs. List ..... $194.80.
Each ..... $163.00

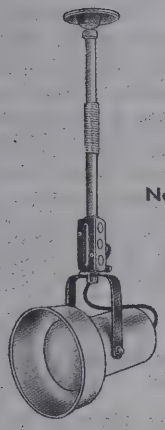

*When it comes to lighting, no distributor outshines Grainger.*

# HEAVY-DUTY INCANDESCENT DOCK LIGHTS AND ACCESSORIES

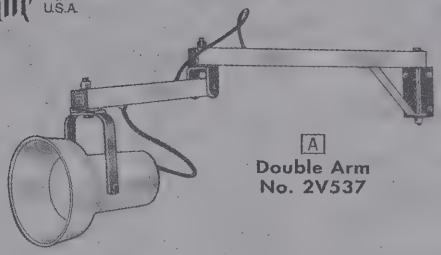
fostoria® Quality Since 1917

Made In U.S.A.

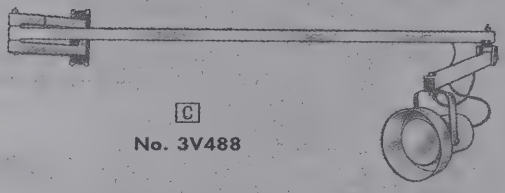
LR57750



B
No. 2V923



A
Double Arm
No. 2V537



C
No. 3V488

**ghtheads:** Heavy gauge, non-rusting spun aluminum reflector is ¼ x 7¾" dia. at lamp end and swivels 300° in horizontal plane. n/Off toggle switch and high temperature porcelain socket with ckel-plated copper screw shell. Socket has push-button spring aded suspension mounting for lamp protection. Powder coated -visibility yellow finish.

**m Construction and Movement:** 14-gauge, 1½" square tubing arms low for vertical and horizontal adjustment. Bearings at all ring joints and rotation stop brackets protect cord. The vertical just feature on all 40, 60 and 90" models allow fixture to "flex ray" with the door, if the door is accidentally closed, and lows for exact positioning. Arms swivel 300° in the horizontal ane and 210° in the vertical plane.

**ounting Base:** 24, 40, and 60" models have a 3 x 5" base, painted ack, and fabricated from 3/16" steel for sturdy mounting sup- ort. 90" model has additional base support. Base accepts 3/8" a. mounting hardware for attachment to a vertical surface. xture swivels 180° at the base area. No. 2V923 has a swivel nger base for overhead installation to a standard 4" junction ox.

**mp not included:** Accepts 150-300W, PAR 38, R or BR-series mps, medium base, 120V rated, in a wide varietry of beam pat- rns. Suggest using 150W PAR Lamp No. 4PL09 or select a lamp om selection guide, or see Index under Lamps, Incandescent.

**ectrical:** 24, 40, 60, and 90" models have a 5' SJT/SJTO 3-wire ounded cordset with grounded plug, for easy connection to a ounded wall receptacle.

**pprovals:** UL Listed; CSA Certified.

A **24, 40 and 60" Models:** 1½" square tubing arms. No. 2V536 has one 24" arm. No. 2V537 has one 24 and one 16" arm. No. 3V371 has one 34 and one 26" arm. UL Listed (E12434); CSA Certified (LR57750).

B **No. 2V923 25" Swing Away Dock Light:** Unit comes with 25" rigid round arm with a flexible coil, which allows fixture to swing out of the way when struck from any direction. Returns to original position after contact. For overhead mounting only, to a std. 4" junction box. UL Listed (E12434); CSA Certified (LR57750).

C **No. 3V488 90" Railcar Dock Light:** Used in railcar loading applications or where extended length is required. Triple arm 90" extension with reinforced double-arm construction for mounting support. Has one 12, one 62 and one 16" arm. UL Listed (E12434); CSA Certified (LR57750).

## ACCESSORIES

**Lampguard for Incandescent and HPS Dock Lights.** Protects lamps from direct blows and reduces lamp theft.

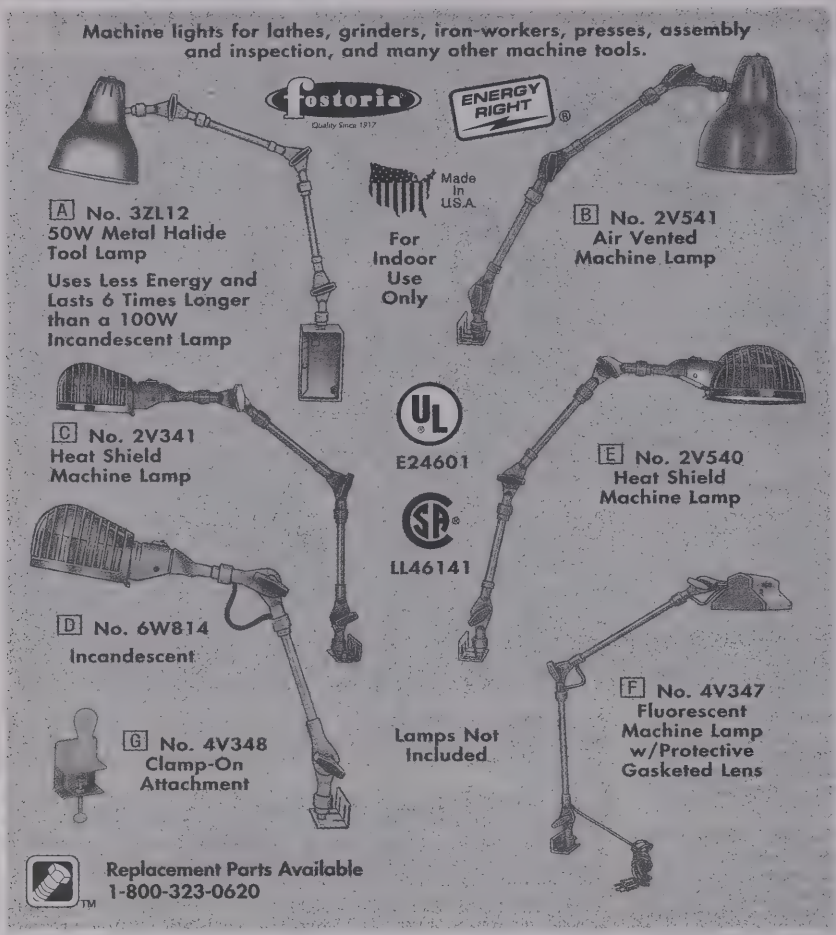
**No. 2V925.** Shpg. wt. 0.5 lbs. List $19.66. Each ..... **$16.46**

**Glare Shield for Incandescent and HPS Dock Lights.** Eliminates angular glare while maintaining light on work area.

**No. 2V926.** Shpg. wt. 2.2 lbs. List $54.52. Each ..... **$44.75**

| Key | Type | Arm Length (In.) | Fostoria Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Incandescent | 24 | DKL-24 | **2V536** | $97.34 | **$81.75** | 11.0 |
| A | Incandescent | 40 | DKL-40VA | **2V537** | 109.25 | **91.75** | 15.0 |
| A | Incandescent | 60 | DKL-60VA | **3V371** | 143.39 | **111.65** | 18.0 |
| B | Incandescent | 25 | DKL-25SA | **2V923** | 90.43 | **78.60** | 8.0 |
| C | Incandescent | 90 | DKL-90VA | **3V488** | 308.96 | **263.00** | 27.0 |

# HEAVY-DUTY MACHINE TOOL LIGHTS




**Lightheads:** Designed for strength and function. Constructed of 22 ga. stamped steel; charcoal-gray exterior, and hi-reflective white interior. Replaceable 10 amp rocker switch; rugged, long life glazed porcelain socket with nickel plated copper screw shell.

**Arms:** Variety of lengths to meet specific job application. Will withstand heavy vibration while retaining position. Adjustable disc and collar joints allow 135° vertical and 180° horizontal rotation of 5/8" dia. steel tube arms. Bar knobs adjust and secure fixture in position.

**Mounting base:** Permanent steel base for horizontal or vertical mounting provides 360° rotation. (See optional Clamp—on Attachment No. 4V348, below.)

**Lamp not included:** No. 3ZL12 uses a 50 watt MH lamp (No. 1F398). No. 4V347 uses two 13 watt fluorescent lamps (No. 2V835). Lamps have up to 10 times the life of an incandescent lamp and use 75% less energy. All other models use medium screw base A-19, A-21 or smaller incandescent bulbs. (See chart for recommended lamp.)

**Electrical:** Heavy duty, oil resistant, 8', 18/3 SJTO cordset with molded and grounded plug.

**Approvals:** No. 3ZL12 is UL Listed only. All other models are UL Listed (E24601) and CSA Certified (LL46141).

## SUGGESTED APPLICATIONS

| Stock No. | Machine Tool | Assembly | Drafting | Inspection Small Area | Inspection General | Inspection Large Area |
|---|---|---|---|---|---|---|
| 3ZL12 | X | X | X | X | X | X |
| 2V541 | X | X | | | X | X |
| 6W817 | X | X | | | X | X |
| 6W815 | X | X | | X | X | |
| 2V341 | X | X | | X | X | |
| 6W814 | X | X | | X | X | |
| 6W816 | X | X | | | X | |
| 2V540 | X | X | | | X | |
| 4V347 | X | X | X | X | X | X |

| Key | Lamp Type | Recommended Lamp Stock No. | Watts | Lumens | Arm Length (In.) | Overall Reach (In.) | Reflector (In.) | Fostoria Model | Stock No. | List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Metal Halide | 1F398 | 50 Only | 3500 | Two 10 | 35½ | 6⅞ Dia. Air Vented | 55-MH-029 | ✓3ZL12 | $198.00 | **$132.25** | 9.2 |
| B | Incandescent | 5V600 | 100 Max. | 1750 | Two 15 | 38½ | 6⅞ Dia. Air Vented | 66-VCX-701B | **2V541** | 102.57 | **81.00** | 6.0 |
| B | Incandescent | 5V600 | 100 Max. | 1750 | Two 10 | 29½ | 6⅞ Dia. Air Vented | 55-VCX-701B | **6W817** | 90.05 | **78.75** | 5.0 |
| C | Incandescent | 5V598 | 60 Max. | 900 | Two 10 | 35½ | 5 x 3⅞ with Koolshield | 55-BH-701A | **2V341** | 90.14 | **68.30** | 4.8 |
| D | Incandescent | 5V598 | 60 Max. | 900 | One 10 | 25 | 5 x 3⅞ with Koolshield | 5-BH-701A | **6W814** | 137.98 | **67.25** | 5.0 |
| D | Incandescent | 5V598 | 60 Max. | 900 | Two 15 | 44½ | 5 x 3⅞ with Koolshield | 66-BH-701A | **6W815** | 94.74 | **78.75** | 5.5 |
| E | Incandescent | 5V599 | 75 Max. | 1190 | Two 15 | 44½ | 6⅞ Dia. with Koolshield | 66-BP-701A | **6W816** | 164.92 | **83.55** | 5.5 |
| E | Incandescent | 5V599 | 75 Max. | 1190 | Two 10 | 35½ | 6⅞ Dia. with Koolshield | 55-BP-701A | **2V540** | 94.30 | **73.15** | 5.5 |
| F | Fluorescent | 2V835 | 26 Only | 1650 | Two 15 | 38½ | 10¼ x 4⅛ Protective Lens Cover | 66-FTT26-701B | ✓**4V347** | 165.84 | **125.00** | 7.7 |

(✓) Denotes energy efficient product.

**G CLAMP-ON ATTACHMENT.** Fits machine tool lamps above except 3ZL12.

**No. 4V348.** Shpg. wt. 0.7 lbs. List ..... $23.55
Each ..... $19.40



When it comes to lighting, no distributor outshines Grainger.

# WATERPROOF MACHINE LIGHTS AND INCANDESCENT TASK LIGHTING

## WATERPROOF MACHINE LIGHTS

### HALOGEN LIGHTS

**NEMA 4 waterproof, oil-tight, and dustproof**
**Bright white halogen light, see chart below for replacement lamp**
**Safe, low voltage lighting**
**Nos. 4PD01, 4PD03, and 4PD04 have 12V transformer integrated in base**
**No. 4PD02 has a remote mount transformer**

ount directly to work surface or use optional clamp. Zinc cast, sitive lock swivels hold light fixture in desured position with- t slipping. Convenient phenolic handle and waterproof On/Off vitch on shade. Vented aluminum shade stays cool for operator mfort. 9-ft. grounded cord is water and oil resistant with liq- d tight fittings. 55 watt/12V halogen lamp included. UL Listed.

### FLUORESCENT LIGHTS

eets OSHA Standards for use in food and pharmaceutical pro- ssing, lathes, and machine enclosures where coolants, sol- nts, and cutting fluids are present. 21" long fixture is water- oof (not submersible), dust proof, and UL listed for NEMA 13 e. Fixture is attached to an in-line ballast which has stainless eel mounting clips, is not NEMA 13 rated, and must be located t of wet or potentially wet locations.

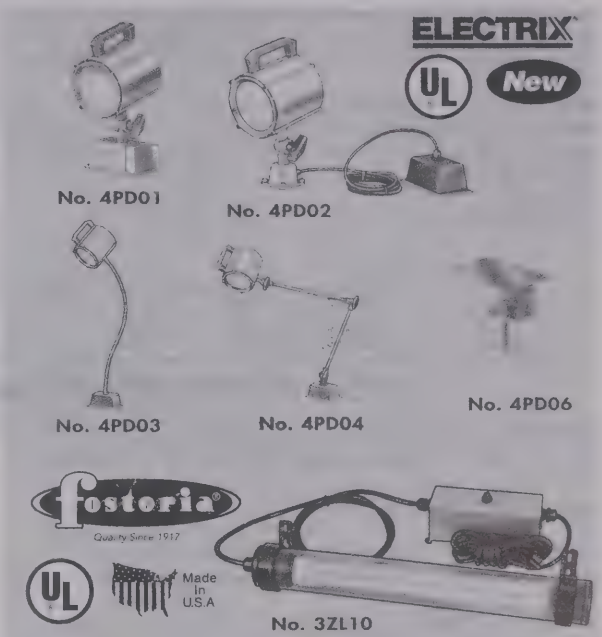
**mp included:** 39W Biax® compact fluorescent lamp. ecommended replacement 39W, No. 6V039.

**ctrical:** 77" cord from fixture is 18/4 oil--resistant SJTO. 8' cord- t (with grounded molded plug) from the ballast is 18/3 TO/SJT. Push button switch on ballast enclosure. 120V, 60Hz.

**provals:** UL Listed for USA and Canada (E24601).

**o. 3ZL10 with acrylic lens** offers greater resistance to shattering d good resistance to scratching.

**o. 3ZL11 with borosilicate lens** offers greater resistance to chemi- ls and hot debris from machining equipment.




| Description | Lamp Type | Transformer | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **10" Machine Light** | 55W Halogen | Integrated | Electrix | 7700 Gray | ***New*4PD01** | $218.90 | **$173.25** | 5.0 |
| **9½" Machine Light** | 55W Halogen | Remote | Electrix | 7701 Gray | ***New*4PD02** | 242.90 | **189.75** | 5.5 |
| **27" Gooseneck Light** | 55W Halogen | Integrated | Electrix | 7712 Black | ***New*4PD03** | 232.90 | **179.75** | 6.0 |
| **32" Machine Light** | 55W Halogen | Integrated | Electrix | 7750 Gray | ***New*4PD04** | 232.90 | **202.00** | 6.5 |
| **Acrylic Lens** | 39W Fluorescent | — | Fostoria | 21-TLA-IBA | ✓**3ZL10** | 276.00 | **186.25** | 8.7 |
| **Borosilicate Lens** | 39W Fluorescent | — | Fostoria | 21-TLB-IBA | ✓**3ZL11** | 296.00 | **200.00** | 9.5 |

### *NEW!* ACCESSORIES FOR ELECTRIX MACHINE LIGHTS

| Description | Electrix Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **55W Halogen Replacement Lamp for Nos. 4PD01, 4PD02, 4PD03, 4PD04** | 1768 | **4PC98** | $13.50 | **$9.75** | 0.2 |
| **Steel Clamp for use with No. 4PD02 only (opens 2" wide)** | VC-4 | **4PD05** | 21.00 | **17.00** | 1.3 |
| **Steel Clamp for use with Nos. 4PD01, 4PD03, 4PD04 only (opens 2" wide)** | VC-8 | **4PD06** | 23.50 | **18.50** | 1.5 |

✓) Denotes energy efficient product

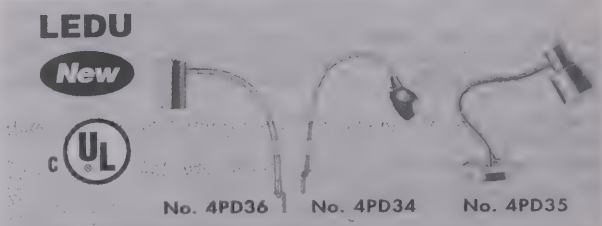
## INCANDESCENT TASK LIGHTING

ask lights have a chrome plated, flexible arm to hold position ell and durable metal shade with black finish. For indoor use nly. UL/C-UL listed. 120V, 60 Hz. Lamps not included; order om chart below.

**o. 4PD33 and No. 4PD34** durable machine tool lights for general op applications, assembly, and inspection. Each has 8 ft. 2-wire rd and uses 60 watt incandescent lamp.

**o. 4PD35** has strong magnetic base that securely sticks to metal rfaces. Has 8 ft. 3-wire cord and uses 60 watt incandescent mp.

**o. 4PD36** machine tool light has small, compact head to fit into ght areas. For medium-duty applications. Has 8 ft. 2-wire cord nd uses 25 watt incandescent lamp.




| Description | Arm Reach (In.) | Uses Lamp Stock No.* | Ledu Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Compact Head Light** | 18 | 6VX30 | MLFR-12 | **4PD36** | $34.17 | **$29.40** | 2.5 |
| **Domed Metal Light** | 24 | 5V598 | MLF24I-60 | **4PD33** | 48.75 | **37.15** | 4.0 |
| **Domed Metal Light** | 36 | 5V598 | MLF36I-60 | **4PD34** | 56.15 | **45.75** | 4.0 |
| **Magnetic Base Light** | 18 | 5V598 | MLFI-60/M | **4PD35** | 59.56 | **49.65** | 4.0 |

# INCANDESCENT TASK LIGHTING

## ECONOMY TASK LIGHTS

**Applications:** For office, assembly, quality assurance.

**Construction:** Vented steel shade to help dissipate heat; tension control knobs hold shade and arm in place; 36" adjustable arm with steel springs.

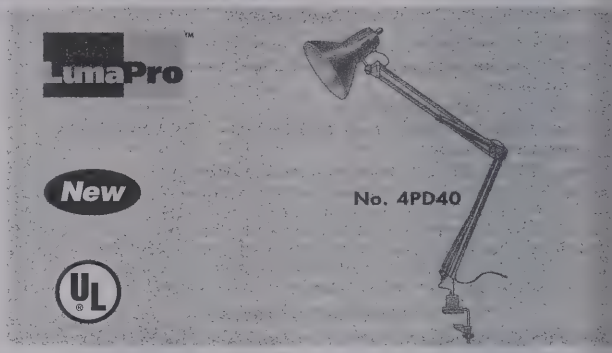
**Base:** Clamp-on with adjustable "D" bracket.

**Cord:** 5 ft., 2 conductor cord 120v, 60Hz.

**Lamp not included:** Accepts up to 100 watt incandescent lamp; suggest No. 5V600.

UL Listed.

LumaPro Brand.




| Color | *New!* Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|
| **Black** | **4PD40** | $29.11 | **$19.64** | 2.5 |
| **White** | **4PD41** | 29.11 | **19.64** | 2.5 |

## LEDU ECONOMY INCANDESCENT TASK LIGHTS

**Construction:** "King Swing Arm" series task light combines 6" diameter steel shade with decorative "Easy Dial" switch. Heat resistant grip and ¾" adjustable spring balanced arm provide flexible positioning.

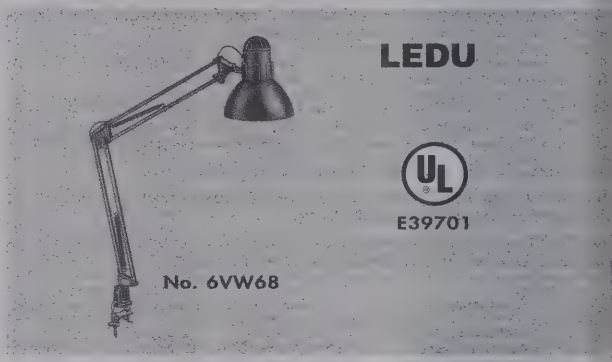
**Cord:** 6 ft. two conductor with metal clamp on bracket included. 120V, 60 Hz.

**Finish:** Available in white with gray accents or black.

**Lamp not included:** Porcelain socket accepts up to 100 watt incandescent lamp, No. 5V600.

UL Listed (E39701).

Ledu brand (LE421).




| Color | Stock No. | Less Lamp List | Less Lamp Each | Shpg. Wt. |
|---|---|---|---|---|
| **White/Gray** | **6VW69** | $37.43 | **$26.20** | 3.5 |
| **Matte Black** | **6VW68** | 37.43 | **26.20** | 3.5 |

## INDUSTRIAL TASK LIGHTS

**Nos. 2V472 and 2V473. Common features:** Both models have precision balanced arms with steel springs for positioning. Tension control knobs rigidly hold 7" vented shade and arm in position.

**Mounting:** 42" Mounting arm reach. Adjustable "D" bracket holds unit in vertical position, even when bolted at sharp incline.

**Lamp not included:** Accepts up to 100 watt incandescent lamp No. 5V600.

**Cord:** Equipped with 6 ft., two conductor cord. 120V. 60Hz.

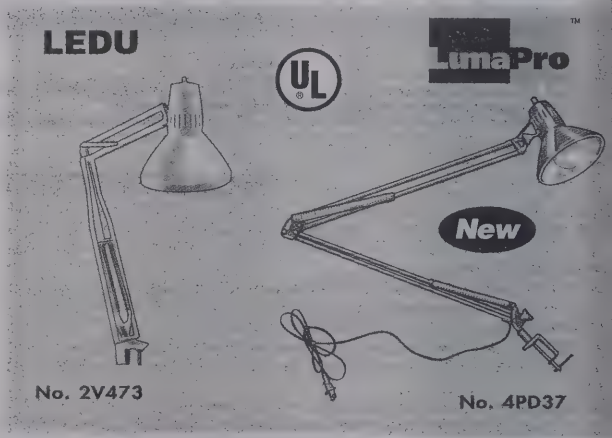
UL Listed. Ledu brand.

**No. 4PD37 and No. 4PD38.** Economical task light adjusts easily and holds its position with tension control knobs. Adjustable "D" bracket holds fixture in vertical position, even when bolted at a sharp incline.

**Lamp not included:** Accepts up to 100 watt bulb. Replacement lamp No. 5V600.

**Cord:** Equipped with 6 ft., two conductor cord. 120V. 60Hz.

UL Listed. LumaPro brand.

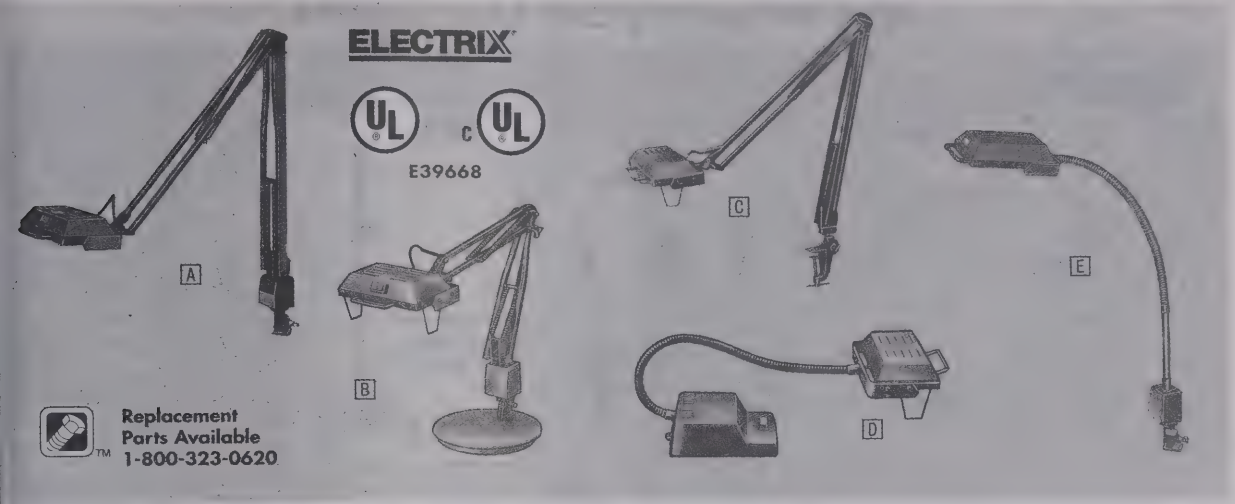



| Color | Use lamp Stock No. | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Black** | 5V600 | Ledu | UN12D | **2V472** | $105.57 | **$51.05** | 4.2 |
| **White** | 5V600 | Ledu | UN12D | **2V473** | 105.57 | **51.05** | 4.3 |
| **Black** | 5V600 | LumaPro | — | ***New* 4PD37** | 74.58 | **38.25** | 3.2 |
| **White** | 5V600 | LumaPro | — | ***New* 4PD38** | 74.58 | **38.25** | 3.2 |



*When it comes to lighting, no distributor outshines Grainger.*

# QUARTZ HALOGEN TASK LIGHTS




**onstruction:** 5 x 6 x 2" rugged metal shade with scientifically signed and patented reflector produces 700 footcandles of ght output. Porcelain socket and UV protection glass lens.

**mp included:** 100W halogen lamp provides powerful, bright-hite illumination over entire work surface. Delivers twice the ght output of a standard 100W incandescent lamp and lasts 4 mes as long. **Replacement lamp No. 1E362.**

**nish:** Black

**pprovals:** UL Listed for USA and Canada for indoor use only 39668).

**] No. 2V945 Halogen Work/Drafting Light**

**pplications:** For assembly, quality control inspection, machining, rafting, or general and large area applications.

**ase:** Provided with fully adjustable zinc-cast clamp. lternatively, can be used with all optional mounting accessories ee chart on page 1168). Features a 700W 3-prong convenience utlet which can be used with other electrical appliances.

**rms:** Ruggedly constructed steel suspension spring arms are quipped with locking control knobs at arm joints.

**ord:** 2-conductor, 8 ft. cord included.

**] No. 2V942 Halogen Work/Desk Light**

**pplications:** For desk lighting, drafting, or inspection work.

**ase:** 8" Diameter heavily weighted base with exclusive thumb-crew to lock lamp to base. Can be used with all optional mount-ng accessories (see chart on page 1168).

**rms:** Ruggedly constructed steel suspension arms are equipped ith locking control knobs at arm joints.

**ord:** 2-conductor, 8 ft. cord included.

**[C] No. 6W904 Economy Halogen Work/Drafting Light**

**Applications:** Light/medium duty assembly, general and large area inspection of drafting applications.

**Base:** Provided with fully adjustable zinc-cast clamp. Alternatively, can be used with all optional mounting accessories (see chart on page 1168).

**Arms:** Ruggedly constructed steel suspension spring arms are equipped with locking control knobs at arm joints.

**Cord:** 2-conductor, 8 ft. cord included.

**[D] No. 2V941 Economy Halogen Work/Desk Light**

**Applications:** For desk lighting, drafting, or inspection work.

**Base:** Portable weighted zinc-cast base, 7L x 4¼"W x 2½"H.

**Reach:** Industrial grade flexible steel gooseneck maintains any desired position.

**Cord:** 2-conductor, 8 ft. cord included.

**[E] No. 2V943 Universal Mount Halogen Work Light**

**Applications:** For machine tool lighting, quality control inspection, drafting, or general and large area inspection work.

**Base:** Fully adjustable with zinc-cast clamp provided. Also can be used with all optional mounting accessories (see chart on page 1168). Features a 700W 3-prong convenience outlet which can be used with other electrical appliances.

**Reach:** Industrial grade flexible steel gooseneck maintains any desired position.

**Cord:** 2-conductor, 8 ft. cord included.

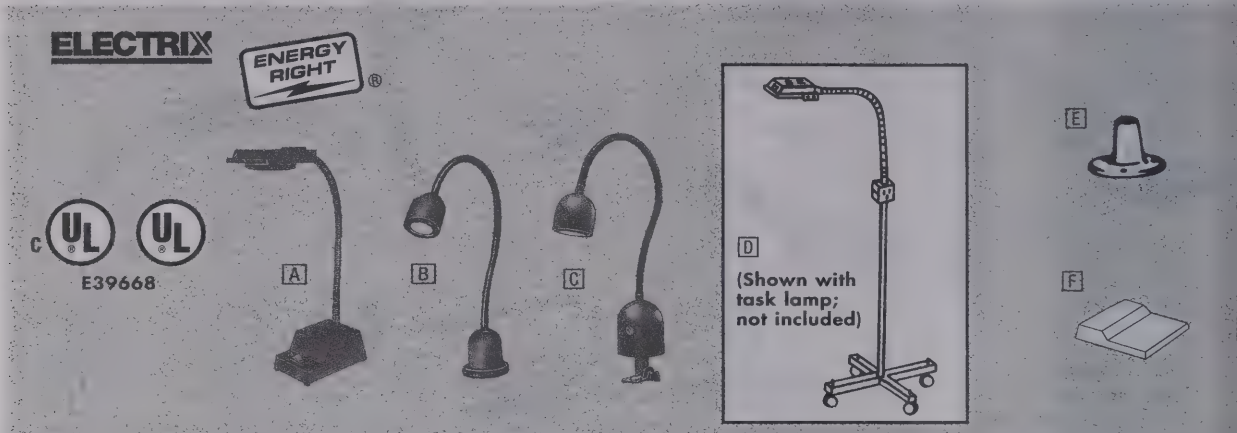
| ey | Volts | Watts | Cord Conductor | Cord Length (Ft.) | Overall Reach (In.) | Electrix Model | Stock No. | Lamp Included List | Lamp Included Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 120 | 100 | 2 | 8 | 45 | 7440 | **2V945** | $177.43 | **$157.50** | 8.0 |
| B | 120 | 100 | 2 | 8 | 36 | 7397 | **2V942** | 194.02 | **178.00** | 12.0 |
| C | 120 | 100 | 2 | 8 | 45 | 7395 | **6W904** | 210.37 | **132.65** | 6.0 |
| D | 120 | 100 | 2 | 8 | 26 | 7422 | **2V941** | 155.86 | **127.15** | 5.0 |
| E | 120 | 100 | 2 | 8 | 32 | 7420 | **2V943** | 159.32 | **122.20** | 5.0 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# QUARTZ HALOGEN TASK LIGHTS

## LOW VOLTAGE (12V) TASK LIGHTS




### A No. 2V940 50W Inspection Light

**Applications:** For assembly, small area, and general inspection applications. For indoor use only.
**Construction:** Scientifically designed and patented reflector with 4 x 6 x 1½" shade delivers evenly diffused, wide spread illumination. Features flexible 26" industrial grade steel gooseneck that maintains any desired position. Mounted on a zinc cast base which houses an energy efficient transformer. Black finish.
**Lamp included:** 50W halogen bi-pin lamp provides almost twice the light output of a standard 100W lamp. Order No. 2F518 for replacement lamp.
**Cord:** 120V, 2 conductor, 8 ft. power cord included.
**Approvals:** UL Listed for USA and Canada for indoor use only (E39668).

### B No. 6W903 Magnetic Mount Work Light

**Applications:** Machine tools, lathes, and heavy machines.
**Construction:** Compact 3 x 3" metal shade produces crisp white light exactly where it is needed. Black finish. Features flexible 26" industrial grade steel gooseneck that maintains any desired position. Magnetic base with 90 lbs. pull strength.
**Lamp included:** 20W halogen MR-16 dichroic reflector lamp provides 700 footcandles of crisp white light, over twice that of a standard 100W incandescent lamp. Average 4000 hour lamp life. Replacement lamp No. 1K359.
**Cord:** 120V, 3-conductor, 9 ft. power cord included.
**Approvals:** UL Listed for USA and Canada for indoor use only (E39668).

### C No. 6VT77 Work/Task Light

**Applications:** Machine tool lighting, assembly, small area and general inspection applications.
**Construction:** Compact 3 x 3" metal shade produces crisp white light exactly where it is needed. Features flexible 26" industrial grade steel gooseneck that maintains any desired position. Provided with fully adjustable zinc cast clamp or can be used with all optional mounting accessories (see chart). Black finish.
**Lamp included:** 20W halogen MR-16 dichroic reflector lamp provides twice the amount of light of a standard 100W incandesce lamp. Average 4000 hour lamp life. Replacement lamp No. 1K3
**Cord:** 120V, 3-conductor, 9 ft. power cord included.
**Approvals:** UL Listed for USA and Canada for indoor use o (E39668).

### OPTIONAL MOUNTING ACCESSORIES FOR ELECTRIX LIGHTS

**D Rolling Floor Stand with Casters:** Portable 38" high floor sta can be used to move light source to any desired location w ease. All steel construction with a durable, matching black finis
**No. 6W901.** Shpg. wt. 14.0 lbs. List $158.10. Each ..... $99.

**E Table and Machine Tool Mount:** Can be used on workbench machine tools or any work surface. Rugged mount for use whe clamp or weighted base are not desired or convenient. For are with limited workspace. Durable, matching black finish.
**No. 6W900.** Shpg. wt. 0.1 lbs. List $16.18. Each ..... $11.

**F Heavily Weighted Table Mount Base:** For use on any work surfa or table top. Completely portable, 8½" square, 7 lb. base is id for any workbench application. Black finish.
**No. 6W899.** Shpg. wt. 12.0 lbs. List $85.84. Each ..... $54.

### OPTIONAL ACCESSORIES FOR TASK LIGHTS

| Grainger No. | Electrix Model | Floor Stand | Table/Mach. Mount | Wt Bas |
|---|---|---|---|---|
| **2V942** | 7397 | • | • | • |
| **2V943** | 7420 | • | • | • |
| **2V945** | 7440 | • | • | • |
| **6W904** | 7395 | • | • | • |
| **6VT77** | 7304 | • | • | • |
| **6VT78** | 7426 | • | • | • |
| **6W905** | 7426WB | • | • | — |
| **6W902** | 7308 | • | • | • |
| **2V940** | 7410EX | — | — | — |
| **2V941** | 7422 | — | — | — |
| **2V944** | 7310 | — | — | — |
| **6W903** | 7305 | — | — | — |

See pages 1169, 1173 and 1174 for pricing information

### TASK LIGHT SPECIFICATIONS AND ORDERING DATA

| Key | Volts | Watts | Cord Conductor | Cord Length (Ft.) | Overall Reach (In.) | Electrix Model | Stock No. | Lamp Included List | Lamp Included Each | Sh V |
|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 12 | 50 | 2 | 8 | 22 | 7410EX | ✓**2V940** | $114.16 | **$101.85** | 7 |
| **B** | 12 | 20 | 3 | 9 | 26 | 7305 | ✓**6W903** | 161.83 | **91.60** | 5 |
| **C** | 12 | 20 | 3 | 9 | 25 | 7304 | ✓**6VT77** | 115.70 | **83.40** | 5 |

(✓) Denotes energy efficient product.


When it comes to lighting, no distributor outshines Grainger.

# COMPUTER/DESK LIGHTS

## HALOGEN DESK LIGHT

**pplications:** Provides illumination for desktop, assembly, and ıality assurances.

**onstruction:** Features adjustable steel arm to focus light where eeded. Hi/Low switch adjusts light to desired levels. 26" overall ngth.

**ord:** 7 ft., 2-conductor cord with polarized plug. 120 V, 60 Hz.

**mp Included:** 50 watt, bright white halogen light. For replace-ent, use No. 2F518.

L Listed. Electrix brand. (7250 Black).

**ew No. 4PC99.** Shpg. wt. 5.2 lbs. List ..... $59.00.
ach ..... $44.15

## COMPACT TASK LIGHT

**pplications:** For environments where space is at a premium.

**onstruction:** Flexible upright arm for easy light head ositioning.

**ase:** Weighted base includes compartments to hold paper clips, ush pins, etc.

**ord:** 6 ft., 2-conductor cord. 120 V, 60 Hz.

**amp included:** 13-watt Biax compact fluorescent lamp For eplacement lamp order No. 6V712.

L Listed. Ledu brand (L259MB).

**ew No. 4PD31.** Shpg. wt. 2.6 lbs. List ..... $78.00.
ach ..... $58.05

## TASK LIGHT

**pplications:** Asymetrical light pattern reduces glare and reflec-ons. Ideal for desktop and computer environments.

**onstruction:** Steel reflector and adjustable steel arm with 30" each.

**ase:** Includes weighted or clamp-on base for mounting.

**ord:** 6 ft. 2-wire cord included. 120 V, 60 Hz.

**amp Included:** 13-watt Biax compact fluorescent lamp. For eplacement lamp order No. 6V712.

L Listed. Ledu brand (L283MB).

**ew No. 4PD32.** Shpg. wt. 8.0 lbs. List ..... $64.00.
ach ..... $47.60




## DESK/COMPUTER LIGHT

**Applications:** Great near computers, on table tops to add lighting to task area.
**Construction:** 12" adjustable plastic shade. Adjustable steel arm with 30" reach.
**Base:** Includes weighted or clamp-on base for mounting choice.
**Cord:** 6 ft. 2-conductor cord. 120 V, 60 Hz.
**Lamp included:** 13-watt Biax compact fluorescent lamp. Replacement lamp No. 6V712.
UL Listed. LumaPro brand.
***New* No. 4PD53.** Shpg. wt. 6.0 lbs. List ..... $56.40.
Each ..... $39.75

# COMPACT FLUORESCENT TASK LIGHTS

## Nos. 6W986 and 6W989

**pplications:** For office environments, especially around comput-r terminals or areas used for viewing technical drawings.
ntegrated design-molded head and arm assembly. Plastic shade as reflector to optimize light output. Head moves 180° in hori-ontal plane. Single arm units have a 19" reach. Double arm units ave a 34" overall reach. Arms are held in position by friction oints. 2-conductor cord. 120V. 60Hz

**ase:** Both models come with edge clamp mounting bracket. For esk top use, order optional base from table below.
Black matte.

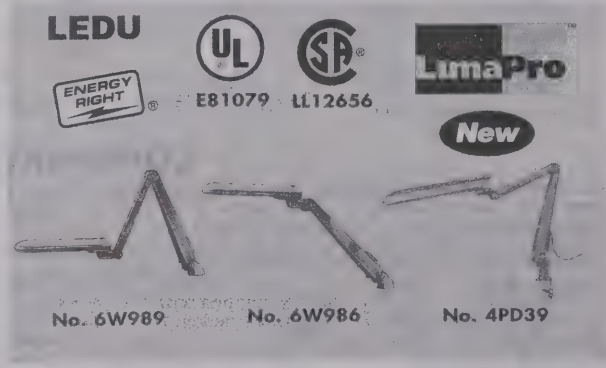
**amp included:** Uses energy saving 18W BIAX ® compact fluores-ent lamp that provides light output equivalent to a 75W incan-escent lamp. For replacement order No. 6V033.
JL Listed (E81079); CSA Certified (LL12656). Ledu brand.

| Color | Reach (In.) | Arms | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Black | 19 | 1 | Ledu | PS360A | ✓6W986 | $132.74 | $72.45 | 4.0 |
| Black | 34 | 2 | Ledu | PS355A | ✓6W989 | 143.16 | 78.15 | 4.0 |

✓) Denotes energy efficient product.

**OPTIONAL DESKTOP BASE (for use with 6W986 and 6W989)**

| Color | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Black | 6W985 | $36.88 | $21.93 | 14.0 |




## No. 4PD39

**Applications:** For office environments, especially around comp ... uter terminals or areas used for viewing technical drawings.
**Construction:** 180° adjustable plastic shade with 34" adjustable steel arm. Arm has friction joints to keep light where directed.
**Base:** Clamp-on mounting bracket included.
**Cord:** 4 ft., 3-conductor cord. 120V, 60Hz.
**Lamp Included:** 18-watt Biax compact fluorescent lamp. Replacement lamp No. 6V033.
UL Listed. LumaPro brand.
***New* No. 4PD39.** Shpg. wt. 4.0 lbs. List ..... $97.79.
Each ..... $54.35

## GOOSENECK DESK LIGHTS

No. 2V714 Desk Light. Simulated wood trim on thermoplastic reflector and base with brushed metallic facing on reflector ends and column. Base and 8" gooseneck are black. On/Off switches. 110-120V, 60 Hz. For indoor use only. 2 wire, 6 ft. cord included.

Lamps included. For replacement, use two 15 watt, T8 preheat fluorescent lamps No. 1V173.

UL Listed (E72474). Ledu brand (F30).

**No. 2V714.** Shpg. wt. 6.3 lbs. List.....$103.82.
Each.....**$56.65**

No. 4PD52 Desk Light with independent On/Off switches create an office-type look. Fixture has 6 ft. 2 conductor cord. 120V, 60 Hz. Luma Pro brand.

Lamps included. For replacement, use two 15 watt, T8 preheat fluorescent lamps No. 1V173.

***New*** ✓ **No. 4PD52.** Shpg. wt. 5.1 lbs. List.....$74.25.
Each.....**$41.25**

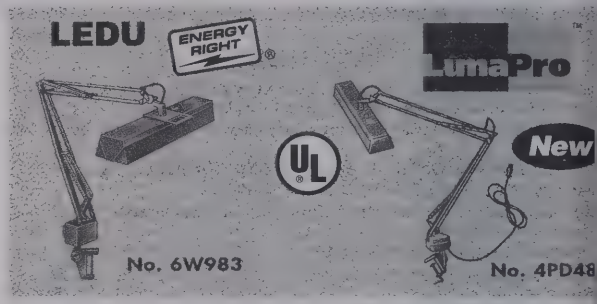
(✓) Denotes energy efficient product.




## FLUORESCENT DRAFTING LIGHTS

**Nos. 6W983 and 6W984.** Clampon style "D" bracket for mounting versatility. Keeps lamp vertical when bolted on sharply tilted surfaces. Features lightweight, metal shade with plastic end caps and handle, 42" adjustable arm, and rocker switch. Base of fixture contains ballast and convenience outlet. 110-120V, 60Hz. For indoor use only. 6 ft. 6 in. 3 conductor cord included. Includes lamp. For replacement, use two 15W fluorescent lamps. Recommend No. 1V173. UL Listed (E69307). Ledu brand (DF12D).

**Nos. 4PD48 and 4PD49** 45" arm with metal shade. Convenience outlet in base. Fluorescent fixture to use anywhere additional lighting is needed. Ideal for drafting. Replacement lamps use No. 1V173. Features an adjustable "D" clamp and push-button switch for ease of use. Includes two 15 watt fluorescent bulbs. Fixture has 6 ft. 3 conductor cord. 120V, 60 Hz UL Listed.




| Arm Reach (in.) | Color | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **42** | Black | Ledu | DF12D | ✓ **6W983** | $216.40 | **$102.55** | 11.0 |
| **42** | White | Ledu | DF12D | ✓ **6W984** | 216.40 | **102.55** | 11.0 |
| **45** | Black | LumaPro | — | ***New*** ✓ **4PD48** | 153.01 | **76.90** | 7.4 |
| **45** | White | LumaPro | — | ***New*** ✓ **4PD49** | 153.01 | **76.90** | 7.4 |

(✓ Denotes energy efficient product.

## COMBINATION LIGHTS

**Nos. 6W988 and 6W987.** Provide task lighting flexibility by using both a 60 watt incandescent lamp and a 22 watt circline lamp. Lamps can be turned on separately or combined for bright illumination (over 2100 lumens) and good color rendition. Precision balanced arm offers fingertip control and holds rigidly in desired position with 42" overall reach. Dual reflector prevents heat buildup. Large 9" diameter shade. Equipped with 6 ft., 3 conductor cord, and adjustable "D" mounting bracket. Convenience outlet in base. 120V. 60Hz. Includes lamps. For replacement, order No. 1V860 (fluorescent) and No. 5V598 (incandescent). UL Listed (E69307). Ledu brand

**Nos. 4PD42 and 4PD43.** Illuminate with incandescents, fluorescents, or both in one fixture. Precision balanced arm offers fingertip control. Convenience outlet in base. Steel springs. Provides over 2100 lumens and good color rendition when both lamps are on. Arm with 42" reach holds its position. Dual reflectors prevent heat buildup. Combination lights have a 9" shade, 6 ft., 3 conductor cord, and adjustable "D" bracket. Lamps included. Replacement lamp No. 1V860 (fluorescent) and 5V600 (Incandescent). 120V, 60 Hz. UL Listed. Luma Pro brand.




| Arm Reach (In.) | Color | Mfr. | Mfr. Model | Stock No. | List | Each | Sh |
|---|---|---|---|---|---|---|---|
| **42** | Black | Ledu | C12D | **6W988** | $243.87 | **$119.75** | 8 |
| **42** | White | Ledu | C12D | **6W987** | 243.87 | **119.75** | 8 |
| **42** | Black | LumaPro | — | ***New*** **4PD42** | 176.39 | **88.65** | 6 |
| **42** | White | LumaPro | — | ***New*** **4PD43** | 176.39 | **88.65** | 6 |

# EXHAUST FAN LIGHTS AND MAGNIFIER LIGHTS

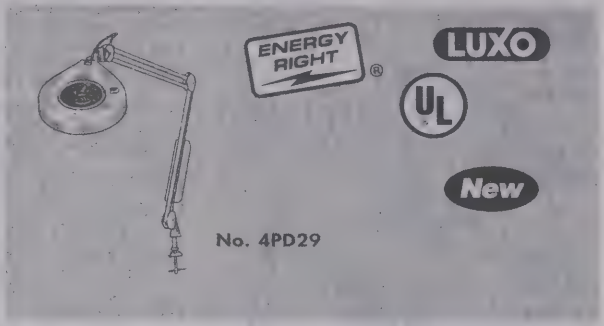
## EXHAUST FAN LIGHT & REPLACEMENT FILTER

Position "instant-on" switch turns light and fan on together or ght by itself. Durable cast alloy shade houses light and fan pro- cing 100 cfm's. 45" arm reach with clamp style mounting brack- . Ideal for soldering applications and manufacturing environ- ents where adhesives are applied to products. for use in most sks where non-explosive fumes or smoke are present. placeable charcoal filter included. (refer to No. 4PD30 below). wire 6 ft. cord included. 120 V, 60 Hz. Color: Light gray. 22 watt rcular fluorescent lamp included. For replacement order No. 7860. UL and CSA Listed. Luxo brand.

ew ✓ **No. 4PD29.** Exhaust Fan Light. (16159LG). Shpg. wt. 12.0 lbs. st $265.00. Each..... **$216.00**

ew **No. 4PD30.** Replacement Filter is impregnated with activated char- al which absorbs fumes and odors. Luxo brand (37277). Shpg. wt. 5 lbs. List $20.13. Pkgs. of 4..... **$16.30**

✓) Denotes energy efficient product.




## INCANDESCENT MAGNIFIER LIGHTS

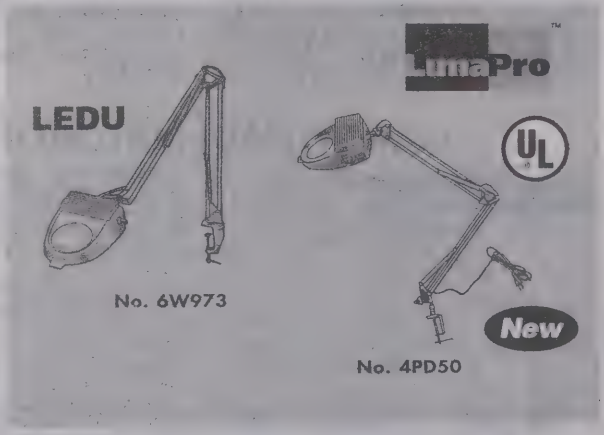
os. **6W973 and 6W974.** For light commercial/industrial electronics assembly inspection. Features a 3 diopter 1.75X, 4" diameter ns housed in an attractive molded thermoplastic shade. 33" arm ach. Edge clamp bracket. Features swivel neck, allows clamp ead to swing 90° left and right. Includes 6 ft. power cord. 120V. HZ. Lamp not included. Uses a 60 watt incandescent lamp. ecommend No. 5V598. Luma Pro brand.

os. **4PD50 and 4PD51.** Designed for electronics or assembly spection.

3" steel arm with steel springs. 3 diopter magnifier lens. Clamp racket included.

eatures swivel neck, allows clamp head to swing 90° left and ght. Includes 6 ft. power cord. 120V. 60HZ. Lamp not included. ses lamp No. 5V598. LumaPro brand.

| Arm each (In.) | Color | Mfr. | Mfr. Model | Stock No. | Less Lamps List | Less Lamps Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 33 | Black | Ledu | IM269A | **6W974** | $66.40 | **$33.05** | 4.0 |
| 33 | Sand | Ledu | IM269A | **6W973** | 66.40 | **33.05** | 4.0 |
| 33 | Black | LumaPro | — | ***New* 4PD50** | 47.29 | **24.76** | 3.4 |
| 33 | White | LumaPro | — | ***New* 4PD51** | 47.29 | **24.76** | 3.4 |




## UNDERSTANDING MAGNIFICATION

### COMMONLY USED TERMS

**lagnification:** The degree to which the pecimen (viewed object) is enlarged. This s normally expressed by a number fol- owed by an "X" which signifies power. To etermine the magnifying power based on ne lens diopter use the formula below.

$$\text{MP (Magnification Power)} = \frac{\text{d(diopter)} + 1}{4}$$

**iopter:** Identifies the refractive (light ending) capacity of a lens. Note: the rated nagnifying power of a lens is based on the pecimen being viewed at the full focal ength.

**Focal Length:** The distance from the center of the lens (or combination of lenses) to the specimen when it appears at its maximum size without distortion.

### HELPFUL HINTS

As magnifying power increases the focal length and field of view decrease in size (see chart for focal length).

Eyes should be 8-10 inches above lens for viewing comfort and proper ergonomic position (avoid neck and shoulder muscle fatigue).

Generally, 5-diopter is the maximum diopter that can be used for assembly work (it has an 8 inch focal length). A stronger lens, or combination of lenses, will have too short a focal length for most tools to fit under for work; so such lenses are for inspection purposes only.



No magnification



1.75X achieved with a 3-diopter lens



2.75X achieved with a 3-diopter primary lens and a 4-diopter secondary lens



3.75X achieved with a 3-diopter primary lens and an 8-diopter secondary lens

| Magnification | Lens Diopter | Focal Length (In.) | Viewing Area (In.) | Primary | Secondary |
|---|---|---|---|---|---|
| 1¾X | 3 | 13 | 5 | 3d | — |
| 2¼X | 5 | 8 | 5 | 5d | — |
| 2¾X | 7 | 5½ | 4 | 3d | 4d |
| 3¾X | 11 | 3½ | 3¼ | 3d | 8d |

# MAGNIFIER LIGHTS

## QUARTZ HALOGEN MAGNIFIER LIGHTS




**Applications:** For close up inspection and quality control, electronics and industrial components assembly, soldering, equipment calibration, small area and general applications. For indoor use only.

**Construction:** Ruggedly constructed steel suspension spring arms feature locking control knobs at arm joints.

**Lens:** 5" diameter, 3 diopter lens provides 1.75X magnification. For additional amplification order No. 6VT76 auxiliary swing away 3 diopter lens below.

**Switch:** Equipped with a Hi-Lo switch for convenient light level selection.

**Lamp included:** 100W halogen lamp provides 700 footcandles of high quality, bright-white light output, over 3 times the output of a standard fluorescent 22W circline lamp. Use No. 1E362 replacement lamp.

**Convenience outlet:** Both magnifier lights include a 700W, 3 prong convenience outlet which can be used for other electrical appliances.

**Cord:** 9 ft., 3 conductor cord included.
**Finish:** Black.
**Approvals:** UL Listed for USA and Canada (E39668).

**Halogen Magnifier Light**

**Base:** Adjustable clamp-on bracket with 2½" opening. Can be used with most optional mounting accessories (see chart on page 1168.

**Reach:** 45".

**Electrix brand** (7426).

**No. 6VT78.** Shpg. wt. 7.7 lbs. List.....$197.56
Each **$178.00;** Lots 3 **$169.10;** Lots 9 **$160.19**

**Weighted Base Halogen Magnifier Light.:** Bas 8½" square. 7 lb. weighted base. Can b used with most optional mounting acce sories (see chart) on page 1168.

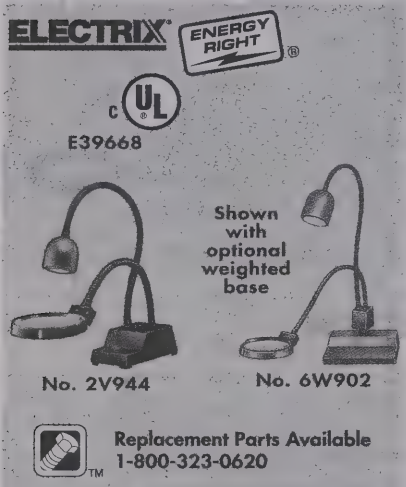
**Reach** 34".

**Electrix brand** (7426WB).

**No. 6W905.** Shpg. wt. 17.0 List.....$328.10
Each **$207.00;** Lots 3 **$196.46;** Lots 9 **$186.13**

(✓) Denotes energy efficient product.

## LOW VOLTAGE HALOGEN INSPECTION MAGNIFIERS




**Applications:** For quality control and close up inspection in assembly, small area and general applications. No. 6W902 Long Reach Halogen Combination light can also be used in large area applications. For indoor use only.

**Construction:** Both the magnifier lens and light source are mounted to industrial grade flexible steel goosenecks which can be adjusted to any position desired. Compact 3.5 x 4" metal shade.

**Lens:** 5" diameter, 3 diopter lens provides 1.75X magnification. For additional magnification order No. 6VT76 auxiliary swing away 3 diopter lens below.

**Finish:** Black.

**Approvals:** UL Listed for USA and Canada (E39668).

**Combination Inspection/Magnifier Light with Weighted Base**

**Features:** Compact 4 x 6 x 4" zinc cast weighted base with On/Off switch. Transformer housed in base for maximum light portability. Both magnifier and light source have a 21" reach. Equipped with 3 conductor, 9 ft. cord.

**Lamp included:** 50W halogen bi-pin lam provides almost twice the light output of standard 100W lamp. Avg. 2000 hour lam life. Order replacement lamp No. 2F518.

**Electrix brand** (7310).

**No. 2V944.** Shpg. wt. 10.0 lbs. List ...$166.02
Each **$123.05;** Lots 3 **$116.86;** Lots 9 **$110.71**

**Long Reach Combination Inspection/Magnifi Light.:** Features: Supplied with full adjustable, zinc cast clamp base. Also ca be used with all optional mounting acce sories on page 11678. Both magnifier an light source have a 30" reach. Convenien plug-in remote transformer. Equippe with 2-conductor, 8 ft. power cord.

**Lamp included:** 50W halogen bi-pin lam provides almost twice the light output of standard 100W lamp. Average 2000 hou lamp life.

**Electrix brand** (7308).

**No. 6W902.** Shpg. wt. 5.0 List.....$236.40
Each **$134.15;** Lots 3 **$127.43;** Lots 9 **$120.72**

(✓) Denotes energy efficient product.

## AUXILIARY 3 DIOPTER MAGNIFIER LENS

**Use for additional magnification.** Instant attachment and swing away arm for use with Nos. 2V944, 6VT78, 6W902 and 6W905. **Electrix brand** (MAG-3).

**No. 6VT76.** Shpg. wt. 1.0 lbs. List .....$19.66
Each **$13.91;** Lots 3 **$13.22;** Lots 9 .....**$12.53**

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# MAGNIFIER LAMPS

## WIDE ANGLE MAGNIFIER LIGHTS

**pplications:** Electronic assembly ncluding surface mount, QC spection, rework areas, and spection/assembly in laboratoes, clean rooms and medical cilities.

**onstruction:** Features a large 6¾ 4½", 3.5 diopter, distortionee lens mounted in a high tech yle housing which includes ual light sources. Lights may be sed independently or together. oth lights "On" provide shadowee illumination; one light "On" rovides better 3-dimensional iewing. 30 or 45" reach arms are ade of heavy-duty 1/2" square teel tubes with tempered steel prings housed in the lower arm ibes. Supplied with edge mountd bracket or weighted base.

**ord:** Equipped with 3-conductor ord, 120V, 60Hz.

**inish:** Light Gray or Black

**Lamp included:** Uses two 13W quad compact fluorescents. Recommend No. 4V302.

**Accessories:** Optional lenses for additional magnifying power (attach on top of primary lens). Nos. 3VH68 thru 3VH71 snap on and 3VH72 slides on.

**Approvals:** UL Listed (E24877). **Luxo brand.**

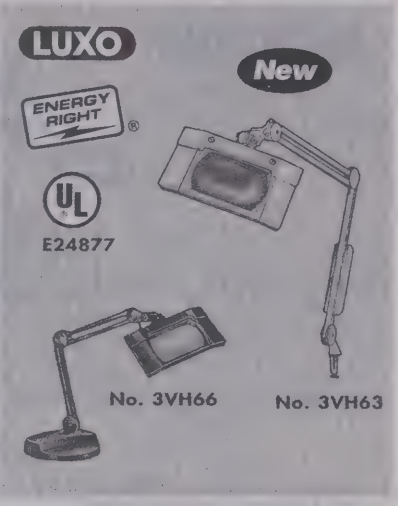
### MAGNIFIER LIGHTS

| Reach (In.) | Base | Color | Luxo Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 45 | Clamp | Black | 17845BK | ✓3VH62 | $630.40 | $371.25 | 11.0 |
| 45 | Clamp | Gray | 17845LG | ✓3VH63 | 630.40 | 371.25 | 11.0 |
| 30 | Clamp | Black | 17846BK | ✓3VH64 | 630.40 | 371.25 | 11.0 |
| 30 | Clamp | Gray | 17846LG | ✓3VH65 | 630.40 | 371.25 | 11.0 |
| 30 | Weighted | Black | 17847BK | ✓3VH66 | 714.55 | 438.00 | 24.0 |
| 30 | Weighted | Gray | 17847LG | ✓3VH67 | 714.55 | 438.00 | 24.0 |

(✓) Denotes energy efficient product.

### OPTIONAL LENSES

| Diopter | Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 | 50074BK/4D | 3VH68 | $74.08 | $45.45 | 0.5 |
| 4 | 50074LG/4D | 3VH69 | 74.08 | 45.45 | 0.5 |
| 8 | 50078BK/8D | 3VH70 | 85.68 | 52.50 | 0.5 |
| 8 | 50078LG/8D | 3VH71 | 85.68 | 52.50 | 0.5 |
| 10 | 50206/10D | 3VH72 | 150.15 | 101.90 | 0.5 |




## FLUORESCENT MAGNIFIER LIGHTS

**los. 2V467, 2V8465, 6VW67.**

**pplications:** Used for assembly, quality control inspection and ther office applications.

**onstruction:** 42" steel arm with clamp-on "D" bracket accommoates mounting up to 2" wide. Lightweight nonconductive urable stamped metal shade with handle and indicator light. onvenience outlet and ballast in base. Available in 3 diopter 1.75 mag.) or 5 diopter (2.25 mag.) lens.

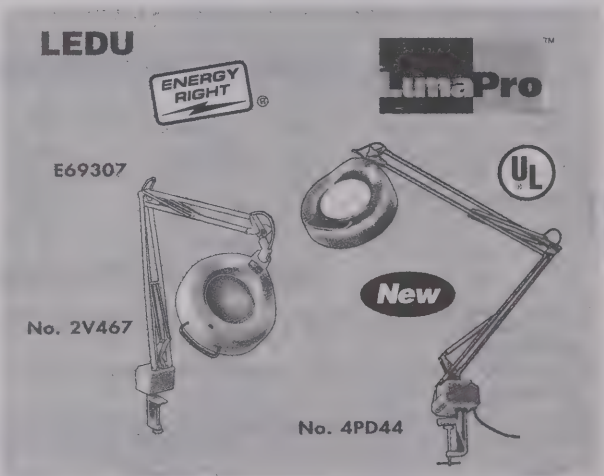
**½ ft., 3-conductor cord.** 110-120V, 60Hz.

**amp included.** Uses one 22W circline fluorescent lamp. For eplacement use No. 1V860.

**L Listed (E69307). For indoor use only. Ledu brand.**

**los. 4PD44, 4PD45, 4PD46, 4PD47.**

**or assembly, quality assurance, and office applications. 45" teel arm with steel springs. 3 or 5 diopter Magnifier lens. onvenience outlet and base. Adjustable and lightweight durable netal shade with handle makes it easier to focus on your work. lamp-on "D" bracket accommodates mounting up to 2" wide. ixture has a 5 ft. and 3-conductor cord. 22W fluorescent lamp ncluded. Replacement lamp No. 1V860. 110-120V, 60 Hz. UL isted.




| Magnification | Diopter | Arm Reach (In.) | Color | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1.75 | 3 | 42 | White | Ledu | IM12-D | ✓2V467 | $222.33 | $112.40 | 8.0 |
| 1.75 | 3 | 45 | White | LumaPro | — | New4PD45 | 160.17 | 84.30 | 8.0 |
| 1.75 | 3 | 42 | Black | Ledu | IM12-D | ✓2V865 | 222.33 | 112.40 | 8.0 |
| 1.75 | 3 | 45 | Black | LumaPro | — | New4PD44 | 160.17 | 84.30 | 7.1 |
| 2.25 | 5 | 42 | White | Ledu | IM12-D | ✓6VW67 | 237.70 | 139.50 | 8.0 |
| 2.25 | 5 | 45 | White | LumaPro | — | New4PD47 | 198.75 | 104.65 | 7.1 |
| 2.25 | 5 | 45 | Black | LumaPro | — | New4PD46 | 198.75 | 104.65 | 7.1 |

(✓) Denotes energy efficient product.

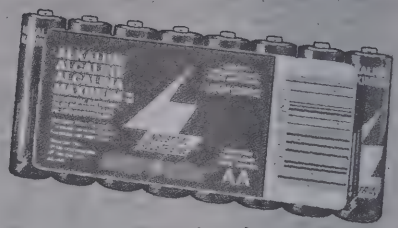
**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# BATTERIES

RAYOVAC®



Priced each.
Sold only in packages and cases, (Except 4LV98 which is priced and sold only in packages of 8).

## ALKALINE INDUSTRIAL BATTERIES

- Alkaline batteries are designed for high drain devices, with frequent use applications
- Up to twice the service life compared to heavy-duty batteries
- Packages are date-coded for easy and proper rotation of stock
- Retains 85% of original life up to 5 years in storage
- Long life alkaline battery
- Mercury free formula
- Warranted against leakage

### ALKALINE BATTERY SPECIFICATIONS AND ORDERING DATA

| Battery Size | Battery Terminals | Volts | Rayovac Model | Stock No. | List | Priced each, sold only in packages and cases: Package Each | Package Qty. | Case Each | Case Qty. | Shpg Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|
| N | Cap & Base | 1.5 | 810-2 | **5U076** | $3.86 | $2.12 | 6 | **$1.70** | 72 | 0.1 |
| AAA | Cap & Base | 1.5 | AL-AAA | **2V533** | 1.21 | 0.75 | 6 | **0.71** | 72 | 0.1 |
| AA | Cap & Base | 1.5 | AL-AA | **2V422** | 1.20 | 0.70 | 6 | **0.67** | 72 | 0.1 |
| 9V Transistor | Snap | 9 | AL-9V | **2V532** | 3.59 | 2.00 | 8 | **1.90** | 96 | 0.1 |
| C | Cap & Base | 1.5 | AL-C | **2V421** | 1.77 | 1.00 | 8 | **0.95** | 96 | 0.1 |
| D | Cap & Base | 1.5 | AL-D | **2V534** | 1.84 | 1.00 | 2 | **0.95** | 48 | 0.3 |

## HEAVY-DUTY INDUSTRIAL BATTERIES

- Heavy-duty batteries are a good choice on a cost-per-hour basis; ideal for devices with moderate to low drain, like flashlights
- Up to 28% more service life compared to general purpose batteries
- Packages are date-coded for easy and proper rotation of stock
- Retains 85% of original life up to 4 years in storage
- Mercury free formula

### HEAVY-DUTY BATTERY SPECIFICATIONS AND ORDERING DATA

| Battery Size | Battery Terminals | Volts | Rayovac Model | Stock No. | List | Priced each, sold only in packages and cases: Package Each | Package Qty. | Case Each | Case Qty. | Shpg Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|
| D | Cap & Base | 1.5 | HD-D | **2V821** | $0.83 | **$0.74** | 6 | **$0.59** | 72 | 0.3 |
| C | Cap & Base | 1.5 | HD-C | **2V822** | 0.78 | **0.71** | 6 | **0.57** | 72 | 0.2 |
| AA | Cap & Base | 1.5 | HD-AA | **2V823** | 0.63 | **0.55** | 8 | **0.44** | 96 | 0.1 |
| 9V Transistor | Snap | 9 | HD-9V | **2V949** | 2.08 | **1.30** | 6 | **1.04** | 72 | 0.2 |

| Battery Size | Battery Terminals | Volts | Rayovac Model | New! Stock No. | Priced and sold only in packages of 8 List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| AAA | Cap & Base | 1.5 | 3AAA-8 | **4LV98** | $3.92 | **$3.67** | 0.1 |

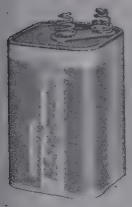
### DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# BATTERIES AND BATTERY TESTER

## LANTERN, FENCE, EMERGENCY LIGHTING, AND ALARM BATTERIES

New



No. 4LV99




No. 2V553




Nos. 5U061 & 5U059




Nos. 5U060 & 5U058




No. 5U055



Nos. 5U057 & 2V415

RAYOVAC®

Made in U.S.A.

- Sealed in steel
- Meets Environmental Protection Agency (EPA) requirements for non-hazardous landfill disposal




Nos. 2V948 & 5U049



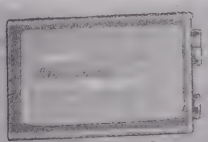

Nos. 2V418 & 2V417

| Battery Type | Application | Volts | Battery Size (In.) | Battery Terminals | Rayovac Model | Stock No. | List | Each | Each/Lots | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Alkaline Lantern** | Lantern | 6 | 4.5H x 2.7W x 2.7L | Spring | 806 | ***New*4LV99** | $12.49 | **$8.12** | **$7.71/6** | 1.7 |
| **Heavy Duty Lantern** | Barricade | 6 | 4.5 x 2.7 x 2.7 | Spring | 6V-HD | **2V423** | 4.39 | **2.41** | **1.93/12** | 1.4 |
| **H.D. Maximum Lantern** | Lanterns | 6 | 4.5 x 2.7 x 2.7 | Spring | 944 | **5U060** | 6.99 | **4.19** | **3.35/12** | 1.4 |
| **H.D. Maximum Lantern** | Lanterns | 6 | 4.3 x 2.7 x 2.7 | Screw | 945 | **5U061** | 7.79 | **4.67** | **3.74/12** | 1.4 |
| **H.D. Maximum Lantern** | Sealed Beam Lantern | 6 | 5.0 x 2.9 x 5.4 | Screw | 928 | **5U057** | 18.45 | **11.07** | **8.86/6** | 2.9 |
| **H.D. Maximum Lantern** | Barricade | 6 | 4.5 x 2.7 x 2.7 | Spring | 6V-HDM | **2V553** | 6.10 | **4.15** | **3.32/12** | 1.4 |
| **General Purpose Lantern** | Barricade | 6 | 4.5 x 2.7 x 2.7 | Spring | 6V-GP | **5U053** | 3.59 | **1.80** | **1.44/12** | 1.3 |
| **General Purpose Lantern** | Lanterns | 6 | 4.5 x 2.7 x 2.7 | Spring | 941 | **5U058** | 5.24 | **3.14** | **2.51/12** | 1.3 |
| **General Purpose Lantern** | Head Lamps | 6 | 4.3 x 2.7 x 2.7 | Screw | 942 | **5U059** | 6.24 | **3.74** | **2.99/12** | 1.3 |
| **General Purpose Lantern** | Fluorescent Lantern, Portable Telephones | 12 | 4.9 x 2.9 x 5.4 | Screw | 926 | **5U056** | 19.39 | **11.63** | **9.30/6** | 2.8 |
| **Industrial Lantern** | Industry Sealed Beam Lantern | 6 | 5.6 x 2.8 x 4.9 | Screw | 918 | **2V415** | 9.98 | **7.97** | **6.38/6** | 2.8 |
| **Multiple Ignition** | Electric Fences | 6 | 7.4 x 2.8 x 10.5 | Screw | 641 | **2V417** | 26.73 | **19.20** | **15.36/6** | 6.2 |
| **Multiple Ignition** | Emergency Lighting | 7.5 | 6.4 x 4.0 x 7.2 | Screw | 903 | **2V948** | 28.75 | **21.04** | **16.83/4** | 7.5 |
| **General Purpose Emergency** | Emergency Lighting, Alarms Electric Fences | 12 | 7.4 x 2.8 x 10.5 | Screw | 922 | **2V418** | 39.17 | **30.60** | **24.48/4** | 6.1 |
| **Hobby** | Glow Plugs | 1.5 | 4.2 x 2.7 x 3.8 | Screw | 900 | **5U054** | 8.99 | **5.39** | **4.31/12** | 1.3 |
| **Barricade** | Barricade, and Public Address Systems | 6 | 4.1 x 2.7 x 2.7 | Socket | 920 | **5U055** | 7.39 | **4.43** | **3.54/12** | 1.4 |
| **Emergency Barricade** | High Intensity Lanterns | 9 | 6.4 x 4.1 x 8.6 | Screw | 904 | **5U049** | 52.50 | **26.25** | **21.00/4** | 8.1 |
| | Type B Barricade Flasher Lantern | 12 | 7.1 x 5.3 x 8.0 | Socket | HD-B-12V | **5U062** | 68.75 | **41.25** | **33.00/2** | 13.0 |

## 8.4V ZINC AIR MEDICAL BATTERY

RAYOVAC®

New



No. 4LW12

- For medical equipment, telementary devices, and heart monitors
- Zinc air technology
- Vacuum sealed in foil pouch, so battery stays "fresh" until you need it
- Operating temperature range 32° to 122° F (0° to 50° C).

***New*No. 4LW12.** Rayovac (R146A). Shpg. wt. 0.2 lbs.
List $6.95.Each.....$5.95

## BATTERY TESTER

RAYOVAC®

Made in U.S.A.



- All-purpose battery tester will test most batteries
- Voltage range: 1.5 - 9V

**No. 5U001.** Rayovac (GT18). Shpg. wt. 0.7 lbs.
List $28.29.Each.....$25.50

# BATTERIES AND FLASHLIGHTS

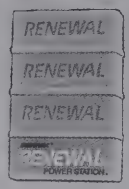
## RENEWAL® RECHARGEABLE ALKALINE™ BATTERIES

RAYOVAC®

Made In U.S.A.

New






No. 1C988
Charges
4 Size
AA/AAA




No. 4PG57
Charges
(4) size C/D,
(8) size
AA/AAA

- Long life alkaline power
  - -Comes fully charged, ready to use
  - -Lasts longer per charge than any other rechargeable
  - -Hold its power when not in use—up to 5 years
- Alkaline Battery Performance
- Rechargeable when charged in Renewal Charger
  - -The only charger designed to charge Renewal batteries
- Saves you money
  - -In your flashlight, two D Renewal can replace 15 to 50 regular alkaline
  - -In your pager, one AA or AAA Renewal can provide service up to one year
  - -For maximum savings and life, charge your Renewal batteries frequently, before they are fully drained
- Easy to use
  - -No memory problem with Renewal batteries
- Environmentally responsible
  - -Mercury and cadmium-free formula
  - -Fewer throwaways

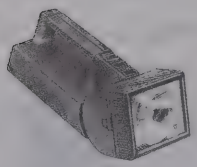
### BATTERY ORDERING DATA

| Description | Rayovac Model | Stock No. | No. of Batteries Per Package | List | Package Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| D Size Battery | 713-2 | 1C984 | 2 | $6.14 | $5.58 | 0.6 |
| C Size Battery | 714-2 | 1C985 | 2 | 6.14 | 5.58 | 0.3 |
| AA Size Battery | 715-4 | 1C986 | 4 | 6.61 | 6.01 | 0.2 |
| AAA Size Battery | 724-4 | 1C987 | 4 | 6.61 | 6.01 | 0.1 |
| Charger (4) AA/AAA | PS1 | 1C988 | — | 10.98 | 9.99▲ | 4.9 |
| Charger (4) C/D, (8)AA/AAA | PS3 | *New* 4PG57 | — | 19.99 | 19.99▲ | 2.1 |

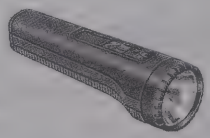
(▲) Net prices, not subject to discounts.

## RECHARGEABLE FLASHLIGHTS

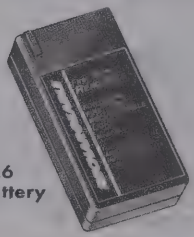
ReadyLite™ by First Alert®



A No. 2V837
Lantern



B No. 2V888
2 Cell Flashlight



C No. 2F126
Replacement Battery

- Lanterns and flashlights plug into any standard outlet for charging; retractable plug-in prongs
- Can be left in outlet continuously for recharging
- Holds charge for up to one year when fully charged
- Includes replaceable, rechargeable batteries
- Shatterproof, high impact acrylic lens
- 3-Year Limited Warranty; see warranty information on page opposite inside back cover

A **Lantern.** Head swivels 45° up or down to direct light where needed for hands-free system use. Adjustable beam width. Recharges in 4 hours. Uses (2) No. 2F126 batteries; order replacements below. Uses 4 volt Krypton replacement lamp No. 2V952.

B **Flashlights.** No. 2V888 two cell sized model. Recharges in 6 hours. Uses (1) No. 2F126; order replacement below. Uses 2 volt Krypton replacement lamp No. 2V951.

C **Replacement Battery.** 2 volt rechargeable battery. First Alert brand (RLBAT).

**No. 2F126.** Shpg. wt. 0.3 lbs. List $4.75. Each ..... $4.35

| Key | Description | First Alert Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Lantern | RL102R | 2V837 | $36.17 | $23.51 | 2.0 |
| B | 2 Cell Flashlight | FL5R | 2V888 | 21.94 | 14.27 | 0.9 |

# WATCH/CALCULATOR AND KEYLESS ENTRY BATTERIES

RAYOVAC®

New




No. 4PG50




No. 5U085

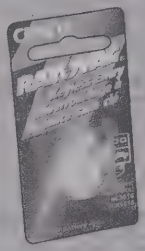



No. 4PG52

- Pretested and guaranteed to deliver longer life
- Lithium coin cell batteries are used for memory backup systems and watches/calculators
- Keyless entry batteries are used for automotive keyless remotes and garage door openers




No. 4PG53




No. 4LW08




Np. 4LW07

## WATCH/CALCULATOR BATTERIES SPECIFICATION AND ORDERING DATA

| Voltage | Cross Reference | Rayovac Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1.0 | 319, SR527SW, F, 309, GS5 | 319-1W | *New*4PG50 | $1.69 | $1.49 | $1.19 | 0.1 |
| 1.5 | 329, 24, 525 | 329-1W | 5U082 | 1.34 | 1.21 | 0.97 | 0.1 |
| 1.5 | A76, J, KA, AL, LR44, 303/356, SR44SWSR44W, 9/7, 521/541 | 303/357-1W | 5U085 | 1.71 | 1.54 | 1.23 | 0.1 |
| 1.5 | 362, SR721S2, 17, 532, S, X, 361, SR721W | 361/362-1W | 5U087 | 1.17 | 1.06 | 0.85 | 0.1 |
| 1.5 | 364, SR621SW, 31, 531, T | 364-1W | 5U088 | 1.24 | 1.16 | 0.93 | 0.1 |
| 1.5 | 377, SR626SW, 37, BA | 376/377-1W | 5U092 | 1.24 | 1.16 | 0.93 | 0.1 |
| 1.5 | 379, SR521SW, 518, 50 | 379-1W | 5U093 | 1.60 | 1.49 | 1.19 | 0.1 |
| 1.5 | 301, 386, SR43SW/SR43W, L6, 528/548, D, H | 301/386-1W | 5U096 | 1.24 | 1.14 | 0.91 | 0.1 |
| 1.5 | 389, SR1130W, M. 390, SR2230SW | 389/390-1W | 5U097 | 1.17 | 1.06 | 0.85 | 0.1 |
| 1.5 | 391, SR1120W, 23, 533, L | 381/391-1W | 5U099 | 1.18 | 1.11 | 0.89 | 0.1 |
| 1.5 | 392, SR42W, K, 384 | 384/392-1W | 5U100 | 1.18 | 1.11 | 0.89 | 0.1 |
| 1.5 | 390, 393, SR754W, 16/15, 526/546,F | 309/393-1W | 5U101 | 1.24 | 1.14 | 0.91 | 0.1 |
| 1.5 | 395, SR927W, 399, W | 395/399-1W | 5U103 | 1.18 | 1.11 | 0.89 | 0.1 |
| 1.5 | 397, SR726SW, 26, 536, N, 393, V | 396/397-1W | 5U105 | 1.18 | 1.11 | 0.89 | 0.1 |
| | **LITHIUM COIN CELL BATTERIES** | | | | | | |
| 3.0 | CR1216, EC1216 | CR1216-1W | *New*4PG52 | $1.79 | $1.59 | $1.27 | 0.1 |
| 3.0 | CR1620, ECR1620, DL1620 | CR1620-1W | *New*4PG53 | 1.69 | 1.49 | 1.19 | 0.1 |
| 3.0 | DL2016, BR2016, E-CR2016, CR2016, FA | BR2016-1W | 5U068 | 1.58 | 1.42 | 1.14 | 0.1 |
| 3.0 | DL2025, E-CR2025, CR2025, NA | CR2025-1W | 5U074 | 1.40 | 1.26 | 1.01 | 0.1 |
| 3.0 | DL3032, E-CR3032, CR3032 | CR2032-1W | 5U075 | 1.40 | 1.26 | 1.01 | 0.1 |
| | **NEW! LITHIUM KEYLESS ENTRY COIN CELL BATTERIES** | | | | | | |
| 3.0 | 1616, CR1616, ECR1616, DL1616B | KECR1616-1 | 4LW08 | $3.28 | $2.75 | $2.61 | 0.1 |
| 3.0 | CR2016, BR2016, FA, BB, ECR2016, DL2016 | KECR2016-1 | 4LW09 | 3.28 | 2.75 | 2.61 | 0.1 |
| 3.0 | 2025, CR2025, ECR2025, DL2025B | KECR2025-1 | 4LW10 | 3.28 | 2.75 | 2.61 | 0.1 |
| 3.0 | CR2032, BR2032, FA, ECR2032, DL2032B | KECR2032-1 | 4LW11 | 3.28 | 2.75 | 2.61 | 0.1 |
| | **NEW! ALKALINE KEYLESS ENTRY BATTERY** | | | | | | |
| 12.0 | MN21, A23, GP23A | KE23A-1 | 4LW07 | $3.28 | $2.75 | $2.61 | 0.1 |

# HEARING AID AND COMPUTER CLOCK BATTERIES

## HEARING AID BATTERIES

### HEARING AID BATTERY SPECIFICATIONS AND ORDERING DATA

| Description | Voltage | Standard color Codes | Cross Reference | Rayovac Model | Stock No. | List Per Card | Each Per Card | No. of Batteries Per Card | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Loud 'n Clear Premium Zinc Air | 1.4 | Yellow | AC230E, 230HPX, DA230, B20PA, ME10Z, S10A, 5-8138, 10A, R10ZA | L10ZA | 5U008 | $6.98 | $5.58 | 4 | 0.1 |
| Loud 'n Clear Premium Zinc Air | 1.4 | Orange | AC13E, 13HPX, DA13, P26PA, ME8Z, S13A, 5-8136, 13AE, 13A, R13ZA | L13ZA | 5U010 | 6.16 | 4.93 | 4 | 0.1 |
| Loud 'n Clear Premium Zinc Air | 1.4 | Brown | AC312E, 312HPX, DA312, B347PA, ME8Z, S13A, 5-8137, 312AE, 312A, R312ZA | L312ZA | 5U012 | 6.16 | 4.93 | 4 | 0.1 |
| Loud 'n Clear Premium Zinc Air | 1.4 | Blue | AC675E, 675HPX, DA675, B900PA, ME9Z, S675A, 5-8135, 675AE, 675A, R675ZA | L675ZA | 5U014 | 6.16 | 4.93 | 4 | 0.1 |




RAYOVAC®

No. 5U008

- Specially designed for high drain devices and noisy environments.

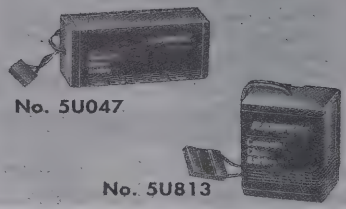
## COMPUTER CLOCK BATTERIES

- Safe and reliable
- Economical, long-life performance
- Over 5 year shelf life

### COMPUTER CLOCK SPECIFICATIONS AND ORDERING DATA

| Voltage | Battery Terminals | Used For | Rayovac Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4.5 | 4-Pin Connector | IBM PC-AT, Compaq 286, AST Premium 286 + 386, PCs Limited 286 + 386 and others | 844-1 | 5U047 | $19.80 | $13.66 | $10.93 | 0.2 |
| 4.5 | 4-Pin Connector | Same as 5U047 except used where space is limited | 840-1 | 5U813 | 19.00 | 13.70 | 10.96 | 0.1 |

RAYOVAC®



No. 5U047

No. 5U813

## 6V PHOTO/ELECTRONIC BATTERY

- Long life akaline battery
- Medical devices, lock boxes

*New* No. 4LW13. (RJ-1). Shpg. wt. 0.1 List $4.32.
Each ..... $2.99

RAYOVAC®

New



No. 4LW13

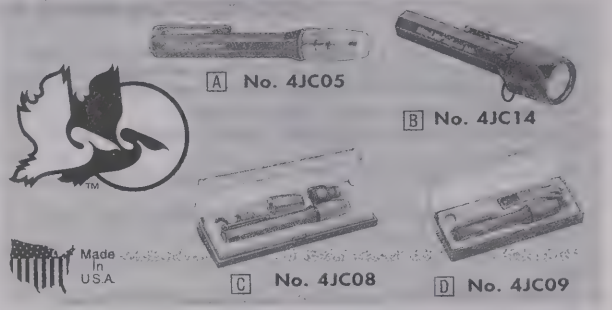
## IF YOU'RE IN A BIND, CALL GRAINGER

If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# HAZARDOUS ENVIRONMENT FLASHLIGHTS

## SUBMERSIBLE, SAFETY APPROVED POCKET FLASHLIGHTS

- **Pre-focused Xenon Laser Spot™ Beam penetrates smoke, fog and water**
- **Safety approved for use in hazardous environments**
- **Unbreakable body with high impact polycarbonate lens**
- **O-ring sealed and completely waterproof to 500 feet**
- **Rotary switch — can't turn on accidentally and no mechanical switch to fail**
- **Shock and corrosion proof**
- **Alkaline batteries included**
- **Unlimited lifetime warranty**
- **Made in USA**
- **No. 4JC14 is UL Listed Class1, Division 1, Groups C and D**
- **Replacement lamp modules found on page 1181**




**A MityLite® 2 AAA Pocket Light.** 4¾" long. 400% brighter than regular pocket lights. FM Approved Class I, II, III; Division 2; Group ABCDG also CSA, AUS & CENELEC Listed. Waterproof to 500 feet. Includes shirt clip, 2 AAA alkaline batteries, lite bender, and key ring holder. Yellow color. Uses 4JC06 replacement lamp.

**B MityLite®, Magnum 2 AA Pocket Light.** 5⅛" long. 600% brighter than ordinary pocket lights. FM Approved Class I; Division 2; Group ABCD & Class II; Division 2; Group G also CSA and MSHA Listed. Waterproof to 500 feet. Includes shirt clip, 2 AA alkaline batteries, and key ring holder. Black color. Uses 4JC15 replacement lamp.

**C Mini-System.** Includes MityLite® 2 AAA flashlight, an additional pulsating lamp module, lite bender, 2 night vision disks (red and blue-green), key ring holder, and spare O-ring. Yellow color. Uses 4JC06 replacement lamp.

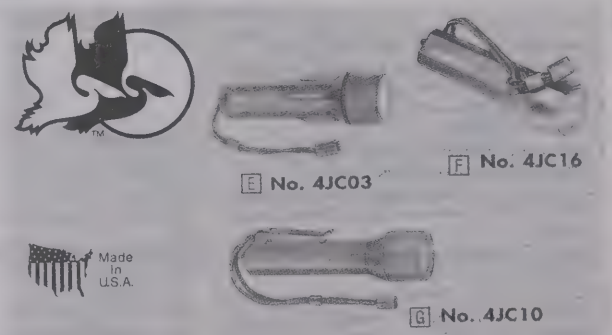
**D Super MityLite®/Peliknife™ Bonus Pack.** 600% brighter than regular pocket lights. Includes Super MityLite® 2 AAA flashlight and a lock back pocket knife. FM Approved Class I, II, III; Division 2; Group ABCDG also CSA & CENELEC Listed. Flashlight length: 4⅝". Folded knife length: 3". Blade: 1⅞" hollow ground stainless steel. Black color. Uses 4JC07 replacement lamp.

### PELICAN SUBMERSIBLE POCKET FLASHLIGHT SPECIFICATIONS AND ORDERING DATA

| Key | Description | Color | Candle-Power | Battery Size | No. of Batteries | Batteries Included | Pelican Model | Stock No | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | MityLite® AAA | Yellow | 1,000 | AAA | 2 | Yes | 1900C | **4JC05** | $12.31 | **$11.48** | 0.2 |
| B | MityLite® Magnum AA | Black | 8,000 | AA | 2 | Yes | 2300C | **4JC14** | 17.29 | **15.05** | 0.3 |
| C | Mini System | Yellow | 4,000 | AAA | 2 | Yes | 1950C | **4JC08** | 19.13 | **15.48** | 0.3 |
| D | Super MityLite®/Peliknife™ Bonus Pack | Black | 6,000 | AAA | 2 | Yes | 1980 | **4JC09** | 20.30 | **16.43** | 0.3 |

## SUBMERSIBLE, SAFETY APPROVED HAND-HELD FLASHLIGHTS

- **Pre-focused Xenon Laser Spot™ Beam penetrates smoke, fog, and water**
- **Safety approved for use in hazardous environments**
- **Unbreakable ABS body with high impact polycarbonate lens**
- **O-ring sealed and completely waterproof to 500 feet**
- **Shock and corrosion proof**
- **Batteries not included**
- **Unconditional lifetime warranty**
- **Made in USA• No. 4JC03 and No. 4JC16 are UL Listed Class 1, Division 1, Group D**
- **Replacement lamp modules found on page 1181**




**E Super PeliLite® 2 C Flashlight.** 6" long. 400% brighter than standard PR bulbs. FM Approved Class I, II, III; Division 2; Group ABCDG also MSHA, CSA & AUS Listed. Waterproof to 500 feet. Rotary switch. Includes black lanyard. Yellow color. Uses 4JC04 replacement lamp.

**F StealthLite™ 4 AA Flashlight.** 6½" long. 400% brighter than standard PR bulbs. FM Approved Class I; Division 2; Group ABCD also MSHA & CSA Listed. Waterproof to 500 feet. Features one-handed switch operation and double shock mounted battery compartment. Includes black lanyard. Yellow color. Uses 4JC17 replacement lamp.

**G Super SabreLite® 3 C Flashlight.** 7½" long. 400% brighter than standard PR bulbs. FM Approved Class I, II, III; Division 2; Group ABCDG also MSHA, UL Class 1, Division 1, Group CD; CSA & AUS Listed. Class 1, Zone 1, Group IIA, IIB. Waterproof to 2,000 feet. Rotary switch. Includes belt spring clip, stainless steel split ring, and black lanyard. Yellow color. Uses 4JC11 replacement lamp.

### PELICAN SUBMERSIBLE HAND-HELD FLASHLIGHT SPECIFICATIONS AND ORDERING DATA

| Key | Description | Color | Candle-Power | Battery Size | No. of Batteries | Batteries Included | Pelican Model | Stock No | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E | Super PeliLite™ C | Yellow | 10,000 | C | 2 | No | 1800C | **4JC03** | $21.68 | **$19.99** | 0.3 |
| F | StealthLite™ AA | Yellow | 10,000 | AA | 1 | No | 2400B | **4JC16** | 28.36 | **23.00** | 0.4 |
| G | Super SabreLite® C | Yellow | 12,000 | C | 3 | No | 2000C | **4JC10** | 33.05 | **26.80** | 0.4 |

Order batteries on page 1174.

# HAZARDOUS ENVIRONMENT FLASHLIGHTS

## SUBMERSIBLE, SAFETY APPROVED RECHARGEABLE FLASHLIGHT SYSTEM

- Includes flashlight, 6V high-capacity nicad industrial battery pack, 110V charger and 12V Plug-in charger cord, snap-in handy desk/dash mount base and black lanyard
- Battery pack yields up to 1,000 charges
- Pre-focused Xenon Laser Spot™ Beam penetrates smoke, fog and water
- Xenon lamp module is 400% brighter than standard PR bulbs
- FM approved Class I; Division 2; Group ABCD also CSA listed for use in hazardous environments
- Unbreakable ABS body with high impact polycarbonate lens
- O-ring sealed and completely waterproof to 500 feet
- Shock and corrosion proof
- Unconditional lifetime warranty
- 12,000 candle power fully charged
- Made in USA

**Rechargeable StealthLite™System.** 6½" long. Includes flashlight, 6V high-capacity nicad industrial battery pack, 110V charger and 12V plug-in charger cord, snap-in handy desk/dash mount base and black lanyard. Waterproof to 500 feet. Black color. Pelican brand (2450C).

**No. 4JC18.** Shpg. wt. 1.5 lbs. List $84.25. Each... $67.90

**No. 4JC19.** Replacement Lamp. Shpg. wt. 0.1 List $11.07. Each... $8.96

**Replacement Battery for Rechargeable StealthLite™ System.** Pelican brand (2459).

**No. 4JC20.** Shpg. wt. 0.3 lbs. List $22.39.Each... $17.91



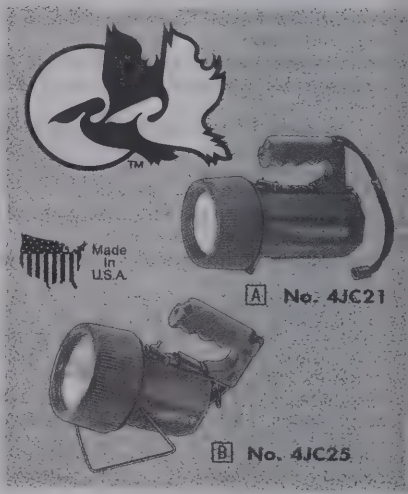

## SAFETY APPROVED LANTERNS & ACCESSORY

- Pre-focused Xenon Laser Spot™ Beam penetrates smoke, fog and water
- Xenon lamp module is 400% brighter than standard PR bulbs
- Safety approved for use in hazardous environments
- Unbreakable ABS body with high impact polycarbonate lens
- Combination pistol grip/lantern handle quickly converts to multiple positions
- Dual filament backup xenon lamp with dual switch feature
- Comes with a laser spot reflector
- Wall mount bracket available separately
- Shock and corrosion proof
- Batteries not included
- Unconditional lifetime warranty
- Made in USA

**A King Pelican Lite™ 8 D Flashlight.** 9" long. FM Approved Class I; Division 2; Group CD also CSA Certified. Features Pelican's exclusive dual filament xenon lamp with 60 hours of lamp life (30 hours each). Includes heavy duty rubber lens protector, laser spot reflector, black lanyard, and key ring holder. Yellow color. Uses 4JC22 replacement lamp.

**B Laser Pro™ 4D Flashlight.** 8" long. FM Approved Class I; Division 2; Grade ABCD also CSA Certified. Features Pelican's exclusive dual filament xenon lamp with 60 hours of lamp life (30 hours each). Includes heavy duty rubber lens protector, laser spot reflector, adjustable fold away stand, black lanyard, and key ring holder. Black color. Uses 4JC24 replacement lamp.

**C Wall Mount Bracket.** Designed to fit King Pelican Lite™ 8D and Laser Pro™ 4D flashlights (Nos. 4JC21 and 4JC25). Stores flashlight on wall or counter. Can be attached to either wood or metal surfaces. Mounting screws not included.




### PELICAN HAND-HELD FLASHLIGHT SPECIFICATIONS AND ORDERING DATA

| Key | Description | Color | Candle-Power | Battery Size | No. of Batteries | Batteries Included | Pelican Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | King Pelican™ D | Yellow | 100,000 | D | 8 | No† | 4000LS | 4JC21 | $89.05 | $72.70 | 2.1 |
| B | Laser Pro™ D | Black | 60,000 | D | 4 | No† | 6000LS | 4JC25 | 89.05 | 72.70 | 3.4 |
| C | Wall Mount Bracket | — | — | — | — | — | 4006 | 4JC23 | 15.30 | 13.77 | 0.2 |

(†) Order batteries on page 1174.

# HAZARDOUS ENVIRONMENT FLASHLIGHTS AND ACCESSORIES

## HANDS FREE SAFETY APPROVED FLASHLIGHT

- Pre-focused Xenon Laser Spot™ Beam penetrates smoke, fog and water
- Xenon lamp module is 400% brighter than standard PR bulbs
- FM Class I, II, III; Division 2; Group ABCDG also MSHA, CSA & AUS Listed for use in hazardous environments
- Unbreakable body with high impact polycarbonate lens
- Made of a chemical resistant xenoy
- Multiple position swivel head
- Water resistant
- Rotary switch—can't turn on accidentally & no mechanical switch to fail
- Shock and corrosion proof
- 6000 candle power
- Alkaline batteries included
- Unconditional lifetime warranty
- Made in USA



Made In USA

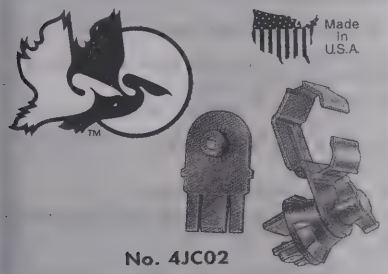
No. 4JC13

**ersaBrite™ 2 AA Flashlight.** 3" long. Includes large multiple use visor cap/clothing clip, ite vision blue-green lens, Velcro® mounting system, adjustable hard hat/headband, and rong removable saddle magnet. Black color. Pelican brand (2250C).

**o. 4JC13.** VersaBrite™ Flashlight. Shpg. wt. 0.3 lbs. List $21.37. Each ..... $17.10

**o. 4JC12.** VersaBrite™ Lamp Module. See table below.. Shpg. wt. 0.1 lbs. List $6.02. ach..... $4.87

## HELMET LITE HOLDER



Made In U.S.A.

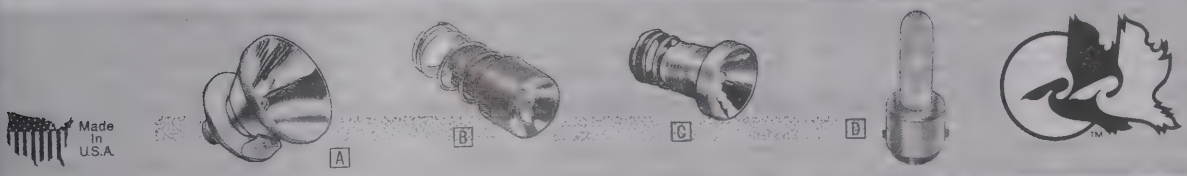
No. 4JC02

- Multi-directional adjustable light holder
- Fits all hard hats & fire helmets without drilling or gluing
- Fits seven different Pelican flashlights
- Locking cam and swivel settings allow flashlight to be angled up or down and side to side
- Unconditional lifetime warranty
- Made in USA

**Helmet Lite Holder.** Three piece set attaches to either left or right side and does not interfere with visors. Fits all VersaBrite, MityLite, Super MityLite, MityLite Magnum, StealthLite, plus other brand lights. Molded-in heat-resistant Celcon® resin. Black color. Pelican brand (700).

**No. 4JC02.** Shpg. wt. 0.2 lbs. List ..... $12.85
Each..... $10.40

## REPLACEMENT LAMP MODULES FOR USE WITH PELICAN FLASHLIGHTS



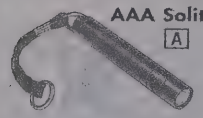

### PELICAN REPLACEMENT LAMP SPECIFICATIONS AND ORDERING DATA

| Key | Description | Replacement for Pelican Flashlight | Pelican Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Super PeliLite® Lamp Module | 4JC03 | 1804 | **4JC04** | $11.07 | **$9.05** | 0.1 |
| A | Super SabreLite™ Lamp Module | 4JC10 | 2004-UL | **4JC11** | 11.58 | **9.37** | 0.1 |
| A | StealthLite™ Lamp Module | 4JC16 | 2404 | **4JC17** | 11.07 | **8.96** | 0.1 |
| A | Rechargeable StealthLite™ Lamp Module | 4JC18 | 2454 | **4JC19** | 11.07 | **8.96** | 0.1 |
| B | MityLite® Lamp Module | 4JC05, 4JC06 | 1904 | **4JC06** | 4.74 | **3.84** | 0.1 |
| B | Super MityLite® Lamp Module | 4JC09 | 1974 | **4JC07** | 6.02 | **4.91** | 0.1 |
| B | VersaBrite™ Lamp Module | 4JC13 | 2204 | **4JC12** | 6.02 | **4.87** | 0.1 |
| C | MityLite® Magnum Lamp Module | 4JC14 | 2304 | **4JC15** | 5.92 | **4.79** | 0.1 |
| D | King Pelican Lite™ Lamp Module | 4JC21 | 4003 | **4JC22** | 14.18 | **11.48** | 0.1 |
| D | LaserPro™ Lamp Module | 4JC25 | 5003 | **4JC24** | 14.18 | **11.48** | 0.1 |

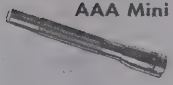
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

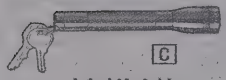
# MAG-LITE® FLASHLIGHTS



AAA Solitaire
A



B
AAA Mini Mag



C
AA Mini Mag

- For AAA Solitaire replacement lamp only please contact Grainger Parts Operation at 1-800-323-0620



D Two C-Size
E Three C-Size
F Four C-Size

MAG-LITE

Made in U.S.A.



G Two D-Size
H Three D-Size
I Four D-Size
J Five D-Size
K Six D-Size

## SOLITAIRE™ AND MINI MAG FEATURES

- Focus from flood to spot beam by twisting head assembly
- High-strength aluminum exterior provides durability
- Spare lamp included in tail cap
- Candle-type light achieved by removing head assembly
- Limited lifetime warranty
- Alkaline batteries included
- Mag-Lite brand

## C & D SIZE MAG FEATURES

- Krypton lamp provides 70% more light than a standard PR2 lamp. Replacement lamps on page 1183
- Anodized aircraft aluminum with knurled grip prevents corrosion
- Triple-action, self-cleaning internal switch
- On/Off and "blink" switch
- O-ring sealed for maximum water resistance
- Focus from flood to spot beam by twisting head assembly
- Spare krypton lamp included in tail cap
- Batteries not included
- Mag-Lite brand

**AAA Solitaire Flashlight w/Key Lanyard.** 3¼" long, includes a spare lamp in tail cap. Features attached ring and key strap.

**AAA Mini Mag Lites.** 5" long, includes a pocket clip and spare lamp. AAA Mini Mag Lites provide 25% more beam candle power (at 5.5 ft.) and use 1/2 the battery power of any other 2 AAA size flashlight. Colors available: black, red, and blue.

**AA Mini Mag Lites.** 5¼" long, includes a spare lamp in tail cap. Colors available: black, camouflage, red, and blue. Mounts on a key chain.

**C and D-Size Mag-Lites.** Designed for quality, innovation and durability. Mag Lites are constructed of aircraft-grade aluminum, anodized to prevent corrosion. Patented focusing system adjusts from spot to floodlight beam. Lexan lens and built-in shock absorber system protects lamp from rough handling. Reflector is up to 98% efficient for maximum light output. Batteries not included. Colors available (D-size only): black, red, and blue.

Each unit has its own serial number engraved on the barrel for easy identification.

## MAG-LITE FLASHLIGHT SPECIFICATIONS AND ORDERING DATA

| Key | Description | Color | Candle-Power* | Battery Size | No. of Batteries | Batteries Included | Mag Lite Model | Stock No | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | AAA Solitaire | Black | 700 | AAA | 1 | Yes | K3A016 | **4V380** | $10.46 | **$7.85** | 0.1 |
| B | AAA Mini Mag | Black | 800 | AAA | 2 | Yes | M3A016 | **4V018** | 14.53 | **10.90** | 0.2 |
| B | AAA Mini Mag | Red | 800 | AAA | 2 | Yes | M3A036 | **4V019** | 14.53 | **10.90** | 0.2 |
| B | AAA Mini Mag | Blue | 800 | AAA | 2 | Yes | M3A116 | **4V022** | 14.53 | **10.90** | 0.2 |
| C | AA Mini Mag | Black | 2,200 | AA | 2 | Yes | M2A016 | **2V924** | 15.66 | **11.75** | 0.4 |
| C | AA Mini Mag | Camouflage | 2,200 | AA | 2 | Yes | M2A026 | **4V012** | 18.81 | **14.11** | 0.4 |
| C | AA Mini Mag | Red | 2,200 | AA | 2 | Yes | M2A036 | **4V013** | 15.66 | **11.75** | 0.4 |
| C | AA Mini Mag | Blue | 2,200 | AA | 2 | Yes | M2A116 | **4V016** | 15.66 | **11.75** | 0.4 |
| D | Two C-Size Mag-Lite | Black | 8,200 | C | 2 | No† | S2C016 | **4V023** | 27.62 | **20.72** | 0.8 |
| E | Three C-Size Mag-Lite | Black | 13,500 | C | 3 | No† | S3C016 | **4V024** | 28.69 | **21.52** | 0.9 |
| F | Four C-Size Mag-Lite | Black | 14,000 | C | 4 | No† | S4C016 | **4V025** | 29.80 | **22.35** | 1.0 |
| G | Two D-Size Mag-Lite | Black | 9,000 | D | 2 | No† | S2D016 | **2V929** | 29.40 | **22.05** | 1.1 |
| G | Two D-Size Mag-Lite | Red | 9,000 | D | 2 | No† | S2D036 | **3JL14** | 29.40 | **22.05** | 1.1 |
| G | Two D-Size Mag-Lite | Blue | 9,000 | D | 2 | No† | S2D116 | **3JL15** | 29.40 | **22.05** | 0.1 |
| H | Three D-Size Mag-Lite | Black | 14,000 | D | 3 | No† | S3D016 | **2V930** | 30.45 | **22.84** | 1.2 |
| H | Three D-Size Mag-Lite | Red | 14,000 | D | 3 | No† | S3D036 | **3JL16** | 30.45 | **22.84** | 1.2 |
| H | Three D-Size Mag-Lite | Blue | 14,000 | D | 3 | No† | S3D116 | **3JL17** | 30.45 | **22.84** | 1.2 |
| I | Four D-Size Mag-Lite | Black | 15,700 | D | 4 | No† | S4D016 | **2V931** | 32.40 | **24.30** | 1.4 |
| I | Four D-Size Mag-Lite | Red | 15,700 | D | 4 | No† | S4D036 | **3JL18** | 32.40 | **24.30** | 1.4 |
| J | Five D-Size Mag-Lite | Black | 17,000 | D | 5 | No† | S5D016 | **3JL19** | 36.06 | **27.05** | 1.7 |
| J | Five D-Size Mag-Lite | Red | 17,000 | D | 5 | No† | S5D036 | **3JL20** | 36.06 | **27.05** | 1.7 |
| K | Six D-Size Mag-Lite | Black | 20,500 | D | 6 | No† | S6D016 | **3JL21** | 39.53 | **29.65** | 1.9 |
| K | Six D-Size Mag-Lite | Red | 20,500 | D | 6 | No† | S6D036 | **3JL22** | 39.53 | **29.65** | 1.9 |

(*) At 5.5 feet. (†) Order batteries on page 1174



When it comes to lighting, no distributor outshines Grainger.

# MAG RECHARGEABLE FLASHLIGHT & ACCESSORIES

## MAG CHARGER RECHARGEABLE FLASHLIGHT SYSTEM



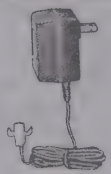

Flashlight



Battery Pack



Charger



AC Converter



Auto Cord

- System includes flashlight, 6 volt battery pack, charger, 120 volt AC converter, and 12 volt auto cord
- Mag Charger is the most powerful flashlight of its size (12¼" long)
- 30,000 candlepower at 10 ft.
- Charges on AC or DC current
- Battery pack recharges up to 1000 times
- Tempered glass lens
- 12 Volt cord attaches to auto cigarette lighter
- Mag Lite brand (RX1019).

**No. 4V026.** Rechargeable Flashlight. Shpg. wt. 3.4 lbs. List $159.60. Each ..... $119.70

### REPLACEMENT LAMP (for Mag-Lite rechargeable flashlight above)

For use with Mag rechargeable flashlight No. 4V026. Mag Lite brand (LR00001).

**No. 4V027.** Replacement Bulb. Shpg. wt. 0.1 lbs. List $7.84. Each ..... $5.88

### REPLACEMENT BATTERY PACK (for Mag rechargeable flashlight above)

For use with Mag rechargeable flashlight No. 4V026 (See photograph above). Mag Lite brand (ARXX075).

**No. 3JL08.** Replacement Battery Pack. Shpg. wt. 0.9 lbs. List $45.20. Each ..... $33.90

## MAG LITE FLASHLIGHT ACCESSORIES




**A AAA Mini Mag Replacement Lamps** for use with Nos. 4V018 thru 4V022, see page 1181. Mag Lite brand (LM3A001).

**No. 4V031.** Shpg. wt. 0.1 lbs. List $3.13. Each Package of 2 ..... $2.35

**B AA Mini Mag Replacement Lamps** for use with Nos. 2V924 and 4V012 thru 4V016, see page 1181. Mag Lite brand (LM2A001).

**No. 4V032.** Shpg. wt. 0.1 lbs. List ..... $3.13. Each Package of 2 ..... $2.35

**C AA Mini Mag Black Leather Holster** for use with Nos. 2V924, and 4V012 thru 4V016, see page 1181. Mag Lite brand (AM2A026).

**No. 4V017.** Shpg. wt. 0.1 lbs. List $10.05. Each ..... $7.54

**D AA Mini Mag/Pocket Knife Black Leather Holster** for use with No. 2V924 and Nos. 4V012 thru 4V016, see page 1181. Mag Lite brand (AM2A346).

**No. 4V381.** Shpg. wt. 0.4 lbs. List $30.32 Each ..... $22.74

**E AA Mini Mag Accessory Pack** for use with Nos. 2V924, and 4V012 thru 4V016, see page 1181. Includes pocket clip, key ring, red, clear and amber colored lens set, wrist lanyard, and lens holder. Mag Lite brand (AM2A016).

**No. 4V033.** Shpg. wt. 0.1 lbs. List $6.17. Each ..... $4.63

**F C-Size Mag Lite Black Leather Belt Holder** for use with Nos. 4V023 thru 4V025. Mag Lite brand (ASXC046).

**No. 4V030.** Shpg. wt. 0.1 lbs. List $7.90. Each ..... $5.93

**F D-Size Mag Lite Black Leather Belt Holder** for use with Nos. 2V929 thru 2V931 and 3JL14 thru 3JL22. Mag Lite brand (ASXD036).

**No. 4V029.** Shpg. wt. 0.1 lbs. List $7.90. Each ..... $5.93

**G D-Size Mag Lite Black Auto Clamps.** Includes 2 clamps and mounting hardware for use with Nos. 2V929 thru 2V930 and 3JL14 thru 3JL17. Nos. 2V931 and 3JL18 thru 3JL22 require 2 sets of 2 clamps. Mag Lite brand (ASXD026).

**No. 4V028.** Shpg. wt. 0.1 lbs. List $6.62 Each ..... $4.97

### REPLACEMENT LAMPS (Use Mag Lite replacement lamps with Mag Lite flashlights for best results)

MAG-LITE

- Krypton lamps
- 2 lamps per package

| Replacement Lamps For Use With Mag Flashlights | Mag-Lite Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4V023, 2V929, 3JL14, 3JL15 | LWSA201 | 3JL09 | $3.13 | $2.35 | 0.1 |
| 4V024, 2V930, 3JL16, 3JL17 | LWSA301 | 3JL10 | 3.13 | 2.35 | 0.1 |
| 4V025, 2V931, 3JL18 | LWSA401 | 3JL11 | 3.13 | 2.35 | 0.1 |
| 3JL19, 3JL20 | LWSA501 | 3JL12 | 3.13 | 2.35 | 0.1 |
| 3JL21, 3JL22 | LWSA601 | 3JL13 | 3.13 | 2.35 | 0.1 |

# FLASHLIGHTS AND BATTERIES

## ROUGHNECK® FLASHLIGHTS

RAYOVAC®



No. 4V387



No. 4V385

- Focus from wide angle flood to long range spot beam by twisting the head assembly
- Krypton lamp—100% brighter and whiter than standard PR2 or PR4 lamp
- Long-range beam
- Push button switch
- Chemical and solent resistant polypropylene construction
- All units are water resistant
- Ring hanger for easy storage
- Non-roll feature

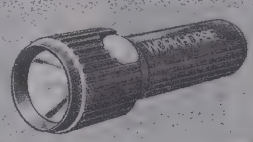
### ROUGHNECK® FLASHLIGHTS SPECIFICATIONS AND ORDERING DATA

| Battery Size | No. of Batteries | Batteries Included | Replacement Lamp | Rayovac Model | Stock No. | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| AA | 2 | Yes | 1XC39 | R2AA-B | **4V387** | $9.44 | **$7.55** | **$6.80/6** | 0.3 |
| C | 2 | Yes | 1XC38 | R2C-B | **5U817** | 13.69 | **11.04** | **9.94/6** | 0.6 |
| D | 2 | Yes | 2V951 | R2D-B | **5U818** | 13.69 | **11.64** | **10.48/6** | 0.9 |
| D | 2 | No* | 2V952 | R2D | **4V385** | 12.09 | **7.99** | **7.19/6** | 0.5 |
| D | 3 | No* | 2V952 | R3D | **4V386** | 12.73 | **10.18** | **9.16/6** | 0.6 |
| D | 3 | Yes | 2V952 | R3D-B | **5U819** | 15.19 | **12.91** | **11.62/6** | 1.3 |

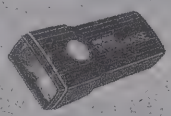
(*) Order batteries on page 1174

## WORKHORSE® FLASHLIGHTS AND LANTERNS

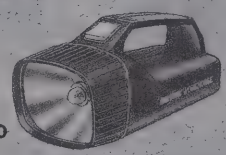
RAYOVAC®



No. 2V819



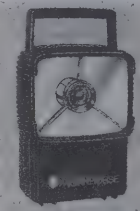
No. 4V306



No. 5U110



No. 2F125



No. 2V903

- Corrosion-resistant polyethylene plastic body on flashlights (ABS plastic on lantern)
- Fresnel lens provides a powerful parallel beam
- Switch tested through 75,000 On/Off cycles
- No. 4V306 has a PR4 lamp (No.5U044)
- Nos. 2V819, 2V820, and 2V903 have krypton lamps—100% brighter and whiter than standard PR lamps
- No. 2V903 features red safety flasher and adjustable light beam
- No. 2F125 fluorescent lantern offers 360° area lighting—100% brighter than other competitor brands
- No. 5U110 is a compact lantern featuring an advanced krypton bulb, high performance reflector, rugged ABS case, guaranteed switch and non-roll design

### WORKHORSE® FLASHLIGHTS SPECIFICATIONS AND ORDERING DATA

| Battery Size | No. of Batteries | Batteries Included | Replacement Lamp | Rayovac Model | Stock No. | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| AA | 2 | Yes | 5U044 | W2AA-B | **4V306** | $5.77 | **$4.62** | **$4.16/12** | 0.2 |
| C | 2 | No* | 1XL38 | W2C | **5U109** | 7.79 | **6.54** | **5.89/6** | 0.5 |
| D | 2 | No* | 2V951 | W2D | **2V819** | 8.00 | **6.40** | **5.76/6** | 0.4 |
| D | 3 | No* | 2V952 | W3D | **2V820** | 9.22 | **7.37** | **6.63/6** | 0.5 |
| D | 4 | Yes | 2V953 | W4D-B | **5U110** | 15.49 | **13.01** | **11.71/4** | 1.6 |
| D | 8 | No* | 2V805 | WH8 | **2F125** | 42.88 | **31.00** | **27.90/4** | 2.7 |
| 6-VOLT | 1 | No* | 2V953 | WH5 | **2V903** | 22.17 | **13.99** | **12.59/6** | 2.5 |

(*) Order batteries on page 1174 and 1175

NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY

# FLASHLIGHTS

## INDUSTRIAL FLASHLIGHTS

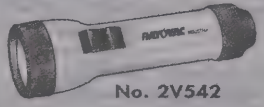
RAYOVAC®

Made in U.S.A.

New



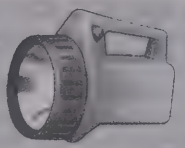
No. 5U050



No. 2V542



No. 4PG54



No. 4LW06

### Flashlights

- **Models available with magnet, continuity tester, or for use in hazardous locations**
- **Nonconducting high impact plastic barrel with sure grip ribs**
- **Shock absorbing socket protects lamp**
- **Switch guard prevents accidental turn-on**
- **Nonroll feature helps keep flashlight near**
- **Polypropylene construction resists oil, gasoline, and grease**
- **Spare lamp holder**
- **Advanced reflector design for powerful long-range concentrated beam**
- **Batteries not included, see page 1174 for ordering data**

**Nos. 2V542, 1BW26, and 6V371.** Tapered end cap for pocketing without snagging.

**Nos. 6V370 and 4LW04.** Feature a krypton lamp which is 100% brighter than a standard PR2 lamp.

**No. 4LW04. Buy in bulk and save.** Box of 24 No. 6V370 flashlights. Priced each, sold separately in box of 24. (IN2K-BULK)

***New* No. 4LW04.** Shpg. wt. 0.4 lbs. List $6.49. Each ..... **$4.35**

**No. 5U050.** Features a magnet with a krypton lamp which is 100% brighter than standard PR2 lamp.

**No. 2V543.** Features a heavy-duty magnet for easy storage and operation.

**No. 2V544.** Features a continuity tester in the end cap.

**Nos. 2V545, 6V372 and No. 4LW06.** Internal circuit breaker minimizes explosion potential. Mine Safety and Health Administration approval for use in explosive atmospheres. UL Listed for Class I, Groups C & D Class II, Group G.

**No. 4LW05. Buy in bulk and save.** Box of 24 No. 2V545 flashlights. Priced each, sold separately in box of 24. (IN2MS-BULK)

***New* No. 4LW05.** Shpg. wt. 0.2 lbs. List $8.30. Each ..... **$5.40**

### Lantern

**No. 4PG54.** Lantern. Features a krypton bulb for a brighter beam. Heavy-duty rubber lens ring.

### INDUSTRIAL FLASHLIGHT AND LANTERN SPECIFICATIONS AND ORDERING DATA

| Description | Battery Size | No. of Batteries* | Color | Replacement Lamp | Hanger Ring | Switch Guard | Rayovac Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Standard** | AA | 2 | Yellow | 5U044 | Yes | Yes | IN4 | **1BW26** | $4.74 | **$3.79** | **$3.41/6** | 0.2 |
| **Standard** | D | 2 | Yellow | 2V950 | Yes | Yes | IN2 | **2V542** | 5.91 | **4.72** | **4.25/6** | 0.3 |
| **Standard** | D | 3 | Yellow | 5U043 | Yes | Yes | IN3 | **6V371** | 7.71 | **6.16** | **5.54/6** | 0.5 |
| **Standard w/Krypton Lamp** | D | 2 | Yellow | 2V951 | Yes | Yes | IN2-K | **6V370** | 6.98 | **5.58** | **5.02/6** | 0.3 |
| **Standard w/Krypton Lamp and Magnet** | D | 2 | Yellow | 2V951 | Yes | Yes | IN2-KML | **5U050** | 9.36 | **7.49** | **6.74/6** | 0.4 |
| **Magnet** | D | 2 | Yellow | 2V950 | Yes | Yes | IN2-ML | **2V543** | 8.60 | **6.87** | **6.18/6** | 0.4 |
| **Continuity Tester** | D | 2 | Yellow | 5U045 | Yes | Yes | IN2-CT | **2V544** | 14.93 | **11.94** | **10.75/6** | 0.4 |
| **Hazardous Location** | D | 2 | Orange | 2V950 | Yes | Yes | IN2-MS | **2V545** | 9.39 | **7.51** | **6.76/6** | 0.4 |
| **Hazardous Location** | D | 3 | Orange | 5U046 | Yes | Yes | IN3-MS | **6V372** | 9.99 | **7.99** | **7.19/6** | 0.5 |
| **Safety Lantern** | 6V | 1 | Orange | 5U042 | No | No | IN6V-MS | ***New* 4LW06** | 15.99 | **12.85** | **12.21** | 0.8 |
| **Heavy-Duty Lantern** | 6V | 1 | Yellow | | No | No | I6V-B | ***New* 4PG54** | 12.49 | **11.99** | **10.79** | 2.5 |

(*) Order batteries on page 1174.

## INDUSTRIAL RUBBER FLASHLIGHTS

- **100% natural rubber**
- **Full lifetime warranty**

Super durable. Ergonomically-correct switch. Krypton bulb—200% brighter and whiter than ordinary bulbs. New polished reflector for maximum brightness. Convenient woven wrist strap.

RAYOVAC®

New



No. 4LW01



No. 4LW02

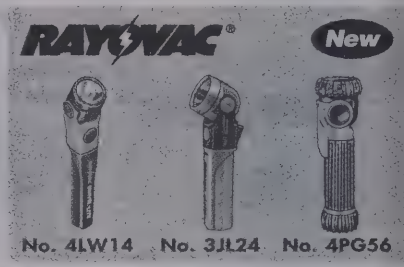
| Battery Size | No. of Batteries* | Batteries Included | Replacement Lamp | Rayovac Model | *New!* Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **AA** | 2 | Yes | 5U044 | BR2AA-B | **4LW01** | $7.99 | **$5.19** | **$4.93/6** | 0.4 |
| **D** | 2 | Yes | 2V951 | BD2D-B | **4LW02** | 9.99 | **6.88** | **6.54/6** | 1.2 |

(*) Order batteries on page 1174.

# FLASHLIGHTS

## SWIVEL-LITE™ FLASHLIGHTS

- Hands-free work light
- 180° pivoting head—shines light exactly where you're working. Nos. 4PG55 and 4PG56 have a swivel head that rotates 360° and 90° up and down.
- Adapts to any situation—with stand-up base, non-roll design and built-in hanging clip. 4PG56 does not include clip.
- Krypton bulb—200% brighter beam than ordinary flashlights
- Advanced prismatic reflector projects a full, even spot pattern that is ideal for do-it-yourselfers
- Lifetime warranty
- Dimensions 9⅜"L x 2¼"W




### SWIVEL-LITE FLASHLIGHT SPECIFICATIONS AND ORDERING DATA

| Battery Size | No. of Batteries | Batteries Included | Replacement Lamp | Rayovac Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| AA | 2 | Yes | 5U044 | SL2AA-B | New4LW14 | $9.17 | $6.61 | $6.28/6 | 0.3 |
| AA | 2 | No | 5U044 | ILJ2AA | New4PG55 | 8.59 | 7.79 | 7.01/6 | 0.3 |
| D | 2 | Yes | 2V951 | SL2D-B | 3JL24 | 11.70 | 7.50 | 7.13/6 | 1.0 |
| D | 2 | No | 2V951 | ISL2D | New4PG56 | 10.59 | 9.59 | 8.63/6 | 0.9 |

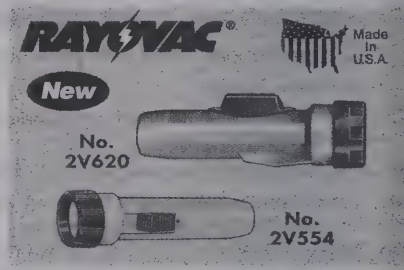
## UTILITY™ FLASHLIGHTS

- Nonconducting high impact plastic barrel resists breakage
- Sure grip ribs
- Steel reinforced plastic reflector
- Shock absorbing socket protects lamp
- Heavy-duty switch
- Bright prefocused beam
- Batteries not included, refer to page 1174 for ordering data

**No. 2V554.** Standard model.

**No. 4LW03. Save on No. 2V554** when you buy bulk. Package of 24 flashlights.

**No. 2V620.** Magnet model. Features a heavy-duty magnet for easy storage and operation.




### UTILITY™ FLASHLIGHT SPECIFICATIONS AND ORDERING DATA

| Description | No. of D Size Batteries* | Replacement Lamp | Hanger Ring | Switch Guard | Rayovac Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard | 2 | | No | No | H22 | 2V554 | $3.53 | $2.83 | $2.83/36 | 0.3 |
| Standard (Bulk Pack) | 2 | 2V950 | No | No | H22BULK | New4LW03 | 3.39 | 2.19 | 2.08/24 | 0.4 |
| Magnet | 2 | | No | No | H22M | 2V620 | 5.08 | 4.06 | 3.65/12 | 0.4 |

(*) Order batteries on page 1174

## VALUE BRIGHT™ FLASHLIGHTS

A **No. 4PG60.** 2 AAA cell size Value Penlight with 2 heavy duty AAA size batteries.

Features clip for easy carrying. Clicks on/off like a pen. Teal color. Full lifetime warranty. Inclues 2 AAA batteries. Ideal for use in medical products.

B **No. 4PG59.** 2 AA cell size Value Flashlight with 2 heavy duty AA size batteries.

Fresnel lens for bright, focused beam. Handy wrist strap. Non-roll feature. Teal color. Full lifetime warranty. Includes 2 AA batteries.

C **No. 4PG61.** 2 D cell Value Flashlight. Two times brighter and four times longer lasting than the leading competitor. Fresnel lens for bright, focused beam. Handy wrist strap. Non-roll feature. Teal color. Full lifetime warranty. Batteries Not Included.

D **No. 4PG62.** Value Bright 2 D cell Bulk Flashlight. Package of 24 4PG61 D-cell Flashlights. Sold only in pkg. of 24.

Two times brighter and four times longer lasting than the leading competitor. Fresnel lens for bright, focused beam. Handy wrist strap. Non-roll feature. Teal color. Full lifetime warranty.




### VALUE BRIGHT™ FLASHLIGHTS

| Battery Size | No. of Batteries | Batteries Included | Replacement Lamp | Rayovac Model | New! Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| AAA | 2 | Yes | 6VC86 | V2AAA-BX1 | 4PG60 | $3.29 | $2.89 | $2.60/12 | 0.2 |
| AA | 2 | Yes | 1XC38 | V2AA-BX1 | 4PG59 | 2.99 | 2.69 | 2.42/6 | 0.3 |
| D | 2 | No | 2V950 | V2DX1 | 4PG61 | 2.99 | 2.69 | 2.42/6 | 0.4 |
| D* | 2 | No | 2V950 | V2DX1 Bulk | 4PG62 | 2.69 | 2.40 | PKG/24 | 0.3 |

(*) Bulk package of 24 No. 4PG61 Flashlights.



When it comes to lighting, no distributor outshines Grainger.

# FLASHLIGHTS AND LANTERNS

## SPORTSMAN® FLASHLIGHTS

- High intensity beam
- Nos. 4PG58 and 4PG51 are twice as bright yet half the size of a D-cell flashlight
- Durable rubber
- Non-slip grip
- Weather resistant
- Handy wrist cord
- Full lifetime warranty.




**SPORTSMAN® FLASHLIGHTS SPECIFICATIONS AND ORDERING DATA**

| Battery Size | No. of Batteries | Color | Batteries Included | Replacement Lamp | Rayovac Model | Stock No. | List | Each | Lots/ Qty | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| AA | 2 | Camouflage | Yes | 5U040 | SPC2AA-B | **3JL25** | $9.99 | **$7.88** | **$7.09/6** | 0.4 |
| AA | 4 | Camouflage | Yes | 2V953 | SPC4AA-B | ***New*4PG58** | 10.60 | **9.59** | **8.63/6** | 0.6 |
| AA | 4 | Black | Yes | 2V953 | BR4AA-B | ***New*4PG51** | 8.49 | **7.99** | **7.19/6** | 0.6 |
| D | 2 | Camouflage | Yes | 2V951 | SPC2D-B | **3JL26** | 13.69 | **9.61** | **8.65/6** | 1.2 |
| 6 Volt | 1 | Green | Yes | 2V953 | SP6V-B | **3JL27** | 8.99 | **7.64** | **6.88/6** | 1.8 |

## 6 VOLT LANTERNS

- Durable one-piece construction
- Weather-resistant and rustproof
- Floats
- Spot beam
- Heavy-duty On/Off switch



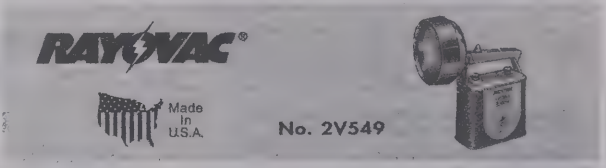

| Description | Battery Included | Battery No.* | Replacement Lamp | Rayovac Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Black Lantern** | No | 2V553 | 5U012 | L295-B1 | **2V556** | $5.61 | **$4.49** | **$4.04/12** | 0.5 |
| **Black Lantern** | Yes | 2V553/5U058 | | L295-I | **5U064** | 9.79 | **7.15** | **6.44/6** | 1.8 |

(*) See page 1174 for ordering data.

## INDUSTRIAL 6 VOLT SEALED-BEAM LANTERN

- Sealed beam lamp provides high intensity light
- Fully chromed steel gauge construction
- Includes 6 volt battery (No. 2V415) and lamp (replacement No. 5U036)
- Rayovac brand (301).

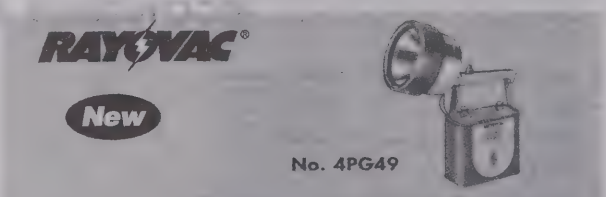
**No. 2V549.** 6 Volt Sealed Beam Lantern. Shpg. wt. 4.4 lbs.
List $35.71. Each **$28.45**; Lots 6 ..... **$25.61**




## 6 VOLT KRYPTON BEAM UTILITY LANTERN

- Corrosion resistant heavy duty metal construction with krypton bulb for a brighter beam. Includes 6V battery (No. 2V415) and lamp (replacement No. 2V953)
- Super tough rubber lens ring
- Swivel head
- Weather resistant rubber push button switch
- Large hand opening allows for use of gloves
- Full lifetime warranty
- Rayovac brand (301K).

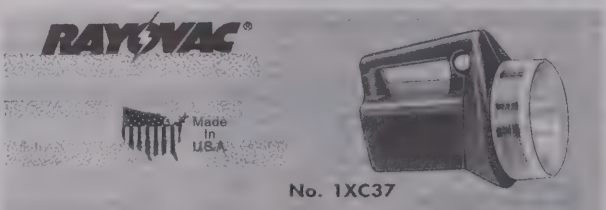
***New*No. 4PG49.** 6 Volt Krypton Beam Lantern.. Shpg. wt. 4.5 lbs.
List $28.69. Each **$26.00**; Lots 6 ..... **$23.40**




## 6 VOLT KRYPTON LANTERN

- Extra wide lens provides long-range beam
- Krypton lamp (No. 2V953) is 100% brighter than standard PR2 lamp
- Weatherproof switch and sealed lens
- Floats
- Durable one-piece construction
- Heavy-duty On/Off switch
- Uses one 6-volt lantern battery No. 2V423 or 2V553 (not included), refer to page 1175
- Rayovac brand (KFL).

**No. 1XC37.** Floating Lantern. Shpg. wt. 0.8 lbs. List $14.08.
Each ..... **$11.26**



# SPOTLIGHTS, HEADLIGHTS, AND FLASHLIGHTS

## HIGH INTENSITY PORTABLE SPOTLIGHTS

BRINKMANN®



Lamp Included

No. 4V224

For replacement lamps, contact Grainger Parts Operations at 1-800-323-0620

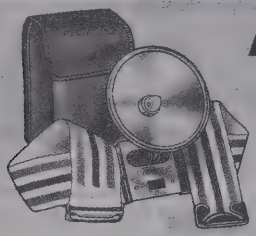
Provides portable, glare-free lighting from automotive, marine or any 12 Volt cigarette lighter. Up to 25 times more powerful than a car headlight on high beam. Not for use in explosive environments. For intermittent use only. Impact-resistant high-strength plastic housing. Extended lens guard protects lamp and lens against accidental damage. Recessed switch guard, stainless steel hanger, and 8 ft. coil cord with cigarette lighter plug. Brinkmann brand.

Nos. 4V224 and 4V225 Spotlights use sealed beam lamps.

**No. 4V225 Spot/Floodlight** is adjustable from a 200,000 candlepower spotlight to a 100,000 candlepower floodlight. For intermittent use only.

**No. 6VR50 Spotlight** is a 1,000,000 candlepower spotlight with a Halogen gas bulb for maximum brightness with minimal battery drain.

| Description | Amps | Candlepower | Color | Brinkmann Model | Stock No. | Lamp Included List | Lamp Included Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Spot | 13 | 400,000 | Black | 800-1951-0 | **4V224** | $75.00 | **$43.75** | 2.5 |
| Spot/Flood | 7.36 | 200,000/100,000 | Yellow | 800-1303-0 | **4V225** | 64.28 | **36.15** | 2.5 |
| Spot | 7.50 | 1,000,000 | Black | 800-2500-0 | **6VR50** | 85.71 | **44.85** | 2.4 |



RAYOVAC®

No. 5U066

## HEADLIGHTS

- Lightweight
- Leaves both hands free—lights where you look
- Adjustable headband and convenient switch and tilt adjustment
- No. 5U065 headlight with reflector only; order battery (No. 5U061) separately
- No. 5U066 includes battery (No. 5U061)

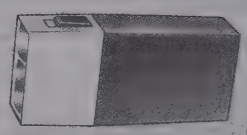
### HEADLIGHT SPECIFICATIONS AND ORDERING DATA

| Description | Battery Included | Battery No.* | Replacement Lamp | Rayovac Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Headlight w/Battery Pouch and No. 5U061 Heavy Duty Maximum Battery** | Yes | 5U059 or 5U061 | 5U041 | L298-S | **5U066** | $18.15 | **$13.25** | **$11.93/6** | 2.0 |
| **Headlight w/3" Reflector** | No | 5U059 or 5U061 | 5U041 | L298 | **5U065** | 12.55 | **9.16** | **8.24/12** | 0.4 |

(*) See page 1175 for ordering data.

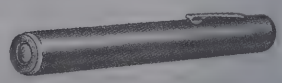
## ECONOMY FLASHLIGHTS

- Durable nonconductive plastic barrel
- Sure grip ribs
- Shock absorbing socket protects lamp
- Slide switch
- Batteries not included, refer to page 1174
- No. 2V546 Standard model with durable red case
- No. 5U015 disposable red flashlight with heavy-duty batteries
- No. 5U017 alkaline red penlight



RAYOVAC®

No. 5U015



No. 5U017

### ECONOMY FLASHLIGHT SPECIFICATIONS AND ORDERING DATA

| Description | No. of D Size Batteries | Replacement Lamp | Hanger Ring | Switch Guard | Rayovac Model | Stock No. | List | Each | Lots/ Qty | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Standard** | 2* | 2V950 | No | No | P2 | **2V546** | 1.88 | **$1.88** | **$1.50/12** | 0.2 |
| **Disposable Flashlight** | — | — | No | No | BL1-1 | **5U015** | 2.99 | **2.54** | **2.29/24** | 0.2 |
| **Disposable Penlight** | — | — | No | No | PD-1 | **5U017** | 2.99 | **2.54** | **2.29/48** | 0.1 |

(*) Order batteries on page 1174



When it comes to lighting, no distributor outshines Grainger.

# SAFETY WANDS HOLSTERS, FLASHLIGHT LAMPS AND HEADLIGHTS

## SAFETY WANDS

- Used to change industrial flashlights into glowing directional wands. Fits Nos. 2V542, 6V371, 6V370, 2V543, and 5U050
- Available in red or yellow with removable end caps
- 8" long
- For use with flashlights on page 1185




No. 4V376
(Flashlight not included)

### SAFETY WAND SPECIFICATIONS AND ORDERING DATA

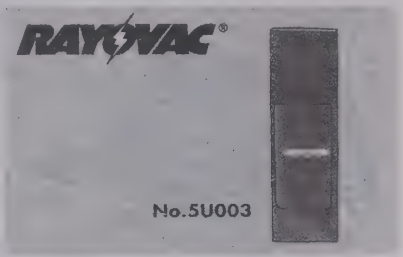
| Description | Rayovac Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Safety Wand, Red | W8 | 4V376 | $2.75 | $2.20 | $1.87/36 | 0.2 |
| Safety Wand, Yellow | W8A | 4V377 | 2.75 | 2.20 | 1.87/36 | 0.2 |

## HOLSTERS

- Long wearing—abrasion, scuff, puncture and mildew resistant
- Heavy-duty cordura material for maximum durability

### HOLSTER SPECIFICATIONS AND ORDERING DATA

| Description | Rayovac Model | Stock No. | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Belt holster for 2 Cell AA Size Light | HL-AA | 5U002 | $5.39 | $4.85 | $4.37/12 | 0.2 |
| Belt holster for 2 or 3 Cell D Size | HL-D | 5U003 | 5.99 | 5.39 | 4.85/12 | 0.2 |




No.5U003

## REPLACEMENT FLASHLIGHT LAMPS

### REPLACEMENT LAMP SPECIFICATIONS AND ORDERING DATA

| Description | Base Type Flashlight | Avg. Life in Hours | Applications | Battery | Rayovac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| KRYPTON† | | 10 | 2 C size | Alkaline or HD | K1-2 | 1XC38* | $3.42 | $2.73 | 0.1 |
| | Flanged | 8 | 2 D size | Alk or HD | K2-2 | 2V951* | 3.41 | 2.72 | 0.1 |
| | Flanged | 15 | 3 D size | Alk or HD | K3-2 | 2V952* | 3.41 | 2.72 | 0.1 |
| | Flanged | 10 | 2 AA size | Alk or HD | K4-2 | 5U040* | 2.69 | 2.56 | 0.1 |
| | Flanged | 15 | 4 D size / 1-6 Volt | Alk or HD | K13-2 | 2V953* | 3.41 | 2.72 | 0.1 |
| Miniature | Pin | 8 | 2AA | Alk or HD | T1-2 | 1XC39* | 4.57 | 3.65 | 0.1 |
| Heavy-Duty | Flanged | 15 | 2 D size | Alk/HD/GP | PR2-2 | 2V950* | 1.59 | 1.28 | 0.1 |
| | Flanged | 15 | 3 D size | Alk/HD/GP | PR3-2 | 5U043* | 1.34 | 1.27 | 0.1 |
| | Flanged | 30 | 2 D size | Alk/HD/GP | PR6 | 5U045 | 0.59 | 0.56 | 0.1 |
| | Flanged | 30 | 3 D size | Alk/HD/GP | PR7 | 5U046 | 0.69 | 0.66 | 0.1 |
| | Flanged | 15 | 5 D size / 1-6 Volt | Alk/HD/GP | PR12-2 | 5U041* | 1.34 | 1.27 | 0.1 |
| | Flanged | 15 | 1-6 Volt | HD/GP | PR13-2 | 5U042* | 1.34 | 1.27 | 0.1 |

(*) Priced and sold in blister pack quantities of 2. (†) 100% brighter than standard lamps.




No. 2V951

No. 2V950

No. 2V952

No. 1XC39

## BRIGHTEYE HEADLIGHTS™

- Important tool for mechanics, electricians, and plumbers
- Illuminates hard-to-see areas without drop lights and their shadow
- Valuable tool whenever you need light and both hands free to work
- High quality polypropylene plastic provides durability

**No. 2V947.** Brighteyes Headlight.
Shpg. wt. 0.4 lbs. List $12.59. Each.....$11.60



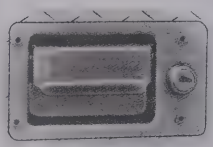
No. 2V947

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

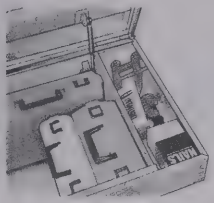
Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

# PREMIUM LINE ALUMINUM TRUCK BOXES

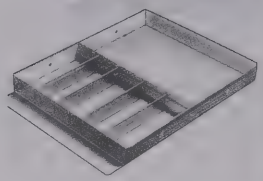
**All Payload Plus® Aluminum and Steel Crossover Boxes Include:**



Oversized, easy-to-open stainless steel paddle handles to improve security

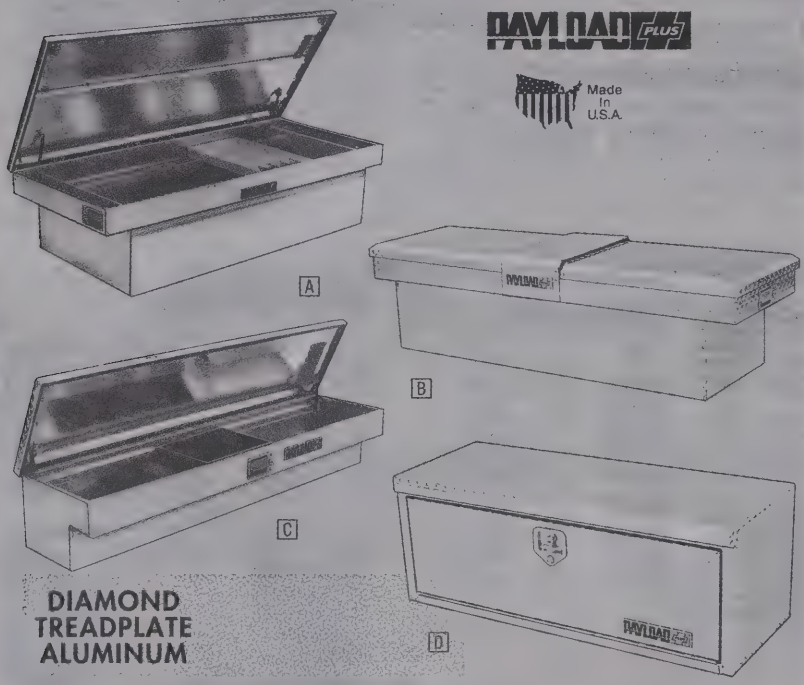


Small parts and tool storage built-in both ends for convenience



Steel tray with adjustable dividers slides for easy access and organization

**Aluminum boxes feature aluminum hinges & closed-cell neoprene foam weatherstripping for protection**




SEE PAGE 1194 FOR TRUCK BOX DIMENSION GUIDE

## A SINGLE LID CROSSOVERS

- Single lid design allows 100% access to interior for loading and unloading
- End-mounted stainless steel locks unlock from either side
- Lid strikers adjust horizontally and vertically for improved security and weather resistance
- Beveled edge lid design with welded cross bracing for superior strength
- Deep channel reinforcements in sidewalls and bottom maximize strength, durability and security

## B GULL WING CROSSOVERS

- Extended lid design for 20% larger opening than standard steel dual lid models for easier loading and unloading
- Beveled edge lid design with welded cross bracing for superior strength
- Welded center section lid mounts provide superior security
- Lid strikers adjust horizontally and vertically for improved security and weather resistance
- Deep channel reinforcements in sidewalls and bottom maximize strength, durability and security

## C INNERSIDES

- Built-in full-length parts and tool storage for convenient access and organization of supplies
- Oversized stainless steel paddle handle is easy to open and is more secure
- Extra-high capacity design provides storage space for hard-to-fit tools, provides space below for 4' wide materials; dimensions between innersides is less than 48"
- Mounts on rail; installation leg support kit included

## D UNDERBODIES

- Extra-heavy 0.100 Aluminum provides superior strength and durability
- Three-point T-handle locks door at top and both sides for superior security
- Mounts above or below platform

| Key | Description | Dimensions (In.) A | B | C | D | E | Cu-Ft Storage | Payload Plus Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Single Lid Crossover, Std/Deep | 71 | 21 7/8 | 18 1/4 | 12 | 60 1/16 | 11.8 | 967980 | **2H342** | $467.00 | **$439.00▲** | 75.0 |
| A | Single Lid Crossover, Wide/Deep * | 71 | 29 3/4 | 18 1/4 | 12 | 60 1/16 | 17.0 | 968980 | **2H344** | 530.00 | **505.00▲** | 98.0 |
| B | Gull Wing Crossover, StdDeep | 71 | 21 | 18 1/4 | 12 | 60 1/16 | 11.8 | 960980 | **2H338** | 517.00 | **485.00▲** | 65.0 |
| B | Gull Wing Crossover, Compact † | 61 | 21 | 12 1/4 | 6 | 50 1/16 | 6.2 | 962980 | **2H340** | 467.00 | **435.00▲** | 60.0 |
| C | 48" Innerside | 47 7/8 | 15 7/32 | 12 9/32 | 6 9/32 | 10 1/2 | 3.1 | 888980 | **2H334** | 280.00 | **265.00▲** | 35.0 |
| C | 63" Innerside | 62 7/8 | 15 7/32 | 12 9/32 | 6 9/32 | 10 1/2 | 4.3 | 889980 | **2H336** | 308.00 | **295.00▲** | 45.0 |
| D | 24" Underbody | 24 | 18 | 18 3/16 | 12 3/4 | 19 5/8 | 4.2 | 887980 | **2H332** | 293.00 | **279.00▲** | 36.0 |
| D | 36" Underbody | 36 | 18 | 18 3/16 | 12 3/4 | 31 5/8 | 6.3 | 885980 | **2H328** | 358.00 | **339.00▲** | 46.0 |
| D | 48" Underbody | 48 | 18 | 18 3/16 | 12 3/4 | 43 5/8 | 8.4 | 886980 | **2H330** | 435.00 | **415.00▲** | 58.0 |

NOTE: Standard Crossovers fit all domestic Full Size, Wide Bed Pickups. (*) Fits 1967-to-Present Long Wheel Base Ford, Chevrolet, Dodge, GMC, and all Wide Bed Pickups. (†) Compact Crossovers fit all Compact Short and Long Wheel Base Pickups, except Volkswagen. (▲) Net prices, not subject to discounts.

# PREMIUM LINE STEEL TRUCK BOXES

**All Payload Plus® Steel Crossover Boxes include features on page 1190 plus: Stainless steel hinges that resist rust, increase security; Oversized stainless steel paddle handles that improve security; Heavy-duty 16-gauge steel; and full weatherstripping.**

## A SINGLE LID CROSSOVERS

- Single lid design allows 100% access to interior for loading and unloading
- Lid unlocks and opens from either side of truck for safety
- Lid strikers adjust horizontally and vertically for improved security
- Beveled edge lid design with welded cross bracing adds strength
- Deep channel reinforcements in sidewalls and bottom maximize strength, durability, and security
- White powder paint finish

## B GULL WING CROSSOVERS

- Extended lid design for 20% larger opening than standard steel dual lid models for easier loading and unloading
- Beveled edge lid design with welded cross bracing for superior strength
- Welded center section lid mounts provide security
- Lid strikers adjust horizontally and vertically for improved security and weather-resistance
- Deep channel reinforcements in sidewalls and bottom maximize strength, durability, and security
- White powder paint finish

## C CHEST

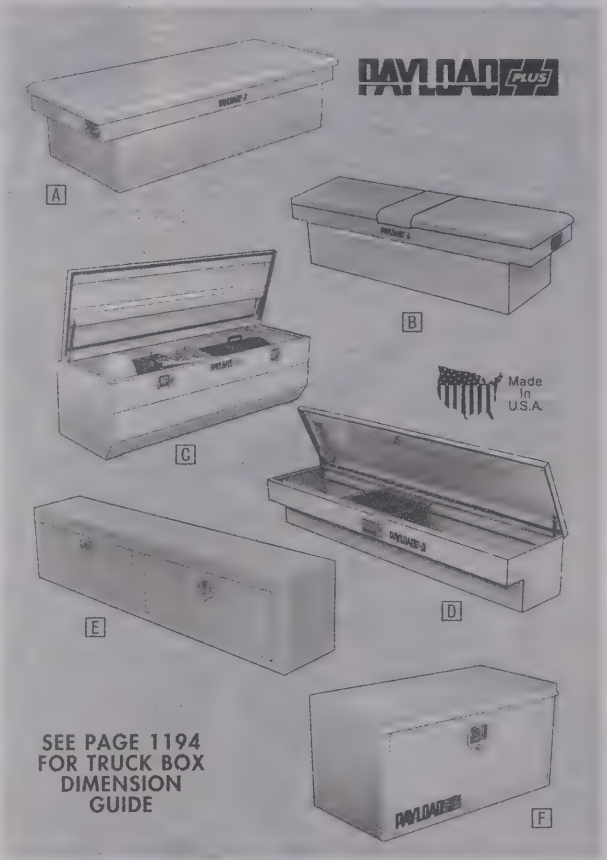
- Recessed lid hinge allows chest to be mounted flush against truck bed wall
- Beveled edge lid design with welded cross-bracing adds strength
- Bottom bolsters keep chest above standing water
- Easy-open dual stainless steel paddle handles
- White powder paint finish resists rust, scratches, chipping

## D INNERSIDES

- Built-in full-length parts and tool storage for convenient access and organization of supplies
- Extra-high capacity design provides storage space for hard-to-fit tools; provides space below boxes for 4' wide materials; dimensions between boxes less than 48"
- Easy-open oversized stainless steel paddle handle
- Mounts on rail; installation leg support kit included
- White powder paint finish resists rust, scratches, chipping

## E TOPSIDES

- Heavy-duty 14-gauge ends and doors with 16-gauge body
- 3-point T-handle locks door at top & both sides for security
- Mounts on top of rail; hanging steel shelf included
- White powder paint finish resists rust, scratches, chipping




SEE PAGE 1194 FOR TRUCK BOX DIMENSION GUIDE

## F UNDERBODIES

- Extra heavy-duty 14-gauge steel construction for maximum load capacity and durability
- Three-point T-handle locks door at top and both sides for superior security
- Black powder paint finish

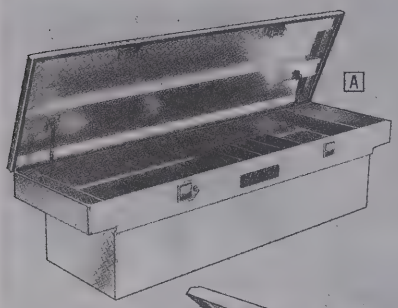
| Key | Description | Dimensions (in.) A | B | C | D | E | Cu-Ft Storage | Payload Plus Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Single Lid Crossover, Std/Deep | 70¾ | 20 5/16 | 18¼ | 12 | 60 | 11.6 | 996980 | **2H362** | $412.00 | **$392.00** ▲ | 145.0 |
| A | Single Lid Crossover, Wide/Deep * | 70¾ | 29¾ | 18¼ | 12 | 60 | 16.8 | 998980 | **2H364** | 474.00 | **450.00** ▲ | 190.0 |
| B | Gull Wing Crossover, Std-Deep | 70⅜ | 22½ | 18⅜ | 12 | 60 | 11.6 | 990980 | **2H358** | 418.00 | **395.00** ▲ | 124.0 |
| B | Gull Wing Crossover, Compact † | 60⅜ | 22½ | 15⅜ | 6 | 50 | 6.7 | 992980 | **2H360** | 382.00 | **359.00** ▲ | 110.0 |
| C | Chest, Standard | 59⅛ | 20 1/2 | 19½ | 58½ | 20⅛ | 10.7 | 817980 | **2H346** | 325.00 | **305.00** ▲ | 130.0 |
| D | 47" Innerside | 47½ | 15⅛ | 12 9/16 | 6 9/16 | 10½ | 3.1 | 835980 | **2H348** | 239.00 | **225.00** ▲ | 67.0 |
| D | 62" Innerside | 62½ | 15⅛ | 12 9/16 | 6 9/16 | 10½ | 4.3 | 836980 | **2H350** | 280.00 | **265.00** ▲ | 84.0 |
| E | 72" Topside | 72 | 30 5/16 | 16 9/16 | 12¼ | 13½ | 8.4 | 876980 | **2H356** | 387.00 | **369.00** ▲ | 129.0 |
| E | 78" Topside | 78 | 33 5/16 | 16 9/16 | 12¼ | 13½ | 9.2 | 877980 | **2H352** | 410.00 | **389.00** ▲ | 137.0 |
| E | 90" Topside | 90 | 39 5/16 | 16 9/16 | 12¼ | 13½ | 10.6 | 878980 | **2H354** | 443.00 | **425.00** ▲ | 155.0 |
| F | 24" Underbody | 24 | 18 | 18 | 12¼ | 19⅜ | 4.3 | 830980 | **6C687** | 217.00 | **203.00** ▲ | 64.0 |
| F | 36" Underbody | 36 | 18 | 18 | 12¼ | 31⅜ | 6.4 | 831980 | **6C688** | 271.00 | **253.00** ▲ | 86.0 |
| F | 48" Underbody | 48 | 18 | 18 | 12¼ | 43⅜ | 8.6 | 832980 | **6C689** | 339.00 | **319.00** ▲ | 108.0 |

NOTE: Standard Crossovers fit all domestic Full Size, Wide Bed Pickups. (*) Fits 1967 to present Long Wheel Base Ford, Chevrolet, Dodge, GMC and all Wide Bed Pickups.
(†) Compact Crossovers fit all Compact Short and Long Wheel Base Pickups, except Volkswagen. (▲) Net prices, not subject to discounts.

# STANDARD LINE ALUMINUM TRUCK BOXES

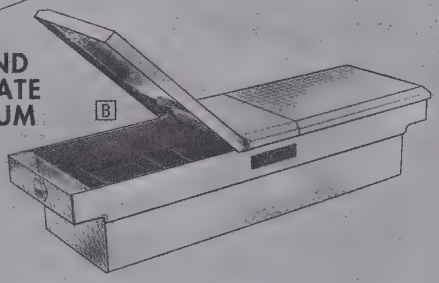
MAGNUM

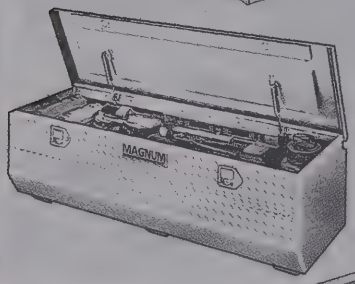
Made In U.S.A.

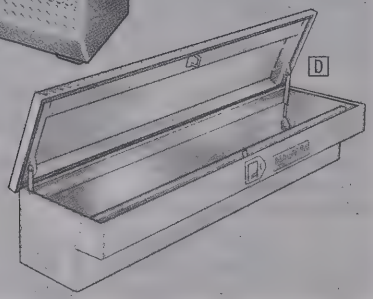



DIAMOND TREADPLATE ALUMINUM

New

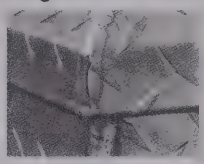



SEE PAGE 1194 FOR TRUCK BOX DIMENSION GUIDE

**All Magnum™ Aluminum and Steel Truck Boxes Include:**



Fully beveled edge lids with welded inner bracing for greater strength, rigidity and security



Small parts and tools storage built in both ends



Gas-springs raise lid without assistance

Full weatherstripping to help seal lid and protect valuables.

## A SINGLE LID CROSSOVERS

- New deeper body design provides storage for tall items
- Lid locks and unlocks from driver's side, opens from either side
- Heavy-duty molded sliding tray with four compartments for convenient access and organization of supplies
- Single lid design allows 100% access for loading and unloading bulky items
- Stainless steel paddle handles for dependable security

## B GULL WING CROSSOVERS

- Extended lid has 20% larger opening than standard steel dual lids
- Stainless steel paddle handles for dependable security
- Welded center section cover improves security, durability
- Heavy-duty gas spring mounts are welded to lid for durability
- Molded sliding tray with four compartments for convenient access and organization of supplies

## C FULLSIZE STORAGE CHEST

- Recessed lid hinge allows lid to be fully opened when chest is flush against truck bed wall
- Lid opens and unlocks from drivers side. Opens from either side.
- Tapered bottom bolsters designed to fit in truck bedliners and elevate chest above floor to keep contents out of standing water
- Stainless steel paddle handles for improved security and convenience
- Full length lid reinforcement increases strength and security
- Contents not included

## D INNERSIDES

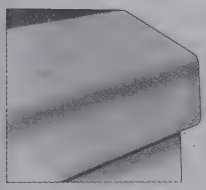
- Built-in full-length parts and tool storage for convenient access and organization of supplies
- Single lid design allows 100% access for loading and unloading bulky items

| Key | Description | Dimensions (In.) A | B | C | D | E | Cu-Ft Storage | Magnum Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Single Lid Crossover, Standard | 71 | 20 29/32 | 15 1/2 | 9 1/8 | 60 1/4 | 9.6 | 952970 | **2H308** | $375.00 | **$349.00▲** | 60.0 |
| A | Single Lid Crossover, Deep | 71 | 20 29/32 | 18 3/8 | 11 7/8 | 60 1/4 | 11.3 | 957970 | **2H312** | 409.00 | **385.00▲** | 64.0 |
| A | Single Lid Crossover, Compact † | 61 | 20 29/32 | 12 3/8 | 6 | 50 1/4 | 6.6 | 953970 | **2H310** | 375.00 | **349.00▲** | 50.0 |
| B | Gull Wing Crossover, Standard | 71 | 21 | 15 11/16 | 9 1/8 | 60 1/4 | 9.6 | 950970 | **2H304** | 375.00 | **349.00▲** | 57.0 |
| B | Gull Wing Crossover, Compact | 61 | 21 | 12 9/16 | 6 | 50 1/4 | 6.6 | 951970 | **2H306** | 375.00 | **349.00▲** | 50.0 |
| C | Fullsize Chest, Standard * ‡ | 58 5/16 | 20 5/8 | 17 15/16 | 58 1/2 | 20 3/16 | 9.8 | 896970 | ***New*4LT55** | 285.00 | **265.00▲** | 49.0 |
| D | 47" Innerside | 47 1/2 | 15 1/8 | 12 1/4 | 6 1/4 | 10 1/2 | 3.3 | 883970 | **2H298** | 275.00 | **259.00▲** | 35.0 |
| D | 62" Innerside | 62 1/2 | 15 1/8 | 12 1/4 | 6 1/4 | 10 1/2 | 4.4 | 884970 | **2H300** | 305.00 | **295.00▲** | 40.0 |

NOTE: **Standard Crossovers fit all domestic Full Size, Wide Bed Pickups. (*) Fits 1967 to present Long Wheel Base Ford, Chevrolet, Dodge, GMC, and all Wide Bed Pickups.**
(†) Compact Crossovers fit all Compact Short and Long Wheel Base Pickups, except Volkswagen. (‡) Does not include small parts and tool storage.
(▲) Net prices, not subject to discounts.

# STANDARD LINE STEEL TRUCK BOXES

**All Magnum™ Steel Truck Boxes include all features found on page 1192 plus:**



White powder paint finish that resists scratching, cracking, and peeling

Full weatherstripping

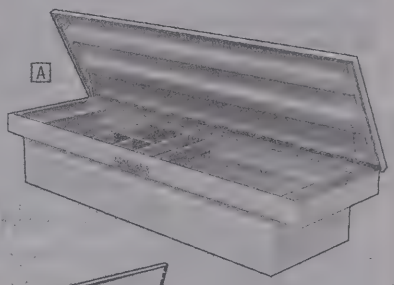


Heavy-duty die-cast metal push-button for dependable operation



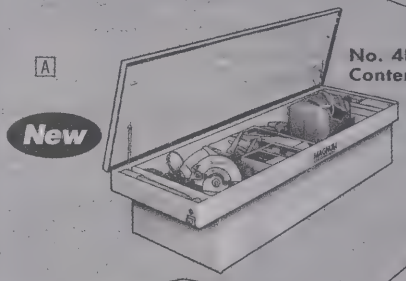
Gas springs raise lid without resistance

MAGNUM by DELTA — Made in U.S.A.



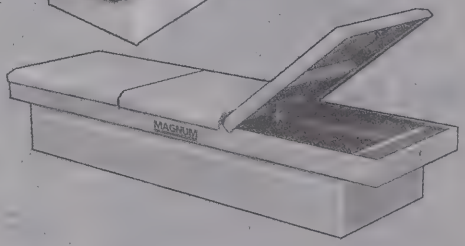

## A SINGLE LID CROSSOVERS

- Single lid design allows 100% access for loading and unloading bulky items
- Lid locks and unlocks from driver's side, opens from either side
- Built-in small parts/tool storage compartments on both ends
- Heavy-duty molded sliding tray with four compartments for convenient access and organization of supplies



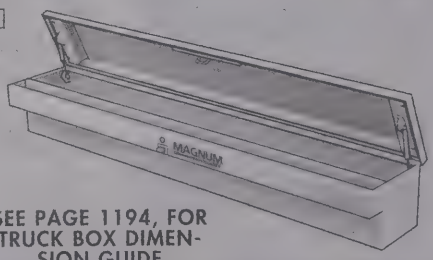

## B GULL WING CROSSOVERS

- Extended lid has 20% larger opening than standard steel dual lids for easier loading and unloading
- Heavy-duty molded sliding tray with four compartments for convenient access and organization of supplies
- Fully welded center section cover improves security and durability




## C INNERSIDES

- Single lid design allows 100% access for loading and unloading bulky items
- Built-in full-length parts and tool storage for convenient access and organization of supplies
- Full-width piano lid hinge for security and long-term durability
- Full weather-stripping helps seal lid and protect valuables
- Easy installation to truck bed rail; installation supports included




SEE PAGE 1194, FOR TRUCK BOX DIMENSION GUIDE

| Key | Description | Dimensions (In.) A | B | C | D | E | Cu-Ft Storage | Magnum Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Single Lid Crossover, Standard | 70⅝ | 20 31/32 | 14 7/16 | 9 1/32 | 60 | 9.0 | 974970 | **2H324** | $246.00 | **$229.00▲** | 93.0 |
| A | Single Lid Crossover, Compact | 60⅝ | 20 31/32 | 11 7/16 | 6 1/32 | 50 | 5.8 | 975970 | **2H326** | 246.00 | **229.00▲** | 76.0 |
| A | Single Lid Crossover, Full Size Deep | 70⅝ | 21 1/32 | 17 7/16 | 12 1/32 | 60 | 11.1 | 977970 | ***New* 4LT56** | 246.00 | **229.00▲** | 92.0 |
| B | Gull Wing Crossover, Standard ‡ | 70⅝ | 20⅞ | 14 7/16 | 9 1/32 | 60 | 9.0 | 971970 | **2H320** | 190.00 | **175.00▲** | 88.5 |
| B | Gull Wing Crossover, Compact † | 60⅝ | 20⅞ | 11 7/16 | 6 1/32 | 50 | 5.8 | 972970 | **2H322** | 232.00 | **209.00▲** | 72.0 |
| C | 48" Innerside | 48⅝ | 12 1/16 | 11 5/32 | 5 11/32 | 8¼ | 2.7 | 870970 | **2H314** | 229.00 | **209.00▲** | 50.0 |
| C | 64" Innerside | 64⅝ | 12 1/16 | 11 5/32 | 5 11/32 | 8¼ | 3.5 | 871970 | **2H316** | 269.00 | **245.00▲** | 63.0 |

NOTE: Standard Crossovers fit all domestic Full Size, Wide Bed Pickups. (*) Fits 1967 to present Long Wheel Base Ford, Chevrolet, Dodge, GMC and all Wide Bed Pickups.
(†) Compact Crossovers fit all Compact Short and Long Wheel Base Pickups except Volkswagen. (‡) Does not include small parts tool storage.
(▲) Net prices, not subject to discounts.

# STACKABLE STORAGE UNITS, WHEEL WELLS, AND DIMENSION GUIDE

## STACKABLE ALUMINUM STORAGE UNITS

- Versatile, adjustable storage system for small tools/supplies
- Welded aluminum construction resists rust
- Adjustable dividers and exterior latch for each drawer
- 160 lb. capacity drawer with six nylon rollers for smooth operation
- Two padlocks secure entire unit (not included, order No. 1A374)
- Latch on each drawer for convenience

| Description | Dimensions (In.) L | W | H | Dividers Cross | Center | Payload Plus Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **One-Drawer Unit** | 50⅝16 | 12⅝16 | 7¼ | 10 | 4 | 411980 | **2H290** | $229.65 | **$209.00▲** | 30.0 |
| **Two-Drawer Unit** | 50⅝16 | 24⅝16 | 7¼ | 20 | 8 | 412980 | **2H292** | 436.02 | **399.00▲** | 60.0 |
| **Three-Drawer Unit** | 50⅝16 | 36⅝16 | 7¼ | 30 | 12 | 413980 | **2H294** | 623.46 | **559.00▲** | 85.0 |
| **Four-Drawer Unit** | 50⅝16 | 48⅝16 | 7¼ | 40 | 16 | 414980 | **2H296** | 765.04 | **695.00▲** | 100.0 |




## STEEL WHEEL WELLS

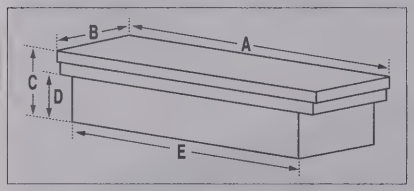
- Corner storage unit fits around wheel wells which keeps bed space of truck free
- Side opening lids are interchangeable for right or left side opening
- Lift out tray organizes small items
- Key operated locks for security
- No. 2H284 designed for short wheel base trucks; No. 2H286 designed for long wheel base trucks
- White powder paint finish

| Description | Dimensions (In.) A | B | C | D | E | F | G | H | Cu-Ft Storage | Magnum Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **48" Wheel Well with Tray** | 48 | 21¾ | 16⅝ | 21¼ | 10 | 8 | 48½ | 8⅜ | 3.1 | 850970 | **2H284** | $151.00 | **$142.00▲** | 44.0 |
| **60" Wheel Well with Tray** | 60 | 21¾ | 28⅝ | 21¼ | 10 | 8 | 60½ | 8⅜ | 3.5 | 851970 | **2H286** | 169.00 | **163.00▲** | 55.0 |

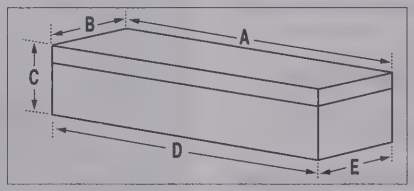
(▲) Net prices, not subject to discounts.

## TRUCK BOX DIMENSION GUIDE

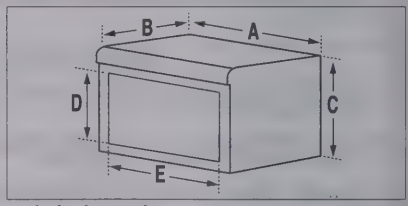
For Payload Plus and Magnum Aluminum and Steel Truck Boxes found on pages 1190 to 1193.



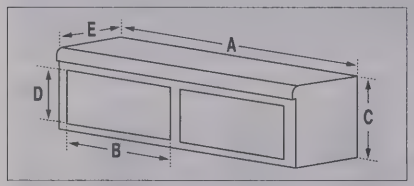

**Crossover Truck Boxes** Nos. 2H308, 2H310, 2H312, 2H324, 2H326, 2H342, 2H344, 2H362, 2H364, and 4LT56; **Gull Wing Crossover Truck Boxes** Nos. 2H304, 2H306, 2H320, 2H322, 2H338, 2H340, 2H358, and 2H360.



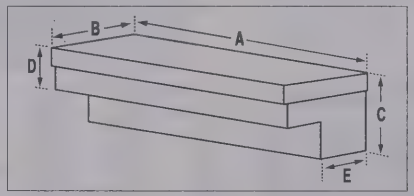

**Storage Area Chest Truck Boxes** Nos. 2H346 and 4LT55.



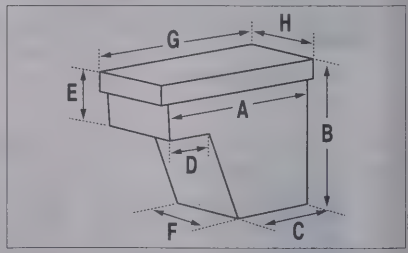

**Underbody Truck Boxes** Nos. 2H328, 2H330, 2H332, 6C687, 6C688, and 6C689.




**Topside Truck Boxes** Nos. 2H352, 2H354, and 2H356.




**Innerside Truck Boxes** Nos. 2H298, 2H300, 2H314, 2H316, 2H334, 2H336, 2H348, and 2H350.




**Steel Wheel Wells** Nos. 2H284 and 2H286.

FOR LADDER RACKS, SEE PAGE 2183

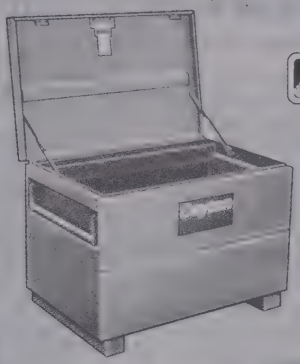
# JOBSITE TOOL BOXES

- **16-Gauge steel construction with Uni-Body design for optimum strength**
- **Formed ribs in chests give added strength and rigidity**
- **3½" High box end skids give added height and makes for easy forklifting: threaded inserts are welded in for easy installation of casters**
- **Seams are overlapped and fully welded for added strength**
- **Hemmed edges for strength & safety**
- **Full length piano hinges are staked and welded for durability**
- **Flush design keeps side handles and lid handles out of the way**
- **Phosphatized and painted deep red with baked enamel**

Dayton®

Made In U.S.A.

Replacement Parts Available 1-800-323-0620™



A No. 6A577

## PADLOCK PLUS LOCKING SYSTEM

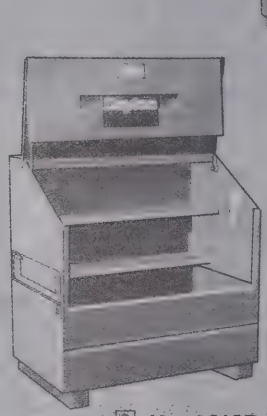
Gives two point locking (one at each end) while using only one padlock. Push lock in and system engages, turn key and system unlocks. (Padlock not included.)

A **10.2, 16.7, 20.8, and 25.8 Cu.-Ft. Chests** have mating cover and body design that form a deep, secure overlap. Locking cover supports prevent cover from dropping. Full length bin across back for small parts and tools.

B **34.0 Cu.-Ft. Slant Top Chest** offers large storage capacity with a slanted cover for reading blue prints and drawings. Mating cover and body design form a deep, secure overlap. Double hinged cover opens up and folds completely out of the way. Heavy-duty gas springs allow for easy opening and closing and prevents top from falling. Two 12" shelves offer storage for small tools and parts. Holds 16 bins, No. 2W329 (not included).

C **34.4 and 50.0 Cu.-Ft. Flat Top Chests** offer huge capacity and easy access. Mating cover and body design form a deep, secure overlap. Double hinged cover opens up and folds completely out of the way. Heavy-duty gas springs allow for easy opening and closing and prevents top from falling. 50 Cu.-ft. chest has three 12" shelves and holds 24 bins, No. 2W329 (not included). 35.4 Cu.-ft. chest has one 12" shelf and holds 8 bins, No. 2W329 (not included).

D **46.7 Cu.-Ft. Cabinet** is designed to store tools, instruments, and devices which are susceptible to damage. Picture frame door construction gives added strength. Three shelves are welded in place and reinforced for increased strength and rigidity. Items can be placed where they can be seen and easily accessed.



B No. 6C697

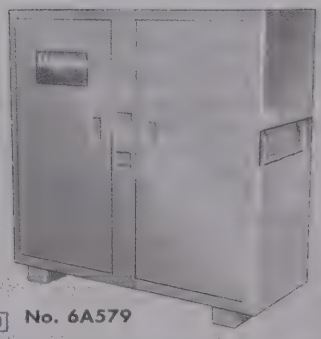


C No. 6A578

**CASTERS NOT INCLUDED**
**Order Casters No. 3A844 or 3A845**

**CASTERS' MOUNTING HARDWARE NOT INCLUDED**
**Four 3/8-16 x 3/4" hex head, self-tapping, cap screws and four 3/8" split lockwashers required per caster.**

**PADLOCK NOT INCLUDED**
**Order Padlock No. 4T082, or use #5LF Master Lock or equivalent.**



D No. 6A579

## PADLOCK PLUS LOCKING SYSTEM
### Two Point Locking With One Padlock†

| Key | Description | Cu.-Ft. Storage | Dimensions (In.) H‡ | W | D | Caster Qty. * | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Chest | 10.2 | 21 | 42 | 20 | 1 | 6C695 | $226.00▲ | 113.0 |
| A | Chest | 16.7 | 25 | 48 | 24 | 1 | 6A576 | 308.00▲ | 150.0 |
| A | Chest | 20.8 | 25 | 60 | 21 | 4 | 6A577 | 344.00▲ | 180.0 |
| A | Chest | 25.8 | 31 | 48 | 30 | 4 | 2H280 | 370.00▲ | 183.0 |
| B | Chest | 34.0 | 48 | 48 | 30 | 4 | 6C697 | 565.00▲ | 273.0 |
| C | Chest | 34.4 | 34 | 60 | 30 | 4 | 6C696 | 514.00▲ | 250.0 |
| C | Chest | 50.0 | 48 | 60 | 30 | 4 | 6A578 | 642.00▲ | 325.0 |
| D | Cabinet | 46.7 | 56 | 60 | 24 | 4 | 6A579 | 745.00▲ | 400.0 |

(*) Casters and mounting hardware not included; order casters Nos. 3A844 or 3A845 from page 2144.
Four 3/8-16 x 3/4" hex head cap screws and four 3/8" split lockwashers required per caster.
(†) Padlock not included; order No. 4T082 from page 2624.
(‡) Height dimension does not include 3½" high box end skid. (▲) Net prices, not subject to discounts.

# SUPER HEAVY-DUTY (SHD) CHESTS AND ROLLER CABINETS

- Constructed from minimum of 18-gauge steel
- Heavy-duty casters are 5" diameter by 1⅝" wide for ease of movement
- Full length polished drawer handles allow for ease of drawer access
- One-piece roll formed drawer slides are higher profile to suspend drawer weights better
- Double wall side panel construction is reinforced with inner braces providing triple wall reinforcement
- Heavy-duty double bitted locks provide increased security for tools
- Drawer liners included

**A 8-DRAWER DROP-FRONT TOP CHEST**

- Full closing drop-front cover

**B 6-DRAWER DROP-FRONT TOP CHEST**

- Full closing drop-front cover

**C 10-DRAWER ROLLER CABINET**

- 5 x 1⅝" Heavy-duty casters included
- Vinyl top mat included

**D 7-DRAWER ROLLER CABINET**

- 5 x 1⅝" Heavy-duty casters included
- Vinyl top mat included

**E 12-DRAWER DROP-FRONT TOP CHEST**

- Full closing drop-front cover

**F 3-DRAWER INTERMEDIATE CHEST**

- Vinyl top mat included

**G 8-DRAWER ROLLER CABINET**

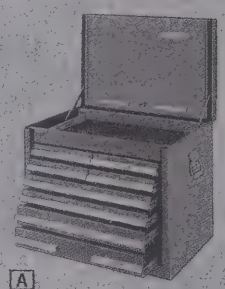
- 5 x 1⅝" Heavy-duty casters included
- Vinyl top mat included

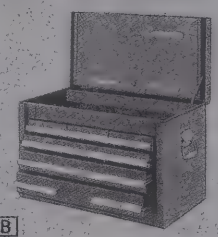
PROTO PROFESSIONAL TOOLS

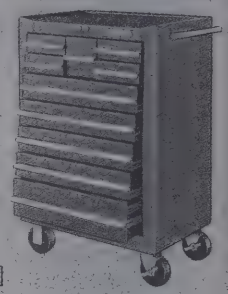
**LIFETIME LIMITED WARRANTY**

All Proto tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.

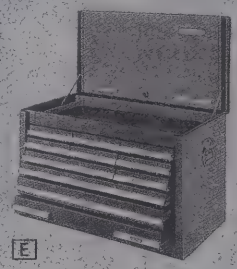
Made in U.S.A.


A

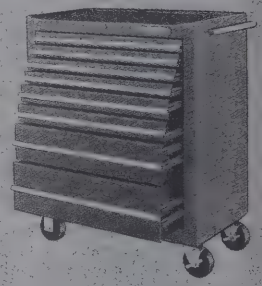

B

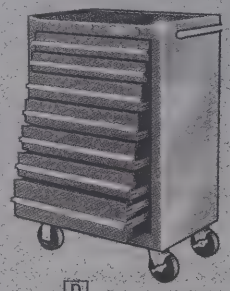

C

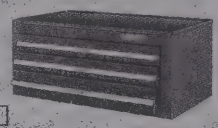
**Top Chests Nos. 6C339 & 6A517 are Interchangeable with Roller Cabinets Nos. 6A575 & 1AC21**


E

Replacement Parts Available
TM 1-800-323-0620


G


D


F

| Key | Description | Overall Chassis Dimensions (In.) W x D x H | Storage Capacity Cu.-In. | INSIDE DRAWER SPECIFICATIONS (In.) No. of Drawers | Width | Depth | Height | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 8-Drawer Drop-Front Top Chest | 26⅛ x 18 x 21½ | 5,628 | 4<br>2<br>2 | 10⅛<br>21⅜<br>21⅜ | 16⅝<br>16⅝<br>16⅝ | 2<br>2<br>3⅛ | 9991ASHD | **6C339** | $867.36 | **$499.00▲** | 146.0 |
| B | 6-Drawer Drop-Front Top Chest | 26⅛ x 14 x 17³⁄₁₆ | 3,351 | 2<br>3<br>1 | 21⅜<br>6⅝<br>21⅜ | 12⅝<br>12⅝<br>12⅝ | 3⅛<br>2<br>2 | 9990ASHD | **6A517** | 560.49 | **325.50▲** | 99.0 |
| C | 10-Drawer Roller Cabinet | 26¾ x 18¹⁄₁₆ x 35¾* | 9,027 | 4<br>1<br>4<br>1 | 7⅛<br>4³¹⁄₃₂<br>21⅜<br>21⅜ | 16⅝<br>16⅝<br>16⅝<br>16⅝ | 3⅛<br>6⅜<br>4¼<br>6⅜ | 9997ASHD | **6A575** | 1057.51 | **611.00▲** | 225.0 |
| D | 7-Drawer Roller Cabinet | 26¾ x 18¹⁄₁₆ x 35¾* | 9,203 | 2<br>4<br>1 | 21⅜<br>21⅜<br>21⅜ | 16⅝<br>16⅝<br>16⅝ | 3⅛<br>4¼<br>6⅜ | 9996ASHD | **1AC21** | 1014.44 | **673.00▲** | 210.0 |
| E | 12-Drawer Drop-Front Chest | 33⅛ x 18 x 21½ | 6,981 | 9<br>2<br>1 | 8⅝<br>28³²⁄₃₂<br>28³²⁄₃₂ | 16⅝<br>16⅝<br>16⅝ | 2<br>3⅛<br>2 | 9993ASHD | **1AC17** | 1042.91 | **591.00▲** | 184.0 |
| F | 3-Drawer Intermediate Chest | 33⅛ x 18 x 14⅝ | 3,912 | 2<br>1 | 28³²⁄₃₂<br>28³²⁄₃₂ | 16⅝<br>16⅝ | 3⅛<br>4¼ | 9987ASHD | **6C341** | 743.76 | **407.00▲** | 81.0 |
| G | 8-Drawer Roller Cabinet | 33½ x 18¹⁄₁₆ x 35¾* | 11,981 | 4<br>2<br>1<br>1 | 28³²⁄₃₂<br>28³²⁄₃₂<br>28³²⁄₃₂<br>28³²⁄₃₂ | 16⅝<br>16⅝<br>16⅝<br>16⅝ | 2<br>3⅛<br>6⅜<br>8½ | 9998ASHD | **1AC18** | 1236.11 | **723.50▲** | 275.0 |

(*) Dimensions without casters. (▲) Net prices, not subject to discounts.

# MOBILE CART AND MAGNETIC TOOL HOLDERS

## SUPER HEAVY-DUTY (SHD) 8-DRAWER MOBILE CART

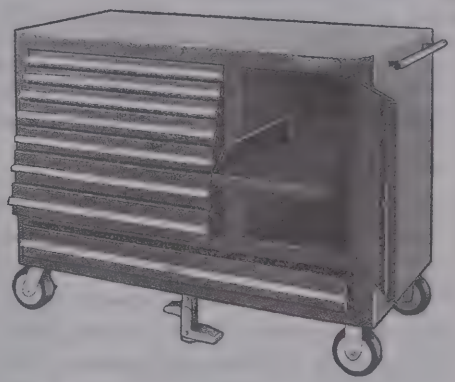
- Ball bearing slides to handle extreme weight loads
- 6 x 2" heavy-duty roller bearing casters
- Full length polished drawer handles allow for ease of drawer access with an attractive full polished appearance
- Double-wall side panel construction is reinforced with inner braces providing triple wall reinforcement for the most demanding weight load requirements
- Heavy-duty double bitted locks provide increased security for your valuable tools
- Roll-out shelf
- Drawer liners included
- Floor brake
- 1/2" hardboard work surface

PROTO PROFESSIONAL TOOLS

Made In U.S.A.

Replacement Parts Available
1-800-323-0620

**LIFETIME LIMITED WARRANTY**
All Proto Tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside back cover.



| Description | Overall Chasis Dimensions (In.) W x D x H | Storage Capacity Cu.-In. | INSIDE DRAWER SPECIFICATIONS No. of Drawers | Dimensions (In.) Width | Depth | Height | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **8-Drawer Mobile Cart** | 51 1/16 x 24 13/16 x 32 3/4* | 25,908 | 3 | 28 3/8 | 21 13/16 | 2 | 9986ASHD | **6C340** | $2909.00 | **$1570.00▲** | 541.0 |
| | | | 2 | 28 3/8 | 21 13/16 | 3 1/8 | | | | | |
| | | | 2 | 28 3/8 | 21 13/16 | 4 1/4 | | | | | |
| | | | 1 | 45 1/4 | 21 13/16 | 4 1/4 | | | | | |
| | | | Compartment | 13 17/32 | 21 1/8 | 23 | | | | | |

(*) Dimensions without casters. (▲) Net prices, not subject to discounts.

## MAGNETIC TOOL HOLDERS

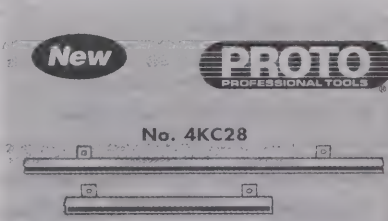
Organize tool storage with convenient magnetic tool, socket, and wrench holders. Socket and wrench holders are red color.

| Description | Holds Pieces | Dimensions (In.) W | D | H | Proto Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Magnetic Tool Holder** | – | 13 | 1 | 3/4 | 44718 | **4CK27** | $22.78 | **$17.54** | 2.2 |
| **Magnetic Tool Holder** | – | 24 | 1 | 3/4 | 44719 | **4CK28** | 37.33 | **28.75** | 3.8 |
| **3/8" Dr. Socket Holder** | 13 | 9 5/16 | 2 1/8 | 15/16 | 44723 | **4CK32** | 26.67 | **20.54** | 0.7 |
| **1/2" Dr. Socket Holder** | 9 | 9 5/16 | 1 7/8 | 1 3/4 | 44727 | **4CK36** | 26.67 | **20.54** | 0.6 |
| **7-Pc. Wrench Holder** | 7 | 6 1/8 | 1 | 6 1/4 | 44731 | **4CK40** | 11.33 | **8.72** | 0.5 |
| **15-Pc. Wrench Holder** | 15 | 7 1/8 | 1 1/4 | 11 11/16 | 44733 | **4CK42** | 13.40 | **10.32** | 0.7 |
| **3/8" Dr. Socket Holder** | 28 | 16 1/2 | 4 15/16 | 13/16 | 44736 | **4CK45** | 28.44 | **21.90** | 2.0 |

New

PROTO PROFESSIONAL TOOLS

No. 4KC28



No. 4KC27

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# TOOL STORAGE SYSTEMS

## TRAXX™ ADVANCED LINE TOOL CHESTS & CABINETS

**Designed for mechanics where ball-bearing slides and other upscale features are required.**

- **Post and pillar construction adds strength while reducing overall weight**
- **Quick-release ball-bearing slides for smooth operation, easy drawer removal; supports up to 100 lbs.**
- **Tumbler lock system with two reversible keys; double locking bars provide extra security**
- **40" units have triple locking bars**
- **5 x 2" casters increase mobility on rough surfaces**
- **Drawer retainers prevent unintentional drawer openings**
- **Interchangeable drawers allow for customization**
- **14-gauge caster channels for added support**
- **V-rib design on backside of cabinet for added strength**
- **100% drawer extension offers maximum tool accessibility**
- **Waterloo Traxx Series features red enamel finish**

**THE TRAXX SERIES LINE IS SOLD ON PAGE 1199**

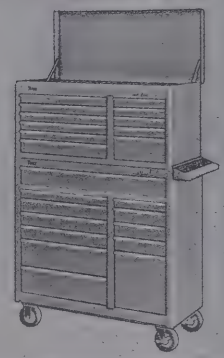
## PRO SERIES STANDARD LINE TOOL CHESTS & CABINETS

**Suited for most professional work environments where solid-construction is required.**

- **Double-wall construction adds strength, supports drawer slides**
- **Roll-formed compound standard drawer slides designed for 50-75 lb. loads**
- **Tumbler lock system with two reversible keys; double locking bars provide extra security**
- **40" units have triple locking bars**
- **5 x 2" casters for increased mobility on rough surfaces**
- **Rolled edges add rigidity and eliminate sharp edges**
- **14-gauge caster channels for additional support**
- **V-rib design on backside of cabinet for additional strength**
- **Full extension drawers allow for easy accessibility to all tools**
- **Waterloo Pro Series features red enamel finish; Waterloo Tool Room Series features brown wrinkle finish**

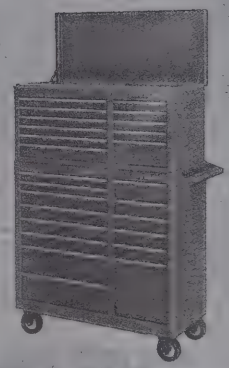
**THE WATERLOO PRO SERIES LINE IS SOLD ON PAGE 1200; THE WATERLOO TOOL ROOM SERIES IS SOLD ON PAGES 1202 AND 1203,1279**

WATERLOO® TRAXX SERIES — Made in U.S.A.



| | ADVANCED LINE | STANDARD LINE |
|---|---|---|
| Casters | 5 x 2" | 5 x 2" |
| Construction | Post and Pillar | Double-Wall |
| Locks | Tumbler | Tumbler |
| Drawer Slides | Quick-Release Ball-Bearing | Friction |
| Caster Channels | 14 Gauge | 14 Gauge |

WATERLOO® PRO SERIES — Made in U.S.A.



WATERLOO® TOOL ROOM SERIES

**DON'T FORGET THE BACK OF THE BOOK!**
**MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# ADVANCED LINE TOOL CHESTS AND CABINETS

WATERLOO TRAXX SERIES

Made In U.S.A.

Replacement Parts Available 1-800-323-0620




SEE PAGE 1198 FOR FEATURES FOR TOOL CHESTS AND CABINETS

### A 11-DRAWER 41" EXTRA-WIDE CHEST

Easy-glide ball bearing slides. Top locking system provides quick, convenient lock-up. Storage cap.: 10,362 cu.-in.

### B 8-DRAWER 26" CHEST

Split top drawers feature standard full extension slides. Top center drawer locks independently. Storage cap.: 6,665 cu-in.

### C 6-DRAWER 26" CHEST

Quick-release ball bearing slides. Easy-grip side handles designed for easy lifting of chest. Storage cap.: 6,738 cu-in.

### D 12-DRAWER 41" EXTRA-WIDE TOOL CART

Easy glide ball bearing slides on all drawers. Top 4" full width drawer for easy accessibility to tools and allows for storage of tools like deep well sockets. Storage cap.: 15,910 cu-in.

### E 6-DRAWER 41" EXTRA-WIDE TOOL CART

Full width modular drawers for easy accessibility to all tools. Heavy-duty MDF wood work surface. Storage cap.: 17,601 cu-in.

### F 6-DRAWER 41" EXTRA-WIDE TOOL CART w/BULK STORAGE

Top 4" full-width drawer for easy access to tools and to accommodate longer tools. 9" bottom drawer for storage of power tools. Bulk storage area has interchangeable ball bearing shelves. Storage cap.: 16,093 cu-in.

### G 7-DRAWER 26" ROLLER CABINET

4" tall top drawer designed for storage of most used tools. Two bottom drawers are designed to accept a second set of ball bearing slides for heavy-duty loads. Storage cap.: 10,696 cu-in.

### H 5-DRAWER 26" ROLLER CABINET

Bulk storage compartment for large tools. Bottom drawer is designed to accept a second set of ball-bearing slides for extra-heavy duty loads. Storage cap.: 11,147 cu-in.

### I FULL HEIGHT SIDE CABINET

Designed to hang off any existing Traxx™ chest and cabinet combination but also has a universal hanging mechanism to allow it to hang from other boxes as well. Features 4 ball bearing slide, interchangeable, shelves. Storage cap.: 12,006 cu-in.

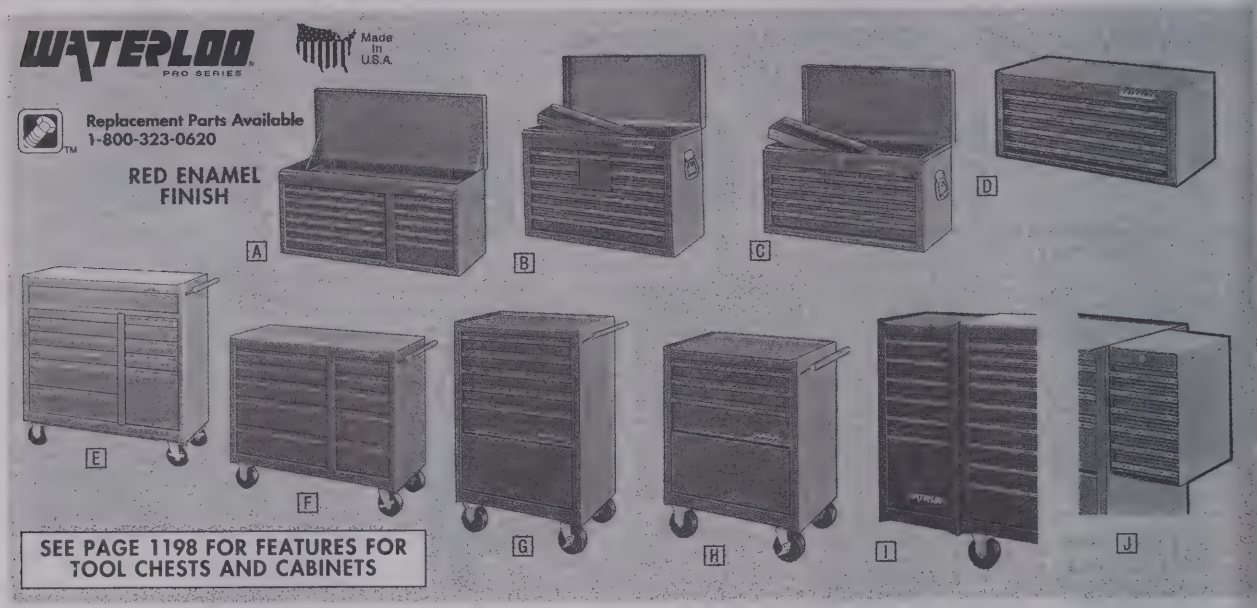
### J 6-DRAWER SIDE CABINET

4" tall top drawer for large tools. Bottom drawer is designed to accept a second set of ball bearing slides for extra heavy duty loads. Fits all Traxx™ cabinets. Storage cap.: 5,649 cu-in.

| Key | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 11 - Drawer 41" Chest | 40½ | 17½ | 19¾ | TRX 1411 | 6C673 | $844.60 | $519.00▲ | 159.5 |
| B | 8 - Drawer 26" Chest | 26 | 17½ | 19¾ | TRX 1808 | 6C671 | 755.48 | 469.00▲ | 104.5 |
| C | 6 - Drawer 26" Chest | 26 | 17½ | 19¾ | TRX 1806 | 6C669 | 708.12 | 422.00▲ | 99.5 |
| D | 12 - Drawer 41" Tool Cart | 40½ | 18 | 41⅜ | TRX1412 | 4KD05 | 1234.68 | 735.00▲ | 253.5 |
| E | 6 - Drawer 41" Tool Cart | 40½ | 18 | 41⅜ | TRX 6001LB | 2H228 | 1012.68 | 612.00▲ | 249.0 |
| F | 6 - Drawer 41" Tool Cart | 40¾ | 18 | 41⅜ | TRX1406 | 4KD04 | 1172.30 | 695.00▲ | 236.0 |
| G | 7 - Drawer 26" Roller Cabinet | 26 | 18 | 41⅜ | TRX 700 | 6C672 | 862.74 | 530.00▲ | 144.0 |
| H | 5 - Drawer 26" Roller Cabinet | 26 | 18 | 41⅜ | TRX 500 | 6C670 | 727.26 | 459.00▲ | 129.5 |
| I | Full Height Side Cabinet | 15¾ | 18 | 54⅝ | TRX1404 | 4KD03 | 684.00 | 439.00▲ | 102.0 |
| J | 6 - Drawer Side Cabinet | 15¾ | 18 | 35⅝ | TRX 60 | 2H226 | 521.18 | 319.00▲ | 96.0 |
| A, D | 11 - Drawer Chest No. 6C673 with 12 - Drawer Tool Cart No. 4KD05 | 40¾ | 18 | 61 | | 7A945 | 2079.28 | 1189.00▲ | 107.0 |
| B, G | 8 - Drawer Chest No. 6C671 with 7 - Drawer Roller Cabinet No. 6C672 | 26½ | 18 | 61 | — | 7A346 | 1618.23 | 949.00▲ | 257.0 |
| C, H | 6 - Drawer Chest No. 6C669 with 5 - Drawer Roller Cabinet No. 6C670 | 26½ | 18 | 61 | — | 7A347 | 1435.39 | 839.00▲ | 245.0 |

(▲) Net prices, not subject to discounts.

# STANDARD LINE TOOL CHESTS AND CABINETS




SEE PAGE 1198 FOR FEATURES FOR TOOL CHESTS AND CABINETS

### A 11-DRAWER 41" EXTRA-WIDE CHEST

50% more storage than 26" wide models. Lid has 2-point locking system. Storage capacity: 9,326 cu-in.

### B 10-DRAWER 26" CHEST

Large security drawer for manuals and valuables. Roll-formed one-piece drawer slides for heavy loads. Storage capacity: 4,358 cu-in.

### C 6-DRAWER 26" CHEST

Removable steel tote tray. Top center drawer locks separately. Storage capacity: 3,467 cu-in.

### D 4-DRAWER 26" INTERMEDIATE CHEST

Fits 12" deep chest. Standard drawer slides for heavy loads. Storage capacity: 1,929 cu-in.

### E 12-DRAWER 41" EXTRA-WIDE TOOL CART

Top 4" full-width ball bearing drawer for easy access to tools. Top drawer also allows for storage of longer tools and tools such as deep well sockets. Other 11 drawers feature friction slides. Storage capacity: 15,910 cu-in.

### F 10-DRAWER 41" EXTRA-WIDE TOOL CART

Cart is at comfortable work height. MDF work surface. Tubular push handle for easy maneuvering. Storage capacity: 12,720 cu-in.

### G 5-DRAWER 26" ROLLER CABINET

Bulk storage compartment locks separately. Tubular push handle for easy maneuvering. Storage capacity: 11,780 cu-in.

### H 3-DRAWER 26" ROLLER CABINET

Bulk storage compartment locks separately. Tubular push handle for ease of maneuvering. Storage capacity: 9,518 cu-in.

### I 6-DRAWER SIDE CABINET

MDF work surface. Fits all 41" cabinets. Large drawer ideal for bulky tools. Storage cap.: 5,649 cu-in.

### J 6-DRAWER SIDE CABINET

Lockable add-on accessory cabinet. Fits 26 and 41" cabinets. Storage capacity: 868 cu-in.

| Key | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **TOOL CHESTS** | | | | | | | | | |
| A | 11 - Drawer, 41" Chest | 40½ | 16 | 19¾ | WI-1511 | **2H238** | $573.76 | **$349.00** ▲ | 122.0 |
| B | 10 - Drawer, 26" Chest | 26 | 12 | 19¾ | WI-1000 | **2W026** | 460.90 | **279.00** ▲ | 66.5 |
| C | 6 - Drawer, 26" Chest | 26 | 12 | 15½ | WI-600 | **2W025** | 326.02 | **199.00** ▲ | 53.0 |
| D | 4 - Drawer, 26" Intermediate Chest | 26 | 12 | 12¼ | WI-404 | **2W027** | 221.40 | **139.00** ▲ | 36.5 |
| **TOOL CARTS, CABINETS, AND SIDE SHELF** | | | | | | | | | |
| E | 12 - Drawer, 41" Tool Cart | 40¾ | 18 | 41¼ | WI-1512 | **4KD06** | 1032.70 | **615.00** ▲ | 247.0 |
| F | 10 - Drawer, 41" Tool Cart | 40¾ | 18 | 35½ | WI-1510 | **2H236** | 844.54 | **513.00** ▲ | 206.0 |
| G | 5 - Drawer, 26" Roller Cabinet | 26½ | 18 | 41¼ | WI-500 | **3W032** | 630.12 | **329.00** ▲ | 120.5 |
| H | 3 - Drawer, 26" Roller Cabinet | 26½ | 18 | 35½ | WI-300 | **3W031** | 470.36 | **239.00** ▲ | 91.5 |
| I | 6 - Drawer, Side Cabinet | 15¾ | 18 | 35½ | 70156 | **2H184** | 400.62 | **252.00** ▲ | 91.0 |
| J | 6 - Drawer, Side Cabinet | 8 | 12 | 15 | 70666 | **6C332** | 174.46 | **109.00** ▲ | 25.5 |
| **STORAGE SYSTEMS** | | | | | | | | | |
| A, E | 11-Drawer Chest No. 2H238 with 12-Drawer Tool Cart No. 4KD06 | 40¾ | 18 | 60¼ | — | **7A946** | 1606.45 | **915.00** ▲ | 369.0 |
| B, G | 10-Drawer Chest No. 2W026 with 5-Drawer Roller Cabinet No. 3W032 | 26½ | 18 | 60¾ | — | **7A349** | 1091.01 | **579.00** ▲ | 183.0 |
| C, H | 6-Drawer Chest No. 2W025 with 3-Drawer Roller Cabinet No. 3W031 | 26½ | 18 | 50 | — | **7A350** | 796.38 | **415.00** ▲ | 143.0 |

(▲) Net prices, not subject to discounts.

# ECONOMY TOOL STORAGE SYSTEM, PORTABLE TOOL CHESTS, AND ACCESSORIES

## ECONOMY CHESTS & CABINET

**Full extension drawers allow for easy accessibility to all tools**
**Keyed locks and security bars secure all drawers; 2 keys provided with all units**
**4 x 2" caster set with two rigid and two swivel wheels with brakes**

### A 4-DRAWER CHEST

iset side handles for easy carrying. Large storage area under top cover for bulkier ems. Full-width drawers for maximum tool storage and access. Three 1" drawers, one " drawer. Storage capacity 2,806 cu-in.

### B 3-DRAWER INTERMEDIATE CHEST

olts to bottom of chest for security. Full-width drawers for quick tool access. Two 2" rawers, one 4" drawer. Storage capacity 1,877 cu-in.

### C 6-DRAWER ROLLER CABINET

eeper drawers for storing larger, taller items. Full-width drawers for quick tool access. torage capacity 6,912 cu-in.

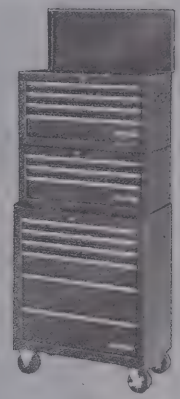
### D 13-DRAWER SYSTEM

ombination of 4-drawer chest No. 2H218, 3-drawer intermediate chest No. 2H216, and -drawer roller cabinet No. 2H220.

| ey | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 4-Drawer Chest | 26 | 12 | 15¼ | ML-400 | **2H218** | $172.78 | **$93.50** ▲ | 37.0 |
| B | 3-Drawer Intermediate Chest | 26 | 12 | 11½ | ML-303 | **2H216** | 126.10 | **62.95** ▲ | 37.0 |
| C | 6-Drawer Roller Cabinet | 26½ | 14 | 32½ | ML-614 | **2H220** | 265.56 | **139.00** ▲ | 64.0 |
| D | 13-Drawer System | 26½ | 14 | 56¼ | — | **7A357** | 564.41 | **279.00** ▲ | 138.0 |

WATERLOO

Replacement Parts Available
1-800-323-0620




D No. 7A357 13-Drawer System

## PORTABLE TOOL CHESTS

**Drawers lock automatically when lid is closed**
**Two heavy-duty plated lockable latches**

### A 18" 2-DRAWER TOOL CHEST

eep 4¾" top tray for storing power tools. Two 2¼" drawers for tool and accessory stor-ge. Storage capacity: 1,492 cu-in.

### B 18 and 20" 2-DRAWER TOOL CHESTS

¼" top tray and two 2¼" drawers for tool and accessory storage. No. 2W020 storage apacity: 1,137 cu-in.; No. 2W527 storage capacity: 1,276 cu-in.

| ey | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | 18" 2-Drawer Tool Chest | 18½ | 8½ | 11¾ | 50218 | **2H167** | $85.86 | **$53.95** ▲ | 16.0 |
| | 18" 2-Drawer Tool Chest | 18½ | 8½ | 9½ | 55218 | **2W020** | 66.78 | **41.95** ▲ | 15.0 |
| | 20" 2-Drawer Tool Chest | 20½ | 8½ | 9½ | 50220 | **2W527** | 104.30 | **62.95** ▲ | 19.0 |

WATERLOO




## ACCESSORIES FOR TOOL CHESTS AND CABINETS

### NON-SLIP DRAWER LINER

rotects tools and drawer finish from scratching and marring. pen weave pattern prevents rust. Bulk size roll, cut to fit any rawer size. Dimensions: 16.5"W x 156.8"L. Waterloo brand.

lo. 2H182. Non-Slip Drawer Liner (70017). Shpg. wt. 2.1 lbs.
ist $29.60. Each ..... $19.95▲

### RED ENAMEL TOUCH-UP PAINT

urable enamel touch-up paint for all Waterloo red storage units.

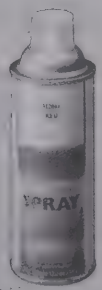
lo. 2H186. 12 oz. Spray (71000RED). Shpg. wt. 1.3 lbs.
ist $14.43. Each ..... $9.95▲

▲) Net prices, not subject to discounts.

WATERLOO METAL TOOL BOXES



No. 2H182




No. 2H186

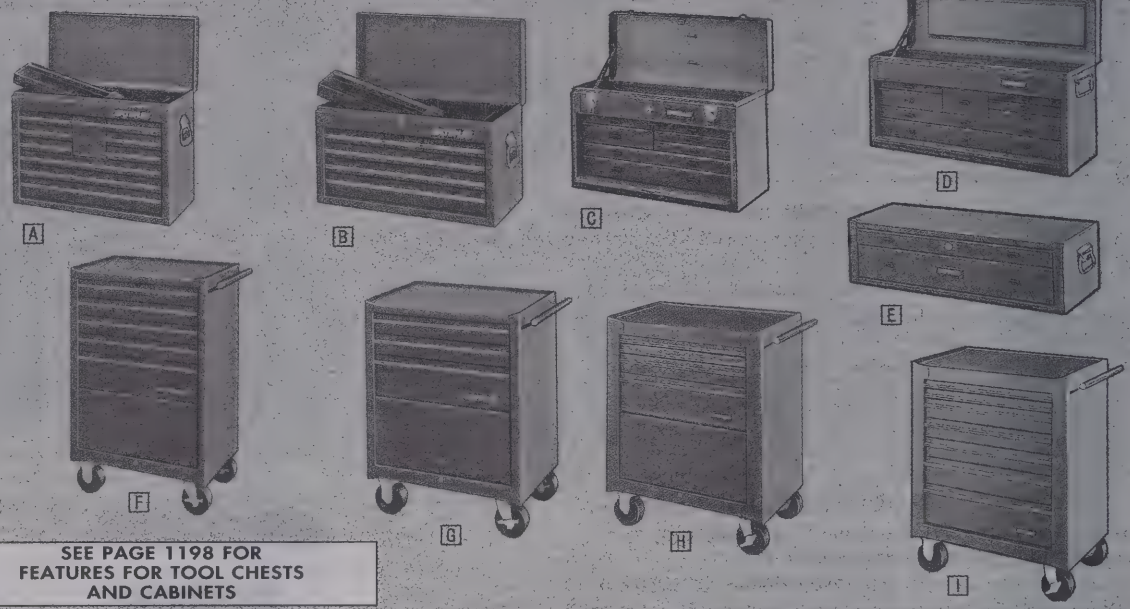
# STANDARD LINE MACHINIST'S CHESTS, CABINETS AND TOOL BOXES

WATERLOO TOOL ROOM SERIES

Made in U.S.A.

BROWN WRINKLE FINISH

Replacement Parts Available 1-800-323-0620




SEE PAGE 1198 FOR FEATURES FOR TOOL CHESTS AND CABINETS

### A 10-DRAWER 26" CHEST

Large security drawer for manuals and valuables. Storage capacity: 4,350 cu-in.

### B 6-DRAWER 26" CHEST

Removable steel tote tray. Top center drawer locks independently. Storage capacity: 3,467 cu-in.

### C 7-DRAWER 21" CHEST

Front locking panel slides under bottom drawer to keep dirt out of chest when locked. Includes felt drawer liners. Storage capacity: 1,392 cu-in.

### D 8-DRAWER 28" CHEST

Front locking panel slides under bottom drawer to keep dirt out of chest when locked. Includes felt drawer liners. Storage capacity: 1,815 cu-in.

### E 2-DRAWER 28" INTERMEDIATE CHEST

Fits 29" roller cabinets. Includes felt drawer liners. Storage capacity: 1,320 cu-in.

### F 5-DRAWER 26" CABINET

Bulk storage compartment holds large tools and containers. V-rib design in back adds strength. Storage capacity: 11,780 cu-in.

### G 3-DRAWER 26" CABINET

Bulk storage compartment holds large tools and containers. V-rib design in back adds strength. Storage capacity: 9,518 cu-in.

### H 4-DRAWER 29" CABINET

Black vinyl top protects surface. Bull storage area locks independently of draw ers. Storage capacity: 10,349 cu-in.

### I 7-DRAWER 29" CABINET

Black vinyl top protects surface. Extra wide corner posts for greater load capaci ty. Storage capacity: 8,723 cu-in.

### ORDERING HAS NEVER BEEN EASIER!

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

| Key | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **TOOL CHESTS** | | | | | | | | |
| A | 10 - Drawer 26" Chest | 26 | 12 | 19¾ | WI-1000B | **2H230** | $460.90 | **$285.00▲** | 67.0 |
| B | 6 - Drawer 26" Chest | 26 | 12 | 15¼ | WI-600B | **2H247** | 326.02 | **199.00▲** | 52.0 |
| C | 7 - Drawer 21" Chest | 21¼ | 8½ | 13¼ | 40520 | **2W021** | 211.04 | **129.00▲** | 32.0 |
| D | 8 - Drawer 28" Chest | 27¾ | 8½ | 13¼ | 40526 | **2W325** | 267.40 | **165.00▲** | 41.0 |
| E | 2 - Drawer 28" Chest | 28 | 9½ | 7¾ | 40028 | **2W326** | 134.38 | **89.00▲** | 25.0 |
| | **TOOL CABINETS** | | | | | | | | |
| F | 5 - Drawer 26" Roller Cabinet | 26½ | 18 | 41¼ | WI-500B | **2H245** | 630.12 | **329.00▲** | 117.0 |
| G | 3 - Drawer 26" Roller Cabinet | 26½ | 18 | 35½ | WI-300B | **2H243** | 470.36 | **245.00▲** | 96.0 |
| H | 4 - Drawer 29" Roller Cabinet | 28½ | 18 | 35½ | WI-429B | **6C328** | 632.66 | **329.00▲** | 112.0 |
| I | 7 - Drawer 29" Roller Cabinet | 28½ | 18 | 35½ | WI-729B | **3W158** | 731.42 | **399.00▲** | 130.0 |

(▲) Net prices, not subject to discounts.

# STEEL TOOL BOXES

## TOOL BOXES

### [A] 16" TOOL BOX

**Steel tote tray**
**One heavy-duty plated lockable latch**
**Storage capacity 822 cu-in.**

### [B] 18 & 20" TOOL BOXES

**Steel tote tray with 4 storage compartments**
**Two heavy-duty plated lockable latches**
**No. 2W022 storage capacity 1,301 cu-in.**
**No. 2W023 storage capacity 1,600 cu-in.**

### [C] 24" TOOL BOX

**Steel tote tray with 4 storage compartments**
**Two heavy-duty plated lockable latches**
**2 side handles**
**Storage capacity 2,173 cu-in.**

### [D] 19" LOW PROFILE TOOL BOX

**Small tool storage holds 1/2" drive set with extension, speed, and flex handles**
**Slender shape allows for easy storage in tight spaces**
**Storage capacity 409 cu-in.**

### [E] 20" HIP-ROOF TOOL BOX

**Extra-deep steel tote tray for large tools**
**Two heavy-duty plated lockable latches**
**Storage capacity 1,020 cu-in.**

### [F] 21" HIP ROOF TOOL BOX

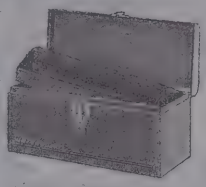
**Split lid opens wide for easy access to tools**
**Storage capacity 1,370 cu-in.**

WATERLOO TOOL ROOM SERIES

Replacement Parts Available 1-800-323-0620

RED ENAMEL FINISH

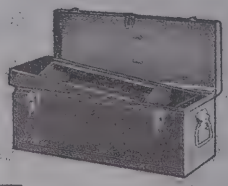
Made in U.S.A.



[A] 16" Tool Box



[B] 18 & 20" Tool Box



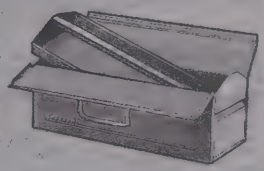
[C] 24" Tool Box



[D] Low Profile Tool Box



[E] Hip Roof Tool Box with Tote Tray



[F] Split-Lid Hip roof Tool Box

| Key | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 16" Box with Tote | 16 | 7 | 7½ | 50016 | **6C324** | $22.52 | **$14.95▲** | 7.0 |
| B | 18" Box with Tote | 18 | 8 | 9 | 50018 | **2W022** | 45.18 | **27.95▲** | 10.0 |
| B | 20" Box with Tote | 20 | 8½ | 9½ | 55020 | **2W023** | 47.92 | **29.95▲** | 11.0 |
| C | 24" Box with Tote | 24¼ | 9½ | 9½ | 50024 | **2W211** | 86.14 | **53.50▲** | 21.0 |
| D | 19" Low Profile Box | 19¾ | 6 | 4⅛ | 30120 | **6C326** | 21.96 | **14.95▲** | 3.7 |
| E | 20" Hip Roof Box with Tote | 19¾ | 7 | 8 | 50120 | **2W019** | 52.14 | **31.95▲** | 9.7 |
| F | 21" Split-Lid Hip Roof Box | 21 | 8½ | 8¼ | 50121 | **6C325** | 48.12 | **29.95▲** | 11.0 |

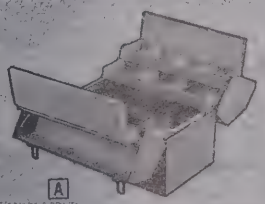
▲) Net prices, not subject to discounts.

# MACHINIST'S TOOL BOXES

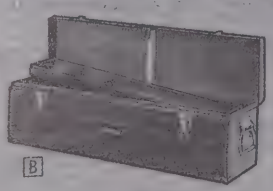
WATERLOO TOOL ROOM SERIES

Made in U.S.A.

BROWN WRINKLE FINISH



[A]



[B]

| Key | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Cantilever Box | 18 | 10 | 13¼ | 50118B | **2W024** | $121.92 | **$74.95▲** | 20.0 |
| B | Carpenter's Box | 32 | 8½ | 9½ | 50032B | **2W323** | 92.14 | **57.95▲** | 19.0 |

▲) Net prices, not subject to discounts.

### [A] 18" CANTILEVER TOOL BOX

- **Split lid opens wide to access tools**
- **4 cantilever trays, top 2 protective covers**
- **Red steel tray compartments with adjustable dividers**
- **2 heavy-duty plated lockable latches**
- **Storage capacity 1,591 cu-in.**

### [B] 32" CARPENTER'S TOOL BOX

- **Saw rack inside lid keeps hand saws sharp, knock-out for framing square**
- **2 side handles, 2 heavy-duty plated lockable latches, full length piano hinge**
- **Red steel tote tray for small parts storage**
- **Storage capacity 2,559 cu-in.**

# HANG-ON CABINET, FOLD-AWAY SHELF, TOOL BOXES AND DRILL DISPENSERS

## 5-DRAWER HANG-ON CABINET

- Front facing drawers make it easy to reach all your tools
- Internal drawer locking system
- 13⅝W x 20D x 29"H
- Bolts to either side of 29¹⁄₁₆"W roller cabinet
- Brown wrinkle finish
- Kennedy brand (205B)

**No. 2F015.** Shpg. wt. 81.0 lbs. List .....$355.50.
Each .....**$238.25▲**




No. 2F015
Hang-On Cabinet

No. 2F013
Fold-Away Shelf

## FOLD-AWAY SHELF

- Provides 2.4 sq. ft. of added work surface
- Folds down when not in use
- 20⅛W x 17¼D x 1"H
- Raised sides keep tools from rolling off
- Attaches to either side of any 27, 29, or 34"W roller cabinet
- Furnished with bolts
- Brown wrinkle finish
- Kennedy brand (DS-1B)

**No. 2F013.** Shpg. wt. 11.0 lbs. List .....$76.40.
Each .....**$51.20▲**

# HAND-CARRY TOOL BOXES

## 20" HAND-CARRY TOOL BOX

- Great for storing tools you need for the car, boat, pick-up, or household
- Handy lift-out tote tray • Brown wrinkle finish

## 20" HAND-CARRY TOOL BOX

- Vinyl cushioned steel core top handle
- Lift-out tray with socket set divider
- Brown wrinkle finish with tan enamel tray

## 24" HAND-CARRY TOOL BOX

- Vinyl cushioned steel core top handle
- Lift-out tray with socket set divider
- Brown wrinkle finish with tan enamel tray




No. 2E064
20" Tool Box

Nos. 2E029 and 2E059
20 and 24" Tool Boxes

| Description | Dimensions (In.) W | D | H | Kennedy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **20" Hand-Carry Tool Box** | 20¹⁄₁₆ | 7⅛ | 7⁵⁄₁₆ | 5220 | **2E064** | $44.90 | **$30.10▲** | 10.0 |
| **20" Hand-Carry Tool Box** | 20⅛ | 8⅝ | 9¾ | K-20 | **2E029** | 66.40 | **44.50▲** | 14.0 |
| **24" Hand-Carry Tool Box** | 24⅛ | 8⅝ | 9¾ | K-24 | **2E059** | 75.90 | **50.85▲** | 16.0 |

## 4-DRAWER MASTER DRILL DISPENSER

- Heavy steel construction
- Full extension drawer slides
- Includes divided plastic inserts and preprinted, self-adhesive labels
- Top drawer has 42 compartments; 2nd drawer—75; 3rd drawer—42; 4th drawer is undivided

## 4-DRAWER MASTER TAP DISPENSER

- Heavy steel construction
- Full extension drawer slides
- Includes divided plastic inserts and preprinted, self-adhesive labels
- Top drawer has 75 compartments; 2nd drawer—42; 3rd drawer—21; 4th drawer—13

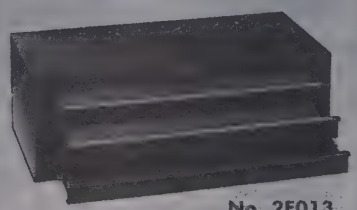
## 3-DRAWER 2- OR 4-FLUTE END MILL DISPENSER

- Heavy steel construction
- Full extension drawer slides
- Includes divided plastic inserts and preprinted, self-adhesive labels
- Top drawer has 42 compartments; 2nd drawer has 42; 3rd drawer is undivided




No. 2E007

BROWN WRINKLE FINISH



No. 2E013

| Description | Dimensions (In.) W | D | H | Kennedy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Master Drill Dispenser** | 26¹¹⁄₁₆ | 12½ | 11⅜ | 5101 | **2E007** | $492.30 | **$330.00▲** | 48.0 |
| **Master Tap Dispenser** | 26¹¹⁄₁₆ | 12½ | 11⅜ | 5103 | **2E009** | 492.30 | **330.00▲** | 50.0 |
| **End Mill Dispenser** | 26¹¹⁄₁₆ | 12½ | 9⁷⁄₁₆ | 5302 | **2E013** | 347.70 | **233.00▲** | 39.0 |

(▲) Net prices, not subject to discounts.

# MACHINIST'S AND MECHANIC'S TOOL CHESTS AND ROLLER CABINETS







## TOOL CHESTS

### A 8-DRAWER MACHINIST'S CHEST No. 2E079

- Double-wall side panels for strength
- Heavy-duty chrome-plated side handles
- Wool felt-lined drawers with six drawer dividers
- Use with any 27 or 29"W roller cabinet

### B 11-DRAWER MACHINIST'S CHEST No. 2E103

- Drop front panel adds security
- Heavy-duty chrome-plated side handles
- Eight drawer dividers, wool felt-lined drawers and top till
- Use with any 27 or 29"W roller cabinet

### C 2-DRAWER MACHINIST'S CHEST BASE No. 2E345

- Heavy-duty chrome-plated side handles
- Wool felt-lined top drawer
- Stacking clips standard
- Fits under Nos. 2E079 and 2E103

### D 5-DRAWER MECHANIC'S CHEST No. 2E475

- Full width drawers store extra-long tools
- Internal locking system with key lock that secures all five drawers
- Heavy-duty plated side handles
- Three adjustable aluminum drawer dividers
- Use with any 27"W roller cabinet

### E 10-DRAWER MECHANIC'S CHEST No. 2E490

- Lid-activated internal drawer locking system
- 2-Piece welded I-beam drawer slides
- Heavy-duty plated side handles
- Partitioned top till holds lift-out tray with socket set divider
- Two adjustable aluminum drawer dividers
- Use with any 27 or 29"W roller cabinet

## ROLLER CABINETS

- Tamper-proof internal locking system
- Comes with 4 drawer dividers, side handle
- Brown wrinkle finish

### F 3-DRAWER ROLLER CABINET No. 2F001

- Swing down panel secures bottom compartment
- Use with any 20 or 26"W chest, and 22 or 26"W chest base or riser

### G 5-DRAWER ROLLER CABINET No. 2F003

- Swing down panel secures bottom compartment
- Use with any 20 or 26"W chest, and 22 or 26"W chest base or riser

### H 5-DRAWER ROLLER CABINET No. 2F007

- Swing down panel secures bottom compartment
- Use with any 26 or 28"W chest, chest base, or chest riser

### I 7-DRAWER ROLLER CABINET No. 2F005

- Use with any 20 or 26"W chest, and 22 or 26"W chest base or riser

### J 7-DRAWER ROLLER CABINET No. 2F009

- Use with any 26 or 28"W chest, chest base, or chest riser

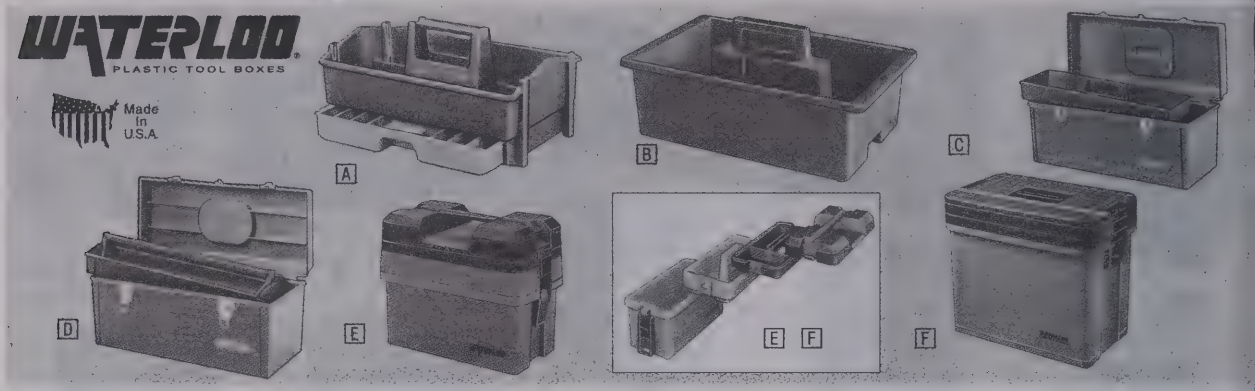
### K 8-DRAWER ROLLER CABINET No. 2F011

- Comes with 4 drawer dividers and side handle
- Use with any 26"W chest, chest base, or chest riser

| Key | Description | Dimensions (In.) W | D | H | Caster Dimensions (In.) | Kennedy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 8-Drawer Machinist's Chest | 26 11/16 | 8 5/16 | 13 5/8 | — | 526 | 2E079 | $270.30 | $181.25▲ | 44.0 |
| B | 11-Drawer Machinist's Chest | 26 11/16 | 8 5/16 | 18 | — | 52611 | 2E103 | 342.10 | 229.25▲ | 56.0 |
| C | 2-Drawer Machinist's Chest Base | 26 11/16 | 12 5/16 | 9 1/2 | — | 5150 | 2E345 | 133.20 | 89.25▲ | 37.0 |
| D | 5-Drawer Mechanic's Chest | 27 | 18 | 16 3/4 | — | 285B | 2E475 | 384.70 | 257.75▲ | 83.0 |
| E | 10-Drawer Mechanic's Chest | 26 1/8 | 12 1/16 | 18 15/16 | — | 360 | 2E490 | 492.00 | 329.75▲ | 84.0 |
| F | 3-Drawer Roller Cabinet | 27 | 18 | 35 | 5 x 1 1/2 | 273 | 2F001 | 446.30 | 299.25▲ | 110.0 |
| G | 5-Drawer Roller Cabinet | 27 | 18 | 35 | 5 x 1 1/4 | 275 | 2F003 | 526.80 | 353.00▲ | 122.0 |
| H | 5-Drawer Roller Cabinet | 29 | 20 | 35 | 5 x 2 | 295 | 2F007 | 577.50 | 387.00▲ | 141.0 |
| I | 7-Drawer Roller Cabinet | 27 | 18 | 35 | 5 x 1 1/4 | 277 | 2F005 | 614.40 | 411.75▲ | 138.0 |
| J | 7-Drawer Roller Cabinet | 29 | 20 | 35 | 5 x 2 | 297 | 2F009 | 663.00 | 444.25▲ | 159.0 |
| K | 8-Drawer Roller Cabinet | 27 | 18 | 39 | 5 x 2 | 378B | 2F011 | 700.10 | 469.25▲ | 161.0 |

(▲) Net prices, not subject to discounts.

# PLASTIC TOOL BOXES




## A 15" TOTE TRAY

- Stackable tote tray
- Drawer for organizing small items
- Light gray finish
- Storage capacity 726 cu-in.

## B 20" TOTE TRAY

- Extra-large tote
- Holes designed for storage of screwdrivers and wrenches
- Conversion information molded into edge of tray
- Light gray finish
- Storage capacity 1,560 cu-in.

## C 20" TOOL BOX

- Tote Tray
- Flat top design makes it stackable
- 2 steel latches add strength to box
- Blue-green finish
- Storage capacity 1,479 cu-in.

## D 22" TOOL BOX

- Steel-handled tote tray
- 2 steel latches add strength while carrying box
- Blue-green finish
- Storage capacity 2,038 cu-in.

## E GREAT TOOL ORGANIZER

- Contains 3 levels of storage
- Tub is sized to hold many small power tools
- Two removable trays with organizing compartments
- Positive locking latches will not open accidentally
- Light-weight resin strong, durable, and weather-resistant construction
- Hi-VIZ green/black finish
- Storage capacity 1,165 cu-in

## F SIT/STAND/TOTE

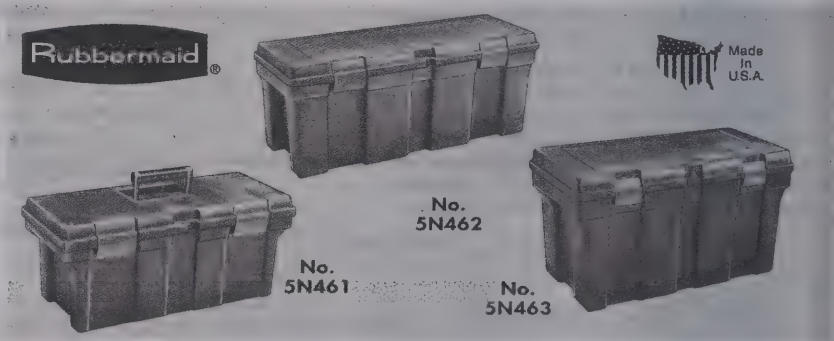
- Contains 3 levels of storage
- Tool storage unit functions as a bench or step stool
- Tub is sized to hold many large items
- Top tray with organizing compartments
- Adjustable shoulder strap
- Positive locking latches will not open accidentally
- Hi-VIZ green/black finish
- Storage capacity 4,095 cu-in.

| Key | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 15" Tote Tray | 14¾ | 9½ | 7 | 50414 | **2H170** | $6.70 | **$4.50▲** | 2.2 |
| B | 20" Tote Tray | 20 | 13 | 8½ | 50420 | **2H174** | 9.40 | **5.95▲** | 2.4 |
| C | 20" Tool Box | 19¾ | 8½ | 8¾ | HP-2050 | **2H172** | 17.92 | **10.95▲** | 4.7 |
| D | 22" Tool Box | 22 | 9½ | 9¾ | HP-2270 | **2H176** | 26.80 | **16.95▲** | 6.2 |
| E | Great Tool Organizer | 16¼ | 9 | 12½ | 50465HVG | **2H178** | 43.12 | **19.95▲** | 5.5 |
| F | Sit/Stand/Tote | 20¾ | 13½ | 16¾ | 55421HVG | **2H180** | 81.56 | **39.95▲** | 14.0 |

# TOOL BOXES & CHESTS

**Made of rugged structural foam** for maximum protection of your tools. All models feature a lid-lift tab for easy opening, and molded-in grips for easy and safe handling. Flush latches prevent accidental openings. Recessed lock areas accommodate a standard padlock. No. 5N461 has a padded top handle.

**Each tool box and chest comes with compartmentalized trays** for tool organization. Nos. 5N462 and 5N463 are half trays for easy access to tools.




| Description | Dimensions (In.) L | W | H | No. of Trays | Tray Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **26" Tool Box** | 26.0 | 11.5 | 11.0 | 1 | 20.4 | 9.1 | 3.1 | 7717 | **5N461** | $48.60 | **$33.95▲** | 7.5 |
| **35" Tool Chest** | 35.0 | 13.6 | 14.2 | 1 | 14.7 | 11.3 | 3.0 | 7718 | **5N462** | 69.68 | **48.80▲** | 17.0 |
| **36" Tool Chest** | 36.0 | 18.6 | 20.1 | 2 | 15.0 | 16.1 | 3.0 | 7719 | **5N463** | 110.90 | **77.65▲** | 34.0 |

(▲) Net prices, not subject to discounts.

# HEAVY EQUIPMENT SETS

PROTO PROFESSIONAL TOOLS

**LIFETIME LIMITED WARRANTY**
All Proto tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside back cover.

Made in U.S.A.

Replacement Parts Available 1-800-323-0620

## 92-PC. HEAVY EQUIPMENT SET—3/8, 1/2, & 3/4" DRIVES

| Proto Model | Description | Proto Model | Description | Proto Model | Description |
|---|---|---|---|---|---|
| 000AA | Set, Feeler Gauge 25 Blade | 1312PD | Hammer, Ball Pein 12 oz. | 5428 | Socket, 1/2" Dr. 7/8" |
| 41-7/16 | Punch, Center | 1332PD | Hammer, Ball Pein 32 oz. | 5430 | Socket, 1/2" Dr. 15/16" |
| 86A-5/8 | Chisel, Cold 3/4" | 1364 | Hammer, Soft Face | 5432 | Socket, 1/2" Dr. 1" |
| 86A-5/16 | Chisel, Cold 3/8" | 2126 | Pry Bar, Roll Head | 5449 | Ratchet, 1/2" Dr. |
| 96-3/4 | Punch, Drift | 2336 | Scraper, Gasket | 5463 | Extension, 1/2" Dr. 10" |
| 96-3/8 | Punch, Drift | 3426 | Wrench, Thin O E 1/2 x 9/16" | 5468 | Hinge Handle, 1/2" Dr. |
| 207 | Pliers, Diagonal Cutting | 5208 | Socket, 3/8" Dr. 1/4" | 5470 | Universal Joint 1/2" Dr. |
| 226 | Pliers, Needle Nose | 5210 | Socket, 3/8" Dr. 5/16" | 5528 | Socket, 3/4" Dr. 7/8" |
| 263SG | Pliers, Tongue & Groove 9½" | 5212 | Socket, 3/8" Dr. 3/8" | 5530 | Socket, 3/4" Dr. 15/16" |
| 276 | Pliers, Slip-Joint | 5214 | Socket, 3/8" Dr. 7/16" | 5532 | Socket, 3/4" Dr. 1" |
| 292R | Pliers, Locking 10" Curved | 5216 | Socket, 3/8" Dr. 1/2" | 5534 | Socket, 3/4" Dr. 1 1/16" |
| 1208 | Wrench, Combination 1/4" | 5218 | Socket, 3/8" Dr. 9/16" | 5536 | Socket, 3/4" Dr. 1 1/8" |
| 1210 | Wrench, Combination 5/16" | 5220 | Socket, 3/8" Dr. 5/8" | 5540 | Socket, 3/4" Dr. 1 1/4" |
| 1212 | Wrench, Combination 3/8" | 5224 | Socket, 3/8" Dr. 3/4" | 5542 | Socket, 3/4" Dr. 1 5/16" |
| 1214 | Wrench, Combination 7/16" | 5249 | Ratchet, 3/8" Drive | 5548 | Socket, 3/4" Dr. 1 1/2" |
| 1216 | Wrench, Combination 1/2" | 5253 | Adapter, 3/8" Female x 1/2" Male | 5552 | Socket, 3/4" Dr. 1 5/8" |
| 1218 | Wrench, Combination 9/16" | 5254 | Adapter, 1/2" Female x 3/8" Male | 5554 | Socket, 3/4" Dr. 1 11/16" |
| 1220 | Wrench, Combination 5/8" | 5260 | Extension, 3/8" Dr. 3" | 5556 | Socket, 3/4" Dr. 1 3/4" |
| 1222 | Wrench, Combination 11/16" | 5261 | Extension, 3/8" Dr. 8" | 5560 | Socket, 3/4" Dr. 1 7/8" |
| 1224 | Wrench, Combination 3/4" | 5274 | Socket, Universal 3/8" Dr. 7/16" | 5564 | Socket, 3/4" Dr. 2" |
| 1226 | Wrench, Combination 13/16" | 5275 | Socket, Universal 3/8" Dr. 1/2" | 5568 | Socket, 3/4" Dr. 2 1/16" |
| 1228 | Wrench, Combination 7/8" | 5276 | Socket, Universal 3/8" Dr. 9/16" | 5570 | Socket, 3/4" Dr. 2 3/16" |
| 1230 | Wrench, Combination 15/16" | 5277 | Socket, Universal 3/8" Dr. 5/8" | 5572 | Socket, 3/4" Dr. 2 1/4" |
| 1232 | Wrench, Combination 1" | 5279 | Socket, Universal 3/8" Dr. 3/4" | 5649 | Ratchet, 3/4" Dr. |
| 1234 | Wrench, Combination 1 1/16" | 5280 | Speed Handle, 3/8" Dr. | 5653 | Adapter, 1/2" Female x 3/4" Male |
| 1236 | Wrench, Combination 1 1/8" | 5416 | Socket, 1/2" Dr. 1/2" | 5661 | Extension, 3/4" Dr. 8" |
| 1240 | Wrench, Combination 1 1/4" | 5418 | Socket, 1/2" Dr. 9/16" | 5668 | Hinge Handle, 3/4" Dr. |
| 1242 | Wrench, Combination 1 5/16" | 5420 | Socket, 1/2" Dr. 5/8" | 9606 | Screwdriver, 5/16 x 6" |
| 1244 | Wrench, Combination 1 3/8" | 5422 | Socket, 1/2" Dr. 11/16" | 9608 | Screwdriver, 3/8 x 8" |
| 1248 | Wrench, Combination 1 1/2" | 5424 | Socket, 1/2" Dr. 3/4" | 9626 | Screwdriver, 1/8 x 6" |
| 1252 | Wrench, Combination 1 5/8" | 5426 | Socket, 1/2" Dr. 13/16" | | |

**No. 6C372.** Tools Only (Proto Model 98310). Shpg. wt. 85.0 lbs. List $2364.64. Each ..... $1561.00

**No. 6A517.** Top Chest (Proto Model 9990ASHD). Shpg. wt. 99.0 lbs. List $560.49. Each ..... $325.50▲

**No. 7A082.** Tools Set with Top Chest (Proto Model 98312). Shpg. wt. 184.0 lbs. List $2925.13. Each ..... $1799.00

## 99-PC. METRIC HEAVY EQUIPMENT SET—3/8, 1/2, & 3/4" DRIVES

| Proto Model | Description | Proto Model | Description | Proto Model | Description |
|---|---|---|---|---|---|
| 00MM25 | Set, Feeler Gauge 25 Blade mm | 1246M | Wrench, Combination 46mm | 5417M | Socket, 1/2" Dr. 17mm |
| 41-7/16 | Punch, Center | 1250M | Wrench, Combination 50mm | 5418M | Socket, 1/2" Dr. 18mm |
| 86A-5/8 | Chisel, Cold 3/4" | 1312PD | Hammer, Ball Pein 12 oz. | 5419M | Socket, 1/2" Dr. 19mm |
| 86A-5/16 | Chisel, Cold 3/8" | 1332PD | Hammer, Ball Pein 32 oz. | 5421M | Socket, 1/2" Dr. 21mm |
| 96-3/4 | Punch, Drift | 1364 | Hammer, Soft Face | 5422M | Socket, 1/2" Dr. 22mm |
| 96-3/8 | Punch, Drift | 2126 | Pry Bar, Roll Head | 5424M | Socket, 1/2" Dr. 24mm |
| 207 | Pliers, Diagonal Cutting | 2336 | Scraper, Gasket | 5449 | Ratchet, 1/2" Dr. |
| 226 | Pliers, Needle Nose | 5210M | Socket, 3/8" Dr. 10mm | 5463 | Extension, 1/2" Dr. 10" |
| 263SG | Pliers, Tongue & Groove 9½" | 5211M | Socket, 3/8" Dr. 11mm | 5470 | Universal Joint 1/2" Dr. |
| 276 | Pliers, Slip-Joint | 5212M | Socket, 3/8" Dr. 12mm | 5480 | Speed Handle, 1/2" Dr. |
| 292R | Pliers, Locking 10" Curved | 5213M | Socket, 3/8" Dr. 13mm | 5521M | Socket, 3/4" Dr. 21mm |
| 1207M | Wrench, Combination 7mm | 5214M | Socket, 3/8" Dr. 14mm | 5522M | Socket, 3/4" Dr. 22mm |
| 1208M | Wrench, Combination 8mm | 5215M | Socket, 3/8" Dr. 15mm | 5523M | Socket, 3/4" Dr. 23mm |
| 1209M | Wrench, Combination 9mm | 5216M | Socket, 3/8" Dr. 16mm | 5524M | Socket, 3/4" Dr. 24mm |
| 1210M | Wrench, Combination 10mm | 5217M | Socket, 3/8" Dr. 17mm | 5527M | Socket, 3/4" Dr. 27mm |
| 1211M | Wrench, Combination 11mm | 5218M | Socket, 3/8" Dr. 18mm | 5528M | Socket, 3/4" Dr. 28mm |
| 1212M | Wrench, Combination 12mm | 5219M | Socket, 3/8" Dr. 19mm | 5530M | Socket, 3/4" Dr. 30mm |
| 1213M | Wrench, Combination 13mm | 5249 | Ratchet, 3/8" Drive | 5532M | Socket, 3/4" Dr. 32mm |
| 1214M | Wrench, Combination 14mm | 5253 | Adapter, 3/8" Female x 1/2" Male | 5536M | Socket, 3/4" Dr. 36mm |
| 1215M | Wrench, Combination 15mm | 5260 | Extension, 3/8" Dr. 3" | 5541M | Socket, 3/4" Dr. 41mm |
| 1216M | Wrench, Combination 16mm | 5261 | Extension, 3/8" Dr. 8" | 5542M | Socket, 3/4" Dr. 42mm |
| 1217M | Wrench, Combination 17mm | 5272M | Socket, Universal 3/8" Dr. 9mm | 5546M | Socket, 3/4" Dr. 46mm |
| 1218M | Wrench, Combination 18mm | 5273M | Socket, Universal 3/8" Dr. 10mm | 5550M | Socket, 3/4" Dr. 50mm |
| 1219M | Wrench, Combination 19mm | 5274M | Socket, Universal 3/8" Dr. 11mm | 5555M | Socket, 3/4" Dr. 55mm |
| 1220M | Wrench, Combination 20mm | 5275M | Socket, Universal 3/8" Dr. 12mm | 5558M | Socket, 3/4" Dr. 58mm |
| 1221M | Wrench, Combination 21mm | 5276M | Socket, Universal 3/8" Dr. 13mm | 5560M | Socket, 3/4" Dr. 60mm |
| 1222M | Wrench, Combination 22mm | 5277M | Socket, Universal 3/8" Dr. 14mm | 5649 | Ratchet, 3/4" Dr. |
| 1224M | Wrench, Combination 24mm | 5278M | Socket, Universal 3/8" Dr. 15mm | 5653 | Adapter, 1/2" Female x 3/4" Male |
| 1226M | Wrench, Combination 26mm | 5280 | Speed Handle, 3/8" Dr. | 5661 | Extension, 3/4" Dr. 8" |
| 1228M | Wrench, Combination 28mm | 5413M | Socket, 1/2" Dr. 13mm | 5668 | Hinge Handle, 3/4" Dr. |
| 1232M | Wrench, Combination 32mm | 5414M | Socket, 1/2" Dr. 14mm | 9606 | Screwdriver, 5/16 x 6" |
| 1236M | Wrench, Combination 36mm | 5415M | Socket, 1/2" Dr. 15mm | 9608 | Screwdriver, 3/8 x 8" |
| 1241M | Wrench, Combination 41mm | 5416M | Socket, 1/2" Dr. 16mm | 9626 | Screwdriver, 1/8 x 6" |

**No. 6C373.** Tools Only (Proto Model 98320). Shpg. wt. 89.0 lbs. List $2680.42. Each ..... $1770.00

**No. 6A517.** Top Chest (Proto Model 9990ASHD). Shpg. wt. 99.0 lbs. List $560.49. Each ..... $325.50▲

**No. 7A083.** Tools Set with Top Chest (Proto Model 98322). Shpg. wt. 188.0 lbs. List $3240.91. Each ..... $1999.00

(▲) Net prices, not subject to discounts.

# 618-PC. FRACTIONAL/METRIC MASTER SET

| Proto Model | Description |
|---|---|
| | **PUNCHES** |
| 41-1/2 | Center |
| 41-3/8 | Center |
| 44-5/16 | Prick |
| 47-1/2x1/4 | Pin |
| 47-1/4x3/32 | Pin |
| 47-3/8x3/16 | Pin |
| 47-5/16x1/8 | Pin |
| 47-5/16x5/32 | Pin |
| 47-7/16x7/32 | Pin |
| 50-1/2 | Starting |
| 50-1/4 | Starting |
| 50-3/8 | Starting |
| 50-5/16 | Starting |
| 50-7/16 | Starting |
| | **PUNCHES** |
| 96-1/2 | Drift |
| 96-3/8 | Drift |
| 96-5/16 | Drift |
| | **CHISELS** |
| 86A-1x8 | Cold 1⅜" |
| 86A-1/2 | Cold 5/8" |
| 86A-1/4 | Cold 5/16" |
| 86A-3/4x8 | Cold 7/8" |
| 86A-3/16 | Cold 1/4" |
| 86A-5/8 | Cold 3/4" |
| 86A-5/16 | Cold 3/8" |
| 86A-7/8x8 | Cold 1" |
| 86A-7/16 | Cold 1/2" |
| | **PLIERS** |
| 206G | Diagonal Cutting |
| 209G | Diagonal Cutting |
| 222G | Needle Nose w/Grip |
| 225G | Curved Needle Nose |
| 226G | Needle Nose w/Grip |
| 227G | Duckbill w/Grip |
| 261G | Tongue & Grv 5" |
| 262G | Tongue & Grv 6½" |
| 263G | Tongue & Grv 9½" |
| 265G | Tongue & Grv 16" |
| 268G | Lineman's w/Grip |
| 272G | End Cutting w/Grip |
| 276G | Slip-Joint w/Grip |
| 278G | Slip-Joint w/Grip |
| 286LN | Locking 6" Lng Nose |
| 291R | Locking 7" Straight |
| 292R | Locking 10" Curved |
| 298 | Wire Strippers |
| | **SNIPS & SHEARS** |
| 303S | Aviation Straight |
| 306 | Miniature Metal |
| 322 | 12" Straight Cutting Snip |
| | **HACKSAW** |
| 15-265 | Adjustable |
| | **RETAINING RING PLIERS** |
| 370 | Universal |
| 371 | Universal |
| 372 | Universal |
| 373 | Universal |
| 374 | Universal |
| 375 | Universal |
| 376 | Universal |
| 377 | Universal |
| 378 | Universal |
| 379 | Universal |
| 385 | Universal |
| 399 | Universal |
| | **C-CLAMPS** |
| 404 | Cap 0-4", 2 Each |
| | **KNIVES** |
| 10-099 | Utility |
| 28-240 | Putty |
| | **ADJUSTABLE WRENCHES** |
| 706 | 6" |
| 708 | 8" |
| 710 | 10" |
| 712 | 12" |
| 715 | 15" |
| | **WRENCHES** |
| 801 | Chain |
| 810HD | Pipe Heavy-Duty 10" |

| Proto Model | Description |
|---|---|
| | **WRENCHES (Cont.)** |
| 814HD | Pipe Heavy-Duty 14" |
| 818HD | Pipe Heavy-Duty 18" |
| | **BOX WRENCHES** |
| 1170 | 5/16 x 3/8" |
| 1130L | 9/16 x 5/8" |
| 1171 | 7/16 x 1/2" |
| 1172 | 9/16 x 5/8" |
| 1173 | 11/16 x 3/4" |
| 1174 | 13/16 x 7/8" |
| 1175 | 15/16 x 1" |
| 1176 | 11/16 x 11/8" |
| 1050M | 6 x 7mm |
| 1051M | 8 x 9mm |
| 1052M | 8 x 10mm |
| 1053M | 10 x 11mm |
| 1064M | 10 x 12mm |
| 1065M | 16 x 18mm |
| 1069M | 19 x 22mm |
| 1072M | 21 x 24mm |
| 1077M | 27 x 30mm |
| 1079M | 30 x 32mm |
| 1125M | 16 x 17mm |
| | **RATCHETING BOX WRENCHES** |
| 1191M | 7 x 8mm |
| 1191T | 1/4 x 5/16" |
| 1192M | 9 x 10mm |
| 1192T | 3/8 x 7/16" |
| 1193M | 11 x 12mm |
| 1193T | 1/2 x 9/16" |
| 1194 | 5/8 x 11/16" |
| 1194M | 13 x 14mm |
| 1195 | 3/4 x 7/8" |
| 1195M | 15 x 17mm |
| | **COMBINATION WRENCHES** |
| 1204E | Short 1/8" |
| 1205E | Short 5/32" |
| 1206E | Short 3/16" |
| 1207M | 7mm |
| 1208E | Short 1/4" |
| 1208M | 8mm |
| 1209E | Short 9/32" |
| 1209M | 9mm |
| 1210 | 5/16" |
| 1210E | Short 5/16" |
| 1210M | 10mm |
| 1211E | Short 11/32" |
| 1211M | 11mm |
| 1212 | 3/8" |
| 1212E | Short 3/8" |
| 1212M | 12mm |
| 1213M | 13mm |
| 1214 | 7/16" |
| 1214M | 14mm |
| 1215M | 15mm |
| 1216 | 1/2" |
| 1216M | 16mm |
| 1217M | 17mm |
| 1218 | 9/16" |
| 1218M | 18mm |
| 1219M | 19mm |
| 1220 | 5/8" |
| 1220M | 20mm |
| 1221M | 21mm |
| 1222 | 11/16" |
| 1222M | 22mm |
| 1223M | 23mm |
| 1224 | 3/4" |
| 1224M | 24mm |
| 1226 | 13/16" |
| 1228 | 7/8" |
| 1230 | 15/16" |
| 1232 | 1" |
| 1234 | 11/16" |
| 1236 | 11/8" |
| 1240 | 11/4" |
| 1242 | 15/16" |
| 1244 | 13/8" |
| 1246 | 17/16" |
| 1248 | 11/2" |
| 1270-12H | Swivel 3/8" |
| 1270-14H | Swivel 7/16" |
| 1270-16 | Swivel 1/2" |
| 1270-18 | Swivel 9/16" |
| 1270-20 | Swivel 5/8" |
| 1270-22 | Swivel 11/16" |
| 1270-24 | Swivel 3/4" |

| Proto Model | Description |
|---|---|
| | **BALL PEIN HAMMERS** |
| 1308PD | 8 oz. |
| 1316PD | 16 oz. |
| 1332PD | 32 oz. |
| | **MALLETS & HAMMERS** |
| 1368 | Rubber |
| 1430G | Brass Fibergls Hndl |
| | **POWER TAPES** |
| 33-212 | Locking 1/2" x 12 ft. |
| | **OBSTRUCTION WRENCHES** |
| 1725 | 7/16 x 1/2" |
| 1730 | 9/16 x 5/8" |
| 1731 | 5/8 x 3/4" |
| | **PUNCH AND CHISELS** |
| 2108 | Holder |
| | **PRY BARS** |
| 2120 | Pry Bar |
| 2124 | Pry Bar |
| 2126 | Roll Head |
| 2130 | Roll Head |
| | **MISC. TOOLS** |
| 2306 | Cotter Pin Tool |
| 2336 | Scraper, Gasket |
| 2373 | Mirror, Telescoping |
| 2375 | Magnetic Retriever |
| | **OPEN END WRENCHES** |
| 3018 | 1/4 x 5/16" |
| 3020 | 3/8 x 5/16" |
| 3025 | 7/16 x 1/2" |
| 3026 | 1/2 x 9/16" |
| 3030 | 9/16 x 5/8" |
| 3031 | 5/8 x 3/4" |
| 3035 | 11/16 x 3/4" |
| 3040 | 13/16 x 7/8" |
| 3045 | 15/16 x 1" |
| 3050 | 11/16 x 1⅛" |
| 3314 | Angle 7/32" |
| 3315 | Angle 15/64" |
| 3316 | Angle 1/4" |
| 3318 | Angle 9/32" |
| 3320 | Angle 5/16" |
| 3322 | Angle 11/32" |
| 3324 | Angle 3/8" |
| 3328 | Angle 7/16" |
| 3332 | Angle 1/2" |
| 3336 | Angle 9/32" |
| | **FLARE NUT WRENCHES** |
| 3707M | 7 x 8mm |
| 3709M | 9 x 11mm |
| 3710M | 10 x 12mm |
| 3713M | 13 x 14mm |
| 3715M | 15 x 17mm |
| 3751 | 3/8" |
| 3752 | 7/16" |
| 3753 | 1/2" |
| 3754 | 9/16" |
| 3755 | 5/8" |
| 3756 | 11/16" |
| 3757 | 3/4" |
| | **RATCHETING FLARE WRENCHES** |
| 3812 | 3/8" |
| 3814 | 7/16" |
| 3816 | 1/2" |
| 3818 | 9/16" |
| 3820 | 5/8" |
| 3822 | 11/16" |
| 3824 | 3/4" |
| | **PULLER SET** |
| 4255 | 6 Ton Cone |
| | **1/4" DRIVE SOCKETS** |
| 4704LM | 4mm Deep |
| 4704M | 4mm |
| 4705LM | 5mm Deep |
| 4705M | 5mm |
| 47055LM | 5.5mm Deep |
| 47055M | 5.5mm |
| 4706 | 3/16" |
| 4706L | 3/16" Deep |
| 4706LM | 6mm Deep |

| Proto Model | Description |
|---|---|
| | **1/4" DRIVE SOCKETS (Cont.)** |
| 4706M | 6mm |
| 4707 | 7/32" |
| 4707L | 7/32" Deep |
| 4707LM | 7mm Deep |
| 4707M | 7mm |
| 4708 | 1/4" |
| 4708L | 1/4" Deep |
| 4708LM | 8mm Deep |
| 4708M | 8mm |
| 4708S | 1/4" 8 Pt. |
| 4709 | 9/32" |
| 4709L | 9/32" Deep |
| 4709LM | 9mm Deep |
| 4709M | 9mm |
| 4710 | 5/16" |
| 4710L | 5/16" Deep |
| 4710LM | 10mm Deep |
| 4710M | 10mm |
| 4710S | 5/16" 8 Pt. |
| 4711 | 11/32" |
| 4711L | 11/32" Deep |
| 4711LM | 11mm Deep |
| 4711M | 11mm |
| 4712 | 3/8" |
| 4712L | 3/8" Deep |
| 4712LM | 12mm Deep |
| 4712M | 12mm |
| 4712S | 3/8" 8 Pt. |
| 4713LM | 13mm Deep |
| 4713M | 13mm |
| 4714 | 7/16" |
| 4714L | 7/16" Deep |
| 4714LM | 14mm Deep |
| 4714M | 14mm |
| 4716 | 1/2" |
| 4716L | 1/2" Deep |
| 4718 | 9/16" |
| 4718L | 9/16" Deep |
| 4737 | #1 Phillips |
| 4738 | #2 Phillips |
| 4743 | Screwdriver 3/8" |
| 4744 | Screwdriver 3/16" |
| 4745 | Screwdriver 1/4" |
| | **1/4" DRIVE ACCESSORIES** |
| 4749 | Ratchet |
| 4759 | Extension 2" |
| 4760 | Extension 3" |
| 4761 | Extension 6" |
| 4765 | Extension Flex 6" |
| 4766 | Hinge Handle |
| 4769 | Socket Driver, 6½" |
| 4770 | Universal Joint |
| 4770-1/4 | Hex Bit 1/4" |
| 4770-1/8 | Hex Bit 1/8" |
| 4770-1/16 | Hex Bit 1/16" |
| 4770-2.5M | Hex Bit 2.5mm |
| 4770-2M | Hex Bit 2mm |
| 4770-3/16 | Hex Bit 3/16" |
| 4770-3/32 | Hex Bit 3/32" |
| 4770-3M | Hex Bit 3mm |
| 4770-4M | Hex Bit 4mm |
| 4770-5/16 | Hex Bit 5/16" |
| 4770-5/32 | Hex Bit 5/32" |
| 4770-5/64 | Hex Bit 5/64" |
| 4770-5M | Hex Bit 5mm |
| 4770-6M | Hex Bit 6mm |
| 4770-7/32 | Hex Bit 7/32" |
| 4770-7/64 | Hex Bit 7/64" |
| 4770-9/64 | Hex Bit 9/64" |
| 4771T | Univ Socket 1/4" |
| 4772T | Univ Socket 5/16" |
| 4773T | Univ Socket 3/8" |
| 4774T | Univ Socket 7/16" |
| 4780 | Speed Handle |
| 4785 | Sliding T Handle |
| | **3/8" DRIVE CROWFOOT WRENCHES** |
| 4910M | 10mm |
| 4911M | 11mm |
| 4912 | 3/8" |
| 4912M | 12mm |
| 4913M | 13mm |
| 4914 | 7/16" |
| 4914M | 14mm |
| 4915M | 15mm |

CONTINUED ON NEXT PAGE



The only source you need for tools as tough as you are.

# 618-PC. FRACTIONAL/METRIC MASTER SET



| Proto-Model | Description |
|---|---|
| **3/8" DR. CROWFOOT WRENCHES** | |
| 4916 | 1/2" |
| 4916M | 16mm |
| 4917M | 17mm |
| 4918 | 9/16" |
| 4918M | 18mm |
| 4919M | 19mm |
| 4920 | 5/8" |
| 4920M | 20mm |
| 4921M | 21mm |
| 4922 | 11/16" |
| 4922M | 22mm |
| 4924 | 3/4" |
| 4926 | 13/16" |
| 4928 | 7/8" |
| **HEX KEY SETS** | |
| 4980 | Shortarm 13 Pc. |
| 4984 | Metric 9 Pc. |
| **3/8" DRIVE HEX BITS** | |
| 4990-1/4 | 1/4" |
| 4990-1/8 | 1/8" |
| 4990-3/8 | 3/8" |
| 4990-3/16 | 3/16" |
| 4990-4M | 4mm |
| 4990-5/16 | 5/16" |
| 4990-5/32 | 5/32" |
| 4990-5M | 5mm |
| 4990-6M | 6mm |
| 4990-7/32 | 7/32" |
| 4990-7M | 7mm |
| 4990-8M | 8mm |
| 4990-10M | 10mm |
| **3/8" DRIVE SOCKETS** | |
| 5008 | 1/4" Deep |
| 5010 | 5/16" Deep |
| 5010M | 10mm Deep |
| 5011M | 11mm Deep |
| 5012 | 3/8" Deep |
| 5012M | 12mm Deep |
| 5013M | 13mm Deep |
| 5014 | 7/16" Deep |
| 5014M | 14mm Deep |
| 5015M | 15mm Deep |
| 5016 | 1/2" Deep |
| 5016M | 16mm Deep |
| 5017M | 17mm Deep |
| 5018 | 9/16" Deep |
| 5018M | 18mm Deep |
| 5019M | 19mm Deep |
| 5020 | 5/8" Deep |
| 5022 | 11/16" Deep |
| 5024 | 3/4" Deep |
| 5026 | 13/16" Deep |
| 5028 | 7/8" Deep |
| 5032 | 1" Deep |
| 5208 | 1/4" |
| 5208M | 8mm |
| 5208S | 1/4" 8 Pt. |
| 5209M | 9mm |
| 5210 | 5/16" |
| 5210M | 10mm |
| 5210S | 5/16" 8 Pt. |
| 5211M | 11mm |
| 5212 | 3/8" |
| 5212M | 12mm |
| 5212S | 3/8" 8 Pt. |
| 5213M | 13mm |
| 5214 | 7/16" |
| 5214M | 14mm |
| 5214S | 7/16" 8 Pt. |
| 5215M | 15mm |
| 5216 | 1/2" |
| 5216M | 16mm |
| 5216S | 1/2" 8 Pt. |
| 5217M | 17mm |
| 5218 | 9/16" |
| 5218M | 18mm |
| 5219M | 19mm |
| 5220 | 5/8" |

| Proto Model | Description |
|---|---|
| **3/8" DRIVE SOCKETS (Cont.)** | |
| 5222 | 11/16" |
| 5224 | 3/4" |
| 5226 | 13/16" |
| 5228 | 7/8" |
| 5230 | 15/16" |
| 5232 | 1" |
| 5241 | #2 Phillips |
| 5242 | #3 Phillips |
| 5243 | #4 Phillips |
| 5246 | Screwdriver 2" |
| **3/8" DRIVE ACCESSORIES** | |
| 5247 | Ratchetor |
| 5249 | Ratchet |
| 5257A | Ratchet, Flex Head |
| 5260 | Extension 3" |
| 5260-06 | Extension 6" |
| 5260-06W | Extension, Wobble 6" |
| 5260W | Extension, Wobble 3" |
| 5262 | Extension 12" |
| 5265 | Hinge Handle |
| 5268 | Extension 8" |
| 5270 | Universal Joint |
| 5272M | Univ Socket 9mm |
| 5273 | Univ Socket 3/8" |
| 5273M | Univ Socket 10mm |
| 5274 | Univ Socket 7/16" |
| 5274M | Univ Socket 11mm |
| 5275 | Univ Socket 1/2" |
| 5275M | Univ Socket 12mm |
| 5276 | Univ Socket 9/16" |
| 5276M | Univ Socket 13mm |
| 5277 | Univ Socket 5/8" |
| 5277M | Univ Socket 14mm |
| 5278 | Univ Socket 11/16" |
| 5278M | Univ Socket 15mm |
| 5279 | Univ Socket 3/4" |
| 5280 | Speed Handle |
| 5285 | Sliding T Handle 8" |
| **1/2" DRIVE SOCKETS** | |
| 5316 | 1/2" Deep |
| 5316M | 16mm Deep |
| 5317M | 17mm Deep |
| 5318 | 9/16" Deep |
| 5318M | 18mm Deep |
| 5319M | 19mm Deep |
| 5320 | 5/8" Deep |
| 5320M | 20mm Deep |
| 5321M | 21mm Deep |
| 5322 | 11/16" Deep |
| 5322M | 22mm Deep |
| 5324 | 3/4" Deep |
| 5324M | 24mm Deep |
| 5325M | 25mm Deep |
| 5326 | 13/16" Deep |
| 5326M | 26mm Deep |
| 5328 | 7/8" Deep |
| 5330 | 15/16" Deep |
| 5332 | 1" Deep |
| 5334 | 1 1/16" Deep |
| 5336 | 1 1/8" Deep |
| 5340 | 1 1/4" Deep |
| 5410M | 10mm |
| 5411M | 11mm |
| 5412 | 3/8" |
| 5412M | 12mm |
| 5412S | 3/8" 8 Pt. |
| 5413M | 13mm |
| 5414 | 7/16" |
| 5414M | 14mm |
| 5414S | 7/16" 8 Pt. |
| 5415M | 15mm |
| 5416 | 1/2" |
| 5416M | 16mm |
| 5416S | 1/2" 8 Pt. |
| 5417M | 17mm |
| 5418 | 9/16" |
| 5419M | 19mm |
| 5420 | 5/8" |
| 5420M | 20mm |

| Proto Model | Description |
|---|---|
| **1/2" DRIVE SOCKETS (Cont.)** | |
| 5420S | 5/8" 8 Pt. |
| 5421M | 21mm |
| 5422 | 11/16" |
| 5422M | 22mm |
| 5422S | 11/16" 8 Pt. |
| 5423M | 23mm |
| 5424 | 3/4" |
| 5424M | 24mm |
| 5424S | 3/4" 8 Pt. |
| 5425 | 25/32" |
| 5426 | 13/16" |
| 5426S | 13/16" 8 Pt. |
| 5428 | 7/8" |
| 5428S | 7/8" 8 Pt. |
| 5429 | 29/32" |
| 5430 | 15/16" |
| 5432 | 1" |
| 5432S | 1" 8 Pt. |
| 5434 | 1 1/16" |
| 5436 | 1 1/8" |
| 5438 | 1 3/16" |
| 5440 | 1 1/4" |
| 5441-1/2 | Hex Bit 1/2" |
| 5441-1/4 | Hex Bit 1/4" |
| 5441-3/8 | Hex Bit 3/8" |
| 5441-5/8 | Hex Bit 5/8" |
| 5441-5/16 | Hex Bit 5/16" |
| 5441-7/16 | Hex Bit 7/16" |
| 5441-9/16 | Hex Bit 9/16" |
| 5441-12M | Hex Bit 12mm |
| 5441-14M | Hex Bit 14mm |
| 5441-17M | Hex Bit 17mm |
| 5442 | 1 5/16" |
| 5444 | 1 3/8" |
| 5444A | Screwdriver 1" |
| 5446 | 1 7/16" |
| 5446A | Screwdriver 1 11/32" |
| 5447 | Ratchetor |
| 5448 | 1 1/2" |
| **1/2" DRIVE ACCESSORIES** | |
| 5449 | Ratchet |
| 5450 | Ratchet |
| 5457A | Ratchet, Flex Head |
| 5460 | Extension 2 1/2" |
| 5461 | Extension 5" |
| 5463 | Extension 10" |
| 5468 | Hinge Handle |
| 5470 | Universal Joint |
| 5475 | Socket, Univ 1/2 |
| 5476 | Socket, Univ 9/16" |
| 5477 | Socket, Univ 5/8" |
| 5480 | Speed Handle |
| 5485 | Sliding T Handle 13" |
| **3/4" DRIVE SOCKETS** | |
| 5528 | 7/8" |
| 5530 | 15/16" |
| 5532 | 1" |
| 5534 | 1 1/16" |
| 5536 | 1 1/8" |
| 5538 | 1 3/16" |
| 5540 | 1 1/4" |
| 5542 | 1 5/16" |
| 5544 | 1 3/8" |
| 5546 | 1 7/16" |
| 5548 | 1 1/2" |
| 5550 | 1 9/16" |
| 5552 | 1 5/8" |
| 5554 | 1 11/16" |
| 5556 | 1 3/4" |
| 5558 | 1 13/16" |
| 5560 | 1 7/8" |
| 5564 | 2" |
| 5568 | 2 1/4" |
| 5570 | 2 3/16" |
| 5572 | 2 1/4" |
| 5576 | 2 3/8" |
| **3/4" DRIVE ACCESSORIES** | |
| 5649 | Ratchet |

| Proto Model | Description |
|---|---|
| **3/4" DRIVE ACCESSORIES (Cont.)** | |
| 5660 | Extension 4" |
| 5661 | Extension 8" |
| 5663 | Extension 16" |
| 5668 | Hinge Handle |
| 5670 | Universal Joint |
| 5685 | Sliding T Handle |
| **TORQUE WRENCHES** | |
| 6014 | 1/2" Dr. 50-250 ft.-lbs. |
| **SHORT BOX WRENCHES** | |
| 8160 | 3/8 x 7/16" |
| 8161 | 1/2 x 9/16" |
| 8162 | 5/8 x 11/16" |
| 8163 | 3/4 x 13/16" |
| **NUT DRIVERS** | |
| 9206 | 3/16" |
| 9207 | 7/32" |
| 9208 | 1/4" |
| 9209 | 9/32" |
| 9210 | 5/16" |
| 9211 | 11/32" |
| 9212 | 3/8" |
| 9214 | 7/16" |
| 9216 | 1/2" |
| 9218 | 9/16" |
| 9220 | 5/8" |
| **SCREW EXTRACTORS** | |
| 9521 | 1/8" |
| 9522 | 11/64" |
| 9523 | 13/64" |
| 9524 | 19/64" |
| 9525 | 11/32" |
| 9525B | 27/64" |
| 9526 | 1/2" |
| 9527 | 19/32" |
| 9528 | 11/16" |
| 9529 | 31/32" |
| **SCREWDRIVERS** | |
| 9622 | 1/8 x 2 1/2" |
| 9624 | 1/8 x 4" |
| 9627 | 1/8 x 8" |
| 9632 | 3/16 x 4" |
| 9635 | 3/16 x 8" |
| 9652 | 1/4 x 1 1/2" |
| 9671 | #2 Stubby Phillips |
| 9680 | Phillips #0 |
| 9682 | Phillips #1 |
| 9683 | Phillips #1 x 8" |
| 9684 | Phillips #2 |
| 9685 | Phillips #2 x 8" |
| 9686 | Phillips #3 |
| 9688 | Phillips #4 |
| 9804 | 1/4 x 4" |
| 9806 | 5/16 x 6" |
| 9808 | 3/8 x 8" |
| 9812 | 3/8 x 12" |
| 9832 | 3/16 x 4" |
| **SCREW STARTERS** | |
| 9853 | Slotted |
| 9884 | Phillips |
| **KNIVES** | |
| 18545 | Lockback 5" |
| **OPEN END WRENCHES** | |
| 30607 | 6 x 7mm |
| 30809 | 8 x 9mm |
| 31011 | 10 x 11mm |
| 31213 | 12 x 13mm |
| 31415 | 14 x 15mm |
| 31617 | 16 x 17mm |
| 31819 | 18 x 19mm |
| 32022 | 20 x 22mm |
| 32123 | 21 x 23mm |
| 32426 | 24mm x 26mm |
| **HAMMERS** | |
| 57532 | Compocast 21 oz. |
| 57534 | Compocast 52 oz. |

**No. 6C366.** Tools Only (Proto Model 99800). Shpg. wt. 297.0 lbs. List $10848.84. Each ..... $7161.00

**No. 6C340.** Mobile Cart (Proto Model 9986ASHD). Shpg. wt. 541.0 lbs. List $2909.00. Each ..... $1570.00▲

**No. 7A076.** Tool Set with Mobile Cart (Proto Model 99801). Shpg. wt. 838.0 lbs. List $13757.84. Each ..... $8325.00

(▲) Net Prices, not subject to discounts.

# 453-PC. MASTER SET

## 453-PC. MASTER SET—1/4, 3/8, 1/2, & 3/4" DRIVES

| Proto Model | Description |
|---|---|
| 41-1/2 | Punch, Center |
| 41-3/8 | Punch, Center |
| 44-5/16 | Punch, Prick |
| 47-1/2x1/4 | Punch, Pin |
| 47-1/4x3/32 | Punch, Pin |
| 47-3/8x3/16 | Punch, Pin |
| 47-5/16x1/8 | Punch, Pin |
| 47-5/16x5/32 | Punch, Pin |
| 47-7/16x7/32 | Punch, Pin |
| 50-1/2 | Punch, Starting |
| 50-1/4 | Punch, Starting |
| 50-3/8 | Punch, Starting |
| 50-5/16 | Punch, Starting |
| 50-7/16 | Punch, Starting |
| 86A-1x8 | Chisel, Cold 13/16" |
| 86A-1/2 | Chisel, Cold 5/8" |
| 86A-1/4 | Chisel, Cold 5/16" |
| 86A-3/4x8 | Chisel, Cold 7/8" |
| 86A-3/16 | Chisel, Cold 1/4" |
| 86A-5/8 | Chisel, Cold 3/4" |
| 86A-5/16 | Chisel, Cold 3/8" |
| 86A-7/8x8 | Chisel, Cold 1" |
| 86A-7/16 | Chisel, Cold 1/2" |
| 96-1/2 | Punch, Drift |
| 96-3/8 | Punch, Drift |
| 96-5/16 | Punch, Drift |
| 206G | Pliers, Diagonal Cutting w/Grip |
| 209G | Pliers, Diagonal Cutting w/Grip |
| 222G | Pliers, Needle Nose w/Grip |
| 225G | Pliers, Curved Needle Nose |
| 226G | Pliers, Needle Nose w/Grip |
| 227G | Pliers, Duckbill w/Grip |
| 261SG | Pliers, Tongue & Groove 5" |
| 262SG | Pliers, Tongue & Groove 6½" |
| 263SG | Pliers, Tongue & Groove 9½" |
| 265SG | Pliers, Tongue & Groove 16" |
| 268G | Pliers, Lineman's w/Grip |
| 272G | Pliers, End Cutting w/Grip |
| 276G | Pliers, Slip-Joint w/Grip |
| 278G | Pliers, Slip-Joint w/Grip |
| 286LN | Pliers, Locking 6" Long Nose |
| 291R | Pliers, Locking 7" Straight |
| 292R | Pliers, Locking 10" Curved |
| 298 | Pliers, Wire Strippers |
| 303S | Snip, Aviation Straight |
| 306 | Shears, Miniature Metal |
| 15-265 | Hacksaw, Adjustable |
| 370 | Pliers, Retaining Ring Universal |
| 371 | Pliers, Retaining Ring Universal |
| 372 | Pliers, Retaining Ring Universal |
| 373 | Pliers, Retaining Ring Universal |
| 374 | Pliers, Retaining Ring Universal |
| 375 | Pliers, Retaining Ring Universal |
| 376 | Pliers, Retaining Ring Universal |
| 377 | Pliers, Retaining Ring Universal |
| 378 | Pliers, Retaining Ring Universal |
| 379 | Pliers, Retaining Ring Universal |
| 385 | Pliers, Retaining Ring Universal |
| 399 | Pliers, Retaining Ring Universal |
| 404 | C-Clamp, Capacity 0-4", 2 Each |
| 10-099 | Knife, Utility |
| 28-240 | Knife, Putty |
| 706 | Wrench, Adjustable 6" |
| 708 | Wrench, Adjustable 8" |
| 710 | Wrench, Adjustable 10" |
| 712 | Wrench, Adjustable 12" |
| 715 | Wrench, Adjustable 15" |
| 801 | Wrench, Chain |
| 810HD | Wrench, Pipe Heavy Duty 10" |
| 814HD | Wrench, Pipe Heavy Duty 14" |
| 818HD | Wrench, Pipe Heavy Duty 18" |
| 1170 | Wrench, Box 5/16 x 3/8" |
| 1171 | Wrench, Box 7/16 x 1/2" |
| 1172 | Wrench, Box 9/16 x 5/8" |
| 1173 | Wrench, Box 11/16 x 3/4" |
| 1174 | Wrench, Box 13/16 x 7/8" |
| 1175 | Wrench, Box 15/16 x 1" |
| 1176 | Wrench, Box 1 1/16 x 1 1/8" |
| 1191T | Wrench, Ratchet Box 1/4 x 5/16" |
| 1192T | Wrench, Ratchet Box 3/8 x 7/16" |
| 1193T | Wrench, Ratchet Box 1/2 x 9/16" |
| 1194 | Wrench, Ratchet Box 5/8 x 11/16" |
| 1195 | Wrench, Ratchet Box 3/4 x 7/8" |
| 1204E | Wrench, Short Combination 1/8" |
| 1205E | Wrench, Short Combination 5/32" |
| 1206E | Wrench, Short Combination 3/16" |
| 1208E | Wrench, Short Combination 1/4" |
| 1209E | Wrench, Short Combination 9/32" |
| 1210 | Wrench, Combination 5/16" |
| 1210E | Wrench, Short Combination 5/16" |
| 1211E | Wrench, Short Combination 11/32" |
| 1212 | Wrench, Combination 3/8" |
| 1212E | Wrench, Short Combination 3/8" |
| 1214 | Wrench, Combination 7/16" |
| 1216 | Wrench, Combination 1/2" |
| 1218 | Wrench, Combination 9/16" |
| 1220 | Wrench, Combination 5/8" |
| 1222 | Wrench, Combination 11/16" |
| 1224 | Wrench, Combination 3/4" |
| 1226 | Wrench, Combination 13/16" |
| 1228 | Wrench, Combination 7/8" |
| 1230 | Wrench, Combination 15/16" |
| 1232 | Wrench, Combination 1" |
| 1234 | Wrench, Combination 1 1/16" |
| 1236 | Wrench, Combination 1 1/8" |
| 1240 | Wrench, Combination 1 1/4" |
| 1242 | Wrench, Combination 1 5/16" |
| 1244 | Wrench, Combination 1 3/8" |
| 1246 | Wrench, Combination 1 7/16" |
| 1248 | Wrench, Combination 1½" |
| 1270-12 | Wrench, Swivel Comb 3/8" |
| 1270-14 | Wrench, Swivel Comb 7/16" |
| 1270-16 | Wrench, Swivel Comb 1/2" |
| 1270-18 | Wrench, Swivel Comb 9/16" |
| 1270-20 | Wrench, Swivel Comb 5/8" |
| 1270-22 | Wrench, Swivel Comb 11/16" |
| 1270-24 | Wrench, Swivel Comb 3/4" |
| 1308PD | Hammer, Ball Pein 8 oz. |
| 1316PD | Hammer, Ball Pein 16 oz. |
| 1332PD | Hammer, Ball Pein 32 oz. |
| 1368 | Mallet, Rubber |
| 1430G | Hammer, Brass Fiberglass Hndl |
| 33-212 | Tape, Power Locking 1/2" x 12ft. |
| 1725 | Wrench, Obstruction 7/16 x 1/2" |
| 1730 | Wrench, Obstruction 9/16 x 5/8" |
| 1731 | Wrench, Obstruction 5/8 x 3/4" |
| 2108 | Punch and Chisel Holder |
| 2120 | Pry Bar |
| 2124 | Pry Bar |
| 2126 | Pry Bar, Roll Head |
| 2130 | Pry Bar, Roll Head |
| 2306 | Cotter Pin Tool |
| 2336 | Scraper, Gasket |
| 2373 | Mirror, Rectangular Telescoping |
| 2375 | Magnetic Retrieving Tool |
| 3018 | Wrench, Open End 1/4 x 5/16" |
| 3020 | Wrench, Open End 3/8 x 5/16" |
| 3025 | Wrench, Open End 7/16 x 1/2" |
| 3026 | Wrench, Open End 1/2 x 9/16" |
| 3030 | Wrench, Open End 9/16 x 5/8" |
| 3031 | Wrench, Open End 5/8 x 3/4" |
| 3035 | Wrench, Open End 11/16 x 3/4" |
| 3040 | Wrench, Open End 13/16 x 7/8" |
| 3045 | Wrench, Open End 15/16 x 1" |
| 3050 | Wrench, Open End 1 1/16 x 1 1/8" |
| 3314 | Wrench, Angle Open End 7/32" |
| 3315 | Wrench, Angle Open End 15/64" |
| 3316 | Wrench, Angle Open End 1/4" |
| 3318 | Wrench, Angle Open End 9/32" |
| 3320 | Wrench, Angle Open End 5/16" |
| 3322 | Wrench, Angle Open End 11/32" |
| 3324 | Wrench, Angle Open End 3/8" |
| 3328 | Wrench, Angle Open End 7/16" |
| 3332 | Wrench, Angle Open End 1/2" |
| 3751 | Wrench, OE x Flare Nut 3/8" |
| 3752 | Wrench, OE x Flare Nut 7/16" |
| 3753 | Wrench, OE x Flare Nut 1/2" |
| 3754 | Wrench, OE x Flare Nut 9/16" |
| 3755 | Wrench, OE x Flare Nut 5/8" |
| 3756 | Wrench, OE x Flare Nut 11/16" |
| 3757 | Wrench, OE x Flare Nut 3/4" |
| 3812 | Wrench, Ratcheting Flare 3/8" |
| 3814 | Wrench, Ratcheting Flare 7/16" |
| 3816 | Wrench, Ratcheting Flare 1/2" |
| 3818 | Wrench, Ratcheting Flare 9/16" |
| 3820 | Wrench, Ratcheting Flare 5/8" |
| 3822 | Wrench, Ratcheting Flare 11/16" |
| 3824 | Wrench, Ratcheting Flare 3/4" |
| 4255 | Set, Puller 6 Ton Cone |
| 4706 | Socket, 1/4" Dr. 3/16" |
| 4706L | Socket, 1/4" Dr. 3/16" Deep |
| 4707 | Socket, 1/4" Dr. 7/32" |
| 4707L | Socket, 1/4" Dr. 7/32" Deep |
| 4708 | Socket, 1/4" Dr. 1/4" |
| 4708L | Socket, 1/4" Dr. 1/4" Deep |
| 4708S | Socket, 1/4" Dr ,1/4" 8 Pt. |
| 4709 | Socket, 1/4" Dr. 9/32" |
| 4709L | Socket, 1/4" Dr. 9/32" Deep |
| 4710 | Socket, 1/4" Dr. 5/16" |
| 4710L | Socket, 1/4" Dr. 5/16" Deep |
| 4710S | Socket, 1/4" Dr., 5/16" 8 Pt. |
| 4711 | Socket, 1/4" Dr. 11/32" |
| 4711L | Socket, 1/4" Dr. 11/32" Deep |
| 4712 | Socket, 1/4" Dr. 3/8" |
| 4712L | Socket, 1/4" Dr. 3/8" Deep |
| 4712S | Socket, 1/4" Dr. 3/8" 8 Pt. |
| 4714 | Socket, 1/4" Dr. 7/16" |
| 4714L | Socket, 1/4" Dr. 7/16" Deep |
| 4716 | Socket, 1/4" Dr. 1/2" |
| 4716L | Socket, 1/4" Dr. 1/2" Deep |
| 4718 | Socket, 1/4" Dr. 9/16" |
| 4718L | Socket, 1/4" Dr. 9/16" Deep |
| 4737 | Socket, 1/4" Dr. #1 Phillips |
| 4738 | Socket, 1/4" Dr. #2 Phillips |
| 4743 | Socket, Screwdriver, 3/8" |
| 4744 | Socket, Screwdriver, 3/16" |
| 4745 | Socket, Screwdriver, 1/4" |
| 4749 | Ratchet, 1/4" Dr. |
| 4759 | Extension, 1/4" Dr. 2" |
| 4760 | Extension, 1/4" Dr. 3" |
| 4761 | Extension, 1/4" Dr. 6" |
| 4765 | Extension, 1/4" Dr. Flex 6" |
| 4766 | Hinge Handle, 1/4" Dr. |
| 4769 | Socket Driver, 1/4" Dr. 6½" |
| 4770 | Universal Joint 1/4" Dr. |
| 4770-1/4 | Hex Bit, 1/4" Dr. 1/4" |
| 4770-1/8 | Hex Bit, 1/4" Dr. 1/8" |
| 4770-1/16 | Hex Bit, 1/4" Dr. 1/16" |
| 4770-3/16 | Hex Bit, 1/4" Dr. 3/16" |
| 4770-3/32 | Hex Bit, 1/4" Dr. 3/32" |
| 4770-5/16 | Hex Bit, 1/4" Dr. 5/16" |
| 4770-5/32 | Hex Bit, 1/4" Dr. 5/32" |
| 4770-5/64 | Hex Bit, 1/4" Dr. 5/64" |
| 4770-7/32 | Hex Bit, 1/4" Dr. 7/32" |
| 4770-7/64 | Hex Bit, 1/4" Dr. 7/64" |
| 4770-9/64 | Hex Bit, 1/4" Dr. 9/64" |
| 4771T | Socket, Universal 1/4" Dr. 1/4" |
| 4772T | Socket, Universal 1/4" Dr. 5/16" |
| 4773T | Socket, Universal 1/4" Dr. 3/8" |
| 4774T | Socket, Universal 1/4" Dr. 7/16" |
| 4780 | Speed Handle 1/4" Dr. |
| 4785 | Sliding T Handle, 1/4" Dr. |
| 4912 | Crowfoot Wrench, 3/8" Dr. 3/8" |
| 4914 | Crowfoot Wrench, 3/8" Dr. 7/16" |
| 4916 | Crowfoot Wrench, 3/8" Dr. 1/2" |
| 4918 | Crowfoot Wrench, 3/8" Dr. 9/16" |
| 4920 | Crowfoot Wrench, 3/8" Dr. 5/8" |
| 4922 | Crowfoot Wrench, 3/8" Dr. 11/16" |
| 4924 | Crowfoot Wrench, 3/8" Dr. 3/4" |
| 4926 | Crowfoot Wrench, 3/8" Dr. 13/16" |
| 4928 | Crowfoot Wrench, 3/8" Dr. 7/8" |
| 4980 | Set, Hex Key Shortarm 13 Pc. |
| 4990-1/4 | Hex Bit, 3/8" Dr. 1/4" |
| 4990-1/8 | Hex Bit, 3/8" Dr. 1/8" |
| 4990-3/8 | Hex Bit, 3/8" Dr. 3/8" |
| 4990-3/16 | Hex Bit, 3/8" Dr. 3/16" |
| 4990-5/16 | Hex Bit, 3/8" Dr. 5/16" |
| 4990-5/32 | Hex Bit, 3/8" Dr. 5/32" |
| 4990-7/32 | Hex Bit, 3/8" Dr. 7/32" |
| 5008 | Socket, 3/8" Dr. 1/4" Deep |
| 5010 | Socket, 3/8" Dr. 5/16" Deep |
| 5012 | Socket, 3/8" Dr. 3/8" Deep |
| 5014 | Socket, 3/8" Dr. 7/16" Deep |
| 5016 | Socket, 3/8" Dr. 1/2" Deep |
| 5018 | Socket, 3/8" Dr. 9/16" Deep |
| 5020 | Socket, 3/8" Dr. 5/8" Deep |
| 5022 | Socket, 3/8" Dr. 11/16" Deep |
| 5024 | Socket, 3/8" Dr. 3/4" Deep |
| 5026 | Socket, 3/8" Dr. 13/16" Deep |
| 5028 | Socket, 3/8" Dr. 7/8" Deep |
| 5030 | Socket, 3/8" Dr. 15/16" Deep |
| 5032 | Socket, 3/8" Dr. 1" Deep |

CONTINUED ON NEXT PAGE

# 453-PC. MASTER SET

PROTO PROFESSIONAL TOOLS

Made In U.S.A.

- Proto tools and wrenches are an industrial grade line of mechanic's tools for heavy-duty applications and production use

TORQUEPLUS™ FASTENING SYSTEM

**LIFETIME LIMITED WARRANTY**

All Proto tools are warranted to the original user for the life of the product.. Text of warranty available; see page opposite inside back cover.

Replacement Parts Available 1-800-323-0620

## 453-PC. MASTER SET CONTENTS (Continued)

| Proto Model | Description |
|---|---|
| 5208 | Socket, 3/8" Dr. 1/4" |
| 5208S | Socket, 3/8" Dr. 1/4" 8 Pt. |
| 5210 | Socket, 3/8" Dr. 5/16" |
| 5210S | Socket, 3/8" Dr. 5/16" 8 Pt. |
| 5212 | Socket, 3/8" Dr. 3/8" |
| 5212S | Socket, 3/8" Dr. 3/8" 8 Pt. |
| 5214 | Socket, 3/8" Dr. 7/16" |
| 5214S | Socket, 3/8" Dr. 7/16" 8 Pt. |
| 5216 | Socket, 3/8" Dr. 1/2" |
| 5216S | Socket, 3/8" Dr. 1/2" 8 Pt. |
| 5218 | Socket, 3/8" Dr. 9/16" |
| 5220 | Socket, 3/8" Dr. 5/8" |
| 5222 | Socket, 3/8" Dr. 11/16" |
| 5224 | Socket, 3/8" Dr. 3/4" |
| 5226 | Socket, 3/8" Dr. 13/16" |
| 5228 | Socket, 3/8" Dr. 7/8" |
| 5230 | Socket, 3/8" Dr. 15/16" |
| 5232 | Socket, 3/8" Dr. 1" |
| 5241 | Socket, 3/8 Dr. Scrdrvr. #2 Phillips |
| 5242 | Socket, 3/8 Dr. Scrdrvr. #3 Phillips |
| 5243 | Socket, 3/8 Dr. Scrdrvr. #4 Phillips |
| 5246 | Socket, Screwdriver, 3/8" Dr. |
| 5247 | Ratchetor 3/8" Dr. |
| 5249 | Ratchet, 3/8" Drive |
| 5257A | Ratchet, Flex Head 3/8" Dr. |
| 5260 | Extension, 3/8" Dr. 3" |
| 5260-06 | Extension, 3/8" Dr. 6" |
| 5260-06W | Extension, Wobble 3/8" Dr. 6" |
| 5260W | Extension, Wobble 3/8" Dr. 3" |
| 5262 | Extension, 3/8" Dr. 12" |
| 5265 | Hinge Handle, 3/8" Dr. |
| 5268 | Extension, 3/8" Dr. 8" |
| 5270 | Universal Joint, 3/8" Dr. |
| 5273 | Socket, Universal 3/8" Dr. 3/8" |
| 5274 | Socket, Universal 3/8" Dr. 7/16" |
| 5275 | Socket, Universal 3/8" Dr. 1/2" |
| 5276 | Socket, Universal 3/8" Dr. 9/16" |
| 5277 | Socket, Universal 3/8" Dr. 5/8" |
| 5278 | Socket, Universal 3/8" Dr. 11/16" |
| 5279 | Socket, Universal 3/8" Dr. 3/4" |
| 5280 | Speed Handle, 3/8" Dr. |
| 5285 | Sliding T Handle, 3/8" Dr. 8" |
| 5316 | Socket, 1/2" Dr. 1/2" Deep |
| 5318 | Socket, 1/2" Dr. 9/16" Deep |
| 5320 | Socket, 1/2" Dr. 5/8" Deep |
| 5322 | Socket, 1/2" Dr. 11/16" Deep |
| 5324 | Socket, 1/2" Dr. 3/4" Deep |
| 5326 | Socket, 1/2" Dr. 13/16" Deep |
| 5328 | Socket, 1/2" Dr. 7/8" Deep |
| 5330 | Socket, 1/2" Dr. 15/16" Deep |
| 5332 | Socket, 1/2" Dr. 1" Deep |
| 5334 | Socket, 1/2" Dr. 1 1/16" Deep |
| 5336 | Socket, 1/2" Dr. 1 1/8" Deep |
| 5340 | Socket, 1/2" Dr. 1 1/4" Deep |
| 5412 | Socket, 1/2" Dr. 3/8" |
| 5412S | Socket, 1/2" Dr. 3/8" 8 Pt. |
| 5414 | Socket, 1/2" Dr. 7/16" |
| 5414S | Socket, 1/2" Dr. 7/16" 8 Pt. |
| 5416 | Socket, 1/2" Dr. 1/2" |
| 5416S | Socket, 1/2" Dr. 1/2" 8 Pt. |
| 5418 | Socket, 1/2" Dr. 9/16" |
| 5418S | Socket, 1/2" Dr. 9/16" 8 Pt. |
| 5419 | Socket, 1/2" Dr. 19/32" |
| 5420 | Socket, 1/2" Dr. 5/8" |
| 5420S | Socket, 1/2" Dr. 5/8" 8 Pt. |
| 5422 | Socket, 1/2" Dr. 11/16" |
| 5422S | Socket, 1/2" Dr. 11/16" 8 Pt. |
| 5424 | Socket, 1/2" Dr. 3/4" |
| 5424S | Socket, 1/2" Dr. 3/4" 8 Pt. |
| 5425 | Socket, 1/2" Dr. 25/32" |
| 5426 | Socket, 1/2" Dr. 13/16" |
| 5426S | Socket, 1/2" Dr. 13/16" 8 Pt. |
| 5428 | Socket, 1/2" Dr. 7/8" |
| 5428S | Socket, 1/2" Dr. 7/8" 8 Pt. |
| 5429 | Socket, 1/2" Dr. 29/32" |
| 5430 | Socket, 1/2" Dr. 15/16" |
| 5432 | Socket, 1/2" Dr. 1" |
| 5432S | Socket, 1/2" Dr. 1" 8 Pt. |
| 5434 | Socket, 1/2" Dr. 1 1/16" |
| 5436 | Socket, 1/2" Dr. 1 1/8" |
| 5438 | Socket, 1/2" Dr. 1 3/16" |
| 5440 | Socket, 1/2" Dr. 1 1/4" |
| 5441-1/2 | Hex Bit, 1/2" Dr. 1/2" |
| 5441-1/4 | Hex Bit, 1/2" Dr. 1/4" |
| 5441-3/8 | Hex Bit, 1/2" Dr. 3/8" |
| 5441-5/8 | Hex Bit, 1/2" Dr. 5/8" |
| 5441-5/16 | Hex Bit, 1/2" Dr. 5/16" |
| 5441-7/16 | Hex Bit, 1/2" Dr. 7/16" |
| 5441-9/16 | Hex Bit, 1/2" Dr. 9/16" |
| 5442 | Socket, 1/2" Dr. 1 5/16" |
| 5444 | Socket, 1/2" Dr. 1 3/8" |
| 5444A | Socket, 1/2" Dr. Screwdriver |
| 5446 | Socket, 1/2" Dr. 1 7/16" |
| 5446A | Socket, 1/2" Dr. Screwdriver |
| 5447 | Ratchetor 1/2" Dr. |
| 5448 | Socket, 1/2" Dr. 11/2" |
| 5449 | Ratchet, 1/2" Dr. |
| 5450 | Ratchet 1/2" Dr. |
| 5457A | Ratchet, 1/2" Dr. Flex Head |
| 5460 | Extension, 1/2" Dr. 2 1/2" |
| 5461 | Extension, 1/2" Dr. 5" |
| 5463 | Extension, 1/2" Dr. 10" |
| 5468 | Hinge Handle, 1/2" Dr. |
| 5470 | Universal Joint 1/2" Dr. |
| 5475 | Socket, Universal 1/2" Dr. 1/2" |
| 5476 | Socket, Universal 1/2" Dr. 9/16" |
| 5477 | Socket, Universal 1/2" Dr. 5/8" |
| 5480 | Speed Handle, 1/2" Dr. |
| 5485 | Sliding T Handle, 1/2" Dr. 13" |
| 5528 | Socket, 3/4" Dr. 7/8" |
| 5530 | Socket, 3/4" Dr. 15/16" |
| 5532 | Socket, 3/4" Dr. 1" |
| 5534 | Socket, 3/4" Dr. 1 1/16" |
| 5536 | Socket, 3/4" Dr. 1 1/8" |
| 5538 | Socket, 3/4" Dr. 1 3/16" |
| 5540 | Socket, 3/4" Dr. 1 1/4" |
| 5542 | Socket, 3/4" Dr. 1 5/16" |
| 5544 | Socket, 3/4" Dr. 1 3/8" |
| 5546 | Socket, 3/4" Dr. 1 7/16" |
| 5548 | Socket, 3/4" Dr. 1 1/2" |
| 5550 | Socket, 3/4" Dr. 1 9/16" |
| 5552 | Socket, 3/4" Dr. 1 5/8" |
| 5554 | Socket, 3/4" Dr. 1 11/16" |
| 5556 | Socket, 3/4" Dr. 1 3/4" |
| 5558 | Socket, 3/4" Dr. 1 13/16" |
| 5560 | Socket, 3/4" Dr. 1 7/8" |
| 5564 | Socket, 3/4" Dr. 2" |
| 5568 | Socket, 3/4" Dr. 2 1/16" |
| 5570 | Socket, 3/4" Dr. 2 1/16" |
| 5572 | Socket, 3/4" Dr. 2 1/4" |
| 5576 | Socket, 3/4" Dr. 2 3/4" |
| 5649 | Ratchet, 3/4" Dr. |
| 5660 | Extension, 3/4" Dr. 4" |
| 5661 | Extension, 3/4" Dr. 8" |
| 5663 | Extension, 3/4" Dr. 16" |
| 5668 | Hinge Handle, 3/4" Dr. |
| 5670 | Universal Joint, 3/4" Dr. |
| 5685 | Sliding T Handle, 3/4" Dr. |
| 6014 | Wrench, Torque 1/2" Dr. ft-lbs. |
| 8160 | Wrench, Short Box 3/8 x 7/16" |
| 8161 | Wrench, Short Box 1/2 x 9/16" |
| 8162 | Wrench, Short Box 5/8 x 11/16" |
| 8163 | Wrench, Short Box 3/4 x 13/16" |
| 9206 | Nut Driver, 3/16" |
| 9207 | Nut Driver, 7/32" |
| 9208 | Nut Driver, 1/4" |
| 9209 | Nut Driver, 9/32" |
| 9210 | Nut Driver, 5/16" |
| 9211 | Nut Driver, 11/32" |
| 9212 | Nut Driver, 3/8" |
| 9214 | Nut Driver, 7/16" |
| 9216 | Nut Driver, 1/2" |
| 9218 | Nut Driver, 9/16" |
| 9220 | Nut Driver, 5/8" |
| 9521 | Screw Extractor, 1/8" |
| 9522 | Screw Extractor, 11/64" |
| 9523 | Screw Extractor, 13/64" |
| 9524 | Screw Extractor, 19/64" |
| 9525 | Screw Extractor, 11/32" |
| 9525B | Screw Extractor, 27/64" |
| 9526 | Screw Extractor, 1/2" |
| 9527 | Screw Extractor, 19/32" |
| 9528 | Screw Extractor, 11/16" |
| 9529 | Screw Extractor, 31/32" |
| 9622 | Screwdriver, 1/8 x 2 1/2" |
| 9624 | Screwdriver, 1/8 x 4" |
| 9627 | Screwdriver, 1/8 x 8" |
| 9632 | Screwdriver, 3/16 x 4" |
| 9635 | Screwdriver, 3/16 x 8" |
| 9652 | Screwdriver, 1/4 x 11/2" |
| 9671 | Screwdriver, #2 Stubby Phillips |
| 9680 | Screwdriver, Phillips #0 |
| 9682 | Screwdriver, Phillips #1 |
| 9683 | Screwdriver, Phillips #1 x 8" |
| 9684 | Screwdriver, Phillips #2 |
| 9685 | Screwdriver, Phillips #2 x 8" |
| 9686 | Screwdriver, Phillips #3 |
| 9688 | Screwdriver, Phillips #4 |
| 9804 | Screwdriver, 1/4 x 4" |
| 9806 | Screwdriver, 5/16 x 6" |
| 9808 | Screwdriver, 3/8 x 8" |
| 9812 | Screwdriver, 3/8 x 12" |
| 9832 | Screwdriver, 3/16 x 4" |
| 9853 | Screw Starter Standard |
| 9884 | Screw Starter Phillips |
| 18545 | Knife, Lockback 5" |
| 57532 | Hammer, Compocast 21 Oz. |
| 57534 | Hammer, Compocast 52 Oz. |

**No. 6C365.** Tools Only (Proto Model 99720). Shpg. wt. 266.0 lbs. List $8703.36. Each ..... $5745.00

**No. 1AC18.** Roller Cabinet (Proto Model (9998ASHD). Shpg. wt. 275.0 lbs. List $1236.11. Each..... $723.50▲

**No. 1AC17.** Top Chest (Proto Model (9993ASHD). Shpg. wt. 184.0 lbs. List $1042.91. Each..... $591.00▲

**No. 7A075.** Tool Set with Roller Cabinet & Top Chest (Proto Model 99722). Shpg. wt. 725.0 lbs. List $10982.38. Each ..... $6730.00

(▲) Net Prices, not subject to discounts.

# 416-PC. MASTER SET

## 416-PC. MASTER SET CONTENTS—1/4, 3/8, & 1/2" DRIVES

| Proto Model | Description |
|---|---|
| 41-1/2 | Punch, Center |
| 41-3/8 | Punch, Center |
| 44-5/16 | Punch, Prick |
| 471/2x1/4 | Punch, Pin |
| 471/4x3/32 | Punch, Pin |
| 473/8x3/16 | Punch, Pin |
| 475/16x1/8 | Punch, Pin |
| 475/16x5/32 | Punch, Pin |
| 477/16x7/32 | Punch, Pin |
| 50-1/2 | Punch, Starting |
| 50-1/4 | Punch, Starting |
| 50-3/8 | Punch, Starting |
| 50-5/16 | Punch, Starting |
| 50-7/16 | Punch, Starting |
| 86A 1x8 | Chisel, Cold 13/16" |
| 86A-1/2 | Chisel, Cold 5/8" |
| 86A-1/4 | Chisel, Cold 5/16" |
| 86A-3/4x8 | Chisel, Cold 7/8" |
| 86A-3/16 | Chisel, Cold 1/4" |
| 86A-5/8 | Chisel, Cold 3/4" |
| 86A-5/16 | Chisel, Cold 3/8" |
| 86A-7/8x8 | Chisel, Cold 1" |
| 86A-7/16 | Chisel, Cold 1/2" |
| 96-1/2 | Punch, Drift |
| 96-3/8 | Punch, Drift |
| 96-5/16 | Punch, Drift |
| 206G | Pliers, Diagonal Cutting w/Grip |
| 209G | Pliers, Diagonal Cutting w/Grip |
| 222G | Pliers, Needle Nose w/Grip |
| 225G | Pliers, Curved Needle Nose |
| 226G | Pliers, Needle Nose w/Grip |
| 227G | Pliers, Duckbill w/Grip |
| 261SG | Pliers, Tongue & Groove 5" |
| 262SG | Pliers, Tongue & Groove 6½" |
| 263SG | Pliers, Tongue & Groove 9½" |
| 268G | Pliers, Lineman's w/Grip |
| 272G | Pliers, End Cutting w/Grip |
| 276G | Pliers, Slip-Joint w/Grip |
| 278G | Pliers, Slip-Joint w/Grip |
| 286LN | Pliers, Locking 6" Long Nose |
| 291R | Pliers, Locking 7" Straight |
| 292R | Pliers, Locking 10" Curved |
| 298 | Pliers, Wire Strippers |
| 303S | Snip, Aviation Straight |
| 306 | Shears, Miniature Metal |
| 322 | Snips, 12¾" Straight Cutting |
| 15-265 | Hacksaw, Adjustable |
| 370 | Pliers, Retaining Ring Universal |
| 371 | Pliers, Retaining Ring Universal |
| 372 | Pliers, Retaining Ring Universal |
| 373 | Pliers, Retaining Ring Universal |
| 374 | Pliers, Retaining Ring Universal |
| 375 | Pliers, Retaining Ring Universal |
| 376 | Pliers, Retaining Ring Universal |
| 377 | Pliers, Retaining Ring Universal |
| 378 | Pliers, Retaining Ring Universal |
| 379 | Pliers, Retaining Ring Universal |
| 385 | Pliers, Retaining Ring Universal |
| 399 | Pliers, Retaining Ring Universal |
| 404 | C-Clamp, Capacity 0-4", 2 Each |
| 10-099 | Knife, Utility |
| 28-240 | Knife, Putty |
| 706 | Wrench, Adjustable 6" |
| 708 | Wrench, Adjustable 8" |
| 710 | Wrench, Adjustable 10" |
| 712 | Wrench, Adjustable 12" |
| 808HD | Wrench, Pipe Heavy Duty 8" |
| 810HD | Wrench, Pipe Heavy Duty 10" |
| 814HD | Wrench, Pipe Heavy Duty 14" |
| 1170 | Wrench, Box 5/16 x 3/8" |
| 1171 | Wrench, Box 7/16 x 1/2" |
| 1126L | Wrench, Box 1/2 x 9/16" |
| 1172 | Wrench, Box 9/16 x 5/8" |
| 1173 | Wrench, Box 11/16 x 3/4" |
| 1174 | Wrench, Box 13/16 x 7/8" |
| 1175 | Wrench, Box 15/16 x 1" |
| 1176 | Wrench, Box 11/16 x 11/8" |
| 1191T | Wrench, Ratchet Box 1/4 x 5/16" |
| 1192T | Wrench, Ratchet Box 3/8 x 7/16" |
| 1193T | Wrench, Ratchet Box 1/2 x 9/16" |
| 1194 | Wrench, Ratchet Box 5/8 x 11/16" |
| 1195 | Wrench, Ratchet Box 3/4 x 7/8" |
| 1204E | Wrench, Short Combination 1/8" |
| 1205E | Wrench, Short Combination 5/32" |
| 1206E | Wrench, Short Combination 3/16" |
| 1208E | Wrench, Short Combination 1/4" |
| 1209E | Wrench, Short Combination 9/32" |
| 1210 | Wrench, Combination 5/16" |
| 1210E | Wrench, Short Combination 5/16" |
| 1211E | Wrench, Short Combination 11/32" |
| 1212 | Wrench, Combination 3/8" |
| 1212E | Wrench, Short Combination 3/8" |
| 1214 | Wrench, Combination 7/16" |
| 1216 | Wrench, Combination 1/2" |
| 1218 | Wrench, Combination 9/16" |
| 1220 | Wrench, Combination 5/8" |
| 1222 | Wrench, Combination 11/16" |
| 1224 | Wrench, Combination 3/4" |
| 1226 | Wrench, Combination 13/16" |
| 1228 | Wrench, Combination 7/8" |
| 1230 | Wrench, Combination 15/16" |
| 1232 | Wrench, Combination 1" |
| 1234 | Wrench, Combination 1 1/16" |
| 1236 | Wrench, Combination 1 1/8" |
| 1240 | Wrench, Combination 1¼" |
| 1270-12 | Wrench, Swivel Comb 3/8" |
| 1270-14 | Wrench, Swivel Comb 7/16" |
| 1270-16 | Wrench, Swivel Comb 1/2" |
| 1270-18 | Wrench, Swivel Comb 9/16" |
| 1270-20 | Wrench, Swivel Comb 5/8" |
| 1270-22 | Wrench, Swivel Comb 11/16" |
| 1270-24 | Wrench, Swivel Comb 3/4" |
| 1308PD | Hammer, Ball Pein 8 Oz. |
| 1316PD | Hammer, Ball Pein 16 Oz. |
| 1332PD | Hammer, Ball Pein 32 Oz. |
| 1368 | Mallet, Rubber |
| 33-212 | Tape, Power Locking 1/2 x 12 ft. |
| 1725 | Wrench, Obstruction 7/16 x 1/2" |
| 1730 | Wrench, Obstruction 9/16 x 5/8" |
| 1731 | Wrench, Obstruction 5/8 x 3/4" |
| 2108 | Punch and Chisel Holder |
| 2120 | Pry Bar |
| 2124 | Pry Bar |
| 2126 | Pry Bar, Roll Head |
| 2130 | Pry Bar, Roll Head |
| 2306 | Cotter Pin Tool |
| 2336 | Scraper, Gasket |
| 2373 | Mirror, Rectangular Telescoping |
| 2375 | Magnetic Retrieving Tool |
| 3018 | Wrench, Open End 1/4 x 5/16" |
| 3020 | Wrench, Open End 3/8 x 5/16" |
| 3025 | Wrench, Open End 7/16 x 1/2" |
| 3026 | Wrench, Open End 1/2 x 9/16" |
| 3030 | Wrench, Open End 9/16 x 5/8" |
| 3031 | Wrench, Open End 5/8 x 3/4" |
| 3035 | Wrench, Open End 11/16 x 3/4" |
| 3040 | Wrench, Open End 13/16 x 7/8" |
| 3045 | Wrench, Open End 15/16 x 1" |
| 3050 | Wrench, Open End 1 1/16 x 1 1/8" |
| 3314 | Wrench, Angle Open End 7/32" |
| 3315 | Wrench, Angle Open End 15/64" |
| 3316 | Wrench, Angle Open End 1/4" |
| 3318 | Wrench, Angle Open End 9/32" |
| 3320 | Wrench, Angle Open End 5/16" |
| 3322 | Wrench, Angle Open End 11/32" |
| 3324 | Wrench, Angle Open End 3/8" |
| 3328 | Wrench, Angle Open End 7/16" |
| 3332 | Wrench, Angle Open End 1/2" |
| 3751 | Wrench, OE x Flare Nut 3/8" |
| 3752 | Wrench, OE x Flare Nut 7/16" |
| 3753 | Wrench, OE x Flare Nut 1/2" |
| 3754 | Wrench, OE x Flare Nut 9/16" |
| 3755 | Wrench, OE x Flare Nut 5/8" |
| 3756 | Wrench, OE x Flare Nut 11/16" |
| 3757 | Wrench, OE x Flare Nut 3/4" |
| 3812 | Wrench, Ratcheting Flare 3/8" |
| 3814 | Wrench, Ratcheting Flare 7/16" |
| 3816 | Wrench, Ratcheting Flare 1/2" |
| 3818 | Wrench, Ratcheting Flare 9/16" |
| 3820 | Wrench, Ratcheting Flare 5/8" |
| 3822 | Wrench, Ratcheting Flare 11/16" |
| 3824 | Wrench, Ratcheting Flare 3/4" |
| 4255 | Set, Puller 6 Ton Cone |
| 4706 | Socket, 1/4" Dr. 3/16" |
| 4706L | Socket, 1/4" Dr. 3/16" Deep |
| 4707 | Socket, 1/4" Dr. 7/32" |
| 4707L | Socket, 1/4" Dr. 7/32" Deep |
| 4708 | Socket, 1/4" Dr. 1/4" |
| 4708L | Socket, 1/4" Dr. 1/4" Deep |
| 4708S | Socket, 1/4" Dr. 1/4" 8 Pt. |
| 4709 | Socket, 1/4" Dr. 9/32" |
| 4709L | Socket, 1/4" Dr. 9/32" Deep |
| 4710 | Socket, 1/4" Dr. 5/16" |
| 4710L | Socket, 1/4" Dr. 5/16" Deep |
| 4710S | Socket, 1/4" Dr. 5/16" 8 Pt. |
| 4711 | Socket, 1/4" Dr. 11/32" |
| 4711L | Socket, 1/4" Dr. 11/32" Deep |
| 4712 | Socket, 1/4" Dr. 3/8" |
| 4712L | Socket, 1/4" Dr. 3/8" Deep |
| 4712S | Socket, 1/4" Dr. 3/8" 8 Pt. |
| 4714 | Socket, 1/4" Dr. 7/16" |
| 4714L | Socket, 1/4" Dr. 7/16" Deep |
| 4716 | Socket, 1/4" Dr. 1/2" |
| 4716L | Socket, 1/4" Dr. 1/2" Deep |
| 4718 | Socket, 1/4" Dr. 9/16" |
| 4718L | Socket, 1/4" Dr. 9/16" Deep |
| 4737 | Socket, 1/4" Dr. #1 Phillips |
| 4738 | Socket, 1/4" Dr. #2 Phillips |
| 4743 | Socket, Screwdriver, 3/8" |
| 4744 | Socket, Screwdriver, 3/16" |
| 4745 | Socket, Screwdriver, 1/4" |
| 4749 | Ratchet, 1/4" Dr. |
| 4759 | Extension, 1/4" Dr. 2" |
| 4760 | Extension, 1/4" Dr. 3" |
| 4761 | Extension, 1/4" Dr. 6" |
| 4765 | Extension, 1/4" Dr. Flex 6" |
| 4766 | Hinge Handle, 1/4" Dr. |
| 4769 | Socket Driver, 1/4" Dr. 6½" |
| 4770 | Universal Joint 1/4" Dr. |
| 4770-1/4 | Hex Bit, 1/4" Dr. 1/4" |
| 4770-1/8 | Hex Bit, 1/4" Dr. 1/8" |
| 4770-1/16 | Hex Bit, 1/4" Dr. 1/16" |
| 4770-3/16 | Hex Bit, 1/4" Dr. 3/16" |
| 4770-3/32 | Hex Bit, 1/4" Dr. 3/32" |
| 4770-5/16 | Hex Bit, 1/4" Dr. 5/16" |
| 4770-5/32 | Hex Bit, 1/4" Dr. 5/32" |
| 4770-5/64 | Hex Bit, 1/4" Dr. 5/64" |
| 4770-7/32 | Hex Bit, 1/4" Dr. 7/32" |
| 4770-7/64 | Hex Bit, 1/4" Dr. 7/64" |
| 4770-9/64 | Hex Bit, 1/4" Dr. 9/64" |
| 4771T | Socket, Universal 1/4" Dr. 1/4" |
| 4772T | Socket, Universal 1/4" Dr. 5/16" |
| 4773T | Socket, Universal 1/4" Dr. 3/8" |
| 4774T | Socket, Universal 1/4" Dr. 7/16" |
| 4780 | Speed Handle, 1/4" Dr. |
| 4785 | Sliding T Handle, 1/4" Dr. |
| 4912 | Crowfoot Wrench, 3/8" Dr. 3/8" |
| 4914 | Crowfoot Wrench, 3/8" Dr. 7/16" |
| 4916 | Crowfoot Wrench, 3/8" Dr. 1/2" |
| 4918 | Crowfoot Wrench, 3/8" Dr. 9/16" |
| 4920 | Crowfoot Wrench, 3/8" Dr. 5/8" |
| 4922 | Crowfoot Wrench, 3/8" Dr. 11/16" |
| 4924 | Crowfoot Wrench, 3/8" Dr. 3/4" |
| 4926 | Crowfoot Wrench, 3/8" Dr. 13/16" |
| 4928 | Crowfoot Wrench, 3/8" Dr. 7/8" |
| 4980 | Set, Hex Key Shortarm 13 Pc. |
| 4990-1/4 | Hex Bit, 3/8" Dr. 1/4" |
| 4990-1/8 | Hex Bit, 3/8" Dr. 1/8" |
| 4990-3/8 | Hex Bit, 3/8" Dr. 3/8" |
| 4990-3/16 | Hex Bit, 3/8" Dr. 3/16" |
| 4990-5/16 | Hex Bit, 3/8" Dr. 5/16" |
| 4990-5/32 | Hex Bit, 3/8" Dr. 5/32" |
| 4990-7/32 | Hex Bit, 3/8" Dr. 7/32" |
| 5008 | Socket, 3/8" Dr. 1/4" Deep |
| 5010 | Socket, 3/8" Dr. 5/16" Deep |
| 5012 | Socket, 3/8" Dr. 3/8" Deep |
| 5014 | Socket, 3/8" Dr. 7/16" Deep |
| 5016 | Socket, 3/8" Dr. 1/2" Deep |
| 5018 | Socket, 3/8" Dr. 9/16" Deep |
| 5020 | Socket, 3/8" Dr. 5/8" Deep |
| 5022 | Socket, 3/8" Dr. 11/16" Deep |
| 5024 | Socket, 3/8" Dr. 3/4" Deep |
| 5026 | Socket, 3/8" Dr. 13/16" Deep |
| 5028 | Socket, 3/8" Dr. 7/8" Deep |
| 5030 | Socket, 3/8" Dr. 15/16" Deep |
| 5032 | Socket, 3/8" Dr. 1" Deep |
| 5208 | Socket, 3/8" Dr. 1/4" |
| 5208S | Socket, 3/8" Dr. 1/4" 8 Pt. |
| 5210 | Socket, 3/8" Dr. 5/16" |
| 5210S | Socket, 3/8" Dr. 5/16" 8 Pt. |
| 5212 | Socket, 3/8" Dr. 3/8" |
| 5212S | Socket, 3/8" Dr. 3/8" 8 Pt. |
| 5214 | Socket, 3/8" Dr. 7/16" |
| 5214S | Socket, 3/8" Dr. 7/16" 8 Pt. |
| 5216 | Socket, 3/8" Dr. 1/2" |
| 5216S | Socket, 3/8" Dr. 1/2" 8 Pt. |

CONTINUED ON NEXT PAGE



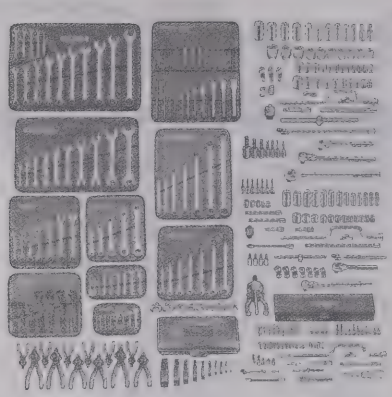
The only source you need for tools as tough as you are.

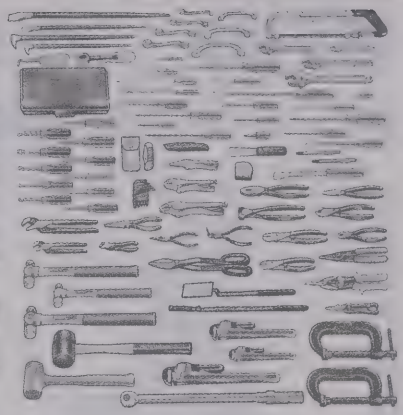
# 416-PC. MASTER SET

PROTO PROFESSIONAL TOOLS

Made In U.S.A.

**Proto sockets and wrenches are an industrial grade line of mechanic's tools for heavy-duty applications and production use**





**Replacement Parts Available**
**1-800-323-0620**

## 416-PC. MASTER SET CONTENTS (Continued)

| Proto Model | Description |
|---|---|
| 5218 | Socket, 3/8" Dr. 9/16" |
| 5220 | Socket, 3/8" Dr. 5/8" |
| 5222 | Socket, 3/8" Dr. 11/16" |
| 5224 | Socket, 3/8" Dr. 3/4" |
| 5226 | Socket, 3/8" Dr. 13/16" |
| 5228 | Socket, 3/8" Dr. 7/8" |
| 5230 | Socket, 3/8" Dr. 15/16" |
| 5232 | Socket, 3/8" Dr. 1" |
| 5241 | Socket, 3/8 Dr. Scrdrvr #2 Phillips |
| 5242 | Socket, 3/8 Dr. Scrdrvr #3 Phillips |
| 5243 | Socket, 3/8 Dr. Scrdrvr #4 Phillips |
| 5246 | Socket, Screwdriver, 3/8" Dr. |
| 5247 | Ratchetor 3/8" Dr. |
| 5249 | Ratchet, 3/8" Drive |
| 5257A | Ratchet, Flex Head 3/8" Dr. |
| 5260 | Extension, 3/8"Dr. 3" |
| 5260-06 | Extension, 3/8" Dr. 6" |
| 5260-06W | Extension, Wobble 3/8" Dr. 6" |
| 5260W | Extension, Wobble 3/8" Dr. 3" |
| 5262 | Extension, 3/8" Dr. 12" |
| 5265 | Hinge Handle, 3/8" Dr. |
| 5268 | Extension, 3/8" Dr. 8" |
| 5270 | Universal Joint, 3/8" Dr. |
| 5273 | Socket, Universal 3/8" Dr. 3/8" |
| 5274 | Socket, Universal 3/8" Dr. 7/16" |
| 5275 | Socket, Universal 3/8" Dr. 1/2" |
| 5276 | Socket, Universal 3/8" Dr. 9/16" |
| 5277 | Socket, Universal 3/8" Dr. 5/8" |
| 5278 | Socket, Universal 3/8" Dr. 11/16" |
| 5279 | Socket, Universal 3/8" Dr. 3/4", |
| 5280 | Speed Handle, 3/8" Dr. |
| 5285 | Sliding T Handle, 3/8" Dr. 8" |
| 5316 | Socket, 1/2" Dr. 1/2" Deep |
| 5318 | Socket, 1/2" Dr. 9/16" Deep |
| 5320 | Socket, 1/2" Dr. 5/8" Deep |
| 5322 | Socket, 1/2" Dr. 11/16" Deep |
| 5324 | Socket, 1/2" Dr. 3/4" Deep |
| 5326 | Socket, 1/2" Dr. 13/16" Deep |
| 5328 | Socket, 1/2" Dr. 7/8" Deep |
| 5330 | Socket, 1/2" Dr. 15/16" Deep |
| 5332 | Socket, 1/2" Dr. 1" Deep |
| 5334 | Socket, 1/2" Dr. 11/16" Deep |
| 5336 | Socket, 1/2" Dr. 11/8" Deep |
| 5340 | Socket, 1/2" Dr. 11/4" Deep |
| 5412 | Socket, 1/2" Dr. 3/8" |
| 5412S | Socket, 1/2" Dr. 3/8" 8 Pt. |
| 5414 | Socket, 1/2" Dr. 7/16" |
| 5414S | Socket, 1/2" Dr. 7/16" 8 Pt. |
| 5416 | Socket, 1/2" Dr. 1/2" |
| 5416S | Socket, 1/2" Dr. 1/2" 8 Pt. |
| 5418 | Socket, 1/2" Dr. 9/16" |
| 5418S | Socket, 1/2" Dr. 9/16" 8 Pt. |
| 5419 | Socket, 1/2" Dr. 19/32" |
| 5420 | Socket, 1/2" Dr. 5/8" |
| 5420S | Socket, 1/2" Dr. 5/8" 8 Pt. |
| 5422 | Socket, 1/2" Dr. 11/16" |
| 5422S | Socket, 1/2" Dr. 11/16" 8 Pt. |
| 5424 | Socket, 1/2" Dr. 3/4" |
| 5424S | Socket, 1/2" Dr. 3/4" 8 Pt. |
| 5425 | Socket, 1/2" Dr. 25/32" |
| 5426 | Socket, 1/2" Dr. 13/16" |
| 5426S | Socket, 1/2" Dr. 13/16" 8 Pt. |
| 5428 | Socket, 1/2" Dr. 7/8" |
| 5428S | Socket, 1/2" Dr. 7/8" 8 Pt. |
| 5429 | Socket, 1/2" Dr. 29/32" |
| 5430 | Socket, 1/2" Dr. 15/16" |
| 5432 | Socket, 1/2" Dr. 1" |
| 5432S | Socket, 1/2" Dr. 1" 8 Pt. |
| 5434 | Socket, 1/2" Dr. 1 1/16" |
| 5436 | Socket, 1/2" Dr. 1 1/8" |
| 5438 | Socket, 1/2" Dr. 1 3/16" |
| 5440 | Socket, 1/2" Dr. 1 1/4" |
| 5441-1/2 | Hex Bit, 1/2" Dr. 1/2" |
| 5441-1/4 | Hex Bit, 1/2" Dr. 1/4" |
| 5441-3/8 | Hex Bit, 1/2" Dr. 3/8" |
| 5441-5/8 | Hex Bit, 1/2" Dr. 5/8" |
| 5441-5/16 | Hex Bit, 1/2" Dr. 5/16" |
| 5441-7/16 | Hex Bit, 1/2" Dr. 7/16" |
| 5441-9/16 | Hex Bit, 1/2" Dr. 9/16" |
| 5442 | Socket, 1/2" Dr. 1 5/16" |
| 5444 | Socket, 1/2" Dr. 1 3/8" |
| 5444A | Socket, 1/2" Dr. Screwdriver |
| 5446 | Socket, 1/2" Dr. 1 7/16" |
| 5446A | Socket, 1/2" Dr. Screwdriver |
| 5447 | Ratchet 1/2" Dr. |
| 5448 | Socket, 1/2" Dr. 11/2" |
| 5449 | Ratchet, 1/2" Dr. |
| 5450 | Ratchet 1/2" Dr. |
| 5457A | Ratchet, 1/2" Dr. Flex Head |
| 5460 | Extension, 1/2" Dr. 2 1/2" |
| 5461 | Extension, 1/2" Dr. 5" |
| 5463 | Extension, 1/2" Dr. 10" |
| 5468 | Hinge Handle, 1/2" Dr. |
| 5470 | Universal Joint 1/2" Dr. |
| 5475 | Socket, Universal 1/2" Dr. 1/2 |
| 5476 | Socket, Universal 1/2" Dr. 9/16" |
| 5477 | Socket, Universal 1/2" Dr. 5/8" |
| 5480 | Speed Handle, 1/2" Dr. |
| 5485 | Sliding T Handle, 1/2" Dr. 13" |
| 6016 | Wrench, Torque 1/2" Dr. ft-lbs. |
| 8160 | Wrench, Short Box 3/8 x 7/16" |
| 8161 | Wrench, Short Box 1/2 x 9/16" |
| 8162 | Wrench, Short Box 5/8 x 11/16" |
| 8163 | Wrench, Short Box 3/4 x 13/16" |
| 9206 | Nut Driver, 3/16" |
| 9207 | Nut Driver, 7/32" |
| 9208 | Nut Driver, 1/4" |
| 9209 | Nut Driver, 9/32" |
| 9210 | Nut Driver, 5/16" |
| 9211 | Nut Driver, 11/32" |
| 9212 | Nut Driver, 3/8" |
| 9214 | Nut Driver, 7/16" |
| 9216 | Nut Driver, 1/2" |
| 9218 | Nut Driver, 9/16" |
| 9220 | Nut Driver, 5/8" |
| 9521 | Screw Extractor, 1/8" |
| 9522 | Screw Extractor, 11/64" |
| 9523 | Screw Extractor, 13/64" |
| 9524 | Screw Extractor, 19/64" |
| 9525 | Screw Extractor, 11/32" |
| 9525B | Screw Extractor, 27/64" |
| 9526 | Screw Extractor, 1/2" |
| 9527 | Screw Extractor, 19/32" |
| 9528 | Screw Extractor, 11/16" |
| 9529 | Screw Extractor, 31/32" |
| 9622 | Screwdriver, 1/8 x 2 1/2" |
| 9624 | Screwdriver, 1/8 x 4" |
| 9627 | Screwdriver, 1/8 x 8" |
| 9632 | Screwdriver, 3/16 x 4" |
| 9635 | Screwdriver, 3/16 x 8" |
| 9652 | Screwdriver, 1/4 x 11/2 |
| 9671 | Screwdriver, #2 Stubby Phillips |
| 9680 | Screwdriver, Phillips #0 |
| 9682 | Screwdriver, Phillips #1 |
| 9683 | Screwdriver, Phillips #1 x 8" |
| 9684 | Screwdriver, Phillips #2 |
| 9685 | Screwdriver, Phillips #2 x 8" |
| 9686 | Screwdriver, Phillips #3 |
| 9688 | Screwdriver, Phillips #4 |
| 9804 | Screwdriver, 1/4 x 4" |
| 9806 | Screwdriver, 5/16 x 6" |
| 9808 | Screwdriver, 3/8 x 8" |
| 9812 | Screwdriver, 3/8 x 12" |
| 9832 | Screwdriver, 3/16 x 4" |
| 9853 | Screw Starter Standard |
| 9884 | Screw Starter Phillips |
| 18545 | Knife, Lockback 5" |
| 57532 | Hammer, Compocast 21 Oz. |

**No. 6C364.** Tools Only (Proto Model 99520). Shpg. wt. 168.0 lbs. List $6894.09. Each ..... $4551.00

**No. 1AC21.** Roller Cabinet (Proto Model 9996ASHD). Shpg. wt. 210.0 lbs. List $1014.44. Each ..... $673.00▲

**No. 6C339.** Top Chest (Proto Model (9991ASHD). Shpg. wt. 146.0 lbs. List $867.36. Each ..... $499.00▲

**No. 7A074.** Tool Set with Roller Cabinet & Top Chest (Proto Model 99522). Shpg. wt. 524.0 lbs. List $8775.89. Each ..... $5455.00

(▲) Net Prices, not subject to discounts.

# 225-PC. INTERMEDIATE SET

PROTO PROFESSIONAL TOOLS

Made In U.S.A.

**LIFETIME LIMITED WARRANTY**

All Proto tools are warranted to the original user for the life of the product. Text of warranty available, see page opposite inside back cover.

Replacement Parts Available 1-800-323-0620

## 225-PC. INTERMEDIATE SET CONTENTS—1/4, 3/8, & 1/2" DRIVES

| Proto Model | Description | Proto Model | Description | Proto Model | Description |
|---|---|---|---|---|---|
| 41-3/8 | Punch, Center | 3045 | Wrench, Open End 15/16 x 1" | 5275 | Socket, Universal 3/8" Dr. 1/2" |
| 47-1/4x3/32 | Punch, Pin | 3050 | Wrench, Open End 11/16 x 11/8" | 5276 | Socket, Universal 3/8" Dr. 9/16" |
| 47-3/8x3/16 | Punch, Pin | 3751 | Wrench, OE x Flare Nut 3/8" | 5277 | Socket, Universal 3/8" Dr. 5/8" |
| 47-5/16x1/8 | Punch, Pin | 3752 | Wrench, OE x Flare Nut 7/16" | 5279 | Socket, Universal 3/8" Dr. 3/4" |
| 50-3/8 | Punch, Starting | 3753 | Wrench, OE x Flare Nut 1/2" | 5280 | Speed Handle, 3/8" Dr. |
| 50-3/16 | Punch, Starting | 3754 | Wrench, OE x Flare Nut 9/16" | 5316 | Socket, 1/2" Dr. 1/2" Deep |
| 50-5/16 | Punch, Starting | 3755 | Wrench, OE x Flare Nut 5/8" | 5318 | Socket, 1/2" Dr. 9/16" Deep |
| 72-5/16 | Chisel, Cape | 3756 | Wrench, OE x Flare Nut 11/16" | 5320 | Socket, 1/2" Dr. 5/8" Deep |
| 76-5/16 | Chisel, 3/16" Diamond Point | 3757 | Wrench, OE x Flare Nut 3/4" | 5322 | Socket, 1/2" Dr. 11/16" Deep |
| 86A-1/4 | Chisel, Cold 5/16" | 4706 | Socket, 1/4" Dr. 3/16" | 5324 | Socket, 1/2" Dr. 3/4" Deep |
| 86A-3/8 | Chisel, Cold 7/16" | 4706L | Socket, 1/4" Dr. 3/16" Deep | 5326 | Socket, 1/2" Dr. 13/16" Deep |
| 86A-7/16 | Chisel, Cold 1/2" | 4707 | Socket, 1/4" Dr. 7/32" | 5328 | Socket, 1/2" Dr. 7/8" Deep |
| 206G | Pliers, Diagonal Cutting w/Grip | 4707L | Socket, 1/4" Dr. 7/32" Deep | 5330 | Socket, 1/2" Dr. 15/16" Deep |
| 209G | Pliers, Diagonal Cutting w/Grip | 4708 | Socket, 1/4" Dr. 1/4" | 5332 | Socket, 1/2" Dr. 1" Deep |
| 222G | Pliers, Needle Nose w/Grip | 4708L | Socket, 1/4" Dr. 1/4" Deep | 5334 | Socket, 1/2" Dr. 11/16" Deep |
| 225G | Pliers, Curved Needle Nose | 4709 | Socket, 1/4" Dr. 9/32" | 5336 | Socket, 1/2" Dr. 11/8" Deep |
| 226G | Pliers, Needle Nose w/Grip | 4709L | Socket, 1/4" Dr. 9/32" Deep | 5340 | Socket, 1/2" Dr. 11/4" Deep |
| 227G | Pliers, Duckbill w/Grip | 4710 | Socket, 1/4" Dr. 5/16" | 5412 | Socket, 1/2" Dr. 3/8" |
| 263SG | Pliers, Tongue & Groove 91/2" | 4710L | Socket, 1/4" Dr. 5/16" Deep | 5414 | Socket, 1/2" Dr. 7/16" |
| 268G | Pliers, Lineman's w/Grip | 4711 | Socket, 1/4" Dr. 11/32" | 5416 | Socket, 1/2" Dr. 1/2" |
| 272G | Pliers, End Cutting w/Grip | 4711L | Socket, 1/4" Dr. 11/32" Deep | 5418 | Socket, 1/2" Dr. 9/16" |
| 278G | Pliers, Slip-Joint w/Grip | 4712 | Socket, 1/4" Dr. 3/8" | 5420 | Socket, 1/2" Dr. 5/8" |
| 291R | Pliers, Locking 7" Straight | 4712L | Socket, 1/4" Dr. 3/8" Deep | 5422 | Socket, 1/2" Dr. 11/16" |
| 292R | Pliers, Locking 10" Curved | 4714 | Socket, 1/4" Dr. 7/16" | 5424 | Socket, 1/2" Dr. 3/4" |
| 298 | Pliers, Wire Strippers | 4714L | Socket, 1/4" Dr. 7/16" Deep | 5426 | Socket, 1/2" Dr. 13/16" |
| 303S | Snip, Aviation Straight | 4716 | Socket, 1/4" Dr. 1/2" | 5428 | Socket, 1/2" Dr. 7/8" |
| 306 | Shears, Miniature Metal | 4716L | Socket, 1/4" Dr. 1/2" Deep | 5430 | Socket, 1/2" Dr. 15/16" |
| 15-265 | Hacksaw, Adjustable | 4718 | Socket, 1/4" Dr. 9/16" | 5432 | Socket, 1/2" Dr. 1" |
| 380 | Set, Retaining Ring Pliers, 2 Pc. | 4718L | Socket, 1/4" Dr. 9/16" Deep | 5434 | Socket, 1/2" Dr. 11/16" |
| 404 | C-Clamp, Capacity 0-4", 2 Each | 4749 | Ratchet, 1/4" Dr. | 5436 | Socket, 1/2" Dr. 11/8" |
| 10-099 | Knife, Utility | 4759 | Extension, 1/4" Dr. 2" | 5440 | Socket, 1/2" Dr. 11/4" |
| 706 | Wrench, Adjustable 6" | 4761 | Extension, 1/4" Dr. 6" | 5441-1/2 | Hex Bit, 1/2" Dr. 1/2" |
| 708 | Wrench, Adjustable 8" | 4766 | Hinge Handle, 1/4" Dr. | 5441-5/8 | Hex Bit, 1/2" Dr. 5/8" |
| 710 | Wrench, Adjustable 10" | 4769 | Socket Driver, 1/4" Dr. 61/8" | 5441-9/16 | Hex Bit, 1/2" Dr. 9/16" |
| 810HD | Wrench, Pipe Heavy Duty 10" | 4770 | Universal Joint 1/4" Dr. | 5449 | Ratchet, 1/2" Dr. |
| 1191T | Wrench, Ratchet Box 1/4 x 5/16" | 4981 | Set, Hex Key 11 Pc. | 5460 | Extension, 1/2" Dr. 21/2" |
| 1192T | Wrench, Ratchet Box 3/8 x 7/16" | 4990-1/4 | Hex Bit, 3/8" Dr. 1/4" | 5461 | Extension, 1/2" Dr. 5" |
| 1193T | Wrench, Ratchet Box 1/2 x 9/16" | 4990-1/8 | Hex Bit, 3/8" Dr. 1/8" | 5463 | Extension, 1/2" Dr. 10" |
| 1194 | Wrench, Ratchet Box 5/8 x 11/16" | 4990-3/8 | Hex Bit, 3/8" Dr. 3/8" | 5467 | Hinge Handle, 1/2" Dr. |
| 1195 | Wrench, Ratchet Box 3/4 x 7/8" | 4990-3/16 | Hex Bit, 3/8" Dr. 3/16" | 5470 | Universal Joint 1/2" Dr. |
| 1210 | Wrench, Combination 5/16" | 4990-5/16 | Hex Bit, 3/8" Dr. 5/16" | 5480 | Speed Handle, 1/2" Dr. |
| 1212 | Wrench, Combination 3/8" | 4990-5/32 | Hex Bit, 3/8" Dr. 5/32" | 8160 | Wrench, Short Box 3/8 x 7/16" |
| 1214 | Wrench, Combination 7/16" | 4990-7/32 | Hex Bit, 3/8" Dr. 7/32" | 8161 | Wrench, Short Box 1/2 x 9/16" |
| 1216 | Wrench, Combination 1/2" | 5012 | Socket, 3/8" Dr. 3/8" Deep | 8162 | Wrench, Short Box 5/8 x 11/16" |
| 1218 | Wrench, Combination 9/16" | 5014 | Socket, 3/8" Dr. 7/16" Deep | 8163 | Wrench, Short Box 3/4 x 13/16" |
| 1220 | Wrench, Combination 5/8" | 5016 | Socket, 3/8" Dr. 1/2" Deep | 9206 | Nut Driver, 3/16" |
| 1222 | Wrench, Combination 11/16" | 5018 | Socket, 3/8" Dr. 9/16" Deep | 9207 | Nut Driver, 7/32" |
| 1224 | Wrench, Combination 3/4" | 5020 | Socket, 3/8" Dr. 5/8" Deep | 9208 | Nut Driver, 1/4" |
| 1226 | Wrench, Combination 13/16" | 5022 | Socket, 3/8" Dr. 11/16" Deep | 9209 | Nut Driver, 9/32" |
| 1228 | Wrench, Combination 7/8" | 5024 | Socket, 3/8" Dr. 3/4" Deep | 9210 | Nut Driver, 5/16" |
| 1230 | Wrench, Combination 15/16" | 5026 | Socket, 3/8" Dr. 13/16" Deep | 9211 | Nut Driver, 11/32" |
| 1232 | Wrench, Combination 1" | 5028 | Socket, 3/8" Dr. 7/8" Deep | 9212 | Nut Driver, 3/8" |
| 1234 | Wrench, Combination 11/16" | 5208S | Socket, 3/8" Dr. 1/4" 8 Pt. | 9521 | Screw Extractor, 1/8" |
| 1236 | Wrench, Combination 11/8" | 5210S | Socket, 3/8" Dr. 5/16" 8 Pt. | 9522 | Screw Extractor, 11/64" |
| 1240 | Wrench, Combination 11/4" | 5212 | Socket, 3/8" Dr. 3/8" | 9523 | Screw Extractor, 13/64" |
| 1316PD | Hammer, Ball Pein 16 Oz. | 5212S | Socket, 3/8" Dr. 3/8" 8 Pt. | 9524 | Screw Extractor, 19/64" |
| 1332PD | Hammer, Ball Pein 32 Oz. | 5214 | Socket, 3/8" Dr. 7/16" | 9525 | Screw Extractor, 11/32" |
| 33-212 | Tape, Power Locking 1/2" x 12' | 5216 | Socket, 3/8" Dr. 1/2" | 9652 | Screwdriver, 1/4 x 11/2" |
| 2108 | Punch and Chisel Holder | 5218 | Socket, 3/8" Dr. 9/16" | 9671 | Screwdriver, #2 Stubby Phillips |
| 2120 | Pry Bar | 5220 | Socket, 3/8" Dr. 5/8" | 9680 | Screwdriver, Phillips #0 |
| 2126 | Pry Bar, Roll Head | 5222 | Socket, 3/8" Dr. 11/16" | 9682 | Screwdriver, Phillips #1 |
| 2306 | Cotter Pin Tool | 5224 | Socket, 3/8" Dr. 3/4" | 9684 | Screwdriver, Phillips #2 |
| 2336 | Scraper, Gasket | 5226 | Socket, 3/8" Dr. 13/16" | 9686 | Screwdriver, Phillips #3 |
| 3018 | Wrench, Open End 1/4 x 5/16" | 5228 | Socket, 3/8" Dr. 7/8" | 9688 | Screwdriver, Phillips #4 |
| 3020 | Wrench, Open End 3/8 x 5/16" | 5249 | Ratchet, 3/8" Drive | 9804 | Screwdriver, 1/4 x 4" |
| 3025 | Wrench, Open End 7/16 x 1/2" | 5260 | Extension, 3/8" Dr. 3" | 9806 | Screwdriver, 5/16 x 6" |
| 3026 | Wrench, Open End 1/2 x 9/16" | 5260-06 | Extension, 3/8" Dr. 6" | 9808 | Screwdriver, 3/8 x 8" |
| 3030 | Wrench, Open End 9/16 x 5/8" | 5262 | Extension, 3/8" Dr. 12" | 9812 | Screwdriver, 3/8 x 12" |
| 3031 | Wrench, Open End 5/8 x 3/4" | 5265 | Hinge Handle, 3/8" Dr. | 9832 | Screwdriver, 3/16 x 4" |
| 3035 | Wrench, Open End 11/16 x 3/4" | 5270 | Universal Joint, 3/8" Dr. | 18545 | Knife, Lockback 5" |
| 3040 | Wrench, Open End 13/16 x 7/8" | 5274 | Socket, Universal 3/8" Dr. 7/16" | 57532 | Hammer, Compocast 21 Oz. |

**No. 6C355.** Tool Only (Proto Model 99510). Shpg. wt. 105.0 lbs. List $3431.24. Each ..... $2265.00

**No. 6C339.** Top Chest (Proto Model (9991ASHD). Shpg. wt. 146.0 lbs. List $867.36. Each ..... $499.00▲

**No. 7A065.** Tool Set with Top Chest (Proto Model 99512). Shpg. wt. 251.0 lbs. List $4298.60. Each ..... $2635.00

(▲) Net prices, not subject to discounts.

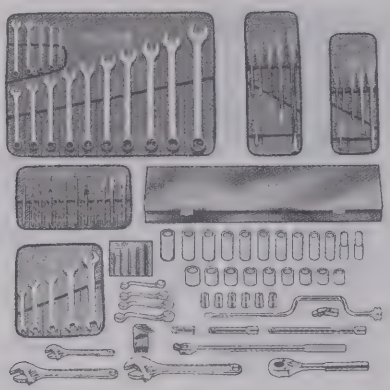
# 163-PC. INTERMEDIATE SET

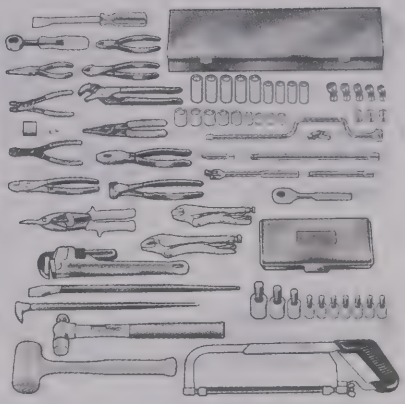
PROTO PROFESSIONAL TOOLS®

Made In U.S.A.

- Proto sockets and wrenches are an industrial grade line of mechanic's tools for heavy-duty applications and produciton use

Replacement Parts Available 1-800-323-0620™





## 163-PC. INTERMEDIATE SET CONTENTS—3/8 & 1/2" DRIVES

| Proto Model | Description |
|---|---|
| 41-3/8 | Punch, Center |
| 47-1/4x3/32 | Punch, Pin |
| 47-3/8x3/16 | Punch, Pin |
| 47-5/16x1/8 | Punch, Pin |
| 50-3/8 | Punch, Starting |
| 50-3/16 | Punch, Starting |
| 50-5/16 | Punch, Starting |
| 72-5/16 | Chisel, Cape |
| 76-5/16 | Chisel, 3/16" Diamond Point |
| 86A-1/4 | Chisel, Cold 5/16" |
| 86A-3/8 | Chisel, Cold 7/16" |
| 86A-7/16 | Chisel, Cold 1/2" |
| 206G | Pliers, Diagonal Cutting w/Grip |
| 209G | Pliers, Diagonal Cutting w/Grip |
| 226G | Pliers, Needle Nose w/Grip |
| 263SG | Pliers, Tongue & Groove 9½" |
| 268G | Pliers, Lineman's w/Grip |
| 272G | Pliers, End Cutting w/Grip |
| 278G | Pliers, Slip-Joint w/Grip |
| 291R | Pliers, Locking 7" Straight |
| 292R | Pliers, Locking 10" Curved |
| 298 | Pliers, Wire Strippers |
| 303S | Snip, Aviation Straight |
| 15-265 | Hacksaw, Adjustable |
| 380 | Set, Retaining Ring Pliers, 2 Pc. |
| 706 | Wrench, Adjustable 6" |
| 710 | Wrench, Adjustable 10" |
| 712 | Wrench, Adjustable 12" |
| 1210 | Wrench, Combination 5/16" |
| 1212 | Wrench, Combination 3/8" |
| 1214 | Wrench, Combination 7/16" |
| 1216 | Wrench, Combination 1/2" |
| 1218 | Wrench, Combination 9/16" |
| 1220 | Wrench, Combination 5/8" |
| 1222 | Wrench, Combination 11/16" |
| 1224 | Wrench, Combination 3/4" |
| 1226 | Wrench, Combination 13/16" |
| 1228 | Wrench, Combination 7/8" |
| 1230 | Wrench, Combination 15/16" |
| 1232 | Wrench, Combination 1" |
| 1234 | Wrench, Combination 11/16" |
| 1236 | Wrench, Combination 11/8" |
| 1240 | Wrench, Combination 11/4" |
| 1316PD | Hammer, Ball Pein 16 oz. |
| 2108 | Punch and Chisel Holder |
| 2120 | Pry Bar |
| 2126 | Pry Bar, Roll Head |
| 2336 | Scraper, Gasket |
| 3021 | Wrench, Open End 3/8 x 7/16" |
| 3026 | Wrench, Open End 1/2 x 9/16" |
| 3030 | Wrench, Open End 9/16 x 5/8" |
| 3035 | Wrench, Open End 11/16 x 3/4" |
| 3040 | Wrench, Open End 13/16 x 7/8" |
| 4981 | Set, Hex Key 11 Pc. |
| 4990-1/4 | Hex Bit, 3/8" Dr. 1/4" |
| 4990-1/8 | Hex Bit, 3/8" Dr. 1/8" |
| 4990-3/8 | Hex Bit, 3/8" Dr. 3/8" |
| 4990-3/16 | Hex Bit, 3/8" Dr. 3/16" |
| 4990-5/16 | Hex Bit, 3/8" Dr. 5/16" |
| 4990-5/32 | Hex Bit, 3/8" Dr. 5/32" |
| 4990-7/32 | Hex Bit, 3/8" Dr. 7/32" |
| 5012 | Socket, 3/8" Dr. 3/8" Deep |
| 5014 | Socket, 3/8" Dr. 7/16" Deep |
| 5016 | Socket, 3/8" Dr. 1/2" Deep |
| 5018 | Socket, 3/8" Dr. 9/16" Deep |
| 5020 | Socket, 3/8" Dr. 5/8" Deep |
| 5022 | Socket, 3/8" Dr. 11/16" Deep |
| 5024 | Socket, 3/8" Dr. 3/4" Deep |
| 5026 | Socket, 3/8" Dr. 13/16" Deep |
| 5028 | Socket, 3/8" Dr. 7/8" Deep |
| 5208S | Socket, 3/8" Dr. 1/4" 8 Pt. |
| 5210S | Socket, 3/8" Dr. 5/16" 8 Pt. |
| 5212 | Socket, 3/8" Dr. 3/8" |
| 5212S | Socket, 3/8" Dr. 3/8" 8 Pt. |
| 5214 | Socket, 3/8" Dr. 7/16" |
| 5216 | Socket, 3/8" Dr. 1/2" |
| 5218 | Socket, 3/8" Dr. 9/16" |
| 5220 | Socket, 3/8" Dr. 5/8" |
| 5222 | Socket, 3/8" Dr. 11/16" |
| 5224 | Socket, 3/8" Dr. 3/4" |
| 5226 | Socket, 3/8" Dr. 13/16" |
| 5228 | Socket, 3/8" Dr. 7/8" |
| 5249 | Ratchet, 3/8" Drive |
| 5260 | Extension, 3/8"Dr. 3" |
| 5260-06 | Extension, 3/8" Dr. 6" |
| 5262 | Extension, 3/8" Dr. 12" |
| 5265 | Hinge Handle, 3/8" Dr. |
| 5270 | Universal Joint, 3/8" Dr. |
| 5274 | Socket, Universal 3/8" Dr. 7/16" |
| 5275 | Socket, Universal 3/8" Dr. 1/2" |
| 5276 | Socket, Universal 3/8" Dr. 9/16" |
| 5277 | Socket, Universal 3/8" Dr. 5/8" |
| 5279 | Socket, Universal 3/8" Dr. 3/4" |
| 5280 | Speed Handle, 3/8" Dr. |
| 5316 | Socket, 1/2" Dr. 1/2" Deep |
| 5318 | Socket, 1/2" Dr. 9/16" Deep |
| 5320 | Socket, 1/2" Dr. 5/8" Deep |
| 5322 | Socket, 1/2" Dr. 11/16" Deep |
| 5324 | Socket, 1/2" Dr. 3/4" Deep |
| 5326 | Socket, 1/2" Dr. 13/16" Deep |
| 5328 | Socket, 1/2" Dr. 7/8" Deep |
| 5330 | Socket, 1/2" Dr. 15/16" Deep |
| 5332 | Socket, 1/2" Dr. 1" Deep |
| 5334 | Socket, 1/2" Dr. 11/16" Deep |
| 5336 | Socket, 1/2" Dr. 11/8" Deep |
| 5340 | Socket, 1/2" Dr. 11/4" Deep |
| 5412 | Socket, 1/2" Dr. 3/8" |
| 5414 | Socket, 1/2" Dr. 7/16" |
| 5416 | Socket, 1/2" Dr. 1/2" |
| 5418 | Socket, 1/2" Dr. 9/16" |
| 5420 | Socket, 1/2" Dr. 5/8" |
| 5422 | Socket, 1/2" Dr. 11/16" |
| 5424 | Socket, 1/2" Dr. 3/4" |
| 5426 | Socket, 1/2" Dr. 13/16" |
| 5428 | Socket, 1/2" Dr. 7/8" |
| 5430 | Socket, 1/2" Dr. 15/16" |
| 5432 | Socket, 1/2" Dr. 1" |
| 5434 | Socket, 1/2" Dr. 11/16" |
| 5436 | Socket, 1/2" Dr. 11/8" |
| 5440 | Socket, 1/2" Dr. 11/4" |
| 5441-1/2 | Hex Bit, 1/2" Dr. 1/2" |
| 5441-5/8 | Hex Bit, 1/2" Dr. 5/8" |
| 5441-9/16 | Hex Bit, 1/2" Dr. 9/16" |
| 5449 | Ratchet, 1/2" Dr. |
| 5460 | Extension, 1/2" Dr. 21/2" |
| 5461 | Extension, 1/2" Dr. 5" |
| 5463 | Extension, 1/2" Dr. 10" |
| 5467 | Hinge Handle, 1/2" Dr. |
| 5470 | Universal Joint 1/2" Dr. |
| 5480 | Speed Handle, 1/2" Dr. |
| 8160 | Wrench, Short Box 3/8 x 7/16" |
| 8161 | Wrench, Short Box 1/2 x 9/16" |
| 8162 | Wrench, Short Box 5/8 x 11/16" |
| 8163 | Wrench, Short Box 3/4 x 13/16" |
| 9521 | Screw Extractor, 1/8" |
| 9522 | Screw Extractor, 11/64" |
| 9523 | Screw Extractor, 13/64" |
| 9524 | Screw Extractor, 19/64" |
| 9525 | Screw Extractor, 11/32" |
| 9652 | Screwdriver, 1/4" x 11/2" |
| 9671 | Screwdriver, #2 Stubby Phillips |
| 9680 | Screwdriver, Phillips #0 |
| 9682 | Screwdriver, Phillips #1 |
| 9684 | Screwdriver, Phillips #2 |
| 9686 | Screwdriver, Phillips #3 |
| 9688 | Screwdriver, Phillips #4 |
| 9804 | Screwdriver, 1/4 x 4" |
| 9806 | Screwdriver, 5/16 x 6" |
| 9808 | Screwdriver, 3/8 x 8" |
| 9812 | Screwdriver, 3/8 x 12" |
| 9832 | Screwdriver, 3/16 x 4" |
| 57532 | Hammer, Compocast 21 oz. |

**No. 6C354.** Tool Only (Proto Model 99410). Shpg. wt. 77.0 lbs. List $2479.38. Each ..... $1637.00

**No. 6C339.** Top Chest (Proto Model (9991ASHD). Shpg. wt. 146.0 lbs. List $867.36. Each ..... $499.00▲

**No. 7A064.** Tool Set with Top Chest (Proto Model 99412). Shpg. wt. 223.0 lbs. List $3346.74. Each ..... $2035.00

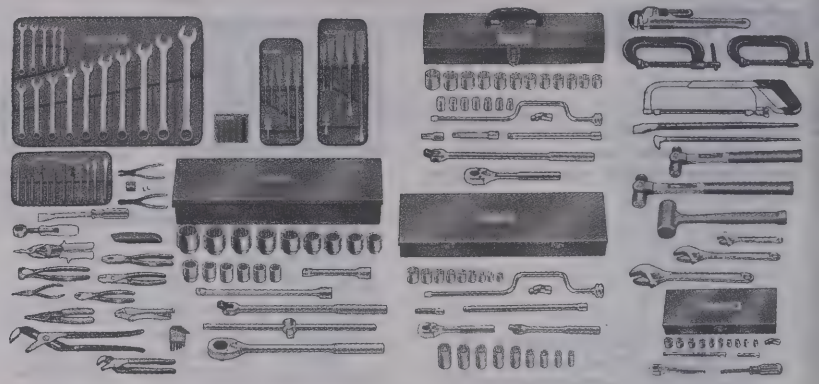
(▲) Net Prices, not subject to discounts.

# 163-PC. STARTER SET

PROTO PROFESSIONAL TOOLS

- **Proto sockets and wrenches are an industrial grade line of mechanic's tools for heavy-duty applications and production use**

**Replacement Parts Available**
**1-800-323-0620**



## 163-PC. STARTER SET CONTENTS—1/4, 3/8, 1/2 & 3/4" DRIVES

| Proto Model | Description | Proto Model | Description | Proto Model | Description |
|---|---|---|---|---|---|
| 41-3/8 | Punch, Center | 4706 | Socket, 1/4" Dr. 3/16" | 5430 | Socket, 1/2" Dr. 15/16" |
| 47-1/4x3/32 | Punch, Pin | 4707 | Socket, 1/4" Dr. 7/32" | 5431 | Socket, 1/2" Dr. 31/32" |
| 47-3/8x3/16 | Punch, Pin | 4708 | Socket, 1/4" Dr. 1/4" | 5432 | Socket, 1/2" Dr. 1" |
| 47-5/16x1/8 | Punch, Pin | 4709 | Socket, 1/4" Dr. 9/32" | 5434 | Socket, 1/2" Dr. 1 1/16" |
| 50-3/8 | Punch, Starting | 4710 | Socket, 1/4" Dr. 5/16" | 5436 | Socket, 1/2" Dr. 1 1/8" |
| 50-3/16 | Punch, Starting | 4711 | Socket, 1/4" Dr. 11/32" | 5438 | Socket, 1/2" Dr. 1 3/16" |
| 50-5/16 | Punch, Starting | 4712 | Socket, 1/4" Dr. 3/8" | 5440 | Socket, 1/2" Dr. 1 1/4" |
| 72-5/16 | Chisel, Cape | 4714 | Socket, 1/4" Dr. 7/16" | 5449 | Ratchet, 1/2" Dr. |
| 76-5/16 | Chisel, 3/16" Diamond Point | 4716 | Socket, 1/4" Dr. 1/2" | 5460 | Extension, 1/2" Dr. 2 1/2" |
| 86A-1/4 | Chisel, Cold 5/16" | 4718 | Socket, 1/4" Dr. 9/16" | 5461 | Extension, 1/2" Dr. 5" |
| 86A-3/8 | Chisel, Cold 7/16" | 4749 | Ratchet, 1/4" Dr. | 5463 | Extension, 1/2" Dr. 10" |
| 86A-7/16 | Chisel, Cold 1/2" | 4759 | Extension, 1/4" Dr. 2" | 5468 | Hinge Handle, 1/2" Dr. |
| 209G | Pliers, Diagonal Cutting w/Grip | 4761 | Extension, 1/4" Dr. 6" | 5470 | Universal Joint 1/2" Dr. |
| 226G | Pliers, Needle Nose w/Grip | 4769 | Socket Driver, 1/4" Dr. 6 1/8" | 5480 | Speed Handle, 1/2" Dr. |
| 263SG | Pliers, Tongue & Groove 9 1/2" | 4770 | Universal Joint 1/4" Dr. | 5528 | Socket, 3/4" Dr. 7/8" |
| 265SG | Pliers, Tongue & Groove 16" | 4982 | Set, Folding Hex 7 Pc. | 5530 | Socket, 3/4" Dr. 15/16" |
| 268SG | Pliers, Lineman's w/Grip | 5012 | Socket, 3/8" Dr. 3/8" Deep | 5532 | Socket, 3/4" Dr. 1" |
| 272G | Pliers, End Cutting w/Grip | 5014 | Socket, 3/8" Dr. 7/16" Deep | 5534 | Socket, 3/4" Dr. 1 1/16" |
| 278G | Pliers, Slip-Joint w/Grip | 5016 | Socket, 3/8" Dr. 1/2" Deep | 5536 | Socket, 3/4" Dr. 1 1/8" |
| 291R | Pliers, Locking 7" Straight | 5018 | Socket, 3/8" Dr. 9/16" Deep | 5540 | Socket, 3/4" Dr. 1 1/4" |
| 298 | Pliers, Wire Strippers | 5020 | Socket, 3/8" Dr. 5/8" Deep | 5542 | Socket, 3/4" Dr. 1 5/16" |
| 303S | Snip, Aviation Straight | 5022 | Socket, 3/8" Dr. 11/16" Deep | 5544 | Socket, 3/4" Dr. 1 3/8" |
| 15-265 | Hacksaw, Adjustable | 5024 | Socket, 3/8" Dr. 3/4" Deep | 5546 | Socket, 3/4" Dr. 1 7/16" |
| 380 | Set, Retaining Ring Pliers, 2 Pc. | 5026 | Socket, 3/8" Dr. 13/16" Deep | 5548 | Socket, 3/4" Dr. 1 1/2" |
| 404 | C-Clamp, Capacity 0-4", 2 Each | 5028 | Socket, 3/8" Dr. 7/8" Deep | 5552 | Socket, 3/4" Dr. 1 5/8" |
| 689 | Knife, Utility | 5212 | Socket, 3/8" Dr. 3/8" | 5556 | Socket, 3/4" Dr. 1 3/4" |
| 706 | Wrench, Adjustable 6" | 5214 | Socket, 3/8" Dr. 7/16" | 5558 | Socket, 3/4" Dr. 1 13/16" |
| 710 | Wrench, Adjustable 10" | 5216 | Socket, 3/8" Dr. 1/2" | 5560 | Socket, 3/4" Dr. 1 7/8" |
| 712 | Wrench, Adjustable 12" | 5218 | Socket, 3/8" Dr. 9/16" | 5564 | Socket, 3/4" Dr. 2" |
| 814HD | Wrench, Pipe Heavy Duty 14" | 5220 | Socket, 3/8" Dr. 5/8" | 5649 | Ratchet, 3/4" Dr. |
| 1210 | Wrench, Combination 5/16" | 5222 | Socket, 3/8" Dr. 11/16" | 5661 | Extension, 3/4" Dr. 8" |
| 1212 | Wrench, Combination 3/8" | 5224 | Socket, 3/8" Dr. 3/4" | 5663 | Extension, 3/4" Dr. 16" |
| 1214 | Wrench, Combination 7/16" | 5226 | Socket, 3/8" Dr. 13/16" | 5668 | Hinge Handle, 3/4" Dr. |
| 1216 | Wrench, Combination 1/2" | 5228 | Socket, 3/8" Dr. 7/8" | 5685 | Sliding T Handle, 3/4" Dr. |
| 1218 | Wrench, Combination 9/16" | 5249 | Ratchet, 3/8" Drive | 9521 | Screw Extractor, 1/8" |
| 1220 | Wrench, Combination 5/8" | 5260 | Extension, 3/8" Dr. 3" | 9522 | Screw Extractor, 11/64" |
| 1222 | Wrench, Combination 11/16" | 5262 | Extension, 3/8" Dr. 12" | 9523 | Screw Extractor, 13/64" |
| 1224 | Wrench, Combination 3/4" | 5265 | Hinge Handle, 3/8" Dr. | 9524 | Screw Extractor, 19/64" |
| 1226 | Wrench, Combination 13/16" | 5270 | Universal Joint, 3/8" Dr. | 9525 | Screw Extractor, 11/32" |
| 1228 | Wrench, Combination 7/8" | 5280 | Speed Handle, 3/8" Dr. | 9652 | Screwdriver, 1/4 x 1 1/2" |
| 1230 | Wrench, Combination 15/16" | 5412 | Socket, 1/2" Dr. 3/8" | 9671 | Screwdriver, #2 Stubby Phillips |
| 1232 | Wrench, Combination 1" | 5414 | Socket, 1/2" Dr. 7/16" | 9680 | Screwdriver, Phillips #0 |
| 1234 | Wrench, Combination 1 1/16" | 5416 | Socket, 1/2" Dr. 1/2" | 9682 | Screwdriver, Phillips #1 |
| 1236 | Wrench, Combination 1 1/8" | 5418 | Socket, 1/2" Dr. 9/16" | 9684 | Screwdriver, Phillips #2 |
| 1240 | Wrench, Combination 1 1/4" | 5419 | Socket, 1/2" Dr. 19/32" | 9686 | Screwdriver, Phillips #3 |
| 1316PD | Hammer, Ball Pein 16 Oz. | 5420 | Socket, 1/2" Dr. 5/8" | 9688 | Screwdriver, Phillips #4 |
| 1332PD | Hammer, Ball Pein 32 Oz. | 5421 | Socket, 1/2" Dr. 21/32" | 9804 | Screwdriver, 1/4 x 4" |
| 2108 | Punch and Chisel Holder | 5422 | Socket, 1/2" Dr. 11/16" | 9806 | Screwdriver, 5/16 x 6" |
| 2120 | Pry Bar | 5424 | Socket, 1/2" Dr. 3/4" | 9808 | Screwdriver, 3/8 x 8" |
| 2126 | Pry Bar, Roll Head | 5425 | Socket, 1/2" Dr. 25/32" | 9812 | Screwdriver, 3/8 x 12" |
| 2336 | Scraper, Gasket | 5426 | Socket, 1/2" Dr. 13/16" | 9832 | Screwdriver, 3/16 x 4" |
| | | 5428 | Socket, 1/2" Dr. 7/8" | 57532 | Hammer, Compocast 21 oz. |

**No. 6C348.** Tool Only (Proto Model 99700). Shpg. wt. 132.0 lbs. List $2973.27. Each ..... **$1963.00**

**No. 1AC21.** Roller Cabinet (Proto Model 9996ASHD). Shpg. wt. 210.0 lbs. List $1014.44. Each ..... **$673.00▲**

**No. 7A058.** Tool Set with Roller Cabinet (Proto Model 99702). Shpg. wt. 342.0 lbs. List $3987.71. Each ..... **$2499.00**

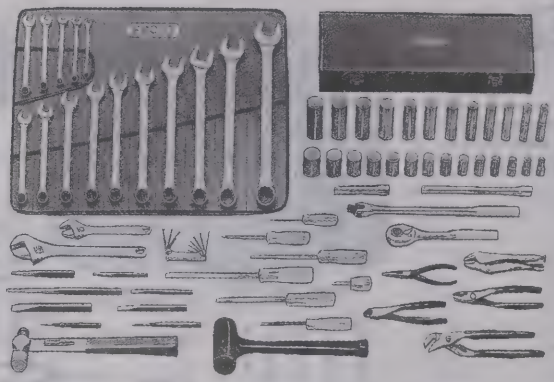
(▲) Net prices, not subject to discounts.

# 78 AND 62-PC. STARTER SETS

PROTO PROFESSIONAL TOOLS

Made in U.S.A.

- Proto sockets and wrenches are an industrial grade line of mechanic's tools for heavy-duty applications and production use



**LIFETIME LIMITED WARRANTY**

All Proto tools are warrented to the original user for the life of the product. Text of warranty available: see page opposite inside back cover.

**Replacement Parts Available**
**1-800-323-0620**

**No. 6C342**
**78-Pc. Starter Set (Tools Only)**

## 78-PC. STARTER SET—1/2" DRIVE

| Proto Model | Description | Proto Model | Description | Proto Model | Description |
|---|---|---|---|---|---|
| 41-1/2 | Punch, Center | 1226 | Wrench, Combination 13/16" | 5416 | Socket, 1/2" Dr. 1/2" |
| 41-3/8 | Punch, Center | 1228 | Wrench, Combination 7/8" | 5418 | Socket, 1/2" Dr. 9/16" |
| 47-3/8x3/16 | Punch, Pin | 1230 | Wrench, Combination 15/16" | 5420 | Socket, 1/2" Dr. 5/8" |
| 47-5/16x1/8 | Punch, Pin | 1232 | Wrench, Combination 1" | 5422 | Socket, 1/2" Dr. 11/16" |
| 86A-5/8 | Chisel, Cold 3/4" | 1234 | Wrench, Combination 11/16" | 5424 | Socket, 1/2" Dr. 3/4" |
| 86A-5/16 | Chisel, Cold 3/8" | 1236 | Wrench, Combination 11/8" | 5426 | Socket, 1/2" Dr. 13/16" |
| 86A-7/16 | Chisel, Cold 1/2" | 1240 | Wrench, Combination 11/4" | 5428 | Socket, 1/2" Dr. 7/8" |
| 96-1/2 | Punch, Drift | 1316PD | Hammer, Ball Pein 16 oz. | 5430 | Socket, 1/2" Dr. 15/16" |
| 209G | Pliers, Diagonal Cutting w/Grip | 4978 | Set, Folding Hex 9 Pc. | 5432 | Socket, 1/2" Dr. 1" |
| 226G | Pliers, Needle Nose w/Grip | 5316 | Socket, 1/2" Dr. 1/2" Deep | 5434 | Socket, 1/2" Dr. 11/16" |
| 263GS | Pliers, Tongue & Groove 91/2" | 5318 | Socket, 1/2" Dr. 9/16" Deep | 5436 | Socket, 1/2" Dr. 11/8" |
| 278G | Pliers, Slip-Joint w/Grip | 5320 | Socket, 1/2" Dr. 5/8" Deep | 5440 | Socket, 1/2" Dr. 11/4" |
| 291R | Pliers, Locking 7" Straight | 5322 | Socket, 1/2" Dr. 11/16" Deep | 5449 | Ratchet, 1/2" Dr. |
| 708 | Wrench, Adjustable 8" | 5324 | Socket, 1/2" Dr. 3/4" Deep | 5461 | Extension, 1/2" Dr. 5" |
| 712 | Wrench, Adjustable 12" | 5326 | Socket, 1/2" Dr. 13/16" Deep | 5463 | Extension, 1/2" Dr. 10" |
| 1210 | Wrench, Combination 5/16" | 5328 | Socket, 1/2" Dr. 7/8" Deep | 5467 | Hinge Handle, 1/2" Dr. |
| 1212 | Wrench, Combination 3/8" | 5330 | Socket, 1/2" Dr. 15/16" Deep | 9652 | Screwdriver, 1/4 x 11/2" |
| 1214 | Wrench, Combination 7/16" | 5332 | Socket, 1/2" Dr. 1" Deep | 9682 | Screwdriver, Phillips #1 |
| 1216 | Wrench, Combination 1/2" | 5334 | Socket, 1/2" Dr. 11/16" Deep | 9684 | Screwdriver, Phillips #2 |
| 1218 | Wrench, Combination 9/16" | 5336 | Socket, 1/2" Dr. 11/8" Deep | 9686 | Screwdriver, Phillips #3 |
| 1220 | Wrench, Combination 5/8" | 5340 | Socket, 1/2" Dr. 11/4" Deep | 9804 | Screwdriver, 1/4 x 4" |
| 1222 | Wrench, Combination 11/16" | 5412 | Socket, 1/2" Dr. 3/8" | 9806 | Screwdriver, 5/16 x 6" |
| 1224 | Wrench, Combination 3/4" | 5414 | Socket, 1/2" Dr. 7/16" | 9808 | Screwdriver, 3/8 x 8" |
| | | | | 57532 | Hammer, Compocast 21 oz. |

**No. 6C342.** Tools Only (Proto Model 99300). Shpg. wt. 35.0 lbs. List $1257.02. Each ..... $830.00

**No. 1AC47.** Tool Storage Box (Proto Model 9969). Shpg. wt. 20.0 lbs. List $97.78. Each ..... $64.90▲

**No. 7A052.** Tool Set with Tool Storage Box (Proto Model 99301). Shpg. wt. 55.0 lbs. List $1354.80. Each ..... $855.00

## 62-PC. STARTER SET—3/8" DRIVE

| Proto Model | Description | Proto Model | Description | Proto Model | Description |
|---|---|---|---|---|---|
| 41-1/2 | Punch, Center | 1218 | Wrench, Combination 9/16" | 5214H | Socket, 3/8" Dr. 7/16" |
| 41-3/8 | Punch, Center | 1220 | Wrench, Combination 5/8" | 5216H | Socket, 3/8" Dr. 1/2" |
| 47-3/8x3/16 | Punch, Pin | 1222 | Wrench, Combination 11/16" | 5218H | Socket, 3/8" Dr. 9/16" |
| 47-5/16x1/8 | Punch, Pin | 1224 | Wrench, Combination 3/4" | 5220H | Socket, 3/8" Dr. 5/8" |
| 86A-5/8 | Chisel, Cold 3/4" | 1226 | Wrench, Combination 13/16" | 5222H | Socket, 3/8" Dr. 11/16" |
| 86A-5/16 | Chisel, Cold 3/8" | 1228 | Wrench, Combination 7/8" | 5224H | Socket, 3/8" Dr. 3/4" |
| 86A-7/16 | Chisel, Cold 1/2" | 1316PD | Hammer, Ball Pein 16 oz. | 5226H | Socket, 3/8" Dr. 13/16" |
| 96-3/8 | Punch, Drift | 4978 | Set, Folding Hex 9 Pc. | 5228H | Socket, 3/8" Dr. 7/8" |
| 209G | Pliers, Diagonal Cutting w/Grip | 5012H | Socket, 3/8" Dr. 3/8" Deep | 5249 | Ratchet, 3/8" Drive |
| 226G | Pliers, Needle Nose w/Grip | 5014H | Socket, 3/8" Dr. 7/16" Deep | 5260 | Extension, 3/8"Dr. 3" |
| 263SG | Pliers, Tongue & Groove 9½" | 5016H | Socket, 3/8" Dr. 1/2" Deep | 5260-06 | Extension, 3/8" Dr. 6" |
| 278G | Pliers, Slip-Joint w/Grip | 5018H | Socket, 3/8" Dr. 9/16" Deep | 5270 | Universal Joint, 3/8" Dr. |
| 291R | Pliers, Locking 7" Straight | 5020H | Socket, 3/8" Dr. 5/8" Deep | 9682 | Screwdriver, Phillips #1 |
| 706 | Wrench, Adjustable 6" | 5022H | Socket, 3/8" Dr. 11/16" Deep | 9684 | Screwdriver, Phillips #2 |
| 710 | Wrench, Adjustable 10" | 5024H | Socket, 3/8" Dr. 3/4" Deep | 9804 | Screwdriver, 1/4 x 4" |
| 1212 | Wrench, Combination 3/8" | 5026H | Socket, 3/8" Dr. 13/16" Deep | 9806 | Screwdriver, 5/16 x 6" |
| 1214 | Wrench, Combination 7/16" | 5028H | Socket, 3/8" Dr. 7/8" Deep | 9808 | Screwdriver, 3/8 x 8" |
| 1216 | Wrench, Combination 1/2" | 5212H | Socket, 3/8" Dr. 3/8" | 57530 | Hammer, Compocast 10 oz. |

**No. 6C343.** Tools Only (Proto Model 99200).. Shpg. wt. 21.0 lbs. List $705.33. Each ..... $465.75

**No. 1AC35.** Tool Storage Box (Proto Model 9975). Shpg. wt. 11.0 lbs. List $64.33. Each ..... $42.70▲

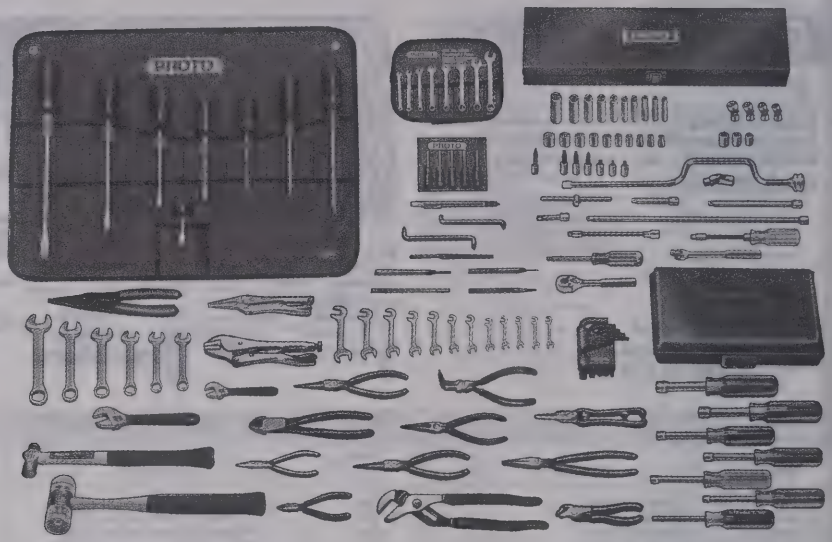
**No. 7A053.** Tool Set with Tool Storage Box (Proto Model 99201). Shpg. wt. 32.0 lbs. List $769.66. Each ..... $485.00

(▲) Net Prices, not subject to discounts.

# 131-PC. SMALL TOOL SET

PROTO PROFESSIONAL TOOLS

- **Proto sockets and wrenches are an industrial grade line of mechanic's tools for heavy-duty applications and production use**



Made In U.S.A.

Replacement Parts Available 1-800-323-0620

## 131-PC. SMALL TOOL SET CONTENTS—1/4" DRIVE

| Proto Model | Description | Proto Model | Description | Proto Model | Description |
|---|---|---|---|---|---|
| 34-1/4 | Screwdriver, Offset | 3210 | Wrench, Open End 13/64 x 15/64" | 4744 | Socket, Screwdriver, 3/16" |
| 36-1/4 | Screwdriver, Offset | 3211 | Wrench, Open End 15/64 x 13/64" | 4745 | Socket, Screwdriver, 1/4" |
| 41-1/4 | Punch, Center | 3215 | Wrench, Open End 7/32 x 1/4" | 4749 | Ratchet, 1/4" Dr. |
| 44-1/4 | Punch, Prick | 3216 | Wrench, Open End 1/4 x 7/32" | 4759 | Extension, 1/4" Dr. 2" |
| 47-1/4x1/16 | Punch, Pin | 3220 | Wrench, Open End 9/32 x 5/16" | 4760 | Extension, 1/4" Dr. 3" |
| 86A-3/16 | Chisel, Cold 1/4" | 3221 | Wrench, Open End 5/16 x 9/32" | 4761 | Extension, 1/4" Dr. 6" |
| 209G | Pliers, Diagonal Cutting w/Grip | 3225 | Wrench, Open End 11/32 x 3/8" | 4763 | Extension, 1/4" Dr. 14" |
| 220G | Pliers, Needle Nose w/Grip | 3226 | Wrench, Open End 3/8 x 11/32" | 4764 | Socket Driver, 1/4" Dr. Flex 6¾" |
| 222G | Pliers, Needle Nose w/Grip | 3328 | Wrench, Angle Open End 7/16" | 4765 | Extension, 1/4" Dr. Flex 6" |
| 225G | Pliers, Curved Needle Nose | 3332 | Wrench, Angle Open End 1/2" | 4766 | Hinge Handle, 1/4" Dr. |
| 226G | Pliers, Needle Nose w/Grip | 3336 | Wrench, Angle Open End 9/16" | 4769 | Socket Driver, 1/4" Dr. 6⅛" |
| 227G | Pliers, Duckbill w/Grip | 3340 | Wrench, Angle Open End 5/8" | 4770 | Universal Joint 1/4" Dr. |
| 261SG | Pliers, Tongue & Groove 5" | 4706 | Socket, 1/4" Dr. 3/16" | 4771 | Socket, Universal 1/4" Dr. 1/4" |
| 263SG | Pliers, Tongue & Groove 9½" | 4706L | Socket, 1/4" Dr. 3/16" Deep | 4772 | Socket, Universal 1/4" Dr. 5/16" |
| 282G | Pliers, Chain Nose | 4707 | Socket, 1/4" Dr. 7/32" | 4773 | Socket, Universal 1/4" Dr. 3/8" |
| 285G | Pliers, Midget w/Grip | 4707L | Socket, 1/4" Dr. 7/32" Deep | 4774 | Socket, Universal 1/4" Dr. 7/16" |
| 286LN | Pliers, Locking 6" Long Nose | 4708 | Socket, 1/4" Dr. 1/4" | 4780 | Speed Handle 1/4" Dr. |
| 291R | Pliers, Locking 7" Straight | 4708L | Socket, 1/4" Dr. 1/4" Deep | 4785 | Sliding T Handle, 1/4" Dr. |
| 298 | Pliers, Wire Strippers | 4708S | Socket, 1/4" Dr., 1/4" 8 Pt. | 4980 | Set, Hex Key Shortarm 13 Pc. |
| 306 | Shears, Miniature Metal | 4709 | Socket, 1/4" Dr. 9/32" | 9202-1/2 | Nut Driver, 5/64" Midget |
| 704G | Wrench, Adjustable 4" w/Grip | 4709L | Socket, 1/4" Dr. 9/32" Deep | 9203 | Nut Driver, 3/32" Midget |
| 706G | Wrench, Adjustable 6" w/Grip | 4710 | Socket, 1/4" Dr. 5/16" | 9203-1/2 | Nut Driver, 7/64" Midget |
| 1204E | Wrench, Short Combination 1/8" | 4710L | Socket, 1/4" Dr. 5/16" Deep | 9204 | Nut Driver, 1/8" Midget |
| 1205E | Wrench, Short Combination 5/32" | 4710S | Socket, 1/4" Dr., 5/16" 8 Pt. | 9205 | Nut Driver, 5/32" Midget |
| 1206E | Wrench, Short Combination 3/16" | 4711 | Socket, 1/4" Dr. 11/32" | 9206H | Nut Driver, 3/16" Hollow Shaft |
| 1208E | Wrench, Short Combination 1/4" | 4711L | Socket, 1/4" Dr. 11/32" Deep | 9208H | Nut Driver, 1/4" Hollow Shaft |
| 1209E | Wrench, Short Combination 9/32" | 4712 | Socket, 1/4" Dr. 3/8" | 9210H | Nut Driver, 5/16" Hollow Shaft |
| 1210E | Wrench, Short Combination 5/16" | 4712L | Socket, 1/4" Dr. 3/8" Deep | 9211H | Nut Driver, 11/32" Hollow Shaft |
| 1211E | Wrench, Short Combination 11/32" | 4712S | Socket, 1/4" Dr. 3/8" 8 Pt. | 9212H | Nut Driver, 3/8" Hollow Shaft |
| 1212E | Wrench, Short Combination 3/8" | 4714 | Socket, 1/4" Dr. 7/16" | 9214H | Nut Driver, 7/16" Hollow Shaft |
| 1214E | Wrench, Short Combination 7/16" | 4714L | Socket, 1/4" Dr. 7/16" Deep | 9216H | Nut Driver, 1/2" Hollow Shaft |
| 1216E | Wrench, Short Combination 1/2" | 4716 | Socket, 1/4" Dr. 1/2" | 9403 | Screwdriver, Cush Grip 3/16 x 3" |
| 1218E | Wrench, Short Combination 9/16" | 4716L | Socket, 1/4" Dr. 1/2" Deep | 9404 | Screwdriver, Cush Grip 1/4 x 4" |
| 1220E | Wrench, Short Combination 5/8" | 4718 | Socket, 1/4" Dr. 9/16" | 9406 | Screwdriver, Cush Grip 5/16 x 6" |
| 1222T | Wrench, Short Combination 11/16" | 4718L | Socket, 1/4" Dr. 9/16" Deep | 9408 | Screwdriver, Cush Grip 3/8 x 8" |
| 1224T | Wrench, Short Combination 3/4" | 4737 | Socket, 1/4" Dr. #1 Phillips | 9452 | Screwdriver, Cush Grip 1/4 x 1½" |
| 1304PD | Hammer, Ball Pein 4 Oz. | 4737L | Socket, 1/4" Dr. #1 Phillips | 9482 | Screwdriver, Cush Grip #1 Phillips |
| 1383 | Hammer, Plastic-Tip | 4738 | Socket, 1/4" Dr. #2 Phillips | 9484 | Screwdriver, Cush Grip #2 Phillips |
| 2302 | File, Ignition | 4738L | Socket, 1/4" Dr. #2 Phillips | 9486 | Screwdriver, Cush Grip #3 Phillips |
| | | 4743 | Socket, Screwdriver, 3/8" | 9884 | Screw Starter Phillips |

**No. 6C344.** Tools Only (Proto Model 99100). Shpg. wt. 23.0 lbs. List $1452.93. Each ..... **$959.00**

**No. 1AC31.** Utility Chest (Proto Model 9992). Shpg. wt. 18.0 lbs. List $128.53. Each ..... **$85.25▲**

**No. 7A054.** Tool Set with Utility Chest (Proto Model 99101). Shpg. wt. 41.0 lbs. List $1581.46. Each ..... **$996.00**

(▲) Net Prices, not subject to discounts.

# 107 AND 96-PC. METRIC STARTER SETS

PROTO PROFESSIONAL TOOLS

- Proto sockets and wrenches are an industrial grade line of mechanic's tools for heavy-duty applications and production use

Replacement Parts Available 1-800-323-0620

## 107-PC. ADD-ON METRIC SET—1/4", & 1/2" Drives

| Proto Model | Description | Proto Model | Description | Proto Model | Description |
|---|---|---|---|---|---|
| 1207M | Wrench, Combination 7mm | 4710M | Socket, 1/4" Dr. 10mm | 5215M | Socket, 3/8" Dr. 15mm |
| 1208M | Wrench, Combination 8mm | 4711LM | Socket, 1/4" Dr. 11mm Deep | 5216M | Socket, 3/8" Dr. 16mm |
| 1209M | Wrench, Combination 9mm | 4711M | Socket, 1/4" Dr. 11mm | 5217M | Socket, 3/8" Dr. 17mm |
| 1210M | Wrench, Combination 10mm | 4712LM | Socket, 1/4" Dr. 12mm Deep | 5218M | Socket, 3/8" Dr. 18mm |
| 1211M | Wrench, Combination 11mm | 4712M | Socket, 1/4" Dr. 12mm | 5219M | Socket, 3/8" Dr. 19mm |
| 1212M | Wrench, Combination 12mm | 4713LM | Socket, 1/4" Dr. 13mm Deep | 5316M | Socket, 1/2" Dr. 16mm Deep |
| 1213M | Wrench, Combination 13mm | 4713M | Socket, 1/4" Dr. 13mm | 5317M | Socket, 1/2" Dr. 17mm Deep |
| 1214M | Wrench, Combination 14mm | 4714LM | Socket, 1/4" Dr. 14mm Deep | 5318M | Socket, 1/2" Dr. 18mm Deep |
| 1215M | Wrench, Combination 15mm | 4714M | Socket, 1/4" Dr. 14mm | 5319M | Socket, 1/2" Dr. 19mm Deep |
| 1216M | Wrench, Combination 16mm | 4984 | Set, Metric Hex Key, 9 Pc. | 5320M | Socket, 1/2" Dr. 20mm Deep |
| 1217M | Wrench, Combination 17mm | 4990-4M | Hex Bit, 3/8" Dr. 4mm | 5321M | Socket, 1/2" Dr. 21mm Deep |
| 1218M | Wrench, Combination 18mm | 4990-5M | Hex Bit, 3/8" Dr. 5mm | 5322M | Socket, 1/2" Dr. 22mm Deep |
| 1219M | Wrench, Combination 19mm | 4990-6M | Hex Bit, 3/8" Dr. 6mm | 5324M | Socket, 1/2" Dr. 24mm Deep |
| 1220M | Wrench, Combination 20mm | 4990-7M | Hex Bit, 3/8" Dr. 7mm | 5325M | Socket, 1/2" Dr. 25mm Deep |
| 1221M | Wrench, Combination 21mm | 4990-8M | Hex Bit, 3/8" Dr. 8mm | 5326M | Socket, 1/2" Dr. 26mm Deep |
| 1222M | Wrench, Combination 22mm | 4990-10M | Hex Bit, 3/8" Dr. 10mm | 5410M | Socket, 1/2" Dr. 10mm |
| 1223M | Wrench, Combination 23mm | 5010M | Socket, 3/8" Dr. 10mm Deep | 5411M | Socket, 1/2" Dr. 11mm |
| 1224M | Wrench, Combination 24mm | 5011M | Socket, 3/8" Dr. 11mm Deep | 5412M | Socket, 1/2" Dr. 12mm |
| 4704LM | Socket, 1/4" Dr. 4mm Deep | 5012M | Socket, 3/8" Dr. 12mm Deep | 5413M | Socket, 1/2" Dr. 13mm |
| 4704M | Socket, 1/4" Dr. 4mm | 5013M | Socket, 3/8" Dr. 13mm Deep | 5414M | Socket, 1/2" Dr. 14mm |
| 4705LM | Socket, 1/4" Dr. 5mm Deep | 5014M | Socket, 3/8" Dr. 14mm Deep | 5415M | Socket, 1/2" Dr. 15mm |
| 4705M | Socket, 1/4" Dr. 5mm | 5015M | Socket, 3/8" Dr. 15mm Deep | 5416M | Socket, 1/2" Dr. 16mm |
| 47055LM | Socket, 1/4" Dr. 5.5mm Deep | 5016M | Socket, 3/8" Dr. 16mm Deep | 5417M | Socket, 1/2" Dr. 17mm |
| 47055M | Socket, 1/4" Dr. 5.5mm | 5017M | Socket, 3/8" Dr. 17mm Deep | 5418M | Socket, 1/2" Dr. 18mm |
| 4706LM | Socket, 1/4" Dr. 6mm Deep | 5018M | Socket, 3/8" Dr. 18mm Deep | 5419M | Socket, 1/2" Dr. 19mm |
| 4706M | Socket, 1/4" Dr. 6mm | 5019M | Socket, 3/8" Dr. 19mm Deep | 5420M | Socket, 1/2" Dr. 20mm |
| 4707LM | Socket, 1/4" Dr. 7mm Deep | 5208M | Socket, 3/8" Dr. 8mm | 5421M | Socket, 1/2" Dr. 21mm |
| 4707M | Socket, 1/4" Dr. 7mm | 5209M | Socket, 3/8" Dr. 9mm | 5422M | Socket, 1/2" Dr. 22mm |
| 4708LM | Socket, 1/4" Dr. 8mm Deep | 5210M | Socket, 3/8" Dr. 10mm | 5423M | Socket, 1/2" Dr. 23mm |
| 4708M | Socket, 1/4" Dr. 8mm | 5211M | Socket, 3/8" Dr. 11mm | 5424M | Socket, 1/2" Dr. 24mm |
| 4709LM | Socket, 1/4" Dr. 9mm Deep | 5212M | Socket, 3/8" Dr. 12mm | 5441-12M | Hex Bit, 1/2" Dr. 12mm |
| 4709M | Socket, 1/4" Dr. 9mm | 5213M | Socket, 3/8" Dr. 13mm | 5441-14M | Hex Bit, 1/2" Dr. 14mm |
| 4710LM | Socket, 1/4" Dr. 10mm Deep | 5214M | Socket, 3/8" Dr. 14mm | 5441-17M | Hex Bit, 1/2" Dr. 17mm |

**No. 6C353.** Tools Only (Proto Model 99570). Shpg. wt. 30.0 lbs. List $1124.71. Each ..... $742.50

**No. 6C341.** Intermediate Chest (Proto Model 9987ASHD). Shpg. wt. 81.0 lbs. List $743.76. Each ..... $407.00▲

**No. 7A063.** Tool Set with Intermediate Chest (Proto Model 99572). Shpg. wt. 111.0 lbs. List $1868.47. Each ..... $1095.00

## 96-PC. STARTER SET—3/8 & 1/2" Drives

| Proto Model | Description | Proto Model | Description | Proto Model | Description |
|---|---|---|---|---|---|
| 41-3/8 | Punch, Center | 1228 | Wrench, Combination 7/8" | 5420 | Socket, 1/2" Dr. 5/8" |
| 47-1/4x3/32 | Punch, Pin | 1230 | Wrench, Combination 15/16" | 5421 | Socket, 1/2" Dr. 21/32" |
| 47-3/8x3/16 | Punch, Pin | 1232 | Wrench, Combination 1" | 5422 | Socket, 1/2" Dr. 11/16" |
| 47-5/16x1/8 | Punch, Pin | 1234 | Wrench, Combination 11/16" | 5424 | Socket, 1/2" Dr. 3/4" |
| 50-3/8 | Punch, Starting | 1236 | Wrench, Combination 11/8" | 5425 | Socket, 1/2" Dr. 25/32" |
| 50-3/16 | Punch, Starting | 1240 | Wrench, Combination 11/4" | 5426 | Socket, 1/2" Dr. 13/16" |
| 50-5/16 | Punch, Starting | 1316PD | Hammer, Ball Pein 16 oz. | 5428 | Socket, 1/2" Dr. 7/8" |
| 72-5/16 | Chisel, Cape | 2108 | Punch and Chisel Holder | 5430 | Socket, 1/2" Dr. 15/16" |
| 76-5/16 | Chisel, 3/16" Diamond Point | 2336 | Scraper, Gasket | 5431 | Socket, 1/2" Dr. 31/32" |
| 86A-1/4 | Chisel, Cold 5/16" | 4982 | Set, Folding Hex 7 Pc. | 5432 | Socket, 1/2" Dr. 1" |
| 86A-3/8 | Chisel, Cold 7/16" | 5212 | Socket, 3/8" Dr. 3/8" | 5434 | Socket, 1/2" Dr. 1 1/16" |
| 86A-7/16 | Chisel, Cold 1/2" | 5214 | Socket, 3/8" Dr. 7/16" | 5436 | Socket, 1/2" Dr. 1 1/8" |
| 209G | Pliers, Diagonal Cutting w/Grip | 5216 | Socket, 3/8" Dr. 1/2" | 5438 | Socket, 1/2" Dr. 1 3/16" |
| 226G | Pliers, Needle Nose w/Grip | 5218 | Socket, 3/8" Dr. 9/16" | 5440 | Socket, 1/2" Dr. 1 1/4" |
| 263SG | Pliers, Tongue & Groove 91/2" | 5220 | Socket, 3/8" Dr. 5/8" | 5449 | Ratchet, 1/2" Dr. |
| 278G | Pliers, Slip-Joint w/Grip | 5222 | Socket, 3/8" Dr. 11/16" | 5460 | Extension, 1/2" Dr. 2 1/2" |
| 291R | Pliers, Locking 7" Straight | 5224 | Socket, 3/8" Dr. 3/4" | 5461 | Extension, 1/2" Dr. 5" |
| 303S | Snip, Aviation Straight | 5226 | Socket, 3/8" Dr. 13/16" | 5463 | Extension, 1/2" Dr. 10" |
| 15-265 | Hacksaw, Adjustable | 5228 | Socket, 3/8" Dr. 7/8" | 5468 | Hinge Handle, 1/2" Dr. |
| 706 | Wrench, Adjustable 6" | 5249 | Ratchet, 3/8" Drive | 5470 | Universal Joint 1/2" Dr. |
| 710 | Wrench, Adjustable 10" | 5260 | Extension, 3/8" Dr. 3" | 5480 | Speed Handle, 1/2" Dr. |
| 1210 | Wrench, Combination 5/16" | 5262 | Extension, 3/8" Dr. 12" | 9652 | Screwdriver, 1/4 x 1 1/2" |
| 1212 | Wrench, Combination 3/8" | 5265 | Hinge Handle, 3/8" Dr. | 9682 | Screwdriver, Phillips #1 |
| 1214 | Wrench, Combination 7/16" | 5270 | Universal Joint, 3/8" Dr. | 9684 | Screwdriver, Phillips #2 |
| 1216 | Wrench, Combination 1/2" | 5280 | Speed Handle, 3/8" Dr. | 9686 | Screwdriver, Phillips #3 |
| 1218 | Wrench, Combination 9/16" | 5412 | Socket, 1/2" Dr. 3/8" | 9804 | Screwdriver, 1/4 x 4" |
| 1220 | Wrench, Combination 5/8" | 5414 | Socket, 1/2" Dr. 7/16" | 9806 | Screwdriver, 5/16 x 6" |
| 1222 | Wrench, Combination 11/16" | 5416 | Socket, 1/2" Dr. 1/2" | 9808 | Screwdriver, 3/8 x 8" |
| 1224 | Wrench, Combination 3/4" | 5418 | Socket, 1/2" Dr. 9/16" | 9832 | Screwdriver, 3/16 x 4" |
| 1226 | Wrench, Combination 13/16" | 5419 | Socket, 1/2" Dr. 19/32" | 57532 | Hammer, Compocast 21 oz. |

**No. 6C345.** Tools Only (Proto Model 99400). Shpg. wt. 52.0 lbs. List $1471.76. Each ..... $971.50

**No. 1AC47.** Tool Storage Box (Proto Model 9969). Shpg. wt. 20.0 lbs. List $97.78. Each ..... $64.90▲

**No. 7A055.** Tool Set With Box (Proto Model 99401). Shpg. wt. 72.0 lbs. List $1569.54. Each ..... $989.00

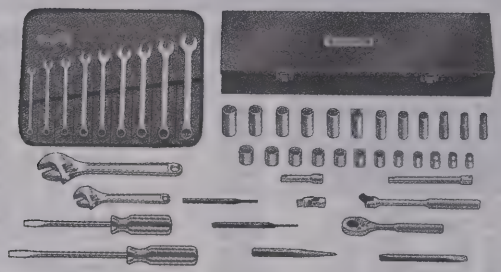
(▲) Net Prices, not subject to discounts.

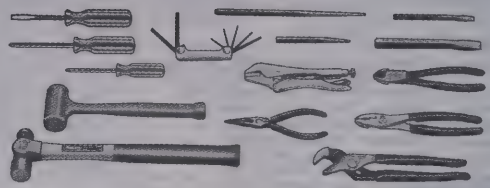
# 67-PC. METRIC STARTER SET

PROTO PROFESSIONAL TOOLS

Made In U.S.A.

Replacement Parts Available 1-800-323-0620





No. 6C350
67-Pc. Metric Set Tools Only

## 67-PC. METRIC STARTER SET—3/8" DRIVE

| Proto Model | Description |
|---|---|
| 41-1/2 | Punch, Center |
| 41-3/8 | Punch, Center |
| 47-3/8x3/16 | Punch, Pin |
| 47-5/16x1/8 | Punch, Pin |
| 86A-5/8 | Chisel, Cold 3/4" |
| 86A-5/16 | Chisel, Cold 3/8" |
| 86A-7/16 | Chisel, Cold 1/2" |
| 96-3/8 | Punch, Drift |
| 209G | Pliers, Diagonal Cutting w/Grip |
| 226G | Pliers, Needle Nose w/Grip |
| 263SG | Pliers, Tongue & Groove 91/2" |
| 278G | Pliers, Slip-Joint w/Grip |
| 291R | Pliers, Locking 7" Straight |
| 706 | Wrench, Adjustable 6" |
| 710 | Wrench, Adjustable 10" |
| 1207M | Wrench, Combination 7mm |
| 1208M | Wrench, Combination 8mm |
| 1209M | Wrench, Combination 9mm |
| 1210M | Wrench, Combination 10mm |
| 1211M | Wrench, Combination 11mm |
| 1212M | Wrench, Combination 12mm |
| 1213M | Wrench, Combination 13mm |
| 1214M | Wrench, Combination 14mm |
| 1215M | Wrench, Combination 15mm |
| 1316PD | Hammer, Ball Pein 16 oz. |
| 4974 | Set, Folding Hex 7 Pc. Metric |
| 5008M | Socket, 3/8" Dr. 8mm Deep |
| 5009M | Socket, 3/8" Dr. 9mm Deep |
| 5010M | Socket, 3/8" Dr. 10mm Deep |
| 5011M | Socket, 3/8" Dr. 11mm Deep |
| 5012M | Socket, 3/8" Dr. 12mm Deep |
| 5013M | Socket, 3/8" Dr. 13mm Deep |
| 5014M | Socket, 3/8" Dr. 14mm Deep |
| 5015M | Socket, 3/8" Dr. 15mm Deep |
| 5016M | Socket, 3/8" Dr. 16mm Deep |
| 5017M | Socket, 3/8" Dr. 17mm Deep |
| 5018M | Socket, 3/8" Dr. 18mm Deep |
| 5019M | Socket, 3/8" Dr. 19mm Deep |
| 5208M | Socket, 3/8" Dr. 8mm |
| 5209M | Socket, 3/8" Dr. 9mm |
| 5210M | Socket, 3/8" Dr. 10mm |
| 5211M | Socket, 3/8" Dr. 11mm |
| 5212M | Socket, 3/8" Dr. 12mm |
| 5213M | Socket, 3/8" Dr. 13mm |
| 5214M | Socket, 3/8" Dr. 14mm |
| 5215M | Socket, 3/8" Dr. 15mm |
| 5216M | Socket, 3/8" Dr. 16mm |
| 5217M | Socket, 3/8" Dr. 17mm |
| 5218M | Socket, 3/8" Dr. 18mm |
| 5219M | Socket, 3/8" Dr. 19mm |
| 5249 | Ratchet, 3/8" Drive |
| 5260 | Extension, 3/8"Dr. 3" |
| 5260-06 | Extension, 3/8" Dr. 6" |
| 5265 | Hinge Handle, 3/8" Dr. |
| 5270 | Universal Joint, 3/8" Dr. |
| 9682 | Screwdriver, Phillips #1 |
| 9684 | Screwdriver, Phillips #2 |
| 9804 | Screwdriver, 1/4 x 4" |
| 9806 | Screwdriver, 5/16 x 6" |
| 9808 | Screwdriver, 3/8 x 8" |
| 57530 | Hammer, Compocast 10 oz. |

**No. 6C350.** Tools Only (Proto Model 99210). Shpg. wt. 21.0 List $732.29. Each ..... $483.50

**No. 1AC35.** Tool Storage Box (Proto Model 9975). Shpg. wt. 11.0 List $64.33. Each ..... $42.70▲

**No. 7A060.** Tool Set with Tool Storage Box (Proto Model 99211). Shpg. wt. 32.0 List $796.62. Each ..... $499.00

(▲) Net Prices, not subject to discounts.

## MANY BRANDS OF HAND TOOLS AVAILABLE

OTC · GREENLEE · STANLEY · NUPLA Since 1938 · WILTON CORPORATION · ALLEN · Eklind · ENDERES TOOLS · JOHNSON LEVEL & TOOL · WESTWARD · COOPER Tools · VISE-GRIP · Crescent · CHANNELLOCK · KLEIN TOOLS EST. 1857 · Xcelite

CHECK THE NATIONAL BRAND INDEX IN THE BACK OF THIS BOOK

# 1/4" DRIVE SOCKET SETS

**LIFETIME LIMITED WARRANTY**

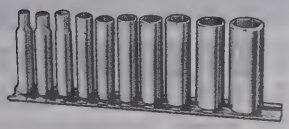
All Proto tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside back cover.

PROTO PROFESSIONAL TOOLS

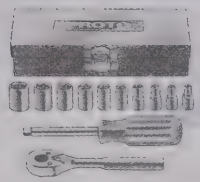
TORQUEPLUS™ FASTENING SYSTEM

Made in U.S.A.

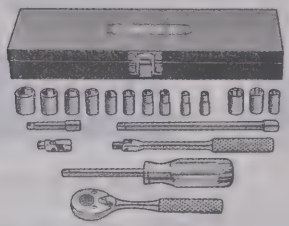
Replacement Parts Available
1-800-323-0620



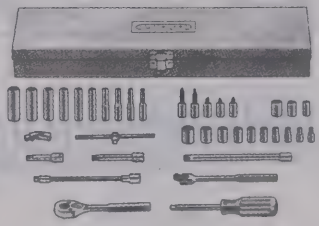
No. 1AC61
10-Pc. Set



No. 5C848
12-Pc. Set



No. 5C850
19-Pc. Set



No. 5C852
37-Pc. Set

| No. of Pieces | Socket Type | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **12 POINT SOCKET SETS** | | | | | | | | |
| 10 | **12-Pt. Deep** | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | 6¼" Socket Bar and 10 Socket Clips | 47100 | **1AC60** | $78.38 | **$57.25** | 0.9 |
| 12 | 12-Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | Reversible Ratchet<br>Socket Driver<br>Steel Box | 47110 | **5C864** | 98.73 | **72.10** | 1.7 |
| 25 | 12-Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | Reversible Ratchet<br>2 & 6" Extensions<br>Socket Driver<br>Universal Joint<br>Steel Box | 47118 | **5C865** | 212.96 | **155.50** | 4.0 |
| | **12-Pt. Deep** | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | | | | | | |
| **6 POINT AND 6 AND 8 POINT COMBINATION SOCKET SETS** | | | | | | | | |
| 10 | **6-Pt. Deep** | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | 6¼" Socket Bar and 10 Socket Clips | 47102 | **1AC61** | 78.38 | **57.25** | 1.0 |
| 12 | 6-Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | Reversible Ratchet<br>Socket Driver<br>Steel Box | 47108 | **5C848** | 98.73 | **72.10** | 1.7 |
| 15 | 6-Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | Reversible Ratchet<br>2 & 6" Extensions<br>Socket Driver<br>Universal Joint<br>Steel Box | 47112 | **5C849** | 134.87 | **98.50** | 2.4 |
| 19 | 6-Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | Reversible Ratchet<br>2 & 6" Extensions<br>Hinge Handle<br>Socket Driver<br>Universal Joint<br>Steel Box | 47114 | **5C850** | 170.71 | **124.65** | 2.8 |
| | 8 Pt. Std. | 1/4, 5/16 & 3/8" | | | | | | |
| 25 | 6-Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | Reversible Ratchet<br>2 & 6" Extensions<br>Socket Driver<br>Universal Joint<br>Steel Box | 47116 | **5C851** | 212.96 | **155.50** | 4.5 |
| | **6-Pt. Deep** | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | | | | | | |
| 37 | 6-Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | Phillips Bits Nos. 1 & 2<br>3 Standard Bits 3/8, 3/16, 1/4"<br>Reversible Ratchet<br>2, 3 & 6" Extensions<br>6" Flex Extension<br>Hinge Handle<br>Socket Driver<br>Universal Joint<br>Sliding T-Handle<br>Steel Box | 47120 | **5C852** | 346.24 | **253.00** | 5.7 |
| | 8-Pt. Std. | 1/4, 5/16 & 3/8" | | | | | | |
| | **6-Pt. Deep** | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2 & 9/16" | | | | | | |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

Link up with Grainger's Web site at http://www.grainger.com
and tap into a fast, convenient way to access up-to-date information.
Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# 1/4" DRIVE METRIC AND 1/4 & 3/8" DRIVE COMBINATION SOCKET SETS

PROTO PROFESSIONAL TOOLS

Made In U.S.A.

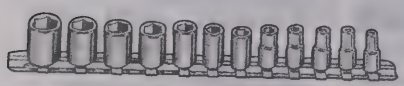
- Proto sockets are an industrial grade line of mechanic's sockets for heavy-duty applications and production use

TORQUEPLUS™ FASTENING SYSTEM

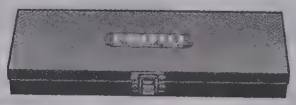
**LIFETIME LIMITED WARRANTY**

All Proto tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.

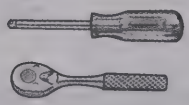
Replacement Parts Available
1-800-323-0620



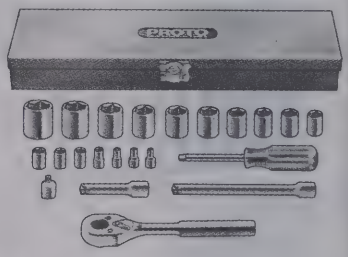
No. 5C855
12-Pc. Set



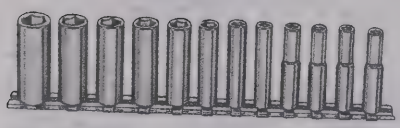




No. 5C854
17-Pc. Set



No. 5C856
22-Pc. Set



No. 5C853
12-Pc. Deep Set



No. 5C625
6-Pc. TorxAlign® Set

| No. of Pieces | Socket Type | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **12 POINT METRIC SOCKET SETS** | | | | | | | | |
| **11** | 12-Pt. Std. | 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, & 14mm | 9" Socket Bar and 11 Socket Clips | 47201 | **5F387** | $59.27 | **$43.30** | 0.9 |
| **6 POINT METRIC SOCKET SETS** | | | | | | | | |
| **12** | 6-Pt. Std. | 4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, & 14mm | 9" Socket Bar and 12 Socket Clips | 47200 | **5C855** | 64.33 | **47.00** | 0.6 |
| **12** | **6-Pt. Deep** | 4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, & 14mm | 9" Socket Bar and 12 Socket Clips | 47202 | **5C853** | 96.82 | **70.70** | 1.0 |
| **17** | 6-Pt. Std. | 4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, & 14mm | Reversible Ratchet<br>Socket Driver<br>2 & 6" Extensions<br>Universal Joint<br>Steel Box | 47204 | **5C854** | 145.36 | **106.15** | 2.5 |
| **29** | 6-Pt. Std.<br>**6-Pt. Deep** | 4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, & 14mm<br>4, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, & 14mm | Reversible Ratchet<br>2 & 6" Extensions<br>Socket Driver<br>Universal Joint<br>Steel Box | 47206 | **5C857** | 241.62 | **176.50** | 4.1 |
| **TORXALIGN® BIT SOCKET SET** | | | | | | | | |
| **6** | Torx® | T10, T15, T20, T25, T27, & T30 Torx® Bit Sockets | 6¼" Socket Bar and 6 Socket Clips | 4739C | **5C625** | 61.44 | **44.90** | 0.4 |
| **1/4" AND 3/8" DRIVE COMBINATION SOCKET SETS** | | | | | | | | |
| **22** | 6-Pt. Std.<br>6-Pt Std | **1/4" DRIVE:** 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, & 3/8"<br>**3/8" DRIVE:** 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" | **1/4" DRIVE:**<br>Socket Driver<br>**3/8" DRIVE:**<br>Reversible Ratchet<br>3 & 6" Extensions<br>3/8"F x 1/4" M Adapter<br>Steel Box | 47152 | **5C856** | 192.44 | **140.50** | 5.0 |

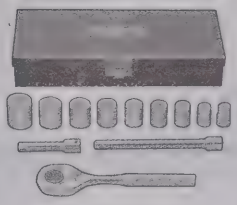
CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS. THOUSANDS OF QUALITY PRODUCTS ARE LISTED

# 3/8" DRIVE SOCKET SETS

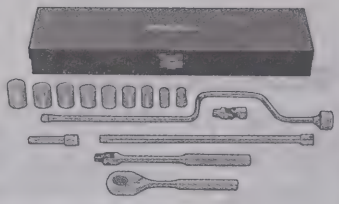
PROTO PROFESSIONAL TOOLS

Replacement Parts Available
1-800-323-0620

**Proto sockets are an industrial grade line of mechanic's sockets for heavy-duty applications and production use**



**No. 5C866**
**12-Pc. 12-Pt. Set**



**No. 5C868**
**15-Pc. 12-Pt. Set**



**No. 5C874**
**13-Pc. 6-Pt. Set**

| No. of Pieces | Socket Type | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | **12 POINT SOCKET SETS** | | | | | |
| **12** | 12-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | Reversible Ratchet<br>3 & 6" Extensions<br>Steel Box | 52130 | **5C866** | $124.07 | **$90.60** | 3.5 |
| **13** | 12-Pt. Std. | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" | 13" Socket Bar with<br>13 Socket Clips | 52124 | **5C867** | 85.40 | **62.35** | 1.8 |
| **15** | 12-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | Reversible Ratchet<br>3 & 12" Extensions<br>Hinge Handle<br>Universal Joint<br>Speed Handle<br>Steel Box | 52132 | **5C868** | 204.82 | **149.55** | 8.5 |
| **10** | **12-Pt. Deep** | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | 9" Socket Bar with<br>10 Socket Clips | 52107 | **4JW15** | 89.16 | **58.85** | 2.3 |
| **13** | **12-Pt. Deep** | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" | 13" Socket Bar with<br>13 Socket Clips | 52112 | **5C869** | 126.58 | **92.45** | 3.2 |
| **22** | 12-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | Reversible Ratchet<br>3 & 6" Extensions<br>Universal Joint<br>Steel Box | 52136 | **5C875** | 229.02 | **167.25** | 7.1 |
| | **12-Pt. Deep** | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | | | | | | |
| | | | **6 POINT SOCKET SETS** | | | | | |
| **12** | 6-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | Reversible Ratchet<br>3 & 6" Extensions<br>Steel Box | 52128 | **5C873** | 124.07 | **90.60** | 4.0 |
| **13** | 6-Pt. Std. | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" | 13" Socket Bar with<br>13 Socket Clips | 52126 | **5C872** | 85.40 | **62.35** | 2.0 |
| **10** | **6-Pt. Deep** | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | 9" Socket Bar with<br>10 Socket Clips | 52111 | **4JW16** | 89.16 | **58.85** | 1.9 |
| **13** | **6-Pt. Deep** | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" | 13" Socket Bar with<br>13 Socket Clips | 52114 | **5C874** | 126.58 | **92.45** | 3.5 |
| **22** | 6-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | Reversible Ratchet<br>3 & 6" Extensions<br>Universal Joint<br>Steel Box | 52134 | **5C858** | 229.02 | **167.25** | 8.0 |
| | **6-Pt. Deep** | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | | | | | | |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

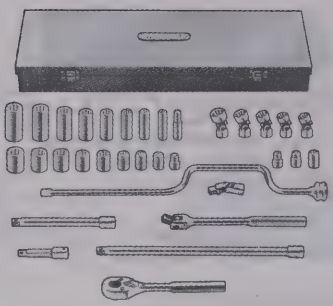
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# 3/8" DRIVE SOCKETS SETS

PROTO PROFESSIONAL TOOLS

Made In U.S.A.

Replacement Parts Available 1-800-323-0620



No. 5C859
33-Pc. Set



No. 5C627
6-Pc. Torx Set



TORQUEPLUS FASTENING SYSTEM



No. 1AC85
9-Pc. Crowfoot Wrench Set

| No. of Pieces | Socket Type | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/8" DRIVE SOCKET SETS** | | | | | | | | |
| 33 | 8-Pt. Std.<br>12-Pt. Std.<br>**12-Pt. Deep**<br>12-Pt. Universal | 1/4, 5/16, & 3/8"<br>3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8"<br>3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8"<br>7/16, 1/2, 9/16, 5/8, & 3/4" | Reversible Ratchet<br>3, 6, & 12" Extensions<br>7⅞" Hinge Handle<br>Universal Joint<br>Speed Handle<br>Steel Box | 52138 | **5C859** | $428.84 | **$313.25** | 12.0 |
| **TORXALIGN® BIT SOCKET SETS** | | | | | | | | |
| 6 | Torx® | T15, T20, T25, T27, T30, T40 Torx® Bit Sockets | 6¼" Socket Bar and 6 Socket Clips | 5238C | **5C627** | 59.89 | **43.75** | 0.7 |
| 8 | Torx® | T15, T20, T25, T27, T30, T40, T45, & T50 Torx® Bit Sockets | 6¼" Socket Bar and 8 Socket Clips | 5239C | **5C626** | 80.31 | **58.65** | 0.9 |
| **12 AND 6 POINT UNIVERSAL SOCKET SETS** | | | | | | | | |
| 7 | 12-Pt. Universal | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, & 3/4" | 6¼" Socket Bar with 7 Socket Clips | 52102 | **1AC81** | 147.09 | **107.40** | 1.8 |
| 7 | 6-Pt. Universal | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, & 3/4" | 6¼" Socket Bar with 7 Socket Clips | 52100 | **1AC83** | 147.51 | **107.70** | 1.9 |
| **CROWFOOT WRENCH SET** | | | | | | | | |
| 9 | Crowfoot Wrenches | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" | 13" Socket Bar with 9 Socket Clips | 4900-9 | **1AC85** | 113.73 | **83.05** | 1.0 |
| **12 POINT BLACK OXIDE SOCKET SETS** | | | | | | | | |
| 13 | 12-Pt. Std. | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" | 13" Socket Bar with 13 Socket Clips | 52304 | **5C918** | 72.96 | **53.30** | 1.7 |


## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

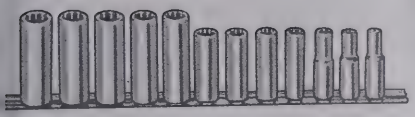
# 3/8" DRIVE METRIC SOCKET SETS

**Proto sockets are an industrial grade line of mechanic's sockets for heavy-duty applications and production use**

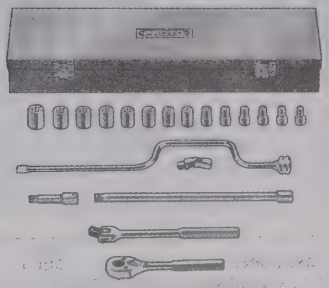
PROTO PROFESSIONAL TOOLS

Made In U.S.A.

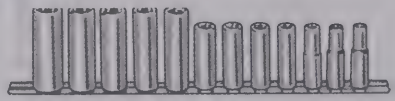
**Replacement Parts Available 1-800-323-0620**



**No. 4JW20**
**12-Pc. Set**



**No. 5C882**
**20-Pc. Set**



**No. 4JW18**
**12-Pc. Set**

**LIFETIME LIMITED WARRANTY**

**All Proto Tools are warranted to the original user for the life of the product. Text of Warranty available; see page opposite inside back cover.**

| No. of Pieces | Socket Type | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **12 POINT METRIC SOCKET SETS** | | | | | | | | |
| **12** | 12-Pt. Std. | 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm | With 13" Socket Bar and 12 Socket Clips | 52216 | **1AC92** | $72.80 | **$53.15** | 1.5 |
| **12** | **12-Pt. Deep** | 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm | With 13" Socket Bar and 12 Socket Clips | 52209 | **4JW20** | 96.64 | **63.80** | 1.5 |
| **16** | 12-Pt. Std. | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm | Reversible Ratchet<br>6" Extension<br>Steel Box | 52218 | **5C878** | 142.20 | **103.85** | 5.0 |
| **20** | 12-Pt. Std. | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm | Reversible Ratchet<br>3 & 12" Extensions<br>Hinge Handle<br>Universal Joint<br>Speed Handle<br>Steel Box | 52224 | **5C882** | 231.18 | **169.00** | 8.4 |
| **29** | 12-Pt. Std.<br>**12-Pt. Deep** | 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm<br>8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm | Reversible Ratchet<br>3 & 6" Extensions<br>Hinge Handle<br>Universal Joint<br>Steel Box | 52222 | **5C883** | 289.11 | **211.25** | 9.0 |
| **6 POINT METRIC SOCKET SETS** | | | | | | | | |
| **12** | 6-Pt. Std. | 8, 9, 10, 11, 12, 13, 14, | With 13" Socket Bar and 12 Socket Clips | 52212 | **1AC94** | 72.80 | **53.15** | 1.6 |
| **12** | **6-Pt. Deep** | 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm | With 13" Socket Bar and 12 Socket Clips | 52205 | **4JW18** | 96.64 | **63.80** | 1.3 |
| **29** | 6-Pt. Std.<br>**6-Pt. Deep** | 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm<br>8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm | Reversible Ratchet<br>3 & 6" Extensions<br>Hinge Handle<br>Universal Joint<br>Steel Box | 52220 | **5C881** | 289.11 | **211.25** | 9.1 |
| **6 POINT METRIC UNIVERSAL SOCKETS** | | | | | | | | |
| **10** | 6-Pt. Universal | 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm | With 9" Socket Bar and 10 Socket Clips | 52201 | **5F416** | 211.36 | **139.50** | 2.5 |

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

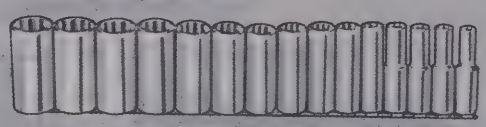
**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

# 1/2" DRIVE SOCKET SETS

PROTO PROFESSIONAL TOOLS

Made In U.S.A.

Replacement Parts Available 1-800-323-0620



No. 4JW26
15-Pc. Set

| No. of Pieces | Socket Type | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | **12 POINT SOCKET SETS** | | | | | |
| **12** | 12-Pt. Std. | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" | Reversible Ratchet<br>5" Extension<br>Steel Box | 54116 | **5C891** | $167.24 | **$110.40** | 6.5 |
| **15** | 12-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, & 1 1/4" | With 17" Socket Bar and 15 Socket Clips | 54114 | **5C887** | 148.51 | **98.05** | 5.0 |
| **16** | 12-Pt. Std. | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" | Reversible Ratchet<br>5 & 10" Extensions<br>Hinge Handle<br>Universal Joint<br>Speed Handle<br>Steel Box | 54118 | **1AF11** | 313.80 | **207.25** | 12.0 |
| **18** | 12-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, & 1 1/4" | Reversible Ratchet<br>5" Extension<br>15 3/4" Hinge Handle<br>Steel Box | 54120 | **5C895** | 286.29 | **189.00** | 12.0 |
| **26** | 12-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 21/32, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16, 31/32, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4" | Reversible Ratchet<br>2 1/2, 5, & 10" Extensions<br>Hinge Handle<br>Universal Joint<br>Speed Handle<br>Steel Box | 54124 | **5C888** | 413.02 | **272.75** | 15.0 |
| **27** | 12-Pt. Std.<br><br>Spark Plug | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4"<br><br>5/8" | Reversible Ratchet<br>5 & 10" Extensions<br>15 3/4" Hinge Handle<br>Universal Joint<br>Combination Wrenches: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, & 3/4"<br>9 1/2" Tongue & Groove Pliers<br>Steel Box | 54128 | **5C897** | 454.80 | **300.25** | 16.0 |
| **15** | **12-Pt. Deep** | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4 | With 17" Socket Bar and 15 Socket Clips | 54107 | **4JW26** | 235.58 | **155.50** | 7.5 |
| **30** | 12-Pt. Std.<br><br>**12-Pt. Deep** | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4"<br><br>1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, & 1 1/4" | Reversible Ratchet<br>5 & 10" Extensions<br>15 3/4" Hinge Handle<br>Steel Box | 54126 | **5C896** | 501.29 | **331.00** | 19.0 |
| | | | **12 POINT BLACK OXIDE SOCKET SETS** | | | | | |
| **15** | 12-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, & 1 1/4" | 17" Socket Bar and 15 Socket Clips | 54302 | **5C914** | 126.49 | **83.50** | 5.0 |
| **11** | **12-Pt. Deep** | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8" | 13" Socket Bar and 11 Socket Clips | 54300 | **5C915** | 142.64 | **94.15** | 5.5 |

# 1/2" DRIVE SOCKET SETS

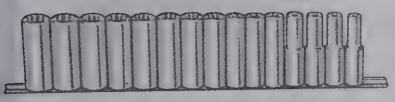
**Proto sockets are an industrial grade line of mechanic's sockets for heavy-duty applications and production use**

PROTO PROFESSIONAL TOOLS

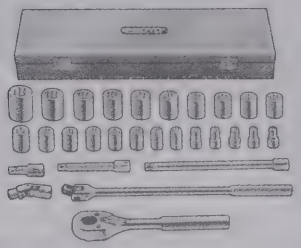
Made In U.S.A.

Replacement Parts Available 1-800-323-0620

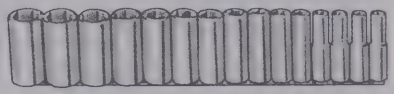
TORQUEPLUS FASTENING SYSTEM



**No. 4JW30**
**12-Point Deep**
**15-Pc. Set**



**No. 5C904**
**29-Pc. Set**



**No. 4JW24**
**6-Point Deep**
**15-Pc. Set**

| No. of Pieces | Socket Type | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | **12 POINT METRIC SOCKET SETS** | | | | | |
| **15** | 12-Pt. Std. | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, & 24mm | With 17" Socket Bar and 15 socket clips | 54206 | **5C902** | $125.20 | **$82.65** | 2.8 |
| **16** | 12-Pt. Std. | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, & 23mm | Reversible Ratchet 5" Extension Steel Box | 54208 | **5C900** | 198.47 | **131.00** | 7.3 |
| **22** | 12-Pt. Std. | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, & 26mm | Reversible Ratchet 5 & 10" Extensions Hinge Handle Universal Joint Steel Box | 54210 | **5C903** | 330.04 | **218.00** | 14.0 |
| **29** | 12-Pt. Std. | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, & 36mm | Reversible Ratchet 2½, 5, & 10" Extensions Hinge Handle Universal Joint Steel Box | 54212 | **5C904** | 460.58 | **304.00** | 19.0 |
| **31** | 12-Pt. Std.<br>**12-Pt. Deep** | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, & 26mm<br>16, 17, 18, 19, 20, 21, 22, 24, 25, & 26mm | Reversible Ratchet 5 & 10" Extensions Hinge Handle Steel Box | 54214 | **5C907** | 476.73 | **314.75** | 19.0 |
| **15** | **12-Pt. Deep** | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24mm | 17" Socket Bar with 15 Socket Clips | 54207 | **4JW30** | 211.73 | **139.75** | 4.5 |
| | | | **6 POINT SOCKET SETS** | | | | | |
| **15** | 6-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, & 1 1/4 | With 17" Socket Bar and 15 Socket Clips | 54110 | **5C893** | 148.51 | **98.05** | 4.9 |
| **18** | 6-Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, & 1 1/4" | Reversible Ratchet 5" Extension Hinge Handle Steel Box | 54122 | **5C894** | 286.29 | **189.00** | 13.0 |
| **15** | **6-Pt. Deep** | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, & 1 1/4 | 17" Socket Bar with 15 Socket Clips | 54103 | **4JW24** | 218.76 | **144.40** | 1.2 |
| | | | **6 POINT METRIC SOCKET SETS** | | | | | |
| **15** | 6-Pt. Std. | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, & 24mm | With 17" Socket Bar and 15 Socket Clips | 54205 | **5F466** | 125.20 | **82.65** | 3.0 |

## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

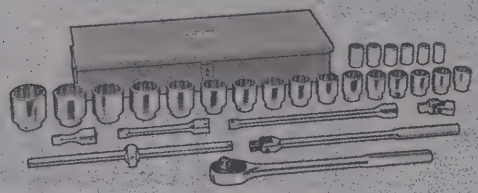
# 3/4 & 1" DRIVE SOCKET SETS

PROTO PROFESSIONAL TOOLS

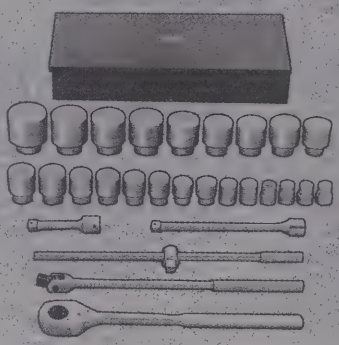
Made in U.S.A.

TORQUEPLUS™ FASTENING SYSTEM

Replacement Parts Available 1-800-323-0620



No. 6A540
3/4" Drive 29-Pc. Set



No. 5C913
1" Drive
29-Pc. Set

| No. of Pieces | Socket Type | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/4" DRIVE SETS** | | | | | | | | |
| 13 | 12-Pt. Std. | 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4, 1 5/16, 1 3/8, 1 7/16, & 1 1/2" | Reversible Ratchet<br>8" Extension<br>Steel Box | 55100 | **5C908** | $440.93 | **$291.25** | 27.0 |
| 20 | 12-Pt. Std. | 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 5/8, 1 3/4, 1 13/16, 1 7/8, & 2" | Reversible Ratchet<br>8 & 16" Extensions<br>Hinge Handle<br>Sliding T-Handle<br>Steel Box | 55102 | **1AF26** | 788.00 | **520.50** | 56.0 |
| 29 | 12-Pt. Std. | 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16, 1 3/4, 1 13/16, 1 7/8, 2, 2 1/8, 2 3/16, 2 1/4, & 2 3/8" | Reversible Ratchet<br>4, 8, & 16" Extensions<br>Hinge Handle<br>Universal Joint<br>Sliding T-Handle<br>Steel Box | 55104 | **6A540** | 1234.18 | **815.00** | 69.0 |
| 42 | 12-Pt. Std. | 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16, 1 3/4, 1 13/16, 1 7/8, 2, 2 1/8, 2 3/16, 2 1/4, & 2 3/8" | Reversible Ratchet<br>4, 8, & 16" Extensions<br>Hinge Handle<br>Universal Joint<br>Sliding T-Handle<br>Steel Box | 55106 | **5C909** | 1612.69 | **1065.00** | 93.0 |
| | **6-Pt. Deep** | 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, & 1 5/8" | | | | | | |
| **3/4" DRIVE METRIC SETS** | | | | | | | | |
| 19 | 12-Pt. Std. | 24, 25, 26, 27, 28, 29, 30, 31, 32, 35, 36, 38, 41, 42, & 46 mm | Reversible Ratchet<br>8 & 16" Extensions<br>Hinge Handle<br>Steel Box | 55200 | **5C910** | 704.87 | **465.25** | 40.0 |
| 28 | 12-Pt. Std. | 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 35, 36, 38, 41, 42, 46, 50, 54, 55, 58, & 60 mm | Reversible Ratchet<br>4 & 8" Extensions<br>Hinge Handle<br>Universal Joint<br>Sliding T-Handle<br>Steel Box | 55202 | **1AF29** | 1194.89 | **789.00** | 68.0 |
| **1" DRIVE SETS** | | | | | | | | |
| 17 | 12-Pt. Std. | 1 1/16, 1 1/8, 1 3/16, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 5/8, 1 11/16, 1 3/4, 1 13/16, 1 7/8, & 2" | Reversible Ratchet<br>8" Extension<br>Hinge Handle<br>Steel Box | 57100 | **5C911** | 1165.24 | **769.50** | 62.0 |
| 29 | 12-Pt. Std. | 1 1/16, 1 1/8, 1 3/16, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 5/8, 1 13/16, 1 7/8, 2, 2 3/16, 2 1/4, 2 3/8, 2 1/2, 2 7/16, 2 5/8, 2 3/4, 2 15/16, 3, 3 1/8, & 3 1/2" | Reversible Ratchet<br>8 & 17" Extensions<br>Hinge Handle<br>Sliding T-Bar<br>Sliding T-Plug<br>Steel Box | 57104 | **5C913** | 2872.04 | **1896.00** | 164.0 |

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

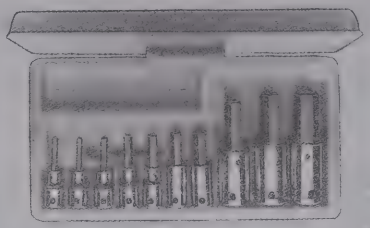
**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# HEX BIT SETS

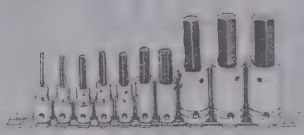
PROTO PROFESSIONAL TOOLS

Made In U.S.A.

**Proto sockets are an industrial grade line of mechanic's sockets for heavy-duty applications and production use**



No. 1AF35
10-Pc. Set

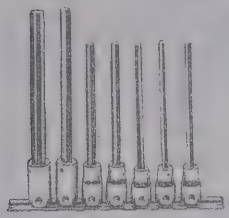


No. 1AF36
10-Pc. Set

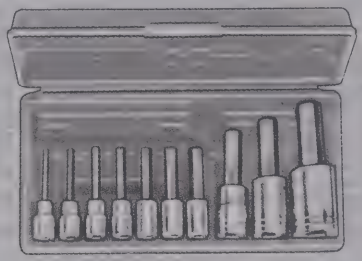
**LIFETIME LIMITED WARRANTY**

All Proto Tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.

**Replacement Parts Available**
**1-800-323-0620**



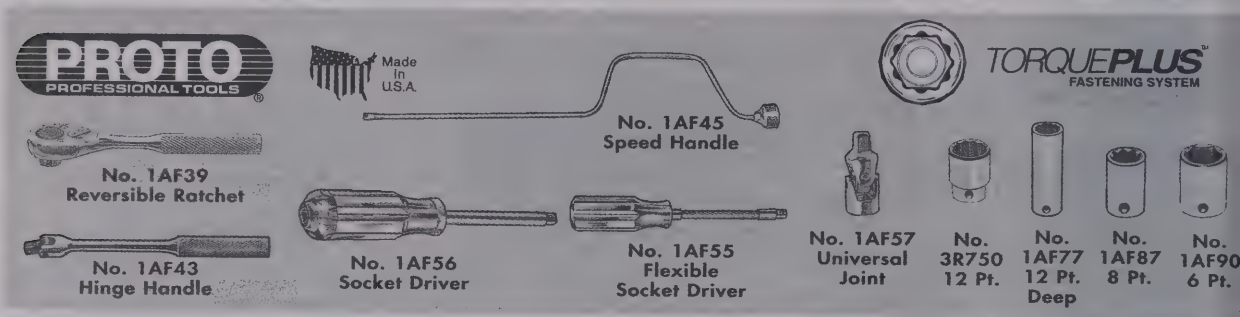
No. 1AF34
7-Pc. Set



No. 4JV94
9-Pc. Set

| No. of Pieces | Drive Size (In.) | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | **HEX BIT SETS** | | | | | |
| 11 | 1/4 Drive | 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, & 5/16" | 6¼" Socket Bar with 11 Socket Clips | 4770-11 | **3R745** | $97.76 | **$71.40** | 0.5 |
| 7 | 3/8 Drive | 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, & 3/8" | 6¼" Socket Bar with 7 Socket Clips | 4900-7C | **1AF33** | 70.04 | **51.15** | 0.7 |
| 10 | 3/8 Drive | 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, & 3/8" | Blow Molded Box | 4900A | **1AF35** | 127.58 | **93.15** | 3.2 |
| | 1/2 Drive | 1/2, 9/16, & 5/8" | | | | | | |
| 10 | 3/8 Drive | 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, & 3/8" | 9" Socket Bar with 10 Socket Clips | 4900AC | **1AF36** | 120.73 | **88.15** | 3.3 |
| | 1/2 Drive | 1/2, 9/16, & 5/8" | | | | | | |
| 7 | 1/2 Drive | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, & 5/8" | 9" Socket Bar with 7 Socket Clips | 5441-7 | **3R748** | 109.64 | **80.05** | 2.9 |
| | | | **EXTRA LONG HEX BIT SETS** | | | | | |
| 7 | 3/8 Drive | 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, & 3/8" | 9" Socket Bar with 7 Socket Clips | 4990-7XL | **1AF34** | 74.36 | **54.30** | 1.2 |
| 6 | 1/2 Drive | 1/4, 5/16, 3/8, 1/2, 9/16, & 5/8" | 9" Socket Bar with 6 Socket Clips | 5441-6XL | **3R747** | 100.49 | **73.40** | 3.6 |
| | | | **METRIC HEX BIT SETS** | | | | | |
| 6 | 1/4 Drive | 2, 2.5, 3, 4, 5, & 6 mm | 6¼" Socket Bar with 6 Socket Clips | 4770-6 | **3R779** | 53.87 | **39.35** | 0.5 |
| 7 | 3/8 Drive | 4, 5, 6, 7, 8, 9, & 10 mm | 6¼" Socket Bar with 7 Socket Clips | 4990-SMA | **4JW06** | 74.69 | **54.55** | 0.8 |
| 10 | 3/8 Drive | 4, 5, 6, 7, 8, 9 & 10 mm | Blow Molded Box | 4900MA | **4JV94** | 132.69 | **96.90** | 2.9 |
| | 1/2 Drive | 12, 14, & 17 mm | | | | | | |
| 6 | 1/2 Drive | 6, 8, 10, 12, 14, & 17 mm | 9" Socket Bar with 6 Socket Clips | 5441-SM | **3R749** | 93.60 | **68.35** | 2.6 |
| | | | **EXTRA LONG METRIC HEX BIT SETS** | | | | | |
| 6 | 3/8 Drive | 4, 5, 6, 7, 8, & 10 mm | 6¼" Socket Bar with 6 Socket Clips | 4990-SMXL | **1AF37** | 86.82 | **63.40** | 1.1 |

# 1/4" DRIVE ACCESSORIES AND SOCKETS




## 1/4" DRIVE OPEN STOCK ACCESSORIES

| Size / Description | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Reversible Ratchet, Male Drive | 5" | 4749 | 1AF39 | $27.16 | $20.91 | 0.5 |
| Rev. Ratchet Repair Kit | — | 4749RK | 1AF40 | 10.56 | 8.13 | 0.1 |
| Round Head Ratchet, Chrome | 4¾ 4¾ | 4752A | 1AF41 | 35.00 | 26.95 | 0.3 |
| Round Head Ratchet Repair Kit | — | 4752ARK | 1AF42 | 25.00 | 19.25 | 0.1 |
| Reversible Ratchet, Black | 5 | 4749BL | 5C603 | 24.44 | 18.82 | 0.2 |
| Round Head Ratchet, Black | 4¾ | 4752ABL | 5C604 | 31.51 | 24.26 | 0.2 |
| Hinge Handle | 5¾ | 4766 | 1AF43 | 19.02 | 14.65 | 0.2 |
| Sliding T Handle | 4½ | 4785 | 1AF44 | 14.16 | 10.90 | 0.1 |
| Speed Handle | 16 | 4780 | 1AF45 | 20.67 | 15.92 | 0.4 |
| 2" Extension | 2 | 4759 | 1AF46 | 6.62 | 5.10 | 0.1 |
| 3" Extension | 3 | 4760 | 1AF47 | 8.91 | 6.86 | 0.1 |
| 6" Extension | 6 | 4761 | 1AF48 | 9.27 | 7.14 | 0.2 |
| 14" Extension | 14 | 4763 | 1AF49 | 14.53 | 11.19 | 0.3 |
| 2" Protoblack Extension | 2 | 4759B | 5F390 | 6.00 | 4.62 | 0.1 |
| 3" Protoblack Extension | 3 | 4760B | 5F391 | 8.02 | 6.18 | 0.1 |
| 6" Protoblack Extension | 6 | 4761B | 5F392 | 8.36 | 6.44 | 0.2 |
| 14" Protoblack Extension | 14 | 4763B | 5F393 | 13.16 | 10.13 | 0.3 |
| Flexible Extension | 6 | 4765 | 1AF50 | 13.56 | 10.44 | 0.1 |
| Flexible Socket Driver | 6¾ | 4764 | 1AF55 | 16.13 | 12.42 | 0.2 |
| Socket Driver w/ 1/4" Sq. Female Drive in Handle | 6 | 4769 | 1AF56 | 11.82 | 9.10 | 0.3 |
| Universal Joint | 1 5/16 | 4770 | 1AF57 | 18.29 | 14.08 | 0.1 |
| 3/8"F x 1/4" M Adapter | 1 | 5255 | 1AF67 | 8.56 | 6.59 | 0.1 |
| 1/4"F x 3/8" M Adapter | 15/16 | 5256 | 1AF68 | 6.60 | 5.08 | 0.1 |

## 12 POINT STANDARD SOCKETS

| | | | | | | |
|---|---|---|---|---|---|---|
| 3/16" | 7/8 | 4706T | 3R750 | 5.02 | 3.87 | 0.1 |
| 7/32 | 7/8 | 4707T | 1AF69 | 5.04 | 3.88 | 0.1 |
| 1/4 | 7/8 | 4708T | 1AF70 | 5.11 | 3.93 | 0.1 |
| 9/32 | 7/8 | 4709T | 1AF71 | 5.16 | 3.97 | 0.1 |
| 5/16 | 7/8 | 4710T | 1AF72 | 5.18 | 3.99 | 0.1 |
| 11/32 | 7/8 | 4711T | 1AF73 | 5.20 | 4.00 | 0.1 |
| 3/8 | 7/8 | 4712T | 1AF74 | 5.27 | 4.06 | 0.1 |
| 7/16 | 7/8 | 4714T | 1AF75 | 5.31 | 4.09 | 0.1 |
| 1/2 | 7/8 | 4716T | 1AF76 | 5.36 | 4.13 | 0.1 |
| 9/16 | 7/8 | 4718T | 3R753 | 5.40 | 4.16 | 0.1 |

## 12 POINT DEEP SOCKETS

| | | | | | | |
|---|---|---|---|---|---|---|
| 3/16 | 2 | 4706LT | 1AF77 | 7.33 | 5.64 | 0.1 |
| 7/32 | 2 | 4707LT | 1AF78 | 7.42 | 5.71 | 0.1 |
| 1/4 | 2 | 4708LT | 1AF79 | 7.53 | 5.80 | 0.1 |
| 9/32 | 2 | 4709LT | 1AF80 | 7.60 | 5.85 | 0.1 |
| 5/16 | 2 | 4710LT | 1AF81 | 7.71 | 5.94 | 0.1 |
| 11/32 | 2 | 4711LT | 1AF82 | 7.78 | 5.99 | 0.1 |
| 3/8 | 2 | 4712LT | 1AF83 | 7.82 | 6.02 | 0.1 |
| 7/16 | 2 | 4714LT | 1AF84 | 7.84 | 6.04 | 0.1 |
| 1/2 | 2 | 4716LT | 1AF85 | 7.87 | 6.06 | 0.1 |
| 9/16 | 2 | 4718LT | 1AF86 | 7.93 | 6.11 | 0.1 |

### LIFETIME LIMITED WARRANTY

All Proto Tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside back cover.

| Size | Length | Proto Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| **12 POINT METRIC SOCKETS** | | | | | | |
| 5 mm | 22.2 mm | 4705TM | 5F367 | $5.02 | $3.87 | 0. |
| 5.5 | 22.2 | 47055TM | 5F365 | 5.04 | 3.88 | 0. |
| 6 | 22.2 | 4706TM | 5F369 | 5.16 | 3.97 | 0. |
| 7 | 22.2 | 4707TM | 5F371 | 5.16 | 3.97 | 0. |
| 8 | 22.2 | 4708TM | 5F373 | 5.18 | 3.99 | 0. |
| 9 | 22.2 | 4709TM | 5F375 | 5.20 | 4.00 | 0. |
| 10 | 22.2 | 4710TM | 5F377 | 5.27 | 4.06 | 0. |
| 11 | 22.2 | 4711TM | 5F379 | 5.31 | 4.09 | 0. |
| 12 | 22.2 | 4712TM | 5F381 | 5.36 | 4.13 | 0. |
| 13 | 22.2 | 4713TM | 5F383 | 5.40 | 4.16 | 0. |
| 14 | 22.2 | 4714TM | 5F385 | 5.47 | 4.21 | 0. |
| **12 POINT METRIC DEEP SOCKETS** | | | | | | |
| 5 mm | 50.8 mm | 4705LTM | 5F366 | 7.73 | 5.95 | 0. |
| 5.5 | 50.8 | 4705.5LTM | 5F364 | 7.73 | 5.95 | 0. |
| 6 | 50.8 | 4706LTM | 5F368 | 7.80 | 6.01 | 0. |
| 7 | 50.8 | 4707LTM | 5F370 | 7.64 | 5.50 | 0. |
| 8 | 50.8 | 4708LTM | 5F372 | 7.89 | 6.08 | 0. |
| 9 | 50.8 | 4709LTM | 5F374 | 7.93 | 6.11 | 0. |
| 10 | 50.8 | 4710LTM | 5F376 | 7.98 | 6.14 | 0. |
| 11 | 50.8 | 4711LTM | 5F378 | 8.00 | 6.16 | 0. |
| 12 | 50.8 | 4712LTM | 5F380 | 8.09 | 6.23 | 0. |
| 13 | 50.8 | 4713LTM | 5F382 | 8.13 | 6.26 | 0. |
| 14 | 50.8 | 4714LTM | 5F384 | 8.20 | 6.31 | 0. |
| **12 POINT UNIVERSAL SOCKETS** | | | | | | |
| 1/4" | 1 5/32" | 4771T | 1AH33 | 19.24 | 14.81 | 0. |
| 5/16 | 1 9/32 | 4772T | 1AH34 | 19.42 | 14.95 | 0. |
| 3/8 | 1 1/4 | 4773T | 1AH35 | 19.64 | 15.12 | 0. |
| 7/16 | 1 5/16 | 4774T | 1AH36 | 19.82 | 15.26 | 0. |
| **8 POINT STANDARD SOCKETS** | | | | | | |
| 1/4 | 7/8 | 4708S | 1AF87 | 5.56 | 4.28 | 0. |
| 5/16 | 7/8 | 4710S | 1AF88 | 5.62 | 4.33 | 0. |
| 3/8 | 7/8 | 4712S | 1AF89 | 5.64 | 4.34 | 0. |
| **6 POINT STANDARD SOCKETS** | | | | | | |
| 1/8 | 7/8 | 4704 | 1AF90 | 4.98 | 3.83 | 0. |
| 5/32 | 7/8 | 4705 | 1AF91 | 5.00 | 3.85 | 0. |
| 3/16 | 7/8 | 4706 | 1AF92 | 5.02 | 3.87 | 0. |
| 7/32 | 7/8 | 4707 | 1AF93 | 5.04 | 3.88 | 0. |
| 1/4 | 7/8 | 4708 | 1AF94 | 5.11 | 3.93 | 0. |
| 9/32 | 7/8 | 4709 | 1AF95 | 5.16 | 3.97 | 0. |
| 5/16 | 7/8 | 4710 | 1AF96 | 5.18 | 3.99 | 0. |
| 11/32 | 7/8 | 4711 | 1AF97 | 5.20 | 4.00 | 0. |
| 3/8 | 7/8 | 4712 | 1AF98 | 5.27 | 4.06 | 0. |
| 7/16 | 7/8 | 4714 | 1AF99 | 5.31 | 4.09 | 0. |
| 1/2 | 7/8 | 4716 | 1AH01 | 5.36 | 4.13 | 0. |
| 9/16 | 7/8 | 4718 | 1AH02 | 5.40 | 4.16 | 0. |
| **6 POINT DEEP SOCKETS** | | | | | | |
| 3/16 | 2 | 4706L | 1AH03 | 7.33 | 5.64 | 0. |
| 7/32 | 2 | 4707L | 1AH04 | 7.42 | 5.71 | 0. |
| 1/4 | 2 | 4708L | 1AH05 | 7.53 | 5.80 | 0. |
| 9/32 | 2 | 4709L | 1AH06 | 7.60 | 5.85 | 0. |
| 5/16 | 2 | 4710L | 1AH07 | 7.71 | 5.94 | 0. |
| 11/32 | 2 | 4711L | 1AH08 | 7.78 | 5.99 | 0. |
| 3/8 | 2 | 4712L | 1AH09 | 7.82 | 6.02 | 0. |
| 7/16 | 2 | 4714L | 1AH10 | 7.84 | 6.04 | 0. |
| 1/2 | 2 | 4716L | 1AH11 | 7.87 | 6.06 | 0. |
| 9/16 | 2 | 4718L | 1AH12 | 7.93 | 6.11 | 0. |



The only source you need for tools as tough as you are.

# 1/4" DRIVE SOCKETS AND HEX BITS AND 3/8" DRIVE ACCESSORIES



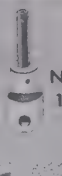
| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4" DRIVE 6 POINT METRIC STANDARD SOCKETS** | | | | | | |
| **4 mm** | 22.2 mm | 4704M | **1AH13** | $4.98 | **$3.83** | 0.1 |
| **4.5** | 22.2 | 47045M | **1AH14** | 5.00 | **3.85** | 0.1 |
| **5** | 22.2 | 4705M | **1AH15** | 5.02 | **3.87** | 0.1 |
| **5.5** | 22.2 | 47055M | **1AH16** | 5.04 | **3.88** | 0.1 |
| **6** | 22.2 | 4706M | **1AH17** | 5.16 | **3.97** | 0.1 |
| **7** | 22.2 | 4707M | **1AH18** | 5.16 | **3.97** | 0.1 |
| **8** | 22.2 | 4708M | **1AH19** | 5.18 | **3.99** | 0.1 |
| **9** | 22.2 | 4709M | **1AH20** | 5.20 | **4.00** | 0.1 |
| **0** | 22.2 | 4710M | **1AH21** | 5.27 | **4.06** | 0.1 |
| **1** | 22.2 | 4711M | **1AH22** | 5.31 | **4.09** | 0.1 |
| **2** | 22.2 | 4712M | **1AH23** | 5.36 | **4.13** | 0.1 |
| **3** | 22.2 | 4713M | **3R751** | 5.40 | **4.16** | 0.1 |
| **4** | 22.2 | 4714M | **3R752** | 5.47 | **4.21** | 0.1 |
| **5** | 22.6 | 4715M | **5F386** | 5.60 | **4.31** | 0.1 |
| **1/4" DRIVE 6 POINT METRIC DEEP SOCKETS** | | | | | | |
| **4** | 50.5 | 4704LM | **3R740** | 7.67 | **5.91** | 0.1 |
| **5** | 50.5 | 4705LM | **3R744** | 7.73 | **5.95** | 0.1 |
| **5.5** | 50.5 | 4705.5LM | **3R742** | 7.73 | **5.95** | 0.1 |
| **6** | 50.9 | 4706LM | **1AH24** | 7.80 | **6.01** | 0.1 |
| **7** | 50.8 | 4707LM | **1AH25** | 7.87 | **6.06** | 0.1 |
| **8** | 50.8 | 4708LM | **1AH26** | 7.89 | **6.08** | 0.1 |
| **9** | 50.8 | 4709LM | **1AH27** | 7.93 | **6.11** | 0.1 |
| **0** | 50.8 | 4710LM | **1AH28** | 7.98 | **6.14** | 0.1 |
| **.1** | 50.8 | 4711LM | **1AH29** | 8.00 | **6.16** | 0.1 |
| **.2** | 50.8 | 4712LM | **1AH30** | 8.09 | **6.23** | 0.1 |
| **.3** | 50.8 | 4713LM | **1AH31** | 8.13 | **6.26** | 0.1 |
| **.4** | 50.8 | 4714LM | **1AH32** | 8.20 | **6.31** | 0.2 |
| **1/4" DRIVE 6 POINT UNIVERSAL SOCKETS** | | | | | | |
| **1/4"** | 1 3/32" | 4771 | **1AH37** | 19.24 | **14.81** | 0.1 |
| **5/16** | 1 5/32 | 4772 | **1AH38** | 19.42 | **14.95** | 0.1 |
| **3/8** | 1 5/32 | 4773 | **1AH39** | 19.64 | **15.12** | 0.1 |
| **7/16** | 1 17/64 | 4774 | **1AH40** | 19.82 | **15.26** | 0.1 |
| **1/4" DRIVE 6 PT UNIVERSAL METRIC SOCKETS** | | | | | | |
| **5 mm** | 30.3 mm | 4805M | **5F395** | 19.18 | **14.77** | 0.1 |
| **5.5** | 30.3 | 4805.5M | **5F394** | 19.24 | **14.81** | 0.1 |
| **6** | 30.3 | 4806M | **5F396** | 19.24 | **14.81** | 0.1 |
| **7** | 30.3 | 4807M | **5F397** | 19.42 | **14.95** | 0.1 |
| **8** | 30.3 | 4808M | **5F398** | 19.42 | **14.95** | 0.1 |
| **9** | 30.3 | 4809M | **5F399** | 19.64 | **15.12** | 0.1 |
| **10** | 30.3 | 4810M | **5F400** | 19.64 | **15.12** | 0.1 |
| **11** | 30.3 | 4811M | **5F401** | 19.82 | **15.26** | 0.1 |
| **12** | 30.3 | 4812M | **5F402** | 20.02 | **15.42** | 0.1 |
| **13** | 30.3 | 4813M | **5F403** | 20.71 | **15.95** | 0.1 |
| **14** | 32.3 | 4814M | **5F404** | 20.82 | **16.03** | 0.1 |
| **15** | 32.3 | 4815M | **5F405** | 20.93 | **16.12** | 0.1 |
| **1/4" DRIVE HEX BIT SOCKETS** | | | | | | |
| **1/16"** | 1 7/8" | 4770-1/16 | **1AH41** | 8.67 | **6.68** | 0.1 |
| **5/64** | 1 7/8 | 4770-5/64 | **1AH42** | 8.67 | **6.68** | 0.1 |
| **3/32** | 1 7/8 | 4770-3/32 | **1AH43** | 8.67 | **6.68** | 0.1 |
| **7/64** | 1 7/8 | 4770-7/64 | **1AH44** | 8.67 | **6.68** | 0.1 |
| **1/8** | 1 7/8 | 4770-1/8 | **1AH45** | 8.67 | **6.68** | 0.1 |
| **9/64** | 1 7/8 | 4770-9/64 | **1AH46** | 8.67 | **6.68** | 0.1 |
| **5/32** | 1 7/8 | 4770-5/32 | **1AH47** | 8.67 | **6.68** | 0.1 |
| **3/16** | 1 7/8 | 4770-3/16 | **1AH48** | 8.67 | **6.68** | 0.1 |
| **7/32** | 1 7/8 | 4770-7/32 | **1AH49** | 8.67 | **6.68** | 0.1 |
| **1/4** | 1 7/8 | 4770-1/4 | **1AH50** | 8.78 | **6.76** | 0.1 |
| **5/16** | 1 7/8 | 4770-5/16 | **1AH51** | 9.36 | **7.21** | 0.1 |
| **1/4" DRIVE METRIC HEX BIT SOCKETS** | | | | | | |
| **2 mm** | 47.63 mm | 4770-2M | **1AH52** | 8.67 | **6.68** | 0.1 |
| **2.5** | 47.63 | 4770-2.5M | **1AH53** | 8.67 | **6.68** | 0.1 |
| **3** | 47.63 | 4770-3M | **1AH54** | 8.67 | **6.68** | 0.1 |
| **4** | 47.63 | 4770-4M | **1AH55** | 8.67 | **6.68** | 0.1 |
| **5** | 47.63 | 4770-5M | **1AH56** | 8.67 | **6.68** | 0.1 |
| **6** | 47.63 | 4770-6M | **1AH57** | 9.36 | **7.21** | 0.1 |
| **1/4" DRIVE TORX® BIT SOCKETS** | | | | | | |
| **T10** | 1 9/16" | 4739-10W | **5C609** | 10.00 | **7.70** | 0.1 |
| **T15** | 1 9/16 | 4739-15W | **5C610** | 10.00 | **7.70** | 0.1 |
| **T20** | 1 9/16 | 4739-20W | **5C611** | 10.00 | **7.70** | 0.1 |
| **T25** | 1 9/16 | 4739-25W | **5C612** | 10.00 | **7.80** | 0.1 |
| **T27** | 1 9/16 | 4739-27W | **5C613** | 10.13 | **7.80** | 0.1 |
| **T30** | 1 9/16 | 4739-30W | **5C614** | 10.13 | **7.80** | 0.1 |

PROTO PROFESSIONAL TOOLS

Made In U.S.A.



No. 1AH37 1/4" Drive Universal Socket



No. 1AH41 1/4" Drive Hex Bit



No. 5C609 1/4" Drive Torx® Bit



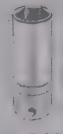
No. 1AH87 Ratchet Adapter



No. 1AH88 Ratchet Spinner



No. 1AF67 Adapter



No. 1AK01 Spark Plug Socket

| Size / Description | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8" DRIVE OPEN STOCK ACCESSORIES** | | | | | | |
| **Reversible Ratchet, Chrome** | 7 | 5249 | **1AH58** | $37.42 | **$28.85** | 0.6 |
| **Repair Kit for Nos. 1AH58 & 1AH60** | — | 5249RK | **1AH59** | 12.49 | **9.62** | 0.2 |
| **Reversible Ratchet, Black** | 7 | 5249BL | **1AH60** | 34.11 | **26.30** | 0.6 |
| **Pushbutton Ratchet, Black** | 7 1/2 | 5252ABL | **5C606** | 41.20 | **31.75** | 0.7 |
| **Miniature Ratchet, Chrome** | 5 | 5248S | **1AH61** | 29.67 | **22.85** | 0.2 |
| **Repair Kit for No. 1AH61** | — | 6064RK | **1AH62** | 21.09 | **16.24** | 0.1 |
| **Female Drive Ratchet, Chrome** | 7 | 5249FW | **1AH63** | 45.31 | **34.90** | 0.3 |
| **Repair Kit for No. 1AH63** | — | 5249FWRK | **1AH64** | 16.80 | **12.94** | 0.7 |
| **Pushbutton Ratchet, Chrome** | 7 1/2 | 5252A | **1AH65** | 45.80 | **35.30** | 0.7 |
| **Repair Kit for No. 1AH65** | — | 5252ARK | **1AH66** | 21.91 | **16.87** | 0.2 |
| **180° Angle Flex-Head Pushbutton Ratchet, Chrome** | 11 | 5257A | **1AH67** | 60.98 | **46.95** | 0.9 |
| **Repair Kit for No. 1AH67** | — | 5257ARK | **1AH68** | 26.56 | **20.45** | 0.2 |
| **Hinge Handle, Chrome** | 8 1/2 | 5265 | **1AH69** | 23.62 | **18.19** | 0.6 |
| **Hinge Handle, Black** | 8 1/2 | 5265BL | **1AH70** | 21.98 | **16.92** | 0.6 |
| **Sliding Tee Handle, Chrome** | 8 | 5285 | **1AH71** | 17.73 | **13.65** | 0.4 |
| **Speed Handle** | 17 | 5280 | **1AH72** | 21.93 | **16.89** | 0.8 |
| **1 3/4" Extension** | 1 3/4 | 5259 | **1AH73** | 6.51 | **5.01** | 0.1 |
| **3" Extension** | 3 | 5260 | **1AH74** | 9.47 | **7.29** | 0.2 |
| **6" Extension** | 6 | 5260-06 | **1AH75** | 12.07 | **9.29** | 0.3 |
| **8" Extension** | 8 | 5261 | **1AH76** | 13.38 | **10.30** | 0.7 |
| **12" Extension** | 12 | 5262 | **1AH77** | 15.44 | **11.89** | 0.6 |
| **17 3/16" Extension** | 17 3/16 | 5263 | **1AH78** | 18.91 | **14.56** | 0.9 |
| **1 3/4" Protoblack Extension** | 1 3/4 | 5259B | **5F428** | 5.87 | **4.52** | 0.1 |
| **3" Protoblack Extension** | 3 | 5260B | **5F430** | 8.53 | **6.57** | 0.2 |
| **6" Protoblack Extension** | 6 | 5260-06B | **5F429** | 10.89 | **8.39** | 0.3 |
| **8" Protoblack Extension** | 8 | 5261B | **5F431** | 12.04 | **9.27** | 0.4 |
| **12" Protoblack Extension** | 12 | 5262B | **5F432** | 13.91 | **10.71** | 0.7 |
| **Flexible Extension** | 8 1/8 | 5268 | **1AH79** | 19.31 | **14.87** | 0.3 |
| **1 3/4" Wobble Extension** | 1 3/4 | 5259W | **1AH80** | 7.16 | **5.51** | 0.1 |
| **3" Wobble Extension** | 3 | 5260W | **1AH81** | 10.44 | **8.04** | 0.2 |
| **6" Wobble Extension** | 6 | 5260-06W | **1AH82** | 13.29 | **10.23** | 0.3 |
| **8" Wobble Extension** | 8 | 5261W | **1AH83** | 14.71 | **11.33** | 0.5 |
| **12" Wobble Extension** | 12 | 5262W | **1AH84** | 17.29 | **13.31** | 0.7 |
| **17 3/16" Wobble Extension** | 17 3/16 | 5263W | **1AH85** | 21.16 | **16.29** | 0.9 |
| **Flexible Socket Driver** | 9 1/8 | 5267 | **1AH86** | 25.44 | **19.59** | 0.4 |
| **Ratchet Adapter** | 5 1/16 | 5247 | **1AH87** | 46.56 | **35.85** | 0.3 |
| **Ratchet Spinner** | 1 1/4 | 5251 | **1AH88** | 12.89 | **9.93** | 0.2 |
| **Universal Joint** | 1 7/8 | 5270 | **1AH89** | 21.04 | **16.20** | 0.1 |
| **1/4" Std. Screwdriver Bit** | 2 | 5246 | **1AH90** | 13.49 | **10.39** | 0.1 |
| **5/16" Std. Screwdriver Bit** | 3 1/4 | 5240 | **1AH91** | 13.49 | **10.39** | 0.1 |
| **11/16" Drag Link Socket** | 1 1/32 | 5244 | **1AH92** | 13.76 | **10.60** | 0.1 |
| **No. 2 Phillips Bit** | 1 31/32 | 5241 | **1AH93** | 12.82 | **9.87** | 0.3 |
| **No. 3 Phillips Bit** | 1 31/32 | 5242 | **1AH94** | 12.82 | **9.87** | 0.1 |
| **No. 4 Phillips Bit** | 1 31/32 | 5243 | **1AH95** | 12.82 | **9.87** | 0.1 |
| **1/4" F x 3/8" M Adapter** | 15/16 | 5256 | **1AF68** | 6.60 | **5.08** | 0.1 |
| **3/8" F x 1/2" M Adapter** | 1 5/32 | 5253 | **1AH97** | 6.64 | **5.11** | 0.1 |
| **3/8" F x 1/4" M Adapter** | 1 1/16 | 5255 | **1AF67** | 8.56 | **6.59** | 0.1 |
| **1/2" F x 3/8" M Adapter** | 1 11/32 | 5254 | **1AH99** | 8.96 | **6.90** | 0.1 |
| **5/8" 6 Pt. Spark Plug Socket** | 2 1/2 | 5020-50 | **1AK01** | 9.64 | **7.42** | 0.2 |
| **13/16" 6 Pt. Spark Plug Socket** | 2 1/2 | 5026HPA | **1AK02** | 10.76 | **8.29** | 0.4 |
| **5/8" 6 Pt. Univ. Spark Plug Socket** | 3 1/8 | 5020-70 | **1AK03** | 28.09 | **21.63** | 0.3 |
| **13/16" 6 Pt. Univ. Spark Plug Socket** | 3 1/8 | 5026-50 | **1AK04** | 28.09 | **21.63** | 0.3 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# 3/8" DRIVE SOCKETS

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 POINT STANDARD SOCKETS** | | | | | | |
| 1/4" | 1 1/16" | 5208 | 1AK05 | $5.62 | $4.33 | 0.1 |
| 5/16 | 1 1/16 | 5210 | 1AK06 | 5.62 | 4.33 | 0.1 |
| 3/8 | 1 1/16 | 5212 | 1AK07 | 5.62 | 4.33 | 0.1 |
| 7/16 | 1 1/16 | 5214 | 1AK08 | 5.82 | 4.48 | 0.1 |
| 1/2 | 1 1/8 | 5216 | 1AK09 | 5.82 | 4.48 | 0.1 |
| 9/16 | 1 1/8 | 5218 | 1AK10 | 6.04 | 4.65 | 0.1 |
| 5/8 | 1 1/8 | 5220 | 1AK11 | 6.04 | 4.65 | 0.1 |
| 11/16 | 1 3/16 | 5222 | 1AK12 | 6.04 | 4.65 | 0.1 |
| 3/4 | 1 3/16 | 5224 | 1AK13 | 6.24 | 4.80 | 0.2 |
| 13/16 | 1 3/16 | 5226 | 1AK14 | 6.80 | 5.24 | 0.2 |
| 7/8 | 1 5/16 | 5228 | 1AK15 | 7.00 | 5.39 | 0.2 |
| 15/16 | 1 5/16 | 5230 | 1AK16 | 8.02 | 6.18 | 0.2 |
| 1 | 1 3/8 | 5232 | 1AK17 | 8.38 | 6.45 | 0.3 |
| **12 POINT STANDARD BLACK SOCKETS** | | | | | | |
| 1/4 | 1 3/64 | 5208B | 1AK18 | 4.76 | 3.67 | 0.1 |
| 5/16 | 1 3/64 | 5210B | 1AK19 | 4.76 | 3.67 | 0.1 |
| 3/8 | 1 3/64 | 5212B | 1AK20 | 4.76 | 3.67 | 0.2 |
| 7/16 | 1 3/64 | 5214B | 1AK21 | 4.98 | 3.83 | 0.1 |
| 1/2 | 1 1/8 | 5216B | 1AK22 | 5.07 | 3.90 | 0.1 |
| 9/16 | 1 1/8 | 5218B | 1AK23 | 5.11 | 3.93 | 0.1 |
| 5/8 | 1 1/8 | 5220B | 1AK24 | 5.11 | 3.93 | 0.1 |
| 11/16 | 1 1/8 | 5222B | 1AK25 | 5.11 | 3.93 | 0.1 |
| 3/4 | 1 1/8 | 5224B | 1AK26 | 5.29 | 4.07 | 0.2 |
| 13/16 | 1 3/16 | 5226B | 1AK27 | 5.76 | 4.44 | 0.2 |
| 7/8 | 1 5/16 | 5228B | 1AK28 | 6.00 | 4.62 | 0.2 |
| 15/16 | 1 19/64 | 5230B | 5C607 | 6.84 | 5.27 | 0.2 |
| 1 | 1 3/8 | 5232B | 1AK29 | 7.11 | 5.47 | 0.3 |
| **12 POINT DEEP SOCKETS** | | | | | | |
| 1/4 | 2 1/8 | 5008 | 3R811 | 6.93 | 5.34 | 0.1 |
| 5/16 | 2 1/8 | 5010 | 3R814 | 7.33 | 5.64 | 0.1 |
| 3/8 | 2 1/8 | 5012 | 1AK30 | 7.38 | 5.68 | 0.1 |
| 7/16 | 2 1/8 | 5014 | 1AK31 | 7.38 | 5.68 | 0.1 |
| 1/2 | 2 1/8 | 5016 | 1AK32 | 7.38 | 5.68 | 0.1 |
| 9/16 | 2 1/8 | 5018 | 1AK33 | 7.84 | 6.04 | 0.2 |
| 5/8 | 2 1/8 | 5020 | 1AK34 | 8.09 | 6.23 | 0.2 |
| 11/16 | 2 5/32 | 5022 | 1AK35 | 8.93 | 6.88 | 0.3 |
| 3/4 | 2 5/32 | 5024 | 1AK36 | 10.09 | 7.77 | 0.3 |
| 13/16 | 2 17/32 | 5026 | 1AK37 | 10.80 | 8.32 | 0.4 |
| 7/8 | 2 17/32 | 5028 | 1AK38 | 12.09 | 9.31 | 0.4 |
| 15/16 | 2 17/32 | 5030 | 1AK39 | 14.24 | 10.96 | 0.4 |
| 1 | 2 17/32 | 5032 | 1AK40 | 15.78 | 12.15 | 0.4 |
| **12 POINT DEEP BLACK SOCKETS** | | | | | | |
| 3/8 | 2 1/8 | 5012B | 1AK41 | 6.27 | 4.83 | 0.1 |
| 7/16 | 2 1/8 | 5014B | 1AK42 | 6.27 | 4.83 | 0.1 |
| 1/2 | 2 1/8 | 5016B | 1AK43 | 6.27 | 4.83 | 0.2 |
| 9/16 | 2 1/8 | 5018B | 1AK44 | 6.62 | 5.10 | 0.2 |
| 5/8 | 2 5/32 | 5020B | 1AK45 | 6.93 | 5.34 | 0.2 |
| 11/16 | 2 5/32 | 5022B | 1AK46 | 7.60 | 5.85 | 0.1 |
| 3/4 | 2 5/32 | 5024B | 1AK47 | 8.56 | 6.59 | 0.3 |
| 13/16 | 2 33/64 | 5026B | 1AK48 | 9.18 | 7.07 | 0.3 |
| 7/8 | 2 33/64 | 5028B | 1AK49 | 10.31 | 7.94 | 0.4 |
| 15/16 | 2 33/64 | 5030B | 1AK50 | 12.11 | 9.32 | 0.4 |
| 1 | 2 33/64 | 5032B | 1AK51 | 13.40 | 10.32 | 0.4 |
| **12 POINT METRIC SOCKETS** | | | | | | |
| 6 mm | 26.8 mm | 5206M | 3R822 | 5.60 | 4.31 | 0.1 |
| 7 | 26.8 | 5207M | 3R823 | 5.60 | 4.31 | 0.1 |
| 8 | 26.8 | 5208M | 1AK52 | 5.60 | 4.31 | 0.1 |
| 9 | 26.8 | 5209M | 1AK53 | 5.60 | 4.31 | 0.1 |
| 10 | 26.8 | 5210M | 1AK54 | 5.60 | 4.31 | 0.1 |
| 11 | 26.8 | 5211M | 1AK55 | 5.78 | 4.45 | 0.1 |
| 12 | 28.5 | 5212M | 1AK56 | 5.78 | 4.45 | 0.1 |
| 13 | 28.5 | 5213M | 1AK57 | 5.78 | 4.45 | 0.1 |
| 14 | 28.5 | 5214M | 1AK58 | 6.04 | 4.65 | 0.1 |
| 15 | 28.5 | 5215M | 1AK59 | 6.04 | 4.65 | 0.1 |
| 16 | 28.5 | 5216M | 1AK60 | 6.04 | 4.65 | 0.1 |
| 17 | 28.5 | 5217M | 1AK61 | 6.04 | 4.65 | 0.1 |
| 18 | 30.1 | 5218M | 1AK62 | 6.04 | 4.65 | 0.2 |
| 19 | 30.1 | 5219M | 1AK63 | 6.24 | 4.80 | 0.1 |
| 20 | 30.1 | 5220M | 1AK64 | 6.24 | 4.80 | 0.2 |
| 21 | 30.1 | 5221M | 1AK65 | 6.80 | 5.24 | 0.2 |
| 22 | 33.2 | 5222M | 1AK66 | 7.00 | 5.39 | 0.2 |
| 23 | 33.2 | 5223M | 5F420 | 7.51 | 5.78 | 0.2 |
| 24 | 33.2 | 5224M | 5F422 | 8.02 | 6.18 | 0.2 |
| 25 | 33.2 | 5225M | 5F424 | 8.38 | 6.45 | 0.3 |
| 26 | 34.8 | 5226M | 5F426 | 8.71 | 6.71 | 0.3 |

PROTO PROFESSIONAL TOOLS®

Made In U.S.A.

**LIFETIME LIMITED WARRANTY**

**All Proto tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.**

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 POINT DEEP METRIC SOCKETS** | | | | | | |
| 6 mm | 54.0 mm | 5006M | 3R809 | $7.40 | $5.70 | 0.1 |
| 7 | 54.0 | 5007M | 3R810 | 7.40 | 5.70 | 0.1 |
| 8 | 54.0 | 5008M | 3R812 | 7.40 | 5.70 | 0.1 |
| 9 | 54.0 | 5009M | 1AK67 | 7.53 | 5.80 | 0.1 |
| 10 | 54.0 | 5010M | 1AK68 | 7.53 | 5.80 | 0.1 |
| 11 | 54.0 | 5011M | 1AK69 | 7.53 | 5.80 | 0.1 |
| 12 | 54.0 | 5012M | 1AK70 | 7.53 | 5.80 | 0.1 |
| 13 | 54 0 | 5013M | 1AK71 | 7.53 | 5.80 | 0.1 |
| 14 | 54.0 | 5014M | 1AK72 | 7.93 | 6.11 | 0.2 |
| 15 | 54.0 | 5015M | 1AK73 | 7.93 | 6.11 | 0.2 |
| 16 | 54.0 | 5016M | 3R815 | 7.93 | 6.11 | 0.2 |
| 17 | 54.0 | 5017M | 1AK74 | 7.93 | 6.11 | 0.1 |
| 18 | 54.0 | 5018M | 3R817 | 8.53 | 6.57 | 0.2 |
| 19 | 54.0 | 5019M | 1AK75 | 9.11 | 7.01 | 0.1 |
| 20 | 54.5 | 5020M | 5F408 | 9.82 | 7.56 | 0.2 |
| 21 | 63.5 | 5021M | 5F410 | 10.80 | 8.32 | 0.3 |
| 22 | 63.5 | 5022M | 5F412 | 12.09 | 9.31 | 0.4 |
| 23 | 63.5 | 5023M | 5F414 | 14.24 | 10.96 | 0.4 |
| **12 POINT UNIVERSAL SOCKETS** | | | | | | |
| 3/8" | 1 13/16" | 5273 | 1AL30 | 20.58 | 15.85 | 0.1 |
| 7/16 | 1 13/16 | 5274 | 1AL31 | 20.71 | 15.95 | 0.1 |
| 1/2 | 1 59/64 | 5275 | 1AL32 | 20.38 | 15.69 | 0.1 |
| 9/16 | 1 59/64 | 5276 | 1AL33 | 20.84 | 16.05 | 0.2 |
| 5/8 | 2 6/64 | 5277 | 1AL34 | 20.98 | 16.15 | 0.2 |
| 11/16 | 2 5/32 | 5278 | 1AL35 | 21.04 | 16.20 | 0.2 |
| 3/4 | 2 15/64 | 5279 | 1AL36 | 21.13 | 16.27 | 0.2 |
| **12 POINT METRIC UNIVERSAL SOCKETS** | | | | | | |
| 9 mm | 44.4 mm | 5272M | 1AL44 | 20.49 | 15.78 | 0.1 |
| 10 | 44.4 | 5273M | 1AL45 | 20.49 | 15.78 | 0.1 |
| 11 | 44.4 | 5274M | 1AL46 | 20.71 | 15.95 | 0.1 |
| 12 | 47.0 | 5275M | 1AL47 | 20.80 | 16.02 | 0.1 |
| 13 | 47.0 | 5276M | 1AL48 | 20.84 | 16.05 | 0.1 |
| 14 | 48.4 | 5277M | 1AL49 | 20.98 | 16.15 | 0.2 |
| 15 | 52 8 | 5278M | 1AL50 | 21.04 | 16.20 | 0.1 |
| 16 | 48.0 | 5279M | 5F441 | 21.09 | 16.24 | 0.1 |
| 17 | 48.0 | 5280M | 5F443 | 21.13 | 16.27 | 0.2 |
| 18 | 48.0 | 5281M | 5F445 | 21.18 | 16.31 | 0.2 |
| 19 | 48.4 | 5282M | 5F447 | 21.24 | 16.35 | 0.2 |
| **8 POINT STANDARD SOCKETS** | | | | | | |
| 1/4" | 1 3/64" | 5208S | 1AK76 | 6.91 | 5.32 | 0.1 |
| 5/16 | 1 3/64 | 5210S | 1AK77 | 6.91 | 5.32 | 0.1 |
| 3/8 | 1 3/64 | 5212S | 1AK78 | 6.91 | 5.32 | 0.1 |
| 7/16 | 1 3/64 | 5214S | 1AK79 | 6.91 | 5.32 | 0.1 |
| 1/2 | 1 1/8 | 5216S | 1AK80 | 6.91 | 5.32 | 0.1 |
| **6 POINT STANDARD SOCKETS** | | | | | | |
| 1/4 | 1 1/16 | 5208H | 1AK82 | 5.62 | 4.33 | 0.1 |
| 5/16 | 1 1/16 | 5210H | 1AK83 | 5.62 | 4.33 | 0.1 |
| 3/8 | 1 1/16 | 5212H | 1AK84 | 5.62 | 4.33 | 0.1 |
| 7/16 | 1 1/16 | 5214H | 1AK85 | 5.82 | 4.48 | 0.1 |
| 1/2 | 1 1/8 | 5216H | 1AK86 | 5.82 | 4.48 | 0.1 |
| 9/16 | 1 1/8 | 5218H | 1AK87 | 6.04 | 4.65 | 0.1 |
| 5/8 | 1 1/8 | 5220H | 1AK88 | 6.04 | 4.65 | 0.1 |
| 11/16 | 1 1/8 | 5222H | 1AK89 | 6.04 | 4.65 | 0.1 |
| 3/4 | 1 3/16 | 5224H | 1AK90 | 6.24 | 4.80 | 0.2 |
| 13/16 | 1 3/16 | 5226H | 1AK91 | 6.80 | 5.24 | 0.2 |
| 7/8 | 1 5/16 | 5228H | 1AK92 | 7.00 | 5.39 | 0.2 |
| 15/16 | 1 5/16 | 5230H | 1AK93 | 8.02 | 6.18 | 0.2 |
| 1 | 1 3/8 | 5232H | 1AK94 | 8.38 | 6.45 | 0.3 |

MAGNETIC TOOL HOLDERS SOLD ON PAGE 1197

NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY



*The only source you need for tools as tough as you are.*

# 3/8" DRIVE SOCKETS AND HEX BITS

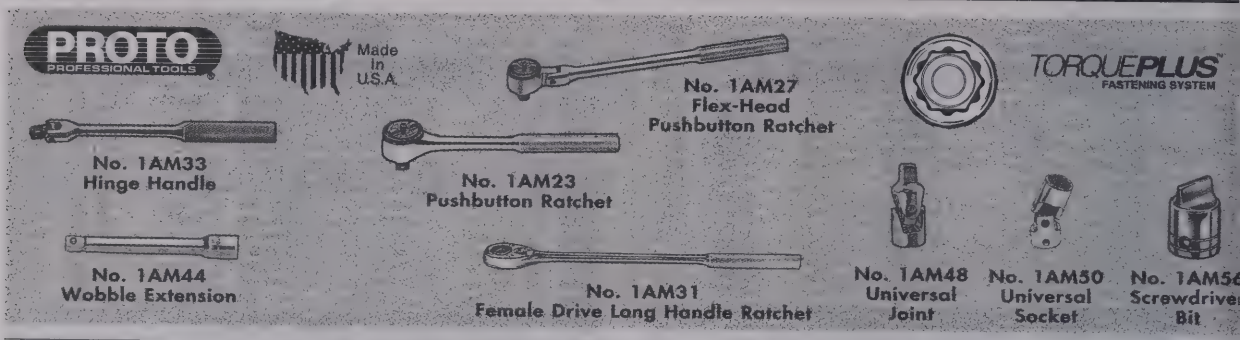


| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT DEEP SOCKETS** | | | | | | |
| **1/4"** | 2 1/8" | 5008H | **1AK95** | $6.93 | **$5.34** | 0.1 |
| **5/16** | 2 1/8 | 5010H | **1AK96** | 7.38 | **5.64** | 0.1 |
| **3/8** | 2 1/8 | 5012H | **1AK97** | 7.38 | **5.68** | 0.1 |
| **7/16** | 2 1/8 | 5014H | **1AK98** | 7.38 | **5.68** | 0.1 |
| **1/2** | 2 1/8 | 5016H | **1AK99** | 7.38 | **5.68** | 0.2 |
| **9/16** | 2 1/8 | 5018H | **1AL01** | 7.84 | **6.04** | 0.2 |
| **5/8** | 2 5/32 | 5020H | **1AL02** | 8.09 | **6.23** | 0.2 |
| **11/16** | 2 5/32 | 5022H | **1AL03** | 8.93 | **6.88** | 0.3 |
| **3/4** | 2 17/32 | 5024H | **1AL04** | 10.09 | **7.77** | 0.4 |
| **13/16** | 2 17/32 | 5026H | **1AL05** | 10.80 | **8.32** | 0.3 |
| **7/8** | 2 17/32 | 5028H | **1AL06** | 12.09 | **9.31** | 0.4 |
| **15/16** | 2 17/32 | 5030H | **3R819** | 14.24 | **10.96** | 0.4 |
| **1** | 2 17/32 | 5032H | **3R820** | 15.78 | **12.15** | 0.5 |
| **6 POINT METRIC SOCKETS** | | | | | | |
| **6 mm** | 26.8 mm | 5206MH | **1AL07** | 5.60 | **4.31** | 0.1 |
| **7** | 26.8 | 5207MH | **1AL08** | 5.60 | **4.31** | 0.1 |
| **8** | 26.8 | 5208MH | **1AL09** | 5.60 | **4.31** | 0.1 |
| **9** | 26.8 | 5209MH | **1AL10** | 5.60 | **4.31** | 0.1 |
| **10** | 26.8 | 5210MH | **1AL11** | 5.60 | **4.31** | 0.1 |
| **11** | 26.8 | 5211MH | **1AL12** | 5.78 | **4.45** | 0.1 |
| **12** | 28.5 | 5212MH | **1AL13** | 5.78 | **4.45** | 0.1 |
| **13** | 28.5 | 5213MH | **1AL14** | 5.78 | **4.45** | 0.1 |
| **14** | 28.5 | 5214MH | **1AL15** | 6.04 | **4.65** | 0.1 |
| **15** | 28.5 | 5215MH | **1AL16** | 6.04 | **4.65** | 0.1 |
| **16** | 28.5 | 5216MH | **1AL17** | 6.04 | **4.65** | 0.1 |
| **17** | 28.5 | 5217MH | **1AL18** | 6.04 | **4.65** | 0.1 |
| **18** | 30.1 | 5218MH | **1AL19** | 6.04 | **4.65** | 0.1 |
| **19** | 30.1 | 5219MH | **1AL20** | 6.24 | **4.80** | 0.1 |
| **20** | 30.6 | 5220MH | **5F417** | 6.24 | **4.80** | 0.2 |
| **21** | 30.6 | 5221MH | **5F418** | 6.80 | **5.24** | 0.2 |
| **22** | 33.7 | 5222MH | **5F419** | 7.00 | **5.39** | 0.2 |
| **23** | 33.7 | 5223MH | **5F421** | 7.51 | **5.78** | 0.1 |
| **24** | 33.7 | 5224MH | **5F423** | 8.02 | **6.18** | 0.1 |
| **25** | 33.7 | 5225MH | **5F425** | 8.38 | **6.45** | 0.1 |
| **26** | 35.3 | 5226MH | **5F427** | 8.71 | **6.71** | 0.3 |
| **6 POINT DEEP METRIC SOCKETS** | | | | | | |
| **6 mm** | 54.0 mm | 5006MH | **5F406** | 7.40 | **5.70** | 0.1 |
| **7** | 54.0 | 5007MH | **5F407** | 7.40 | **5.70** | 0.1 |
| **8** | 54.0 | 5008MH | **3R813** | 7.40 | **5.70** | 0.1 |
| **9** | 54.0 | 5069MH | **1AL21** | 7.53 | **5.80** | 0.1 |
| **10** | 54.0 | 5010MH | **1AL22** | 7.53 | **5.80** | 0.1 |
| **11** | 54.0 | 5011MH | **1AL23** | 7.53 | **5.80** | 0.1 |
| **12** | 54.0 | 5012MH | **1AL24** | 7.53 | **5.80** | 0.1 |
| **13** | 54.0 | 5013MH | **1AL25** | 7.53 | **5.80** | 0.1 |
| **14** | 54.0 | 5014MH | **1AL26** | 7.93 | **6.11** | 0.2 |
| **15** | 54.0 | 5015MH | **1AL27** | 7.93 | **6.11** | 0.2 |
| **16** | 54.0 | 5016MH | **3R816** | 7.93 | **6.11** | 0.2 |
| **17** | 54.0 | 5017MH | **1AL28** | 7.93 | **6.11** | 0.2 |
| **18** | 54.0 | 5018MH | **3R818** | 8.53 | **6.57** | 0.2 |
| **19** | 54.0 | 5019MH | **1AL29** | 9.11 | **7.01** | 0.2 |
| **20** | 54.0 | 5020MH | **5F409** | 9.82 | **7.56** | 0.4 |
| **21** | 63.5 | 5021MH | **5F411** | 10.80 | **8.32** | 0.2 |
| **22** | 63.5 | 5022MH | **5F413** | 12.09 | **9.31** | 0.2 |
| **23** | 63.5 | 5023MH | **5F415** | 14.24 | **10.96** | 0.5 |
| **6 POINT UNIVERSAL SOCKETS** | | | | | | |
| **5/16"** | 1 13/16" | 5272H | **1AL51** | 20.49 | **15.78** | 0.1 |
| **3/8** | 1 13/16 | 5273H | **1AL52** | 20.58 | **15.85** | 0.1 |
| **7/16** | 1 13/16 | 5274H | **1AL53** | 20.71 | **15.95** | 0.1 |
| **1/2** | 1 59/64 | 5275H | **1AL54** | 20.80 | **16.02** | 0.1 |
| **9/16** | 1 59/64 | 5276H | **1AL55** | 20.84 | **16.05** | 0.2 |
| **5/8** | 2 5/64 | 5277H | **1AL56** | 20.98 | **16.15** | 0.1 |
| **11/16** | 2 5/32 | 5278H | **1AL57** | 21.04 | **16.20** | 0.2 |
| **3/4** | 2 15/64 | 5279H | **1AL58** | 21.13 | **16.27** | 0.2 |
| **6 POINT METRIC UNIVERSAL SOCKETS** | | | | | | |
| **7 mm** | 44.5 mm | 5270MH | **5F433** | 20.16 | **15.52** | 0.1 |
| **8** | 44.5 | 5271MH | **5F434** | 20.33 | **15.65** | 0.1 |
| **10** | 44.5 | 5273MH | **5F435** | 20.49 | **15.78** | 0.1 |
| **11** | 44.5 | 5274MH | **5F436** | 20.71 | **15.95** | 0.1 |
| **12** | 44.5 | 5275MH | **5F437** | 20.80 | **16.02** | 0.1 |
| **13** | 44.5 | 5276MH | **5F438** | 20.84 | **16.05** | 0.1 |
| **14** | 46.8 | 5277MH | **5F439** | 20.98 | **16.15** | 0.1 |
| **15** | 46.8 | 5278MH | **5F440** | 21.04 | **16.20** | 0.1 |
| **16** | 47.6 | 5279MH | **5F442** | 21.09 | **16.24** | 0.2 |
| **17** | 47.6 | 5280MH | **5F444** | 21.13 | **16.27** | 0.2 |
| **18** | 47.6 | 5281MH | **5F446** | 21.18 | **16.31** | 0.2 |
| **19** | 48.4 | 5282MH | **5F448** | 21.24 | **16.35** | 0.2 |

**MAGNETIC TOOL HOLDERS SOLD ON PAGE 1197,1209**

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT DEEP UNIVERSAL SOCKETS** | | | | | | |
| **7/16"** | 2 17/32" | 5274LH | **1AL59** | $22.80 | **$17.56** | 0.1 |
| **1/2** | 2 17/32 | 5275LH | **1AL60** | 22.84 | **17.59** | 0.1 |
| **9/16** | 2 15/32 | 5276LH | **1AL61** | 22.84 | **17.59** | 0.2 |
| **5/8** | 2 15/32 | 5277LH | **1AL62** | 23.09 | **17.78** | 0.2 |
| **HEX BITS** | | | | | | |
| **1/8** | 2 11/16 | 4990-1/8 | **1AL63** | 8.98 | **6.91** | 0.1 |
| **5/32** | 2 11/16 | 4990-5/32 | **1AL64** | 9.27 | **7.14** | 0.1 |
| **3/16** | 2 11/16 | 4990-3/16 | **1AL65** | 9.60 | **7.39** | 0.1 |
| **7/32** | 2 11/16 | 4990-7/32 | **1AL67** | 9.58 | **7.38** | 0.1 |
| **1/4** | 2 11/16 | 4990-1/4 | **1AL68** | 10.18 | **7.84** | 0.1 |
| **5/16** | 2 11/16 | 4990-5/16 | **1AL70** | 10.20 | **7.85** | 0.1 |
| **3/8** | 2 11/16 | 4990-3/8 | **1AL71** | 10.82 | **8.33** | 0.2 |
| **EXTRA LONG HEX BITS** | | | | | | |
| **1/8** | 6 1/8 | 4990-1/8XL | **1AL73** | 9.76 | **7.52** | 0.1 |
| **5/32** | 6 1/8 | 4990-5/32XL | **1AL74** | 9.76 | **7.52** | 0.1 |
| **3/16** | 6 1/8 | 4990-3/16XL | **1AL75** | 10.13 | **7.80** | 0.1 |
| **7/32** | 6 1/8 | 4990-7/32XL | **1AL76** | 10.80 | **8.32** | 0.1 |
| **1/4** | 6 1/8 | 4990-1/4XL | **1AL77** | 10.80 | **8.32** | 0.2 |
| **5/16** | 6 1/8 | 4990-5/16XL | **1AL78** | 10.80 | **8.32** | 0.2 |
| **3/8** | 6 1/8 | 4990-3/8XL | **1AL79** | 10.89 | **8.39** | 0.3 |
| **METRIC HEX BIT SOCKETS** | | | | | | |
| **4 mm** | 69.1 mm | 4990-4M | **1AL80** | 9.42 | **7.25** | 0.1 |
| **5** | 69.1 | 4990-5M | **1AL81** | 9.82 | **7.56** | 0.1 |
| **6** | 69.1 | 4990-6M | **1AL82** | 10.29 | **7.92** | 0.1 |
| **7** | 69.1 | 4990-7M | **1AL83** | 10.49 | **8.08** | 0.1 |
| **8** | 69.1 | 4990-8M | **1AL84** | 10.84 | **8.35** | 0.1 |
| **10** | 69.1 | 4990-10M | **1AL85** | 11.49 | **8.85** | 0.2 |
| **EXTRA LONG METRIC HEX BIT SOCKETS** | | | | | | |
| **4** | 154.79 | 4990-4MXL | **1AL86** | 13.64 | **10.50** | 0.1 |
| **5** | 154.79 | 4990-5MXL | **1AL87** | 13.64 | **10.50** | 0.1 |
| **6** | 154.79 | 4990-6MXL | **1AL88** | 13.64 | **10.50** | 0.2 |
| **7** | 154.79 | 4990-7MXL | **1AL89** | 14.58 | **11.23** | 0.2 |
| **8** | 154.79 | 4990-8MXL | **1AL90** | 14.58 | **11.23** | 0.2 |
| **10** | 154.79 | 4990-10MXL | **1AL91** | 15.42 | **11.87** | 0.1 |
| **STANDARD CROWFOOT WRENCHES** | | | | | | |
| **3/8"** | 1 7/32" | 4912 | **1AL92** | 9.47 | **7.29** | 0.1 |
| **7/16** | 1 13/64 | 4914 | **1AL93** | 11.22 | **8.64** | 0.1 |
| **1/2** | 1 29/64 | 4916 | **1AL94** | 11.42 | **8.79** | 0.1 |
| **9/16** | 1 21/64 | 4918 | **1AL95** | 11.51 | **8.86** | 0.1 |
| **5/8** | 1 39/64 | 4920 | **1AL96** | 11.91 | **9.17** | 0.1 |
| **11/16** | 1 1/2 | 4922 | **1AL97** | 12.93 | **9.96** | 0.1 |
| **3/4** | 1 11/16 | 4924 | **1AL98** | 13.11 | **10.09** | 0.1 |
| **13/16** | 1 21/32 | 4926 | **1AL99** | 14.62 | **11.26** | 0.1 |
| **7/8** | 1 21/32 | 4928 | **1AM01** | 15.67 | **12.07** | 0.1 |
| **1** | 1 49/64 | 4932 | **1AM02** | 16.04 | **12.35** | 0.2 |
| **1 1/4** | 2 9/64 | 4940 | **1AM03** | 16.60 | **12.78** | 0.2 |
| **1 3/8** | 2 1/32 | 4944 | **1AM04** | 17.16 | **13.21** | 0.2 |
| **METRIC CROWFOOT WRENCHES** | | | | | | |
| **10 mm** | 30.8 mm | 4910M | **1AM05** | 13.91 | **10.71** | 0.1 |
| **11** | 30.6 | 4911M | **1AM06** | 11.78 | **9.07** | 0.1 |
| **12** | 34.6 | 4912M | **1AM07** | 11.60 | **8.93** | 0.1 |
| **13** | 34.3 | 4913M | **1AM08** | 11.60 | **8.93** | 0.1 |
| **14** | 34.0 | 4914M | **1AM09** | 11.69 | **9.00** | 0.1 |
| **15** | 39.0 | 4915M | **1AM10** | 11.69 | **9.00** | 0.1 |
| **16** | 38.7 | 4916M | **1AM11** | 12.09 | **9.31** | 0.1 |
| **17** | 38.4 | 4917M | **1AM12** | 13.16 | **10.13** | 0.1 |
| **18** | 43.3 | 4918M | **1AM13** | 13.16 | **10.13** | 0.1 |
| **19** | 43.0 | 4919M | **1AM14** | 13.40 | **10.32** | 0.1 |
| **20** | 42.7 | 4920M | **1AM15** | 14.89 | **11.47** | 0.1 |
| **21** | 42.4 | 4921M | **1AM16** | 14.89 | **11.47** | 0.1 |
| **22** | 42.1 | 4922M | **1AM17** | 15.96 | **12.29** | 0.1 |
| **TORX® BIT SOCKETS** | | | | | | |
| **T10** | 1 57/32" | 5239-10W | **5C615** | 9.18 | **7.07** | 0.1 |
| **T15** | 1 57/32 | 5239-15W | **5C616** | 9.64 | **7.42** | 0.1 |
| **T20** | 1 57/32 | 5239-20W | **5C617** | 9.64 | **7.42** | 0.1 |
| **T25** | 1 57/32 | 5239-25W | **5C618** | 9.82 | **7.56** | 0.1 |
| **T27** | 1 57/32 | 5239-27W | **5C619** | 9.82 | **7.56** | 0.1 |
| **T30** | 2 1/16 | 5239-30W | **5C620** | 9.82 | **7.56** | 0.1 |
| **T40** | 2 1/16 | 5239-40W | **5C621** | 9.82 | **7.56** | 0.1 |
| **T45** | 2 1/16 | 5239-45W | **5C622** | 9.91 | **7.63** | 0.1 |
| **T50** | 2 1/16 | 5239-50W | **5C623** | 10.20 | **7.85** | 0.1 |
| **T55** | 2 1/16 | 5239-55W | **5C624** | 12.42 | **9.56** | 0.1 |

# 1/2" DRIVE ACCESSORIES AND SOCKETS




## 1/2" DRIVE OPEN STOCK ACCESSORIES

| Size / Description | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Reversible Ratchet, Chrome | 10 | 5449 | 1AM18 | $57.76 | $44.50 | 1.5 |
| Reversible Ratchet, Black | 10 | 5449BL | 1AM19 | 51.96 | 40.05 | 1.5 |
| Pushbutton Ratchet, Black | 10 1/8 | 5452ABL | 5C608 | 56.93 | 43.85 | 1.3 |
| Repair Kit for Nos. 1AM18-1AM22 | — | 5449RK | 1AM20 | 21.24 | 16.35 | 0.4 |
| Long Handle Ratchet, Chrome | 16 | 5450 | 1AM21 | 62.24 | 47.95 | 2.0 |
| Long Handle Ratchet, Black | 16 | 5450BL | 1AM22 | 56.02 | 43.15 | 2.2 |
| Pushbutton Round Head Ratchet, Chrome | 10 1/8 | 5452A | 1AM23 | 63.27 | 48.75 | 1.3 |
| Repair Kit for No. 1AM23 | — | 5452ARK | 1AM24 | 29.20 | 22.48 | 0.3 |
| Pushbutton Round Head Ratchet, Chrome | 16 | 5454A | 1AM25 | 74.16 | 57.10 | 1.7 |
| Repair Kit for No. 1AM25 | — | 5454ARK | 1AM26 | 26.44 | 20.36 | 0.3 |
| 180° Angle Flex Round Head Ratchet, Chrome | 13 | 5457A | 1AM27 | 75.18 | 57.90 | 1.7 |
| Repair Kit for No. 1AM27 | — | 5457ARK | 1AM28 | 26.44 | 20.36 | 0.3 |
| Spud Handle Ratchet, Black | 14 | 5449-14BL | 1AM29 | 61.07 | 47.05 | 2.0 |
| Repair Kit for No. 1AM29 | — | 5449-14RK | 1AM30 | 23.24 | 17.89 | 0.4 |
| Female Drive Long Handle Ratchet, Chrome | 16 | 5450FW | 1AM31 | 71.93 | 55.40 | 1.9 |
| Repair Kit for No. 1AM31 | — | 5450FWRK | 1AM32 | 33.22 | 25.60 | 0.3 |
| 10 7/8" Hinge Handle, Chrome | 10 7/8 | 5466 | 1AM33 | 42.56 | 32.80 | 1.2 |
| 15 3/4" Hinge Handle, Chrome | 15 3/4 | 5467 | 1AM34 | 47.93 | 36.95 | 1.6 |
| 18 5/8" Hinge Handle, Chrome | 18 5/8 | 5468 | 1AM35 | 48.20 | 37.15 | 1.8 |
| 18 5/8" Hinge Handle, Black | 18 5/8 | 5468BL | 1AM36 | 43.78 | 33.75 | 1.8 |
| Sliding Tee Handle | 13 | 5485 | 1AM37 | 26.64 | 20.51 | 1.1 |
| Speed Handle | 18 | 5480 | 1AM38 | 36.98 | 28.50 | 1.5 |
| 2 1/2" Extension | 2 1/2 | 5460 | 1AM39 | 11.29 | 8.69 | 0.2 |
| 5" Extension | 5 | 5461 | 1AM40 | 14.62 | 11.26 | 0.4 |
| 10" Extension | 10 | 5463 | 1AM41 | 19.31 | 14.87 | 0.9 |
| 20" Extension | 20 | 5464 | 1AM42 | 30.04 | 23.13 | 1.0 |
| 36" Extension | 36 | 5465 | 1AM43 | 52.36 | 40.35 | 3.2 |
| 2 1/2" Protoblack Extension | 2 1/2 | 5460B | 5F481 | 10.16 | 7.82 | 0.1 |
| 5" Protoblack Extension | 5 | 5461B | 5F482 | 13.16 | 10.13 | 0.5 |
| 10" Protoblack Extension | 10 | 5463B | 5F483 | 17.38 | 13.38 | 0.9 |
| 2 1/2" Wobble Extension | 2 1/2 | 5460W | 1AM44 | 12.44 | 9.58 | 0.2 |
| 5" Wobble Extension | 5 | 5461W | 1AM45 | 16.07 | 12.37 | 0.5 |
| 10" Wobble Extension | 10 | 5463W | 1AM46 | 21.24 | 16.35 | 0.9 |
| 20" Wobble Extension | 20 | 5464W | 1AM47 | 33.69 | 25.95 | 1.9 |
| Universal Joint | 2 5/8 | 5470 | 1AM48 | 25.60 | 19.71 | 0.3 |
| Ratchet Adapter | 2 21/32 | 5447 | 1AM49 | 56.31 | 43.40 | 0.9 |
| Stud Remover | 2 1/2 | 4520 | 3R739 | 45.64 | 35.15 | 1.4 |
| 1/2" 12 Pt. Universal Socket | 2 3/16 | 5475 | 1AM50 | 25.93 | 19.97 | 0.3 |
| 9/16" 12 Pt. Universal Socket | 2 7/32 | 5476 | 1AM51 | 25.93 | 19.97 | 0.3 |
| 5/8" 12 Pt. Universal Socket | 2 11/32 | 5477 | 1AM52 | 25.93 | 19.97 | 0.3 |
| 3/4 x 0.115" Screwdriver Bit | 1 | 5444A | 1AM56 | 11.27 | 8.68 | 0.2 |
| 15/16 x 0.154" Screwdriver Bit | 1 11/32 | 5446A | 1AM57 | 12.44 | 9.58 | 0.2 |
| 5/8" 6 Pt. Spark Plug Socket | 2 1/2 | 5320-50 | 1AM58 | 11.51 | 8.86 | 0.2 |
| 13/16" 6 Pt. Spark Plug Socket | 2 1/2 | 5326HPA | 1AM59 | 12.40 | 9.55 | 0.4 |
| 3/8" F x 1/2" M Adapter | 1 7/32 | 5253 | 1AH97 | 6.64 | 5.11 | 0.1 |
| 1/2" F x 3/8" M Adapter | 1 13/32 | 5254 | 1AH99 | 8.96 | 6.90 | 0.1 |
| 1/2" F x 3/4" M Adapter | 1 9/16 | 5653 | 1AP39 | 11.67 | 8.99 | 0.3 |
| 3/4" F x 1/2" M Adapter | 2 1/8 | 5453 | 1AM61 | 18.18 | 14.00 | 0.3 |

MAGNETIC TOOL HOLDERS
SOLD ON PAGE 1197

## 12 POINT STANDARD SOCKETS

| Size | Length (In.) | Proto Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| 3/8" | 1 7/16 | 5412 | 1AM62 | $7.16 | $5.51 | 0.1 |
| 7/16 | 1 7/16 | 5414 | 1AM63 | 7.16 | 5.51 | 0.1 |
| 1/2 | 1 7/16 | 5416 | 1AM64 | 7.16 | 5.51 | 0.1 |
| 9/16 | 1 1/2 | 5418 | 1AM65 | 7.16 | 5.51 | 0.1 |
| 19/32 | 1 1/2 | 5419 | 1AM66 | 7.16 | 5.51 | 0.1 |
| 5/8 | 1 1/2 | 5420 | 1AM67 | 7.16 | 5.51 | 0.1 |
| 21/32 | 1 1/2 | 5421 | 1AM68 | 8.18 | 6.30 | 0.2 |
| 11/16 | 1 1/2 | 5422 | 1AM69 | 8.18 | 6.30 | 0.2 |
| 3/4 | 1 1/2 | 5424 | 1AM70 | 8.18 | 6.30 | 0.2 |
| 25/32 | 1 1/2 | 5425 | 1AM71 | 8.18 | 6.30 | 0.2 |
| 13/16 | 1 1/2 | 5426 | 1AM72 | 9.47 | 7.29 | 0.2 |
| 7/8 | 1 9/16 | 5428 | 1AM73 | 9.47 | 7.29 | 0.3 |
| 29/32 | 1 9/16 | 5429 | 1AM74 | 9.47 | 7.29 | 0.3 |
| 15/16 | 1 9/16 | 5430 | 1AM75 | 9.47 | 7.29 | 0.3 |
| 31/32 | 1 9/16 | 5431 | 1AM76 | 9.69 | 7.46 | 0.3 |
| 1 | 1 9/16 | 5432 | 1AM77 | 10.58 | 8.15 | 0.3 |
| 1 1/16 | 1 9/16 | 5434 | 1AM78 | 11.51 | 8.86 | 0.3 |
| 1 1/8 | 1 3/4 | 5436 | 1AM79 | 13.42 | 10.33 | 0.4 |
| 1 3/16 | 1 3/4 | 5438 | 1AM80 | 14.27 | 10.99 | 0.4 |
| 1 1/4 | 1 3/4 | 5440 | 1AM81 | 15.22 | 11.72 | 0.5 |
| 1 5/16 | 1 7/8 | 5442 | 1AM82 | 18.69 | 14.39 | 0.5 |
| 1 3/8 | 2 | 5444 | 1AM83 | 20.36 | 15.68 | 0.7 |
| 1 7/16 | 2 1/8 | 5446 | 1AM84 | 23.67 | 18.23 | 0.8 |
| 1 1/2 | 2 1/4 | 5448 | 1AM85 | 27.09 | 20.86 | 1.0 |

## 12 POINT STANDARD BLACK SOCKETS

| | | | | | | |
|---|---|---|---|---|---|---|
| 3/8 | 1 7/16 | 5412B | 1AM86 | 6.07 | 4.67 | 0.1 |
| 7/16 | 1 7/16 | 5414B | 1AM87 | 6.07 | 4.67 | 0.1 |
| 1/2 | 1 7/16 | 5416B | 1AM88 | 6.07 | 4.67 | 0.1 |
| 9/16 | 1 1/2 | 5418B | 1AM89 | 6.07 | 4.67 | 0.1 |
| 5/8 | 1 1/2 | 5420B | 1AM91 | 6.07 | 4.67 | 0.1 |
| 11/16 | 1 1/2 | 5422B | 1AM93 | 6.98 | 5.37 | 0.1 |
| 3/4 | 1 1/2 | 5424B | 1AM94 | 6.98 | 5.37 | 0.2 |
| 13/16 | 1 1/2 | 5426B | 1AM96 | 8.02 | 6.18 | 0.2 |
| 7/8 | 1 9/16 | 5428B | 1AM97 | 8.02 | 6.18 | 0.3 |
| 15/16 | 1 9/16 | 5430B | 1AM99 | 8.02 | 6.18 | 0.3 |
| 1 | 1 9/16 | 5432B | 1AN02 | 8.98 | 6.91 | 0.3 |
| 1 1/16 | 1 9/16 | 5434B | 1AN03 | 9.76 | 7.52 | 0.4 |
| 1 1/8 | 1 3/4 | 5436B | 1AN04 | 11.40 | 8.78 | 0.4 |
| 1 3/16 | 1 3/4 | 5438B | 1AN05 | 12.11 | 9.32 | 0.6 |
| 1 1/4 | 1 3/4 | 5440B | 1AN06 | 12.91 | 9.94 | 0.6 |
| 1 5/16 | 1 7/8 | 5442B | 1AN07 | 15.87 | 12.22 | 0.6 |
| 1 3/8 | 2 | 5444B | 1AN08 | 17.27 | 13.30 | 0.8 |
| 1 7/16 | 2 1/8 | 5446B | 1AN09 | 20.16 | 15.52 | 0.8 |
| 1 1/2 | 2 1/4 | 5448B | 1AN10 | 23.04 | 17.74 | 0.8 |

## 12 POINT DEEP SOCKETS

| | | | | | | |
|---|---|---|---|---|---|---|
| 1/2 | 3 1/4 | 5316 | 1AN11 | 13.04 | 10.04 | 0.3 |
| 9/16 | 3 1/4 | 5318 | 1AN12 | 13.16 | 10.13 | 0.3 |
| 5/8 | 3 1/4 | 5320 | 1AN13 | 13.33 | 10.26 | 0.3 |
| 11/16 | 3 1/4 | 5322 | 1AN14 | 13.40 | 10.32 | 0.3 |
| 3/4 | 3 1/4 | 5324 | 1AN15 | 13.49 | 10.39 | 0.4 |
| 13/16 | 3 1/4 | 5326 | 1AN16 | 13.76 | 10.60 | 0.4 |
| 7/8 | 3 1/4 | 5328 | 1AN17 | 15.53 | 11.96 | 0.5 |
| 15/16 | 3 1/4 | 5330 | 1AN18 | 16.27 | 12.53 | 0.6 |
| 1 | 3 1/4 | 5332 | 1AN19 | 16.82 | 12.95 | 0.6 |
| 1 1/16 | 3 1/4 | 5334 | 1AN20 | 17.58 | 13.54 | 0.7 |
| 1 1/8 | 3 1/4 | 5336 | 1AN21 | 18.76 | 14.45 | 0.7 |
| 1 1/4 | 3 1/4 | 5340 | 1AN22 | 21.49 | 16.55 | 0.7 |



The only source you need for tools as tough as you are.

# 1/2" DRIVE SOCKETS AND HEX BITS

PROTO PROFESSIONAL TOOLS®

Made in U.S.A.

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 POINT DEEP BLACK SOCKETS** | | | | | | |
| 2" | 3¼" | 5316B | **1AN23** | $11.11 | **$8.55** | 0.3 |
| 16 | 3¼ | 5318B | **1AN24** | 11.18 | **8.61** | 0.3 |
| 8 | 3¼ | 5320B | **1AN25** | 11.29 | **8.69** | 0.3 |
| /16 | 3¼ | 5322B | **1AN26** | 11.38 | **8.76** | 0.3 |
| 4 | 3¼ | 5324B | **1AN27** | 11.47 | **8.83** | 0.4 |
| 1/16 | 3¼ | 5326B | **1AN28** | 11.71 | **9.02** | 0.4 |
| 8 | 3¼ | 5328B | **1AN29** | 13.22 | **10.18** | 0.4 |
| 3/16 | 3¼ | 5330B | **1AN30** | 13.80 | **10.63** | 0.4 |
| | 3¼ | 5332B | **1AN31** | 14.31 | **11.02** | 0.4 |
| /16 | 3¼ | 5334B | **1AN32** | 14.91 | **11.48** | 0.7 |
| /8 | 3¼ | 5336B | **1AN33** | 15.93 | **12.27** | 0.7 |
| /4 | 3¼ | 5340B | **1AN34** | 18.24 | **14.04** | 0.8 |
| **12 POINT METRIC SOCKETS** | | | | | | |
| ) mm | 36.4 mm | 5410M | **1AN35** | 7.16 | **5.51** | 0.1 |
| | 36.4 | 5411M | **1AN36** | 7.16 | **5.51** | 0.1 |
| 2 | 36.4 | 5412M | **1AN37** | 7.16 | **5.51** | 0.1 |
| 3 | 36.4 | 5413M | **1AN38** | 7.16 | **5.51** | 0.1 |
| 4 | 36.4 | 5414M | **1AN39** | 7.16 | **5.51** | 0.1 |
| 5 | 36.4 | 5415M | **1AN40** | 7.16 | **5.51** | 0.1 |
| 5 | 36.4 | 5416M | **1AN41** | 7.16 | **5.51** | 0.1 |
| 7 | 36.4 | 5417M | **1AN42** | 8.18 | **6.30** | 0.2 |
| 8 | 36.4 | 5418M | **1AN43** | 8.18 | **6.30** | 0.2 |
| 9 | 36.4 | 5419M | **1AN44** | 8.18 | **6.30** | 0.2 |
| 0 | 38.0 | 5420M | **1AN45** | 9.47 | **7.29** | 0.3 |
| 1 | 38.0 | 5421M | **1AN46** | 9.47 | **7.29** | 0.3 |
| 2 | 39.0 | 5422M | **1AN47** | 9.47 | **7.29** | 0.3 |
| 3 | 39.0 | 5423M | **1AN48** | 9.47 | **7.29** | 0.3 |
| 4 | 39.0 | 5424M | **1AN49** | 9.73 | **7.49** | 0.3 |
| 5 | 39.0 | 5425M | **1AN50** | 10.58 | **8.15** | 0.3 |
| 6 | 39.0 | 5426M | **1AN51** | 11.22 | **8.64** | 0.3 |
| 7 | 42.5 | 5427M | **1AN52** | 11.51 | **8.86** | 0.4 |
| 8 | 45.2 | 5428M | **1AN53** | 13.53 | **10.42** | 0.4 |
| 9 | 45.2 | 5429M | **1AN54** | 13.64 | **10.50** | 0.4 |
| 0 | 45.2 | 5430M | **1AN55** | 15.22 | **11.72** | 0.5 |
| 1 | 45.2 | 5431M | **5F478** | 16.93 | **13.04** | 0.5 |
| 2 | 45.2 | 5432M | **1AN56** | 18.69 | **14.39** | 0.5 |
| 6 | 56.8 | 5436M | **1AN57** | 23.67 | **18.23** | 1.0 |
| **12 POINT METRIC DEEP SOCKETS** | | | | | | |
| 0 | 82.5 | 5310M | **3R835** | 12.93 | **9.96** | 0.3 |
| 1 | 82.5 | 5311M | **3R836** | 12.98 | **9.99** | 0.3 |
| 2 | 82.5 | 5312M | **3R837** | 13.04 | **10.04** | 0.3 |
| 3 | 82.5 | 5313M | **3R838** | 13.11 | **10.09** | 0.3 |
| 4 | 82.5 | 5314M | **3R839** | 13.20 | **10.16** | 0.3 |
| 5 | 82.5 | 5315M | **3R840** | 13.27 | **10.22** | 0.3 |
| 6 | 82.5 | 5316M | **1AN58** | 13.33 | **10.26** | 0.2 |
| 7 | 82.5 | 5317M | **1AN59** | 13.38 | **10.30** | 0.3 |
| 8 | 82.5 | 5318M | **1AN60** | 13.40 | **10.32** | 0.3 |
| 9 | 82.5 | 5319M | **1AN61** | 13.49 | **10.39** | 0.3 |
| 0 | 82.5 | 5320M | **1AN62** | 13.76 | **10.60** | 0.3 |
| 1 | 82.5 | 5321M | **1AN63** | 15.53 | **11.96** | 0.3 |
| 2 | 82.5 | 5322M | **1AN64** | 15.53 | **11.96** | 0.3 |
| 4 | 82.5 | 5324M | **1AN65** | 16.27 | **12.53** | 0.6 |
| 5 | 82.5 | 5325M | **1AN66** | 16.82 | **12.95** | 0.7 |
| 6 | 82.5 | 5326M | **1AN67** | 17.80 | **13.71** | 0.7 |
| 7 | 82.5 | 5327M | **5F449** | 18.02 | **13.88** | 0.7 |
| 8 | 82.5 | 5328M | **5F450** | 18.84 | **14.51** | 0.8 |
| 9 | 82.5 | 5329M | **5F451** | 19.67 | **15.15** | 0.8 |
| 0 | 82.5 | 5330M | **5F452** | 20.49 | **15.78** | 0.8 |
| 1 | 82.5 | 5331M | **5F453** | 21.33 | **16.42** | 0.8 |
| 2 | 82.5 | 5332M | **5F454** | 21.49 | **16.55** | 0.8 |
| **8 POINT STANDARD SOCKETS** | | | | | | |
| /8" | 1 7/16" | 5412S | **1AN68** | 8.64 | **6.65** | 0.1 |
| /16 | 1 7/16 | 5414S | **1AN69** | 8.64 | **6.65** | 0.1 |
| /2 | 1 7/16 | 5416S | **1AN70** | 8.64 | **6.65** | 0.2 |
| /16 | 1½ | 5418S | **1AN71** | 8.64 | **6.65** | 0.2 |
| /8 | 1½ | 5420S | **1AN72** | 8.64 | **6.65** | 0.2 |
| 1/16 | 1½ | 5422S | **1AN73** | 9.76 | **7.52** | 0.2 |
| /4 | 1½ | 5424S | **1AN74** | 9.78 | **7.53** | 0.2 |
| 3/16 | 1⅝ | 5426S | **1AN75** | 12.53 | **9.65** | 0.2 |
| /8 | 1⅝ | 5428S | **1AN76** | 13.27 | **10.22** | 0.5 |
| | 1¾ | 5432S | **1AN77** | 15.80 | **12.17** | 0.8 |

MAGNETIC TOOL HOLDER
SOLD ON PAGE 778

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT STANDARD SOCKETS** | | | | | | |
| 3/8" | 1 7/16" | 5412H | **1AN78** | $7.16 | **$5.51** | 0.1 |
| 7/16 | 1 7/16 | 5414H | **1AN79** | 7.16 | **5.51** | 0.1 |
| 1/2 | 1 7/16 | 5416H | **1AN80** | 7.16 | **5.51** | 0.1 |
| 9/16 | 1½ | 5418H | **1AN81** | 7.16 | **5.51** | 0.1 |
| 5/8 | 1½ | 5420H | **1AN82** | 7.16 | **5.51** | 0.1 |
| 11/16 | 1½ | 5422H | **1AN83** | 8.18 | **6.30** | 0.2 |
| 3/4 | 1½ | 5424H | **1AN84** | 8.18 | **6.30** | 0.2 |
| 13/16 | 1½ | 5426H | **1AN85** | 9.47 | **7.29** | 0.2 |
| 7/8 | 1 9/16 | 5428H | **1AN86** | 9.47 | **7.29** | 0.2 |
| 15/16 | 1 9/16 | 5430H | **1AN87** | 9.47 | **7.29** | 0.3 |
| 1 | 1 9/16 | 5432H | **1AN88** | 10.58 | **8.15** | 0.3 |
| 1 1/16 | 1 9/16 | 5434H | **1AN89** | 11.51 | **8.86** | 0.4 |
| 1 1/8 | 1¾ | 5436H | **1AN90** | 13.42 | **10.33** | 0.5 |
| 1 3/16 | 1¾ | 5438H | **1AN91** | 14.27 | **10.99** | 0.5 |
| 1 1/4 | 1¾ | 5440H | **1AN92** | 15.22 | **11.72** | 0.5 |
| **6 POINT DEEP SOCKETS** | | | | | | |
| 1/2 | 3¼ | 5316H | **1AN93** | 13.04 | **10.04** | 0.3 |
| 9/16 | 3¼ | 5318H | **1AN94** | 13.16 | **10.13** | 0.3 |
| 5/8 | 3¼ | 5320H | **1AN95** | 13.33 | **10.26** | 0.3 |
| 11/16 | 3¼ | 5322H | **1AN96** | 13.40 | **10.32** | 0.3 |
| 3/4 | 3¼ | 5324H | **1AN97** | 13.49 | **10.39** | 0.4 |
| 13/16 | 3¼ | 5326H | **1AN98** | 13.76 | **10.60** | 0.4 |
| 7/8 | 3¼ | 5328H | **1AN99** | 15.53 | **11.96** | 0.5 |
| 15/16 | 3¼ | 5330H | **1AP01** | 16.27 | **12.53** | 0.6 |
| 1 | 3¼ | 5332H | **1AP02** | 16.82 | **12.95** | 0.6 |
| **6 POINT METRIC SOCKETS** | | | | | | |
| 10 mm | 36.8 mm | 5410MH | **5F455** | 7.16 | **5.51** | 0.1 |
| 11 | 36.8 | 5411MH | **5F456** | 7.16 | **5.51** | 0.1 |
| 12 | 36.8 | 5412MH | **5F457** | 7.16 | **5.51** | 0.1 |
| 13 | 36.8 | 5413MH | **5F458** | 7.16 | **5.51** | 0.1 |
| 14 | 36.8 | 5414MH | **5F459** | 7.16 | **5.51** | 0.1 |
| 15 | 36.8 | 5415MH | **5F460** | 7.16 | **5.51** | 0.1 |
| 16 | 36.8 | 5416MH | **5F461** | 7.16 | **5.51** | 0.1 |
| 17 | 36.8 | 5417MH | **5F462** | 8.18 | **6.30** | 0.1 |
| 18 | 36.8 | 5418MH | **5F463** | 8.18 | **6.30** | 0.1 |
| 19 | 36.8 | 5419MH | **5F464** | 8.18 | **6.30** | 0.1 |
| 20 | 36.8 | 5420MH | **5F467** | 9.47 | **7.29** | 0.1 |
| 21 | 36.8 | 5421MH | **5F468** | 9.47 | **7.29** | 0.1 |
| 22 | 39.4 | 5422MH | **5F469** | 9.47 | **7.29** | 0.1 |
| 23 | 39.4 | 5423MH | **5F470** | 9.47 | **7.29** | 0.1 |
| 24 | 39.4 | 5424MH | **5F471** | 9.73 | **7.49** | 0.1 |
| 25 | 39.4 | 5425MH | **5F472** | 10.58 | **8.15** | 0.1 |
| 26 | 39.4 | 5426MH | **5F473** | 11.22 | **8.64** | 0.2 |
| 27 | 42.9 | 5427MH | **5F474** | 11.51 | **8.86** | 0.4 |
| 28 | 45.4 | 5428MH | **5F475** | 13.53 | **10.42** | 0.5 |
| 29 | 45.4 | 5429MH | **5F476** | 13.64 | **10.50** | 0.5 |
| 30 | 45.4 | 5430MH | **5F477** | 15.22 | **11.72** | 0.6 |
| 31 | 45.4 | 5431MH | **5F479** | 16.93 | **13.04** | 0.6 |
| 32 | 45.4 | 5432MH | **5F480** | 18.69 | **14.39** | 0.6 |
| **HEX BITS** | | | | | | |
| 1/4" | 3¼" | 5441-1/4 | **1AP03** | 10.89 | **8.39** | 0.1 |
| 5/16 | 3¼ | 5441-5/16 | **1AP04** | 14.36 | **11.06** | 0.1 |
| 3/8 | 3¼ | 5441-3/8 | **1AP05** | 15.80 | **12.17** | 0.2 |
| 7/16 | 3¼ | 5441-7/16 | **1AP06** | 16.73 | **12.88** | 0.3 |
| 1/2 | 3⅝ | 5441-1/2 | **1AP07** | 15.80 | **12.17** | 0.5 |
| 9/16 | 3⅝ | 5441-9/16 | **1AP08** | 16.84 | **12.97** | 0.5 |
| 5/8 | 4 | 5441-5/8 | **1AP09** | 17.56 | **13.52** | 0.8 |
| **EXTRA LONG HEX BITS** | | | | | | |
| 1/4 | 4⅝ | 5441-1/4XL | **1AP10** | 13.73 | **10.57** | 0.2 |
| 5/16 | 5⅛ | 5441-5/16XL | **1AP11** | 14.71 | **11.33** | 0.3 |
| 3/8 | 5⅛ | 5441-3/8XL | **1AP12** | 15.49 | **11.93** | 0.3 |
| 1/2 | 7⅛ | 5441-1/2XL | **1AP13** | 17.29 | **13.31** | 0.7 |
| 9/16 | 7⅛ | 5441-9/16XL | **1AP14** | 18.51 | **14.25** | 0.8 |
| 5/8 | 7 9/16 | 5441-5/8XL | **1AP15** | 19.22 | **14.80** | 1.3 |
| **METRIC HEX BITS** | | | | | | |
| 6 mm | 82.55 mm | 5441-6M | **1AP16** | 13.09 | **10.08** | 0.1 |
| 8 | 82.55 | 5441-8M | **1AP17** | 13.60 | **10.47** | 0.2 |
| 10 | 82.55 | 5441-10M | **1AP18** | 14.71 | **11.33** | 0.3 |
| 12 | 82.55 | 5441-12M | **1AP19** | 15.93 | **12.27** | 0.3 |
| 14 | 92.20 | 5441-14M | **1AP20** | 17.02 | **13.11** | 0.5 |
| 17 | 101.60 | 5441-17M | **1AP21** | 17.71 | **13.64** | 0.9 |
| **EXTRA LONG METRIC HEX BITS** | | | | | | |
| 12 | 180.98 | 5441-12MXL | **1AP22** | 17.29 | **13.31** | 0.5 |
| 14 | 180.98 | 5441-14MXL | **1AP23** | 18.51 | **14.25** | 0.8 |
| 17 | 180.98 | 5441-17MXL | **1AP24** | 19.22 | **14.80** | 0.9 |

# 3/4" AND 1" DRIVE SOCKETS AND ACCESSORIES

- Proto sockets are an industrial grade line of mechanic's sockets for heavy-duty applications and production use

PROTO PROFESSIONAL TOOLS

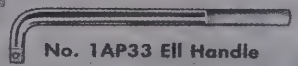
Made In U.S.A.



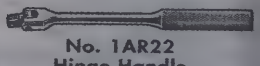
No. 1AP32
Sliding Tee Handle



No. 1AP25
Reversible Ratchet



No. 1AP33 Ell Handle



No. 1AR22
Hinge Handle

## 3/4" DRIVE OPEN STOCK ACCESSORIES

| Size /Description | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Reversible Ratchet, Chrome** | 20 | 5649 | **1AP25** | $122.58 | **$94.40** | 6.1 |
| **Reversible Ratchet, Black** | 20 | 5649BL | **1AP26** | 111.73 | **86.05** | 6.2 |
| **Repair Kit for No. 1AP25 & 1AP26** | — | 5649RK | **1AP27** | 53.00 | **40.85** | 1.4 |
| **Female Drive Ratchet, Chrome** | 20 | 5649FW | **1AP28** | 122.67 | **94.50** | 6.0 |
| **Repair Kit for No. 1AP28** | — | 5649FWRK | **1AP29** | 57.24 | **44.10** | 1.0 |
| **Hinge Handle, Chrome** | 20 | 5668 | **1AP30** | 73.29 | **56.45** | 4.3 |
| **Hinge Handle, Black** | 20 | 5668BL | **1AP31** | 64.89 | **50.00** | 4.3 |
| **Sliding T-Handle** | 18 | 5685 | **1AP32** | 52.27 | **40.25** | 3.0 |
| **Ell Handle** | 16 | 5686 | **1AP33** | 55.02 | **42.40** | 3.9 |
| **4" Extension** | 4 | 5660 | **1AP34** | 26.82 | **20.65** | 0.9 |
| **8" Extension** | 8 | 5661 | **1AP35** | 31.16 | **23.99** | 1.4 |
| **16" Extension** | 16 | 5663 | **1AP36** | 44.87 | **34.55** | 2.4 |
| **Ratchet Adapter** | 3 11/16 | 5647 | **1AP37** | 157.16 | **121.05** | 2.4 |
| **Universal Joint** | 3 5/8 | 5670 | **1AP38** | 69.71 | **53.70** | 0.9 |
| **1/2" F x 3/4" M Adapter** | 1 19/32 | 5653 | **1AP39** | 11.67 | **8.99** | 0.3 |
| **3/4" F x 1/2" M Adapter** | 2 1/8 | 5453 | **1AM61** | 18.18 | **14.00** | 0.3 |
| **3/4" F x 1" M Adapter** | 2 1/2 | 5853 | **1AR26** | 25.53 | **19.66** | 0.8 |
| **1" F x 3/4" M Adapter** | 2 7/8 | 5854 | **1AR27** | 38.47 | **29.65** | 1.3 |

## 12 POINT STANDARD SOCKETS

| | | | | | | |
|---|---|---|---|---|---|---|
| **3/4"** | 2 | 5524 | **1AP40** | 17.00 | **13.09** | 0.4 |
| **13/16** | 2 | 5526 | **1AP41** | 17.00 | **13.09** | 0.4 |
| **7/8** | 2 | 5528 | **1AP42** | 17.09 | **13.16** | 0.4 |
| **15/16** | 2 | 5530 | **1AP43** | 17.27 | **13.30** | 0.5 |
| **1** | 2 | 5532 | **1AP44** | 17.40 | **13.40** | 0.6 |
| **1 1/16** | 2 1/16 | 5534 | **1AP45** | 17.49 | **13.47** | 0.6 |
| **1 1/8** | 2 7/32 | 5536 | **1AP46** | 17.49 | **13.47** | 0.7 |
| **1 3/16** | 2 7/32 | 5538 | **1AP47** | 17.62 | **13.57** | 0.7 |
| **1 1/4** | 2 15/64 | 5540 | **1AP48** | 18.78 | **14.46** | 0.9 |
| **1 5/16** | 2 9/32 | 5542 | **1AP49** | 20.84 | **16.05** | 0.9 |
| **1 3/8** | 2 9/32 | 5544 | **1AP50** | 23.22 | **17.88** | 1.0 |
| **1 7/16** | 2 13/32 | 5546 | **1AP51** | 25.44 | **19.59** | 1.1 |
| **1 1/2** | 2 13/32 | 5548 | **1AP52** | 27.02 | **20.81** | 1.1 |
| **1 9/16** | 2 5/8 | 5550 | **1AP53** | 29.62 | **22.81** | 1.4 |
| **1 5/8** | 2 5/8 | 5552 | **1AP54** | 32.49 | **25.05** | 1.5 |
| **1 11/16** | 2 3/4 | 5554 | **1AP55** | 33.58 | **25.90** | 1.5 |
| **1 3/4** | 2 3/4 | 5556 | **1AP56** | 33.89 | **26.10** | 1.6 |
| **1 13/16** | 2 29/32 | 5558 | **1AP57** | 36.84 | **28.40** | 1.8 |
| **1 7/8** | 2 31/32 | 5560 | **1AP58** | 40.98 | **31.55** | 1.8 |
| **2** | 3 7/64 | 5564 | **1AP59** | 46.31 | **35.70** | 2.3 |
| **2 1/16** | 3 5/32 | 5566 | **1AP60** | 51.40 | **39.60** | 2.4 |
| **2 1/8** | 3 9/32 | 5568 | **1AP61** | 55.24 | **42.55** | 2.5 |
| **2 3/16** | 3 9/32 | 5570 | **1AP62** | 59.07 | **45.50** | 2.6 |
| **2 1/4** | 3 13/32 | 5572 | **1AP63** | 71.07 | **54.75** | 3.2 |
| **2 3/8** | 3 49/64 | 5576 | **1AP64** | 83.44 | **64.25** | 3.8 |

## 6 POINT DEEP LENGTH SOCKETS

| | | | | | | |
|---|---|---|---|---|---|---|
| **7/8"** | 3 1/2 | 5528HL | **1AP88** | 26.69 | **20.55** | 0.9 |
| **15/16** | 3 1/2 | 5530HL | **1AP89** | 26.76 | **20.61** | 0.9 |
| **1** | 3 1/2 | 5532HL | **1AP90** | 27.04 | **20.82** | 1.0 |
| **1 1/16** | 3 1/2 | 5534HL | **1AP91** | 27.24 | **20.97** | 1.0 |
| **1 1/8** | 3 1/2 | 5536HL | **1AP92** | 27.53 | **21.20** | 1.0 |
| **1 1/4** | 3 1/2 | 5540HL | **1AP93** | 27.69 | **21.32** | 1.3 |
| **1 5/16** | 3 1/2 | 5542HL | **1AP94** | 29.67 | **22.85** | 1.4 |
| **1 3/8** | 3 1/2 | 5544HL | **1AP95** | 33.40 | **25.75** | 1.5 |
| **1 7/16** | 3 1/2 | 5546HL | **1AP96** | 35.36 | **27.25** | 1.5 |
| **1 1/2** | 3 1/2 | 5548HL | **1AP97** | 37.58 | **28.95** | 1.6 |
| **1 5/8** | 3 1/2 | 5552HL | **1AP98** | 45.73 | **35.25** | 1.8 |

TERMINOLOGY AND TECHNICAL DATA
See Pages at back of Catalog

| Size/Description | Length | Proto Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **19 mm** | 50.8mm | 5519M | **1AP65** | $17.73 | **$13.65** | 0.4 |
| **20** | 50.8 | 5520M | **5F484** | 17.89 | **13.78** | 0.4 |
| **21** | 50.8 | 5521M | **1AP66** | 18.00 | **13.86** | 0.4 |
| **22** | 50.8 | 5522M | **1AP67** | 18.09 | **13.93** | 0.4 |
| **23** | 50.8 | 5523M | **1AP68** | 18.13 | **13.96** | 0.5 |
| **24** | 50.8 | 5524M | **1AP69** | 18.18 | **14.00** | 0.5 |
| **25** | 50.8 | 5525M | **1AP70** | 18.24 | **14.04** | 0.5 |
| **26** | 50.8 | 5526M | **1AP71** | 18.36 | **14.14** | 0.6 |
| **27** | 50.8 | 5527M | **1AP72** | 18.36 | **14.14** | 0.6 |
| **28** | 56.4 | 5528M | **1AP73** | 18.40 | **14.17** | 0.7 |
| **29** | 56.4 | 5529M | **1AP74** | 18.51 | **14.25** | 0.7 |
| **30** | 56.4 | 5530M | **1AP75** | 19.71 | **15.18** | 0.7 |
| **31** | 56.4 | 5531M | **5C605** | 20.78 | **16.00** | 0.8 |
| **32** | 56.4 | 5532M | **1AP76** | 21.89 | **16.86** | 0.8 |
| **35** | 57.9 | 5535M | **1AP77** | 24.31 | **18.72** | 0.9 |
| **36** | 61.2 | 5536M | **1AP78** | 26.71 | **20.57** | 1.1 |
| **38** | 61.2 | 5538M | **1AP79** | 28.33 | **21.81** | 1.2 |
| **41** | 66.2 | 5541M | **1AP80** | 34.16 | **26.30** | 1.4 |
| **42** | 69.0 | 5542M | **1AP81** | 35.27 | **27.20** | 1.6 |
| **46** | 75.4 | 5546M | **1AP82** | 43.09 | **33.20** | 1.9 |
| **50** | 80.2 | 5550M | **1AP83** | 48.60 | **37.45** | 2.4 |
| **54** | 83.3 | 5554M | **1AP84** | 58.04 | **44.70** | 2.4 |
| **55** | 83.3 | 5555M | **1AP85** | 74.67 | **57.50** | 2.7 |
| **58** | 86.6 | 5558M | **1AP86** | 81.11 | **62.45** | 3.1 |
| **60** | 92.9 | 5560M | **1AP87** | 87.62 | **67.50** | 3.9 |

## 1" DRIVE OPEN STOCK ACCESSORIES

| | | | | | | |
|---|---|---|---|---|---|---|
| **Reversible Ratchet, Male Drive** | 26 | 5849 | **1AR20** | 212.96 | **164.00** | 11.0 |
| **Repair Kit for No. 1AR20** | | 5849RK | **1AR21** | 127.96 | **98.55** | 2.4 |
| **Hinge Handle** | 27 | 5868 | **1AR22** | 185.38 | **142.75** | 7.9 |
| **Bar Handle** | 24 | 5884 | **1AR23** | 42.29 | **32.60** | 6.5 |
| **Sliding Drive Plug for No. 1AR23** | 2 15/16 | 5885 | **1AR29** | 39.56 | **30.50** | 1.2 |
| **8" Extension** | 8 | 5861 | **1AR24** | 57.31 | **44.15** | 2.9 |
| **17" Extension** | 17 | 5863 | **1AR25** | 74.47 | **57.35** | 5.0 |
| **3/4"F x 1"M Adapter** | 2 1/2 | 5853 | **1AR26** | 25.53 | **19.66** | 0.8 |
| **1"F x 3/4"M Adapter** | 2 7/8 | 5854 | **1AR27** | 38.47 | **29.65** | 1.3 |

| Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|

## 12 POINT STANDARD SOCKETS

| | | | | | | |
|---|---|---|---|---|---|---|
| **1 1/16** | 2 7/16 | 5734 | **1AR30** | $31.71 | **$24.42** | 1.0 |
| **1 1/8** | 2 7/16 | 5736 | **1AR31** | 32.13 | **24.74** | 1.0 |
| **1 3/16** | 2 7/16 | 5738 | **1AR32** | 32.44 | **24.98** | 1.0 |
| **1 1/4** | 2 1/2 | 5740 | **1AR33** | 32.60 | **25.10** | 1.1 |
| **1 5/16** | 2 21/32 | 5742 | **1AR34** | 33.11 | **25.50** | 1.3 |
| **1 3/8** | 2 21/32 | 5744 | **1AR35** | 34.11 | **26.30** | 1.3 |
| **1 7/16** | 2 3/4 | 5746 | **1AR36** | 36.78 | **28.35** | 1.6 |
| **1 1/2** | 2 3/4 | 5748 | **1AR37** | 38.82 | **29.90** | 1.5 |
| **1 5/8** | 3 1/4 | 5752 | **1AR38** | 41.87 | **32.25** | 2.0 |
| **1 11/16** | 3 1/4 | 5754 | **1AR39** | 46.49 | **35.80** | 2.0 |
| **1 3/4** | 3 1/4 | 5756 | **1AR40** | 51.38 | **39.60** | 2.1 |
| **1 13/16** | 3 5/16 | 5758 | **1AR41** | 53.53 | **41.25** | 2.3 |
| **1 7/8** | 3 5/16 | 5760 | **1AR42** | 58.58 | **45.15** | 2.6 |
| **2** | 3 7/16 | 5764 | **1AR43** | 64.84 | **49.95** | 2.5 |
| **2 1/16** | 3 1/2 | 5766 | **1AR44** | 70.38 | **54.20** | 2.5 |
| **2 1/8** | 3 5/8 | 5768 | **1AR45** | 76.64 | **59.05** | 3.0 |
| **2 3/16** | 3 3/4 | 5770 | **1AR46** | 83.18 | **64.05** | 3.2 |
| **2 1/4** | 3 13/16 | 5772 | **1AR47** | 88.24 | **67.95** | 3.2 |
| **2 3/8** | 4 | 5776 | **1AR48** | 101.51 | **78.20** | 3.7 |
| **2 1/2** | 4 1/8 | 5780 | **1AR49** | 113.56 | **87.45** | 4.9 |
| **2 9/16** | 4 1/8 | 5782 | **1AR50** | 125.80 | **96.90** | 4.9 |
| **2 5/8** | 4 1/8 | 5784 | **1AR51** | 139.87 | **107.70** | 4.9 |
| **2 3/4** | 4 7/16 | 5788 | **1AR52** | 154.44 | **118.95** | 5.6 |
| **2 15/16** | 4 11/16 | 5794 | **1AR53** | 176.64 | **136.05** | 7.5 |
| **3** | 4 11/16 | 5796 | **1AR54** | 192.78 | **148.45** | 7.7 |
| **3 1/8** | 4 15/16 | 5800 | **1AR55** | 205.76 | **158.50** | 9.2 |
| **3 1/2** | 5 1/8 | 5812 | **1AR56** | 253.11 | **195.00** | 9.4 |



*The only source you need for tools as tough as you are.*

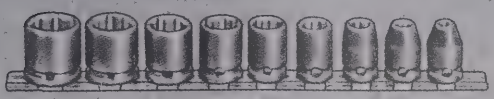
# 3/8, 1/2, AND 3/4" DRIVE IMPACT SOCKET SETS

PROTO PROFESSIONAL TOOLS

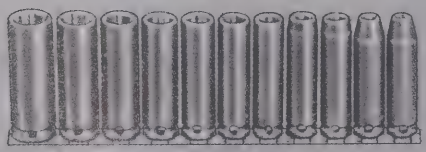
Made in U.S.A.

Replacement Parts Available 1-800-323-0620

TORQUEPLUS FASTENING SYSTEM



No. 4JW92
9-Pc. Set



No. 4JX04
11-Pc. Deep Set



No. 4JX18
15-Pc. Set

| No. of Pieces | Impact Socket Type | Sockets | Accessories | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/8" DRIVE IMPACT SOCKET SETS** | | | | | | | | |
| 9 | 6 Pt. Standard | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, and 3/4" | 9" Socket Bar with 9 Socket Clips | 72101 | **4JW92** | $47.60 | **$34.75** | 0.9 |
| 9 | **6 Pt. Deep** | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, and 3/4" | 9" Socket Bar with 9 Socket Clips | 72112 | **4JW94** | 58.33 | **42.60** | 2.1 |
| **3/8" DRIVE TORX® IMPACT SOCKET SET** | | | | | | | | |
| 7 | Torx® | E6, E7, E8, E10, E12, E14, & E16 | 6¼" Socket Bar with 7 Socket Clips | 72132 | **4JW97** | 41.09 | **30.00** | 0.7 |
| **3/8" DRIVE UNIVERSAL IMPACT SOCKET SET** | | | | | | | | |
| 5 | 6 Pt. Standard | 3/8, 7/16, 1/2, 9/16, & 5/8" | 9" Socket Bar with 5 Socket Clips | 72142 | **4JW98** | 131.09 | **95.70** | 1.6 |
| **3/8" DRIVE METRIC IMPACT SOCKET SETS** | | | | | | | | |
| 11 | 6 Pt. Standard | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, & 17 mm | 9" Socket Bar with 11 Socket Clips | 72202 | **4JX02** | 65.60 | **47.90** | 1.0 |
| 11 | **6 Pt. Deep** | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, & 17 mm | 9" Socket Bar with 11 Socket Clips | 72212 | **4JX04** | 80.31 | **58.65** | 2.5 |
| **1/2" DRIVE IMPACT SOCKET SETS** | | | | | | | | |
| 11 | 6Pt. Standard | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, & 1 1/8" | 13" Socket Bar with 11 Socket Clips | 74102 | **4JX08** | 101.07 | **73.80** | 3.1 |
| 11 | **6 Pt. Deep** | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, & 1 1/8" | 13" Socket Bar with 11 Socket Clips | 74112 | **4JX11** | 148.93 | **108.75** | 6.5 |
| **1/2" DRIVE PINLESS UNIVERSAL IMPACT SOCKET SET** | | | | | | | | |
| 7 | 6 Pt. Standard | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, & 13/16" | 9" Socket Bar with 7 Socket Clips | 74142 | **4JX15** | 212.64 | **153.25** | 4.2 |
| **1/2" DRIVE METRIC IMPACT SOCKET SETS** | | | | | | | | |
| 15 | 6 Pt. Standard | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, & 24mm | 17" Socket Bar with 15 Socket Clips | 74204 | **4JX18** | 119.67 | **87.40** | 3.3 |
| 10 | **6 Pt. Deep** | 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19 mm | 13" Socket Bar with 10 Socket Clips | 74212 | **4JX20** | 118.07 | **86.20** | 4.4 |
| **3/4" DRIVE IMPACT SOCKET SET** | | | | | | | | |
| 10 | 6 Pt. Standard | 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4, & 1 5/16" | Carton | 07500-10 | **1AR78** | 180.76 | **132.00** | 9.4 |

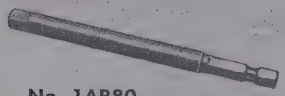
# 1/4" DRIVE POWER AND IMPACT SOCKETS

PROTO PROFESSIONAL TOOLS

Made in U.S.A.

**NOTE: Power sockets are not for impact use.**

TORQUEPLUS FASTENING SYSTEM



No. 1AR80
Hex Power Shank



No. 1AR83
6 Pt.
Impact
Socket

**LIFETIME LIMITED WARRANTY**

All Proto tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside back cover.

| Size / Description | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4" DRIVE POWER SOCKET ACCESSORIES** | | | | | | |
| **1/4" Hex Power Shank** | 2 | 61302 | **1AR79** | $2.87 | **$2.21** | 0.1 |
| **1/4" Hex Power Shank** | 4 | 61304 | **1AR80** | 4.53 | **3.49** | 0.1 |
| **1/4" Hex Power Shank** | 6 | 61306 | **1AR81** | 5.24 | **4.03** | 0.1 |
| **1/4" Hex Bit Holder** | 1 | 6925 | **1AR82** | 4.13 | **3.18** | 0.1 |
| **IMPACT TORX® SOCKETS** | | | | | | |
| **E6** | 1 | 6906TX | **3R885** | 5.04 | **3.88** | 0.1 |
| **E8** | 1 | 6908TX | **3R886** | 5.04 | **3.88** | 1.5 |
| **6 POINT STANDARD IMPACT SOCKETS** | | | | | | |
| **3/16"** | 7/8 | 6906H | **1AR83** | 4.71 | **3.63** | 0.1 |
| **1/4** | 7/8 | 6908H | **1AR84** | 4.71 | **3.63** | 0.1 |
| **9/32** | 7/8 | 6909H | **1AR85** | 4.73 | **3.64** | 0.1 |
| **5/16** | 7/8 | 6910H | **1AR86** | 4.73 | **3.64** | 0.1 |
| **11/32** | 7/8 | 6911H | **1AR87** | 4.73 | **3.64** | 0.1 |
| **3/8** | 7/8 | 6912H | **1AR88** | 4.73 | **3.64** | 0.1 |
| **7/16** | 7/8 | 6914H | **1AR89** | 4.76 | **3.67** | 0.1 |
| **1/2** | 7/8 | 6916H | **1AR90** | 4.78 | **3.68** | 0.1 |

**ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY**

Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items. See Index under Energy Saving Products.

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT METRIC IMPACT SOCKETS** | | | | | | |
| **7mm** | 22.2mm | 6907M | **1AR99** | $4.93 | **$3.80** | 0.1 |
| **8** | 22.2 | 6908M | **1AT01** | 4.98 | **3.83** | 0.1 |
| **9** | 22.2 | 6909M | **1AT02** | 5.09 | **3.92** | 0.1 |
| **10** | 22.2 | 6910M | **1AT03** | 5.20 | **4.00** | 0.1 |
| **11** | 22.2 | 6911M | **1AT04** | 5.24 | **4.03** | 0.1 |
| **13** | 22.2 | 6913M | **1AT05** | 5.40 | **4.16** | 0.1 |
| **6 POINT STANDARD MAGNETIC POWER SOCKETS** | | | | | | |
| **3/16"** | 7/8" | 6906PKM | **1AR91*** | 9.62 | **7.41** | 0.1 |
| **1/4** | 7/8 | 6908PKM | **1AR92*** | 9.76 | **7.52** | 0.1 |
| **9/32** | 7/8 | 6909PKM | **1AR93*** | 10.00 | **7.70** | 0.1 |
| **5/16** | 7/8 | 6910PKM | **1AR94*** | 10.11 | **7.78** | 0.1 |
| **11/32** | 7/8 | 6911PKM | **1AR95*** | 10.31 | **7.94** | 0.1 |
| **3/8** | 7/8 | 6912PKM | **1AR96*** | 10.47 | **8.06** | 0.1 |
| **7/16** | 7/8 | 6914PKM | **1AR97*** | 10.53 | **8.11** | 0.1 |
| **1/2** | 7/8 | 6916PKM | **1AR98*** | 11.42 | **8.79** | 0.1 |
| **6 POINT METRIC MAGNETIC POWER SOCKETS** | | | | | | |
| **7mm** | 22.2mm | 6907MPKM | **1AT06*** | 9.76 | **7.52** | 0.1 |
| **8** | 22.2 | 6908MPKM | **1AT07*** | 10.00 | **7.70** | 0.1 |
| **9** | 25.4 | 6909MPKM | **1AT08*** | 10.11 | **7.78** | 0.1 |
| **10** | 25.4 | 6910MPKM | **1AT09*** | 10.31 | **7.94** | 0.1 |
| **11** | 25.4 | 6911MPKM | **1AT10*** | 10.47 | **8.06** | 0.1 |
| **13** | 25.4 | 6913MPKM | **1AT11*** | 10.78 | **8.30** | 0.1 |

(*) Not for use on impact applications.

## PROTO IMPACT SOCKETS

**Meet Federal Specification GGG-W-660a and ANSI Specification B107.2**

Proto impact sockets are engineered specifically for use with electric and air powered driving tools. The great strength and toughness demanded by this type of rugged service is built into every Proto tool through the use of high tensile steel and specialized heat treating techniques. Proto impact sockets can also be used with manual drive handles for nut turning applications that require greater strength than that provided by standard thin wall sockets.

Drive end walls of all Proto impact sockets are drilled for use on driving tools that employ pellet, ball or pin type retaining devices.

Proto impact attachments through 5/8" square drive have a pellet type positive locking device for greater safety. Impact attachments larger than 5/8" drive are drilled to accept retaining pins. Finish is black oxide.

## TORQUE PLUS™ FASTENING SYSTEM

PROTO PROFESSIONAL TOOLS

TORQUEPLUS FASTENING SYSTEM



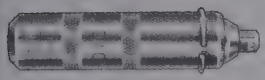
- **All Proto combination wrenches, chrome sockets, and impact sockets have this design**
- **For use with 6 or 12 point fasteners**
- **Corners have special radius design eliminating stress on fastener points allowing even distribution of torque along fastener flats**
- **Reduces the risk of fastener rounding**
- **Allows increased torque on fasteners**
- **Easier to turn rounded fasteners**
- **Meets AS954D drive specifications**

# 3/8" DRIVE POWER & IMPACT SOCKETS

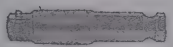
PROTO PROFESSIONAL TOOLS

Made in U.S.A.

NOTE: Power sockets are not for impact use.



No. 1AT29
Hand Impact Driver



No. 1AT24
Hex Impact Shank



No. 1AT30
6 Pt.
Impact Socket

No. 1AT63
6 Pt. Deep
Impact Socket



No. 1AT89
6 Pt. Pinless
Universal
Impact Socket



| Size/ Description | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8" DRIVE IMPACT SOCKET ACCESSORIES** | | | | | | |
| Impact Extension | 3" | 7175P | 1AT19 | $11.00 | $8.47 | 0.2 |
| Impact Extension | 6 | 7176P | 1AT20 | 13.87 | 10.68 | 0.4 |
| nless Universal Joint | $2^{11}/_{32}$ | 7270P | 1AT21 | 26.00 | 20.02 | 0.3 |
| 4" Hex Impact Shank | 4 | 61404 | 1AT22 | 6.80 | 5.24 | 0.1 |
| 4" Hex Impact Shank | 6 | 61406 | 1AT23 | 7.91 | 6.09 | 0.2 |
| 16" Hex Impact Shank | $2^3/_4$ | 7111 | 1AT24 | 7.78 | 5.99 | 0.1 |
| 4" Hex Bit Holder | $1^1/_4$ | 6931 | 1AT26 † | 4.62 | 3.56 | 0.1 |
| 16" Hex Bit Holder | $1^5/_{16}$ | 6930 | 1AT27 † | 4.24 | 3.26 | 0.1 |
| nd Impact Driver | $5^1/_2$ | 7099 | 1AT29 | 37.00 | 28.50 | 1.7 |
| **6 POINT STANDARD IMPACT SOCKETS** | | | | | | |
| 16" | 1 | 7210H | 1AT30 | 4.69 | 3.61 | 0.1 |
| 1/32 | 1 | 7211H | 1AT31 | 4.73 | 3.64 | 0.1 |
| 8 | 1 | 7212H | 1AT32 | 4.82 | 3.71 | 0.1 |
| 16 | 1 | 7214H | 1AT33 | 4.96 | 3.82 | 0.1 |
| 2 | 1 | 7216H | 1AT34 | 5.00 | 3.85 | 0.1 |
| 16 | 1 | 7218H | 1AT35 | 5.11 | 3.93 | 0.1 |
| 8 | 1 | 7220H | 1AT36 | 5.29 | 4.07 | 0.1 |
| 1/16 | 1 | 7222H | 1AT37 | 5.53 | 4.26 | 0.2 |
| 4 | 1 | 7224H | 1AT38 | 5.67 | 4.37 | 0.2 |
| **6 POINT DEEP IMPACT SOCKETS** | | | | | | |
| 16 | $2^3/_4$ | 7710H | 1AT39 | 5.87 | 4.52 | 0.2 |
| 8 | $2^3/_4$ | 7712H | 1AT40 | 5.93 | 4.57 | 0.2 |
| 16 | $2^3/_4$ | 7714H | 1AT41 | 6.00 | 4.62 | 0.2 |
| 2 | $2^3/_4$ | 7716H | 1AT42 | 6.18 | 4.76 | 0.2 |
| 16 | $2^3/_4$ | 7718H | 1AT43 | 6.36 | 4.90 | 0.2 |
| 8 | $2^3/_4$ | 7720H | 1AT44 | 6.53 | 5.03 | 0.3 |
| 1/16 | $2^3/_4$ | 7722H | 1AT45 | 6.82 | 5.25 | 0.1 |
| 4 | $2^3/_4$ | 7724H | 1AT46 | 7.04 | 5.42 | 0.3 |
| **6 POINT STANDARD MAGNETIC POWERSOCKETS FOR SELF-TAPPING SCREWS** | | | | | | |
| 16 | 1 | 7210PKM | 1AT47 † | 11.49 | 8.85 | 0.1 |
| 8 | 1 | 7212PKM | 1AT48 † | 12.27 | 9.45 | 0.1 |
| 2 | 1 | 7216PKM | 1AT49 | 13.42 | 10.33 | 0.1 |
| 16 | 1 | 7218PKM | 1AT50 | 13.42 | 10.33 | 0.1 |
| **6 POINT METRIC IMPACT SOCKETS** | | | | | | |
| 7mm | 23.4mm | 7207M | 1AT51 | 5.69 | 4.38 | 0.1 |
| 8 | 23.8 | 7208M | 1AT52 | 5.69 | 4.38 | 0.1 |
| 9 | 23.8 | 7209M | 1AT53 | 5.69 | 4.38 | 0.1 |
| 0 | 23.8 | 7210M | 1AT54 | 5.69 | 4.38 | 0.1 |
| 1 | 23.8 | 7211M | 1AT55 | 5.69 | 4.38 | 0.1 |
| 2 | 23.8 | 7212M | 1AT56 | 5.69 | 4.38 | 0.1 |
| 3 | 25.4 | 7213M | 1AT57 | 5.69 | 4.38 | 0.1 |
| 4 | 25.4 | 7214M | 1AT58 | 5.69 | 4.38 | 0.1 |
| 5 | 25.4 | 7215M | 1AT59 | 5.69 | 4.38 | 0.1 |
| 6 | 25.4 | 7216M | 5F495 | 6.04 | 4.65 | 0.1 |
| 7 | 25.4 | 7217M | 1AT60 | 6.40 | 4.93 | 0.1 |
| 8 | 28.6 | 7218M | 5F496 | 6.40 | 4.93 | 0.2 |
| 9 | 28.6 | 7219M | 5F497 | 6.40 | 4.93 | 0.2 |
| 0 | 28.6 | 7220M | 5F498 | 6.51 | 5.01 | 0.4 |
| 1 | 28.6 | 7221M | 5F499 | 6.51 | 5.01 | 0.2 |
| 2 | 28.6 | 7222M | 5F500 | 6.62 | 5.10 | 0.2 |
| 3 | 28.6 | 7223M | 5F501 | 6.62 | 5.10 | 0.3 |
| 4 | 28.6 | 7224M | 5F502 | 6.62 | 5.10 | 0.3 |

) Not for use on impact applications.

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT DEEP METRIC IMPACT SOCKETS** | | | | | | |
| 8mm | 69.8mm | 7008M | 5F485 | $7.07 | $5.44 | 0.2 |
| 9 | 69.8 | 7009M | 1AT61 | 7.13 | 5.49 | 0.2 |
| 10 | 69.8 | 7010M | 1AT62 | 7.13 | 5.49 | 0.2 |
| 11 | 69.8 | 7011M | 1AT63 | 7.13 | 5.49 | 0.2 |
| 12 | 69.8 | 7012M | 1AT64 | 7.13 | 5.49 | 0.2 |
| 13 | 69.8 | 7013M | 1AT65 | 7.13 | 5.49 | 0.3 |
| 14 | 69.8 | 7014M | 1AT66 | 7.13 | 5.49 | 0.3 |
| 15 | 69.8 | 7015M | 1AT67 | 7.13 | 5.49 | 0.3 |
| 16 | 70.6 | 7016M | 5F486 | 7.22 | 5.56 | 0.3 |
| 17 | 70.6 | 7017M | 5F487 | 7.60 | 5.85 | 0.4 |
| 18 | 70.6 | 7018M | 5F488 | 7.60 | 5.85 | 0.4 |
| 19 | 70.6 | 7019M | 5F489 | 7.60 | 5.85 | 0.4 |
| 20 | 70.6 | 7020M | 5F490 | 7.69 | 5.92 | 0.4 |
| 21 | 70.6 | 7021M | 5F491 | 7.69 | 5.92 | 0.5 |
| 22 | 70.6 | 7022M | 5F492 | 7.80 | 6.01 | 0.5 |
| 23 | 70.6 | 7023M | 5F493 | 7.80 | 6.01 | 0.6 |
| 24 | 70.6 | 7024M | 5F494 | 7.80 | 6.01 | 0.6 |
| **8 POINT STANDARD IMPACT SOCKETS** | | | | | | |
| 7/16 | 1 | 7214S | 1AT71 | 8.84 | 6.81 | 0.1 |
| 1/2 | 1 | 7216S | 1AT72 | 9.20 | 7.08 | 0.1 |
| **6 POINT PINLESS UNIVERSAL IMPACT SOCKETS** | | | | | | |
| 3/8 | $2^5/_{16}$ | 7273P | 1AT89 | 25.98 | 20.00 | 0.3 |
| 7/16 | $2^1/_8$ | 7274P | 1AT90 | 25.98 | 20.00 | 0.3 |
| 1/2 | $2^7/_{16}$ | 7275P | 1AT91 | 25.98 | 20.00 | 0.3 |
| 9/16 | $2^{15}/_{32}$ | 7276P | 1AT92 | 25.98 | 20.00 | 0.3 |
| 5/8 | $2^{15}/_{32}$ | 7277P | 1AT93 | 25.98 | 20.00 | 0.4 |

**LIFETIME LIMITED WARRANTY**

All Proto tools are waranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# 1/2" DRIVE POWER AND IMPACT SOCKETS AND ACCESSORIES

PROTO PROFESSIONAL TOOLS

Made in U.S.A.

NOTE: Power sockets are NOT for impact use

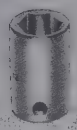
TORQUEPLUS FASTENING SYSTEM



No. 1AW06
Pinless Universal Joint



No. 1AW14
Hex Bit Holder



No. 1AW21
6 Pt. Impact Socket

| Size / Description | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/2" DRIVE IMPACT SOCKET ACCESSORIES** | | | | | | |
| **2" Impact Extension** | 2 | 7180P | **1AW01** | $13.11 | **$10.09** | 0.2 |
| **2 11/16" Impact Extension** | 2 11/16 | 7182P | **1AW02** | 11.87 | **9.14** | 0.1 |
| **5" Impact Extension** | 5 | 7181P | **1AW03** | 13.64 | **10.50** | 0.5 |
| **9" Impact Extension** | 9 | 7184P | **1AW04** | 15.47 | **11.91** | 0.9 |
| **10" Impact Extension** | 10 | 7183-00 | **1AW05** | 15.71 | **12.10** | 1.0 |
| **Pinless Universal Joint** | 2 15/16 | 7470P | **1AW06** | 31.84 | **24.52** | 0.6 |
| **7/16" Impact Hex Shank** | 2 3/4 | 7121 | **1AW07** | 9.93 | **7.65** | 0.2 |
| **1/2" F x 3/4" M Adapter** | 1 29/32 | 7652 | **1AW11** | 17.40 | **13.40** | 0.7 |
| **3/4" F x 1/2" M Adapter** | 1 29/32 | 7653 | **1AW12** | 23.76 | **18.30** | 0.4 |
| **5/8" F x 1/2" M Adapter** | 1 7/8 | 7655 | **1AW13** | 15.82 | **12.18** | 0.3 |
| **5/8" F x 3/4" M Adapter** | 2 | 7656 | **1AX67** | 18.84 | **14.51** | 0.4 |
| **5/16" Hex Bit Holder†** | 1 1/2 | 6935 | **1AW14** | 7.82 | **6.02** | 0.2 |
| **6 POINT STANDARD IMPACT SOCKETS** | | | | | | |
| **3/8"** | 1 1/2 | 7412H | **1AW19** | 5.89 | **4.54** | 0.2 |
| **7/16** | 1 1/2 | 7414H | **1AW20** | 6.04 | **4.65** | 0.2 |
| **1/2** | 1 1/2 | 7416H | **1AW21** | 6.04 | **4.65** | 0.2 |
| **9/16** | 1 1/2 | 7418H | **1AW22** | 6.04 | **4.65** | 0.2 |
| **5/8** | 1 1/2 | 7420H | **1AW23** | 6.49 | **5.00** | 0.2 |
| **11/16** | 1 1/2 | 7422H | **1AW24** | 7.42 | **5.71** | 0.2 |
| **3/4** | 1 1/2 | 7424H | **1AW25** | 7.42 | **5.71** | 0.2 |
| **13/16** | 1 5/8 | 7426H | **1AW26** | 8.93 | **6.88** | 0.3 |
| **7/8** | 1 5/8 | 7428H | **1AW27** | 9.31 | **7.17** | 0.4 |
| **15/16** | 1 3/4 | 7430H | **1AW28** | 10.04 | **7.73** | 0.4 |
| **1** | 1 3/4 | 7432H | **1AW29** | 10.60 | **8.16** | 0.5 |
| **1 1/16** | 1 3/4 | 7434H | **1AW30** | 13.22 | **10.18** | 0.5 |
| **1 1/8** | 2 | 7436H | **1AW31** | 13.22 | **10.18** | 0.7 |
| **1 3/16** | 2 | 7438H | **1AW32** | 13.44 | **10.35** | 0.8 |
| **1 1/4** | 2 | 7440H | **1AW33** | 14.38 | **11.07** | 0.8 |
| **6 POINT DEEP IMPACT SOCKETS** | | | | | | |
| **3/8** | 3 1/4 | 7312H | **1AW34** | 10.22 | **7.87** | 0.4 |
| **7/16** | 3 1/4 | 7314H | **1AW35** | 10.22 | **7.87** | 0.4 |
| **1/2** | 3 1/4 | 7316H | **1AW36** | 10.22 | **7.87** | 0.4 |
| **9/16** | 3 1/4 | 7318H | **1AW37** | 10.51 | **8.09** | 0.4 |
| **5/8** | 3 1/4 | 7320H | **1AW38** | 10.51 | **8.09** | 0.5 |
| **11/16** | 3 1/4 | 7322H | **1AW39** | 10.51 | **8.09** | 0.5 |
| **3/4** | 3 1/4 | 7324H | **1AW40** | 11.44 | **8.81** | 0.5 |
| **13/16** | 3 1/4 | 7326H | **1AW41** | 11.44 | **8.81** | 0.6 |
| **7/8** | 3 1/2 | 7328H | **1AW42** | 13.56 | **10.44** | 0.7 |
| **15/16** | 3 1/2 | 7330H | **1AW43** | 13.56 | **10.44** | 0.8 |
| **1** | 3 1/2 | 7332H | **1AW44** | 15.44 | **11.89** | 1.0 |
| **1 1/16** | 3 1/2 | 7334H | **1AW45** | 17.62 | **13.57** | 1.0 |
| **1 1/8** | 3 1/2 | 7336H | **1AW46** | 21.80 | **16.79** | 1.1 |

(†) Not for use on impact applications.

Replacement Parts Available
1-800-323-0620 TM

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT MAGNETIC STANDARD POWER SOCKETS** | | | | | | |
| **3/8"** | 1 1/2" | 7412PKM | **1AW47** † | $13.20 | **$10.16** | 0.2 |
| **7/16** | 1 1/2 | 7414PKM | **1AW48** † | 13.20 | **10.16** | 0.2 |
| **1/2** | 1 1/2 | 7416PKM | **1AW49** † | 14.11 | **10.86** | 0.2 |
| **9/16** | 1 1/2 | 7418PKM | **1AW50** † | 14.11 | **10.86** | 0.2 |
| **6 POINT METRIC IMPACT SOCKETS** | | | | | | |
| **8mm** | 38.1mm | 7408M | **1AW51** | 6.18 | **4.76** | 0.2 |
| **9** | 38.1 | 7409M | **1AW52** | 6.18 | **4.76** | 0.2 |
| **10** | 38.1 | 7410M | **1AW53** | 6.18 | **4.76** | 0.2 |
| **11** | 38.1 | 7411M | **1AW54** | 6.38 | **4.91** | 0.2 |
| **12** | 38.1 | 7412M | **1AW55** | 6.38 | **4.91** | 0.2 |
| **13** | 38.1 | 7413M | **1AW56** | 6.38 | **4.91** | 0.2 |
| **14** | 38.1 | 7414M | **1AW57** | 6.58 | **5.07** | 0.2 |
| **15** | 38.1 | 7415M | **1AW58** | 6.58 | **5.07** | 0.2 |
| **16** | 38.1 | 7416M | **1AW59** | 6.91 | **5.32** | 0.2 |
| **17** | 38.1 | 7417M | **1AW60** | 6.91 | **5.32** | 0.2 |
| **18** | 38.1 | 7418M | **1AW61** | 6.91 | **5.32** | 0.3 |
| **19** | 38.1 | 7419M | **1AW62** | 8.18 | **6.30** | 0.3 |
| **20** | 41.2 | 7420M | **5F508** | 8.73 | **6.72** | 0.3 |
| **21** | 41.2 | 7421M | **1AW63** | 9.29 | **7.15** | 0.3 |
| **22** | 41.2 | 7422M | **1AW64** | 10.24 | **7.88** | 0.4 |
| **23** | 41.2 | 7423M | **1AW65** | 10.24 | **7.88** | 0.4 |
| **24** | 44.4 | 7424M | **1AW66** | 10.91 | **8.40** | 0.4 |
| **25** | 44.5 | 7425M | **1AW67** | 13.58 | **10.46** | 0.5 |
| **26** | 50.8 | 7426M | **1AW68** | 13.58 | **10.46** | 0.6 |
| **27** | 50.8 | 7427M | **1AW69** | 13.58 | **10.46** | 0.7 |
| **28** | 50.8 | 7428M | **1AW70** | 14.22 | **10.95** | 0.7 |
| **29** | 50.8 | 7429M | **5F509** | 14.71 | **11.33** | 0.7 |
| **30** | 50.0 | 7430M | **1AW71** | 15.16 | **11.67** | 0.8 |
| **32** | 50.8 | 7432M | **1AW72** | 15.89 | **12.24** | 0.8 |
| **36** | 50.8 | 7436M | **1AW73** | 19.20 | **14.78** | 0.8 |
| **6 POINT DEEP METRIC IMPACT SOCKETS** | | | | | | |
| **8** | 82.5 | 7308M | **1AW74** | 11.07 | **8.52** | 0.4 |
| **9** | 82.5 | 7309M | **1AW75** | 11.07 | **8.52** | 0.4 |
| **10** | 82.5 | 7310M | **1AW76** | 11.07 | **8.52** | 0.4 |
| **11** | 82.5 | 7311M | **1AW77** | 11.07 | **8.52** | 0.4 |
| **12** | 82.5 | 7312M | **1AW78** | 11.07 | **8.52** | 0.4 |
| **13** | 82.5 | 7313M | **1AW79** | 11.07 | **8.52** | 0.4 |
| **14** | 82.5 | 7314M | **1AW80** | 11.49 | **8.85** | 0.4 |
| **15** | 82.5 | 7315M | **1AW81** | 11.49 | **8.85** | 0.4 |
| **16** | 82.5 | 7316M | **1AW82** | 11.49 | **8.85** | 0.4 |
| **17** | 82.5 | 7317M | **1AW83** | 12.42 | **9.56** | 0.4 |
| **18** | 82.5 | 7318M | **1AW84** | 12.42 | **9.56** | 0.4 |
| **19** | 82.5 | 7319M | **1AW85** | 12.42 | **9.56** | 0.5 |
| **20** | 82.5 | 7320M | **5F503** | 13.58 | **10.46** | 0.5 |
| **21** | 82.5 | 7321M | **1AW86** | 14.80 | **11.40** | 0.6 |
| **22** | 88.9 | 7322M | **1AW87** | 14.80 | **11.40** | 0.7 |
| **23** | 88.9 | 7323M | **5F504** | 15.80 | **12.17** | 0.7 |
| **24** | 88.9 | 7324M | **1AW88** | 16.82 | **12.95** | 0.8 |
| **25** | 88.9 | 7325M | **1AW89** | 19.20 | **14.78** | 0.9 |
| **26** | 88.9 | 7326M | **1AW90** | 19.20 | **14.78** | 1.0 |
| **27** | 88.9 | 7327M | **5F505** | 19.51 | **15.02** | 1.1 |
| **29** | 88.9 | 7329M | **5F506** | 19.78 | **15.23** | 1.2 |
| **30** | 88.9 | 7330M | **1AW91** | 17.40 | **13.40** | 1.3 |
| **32** | 88.9 | 7332M | **5F507** | 20.07 | **15.45** | 1.5 |
| **36** | 88.9 | 7336M | **1AW92** | 20.38 | **15.69** | 2.0 |

# 1/2" DRIVE IMPACT SOCKETS

PROTO PROFESSIONAL TOOLS



No. 1AX54
6 Pt. Pinless
Universal Impact
Socket

Made In U.S.A.

| Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **8 POINT STANDARD IMPACT SOCKETS** | | | | | | |
| /8 | 1½ | 7412S | **1AX08** | $8.80 | **$6.78** | 0.2 |
| /16 | 1½ | 7414S | **1AX09** | 8.80 | **6.78** | 0.2 |
| /2 | 1½ | 7416S | **1AX10** | 8.80 | **6.78** | 0.2 |
| /16 | 1½ | 7418S | **1AX11** | 10.42 | **8.02** | 0.2 |
| /8 | 1½ | 7420S | **1AX12** | 11.24 | **8.65** | 0.3 |
| 1/16 | 1½ | 7422S | **1AX13** | 11.98 | **9.22** | 0.3 |
| /4 | 1½ | 7424S | **1AX14** | 13.29 | **10.23** | 0.4 |
| 3/16 | 1½ | 7426S | **1AX15** | 14.11 | **10.86** | 0.4 |
| /8 | 1½ | 7428S | **1AX16** | 15.27 | **11.76** | 0.5 |
| 5/16 | 1¾ | 7430S | **1AX17** | 17.67 | **13.61** | 0.7 |
| | 1¾ | 7432S | **1AX18** | 17.98 | **13.84** | 0.8 |
| 1/16 | 2 | 7434S | **1AX19** | 22.44 | **17.28** | 1.0 |
| **8 POINT DEEP IMPACT SOCKETS** | | | | | | |
| /8 | 3¼ | 7312S | **1AX20** | 14.16 | **10.90** | 0.4 |
| /16 | 3¼ | 7314S | **1AX21** | 14.16 | **10.90** | 0.4 |
| /2 | 3¼ | 7316S | **1AX22** | 14.16 | **10.90** | 0.4 |
| /16 | 3¼ | 7318S | **1AX23** | 15.67 | **12.07** | 0.5 |
| /8 | 3¼ | 7320S | **1AX24** | 15.67 | **12.07** | 0.6 |
| 1/16 | 3¼ | 7322S | **1AX25** | 15.67 | **12.07** | 0.7 |
| /4 | 3¼ | 7324S | **1AX26** | 16.91 | **13.02** | 0.8 |
| 3/16 | 3¼ | 7326S | **1AX27** | 16.91 | **13.02** | 0.8 |
| /8 | 3½ | 7328S | **1AX28** | 19.71 | **15.18** | 1.1 |
| 5/16 | 3½ | 7330S | **1AX29** | 19.71 | **15.18** | 1.3 |
| | 3½ | 7332S | **1AX30** | 22.33 | **17.19** | 1.4 |

| Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 POINT STANDARD IMPACT SOCKETS** | | | | | | |
| 7/16 | 1½ | 7414 | **1AX31** | $6.04 | **$4.65** | 0.1 |
| 1/2 | 1½ | 7416 | **1AX32** | 6.04 | **4.65** | 0.2 |
| 9/16 | 1½ | 7418 | **1AX33** | 6.04 | **4.65** | 0.2 |
| 5/8 | 1½ | 7420 | **1AX34** | 6.49 | **5.00** | 0.3 |
| 11/16 | 1½ | 7422 | **1AX35** | 7.42 | **5.71** | 0.1 |
| 3/4 | 1½ | 7424 | **1AX36** | 7.42 | **5.71** | 0.2 |
| 13/16 | 1⅝ | 7426 | **1AX37** | 8.93 | **6.88** | 0.3 |
| 7/8 | 1⅝ | 7428 | **1AX38** | 9.31 | **7.17** | 0.4 |
| 15/16 | 1¾ | 7430 | **1AX39** | 10.04 | **7.73** | 0.4 |
| 1 | 1¾ | 7432 | **1AX40** | 10.60 | **8.16** | 0.2 |
| 1 1/16 | 1¾ | 7434 | **1AX41** | 13.22 | **10.18** | 0.2 |
| 1 1/8 | 2 | 7436 | **1AX42** | 13.22 | **10.18** | 0.6 |
| **12 POINT DEEP IMPACT SOCKETS** | | | | | | |
| 7/16 | 3¼ | 7314 | **1AX43** | 10.22 | **7.87** | 0.1 |
| 1/2 | 3¼ | 7316 | **1AX44** | 10.22 | **7.87** | 0.4 |
| 9/16 | 3¼ | 7318 | **1AX45** | 10.51 | **8.09** | 0.4 |
| 5/8 | 3¼ | 7320 | **1AX46** | 10.51 | **8.09** | 0.5 |
| 11/16 | 3¼ | 7322 | **1AX47** | 10.51 | **8.09** | 0.5 |
| 3/4 | 3¼ | 7324 | **1AX48** | 11.44 | **8.81** | 0.5 |
| 13/16 | 3¼ | 7326 | **1AX49** | 11.44 | **8.81** | 0.6 |
| 7/8 | 3½ | 7328 | **1AX50** | 13.56 | **10.44** | 0.7 |
| 15/16 | 3½ | 7330 | **1AX51** | 13.56 | **10.44** | 0.8 |
| 1 | 3½ | 7332 | **1AX52** | 15.44 | **11.89** | 1.0 |
| 1 1/16 | 3½ | 7334 | **1AX53** | 17.62 | **13.57** | 1.0 |
| **6 POINT PINLESS UNIVERSAL IMPACT SOCKETS** | | | | | | |
| 7/16 | 2¾ | 7474P | **1AX54** | 29.89 | **23.02** | 0.5 |
| 1/2 | 2 21/32 | 7475P | **1AX55** | 29.89 | **23.02** | 0.5 |
| 9/16 | 2 21/32 | 7476P | **1AX56** | 29.89 | **23.02** | 0.5 |
| 5/8 | 2 21/32 | 7477P | **1AX57** | 29.89 | **23.02** | 0.5 |
| 11/16 | 2¾ | 7478P | **1AX58** | 29.89 | **23.02** | 0.6 |
| 3/4 | 2 7/8 | 7479P | **1AX59** | 29.89 | **23.02** | 0.7 |
| 13/16 | 2 7/8 | 7480P | **1AX60** | 31.73 | **24.43** | 0.7 |

### LIFETIME LIMITED WARRANTY

All Proto tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.

## TORQUE PLUS™ FASTENING SYSTEM

PROTO PROFESSIONAL TOOLS

TORQUEPLUS™ FASTENING SYSTEM



- All Proto combination wrenches, chrome sockets, and impact sockets have this design
- For use with 6 or 12 point fasteners
- Corners have special radius design eliminating stress on fastener points allowing even distribution of torque along fastener flats
- Reduces the risk of fastener rounding
- Allows increased torque on fasteners
- Easier to turn rounded fasteners
- Meets AS954D drive specifications

# 3/4" DRIVE IMPACT SOCKETS AND ACCESSORIES

PROTO PROFESSIONAL TOOLS

Made In U.S.A.

- Proto impact sockets are an industrial grade line of mechanic's sockets for heavy-duty applications and production use

| Size / Description | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/4" DRIVE IMPACT SOCKET ACCESSORIES** | | | | | | |
| 7" Impact Extension | 7 | 07567 | 1AX61 | $40.42 | $31.15 | 2.1 |
| 10" Impact Extension | 10 | 07568 | 1AX62 | 50.49 | 38.90 | 2.7 |
| 13" Impact Extension | 13 | 07569 | 1AX63 | 50.60 | 39.00 | 3.4 |
| Impact Universal Joint | 4 3/32 | 07570 | 1AX64 | 53.67 | 41.35 | 1.6 |
| 3/4"F x 1"M Adapter | 1 55/64 | 07655 | 1AX65 | 22.58 | 17.39 | 0.9 |
| 1"F x 3/4"M Adapter | 1 1/32 | 07656 | 1AX66 | 34.11 | 26.30 | 1.4 |
| 5/8"F x 3/4"M Adapter | 2 | 7656 | 1AX67 | 18.84 | 14.51 | 0.4 |
| 1.63 Dia x 1.50" Retainer Pin/Ring* | — | 07500-0 | 1AX74 | 6.24 | 4.80 | 0.1 |
| 1.75 Dia x 1.625" Retainer Pin/Ring† | — | 07500-1 | 1AX75 | 6.24 | 4.80 | 0.1 |
| Retainer Pin‡ | — | 07500P | 1AX76 | 1.51 | 1.16 | 0.1 |
| O-Ring‡ | — | 07500R | 1AX77 | 1.51 | 1.16 | 0.1 |
| **HEX BIT SOCKETS** | | | | | | |
| 9/16" Hex Bit | 3 3/4 | 07590-9/16 | 1AX69 | 32.13 | 24.74 | 1.0 |
| 5/8" Hex Bit | 3 27/32 | 07590-5/8 | 1AX70 | 33.27 | 25.65 | 1.1 |
| 3/4" Hex Bit | 4 3/4 | 07590-3/4 | 1AX71 | 39.29 | 30.25 | 1.3 |
| 7/8" Hex Bit | 4 3/4 | 07590-7/8 | 1AX72 | 46.69 | 35.95 | 1.4 |
| 1" Hex Bit | 5 3/16 | 07590-1 | 1AX73 | 48.44 | 37.30 | 1.4 |
| **6 POINT STANDARD IMPACT SOCKETS** | | | | | | |
| 9/16" | 1 7/8 | 07509 | 1AX78 | 13.87 | 10.68 | 0.7 |
| 5/8 | 1 7/8 | 07510 | 1AX79 | 13.89 | 10.70 | 0.7 |
| 11/16 | 1 15/16 | 07511 | 1AX80 | 14.51 | 11.17 | 0.7 |
| 3/4 | 1 15/16 | 07512 | 1AX81 | 15.27 | 11.76 | 0.7 |
| 13/16 | 1 15/16 | 07513 | 1AX82 | 15.98 | 12.30 | 0.7 |
| 7/8 | 2 | 07514 | 1AX83 | 16.62 | 12.80 | 0.8 |
| 15/16 | 2 | 07515 | 1AX84 | 16.80 | 12.94 | 0.8 |
| 1 | 2 | 07516 | 1AX85 | 16.80 | 12.94 | 0.8 |
| 1 1/16 | 2 1/16 | 07517 | 1AX86 | 18.64 | 14.35 | 0.9 |
| 1 1/8 | 2 9/16 | 07518 | 1AX87 | 19.07 | 14.68 | 0.9 |
| 1 3/16 | 2 9/16 | 07519 | 1AX88 | 19.98 | 15.38 | 1.0 |
| 1 1/4 | 2 9/16 | 07520 | 1AX89 | 20.24 | 15.58 | 1.2 |
| 1 5/16 | 2 9/16 | 07521 | 1AX90 | 21.36 | 16.45 | 1.3 |
| 1 3/8 | 2 1/4 | 07522 | 1AX91 | 22.04 | 16.97 | 1.3 |
| 1 7/16 | 2 5/16 | 07523 | 1AX92 | 22.73 | 17.50 | 1.4 |
| 1 1/2 | 2 3/8 | 07524 | 1AX93 | 23.40 | 18.02 | 1.5 |
| 1 9/16 | 2 7/16 | 07525 | 1AX94 | 23.29 | 17.93 | 1.7 |
| 1 5/8 | 2 7/16 | 07526 | 1AX95 | 23.29 | 17.93 | 1.8 |
| 1 11/16 | 2 5/8 | 07527 | 1AX96 | 24.04 | 18.51 | 1.8 |
| 1 3/4 | 2 5/8 | 07528 | 1AX97 | 24.04 | 18.51 | 1.9 |
| 1 13/16 | 2 5/8 | 07529 | 1AX98 | 24.04 | 18.51 | 2.0 |
| 1 7/8 | 2 13/16 | 07530 | 1AX99 | 25.80 | 19.87 | 2.2 |
| 1 15/16 | 2 13/16 | 07531 | 1ACC0 | 26.98 | 20.77 | 2.2 |
| 2 | 2 13/16 | 07532 | 1ACC1 | 31.47 | 24.23 | 2.2 |
| **6 POINT DEEP IMPACT SOCKETS** | | | | | | |
| 9/16 | 3 1/8 | 07509L | 1ACC2 | 20.84 | 16.05 | 1.3 |
| 5/8 | 3 1/8 | 07510L | 1ACC3 | 20.84 | 16.05 | 1.3 |
| 11/16 | 3 1/8 | 07511L | 1ACC4 | 20.84 | 16.05 | 1.3 |
| 3/4 | 3 1/8 | 07512L | 1ACC5 | 20.84 | 16.05 | 1.3 |
| 13/16 | 3 1/8 | 07513L | 1ACC6 | 20.84 | 16.05 | 1.3 |
| 7/8 | 3 1/8 | 07514L | 1ACC7 | 22.02 | 16.96 | 1.3 |
| 15/16 | 3 1/8 | 07515L | 1ACC8 | 23.13 | 17.81 | 1.3 |
| 1 | 3 1/8 | 07516L | 1ACC9 | 24.24 | 18.66 | 1.5 |
| 1 1/16 | 3 1/8 | 07517L | 1ACF0 | 24.51 | 18.87 | 1.5 |
| 1 1/8 | 3 1/2 | 07518L | 1ACF1 | 24.51 | 18.87 | 1.5 |
| 1 3/16 | 3 1/4 | 07519L | 1ACF2 | 28.40 | 21.87 | 1.5 |
| 1 1/4 | 3 1/4 | 07520L | 1ACF3 | 29.91 | 23.03 | 1.7 |
| 1 5/16 | 3 1/4 | 07521L | 1ACF4 | 31.38 | 24.16 | 1.8 |
| 1 3/8 | 3 1/4 | 07522L | 1ACF5 | 32.96 | 25.40 | 1.8 |
| 1 7/16 | 3 1/2 | 07523L | 1ACF6 | 34.51 | 26.60 | 2.1 |
| 1 1/2 | 3 1/2 | 07524L | 1ACF7 | 34.73 | 26.75 | 2.4 |
| 1 9/16 | 3 9/16 | 07525L | 1ACF8 | 35.00 | 26.95 | 2.5 |
| 1 5/8 | 3 9/16 | 07526L | 1ACF9 | 35.00 | 26.95 | 2.6 |
| 1 11/16 | 3 7/8 | 07527L | 1ACH0 | 36.04 | 27.75 | 2.7 |
| 1 3/4 | 3 7/8 | 07528L | 1ACH1 | 36.04 | 27.75 | 2.7 |
| 1 13/16 | 3 7/8 | 07529L | 1ACH2 | 36.04 | 27.75 | 2.9 |
| 1 7/8 | 4 1/16 | 07530L | 1ACH3 | 40.00 | 30.80 | 3.1 |
| 2 | 4 1/16 | 07532L | 1ACH4 | 41.64 | 32.10 | 3.2 |

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT METRIC IMPACT SOCKETS** | | | | | | |
| 17mm | 49.0mm | 07517M | 1ACH5 | $14.71 | $11.33 | 0 |
| 19 | 49.0 | 07519M | 1ACH6 | 15.42 | 11.87 | 0 |
| 20 | 49.0 | 07520M | 5F337 | 15.71 | 12.10 | 0 |
| 21 | 49.0 | 07521M | 1ACH7 | 15.98 | 12.30 | 0 |
| 22 | 50.8 | 07522M | 1ACH8 | 16.67 | 12.84 | 0 |
| 23 | 50.8 | 07523M | 1ACH9 | 17.36 | 13.37 | 0 |
| 24 | 50.8 | 07524M | 1ACK0 | 18.04 | 13.89 | 0 |
| 25 | 52.3 | 07525M | 5F339 | 18.38 | 14.15 | 0 |
| 26 | 52.3 | 07526M | 1ACK1 | 18.69 | 14.39 | 0 |
| 27 | 52.3 | 07527M | 1ACK2 | 19.24 | 14.81 | 0 |
| 28 | 55.4 | 07528M | 1ACK3 | 19.56 | 15.06 | 0 |
| 30 | 55.4 | 07530M | 1ACK4 | 20.20 | 15.55 | 1 |
| 31 | 56.4 | 07531M | 5F340 | 20.53 | 15.81 | 1 |
| 32 | 55.4 | 07532M | 1ACK5 | 20.87 | 16.07 | 1 |
| 33 | 55.4 | 07533M | 1ACK6 | 21.38 | 16.46 | 1 |
| 34 | 57.2 | 07534M | 1ACK7 | 21.93 | 16.89 | 1 |
| 35 | 57.2 | 07535M | 5F342 | 22.49 | 17.32 | 1 |
| 36 | 58.7 | 07536M | 1ACK8 | 23.04 | 17.74 | 1 |
| 38 | 60.2 | 07538M | 1ACK9 | 23.67 | 18.23 | 1 |
| 40 | 63.5 | 07540M | 5F343 | 28.09 | 21.63 | 1 |
| 41 | 66.5 | 07541M | 1ACL0 | 30.31 | 23.34 | 1 |
| 42 | 69.8 | 07542M | 1ACL1 | 35.56 | 27.40 | 1 |
| 43 | 69.8 | 07543M | 1ACL2 | 37.09 | 28.60 | 1 |
| 46 | 72.9 | 07546M | 1ACL3 | 42.71 | 32.90 | 2 |
| 50 | 79.2 | 07550M | 1ACL4 | 53.89 | 41.50 | 2 |
| **6 POINT METRIC DEEP IMPACT SOCKETS** | | | | | | |
| 19mm | 82.6mm | 07519ML | 1ACL5 | 20.20 | 15.55 | 1 |
| 21 | 82.6 | 07521ML | 1ACL6 | 20.20 | 15.55 | 1 |
| 22 | 82.6 | 07522ML | 1ACL7 | 21.31 | 16.41 | 1 |
| 23 | 82.6 | 07523ML | 5F338 | 21.87 | 16.84 | 1 |
| 24 | 82.6 | 07524ML | 1ACL8 | 22.40 | 17.25 | 1 |
| 26 | 82.6 | 07526ML | 1ACL9 | 23.47 | 18.07 | 1 |
| 27 | 82.6 | 07527ML | 1ACM0 | 23.76 | 18.30 | 1 |
| 30 | 82.6 | 07530ML | 1ACM1 | 27.51 | 21.18 | 1 |
| 32 | 82.6 | 07532ML | 1ACM2 | 28.96 | 22.30 | 1 |
| 33 | 82.6 | 07533ML | 5F341 | 29.93 | 23.05 | 2 |
| 35 | 82.6 | 07535ML | 1ACM3 | 31.87 | 24.54 | 1 |
| 36 | 82.6 | 07536ML | 1ACM4 | 33.40 | 25.75 | 2 |
| 38 | 88.9 | 07538ML | 1ACM5 | 35.00 | 26.95 | 2 |
| 41 | 88.9 | 07541ML | 1ACM6 | 39.62 | 30.55 | 2 |
| 43 | 88.9 | 07543ML | 1ACM7 | 44.84 | 34.55 | 2 |
| **6 POINT DEEP LENGTH THIN WALL SOCKETS** | | | | | | |
| 3/4" | 4" | 07512LT | 1ACM8 | 19.93 | 15.35 | 1 |
| 13/16 | 4 | 07513LT | 1ACM9 | 21.04 | 16.20 | 1 |
| 7/8 | 4 | 07514LT | 1ACN0 | 22.18 | 17.08 | 1 |
| 15/16 | 4 | 07515LT | 1ACN1 | 23.38 | 18.00 | 1 |
| 1 | 4 | 07516LT | 1ACN2 | 24.47 | 18.84 | 1 |
| 1 1/16 | 4 | 07517LT | 1ACN3 | 26.02 | 20.04 | 1 |
| 1 1/8 | 4 | 07518LT | 1ACN4 | 27.58 | 21.24 | 1 |
| 1 3/16 | 4 | 07519LT | 1ACN5 | 28.69 | 22.09 | 1 |
| 1 1/4 | 4 | 07520LT | 1ACN6 | 30.24 | 23.28 | 1 |
| 1 5/16 | 3 1/4 | 07521LT | 1ACN7 | 30.64 | 23.59 | 1 |
| 1 3/8 | 3 1/4 | 07522LT | 1ACN8 | 32.18 | 24.78 | 1 |
| 1 7/16 | 3 1/2 | 07523LT | 1ACN9 | 33.76 | 26.00 | 1 |
| 1 1/2 | 3 1/2 | 07524LT | 1ACP0 | 36.69 | 28.25 | 1 |
| 1 1/2" Hex x 13/16" Square | 4 | 07524LS | 1ACP1 | 39.04 | 30.10 | 3 |

## LIFETIME LIMITED WARRANTY

**All Proto tools are warranted to the original user for the life of the product.**
**Text of warranty available; see page opposite inside back cover.**

(*) For use with Nos. 1AX78 thru 1AX86, 1ACH5 thru 1ACK2, 1ACR2 thru 1ACR5, 1ACM8 thru 1ACN5, 1ACC2 thru 1ACF0, 1AX65 and 1AX66.
(†) For use with Nos. 1AX87 thru 1AX93, 1ACK3 thru 1ACL4, 1ACN6, 1ACP1, 1ACF1 thru 1ACF7, and 1AX61 thru 1AX63.
(‡) All 3/4" drive impact sockets and attachments.



The only source you need for tools as tough as you are.

# 1" DRIVE IMPACT SOCKETS

PROTO PROFESSIONAL TOOLS

Made in U.S.A.

TORQUEPLUS FASTENING SYSTEM



No. 1AX66 Male/Female Adapter



No. 1AFK6 6 Pt. Deep Impact Socket



No. 1AFM7 6 Point Impact Socket

| Size / Description | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1" DRIVE IMPACT SOCKET ACCESSORIES** | | | | | | |
| Impact Extension | 7 | 10607 | 1ACR6 | $66.62 | $51.30 | 3.7 |
| Impact Extension | 10 | 10608 | 1ACR7 | 86.04 | 66.25 | 4.6 |
| Impact Extension | 13 | 10609 | 1ACR8 | 99.49 | 76.65 | 5.8 |
| versal Joint | 5 3/8 | 10670 | 1ACR9 | 113.80 | 87.65 | 4.0 |
| x 13/16" Double Opening | 4 | 10024LS | 1ACT0 † | 59.98 | 46.20 | 3.8 |
| eep Length Socket | | | | | | |
| x 3/4"M Adapter | 2 7/8 | 07656 | 1AX66 | 34.11 | 26.30 | 1.4 |
| x 1½"M Adapter | 3 1/2 | 10004 | 1ACT1 | 67.36 | 51.90 | 2.6 |
| F x 1"M Adapter | 4 3/16 | 15007 | 1AFR4 | 143.42 | 110.45 | 4.5 |
| Dia. x 1.937" Retainer/Pin Ring‡ | — | 10000-1 | 1ACT3 | 5.80 | 4.47 | 0.1 |
| Dia. x 2.19" Retainer/Pin Ring# | — | 10000-2 | 1ACT4 | 5.80 | 4.47 | 0.1 |
| " Retainer Pin/Ring** | — | 10000-3 | 1ACT5 | 5.80 | 4.47 | 0.1 |
| " Retainer Pin/Ring†† | — | 10000-4 | 1ACT6 | 5.80 | 4.47 | 0.1 |
| " Retainer Pin/Ring‡‡ | — | 12500-1 | 1ACT7 | 4.96 | 3.82 | 0.1 |
| ainer Pin‡ | 1 7/8 | 10000P1 | 1ACT8 | 1.71 | 1.32 | 0.1 |
| ainer Pin# | 2 1/8 | 10000P2 | 1ACT9 | 1.71 | 1.32 | 0.1 |
| ing (2" 0. Dia.)‡ | — | 10000R1 | 1ACW0 | 3.36 | 2.59 | 0.1 |
| ing (2¼" 0. Dia.)# | — | 10000R2 | 1ACW1 | 3.36 | 2.59 | 0.1 |
| **6 POINT STANDARD IMPACT SOCKETS** | | | | | | |
| | 2 7/16 | 10012 | 1ACW2 | 24.00 | 18.48 | 1.6 |
| 16 | 2 1/2 | 10013 | 1ACW3 | 24.16 | 18.60 | 1.6 |
| | 2 1/2 | 10014 | 1ACW4 | 24.36 | 18.76 | 1.6 |
| 16 | 2 1/2 | 10015 | 1ACW5 | 24.60 | 18.94 | 1.7 |
| | 2 1/2 | 10016 | 1ACW6 | 24.73 | 19.04 | 1.7 |
| 5 | 2 5/8 | 10017 | 1ACW7 | 24.80 | 19.10 | 1.7 |
| | 2 5/8 | 10018 | 1ACW8 | 25.02 | 19.27 | 1.7 |
| 8 | 2 5/8 | 10019 | 1ACW9 | 25.11 | 19.33 | 1.7 |
| | 2 5/8 | 10020 | 1AFC0 | 25.16 | 19.37 | 1.7 |
| 8 | 2 3/4 | 10021 | 1AFC1 | 25.36 | 19.53 | 1.8 |
| | 2 3/4 | 10022 | 1AFC2 | 25.53 | 19.66 | 1.8 |
| 6 | 2 7/16 | 10023 | 1AFC3 | 27.20 | 20.94 | 1.8 |
| | 2 5/8 | 10024 | 1AFC4 | 27.71 | 21.34 | 2.0 |
| 6 | 2 5/8 | 10025 | 1AFC5 | 31.36 | 24.15 | 2.0 |
| | 2 5/8 | 10026 | 1AFC6 | 32.47 | 25.00 | 2.0 |
| 16 | 2 13/16 | 10027 | 1AFC7 | 33.89 | 26.10 | 2.4 |
| | 2 13/16 | 10028 | 1AFC8 | 35.58 | 27.40 | 2.5 |
| 16 | 2 13/16 | 10029 | 1AFC9 | 37.29 | 28.75 | 2.7 |
| | 3 | 10030 | 1AFF0 | 40.18 | 30.95 | 2.7 |
| 16 | 3 | 10031 | 1AFF1 | 44.51 | 34.30 | 2.9 |
| | 3 | 10032 | 1AFF2 | 48.31 | 37.20 | 3.1 |
| 16 | 3 3/32 | 10033 | 1AFF3 | 49.60 | 38.20 | 3.1 |
| 8 | 3 3/32 | 10034 | 1AFF4 | 58.18 | 44.80 | 3.3 |
| 16 | 3 1/8 | 10035 | 1AFF5 | 59.76 | 46.05 | 3.6 |
| 4 | 3 1/4 | 10036 | 1AFF6 | 60.93 | 46.95 | 3.7 |
| 16 | 3 5/16 | 10037 | 1AFF7 | 62.89 | 48.45 | 4.1 |
| 8 | 3 3/8 | 10038 | 1AFF8 | 79.96 | 61.60 | 4.2 |
| 16 | 3 3/8 | 10039 | 1AFF9 | 81.60 | 62.85 | 4.2 |
| 2 | 3 1/2 | 10040 | 1AFH0 | 95.93 | 73.90 | 4.6 |
| 16 | 3 1/2 | 10041 | 1AFH1 | 100.84 | 77.65 | 4.9 |
| 8 | 3 5/8 | 10042 | 1AFH2 | 106.04 | 81.65 | 4.9 |
| /16 | 3 21/32 | 10043 | 1AFH3 | 108.47 | 83.55 | 5.2 |
| /4 | 3 3/4 | 10044 | 1AFH4 | 113.87 | 87.70 | 5.4 |
| 1/16 | 3 13/16 | 10045 | 1AFH5 | 124.33 | 95.75 | 5.7 |
| /8 | 3 7/8 | 10046 | 1AFH6 | 128.49 | 98.95 | 5.9 |
| 1/16 | 3 7/8 | 10047 | 1AFH7 | 137.49 | 105.90 | 5.9 |
| | 4 | 10048 | 1AFH8 | 137.80 | 106.15 | 6.5 |
| /8 | 4 1/16 | 10050 | 1AFH9 | 162.82 | 125.40 | 6.8 |
| /8 | 4 3/8 | 10052 | 1AFK0 | 167.96 | 129.35 | 7.5 |
| /8 | 4 7/16 | 10054 | 1AFK1 | 168.38 | 129.65 | 7.6 |
| /2 | 4 1/2 | 10056 | 1AFK2 | 191.44 | 147.45 | 8.4 |

| Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT DEEP IMPACT SOCKETS** | | | | | | |
| 7/8 | 3¼ | 10014L | 1AFK4 | $32.40 | $24.95 | 2.5 |
| 15/16 | 3¼ | 10015L | 1AFK5 | 32.62 | 25.15 | 2.6 |
| 1 | 3¼ | 10016L | 1AFK6 | 32.78 | 25.25 | 2.6 |
| 1 1/8 | 3¼ | 10018L | 1AFK8 | 33.13 | 25.55 | 2.6 |
| 1 3/16 | 3¼ | 10019L | 1AFK9 | 34.11 | 26.30 | 2.6 |
| 1 1/4 | 3¼ | 10020L | 1AFL0 | 34.56 | 26.65 | 2.6 |
| 1 5/16 | 3¼ | 10021L | 1AFL1 | 35.82 | 27.60 | 2.6 |
| 1 3/8 | 3¼ | 10022L | 1AFL2 | 36.16 | 27.85 | 2.6 |
| 1 7/16 | 4 | 10023L | 1AFL3 | 41.04 | 31.60 | 2.6 |
| 1 1/2 | 4 | 10024L | 1AFL4 | 42.56 | 32.80 | 2.8 |
| 1 9/16 | 4 | 10025L | 1AFL5 | 49.22 | 37.90 | 2.9 |
| 1 5/8 | 4 | 10026L | 1AFL6 | 49.31 | 38.00 | 2.9 |
| 1 3/4 | 4 1/16 | 10028L | 1AFL7 | 54.11 | 41.70 | 3.3 |
| 1 13/16 | 4 1/16 | 10029L | 1AFL8 | 56.80 | 43.75 | 3.8 |
| 1 7/8 | 4¼ | 10030L | 1AFL9 | 59.71 | 46.00 | 3.8 |
| 1 15/16 | 4¼ | 10031L | 1AFM0 | 67.18 | 51.75 | 3.9 |
| 2 | 4¼ | 10032L | 1AFM1 | 73.27 | 56.45 | 4.3 |
| 2 1/8 | 4½ | 10034L | 1AFM2 | 79.18 | 61.00 | 4.8 |
| 2 3/16 | 4½ | 10035L | 1AFM3 | 84.96 | 65.45 | 5.0 |
| 2 1/4 | 4½ | 10036L | 1AFM4 | 90.78 | 69.90 | 5.0 |
| 2 5/16 | 4¾ | 10037L | 1AFM5 | 100.47 | 77.40 | 5.0 |
| 2 3/8 | 4¾ | 10038L | 1AFM6 | 111.13 | 85.60 | 5.0 |
| **6 POINT METRIC IMPACT SOCKETS** | | | | | | |
| 19mm | 61.9mm | 10019M | 1AFM7 | 24.40 | 18.79 | 1.6 |
| 22 | 61.9 | 10022M | 1AFM8 | 24.64 | 18.97 | 1.7 |
| 24 | 61.9 | 10024M | 1AFM9 | 24.73 | 19.04 | 1.7 |
| 27 | 61.9 | 10027M | 1AFN0 | 25.33 | 19.50 | 1.7 |
| 28 | 61.9 | 10028M | 1AFN1 | 25.82 | 19.88 | 1.7 |
| 30 | 61.9 | 10030M | 1AFN2 | 26.71 | 20.57 | 1.7 |
| 32 | 61.9 | 10032M | 1AFN3 | 27.67 | 21.31 | 1.7 |
| 33 | 61.9 | 10033M | 1AFN4 | 27.98 | 21.54 | 1.8 |
| 36 | 61.9 | 10036M | 1AFN5 | 28.29 | 21.78 | 1.8 |
| 41 | 66.5 | 10041M | 1AFN6 | 33.89 | 26.10 | 2.1 |
| 46 | 71.4 | 10046M | 1AFN7 | 40.16 | 30.95 | 2.6 |
| 50 | 76.2 | 10050M | 1AFN8 | 47.27 | 36.40 | 3.1 |
| 55 | 79.2 | 10055M | 1AFN9 | 62.07 | 47.80 | 3.6 |
| 60 | 85.8 | 10060M | 1AFP0 | 78.80 | 60.70 | 4.0 |
| 65 | 88.9 | 10065M | 1AFP1 | 106.27 | 81.85 | 4.4 |

**LIFETIME LIMITED WARRANTY**

**All Proto tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.**

) For Budd wheels. (‡) For use with Nos. 1ACW2 thru 1AFC3, 1AFP4 thru 1AFP9, 1AFK3 thru 1AFL3, 1AFP2, 1AFP3, 1ACR6 thru 1ACR8, and 1AX66. (#) For use with AFC4 thru 1AFK2, 1AFL4 thru 1AFM6, 1ACT0, 1ACT1, 1ACT2, and 1ACR9. (**) For use with Williams impact sockets 17-624 thru 17-624. (††) For use on Apex npact sockets. (‡‡) For use on Apex and imported impact sockets.

## FULL POLISH FINISH

### COMBINATION WRENCHES

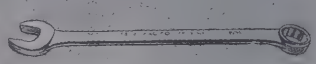
| Size | Length | Proto Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 POINT 15° OFFSET WRENCHES** | | | | | | |
| **5/16"** | 5½" | 1210-500 | **3R450** | $12.27 | **$9.45** | 0.1 |
| **3/8** | 6 | 1212-500 | **3R453** | 13.22 | **10.18** | 0.1 |
| **7/16** | 6½ | 1214-500 | **3R456** | 13.87 | **10.68** | 0.2 |
| **1/2** | 7 | 1216-500 | **3R459** | 14.40 | **11.09** | 0.2 |
| **9/16** | 7½ | 1218-500 | **3R462** | 16.33 | **12.57** | 0.2 |
| **5/8** | 8 1/16 | 1220-500 | **3R465** | 18.09 | **13.93** | 0.3 |
| **11/16** | 8⅞ | 1222-500 | **3R468** | 19.76 | **15.22** | 0.3 |
| **3/4** | 9¾ | 1224-500 | **3R469** | 21.53 | **16.58** | 0.4 |
| **13/16** | 10⅝ | 1226-500 | **3R471** | 23.38 | **18.00** | 0.5 |
| **7/8** | 11½ | 1228-500 | **3R472** | 27.42 | **21.11** | 0.6 |
| **15/16** | 12⅜ | 1230-500 | **3R473** | 30.58 | **23.55** | 0.8 |
| **1** | 13¼ | 1232-500 | **3R474** | 36.96 | **28.50** | 0.9 |
| **1 1/16** | 14⅛ | 1234-500 | **3R475** | 43.00 | **33.15** | 1.1 |
| **1⅛** | 15⅝ | 1236-500 | **3R476** | 50.09 | **38.60** | 1.4 |
| **1¼** | 16¾ | 1240-500 | **3R477** | 58.98 | **45.45** | 1.7 |
| **12 POINT METRIC 15° OFFSET WRENCHES** | | | | | | |
| **7mm** | 127.0mm | 1207M-500 | **3R447** | 12.51 | **9.63** | 0.1 |
| **8** | 139.7 | 1208M-500 | **3R448** | 12.84 | **9.89** | 0.1 |
| **9** | 146.1 | 1209M-500 | **3R449** | 13.89 | **10.70** | 0.1 |
| **10** | 158.8 | 1210M-500 | **3R451** | 14.16 | **10.90** | 0.1 |
| **11** | 165.1 | 1211M-500 | **3R452** | 14.49 | **11.16** | 0.1 |
| **12** | 171.5 | 1212M-500 | **3R454** | 15.11 | **11.63** | 0.2 |
| **13** | 177.8 | 1213M-500 | **3R455** | 15.84 | **12.20** | 0.2 |
| **14** | 190.5 | 1214M-500 | **3R457** | 16.67 | **12.84** | 0.2 |
| **15** | 196.9 | 1215M-500 | **3R458** | 18.02 | **13.88** | 0.2 |
| **16** | 204.7 | 1216M-500 | **3R460** | 19.00 | **14.63** | 0.3 |
| **17** | 225.4 | 1217M-500 | **3R461** | 20.73 | **15.96** | 0.3 |
| **18** | 239.8 | 1218M-500 | **3R463** | 21.62 | **16.65** | 0.4 |
| **19** | 247.6 | 1219M-500 | **3R464** | 22.60 | **17.40** | 0.4 |
| **20** | 269.8 | 1220M-500 | **3R466** | 24.47 | **18.84** | 0.5 |
| **21** | 269.8 | 1221M-500 | **3R467** | 28.76 | **22.15** | 0.5 |
| **22** | 292.1 | 1222M-500 | **1GG12** | 30.47 | **23.46** | 3.3 |
| **23** | 314.3 | 1223M-500 | **1GG10** | 32.13 | **24.74** | 3.8 |
| **24** | 314.3 | 1224M-500 | **3R470** | 35.36 | **27.25** | 0.7 |

### COMBINATION WRENCH SETS

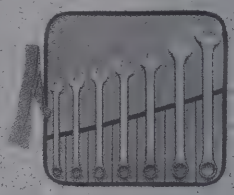
| No. of Pieces | Size Included | Proto Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 POINT SETS** | | | | | | |
| **15** | 5/16 - 1¼" | 1200F-500 | **3R442** | $409.80 | **$299.25** | 10.0 |
| **7** | 3/8 - 3/4" | 1200H-500 | **3R445** | 121.31 | **88.60** | 2.0 |
| **12 POINT METRIC SETS** | | | | | | |
| **18** | 7 - 24mm | 1200RM-500 | **3R443** | 377.98 | **276.00** | 5.8 |
| **9** | 7 - 15mm | 1200HM-500 | **3R446** | 138.87 | **101.40** | 1.8 |

PROTO PROFESSIONAL TOOLS®

New



No. 3R450



No. 3R445

## DON'T DELAY... ORDER FROM GRAINGER NOW!

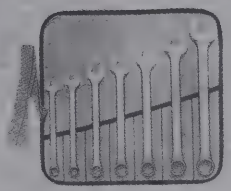
Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

# COMBINATION WRENCH SETS

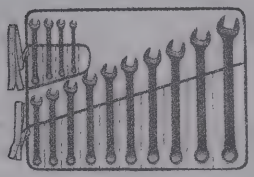
PROTO PROFESSIONAL TOOLS

Made in U.S.A.

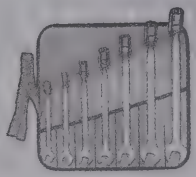
Replacement Parts Available 1-800-323-0620



No. 6A543
7-Pc. Set



No. 1AKN0
14-Pc. Set with Black Finish



No. 1AKN6
7-Pc. Flex Head Set

## SATIN AND BLACK FINISH

| No. of Pieces | Wrenches Included | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | **12 POINT SETS** | | | | | |
| 7 | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, & 3/4" in Vinyl Kit | 1200H | **6A543** | $121.31 | **$88.60** | 2.0 |
| 10 | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16 & 1" in Vinyl Kit | 1200G | **1AKM9** | 230.24 | **168.25** | 5.0 |
| 15 | 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, & 1 1/4" in Vinyl Kit | 1200F | **6A541** | 409.80 | **299.25** | 9.6 |
| 26 | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 5/8, 1 11/16, 1 3/4, 1 13/16, 1 7/8, & 2" | 1200-80 | **1AKN3** | 1429.11 | **1044.00** | 58.0 |
| | **12 POINT EXTRA LONG SETS** | | | | | |
| 7 | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, & 3/4" in Vinyl Kit | 1200HL | **1AKM6** | 132.91 | **97.05** | 3.1 |
| 15 | 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, & 1 1/4" in Vinyl Kit | 1200FL | **1AKN1** | 450.69 | **329.00** | 15.0 |
| | **12 POINT SETS WITH BLACK FINISH** | | | | | |
| 7 | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, & 3/4" in Vinyl Kit | 1200HB | **1AKM7** | 101.04 | **73.80** | 1.9 |
| 14 | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, & 1 1/4" in Vinyl Kit | 1200FB | **1AKN0** | 330.67 | **241.50** | 9.7 |
| | **6 POINT SETS** | | | | | |
| 8 | 1/8, 5/32, 3/16, 1/4, 9/32, 5/16, 11/32, & 3/8" in Vinyl Kit | 1200E | **6A545** | 101.00 | **73.75** | 0.4 |
| 10 | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" in Vinyl Kit | 1200GH | **1GG34** | 230.24 | **168.25** | 3.3 |
| | **FLEX HEAD SET** | | | | | |
| 7 | 6-Pt.: 3/8 & 7/16" 12-Pt.: 1/2, 9/16, 5/8, 11/16, & 3/4" in Vinyl Kit | 1270A | **1AKN6** | 223.56 | **163.25** | 3.0 |
| | **12 POINT METRIC SETS** | | | | | |
| 9 | 7, 8, 9, 10, 11, 12, 13, 14, & 15mm in Vinyl Kit | 1200H-M | **1AKN8** | 138.87 | **101.40** | 1.5 |
| 10 | 10, 11, 12, 13, 14, 15, 16, 17, 18 & 19mm in Vinyl Kit | 1200KM | **1AKN7** | 186.18 | **135.95** | 3.1 |
| 15 | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, & 21mm in Vinyl Kit | 1200F-M | **1AKP0** | 279.11 | **203.75** | 4.5 |
| 15 | 7, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 29, 30, & 32mm in Vinyl Kit | 1200P-M | **1AKP1** | 475.44 | **347.25** | 11.0 |
| 18 | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, & 24mm in Vinyl Kit | 1200R-M | **6A542** | 377.98 | **276.00** | 7.0 |
| | **12 POINT METRIC EXTRA LONG SETS** | | | | | |
| 18 | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, & 24mm in Vinyl Kit | 1200R-ML | **1AKP2** | 113.60 | **302.00** | 11.0 |
| | **6 POINT METRIC SETS** | | | | | |
| 10 | 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19mm in Vinyl Kit | 1200MH | **1AKN9** | 186.18 | **135.95** | 3.1 |

MAGNETIC WRENCH HOLDERS SOLD ON PAGE 1197

# BOX WRENCH SETS

PROTO PROFESSIONAL TOOLS

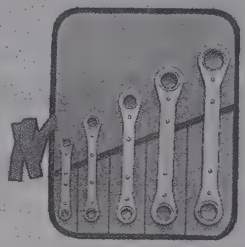
Made in U.S.A.

Replacement Parts Available 1-800-323-0620

- Proto wrenches are an industrial grade line of mechanic's wrenches for heavy-duty applications and production use



No. 1AKP7
7-Pc. Set



No. 1AKR2
5-Pc. Ratcheting Set

**LIFETIME LIMITED WARRANTY**

All Proto tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside back cover.

| No. of Pieces | Wrenches Included | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | **12 POINT BOX WRENCH SETS** | | | | | |
| 5 | 5/16 x 3/8, 7/16 x 1/2, 9/16 x 5/8, 11/16 x 3/4, 13/16 x 7/8, and 13/16 x 7/8" in Vinyl Kit | 1100G | **1GG59** | $95.04 | **$69.40** | 2.1 |
| 7 | 5/16 x 3/8, 7/16 x 1/2, 9/16 x 5/8, 11/16 x 3/4, 13/16 x 7/8, 13/16 x 7/8" in Vinyl Kit | 1100R | **1AKP7** | 183.40 | **133.90** | 4.7 |
| | **DEEP OFFSET BOX WRENCH SETS** | | | | | |
| 6 | 3/8 x 7/16, 1/2 x 9/16, 5/8 x 11/16, 11/16 x 13/16 3/4 x 7/8, and 15/16 x 1" in Vinyl Kit | 8100C | **1AKP5** | 143.62 | **104.85** | 3.4 |
| | **12 POINT RATCHETING BOX WRENCH SETS** | | | | | |
| 3 | 3/8 x 7/16, 1/2 x 9/16, & 5/8 x 3/4" in Vinyl Kit | 1190B | **1AKR1** | 64.69 | **47.25** | 1.0 |
| 5 | 1/4 x 5/16, 3/8 x 7/16, 1/2 x 9/16, 5/8 x 11/16, and 3/4 x 7/8 in Vinyl Kit | 1190A | **1AKR2** | 104.80 | **76.50** | 1.8 |
| | **6 POINT OFFSET RATCHETING BOX WRENCH SET** | | | | | |
| 5 | 1/4 x 5/16, 3/8 x 7/16, 1/2 x 9/16, 5/8 x 11/16, and 3/4 x 7/8 in Vinyl Kit | 1180A | **1AKR3** | 117.49 | **85.80** | 1.9 |
| | **6 POINT METRIC RATCHETING BOX WRENCH SET** | | | | | |
| 5 | 7 x 8, 9 x 10, 11 x 13, 12 x 14, and 15 x 17mm in Vinyl Kit | 1190MA | ***New*** **4LT85** | 97.82 | **71.45** | 1.6 |
| | **6 AND 12 POINT OFFSET METRIC RATCHETING BOX WRENCH SET** | | | | | |
| 7 | 7 x 8, 9 x 10, 11 x 12, 13 x 14, 15 x 17, 16 x 18, and 9 x 21mm in vinyl pouch | 1180MA | ***New*** **4LT82** | 169.13 | **123.50** | 2.7 |

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

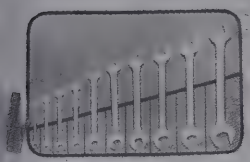
Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# OPEN END WRENCH SETS, FLARE NUT WRENCH SETS, AND INDIVIDUAL WRENCHES

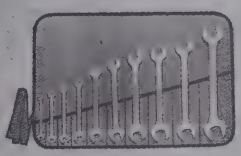
PROTO PROFESSIONAL TOOLS

- Proto wrenches are an industrial grade line of mechanic's wrenches for heavy-duty applications and production use

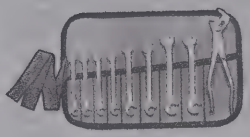
Made in U.S.A.



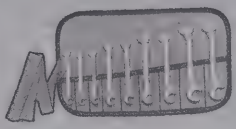
No. 6A544
10-Pc. Set



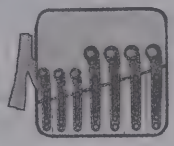
No. 1AKT1
10-Pc. Metric Set



No. 1AKT4
9-Pc. Ignition Set



No. 1AKT5
9-Pc. Set



No. 1AKW0
Ratcheting Set

| of ces | Wrenches Included | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | **OPEN END WRENCH SETS** | | | | | |
| 5 | 3/8 x 7/16, 1/2 x 9/16, 9/16 x 5/8, 11/16 x 3/4, & 13/16 x 7/8" in Vinyl Kit | 3000N | **1AKR6** | $75.31 | **$55.00** | 1.7 |
| 0 | 1/4 x 5/16, 5/16 x 3/8, 7/16 x 1/2, 1/2 x 9/16, 9/16 x 5/8, 5/8 x 3/4, 11/16 x 3/4, 13/16 x 7/8, 15/16 x 1, & 1 1/16 x 1 1/8" in Vinyl Kit | 3000H | **6A544** | 176.93 | **129.20** | 5.0 |
| | **BLACK FINISH OPEN END WRENCH SET** | | | | | |
| 5 | 5/16 x 3/8, 7/16 x 1/2, 9/16 x 5/8, 11/16 x 3/4, & 13/16 x 7/8" in Vinyl Kit | 3000NB | **1AKR7** | 60.96 | **44.50** | 1.9 |
| | **METRIC OPEN END WRENCH SETS** | | | | | |
| 6 | 8 x 9, 10 x 11, 12 x 13, 14 x 15, 16 x 17, & 18 x 19mm in Vinyl Kit | 30000R | **1AKT0** | 80.47 | **58.75** | 1.6 |
| 0 | 6 x 7, 8 x 9, 10 x 11, 12 x 13, 14 x 15, 16 x 17, 18 x 19, 20 x 22, 21 x 23, & 24 x 26mm in Vinyl Kit | 30000A | **1AKT1** | 167.76 | **122.50** | 4.0 |
| | **EXTRA THIN TAPPET WRENCH SET** | | | | | |
| 4 | 7/16 x 1/2, two of 1/2 x 9/16, 9/16 x 5/8" in Vinyl Kit | 3400G | **1AKT2** | 59.29 | **43.30** | 0.9 |
| | **15° AND 60° ANGLE HEAD OPEN END IGNITION WRENCH SET** | | | | | |
| 9 | 13/64 x 15/64, 15/64 x 13/64, 7/32 x 1/4, 1/4 x 7/32, 9/32 x 5/16, 5/16 x 9/32, 11/32 x 3/8, 3/8 x 11/32", & Midget Pliers in Vinyl Kit | 3200D | **1AKT4** | 87.11 | **63.60** | 0.5 |
| | **15° AND 75° ANGLE HEAD OPEN END WRENCH SET** | | | | | |
| 9 | 7/32 x 7/32, 15/64 x 15/64, 1/4 x 1/4, 9/32 x 9/32, 5/16 x 5/16, 11/32 x 11/32, 3/8 x 3/8, 7/16 x 7/16, 1/2 x 1/2" in Vinyl Kit | 3300A | **1AKT5** | 82.04 | **59.90** | 0.5 |

| No. of Pieces | Type | Wrenches Included | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | | **COMBINATION FLARE NUT WRENCH SETS** | | | | | |
| 7 | 12 Pt. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4 in Vinyl Kit | 3700AT | **5F344** | $154.93 | **$113.10** | 2.2 |
| 7 | 6 Pt. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4 in Vinyl Kit | 3700A | **1AKT8** | 155.29 | **113.40** | 2.3 |
| | | **DOUBLE END FLARE NUT WRENCH SETS** | | | | | |
| 3 | 12 Pt. | 3/8 x 7/16, 1/2 x 9/16, & 5/8 x 11/16" in Vinyl Kit | 3760T | **5F360** | 65.40 | **47.75** | 1.0 |
| 3 | 6 Pt. | 3/8 x 7/16, 1/2 x 9/16, & 5/8 x 11/16" in Vinyl Kit | 3760 | **1AKT7** | 65.40 | **47.75** | 1.0 |
| 5 | 6 Pt. Metric | 7 x 8, 9 x 11, 10 x 12, 13 x 14, and 15 x 17mm in Vinyl Kit | 3700M | **1AKT9** | 106.31 | **77.65** | 1.3 |
| | | **RATCHETING FLARE NUT WRENCH SET** | | | | | |
| 7 | 12 Pt. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, and 3/4" in Vinyl Kit | 3800A | **1AKW0** | 196.64 | **143.55** | 1.9 |

## INDIVIDUAL FLARE NUT WRENCHES

| Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | **6 PT. COMBINATION FLARE NUT WRENCHES** | | | | | |
| /8 | 5 11/16 | 3751 | **1ANT3** | $16.47 | **$12.68** | 0.1 |
| /16 | 6 | 3752 | **1ANT4** | 17.49 | **13.47** | 0.2 |
| /2 | 6 7/16 | 3753 | **1ANT5** | 18.36 | **14.14** | 0.2 |
| /16 | 6 15/16 | 3754 | **1ANT6** | 20.62 | **15.88** | 0.3 |
| /8 | 7 5/8 | 3755 | **1ANT7** | 24.51 | **18.87** | 0.3 |
| 1/16 | 8 1/16 | 3756 | **1ANT8** | 26.73 | **20.58** | 0.3 |
| /4 | 9 13/64 | 3757 | **1ANT9** | 27.00 | **20.79** | 0.3 |
| | **6 PT. DOUBLE END FLARE NUT WRENCHES** | | | | | |
| /8 x 7/16 | 6 1/4 | 3764 | **1ANX1** | 16.69 | **12.85** | 0.2 |
| /2 x 9/16 | 7 9/16 | 3768 | **1ANX2** | 20.82 | **16.03** | 0.3 |
| /8 x 11/16 | 8 1/16 | 3772 | **1ANX3** | 24.78 | **19.08** | 0.4 |

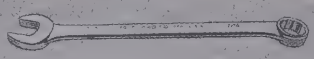
| Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | **12 PT. RATCHETING FLARE NUT WRENCHES** | | | | | |
| 3/8 | 5 7/16 | 3812 | **1ANW0** | $24.71 | **$19.03** | 0.1 |
| 7/16 | 5 7/16 | 3814 | **1ANW1** | 24.71 | **19.03** | 0.1 |
| 1/2 | 5 7/16 | 3816 | **1ANW2** | 24.71 | **19.03** | 0.2 |
| 9/16 | 7 1/4 | 3818 | **1ANW3** | 29.69 | **22.86** | 0.3 |
| 5/8 | 7 1/4 | 3820 | **1ANW4** | 29.69 | **22.86** | 0.4 |
| 11/16 | 7 1/4 | 3822 | **1ANW5** | 29.69 | **22.86** | 0.4 |
| 3/4 | 7 1/4 | 3824 | **1ANW6** | 29.69 | **22.86** | 0.4 |
| 13/16 | 9 1/8 | 3826 | **1ANW7** | 36.62 | **28.20** | 0.6 |
| 7/8 | 9 1/8 | 3828 | **1ANW8** | 36.62 | **28.20** | 0.6 |
| 15/16 | 9 1/8 | 3830 | **1ANW9** | 36.62 | **28.20** | 0.6 |
| 1 | 9 1/8 | 3832 | **1ANX0** | 36.62 | **28.20** | 0.6 |

MAGNETIC WRENCH HOLDERS SOLD ON PAGE 1197

# COMBINATION WRENCHES

PROTO PROFESSIONAL TOOLS

TORQUEPLUS FASTENING SYSTEM



No. 1AKW7
12 Point Combination Wrench



No. 1ALK8
12 Point Combination Wrench with Black Finish

| Sizes | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 POINT 15° OFFSET WRENCHES** | | | | | | |
| 1/4" | 5 1/8 | 1208 | 1AKW1 | $12.27 | $9.45 | 0.1 |
| 5/16 | 5 1/2 | 1210 | 1AKW2 | 12.27 | 9.45 | 0.1 |
| 11/32 | 6 | 1211 | 1AKW3 | 12.27 | 9.45 | 0.1 |
| 3/8 | 6 1/16 | 1212 | 1AKW4 | 13.22 | 10.18 | 0.1 |
| 7/16 | 6 1/2 | 1214 | 1AKW5 | 13.87 | 10.68 | 0.1 |
| 1/2 | 7 | 1216 | 1AKW6 | 14.40 | 11.09 | 0.2 |
| 9/16 | 7 1/2 | 1218 | 1AKW7 | 16.33 | 12.57 | 0.2 |
| 5/8 | 8 3/16 | 1220 | 1AKW8 | 18.09 | 13.93 | 0.3 |
| 11/16 | 9 | 1222 | 1AKW9 | 19.76 | 15.22 | 0.3 |
| 3/4 | 9 3/4 | 1224 | 1AKX0 | 21.53 | 16.58 | 0.4 |
| 13/16 | 10 11/16 | 1226 | 1AKX1 | 23.38 | 18.00 | 0.5 |
| 7/8 | 11 5/16 | 1228 | 1AKX2 | 27.42 | 21.11 | 0.6 |
| 15/16 | 12 3/8 | 1230 | 1AKX3 | 30.58 | 23.55 | 0.8 |
| 1 | 13 5/16 | 1232 | 1AKX4 | 36.96 | 28.50 | 1.0 |
| 1 1/16 | 14 1/64 | 1234 | 1AKX5 | 43.00 | 33.15 | 1.2 |
| 1 1/8 | 15 1/4 | 1236 | 1AKX6 | 50.09 | 38.60 | 1.5 |
| 1 1/4 | 16 13/16 | 1240 | 1AKX7 | 58.98 | 45.45 | 1.8 |
| 1 5/16 | 17 5/8 | 1242 | 1AKX8 | 65.04 | 50.10 | 2.1 |
| 1 3/8 | 18 1/2 | 1244 | 1AKX9 | 69.31 | 53.40 | 2.3 |
| 1 7/16 | 19 3/8 | 1246 | 1ALC0 | 77.13 | 59.40 | 2.7 |
| 1 1/2 | 20 1/4 | 1248 | 1ALC1 | 87.44 | 67.35 | 3.2 |
| 1 5/8 | 23 | 1252 | 1ALC2 | 96.22 | 74.10 | 4.5 |
| 1 11/16 | 23 | 1254 | 1ALC3 | 103.87 | 80.00 | 4.5 |
| 1 3/4 | 25 | 1256 | 1ALC4 | 111.44 | 85.85 | 5.6 |
| 1 13/16 | 25 | 1258 | 1ALC5 | 117.82 | 90.75 | 5.6 |
| 1 7/8 | 28 | 1260 | 1ALC6 | 140.67 | 108.35 | 7.5 |
| 2 | 28 | 1264 | 1ALC7 | 148.02 | 114.00 | 7.5 |
| 2 1/16 | 29 1/2 | 1266 | 1ALC8 | 173.07 | 133.30 | 9.5 |
| 2 1/8 | 29 1/2 | 1268 | 1ALC9 | 195.29 | 150.50 | 9.5 |
| 2 3/16 | 29 1/2 | 1270 | 1ALF0 | 207.00 | 159.50 | 9.5 |
| 2 1/4 | 29 1/2 | 1272 | 1ALF1 | 217.16 | 167.25 | 9.5 |
| 2 3/8 | 31 1/2 | 1276 | 1ALF2 | 266.58 | 205.50 | 13.0 |
| 2 1/2 | 31 1/2 | 1280 | 1ALF3 | 279.31 | 215.25 | 12.0 |
| **12 POINT EXTRA LONG 15° OFFSET WRENCHES** | | | | | | |
| 3/8 | 7 | 1212L | 1ALF4 | 14.49 | 11.16 | 0.2 |
| 7/16 | 8 | 1214L | 1ALF5 | 15.20 | 11.70 | 0.2 |
| 1/2 | 9 | 1216L | 1ALF6 | 15.82 | 12.18 | 0.3 |
| 9/16 | 10 | 1218L | 1ALF7 | 17.96 | 13.83 | 0.4 |
| 5/8 | 11 | 1220L | 1ALF8 | 19.89 | 15.32 | 0.5 |
| 11/16 | 12 | 1222L | 1ALF9 | 21.71 | 16.72 | 0.6 |
| 3/4 | 13 | 1224L | 1ALH0 | 23.67 | 18.23 | 0.7 |
| 13/16 | 14 | 1226L | 1ALH1 | 25.67 | 19.77 | 0.9 |
| 7/8 | 15 | 1228L | 1ALH2 | 30.13 | 23.20 | 1.0 |
| 15/16 | 16 | 1230L | 1ALH3 | 33.64 | 25.90 | 1.2 |
| 1 | 17 | 1232L | 1ALH4 | 40.64 | 31.30 | 1.5 |
| 1 1/16 | 18 | 1234L | 1ALH5 | 47.31 | 36.45 | 1.7 |
| 1 1/8 | 19 | 1236L | 1ALH6 | 55.11 | 42.45 | 2.0 |
| 1 1/4 | 20 | 1240L | 1ALH7 | 64.84 | 49.95 | 2.4 |
| **12 POINT 15° OFFSET WRENCHES WITH BLACK FINISH** | | | | | | |
| 3/8 | 6 1/2 | 1212B | 1ALH8 | 10.93 | 8.42 | 0.2 |
| 7/16 | 6 1/2 | 1214B | 1ALH9 | 11.44 | 8.81 | 0.2 |
| 1/2 | 7 | 1216B | 1ALK0 | 11.91 | 9.17 | 0.2 |
| 9/16 | 7 1/2 | 1218B | 1ALK1 | 13.47 | 10.37 | 0.3 |
| 5/8 | 8 3/16 | 1220B | 1ALK2 | 14.96 | 11.52 | 0.3 |
| 11/16 | 9 | 1222B | 1ALK3 | 16.36 | 12.60 | 0.4 |
| 3/4 | 9 3/4 | 1224B | 1ALK4 | 17.87 | 13.76 | 0.4 |
| 13/16 | 10 11/16 | 1226B | 1ALK5 | 19.29 | 14.85 | 1.5 |
| 7/8 | 11 5/16 | 1228B | 1ALK6 | 22.73 | 17.50 | 0.6 |
| 15/16 | 12 3/8 | 1230B | 1ALK7 | 25.33 | 19.50 | 0.8 |
| 1 | 13 5/16 | 1232B | 1ALK8 | 30.56 | 23.53 | 1.0 |
| 1 1/16 | 14 1/64 | 1234B | 1ALK9 | 35.60 | 27.45 | 1.2 |
| 1 1/8 | 15 1/4 | 1236B | 1ALL0 | 41.47 | 31.95 | 1.4 |
| 1 1/4 | 16 13/16 | 1240B | 1ALL1 | 48.82 | 37.60 | 1.8 |
| 1 1/2 | 20 1/4 | 1248B | 1ALL2 | 72.38 | 55.75 | 3.2 |

| Size | Length | Proto Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| **12 POINT SHORT 15° OFFSET WRENCHES** | | | | | | |
| 1/4" | 3 3/16" | 1208T | 1ALL3 | $12.18 | $9.38 | 0.1 |
| 5/1 | 3 7/16 | 1210T | 1ALL4 | 12.18 | 9.38 | 0.1 |
| 3/8 | 4 3/16 | 1212T | 1ALL5 | 12.49 | 9.62 | 0.1 |
| 7/1 | 5 1/16 | 1214T | 1ALL6 | 13.18 | 10.15 | 0.1 |
| 1/2 | 5 1/4 | 1216T | 1ALL7 | 14.13 | 10.88 | 0.1 |
| 9/1 | 5 11/16 | 1218T | 1ALL8 | 15.84 | 12.20 | 0.2 |
| 5/8 | 6 1/8 | 1220T | 1ALL9 | 16.78 | 12.92 | 0.2 |
| 11/ | 7 | 1222T | 1ALM0 | 17.42 | 13.41 | 0.2 |
| 3/4 | 8 | 1224T | 1ALM1 | 19.22 | 14.80 | 0.2 |
| **12 POINT METRIC 15° OFFSET WRENCHES** | | | | | | |
| 6mm | 127mm | 1206M | 1AMC3 | 12.16 | 9.36 | 0.1 |
| 7 | 127 | 1207M | 1AMC4 | 12.51 | 9.63 | 0.1 |
| 8 | 140 | 1208M | 1ALM2 | 12.84 | 9.89 | 0.1 |
| 9 | 146 | 1209M | 1ALM3 | 13.89 | 10.70 | 0.1 |
| 10 | 159 | 1210M | 1ALM4 | 14.16 | 10.90 | 0.1 |
| 11 | 165 | 1211M | 1ALM5 | 14.49 | 11.16 | 0.2 |
| 12 | 171 | 1212M | 1ALM6 | 15.11 | 11.63 | 0.1 |
| 13 | 178 | 1213M | 1ALM7 | 15.84 | 12.20 | 0.2 |
| 14 | 187 | 1214M | 1ALM8 | 16.67 | 12.84 | 0.2 |
| 15 | 197 | 1215M | 1ALM9 | 18.02 | 13.88 | 0.2 |
| 16 | 205 | 1216M | 1ALN0 | 19.00 | 14.63 | 0.3 |
| 17 | 225 | 1217M | 1ALN1 | 20.73 | 15.96 | 0.4 |
| 18 | 239 | 1218M | 1ALN2 | 21.62 | 16.65 | 0.4 |
| 19 | 248 | 1219M | 1ALN3 | 22.60 | 17.40 | 0.4 |
| 20 | 270 | 1220M | 1ALN4 | 24.47 | 18.84 | 0.6 |
| 21 | 270 | 1221M | 1ALN5 | 28.76 | 22.15 | 0.5 |
| 22 | 292 | 1222M | 1ALN6 | 30.47 | 23.46 | 0.7 |
| 23 | 314 | 1223M | 1ALN7 | 32.13 | 24.74 | 0.8 |
| 24 | 314 | 1224M | 1ALN8 | 35.36 | 27.25 | 0.8 |
| 25 | 337 | 1225M | 1ALN9 | 38.76 | 29.85 | 1.0 |
| 26 | 337 | 1226M | 1ALP0 | 40.56 | 31.25 | 1.0 |
| 27 | 359 | 1227M | 1ALP1 | 47.40 | 36.50 | 1.2 |
| 28 | 391 | 1228M | 1ALP2 | 52.60 | 40.50 | 1.2 |
| 29 | 403 | 1229M | 1ALP3 | 55.62 | 42.85 | 1.4 |
| 30 | 403 | 1230M | 1ALP4 | 52.67 | 40.60 | 1.5 |
| 32 | 425 | 1232M | 1ALP5 | 61.87 | 47.65 | 1.8 |
| 36 | 492 | 1236M | 1ALP6 | 81.00 | 62.40 | 2.8 |
| 41 | 584 | 1241M | 1ALP7 | 101.02 | 77.80 | 4.7 |
| 46 | 635 | 1246M | 1ALP8 | 147.71 | 113.75 | 5.5 |
| 50 | 711 | 1250M | 1ALP9 | 155.44 | 119.70 | 7.3 |
| **12 POINT METRIC EXTRA LONG 15° OFFSET WRENCHES** | | | | | | |
| 10 | 190.0 | 1210ML | 1ALR0 | 15.69 | 12.08 | 0.2 |
| 11 | 208.1 | 1211ML | 1ALR1 | 15.96 | 12.29 | 0.2 |
| 12 | 215.3 | 1212ML | 1ALR2 | 16.62 | 12.80 | 0.2 |
| 13 | 228.6 | 1213ML | 1ALR3 | 17.42 | 13.41 | 0.1 |
| 14 | 254.0 | 1214ML | 1ALR4 | 18.36 | 14.14 | 0.1 |
| 15 | 266.7 | 1215ML | 1ALR5 | 19.82 | 15.26 | 0.5 |
| 16 | 279.4 | 1216ML | 1ALR6 | 20.93 | 16.12 | 0.5 |
| 17 | 304.8 | 1217ML | 1ALR7 | 22.84 | 17.59 | 0.6 |
| 18 | 317.5 | 1218ML | 1ALR8 | 23.80 | 18.33 | 0.7 |
| 19 | 330.2 | 1219ML | 1ALR9 | 24.87 | 19.15 | 0.7 |
| 20 | 355.6 | 1220ML | 1ALT0 | 26.91 | 20.72 | 1.2 |
| 21 | 355.6 | 1221ML | 1ALT1 | 32.67 | 25.20 | 0.9 |
| 22 | 381.0 | 1222ML | 1ALT2 | 33.47 | 25.80 | 1.0 |
| 23 | 406.4 | 1223ML | 1ALT3 | 35.33 | 27.20 | 1.2 |
| 24 | 406.4 | 1224ML | 1ALT4 | 38.87 | 29.95 | 1.2 |
| 27 | 457.2 | 1227ML | 1ALT7 | 52.13 | 40.15 | 1.7 |
| 30 | 482.6 | 1230ML | 1ALW0 | 57.93 | 44.65 | 2.1 |



The only source you need for tools as tough as you are.

# COMBINATION WRENCHES AND BOX WRENCHES

PROTO PROFESSIONAL TOOLS

Made in U.S.A.

TORQUEPLUS FASTENING SYSTEM



No. 1AMC1
Combination Wrench



No. 1AMP0
Deep Offset Box Wrench

| Size | Length | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT 15° OFFSET COMBINATION WRENCHES** | | | | | | |
| 3/8" | 6 1/16" | 1212H | 1ALW2 | $13.22 | $10.18 | 0.1 |
| 7/16 | 6 1/2 | 1214H | 1ALW3 | 13.87 | 10.68 | 0.1 |
| 1/2 | 7 | 1216H | 1ALW4 | 14.40 | 11.09 | 0.2 |
| 9/16 | 7 1/2 | 1218H | 1ALW5 | 16.33 | 12.57 | 0.2 |
| 5/8 | 8 3/16 | 1220H | 1ALW6 | 18.09 | 13.93 | 0.3 |
| 11/16 | 9 | 1222H | 1ALW7 | 19.76 | 15.22 | 0.3 |
| 3/4 | 9 3/4 | 1224H | 1ALW8 | 21.53 | 16.58 | 0.4 |
| 13/16 | 10 11/16 | 1226H | 1ALW9 | 23.38 | 18.00 | 0.5 |
| 7/8 | 11 5/16 | 1228H | 1ALX0 | 27.42 | 21.11 | 0.7 |
| **6 POINT SHORT 15° OFFSET COMBINATION WRENCHES** | | | | | | |
| 1/8 | 2 3/4 | 1204E | 1ALX1 | 12.18 | 9.38 | 0.1 |
| 5/32 | 2 7/8 | 1205E | 1ALX2 | 12.18 | 9.38 | 0.1 |
| 3/16 | 3 | 1206E | 1ALX3 | 12.18 | 9.38 | 0.1 |
| 1/4 | 3 1/4 | 1208E | 1ALX4 | 12.18 | 9.38 | 0.1 |
| 9/32 | 3 3/8 | 1209E | 1ALX5 | 12.18 | 9.38 | 0.1 |
| 5/16 | 3 1/2 | 1210E | 1ALX6 | 12.18 | 9.38 | 0.1 |
| 11/32 | 3 11/16 | 1211E | 1ALX7 | 12.18 | 9.38 | 0.1 |
| 3/8 | 4 1/4 | 1212E | 1ALX8 | 12.49 | 9.62 | 0.1 |
| 7/16 | 5 1/16 | 1214E | 1ALX9 | 13.18 | 10.15 | 0.1 |
| 1/2 | 5 3/4 | 1216E | 1AMC0 | 14.13 | 10.88 | 0.1 |
| 9/16 | 5 5/8 | 1218E | 1AMC1 | 15.84 | 12.20 | 0.2 |
| 5/8 | 6 5/16 | 1220E | 1AMC2 | 16.78 | 12.92 | 0.2 |
| **6 POINT METRIC 15° OFFSET COMBINATION WRENCHES** | | | | | | |
| 10mm | 159 | 1210MH | 1AMC5 | 14.16 | 10.90 | 0.1 |
| 11 | 165 | 1211MH | 1AMC6 | 14.49 | 11.16 | 0.1 |
| 12 | 171 | 1212MH | 1AMC7 | 15.11 | 11.63 | 0.2 |
| 13 | 178 | 1213MH | 1AMC8 | 15.84 | 12.20 | 0.2 |
| 14 | 187 | 1214MH | 1AMC9 | 16.67 | 12.84 | 0.2 |
| 15 | 197 | 1215MH | 1AMF0 | 18.02 | 13.88 | 0.2 |
| 16 | 205 | 1216MH | 1AMF1 | 19.00 | 14.63 | 0.3 |
| 17 | 225 | 1217MH | 1AMF2 | 20.73 | 15.96 | 0.4 |
| 18 | 239 | 1218MH | 1AMF3 | 21.62 | 16.65 | 0.4 |
| 19 | 248 | 1219MH | 1AMF4 | 22.60 | 17.40 | 0.4 |
| **12 POINT COMBINATION FLEX HEAD WRENCHES** | | | | | | |
| 3/8" | 6" | 1270-12 | 1Q283 | 24.87 | 19.15 | 0.1 |
| 7/16 | 6 7/8 | 1270-14 | 1Q284 | 25.78 | 19.85 | 0.2 |
| 1/2 | 7 3/4 | 1270-16 | 1AMF7 | 27.98 | 21.54 | 0.3 |
| 9/16 | 8 5/8 | 1270-18 | 1AMF8 | 31.04 | 23.90 | 0.4 |
| 5/8 | 9 1/2 | 1270-20 | 1AMF9 | 35.40 | 27.30 | 0.5 |
| 11/16 | 10 3/8 | 1270-22 | 1AMH0 | 35.82 | 27.60 | 0.6 |
| 3/4 | 11 1/4 | 1270-24 | 1AMH1 | 38.56 | 29.70 | 0.7 |
| 13/16 | 12 1/8 | 1270-26 | 1AMH2 | 43.20 | 33.30 | 0.8 |
| 7/8 | 13 | 1270-28 | 1AMH3 | 43.20 | 34.90 | 0.9 |

| Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 POINT 15° OFFSET BOX WRENCHES** | | | | | | |
| 5/16 x 3/8 | 6 15/16 | 1170 | 1AMH4 | $12.98 | $9.99 | 0.1 |
| 7/16 x 1/2 | 8 1/16 | 1171 | 1AMH6 | 15.53 | 11.96 | 0.2 |
| 1/2 x 9/16 | 8 9/16 | 1126L | 1AMH7 | 15.73 | 12.11 | 0.2 |
| 9/16 x 5/8 | 9 7/16 | 1172 | 1AMH8 | 16.33 | 12.57 | 0.4 |
| 11/16 x 3/4 | 11 1/8 | 1173 | 1AMK1 | 21.82 | 16.80 | 0.5 |
| 3/4 X 7/8 | 13 1/8 | 1139 | 1AMK3 | 22.96 | 17.68 | 0.6 |
| 13/16 X 7/8 | 13 7/8 | 1174 | 1AMK4 | 23.24 | 17.89 | 0.7 |
| 15/16 x 1 | 15 1/2 | 1175 | 1AMK6 | 41.80 | 32.20 | 0.9 |
| 1 1/16 x 1 1/8 | 17 1/2 | 1176 | 1AMK8 | 44.67 | 34.40 | 1.3 |
| 1 1/16 x 1 1/4 | 18 1/4 | 1151 | 1AMK9 | 46.96 | 36.20 | 1.8 |
| 1 1/4 x 1 5/16 | 19 1/4 | 1155 | 1AML0 | 53.98 | 41.60 | 1.9 |
| 1 1/4 x 1 3/8 | 20 1/4 | 1160 | 1AML1 | 56.44 | 43.50 | 2.2 |
| 1 7/16 x 1 1/2 | 22 1/4 | 1162 | 1AML3 | 71.20 | 54.85 | 2.4 |
| 1 5/8 x 1 11/16 | 24 1/2 | 1164 | 1AML5 | 94.98 | 73.15 | 3.4 |
| **12 POINT 15° OFFSET SHORT BOX WRENCHES** | | | | | | |
| 5/16 x 3/8 | 4 1/4 | 1120 | 1AMM7 | 13.00 | 10.01 | 0.1 |
| 3/8 x 7/16 | 4 5/8 | 1122 | 1AMM8 | 13.44 | 10.35 | 0.1 |
| 7/16 x 1/2 | 5 | 1125 | 1AMM9 | 13.51 | 10.40 | 0.1 |
| 1/2 x 9/16 | 5 3/8 | 1126 | 1AMN0 | 13.98 | 10.76 | 0.2 |
| 5/8 x 3/4 | 6 1/8 | 1131 | 1AMN3 | 18.78 | 14.46 | 0.3 |
| **12 POINT DEEP OFFSET BOX WRENCHES** | | | | | | |
| 3/8 x 7/16 | 7 3/4 | 8180 | 1AMN4 | 16.93 | 13.04 | 0.2 |
| 1/2 x 9/16 | 9 | 8181 | 1AMN5 | 19.04 | 14.66 | 0.2 |
| 5/8 x 11/16 | 10 1/4 | 8182 | 1AMN6 | 20.47 | 15.76 | 0.4 |
| 11/16 x 13/16 | 11 1/2 | 8183A | 1AMN7 | 23.53 | 18.12 | 0.4 |
| 3/4 x 7/8 | 12 3/4 | 8184 | 1AMN8 | 24.18 | 18.62 | 0.7 |
| 15/16 x 1 | 14 | 8185 | 1AMN9 | 34.53 | 26.60 | 0.8 |
| **12 POINT DEEP OFFSET SHORT BOX WRENCHES** | | | | | | |
| 3/8 x 7/16 | 5 | 8160 | 1AMP0 | 13.84 | 10.66 | 0.1 |
| 1/2 x 9/16 | 5 1/2 | 8161 | 1AMP1 | 14.47 | 11.14 | 0.2 |
| 5/8 x 11/16 | 6 | 8162 | 1AMP2 | 18.20 | 14.01 | 0.3 |
| 3/4 x 13/16 | 6 1/2 | 8163 | 1AMP3 | 20.29 | 15.62 | 0.1 |

**LIFETIME LIMITED WARRANTY**

All Proto tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside cover.

MAGNETIC WRENCH HOLDERS
SOLD ON PAGE 1197

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

# OPEN END AND BOX WRENCHES

- **Proto wrenches are an industrial grade line of mechanic's wrenches for heavy-duty applications and production use**

PROTO PROFESSIONAL TOOLS

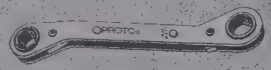
Made in U.S.A.



No. 1ANP2
15° and 75° Angle Open End Wrench



No. 1AMP5
Obstruction Box Wrench



No. 1AMX8
Offset Ratcheting Box Wrench

| Size (in.) | Length (in.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **15° ANGLE OPEN END WRENCHES** | | | | | | |
| 3/16 x 1/4 | 3⅞ | 3016 | 1ANF8 | $9.09 | $7.00 | 0.1 |
| 1/4 x 5/16 | 4½ | 3018 | 1ANF9 | 9.24 | 7.11 | 0.1 |
| 5/16 x 3/8 | 5⅛ | 3020 | 1ANH0 | 9.31 | 7.17 | 0.1 |
| 7/16 x 1/2 | 6⅜ | 3025 | 1ANH2 | 9.56 | 7.36 | 0.2 |
| 1/2 x 9/16 | 7 | 3026 | 1ANH3 | 9.96 | 7.67 | 0.1 |
| 9/16 x 5/8 | 7⅝ | 3030 | 1ANH5 | 13.13 | 10.11 | 0.3 |
| 5/8 x 3/4 | 8 1/16 | 3031 | 1ANH6 | 15.20 | 11.70 | 0.4 |
| 5/8 x 11/16 | 8¼ | 3034 | 1ANH8 | 15.62 | 12.03 | 0.3 |
| 11/16 x 3/4 | 8⅛ | 3035 | 1ANH9 | 16.36 | 12.60 | 0.4 |
| 3/4 x 7/8 | 9½ | 3039 | 1ANK1 | 19.11 | 14.71 | 0.6 |
| 13/16 x 7/8 | 10⅛ | 3040 | 1ANK2 | 22.58 | 17.39 | 0.6 |
| 15/16 x 1 | 11⅜ | 3045 | 1ANK4 | 30.53 | 23.51 | 0.8 |
| 1 1/16 x 1 1/8 | 12¼ | 3050 | 1ANK5 | 33.13 | 25.55 | 1.2 |
| 1 1/16 x 1 1/4 | 13 3/16 | 3051 | 1ANK6 | 41.29 | 31.80 | 1.5 |
| 1 1/4 x 1 5/16 | 14½ | 3055 | 1ANK7 | 59.80 | 46.05 | 1.9 |
| 1 3/8 x 1 7/16 | 15¾ | 3060 | 1ANK8 | 62.49 | 48.15 | 2.5 |
| 1 1/2 x 1 5/8 | 17 | 3070 | 1ANK9 | 79.07 | 60.90 | 3.1 |
| 1 11/16 x 1 13/16 | 18½ | 3075 | 1ANL0 | 103.69 | 79.85 | 4.6 |
| 1 7/8 x 2 | 20 | 3080 | 1ANL1 | 134.49 | 103.60 | 5.7 |
| **15° ANGLE OPEN END WRENCHES—BLACK FINISH** | | | | | | |
| 5/16 x 3/8 | 5⅛ | 3020B | 1ANL2 | 7.49 | 5.77 | 0.1 |
| 3/8 x 7/16 | 5¾ | 3021B | 1ANL3 | 7.51 | 5.78 | 0.1 |
| 7/16 x 1/2 | 6⅜ | 3025B | 1ANL4 | 7.64 | 5.88 | 0.2 |
| 1/2 x 9/16 | 7 | 3026B | 1ANL5 | 7.98 | 6.14 | 0.2 |
| 3/4 x 7/8 | 9½ | 3039B | 1ANM0 | 15.42 | 11.87 | 0.6 |
| 13/16 x 7/8 | 10⅛ | 3040B | 1ANM1 | 18.16 | 13.98 | 0.7 |
| 15/16 x 1 | 11⅜ | 3045B | 1ANM2 | 24.60 | 18.94 | 0.9 |
| 1 1/16 x 1 1/8 | 12¼ | 3050B | 1ANM3 | 26.76 | 20.61 | 1.3 |
| 1 1/16 x 1 1/4 | 13 3/16 | 3051B | 1ANM4 | 33.31 | 25.65 | 1.5 |
| 1 1/4 x 1 5/16 | 14½ | 3055B | 1ANM5 | 48.22 | 37.15 | 1.9 |
| 1 3/8 x 1 7/16 | 15¾ | 3060B | 1ANM6 | 50.42 | 38.85 | 2.6 |
| 1 1/2 x 1 5/8 | 17 | 3070B | 1ANM7 | 63.78 | 49.15 | 3.1 |
| **15° ANGLE EXTRA-THIN OPEN END WRENCHES** | | | | | | |
| 7/16 X 1/2 | 10 | 3425 | 1ANM8 | 13.51 | 10.40 | 0.1 |
| 1/2 X 9/16 | 10 | 3426 | 1ANM9 | 13.87 | 10.68 | 0.1 |
| 9/16 X 5/8 | 10 | 3430 | 1ANN0 | 14.53 | 11.19 | 0.1 |
| 11/16 X 3/4 | 10 | 3435 | 1ANN1 | 14.76 | 11.37 | 0.1 |
| 13/16 X 7/8 | 10 | 3440 | 1ANN2 | 17.27 | 13.30 | 0.3 |
| **15 AND 75° ANGLE OPEN END WRENCHES** | | | | | | |
| 11/32 X 11/32 | 3¾ | 3322 | 1ANN8 | 8.69 | 6.69 | 0.1 |
| 3/8 X 3/8 | 3¾ | 3324 | 1ANN9 | 8.82 | 6.79 | 0.1 |
| 7/16 X 7/16 | 4½ | 3328 | 1ANP0 | 9.00 | 6.93 | 0.1 |
| 1/2 X 1/2 | 4½ | 3332 | 1ANP1 | 9.22 | 7.10 | 0.1 |
| 9/16 X 9/16 | 5 | 3336 | 1ANP2 | 9.29 | 7.15 | 0.1 |
| 5/8 X 5/8 | 5 | 3340 | 1ANP3 | 11.49 | 8.85 | 0.1 |
| **15° ANGLE METRIC OPEN END WRENCHES** | | | | | | |
| 6 x 7mm | 114mm | 30607 | 1ANR2 | 9.47 | 7.29 | 0.1 |
| 8 x 9 | 130 | 30809 | 1ANR4 | 9.73 | 7.49 | 0.1 |
| 10 x 11 | 146 | 31011 | 1ANR5 | 9.87 | 7.60 | 0.1 |
| 12 x 13 | 162 | 31213 | 1ANR6 | 10.91 | 8.40 | 0.2 |
| 14 x 15 | 193 | 31415 | 1ANR7 | 11.02 | 8.49 | 0.3 |
| 16 x 17 | 209 | 31617 | 1ANR8 | 15.49 | 11.93 | 0.4 |
| 18 x 19 | 225 | 31819 | 1ANR9 | 19.16 | 14.75 | 0.4 |

| Size (in.) | Length (in.) | Proto Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| **12 POINT OBSTRUCTION BOX WRENCHES** | | | | | | |
| 7/16 x 1/2" | 5 3/4" | 1725 | 1AMP4 | $21.36 | $16.45 | 0 |
| 9/16 x 5/8 | 6 5/8 | 1730 | 1AMP5 | 24.89 | 19.17 | 0 |
| 5/8 x 3/4 | 7 1/4 | 1731 | 1AMP6 | 28.31 | 21.80 | 0 |
| **6 POINT RATCHETING BOX WRENCHES** | | | | | | |
| 1/4 x 5/16 | 4 9/32 | 1191 | 1AMW6 | 12.96 | 9.98 | 0 |
| 3/8 x 7/16 | 5½ | 1192 | 1AMW8 | 14.76 | 11.37 | 0 |
| 1/2 x 9/16 | 6¾ | 1193 | 1AMX0 | 18.73 | 14.42 | 0 |
| **12 POINT RATCHETING BOX WRENCHES** | | | | | | |
| 1/4 x 5/16 | 4 9/32 | 1191T | 1AMW7 | 14.82 | 11.41 | 0 |
| 3/8 x 7/16 | 5½ | 1192T | 1AMW9 | 16.96 | 13.06 | 0 |
| 1/2 x 9/16 | 6¾ | 1193T | 1AMX1 | 21.51 | 16.56 | 0 |
| 5/8 x 11/16 | 8 7/64 | 1194 | 1AMX2 | 22.13 | 17.04 | 0 |
| 3/4 x 7/8 | 9¼ | 1195 | 1AMX3 | 25.47 | 19.61 | 0 |
| 5/8 x 3/4 | 8⅛ | 1196 | 1AMX4 | 23.11 | 17.79 | 0 |
| 13/16 x 15/16 | 9¼ | 1197 | 1AMX5 | 30.62 | 23.58 | 0 |
| 1 x 1 1/16 | 15 | 1198 | 1AMX6 | 62.96 | 48.50 | 0 |
| 1 1/8 x 1 1/4 | 15 | 1199 | 1AMX7 | 62.96 | 48.50 | 0 |
| **6 POINT OFFSET RATCHETING BOX WRENCHES** | | | | | | |
| 1/4 x 5/16 | 4⅛ | 1181 | 1AMX8 | 16.78 | 12.92 | 0 |
| 3/8 x 7/16 | 5¼ | 1182 | 1AMX9 | 18.53 | 14.27 | 0 |
| 1/2 x 9/16 | 6½ | 1183 | 1ANC0 | 22.62 | 17.42 | 0 |
| **12 POINT OFFSET RATCHETING BOX WRENCHES** | | | | | | |
| 5/8 x 11/16 | 7¾ | 1184 | 1ANC1 | 26.00 | 20.02 | 0 |
| 3/4 x 7/8 | 8⅞ | 1185 | 1ANC2 | 29.64 | 22.82 | 0 |
| 5/8 x 3/4 | 7⅞ | 1186 | 1ANC3 | 26.29 | 20.24 | 0 |
| **12 POINT METRIC RATCHETING BOX WRENCHES** | | | | | | |
| 15 x 17mm | 206.0mm | 1195M | 1ANC8 | 23.36 | 17.99 | 0 |
| 16 x 18 | 206.0 | 1196M | 1ANC9 | 23.78 | 18.31 | 0 |
| 19 x 21 | 234.7 | 1197M | 1ANF0 | 26.22 | 20.19 | 0 |
| **6 POINT METRIC OFFSET RATCHETING BOX WRENCHES** | | | | | | |
| 7 x 8mm | 103.0 | 1181M | 1ANF1 | 16.76 | 12.91 | 0 |
| 9 x 10 | 132.0 | 1182M | 1ANF2 | 18.58 | 14.31 | 0 |
| **AIR CONDITIONING RATCHETING BOX WRENCHES** | | | | | | |
| 1/4 - 3/16" Sq. 9/16 - 1/2" Hex | 6¾" | 1111 | 1C054 | 21.47 | 15.67 | 0 |
| 3/8 - 5/16" Sq. 1/4 - 3/16" Sq. | 5½ | 1112 | 1C052 | 14.71 | 10.74 | 0 |

**LIFETIME LIMITED WARRANTY**

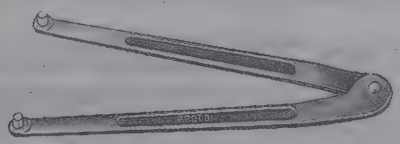
**All Proto Tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.**



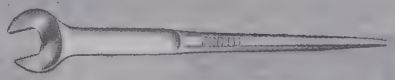
*The only source you need for tools as tough as you are.*

# HEAVY-DUTY INDUSTRIAL WRENCHES

PROTO PROFESSIONAL TOOLS



No. 1APC1
Spanner Wrench

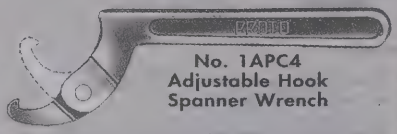


No. 1APX3
Structural Wrench with Offset Head

Made in U.S.A.

**LIFETIME LIMITED WARRANTY**

All Proto tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.



No. 1APC4
Adjustable Hook Spanner Wrench

| Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ADJUSTABLE FACE SPANNER WRENCHES** | | | | | | |
| **16 Pin. Dia. t 2 Max. Capacity** | 6⅜ | C482 | **1APC1** | $28.20 | **$21.71** | 0.4 |
| **4 Pin. Dia. t 3 Max. Capacity** | 8¼ | C483 | **1APC2** | 41.36 | **31.85** | 0.6 |
| **16 Pin. Dia. t 4 Max. Capacity** | 10⅜ | C484 | **1APC3** | 59.73 | **46.00** | 1.0 |
| **ADJUSTABLE HOOK SPANNER WRENCHES** | | | | | | |
| **4 to 2 Dia. Capacity** | 6⅜ | C471 | **1APC4** | 32.67 | **25.20** | 0.3 |
| **¼ to 3 Capacity** | 8⅛ | C472 | **1APC5** | 37.13 | **28.60** | 0.6 |
| **to 4¾ Capacity** | 11⅜ | C474 | **1APC6** | 51.31 | **39.55** | 1.1 |
| **½ to 6¼ Capacity** | 12⅛ | C474A | **1APC7** | 54.82 | **42.25** | 1.1 |

| Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6 POINT HEAVY-DUTY STRIKING FACE BOX WRENCHES WITH STRAIGHT ANGLE** | | | | | | |
| **1 1/16** | 9⅞ | 2717SW | **1APK2** | $45.49 | **$35.05** | 1.7 |
| **1 1/4** | 10¼ | 2720SW | **1APK3** | 45.49 | **35.05** | 1.7 |
| **1 7/16** | 10 15/32 | 2723SW | **1APK4** | 56.11 | **43.20** | 2.5 |
| **1 5/8** | 10 15/16 | 2726SW | **1APK5** | 66.71 | **51.40** | 3.2 |
| **1 13/16** | 11 5/16 | 2729SW | **1APK6** | 66.71 | **51.40** | 3.5 |
| **2** | 11 21/32 | 2732SW | **1APK7** | 79.96 | **61.60** | 4.6 |
| **2 3/16** | 11 5/16 | 2735SW | **1APK8** | 100.20 | **77.15** | 5.3 |
| **2 3/8** | 12⅜ | 2738SW | **1APK9** | 106.18 | **81.80** | 5.6 |
| **2 5/16** | 12 11/16 | 2741SW | **1APL0** | 115.31 | **88.80** | 6.4 |
| **2 3/4** | 13 1/16 | 2744SW | **1APL1** | 157.87 | **121.60** | 7.5 |
| **2 15/16** | 13 7/16 | 2747SW | **1APL2** | 176.07 | **135.60** | 7.6 |
| **3 1/8** | 13 13/16 | 2750SW | **1APL3** | 206.44 | **159.00** | 9.5 |
| **3 1/2** | 14⅛ | 2756SW | **1APL4** | 268.69 | **207.00** | 10.0 |
| **3 7/8** | 14½ | 2762SW | **1APL5** | 381.04 | **293.50** | 13.0 |
| **STRUCTURAL WRENCHES WITH OFFSET HEAD** | | | | | | |
| **3/4** | 11¾ | C904A | **1APX3** | 23.13 | **17.81** | 0.7 |
| **7/8** | 14¼ | C905 | **1APX7** | 31.18 | **24.01** | 1.3 |
| **1** | 14¼ | C906A | **1APX8** | 33.87 | **26.10** | 1.3 |
| **1 1/16** | 17¼ | C907 | **1APX9** | 38.33 | **29.55** | 2.1 |
| **1 1/8** | 17¼ | C907A | **1ARC0** | 40.53 | **31.25** | 2.3 |
| **1 1/4** | 19½ | C908 | **1ARC1** | 48.53 | **37.40** | 2.5 |
| **1 5/16** | 19½ | C908A | **1ARC2** | 51.62 | **39.75** | 2.8 |
| **1 7/16** | 19½ | C909 | **1ARC3** | 61.87 | **47.65** | 3.6 |
| **1 1/2** | 19½ | C909A | **1ARC4** | 64.91 | **50.00** | 3.8 |
| **1 5/8** | 23¼ | C910 | **1ARC5** | 84.44 | **65.05** | 5.6 |
| **1 11/16** | 23¼ | C910A | **1ARC6** | 88.64 | **68.25** | 5.8 |
| **1 13/16** | 23¼ | C911 | **1ARC7** | 122.31 | **94.20** | 8.5 |
| **1 7/8** | 23¼ | C911A | **1ARC8** | 126.38 | **97.35** | 8.5 |

## AIR-CONDITIONING RATCHETING BOX WRENCHES

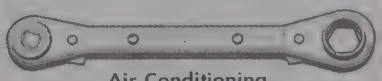
8-5/16" square end, 1/4-3/16" square end. Proto brand (1112).
o. **1C054.** Shpg. wt. 0.5 lbs. List $21.47. Each ..... **$15.67**

4-3/16" square end, 9/16-1/2" hex end. Proto brand (1111).
o. **1C052.** Shpg. wt. 0.3 lbs. List $14.71. Each ..... **$10.74**

## UNIVERSAL CHAIN WRENCH

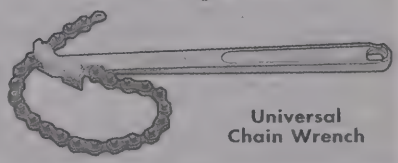
8 to 4½" long. Blackhawk brand (AW1351).
o. **5A847.** Shpg. wt. 0.8 lbs. List $36.72. Each ..... **$31.25**

PROTO PROFESSIONAL TOOLS



Air Conditioning Ratcheting Wrench

Blackhawk™ A BRAND OF STANLEY PROTO



Universal Chain Wrench

## IF YOU'RE IN A BIND, CALL GRAINGER

f it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# MASTER TOOL SET

## 1050-PC. MASTER TOOL SET

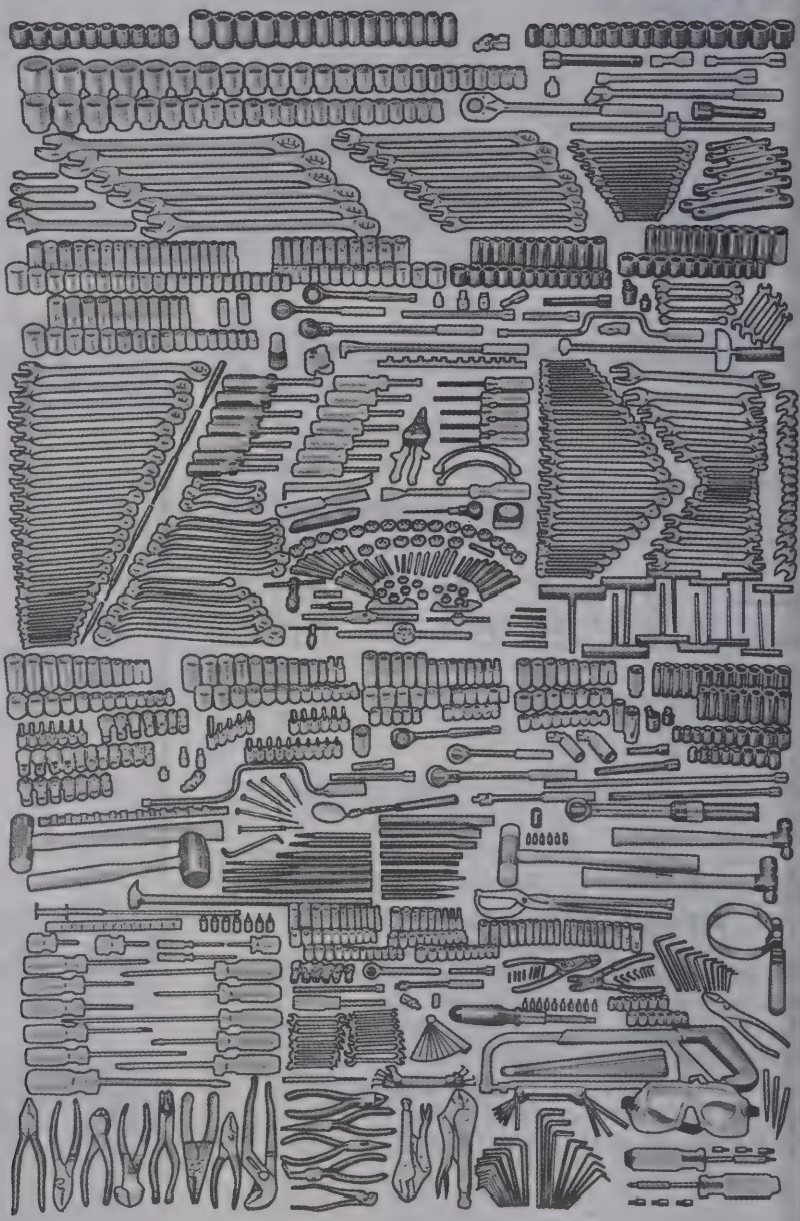
STANLEY®

New

Made In U.S.A.

**Includes:**

- 1/4, 3/8, 1/2, and 3/4" Drive sockets and accessories
- Wrenches: combination, box end, short box end, open end, flare nut, adjustable, ratcheting box end, full-polish combination, obstruction, crowsfoot, micrometer-type torque, beam-type torque, and ignition
- Nut drivers
- Screwdrivers: stubby, round, Phillips, cabinet, Torx®*, offset Phillips
- Pliers, hammers, punches, and chisels
- Add-on sets
- Miscellaneous tools: tape measure, straight aviation snips, putty & utility knife, hacksaw w/2 blades, pry bar, nail sets, scratch awl, gasket scraper, inspection mirror, Pic-up tool, 18" rolling head bar, stud remover, oil filter wrench, battery terminal spreader and post cleaner, ignition point file, spark plug gap gauge, safety goggles and 25 blade feeler gauge set



*New* No. 4PW01. Stanley brand (85-574). Shpg. wt. 364.0 lbs. List $9075.25. Each.....$3695.00▲

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

(▲) Net prices, not subject to discounts. (*) Torx® is a registered trademark of Textron



The only source you need for tools as tough as you are.

# MASTER TOOL SET

## New CONTENTS OF 1050-PC. MASTER TOOL SET NO. 4PW01

### 1/4" DRIVE SOCKETS

-0) 12 Pt. Std. SAE (3/16 - 9/16")
0) 6 Pt. Std. SAE (5/32 - 1/2")
0) 12 Pt. Deep SAE (3/16 - 9/16")
) 6 Pt. Deep SAE (3/16 - 1/2")
) 12 Pt. Std. Metric (5 - 13mm)
2) 6 Pt. Std. Metric (4 - 13mm)
0) 12 Pt. Deep Metric (5 - 13mm)
0) 6 Pt. Deep Metric (4 - 13mm)
) 12 Pt. Universal SAE (1/4 - 9/16")
) Torx® Bit Sockets (T9 - T30)
. Ea.) Reversible Ratchet, 6" Spinner andle, 3 and 6" Extensions, Flex Handle, 4F x 3/8"M Adapter, Universal Joint, Rail ith Clips

### 3/8" DRIVE SOCKETS

.3) 12 Pt. Std. SAE (1/4 - 1")
.3) 6 Pt. Std. SAE (1/4 - 1")
.3) 12 Pt. Deep SAE (1/4 - 1")
.1) 6 Pt. Deep SAE (3/8 - 1")
.7) 12 Pt. Std. Metric (7 - 23mm)
.6) 6 Pt. Std. Metric (7 - 22mm)
3) 12 Pt. Deep Metric (7 - 19mm)
) 6 Pt. Deep Metric (10 - 19mm)
3) 6 Pt. Std. SAE Impact (1/4 - 11/16")
3) 6 Pt. Deep SAE Impact (5/16 - 3/4")
10) 6 Pt. Std. Metric Impact (8 - 19mm)
12) 6 Pt. Deep Metric Impact (8 - 19mm)
3) 6 Pt. Spark Plug (5/8 , 13/16, 18mm)
2) 6 Pt. Universal Spark Plug (5/8, 13/16")
7) 12 Pt. Universal SAE (3/8 - 3/4")
7) 6 Pt. Universal SAE (3/8 - 3/4")
11) 6 Pt. Universal Metric (9 - 19mm)
5) 8 Pt. Std. (1/4 - 1/2")
28) Bit Sockets: Hex (1/8 - 3/8" /4 - 10mm); lotted (5/16, 1/4"); Phillips (#1, 2, 3); orx® (T10 - T55)
l Ea.) Ratchets: Reversible, Flex-Head eversible, Quick-Release Reversible, inge Handle, 3/8F x 1/4"M Adapter, 3/8F x /2"M Adapter, Universal Joint, Socket lip Rail with Clips, 3/8F x 1/2"M Impact dapter, Impact Universal Joint, Stop ight/Oil Pressure Socket, Speed Handle, xtensions (1¾, 3, 6, 12, 17")

### 1/2" DRIVE SOCKETS

(15) 12 Pt. Std. SAE (3/8 - 1¼")
(14) 6 Pt. Std. SAE (3/8 - 1¼")
(11) 12 Pt. Deep SAE (1/2 - 1⅛")
(11) 6 Pt. Deep SAE (1/2 - 1⅛")
(22) 12 Pt. Std. Metric (10 - 36mm)
(18) 12 Pt. Deep Metric (10 - 27mm)
(11) 6 Pt. Std. SAE Impact (7/16 - 1 1/16")
(11) 6 Pt. Deep SAE Impact (7/16 - 1 1/16")
(13) 6 Pt. Std. Metric Impact (11 - 27mm)
(11) 6 Pt. Deep Metric Impact (13 - 27mm)
(2) 6 Pt. Spark Plugs (5/8, 13/16")
(1) Bit Socket: Slotted (15/16")
(3) Ratchets: Reversible, Flex-Head, Quick-Release
(1 Ea.) Speed Handle, Extensions (2½, 5, 10"), Hinge Handle, 1/2F x 3/8"M Adapter, 1/2F x 3/4"M Adapter, Universal Joint, Socket Clip Rail with Clips, 6" Impact Extension, 1/2F x 3/8"M Impact Adapter, Impact Universal Joint

### 3/4" DRIVE SOCKETS

(24) 12 Pt. Std. SAE (3/4 - 2⅜")
(22) 12 Pt. Std. Metric (19 - 55mm)
(15) 6 Pt. Std. SAE Impact (5/8 - 1½")
(15) 6 Pt. Deep SAE Impact (5/8 - 1½")
(10) 6 Pt. Std. Metric Impact (19 - 33mm)
(1 Ea.) Reversible Ratchet, Sliding T-Handle, Extensions (4, 8, 16"), Hinge Handle, 3/4F x 1/2"M Adapter, Universal Joint, 6" Impact Extension, 10" Impact Extension

### WRENCHES

Combination: (26) Std. (1/4 - 2"); (25) Metric (6 - 32mm)

Box End: (6) Std. (3/8 x 7/16 - 15/16 x 1"); (6) Metric (10 x 11 - 20 x 22mm)

(3) Short Box End (3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4")

Open End: (9) Std. (1/4 x 5/16 - 1¼ x 1 5/16" ); (9) Metric (6 x 7 - 18 x 19mm)

Flare Nut: (4) Std. (3/8 x 7/16 - 3/4 x 7/8"); (4) Metric (10 x 12 - 19 x 21mm)

(4) Adjustable (Chrome) (4, 6, 8, 12")

Ratcheting Box End: (5) Std.; (5) Metric

Full-Polish Combination: (10) Std. (5/16 - 7/8"); (14) Metric (8 - 22mm)

Obstruction: 9/16 x 5/8, 11/16 x 3/4"

Crow foot 3/8": (7) Std. (3/8 - 3/4"); (10) Metric (10 - 19mm)

8-Pc. Ignition Wrench Set (13/64 - 11/32")

8-Pc. Ignition Wrench Set (4 - 9mm)

3/8" Dr Micrometer Type Torque Wrench

1/2" Dr Beam Type Torque Wrench

### ADDITIONAL TOOLS

(2) Nutdriver Sets (14-Pc.) (3/16 - 1/2" Std. Set; 5 - 10mm Metric Set)

(22) Screwdrivers: Stubby (1/4, 1/8, #1, #2); Round (3/16 - 3/8"); Phillips (#0, 1,

2, 3); Cabinet (3 x 3/16 - 10 x 3/16");

Torx® (T10 - T30); Offset Phillips

(34) Pliers: 8" Linesman, 6" Diagonal, 7" Heavy-Duty Diagonal, 7" End Nipper, 6 & 7" Needle Nose, 6" Curved Needle Nose, 6" Comb. Slip Joint, 6" Thin Nose Slip Joint, 10" Power Track, 7" Straight Jaw Locking, 10" Curved Jaw Locking, 5" Angle Nose Ignition, 5" Wire Stripper, Brake Pliers, Hose Clamp Pliers, (18-Pc.) Retaining Ring Set

(5) Hammers: 8 and 12 oz. Ball Pein, 16 oz. Soft Face, 18 oz. Rubber Mallet, 2½ lb. Engineer Hammer

(22) Punches & Chisels: Cold (5/16 - 7/8"); Prick (3/8, 1/2"); Center (3/8, 1/2"); Starting (1/4-3/16"); Pin (3/32-1/4"); Drift (1/8-5/16")

Tape Measure, Straight Cut Aviation Snips, Putty Knife, Utility Knife, Hacksaw (2 Blades); Pry Bar; 3/32, 1/8, & 5/32" Nail Sets; Scratch Awl; Gasket Scraper; Inspection Mirror; Pick-Up tool; 18" Rolling Head Bar; Stud Remover, Oil Filter Wrench; Battery Terminal Spreader; Battery Post Cleaner; Ignition Point File, Spark Plug Gap Gauge; Safety Goggles; 25- Blade Feeler Gauge

### ADD-ON SETS:

(7-Pc.) 3/8" Dr. Torx® Bit Set (T10 - T30)

(8-Pc.) 3/8" Dr. All Purpose Bit Set

(5-Pc.) Screw Extractor Set (1/8 - 11/32")

(9-Pc.) Folding Hex Key Set (5/64 - 1/4")

(76-Pc.) Professional Tap & Die Set

(6-Pc.) Precision Screwdriver Set

(5-Pc.) Magnetic Screwdriver Set

(5-Pc.) Magnetic Torx® Screwdriver Set (T10 - T25)

(11-Pc.) Short Arm Hex Key Set (.050 - 3/8")

(9-Pc.) Long Arm Hex Key Set (5/64 - 3/8")

(10-Pc.) Metric Hex Key Set (1.27 - 10mm)

(26-Pc.) Ratcheting Screwdriver Set

(11-Pc.) T-Handle Hex Key Set (5/64- 3/8")

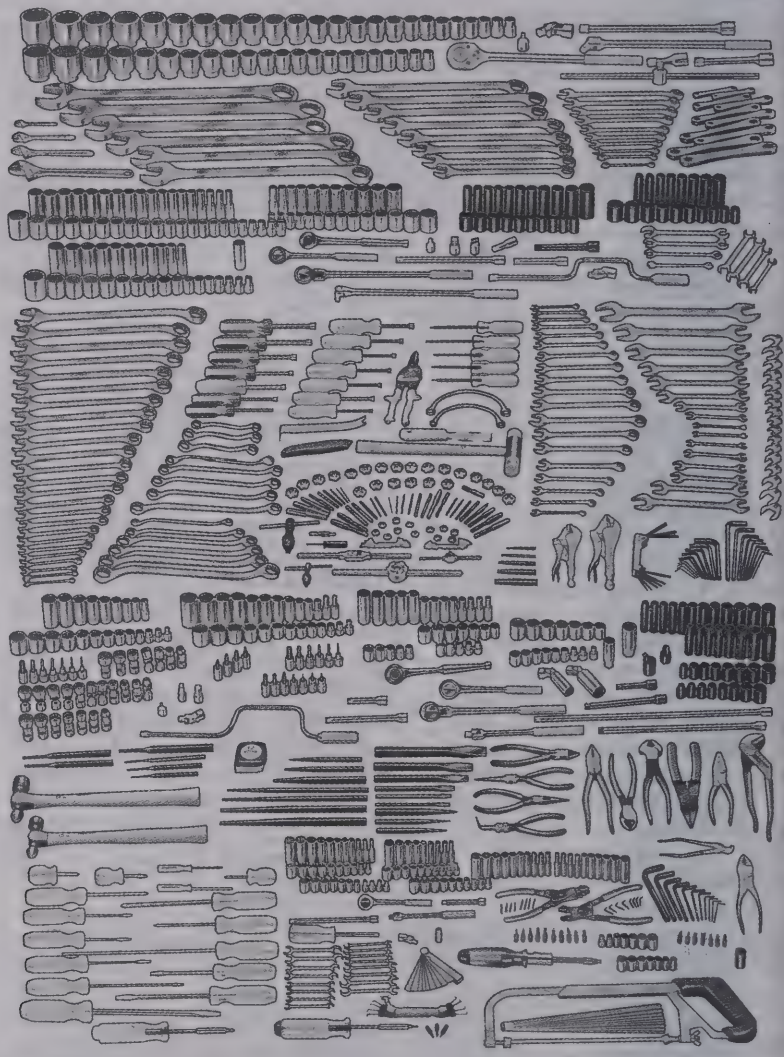
# MASTER TOOL SET

## 910 PC. MASTER TOOL SET

STANLEY®

New

Made in U.S.A.



**Includes:**

- 1/4, 3/8, 1/2, and 3/4" drive sockets and accessories
- Wrenches: combination, box end, open end, short box end, flare nut, adjustable, ratcheting box end, full polish combination, obstruction, crowsfoot, and ignition
- Nutdrivers
- Screwdrivers: stubby, round, Phillips, cabinet, Torx®
- Pliers, hammers, punches and chisels
- Add-on sets
- Miscellaneous tools: tape measure, straight cut aviation snips, putty & utility knife, hacksaw w/ 2 blades, pry bar, and 25 blade feeler gauge set

***New*** **No. 4PV99.** Stanley brand (85-573). Shpg. wt. 303.0 lbs. List $8025.00. Each.....$2995.00▲

GRAINGER...YOUR ONE STOP SHOPPING SOURCE!

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

(▲) Net prices, not subject to discounts.

# MASTER TOOL SET

## New CONTENTS OF 910-PC. MASTER TOOL SET No. 4PV99

### 1/4" DRIVE SOCKETS

9) 12 Pt. Std. SAE (3/16 - 1/2")

10) 6 Pt. Std. SAE (5/32 - 1/2")

10) 12 Pt. Deep SAE (3/16 - 9/16")

9) 6 Pt. Deep SAE (3/16 - 1/2")

9) 12 Pt. Std. Metric (5 - 13mm)

12) 6 Pt. Std. Metric (4 - 13mm)

10) 12 Pt. Deep Metric (5 - 13mm)

10) 6 Pt. Deep Metric (4 - 13mm)

1 Ea.) Reversible Ratchet, 6" Spinner Handle, 3 and 6" Extensions, Hinge Handle, 1/4F x 3/8"M Adapter, Universal Joint

### 3/8" DRIVE SOCKETS

13) 12 Pt. Std. SAE (1/4 - 1")

13) 6 Pt. Std. SAE (1/4 - 1")

13) 12 Pt. Deep SAE (1/4 - 1")

9) 6 Pt. Deep SAE (3/8 - 7/8")

12) 12 Pt. Std. Metric (8 - 19mm)

16) 6 Pt. Std. Metric (7 - 22mm)

12) 12 Pt. Deep Metric (8 - 19mm)

8) 6 Pt. Std. SAE Impact (1/4 - 11/16")

8) 6 Pt. Deep SAE Impact (5/16 - 3/4")

8) 6 Pt. Std. Metric Impact (10 - 19mm)

12) 6 Pt. Deep Metric Impact (8 - 19mm)

2) 6 Pt. Spark Plug (5/8, 13/16")

2) 6 Pt. Universal Spark Plug (5/8, 13/16")

7) 12 Pt. Universal SAE (3/8 - 3/4")

7) 6 Pt. Universal SAE (3/8 - 3/4")

11) 6 Pt. Universal Metric (9 - 19mm)

5) 8 Pt. (1/4 - 1/2")

25) Bit Sockets: Hex (1/8 - 3/8"/4 - 10mm); Slotted (5/16, 1/4"); Phillips (#2, 3, 4); Torx® (T10 - T45)

1 Ea.) Ratchets: Reversible, Flex-Head Reversible, Quick-Release Reversible, Speed Handle, Extensions (1¾, 3, 6, 12, and 17"), Hinge Handle, 3/8F x 1/4"M Adapter, 3/8F x 1/2"M Adapter, Universal Joint, 3/8F x 1/2"M Impact Adapter, Impact Universal Joint

### 1/2" DRIVE SOCKETS

(15) 12 Pt. Std. SAE (3/8 - 1¼")

(15) 6 Pt. Std. SAE (3/8 - 1¼")

(11) 12 Pt. Deep SAE (1/2 - 1⅛")

(11) 6 Pt. Deep SAE (1/2 - 1⅛")

(22) 12 Pt. Std. Metric (10 - 36mm)

(18) 12 Pt. Deep Metric (10 - 27mm)

(11) 6 Pt. Std. SAE Impact (7/16 - 1 1/16")

(8) 6 Pt. Deep SAE Impact (7/16 - 7/8")

(11) 6 Pt. Std. Metric Impact (13 - 27mm)

(11) 6 Pt. Deep Metric Impact (13 - 27mm)

(1) 6 Pt. Spark Plug (13/16")

(1) Bit Sockets: Slotted (15/16")

(3) Ratchets: Reversible, Flex-Head, Quick-Release

(1 Ea.) Speed Handle, Extensions (2½, 5, 10"), Hinge Handle, 1/2F x 3/8"M Adapter, 1/2F x 3/4"M Adapter, Universal Joint, and 6" Impact Extension

### 3/4" DRIVE SOCKETS

(24) 12 Pt. Std. SAE (3/4 - 2⅜")

(22) 12 Pt. Std. Metric (19 - 55mm)

(1 Ea.) Reversible Ratchet, Sliding T-Handle, Extensions (4, 8, 16"), Hinge Handle, 3/4Fx1/2"M Adapter, and Universal Joint

### WRENCHES

Combination: (24) Std. (3/8 - 2"); (25) Metric (6 - 32mm)

Box End: (6) Std. (3/8 x 7/16 - 15/16 x 1"); (5) Metric (10 x 11 - 18 x 19mm)

(3) Short Box End: (3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4")

Open End: (9) Std. (1/4 x 5/16 - 1¼ x 1 5/16"); (7) Metric (6 x 7 - 17 x 19mm)

Flare Nut: (4) Std. (3/8 x 7/16 - 3/4 x 7/8); (4) Metric (10 x 12 - 19 x 21mm)

(3) Adjustable (Chrome) (4, 8, 12")

Ratcheting Box End: (5) Std.; (5) Metric

Full-Polish Combination: (8) Std (5/16 - 3/4"); (11) Metric (8 - 18mm)

Obstruction: 9/16 x 5/8", 11/16 x 3/4"

Crow foot 3/8": (7) Std. (3/8 - 3/4"); (10) Metric (10 - 19mm)

8-Pc. Ignition Wrench Set (13/64 - 11/32")

8-Pc. Ignition Wrench Set (4 - 9mm)

### ADDITIONAL TOOLS

(2) Nutdriver Sets: (14pc.) (3/16 - 1/2" Std. Set; 5 - 10mm Metric Set)

(21) Screwdrivers: Stubby (1/4, 1/8, #1, #2); Round (3/16 - 3/8"); Phillips (#0, 1, 2, 3); Cabinet (3x3/16-10 x 3/16"); Torx® (T10-T30)

(32) Pliers: 8" Linesman, 6" Diagonal, 7" Heavy-Duty Diagonal, 7" End Nipper, 6 & 7" Needle Nose, 6" Curved Needle Nose, 6" Comb. Slip Joint, 6" Thin Nose Slip Joint, 10" Power Track, 7" Straight Jaw Locking, 10" Curved Jaw Locking, 5" Angle Nose Ignition, 8" Wire Stripper. (18-Pc.) Retaining Ring Set

(3) Hammers: 8 and 12 oz. Ball Pein, 16 oz. Soft Face

(22) Punches & Chisels: Cold (5/16 - 7/8"); Prick (3/8, 1/2"); Center (3/8, 1/2"). Starting (1/4 - 3/16"); Pin (3/32 - 1/4"); Drift (1/8 - 5/16")

Tape Measure, Straight Cut Aviation Snips, Putty Knife, Utility Knife, Hacksaw (2 Blades), Pry Bar, and 25-Blade Feeler Gauge set

### ADD-ON SETS

(7-Pc.) 3/8" Dr. Torx® Bit Set; (T10 - T30)

(8-Pc.) 3/8" Dr. All Purpose Bit Set;

(5-Pc.) Magnetic Screwdriver Set;

(5-Pc.) Magnetic Torx® Screwdriver Set (T10 - T25)

(11-Pc.) Short Arm Hex Key Set (.050 - 3/8")

(9-Pc.) Long Arm Hex Key Set (5/64 - 3/8")

(10-Pc.) Metric Hex Key Set (1.27 - 10mm)

(5-Pc.) Screw Extractor Set (1/8 - 11/32")

(9-Pc.) Folding Hex Key Set (5/64 - 1/4")

(26-Pc.) Ratcheting Screwdriver Set

(76-Pc.) Professional Tap & Die Set

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# MASTER TOOL SET

## 756-PC. MASTER TOOL SET

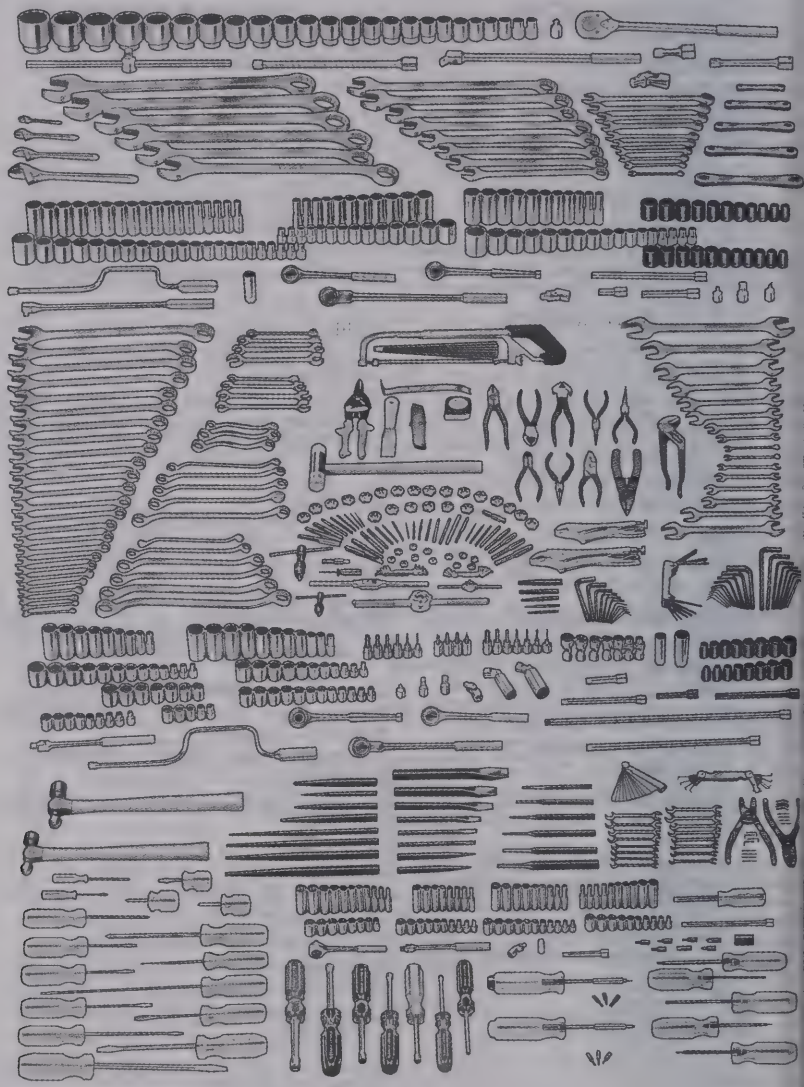
STANLEY®

New

Made in U.S.A.

**Includes:**

- 1/4, 3/8, 1/2, and 3/4" drive sockets and accessories
- Wrenches: combination, box end, short box end, open end, flare nut, adjustable, ratcheting box end, and ignition
- Nutdrivers
- Screwdriver: stubby, round, Phillips, cabinet, Torx®
- Pliers, hammers, punches and chisels
- Add-on sets
- Miscellaneous tools: tape measure, straight cut aviation snips, putty & utility knife, hacksaw w/ 2 blades, 25 blade feeler gauge set, 7" pry bar



***New*** **No. 4PV98.** Stanley brand (85-572). Shpg. wt. 472.0 lbs. List $6714.82. Each ..... $2395.00▲

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

(▲) Net prices, not subject to discounts.

# MASTER TOOL SET

## CONTENTS OF 756-PC. MASTER TOOL SET NO. 4PV98

### 1/4" DRIVE SOCKETS

) 12 Pt. Std. SAE (3/16 - 1/2")
0) 6 Pt. Std. SAE (5/32 - 1/2")
0) 12 Pt. Deep SAE (3/16 - 9/16")
) 6 Pt. Deep SAE (3/16 - 7/16")
) 12 Pt. Std. Metric (7 - 13mm)
2) 6 Pt. Std. Metric (4 - 13mm)
0) 12 Pt. Deep Metric (5 - 13mm)
) 6 Pt. Deep Metric (5 - 13mm)
Ea.) Reversible Ratchet, 6" Spinner Handle, 3 and 6" xtensions, Hinge Handle, 1/4F x 3/8"M Adapter, Universal Joint

### 3/8" DRIVE SOCKETS

1) 12 Pt. Std. SAE (1/4 - 7/8")
3) 6 Pt. Std. SAE (1/4 - 1")
1) 12 Pt. Deep SAE (3/8 - 1")
) 6 Pt. Deep SAE (3/8 - 7/8")
2) 12 Pt. Std. Metric (8 - 19mm)
6) 6 Pt. Std. Metric (7 - 22mm)
) 6 Pt. Std. SAE Impact (1/4 - 11/16")
) 6 Pt. Std. Metric Impact (10 - 19mm)
) 6 Pt. Spark Plug (5/8, 13/16")
) 6 Pt. Universal Spark Plug (5/8, 13/16")
") 12 Pt. Universal SAE (3/8 - 3/4")
) 8 Pt. (1/4 - 1/2")
8) Bit Sockets: Hex (1/8 - 3/8"/4 - 10mm); Slotted (5/16, 1/4"); hillips (#2, 3, 4)
. Ea.) Ratchets: Reversible, Flex-Head Reversible, Quick-elease Reversible; Speed Handle, Extensions (1-3/4, 3, 6, 12, 7"), Hinge Handle, 3/8F x 1/4"M Adapter, 3/8F x 1/2"M Adapter, niversal Joint

### 1/2" DRIVE SOCKETS

5) 12 Pt. Std. SAE (3/8 - 1¼")
5) 6 Pt. Std. SAE (3/8 - 1¼")
1) 12 Pt. Deep SAE (1/2 - 1⅛")
1) 6 Pt. Deep SAE (1/2 - 1⅛")
2) 12 Pt. Std. Metric (10 - 36mm)
8) 12 Pt. Deep Metric (10 - 27mm)
1) 6 Pt. Std. SAE Impact (7/16 - 1⅛")
1) 6 Pt. Std. Metric Impact (13 - 27mm)
) 6 Pt. Spark Plug (5/8, 13/16")
) Bit Sockets: Slotted (15/16")
3) Ratchets: Reversible, Flex-Head, Quick-Release
Ea.) Speed Handle, Extensions (2½, 5, 10"), Hinge Handle, 1/2F 3/8"M Adapter, 1/2F x 3/4"M Adapter, Universal Joint

### 3/4" DRIVE SOCKETS

(24) 12 Pt. Std. SAE (3/4 - 2⅜")

(1 Ea.) Reversible Ratchet, Sliding T-Handle, Extensions (4, 8, 16"), Hinge Handle, 3/4F x 1/2"M Adapter, Universal Joint

### WRENCHES

Combination: (24) Std. (3/4 - 2"); (25) Metric (6-32 mm)

Box End: (6) Std. (3/8 x 7/16 - 15/16 x 1"); (5) Metric (10 x 11 - 18 x 19mm)

(3) Short Box End (3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4")

Open End: (9) Std. (1/4 x 5/16 - 1¼ x 1⁵⁄₁₆"); (7) Metric (6 x 7 - 17 x 19mm)

Flare Nut: (4) Std. (3/8 x 7/16 - 3/4 x 7/8); (4) Metric (10 x 12 - 19 x 21mm)

(2) Adjustable (Chrome) (4, 8")

Ratcheting Box End: (5) Std.; (5) Metric

8-Pc. Ignition Wrench Set (13/64 - 11/32")

8-Pc. Ignition Wrench Set (4 - 9mm)

### ADDITIONAL TOOLS

(7-Pc.) Nutdriver Set (3/16 - 1/2")

(21) Screwdrivers: Stubby (1/4, 1/8, #1, #2); Round (3/16 - 3/8"); Phillips (#0, 1, 2, 3); Cabinet (3 x 3/16 - 10 x 3/16"); Torx® (T10 - T30)

(32) Pliers: 8" Linesman, 6" Diagonal, 7" Heavy-Duty Diagonal, 7" End Nipper, 6 & 7" Needle Nose, 6" Curved Needle Nose, 6" Comb. Slip Joint, 6" Thin Nose Slip Joint, 10" Power Track, 7" Straight Jaw Locking, 10" Curved Jaw Locking, 5" Angle Nose Ignition, 8" Wire Stripper, (18pc.) Retaining Ring Set

(3) Hammers: 8 and 12 oz. Ball Pein , 16 oz. Soft Face

(22) Punches & Chisels: Cold (5/16 - 7/8"); Prick (3/8, 1/2"); Center (3/8, 1/2"). Starting (1/4 - 3/16"); Pin (3/32 - 1/4"); Drift (1/8 - 5/16")

Tape Measure, Straight Cut Aviation Snips, Putty Knife, Utility Knife, Hacksaw (2 Blades), 25-Blade Feeler Gauge, 7" Pry Bar

### ADD-ON SETS

(7-Pc.) 3/8" Dr Torx® Bit Set; (T10 - T30)

(8-Pc.) 3/8" Dr All Purpose Bit Set

(5-Pc.) Magnetic Screwdriver Set

(5-Pc.) Magnetic Torx® Screwdriver Set (T10 - T25)

(11-Pc.) Short Arm Hex Key Set (.050 - 3/8")

(9-Pc.) Long Arm Hex Key Set (5/64 - 3/8")

(10-Pc.) Metric Hex Key Set (1.27 - 10mm)

(5-Pc.) Screw Extractor Set (1/8 - 11/32")

(9-Pc.) Folding Hex Key Set (5/64 - 1/4")

(26-Pc.) Ratcheting Screwdriver Set

(76-Pc.) Professional Tap & Die Set

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

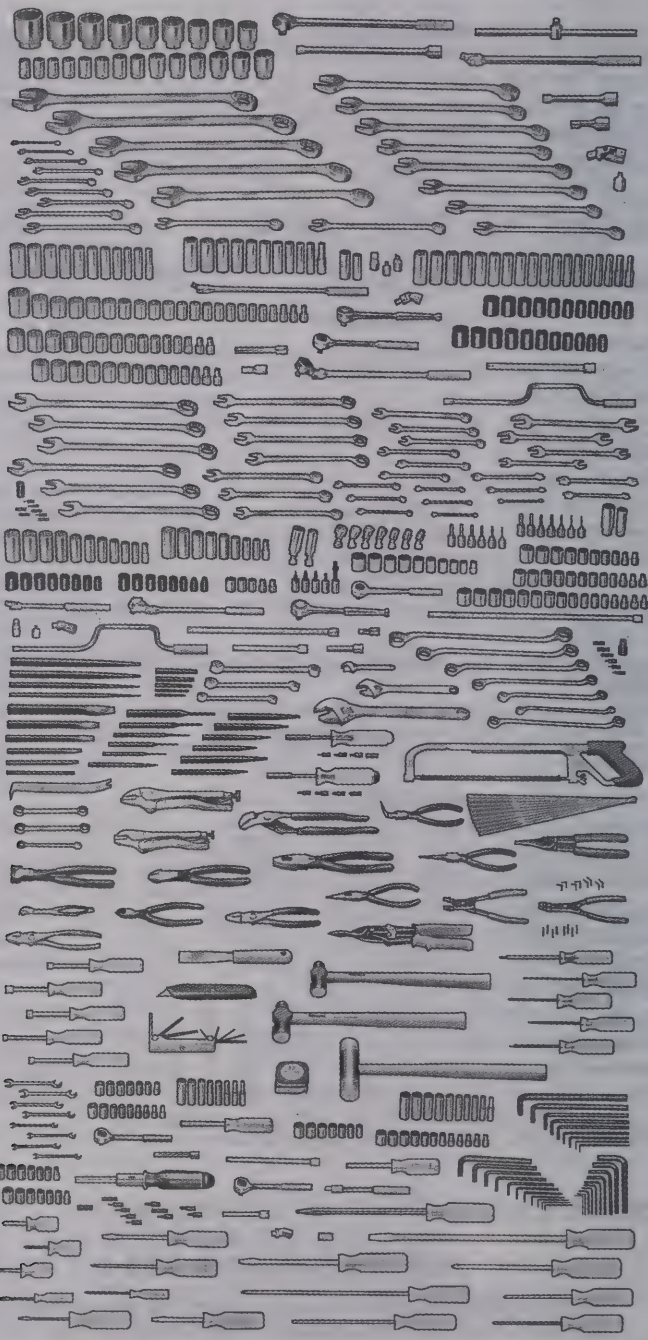
# MASTER TOOL SET

## 624-PC. MASTER TOOL SET

STANLEY®

New

Made In U.S.A.



Includes:

- 1/4, 3/8, 1/2, and 3/4" drive sockets and accessories
- Wrenches: combination, box end, short box end, open end, flare nut, adjustable, and ignition
- Nutdrivers
- Screwdrivers: stubby, round, Phillips, cabinet, Torx®
- Pliers, hammers, punches and chisels
- Miscellaneous tools: tape measure, straight cut aviation snips, putty & utility knife, hacksaw w/ 2 blades, and pry bar

**New** No. 4PT14. Stanley brand (85-371). Shpg. wt. 298.0 lbs. List $3680.33. Each.....$1695.00▲

(▲) Net prices, not subject to discounts.

# MASTER TOOL SET

## CONTENTS OF 624-PC. MASTER TOOL SET NO. 4PT14

### 1/4" DRIVE SOCKETS

9) 12 Pt. Std. SAE (3/16 - 1/2")

10) 6 Pt. Std. SAE (5/32 - 1/2")

9) 6 Pt. Deep SAE (3/16 - 1/2")

7) 12 Pt. Std. Metric (7 - 13mm)

12) 6 Pt. Std. Metric (4 - 13mm)

9) 6 Pt. Deep Metric (5 - 13mm)

1 ea.) Reversible Ratchet, 6" Spinner Handle, 3 and 6" Extensions, Hinge Handle, 1/4F x 3/8"M Adapter, Universal Joint

### 3/8" DRIVE SOCKETS

10) 12 Pt. Std. SAE (5/16 - 7/8")

11) 6 Pt. Std. SAE (3/8 - 1")

11) 12 Pt. Deep SAE (3/8 - 1")

9) 6 Pt. Deep SAE (3/8 - 7/8")

12) 12 Pt. Std. Metric (8 - 19mm)

16) 6 Pt. Std. Metric (7 - 22mm)

8) 6 Pt. Std. SAE Impact (1/4 - 11/16")

8) 6 Pt. Std. Metric Impact (10 - 19mm)

2) 6 Pt. Spark Plug (5/8, 13/16")

2) 6 Pt. Universal Spark Plug (5/8, 13/16")

7) 12 Pt. Universal SAE (3/8 - 3/4")

5) 8 Pt. (1/4 - 1/2")

18) Bit Sockets: Hex (1/8 - 3/8"/4 - 10mm); Slotted (5/16, 1/4"); Phillips (#1, 2, 3)

1 Ea.) Ratchets: Reversible, Flex-Head Reversible, Quick-Release Reversible, Speed Handle, Extensions (1¾, 3, 6, 12, 17"), Hinge Handle, 3/8F x 1/4"M Adapter, 3/8F x 1/2"M Adapter, Universal Joint

### 1/2" DRIVE SOCKETS

15) 12 Pt. Std. SAE (3/8 - 1¼")

14) 6 Pt. Std. SAE (3/8 - 1¼")

11) 12 Pt. Deep SAE (1/2 - 1⅛")

11) 6 Pt. Deep SAE (1/2 - 1⅛")

22) 12 Pt. Std. Metric (10 - 36mm)

18) 12 Pt. Deep Metric (10 - 27mm)

11) 6 Pt. Std. SAE Impact (7/16 - 1¹⁄₁₆")

11) 6 Pt. Std. Metric Impact (13 - 27mm)

2) 6 Pt. Spark Plug (5/8, 13/16")

1) Bit Sockets: Slotted (15/16")

3) Ratchets: Reversible, Flex-Head, Quick-Release

1 Ea.) Speed Handle, Extensions (2-1/2, 5, 10"), Hinge Handle, 1/2F x 3/8"M Adapter, 1/2F x 3/4"M Adapter, Universal Joint

### 3/4" DRIVE SOCKETS

(23) 12 Pt. Std. SAE (3/4 - 2⅜")

(1 Ea.) Reversible Ratchet, Sliding T-Handle, Extensions (4, 8, 16"), Hinge Handle, 3/4F x 1/2"M Adapter, Universal Joint

### WRENCHES

Combination: (24) Std. (3/8 - 2"); (25) Metric (6 - 32mm)

Box End: (6) Std. (3/8 x 7/16 - 15/16 x 1")

(3) Short Box End: (3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4")

Open End: (9) Std. (1/4 x 5/16 - 1¼ x 1¹⁄₁₆")

Flare Nut: (4) Std. (3/8 x 7/16 - 3/4 x 7/8)

(3) Adjustable (Chrome) (4, 8, 12")

8-Pc. Ignition Wrench Set (13/64 - 11/32")

### ADDITIONAL TOOLS

(5) Nutdrivers (1/4 - 7/16")

(22) Screwdrivers: Stubby (1/4, 1/8, #1, #2); Round (3/16 - 3/8"); Phillips (#0, 1, 2, 3); Cabinet (3 x 3/16 - 12 x 3/8"); Torx® (T10 - T30)

(32) Pliers: 8" Linesman, 6" Diagonal, 7" Heavy-Duty Diagonal, 7" End Nipper, 6 & 7" Needle Nose, 6" Curved Needle Nose, 6" Comb. Slip Joint, 6" Thin Nose Slip Joint, 10" Power Track, 7" Straight Jaw Locking, 10" Curved Jaw Locking, 5" Angle Nose Ignition, 8" Wire Stripper, (18-Pc.) Retaining Ring Set

(3) Hammers: 8 and 12oz. Ball Pein, 16 oz. Soft Face

(22) Punches & Chisels: Cold (5/16 - 7/8"); Prick (3/8, 1/2"); Center (3/8, 1/2"); Starting (1/4 - 3/16"); Pin (3/32 - 1/4"); Drift (1/8 - 5/16")

Tape Measure, Straight Cut Aviation Snips, Putty Knife, Utility Knife, Hacksaw (2 Blades), Pry Bar

### ADD-ON SETS

(7-Pc.) 3/8" Dr Torx® Bit Set; (T10 - T30)

(8-Pc.) 3/8" Dr All Purpose Bit Set

(5-Pc.) Magnetic Screwdriver Set

(5-Pc.) Magnetic Torx® Screwdriver Set; (T10 - T25)

(11-Pc.) Short Arm Hex Key Set (.050 - 3/8")

(9-Pc.) Long Arm Hex Key Set (5/64 - 3/8")

(10-Pc.) Metric Hex Key Set (1.27 - 10mm)

(5-Pc.) Screw Extractor Set (1/8 - 11/32")

(9-Pc.) Folding Hex Key Set (5/64 - 1/4")

(26-Pc.) Ratcheting Screwdriver Set

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# MASTER TOOL SET

## 584-PC. MASTER TOOL SET

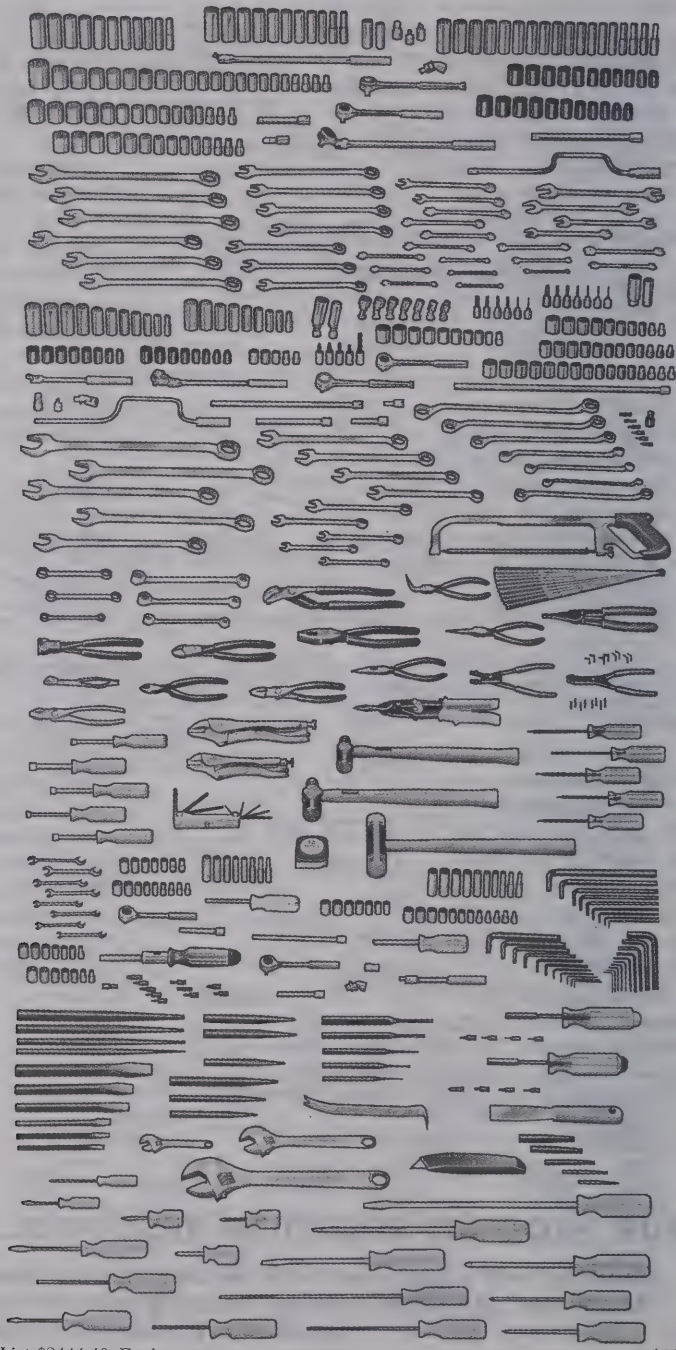
STANLEY®

*New*

Made In U.S.A.

Includes:

- 1/4, 3/8, and 1/2" drive sockets and accessories
- Wrenches: combination, box end, short box end, open end, flare nut, adjustable, and ignition
- Nutdrivers
- Screwdrivers: stubby, round, Phillips, cabinet, Torx®
- Pliers, hammers, punches and chisels
- Add-on sets
- Miscellaneous tools: tape measure, straight cut aviation snips, putty & utility knife, hacksaw w/ 2 blades, and pry bar



*New* No. 4PT12. Stanley brand (85-369). Shpg. wt. 192.0 lbs. List $3444.40. Each.....$1395.00

(▲) Net prices, not subject to discounts.

# MASTER TOOL SET

## CONTENTS OF 584-PC. MASTER TOOL SET NO. 4PT12

### 1/4" DRIVE SOCKETS

(9) 12 Pt. Std. SAE (3/16 - 1/2")
(10) 6 Pt. Std. SAE (5/32 - 1/2")
(9) 6 Pt. Deep SAE (3/16 - 1/2")
(7) 12 Pt. Std. Metric (7 - 13mm)
(12) 6 Pt. Std. Metric (4 - 13mm)
(9) 6 Pt. Deep Metric (5 - 13mm)
(1 Ea.) Reversible Ratchet, 6" Spinner Handle, 3" and 6" Extensions, Hinge Handle, 1/4F x 3/8"M Adapter, Universal Joint

### 3/8" DRIVE SOCKETS

(10) 12 Pt. Std. SAE (5/16 - 7/8")
(11) 6 Pt. Std. SAE (3/8 - 1")
(11) 12 Pt. Deep SAE (3/8 - 1")
(9) 6 Pt. Deep SAE (3/8 - 7/8")
(12) 12 Pt. Std. Metric (8 - 19mm)
(16) 6 Pt. Std. Metric (7 - 22mm)
(8) 6 Pt. Std. SAE Impact (1/4 - 11/16")
(8) 6 Pt. Std. Metric Impact (10 - 19mm)
(2) 6 Pt. Spark Plug (5/8, 13/16")
(2) 6 Pt. Universal Spark Plug (5/8, 13/16")
(7) 6 Pt. Universal SAE (3/8 - 3/4")
(5) 8 Pt. (1/4 - 1/2")
(18) Bit Sockets: Hex (1/8 - 3/8"/4 - 10mm); Slotted (5/16, 1/4"); Phillips (#1, 2, 3)
(1 Ea.) Ratchets: Reversible, Flex-Head Reversible, Quick-Release Reversible, Speed Handle, Extensions (1¾, 3, 6, 12, 17"), Hinge Handle, 3/8F x 1/4"M Adapter, 3/8F x 1/2"M Adapter, Universal Joint

### 1/2" DRIVE SOCKETS

(15) 12 Pt. Std. SAE (3/8 - 1¼")
(14) 6 Pt. Std. SAE (3/8 - 1¼")
(11) 12 Pt. Deep SAE (1/2 - 1⅛")
(11) 6 Pt. Deep SAE (1/2 - 1⅛")
(22) 12 Pt. Std. Metric (10 - 36mm)
(18) 12 Pt. Deep Metric (10 - 27mm)
(11) 6 Pt. Std. SAE Impact (7/16 - 1 1/16")
(11) 6 Pt. Std. Metric Impact (13 - 27mm)
(2) 6 Pt. Spark Plug (5/8, 13/16")
(1) Bit Sockets: Slotted (15/16")
(3) Ratchets: Reversible, Flex-Head, Quick-Release
(1 Ea.) Speed Handle, Extensions (2½, 5, 10"), Hinge Handle, 1/2F x 3/8"M Adapter, 1/2F x 3/4"M Adapter, Universal Joint

### WRENCHES

Combination: (14) Std. (3/8 - 1¼"); (25) Metric (6 - 32mm)
Box End: (6) Std. (3/8 x 7/16 - 15/16 x 1")
(3) Short Box End: (3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4")
Open End: (9) Std. (1/4 x 5/16 - 1¼ x 1 5/16")
Flare Nut: (4) Std. (3/8 x 7/16 - 3/4 x 7/8)
(3) Adjustable (Chrome) (4, 8, 12")
8-Pc. Ignition Wrench Set (13/64 - 11/32")

### ADDITIONAL TOOLS

(5) Nutdrivers (1/4 - 7/16")
(22) Screwdrivers: Stubby (1/4, 1/8, #1, #2); Round (3/16 - 3/8"); Phillips (#0, 1, 2, 3); Cabinet (3 x 3/16 - 10 x 3/16"); Torx® (T10 - T30)
(32) Pliers: 8" Linesman, 6" Diagonal, 7" Heavy-Duty Diagonal, 7" End Nipper, 6 & 7" Needle Nose, 6" Curved Needle Nose, 6" Comb. Slip Joint, 6" Thin Nose Slip Joint, 10" Power Track, 7" Straight Jaw Locking, 10" Curved Jaw Locking, 5" Angle Nose Ignition, 8" Wire Stripper, (18-Pc.) Retaining Ring Set
(3) Hammers: 8 and 12oz. Ball Pein, 16 oz. Soft Face
(22) Punches & Chisels: Cold (5/16 - 7/8"); Prick (3/8, 1/2"); Center (3/8, 1/2"); Starting (1/4 - 3/16"); Pin (3/32 - 1/4"); Drift (1/8 - 5/16")
Tape Measure, Straight Cut Aviation Snips, Putty Knife, Utility Knife, Hacksaw (2 Blades), Pry Bar

### ADD-ON SETS

(7-Pc.) 3/8" Dr Torx® Bit Set (T10 - T30)
(8-Pc.) 3/8" Dr All Purpose Bit Set
(5-Pc.) Magnetic Screwdriver Set
(5-Pc.) Magnetic Torx® Screwdriver Set (T10 - T25)
(11-Pc.) Short Arm Hex Key Set (.050 - 3/8")
(9-Pc.) Long Arm Hex Key Set (5/64 - 3/8")
(10-Pc.) Metric Hex Key Set (1.27 - 10mm)
(5-Pc.) Screw Extractor Set (1/8 - 11/32")
(9-Pc.) Folding Hex Key Set
(26-Pc.) Ratcheting Screwdriver Set

## DON'T DELAY... ORDER FROM GRAINGER NOW!

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

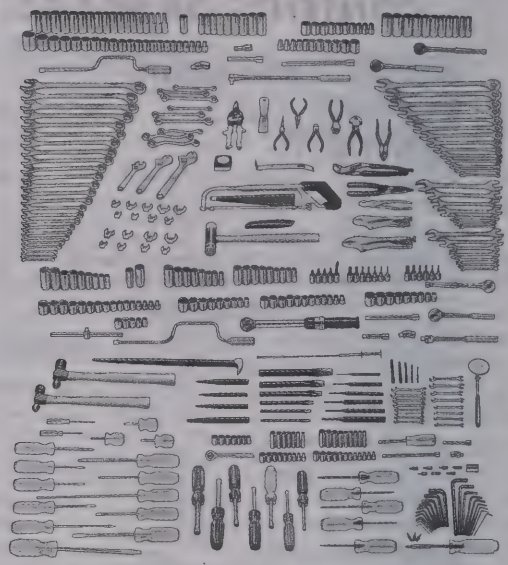
# MASTER TOOL SET

## 449-PC. MASTER TOOL SET

STANLEY®

New

Made In U.S.A.



**Includes:**

- **1/4, 3/8, and 1/2" drive sockets and accessories**
- **Wrenches: combination, open end, short box end, flare nut, adjustable, crowsfoot, micrometer torque, and ignition**
- **Nutdrivers**
- **Screwdrivers: stubby, round, Phillips, cabinet, Torx®**
- **Pliers, hammers, punches & chisels**
- **Add-on sets**
- **Miscellaneous tools: tape measure, straight cut aviation snips, putty & utility knife, hacksaw w/ 2 blades, rolling head bar, pick-up tool, and inspection mirror**

***New*** **No. 4PV97.** Stanley brand (85-571). Shpg. wt. 101.0 lbs.
List $3111.50. Each ..... $1195.00▲

## CONTENTS OF 449-PC. MASTER TOOL SET No. 4PV97

### 1/4" DRIVE SOCKETS

(9) 6 Pt. Std. SAE (3/16 - 1/2")
(7) 6 Pt. Deep SAE (1/4 - 1/2")
(7) 12 Pt. Std. Metric (7 - 13mm)
(12) 6 Pt. Std. Metric (4 - 13mm)
(9) 6 Pt. Deep Metric (5 - 13mm)
(1 Ea.) Reversible Ratchet, 3 and 6" Extensions, Universal Joint, 6" Spinner Handle

### 3/8" DRIVE SOCKETS

(9) 12 Pt. Std. SAE (3/8 - 7/8")
(9) 6 Pt. Std. SAE (3/8 - 7/8")
(8) 12 Pt. Deep SAE (3/8 - 13/16")
(9) 6 Pt. Deep SAE (3/8 - 7/8")
(12) 12 Pt. Std. Metric (8 - 19mm)
(16) 6 Pt. Std. Metric (7 - 22mm)
(9) 6 Pt. Deep Metric (10 - 19mm)
(2) 6 Pt. Spark Plug (5/8, 13/16")
(5) 8 Pt. (1/4 - 1/2")
(18) Bit Sockets: Hex (1/8 - 3/8"/4 - 10mm); Slotted (5/16, 1/4"); Phillips (#2, 3, 4)
(1Ea.) Ratchets: Reversible, Quick-Release Reversible; Extensions (3, 6"), Hinge Handle, Speed Handle, Universal Joint, Sliding T-Bar

### 1/2" DRIVE SOCKETS

(10) 12 Pt. Std. SAE (7/16 - 1")
(11) 6 Pt. Std. SAE (3/8 - 1")
(11) 12 Pt. Deep SAE (1/2 - 1⅛")
(9) 6 Pt. Deep SAE (1/2 - 1")
(22) 12 Pt. Std. Metric (10 - 36mm)
(18) 12 Pt. Deep Metric (10 - 27mm)
(1) 6 Pt. Spark Plug (13/16")
(2) Ratchets: Reversible, Quick-Release
(1 Ea.) Extensions (2½, 5, 10"), Hinge Handle, Speed Handle, and Universal Joint

### WRENCHES

Combination: (14) Std. (3/8 - 1¼"), (25) Metric (6 - 32mm), (
Short Box End: (3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4")
Open End: (7) Std. (5/8 x 3/4 - 15/16 x 1"), (7) Metric (6 x 7 - 17
19mm)
Flare Nut: (3) Std. (3/8 x 7/16, 1/2 x 9/16, 5/8 x 11/16"), (3) Metr
(10 x 12 - 15 x 17)
Crowsfoot 3/8":(7) Std (3/8 - 3/4"), (10) Metric (10 - 19mm)
(3) Adjustable (Chrome) (6, 8, 10")
(8-Pc.) Ignition Wrench Set (13/64 - 11/32")
(8-Pc.) Ignition Wrench Set (4 - 9mm)
(1) 1/2" Dr. Micrometer Torque Wrench

### ADDITIONAL TOOLS

(7-Pc. Set) Nutdrivers (3/16 - 1/2")

(21) Screwdrivers: Stubby (1/4, 1/8, #1, #2); Round (3/16 - 3/8"
Phillips (#0, 1, 2, 3); Cabinet (3 x 3/16 - 10 x 3/16"); Torx® (T1(
T30)

(11) Pliers: 8" Linesman, 6" Diagonal, 7" Heavy-Duty Diagonal,
End Nipper, 6" Needle Nose, 6" Curved Needle Nose, 6" Com
Slip Joint, 10" Power Track, 7" Straight Jaw Locking, 10" Curve
Jaw Locking, 8" Wire Stripper

(3) Hammers: 8 and 12 oz. Ball Pein, 16 oz. Soft Face

(16) Punches & Chisels: Cold (5/16 - 7/8"); Center (3/8, 1/2"
Starting (1/4 - 3/16"); Pin (3/32 - 1/4")

Tape Measure, Straight Cut Aviation Snips, Putty Knife, Utili
Knife, Hacksaw (2 Blades), Pry Bar, Rolling Head Bar, Pick-U
Tool, and Inspection Mirror

### ADD-ON SETS

(5-Pc.) Magnetic Screwdriver Set; (11-Pc.) Short Arm Hex Key S
(.050 - 3/8")
(9-Pc.) Long Arm Hex Key Set (5/64 - 3/8")
(5-Pc.) Screw Extractor Set (1/8 - 11/32")
(8-Pc.) All-Purpose Bit Set

(▲) Net prices, not subject to discounts.



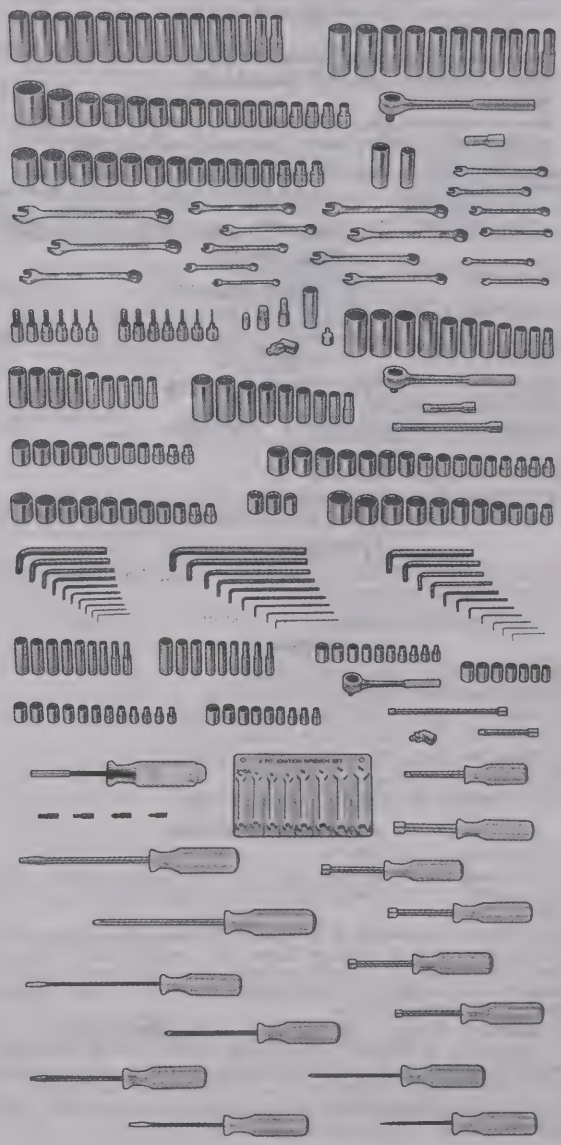
*The only source you need for tools as tough as you are.*

# 300-PC. TOOL SET

cludes:
- 1/4, 3/8, and 1/2" drive sockets and accessories
- Wrenches: combination, and ignition
- Nutdrivers
- Add-on sets

wNo. 4PT11. Stanley brand (85-368). Shpg. wt. 50.0 lbs. List ....$716.44.
ich.....$359.00▲

STANLEY® Made In U.S.A. New



## CONTENTS OF 300-PC. MASTER TOOL SET No. 4PT11

### 1/4" DRIVE SOCKETS

) 12 Pt. Std. SAE (3/16 - 1/2")
0) 6 Pt. Std. SAE (5/32 - 1/2")
) 6 Pt. Deep SAE (3/16 - 1/2")
) 12 Pt. Std. Metric (7 - 13mm)
2) 6 Pt. Std. Metric (4 - 13mm)
) 6 Pt. Deep Metric (5 - 13mm)
Ea.) Reversible Ratchet, 6" Spinner Handle; 3" and 6" xtensions, Universal Joint, 1/4F x 3/8"M Adapter

### 3/8" DRIVE SOCKETS

0) 12 Pt. Std. SAE (5/16 - 7/8")
1) 6 Pt. Std. SAE (3/8 - 1")
1) 12 Pt. Deep SAE (3/8 - 1")
) 6 Pt. Deep SAE (3/8 - 7/8")
2) 12 Pt. Std. Metric (8 - 19mm)
6) 6 Pt. Std. Metric (7 - 22mm)
) 6 Pt. Deep Metric (10 - 19mm)
) 8 Pt. Socket (3/8 - 1/2")
) 6 Pt. Spark Plug Socket (5/8")
3) Bit Sockets: Hex (1/8 - 3/8", 4 - 10mm)
Ea.) Reversible Ratchet, Extensions (1¾, 3, 6"), 3/8F x 1/4"M dapter, 3/8F x 1/2"M Adapter, Universal Joint

### 1/2" DRIVE SOCKETS

.5) 12 Pt. Std. SAE (3/8 - 1¼")
.1) 12 Pt. Deep SAE (1/2 - 1⅛")
.7) 12 Pt. Std. Metric (10 - 36mm)
.5) 12 Pt. Deep Metric (12 - 26mm)
) 6 Pt. Spark Plug (5/8, 13/16")
. Ea.) Ratchet, 2½" Extension

### WRENCHES

ombination: (8) Std. (1/4 - 3/4"); (10) Metric (6 - 15mm)
)-Pc.) Ignition Wrench Set (13/64 - 11/32")

### ADDITIONAL TOOLS

) Nutdrivers (1/4 - 7/16")

### ADD-ON SETS

)-Pc.) Magnetic Screwdriver Set
)-Pc.) Combination Screwdriver Set
.1-Pc.) Short Arm Hex Key Set (.050 - 3/8")
)-Pc.) Long Arm Hex Key Set (5/64 - 3/8")
.0-Pc.) Metric Hex Key Set (1.27 - 10mm)

) Net prices, not subject to discounts.

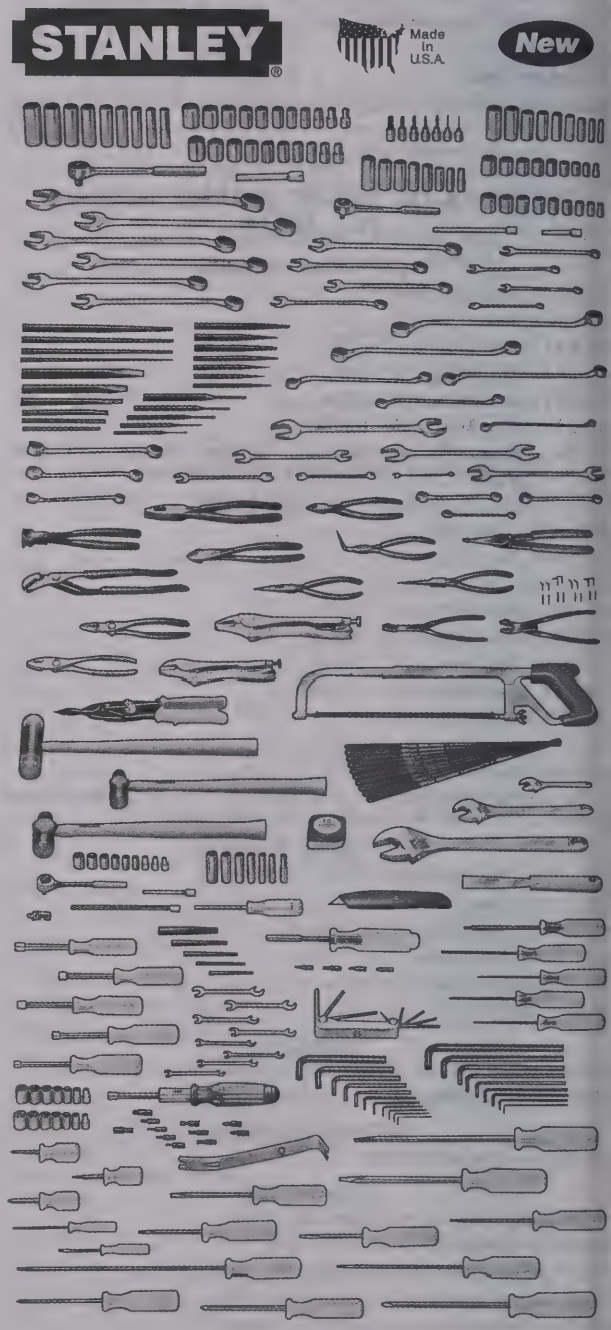
# MASTER TOOL SETS

## 296-PC. MASTER TOOL SET

**Includes:**

- **1/4, 3/8, and 1/2" drive sockets and accessories**
- **Wrenches: combination, box end, short box end, open end, flare nut, adjustable, and ignition**
- **Nutdrivers**
- **Screwdrivers: stubby, round, Phillips, cabinet, Torx®**
- **Pliers, hammers, punches and chisels**
- **Add-on sets**
- **Miscellaneous tools: tape measure, straight cut aviation snips, putty & utility knife, hacksaw, and pry bar**

**New No. 4PT09.** Stanley brand (85-366). Shpg. wt. 109.0 lbs. List $1450.27. Each ..... $649.00▲




## CONTENTS OF 296-PC. MASTER TOOL SET No. 4PT09

### 1/4" DRIVE SOCKETS

(9) 6 Pt. Std. SAE (3/16 - 1/2"); (7) 6 Pt. Deep SAE (1/4 - 1/2")
(1 ea.) Reversible Ratchet, 3 and 6" Extensions, Universal Joint, 6" Spinner Handle

### 3/8" DRIVE SOCKETS

(9) 12 Pt. Std. SAE (3/8 - 7/8")
(9) 6 Pt. Std. SAE (3/8 - 7/8")
(8) 12 Pt. Deep SAE (3/8 - 13/16")
(9) 6 Pt. Deep SAE (3/8 - 7/8")
(7) Bit Sockets: Hex (1/8 - 3/8")
(1 Ea.) Reversible Ratchet, Extensions (3, 6")

### 1/2" DRIVE SOCKETS

(10) 12 Pt. Std. SAE (7/16 - 1"); (11) 6 Pt. Std. SAE (3/8 - 1")
(9) 6 Pt. Deep SAE (1/2 - 1-1/8")
(1 Ea.) Reversible Ratchet, 5" Extension

### WRENCHES

Combination: (14) Std. (3/8 - 1-1/4")
(6) Box End: Std. (3/8 x 7/16 - 15/16 x 1")
(3) Short Box End: (3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4")
(7) Open End: Std. (1/4 x 3/16 - 15/16 x 1")
(4) Flare Nut: Std. (3/8 x 7/16 - 5/8 - 11/16")
(3) Adjustable (Chrome) (6, 8, 12")
(8-Pc.) Ignition Wrench Set (13/64 - 11/32")

### ADDITIONAL TOOLS

(5) Nutdrivers (1/4 - 7/16")
(21) Screwdrivers: Stubby (1/4, #1, #2); Slotted (3/16 - 3/8"); Phillips (#0, 1, 2, 3); Cabinet (3 x 3/16 - 10 x 3/16"); Torx® (T10 - T30)
(31) Pliers: 8" Linesman, 6" Diagonal, 7" Heavy-Duty Diagonal, 7" End Nipper, 6 & 7" Needle Nose, 6" Curved Needle Nose, 6" Comb. Slip Joint, 6" Thin Nose Slip Joint, 10" Power Track, 7" Straight Jaw Locking, 10" Curved Jaw Locking, 8" Wire Stripper, (18-Pc.) Retaining Ring Set
(3) Hammers: 8 and 12 oz. Ball Pein, 16 oz. Soft Face
(22) Punches & Chisels: Cold (5/16 - 7/8"); Prick (3/8, 1/2"); Center (3/8, 1/2"); Starting (1/4 - 3/16"); Pin (3/32 - 1/4"); and Drift (1/8 - 5/16")
Tape Measure, Straight Cut Aviation Snips, Putty Knife, Utility Knife, Hacksaw (2 Blades), Pry Bar

### ADD-ON SETS

(5-Pc.) Screw Extractor Set; (5-Pc.) Magnetic Screwdriver Set
(11-Pc.) Short Arm Hex Keys (.050 - 3/8")
(9-Pc.) Long Arm Hex Keys (5/64 - 3/8")
(26-Pc.) Ratcheting Screwdriver Set
(9-Pc.) Folding Hex Key Set (5/64 - 1/4")

(▲) Net prices, not subject to discounts.

# MASTER TOOL SET

## 260-PC. MASTER TOOL SET

STANLEY®

Made In U.S.A.

New

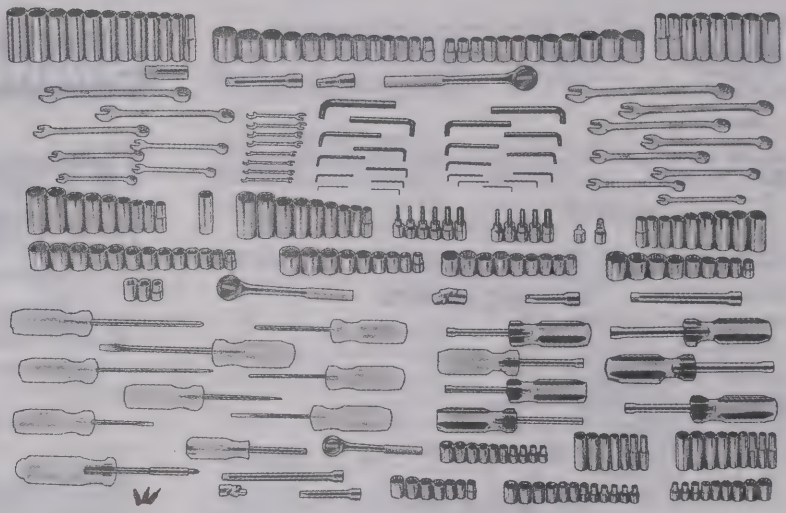
**1/4, 3/8, 1/2"Drive Sockets and accessories**

**Wrenches: combination and ignition**

**Nutdrivers**

**Add-on sets**

**No. 4PW02. Stanley brand(85-575).** Shpg. wt. 0 lbs. List $1813.94. Each .....$599.00▲



### CONTENTS OF 260-PC TOOL SET NO. 4PW02

| 1/4" DRIVE SOCKETS | 3/8" DRIVE SOCKETS | 1/2" DRIVE SOCKETS | WRENCHES |
|---|---|---|---|
| (9) 12 Pt. Std. SAE (3/16-1/2")<br>(10) 6 Pt. Std. SAE (5/32-1/2")<br>(7) 6Pt. Deep SAE (1/4-1/2")<br>(7) 12 Pt. Std. Metric (7-13mm)<br>(12) 6 Pt. Std. Metric (4-13mm)<br>(9) 6 Pt. Deep Metric (5-13mm)<br>(1 ea.) Reversible Ratchet, 3 and 6" Extensions, 6" Spinner Handle, Universal Joint | (9) 12 Pt. Std. SAE (3/8-7/8")<br>(9) 6 Pt. Std. SAE (3/8-7/8")<br>(9) 12 Pt. Deep SAE (3/8-7/8")<br>(9) Pt. Deep SAE (3/8-7/8")<br>(10) 12 Pt. Std. Metric (10-19mm)<br>(13) 6Pt. Std. Metric (10-22mm)<br>(9) 6Pt. Deep Metric (10-19mm)<br>(1) 6 Pt. Spark Plug (5/8")<br>(3) 8 Pt. (3/8-1/2")<br>(11) Bit Sockets: Hex (3/16-3/8") (4-10mm)<br>(1 ea.) Reversible Ratchet, Extensions (3, 6"), 3/8F x 1/4M Adapter, 3/8F x 1/2M Adapter, Universal Joint | (12) 12 Pt. Std. SAE (1/2-1-1/4")<br>(8) 12 Pt. Deep SAE (1/2-15/16")<br>(13) 12 Pt. Std Metric (13-32mm)<br>(12) 12 Pt. Deep Metric (13-24mm)<br>(1) 6 Pt. Spark Plug (13/16")<br>(1 ea.) Reversible Ratchet, 5" Extension | Combination: (8) Std (5/16-3/4");<br>(7) Metric (9-19mm)<br>(8 pc.) Ignition Wrench Set (13/64-11/32")<br>**ADDITIONAL TOOLS**<br>(7) Nutdrivers (3/16-1/2")<br>Add-on Sets: (5 pc.) Magnetic Screwdriver Set;<br>(8 pc.) Combination Screwdriver Set;<br>(11 pc.) Short Arm Hex Key Set; (.050-3/8");<br>(10 pc.) Metric Hex Key Set (1.27-10mm) |

) Net prices, not subject to discounts.

**DON'T FORGET THE BACK OF THE BOOK!**
**MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

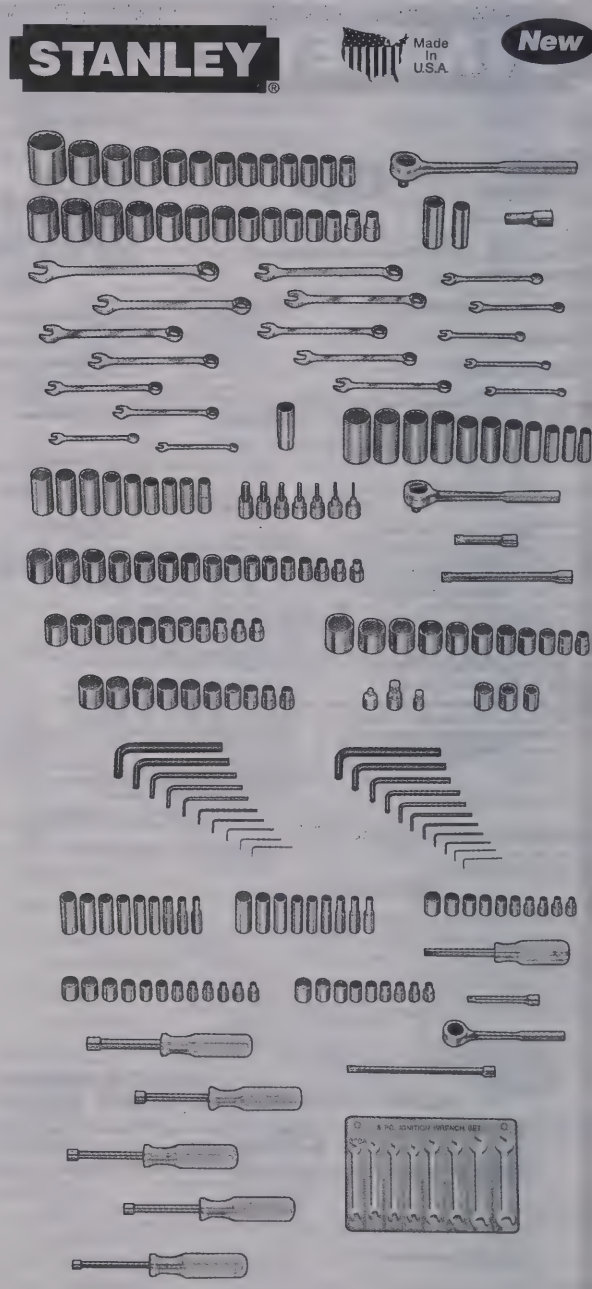
**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# TOOL SET

## 220-PC. TOOL SET

- 1/4, 3/8, and 1/2" drive sockets and accessories
- Wrenches: combination, and ignition
- Nutdrivers
- Add-on sets

***New*** **No. 4PT06.** Stanley brand (85-363). Shpg. wt. 31.0 lbs. List $503.93.
Each ..... **$219.00▲**




### CONTENTS OF 220-PC. TOOL SET NO. 4PT06

#### 1/4" DRIVE SOCKETS

(9) 12 Pt. Std. SAE (3/16 - 1/2")
(10) 6 Pt. Std. SAE (5/32 - 1/2")
(9) 6 Pt. Deep SAE (3/16 - 1/2")
(12) 6 Pt. Std. Metric (4 - 13mm)
(9) 6 Pt. Deep Metric (5 - 13mm)
(1 Ea.) Ratchet, 6" Spinner Handle, 3" & 6" Extensions, 1/4F x 3/8"M Adapter

#### 3/8" DRIVE SOCKETS

(9) 12 Pt. Std. SAE (5/16 - 13/16")
(11) 6 Pt. Std. SAE (3/8 - 1")
(11) 12 Pt. Deep SAE (3/8 - 1")
(12) 12 Pt. Std. Metric (8 - 19mm)
(16) 6 Pt. Std. Metric (7 - 22mm)
(9) 6 Pt. Deep Metric (10 - 19mm)
(1) 6 Pt. Spark Plug (5/8")
(3) 8 Pt. (3/8 - 1/2")
(7) Bit Sockets: Hex (1/8 - 3/8")
(1 Ea.) Ratchet, Extensions (3, 6"), 3/8F x 1/4"M Adapter, 3/8F x 1/2"M Adapter

#### 1/2" DRIVE SOCKETS

(14) 12 Pt. Std. SAE (7/16 - 1-1/4")
(12) 12 Pt. Std. Metric (14 - 32mm)
(2) 6 Pt. Spark Plug (5/8, 13/16")
(1 Ea.) Ratchet, 2-1/2" Extension

#### WRENCHES

Combination: (8) Std. (1/4 - 3/4"); (10) Metric (6 - 15mm)
(8-Pc.) Ignition Wrench Set (13/64 - 11/32")

#### ADDITIONAL TOOLS

(5) Nutdrivers (1/4 - 7/16")

#### ADD-ON SETS

(11-Pc.) Short Arm Hex Key Set (.050 - 3/8")
(10-Pc.) Metric Hex Key Set (1.27 - 10mm)

(▲) Net prices, not subject to discounts.

## 190-PC. MASTER TOOL SET

**1/4, 3/8, and 1/2" drive sockets and accessories**

**Wrenches: combination, box end, adjustable, ignition**

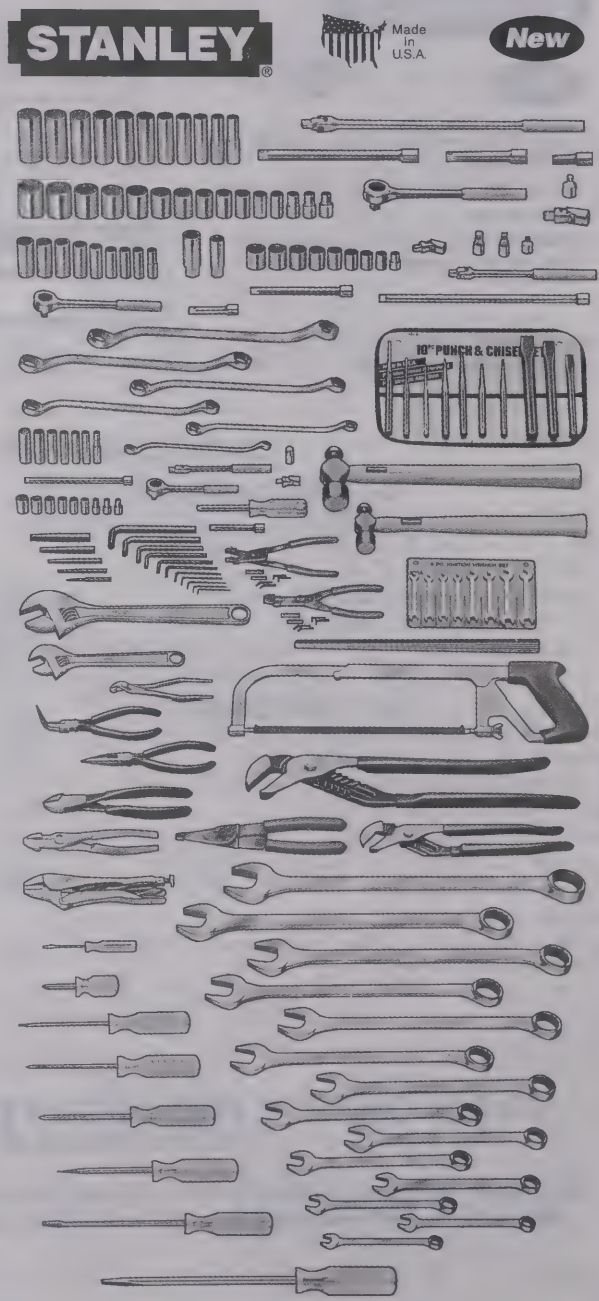
**Screwdrivers: stubby, round, Phillips**

**Pliers and hammers**

**Add-on sets**

**6-drawer top chest (not pictured)**

**ewNo. 4PT17.** Stanley brand (85-366). Shpg. wt. 109.0 lbs.
st $1450.27. Each ..... $649.00▲




### CONTENTS OF 190-PC. MASTER TOOL SET No. 4PT17

#### 1/4" DRIVE SOCKETS

) 6 Pt. Std. SAE (3/16 - 1/2")

7) 6 Pt. Deep SAE (1/4 - 1/2")

1Ea.) Ratchet, Socket Driver, 3 and 6" Extensions, inge Handle, 1/4F x 3/8"M Adapter, Universal Joint

#### 3/8" DRIVE SOCKETS

) 6 Pt. Std. SAE (3/8 - 7/8")

) 6 Pt. Deep SAE (3/8 - 7/8")

2) 6 Pt. Spark Plug (5/8, 13/16")

1 Ea.) Ratchet, Extensions (1¾, 3, 6, 12"), Hinge Handle, 3/8F x 1/4"M Adapter, 3/8F x 1/2"M Adapter, Universal Joint

#### 1/2" DRIVE SOCKETS

15) 12 Pt. Std. SAE (3/8 - 1¼")

11) 12 Pt. Deep SAE (1/2 - 1⅛")

1 Ea.) Ratchet, Extensions (2½, 5, 10"), Hinge Handle, /2F x 3/8"M Adapter, Universal Joint

#### WRENCHES

Combination: (14) Std. (3/8 - 1¼")

Box End: (6) Standard (3/8 x 7/16" - 15/16 x 1"), djustable (Chrome): 8, 12"

-Pc. Ignition Wrench Set (13/64 - 11/32")

#### ADDITIONAL TOOLS

8) Screwdrivers: Stubby (#2); Round (3/16 x 4¼ x 6"); Phillips #1, 2)

27) Pliers: 12" Multi-Purpose, 16" Multi Purpose, Heavy-Duty Diagonal, Side Cutter, Ignition, Slip Joint, Locking, Curved Nose, Wire Stripper, 18pc. Snap Ring Plier Set

10) Punches and Chisels: Pin (3/32 - 3/16"), Starting (1/8, 3/16"), Cold (7/16 - 3/4"), Prick (3/8"), Center (3/8")

- Drawer Top Chest

Hammers: 8 and 16 oz. Ball Pein

Hacksaw; 10-Pc. Blades

#### ADD-ON SETS

11-Pc.) Short Arm Hex Key Set (.050 - 3/8")

5-Pc.) Screw Extractor Set (1/8 - 11/32")

▲) Net prices, not subject to discounts.

# TOOL SETS

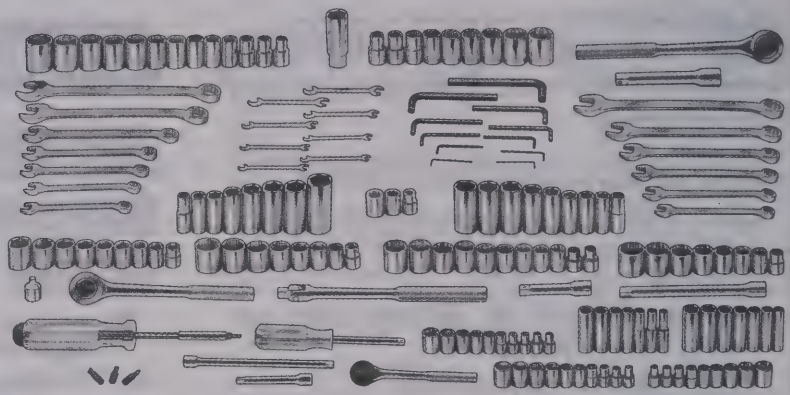
## 170-PC. TOOL SET

STANLEY®

New

Made In U.S.A.

- 1/4, 3/8, and 1/2" drive sockets and accessories
- Wrenches: combination, and ignition
- Add-on sets
- Miscellaneous tools: short arm hex key set and magnetic Torx® screwdriver set



***New*** **No. 4PV96.** Stanley brand (85-570). Shpg. wt. 23.0 lbs. List $489.77. Each.....**$199.00▲**

### CONTENTS OF 170 PC. TOOL SET No. 4PV96

#### 1/4" DRIVE SOCKETS

(9) 12 Pt. Std. SAE (3/16 - 1/2")
(10) 6 Pt. Std. SAE (5/32 - 1/2")
(6) 6 Pt. Deep SAE (1/4 - 1/2")
(10) 6 Pt. Std. Metric (4 - 13mm)
(7) 6 Pt. Deep Metric (7 - 13mm)
(1 ea.) Reversible Ratchet, 3 and 6" Extensions, Socket Driver

#### 3/8" DRIVE SOCKETS

(8) 12 Pt. Std. SAE (3/8 - 13/16")
(8) 6 Pt. Std. SAE (3/8 - 13/16")
(8) 6 Pt. Deep SAE (3/8 - 13/16")
(11) 12 Pt. Std. Metric (9 - 19mm)
(9) 6 Pt. Std. Metric (9 - 19mm)
(9) 6 Pt. Deep Metric (10 - 19mm)
(1) 6 Pt. Spark Plug (5/8")
(3) 8 Pt. (5/16, 3/8, 7/16")
(1 Ea.) Reversible Ratchet, Extensions (3, 6"), 3/8F x 1/4"M Adapter, Hinge Handle

#### 1/2" DRIVE SOCKETS

(9) 12 Pt. Std. SAE (7/16 - 15/16")
(13) 12 Pt. Std. Metric (10 - 25mm)
(1) 6 Pt. Spark Plug (13/16")
(1 Ea.) Reversible Ratchet, 5" Extension

#### WRENCHES

Combination: (6) Std. (3/8 - 3/4")
(7) Metric (9 - 19mm)
(8-Pc.) Ignition Wrench Set (13/64 - 11/32")

#### ADDITIONAL TOOLS

Add-on Sets: (11-Pc.) Short Arm Hex Key Set (.050 - 3/8")
(5-Pc.) Magnetic Torx® Screwdriver Set (T10 - T25)

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

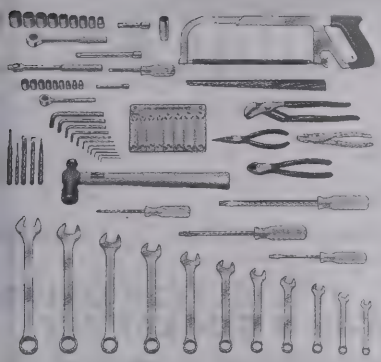
Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

(▲) Net prices, not subject to discounts.

# MASTER TOOL AND SOCKET SETS

## 82-PC. MASTER TOOL SET

STANLEY New



- 1/4, 3/8 drive sockets and accessories
- Wrenches: combination and ignition
- Screwdrivers
- Pliers, hammers, punches & chisels
- Hex key set
- Metal box (not pictured)

### 82-Pc. MASTER TOOL SET CONTENTS

**1/4" Drive Sockets**
(9) 6 Pt. Std. SAE ( 3/16 - 1/2")
1 ea. Reversible Ratchet, Socket Driver, 3" Extension

**3/8" Drive Sockets**
(9) 6 Pt. Std. SAE ( 3/8 - 7/8")
(1) 6 Pt. Spark Plug (5/8")
1 ea. Reversible Ratchet, Hinge Handle, 3 & 6" Extension

**Wrenches**
(11) Comb. 12 Pt. Std. SAE (3/8 - 1")
(8) Ignition Wrench Set (13/64 - 11/32")

**Additional Tools**
(4) Pliers: Needlenose w/Side Cutter, 6" Slip Joint, 10" Power Track & Heavy-duty diagonal; (4) Screwdrivers (1/4, 5/16 & 3/8; #2 Phillips), 5 Punches & Chisels, 1 Ball Pein Hammer, Hacksaw frame & blades; (11) Short-arm hex keys (.050 - 3/8"); (1) Steel tote box

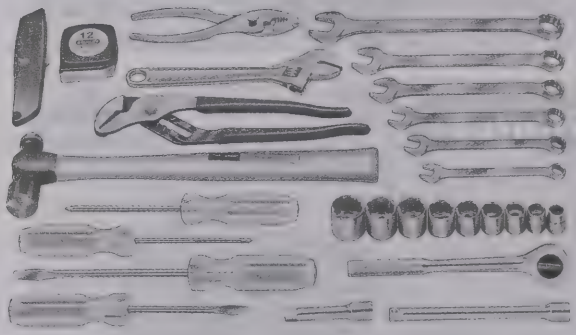
*New* **No. 4PT16.** Stanley brand (85-373). Shpg. wt. 30.0 lbs. List $418.04. Each .....$179.75▲

## 30-PC. MASTER TOOL SET

ncludes:
- 3/8 Drive sockets and accessories
- Wrenches: combination and adjustable
- Screwdrivers
- Pliers
- Metal tool box (not pictured)

lew No. 4PT03. Stanley model (85-360).
hpg. wt. 16.0 lbs. List $175.27.
ach .....$89.00▲

STANLEY New



### 30-Pc. MASTER TOOL SET CONTENTS

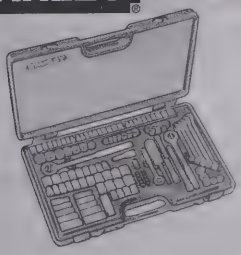
**3/8" DRIVE SOCKETS**
) 12 Pt. SAE (3/8 - 7/8")
Ea. Reversible Ratchet, 3 and " Extensions, Universal Joint

**WRENCHES**
ombination (6) Std.
1) Ajustable (Chrome) (8")

**ADDITIONAL TOOLS**
(2) Pliers: 6" Slip Joint, 10" Power Track
(4) Screwdrivers: (1/4, 5/16", #1, #2)
(1) Hammer: Ball Pein (12 oz.)
(1) Tape Measure (12")
(1) Utility Knife
(1) Metal Tool Box

## 118-PC. 1/4, 3/8, AND 1/2" DRIVE COMBINATION SOCKET SET

STANLEY New



### 118-PC. SOCKET SET CONTENTS

**1/4" Drive Sockets**
(10) 6 Pt. Std. SAE (5/32 - 1/2")
(9) 12 Pt. Std. SAE (3/16 - 1/2")
(7) 6 Pt. Deep SAE (1/4 - 1/2")
(10) 6 Pt. Std. Metric (4 - 13mm)
(7) 6 Pt. Deep Metric (7 - 13mm)
1 Ea: Ratchet, 3" Extension, 1/4" Bitholder, Socket Driver

**3/8" Drive Sockets**
(8) 12 Pt. Std. SAE (3/8 - 13/16")
(5) 12 Pt. Deep SAE (3/8 - 11/16")
(9) 6 Pt. Std. Metric (9 - 19mm)
(11) 12 Pt. Std. Metric (9 - 19mm)
(5) 6 Pt. Deep Metric (10 - 15mm)
(1) 6 Pt. Spark Plug (5/8")
(5) 8 Pt. 1/4 - 1/2")
1 Ea: Ratchet, 3 and 6" extensions

**1/2" Drive Sockets**
(7) 12 Pt. Std. SAE (7/16 - 13/16")
(1) 2½" Extension, (1) Ratchet

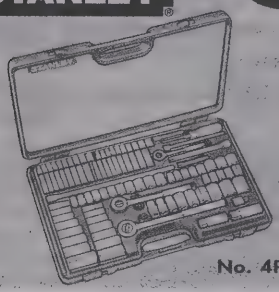
**Wrenches**
(5) Combination (3/8 - 5/8")

**Additional Tools**
(10) 1/4" Hex Insert Bits:
3 Slotted (5/32, 3/16, 7/32"), 2 Phillips (#1, #2)
5 Torx® (T10-T30)

*New* **No. 4PN30.** Stanley brand (85-003). Shpg. wt. 20.0 lbs. List $298.31. Each .....$129.95▲

▲) Net prices, not subject to discounts.

STANLEY New



No. 4PT87

## 99 PC. 1/4, 3/8 & 1/2" DRIVE COMBINATION SOCKET SET

### 99-PC. COMBINATION SOCKET SET CONTENTS

**1/4" Dr. Sockets**

(10) 6 Pt. Std. SAE (5/32 - 1/2")
(9) 6 Pt. Deep SAE (3/16 - 1/2")
(10) 6 Pt. Std. Metric (4 - 13mm)
(10) 6 Pt. Deep Metric (5 - 13mm)
(1) Socket Driver
(2) Drive Extensions (3, 6")
(1) Ratchet

**1/2" Dr. Sockets**

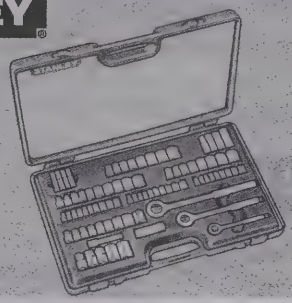
(9) 12 Pt. Std. SAE (1/2 - 1")
(1) Adapter (1/2"F x 3/8"M)
(1) Ratchet

**3/8" Dr. Sockets**

(5) 8 Pt. Std. SAE (1/4 - 1/2")
(8) 12 Pt. Std. SAE (3/8 - 13/16")
(8) 12 Pt. Deep SAE (3/8 - 13/16")
(11) 12 Pt. Std. Metric (9 - 19mm)
(7) 6 Pt. Deep Metric (10 - 19mm)
(2) Spark Plug (5/8, 13/16")
(1) Ratchet
(3) Drive Extensions (3, 6, 12")

**New No. 4PT87.** Stanley brand (85-444). Shpg. wt. 18.0 lbs. List $258.43. Each.....**$109.95▲**

STANLEY New



No. 4PT83

## 82 PC. 1/4, 3/8, & 1/2" DRIVE COMBINATION SOCKET SET

### 82-PC. COMBINATION SOCKET SET CONTENTS

**1/4" Drive Sockets**

(9) 12 Pt. Std. SAE (3/16 - 1/2")
(10) 6 Pt. Std. SAE (5/32 - 1/2")
(4) 6 Pt. Deep SAE (1/4 - 5/16")
(3) 6 Pt. Std. Metric (4 - 6mm)
(7) 12 Pt. Std. Metric (7 - 13mm)
(1) Reversible Ratchet

**1/2" Drive Sockets**

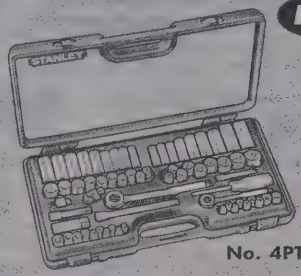
(5) 12 Pt. Std. SAE (1/2 - 13/16")
(1) Reversible Ratchet

**3/8" Drive Sockets**

(8) 6 Pt. Std. SAE (3/8 - 13/16")
(8) 12 Pt. Std. SAE (3/8 - 13/16")
(4) 12 Pt. Deep SAE (3/8 - 9/16")
(9) 6 Pt. Std. Metric (9 - 19mm)
(10) 12 Pt. Metric (9 - 19mm)
(1) Spark Plug Socket (5/8")
(1 Ea.) Reversible Ratchet & 3" Extension

**New No. 4PT83.** Stanley brand (85-440). Shpg. wt. 13.0 lbs. List $235.18. Each.....**$99.95▲**

STANLEY New



No. 4PT80

## 65 PC. 1/4 & 3/8" DRIVE COMBINATION SOCKET SET

### 65-PC. COMBINATION SOCKET SET CONTENTS

**1/4" Drive Sockets**

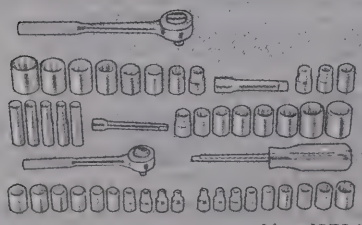
(9) 6 Pt. Std. SAE (3/16 - 1/2")
(10) 6 Pt. Std. Metric (4 - 13mm)
(1 Ea): Reversible Ratchet, Socket Driver, and 3" Extension

**3/8" Drive Sockets**

(9) 12 Pt. Std. SAE (3/8 - 7/8")
(9) 12 Pt. Deep SAE (3/8 - 7/8")
(10) 6 Pt. Std. Metric (10 - 19mm)
(9) 6 Pt. Deep Metric (10 - 19mm)
(1) Spark Plug Socket (5/8")
(1 Ea): Reversible Ratchet, 3 & 6" Extension, Universal Joint, and 3/8"F x 1/4"M Adapter

**New No. 4PT80.** Stanley brand (85-437). Shpg. wt. 11.0 lbs. List $168.60. Each.....**$59.95▲**

STANLEY New



No. 4PT86

## 63 PC. 1/4 & 3/8" DRIVE COMBINATION SOCKET SET

### 63-PC. COMBINATION SOCKET SET CONTENTS

**1/4" Drive Sockets**

(10) 6 Pt. Std. SAE (5/32 - 1/2")
(10) 6 Pt. Std. Metric (4 - 13mm)
(1) Bit Holder
(1) Socket Driver

**3/8" Drive Sockets**

(8) 12 Pt. Std. SAE (3/8 - 13/16")
(7) 12 Pt. Std. Metric (10 - 17mm)
(1) 6 Pt. Universal Spark Plug (5/8")
(1) Ratchet, (1) 3" Extension, (1) 3/8F x 1/4"M Adapter

**Additional Tools**

(11) 1/4" Hex Insert Bits: 3 Slotted (3/16, 7/32, 1/4"); 3 Phillips (#1, #2, #3); 5 Torx® (T10 - T27)
(11pc) Short Arm Hex Key Set (.050 - 3/8"), Vinyl Pouch

**New No. 4PT86.** Stanley brand (85-443). Shpg. wt. 4.6 lbs. List $127.42. Each.....**$49.95▲**

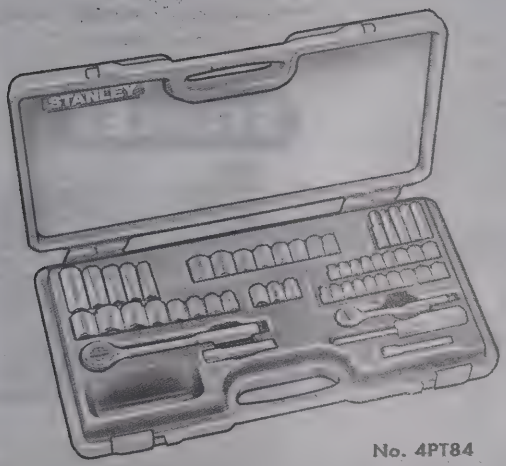
(▲) Net prices, not subject to discounts.

# COMBINATION SOCKET SETS

## 53-PC. 1/4 & 3/8" DRIVE COMBINATION SOCKET SET

STANLEY®

New




No. 4PT84

Made in U.S.A.

### 53-PC. COMBINATION SOCKET SET CONTENTS

| 1/4" Drive Sockets | 3/8" Drive Sockets |
|---|---|
| (9) 12 Pt. Std. SAE (3/16 - 1/2")<br>(5) 6 Pt. Deep SAE (7/32 - 11/32")<br>(10) 12 Pt. Std. Metric (4 - 13mm)<br>1 Ea. Reversible Ratchet, 6" Socket Driver, and 3" Extension | (8) 12 Pt. Std. SAE (3/8 - 3/16")<br>(5) 12 Pt. Deep SAE (3/8 - 11/16")<br>(3) 8 Pt. Std. SAE (1/4 - 3/8")<br>(8) 12 Pt. Std. Metric (10 - 19mm)<br>1 Ea. Reversible Ratchet, and 3" Extension |

**New No. 4PT84.** Stanley brand (85-441). Shpg. wt. 7.7 lbs. List....$154.76.
Each ..... **$49.95▲**

## 50-PC. 1/4 & 3/8" DRIVE COMBINATION SOCKET SET

### 50-PC. COMBINATION SOCKET SET CONTENTS

| 1/4" Drive Sockets | 3/8" Drive Sockets |
|---|---|
| (2) 6 Pt. Std. SAE (5/32 - 3/16")<br>(8) 12 Pt. Std. SAE (7/32 - 1/2")<br>(3) 6 Pt. Std. Metric (4 - 6mm)<br>(7) 12 Pt. Std. Metric (7 - 13mm)<br>1 Ea. Reversible Ratchet, Socket Driver, and 3" Extension | (8) 12 Pt. Std. SAE (3/8 - 13/16")<br>(3) 8 Pt. Std. SAE (1/4 - 3/8")<br>(5) 12 Pt. Deep SAE (3/8 - 5/8")<br>(9) 12 Pt. Std. Metric (10 - 19mm)<br>1 Ea. Reversible Ratchet, 3" Extension<br>Vinyl Pouch |

**New No. 4PT82.** Stanley brand (85-439). Shpg. wt. 5.6 lbs. List.....$141.11.
Each ..... **$42.95▲**

## 31-PC. 1/4 & 3/8" DRIVE COMBINATION SOCKET SET

### 31-PC. COMBINATION SOCKET SET CONTENTS

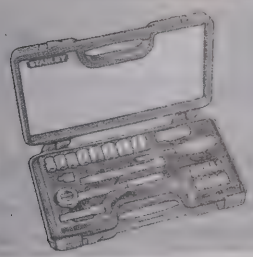
| 1/4" Drive Tools | 3/8" Drive Sockets |
|---|---|
| 1 Ea. Bit Holder, Socket Driver | (8) 12 Pt. Std. SAE (3/8 - 13/16")<br>(8) 12 Pt. Std. Metric (10 - 19mm)<br>(1) Reversible Ratchet |
| | **Additional Tools** |
| | (12) 1/4" Hex Insert Bits; 4 Slotted (3/16, 7/32, 1/4, 9/32"); 3 Phillips (#1, 2, 3); (5) Torx® (T10-T27); Vinyl Pouch |

**New No. 4PT85.** Stanley brand (85-442). Shpg. wt. 2.2 lbs. List.....$69.66.
Each ..... **$27.95▲**

## 23-PC. 1/4 & 3/8" DRIVE COMBINATION SOCKET SET

STANLEY®

New



No. 4PT42

### 23 PC. COMBINATION SOCKET SET CONTENTS

| 1/4" Drive Sockets | 3/8" Drive Sockets |
|---|---|
| (9) 6 Pt. Std. SAE (3/16 - 1/2")<br>(1) Socket Driver | (8) 12 Pt. Std. SAE (7/16 - 7/8")<br>(1) Spark Plug Socket (5/8")<br>1 Ea. Reversible Ratchet, 3/8"F x 1/4"M Adapter, 3 & 6" Extension |

**New No. 4PT42.** Stanley brand (85-399).. Shpg. wt. 4.7 lbs. List.....$74.64.
Each ..... **$29.95▲**

) Net prices, not subject to discounts.

# TOOL SETS

## 19-Pc. ELECTRICIAN'S TOOL SET

| Stanley Model | Description | Stanley Model | Description |
|---|---|---|---|
| 268G | Lineman's Pliers | 95322 | 20" Professional Canvas Tool Bag |
| 226G | Chain Nose Pliers with SIde Cutter | 15-265 | Hacksaw |
| 708 | Needle Nose Pliers–Long Reach | 15-556 | Cushion Grip Wallboard Saw |
| 240G | 8" Adjustable Wrench | 15-809 | Metal Mini-Hack Utility Saw |
| 209G | Diagonal Pliers | 30-925 | 1" x 25 Ft. Hi-Vis Green Tape Rule |
| 263SG | Power Track II Pliers | 42-512 | Lighted Torpedo Level |
| 299 | Pliers Wire Strippers | 66-565 | 6-Pc. Rubber Grip Screw Driver Set |
| 18500 | Electrician's Knife | 51-110 | Jacketed 16 Oz. Nail Hammer |
| 95030 | 6 Pocket Electrician's Tool Pouch | 10-099 | No. 99 Retractable Utility Knife |
| 95230 | Adjustable Web Belt | | |

**No. 4CM57.** Stanley brand (90-732). Shpg. wt. 20.0 lbs. List $232.70. Each .....**$179.00▲**




No. 4CM57

## 21-Pc. CARPENTER'S TOOL SET

| Stanley Model | Description | Stanley Model | Description |
|---|---|---|---|
| 10-099 | No. 99 Retractable Knife | 46-053 | 6" Quick Square |
| 15-088 | 20" Short Cut Saw, 12 Pt. | 47-099 | 100 Ft. Chalk Line Reel |
| 15-100 | 12" Compass Saw | 51-441 | 16 oz. Jacketed Curved Claw |
| 15-265 | Hacksaw | 55-515 | Wonder Bar Pry Bar |
| 16-900 | 3-Pc. Wood Chisel Set | 58-230 | 9-Pc. Nail Set Pack - 3 ea. 1/32, 2/32, 3/32" |
| 30-925 | 1" x 25 Ft. Hi-Vis Gr. Tape Rule | 60-856 | Screwdriver Set |
| 34-500 | 100' Steel Long Tape | 69-007 | Scratch Awl |
| 42-480 | 48" Level | 93-930 | Carpenter's Pencil |
| 42-165 | Torpedo Level | 95327 | 24" Leather Reinforced Tool Bag |
| 45-500 | Aluminum Rafter Square | 95120 | 11-Pocket Professional Construction Apron |
| 46-123 | 12" Combination Square | | |

**No. 4CM55.** Stanley brand (90-730). Shpg. wt. 31.0 lbs. List $206.70. Each .....**$159.00▲**




No. 4CM55

## 23-Pc. PLUMBER'S TOOL SET

| Stanley Model | Description | Stanley Model | Description |
|---|---|---|---|
| 93-020 | StanleyTubing Cutter | 294WR | 7" Locking Pliers with Cutter |
| 351 | Tubing Flaring Tool | 15-334 | Short Cut Saw |
| 95322 | Professional Extra Heavy-Duty Tool Bag | 15-113 | High Tension Hacksaw |
| 801 | Universal Chain Wrench | 10-099 | No. 99 Retractable Utility Knife |
| 140A | 3-Pc. Internal Pipe Wrench | 14-757 | Straight Cut Aviation Snips |
| 818HD | 18" Pipe Wrench | 30-925 | 1" x 25' Hi-Vis Green Tape Rule |
| 708 | 8" Adjustable Wrench | 42-512 | Lighted Torpedo Level |
| 712 | 12" Adjustable Wrench | 51-110 | Jacketed Nail Hammer, 16 oz. |
| 240G | Long Reach Needle Nose Pliers | 54-732 | Jacketed Ball Pein Hammer, 32 oz. |
| 265SG | 16" Power Track II Pliers | 60-856 | Screwdriver Set |
| 263SG | 10" Power Track II Pliers | 18-460 | Stanley Cold Chisel Set |
| 276G | 6" Combination Pliers | | |

**No. 4CM56.** Stanley brand (90-731). Shpg. wt. 36.0 lbs. List $336.70. Each .....**$259.00▲**




No. 4CM56

**LIFETIME LIMITED WARRANTY**

**All Proto tools are warranted to the original user for the life of the product.**
**ext of warranty available; see page opposite inside back cover.**

(▲) Net prices, not subject to discounts.

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

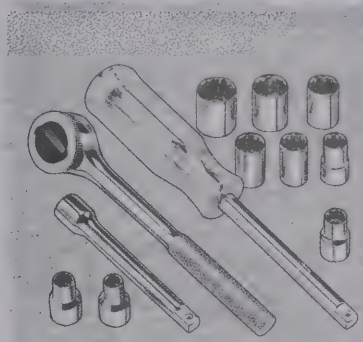
Grainger features quality products from the brand name manufacturers you know and trust.
More than 900 national brands are listed in the Brand Index at the back of this catalog.

# 1/4" DRIVE SOCKETS SETS

## 1/4" DRIVE SOCKET SETS

**Stanley sockets and wrenches are made for your everyday maintenance and repair projects**

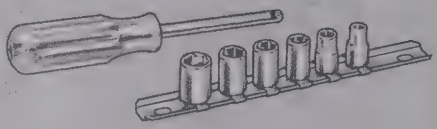
Made In U.S.A.



No. 4PT26

STANLEY

New



No. 4PT21

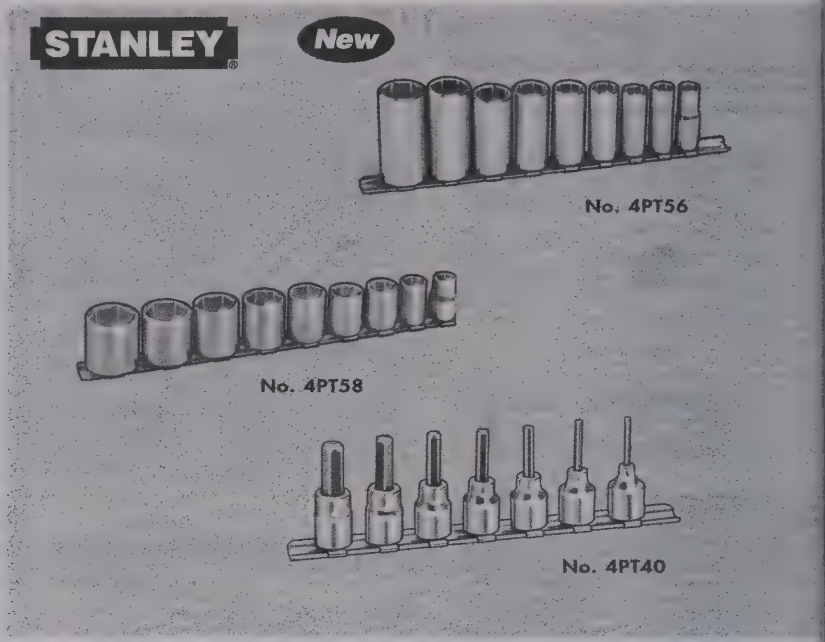
| No. of Pieces | Socket Type | Size | Accessories | Stanley Model | New! Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6 AND 12 POINT SOCKET SET** | | | | | | | | | |
| 27 | 6 Pt. Std.<br>6 Pt. Deep<br>12 Pt. Std | 4, 5, 6mm<br>1/4, 9/32, 5/16, 11/32, 3/8, 7/16,"<br>3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2"<br>7, 8, 9, 10, 11, 12, 13mm | 1/4" Drive Reversible Ratchet<br>3" Extension<br>Molded Case | 85-390 | **4PT33** | $72.09 | **$34.95** | ▲ | 2.1 |
| **12 POINT SOCKET SETS** | | | | | | | | | |
| 12 | 12 Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | 1/4" Drive Reversible Ratchet<br>3" Extension<br>6" Socket Driver<br>Molded Case | 85-383 | **4PT26** | 42.62 | **20.95** | ▲ | 1.6 |
| 9 | 12 Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | Clips and Rail | 85-386 | **4PT29** | 16.53 | **8.95** | ▲ | 0.5 |
| **6 POINT SOCKET SETS** | | | | | | | | | |
| 21 | 6 Pt. Std.<br>6 Pt. Deep | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2"<br>1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | 1/4" Drive Reversible Ratchet<br>3 & 6"" Extensions<br>6" Socket Driver<br>Universal Joint<br>Molded Case | 85-388 | **4PT31** | 77.00 | **34.95** | ▲ | 3.4 |
| 12 | 6 Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | 1/4" Drive Reversible Ratchet<br>3" Extension<br>6" Socket Driver<br>Molded Case | 85-381 | **4PT24** | 42.62 | **20.95** | | 1.6 |
| 7 | 6 Pt. Std. | 1/4, 9/32, 5/16, 11/32, 3/8, 7/16" | Socket Driver<br>Clips and Rail | 85-378 | **4PT21** | 22.16 | **10.95** | ▲ | 0.7 |
| 7 | 6 Pt. Deep | 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | Clips and Rail | 85-375 | **4PT18** | 21.18 | **10.95** | ▲ | 0.7 |
| **6 AND 12 POINT METRIC SOCKET SET** | | | | | | | | | |
| 21 | 6 Pt. Std.<br>6 Pt. Deep<br>12 Pt. Std. | 5, 6mm<br>7, 8, 9,10, 11, 12, 13mm<br>7, 8, 9,10, 11, 12, 13mm | 1/4" Drive Reversible Ratchet<br>3 and 6" Extensions<br>6" Socket Driver<br>1/4" Universal Joint<br>Molded Case | 85-389 | **4PT32** | 77.00 | **34.95** | ▲ | 3.5 |
| **12 POINT METRIC SOCKET SET** | | | | | | | | | |
| 7 | 12 Pt. Std. | 7, 8, 9,10, 11, 12, 13mm | Clips and Rail | 85-377 | **4PT20** | 13.33 | **7.95** | ▲ | 1.6 |
| **6 POINT METRIC SOCKET SETS** | | | | | | | | | |
| 12 | 6 Pt. Std. | 4, 5, 6, 7, 8, 9,10, 11, 12mm | 1/4" Drive Reversible Ratchet<br>3" Extension<br>6" Socket Driver<br>Molded Case | 85-382 | **4PT25** | 42.62 | **20.95** | ▲ | 1.6 |
| 12 | 6 Pt. Std. | 4, 4.5, 5, 5.5, 6, 7, 8, 9,10, 11, 12, 13mm | Clips and Rail | 85-385 | **4PT28** | 22.87 | **11.95** | ▲ | 0.6 |
| 7 | 6 Pt. Deep | 7, 8, 9,10, 11, 12, 13mm | Clips and Rail | 85-376 | **4PT19** | 21.18 | **10.95** | ▲ | 1.6 |

(▲) Net prices, not subject to discounts.

# 3/8" DRIVE SOCKET SETS

- Stanley sockets and wrenches are made for your everyday maintenance and repair projects

Made In U.S.A.

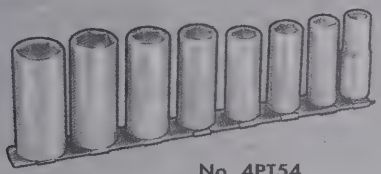



| No. of Pieces | Socket Type | Size | Accessories | Stanley Model | New! Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **6 AND 12 POINT SOCKET SET** | | | | | | | | |
| 11 | 6 Pt. Std.<br>12 Pt. Std. | 3/8, 7/16, 1/2, 9/16"<br>5/8, 11/16, 3/4, 13/16, 7/8" | 3/8" Drive Reversible Ratchet<br>3" Extension<br>Molded Case | 85-400 | **4PT43** | $39.51 | **$21.95▲** | 2.6 |
| **12 POINT SOCKET SETS** | | | | | | | | |
| 34 | 12 Pt. Std.<br>12 Pt. Deep<br>12 Pt. Std. Metric | 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8"<br>3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8"<br>8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm | 3/8" Drive Reversible Ratchet<br>3" Extension<br>Universal Joint<br>Molded Case | 85-405 | **4PT48** | 127.76 | **64.95▲** | 8.2 |
| 20 | 12 Pt. Std.<br>12 Pt. Deep | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8"<br>3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16" | 3/8" Drive Reversible Ratchet<br>3 and 6" Extensions<br>Molded Case | 85-404 | **4PT47** | 72.71 | **39.95▲** | 5.5 |
| 9 | 12 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" | Clips and Rail | 85-414 | **4PT57** | 19.00 | **9.95▲** | 2.2 |
| 9 | 12 Pt. Deep | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" | Clips and Rail | 85-412 | **4PT55** | 33.53 | **17.95▲** | 1.5 |
| 7 | 12 Pt. Universal | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4" | Clips and Rail | 85-407 | **4PT50** | 84.00 | **44.95▲** | 1.5 |
| **6 POINT SOCKET SETS** | | | | | | | | |
| 20 | 6 Pt. Std.<br>6 Pt. Deep | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8"<br>3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16" | 3/8" Drive Reversible Ratchet<br>3 and 6" Extensions<br>Molded Case | 85-403 | **4PT46** | 72.71 | **37.95▲** | 5.5 |
| 14 | 6 Pt. Std.<br>Spark Plug | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8"<br>5/8" | 3/8" Drive Reversible Ratchet<br>3 and 6" Extensions<br>Hinge Handle<br>Molded Case | 85-409 | **4PT52** | 60.56 | **31.95▲** | 4.9 |
| 9 | 6 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" | Clips and Rail | 85-415 | **4PT58** | 19.00 | **9.95▲** | 1.2 |
| 9 | 6 Pt. Deep | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" | Clips and Rail | 85-413 | **4PT56** | 33.53 | **17.95▲** | 2.0 |
| **12 POINT SOCKET AND WRENCH SET** | | | | | | | | |
| 15 | 12 Pt. Std. Sockets<br>Combination Wrenches | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4"<br>3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4" | 3/8" Drive Ratchet<br>Molded Case | 85-438 | **4PT81** | 107.80 | **49.95▲** | 5.1 |
| **HEX BIT SOCKET SET** | | | | | | | | |
| 7 | Hex Bits | 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8" | Clips and Rail | 85-397 | **4PT40** | 34.82 | **19.95▲** | 0.8 |
| **SCREWDRIVER BIT SOCKET SET** | | | | | | | | |
| 8 | Screwdriver Bits | 9/32, 5/16" Slotted Bit; #0, #1, #2 Phillips Bit<br>#2 Robertson Bit, T15 Torx ® Bit | Bit Holder | 85-007 | **4PN32** | 19.87 | **9.95▲** | 0.3 |

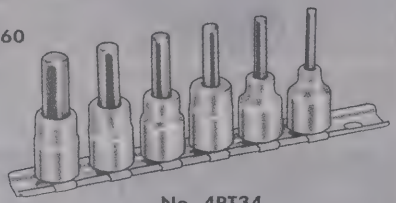
(▲) Net prices, not subject to discounts.

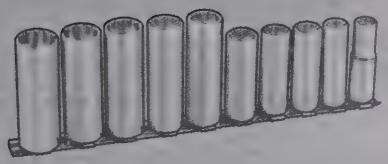
# 3/8" DRIVE METRIC SOCKET SETS

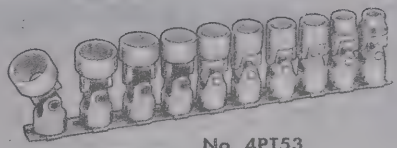
STANLEY® New


No. 4PT54


No. 4PT60


No. 4PT34


No. 4PT59


No. 4PT53

Made in U.S.A.

| No. of Pieces | Socket Type | Size | Accessories | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | **12 POINT SOCKET SETS** | | | | | |
| **29** | 12 Pt. Std.<br>12 Pt. Deep | 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm<br>8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm | 3/8" Drive Reversible Ratchet<br>3 & 6" Extensions<br>Hinge Handle<br>Universal Joint<br>Molded Case | 85-419 | **4PT62** | $99.20 | **$49.95▲** | 8.1 |
| **12** | 12 Pt. Std. | 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm | Clips and Rail | 85-417 | **4PT60** | 24.02 | **12.95▲** | 2.2 |
| **10** | 12 Pt. Deep | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm | Clips and Rail | 85-418 | **4PT59** | 37.20 | **18.95▲** | 1.2 |
| | | | **6 POINT SOCKET SETS** | | | | | |
| **24** | 6 Pt. Std.<br>6 Pt. Deep<br>Spark Plug | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm<br>10, 11, 12, 13, 14, 15, 17, 19mm<br>5/8" | 3/8" Drive Reversible Ratchet<br>3 & 11" Extension<br>Molded Case | 85-418 | **4PT61** | 82.09 | **39.95▲** | 5.2 |
| **18** | 6 Pt. Std.<br>Spark Plug | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm<br>5/8" | 3/8" Drive Reversible Ratchet<br>3 & 6" Extensions<br>Hinge Handle<br>Molded Case | 85-402 | **4PT45** | 68.36 | **34.95▲** | 3.4 |
| **11** | 6 Pt. Std. | 7, 8, 9, 10, 12, 13, 14, 17, 19mm | 3/8" Reversible Ratchet<br>3" Extension<br>Molded Case | 85-401 | **4PT44** | 39.51 | **21.95▲** | 2.3 |
| **13** | 6 Pt. Std. | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm | Clips and Rail | 85-406 | **4PT49** | 25.69 | **12.95▲** | 0.8 |
| **8** | 6 Pt. Deep | 10, 11, 12, 13, 14, 15, 17, 19mm | Clips and Rail | 85-411 | **4PT54** | 31.04 | **16.95▲** | 1.6 |
| **10** | 6 Pt. Universal | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm | Clips and Rail | 85-410 | **4PT53** | 117.87 | **59.95▲** | 1.3 |
| | | | **HEX BIT SOCKETS SETS** | | | | | |
| **6** | Hex Bit | 4, 5, 6, 7, 8, 10mm | Clips and Rail | 85-391 | **4PT34** | 30.20 | **17.95▲** | 0.8 |
| **13** | Hex Bit | 4, 5, 6, 7,8, 10mm<br>1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8" | Plastic Tray | 85-398 | **4PT41** | 77.64 | **39.95▲** | 1.3 |

▲) Net prices, not subject to discounts.

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

HAND TOOLS: SOCKETS

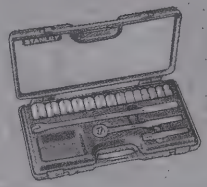
# 1/2" AND 3/4" DRIVE SOCKET SETS

- Stanley sockets and wrenches are a standard grade of mechanic's tools for light maintenance or contractor use

Made In U.S.A.

STANLEY

New



No. 4PT67

No. 4PT77



## 1/2" DRIVE SOCKET SETS

| No. of Pieces | Socket Type | Size | Accessories | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **6 AND 12 POINT STANDARD SOCKET SETS** | | | | | | | | |
| 26 | 6 Pt. Std<br>12 Pt. Std.<br>12 Pt. Deep | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4"<br>1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1" | 1/2" Drive Reversible Ratchet<br>5" Extension<br>Hinge Handle<br>Universal Joint<br>Molded Case | 85-434 | **4PT77** | $168.31 | **$89.95** ▲ | 14.0 |
| 17 | 6 Pt. Std<br>12 Pt Std | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4"<br>13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4" | 1/2" Drive Reversible Ratchet<br>5" Extension<br>Hinge Handle<br>Molded Case | 85-424 | **4PT67** | 98.73 | **49.95** ▲ | 9.9 |
| **12 POINT STANDARD SOCKET SETS** | | | | | | | | |
| 17 | 12 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4" | 1/2" Drive Reversible Ratchet<br>5" Extension<br>Hinge Handle<br>Molded Case | 85-425 | **4PT68** | 98.53 | **44.95** ▲ | 9.9 |
| 15 | 12 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4" | Clips and Rail | 85-431 | **4PT74** | 54.69 | **31.95** ▲ | 3.7 |
| 12 | 12 Pt. Std. | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1" | 1/2" Drive Reversible Ratchet<br>5" Extension<br>Molded Case | 85-427 | **4PT70** | 61.04 | **34.95** ▲ | 5.5 |
| 11 | 12 Pt. Deep | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8" | Clips and Rail | 85-428 | **4PT71** | 75.67 | **49.95** ▲ | 5.5 |
| **6 POINT STANDARD SOCKET SETS** | | | | | | | | |
| 11 | 6 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1" | Clips and Rail | 85-429 | **4PT72** | 32.80 | **21.95** ▲ | 2.3 |
| 9 | 6 Pt. Deep | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1" | Clips and Rail | 85-426 | **4PT69** | 54.87 | **31.95** ▲ | 3.6 |
| **12 POINT METRIC SOCKET SETS** | | | | | | | | |
| 18 | 12 Pt. Deep | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27mm | Clips and Rail | 85-433 | **4PT76** | 114.09 | **64.95** ▲ | 7.3 |
| 17 | 12 Pt. Std. | 10, 11, 12, 13, 14, 17, 19, 23, 24, 25, 26, 27, 28mm | 1/2 Drive Reversible Ratchet<br>5" Extension<br>Hinge Handle<br>Molded Case | 85-432 | **4PT75** | 113.42 | **49.95** ▲ | 9.6 |
| 15 | 12 Pt. Std. | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24mm | Clips and Rail | 85-489 | **4PV24** | 50.75 | **28.95** ▲ | 4.3 |
| 15 | 12 Pt. Std. | 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 27, 30, 32mm | Clips and Rail | 85-430 | **4PT73** | 64.80 | **36.95** ▲ | 2.4 |

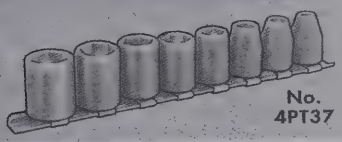
## 3/4" DRIVE SOCKET SETS

| No. of Pieces | Socket Type | Size | Accessories | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **12 POINT STANDARD SOCKET SETS** | | | | | | | | |
| 28 | 12 Pt. Std. | 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 5/8, 1 11/16, 1 3/4, 1 13/16, 1 7/8, 2, 2 1/16, 2 1/4, 2 3/8" | 3/4" Drive Reversible Ratchet<br>4, 8, and 16" Extensions<br>Sliding T Handle<br>Metal Box | 85-436 | **4PT79** | $650.62 | **$329.00**▲ | 67.0 |
| 15 | 12 Pt. Std. | 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4, 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 5/8, 1 11/16, 1 7/8" | 3/4" Drive Reversible Ratchet<br>8" Extension<br>Metal Box | 85-435 | **4PT78** | 324.96 | **189.00**▲ | 26.0 |

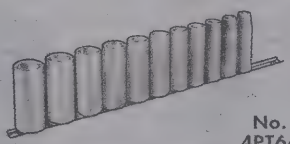
(▲) Net prices, not subject to discounts.

# IMPACT SETS AND INDIVIDUAL SOCKETS

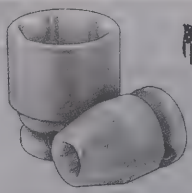
STANLEY® New



No. 4PT37



No. 4PT64



Made In U.S.A.

No. 4R717

## IMPACT SOCKET SETS

| No. of Pieces | Socket Type | Size | Accessories | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/8" DRIVE 6 POINT FRACTIONAL STANDARD SOCKET SET** | | | | | | | | |
| 8 | 6 Pt. Std. Set | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16" | Clips and Rail | 85-394 | 4PT37 | $32.16 | $24.95▲ | 1.1 |
| **3/8" DRIVE 6 POINT FRACTIONAL DEEP SOCKET SET** | | | | | | | | |
| 8 | 6 Pt. Deep Set | 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4" | Clips and Rail | 85-393 | 4PT36 | 41.73 | 39.95▲ | 2.3 |
| **3/8" DRIVE 6 POINT METRIC SOCKET SET** | | | | | | | | |
| 8 | 6 Pt. Std. Set | 10, 12, 13, 14, 15, 17, 18, 19mm | Clips and Rail | 85-395 | 4PT38 | 38.11 | 24.95▲ | 1.3 |
| **3/8" DRIVE 6 POINT METRIC DEEP SOCKET SET** | | | | | | | | |
| 12 | 6 Pt. Deep Metric Set | 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19mm | Clips and Rail | 85-392 | 4PT35 | 70.18 | 34.95▲ | 3.4 |
| **1/2" DRIVE 6 POINT FRACTIONAL STANDARD SOCKET SET** | | | | | | | | |
| 11 | 6 Pt. Std. Set | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16" | Clips and Rail | 85-422 | 4PT65 | 62.82 | 44.95▲ | 4.2 |
| **1/2" DRIVE 6 POINT FRACTIONAL DEEP SOCKET SET** | | | | | | | | |
| 11 | 6 Pt. Deep Set | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16" | Clips and Rail | 85-421 | 4PT64 | 73.89 | 69.95▲ | 7.2 |
| **1/2" DRIVE 6 POINT METRIC SOCKET SET** | | | | | | | | |
| 11 | 6 Pt. Std. Set | 13, 14, 15, 16, 17, 18, 19, 21, 22, 24, 27mm | Clips and Rail | 85-423 | 4PT66 | 67.13 | 44.95▲ | 3.5 |
| **1/2" DRIVE 6 POINT METRIC DEEP SOCKET SET** | | | | | | | | |
| 7 | 6 Pt. Deep Metric Set | 13, 14, 15, 16, 17, 18, 19mm | Clips and Rail | 85-420 | 4PT63 | 47.00 | 39.95▲ | 3.4 |

| Size | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8" DRIVE 6 POINT STANDARD SOCKETS** | | | | | | |
| 1/4" | 1⅛" | 85-097 | 4PP02 | $4.36 | $3.71 | 0.1 |
| 5/16 | 1⅛ | 85-098 | 4PP03 | 4.36 | 3.71 | 0.1 |
| 3/8 | 1⅛ | 85-099 | 4PP04 | 4.36 | 3.71 | 0.2 |
| 7/16 | 1⅛ | 85-100 | 4PP05 | 4.58 | 3.89 | 0.9 |
| 1/2 | 1⅛ | 85-101 | 4PP06 | 4.64 | 3.94 | 1.0 |
| 9/16 | 1⅛ | 85-102 | 4PP07 | 4.80 | 4.08 | 0.1 |
| 5/8 | 1⅛ | 85-103 | 4PP08 | 5.11 | 4.34 | 0.3 |
| 11/16 | 1⅛ | 85-104 | 4PP09 | 5.11 | 4.34 | 0.4 |
| **SOCKET ADAPTER** | | | | | | |
| 1/2"F x 3/8"M | — | 89-244 | 4R871 | 9.02 | 7.67 | 0.3 |
| **3/8" DRIVE 6 POINT DEEP SOCKETS** | | | | | | |
| 5/16 | 2¼" | 85-105 | 4PP10 | 4.69 | 3.99 | 0.5 |
| 3/8 | 2¾ | 85-106 | 4PP11 | 4.73 | 4.02 | 0.3 |
| 7/16 | 2¾ | 85-107 | 4PP12 | 4.80 | 4.08 | 0.3 |
| 1/2 | 2¾ | 85-108 | 4PP13 | 4.91 | 4.17 | 0.4 |
| 9/16 | 2¾ | 85-109 | 4PP14 | 5.09 | 4.33 | 0.5 |
| 5/8 | 2¾ | 85-110 | 4PP15 | 5.22 | 4.44 | 0.6 |
| 11/16 | 2¾ | 85-111 | 4PP16 | 5.44 | 4.62 | 0.8 |
| 3/4 | 2¾ | 85-112 | 4PP17 | 5.62 | 4.78 | 0.8 |
| **3/8" DRIVE 6 POINT METRIC DEEP SOCKETS** | | | | | | |
| 8mm | 69.9mm | 85-113 | 4PP18 | 5.69 | 4.84 | 0.5 |
| 9 | 69.9 | 85-114 | 4PP19 | 5.69 | 4.84 | 0.5 |
| 10 | 69.9 | 85-115 | 4PP20 | 5.69 | 4.84 | 0.2 |
| 11 | 69.9 | 85-116 | 4PP21 | 5.69 | 4.84 | 0.4 |
| 12 | 69.9 | 85-117 | 4PP22 | 5.69 | 4.84 | 0.5 |
| 13 | 69.9 | 85-118 | 4PP23 | 5.69 | 4.84 | 0.5 |
| 14 | 69.9 | 85-119 | 4PP24 | 5.69 | 4.84 | 0.6 |
| 15 | 69.9 | 85-120 | 4PP25 | 5.69 | 4.84 | 0.6 |
| 16 | 69.9 | 85-121 | 4PP26 | 5.78 | 4.91 | 0.6 |
| 17 | 69.9 | 85-122 | 4PP27 | 6.07 | 5.16 | 0.8 |
| 18 | 69.9 | 85-123 | 4PP28 | 6.07 | 5.16 | 1.0 |
| 19 | 69.9 | 85-124 | 4PP29 | 6.07 | 5.16 | 0.8 |

| Size | Length | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8" DRIVE 6 POINT METRIC SOCKETS** | | | | | | |
| 10mm | 28.0mm | 87-831 | 4R717 | $5.62 | $4.78 | 0.8 |
| 12 | 28.0 | 87-832 | 4R719 | 4.93 | 4.19 | 0.2 |
| 13 | 30.0 | 87-833 | 4R721 | 5.24 | 4.45 | 0.3 |
| 14 | 30.0 | 87-834 | 4R723 | 5.24 | 4.45 | 0.2 |
| 15 | 30.0 | 87-835 | 4R725 | 5.36 | 4.56 | 0.2 |
| 17 | 30.0 | 87-836 | 4R727 | 6.11 | 5.19 | 0.2 |
| 18 | 30.0 | 87-837 | 4R729 | 6.11 | 5.19 | 0.2 |
| 19 | 30.0 | 87-838 | 4R731 | 6.31 | 5.36 | 0.4 |
| **1/2" DRIVE 6 POINT STANDARD SOCKETS** | | | | | | |
| 7/16" | 1½" | 87-513 | 4R663 | 5.31 | 4.51 | 0.4 |
| 1/2 | 1½ | 87-514 | 4R665 | 5.40 | 4.59 | 0.2 |
| 9/16 | 1½ | 87-515 | 4R667 | 5.42 | 4.61 | 0.1 |
| 5/8 | 1½ | 87-516 | 4R669 | 5.51 | 4.68 | 0.4 |
| 11/16 | 1½ | 87-517 | 4R671 | 5.87 | 4.99 | 0.6 |
| 3/4 | 1½ | 87-518 | 4R673 | 6.02 | 5.12 | 0.3 |
| 13/16 | 1⅝ | 87-519 | 4R675 | 6.27 | 5.33 | 0.4 |
| 7/8 | 1⅝ | 87-520 | 4R677 | 7.00 | 5.95 | 0.4 |
| 15/16 | 1⅝ | 87-521 | 4R679 | 7.76 | 6.60 | 0.5 |
| 1 | 1⅝ | 87-522 | 4R681 | 8.18 | 6.95 | 1.0 |
| 1 1/16 | 1⅝ | 87-523 | 4R683 | 10.13 | 8.61 | 1.2 |
| **1/2" DRIVE 6 POINT DEEP SOCKETS** | | | | | | |
| 7/16" | 3½" | 85-133 | 4PP31 | 8.22 | 6.99 | 0.4 |
| 1/2 | 3½ | 85-134 | 4PP32 | 8.22 | 6.99 | 0.4 |
| 9/16 | 3½ | 85-135 | 4PP33 | 8.47 | 7.20 | 0.9 |
| 5/8 | 3½ | 85-136 | 4PP34 | 8.47 | 7.20 | 0.9 |
| 11/16 | 3½ | 85-137 | 4PP35 | 8.47 | 7.20 | 1.0 |
| 3/4 | 3½ | 85-138 | 4PP36 | 9.20 | 7.82 | 1.1 |
| 13/16 | 3½ | 85-139 | 4PP37 | 9.20 | 7.82 | 1.2 |
| 7/8 | 3½ | 85-140 | 4PP38 | 10.89 | 9.26 | 1.4 |
| 15/16 | 3½ | 85-141 | 4PP39 | 10.89 | 9.26 | 0.8 |
| 1 | 3½ | 85-142 | 4PP40 | 12.40 | 10.54 | 0.9 |
| 1 1/16 | 3½ | 85-143 | 4PP41 | 13.38 | 11.37 | 2.1 |

(▲) Net prices not subject to discounts

# RATCHETS, HANDLES, EXTENSIONS, AND ADAPTERS

## 1/4" DRIVE

| Description | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Ratchet, Round Head Reversible, 5"L | 85-481 | 4PV18 | $18.53 | $9.95 | 0.5 |
| Ratchet, Quick Release Reversible, 6"L | 87-820 | 4R713 | 16.69 | 13.35 | 0.7 |
| Hinge Handle, 5½"L | 86-012 | 4PW10 | 12.09 | 7.95 | 0.1 |
| Socket Driver, Spinner Handle, 6"L | 85-482 | 4PV19 | 10.07 | 8.95 | 0.3 |
| Socket Extension, 3" Long | 86-006 | 4PW07 | 4.84 | 3.95 | 0.1 |
| Socket Extension, 6" Long | 86-007 | 4PW08 | 5.84 | 4.95 | 0.3 |
| Socket Adapter, 1/4"Female x 3/8"Male | 86-002 | 4PW06 | 4.16 | 3.95 | 0.1 |
| Universal Joint, 1"L | 86-001 | 4PW09 | 11.73 | 8.95 | 0.1 |

## 3/4" DRIVE

| Description | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Ratchet, Round Head Reversible, 7½"L | 85-483 | 4PV20 | $22.42 | $12.95 | 0.9 |
| Ratchet, Flex Head Reversible, 9"L | 85-485 | 4PV21 | 33.73 | 23.95 | 2.1 |
| Ratchet, Quick Release Reversible, 8"L | 87-830 | 4R715 | 29.36 | 18.95 | 1.0 |
| Speed Handle, 15½"L | 86-212 | 4PW62 | 17.76 | 15.95 | 1.9 |
| Hinge Handle, 8½"L | 86-213 | 4PW63 | 17.00 | 14.45 | 1.3 |
| Socket Extension, 1¾"L | 85-057 | 4PN69 | 5.22 | 3.95 | 0.1 |
| Socket Extension, 3"L | 86-206 | 4PW58 | 5.22 | 4.95 | 0.2 |
| Socket Extension, 6"L | 86-207 | 4PW59 | 6.09 | 5.95 | 0.3 |
| Socket Extension, 10"L | 86-208 | 4PW60 | 7.47 | 6.95 | 0.6 |
| Socket Extension, 12"L | 86-258 | 4PW68 | 12.27 | 10.95 | 0.8 |
| Socket Extension, 17"L | 85-058 | 4PN70 | 13.07 | 12.95 | 0.9 |
| Socket Adapter, 3/8"Female x 1/4"Male | 86-214 | 4PW64 | 4.16 | 3.95 | 0.2 |
| Socket Adapter, 3/8"Female x 1/2"Male | 85-215 | 4PW65 | 6.89 | 5.95 | 0.1 |
| Universal Joint, 2"L | 86-211 | 4PW61 | 13.07 | 9.95 | 0.2 |

## 1/2" DRIVE

| Description | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Ratchet, Round Head Reversible, 10" Long | 85-486 | 4PV22 | $28.80 | $17.95 | 1.4 |
| Ratchet, Flex Head Reversible, 14½"L | 85-487 | 4PV23 | 54.91 | 33.95 | 4.7 |
| Ratchet, Quick Release Reversible, 10"L | 87-840 | 4R733 | 39.09 | 24.95 | 1.3 |
| Hinge Handle, 15"L | 86-413 | 4PX46 | 33.51 | 24.95 | 1.8 |
| Speed Handle, 18"L | 86-412 | 4PX45 | 7.93 | 6.95 | 0.1 |
| Socket Extension, 2½"L | 86-406 | 4PX41 | 8.22 | 6.95 | 0.5 |
| Socket Extension, 5"L | 86-407 | 4PX42 | 12.07 | 7.95 | 1.2 |
| Socket Extension, 6"L | 87-525 | 4R687 | 12.44 | 9.95 | 0.9 |
| Socket Extension, 10"L | 86-408 | 4PX43 | 20.67 | 19.95 | 1.8 |
| Socket Adapter, 1/2"Female x 3/8"Male | 86-414 | 4PX47 | 10.27 | 8.95 | 0.3 |
| Socket Adapter, 1/2"Female x 3/4"Male | 88-558 | 4R779 | 12.89 | 10.95 | 0.3 |
| Universal Joint, 2⅝"L | 86-411 | 4PX44 | 16.38 | 11.95 | 0.4 |

## 3/4" DRIVE

| Description | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Ratchet, Round Head, 20"L | 85-589 | 4PW03 | $98.60 | $69.95 | 5.5 |
| Hinge Handle, 20"L | 85-155 | 4PP53 | 62.00 | 39.95 | 4.0 |
| Sliding T-Bar, 18"L | 85-512 | 4PV41 | 38.69 | 17.95 | 3.2 |
| Socket Extension, 4"L | 89-306 | 4R875 | 23.24 | 10.95 | 1.8 |
| Socket Extension, 8"L | 85-510 | 4PV39 | 25.29 | 15.95 | 1.4 |
| Socket Extension, 16"L | 85-511 | 4PV40 | 38.62 | 24.95 | 2.7 |
| Socket Adapter, 3/4"Female x 1/2"Male | 88-908 | 4R811 | 23.37 | 19.86 | 1.2 |
| Universal Joint, 3⅝"L | 89-305 | 4R873 | 58.31 | 39.95 | 2.2 |

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

STANLEY®

New



No. 4PV19



No. 4PV18



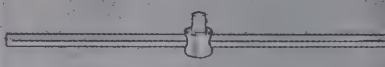
No. 4PV21



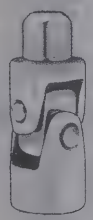
No. 4PX46

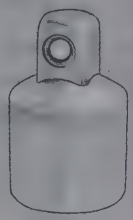


No. 4R733



No. 4PV41





No. 4PW61 No. 4PX47

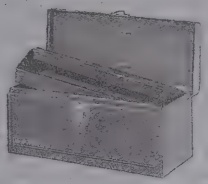
# TOOL BOXES

WATERLOO TOOL ROOM SERIES

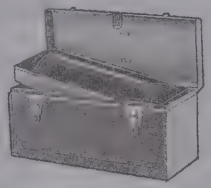
Made in U.S.A.

**RED ENAMEL FINISH**

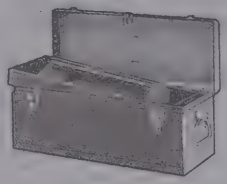
Replacement Parts Available 1-800-323-0620™



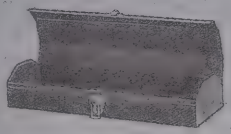
A 16" Tool Box



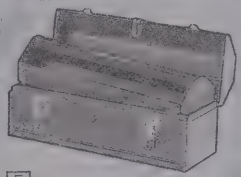
B 18 & 20" Tool Box



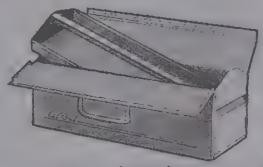
C 24" Tool Box



D Low Profile Tool Box



E Hip Roof Tool Box with Tote Tray



F Split-Lid Hip Roof Box

## A 16" TOOL BOX

- Steel tote tray
- One heavy-duty plated lockable latch
- Storage capacity 822 cu-in.

## B 18 & 20" TOOL BOXES

- Steel tote tray with 4 storage compartments
- Two heavy-duty plated lockable latches
- No. 2W022 storage capacity 1,301 cu-in.
- No. 2W023 storage capacity 1,600 cu-in.

## C 24" TOOL BOX

- Steel tote tray with 4 storage compartments
- Two heavy-duty plated lockable latches
- 2 side handles
- Storage capacity 2,173 cu-in.

## D 19" LOW PROFILE TOOL BOX

- Small tool storage holds 1/2" drive set with extension, speed, and flex handles
- Slender shape allows for easy storage in tight spaces
- Storage capacity 409 cu-in.

## E 20" HIP-ROOF TOOL BOX

- Extra-deep steel tote tray for large tools
- Two heavy-duty plated lockable latches
- Storage capacity 1,020 cu-in.

## F 21" SPLIT LID HIP ROOF TOOL BOX

- Split lid opens wide for easy access to tools
- Storage capacity 1,370 cu-in.

| Key | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 16" Box with Tote | 16 | 7 | 7½ | 50016 | 6C324 | $22.52 | $14.95▲ | 7.0 |
| B | 18" Box with Tote | 18 | 8 | 9 | 50018 | 2W022 | 45.18 | 27.95▲ | 10.0 |
| B | 20" Box with Tote | 20 | 8½ | 9½ | 55020 | 2W023 | 47.92 | 29.95▲ | 11.0 |
| C | 24" Box with Tote | 24¼ | 9½ | 9½ | 50024 | 2W211 | 86.14 | 53.50▲ | 21.0 |
| D | 19" Low Profile Box | 19¾ | 6 | 4¼ | 30120 | 6C326 | 21.96 | 14.95▲ | 3.7 |
| E | 20" Hip Roof Box with Tote | 19¾ | 7 | 8 | 50120 | 2W019 | 52.14 | 31.95▲ | 9.7 |
| F | 21" Split-Lid Hip Roof Box | 21 | 8½ | 8¼ | 50121 | 6C325 | 48.12 | 29.95▲ | 11.0 |

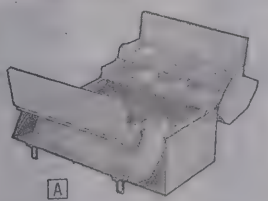
(▲) Net prices, not subject to discounts.

# MACHINIST'S TOOL BOXES

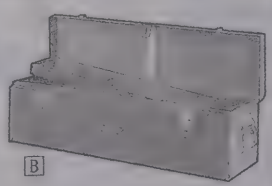
WATERLOO TOOL ROOM SERIES

Made in U.S.A.

**BROWN WRINKLE FINISH**



A



B

## A 18" CANTILEVER TOOL BOX

- Split lid opens wide to access tools
- 4 cantilever trays, top 2 protective covers
- Red steel tray compartments with adjustable dividers
- 2 heavy-duty plated lockable latches
- Storage capacity 1,591 cu-in.

## B 32" CARPENTER'S TOOL BOX

- Saw rack inside lid keeps hand saws sharp, knock-out for framing square
- 2 side handles, 2 heavy-duty plated lockable latches, full length piano hinge
- Red steel tote tray for small parts storage
- Storage capacity 2,559 cu-in.

| Key | Description | Overall Dimensions (In.) W | D | H | Waterloo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Cantilever Box | 18 | 10 | 13¼ | 50118B | 2W024 | $121.92 | $74.95▲ | 20.0 |
| B | Carpenter's Box | 32 | 8½ | 9½ | 50032B | 2W323 | 92.14 | 57.95▲ | 19.0 |

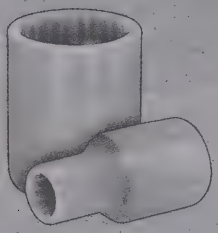
(▲) Net prices, not subject to discounts.

# 1/4" DRIVE INDIVIDUAL SOCKETS

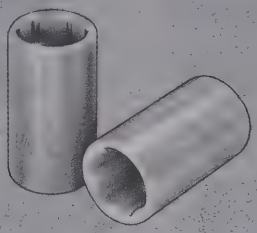
STANLEY®

Made in U.S.A.

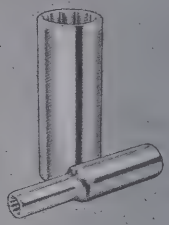
New



12 Point Standard



6 Point Standard



12 Point Deep

## 1/4" DRIVE INDIVIDUAL STANDARD SOCKETS

| Size | Length (In.) | Stanley Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4" DRIVE 12 POINT STANDARD SOCKETS** | | | | | | |
| **3/16"** | 7/8 | 87-331 | **4PZ91** | $2.49 | **$2.12** | 0.1 |
| **7/32** | 7/8 | 87-332 | **4PZ92** | 2.49 | **2.12** | 0.1 |
| **1/4** | 7/8 | 87-333 | **4PZ93** | 2.49 | **2.12** | 0.1 |
| **9/32** | 7/8 | 87-334 | **4PZ94** | 2.49 | **2.12** | 0.1 |
| **5/16** | 7/8 | 87-335 | **4PZ95** | 2.49 | **2.12** | 0.1 |
| **11/32** | 7/8 | 87-336 | **4PZ96** | 2.49 | **2.12** | 0.1 |
| **3/8** | 7/8 | 87-337 | **4PZ97** | 2.49 | **2.12** | 0.1 |
| **7/16** | 7/8 | 87-338 | **4PZ98** | 2.49 | **2.12** | 0.2 |
| **1/2** | 7/8 | 87-339 | **4PZ99** | 2.49 | **2.12** | 0.1 |
| **9/16** | 7/8 | 87-340 | **4R619** | 2.56 | **2.18** | 0.1 |
| **1/4" DRIVE 6 POINT STANDARD SOCKETS** | | | | | | |
| **5/32** | 7/8 | 86-021 | **4PW11** | 2.49 | **2.12** | 0.1 |
| **3/16** | 7/8 | 86-022 | **4PW12** | 2.49 | **2.12** | 0.1 |
| **7/32** | 7/8 | 86-023 | **4PW13** | 2.49 | **2.12** | 0.1 |
| **1/4** | 7/8 | 86-024 | **4PW14** | 2.49 | **2.12** | 0.1 |
| **9/32** | 7/8 | 86-025 | **4PW15** | 2.49 | **2.12** | 0.1 |
| **5/16** | 7/8 | 86-026 | **4PW16** | 2.49 | **2.12** | 0.1 |
| **11/32** | 7/8 | 86-027 | **4PW17** | 2.49 | **2.12** | 0.1 |
| **3/8** | 7/8 | 86-028 | **4PW18** | 2.49 | **2.12** | 0.1 |
| **7/16** | 7/8 | 86-029 | **4PW19** | 2.49 | **2.12** | 0.1 |
| **1/2** | 7/8 | 86-030 | **4PW20** | 2.49 | **2.12** | 0.1 |
| **1/4" DRIVE 12 POINT DEEP SOCKETS** | | | | | | |
| **1/4** | 2 | 84-015 | **4PN04** | 3.51 | **2.98** | 0.1 |
| **3/16** | 2 | 85-013 | **4PN33** | 3.53 | **3.00** | 0.1 |
| **7/32** | 2 | 85-014 | **4PN34** | 3.53 | **3.00** | 0.1 |
| **9/32** | 2 | 85-016 | **4PN35** | 3.53 | **3.00** | 0.1 |
| **5/16** | 2 | 85-017 | **4PN36** | 3.53 | **3.00** | 0.1 |
| **11/32** | 2 | 85-018 | **4PN37** | 4.18 | **3.55** | 0.1 |
| **3/8** | 2 | 85-019 | **4PN38** | 4.18 | **3.55** | 0.1 |
| **7/16** | 2 | 85-020 | **4PN39** | 4.18 | **3.55** | 0.2 |
| **1/2** | 2 | 85-021 | **4PN40** | 4.18 | **3.55** | 0.1 |
| **9/16** | 2 | 85-022 | **4PN41** | 4.24 | **3.60** | 0.1 |
| **1/4" DRIVE 6 POINT DEEP SOCKETS** | | | | | | |
| **3/16** | 2 | 86-041 | **4PW21** | 3.53 | **3.00** | 0.1 |
| **7/32** | 2 | 86-042 | **4PW22** | 3.53 | **3.00** | 0.1 |
| **1/4** | 2 | 86-043 | **4PW23** | 3.53 | **3.00** | 0.1 |
| **9/32** | 2 | 86-044 | **4PW24** | 3.53 | **3.00** | 0.1 |
| **5/16** | 2 | 86-045 | **4PW25** | 3.53 | **3.00** | 0.1 |
| **11/32** | 2 | 86-046 | **4PW26** | 4.18 | **3.55** | 0.1 |
| **3/8** | 2 | 86-047 | **4PW27** | 4.18 | **3.55** | 0.1 |
| **7/16** | 2 | 86-048 | **4PW28** | 4.18 | **3.55** | 0.1 |
| **1/2** | 2 | 86-049 | **4PW29** | 4.18 | **3.55** | 0.1 |
| **1/4" DRIVE 12 POINT UNIVERSAL SOCKETS** | | | | | | |
| **1/4** | 1 | 85-048 | **4PN62** | 17.42 | **14.81** | 0.1 |
| **5/16** | 1 | 85-049 | **4PN63** | 17.56 | **14.93** | 0.1 |
| **3/8** | 1 | 85-050 | **4PN64** | 17.76 | **15.10** | 0.1 |
| **7/16** | 1 | 85-051 | **4PN65** | 17.93 | **15.24** | 0.1 |
| **1/2** | 1 | 85-052 | **4PN66** | 17.93 | **15.24** | 0.1 |
| **9/16** | 1 | 85-053 | **4PN67** | 18.29 | **15.55** | 0.2 |

## 1/4" DRIVE INDIVIDUAL METRIC SOCKETS

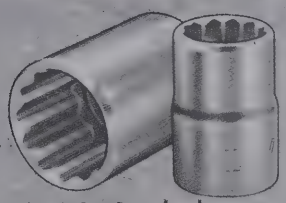
| Size | Length (mm) | Stanley Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4" DRIVE 12 POINT METRIC SOCKETS** | | | | | | |
| **5mm** | 22.2 | 85-023 | **4PN42** | $2.49 | **$2.12** | 0.1 |
| **5.5** | 22.2 | 85-024 | **4PN43** | 2.49 | **2.12** | 0.1 |
| **6** | 22.2 | 85-025 | **4PN44** | 2.49 | **2.12** | 0.1 |
| **7** | 22.2 | 85-026 | **4PN45** | 2.49 | **2.12** | 0.1 |
| **8** | 22.2 | 85-027 | **4PN46** | 2.49 | **2.12** | 0.1 |
| **9** | 22.2 | 85-028 | **4PN47** | 2.49 | **2.12** | 0.1 |
| **10** | 22.2 | 85-029 | **4PN48** | 2.49 | **2.12** | 0.1 |
| **11** | 22.2 | 85-030 | **4PN49** | 2.49 | **2.12** | 0.1 |
| **12** | 22.2 | 85-031 | **4PN50** | 2.49 | **2.12** | 0.1 |
| **13** | 22.2 | 85-032 | **4PN51** | 2.49 | **2.12** | 0.1 |
| **1/4" DRIVE 6 POINT METRIC SOCKETS** | | | | | | |
| **4** | 21.2 | 86-101 | **4PW37** | 2.49 | **2.12** | 0.1 |
| **4.5** | 21.2 | 86-110 | **4PW46** | 2.49 | **2.12** | 0.1 |
| **5** | 21.2 | 86-102 | **4PW38** | 2.49 | **2.12** | 0.1 |
| **5.5** | 21.2 | 86-111 | **4PW47** | 2.49 | **2.12** | 0.1 |
| **6** | 21.2 | 86-103 | **4PW39** | 2.49 | **2.12** | 0.1 |
| **7** | 21.2 | 86-104 | **4PW40** | 2.49 | **2.12** | 0.1 |
| **8** | 21.2 | 86-105 | **4PW41** | 2.49 | **2.12** | 0.1 |
| **9** | 21.2 | 86-106 | **4PW42** | 2.49 | **2.12** | 0.2 |
| **10** | 21.2 | 86-107 | **4PW43** | 2.49 | **2.12** | 0.1 |
| **11** | 21.2 | 86-108 | **4PW44** | 2.49 | **2.12** | 0.2 |
| **12** | 21.2 | 86-109 | **4PW45** | 2.49 | **2.12** | 0.2 |
| **13** | 21.2 | 86-112 | **4PW48** | 2.49 | **2.12** | 0.2 |
| **1/4" DRIVE 12 POINT DEEP METRIC SOCKETS** | | | | | | |
| **5** | 50.5 | 85-033 | **4PN52** | 3.53 | **3.00** | 0.1 |
| **5.5** | 50.5 | 85-034 | **4PN53** | 2.49 | **2.12** | 0.1 |
| **6** | 50.5 | 85-035 | **4PN54** | 2.49 | **2.12** | 0.1 |
| **7** | 50.5 | 85-036 | **4PN55** | 2.49 | **2.12** | 0.1 |
| **8** | 50.5 | 85-037 | **4PN56** | 2.49 | **2.12** | 0.1 |
| **9** | 50.5 | 85-038 | **4PN57** | 2.49 | **2.12** | 0.1 |
| **10** | 50.5 | 85-039 | **4PN58** | 2.49 | **2.12** | 0.1 |
| **11** | 50.5 | 85-040 | **4PN59** | 2.49 | **2.12** | 0.1 |
| **12** | 50.5 | 85-041 | **4PN60** | 2.49 | **2.12** | 0.2 |
| **13** | 50.5 | 85-042 | **4PN61** | 2.49 | **2.12** | 0.1 |
| **1/4" DRIVE 6 POINT DEEP METRIC SOCKETS** | | | | | | |
| **5** | 49.5 | 88-936 | **4R813** | 3.53 | **3.00** | 0.2 |
| **6** | 49.5 | 86-094 | **4PW30** | 3.53 | **3.00** | 0.1 |
| **7** | 49.5 | 86-095 | **4PW31** | 3.53 | **3.00** | 0.1 |
| **8** | 49.5 | 86-096 | **4PW32** | 3.53 | **3.00** | 0.3 |
| **9** | 49.5 | 86-097 | **4PW33** | 3.53 | **3.00** | 0.1 |
| **10** | 49.5 | 86-098 | **4PW34** | 4.18 | **3.55** | 0.1 |
| **11** | 49.5 | 86-099 | **4PW35** | 4.18 | **3.55** | 0.2 |
| **12** | 49.5 | 86-100 | **4PW36** | 4.18 | **3.55** | 0.3 |
| **13** | 49.5 | 86-116 | **4PW49** | 4.18 | **3.55** | 0.1 |

### LIFETIME LIMITED WARRANTY

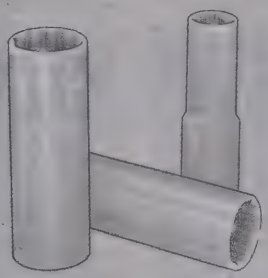
**All Stanley Tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.**

# 3/8" DRIVE INDIVIDUAL SOCKETS

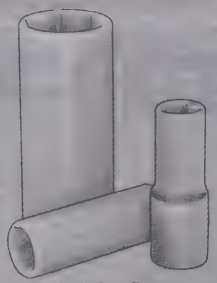
STANLEY®



12 Point Standard



12 Point Deep



6 Point Deep

New

Made In U.S.A.

## 3/8" DRIVE INDIVIDUAL STANDARD SOCKETS

| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8" DRIVE 12 POINT STANDARD SOCKETS** | | | | | | |
| 1/4 | 1 | 85-490 | **4PV25** | $2.47 | **$2.10** | 0.3 |
| 5/16 | 1 | 87-410 | **4R625** | 2.51 | **2.13** | 0.3 |
| 3/8 | 1 | 87-411 | **4R627** | 2.51 | **2.13** | 0.3 |
| 7/16 | 1 | 87-412 | **4R629** | 2.51 | **2.13** | 0.3 |
| 1/2 | 1 | 87-413 | **4R631** | 2.56 | **2.18** | 0.4 |
| 9/16 | 1 | 87-414 | **4R633** | 2.56 | **2.18** | 0.4 |
| 5/8 | 1 | 87-415 | **4R635** | 2.80 | **2.38** | 0.5 |
| 11/16 | 1 | 87-416 | **4R637** | 2.80 | **2.38** | 0.8 |
| 3/4 | 1⅛ | 87-417 | **4R639** | 2.93 | **2.49** | 0.6 |
| 13/16 | 1⅛ | 88-179 | **4R769** | 3.13 | **2.66** | 0.7 |
| 7/8 | 1¼ | 88-180 | **4R771** | 3.22 | **2.74** | 0.8 |
| 15/16 | 1⅜ | 88-181 | **4R773** | 3.31 | **2.81** | 0.8 |
| 1 | 1⅜ | 88-182 | **4R775** | 3.40 | **2.89** | 0.9 |
| **3/8" DRIVE 6 POINT STANDARD SOCKETS** | | | | | | |
| 1/4 | 1 | 86-260 | **4PW69** | 2.47 | **2.10** | 0.6 |
| 5/16 | 1 | 86-261 | **4PW70** | 3.31 | **2.81** | 0.4 |
| 3/8 | 1 | 86-262 | **4PW71** | 2.51 | **2.13** | 0.6 |
| 7/16 | 1 | 86-263 | **4PW72** | 2.51 | **2.13** | 0.5 |
| 1/2 | 1 | 86-264 | **4PW73** | 2.56 | **2.18** | 0.6 |
| 9/16 | 1 | 86-265 | **4PW74** | 2.56 | **2.18** | 0.6 |
| 5/8 | 1 | 86-266 | **4PW75** | 2.80 | **2.38** | 0.8 |
| 11/16 | 1 | 86-267 | **4PW76** | 2.80 | **2.38** | 0.9 |
| 3/4 | 1⅛ | 86-268 | **4PW77** | 2.93 | **2.49** | 1.2 |
| 13/16 | 1⅛ | 86-269 | **4PW78** | 3.13 | **2.66** | 0.3 |
| 7/8 | 1¼ | 86-270 | **4PW79** | 3.22 | **2.74** | 1.5 |
| 15/16 | 1⅜ | 88-166 | **4R765** | 3.56 | **3.03** | 1.6 |
| 1 | 1⅜ | 88-167 | **4R767** | 4.16 | **3.54** | 1.9 |
| **3/8" DRIVE 12 POINT DEEP SOCKETS** | | | | | | |
| 1/4 | 2⅛ | 85-497 | **4PV26** | 3.98 | **3.38** | 0.6 |
| 5/16 | 2⅛ | 85-498 | **4PV27** | 3.98 | **3.38** | 3.0 |
| 3/8 | 1¾ | 85-499 | **4PV28** | 3.98 | **3.38** | 0.5 |
| 7/16 | 1¾ | 85-500 | **4PV29** | 3.98 | **3.38** | 0.6 |
| 1/2 | 1⅞ | 85-501 | **4PV30** | 4.69 | **3.99** | 0.6 |
| 9/16 | 2 | 85-502 | **4PV31** | 4.69 | **3.99** | 0.6 |
| 5/8 | 2⅛ | 85-503 | **4PV32** | 4.69 | **3.99** | 0.7 |
| 11/16 | 2¼ | 85-504 | **4PV33** | 4.69 | **3.99** | 0.8 |
| 3/4 | 2¼ | 85-505 | **4PV34** | 5.56 | **4.73** | 0.9 |
| 13/16 | 2½ | 85-506 | **4PV35** | 5.56 | **4.73** | 1.1 |
| 7/8 | 2½ | 85-507 | **4PV36** | 7.02 | **5.97** | 1.3 |
| 15/16 | 2½ | 85-508 | **4PV37** | 7.96 | **6.77** | 1.6 |
| 1 | 2½ | 85-509 | **4PV38** | 8.98 | **7.63** | 1.7 |
| **3/8" DRIVE 6 POINT DEEP SOCKETS** | | | | | | |
| 3/8 | 1¾ | 86-281 | **4PW80** | 3.98 | **3.38** | 0.7 |
| 7/16 | 1⅞ | 86-282 | **4PW81** | 3.98 | **3.38** | 0.8 |
| 1/2 | 1⅞ | 86-283 | **4PW82** | 4.69 | **3.99** | 1.0 |
| 9/16 | 2 | 86-284 | **4PW83** | 4.69 | **3.99** | 1.2 |
| 5/8 | 2⅛ | 86-285 | **4PW84** | 4.69 | **3.99** | 1.4 |
| 11/16 | 2¼ | 86-286 | **4PW85** | 4.69 | **3.99** | 1.6 |
| 3/4 | 2¼ | 86-287 | **4PW86** | 5.62 | **4.78** | 1.8 |
| 13/16 | 2½ | 86-288 | **4PW87** | 5.62 | **4.78** | 2.1 |
| 7/8 | 2½ | 88-971 | **4R843** | 6.31 | **5.36** | 2.6 |

## 3/8" DRIVE INDIVIDUAL METRIC SOCKETS

| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8" DRIVE 12 POINT METRIC SOCKETS** | | | | | | |
| 8 | 23.8 | 87-759 | **4R689** | $2.47 | **$2.10** | 0.3 |
| 9 | 23.8 | 87-760 | **4R691** | 2.47 | **2.10** | 0.3 |
| 10 | 23.8 | 87-761 | **4R693** | 2.47 | **2.10** | 0.3 |
| 11 | 23.8 | 87-762 | **4R695** | 2.47 | **2.10** | 0.3 |
| 12 | 24.6 | 87-763 | **4R697** | 2.53 | **2.15** | 0.3 |
| 13 | 24.6 | 87-764 | **4R699** | 2.53 | **2.15** | 0.4 |
| 14 | 24.6 | 87-765 | **4R701** | 2.53 | **2.15** | 0.4 |
| 15 | 24.6 | 87-766 | **4R703** | 2.53 | **2.15** | 0.4 |
| 16 | 26.2 | 87-767 | **4R705** | 2.78 | **2.36** | 0.5 |
| 17 | 26.2 | 87-768 | **4R707** | 2.78 | **2.36** | 0.5 |
| 18 | 28.6 | 87-769 | **4R709** | 2.93 | **2.49** | 0.5 |
| 19 | 28.6 | 87-770 | **4R711** | 2.93 | **2.49** | 0.5 |
| 20 | 30.1 | 88-148 | **4R757** | 3.33 | **2.83** | 1.0 |
| 21 | 31.2 | 88-149 | **4R759** | 3.78 | **3.21** | 1.0 |
| 22 | 33.5 | 88-150 | **4R761** | 4.16 | **3.54** | 0.8 |
| 23 | 33.5 | 88-151 | **4R763** | 4.62 | **3.93** | 0.8 |
| **3/8" DRIVE 6 POINT METRIC SOCKETS** | | | | | | |
| 7 | 23.8 | 86-302 | **4PW88** | 2.47 | **2.10** | 0.4 |
| 8 | 23.8 | 86-303 | **4PW89** | 2.47 | **2.10** | 0.6 |
| 9 | 23.8 | 86-304 | **4PW90** | 2.47 | **2.10** | 0.4 |
| 10 | 23.8 | 86-305 | **4PW91** | 2.47 | **2.10** | 0.6 |
| 11 | 23.8 | 86-306 | **4PW92** | 2.47 | **2.10** | 0.5 |
| 12 | 24.6 | 86-307 | **4PW93** | 2.53 | **2.15** | 0.5 |
| 13 | 24.6 | 86-308 | **4PW94** | 2.53 | **2.15** | 0.6 |
| 14 | 24.6 | 86-309 | **4PW95** | 2.53 | **2.15** | 0.6 |
| 15 | 24.6 | 86-310 | **4PW96** | 2.53 | **2.15** | 0.7 |
| 16 | 26.2 | 86-311 | **4PW97** | 2.78 | **2.36** | 0.9 |
| 17 | 26.2 | 86-312 | **4PW98** | 2.78 | **2.36** | 0.9 |
| 18 | 28.8 | 86-313 | **4PW99** | 2.93 | **2.49** | 0.9 |
| 19 | 28.8 | 86-314 | **4PX01** | 2.93 | **2.49** | 1.0 |
| 20 | 31.2 | 86-315 | **4PX02** | 3.33 | **2.83** | 1.2 |
| 21 | 31.2 | 86-316 | **4PX03** | 3.78 | **3.21** | 1.3 |
| 22 | 31.2 | 86-317 | **4PX04** | 4.16 | **3.54** | 1.5 |
| **3/8" DRIVE 12 POINT DEEP METRIC SOCKETS** | | | | | | |
| 8 | 54 | 86-338 | **4PX15** | 2.47 | **2.10** | 0.6 |
| 9 | 54 | 86-339 | **4PX16** | 2.47 | **2.10** | 0.5 |
| 10 | 54 | 86-362 | **4PX19** | 2.47 | **2.10** | 3.0 |
| 11 | 54 | 86-363 | **4PX20** | 2.47 | **2.10** | 0.6 |
| 12 | 54 | 86-364 | **4PX21** | 2.53 | **2.15** | 0.6 |
| 13 | 54 | 86-365 | **4PX22** | 2.53 | **2.15** | 0.7 |
| 14 | 54 | 86-366 | **4PX23** | 2.53 | **2.15** | 0.7 |
| 15 | 69.9 | 86-367 | **4PX24** | 2.53 | **2.15** | 0.7 |
| 16 | 69.9 | 85-085 | **4PN89** | 2.78 | **2.36** | 0.9 |
| 17 | 69.9 | 86-369 | **4PX25** | 2.78 | **2.36** | 0.9 |
| 18 | 69.9 | 86-370 | **4PX26** | 2.93 | **2.49** | 0.9 |
| 19 | 69.9 | 86-371 | **4PX27** | 2.93 | **2.49** | 1.0 |
| **3/8" DRIVE 6 POINT DEEP METRIC SOCKETS** | | | | | | |
| 10 | 45.5 | 86-322 | **4PX05** | 4.69 | **3.99** | 5.7 |
| 11 | 46 | 86-323 | **4PX06** | 4.69 | **3.99** | 0.9 |
| 12 | 46 | 86-324 | **4PX07** | 4.69 | **3.99** | 0.9 |
| 13 | 46 | 86-325 | **4PX08** | 4.69 | **3.99** | 1.0 |
| 14 | 50.5 | 86-326 | **4PX09** | 4.69 | **3.99** | 1.2 |
| 15 | 53.5 | 86-327 | **4PX10** | 5.62 | **4.78** | 1.4 |
| 17 | 56 | 86-328 | **4PX11** | 5.62 | **4.78** | 1.6 |
| 18 | 56 | 88-826 | **4R809** | 6.31 | **5.36** | 1.2 |
| 19 | 56.5 | 86-329 | **4PX12** | 6.31 | **5.36** | 1.7 |

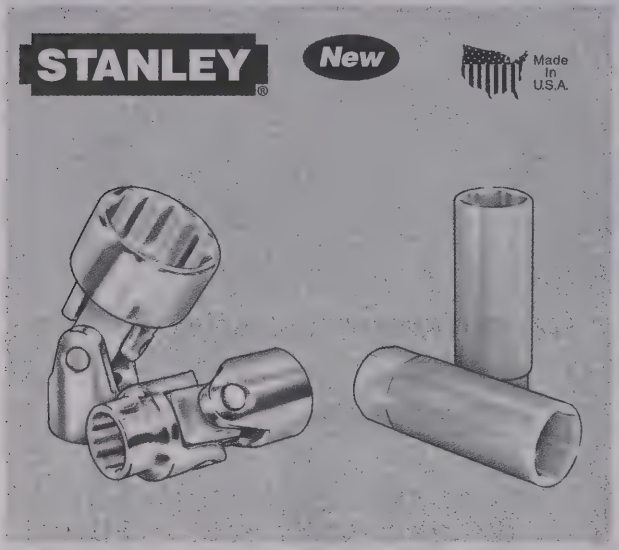
**LIFETIME LIMITED WARRANTY**

All Stanley Tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.

# 3/8" DRIVE INDIVIDUAL SOCKETS

## 3/8" DRIVE SOCKETS

STANLEY® New Made in U.S.A.



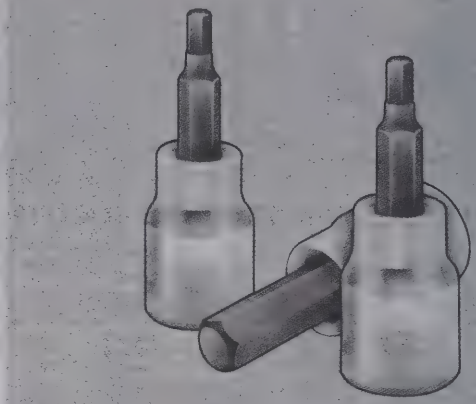
| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8" DRIVE 12 POINT UNIVERSAL SOCKETS** | | | | | | |
| **3/8** | 1¾ | 85-069 | **4PN75** | $16.62 | **$14.13** | 0.3 |
| **7/16** | 1¾ | 85-070 | **4PN76** | 16.62 | **14.13** | 0.3 |
| **1/2** | 1⅞ | 85-071 | **4PN77** | 16.62 | **14.13** | 0.3 |
| **9/16** | 1⅞ | 85-072 | **4PN78** | 16.62 | **14.13** | 0.3 |
| **5/8** | 1⅞ | 85-073 | **4PN79** | 16.62 | **14.13** | 0.4 |
| **11/16** | 1⅞ | 85-074 | **4PN80** | 16.62 | **14.13** | 0.3 |
| **3/4** | 2 | 85-075 | **4PN81** | 16.62 | **14.13** | 0.3 |
| **3/8" DRIVE SPARK PLUG SOCKETS** | | | | | | |
| **5/8** | 2½ | 86-380 | **4PX28** | 4.89 | **4.16** | 0.4 |
| **13/16** | 2¾ | 86-381 | **4PX29** | 4.89 | **4.16** | 0.6 |
| **3/8" DRIVE UNIVERSAL SPARK PLUG SOCKETS** | | | | | | |
| **5/8** | 1⅞ | 85-067 | **4PN73** | 17.36 | **14.76** | 0.4 |
| **13/16** | 1⅞ | 85-068 | **4PN74** | 17.36 | **14.76** | 0.4 |

**LIFETIME LIMITED WARRANTY**

All Stanley Tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside back cover.

## 3/8" DRIVE HEX BIT SOCKETS

STANLEY® New Made in U.S.A.



| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8" DRIVE HEX BITS** | | | | | | |
| **1/8** | 2 | 86-387 | **4PX33** | $5.00 | **$4.25** | 0.1 |
| **5/32** | 2 | 86-388 | **4PX34** | 5.67 | **4.82** | 0.1 |
| **3/16** | 2 | 86-389 | **4PX35** | 6.07 | **5.16** | 0.1 |
| **7/32** | 2 | 86-390 | **4PX36** | 6.07 | **5.16** | 0.1 |
| **1/4** | 2 | 86-391 | **4PX37** | 6.07 | **5.16** | 0.1 |
| **5/16** | 2 | 86-392 | **4PX38** | 6.07 | **5.16** | 0.1 |
| **3/8** | 2 | 86-393 | **4PX39** | 6.07 | **5.16** | 0.1 |
| **3/8" DRIVE HEX BIT, METRIC** | | | | | | |
| **4** | 49.5 | 87-971 | **4R745** | 6.07 | **5.16** | 0.1 |
| **5** | 49.5 | 87-972 | **4R747** | 6.07 | **5.16** | 0.1 |
| **6** | 49.5 | 87-973 | **4R749** | 6.07 | **5.16** | 0.1 |
| **7** | 49.5 | 87-974 | **4R751** | 6.07 | **5.16** | 0.1 |
| **8** | 49.5 | 87-975 | **4R753** | 6.07 | **5.16** | 0.2 |
| **10** | 49.5 | 87-976 | **4R755** | 6.07 | **5.16** | 0.2 |

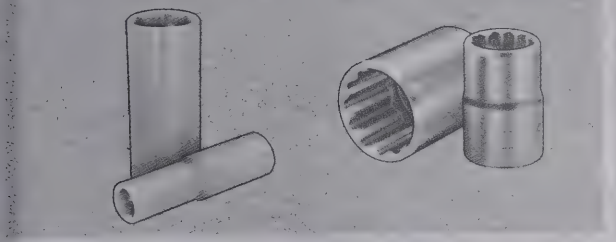
**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# 1/2" DRIVE INDIVIDUAL SOCKETS

## 1/2" DRIVE INDIVIDUAL STANDARD SOCKETS

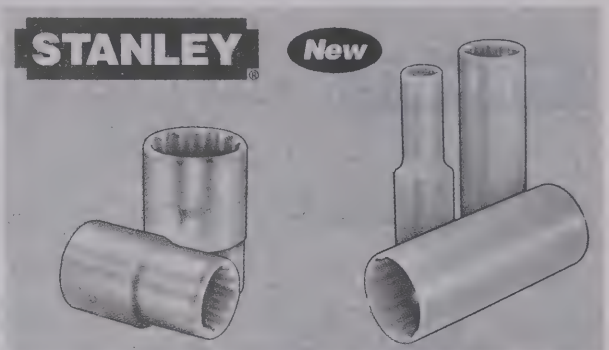
STANLEY® Made in U.S.A. New



| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/2" DRIVE 12 POINT STANDARD SOCKETS** | | | | | | |
| 3/8 | 1½ | 86-461 | 4PX71 | $3.98 | $3.38 | 0.2 |
| 7/16 | 1½ | 86-462 | 4PX72 | 3.98 | 3.38 | 0.2 |
| 1/2 | 1½ | 86-463 | 4PX73 | 3.98 | 3.38 | 0.2 |
| 9/16 | 1½ | 86-464 | 4PX74 | 3.98 | 3.38 | 0.2 |
| 5/8 | 1½ | 86-465 | 4PX75 | 4.29 | 3.65 | 0.2 |
| 11/16 | 1½ | 86-466 | 4PX76 | 4.29 | 3.65 | 0.3 |
| 3/4 | 1½ | 86-467 | 4PX77 | 4.29 | 3.65 | 0.2 |
| 13/16 | 1½ | 86-468 | 4PX78 | 4.29 | 3.65 | 0.4 |
| 7/8 | 1½ | 86-469 | 4PX79 | 4.67 | 3.97 | 0.3 |
| 15/16 | 1½ | 86-470 | 4PX80 | 4.67 | 3.97 | 0.3 |
| 1 | 1⅝ | 86-471 | 4PX81 | 5.78 | 4.91 | 0.3 |
| 1 1/16 | 1¾ | 86-472 | 4PX82 | 5.78 | 4.91 | 0.4 |
| 1⅛ | 1¾ | 86-473 | 4PX83 | 6.04 | 5.13 | 0.4 |
| 1 3/16 | 1¾ | 86-496 | 4PX96 | 6.04 | 5.13 | 0.5 |
| 1¼ | 1⅞ | 86-474 | 4PX84 | 6.76 | 5.75 | 0.5 |
| **1/2" DRIVE 6 POINT STANDARD SOCKETS** | | | | | | |
| 3/8 | 1½ | 86-442 | 4PX66 | 3.53 | 3.00 | 0.1 |
| 7/16 | 1½ | 86-443 | 4PX67 | 3.53 | 3.00 | 0.2 |
| 1/2 | 1½ | 86-444 | 4PX68 | 3.53 | 3.00 | 0.1 |
| 9/16 | 1½ | 86-445 | 4PX69 | 3.47 | 2.95 | 0.1 |
| 5/8 | 1½ | 88-766 | 4R781 | 3.98 | 3.38 | 0.2 |
| 11/16 | 1½ | 88-767 | 4R783 | 3.98 | 3.38 | 0.2 |
| 3/4 | 1½ | 88-768 | 4R785 | 3.98 | 3.38 | 0.2 |
| 13/16 | 1½ | 88-769 | 4R787 | 3.98 | 3.38 | 0.2 |
| 7/8 | 1½ | 88-770 | 4R789 | 4.11 | 3.49 | 0.3 |
| 15/16 | 1½ | 88-771 | 4R791 | 4.47 | 3.80 | 0.3 |
| 1 | 1⅝ | 88-773 | 4R793 | 4.47 | 3.80 | 0.4 |
| 1 1/16 | 1¾ | 88-774 | 4R795 | 5.40 | 4.59 | 0.4 |
| 1⅛ | 1¾ | 88-775 | 4R797 | 6.04 | 5.13 | 0.4 |
| 1¼ | 1¾ | 88-776 | 4R799 | 6.76 | 5.75 | 0.5 |
| 1 3/16 | 1¾ | 86-458 | 4PX70 | 6.76 | 5.75 | 0.9 |
| **1/2" DRIVE 12 POINT DEEP SOCKETS** | | | | | | |
| 1/2 | 3⅛ | 86-481 | 4PX85 | 7.13 | 6.06 | 0.3 |
| 9/16 | 3⅛ | 86-482 | 4PX86 | 7.13 | 6.06 | 0.3 |
| 5/8 | 3⅛ | 86-483 | 4PX87 | 7.13 | 6.06 | 0.4 |
| 11/16 | 3⅛ | 86-484 | 4PX88 | 7.13 | 6.06 | 0.6 |
| 3/4 | 3⅛ | 86-485 | 4PX89 | 7.87 | 6.69 | 0.4 |
| 13/16 | 3⅛ | 86-486 | 4PX90 | 7.87 | 6.69 | 0.1 |
| 7/8 | 3⅛ | 86-487 | 4PX91 | 9.24 | 7.85 | 0.5 |
| 15/16 | 3⅛ | 86-488 | 4PX92 | 9.24 | 7.85 | 0.6 |
| 1 | 3⅛ | 86-489 | 4PX93 | 10.71 | 9.10 | 1.2 |
| 1 1/16 | 3⅛ | 86-490 | 4PX94 | 12.53 | 10.65 | 0.8 |
| 1⅛ | 3⅛ | 86-491 | 4PX95 | 12.53 | 10.65 | 0.9 |
| **1/2" DRIVE 6 POINT DEEP SOCKETS** | | | | | | |
| 1/2 | 3⅛ | 88-945 | 4R821 | 7.13 | 6.06 | 0.3 |
| 9/16 | 3⅛ | 88-946 | 4R823 | 7.13 | 6.06 | 0.3 |
| 5/8 | 3⅛ | 88-947 | 4R825 | 7.13 | 6.06 | 0.3 |
| 11/16 | 3⅛ | 88-948 | 4R827 | 7.13 | 6.06 | 0.6 |
| 3/4 | 3⅛ | 88-949 | 4R829 | 7.13 | 6.06 | 0.3 |
| 13/16 | 3⅛ | 88-950 | 4R831 | 7.13 | 6.06 | 0.3 |
| 7/8 | 3⅛ | 88-951 | 4R833 | 9.24 | 7.85 | 0.6 |
| 15/16 | 3⅛ | 88-952 | 4R835 | 9.24 | 7.85 | 0.1 |
| 1 | 3⅛ | 88-953 | 4R837 | 10.71 | 9.10 | 0.9 |
| 1 1/16 | 3⅛ | 88-954 | 4R839 | 12.53 | 10.65 | 0.8 |
| 1⅛ | 3⅛ | 88-955 | 4R841 | 12.53 | 10.65 | |

## 1/2" DRIVE INDIVIDUAL METRIC SOCKETS

STANLEY® New



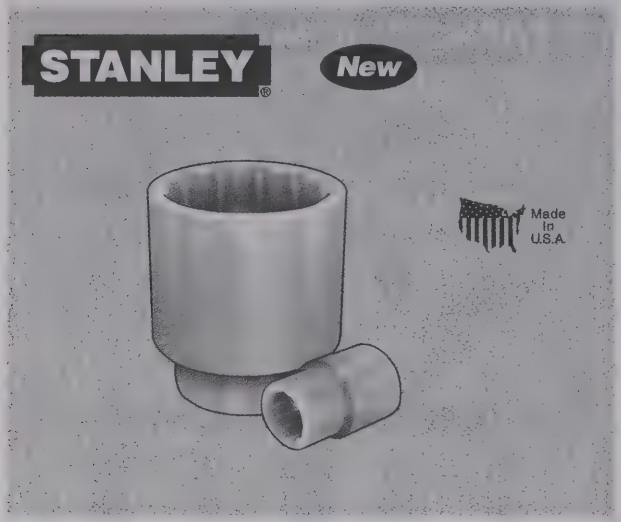
| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/2" DRIVE 12 POINT METRIC SOCKETS** | | | | | | |
| 10 | 38.0 | 86-542 | 4PX97 | $4.24 | $3.60 | 0.2 |
| 11 | 38.0 | 86-543 | 4PX98 | 4.24 | 3.60 | 0.3 |
| 12 | 38.0 | 86-544 | 4PX99 | 4.20 | 3.57 | 0.2 |
| 13 | 38.0 | 86-545 | 4PZ01 | 4.20 | 3.57 | 0.2 |
| 14 | 38.0 | 86-546 | 4PZ02 | 4.20 | 3.57 | 0.2 |
| 15 | 38.0 | 86-547 | 4PZ03 | 4.20 | 3.57 | 0.2 |
| 16 | 38.0 | 86-548 | 4PZ04 | 4.29 | 3.65 | 0.2 |
| 17 | 38.0 | 86-549 | 4PZ05 | 4.29 | 3.65 | 0.3 |
| 18 | 38.0 | 86-550 | 4PZ06 | 4.29 | 3.65 | 0.3 |
| 19 | 38.0 | 86-551 | 4PZ07 | 4.67 | 3.97 | 0.2 |
| 20 | 38.0 | 86-552 | 4PZ08 | 4.73 | 4.02 | 0.5 |
| 21 | 38.0 | 86-553 | 4PZ09 | 5.78 | 4.91 | 0.4 |
| 22 | 38.0 | 86-554 | 4PZ10 | 5.78 | 4.91 | 0.4 |
| 23 | 38.0 | 86-555 | 4PZ11 | 5.78 | 4.91 | 0.6 |
| 24 | 38.0 | 86-556 | 4PZ12 | 5.78 | 4.91 | 0.5 |
| 25 | 41.0 | 88-797 | 4R801 | 6.49 | 5.52 | 0.6 |
| 26 | 41.0 | 88-798 | 4R803 | 6.76 | 5.75 | 0.6 |
| 27 | 42.5 | 86-557 | 4PZ13 | 8.27 | 7.03 | 0.6 |
| 28 | 43.0 | 88-800 | 4R805 | 8.98 | 7.63 | 0.9 |
| 30 | 43.0 | 86-559 | 4PZ14 | 10.07 | 8.56 | 0.8 |
| 32 | 47.0 | 88-803 | 4R807 | 10.78 | 9.16 | 1.1 |
| 36 | 57.0 | 88-187 | 4R777 | 11.49 | 9.77 | 2.2 |
| **1/2" DRIVE 12 POINT DEEP METRIC SOCKETS** | | | | | | |
| 10 | 79.5 | 86-418 | 4PX48 | 6.91 | 5.87 | 0.3 |
| 11 | 79.5 | 86-419 | 4PX49 | 6.91 | 5.87 | 0.3 |
| 12 | 79.5 | 86-420 | 4PX50 | 7.13 | 6.06 | 0.2 |
| 13 | 79.5 | 86-421 | 4PX51 | 7.13 | 6.06 | 0.3 |
| 14 | 79.5 | 86-422 | 4PX52 | 7.13 | 6.06 | 0.1 |
| 15 | 79.5 | 86-423 | 4PX53 | 7.13 | 6.06 | 0.3 |
| 16 | 79.5 | 86-424 | 4PX54 | 7.13 | 6.06 | 0.3 |
| 17 | 79.5 | 86-425 | 4PX55 | 7.13 | 6.06 | 0.4 |
| 18 | 79.5 | 86-426 | 4PX56 | 7.13 | 6.06 | 0.8 |
| 19 | 79.5 | 86-427 | 4PX57 | 7.13 | 6.06 | 0.4 |
| 20 | 79.5 | 86-428 | 4PX58 | 7.13 | 6.06 | 0.5 |
| 21 | 79.5 | 86-429 | 4PX59 | 9.27 | 7.88 | 0.4 |
| 22 | 79.5 | 86-430 | 4PX60 | 9.27 | 7.88 | 0.5 |
| 23 | 79.5 | 86-431 | 4PX61 | 9.27 | 7.88 | 0.6 |
| 24 | 79.5 | 86-432 | 4PX62 | 9.27 | 7.88 | 0.9 |
| 25 | 79.5 | 86-433 | 4PX63 | 10.73 | 9.12 | 0.6 |
| 26 | 79.5 | 86-434 | 4PX64 | 10.73 | 9.12 | 0.6 |
| 27 | 79.5 | 86-435 | 4PX65 | 10.73 | 9.12 | 1.4 |

### LIFETIME LIMITED WARRANTY

AllStanley Tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.

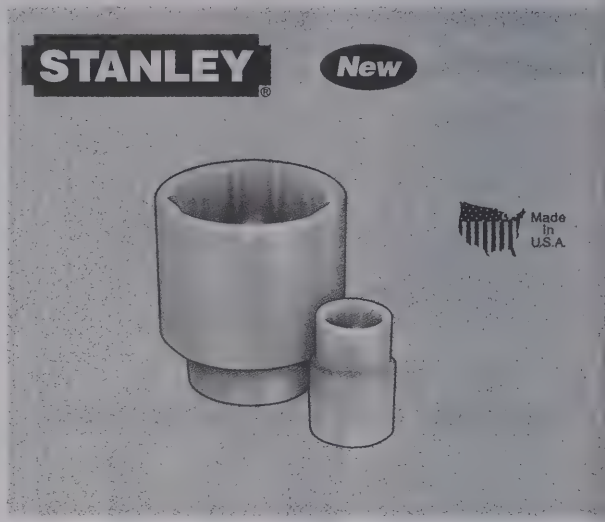
# 3/4" DRIVE INDIVIDUAL SOCKETS

## 3/4" DRIVE INDIVIDUAL STANDARD SOCKETS




| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/4" DRIVE 12 POINT STANDARD SOCKETS** | | | | | | |
| **3/4** | 2 | 85-515 | **4PV42** | $12.82 | **$10.90** | 0.3 |
| **13/16** | 2 | 85-516 | **4PV43** | 12.82 | **10.90** | 0.6 |
| **7/8** | 2 | 85-517 | **4PV44** | 12.82 | **10.90** | 0.8 |
| **15/16** | 2 | 85-518 | **4PV45** | 12.82 | **10.90** | 0.5 |
| **1** | 2 | 85-519 | **4PV46** | 12.82 | **10.90** | 1.2 |
| **1 1/16** | 2 | 85-520 | **4PV47** | 13.04 | **11.08** | 1.3 |
| **1 1/8** | 2 1/4 | 85-521 | **4PV48** | 13.91 | **11.82** | 0.7 |
| **1 3/16** | 2 1/4 | 85-522 | **4PV49** | 14.09 | **11.98** | 0.1 |
| **1 1/4** | 2 3/8 | 85-523 | **4PV50** | 15.04 | **12.78** | 1.0 |
| **1 5/16** | 2 3/8 | 85-524 | **4PV51** | 16.40 | **13.94** | 1.0 |
| **1 3/8** | 2 3/8 | 85-525 | **4PV52** | 17.80 | **15.13** | 0.8 |
| **1 7/16** | 2 3/8 | 85-526 | **4PV53** | 19.11 | **16.24** | 2.2 |
| **1 1/2** | 2 1/2 | 85-527 | **4PV54** | 19.64 | **16.69** | 1.1 |
| **1 5/8** | 2 5/8 | 85-528 | **4PV55** | 23.96 | **20.37** | 1.5 |
| **1 11/16** | 2 5/8 | 85-529 | **4PV56** | 26.40 | **22.44** | 1.8 |
| **1 3/4** | 2 3/4 | 85-530 | **4PV57** | 26.40 | **22.44** | 1.8 |
| **1 13/16** | 2 3/4 | 85-531 | **4PV58** | 28.38 | **24.12** | 2.0 |
| **1 7/8** | 3 | 85-532 | **4PV59** | 30.11 | **25.60** | 1.9 |
| **2** | 3 1/8 | 85-533 | **4PV60** | 32.36 | **27.55** | 2.4 |
| **2 1/16** | 3 1/4 | 85-534 | **4PV61** | 38.73 | **32.95** | 3.8 |
| **2 3/16** | 3 1/4 | 85-535 | **4PV62** | 41.33 | **35.15** | 3.8 |
| **2 1/4** | 3 3/8 | 85-536 | **4PV63** | 41.33 | **35.15** | 3.2 |
| **2 3/8** | 3 3/8 | 85-537 | **4PV64** | 55.49 | **47.20** | 4.0 |

## 3/4" DRIVE INDIVIDUAL METRIC SOCKETS




| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/4" DRIVE 12 POINT METRIC SOCKETS** | | | | | | |
| **19** | 50.8 | 85-538 | **4PV65** | $14.18 | **$12.05** | 0.7 |
| **21** | 50.8 | 85-539 | **4PV66** | 14.38 | **12.22** | 0.9 |
| **22** | 50.8 | 85-540 | **4PV67** | 14.44 | **12.27** | 0.8 |
| **23** | 50.8 | 85-841 | **4PW04** | 14.47 | **12.30** | 0.4 |
| **24** | 50.8 | 85-542 | **4PV68** | 14.51 | **12.33** | 0.5 |
| **25** | 51.6 | 85-543 | **4PV69** | 14.58 | **12.39** | 0.1 |
| **26** | 51.6 | 85-544 | **4PV70** | 14.67 | **12.47** | 0.5 |
| **27** | 51.6 | 85-545 | **4PV71** | 14.67 | **12.47** | 0.6 |
| **28** | 56.4 | 85-546 | **4PV72** | 14.71 | **12.50** | 1.4 |
| **29** | 56.4 | 85-547 | **4PV73** | 14.80 | **12.58** | 1.4 |
| **30** | 57.9 | 85-548 | **4PV74** | 15.76 | **13.40** | 1.3 |
| **31** | 57.9 | 85-549 | **4PV75** | 16.60 | **14.11** | 1.5 |
| **32** | 57.9 | 85-550 | **4PV76** | 17.51 | **14.88** | 2.2 |
| **35** | 59.4 | 85-551 | **4PV77** | 19.44 | **16.52** | 1.7 |
| **36** | 62.7 | 85-552 | **4PV78** | 21.36 | **18.16** | 1.2 |
| **38** | 62.7 | 85-553 | **4PV79** | 22.67 | **19.27** | 2.2 |
| **41** | 67.6 | 85-554 | **4PV80** | 27.29 | **23.20** | 1.5 |
| **42** | 70.6 | 85-555 | **4PV81** | 28.18 | **23.95** | 1.6 |
| **46** | 75.4 | 85-556 | **4PV82** | 34.42 | **29.30** | 2.0 |
| **50** | 80.3 | 85-557 | **4PV83** | 38.82 | **33.00** | 2.7 |
| **54** | 80.3 | 85-558 | **4PV84** | 46.40 | **39.45** | 2.9 |
| **55** | 80.3 | 85-559 | **4PV85** | 59.67 | **50.75** | 2.9 |

## ORDER DIRECT FROM GRAINGER

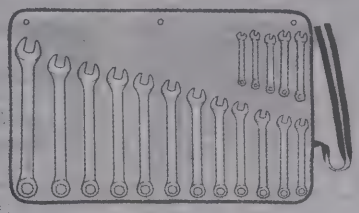
You can order directly from Grainger, call your local branch and place an order.
To find the branch nearest you, check the Branch Locations listed in the front of this catalog.
You can pick your order up or we'll ship it today.

# WRENCH SETS

## COMBINATION WRENCH SETS

STANLEY®

New



No. 4PT90

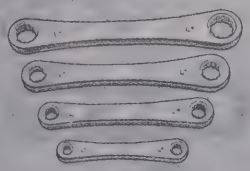



| No. of Pieces | Wrenches Included in Set | Stanley Model | New! Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | **COMBINATION SATIN WRENCH SETS** | | | | | | |
| 18 | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4" and 10, 11, 12, 13, 14, 15, 16, 17, and 18mm in Blow Molded Box | 85-457 | 4PV01 | $124.67 | $59.95 | ▲ | 3.2 |
| 14 | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, and 1 1/4" in Vinyl Pouch | 85-452 | 4PT95 | 162.64 | 59.95 | ▲ | 10.0 |
| 11 | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, and 1" in Vinyl Pouch | 85-450 | 4PT93 | 93.36 | 39.95 | ▲ | 5.7 |
| 8 | 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4" in Plastic Storage Rack | 85-455 | 4PT98 | 65.00 | 24.95 | ▲ | 2.0 |
| 6 | 3/8, 7/16, 1/2, 9/16, 5/8, and 3/4" in Vinyl Pouch | 85-448 | 4PT91 | 37.64 | 14.95 | ▲ | 1.7 |
| | **COMBINATION FULL POLISH WRENCH SETS** | | | | | | |
| 14 | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, and 1 1/4" in Vinyl Pouch | 85-454 | 4PT97 | 191.98 | 99.95 | ▲ | 11.0 |
| 8 | 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, and 3/4" in Rack | 85-456 | 4PT99 | 76.73 | 28.95 | ▲ | 2.0 |
| | **METRIC COMBINATION SATIN WRENCH SETS** | | | | | | |
| 17 | 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22mm in Vinyl Pouch | 85-477 | 4PT90 | 124.80 | 59.95 | ▲ | 5.6 |
| 11 | 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, and 18mm in Vinyl Pouch | 85-451 | 4PT94 | 71.18 | 34.95 | ▲ | 2.4 |
| 7 | 9, 10, 11, 12, 14, 17, and 19mm in Vinyl Pouch | 85-446 | 4PT89 | 48.40 | 24.95 | ▲ | 1.9 |
| | **METRIC COMBINATION FULL POLISH WRENCH SETS** | | | | | | |
| 16 | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, and 24mm in Vinyl Pouch | 85-474 | 4PV14 | 203.75 | 97.95 | ▲ | 6.8 |
| 10 | 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19mm in Vinyl Pouch | 85-475 | 4PV15 | 108.24 | 51.95 | ▲ | 3.3 |

## BOX, OPEN END, AND FLARE NUT WRENCH SETS

STANLEY®

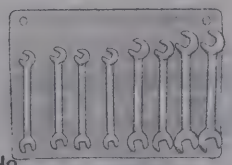
New



No. 4PV05



No. 4PV03



No. 4PV13

| No. of Pieces | Wrenches Included in Set | Stanley Model | New! Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | **BOX END WRENCH SETS** | | | | | | |
| 6 | 3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4, 11/16 x 3/4, 13/16 x 7/8, 15/16 x 1" in Vinyl Pouch | 85-459 | 4PV03 | $67.76 | $34.95 | ▲ | 3.8 |
| 5 | 10 x 11, 12 x 13, 14 x 15, 16 x 17, 18 x 19mm in Vinyl Pouch | 85-460 | 4PV04 | 61.07 | 29.95 | ▲ | 2.0 |
| | **RATCHETING BOX WRENCH SETS** | | | | | | |
| 4 | 1/4 x 15/16, 3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4" in Vinyl Pouch | 85-461 | 4PV05 | 29.84 | 15.95 | ▲ | 1.7 |
| 4 | 6 x 8mm, 10 x 11, 12 x 13, 14 x 16mm in Vinyl Pouch | 85-462 | 4PV06 | 29.84 | 15.95 | ▲ | 1.8 |
| | **OPEN END WRENCH SETS** | | | | | | |
| 7 | 1/4 x 5/16, 3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4 11/16 x 13/16, 3/4 x 7/8, 15/16 x 1" in Vinyl Pouch | 85-463 | 4PV07 | 60.93 | 31.95 | ▲ | 3.2 |
| 7 | 6 x 7, 8 x 9, 10 x 11, 12 x 13, 14 x 15, 16 x 18, 17 x 19mm in Vinyl Pouch | 85-464 | 4PV08 | 75.40 | 39.95 | ▲ | 1.8 |
| | **IGNITION SET** | | | | | | |
| 8 | 13/64 x 15/64, 15/64 x 13/64, 7/32 x 1/4, 1/4 x 7/32, 9/32 x 5/16, 5/16 x 9/32, 11/32 x 3/8, 3/8 x 11/32" in Vinyl Pouch | 85-469 | 4PV13 | 22.38 | 10.95 | ▲ | 0.3 |
| | **FLARE NUT WRENCH SET** | | | | | | |
| 3 | 3/8 x 7/16, 1/2 x 9/16, 5/8 x 11/16" in Vinyl Pouch | 85-468 | 4PV12 | 28.76 | 14.95 | ▲ | 1.0 |

(▲) Net prices, not subject to discounts.

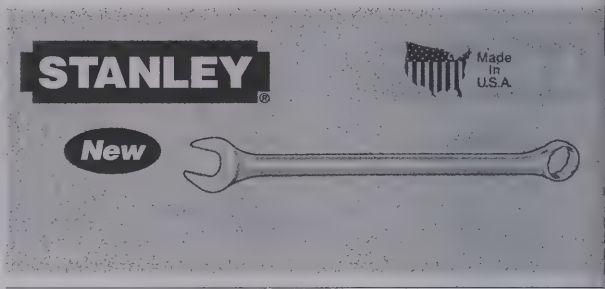
# INDIVIDUAL WRENCHES

## COMBINATION SATIN WRENCHES



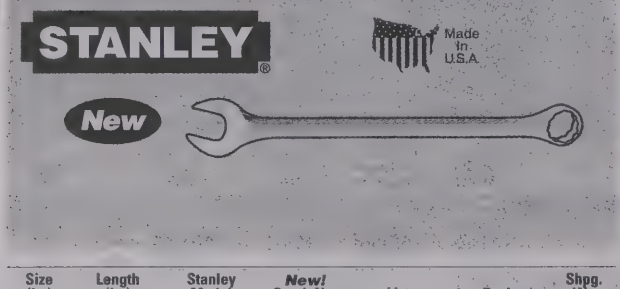

| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 3 7/64 | 86-831 | 4PZ37 | $5.98 | $5.08 | 0.1 |
| 5/16 | 4 1/32 | 86-832 | 4PZ38 | 6.16 | 5.24 | 0.1 |
| 3/8 | 5 5/64 | 86-833 | 4PZ39 | 6.47 | 5.50 | 0.1 |
| 7/16 | 5 45/64 | 86-834 | 4PZ40 | 6.40 | 5.44 | 0.2 |
| 1/2 | 6 23/64 | 86-835 | 4PZ41 | 7.98 | 6.78 | 0.3 |
| 9/16 | 7 3/64 | 86-836 | 4PZ42 | 8.18 | 6.95 | 0.3 |
| 5/8 | 7 51/64 | 86-837 | 4PZ43 | 9.02 | 7.67 | 0.6 |
| 11/16 | 8 43/64 | 86-838 | 4PZ44 | 9.58 | 8.14 | 0.4 |
| 3/4 | 9 37/64 | 86-839 | 4PZ45 | 11.04 | 9.38 | 0.6 |
| 13/16 | 10 31/64 | 86-840 | 4PZ46 | 11.91 | 10.12 | 0.7 |
| 7/8 | 11 25/64 | 86-841 | 4PZ47 | 14.20 | 12.07 | 0.8 |
| 15/16 | 12 17/32 | 86-842 | 4PZ48 | 18.07 | 12.65 | 0.9 |
| 1 | 13 31/64 | 86-843 | 4PZ49 | 20.07 | 14.05 | 1.1 |
| 1 1/16 | 14 41/64 | 86-844 | 4PZ50 | 25.31 | 17.72 | 1.4 |
| 1 1/8 | 15 7/16 | 86-845 | 4PZ51 | 32.18 | 22.53 | 1.4 |
| 1 1/4 | 16 49/64 | 86-846 | 4PZ52 | 33.53 | 23.47 | 2.1 |
| 1 5/16 | 17 13/16 | 85-560 | 4PV86 | 54.67 | 38.30 | 5.3 |
| 1 3/8 | 17 57/64 | 85-561 | 4PV87 | 56.53 | 39.60 | 2.5 |
| 1 7/16 | 17 27/32 | 85-562 | 4PV88 | 66.09 | 46.30 | 3.4 |
| 1 1/2 | 19 61/64 | 85-563 | 4PV89 | 71.09 | 49.80 | 3.5 |
| 1 5/8 | 21 1/4 | 85-564 | 4PV90 | 87.51 | 61.30 | 4.5 |
| 1 11/16 | 21 7/8 | 85-565 | 4PV91 | 98.47 | 68.95 | 4.4 |
| 1 3/4 | 23 9/64 | 85-566 | 4PV92 | 103.91 | 72.75 | 5.9 |
| 1 13/16 | 23 3/4 | 85-567 | 4PV93 | 110.87 | 77.65 | 5.7 |
| 1 7/8 | 25 5/64 | 85-568 | 4PV94 | 127.62 | 89.35 | 8.6 |
| 2 | 25 5/64 | 85-569 | 4PV95 | 132.00 | 92.40 | 8.2 |

## METRIC COMBINATION SATIN WRENCHES



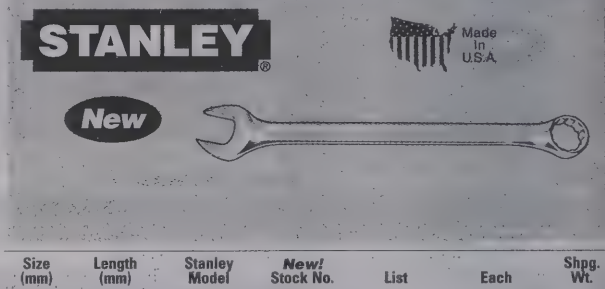

| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6 | 99 | 86-851 | 4PZ53 | $5.98 | $5.08 | 0.1 |
| 7 | 106 | 86-852 | 4PZ54 | 5.98 | 5.08 | 0.1 |
| 8 | 108.9 | 86-853 | 4PZ55 | 6.31 | 5.36 | 0.1 |
| 9 | 120.9 | 86-854 | 4PZ56 | 6.49 | 5.52 | 0.1 |
| 10 | 128.9 | 86-855 | 4PZ57 | 6.69 | 5.69 | 0.1 |
| 11 | 144.8 | 86-856 | 4PZ58 | 7.33 | 6.23 | 0.2 |
| 12 | 152.8 | 86-857 | 4PZ59 | 7.33 | 6.23 | 0.1 |
| 13 | 161.7 | 86-858 | 4PZ60 | 7.98 | 6.78 | 0.2 |
| 14 | 179.6 | 86-859 | 4PZ61 | 8.18 | 6.95 | 0.3 |
| 15 | 189.6 | 86-860 | 4PZ62 | 8.18 | 6.95 | 0.3 |
| 16 | 199.5 | 86-861 | 4PZ63 | 9.24 | 7.85 | 0.5 |
| 17 | 220.5 | 86-862 | 4PZ64 | 10.22 | 8.69 | 0.4 |
| 18 | 231.4 | 86-863 | 4PZ65 | 10.22 | 8.69 | 0.3 |
| 19 | 243.4 | 86-864 | 4PZ66 | 11.64 | 9.89 | 0.5 |
| 20 | 255.3 | 86-865 | 4PZ67 | 12.71 | 10.80 | 0.9 |
| 21 | 268.4 | 86-866 | 4PZ68 | 12.64 | 10.74 | 0.1 |
| 22 | 293.3 | 86-867 | 4PZ69 | 16.07 | 11.25 | 0.9 |
| 23 | 305.2 | 86-868 | 4PZ70 | 19.00 | 13.30 | 1.7 |
| 24 | 318.2 | 86-869 | 4PZ71 | 21.04 | 14.73 | 1.0 |
| 25 | 342.7 | 86-625 | 4PZ17 | 22.98 | 16.09 | 1.0 |
| 26 | 354.1 | 86-626 | 4PZ18 | 22.98 | 16.09 | 1.2 |
| 27 | 373 | 86-890 | 4PZ79 | 25.87 | 18.11 | 2.6 |
| 28 | 392 | 86-628 | 4PZ19 | 34.96 | 24.47 | 1.4 |
| 30 | 392 | 86-630 | 4PZ20 | 38.20 | 26.75 | 1.8 |
| 32 | 428.3 | 86-871 | 4PZ72 | 39.98 | 28.00 | 4.3 |

## COMBINATION FULL POLISH WRENCHES




| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 5/16 | 4 7/16 | 85-622 | 4PR06 | $8.16 | $6.94 | 0.1 |
| 3/8 | 4 7/8 | 85-624 | 4PR07 | 8.16 | 6.94 | 0.1 |
| 7/16 | 5 7/16 | 85-625 | 4PR08 | 9.49 | 8.07 | 0.2 |
| 1/2 | 6 1/32 | 85-626 | 4PR09 | 9.49 | 8.07 | 0.2 |
| 9/16 | 6 29/32 | 85-627 | 4PR10 | 10.16 | 8.64 | 0.3 |
| 5/8 | 7 1/2 | 85-628 | 4PR11 | 11.04 | 9.38 | 0.5 |
| 11/16 | 8 3/8 | 85-629 | 4PR12 | 12.64 | 10.74 | 0.4 |
| 3/4 | 9 1/4 | 85-630 | 4PR13 | 14.02 | 11.92 | 1.0 |
| 13/16 | 10 1/4 | 85-631 | 4PR14 | 14.91 | 12.67 | 0.6 |
| 7/8 | 11 1/32 | 85-632 | 4PR15 | 19.44 | 16.52 | 0.4 |
| 15/16 | 12 1/2 | 85-633 | 4PR16 | 24.38 | 17.07 | 0.9 |
| 1 | 13 19/32 | 85-634 | 4PR17 | 27.20 | 19.04 | 1.1 |
| 1 1/16 | 14 7/8 | 85-635 | 4PR18 | 34.18 | 23.93 | 1.3 |
| 1 1/8 | 16-1/4 | 85-636 | 4PR19 | 38.78 | 27.15 | 3.1 |
| 1 1/4 | 17 11/16 | 85-638 | 4PR20 | 48.60 | 34.05 | 4.3 |

## METRIC COMBINATION FULL POLISH WRENCHES




| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 7 | 105.4 | 85-640 | 4PR35 | $8.16 | $6.94 | 0.1 |
| 8 | 108.2 | 85-641 | 4PR36 | 8.16 | 6.94 | 0.1 |
| 9 | 120.1 | 85-642 | 4PR37 | 8.16 | 6.94 | 0.1 |
| 10 | 128.3 | 85-643 | 4PR38 | 8.16 | 6.94 | 0.1 |
| 11 | 144 | 85-644 | 4PR39 | 9.49 | 8.07 | 0.2 |
| 12 | 152 | 85-645 | 4PR40 | 9.49 | 8.07 | 0.2 |
| 13 | 160.8 | 85-646 | 4PR41 | 9.49 | 8.07 | 0.2 |
| 14 | 178.8 | 85-647 | 4PR42 | 9.82 | 8.35 | 0.3 |
| 15 | 188 | 85-648 | 4PR43 | 10.16 | 8.64 | 0.3 |
| 16 | 198.8 | 85-649 | 4PR44 | 11.04 | 9.38 | 0.7 |
| 17 | 219.5 | 85-650 | 4PR45 | 12.64 | 10.74 | 0.1 |
| 18 | 230.4 | 85-651 | 4PR46 | 12.64 | 10.74 | 1.0 |
| 19 | 242.4 | 85-652 | 4PR47 | 14.02 | 11.92 | 0.5 |
| 20 | 252.6 | 85-653 | 4PR48 | 14.91 | 12.67 | 1.2 |
| 22 | 291.6 | 85-655 | 4PR49 | 19.44 | 13.61 | 1.4 |
| 24 | 317 | 85-657 | 4PR50 | 24.38 | 17.07 | 0.1 |


The only source you need for tools as tough as you are.

# INDIVIDUAL WRENCHES

## BOX END WRENCHES

STANLEY

New

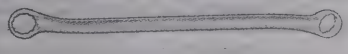


| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 8 x 7/16 | 7 1/16 | 86-876 | 4PZ73 | $9.71 | $6.80 | 0.2 |
| 2 x 9/16 | 9 1/16 | 86-878 | 4PZ74 | 11.11 | 7.78 | 0.3 |
| 8 x 3/4 | 10 5/8 | 86-881 | 4PZ75 | 13.98 | 9.79 | 0.9 |
| 1/16 x 3/4 | 11 5/8 | 86-883 | 4PZ76 | 13.93 | 9.75 | 1.1 |
| 3/16 x 7/8 | 12 5/8 | 86-884 | 4PZ77 | 18.93 | 13.25 | 1.7 |
| 5/16 x 1 | 13 3/4 | 86-886 | 4PZ78 | 23.27 | 16.29 | 2.2 |

## METRIC BOX END WRENCHES

STANLEY

New

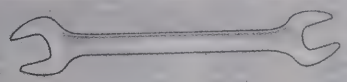


| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0 x 11 | 178.5 | 86-131 | 4PW51 | $9.82 | $6.87 | 0.1 |
| 2 x 13 | 203.6 | 86-133 | 4PW52 | 10.02 | 7.01 | 0.5 |
| 4 x 15 | 229.3 | 86-136 | 4PW53 | 10.62 | 7.43 | 0.7 |
| 6 x 17 | 254 | 86-138 | 4PW54 | 13.64 | 9.55 | 0.3 |
| 8 x 19 | 279.9 | 86-141 | 4PW55 | 14.44 | 10.11 | 1.1 |
| 0 x 22 | 305.3 | 86-145 | 4PW56 | 18.93 | 13.25 | 1.7 |

## OPEN END WRENCHES

STANLEY

New



| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| /4 x 5/16 | 4 1/2 | 86-800 | 4PZ22 | $5.69 | $4.84 | 0.1 |
| /8 x 7/16 | 5 5/16 | 86-801 | 4PZ23 | 6.49 | 5.52 | 0.1 |
| /2 x 9/16 | 6 1/8 | 86-803 | 4PZ24 | 7.84 | 6.66 | 0.3 |
| /16 x 5/8 | 7 3/4 | 86-806 | 4PZ25 | 8.62 | 7.33 | 0.3 |
| /8 x 3/4 | 7 13/16 | 86-708 | 4PZ21 | 9.51 | 8.08 | 0.4 |
| .1/16 x 3/4 | 8 3/4 | 86-808 | 4PZ26 | 10.87 | 9.24 | 0.5 |
| .1/16 x 13/16 | 8 3/8 | 86-812 | 4PZ29 | 12.22 | 10.39 | 1.0 |
| 1/4 x 7/8 | 9 9/16 | 85-208 | 4PP97 | 16.04 | 13.63 | 1.3 |
| .3/16 x 7/8 | 10 1/8 | 86-809 | 4PZ27 | 14.13 | 12.01 | 0.8 |
| 15/16 x 1 | 10 21/32 | 86-811 | 4PZ28 | 18.04 | 15.33 | 2.1 |
| 1 1/16 x 1 1/8 | 12 | 85-209 | 4PP98 | 18.71 | 15.90 | 2.6 |
| 1 1/4 x 1 5/16 | 14 11/16 | 85-210 | 4PP99 | 33.91 | 28.85 | 4.0 |

## METRIC OPEN END WRENCHES

STANLEY

New

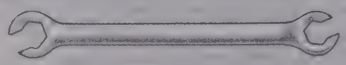


| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6 x 7 | 101.8 | 86-817 | 4PZ30 | 5.67 | 4.82 | 0.1 |
| 8 x 9 | 127 | 86-818 | 4PZ31 | 5.82 | 4.95 | 0.1 |
| 10 x 11 | 127.2 | 86-821 | 4PZ32 | 5.91 | 5.02 | 0.2 |
| 12 x 13 | 127.2 | 86-823 | 4PZ33 | 6.53 | 5.55 | 0.3 |
| 14 x 15 | 177.8 | 86-824 | 4PZ34 | 6.60 | 5.61 | 0.4 |
| 16 x 17 | 178.6 | 86-827 | 4PZ35 | 6.64 | 5.64 | 0.4 |
| 16 x 18 | 178.6 | 85-213 | 4PR01 | 6.67 | 5.67 | 0.4 |
| 17 x 19 | 203.9 | 85-214 | 4PR02 | 7.00 | 5.95 | 0.5 |
| 18 x 19 | 204 | 86-828 | 4PZ36 | 6.82 | 5.80 | 0.5 |

## FLARE NUT WRENCHES

STANLEY

New

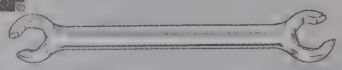


| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/8 x 7/16 | 5 3/4 | 87-850 | 4R735 | $10.93 | $9.29 | 0.1 |
| 1/2 x 9/16 | 6 7/8 | 87-851 | 4R737 | 11.96 | 10.17 | 0.2 |
| 5/8 x 11/16 | 8 | 87-852 | 4R739 | 14.73 | 12.52 | 0.6 |
| 3/4 x 7/8 | 9 | 87-853 | 4R741 | 16.93 | 14.39 | 1.0 |

## METRIC FLARE NUT WRENCHES

STANLEY

New

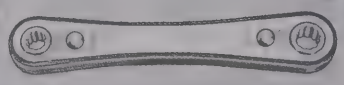


| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 10 x 12 | 152.6 | 85-329 | 4PR83 | $10.93 | $9.29 | 0.4 |
| 13 x 14 | 178.1 | 85-331 | 4PR84 | 11.96 | 10.17 | 0.6 |
| 15 x 17 | 178.5 | 87-858 | 4R743 | 16.93 | 14.39 | 1.0 |
| 19 x 21 | 203.4 | 85-333 | 4PR85 | 14.73 | 12.52 | 0.8 |

## RATCHETING BOX END WRENCHES

STANLEY

New



| Size (In.) | Length (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 x 5/16 | 4 3/4 | 85-276 | 4PR51 | $8.60 | $6.02 | 0.4 |
| 3/8 x 7/16 | 6 3/8 | 85-277 | 4PR52 | 9.47 | 6.63 | 0.7 |
| 1/2 x 9/16 | 7 3/8 | 85-278 | 4PR53 | 10.33 | 7.23 | 1.0 |
| 5/8 x 3/4 | 8 3/8 | 85-279 | 4PR54 | 12.04 | 8.43 | 1.2 |
| 13/16 x 7/8 | 10 | 85-280 | 4PR55 | 13.78 | 9.65 | 1.6 |

## METRIC RATCHETING BOX END WRENCHES

STANLEY

New



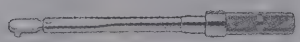
| Size (mm) | Length (mm) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6 x 8 | 102.4 | 85-281 | 4PR56 | $8.60 | $6.63 | 0.4 |
| 10 x 11 | 152.8 | 85-282 | 4PR57 | 9.47 | 6.63 | 0.7 |
| 12 x 13 | 178.4 | 85-283 | 4PR58 | 10.33 | 7.23 | 1.0 |
| 14 x 16 | 263.8 | 85-284 | 4PR59 | 12.04 | 8.43 | 1.2 |
| 17 x 19 | 254.0 | 85-285 | 4PR60 | 13.78 | 9.65 | 1.6 |

# MICROMETER ADJUSTABLE TORQUE WRENCHES

- Calibrated to ±3% of torque clockwise, and ±6% of torque counterclockwise at 20-100% of full scale
- Calibrated to ±2% of torque clockwise at 20-100% of full scale, with certificate of calibration models
- Designed to retain calibration for 30,000 cycles under normal use
- Positive locking mechanism—dial and lock in desired torque
- Features thin head design and longer length for access to tight areas, knurled handle, and large grip

PROTO PROFESSIONAL TOOLS

Made In U.S.A.



No. 1ARM0
Fixed Head Torque Wrench



No. 1ARM8
Ratchet Head Torque Wrench

**PROTO LIMITED WARRANTY**

Torque products are warranted for one year, except for calibration which is warranted for 90 days from date of purchase.
Text of warranty available; see page opposite inside back cover.

| Torque Range | Graduations | Drive Size (In.) | Length (In.) | WITHOUT CERTIFICATE OF CALIBRATION Proto Model | Stock No. | Each | WITH CERTIFICATE OF CALIBRATION Proto Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **RATCHET HEAD INCH-POUND TORQUE WRENCHES** | | | | | | | | | | |
| **40 - 200 in.-lbs.** | 1 in.-lbs. | 1/4 | 11¼ | 6062A | **1ARL5*** | **$142.30** | 6062ACERT | **4JW55*** | **$180.75** | 1.0 |
| **40 - 200** | 1 | 3/8 | 11¼ | 6064A | **1ARL6*** | **145.65** | 6064ACERT | **4JW57*** | **184.00** | 1.0 |
| **200 - 1000** | 5 | 3/8 | 16½ | 6066A | **1ARL7*** | **156.00** | 6066ACERT | **4JW59*** | **194.25** | 2.8 |
| **300 - 1800** | 10 | 1/2 | 20½ | 6068 | **1ARL8*** | **164.25** | 6068CERT | **4JW60*** | **209.75** | 4.9 |
| **FIXED HEAD INCH-POUND TORQUE WRENCHES** | | | | | | | | | | |
| **40 - 200 in.-lbs.** | 1 in.-lbs. | 1/4 | 11¼ | 6061A | **1ARM0*** | **134.60** | 6061ACERT | **4JW54*** | **173.25** | 1.8 |
| **40 - 200** | 1 | 3/8 | 11¼ | 6063A | **1ARM1*** | **139.35** | 6063ACERT | **4JW56*** | **177.75** | 1.5 |
| **100 - 1000** | 5 | 3/8 | 16¼ | 6065A | **1ARM2*** | **147.05** | 6065ACERT | **4JW58*** | **185.50** | 2.8 |
| **RATCHET HEAD FOOT-POUND TORQUE WRENCHES** | | | | | | | | | | |
| **10 - 80 ft.-lbs.** | 0.5 ft.-lbs. | 3/8 | 16⅞ | 6006A | **1ARM5*** | **146.65** | 6006ACERT | **4JW40*** | **185.00** | 2.0 |
| **10 - 80** | 0.5 | 1/2 | 16⅞ | 6008A | **1ARM6*** | **153.75** | 6008ACERT | **4JW42*** | **199.00** | 2.0 |
| **20 - 100** | 0.5 | 3/8 | 16⅞ | 6012 | **1ARM7*** | **146.65** | 6012CERT | **4JW43*** | **185.00** | 3.0 |
| **30 - 150** | 1 | 1/2 | 20¾ | 6016 | **1ARM8*** | **161.50** | 6016CERT | **4JW48*** | **206.75** | 3.9 |
| **50 - 250** | 1 | 1/2 | 26¼ | 6014 | **1ARM9*** | **180.50** | 6014CERT | **4JW45*** | **225.50** | 4.6 |
| **60 - 300** | 2 | 3/4 | 32⅛ | 6018A | **1ARN0** | **472.75** | 6018ACERT | **4JW51** | **514.00** | 14.0 |
| **90 - 600** | 2 | 3/4 | 41½ | 6020A | **1ARN1*** | **698.00** | 6020ACERT | **4JW52*** | **736.00** | 12.0 |
| **FIXED HEAD FOOT-POUND TORQUE WRENCHES** | | | | | | | | | | |
| **10 - 80 ft.-lbs.** | 0.5 ft.-lbs. | 3/8 | 16⅞ | 6005A | **1ARN3*** | **140.55** | 6005ACERT | **4JW39*** | **179.00** | 2.7 |
| **30 - 150** | 1 | 1/2 | 20⅝ | 6015 | **1ARN4*** | **159.25** | 6015CERT | **4JW47*** | **204.50** | 3.6 |
| **50 - 250** | 1 | 1/2 | 25⅝ | 6013 | **1ARN5*** | **178.75** | 6013CERT | **4JW44*** | **224.00** | 5.8 |
| **RATCHET HEAD NEWTON METER TORQUE WRENCHES** | | | | | | | | | | |
| **10 - 80 nm.** | 0.5 nm. | 3/8 | 16⅞ | 6006NMA | **1ARP3*** | **149.60** | 6006NMACERT | **4JW41*** | **188.00** | 3.0 |
| **40 - 200** | 1 | 1/2 | 20¾ | 6016NM | **1ARP4*** | **167.50** | 6016NMCERT | **4JW49*** | **212.75** | 5.0 |
| **70 - 350** | 1 | 1/2 | 26¼ | 6014NM | **1ARP5*** | **184.00** | 6014NMCERT | **4JW46*** | **229.00** | 5.7 |

## RATCHET HEAD REPAIR KITS

| For Torque Wrench Nos. | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1ARM5, 1ARP3, 1ARM7, & 1ARL7** | 6006RK | **1Q873** | $13.31 | **$10.25** | 0.1 |
| **1ARL6** | 6064RK | **1AH62** | 21.09 | **16.24** | 0.1 |
| **1ARM6** | 6008RK | **3R863** | 25.67 | **19.77** | 0.2 |

| For Torque Wrench Nos. | Proto Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|
| **1ARM9, 1ARP5, 1ARM8, 1ARP4, and 1ARL8** | 6014RK | **1Q875** | $22.04 | **$16.97** | 0.1 |
| **1ARN0, 1ARN1, & 1ARP6** | 6018RK | **1Q876** | 53.84 | **41.50** | 0.1 |

(*) Includes molded case.

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# DIAL TORQUE WRENCHES

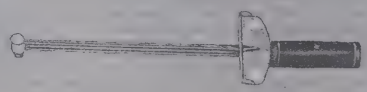
- Accurate to ±3% of torque reading in both directions at 20-100% of full scale
- Models up to and including 600 ft.-lb. feature memory needle which pinpoints peak torque attained
- 1000 ft.-lb. wrench equipped with an electric light and tone which signals the desired torque has been achieved, permitting use by a single operator
- Length designed so operator does not have to exceed 125 lbs. input force at normal torque range (75% max.)
- Features large, easy-to-read dials, narrow design for access to tight areas, and chrome plating for corrosion resistance
- Fixed head style

PROTO PROFESSIONAL TOOLS

Made in U.S.A.



No. 1ARP7
Dial Torque Wrench



No. 1ART4
Deflecting Beam Torque Wrench

**PROTO LIMITED WARRANTY**

Torque products are warranted for one year, except for calibration which is warranted for 90 days from date of purchase. Text of warranty available; see page opposite inside back cover.

| Torque Range English | Torque Range Metric | Graduations English | Graduations Metric | Drive Size (In.) | Extension Handles | Length (In.) | WITHOUT CERTIFICATE OF CALIBRATION Proto Model | Stock No. | Each | WITH CERTIFICATE OF CALIBRATION Proto Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INCH-POUND/CENTIMETER KILOGRAM DIAL TORQUE WRENCHES** | | | | | | | | | | | | | |
| **75 in.-lbs.** | 0-90 cm.-kg. | 1 in.-lbs. | 2 cm.-kg. | 1/4 | — | 10 | 6169A | **1ARP7*** | **$169.00** | 6169ACERT | **4JW71*** | **$207.00** | 1.7 |
| **250** | 0-280 | 5 | 5 | 3/8 | — | 10 | 6177A | **1ARP8*** | **169.00** | 6177ACERT | **4JW73*** | **207.00** | 1.7 |
| **600** | 0-700 | 10 | 20 | 3/8 | — | 14 7/8 | 6181A | **1ARP9*** | **174.75** | 6181ACERT | **4JW75*** | **212.50** | 2.8 |
| **FOOT-POUND/METER KILOGRAM DIAL TORQUE WRENCHES** | | | | | | | | | | | | | |
| **50 ft.-lbs.** | 0-7 mkg. | 1 ft. lbs. | 0.2 mg. | 3/8 | — | 14 7/8 | 6113A | **1ARR0*** | **173.00** | 6113ACERT | **4JW64*** | **211.00** | 2.8 |
| **175** | 0-24 | 5 | 0.5 | 1/2 | — | 21 1/2 | 6121A | **1ARR1*** | **190.75** | 6121ACERT | **4JW65*** | **235.75** | 4.8 |
| **250** | 0-35 | 5 | 1 | 1/2 | — | 21 1/2 | 6125A | **1ARR2*** | **204.25** | 6125ACERT | **4JW66*** | **249.00** | 4.4 |
| **600** | 0-80 | 10 | 2 | 3/4 | 1 | 46 1/8# | 6133A | **1ARR5*** | **464.50** | 6133ACERT | **4JW68*** | **506.00** | 13.0 |
| **1000** | 0-140 | 20 | 2.5 | 1 | 1 | 74 1/4# | 6141A | **1ARR6†** | **945.00** | 6141ACERT | **4JW69†** | **992.50** | 30.0 |
| **NEWTON METER DIAL TORQUE WRENCHES** | | | | | | | | | | | | | |
| **90 in.-lbs.** | 0-10 nm. | 1 in. -lbs. | 0.2 nm. | 1/4 | — | 10 | 6169NMA | **1ARR8*** | **171.50** | 6169NMACERT | **4JW72*** | **209.50** | 1.7 |
| **250 in.-lbs.** | 0-30 | 5 in.-lbs. | 0.5 | 3/8 | — | 10 | 6177NMA | **1ARR9*** | **171.50** | 6177NMACERT | **4JW74*** | **209.50** | 1.7 |
| **DEFLECTING BEAM TORQUE WRENCH** | | | | | | | | | | | | | |
| **150 ft.-lbs.** | 0-20 mkg. | — | — | 1/2 | — | 19 | 6075 | **1ART4** | **59.35** | 6075CERT | **4JW61** | **106.05** | 1.8 |

(*) Includes molded case. (†) Packed in red metal box. (#) Includes extensions.

# TORQUE SCREWDRIVERS

- Accurate to ±4% of torque reading, clockwise direction
- Used in low torque applications such as electronics assembly and repair and installation of seals and container caps
- Is a true torque limiting device; will not apply more torque than the amount set—this prevents damaging fragile equipment due to over-torquing
- Packaged in blow-molded plastic box

PROTO PROFESSIONAL TOOLS



No. 6C486
Torque Screwdriver

| Torque Range | Graduations | Drive Size (In.) | Length (In.) | WITHOUT CERTIFICATE OF CALIBRATION Proto Model | Stock No. | Each | WITH CERTIFICATE OF CALIBRATION Proto Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **INCH-OUNCE** | | | | | | | | | | |
| **100 in.-oz.** | 2 in.-ozs. | 1/4 | 7 3/16 | 6104 | **6C486** | **$197.00** | 6104CERT | **4JW62** | **$234.75** | 1.4 |
| **INCH-POUND** | | | | | | | | | | |
| **36 in.-lbs.** | 1/2 in.-lbs. | 1/4 | 7 3/16 | 6106 | **6C487** | **197.00** | 6106CERT | **4JW63*** | **234.75** | 1.4 |

# TORQUE MULTIPLIERS

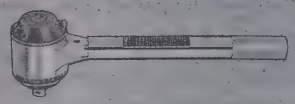
- Accuracy of ±5%
- Angle of turn protractor in 5° increments
- Tubular reaction system
- Planetary gear system provides zero lash, plus multiple tooth gear engagement for greater durability
- Built-in angle of turn protractor simplifies setting angle specifications

PROTO PROFESSIONAL TOOLS

Made In U.S.A.



No. 1ART6
Torque Multiplier



No. 1ART7
Torque Multiplier

**PROTO LIMITED WARANTY**

Torque products are warranted for one year, except for calibration which is warranted for 90 days from date of purchase. Text of warranty available; see page opposite inside back cover.

Replacement Parts Available
1-800-323-0620

| Max. Rated Output (Ft.-Lbs.) | Max Rated Input (Ft.-Lbs.) | Effective Multiplication | Input Drive | Output Drive | Gear Ratio | Gear System | Angle of Turn Protractor | Anti-Backlash Device | Length (In.) | WITHOUT CERTIFICATE OF CALIBRATION Proto Model | Stock No. | Each | WITH CERTIFICATE OF CALIBRATION Proto Model | Stock No. | Each | Sh W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TORQUE MULTIPLIER—750 FT.-LBS.** | | | | | | | | | | | | | | | | |
| **750** | 227 | 3.3:1 | 1/2" sq. Female | 3/4" sq. Male | 4.0:1 | Single Stage Planetary | 5° Increments | — | 8 9/16 | 6202A | **3YW21** | **$416.25** | 6202ACERT | **4JW76** | **$540.00** | 4 |
| **TORQUE MULTIPLIER—1200 FT.-LBS.** | | | | | | | | | | | | | | | | |
| **1200** | 200 | 6.01:1 ±5% | 1/2" sq. Female | 3/4" sq. Male | 6.33:1 | Single Stage Planetary | 5° Increments | — | 20 | 6212 | **1ART6** | **858.00** | 6212CERT | **4JW77** | **976.00** | 11 |
| **TORQUE MULTIPLIER—2200 FT.-LBS.** | | | | | | | | | | | | | | | | |
| **2200** | 162 | 13.6:1 ±5% | 1/2" sq. Female | 1" sq. Male | 15.0:1 | Two Stage Planetary | 5° Increments | Self-Contained 3 Position | 20 | 6222 | **1ART7** | **1579.00** | 6222CERT | **4JW78** | **1687.00** | 18 |
| **TORQUE MULTIPLIER—3200 FT.-LBS.** | | | | | | | | | | | | | | | | |
| **3200** | 173 | 18.5:1 ±5% | 1/2" sq. Female | 1" sq. Male | 20.25:1 | Two Stage Planetary | 5° Increments | Self-Contained 3 Position | 20 | 6232 | **1ART8** | **2089.00** | 6232CERT | **4JW79** | **2190.00** | 24 |

PROTECTIVE BOXES FOR TORQUE WRENCHES AVAILABLE, CALL 1-800-323-0620

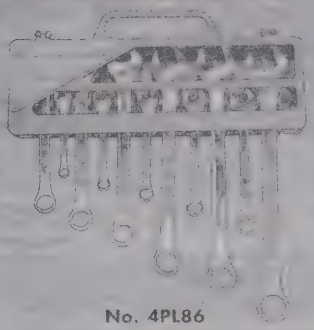
HUBBELL
LUTRON
electri-flex
CAROL BRAND
Thomas&Betts
MANY BRANDS OF ELECTRICAL PRODUCTS AVAILABLE
HUBBELL
LEVITON
Appleton ELECTRIC COMPANY
allied TUBE & CONDUIT

# COMBINATION WRENCH SETS AND GENERAL PURPOSE TOOL SET

## COMBINATION WRENCH SETS

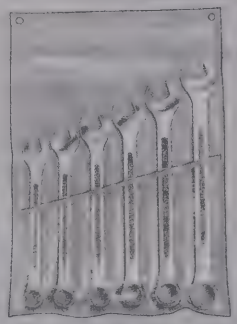
- Drop forged, professional quality wrenches
- Meets or exceeds ANSI Spec B107.6
- Comes with canvas-backed vinyl pouch or plastic carrier
- Lifetime warranty
- Westward brand

WESTWARD™



No. 4PL86

New



No. 4PM12

| No. of Pieces | Wrench Type | Wrenches Included | Accessories | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | | **STANDARD SETS** | | | | |
| 7 | 12 Pt. Std. | 1/4, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4" | Vinyl Pouch | 4PL92 | $44.95▲ | 8.8 |
| 11 | 12 Pt. Std. | 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16" | Plastic Carrier | 4PL86 | 22.95▲ | 4.8 |
| 7 | 12 Pt. Std. | 15/16, 1, 1 1/16, 1 1/8, 1 1/4, 1 5/16" | Vinyl Pouch | 4PM14 | 44.95▲ | 12.0 |
| | | **METRIC SETS** | | | | |
| 7 | 12 Pt. Metric | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24, 27mm | Vinyl Pouch | 4PL91 | 44.95▲ | 14.0 |
| 11 | 12 Pt. Metric | 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17mm | Plastic Carrier | 4PL85 | 23.95▲ | 2.8 |
| | 12 Pt. Metric | 25, 26, 27, 28, 30, 32mm | Vinyl Pouch | 4PM12 | 44.95▲ | 11.0 |

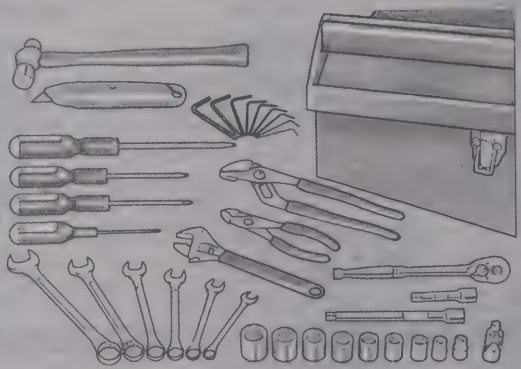
▲) Net prices, not subject to discounts.

## 38-Pc. GENERAL PURPOSE TOOL SET

- 6 Combination wrenches: 3/8 - 3/4"
- 4 Drive Tools: 3/8" Drive Ratchet, 3 and 6" extension bars, universal joint
- 9 Sockets: 3/8" Drive, 7/16 - 7/8"
- 4 Screwdrviers: Slotted (4 x 1/4", 6 x 5/16"); Phillips (#1 x 3", #2 x 4")
- 9 Hex Keys: 5/64 - 1/4"
- 2 Pliers with NiKlear® Finish: 6" Slip joint, 10" Tongue & Groove Joint
- 1 each: 8" Adjustable wrench w/Niklear finish, 12 oz. ball pein hammer, utility knife
- Lifetime warranty

WESTWARD™

New



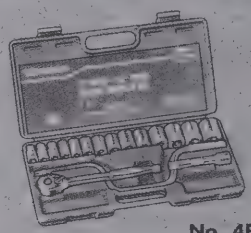
ontains basic tools to handle light-duty aintenance and assembly projects. omes in durable all-steel tool box with ote tray.

ewNo. 4PM07. Shpg. wt. 16.0.
ach.....$79.00▲

YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!
Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly–plus the solutions you need to keep your operation running more profitably.

# STANDARD AND METRIC SOCKET SETS

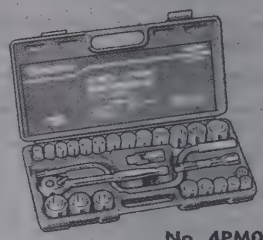
- Professional quality
- Quick release ratchet
- All come with molded case
- Lifetime warranty
- Westward brand



No. 4PL90

WESTWARD™

New



No. 4PM03

| No. of Pieces | Socket Type | Size | Accessories | New! Stock No. | Each | | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| | | **MULTI-DRIVE SETS** | | | | | |
| | | **1/4, 3/8 & 1/2" MULTI-DRIVE SET** | | | | | |
| 89 | **1/4" DRIVE** | | | **4PM18** | **$69.95** | ▲ | 12.0 |
| | 6 Pt. Std. | 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | 1/4" Dr. Quick Release Ratchet, 3" Extension | | | | |
| | 6 Pt. Deep | 3/16, 1/4, 9/32, 5/16" | | | | | |
| | 6 Pt. Std. | 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13mm | | | | | |
| | 12 Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | | | | | |
| | **3/8" DRIVE** | | | | | | |
| | 6 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16" | 3/8" Dr. Quick Release Ratchet, 3" Extension, 5/8" Spark Plug Socket, 13/16" Spark Plug Socket | | | | |
| | 12 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16" | | | | | |
| | 6 Pt. Std. | 9, 10, 11, 12, 13, 14, 15, 17, 19mm | | | | | |
| | 12 Pt. Std. | 9, 10, 11, 12, 13, 14, 15, 17, 19mm | | | | | |
| | 12 Pt. Deep | 3/8, 7/16, 1/2, 9/16 | | | | | |
| | **1/2" DRIVE** | | | | | | |
| | 12 Pt. Std. | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8 | 1/2" Dr. Quick Release Ratchet, 5" Extension | | | | |
| | | **1/4 & 3/8" MULTI-DRIVE SETS** | | | | | |
| 60 | **1/4" DRIVE** | | | **4PM11** | **49.95** | ▲ | 7.5 |
| | 6 Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | 1/4" Dr. Quick Release Ratchet, 3" Extension, 1/4" Dr. Socket Driver | | | | |
| | 6 Pt. Deep | 7/32, 1/4, 9/32, 5/16, 11/32, 3/8 | | | | | |
| | 6 Pt. Std. | 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13mm | | | | | |
| | **3/8" DRIVE** | | | | | | |
| | 12 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" | 3/8" Dr. Quick Release Ratchet, 3" Extension | | | | |
| | 6 Pt. Std. | 1/4, 5/16, 3/8" | | | | | |
| | 12 Pt. Deep | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16" | | | | | |
| | 12 Pt. Std. | 8, 9, 10, 11, 12, 13, 14, 15, 17, 19mm | | | | | |
| 23 | **1/4" DRIVE** | | | **4PL99** | **22.95** | ▲ | 3.6 |
| | 6 Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | 1/4" Dr. Socket Driver | | | | |
| | **3/8" DRIVE** | | | | | | |
| | 12 Pt. Std. | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" | 3/8" Dr. Quick Release Ratchet, 3/8"F x 1/4"M Adapter, 3 & 6" Extensions, 5/8" Spark Plug Socket | | | | |
| 23 | **1/4" DRIVE** | | | **4PM02** | **22.95** | ▲ | 3.6 |
| | 6 Pt. Std. | 5, 6, 7, 8, 10, 11, 12, 13mm | 1/4" Dr. Socket Driver | | | | |
| | **3/8" DRIVE** | | | | | | |
| | 12 Pt. Std. | 10, 11, 12, 13, 14, 15, 17, 19mm | 3/8" Dr. Quick Release Ratchet, 3/8"F x 14"M Adapter, 3 & 6" Extensions, 5/8" Spark Plug Socket | | | | |
| | | **SINGLE DRIVE SETS** | | | | | |
| | | **1/4" DRIVE SET** | | | | | |
| 21 | 6 Pt. Std. | 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | 1/4" Dr. Quick Release Ratchet, 3 & 6" Extensions, 1/4" Socket Driver, Sliding T-Bar Handle | **4PM01** | **22.95** | ▲ | 2.6 |
| | 6 Pt. Deep | 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2" | | | | | |
| | | **3/8" DRIVE SETS** | | | | | |
| 20 | 6 Pt. Deep | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16" | 3/8" Dr. Quick Release Ratchet, 3 & 6" Extension | **4PL98** | **23.95** | ▲ | 4.7 |
| | 12 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" | | | | | |
| 12 | 12 Pt. Std. | 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" | 3/8" Dr. Quick Release Ratchet, 3" Extension, 5/8" Spark Plug Socket | **4PL88** | **17.49** | ▲ | 2.5 |
| 20 | 6 Pt. Std. | 10, 11, 12, 13, 14, 15, 17, 19, 22mm | 3/8" Dr. Quick Release Ratchet, 3 & 6" Extension | **4PL97** | **26.95** | ▲ | 4.2 |
| | 6 Pt. Deep | 10, 11, 12, 13, 14, 15, 17, 19mm | | | | | |
| | | **1/2" DRIVE SETS** | | | | | |
| 26 | 6 Pt. Std. | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4" | 1/2" Dr. Quick Release Ratchet, 5" Extension, Universal Joint, Speed Handle | **4PM03** | **59.95** | ▲ | 11.0 |
| | 12 Pt. Std. | 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4 | | | | | |
| | 12 Pt. Std. | 14, 15, 17, 19, 22, 24, 27, 30, 32mm | | | | | |
| 17 | 12 Pt. Std. | 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 1/4 | 1/2" Dr. Quick Release Ratchet, 5" Extension, Speed Handle | **4PL90** | **33.95** | ▲ | 8.5 |

(▲) Net Prices, not subject to discount

## MAGNETIC SCREWDRIVER BIT SET

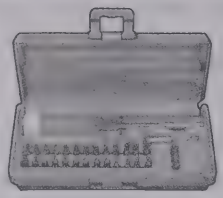
**Includes a permanently magnetized screwdriver**

**Packaged in a blow molded plastic storage case**

| . of ces | Bits Included In Set | | | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 28 | No. 0 Pt. Phillips | No. 0 Pt. Square | T10 Torx® | 61929 | 1FR28 | $50.51 | $32.00▲ | 1.8 |
| | No. 1 Pt. Phillips | No. 1 Pt. Square | T15 Torx® | | | | | |
| | No. 2 Pt. Phillips | No. 2 Pt. Square | T20 Torx® | | | | | |
| | No. 3 Pt. Phillips | No. 3 Pt. Square | T25 Torx® | | | | | |
| | 3F-4R Slotted | 5/64" Socket Head | T30 Torx® | | | | | |
| | 4F-5R Slotted | 3/32" Socket Head | T40 Torx® | | | | | |
| | 6F-8R Slotted | 1/8" Socket Head | 1/8" Clutch | | | | | |
| | 8F-10R Slotted | 5/32" Socket Head | 5/32" Clutch | | | | | |
| | 10F-12R Slotted | 3/16" Socket Head | Magnetic Bit Holder | | | | | |

PROTO PROFESSIONAL TOOLS

Made in U.S.A.



No. 1FR28

Replacement Parts Available
1-800-323-0620

## MAGNETIC SCREWDRIVER BIT SETS

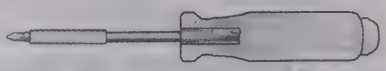
**Convenient bit storage in handle**

**Magnetic holder in bar secures bit**

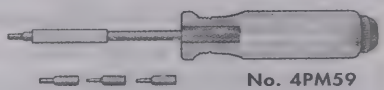
| o. of eces | Included in Set | Stanley Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 5 | Magnetic Screwdriver, 3/16 & 1/4" Slotted tip bit, #1 &#2 Phillips bit | 62-410 | 4PM58 | $13.53 | $7.95▲ | 0.3 |
| 5 | Magnetic Screwdriver, T10, T15, T20, T25, Torx® bits | 62-411 | 4PM59 | 24.22 | 13.95▲ | 0.6 |

STANLEY

New



No. 4PM58



No. 4PM59

## RATCHETING SCREWDRIVER BIT SET

**Includes a three-position ratcheting screwdriver to speed work**

**Packaged in a convenient storage case**

**Bit storage in handle**

| o. of eces | Bits Included In Set | | | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 26 | 3/16" Slotted | T30 Torx® | 3/16" Socket Head | 68-754 | 6R585 | $46.38 | $28.95▲ | 1.4 |
| | 1/4" Slotted | 6 mm Socket Head | 1/4" Socket Head | | | | | |
| | 9/32" Slotted | 7 mm Socket Head | 5/16" Socket Head | | | | | |
| | No. 1 Pt. Phillips | 8 mm Socket Head | 11/32" Socket Head | | | | | |
| | No. 2 Pt. Phillips | 9 mm Socket Head | 3/8" Socket Head | | | | | |
| | T10 Torx® | 10 mm Socket Head | 7/16" Socket Head | | | | | |
| | T15 Torx® | 11 mm Socket Head | 1/2" Socket Head | | | | | |
| | T20 Torx® | 12 mm Socket Head | | | | | | |
| | T25 Torx® | 1/4" Dr. Socket Adapter | | | | | | |

STANLEY

No. 6R585
Ratcheting
Screwdriver Set



## SPIRAL RATCHET SCREWDRIVER

**r quick loosening and tightening of fasteners.** Right and left hand drive as well as rigid set-ıg is adjusted instantly by a simple shifter. Spring keeps blade in screw slot and auto-ıtically returns handle to driving position after each stroke.

**ınkee® spiral ratchet screwdriver** includes 2 bits. Remove spring for manual return type. anley brand (68-130).

**o. 6C288.** Shpg. wt. 1.0 lbs. List $84.62. Each.....$56.00

STANLEY



No. 6C288
Spiral Ratcheting Screwdriver

## PUSH DRILL AND REPLACEMENT DRILL POINT SET

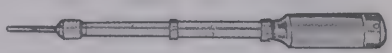
**ınkee® Professional™ Push Drill** has chuck to old drill points so they cannot be pulled ıt when tool is in use. Magazine handle ontains 8 drill points: 1/16, 5/64, 3/32, 64, 1/8, 9/64, 5/32, and 11/64". Stanley and (03-043).R

**o. 5C596.** Push Drill Shpg. wt. 0.7 lbs. st $65.82. Each.....$57.00

**Replacement Drill Point Set** includes 8 drill points: 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, and 11/64" Only for use with Yankee push drill No. 5C596. Stanley brand (04-069).

**No. 5C597.** Shpg. wt. 0.1 lbs. List $24.82. Each.....$21.79

STANLEY



No. 5C596
Push Drill

) Net prices, not subject to discounts.

# MULTI-BIT SCREWDRIVERS

## MULTI-BIT SCREWDRIVERS

- Bits forged from domestic high carbon tool steel and individually heat treated
- Tips of bits have been precision ground
- Nos. 2H147, 5A775, 2H153, and 2H159 come with 2 reversible two-tipped blades
- Nos. 2H145 and 2H151 come with 2 reversible two-tipped blades, 2 nut drivers
- Versatile and convenient multi-bit screwdrivers

| Key | Description | Bit Styles | Enderes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **4-IN-1 SCREWDRIVERS—Two reversible, 2-tipped blades** | | | | | | | |
| A | 5" Mini | 1/8 & 3/16" Slotted, #0 & #1 Phillips | 2139 | **2H147** | $6.09 | **$4.69▲** | 0.2 |
| B | 7½" Standard | 3/16 & 5/16" Slotted, #1 & #2 Phillips | 2180 | **5A775** | 9.08 | **4.95▲** | 0.5 |
| C | Cushion Grip Standard | 3/16 & 5/16" Slotted, #1 & #2 Phillips | 2154 | **2H153** | 8.04 | **5.79▲** | 0.4 |
| D | 7½" Extra Long 4-in-1 | 3/16 & 5/16" Slotted, #1 & #2 Phillips | 2178 | **2H159** | 8.38 | **6.39▲** | 0.5 |
| **6-IN-1 SCREWDRIVERS—Two reversible two-tipped blades, two nut drivers** | | | | | | | |
| E | 7½" Standard | 3/16 & 5/16" Slotted, #1 & #2 Phillips, 1/4 & 5/16" Nut Drivers | 2130 | **2H145** | 6.62 | **5.69▲** | 0.4 |
| F | 7½" Cushion Grip | 3/16 & 5/16" Slotted, #1 & #2 Phillips, 1/4 & 5/16" Nut Drivers | 2151 | **2H151** | 8.35 | **6.29▲** | 0.5 |

## SPECIALTY MULTI-BIT SCREWDRIVERS

- Bits forged from domestic high carbon tool steel and individually heat treated
- Tips of bits have been precision ground for durability
- Square recess style ideal for campers and patio furniture
- Torx® style ideal for automotive and industrial applications

| Key | Description | Bit Styles | Enderes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| G | 7½" Square Recess 4-in-1 | #0/#1 and #2/#3 Square Recess | 2161 | **2H157** | $7.71 | **$5.99▲** | 0.4 |
| H | 7½" Torx® 4-in-1 | T15/T20 and T25/T30 Torx® type | 2146 | **2H149** | 8.05 | **5.79▲** | 0.4 |

## REVERSIBLE SCREWDRIVERS

- Convenient reversible full-length screwdriver blades
- Domestic high carbon steel, individually forged and heat treated
- Tips of bits have been precision ground for durability

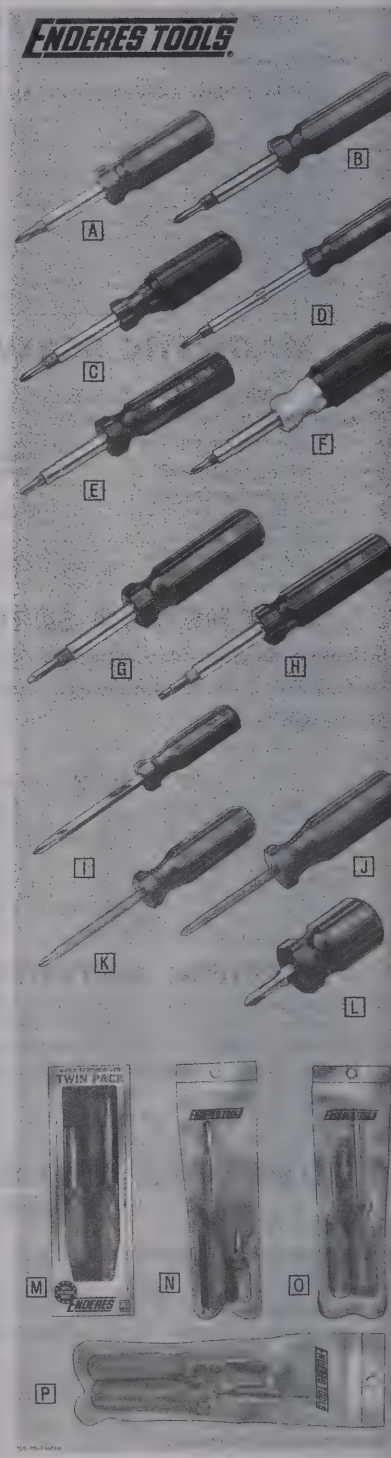
| Key | Description | Bit Styles | Enderes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| I | Pocket 2-in-1 | 3/16" Slotted & #1 Phillips | 0911 | **2H137** | $3.74 | **$2.59▲** | 0.1 |
| J | No. 1 Reversible | #6-8 Slotted & #1 Phillips | 0927 | **2H139** | 4.45 | **3.69▲** | 0.2 |
| K | No. 2 Reversible | #8-10 Slotted & #2 Phillips | 0929 | **2H141** | 5.20 | **3.99▲** | 0.3 |
| L | Stubby 2-in-1 | 3/16" Slotted & #1 Phillips | 2181 | **2H161** | 3.44 | **2.99▲** | 0.1 |

## MULTI-BIT SCREWDRIVER SETS

- Domestic high carbon steel, individually heat treated
- Tips of bits have been precision ground for durability

| Key | Description | Bit Styles | Enderes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| M | Standard 4-in-1 and Mini 4-in-1 | 3/16", 5/16" Slotted & #1, #2 Phillips<br>3/16", 1/8" Slotted & #0, #1 Phillips | 2160 | **2H155** | $12.34 | **$9.29▲** | 0.6 |
| N | Standard 4-in-1 and Stubby 2-in-1 | 3/16", 5/16" Slotted & #1, #2 Phillips<br>3/16" Slotted & #1 Phillips | 2220 | **2H163** | 10.94 | **8.39▲** | 0.6 |
| O | 3-Pc. 2-in-1 (Pocket, No. 1, No. 2) | 3/16" Slotted & #1 Phillips,<br>#6-8 Slotted & #1 Phillips<br>#8-10 Slotted & #2 Phillips | 0958 | **2H143** | 16.25 | **10.49▲** | 0.6 |
| P | 3-Pc. 2-in-1 (Stubby, No. 1, No. 2) | 3/16" Slotted & #1 Phillips<br>#6-8 Slotted & #1 Phillips<br>#8-10 Slotted & #2 Phillips | 2222 | **2H165** | 13.38 | **10.99▲** | 0.6 |

(▲) Net prices, not subject to discounts.






The only source you need for tools as tough as you are.

# OFFSET, RATCHET OFFSET AND PRECISION SCREWDRIVERS

## OFFSET SCREWDRIVERS

- For reaching hard-to-get screws
- Hardened steel for greater strength
- Nickel plated to prevent rust
- Precision forged tips

| Blade Style | Overall Length (In.) | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| '4" Straight | 4½ | 8087 | **3ZH40** | $2.62 | **$2.49** | 0.1 |
| o. 1. & No. 2 Crosspoint | 4½ | 8088 | **3ZH41** | 3.12 | **2.96** | 0.1 |
| '4" & No. 2 Crosspoint | 4½ | 8089 | **3ZH42** | 2.84 | **2.70** | 0.1 |

## RATCHET OFFSET SCREWDRIVERS

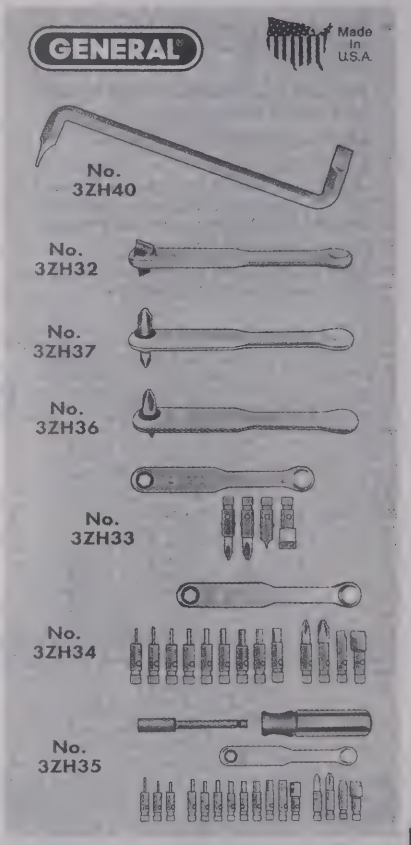
- For reaching hard-to-get screws, especially where leverage is required
- Blades are made of machined ground and hardened tool steel
- Ratchet adjusts for forward or reverse
- Body is plated steel
- Conforms to Government Specification, GGG-S-1408

| Blade Style | Overall Length (In.) | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| '4 & 3/8" Straight | 4 | 807 | **3ZH32** | $6.56 | **$6.23** | 0.1 |
| o. 1 & No. 2 Crosspoint | 4 | 807X | **3ZH37** | 8.94 | **8.49** | 0.1 |
| '4" Straight No. 2 Crosspoint | 4 | 807SX | **3ZH36** | 8.22 | **7.81** | 0.1 |

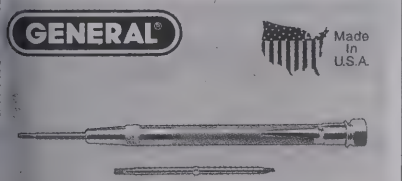
## RATCHET OFFSET SCREWDRIVER SETS

- For reaching inaccessible screws where leverage is desired
- Ratchet driver is plated steel and instantly adjusts for clockwise or counterclockwise operation
- Has precision hardened tempered steel blades with knurled fine adjust knob at top

| Description | Blade Type | Size | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| -Pc. Ratchet ffset Set | Slotted<br>Crosspoint | 1/4, 3/8"<br>No. 1, No. 2 | 8071 | **3ZH33** | $11.62 | **$10.46** | 0.2 |
| 4-Pc. atchet Offset crewdriver Set | Slotted<br>Crosspoint<br>Hex | 1/4, 3/8"<br>No. 1, No. 2<br>.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16" | 8072 | **3ZH34** | 24.22 | **21.80** | 0.7 |
| 9-Pc. atchet Offset crewdriver Set | Slotted<br>Crosspoint<br>Adapter<br>Hex | 1/4, 3/8"<br>No. 1, No. 2<br>1/4"<br>.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4" | 8073 | **3ZH35** | 39.40 | **35.50** | 0.9 |




## FOUR-BIT POCKET SCREWDRIVER




No. 3ZH24

- Four heat treated bits: Nos. 0 and 1 Crosspoints, 0.125 and 0.100 straight blades
- Bits are stored in handle for safety and bit protection
- Knurled aluminum body with swivel head
- Steel collet for greater strength
- Overall size is 3/8 X 6½"
- General brand (608).

o. 3ZH24. Shpg. wt. 0.1 lbs. List .....$10.08.
ach .....$9.07

## PRECISION SCREWDRIVER SET AND PRECISION TORX ® SET

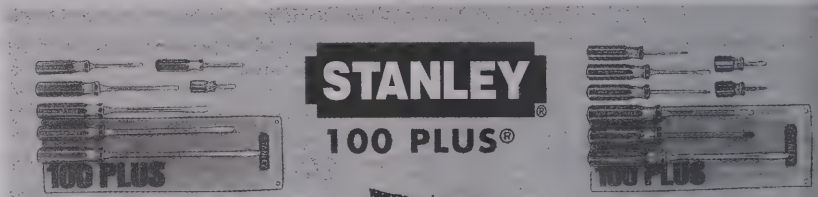



- For working on electronics, precision parts or components
- Ergonomically designed handle with a texture-grip surface for a strong hold
- Handle is tapered and fluted for delicate work
- Large swivel head for greater control
- Imprinted sizes on the handle for easy selection
- Media blasted tips for positive fastener engagement
- Chrome-plated vanadium steel blades

| Description | Tip Size/ Type | Blade Length (In.) | Overall Length (In.) | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 5 Pc. Screwdriver Set | #00 Phillips<br>#0 & #1 Phillips<br>3/32" Slotted<br>1/8" Slotted | 2½<br>4<br>2½<br>4 | 6⅛<br>7⅝<br>6⅛<br>7⅝ | 700 | **3ZH26** | $17.14 | **$15.43** | 0.3 |
| 8-Pc. Screwdriver Set | #00 Phillips<br>#0 & #1 Phillips<br>5/64 & 3/32" Slotted<br>1/8, 9/64, & 5/32" Slotted | 2½<br>4<br>2½<br>4 | 6⅛<br>7⅝<br>6⅛<br>7⅝ | 709 | **3ZH27** | 29.36 | **26.45** | 0.5 |
| 5-Pc. Torx® Set | T6, T7, T8, T9, T10 | 2½ | 6⅛ | 711 | **3ZH28** | 20.18 | **18.16** | 0.2 |

# SCREWDRIVER SETS

- Special alloy steel blade and tip are forged and heat treated for high strength
- Tips are machine ground to size for sure nonslip fit in screw slot
- Chrome-plated to resist rust
- Square shank (and 4 to 12" round shank) slotted screwdrivers feature bolster construction (enlarged steel where the blade meets the handle) for added strength
- Square shank screwdrivers allow use of wrench for added torque




No. 6C281 Slotted Tip Screwdriver Set

No. 6C283 Combination Screwdriver Set

| Description | Blade Size (In.)/ Shape | Blade Length (In.) | Tip Size | Stock No. | Stanley Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SQUARE SHANK SLOTTED SCREWDRIVER SETS** | | | | | | | | | |
| **5-Pc. Set** | 1/4 Stubby | 1½ | 1/4" | 6C270 | 66-150 | **6C280** | $46.93 | **$31.95** | 2.8 |
| | 1/4 Square | 4 | 1/4 | 6C246 | | | | | |
| | 5/16 Square | 6 | 5/16 | 6C247 | | | | | |
| | 3/8 Square | 8 | 3/8 | 6C248 | | | | | |
| | 3/8 Square | 12 | 1/2 | 6C250 | | | | | |
| **8-Pc. Set** | 1/4 Stubby | 1½ | 1/4 | 6C270 | 66-509 | **6C285** | 85.13 | **57.90** | 3.5 |
| | 3/16 Square | 3 | 3/16 | 6C251 | | | | | |
| | 1/4 Square | 4 | 1/4 | 6C246 | | | | | |
| | 1/4 Square | 9 | 1/4 | 6C253 | | | | | |
| | 5/16 Square | 6 | 5/16 | 6C247 | | | | | |
| | 3/8 Square | 8 | 3/8 | 6C248 | | | | | |
| | 3/8 Square | 10 | 1/2 | 6C249 | | | | | |
| | 3/8 Square | 12 | 1/2 | 6C250 | | | | | |
| **SLOTTED SCREWDRIVER SET** | | | | | | | | | |
| **7-Pc. Set** | 1/4 Stubby | 1½ | 1/4 | 6C270 | 66-157 | **6C281** | 57.60 | **39.20** | 3.5 |
| | 7/32 Round | 3 | 7/32 | 6C255 | | | | | |
| | 1/4 Round | 4 | 1/4 | 6C256 | | | | | |
| | 5/16 Round | 6 | 5/16 | 6C257 | | | | | |
| | 1/4 Round | 8 | 1/4 | 6C258 | | | | | |
| | 3/8 Round | 10 | 3/8 | 6C259 | | | | | |
| | 3/8 Round | 12 | 3/8 | 6C260 | | | | | |
| **PHILLIPS SCREWDRIVER SET** | | | | | | | | | |
| **5-Pc. Set** | 1/4 Stubby | 1½ | No. 2 Pt. | 6C245 | 66-156 | **6C282** | 31.64 | **21.52** | 1.9 |
| | 3/16 Round | 3 | No. 1 Pt. | 6C238 | | | | | |
| | 1/4 Round | 4 | No. 2 Pt. | 6C239 | | | | | |
| | 5/16 Round | 6 | No. 3 Pt. | 6C240 | | | | | |
| | 3/8 Round | 8 | No. 4 Pt. | 6C241 | | | | | |

## COMBINATION SCREWDRIVER SETS

| Size | PHILLIPS SCREWDRIVERS INCLUDED: Blade Size (In.)/ Shape | Blade Length (In.) | Tip Size | Stock No. | SLOTTED SCREWDRIVERS INCLUDED: Blade Size (In.)/ Shape | Blade Length (In.) | Tip Size (In.) | Stock No. | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8-Pc. Set** | 1/4 Stubby | 1½ | No. 2 Pt. | 6C245 | 1/4 Stubby | 1½ | 1/4 | 6C270 | 66-158 | **6C283** | $48.58 | **$33.05** | 2.8 |
| | 3/16 Round | 3 | No. 1 Pt. | 6C238 | 1/4 Round | 4 | 1/4 | 6C256 | | | | | |
| | 1/4 Round | 4 | No. 2 Pt. | 6C239 | 5/16 Round | 6 | 5/16 | 6C257 | | | | | |
| | 5/16 Round | 6 | No. 3 Pt. | 6C240 | 3/8 Round | 8 | 3/8 | 6C258 | | | | | |
| **12-Pc. Set** | 1/4 Stubby | 1½ | No. 2 Pt. | 6C245 | 1/4 Stubby | 1½ | 1/4 | 6C270 | 66-512 | **6C286** | 80.44 | **54.70** | 3.5 |
| | 1/8 Round | 2¾ | No. 0 Pt. | 6C237 | 1/8 Round | 2 | 1/8 | 6R500 | | | | | |
| | 3/16 Round | 3 | No. 1 Pt. | 6C238 | 1/4 Round | 4 | 1/4 | 6C256 | | | | | |
| | 1/4 Round | 4 | No. 2 Pt. | 6C239 | 3/16 Cabinet | 6 | 3/16 | 6C266 | | | | | |
| | 5/16 Round | 6 | No. 3 Pt. | 6C240 | 5/16 Round | 6 | 5/16 | 6C257 | | | | | |
| | 3/8 Round | 8 | No. 4 Pt. | 6C241 | 3/8 Round | 8 | 3/8 | 6C258 | | | | | |
| **18-Pc. Set** | 1/4 Stubby | 1½ | No. 2 Pt. | 6C245 | 1/4 Stubby | 1½ | 1/4 | 6C270 | 66-520 | **6C287** | 124.71 | **84.80** | 4.8 |
| | 1/8 Round | 2¾ | No. 0 Pt. | 6C237 | 1/8 Round | 2 | 1/8 | 6R500 | | | | | |
| | 3/16 Round | 3 | No. 1 Pt. | 6C238 | 7/32 Round | 3 | 7/32 | 6C255 | | | | | |
| | 3/16 Round | 10 | No. 1 Pt. | 6C242 | 1/4 Round | 4 | 1/4 | 6C256 | | | | | |
| | 1/4 Round | 4 | No. 2 Pt. | 6C239 | 3/16 Cabinet | 3 | 3/16 | 6C265 | | | | | |
| | 1/4 Round | 10 | No. 2 Pt. | 6C243 | 3/16 Round | 6 | 3/16 | 6C266 | | | | | |
| | 5/16 Round | 6 | No. 3 Pt. | 6C240 | 3/16 Round | 8 | 3/16 | 6C267 | | | | | |
| | 3/8 Round | 8 | No. 4 Pt. | 6C241 | 5/16 Round | 6 | 5/16 | 6C257 | | | | | |
| | | | | | 3/8 Round | 8 | 3/8 | 6C258 | | | | | |
| | | | | | 3/8 Round | 10 | 3/8 | 6C259 | | | | | |

### ORDERING HAS NEVER BEEN EASIER!

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

# INDIVIDUAL SCREWDRIVERS

- Amber handle has comfortable, full-size grip with deep, black flutes
- Special alloy steel blade and tip are forged and heat treated for high strength
- Tips are machine ground to size for sure nonslip fit in screw slot
- Chrome-plated to resist rust
- Square shank (and 4-12" round shank) slotted screwdrivers feature bolster construction (enlarged steel where the blade meets the handle) for added strength
- Square shank screwdrivers allow use of wrench for added torque

| Shank Size / Shape | Shank Length | Tip Size | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **POCKET SCREWDRIVERS** | | | | | | | |
| 8" Round | 2" | 1/8" Slotted | 66-101 | **6R496** | $2.36 | **$1.65** | 0.1 |
| 8 Round | 2 | No. 0 Pt. Phillips | 64-170 | **6R402** | 2.33 | **1.63** | 0.1 |
| **PHILLIPS SCREWDRIVERS** | | | | | | | |
| 8 Round | 2¾ | No. 0 Pt. | 64-100 | **6C237** | 3.87 | **2.71** | 0.1 |
| 16 Round | 3 | No. 1 Pt. | 64-101 | **6C238** | 4.44 | **3.11** | 0.2 |
| 16 Round | 10 | No. 1 Pt. | 64-171 | **6C242** | 5.02 | **3.51** | 0.2 |
| 4 Round | 4 | No. 2 Pt. | 64-102 | **6C239** | 5.47 | **3.83** | 0.2 |
| 4 Round | 10 | No. 2 Pt. | 64-172 | **6C243** | 6.73 | **4.71** | 0.3 |
| 16 Round | 6 | No. 3 Pt. | 64-103 | **6C240** | 7.33 | **5.13** | 0.4 |
| 8 Round | 8 | No. 4 Pt. | 64-104 | **6C241** | 9.51 | **6.66** | 0.6 |
| **PHILLIPS STUBBY SCREWDRIVERS** | | | | | | | |
| 4 Round | 1½ | No. 1 Pt. | 64-081 | **6C244** | 3.87 | **2.71** | 0.1 |
| 4 Round | 1½ | No. 2 Pt. | 64-105 | **6C245** | 4.89 | **3.42** | 0.1 |
| **SLOTTED TIP SCREWDRIVERS—SQUARE SHANK** | | | | | | | |
| 16 Square | 3 | 3/16" | 66-015 | **6C251** | 4.33 | **3.03** | 0.2 |
| 16 Square | 4 | 3/16 | 66-018 | **6C252** | 4.62 | **3.23** | 0.2 |
| 4 Square | 4 | 1/4 | 66-174 | **6C246** | 6.73 | **4.71** | 0.2 |
| 4 Square | 9 | 1/4 | 66-016 | **6C253** | 7.27 | **5.09** | 0.2 |
| 16 Square | 6 | 5/16 | 66-176 | **6C247** | 8.98 | **6.29** | 0.5 |
| 16 Square | 10 | 5/16 | 66-017 | **6C254** | 9.16 | **6.41** | 0.4 |
| 8 Square | 8 | 3/8 | 66-178 | **6C248** | 10.98 | **7.69** | 0.6 |
| 8 Square | 10 | 1/2 | 66-170 | **6C249** | 13.84 | **9.69** | 0.6 |
| 8 Square | 12 | 1/2 | 66-172 | **6C250** | 15.56 | **10.89** | 0.6 |
| **SLOTTED TIP SCREWDRIVERS** | | | | | | | |
| 32 Round | 3 | 7/32 | 66-163 | **6C255** | 5.80 | **4.06** | 0.2 |
| 4 Round | 4 | 1/4 | 66-164 | **6C256** | 5.87 | **4.11** | 0.2 |
| 4 Round | 6 | 1/4 | 66-011 | **6C261** | 5.87 | **4.11** | 0.2 |
| 4 Round | 10 | 1/4 | 66-012 | **6C262** | 6.33 | **4.43** | 0.3 |
| 16 Round | 6 | 5/16 | 66-166 | **6C257** | 6.96 | **4.87** | 0.4 |
| 16 Round | 8 | 5/16 | 66-013 | **6C263** | 6.96 | **4.87** | 0.4 |
| 16 Round | 10 | 5/16 | 66-014 | **6C264** | 7.27 | **5.09** | 0.4 |
| 8 Round | 8 | 3/8 | 66-168 | **6C258** | 8.93 | **6.25** | 0.4 |
| 8 Round | 10 | 3/8 | 66-160 | **6C259** | 11.67 | **8.17** | 0.6 |
| 8 Round | 12 | 3/8 | 66-162 | **6C260** | 13.69 | **9.58** | 0.6 |
| **STUBBY SLOTTED TIP SCREWDRIVERS** | | | | | | | |
| 4 Round | 1½ | 1/4 | 66-161 | **6C270** | 4.69 | **3.28** | 0.1 |
| 32 Round | 1¼ | 7/32 | 66-165 | **6C271** | 4.18 | **2.93** | 0.2 |
| **CABINET TIP SCREWDRIVERS—EXTRA LIGHT BLADE** | | | | | | | |
| 8 Round | 2 | 1/8 | 66-112 | **6R500** | 3.20 | **2.24** | 0.1 |
| 8 Round | 3 | 1/8 | 66-113 | **6R501** | 3.20 | **2.24** | 0.1 |
| 8 Round | 4 | 1/8 | 66-114 | **6R502** | 3.44 | **2.41** | 0.1 |
| 8 Round | 6 | 1/8 | 66-116 | **6R503** | 3.82 | **2.67** | 0.1 |
| **CABINET TIP SCREWDRIVERS—LIGHT BLADE** | | | | | | | |
| 16 Round | 3 | 3/16 | 66-183 | **6C265** | 3.51 | **2.46** | 0.2 |
| 16 Round | 6 | 3/16 | 66-186 | **6C266** | 4.09 | **2.86** | 0.2 |
| 16 Round | 8 | 3/16 | 66-188 | **6C267** | 4.89 | **3.42** | 0.2 |
| 16 Round | 10 | 3/16 | 66-180 | **6C268** | 5.60 | **3.92** | 0.2 |
| 16 Round | 12 | 3/16 | 66-182 | **6C269** | 6.96 | **4.87** | 0.2 |
| **POZIDRIV® SCREWDRIVERS** | | | | | | | |
| 16 Round | 3 | No. 1 Pt. for Screw Sizes 2-4 | 64-131 | **6C272** | 5.38 | **4.39** | 0.2 |
| 4 Round | 4 | No. 2 Pt. for Screw Sizes 5-10 | 64-132 | **6C273** | 6.53 | **5.32** | 0.2 |
| **TORX® SCREWDRIVERS** | | | | | | | |
| 16 Round | 3¼ | T10 | 64-160 | **6C274** | 4.91 | **4.01** | 0.2 |
| 16 Round | 3¼ | T15 | 64-161 | **6C275** | 4.27 | **4.14** | 0.2 |
| 16 Round | 3¼ | T20 | 64-162 | **6C276** | 5.33 | **4.35** | 0.2 |
| 16 Round | 4 | T25 | 64-163 | **6C277** | 6.07 | **4.95** | 0.2 |
| 4 Round | 4 | T27 | 64-164 | **6C278** | 6.42 | **5.23** | 0.3 |
| 4 Round | 4 | T30 | 64-165 | **6C279** | 6.67 | **5.43** | 0.3 |

STANLEY®

Made in U.S.A.

**100 PLUS®**



Pocket Screwdriver



Phillips Screwdriver



Phillips Stubby Screwdriver



Square Shank Slotted Tip Screwdriver



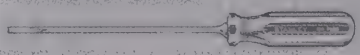
Round Shank Slotted Tip Screwdriver



Stubby Slotted Tip Screwdriver



Extra Light Blade Cabinet Tip Screwdriver



Light Blade Cabinet Tip Screwdriver



Pozidriv Screwdriver



Torx® Screwdriver

# SCREWDRIVERS AND SCREW STARTERS

## DYNAGRIP™ SCREWDRIVERS

- Ergonomic cushion grip handle for comfort; reduces fatigue
- Dual textured grip provides extraordinary torque
- Nickle plated boron steel blade resists corrosion for longer life
- Black oxide tips (Phillips head only) for better fit

STANLEY

Made In U.S.A.



No. 1GX84 Combination Screwdriver Set

| Shank Size/ Shape (In.) | Shank Length (In.) | Tip Size/ Type | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PHILLIPS SCREWDRIVERS** | | | | | | | |
| 3/16 Round | 3 | No. 1 Pt. Phillips | 67-101 | **1GX95** | $5.31 | **$4.09** | 0.7 |
| 1/4 Round | 4 | No. 2 Pt. Phillips | 67-102 | **1GX94** | 6.13 | **4.72** | 0.2 |
| **STANDARD TIP SCREWDRIVERS** | | | | | | | |
| 1/4 Round | 4 | 1/4" Slotted | 67-304 | **1GX90** | 5.42 | **4.17** | 0.2 |
| 1/4 Round | 6 | 1/4" Slotted | 67-306 | **1GX89** | 6.00 | **4.62** | 1.8 |
| **CABINET TIP SCREWDRIVERS** | | | | | | | |
| 3/16 Round | 3 | 3/16" Cabinet | 67-203 | **1GX92** | 4.71 | **3.63** | 0.7 |
| 3/16 Round | 6 | 3/16" Cabinet | 67-206 | **1GX91** | 5.40 | **4.16** | 0.1 |

### COMBINATION SCREWDRIVER SET

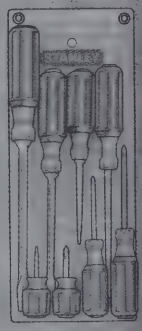
| Size | PHILLIPS SCREWDRIVERS INCLUDED: Blade Size (In.) | Blade Length (In.) | Tip Size | Model No. | SLOTTED SCREWDRIVERS INCLUDED: Blade Size/ Shape | Blade Length (In.) | Tip Size (In.) | Model No. | Stanley Model | Stock No. | List | Each | Shp W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6-Pc. Set | 3/16 | 3 | No. 1 Pt. | 67-101 | Cabinet | 3 | 3/16 | 67-203 | 67-906 | **1GX84** | $22.20 | **$16.99▲** | 1. |
| | 1/4 | 4 | No. 2 Pt. | 67-102 | Cabinet | 6 | 3/16 | 67-206 | | | | | |
| | | | | | Standard | 4 | 1/4 | 67-304 | | | | | |
| | | | | | Standard | 6 | 1/4 | 67-306 | | | | | |

## CUSHION GRIP SCREWDRIVERS

- Square shank allows use of wrench for added torque
- Square shank screwdrivers have bolster-reinforced construction
- Phillips screwdrivers have black oxide tips for a precise fit
- 8-Pc. Set No. 3MM52 comes in a vinyl pouch

STANLEY

Made In U.S.A.



No. 3MM52 Combination Screwdriver Set

| Shank Size Shape (In.) | Shank Length (In.) | Tip Size | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PHILLIPS CUSHION GRIP SCREWDRIVERS** | | | | | | | |
| 1/4 Round | 1½ | No. 2 Pt. | 65-905 | **6R493** | $6.51 | **$5.01** | 0.1 |
| 3/16 Round | 3 | No. 1 Pt. | 65-901 | **6R487** | 5.91 | **4.55** | 0.2 |
| 1/4 Round | 4 | No. 2 Pt. | 65-902 | **6R489** | 6.73 | **5.18** | 0.3 |
| 5/16 Round | 6 | No. 3 Pt. | 65-903 | **6R491** | 10.36 | **7.98** | 0.4 |
| **SLOTTED CUSHION GRIP SCREWDRIVERS** | | | | | | | |
| 1/4 Round | 1½ | 1/4" Stubby | 66-088 | **6R529** | 5.96 | **4.59** | 0.1 |
| 1/4 Square | 4 | 1/4 | 66-093 | **6R539** | 8.49 | **6.54** | 0.4 |
| 5/16 Square | 6 | 5/16 | 66-094 | **6R541** | 10.76 | **8.29** | 0.5 |
| 3/8 Square | 8 | 3/8 | 66-095 | **6R543** | 12.82 | **9.87** | 0.8 |

### COMBINATION SCREWDRIVER SET

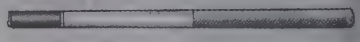
| Size | PHILLIPS SCREWDRIVERS INCLUDED: Blade Size (In.) | Blade Length (In.) | Tip Size (In.) | Model No. | SLOTTED SCREWDRIVERS INCLUDED: Blade Size/ Shape | Blade Width (In.) | Blade Legth (In.) | Tip Size (In.) | Model No. | Stanley Model | Stock No. | List | Each | Shp W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8-Pc. Set | 1/4 | 1½ | 2 Pt. | 65-905 | Stubby Standard | 1/4 | 1½ | 1/4 | 66-088 | 66-568 | **3MM52** | $66.82 | **$39.95** ▲ | 3. |
| | 3/16 | 3 | 1 Pt. | 65-901 | Standard | 1/4 | 4 | 1/4 | 66-093 | | | | | |
| | 1/4 | 4 | 2 Pt. | 65-902 | Standard | 5/16 | 6 | 5/16 | 66-094 | | | | | |
| | 5/16 | 6 | 3 Pt. | 65-903 | Standard | 3/8 | 8 | 3/8 | 66-095 | | | | | |

## SLOTTED & CROSS POINT SCREW STARTERS

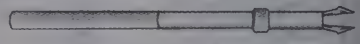
- For starting or removing slotted or cross point screws in hard-to-reach areas
- Can be used when screws are too small to hold by hand
- Spring steel chuck holds slotted screws sizes No. 3 to 7/16", and cross point screws sizes 6 to 1/2"
- Both come with a 5"L knurled aluminum handle

GENERAL®

Mad In U.S.



No. 3ZH38



No. 3ZH39

**No. 3ZH38.** Slotted Screw Starter (8082).. Shpg. wt. 0.1 lbs. List $7.94. Each.....**$7.15**

**No. 3ZH39.** Cross Point Screw Starter (8083).. Shpg. wt. 0.1 lbs. List $7.38. Each.....**$6.64**

(▲) Net prices, not subject to discounts.

# SCREWDRIVER SETS

Large extruded handle for greater driving power
Carbon alloy steel bars–longer wear

- Precision forged tips
- Stanley brand

| Description | Shank Size/ Shape (In.) | Shank Length | Tip Size Type (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Pc. Phillips rewdriver Set Vinyl Pouch | 3/16 Round | 4 | No. 1 Pt. | 62-453 | 4PM92 | $10.53 | $5.99▲ | 1.0 |
| | 1/4 Round | 1½ | No. 2 Pt. | | | | | |
| | 1/4 Round | 4 | No. 2 Pt. | | | | | |
| | 5/16 Round | 6 | No. 3 Pt. | | | | | |
| Pc. Torx® rewdriver Set Vinyl Pouch | 3/16 Round | 3¼ | T10 | 62-454 | 4PM93 | 15.87 | 9.99▲ | 1.2 |
| | 3/16 Round | 3¼ | T15 | | | | | |
| | 3/16 Round | 3¼ | T20 | | | | | |
| | 3/16 Round | 4 | T25 | | | | | |
| | 1/4 Round | 4 | T30 | | | | | |
| Pc. Slotted rewdriver Set Vinyl Pouch | 1/8 Round | 2 | 1/8 | 62-456 | 4PM95 | 20.24 | 12.99▲ | 1.8 |
| | 3/16 Round | 6 | 3/16 | | | | | |
| | 1/4 Round | 6 | 1/4 | | | | | |
| | 1/4 Round | 4 | 1/4 | | | | | |
| | 5/16 Round | 6 | 5/16 | | | | | |
| | 3/8 Round | 8 | 3/8 | | | | | |

## COMBINATION SCREWDRIVER SETS

| Description | Blade Size/ Shape (In.) | Blade Length (In.) | Tip Size/ Type (In.) | Stanley Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Pc. Combination Set in Vinyl Pouch | | | | | | | | |
| Phillips | 1/4 Round | 4 | No. 2 Pt. | 62-455 | 4PM94 | $12.47 | $7.99▲ | 1.2 |
| Slotted | 3/16 Round | 3 | 3/16 | | | | | |
| | 1/4 Round | 4 | 1/4 | | | | | |
| | 5/16 Round | 6 | 5/16 | | | | | |
| | 3/16 Round | 6 | 3/16 | | | | | |
| Pc. Combination Set in Vinyl Pouch | | | | | | | | |
| Phillips | 3/16 Round | 4 | No. 1 Pt. | 62-452 | 4PM91 | 20.20 | 12.99▲ | 2.0 |
| | 1/4 Round | 4 | No. 2 Pt. | | | | | |
| | 6/16 Round | 6 | No. 3 Pt. | | | | | |
| Slotted | 1/4 Round | 4 | 1/4 | | | | | |
| | 6/16 Round | 6 | 5/16 | | | | | |
| | 3/16 Round | 3 | 3/16 | | | | | |
| | 3/16 Round | 4 | 3/16 | | | | | |
| | 3/16 Round | 6 | 3/16 | | | | | |
| 2-Pc. Combination Set in Vinyl Pouch | | | | | | | | |
| Phillips | 1/8 Round | 2¾ | No. 0 Pt. | 62-457 | 4PM96 | 42.07 | 18.99▲ | 3.0 |
| | 3/16 Round | 4 | No. 1 Pt. | | | | | |
| | 1/4 Round | 1½ | No. 2 Pt. | | | | | |
| | 1/4 Round | 4 | No. 2 Pt. | | | | | |
| | 5/16 Round | 6 | No. 3 Pt. | | | | | |
| Slotted | 1/8 Round | 2 | 1/8 | | | | | |
| | 3/16 Round | 6 | 3/16 | | | | | |
| | 1/4 Round | 1½ | 1/4 | | | | | |
| | 1/4 Round | 4 | 1/4 | | | | | |
| | 5/16 Round | 6 | 5/16 | | | | | |
| | 3/8 Round | 8 | 3/8 | | | | | |
| | 3/8 Round | 10 | 3/8 | | | | | |
| 6-Pc. Combination Set in Plastic Tray | | | | | | | | |
| Phillips | 1/8 Round | 2¾ | No. 0 Pt. | 62-459 | 4PM98 | 44.22 | 28.95▲ | 4.2 |
| | 3/16 Round | 4 | No. 1 Pt. | | | | | |
| | 1/4 Round | 1½ | No. 2 Pt. | | | | | |
| | 1/4 Round | 4 | No. 2 Pt. | | | | | |
| | 6/16 Round | 6 | No. 3 Pt. | | | | | |
| | 3/16 Round | 1½ | No. 1 Pt. | | | | | |
| Slotted | 1/8 Round | 2 | 1/8 | | | | | |
| | 3/16 Round | 3 | 3/16 | | | | | |
| | 3/16 Round | 6 | 3/16 | | | | | |
| | 1/4 Round | 1½ | 1/4 | | | | | |
| | 1/4 Round | 4 | 1/4 | | | | | |
| | 5/16 Round | 6 | 5/16 | | | | | |
| | 3/8 Round | 8 | 3/8 | | | | | |
| | 3/16 Round | 3 | 3/16 | | | | | |
| | 3/16 Round | 4 | 3/16 | | | | | |
| | 3/16 Round | 10 | 3/16 | | | | | |

▲) Net prices, not subject to discounts.

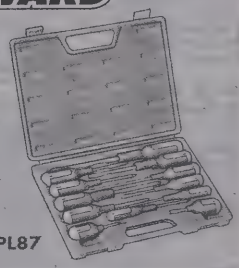
STANLEY® New



No. 4PM93

## 12-Pc. SCREWDREIVER SET

WESTWARD™ New



No. 4PL87

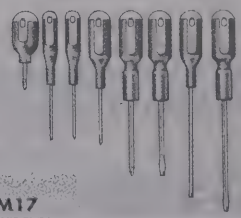
- Chrome vanadium steel blades and magnetic tips
- Soft grip handle

Set contains: 5/16 x 6, 1/4 x 4, 3/16 x 6, 3/16 x 3, 1/8 x 3, 1/4 x 1½" Stubby; #2 x 4, #1 x 3, #0 x 3, #2 x 1½: Stubby; Torx: T15 x3, T20 x 3, Blow-molded case and color sleeve.

**No. 4PL87.** Shpg. wt. 7.5 lbs.
Each.....$33.95

## 8-Pc. SCREWDRIVER SET

WESTWARD™ New



No. 4PM17

- Chrome vanadium steel blades and magnetic tips
- Soft grip handle

Set contains: 1/4 x 6, 1/4 x 4, 3/16 x 6, 1/8 2 3"; #2 x 4, #1 x 3, #0 x 3, #2 x 1½".

**No. 4PM17.** Shpg. wt. 2.0 lbs.
Each.....$23.95▲

(▲) Net prices, not subject to discounts.

# SCREWDRIVERS AND NUT DRIVERS

## INDIVIDUAL SCREWDRIVERS

- Large extruded handle for greater driving power
- Precision forged tips
- Carbon alloy steel bars

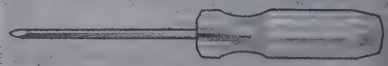
| | Shank Size/ Shape (In.) | Shank Length (In.) | Tip Size/ Type (In.) | Stanley Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Pocket Screwdrivers with Clips** | 1/8 Round | 2 | 1/8 Slotted | 62-417 | **4PM65** | $1.29 | **$1.23** | 0.1 |
| | 1/8 Round | 2¾ | 0 Pt. Phillips | 62-429 | **4PM77** | 2.04 | **1.94** | 0.1 |
| **Slotted Tip Screwdrivers** | 3/16 Round | 4 | 3/16 Slotted | 62-413 | **4PM61** | 2.33 | **2.21** | 0.3 |
| | 3/16 Round | 6 | 3/16 Slotted | 62-414 | **4PM62** | 2.80 | **2.66** | 0.3 |
| | 3/16 Round | 10 | 3/16 Slotted | 62-415 | **4PM63** | 3.51 | **3.33** | 0.3 |
| | 3/16 Round | 3 | 3/16 Slotted | 62-418 | **4PM66** | 2.38 | **2.26** | 0.4 |
| | 1/4 Round | 4 | 1/4 Slotted | 62-419 | **4PM67** | 2.67 | **2.54** | 0.1 |
| | 1/4 Round | 6 | 1/4 Slotted | 62-420 | **4PM68** | 3.00 | **2.85** | 0.3 |
| | 5/16 Round | 6 | 5/16 Slotted | 62-421 | **4PM69** | 3.24 | **3.08** | 0.4 |
| | 3/8 Round | 8 | 3/8 Slotted | 62-422 | **4PM70** | 5.13 | **4.87** | 0.6 |
| | 3/8 Round | 10 | 3/16 Slotted | 62-423 | **4PM71** | 5.89 | **5.60** | 0.6 |
| | 3/8 Round | 12 | 3/16 Slotted | 62-424 | **4PM72** | 6.31 | **5.99** | 0.7 |
| **Slotted Tip Screwdrivers–Square Shank** | 1/4 Square | 4 | 1/4 Slotted | 62-425 | **4PM73** | 2.78 | **2.64** | 0.3 |
| | 5/16 Square | 6 | 5/16 Slotted | 62-426 | **4PM74** | 3.76 | **3.57** | 0.5 |
| | 3/8 Square | 8 | 3/8 Slotted | 62-427 | **4PM75** | 5.87 | **5.58** | 0.6 |
| | 3/8 Square | 10 | 7/16 Slotted | 62-428 | **4PM76** | 6.31 | **5.99** | 0.7 |
| **Stubby Slotted Tip Screwdriver** | 1/4 Square | 1½ | 1/4 Slotted | 62-416 | **4PM64** | 2.51 | **2.38** | 0.1 |
| **Phillips Screwdrivers** | 3/16 Round | 4 | 1 Pt. Phillips | 62-430 | **4PM78** | 2.42 | **2.30** | 0.3 |
| | 1/4 Round | 4 | 2 Pt. Phillips | 62-431 | **4PM79** | 2.91 | **2.76** | 0.3 |
| | 1/4 Round | 8 | 3 Pt. Phillips | 62-432 | **4PM80** | 3.44 | **3.27** | 0.3 |
| | 5/16 Round | 6 | 4 Pt. Phillips | 62-433 | **4PM81** | 3.89 | **3.70** | 0.4 |
| **Phillips Stubby Screwdrivers** | 3/16 Round | 1½ | 1 Pt. Phillips | 62-434 | **4PM82** | 2.67 | **2.54** | 0.1 |
| | 1/4 Round | 1½ | 2 Pt. Phillips | 62-435 | **4PM83** | 2.58 | **2.45** | 0.1 |
| **Torx® Screwdrivers** | 3/16 Round | 3¼ | T10 Torx ® | 62-436 | **4PM84** | 3.44 | **3.27** | 0.2 |
| | 3/16 Round | 3¼ | T15 Torx ® | 62-437 | **4PM85** | 3.51 | **3.33** | 0.2 |
| | 3/16 Round | 3¼ | T20 Torx ® | 62-438 | **4PM86** | 3.51 | **3.33** | 0.2 |
| | 3/16 Round | 4 | T25 Torx ® | 62-439 | **4PM87** | 3.51 | **3.33** | 0.2 |
| | 1/4 Round | 4 | T30 Torx ® | 62-440 | **4PM88** | 3.89 | **3.70** | 0.5 |

STANLEY New

Made in U.S.A.



No. 4PM65
Pocket Screwdriver



No. 4PM79
Phillips Screwdriver



No. 4PM84
Torx® Screwdriver

## NUT DRIVERS

- Extra large handle for increased torque
- Metric nut drivers have color coded handle for easy identification
- Fractional nut drivers have hollow shaft

| Hex Size | Shank Length (In.) | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/16"** | 3¼ | 61-805 | **1GZ45** | $4.31 | **$3.32** | 0.2 |
| **1/4** | 3¼ | 61-806 | **1GZ44** | 4.44 | **3.42** | 0.2 |
| **5/16** | 3⅝ | 61-807 | **1GZ43** | 5.13 | **3.95** | 0.4 |
| **11/32** | 3⅝ | 61-808 | **1GZ42** | 5.38 | **4.14** | 0.4 |
| **3/8** | 3⅝ | 61-809 | **1GZ41** | 5.38 | **4.14** | 0.4 |
| **7/16** | 4 | 61-810 | **1GZ40** | 5.96 | **4.59** | 0.4 |
| **1/2** | 4 | 61-811 | **1GZ39** | 6.42 | **4.94** | 0.4 |

| Description | Included in Set | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **NUT DRIVER SET** | | | | | | |
| **7-Pc. Fractional Set** | 3/16, 1/4, 5/16, 11/32, 3/8, 7/16, 1/2" | 61-817 | **4EX04** | $35.93 | **$24.95▲** | 0.3 |

STANLEY

Made in U.S.A.




No. 1GZ39

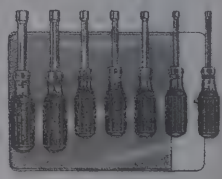
## NUT DRIVER SET

- Features cushion grip nut drivers with color coded handles for easy identification in a plastic pouch
- Hollow shaft for use on long bolts and threaded nuts

| Description | Sizes Included (In.) | Klein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **7-Pc. Cushion Grip Set** | 3/16, 1/4, 5/16, 11/32, 3/8, 7/16, & 1/2 | 631 | **4A843** | $45.73 | **$40.05 ▲** | 1.5 |

(▲) Net prices, not subject to discounts.

KLEIN TOOLS



No. 4A843



The only source you need for tools as tough as you are.

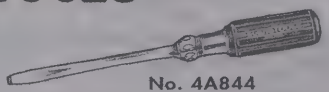
## INDIVIDUAL SCREWDRIVERS

- Feature comfortable cushion grip handles
- Heavy-duty square shank screwdrivers have fully chrome-plated blade with black tip
- Phillips screwdrivers are machined to more exact Phillips-tip profile for better, tighter fit

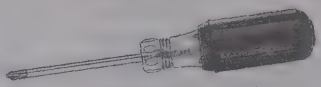
| Description | Shank Size/ Shape | Shank Length (In.) | Tip Size | Klein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Phillips Screwdriver | 3/16 Round | 3 | No. 1 Pt. | 603-3 | 4A849 | $6.53 | $5.72 | 0.2 |
| | 1/4 Round | 4 | No. 2 Pt. | 603-4 | 4A848 | 7.60 | 6.65 | 0.3 |
| | 5/16 Round | 6 | No. 3 Pt. | 603-6 | 4A850 | 10.26 | 8.98 | 0.4 |
| Slotted Tip Screwdriver—Square Shank | 1/4 Square | 1½ | 1/4" | 600-1 | 4A844 | 5.91 | 5.17 | 0.2 |
| | 1/4 Square | 4 | 1/4 | 600-4 | 4A845 | 8.86 | 7.76 | 0.3 |
| | 5/16 Square | 6 | 5/16 | 600-6 | 4A846 | 10.77 | 9.43 | 0.4 |
| | 3/8 Square | 8 | 3/8 | 600-8 | 4A847 | 13.71 | 12.00 | 0.7 |
| Conduit Fitting | 3/8 Round | 1 | 3/8 | 19360 | 4A852 | 11.31 | 9.90 | 0.1 |

KLEIN TOOLS

Made in U.S.A.



No. 4A844
Square Shank Screwdriver



No. 4A849
Phillips Screwdriver

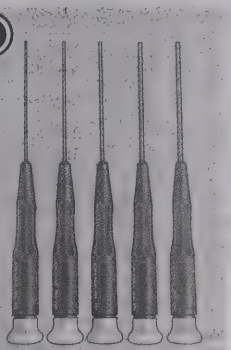
No. 4A852
Conduit Fitting Screwdriver



## PRECISION HEX SET

GENERAL

Made in U.S.A.



No. 3ZH30

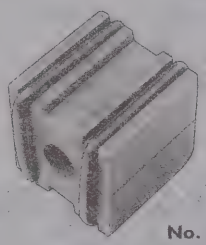
- For electronics, precision parts, or components
- Ergonomically designed handles with texture-grip surface
- Handle tapered and fluted
- Large swivel head for greater control
- Imprinted sizes on handle for easy selection
- Heat-treated steel blades—black oxide finish
- Includes sizes 1/16, 5/64, 3/32, 7/64 & 1/8"
- Blades—2½"; driver length 6⅛"
- General brand (770)

**No. 3ZH30.** Shpg. wt. 0.2 lbs. List $14.82.
Each ..... $13.34

## MAGNETIZER/DEMAGNETIZER

GENERAL

Made in U.S.A.



No. 3ZH19

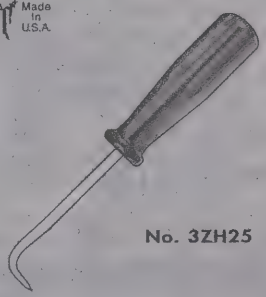
- Compact (1 x 1 x 1") powerful rare earth magnet designed for magnetizing, demagnetizing screwdrivers, nut runners, wrenches, taps, small tools
- Converts any tool blade into a magnetic retriever for screws, nuts, metallic particles
- General brand (360)

**No. 3ZH19.** Shpg. wt. 0.2 lbs. List $2.72
Each ..... $2.58

## COTTER PIN PULLER

GENERAL

Made in U.S.A.



No. 3ZH25

- Compound bend design allows safe, easy way to remove cotter pins by pulling or twisting motion
- For use in confined spaces
- Plated shaft and point—4½"L; made of heat-treated high carbon steel
- Overall length—7½", includes heavy-duty plastic handle
- General brand (64)

**No. 3ZH25.** Shpg. wt. 0.2 lbs. List $6.28.
Each ..... $5.97

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

# HEX KEYS

- Heat treated, tempered alloy steel
- Meet ANSI B18.3 and Federal Specification GGG-K-275D

Replacement Parts Available
1-800-323-0620

ALLEN



No. 1A449
Long Arm Set



New

No. 3G582
9-Pc. Metric Set

| Type | Description | Sizes Included | Arm Length | Allen Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Short Arm L-Shaped Hex Key Sets | 7-Pc. Set with Pouch | 5/64, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4" | 1⅞ - 3¼" | 56004 | **1A447** | $3.15 | **$2.19** | 0.2 |
| | 11-Pc. Set with Pouch | 0.050, 1/16, 5/64, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8" | 1¹¹⁄₁₆ - 4¼" | 56030 | **1A448** | 6.71 | **4.69** | 0.6 |
| | 15-Pc. Set with Metal Box | 0.028, 0.035, 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8" | 1⁹⁄₁₆- 4¼" | 56028 | **1A500** | 22.82 | **15.99** | 1.3 |
| | 18-Pc. Set with Metal Box | 0.028, 0.035, 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 7/32, 1/4, 5/16, 3/8, 1/2, 9/16, 5/8" | 1¼- 6⅛" | 56026 | **3A596** | 40.58 | **28.00** | 3.4 |
| | 9-Pc. Metric Set w/ Plastic Holder | 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10mm | 14 - 40mm | 56008 | **3G582** | 7.91 | **5.49** | 0.6 |
| | 13-Pc. Torx® Set with Pouch | T7, T8, T9, T10, T15, T20, T25, T27, T30, T40, T45, T50, T55 | 14 - 40mm | 56901 | **3G600** | 36.91 | **26.00** | 1.0 |
| Long Arm L-Shaped Hex Key Sets | 22-Pc. Set with Plastic Holder | 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8" 1.5, 2, 2.2, 3, 4, 5, 6, 8, 10mm | 2¾-6¾" | 56009 | ***New*** **4PL56** | 22.98 | **15.99** | 1.7 |
| | 13-Pc. Set with Plastic Holder | 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 4/32, 1/4, 5/16, 3/8" | 2¾-6¾" | 56081 | ***New*** **4PL57** | 17.64 | **11.99** | 0.9 |
| | 9-Pc. Set with Plastic Holder | 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm | 14-40mm | 56149 | ***New*** **4PL58** | 13.00 | **8.99** | 0.8 |
| | 9-Pc. Set with Pouch | 5/64, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8" | 6" | 56034 | **1A449** | 15.78 | **10.99** | 0.9 |
| | 7-Pc. Set with Pouch | 5/64, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4" | 12" | 56110 | **3A593** | 21.20 | **14.99** | 0.7 |
| | 15-Pc. Set with Pouch | 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 1/2, 9/16, 5/8, 3/4" | 2¾-6¾" | 56014 | **3A595** | 61.96 | **43.00** | 5.5 |
| | 10-Pc. Metric Set w/ Metal Box | 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12mm | 14 - 45mm | 56085 | **3G588** | 20.84 | **14.59** | 2.1 |
| | 9-Pc. Metric Set with Pouch | 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10mm | 14 - 40mm | 56018 | **3G584** | 12.16 | **8.49** | 0.8 |
| | 15-Pc. Metric Set with Pouch | 0.9, 1.3, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 12, 14, 17, 19mm | 2⅝- 10⅞" | 56083 | **3A597** | 69.78 | **49.00** | 5.8 |

| Description | Key Sizes (In.) | Allen Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **270-Pc. Assortment** | 50 Pcs. 5/64, 3/32, 1/8<br>25 Pcs. 5/32, 3/16<br>25 Pcs. 7/32, 1/4<br>10 Pcs. 5/16, 3/8 | 56882 | **3G592** | $122.40 | **$79.95** | 12.0 |

| Description | Key Sizes (mm) | Allen Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **175-Pc. Assortment** | 25 Pcs. 1.5, 2, 2.5, & 3<br>25 Pcs. 4, 5, & 6 | 56890 | **3G598** | $111.89 | **$74.95** | 4.4 |

## SHORT ARM L-SHAPED HEX KEYS

| Size | No. Per Pkg. | Allen Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0.050"** | 10 | 57006 | **3G602** | $1.60 | **$1.28** | 0.1 |
| **1/16** | 10 | 57008 | **3G604** | 1.60 | **1.28** | 0.1 |
| **5/64** | 10 | 57010 | **3G606** | 1.60 | **1.28** | 0.1 |
| **3/32** | 10 | 57012 | **3G608** | 1.60 | **1.28** | 0.1 |
| **7/64** | 10 | 57013 | **3G610** | 1.80 | **1.44** | 0.1 |
| **1/8** | 10 | 57014 | **3G612** | 1.80 | **1.44** | 0.1 |
| **9/64** | 10 | 57018 | **3G614** | 2.20 | **1.76** | 0.2 |
| **5/32** | 10 | 57020 | **3G616** | 2.40 | **1.92** | 0.2 |
| **3/16** | 10 | 57022 | **3G618** | 3.10 | **2.48** | 0.3 |
| **7/32** | 10 | 57024 | **3G620** | 4.40 | **3.52** | 0.5 |
| **1/4** | 10 | 57026 | **3G622** | 6.10 | **4.88** | 0.7 |
| **5/16** | 5 | 57028 | **3G624** | 5.10 | **4.08** | 1.2 |
| **3/8** | 5 | 57030 | **3G626** | 8.00 | **6.40** | 1.0 |
| **1/2** | 1 | 57032 | **3G628** | 4.00 | **3.20** | 2.2 |
| **5/8** | 1 | 57036 | **3G630** | 7.67 | **6.14** | 4.0 |
| **3/4** | 1 | 57038 | **3G632** | 11.87 | **9.50** | 6.6 |
| **7/8** | 1 | 57040 | **3G634** | 17.82 | **14.26** | 10.0 |
| **1** | 1 | 57042 | **3G636** | 26.93 | **21.54** | 15.0 |
| **0.7mm** | 10 | 57129 | **3G652** | 2.70 | **2.16** | 0.1 |
| **0.9** | 10 | 57131 | **3G656** | 2.40 | **1.92** | 0.1 |
| **1.3** | 10 | 57135 | **3G664** | 1.60 | **1.28** | 0.2 |
| **1.5** | 10 | 57116 | **3G638** | 2.70 | **2.16** | 0.2 |
| **2** | 10 | 57118 | **3G640** | 2.90 | **2.32** | 0.1 |
| **2.5** | 10 | 57120 | **3G642** | 3.10 | **2.48** | 0.1 |
| **3** | 10 | 57122 | **3G644** | 3.60 | **2.88** | 0.1 |
| **4** | 10 | 57124 | **3G646** | 4.40 | **3.52** | 0.2 |
| **5** | 10 | 57126 | **3G648** | 5.80 | **4.64** | 0.4 |
| **6** | 5 | 57128 | **3G650** | 8.20 | **6.56** | 0.6 |
| **8** | 5 | 57130 | **3G654** | 6.90 | **5.52** | 1.3 |
| **10** | 5 | 57132 | **3G658** | 11.90 | **9.52** | 1.1 |
| **12** | 1 | 57133 | **3G660** | 4.27 | **3.42** | 1.9 |
| **14** | 1 | 57134 | **3G662** | 6.16 | **4.93** | 2.7 |
| **17** | 1 | 57138 | **3G666** | 8.24 | **6.59** | 1.0 |
| **19** | 1 | 57142 | **3G668** | 13.71 | **10.97** | 1.3 |
| **22** | 1 | 57143 | **3G670** | 50.58 | **40.50** | 1.8 |

## LONG ARM L-SHAPED HEX KEYS

| Size | No. Per Pkg. | Allen Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0.050"** | 10 | 58003 | **3G676** | $2.20 | **$1.76** | 0.1 |
| **1/16** | 10 | 58001 | **3G672** | 2.10 | **1.68** | 0.1 |
| **5/64** | 10 | 58002 | **3G674** | 2.20 | **1.76** | 0.1 |
| **3/32** | 10 | 58004 | **3G678** | 2.40 | **1.92** | 0.1 |
| **7/64** | 10 | 58005 | **3G680** | 2.90 | **2.32** | 0.2 |
| **1/8** | 10 | 58006 | **3G682** | 2.90 | **2.32** | 0.2 |
| **9/64** | 10 | 58010 | **3G684** | 3.10 | **2.48** | 0.1 |
| **5/32** | 10 | 58012 | **3G686** | 3.60 | **2.88** | 0.3 |
| **3/16** | 10 | 58014 | **3G688** | 4.40 | **3.52** | 0.5 |
| **7/32** | 10 | 58016 | **3G690** | 7.10 | **5.68** | 0.8 |
| **1/4** | 10 | 58018 | **3G692** | 3.60 | **2.88** | 1.0 |
| **5/16** | 5 | 58020 | **3G694** | 8.10 | **6.48** | 0.9 |
| **3/8** | 5 | 58022 | **3G696** | 12.10 | **9.68** | 1.4 |
| **1/2** | 1 | 58024 | **3G698** | 5.69 | **4.55** | 3.0 |
| **5/8** | 1 | 58028 | **3G700** | 12.49 | **9.99** | 5.7 |
| **3/4** | 1 | 58030 | **3G702** | 17.76 | **14.21** | 9.4 |
| **7/8** | 1 | 58032 | **3G704** | 26.69 | **21.35** | 5.9 |
| **1** | 1 | 58034 | **3G706** | 35.78 | **28.65** | 8.4 |
| **0.9mm** | 10 | 58048 | **3G708** | 3.60 | **2.88** | 0.1 |
| **1.3** | 10 | 58049 | **3G710** | 2.90 | **2.32** | 0.2 |
| **1.5** | 10 | 58050 | **3G712** | 3.30 | **2.64** | 0.2 |
| **2** | 10 | 58052 | **3G714** | 3.60 | **2.88** | 0.6 |
| **2.5** | 10 | 58054 | **3G716** | 4.20 | **3.36** | 0.1 |
| **3** | 10 | 58056 | **3G718** | 5.10 | **4.08** | 0.2 |
| **4** | 10 | 58058 | **3G720** | 5.80 | **4.64** | 0.3 |
| **5** | 10 | 58060 | **3G722** | 7.30 | **5.84** | 0.5 |
| **6** | 10 | 58062 | **3G724** | 11.10 | **8.88** | 0.9 |
| **8** | 5 | 58064 | **3G726** | 9.00 | **7.20** | 1.8 |
| **10** | 5 | 58066 | **3G728** | 15.55 | **12.44** | 1.6 |
| **12** | 1 | 58068 | **3G730** | 6.00 | **4.80** | 2.8 |
| **14** | 1 | 58090 | **3G732** | 8.13 | **6.50** | 4.4 |
| **17** | 1 | 58092 | **3G734** | 13.33 | **10.66** | 6.7 |
| **19** | 1 | 58094 | **3G736** | 18.64 | **14.91** | 9.3 |



The only source you need for tools as tough as you are.

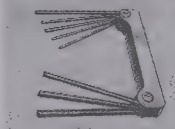
# HEX KEYS



- Heat treated, 8650 chrome nickel alloy steel
- Meet ANSI B18.3 and Fed. Spec. GGG-K-275D as applicable
- Hex steel tolerance of plus 0.000/minus 0.001"
- Ball-Hex-L™ key models tighten or loosen fasteners 360° at up to 25° approach angle

Eklind

Made in U.S.A.



No. 3A580 Fold-Up Set

No. 3A594 Ball-Hex-L™ Set



No. 6X307 T-Handle Set and No. 6X309 T-Handle Stand



## 9" CUSHION GRIP T-HANDLE HEX KEYS

| Size (In.) | Eklind Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/32 | 51906 | 3A583 | $2.04 | $1.63 | 0.1 |
| 7/64 | 51907 | 3A584 | 2.08 | 1.66 | 0.1 |
| 1/8 | 51908 | 3A585 | 2.08 | 1.66 | 0.1 |
| 9/64 | 51909 | 3A586 | 2.30 | 1.84 | 0.1 |
| 5/32 | 51910 | 3A587 | 2.42 | 1.94 | 0.1 |
| 3/16 | 51912 | 3A588 | 2.88 | 2.30 | 0.2 |
| 7/32 | 51914 | 3A589 | 3.66 | 2.93 | 0.2 |
| 1/4 | 51916 | 3A590 | 4.30 | 3.44 | 0.3 |
| 5/16 | 51920 | 3A591 | 6.94 | 5.55 | 0.5 |
| 3/8 | 51924 | 3A592 | 8.80 | 7.04 | 0.5 |

## 9" CUSHION GRIP METRIC T-HANDLE HEX KEYS

| Size (mm) | Eklind Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2.0 | 54920 | 4CR99 | $2.38 | $1.90 | 0.1 |
| 2.5 | 54925 | 4CT01 | 2.40 | 1.92 | 0.1 |
| 3.0 | 54930 | 4CT02 | 2.42 | 1.94 | 0.1 |
| 4.0 | 54940 | 4CT03 | 2.78 | 2.22 | 0.1 |
| 5.0 | 54950 | 4CT04 | 3.42 | 2.74 | 0.2 |
| 6.0 | 54960 | 4CT05 | 4.08 | 3.26 | 0.3 |
| 8.0 | 54980 | 4CT06 | 7.06 | 5.65 | 0.6 |
| 10.0 | 54990 | 4CT07 | 9.06 | 7.25 | 1.0 |

## BALL HEX-L™ KEYS

| Size (In.) | No. per Pkg. | Eklind Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| .050 | 10 | 18203 | 4CR61 | $8.80 | $7.04 | 0.1 |
| 1/16 | 10 | 18204 | 4CR62 | 8.80 | 7.04 | 0.1 |
| 5/64 | 10 | 18205 | 4CR63 | 8.80 | 7.04 | 0.1 |
| 3/32 | 10 | 18206 | 4CR64 | 8.80 | 7.04 | 0.1 |
| 7/64 | 10 | 18207 | 4CR65 | 9.60 | 7.68 | 0.2 |
| 1/8 | 10 | 18208 | 4CR66 | 9.60 | 7.68 | 0.2 |
| 9/64 | 10 | 18209 | 4CR67 | 10.00 | 8.00 | 0.3 |
| 5/32 | 10 | 18210 | 4CR68 | 11.60 | 9.28 | 0.3 |
| 3/16 | 10 | 18212 | 4CR69 | 13.40 | 10.72 | 0.5 |
| 7/32 | 10 | 18214 | 4CR70 | 15.00 | 12.00 | 0.7 |
| 1/4 | 10 | 18216 | 4CR71 | 17.40 | 13.92 | 1.0 |
| 5/16 | 5 | 18220 | 4CR72 | 14.60 | 11.68 | 0.9 |
| 3/8 | 5 | 18224 | 4CR73 | 21.80 | 17.44 | 1.5 |
| 7/16 | 5 | 18228 | 4CR74 | 49.80 | 39.85 | 2.2 |
| 1/2 | 5 | 18232 | 4CR75 | 62.20 | 49.80 | 3.1 |
| 9/16 | 5 | 18236 | 4CR76 | 86.10 | 68.90 | 4.3 |
| 5/8 | 5 | 18240 | 4CR77 | 112.80 | 90.25 | 4.5 |
| 3/4 | 1 | 18248 | 4CR78 | 32.60 | 26.10 | 1.9 |

## METRIC BALL HEX-L™ KEYS

| Size (mm) | No. per Pkg. | Eklind Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1.3 | 10 | 18602 | 4CR79 | $8.80 | $7.04 | 0.1 |
| 1.5 | 10 | 18603 | 4CR80 | 8.80 | 7.04 | 0.1 |
| 2.0 | 10 | 18604 | 4CR81 | 8.80 | 7.04 | 0.1 |
| 2.5 | 10 | 18605 | 4CR82 | 9.00 | 7.20 | 0.2 |
| 3.0 | 10 | 18606 | 4CR83 | 9.60 | 7.68 | 0.2 |
| 4.0 | 10 | 18608 | 4CR84 | 12.00 | 9.60 | 0.3 |
| 5.0 | 10 | 18610 | 4CR85 | 14.00 | 11.20 | 0.5 |
| 6.0 | 10 | 18612 | 4CR86 | 18.20 | 14.56 | 1.0 |
| 7.0 | 5 | 18614 | 4CR87 | 15.90 | 12.72 | 0.8 |
| 8.0 | 5 | 18616 | 4CR88 | 15.90 | 12.72 | 1.0 |
| 9.0 | 5 | 18618 | 4CR89 | 23.70 | 18.96 | 1.3 |
| 10.0 | 5 | 18620 | 4CR90 | 23.70 | 18.96 | 1.5 |
| 12.0 | 5 | 18624 | 4CR91 | 60.00 | 48.00 | 2.9 |
| 14.0 | 5 | 18628 | 4CR92 | 85.70 | 68.60 | 4.4 |
| 17.0 | 1 | 18634 | 4CR93 | 23.06 | 18.45 | 1.5 |
| 19.0 | 1 | 18638 | 4CR94 | 33.22 | 26.60 | 2.1 |

## FOLD-UP HEX KEY SETS

| Description | Sizes Included | Arm Length (In.) | Handle Length (In.) | Eklind Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 8-Pc. Small Set | 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32" | 1¾ - 2¼ | 3 | 20811 | 6X301 | $3.68 | $3.13 | 0.2 |
| 9-Pc. Regular Set | 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4" | 2 - 3¼ | 4½ | 20911 | 6X302 | 5.66 | 4.81 | 0.7 |
| 5-Pc. Long Set | 3/16, 7/32, 1/4, 5/16, 3/8" | 3¼ - 5 | 5¼ | 20511 | 6X303 | 7.96 | 6.77 | 0.9 |
| 8-Pc. Extra-Long Set | 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4" | 3½ - 5 | 5¼ | 20812 | 3A580 | 7.40 | 6.29 | 0.6 |
| 7-Pc. Metric Set | 1.5, 2, 2.5, 3, 4, 5, 6mm | 1¾ - 3¼ | 3⅜ | 21171 | 6X304 | 4.60 | 3.91 | 0.3 |
| 7-Pc. Metric Set | 2, 2.5, 3, 4, 5, 6, 8mm | 2 - 4 | 4¼ | 21172 | 4CR95 | 6.08 | 5.17 | 0.3 |
| 7-Pc. Torx Set® | T6, T7, T8, T9, T10, T15, T20 | 1¾ - 2¾ | 3 | 22572 | 4CR96 | 11.00 | 9.35 | 0.2 |
| 7-Pc. Torx Set® | T10, T15, T20, T25, T27, T30, T40 | 2¾ - 4 | 4¼ | 22571 | 3A581 | 11.00 | 9.35 | 0.5 |

## T-HANDLE HEX KEY SETS

| Description | Sizes Included | Arm Length (In.) | Handle Length (In.) | Eklind Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 8-Pc. Set w/Pouch | 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4" | 6 | 3 & 4 | 33168 | 6X305 | 15.22 | 12.94 | 0.8 |
| 8-Pc. Long Arm Set w/Pouch | 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4" | 9 | 3 & 4 | 33198 | 6X306 | 17.52 | 14.89 | 1.0 |
| 8-Pc. Metric Set with Pouch | 2, 2.5, 3, 4, 5, 6, 8, 10mm | 6 | 3, 4 & 6 | 35168 | 4CR98 | 24.00 | 20.40 | 1.7 |
| 8-Pc. Metric Long Arm Set w/Pouch | 2, 2.5, 3, 4, 5, 6, 8, 10mm | 9 | 3, 4 & 6 | 35198 | 3A582 | 27.20 | 23.12 | 2.0 |
| 8-Pc. Metric Cushion-Grip Set w/Pouch | 2, 2.5, 3, 4, 5, 6, 8, 10mm | 6 | 3, 4 & 6 | 55168 | 4CT08 | 31.00 | 26.35 | 1.9 |
| 8-Pc. Metric Cushion-Grip Long Arm Set | 2, 2.5, 3, 4, 5, 6, 8, 10mm | 9 | 3, 4 & 6 | 55198 | 4CT09 | 34.24 | 29.15 | 2.3 |
| 10-Pc. Cushion Grip Set w/Pouch | 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8" | 6 | 3, 4 & 6 | 53610 | 6X307 | 36.00 | 30.60 | 2.0 |
| 10-Pc. Cushion Grip Long Arm Set w/Pouch | 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8" | 9 | 3, 4 & 6 | 53910 | 6X308 | 39.68 | 33.75 | 2.5 |
| Stand for Nos. 6X307 & 6X308 | For Fractional Hex Keys | — | — | 32369 | 6X309 | 6.08 | 4.86 | 0.7 |
| Stand for Nos. 3A582, 4CR98, 4CT08, & 4CT09 | For Metric Hex Keys | — | — | 32690 | 4CR97 | 6.08 | 4.86 | 0.5 |

## BALL-HEX-L™ KEY SETS

| Description | Sizes Included | Arm Length (In.) | Eklind Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 11-Pc. Set w/ Plastic Holder | 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4" | 2½ - 5½ | 13211 | 4CR56 | $11.90 | $8.93 ▲ | 0.4 |
| 13-Pc. Set w/ Plastic Holder | 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8" | 2½ - 6⅜ | 13213 | 3A594 | 18.40 | 13.80 ▲ | 0.9 |
| 7-Pc. Metric Set w/ Plastic Holder | 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6mm | 3 - 5⅛ | 13607 | 4CR59 | 8.40 | 6.30 ▲ | 0.3 |
| 9-Pc. Metric Set w/ Plastic Holder | 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, 10mm | 3 - 6½ | 13609 | 1ATF7 | 15.30 | 11.48 ▲ | 0.8 |
| 22-Pc. Fractional & Metric Set w/ Plastic Holders | 13-Pc. Fractional and 9-Pc. Metric Sets (3A594 and 1ATF7) | 2½ - 6⅜ | 13222 | 4CR58 | 33.70 | 24.00 ▲ | 1.7 |

(▲) Net prices, not subject to discounts.

# ADJUSTABLE AND CUSHION GRIP ADJUSTABLE WRENCHES

## WIDE CAPACITY ADJUSTABLE WRENCHES

- Wide capacity opens up from 14-25% wider than standard wrenches
- Precision made alloy steel wrenches are drop-forged and heat treated
- Chrome wrenches have polished head with corrosion and rust-resistant heavy chromium plating
- Black phosphate wrenches have corrosion-resistant finish
- Jaws grip both square and hex nuts securely
- Knurled screw is fitted with a tension spring to help maintain adjustment
- Moving parts are mounted with a threaded bolt with slotted head for easy replacement
- Comfort grip has 71% thicker handle which adds comfort and reduced hand pressure
- Meet Federal Specification GGG-W-631b, Type 1



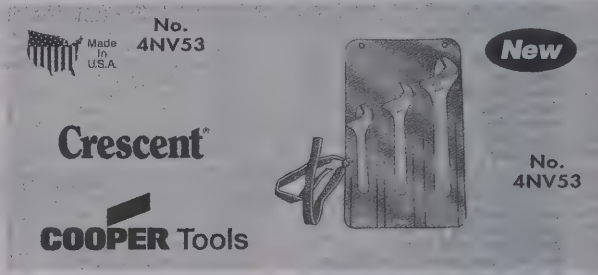

| Length (In.) | Handle | Max Opening (In.) | W/O CUSHION GRIP Stock No. | List | Each | Shpg. Wt. | WITH CUSHION GRIP New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CHROME FINISH** | | | | | | | | | | |
| 4 | Regular | 1/2 | **2A489*** | $17.77 | **$10.79▲** | 0.1 | **4NV50**** | $19.56 | **$11.79▲** | 0.1 |
| 6 | Regular | 15/16 | **6X314** | 18.64 | **11.29▲** | 0.3 | **4NV51**** | 20.22 | **12.29▲** | 0.3 |
| 8 | Regular | 1-1/8 | **6X315** | 19.34 | **12.39▲** | 0.5 | **4NV52**** | 21.28 | **13.39▲** | 0.7 |
| 10 | Regular | 1-5/16 | **6X316** | 24.65 | **14.39▲** | 0.9 | **4NV48**** | 26.28 | **15.69▲** | 1.2 |
| 12 | Regular | 1-1/2 | **6X317** | 35.53 | **20.49▲** | 1.5 | **4NV49**** | 37.70 | **22.19▲** | 1.5 |
| 15 | Tapered | 1-11/16 | **6X318*** | 57.51 | **37.35▲** | 3.2 | — | — | — | — |
| 18 | Tapered | 2-1/16 | **2A490*** | 99.62 | **66.75▲** | 4.8 | — | — | — | — |
| 24 | Tapered | 2-7/16 | **2A491*** | 170.34 | **108.75▲** | 8.2 | — | — | — | — |
| **BLACK PHOSPHATE FINISH** | | | | | | | | | | |
| 4 | Regular | 1/2 | **6C181*** | 15.16 | **9.79▲** | 0.1 | **4NV57**** | 16.74 | **10.79▲** | 0.1 |
| 6 | Regular | 15/16 | **6C179** | 15.84 | **10.29▲** | 0.3 | **4NV58**** | 17.20 | **11.29▲** | 0.3 |
| 8 | Regular | 1-1/8 | **6C176** | 16.45 | **11.29▲** | 0.5 | **4NV59**** | 18.08 | **12.39▲** | 0.5 |
| 10 | Regular | 1-5/16 | **6C178** | 20.95 | **13.39▲** | 0.9 | **4NV55**** | 20.80 | **14.69▲** | 0.9 |
| 12 | Regular | 1-1/2 | **6C177** | 32.01 | **19.49▲** | 1.5 | **4NV56**** | 33.94 | **21.19▲** | 1.5 |
| 15 | Tapered | 1-11/16 | **6C180*** | 52.18 | **34.95▲** | 3.2 | — | — | — | — |

(*) Does not have wide capacity nor comfort grip. (**) Cushion grip handle for non-slip grip. (▲) Net prices, not subject to discounts.

## WRENCH SETS

***New*No. 4NV53.** One each 6", 8", & 10" wide capacity chrome adjustable wrenches. Crescent brand (AC3). Shpg. wt. 1.7 lbs. List $63.94.
Each ..... **$34.95▲**

***New*No. 4NV54.** One each 6", 8", & 10" wide capacity, cushion grip, chrome adjustable wrenches. Crescent brand (AC3C). Shpg. wt. 1.7 lbs. List $69.12.
Each ..... **$37.95▲**

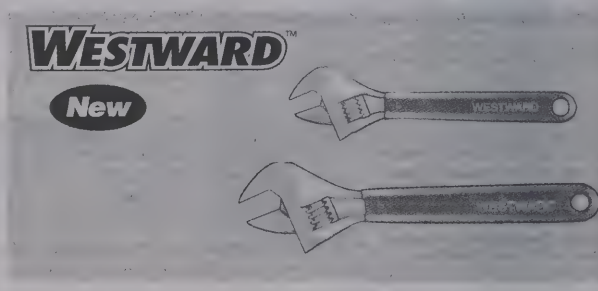



## 2-PC. ADJ20517E WRENCH SET

- NiKlear multi-layer plating and coating process provides superior corrosion resistance
- Smooth turning knurl for quick, easy jaw opening adjustments
- 8" wrench has 15/16" jaw opening capacity; 10" wrench has 1⅛" jaw opening capacity
- Westward Lifetime Warranty

***New*No. 4PM08.** Westward brand (21025). Shpg. wt. 1.5 lbs. List $19.20.
Each ..... **$17.95▲**

(▲) Net prices, not subject to discounts.



# SLIP JOINT AND SPECIAL APPLICATION PLIERS

## SLIP JOINT PLIERS

- Accurately machined for best gripping and turning of round objects, such as pipes, rods, pins, and connections
- Drop-forged from carbon steel
- Includes wire cutter
- Thin straight nose are polished steel, chromium plated with knurled handles and extra thin nose for use in tight places
- Cee Tee Co.® feature a bright plated finish and knurled handles
- Motor kit combination are polished steel, chromium plated with knurled handles

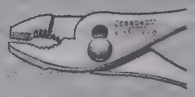
Crescent® COOPER Tools — Made in U.S.A.



Thin Straight Nose Combination



Cee Tee Co.® Combination



Motor Kit Combination

| Length (In.) | Description | Type | Max. Jaw Opening (In.) | Crescent Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6 3/4 | Thin Straight Nose Combination | Thin Nose | 1 | L26V | 2A477 | $12.15 | $8.99▲ | 0.6 |
| 6 1/2 | Cee Tee Co.® Combination | Regular | 1 | H26V | 6C182 | 7.17 | 4.99▲ | 0.5 |
| 8 | Cee Tee Co.® Combination | Regular | 1 | H28V | 6C183 | 8.71 | 6.39▲ | 0.6 |
| 6 1/2 | Motor Kit Combination | Regular | 1 | G26V | 5X629 | 11.48 | 7.99▲ | 0.5 |
| 8 | Motor Kit Combination | Regular | 1 | G28V | 5X630 | 13.74 | 9.99▲ | 0.6 |
| 10 | Motor Kit Combination | Regular | 1 3/8 | G210V | 2A478 | 17.31 | 11.99▲ | 1.0 |

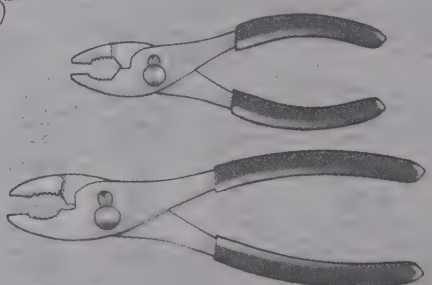
(▲) Net prices, not subject to discounts.

## 2-PC. SLIP JOINT PLIERS SET

- NiKlear multi-layer plating and coating process provides excellent corrosion-resistance
- Hardened and tempered steel for strength and toughness
- Machined jaws for gripping and turning stock
- 2-position openings for maximum gripping power
- Maximum jaw capacity: 6" pliers - 3/4"; 8" pliers - 1"
- Westward Lifetime Warranty

WESTWARD™

New



**New** No. 4PL95. Westward brand.
Shpg. wt. 1.1 lbs. List $10.80. Each .....$8.95▲

(▲) Net prices, not subject to discounts.

## SPECIAL APPLICATION PLIERS

### HEAVY-DUTY FENCE TOOL

- Corrugated hammer head, two wire cutters, two staple grips in nose, and wire grip between handles for stretching wire
- Heavy prong head gets in behind rusty staples and pulls them easily

### END CUTTING NIPPERS

- Designed with wide head and throat clearance, plus high leverage for nail and wire cutting flush to the work
- Used in carpentry, construction, and electrical applications

| Description | Length (In.) | Nose Length (In.) | Crescent Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Heavy-Duty Fence Tool | 10 7/16 | 1 1/16 | 1936-10CV | 2A486 | $31.10 | $26.45 | 1.7 |
| End Cutting Nipper | 7 1/4 | 3/8 | 72-7CV | 6C190 | 26.95 | 22.91 | 0.8 |
| End Cutting Nipper | 8 1/4 | 3/8 | 72-8CV | 5X641 | 30.22 | 25.70 | 0.7 |
| End Cutting Nipper | 9 1/4 | 13/32 | 72-9CV | 6C188 | 33.62 | 28.60 | 1.2 |

Crescent® COOPER Tools — Made in U.S.A.



Fence Tool



End Cutting Tool

### ORDERING HAS NEVER BEEN EASIER!

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

# TONGUE AND GROOVE PLIERS

## TONGUE & GROOVE PLIERS

- Handle objects of various shapes, including pipes, rods, hose and cable connections, and other mechanical devices
- Inclined tooth configuration for better grip, self-locking jaw opening adjustment, and heavy-duty nut and bolt joint
- Precision milled ribs assure a smooth, positive interlock between two halves
- Heavy-duty nut and bolt eliminate chance of halves separating or jumping out of grooves
- Long handles with plastisol grips provide powerful leverage with comfort and a sure hand grip
- Tough, black phosphate industrial grade finish increases corrosion resistance

| Length (In.) | Jaw Type | Max. Jaw Opening (In.) | Crescent Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 7 | Straight | 1⅛ | RT27CV | 2A479 | $12.97 | $8.49▲ | 0.5 |
| 10 | Straight | 1½ | RT210CV | 5X631 | 16.31 | 10.59▲ | 1.0 |
| 12 | Straight | 2⅛ | RT212CV | 2A480 | 20.48 | 13.29▲ | 1.5 |
| 14 | Straight | 3¼ | RT214CV | 5X632 | 30.66 | 19.39▲ | 2.4 |
| 16 | Straight | 4¼ | RT216CV | 2A481 | 36.81 | 23.19▲ | 3.5 |
| 2-Pc. Set | Incl. Nos. 2A479 & 5X631 | | RT20 | 6C184 | 29.97 | 17.99▲ | 1.5 |

(▲) Net prices, not subject to discounts.




## TONGUE & GROOVE PLIERS

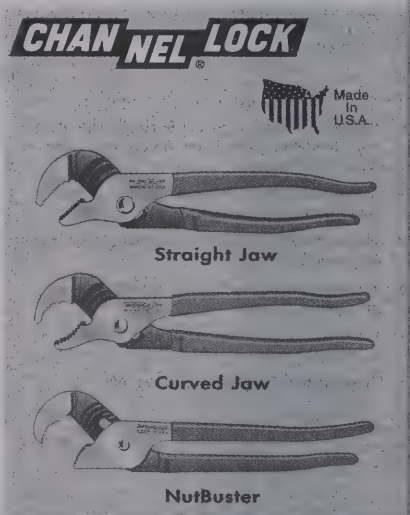
**Right angle teeth grip in all directions** for maximum bite and minimum wear. Patented undercut tongue & groove design assures strongest, no-slip jaw action. Reinforcing edge minimizes stress breakage. PermaLock® fastener eliminates nut and bolt failures. Pliers feature Channellock Blue® comfort grips. Polished steel finish.

**Curved Jaw**—for use on round stock and tubing.

**Nutbuster**—Parrot nose design, double tongue and groove design assures strongest no-slip jaw action.

| Length (In.) | Jaw Type | Max. Jaw Opening (In.) | Channellock Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 6½ | Straight | 7/8 | 426 | 4CR39 | $12.94 | $8.99▲ | 0.4 |
| 9½ | Straight | 1½ | 420 | 4CR37 | 15.82 | 10.99▲ | 0.9 |
| 10 | Straight | 2 | 430 | 4CR40 | 16.43 | 11.79▲ | 1.1 |
| 12 | Straight | 2¼ | 440 | 4CR41 | 17.70 | 12.99▲ | 1.4 |
| 16 | Straight | 4¼ | 460 | 4CR43 | 30.05 | 21.99▲ | 2.8 |
| 9½ | Curved | 1½ | 422 | 4CR38 | 15.90 | 10.99▲ | 0.9 |
| 12 | Curved | 2¼ | 442 | 4CR42 | 17.87 | 12.99▲ | 1.4 |
| 9½ | Nutbuster | 1⅛ | 410 | 4CR35 | 17.57 | 12.59▲ | 1.2 |
| 14 | Nutbuster | 2 | 414 | 4CR36 | 26.75 | 18.99▲ | 2.6 |
| 2-Pc. Set—Includes Nos. 4CR37 and 4CR39 | | | GS-1 | 4CR44 | 28.75 | 18.99▲ | 1.3 |

(▲) Net prices, not subject to discounts.




## 2-PC. TONGUE AND GROOVE PLIERS SET

- NiKlear multi-layer plating and coating process provides excellent corrosion-resistance
- Hardened and tempered steel for strength and toughness
- Machined jaws for gripping and turning round stock and odd-shaped objects
- Long vinyl-gripped handles for user comfort and powerful leverage
- Maximum jaw capacity: 10" pliers - 1 3/16"; 12" pliers - 1⅝"
- Westward brand

***New*** **No. 4PL96.** Shpg. wt. 1.5 lbs. List $16.20. Each ..... $15.95▲

(▲) Net prices, not subject to discounts.



# SOLID JOINT PLIERS

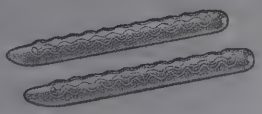
- For a wide range of applications for the electrician, mechanic, professional repairman, production line worker, and craftsman
- Steel alloy pliers are drop-forged, hardened, amd tempered for maximum strength, problem-free performanced and durability
- Contoured, plastic-dipped handles: No. 5C565 has heavy-duty plastic-dipped handles
- Mating surfaces and design dimensions are precision machined to extremely close tolerences
- Cutting knives are hand sharpened for long-lasting edge and perfect alignment

## "2000 SERIES"

- Super tough cutting knives to cut bolts, nails, Aluminum Conductive Steel Reinforced (ACSR) cable, and most hardened wire
- High leverage design

## PLIERS HANDLES

KLEIN TOOLS



Tenite plastic handles provide slip-resistant grip and greater comfort. Bright maroon color. Fits pliers 8 to 9" long. Klein brand (89).

**No. 4A832.** Shpg. wt. 0.1 lbs. List.....$6.06.
Each.....$5.31

KLEIN TOOLS

Made in U.S.A.

**LIFETIME LIMITED WARRANTY**

All Klein Tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside back cover.

WARNING: NEVER USE ANY PLIERS OR CUTTERS ON LIVE ELECTRICAL CIRCUITS.

INSULATED PLIERS AVAILABLE SEE PAGE 1313



A High Leverage NE-Type Side Cut with Fish-Tape Puller Groove



B High Leverage NE-Type Side Cut with Crimping Die



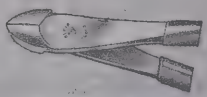
C High Leverage NE-Type Side Cutter



D Standard NE-Type Side Cut



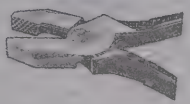
E High Leverage "2000 Series" Side Cut



F High Leverage "2000 Series" Diagonal Cutter



G High Leverage Angle Head Diagonal "2000 Series"



H High Leverage Side Cut for Repair Work



I 8" Heavy-duty Long Nose Side Cut with No. 12 Skin Hole



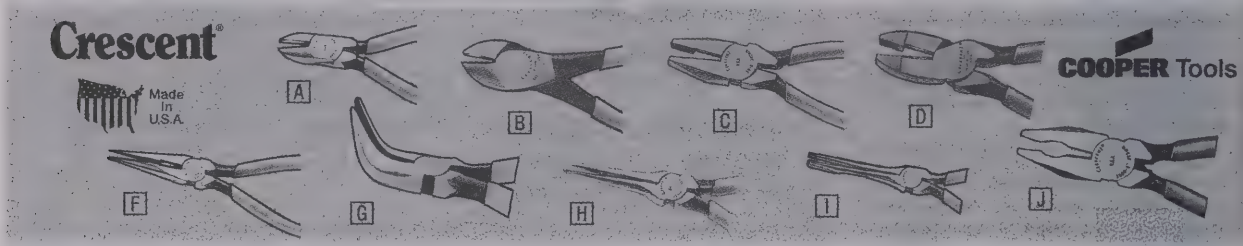
J Long Nose Side Cut

| Key | Description | Klein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 9¼" High Leverage NE-Type Side Cut Pliers w/Fish Tape Puller | D213-9NETP | **4A833** | $29.95 | **$26.25** | 1.2 |
| B | 9¼" High Leverage NE-Type Side Cut Pliers w/Crimping Die | D213-9NE-CR | **4A835** | 37.97 | **33.25** | 1.2 |
| C | 8½" High Leverage NE-Type Side Cut Pliers | D213-8NE | **4A836** | 28.04 | **24.54** | 1.0 |
| C | 9¼" High Leverage NE-Type Side Cut Pliers | D213-9NE | **4A837** | 28.42 | **24.87** | 1.2 |
| C | 9¼" High Leverage NE-Type Side Cut Pliers with Heavy-Duty Plastic-Dipped Handles | HD213-9NE | **5C565** | 28.86 | **25.30** | 1.3 |
| D | 9¼" Standard Leverage NE-Type Side Cut Pliers | D201-9NE | **5C566** | 28.80 | **25.20** | 1.2 |
| E | 9¼" High Leverage NE-Type "2000 Series" Side Cut Pliers | D2000-9NE | **4A834** | 36.77 | **32.20** | 1.2 |
| F | 8" High Leverage "2000 Series" Diagonal Cutting Pliers | D2000-28 | **4A838** | 28.24 | **24.71** | 0.7 |
| G | 8" High Leverage "2000 Series" Angle Head Diagonal Cutting Pliers | D2000-48 | **4A840** | 29.84 | **26.15** | 0.2 |
| F | 8" High Leverage Diagonal Cutting Pliers | D228-8 | **4A839** | 20.68 | **18.10** | 0.7 |
| G | 8" High Leverage Angle Head Diagonal Cutting Pliers | D248-8 | **4A841** | 21.37 | **18.71** | 0.7 |
| H | 9⁹⁄₃₂" High Leverage Side Cut Pliers with Coil Spring and Hook Handle for Rebar Work | D213-9ST | **5C563** | 31.71 | **27.75** | 1.4 |
| I | 8⁹⁄₁₆" Heavy-Duty Long Nose Side Cut Pliers w/No. 12 Skin Hole | D203-8N | **4A863** | 27.33 | **23.92** | 0.6 |
| J | 6⅝" Long Nose Side Cut Pliers with Cutters | D203-6 | **4A842** | 19.73 | **17.27** | 0.4 |
| J | 7⅛" Long Nose Side Cut Pliers with Cutters | D203-7 | **4A864** | 20.46 | **17.91** | 0.4 |
| J | 8⁹⁄₁₆" Heavy-Duty Long Nose Side Cut Pliers with Cutters | D203-8 | **5C564** | 25.68 | **22.48** | 0.7 |

# SOLID JOINT, LONG REACH NEEDLE NOSE, AND LONG REACH PLIERS

## SOLID JOINT PLIERS

- Designed for a wide range of applications for the electrician, mechanic, professional repairman, production line worker, and craftsman
- Drop-forged alloy steel
- Cutting edges are electronically induction-hardened and hand honed
- Polished heads
- Cushion grip handles



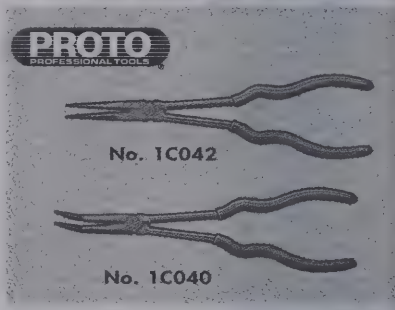

| Key | Type | Length (In.) | Nose Length (In.) | Crescent Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Diagonal Cutter | 6 | 27/32 | 942-6CV | 5X633 | $22.33 | $18.98 | 0.4 |
| B | Heavy-duty Diagonal Cutter | 7 | 25/32 | 542-7CV | 5X634 | 21.70 | 18.45 | 0.6 |
| B | Heavy-duty Diagonal Cutter | 8 | 25/32 | 542-8CV | 2A483 | 24.72 | 21.02 | 0.6 |
| C | Lineman's Side Cut Pliers | 6 7/32 | 1 3/32 | 50-6CV | 6C189 | 22.48 | 19.11 | 0.5 |
| C | Lineman's Side Cut Pliers | 7 1/4 | 1 9/32 | 50-7CV | 5X635 | 23.95 | 20.36 | 0.6 |
| C | Lineman's Side Cut Pliers | 8 5/16 | 1 15/32 | 50-8CV | 5X636 | 27.81 | 23.64 | 0.9 |
| D | Lineman's High Leverage Side Cut Pliers | 9 1/4 | 1 9/16 | 2050-9CV | 6X091 | 30.33 | 25.80 | 1.1 |
| E | Long Chain Nose | 6 5/8 | 1 7/8 | 1033-6CV | 2A484 | 17.67 | 15.02 | 0.4 |
| F | Long Chain Nose Side Cutting | 6 5/8 | 1 7/8 | 654-6CV | 5X637 | 22.02 | 18.72 | 0.3 |
| F | Long Chain Nose Side Cutting | 7 1/2 | 2 31/32 | 654-7CV | 2A485 | 25.65 | 21.80 | 0.4 |
| G | Curved Needle Nose | 6 | 1 | 888-6CV | 5X638 | 24.32 | 20.68 | 0.4 |
| H | Long Needle Nose | 6 1/2 | 2 1/16 | 777-6CV | 5X639 | 21.11 | 17.95 | 0.3 |
| H | Long Needle Nose | 7 15/32 | 2 11/16 | 777-7CV | 6C186 | 22.41 | 19.06 | 0.3 |
| I | Duck Bill | 7 1/4 | 2 5/8 | 23-7CV | 5X640 | 23.76 | 20.20 | 0.3 |
| J | Universal Side Cutter | 8 3/8 | 1 3/4 | 3800-8TV | 6C185 | 31.63 | 26.90 | 0.9 |

## LONG REACH NEEDLE NOSE PLIERS

- Extra long handle allows greater access to confined, restricted areas
- Improved fulcrum point for more holding power at the tip with less effort
- No. 1C040 has bent nose design to reach around obstructions

| Style | Length (In.) | Nose Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Straight | 11 9/16 | 2 13/16 | 240G | 1C042 | $40.82 | $24.95▲ | 0.7 |
| Bent | 11 3/8 | 2 9/16 | 241G | 1C040 | 40.82 | 24.95▲ | 0.7 |

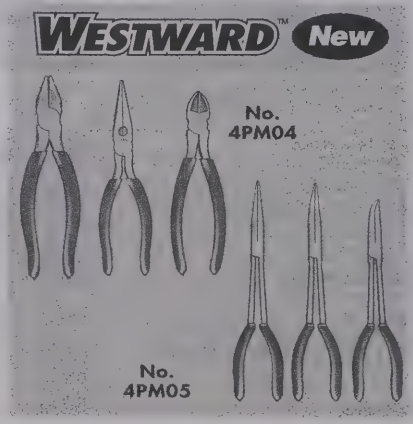
(▲) Net prices, not subject to discounts.




## 3-PC. SOLID JOINT PLIERS

- NiKlear multi-layer plating and coating process provides excellent corrosion resistance
- Hardened and tempered steel for strength and toughness
- Long handles for better access to tight and restricted areas
- Straight, 45° and 90° jaws work around obstructions to securely grip workpiece, vinyl grip handles for comfort
- Westward brand

**New** **No. 4PM04**. Shpg. wt. 2.0 lbs. Each..**$24.95▲**
(▲) Net prices, not subject to discounts.




## 3-PC SOLID JOINT LONG REACH PLIERS

- NiKlear multi-layer plating and coating process provides excellent corrosion resistance
- Hardened and tempered steel for strength and toughness
- Honed sharpened cutting edges for clean wire cuts
- Vinyl grip handles for user comfort
- Use long nose pliers to reach hard-to-get at areas
- Contents: 11" straight, 11" 45°; 11" 90°
- Westward brand

**New** **No. 4PM05**. Shpg. wt. 2.0 lbs. Each...**$9.95▲**
(▲) Net prices, not subject to discounts.

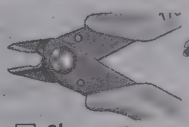
# PLIERS AND CUTTERS

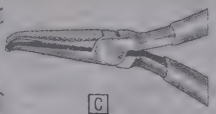
Xcelite®

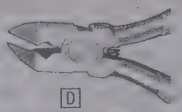
Made in U.S.A.

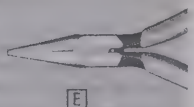
COOPER Tools

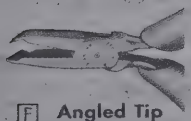

A Hard Wire

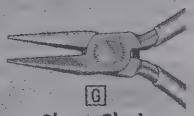

B Shearcutter

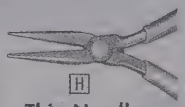

C Curved Thin Nose

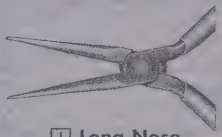

D Angle Cutter

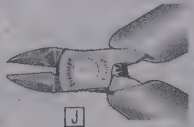

E Mini Long Nose

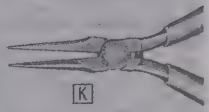

F Angled Tip


G Short Chain Nose


H Thin Needle Nose

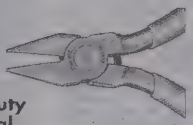

I Long Nose

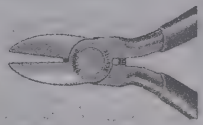

J Diagonal Cutter wtih Foam Handle

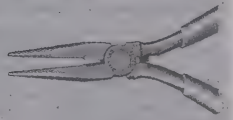

K Fine Needle Nose

**LIFETIME LIMITED WARRANTY**

All Cooper tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.


L Heavy-Duty Diagonal Cutter


M Diagonal Cutter


N Long Nose Side Cutter

- For a wide range of electronic assembly requirements
- Features a copper alloy rivet to eliminate friction and a copaloy joint which maintains a perfect cutting edge and tip alignment, smooth operation and longer life
- Manufactured from forged alloy steel; full polished heads
- All Xcelite pliers and cutters are ESD safe

HANDLE TYPES

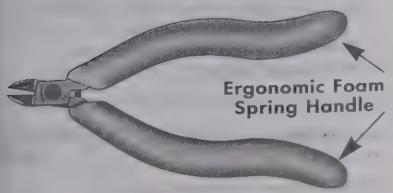
Cushion- Plastisol, non-slip cushion handles, standard.

Ergonomic- Extended handles allow even application of force from all four fingers

Spring- Handle coil spring allows faster cutting action with reduced user fatigue.

**ACCU-LITE ERGONOMIC HANDLES**

- Lightweight construction
- Extended handle length allows even application of force from all four fingers
- Exclusive, smooth soft foam cushion grips are free of abrupt edges and finger indentations
- Grip material is non-slip and compressible; allows for positive gripping and absorption of mechanical shock
- Handle contours adaptable to either right- or left-hand use




| Key | Type | Length (in.) | Handle Type | Xcelite Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Hard Wire Cutter | 4 | Cushion | 134CGV | 4CP16 | $42.79 | $34.25 | 0.2 |
| B | Shearcutter, General Purpose | 5 | Static-Disappative | 170D | 4CP17 | 14.41 | 11.53 | 1.2 |
| B | Shearcutter, General Purpose | 5 | Cushion | 170M | 4CP18 | 6.50 | 5.21 | 0.2 |
| C | Curved Thin Nose | 5 | Cushion/Foam | CN255V | 4CP19 | 22.40 | 17.92 | 1.1 |
| D | Angled Flush Cutting | 4 | Cushion/Spring | GA54JV | 4CP28 | 28.82 | 23.06 | 0.2 |
| E | Mini Long Nose | 4 | Cushion/Spring | L4G | 4CP30 | 17.95 | 14.36 | 0.2 |
| F | Angled Tip Cutting | 4½ | Cushion/Spring | LC665JV | 4CP32 | 33.74 | 27.00 | 0.9 |
| G | Short Chain Nose | 5 | Cushion/Spring | LN225 | 4CP33 | 18.20 | 14.57 | 1.1 |
| G | Miniature Round Nose Wire Loop | 4½ | Cushion/Spring | RN54 | 6X086 | 18.97 | 15.18 | 0.1 |
| G | Miniature Short Chain Nose | 4 | Cushion/Spring | L4V | 6X088 | 16.06 | 12.85 | 0.1 |
| G | Miniature Short Flat Nose | 4 | Cushion/Spring | DN54G | 6X089 | 16.13 | 12.91 | 0.1 |
| H | Thin Long Nose Serrated Jaw | 5 | Cushion/Spring | LN542 | 4CP34 | 17.08 | 13.67 | 0.5 |
| H | Thin Long Nose Smooth Jaw | 5 | Cushion/Spring | LN54GV | 4CP35 | 18.37 | 14.70 | 0.9 |
| H | Long Nose | 5 | Cushion/Spring | LN54V | 4CP38 | 17.72 | 14.18 | 0.2 |
| H | Thin Long Nose Serrated Jaw | 5½ | Cushion/Spring | LN55V | 4CP39 | 18.14 | 14.52 | 0.3 |
| I | Long Needle Nose Serrated Jaw | 5½ | Cushion/Spring | LN775512V | 4CP41 | 21.21 | 16.98 | 0.2 |
| I | Long Needle Nose Smooth Jaw | 5½ | Cushion/Spring | LN775512G | 4CP42 | 21.34 | 17.08 | 0.1 |
| I | Extra Thin Long Needle Nose | 6 | Cushion/Spring | NN7776V | 6C187 | 20.39 | 16.31 | 0.2 |
| J | Diagonal Flush Cut Relieved Throat | 4 | Cushion/Spring | MS543JV | 4CP43 | 18.95 | 15.16 | 0.3 |
| J | Diagonal Flush Cut Slim Tapered | 4 | Cushion/Spring | MS545JV | 4CP46 | 17.19 | 13.75 | 0.2 |
| J | Diagonal Flush Cut Tapered Head | 4 | Cushion/Spring | MS549JV | 4CP48 | 17.80 | 14.24 | 0.9 |
| J | Diagonal Flush Cut | 4 | Cushion/Spring | MS54J | 4CP51 | 18.18 | 14.55 | 0.5 |
| J | Miniature Diagonal Cutter | 4 | Cushion/Spring | MS54V | 6X087 | 16.13 | 12.91 | 0.1 |
| K | Needle Nose Fine Pt. Serrated Jaw | 5 | Cushion/Spring | NN542 | 4CP53 | 20.90 | 16.72 | 0.2 |
| K | Needle Nose Slim Serrated Jaw | 5 | Cushion/Spring | NN54V | 4CP54 | 20.81 | 16.65 | 0.2 |
| L | Diag. Flush Cut Relieved Tapered | 5 | Cushion/Spring | S1415JS | 4CP56 | 22.02 | 17.62 | 0.3 |
| L | Diagonal Flush Cut Tapered Head | 5 | Cushion/Spring | S475JSV | 4CP57 | 17.91 | 14.33 | 0.3 |
| L | Diagonal Lead Cutter Heavy Duty | 4½ | Cushion | S54 | 4CP58 | 17.91 | 14.33 | 0.3 |
| L | Diagonal Lead Cutter | 4½ | Cushion/Spring | S54S | 4CP59 | 18.29 | 14.64 | 0.3 |
| M | Diagonal Semi-Flush Cut Oval Head | 5 | Cushion/Spring | S55KS | 4CP61 | 20.71 | 16.57 | 0.3 |
| M | Diagonal Cutter Oval Head | 5 | Cushion/Spring | S55S | 4CP62 | 19.09 | 15.28 | 0.3 |
| M | Diagonal Cutter Oval Head | 5 | Cushion | S55V | 4CP60 | 17.44 | 13.96 | 0.5 |
| N | Long Nose Side Cutter | 5 | Cushion/Spring | SN54 | 4CP63 | 19.84 | 15.87 | 0.2 |
| N | Long Nose Side Cutter | 5½ | Cushion/Spring | SN55 | 4CP64 | 19.82 | 15.86 | 0.4 |

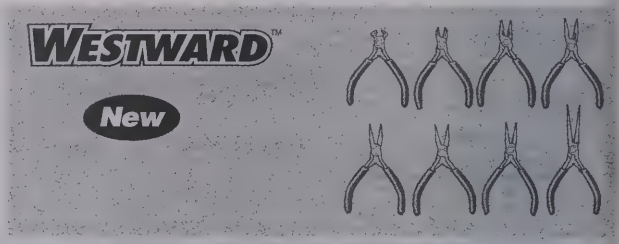
## ERGONOMIC/FOAM SPRING HANDLE

| Key | Type | Length (in.) | Xcelite Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| D | Angled Flush Cutting | 6¼ | EGA54J | 4CP21 | $39.89 | $31.95 | 0.9 |
| H | Long Nose | 6½ | ELN54 | 4CP22 | 28.68 | 22.94 | 1.5 |
| J | Diagonal Flush Cut Slim Tapered | 6¼ | EMS545J | 4CP25 | 27.04 | 21.64 | 1.3 |
| K | Needle Nose Slim Serrated Jaw | 6½ | ENN54 | 4CP27 | 31.88 | 25.50 | 0.2 |
| L | Diagonal Flush Cut Relieved Throat | 6¼ | EMS543J | 4CP24 | 29.44 | 23.55 | 1.3 |
| L | Diagonal Flush Cut Tapered Head | 6¼ | EMS549J | 4CP26 | 27.64 | 22.11 | 0.4 |
| M | Diagonal Semi-Flush Cut | 6¼ | EMS54 | 4CP23 | 26.03 | 20.82 | 0.2 |

# PLIERS, TWEEZERS, LOCKING WRENCHES TOOL SET AND LOCKING PLIERS

## 8-PC. MINI PLIERS SET

- NiKlear multi-layer plating and coating process provides corrosion resistance
- Hardened and tempered jaws for strength and toughness
- Two leaf springs keep jaws open for quick use
- Vinyl storage pouch stores, protects pliers when not in use
- Westward brand




***New*** **No. 4PM16.** Mini Pliers Set. Shpg. wt. 1.1 lbs.
Each ..... $49.95▲

## TWEEZERS

- Designed for very fine precision work on electronic assemblies
- All tweezers, except No. 4CP90, are anti-magnetic, acid-resistant and temperature-resistant to 300°C
- Erem brand




### TWEEZERS SPECIFICATIONS AND ORDERING DATA

| Key | Type | Length (In.) | Point Type | Erem Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Anti-Acid/Anti-Mag | 4½ | Micro Point | 5SA | **4CR15*** | $33.51 | **$26.85** | 0.5 |
| A | Anti-Acid/Anti-Mag | 4½ | Micro Point | 5SASL | **4CR16** | 13.71 | **10.97** | 0.5 |
| B | Anti-Acid/Anti-Mag | 4¾ | Very Fine | AASA | **4CR25** | 15.69 | **12.55** | 0.2 |
| C | Anti-Acid/Anti-Mag | 4½ | Flat & Round | 2ASA | **4CP97*** | 22.81 | **18.25** | 0.5 |
| C | Anti-Acid/Anti-Mag | 4½ | Flat & Round | 2ASASL | **4CP98** | 14.00 | **11.21** | 0.4 |
| D | Carbon Cutting | 4½ | Oblique Head | 15AGW | **4CP90** | 49.63 | **39.75** | 0.5 |
| E | Anti-Acid/Anti-Mag | 4½ | Medium | 2SASL | **4CR01** | 11.98 | **9.59** | 0.5 |
| F | Anti-Acid/Anti-Mag | 4½ | Curved | 7SA | **4CR22*** | 30.57 | **24.46** | 0.5 |
| F | Anti-Acid/Anti-Mag | 4½ | Curved | 7SASL | **4CR23** | 15.18 | **12.14** | 0.5 |
| G | Anti-Acid/Anti-Mag | 4½ | Ultra Fine | 3CSA | **4CR02*** | 19.46 | **15.57** | 0.5 |
| G | Anti-Acid/Anti-Mag | 4½ | Ultra Fine | 3CSASL | **4CR03** | 13.26 | **10.61** | 0.5 |

(*) Swiss Made

## VISE-GRIP LOCKING® WRENCHES WITH WIRE CUTTER

- Jaws lock onto three sides of a hex fastener, will not slip or mar
- Tremendous force can be applied without marring or slipping off fastener
- Adjusts to over 16 standard and metric wrench sizes; includes a wire cutter
- Jaw tips knurled for better gripping
- Vise-Grip brand

Three sizes cover a wrench size range of 1/4" (7mm) up to 1⅛" (28mm), equivalent of having over 50 different standard and metric combination wrenches.




| Description | Vise-Grip Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **4" Locking Wrench** | 4LW® | **4NV40** | $13.36 | **$9.99▲** | 0.3 |
| **7" Locking Wrench** | 7LW® | **4NV39** | 15.18 | **11.99▲** | 0.9 |
| **10" Locking Wrench** | 10LW® | **4NV38** | 18.62 | **13.99▲** | 1.4 |
| **Set of 3 Locking Wrenches(Nos. 4NV38, 4NV39, 4NV40)** | — | **4NV43** | 47.16 | **29.95▲** | 2.7 |

## 9-PC. PRECISION TOOL SET

- Stainless steel construction keeps tools corrosion-free and easy to clean
- Hardened and tempered stainless steel for strength and toughness
- Bent nose pliers for reaching around objects; long nose pliers for holding and reaching in tight areas, for bending wire; extra-long needle nose pliers for extended reach, holding in tight areas; diagonal cutters for cutting wire, soft metals; small-tipped slotted and Phillips screwdrivers for delicate and miniature-sized screws
- Westward brand

***New*** **No. 4PM19.** 9-Pc. Precision Tool Set. Shpg. wt. 1.5 lbs. List $49.80. Each ..... $39.95▲

(▲) Net prices, not subject to discounts.




## 5-PC. LOCKING PLIERS SET

- Hardened and tempered jaws for strength and durability
- Nickel-plated finish resists rust
- Spring-loaded jaw release lever and easy turning adjusting screw
- Curved jaw styles used as pipe wrench, clamp, vise, pliers, and for holding round stock
- Straight jaw styles used as clamp, vise, pliers, and wrench
- Comes in vinyl storage pouch
- Westward brand

***New*** **No. 4PM10.** 5-Pc. Locking Pliers Set. Shpg. wt. 3.8 lbs. Each ..... $34.95▲

(▲) Net prices, not subject to discounts.



*The only source you need for tools as tough as you are.*

# LOCKING PLIERS

## VISE-GRIP® STANDARD FEATURES

- Heat treated alloy steel with nickel plated finish for maximum durability
- Easy release trigger and micro-adjustment screw mechanism
- Lock to work without slipping, leaving operator's hands free
- Meet gov't spec. GGG-W-00649

## CURVED JAW LOCKING PLIERS

- Use as pipe or speed wrenches, clamps, pliers, or for holding objects
- Curved jaw adjusts on square, hex, or round objects

## CURVED JAW LOCKING PLIERS (WITH WIRE CUTTER)

- Use as wire cutters, pipe or speed wrenches, clamps, pliers, or for holding small objects
- Curved jaw adjusts on square, hex, or round objects

## LARGE JAW LOCKING PLIERS

- Jaws open up to 3⅛" for gripping large objects
- Works as a pipe/adjustable wrench, clamp or tongue & groove plier
- For removing tail pipes, freeing oil filters, gripping hoses

## STRAIGHT JAW LOCKING PLIERS

- Use to clamp wood for gluing, drilling, or nailing
- Straight jaw locks to stud bolts for easy removal and to heavy gauge wire for twisting

## LONG NOSE LOCKING PLIERS WITH WIRE CUTTER

- For hard-to-reach places, long-reach clamping, wire cutting, or as a miniature vise or wrench
- Non-slip grip at tip holds small work
- Maximum contact on square, hex, or round work

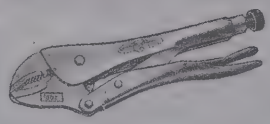
## BENT NOSE LOCKING PLIERS (WITH WIRE CUTTER)

- For hard-to-reach places
- Nose is bent at 35° angle
- Diamond cross check serrations on tips guarantee user a sure, non-slip grip at all angles

## LOCKING PINCH-OFF CLAMP

- Pinches off; locks on tubing instantly
- Designed for refrigeration industry

VISE-GRIP®



No. 6C661
Curved Jaw Locking Pliers



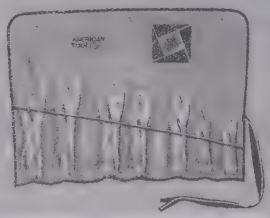
No. 2H121
Large Jaw Locking Pliers



No. 1ARW7
Bent Nose Locking Pliers with Wire Cutter



No. 1A419
Curved Jaw Locking Pliers with Wire Cutter



New

No. 4NV47
7-Pc. Locking Pliers Set



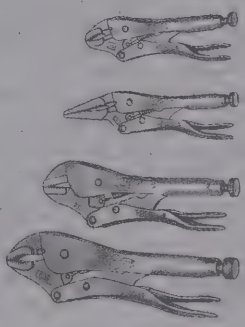
No. 3A513
Straight Jaw Locking Pliers



No. 1A422
Long Nose Locking Pliers with Wire Cutter



No. 1ATK1
Locking Pinch-Off Clamp



No. 6C667
4-Pc. Locking Pliers Set

| Size (In.) | Type | Dimensions (In.) Jaw Tip | Jaw Thickness Base | Jaw Adjustment | VISE-GRIP Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 4 | Curved | 1/8 | 13/32 | 0-15/16 | 4WR-3® | New 4NV41 | $11.89 | $8.59▲ | 0.2 |
| 5 | Curved | 1/4 | 1/4 | 0-1¼ | 5WR® | 1A419 | 12.97 | 9.49▲ | 0.4 |
| 7 | Curved | 5/16 | 5/16 | 0-1⅝ | 7WR® | 1A420 | 14.16 | 10.39▲ | 0.5 |
| 10 | Curved | 7/16 | 7/16 | 0-1⅞ | 10CR® | 6C661 | 14.78 | 10.79▲ | 1.2 |
| 10 | Curved | 7/16 | 7/16 | 0-1⅞ | 10WR® | 1A421 | 15.18 | 10.99▲ | 1.2 |
| 12 | Large Capacity | 1/2 | 1/2 | 0-1⅞ | 12LC | 2H121 | 22.54 | 16.49▲ | 1.5 |
| 7 | Straight | 1/2 | 1/2 | 0-1⅛ | 7R® | 3A512 | 13.26 | 9.59▲ | 0.9 |
| 10 | Straight | 5/8 | 5/8 | 0-5/8 | 10R® | 3A513 | 14.28 | 10.39▲ | 1.2 |
| 4 | Long Nose | 3/16 | 3/16 | 0-5/8 | 4LN-3 | New 4NV42 | 13.83 | 9.99▲ | 0.2 |
| 6 | Long Nose | 5/32 | 5/16 | * | 6LN® | 1A422 | 15.08 | 10.99▲ | 0.5 |
| 9 | Long Nose | 3/16 | 13/32 | † | 9LN® | 1A423 | 17.91 | 12.99▲ | 0.8 |
| 6 | Bent Nose | 5/32 | 5/16 | * | 6BN | 1ARW7 | 18.30 | 13.29▲ | 0.5 |
| 9 | Bent Nose | 3/16 | 13/32 | † | 9BN | 6C668 | 20.71 | 14.99▲ | 0.9 |
| 7 | Pinch-Off Clamp | 1/4 | 1/4 | 1 | RR® | 1ATK1 | 17.12 | 12.39▲ | 0.8 |
| 3-Pc. Set (Includes Nos. 1A419, 1A421 & 1A422) | | | | | 321GS | 6C666 | 43.22 | 29.95▲ | 2.0 |
| 4-Pc. Set (Includes Nos. 1A419, 6C661, 3A512 & 1A422) | | | | | 428GS | 6C667 | 56.09 | 39.95▲ | 3.0 |
| 7-Pc. Set (Includes Nos. 1A419, 6C661, 3A512, 1A422, 4NV38, 4NV39, 2H121) | | | | | 757KB | New 4NV47 | 113.71 | 79.95▲ | 6.7 |

(▲) Net prices, not subject to discounts.
(*) 0-2¼" at tip, 0-1⅝" at base. (†) 0-2⅜" at tip, 0-1⅝" at base.

# FEELER GAUGES, INSPECTION MIRROR, AND RETRIEVING TOOLS

## FEELER GAUGES

**25-Blade All-Purpose Feeler Gauge Set** contains 1/2 x 3⁵⁄₁₆"L blades in these sizes: 0.0015, 0.002, 0.003, 0.004, 0.005, 0.006, 0.007, 0.008, 0.009, 0.010, 0.011, 0.012, 0.013, 0.014, 0.015, 0.016, 0.018, 0.020, 0.022, 0.024, 0.025, 0.028, 0.030, 0.032, and 0.035". Etched with inch and metric size. Blackhawk brand (MT-1049).

**No. 1AC11.** Shpg. wt. 0.2 lbs. List $10.45. Each.....**$8.88**

**25-Blade Long Feeler Gauge Set** features 1/2 x 12"L blades in steel holder. Includes sizes: 0.0015, 0.002, 0.003, 0.004, 0.005, 0.006, 0.007, 0.008, 0.009, 0.010, 0.011, 0.012, 0.013, 0.014, 0.015, 0.016, 0.017, 0.018, 0.019, 0.020, 0.021, 0.025, 0.027, 0.030, and 0.040". Each blade has combination English and metric decimal markings. Proto brand (000TL).

**No. 5C589.** Shpg. wt. 0.8 lbs. List $38.20. Each.....**$27.90**

**22-Blade Step Cut Gauge Set** features "go and no-go" 1/2 x 3⁵⁄₁₆"L blades in steel holder. Each blade has two different thicknesses. Sizes include: 0.004/.006, 0.005/.007, 0.006/.008, 0.007/.009, 0.008/.010, 0.009/.011, 0.010/.012, 0.011/.013, 0.012/.014, 0.013/.015, 0.014/.016, 0.015/.017, 0.016/.018, 0.017/.019, 0.018/.020, 0.019/.021, 0.020/.022, 0.021/.023, 0.022/.024, 0.023/.025, 0.024/.026, and 0.025/.027". Blades are etched with both decimal size and metric equivalent. Proto brand (000N).

**No. 5C587.** Shpg. wt. 0.2 lbs. List $24.42. Each.....**$17.83**

**16-Blade Overhead Valve Gauge Set** has 1/2" wide bent gauges for setting overhead valves. Includes sizes: 0.009, 0.010, 0.011, 0.014, 0.015, 0.016, 0.017, 0.018, 0.019, 0.020, 0.021, 0.023, 0.024, 0.025, 0.026, and 0.027". Each blade is etched with both decimal size and metric equivalent. Proto brand (000R).

**No. 5C588.** Shpg. wt. 0.3 lbs. List $16.29. Each.....**$11.89**

**9-Blade Standard Feeler Gauge Set** contains 1/2 x 3¹⁄₁₆"L blades in these sizes: 0.003, 0.004, 0.005, 0.006, 0.008, 0.010, 0.012, 0.015, and 0.018". Each blade is etched with both metric and decimal equivalent. Proto brand (000A).

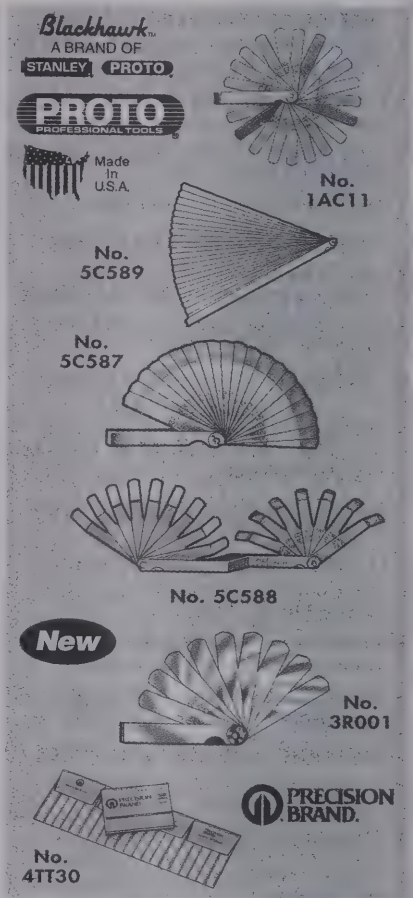
**No. 3R001.** Shpg. wt. 0.1 lbs. List $6.31. Each.....**$4.61**

**20-blade set** made from a 260 CDA Alloy material; Rockwell Hardness: 30T Scale 56-78. All blades are 5" long and 1/2" wide. 20 thicknesses per assortment; .001, .0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .012, .014, .015, .016 .018, .020, .022, .025, .030. Thickness is etched on the blades. Precision brand (76740).

***New!*** **No. 4TT30.** Shpg. wt. 0.3 lbs. List $52.52. Each.....**$35.00**

**20-blade set** made from a 300 Series Stainless Steel; Rockwell Hardness: 45-55 C Scale. All blades are 5" long and 1/2" wide. Assortment packaged in a sturdy vinyl case with individual blade pockets 20 blades/16 thicknesses per assortment; 2 each of .001, .0015, .002, .003; 1 each of .004, .005, .006, .007, .008, .009, .010, .012, .015, .020, .025, .031. Thickness is etched on blades from .001 to .031. Precision brand (77750).

***New!*** **No. 4TT31.** Shpg. wt. 0.2 lbs. List $78.78. Each.....**$55.00**




## INSPECTION MIRROR

**Double ball joint permits easy viewing** to 360°. 2¼" Mirror telescopes to 14". Specially designed non-rotating hex rod prevents mirror from swinging out of alignment. Mirror has a vinyl insulated handle. Blackhawk brand (ST-1250).

**No. 1AC09.** Shpg. wt. 0.4 lbs. List $10.10. Each.....**$8.59**

## RETRIEVING TOOLS

**Flexible Retrieving/Holding Tools** position or retrieve small metallic and nonmetallic objects. Spring-loaded plunger actuates jaws at end of flexible casing.

**Magnetic Retrieving Tools** feature all-angle ball joints. Telescoping magnetic retrieving tool, No. 5C598, extends from 16¾ to 26¾".

**Push Button Magnetic Retrieving Tool.** Push button allows reaching an object before energizing the magnet. Lifts up to 1.5 lbs.

| Description | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Flexible** | 13½ | 2344 | **5C590** | $12.09 | **$8.83** | 0.2 |
| **Flexible** | 23½ | 2345 | **5C591** | 13.98 | **10.21** | 0.3 |
| **Pocket Magnetic** | 8½ | 2376 | **5C592** | 7.11 | **5.19** | 0.1 |
| **Telescopic Magnetic** | 16¾ to 26¾ | 2375 | **5C598** | 14.78 | **10.79** | 0.4 |
| **Push Button Magnetic** | 19½ | 2377 | **1GF49** | 26.96 | **20.76** | 0.4 |

## STEEL FEELER GAGE POC-KIT® ASSORTMENTS

Made from C1095 high carbon spring steel. Hardened and tempered to RC 48-62. Feature precision tolerances. 20 thicknesses per assortment; each blade is 1/2" wide. Thickness is etched in decimal and metric on each blade. Meets FED-GGG-G-17C.

| Blade Length (In.) | Precision Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **5*** | 19740/19G20 | **4TT23** | $32.77 | **$17.00** | 0.6 |
| **12**** | 19990/19G40 | **4TT24** | 75.78 | **55.00** | 0.6 |

*Thicknesses included: .001, .0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .012, .014, .015, .016, .018, .020, .022, .024, .025.

**Thicknesses included: .001, .0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .012, .014, .015, .016, .018, .020, .022, .025, .030.

## PLASTIC THICKNESS GAGE ASSORTMENTS

13-Blade set is made of the highest quality plastic material. 1/2" blades are color-coded, and thicknesses include: .001/Amber, .0015/Purple, .002/Red, .003/Green, .004/Tan, .005/Blue, .0075/Matte, .010/Brown, .0125/Black, .015/Pink, .020/Yellow, .025/White, .031/Coral.

### PLASTIC THICKNESS GAGE FAN BLADE ASSORTMENT

| Blade Length (In.) | Precision Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **5** | 78905 | **4TT32** | $30.94 | **$23.50** | 0.1 |
| **12** | 78900 | **4TT33** | 20.02 | **15.00** | 0.1 |


*The only source you need for tools as tough as you are.*

# INSULATED PLIERS

- For a wide range of applications
- Steel alloy pliers are drop-forged, hardened, and tempered for maximum strength, problem-free performance and durability
- Each tool consists of two layers: the high-dielectric white inner layer is a thick, exceptionally tough base coating which is bonded to the tool; the outer layer is a flame-retardant, impact-resistant, bright orange color
- All Klein insulated tools comply with IEC 900 and ASTMF 1505-94 standards for insulated hand tools
- Klein insulated tools will reduce the risk of electrical shock which results from the tools making contact with energized lines or equipment with voltages up to 1000 volts when the tools are correctly used under proper conditions

"2000 SERIES"

- High leverage design
- Super tough cutting knives to cut bolts, nails, ACSR, and most hardened wire

**WARNING: Whenever possible, always de-energize lines and equipment prior to working on or around them. Klein insulated tools are designed only to reduce the chance of injury where the tool may make contact with an energized source.**

**WARNING: Always avoid bodily contact with the uninsulated portion of the tools if there is any chance that the tool will make contact with an energized source.**

**WARNING: Do NOT touch uninsulated portion of the tool or any conductive object when either might contact an energized source.**

KLEIN TOOLS

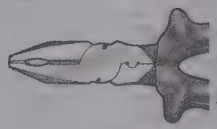
Made in U.S.A.



A High Leverage NE-type Side Cutter



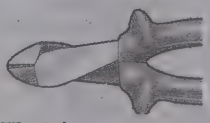
B High Leverage NE-type Side Cutter with Crimping Die



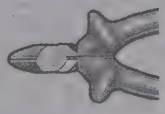
C Universal Side Cutter with Crimping Die



D High Leverage Diagonal Cutter



E High Leverage Diagonal Cutter with Angled Head



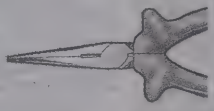
F Heavy-duty Diagonal Cutter with Tapered Nose



G Plump Pliers



H Heavy-duty Long Nose with Side Cutter



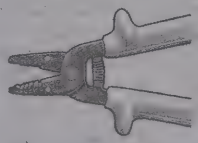
I Long Nose with Side Cutter



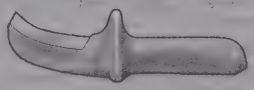
J High Leverage Cable Cutter



K Crimping Tool



L Wire-Cutter Stripper



M Lineman's Knife

| Key | Description | Klein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 9¼" High Leverage NE-Type Side Cutter | D213-9NE-INS | **1N090** | $56.64 | **$49.60** | 0.5 |
| | 9¼" High Leverage "2000 Series" NE-Type Side Cutter | D2000-9NE-INS | **1N077** | 63.66 | **55.75** | 0.5 |
| B | High Leverage NE-Type Side Cutter with Crimping Die | D213-9NE-CR-INS | **1N089** | 65.62 | **57.45** | 1.3 |
| C | Universal Side Cutter with Crimping Die | 12098-INS | **1N043** | 52.82 | **46.25** | 0.9 |
| D | 8" High Leverage Diagonal Cutter | D228-8-INS | **1N092** | 45.75 | **40.05** | 0.8 |
| | 8" High Leverage "2000 Series" Diagonal Cutter | D2000-28-INS | **1N074** | 51.84 | **45.40** | 0.8 |
| E | 8" High Leverage Diagonal Cutter with Angled Head | D248-8-INS | **1N093** | 46.55 | **40.75** | 0.8 |
| | 8" High Leverage "2000 Series" Diagonal Cutter with Angled Head | D2000-48-INS | **1N075** | 53.33 | **46.70** | 0.1 |
| F | 7¹⁵⁄₁₆" Heavy-duty Diagonal Cutter with Tapered Nose | D220-7-INS | **1N091** | 45.91 | **40.20** | 0.5 |
| G | 10" Pump Pliers | D502-10-INS | **1N095** | 50.48 | **44.20** | 0.5 |
| | 12" Pump Pliers | D502-12-INS | **1N096** | 57.02 | **49.90** | 2.0 |
| H | Heavy-duty Long Nose with Side Cutters | D203-8-INS | **1N086** | 51.02 | **44.65** | 0.5 |
| | Heavy-duty Long Nose with Side Cutters & Skinning Hole | D203-8N-INS | **1N087** | 52.53 | **46.00** | 0.8 |
| I | 6⅝" Standard Long Nose with Side Cutters | D203-6-INS | **1N084** | 39.17 | **34.30** | 1.0 |
| | 7⅛" Standard Long Nose with Side Cutters | D203-7 INS | **1N085** | 43.75 | **38.30** | 0.3 |
| J | High Leverage Cable Cutter | 63050-INS | **1N067** | 58.02 | **50.80** | 1.1 |
| K | Crimping Tool for Insulated and Noninsulated Terminals and Connectors | 1005 INS | **1N041** | 53.93 | **47.20** | 1.1 |
| L | Wire Stripper-Cutter | 11-45-INS | **1N042** | 38.95 | **34.10** | 0.2 |
| M | Lineman's Skinning Knife | 1570-3LR-INS | **1N044** | 41.22 | **36.10** | 0.4 |

# INSULATED SCREWDRIVERS AND NUT DRIVERS

- Insulated tools comply with IEC 900 and ASTMF 1505-94 standards for insulated hand tools
- Insulated tools will reduce the risk of electrical shock which results from the tools making contact with energized lines or equipment with voltages up to 1000 volts when the tools are correctly used under proper conditions
- Each tool consists of two layers: the high-dielectric white inner layer is a thick, exceptionally tough base coating which is bonded to the tool; the outer layer is a flame-retardant, impact-resistant, bright orange color

## INSULATED CUSHION-GRIP SCREWDRIVERS

- Made of highest quality tempered steel, heat-treated for maximum strength
- Shafts will not bend or twist in normal use
- Shafts have integral flanges that provide an extra-strong, torque-proof anchor in handle
- Strong, durable black tips are precision forged and ground with square edges to fit screw openings securely and to resist slippage while providing positive turning action
- Insulated Cushion-Grip screwdrivers feature super-comfortable, sure-grip handles

## INSULATED CUSHION-GRIP NUT DRIVERS

- Made of heat-treated and tempered steel
- Blades are fully chrome plated
- Super-comfortable handle grips with cushion sleeve
- Deep-ribbed design and cushioning action permit maximum turning power without discomfort
- Shank has integral flanges to provide a solid, torque-proof anchor deep in the plastic handle
- Full-length insulated hollow shaft fits over long screws
- Handle caps are color-coded for easy identification of hex size

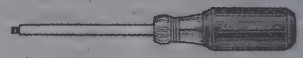
KLEIN TOOLS

**LIFETIME LIMITED WARRANTY**
All Klein Tools are warranted to the original user for the life of the product.
Text of warranty available; see page opposite inside back cover.

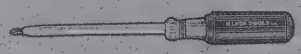
Made in U.S.A.



No. 1N053
Keystone-Tip Screwdriver



No. 1N049
Cabinet-Tip Screwdriver



No. 1N055
Phillips-Tip Screwdriver



No. 1N071
Square Recess-Tip Screwdriver



No. 1N058
Nut Driver

| Tip Size / Type | Shank Shape | Shank Length (In.) | Klein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **HEAVY-DUTY KEYSTONE-TIP SCREWDRIVERS** | | | | | | | |
| **1/4" Keystone** | Round | 4 | 602-4-INS | **1N053** | $17.93 | **$15.69** | 0.3 |
| **5/16" Keystone** | Round | 6 | 602-6-INS | **1N054** | 19.24 | **16.84** | 0.4 |
| **3/8" Keystone** | Round | 10 | 602-10-INS | **1N052** | 24.93 | **21.82** | 0.1 |
| **CABINET-TIP SCREWDRIVERS** | | | | | | | |
| **3/16" Cabinet** | Round | 4 | 601-4-INS | **1N049** | 16.73 | **14.64** | 0.2 |
| **3/16" Cabinet** | Round | 6 | 601-6-INS | **1N050** | 17.33 | **15.17** | 0.2 |
| **3/16" Cabinet** | Round | 8 | 601-8-INS | **1N051** | 17.73 | **15.52** | 0.3 |
| **SPECIAL PROFILATED PHILLIPS SCREWDRIVER** | | | | | | | |
| **No. 1 Phillips** | Round | 3 | 603-3-INS | **1N055** | 16.40 | **14.35** | 0.2 |
| **No. 2 Phillips** | Round | 4 | 603-4-INS | **1N056** | 17.51 | **15.32** | 0.1 |
| **No. 3 Phillips** | Round | 6 | 603-6-INS | **1N057** | 20.13 | **17.62** | 0.4 |
| **SQUARE RECESS-TIP SCREWDRIVER** | | | | | | | |
| **No. 2 Square Recess** | Round | 8 | 666-INS | **1N071** | 17.33 | **15.17** | 0.5 |

## INDIVIDUAL NUT DRIVERS

| Hex Size (In.) | Shank Length (In.) | Color Code | Klein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/16** | 3 | Black | 630-3/16-INS | **1N061** | $15.62 | **$13.67** | 0.1 |
| **1/4** | 3 | Red | 630-1/4-INS | **1N059** | 15.73 | **13.77** | 0.2 |
| **5/16** | 3 | Yellow | 630-5/16-INS | **1N063** | 15.80 | **13.83** | 0.1 |
| **11/32** | 3 | Green | 630-11/32-INS | **1N060** | 17.42 | **15.24** | 0.1 |
| **3/8** | 3 | Blue | 630-3/8-INS | **1N062** | 15.93 | **13.94** | 0.3 |
| **7/16** | 3 | Brown | 630-7/16-INS | **1N065** | 18.97 | **16.61** | 0.3 |
| **1/2** | 3 | Red | 630-1/2-INS | **1N058** | 18.93 | **16.57** | 0.1 |
| **9/16** | 4 | Orange | 630-9/16-INS | **1N066** | 21.08 | **18.45** | 0.1 |
| **5/8** | 4 | Yellow | 630-5/8-INS | **1N064** | 21.20 | **18.55** | 0.1 |

**WARNING: Whenever possible, always de-energize lines and equipment prior to working on or around them. Klein insulated tools are designed only to reduce the chance of injury where the tool may make contact with an energized source.**

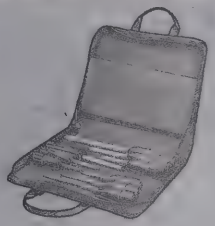
**WARNING: Always avoid bodily contact with the uninsulated portion of the tools if there is any chance that the tool will make contact with an energized source.**

**WARNING: Do NOT touch uninsulated portion of the tool or any conductive object when either might contact an energized source.**

# INSULATED TOOL KITS

KLEIN TOOLS

Made In U.S.A.



No. 1N048
9-Pc. Cushion-Grip Screwdriver Kit



No. 1N046
8-Pc. Basic Tool Kit



No. 1N047
22-Pc. General Purpose Tool Kit

## 9-PC. INSULATED CUSHION-GRIP SCREWDRIVER KIT

Insulated screwdriver assortment with three sizes of each tip style: cabinet, keystone, and Phillips. Screwdrivers come in a highly-durable, black, Cordura® case with a coil-zipper closure, polypropylene handles, and custom-fitted tool pockets. Extra pocket provided for storage of other items. Overall case dimensions: 15½W x 11D x 2½"H. Klein brand (33528).

**No. 1N048.** Shpg. wt. 5.4 lbs. List $283.55. Each.....**$248.25**

| Stock No. | Klein Model | Description |
|---|---|---|
| 1N049 | 601-4-INS | Round shank 3/16 x 4" cabinet-tip screwdriver |
| 1N050 | 601-6-INS | Round shank 3/16 x 6" cabinet-tip screwdriver |
| 1N051 | 601-8-INS | Round shank 3/16 x 8" cabinet-tip screwdriver |
| 1N053 | 602-4-INS | Heavy-duty round shank 1/4 x 4" keystone-tip screwdriver |
| 1N054 | 602-6-INS | Heavy-duty round shank 5/16 x 6" keystone-tip screwdriver |
| 1N052 | 602-10-INS | Heavy-duty round shank 3/8 x 10" keystone-tip screwdriver |
| 1N055 | 603-3-INS | Round shank No. 1 Phillips-tip screwdriver |
| 1N056 | 603-4-INS | Round shank No. 2 Phillips-tip screwdriver |
| 1N057 | 603-6-INS | Round shank No. 3 Phillips-tip screwdriver |
| — | 33538 | Custom-fitted, highly durable case |

## 8-PC. INSULATED BASIC TOOL KIT

Compact assortment of eight popular insulated tools in a durable, black, Cordura® case that has a coil-zipper closure, polypropylene handles, and custom-fitted tool pockets. Overall case dimensions: 15½W x 11D x 2½"H. Klein brand (33526).

**No. 1N046.** Shpg. wt. 6.7 lbs. List $440.00. Each.....**$385.00**

| Stock No. | Klein Model | Description |
|---|---|---|
| 1N090 | D213-9NE-INS | 9" NE-Type side-cutting pliers |
| 1N092 | D228-8-INS | 8" Diagonal-cutting pliers |
| 1N087 | D203-8N-INS | Heavy-duty long nose pliers w/ side-cutters & skinning hole |
| 1N050 | 601-6-INS | Round shank cabinet-tip 3/16 x 6" screwdriver |
| 1N053 | 602-4-INS | Heavy-duty round shank keystone-tip 1/4 x 4" screwdriver |
| 1N056 | 603-4-INS | Round shank No. 2 Phillips-tip screwdriver |
| 1N067 | 63050-INS | High-leverage cable cutter |
| 1N042 | 11045-INS | Wire stripper-cutter |
| — | 33536 | Custom-fitted, highly durable case |

### LIFETIME LIMITED WARRANTY

**All Klein tools are warranted to the original user for the life of the product.**
**Text of warranty available; see page opposite inside back cover.**

## 22-PC. INSULATED GENERAL-PURPOSE TOOL KIT

Comprehensive assortment of insulated tools in an extra-sturdy, bright yellow case with custom-fitted pockets for each tool, extra storage space for accessories. Piano-hinged cover has a combination lock and two key-locked latches for security. Overall case dimensions: 18⅞W x 15⅜D x 8¼"H. Klein brand (33527).

**No. 1N047.** Shpg. wt. 26.0 lbs. List $1152.22. Each.....**$1009.00**

| Stock No. | Klein Model | Description |
|---|---|---|
| 1N077 | D2000-9NE-INS | NE-Type side-cutting pliers with cutting knives |
| 1N074 | D2000-28-INS | Diagonal-cutting pliers with cutting knives |
| 1N075 | D2000-48-INS | Diagonal-cutting pliers with angled head, cutting knives |
| 1N087 | D203-8N-INS | Heavy-duty long nose pliers w/side cutters & skinning hole |
| 1N091 | D220-7-INS | Heavy-duty diagonal-cutting pliers with tapered nose |
| 1N084 | D203-6-INS | Long nose pliers with side cutters |
| 1N085 | D203-7-INS | Long nose pliers with side cutters |
| 1N049 | 601-4-INS | Round shank 3/16 x 4" cabinet-tip screwdriver |
| 1N050 | 601-6-INS | Round shank 3/16 x 6" cabinet-tip screwdriver |
| 1N051 | 601-8-INS | Round shank 3/16 x 8" cabinet-tip screwdriver |
| 1N053 | 602-4-INS | Heavy-duty round shank 1/4 x 4" keystone-tip screwdriver |
| 1N054 | 602-6-INS | Heavy-duty round shank 5/16 x 6" keystone-tip screwdriver |
| 1N052 | 602-10-INS | Heavy-duty round shank 3/8 x 10" keystone-tip screwdriver |
| 1N055 | 603-3-INS | Round shank No. 1 Phillips-tip screwdriver |
| 1N056 | 603-4-INS | Round shank No. 2 Phillips-tip screwdriver |
| 1N057 | 603-6-INS | Round shank No. 3 Phillips-tip screwdriver |
| 1N095 | D502-10-INS | 10" Pump pliers |
| 1N096 | D502-12-INS | 12" Pump pliers |
| 1N042 | 11045-INS | Wire stripper-cutter |
| 1N067 | 63050-INS | High-leverage cable cutter |
| 1N044 | 1570-3LR-INS | Lineman's plastic-handle skinning knife without handle ring |
| 1N041 | 1005-INS | Crimping tool |
| — | 33537 | Custom-fitted, heavy-duty case |

**WARNING: Whenever possible, always de-energize lines and equipment prior to working on or around them. Klein insulated tools are designed only to reduce the chance of injury where the tool may make contact with an energized source.**

**WARNING: Always avoid bodily contact with the uninsulated portion of the tools if there is any chance that the tool will make contact with an energized source.**

**WARNING: Do NOT touch uninsulated portion of the tool or any conductive object when either might contact an energized source.**

## DON'T FORGET THE BACK OF THE BOOK!
## MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# ELECTRONICS TOOL KITS

- For technicians, servicemen, and field engineers
- Each kit contains an assortment of top quality Xcelite professional hand tools neatly mounted in pockets, plus generous space for individualized selection of other tools

## 86-PC. TOOL KIT WITH BLACK CORDURA® CASE

- Long-lasting wear-resistant black Cordura fabric resists nicks and scrapes
- Three outside pockets can be used for service manuals
- Heavy-duty zipper is reinforced for long life
- Case dimensions: 19½ x 13½ x 6¾"

**No. 6C382.** 86-Pc. Tool Kit with Black Cordura Case (TCS-100/ST). Shpg. wt. 16.0 lbs. List $885.54. Each.....$664.50

**No. 6C482.** Black Cordura Case Only (TCS-100/MT). Shpg. wt. 5.0 lbs. List $203.70. Each.....$163.00

## 86-PC. TOOL KIT WITH BLACK POLYETHYLENE CASE

- Tough black polyethylene case resists dents and scratches
- Room for service manuals and technical bulletins
- "Positive locking" hinges prevent top pallet from falling over
- Full length piano-style hinge allows secure operation
- Case dimensions: 19½ x 13½ x 6¾"

**No. 6C380.** 86-Pc. Tool Kit with Black Polyethylene Case (TCMB-100/ST). Shpg. wt. 23.0 lbs. List $987.67. Each.....$741.00

**No. 6C481.** Black Polyethylene Case Only (TCMB-100/MT). Shpg. wt. 15.0 lbs. List $306.89. Each.....$245.75




## INDIVIDUAL XCELITE® TOOLS

ALL TOOLS LISTED BELOW ARE INCLUDED IN 86-Pc. TOOL KITS Nos. 6C382 AND 6C380.

| Description | Xcelite Model |
|---|---|
| **Regular Handle** | 99-1 |
| **Regular Ratchet Handle** | 99-1-R |
| **Tee Ratchet Handle** | 99-4-R |
| **4" Extension** | 99-X5 |
| **7" Extension** | 99-X10 |
| **4" Reamer** | 99-38 |
| **1/8 x 4" Slotted Screwdriver** | 99-125 |
| **3/16 x 4" Slotted Screwdriver** | 99-811 |
| **1/4 x 4" Slotted Screwdriver** | 99-250 |
| **5/16 x 4" Slotted Screwdriver** | 99-312 |
| **No. 0, 4" Phillips** | 99-820 |
| **No. 1, 4" Phillips** | 99-821 |
| **No. 2, 4" Phillips** | 99-822 |
| **Bristol Multiple Spline Blades** | |
| **0.048 x 4", 6 Flute** | 99-61 |
| **0.060 x 4", 6 Flute** | 99-62 |
| **0.069 x 4", 6 Flute** | 99-63 |
| **0.072 x 4", 6 Flute** | 99-64 |
| **0.076 x 4", 6 Flute** | 99-65 |
| **0.096 x 4", 6 Flute** | 99-66 |
| **0.111 x 4", 6 Flute** | 99-67 |
| **0.145 x 4", 6 Flute** | 99-68 |
| **0.183 x 4", 6 Flute** | 99-69 |
| **Hex Key Blades** | |
| **0.050 x 4"** | 99-20 |
| **1/16 x 4"** | 99-21 |
| **5/64 x 4"** | 99-22 |
| **3/32 x 4"** | 99-23 |
| **1/8 x 4"** | 99-24 |
| **5/32 x 4"** | 99-25 |
| **3/16 x 4"** | 99-26 |
| **7/64 x 4"** | 99-764 |
| **9/64 x 4"** | 99-964 |
| **Straight Nose Seizer** | 42-H |
| **6" Adjustable Wrench** | 46CG |
| **5" Midget Slip Joint Pliers** | 50CG |
| **6" Long Nose Pliers** | 51CG |
| **7" Tongue & Groove Pliers** | 53CG |
| **4" Diagonal Pliers** | 54CG |
| **6" Diagonal Pliers** | 66CG |
| **5½" Needle Nose Pliers with Coil Spring** | 57CG |
| **8" Chain Nose Pliers** | 59CG |
| **Electronic Snips** | 86CG |
| **Wire Stripper / Cutter** | 103-S |
| **Electrician's Knife** | K-22 |

| Description | Xcelite Model |
|---|---|
| **7-Pc. Mini-Driver Kit** | M60 |
| **5-Pc. Offset Ratchet Screwdriver Set** | XL-75 |
| **Combination Screwdriver/Nut Driver** | 600 |
| **1/4 x 4" Slotted Screwdriver** | R144 |
| **1/4 x 6" Slotted Screwdriver** | R146 |
| **1/8 x 2" Slotted Screwdriver** | R181 |
| **1/8 x 4" Slotted Screwdriver** | R184 |
| **3/16 x 4" Slotted Screwdriver** | R3164 |
| **3/16 x 6" Slotted Screwdriver** | R3166 |
| **3/32 x 3" Slotted Pocket Clip Screwdriver** | R3323 |
| **5/32 x 5" Slotted Screwdriver** | R5325 |
| **3/8 x 8" Slotted Screwdriver** | S388 |
| **3/16" Stubby Screwdriver** | S3161 |
| **5/16" Stubby Screwdriver** | S516 |
| **5/16 x 6" Slotted Screwdriver** | S5166 |
| **No. 1 Stubby Screwdriver** | SX-101 |
| **No. 0, 2" Phillips Screwdirver** | XST-100 |
| **No. 1, 3" Phillips Screwdriver** | XST-101 |
| **No. 2, 4" Phillips Screwdriver** | XST-102 |
| **0.028" Hex Socket Screwdriver** | P18 |
| **0.035" Hex Socket Screwdiver** | P19 |
| **Hollow Shaft Nut Drivers** | |
| **3/16 x 3 1/8"** | HS6 |
| **1/4 x 3 1/8"** | HS8 |
| **5/16 x 3 1/8"** | HS10 |
| **11/32 x 3 1/8"** | HS11 |
| **3/8 x 3 1/8"** | HS12 |
| **71/6 x 3 1/8"** | HS14 |
| **1/2 x 3 1/8"** | HS16 |
| **9/16 x 3 1/8"** | HS18 |
| **1/4 x 3" Magnetic Nut Driver** | 8M |
| **5/16 x 3" Magnetic Nut Driver** | 10M |
| **3/32" Midget Nut Driver** | P3 |
| **1/8" Midget Nut Driver** | P4 |
| **5/32" Midget Nut Driver** | P5 |
| **3/16" Midget Nut Driver** | P6 |
| **7/32" Midget Nut Driver** | P7 |
| **1/4" Midget Nut Driver** | P8 |
| **9/32" Midget Nut Driver** | P9 |
| **5/16" Midget Nut Driver** | P10 |
| **11/32" Midget Nut Driver** | P11 |
| **3/8" Midget Nut Driver** | P12 |
| **Torque Amplifier Handle** | TA-2 |



The only source you need for tools as tough as you are.

# ELECTRONICS TOOL KITS

- For technicians, servicemen, and field engineers
- Each kit contains an assortment of top quality Xcelite professional hand tools neatly mounted in pockets, plus generous space for individualized selection of test instruments, parts boxes, Weller® soldering iron, Xcelite measuring tapes, and other tools

## 52-PC. TOOL KIT WITH BLACK CORDURA® CASE

- Long lasting wear resistant black Cordura fabric resists nicks and scrapes
- Three outside pockets can be used for service manuals
- Heavy-duty zipper is reinforced for long life
- Case dimensions: 18½ x 13½ x 5"

**No. 6C383.** 52-Pc. Tool Kit with Cordura Case (TCS-150/ST). Shpg. wt. 18.0 lbs. List $659.21. Each.....$494.50

**No. 6C484.** Black Cordura Case Only (TCMB-150/ST). Shpg. wt. 4.5 lbs. List $127.71. Each.....$102.20

## 52-PC. TOOL KIT WITH BLACK POLYETHYLENE CASE

- Tough black polyethylene case resists dents and scratches
- Room is provided for service manuals and technical bulletins
- "Positive locking" hinges secure top pallet to prevent falling over
- Full length piano-style hinge allows secure operation
- Case dimensions: 18½ x 13½ x 5"

**No. 6C381.** 52-Pc. Tool Kit with Polyethylene Case (TCMB-150/ST). Shpg. wt. 17.0 lbs. List $785.74. Each.....$589.50

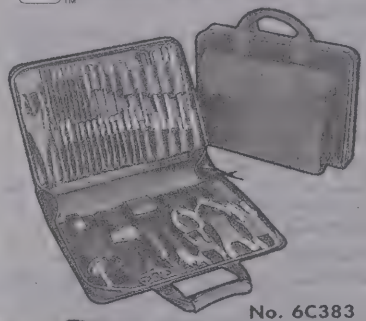
**No. 6C483.** Black Polyethylene Case Only (TCMB-150/ST). Shpg. wt. 11.0 lbs. List $254.24. Each.....$203.50

Xcelite®

Replacement Parts Available 1-800-323-0620

COOPER Tools

Made in U.S.A.



No. 6C383
52-Pc. Tool Kit with Black Cordura Fabric Case



No. 6C381
52-Pc. Tool Kit with Black Polyethylene Case

**LIFETIME LIMITED WARRANTY**

All Cooper Tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.

| Description | Xcelite Model |
|---|---|
| Regular Handle | 99-1 |
| Tee Ratchet Handle | 99-4-R |
| 4" Extension | 99-X5 |
| 4" Reamer | 99-38 |
| 3/16 x 4" Slotted Screw Blade | 99-811 |
| 1/4 x 4" Slotted Screw Blade | 99-250 |
| No. 1, 4" Phillips Screw Blade | 99-821 |
| No. 2, 4" Phillips Screw Blade | 99-822 |
| Hex Key Blades | |
| 0.050 x 4" | 99-20 |
| 1 / 16 x 4" | 99-21 |
| 5 / 64 x 4" | 99-22 |
| 3 / 32 x 4" | 99-23 |
| 1 / 8 x 4" | 99-24 |
| 5 / 32 x 4" | 99-25 |
| 3 / 16 x 4" | 99-26 |
| 7 / 64 x 4" | 99-764 |
| 9 / 64 x 4" | 99-964 |
| 3 / 16 x 3⅝" Hex Nut Driver Blade | 99-6 |
| 7 / 32 x 3⅝" Hex Nut Driver Blade | 99-7 |
| 1 / 4 x 3⅝" Hex Nut Driver Blade | 99-8 |
| 9 / 32 x 3⅝" Hex Nut Driver Blade | 99-9 |
| 5 / 16 x 3⅝" Hex Nut Driver Blade | 99-10 |
| 11 / 32 x 3⅝" Hex Nut Driver Blade | 99-11 |
| 3 / 8 x 3⅝" Hex Nut Driver Blade | 99-12 |
| Straight Nose Seizer | 42-H |
| 6" Adjustable Wrench | 46CG |

| Description | Xcelite Model |
|---|---|
| 5" Midget Slip Joint Pliers | 50CG |
| 6" Long Nose Pliers | 51CG |
| 7" Tongue & Groove Pliers | 53CG |
| 4" Diagonal Pliers | 54CG |
| 5" Diagonal Pliers | 55CG |
| 5½" Needle Nose Pliers w/Coil Spring | 57CG |
| 8" Chain Nose Pliers | 59CG |
| Electronic Snips | 86CG |
| Wire Stripper | 101-S |
| Electrician's Knife | K-22 |
| 5-Pc. Offset Ratchet Screwdriver Set | XL-75 |
| Combination Screwdriver/Nut Driver | 600 |
| 1 / 8 x 2" Slotted Screwdriver | R181 |
| 1 / 8 x 4" Slotted Screwdriver | R184 |
| 3 / 16 x 4" Slotted Screwdriver | R3164 |
| 3 / 32 x 3" Slotted Pocket Clip Screwdriver | R3323 |
| 3 / 16" Stubby Screwdriver | S3161 |
| 5 / 16 x 6" Stubby Screwdriver | S5166 |
| No. 1 Stubby Screwdriver | SX-101 |
| 7 / 16 x3⅛ Hollow Shaft Nut Driver | HS14 |
| 1 / 2 x 3⅛" Hollow Shaft Nut Driver | HS16 |
| 1 / 4 x 3" Magnetic Nut Driver | 8M |
| 5 / 16 x 3" Magnetic Nut Driver | 10M |
| 10-Ft. Tape Measure | W9210ME |
| Weller 25W Soldering Iron | 1P25P |
| Rosin Core Solder | RC-60 |

YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

HAND TOOLS: CUTTERS

# BOLT CUTTERS

## STANDARD FEATURES

- Toggle joints turn 50 lbs. hand pressure to 4000 lbs. cutting pressure
- Rubber grips
- Drop-forged jaws with center cut blades; heat-treated for long cutting life
- Lockplate (on fiberglass and steel handle models) realigns edges

**STEEL HANDLE MODELS**

- Cuts soft, medium, hard materials
- Maximum hardness of materials to be cut: Brinnell 455/Rockwell C48

**ALUMINUM HANDLE MODELS**

- Cuts soft, medium/hard materials
- Maximum hardness of materials to be cut: Brinnell 300/Rockwell C31
- Capacity gauges built in handles eliminate guesswork

**FIBERGLASS HANDLE MODELS**

- Cuts soft, medium, hard materials
- Maximum hardness of materials to be cut: Brinnell 455/Rockwell C48

H.K. PORTER COOPER Tools

Made in U.S.A.



No. 2H053 Bolt Cutter with Steel Handle



No. 2H051 Bolt Cutter with Aluminum Handle



No. 2G976 Bolt Cutter with Fiberglass Handle

## BOLT CUTTERS—STEEL HANDLES

| Length (In.) | Soft & Med/Hard Materials Up to Brinnell 300 Rockwell C31 Diameter In. | mm | Hard Materials Up to Brinnell 45 Rockwell C48 Diameter In. | mm | HK Porter Model | Stock No. | List | Each | Shpg. Wt. | REPLACEMENT CUTTER HEAD HK Porter Model | Stock No. | List | Each | REPLACEMENT JAWS HK Porter Model | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14** | 5/16 | 8 | 3/16 | 5 | 1490MC | **2H053** | $94.99 | **$69.95▲** | 2.9 | 1413C | **2H049** | $62.37 | **$53.05** | 1412C | **2H045** | $52.55 | **$44.70** |
| **18** | 3/8 | 10 | 1/4 | 6 | 0090MC | **2G978** | 100.44 | **74.95▲** | 3.7 | 0013C | **2G972** | 66.52 | **56.55** | 0012C | **2G968** | 54.96 | **46.75** |
| **24** | 7/16 | 11 | 5/16 | 8 | 0190MC | **2G994** | 116.04 | **82.95▲** | 6.1 | 0113C | **2G986** | 80.45 | **68.40** | 0112C | **2G980** | 57.44 | **48.85** |
| **30** | 1/2 | 13 | 3/8 | 10 | 0290MC | **2H013** | 142.68 | **99.00▲** | 9.5 | 0213C | **2H003** | 101.57 | **86.35** | 0212C | **2G998** | 71.50 | **60.80** |
| **36** | 9/16 | 14 | 7/16 | 11 | 0390MC | **2H023** | 171.11 | **125.00▲** | 15.0 | 0313C | **2H017** | 113.36 | **96.40** | 0312C | **2H015** | 91.96 | **78.20** |
| **42** | 11/16 | 18 | 1/2 | 13 | 0590MC | **2H035** | 229.11 | **169.00▲** | 18.0 | 0513C | **2H029** | 133.85 | **113.80** | 0512C | **2H025** | 107.58 | **91.45** |

## BOLT CUTTERS—ALUMINUM HANDLES

| Length (In.) | Soft & Med/Hard Materials Up to Brinnell 300 Rockwell C31 Diameter In. | mm | Med/Hard Materials Up to Brinnell 300 Rockwell C31 Diameter In. | mm | HK Porter Model | Stock No. | List | Each | Wt. | REPLACEMENT CUTTER HEAD AND JAWS HK Porter Model | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14** | 5/16 | 8 | 1/4 | 6 | 1490AC | **2H051** | $49.92 | **$34.95▲** | 2.1 | 1413AC | **2H047** | $29.05 | **$24.70** |
| **18** | 3/8 | 10 | 5/16 | 6 | 0090AC | **2G974** | 62.15 | **44.95▲** | 3.1 | 0013AC | **2G970** | 31.95 | **27.20** |
| **24** | 7/16 | 11 | 3/8 | 8 | 0190AC | **2G990** | 84.17 | **59.95▲** | 5.0 | 0113AC | **2G984** | 34.27 | **29.15** |

## BOLT CUTTERS—FIBERGLASS HANDLES

| Length (In.) | Soft & Med/Hard Materials Up to Brinnell 300 Rockwell C31 Diameter In. | mm | Hard Materials Up to Brinnell 455 Rockwell C48 Diameter In. | mm | HK Porter Model | Stock No. | List | Each | Shpg. Wt. | REPLACEMENT CUTTER HEAD HK Porter Model | Stock No. | List | Each | REPLACEMENT JAWS HK Porter Model | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18¼** | 3/8 | 10 | 1/4 | 6 | 0090FC | **2G976** | $153.50 | **$109.00▲** | 0.8 | 0013C | **2G972** | $66.52 | **$56.55** | 0012C | **2G968** | $54.96 | **$46.75** |
| **24½** | 7/16 | 11 | 5/16 | 8 | 0190FC | **2G992** | 181.49 | **129.00▲** | 5.7 | 0113C | **2G986** | 80.45 | **68.40** | 0112C | **2G980** | 57.44 | **48.85** |
| **30½** | 1/2 | 13 | 3/8 | 10 | 0290FC | **2H007** | 212.67 | **155.00▲** | 6.3 | 0213C | **2H003** | 101.57 | **86.35** | 0212C | **2G998** | 71.50 | **60.80** |
| **36½** | 9/16 | 14 | 7/16 | 11 | 0390FC | **2H021** | 254.38 | **185.00▲** | 15.0 | 0313C | **2H017** | 113.36 | **96.40** | 0312C | **2H015** | 91.96 | **78.20** |

## 2-PC. BOLT CUTTER SET

- Hardened and tempered steel jaws
- Compound cutting action for increased power
- Adjusting screw realigns cutting edges
- Non-slip rubber grip handles
- Cuts soft to medium-hard materials
- 14" Cutter cuts up to 1/4" rod; 18" cutter up to 5/16" rod
- Westward brand

***New*** **No. 4PL93.** Shpg. wt. 5.4 lbs. List $69.60. Each ..... **$49.95▲**

(▲) Net prices, not subject to discounts.

WESTWARD™

New





*The only source you need for tools as tough as you are.*

# CABLE CUTTERS

## SHEAR-TYPE CABLE CUTTERS

- No. 2G996 for wire rope to 3/8" (10mm); No. 2H039 for wire rope to 3/4" (19mm)
- Notched, shear-cut blades hold and lock cable in cutting position
- Cuts steel cable, coarse- or fine-stranded cable, or wire rope
- Toggle joints turn 50 lbs. hand pressure to 4000 lbs. cutting pressure
- Screw-type adjustment realigns edges

| Description | HK Porter Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **24" Shear Type Cable Cutter** | 0190MTN | **2G996** | $175.27 | **$149.00** | 5.6 |
| **Replacement Cutterhead for No. 2G996** | 0113TN | **2G988** | 115.44 | **98.15** | 1.9 |
| **Replacement Jaws for No. 2G996** | 0112TN | **2G982** | 102.76 | **87.35** | 1.4 |
| **42" Shear Type Cable Cutter** | 0590MTN | **2H039** | 296.69 | **252.25** | 18.0 |
| **Replacement Cutterhead for No. 2H039** | 0513TN | **2H031** | 179.64 | **152.75** | 4.2 |
| **Replacement Jaws for No. 2H039** | 0512TN | **2H027** | 148.87 | **126.55** | 3.7 |

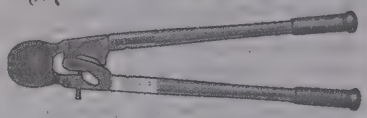
## RATCHET-TYPE HARD CABLE CUTTER

- 1-3/16" (30mm) capacity
- Jaw keeper prevents jaws from spreading while under heavy load
- Shear-cut blades
- Ratchet and chain increase cutting pressure as handles open, close
- Cuts hard cable, ACSR, ACAR, and self-supporting telephone cable with minimal distortion
- Moderate pressure needed to open and close handles
- Can be used effectively with short strokes in confined spaces
- Increased mechanical advantage over manual cutters

| Description | HK Porter Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **29¼" Ratchet Type, Hard Cable Cutter** | 8690FH | **2H089** | $523.54 | **$445.25** | 11.0 |
| **Replacement Cutterhead for No. 2H089** | 8613FH | **2H081** | 204.61 | **174.00** | 3.6 |
| **Replacement Jaws for No. 2H089** | 8612FH | **2H077** | 172.17 | **146.35** | 3.5 |

**H. K. PORTER**

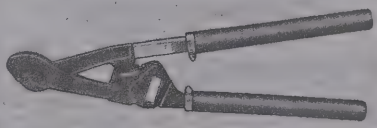
Made in U.S.A. **COOPER** Tools



No. 2G996
Shear-Type Cable Cutter



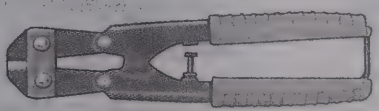
No. 2H093
Ratchet-Type Wire Rope Cutter



No. 2H089
Ratchet-Type Hard Cable Cutter

## WIRE CUTTER

**H. K. PORTER**



No. 2H097

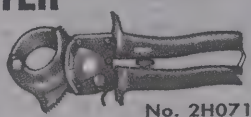
- Center-cut blades
- Cuts hard wire
- Maximum hardness of material to be cut: 115,000 tensile hard wire
- HK Porter brand (PWC-9)

**No. 2H097.** Shpg. wt. 0.7 lbs. List $16.93. Each ..... $11.95▲

(▲) Net prices, not subject to discounts.

## SOFT CABLE CUTTERS

**H. K. PORTER**



No. 2H071

- 1-handed operation allows cutting in confined spaces
- No. 2H071 has a 600 MCM capacity, No. 2H073 has a 750 MCM capacity; cuts copper and aluminum cleanly, leaves no burrs or sharp edges
- Ratchet-type jaws with shear-cut blades
- Quick release allows discontinuation of cutting without completing the full cutting cycle
- HK Porter brand

**No. 2H071.** 9" Cable Cutter (3590FS). Shpg. wt. 1.3 lbs.
List $237.82. Each ..... $202.25

**No. 2H073.** 10½" Cable Cutter (5090FS). Shpg. wt. 2.8 lbs.
List $307.09. Each ..... $261.25

THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.

It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.

# CABLE CUTTERS

## SOFT CABLE CUTTER

- 19" compact, lightweight cutter for confined spaces
- Cuts aluminum (795MCM), copper (750MCM), and communications cable to 1 3/16" (30mm)
- Ratchet-type jaws with shear-cut blades grip and hold while moderate pumping action cuts cable
- Leaves no burrs or sharp edges; both blades cut
- Fiberglass handles with non-slip, plastic grips
- Cutter has self-lubricating ratchet—6 moving parts
- HK Porter brand (6990FSL)

**No. 2H075.** Shpg. wt. 4.5 lbs. List .....$344.15. Each.....**$292.75**

## SOFT CABLE CUTTER

- 27½" Cutter cuts copper, aluminum communications, and power cable up to 2", including rubber- or lead-covered cable
- Jaw keeper prevents jaws from spreading while under heavy load
- Ratchet mechanism provides as much as 5X mechanical advantage over manual cutters
- Cuts all types of copper and aluminum cables up to 2500MCM
- HK Porter brand (8690FSK)

**No. 2H091.** Shpg. wt. 13.0 lbs. List $521.11. Each.....**$443.00**

**REPLACEMENT CUTTERHEAD FOR NO. 2H091**

**No. 2H083.** (8613FSK) Shpg. wt. 3.1 lbs. List $170.59. .....Each **$145.05**

## COMPACT ELECTRIC CABLE CUTTER

**High-leverage jaws** with shear-cut blades and plastic covered, non-slip grips. 9½" cutter cuts up to 4/0 aluminum and 2/0 soft copper cable. **DO NOT** cut steel or ACSR. **NOT** an insulated tool. HK Porter brand (0890CSJ).

**No. 2H041.** Shpg. wt. 1.0 lbs. List $26.13. .....Each **$19.95▲**

## ACSR, WIRE ROPE, AND CABLE CUTTER

**For general cutting** of soft and hard steel cable, copper and aluminum (1" / 250mm), wire rope (1/2" / 13mm), and ACSR cable (7/16" / 120mm). Shear-cut blades. HK Porter brand (0290FHJ).

**No. 2H011.** Shpg. wt. 9.5 lbs. List $89.77. Each .....**$54.95▲**

(▲) Net prices, not subject to discounts.

## CABLE/BX CUTTER—SOLID STEEL

- Hot drop-forged jaws with shear-cut, polished blades
- Blades have a stripping notch for insulated wire
- Black handles with plastisol grips
- Jaw opening 3/4" (19mm); 7⅛" length
- HK Porter brand (BXN)

**No. 2H095.** Shpg. wt. 0.6 lbs. List $23.01.Each.....**$19.56**

H. K. PORTER

Made in U.S.A.

COOPER Tools



No. 2H075



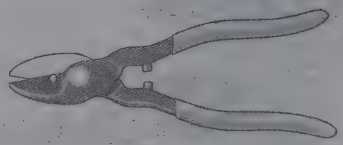
No. 2H091



No. 2H041



No. 2H011



No. 2H095

## COMMUNICATIONS CABLE CUTTER

- Shear-cut blades gives clean, sharp cut; minimal distortion
- 37" Length
- Cuts lead- and rubber-covered communications cable (2¼"/57mm) only
- Do NOT cut hard cable, ACSR, self-supporting strand, or steel
- HK Porter brand (0390CSP)

**No. 2H019.** Shpg. wt. 11.0 lbs. List $207.18. Each.....**$176.25**

## POWER & COMMUNICATIONS CABLE CUTTER

- Lightweight, rugged cutter with fiberglass handles
- Drop-forged, alloy tool steel jaws with shear-cut blades
- Cuts copper or aluminum, power and communications cable

H. K. PORTER

Made in U.S.A.



No. 2H019



COOPER Tools

No. 2H009

| Description | HK Porter Model | Stock No. | List | Each | Shpg. Wt. | REPLACEMENT CUTTERHEAD HK Porter Model | Stock No. | List | Each | REPLACEMENT JAW HK Porter Model | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25½" Cable Cutter | 0290FCS | **2H009** | $148.36 | **$126.15** | 5.7 | 0213CSS | **2H005** | $106.08 | **$90.20** | 0212CSS | **2H001** | $89.88 | **$76.45** |



The only source you need for tools as tough as you are.

# CABLE AND BX CUTTERS

### [A] 25½" CABLE CUTTER

Cuts soft copper up to 500 MCM and aluminum up to 750 MCM. Features fiberglass handle with vinyl grips. Not designed for cutting steel or ACSR cable.

### [B] UTILITY CABLE CUTTER

Cuts soft copper and aluminum cable up to 350 MCM. Drop-forged steel with vinyl grips. Not designed for cutting steel or ACSR cable.

### [C] HIGH LEVERAGE CABLE CUTTER

Cuts up to 4/0 aluminum (not Aluminum Conductor Steel Reinforced), up to 2/0 soft copper, and up to 100-pair 24 gauge communications cable. Plastic-dipped handles. Not designed for cutting steel or ACSR cable.

### [D] COMPACT CABLE CUTTER

Cuts copper and aluminum multi-strand cable such as 24 gauge, 100-pair telephone cable. Plastic-dipped handles.Not designed for cutting steel or ACSR cable.

### [E] BX CUTTER

High leverage shears cut sheet metal, steel strapping, bundling wire, and BX. Feature built-in stripping notch and plastic-dipped handles.

| Key | Description | Overall Length | Klein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 25½" Cable Cutter | 25½" | 63041 | **4A859** | $125.73 | **$110.05** | 2.6 |
| B | Utility Cable Cutter | 16¾ | 63035 | **4A858** | 66.11 | **57.85** | 2.6 |
| C | High Leverage Cable Cutter | 9½ | 63050 | **4A860** | 27.28 | **23.88** | 1.0 |
| D | Compact Cable Cutter | 8 | 63055 | **4A861** | 33.02 | **28.90** | 0.7 |
| E | BX Cutter | 7⅝ | 1104 | **4A862** | 26.15 | **22.89** | 0.6 |




No. 4A859
[A] 25½" Cable Cutter

No. 4A858
[B] Utility Cable Cutter

No. 4A860
[C] High Leverage Cable Cutter

No. 4A861
[D] Compact Cable Cutter

No. 4A862
[E] BX Cable Cutter

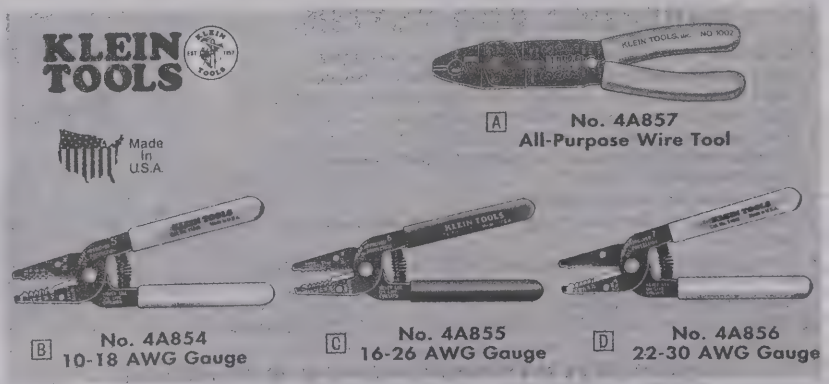
# WIRE STRIPPERS-CUTTERS

### [A] ALL-PURPOSE WIRE TOOL

- **Cuts and strips wire, cuts bolts, crimps 7mm ignition and distributor terminals**
- **Crimps lugs, splices, and insulated and noninsulated terminals**

### [B] [C] [D] WIRE STRIPPERS-CUTTERS

- **Compact, lightweight strippers-cutters gauge, cut, strip, and loop wire**
- **Spring-loaded, self-opening action**
- **Clear gauge markings on both sides**
- **Black oxide finish and comfort grip handles**
- **6" overall length**




[A] No. 4A857
All-Purpose Wire Tool

[B] No. 4A854
10-18 AWG Gauge

[C] No. 4A855
16-26 AWG Gauge

[D] No. 4A856
22-30 AWG Gauge

| Key | Description | Capacities | Klein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | All-Purpose Wire Tool | For 10 to 22 AWG sizes | 1002 | **4A857** | $22.77 | **$19.93** | 0.6 |
| B | 10-Gauge Wire Stripper-Cutter | 10, 12, 14, 16, & 18 AWG Solid Wire | 11045 | **4A854** | 13.02 | **11.39** | 0.3 |
| C | 16-Gauge Wire Stripper-Cutter | 16, 18, 20, 22, 24, & 26 AWG Stranded Wire | 11046 | **4A855** | 12.97 | **11.36** | 0.2 |
| D | 22-Gauge Wire Stripper-Cutter | 22, 24, 26, 28, & 30 AWG Solid Wire | 11047 | **4A856** | 13.02 | **11.39** | 0.3 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# CABLE, WIRE, AND CONDUIT CUTTERS

### [A] RATCHET CABLE CUTTER

For use in deep boxes or against walls. Cuts up through 750 MCM copper and aluminum. Anti-reversing mechanism ensures positive ratchet action and molded rubber cover protects ratchet mechanism. Fiberglass handles.

### [B] STEEL WIRE CUTTER

Cuts Aluminum Conductor Steel Reinforced (ACSR) service entrance cables. Features forged steel blades and custom hand grips.

### [C] BX/FLEXIBLE CONDUIT CUTTER

Allows for easy load/unload and features solid grip with large knob and increased clearance between body and crank. Cranks easily through 14/2 to 10/4 BX.

Flex Splitter blade is exposed for easy replacement with a simple screwdriver. Handle knob stores up to 5 replacement blades.

GREENLEE® Made in U.S.A.



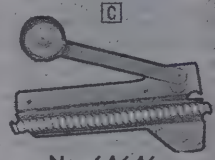
No. 4A731
Ratchet Cable Cutter

[B]



No. 4A765
Steel Wire Cutter

[C]



No. 6A646
BX/Flexible Conduit Cutter

INSULATED CABLE AND WIRE CUTTER AVAILABLE, SEE PAGE 1305

| Key | Description | Overall Length (In.) | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Ratchet Cable Cutter | 19 | 764 | 4A731 | $261.50▲ | 5.0 |
| B | Steel Wire Cutter | 28 | 749 | 4A765 | 64.45▲ | 6.1 |
| C | BX Flexible Conduit Cutter | 8 | 1940 | 6A646 | 30.15▲ | 1.5 |
| — | Replacement Blades for No. 6A646 | — | 1941 | 5C654* | 3.34▲ | 0.1 |

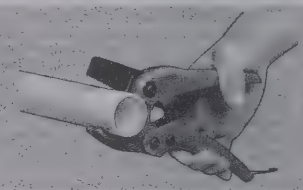
(*) Price and weight is for one blade, but sold and shipped only in packages of 5.

# PVC CUTTER

- For up to 1¼" PVC pipe
- Ratchet action for fast, easy cutting
- Heat treated, replaceable steel blade for long cutting life
- Rugged metal alloy frame for durability
- Greenlee brand (864)

**No. 4CN03.** Shpg. wt. 0.8 lbs. Each.....$62.15▲

GREENLEE®



No. 4CN03
PVC Cutter

# THREADED ROD CUTTER

- Cuts fast, clean, and eliminates grinding or filing
- Used primarily on construction sites where threaded rod is used to secure pipe, conduit sprinkler systems, duct work, and many other construction components
- Efficient—cuts either 1/4"-20 or 3/8"-16 soft steel rod without any changes or adjustments; just choose the correct size slot for the rod
- Wide base for stable cutting
- Mounting hole for fast, easy permanent mounting to work surface
- Strong forged steel cutting head with tool steel cutting die for long tool life
- Greenlee brand (36587)

**No. 5C639.** Shpg. wt. 15.0 lbs. List $380.07. Each.....$342.25▲

GREENLEE® Made in U.S.A.

Replacement Parts Available 1-800-323-0620



No. 5C639

# SELF-ADJUSTING WIRE STRIPPER

Kwik Stripper™ strips and cuts single and multiple conductor wires from 20 to 10 AWG and a wide range of insulation materials. Stainless steel blades grip and rip the insulation without nicking or scoring the conductors and are rated for over 200,000 operations. Features cam action and built-in cutter. Greenlee brand (45000).

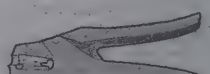
**No. 5C655.** Shpg. wt. 0.4 lbs. Each.....$47.30▲

# POCKET CABLE SLITTER

Kwik Slitter™ pocket cable slitter slits cable circumference with an easy rotating motion. Convenient knob adjusts depth of cut to strip insulations up to 3/32" thickness. Push-button rotates blade 90° to make longitudinal slits. Strips cable from 6 AWG to 400 MCM. Greenlee brand (45109).

**No. 5C656.** Shpg. wt. 0.4 lbs. Each.....$32.95▲

GREENLEE®



No. 5C655 Wire Stripper



No. 5C656
Pocket Cable Slitter

(▲) Net prices, not subject to discounts.

# GENERAL PURPOSE, COAX, TELCOM AND MANUAL CRIMPERS

## KWIK CYCLE™ GENERAL PURPOSE CRIMPERS

- Ratchet mechanism releases only after proper crimp force is applied for precision terminations
- Rated for 10,000 cycles
- Capacity: 22-10 AWG, 22-8 AWG
- Greenlee brand

### No. 4CN29 CRIMPER WITH DIE SET

- For insulated terminals

**No. 4CN29.** Shpg. wt. 1.4 lbs.Each.....$39.15▲

### No. 4CN30 CRIMPER WITH DIE SET

- For non-insulated terminals

**No. 4CN30.** Shpg. wt. 1.4 lbs.. Each.....$41.10▲

## KWIK CYCLE™ FULL CYCLE COAX CRIMPERS

### No. 4CN37 CRIMPER WITH DIE SET

- For BNC and TNC 3-pc. connectors—Hex .068, .216, .255"
- For RG58, RG59, RG62AU cable
- Greenlee brand (46800)

**No. 4CN37.** Shpg. wt. 1.4 lbs. Each.....$39.15▲

### No. 4CN38 CRIMPER WITH DIE SET

- For CATV "F" Fittings—Hex .252, .315, .345"
- For RG59 and RG6 cable
- Greenlee brand (46801)

**No. 4CN38.** Shpg. wt. 1.4 lbs. Each.....$39.15▲

### No. 4CN39 DIE SET

- For Quad Hex crimps, for 50 and 75 ohm center pins—.042, .068, .178, .213"
- For RG58 and RG174 cable
- Greenlee brand (46826)

**No. 4CN39.** Shpg. wt. 0.1 lbs. Each.....$16.63▲

### No. 4CN40 DIE SET

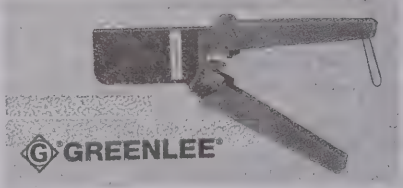
- For Quad Hex crimps, for 50 and 75 ohm center pins—Hex .042, .068, .255, .324"
- For RG59 and Belden 8281 cable
- Greenlee brand (46830)

**No. 4CN40.** Shpg. wt. 0.1 lbs. Each.....$16.63▲

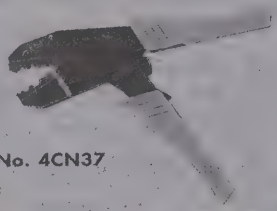
## KWIK CYCLE™ ALL-IN-ONE TELCOM TOOL

- Compact contractor grade tool for the most popular connectors
- Cuts and strips modular phone wire
- Crimps RJ11 and RJ45
- Greenlee brand (45553)

**No. 4CN32.** Shpg. wt. 0.8 lbs. Each.....$47.95▲

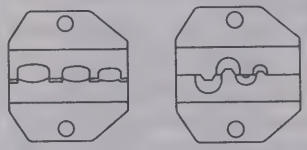



GREENLEE



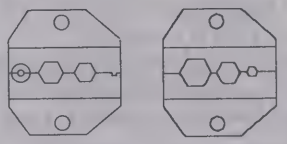
No. 4CN37

GENERAL PURPOSE CRIMPERS

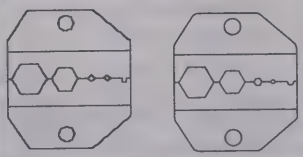


No. 4CN29 No. 4CN30

FULL CYCLE COAX CRIMPERS



No. 4CN37 No. 4CN38



No. 4CN39 No. 4CN40

## MANUAL CRIMPERS

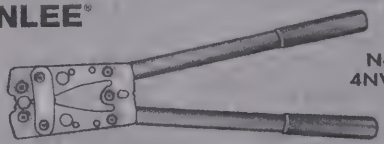
- Lightweight, easy-to-use with self-contained, rotating, color-coded dies
- Easy crimping action for attaching lugs or connectors to wire and cable
- For electricians and maintenance personnel
- Wire capacities: No. 4NV93: AWG-1/0 AWG CU, 15-4"L; No. 4NV94: #8 AWG-4/0 AWG CU, 25-5"L
- Greenlee brand

***New*** **No. 4NV93.** Manual Crimper (K05-1GL). Shpg. wt. 2.8 lbs. List $154.50. Each .....$146.80▲

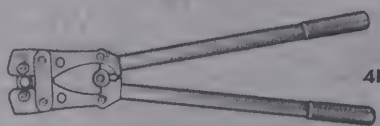
***New*** **No. 4NV94.** Manual Crimper (K09-2GL). Shpg. wt. 7.2 lbs. List $206.00. Each .....$195.75▲

GREENLEE

New



No. 4NV93



No. 4NV94

(▲) Net prices, not subject to discounts.

# PUNCH DRIVER SETS

**A B 5- and 10-Pc. Slug Buster™ Punch Sets** for punching up to 12 gauge mild steel. Manual operation, ratchet wrench not included.

**C 15-Pc. Slug Buster™ Punch Set w/Wrench** for punching up to 10 ga. mild steel. Manual operation.

**D E 5- and 10-Pc. Standard Round Punch Sets** for punching up to 10 ga. mild steel. Manual operation, ratchet wrench not included.

**F 15-Pc. Standard Round Industrial Punch Set** operates manually, or with ratchet or hydraulic drivers. For punching 10, 14, and 16 ga. mild steel.

**G 16-Pc. Slug Splitter® Punch Sets** for punching up to 10 ga. stainless steel. Operate with ratchet or hydraulic drive only—**NOT** included.

**H I Quick Draw™ Hydraulic Punch Driver and Punch Driver Set** for fast, straight-on front panel punching. Easy, one person operation. Develops 8 tons hydraulic force. Punches up to 10 ga. mild steel.

**J Quick Draw™90™ Hydraulic Punch Driver Set** with right angle driver head that rotates 180° for flexibility in tight work areas.

**K L M Hydraulic Punch Driver Sets** feature 11 ton hydraulic ram. Capacity to punch 5⅝" diameter hole in 10 ga. steel. No. 4CN01 punches up to 10 ga. stainless steel. Includes Standard Round, Slug Buster™, or Slug Splitter® punches.

**N Foot Pump Hydraulic Driver** offers hands-free foot operation. Hydraulic punch drives 10 times faster than manual wrench.

**O Hand Pump Hydraulic Driver** is a fast, easy, simple-to-use, compact hydraulic punch that drives 10 times faster than manual wrench. Powerful 11-ton hydraulic ram.

GREENLEE® Made in U.S.A.

Replacement Parts Available 1-800-323-0620



C No. 5C632 15-Pc. Slug Buster™ Punch Set with Ratchet Wrench

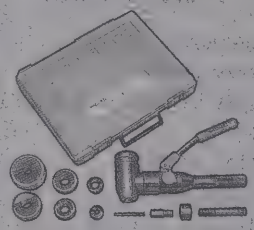


E No. 4A753 10-Pc. Knockout Punch Set

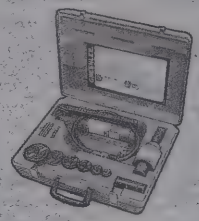


J No. 4A726 Quick Draw™ Punch Driver Set

Quick Draw™

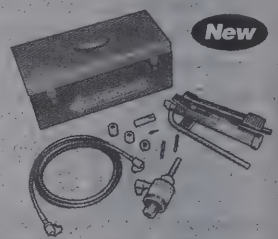


K No. 5C634 Quick Draw™ 90™ Punch Driver Set



M No. 5C633 Punch Driver Set with Slug Buster Punches

New



N No. 4NV89 Foot Pump Hydraulic Driver

| Key | Description | Includes | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 5-Pc. Slug Buster™ Punch Set | 1½ & 2" Slug Buster Punches & Dies, Draw Stud, & Plastic Carrying Case | 7237BB | 4A743 | $113.10▲ | 5.8 |
| B | 10-Pc. Slug Buster™ Punch Set | 1/2, 3/4, 1 and 1¼" Slug Buster Punches and Dies, Draw Studs, and Plastic Carrying Case | 7235BB | 4A742 | 114.95▲ | 2.7 |
| C | 15-Pc. Slug Buster™ Punch Set | 1" Hex Head Ratchet Wrench, 1/2, 3/4, 1 1¼, 1½ and 2" Slug Buster Punches and Dies, Draw Studs, and Plastic Carrying Case | 7238SB | 5C632 | 227.25▲ | 10.0 |
| D | 5-Pc. Std. Round Punch Set | 1½ and 2" Ball Bearing Knockout Punches and Dies, Draw Stud, and Plastic Carrying Case | 737BB | 4A754 | 96.45▲ | 4.4 |
| E | 10-Pc. Std. Round Punch Set | 1/2, 3/4, 1, and 1½" Ball Bearing Knockout Punches and Dies, Draw Studs, and Plastic Carrying Case | 735BB | 4A753 | 96.45▲ | 2.7 |
| F | 15-Pc. Std. Round Industrial Punch Set | 3/4, 7/8, 1, 1⅛, 1¼, and 1½" Ball Bearing Punches and Dies, Draw Studs, and Metal Case | 39860 | 4CN28 | 181.00▲ | 4.6 |
| G | 16-Pc. Slug Splitter® Punch Set | 1/2, 3/4, 1, 1¼, 1½, and 2" Punches and Dies, Draw Studs, Metal Carrying Case | 7307 | 4CM96 | 773.50▲ | 10.0 |
| H | Quick-Draw™ Hydraulic Punch Driver | Quick Draw Hydraulic Driver, 3 Draw Studs, 2 Adapters, 1 Spacer, and Plastic Carrying Case | 7804SB | 4A725 | 451.50▲ | 10.0 |
| I | Quick-Draw™ Hydraulic Punch Driver Set | Quick Draw Hydraulic Driver, 1/2, 1, 1¼, 1½ and 2" Slug Buster Punches and Dies, 2 Draw Studs, 1 Adapter, 1 Spacer, and Plastic Carrying Case | 7806SB | 4A726 | 578.50▲ | 14.0 |
| J | Quick Draw™ 90™ Hydraulic Punch Driver Set | Quick Draw Hydraulic Driver, 1/2, 3/4, 1, 1¼, 1½, and 2" Slug Buster Punches and Dies, Draw Studs, and Plastic Carrying Case | 7906SB | 5C634 | 698.50▲ | 17.0 |
| K | Hydraulic Punch Driver Set | Hydraulic Hand Pump, 1/2, 3/4, 1, 1¼, 1½ and 2" Standard Punches and Dies, Draw Studs, and Plastic Carrying Case | 7306 | 4A728 | 650.00▲ | 24.0 |
| L | Hydraulic Punch Driver Set | Hydraulic Driver, 1/2, 3/4, 1, 1¼, 1½, and 2" Slug Buster Punches and Dies, Draw Studs, and Plastic Carrying Case | 7306SB | 5C633 | 730.50▲ | 24.0 |
| M | Hydraulic Punch Driver Set | 1/2, 3/4, 1, 1⅛, 1½, and 2" Slug Splitter Punches and Dies, Draw Studs, Hydraulic Driver, Hand Pump, and Metal Carrying Case | 7506 | 4CN01 | 1192.00▲ | 32.0 |
| N | Foot Pump Hydraulic Driver | For punch sizes: 1/2 - 5" | 7625 | *New* 4NV89 | 917.00▲ | 37.0 |
| O | Hand Pump Hydraulic Driver | For punch sizes: 1/2 - 5" | 7646 | *New* 4NV90 | 563.00▲ | 19.0 |

(▲) Net Prices, not subject to discount.



*The only source you need for tools as tough as you are.*

# KNOCKOUT AND HOLE PUNCHES

## KNOCKOUT PUNCHES

### STANDARD ROUND PUNCHES

- Punch mild steel, aluminum, fiberglass and plastic
- Operate manually, or with ratchet or hydraulic drivers
- Hole sizes from 1/2 to 4½" dia.
- Metal rigidly supported by die to prevent distortion during punching
- Inside of die is recessed for clearance so slug falls free

### SLUG BUSTER™ PUNCHES

- Punch mild steel, aluminum, fiberglass and plastic
- Operate manually, or with ratchet or hydraulic drivers
- Hole sizes from 7/8 to 2⅜" dia.
- Creases slug as punch is drawn into the die. Slug is split in half, falls free from die and stud

### SLUG SPLITTER® PUNCHES

- Punch stainless steel, heavy gauge mild steel, fiberglass and plastic
- Operate with ratchet or hydraulic drive only
- Excellent abrasion resistance for punching fiberglass and plastic
- Heavy-duty dies and stainless steel draw studs for longer life

GREENLEE®

Replacement Parts Available 1-800-323-0620


Standard Round Punch


Slug Buster™ Punch

Made in U.S.A.


Slug Splitter® Punch

| Conduit & Pipe Size | Hole Size Inch | Hole Size Nominal | Capacity Mild Steel (GA.) | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **STANDARD ROUND PUNCHES** | | | | | | | |
| — | 1/2 | 0.500 | 16 | 730-1/2* | 4A716 | $19.47▲ | 0.1 |
| — | 3/4 | 0.750 | 14 | 730BB-3/4 | 4A717 | 25.05▲ | 0.2 |
| 1/2 | 7/8 | 0.885 | 10 | 71BB | 4A744 | 21.78▲ | 0.4 |
| — | 1 | 1.000 | 14 | 730BB-1 | 4A720 | 28.75▲ | 0.4 |
| 3/4 | — | 1.115 | 10 | 72BB | 4A745 | 33.85▲ | 0.8 |
| 1 | — | 1.362 | 10 | 73BB | 4A746 | 38.05▲ | 1.1 |
| 1¼ | 1 11/16 | 1.701 | 10 | 74BB | 4A747 | 40.80▲ | 1.4 |
| 1½ | 1 15/16 | 1.951 | 10 | 75BB | 4A748 | 51.00▲ | 1.9 |
| 2 | 2⅜ | 2.416 | 10 | 76BB | 4A749 | 60.75▲ | 3.3 |
| 2½ | 2⅞ | 2.914 | 10 | 738BB | 4A750 | 121.45▲ | 5.0 |
| 3 | 3½ | 3.539 | 10 | 739BB | 4A751 | 149.25▲ | 5.9 |
| 4 | 4½ | 4.544 | 10 | 742BB | 4A752 | 333.00▲ | 12.0 |
| **SLUG BUSTER™ PUNCHES** | | | | | | | |
| 1/2 | 7/8 | 0.885 | 10 | 7211BB-1/2 | 4A736 | 25.50▲ | 0.4 |
| 3/4 | — | 1.115 | 10 | 7211BB-3/4 | 4A737 | 36.65▲ | 0.9 |
| — | 1 7/32 | 1.210 | 10 | 60246 | 4A719 | 44.50▲ | 1.0 |
| 1 | — | 1.362 | 10 | 7211BB-1 | 4A738 | 42.20▲ | 1.1 |
| 1¼ | — | 1.701 | 10 | 7211BB-1-1/4 | 4A739 | 45.90▲ | 1.4 |
| 1½ | — | 1.953 | 10 | 7211BB-1-1/2 | 4A740 | 58.45▲ | 2.2 |
| 2 | 2⅜ | 2.421 | 10 | 7211BB-2 | 4A741 | 71.40▲ | 3.2 |
| **SLUG SPLITTER® PUNCHES** | | | | | | | |
| 1/2 | 7/8 | 0.885 | 10† | 745H-1/2 | 4CM97 | 102.00▲ | 0.7 |
| — | 1 7/32 | 1.210 | 10† | 740H-1-7/32 Oil Tight | 4CM98 | 153.00▲ | 1.2 |

(*) Does not include ball bearing. (†) Capacity in Stainless Steel.
(▲) Net Prices, not subject to discount.

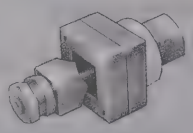
## SQUARE, RECTANGULAR, "D" AND DOUBLE "D" SHAPED HOLE PUNCHES

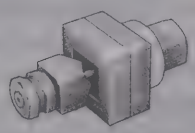
- Used to punch clean and exact holes for installation of switches and/or instruments
- Punch up to 10 gauge (3.0mm) mild steel
- Centering marks allow accurate alignment for holes
- Burr-free holes

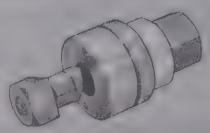
| Use With | Punch Size (In.) | Greenlee Model | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **SQUARE HOLE PUNCHES** | | | | | |
| Manual Wrench or Hydraulic Driver | 1/2 | 60001 | 4NV72 | $131.65▲ | 1.0 |
| | 3/4 | 60007 | 4NV73 | 138.15▲ | 1.1 |
| | 1 | 60016 | 4NV74 | 181.00▲ | 2.4 |
| | 1 5/16 | 60019 | 4NV75 | 498.75▲ | 6.3 |
| Hydraulic Drives Only | 7/8 | 60259 | 4NV88 | 149.25▲ | 1.8 |
| | 3⅝ | 60174 | 4NV87 | 882.00▲ | 15.0 |
| **RECTANGULAR HOLE PUNCHES** | | | | | |
| Manual Wrench or Hydraulic Driver | 0.750 x 1.14 | 60031 | 4NV76 | 220.75▲ | 3.4 |
| | 0.861 x 1.108 | 60037 | 4NV77 | 191.00▲ | 2.4 |
| | 0.866 x 1.181 | 60040 | 4NV78 | 231.00▲ | 2.4 |
| | 0.866 x 1.654 | 60043 | 4NV79 | 256.00▲ | 2.9 |
| Hydraulic Drives Only | 1.811 x 3.622 | 60068 | 4NV80 | 745.50▲ | 8.9 |
| **D" SHAPED HOLE PUNCHES** | | | | | |
| Manual Wrench or Hydraulic Driver | 0.500 x 0.469 | 60077 | 4NV81 | 131.65▲ | 0.9 |
| | 0.625 x 0.594 | 60080 | 4NV82 | 140.00▲ | 1.1 |
| | 0.750 x 0.703 | 60083 | 4NV83 | 146.50▲ | 1.2 |
| **DOUBLE "D" SHAPED HOLE PUNCHES** | | | | | |
| Manual Wrench or Hydraulic Driver | 0.769 x 0.642 | 60086 | 4NV84 | 154.00▲ | 8.9 |
| | 0.795 x 0.697 | 60089 | 4NV85 | 167.00▲ | 1.1 |
| | 1.375 x 1.125 | 60098 | 4NV86 | 200.25▲ | 2.5 |

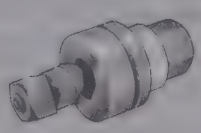
(▲) Net prices, not subject to discount.

GREENLEE® Made in U.S.A. New


No. 4NV74


No. 4NV79


No. 4NV82


No. 4NV85

# OILTIGHT, ELECTRONIC, STUD AND KEYWAY PUNCHES, AND ELECTRIC BENDERS

## OILTIGHT PUNCHES

- For oiltight switches
- Accurate alignment
- Burr-free holes

| Operation Type | Hole Size (In.) A | B | C | Max. Capacity Mild Steel (GA) | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Hand/ Hydraulic | .875 | .125 | 1.000 | 14 | 60238 | **4CN41** | **$187.50▲** | 1.1 |
| | 1.210 | .190 | 1.380 | 10 | 60242 | **4CN42** | **200.25▲** | 2.5 |

## ELECTRONIC CONNECTOR PANEL PUNCHES

- Cut-out and mounting slots are punched in one operation
- Drill only one 7/16" pilot hole
- Fast, accurate panel punching with no sawing or filing required
- Use either manual wrench or hydraulic punch driver methods
- Universal size punch for front or back mount of TRW Cinch and ITT Cannon-type or equivalent connectors in 9, 15, 25, or 37 -pin configurations

| No. of Pins | Dimensions (In.) A | B | C | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **9** | 0.787 | 0.982 | 0.469 | 229 | **4A722** | **$317.25▲** | 1.2 |
| **15** | 1.127 | 1.309 | 0.469 | 231 | **4CN06** | **317.25▲** | 1.5 |
| **25** | 1.655 | 1.853 | 0.469 | RS232 | **4A721** | **317.25▲** | 1.2 |
| **37** | 2.296 | 2.497 | 0.469 | 234 | **4CN05** | **342.25▲** | 1.4 |

## STUD AND KEYWAY PUNCHES

Metal Stud Punch punches up through 20-gauge steel studs in one stroke. Aluminum head provides strength with minimum weight; contoured handle provides more leverage. Self-stripping design eliminates punch hang-ups. Automatically centers holes on standard studs. $1^{11}/_{32}$" Punched size dia. Studding capacity: 2½" and wider.

**No. 4A735.** Greenlee brand (710). Shpg. wt. 7.0 lbs. List $204.00. Each ..... **$183.75▲**

Bushing snaps securely into holes punched in metal studs, from 24-10 gauge thickness with stud punch No. 4A735. Protects wire insulation from sharp edges, makes pulling smooth, easy. UL Recognized (E88712); CSA Certified (LR57007). 100/pkg.

**No. 4A766.** Greenlee brand (712C). Shpg. wt. 0.7 lbs. Each ..... **$17.61▲**

Keyway Punch cuts 1/8 and 3/16" wide keyways in any predrilled or prepunched hole 3/4" diameter or larger in mild steel up to 10 gauge thickness.

**No. 4A723.** Greenlee brand (720). Shpg. wt. 2.8 lbs. Each..... **$150.25▲**

GREENLEE® Made in U.S.A.



Oiltight Punch

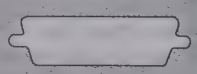




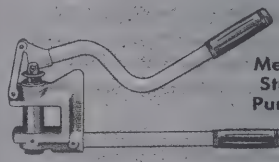

9-Pin Punch



Panel Punch



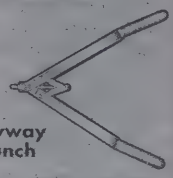
25-Pin Punch



Metal Stud Punch



Bushing



Keyway Punch

## ELECTRIC BENDERS

- Fast and easy way to bend up to 2" conduit; easy set-up and operation
- Remote pendant control
- Built-in bend charts for easy, accurate bending
- Portable–large handle and heavy-duty wheels
- Will make 180° bends in 1/2 - 2" conduit
- Operates on 120VAC

No. 4NV70 includes benders and shoe groups for 1/2 - 2" conduit. No. 4NV71 includes bender and shoes group for 1/2 - 2" rigid conduit and pipe.

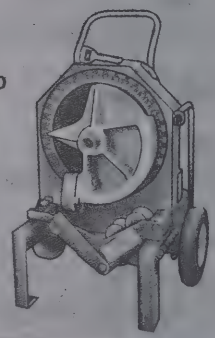
***New*** **No. 4NV70.** Electric Bender (555E). Shpg. wt. 551.0 lbs. List $6658.95. Each..... **$6195.00▲**

***New*** **No. 4NV71.** Electric Bender (555R). Shpg. wt. 468.0 lbs. List $6040.95. Each..... **$5600.00▲**

(▲) Net prices, not subject to discount.

GREENLEE® *New*

No. 4NV70



**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# CONDUIT BENDERS

## MECHANICAL BENDERS

### MECHANICAL BENDER

**Features ratchet action for increased leverage** and direct handle position for faster bending of small pipe or conduit. Built-in 0-90° bending gauge. Capacities: 1/2, 3/4, and 1" IMC and rigid conduit. Heavy-duty welded frame positions tool at a stable working height and wheels provide easy movement. Dimensions: 39" long, 8⅝" wide. Greenlee brand (1800).

**No. 1ATF2.** Shpg. wt. 81.0 lbs. List $969.23. Each ..... $872.50▲

### MECHANICAL BENDER

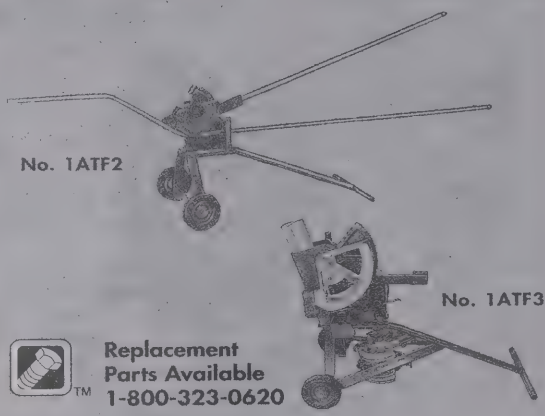
**Features durable ratchet mechanism** for additional force to make conduit bending easier. Each shoe has its own permanently mounted "swing-away" clamp to lock pipe in place, eliminating time lost hammering clamps on and off. Ratchet segment is independent of shoes, providing long life and ease in changing shoes.

**Conduit capacities:** 3/4 to 2" EMT, 1/2 to 1¼" IMC, 1/2 to 1½" rigid, and 1/2 to 1½" aluminum. Bending degrees indicator to compensate for variations in "springback" due to differences in pipe size and material. Releasing ratchet lock automatically ejects bent pipe. Bypass ratchet for fast, direct EMT bending on smaller sizes.

**Complete unit includes** frame and heavy-duty undercarriage unit with wheels, 5 shoes, 2 EMT follow bars, EMT follow bar roller, roller, and roller pin. Greenlee brand (1818).

**No. 1ATF3.** Shpg. wt. 304.0 lbs. Each ..... $3690.00▲

GREENLEE®

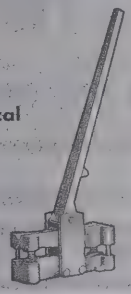



Replacement Parts Available 1-800-323-0620™

## HAND BENDERS

GREENLEE®

- Bends perfect offsets in seconds
- Every bend is identical
- For 1/2" EMT size



No. 4A724 Little Kicker™ Offset Bender

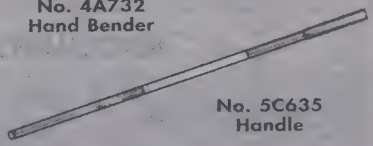
**No. 4A724.** Offset Bender (1810). Shpg. wt. 5.5 lbs. Each ..... $149.25▲

GREENLEE®

- Patented Site-Rite® indicator to easily eyeball key bending angles
- Nonslip pedal for added leverage
- Strong stable square hook design
- Cast-in markings for stub ups, saddle bends, back-to-back bends, and head up or down bending
- Cast-in multiplier factor for offset bends
- Handles sold separately



No. 4A732 Hand Bender



No. 5C635 Handle

| EMT Size | Rigid Size | Centerline Radius | For Use With | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2" | — | 4 3/16" | 5C635 | 840 | 4A732 | $20.39▲ | 1.3 |
| 3/4 | 1/2 | 5⅛ | 5C635 | 841 | 4A733 | 29.70▲ | 2.0 |
| 1 | 3/4 | 6½ | 5C636 | 842 | 4A734 | 49.15▲ | 4.0 |
| 3/4" Dia. x 38" Long Handle | | | 4A732, 4A733 | 845 | 5C635 | 15.99▲ | 3.5 |
| 1" Dia. x 44" Long Handle | | | 4A734 | 846 | 5C636 | 25.05▲ | 6.1 |

## PVC HEATING/BENDING EQUIPMENT

### ELECTRIC PVC HEATER FOR 1/2 TO 2" PVC

Double wall construction with fiberglass insulation helps keep inside temperature uniform. Plug in 115V outlet and preheat 10 minutes, insert PVC and rotate for 1 to 2 minutes, remove PVC and form bend. Features rollers for smooth rotation and On-Off switch with pilot light. Greenlee brand (849).

**No. 5C637.** Shpg. wt. 15.0 lbs. Each ..... $381.00▲

### PVC HEATING BLANKET FOR 1/2 TO 1½" PVC

Provides thermostatically controlled, even heating for uniform bending. Tough cord grip and thermostat housing for rugged use. Velcro strap holds blanket in heating position. Longitudinal stiffeners insure positive contact with PVC. Greenlee brand (860-1-1/2).

**No. 5C638.** Shpg. wt. 1.7 lbs. Each ..... $157.75▲

GREENLEE®



No. 5C637 Electric PVC Heater



No. 5C638 PVC Heating Blanket

(▲) Net prices, not subject to discounts.

# POWER FISHING SYSTEMS

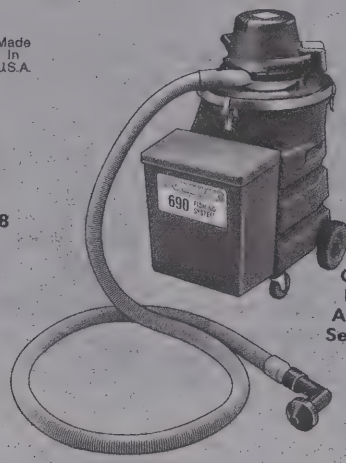
## VACUUM/BLOWER POWER FISHING SYSTEM

GREENLEE®

Replacement Parts Available 1-800-323-0620

Made In U.S.A.

LR33658




Conduit Pistons Also Sold Separately

No. 5C640 Vacuum/Blower Power Fishing System

- Rugged self-contained includes everything you need to blow or vacuum fish line, poly line or measuring tape
- Durable, the tank and accessory storage box are corrosion, chemical, and impact-resistant polyethylene
- Designed for the jobsite, 10 ft. long hose, large heavy-duty wheels and removable accessory box
- Includes 1/2-4" pistons, hoses, fish line, and adapters
- CSA Certified (LR33658)
- Greenlee brand (690)

**No. 5C640.** Complete Vacuum/Blower Power Fish System. Shpg. wt. 58.0 lbs. Each ..... $854.00▲

### CONDUIT PISTONS

- Use with blower or vacuum power fishing system to pioneer the line through the conduit run
- Flexible foam body for an airtight seal
- Color coded end disk with embossed size markings for fast, easy selection
- Strong steel center rod with tying loops on both ends
- Pistons available for all types and sizes of conduit 1/2 through 2" (including rigid, IMC and EMT conduit)

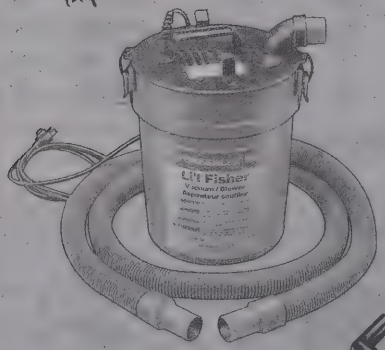
| Description | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **CONDUIT PISTONS** | | | | |
| For 1/2" conduit | 608 | 5C641 | $2.88▲ | 0.1 |
| For 3/4" conduit | 609 | 5C642 | 3.50▲ | 0.1 |
| For 1" conduit | 610 | 5C643 | 4.63▲ | 0.1 |
| For 1¼" conduit | 611 | 5C644 | 4.84▲ | 0.1 |
| For 1½" conduit | 612 | 5C645 | 5.92▲ | 0.1 |
| For 2" conduit | 613 | 5C646 | 8.91▲ | 0.1 |

## VACUUM/BLOWER POWER FISHING SYSTEM

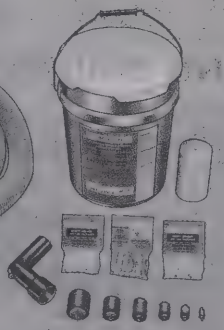
GREENLEE®

Replacement Parts Available 1-800-323-0620

Made In U.S.A.




No. 4CN23 Vacuum/Blower Power Fishing System



No. 4CN25 Accessory Kit

- Provides maximum vacuuming and blowing capabilities in a compact unit
- Quickly moves line through the longest conduit run
- Durable and compact unit with sturdy carrying handle is portable and stores easily
- Power unit detaches easily from canister for cleaning and water/debris removal
- Includes unit and hose only
- Greenlee brand (390)

**No. 4CN23.** Shpg. wt. 25.0 lbs. Each..... $312.50▲

### ACCESSORY KIT

**Kit includes** fish line, piston for 1/2, 3/4, 1, 1¼, 1½, and 2" conduit, adapter cone for 1¼ - 2½" and 1/2-1" conduit, adapter nozzle for measuring tape, and accessory container and lid. Greenlee brand (392).

**No. 4CN25.** Shpg. wt. 7.9 lbs. List $115.36. Each..... $115.40▲

(▲) Net prices, not subject to discounts.

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# FISH TAPES, LEADER, LINE, AND PACKAGES

## FISH TAPES

### STEEL FISH TAPES

- 1/8" tape in 50, 100, and 200 ft. lengths
- Oversized locking handle provides hefty grip for needed power
- High quality spring steel resists bending, kinking, and corrosion

### FLEX-O-TWIST FLEXIBLE FISH TAPES

- 3/16" tape in 50 and 100 ft. lengths
- Heavy-duty locking handle
- Flexible design allows tape to slip through lateral and vertical bends in same run
- Made of wound multi-strand cable for strength and flexibility

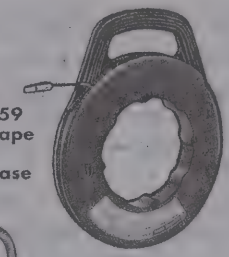
### FIBERGLASS FISH TAPES

- Non-conductive fiberglass tape with low friction coating
- Non-coiling properties that enable it to fish in large and small conduit, with wire or cable in place
- Lightweight reel for easy positive feed out and rewind
- For installation of telecommunications and data communication cables in overhead plenums, above suspended ceilings, and under floors
- Intended for fishing only, rope or line is recommended for pulling

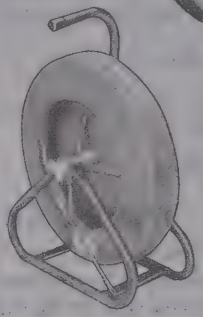
### NYLON NON-CONDUCTIVE FISH TAPES

- 3/16" tape in 50 and 100 ft. lengths
- Heavy-duty winder case with hefty handle
- Curl-resistant nylon
- Lightweight and strong, 300 pound average tensile strength
- Tip and leader are made of metal, can be grounded against conduit—tape is non-conductive

GREENLEE®



No. 4A759
50' Fish Tape with Winder Case



No. 4CN09
200' Fiberglass Fish Tape with Reel Stand

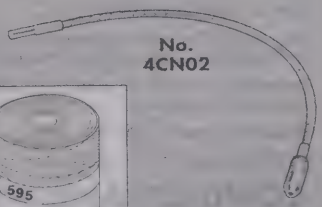
| Tape Description | Tape Length (Ft.) | Tape Dia. (In.) | Winder Case | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Steel | 50 | 1/8 | Yes | 438-5 | 4A755 | $28.75▲ | 2.6 |
| Steel | 100 | 1/8 | Yes | 438-10 | 4A756 | 45.00▲ | 4.4 |
| Steel | 200 | 1/8 | Yes | 438-20 | 4A757 | 62.15▲ | 7.1 |
| Flexible | 100 | 3/16 | No | 439-100 | 4A730 | 94.60▲ | 8.0 |
| Flexible | 50 | 3/16 | Yes | 539-50 | 4A761 | 75.10▲ | 5.5 |
| Fiberglass | 100 | 1/8 | Yes | 540-100 | 4CN08 | 155.00▲ | 2.6 |
| Fiberglass with Reel Stand | 200 | 3/16 | No | 542-200 | 4CN09 | 506.00▲ | 15.0 |
| Nylon | 50 | 3/16 | Yes | 436-5 | 4A759 | 56.55▲ | 2.1 |
| Nylon | 100 | 3/16 | Yes | 436-10 | 4A760 | 84.40▲ | 2.2 |

## FLEX-O-TWIST® FLEXIBLE FISH TAPE LEADER

- Helps guide steel fish tapes through sharp turns
- Thread on the end of the fish tape in place of the swivel ball head

**No. 4CN02.** 12" Flexible Fish Tape Leader (30859). Shpg. wt. 0.3 lbs.
Each.....$11.59▲

GREENLEE®

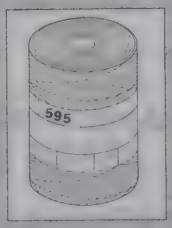


No. 4CN02

## FISH LINE

- Strong, lightweight nylon
- 2150 ft.; 85 lbs. strength
- Center feed for fast payout without tangling
- Mildew-resistant, can be pulled into the run with the wire to provide a means to add wires later
- Greenlee brand (32433)

**No. 4CN04.** Shpg. wt. 7.0 lbs. Each.....$22.71▲

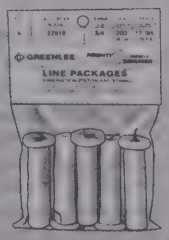



No. 4CN04

## LINE PACKAGES

- Combination piston and string all-in-one
- Blow or vacuum through—leave lightweight line strong enough to pull a rope in

| Size (In.) | Length (Ft.) | Length (mm) | Color | Pkg. Qty. | Greenlee Model | Stock No. | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 150 | 46 | Red | 10 | 37917 | 4CN12 | $19.06▲ | 0.2 |
| 3/4 | 300 | 91 | Yellow | 5 | 37919 | 4CN13 | 11.59▲ | 0.1 |
| 3/4 | 450 | 137 | Yellow | 5 | 37920 | 4CN14 | 12.36▲ | 0.1 |
| 1 | 300 | 91 | White | 5 | 37922 | 4CN15 | 11.59▲ | 0.1 |
| 1 | 450 | 137 | White | 5 | 37923 | 4CN16 | 12.36▲ | 0.1 |




No. 4CN13

(▲) Net prices, not subject to discounts.

# REEL STANDS, WIRE CARTS, AND STORAGE RACK

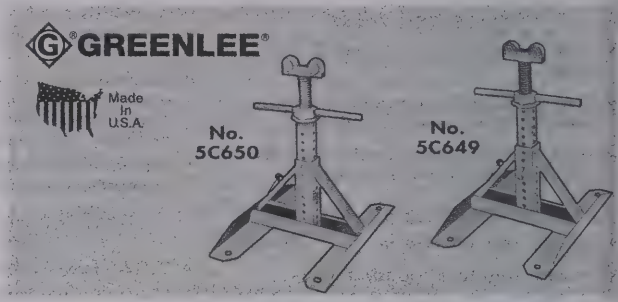
## SCREW-TYPE REEL STANDS AND SPINDLES

### TELESCOPING REEL STANDS

- Stands telescope with pins for rough adjustment; feature a screw-type final height adjustment
- Welded wide steel base provides added stability
- Roller bearings fit to the spindle groove and keep spindle in place, turning freely
- For a complete setup two stands and a spindle are required

### SPINDLES

- Tempered steel spindle is grooved to fit between rollers




| Description | Height (In.) Min. / Max. | Capacity (Lbs.) | For Use With | Reel Dia. (In.) Min. / Max. | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Telescoping Reel Stand** | 22 / 54 | 2500 | No. 5C651 | 46 / 96 | 683 | **5C649** | **$284.75▲** | 49.0 |
| **Telescoping Reel Stand** | 13 / 28 | 2500 | No. 5C652 | 28 / 56 | 687 | **5C650** | **196.75▲** | 26.0 |
| **2⅜" Dia. x 62"L Spindle** | — | 5000 | No. 5C650 | — | 647 | **5C652** | **157.75▲** | 37.0 |
| **2⅜" Dia. x 76"L Spindle** | — | 5000 | No. 5C649 | — | 684 | **5C651** | **211.50▲** | 50.0 |

## WIRE CART

- Excellent for storing, transporting or for feeding wire
- Can be used vertically or horizontally
- Five strong reel axles with spring clip retainers plus two positions for axle storage allows configuration for large reels without loose parts
- Strong yet lightweight tubular steel welded construction with rugged 8" polypropylene wheels
- Built-in wire guide for horizontal dispensing
- Will handle 18" spools; will pass through 28" opening
- 54½H x 27W x 26½"D
- Greenlee brand (911)

**No. 5C648.** Shpg. wt. 62.0 lbs. Each ..... $323.75▲

## HAND TRUCK WIRE CART

- Heavy-duty wheels for durability and easy transport
- Dual heavy-duty wire guides for dispensing multiple wires in all directions
- 46H x 23W x 22½"D
- Five 5/8" dia. reel spindles for storing and dispensing up to 15-500 ft reels of #14 THHN wire
- Storage space for 3 spindles & clips eliminates loose parts when not in use
- Greenlee brand (38733)

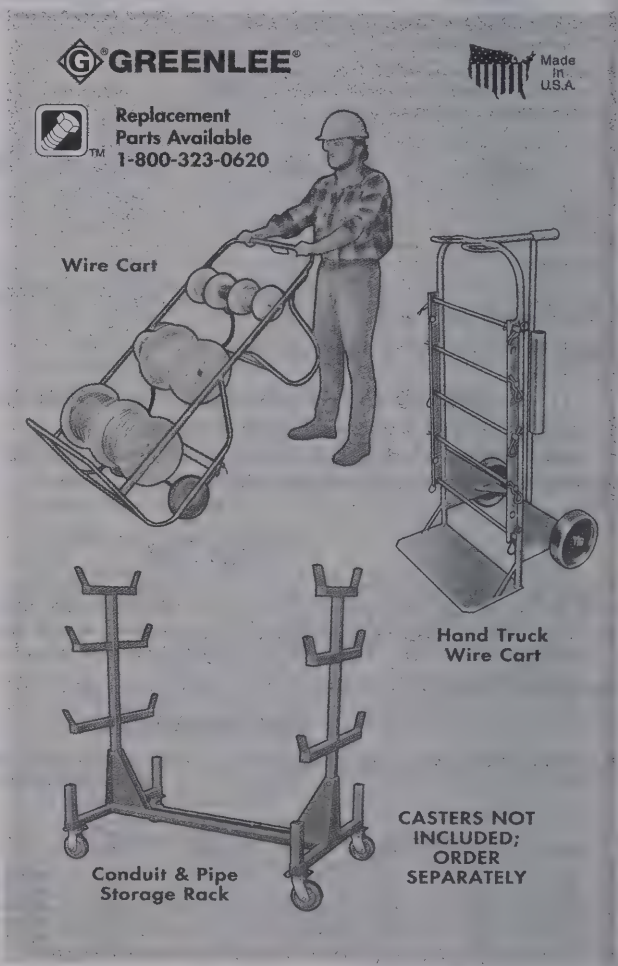
**No. 4CN24.** Shpg. wt. 58.0 lbs. Each..... $248.50▲

## CONDUIT AND PIPE STORAGE RACK

- 1000 lb. capacity
- Seven individual bins allows sorting by size and type
- Made of structural square tubing
- Overall dimensions: 58H x 58½L x 34"W; folds to 15½H x 61L x 34"W for storage
- Casters not included—For added mobility, order four swivel casters No. 3A844 from page 2144
- Greenlee brand (668)

**No. 5C653.** Shpg. wt. 100.0 lbs. Each ..... $578.50▲

(▲) Net prices, not subject to discounts.






The only source you need for tools as tough as you are.

# CABLE DISPENSER/TRANSPORTER, AND PULLING ACCESSORIES

## BX ARMORED COIL CABLE DISPENSER AND DISPENSER/TRANSPORTER

- **No. 4CN11 dispenses one 250' coil of 14/2, 14/3, 12/2, or 12/3 BX-armored cable, flexible conduit, Greenfield or Romex without twists or tangles.**
- **No. 4CN10 transports up to 3 coils, maximum 250 lbs.**
- **Base with adjustable tension control rotates to dispense cable without overpulling**
- **Large pulling eye rotates freely; can be used as a carrying handle when dispenser is empty**
- **Greenlee brand**

**No. 4CN11** Cable Dispenser (37218). Shpg. wt. 32.0 lbs.
Each .....$167.00▲

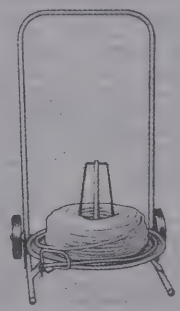
**No. 4CN10** Cable Dispenser/Transporter (37202). Shpg. wt. 55.0 lbs.
Each .....$282.75▲

GREENLEE®

Made in U.S.A.



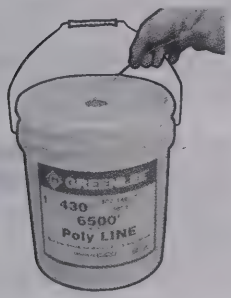
No. 4CN11



No. 4CN10

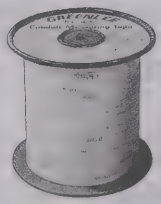
(▲) Net prices, not subject to discounts.

## PULLING ACCESSORIES




GREENLEE®

Made in U.S.A.





No. 5C647




Nos. 4A801 & 4A802

**POLY LINE** is used with power fish tape systems to pull rope through conduit. Not for pulling wire or cable. Resists tangling and will not rot or mildew. Tensile strength for No. 4A762 is 210 lbs; No. 4A763 is 240 lbs.

| Description | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 210 lbs. x 6500' | 430 | 4A762 | $46.85 ▲ | 11.0 |
| 240 lbs. x 5200' | 431 | 4A763 | 56.55 ▲ | 12.0 |

**CONDUIT MEASURING TAPE** for measuring length of conduit runs and has permanently printed measurements at every foot from zero to 3000 feet. Strong, waterproof polyester has 130 lbs. breaking strength. Greenlee brand (435).

**No. 4A764.** Shpg. wt. 4.6 lbs. Each .....$55.65▲

**PULLING LUBRICANT** adheres well to cable and wire without messy dripping and is compatible with all insulation types. Cleans up easily with soap and water.

| Size | Greenlee Model | Stock No. ● | Each | Shpg. Wt. |
|---|---|---|---|---|
| **GEL LUBRICANT** | | | | |
| Quart Bottle | GEL-Q | 5C647 | $4.75▲ | 2.2 |
| **CREAM LUBRICANT** | | | | |
| Quart Bottle | CRM-Q | 4A801 | 4.85▲ | 2.2 |
| 1-Gallon Pail | CRM-1 | 4A802 | 11.25▲ | 9.0 |

● These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(▲) Net prices, not subject to discounts.

DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# AUGER BITS, ANCHORS, PLACEMENT TOOL, SCREW ANCHORS AND EXPANDERS

## D'VERSIBIT® AUGER FLEXIBLE SHAFT BITS

**Flexible steel drill bits for installing** wire or cable inside existing walls. Drill bit is attached to long, flexible spring steel shaft, allowing manipulation of the bit within walls.

**Nos. 4CN17 and 4CN18** are wood-type augers with a screw point that pulls itself through wood, avoiding walking or skidding. Excellent for drilling soft woods or through thin sections.

**No. 4CN19** is a combination bit with a screw point for easy starting and pulling through wood. With the screw point removed, bit can be ground to function like a standard combination bit.

**Nos. 4CN20 and 4CN21** combination bits are for drilling wood and light sheet metal. Chips can be brought out easily through the hole. Excellent for tough woods and thick obstacles. Can be sharpened.




| Description | Dimensions (In.) | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Wood Type with Screw Point** | 9/16 x 54<br>3/4 x 54 | 09-03-54A<br>12-04-54A | **4CN17**<br>**4CN18** | **$36.20▲**<br>**38.05▲** | 0.5<br>0.9 |
| **Combination Wood Type with Screw Point** | 9/16 x 54 | 09-03-54A | **4CN19** | **31.10▲** | 0.5 |
| **Combination Bit for Wood and Light Sheet Metal** | 3/8 x 54<br>3/4 x 54 | 06-03-54C<br>12-04-54C | **4CN20**<br>**4CN21** | **27.85▲**<br>**31.55▲** | 0.4<br>0.8 |

## D'VERSIBIT® PLACEMENT TOOL

- **Allows placement of the drill bit at any point within the wall**
- **Use to position all bit and shaft sizes**
- **Useful for vertical and horizontal placements**
- **Helpful in judging where the bit will be during drilling to avoid accidentally drilling through the wall**
- **Greenlee brand (38350)**




**No. 4CN22.** Shpg. wt. 0.4 lbs. Each ..... $13.21▲

## D'VERSIBIT® ABRASION SHIELD

- **Fits all D'versiBIT® auger flexible shafts**

Prevents insulation from wrapping around bit shaft. Protects D'versiBIT shaft when used in masonry walls. Made in USA.




***New*No. 4NV69.** Greenlee brand (606AS). Shpg. wt. 0.3 lbs. Each **$3.43▲**

## WIRE AND CABLE PULLING GRIPS

- **Built-in swivel reduces twisting**
- **Clip attaches D'VersiBIT® or fish tape**
- **Metal mesh grip firmly holds wire**

For use with D'VersiBIT® auger flexible shaft bits Nos. 4CN17, 4CN18, 4CN19, 4CN20 and 4CN21. Clip attaches to hole in bit, mesh basket holds wire or cable during recovery. Use with bits 3/8" or larger. Made in USA.




***New*No. 4NV66.** Pulls up to 3/8" OD wire. (125). Shpg. wt. 0.1 lbs. Each ..... $8.34▲

***New*No. 4NV67.** Pulls up to 1/2" OD wire. (150). Shpg. wt. 0.1 lbs. Each ..... $10.20▲

***New*No. 4NV68.** Pulls up to 3/4" OD wire. (168). Shpg. wt. 0.1 lbs.. Each ..... $12.28▲

## SCREW ANCHOR EXPANDERS




Quickly and securely set expansive screw anchors in masonry, regardless of thickness. Manufactured from hardened alloy steel. Greenlee brand.

| Expansive Bolt Size | Greenlee Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **1/4" - 20** | 868 | **4CM94** | **$33.40▲** | 0.4 |
| **3/8" - 16** | 870 | **4CM95** | **50.10▲** | 0.6 |

(▲) Net prices, not subject to discounts.

## CAULKING SCREW ANCHORS




- **Rugged zinc alloy and lead construction**

Can be set flush or subset. For setting in hollow masonry block. To set anchors all the same depth, use appropriate Greenlee screw anchor expanders, Nos. 4CM94 and 4CM95, sold to the left. Includes setting tool. 100 anchors per package.

| Description | Screw Expander | Use With Screw Expander | Greenlee Model | New! Stock No. | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Screw Anchor** | 1/4"-20 | 4CM94 | 84299 | **4NV91** | **$38.55▲** | 4.3 |
| **Screw Anchor** | 3/8"-16 | 4CM95 | 84305 | **4NV92** | **46.90▲** | 5.6 |

# PIPE WRENCHES

### A CAST-IRON STRAIGHT HANDLE PIPE WRENCHES

With I-beam handle, wrenches have full-floating hook jaw with spring suspension for instant grip, instant release. Rugged, easy spin, non-stick adjustment nut cleans grime from shank and allows one-hand adjustment. Meet Federal Specification GGG-W-651, Type II, Class A.

### B ALUMINUM STRAIGHT HANDLE PIPE WRENCHES

Lightweight, yet strong enough for heavy-duty work. Hook and heel jaws are made of strong alloy steel and hardened. Meet Federal Specification GGG-W-651, Type II, Class C.

### C END PIPE WRENCHES

Assures a fast and easy grip for pipe working in restricted spaces or close to a wall. Wrenches have same heavy-duty features as Ridgid Straight Pipe Wrenches.

### D OFFSET PIPE WRENCH

With aluminum handle features a jaw opening parallel to the handle and a narrow hook jaw head to allow easy entry into tight spots. Maximum pipe size 2½". Lightweight—adds to operator comfort.

### E STRAP WRENCHES

For use on polished pipe and tubing. Wrenches have strong I-beam handle and solid head.

### F CHAIN WRENCHES

Designed with a double jaw to provide a fast, ratchet-like action in either direction. Nos. 4CW47 and 4CW48 are heavy-duty and equipped with replaceable alloy steel jaws. No. 4CW46 is a light-duty wrench with a one-piece forged alloy steel handle and jaw making it suitable for use in close quarters.

### G OFFSET HEX WRENCH

Extra wide jaw opening (max. 2⅝"). Use to remove power elements from expansion valves in refrigeration applications and for hard-to-reach nuts and fittings. Ideal for securing drain nuts on sinks and tubs.

### H TELESCOPING BASIN WRENCH

Has forged alloy spring-loaded jaws. For fast, one-hand ratcheting. Tension plug holds head in any position up to 90° angle. Stainless steel spring assures firm grip. Telescoping shank is easily adjusted and held in place by spring-loaded pin.

### I SPIRAL RATCHET PIPE REAMER

For pipe, sheet metal, or for enlarging conduit box outlets. For fast, easy hand reaming.

| Key | Description | Overall Length (In.) | Pipe Cap. (In.) | Ridgid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Staight Pipe Wrench — Cast Iron | 8 | 1 | 8/31005 | **4A497** | $13.30 | **$12.64▲** | 0.9 |
| | | 10 | 1½ | 10/31010 | **4A498** | 17.50 | **16.63▲** | 1.7 |
| | | 12 | 2 | 12/31015 | **4CW42** | 20.20 | **19.19▲** | 2.9 |
| | | 14 | 2 | 14/31020 | **4A499** | 23.00 | **21.85▲** | 3.8 |
| | | 18 | 2½ | 18/31025 | **4A500** | 32.95 | **31.35▲** | 6.0 |
| | | 24 | 3 | 24/31030 | **4A501** | 51.90 | **49.35▲** | 10.0 |
| | | 36 | 5 | 36/31035 | **4A502** | 109.70 | **104.25▲** | 20.0 |
| | | 48 | 6 | 48/31040 | ***New*** **4NV21** | 165.20 | **157.00▲** | 31.0 |
| B | Staight Pipe Wrench — Aluminum | 10 | 1½ | 810/31090 | **6A650** | 27.80 | **26.45▲** | 1.2 |
| | | 14 | 2 | 814/31095 | **6A651** | 37.50 | **35.65▲** | 2.3 |
| | | 18 | 2½ | 818/31100 | **6A652** | 46.85 | **44.55▲** | 3.8 |
| | | 24 | 3 | 824/31105 | **6A653** | 74.40 | **70.70▲** | 6.3 |
| | | 36 | 5 | 836/31110 | **6A654** | 128.05 | **121.65▲** | 12.0 |
| | | 48 | 6 | 848/31115 | ***New*** **4NV22** | 252.60 | **240.00▲** | 19.0 |
| C | End Pipe Wrenches | 14 | 2 | E-14/31070 | **4CW43** | 26.45 | **25.15▲** | 3.4 |
| | | 18 | 2½ | E-18/31075 | **4CW44** | 37.75 | **35.90▲** | 5.3 |
| D | Offset Pipe Wrench | 18 | 2½ | 18/31125 | **4CW45** | 62.05 | **58.95▲** | 0.6 |
| E | Strap Wrenches | 11¾ | 1/8 - 2 | 2/31340 | **4A505** | 24.25 | **23.04▲** | 0.8 |
| | | 18 | 1/8 - 5 | 5/31360 | **4CW49** | 48.05 | **45.65▲** | 2.0 |
| F | Chain—Light Duty | 12⅞ | 2 | C-12/31310 | **4CW46** | 29.15 | **27.70▲** | 2.0 |
| | Chain—Heavy-Duty | 13⅜ | 2 | C-14/31315 | **4CW47** | 42.55 | **40.45▲** | 2.7 |
| | Chain—Heavy-Duty | 17½ | 2½ | C-18/31320 | **4CW48** | 64.65 | **61.45▲** | 5.9 |
| G | Offset Hex Wrench | 9½ | 1⅛-2⅝ | E-110/31305 | **4A504** | 23.25 | **22.09▲** | 1.6 |
| H | Basin Wrench | 10 - 17 | 3/8 - 1¼ | 1017/31175 | **4A503** | 26.40 | **25.10▲** | 2.0 |
| I | Spiral Ratchet PipeReamer | 20¼ | 1/8 - 2 | 2-S/34955 | **4A512** | 158.35 | **150.50▲** | 7.3 |

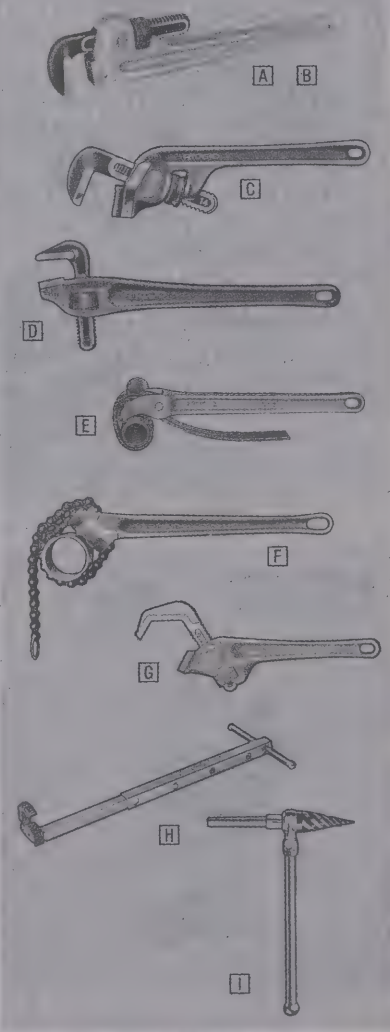
(▲) Net prices, not subject to discounts.

RIDGID

New

Made in U.S.A.

Replacement Parts Available 1-800-323-0620




## 2-PC. PIPE WRENCH SET

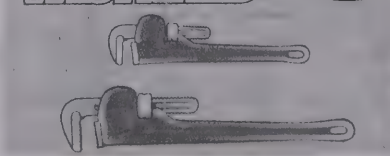
- **Two heavy-duty pipe wrenches to handle most common sized pipe and fittings**
- **Forged steel upper and lower jaws with malleable cast iron handles for strength and toughness**
- **Floating-hook jaw with spring suspension for easier gripping**
- **Jaw opening capacity – 18" pipe wrench: 2½"; 12" pipe wrench: 2"**

***New*** **No. 4PL94.** 2-Pc. Pipe Wrench Set. Shpg. wt. 8.8 lbs. Each ..... $31.95▲

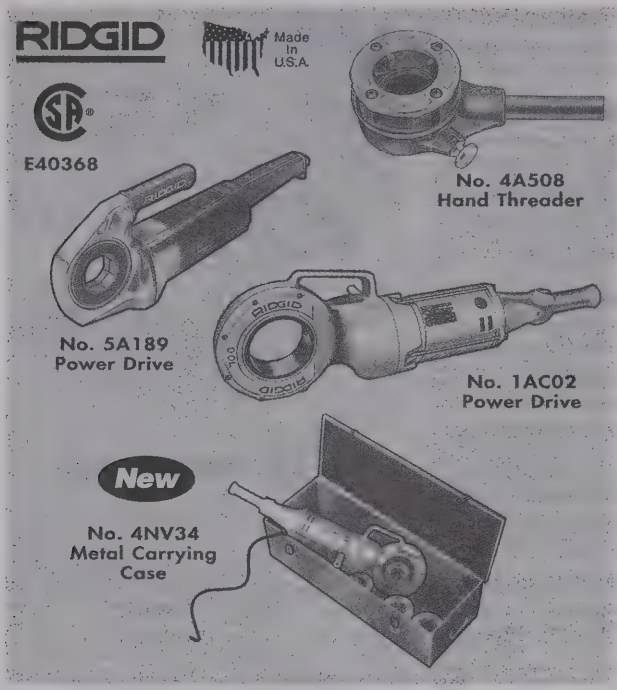
(▲) Net prices, not subject to discounts.

WESTWARD™

New



# PIPE THREADING EQUIPMENT




## PIPE THREADERS

**Exposed Ratchet Threader Set** has die heads that lock into ratche and handle assembly. Heads are easily removed when reversibl ratchet knob is pulled out. Set includes 6 dies, heads, ratchet and handle. Die capacities are: 1/2, 3/4, 1, 1¼, 1½, and 2" NPT Tool length 29". Ridgid brand (12-R/36475).

**No. 4A508.** Shpg. wt. 35.0 lbs. List $523.85. Each ..... **$497.75▲**

**Model 600 Power Drive** for use in restricted areas. Heavy-duty uni versal motor produces 32 RPM for threading of 1/8 to 1¼" pip and conduit. Cuts both right and left hand threads. Comes com plete with 1/2, 3/4, 1, and 1¼" right hand die heads and metal car rying case. For replacement dies, use Ridgid model 12-R dies list ed below. Ridgid brand (600/36912).

**No. 5A189.** Pipe Threader. Shpg. wt. 36.0 lbs. List..... $906.40. Each ..... **$861.50▲**

**Model 700 Power Drive** for complete utility and trouble-free ser vice. Unit has power to drive large geared threaders and cut pip threads with drop head dies through 2". Features 1/2HP universa motor and spur gerar reduction to assure maximum power an efficiency. Die heads and adapters (not included) lock in secure ly from either side. Ridgid model 12-R (No. 4A508) die heads fi without adapter. Ridgid brand (700/41935).

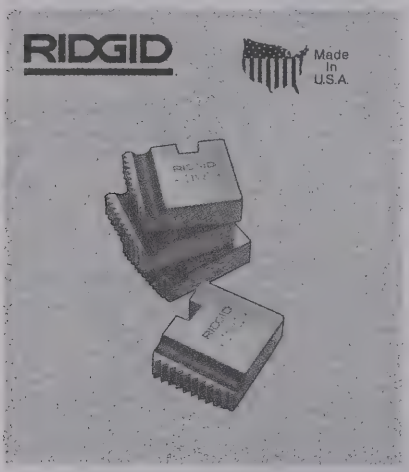
**No. 1AC02.** Shpg. wt. 32.0 lbs. List $1129.70. Each ..... **$1074.00▲**

Die heads and adapters for No. 1AC02 available. Call 1-800-323-0620.

**Metal Carrying Case** for Ridgid Model 700 Power Drive, No. 1AC02 Safely stores power drive and 6 die heads. Ridgid bran (42950/B171X).

***New*No. 4NV34.** Metal Carrying Case. Shpg. wt. 29.0 lbs. List $109.30. Each ..... **$103.85▲**

(▲) Net prices, not subject to discounts.




## REPLACEMENT DIES†

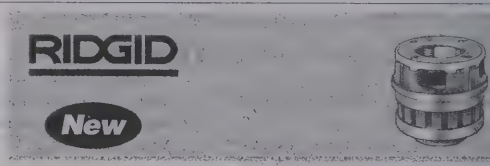
| NPT Size (In.) | Description | Ridgid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2 | Alloy | 37825 | **4A509** | $34.20 | **$32.50▲** | 0.1 |
| 1/2 | High Speed | 37870 | **4CW71** | 37.85 | **36.00▲** | 0.2 |
| 1/2 | High Speed for Stainless Steel | 37915 | **4CW77** | 37.85 | **36.00▲** | 0.5 |
| 3/4 | Alloy | 37830 | **4A510** | 34.20 | **32.50▲** | 0.2 |
| 3/4 | High Speed | 37875 | **4CW72** | 37.85 | **36.00▲** | 0.2 |
| 3/4 | High Speed for Stainless Steel | 37920 | **4CW78** | 37.85 | **36.00▲** | 0.2 |
| 1 | Alloy | 37835 | **4A511** | 40.30 | **38.30▲** | 0.3 |
| 1 | High Speed | 37880 | **4CW73** | 45.05 | **42.80▲** | 0.3 |
| 1 | High Speed for Stainless Steel | 37925 | **4CW79** | 45.05 | **42.80▲** | 0.3 |
| 1¼ | Alloy | 37840 | **4CW67** | 40.30 | **38.30▲** | 0.3 |
| 1¼ | High Speed | 37885 | **4CW74** | 45.05 | **42.80▲** | 0.2 |
| 1¼ | High Speed for Stainless Steel | 37930 | **4CW80** | 45.05 | **42.80▲** | 0.3 |
| 1½ | Alloy | 37845 | **4CW68** | 45.05 | **42.80▲** | 0.5 |
| 1½ | High Speed | 37890 | **4CW75** | 56.10 | **53.30▲** | 0.5 |
| 1½ | High Speed for Stainless Steel | 37935 | **4CW81** | 56.10 | **53.30▲** | 0.5 |
| 2 | Alloy | 37850 | **4CW69** | 45.05 | **42.80▲** | 0.5 |
| 2 | High Speed | 37895 | **4CW76** | 56.10 | **53.30▲** | 0.5 |
| 2 | High Speed for Stainless Steel | 37940 | **4CW82** | 56.10 | **53.30▲** | 0.5 |

(*) Pipe dies for Ridgid models 00-R, 111-R, 12-R, 0-R, 11-R ratchet threaders or 30A, 31A, 3-Way pipe threaders.
(†) Consists of 4 pieces.
(▲) Net prices, not subject to discounts.

## COMPLETE DIE HEADS

| NPT Size (In.) | Description | Ridgid Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2 | Alloy | 37390 | **4NV24** | $71.90 | **$68.35▲** | 4.0 |
| 3/4 | Alloy | 37395 | **4NV25** | 71.90 | **68.35▲** | 4.0 |
| 1 | Alloy | 37400 | **4NV26** | 91.50 | **86.95▲** | 4.0 |
| 1¼ | Alloy | 37405 | **4NV27** | 91.50 | **86.95▲** | 4.6 |
| 1½ | Alloy | 37410 | **4NV28** | 100.90 | **95.90▲** | 5.6 |
| 2 | Alloy | 37415 | **4NV29** | 100.90 | **95.90▲** | 5.7 |

(▲) Net prices, not subject to discounts.




Die heads come complete with NPT alloy dies. Die heads fi Ridgid No. 12R ratchet and handle included wtih pipe threade No. 4A508. Die heads also fit Ridgid Model 700 Power Drive (No 1AC02) without the use of an adapter.


*The only source you need for tools as tough as you are.*

# PIPE THREADING EQUIPMENT, PIPE FREEZING UNIT AND ELECTRIC SOLDERING GUN

## BENCH YOKE VISE

Yoke and base made of iron. Features hardened alloy steel jaws. Base includes pipe rest and bender. Designed to hold pipe sizes 1/8 to 4". Ridgid brand (25/40100).

***New*** **No. 4NV31.** Bench Yoke Vise. Shpg. wt. 28.0 lbs.. List $207.80. Each ..... **$197.50▲**

## PIPE STAND

Used to support pipe extending from rear of threading machines. Strong tubular steel construction. Locking collar allows for fast approximate height adjustment. Final adjustment is made by turning feedscrew handle which provides exact positioning to desired height, from 28 to 52". V-Head holds pipe to 12" in dia. Ridgid brand (VJ-99/56662).

**No. 4CX07.** Shpg. wt. 24.0 lbs. List $86.50. Each..... **$82.20▲**

## TRISTAND

Alloy steel jaws are hardened for firm grip and long wear. Vise has 1/8 through 5" capacity; large base overhangs front legs for clear tool swing.

Has rear pipe rest, tool hanger slots, 3 pipe benders and ceiling brace screw. Integral folding legs and tool tray lock open for sturdy workbench, close for easy carrying. Ridgid Model (450/40160).

**No. 4A507*.** Shpg. wt. 46.0 lbs. List $371.80. Each..... **$353.25▲**

## PIPE THREADING OILER

Stops oil waste, keep dies flooded for quality threads, and lengthens die life. Hand operated pump. Large diameter chip pan and long hose provide a completely portable oiling unit. Comes with one gallon of Ridgid Nu-Clear thread cutting oil. Ridgid brand (318/41650).

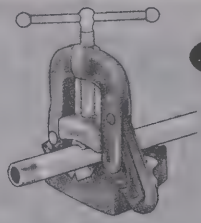
**No. 5A194*.** Shpg. wt. 22.0 lbs. List $207.40. Each..... **$197.25▲**

(*) Limited availability, contact your local branch

RIDGID

Made In U.S.A.

New



Bench Yoke Vise



Pipe Stand



Tristand



Pipe Threading Oiler

## SUPERFREEZE® PIPE FREEZING UNIT

RIDGID

New




- **Eliminated the use of CO2, nitrogen, or illegally releasing refrigerants into the atmosphere**
- **Can form one or two ice plugs with the same machine, at the same time**
- **No need to shut off water supply or drain system to make repairs**

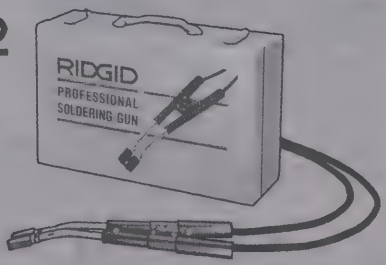
SuperFreeze pipe freezer is an easy-to-use pipe freezing unit that allows water systems to be kept in operation while making repairs. System is a mini-refrigeration unit that circulates refrigerant to its aluminum freeze heads. Capacity: 1/2 - 1" steel; 1/2 - 1½" copper tube. Note: Unit remains operating while making repairs to ensure ice plug will not melt. Ridgid brand (SF2000R/62867).

***New*** **No. 4NV36.** Shpg. wt. 46.0 lbs. List $1749.00. Each ..... **$1662.00▲**

## ELECTRIC SOLDERING GUN

RIDGID

New




- **Sweats joints on copper tube up to 3"**
- **Operates on standard 115V, 15A outlet**
- **No open flame so it's safer to use**

Easy-to-use soldering gun has two power settings that allow better control of the heat applied to the joint. Carbon tips surround the fitting to deliver heat evenly to the joint. This helps prevents overheating smaller diameter tubes, yet delivers enough power to melt solder in 3" joints. Includes 12 ft. of cable. Ridgid brand (RT175/62862).

***New*** **No. 4NV35.** Electric Soldering Gun. Shpg. wt. 33.0 lbs.. List $729.00. Each ..... **$693.00▲**

(▲) Net prices, not subject to discounts.

# PIPE THREADING EQUIPMENT

## MODEL 1822-I PIPE THREADING MACHINE

Designed for a wide range of applications from threading pipe and bolt to producing nipples, cut grooving, and beveling, with appropriate accessories. Features center lock chuck which automatically centers and grips pipe and bolt. Powerful, quiet, 1–1/2 HP, 115 volt induction motor and two-speed transmission provide two threading speeds—45 and 16 RPM—with low noise levels. Through-the-head automatic oiling system has a triple filtration design for longer, dependable pump life and clean threads. Machine is designed for ease of movement and is available with the optional Folding Wheel Stand No. 5A192 (as shown). Unit also may be mounted on the Portable Wheel and Cabinet Stand, No. 4LT54 (sold separately below). Comes complete with self-opening right hand die head, 1/2–3/4" NPT alloy dies, 1–2" NPT high speed dies, one gallon Nu-Clear (thread-cutting oil), 1/8–2" wheel cutter, and 1/8–2" five fluted reamer. Ridgid brand (1822-I/20000).

**No. 5A191.** Shpg. wt. 240.0 lbs. List $3617.35. Each ..... **$3437.00▲**

### OPTIONAL ACCESSORIES

**Self-Opening Die Head** features through-the-head oiling and opens automatically after completion of the proper thread length. Uses Ridgid universal, right hand, pipe or bolt dies. Ridgid brand (815A/97075).

**No. 5A195.** Shpg. wt. 13.0 lbs. List $355.15. Each ..... **$337.50▲**

**Portable Wheel Stand** provides solid mounting platform and adds to mobility of the machine. Stand has 16" wheels and storage compartment for extra dies and die heads. Ridgid brand (200/68222).

***New* No. 4LT54.** Shpg. wt. 105.0 lbs.
List $712.40. Each..... **$677.00▲**

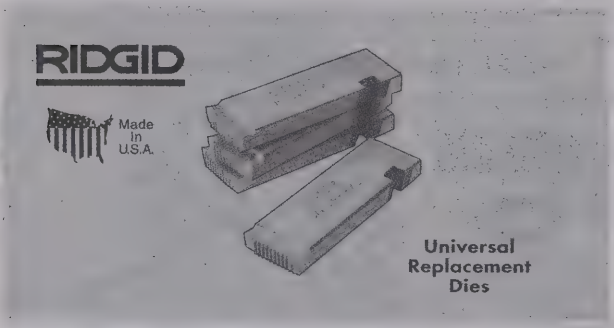
**Folding Wheel Stand** provides one-man maneuverability. Comes complete with oil pan cover to allow the convenience of transporting the machine without draining thread cutting oil. Ridgid brand (1406/20105).

**No. 5A192.** Shpg. wt. 72.0 lbs. List $589.35. Each ..... **$560.00▲**




(▲) Net prices, not subject to discounts.

## REPLACEMENT DIES* FOR MACHINE-OPERATED DIE HEADS




| Size NPT (In.) | Description | Ridgid Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| 1/8 | Universal Dies | 47735 | 4Z975 | $83.35 | $79.20▲ | 1.5 |
| 1/4-3/8 | Universal Dies | 47740 | 4Z976 | 83.35 | 79.20▲ | 1.4 |
| 1/4-3/8 | Universal Dies, High Speed | 47760 | 4CW92 | 124.45 | 118.25▲ | 1.4 |
| 1/4-3/8 | Universal Dies, High Speed for Stainless Steel | 47780 | 4CW94 | 124.45 | 118.25▲ | 1.4 |
| 1/2-3/4 | Universal Dies | 47745 | 4Z977 | 83.35 | 79.20▲ | 1.5 |
| 1/2-3/4 | Universal Dies, High Speed | 47765 | 4CW93 | 124.45 | 118.25▲ | 1.4 |
| 1/2-3/4 | Universal Dies, High Speed for Stainless Steel | 47785 | 4CW95 | 124.45 | 118.25▲ | 1.4 |
| 1-2 | Universal Dies | 47750 | 4Z978 | 83.35 | 79.20▲ | 1.5 |
| 1-2 | Universal Dies, High Speed | 47770 | 5A196 | 124.45 | 118.25▲ | 1.4 |
| 1-2 | Universal Dies, High Speed for Stainless Steel | 47790 | 4CW96 | 124.45 | 118.25▲ | 1.3 |
| 2½-4 | High Speed Dies | 26192 | 4CW41 | 184.65 | 175.50▲ | 2.1 |

(*) Consists of 4 pieces. (▲) Net prices, not subject to discounts.

## MODEL 300 PIPE THREADING MACHINE

Consists of power drive, stand, carriage with lever, reamer, cutter, universal die head, set of 1/2-3/4" universal dies, set of 1-2" universal dies, and oiler.

**Speed chuck holds tight in forward or reverse.** Pipe threads can be run right up to the chuck. Replaceable rocker action jaw inserts. All metal, one-piece hand wheel.

**Universal, reversible, 1/2 HP, single-phase, 115V, 25-60 Hz motor** features armature with extra large commutator and brushes for longer brush life and fast speed even on 2" pipe or conduit. Motor is easily removed for service.

**Recessed reversible switch, integral foot switch** for safer operation.

**Rear centering device.** 3-jaw, cam action type for straight thread and cuts; spindle speed 38 RPM.

**One-piece cast aluminum housing.** Two heavy-duty tool support bars. CSA Certified (LR9437). Ridgid brand (300/15682).

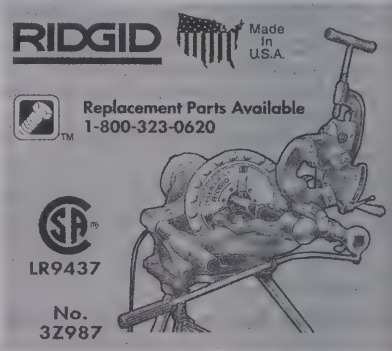
**No. 3Z987.** Shpg. wt. 212.0 lbs.
List $3099.70. Each ..... **$2945.00▲**

### OPTIONAL ACCESSORY

**Quick-Opening Die Head** slips quickly into carriage, is easily removed. Uses universal right-hand pipe or bolt dies. Ridgid brand (811A/97065).

**No. 4Z974.** Shpg. wt. 12.0 lbs.
List $276.50. Each..... **$262.75▲**

(▲) Net prices, not subject to discounts.



# PIPE THREADING EQUIPMENT

## MODEL 535 PIPE THREADING MACHINE

**Speed chuck with rocker-action jaws** centers and grips work piece with a spin of the hand wheel. Cam-action rear centering device aligns work piece with front chuck. Powered by a 1/2 HP 115 Volt reversible universal motor. Spindle turns at 36 RPM (no load). Geroter-type oil pump delivers a constant supply of oil to the die head. Oil flows through the die head producing quality threads and extending die life. Machine is capable of powering geared threaders through 6" pipe. Carriage operates smoothly and has length gauge for measuring cut-off lengths. Self-centering, full-floating cutter quickly adjusts to pipe size. Machine can be mounted on a bench or the optional wheel stand No. 4LT54 (sold separately below).

**Unit comes with:** 1 universal die head No. 4Z974, 1/2 - 3/4" and 1 - 2" NPT universal dies, reamer, cutter, 1 gallon oil, spare cutter wheel, and integral footswitch. Ridgid brand (535/41910).

**No. 4CW84.** Shpg. wt. 260.0 lbs. List $4525.40. Each ..... **$4300.00▲**

### OPTIONAL ACCESSORIES

**Portable Wheel Stand** provides solid mounting platform and adds to mobility of the machine. Stand has 16" wheels and storage compartment for extra dies and die heads. Ridgid brand (200/68222).

***New*** **No. 4LT54.** No. 4LT54.. Shpg. wt. 105.0 lbs.List .....$712.40.
Each .....**$677.00▲**

**Quick-Opening Die Head** slips quickly into carriage, is easily removed. Uses universal right-hand pipe or bolt dies. Ridgid brand (811A/97065). (Included in 4CW84.)

**No. 4Z974.** Shpg. wt. 12.0 lbs. List $276.50. Each..... **$262.75▲**

**Self-Opening Die Head** features through-the-head oiling and opens automatically after completion of the proper thread length. Uses Ridgid universal, right hand, pipe or bolt dies. Ridgid brand (815A/97075).

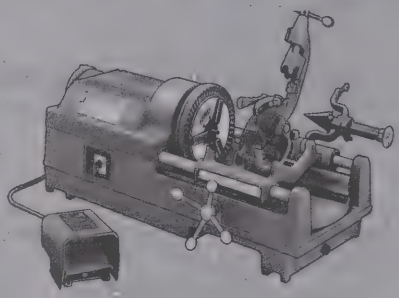
**No. 5A195.** Shpg. wt. 13.0 lbs. List $355.15. Each ..... **$337.50▲**

(▲) Net prices, not subject to discounts.

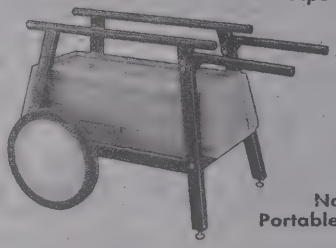
RIDGID

Replacement Parts Available
1-800-323-0620

Made in U.S.A.



No. 4CW84
Pipe Threading Machine



New

No. 4LT54
Portable Wheel Stand

## MODEL 1224 PIPE THREADING MACHINE

Threads 1/4 - 4" pipe. When equipped with the appropriate dies, a wide range of pipe can be threaded, including: black, galvanized, plastic coated, stainless steel, IMC and heavy wall conduit, and ROD up to 30 Rockwell C. The 2½ - 4" receding die head cuts both tapered (NPT) or straight (NPSM) threads with same set of dies. A two-speed transmission allows for threading 1/4 - 2" pipe at 36RPM and 2½ - 4" at 12RPM. Through-the-head oiling ensures proper lubrication of dies and workpiece. Machine may be mounted on a bench or on optional wheel stand No. 4LT54.

**Unit comes with:** Ridgid Model 714 2½ - 4" die head, 1/4 - 2" die head No. 4CW40; 1 set 1/2 - 3/4" universal alloy dies; 1 set 1-2" universal alloy dies; 1 set 2½ - 4" high speed dies; reamer, cutter, spare cutter wheel; tool box, 3/4" combination wrench, 1 gallon nuclear oil, and integral foot switch. Ridgid brand (1224/26092)..

**No. 4CW39.** Shpg. wt. 490.0 lbs. List $6450.20. Each..... **$6128.00▲**

### OPTIONAL ACCESSORIES

**Portable Wheel Stand** provides solid mounting platform and adds to mobility of the machine. Stand has 16" wheels and storage compartment for extra dies and die heads. Ridgid brand (200/68222).

***New*** **No. 4LT54.** No. 4LT54.. Shpg. wt. 105.0 lbs. List .....$712.40.
Each ..... **$677.00▲**

**Self-Opening Die Head** 1/4 - 2" features through-the-head oiling and opens automatically after completion of proper thread length (**Note:** automatic open feature does not function below 1/2" size). Ridgid brand (711/26132).

**No. 4CW40.** Shpg. wt. 15.0 lbs. List .....$407.40.
Each .....**$387.25▲**

(▲) Net prices, not subject to discounts.

RIDGID

Replacement Parts Available
1-800-323-0620

Made in U.S.A.

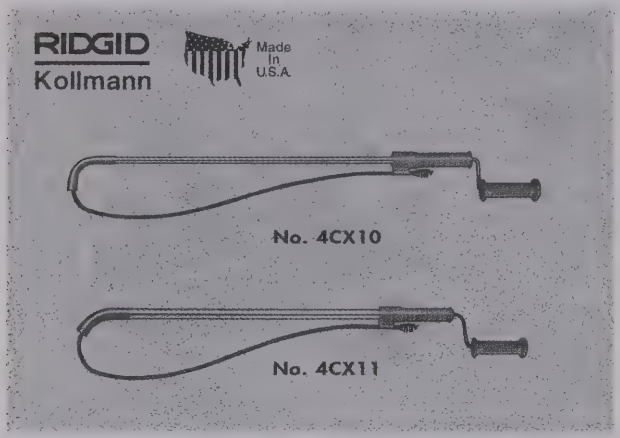



New

No. 4CW39
Pipe Threading Machine
Shown with
No. 4LT54
Portable Wheel Stand

# DRAIN CLEANING EQUIPMENT

## CLOSET AUGERS

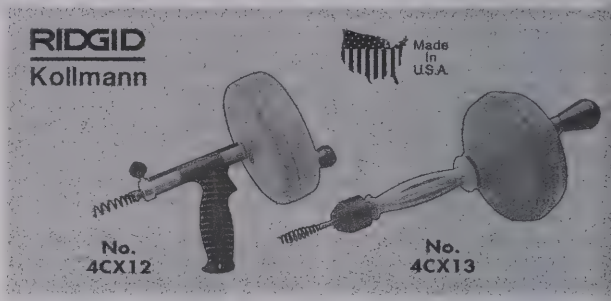



**1/2" compression-wrapped "cable-within-a-cable"** designed to resist kinking and to negotiate water-conserving closets. Large slip-resistant, ergonomically designed handles. Cable snap connects to handle for easy storage. Plated and clear-coated guide tube with vinyl bowl protector. Ridgid/Kollmann brand.

| Description | Ridgid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3' Closet Auger** | K-3/59787 | **4CX10** | $25.25 | **$23.99▲** | 0.7 |
| **6' Closet Auger** | K-6/59797 | **4CX11** | 41.30 | **39.25▲** | 0.9 |

(▲) Net prices, not subject to discounts.

## HAND SPINNERS




### No. 4CX12

**Light-duty product for drain lines** to 1½". Comes with hollow core cable with bulb auger. Drum turns easily with freely rotating knob. Spinner is comfortable to hold with reinforced hand grip. Coated locking thumb screw provides secure cable gripping.

### No. 4CX13

**For drain lines to 1½".** Slip-resistant collet chuck that securely clasps and unclasps cable with a turn of the wrist. Equipped with hollow core cable with bulb head auger for maximum flexibility. Rotary molded plastic drum will not dent or rust; cleans easily. Ribbed hand grip does not slip in your hand.

| Description | Cable Dia. (In.) | Cable Lgth (Ft.) | Ridgid Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **Hand Spinner** | 1/4 | 25 | K-Spin/59807 | **4CX12** | $22.75 | **$21.61▲** | 0.7 |
| **Hand Spinner** | 5/16 | 25 | K-26/59812 | **4CX13** | 62.55 | **59.45▲** | 0.8 |

(▲) Net prices, not subject to discounts.

## RIDGID KOLLMAN DRAIN GUN KITS

**Designed for quick cleaning of stopped-up drains.** Recommended for ¾ -1½" drain lines in kitchens, bathrooms, utility rooms. Slide action handgrip permits dual action—pull handgrip back and it snap-locks cable for effortless feeding; push handgrip forward and it releases, allowing more cable to be drawn. Two-piece "Twist-Lock" drum housing will not dent or corrode. Allows easy access to inner drum and cable. Inner drum eliminates cable flip-over and drum leakage. Variable speed trigger provides greater control in negotiating elbows and P-traps. Holds up to 35 ft. of 3/8" cable or 50 ft. of 5/16" cable (not included). 5/16" cable best for 3/4" to 1½" lines, 3/8" cable best for 1¼" to 2½" lines.

**Cordless Drain Gun Kit** is 7.2 Volt for 0-600 RPM. Offers freedom from power cords and extensions. Includes cordless drain gun, 25 ft. of 5/16" cable with bulb auger, two battery packs, battery charger, steel tool box. Fully charges in one hour. Reversible. Ridgid/Kollmann brand (K-39B-1/68142). UL Listed (E40368) and CSA Certified (LR16251).

**No. 5A190.** Shpg. wt. 26.0 lbs. List $340.00. Each ..... **$323.00▲**

**Portable Drain Gun Kit** is 115 Volt, 3.2 amp for 0-500 RPM. With 4½" radius totally enclosed drum gets into the tightest places. Includes 25 ft of 5/16" cable with bulb auger. Tool length 19", tool weight 11 lbs. Reversible. UL Listed (E40368) and CSA Certified (LR13710). Ridgid/Kollmann brand (K-39/68057).

**No. 4Z661.** Shpg. wt. 14.0 lbs. List $264.00. Each..... **$251.00▲**

## MILWAUKEE DRAIN GUN KIT

**Clean out sinks and toilets, eliminate removing traps or clean out plugs.** Variable speeds let operator start slowly past cross bars, then run at higher speeds to remove stoppage. Feature reversing variable speed trigger switch for breaking up clogged areas and freeing jammed hooks in wastelines up to 2" ID. Rust-resistant aluminum drum. Equipped with Jacobs keyless chuck for quick cable feed. UL Listed (E22124).

Heavy-duty Drain Cleaner Gun is 120 Volt, 1.60 amp for 0-450 RPM. Reversible. Reversing trigger speed control protects cable from damage. Holds up to 35 ft. of 3/8" or 50 ft. of 5/16" inner core cable (not included). Tool length 17", weight 7¼ lbs. Kit includes: 1/4" x 25 ft. steel cable, 1/4" repair hook, toilet trap guide holder, toilet trap guide, and steel carrying case. UL Listed; CSA Certified. Milwaukee brand (0567-1).

**No. 2Z738.** Shpg. wt. 27.0 lbs. List $472.13. Each..... **$310.75▲**




(▲) Net prices, not subject to discounts.



*The only source you need for tools as tough as you are.*

# DRAIN CLEANING EQUIPMENT

## MODEL K-375 DRAIN CLEANING MACHINE

**Speed cleans sink, lavatory, and floor drains from 1½ - 4"** in diameter. Quick-disconnect speed coupler makes it easy to match the right tool to the job. No special stands or drive pins are required to change tools, tools snap connect to cable. Quick-disconnect mechanism splits unit into 2 assemblies. Portable and lightweight for easy transport and setup.

**1/3 HP motor spins cable at 190 RPM** through stoppages in 1½ to 4" indoor drain lines up to 100 ft. Durable polypropylene plastic drum is corrosion- and impact-resistant. Withstands exposure to caustic drain cleaning chemicals and won't dent like ordinary metal drums.

Footswitch leaves both hands free to feed cable and work the stoppage. Sturdy frame gives added stability; features a convenient tool hanger. CSA Certified (LR13710).

No. 6A648 Cable Drain Cleaning Machine. Best for cleaning 1½ - 3" lines. Includes 3/8" x 75 ft. inner core cable, bulb auger, "C" cutter, spade cutter, pin key, and one pair work gloves. Ridgid/Kollman brand (K-375SE/37797).

**No. 6A648.** Shpg. wt. 69.0 lbs. List $440.50. Each.....$418.50▲

**Replacement Cable** for drain cleaning machine No. 6A648. 3/8" inner core cable x 75 ft. long. Ridgid/Kollmann brand (C-32/37847).

**No. 6A649.** Shpg. wt. 28.0 lbs. List $108.95. Each.....$103.55▲

**1/2" Cable Drain Cleaning Machine.** Best for cleaning 2 - 4" lines. Includes 1/2" x 75 ft. inner cable, funnel, auger, spade cutter, 2½" knife blade cutter, pin key, and one pair work gloves. Ridgid/Kollman brand (K3755E/40982).

**New No. 4NV32.** Shpg. wt. 83.0 lbs. List $483.15. Each.....$459.00▲

**Replacement Cable** for drain cleaning machine No. 4NV32. 1/2" inner core cable x 75 ft. long. Ridgid/Kollman brand (C-45/37862).

**No. 4CW70.** Shpg. wt. 39.0 lbs. List $147.20 Each.....$139.85▲

**Drum Assembly for Drain Cleaning Machines.** Polyethylene molded drum, corrosion- and impact-resistant. Holds 100 ft. of 3/8" cable, or 75 ft. of 1/2" cable. Ridgid/Kollman brand (A-375/37787).

**New No. 4NV30.** Shpg. wt. 8.7 lbs. List $118.40. Each.....$112.50▲

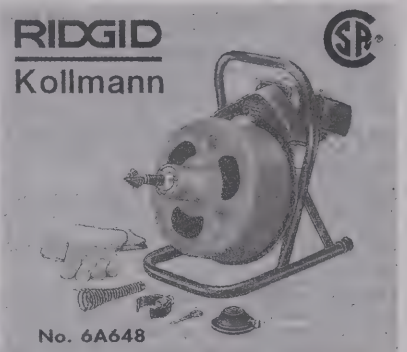
## MODEL K-3800 DRAIN CLEANING MACHINE

**Powerful, easy to transport,** versatile machine for cleaning indoor drains from 3/4 to 4". Requires minimal set-up to clean sink lines, floor drains, roof vents. Rugged, corrosion-resistant molded drum will not dent or rust. Drum tilt-adjusts for proper cable feed angle. Inner-drum guards against cable flip-over within drum. Cable drum's quick-release and built-in hand holds allow easy cable size changes and balanced, two-handed transport.

**Powerful 1/12HP universal motor** spins cable at 240 RPM max. When cable hits blockage, motor gears down automatically to deliver more power; enhances operator control. Tools snap connect to cable. Machine comes equipped with 3/8" x 75' inner core cable—recommended for 1Z\x to 3" lines. Other standard equipment includes: GFI protection, bulb auger, "C" cutter, spade cutter, pin key, and operator's gloves.

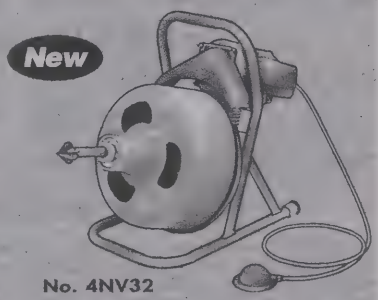
**Optional 1/2" cable recommended for use in 2 - 4" lines** up to 90'. Tools for 1/2" cable are listed under accessories below. Machine can also be used to clean small 3/4 to 1½" lines with use of optional 5/16" x 25' inner core cable with bulb auger. Special sink drum listed below is required for this application. Ridgid/Kollmann brand (K-3800/53117).

**No. 4CX03.** Shpg. wt. 72.0 lbs. List $970.90. Each.....$922.50

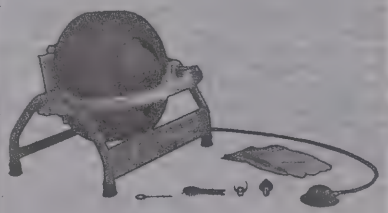


No. 6A648

Replacement Parts Available
1-800-323-0620



No. 4NV32


No. 4CX03

| Description | Ridgid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Standard drum for 3/8, 1/2" cable** | A-380/55002 | **4CX05** | $223.50 | **$212.50▲** | 12.0 |
| **Sink drum for 1/4, 5/16" cable** | A-381/55007 | **4CX06** | 167.30 | **159.00▲** | 7.7 |
| **3/8" x 75' inner core cable** | C-32/37847 | **6A649** | 108.95 | **103.55▲** | 28.0 |
| **1/2" x 75' inner core cable** | C-45/37862 | **4CW70** | 147.20 | **139.85▲** | 39.0 |
| **5/16" x 25' inner core cable w/bulb auger** | C-1-IC/56782 | **4CX08** | 34.20 | **32.50▲** | 4.4 |
| **Tool set for 3/8" cable: 1 1/8" bulb auger, 1 3/8 "C" cutter, 1 3/8"spade cutter, coupling pin key** | T-260/49002 | **4CW97** | 30.15 | **28.65▲** | 0.3 |
| **Tool set for 1/2" cable: funnel auger, 2 1/2" knife cutter, 1 3/4" spade cutter, coupling pin key** | T-270/54992 | **4CX04** | 55.10 | **52.35▲** | 0.9 |

(▲) Net prices, not subject to discounts.

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# DRAIN CLEANING EQUIPMENT

## MODEL K-750 DRAIN CLEANING MACHINE

**Designed for one-man operation.** Lightweight, compact, and balanced for ease of handling. Only 21" wide to fit easily through narrow doorways and into tight work spaces.

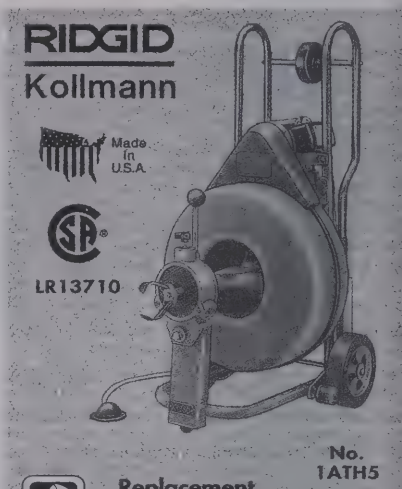
**1/2 HP electric motor spins 5/8" or 3/4"** cable through stoppages up to 200 feet in 3 to 10" lines. Durable drum is molded from high-density polyethylene, and is corrosion and impact resistant. Drum capacity is 100 feet of 3/4" cable or 125 ft. of 5/8" cable. For lines over 100 feet, additional cable and drum are required. To order additional cable and drum call 1-800-323-0620.

**Powerfeed mechanism allows instant cable size adjustment.** A twist of the screwdriver locks powerfeed into one of two preset positions for either 5/8 or 3/4" cable. 5/8" cable is best for 3" to 6" lines; 3/4" cable is best for 4" to 10" lines. To change drum, simply loosen one bolt to remove powerfeed unit and another to remove drum from its mount, and replace with a new one.

**Features swing-leg kickstand** designed into main frame for stability during use. Kicks forward for better balance and maneuverability during transportation. Stair-climber skids facilitate transportation. Loading rails and transport wheel in handle make loading and unloading from trucks easier. Spring handle aids in quick drum removal.

**Includes air-actuated footswitch,** 3/4" x 100 ft. inner core cable (Ridgid/Kollmann brand C-100), spear blade cutter, 2, 3, and 4" cutters, retrieving auger, and one pair work gloves. CSA Certified (LR13710). Ridgid/Kollmann brand (K-750/42007).

**No. 1ATH5.** Shpg. wt. 234.0 lbs. List $1553.45. Each.....**$1476.00▲**




No. 1ATH5

Replacement Parts Available 1-800-323-0620

## DRUM ASSEMBLY WITH PIGTAIL

**Drum Assembly with 3/4" Pigtail.** Polyethylene-molded drum, corrosion- and impact-resistant. For use on No. 1ATH5 drain cleaning machine. Drum holds 100 ft. of 3/4" cable, or 125 ft. of 5/8" cable. Note: Drum comes equipped with 3/4" pigtail for use with 3/4" cable. Ridgid/Kollman brand (A-7534/41982).

***New*No. 4NV33.** Drum Assembly. Shpg. wt. 38.0 lbs. List $235.95. Each.....**$224.25▲**

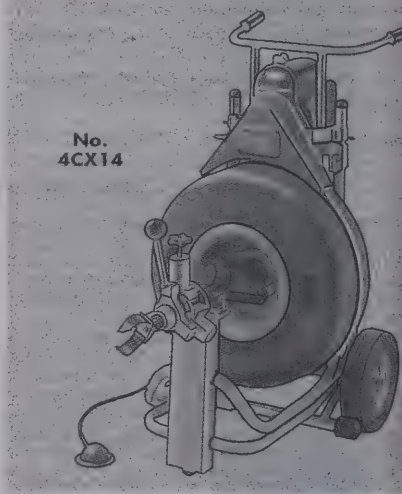
## MODEL K-7500 DRAIN CLEANING MACHINE

**Designed to provide the cable control, durability, and maneuverability** demanded by professional users. Powerful, quiet 4/10HP universal motor and gear box bear down as cutter engages obstruction. Power builds as motor slows giving operator visual and audible signals of increasing cable torque. Reduced drum speed provides greater operator reaction time. Inner-drum and ball bearing distributor arm reduce chance of cable flip-over within drum. Main and inner drums will not rust, split, or dent. Drum holds up to 125 ft. of 3/4" cable or 150 ft. of 5/8" cable.

**Powerful feed mechanism** has grease fittings and an open design for easy maintenance; advances and retrieves cable up to 22 ft. per minute. Heavy-duty frame features two-position stair climbers for easy loading. Handles adjust to desired height to ensure balanced transport. Cleans 3 to 10" lines up to 250 ft. (**Note:** 5/8" cable recommended for 3-6" lines; 3/4" cable for 4-10" lines).

**Machine comes with:** air activated footswitch, GFI protection, 3/4" x 100' inner core cable, trap leader, retrieving auger, 2, 3, 4 and 6" double cutters, saw tooth cutter, 3" P-trap cutter, spear blade cutter, operator's gloves, and tool box. Ridgid/Kollmann brand (K-7500/60052).

**No. 4CX14.** Shpg. wt. 272.0 lbs. List $2404.05. Each.....**$2284.00▲**



No. 4CX14

## DRAIN CLEANING CABLES

| Length (Ft.) | Size/ Type | Typical Application | Used On Nos. | Ridgid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **25** | 5/16" (8 mm) Inner core w/bulb auger | Drain lines 1¼ to 2" - Kitchen, lavatory, slop sinks, and laundry lines | 5A190, 4Z661, 4CX03 | C-1-IC / 56782 | **4CX08** | $34.20 | **$32.50▲** | 4.4 |
| **25** | 3/8" (10 mm) with male coupling | Drain lines 1¼ to 2½" - Kitchen, lavatory, slop sinks and disposal waste lines | 5A190 4Z661, 4Z249 | C-4 / 62245 | **6X907** | 39.55 | **37.60▲** | 5.4 |
| | | **For Drum Machines** | | | | | | |
| **50** | 3/4" (20 mm) with inner core | Drain lines 4 to 10" - Main lines including laterals | 1ATH5 4CX14 | C-29 / 92480 | **4Z979** | 159.15 | **151.25▲** | 60.0 |
| **75** | 3/8" (10 mm) with inner core | Drain lines 1½ to 2½" - Kitchen, lavatory, slop sinks, laundry stacks | 6A648 4CX03 | C-32 / 37847 | **6A649** | 108.95 | **103.55▲** | 28.0 |
| **75** | 1/2" (12 mm) with inner core | Drain lines 2 to 4" - Laundry stacks, roof vents, and indoor floor drains | 6A648 4CX03 | C-45 / 37862 | **4CW70** | 147.20 | **139.85▲** | 39.0 |
| **100** | 3/4" (20 mm) with inner core | Drain Lines 4 to 10" - Main lines, including laterals | 1ATH5 4CX14 | C-100 / 41697 | **4CW83** | 281.00 | **267.00▲** | 122.0 |

(▲) Net prices, not subject to discounts.



The only source you need for tools as tough as you are.

# DRAIN CLEANING EQUIPMENT

## MODEL K-50-8 DRAIN CLEANING MACHINE

**Compact drain cleaner cleans pipes and drains from 1¼ to 4" dia. up to 100 ft.** For use in homes, industry, and institutions. Features instant action clutch, fingertip start, stop, and reverse. Stands 16" high on 3 cushioned legs. 1/6 HP, 115V, 60 Hz motor spins cable at 400 RPM. Equipped with 45 ft. of 5/8" dia. sectional cable with patented T-slot speed coupler, welded steel cable carrier, straight, bulb and grease cutting augers, coupling pin key, 3/4" x 6 ft. guide hose, 3/8" cable adapter with 35 ft. bulb auger cable, and 5/16" cable adapter with 25 ft. bulb auger cable. CSA Certified (LR13710). Ridgid/Kollmann brand (K-50-8/59000).

**No. 4Z249.** Shpg. wt. 80.0 lbs. List $1128.70. Each.....$1073.00▲

## MODEL K-1500B DRAIN CLEANING MACHINE

**Sewer and drain cleaner for indoor/outdoor jobsites up to 200 ft.** in 3-8" lines using 1¼" cable. Uses 15 ft. section cables with speed couplers, 3/4 HP, 115V, 60 Hz single phase reversible motor spins cable at 700 RPM; wheels to the jobsite easily. Easy-to-use instant acting cable clutch maximizes operator control. Pull handle down, cable spins. Release handle, frees cable instantly. No overrun to loop or break cable.

**Includes** 15 ft. GFI Protected power cord, 105 ft. of 1¼" dia. cable with patented T-slot speed coupler, welded steel cable carriers, straight funnel and retrieving augers, shark-tooth, sawtooth and grease cutters, gloves, coupling pin key, 3/16 and 1/4" hex keys, 1½" x 10 ft. guide hose, and metal tool box. Overall dimensions 40L x 21½W x 24"H. CSA Certified (LR13710). Ridgid/Kollmann brand (K-1500B/23717).

**No. 3Z748.** Shpg. wt. 257.0 lbs. List $2142.90. Each.....$2036.00▲

## MODEL KJ-1750-C WATER JETTER DRAIN CLEANING MACHINE

**Powerful jets of water** blast sludge, soap, or grease-choked lines (3 - 4") power scrubbing them clean. Duplex pump with corrosion-resistant, forged brass head produces actual pressure of 1750 PSI and a flow of 1.4 GPM. Two levels of pulse action are provided to assist in negotiating difficult bends and traps. Portable heavy-duty cart rolls jetter to job; unit snaps free in seconds, allowing jetter to be taken to hard-to-reach drains. 2HP motor draws a maximum of 17 amps, which requires a 20A, 115V circuit (**NOTE:** Unit comes with 20A plug).

**Machine comes with:** jetter unit, cart, Model H-41 propulsion nozzle, Model H-42 penetrating nozzle, Model H-44 drop head nozzle (fits 1/8 and 1/4" hose), Model H-51 propulsion nozzle, H-52 penetrating nozzle (fit 1/2" hose), 1/8" x 50' sink trap hose, 1/2" x 110' jet hose, and nozzle cleaning tool. Ridgid/Kollmann brand (KJ-1750-C/62697).

**No. 4CX15.** Shpg. wt. 188.0 lbs. List $2496.00. Each.....$2372.00▲

## MODEL KJ-3000 WATER JETTER DRAIN CLEANING MACHINE

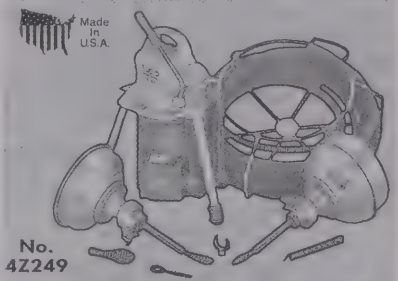
- **Fast, effective, environmentally safe cleaning of 2 - 8" drain lines**
- **Powerful 13HP recoil start gasoline engine**
- **3000 PSI, 4.0 GPM flow**
- **Pulse action pump for negotiating bends**
- **Two-wheeled cart fits through standard sized doors**

Jetter propels a highly flexible and lightweight hose that blasts through sludge, soap, grease, and sediment blockages. As hose is pulled back, it power-scrubs the line, flushing away debris. Unit comes with: propulsion and penetrating nozzle, 3/8" x 200 ft. jet wash hose, pressure wash package, foot valve for remote operation, and nozzle cleaning tool. Ridgid brand (KJ3000/64882).

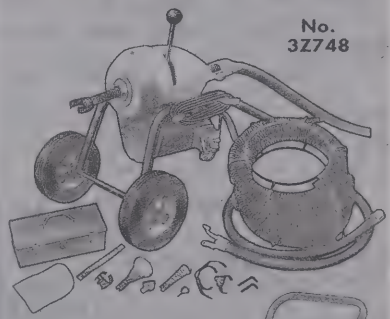
***New*No. 4NV37.** Drain Cleaning Machine. Shpg. wt. 246.0 lbs. List $4294.10. Each.....$4080.00▲

RIDGID Kollmann™ Replacement Parts Available 1-800-323-0620

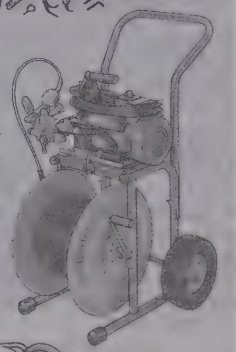
Made in U.S.A.



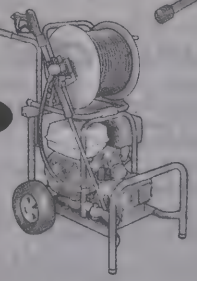
No. 4Z249



No. 3Z748



No. 4CX15



New

No. 4NV37

### REPLACEMENT WATER JETTER HOSES AND NOZZLES

| Description | Ridgid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/8" x 50' trap hose | H-1850/53037 | **4GL58** | $95.25 | **$90.50▲** | 9.0 |
| 1/4" x 35' trap hose | H-1435/47597 | **4CW91** | 76.45 | **72.65▲** | 2.8 |
| 1/2" x 110' jet hose | H-1211/51587 | **4CW98** | 243.60 | **231.50▲** | 8.9 |
| Propulsion nozzle (Fits 1/8, 1/4" hose) | H-41/64742 | **4CW87** | 26.10 | **24.80▲** | 0.3 |
| Penetrating nozzle (Fits 1/8, 1/4" hose) | H-42/64747 | **4CW88** | 26.10 | **24.80▲** | 0.3 |
| Drop head nozzle (Fits 1/8, 1/4" hose) | H-44/64752 | **4CW99** | 46.95 | **44.65▲** | 0.6 |
| Propulsion nozzle (Fits 1/2" hose) | H-51/64757 | **4CW89** | 28.80 | **27.40▲** | 0.6 |
| Penetrating nozzle (Fits 1/2" hose) | H-52/64762 | **4CW90** | 28.80 | **27.40▲** | 0.6 |

(▲) Net prices, not subject to discounts.

### DRAIN CLEANING CABLES FOR SECTIONAL MACHINES

| Length (Ft.) | Size/Type | Typical Application | Used on Nos. | Ridge Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **7½** | 5/8" (16 mm) | Drain lines 1¼ to 3" | 4Z249 | C-8/62270 | **6X908** | $19.40 | **$18.43▲** | 3.0 |
| **15** | 1⅛" (32 mm) | Drain lines 3 to 8" | 3Z748 | C-11/62280 | **2W354** | 65.85 | **62.60▲** | 17.0 |

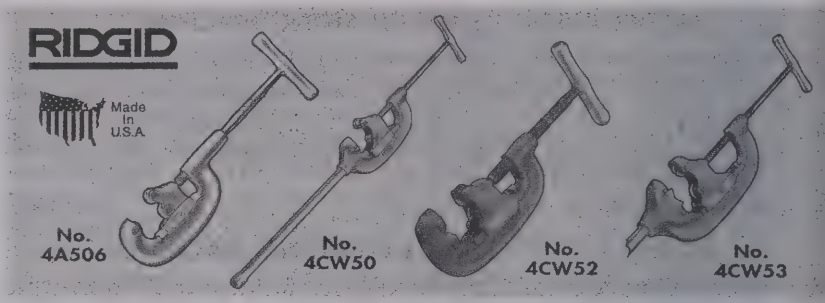
(▲) Net prices, not subject to discounts.

# PIPE AND PVC CUTTERS, PIPE BRUSHES, CIRCLE CUTTERS, AND FAUCET SEAT WRENCHES

## PIPE CUTTERS

**Heavy-Duty Pipe Cutters** are for fast, clean pipe cutting by hand or power. Extra-long feedscrew shank protects adjustment threads. Large comfortable handle provides quick, easy adjustment.

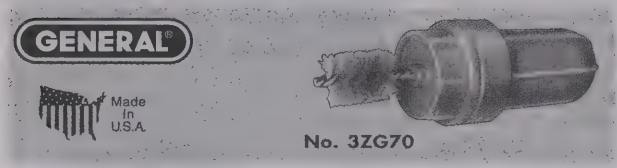
**Heavy-Duty 4-Wheel Pipe Cutters** are designed for work in areas where a complete turn is impossible. No. 4CW52 has a short handle for use in areas where only a 130° turn can be made. No. 4CW53 has a second handle which makes two-man leverage possible on large pipe sizes. Both models are equipped with four heavy-duty cutter wheels.




| | PIPE CUTTERS | | | | | REPLACEMENT CUTTER WHEELS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | FOR STEEL AND DUCTILE IRON | | | | FOR STAINLESS STEEL | | | |
| Description | Pipe Cap. (In.) | Ridgid Model | Stock No. | List | Each | Ridgid Model | Stock No. | List | Each | Ridgid Model | Stock No. | List | Each |
| Heavy-Duty | 1/8 - 2 | 2A/32820 | **4A506** | $110.25 | **$104.75▲** | F-51/39100<br>F-3/33105* | **4CW58**<br>**4CW59** | $6.30<br>7.95 | **$5.99▲**<br>**7.55▲** | F-3S/33110 | **4CW60** | $8.25 | **$7.84▲** |
| | 1 - 3<br>2 - 4 | 3S/32830<br>4S/32840 | **4CW50**<br>**4CW51** | 188.15<br>284.60 | **178.75▲**<br>**270.50▲** | F-515/33120 | **4CW61** | 10.05 | **9.55▲** | F-299S/33130 | ***New*** **4NV23** | 13.95 | **13.25▲** |
| 4-Wheel | 3/4 - 2<br>2½ - 4 | 42A/32870<br>44S/32880 | **4CW52**<br>**4CW53** | 123.70<br>324.85 | **117.55▲**<br>**308.75▲** | F-3/33105*<br>F-229/33125 | **4CW59**<br>**4CW62** | 7.95<br>12.55 | **7.55▲**<br>**11.92▲** | F-3S/33110 | **4CW60** | 8.25 | **7.84▲** |
| **Ridgid Models 360, 364, and 820** | | | | | | E-1032/44185 | **4CW85** | 14.15 | **13.44▲** | E-1032S/44185 | **4CW86** | 20.10 | **19.09▲** |

(*) Heavy-duty. (▲) Net prices, not subject to discounts.

## PIPE & FITTING BRUSHES




- **Two steel brushes in one handle for cleaning I.D. and O.D. tubing or fittings**
- **Cap inverts to be used as handle on brush**
- **Prepares joint for soldering**
- **Handle covers brushes for storage and safety**
- **Casing is made of chemical resistant high impact plastic.**

**No. 3ZG70.** 1/2" Pipe & Fitting Brush (110). Shpg. wt. 0.1 lbs. List $8.46. Each..... **$7.61**

**No. 3ZG71.** 3/4" Pipe & Fitting Brush (111). Shpg. wt. 0.1 lbs. List $8.46. Each..... **$7.61**

## PVC CUTTER

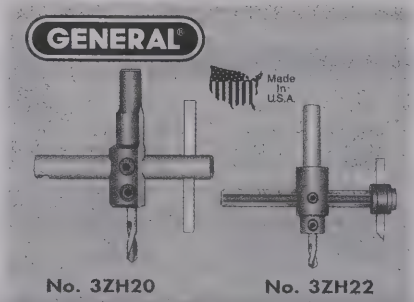



- **For cutting P.V.C., P.E., A.B.S. pipe, and hose**
- **Capacity 1/8 to 1⅝" OD**
- **Chrome plated high carbon steel cutting blade**
- **Rachet cutting action**
- **All-metal construction for greater strength and durability**
- **Angle cutting feature**
- **Ergonomically designed handle locks for safety**

**No. 3ZG72.** PVC Cutter (119) Shpg. wt. 1.5 lbs. List $26.16. Each **$23.54**

## CIRCLE CUTTERS

- **Circle cutters produce precision circles in sheet metal, brass, copper, soft aluminum, plastic, wood, and composition materials**
- **Adjustable for variable hole diameter and cutter depth**
- **Bodies are constructed of heat treated tool steel for durability**
- **Cutter blades are made of high speed steel for precise and clean cuts**
- **Hex wrench included**




## FAUCET SEAT WRENCHES

- **For the removal of faucet seats**
- **Six steps on step wrench and two tapered ends on taper wrench**
- **Fits most sizes of faucet seats with square or hex holes**
- **Made of hardened steel and plated to prevent rust**
- **6" right angle handle**




| Capacity (In.) | Shank (In.) | Cutter Blade (In.) | Pilot Drill (In.) | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **7/8 to 4** | 1/4 Round/Square | 3/16 | 11/64 | 4 | **3ZH20** | $12.56 | **$11.30** | 0.4 |
| **1 to 6** | 3/8 Round | 3/16 | 1/4 | 5B | **3ZH23** | 15.94 | **14.35** | 0.7 |
| **1¾ to 7⅞** | 1/2 Round | 1/4 | 1/4 | 55 | **3ZH22** | 26.56 | **23.90** | 0.1 |

**No. 3ZG97.** Step Wrench (138S). Shpg. wt. 0.5 lbs. List $5.48. Each ..... **$4.93**

**No. 3ZG98.** Taper Wrench (138T). Shpg. wt. 0.7 lbs. List $5.48. Each ..... **$4.93**



*The only source you need for tools as tough as you are.*

# TUBING TOOLS

## A MIDGET TUBE CUTTERS

- For use in restricted spaces on small diameter, hard and soft copper, aluminum, brass, and plastic tubing
- Strong, lightweight slide & wheel housing, large knurled feed screw knob gives easy control of cutting pressure
- No. 1ATH7 provides full 1⅛" O.D. capacity—allows for cutting of 1" nominal copper tubing; also equipped with spare cutter wheel in feed screw knob

## B ENCLOSED FEED SCREW TUBE CUTTERS

- For thin wall conduit, copper, brass, and aluminum tubing
- Features enclosed feed screw to eliminate clogging and jamming; grooved rolls for close-to-flare cuts
- Sturdy aluminum frame, fold-away reamer, and spare cutter wheel in handle
- No. 4CW57 has aluminum alloy frame

## C QUICK ACTING TUBE CUTTERS

- For copper, aluminum, and brass
- Thrust bearing and twin rollers with flare cutoff groove
- Quick-acting release mechanism
- Fold-away reamer on all models except No. 4A516

## D HEAVY-DUTY TUBE CUTTERS

- For copper, brass, aluminum, and thin-wall steel conduit
- Convenient fold-away reamer

## E PLASTIC PIPE TUBE CUTTER

- Compound leverage ratchet mechanism
- Spring-loaded steel blade retracts into guard

## F LEVER BENDERS

- 90° start angle minimizes effort required to form a bend
- Solid handles with cushion grips and built-in vise mount
- For accurate bends of copper, steel, and stainless steel
- Oil-absorbing shoe

## G TRI-BENDERS

- For plumbing or HVAC applications, use in tight quarters
- Bends 3 sizes of soft tubing: 1/4, 5/16, and 3/8"
- For annealed copper and other types of soft tubing
- 90° start angle minimizes effort required to form a bend

## H STAINLESS STEEL BENDERS

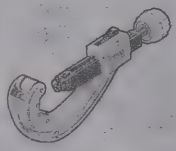
- For bending stainless steel, titanium, other hard tubing
- Two-stage handle and rollers in bending handle produce bends with less effort than conventional benders

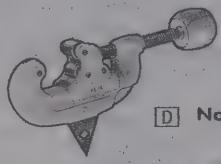
RIDGID Made In U.S.A. Replacement Parts Available 1-800-323-0620


A No. 4A513

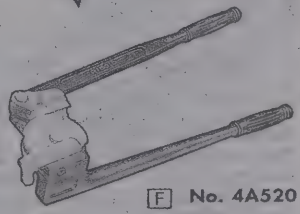

A No. 1ATH7

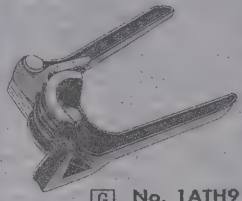

B No. 1ATH8

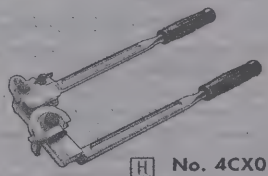

C No. 4A514


D No. 5A193


E No. 4A517


F No. 4A520


G No. 1ATH9


H No. 4CX01


No. 4CW65 Replacement Tubing Cutter Wheel

| Key | Description | Overall Length (In.) | Capacity Tubing O.D. (In.) | Ridgid Model | Stock No. | List | Each | Shpg. Wt. | REPLACEMENT TUBING CUTTER WHEELS Ridgid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Midget Tube Cutters | 2⁹/₁₆<br>2¼<br>3⅛ | 3/16 to 15/16<br>1/8 to 5/8<br>1/4 to 1⅛ | 104/32985<br>103/32975<br>101/40617 | **4A513**<br>**1ATH6**<br>**1ATH7** | $13.00<br>10.70<br>18.10 | **$12.35▲**<br>**10.16▲**<br>**17.20▲** | 0.4<br>0.2<br>0.5 | E-3469/33185 | **4CW65** | $4.70 | **$4.46▲** | 0.1 |
| B | Enclosed Feed Screw Tube Cutters | 4⅞<br>11 | 1/8 to 1⅛<br>1/4 to 2⅛ | 150/31622<br>205/33055 | **1ATH8**<br>**4CW57** | 23.20<br>61.40 | **22.04▲**<br>**58.35▲** | 0.9<br>1.7 | E-4546/33190<br>E-3469/33185 | **4CW66**<br>**4CW65** | 5.90<br>4.70 | **5.61▲**<br>**4.46▲** | 0.1<br>0.1 |
| C | Quick-Acting Cutters | 8⅜<br>12<br>16⅝ | 1/4 to 1⅞<br>1/4 to 2⅛<br>1⅛ to 4½ | 151/31632<br>152/31642<br>154/31652 | **4A514**<br>**4A515**<br>**4A516** | 38.65<br>61.60<br>91.45 | **36.75▲**<br>**58.55▲**<br>**86.90▲** | 0.9<br>1.9<br>3.0 | E-3469/33185<br>E-4546/33190<br>— | **4CW65**<br>**4CW66**<br>— | 4.70<br>5.90<br>— | **4.46▲**<br>**5.61▲**<br>— | 0.1<br>0.1<br>— |
| D | Heavy-Duty Tube Cutters | 6<br>6½<br>10½<br>12½ | 1/8 to 1<br>3/16 to 1⅛<br>5/8 to 2⅛<br>1 to 3⅛ | 10/32910<br>15/32920<br>20/32930<br>30/32940 | **4CW54**<br>**5A193**<br>**4CW55**<br>**4CW56** | 22.35<br>25.95<br>50.45<br>73.30 | **21.23▲**<br>**24.65▲**<br>**47.95▲**<br>**69.65▲** | 0.7<br>1.3<br>1.6<br>3.4 | F-158/33160<br>F-158/33160<br>E-1240/33165<br>— | **4CW63**<br>**4CW63**<br>**4CW64**<br>— | 4.70<br>4.70<br>5.45<br>— | **4.46▲**<br>**4.46▲**<br>**5.18▲**<br>— | 0.1<br>0.1<br>0.1<br>— |
| E | Plastic Pipe Cutter | 9¾ | 1/8 to 1½ | 138/91125 | **4A517** | 53.95 | **51.30▲** | 1.4 | — | — | — | — | — |
| F | Lever Benders | 9<br>13<br>17 | 1/4 Tube<br>3/8 Tube<br>1/2 Tube | 404/36122<br>406/36097<br>408/36132 | **4A520**<br>**4A521**<br>**4A522** | 45.25<br>48.85<br>83.10 | **43.00▲**<br>**46.45▲**<br>**78.95▲** | 0.9<br>2.6<br>4.8 | —<br>—<br>— | —<br>—<br>— | —<br>—<br>— | —<br>—<br>— | —<br>—<br>— |
| G | Tri-Bender | 8½ | 1/4, 5/16 & 3/8 | 456/44852 | **1ATH9** | 29.85 | **28.40▲** | 0.2 | — | — | — | — | — |
| H | Stainless Steel Benders | 16⅛<br>21½ | 3/8<br>1/2 | 506/51912<br>508/51917 | **4CX01**<br>**4CX02** | 198.75<br>217.20 | **189.00▲**<br>**206.50▲** | 3.8<br>6.8 | —<br>— | —<br>— | —<br>— | —<br>— | —<br>— |

(▲) Net prices, not subject to discounts.

# TUBING TOOLS

## TUBING TOOLS

### A IMP® TUBE CUTTER

- For close quarters or small size hard and soft copper, aluminum, brass, and plastic tubing
- Screw-type feed, twin rollers
- Conforms to federal specification GGG-C-771D, Type II, Class 2, Amendment 1

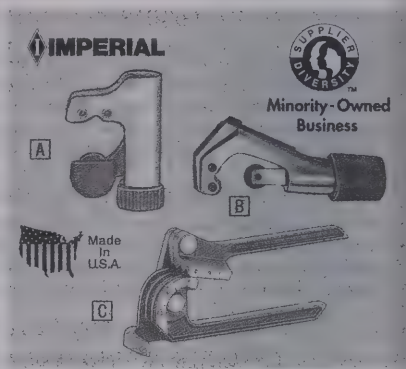
### B STANDARD TUBE CUTTER

- For copper, aluminum, brass, thin wall and stainless steel
- Thrust bearing feed & twin rollers with flare cutoff groove
- Fold-away reamer blade with spare cutting wheel

### C TRI-BENDER

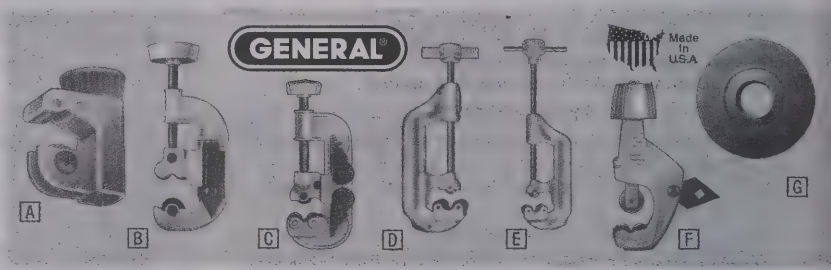
- For plumbing or HVAC applications & use in tight quarters
- Bends 3 sizes of tubing: 1/4, 5/16, and 3/8"
- For annealed copper and other types of soft tubing
- 90° start angle minimizes effort required to form a bend

Replacement Parts Available 1-800-323-0620




| Key | Description | Overall Length (In.) | Capacity Tubing O.D. (In.) | Imperial-Eastman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Compact Imp® Cutter | 1 11/16 | 1/8 to 5/8 | TC-1050 | 6X857 | $12.52 | $11.89 | 0.3 |
| B | Standard Cutter | 4 15/16 | 1/8 to 1 1/8 | TC-1000 | 6X858 | 25.58 | 24.30 | 0.8 |
| C | Tri - Bender | 8 1/4 | 1/4, 5/16, & 3/8 | 368-FH | 6X861 | 29.99 | 28.50 | 0.9 |

## TUBING TOOLS




### A MINI TUBING CUTTER

- For cutting copper, aluminum, brass and thin walled tubing in tight or hard-to-reach places
- Two hardened flare groove rollers allow you to cut close to flared ends
- Beveled knob for extra torque in confined cutting areas

### B STANDARD TUBING CUTTER

- For cutting copper, aluminum, brass and thin walled tubing
- Two flare groove rollers allow you to cut close to flared ends
- Hardened steel reamer slides and locks in place and retracts for safety

### C HEAVY-DUTY TUBING CUTTER

- For heavy duty tube cutting applications, cuts copper, aluminum, brass and thin walled tubing
- Two hardened flare groove rollers allow you to cut close to flared ends
- Double retractable hardened steel reamer, reams full cutting capacity
- Large feed screw for extra strength; large knob size for extra torque

### D PIPE AND TUBING CUTTER

- For cutting pipe, copper, aluminum, brass, thin walled tubing and PVC
- Fast push button carriage adjustment
- Deburrer has positive lock with two cutting edges
- T-handle gives greater torque
- Large hardened flare groove rollers

### E PIPE CUTTER

- For cutting pipe and PVC
- Will convert to PVC cutter by using No. 3ZH49 cutter wheel
- Large hardened rollers
- Deburrer has positive lock with two cutting edges
- Sliding t-handle design allows zero clearance for confined work areas while providing greater torque

### F ENCLOSED FEED TUBING CUTTER

- Design allows cutter length to remain unchanged when cutting size is altered
- For cutting in confined spaces
- Enclosed feed seals out dirt, eliminates clogging
- Two flare groove rollers allow you to cut close to flared ends
- Hardened steel retractable reamer with built-in gas bottle wrench
- Conforms to government specifications GGG-C-771d
- Extra cutter wheel stored in handle

### G REPLACEMENT CUTTER WHEELS

- Hardened alloy and tool steel cutter wheels are designed for smooth cuts in tubing, pipe, and PVC
- Replacement cutter wheels can be substituted to alter material to be cut

| Key | Type | Outside Diameter (In.) Tubing | Outside Diameter (In.) Pipe | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Tube | 1/8 to 7/8 | — | 129X | 3ZG94 | $7.96 | $7.16 | 0.2 |
| B | Tube | 1/8 to 1 1/8 | — | 120 | 3ZG73 | 9.88 | 8.89 | 0.5 |
| C | Tube | 1/4 to 1 1/2 | — | 125 | 3ZG74 | 17.12 | 15.41 | 1.1 |
| | Pipe | | 3/8 to 1 | | | | | |
| D | Tube | 3/8 to 2 5/8 | — | 126 | 3ZG75 | 27.44 | 24.70 | 2.2 |
| | PVC | 3/8 to 2 5/8 | — | | | | | |
| | Pipe | | 3/8 to 1 1/4 | | | | | |
| E | PVC | 3/8 to 2 5/8 | — | 127 | 3ZG90 | 40.82 | 36.75 | 2.2 |
| E | Pipe | | 3/8 to 2 | | | | | |
| F | Tube | 1/8 to 1 1/8 | — | 128 | 3ZG92 | 22.16 | 19.94 | 0.6 |

## REPLACEMENT CUTTER WHEELS

| Key | For Tubing Cutter Nos. | General Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| G | 3ZG73, 3ZG74, 3ZG75, 3ZG92, 3ZG94 | RW121/2 | 3ZH47 | $4.24 | $4.03 | 0.1 |
| | 3ZG74, 3ZG75, 3ZG90 | RW122 | 3ZH48 | 6.36 | 6.04 | 0.1 |
| | 3ZG73, 3ZG74, 3ZG75, 3ZG90 | RW122P | 3ZH49 | 3.44 | 3.27 | 0.1 |



The only source you need for tools as tough as you are.

# FLARING AND SWAGING TOOLS

## A 45° FLARING TOOL

- For soft copper, brass, aluminum, and mild steel (JIC and Bundy) tubing
- Hardened, smooth cone provides fast single lap flares (Double flare adapters available, see No. 4A518 below)
- Tubing sizes clearly marked

## B DELUXE 45° FLARING TOOL

- Hardened steel flaring cone with eccentric action
- Large flaring handle
- Yoke permanently attached to prevent loss
- Tubing size is clearly marked
- Ratchets out freely upon completion of flare
- Recommended for steel, stainless, hard copper, and brass

## C FLARE & CUTTER KIT

- For both single and double 45° flares
- Single flare sizes: 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, and 5/8"
- Double flare sizes: 3/16, 1/4, 5/16, 3/8, and 1/2"
- Enclosed feed screw tubing cutter with a 1/8 to 1⅛" O.D. capacity includes easy spinning feed screw, fold-away reamer, spare cutter wheel in handle
- Sturdy polyethylene box

## D TUBE EXPANDER KIT

- For quick, accurate joints in soft copper, aluminum, and soft steel tube
- Eliminates fitting and reduces solder consumption
- Can be used to recalibrate damaged tubing
- Comes in plastic case
- Recommended for soft copper, brass, aluminum, and mild steel

## E SWAGING TOOL SET

- For copper, aluminum, or brass
- Zinc-plated for accuracy and durability
- Set of four tools in vinyl pouch

RIDGID

Made in U.S.A. Except No. 4A524

Replacement Parts Available 1-800-323-0620




| Key | Tool Description | Overall Length (In.) | Capacity Tubing O.D. (In.) | Ridgid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Standard 45° Flaring Tool | 6¼ | 3/16 to 5/8 | 345/23332 | 1ATK0 | $34.20 | $32.50▲ | 2.8 |
| B | Deluxe 45° Flaring Tool | 7½ | 1/8 to 3/4 | 458/36607 | 4A519 | 92.50 | 87.90▲ | 3.4 |
| C | Flare & Cutter Kit | 6¼ | 3/16 to 5/8 | 345/150/33927 | 4A518 | 77.35 | 73.50▲ | 4.6 |
| D | Tube Expander Kit | 15¼ | 3/8, 1/2, 3/4, 1 | S/34152 | 4A524 | 301.40 | 286.50▲ | 7.3 |
| E | Swaging Tool Set | 4⅛ | 1/4, 3/8, 1/2, 5/8 | 570/52420 | 4A523 | 24.75 | 23.51▲ | 1.0 |

(▲) Net prices, not subject to discounts.

## A 45° FLARING TOOL

- Hardened steel flaring cone
- Tubing sizes clearly marked
- Conforms to federal specification GGG-F-451a, Type 1, Class 2, Style A

## B 45° FLARING & SWAGING TOOL

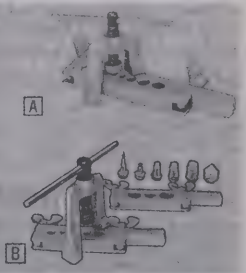
- For soft copper, brass, and aluminum tubing
- Flare sizes: 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, and 3/4" O.D.
- Five swage adapter sizes: 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, and 3/4" O.D. (1/8, 1/4, 3/8, 1/2, 5/8" nom.)
- Includes two bars to cover 9 sizes, 5 swivel-type swaging adapters with self-centering slip-on yoke, and spreader cone in sturdy polyethylene box

IMPERIAL

SUPPLIER DIVERSITY

Minority-Owned Business

Made in U.S.A.




| Key | Description | Overall Length (In.) | Capacity Tubing O.D. (In.) | Imperial-Eastman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Standard 45° Flaring Tool | 7 | 3/16 to 5/8 | 195-FC | 6X859 | $28.90 | $28.90 | 2.3 |
| B | 45° Flaring & Swaging Tool | 7 | 1/8 to 3/4 | 275-FS | 1A217 | 110.22 | 104.75 | 4.5 |

# REAMERS, FLARING AND SWAGING TOOLS, PIPE WRENCH SET AND BENDING TOOLS

## [A] T-HANDLED REAMER

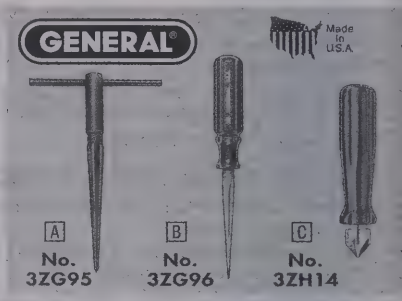
- For removing burrs from cut pipe, tubing, conduit, or for enlarging & countersinking holes in sheet metal, plastic, & other materials
- Made of hardened, tempered tool steel

## [B] SCREWDRIVER HANDLE REAMER

- For removing burrs from cut pipe, tubing, and conduit, or for enlarging and countersinking holes in sheet metal, plastic, other materials
- Fluted plastic handle for quick and easy reaming, cutters are made of hardened, tempered tool steel

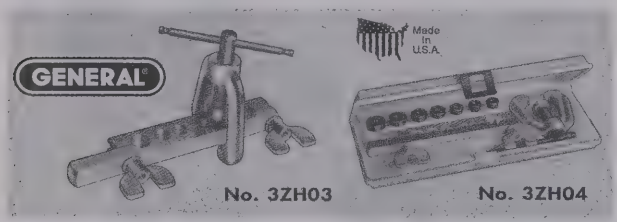
## [C] HAND REAMER AND COUNTERSINK

- 3/4", 5-flute, 82° point angle, tool steel cutter makes fast work of countersinking wood, plastic, Formica, sheetrock, and deburring plastic, copper, iron pipe, sheet metal
- Fluted plastic handle for quick, easy reaming
- Cutters made of hardened, tempered tool steel




| Key | Overall Length (In.) | Handle Type | Capacity (In.) | General Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 5 3/4 | T | 1/8 to 1/2 | 130 | **3ZG95** | $14.52 | **$13.07** | 0.3 |
| B | 6 3/8 | Screwdriver | 1/8 to 3/8 | 131 | **3ZG96** | 12.34 | **11.11** | 0.4 |
| C | 4 7/8 | Screwdriver | Up to 3/4 | 196 | **3ZH14** | 9.20 | **8.28** | 0.2 |

## FLARING TOOLS




### FEATURES

- Forged plated yokes have 45° cone
- Extra-long bar to fit in bench vise
- Sizes—3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8"

### FLARING TOOL No. 3ZH03

- For use with copper, aluminum, brass, thin walled tubing
- Screw yoke slips over bars without removing wing nuts on bars
- Sliding T-handle provides maximum leverage
- Quick opening plated bars for easy insertion/removal of tubing

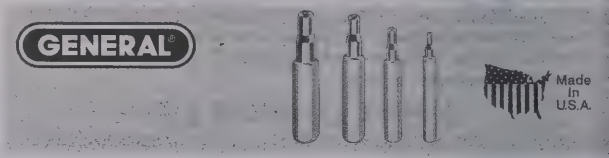
### DOUBLE FLARING TOOL No. 3ZH04

- For high pressure applications in automotive, A/C, refrigeration
- Accurately single or double flares in copper, aluminum, thin walled tubing
- Quick-opening plated steel bars for easy insertion/removal of tubing bars tighten with wing nuts
- Double flare inserts are hardened steel.

**No. 3ZH03.** Flaring Tool (155). Shpg. wt. 1.8 lbs.
List $30.22. Each..... **$27.20**

**No. 3ZH04.** Double Flaring Tool (157). Shpg. wt. 2.8 lbs.
List $55.14. Each ..... **$49.65**

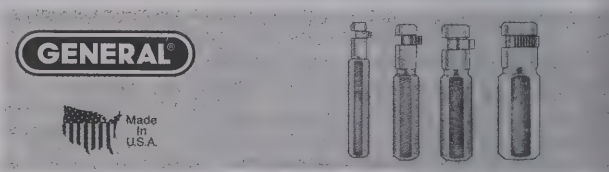
## 4-Pc. SWAGING TOOL SET




- Ideal for easy joining of copper, other thin walled tubing
- Eliminates need for coupling
- Precision tapered for tight fit
- Hex body for use with wrench
- Made of heat-treated alloy steel and plated to prevent rust
- Includes sizes 1/4, 3/8, 1/2, and 5/8"

**No. 3ZH02.** Swaging Tool Set (154ST). Shpg. wt. 1.1 lbs.
List $14.96. Each..... **$13.46**

## INTERNAL PIPE WRENCH SET



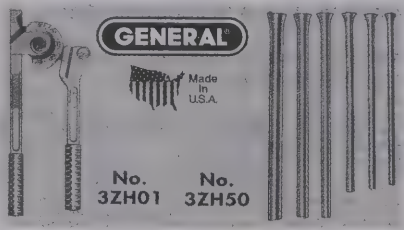

- Ideal for removing broken threaded pipe ends, pipe plugs and fittings
- Hex body for use with wrench
- Made of hardened steel and plated to prevent rust
- Overall length 3 3/4"
- 4-Pc. set includes sizes 3/8, 1/2, 3/4, and 1"

**No. 3ZG99.** Internal Wrench Set (139/4). Shpg. wt. 2.0 lbs.
List $23.76. Each..... **$21.38**

## COMPOUND TUBING BENDER

- Bends four sizes—3/16, 1/4, 5/16, 3/8" copper, brass, thin wall tubing, steel, aluminum, soft wire and rod
- 180° bends in a single action
- Calibrated angle markings from 10° to 180° for making accurate left, right, and offset bends

**No. 3ZH01.** Tubing Bender (153). Shpg. wt. 1.9 lbs. List $26.42.Each..... **$23.78**




## 6-Pc. SPRING TUBING BENDER SET

- Eliminates crimping and collapsing of copper and other thin-walled tubing when making bends
- Oil-hardened, tempered spring steel
- Six sizes: 1/4, 5/16, 3/8, 7/16, 1/2, and 5/8"

**No. 3ZH50.** Bender Set (S106). Shpg. wt. 1.7 lbs. List $10.66. Each..... **$9.59**



*The only source you need for tools as tough as you are.*

# SHEET METAL TOOLS AND AVIATION SNIPS SET

**A Hand Crimper** for joining corrugated, 22-gauge round or square sheet metal pipes of the same size. Graduated in 1/4" increments for depth of crimp. Compound leverage design. Matte black finish and red plastisol grips.

**B Hand Notcher** has high leverage compound action handles and produces true 90° V-shaped cut in 18-gauge sheet metal. Matte black finish and red plastisol grips.

**C Hand Seamer** has high leverage compound action handles for metal bending and flattening. Produces a permanent tight fitting seam in 18-gauge sheet metal. 1/4" incremental depth marks on jaw. Matte black finish and red plastisol grips.

**D Offset Hand Seamer** has high leverage offset, compound action handles for easy metal bending and flattening in confining spaces. Produces a permanent tight fitting seam in 18-gauge sheet metal. 1/4" incremental depth marks on jaw. Matte black finish and red plastisol grips.

**E 6" Hand Seamer** grips more work to minimize buckling and bowing of metals and to produce uniform, accurate bends in sheet steel and nonferrous metals.

**F Snap Lock Punch** joins sheet metal, duct and pipe sections. Punch raises a louvered-shaped projection on metal edge for locking into rolled edge of sheet or piece to be joined. Metal pieces securely snap together. Punch impression spaced 3/8" from edge of metal. Heavy forged cutting jaw. Nickel plate and black oxide finish. Green grips.

**G Duct Stretcher** pulls duct together from either direction without adjusting the wheels. Wheels are adjustable to span greater distances and can be put on either side of tool. Anodized aluminum body features large vinyl cushion grip.

**H Flexible Duct Cutter** Cuts through all layers of flexible round duct. Includes built-in wire cutter.

**J Tensioning Tool** tightens the nylon ties around the flexible duct and features a manual cutoff blade. Comfortable gray vinyl cushion grip handles.

**K Folding Tool** folds 24 to 30-gauge mild steel. Folding seams for both 3/8, 1/2, 1" folds. Gray metallic baked enamel finish.

**L Dividers** scribe thin, accurate lines and circles up to 48". Expertly heat treated scratch awl points are easily resharpenable or replaced. Nickel-plated steel body.

**M Sheet Metal Setting Hammer** has beveled face and pein. One-piece forged steel, heat treated I-beam construction (no welds or joints) minimizes head chipping or mushrooming. Contoured leather handle. Unpainted hammer heads have a high polished finish with protecting lacquer.




| Key | Description | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 5-Blade Hand Crimper | 9¼ | Wiss | HC-5V | 1ATC4 | $30.76 | $26.15 | 1.2 |
| B | Hand Notcher | 8½ | Wiss | HN-1V | 1ATC6 | 43.15 | 36.70 | 1.8 |
| C | Hand Seamer | 8¾ | Wiss | HS-1V | 1ATC5 | 48.84 | 41.55 | 1.4 |
| D | Offset Hand Seamer | 8¾ | Wiss | HS-2 | 1ATC7 | 55.25 | 47.00 | 1.0 |
| E | 6" Hand Seamer | 8 | Malco | S6 | 6D046 | 48.66 | 48.65▲ | 1.9 |
| F | Snap Lock Punch | 8 | Malco | SL1 | 6D044 | 31.94 | 31.90▲ | 1.0 |
| G | Duct Stretcher | 16 | Malco | DS2 | 6D045 | 17.83 | 17.83▲ | 0.8 |
| H | Flexible Duct Cutter | 11⅞ | Malco | FDC1 | 6D038 | 28.64 | 28.60▲ | 0.7 |
| J | Tensioning Tool | 6 | Malco | TY4G | 6D041 | 29.82 | 29.80▲ | 0.8 |
| K | Folding Tool - 3/8 and 1/2" Seams | 12 | Malco | 12 | 6D040 | 8.34 | 8.34▲ | 1.1 |
| — | Folding Tool - 3/8 and 1" Seams | 18 | Malco | 18F | 6D042 | 13.72 | 13.72▲ | 2.2 |
| L | Dividers | 13½ | Malco | 24 | 6D043 | 11.43 | 11.43▲ | 0.7 |
| M | 18 Oz. Setting Hammer | 11⅞ | Malco | SH3 | 6D039 | 33.45 | 33.45▲ | 1.6 |

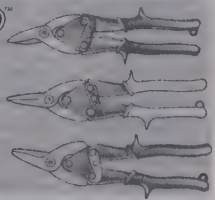
(▲) Net prices, not subject to discounts.

## 3-PC. AVIATION SNIPS SET

- For making straight, right or left cuts
- Hardened and tempered steel jaws for strength and durability cuts up to 18 gauge sheet metal
- Color-coded vinyl handle grips for user identification and comfort
- Polished steel finish jaws can be sharpened when dull
- Compound action design for powerful cutting action
- Locking latch keeps jaws together to prevent cutting edge damage when stored

WESTWARD™

New



**New No. 4PM06.** Aviation Snips Set (20550). Shpg. wt. 2.6 lbs. List $32.40. Each.....$22.95▲

(▲) Net prices, not subject to discounts.

# METAL-CUTTING SNIPS

- **Nonslip serrated jaws made of extra tough and wear-resistant special molybdenum steel to withstand the extra service demanded by the compound lever action and the strain of cutting heavy stock or tight curves**
- **Special high strength steel handles have contoured vinyl grips for superior control, safety and comfort**
- **Safety latch allows for one-hand operation to release or engage latch**

## METALMASTER® COMPOUND ACTION SNIPS

**Aviation-Type Snips** for cutting straight, left or right curves in sheet metal.

**Offset Pattern Snips** for straight or circle cuts. Offset blades keep material away from hands.

**Aviation Special Series Snips** are specially hardened for unusual industrial requirements, such as cutting inconel, stainless steel, and titanium.

**Bulldog Pattern Snips** for notching, nibbling and trimming extra heavy stock.

**Pipe and Duct Snips** for straight cuts, curves, and combination cuts. Feature ball-bearing jaw action that automatically adjusts blade clearance for a squarer, cleaner cut. Used primarily in the heating and air conditioning industry for cutting sheet metal ducts and other nonmetallic sheet materials such as fiberglass panels, laminates, and synthetic shingles.

## METAL-WIZZ® MULTIPURPOSE SNIPS

- **For cutting screening and hardware cloth, synthetic shingles, carpeting, tile, gutters and downspouts**

## SOLID STEEL TINNER'S SNIPS

- **Hot drop-forged steel with polished jaws for smooth action and cleaner cutting**

**Straight Pattern Snips** are used primarily for straight cuts. Can be used to cut wide curves when trimming light stock. Widely used in the plumbing, heating, air conditioning, and roofing trades as well as in the home.

**Duckbill Combination Pattern Snips** for cutting moderately tight curves to the left or right in light stock as well as to cut straight. Popular with professional tradesmen.

## INLAID® INDUSTRIAL SNIPS

- **Special manufacturing process heat treats blade edges and increases blade life beyond regular style snips**

**Straight Pattern Snips** are used primarily for straight cuts. Can be used to cut wide curves when trimming light stock.

**Bulldog Pattern Snips** for trimming extra heavy stock.

**Offset Pattern Snips** for straight or circle cuts.

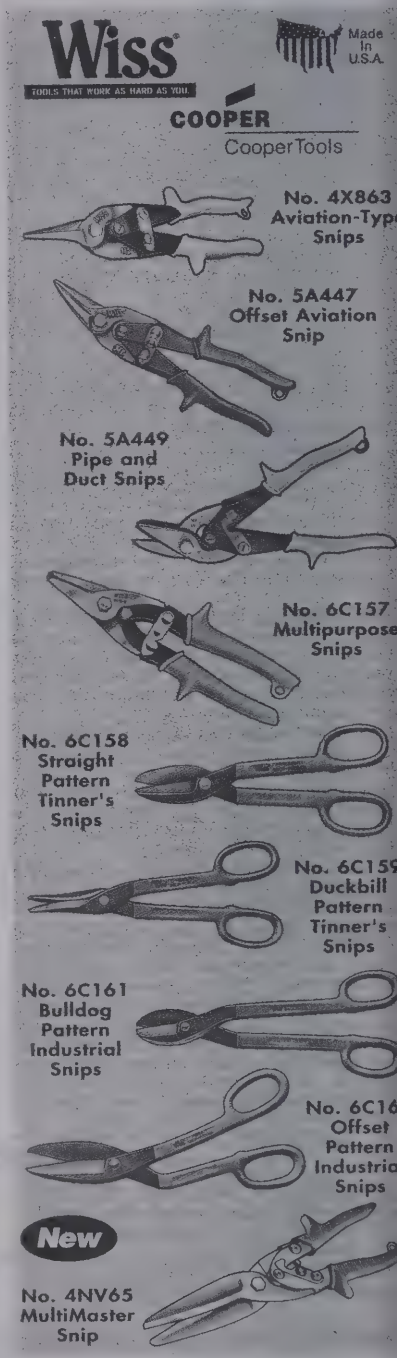
## MULTIMASTER™ SNIP

- **Non-slip serrated jaws for superior grip**

Combines long cut of tinner's snips with strength of compound action. Makes long, fast cuts in many types of materials including: paper, plastic, sheet metal, aluminum, vinyl siding, screening. High visibility orange with a non-slip texture for better gripping action.

| Type | Cutting Action | Metal Gauge | Cutting Length (In.) | Overall Length (In.) | Wiss Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Aviation | Left | 18 | 1 3/8 | 9 3/4 | M-1R | 4X863 | $21.26 | $12.99▲ | 0.9 |
| Aviation | Right | 18 | 1 3/8 | 9 3/4 | M-2R | 4X864 | 21.26 | 12.99▲ | 0.9 |
| Aviation | Straight | 18 | 1 1/2 | 9 3/4 | M-3R | 4X865 | 21.26 | 12.99▲ | 0.9 |
| Offset Aviation | Left | 18 | 1 1/4 | 9 1/4 | M-6R | 5A447 | 24.32 | 17.79▲ | 1.0 |
| Offset Aviation | Right | 18 | 1 1/4 | 9 1/4 | M-7R | 5A448 | 24.32 | 17.79▲ | 1.0 |
| Aviation Special Series | Left | 18 | 1 3/8 | 9 3/4 | M1R-S1 | 6C198 | 29.33 | 24.94 | 0.9 |
| Aviation Special Series | Right | 18 | 1 3/8 | 9 3/4 | M2R-S1 | 6C199 | 29.33 | 24.94 | 0.9 |
| Aviation Bulldog Pattern | Straight | 16 | 7/8 | 9 1/4 | M-5R | 1A631 | 24.95 | 21.21 | 0.8 |
| Pipe and Duct | Straight/Curved | 20 | 9/16 | 9 1/4 | M-41R | 5A449 | 28.10 | 23.89 | 1.0 |
| Multipurpose | Straight | 20 | 1 3/8 | 9 | MPC-3 | 6C157 | 16.23 | 11.99▲ | 0.8 |
| Tinner's Straight | Straight | 23 | 1 3/4 | 7 | A-13 | 6C160 | 17.88 | 13.42 | 0.5 |
| Tinner's Straight | Straight | 23 | 2 | 8 1/4 | A-12 | 4CP74 | 19.64 | 14.74 | 0.6 |
| Tinner's Straight | Straight | 23 | 2 1/4 | 9 3/4 | A-11 | 6C158 | 21.30 | 15.98 | 1.0 |
| Tinner's Straight | Straight | 21 | 2 1/2 | 11 | A-10 | 4CP73 | 24.74 | 18.56 | 1.3 |
| Tinner's Straight | Straight | 20 | 3 | 12 1/2 | A-9 | 2A487 | 27.55 | 20.67 | 1.1 |
| Tinner's Duckbill | Straight/Curved | 23 | 2 1/4 | 10 1/4 | V-10 | 2A488 | 21.30 | 18.11 | 1.1 |
| Tinner's Duckbill | Straight/Curved | 23 | 1 3/4 | 7 | V-13 | 4CP76 | 17.88 | 15.20 | 0.5 |
| Tinner's Duckbill | Straight/Curved | 21 | 3 | 13 | V-19 | 6C159 | 27.49 | 23.37 | 1.9 |
| Industrial Straight | Straight | 18 | 4 | 14 1/2 | W7 | 6C162 | 58.32 | 49.60 | 2.7 |
| Industrial Bulldog | Straight | 16 | 2 1/2 | 16 1/2 | W5 | 6C161 | 59.09 | 50.25 | 4.2 |
| Industrial Offset | Straight | 18 | 4 | 14 1/4 | W7B | 6C163 | 59.43 | 50.55 | 2.9 |
| MultiMaster Snip | Straight | 20 | 3 | 10 1/2 | M300 | New 4NV65 | 20.98 | 13.99▲ | 0.1 |

(▲) Net prices, not subject to discounts.






The only source you need for tools as tough as you are.

# TRIMMERS, SHEARS, AND SCISSORS

## TRIMMERS, SHEARS AND SCISSORS

Hot-forged, double plated steel
Full chrome over nickel protection

**A B BENT & STRAIGHT TRIMMERS**

Cutting applications including cloth, rubber, and paper

**C HIGH LEVERAGE SHEARS**

Cutting leather, light wire screen, light metal, fiberglass cloth, heavy canvas
Adjustable knife edge

**D ELECTRICIAN'S SCISSORS**

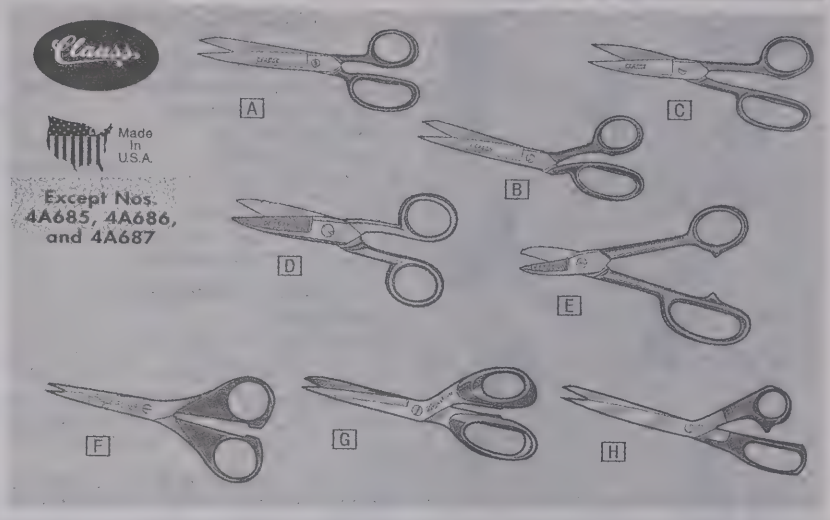
For wire cutting and splicing
Cuts 12-gauge and up wire, insulation, and harness ties
19- & 23-Gauge stripping notches on one blade
Meets Bell System and G.S.A. specs.

**E LIGHT METAL SHEARS**

For close, accurate trimming of light metals up to 22-gauge
High leverage and easy control
Adjustable

**F G H ZEPHYR LIGHTWEIGHT SHEARS**

Stainless steel resists rust and corrosion and retains sharp edge
Comfortable plastic handles




| Key | Description | Length of Cut (In.) | Overall Length (In.) | Clauss Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Straight Trimmer | 4 | 8 | 328 | **6X925** | $26.47 | **$21.18** | 0.6 |
| B | Bent Trimmer | 4 | 8 | 338 | **6X926** | 26.47 | **21.18** | 0.4 |
| C | High Leverage Shears | 2¾ | 8¼ | 468 | **6X927** | 23.28 | **18.62** | 0.4 |
| D | Electrician Scissors | 1¾ | 5 | 925C | **6X929** | 17.00 | **13.60** | 0.2 |
| E | Light Metal Shears | 1⅜ | 7 | 4877 | **6X928** | 24.87 | **19.90** | 0.4 |
| F | Lightweight Shears | 2¼ | 5½ | 205 | **4A685** | 11.33 | **9.06** | 0.1 |
| G | Lightweight Shears | 3¼ | 7½ | 208 | **4A686** | 12.36 | **9.89** | 0.2 |
| H | Lightweight Shears | 4⅝ | 9½ | 209 | **4A687** | 14.42 | **11.54** | 0.3 |

## POULTRY SHEARS

Hot-forged, double-plated steel
Full chrome over nickel protection
Adjustable

**A STRAIGHT SHEARS**

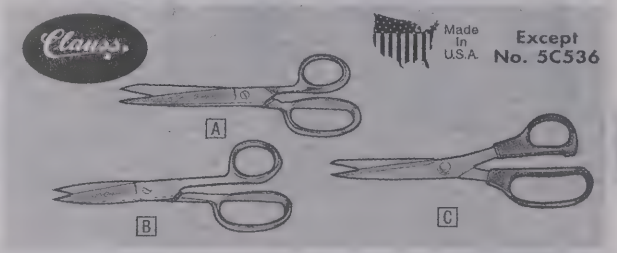
For chicken and duck gizzards

**B ALL-PURPOSE SHEARS**

High leverage, high performance shears for trimming
Hardened and tempered blades for extra cutting action

**C STRAIGHT TRIMMER**

Lightweight, sturdy, stainless steel shear with sharp, long-lasting edges for chicken processing
Large, comfortable plastic handles for gloved hands
For right handed or left handed users

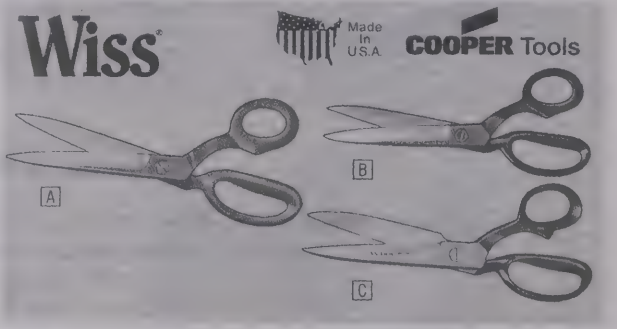



| Key | Description | Length of Cut | Overall Length | Clauss Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Straight Shears | 4" | 8" | 1328 | **5C538** | $22.51 | **$18.01** | 0.4 |
| B | All-Purpose Shears | 2¾ | 8 | 14268 | **5C547** | 21.94 | **17.55** | 0.4 |
| C | Straight Trimmer | 3 | 8 | 3528H | **5C536** | 10.82 | **8.66** | 0.2 |

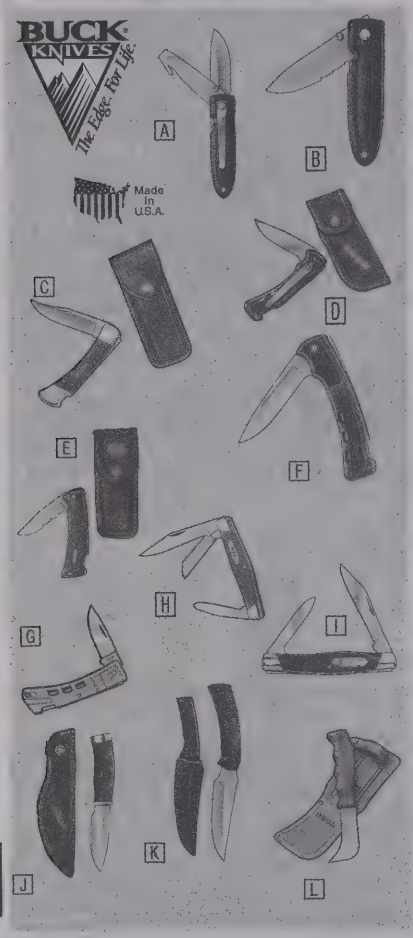
## INDUSTRIAL SHEARS

Hot forged, polished blades; adjustable
Nos. 4CP68 & 4CP71 have red cushion-grip handles
No. 4CP67 is left-handed model
Carpet shears have thicker blades to cut through multiple layers, tough material

| Description | Length of Cut (In.) | Overall Length (In.) | Wiss Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Shears with Cushion Grips | 4¾ | 10¼ | 20P | **4CP68** | $42.21 | **$35.90** | 0.8 |
| | 6⅛ | 12¼ | 22P | **4CP71** | 50.78 | **43.20** | 1.3 |
| Heavy-Duty Shears | 4¾ | 10¼ | 20 | **4CP66** | 40.30 | **34.30** | 0.7 |
| | 6⅛ | 14½ | 22 | **4CP70** | 48.40 | **41.15** | 1.1 |
| | 4¾ | 10¼ | 20LH | **4CP67** | 43.59 | **37.10** | 0.8 |
| Carpet/Fabric Shears | 4¾ | 10¼ | 20-W | **4CP69** | 49.00 | **41.70** | 0.8 |
| | 6⅛ | 12¼ | 22-W | **4CP72** | 58.76 | **49.95** | 1.3 |



# KNIVES AND MULTI-PURPOSE TOOL




## FOLDING BLADES

### CROSSLOCK® SERIES

- **Opens and closes with just one hand**
- **Locks in open position**
- **Sure-grip handle**
- **Metal pocket clip**

A **Lifesaver™ Knife No. 2H265** features safety hook/screwdriver and 3¼" drop-point blade (5" closed).

B **Solitaire™ Knife No. 2H267** features a serrated 3¼" drop point blade.

### SINGLE BLADE SERIES

- **Locks open**

C **Professional Knife No. 4A653** features a 3¾" clip blade, woodgrain handle, brass bolsters, and leather sheath. 4⅞" closed.

D **BuckLite® Knife No. 4A654** features a 3" modified drop-point blade, high tech handle with belt clip, and cordura sheath. 4¼" closed.

E **Serrated Protege™ Knife No. 2H278** features a 3" serrated clip blade, rubber-like handle, and a cordura sheath.

F **BuckLite® II Knife No. 2H269** has a 2¾" drop-point blade, and a thin hi-tech thermoplastic handle. 3¾" closed length.

G **Buck Compact Knife No. 5C555** features a 1⅞" drop-point blade, and can attach to a key chain. 2⅞" closed.

### MULTI-BLADE SERIES

- **Traditional "pocket knives"**
- **Sure grip grooved handle**

H **Multi-300 All-Purpose Knife No. 4A65** features a 2⅝" clip blade, a 1⅞" sheep foot blade, and a 1¾" spey blade. 3½ closed.

I **Multi-200 All-Purpose Knife No. 2H276** ha a clip blade and a pen blade. 3" closed.

## FIXED BLADES

- **Comfortable, non-slip handle**
- **Sheath included**

J **Vanguard-R® Knife No. 2H261** has a 4½ drop-point blade, a textured rubberize handle, and a cordura sheath. 8¾" lengt

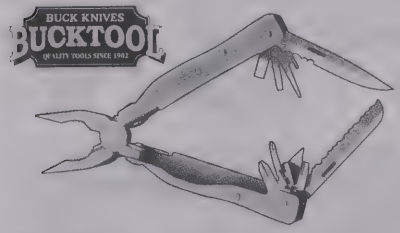
K **Mentor™ Knife No. 2H263** has a 5½ blade, a pliable thermoplastic handle, ar a molded thermoplastic sheath. 10" lengt

L **TLC® Multipurpose Utility Knife No. 5C5** features a 4" serrated utility blade, molde one-piece plastic handle, and leath sheath. 7½" length.

### BUCK KNIVES LIFETIME LIMITED WARRANTY

**Text warranty available on request. See "Manufacturers Warranties" on page opposite inside back cover.**

| Key | Description | Buck Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| A | Lifesaver | 180LX | 2H265 | $72.50 | $65.25 | 0.7 |
| B | Solitaire | 180SXC | 2H267 | 58.50 | 46.80 | 0.6 |
| C | Professional Knife with Sheath | 110CP | 4A653 | 56.00 | 44.80 | 0.7 |
| D | BuckLite Knife with Sheath | 442BSP | 4A654 | 35.00 | 29.75 | 0.7 |
| E | Serrated Protege Knife with Sheath | 450RXC | 2H278 | 32.00 | 25.60 | 0.5 |
| F | BuckLite II | 444BKP | 2H269 | 22.00 | 19.80 | 0.4 |
| G | Buck Compact Knife | 425BKP | 5C555 | 19.50 | 16.58 | 0.1 |
| H | Multi-300 All-Purpose Knife | 303CP | 4A655 | 33.50 | 28.50 | 0.5 |
| I | Multi-200 All-Purpose Knife | 309CP | 2H276 | 26.00 | 23.40 | 0.5 |
| J | Vanguard-R Knife with Sheath | 692BKC | 2H261 | 69.00 | 55.20 | 0.7 |
| K | Mentor Knife with Sheath | 470BKC | 2H263 | 26.50 | 21.20 | 0.6 |
| L | TLC Multipurpose Utility Knife with Sheath | 810GYC | 5C556 | 22.50 | 19.13 | 0.5 |




## MULTI-PURPOSE BUCKTOOL™

- **Features commonly used implements; multi-configuration design provides many ways to use each implement**
- **Positive locking mechanism allows ea implement to be locked open indepen dently for safety and leverage**

Compact and lightweight multi-purpose tool has a contoured, non-slip handle with stainless steel finish. Features needlenose pliers with wire cutter, 3 flathead scre drivers, 2 Phillips head screwdrivers, sheep's foot knife blade, drop-point knife blad and a can/bottle opener. With Cordura® Plus sheath. 4" closed length.

**No. 2H271** (360C). Shpg. wt. 5.0 lbs. List $78.00. Each..... $59.0

(▲) Net prices, not subject to discounts.

## TECHNICAL REFERENCE LITERATURE

Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics
See Index under Books.

# SWISS ARMY KNIVES

)riginal Swiss Army Knives feature high carbon stainless steel lades and scratch-resistant anodized aluminum dividers.

## A ELECTRICIAN KNIFE

ncludes electrician blade with wire scraper, large blade, bottle pener with large screwdriver, wire stripper, and reamer.

## B CLASSIC KNIFE

ncludes blade, scissors, nail file with screwdriver tip, toothpick, weezers, and key ring.

## C RAMBLER KNIFE

Contains small blade, scissors, nail file with screwdriver tip, cap fter with Phillips screwdriver tip and wire stripper, key ring, oothpick, and tweezers.

## D ROGUE KNIFE

Contains small blade, scissors, nail file with nail cleaner, cap fter with screwdriver tip and wire stripper, key ring, toothpick, nd tweezers.

## E TINKER KNIFE

ncludes a large blade, small blade, Phillips screwdriver, bottle pener with large screwdriver and wire stripper, can opener with mall screwdriver, reamer with sewing eye, toothpick, tweezers, nd key ring.

## F HIKER KNIFE

ncludes large and small blade, can opener with small screwdriv- r, bottle opener with large screwdriver and wire stripper, wood aw, reamer with sewing eye, Phillips screwdriver, key ring, oothpick, and tweezers.

## G SUPER TINKER KNIFE

ncludes large and small blade, can opener with small screwdriv- r, bottle opener with large screwdriver and wire stripper, scis- ors, reamer with sewing eye, Phillips screwdriver, utility hook, ey ring, toothpick, and tweezers.

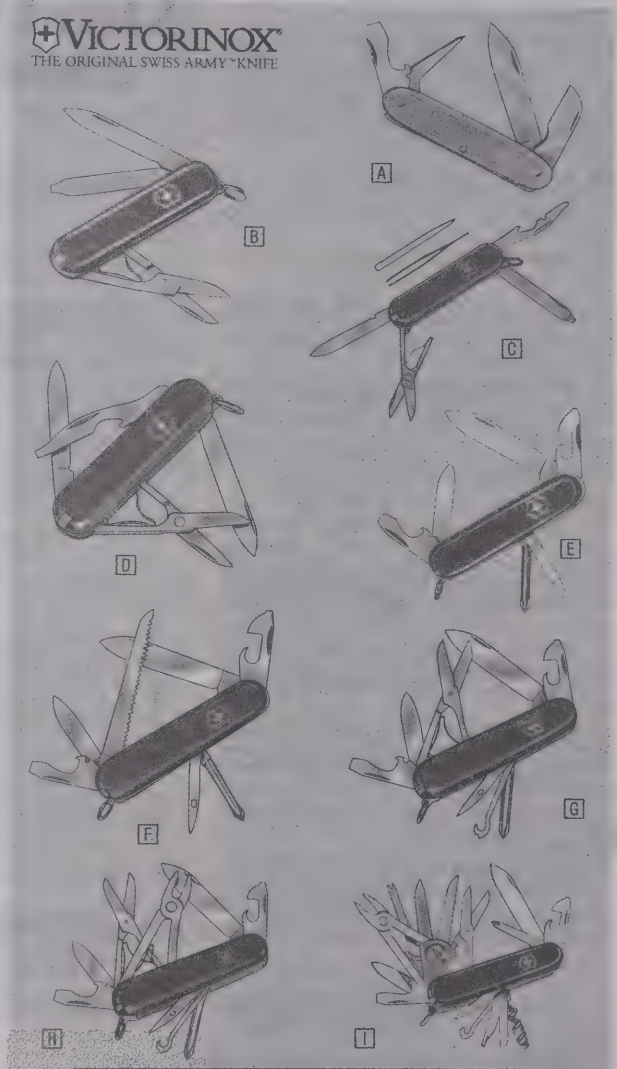
## H DELUXE TINKER KNIFE

ontains large and small blade, can opener with small screwdriv- r tip, bottle opener with large screwdriver tip and wire stripper, cissors, pliers with wire cutter, reamer with sewing eye, Phillips crewdriver, utility hook, key ring, toothpick, and tweezers. ncludes leather pouch.

## I SWISSCHAMP® KNIFE

as 32 features including a large blade, small blade, scissors, ball oint pen, corkscrew, Phillips screwdriver, mini-screwdriver, ne screwdriver, pliers with wire cutters, bottle opener with rge screwdriver and wire stripper, can opener with small crewdriver, reamer with sewing eye, hook, wood saw, metal file ith metal saw and nail file and cleaner, fish scaler with hook isgorger and ruler, wood chisel, magnifying glass, straight pin, oothpick, tweezers, and key ring.

Whetstone Sharpeners for Knives Sold on page 1595




**VICTORINOX LIFETIME LIMITED WARRANTY**
Text of warranty available on request.
See "Manufacturer's Warranties" on page opposite inside back cover.

| Key | Description | No. of Functions | Length (In.) | Swiss Army Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Electrician Knife | 7 | 3½ | 53781 | **6D004** | $28.00 | **$21.95▲** | 0.2 |
| B | Classic Knife | 7 | 2½ | 56001 | **6D001** | 16.00 | **12.95▲** | 0.1 |
| C | Rambler | 10 | 2¼ | 56031 | **2H253** | 20.00 | **15.95▲** | 0.2 |
| D | Rogue | 10 | 2¼ | 56061 | **2H255** | 20.00 | **16.95▲** | 0.1 |
| E | Tinker Knife | 13 | 3½ | 56101 | **6D002** | 25.00 | **19.95▲** | 0.2 |
| F | Hiker | 14 | 3½ | 53831 | **2H251** | 30.00 | **23.95▲** | 1.8 |
| G | Super Tinker | 15 | 3½ | 56341 | **2H249** | 35.00 | **27.95▲** | 2.9 |
| H | Deluxe Tinker | 17 | 3¼ | 58480 | **2H257** | 50.00 | **41.95▲** | 0.4 |
| I | Swisschamp® Knife | 32 | 3½ | 56501 | **6D003** | 70.00 | **54.95▲** | 0.5 |

▲) Net prices, not subject to discounts.

# UTILITY KNIVES AND BLADES

[A] **99® Utility Knife** has three-position retractable blade—full, half, and one quarter out.

[B] **Quick-Change Utility Knife** features front-loading retractable knife with blade release button and blade storage magazine in rear for quick blade changes without a screwdriver. Three-position retractable blade—full, half, and one quarter out—plus string cutting feature.

[C] **Interlock® Utility Knife** prevents nose spread and is for heavy-duty applications. Three-position retractable blade—full, half, and one quarter out.

[D] **Carpet Knife** has retractable double edge blade for controlling depth of cut.

[E] **Safety Self-Retracting Knife** has spring-activated blade that automatically returns to case after use. Safety orange knife features die-cast zinc handle.

[F] **Retractable Swivel-Lock® Utility Knife** swivels open for quick, easy blade changes without a screwdriver. Three-position retractable blade—full, half, and one quarter out. Features blade storage in handle.

[G] **Pocket Knife** with cutlery stainless steel blade features a safety lock feature.

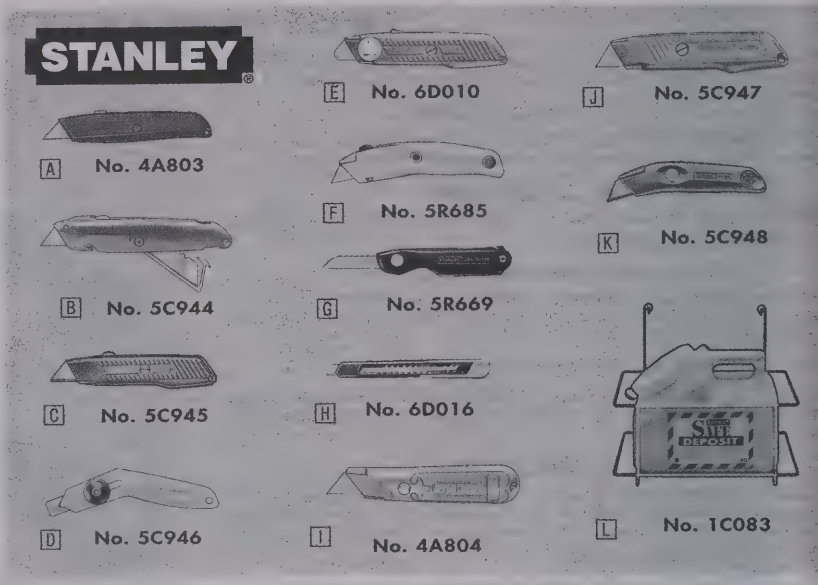
[H] **Quick-Point® Snap-off Blade Knife** for light-duty cutting and trimming. Replaceable blade (order No. 5R693) snaps off in seconds, providing 13 cutting points. Safe blade-snapper cap includes pocket clip.

[I] **199® Fixed Blade Utility Knife** has extra heavy-duty handle and bright aluminum-finish handle with textured grip and blade storage.

[J] **Interlock® 299® Utility Knife** has lightweight fixed blade. Interlock nose prevents blade from protruding. Knife handle with blade storage.

[K] **Swivel-Lock® Fixed Blade Utility Knife** swivels open for blade changes without a screwdriver.

[L] **Blade Disposal Container** for single-edged razor and utility knife blades.




| Key | Description | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **RETRACTABLE BLADE UTILITY KNIVES** | | | | | | |
| **A** | 99 Utility Knife | 10-099 | **4A803*** | $6.44 | **$3.99** | 0.4 |
| **B** | Quick-Change Utility Knife | 10-499 | **5C944*** | 8.47 | **4.99** | 0.3 |
| **C** | Interlock Utility Knife | 10-079 | **5C945*** | 6.69 | **3.99** | 0.4 |
| **D** | Carpet Knife | 10-525 | **5C946*** | 12.36 | **8.69** | 0.4 |
| **E** | Safety Utility Knife | 10-189 | **6D010** | 8.18 | **5.69** | 0.4 |
| **F** | Swivel-Lock Utility Knife | 10-989 | **5R685*** | 9.53 | **6.79** | 0.3 |
| **G** | Pocket Utility Knife | 10-049 | **5R669** | 9.58 | **6.99** | 0.2 |
| **H** | Snap-Off Blade Knife | 10-150 | **6D016** | 3.91 | **2.79** | 0.1 |
| **FIXED BLADE UTILITY KNIVES** | | | | | | |
| **I** | 199 Utility Knife | 10-209 | **4A804*** | 8.04 | **4.99** | 0.2 |
| **J** | 299 Utility Knife | 10-299 | **5C947*** | 4.33 | **2.69** | 0.3 |
| **K** | Swivel Lock Utility Knife | 10-399 | **5C948*** | 6.40 | **4.59** | 0.3 |
| **L** | Blade Disposal Container w/Rack | 11-081 | **1C083** | 31.00 | **23.79** | 3.2 |
| — | Blade Disposal Container | 11-080 | **1C085** | 17.67 | **13.79** | 2.3 |

(*) Furnished with 3 heavy-duty blades

## REPLACEMENT UTILITY KNIFE BLADES

| Description | Fits Utility Knives Stock Nos. | Blades Per Pkg. | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Heavy-duty Utility Blades** | 5R685, 6D010, 5C945, 4A803 | 5 | 11-921 | **5C949** | $1.98 | **$1.49** | 0.1 |
| **100 Blades with Dispenser** | 4A804, 5C947, 5C948, & 5C944 | 100 | 11-921A | **4A805** | 23.62 | **12.99** | 1.0 |
| **Bulk Pack of 400 Blades** | | 400 | 11-921B | **5C950** | 74.16 | **44.95** | 4.0 |
| **Extra Heavy-duty Utility Blades** | 4A804 | 100 | 11-931A | **5C951** | 33.18 | **19.99** | 1.3 |
| **Heavy-duty Carpet Blades** | 5C946 | 100 | 11-530 | **5C952** | 26.22 | **16.39** | 0.8 |
| **Single Edge Razor Blades** | 6R029 - see page 1392 | 100 | 11-515 | **4A807** | 7.40 | **4.19** | 0.7 |
| **Hook Blades** | 5R685, 6D010, 5C945, 4A803 4A804, 5C947, 5C948, & 5C944 | 5 | 11-961 | **5C953** | 5.02 | **4.19** | 0.1 |
| **Scoring Knife Blades** | 5R685, 6D010, 5C945, 4A803 4A804, 5C948, & 5C944 | 2 | 11-941 | **5C954** | 2.69 | **2.29** | 0.1 |
| **Round Point Utility Blades** | 5R685, 6D010, 5C945, 4A803 | 5 | 11-987 | **5R710** | 2.02 | **1.59** | 0.1 |
| **Round Point Utility Blades with Dispenser** | 4A804, 5C948, & 5C944 | 100 | 11-988 | **5R711** | 24.04 | **16.49** | 1.1 |
| **Pocket Knife Blades** | 5R669 | 1 | 11-041 | **5R688** | 3.24 | **2.59** | 0.1 |
| **Snap-Off Blades** | 6D016 | 3 | 11-300 | **5R693** | 1.71 | **1.39** | 0.1 |



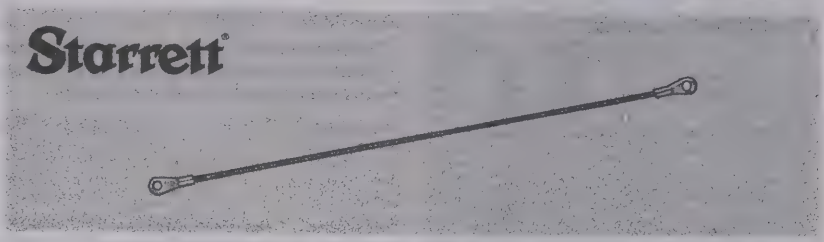
The only source you need for tools as tough as you are.

# ROD SAW, GLASS CUTTER AND KNIVES

## CARBIDE GRIT ROD SAW

For cutting tough abrasive materials in hard-to-reach places. Carbide grits permanently bonded to a tough steel alloy rod surround the saw allowing cuts in all directions. Length 12"; width .098" diameter. Starrett brand (X1200).

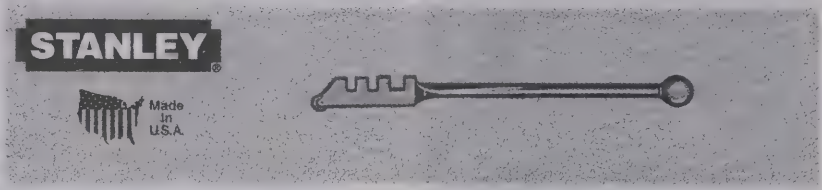
**No. 4L474** Shpg. wt. 0.1 lbs.
Each ..... **$5.28**




## GLASS CUTTER

Glass cutter features 3 break-off notches for various depths. 5⅛" Long. Honed cutting wheel. Features lifetime limited warranty.

**No. 5C955.** Stanley brand (14-120). Shpg. wt. 0.1 lbs. List $4.53. Each ..... **$3.19**




## PRECISION KNIVES

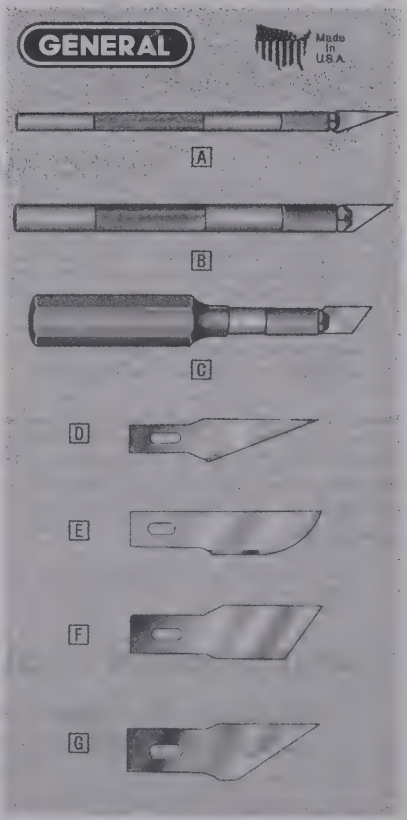
- **Precision knives with aluminum bodies and knurled chuck adjustment ring with a four-jaw chuck**
- **Replacement blades available**

### KNIVES

| Key | Duty | Handle Type | Uses Replacement Blade No. | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Light | Round | 3ZH10 | 1901 | **3ZH07** | $2.60 | **$2.34** | 0.1 |
| B | Medium | Round | 3ZH11, 3ZH12, 3ZH13 | 1902 | **3ZH08** | 3.64 | **3.28** | 0.1 |
| C | Heavy | Hex | 3ZH11, 3ZH12, 3ZH13 | 1903 | **3ZH09** | 5.66 | **5.09** | 0.2 |

### REPLACEMENT BLADES

| Key | Type | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| D | Fine angle cutting | 1920 | **3ZH10** | $2.60 | **$2.47** | 0.1 |
| E | Fine angle cutting | 1922 | **3ZH11** | 3.68 | **3.50** | 0.1 |
| F | Straight cut | 1923 | **3ZH12** | 2.76 | **2.62** | 0.1 |
| G | Penetrating cut | 1924 | **3ZH13** | 2.76 | **2.62** | 0.1 |



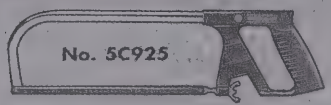

**New** **LOOK FOR THE MANY PRODUCTS WE HAVE ADDED!**

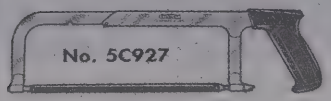
Check your frequently-ordered product categories for line extensions and new product offerings.
Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.

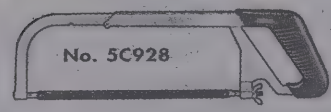
# HACKSAWS AND FRAMES

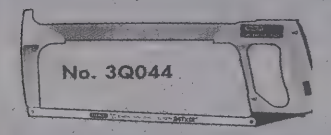
## PROFESSIONAL™ HACKSAWS

STANLEY® Made in U.S.A.







**STANDARD FEATURES**

- **Nickel-plated frame made of heavy gauge steel; will not tarnish or rust**
- **Blade can be faced in four directions**
- **Includes guard to protect knuckles**

**Professional™ Tubular Frame Hacksaw No. 5C925** features easy adjustment of frame for 10 and 12" blades and rugged cast handle. Includes 10" standard carbon steel blade.

**Professional Pistol Grip Hacksaw No. 5C927** has comfortable molded cushion grip rubber handle, and is adjustable for 8, 10, and 12" blade lengths.

**Rubber Grip Hacksaw No. 5C928** has rigid steel frame with molded cushion grip rubber handle with D-shaped guard to protect hand and knuckles. Frame is adjustable for 8, 10, and 12" blades. Includes 10" standard carbon steel blade.

**Contractor Grade High-Tension Hacksaw No. 3Q044** features rugged design for heavy-duty use. Fully adjustable tension—holds 12" blade at up to 32,000 PSI, which provides longer blade life and fast, accurate cuts. Quick-release blade changing mechanism in handle maintains tension setting. Features blade storage in frame and tension guide on handle lever. Blade extended out nose of frame can be locked into place for tight corner work.

**Contractor Grade Metal Mini-Hack™ Utility Hacksaw No. 1C069** with cast aluminum handles is lightweight, but built for durability. Comfortable handle design. Includes a high-performance, 10" bi-metal blade.

**Hacksaw Blades** are made of high-speed steel that cut most metals, including unhardened tool steel and stainless steel. 1 blade per card.

| Description | Throat Depth (In.) | Blade Length (In.) | Stanley Model | Stock No. | List | Each | Shpg Wt |
|---|---|---|---|---|---|---|---|
| **Tubular Frame Hacksaw** | 3⅞ | 10 | 15-408 | **5C925** | $22.29 | **$13.49▲** | 1.4 |
| **Pistol Grip Hacksaw** | 3⅜ | 10 | 15-170 | **5C927** | 21.38 | **12.79▲** | 2.0 |
| **Rubber Grip Hacksaw** | 3⅞ | 10 | 15-265 | **5C928** | 15.56 | **9.39▲** | 1.7 |
| **High Tension Hacksaw** | 3⅞ | 12 | 15-113 | **3Q044** | 32.78 | **19.99▲** | 1.9 |
| **Mini-Hack Utility Hacksaw** | — | 10 | 15-809 | **1C069** | 7.24 | **4.29▲** | 1.1 |
| **Hacksaw Blade–32 TPI** | — | 10 | 15-802A | **5R866** | 1.60 | **1.23** | 0.1 |
| **Hacksaw Blade–24 TPI** | — | 10 | 15-804A | **5R869** | 1.60 | **1.23** | 0.1 |
| **Hacksaw Blade–18 TPI** | — | 10 | 15-808A | **5R872** | 1.60 | **1.23** | 0.1 |

(▲) Net prices, not subject to discounts.

## HACKSAW FRAMES

**12" Heavy-duty High Tension Hacksaw Frame** provides faster, easier cutting and longer blade life. Easy-to-use tension knob will tighten blade to 28,000 PSI. High tension prevents twisting and binding of blade when bearing down during cutting. Rugged, lightweight frame is cast aluminum with an extra-thick tubular steel bar for added strength. Blades can be stored in the tube. Four permanently angled mounting pins allow both straight cutting and 45° angle for flush cutting. Set screw in tube allows a hacksaw or reciprocating blade to be inserted for "jab sawing." Includes Bluestripe® bi-metal blade. **NOTE:** Use only with bi-metal blades. Starrett brand (K153).

**No. 4K799.** Shpg. wt. 2.0 lbs. List $20.00. Each.....$20.00▲

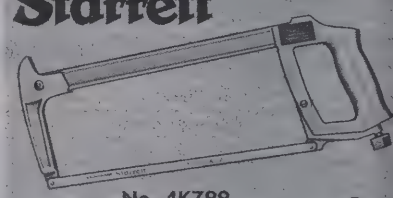
**Heavy-duty Steel Hacksaw Frames** with open or closed grip accept 8, 10, or 12" blades which can be mounted in any one of four cutting directions, tensioned by a single wing nut. Includes one high-speed steel blade. Starrett brand.

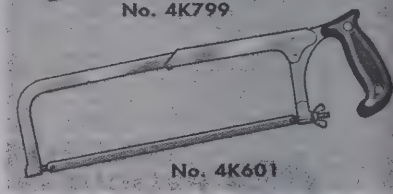
**No. 4K601.** Shpg. wt. 1.7 lbs. List $15.60. Each.....$15.60▲

**No. 4K604.** Shpg. wt. 1.9 lbs. List $17.31. Each.....$17.31▲

(▲) Net prices, not subject to discounts.

Starrett®




**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# HANDSAWS

## PROFESSIONAL™ SHORT CUT® HANDSAWS

Aggressive tooth, unique fast cutting handsaws feature a revolutionary tooth design that delivers efficient, clean cutting performance
Short convenient blade length allows easier handling
Extra wide select hardwood handle provides greater comfort and control
Resharpenable teeth

## PROFESSIONAL™ HANDSAW

Precision set, sharpened teeth for fast, smooth, accurate cutting
Chrome-nickel alloy steel blade stays sharp
Taper ground blade for reduced binding and cleaner cuts
Extra wide, hardwood handle designed for comfort and control

## THRIFTY™ HANDSAW

Hardened and tempered—polished steel blade for durability
Hardwood handle for comfort and control

## SHORT CUT® TOOL BOX SAWS

Features a revolutionary new tooth configuration that delivers clean cuts much faster than conventional hand saws; each tooth is precision-set and bench ground with three distinct cutting angles so that the blade maintains constant contact on forward and reverse strokes
Compact blade for easier storage and handling
Comfortable hardwood handle with special square/mitre feature built in

## CONTRACTOR GRADE™ SHORT CUT® MITRE SAW

Aggressive tooth design cuts wood 50% faster than conventional saws
Induction hardened teeth stay sharp longer than non-hardened teeth
A unique mitre saw with the Short Cut® and hardened tooth advantage

## CONTRACTOR GRADE™ JAB SAW

Close quarter sawing
Accepts standard reciprocating blade or hacksaw blade

## CONTRACTOR GRADE™ CUSHION GRIP WALLBOARD SAW

Fully hardened, tempered blade is designed to be strong and durable
Teeth designed to cut fast and won't clog
Sharp tip for plunge cuts
Blade is epoxy-bonded to handle for a secured fit and long life
Ergonomic, curved handle is cushioned for comfort and extended use

## CONTRACTOR GRADE™ COMPASS SAW

High grade tempered steel blade
Induction hardened teeth stay sharp longer than non-hardened teeth
Teeth precision set and sharpened for fast and smooth cutting

## NEST OF SAWS

Solid rubber handle for comfort
Consists of one 6" metal cutting blade, one 12" key hole cutting blade, and one 10" Short Cut® general purpose blade

## COPING SAWS

6¾" Frame depth
Walnut stained hardwood handle
High carbon steel blade—hardened and tempered

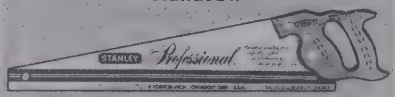
| Description | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1" 8-Pt. Professional Short Cut Crosscut Handsaw | 15-336 | 5R813 | $29.78 | $20.99 | 1.9 |
| 5" 8-Pt. Professional Crosscut Handsaw | 15-118 | 5R776 | 32.27 | 22.49 | 2.0 |
| 5" 8-Pt. Thrifty Crosscut Handsaw | 15-300 | 5R808 | 12.18 | 8.69 | 1.5 |
| 5" 12-Pt. Short Cut Crosscut Tool Box Saw | 15-534 | 5R840 | 19.24 | 13.79 | 1.0 |
| 5" 9-Pt. Short Cut Crosscut Tool Box Saw | 15-334 | 5C920 | 18.96 | 9.99▲ | 1.0 |
| 4" 12-Pt. Contractor Grade Short Cut Mitre Saw | 15-673 | 5R862 | 25.93 | 17.99 | 1.4 |
| Contractor Grade Jab Saw | 15-033 | 3Q029 | 9.20 | 6.49 | 1.2 |
| Contractor Grade Cushion Grip Wallboard Saw | 15-556 | 1C073 | 8.67 | 4.99▲ | 0.3 |
| 2" 8-Pt. Contractor Grade Compass Saw | 15-100 | 1C081 | 12.80 | 8.99 | 0.4 |
| est of Saws | 15-090 | 5R763 | 16.16 | 11.59 | 0.6 |
| ¼" Coping Saw | 15-106A | 5R771 | 9.69 | 6.99 | 0.8 |
| oping Saw Blades | 15-061 | 5R775 | 2.91 | 2.24 | 0.1 |

) Net prices, not subject to discounts.

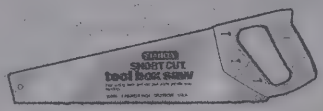
STANLEY® Made in U.S.A.



No. 5R813 Professional™ Short Cut® Handsaw

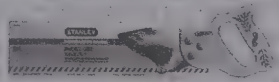


No. 5R776 Professional™ Handsaw

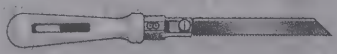


No. 5C920 Short Cut® Tool Box Saw

STANLEY® CONTRACTOR GRADE



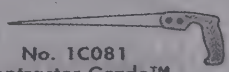
No. 5R862 Contractor Grade™ Short Cut® Mitre Saw



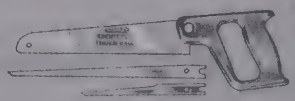
No. 3Q029 Contractor Grade™ Jab Saw



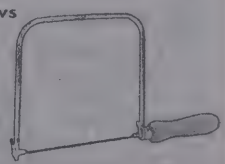
No. 1C073 Contractor Grade™ Cushion Grip Wallboard Saw



No. 1C081 Contractor Grade™ Compass Saw



No. 5R763 Nest of Saws



No. 5R771 Coping Saw

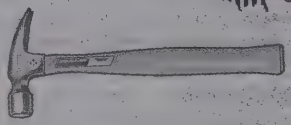
# HAMMERS, MALLETS, AND HATCHET

VAUGHAN Made in U.S.A.



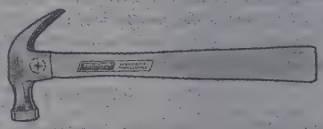
**A ELECTRICIAN'S HAMMER**

Extra long poll for striking inside electrical junction boxes.



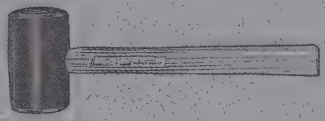
**B RIP HAMMERS**

Hammers are designed to provide superior overall balance.



**C CLAW HAMMERS**

Feature full polished head with octagon neck and face.



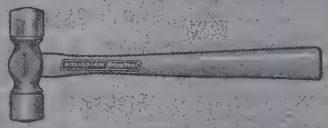
**D RAWHIDE MALLETS**

Compressed under hydraulic pressure, then seasoned for durability. Not made in USA.



**E BALL PEIN HAMMERS**

Highly polished cheeks and pein with generous bevel on striking face.



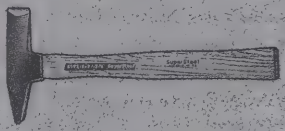
**F SOFT FACE HAMMERS**

Supplied with two faces—soft (red) and hard (yellow). Replacement tips sold separately.



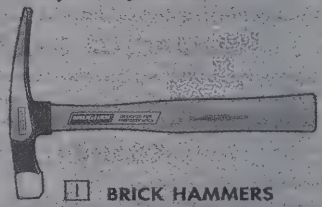
**G TINNER'S RIVETING HAMMERS**

Octagon head, flat striking face, rounded cross pein.



**H SCALING HAMMER**

Straight blade has double bevel; cross blade has single back bevel.



**I BRICK HAMMERS**

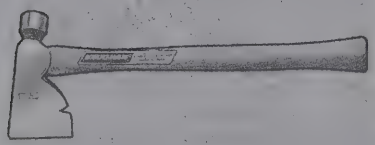
Striking head, sides, and blade are polished. Thin, back-beveled blade is heat treated.



**J WELDER'S CHIPPING HAMMER**

One end features sharp 1¼" blade with back bevel; other end is tapered to a sharp point.

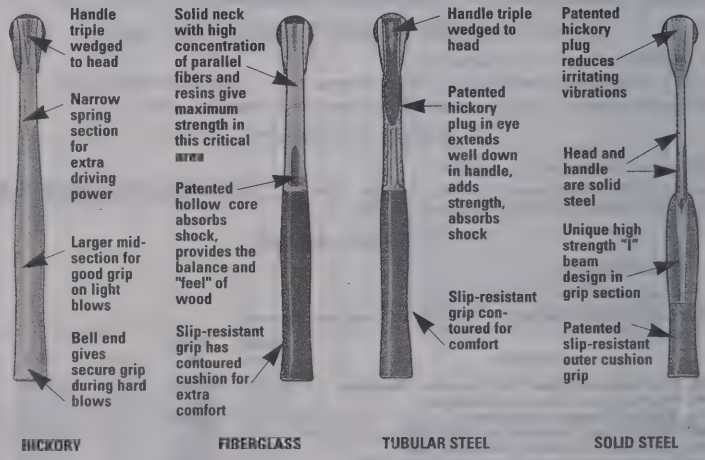
## HATCHETS



**K RIG BUILDER'S HATCHET**

Suitable for rough framing, concrete forms, and fence building. 3½" blade.

### FOUR HANDLE STYLES AVAILABLE




NOTE: Not all hammers/hatchets are available with all of the handle types shown above. Please refer to the ordering chart for the handle styles offered for a specific tool.

# HAMMERS, MALLETS, AND HATCHET

## ORDERING DATA FOR STRIKING TOOLS AND HATCHETS

**All Vaughn striking tool heads are forged** from American-made, high carbon steel. Tool heads are heat-treated, precision-machined and polished. All are made in U.S.A. except Nos. 5C553 and 5C554.

| Key | Description | Head Wt. (Oz.) | Handle | Face | Vaughan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **STRIKING TOOLS** | | | | | | | | |
| A | Electrician's Straight Claw Hammer | 18 | Fiberglass | Smooth | E18F | **4A096** | $29.00 | **$19.99▲** | 1.8 |
| B | Rip Hammer | 16 | Hickory | Smooth | 99 | **2A523** | 22.70 | **14.99▲** | 1.5 |
| | Rip Hammer | 20 | Hickory | Smooth | 999L | **4A095** | 24.95 | **16.99▲** | 1.8 |
| | Rip Hammer | 20 | Hickory | Milled | 999ML | **2A524** | 27.80 | **18.99▲** | 1.8 |
| | Rip Hammer | 24 | Hickory | Milled | 505M | **2A525** | 30.95 | **20.99▲** | 2.3 |
| | Rip Hammer | 28 | Hickory | Milled | 606M | **2A526** | 31.95 | **21.99▲** | 2.4 |
| | Rip Hammer | 16 | Fiberglass | Smooth | FS99 | **2A631** | 26.20 | **17.99▲** | 1.6 |
| | Rip Hammer | 20 | Fiberglass | Milled | FS999ML | **2A527** | 32.80 | **22.49▲** | 2.0 |
| C | Claw Hammer | 16 | Hickory | Smooth | D016 | **2A627** | 22.40 | **14.99▲** | 1.5 |
| | Claw Hammer | 20 | Hickory | Smooth | D020 | **2A521** | 23.85 | **16.99▲** | 1.8 |
| | Claw Hammer | 16 | Fiberglass | Smooth | FS16 | **2A628** | 25.70 | **16.99▲** | 1.6 |
| | Claw Hammer | 20 | Fiberglass | Smooth | FS20 | **2A522** | 27.80 | **18.99▲** | 1.8 |
| | Claw Hammer | 16 | Tubular Steel | Smooth | T016 | **2A629** | 26.20 | **17.99▲** | 1.6 |
| | Claw Hammer | 20 | Tubular Steel | Smooth | T020 | **2A630** | 27.95 | **18.99▲** | 1.8 |
| | Claw Hammer | 16 | Solid Steel | Smooth | R16 | **4A094** | 26.20 | **17.99▲** | 2.0 |
| D | Rawhide Mallet | 6 | Hardwood | Smooth | RM150 | **5C553** | 14.35 | **10.99▲** | 0.5 |
| | Rawhide Mallet | 24 | Hardwood | Smooth | RM275 | **5C554** | 37.90 | **29.95▲** | 1.7 |
| E | Ball Pein Hammer | 8 | Hickory | Smooth | S308 | **2A632** | 15.10 | **10.39▲** | 1.0 |
| | Ball Pein Hammer | 12 | Hickory | Smooth | S2012 | **2A633** | 15.90 | **10.99▲** | 1.1 |
| | Ball Pein Hammer | 16 | Hickory | Smooth | S016 | **2A634** | 16.60 | **11.49▲** | 1.5 |
| | Ball Pein Hammer | 24 | Hickory | Smooth | S224 | **2A635** | 19.25 | **13.59▲** | 2.1 |
| | Ball Pein Hammer | 32 | Hickory | Smooth | S432 | **2A636** | 20.55 | **14.59▲** | 2.6 |
| | Ball Pein Hammer | 8 | Fiberglass | Smooth | FS308 | **5C548** | 22.10 | **13.99▲** | 1.3 |
| | Ball Pein Hammer | 12 | Fiberglass | Smooth | FS2012 | **5C549** | 22.90 | **14.99▲** | 1.4 |
| | Ball Pein Hammer | 16 | Fiberglass | Smooth | FS016 | **5C550** | 23.95 | **15.99▲** | 1.6 |
| | Ball Pein Hammer | 24 | Fiberglass | Smooth | FS224 | **5C551** | 25.70 | **16.99▲** | 2.2 |
| | Ball Pein Hammer | 32 | Fiberglass | Smooth | FS432 | **5C552** | 27.40 | **17.99▲** | 2.2 |
| F | Soft Face Hammer | 6 | Hickory | Soft / Hard | SF6 | **2A528** | 16.30 | **12.99** | 0.8 |
| | Soft Face Hammer | 12 | Hickory | Soft / Hard | SF12 | **2A531** | 18.00 | **14.49** | 1.0 |
| — | Hard Replacement Tip for Soft Face Hammer No. 2A528 | | | | SF6H | **2A529** | 2.05 | **1.99** | 0.1 |
| — | Soft Replacement Tip for Soft Face Hammer No. 2A528 | | | | SF6S | **2A530** | 2.05 | **1.99** | 0.1 |
| — | Hard Replacement Tip for Soft Face Hammer No. 2A531 | | | | SF12H | **2A532** | 2.10 | **2.09** | 0.1 |
| — | Soft Replacement Tip for Soft Face Hammer No. 2A531 | | | | SF12S | **2A533** | 2.10 | **2.09** | 0.1 |
| G | Tinner's Riveting Hammer | 12 | Hickory | Smooth | TR12 | **4A097** | 18.75 | **14.99** | 1.3 |
| | Tinner's Riveting Hammer | 16 | Fiberglass | Smooth | TR16F | **4A098** | 23.95 | **18.99** | 1.6 |
| H | Scaling Hammer | 16 | Hickory | — | SC16 | **4A100** | 17.90 | **14.49** | 1.6 |
| I | 11" Brick Hammer | 16 | Hickory | — | BL16 | **2A537** | 27.00 | **21.99** | 1.3 |
| I | 11½" Brick Hammer | 24 | Hickory | — | BL24 | **2A538** | 28.60 | **22.99** | 2.1 |
| J | Welder's Chipping Hammer | 12 | Hickory | — | WC12 | **4A099** | 18.75 | **14.99** | 1.3 |
| | **HATCHET** | | | | | | | | |
| K | Rig Builder's Hatchet | 28 | Hickory | Milled | RB | **2A536** | 36.50 | **29.00** | 4.5 |

▲) Net prices, not subject to discounts.

## REPLACEMENT HANDLES

**Vaughan V&B replacement handles** are all made from high quality American hickory, accurately machine gauged, double sanded, buffed and lacquered for maximum hand comfort.

**Easy-to-follow assembly instructions** and all necessary wood and steel wedges are packaged with each handle.

- **Supreme Handles are top-of-the-line quality hickory with weather-resistant, clear lacquer finish. Density at least 48 lbs. per cu.-ft.**
- **E-Z Swing Handles are flame-treated hickory with weather-resistant, clear lacquer finish. Density at least 42 lbs. per cu.-ft.**

| Description | Fitted for Stock Nos. | Eye Size (In.) | V&B Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CLAW HAMMER HANDLES** | | | | | | | |
| **13½" Supreme Grade Adze Eye Handle** | 2A523, 2A627 & 4A100 | 1 x 1/2 | 61162 | **6D023** | $3.45 | **$3.39** | 0.5 |
| **16 Supreme Grade Adze Eye Handle** | 2A521, 2A524 & 4A095 | 1 1/32 x 17/32 | 60202 | **6D024** | 3.85 | **3.79** | 0.7 |
| **17 Supreme Grade Adze Eye Handle** | 2A525 | 1 3/32 x 19/32 | 61242 | **6D025** | 3.95 | **3.89** | 0.8 |
| **18 Supreme Grade Adze Eye Handle** | 2A526 | 1 1/16 x 21/32 | 61282 | **6D026** | 4.05 | **3.99** | 0.8 |
| **BALL PEIN AND MACHINIST HAMMER HANDLES** | | | | | | | |
| **12½" E-Z Swing Oval Eye Handle** | 2A528 & 2A632 | 13/16 x 3/8 | 62083 | **6D027** | 2.85 | **2.79** | 0.3 |
| **14 E-Z Swing Oval Eye Handle** | 2A531, 2A633 & 2A634 | 31/32 x 1/2 | 62163 | **6D028** | 2.85 | **2.79** | 0.5 |
| **16 E-Z Swing Oval Eye Handle** | 2A635 | 1 3/32 x 9/16 | 62243 | **6D029** | 3.05 | **2.99** | 0.6 |
| **16½ E-Z Swing Oval Eye Handle** | 2A636 | 1 7/32 x 5/8 | 62403 | **6D030** | 3.05 | **2.99** | 0.7 |
| **10½ E-Z Swing Oval Eye Handle** | 2A637 | 1 x 3/4 | 63033 | **6D031** | 2.85 | **2.79** | 0.4 |
| **16 E-Z Swing Oval Eye Handle** | 4A287 | 1 x 3/4 | 63403 | **6D032** | 3.05 | **2.99** | 0.7 |
| **HATCHET HANDLE** | | | | | | | |
| **17½" E-Z Swing Hatchet Handle** | 2A536 | 1½ x 9/16 | 64173 | **6D033** | 3.95 | **3.89** | 0.7 |

# NAIL AND FRAMING HAMMERS, NAIL AND CUSHION-GRIP NAIL SETS

## NAIL AND FRAMING HAMMERS

### JACKETED GRAPHITE HAMMERS

#### HANDLE FEATURES

- Ribbed pattern grip design for comfort and control
- Flared handle end for greater control and safety
- Evenly distributed handle ribs allow ventilation and reduce slipping

#### SLEEVE FEATURES

- Molded jacketed polycarbonate sleeve maximizes overstrike protection and increases hammer life
- Shock absorbing sleeve reduces vibration and fatigue
- Chemical resistant material will not deteriorate when exposed

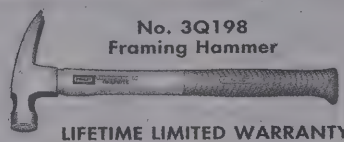
#### HEAD FEATURES

- Rim Tempered® design minimizes chipping
- High carbon steel head exceeds ANSI safety specifications
- Large striking face allows for more precise contact to striking surface

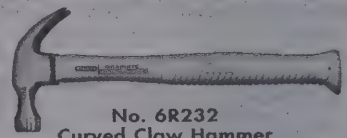
STANLEY

CONTRACTOR GRADE

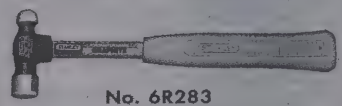
Made in U.S.A.



No. 3Q198
Framing Hammer



No. 6R232
Curved Claw Hammer



No. 6R283
Ball Pein Hammer

**LIFETIME LIMITED WARRANTY**

All Stanley tools are warranted to the original user for the life of the product. Text of warranty available, see page opposite inside back cover.

| Hammer Description | Head Wt. (Oz.) | Overall Length (In.) | Stanley Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| Curved Claw | 16 | 13¼ | 51-441 | **6R232** | $30.31 | **$17.95▲** | 1.3 |
| Rip Claw | 16 | 13¼ | 51-442 | **6R234** | 30.31 | **17.95▲** | 2.0 |
| Curved Claw | 20 | 13¼ | 51-443 | **6R233** | 32.87 | **18.95▲** | 2.1 |
| Rip Claw | 20 | 13¼ | 51-444 | **6R235** | 32.87 | **18.95▲** | 2.1 |
| Plain Face Framing | 20 | 15 | 51-446 | **3Q198** | 35.91 | **21.39▲** | 1.0 |
| Checkered Face Framing | 20 | 15 | 51-447 | **3Q199** | 39.51 | **23.49▲** | 1.1 |
| Plain Face Framing | 24 | 15 | 51-448 | **3Q200** | 38.78 | **23.49▲** | 1.3 |
| Checkered Face Framing | 24 | 15 | 51-449 | **3Q201** | 42.51 | **25.40▲** | 1.3 |
| Ball Pein | 8 | 11¾ | 54-708 | **6R283** | 23.36 | **12.99▲** | 1.1 |
| Ball Pein | 12 | 11¾ | 54-712 | **6R284** | 24.18 | **13.99▲** | 1.3 |
| Ball Pein | 16 | 12¾ | 54-716 | **6R285** | 25.18 | **14.99▲** | 1.7 |
| Ball Pein | 24 | 15½ | 54-724 | **6R286** | 26.56 | **15.99▲** | 2.2 |
| Ball Pein | 32 | 15½ | 54-732 | **6R287** | 28.87 | **16.99▲** | 2.8 |

(▲) Net prices, not subject to discounts.

## COMPO-CAST® HAMMERS

### STANDARD FEATURES

- Universal Uni-Cast™ construction provides shape-retaining memory and does not stick or become contaminated from work being struck
- Dead blow function uses steel shot to reduce bounce back and handle vibration
- Provide striking power under control for greater productivity
- Meet OSHA safety requirements

### BALL PEIN HAMMER

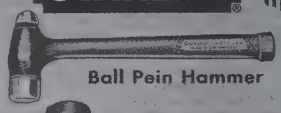
- Dead blow steel face ball pein hammer heads are tempered alloy steel with crowned faces for more accuracy
- Steel reinforced handles provide added strength and safety, resist breaking on overstrike

### SOFT FACE HAMMERS

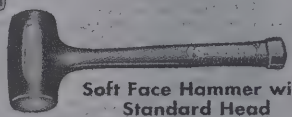
- Nonsparking, nonmarring soft face hammers have no exposed metal
- Slimline head hammers are for assembly and repair applications in confined areas

STANLEY

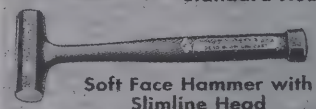
Made in U.S.A.



Ball Pein Hammer



Soft Face Hammer with Standard Head



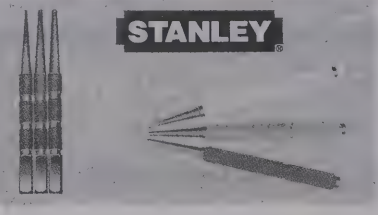
Soft Face Hammer with Slimline Head

| Description | Hammer Weight (Oz.) | Head Length (In.) | Overall Length (In.) | Stanley Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| Ball Pein Hammer | 16 | 4⅛ | 12¾ | 54-516 | **5C931** | $41.36 | **$28.95** | 1.6 |
| Soft Face Hammer, Standard Head | 18 | 3¾ | 11¼ | 57-531 | **5C932** | 30.02 | **20.95** | 1.5 |
| Soft Face Hammer, Standard Head | 21 | 4¼ | 12¾ | 57-532 | **5C933** | 34.93 | **23.95** | 2.0 |
| Soft Face Hammer, Standard Head | 42 | 4¼ | 14 | 57-533 | **5C934** | 49.29 | **33.95** | 2.6 |
| Soft Face Hammer, Slimline Head | 14 | 4¼ | 10½ | 57-541 | **5C935** | 28.69 | **19.95** | 1.0 |

## NAIL SET

**Nail Set No. 5C574** includes 1/32, 1/16, and 3/32" nails. Square head prevents rolling. Black phosphate finish. Made in U.S.A. Stanley brand (58-230).

**No. 5C574.** Shpg. wt. 0.3 lbs. List $6.11.
Each ..... $4.39▲
(▲) Net prices, not subject to discounts.




## CUSHION GRIP NAIL SET

- Shock absorbing ribbed grip for precision hold and fully hardened precision milled steel for long life
- 25% longer length for ease in hard-to-reach areas
- Color coded for easy identification

**No. 3ML05.** Stanley brand (58-930).. Shpg. wt. 0.3 lbs. List $9.53. Each ..... $5.99



The only source you need for tools as tough as you are.

# SOFT FACE HAMMERS AND TIPS AND HANDLELESS HAMMER

## SOFT FACE HAMMERS

**iberglass reinforced composite heads completely eliminate metallic contamination and metal-to-etal scratching or marring. Hammers use screw-in, replaceable, interchangeable tips (sold sep-rately below).**

**single hammer can be used for the most delicate** surface protective job, and then pack a teel face for the most demanding application. Ergonomic grip reduces user fatigue.

| Tip Dia. (In.) | Head Wt. | Handle Length (In.) | Nupla Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1** | 9 oz. | 11 | SPS105 | **6D050** | $16.38 | **$13.34** | 0.7 |
| **1½** | 1 | 12 | SPS150 | **3MD69** | 16.16 | **14.54** | 1.2 |
| **1½** | 1¼ | 12 | SPS155 | **4A111** | 21.46 | **17.45** | 1.4 |
| **2** | 1½ | 13 | SPS200 | **6D049** | 22.96 | **18.57** | 1.3 |
| **2** | 21/4 | 13 | SPS205 | **3MD70** | 22.06 | **19.85** | 2.4 |
| **2½** | 2½ | 13 | SPS250 | **3MD68** | 34.14 | **30.75** | 2.5 |




FIBERGLASS HANDLES

**LIFETIME LIMITED WARRANTY**
All Nupla Tools are warranted to the original user for thelife of the product. Text of warranty available; see page opposite inside back cover.

## NUPLAFLEX® TIP SELECTION GUIDE

Nuplaflex tips have the toughness and resilience to outperform nd outlast other soft-face tips, as well as traditional hammers nade from materials such as lead, copper, brass, wood, rubber, awhide, plastic, micarta, etc. They provide:

**nproved Safety**—Will not mushroom, chip, or leave toxic residues.

**nproved Efficiency**—Reduces fatigue from rebound, sting, and ibration.

**Reduced Tool Inventories**—Replace tips rather than whole hammer.

**Reduced Production Damage and Rework**—Eliminates marring of almost any surface. Will not pick up or transfer chips. Have no grain or texture, are resistant to gas and most industrial chemicals, and are resistant to abrasion.

### NUPLA SOFT FACE HAMMER TIP SELECTION GUIDE

| Designation | Color Code | Description | Replaces Hammer Type | Designation | Color Code | Description | Replaces Hammer Type |
|---|---|---|---|---|---|---|---|
| S | Brown | Soft | Rubber, Wood, Soft Lead, Brass | SN | Cream | Medium Hard | Rawhide, Hardwood, Lead |
| M | Red | Medium | Rawhide, Wood, Plastic, Lead | H | Black | Hard | Rawhide, Plastic, Micarta, Fiber |
| T | Green | Tough | Rawhide, Hardwood, Plastic | ST | Steel | Extra Hard | All metal working applications |

### TIPS FOR SOFT FACE HAMMERS

| Tip Dia. (In.) | Shape | Color | Hardness | Fit Hammers | Nupla Model | Stock No. | List | Each* | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1** | Flat | Red | Medium | 6D050 | 10M | **6D053** | $4.35 | **$3.93** | 0.1 |
| **1** | Flat | Green | Tough | 6D050 | 10T | **6D054** | 4.35 | **3.93** | 0.1 |
| **1** | Flat | Cream | Medium Hard | 6D050 | 10SN | **6D056** | 5.30 | **4.78** | 0.1 |
| **1** | Flat | Black | Hard | 6D050 | 10H | **6D055** | 5.30 | **4.78** | 0.1 |
| **1½** | Flat | Brown | Soft | 3MD69, 4A111 | 15S | **6D052** | 6.43 | **5.78** | 0.1 |
| **1½** | Flat | Red | Medium | 3MD69, 4A111 | 15M | **6D051** | 6.43 | **5.78** | 0.1 |
| **1½** | Flat | Green | Tough | 3MD69, 4A111 | 15T | **4A113** | 6.43 | **5.78** | 0.1 |
| **1½** | Flat | Cream | Medium Hard | 3MD69, 4A111 | 15SN | **4A114** | 10.25 | **9.22** | 0.1 |
| **1½** | Flat | Black | Hard | 3MD69, 4A111 | 15H | **4A115** | 10.25 | **9.22** | 0.1 |
| **1½** | Flat | Steel | Extra Hard | 3MD69, 4A111 | 15ST | **3MD61** | 12.12 | **10.91** | 0.2 |
| **2** | Flat | Green | Tough | 3MD70, 6D049 | 20T | **4A116** | 9.80 | **7.90** | 0.2 |
| **2** | Flat | Cream | Medium Hard | 3MD70, 6D049 | 20SN | **4A117** | 16.42 | **14.75** | 0.2 |
| **2** | Flat | Black | Hard | 3MD70, 6D049 | 20H | **4A118** | 16.42 | **14.75** | 0.2 |
| **2** | Flat | Steel | Extra Hard | 3MD70, 6D049 | 20ST | **3MD62** | 16.44 | **14.80** | 0.3 |
| **2½** | Flat | Black | Hard | 3MD68 | 25H | **3MD63** | 25.33 | **22.80** | 0.3 |
| **2½** | Flat | Red | Medium | 3MD68 | 25M | **3MD64** | 16.25 | **14.63** | 0.4 |
| **2½** | Flat | Cream | Medium Hard | 3MD68 | 25SN | **3MD65** | 25.33 | **22.80** | 0.3 |
| **2½** | Flat | Green | Tough | 3MD68 | 25T | **3MD66** | 16.25 | **14.63** | 0.4 |

*) Priced per single tip; available only in packages of two.

## HANDLELESS "NO BOUNCE" HAMMER

- **Lightweight gray 10 oz. dual purpose hammer**
- **Has the driving force of steel on one end and a surface protective non-marring striking force on the other**
- **Use for precision tool and die, furniture repair, pipe fitting, HVAC repair, and woodworking applications**
- **Fits in glove compartment, tool box, job site or holstered on your tool belt**
- **Nupla brand (RTG10STS)**

**No. 3MD71.** Shpg. wt. 0.7 lbs. List $14.95. Each..... **$13.46**



# HAMMERS AND MALLETS

## STANDARD FEATURES

- Fiberglass handles are ten times stronger than wooden handles
- Long-lasting—will not rot, chip, or collapse
- Weatherproof—resistant to ordinary chemicals and salt water
- Handles are excellent insulators and will not conduct electricity
- Super Grip® handles on dead blow (except No. 6D047), brass, cross pein sledge, double face sledge hammers, and pick mattock increase handle-to-hand surface and lessen fatigue and stress

## DEAD BLOW HAMMERS

- Nonmarring, Powerdrive® hammer contains steel shot loaded heads
- Produce 30% more striking power than conventional hammers or mallets
- Fiberglass handle and Cush-N-Grip® grips combine with the dead blow effect to reduce effort, strain, vibration, and noise
- Nuplaflex® head covering material will not mushroom or delaminate, won't mar struck surface
- No. 3MD67 offers combination steel face and non-marring sides

## BRASS HAMMERS

- Nonmarring, nonsparking brass head protects surface

## HAND DRILLING HAMMERS

- Drop forged steel heads with hardened face
- Works with chisels, punches, star drills
- For delivering heavy blows to concrete and heavy work where space to swing is limited

## CROSS PEIN HAMMERS

- For heavy-duty shaping and bending of unhardened or soft metals
- Cross pein allows more precise blow to be struck close to shafts, raised lips, and in other tight applications

## DOUBLE FACE SLEDGE HAMMERS

- Blacksmith's double faced tempered sledge hammers with hardened head
- For striking metal, concrete, stone, or driving stakes; also for concrete forms assembly and tear down
- Replacement fiberglass E-Series hammer handle No. 3MD35 will fit all sledge hammer heads, 6 through 16 lbs. and features a mechanical lock—no epoxy required

## RUBBER MALLETS

- Nonmarring, nonsparking
- Heads are molded, cured, and resistant to oil and grease
- Made of virgin natural rubber

NUPLA® Since 1938

Made in U.S.A.

**LIFETIME LIMITED WARRANTY**

All Nupla Tools are warranted to the original user for the life of the product. Text of warranty available; see page opposite inside back cover.

**FIBERGLASS HANDLES**



A

Dead Blow Hammer



B

Brass Hammer



C

Hand Drilling Hammer



D

Cross Pein Sledge Hammer



E

Double Face Sledge Hammer



F

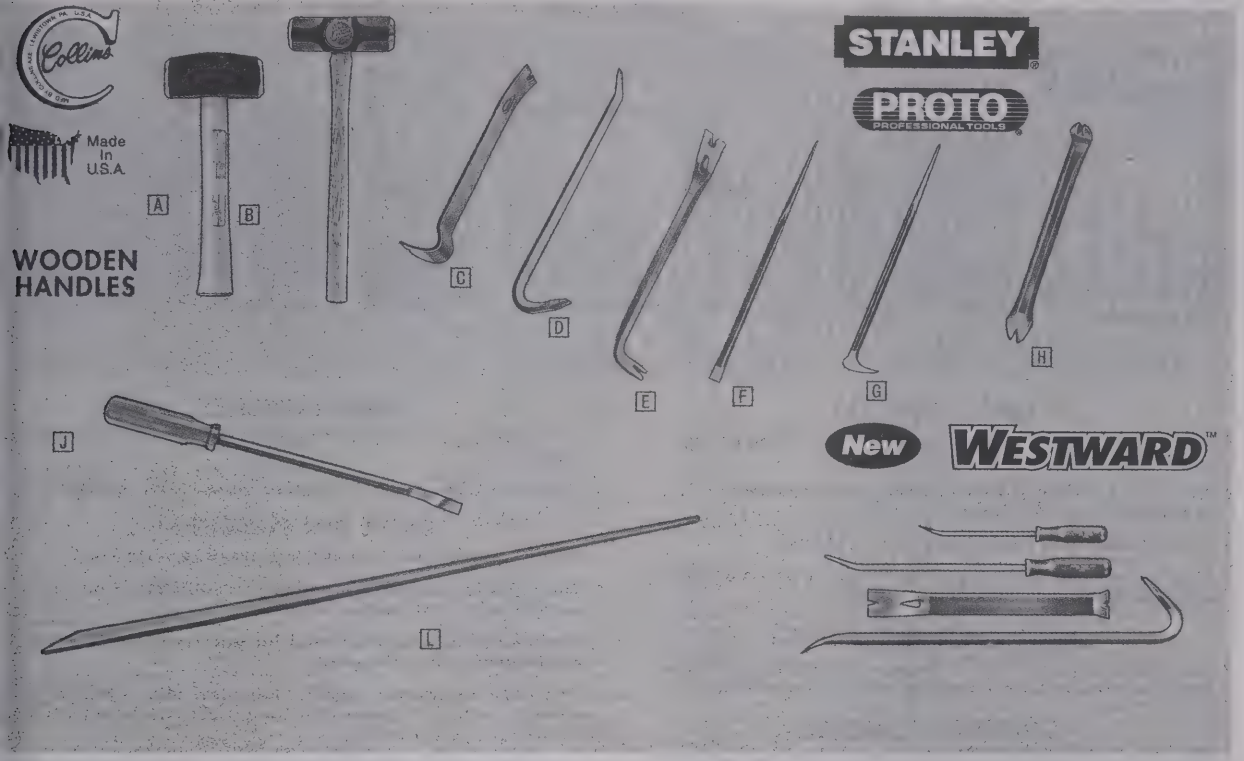
Rubber Mallet

| Key | Description | Head Wt. (Lbs.) | Handle Length (In.) | Nupla Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Dead Blow Hammer | 0.5 | 9½ | SF-8OZ | **6D047** | $25.06 | **$23.47** | 0.8 |
| | Dead Blow Hammer | 1.3 | 11 | SF-1SG | **4A101** | 29.45 | **27.60** | 2.0 |
| | Dead Blow Hammer | 1.5 | 12 | SF-2SG | **4A102** | 34.56 | **32.40** | 2.2 |
| | Dead Blow Hammer | 2.2 | 12 | SF-3SG | **4A103** | 45.76 | **42.85** | 3.0 |
| | Dead Blow Hammer | 2.9 | 13 | SF-4SG | **4A104** | 59.15 | **55.35** | 4.0 |
| A | Dead Blow Hammer/Steel Face | 2.0 | 12 | SFS-2SG | **3MD67** | 35.70 | **32.15** | 2.5 |
| B | Brass Hammer | 1.5 | 12 | BRS1.5 | **4A105** | 38.05 | **31.75** | 2.2 |
| | Brass Hammer | 2.5 | 12 | BRS2.5 | **6D048** | 58.38 | **48.60** | 2.7 |
| C | Hand Drilling Hammer | 3.0 | 10 | HD-3 | **4A106** | 36.32 | **33.00** | 3.5 |
| | Hand Drilling Hammer | 4.0 | 10 | HD-4 | **4A107** | 38.52 | **35.05** | 4.0 |
| D | Cross Pein Sledge Hammer | 3.0 | 14 | BC-3SG | **4A108** | 40.32 | **36.65** | 3.6 |
| | Cross Pein Sledge Hammer | 4.0 | 14 | BC-4SG | **6D006** | 43.11 | **39.20** | 4.3 |
| E | Double Face Sledge Hammer | 3.0 | 14 | BD-3SG | **6D011** | 40.32 | **33.25** | 3.3 |
| | Double Face Sledge Hammer | 4.0 | 14 | BD-4SG | **4A109** | 39.70 | **36.05** | 5.0 |
| | Double Face Sledge Hammer | 8.0 | 32 | BD-8ESG | **3MD39** | 55.02 | **49.55** | 10.0 |
| | Replacement Hammer Handle | — | 36 | ME136SG | **3MD35** | 19.60 | **17.64** | 4.0 |
| F | Rubber Mallet | 1.0 | 12 | RM1 | **4A119** | 19.85 | **17.51** | 1.0 |
| | Rubber Mallet | 2.0 | 13 | RM2 | **4A120** | 25.99 | **22.92** | 1.8 |



*The only source you need for tools as tough as you are.*

# HAMMERS AND BARS



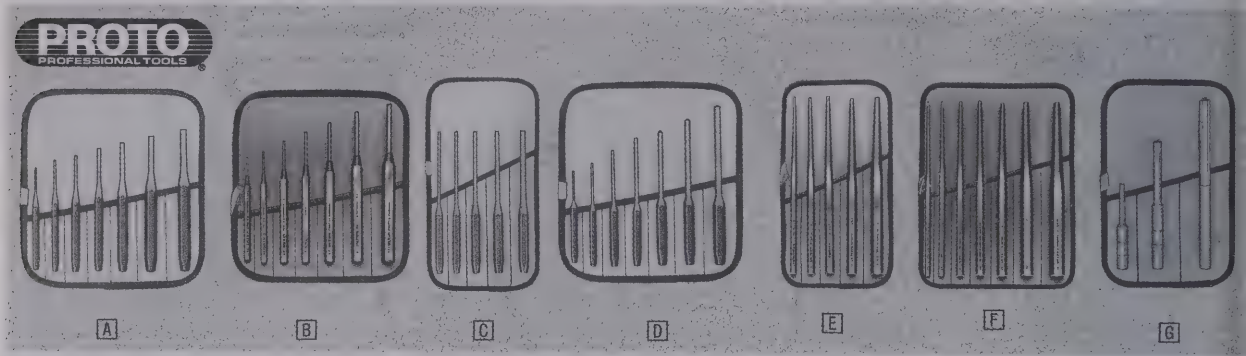

| Key | Description | Head Wt. (lbs.) | Handle Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| | **HAMMERS** | | | | | | | | | |
| A | Hand Drilling Hammer | 3 | 10½ | Collins | AD-3 | **2A637** | $15.13 | **$14.37** | | 4.0 |
| B | Engineer's Hammer | 2½ | 14 | Collins | EN-2½ | **6D019** | 16.26 | **15.45** | | 3.0 |
| B | Engineer's Hammer | 4 | 16 | Collins | EN-4 | **4A287** | 17.50 | **16.63** | | 5.0 |
| | **BARS** | | | | | | | | | |
| C | 14" Utility Bar | — | 14 | Collins | MB-14 | **4A290** | 9.99 | **7.95** | ▲ | 1.7 |
| D | 24" Gooseneck Bar | — | 24 | Collins | GNB-24 | **4A291** | 5.86 | **4.95** | ▲ | 3.5 |
| D | 36" Gooseneck Bar | — | 36 | Collins | GNB-36 | **4A292** | 8.23 | **6.95** | ▲ | 5.0 |
| E | Offset Ripping Chisel | — | 18 | Collins | OB-17 | **6D021** | 9.26 | **7.95** | ▲ | 2.2 |
| F | Aligning Pry Bar | — | 18 | Proto | 2120 | **3R548** | 23.69 | **14.99** | ▲ | 1.3 |
| F | Aligning Pry Bar | — | 24 | Proto | 2124 | **3R549** | 31.56 | **19.99** | ▲ | 2.4 |
| F | Aligning Pry Bar | — | 30 | Proto | 2125 | **3R550** | 53.56 | **34.00** | ▲ | 4.7 |
| G | Rolling Head Bar | — | 16 | Proto | 2126 | **5C930** | 23.67 | **14.99** | ▲ | 0.8 |
| G | Rolling Head Bar | — | 18 | Proto | 2130 | **3R551** | 27.80 | **17.99** | ▲ | 1.4 |
| H | Nail Puller | — | 11 | Stanley | 55-035 | **6R299** | 17.71 | **12.69** | | 1.1 |
| I | Handyman® Tack Claw | — | 7⅜ | Stanley | 69-010 | **6R590** | 5.84 | **4.19** | | 0.3 |
| J | Pry Bar | — | 14½ | Proto | 2140 | **1C050** | 20.09 | **14.67** | | 0.9 |
| J | Pry Bar | — | 17½ | Proto | 2142 | **1C048** | 25.31 | **18.48** | | 1.1 |
| J | Pry Bar | — | 28 | Proto | 2146 | **1C046** | 33.71 | **24.61** | | 2.2 |
| J | Pry Bar | — | 31⅞ | Proto | 2148 | **1C044** | 42.13 | **30.75** | | 2.4 |
| K | 4-Pc. Pry Bar Set–Includes 12 & 18" pry bars, 15" flat bar, & 24" goose neck bar | — | — | Westward | — | *New* **4PM09** | — | **29.95** | ▲ | 4.4 |
| L | 12 lb. Pinch Point Bar with Rat Tail | — | 51 | Collins | PP-12 | **6D022** | 32.95 | **31.35** | | 12.0 |
| L | 18 lb. Pinch Point Bar with Rat Tail | — | 60 | Collins | PP-18 | **4A294** | 41.19 | **39.15** | | 18.0 |

▲) Net prices, not subject to discounts

UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY
Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.

# PUNCHES AND PUNCH & CHISEL HOLDER

## PUNCH SETS




### DRIFT PUNCHES

- Black Oxide finish and a polished identification panel marked with tool number and size
- Modified parabolic struck end for greater resistance to mushrooming and chipping
- For installing and removing pins and shafts
- Used to align holes in two or more pieces of metal through which a bolt or screw is to be inserted

### LONG ALIGNING PUNCH

- Used for lining up holes in flanges, assemblies and other mating parts, and for removing long pins and shafts

### STARTING PUNCHES

- Similar to drift punches, but have wider points and heavier, shorter body
- Designed for installing pins and rivets and for starting their removal

### CENTER PUNCHES

- Used in metal working layout for marking intersecting center lines, hole locations and pilot drill starting points

### PRICK PUNCHES

- For scribing and for punching starting holes for sheet meta screws
- Used for aligning holes in two or more metal sheets

### DRIVE PIN PUNCHES

- Used to finish the job of driving out pins and rivets
- Black Oxide finish and a polished identification panel marked with tool number and size
- Modified parabolic struck end for greater resistance to mushrooming and chipping
- One-piece design with special tool steel allows punch to maintain a high hardness for longer life, while maintaining ductility of punch end
- Two-piece design allows tip to have a higher hardness for greater durability and allows the tip to be produced straighter to prevent binding

### ROLL PIN PUNCHES

- Specially designed ball in center of tip fits inside the roll pin to prevent damage to the pin

| Key | Description | Included in Set | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 7-Pc. Super-Duty Drive Pin Punch Set with Pouch | 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4" | 48007 | **1Q737** | $51.04 | **$32.95** | 0.9 |
| B | 7-Pc. Drive Pin Punch Set (Two-Pc. Design) with Pouch | 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4" | 47A | **3R111** | 48.87 | **34.95** | 1.1 |
| C | 5-Pc. Long Drive Pin Punch Set (One-Pc. Design) with Pouch | 5/32, 3/16, 7/32, 1/4, 5/16" | 48005L | **1Q736** | 53.42 | **34.50** | 0.9 |
| D | 7-Pc. Roll Pin Punch Set (One-Pc. Design) with Pouch | 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4" | 49007 | **1Q754** | 54.71 | **35.50** | 0.8 |
| E | 5-Pc. Drift Punch Set with Pouch | 1/8, 3/16, 7/32, 1/4, 5/16" | 96B | **3R161** | 67.20 | **47.95** | 2.2 |
| F | 7-Pc. Drift Punch Set with Pouch | 3/32, 1/8, 3/16, 7/32, 1/4, 5/16, 3/8" | 96A | **3R160** | 97.51 | **69.50** | 3.5 |
| G | 3-Pc. Brass Punch Set with Pouch | Brass Pin Punch 1/4 & 3/8"<br>Brass Drift Punch 1/2" | 49903 | **1Q789** | 39.62 | **25.50** | 1.0 |

## PUNCH & COLD CHISEL HOLDER

Holds punches and chisels up to 1" diameter. Proto brand (2108).

**No. 3R546.** Shpg. wt. 0.7 lbs. List $19.73. Each.....**$13.99**




ORDERING DATA FOR PUNCHES CAN BE FOUND ON THE FOLLOWING PAGE



*The only source you need for tools as tough as you are.*

# PUNCHES AND PIN PUNCH SET

| Description | Tip Size (In.) | Hex Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Drive Pin Punches | 1/16 | 1/4 | 4 1/8 | 48116 | 1Q742 | $5.22 | $3.76 | 0.1 |
| | 3/32 | 1/4 | 4 1/2 | 48332 | 1Q745 | 5.67 | 4.08 | 0.1 |
| | 1/8 | 5/16 | 4 3/4 | 48018 | 1Q740 | 6.00 | 4.32 | 0.1 |
| | 5/32 | 5/16 | 5 | 48532 | 1Q748 | 6.67 | 4.80 | 0.1 |
| | 3/16 | 3/8 | 5 1/4 | 48316 | 1Q743 | 6.96 | 5.01 | 0.1 |
| | 7/32 | 7/16 | 5 1/2 | 48732 | 1Q751 | 8.22 | 5.92 | 0.1 |
| | 1/4 | 7/16 | 5 3/4 | 48014 | 1Q738 | 8.62 | 6.21 | 0.1 |
| | 5/16 | 1/2 | 6 1/4 | 48516 | 1Q746 | 9.56 | 6.88 | 0.1 |
| | 3/8 | 5/8 | 6 1/2 | 48038 | 1Q741 | 10.91 | 7.86 | 0.1 |
| Drive Pin Punches (Two-Piece Design) | 3/64 | 1/4 | 4 3/8 | 47 1/4 x 1/16 | 3R112 | 4.98 | 3.59 | 0.1 |
| | 5/64 | 1/4 | 4 13/16 | 47 1/4 x 3/32 | 3R113 | 5.44 | 3.92 | 0.1 |
| | 7/64 | 5/16 | 5 1/4 | 47 5/16 x 1/8 | 3R114 | 5.71 | 4.11 | 0.1 |
| | 5/32 | 5/16 | 5 5/16 | 47 5/16 x 5/32 | 3R115 | 6.38 | 4.59 | 0.1 |
| | 11/64 | 3/8 | 5 7/8 | 47 5/8 x 3/16 | 3R116 | 6.60 | 4.75 | 0.2 |
| | 13/64 | 7/16 | 6 3/8 | 47 1/16 x 7/32 | 3R117 | 7.87 | 5.67 | 0.2 |
| | 1/4 | 1/2 | 6 3/4 | 47 1/16 x 1/4 | 3R118 | 8.20 | 5.90 | 0.3 |
| Long Drive Punches | 5/32 | 3/8 | 8 | 48532L | 1Q749 | 8.38 | 6.03 | 0.1 |
| | 3/16 | 3/8 | 8 | 48316L | 1Q744 | 8.69 | 6.26 | 0.8 |
| | 7/32 | 7/16 | 8 | 48732L | 1Q752 | 10.29 | 7.41 | 0.1 |
| | 1/4 | 1/2 | 8 | 48014L | 1Q739 | 10.78 | 7.76 | 0.1 |
| | 15/64 | 1/2 | 8 | 48516L | 1Q747 | 11.78 | 8.48 | 0.1 |
| Roll Pin Punches | 1/16 | 1/4 | 3 3/4 | 49116 | 1Q762 | 5.62 | 4.05 | 0.1 |
| | 3/32 | 1/4 | 4 1/4 | 49332 | 1Q764 | 6.11 | 4.40 | 0.1 |
| | 1/8 | 5/16 | 4 3/4 | 49018 | 1Q760 | 6.67 | 4.80 | 0.1 |
| | 5/32 | 5/16 | 5 1/4 | 49532 | 1Q768 | 7.22 | 5.20 | 0.1 |
| | 3/16 | 3/8 | 5 5/16 | 49316 | 1Q763 | 7.80 | 5.62 | 0.1 |
| | 7/32 | 3/8 | 5 7/8 | 49732 | 1Q775 | 8.31 | 5.98 | 0.1 |
| | 1/4 | 7/16 | 6 5/16 | 49014 | 1Q759 | 9.29 | 6.69 | 0.1 |
| | 3/8 | 1/2 | 7 1/2 | 49038 | 1Q761 | 10.09 | 7.26 | 0.1 |
| | 1/2 | 5/8 | 4 1/8 | 49012 | 1Q758 | 10.42 | 7.50 | 0.1 |
| Drift Punches | 3/32 | 1/4 | 4 1/2 | 96 1/4 | 3R153 | 11.40 | 8.21 | 0.1 |
| | 1/8 | 5/16 | 4 3/4 | 96 5/16 | 3R154 | 11.64 | 8.38 | 0.2 |
| | 3/16 | 3/8 | 5 | 96 3/8 | 3R155 | 11.98 | 8.63 | 0.3 |
| | 7/32 | 7/16 | 5 1/4 | 96 7/16 | 3R156 | 12.76 | 9.19 | 0.2 |
| | 1/4 | 1/2 | 5 1/2 | 96 1/2 | 3R157 | 12.89 | 9.28 | 0.5 |
| | 5/16 | 5/8 | 5 3/4 | 96 5/8 | 3R158 | 14.42 | 10.38 | 0.8 |
| | 3/8 | 23/32 | 6 1/4 | 96 3/4 | 3R159 | 18.36 | 13.22 | 1.0 |
| ong Aligning Punches | 3/16 | 19/32 | 6 1/2 | 15 5/8 | 3R094 | 19.13 | 14.73 | 1.0 |
| Starting | 1/16 | 3/16 | 4 3/8 | 50 3/16 | 3R119 | 5.44 | 3.92 | 0.1 |
| | 3/32 | 1/4 | 4 13/16 | 50 1/4 | 3R120 | 5.82 | 4.19 | 0.1 |
| | 1/8 | 5/16 | 5 1/4 | 50 5/16 | 3R121 | 6.73 | 4.85 | 0.1 |
| | 3/16 | 3/8 | 5 5/16 | 50 3/8 | 3R122 | 7.07 | 5.09 | 0.5 |
| | 7/32 | 7/16 | 5 7/8 | 50 7/16 | 3R123 | 7.20 | 5.18 | 0.2 |
| | 1/4 | 1/2 | 6 3/8 | 50 1/2 | 3R124 | 7.38 | 5.31 | 0.4 |
| Center | — | 1/4 | 6 3/4 | 41 1/4 | 3R101 | 4.96 | 3.57 | 0.1 |
| | — | 5/16 | 8 | 4 15/16 | 3R102 | 5.02 | 3.61 | 0.1 |
| | — | 3/8 | 8 | 41 3/8 | 3R103 | 6.64 | 4.78 | 0.2 |
| | — | 7/16 | 8 | 41 7/16 | 3R104 | 7.07 | 5.09 | 0.2 |
| | — | 1/2 | 8 | 41 1/2 | 3R105 | 7.13 | 5.13 | 0.3 |
| | — | 19/32 | 8 | 41 5/8 | 3R106 | 9.80 | 7.06 | 0.4 |
| Prick | — | 1/4 | 3 3/4 | 44 1/4 | 3R107 | 5.44 | 3.92 | 0.1 |
| | — | 5/16 | 4 1/4 | 44 5/16 | 3R108 | 5.98 | 4.31 | 0.1 |
| | — | 3/8 | 4 3/4 | 44 3/8 | 3R109 | 6.64 | 4.78 | 0.2 |

## 6-PC. PIN PUNCH SET

**Assorted sizes to handle most projects; use to drive pins, bolts, and rivets out of holes**

**Forged, hardened and tempered chrome vanadium steel for strength and durability**

**Chamfer on struck-end helps reduce mushrooming and chipping**

**Identification panel marked with punch size**

**Solid punch for hole alignment**

**Vinyl pouch for protection, storage**

**Westward brand**

**W No. 4PM13.** Pin Punch Set. Shpg. wt. 0.4
. Each.....$13.95▲

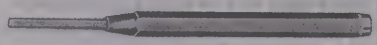



Net prices, not subject to discounts.






No. 1Q751 Drive Pin Punch–One Piece



No. 3R116 Drive Pin Punch–Two Piece



No. 1Q752 Long Drive Pin Punch



No. 1Q775 Roll Pin Punch



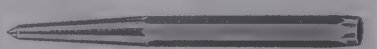
No. 3R153 Drift Punch



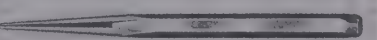
No. 3R094 Long Aligning Punch



No. 3R119 Starting Punch



No. 3R101 Center Punch



No. 3R107 Prick Punch

# PUNCH & CHISEL SETS, CHISEL/PLANE SHARPENER, AND NUT SPLITTER

## PUNCH AND CHISEL SETS

Enderes chisels and punches are forged from domestic high carbon tool steel. Forged parts have consistent uniform grain structure for maximum strength over machined parts. All tools are individually heat-treated to meet precise standards. Enderes brand.

### COLD CHISEL SET

- For cutting or removing metal softer than the cutting edge itself
- Can be easily re-sharpened with a good grade file
- Packaged in a reusable vinyl pouch

### PIN PUNCH SETS

- For driving a pin out, after it has been started, with a solid punch
- Packaged in a reusable vinyl pouch

### COMBINATION PUNCH AND CHISEL SETS

- Packaged in a reusable vinyl pouch

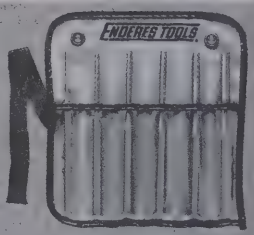
### 7-PC. AND 14-PC. PUNCH & CHISEL SETS

- Forged, hardened, and tempered chrome vanadium steel for strength and durability
- Chamfer on struck-end helps reduce mushrooming and chipping
- Heavy-duty canvas tool roll for protection and storage
- Westward brand

ENDERES TOOLS



No. 6X320
7-Pc. Cold Chisel Set



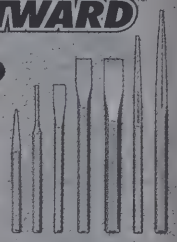
No. 2H135
6-Pc. Pin Punch Set



No. 2A262
12-Pc.
Combination Set

WESTWARD™

New



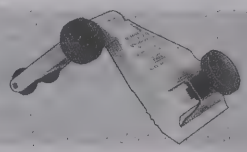
No. 4PM15
7-Pc. Punch & Chisel Set

| Description | Included in Set | | Enders Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ENDERES PUNCH AND CHISEL SETS** | | | | | | | |
| **7-Pc. Cold Chisel Set** | 5/16, 3/8, 7/16, 1/2, 5/8, 3/4 and 7/8" Chisels | | 0523 | **6X320** | $50.09 | **$27.55** | 2.5 |
| **6-Pc. Pin Punch Set** | 1/8, 5/32, 3/16, 7/32, 1/4, and 5/16" Pin Punches; 6" OAL | | 0540 | **2H135** | 37.96 | **28.55** | 1.9 |
| **7-Pc. Pin Punch Set** | 1/16, 3/32, 1/8, 5/32, 3/16, 1/4, and 5/16" Pin Punches; 8" OAL | | 0532 | **2A263** | 32.60 | **24.45** | 1.0 |
| **5-Pc. Extra-Long Pin Punch Set** | 1/8, 3/8, 3/16, 1/4, 5/16" Point Pin Punches, 8½" OAL | | 0539 | **2H133** | 44.66 | **33.55** | 1.0 |
| **8-Pc. Punch and Chisel Set** | 3/8, 1/2, 5/8" Cold Chisels<br>3/16" Solid Starter Punch<br>1/2" Center Punch<br>1/8, 3/16, 1/4" Pin Punches | | 0537 | **2H131** | 42.64 | **31.95** | 1.8 |
| **12-Pc. Punch and Chisel Set** | 3/8, 1/2, 5/8" Chisels<br>1/8, 5/32, and 3/16" Solid Starter Punches<br>1/8, 5/32 and 3/16" Pin Punches<br>3/8 and 1/2" Center Prick Punches<br>3/8" Prick Punch | | 0533 | **2A262** | 58.71 | **43.95** | 3.6 |
| **WESTWARD PUNCH AND CHISEL SETS** | | | | | | | |
| **7-Pc. Punch and Chisel Set** | 1/2, 5/8 & 3/4" Flat Chisel; 5/32 & 3/16" Solid Punch; 3/16" Pin Punch; 3/8" Center Punch; Canvas Pouch & Color Box | *New* | | **4PM15** | — | **19.95▲** | 2.4 |
| **14-Pc. Punch & Chisel Set** | 1/2, 5/8, 3/4, 7/8 & 1" Flat Chisel; 5/32 x 3/8, 5/32 x 1/2, 3/16, & 3/8" Solid Punch; 3/32, 1/8, 3/16 & 1/4" Pin Punch; 3/8" Center Punch; Canvas Pouch & Color Box | *New* | | **4PL89** | — | **28.95▲** | 5.9 |

(▲) Net prices, not subject to discounts.

## CHISEL/PLANE BLADE SHARPENER

GENERAL®



- Holder for resharpening chisel and plane blades
- Graduated settings maintain correct cutting angle
- Spring clamp locks in blades up to 2⅝" wide
- Made of high impact fiberglass reinforced Lexan
- Folds for storage

**No. 3ZH43.** Blade Sharpener (809). Shpg. wt. 0.6 lbs. List .....$21.96.
Each .....**$19.76**

## NUT SPLITTER

GENERAL®



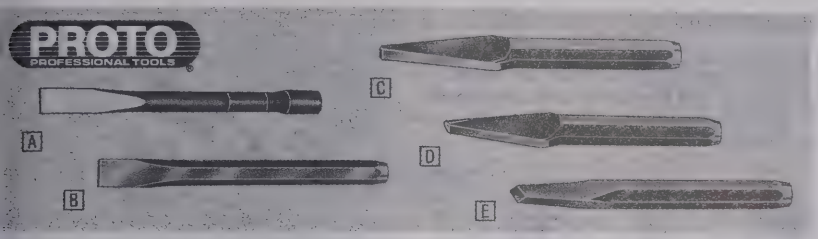
- For removal of frozen, hard-to-remove rusted nuts
- Angled body for getting into hard-to-reach work areas
- Replaceable hardened steel chisel point can be reversed to achieve best cutting angle
- Plated, black oxide finish to prevent rust
- Length—4¾"
- Capacity: nuts up to 3/4" (19mm) across flats

**No. 3ZH05.** Nut Splitter (175). Shpg. wt. 0.1 lbs. List $25.66.
Each .....$23.09



*The only source you need for tools as tough as you are.*

# CHISELS AND CHISEL SETS




| Key | Description | Tip Size (In.) | Hex Size (In.) | Length (In.) | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Super Duty Cold Chisels | 3/8 | 3/8 | 6 | 86038 | 1FJ99 | $7.84 | $6.04 | 0.1 |
| | | 1/2 | 1/2 | 6 13/16 | 86012 | 1FK02 | 9.53 | 7.34 | 0.3 |
| | | 5/8 | 5/8 | 7 5/8 | 86058 | 1FJ98 | 10.51 | 8.09 | 0.4 |
| | | 3/4 | 3/4 | 8 7/16 | 86034 | 1FK01 | 13.51 | 10.40 | 0.7 |
| | | 7/8 | 7/8 | 9 1/4 | 86078 | 1FJ97 | 20.07 | 15.45 | 1.1 |
| | | 1 | 15/16 | 10 1/16 | 86001 | 1FK03 | 20.02 | 13.21 | 1.5 |
| B | Cold Chisels | 1/4 | 3/16 | 5 | 86A3/16 | 3R139 | 5.82 | 4.19 | 0.1 |
| | | 5/16 | 1/4 | 5 1/8 | 86A1/4 | 3R140 | 5.87 | 4.23 | 0.1 |
| | | 3/8 | 5/16 | 5 3/8 | 86A5/16 | 3R141 | 6.16 | 4.44 | 0.1 |
| | | 7/16 | 3/8 | 5 9/16 | 86A3/8 | 3R142 | 6.33 | 4.56 | 0.2 |
| | | 1/2 | 7/16 | 6 | 86A7/16 | 3R143 | 7.47 | 5.38 | 0.3 |
| | | 5/8 | 1/2 | 6 3/4 | 86A1/2 | 3R144 | 8.22 | 5.92 | 1.1 |
| | | 3/4 | 19/32 | 7 3/8 | 86A5/8 | 3R145 | 10.58 | 7.62 | 0.6 |
| | | 7/8 | 23/32 | 8 | 86A3/4x8 | 3R146 | 15.73 | 11.33 | 0.9 |
| | | 7/8 | 23/32 | 12 | 86A3/4x12 | 3R147 | 20.73 | 14.93 | 0.5 |
| | | 1 | 13/16 | 8 1/8 | 86A7/8x8 | 3R148 | 16.49 | 11.87 | 1.0 |
| | | 1 | 13/16 | 12 | 86A7/8x12 | 3R149 | 25.98 | 18.71 | 1.8 |
| | | 1 3/16 | 15/16 | 8 3/8 | 86A1x8 | 3R150 | 18.80 | 13.54 | 0.5 |
| C | Cape Chisels | 11/64 | 1/4 | 4 5/8 | 72-1/4 | 3R125 | 8.67 | 6.24 | 0.5 |
| | | 13/64 | 5/16 | 5 1/8 | 72-5/16 | 3R126 | 8.93 | 6.43 | 0.1 |
| | | 17/64 | 3/8 | 5 1/2 | 72-3/8 | 3R127 | 9.20 | 6.62 | 0.2 |
| | | 21/64 | 1/2 | 6 1/2 | 72-1/2 | 3R128 | 10.51 | 7.57 | 0.3 |
| | | 25/64 | 19/32 | 6 5/8 | 72-5/8 | 3R129 | 12.89 | 9.28 | 0.5 |
| D | Round Nose Chisels | 11/64 | 1/4 | 4 5/8 | 80-1/4 | 3R135 | 8.31 | 5.98 | 0.1 |
| | | 13/64 | 5/16 | 5 | 80-5/16 | 3R136 | 9.13 | 6.57 | 0.1 |
| | | 17/64 | 3/8 | 5 1/2 | 80-3/8 | 3R137 | 10.33 | 7.44 | 0.2 |
| | | 3/8 | 19/32 | 6 1/2 | 80-5/8 | 3R138 | 11.89 | 8.56 | 0.1 |
| E | Diamond Point Chisels | 5/32 | 1/4 | 4 1/2 | 76-1/4 | 3R130 | 8.47 | 6.10 | 0.1 |
| | | 3/16 | 5/16 | 5 | 76-5/16 | 3R131 | 8.60 | 6.19 | 0.1 |
| | | 1/4 | 3/8 | 5 5/8 | 76-3/8 | 3R132 | 9.27 | 6.67 | 0.2 |
| | | 5/16 | 1/2 | 6 | 76-1/2 | 3R133 | 10.53 | 7.58 | 0.3 |
| | | 3/8 | 19/32 | 6 1/2 | 76-5/8 | 3R134 | 12.89 | 9.28 | 0.1 |

## SUPER DUTY COLD CHISELS

- For use in extremely harsh work environments
- Black Oxide finish and a polished identification panel marked with tool number and size
- Made from tool steel and specially heat treated for greater strength and ductility
- 20% larger striking surface than standard chisels directs the power to the cutting edge
- Longer shank features a knurl for better grip
- Modified parabolic struck end for greater resistance to mushrooming and chipping; larger striking surface

## COLD CHISELS

- Designed to cut any cold metal softer than the chisel itself such as wrought iron, cast iron, steel, brass, bronze, copper, aluminum, bolts, nuts, rivets
- Modified parabolic struck end for greater resistance to mushrooming and chipping

## CAPE CHISELS

- Designed for cutting keyways and slots in metal

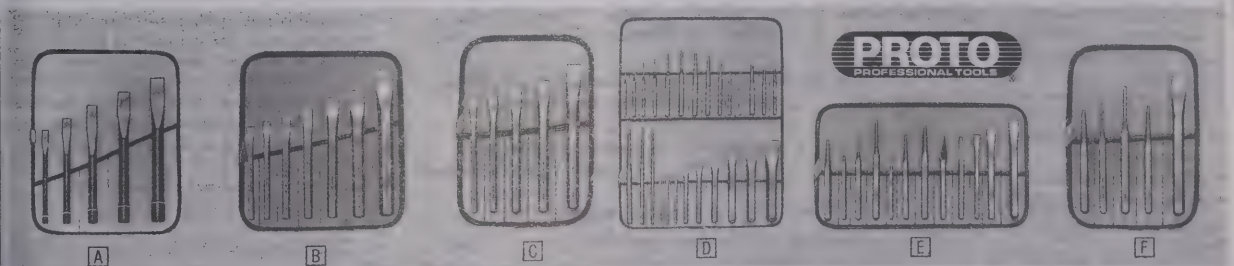
## ROUND NOSE CHISELS

- Designed for cutting grooves in metal where an oval shape is desired
- One cutting edge ground flat with the other cutting edge round

## DIAMOND POINT CHISELS

- Used to cut V-grooves and clean out inside corners

## CHISEL SETS



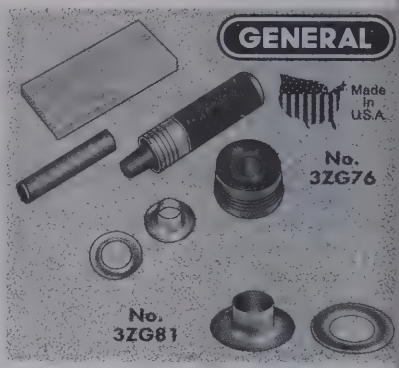

| Key | Description | Included in Set | Proto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 5-Pc. Super-Duty Cold Chisel Set w/ Pouch | 3/8, 1/2, 5/8, 3/4, 7/8" | 86000 | 1Q947 | $65.38 | $41.50 | 2.8 |
| B | 7-Pc. Cold Chisel Set w/ Pouch | 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8" | 86B | 3R151 | 64.29 | 45.95 | 2.6 |
| C | 5-Pc. Cold Chisel Set w/ Pouch | 5/16, 3/8, 7/16, 1/2, 5/8" | 86C | 3R152 | 37.87 | 27.00 | 1.1 |
| D | 26-Pc. Punch and Chisel Set w/ Pouch | Drive Pin Punch, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4"<br>Starting Punch, 3/32, 1/8, 3/16, 7/32, 1/4"<br>Cold Chisel, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 3/16"<br>Drift Punch 1/8, 3/16, 1/4; Center Punch 3/8, 1/2, 5/16" | 46 | 3R110 | 241.29 | 172.00 | 9.0 |
| E | 12-Pc. Punch and Chisel Set w/ Pouch | Center Punch 3/8"; Drive Pin Punch 3/32, 1/8, 3/16"<br>Starting Punch 1/16, 1/8, 3/16"; Cape Chisel 13/64"<br>Diamond Point 3/16"; Cold Chisel 5/16, 7/16, 1/2" | 2 | 3R074 | 85.58 | 60.95 | 1.8 |
| F | 5-Pc. Punch and Chisel Set w/ Pouch | Center Punch 3/8"; Drive Pin Punch, 1/8, 3/16"<br>Starting Punch 1/8"; Cold Chisel 5/8" | 3 | 3R077 | 37.73 | 26.95 | 1.0 |

# GROMMET KITS, SNAP FASTENER KITS, AND PUNCHES

## SOLID BRASS GROMMET KITS

- Kits contain solid brass grommets, hole cutter, hardwood backer block, mandrel and anvil
- Setting tool has knurled body for greater comfort and control
- Sizes individually marked on setting tool and coded with lines on anvil
- Setting tool and cutter are heat treated for long life
- Black oxide plating prevents rust

| Size (In.) | No. of Grommets | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 48 | 1260-0 | 3ZG76 | $9.14 | $8.23 | 0.8 |
| 5/16 | 24 | 1260-1 | 3ZG77 | 9.24 | 8.32 | 0.1 |
| 3/8 | 24 | 1260-2 | 3ZG78 | 9.48 | 8.53 | 0.9 |
| 7/16 | 24 | 1260-3 | 3ZG79 | 10.56 | 9.50 | 1.1 |
| 1/2 | 24 | 1260-4 | 3ZG80 | 11.60 | 10.44 | 1.2 |
| Refill for No. 3ZG76 | 24 | 1261-0 | 3ZG81 | 1.58 | 1.50 | 0.1 |
| Refill for No. 3ZG77 | 24 | 1261-1 | 3ZG82 | 1.96 | 1.86 | 0.1 |
| Refill for No. 3ZG78 | 24 | 1261-2 | 3ZG83 | 2.26 | 2.15 | 0.1 |
| Refill for No. 3ZG79 | 24 | 1261-3 | 3ZG84 | 3.14 | 2.98 | 0.3 |
| Refill for No. 3ZG80 | 24 | 1261-4 | 3ZG85 | 3.88 | 3.69 | 0.2 |



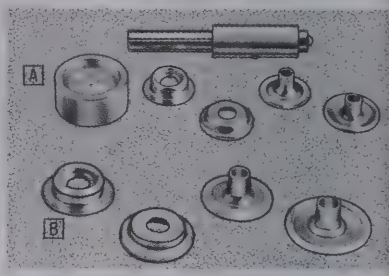

## A SNAP FASTENER KIT

- Snap fastener kit contains 2-piece setting tool with knurled body and 6 fastener sets
- Solid brass fasteners with nickel plating will not rust

## B SCREW SNAP FASTENER KIT

- Screw snap fastener kit contains 2-piece setting tool with knurled body and 6 fastener sets
- Solid brass fasteners with nickel plating will not rust

| Key | No. of Fasteners | Type | General Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 6 | Snap | 1265 | 3ZG86 | $4.68 | $4.21 | 0.1 |
| B | 6 | Screw/Snap | 1267 | 3ZG88 | 5.76 | 5.18 | 0.2 |
| Refill for No. 3ZG86 | 6 | Snap | 1266 | 3ZG87 | 2.16 | 2.05 | 0.1 |
| Refill for No. 3ZG88 | 6 | Screw/Snap | 1268 | 3ZG89 | 3.18 | 3.02 | 0.1 |



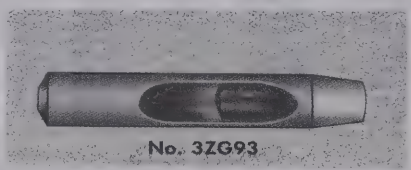

## SCREW CENTERING PUNCH




- For quickly starting screw holes when attaching countersunk hardware such as hinges, hasps, hangers and drawer pulls
- Countersunk end ensures hole is centered in hardware
- Hardened steel punch pin is spring retracted
- Nickel plated body is 2½ x 3/8"
- General brand (806).

**No. 3ZH31.** Shpg. wt. 0.1 lbs. List.....$3.38.
Each.....**$3.04**

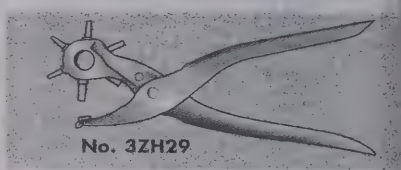
## HOLLOW STEEL PUNCH SET




- For punching holes in leather, rubber, canvas, cardboard, plastic, and other soft materials
- Made of forged steel with side clearance hole for easy removal of punched material
- Set includes 6 sizes: 3/16, 1/4, 5/16, 3/8, 7/16, and 1/2" in a plastic roll case
- General brand (1280ST).

**No. 3ZG93.** Shpg. wt. 1.5 lbs. List.....$34.72.
Each.....**$31.25**

## REVOLVING PUNCH PLIER



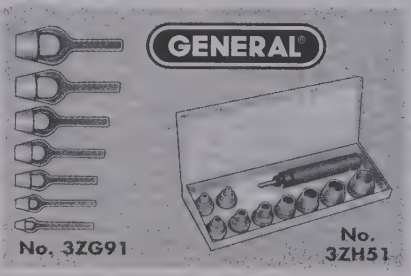

- A convenient spring tension, self opening tool for punching round holes in leather, plastic, rubber, canvas, cardboard, and similar materials
- Made of plated steel with six tapered and hollow, hardened steel punches
- Hole sizes; 5/64, 3/32, 7/64, 1/8, 5/32 and 3/16"
- Replacement punches available
- General brand (72)

**No. 3ZH29.** Shpg. wt. 0.5 lbs. List.....$10.72.
Each.....**$9.65**

## ARCH PUNCH SET

- For punching holes in leather, rubber, gasket material, and soft metals
- Inside taper for clearance
- Heat-treated Sheffield forged steel
- Set includes 7 sizes: 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, and 1" in a plastic roll case
- General brand (1271ST)

**No. 3ZG91.** Shpg. wt. 2.8 lbs. List.....$79.18.
Each.....**$71.30**




## 10-Pc. GASKET PUNCH SET

- For punching holes in leather, rubber, canvas, plastic, sheet metal
- Set includes 9 sizes: 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, and 1", plus a spring loaded self-centering steel driving mandrel in a molded plastic case
- General brand (S1274)

**No. 3ZH51.** Shpg. wt. 2.1 lbs. List.....$58.06.
Each.....**$52.30**



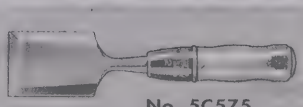
The only source you need for tools as tough as you are.

# WOOD CHISELS, PLANES, AWLS AND TAPPING TOOLS

## PROFESSIONAL™ WOOD CHISELS

- Tough handle designed for balance and grip
- Crown shaped steel cap centers hammer blows
- Blades have polished finish
- Blade and tang forged from one piece of high quality, cutlery grade steel
- Chisel sets include durable storage case

STANLEY



No. 5C575

### INDIVIDUAL WOOD CHISELS

| Width (In.) | Length (In.) | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 9 | 16-903 | 5C575 | $10.73 | $6.99▲ | 0.4 |
| 3/8 | 9 | 16-904 | 5C576 | 10.91 | 7.49▲ | 0.4 |
| 1/2 | 9 | 16-905 | 5C577 | 11.36 | 8.99▲ | 0.5 |
| 5/8 | 9 | 16-906 | 5C578 | 11.38 | 9.99▲ | 0.5 |
| 3/4 | 9 | 16-907 | 5C579 | 11.40 | 10.49▲ | 0.5 |
| 1 | 9 | 16-908 | 5C580 | 12.18 | 10.99▲ | 0.6 |
| 1 1/4 | 9 | 16-909 | 5C581 | 14.27 | 11.49▲ | 0.1 |
| 1 1/2 | 9 | 16-910 | 5C582 | 15.69 | 11.99▲ | 0.7 |
| 2 | 9 | 16-911 | 5C583 | 18.51 | 12.99▲ | 1.0 |

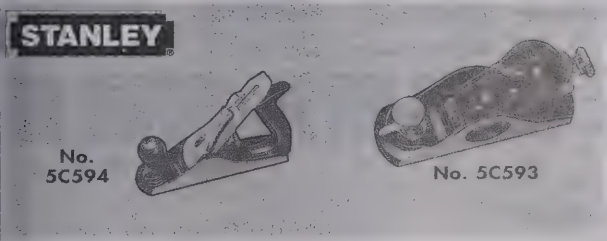
▲) Net prices, not subject to discounts.

### WOOD CHISEL SETS

| No. of Pieces | Includes | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 | 1/2, 3/4 & 1" | 16-900 | 5C584 | $34.93 | $27.95▲ | 2.0 |
| 6 | 1/4, 1/2, 3/4, 1, 1 1/4 & 1 1/2 | 16-901 | 5C585 | 75.62 | 59.95▲ | 3.3 |
| 9 | 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, & 2 | 16-902 | 5C586 | 116.42 | 89.95▲ | 5.2 |

## PROFESSIONAL® PLANES

STANLEY



No. 5C594

No. 5C593

rofessional Bench Plane® has fully ground cast-iron bottom ith side and bottom machined true. Mouth opening adjustable or coarse or fine work. Cutter ground for thickness and evenness of shaving. Comfortable handle and knob have stained finish. Bottom casting is black. Length is 9¾" and cutter width is 2". tanley brand (12-904).

**lo. 5C594.** (12-904). Shpg. wt. 3.7 lbs. List $73.40.Each.....$64.95

**rofessional® Block Plane** with fully adjustable cutter—to change nickness of shaving rotate knurled nut, to change evenness of having, move adjusting lever. Mouth is adjustable for coarse or ne work. Cutter rests on seat at 21°angle. 6"L,cutter width 1⅝".

**lo. 5C593.** (12-920). Shpg. wt. 2.0 lbs. List $54.58. Each.....$39.95

## SURFORM® TOOLS AND BLADES

**urform File** is for filing and shaping wood, plastic, or soft metal urfaces. Made of high carbon, hardened, and tempered steel ith impact-resistant black molded handle. Includes one regular ut blade. 15¾L x 1⅝"W. Stanley brand (21-295).

**o. 5C940.** Shpg. wt. 0.8 lbs. List $15.51. Each.....$11.95

**urform Pocket Plane** is a speed cutting and trimming tool for one and use. Fits apron or overalls pocket. Die-cast zinc alloy body. ncludes one fine blade. 5½L x 1⅜"W. Stanley brand (21-399).

**o. 5C943.** (21-399). Shpg. wt. 0.4 lbs. List $7.78. Each.....$5.95

## SURFORM® SHAVER TOOL

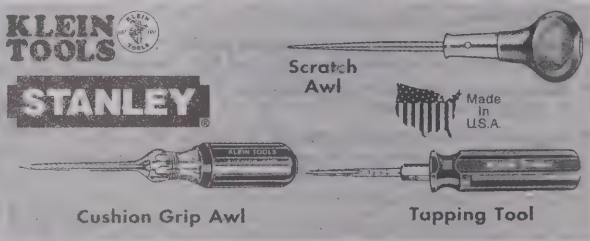
- One-pc.molded handle, 7¼" OAL
- Close, positive control; won't chatter
- Clip-on type blade
- Furnished with regular cutting blade with edge cut feature

**ewNo. 6R004.** Stanley brand (21-115). Shpg. wt. 0.2 lbs. List.....$4.52. ach.....$3.48

## AWLS AND TAPPING TOOL

KLEIN TOOLS

STANLEY




### SCRATCH AWL

- Blade, shank, head forged from one piece of alloy steel
- Handle has flat sides to prevent rolling

### CUSHION GRIP AWL

- Heavy-duty awl • Rigid, tempered steel shaft

### TAPPING TOOL

- Six-in-one tapping tool (stepped)
- Forms new threads • Large plastic handle

| Description | Shank Length (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Scratch Awl | 3⅛ | 6¼ | Stanley | 69-007 | 5C595 | $10.56 | $8.59 | 0.3 |
| Cushion Grip Awl | 3½ | 7⅞ | Klein | 650 | 4A851 | 8.48 | 7.43 | 0.3 |
| 6 - in - 1 Tapping Tool | — | 7½ | Klein | 627-20 | 4A853 | 24.26 | 21.23 | 0.4 |

## REPLACEMENT BLADES FOR SURFORM TOOLS

**Replacement 10" Flat Blade for Surform File.** For use on woods, vinyl, plaster, linoleum, autobody filler, and soft metals with edge cut feature. Stanley brand (21-293).

**No. 5C942.** Shpg. wt. 0.1 lbs. List $5.69. Each.....$4.95

For use on hardwoods, end grain, plywood, chipboard and plaster. Fits No. 5C940: Stanley brand.

***New* No. 6R009.** (21-299). Shpg. wt. 0.1 lbs. List $5.78. Each.....$4.45

**Replacement 5½" Flat Blade for Surform Pocket Plane.** For use on hardwoods, end grain, plywood, chipboard, and plaster. Stanley brand (21-398).

**No. 5C941.** (21-398). Shpg. wt. 0.1 lbs. List $4.87. Each.....$3.95

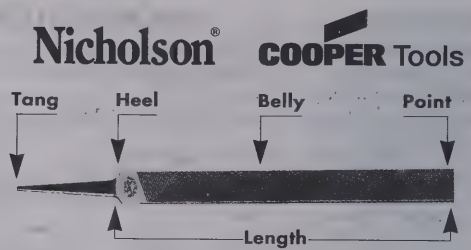
For use on woods, vinyl, plaster, linoleum, soft metals. Fits No. 6R004. Stanley brand.

***New* No. 6R015.** (21-515). Shpg. wt. 0.1 lbs. List $2.71. Each.....$2.09

# FILE SELECTION GUIDE AND THREAD RESTORING FILES

The following information is to help you select the right file for your particular application. Files and file accessories can be found on pages 1369 thru 1370.

## FILE TERMINOLOGY




### LENGTH

- Measured exclusive of tang, from point to heel
- Desired stroke length, type of material, and size will determine length required

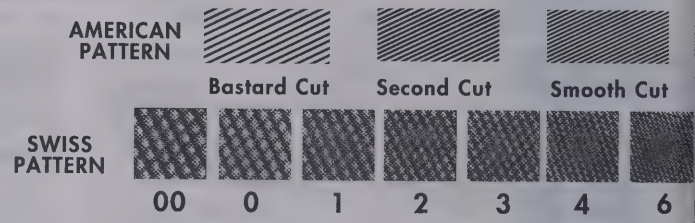
### SHAPE

- Area to be filed will determine specific cross-section (round, square, flat, etc.) to be used



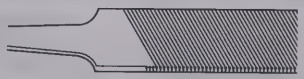
### COARSENESS

- Work to be accomplished, roughing or finishing, will determine type of teeth and coarseness for each application
- Most American pattern files are available with 3 grades of cut—Bastard Cut, Second Cut, Smooth Cut
- Swiss pattern files are available in 7 cuts: No. 00, 0, 1, 2, 3, 4, and 6
- Degree of coarseness is greater in longer files, but the difference between bastard, second, and smooth are proportionate



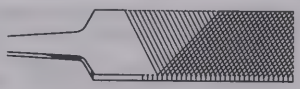

## KINDS OF TEITH

### SINGLE-CUT



- Single set of parallel, diagonal rows of teeth
- Single-cut files are often used with light pressure to produce a smooth surface finish or to put a keen edge on knives, shears, or saws

### DOUBLE-CUT



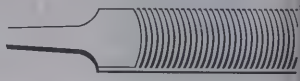
- 2 sets of diagonal rows of teeth
- Second set of teeth cut in opposite direction and on top of the first set
- First set of teeth is known as OVERCUT, the second set is known as UPCUT
- Upcut is finer than overcut
- Double-cut file is used with heavier pressure than the single-cut and removes material faster from the workpiece

### RASP-CUT



- Series of individual teeth which are formed by a single-pointed tool
- Produces a rough cut that is used primarily on wood, hooves, aluminum, and lead

### CURVED-CUT



- Teeth are arranged in curved contours across the file face
- Curved-cut is normally used in automotive body shops for smoothing body panels




Thread Restoring Files

4-Pc. Assortment No. 3MD33

## THREAD RESTORING FILES

- Restores damaged or rusted external threads on bolts, threaded shafts, pipe and pipe fittings
- Can also be used as a thread gauge
- Thread sizes are clearly marked on each file
- Each file comes in a reusable plastic tube for easy storage
- All files are 8½" in length
- No. 3MD33 Assortment comes in a convenient roll-up pouch

| Description | Nicholson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Regular Bolt**—11-12; 13-14; 16-18; 20-24 TPI | 33001 | **3MD29** | $12.65 | **$10.76** | 0.4 |
| **Extra Fine/Extra Coarse Bolt**—9-12; 10-16; 20-27; 28-32 TPI | 33007 | **3MD30** | 12.65 | **10.76** | 0.4 |
| **Regular Pipe**—8-10; 11.5-14; 16-18; 24-27 TPI | 33012 | **3MD31** | 12.65 | **10.76** | 0.4 |
| **Metric Bolt**—.75-1.0; 1.25-1.50; 1.75-2.0; 2.5-3.0mm | 33016 | **3MD32** | 12.65 | **10.76** | 0.4 |
| **4-Pc. Assortment**—One each of the above files | 33024 | **3MD33** | 50.62 | **36.95** ▲ | 1.8 |

(▲) Net prices, not subject to discounts.

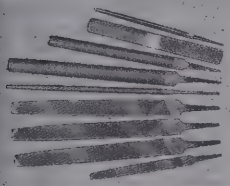


The only source you need for tools as tough as you are.

# STEEL FILE SETS

Nicholson® Made in U.S.A.

COOPER Tools



A
No. 6C977



B
No. 1G476



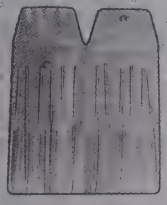
C
No. 6C979

D
No. 6C978



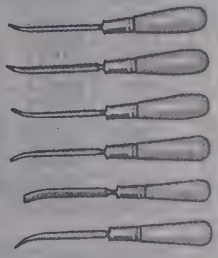


E
No. 1F882



F
No. 6A632





G
No. 1G474

H
No. 1G494

### A 9-PC. MAINTENANCE SET

- 10"/250mm flat bastard file
- 10"/250mm flat smooth file
- 10"/250mm mill bastard file
- 10"/250mm half round bastard file
- 10"/250mm round bastard file
- 8"/200mm flat smooth file
- 8"/200mm half round bastard file
- 8"/200mm four-in-hand file
- 6"/150mm slim taper file

### B 8-PC. MACHINIST SET

- 10"/250mm mill bastard file
- 10"/250mm half round bastard file
- 10"/250mm flat bastard file
- 10"/250mm flat smooth file
- 10"/250mm square bastard file
- 10"/250mm round bastard file
- 7"/175mm slim taper file
- 10"/250mm file cleaner (card)

### C 5-PC. GENERAL PURPOSE SET

- 10"/250mm half round bastard file
- 10"/250mm mill bastard file
- 8"/200mm mill bastard file
- 8"/200mm mill smooth file
- 6"/150mm slim taper file

### D 3-PC. WELDER'S SET

- 14"/350mm half round pipeliner file
- 12"/300mm half round bastard file
- 10"/250mm mill smooth file

### E 6-PC. HOBBY SET

- 5½"/140mm equaling file
- 5½"/140mm half round file
- 5½"/140mm flat file
- 5½"/140mm round file
- 5½"/140mm square file
- 5½"/140mm three square file

### F 12-PC. NEEDLE SET

- Barrette file
- Equaling file
- Flat file
- Half round file
- Joint file
- Knife file
- Marking file
- Crossing file
- Round file
- Slitting file
- Square file
- Three square file
- In 4"/100mm sets, oval file is furnished instead of crossing file

### G 6-PC. HANDLED AMERICAN PATTERN BASTARD CUT SET

- 4"/100mm warding file
- 4"/100mm half round file
- 4"/100mm round file
- 4"/100mm hand file
- 4"/100mm square file
- 4"/100mm slim taper file

### H 6-PC. HANDLED BENT RIFFLER SET

- 7¾"/197mm three square bastard
- 7¾"/197mm hand bastard
- 7¾"/197mm flat float safe sides
- 7¾"/197mm half round bastard
- 7¾"/197mm hthree square rasp
- 7¾"/197mm round rasp

**All file sets come packaged in a rugged pouch**

### COOPER WARRANTY

Text of warranty available, see page opposite inside back cover.

| Key | Description | Nicholson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 9-Pc. Maintenance Set, American Pattern | 22030 | **6C977** | $92.45 | **$64.95** ▲ | 3.5 |
| B | 8-Pc. Machinist Set, American Pattern | 22025 | **1G476** | 83.80 | **59.95** ▲ | 3.4 |
| C | 5-Pc. General Purpose Set, American Pattern | 22040 | **6C979** | 40.98 | **28.95** ▲ | 1.7 |
| D | 3-Pc. Welder's Set, American Pattern | 22036 | **6C978** | 48.15 | **34.95** ▲ | 2.9 |
| E | 6-Pc. Hobby Set, American Pattern | 42030 | **1F882** | 30.06 | **21.95** ▲ | 0.2 |
| F | 4"/100mm, 2 Cut, Needle Set, Swiss Pattern | 37035 | **1F965** | 152.93 | **109.95** ▲ | 0.5 |
| | 5½"/140mm, 0 Cut, Needle Set, Swiss Pattern | 37392 | **1F963** | 155.88 | **109.95** ▲ | 0.2 |
| | 5½"/140mm, 2 Cut, Needle Set, Swiss Pattern | 37398 | **6A632** | 155.88 | **109.95** ▲ | 0.3 |
| | 5½"/140mm, 4 Cut, Needle Set, Swiss Pattern | 37404 | **1F961** | 155.88 | **109.95** ▲ | 0.5 |
| | 6¼"/159mm, 0 Cut, Needle Set, Swiss Pattern | 37755 | **1F959** | 170.10 | **144.60** ▲ | 0.5 |
| G | 6-Pc. Handled Bastard Cut Set, American Pattern | 22062 | **1G474** | 41.38 | **29.95** ▲ | 0.5 |
| H | 6-Pc. Handled Bent Riffler Set, American Pattern | 21450 | **1G494** | 99.71 | **69.95** ▲ | 0.8 |

(▲) Net prices, not subject to discounts.

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# STEEL FILES

**A CROCHET FILES**



Used by tool and die makers, jewelers, model makers and home craftsmen. Double-cut on flat sides and both edges.

**B CROSSING FILES**



Used by tool and die makers, jewelers, model makers and home craftsmen. Double circular section, 1 side same radius as half file, opposite having flatter curve or larger radius.

**C EQUALING FILES**



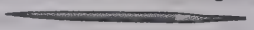
Used by tool and die makers, jewelers, model makers and home craftsmen. Double-cut sides, single-cut edges.

**D HAND FILES**



Used by tool and die makers, jewelers, model makers and home craftsmen. Double-cut sides. Corrugating file made for corrugating edges of barber's shears and other edged tools.

**E PIPPIN FILES**



Used by manufacturers of taps, drills, reamers, ball bearings, and gears. Rounded back tapers to sharp edge.

**F ROUND FILES**



Used by manufacturers of taps, drills, reamers, ball bearings, and gears. Single cut. Tapers to fine point.

**G MILL FILES**



For sharpening mill/circular saws and draw-filing/finishing metals. Rounded edge mill files have 2 round edges.

**H FLAT FILES**



For machinists, builders and repairmen who require fast removal of metal. Double-cut sides, single-cut edges. Babbitt files have fewer teeth per inch.

| Key | Description | Nicholson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **CROCHET FILES—SWISS PATTERN** | | | | | | |
| A | 6" 0 Cut | 35632 | **1G456** | 25.12 | **21.36** | 0.2 |
| | 8" 0 Cut | 35660 | **1G454** | 34.21 | **29.10** | 0.2 |
| **CROSSING FILES—SWISS PATTERN** | | | | | | |
| B | 6" 0 Cut | 35739 | **1G436** | 42.75 | **36.35** | 0.1 |
| | 6" 2 Cut | 35748 | **1G412** | 62.90 | **53.50** | 0.1 |
| **EQUALING FILES—SWISS PATTERN** | | | | | | |
| C | 6" 0 Cut | 36245 | **1G337** | 17.00 | **14.45** | 0.1 |
| | 6" 2 Cut | 36253 | **1G179** | 18.69 | **15.89** | 0.1 |
| **HAND FILES—SWISS PATTERN** | | | | | | |
| D | 4" 2 Cut | 36723 | **1F985** | 14.34 | **12.19** | 0.1 |
| | 6" 0 Cut | 36743 | **1F983** | 17.33 | **14.74** | 0.2 |
| | 6" 2 Cut | 36755 | **1F981** | 19.15 | **16.28** | 0.2 |
| **PIPPIN FILES—SWISS PATTERN** | | | | | | |
| E | 6" 2 Cut | 40506 | **1F908** | 49.59 | **42.20** | 0.1 |

## IF YOU'RE IN A BIND, CALL GRAINGER

If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

**Nicholson® COOPER Tools** Made In U.S.A.

| Key | Description | Nicholson Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **ROUND FILES—SWISS PATTERN** | | | | | | |
| F | 4" 0 Cut, Straight, 1/8" dia. | 40765 | **1F890** | $13.05 | **$11.10** | 0.1 |
| | 4" 2 Cut, Tapered, 1/8" dia. | 40592 | **1F904** | 13.47 | **11.46** | 0.1 |
| | 6" 0 Cut, Tapered, 3/16" dia. | 40651 | **1F900** | 14.85 | **12.62** | 0.1 |
| | 6" 2 Cut, Tapered, 3/16" dia. | 40663 | **1F896** | 16.34 | **13.90** | 0.1 |
| **ROUND FILES—AMERICAN PATTERN** | | | | | | |
| F | 4" Bastard, 1/8" dia. | 11526 | **6C966** | 5.71 | **4.86** | 0.1 |
| | 6" Bastard, 1/4" dia. | 11716 | **2A496** | 5.52 | **4.70** | 0.1 |
| | 8" Bastard, 5/16" dia. | 21853 | **2A497** | 6.58 | **5.59** | 0.3 |
| | 10" Bastard, 1/2" dia. | 21854 | **2A498** | 8.48 | **7.21** | 0.3 |
| | 12" Bastard, 1/2" dia. | 12134 | **6C967** | 11.72 | **9.97** | 0.4 |
| | 14" Bastard, 5/8" dia. | 12248 | **1G660** | 16.68 | **14.18** | 1.0 |
| F | 6" Second Cut, 1/4" dia. | 11748 | **1G670** | 6.56 | **5.58** | 0.1 |
| | 8" Second Cut, 5/16" dia. | 11936 | **1G668** | 7.59 | **6.45** | 0.1 |
| | 10" Second Cut, 3/8" dia. | 12051 | **1G666** | 9.99 | **8.50** | 0.3 |
| | 12" Second Cut, 1/2" Dia. | 12166 | **1G664** | 13.37 | **11.37** | 0.6 |
| F | 6" Smooth, 1/4" dia. | 11781 | **6C968** | 7.17 | **6.10** | 0.1 |
| | 8" Smooth, 5/16" dia. | 11969 | **6C969** | 8.48 | **7.21** | 0.1 |
| | 10" Smooth, 3/8" dia. | 12084 | **6C970** | 10.99 | **9.34** | 0.3 |
| | 12" Smooth, 1/2" dia. | 12199 | **1G662** | 14.59 | **12.41** | 0.6 |
| **MILL FILES—AMERICAN PATTERN** | | | | | | |
| G | 4" Bastard | 08243 | **6C945** | 4.68 | **3.98** | 0.1 |
| | 6" Bastard | 08354 | **2A492** | 4.68 | **3.98** | 0.1 |
| | 8" Bastard | 08497 | **2A493** | 5.48 | **4.66** | 0.2 |
| | 10" Bastard | 08642 | **2A494** | 7.13 | **6.06** | 0.4 |
| | 12" Bastard | 08737 | **2A495** | 11.70 | **9.95** | 0.8 |
| | 14" Bastard | 08832 | **6C946** | 15.86 | **13.48** | 1.3 |
| | 16" Bastard | 08925 | **1G680** | 22.04 | **18.74** | 1.8 |
| G | 6" Second Cut | 08385 | **6C949** | 6.70 | **5.70** | 0.1 |
| | 8" Second Cut | 08529 | **6C950** | 7.55 | **6.42** | 0.2 |
| | 10" Second Cut | 08673 | **6C951** | 9.66 | **8.21** | 0.4 |
| | 12" Second Cut | 08768 | **6C952** | 12.74 | **10.83** | 0.8 |
| G | 4" Smooth | 08306 | **6C947** | 7.08 | **6.02** | 0.1 |
| | 6" Smooth | 08416 | **6C948** | 7.10 | **6.04** | 0.1 |
| | 8" Smooth | 08559 | **6A628** | 8.37 | **7.12** | 0.3 |
| | 10" Smooth | 08704 | **6A629** | 10.31 | **8.77** | 0.5 |
| | 12" Smooth | 08799 | **6A630** | 14.00 | **11.91** | 0.8 |
| | 14" Smooth | 08894 | **1G682** | 19.44 | **16.53** | 1.2 |
| G | 8" Bastard-Round Edge | 09389 | **1G678** | 8.94 | **7.60** | 0.3 |
| | 10" Bastard-Round Edge | 09469 | **1G676** | 11.11 | **9.45** | 0.4 |
| **FLAT FILES—AMERICAN PATTERN** | | | | | | |
| H | 4" Bastard | 03367 | **6C953** | 6.56 | **5.58** | 0.1 |
| | 6" Bastard | 21867 | **2A502** | 6.87 | **5.85** | 0.1 |
| | 8" Bastard | 21862 | **2A503** | 8.54 | **7.26** | 0.4 |
| | 10" Bastard | 03665 | **2A504** | 10.58 | **9.00** | 0.5 |
| | 12" Bastard | 03764 | **6A625** | 14.49 | **12.32** | 0.8 |
| | 14" Bastard | 03863 | **6C954** | 19.91 | **16.93** | 1.4 |
| | 16" Bastard | 03980 | **1G746** | 26.34 | **22.39** | 2.0 |
| H | 6" Second Cut | 03500 | **6C957** | 7.23 | **6.15** | 0.2 |
| | 8" Second Cut | 03599 | **6C958** | 9.42 | **8.01** | 0.2 |
| | 10" Second Cut | 03698 | **6C959** | 12.19 | **10.36** | 0.5 |
| H | 4" Smooth | 03434 | **6C955** | 8.12 | **6.90** | 0.1 |
| | 6" Smooth | 03533 | **6C956** | 8.67 | **7.37** | 0.1 |
| | 8" Smooth | 03633 | **6A631** | 10.08 | **8.57** | 0.4 |
| | 10" Smooth | 03731 | **6A633** | 13.33 | **11.33** | 0.4 |
| | 12" Smooth | 03830 | **6A634** | 18.12 | **15.40** | 1.0 |
| | 14" Smooth | 03929 | **1G748** | 25.14 | **21.37** | 1.4 |
| H | 8" 14/Standard, Curved Cut* | 20239 | **1G530** | 26.17 | **22.25** | 0.4 |
| | 10" 12/Standard, Curved Cut* | 20291 | **1G528** | 30.84 | **26.25** | 0.5 |
| | 12" 10/Standard, Curved Cut* | 20342 | **1G526** | 36.66 | **31.20** | 0.8 |
| H | 12" 8 tpi Babbitt* | 20479 | **1G522** | 45.52 | **38.70** | 0.8 |

(*) Not American or Swiss Pattern. (†) Round edge mill files have 2 rounded edges.



The only source you need for tools as tough as you are.

# STEEL FILES

**Nicholson® COOPER Tools** Made in U.S.A.

**A ALUMINUM FILES**



Type "A", both flat & half round in shape. All sizes have same number of teeth per inch. Special tooth construction eliminates clogging when filing aluminum.

**B LATHE FILES (Long Angle)**



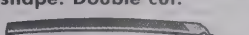
Both fine & bastard. Rapid, free cutting files designed for lathe filing and finishing work. Rectangular shape. Single-cut.

**C 3-SQUARE FILES**



For general use by machinists for filing internal angles more acute than right angles, clearing out square corners and filing caps and gutters. Triangular shape. Double-cut.

**D BODIFILES**



For those who work on automobile bodies, particularly in blending solder with sheet metal. Milled tooth bodifiles are ideal for smooth, rapid work on cast iron, bronze, lead, babbitt, aluminum, zinc, plastics and any steel up to the hardness of annealed tool steel. Rectangular shape.

**E PILLAR FILES**



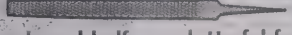
Used mostly by machinists for filing slots and keyways. Similar to hand files but narrower.

**F SQUARE FILES**



Used on slots, keyways and general surface filing. Square shape. Tapered slightly towards point.

**G RASP FILES**



Wood rasps in flat, round, and half round. Useful for purposes in which their different shapes make them particularly effective.

| Key | Description | Nicholson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ALUMINUM FILES—AMERICAN PATTERN** | | | | | | |
| A | 8" Half Round "A" | 00136 | **1G804** | $21.13 | **$17.97** | 0.3 |
| A | 10" Half Round "A" | 00161 | **1G802** | 24.32 | **20.67** | 0.6 |
| A | 8" Flat "A" | 00024 | **1G810** | 11.89 | **10.11** | 0.4 |
| A | 10" Flat "A" | 00047 | **1G808** | 14.57 | **12.39** | 0.6 |
| A | 12" Flat "A" | 00070 | **1G806** | 19.51 | **16.59** | 0.8 |
| **LATHE (LONG ANGLE) FILES—AMERICAN PATTERN** | | | | | | |
| B | 10" Bastard | 07657 | **1G702** | 13.90 | **11.82** | 0.6 |
| B | 12" Bastard | 07688 | **1G700** | 18.79 | **15.98** | 1.0 |
| B | 14" Bastard | 07719 | **1G698** | 25.44 | **21.62** | 1.4 |
| B | 10" Fine | 07842 | **1G696** | 14.93 | **12.69** | 0.6 |
| B | 12" Fine | 07851 | **1G694** | 19.82 | **16.85** | 1.0 |
| B | 14" Fine | 07863 | **1G692** | 26.34 | **22.39** | 1.4 |
| **3-SQUARE FILES—AMERICAN PATTERN** | | | | | | |
| C | 6" Bastard | 15925 | **1G600** | 9.49 | **8.07** | 0.2 |
| C | 8" Bastard | 16036 | **1G594** | 11.30 | **9.61** | 0.3 |
| C | 10" Bastard | 16147 | **1G588** | 14.11 | **12.00** | 0.6 |
| C | 6" Second Cut | 15958 | **1G598** | 10.65 | **9.06** | 0.2 |
| C | 8" Second Cut | 16069 | **1G592** | 12.86 | **10.94** | 0.3 |
| C | 6" Smooth | 15991 | **1G596** | 10.80 | **9.18** | 0.2 |
| C | 8" Smooth | 16102 | **1G590** | 13.53 | **11.51** | 0.3 |
| **BODIFILES—AMERICAN PATTERN** | | | | | | |
| D | 1 11/32" x 5/16"-14 Flat Bent | 03184 | **1G768** | $29.00 | **$24.65** | 1.4 |
| D | 1 11/32" x 5/16"-14 Flat Bent | 03212 | **1G766** | 29.00 | **24.65** | 1.4 |
| D | 1 11/32" x 5/16"-14 Flat Bent | 03278 | **1G756** | 34.10 | **29.00** | 1.4 |
| D | 14" 8/Standard, M/T | 20189 | **1G536** | 41.97 | **35.70** | 0.6 |
| **PILLAR FILES—SWISS PATTERN** | | | | | | |
| E | 4" 2 Cut | 39873 | **1F951** | 12.19 | **10.36** | 0.1 |
| E | 6" 00 Cut | 39893 | **1F949** | 13.90 | **11.82** | 0.1 |
| E | 6" 0 Cut | 39899 | **1F946** | 13.90 | **11.82** | 0.1 |
| E | 6" 2 Cut | 39911 | **1F942** | 14.30 | **12.16** | 0.1 |
| E | 8" 0 Cut | 39935 | **1F940** | 18.58 | **15.80** | 0.3 |
| E | 10" 00 Cut | 39965 | **1F938** | 25.35 | **21.55** | 0.5 |
| E | 10" 0 Cut | 39971 | **1F936** | 25.35 | **21.55** | 0.5 |
| E | 6" 00 Cut, Narrow | 40070 | **1F932** | 13.90 | **11.82** | 0.1 |
| E | 6" 0 Cut, Narrow | 40076 | **1F930** | 13.90 | **11.82** | 0.1 |
| E | 8" 0 Cut, Narrow | 40115 | **1F926** | 18.58 | **15.80** | 0.2 |
| E | 6" 0 Cut, X-Narrow | 40248 | **1F918** | 13.90 | **11.82** | 0.1 |
| E | 8" 0 Cut, X-Narrow | 40287 | **1F912** | 18.58 | **15.80** | 0.2 |
| E | 8" Bastard | 11118 | **1G672** | 9.64 | **8.19** | 0.3 |
| **SQUARE FILES—AMERICAN PATTERN** | | | | | | |
| F | 4" Bastard | 12790 | **1G658** | 7.23 | **6.15** | 0.1 |
| F | 6" Bastard | 12967 | **1G654** | 7.59 | **6.45** | 0.1 |
| F | 8" Bastard | 13081 | **1G650** | 9.02 | **7.67** | 0.2 |
| F | 10" Bastard | 13196 | **1G646** | 11.91 | **10.13** | 0.4 |
| F | 12" Bastard | 13310 | **1G642** | 16.95 | **14.42** | 0.7 |
| F | 14" Bastard | 13425 | **1G638** | 22.29 | **18.95** | 1.2 |
| F | 4" Second Cut | 12824 | **1G656** | 7.86 | **6.69** | 0.1 |
| F | 6" Second Cut | 13000 | **1G652** | 8.58 | **7.30** | 0.1 |
| F | 8" Second Cut | 13114 | **1G648** | 10.20 | **8.68** | 0.2 |
| F | 10" Second Cut | 13229 | **1G644** | 13.71 | **11.65** | 0.4 |
| **RASP FILES—AMERICAN PATTERN** | | | | | | |
| G | 8" Bastard, Half Round | 19394 | **1G554** | 12.06 | **10.26** | 0.3 |
| G | 10" Bastard, Half Round | 19427 | **1G552** | 16.45 | **13.99** | 0.5 |
| G | 12" Bastard, Half Round | 19460 | **1G550** | 25.39 | **21.59** | 0.9 |
| G | 14" Bastard, Half Round | 19493 | **1G548** | 33.58 | **28.55** | 1.4 |
| G | 10" Bastard, Flat | 19136 | **1G556** | 16.15 | **13.74** | 0.6 |
| G | 8" Four-in-Hand | 18924 | **2A501** | 10.35 | **8.80** | 0.4 |
| G | 10" Four-in-Hand | 18962 | **1G558** | 13.16 | **11.19** | 0.6 |
| G | 10" 2nd Cut, Ptrn. Mkr's. | 18846 | **1G560** | 38.53 | **32.80** | 0.3 |

(*) Not American or Swiss pattern.

**COOPER WARRANTY**
TEXT AVAILABLE ON REQUEST. SEE PAGE OPPOSITE INSIDE BACK COVER

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# STEEL FILES

## Nicholson® COOPER Tools

Made in U.S.A.

**A MACHINIST'S SCRAPERS (Handled)**



Length including handle is approximately 8". 3-square shape in hollow ground with 60° angle.

**B VENEER KNIFE FILES**



Designed for sharpening veneer knives. Thin rectangular shape. Blunt bastard cut.

**C MAGICUT® FILES (Flat)**



Used by machinists as all-purpose file to remove stock rapidly and to leave a smooth finish. Tapered point in width.

**D PLASTICS FILE**



For filing wide range of plastics and other soft materials. Rectangular shape. Easily cleaned.

**E HANDY FILE**



One side is single-cut for use in tool sharpening and smoothing metal surfaces. Reverse side is double-cut for general filing and rapid stock removal.

**F CROSSCUT—GREAT AMERICAN FILE**



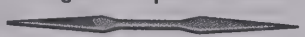
For sharpening saws of Great American type and varieties of crosscut saws. Triangular shape.

**G TUNGSTEN POINT FILES**



For dressing distributor points tipped with tungsten, iridium and similar metals. Thin rectangular shape.

**H AUGER BIT FILES**



For restoring original sharpness to cutting edges of auger bits. Rectangular shape.

| Key | Description | Nicholson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **SPECIALTY FILES—AMERICAN PATTERN** | | | | | | |
| A | 8" Machinist's Scraper* | 21667 | **1G478** | $12.36 | **$10.51** | 0.2 |
| B | 10" Blnt. Bstrd., Veneer Knife | 10799 | **1G674** | 11.47 | **9.75** | 0.4 |
| C | 8" Flat Magicut File | 07894 | **1G690** | 9.34 | **7.94** | 0.4 |
| | 10" Flat Magicut File | 07917 | **1G688** | 12.19 | **10.36** | 0.6 |
| | 12" Flat Magicut File | 07941 | **1G686** | 16.26 | **13.82** | 1.0 |
| | 14" Flat Magicut File | 07965 | **1G684** | 21.89 | **18.61** | 1.4 |
| D | 8" Plastics File | 06610 | **1G724** | 9.68 | **8.23** | 0.5 |
| E | 8" Handy File | 06602 | **1G726** | 9.68 | **8.23** | 0.5 |
| F | 8" Great American Crosscut | 02435 | **1G778** | 14.26 | **12.12** | 0.3 |
| G | 5¼" Tungsten Point File | 02373 | **1G780** | 4.19 | **3.57** | 0.1 |
| H | 7" Auger Bit File | 00258 | **1G800** | 8.94 | **7.60** | 0.1 |

(*) Not American or Swiss Pattern. (†) Swiss Pattern.

**I CANTSAW FILES**



For sharpening crosscut saws with "M" teeth, circular saws and saw teeth with less than a 60° angle. Triangular shape.

**J KNIFE FILES**



Used by tool and die makers, jewelers, model makers and home craftsmen. Tapered in width and thickness.

**K WARDING FILES**



Used by locksmiths in repairing and filing ward notches in keys. Thin rectangular shape. Double-cut on sides, single-cut on edges.

**L SUPER SHEAR® FILES**



Industrial usage on flat and convex surfaces of aluminum, brass, babbitt, bronze, copper, magnesium, iron, annealed steel, soft metal alloys, plastics, hard rubber and hardwood

| Key | Description | Nicholson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **CANTSAW FILES—AMERICAN PATTERN** | | | | | | |
| I | 6" Cantsaw, Cut-Back | 01327 | **1G794** | $10.12 | **$8.61** | 0.2 |
| | 8" Cantsaw, Cut-Back | 01387 | **1G792** | 11.72 | **9.97** | 0.5 |
| | 10" Cantsaw, Cut-Back | 01418 | **1G790** | 16.01 | **13.61** | 0.5 |
| **KNIFE FILES—AMERICAN PATTERN** | | | | | | |
| J | 4" 0 Cut † | 36939 | **1F977** | 18.47 | **15.71** | 0.1 |
| | 6" 0 Cut † | 36975 | **1F973** | 22.84 | **19.42** | 0.1 |
| | 6" 2 Cut † | 36987 | **1F969** | 29.30 | **24.91** | 0.1 |
| J | 4" Bastard | 06711 | **1G722** | 10.99 | **9.34** | 0.1 |
| | 6" Bastard | 06804 | **1G718** | 12.61 | **10.72** | 0.1 |
| | 8" Bastard | 06898 | **1G712** | 15.01 | **12.77** | 0.3 |
| | 10" Bastard | 06992 | **1G706** | 17.76 | **15.10** | 0.4 |
| | 6" Second Cut | 06836 | **1G716** | 13.94 | **11.85** | 0.1 |
| | 8" Second Cut | 06930 | **1G710** | 16.24 | **13.81** | 0.3 |
| | 4" Smooth | 06773 | **1G720** | 12.04 | **10.24** | 0.1 |
| | 6" Smooth | 06867 | **1G714** | 15.48 | **13.16** | 0.7 |
| | 8" Smooth | 06961 | **1G708** | 16.95 | **14.42** | 0.3 |
| | 10" Smooth | 07054 | **1G704** | 21.70 | **18.45** | 0.4 |
| **WARDING FILES—AMERICAN PATTERN** | | | | | | |
| K | 4" Bastard | 16507 | **1G586** | 7.44 | **6.33** | 0.1 |
| | 6" Bastard | 16663 | **1G584** | 8.12 | **6.90** | 0.1 |
| | 8" Bastard | 16761 | **1G578** | 10.20 | **8.68** | 0.1 |
| | 10" Bastard | 16859 | **1G576** | 13.71 | **11.65** | 0.2 |
| | 6" Second Cut | 16696 | **1G582** | 9.24 | **7.85** | 0.1 |
| | 6" Smooth Cut | 16729 | **1G580** | 10.20 | **8.68** | 0.1 |
| **SUPER SHEAR FILES** | | | | | | |
| L | 8" 14/Standard* | 21016 | **1G510** | 25.48 | **21.66** | 0.4 |
| | 10" 12/Standard* | 21067 | **1G508** | 30.90 | **26.30** | 0.5 |
| | 12" 10/Standard* | 21118 | **1G506** | 36.95 | **31.45** | 0.8 |
| | 14" 8/Standard* | 21169 | **1G504** | 43.56 | **37.05** | 1.4 |

(*) Not American or Swiss Pattern. (†) Swiss Pattern.

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# STEEL FILES AND FILE ACCESSORIES

Nicholson® COOPER Tools

Made In U.S.A.

## A HALF ROUND FILES



Used by tool and die makers, jewelers, model makers and home craftsmen for smooth, rapid work on cast iron, bronze, lead, babbitt, aluminum, zinc, plastics and any steel up to the hardness of commercial tool steel. Half-round shape.

## B CHAINSAW FILES



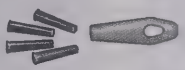
Used for smooth, fast cutting and finishing. Spiral cut design removes more material per cut, reducing filing time.

## C TAPER FILES



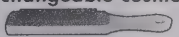
Both regular and double-cut saw files (for use in saw filing machines). Triangular shape.

## D PLASTIC FILE HANDLE (with Inserts)



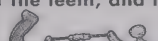
Made of strong high-impact material, contoured for straight, bathe and draw filing. Interchangeable cushion inserts.

## E FILE CLEANERS



Two styles: file card for general cleaning of file teeth, and file card/brush for use in finer cut files.

## F ADJUSTABLE, FLEXIBLE FILE HOLDER



Use with either 12" or 14" files. Easily adjusted for curving file outward or inward.

## G WOODEN FILE HANDLES



White birch handles with nickel-plated ferrules.

## H PLASTIC FILE HANDLES



Unbreakable plastic. Threaded steel insert bites tang for tight grip.

| Key | Description | Nicholson Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| | **HALF ROUND FILES—AMERICAN PATTERN** | | | | | |
| A | 4" Bastard | 04695 | **1G744** | $9.91 | **$8.43** | 0.1 |
| | 6" Bastard | 21881 | **6A626** | 10.25 | **8.71** | 0.2 |
| | 8" Bastard | 21857 | **2A499** | 12.40 | **10.54** | 0.3 |
| | 10" Bastard | 04995 | **2A500** | 15.44 | **13.12** | 0.4 |
| | 12" Bastard | 05090 | **6A627** | 19.82 | **16.85** | 0.8 |
| | 14" Bastard | 05194 | **6C961** | 25.77 | **21.91** | 1.3 |
| | 16" Bastard | 05307 | **1G728** | 33.75 | **28.70** | 2.0 |
| | 14" Bastard Pipeliner | 05190 | **6C962** | 17.84 | **15.17** | 1.3 |
| A | 6" Second Cut | 04828 | **1G740** | 11.70 | **9.95** | 0.1 |
| | 8" Second Cut | 04927 | **1G738** | 13.75 | **11.69** | 0.3 |
| | 10" Second Cut | 05026 | **1G736** | 16.79 | **14.27** | 0.6 |
| | 12" Second Cut | 05125 | **1G734** | 21.60 | **18.36** | 0.9 |
| A | 4" Smooth | 04762 | **1G742** | 11.51 | **9.79** | 0.1 |
| | 6" Smooth | 04861 | **6C963** | 12.08 | **10.27** | 0.1 |
| | 8" Smooth | 04960 | **6C964** | 14.74 | **12.53** | 0.3 |
| | 10" Smooth | 05059 | **6C965** | 17.59 | **14.95** | 0.5 |
| | 12" Smooth | 05158 | **1G732** | 22.71 | **19.31** | 0.9 |
| | 14" Smooth | 05258 | **1G730** | 30.06 | **25.60** | 1.3 |
| A | 6" 2 Cut† | 36533 | **1G169** | 30.33 | **25.80** | 0.1 |
| | 8" 2 Cut† | 36575 | **1F993** | 40.90 | **34.80** | 0.2 |

(*) Not American or Swiss pattern. (†) Swiss pattern.

| Key | Description | Nicholson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | **CHAINSAW FILES—AMERICAN PATTERN** | | | | | |
| B | 6 x 1/8" Round Smooth | 01576 | **1G786** | $3.22 | **$2.74** | 0.1 |
| | 6 x 5/32" Round Smooth | 01609 | **1G784** | 3.22 | **2.74** | 0.1 |
| | 8 x 1/4" Round Smooth | 01964 | **1G782** | 3.22 | **2.74** | 0.1 |
| | 8 x 7/32" Round Smooth | 01876 | **6C971** | 3.22 | **2.74** | 0.1 |
| | 8 x 5/32" Round Smooth | 01714 | **6C972** | 3.22 | **2.74** | 0.1 |
| | 8 x 3/16" Round Smooth | 01753 | **6C973** | 3.22 | **2.74** | 0.1 |
| B | 8 x 7/32" Spiral | 01875 | **6C974** | 1.94 | **1.65** | 0.1 |
| | 6 x 5/32" Spiral | 01610 | **6C975** | 1.79 | **1.52** | 0.1 |
| | 6 x 3/16" Spiral | 01750 | **6C976** | 1.94 | **1.65** | 0.1 |
| | **TAPER FILES—AMERICAN PATTERN** | | | | | |
| C | 6" Regular Taper | 13807 | **1G636** | 5.46 | **4.64** | 0.2 |
| | 8" Regular Taper | 13875 | **1G634** | 8.52 | **7.24** | 0.3 |
| C | 6" Double-Cut, Slim Taper | 15395 | **1G606** | 5.88 | **5.00** | 0.1 |
| | 6" Double-Cut, X-Slim Taper | 15460 | **1G604** | 5.97 | **5.07** | 0.1 |
| C | 4" Slim Taper | 14106 | **1G632** | 4.13 | **3.51** | 0.1 |
| | 5" Slim Taper | 14162 | **1G630** | 4.05 | **3.44** | 0.1 |
| | 6" Slim Taper | 14224 | **2A505** | 4.47 | **3.80** | 0.1 |
| | 7" Slim Taper | 14255 | **1G628** | 5.56 | **4.73** | 0.1 |
| | 8" Slim Taper | 14290 | **1G626** | 6.60 | **5.61** | 0.2 |
| | 10" Slim Taper | 14341 | **1G624** | 8.98 | **7.64** | 0.4 |
| C | 4" Extra-Slim Taper | 14547 | **1G622** | 4.53 | **3.85** | 0.1 |
| | 5" Extra-Slim Taper | 14599 | **1G620** | 4.45 | **3.78** | 0.1 |
| | 6" Extra-Slim Taper | 14665 | **2A506** | 4.72 | **4.02** | 0.1 |
| | 8" Extra-Slim Taper | 14729 | **1G616** | 6.60 | **5.61** | 0.2 |
| C | 5" Double Extra-Slim Taper | 14992 | **1G614** | 4.55 | **3.87** | 0.1 |
| | 6" Double Extra-Slim Taper | 15024 | **1G612** | 4.76 | **4.05** | 0.1 |
| | 8" Double Extra-Slim Taper | 15087 | **1G608** | 6.68 | **5.68** | 0.1 |
| | **FILE ACCESSORIES** | | | | | |
| D | File Handle & Inserts | 21474 | **1G490** | 3.43 | **2.92** | 0.2 |
| E | 10" File Card | 21458 | **2A509** | 11.36 | **9.66** | 0.2 |
| E | 10" File Card & Brush | 21467 | **1G492** | 15.94 | **13.56** | 0.4 |
| F | No. 25 Adj. Flexible Holder | 21272 | **1G502** | 45.58 | **38.75** | 0.1 |
| | **WOODEN FILE HANDLES** | | | | | |
| G | 3¾": 4" tapered; 4-7, 4-8, 5-8" slim; 8" chainsaw; 4" half-round; 4-6" round; 4-6" square | 21520 | **1G488** | 1.70 | **1.45** | 0.2 |
| G | 4⅛": 5-7" tapered; 8 x ⅜" chainsaw; 4" mill, flat, hand, knife; 6" cantsaw; 4-6" warding; 8-10" round; 8" square; 6" half-round | 21522 | **1G486** | 1.94 | **1.65** | 0.2 |
| G | 4½": 8" tapered, cantsaw; 10" slim; 6-8" mill, flat; 6" hand; 8" half-round; 8" warding; 6-8" knife; 10" square | 21494 | **6A635** | 2.04 | **1.74** | 0.1 |
| G | 4½-8" tapered; 6-8" mill, flat; 6" hand; 8" half-round, warding, cantsaw; 6-8" knife; 10" square, slim | 21524 | **1G484** | 2.04 | **1.74** | 0.2 |
| G | 4⅞": 9-10" tapered; 8-10" hand; 10" half-round, knife, warding; 12" cantsaw; square; 8" crosscut | 21526 | **1G482** | 2.25 | **1.92** | 0.1 |
| G | 5½": 10-12" mill, flat; 12" hand, knife; 14" round, square; 10" crosscut | 21528<br>21476 | **1G480**<br>**6A636** | 2.72<br>2.72 | **2.31**<br>**2.31** | 0.2<br>0.2 |
| | **PLASTIC FILE HANDLES** | | | | | |
| H | #2 (4" Square; 5" 3-Square; 5 & 6" Round) | 21493 | **2H059** | 3.52 | **2.99** | 0.1 |
| H | #3 (4" Rectangular; 4" Half-Round; 6" 3-Square; 6" Square; 4" Triangular | 21502 | **2H061** | 3.52 | **2.99** | 0.1 |
| H | #4 (6" Rectangular; 8" Round; 6" Half-Round; 8" 3-Square; 8" Square; 6" Triangular | 21512 | **2H063** | 3.67 | **3.12** | 0.1 |
| H | #5 (8" Rectangular; 10 & 12" Round; 8" Half-Round; 10" Square; 8" Triangular | 21513 | **2H065** | 3.67 | **3.12** | 0.1 |
| H | #6 (10" Rectangular; 10" Half-Round; 10 & 12" 3-Square; 12" Square; 10" Triangular) | 21514 | **2H067** | 3.75 | **3.19** | 0.2 |
| H | #7 (12, 14, & 16" Rectangular; 12" Half-Round; 14" 3-Square; 14" Square) | 21515 | **2H069** | 3.75 | **3.19** | 0.2 |


**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.

# BENCH VISES

## UTILITY WORKSHOP VISES

- Versatile, all-around vise for utility and light-duty applications
- Constructed with formed steel channel beam and 30,000 PSI body casting
- Red finish
- Feature replaceable, serrated hardened steel top jaws for a tight grip, built-in pipe jaws to handle various sized pipes, 180° swivel base, and large anvil with plenty of work surface

| Jaw Width (In.) | Maximum Opening (In.) | Throat Depth (In.) | Pipe Capacity (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3½ | 4 | 2⅝ | 1/8 to 2 | 653½ | *New* 4TK27 | $89.70 | **$67.30** | 18.0 |
| 4½ | 5 | 3⅞ | 1/8 to 2½ | 674 | *New* 4TK28 | 132.50 | **99.40** | 30.0 |
| 5½ | 6 | 3¹⁵⁄₁₆ | 1/8 to 2½ | 675 | *New* 4TK29 | 169.20 | **126.90** | 40.0 |
| 6½ | 6 | 4⅜ | 3/8 tp 2¾ | 676 | 1ATH1 | 277.75 | **208.50** | 63.0 |
| 8 | 7½ | 41/2 | 1/8 to 3 | 648 | 5C804 | 360.95 | **270.75** | 80.0 |

## MECHANICS' VISES

- Quality-built vises have strength and durability to withstand many years of extra heavy-duty service with normal care; hammertone blue finish
- Include hardened steel serrated metal jaws and pipe jaws to handle a wide range of jobs
- Straight line pull transmits clamping load over entire vise body
- Unbreakable spindle and nut
- Built with 360° swivel base with serrated locking faces, double lockdowns, pipe jaws, and extra-deep throats to handle large workpieces
- Feature enclosed, unbreakable box frame, and steel channel

| Jaw Width (In.) | Maximum Opening (In.) | Throat Depth (In.) | Pipe Capacity (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4 | 4½ | 3⁷⁄₁₆ | 1/4 to 2 | 744 | 2Z474 | $227.00 | **$170.25** | 37.0 |
| 5 | 5¼ | 3¾ | 1/4 to 2½ | 745 | 2Z346 | 298.71 | **224.25** | 50.0 |
| 6 | 5⅝ | 4⅛ | 1/4 to 3½ | 746 | 1ATH4 | 406.00 | **304.50** | 64.0 |

## HEAVY-DUTY TRADESMAN VISES

- Built with exceptional strength and precision for rugged day-in, day-out use in automotive shops, industrial and maintenance shops
- Serrated steel jaws are reversible; one side smooth for holding parts without scratching
- Hammertone blue finish
- Straight line pull of vise spindle and nut eliminates wear
- Precision thrust bearing allows more damping with less effort
- Full 360° serrated swivel-lock base has 2 locknuts for positive lock down
- Precision slide bar keyed to 0.003" fit, spindle is enclosed and permanently lubricated
- Units have steel jaws, a ductile alloy body with large, ground anvil, serrated jaws, and replaceable steel pipe jaws

| Jaw Width (In.) | Maximum Opening (In.) | Throat Depth (In.) | Pipe Capacity (In.) | Wilton Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4½ | 4 | 3¼ | 1/4 to 2½ | 1745 | 4LT62 | $335.00 | **$251.25** | 36.0 |
| 5½ | 5 | 3¾ | 1/4 to 3 | 1755 | 4LT63 | 420.00 | **315.00** | 49.0 |
| 6½ | 6½ | 4 | 1/4 to 3½ | 1765 | 4LT64 | 535.05 | **401.50** | 72.0 |
| 8 | 7½ | 4¾ | 1/8 to 3½ | 1780A | 4LT65 | 711.74 | **534.00** | 102.0 |

## WOODWORKERS' VISES

- Tamperproof, injuryproof jaw design
- Semi-steel casting adds strength at stress points
- All moving parts lifetime lubricated
- Aluminum handles; hammertone blue finish
- Pivot jaw on No. 4LT73

| Description | Jaw Size (In.) | Maximum Opening (In.) | Type of Nut | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 7" Vise | 4 x 7 | 10 | Rapid Acting | 78A | *New!* 4LT73 | $169.95 | **$127.50** | 33.0 |
| 10" Vise | 4 x 10 | 12 | Continuous Screw | 62A | 5C807 | 209.95 | **157.50** | 38.0 |

## SWIVEL VACUUM VISE

- Vise grips firmly to glass, metal, Formica, fiberglass, or any smooth, non-porous surface with quick lever action
- Universal ball joint swivels 360° to any position; tilts 90° to any angle
- V-grooved replaceable hardened steel jaws are 3"W, opens to 2⅝"
- Furnished with slide-on rubber jaws for fragile work

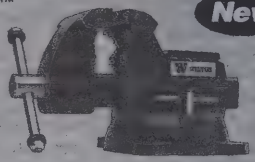
**No. 3ZH06.** General brand (1850). Shpg. wt. 4.5 lbs. List $70.18. Each ..... **$63.20**

WILTON CORPORATION — Made In U.S.A.

Replacement Parts Available 1-800-323-0620

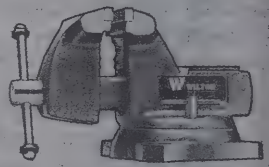
New

No. 4TK29



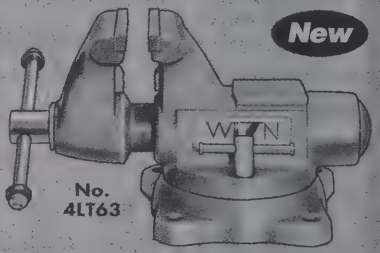
WILTON 1-YEAR PARTS LIMITED WARRANTY†

No. 2Z474



WILTON 2-YEAR PARTS LIMITED WARRANTY†

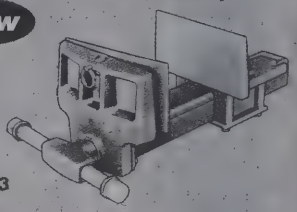
New



No. 4LT63

WILTON 3-YEAR PARTS LIMITED WARRANTY†

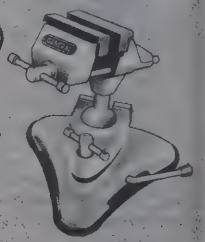
New



No. 4LT73

(†) Jaw inserts not warranted. Text of warranty available on request. See "Manufacturer's Warranties" on page opposite inside back cover.

GENERAL



No. 3ZH06

# BENCH VISES, JAW CAPS, AND JAW FACES

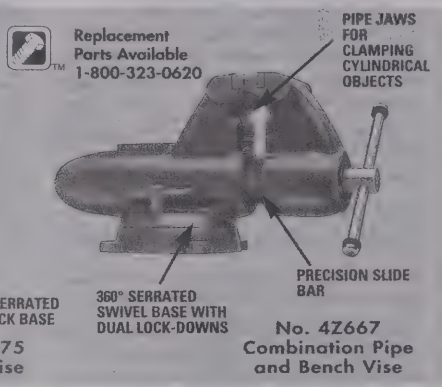
## HEAVY-DUTY MACHINISTS' VISES

- Rugged vises for use on production lines, plant maintenance, tool room applications, oil fields, outdoor sites
- Lifetime spindle and nut transmit straight line pull over entire high strength ductile alloy body
- Sealed construction locks in lifetime supply of lubricant; hammertone blue finish
- 360° Swivel base locks in any position for handling awkward pieces
- Deep throat bench vises provide 25% more capacity than similar models
- Combination pipe and bench vises feature case hardened pipe jaws to clamp cylindrical objects and 1/2" larger jaw size for added capacity
- Hardened tool steel serrated jaw inserts for secure holding power
- Made in USA

WILTON 5-YEAR PARTS LIMITED WARRANTY*




No. 2Z475 Bench Vise




No. 4Z667 Combination Pipe and Bench Vise

| Jaw Width (In.) | Pipe Capacity (In.) | Max. Opening (In.) | Throat Depth (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **BENCH VISES** | | | | | | | | |
| 3 1/2 | — | 5 1/4 | 2 3/4 | 350S | **2Z475** | $459.30 | **$344.50** | 42.0 |
| 4 | — | 6 1/2 | 3 1/2 | 400S | **1Z804** | 554.55 | **416.00** | 61.0 |
| 4 1/2 | — | 7 1/2 | 4 | 450S | **6Z393** | 657.70 | **493.50** | 72.0 |
| 5 | — | 8 | 4 1/4 | 500S | **6Z394** | 869.06 | **652.00** | 96.0 |
| 6 | — | 10 | 5 1/2 | 600S | **1ATH2** | 1275.25 | **956.50** | 156.0 |
| **COMBINATION PIPE AND BENCH VISES** | | | | | | | | |
| 3 1/2 | 1/8 to 2 1/2 | 4 | 4 1/2 | C-0 | **1ATH3** | 584.40 | **438.50** | 52.0 |
| 4 1/2 | 1/8 to 3 1/2 | 6 | 4 3/4 | C-1 | **4Z667** | 791.15 | **593.50** | 77.0 |
| 5 | 1/8 to 4 1/2 | 7 | 5 5/16 | C-2 | **5Z039** | 1192.65 | **894.50** | 115.0 |

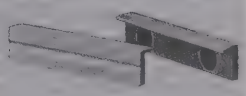
(*) Jaw inserts not warranted. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## MAGNETIC JAW CAPS FOR VISES

- Designed to protect workpiece from marring or deformation during any clamping application
- Caps are constructed from a hardened aluminum alloy with two built-in circular permanent magnets on the backside which hold the product securely to any vise type, including machinist and bench vises
- Standard aluminum caps have grooves to grip uneven workpieces
- Rubber caps conform to workpiece and grip firmly without slipping
- Prism caps have vertical and horizontal grooves; ideal for light tapping applications
- Priced and sold in pairs

| Jaw Size (In.) | Description | Wilton Model | Stock No. | List Per Pair | Each Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 4 | Standard Aluminum | A-4 | **5C808** | $34.22 | **$27.40** | 0.4 |
| 5 | Standard Aluminum | A-5 | **5C809** | 35.68 | **28.55** | 0.4 |
| 6 | Standard Aluminum | A-6 | **5C810** | 36.87 | **29.50** | 0.5 |
| 4 | Rubber Face | R-4 | **5C811** | 37.13 | **29.75** | 0.4 |
| 5 | Rubber Face | R-5 | **5C812** | 38.92 | **31.15** | 0.5 |
| 6 | Rubber Face | R-6 | **5C813** | 40.00 | **32.00** | 0.6 |
| 4 | Prism | P-4 | **5C814** | 37.83 | **30.30** | 0.4 |
| 5 | Prism | P-5 | **5C815** | 42.53 | **34.05** | 0.5 |
| 6 | Prism | P-6 | **5C816** | 43.61 | **34.90** | 0.6 |

WILTON


No. 5C808 Standard Aluminum


No. 5C811 Rubber Face


No. 5C814 Prism

## MAGNETIC MAPLE JAW FACES

- Magnetic mounting

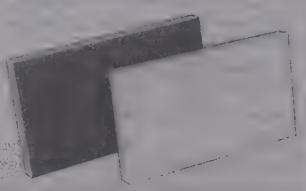
**Jaw faces install without tools** and can be changed as quickly as your jobs change.

**For use with No. 4LT73 Pivot Jaw Woodworker's Vise** and other woodworking vises that have 4 x 7" dimensions. Wilton brand.

***New!* No. 4LT74.** Magnetic Maple Jaw Faces (78B). Shpg. wt. 1.3 lbs.. List $22.65. Each.....$16.99

WILTON

New


Magnetic Maple Jaw Faces

# LOCKING CLAMPS

## VISE-GRIP® STANDARD FEATURES

- Heat treated alloy steel with nickel plated finish for maximum durability
- Easy release trigger and micro-adjustment screw mechanism
- Lock to work without slipping, leaving operator's hands free
- Meet gov't spec. GGG-W-00649

### LOCKING SHEET METAL CLAMP

- Handles bending, forming, crimping jobs
- Use to double crimp, make bread-pan corners, stretch upholstery webbing

### LOCKING WELDING CLAMP

- Locks work in proper alignment
- Deep-throated design, U-shaped jaws increase visibility, working space
- Clamp pipe, bars, or other metal work for welding or riveting

### LOCKING CHAIN CLAMP

- Holds & locks around any size or shape—won't slip, won't crush thin walled pipe
- Adjusts to ratchet action in either direction

### LOCKING HOLD DOWN CLAMP

- Clamps items to drill presses, power tools stands, workbenches, work tables
- Offset handle improves clearance, eliminates need for constant repositioning; pliable pads protect fine finishes
- Over 900 lbs. of clamping pressure

### LOCKING C-CLAMPS

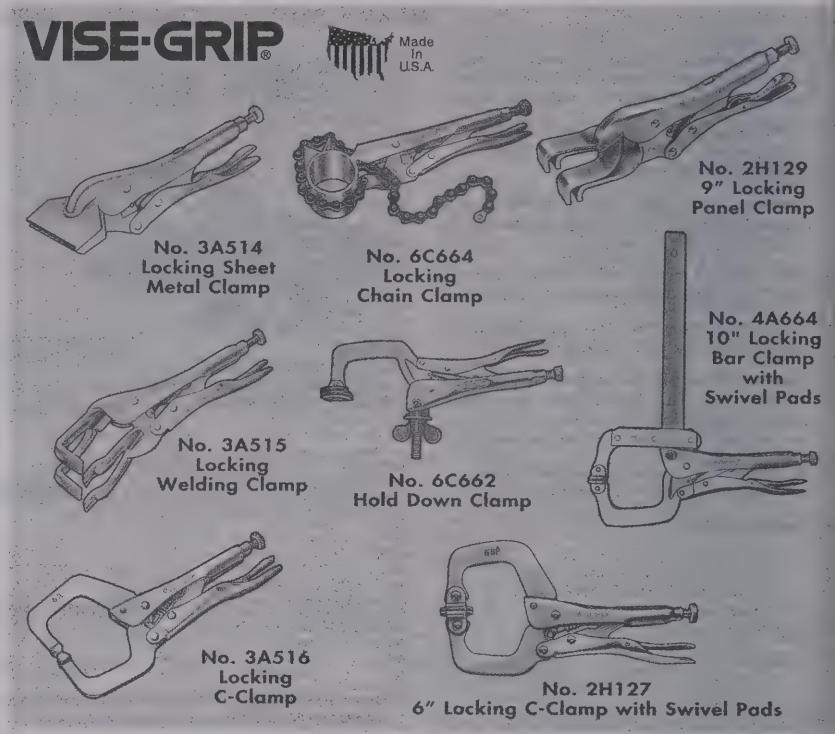
- For welding sheet metal or woodwork
- 6" Size for working with smaller pieces or for holding materials in tight spaces
- 18" Size for clamping around large objects, automotive applications
- Nos. 6C663, 2H125, and 2H127 includes swivel pads

### LOCKING PANEL CLAMP

- Clamps autobody panel in place
- Allows doors to shut for checking alignment before welding
- Clamps with straight line motion for more access to work area

### LOCKING BAR CLAMP

- Adjustable clamping pressure; jaw adjusts 0-10"
- Self-leveling swivel pads for wood or laminate
- Clamp items too large for regular C-clamps
- Easy locking and quick-release action
- Self-energizing, adjustable jaws




## LOCKING SHEET METAL CLAMP

| Size (In.) | Jaw Width (In.) | Throat Depth (In.) | VISE-GRIP® Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 8 | 3⅛ | 1¾ | 8R® | 3A514 | $21.00 | $14.99▲ | 1.1 |

## LOCKING WELDING CLAMP

| Size | Jaw Width | Jaw Adjustment | VISE-GRIP® Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 9 | 2¾ | 1⅝ | 9R® | 3A515 | $25.77 | $18.69▲ | 1.8 |

## LOCKING CHAIN CLAMPS

| Description | VISE-GRIP® Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 9" Locking Chain Clamp | 20R® | 6C664 | $33.64 | $24.99▲ | 1.8 |
| 18" Replacement Chain | 20REP | 6C665 | 14.37 | 10.49▲ | 0.5 |

## LOCKING HOLD DOWN, C-CLAMPS, PANEL, AND BAR CLAMPS

| Description | Capacity (In.) Up to | Throat Depth (In.) | VISE-GRIP® Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Hold Down Clamp | 3¾ | 2½ | 11HD | 6C662 | $31.07 | $22.49▲ | 2.0 |
| 4" C-Clamp with Swivel Pads | 1⅝ | 1¼ | 4SP | 2H125 | 13.78 | 9.99▲ | 0.4 |
| 6" C-Clamp | 2⅛ | 1½ | 6R | 3A516 | 13.97 | 9.99▲ | 0.7 |
| 6" C-Clamp with Swivel Pads | 2⅛ | 1½ | 6SP | 2H127 | 15.72 | 11.39▲ | 0.7 |
| 11" C-Clamp | 4 | 2⅝ | 11R | 3A517 | 23.54 | 16.99▲ | 1.8 |
| 11" C-Clamp with Swivel Pads | 4 | 2⅝ | 11SP | 6C663 | 25.30 | 17.99▲ | 1.8 |
| 18" C-Clamp | 10 | 9½ | 18DR | 2H123 | 40.24 | 29.00▲ | 3.1 |
| 9" Panel Clamp | — | — | 9AC | 2H129 | 27.08 | 19.59▲ | 1.3 |
| 10" Bar Clamp w/ Swivel Pads | 10 | 2½ | 310S | 4A664 | 34.94 | 25.40▲ | 2.6 |

(▲) Net prices, not subject to discounts.

CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS. THOUSANDS OF QUALITY PRODUCTS ARE LISTED



The only source you need for tools as tough as you are.

# SPRING, BAR, PIPE, WELDING, AND SPREADER CLAMPS AND ACCESSORY KIT

### SPRING CLAMPS

- Molded grooves in ergonomic handles provide a non-slip, comfortable grip
- Made from high-tech resin material
- Strong, lightweight, and rust resistant
- Soft, durable pads to protect fine finishes

### POWER PRESS™ PIPE CLAMP/SPREADER

- Powerful clamping pressure and quick conversion for use as a spreader
- For use with 3/4" black pipe (no threads needed)
- Clamping can be performed from one or both ends eliminating awkward positioning
- Quick-action trigger for instant clamping positioning
- Jaws can be positioned at the ends or anywhere along the pipe
- 8-pitch screw allows for finer clamping pressure adjustments

### BAR CLAMPS

- Fast, one-handed operation
- Pistol grip allows to adjust and tighten with just one hand
- Soft, durable pads to protect fine finishes
- Mini clamps for working in confined spaces

### BAR CLAMP ACCESSORY KIT

- For use with any standard QUICK-GRIP® bar clamp
- Corner brackets feature access slots for easy drilling or nailing
- Slide-on full-face pads are ideal for edge gluing
- All pads are made of soft, pliable rubber that won't mar fine finishes

### WELDING CLAMPS

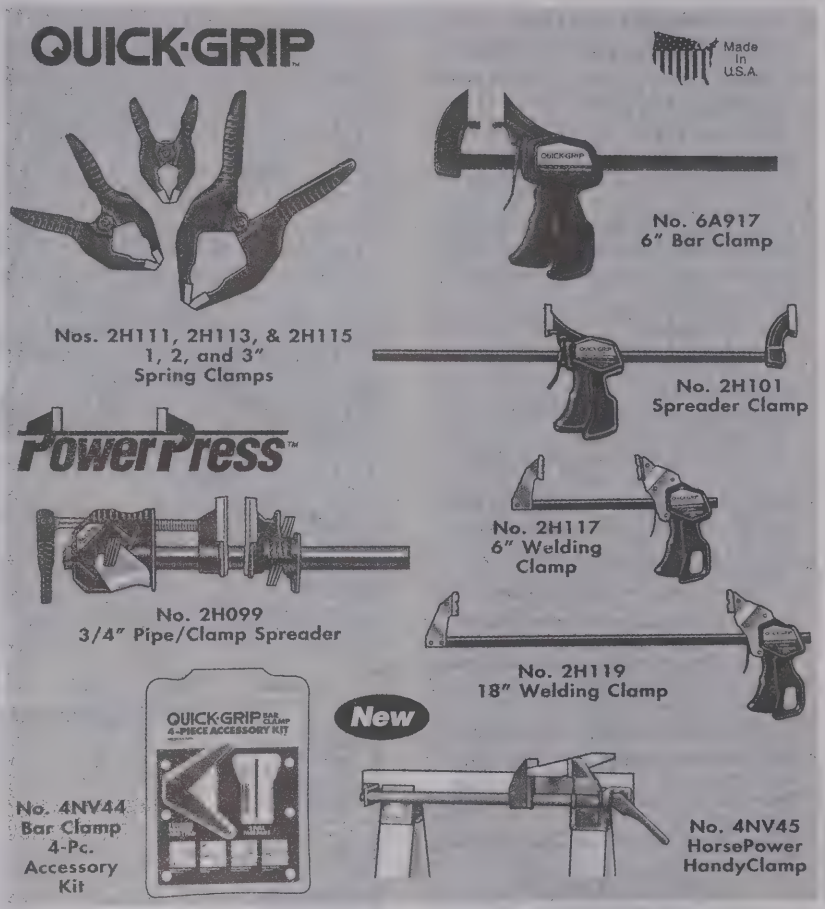
- Fast, one-handed operation
- Pistol grip allows to adjust and tighten with just one hand
- Heat-treated carbon steel jaws
- Spatter-resistant copper-plated pads
- Ideal for quick tacking and other welding jobs

### SPREADER CLAMP

- Fast, one-handed operation
- Pistol grip allows to adjust and tighten with just one hand
- Applies gradual, even pressure
- Ideal for cabinet-makers, antique restorers, and woodworkers

### HORSEPOWER™ HANDY CLAMP

- Provides up to 350 lbs. clamping pressure
- Jaws rotate 180° for versatility
- Easily attached and removed for portability; mounts onto sawhorse, workbench, tool box, etc. with No. 4NV46 Mounting hardware
- Soft rubber pads protect work
- Works as a bar clamp when not attched to work surface




| Description | Throat Depth (In.) | QUICK-GRIP Model | Stock No. | List | Each | | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| 1" Spring Clamp | — | 58100 | **2H111** | $2.46 | **$1.99** | ▲ | 0.2 |
| 2" Spring Clamp | — | 58200 | **2H113** | 3.36 | **2.79** | ▲ | 0.3 |
| 3" Spring Clamp | — | 58300 | **2H115** | 7.02 | **5.29** | ▲ | 0.5 |
| 8-Pc. Spring Clamp Set (includes 2 ea, 2H111, 2H115; 4—2H113, | — | 58008L3 | **2H109** | 32.34 | **24.99** | ▲ | 2.9 |
| 3/4" Pipe Clamp/Spreader | — | 590 | **2H099** | 27.90 | **19.99** | ▲ | 2.0 |
| 6" Mini Bar Clamp | 2 7/16 | 546 | **2H105** | 18.36 | **12.99** | ▲ | 0.7 |
| 12" Mini Bar Clamp | 2 7/16 | 5412 | **2H103** | 21.92 | **15.99** | ▲ | 0.8 |
| 6" Bar Clamp | 3 1/4 | 506 | **6A917** | 22.96 | **16.59** | ▲ | 1.6 |
| 12" Bar Clamp | 3 1/4 | 512 | **6A918** | 27.38 | **19.99** | ▲ | 1.8 |
| 18" Bar Clamp | 3 1/4 | 518 | **6A919** | 29.60 | **21.39** | ▲ | 2.2 |
| 24" Bar Clamp | 3 1/4 | 524 | **6A920** | 31.80 | **22.99** | ▲ | 3.0 |
| 36" Bar Clamp | 3 1/4 | 536 | **6A921** | 36.46 | **27.00** | ▲ | 3.8 |
| 50" Bar Clamp | 3 1/4 | 550 | **2H107** | 41.98 | **30.00** | ▲ | 5.0 |
| 4-Pc. Accessory Bar Clamp | — | 40104 | ***New*4NV44** | 11.48 | **8.49** | ▲ | 0.5 |
| 6" Welding Clamp | 3 1/4 | 5906 | **2H117** | 35.30 | **24.99** | ▲ | 2.5 |
| 18" Welding Clamp | 3 1/4 | 5918 | **2H119** | 41.94 | **30.00** | ▲ | 3.2 |

| Description | Spreading Range (In.) | QUICK-GRIP Model | Stock No. | List | Each | | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| Spreader Clamp | 7 1/4 - 27 1/2 | 500 | **2H101** | $34.08 | **$24.49** | ▲ | 2.1 |
| Horsepower™ Handy Clamp | — | 570L3 | ***New*4NV45** | 24.30 | **17.49** | ▲ | 2.3 |
| Horsepower™ Handy Clamp Mounting Kit | — | 571L3 | ***New*4NV46** | 6.00 | **4.69** | ▲ | 1.0 |

(▲) Net prices, not subject to discount.

# C-CLAMPS

## DROP FORGED

### EXTRA-DEEP THROAT—400 SERIES

- Combines greater strength with extra-deep throat allowing wider variety of applications
- Hardened 3/4" spindles will not bend; No. 5C817 with 9/16" spindle

### HIGH-VISIBILITY—400SF SERIES

- High visibility yellow conforms to OSHA safety color standard for physical hazards, regulation 1910.144
- Powder coat finish resists scratches and corrosion
- "V" groove anvil for securely holding round materials

### MEDIUM-DUTY—800 SERIES

- Standard throat
- Lifetime lubricated spindles of through-hardened steel

### REGULAR-DUTY, SQUARE THROAT 4400 SERIES

- Extra clamping depth to secure parts
- 6 & 8" sizes give 37% more throat depth
- Through-hardened spindles

### HEAVY-DUTY—400SEP SERIES

- Holds rounds, squares, and angles
- Grooved anvil and serrated pad designed to provide secure clamping
- For welding applications; spindle and pad are copper-plated

### EXTRA HEAVY-DUTY—100 SERIES

- For heavy industrial and steel construction work
- Spindles formed from single pieces of bar stock
- Fine thread provides added clamping force

## CAST CARRIAGE

### 540 SERIES

- High tensile ductile alloy body and hardened steel spindle with crimped perma-pad swivels
- 3/4" spindle on No. 3A698; 5/8" on Nos. 3A696 and 3A697; 1/2" on No. 5C821

### LIGHT-DUTY SERIES

- For light- to medium-duty industrial or woodworking applications
- Ductile iron frame, ribbed to resist strain and deliver maximum strength
- Steel screws with full standard threads, sliding T-handle
- Equipped with crimped style swivel pads—all parts zinc plated

### ERGONOMIC SAFE-T-GRIP® HANDLES

- High visibility yellow rubber handle with ergonomic cushioned grip for C- and L-clamps, designed to reduce worker fatigue
- Apply clamping force with less effort
- Snap over steel T-handles, fits Wilton 400 series clamps, 6300 & 6400 series L-clamps

## C-CLAMP FEATURES

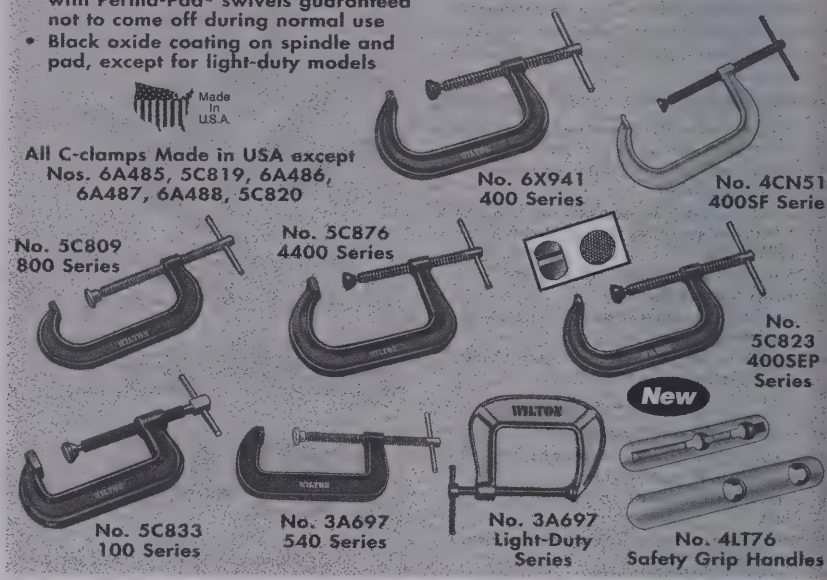
- Drop forged models are equipped with Perma-Pad® swivels guaranteed not to come off during normal use
- Black oxide coating on spindle and pad, except for light-duty models

Made in U.S.A.

All C-clamps Made in USA except Nos. 6A485, 5C819, 6A486, 6A487, 6A488, 5C820

WILTON CORPORATION

Replacement Parts Available 1-800-323-0620




| Size (In.) | Description | Capacity (In.) | Throat Depth (In.) | Min. Proof Test (Lbs.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **DROP FORGED CLAMPS** | | | | | | | | | |
| 3 | Heavy-Duty | 0-3 | 2 1/2 | 3500 | 403 | **5C817** | $30.28 | **$22.71** | 2.3 |
| 4 | Heavy-Duty | 0-4 1/2 | 3 1/4 | 6200 | 404 | **6X940** | 37.65 | **28.25** | 3.8 |
| 6 | Heavy-Duty | 0-6 1/16 | 4 1/8 | 6900 | 406 | **6X941** | 51.96 | **39.00** | 5.5 |
| 8 | Heavy-Duty | 0-8 1/4 | 5 | 6600 | 408 | **6X942** | 68.57 | **51.45** | 6.8 |
| 10 | Heavy-Duty | 2-10 1/8 | 6 | 8000 | 410 | **5C818** | 86.97 | **65.25** | 10.0 |
| 4 | Heavy-Duty Hi-Vis | 0-4 1/2 | 3 1/4 | 6200 | 404SF | **4CN50** | 38.39 | **28.80** | 3.5 |
| 6 | Heavy-Duty Hi-Vis | 0-6 1/16 | 4 1/8 | 6900 | 406SF | **4CN51** | 52.99 | **39.75** | 5.3 |
| 8 | Heavy-Duty Hi-Vis | 0-8 1/4 | 5 | 6600 | 408SF | **4CN52** | 69.94 | **52.50** | 7.3 |
| 4 | Medium-Duty | 0-4 | 2 5/16 | 3700 | 804 | **5C828** | 26.82 | **20.11** | 2.8 |
| 6 | Medium-Duty | 0-6 | 2 15/16 | 4500 | 806 | **5C829** | 34.14 | **25.65** | 3.8 |
| 8 | Medium-Duty | 2-8 | 3 7/16 | 5200 | 808 | **5C830** | 48.57 | **36.45** | 6.8 |
| 4 | Square Throat | 0-4 | 4 | 4100 | 4404 | **5C825** | 50.31 | **37.75** | 4.5 |
| 6 | Square Throat | 0-6 | 5 | 5400 | 4406 | **5C826** | 74.65 | **56.00** | 6.5 |
| 8 | Square Throat | 2-8 | 6 | 5900 | 4408 | **5C827** | 93.05 | **69.80** | 11.0 |
| 4 | Heavy-Duty | 0-4 1/2 | 3 1/4 | 6200 | 404SEP | **5C822** | 43.30 | **30.35** | 3.8 |
| 6 | Heavy-Duty | 0-6 1/16 | 4 1/8 | 6900 | 406SEP | **5C823** | 59.10 | **41.40** | 5.5 |
| 8 | Heavy-Duty | 0-8 1/4 | 5 | 6600 | 408SEP | **5C824** | 77.88 | **54.55** | 6.8 |
| 3 | Extra Heavy-Duty | 0-3 | 2 | 8750 | 103 | **5C831** | 77.57 | **58.20** | 3.0 |
| 4 | Extra Heavy-Duty | 0-4 | 2 3/8 | 10,000 | 104 | **5C832** | 88.25 | **66.20** | 4.8 |
| 6 | Extra Heavy-Duty | 2-6 | 2 1/2 | 11,250 | 106 | **5C833** | 107.21 | **80.45** | 6.2 |
| **CAST CARRIAGE CLAMPS** | | | | | | | | | |
| 3 | Cast Carriage | 0-3 | 1 13/16 | 1800 | 540A-3 | **5C821** | 11.64 | **8.73** | 1.5 |
| 4 | Cast Carriage | 0-4 | 2 1/8 | 2600 | 540A-4 | **3A696** | 14.90 | **11.18** | 2.3 |
| 6 | Cast Carriage | 0-6 | 2 3/4 | 2800 | 540A-6 | **3A697** | 21.35 | **16.01** | 3.3 |
| 8 | Cast Carriage | 0-8 | 3 11/32 | 3000 | 540A-8 | **3A698** | 30.93 | **23.20** | 5.0 |
| 2 | Regular Throat | 0-2 | 1 | Light-Duty | 532 | **6A485** | 4.09 | **3.07** | 0.3 |
| 2 | Regular Throat | 0-2 1/2 | 1 3/8 | Light-Duty | 542 | **5C819** | 6.33 | **4.75** | 0.6 |
| 3 | Regular Throat | 0-3 | 1 3/8 | Light-Duty | 543 | **6A486** | 7.07 | **5.30** | 0.3 |
| 1 1/2 | Medium Throat | 0-1 1/2 | 1 1/2 | Light-Duty | 533 | **6A487** | 4.55 | **3.41** | 0.3 |
| 2 1/2 | Medium Throat | 0-2 1/2 | 2 1/2 | Light-Duty | 544 | **6A488** | 7.79 | **5.84** | 0.9 |
| 2 | Deep Throat | 0-2 1/2 | 6 1/4 | Light-Duty | 546 | **5C820** | 23.17 | **16.22** | 2.2 |
| **SAFE-T GRIP™ CLAMPING ACCESSORIES** | | | | | | | | | |
| 4 | Safety Grip Handles | Fits 402, 403, 6308 & 6310 Clamps | | | SGTA | ***New*** **4LT75** | 18.95 | **14.21** | 0.5 |
| 4 | | Fits 404, 6312-48, & 6410-6406 Clamps | | | SGTB | ***New*** **4LT76** | 20.95 | **15.71** | 1.0 |
| 2 | | Fits 406 C-Clamps | | | SGTC | ***New*** **4LT77** | 11.70 | **8.78** | 1.0 |
| 2 | | Fits 408-410 C-Clamps | | | SGTD | ***New*** **4LT78** | 12.70 | **9.53** | 0.5 |



*The only source you need for tools as tough as you are.*

# L-CLAMPS, LEVER CLAMPS, AND ANGLE CLAMPS

## L-CLAMPS

- All-steel sliding L-clamps handle a variety of work sizes and shapes
- Spring-tempered design is galvanized for lasting corrosion resistance
- Rapid-acting arm slides into place for quick tightening and is removed easily, making repositioning simple
- Hardened alloy steel spindles and Perma Pads® are black oxide-coated
- Screw features Perma-Pads®—tilt up to 20° to accommodate angular workpieces
- STG models include ergonomic Safe-T-Grip™ handles

| Description | Throat Depth (In.) | Nominal Clamping Pressure | Nominal Rail Size (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6" Light-duty | 3 | 1000 lbs. | 5/8 x 5/16 | 6306A | 5C834 | $33.00 | $23.10 | 2.0 |
| 8" Light-duty | 4 | 1000 | 3/4 x 3/8 | 6308A-STG | New 4LT66 | 45.14 | 31.60 | 2.5 |
| 10" Light-duty | 4 3/4 | 1500 | 7/8 x 7/16 | 6310A-STG | New 4LT67 | 53.15 | 37.25 | 3.5 |
| 16" Light-duty | 4 3/4 | 1600 | 1 x 15/32 | 6316A-STG | New 4LT68 | 74.44 | 55.85 | 5.5 |
| 20" Light-duty | 4 3/4 | 1600 | 1 x 15/32 | 6320A-STG | New 4LT69 | 79.35 | 59.55 | 6.0 |
| 10" Regular-duty | 4 3/4 | 2600 | 1 3/16 x 9/16 | 6410A-STG | 4LT70 | 112.56 | 84.45 | 6.5 |
| 12" Regular-duty | 4 3/4 | 2600 | 1 3/16 x 9/16 | 6412A-STG | New 4LT71 | 117.46 | 88.10 | 7.0 |
| 20" Regular-duty | 4 3/4 | 2600 | 1 3/16 x 9/16 | 6420A-STG | New 4LT72 | 149.86 | 112.40 | 8.5 |
| 12" Heavy-duty | 7 | 4800 | 1 9/16 x 3/4 | 6512A | 5C839 | 199.27 | 149.50 | 12.0 |
| 16" Heavy-duty | 7 | 4800 | 1 9/16 x 3/4 | 6516A | 5C840 | 213.35 | 160.25 | 13.0 |
| 20" Heavy-duty | 7 | 4800 | 1 9/16 x 3/4 | 6520A | 4CN95 | 227.18 | 170.50 | 15.0 |

## ECONOMY SERIES L-CLAMPS

- Economical spring steel L-clamps
- Fast action clamping
- Economy crimped pivoting pad

| Description | Throat Depth (In.) | Nominal Clamping Pressure (Lbs) | Nominal Rail Size (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6" Special-duty L-Clamp | 4 3/4 | 2000 | 7/8 x 7/16 | 606 | 4CN81 | $29.79 | $22.34 | 2.0 |
| 8" Special-duty L-Clamp | 4 3/4 | 2000 | 7/8 x 7/16 | 608 | 4CN82 | 40.37 | 30.30 | 2.2 |
| 10" Special-duty L-Clamp | 4 3/4 | 2500 | 1 3/16 x 9/16 | 610 | 4CN83 | 57.96 | 43.50 | 3.0 |
| 12" Special-duty L-Clamp | 4 3/4 | 2500 | 1 3/16 x 9/16 | 612 | 4CN87 | 71.27 | 53.50 | 4.0 |

## RATCHET ACTION LEVER CLAMPS

- Ratchet action lever clamps feature quick lever action
- Clamp set-up time can be reduced as much as 80% by sliding movable arm into position, setting locking handle
- For use in applications where frequent repositioning is required
- Offset handle models allow clamping in confined spaces

| Description | Throat Depth (In.) | Nominal Clamping Pressure (Lbs) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4.0" Straight Handle | 4 | 1000 | 6610 | 4CN96 | $57.82 | $43.40 | 3.5 |
| 12.0" Straight Handle | 4 3/4 | 1750 | 6620 | 4CN97 | 81.32 | 61.00 | 6.0 |
| 6" Offset Handle | 3 | 440 | 6706 | 5C844 | 40.81 | 30.65 | 1.3 |
| 8" Offset Handle | 4 | 1000 | 6708 | 5C845 | 48.07 | 36.10 | 2.3 |

## RATCHET ACTION HOLD-DOWN CLAMPS

Suited for clamping parts on mills or drills with T-slotted tables or on welding tables

- Fast acting and adjusts to a variety of different size parts
- Can be rotated 360°

| Description | Throat Depth (In.) | Capacity (In.) | Nominal Clamping Pressure (Lbs.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6" Ratchet Action | 3 | 6 | 1000 | 6906 | 5C846 | $55.16 | $41.40 | 1.5 |
| 8" Ratchet Action | 4 | 8 | 1900 | 6908 | 5C847 | 99.52 | 74.65 | 5.3 |

## 90° ANGLE CLAMPS

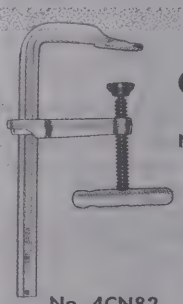
90° angle clamps eliminate set-up time and effort for metal-working applications that involve right-angle joining, assembling, welding, or grinding

- A self-centering jaw quickly adjusts to clamp workpieces, even accommodating pieces of different sizes
- Oblong holes in base for mounting clamps to workbench

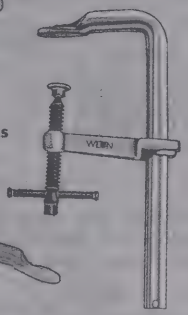
| Miter Capacity (In.) | Jaw Height (In.) | Jaw Length (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3 11/32 | 1 3/8 | 4 1/8 | AC-325 | 5C843 | $107.30 | $80.50 | 12.0 |
| 4 3/8 | 2 3/8 | 4 1/8 | AC-326 | 4CN99 | 187.07 | 149.70 | 18.0 |

WILTON CORPORATION

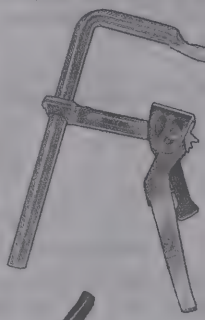
Replacement Parts Available
1-800-323-0620



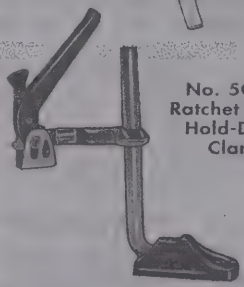

No. 4LT71 L-Clamp



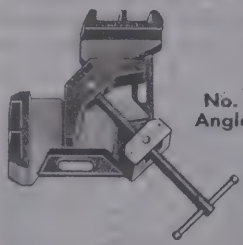
No. 4CN82 Economy Series L-Clamp



No. 4CN96 Straight Handle Ratchet Action Lever Clamp



No. 5C846 Ratchet Action Hold-Down Clamp



No. 5C843 Angle Clamp

# BAR CLAMPS

## LIGHT-DUTY BAR CLAMPS

- Light duty steel bar clamps designed for general clamping applications
- Multiple disc clutch provides quick adjustment, secure hold and instant release
- 1/4 x 3/4" zinc-plated steel bar, 3/4" swivel pad

| Description | Opening (In.) | Throat Depth (In.) | Load Capacity (Lbs) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 12" Light-Duty | 12 | 2½ | 600 | 53212 | **5A329** | $13.50 | **$10.80** | 1.8 |
| 18" Light-Duty | 18 | 2½ | 600 | 53218 | **5A330** | 14.87 | **11.90** | 1.0 |
| 24" Light-Duty | 24 | 2½ | 600 | 53224 | **5A331** | 16.23 | **12.98** | 1.5 |
| 30" Light-Duty | 30 | 2½ | 600 | 53230 | **4CN53** | 17.85 | **14.28** | 2.8 |
| 36" Light-Duty | 36 | 2½ | 600 | 53236 | **5A332** | 19.83 | **15.86** | 3.3 |

## REGULAR DUTY BAR CLAMPS

- Regular-duty steel bar clamps designed for general clamping applications
- Multiple disc clutch provides quick adjustment, secure hold, and instant release
- 5/16 x 1" steel bar, 1" swivel

| Description | Opening (In.) | Throat Depth (In.) | Load Capacity (Lbs) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6" Regular-Duty | 6 | 3½ | 1000 | 53306 | **4CN54** | $28.11 | **$22.49** | 2.5 |
| 12" Regular-Duty | 12 | 3½ | 1000 | 53312 | **4CN55** | 30.49 | **24.39** | 3.0 |
| 18" Regular-Duty | 18 | 3½ | 1000 | 53318 | **4CN56** | 33.13 | **26.55** | 3.5 |
| 24" Regular-Duty | 24 | 3½ | 1000 | 53324 | **4CN57** | 35.99 | **28.80** | 4.0 |
| 36" Regular-Duty | 36 | 3½ | 1000 | 53336 | **4CN58** | 39.56 | **31.65** | 5.0 |

## HEAVY-DUTY DEEP REACH BAR CLAMPS

- Multiple disc clutch provides quick adjustment, secure hold, and instant release
- 3/8 x 1¼" zinc-plated steel bar and 1¼" swivel pad
- 4¾" wood, screw handle

| Description | Opening (In.) | Throat Depth (In.) | Load Capacity (Lbs) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 12" Deep Reach | 12 | 5 | 1600 | 53512 | **4CN60** | $36.03 | **$28.85** | 5.0 |
| 18" Deep Reach | 18 | 5 | 1600 | 53518 | **4CN61** | 36.46 | **29.20** | 6.0 |
| 24" Deep Reach | 24 | 5 | 1600 | 53524 | **4CN62** | 40.33 | **32.30** | 6.5 |
| 36" Deep Reach | 36 | 5 | 1600 | 53536 | **4CN64** | 44.61 | **35.70** | 12.0 |

## "I" BAR CLAMPS

- Carbon steel "I" bar provides maximum strength for standard and extra-long openings
- Multiple disc clutch provides quick adjustment, secure hold, and instant release
- Clamping surface is 2D x 1¾"W; bar dimension is 7/16 x 1½ x 5/32"

| Description | Opening (In.) | Throat Depth (In.) | Load Capacity (Lbs) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 24" Regular-Duty | 24 | 2 | 6000 | 7224 | **4CN69** | $38.58 | **$30.90** | 8.0 |
| 36" Regular-Duty | 36 | 2 | 6000 | 7236 | **4CN71** | 41.40 | **33.15** | 9.0 |
| 48" Regular-Duty | 48 | 2 | 6000 | 7248 | **4CN72** | 45.50 | **36.40** | 10.0 |
| 60" Regular-Duty | 60 | 2 | 6000 | 7260 | **4CN73** | 48.50 | **38.80** | 12.0 |
| 72" Regular-Duty | 72 | 2 | 6000 | 7272 | **4CN74** | 52.35 | **41.90** | 13.0 |

## HEAVY-DUTY "I" BAR CLAMPS

- Patented locking device—rapid acting powerful clamp designed and constructed for hard, everyday production work
- No-slip notches are 3/4" apart and formed in the web for greater bar strength
- High-strength ductile slide cannot slip or bind; is easily released
- Compressed metal pawl engages notches; insures positive stop
- Clamping surface is 1 13/16D x 1⅞"W; screw diameter is 5/8"; bar dimension is 7/16 x 1½ x 5/32"

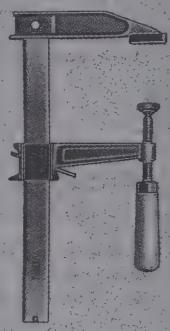
| Description | Opening (In.) | Throat Depth (In.) | Load Capacity (Lbs) | Hargrave Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 24" Heavy-Duty | 24 | 1 13/16 | 6000 | 21801 | **5A325** | $45.70 | **$36.60** | 7.0 |
| 30" Heavy-Duty | 30 | 1 13/16 | 6000 | 21802 | **4CN48** | 46.79 | **37.45** | 7.5 |
| 36" Heavy-Duty | 36 | 1 13/16 | 6000 | 21803 | **5A326** | 48.85 | **39.10** | 9.0 |
| 48" Heavy-Duty | 48 | 1 13/16 | 6000 | 21804 | **5A327** | 53.65 | **42.95** | 10.0 |
| 60" Heavy-Duty | 60 | 1 13/16 | 6000 | 21805 | **4CN49** | 55.65 | **44.55** | 11.0 |
| 72" Heavy-Duty | 72 | 1 13/16 | 6000 | 21806 | **5A328** | 61.70 | **49.40** | 13.0 |

WILTON CORPORATION



No. 5A331 Light Duty Bar Clamp

No. 4CN57 Regular Duty Bar Clamp



No. 4CN60 Deep Reach Bar Clamp



No. 4CN69 "I" Bar Clamp

HARGRAVE SINCE 1879



No. 5A325 Heavy-Duty "I" Bar Clamp



The only source you need for tools as tough as you are.

# SPRING, PIPE, CLAMP PADS AND HANDSCREW CLAMPS

## SPRING CLAMPS

- Designed for applications where a fast, easy grip is required
- Ergonomically shaped for comfortable use
- Tempered steel spring for substantial pressure at the jaw tips
- Poly-vinyl covered handles and tips available for comfort and protection of the workpiece

| Description | Max. Jaw Opening (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 4" Poly-Vinyl Handles & Tips | 1 | 634 | 5A317 | $2.23 | $1.78 | 0.1 |
| 6" Poly-Vinyl Handles & Tips | 2 | 636 | 5A318 | 3.41 | 2.75 | 0.1 |
| 9" Poly-Vinyl Handles & Tips | 3 | 639 | 5A319 | 6.98 | 5.58 | 0.8 |
| 4" Plain Handles & Tips | 1 | 635 | 4CN91 | 1.52 | 1.22 | 0.3 |
| 6" Plain Handles & Tips | 2 | 637 | 4CN92 | 2.60 | 2.08 | 0.5 |
| 9" Plain Handles & Tips | 3 | 638 | 4CN93 | 6.07 | 4.86 | 0.9 |

## PIPE CLAMPS

- Can be mounted on any length pipe
- Multiple disc clutch provides instant adjustment, secure hold and quick release
- Includes frame, screw, handle, tip, and slide
- Nos. 4CN78 and 4CN79 use cam-style clutch

| Description | Pipe Size (In.) | Clamp Face (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CLUTCH-STYLE FOR THREADED PIPE** | | | | | | | |
| 1/2" Pipe Clamp | 1/2 | 1½ | 452 | 5A321 | $13.86 | $11.09 | 1.7 |
| 3/4" Pipe Clamp | 3/4 | 1¾ | 450 | 5A320 | 16.87 | 13.50 | 3.0 |
| **CLUTCH-STYLE FOR NON-THREADED PIPE** | | | | | | | |
| 1/2" Pipe Clamp | 1/2 | 1½ | 442 | 4CN66 | 18.50 | 14.80 | 1.6 |
| 3/4" Pipe Clamp | 3/4 | 1¾ | 440 | 4CN65 | 21.50 | 17.20 | 2.7 |
| **CAM-STYLE FOR THREADED PIPE** | | | | | | | |
| 1/2" Pipe Clamp | 1/2 | 1½ | 520 | 4CN79 | 12.56 | 10.05 | 1.5 |
| 3/4" Pipe Clamp | 3/4 | 1¾ | 500 | 4CN78 | 14.34 | 11.47 | 2.4 |

## EXTRA DEEP THROAT PIPE CLAMP

- Extra deep throat—7" of total throat depth to clamp a wider range of parts
- Multiple disc clutch provides sliding jaws with instant adjustment, secure hold, and quick release
- Steel screw and heavy-duty handle; for 3/4" threaded pipe

| Description | Throat Depth (In.) | Clamp Face (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Deep Throat Pipe Clamp | 7 | 1¾ | 530 | 4CN80 | $60.71 | $48.60 | 8.5 |

## CLAMP PADS AND STANDS FOR PIPE/BAR CLAMPS

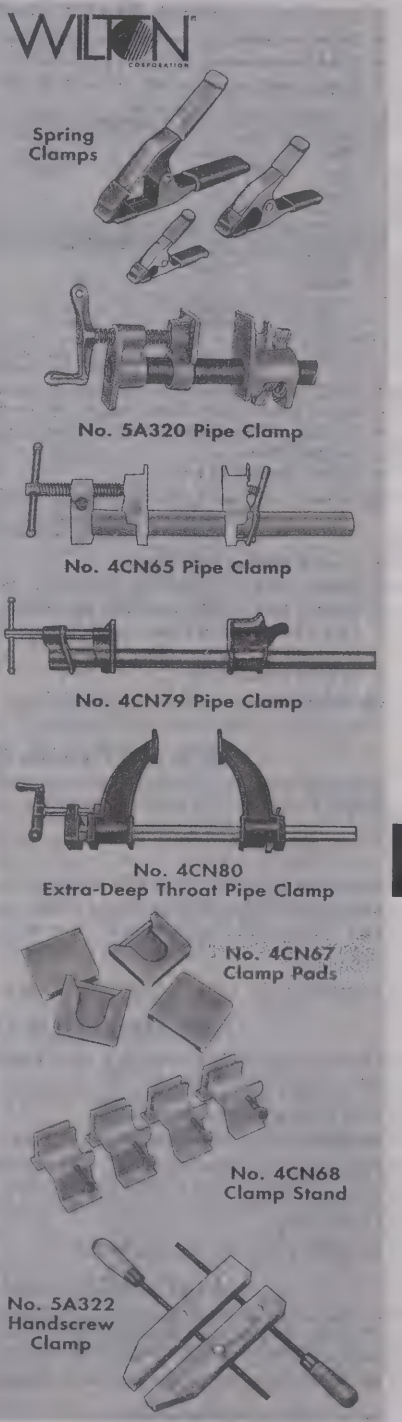
- Pads provide protective cushion between finished surfaces, metal clamp faces
- Pads can be used on all pipe clamps up to 1¾" clamp face
- Clamp stands hold pipe and bar clamps upright; for 1/2 and 3/4" pipe clamps, bar clamps up to 3/8" thickness

| Description | Surface Tip (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Clamp Pads—4 per pkg. | 1½ | 453 | 4CN67 | $5.36 | $4.29 | 1.0 |
| Clamp Stands—4 per pkg. | — | 451 | 4CN68 | 16.77 | 13.42 | 0.3 |

## HANDSCREWS

- Designed for the craftsman who needs evenly controlled clamping pressure and minimal possibility of marring fine finishes
- Easily adjustable to conform to nonparallel surfaces
- Jaws are of select straight grain, kiln dried maple, seasoned and oiled; spindles are of cold drawn steel, with quick acting, double lead thread

| Description | Jaw Length (In.) | Max. Jaw Opening (In.) | Throat Depth (In.) | Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6" Handscrew | 6 | 3 | 3 | 9006HS | 4CN76 | $20.50 | $16.40 | 1.3 |
| 8" Handscrew | 8 | 5 | 4 | 9008HS | 5A322 | 24.50 | 19.60 | 2.5 |
| 10" Handscrew | 10 | 7 | 5 | 9010HS | 5A323 | 28.00 | 22.40 | 3.3 |
| 12" Handscrew | 12 | 9¼ | 6 | 9012HS | 5A324 | 32.20 | 25.80 | 4.3 |
| 14" Handscrew | 14 | 10¾ | 7 | 9014HS | 4CN77 | 40.80 | 32.65 | 0.8 |



# CLAMPS AND GLUE GUNS

## STEEL STRAP CLAMPS

- Clamp materials securely, regardless of shape
- Holds framework/cases square for precise joining
- Apply even joining pressure at all corners

**SPECIFICATIONS**

| Stock No. | Capacity (In.) Minimum | Capacity (In.) Maximum | Strap Length (Ft.) | Strap Width (In.) | Clamping Pressure (Lbs) |
|---|---|---|---|---|---|
| 4CN47 | 2⅛ x 2⅛ | 32 x 32 | 15 | 3/8 | 1000 |
| 4CN46 | 2⅝ x 2⅝ | 36 x 36 | 22 | 3/8 | 1900 |

**ORDERING DATA**

| Wilton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 147 | **4CN47** | $37.11 | **$29.70** | 2.0 |
| 146 | **4CN46** | 53.04 | **42.45** | 2.8 |




## NYLON BAND CLAMP

- 4-90° steel corner pieces insure squareness and protect nylon band from sharp edges of workpiece
- 15 Ft. x 1"W nylon band clamps square and irregularly shaped items
- Wilton brand (115)

**No. 4CN45.** Shpg. wt. 1.2 lbs. List $16.46. Each.....**$13.17**

## 90° CORNER CLAMP

- Create perfect 90° joints
- Holds work of different widths up to 3"
- Leaves joints fully exposed for nailing, gluing, or doweling
- Two countersunk holes permit mounting to work surface
- Die cast aluminum alloy
- Wilton brand (90)

**No. 4CN98.** Shpg. wt. 0.5 lbs. List $9.56. Each.....**$7.65**




## HOT MELT GLUE GUNS

**Automatic Lever Feed Glue Gun** bonds, caulks, seals, and weatherstrips. Features built-in drip tray/stand, unique design keeps heat flow away from handle so it does not get hot. Easy squeeze lever action for extra control. Clutch mechanism prevents glue back up. UL Listed. CSA Certified. Arrow brand (TR-550).

**No. 4A299.** Shpg. wt. 1.0 lbs. List $26.00. Each.....**$20.95▲**

**All-Purpose Trigger Feed Glue Gun** bonds without mixing or clamping. Trigger feed with check valve to control glue flow. High-impact, high-temperature housing. UL Listed. Arrow brand. (TR400)

**No. 4CP14.** Shpg. wt. 1.1 lbs. List $16.75. Each.....**$14.99▲**

## HOT MELT GLUE STICKS

**For use in Arrow Glue Guns Nos. 4A299 and 4CP14.** For woodworking, ceramics, leather, canvas, fabrics, cardboard, plastics, and metal. Sets in 30 to 60 seconds. Package of 12 clear 1/2" x 10" sticks. Arrow brand (AP10).

**No. 4A312.** Shpg. wt. 0.8 lbs. List $7.99. Each.....**$7.59▲**

**For use in Arrow Glue Guns Nos. 4A299 and 4CP14.** Pkg. of 24 clear 1/2" x 4" sticks. For woodworking, plastics, metal, leather, fabrics, other materials. Slow setting; sets in 90-120 seconds. Arrow brand (BSS6).

**No. 4CP07.** Shpg. wt. 0.6 lbs. List $8.60. Each.....**$8.19▲**

## WINDOW SEALER

**For use in Arrow Glue Guns Nos. 4A299 and 4CP14.** Pkg. of 12 clear 8" sticks. Easily seals out drafts for windows and walls, peels off easily without damaging surfaces. Arrow brand (WS8).

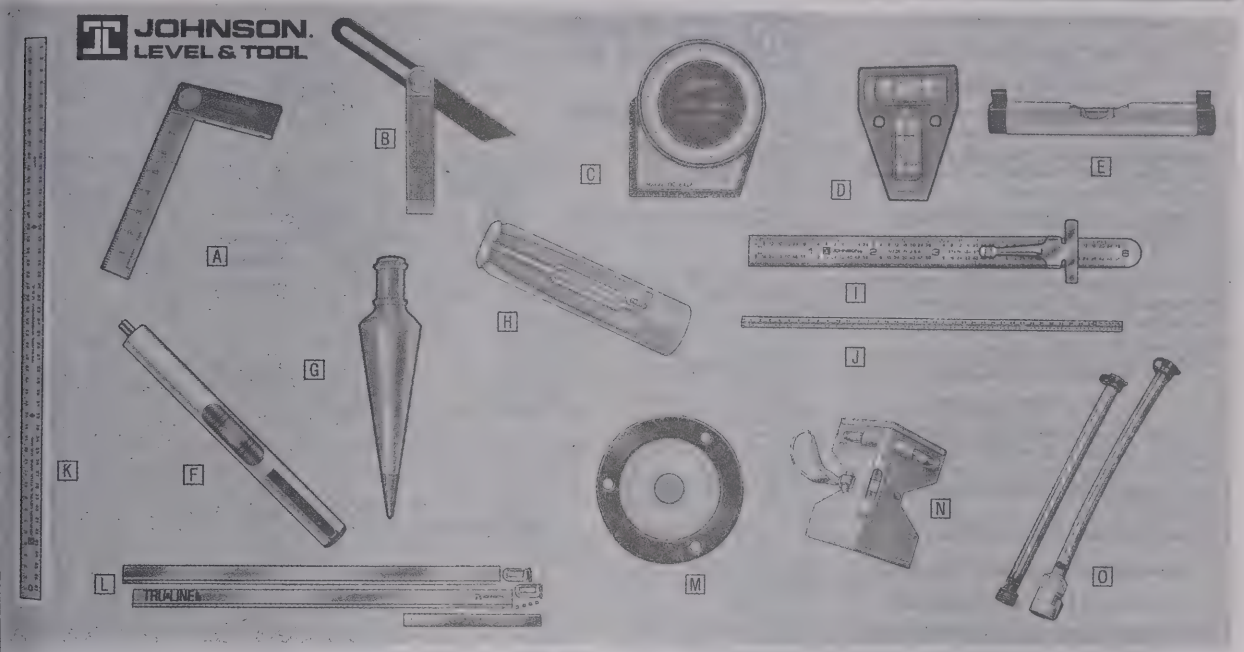
**No. 4CP15.** Shpg. wt. 0.6 lbs. List $5.99. Each.....**$5.69▲**




(▲) Net prices, not subject to discounts.

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# STRAIGHT EDGES, RULES, PROTRACTOR, PLUMB BOBS AND LEVELS




A **Try Square** for marking or checking 90° angles. 8" fixed stainless steel blade with stamped 8th graduations and hardwood handle with brass bound gauging edge.

B **Sliding T-Bevel** has 8" moveable steel blade for marking or transferring any angle and hardwood handle with brass trim. Wing-nut locking assembly.

C **Protractor/Angle Finder** measures any angle from 0 to 90° in any quadrant. Hi-visibility orange. ABS plastic construction, ceramic magnetic base.

D **Cross-Check Level** for quickly checking level in both planes simultaneously. ABS plastic body with mounting holes, two "cat-eye" acrylic level vials.

E **Line and Surface Level** has 3/8 x 3" octagonal aluminum body. Sturdy ABS plastic hooks "reversed" to eliminate accidental drop off line. "Cat-eye" colored level vial, flat bottom.

F **Pocket Level** is handy for small applications. ABS plastic body with convenient pocket clip, magnetic "pick-up" on one end.

G **Brass Plumb Bobs** for finding plumb over long distances. Precision machined brass with clear lacquer finish, hardened replaceable tip. Top unscrews for centered string installation.

H **Hand-Held Sight Level** obtains level line of sight over long distances, without the cost of a surveyor's transit. ABS plastic body. Single power magnification.

I **Pocket Clip Rules** are made of stainless steel with convenient sliding pocket clip which can be used as a depth gauge. No. H396 has permanent etched graduations in 16ths, 32nds, 64ths. No. 2H398 features the same graduations, including metric graduations in mm. 6L x 1/2W x 0.020" thick.

J **Aluminum Rules** are made of tempered anodized aluminum with thermal-bonded black epoxy screen-printed (on one side) graduations in 8ths, 16ths. Rules are 1⅛W x 0.075" thick.

K **Aluminum Straight Edges** for marking straight edges and measuring over long distances. 1/8 x 2" heat-treated, extruded aluminum. 8th graduations on one edge and 16ths on opposing edge (printed on one side). Clear anodized, corrosion-resistant finish.

L **Aluminum Cutting Guide** is two 49" extrusions which easily connect to make a power tool cutting guide. Furnished with 2 C-clamps which fasten to any surface under 3". Extrusion measures 2" x 2½".

M **Bull's Eye Level** levels in both horizontal planes simultaneously with one easy reading. 1¾" diameter acrylic plastic with 3 mounting holes in flange.

N **Post Level** for "hands-free" use. Quickly and easily checks vertical or horizontal in both planes simultaneously. High impact polystyrene molded body. 3 large vials with white reflective backer plates and rubber fastening strap. Measures 5½ x 3½".

O **Water Level** finds level over long distances and around corners. Fits standard garden hose. Comes with shut-off valve and plastic fittings with clear tubes. 14" length.

| Key | Description | Johnson Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 8" Try Square | 480 | **6C230** | $19.89 | **$14.99** | ▲ | 0.5 |
| B | 8" Sliding T-Bevel | B85 | **6C231** | 15.62 | **11.49** | ▲ | 0.8 |
| C | Protractor/Angle Finder | 700 | **6A511** | 15.29 | **11.49** | ▲ | 0.5 |
| D | Cross-Check Level | 125 | **6C225** | 4.78 | **3.59** | ▲ | 0.1 |
| E | Line and Surface Level | 555 | **6A512** | 2.61 | **1.99** | ▲ | 0.1 |
| F | 5" Pocket Level | 500 | **2H394** | 3.24 | **2.79** | ▲ | 0.1 |
| G | 8 oz. Brass Plumb Bob | 108 | **6C235** | 13.01 | **9.99** | ▲ | 0.6 |
| G | 24 oz. Brass Plumb Bob | 124 | **6C236** | 32.05 | **23.99** | ▲ | 1.7 |
| H | 4¾" Hand-Held Sight Level | 80-5556 | **2H402** | 23.35 | **17.49** | ▲ | 5.0 |
| I | 6" Pocket Clip Rule—Std. | 7202 | **2H396** | 3.05 | **2.39** | ▲ | 0.1 |
| I | 6" Pocket Clip Rule—Metric | 7203 | **2H398** | 3.12 | **2.39** | ▲ | 0.1 |
| J | 12" Aluminum Rule | J112 | **2H404** | 1.89 | **1.49** | ▲ | 0.1 |
| J | 24" Aluminum Rule | J124 | **2H406** | 2.33 | **1.79** | ▲ | 0.3 |
| J | 36" Aluminum Yardstick | J236 | **2H408** | 3.10 | **2.39** | ▲ | 0.4 |
| K | 48" Aluminum Straight Edge | J48 | **6C233** | 9.06 | **6.99** | ▲ | 1.4 |
| K | 60" Aluminum Straight Edge | J60 | **2H412** | 14.48 | **10.99** | ▲ | 2.3 |
| K | 72" Aluminum Straight Edge | J72 | **6C234** | 16.71 | **12.99** | ▲ | 2.7 |
| K | 96" Aluminum Straight Edge | J96 | **2H415** | 27.71 | **19.99** | ▲ | 3.3 |
| L | 98" Aluminum Cutting Guide | J4900 | **2H410** | 30.83 | **22.95** | ▲ | 3.5 |
| M | 1¾" Bull's Eye Level | 100 | **2H366** | 2.21 | **1.79** | ▲ | 0.1 |
| N | Post Level | 175 | **2H368** | 6.18 | **4.99** | ▲ | 0.5 |
| O | 14" Water Level | 2120 | **2H376** | 10.26 | **7.99** | ▲ | 0.6 |

(▲) Net prices, not subject to discounts.

# SQUARES

## COMBINATION SQUARES

### A ZINC DIE-CAST HEAD

### B CAST-IRON HEAD

- 12" steel blade with stamped 32nd graduations, rust-resistant finish.
- Acrylic barrel level vial & self-aligning draw bolt, hardened scriber with brass bushing in head

## STEEL CARPENTER'S SQUARES

### C JOBMASTER® SQUARE

- 12 x ½" body and 8 x 1" tongue
- Embossed graduations, figures on face, back of square
- Lacquered finish

### D 8 x 12" SQUARE

### E 16 x 24" SQUARE

- 8 x 12" square has 12 x 1½" body, 8 x 1" tongue; 16 x 24" square has 24 x 2" body, 16 x 1½" tongue
- Stamped graduations on both sides in 8ths
- Clear, powder-coat finish resists rust

## ALUMINUM FRAMING SQUARES

### F 16 x 24" BLACK SQUARE

- Each square has 24 x 2" body, 16 x 1½" tongue
- Essex board measure and rafter tables are permanently stamped
- Anodized finish resists corrosion
- Stamped graduations on both sides in 8ths; No. 6C227—yellow graduations

### G STAIR GAUGE SET

- Easily attaches to any carpenter or rafter square
- Made of machined brass with brass knurled screw

## RAFTER ANGLE SQUARES

### H 7" SQUARE

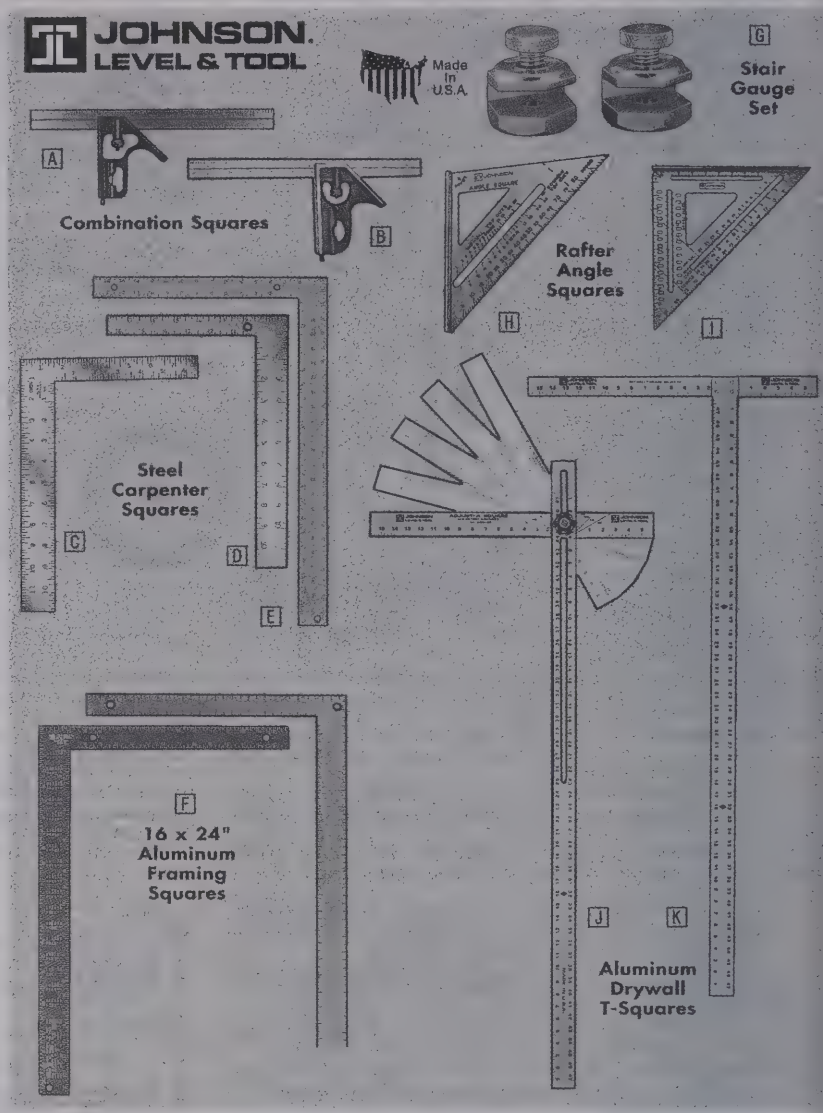
### I 12" SQUARE

- Fast and easy rafter or angle layout
- Precision milled die-cast aluminum
- Permanent graduations

### J 48" ADJUST-A-SQUARE

### K 48" FIXED HEAD

- All aluminum with anodized finish
- No. 6C232 has 1/4 x 2 x 48" blade with 1/4 x 2 x 22" notched, offset head; No. 6A514 has 1/8 x 2 x 47⅞" blade with 3/8 x 1½" X22"notched, offset head secured to blade with 4 rivets
- Epoxy ink graduations in 8ths
- Markings at 16" centers on blade
- No. 6C232 48" Adjust-A-Square features fully adjustable head for laying out any angle for drywalling/panelling/siding under roof peaks, vaulted ceiling, or under staircase; head folds parallel to blade for easy storage; locks at 90°




| Key | Description | Johnson Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| A | 12" Combination Square w/Zinc Head | 400 | **6X996** | $10.31 | **$7.49▲** | 0.3 |
| A | 16" Combination Square w/ZInc Head | 420EM | **2H392** | 20.04 | **14.99▲** | 1.0 |
| B | 12" Combination Square w/Iron Head | 440 | **6C229** | 26.90 | **19.99▲** | 1.0 |
| C | 8 x 12" Steel Carpenter's Square | 45-912* | **5C961** | 6.51 | **4.49▲** | 0.7 |
| D | 8 x 12" Steel Carpenter's Square | 430 | **5W188** | 4.32 | **3.29▲** | 0.6 |
| E | 16 x 24" Steel Carpenter's Square | CS1 | **6C226** | 7.77 | **5.99▲** | 2.0 |
| F | 16 x 24" Black Aluminum Framing Square | CS7 | **6C227** | 21.78 | **15.99▲** | 1.0 |
| F | 16 x 24" Aluminum Framing Square | CS5 | **5W189** | 14.19 | **10.99▲** | 0.9 |
| G | Stair Gauge Set | 405 | **2H390** | 3.82 | **2.99▲** | 0.2 |
| H | 7" Rafter Angle Square | RAS1 | **6A513** | 8.97 | **5.99▲** | 0.7 |
| I | 12" Rafter Angle Square | RAS120 | **6C228** | 19.77 | **13.99▲** | 1.5 |
| J | 48" Adjust-A-Head Drywall Alum. T-Square | ADS48 | **6C232** | 38.21 | **28.95▲** | 3.8 |
| K | 48" Fixed Head Drywall Alum. T-Square | JTS48-I | **6A514** | 21.74 | **15.95▲** | 5.0 |

(*) Stanley brand. (▲) Net prices, not subject to discounts.



The only source you need for tools as tough as you are.

# LEVELS

## A B BRASS BOUND HARDWOOD LEVELS

- Preferred by wet cement trades; cement and mortar are easily removed and won't damage wood
- Kiln-dried, straight-grained hardwood wood frame with protective clear lacquer finish
- Six solid-set, "cat-eye" colored, curved vials: 4 Plumb; 2 Level
- Heavy glass lenses are sealed against moisture and dirt
- 48" levels have hand holes; 24" level has hand grips
- Shock-protecting rubber end-caps
- Flat brass strip is epoxy-bound and screwed to edges
- No. 5W184 has double-angle brass binding on edges

## C BOX-BEAM ALUMINUM LEVELS

- Extruded aluminum box frame for extra rigidity, strength
- Level edges are precision machined
- Yellow epoxy coated finish frame for durability
- Precision machined, solid acrylic block vials with permanent interior metal ring vial markers for utmost sensitivity and accuracy: 2 Plumb; 1 Level
- Luminous plate on top-reading level vial acts like reflective mirror for easy reading
- Shock protecting plastic end-caps

## D DUAL CURVED VIAL ALUMINUM I-BEAM LEVELS

- Extra heavy-duty extruded aluminum frame with hand holes
- Bright red anodized finish for corrosion resistance and high visibility
- Two curved vials (replaceable) per sight—48" has 6 vials: 4 Plumb; 2 Level, and 72" has 10 vials: 6 Plumb; 4 Level
- Lexan™ vial holders and lenses are virtually shatterproof
- Protective, shock-absorbing plastic end-caps

## E BARREL VIAL ALUMINUM I-BEAM LEVELS

- Heavy-duty extruded aluminum frame
- Black anodized finish to resist corrosion
- Level edges are precision machined
- Level vial is top-reading and magnified 1½ times
- ABS plastic vial holders with dustproof clear acrylic lenses
- Protective, shock-absorbing plastic end-caps
- 360° Reading, nonadjustable, replaceable acrylic vials
- Nos. 6X992 and 2W396 have 3 vials: 2 Plumb; 1 Level

## F BARREL VIAL MAGNETIC ALUMINUM I-BEAM LEVELS

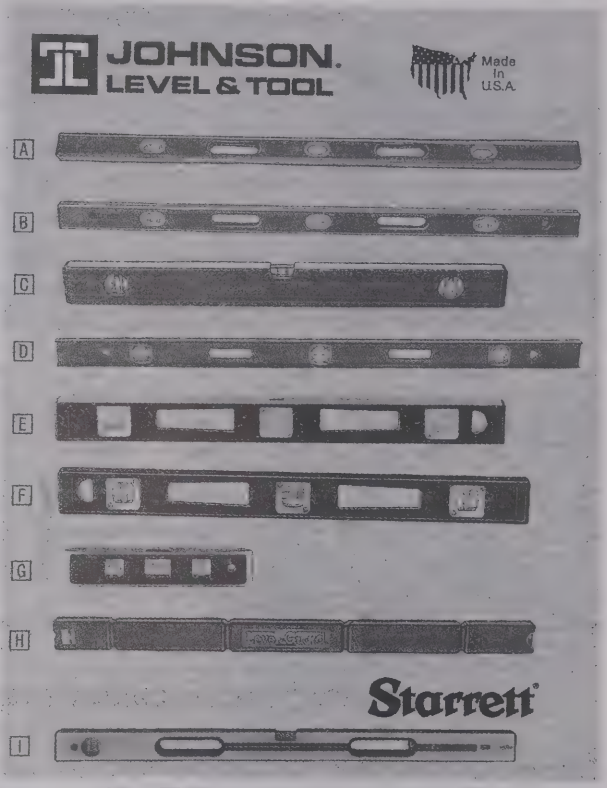
- Include all features of nonmagnetic barrel vial aluminum I-beam levels
- Full-length, heavy magnetic strip for hands-free usage
- Nos. 6A508 and 6A509 have 3 vials: 2 Plumb; 1 Level
- Nos. 6A510 has 5 vials: 3 Plumb; 2 Level

## G 9" CONTRACTOR/INDUSTRIAL MAGNETIC ALUMINUM TORPEDO LEVEL

- Precision-milled, full-length, die-cast aluminum body
- Full-length, heavy magnetic strip for hands-free usage
- V-groove for pipe or conduit work
- Three acrylic 360° reading vials: 1 Level; 1 Plumb; 1 at 45°
- Level vial is also top-reading
- Durable ABS plastic vial covers

## H 48" LEVEL CASE

- Durable polyethylene protects any level up to 48" from damage due to moisture, or lens and vial breakage
- Case has removable snap-lock cap which can be affixed to case with furnished cord to eliminate loss
- High visibility orange




## I LASER BEAM BOX LEVEL

- Laser beam in end cap allows leveling and locating of points up to 150 ft.
- 32" long with one plumb vial, 2 open grips
- Starrett brand

| Key | Size (In.) | Level Type | Johnson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **BRASS BOUND MAHOGANY LEVELS** | | | | | | | |
| A | 24 | Level | 624 | **6C220** | $63.90 | **$47.95▲** | 2.3 |
| A | 48 | Level | 648 | **6C221** | 83.01 | **61.95▲** | 4.5 |
| B | 48 | Level | 548 | **5W184** | 64.11 | **47.95▲** | 4.2 |
| **ALUMINUM LEVELS** | | | | | | | |
| C | 24 | Box Level | 9824 | **6C218** | 33.48 | **24.95▲** | 1.4 |
| C | 48 | Box Level | 9848 | **6C219** | 44.06 | **32.95▲** | 2.5 |
| D | 48 | I-Beam Level | 4648 | **6C222** | 41.49 | **29.95▲** | 3.2 |
| D | 72 | I-Beam Level | 4672 | **6C223** | 68.09 | **49.95▲** | 8.0 |
| E | 24 | I-Beam Level | 3724 | **6X992** | 20.64 | **14.95▲** | 1.6 |
| E | 48 | I-Beam Level | 3748 | **2W396** | 32.73 | **23.95▲** | 3.0 |
| **MAGNETIC ALUMINUM LEVELS** | | | | | | | |
| F | 24 | I-Beam Level | 3824 | **6A508** | 25.29 | **18.95▲** | 1.0 |
| F | 48 | I-Beam Level | 3848 | **6A509** | 41.55 | **29.95▲** | 3.4 |
| F | 78 | I-Beam Level | 3878 | **6A510** | 74.11 | **49.95▲** | 6.8 |
| G | 9 | Torpedo Level | 6500M | **6X995** | 12.32 | **8.95▲** | 0.2 |
| **LEVEL CASE** | | | | | | | |
| H | 48 | Level Case | LC48 | **6C224** | 13.56 | **10.99▲** | 1.3 |
| **LASER BEAM/BOX BEAM LEVEL** | | | | | | | |
| I | 32 | Laser Beam/ Box Beam | LZ-32* | **4L681** | 429.95 | **408.50** | 2.4 |

(*) Starrett brand. (▲) Net prices, not subject to discounts.

# CHALKING EQUIPMENT, MARKING PENCILS, PENCIL COMPASS AND SCRIBER

## CHALKING EQUIPMENT

### [A] TRU-LINE SELF-CHALKING 100 FT. REEL

Features durable aluminum alloy box, self-locking plated anchor ring, and reversible line guides. Precision made with fewer parts—gives a sharp, clean line every time. Self-chalking, easy action reel doubles as plumb bob and is easy to fill.

### [B] REPLACEMENT CHALK LINES

Made of highest tensile strength cord to deliver straight, true snapping action. New anchor ring supplied with each line. 100 ft. line packaged in durable polyethylene bag.

### [C] CHALK REEL COMBO PACK

Contains 100 ft. reel No. 3A914 and a 4 oz. bottle of blue marking chalk with plastic line level.

### [D] 8 Oz. CHALK REFILL

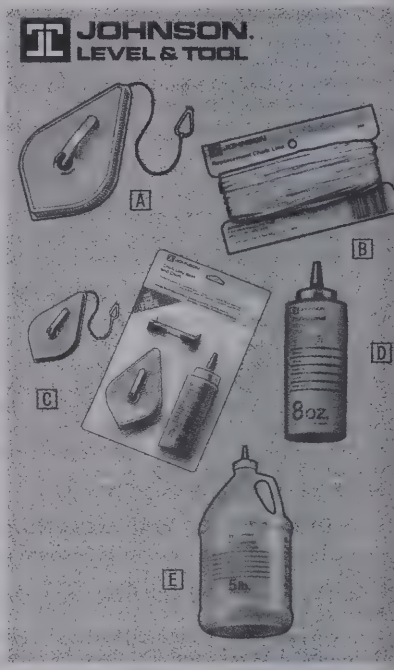
Features 'no spill' snap cap. Squeezable poly bottle won't break if dropped.

### [E] 5 Lb. PLASTIC JUG CHALK REFILLS

Has easy grip handle. Economy size offers convenience for large contractors, builders, carpet and floor installers, roofers lathers, plasterers, masons, industrial and commercial users.

| Key | Description | Size | Johnson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Self-Chalking Reel | 100 ft. | 3100 | **3A914** | $7.07 | **$4.99▲** | 0.6 |
| B | Replacement Chalk Line | 100 ft. | 3106 | **3A915** | 2.22 | **1.99▲** | 0.1 |
| C | Chalk/Reel Combo Pack | 100 ft./4 oz. | 3105-L | **2H380** | 8.23 | **6.29▲** | 0.9 |
| D | Blue Chalk | 8 oz. | 3208-B | **3A916** ❶ | 1.46 | **1.39▲** | 0.6 |
| D | Red Chalk* | 8 oz. | 3208-R | **3A917** ❶ | 1.46 | **1.39▲** | 0.6 |
| D | Glo Orange Chalk | 8 oz. | 3208-O | **2H382** ❶ | 2.38 | **1.99▲** | 0.6 |
| E | Blue Chalk | 5 lb. | 3260-B | **3A918** ❶ | 10.15 | **7.49▲** | 5.8 |
| E | Red Chalk* | 5 lb. | 3260-R | **3A919** ❶ | 10.15 | **7.49▲** | 5.8 |
| E | Glo Orange Chalk | 5 lb. | 3260-O | **2H384** ❶ | 15.06 | **12.99▲** | 5.8 |

(*) CAUTION: Red chalk is a permanent color. There is no known way to remove it. Blue chalk will stain in certain areas. Use both accordingly.
❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
(▲) Net prices, not subject to discounts.




## CARPENTER'S AND MECHANIC'S PENCILS

### [A] CARPENTER'S PENCILS

7" flat wood pencils, medium lead. Sold in packages of 12.

### [B] INSTA-MARK MECHANICAL PENCIL AND [C] REPLACEMENT LEAD

Offers all the features of a traditional carpenter's pencil, but never requires sharpening. Flat lead extends and retracts at the flick of a thumb. Molded plastic body with convenient 3 lead (furnished) storage chamber and pocket clip. 10 pack replacement lead available. Order No. 2H388 below.

| Key | Description | Size | Johnson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Carpenters' Pencils | 7 in. | CPB-12 | **3A920** | $7.67 | **$5.99▲** | 0.3 |
| B | Insta-Mark Mechanical Pencil | — | 3400 | **2H386** | 3.03 | **2.39▲** | 0.1 |
| C | Replacement Lead for No. 2H386 | — | 3410 | **2H388** | 2.69 | **1.99▲** | 0.1 |

(▲) Net prices, not subject to discounts.




## PENCIL COMPASS AND SCRIBER

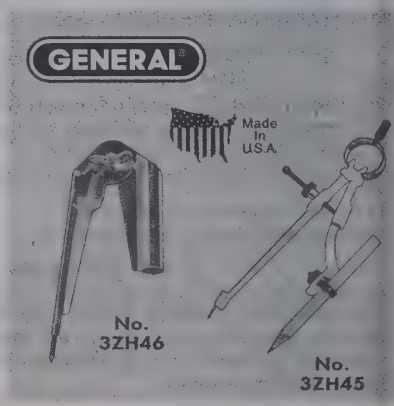
- **Designed for marking edge contours or for use as standard compass**
- **Positive wing nut adjustment**
- **Full-length hardened steel pin metal frame for greater rigidity**
- **Constructed of brass-plated steel**
- **General brand**

**No. 3ZH46**.. Shpg. wt. 0.1 lbs. List ..... $2.18.
Each ..... **$2.07**

## PRECISION PENCIL COMPASS

- **Carpentry-quality pencil compass made of die cast, rust-resistant metal**
- **Spring tension adjustment for precise marking up to 8" diameters**
- **Scribe guide for edge marking**
- **For use with pencil (included) or slim ballpoint pen**
- **General brand**

**No. 3ZH45**.. Shpg. wt. 0.2 lbs. List ..... $5.54.
Each ..... **$5.26**



# BUTT MARKERS, CONTOUR GAUGE, TRAMMEL, SAW BLADE, ROUTER & NAIL GAGES

## BUTT MARKERS

For fast and easy mortising cavities for butt hinges on wood doors and jambs. Made of hardened steel with handy depth scriber.

| Size (In.) | Johnson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 | 2030 | **2H370** | $7.38 | **$5.39 ▲** | 0.3 |
| 3½ | 2035 | **2H372** | 7.79 | **5.69 ▲** | 0.4 |
| 4 | 2040 | **2H374** | 7.99 | **5.99 ▲** | 0.4 |

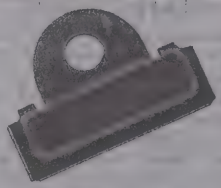
## 6" CONTOUR GAUGE

Replicates and transfers any contour. Steel pins produce a "male" or "female" replica of contour to be produced. Great for tiling, wallpapering, finish carpentry. Johnson brand.

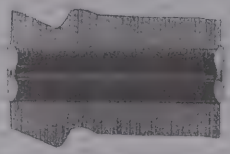
**No. 2H378.** Shpg. wt. 0.6 lbs. List $8.81. Each.....**$6.79▲**

(▲) Net prices, not subject to discounts.

JOHNSON LEVEL & TOOL



No. 2H372
Butt Marker



No. 2H378
6" Contour Gauge

## PRECISION ADJUSTABLE TRAMMEL

- Accurately measures and marks distances that are too great for conventional compasses or dividers
- For layout, marking templates, and drawing large circles
- 6" off-center eccentric points provide extra-fine adjustments
- Points can be replaced with pencils, ballpoint pens, crayons, or soapstone sticks
- Clamp opening for beam is 5/8 to 1½"
- General brand (523)

**No. 3ZH21.** Shpg. wt. 0.8 lbs. List $32.36. Each.....**$30.75**

## SAW BLADE DEPTH GAGE

- Solid brass gage makes saw blade adjustments easy
- Three graduations: English increments: 1/8 to 2"; 1/16 to 3/8" with MM equivalents; and Metric increments: 3mm to 18mm
- All graduations are stamped for lasting readability
- Lacquer finished
- General brand (22)

**No. 3ZH15.** Shpg. wt. 0.2 lbs. List $3.44. Each.....**$3.27**

## ROUTER GAGE

- Solid brass gage makes router height adjustments easy
- Graduations from 1/16 to 1½" with decimal equivalents
- All graduations are stamped for lasting readability
- Lacquer finished
- General brand (23)

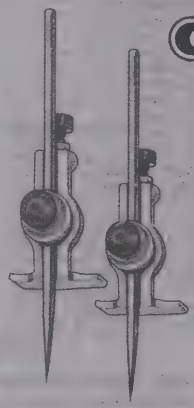
**No. 3ZH16.** Shpg. wt. 0.2 lbs. List $3.80. Each.....**$3.61**

## NAIL GAGE

- For gaging common, box, and cooler nails
- Front is etched with diameter and length reference
- Made of stainless steel
- General brand (27)

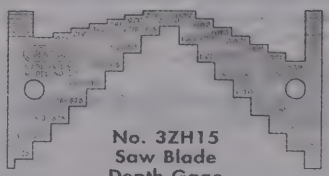
**No. 3ZH17.** Shpg. wt. 20.11 List $8.24. Each.....**$7.83**

GENERAL



Made In U.S.A.

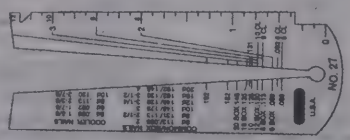
No. 3ZH21
Precision
Adjustable
Trammels



No. 3ZH15
Saw Blade
Depth Gage



No. 3ZH16 Router Gage



No. 3ZH17 Nail Gage

# MEASURING TAPES

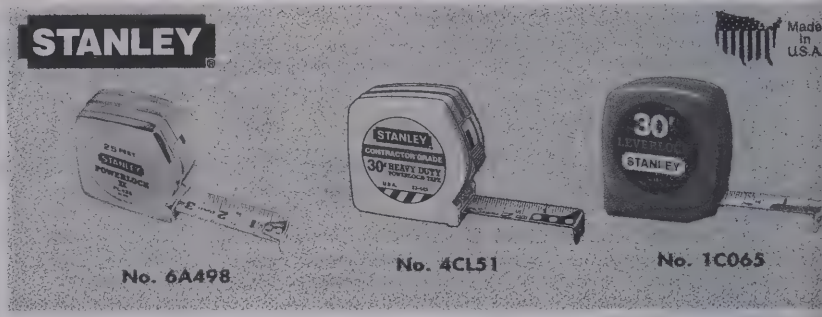
## STANLEY TAPES

- **Easy-to-read Life Guard® yellow blade has an abrasive-resistant mylar coating**
- **Tru-zero hook automatically adjusts to give exact readings**
- **Belt clip is fastened on back of case**

**Powerlock® Power Tapes** provide positive lock with no creeping. Slide lock up front for easier operation. Lightweight, durable chrome-plated case.

**Leverlock® Power Tapes** have automatic bottom lock and durable plastic case.

**Contractor Grade tapes** have a 10% thicker blade, heavy-duty spring, and 3 rivet hook.




| Description | Type | Blade Width (In.) | Graduations | Stud Markings | Stanley Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| PowerLock® Tapes | 3 Ft. Keychain Tape | 1/4 | In./ft. | No | 39-130 | **6R095** | $8.02 | **$4.99▲** | 0.1 |
| | 8 Ft. Tape | 1/2 | In./ft. | Yes | 33-208 | **5C568** | 11.84 | **6.99▲** | 0.4 |
| | 10 Ft. Tape | 1/2 | In./ft. | Yes | 33-210 | **6A494** | 13.78 | **7.99▲** | 0.2 |
| | 12 Ft. Tape | 1/2 | In./ft./fractional/decimal | No | 33-272 | **5C569** | 15.49 | **8.99▲** | 0.4 |
| | 12 Ft. Tape | 1/2 | In./ft. | Yes | 33-212 | **6A495** | 15.49 | **8.99▲** | 0.3 |
| | 12 Ft. Tape | 3/4 | In./ft. | Yes | 33-312 | **6A496** | 19.53 | **9.99▲** | 0.4 |
| | 16 Ft. Tape | 3/4 | In./ft. | Yes | 33-116 | **6A497** | 24.20 | **10.99▲** | 0.5 |
| | 20 Ft. Tape | 3/4 | In./ft. | Yes | 33-320 | **5C570** | 26.04 | **11.99▲** | 0.6 |
| | 25 Ft. Tape | 1 | In./ft. | Yes | 33-425 | **6A498** | 28.53 | **13.99▲** | 0.9 |
| | 30 Ft. Contractor Grade Tape | 1 | In./ft. | Yes | 33-447 | **4CL51** | 30.22 | **19.99▲** | 1.3 |
| | 30 Ft. Tape | 1 | In./ft. | Yes | 33-430 | **5C567** | 31.18 | **14.99▲** | 1.1 |
| Metric PowerLock® Tapes | 3.5 M/12 Ft. Tape | 1/2 | In./meter | No | 33-215 | **5C571** | 15.49 | **8.99▲** | 0.4 |
| | 5.0 M/16 Ft. Tape | 3/4 | In./meter | No | 33-158 | **5C572** | 24.49 | **13.29▲** | 0.6 |
| | 7.5 M/25 Ft. Tape | 1 | In./meter | Yes | 33-428 | **5C573** | 28.53 | **14.99▲** | 1.0 |
| LeverLock® Tapes | 12 Ft. Tape with Black Case | 1/2 | In./ft. | No | 30-537 | **5C956** | 9.24 | **5.99▲** | 0.3 |
| | 12 Ft. Tape with Black Case | 3/4 | In./ft. | Yes | 30-513 | **5C957** | 13.73 | **8.79▲** | 0.5 |
| | 16 Ft. Tape with Black Case | 3/4 | In./ft. | Yes | 30-516 | **5C958** | 16.18 | **9.99▲** | 0.4 |
| | 25 Ft. Tape with Green Case | 1 | In./ft. | Yes | 30-925 | **6R061** | 17.44 | **10.99▲** | 1.0 |
| | 25 Ft. Tape with Orange Case | 1 | In./ft. | Yes | 30-927 | **6R658** | 17.44 | **10.99▲** | 1.0 |
| | 25 Ft. Tape with Red Case | 1 | In./ft. | Yes | 30-985 | **1C067** | 17.44 | **10.99▲** | 0.9 |
| | 30 Ft. Tape with Red Case | 1 | In./ft. | Yes | 30-995 | **1C065** | 20.49 | **11.99▲** | 1.1 |

## DIGITAPE™

- **Displays in in, ft/in, and centimeters**
- **Outside/inside measuring mode automatically adds length of case to an inside measure**
- **Zero button sets zero reading at any blade position**
- **Inch/cm button for instant conversions between readout**
- **Holds measurement in memory indefinitely• Automatic shut-off after five minutes of inactivity**
- **Compact, rugged, high-impact polymer case**
- **Has Duracell® DL1/3N battery**

***New* No. 4PC97.** Replacement 3V Digitape Battery. Starrett brand (60873). Shpg. wt. 0.1 lbs. List.....$5.95. Each.....**$5.49▲**




| Length (Ft.) | Blade Width (In.) | Starrett Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **16** | 3/4 | D34-16 | **2F976** | $29.98 | **$25.95▲** | 0.7 |
| **25** | 1 | D1-25 | **4L644** | 39.98 | **34.95▲** | 1.3 |

## MEASURE STIX™

Sticks to almost any work surface. High quality precision steel rule is flat with self-adhesive back. Cuts to size with scissors.

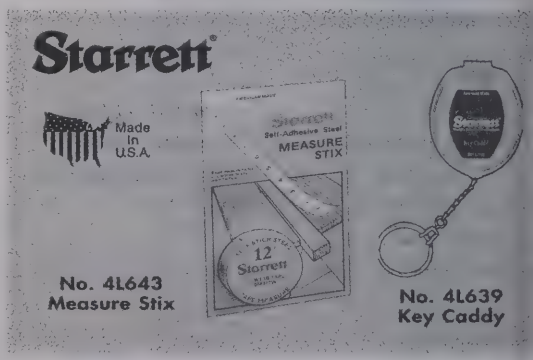
| Length (Ft.) | Blade Width (In.) | Unit of Measure | Starrett Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **4** | 1/2 | in./ft. | SM144W | **4L641** | $5.00 | **$4.79 ▲** | 0.1 |
| **6** | 3/4 | in./ft. | SM66W | **4L642** | 5.88 | **5.59 ▲** | 0.1 |
| **12** | 1/2 | in./ft. | SM412W | **4L643** | 6.92 | **6.89 ▲** | 0.2 |

## KEY CADDY

Heavy-duty chrome-plated die-cast case with stainless steel key ring. Returns keys and other articles automatically. For custodians, maids, watchmen, service station attendants and many others. Great for welders to carry torch ignitors. Stainless steel belt clip. Starrett Model (SK1)

**No. 4L639.** Shpg. wt. 0.3 lbs. List $9.48. Each.....**$8.29▲**

(▲) Net prices, not subject to discounts.






The only source you need for tools as tough as you are.

# MEASURING TAPES AND LEVEL

- **Power return and steel blades finished with abrasive-resistant coating**
- **Lightweight, unbreakable chrome-plated case with belt clip and toggle lock**
- **Blade has two-color, easy-to-read markings, self-adjusting end hooks**
- **1" tapes feature Quad Hook™ long-lasting hooks**

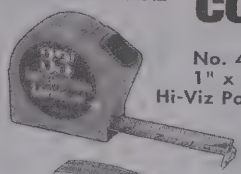
**Hi-Viz Series Power Tapes** feature cushioned blade return. High-visibility easy to find on the job site.

**Series 2000® Power Tapes** feature cushioned blade return. 3" Base for inside measurements.

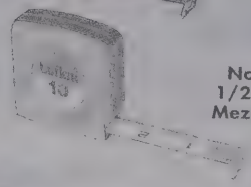
**Mezurall® Power Tapes** are yellow with chrome-plated case and belt clip.

**Executive® Diameter Tape** for measuring diameters of any circular object. Blade shows diameter inches to 1/64ths.

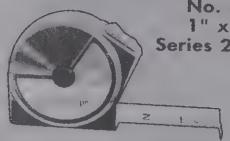
**Lufkin®** **COOPER Tools** Made In U.S.A.



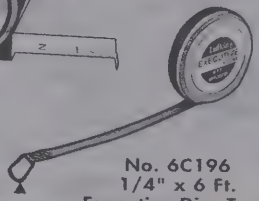
No. 4CP82
1" x 33 Ft.
Hi-Viz Power Tape



No. 6C200
1/2" x 10 Ft.
Mezurall Tape



No. 3X679
1" x 25 Ft.
Series 2000 Tape



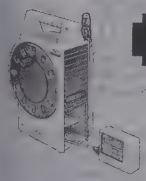
No. 6C196
1/4" x 6 Ft.
Executive Dia. Tape

| Description | Size | Blade Width (In.) | Graduations | Stud Markings | Lufkin Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Series 2000 Power Tapes | 10 Ft. Tape | 1/2 | In./ft. | Yes | 2210 | **6X099** | $13.92 | **$9.29** | ▲ | 0.3 |
| | 12 Ft. Tape | 1/2 | In./ft. | Yes | 2212 | **6X100** | 15.72 | **9.79** | ▲ | 0.1 |
| | 12 Ft. Tape | 3/4 | In./ft. | Yes | 2312 | **6X101** | 19.96 | **10.29** | ▲ | 0.4 |
| | 16 Ft. Tape | 3/4 | In./ft. | Yes | 2316 | **6X102** | 24.75 | **11.29** | ▲ | 0.4 |
| | 25 Ft. Tape | 3/4 | In./ft. | Yes | 2325 | **6C197** | 27.41 | **13.59** | ▲ | 0.7 |
| | 25 Ft. Tape | 1 | In./ft. | Yes | 2125 | **3X679** | 29.03 | **14.39** | ▲ | 1.0 |
| | 30 Ft. Tape | 1 | In./ft. | Yes | 2130 | **6C202** | 30.27 | **15.39** | ▲ | 1.1 |
| | 33 Ft. Tape | 1 | In./ft. | Yes | 2133 | **4CP78** | 31.63 | **18.39** | ▲ | 1.2 |
| | 3 M / 10 Ft. Tape | 1/2 | In./ft./mm/cm | Yes | 2223CME | **4CP79** | 13.92 | **9.59** | ▲ | 0.3 |
| | 5 M / 16 Ft. Tape | 3/4 | In. | Yes | 2335ME | **6X104** | 24.75 | **13.29** | ▲ | 0.5 |
| | 8 M / 26 Ft. Tape | 1 | In./ft./mm/cm | Yes | 2048CME | **4CP77** | 29.03 | **15.39** | ▲ | 0.9 |
| Hi-Viz Series Power Tapes | 8 M / 26 Ft. Tape—Green Case | 1/25mm | In./ft./mm/cm | Yes | HG1048CME | **4CP80** | 21.47 | **12.29** | ▲ | 0.9 |
| | 8 M / 26 Ft. Tape—Orange Case | 1/25mm | In./ft./mm/cm | Yes | HV1048CME | **4CP81** | 21.47 | **12.29** | ▲ | 0.9 |
| | 33 Ft. Tape—Orange Case | 1 | In./ft. | Yes | HV1433 | **4CP82** | 23.74 | **14.29** | ▲ | 1.2 |
| Mezurall Power Tapes | 10 Ft. Tape | 1/2 | In./ft. | Yes | W9210 | **6C200** | 11.56 | **8.49** | ▲ | 0.2 |
| | 12 Ft. Tape | 1/2 | In./ft. | Yes | W9212 | **6C201** | 13.32 | **9.49** | ▲ | 0.4 |
| Executive Diameter Tape | 6 Ft. Circumference Tape | 1/4 | In./ft. | No | W606PD | **6C196** | 17.25 | **12.29** | ▲ | 0.1 |

▲) Net prices, not subject to discounts.

## COMPU-LEVEL

**STANLEY®**



No. 4CL78

**evation measuring system for** construction, xcavation, foundation evaluation, and istallation of plant maintenance equipent. One-person operation.

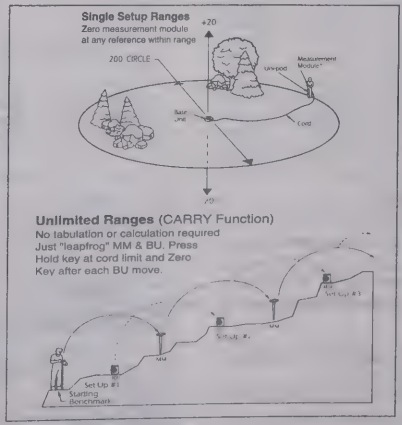
**Measures 40 ft. vertically over a 200 ft. circle with 1/8" precision on one set-up**

**Zero key sets reference plane for leveling or direct readings of elevation above or below—even around visual obstructions**

**Carry function reads elevations over unlimited distances or elevations**

**Saves 137 readings for recall or for a serial dump to a PC for tables, profiles, or 3-D maps**

**Reads in decimal, fractional inches; decimal feet, centimeters, meters**

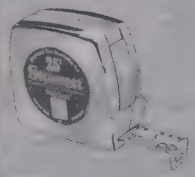



- **Does not require factory calibration**
- **Included unipod allows measuring without bending over**
- **Job-site rugged, water-resistant; operates from -22°F to +158°F.**

**No. 4CL78.** Shpg. wt. 13.0 lbs. List.....$1108.89.
Each.....$699.00▲

## ADA CODE TAPE

**Starrett®** Made In U.S.A.



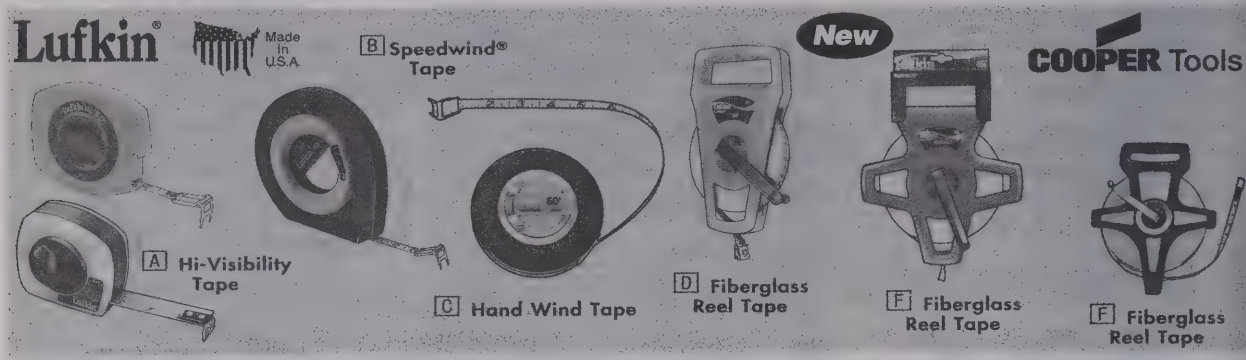
No. 3TG68

**Tape features American Disabilities Act (ADA) code regulations** printed on the heavy-duty 1" x 25' blade. Combines measurements of a professional-grade tape with a brief description of the ADA code requirements, located on the blade in the area where the regulations apply.

**88 notations, covering 106 of the most frequently used** ADA codes that apply to building structures, walkways, parking areas, elevators, and fixtures for lavatory equipment, cabinetry, light switches, etc. Starrett brand (65896).

**No. 3TG68.** Shpg. wt. 6.0 lbs. List.....$19.90.
Each.....$18.95▲

# MEASURING TAPES AND WOOD RULES




## HAND WIND TAPES

- Nos. 5F336, 5F335, and 6C191 are housed in high-impact ABS case with high visibility orange color
- Nos. 6A499, 6A500, and 4CP84 are housed in rugged, vinyl-covered steel case with large easy action winding drum and friction washers
- Bold graduations with black and red numbers on yellow background
- Steel tape is 0.008"/0.2mm thick and has folding hook ring on Nos. 6C191, 6A500, and 4CP84

## LINEAR FIBERGLASS TAPES

- High visibility orange colored case
- Lightweight, high impact polystyrene case has open reel for easy handling and rewinding
- Durable fiberglass linear tape is made of nonconductive material encapsulated in flexible plastic with easy-to-read black and red markings on yellow background
- Fiberglass tape resists stretch, extreme weather conditions
- Line does not collect dirt in case of open reel tapes, making it easy to clean
- No. 4CP86 is 2-sided

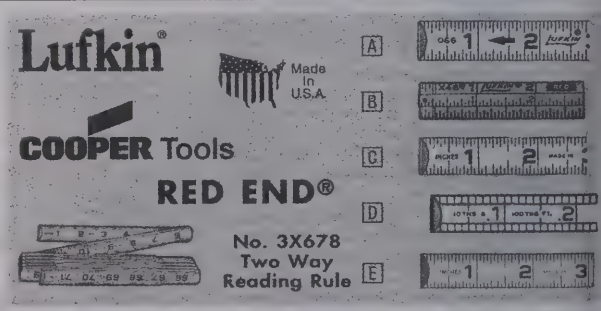
| Key | Description | Blade Width (In.) | Blade Length Ft. | Blade Length Meters | Case Type | Lufkin Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Hi-Visibility Tape | 1 | 50 | — | Closed | EL15CME | New4NV60 | $26.26 | $17.99▲ | 1.0 |
| A | Hi-Visibility Tape | 1 | 50 | — | Closed | EL50C | New4NV61 | 26.26 | 17.99▲ | 1.0 |
| A | Hi-Visibility Tape | 3/8 | 50 | — | Closed | 50 | 5F336 | 18.25 | 12.59▲ | 0.5 |
| A | Hi-Visibility Tape | 3/8 | 100 | — | Closed | 100 | 5F335 | 26.91 | 17.79▲ | 1.0 |
| A | Metric Hi-Visibility Tape | 3/8 | 100 | 30 | Closed | HV30CME | 4CP83 | 26.70 | 22.70 | 1.0 |
| B | Speedwind® Tape | 3/8 | 100 | — | Closed | HYT100 | 6C191 | 38.12 | 32.45 | 1.5 |
| C | Hand Wind Tape | 3/8 | 50 | — | Closed | HW223 | 6A499 | 34.18 | 29.10 | 1.0 |
| C | Metric Hand Wind Tape | 3/8 | 100 | 30 | Closed | HW226ME | 4CP84 | 52.00 | 44.25 | 1.8 |
| C | Hand Wind Tape | 3/8 | 100 | — | Closed | HW226 | 6A500 | 52.00 | 44.25 | 1.7 |
| D | Linear Fiberglass Tape | 1/2 | 50 | — | Open | 1703 | 6C193 | 28.94 | 16.95▲ | 0.8 |
| D | Linear Fiberglass Tape | 1/2 | 100 | — | Open | 1706 | 6A502 | 43.49 | 24.95▲ | 1.2 |
| D | Metric Fiberglass Tape | 1/2 | 50 | 15 | Open | HY1715CME | 4CP85 | 28.71 | 24.41 | 0.8 |
| D | Metric Fiberglass Tape | 1/2 | 100 | 30 | Open | HY1730CME | 4CP86 | 43.15 | 36.70 | 1.3 |
| E | Linear Fiberglass Tape | 1/2 | 150 | — | Open | 1707 | 6C192 | 74.11 | 63.00 | 1.8 |
| F | Linear Fiberglass Tape | 1/2 | 200 | — | Open | 1708 | 6A503 | 85.57 | 72.75 | 2.2 |
| F | Linear Fiberglass Tape | 1/2 | 300 | — | Open | 1709 | 6A504 | 125.96 | 107.10 | 3.0 |
| F | Linear Fiberglass Tape | 1/2 | 165 | 50 | Open | HY1750CME | New4NV63 | 72.72 | 47.95 | 1.3 |
| F | Linear Fiberglass Tape | 1/2 | 200 | 60 | Open | HY1760CME | New4NV64 | 83.96 | 54.95 | 1.6 |
| F | Linear Fiberglass Tape | 1/2 | 330 | 100 | Open | HY17100CME | New4NV62 | 135.96 | 89.95 | 1.8 |

(▲) Net prices, not subject to discounts.

## FOLDING WOOD RULES

- Red and black markings are embedded in wood and protected by clear, tough epoxy coating
- 16" Stud center marks in red; marked both sides in 16ths
- Solid brass end caps and strike plates; riveted brass lock joints

**Standard Rule No. 6X108** has regular outside reading. Zero falls on inside of hook, permits measuring beyond arm's reach.
**Extension Rule No. 6X107** has graduated brass slide; extends full 6".
**Two Way® Reading Rule No. 3X678** is marked on both sides, both edges in feet, inches, and 1/16ths.
**Engineer's Rule No. 6C194** is graduated in feet, 1/16ths, and 1/100ths feet and has regular outside markings in feet, inches, and 1/16ths. Rule also features red foot figures and decimal points on engineer's scale.
**Metric/English Rule No. 4CP87** is marked both sides, reading left to right on both sides; rule is graduated in millimeters with centimeter and meter markings on metric side; English side marked to 1/16ths.




| Key | Description | Blade Width | Blade Length | Lufkin Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|
| A | Standard Rule | 5/8" | 6 ft. | 066 | 6X108 | $14.52 | $12.35 | 0.1 |
| B | Extension Rule | 5/8 | 6 | X46 | 6X107 | 22.46 | 19.10 | 0.4 |
| C | 2-Way Reading Rule | 5/8 | 6 | 966 | 3X678 | 14.52 | 12.35 | 0.3 |
| D | Engineer's Rule | 5/8 | 6 | 1066D | 6C194 | 21.28 | 18.09 | 0.3 |
| E | Metric/English Rule | 5/8 | 6 (2m) | 062CME | 4CP87 | 14.75 | 12.55 | 0.1 |


The only source you need for tools as tough as you are.

# MEASURING WHEELS & DISTANCE METERS

## LINEAR MEASURING WHEELS

### A B 1 FT. DUAL MEASURING WHEELS

Automatically records measurements point to point, vertically, overhead, around curves and over contours. Adds in forward direction, deducts in reverse. 4" diameter wheels for all indoor uses as well as on outdoor hard surfaces. Features a pushbutton reset counter that records in feet and inches (up to 1000 ft.), automatic rollover, and wide tires. No. 1ARW8 has straight, telescoping handle; No. 1ARW9 has curved telescoping handle. Safety orange color.

### C D 3 FT. MEASURING WHEEL

For measuring indoor and outdoor surfaces. Adds in forward direction (up to 1000 ft.) and deducts in reverse, has pushbutton reset, and automatic rollover. Features a rugged molded 12" diameter wheel with sturdy polymer tire for reliable traction and stability. No. 1ARX1 has curved telescoping handle. No. 2H634 has straight, telescoping handle. Safety orange color.

### E 4 FT. MEASURING WHEEL FOR ROUGH TERRAIN AND GREATER DISTANCES

For outdoor use, measuring long distances (up to 100,000 ft.). No. 1ARX0 features spring-tensioned brake to minimize wheel rotation when taken off surface, includes adjustable stand, folding handle for ease of storage and transportation, heavy-duty resettable counter, and rugged molded 15" diameter tire for reliable traction and heavy use. Safety orange color.

### F 1 METER MEASURING WHEEL

Used indoors or out, wherever metric measurements are required. No. 2H632 features a curved, telescoping handle, adds in forward direction, deducts in reverse. Has a pushbutton reset counter that records in meters and tenths of a meter, up to 1000m, with automatic rollover. Incorporates a sturdy polymer tire on resilient molded wheel. Safety orange color.




| Key | Capacity | No. of Wheels | Circumference of Each Wheel | Storage Size (In.) | Full Extended Length (In.) | Redi-Measure Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1000 Ft. | 2 | 1 Ft. | 17 | 39 | 12-0734 | **1ARW8** | $63.00 | **$56.70** | 3.0 |
| B | 1000 Ft. | 2 | 1 Ft. | 28 | 44 | 14-0734 | **1ARW9** | 66.20 | **59.60** | 3.8 |
| C | 1000 Ft. | 1 | 3 Ft. | 32 | 48 | 11-0764 | **1ARX1** | 100.00 | **90.00** | 5.8 |
| D | 1000 Ft. | 1 | 3 Ft. | 21 | 43 | 12-0764 | **2H634** | 95.65 | **86.10** | 4.5 |
| E | 100,000 Ft. | 1 | 4 Ft. | 18 | 40 | 11-0794 | **1ARX0** | 137.35 | **123.95** | 11.0 |
| F | 1000 M. | 1 | 1 M. | 33 | 49 | 11-0754 | **2H632** | 106.35 | **95.75** | 6.1 |

NOTE: Because of varying terrains and applications, wheels should be used for estimation purposes only.

## DISTANCE METERS

Electronic distance meters measure distances by transmitting and receiving ultrasonic waves. Improved circuitry and software with signature signal that eliminates random noise interference. All units provide 99.5% accuracy, have two memories, and compute area and volume. Tracking and Validate modes. Automatic internal temperature compensation. Ergonomic design. Quick reference instruction label on back of units. Low battery warning; automatic shut-off 7 minutes after last button is pressed. Excellent for HVAC, contractor, and other industry applications.

### No. 3T347—INDOOR USE

**Measures 1½ to 45 ft.**
**Readings in Ft./In. and M/cm**
**Sonin brand (45)**
**7 memories with recall**
**Can be field calibrated**

**No. 3T347.** Shpg. wt. 0.4 lbs. List $39.99.
Each ..... **$36.00**

### No. 3T348—INDOOR USE

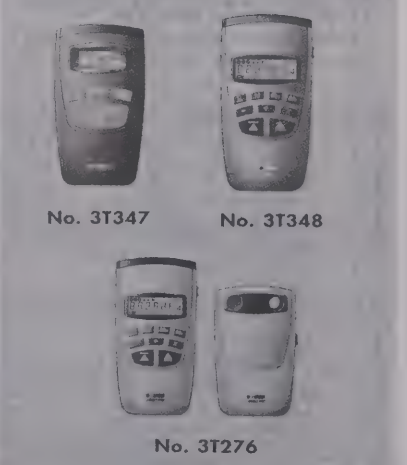
**Measures 1½ to 60 ft.**
**Readings in ft./in., M/cm, decimal ft., and yards**
**Packed in protective pouch**
**Sonin brand (60 Pro)**
**7 memories with recall**
**Can be field calibrated.**

**No. 3T348.** Shpg. wt. 0.6 lbs. List $72.99.
Each ..... **$65.70**

### No. 3T276—INDOOR/OUTDOOR USE

- **Measures 1½ to 60 ft. in single mode; measures 1½ to 250 ft. in dual mode with target**
- **Includes electronic target with tripod fitting**
- **Readings in Ft./In., M/cm, Decimal Ft., and Yards**
- **Packed with dual pocket protective pouch**
- **Sonin brand (Combo PRO).**

**No. 3T276.** Shpg. wt. 1.0 lbs. List $169.99.
Each ..... **$153.00**



# WALL SCRAPERS AND PUTTY KNIVES

Stanley wall scrapers and putty knives have carbon steel blades, hardened, tempered, and polished.

**A PROFESSIONAL™ WALL SCRAPER**

- Full tang blade permanently fastened to shatter-resistant nylon handle

**B PROFESSIONAL™ PUTTY KNIFE**

- Full tang blade permanently fastened to shatter-resistant nylon handle
- Available stiff or flexible

**C PROFESSIONAL™ JOINT KNIFE**

- Full tang blade permanently fastened to shatter-resistant nylon handle

**D WORKMASTER® WALL SCRAPER**

- Full tang blade permanently fastened to hardwood handle
- Flexible ground blade
- Available stiff or flexible

**E WORKMASTER® PUTTY KNIFE**

- Full tang blade permanently fastened to hardwood handle
- Available stiff or flexible

**F BURN-OFF SCRAPER**

- Heavy-duty steel blade bent at a 20°angle for easy paint removal with hardwood handle

**G SCRAPER**

- Used by painters and paper hangers
- Full-sized hardwood handle with lacquer finish

**H REFINISHING HAND SCRAPER**

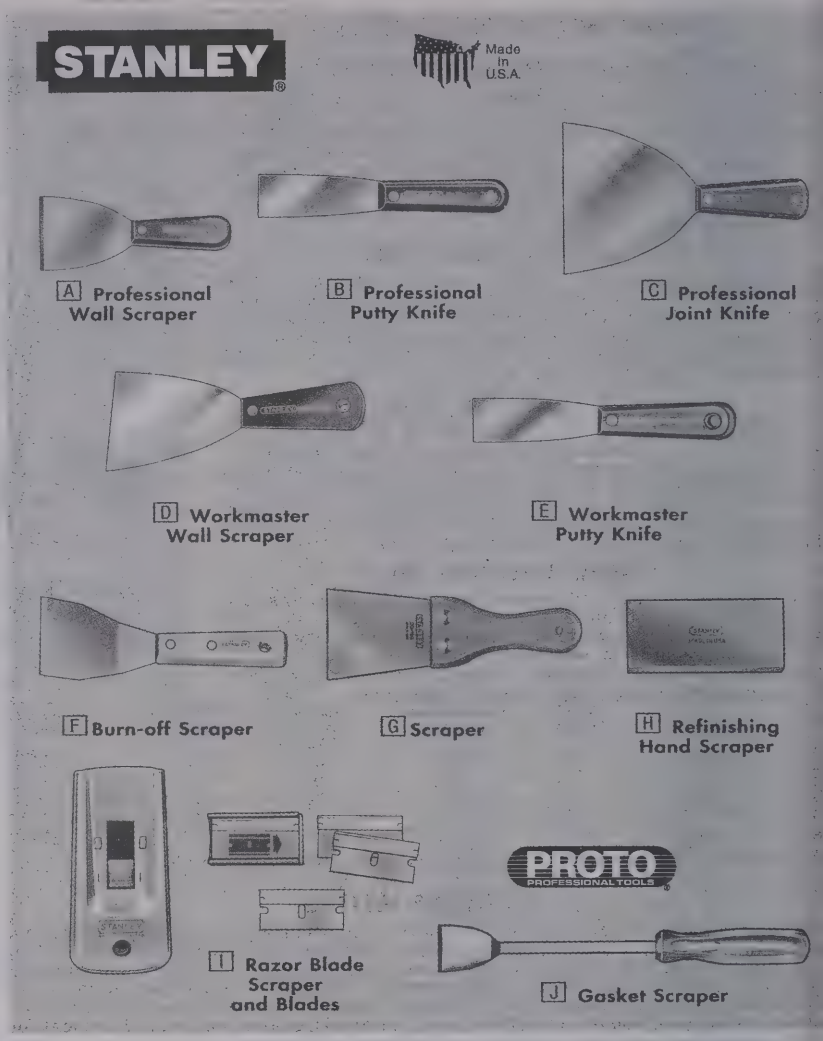
- Thickness: 0.037″

**I RAZOR BLADE SCRAPER**

- Paint scraper with changeable, retractable blades
- Furnished with 5 single edge razor blades

**J GASKET SCRAPER**

- For removing gaskets and carbon, as well as many other uses
- Chrome plated alloy steel blade has big, comfortable fire-resistant handle

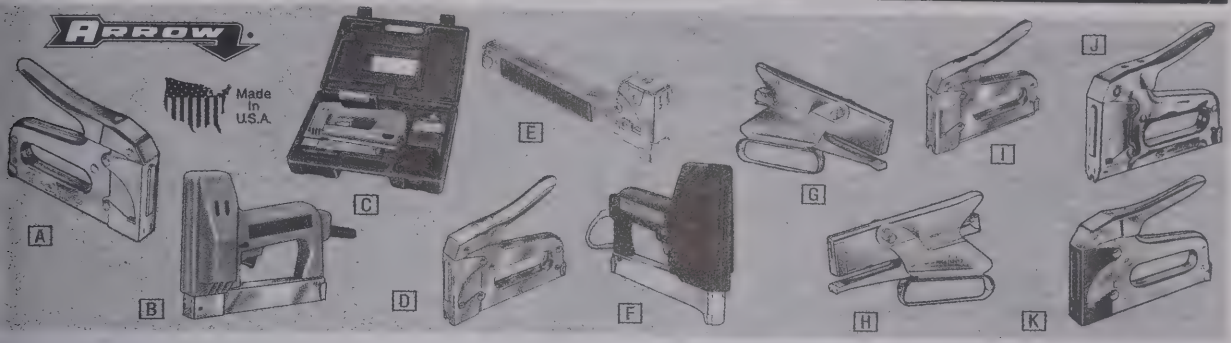



| Key | Description | Blade | Handle | Stanley Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|
| A | Professional Wall Scraper | 3" Stiff | Nylon | 28-139 | 1ARX2 | $9.49 | $5.29▲ | 0.2 |
| B | Professional Putty Knife | 1¼" Stiff | Nylon | 28-140 | 1ARX3 | 6.18 | 3.39▲ | 0.2 |
| B | Professional Putty Knife | 1¼" Flexible | Nylon | 28-240 | 1ARX9 | 6.18 | 3.49▲ | 0.2 |
| B | Professional Putty Knife | 1½" Stiff | Nylon | 28-141 | 1ATC0 | 6.80 | 3.79▲ | 0.2 |
| B | Professional Putty Knife | 1½" Flexible | Nylon | 28-241 | 1ATC1 | 6.91 | 3.89▲ | 0.2 |
| B | Professional Putty Knife | 2" Stiff | Nylon | 28-142 | 1ARX4 | 7.27 | 3.99▲ | 0.2 |
| B | Professional Putty Knife | 2" Flexible | Nylon | 28-242 | 1ATC2 | 7.27 | 3.99▲ | 0.2 |
| C | Professional Joint Knife | 6" Flexible | Nylon | 28-246 | 1ARX5 | 13.49 | 7.89▲ | 0.3 |
| D | Workmaster Wall Scraper | 3" Flexible | Hardwood | 28-539 | 1ARX6 | 8.58 | 4.89▲ | 0.3 |
| D | Workmaster Wall Scraper | 3" Stiff | Hardwood | 28-543 | 1ATC3 | 8.76 | 4.89▲ | 0.3 |
| E | Workmaster Putty Knife | 1¼" Flexible | Hardwood | 28-540 | 1ARX7 | 5.62 | 3.19▲ | 0.2 |
| E | Workmaster Putty Knife | 1¼" Stiff | Hardwood | 28-541 | 1ARX8 | 5.78 | 3.19▲ | 0.2 |
| F | Burn-off Scraper | 3" Bent Steel | Hardwood | 28-170 | 5C936 | 11.93 | 7.89▲ | 0.4 |
| G | Scraper | 3½" Steel | Hardwood | 28-189 | 5C937 | 12.87 | 8.49▲ | 0.4 |
| H | Refinishing Hand Scraper | 3 x 5" Steel | — | 28-035 | 5C938 | 9.09 | 5.99▲ | 0.2 |
| I | Razor Blade Scraper† | 4" Long | — | 28-500 | 6R029 | 2.82 | 1.99▲ | 0.2 |
| J | Gasket Scraper | 1½ x 12L" Steel | Plastic | 2336* | 5C939 | 18.76 | 11.99▲ | 0.5 |

(*) Proto brand. (†) Replacement blade sold on page 1362. (▲) Net prices, not subject to discounts.



The only source you need for tools as tough as you are.




A **Heavy-Duty Staple Gun Tacker** drives T50 staple sizes—1/4, 5/16, 3/8, 1/2, 9/16", and Ceiltile®. All-steel construction with chrome finish. Features patented jam-proof mechanism and visual refill window. Arrow brand (T50®).
**No. 6A505.** Shpg. wt. 2.1 lbs. List $29.60. Each.....$20.50▲
**Parts Kit for No. 6A505 Staple Gun Tacker** includes pusher rod, clevis pins and rings, rear screw and nut, and clevis pin and ring handle). Arrow brand (PK50).
**No. 4CP10.** Shpg. wt. 0.2 lbs. List $4.99. Each..... $4.69▲

B **Extra Heavy-Duty Staple Gun Tacker and Nail Gun** used for tacking insulation, ceiling tile, upholstery, and other jobs. Extra heavy-duty components, with 10 ft. cord. Uses 5/8" brads and T50 staple sizes—1/4, 5/16, 3/8, 1/2, 9/16, 17/32", 5/8 brads, and Ceiltile®. For AC operation only. UL Listed. Arrow brand (ETF50PBN™).
**No. 4CP09.** Shpg. wt. 3.0 lbs. List $49.45. Each.....$40.95▲

C **Cordless Staple Gun Tacker Kit** features staple gun with flush front for hard-to-reach areas. Uses T50 staple sizes—1/4, 5/16, 3/8, 1/2, 9/16, 17/32". Fast, easy-squeeze trigger operation with on/off safety trigger lock. All-steel channel and track for longevity. Kit includes gun, rechargeable battery pack, battery charger, and case. Arrow brand (ETC50K™).
**No. 4CP08.** Shpg. wt. 7.5 lbs. List $210.00. Each..... $139.00▲

D **Wiring Tacker** for installation of telephones, TV, cable, intercom, burglar alarm systems. All-steel construction with hand contoured handle grip and chrome finish. Fits wires up to 5/16" (8mm) diameter. Uses T59 insulated staples, sold separately. UL listed. Arrow brand (T-59).
**No. 4CP12.** Shpg. wt. 2.1 lbs. List $50.00. Each.....$38.95▲

E **Hammer Tacker** with balanced design for installation of insulation, furniture fabrication, display materials, and carpet padding. Features all steel construction, chrome finish, and impact-resistant handle. Uses T50 staple sizes—1/4, 5/16, 3/8, and 1/2". Arrow brand (HT50A).
**No. 6A506.** Shpg. wt. 2.3 lbs. List $46.00.Each.....$34.95▲

F **Electric Staple Gun** offers trigger-squeeze speed and ease of operation. Flush front extended nose permits easy fastening in recessed areas. Uses T50 staple sizes—1/4, 5/16, 3/8, 1/2, 9/16", and Ceiltile®. For AC operation only. UL Listed, CSA Certified. Arrow brand (ETN50).
**No. 6A507.** Shpg. wt. 2.3 lbs. List $39.15. Each .....$30.85▲
**Parts Kit for No. 6A507 Staple Gun** includes pusher rod, rear screw and nut, and screws and nuts. Arrow brand (PKET).
**No. 4CP11.** Shpg. wt. 0.2 lbs. List $4.99. Each.....$4.69▲

G **Pliers-Type Stapler** drives P22 staple sizes—1/4 and 5/16". Designed for hard-to-reach areas and for stapling from any position or angle. Arrow brand (P22).
**No. 6C679.** Shpg. wt. 1.0 lbs. List $19.85. Each.....$17.50▲

H **Heavy-Duty Pliers-Type Stapler** has same design and construction as No. 6C679 and includes more powerful drive for accommodating tougher materials. Drives P35 staple sizes—1/4 and 3/8". Arrow brand (P35).
**No. 6C682.** Shpg. wt. 1.0 lbs. List $24.20. Each..... $20.50▲

I **Wire and Cable Gun Tacker** is designed for a wide range of wire and cable fastening applications, including Romex, non-metallic sheathed cable, U.F. cable, wire conduit, plastic cable, copper tubing, or any round object up to 1/2" diameter. For fastening inside wire cable up to 2 6-pair and Romex cable up to 12-3. Contoured nose guide and driving blade halts staple at safe height to prevent cutting into wire or cable covering. All-steel construction with chrome finish. Uses T75 staple sizes—5/8 and 7/8". Arrow brand (T75).
**No. 4CP13.** Shpg. wt. 2.3 lbs. List $41.60. Each..... $34.95▲

J **Wire Staple Gun Tacker** for use with low voltage wire. Uses T25 staple sizes—3/8 and 9/16". Typical wire uses include telephone, thermostat, intercom, and cable. Arrow brand (T25M).
**No. 6C676.** Shpg. wt. 2.0 lbs. List $41.60. Each.....$34.95▲

K **Outward Clinch Staple Gun Tacker** drives a staple with flared legs. Used where staple-clinching tools with an anvil base cannot be inserted. Drives T50 staple sizes—3/8, 1/2, and 9/16". Arrow brand (T50®).
**No. 6C675.** Shpg. wt. 2.0 lbs. List $44.80. Each..... $36.95▲

(†) For replacement rods, call 1-800-323-0620. (▲) Net prices, not subject to discounts.

## ARROW STAPLES
### Priced and sold in boxes of 5000

| Leg Length (In.) | Arrow Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **T50® STAPLES** | | | | |
| 1/4 | 504 | 4A306 | $9.40 | 1.3 |
| 5/16 | 505 | 4A307 | 9.80 | 1.5 |
| 3/8 | 506 | 4A308 | 11.60 | 2.0 |
| 1/2 | 508 | 4A309 | 12.00 | 2.5 |
| 9/16 | 509 | 4A310 | 13.00 | 2.5 |
| **T59 INSULATED STAPLES (UL LISTED) (Pkg. 300)** | | | | |
| 1/4-5/16 (Clear) | 591188 | 4CP03 | 7.35 | 0.1 |
| 1/4-5/16 (Black) | 591188BL | 4CP04 | 7.35 | 0.3 |
| 1/4 (Clear) | 591168 | 4CP01 | 7.35 | 0.3 |
| 1/4 (Black) | 591168BL | 4CP02 | 7.35 | 0.3 |
| 5/16 (Black) | 591189BL | 4CP05 | 7.35 | 0.3 |
| **T75 STAPLES (UL LISTED) (Pkg. 1000)** | | | | |
| 5/8 | 7510S | 4DG46 | 7.45 | 0.8 |
| 7/8 | 7514S | 4CP06 | 8.25 | 1.1 |
| **T25 STAPLES** | | | | |
| 3/8 | 256 | 6C677 | 10.25 | 1.5 |
| 9/16 | 259 | 6C678 | 10.75 | 2.0 |
| **P22 STAPLES** | | | | |
| 1/4 | 224 | 6C680 | 3.15 | 0.5 |
| 5/16 | 225 | 6C681 | 3.45 | 0.5 |
| **P35 STAPLES** | | | | |
| 1/4 | 354 | 6C683 | 7.55 | 1.0 |
| 3/8 | 356 | 6C684 | 8.65 | 1.5 |

# TOOL BELTS AND POUCHES

**A Carpenter's Apron.** Professional quality top grain leather apron with large capacity 11-pocket design. Two leather hammer loops and tape holder for tapes up to 30 ft. Quick release buckle with web belt. Fits waist sizes 29" to 46".

**B Five-pocket Waist Apron.** 100% natural cotton canvas with strong polypropylene hammer loops. Double stitched and rivet reinforced at stress points.

**C Five-pocket Machinist's Apron.** Cotton with crisscross shoulder straps. Lace through metal grommets. Overall length is 38".

**D Electrician's Pouch.** Extra-heavy, semi-soft top grain leather with large capacity 10-pocket design. Includes hammer loop, "T" chain tape holder, 30 ft. tape measure holder, and tool snap. Fits belts up to 2¾" wide.

**E Extra-capacity Electrician's Pouch.** Heavy-duty top grain saddle leather with 9-pocket design. Quick release tool snap. Anchored insulated tape sling and 30 ft. tape holder. 2¾" wide belt slots.

**F Maintenance Pouch.** Heavy-duty top grain saddle leather with 7-pocket design. Includes tape rule holder, leather hammer holder, 12' tape rule holder "T" chain, and quick release tool snap. Three preformed front pockets. Fits belts up to 2" wide.

**G Electrician's Pouch with Drill Holster.** Extra-heavy, semi-soft top grain moccasin leather with 8-pocket design. Includes two spacious pockets, 45° drill holster, drill bit holder, tape rule clip, "T" chain, 3 backwall tool slots, 3 screwdriver holders, and hammer holder. Fits belts up to 2¾" wide.

**H Nail Bag.** Professional quality top grain leather with large capacity 8-pocket design. Two leather hammer loops. Fits belts up to 2¾" wide.

**I Fast Draw™ 45° Cordless Drill Holster.** Top grain saddle leather. Holster is made with right handed 45° angle for the heavy industrial cordless drill user. Accommodates large to medium sized cordless drills. Fits belts up to 2¼" wide.

**J Pliers Holder.** Top grain saddle leather die molded holder has open ended "V" shaped pocket that tapers from 2½" to 1" to hold pliers, shears, and pruners. 2" wide belt slots.

**K Hammer Holder.** Double rivet reinforced nickel plated cradle loop holder is mounted on strong top grain saddle leather. 2¾" wide belt slots.

**L Tape Rule Holder.** Top grain saddle leather die molded, one hand "push up" pocket design. Fits 16 to 30 ft., 1" wide blade tapes. 2¾" wide belt slots.




| Key | Description | Nicholas Model | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|
| A | Carpenter's Apron | 427X | 2W585 | $58.35 | $46.65 | 2 |
| B | 5-Pocket Waist Apron | C14 | 4A669 | 4.75 | 3.80 | 0 |
| C | 5-Pocket Machinist's Apron | T27 | 4A668 | 12.25 | 9.80 | 0 |
| D | Electrician's Pouch | 500 | 5X863 | 28.15 | 22.50 | 1 |
| E | Extra-Capacity Electrician's Pouch | 925S | 4A672 | 43.20 | 34.55 | 1 |
| F | 7-Pocket Maintenance Pouch | 603 | 5X865 | 23.60 | 18.75 | 1 |
| G | Electrician's Pouch with Drill Holster | 545 | 1ATF5 | 34.75 | 27.80 | 2 |
| H | Nail Bag | 823 | 2W584 | 28.95 | 23.15 | 1 |
| I | Right Hand 45° Drill Holster | 1720R | 1ATF6 | 14.00 | 11.20 | 0 |
| J | Molded Pliers Holder | 417 | 5X856 | 4.40 | 3.50 | 0 |
| K | Steel Loop Hammer Holder | 439 | 5X857 | 3.20 | 2.55 | 0 |
| L | Steel Rule Tape Holder | 464 | 5X858 | 6.20 | 4.95 | 0 |


The only source you need for tools as tough as you are.

## CORDURA® PLUS BELTS AND POUCHES

- **Cordura® Plus fabric is lighter weight and tougher than leather**

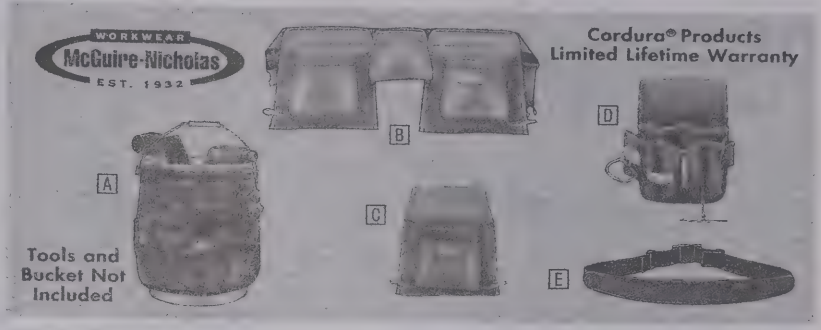
A **Bucket Caddy.** Includes 14 exterior pockets and fits standard 5 gallon bucket. Olive green color.

B **Construction Apron.** 8-Pocket professional design. Quick release plastic buckle and steel hammer loops.

C **Nail and Tool Bag.** 5-Pocket professional design. Dual steel hammer loops.

D **Electrician's Pouch.** 5-Pocket professional design. Steel swinging hammer loops. Metal tape clip, quick release tool snap, and "T" chain tape holder.

E **Padded Tool Belt.** Tapers from 3" in center to 2" in front. Fits waists 29 to 48". Quick release buckle.




| Key | Description | Nicholas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Bucket Caddy | 22014OL | **6C338** | $23.15 | **$12.49▲** | 0.8 |
| B | Construction Apron | 76427 | **6C334** | 41.70 | **33.35** | 1.8 |
| C | Nail and Tool Bag | 76823 | **6C335** | 21.60 | **17.25** | 0.9 |
| D | Electrician's Pouch | 76500 | **6C336** | 22.20 | **17.75** | 0.7 |
| E | Padded Tool Belt | 7090 | **6C337** | 18.70 | **14.95** | 0.6 |

(▲) Net prices, not subject to discount.

## BELTS, KNEE PADS, AND SUSPENDERS

A **Poly Web Belt.** 2¼" wide, army pistol-style belt. Adjustable to fit to 46" waists. For use with pouches and holders.

B **Leather Work Belt.** 1¾" wide. Basket weave embossing with rust-resistant, nickel-plated hardware. Fits waists 29 to 46".

D **Poly Shield™ Knee Pads.** Hard shell polypropylene cap and tough, durable fabric. Thick foam rubber padding. Quick release elastic closures.

D **Non-Marring Knee Pads.** Designed for use on all interior floors such as wood, marble, and tile surfaces. Will not mar, scratch, or scuff floors. Ergonomically designed cap flexes with knee. Extended cap covers entire knee joint area. Slip-resistant ridges on cap.

E **Foam Rubber Knee Pads.** Made of contoured foam rubber. Single strap. Soft water repellent.

F **Professional Foam Rubber Knee Pads.** Made of comfortable, contoured foam rubber. Rubber is extra thick at knee. Two 2" wide adjustable web straps hold each pad securely in place. Perfect for use on cement, masonry, asphalt, or roof surfaces.

G **Soft Cushion Knee Pads.** Tough nylon fabric covering comfortable foam rubber padding. Water resistant. Two adjustable hook and loop closure straps to secure each knee pad.

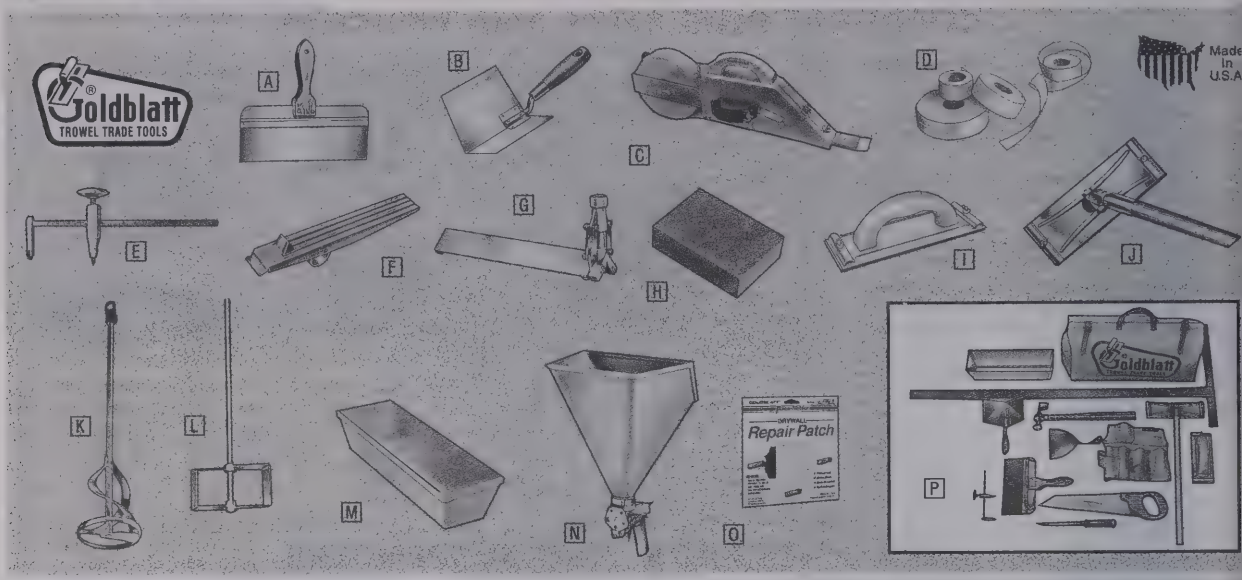
H **Work Suspenders.** Industrial quality 2" wide adjustable front straps to reduce strain on back and hips. Nickel plated hardware. Polypropylene and elastic combination for comfort. Red color.

I **Heavy-Duty Tool Bag.** Extra-heavy 100% cotton canvas; top grain moccasin leather reinforcement of bag bottom. 24" long x 9" deep. Top grain leather handles, bilts, and plated metal buckles. Fiberboard bottom helps bag retain its shape.




| Key | Description | Nicholas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Poly Web Belt | 505 | **5X860** | $5.85 | **$4.65** | 0.4 |
| B | Leather Work Belt | 416X | **5X859** | 13.60 | **9.95** | 0.5 |
| C | Poly Shield™ Knee Pads | 343 | **4A666** | 15.95 | **12.75** | 1.0 |
| D | Non-Marring Knee Pads | 353 | **1ATF4** | 19.95 | **15.95** | 1.0 |
| E | Foam Rubber Knee Pads | 313 | **4A667** | 7.45 | **5.95** | 1.0 |
| F | Professional Foam Rubber Knee Pads | 316 | **1M726** | 14.95 | **11.95** | 1.5 |
| G | Soft Cushion Knee Pads | 345 | **1M724** | 22.50 | **11.95** | 0.5 |
| H | Work Suspenders | 110C | **4A671** | 9.95 | **7.95** | 0.3 |
| I | Heavy Duty Tool Bag | M300 | **4A670** | 67.50 | **54.00** | 4.5 |

# DRYWALL HAND TOOLS




## A B C TAPING TOOLS

Blue or stainless steel blade knives have rustproof aluminum mountings with wood handles. Ultra-flexible taping knives have solid plastic handle welded to blade mounting. Blade depth for all knives is 3".

## D DRYWALL TAPES

Flex Corner® tape has 2 galvanized metal strips for perfect corners. Use on any angle, cathedral or drop ceilings, around bay windows, and angles impractical for ordinary beads. Drywall mesh tape is self-adhesive and requires no special preparation.

## E F G H I J DRYWALL ACCESSORIES

## K L M MUD MIXERS AND PANS

Mud mixers fit any 3/8 or 1/2" drill. Square mud masher is 24" long, 5" square, made of heavy-duty wire and has a wood handle. Steel and plastic mud pans available.

## N PATTERN GUN AND HOPPER

Aluminum hand gun, 3/32 and 1/8" air nozzles, trigger lock, and plastic hopper. Requires 7.0 CFM @ 25 PSI. Air hose not included.

## O REPAIR PATCHES

Permanent aluminum patches for repairing holes and surface damage in drywall, plaster, and paneling. Self-adhesive.

## P 13-PC. APPRENTICE TOOL KIT

Includes one each of the following: T-square with lip, pole sander, drywall saw, 6" elastic knife, all-around circle cutter, 16" checker head drywall hammer, 20" tool bag, corner taping tool, hand sander, utility saw, 12" stainless steel mud pan, tool pouch, and 10" taping knife.

| Key | Description | Size (In.) | Goldblatt Model | Stock No. | List | Each | Ship Wt |
|---|---|---|---|---|---|---|---|
| **TAPING KNIVES, CORNER TAPING TOOLS AND DRYWALL TAPES** | | | | | | | |
| A | Stainless Steel Taping Knife | 8 | 84389-05348 | **4R522** | $11.02 | **$9.37** | 0. |
| A | Stainless Steel Taping Knife | 10 | 84389-05350 | **4R523** | 12.22 | **10.39** | 0. |
| A | Stainless Steel Taping Knife | 12 | 84389-05352 | **4R524** | 13.40 | **11.39** | 0. |
| A | Blue Steel Taping Knife | 8 | 84389-05248 | **4R519** | 8.87 | **7.54** | 0. |
| A | Blue Steel Taping Knife | 10 | 84389-05250 | **4R520** | 9.38 | **7.97** | 0. |
| A | Blue Steel Taping Knife | 12 | 84389-05252 | **4R521** | 10.53 | **8.95** | 0. |
| A | Ultra-Flexible Taping Knife | 6 | 84389-05646 | **4R528** | 6.20 | **5.27** | 0. |
| A | Ultra-Flexible Taping Knife | 8 | 84389-05648 | **4R529** | 6.47 | **5.50** | 0. |
| A | Ultra-Flexible Taping Knife | 10 | 84389-05650 | **4R530** | 6.80 | **5.78** | 0. |
| A | Ultra-Flexible Taping Knife | 12 | 84389-05652 | **4R531** | 7.22 | **6.14** | 0. |
| B | Outside Corner Taping Tool (2½" Depth) | — | 84389-05519 | **4R526** | 10.80 | **9.18** | 0. |
| B | Inside Corner Taping Tool (4" Depth) | — | 84389-05520 | **4R527** | 11.44 | **9.72** | 0. |
| C | E-Z Load Banjo® (Holds 500 ft. roll of tape) | — | 84389-15330 | **4R540** | 133.22 | **113.25** | 3. |
| D | 2 1/16" x 100 ft. Flex-Corner® Drywall Tape | — | 84389-15700 | **4R604** | 15.51 | **13.18** | 4. |
| D | 2" x 300 ft. Drywall Mesh Tape | — | 84389-15762 | **4R606** | 9.78 | **8.31** | 0. |
| **DRYWALL ACCESSORIES** | | | | | | | |
| E | Circle Cutter (Up to 16" dia.) | — | 84389-05141 | **4R516** | 10.62 | **9.03** | 0. |
| F | Drywall Roll Lifter | — | 84389-15149 | **4R534** | 16.87 | **14.34** | 3. |
| G | Hammerhead® Cornerbead Clincher | — | 84389-15809 | **4R603** | 66.56 | **56.60** | 2. |
| H | Flexible Sanding Sponge | 4⅞ x 2⅞ | 84389-05140 | **4R515** | 4.00 | **3.40** | 0. |
| I | Aluminum Hand Sander | 3¼ x 9½ | 84389-05441 | **4R525** | 10.67 | **9.07** | 0. |
| J | Aluminum Utility Sander with 48" Handle | 9 3/16 x 3⅛ | 84389-15351 | **4R541** | 20.33 | **17.28** | 2. |
| **MUD MIXERS, MASHERS, AND PANS** | | | | | | | |
| K | Paint/Mud Mixer with 4" Head | 1/2 x 22 | 84389-15420 | **4R542** | 13.02 | **11.07** | 1. |
| L | Swift® Mud Mixer with 8½" Wide Paddle | 7/16 x 30 | 84389-15303 | **4R538** | 15.22 | **12.94** | 2. |
| M | Stainless Steel Mud Pan | 12 | 84389-05224 | **4R518** | 16.82 | **14.30** | 1. |
| M | Plastic Mud Pan | 12 | 84389-05206 | **4R517** | 5.16 | **4.39** | 0. |
| **PATTERN GUN AND HOPPER, REPAIR PATCHES, AND TOOL KIT** | | | | | | | |
| N | Pistol® Pattern Gun and Hopper | — | 84389-13301 | **4R532** | 128.78 | **109.50** | 4. |
| — | Repair Kit for No. 4R532 | — | 84389-13330 | **4R533** | 26.33 | **22.38** | 2. |
| O | Pace-Setter® Repair Patches—2 at 4 x 4 | — | 84389-15215 | **4R535** | 4.40 | **3.74** | 0. |
| O | Pace-Setter® Repair Patches—1 at 6 x 6, 1 at 4 x 4, & 2 at 2 x 2 | — | 84389-15220 | **4R536** | 8.18 | **6.95** | 0. |
| O | Pace-Setter® Repair Patch—1 at 8 x 8 | — | 84389-15225 | **4R537** | 6.44 | **5.47** | 0. |
| P | 13-Pc. Apprentice Tool Kit | — | 84389-17207 | **4R544** | 228.20 | **194.00** | 18. |

**CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS. THOUSANDS OF QUALITY PRODUCTS ARE LISTED**

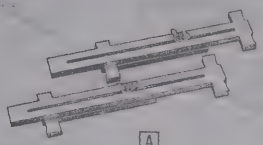


*The only source you need for tools as tough as you are.*

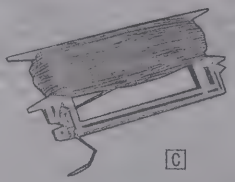
# MASONRY HAND TOOLS

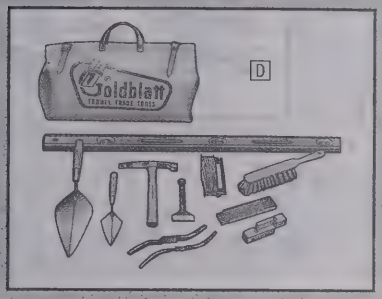
Goldblatt TROWEL TRADE TOOLS

Made In U.S.A.


A


B

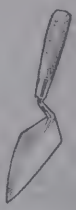

C



D


E


F


G


H

## A B C LINE TOOLS

Nylon line stretcher is adjustable from 4 to 12" for use on concrete blocks. Plastic 4½" long line blocks for use on brick. Yellow nylon line with plastic winder and metal cutoff blade is abrasion and alkali resistant.

## D 12-PC. APPRENTICE TOOL KIT

Includes one each of the following: 6 ft. spacing rule, 20" tool bag, 48" level, 11" London trowel, brick hammer, one pair of wood line blocks, 3/8 x 1/2" jointer, 1/2 x 5/8" jointer, 250 ft. yellow nylon line, 4" brick set, 5½" pointing trowel, and bricklayer's brush.

## E F G H TROWELS

Brick trowels are forged carbon steel with wood handle. Tuckpointing trowel is steel serruled with maple handle. Pointing trowel is carbon steel with maple handle and 2¾" heel. Margin trowel is carbon steel with maple handle.

| Key | Description | Size | Goldblatt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | **LINE STRETCHERS, BLOCKS, AND NYLON LINE** | | | | | | |
| A | Line stretcher (pair) | — | 84389-01247 | **4R589** | $10.78 | **$9.16** | 0.6 |
| B | Plastic Line Blocks (pair) | — | 84389-01249 | **4R590** | 2.64 | **2.24** | 0.2 |
| C | Yellow nylon line and winder | 250 ft. | 84389-11238 | **4R598** | 7.38 | **6.27** | 0.4 |
| | **MASONRY ACCESSORIES** | | | | | | |
| D | 12 Pc. Apprentice Tool Kit | — | 84389-17201 | **4R602** | 221.58 | **188.50** | 16.0 |
| | **TROWELS** | | | | | | |
| E | Narrow London Brick Trowel | 11" | 84389-01605 | **4R591** | 25.78 | **21.91** | 0.6 |
| E | Narrow London Brick Trowel | 12 | 84389-01607 | **4R543** | 25.78 | **21.91** | 1.3 |
| E | Wide Heel Narrow London Brick Trowel | 11 | 84389-01629 | **4R592** | 26.11 | **22.19** | 1.3 |
| F | Tuckpointing Trowel | 7 x 1/4 | 84389-01662 | **4R593** | 10.56 | **8.98** | 0.2 |
| F | Tuckpointing Trowel | 7 x 3/8 | 84389-01663 | **4R594** | 10.56 | **8.98** | 0.3 |
| G | Tuckpointing Trowel | 7 x 1/2 | 84389-01664 | **4R595** | 10.56 | **8.98** | 0.3 |
| G | Pointing Trowel | 5½ | 84389-09322 | **4R596** | 10.58 | **8.99** | 0.2 |
| H | Margin Trowel | 5 x 2 | 84389-09332 | **4R597** | 10.58 | **8.99** | 0.4 |

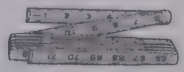
## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

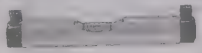
## MANY MASONRY ACCESSORIES AVAILABLE

For a Complete Line of Industrial Work Gloves See Pages 2445 - 2452

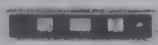
For Wood Rules See Page 1390



For Line and Surface Levels See Page 1383

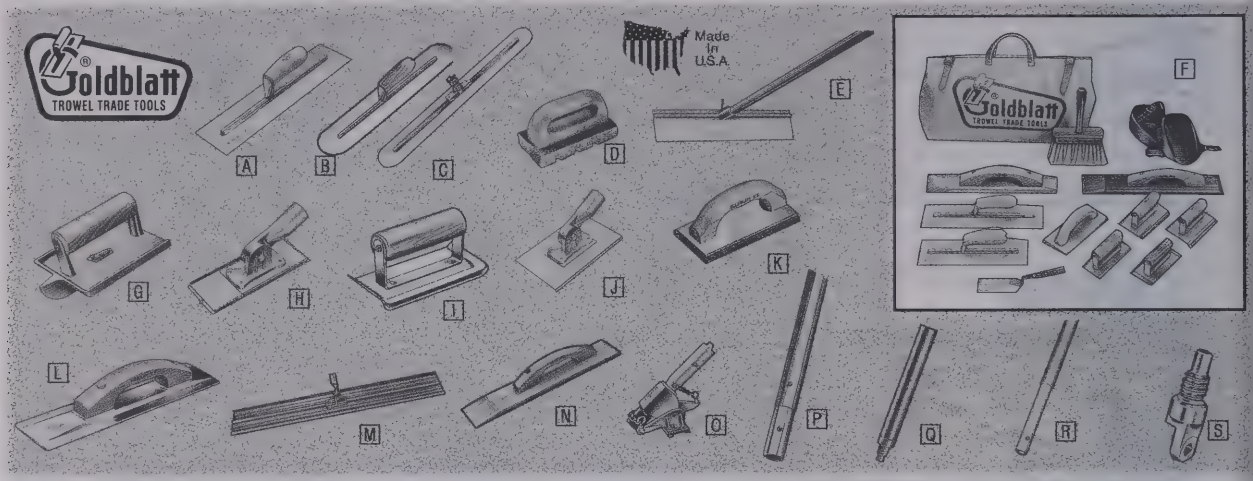


For Wood and Aluminum Levels See Page 1385





# CONCRETE HAND TOOLS




A B C D E

## TROWELS AND ACCESSORIES

**Strong, lightweight, rustproof aluminum** mountings "locked" to blade with electrically fused rustproof studs. Trowels come with camel back ultra-smooth hardwood handles. 20 Grit fluted silicon carbide rub brick is for dressing down all kinds of concrete. Steel concrete placer is used to

F

## 13-PC. APPRENTICE TOOL KIT

**Includes one each of the following:** 12 x 4" trowel, 14 x 4" trowel, 16 x 3½" float, 18 x 3½" float, knee pads, universal groover, 6 x 2½" edger, 6 x 3½" edger, 6 x 4" edger, utility brush, 8 x 4" rubber float, 5 x 2" margin trowel, and 20" tool bag.

G H

## CONCRETE GROOVERS

**Stainless steel groovers** feature turned up front end and rivet-free construction.

I J

## CONCRETE EDGERS

**Available with curved or flat ends.** Rust-resistant and rivet-free construction.

K L M N

## FLOATS

**Available in** sponge rubber, magnesium, or redwood. Hustler® bull float bracket and universal 4-hole bull float adapter also available.

O P Q R S

## HANDLES AND ACCESSORIES

**Handles available in** aluminum or fiberglass. Snap-clip handles, Hustler® attachment, and Fresno adapter also available.

| Key | Description | Size (In.) | Goldblatt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | **TROWELS AND ACCESSORIES** | | | | | | |
| A | Carbon Steel Finishing Trowel | 12 x 4 | 84389-06512 | **4R559** | $23.16 | **$19.69** | 1.2 |
| A | Carbon Steel Finishing Trowel | 14 x 4 | 84389-06517 | **4R560** | 26.00 | **22.10** | 1.2 |
| A | Carbon Steel Finishing Trowel | 16 x 4 | 84389-06522 | **4R561** | 29.11 | **24.74** | 1.2 |
| A | Carbon Steel Finishing Trowel | 18 x 4 | 84389-06527 | **4R562** | 29.89 | **25.45** | 1.5 |
| A | Carbon Steel Finishing Trowel | 20 x 4 | 84389-06531 | **4R574** | 31.13 | **26.50** | 1.4 |
| B | Carbon Steel Round End Finishing Trowel | 16 x 4 | 84389-06197 | **4R550** | 28.44 | **24.17** | 1.4 |
| C | Carbon Steel California Fresno Round End Trowel | 36 x 5 | 84389-16900 | **4R572** | 60.33 | **51.30** | 5.6 |
| A | Stainless Steel Finishing Trowel | 11 x 4½ | 84389-03454 | **4R546** | 27.78 | **23.61** | 1.3 |
| A | Stainless Steel Finishing Trowel | 14 x 4 | 84389-06541 | **4R563** | 30.78 | **26.20** | 1.3 |
| D | Rub Brick | 6 x 3 x 1 | 84389-06183 | **4R549** | 17.82 | **15.15** | 1.6 |
| E | Steel Placer with Hook & 54" Wood Handle | 19½ x 4 | 84389-16119 | **4R566** | 17.11 | **14.54** | 4.5 |
| F | 13-Pc. Apprentice Tool Kit | — | 84389-17205 | **4R573** | 183.73 | **156.25** | 17.0 |
| | **GROOVERS** | | | | | | |
| G | Stainless Steel 1/2 x 1/2" Groover | 6 x 3 | 84389-06208 | **4R551** | 10.22 | **8.69** | 1.0 |
| H | Stainless Steel 1/2 x 3/8" Double-Ended Walking Groover | 10 x 3½ | 84389-16255 | **4R576** | 54.44 | **46.30** | 3.0 |
| | **EDGERS** | | | | | | |
| I | Stainless Steel 1/4 x 3/8" Edger | 6 x 3 | 84389-06241 | **4R553** | 8.27 | **7.03** | 0.8 |
| I | Stainless Steel 3/8 x 1/2" Edger | 6 x 3½ | 84389-06264 | **4R554** | 8.33 | **7.08** | 0.9 |
| I | Stainless Steel 1/2 x 5/8" Edger | 6 x 4 | 84389-06265 | **4R555** | 9.00 | **7.65** | 0.8 |
| J | Stainless Steel 3/8 x 1/2" Walking Edger | 10 x 6 | 84389-16250 | **4R575** | 40.56 | **34.50** | 2.9 |
| | **FLOATS** | | | | | | |
| K | Sponge Rubber Float | 8 x 4 | 84389-03295 | **4R545** | 8.87 | **7.54** | 0.9 |
| L | Magnesium Hand Float | 16 x 3½ | 84389-06150 | **4R547** | 20.00 | **17.00** | 1.4 |
| M | Magnesium Bull Float | 48 x 8 | 84389-16306 | **4R569** | 110.00 | **93.50** | 11.0 |
| N | Redwood Hand Float | 18 x 3½ | 84389-06157 | **4R548** | 8.78 | **7.46** | 0.2 |
| | **HANDLES AND ACCESSORIES** | | | | | | |
| O | Hustler® Bull Float Bracket | — | 84389-16290 | **4R568** | 74.44 | **63.30** | 2.5 |
| P | Aluminum Handle | 6' x 1¾" OD | 84389-16289 | **4R567** | 30.67 | **26.10** | 2.5 |
| Q | Aluminum Extension Handle | 6' x 1¾" OD | 84389-16326 | **4R570** | 28.33 | **24.08** | 3.3 |
| R | Snap-Clip Aluminum Handle | 6' x 1⅜" OD | 84389-16500 | **4R580** | 29.22 | **24.84** | 1.9 |
| S | Fresno Trowel Adapter for 1¼ & ¾" Threaded Handles | | 84389-16662 | **4R571** | 7.76 | **6.60** | 0.4 |

## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# NON-SPARKING, NON-MAGNETIC TOOLS



- Recommended for use in potentially flammable environments
- For use in confined space and hazardous areas
- Corrosion-resistant
- Non-magnetic for computer, electronic assembly, and MRI applications
- Conforms to OSHA and Factory Mutual Certified requirements
- Used in utility, construction, grain elevators
- Ideal for use with volatile resins, paints, inks, flammable/explosive and other compounds
- Offers protection against fires and explosions
- Produced from nickel-aluminum bronze alloy, copper alloy, non-ferrous alloys, beryllium-copper alloy

## CHISELS

| Description | Length (In.) | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5/16" Chisel** | 5 | C-12B | **4CZ60** | $11.90 | **$11.90▲** | 0.1 |
| **5/8" Chisel** | 6 | C-12 | **4CZ59** | 11.85 | **11.85▲** | 0.3 |
| **7/8" Chisel** | 7½ | C-14 | **4CZ61** | 20.25 | **20.25▲** | 0.9 |
| **1/2" Diamond Point Chisel** | 8 | C-6 | **4CZ62** | 27.95 | **27.95▲** | 1.0 |

## HAMMERS

| Description | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **12 oz Claw Hammer** | H-19 | **4CZ66** | $32.65 | **$32.65▲** | 1.1 |
| **16 oz Claw Hammer** | H-20 | **4CZ67** | 36.40 | **36.40▲** | 1.4 |
| **24 oz Ball Pein Hammer** | H-3G | **4CZ68** | 33.90 | **33.90▲** | 1.7 |
| **32 oz Ball Pein Hammer** | H-4 | **4CZ69** | 39.45 | **39.45▲** | 2.4 |
| **28 oz Double Face Engineer's Hammer** | H-14 | **4CZ64** | 40.45 | **40.45▲** | 2.1 |
| **44 oz Double Face Engineer's Hammer** | H-16 | **4CZ65** | 52.00 | **52.00▲** | 3.2 |
| **5 lb Sledge Hammer** | H-70 | **4CZ70** | 83.00 | **83.00▲** | 6.3 |
| **10 lb Sledge Hammer** | H-72 | **4CZ71** | 134.00 | **134.00▲** | 10.0 |

## FLANGE WEDGES

| Description | Dimensions (In.) H | W | L | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Wedge** | 1/2 | 3/4 | 4 | W-2 | **4DC05** | $7.55 | **$7.55▲** | 0.2 |
| **Wedge** | 1/2 | 1 | 6 | W-3 | **4DC13** | 10.40 | **10.40▲** | 0.4 |
| **Wedge** | 3/4 | 2 | 7 | W-6 | **4DC16** | 23.00 | **23.00▲** | 1.6 |
| **Wedge** | 1 | 1½ | 8 | W-8 | **4DC28** | 25.15 | **25.15▲** | 1.7 |
| **Wedge** | 1¼ | 2 | 8½ | W-10 | **4DC04** | 34.65 | **34.65▲** | 3.0 |

## 1/2" DRIVE SOCKET SET

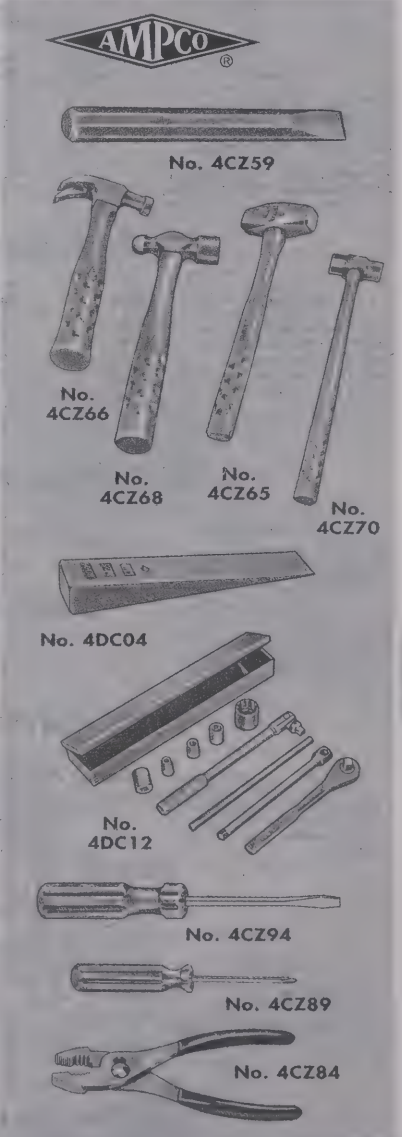
| Description | Sizes (In.) | Accessories | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **-Pc. ocket Set** | 1/2, 11/16, 7/8, 1 1/16, 1¼ | 11" Sliding Bar, 1/2" Ratchet, 10" Extension, 12" Hinged Handle Wrench, and Molded Case | W-290 | **4DC12** | $596.00 | **$566.50▲** | 7.9 |

## SCREWDRIVERS

| Tip Size | Type | Blade Length (In.) | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **5/16"** | Slotted | 3 | S-48 | **4CZ94** | $13.15 | **$13.15▲** | 0.1 |
| **7/16** | Slotted | 6 | S-49 | **4CZ95** | 19.65 | **19.65▲** | 0.3 |
| **5/64** | Slotted | 8 | S-50 | **4CZ96** | 27.90 | **27.90▲** | 0.5 |
| **5/64** | Slotted | 12 | S-51 | **4CZ97** | 33.85 | **33.85▲** | 0.6 |
| **o. 1 Pt.** | Phillips | 3 | S-1099A | **4CZ89** | 9.45 | **9.45▲** | 0.1 |
| **o. 2 Pt.** | Phillips | 4 | S-1099 | **4CZ88** | 11.05 | **11.05▲** | 0.2 |
| **o. 3 Pt.** | Phillips | 6 | S-1100 | **4CZ91** | 18.45 | **18.45▲** | 0.3 |
| **o. 4 Pt.** | Phillips | 8 | S-1101 | **4CZ92** | 26.00 | **26.00▲** | 0.5 |

## PLIERS

| Description | Max. Jaw Opening (In.) | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/2" Combination** | 5/16 | P-30 | **4CZ83** | $42.00 | **$42.00▲** | 0.4 |
| **' Combination** | 1/2 | P-31 | **4CZ84** | 48.55 | **48.55▲** | 0.5 |
| **)" Tongue & Groove** | 1½ | P-39 | **4CZ87** | 83.80 | **83.80▲** | 0.7 |
| **2" Tongue & Groove** | 2⅛ | P-312 | **4CZ85** | 101.00 | **101.00▲** | 1.2 |
| **' Long Nose w/Cutter** | — | P-326 | **4CZ86** | 72.00 | **72.00▲** | 0.3 |




CONTINUED ON NEXT PAGE

(▲) Net prices, not subject to discounts.

# NON-SPARKING, NON-MAGNETIC TOOLS

## ADJUSTABLE WRENCHES

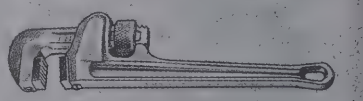
| Description | Max. Jaw Opening (In.) | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6" Adjustable** | 15/16 | W-70 | **4DC24** | $43.80 | **$43.80▲** | 0.2 |
| **8" Adjustable** | 1 1/8 | W-71 | **4DC25** | 51.65 | **51.65▲** | 0.4 |
| **10" Adjustable** | 1 5/16 | W-72 | **4DC26** | 69.50 | **69.50▲** | 0.7 |
| **12" Adjustable** | 1 1/2 | W-73 | **4DC27** | 88.55 | **88.55▲** | 1.3 |




No. 4DC25

## PIPE WRENCHES

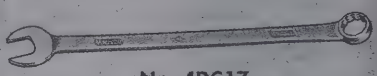
| Description | Max. Jaw Opening (In.) | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **10" Bronze Pipe Wrench** | 1 | W-211 | **4DC06** | $123.00 | **$123.00▲** | 2.1 |
| **14" Bronze Pipe Wrench** | 1 1/2 | W-212 | **4DC07** | 155.00 | **155.00▲** | 3.2 |
| **18" Bronze Pipe Wrench** | 2 | W-213 | **4DC08** | 170.00 | **170.00▲** | 4.7 |
| **24" Bronze Pipe Wrench** | 2 1/2 | W-214 | **4DC10** | 229.00 | **229.00▲** | 8.7 |
| **18" Aluminum Pipe Wrench** | 2 | W-213AL | **4DC09** | 162.00 | **162.00▲** | 3.2 |
| **24" Aluminum Pipe Wrench** | 2 1/2 | W-214AL | **4DC11** | 187.00 | **187.00▲** | 5.8 |



No. 4DC06

## COMBINATION WRENCHES

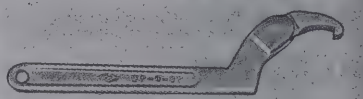
| Description | Length (In.) | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/2" Combination** | 7 3/4 | W-621 | **4DC17** | $24.40 | **$24.40▲** | 0.1 |
| **9/16" Combination** | 8 1/4 | W-631 | **4DC18** | 25.30 | **25.30▲** | 0.3 |
| **5/8" Combination** | 8 1/4 | W-641 | **4DC19** | 26.60 | **26.60▲** | 0.2 |
| **3/4" Combination** | 10 1/8 | W-661 | **4DC20** | 32.00 | **32.00▲** | 0.5 |
| **7/8" Combination** | 13 1/4 | W-671 | **4DC21** | 50.00 | **50.00▲** | 0.9 |
| **1" Combination** | 13 1/4 | W-671A | **4DC22** | 50.00 | **50.00▲** | 1.0 |
| **1 1/8" Combination** | 17 | W-673 | **4DC23** | 55.00 | **55.00▲** | 1.3 |



No. 4DC17

## ADJUSTABLE HOOK WRENCH

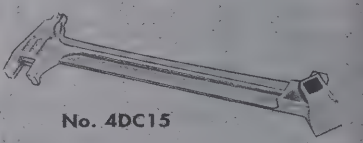
| Description | Length (In.) | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4 1/2 - 6 3/8" Dia. Capacity Adjustable Hook Spanner Wrench** | 12 | WP-7-ST | **4DC29** | $57.00 | **$57.00▲** | 1.1 |



No. 4DC29

## BUNG WRENCH

| | | | | | | |
|---|---|---|---|---|---|---|
| **2 1/2 x 2 1/4" Bung Wrench (for 22 different bungs)** | 15 | W-58-S | **4DC15** | 47.05 | **47.05▲** | 2.3 |



No. 4DC15

## PUTTY KNIVES AND SPATULA

| Description | Blade (In.) | Blade Length (In.) | Handle | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Putty Knife** | 1 1/4 Stiff | 3 9/16 | Wood | K-21 | **4CZ73** | $12.25 | **$12.25▲** | 0.2 |
| **Putty Knife** | 2 Stiff | 4 | Wood | K-20 | **4CZ72** | 15.50 | **15.50▲** | 0.3 |
| **Putty Knife** | 3 1/2 Flexible | 4 1/2 | Wood | K-31 | **4CZ74** | 25.60 | **25.60▲** | 0.3 |
| **Spatula** | 1 1/2 | 9 | Wood | S-91 | **4DC03** | 36.95 | **36.95▲** | 0.3 |



No. 4CZ72

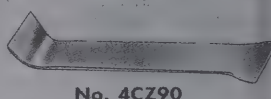


No. 4DC03

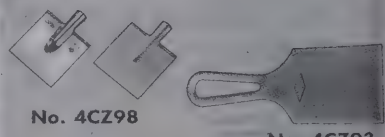
## SCRAPERS

| Description | Length (In.) | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2" Deck Scraper** | 12 | S-10G | **4CZ90** | $25.95 | **$25.95▲** | 1.2 |
| **6" Floor Scraper*** | 6 3/4 | S-71S | **4CZ98** | 53.20 | **53.20▲** | 1.6 |
| **3" Spray Booth Scraper** | 9 1/4 | S-40 | **4CZ93** | 23.95 | **23.95▲** | 0.8 |

(▲) Net prices, not subject to discounts. (*) Handle No. 3A326 can be used with this scraper.



No. 4CZ90



No. 4CZ98

No. 4CZ93

### ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# NON-SPARKING, NON-MAGNETIC TOOLS AND TOOL KITS

- Recommended for use in potentially flammable environments
- For use in confined space and hazardous areas
- Corrosion-resistant
- Non-magnetic for computer, electronic assembly, and MRI applications
- Conforms to OSHA and Factory Mutual Certified requirements
- Used in utility, construction, grain elevators
- Ideal for use with volatile resins, paints, inks, flammable/explosive and other compounds
- Offers protection against fires and explosions
- Produced from nickel-aluminum bronze alloy, copper alloy, non-ferrous alloys, beryllium-copper alloy

## SCOOP AND SHOVELS

| Description | Blade Size (In.) | Blade Length (In.) | Handle Type | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Scoop | 13 x 17 | 44½ | D-Handle | S-80 | **4CZ99** | $195.00 | **$195.00▲** | 6.4 |
| Square Pt. Shovel | 9 x 11 | 58 | Straight | S-82 | **4DC02** | 151.00 | **151.00▲** | 6.1 |
| Round Pt. Shovel | 9 x 12 | 59½ | Straight | S-81 | **4DC01** | 147.00 | **147.00▲** | 5.3 |

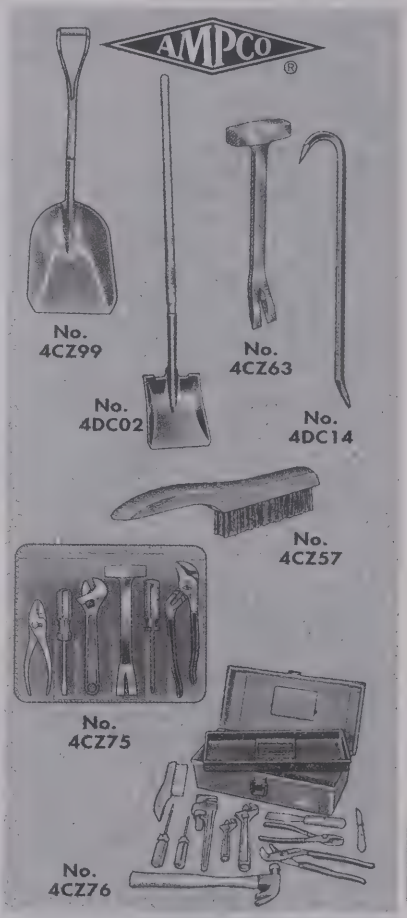
## MISCELLANEOUS TOOLS

| Description | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 9" Hammer/Claw Crate Opener | CJ-1-ST | **4CZ63** | $34.00 | **$34.00▲** | 0.9 |
| 14" Wrecking Bar | W-30 | **4DC14** | 93.50 | **93.50▲** | 3.8 |
| 9¾" Round Wire Brush | B-399 | **4CZ57** | 13.30 | **13.30▲** | 0.4 |
| 3¾" Round Wire Brush | B-400 | **4CZ58** | 15.25 | **15.25▲** | 0.6 |

## TOOL KITS

| Description | Included in Set | Storage | Ampco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5-Pc. Tool Kit | 5/16" Slotted and No. 2 Pt. Phillips Screwdrivers; 6½" Combination Pliers; 8" Adjustable Wrench; 10" Tongue & Groove Pliers; and Crate Opener | Pouch | M-47 | **4CZ75** | $236.00 | **$224.25▲** | 3.1 |
| 11-Pc. Tool Kit | 7/16" Slotted and No. 2 Pt. Phillips Screwdrivers; 8" Combination Pliers; 6 and 10" Adjustable Wrenches; 10" Pipe Wrench; 10" Tongue and Groove Pliers; 16 oz. Claw Hammer; 1¼" Putty Knife; 3⅛" Blade Knife; 9¾" Round Wire Brush | Plastic Tool Box | M-48 | **4CZ76** | 462.00 | **439.00▲** | 9.7 |

▲) Net prices, not subject to discounts.




## HAZMAT RESPONSE TOOL KIT

- 5-Gallon polyurethane bucket with plastic handle holds 17 non-sparking, non-magnetic, corrosion-resistant hand tools
- Non-metallic, removable divider keeps tools upright and within easy reach
- Screw-on lid seals container until tools and bucket can be properly cleaned
- Bucket handle has 80,000 psi tensile strength
- Tools are Factory Mutual approved for non-sparking use
- Contains: Shoe Handle Brush, 9" Crate Opener; 16 oz. Claw Hammer; 1¼" Putty Knife; 5¾" Blade Knife; 12" Tongue & Groove Pliers; 7" Long Nose Pliers with Cutter; 8" Combination Pliers; 3" Scraper; 7/16" Slotted and No. 3 Pt. Phillips Screwdrivers; 12" Tin Shears; 8 and 12" Adjustable Wrenches; 14" Pipe Wrench; Bung Wrench; and 15" Deck Scraper
- Ampco brand (M-51)

**No. 4CZ82.** Shpg. wt. 18.0 lbs. List ..... $839.00.
Each ..... $797.50▲

▲) Net prices, not subject to discounts.



No. 4CZ82
Hazmat Response Kit

# JAW PULLERS

OTC

Made in U.S.A.

GRIP-O-MATIC®

Replacement Parts Available 1-800-323-0620



No. 1A799 2-Jaw



No. 1A798 3-Jaw



No. 1A803 2/3-Jaw



No. 5U727 2/3-Jaw

**LIFETIME LIMITED WARRANTY**

All OTC tools are warranted to the original user for the life of the product. Text of warranty available, see page opposite inside back cover.

## MECHANICAL JAW PULLERS

Pulley pullers for any automotive, industrial, agricultural or construction equipment pulling job. These mechanical pullers easily remove press-fitted parts.

Jaws and crossheads are constructed of high quality forged steel. Alloy steel forcing screw has a special coating to resist galling or seizing under heavy loads. Available in 2-jaw, 3-jaw and combination 2/3-jaw heads with 1, 2, 5, 7, 13, and 17½ ton pulling capacities. (No. 5U727 comes with reversible and nonreversible sets of jaws.)

| Capacity Tons | Jaw Style | Jaw (In.) Reach | Jaw (In.) Spread | Screw Size (In.) | OTC Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **2-JAW** | | | | | | | | | |
| **1** | Nonreversible | 2⅛ | 3¼ | 5/16-24 x 3⅞ | 1020 | **4CR45** | $28.95 | **$24.60** | 0.4 |
| **2** | Reversible | 3¼ | 4 | 3/8-24 x 4⅞ | 1022 | **4CR46** | 27.95 | **23.76** | 0.9 |
| **5** | Reversible | 5½ | 6 | 9/16 - 20 x 6 15/16 | 1025 | **1A799** | 40.95 | **35.70** | 2.5 |
| **7** | Reversible | 5 | 9 | 11/16-18 x 9 | 1035 | **4CR47** | 69.95 | **59.20** | 4.4 |
| **7** | Nonreversible | 8¾ | 9½ | 11/16 - 18 x 9 | 1036 | **1A800** | 69.95 | **59.20** | 5.1 |
| **13** | Nonreversible | 15¼ | 15½ | 13/16 - 16 x 12 | 1040 | **1A801** | 135.00 | **112.20** | 13.0 |
| **3-JAW** | | | | | | | | | |
| **1** | Nonreversible | 2⅛ | 3¼ | 5/16 - 24 x 3⅞ | 1021 | **1A798** | 40.95 | **35.00** | 0.5 |
| **17½** | Nonreversible | 14½ | 14 | 1 - 14 x 13½ | 1045 | **5U723** | 366.00 | **279.50** | 32.0 |
| **2/3-JAW** | | | | | | | | | |
| **2** | Reversible | 3¼ | 4¾ | 3/8 - 24 x 4⅞ | 1023 | **5U722** | 38.95 | **33.95** | 1.2 |
| **5** | Reversible | 5½ | 7 | 9/16 - 20 x 6 15/16 | 1027 | **1A802** | 57.95 | **50.15** | 4.0 |
| **5** | Reversible - Nonreversible | 5½ 3½ | 7 4½ | 9/16 - 20 x 6 15/16 | 220297 | **5U727** * | 71.25 | **63.05** | 3.8 |
| **7** | Reversible | 5 | 10½ | 11/16-18 x 9 | 1037 | **4CR48** | 93.95 | **78.05** | 6.1 |
| **7** | Nonreversible | 8¾ | 11 | 11/16 - 18 x 9 | 1038 | **1A803** | 93.95 | **78.95** | 8.0 |
| **13** | Nonreversible | 15¼ | 17 | 13/16 - 16 x 12 | 1042 | **1A804** | 199.95 | **181.00** | 18.0 |

(*) Nonreversible jaws have deeper jaws.

***CAUTION:*** It is impossible to predict the exact force required for every pulling job: Set-up requirements and the size, shape and condition of the part being pulled vary a great deal. In addition, the OTC Pulling System is so versatile it is possible that components in a pulling set-up may have different tonnage ratings. The lowest "capacity" component, then, determines the capacity of the set-up. For example: When an accessory with a 1 ton capacity is used with a 10 ton capacity puller, the set-up can only be used at a force of 1 ton.

POSI LOCK

Made in U.S.A.



No. 1AC03 2-Jaw



No. 1AC05 3-Jaw

## MECHANICAL JAW PULLERS

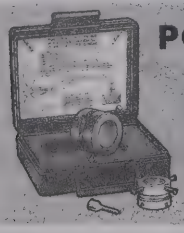
Gear and bearing pullers have patented Safety/Control Cage® to secure position of the jaws and provide maximum protection for mechanic. The safety cage also makes using a POSI LOCK puller a one-man operation. Pullers are positive locking and self aligning; pullers can clamp onto a rounded surface or pull from a groove, eliminating the need for accessories.†

| Capacity (Tons) | Jaw Reach (In.) | Jaw Spread (In.) | Screw Size (In.) | Posi Lock Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2-JAW** | | | | | | | | |
| **14** | 10 | 15 | 3/4 - 14 x 1⅛ | 210 | **1AC03** | $182.00 | **$173.00** | 14.0 |
| **3-JAW** | | | | | | | | |
| **5** | 4 | 5 | 9/16 - 16 x 9 11/16 | 104 | **5U719** | 116.00 | **110.20** | 4.1 |
| **10** | 6 | 7 | 5/8 - 14 x 12¾ | 106 | **1AC04** | 153.00 | **145.35** | 8.0 |
| **20** | 10 | 15 | 3/4 - 14 x 19¼ | 110 | **1AC05** | 216.00 | **205.25** | 17.0 |

(†) Pullers can pull from the groove of a bearing race, in most situations eliminating the need for a bearing separator. You may also pull the bearing race from behind although distortion of the race may occur.

POSI LOCK

Made in U.S.A.



No. 5U720

## HUB PULLER ADAPTER SET

**For use with 5-ton, 3-jaw puller No. 5U719** to remove fans and blower wheels on HVAC equipment, convection ovens, chillers, freezers, pumps, defrosters, exhaust and ventilating fans. Works on hub diameters of 2" or less.

**Includes** one small collar (1¼ and 1½" ID), one large collar (1¾ and 2" ID), one tip reducer/extender, 8 square head set screws, and carrying case. Posi Lock brand (HP-1).

**No. 5U720**. Shpg. wt. 3.7 lbs. List $101.00. Each ..... $95.9



*The only source you need for tools as tough as you are.*

# HYDRAULIC AND MANUAL PULLER SETS

## 17½ AND 30 TON HYDRAULIC PULLER SETS

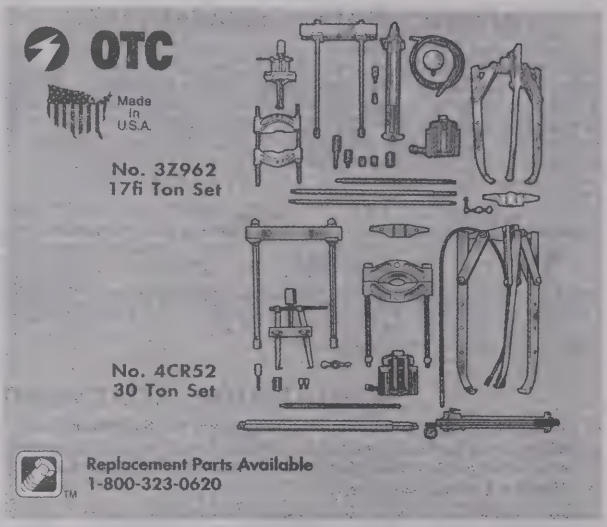
**or parts removal and installation** on many models of cars, trucks, ractors, power shovels, road building machinery, etc. Maintenance operations involving the removal and replacement f gears, bearings, wheels, and other press-fit parts, can easily be one.

**7½ Ton Set consists of** single-stage hydraulic hand pump assem-ly, 17½ ton ram with threaded insert, hose half coupler with ust cap, 6 ft. hydraulic hose, tee adapter and pressure gauge. ncludes 17½ ton capacity push-puller with 16½" legs and 17½ on 3-jaw hydraulic puller. Accessories include male-female hreaded adapters: 1"-8F x ⅝"-18, two female threaded adapters ize ⅝"-18 x ¾"-16; bearing cup pulling attachment; bearing ulling attachment; 22½" puller leg; speed crank; pushing screw; ushing adapter; and 2-jaw head for the 3-jaw puller. OTC brand 1688).

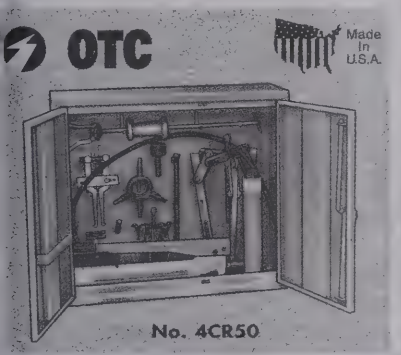
**lo. 3Z962.** Shpg. wt. 182.0 lbs. List $2056.00. Each ..... **$1712.00**

**0-Ton Set consists of** single-stage hydraulic hand pump assembly, 0-ton ram with threaded insert, tee adapter, pressure gauge, 6 ft. ydraulic hose, hose half coupler with dust cap, 30-ton hydraulic ush puller with 18 and 28" legs, 30-ton 3-jaw hydraulic puller. ccessories include bearing pulling attachment, bearing cup ulling attachment, speed crank, ram cap, pushing adapter, djusting screw, 2-jaw head for the 3-jaw hydraulic puller, and wo female thread adapters, sizes 1"-14 x 1"14. OTC brand (1689).

**lo. 4CR52.** Shpg. wt. 334.0 lbs. List $3266.00. Each ..... **$2854.00**



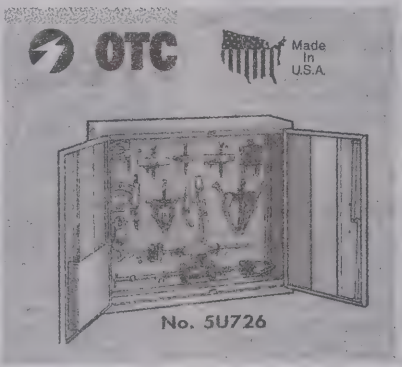

## 10-TON HYDRAULIC/MANUAL PULLER SET




**t includes** hydraulic pump, hose, ram set, vo jaw pullers, bearing pulling attach-ent, slide hammer puller, forcing screw, al hook, pusher adapter, cross block, 3-way head, medium and long jaws, and etal storage cabinet. OTC brand (1670).

**o. 4CR50.** Shpg. wt. 140.0 lbs. List $1950.00. ach ..... **$1553.00**

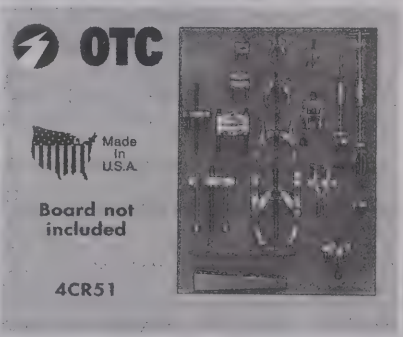
## 7-TON PULLER SET




**Set includes:** Two 2/3 jaw pullers with set of 3 long jaws for each, one gear and bearing puller, flange-type puller, steering wheel puller, pilot bearing puller, slide hammer puller, pitman arm puller, two bearing separators, rear axle pulling adapter, and metal storage cabinet. OTC brand (1676).

**No. 5U726.** Shpg. wt. 93.0 lbs.List $1034.00. Each ..... **$866.50**

## 13-TON PULLER SET




Versatile set removes gears, bearings, shafts, pinions, bearing outer races, and other tightly fitted parts. Set includes a push-puller, jaw pullers, bearing pulling attachments, specialized pullers, and many accessories. For use on all makes and models of cars, light trucks, farm/construction equipment and plant machinery. OTC brand (1675).

**No. 4CR51.** Shpg. wt. 74.0 lbs. List ..... $1306.00
Each ..... **$1064.00**

## UNIVERSAL OUTSIDE THREAD CHASERS

- **Precision dies restore threads to original condition**
- **Eliminates need for thread-cutting equipment**
- **Die cast alloy V-pad will not damage threads; pads can be replaced**
- **Capacity—1¼ to 5" OD**
- **Standard Thread Chaser No. 4CR54 includes 6 dies—threads/inch: 4, 5, 6, 7, 7½, 8, 9, 10, 11, 11½, 12, 14, 16, 18, 20, 24**
- **Metric Thread Chaser No. 4CR53 (for use with No. 4CR54) includes 3 dies—1.0-1.25-1.5-1.75; 2-2.5-3.0-3.5; and 4mm**

**o. 4CR54.** Standard Thread Chaser (7402). Shpg. wt. 2.8 lbs. List $88.95. Each ..... **$78.45**

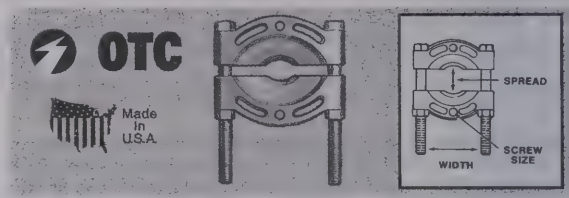
**o. 4CR53.** Metric Thread Die Set (202817). Shpg. wt. 0.2 lbs. List $21.95. Each ..... **$19.11**



# BEARING/V-BELT ATTACHMENTS, SLIDE HAMMER PULLERS, AND BLIND HOLE PULLER

## BEARING PULLING ATTACHMENTS

For use on jobs where space does not permit use of puller jaws directly behind part to be removed. These attachments feature knife-like edges which are easily placed behind the part to secure a gripping surface, even in tight spaces. When used with manual jaw pullers, jaws grip attachment's outer edge; when used with push-puller, puller legs are threaded into attachment's 2 tapped holes. Lifetime Limited Warranty.

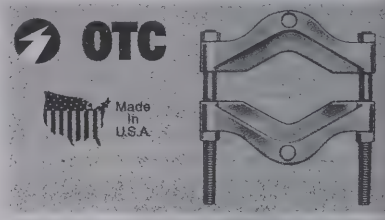



| Spread (In.) Maximum | Spread (In.) Minimum | Screw Size | Screw Width (In.) | For Use with Jaw or Push Pullers Nos. | OTC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 15/16 | 1/4 | 5/16"–18 | 11/16 | 5U722, 4CR45, 4CR46 | 1121 | 5U724 | $23.95 | $20.04 | 0.7 |
| 2 | 1/8 | 3/8–16 | 27/16 | 1A799, 1A802, 5U730 | 1122 | 1A807 | 29.95 | 25.70 | 1.5 |
| 4⅝ | 3/8 | 5/8–18 | 4¼ | 1A800, 1A803, 1A805, 5U733 | 1123 | 1A808 | 59.95 | 52.15 | 5.5 |
| 5¾ | 1/2 | 5/8–18 | 6 | 1A801, 1A804, 1A805, 5U733 | 1124 | 1A809 | 137.00 | 113.10 | 12.0 |
| 9 | 1/2 | 5/8–18 | 6 | 5U733, 1A801, 1A804 | 1130 | 4CR49 | 140.00 | 118.45 | 13.0 |

Replacement parts available. Call 1-800-323-0620.

## V-BELT PULLING ATTACHMENT

- **Attachment clamps down into V-groove to distribute load**
- **When used with manual jaw pullers, jaws grip attachment's outer edge; when used with push-puller, legs are threaded into separator's 2 tapped holes**
- **Lifetime Limited Warranty**




| Spread (In.) Max. | Spread (In.) Min. | Screw Size (In.) | Width (In.) | For Use with Jaw or Push Pullers Nos. | OTC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 5⅞ | 1¾ | 5/8"-18 | 6 | 1A800, 1A803, 1A805, 4CR47, 4CR48 | 679 | 4DG62 | $69.25 | $59.20 | 4.4 |

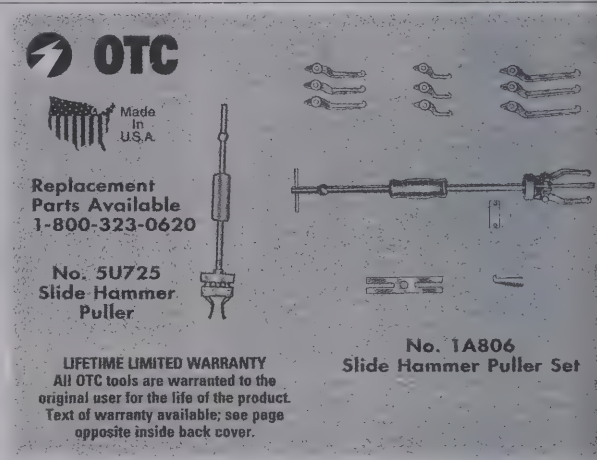
## SLIDE HAMMER PULLER AND SET

**Slide Hammer Puller.** Versatile tool handles various inside pulling jobs such as flywheel pilot bearings, and motor, generator, and magnetic bearings. Reach is 3/4". Spread capability is 1/2 to 1½". OTC brand (1170).

**No. 5U725.** Shpg. wt. 3.8 lbs. List $69.95. Each..... **$60.00**

**Slide Hammer Puller Set.** Handles many different pulling jobs involving gears, bearings, grease retainers, oil seals, timing gears, harmonic balancers and other tight-fitted parts. Two or three puller jaws (included) may be used for inside pulling jobs such as bearing cups, or outside bearing applications. Slide hammer can be used independently by removing puller head and jaw assembly. Set includes: reversible jaw slide hammer with 2½ lb. hammer; 3 medium jaws; 3 pilot bearing jaws; 3 long jaws; puller hook for removing oil seals and bearings; cross block for removing timing gears, pulleys and other parts having tapped holes. Cross block uses cap screws up to 3/8" dia. with spread capability of 1⅞"–5⅝". OTC brand (1178).

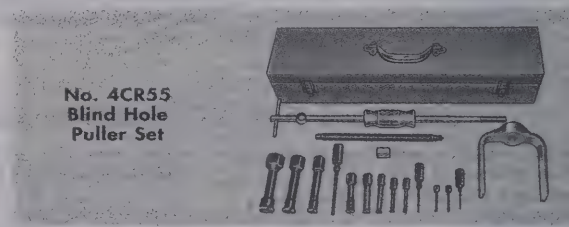
**No. 1A806.** Shpg. wt. 10.0 lbs. List $235.00. Each ..... **$192.25**




## BLIND HOLE PULLER SET

**Provides a complete selection of expanding collets** ranging in size from 5/16 to 1¾". Collet is placed through bore of part to be removed, then expanded with actuator pin so that lips of collet secure positive grip for pulling. Force is exerted by means of forcing screw & bridge assembly or a slide hammer. Actuator pins (1/8, 3/16, 1/2" dia), hammer, forcing screw, shank, & tee bar assembly included. Comes in metal box. OTC brand (981).

**No. 4CR55.** Shpg. wt. 20.0 lbs. List $840.00. Each..... **$683.00**




**IF YOU'RE IN A BIND, CALL GRAINGER**

**If it's an emergency, chances are Grainger's got the items you need today.**

**Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away.**

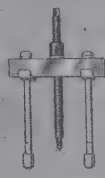
**And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# PUSH-PULLERS, SHAFT AND STEP PLATE ADAPTERS

## PUSH-PULLERS

OTC

Made in U.S.A.



No. 1A805 Push-Puller



No. 5U728 Flange-Puller

**LIFETIME LIMITED WARRANTY**

**All OTC tools are warranted to the original user for the life of the product. Text of warranty available, see page opposite inside back cover.**

**Manual Push-Pullers** for maintenance operations involving the removal and installation of gears, bearings, shafts, pulleys, and other press-fit parts. Used to apply pushing or pulling force. Nos. 1A805 and 5U733 can be used with bearing separator Nos. 1A808, 1CR49, or 1A809. Leg and leg ends included. No. 5U730 can be used with bearing separator No. 1A807. Leg and leg ends included. No. 5U729 may be used with any cap screws up to 1/2" diameter (cap screws not included). No. 5U728 is a flange type puller for pulling gears and parts having two or three tapped holes. Forcing screw is 5/8"-18 x 5½". Includes three 3/8"-24 x 3" long and three 3/8"-16 x 3" long cap screws. OTC brand.

| Capacity (Tons) | Reach (In.) | Spread (In.) | Screw Size (In.) | OTC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ORDERING DATA** | | | | | | | | |
| 8¼ | 8¼ | 2⅛-7¼ | 3/4"-16 x 12 * | 927 | **1A805** | $115.00 | **$100.95** | 6.9 |
| 11½ | 11½ | 3⅛-11¾ | 1"-14 x 13¾* | 938 | **5U733** | 214.00 | **177.75** | 20.0 |
| 5 | 4⅞ | 1½-4¼ | 5/8"-16 x 5½ | 7393 | **5U730** | 29.95 | **25.60** | 1.6 |
| 7 | Var. | 2-7¾ | 3/4"-16 x 11⅝ | 522 | **5U729** | 58.95 | **51.40** | 4.5 |
| 5 | Var. | 1½-4⅝† | 5/8"-18 x 5½ | 518 | **5U728** | 33.95 | **29.35** | 4.0 |

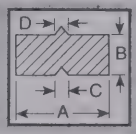
* 1/2" of forcing screw tip end is threaded 5/8"-18. (†) Bolt-circle diameter.

## SHAFT AND STEP PLATE ADAPTER SETS

OTC

Made in U.S.A.






**Shaft Protector Set.** Designed to protect shaft centers from distortion when extreme pressures are applied. For use with fan blade, gear and bearing pullers. Set includes 6 protectors of different sizes (see table below). OTC brand (8056).

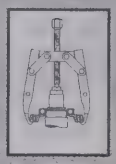
**SHAFT PROTECTORS DIMENSIONS (In.)**

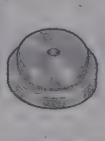
| A | B | C (60°) | D (60°) |
|---|---|---|---|
| 1½ | 3/4 | 3/8 | 7/16 |
| 1¼ | 3/4 | 3/8 | 3/8 |
| 1 | 3/4 | 3/8 | 5/16 |
| 3/4 | 3/4 | 1/4 | 1/4 |
| 5/8 | 5/8 | 1/4 | 1/4 |
| 5/8 | 5/8 | 3/16 | 3/16 |

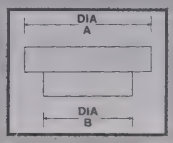
**No. 5U731.** Shpg. wt. 1.1 lbs. List $41.85. Each ..... **$34.90**

OTC

Made in U.S.A.








**Step Plate Adapter Set.** For pulling and installing bearings, gears or other parts found on hollow shafts or housings. Set includes 6 adapters (see table below for diameters). OTC brand (8074).

**STEP PLATE ADAPTER DIMENSIONS (In.)**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Dia, A** | 1 | 1⅛ | 1¼ | 1⅜ | 1⅝ | 1¾ |
| **Dia, B** | 3/4 | 7/8 | 1 | 1⅛ | 1¼ | 1⅜ |

**No. 5U732.** Shpg. wt. 1.3 lbs. List $41.65. Each ..... **$34.70**

## RECOMMENDATIONS FOR PULLING FAN BLADES AND BLOWER WHEELS

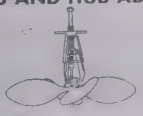
### BASIC PULLING RECOMMENDATIONS

Before starting any pulling operation, be sure power is shut off to the fan or blower. If a fan blade has a Woodruff key, remove it before starting pulling. Never pull on wings of the fan blade, use the spider hub for best results. Use of a penetrating fluid beforehand can make pulling easier. Use an appropriate shaft protector to fit the application.

### POSI LOCK PULLERS AND HUB ADAPTERS



Pulling Blower Wheel



Pulling Fan Blade

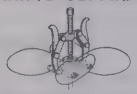
**(5U720) Hub Puller Adapter Set** is designed for use with POSI LOCK pullers in the removal of blower wheels and fan blades.

**For Blower Wheels and Fan Blades** with hub diameters of 2" or less, use one of the two collars found in Set No. 5U720 with puller No. 5U719. Cage I.D. must be 5" or greater to allow puller access.

### OTC PULLERS AND BEARING SEPARATORS



Pulling Blower Wheel



Pulling Fan Blade

**Locate the Bearing Separator** with recess behind fan's spider hub for self centering, adjusted slightly larger than the shaft diameter to prevent damage to shaft.

**For Blowers** with accessible hubs, use an appropriately sized bearing separator. Select a puller to accommodate the blower's size. Cage I.D. must be 5" or greater to permit bearing separator attachment.

**For Fan Blades** with or without accessible hubs a push puller or bearing puller may be used with a bearing separator. Be sure the separator's threaded holes or edges are accessible around the spider and between the fan's wings when separator is mounted on the spider. **Other factors to note:** bearing separator thread dimensions; bearing puller reach and spread capacity; push puller maximum cap screw diameter.

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

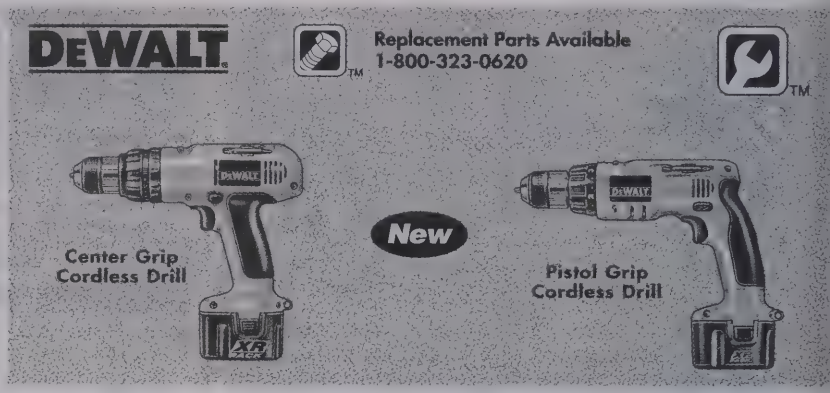
**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# CORDLESS DRILLS

## DeWALT CORDLESS DRILLS

**Feature:**

- Keyless chuck
- Variable-speed reversing (VSR)
- Two speed ranges
- Ball and roller bearings
- Replaceable brushes
- Electric brake
- Anti-slip rubber handle except Nos. 3MJ83, 3MJ84 and 4TG94
- UL Listed, CSA Certified




| Chuck Size (In.) | Drill Speed (RPM) | Max. Torque (In./Lbs.) | Battery Packs Qty. | Battery Packs Replacement* | Battery Packs Recharge Time | Clutch Style | Handle Type | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9.6 VOLT CORDLESS DRILLS** | | | | | | | | | | | | | | | |
| 3/8 | 0-400<br>0-1200 | 156 | 2 | 3MJ65 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case | 9½ | 3 | DW952K-2 | **3MJ83** | $238.00 | **$129.00▲** | 9.6 |
| **12.0 VOLT CORDLESS DRILLS** | | | | | | | | | | | | | | | |
| 3/8 | 0-450<br>0-1400 | 310 | 2 | 3MJ67 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case | 9¼ | 4.2 | DW972K-2 | **3MJ88** | 362.00 | **186.00▲** | 13.0 |
| 3/8 | 0-450<br>0-1400 | 310 | 2 | 3MJ67 | 15 minutes | Adjustable Clutch | Center Grip | Batteries, 15 Min. Charger, Plastic Carry Case | 9¼ | 4.6 | DW972KQ-2 | ***New*** **4TG98** | 488.00 | **290.00▲** | 9.1 |
| 3/8 | 0-450<br>0-1400 | 310 | 2 | 3MJ67 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Batteries, Charger, Plastic Carry Case | 10¼ | 4.2 | DW971K-2 | **3MJ87** | 362.00 | **209.50▲** | 13.0 |
| 3/8 | 0-400<br>0-1200 | 190 | 2 | 3MJ66 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case | 9½ | 3.8 | DW953K-2 | **3MJ84** | 296.00 | **157.50▲** | 11.0 |
| **14.4 VOLT CORDLESS DRILLS** | | | | | | | | | | | | | | | |
| 3/8 | 0-450<br>0-1450 | 334 | 2 | 3MJ68 | 15 minutes per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case | 10 | 4.9 | DW991KQ-2 | ***New*** **4TH01** | 470.00 | **279.25▲** | 9.0 |
| 3/8 | 0-400<br>0-1250 | 280 | 2 | 3MJ68 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case | 10 | 4 | DW954K-2 | ***New*** **4TG94** | 352.00 | **209.50▲** | 10.0 |
| 3/8 | 0-450<br>0-1400 | 334 | 2 | 3MJ68 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case | 10 | 4.9 | DW991K-2 | **3MJ96** | 424.00 | **219.00▲** | 12.0 |
| 1/2 | 0-450<br>0-1450 | 334 | 2 | 3MJ68 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case | 10 | 4.9 | DW990K-2 | ***New*** **4TG99** | 418.00 | **248.25▲** | 8.6 |
| **18.0 VOLT CORDLESS DRILLS** | | | | | | | | | | | | | | | |
| 1/2 | 0-450<br>0-1400 | 355 | 1 | 4LF48 | 1 hour | Adjustable Clutch | Center Grip | Battery, Charger, Plastic Carry Case | 10 | 5.6 | DW995K | **4LF63** | 454.00 | **245.00▲** | 10.0 |

(*) See Index under Drill, Batteries for full specifications on Replacement Batteries. (▲) Net prices, not subject to discounts.

**DESK SPACE AT A PREMIUM?**

**USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

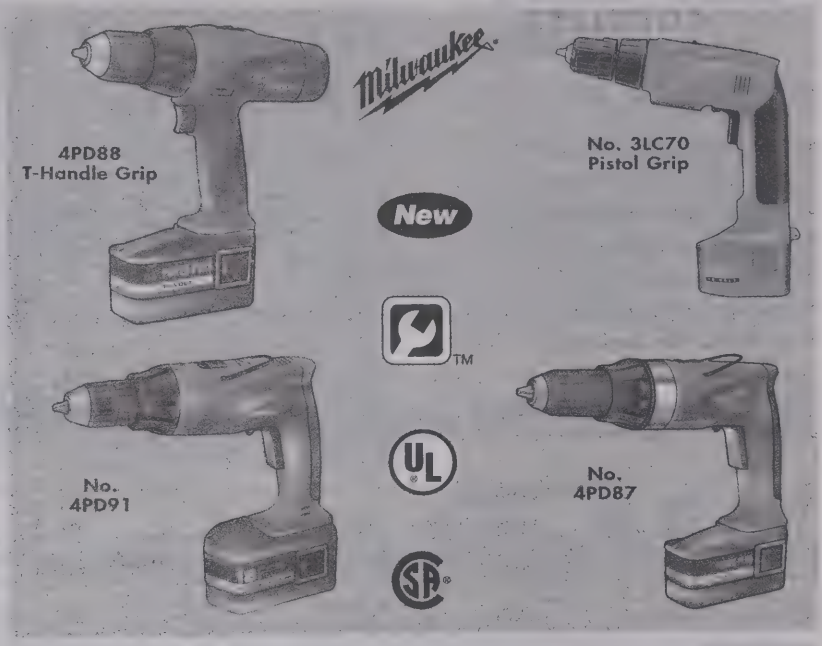
# CORDLESS DRILLS

## MILWAUKEE CORDLESS DRILLS

Feature:

- Keyless chuck
- Variable-speed reversing (VSR)
- One and two speed ranges
- Ball and roller bearings, except Nos. 3LC70 & 3LC71 have ball and sleeve bearings
- Replaceable brushes
- Electric brake
- Anti-slip rubber handle
- UL Listed, CSA Certified

Replacement Parts Available
1-800-323-0620




| Chuck Size (In.) | Drill Speed (RPM) | Max. Torque (In./Lbs.) | Battery Packs: Qty. | Battery Packs: Replacement* | Battery Packs: Recharge Time | Clutch Style | Handle Type | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9.6 VOLT CORDLESS DRILL** | | | | | | | | | | | | | | | |
| 3/8 | 0-350<br>0-1000 | 143 | 2 | 3A566 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Battery, Charger, Plastic Carry Case | 9 | 3¼ | 0406-6 | **6A719** | $255.63 | **$164.25** ▲ | 10.0 |
| **12.0 VOLT CORDLESS DRILLS** | | | | | | | | | | | | | | | |
| 3/8 | 0-350<br>0-1000 | 195 | 2 | 6A343 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Work Light, Battery, Charger, Plastic Carry Case | 9 | 3.7 | 0407-22 | ***New*** **4PD86** | 386.58 | **227.00** ▲ | 14.0 |
| 3/8 | 0-360<br>0-1100 | 220 | 2 | 4PD98 | 1 hour per pack | Adjustable Clutch | T-Grip | Battery, Charger | 9.12 | 3.8 | 0502-23 | ***New*** **4PD88** | 356.00 | **218.25** ▲ | 13.0 |
| 3/8 | 0-350<br>0-1000 | 195 | 2 | 1D586 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Battery, Charger, Steel Carry Case | 9 | 3¾ | 0415-21 | **3LC70** | 393.49 | **228.00** ▲ | 17.0 |
| 3/8 | 0-350<br>0-1000 | 195 | 2 | 1D586 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Battery, Charger, Plastic Carry Case, Flashlight | 9 | 3¾ | 0415-22 | **3LC71** | 439.79 | **254.00** ▲ | 17.0 |
| 1/2 | 0-360<br>0-1100 | 220 | 2 | 4PD98 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Battery, Charger | 11.5 | 4.2 | 0501-23 | ***New*** **4PD87** | 377.00 | **231.00** ▲ | 14.0 |
| 1/2 | 0-600 | 270 | 2 | 3LD01 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Batteries, Charger, Steel Carry Case | 9½ | 5⅜ | 0431-6 | **1D584** | 536.54 | **299.00** ▲ | 17.0 |
| **14.4 VOLT CORDLESS DRILLS** | | | | | | | | | | | | | | | |
| 1/2 | 0-450<br>0-1250 | 280 | 2 | 4PD97 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Batteries, Charger, Carry Case | 11 | 4.7 | 0511-21 | ***New*** **4PD89** | 415.00 | **254.00** ▲ | 14.0 |
| 1/2 | 0-450<br>0-1250 | 280 | 2 | 4PD97 | 1 hour per pack | Adjustable Clutch | T-Grip | Batteries, Charger, Carry Case | 9.5 | 3.8 | 0512-21 | ***New*** **4PD90** | 393.00 | **240.75** ▲ | 14.0 |
| **18.0 VOLT CORDLESS DRILLS** | | | | | | | | | | | | | | | |
| 1/2 | 0-450<br>0-1500 | 400 | 1 | 4PD99 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Battery, Charger | 10.7 | 5.6 | 0521-21 | ***New*** **4PD91** | 430.27 | **271.00** ▲ | 12.0 |
| 1/2 | 0-450<br>0-1500 | 400 | 1 | 4PD99 | 1 hour per pack | Adjustable Clutch | T-Grip | Battery, Charger | 10.5 | 5.6 | 0522-21 | ***New*** **4PD92** | 430.29 | **271.00** ▲ | 16.0 |
| 1/2 | 0-500 | 480 | 0 | 4PD99† | 1 hour per pack | Speed Control | D Handle | Drill and Side Handle Only | 24.7 | 7.75 | 1109-20 | ***New*** **4PD93** | 298.00 | **183.25** ▲ | 16.0 |
| 1/2 | 0-500 | 480 | 1 | 4PD99 | 1 hour per pack | Speed Control | D Handle | Battery Charger, Steel Case, Side Handle | 24.7 | 7.75 | 1109-21 | ***New*** **4PD94** | 537.00 | **328.50** ▲ | 16.0 |

See Index under Drill, Batteries for full specifications on Replacement Batteries. (†) Battery and charger not included, order separately. (▲) Net prices, not subject to discounts.

# CORDLESS HAMMER DRILLS

## CORDLESS HAMMER DRILLS

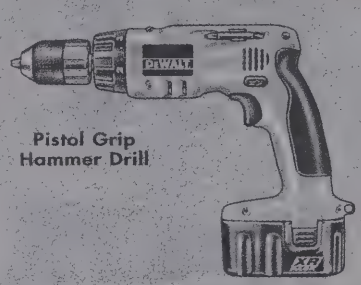
**Feature:**

- Keyless chuck
- Variable-speed reversing (VSR)
- One and two speed ranges
- Ball and roller bearings
- Replaceable brushes
- Electric brake
- Anti-slip rubber handle
- UL Listed, CSA Certified

**Replacement Parts Available**
**1-800-323-0620**

DEWALT

Milwaukee™



Pistol Grip Hammer Drill



Pistol Grip Hammer Drill

| Chuck Size (In.) | Drill Speed (RPM) | Blows Per Min. (BPM) | Max. Torque (In./Lbs.) | Battery Packs: Qty. | Battery Packs: Replacement* | Battery Packs: Recharge Time | Clutch Style | Handle Type | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr.'s Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12.0 VOLT CORDLESS HAMMER DRILL** | | | | | | | | | | | | | | | | | |
| 3/8 | 0-1600 | 0-32,000 | 110 | 2 | 3LD01 | 1 hour | Adjustable Clutch | Pistol Grip | Batteries, Charger, Steel Carry Case, Side Handle | 12 7/16 | 5 5/8 | Milw. | 0422-6 | **1D585** | $544.15 | **$260.00▲** | 7.2 |
| **14.4 VOLT CORDLESS HAMMER DRILLS** | | | | | | | | | | | | | | | | | |
| 1/2 | 0-600 0-1750 | 0-6600 0-19,500 | 290 | 2 | 3MJ68 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Batteries, Charger, Plastic Carry Case | 10 | 5.1 | DeWalt | DW996K-2 | **3MJ98** | 444.00 | **240.00▲** | 13.0 |
| 1/2 | 0-360 0-1100 | 0-26,000 | 280 | 2 | 4PD97 | 1 hour per pack | Adjustable Clutch | Pistol Grip | Battery, Charger, Plastic Carry Case | 11½ | 4 | Milw. | 0513-21 | **3PW12** | 436.00 | **269.00▲** | 17.0 |
| **18.0 VOLT CORDLESS HAMMER DRILLS** | | | | | | | | | | | | | | | | | |
| 1/2 | 0-650 0-1850 | 0-7150 0-20,350 | 325 | 1 | 4LF48 | 1 hour | Adjustable Clutch | Center Grip | Battery, Charger, Plastic Carry Case | 10 | 5.6 | DeWalt | DW997K | **4LF65** | 470.00 | **267.75▲** | 10.0 |
| 1/2 | 0-650 0-1850 | 0-7150 0-20,350 | 325 | 1 | 4LF48 | 1 hour | Adjustable Clutch | Pistol Grip | Battery, Charger, Plastic Carry Case | 10 | 5.6 | DeWalt | DW998K | **4LF66** | 470.00 | **267.75▲** | 10.0 |
| 3/4 | 0-850 | 0-3900 | — | 1 | 4PD99 | 1 hour | Hammer or Drill | D Handle | Battery, Charger, Plastic Carry Case | 17½ | 7 | Milw. | 5361-20 | ***New*** **4PF70** | 810.00 | **494.50▲** | 16.0 |

(*) See Index under Drill, Batteries for full specifications on Replacement Batteries. (▲) Net prices, not subject to discounts.

## HEAVY-DUTY 18 VOLT POWER-PLUS 3/4" ROTARY HAMMER

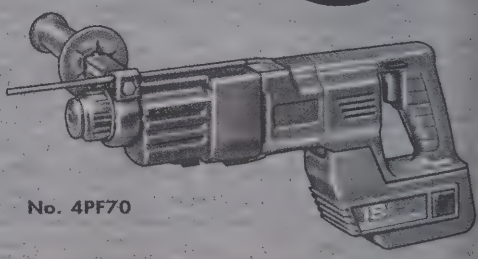
Features Milwaukee-built motor, powerful 400 watt output, 0-850 rpm no load. Two-mode operation: rotation with hammer or rotation only. Includes 18 volt 2.0 amp-hour Power Plus battery and depth gauge for drilling holes to preset depth. 1¾" core bit capacity. Fully adjustable side handle rotates 360°. Uses SDS-Plus and TE-C style bits. Milwaukee brand (5361-20).

***New*** **No. 4PF70.** Shpg. wt. 16.0 lbs. List $810.00. Each.....**$494.50▲**

(▲) Net prices, not subject to discounts.

Milwaukee

New



No. 4PF70

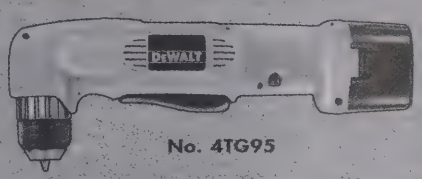
**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# CORDLESS CLOSE QUARTER AND RIGHT ANGLE DRILLS, CAULKING GUN AND JIG SAW

## CLOSE QUARTER AND RIGHT ANGLE DRILLS

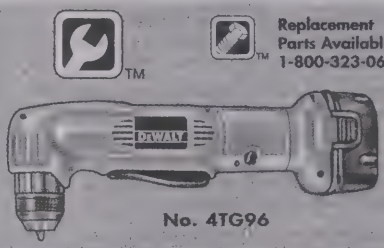
DEWALT



No. 4TG95

Milwaukee

New



Replacement Parts Available 1-800-323-0620

No. 4TG96

| Chuck Size (In.) | Drill Speed (RPM) | Max. Torque (In./Lbs.) | Battery Packs Qty. | Battery Packs Replacement* | Battery Packs Recharge Time | Handle Type | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CORDLESS CLOSE QUARTER AND RIGHT ANGLE DRILLS** | | | | | | | | | | | | | | | |
| **9.6 VOLT** | | | | | | | | | | | | | | | |
| 3/8 | 0-400<br>0-1100 | 150 | 1 | 3MJ65 | 1 hour | Straight R.A. | Battery Pack, Charger, Carry Case | 12.4 | 3.9 | DeWalt | DW955K | **New 4TG95** | $300.00 | **$178.50▲** | 8.5 |
| **12.0 VOLT** | | | | | | | | | | | | | | | |
| 3/8 | 0-400<br>0-1200 | 180 | 1 | 3MJ66 | 1 hour | Straight R.A. | Battery Pack, Charger, Carry Case | 12.4 | 4.1 | DeWalt | DW965K | **New 4TG96** | 330.00 | **195.00▲** | 8.7 |
| 3/8 | 0-1000 | — | 1 | 1D586 | 1 hour | 55° Angled | Battery, Charger, Plastic Carry Case | 9 | 3¾ | Milw. | 0479-6 | **3LC79** | 491.99 | **279.00▲** | 8.5 |
| **18.0 VOLT CORDLESS RIGHT ANGLE DRIVE/DRILL** | | | | | | | | | | | | | | | |
| 1/2 | 0-335<br>0-750 | 490 | 1 | 4PD99 | 1 hour | D Handle | Battery, Charger, Carry Case | 24.7 | 10.7 | Milw. | 3109-21 | **New 4PD95** | 665.00 | **406.25▲** | 16.0 |

) See Index under Drill, Batteries for full specifications on Replacement Batteries. (▲) Net prices, not subject to discounts.

## MILWAUKEE CORDLESS CAULKING GUN

eatures:

- Variable speed dial control
- Trigger control with lock-off switch
- Overload clutch
- Caulking tube volume gauge
- Produces consistent, professional quality beads
- "No-drip" power application system saves time by eliminating messy clean-ups
- Uses standard 11 oz. caulk cartridges and adhesives
- UL Listed, CSA Certified




| Application Speed (RPM) (Sec./Cartridge) | Battery Packs Qty. | Battery Packs Replacement* | Battery Packs Recharge Time | Handle Type | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.4 VOLT CORDLESS CAULKING GUN** | | | | | | | | | | | | |
| **46-120** | 1 | 3A568 | 3 hour | Center Grip | Battery, Charger | 17 | 4.0 | 6550-20 | **4GC41** | $284.47 | **$179.75▲** | 5.8 |

) See Index under Drill, Batteries for full specifications on Replacement Batteries. (▲) Net prices, not subject to discounts.

## MILWAUKEE 12V CORDLESS JIG SAW

atures:

- 4 position orbital
- Accepts T-shank jig saw blades
- UL Listed, CSA Certified
- Quick-Lok blade system requires no tools for fast blade changes

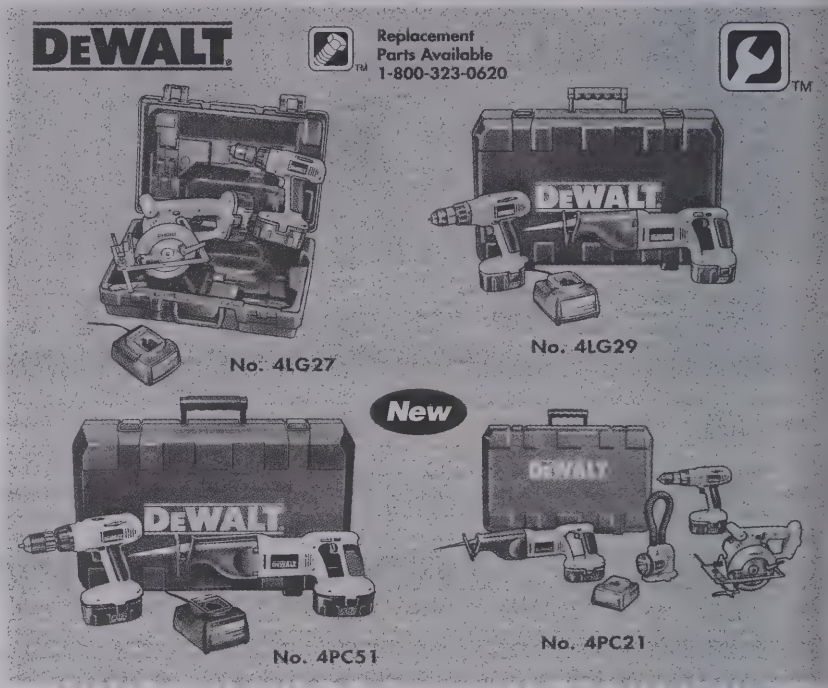



| lade troke (In.) | Blade Speed (SPM) | Battery Packs Qty. | Battery Packs Replacement* | Battery Packs Recharge Time | Features | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr.'s Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12.0 VOLT CORDLESS JIG SAW** | | | | | | | | | | | | | | |
| -1 | 1700 | 1 | 3PW15 | 20 min. | Tool-Free Blade Changes | Battery, Charger, Shoe Cover, 2 Blades | 13½ | 6¾ | Milw. | 6267-21 | **3PW18** | $530.00 | **$319.50▲** | 7.5 |

See Index under Drill, Batteries for full specifications on Replacement Batteries. (▲) Net prices, not subject to discounts.

# DeWALT CORDLESS DRILL/SAW COMBO KITS

- Drills have two speed ranges: 0-450/0-1400 RPM, keyless chuck, variable speed reversing (VSR)
- Saws have electric brake, reversible blade, fan-cooled motor with replaceable brushes
- Reciprocating Saws: 7/8" stroke length; 0-2800 SPM (No. 4LG30), 0-2700 SPM (No. 4LG29)
- Circular Saws: 5⅜" blade cuts 2X materials in single pass; 3200 RPM (No. 4LG27), 3000 RPM (No. 4GD73), 2500 RPM (No. 4LG26)
- No. 4PC51 contains Hammerdrill/Drill/Driver with 325 lbs. torque, and Reciprocating Saw with metal and woodcutting blade
- No. 4PC21 contains Hammerdrill/Drill/Driver with 325 lbs. torque, Cordless Trim Saw with 5⅜" 16-tooth carbide blade and rip fence, Cordless Reciprocating Saw with metal and woodcutting blade, and Flexible Floodlight




| Chuck Size (In.) | Volts | Max. Torque (In./Lbs.) | Battery Packs Qty. | Battery Packs Replacement* | Battery Packs Recharge Time | Clutch Style | Handle Type | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CORDLESS DRILL/CIRCULAR SAW COMBO KITS** | | | | | | | | | | | | | | | |
| 3/8 | 12.0 | 310 | 2 | 3MJ67 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case, Cordless Saw Blade | 10¼ | 4.5 | DW972KS-2 | **4LG26** | $508.00 | **$300.00▲** | 19.0 |
| 3/8 | 14.4 | 334 | 2 | 3MJ68 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case, Cordless Saw Blade | 10 | 4.9 | DW991KS-2 | **4GD73** | 640.00 | **355.25▲** | 19.0 |
| 3/8 | 18.0 | 350 | 2 | 4LF48 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case, Cordless Saw Blade | 10 | 5.6 | DW995KS-2 | **4LG27** | 722.00 | **396.75▲** | 22.0 |
| **CORDLESS DRILL/RECIPROCATING SAW COMBO KITS** | | | | | | | | | | | | | | | |
| 1/2 | 14.4 | 334 | 2 | 3MJ68 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case, 2 Cordless Saw Blades (wood & metal, 1 each) | 10 | 5.3 | DW991KC-2 | **4LG29** | 720.00 | **404.50▲** | 21.0 |
| 1/2 | 18.0 | 350 | 2 | 4LF48 | 1 hour per pack | Adjustable Clutch | Center Grip | Batteries, Charger, Plastic Carry Case, 2 Cordless Saw Blades (wood & metal, 1 each) | 10 | 5.6 | DW995KC-2 | **4LG30** | 796.00 | **469.00▲** | 21.0 |
| ***New!* 2 AND 4-TOOL COMBO KITS** | | | | | | | | | | | | | | | |
| **HAMMERDRILL/DRILL/DRIVER AND RECIPROCATING SAW KIT** | | | | | | | | | | | | | | | |
| 1/2 | 18.0 | 325 | 2 | 4LF48 | 1 hour per pack | Adjustable Clutch | Center Grip | 1 Hour Charger, 2 XR2 Pack™ extended run-time batteries, and kit box | — | — | DW997KC-2 | ***New* 4PC51** | 796.00 | **467.75▲** | 21.0 |
| **HAMMERDRILL/TRIMSAW/RECIPROCATING SAW/FLEXIBLE FLOODLIGHT COMBO PACK** | | | | | | | | | | | | | | | |
| 1/2 | 18.0 | 325 | 2 | 4LF48 | 1 hour per pack | Adjustable Clutch | Center Grip | 1 Hour Charger, 2 XR2 Pack™ batteries, and kit box | — | — | DW4PAK-2 | ***New* 4PC21** | 1060.00 | **622.50▲** | 28.0 |

(*) See Index under Drill, Batteries for full specification on Replacement Batteries. (▲) Net prices, not subject to discounts.

# CORDLESS RECIPROCATING SAWS AND CIRCULAR SAWS

## CORDLESS RECIPROCATING SAWS

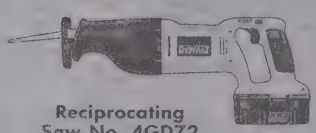
**Feature:**

- Variable-speed
- Ball and roller bearings
- Replaceable brushes
- Reversible blade clamp
- Electric brake
- Anti-slip rubber handle
- Accept 1/2" shank blades
- UL Listed, CSA Certified

DEWALT

Replacement Parts Available 1-800-323-0620

Milwaukee



Reciprocating Saw No. 4GD72

New



Reciprocating Saw No. 4CG38

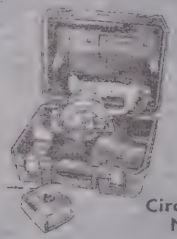
| Blade Stroke (In.) | Speed (SPM) | Battery Packs: Qty. | Battery Packs: Replacement* | Battery Packs: Recharge Time | Features | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr.'s Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14.4 VOLT CORDLESS RECIPROCATING SAWS** | | | | | | | | | | | | | | |
| 7/8 | 0-2700 | 1 | 3MJ68 | 1 hour | Fan-Cooled Motor, Trigger Lock | 2 Blades, Battery, Charger, and Plastic Carry Case | 17½ | 6.0 | DeWalt | DW937K | 4GD71 | $423.00 | $234.25▲ | 11.0 |
| 7/8 | 0-2700 | 0 | 3MJ68† | 0 | Fan-Cooled Motor, Trigger Lock | Blade Only | 17½ | 6.0 | DeWalt | DW937 | New 4TG92 | 310.00 | 184.00▲ | 5.3 |
| **18.0 VOLT CORDLESS RECIPROCATING SAWS** | | | | | | | | | | | | | | |
| 7/8 | 0-2800 | 1 | 4LF48 | 1 hour | Fan-Cooled Motor, Trigger Lock | 2 Blades, Battery, Charger, and Plastic Carry Case | 17½ | 6.5 | DeWalt | DW938K | 4GD72 | 468.00 | 261.25▲ | 11.0 |
| 7/8 | 0-2800 | 0 | 4LF48† | 0 | Fan-Cooled Motor, Trigger Lock | Blade Only No Battery or Charger | 17½ | 6.5 | DeWalt | DW938 | New 4TG93 | 360.00 | 213.75▲ | 5.3 |
| 1 | 0-2000 | 1 | 4PD99 | 1 hour | Lock-Off Button, Quik-Lok Blade Clamp | 2 Blades, Battery, Charger, and Carry Case | 18 | 6.7 | Milw. | 6515-21 | New 4PF85 | 550.00 | 337.00▲ | 20.0 |

(*) See Index under Drill, Batteries for full specifications on Replacement Batteries. (▲) Net prices, not subject to discounts. (†) Battery and charger not included.

## CORDLESS CIRCULAR SAWS

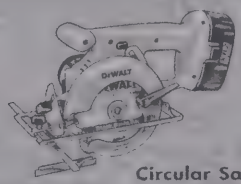
**Feature:**

- Capacity 1⅝" at 90°; 1⅛" at 45°
- Spindle lock
- Ball and roller bearings
- Replaceable brushes
- 10mm arbor
- UL Listed



Circular Saw Kit No. 3MJ74

DEWALT



Circular Saw No. 4LF53

| Blade Dia. (In.) | Speed (RPM) | Battery Packs: Qty. | Battery Packs: Replacement* | Battery Packs: Recharge Time | Features | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr.'s Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12.0 VOLT CORDLESS CIRCULAR SAW** | | | | | | | | | | | | | | |
| 5⅜ | 2500 | 1 | 3MJ67 | 1 hour | 50° bevel capacity | Blade, Battery, Charger, Plastic Carry Case | 11¾ | 6½ | DeWalt | DW930K | 3MJ74 | $370.00 | $217.75▲ | 16.0 |
| **14.4 VOLT CORDLESS CIRCULAR SAWS** | | | | | | | | | | | | | | |
| 5⅜ | 3000 | 1 | 3MJ68 | 1 hour | 50° bevel capacity | Blade, Battery, Charger, Plastic Carry Case | 11¾ | 6⅛ | DeWalt | DW935K | 3MJ77 | 416.00 | 244.25▲ | 18.0 |
| **18.0 VOLT CORDLESS CIRCULAR SAWS** | | | | | | | | | | | | | | |
| 5⅜ | 3200 | 1 | 4LF48 | 1 hour | 50° bevel capacity | Blade, Battery, Charger, Plastic Carry Case | 11¾ | 7⅛ | DeWalt | DW936K | 4LF53 | 464.00 | 258.50▲ | 21.0 |

(*) See Index under Drill, Batteries for full specifications on Replacement Batteries. (†) Not included, order separately. (▲) Net prices, not subject to discounts.

# CORDLESS SCREWDRIVERS AND CORDLESS IMPACT DRIVERS

## CORDLESS SCREWDRIVERS

**Feature:**

- Reversing
- Replaceable brushes
- Antislip comfort grip
- Use all standard 1/4" shank hex bits or sockets
- UL Listed




| Chuck Size (In.) | Drill Speed (RPM) | Max. Torque (In./Lbs.) | Battery Packs: Qty. | Battery Packs: Replacement* | Battery Packs: Recharge Time | Clutch Style | Bearings | Included | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr.'s Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.4 VOLT CORDLESS SCREWDRIVERS** | | | | | | | | | | | | | | | | |
| 1/4 | 0-200<br>0-400 | 2 to 22 | 1 | 3A568 | 1 hour | Adjustable Clutch | Sleeve | Battery, Charger, Adj. Swivel Handle | 9 | 3/4 | Milw. | 6546-6 | **1Y125** | $150.00 | **$95.95** ▲ | 2.8 |
| 1/4 | 0-200<br>0-400 | 2 to 22 | 1 | 3A568 | 1 hour | Adjustable Clutch | Sleeve | Battery, Charger, Adj. Swivel Handle, 1/4" Chuck Attachment, 8-Pc. Drive/Drill Bit Set, Carrying Case | 9 | 3/4 | Milw. | 6547-1 | **3G715** | 195.09 | **112.00** ▲ | 4.8 |
| 1/4 | 190 | 2 to 22 | 1 | 3A568 | 1 hour | Adjustable Clutch | Sleeve | Battery, Charger, Adj. Swivel Handle | 9 | 3/4 | Milw. | 6539-6 | **6Z054** | 139.00 | **88.95** ▲ | 2.8 |
| **3.6 VOLT CORDLESS SCREWDRIVERS** | | | | | | | | | | | | | | | | |
| 1/4 | 180 | 5 to 25 | 1 | † | 3 hours | Automatic Spindle Lock | Sleeve and Ball Thrust | Wall-Mount Charging Stand, Indicator Light, Double-Ended Bit | 10½ | 2 | Skil | 2211-01 | **6A716** | 60.95 | **40.20** ▲ | 2.0 |
| 1/4 | 180 | 10 to 40 | 1 | 2FX73 | 3 hours | Adjustable Clutch | Bronze Brushing | Battery, Charger, Double-Ended Bit | 10 | 2 | B&D | VP730 | **6A729** | 39.28 | **39.30** ▲ | 2.0 |
| **12.0 VOLT CORDLESS DRYWALL/DECK SCREWDRIVER** | | | | | | | | | | | | | | | | |
| 3/8 | 0-800<br>0-2300 | — | 1 | 3MJ67 | 1 hour | Positive and Roller | Ball and Roller | Battery, Charger, Depth-Sensitive Drywall Nosepiece, Magnetic Bit Holder, Plastic Carry Case | 10 | 4¼ | DeWalt | DW979K | **3MJ94** | 372.00 | **218.75** ▲ | 12.0 |

(*) See Index under Drill, Batteries for full specifications on Replacement Batteries. (†) Available through Grainger Parts Operations. (▲) Net prices, not subject to discounts.

## 12V CORDLESS IMPACT DRIVERS

**Feature:**

- Variable-speed reversing
- Electronic torque control (No 3MJ91)
- 3/8" square drive (No. 1D576)
- Antislip comfort grip
- UL Listed



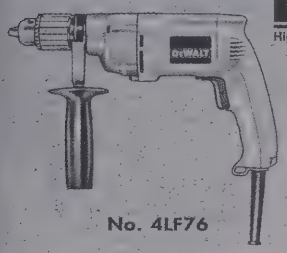

| Chuck Size (In.) | Drill Speed (RPM) | Max. Torque (In./Lbs.) | Battery Packs: Qty. | Battery Packs: Replacement* | Battery Packs: Recharge Time | Clutch Style | Handle Type | Includes | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr.'s Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 0-2000 | 850 | 1 | 3MJ67 | 1 hour | Adjustable Clutch | Pistol Grip | 1/4" Hex Drive, Battery, Charger, Plastic Carry Case | 9 | 4.6 | DeWalt | DW977K | **3MJ91** | $388.00 | **$228.00** ▲ | 13.0 |
| 3/8 | 0-1500 | 600 | 2 | 3LD01 | 1 hour per pack | Ball & Cam | Pistol Grip | 1/4" Hex Adapter, Batteries, Charger, Plastic Carry Case | 9½ | 4 | Milw. | 9057-6 | **1D576** | 419.75 | **233.00** ▲ | 18.0 |

(*) See Index under Drill, Batteries for full specifications on Replacement Batteries. (▲) Net prices, not subject to discounts.



*Put America's power tool powerhouse to work for you today.*

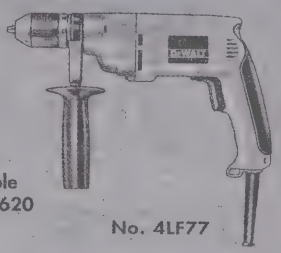
# CORDED PISTOL-GRIP DRILLS



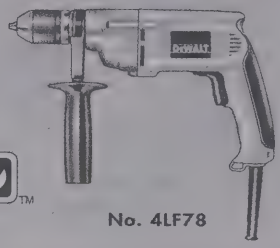

No. 4LF76

DEWALT High Performance Industrial Tools

Replacement Parts Available 1-800-323-0620



No. 4LF77



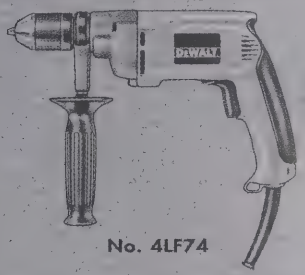
No. 4LF78

## 1/2" DRILL No. 4LF76

| | |
|---|---|
| **Type:** | Variable speed reversing |
| **Housing:** | Impact-resistant, double insulated, metal gear case |
| **Switch:** | Two finger, soft grip, trigger switch |
| **Cord:** | Heavy-duty 8 ft., 2-cond. rubber cord |
| **Power:** | AC only |
| **Approvals:** | UL Listed, CSA Certified |
| **Capacities:** | 1/2" mild steel, 1½" wood with spade bit |
| **Features:** | Drill chuck with key and 360° side handle |

## 1/2" DRILLS Nos. 4LF77 & 4LF78

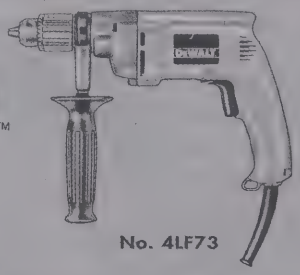
| | |
|---|---|
| **Type:** | Variable speed reversing |
| **Housing:** | Impact-resistant, double insulated, metal gear case |
| **Switch:** | Two finger, soft grip, trigger switch |
| **Cord:** | Heavy-duty 8 ft., 2-cond. rubber cord |
| **Power:** | AC only |
| **Approvals:** | UL Listed, CSA Certified |
| **Capacities:** | 1/2" mild steel, 1½" wood with spade bit |
| **Features:** | Keyless drill chuck, spindle lock, and 360° soft grip side handle; No. 4LF78 has anti-lock control |



No. 4LF74

DEWALT High Performance Industrial Tools

Replacement Parts Available 1-800-323-0620



No. 4LF73

## 1/2" DRILLS Nos. 4LF74 & 4LF75

| | |
|---|---|
| **Type:** | Variable speed reversing |
| **Housing:** | Impact-resistant, double insulated, metal gear case |
| **Switch:** | Two finger, soft grip, trigger switch |
| **Cord:** | Heavy-duty 8 ft., 2-cond. rubber cord |
| **Power:** | AC only |
| **Approvals:** | UL Listed, CSA Certified |
| **Capacities:** | 1/2" mild steel, 1½" wood with spade bit |
| **Features:** | Keyless chuck, spindle lock, and 360° soft grip side handle; No. 4LF75 has anti-lock control |

## 1/2" DRILLS Nos. 4LF72 & 4LF73

| | |
|---|---|
| **Type:** | Variable speed reversing |
| **Housing:** | Impact-resistant, double insulated, metal gear case |
| **Switch:** | Two finger, soft grip, trigger switch with lock-on |
| **Cord:** | Heavy-duty 8 ft., 3-cond., 3-wire grounded cord; No. 4LF72 has 2-cond. cord |
| **Power:** | AC only |
| **Approvals:** | UL Listed, CSA Certified |
| **Capacities:** | 1/2" mild steel, 1½" wood with spade bit |
| **Features:** | Keyed drill chuck with key, 360° side handle |

| Chuck Size & Drill Type | No-Load RPM | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2" V.S.R.* | 0-850 | 7.0 | 100% Ball & Roller | 10.5 | 3.8 | DW231 | **4LF72** | $240.00 | **$141.90▲** | 4.3 |
| 1/2" V.S.R.* | 0-850 | 7.8 | 100% Ball & Roller | 11.1 | 4.2 | DW235G | **4LF73** | 256.00 | **149.05▲** | 5.6 |
| 1/2" V.S.R.*† | 0-850 | 7.8 | 100% Ball & Roller | 11.1 | 4.1 | DW236 | **4LF74** | 264.00 | **157.50▲** | 5.4 |
| 1/2" V.S.R.*† | 0-850 | 7.8 | 100% Ball & Roller | 11.1 | 4.2 | DW238 | **4LF75** | 298.00 | **176.25▲** | 6.1 |
| 1/2" V.S.R.* | 0-600 | 7.8 | 100% Ball & Roller | 12.3 | 4.4 | DW245 | **4LF76** | 252.00 | **145.50▲** | 5.7 |
| 1/2" V.S.R.*† | 0-600 | 7.8 | 100% Ball & Roller | 12.3 | 4.5 | DW246 | **4LF77** | 264.00 | **155.50▲** | 5.7 |
| 1/2" V.S.R.*† | 0-600 | 7.8 | 100% Ball & Roller | 12.3 | 4.5 | DW248 | **4LF78** | 298.00 | **176.25▲** | 6.1 |

(*) Variable speed reversing. (†) With keyless chuck. (▲) Net prices, not subject to discounts.

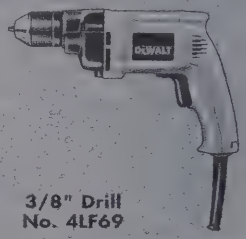
# CORDED PISTOL-GRIP DRILLS



3/8" Drill
No. 3MH88

DEWALT

Replacement Parts Available
1-800-323-0620



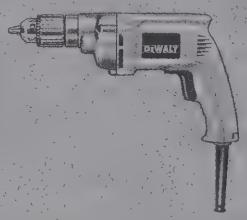
3/8" Drill
No. 4LF69

## 3/8" DRILLS Nos. 3MH88 & 3MH92

**Type:** Variable speed reversing
**Housing:** Impact-resistant, double insulated
**Switch:** Two finger soft grip switch
**Cord:** Heavy-duty 8 ft., 2-cond. rubber cord
**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 3/8" mild steel, 1" in wood
**Features:** Built-in 2 way level, drill chuck with key and 3MH92 has keyless chuck

## 3/8" DRILL No. 4LF69

**Type:** Variable speed reversing
**Housing:** Impact-resistant, double insulated
**Switch:** Two finger soft grip switch
**Cord:** Heavy-duty 8 ft., 2-cond. rubber cord
**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 3/8" mild steel, 1¼" in wood
**Features:** Keyless chuck with spindle lock



3/8" Drill
No. 4LF70

DEWALT

Replacement Parts Available
1-800-323-0620

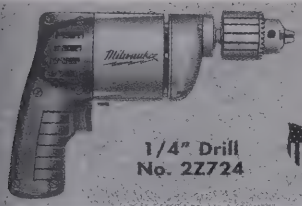
## 3/8" DRILLS Nos. 4LF70 & 4LF71

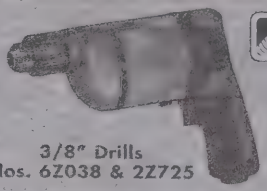
**Type:** Variable speed reversing
**Housing:** Impact-resistant, double insulated
**Switch:** Two finger soft grip switch
**Cord:** Heavy-duty 8 ft., 2-cond. rubber cord, 4LF70 has 3-cond. cord.
**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 3/8" mild steel, 1¼" in wood
**Features:** Drill chuck with key and 4LF71 has keyless chuck with spindle lock

| Chuck Size (In.) & Drill Type | No-Load RPM | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3/8 VSR** | 0-2500 | 4.0 | Ball & Roller | 9.6 | 3.3 | DW100 | **3MH88** | $114.00 | **$67.00▲** | 4.1 |
| **3/8 VSR** | 0-2500 | 4.0 | Ball & Roller | 9.6 | 3.3 | DW106 | **3MH92** | 114.00 | **65.75▲** | 4.0 |
| **3/8 VSR** | 0-1200 | 6.7 | Ball & Roller | 10.5 | 3.3 | DW222 | **4LF69** | 184.00 | **103.30▲** | 4.2 |
| **3/8 VSR** | 0-1200 | 7.0 | Ball & Roller | 10.5 | 3.6 | DW223G | **4LF70** | 223.00 | **128.50▲** | 4.5 |
| **3/8 VSR**** | 0-1200 | 7.0 | Ball & Roller | 10.5 | 3.5 | DW226 | **4LF71** | 239.00 | **142.60▲** | 4.4 |

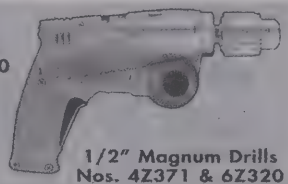
(*) Variable speed reversing. (**) Includes keyless chuck. (▲) Net prices, not subject to discounts.

# CORDED PISTOL-GRIP DRILLS




Replacement Parts Available 1-800-323-0620




## 1/4" DRILL No. 2Z724

**Type:** Variable speed reversing
**Housing:** Cast aluminum with glass reinforced nylon handles
**Switch:** Trigger-type switch
**Cord:** 8 ft., 3-cond. rubber cord
**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 1/4" in steel, 1½" flat boring in wood, 1/2" auger in wood

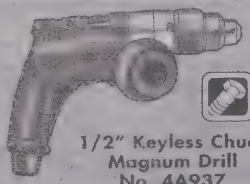
## 3/8" DRILLS Nos. 6Z038 & 2Z725

**Type:** Variable speed reversing
**Housing:** Cast aluminum with glass reinforced nylon handles
**Switch:** Trigger-type switch
**Cord:** No. 2Z725 8 ft., 2-cond. Quik-Lok cord set and heavy-duty chuck, 6Z038 8 ft., 3-cond. cord
**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 3/8" in steel, 1⅛" hole saw in steel, 1½" flat boring in wood, 7/8" auger in wood, 2" hole saw in wood

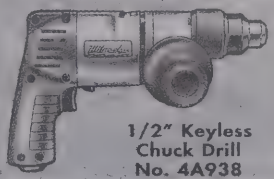
## 1/2" MAGNUM™ DRILLS Nos. 4Z371 & 6Z320

**Type:** Variable speed reversing
**Housing:** Cast aluminum with glass reinforced nylon handles
**Switch:** Trigger-type switch
**Cord:** 8 ft., 3-cond. Quik-Lok cord
**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 1/2" in mild steel, 1½" flat boring in wood
**Features:** Side handle




Replacement Parts Available 1-800-323-0620




## 3/8" MAGNUM™ DRILLS Nos. 6Z039, 1Y007 & 3ZW46

**Type:** Cariable speed reversing
**Housing:** Cast aluminum with glass reinforced nylon handles, No. 3ZW46 is double insulated
**Switch:** Trigger-type switch
**Cord:** 8 ft., 3-cond. cord (No. 3ZW46 has 2-cond. cord)
**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 3/8" in mild steel, 3/4" auger in wood, 1½" flat boring in wood, 2¾" hole saw in wood. No. 3ZW46: 3/8" in mild steel, 1" flat boring in wood, 1¾" hole saw in wood, 3/8" in masonry
**Features:** Side handle: Nos. 1Y007 & 6Z039; Keyless chuck and no side handle: No. 3ZW46

## 1/2" KEYLESS CHUCK MAGNUM No. 4A937

**Type:** Variable speed reversing
**Housing:** Cast aluminum with glass reinforced nylon handles
**Switch:** Trigger-type switch
**Cord:** 8 ft., 3-cond. Quik-Lok cord
**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 1/2" in mild steel, 1/2" in masonry, 1½" flat boring in wood
**Features:** Side handle

## 1/2" HOLE SHOOTER Nos. 4A938 & 6Z321

**Type:** Variable speed reversing
**Housing:** Cast aluminum with glass reinforced nylon handles
**Switch:** Trigger-type switch
**Cord:** 8 ft., 2-cond. Quik-Lok cord set
**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 1/2" in mild steel and 1½" flat boring in wood
**Features:** Side handle 6Z321 has keyed chuck and 4A938 is keyless

| Chuck Size (In.) | No-Load RPM | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 0-2500 | 4.0 | B&R* | 8⅜ | 3½ | 0102-1 | **2Z724** | $208.00 | **$126.00▲** | 4.5 |
| 3/8 | 0-1000 | 4.0 | B&R* | 9¾ | 3¾ | 0228-6 | **6Z038** | 213.02 | **122.00▲** | 4.5 |
| 3/8 | 0-1000 | 4.0 | B&R* | 9½ | 4 | 0222-1 | **2Z725** | 221.04 | **129.00▲** | 5.0 |
| 1/2 | 0-850 | 5.5 | B&R* | 10½ | 4¾ | 0234-6 | **4Z371** | 255.00 | **139.00▲** | 6.4 |
| 1/2 | 0-600 | 5.5 | B&R* | 10½ | 4¾ | 0244-1 | **6Z320** | 255.00 | **155.00▲** | 6.0 |
| 1/2 | 0-1200 | 5.5 | B&R* | 10½ | 4¾ | 0224-1 | **6Z039** | 244.03 | **143.00▲** | 6.0 |
| 3/8 | 0-1200 | 5.5 | B&R* | 10½ | 4¼ | 0225-1 | **1Y007** | 244.03 | **145.05▲** | 5.8 |
| 3/8 | 0-1200 | 5.5 | B&R* | 10 | 4 | 0233-20 | **3ZW46** | 184.24 | **99.00▲** | 4.9 |
| 3/8 | 0-2800 | 5.5 | B&R* | 10½ | 4¼ | 0235-6 | **4A937** | 255.00 | **155.00▲** | 6.0 |
| 1/2 | 0-850 | 5.5 | B&R* | 10½ | 4¾ | 0239-1 | **4A938** | 262.14 | **150.00▲** | 6.0 |
| 1/2 | 0-850 | 5.0 | B&R* | 10½ | 4¾ | 0238-1 | **6Z321** | 262.14 | **150.00▲** | 5.5 |
| 1/2 | 0-850 | 5.0 | B&R* | | | | | | | |

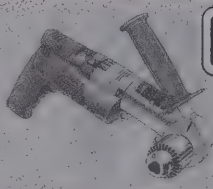
(▲) Net prices, not subject to discounts. (*) Ball & Roller

# CORDED RIGHT ANGLE DRILLS

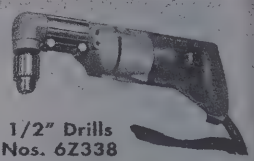








Replacement Parts Available 1-800-323-0620




## 1/2" HOLE HAWG™ DRILLS Nos. 6Z041, 2Z965, & 3ZW50

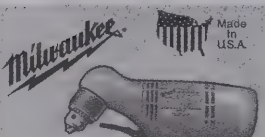
**Type:** Reversing
**Spindle:** 5/8"-16
**Handles:** 2-position pipe handle; 3-position spade handle
**Cord:** 8 ft., 3-cond. rubber cord
**Power:** For AC operation only
**Approvals:** UL Listed, CSA Certified
**Capacities:** For use with up to 4⅝" self-feed bit in low speed and up to 1⅜" selfeed bit in high speed 3ZW50 has 4¾" extra reach and dial speed control
**Includes:** No. 6Z041 drill only; Nos. 2Z965 & 3ZW50 include drill and steel carrying case

## 1/2" MAGNUM™ KIT No. 4Z564

**Type:** Reversing
**Spindle:** 1/2"-20
**Handles:** Head and side handle swivels 360° and can be locked in any position
**Cord:** 8 ft., 3-cond. Quik-Lok rubber cord
**Power:** For AC operation only
**Approvals:** UL Listed, CSA Certified
**Capacities:** For use with up to 2⅛" self-feed bits
**Includes:** Drill, right angle drive, open end wrench, socket wrench, knockout pin, side handle with clamp, 8 ft. Quik-Lok cord set, and steel carrying case

## 1/2" DRILL KITS Nos. 6Z338 & 2Z729

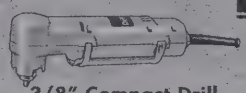
**Type:** No. 6Z338 V.S.R.*; No. 2Z729 is single speed nonreversing
**Spindle:** 1/2"-20
**Handles:** Head and side handle swivels 360° and can be locked in any position
**Cord:** 8 ft., 3-cond. Quik Lok cord
**Power:** For AC operation only
**Approvals:** UL Listed, CSA Certified
**Capacities:** For use with up to 2⅝" self-feed bits
**Includes:** Drill, right angle drive, open end wrench, socket wrench, chuck remover bar, side handle, and steel carrying case




3/8" Compact Drill No. 6Z037

Modification & Service Available Contact Your Local Branch

Replacement Parts Available 1-800-323-0620



3/8" Compact Drill No. 3MJ04



1/2" Drill No. 3MH99

## 3/8" COMPACT DRILLS Nos. 6Z037 & 3MJ04

### No. 6Z037

**Type:** Reversing
**Spindle:** 3/8"-24
**Cord:** 8 ft., 2-cond. cord
**Power:** For AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 1/4" in mild steel, 3/4" in wood 3⅜" access required
**Includes:** Drill, chuck key, and rubber flex key holder

### No. 3MJ04

Nonreversing
3/8"-24
8 ft., 2-cond. cord
For AC only
UL Listed, CSA Certified
4" access required

## 1/2" JOIST AND STUD DRILL No. 3MH99

**Type:** Reversing with 65 ft.-lb. clutch
**Spindle:** 1/2"-20
**Handles:** Reversible side handle and adjustable bail handle
**Cord:** 8 ft., 2-cond. cord
**Power:** For AC operation only
**Approvals:** UL Listed, CSA Certified
**Capacities:** For use with up to 4⅝" self-feed bit in low speed and up to 1½" self-feed bit in high speed
**Includes:** Heavy-duty carry case, chuck, key and keyholder

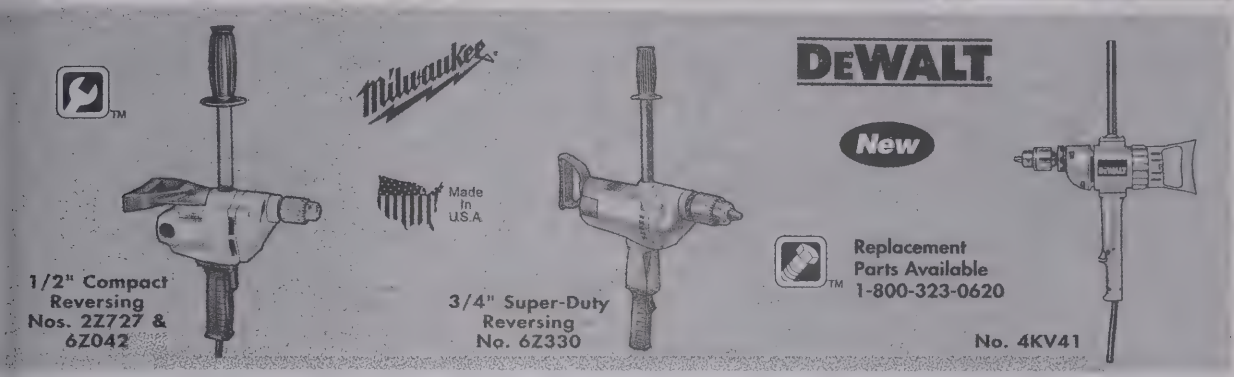
| Chuck Size & Drill Type | No-Load RPM w/ Rt. Angle Low | High | Drill Only | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2" Hole Hawg** | 300 | 1200 | — | 7.5 | Ball & Roller | 6.5 | 10.5 | Milw. | 1675-6 | **6Z041** | $532.18 | **$314.75▲** | 14.0 |
| **1/2" Hole Hawg** | 300 | 1200 | — | 7.5 | Ball & Roller | 6.5 | 10.5 | Milw. | 1676-6 | **2Z965** | 569.19 | **335.50▲** | 24.0 |
| **1/2" Hole Hawg** | 300 | 1200 | — | 7.5 | Ball & Roller | 18 | 14.5 | Milw. | 1678-21 | **3ZW50** | 563.97 | **338.50▲** | 27.0 |
| **1/2" Magnum** | 0-565 | 0-1275 | 0-850 | 5.5 | Ball & Roller | 10.5 | 4.75 | Milw. | 3300-1 | **4Z564** | 381.99 | **243.50▲** | 14.0 |
| **1/2" Right Angle*** | 0-355 | 0-750 | 0-500 | 7.0 | Ball & Roller | 16.25 | 8.75 | Milw. | 3107-6 | **6Z338** | 429.08 | **230.00▲** | 20.0 |
| **1/2" Right Angle** | 335 | 750 | 500 | 7.0 | Ball & Roller | 16.25 | 8.75 | Milw. | 3102-6 | **2Z729** | 419.08 | **262.75▲** | 20.0 |
| **3/8" Close Quarter** | — | 0-1300 | — | 3.5 | Ball & Roller | 10 | 3.5 | Milw. | 0375-6 | **6Z037** | 255.00 | **152.00▲** | 4.2 |
| **3/8" Right Angle** | 1200 | | | 3.2 | Ball & Roller | 10.2 | 3.8 | DeWalt | DW160 | **3MJ04** | 239.00 | **140.30▲** | 4.5 |
| **1/2" Joist & Stud** | 300 | 1200 | | 8.0 | Ball & Roller | 21 | 13.5 | DeWalt | DW124K | **3MH99** | 590.00 | **357.00▲** | 29.0 |

## ADDITIONAL RIGHT ANGLE DRILLS AVAILABLE†

| Description | No-Load RPM | Amps 120VAC | Gear Red. | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/2" Right Angle**** | 400/600/900 | 7.0 | Dbl. | Milw. | 3002-1 | **2Z728** | $419.08 | **$262.75▲** | 19.0 |
| **1/4" Right Angle** | 2000 | 3.2 | Trpl. | DeWalt | DW161 | **4KW13** | 231.08 | **137.95▲** | 4.4 |
| **1/2" Rigt Angle** | 400/600/900 | 7.0 | Trpl. | DeWalt | DW120K | **3MH98** | 412.00 | **249.25▲** | 17.0 |

(*) Variable speed reversing. (†) Not shown. (**) UL Listed, CSA Certified. (▲) Net prices, not subject to discounts.

# CORDED D-HANDLE DRILLS




## 1/2" COMPACT REVERSING DRILLS Nos. 2Z727 & 6Z042

**Type:** Reversing, 1/2"
**Housing:** Cast aluminum gear housing
**Handles:** Removable pipe and spade handles for close quarter drilling
**Cord:** 8 ft., 3-cond. rubber cord
**Power:** No. 6Z042 is for AC only; No. 2Z727 is AC/DC
**Approvals:** UL Listed, CSA Certified
**Capacities:** No. 6Z042—1/2" in mild steel, 3½" hole saw and 2⁹⁄₁₆" self-feed bit in wood; No. 2Z727—1/2" in mild steel

## 3/4" REVERSING DRILL No. 6Z330

**Type:** Reversing, 3/4"
**Housing:** Cast aluminum gear housing
**Handles:** Removable pipe and spade handles for close quarter drilling
**Cord:** 8 ft., 3-cond. rubber cord
**Power:** AC/DC
**Approvals:** UL Listed, CSA Certified
**Capacities:** 3/4" in mild steel; 6" hole saw in wood, 4⅝" self-feed bit in wood

## 3/4" REVERSING DRILL No. 4KV41

**Type:** Reversing, 3/4"
**Housing:** Cast aluminum gear housing
**Handles:** Removable top pipe handle and rear spade handle for close quarter drilling
**Cord:** 8 ft., 3-cond. cord
**Power:** AC/DC
**Approvals:** UL Listed, CSA Certified
**Capacities:** 3/4" in mild steel, 4" in wood
**Features:** 3/4" chuck

## 1/2" REVERSING DRILLS Nos. 2Z726 & 6Z324

**Type:** Trigger speed control reversing
**Housing:** Cast aluminum gear housing
**Handles:** Glass-reinforced nylon spade and side handles
**Cord:** 8 ft., 3-cond. cord (No. 6Z324 & has Quik-Lok cord)
**Power:** AC only
**Approvals:** UL Listed
**Capacities:** 1/2" in mild steel
**Features:** Triple gear reduction

33° Angle Drive Kit stretches up to 30"; drills up to 2 9/16" dia. holes. Includes extension tube, side handle, drive shaft with hex sockets on both ends, and 2 clamping collars. Fits Nos. 2Z726 and 6Z324. Milwaukee brand (48-06-2860).

**No. 4AC31.** Shpg. wt. 5.3 lbs. List $396.40. Each .....$292.25▲




| Chuck Size & Drill Type | No-Load RPM | Amps at 120V | Bearings | Gear Train | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr.'s Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2" Reversing** | 450 | 7.0 | Ball & Roller | Triple | 12¼ | 9½ | Milw | 1660-6 | | **2Z727** | $360.20 | **$236.75▲** | 11.0 |
| **1/2" Reversing** | 650 | 7.0 | Ball & Roller | Double | 12¼ | 9½ | Milw | 1610-1 | | **6Z042** | 327.00 | **221.00▲** | 12.0 |
| **3/4" Reversing** | 350 | 10.0 | Ball & Roller | Triple | 18½ | 19 | Milw | 1854-1 | | **6Z330** | 784.00 | **473.50▲** | 24.0 |
| **3/4" Reversing** | 375 | 10.0 | Ball & Roller | Triple | 13.5 | 17⁹⁄₁₀ | DeWalt | DW138 | *New* | **4KV41** | 748.00 | **490.75▲** | 21.0 |
| **1/2" Reversing** | 0-600 | 7.0 | Ball & Roller | Triple | 14⅛ | 6¼ | Milw | 1001-1 | | **2Z726** | 311.32 | **202.75▲** | 8.0 |
| **1/2" Variable speed** | 0-600 | 7.0 | Ball & Roller | Triple | 14¼ | 6¼ | Milw | 1007-1 | | **6Z324** | 319.18 | **209.50▲** | 10.0 |

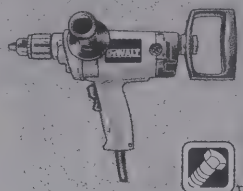
(▲) Net prices, not subject to discounts.

**IF YOU'RE IN A BIND, CALL GRAINGER**

**If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

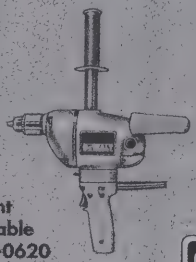
# CORDED D-HANDLE DRILLS AND DRYWALL CUT-OUT TOOL

DEWALT



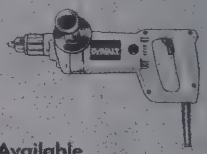
Replacement Parts Available 1-800-323-0620

No. 3MJ01



No 4KV39

Modification & Service Available Contact Your Local Branch



No. 3MJ02

## 1/2" REVERSING DRILL No. 3MJ01

**Type:** Reversing, 1/2"
**Housing:** Metal gear housing
**Handles:** Multi-position rear spade handle and 3-position side handle
**Cord:** 8 ft., 2-cond. rubber cord
**Power:** AC only
**Approvals:** UL Listed, CSA Certified

## 1/2" REVERSING DRILL No. 4KV39

**Type:** Reversing, 1/2"
**Housing:** Metal gear housing
**Handles:** Adjustable spade handle and top pipe handle are removable
**Cord:** 8 ft., 2-cond. rubber cord
**Power:** AC only
**Approvals:** UL Listed, CSA Certified

## 1/2" REVERSING DRILL No. 3MJ02

**Type:** Reversing, 1/2"
**Housing:** Cast aluminum gear housing
**Handles:** 3-position side and end handle
**Cord:** 8 ft., 2-cond. rubber cord
**Power:** AC only
**Approvals:** UL Listed, CSA Certified

| Drill Type | No-Load RPM | Amps at 120V | Bearings | Chuck Size (In.) | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2" Spade Handle** | 450 | 7.0 | 100% Ball & Roller | 1/16-1/2 | 15.6 | 7.5 | DW130 | **3MJ01** | $298.07 | **$173.00▲** | 8.7 |
| **1/2" Spade Handle** | 450 | 7.0 | 100% Ball & Roller | 1/16-1/2 | 13.5 | 9.8 | DW131 | **4KV39** | 348.00 | **228.50▲** | 12.0 |
| **1/2" Side Handle** | 600 | 7.0 | 100% Ball & Roller | 1/16-1/2 | 15.3 | 7.0 | DW140 | **3MJ02** | 296.00 | **189.50▲** | 8.4 |

(▲) Net prices, not subject to discounts.

## REPLACEMENT BITS

### DRYWALL CUT-OUT BITS

**No. 3JF33.** 3/16" Piloted Down Spiral Bit. Porter Cable brand (43218).. Shpg. wt. 0.5 lbs. List $6.90. Each.....**$6.49▲**

**No. 3JF34.** 1/8" Piloted Down Spiral Bit. 10 piece. Porter Cable brand (46226-10). Shpg. wt. 0.1 lbs. List $9.75. Each.....**$9.00▲**

**No. 3JF35.** 1/8" Double Ended Piloted Down Spiral Bit. 5 pieces. Porter Cable brand (43226-5). Shpg. wt. 0.7 lbs. List.....$8.20. Each.....**$6.15▲**

### WALL TILE AND CEMENT BOARD BIT

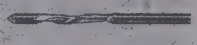
**No. 3JF36.** 1/8" Solid Carbide Burr Bit. Porter Cable brand (43227).. Shpg. wt. 0.1 lbs. List $6.50. Each.....**$5.86▲**

### FIBERGLASS AND CEMENT BOARD BIT

**No. 3JF37.** 1/4" Solid Carbide Burr Bit. Porter Cable brand (43229).. Shpg. wt. 0.6 lbs. List $13.00. Each.....**$9.90▲**



No. 3JF33



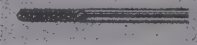
No. 3JF34



No. 3JF35

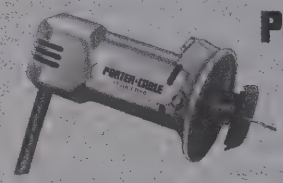


No. 3JF36



No. 3JF37

PORTER-CABLE



No. 6Z312

## CUT-OUT TOOL

- Used for cutouts in drywall, cement board, ceramic wall tile, plaster, paneling, and acoustical tile
- Compact, ergonomic design with up front On/Off switch
- Spindle lock for quick bit change
- Powerful 3.4 amp, AC, 28,000 RPM motor
- Adjustable depth guide
- Includes three 1/8" bits; 1/8"-1/4" shank adapter
- UL Listed; ULC Listed
- Porter-Cable brand (7499)

**No. 6Z312.** Shpg. wt. 4.2 lbs. List $119.00. Each.....**$74.00▲**

(▲) Net prices, not subject to discounts.

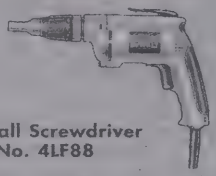
# CORDED DRYWALL REVERSING SCREWDRIVERS



Drywall Screwdriver
No. 4LF79

DEWALT

Replacement Parts Available
1-800-323-0620



Drywall Screwdriver
No. 4LF88

## DRYWALL SCREWDRIVER No. 4LF79

| | |
|---|---|
| Type: | Variable speed reversing |
| Clutch: | Positive, quiet clutch |
| Depth Adj: | 1/64" increments |
| Switch: | Dust-sealed reversing trigger |
| Approvals: | UL Listed |
| Capacities: | All commercially available drywall screws |
| Power: | For AC operation only |
| Includes: | No. 2 Phillips bit, stainless steel magnetic bit tip holder, belt clip, and 8 ft. rubber cord with 2-wire plug |
| Features: | Exclusive set-and-forget nosepiece which maintains depth adjustment after removal |

## DRYWALL SCREWDRIVERS No. 4LF88

| | |
|---|---|
| Type: | Variable speed reversing |
| Clutch: | Positive, quiet clutch |
| Depth Adj: | 1/64" increments |
| Switch: | Dust-sealed reversing trigger |
| Approvals: | UL Listed, CSA Certified |
| Capacities: | All commercially available drywall screws |
| Power: | For AC operation only |
| Includes: | No. 2 Phillips bit, magnetic bit holder, and 8 ft. rubber cord with 2-wire plug |
| Includes: | Exclusive set-and-forget nosepiece which maintains depth adjustment after removal; has soft grip |



Adjustable Depth Screwdriver
No. 4LF81

DEWALT

Replacement Parts Available
1-800-323-0620

Modification & Service Available
Contact Your Local Branch



Versa-Clutch® Screwdriver
No. 4LF85

## ADJ. DEPTH SCREWDRIVERS Nos. 4LF83 & 4LF81

| | |
|---|---|
| Type: | Variable speed reversing |
| Clutch: | Positive |
| Depth Adj: | 1/64" increments |
| Switch: | Dust-sealed reversing trigger |
| Approvals: | UL Listed, CSA Certified |
| Capacities: | No. 12 wood screw, 1/4" self-drilling screws in 3/16" steel, No. 12 self-drilling screws in 1/2" steel, 1/4" thread cutting screws, and 5/16" sheet metal screws |
| Power: | For AC operation only |
| Includes: | No. 4LF81 includes 1/4, 5/16, 3/8" nutsetters; No. 2 Phillips; No. 8, 10, and 12 slotted power bits, and 8 ft. rubber cord with 2-wire plug, drywall nose piece and heavy-duty kit box. No. 4LF83 includes 8 ft. rubber cord with 2-wire plug |

## VERSA-CLUTCH® SCREWDRIVER No. 4LF85

| | |
|---|---|
| Type: | Variable speed reversing |
| Clutch: | Versa-Clutch® torque adjustable |
| Switch: | Dust-sealed reversing |
| Approvals: | UL Listed, CSA Certified |
| Capacities: | No. 12 wood screws, 1/4" self-drilling screws in 3/16" cold-rolled steel, No. 12 self-drilling screws in 1/2" cold-rolled steel, 5/16" sheet metal screws, 1/4" machine screws, and 1/4" thread cutting screws |
| Power: | For AC operation only |
| Includes: | 8 ft. 2-wire rubber cord |

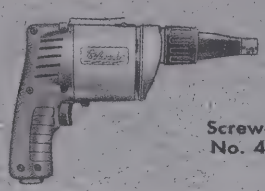
| Variable Speed Reversing Unit Description | Clutch Type | No-Load RPM | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Drywall Screwdriver | Depth Sensitive Positive Clutch | 0-4000 | 6.0 | 100% Ball & Roller | 12.4 | 2.9 | DW251 | 4LF79 | $160.00 | $86.10▲ | 4.2 |
| All-Purpose Screwdriver Kit | Depth Sensitive Positive Clutch | 0-2500 | 6.2 | 100% Ball & Roller | 12.9 | 3.2 | DW260K | 4LF81 | 236.00 | 139.15▲ | 9.0 |
| Depth Sensitive TEKS Screwdriver | Depth Sensitive Positive Clutch | 0-2500 | 6.5 | 100% Ball & Roller | 11.8 | 3.5 | DW266 | 4LF83 | 242.00 | 146.05▲ | 4.2 |
| Versa-Clutch® Screwdriver/2-wire | Versa-Clutch® Torque Adj. | 0-2500 | 6.5 | 100% Ball & Roller | 11.9 | 3.5 | DW268 | 4LF85 | 296.00 | 209.00▲ | 4.2 |
| Drywall Screwdriver | Quiet Clutch | 0-4000 | 6.3 | 100% Ball & Roller | 12.4 | 3.1 | DW274 | 4LF88 | 184.00 | 103.15▲ | 4.2 |

▲) Net prices, not subject to discounts. (†) Not shown.

DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# CORDED DRYWALL REVERSING SCREWDRIVERS

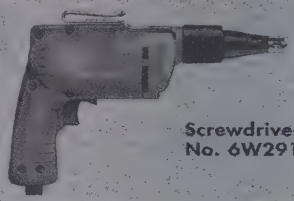


Screwdriver No. 4Z816

Milwaukee

Made in U.S.A.

Replacement Parts Available 1-800-323-0620



Screwdriver No. 6W291

## DRYWALL SCREWDRIVER No. 4Z816

**Type:** Variable speed reversing
**Clutch:** Snap-action positive drive
**Depth Adj:** 1/4" increments with pop-off nose
**Switch:** Two-finger trigger
**Approvals:** UL Listed, CSA Certified
**Capacities:** Up to No. 8 drywall screws
**Power:** AC operation only
**Includes:** No. 2 Phillips bit, magnetic bit holder and locator, belt clip, and 10 ft. rubber cord with 2-wire plug

## DRYWALL SCREWDRIVER No. 6W291

**Type:** Variable speed reversing
**Clutch:** Snap-action positive drive
**Depth Adj:** In 1/64" increments
**Switch:** Two-finger trigger
**Approvals:** UL Listed, CSA Certified
**Capacities:** Up to No. 8 drywall screws
**Power:** For AC operation only
**Includes:** No. 2 Phillips bit, magnetic bit holder, locator assembly, belt clip, pop-off nose and 10 ft. rubber cord with 2-cond. Quik-Lok.



TEKS™ Screwdriver No. 2Z735

Milwaukee



Screwdriver/Nut Runner No. 6Z339

Made in U.S.A.

Replacement Parts Available 1-800-323-0620



Screw Shooter Kit No. 3W788

## TEKS™ SCREWDRIVER No. 2Z735

**Type:** Variable speed reversing
**Clutch:** Snap-action positive drive
**Depth Adj:** In 1/64" increments
**Switch:** Reversing
**Approvals:** UL Listed, CSA Certified
**Capacities:** No. 12 screw in 1/2" steel or 1/4" screw in 3/16" steel
**Power:** For AC operation only
**Includes:** 5/16" Hex one-piece socket extension, 10 ft. rubber cord with 2-wire plug

**No. 2Y851 Snap-On Type Conversion Kit.** Slim-profile, pop-off locator nose maintains depth setting when removed and reattached.

## SCREWDRIVER/NUT RUNNER No. 6Z339

**Type:** Variable speed reversing
**Clutch:** Adjustable torque from 10-120 in.-lbs.
**Depth Adj:** In 1/64" increments
**Switch:** Reversing
**Approvals:** UL Listed, CSA Certified
**Capacities:** 1/4" Machine screws and nuts, 1/4" thread cutting screws, 5/16" sheet metal screws
**Power:** For AC operation only
**Includes:** 6F-8R and 10F-12R bit, finder and guide, No. 2 Phillips bit, nonmagnetic bit holder, 1/4" guide, and 10 ft. cond. Quik-Lok cord

## HEAVY-DUTY SCREWDRIVER KIT No. 3W788

**Type:** Variable speed reversing
**Clutch:** Snap-action positive drive
**Depth Adj:** In 1/64" increments
**Switch:** Trigger speed control switch
**Approvals:** UL Listed, CSA Certified
**Capacities:** 1/4" screw in 1/4" cold rolled steel, No. 12 screw in 1/2" rolled steel
**Power:** For AC operation
**Includes:** 10 #2 Phillips inserts bits, drywall locator assembly with 3 locators, slotted bit and finder sets, hex socket set, belt clip, and carrying case, and 10 ft. 2 cond. Quik-Lok cord.

| Description | Clutch Type | No-Load RPM | Amps 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Screwdriver** | Depth Sensitive | 0-4000 | 5.0 | Ball & Needle | 11 | 3½ | 6758-6 | **4Z816** | $179.93 | **$89.00▲** | 3.5 |
| **Screwdriver** | Depth Sensitive | 0-4000 | 5.0 | Ball & Roller | 11¾ | 3¼ | 6755-1 | **6W291** | 183.00 | **117.05▲** | 4.5 |
| **Teks Screwdriver** | Depth Sensitive | 0-2500 | 5.0 | Ball & Roller | 10½ | 3¾ | 6798-6 | **2Z735** | 240.97 | **154.25▲** | 4.7 |
| **Snap-On Type Conversion Kit for No. 2Z735** | | | | | | | 49-26-1035 | **2Y851** | 7.71 | **5.72▲** | 0.1 |
| **Screwdriver** | Adj. Torque | 0-1000 | 5.0 | Ball & Roller | 10¼ | 5 | 6583-1 | **6Z339** | 291.09 | **182.75▲** | 5.5 |
| **Screw Shooter Kit** | Depth Sensitive | 0-2500 | 5.0 | Ball & Roller | 11½ | 3½ | 6767-6 | **3W788** | 265.07 | **170.00▲** | 14.0 |

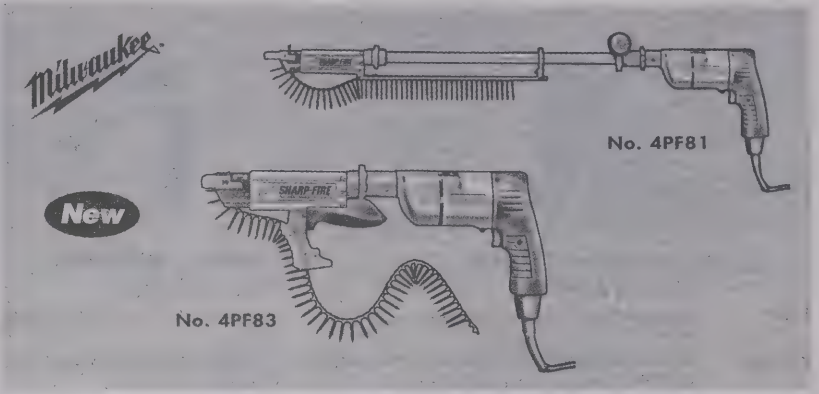
(▲) Net prices, not subject to discounts.

# SCREWSHOOTERS AND ACCESSORIES

## HEAVY-DUTY SHARP-FIRE™ SCREW-SHOOTER SYSTEMS

- **Exceptional driving capacity without wasted screws**
- **Positive lock for no-slip adjustment**
- **Heavy-duty magazine with heat-treated gears**
- **5.0 amp variable speed control**

Provide quality fastening solutions for flooring, walls, fencing, decks, and roofing. Screws feed easily into the screw shooter. Feature clear marking for correct screw length and positive screw alignment to eliminate missed hits. UL Listed, CSA Classified. Milwaukee brand.




| Speed RPM | Screw Length Capacity (In.) | Includes | Milwaukee Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 0-2500 | 1¾-3 | No. 4PD96 Magazine Attachment (see below), No. 4PF59 20.5" Extension Kit, and Carrying Case | 6701-23 | **4PF81** | $785.00 | **$478.00▲** | 6.6 |
| 0-2500 | 1¼-2 | No. 4PD96 Magazine Attachment (see below) | 6701-21 | **4PF80** | 565.00 | **344.25▲** | 6.6 |
| 0-4000 | 1¼-2 | No. 4PD96 Magazine Attachment (see below) | 6705-21 | **4PF83** | 547.00 | **333.25▲** | 6.6 |

▲) Net prices, not subject to discounts.

# ACCESSORIES




## SHARP-FIRE MAGAZINE ATTACHMENT

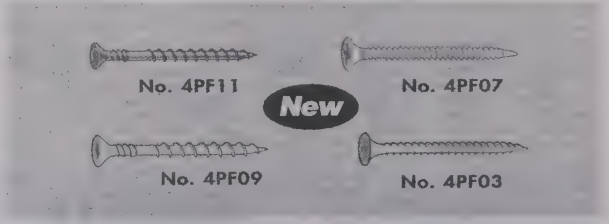
Screw Shooter fits Nos. 2Z735, 4Z816, 6W291, 1Y126, and 1BW02. Includes magazine, bit holder, square drive, Phillips bit, wrenches, and adapter. Milwaukee brand (48-05-1000).

***New*No. 4PD96.** Shpg. wt. 3.0 lbs. List ..... $492.67. Each ..... $218.75▲

## EXTENSION KIT

***New*No. 4PF59.** 20.5" Sharp-Fire Extension Kit. Milwaukee brand (48-95-0501). Shpg. wt. 14.0 lbs. List $215.71. Each ..... $163.00▲

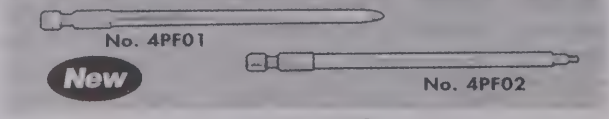
▲) Net prices, not subject to discounts.




## SHARP-FIRE SCREWS

- **Sold in packages of 1000**
- **50 screws per strip**
- **#6 drywall screws use #2 Phillips, Buglehead**
- **#8 flooring and decking screws use #2 square, flathead**
- **Milwaukee brand**

| Screw Type | Length (In.) | Thread Type | Milwaukee Model | *New!* Stock No. | List | Each Pkg. of 1000 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **#6 Drywall** | 1¼ | Coarse | 48-30-3000 | **4PF03** | $24.08 | **$18.57▲** | 3.5 |
| **#6 Drywall** | 1⅝ | Coarse | 48-30-3005 | **4PF04** | 28.31 | **21.68▲** | 3.5 |
| **#6 Drywall** | 1¼ | Fine | 48-30-3010 | **4PF05** | 24.08 | **18.57▲** | 3.5 |
| **#6 Drywall** | 1⅝ | Fine | 48-30-3015 | **4PF06** | 28.31 | **21.68▲** | 3.5 |
| **#6 Drywall** | 1⅝ | Fine | 48-30-3020 | **4PF07** | 39.04 | **29.65▲** | 3.5 |
| **#6 Drywall** | 1¼ | Coarse | 48-30-3025 | **4PF08** | 46.78 | **35.40▲** | 3.5 |
| **#8 Flooring** | 2 | Coarse | 48-30-3030 | **4PF09** | 37.20 | **28.40▲** | 4.0 |
| **#8 Flooring** | 2 | Coarse | 48-30-3035 | **4PF10** | 46.10 | **35.00▲** | 4.0 |
| **#8 Decking** | 2 | Coarse | 48-30-3040 | **4PF11** | 62.91 | **47.45▲** | 4.0 |




## DRIVE BITS

***New*No. 4PF01.** #2 Phillips Drive Bit. Milwaukee brand (48-30-1521). Shpg. wt. 0.1 lbs. List $4.84. Each ..... $3.64▲

***New*No. 4PF02.** #2 Sq. Drive Bit. Milwaukee brand (48-30-1526). Shpg. wt. 0.1 lbs. List $4.84. Each ..... $3.64▲

# CORDED IMPACT WRENCHES




## 3/8" IMPACT WRENCH No. 2Z692

**Type:** Standard-duty for intermittent use
**Housing:** Double insulated die-cast aluminum
**Feature:** Full power in reverse
**Switch:** AC trigger switch
**Cord:** 10 ft. 2-cond. cord
**Power:** AC only
**Approvals:** UL Listed
**Max. Torque:** 85 ft.-lbs.

## 1/2" IMPACT WRENCH No. 2Z405

**Type:** Heavy-duty for intermittent use
**Housing:** Double insulated die-cast aluminum
**Feature:** Full power in reverse
**Switch:** AC trigger switch
**Cord:** 8 ft. 2-cond. cord
**Power:** AC only
**Approvals:** UL Listed
**Max. Torque:** 290 ft.-lbs.

## 1/2" IMPACT WRENCH No. 2Z406

**Type:** Production-duty for continous use with extra heavy-duty anvil for heavy maintenance work
**Housing:** Cast aluminum
**Feature:** Full power in reverse
**Switch:** Trigger switch
**Cord:** 15 ft. heavy-duty 3-cond. cord
**Power:** AC/DC
**Approvals:** UL Listed
**Max. Torque:** 330 ft.-lbs.

| Sq. Drive (In.) | No-Load RPM | Amps at 120V | Impacts Per Min. | Bearings | Max. Torque Ft.-Lbs. | Tool Length (In.) | Tool Wt. (Lbs.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/8** | 2000 | 3.0 | 2200 | Needle & Sleeve | 85 | 10 1/8 | 4 1/2 | 8005 | **2Z692** | $474.78 | **$347.25** | 6.0 |
| **1/2** | 1900 | 5.0 | 2000 | Ball & Sleeve | 290 | 11 11/16 | 6 3/4 | 8049 | **2Z405** | 473.80 | **276.00** | 8.3 |
| **1/2** | 1900 | 5.0 | 1900 | Ball | 330 | 10 1/4 | 7 | 8053 | **2Z406** | 714.77 | **547.50** | 8.2 |




## 3/4" IMPACT WRENCH No. 3MJ17

**Type:** Heavy-duty
**Housing:** Die-cast aluminum ball bearing construction
**Features:** Detent-pin anvil for more secure socket retention
**Switch:** Two finger rocker switch
**Cord:** 8 ft. rubber 2-cond cord
**Power:** AC/DC
**Approvals:** UL Listed, CSA Certified
**Max. Torque:** 300 ft.-lbs.

## 1/2" IMPACT WRENCH No. 3MJ16

**Type:** Heavy-duty
**Housing:** Die-cast aluminum
**Features:** Compression ring anvil for faster socket changes
**Switch:** Two finger rocker switch
**Cord:** 8 ft. rubber 2-cond cord
**Power:** AC/DC
**Approvals:** UL Listed, CSA Certified
**Max. Torque:** 240 ft.-lbs.

## 3/4" IMPACT WRENCH No. 3MJ17

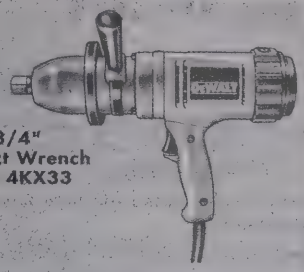
**Type:** Heavy-duty
**Housing:** Die-cast aluminum ball bearing construction
**Features:** Detent-pin anvil for more secure socket retention
**Switch:** Two finger rocker switch
**Cord:** 8 ft. rubber 2-cond cord
**Power:** AC/DC
**Approvals:** UL Listed, CSA Certified
**Max. Torque:** 300 ft.-lbs.

| Sq. Drive (In.) | No-Load RPM | Amps at 120V | Impacts Per Min. | Bearings | Torque Ft.-Lb. | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 2100 | 7.5 | 2700 | 100% Ball & Roller | 240 (5/8"-18 bolt) | 7 | DW290 | **3MJ14** | $323.00 | **$190.75▲** | 8.8 |
| **1/2** | 2100 | 7.5 | 2700 | 100% Ball & Roller | 240 (3/4"-18 bolt) | 7 | DW291 | **3MJ16** | 323.00 | **201.00▲** | 8.8 |
| **3/4** | 2100 | 7.5 | 2700 | 100% Ball & Roller | 300 (5/8"-18 bolt) | 7 | DW296 | **3MJ17** | 368.00 | **229.00▲** | 9.2 |

(▲) Net prices, not subject to discounts.

# CORDED IMPACT WRENCHES

DEWALT



3/4" Impact Wrench No. 4KX33

Replacement Parts Available 1-800-323-0620

Milwaukee



1/2" Impact Wrench No. 6Z049

Replacement Parts Available 1-800-323-0620

## 3/4" IMPACT WRENCH No. 4KX33

**ype:** Production duty
**lousing:** All aluminum
**eatures:** Full power in reverse; detent-pin anvil for more secure socket retention
**witch:** Trigger
**ord:** 8 ft. 3-cond. cord
**ower:** AC/DC
**pprovals:** UL Listed, CSA Certified
**lax. Torque:** 350 ft.-lbs.
**ncludes:** Two rubber cushion rings and adjustable side handle

## 1/2" IMPACT WRENCHES Nos. 6Z049 & 6Z358

**Type:** For heavy-duty industrial applications and equipment maintenance
**Housing:** Double insulated, aluminum gear case; glass reinforced motor housing
**Feature:** Full power in reverse
**Switch:** Heavy-duty two finger rocker switch
**Cord:** 8 ft. 2-cond. cord
**Power:** AC/DC
**Approvals:** UL Listed, CSA Certified
**Max. Torque:** 240 ft.-lbs.
**Includes:** No. 6Z049 tool only; Kit No. 6Z358 includes six hex 1/2" drive sockets from 1/2" to 13/16"

| Square Drive (In.) | No-Load RPM | Amps at 120V | Impacts Per Min. | Bearings | Torque Ft.-Lb. | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 2400 | 6.8 | 2800 | Ball | 240 | 9 15/16 | 6 | Milw. | 9066-6 | **6Z049** | $424.01 | **$269.00▲** | 7.1 |
| **1/2** | 2400 | 6.8 | 2800 | Ball | 240 | 9 15/16 | 6 | Milw. | 9068 | **6Z358** | 483.25 | **301.00▲** | 14.0 |
| **3/4** | 1700 | 7.5 | 1600 | Ball & Roller | 350 | 13.6 | 12.75 | DeWalt | DW299 | **4KX33** | 889.63 | **528.50▲** | 13.0 |

▲) Net prices, not subject to discount.

# 1/2" AND 3/4" DRIVE IMPACT SOCKET SETS

PROTO PROFESSIONAL TOOLS



Made in U.S.A.

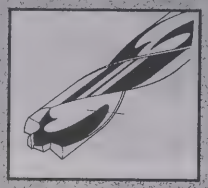
No. 4JX18 15-Pc. Set

Replacement Parts Available 1-800-323-0620

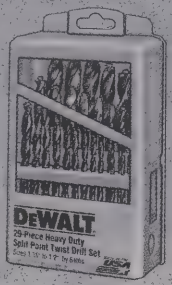
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **1/2" DRIVE IMPACT SOCKET SETS** | | | | | | | |
| **11** | 6Pt. Standard | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, & 1 1/8" | 13" Socket Bar with 11 Socket Clips | 74102 | **4JX08** | $101.07 | **$73.80** | 3.1 |
| **11** | **6 Pt. Deep** | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, & 1 1/8" | 13" Socket Bar with 11 Socket Clips | 74112 | **4JX11** | 148.93 | **108.75** | 6.5 |
| **1/2" DRIVE PINLESS UNIVERSAL IMPACT SOCKET SET** | | | | | | | |
| **7** | 6 Pt. Standard | 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, & 13/16" | 9" Socket Bar with 7 Socket Clips | 74142 | **4JX15** | 212.64 | **153.25** | 4.2 |
| **1/2" DRIVE METRIC IMPACT SOCKET SETS** | | | | | | | |
| **15** | 6 Pt. Standard | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, & 24mm | 17" Socket Bar with 15 Socket Clips | 74204 | **4JX18** | 119.67 | **87.40** | 3.3 |
| **10** | **6 Pt. Deep** | 10, 11, 12, 13, 14, 15, 16, 17, 18, & 19 mm | 13" Socket Bar with 10 Socket Clips | 74212 | **4JX20** | 118.07 | **86.20** | 4.4 |
| **3/4" DRIVE IMPACT SOCKET SET** | | | | | | | |
| **10** | 6 Pt. Standard | 3/4, 13/16, 7/8, 15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4, & 1 5/16" | Carton | 07500-10 | **1AR78** | 180.76 | **132.00** | 9.4 |

# DRILL BIT SETS

## PILOT POINT™ DRILL BIT SETS



No. 4KW59




- Exclusive Pilot Point™ design eliminates walking, keeps the bit on course, and prevents lock-up at breakthrough
- Acute cutting edges increase drilling speed and produce a clean, smooth hole with minimal burrs and prevents lock-up at breakthrough
- Black oxide-coated M7 high speed steel for heavy-duty applications
- Back taper minimizes friction for less wear and longer life
- Enlarged flute chamber maximizes chip removal and prevents binding when drilling deep holes

### PILOT POINT DRILL BIT SETS

| Description | Sizes (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **13 Bit Pilot Point Set** | 1/16 to 1/4 by 64ths | DW1753 | **4KW56** | $33.42 | **$26.40▲** | 0.8 |
| **17 Bit Pilot Point Set** | 1/16 to 1/2 by 32nds | DW1757 | **4KW57*** | 91.60 | **72.15▲** | 2.3 |
| **25 Bit Pilot Point Set** | 1/16 to 3/8 by 64ths | DW1765 | **4KW58*** | 121.32 | **95.55▲** | 1.7 |
| **29 Bit Pilot Point Set** | 1/16 to 1/2 by 64ths | DW1766 | **4KW59*** | 175.55 | **138.30▲** | 3.4 |

(*) Reduced 3/8" shank sets. (▲) Net prices, not subject to discounts.

### PILOT POINT HIGH SPEED STEEL DRILL BITS

| Size (In.) | Decimal Equiv. | Drilling Depth (In.) | Overall Length (In.) | DeWalt Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/16** | .0625 | .88 | 1.88 | DW1704B | *New* | **4NX53** | $1.50 | **$1.29▲** | 0.1 |
| **5/64** | .0781 | 1.00 | 2.00 | DW1705B | *New* | **4NX54** | 1.50 | **1.29▲** | 0.1 |
| **3/32** | .0938 | 1.25 | 2.25 | DW1706B | *New* | **4NX55** | 1.56 | **1.34▲** | 0.1 |
| **7/64** | .1094 | 1.50 | 2.62 | DW1707B | *New* | **4NX56** | 1.60 | **1.38▲** | 0.1 |
| **1/8** | 0.1250 | 1.62 | 2.75 | DW1708B | | **4KW23** | 2.10 | **1.82▲** | 0.1 |
| **9/64** | 0.1406 | 1.75 | 2.88 | DW1709B | | **4KW24** | 2.30 | **1.99▲** | 0.1 |
| **5/32** | 0.1562 | 2.00 | 3.12 | DW1710B | | **4KW25** | 2.48 | **2.14▲** | 0.1 |
| **11/64** | 0.1719 | 2.12 | 3.25 | DW1711B | | **4KW26** | 2.63 | **2.27▲** | 0.1 |
| **3/16** | 0.1875 | 2.31 | 3.50 | DW1712B | | **4KW27** | 2.97 | **2.56▲** | 0.1 |
| **13/64** | 0.2031 | 2.44 | 3.62 | DW1713B | | **4KW28** | 3.47 | **2.99▲** | 0.1 |
| **7/32** | 0.2188 | 2.50 | 3.75 | DW1714B | | **4KW29** | 3.55 | **3.06▲** | 0.1 |
| **15/64** | 0.2344 | 2.62 | 3.88 | DW1715B | | **4KW30** | 3.97 | **3.43▲** | 0.1 |
| **1/4** | 0.2500 | 2.75 | 4.00 | DW1716B | | **4KW31** | 4.18 | **3.61▲** | 0.1 |
| **17/64** | 0.2656 | 2.88 | 4.12 | DW1717B | | **4KW32** | 5.18 | **4.47▲** | 0.1 |
| **9/32** | 0.2812 | 2.94 | 4.25 | DW1718B | | **4KW33** | 5.72 | **4.93▲** | 0.1 |
| **19/64** | 0.2969 | 3.06 | 4.38 | DW1719B | | **4KW34** | 6.35 | **5.47▲** | 0.1 |
| **5/16** | 0.3125 | 3.19 | 4.50 | DW1720B | | **4KW35** | 6.47 | **5.58▲** | 0.1 |
| **21/64** | 0.3281 | 3.31 | 4.62 | DW1721B | | **4KW36** | 7.25 | **6.26▲** | 0.1 |
| **11/32** | 0.3438 | 3.44 | 4.75 | DW1722B | | **4KW37** | 7.85 | **6.77▲** | 0.1 |
| **23/64** | 0.3594 | 3.50 | 4.88 | DW1723B | | **4KW38** | 9.02 | **7.79▲** | 0.1 |
| **3/8** | 0.3750 | 3.62 | 5.00 | DW1724B | | **4KW39** | 9.27 | **7.99▲** | 0.1 |
| **25/64** | 0.3906 | 3.75 | 5.12 | DW1725B | | **4KW40** | 10.25 | **8.46▲** | 0.1 |
| **13/32** | 0.4062 | 3.88 | 5.25 | DW1726B | | **4KW41** | 10.57 | **8.72▲** | 0.1 |
| **27/64** | 0.4219 | 3.94 | 5.38 | DW1727B | | **4KW42** | 11.50 | **9.49▲** | 0.1 |
| **7/16** | 0.4375 | 4.06 | 5.50 | DW1728B | | **4KW43** | 12.32 | **10.16▲** | 0.1 |
| **29/64** | 0.4531 | 4.19 | 5.62 | DW1729B | | **4KW44** | 14.33 | **11.83▲** | 0.1 |
| **15/32** | 0.4688 | 4.31 | 5.75 | DW1730B | | **4KW45** | 14.52 | **11.98▲** | 0.1 |
| **31/64** | 0.4844 | 4.38 | 5.88 | DW1731B | | **4KW46** | 15.13 | **12.49▲** | 0.1 |
| **1/2** | 0.5000 | 4.50 | 6.00 | DW1732B | | **4KW47** | 15.17 | **12.52▲** | 0.1 |
| **25/64** | 0.3906 | 3.62 | 5.00 | DW1735B | | **4KW48** | 10.63* | **8.77▲** | 0.1 |
| **13/32** | 0.4062 | 3.62 | 5.00 | DW1736B | | **4KW49** | 10.90* | **9.00▲** | 0.1 |
| **27/64** | 0.4219 | 3.62 | 5.00 | DW1737B | | **4KW50** | 11.82* | **9.76▲** | 0.1 |
| **7/16** | 0.4375 | 3.62 | 5.00 | DW1738B | | **4KW51** | 12.73* | **10.51▲** | 0.1 |
| **29/64** | 0.4531 | 3.62 | 5.00 | DW1739B | | **4KW52** | 14.40* | **11.88▲** | 0.1 |
| **15/32** | 0.4688 | 3.62 | 5.00 | DW1740B | | **4KW53** | 14.50* | **11.97▲** | 0.1 |
| **31/64** | 0.4844 | 3.62 | 5.00 | DW1741B | | **4KW54** | 15.00* | **12.38▲** | 0.1 |
| **1/2** | 0.5000 | 3.62 | 5.00 | DW1742B | | **4KW55** | 15.00* | **12.38▲** | 0.1 |

(▲) Net prices, not subject to discounts. (*) Reduced 3/8" shank.

## DRILL BIT SHARPENER ACCESSORIES

### DRILL BIT SHARPENERS*

| Description | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Grinding Wheel** | DW7510 | **4LD91** | $22.00 | **$16.45** ▲ | 1.8 |
| **Diamond Dresser** | DW7511 | **4LD92** | 36.00 | **25.75** ▲ | 0.3 |
| **Bit Locator** | DW7512 | **4LD93** | 12.00 | **9.36** ▲ | 0.1 |

(▲) Net prices, not subject to discounts. (*) For use with Dewalt Model DW751, Grainger Stock No. 4LD90, and Black & Decker Model 4300.

### STANDARD PACKAGE QUANTITY

| Drill Diameter (In.) | Pkg. Qty. |
|---|---|
| 1/16 Thru 19/64 | 12 |
| 5/16 Thru 1/2 | 6 |

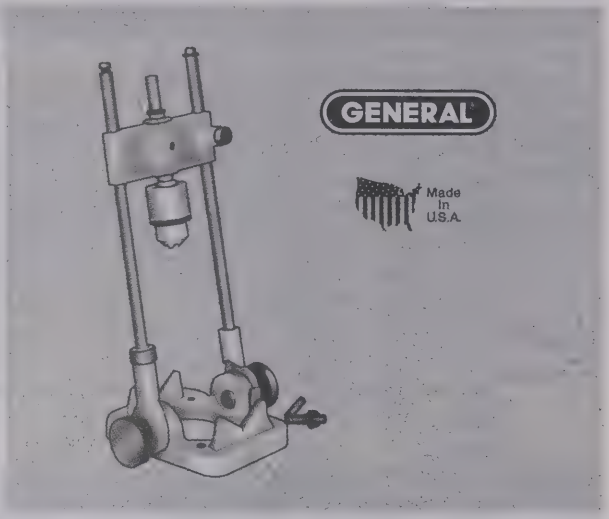
(‡) Priced each sold in package quantities only.

# DRILL GUIDE AND DRILL STOP SET

## DRILL GUIDE

- For use with a portable electric drill, brings drill press accuracy to hand-held drilling jobs
- Drills accurately 90° or variable angles with built-in protractor scale
- Adjusts to 45° angle in either direction of vertical
- Built-in drill depth stop
- Slide lock for sanding and buffing applications
- Anchoring pins hold guide securely in place on flat surfaces, narrow edges, or large tubing
- V-groove for positioning round stock, pipe, or tubing
- Use 3/8 or 1/2" electric drills with standard 3/8" x 24 threaded shaft
- Comes complete with chuck, adapter, and chuck key
- Portable and lightweight, folds flat for tool box storage
- General brand (36/37)

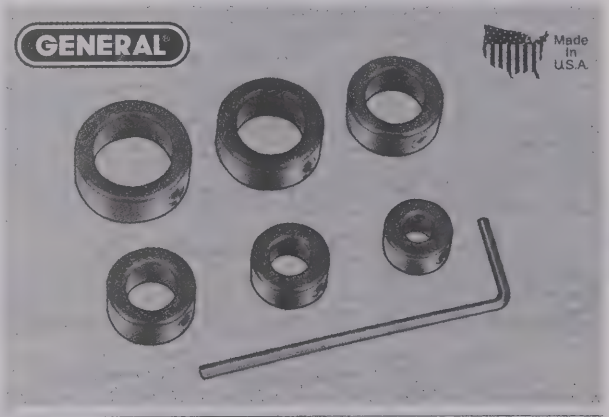
**No. 3ZH18.** Shpg. wt. 2.2 lbs. List $46.24. Each .....$41.65




## DRILL STOP SET

- Positive depth control assures exact predetermined hole depths
- For use on twist or brad point drills to prevent excessive drill penetration
- Black oxide finish on cold rolled steel
- Set includes hex wrench for locking ring adjustment
- Capacities: 3/16, 1/4, 5/16, 3/8, 7/16, and 1/2"
- General brand (S838)

**No. 3ZH52.** Shpg. wt. 0.1 lbs. List $11.82. Each .....$10.64




**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

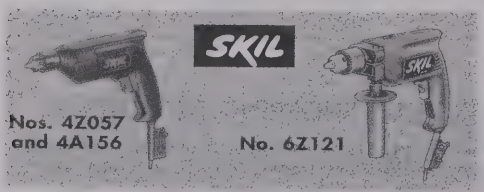
Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# DEWALT CORDLESS TOOL ACCESSORIES AND SKIL WORKSHOP DRILLS

| Description | | For Use with Black & Decker Model | For Use with DeWalt Model | Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **DeWALT CORDLESS ACCESSORIES** | | | | | | | | |
| **3.6 Volt** | Battery Pack | VP730 (B&D) | All Versa-Pack Tools | VP100† | **2FX73** | $13.07 | **$13.07** ▲ | 0.4 |
| **9.6 Volt Cordless Tool Accessories** | Standard Battery Pack | 2663, 2664, 2764 | DW944K, DW943K | DW9048 | **3MJ60** | 75.00 | **53.55** ▲ | 1.3 |
| | Heavy-Duty XR Pack | 2755, 2810, 2840, 2870 | DW952B, DW961K-2, DW967K, DW913, DW902, DW952K-2 | DW9061 | **3MJ64** | 65.00 | **46.45** ▲ | 1.3 |
| | Heavy-Duty Battery Pack | 2755 | | DW9062 | **3MJ65** | 53.00 | **40.50** ▲ | 1.3 |
| | Flashlight | Heavy-Duty & XR 9.6 Volt Batteries | Heavy-Duty & XR DeWalt 9.6 Volt Batteries | DW902 | **3MJ55** | 33.00 | **20.05** ▲ | 0.8 |
| **12.0 Volt Cordless Tool Accessories** | Standard Battery Pack | 2665, 2765, 5912 | DW945K, DW950K, DW946K | DW9050 | **3MJ61** | 90.00 | **85.20** ▲ | 1.3 |
| | Heavy-Duty Battery Pack | 2757 | DW9171K, DW972B, DW974K, DW975K, DW977K, DW979, DW930, DW917, DW904, DW953K, DW972K, DW975B, DW977B, DW979K, DW974KQ, DW930K, DW900, DW901 | DW9072 | **3MJ66** | 67.00 | **50.25** ▲ | 1.3 |
| | Battery Pack w/Fuel Gauge | All Heavy-Duty and XR Drills | | DW9073 | **4LF47** | 104.00 | **77.20** ▲ | 1.4 |
| | Heavy-Duty XR Pack | 2757, 2802, 2812, 2832, 2862, 2861, 2872, 2898 | Same as No. 4LF47, and No. 3MJ66 | DW9071 | **3MJ67** | 78.00 | **74.00** ▲ | 1.5 |
| | Flashlight | Heavy-Duty and XR 12.0 Volt Batteries | Heavy-Duty & XR DeWalt 12.0 Volt Battery Nos. 4LF47 & 3MJ66 | DW904 | **3MJ58** | 33.00 | **20.13** ▲ | 0.8 |
| | Floodlight | | | DW917 | **4GD69** | 51.00 | **30.00** ▲ | 0.5 |
| **13.2 Volt Cordless Tool Accessory** | Standard Battery Pack | 2651, 2661, 2666, 2671, 2681, 2691, 5991 | DW947K, DW948K, DW949K | DW9051 | **3MJ62** | 98.00 | **92.75** ▲ | 1.6 |
| **14.4 Volt Cordless Tool Accessories** | Heavy-Duty XR Pack | 2834, 2874, 2894 | DW991K-2, DW996K-2, DW992K-2, DW935, DW937K, DW918, DW906, DW991B, DW996KQ, DW935K, DW994KQ | DW9091 | **3MJ68** | 89.00 | **63.85** ▲ | 1.8 |
| | Flashlight | Heavy-Duty and XR 14.4 Volt Batteries | Heavy-Duty XR DeWalt 14.4 Volt Battery No. 3MJ68 | DW906 | **3MJ63** | 40.00 | **24.32** ▲ | 0.8 |
| | Floodlight | | | DW918 | **4GD70** | 58.00 | **34.05** ▲ | 1.1 |
| **18.0 Volt Cordless Tool Accessories** | Heavy-Duty XR2 Pack | 2836, 2895, 2897, 2899 | DW995K, DW997K, DW998K, DW936K, DW938K, DW919, DW908 | DW9095 | **4LF48** | 124.00 | **88.50** ▲ | 2.2 |
| | Flashlight | Any B&D 18.0 Volt Battery | Heavy-Duty XR2 DeWalt 18.0 Volt Battery | DW908 | **4LG22** | 40.00 | **24.32** ▲ | 0.8 |
| | Floodlight | | | DW919 | **4LG25** | 58.00 | **34.10** ▲ | 1.1 |
| **Additional Cordless Tool Accessories** | 15-Minute Quick Charger | All Models except No. 4LF48 | DW9091, DW9072, DW9071, DW9070, DW9062, DW9061, DW9060, DW9051, DW9050, DW9048, DW9046 | DW9115 | **3MJ72** | 162.00 | **153.00** ▲ | 2.3 |
| | 1-Hour Charger | | | DW9106 | **4LF49** | 75.26 | **55.80** ▲ | 1.5 |
| | 1-Hour Charger | All Heavy-Duty and XR Battery Packs | DW9095, DW9091, DW9072, DW9071, DW9070, DW9062, DW9061, DW9060 | DW9108 | **4LF51** | 78.00 | **55.75** ▲ | 1.5 |
| | 12.0 Volt Vehicle Charger | All Heavy-Duty & XR Battery Packs | All Heavy-Duty & XR Battery Packs | DW9109 | **4GD68** | 124.00 | **97.65** ▲ | 1.5 |

(▲) Net prices, not subject to discounts. (†) Black & Decker product.

## SKIL WORKSHOP DRILLS Nos. 4Z057, 4A156 & 6Z121




**Type:** Variable speed reversing
**Housing:** Double insulated
**Switch:** Trigger switch
**Cord:** Nos. 4Z057 and 6Z121 have 6 ft., 2-cond. cord and dial speed control; No. 4A156 has heavy rubber 8 ft., 2-cond. cord; No. 6Z121 has built-in tool level guide

**Power:** AC only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 3/8" drills Nos. 4Z057 and 4A156: 3/8" in steel, 3/4" in hardwood; 1/2" drill No. 6Z121: 1/2" in steel, 1" in hardwood

**Replacement Parts Available**
**1-800-323-0620**

| Chuck Size & Drill Type | No-Load RPM | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Skil Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3/8" V.S.R.*** | 0-2250 | 3.2 | Ball & Sleeve | 9 5/16 | 3 1/2 | 6215 | **4Z057** | $61.95 | **$50.00**▲ | 3.7 |
| **3/8" V.S.R.*** | 0-2500 | 4.2 | Ball & Roller | 9 3/4 | 3 3/4 | HD6525 | **4A156** | 101.00 | **70.35**▲ | 3.9 |
| **1/2" V.S.R.*** | 0-800 | 4.0 | Ball Needle & Sleeve | 9 3/4 | 4 | 6355 | **6Z121** | 79.95 | **60.20**▲ | 4.3 |

(*) Variable speed reversing. (▲) Net prices, not subject to discounts.



Put America's power tool powerhouse to work for you today.

# MILWAUKEE CORDLESS TOOL ACCESSORIES

| Description | | Model For Use with | Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **MILWAUKEE CORDLESS TOOL ACCESSORIES** | | | | | | | |
| 2.4 Volt Cordless Tool Accessories | Ni-Cad Battery<br>1-Hour Smart Start Charger<br>Lighter Plug Type Charger | 6550-20, 6538-1, 6539-6, 6540-1, 6545-6, 6546-6, 6547-1 | 48-11-0100<br>48-59-0180<br>48-59-0181 | **3A568**<br>**2Y261**<br>**2Y262** | $38.89<br>77.76<br>165.78 | **$27.60▲**<br>**55.15▲**<br>**103.25▲** | 0.3<br>2.0<br>0.8 |
| | Battery Charger | | 48-59-0182 | ***New*** **4PF25** | 16.96 | **12.14▲** | 2.2 |
| | Offset Power Head Screwdriver Attachment | 6535-1, 6539-1, 6540-1, 6545-6, 6546-1, 6547-1 | 48-32-2100 | **3ZX08** | 38.17 | **27.10▲** | 0.5 |
| 7.2 Volt Cordless Tool Accessories | Ni-Cad Battery<br>Super Charger II<br>1 Hour Smart Start Charger<br>Lighter Plug Type Charger | 0388-6, 0389-6, 0405-6, 0386-1 | 48-11-0130<br>48-59-0192<br>48-59-0170<br>48-59-0172 | **6A720**<br>**3LD58**<br>**1D581**<br>**3LD56** | 76.67<br>110.89<br>112.47<br>128.85 | **54.35▲**<br>**67.75▲**<br>**65.40▲**<br>**82.75▲** | 1.0<br>2.1<br>0.9<br>2.1 |
| | Keyless Chuck | | 48-66-0375<br>48-66-0385 | **4AC30**<br>**3F905** | 42.78<br>35.35 | **31.85▲**<br>**31.85▲** | 0.4<br>0.4 |
| 9.6 Volt Cordless Tool Accessories | Ni-Cad Battery<br>Super Charger II<br>1 Hour Smart Start Charger<br>Lighter Plug Type Charger | 0406-1, 0406-6, 0393-1, 0218-1, 0219-1 | 48-11-0080<br>48-59-0192<br>48-59-0170<br>48-59-0172 | **3A566**<br>**3LD58**<br>**1D581**<br>**3LD56** | 80.00<br>110.89<br>112.47<br>128.85 | **56.70▲**<br>**67.75▲**<br>**65.40▲**<br>**82.75▲** | 1.2<br>2.1<br>0.9<br>2.1 |
| | Keyless Chuck | | 48-66-0375<br>48-66-0385 | **4AC30**<br>**3F905** | 42.78<br>35.35 | **31.85▲**<br>**31.85▲** | 0.4<br>0.4 |
| Battery Charger 12.0 Volt Cordless Tool Accessories | Power Plus Charger | 0501-23, 502-23 | 48-59-0230 | ***New*** **4PF26** | 75.56 | **53.25▲** | 1.7 |
| | 1.4 AH Power Plus Battery | | 48-11-1950 | ***New*** **4PD98** | 74.45 | **52.45▲** | 1.6 |
| | Ni-Cad Battery | 0400-1, 0407-6, 0415-20, 0415-21, 0415-22, 0415-23, 0422-6, 0430-1, 0431-6, 0432-6, 0436-6, 0446-6, 0478-6, 0479-6, 9057-6, 9058-6, 0420-1, 0435-1, 0445-1, 0401-1, 0402-1, 0408-1 | 48-11-0140 | **6A343** | 84.44 | **59.85▲** | 1.5 |
| | 1.7 A-H Super Tough Ni-Cad Battery | | 48-11-0200 | **1D586** | 93.33 | **66.15▲** | 1.6 |
| | 2.0 A-H Super Tough Ni-Cad Battery | | 48-11-0250 | **3LD01** | 94.44 | **66.95▲** | 1.8 |
| | 2.5 A-H Super Tough Ni-Cad Battery Fat Pack | | 48-11-0300 | **3ZW70** | 121.12 | **85.85▲** | 1.6 |
| | Super Charger II<br>1 Hour Smart Start Charger<br>Lighter Plug Type Charger | | 48-59-0192<br>48-59-0170<br>48-59-0172 | **3LD58**<br>**1D581**<br>**3LD56** | 110.89<br>112.47<br>128.85 | **67.75▲**<br>**65.40▲**<br>**82.75▲** | 2.1<br>0.9<br>2.1 |
| | Keyless Chuck | 0422-6<br>0430-1, 0431-6, 0432-6<br>0436-6, 0446-6 | 48-66-0400<br>48-66-0410<br>48-66-0390 | **3F909**<br>**3F911**<br>**3F907** | 39.15<br>57.70<br>35.35 | **35.25▲**<br>**51.95▲**<br>**31.85▲** | 0.3<br>0.5<br>0.5 |
| | | 0400-1, 0407-6, 0415-20, 0415-21, 0415-22, 0415-23, 0478-6, 0479-6 | 48-66-0375 | **4AC30** | 42.78 | **31.85▲** | 0.4 |
| 14.4 Volts Cordless Tool Accessories | 14.4 Battery | 0511-21, 0512-21 - 0513-21 | 48-11-1000 | ***New*** **4PD97** | 93.35 | **65.70▲** | 1.7 |
| | 14.4 Battery Charger | | 48-59-0231 | ***New*** **4PF27** | 75.56 | **53.25▲** | 1.7 |
| 18.0 Volt Cordless Tool Accessories | 2.0 Amp-HR 18-Volt Power Plus Battery | 6516-21, 6516-22, 1108-21 1108-22, 3108-21, 3108-22 | 48-11-2100 | **3ZW71** | 127.75 | **90.60▲** | 3.2 |
| | Battery | 0521-21, 0522-21, 0523, 0524, 1109-20, 1109-21, 5361-20, 3109-20, 3109-21, 6515-21, 6515-22 | 48-11-2200 | ***New*** **4PD99** | 127.79 | **90.00▲** | 2.7 |
| 1-Hr. Universal Charger | Power Plus Changer | All 18 Volt Batteries | 48-59-0241 | ***New*** **4TR38** | 187.68 | **101.55▲** | 1.6 |
| Additional Cordless Accessories | Work Light | Any Milwaukee 9.6 Volt or 12.0 Volt Battery except Power-Plus | 49-24-0100 | **3ZZ91** | 59.25 | **44.10▲** | 1.0 |

▲) Net prices, not subject to discounts.

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# INDUSTRIAL-DUTY, EXTRA-HARD 1/4" SHANK SCREWDRIVER BITS

MAGNA™ Made in U.S.A.

Phillips Insert Bit



Phillips Power Bit

- Most widely used style

Slotted Insert Bit



Slotted Power Bit

- Common in telephones and electrical devices

Square Recess Bit



Square Recess Power Bit

Socket Hex Head Bit



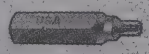
- Popular in machine tools
- Widely used in automotive and appliance industry

Torx® Bit



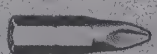
- Provide positive torque control with no cam outs and allow maximum drive surface and longer drive life

Torx® Insert Bit



- Specially drilled tips which fit Torx tamper-resistant screws

POZIDRIV® Bit



- Popular in automotive applications



Hand Drive

| Screwdriver Type | Point Size | Bit Length (In.) | Magna Model | Stock No. | List† | Each/ Lots † | Each/ Lots † | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **PHILLIPS BITS** | | | | | | | | |
| **Phillips** | No. 0 | 1 | 27019 | **4F457** | $0.88 | **$0.75 /10** | **$0.71 /20** | 0.1 |
| **Phillips** | No. 1 | 1 | 27020 | **6X977** | 0.38 | **0.32 /10** | **0.31 /20** | 0.1 |
| **Phillips** | No. 2 | 1 | 27021 | **6X978** | 0.38 | **0.32 /10** | **0.31 /20** | 0.1 |
| **Phillips** | No. 2* | 1 | 27036 | **5A772** | 0.38 | **0.32 /10** | **0.31 /20** | 0.1 |
| **Phillips** | No. 3 | 1 | 27022 | **6X979** | 0.38 | **0.32 /10** | **0.31 /20** | 0.1 |
| **Phillips Power** | No. 1 | 1 15/16 | 27360 | **4AHF2** | 0.70 | **0.60 / 5** | **0.57 /10** | 0.1 |
| **Phillips Power** | No. 1 | 3 1/2 | 27366 | **4F477** | 1.18 | **1.00 / 5** | **0.95 /10** | 0.1 |
| **Phillips Power** | No. 2 | 1 15/16 | 27361 | **5A771** | 0.66 | **0.56 / 5** | **0.53 /10** | 0.1 |
| **Phillips Power** | No. 2 | 2 3/4 | 27364 | **4AHF7** | 0.88 | **0.75 / 5** | **0.71 /10** | 0.1 |
| **Phillips Power** | No. 2 | 3 1/2 | 27367 | **4AHF8** | 1.08 | **0.92 / 5** | **0.87 /10** | 0.1 |
| **Phillips Power** | No. 2 | 6 | 27370 | **4AHF9** | 3.16 | **2.69 / 5** | **2.55 /10** | 0.1 |
| **Phillips Power** | No. 3 | 1 15/16 | 27362 | **4AHF6** | 0.90 | **0.77 / 5** | **0.73 /10** | 0.1 |
| **Phillips Power** | No. 3 | 3 1/2 | 37885 | **4F478** | 2.30 | **1.96 / 5** | **1.86 /10** | 0.1 |
| **SLOTTED BITS** | | | | | | | | |
| **Slotted** | No. 3F-4R | 1 | 41178 | **6X980** | 1.22 | **1.04 /10** | **0.99 /20** | 0.1 |
| **Slotted** | No. 5F-6R | 1 | 39535 | **4F458** | 0.58 | **0.49 /10** | **0.47 /20** | 0.1 |
| **Slotted** | No. 6F-8R | 1 | 39536 | **6X981** | 0.56 | **0.48 /10** | **0.45 /20** | 0.1 |
| **Slotted** | No. 8F-10R | 1 | 39537 | **4F459** | 0.56 | **0.48 /10** | **0.45 /20** | 0.1 |
| **Slotted** | No. 10F-12R | 1 | 39538 | **6X982** | 0.56 | **0.48 /10** | **0.45 /20** | 0.1 |
| **Slotted Power** | No. 5F-6R | 1 15/16 | 27464 | **4F475** | 1.30 | **1.11 / 5** | **1.05 /10** | 0.1 |
| **Slotted Power** | No. 6F-7R | 1 15/16 | 27465 | **4F476** | 0.86 | **0.73 / 5** | **0.69 /10** | 0.1 |
| **Slotted Power** | No. 8F-10R | 1 15/16 | 27466 | **4AHF3** | 1.20 | **1.02 / 5** | **0.97 /10** | 0.1 |
| **Slotted Power** | No. 10F-12R | 1 15/16 | 27467 | **4AHF4** | 1.36 | **1.16 / 5** | **1.10 /10** | 0.1 |
| **SQUARE RECESS BITS** | | | | | | | | |
| **Square Recess** | R-1 | 1 | 29049 | **4AHC5** | 0.44 | **0.37 /10** | **0.36 /20** | 0.1 |
| **Square Recess** | R-2 | 1 | 29050 | **4AHC6** | 0.44 | **0.37 /10** | **0.36 /20** | 0.1 |
| **Square Recess Power** | No. 2 | 1 15/16 | 29053 | **4AHF5** | 0.76 | **0.65 / 5** | **0.61 /10** | 0.1 |
| **SOCKET HEX HEAD INSERT BITS** | | | | | | | | |
| **Hex Head** | 5/64 | 1 | 27096 | **4F460** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Hex Head** | 3/32 | 1 | 27097 | **4F461** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Hex Head** | 7/64 | 1 | 37475 | **4F462** | 1.44 | **1.22 /10** | **1.16 /20** | 0.1 |
| **Hex Head** | 1/8 | 1 | 27098 | **4F463** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Hex Head** | 9/64 | 1 | 37476 | **4F464** | 1.44 | **1.22 /10** | **1.16 /20** | 0.1 |
| **Hex Head** | 5/32 | 1 | 27099 | **5F513** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Hex Head** | 3/16 | 1 | 27100 | **5F514** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Hex Head** | 7/32 | 1 | 27101 | **5F515** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Hex Head** | 1/4 | 1 | 27102 | **5F516** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **TORX® BITS** | | | | | | | | |
| **Torx®** | T-10 | 1 | 37157 | **4F465** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Torx** | T-15 | 1 | 37159 | **4AHC7** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Torx** | T-20 | 1 | 37161 | **4F466** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Torx** | T-25 | 1 | 37163 | **4AHC8** | 1.42 | **1.21 /10** | **1.15 /20** | 0.1 |
| **Torx** | T-27 | 1 | 37165 | **4AHC9** | 1.58 | **1.34 /10** | **1.28 /20** | 0.1 |
| **Torx** | T-30 | 1 | 37167 | **4AHF0** | 1.48 | **1.26 /10** | **1.20 /20** | 0.1 |
| **Torx** | T-40 | 1 | 37169 | **4AHF1** | 1.50 | **1.28 /10** | **1.21 /20** | 0.1 |
| **Torx Power** | T-10 | 1 15/16 | 37715 | **4F469** | 3.32 | **2.82 / 5** | **2.68 /10** | 0.1 |
| **Torx Power** | T-15 | 1 15/16 | 37717 | **4F470** | 3.18 | **2.70 / 5** | **2.57 /10** | 0.1 |
| **Torx Power** | T-20 | 1 15/16 | 37719 | **4F471** | 2.92 | **2.48 / 5** | **2.36 /10** | 0.1 |
| **Torx Power** | T-25 | 1 15/16 | 37721 | **4F472** | 2.92 | **2.48 / 5** | **2.36 /10** | 0.1 |
| **Torx Power** | T-30 | 1 15/16 | 37725 | **4F473** | 3.64 | **3.09 / 5** | **2.94 /10** | 0.1 |
| **Torx Power** | T-40 | 1 15/16 | 37727 | **4F474** | 3.96 | **3.37 / 5** | **3.20 /10** | 0.1 |
| **TORX TAMPER-RESISTANT INSERT BITS** | | | | | | | | |
| **Torx Tamper-Proof** | T7 | 1 | 38911 | **5F520** | 3.84 | **3.26 /10** | **3.10 /20** | 0.1 |
| **Torx Tamper-Proof** | T8 | 1 | 38338 | **5F521** | 3.84 | **3.26 /10** | **3.10 /20** | 0.1 |
| **Torx Tamper-Proof** | T9 | 1 | 38340 | **5F522** | 3.84 | **3.26 /10** | **3.10 /20** | 0.1 |
| **Torx Tamper-Proof** | T10 | 1 | 38342 | **5F523** | 3.70 | **3.15 /10** | **2.99 /20** | 0.1 |
| **Torx Tamper-Proof** | T15 | 1 | 38344 | **5F524** | 3.78 | **3.21 /10** | **3.05 /20** | 0.1 |
| **Torx Tamper-Proof** | T20 | 1 | 38346 | **5F525** | 3.70 | **3.15 /10** | **2.99 /20** | 0.1 |
| **Torx Tamper-Proof** | T25 | 1 | 38348 | **5F526** | 3.70 | **3.15 /10** | **2.99 /20** | 0.1 |
| **Torx Tamper-Proof** | T27 | 1 | 38350 | **5F527** | 3.78 | **3.21 /10** | **3.05 /20** | 0.1 |
| **Torx Tamper-Proof** | T30 | 1 | 38352 | **5F528** | 3.84 | **3.26 /10** | **3.10 /20** | 0.1 |
| **Torx Tamper-Proof** | T40 | 1 | 38354 | **5F529** | 3.84 | **3.26 /10** | **3.10 /20** | 0.1 |
| **POZIDRIV® BITS** | | | | | | | | |
| **POZIDRIV®** | No. 1 | 1 | 27045 | **4F467** | 0.66 | **0.56 /10** | **0.53 /20** | 0.1 |
| **POZIDRIV** | No. 2 | 1 | 27046 | **4F468** | 0.66 | **0.56 /10** | **0.53 /20** | 0.1 |
| **SOCKET ADAPTERS** | | | | | | | | |
| **Hand Adapter** | 1/4‡ | 1 | 41181 | **4F481** | 1.76 | **1.50 / 5** | **1.42 /10** | 0.1 |
| **Power Adapter** | 1/4# | 2 | 34610 | **4F482** | 2.84 | **2.41 / 5** | **2.29 /10** | 0.1 |

(*) Reduced diameter drywall bit. (†) Priced each. Sold only in Lot quantities.
(‡) 1/4" Hex to 1/4" Square Hand. (#) 1/4" Hex to 1/4" Square Power 2".



Put America's power tool powerhouse to work for you today.

# INDUSTRIAL-DUTY, EXTRA-HARD 1/4" SHANK SCREWDRIVER BIT SETS

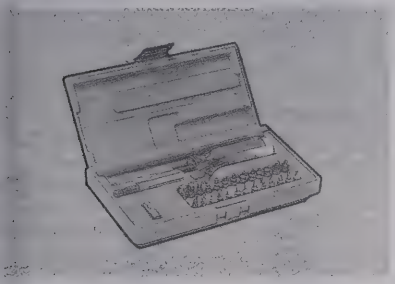
## MAGNA™ SCREWDRIVER BIT SETS

Made in U.S.A.

Industrial-duty, extra hard screwdriver bits are designed for all general purpose applications
Made to precision tolerances from special shock-resistant alloy steel for long life

- All bits have 1/4" shank
- Made in U.S.A.
- Bits feature quick change driving for both hand and power use

### 29-PC. MAGNETIC SCREWDRIVER AND BIT SET



**Watcha-Callit® KIT**

- For power and hand use
- Permanently magnetized screwdriver
- All bits are 1" long with 1/4" hex shank
- Magna brand (41786)

| Included in Set | |
|---|---|
| 8" Screwdriver | Hexagon Bit-7/64" |
| Spade Bit-#0-1 | Hexagon Bit-1/8" |
| Spade Bit-#3-4 | Hexagon Bit-9/64" |
| Spade Bit-#5-6 | Torx® Bit-T10 |
| Spade Bit-#8-10 | Torx® Bit-T15 |
| Spade Bit-#10-12 | Torx® Bit-T20 |
| Phillips Bit-#0 | Torx® Bit-T25 |
| Phillips Bit-#1 | Torx® Bit-T30 |
| Phillips Bit-#2 | Torx® Bit-T40 |
| Phillips Bit-#3 | Posidriv® Bit-#1 |
| Square Recess-#0 | Posidriv® Bit-#2 |
| Square Recess-#1 | Socket Adapter |
| Square Recess-#2 | 3" Bit Holder (for use with power tools) |
| Square Recess-#3 | Plastic Carrying Case |
| Hexagon Bit-5/64" | |
| Hexagon Bit-7/32" | |

**No. 5A774.** Shpg. wt. 1.3 lbs. List.....$39.82.
Each.....**$33.85;** Lots 3 **$32.17;** Lots 6 **$30.46**

### 16-PC. CORDLESS DRIVER SET



- For drilling holes or driving Phillips, slotted, Torx®, and/or square recess screws
- 1/4" hex shank
- Industrial-duty, extra-hard bits for driving heat treated or case hardened screws
- Cold forged for optimum toughness and resistance to wear
- Magna brand (45061)

| Included in Set | |
|---|---|
| Full Hex Phillips-#1 | 3/16" Nutsetter |
| Full Hex Phillips-#2 | 1/4" Nutsetter |
| Full Hex Phillips-#3 | 5/16" Nutsetter |
| Full Hex Slotted-5F-6R | 3/8" Nutsetter |
| Full Hex Slotted-8F-10R | |
| Full Hex Slotted-10F-12R | 2 Finder Sleeves |
| Torx® Bit-T15 | |
| Torx® Bit-T20 | |
| Full Hex Square Recess-R1 | |
| Full Hex Square Recess-R2 | |

**No. 4AHH4.** Shpg. wt. 0.5 lbs. List.....$22.02.
Each.....**$18.72**

### 5-PC. DOUBLE END INSERT BIT SET



- All bits are 1½" long
- Includes most popular sized bits
- 1/4" hex shank

| Included in Set | |
|---|---|
| P1 Phillips Bit/#6 Slotted | T15 Torx/T20 Torx Sq. Recess 1 & 2 |
| P2 Phillips Bit/#8 Slotted | |
| P3 Phillips Bit/#10 Slotted | |

**No. 5F519.** Shpg. wt. 0.1 lbs. List.....$14.19.
Each.....**$12.06**

### 6-PC. TORX® TAMPER-RESISTANT INSERT BIT SET

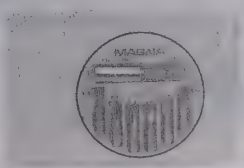


- All bits are 1" long
- Specially drilled tips fit Torx tamper-resistant screws
- 1/4" hex shank

| Included in Set | |
|---|---|
| T10 | T25 |
| T15 | T27 |
| T20 | T30 |

**No. 5F530.** Shpg. wt. 0.1 lbs. List.....$14.00.
Each.....**$11.90**

### 7-PC. INSERT BIT SET SPIN-A-BIT™



- For power and hand use
- Bits and holder in handy dispenser
- Magna brand (43967)

| Included in Set | |
|---|---|
| Phillips Bit-#1 | Bit-#4-6 |
| Phillips Bit-#2 | Bit-#6-8 |
| Phillips Bit-#3 | Bit-#8-10 |
| Bit Holder (for use with power tools) | Plastic Case |

**No. 5A773.** Shpg. wt. 0.2 lbs. List.....$9.98.
Each.....**$8.48**

### 10-PC. INSERT BIT SET DIAL-A-BIT™

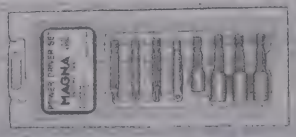


- For power and hand use
- Lid dials to release individual bits
- Magna brand (43970)

| Included in Set | |
|---|---|
| Phillips Bit-#1 | Bit-#4-6 |
| Phillips Bit-#2 | Bit-#6-8 |
| Phillips Bit-#3 | Bit-#8-10 |
| Phillips Bit #2R | Bit #10-12 |
| Bit Holder-1/4" (2¼ OAL) | Square Bit #2 |

**No. 4F485.** Shpg. wt. 0.3 lbs. List.....$13.38.
Each.....**$11.37**

### 8-PC. CORDLESS SCREWDRIVER BIT SET MAGNA™



- For power and hand use
- Magna brand (45062)

| Included in Set | |
|---|---|
| Phillips Bit-#1 | Bit-#4-6 |
| Phillips Bit-#2 | Bit-#6-8 |
| Phillips Bit-#3 | Bit-#8-10 |
| Socket Adapter | Magnetic Hex Screw Holder |

**No. 2Z258.** Shpg. wt. 0.3 lbs. List $16.28.
Each.....**$13.84**

# SCREWDRIVER ACCESSORIES AND MAGNETIC SCREWDRIVERS

## BIT HOLDERS FOR HEX INSERT BITS

Industrial quality bit holders provide excellent production efficiencies when driving recess head screws. Adapt the most popular power tools for use with insert bits.

### BIT HOLDER FOR HEAVY-USE APPLICATIONS

Magnetic bit holder with C-ring retainer and stainless steel body.

### BIT HOLDER WITH ONE-PIECE CONSTRUCTION

Bit holders with C-ring retainer and stainless steel body. No. 4F479 is nonmagnetic and No. 4F480 is magnetic.

### QUICK-CHANGE BIT HOLDER

Magnetic bit holder with screw cap retainer with O-ring and stainless steel body.

### HEAVY-DUTY SILICON BRONZE BIT HOLDER

Magnetic bronze bit holder is spark-resistant and reduces finder wear. Popular for electrical applications.

### FEMALE SQUARE DRIVE BIT HOLDERS

Non-magnetic holder for use with male square drive tools Nos. 5F517 and 5F518.




| Description | Type | Shank (In.) | Length (In.) | Magna Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Standard Bit Holder** | Magnetic | 1/4 | 2⅞ | 27690 | **6X983** | $8.12 | **$5.87** | **$5.68** | 0.1 |
| **One-Piece Bit Holder** | Nonmagnetic | 1/4 | 2⅛ | 38215 | **4F479** | 2.88 | **2.45** | **2.33** | 0.1 |
| **One-Piece Bit Holder** | Magnetic | 1/4 | 2⅛ | 40831 | **4F480** | 6.48 | **5.51** | **5.24** | 0.1 |
| **Quick-Change Bit Holder** | Magnetic | 1/4 | 2⅞ | 26790 | **4AHH0** | 8.12 | **6.90** | **6.56** | 0.1 |
| **Silicone Bronze Bit Holder** | Magnetic | 1/4 | 3 | 36310 | **6X984** | 7.90 | **6.72** | **6.38** | 0.1 |

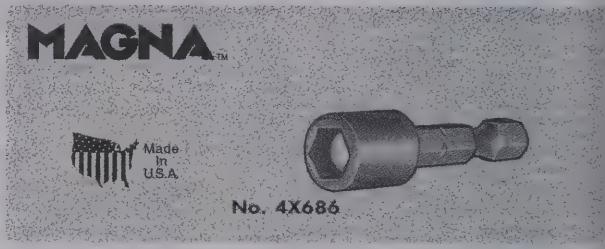
| Screwdriver Type | Point Size | Bit Length (In.) | Magna Model | Stock No. | List | Each / Lots | Each / Lots | Shpg. W |
|---|---|---|---|---|---|---|---|---|
| **Bit Holder*** | 1/4 Sq. Dr. | 1 15/16 | 31894 | **5F517** | $4.10 | **$3.49/5** | **$3.31/10** | 0.1 |
| **Bit Holder*** | 3/8 Sq. Dr. | 1 15/16 | 31895 | **5F518** | 4.58 | **3.89/5** | **3.70/10** | 0.1 |

(*) Bit holders are required for use of insert bits.

## MAGNETIC NUT SETTERS

1/4" hex shanks fit power screwdrivers and drills. Magnetic type hex head holds screws or nuts securely. Sockets and shanks made of a single piece of tool steel. In display package. Magna brand.

| Hex Head Size (In.) | Bit Length (In.) | Magna Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/4** | 1⅝ | 31450 | **4X686** | $2.88 | **$2.45** | **$2.33** | 0.1 |
| **1/4** | 2 9/16 | 37582 | **4AHH1** | 4.00 | **3.40** | **3.23** | 0.1 |
| **5/16** | 1⅝ | 31452 | **6X985** | 3.18 | **2.70** | **2.57** | 0.1 |
| **5/16** | 2 9/16 | 37583 | **4AHH2** | 4.72 | **4.01** | **3.81** | 0.1 |
| **3/8** | 1⅞ | 36165 | **6X986** | 3.58 | **3.04** | **2.89** | 0.1 |
| **3/8** | 2 9/16 | 37584 | **4AHH3** | 5.46 | **4.64** | **4.41** | 0.1 |




## BIT BANDOLIERS

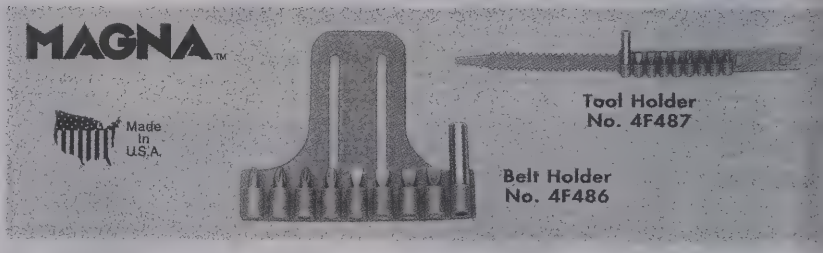
Both belt and tool holder include Phillips bits Nos. 1, 2, and 3, 6-8, 8-10, 10-12, and 12-14 slotted bits, and a 2⅛" magnetic bit holder.

**Belt Holder** attaches to belt.

**No. 4F486.** Magna brand (11162). Shpg. wt. 0.1 lbs. List $14.36. Each **$12.21**; Lots 10 **$11.60**; Lots 20 ..... **$10.99**

**Tool Holder** wraps around power or cordless screwdriver.

**No. 4F487.** Magna brand (11163). Shpg. wt. 0.2 lbs. List $14.36. Each **$12.21**; Lots 10 **$11.60**; Lots 20..... **$10.99**







## MULTI-BIT MAGNETIC SCREWDRIVERS

### LITTLE MAX MINIATURE MAGNETIC SCREWDRIVER

Mini screwdriver with five bits. Magna brand (41785).

**No. 4F483.** Shpg. wt. 0.1 lbs. List $7.48. Each ..... $6.36

### MAGNETIC SCREWDRIVER FOR HEX INSERT BITS

Drives all 1/4" hex shank insert bits or adapters, and doubles as 1/4" hex head screw and nutdriver. Can accept numerous styles of bits in addition to 4 bits included. Magnetic force holds insert bits securely in place, but allows bits to be easily changed. Also holds screws in place for easy starting and retrieving. Handy storage compartment in handle holds extra bits. Comes with 4 bits: #1 and #2 Phillips; 3-4 and 6-8 slotted. Magna brand (37937).

**No. 6X989.** Shpg. wt. 0.3 lbs. List $9.86. Each..... $8.38



Put America's power tool powerhouse to work for you today.

# ISO-TEMP™ SCREWDRIVER BITS

Modification & Service Available
Contact Your Local Branch

MAGNA™

Made In U.S.A.

Phillips Insert Bit



Slotted Insert Bit





Phillips Power Bit

**ISO-TEMP FEATURES**

Precision formed for secure fit



Greater flexibility to reduce breakage

Fracture-resistant tips increase life span

- For driving heat treated screws, such as sheet metal, self-tapping, and self-drilling screws
- Ideal for screwguns, cordless and electric drills
- Last up to 10 times longer than medium-hard bits and up to 6 times longer than industrial, extra-hard bits
- Tough, fracture-resistant tips
- Proprietary process gives improved flexibility to reduce breakage
- Precision formed for perfect screw fit; reduces cam out
- Made in U.S.A.
- Priced each. Sold only in pkgs. of 5

| Screwdriver Type | Point Size | Blade Width | Bit Length | Magna Model | Stock No. | List | Each* | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **PHILLIPS ISO-TEMP BITS** | | | | | | | | | |
| Phillips ACR® | No. 1 | — | 1" OAL | 45912 | **4AHH5** | $0.48 | **$0.41** | **$0.39** | 0.1 |
| Phillips ACR | No. 2 | — | 1 OAL | 45913 | **4AHH6** | 0.48 | **0.41** | **0.39** | 0.1 |
| Phillips ACR | No. 3 | — | 1 OAL | 45914 | **4AHH7** | 0.48 | **0.41** | **0.39** | 0.1 |
| Phillips ACR Power | No. 1 | — | 1 15/16 | 45326 | **4AHH8** | 0.98 | **0.83** | **0.79** | 0.1 |
| Phillips ACR Power | No. 2 | — | 1 15/16 | 45327 | **4AHH9** | 0.96 | **0.82** | **0.78** | 0.1 |
| Phillips ACR Power | No. 3 | — | 1 15/16 | 45328 | **4AHK0** | 0.98 | **0.83** | **0.79** | 0.1 |
| **SLOTTED ISO-TEMP BITS** | | | | | | | | | |
| Slotted Rib | No. 6F-8R | 0.250 | 1 | 45330 | **4AHK1** | 0.68 | **0.58** | **0.55** | 0.1 |
| Slotted Rib | No. 8F-10R | 0.281 | 1 | 45331 | **4AHK2** | 0.68 | **0.58** | **0.55** | 0.1 |
| Slotted Rib | No. 10F-12R | 0.281 | 1 | 45332 | **4AHK3** | 0.68 | **0.58** | **0.55** | 0.1 |
| Slotted Rib Power | No. 6F-8R | 0.250 | 1 5/16 | 45335 | **4AHK4** | 1.36 | **1.16** | **1.10** | 0.1 |
| Slotted Rib Power | No. 8F-10R | 0.281 | 1 5/16 | 45336 | **4AHK5** | 1.36 | **1.16** | **1.10** | 0.1 |
| Slotted Rib Power | No. 10F-12R | 0.281 | 1 5/16 | 45337 | **4AHK6** | 1.36 | **1.16** | **1.10** | 0.1 |

(*) Priced each. Sold only in packages of 5.

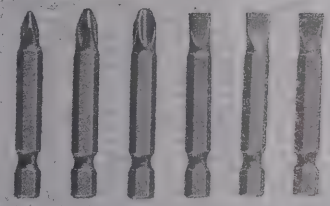
## 6-PC. ISO-TEMP POWER BIT SET

Phillips ACR® Ribs



MAGNA™

Made In U.S.A.



'or driving heat treated screws, such as sheet metal, self-tapping nd self-drilling screws, with screwguns and cordless or electric rills. Iso-Temp power bits have tough, fracture-resistant tips for ong life and improved flexibility to reduce breakage. Bits are recision formed for perfect screw fit, reducing cam out. Set ncludes Phillips bits Nos. 1, 2, and 3 with ACR® ribs and slotted its Nos. 6F-8R, 8F-10R, and 10F-12R.

**lo. 4AHK7.** Shpg. wt. 0.1 lbs. List.....$11.24.
Each.....$9.55

**CORDLESS DRILLS AND SCREWDRIVERS AVAILABLE, SEE INDEX FOR LISTINGS**

## ISO-TEMP INSERT BIT SETS



No. 4AHK8

MAGNA™

Made In U.S.A.



No. 4F484

For driving heat treated screws, such as sheet metal, self-tapping and self-drilling screws, with screwguns and cordless or electric drills. Iso-Temp insert bits have tough, fracture-resistant tips for long life and improved flexibility to reduce breakage. Bits are precision formed for perfect screw fit, reducing cam out.

### 7-PC. SPIN-A-BIT™ SET

Set includes Phillips ACR® bits Nos. 1, 2, and 3 and slotted bits Nos. 4F-6R, 6F-8R, and 8F-10R, plus a bit holder for use with power tools in a compact plastic case. Magna brand (42408).

**No. 4AHK8.** Shpg. wt. 0.1 lbs. List $9.84. Each.....**$8.36**

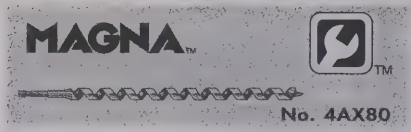
### 10-PC. DIAL-A-BIT™ SET

Set includes Phillips bits Nos. 1, 2, 3, and 2R, slotted bits Nos. 4F-6R, 6F-8R, 8F-10R, 10F-12R, and square recessed bit No. 2 plus a 1/4" bit holder (2 1/8 OAL). Lid dials to release individual bits. Magna brand (45900).

**No. 4F484.** Shpg. wt. 0.4 lbs. List $15.36. Each.....**$13.06**

# HEAVY-DUTY DRILL ACCESSORIES

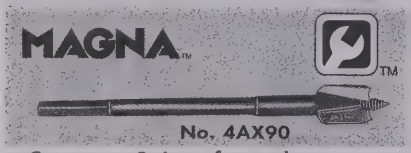
## HEAVY-DUTY POWER SHIP AUGER BITS




- Designed for deep boring work
- Well-suited for use where small nails or other foreign material may be present
- Features hollow center twist for fast, continuous chip flow
- Resharpenable single-cutter head
- Self-feeding screw-point with one cutting edge, and side lip for fast deep boring in wood

| Bit Diameter (In.) | Overall Length (In.) | Auger Length (In.) | Shank Diameter (In.) | Magna Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **9/16** | 17 | 12 | 7/16 Hex | 47022 | **4AX80** | $26.82 | **$21.46** | **$20.38** | 0.6 |
| **5/8** | 17 | 12 | 7/16 Hex | 47023 | **4AX81** | 26.92 | **21.54** | **20.46** | 0.7 |
| **3/4** | 17 | 12 | 7/16 Hex | 47025 | **4AX82** | 30.82 | **24.66** | **23.42** | 0.6 |
| **13/16** | 17 | 12 | 7/16 Hex | 47026 | **4AX83** | 32.28 | **25.85** | **24.53** | 1.1 |
| **7/8** | 17 | 12 | 7/16 Hex | 47027 | **4AX84** | 34.26 | **27.45** | **26.04** | 1.2 |
| **15/16** | 17 | 12 | 7/16 Hex | 47028 | **4AX85** | 35.18 | **28.15** | **26.74** | 1.3 |
| **1** | 17 | 12 | 7/16 Hex | 47029 | **4AX86** | 36.70 | **29.40** | **27.89** | 1.5 |
| **1 1/8** | 17 | 12 | 7/16 Hex | 47031 | **4AX87** | 43.74 | **35.00** | **33.24** | 1.8 |
| **1 1/4** | 17 | 12 | 7/16 Hex | 47033 | **4AX88** | 51.12 | **40.90** | **38.85** | 2.3 |
| **1 1/2** | 17 | 12 | 7/16 Hex | 47036 | **4AX89** | 60.22 | **48.20** | **45.77** | 2.8 |
| **5-Pc. 7 1/2" Auger Bit Set** includes sizes: 1/2, 5/8, 3/4, 7/8, & 1" bit diameters; fits 3/8" shank diameter drills | | | 7½ | 47000 | **4F439** | 74.79 | **59.85** | **56.84** | 2.0 |

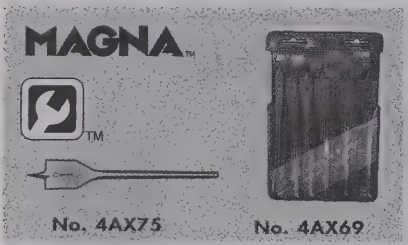
## WOOD EATER™ WOOD BORING BITS




- Cuts up to 3 times faster than a spade bit
- Special self-feed screw quickly draws bit through work; easier to use
- Precision sharpened for smooth, accurate holes
- Specially hardened and tempered for long life
- Rugged design stands up to constant heavy-duty use

| Bit Diameter (In.) | Overall Length (In.) | Shank Diameter (In.) | Magna Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/2** | 6 | 1/4 | 47430 | **4AX90** | $7.86 | **$6.29** | **$5.97** | 0.2 |
| **5/8** | 6 | 1/4 | 47431 | **4AX91** | 8.16 | **6.53** | **6.20** | 0.2 |
| **3/4** | 6 | 5/16 | 47432 | **4AX92** | 8.80 | **7.04** | **6.69** | 0.2 |
| **7/8** | 6 | 5/16 | 47433 | **4AX93** | 8.90 | **7.12** | **6.76** | 0.2 |
| **1** | 6 | 5/16 | 47434 | **4AX94** | 8.76 | **7.01** | **6.66** | 0.3 |
| **1 1/8** | 6 | 5/16 | 47435 | **4AX95** | 13.74 | **10.99** | **10.44** | 0.2 |
| **1 1/4** | 6 | 5/16 | 47436 | **4AX96** | 13.98 | **11.18** | **10.62** | 0.4 |
| **1 3/8** | 6 | 5/16 | 47437 | **4AX97** | 14.38 | **11.50** | **10.93** | 0.3 |
| **1 1/2** | 6 | 5/16 | 47438 | **4AX98** | 14.64 | **11.71** | **11.13** | 0.3 |
| **5-Pc. Wood Eater Bit Set** Includes sizes: 1/2, 5/8, 3/4, 7/8 & 1" | | | 47449 | **4AX99** | 43.36 | **34.70** | **32.95** | 0.7 |

## HEAVY-DUTY ULTRA BORE™ SPADE BITS

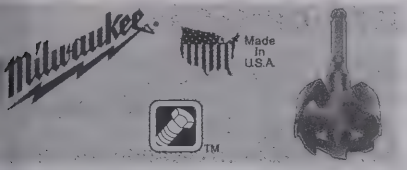



- Chisel-Edge™ design features greater angle to dig into wood
- Angled spurs cut a cleaner, smoother hole with less binding
- Manufactured tough for greater durability

| Bit Diameter (In.) | Overall Length (In.) | Shank Diameter (In.) | Magna Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/8** | 6 | 1/4 Hex | 43849 | **4AX70** | $2.64 | **$2.11** | **$2.01** | 0.1 |
| **1/2** | 6 | 1/4 Hex | 43851 | **4AX71** | 2.64 | **2.11** | **2.01** | 0.1 |
| **5/8** | 6 | 1/4 Hex | 43853 | **4AX72** | 2.90 | **2.32** | **2.20** | 0.1 |
| **3/4** | 6 | 1/4 Hex | 43855 | **4AX73** | 2.90 | **2.32** | **2.20** | 0.1 |
| **7/8** | 6 | 1/4 Hex | 43857 | **4AX74** | 3.08 | **2.46** | **2.34** | 0.1 |
| **1** | 6 | 1/4 Hex | 43759 | **4AX75** | 3.34 | **2.67** | **2.54** | 0.2 |
| **1 1/8** | 6 | 1/4 Hex | 43860 | **4AX76** | 4.80 | **3.84** | **3.65** | 0.2 |
| **1 1/4** | 6 | 1/4 Hex | 43861 | **4AX77** | 4.80 | **3.84** | **3.65** | 0.2 |
| **1 1/2** | 6 | 1/4 Hex | 43863 | **4AX78** | 4.80 | **3.84** | **3.65** | 0.2 |
| **6-Pc. Spade Bit Set** Includes sizes: 3/8, 1/2, 5/8, 3/4, 7/8 & 1" | | | 43845 | **4AX69** | 17.50 | **14.00** | **13.30** | 0.5 |
| **12" Spade Bit Extension** is heat treated for strength and hardness. For 1/4" shank bit heavy-duty spade bits | | | 43843 | **4AX79** | 5.74 | **4.59** | **4.36** | 0.4 |

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.




- Exclusive quick change self-feed bits cut faster and have improved balance with reduced runout
- Quick change shanks have flat surfaces for secure chuck grip
- Inside cutting plane shave hole radius for clean, smooth holes without pressure
- All sizes have removable and replaceable feed screws
- Coarse feed screw provides fast, effortless feeding even in gummy woods

## QUICK CHANGE SELF-FEED BITS

| Dia. (In.) | Recommended With Drill Models | Shank | For Std. Pipe Sizes (In.) | Milwaukee Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 | For 1/2" Pistol grip and larger drills | 7/16" Hex | 1/2 | 48-25-1001 | **2Q483** | $42.01 | **$34.05▲** | 0.4 |
| 1 1/8 | | 7/16" Hex | 3/4 | 48-25-1121 | **2Q484** | 42.01 | **34.05▲** | 0.4 |
| 1 1/4 | | 7/16" Hex | | 48-25-1251 | **2Q485** | 42.00 | **34.05▲** | 0.5 |
| 1 3/8 | For 1/2" D-handle drills and larger drills | 7/16" Hex | | 48-25-1371 | **2Q486** | 42.00 | **34.05▲** | 0.5 |
| 1 1/2 | | 7/16" Hex | 1 | 48-25-1501 | **2Q487** | 42.00 | **34.05▲** | 0.5 |
| 1 3/4 | | 7/16" Hex | 1 | 48-25-1751 | **2Q488** | 44.67 | **36.90▲** | 0.6 |
| 2 | | 7/16" Hex | 1 1/2 | 48-25-2001 | **2Q489** | 47.52 | **39.75▲** | 0.7 |
| 2 1/8 | | 7/16" Hex | | 48-25-2121 | **2Q490** | 48.52 | **40.65▲** | 0.8 |
| 2 1/4 | | 7/16" Hex | | 48-25-2251 | **2Q491** | 53.44 | **43.50▲** | 0.9 |
| 2 9/16 | | 7/16" Hex | 2 | 48-25-2561 | **2Q492** | 57.06 | **47.30▲** | 1.0 |
| 3 | For 1/2" D-handle drills and larger drills† | 3 Milled flats | 2 1/2* | 48-25-3001 | **2Q493** | 132.85 | **106.25▲** | 2.0 |
| 3 5/8 | | 3 Milled flats | 3* | 48-25-3621 | **1Y824** | 178.19 | **144.70▲** | 2.3 |
| 4 5/8 | | 3 Milled flats | 4* | 48-25-4621 | **2Q494** | 205.10 | **174.25▲** | 3.1 |
| **Replaceable Arbor** | | | | 48-07-0201 | **3A687** | 28.64 | **22.20▲** | 0.4 |
| **Self-feed Screw, Coarse** | | | | 48-28-6870 | **2Q509** | 1.50 | **1.13▲** | 0.1 |
| **Self-feed Screw, Regular for 3, 3 5/8, 4 5/8 Bits** | | | | 48-28-6880 | **1BV80** | 3.29 | **2.44▲** | 0.2 |

(*) Cast iron or copper pipe size. (▲) Net prices, not subject to discounts.

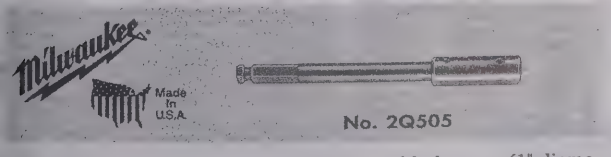
## PLUMBERS' AND CONTRACTORS' BIT KITS

| Description | Kit Includes | Milwaukee Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Plumbers' Bit Kit | Complete assortment of the most commonly used MILWAUKEE bits for big hole drilling. Sizes include 7/8", 1 1/8", 1 1/4", 1 1/2". Auger bits and famous MILWAUKEE selfeed bits in 1 3/4", 2 1/8", 2 9/16" diameters. Also 5 1/2" one piece—shank and coupling—extension and carrying case. | 49-22-0065 | **2Q513** | $368.07 | **$293.50▲** | 6.9 |
| Contractors' Bit Kit | Complete assortment of the most commonly used MILWAUKEE selfeed bits for big hole drilling. Sizes include 1", 1 1/8", 1 1/4", 1 1/2", 1 3/4", 2 1/8", 2 9/16" diameters. Also 5 1/2" one piece—shank and coupling—extension and carrying case. | 49-22-0130 | **2Q515** | 329.62 | **270.00▲** | 6.6 |
| I Bit Contractors' Bit Kit | Assortment of MILWAUKEE selfeed bits for big hole drilling. Sizes include 1 3/8", 1 1/2", 2 1/8", 2 9/16" diameters. Also 5 1/2" one piece—shank and coupling—extension and carrying case. | 49-22-0135 | **2Y775** | 205.00 | **172.25▲** | 5.3 |

▲) Net prices, not subject to discounts.



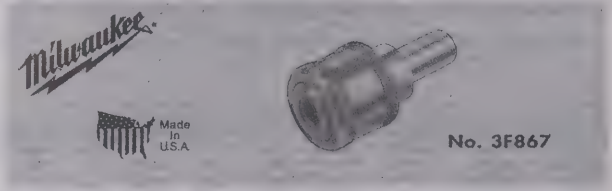

## 7/16" HEX SHANK EXTENSION AND QUICK CHANGE CHUCK




Extension is for selfeed bits, auger bits and hole saws (1" diameter and larger) with 7/16" hex shank.

| Length (In.) | Milwaukee Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 5 1/2 | 48-28-4001 | **2Q505** | $23.27 | **$17.15▲** | 0.6 |
| 12 | 48-28-4006 | **2Q506** | 24.65 | **18.19▲** | 0.9 |
| 18 | 48-28-4011 | **2Q507** | 23.40 | **17.42▲** | 1.2 |
| 24 | 48-28-4016 | **2Q508** | 24.65 | **18.36▲** | 1.5 |

▲) Net prices, not subject to discounts.




Converts your 3 jaw chuck into a quick change chuck. Allows rapid, keyless insertion and removal of 7/16" hex drive accessories.

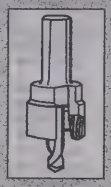
**No. 3F867.** Quick Change Chuck. Shpg. wt. 0.2 lbs. List .....$41.27. Each .....**$30.75▲**

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# CARBIDE HOLE CUTTERS AND STEP DRILLS

## CARBIDE HOLE CUTTERS

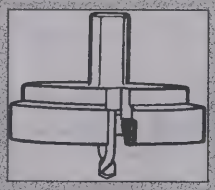


3/4" Hole Cutter

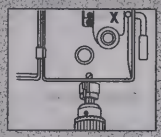
Unibit



Clean large holes cut with little effort



2⅜" Hole Cutter



Quickly cuts perfectly round KOs

Cleanly cuts stainless and mild steel, plus copper, brass, aluminum, fiberglass, and laminates. Designed specifically for hand-held drill operation. Carbide insert withstands heat and resists wear.

- Single cutting edge for smooth, chatter-free use
- Carbide insert for lasting cutting power
- Three-sided shank for more secure chuck hold
- Cone-shaped slug naturally pops out for ease of removal
- Dual-ended 135° pilot bit for quick, sure starts
- Maximum cutting thickness of 1/8" or 10-gauge

### ORDERING DATA

| Hole Size (In.) | Shank Size (In.) | Knock Out Size | Unibit Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/4 | 3/8 | — | 329 | 4F396 | $39.46 | $27.65 | $24.89 | 0.1 |
| 13/16 | 3/8 | — | 331 | 4F397 | 40.49 | 28.40 | 25.56 | 0.2 |
| 7/8 | 3/8 | 1/2" | 332 | 6A923 | 41.58 | 29.15 | 26.24 | 0.2 |
| 1 | 3/8 | — | 335 | 4F398 | 43.69 | 30.60 | 27.54 | 0.2 |
| 1 1/16 | 3/8 | — | 337 | 4F399 | 46.26 | 32.40 | 29.16 | 0.1 |
| 1 1/8 | 1/2 | 3/4 | 338 | 4F400 | 54.90 | 38.45 | 34.61 | 0.2 |
| 1 7/32 | 1/2 | Oil Tight | 340 | 4F401 | 57.03 | 39.95 | 35.96 | 0.2 |
| 1 1/4 | 1/2 | — | 341 | 4F402 | 59.12 | 41.45 | 37.31 | 0.2 |
| 1 5/16 | 1/2 | — | 342 | 4F403 | 60.23 | 42.20 | 37.98 | 0.2 |
| 1 3/8 | 1/2 | 1 | 344 | 4F404 | 61.23 | 42.90 | 38.61 | 0.3 |
| 1 7/16 | 1/2 | — | 346 | 4F405 | 62.62 | 43.90 | 39.51 | 0.5 |
| 1 1/2 | 1/2 | — | 347 | 4F406 | 63.35 | 44.40 | 39.96 | 0.5 |
| 1 3/4 | 1/2 | 1 1/4 | 353 | 4F407 | 65.44 | 45.85 | 41.27 | 0.5 |
| 2 | 1/2 | 1 1/2 | 359 | 4F408 | 67.53 | 47.30 | 42.57 | 0.5 |
| 2 1/8 | 1/2 | Locksmith | 362 | 4F409 | 69.67 | 48.85 | 43.97 | 0.5 |
| 2 3/8 | 1/2 | 2 | 368 | 4F410 | 71.76 | 50.30 | 45.27 | 0.5 |

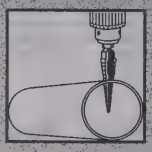
## STEP DRILLS

Modification & Service Available
Contact Your Local Branch

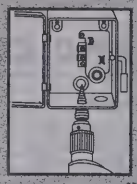
Unibit



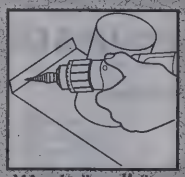
3-Piece Set No. 4A954
Includes one each of
Nos. 4A946, 4A948, & 4A949



Sure starts even on curved surfaces



Large or small knockouts in seconds



Won't "walk" or "skid" like twist drill bits



13-Hole Step Drill
No. 4A946



8-Hole Enlarging Bit
No. 4A947



Self-starting Single Hole
Nos. 4A950-4A952

- Step drills create perfectly round holes without changing bits
- Nonskid tip eliminates need for center punching
- Laser marked with hole dimensions on the bit to assure accuracy
- Easy hole sizing—see and feel as each step penetrates material
- Hole deburred by cutting edge of next larger step
- Easy to resharpen

### SPECIFICATIONS

| Stock No. | No. of Hole Sizes | Sizes |
|---|---|---|
| 4A954 | Set of 3 Step Drills | Includes one each of Step Drills Nos. 4A946, 4A949, and 4A948. Note sizes for these drills below. |
| 4A946 | 13 | 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, & 1/2" |
| 4A949 | 6 | 3/16, 1/4, 5/16, 3/8, 7/16, & 1/2" |
| 4A948 | 9 | 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, & 3/4" |
| 6A922 | 12 | 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, & 7/8" |
| 4A950 | 1 | 1/2" |
| 4A951 | 1 | 7/8" |
| 4A952 | 1 | 1 1/8" |
| 4A947 | 8 | 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, & 1" |

### ORDERING DATA

| Number of Hole Sizes | Shank Size (In.) | Step Thick-ness (In.) | Cross Vari-Bit | Reference Klein | Unibit Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Set | — | — | None | None | 502 | 4A954 | $77.02 | $53.70 | $48.33 | 0.3 |
| 13 | 1/4 | 1/8 | VB-1 | 1-59001 | 1 | 4A946 | 20.25 | 14.10 | 12.69 | 0.1 |
| 6 | 1/4 | 3/8 | VB-4 | 5-59005 | 2 | 4A949 | 20.25 | 14.10 | 12.69 | 0.1 |
| 9 | 3/8 | 1/8 | VB-3 | 3-59003 | 3 | 4A948 | 36.51 | 25.45 | 22.91 | 0.2 |
| 12 | 3/8 | 1/8 | None | None | 4 | 6A922 | 43.61 | 30.40 | 27.36 | 0.2 |
| 1 | 1/4 | — | VB-6 | 7-59007 | 10 | 4A950 | 20.04 | 13.95 | 12.55 | 0.1 |
| 1 | 3/8 | — | VB-7 | 8-59008 | 11 | 4A951 | 41.32 | 28.80 | 25.92 | 0.2 |
| 1 | 1/2 | — | VB-11 | 11-590011 | 13 | 4A952 | 54.39 | 38.70 | 34.83 | 0.4 |
| 8 | 1/2 | 1/8 | VB-2 | 2-59002 | 20 | 4A947 | 41.75 | 29.10 | 26.19 | 0.2 |

## BI-METAL HOLE SAWS

Starrett FASTCUT™ bi-metal hole saws are constructed of hardened, heat and abrasion resisting high speed steel teeth with a rough alloy body and cap. This gives them exceptional strength, durability and shatter-resistance for user safety. They will cut any wood, metal and plastic. Variable pitch teeth 4-6 in a modified set allow fast cutting action on a wide selection of materials and thicknesses. Provides smooth finishes and reduced noise levels. Maximum cutting depth is 1½". Furnished with RPM recommendations. Starrett brand.



No. 4L505

Starrett

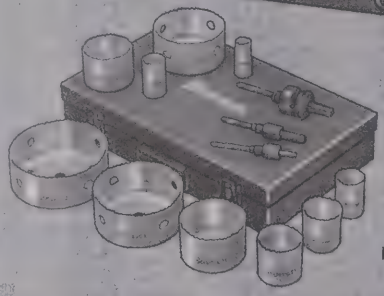
Made In U.S.A.



No. 4L566



No. 4L567



No. 4L568

### BI-METAL HOLE SAWS

| Saw Diameter (In.) | Use Starrett Arbor No. | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 9/16 | A1, A4, A11 | H0096 | 4L478 | $8.87 | 0.1 |
| 5/8 | A1, A4, A11 | H0058 | 4L479 | 7.16 | 0.1 |
| 11/16 | A1, A4, A11 | H1016 | 4L481 | 7.19 | 0.1 |
| 3/4 | A1, A4, A11 | H0034 | 4L482 | 7.16 | 0.1 |
| 13/16 | A1, A4, A11 | H1036 | 4L483 | 7.16 | 0.1 |
| 7/8 | A1, A4, A11 | H0078 | 4L484 | 7.16 | 0.1 |
| 15/16 | A1, A4, A11 | H1056 | 4L485 | 7.16 | 0.1 |
| 1 | A1, A4, A11 | H0100 | 4L486 | 7.52 | 0.1 |
| 1 1/16 | A1, A4, A11 | H0116 | 4L487 | 7.52 | 0.1 |
| 1 1/8 | A1, A4, A11 | H0118 | 4L488 | 7.52 | 0.1 |
| 1 3/16 | A1, A4, A11 | H0136 | 4L489 | 7.52 | 0.2 |
| 1 1/4 | A2, A10 | H0114 | 4L491 | 7.52 | 0.2 |
| 1 5/16 | A2, A10 | H0156 | 4L492 | 7.52 | 0.2 |
| 1 3/8 | A2, A10 | H0128 | 4L493 | 7.90 | 0.2 |
| 1 7/16 | A2, A10 | H0176 | 4L494 | 7.90 | 0.2 |
| 1 1/2 | A2, A10 | H0112 | 4L495 | 7.90 | 0.2 |
| 1 9/16 | A2, A10 | H0196 | 4L496 | 7.90 | 0.2 |
| 1 5/8 | A2, A10 | H0158 | 4L497 | 7.90 | 0.2 |
| 1 11/16 | A2, A10 | H1116 | 4L498 | 7.90 | 0.2 |
| 1 3/4 | A2, A10 | H0134 | 4L499 | 9.97 | 0.2 |
| 1 13/16 | A2, A10 | H1136 | 4L501 | 9.97 | 0.2 |
| 1 7/8 | A2, A10 | H0178 | 4L502 | 9.97 | 0.3 |
| 2 | A2, A10 | H0200 | 4L503 | 9.97 | 0.3 |
| 2 1/16 | A2, A10 | H0216 | 4L504 | 12.18 | 0.3 |
| 2 1/8 | A2, A10 | H0218 | 4L505 | 12.18 | 0.3 |
| 2 1/4 | A2, A10 | H0214 | 4L506 | 12.18 | 0.3 |
| 2 5/16 | A2, A10 | H0256 | 4L507 | 12.18 | 0.4 |
| 2 3/8 | A2, A10 | H0238 | 4L508 | 12.18 | 0.4 |
| 2 1/2 | A2, A10 | H0212 | 4L509 | 13.27 | 0.4 |
| 2 9/16 | A2, A10 | H0296 | 4L511 | 13.27 | 0.4 |
| 2 5/8 | A2, A10 | H0258 | 4L512 | 13.27 | 0.5 |
| 2 3/4 | A2, A10 | H0234 | 4L513 | 13.27 | 0.5 |
| 2 7/8 | A2, A10 | H0278 | 4L514 | 13.27 | 0.5 |
| 3 | A2, A10 | H0300 | 4L515 | 13.69 | 0.6 |
| 3 1/8 | A2, A10 | H0318 | 4L516 | 13.69 | 0.6 |
| 3 1/4 | A2, A10 | H0314 | 4L517 | 13.69 | 0.7 |
| 3 3/8 | A2, A10 | H0338 | 4L518 | 13.69 | 0.7 |
| 3 1/2 | A2, A10 | H0312 | 4L519 | 13.69 | 0.7 |
| 3 5/8 | A2, A10 | H0358 | 4L521 | 15.77 | 0.8 |
| 3 3/4 | A2, A10 | H0334 | 4L522 | 18.67 | 0.8 |
| 3 7/8 | A2, A10 | H0378 | 4L523 | 19.79 | 0.9 |
| 4 | A2, A10 | H0400 | 4L524 | 20.83 | 1.0 |
| 4 1/8 | A2, A10 | H0418 | 4L525 | 22.42 | 1.0 |
| 4 1/4 | A2, A10 | H0414 | 4L526 | 29.15 | 1.0 |
| 4 3/8 | A2, A10 | H0438 | 4L527 | 35.25 | 1.1 |
| 4 1/2 | A2, A10 | H0412 | 4L528 | 40.55 | 1.1 |
| 4 3/4 | A2, A10 | H0434 | 4L529 | 45.50 | 1.2 |
| 5 | A2, A10 | H0500 | 4L531 | 50.00 | 1.4 |
| 5 1/2 | A2, A10 | H0512 | 4L532 | 59.55 | 2.0 |
| 6 | A2, A10 | H0600 | 4L533 | 69.65 | 1.9 |

### BI-METAL HOLE SAW KITS

| Description | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Electrician's/Plumber's Kit—3/4, 7/8, 1 1/4, 1 3/4, 1 1/2, 1 3/4, 2, 2 1/4, & 2 1/2", Starrett Arbors A2 and A4, Starrett Arbor Extension A5 | K290 | 4L544 | $143.15 | 6.7 |
| Industrial Kit—3/4, 7/8, 1, 1 1/4, 1 3/8, 1 1/2, 1 3/4, 2, 2 1/4, 2 1/2, & 3", Starrett Arbors A2 and A4, Starrett Arbor Extensions A5, A7 | K291 | 4L545 | 166.50 | 7.2 |
| Lockset Kit—7/8, 1, 1 1/4, 1 1/2, 1 3/4, & 2 1/8", Starrett Arbors A1, A10 | K292 | 4L554 | 100.00 | 3.5 |
| Automotive Kit—3/4, 7/8, 1, 1 1/8, & 1 1/4", Starrett Arbor A1, Starrett Adapter A12 | K1090 | 4L565 | 74.05 | 2.6 |
| Plumbing Kit—3/4, 7/8, 1 1/8, 1 1/2, 1 3/4, & 2 1/4", Starrett Arbors A2, A4, Starrett Adapter A12 | K1091 | 4L564 | 99.45 | 3.4 |
| Utility Kit—3/4, 7/8, 1 1/8, 1 1/2, 1 3/4, & 2 1/2", Starrett Arbors A11, A2, Starrett Adapter A12 | K1092 | 4L566 | 102.80 | 3.6 |
| Electrical Kit—7/8, 1 1/8, 1 3/8, 1 3/4, 2, & 2 1/2", Starrett Arbors A11, A2, Starrett Adapter A12 | K1094 | 4L567 | 105.70 | 3.8 |
| Deluxe Electrician's Kit—7/8, 1 1/8, 1 3/8, 1 3/4, 2, 2 1/2, 3, 3 3/8, 4 1/8, & 4 3/4", Starrett Arbors A11, A2, A4 | K1095 | 4L568 | 212.75 | 8.5 |
| Door Lock Installation Kit—2 & 2 1/8", Starrett Arbor A1, Starrett Adapter A12 | K288 | 4L569 | 20.78 | 0.6 |

VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# HOLE SAWS AND KITS

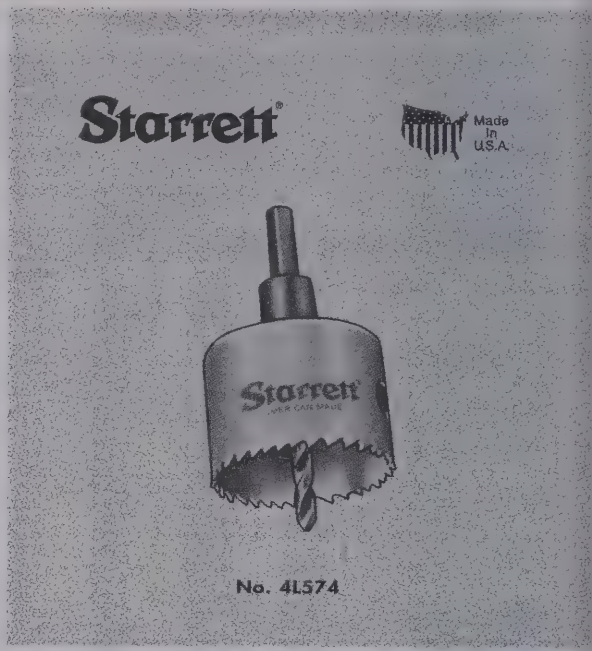
## ARBORED BI-METAL HOLE SAWS

The convenient hole saw solution—saw, arbor and 1/4" high speed steel pilot drill are offered as one complete product. All solid shank arbors fit a standard 3/8" chuck. Saws up to the 3⅞" size can be replaced when worn. (From 4" to 6", arbors are welded to the saws). The cutting edge is bi-metal high speed steel with variable pitch teeth so that a wider range of materials can be cut with one saw. Cuts wood, metal, plastic. For general purpose industrial use, construction and do-it-yourself. Starrett brand.

### ARBORED BI-METAL HOLE SAWS

| Saw Diameter (In.) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 9/16 | KAVH0096 | 4L584 | $12.89 | 0.3 |
| 5/8 | KAVH0058 | 4L585 | 10.20 | 0.3 |
| 11/16 | KAVH1016 | 4L586 | 10.20 | 0.4 |
| 3/4 | KAVH0034 | 4L587 | 10.20 | 0.3 |
| 13/16 | KAVH1036 | 4L588 | 10.20 | 0.3 |
| 7/8 | KAVH0078 | 4L589 | 10.20 | 0.3 |
| 15/16 | KAVH1056 | 4L591 | 10.20 | 0.3 |
| 1 | KAVH0100 | 4L592 | 10.60 | 0.3 |
| 1 1/16 | KAVH0116 | 4L593 | 10.60 | 0.4 |
| 1 1/8 | KAVH0118 | 4L594 | 10.60 | 0.4 |
| 1 3/16 | KAVH0136 | 4L595 | 10.60 | 0.4 |
| 1 1/4 | KAVH0114 | 4L596 | 10.70 | 0.4 |
| 1 5/16 | KAVH0156 | 4L597 | 10.70 | 0.4 |
| 1 3/8 | KAVH0138 | 4L598 | 10.70 | 0.4 |
| 1 7/16 | KAVH0176 | 4L599 | 11.32 | 0.4 |
| 1 1/2 | KAVH0112 | 4L601 | 11.32 | 0.4 |
| 1 9/16 | KAVH0196 | 4L602 | 11.32 | 0.4 |
| 1 5/8 | KAVH0158 | 4L603 | 11.32 | 0.5 |
| 1 11/16 | KAVH1116 | 4L604 | 11.32 | 0.4 |
| 1 3/4 | KAVH0134 | 4L605 | 13.45 | 0.5 |
| 1 13/16 | KAVH1136 | 4L606 | 13.45 | 0.5 |
| 1 7/8 | KAVH0178 | 4L607 | 13.45 | 0.5 |
| 2 | KAVH0200 | 4L608 | 13.45 | 0.5 |
| 2 1/16 | KAVH0216 | 4L609 | 13.45 | 0.5 |
| 2 1/8 | KAVH0218 | 4L611 | 16.19 | 0.5 |
| 2 1/4 | KAVH0214 | 4L612 | 16.19 | 0.6 |
| 2 5/16 | KAVH0256 | 4L613 | 16.19 | 0.6 |
| 2 3/8 | KAVH0238 | 4L614 | 16.19 | 0.6 |
| 2 1/2 | KAVH0212 | 4L615 | 17.21 | 0.6 |
| 2 9/16 | KAVH0296 | 4L616 | 17.21 | 0.6 |
| 2 5/8 | KAVH0258 | 4L617 | 17.21 | 0.7 |
| 2 3/4 | KAVH0234 | 4L618 | 17.21 | 0.8 |
| 2 7/8 | KAVH0278 | 4L619 | 17.21 | 0.7 |
| 3 | KAVH0300 | 4L621 | 17.67 | 0.7 |
| 3 1/8 | KAVH0318 | 4L622 | 17.67 | 0.8 |
| 3 1/4 | KAVH0314 | 4L623 | 17.67 | 0.8 |
| 3 3/8 | KAVH0338 | 4L624 | 17.67 | 0.9 |
| 3 1/2 | KAVH0312 | 4L625 | 17.67 | 1.0 |
| 3 5/8 | AVH0358 | 4L571 | 22.77 | 1.0 |
| 3 3/4 | AVH0334 | 4L572 | 26.50 | 1.1 |
| 3 7/8 | AVH0378 | 4L573 | 27.80 | 1.2 |
| 4 | AVH0400 | 4L574 | 28.95 | 1.2 |
| 4 1/8 | AVH0418 | 4L575 | 31.50 | 1.3 |
| 4 1/4 | AVH0414 | 4L576 | 40.50 | 1.3 |
| 4 3/8 | AVH0438 | 4L577 | 41.60 | 1.4 |
| 4 1/2 | AVH0412 | 4L578 | 48.10 | 1.4 |
| 4 3/4 | AVH0434 | 4L579 | 53.25 | 1.5 |
| 5 | AVH0500 | 4L581 | 58.95 | 1.7 |
| 5 1/2 | AVH0512 | 4L582 | 70.00 | 2.0 |
| 6 | AVH0600 | 4L583 | 81.80 | 2.2 |

**NOTE:** 9/16 – 3 1/2" blades visually packaged. 3⅝ – 6" blades packed in box.




## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

### ARBORED HOLE SAW KITS

| Description | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Mechanic's Kit—7/8, 1, 1⅛, 1¼, & 1½" (5-pieces,each a complete hole saw with arbor and pilot drill)** | KA1096 | 4L626 | $87.30 | 3.5 |
| **Maintenance Kit—3/4, 7/8, 1⅛, 1⅜, 1½, 1¾, 2, 2¼, & 2½"** | KA1097 | 4L627 | 162.75 | 6.3 |

## YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# CARBIDE TIPPED HOLE SAWS

ole saws have triple-chip-ground, carbide-tipped teeth that are ideal for more difficult o cut materials like fiberglass, cast iron, ceramic tile, formica, fiberboard, and more.

**High hardness teeth with precision ground angles and clearances allow smooth, concentric cuts and longer saw life on abrasive materials**

**Teeth are welded to a high alloy steel backing material, and feature a positive rake, 3 teeth per inch set, for faster cutting with greater wear and heat resistance than high speed steel edges**

**1⅝" cutting depth clears thick work easily**

Starrett



No. 4L638

## CARBIDE TIPPED HOLE SAW KIT

onvenient selection of 9 saws and 4 accompanying arbors with carbide tipped pilot rills.

### CARBIDE TIPPED HOLE SAWS

| Saw Diameter (In.) | Use Starrett Arbor No. | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | XA1, XA4, XA11 | CT034 | 4L628 | $12.56 | 0.1 |
| 7/8 | XA1, XA4, XA11 | CT078 | 4L629 | 13.23 | 0.1 |
| 1 | XA1, XA4, XA11 | CT100 | 4L631 | 14.63 | 0.1 |
| 1 1/8 | XA1, XA4, XA11 | CT118 | 4L632 | 15.20 | 0.2 |
| 1 3/8 | XA2, XA10 | CT138 | 4L633 | 17.52 | 0.2 |
| 1 1/2 | XA2, XA10 | CT112 | 4L634 | 18.34 | 0.2 |
| 2 1/8 | XA2, XA10 | CT218 | 4L635 | 22.92 | 0.3 |
| 2 1/4 | XA2, XA10 | CT214 | 4L636 | 25.45 | 0.4 |
| 2 1/2 | XA2, XA10 | CT212 | 4L637 | 27.20 | 0.4 |

### CARBIDE TIPPED HOLE SAW KIT

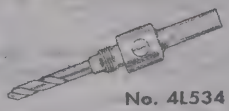
| Description | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| laintenance Kit – saw sizes 3/4", 7/8", 1 1/8", 1 3/8", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2"; tarrett arbors XA2, XA4, XA11; Starrett arbor extension A5. | KCT1098 | 4L638 | $221.75 | 6.7 |

# BI-METAL HOLE SAW ACCESSORIES

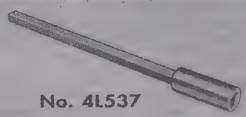
## HOLE SAW ARBORS

ive models, each with 1/4" pilot drill. Set crew in body allows easy replacement of ilot drill. "Quick Hitch" arbors permit istant change of hole saws without tools nd without removing arbor from chuck. los. 4L534 and 4L536 supplied with flats o fit 5/8" wrench. Starrett brand.

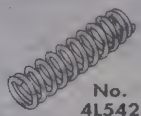
Starrett



No. 4L534



No. 4L537



No. 4L542

Modification & Service Available
Contact Your Local Branch

### HOLE SAW ARBORS

| Fits Hole Saw Diameters (In.) | Chuck Size (In.) | Shank Size (In.) | Fits Morse Taper Adapter | With Drill Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 9/16 – 1 3/16 | 3/8 | 11/32 hex | MA05, MA06 | High Speed Steel | A1 | 4L534 | $9.36 | 0.2 |
| 1 1/4 – 6 | 1/2 | 7/16 hex | MA02, MA03 | High Speed Steel | A2 | 4L535 * | 14.29 | 0.5 |
| 9/16 – 1 3/16 | 1/4 | 1/4 round | — | High Speed Steel | A4 | 4L536 | 6.33 | 0.1 |
| 1 1/4 – 6 | 3/8 | 11/32 hex | MA05, MA06 | High Speed Steel | A10 | 4L546 * | 13.87 | 0.5 |

*) Quick Hitch.

| Description | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **12" HOLE SAW ARBOR EXTENSIONS** | | | | |
| /2" chuck for arbor Nos. 4L535 & 4L553 | A5 | 4L537 | $9.97 | 0.8 |
| /8" chuck for arbor Nos. 4L534 & 4L546 | A15 | 4L549 | 10.34 | 0.7 |
| **HOLE SAW PILOT DRILLS** | | | | |
| /4" dia., high speed steel. Fits all arbors except No. 4L536 | A014C | 4L547 | 3.20 | 0.1 |
| /4" dia., carbide tipped. Fits all arbors except No. 4L536. Use with carbide tipped and diamond saws | XA014C | 4L548 | 7.65 | 0.1 |
| /4" dia., high speed steel. Fits arbor No. 4L536 | A014D | 4L538 | 3.20 | 0.1 |
| /4" dia., carbide tipped. Fits arbor No. 4L536. Use with carbide tipped and diamond saws | XA014D | 4L543 | 7.65 | 0.1 |
| **HOLE SAW ARBOR ADAPTER** | | | | |
| its arbor Nos. 4L534, 4L536, & 4L553 allowing use of saws up to 6" in size | A12 | 4L563 | 2.82 | 0.1 |
| **HOLE SAW EJECTOR SPRING** | | | | |
| its over pilot drill. Pushes core out of hole saw after cut | A7 | 4L542 | 1.61 | 0.1 |

# POWDER ACTUATED TOOLS

**Powder Actuated Tools** are designed for quick, secure fastening into concrete, steel and masonry with power loads and fasteners. These versatile tools are used in a wide variety of applications, such as with two-by-fours, electrical junction boxes, shelf brackets, gutters, shutters, and other mechanical work. See fasteners on next page.

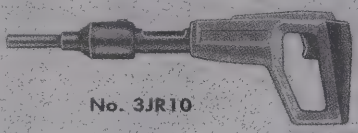
## LIGHT-DUTY

REMINGTON



No. 3JR08

Replacement Parts Available
1-800-323-0620™



No. 3JR10

### POWER HAMMER®
### No. 3JR08

- Hammer actuated operation
- Sets 1/2" to 2½" fasteners
- Uses 22 caliber loads

**No. 3JR08.** Remington brand (476). Shpg. wt. 2.4 lbs. Each ..... $21.79▲

### POWER DRIVER™
### No. 3JR10

- Trigger activated operation
- Sets 1/2" to 2½" fasteners,
- Uses 22 caliber loads
- Replaceable barrel minimizes down time

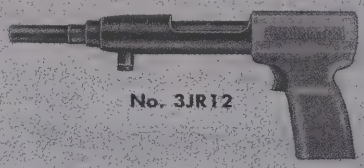
**No. 3JR10.** Remington brand (490). Shpg. wt. 6.1 lbs. Each ..... $73.00▲

(▲) Net prices, not subject to discounts.

REMINGTON FASTENING PINS AND POWER LOADS ON NEXT PAGE

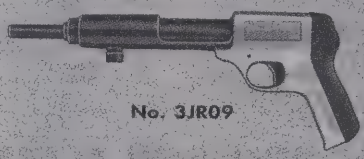
## SINGLE-SHOT TRADESMEN

REMINGTON



No. 3JR12

Replacement Parts Available
1-800-323-0620™



No. 3JR09

### POWER PRO™
### No. 3JR12

- Heavy-duty, high impact metal construction with molded plastic handle
- Sets up to 2½" fasteners
- Uses 22 caliber loads
- Lockable carry case kit includes spall shield, goggles, 2 spare buffers, 1 hex wrench and operation manual

**No. 3JR12.** Remington brand (494). Shpg. wt. 5.8 lbs. Each ..... $129.00▲

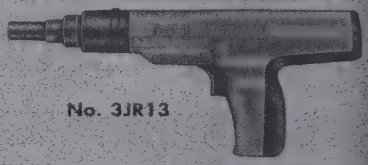
### MULTI DRIVER™
### No. 3JR09

- Rugged, all-metal construction
- Sets 1/2" to 2¹/₂" fasteners
- Uses 22 caliber loads
- Large breech opening for fast loading
- Small muzzle cap allows use in confined areas
- Lockable carry case kit includes spall shield, goggles, 2 cleaning brushes, 2 Allen wrenches, 3 spare buffers and operation manual

**No. 3JR09.** Remington brand (482). Shpg. wt. 8.2 lbs. Each ..... $173.00▲

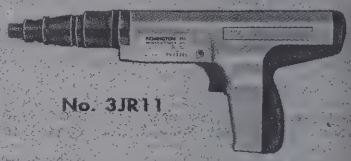
## SEMI-AUTOMATIC PROFESSIONAL

REMINGTON



No. 3JR13

Replacement Parts Available
1-800-323-0620™



No. 3JR11

No. 3JR13 can use 3" fasteners with optional guide Remington part No. TA4095

### SEMI-AUTOMATIC POWER PRO™
### No. 3JR13

- Heavy-duty metal construction with molded plastic handle and rubber recoil pad for comfort
- Sets 1/2" to 2¹/₂" fasteners
- Uses 10-shot 27 caliber strip loads
- Lockable carry case kit includes spall shield, goggles, 1 cleaning brush, 2 spare buffers, 1 hex wrench and operation manual

**No. 3JR13.** Remington brand (496). Shpg. wt. 11.0 lbs. Each ..... $199.00▲

### SEMI-AUTOMATIC No. 3JR11

- Rugged, all-metal construction with rubber recoil pad for comfort
- Sets 1/2" to 3" fasteners
- Uses 10-shot 27 caliber strip loads
- Fast cycling, up to 8 fastens per minute
- Lockable carry case kit

**No. 3JR11.** Remington brand (493). Shpg. wt. 10.0 lbs. Each ..... $280.00▲



Put America's power tool powerhouse to work for you today.

# FASTENING PINS AND POWER LOADS FOR REMINGTON POWDER ACTUATED TOOLS

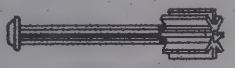
## REMINGTON



SP FASTENERS



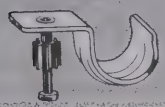
SPW FASTENERS



RDN FASTENERS



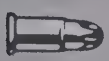
THREADED STUDS



CONDUIT CLIPS



KNURLED POWER FASTENER (No. 3JR23)



POWER LOADS

## FASTENING PINS SPECIFICATIONS AND ORDERING DATA

### .300 HEADED/.144 SHANK DIA.—SP Series

| Length (In.) | Package Quantity | Remington Model | Stock No. | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 | 100 | KP50 | 3JR23‡ | $3.91▲ | 0.9 |
| 1/2 | 100 | SP50 | 3JR46 | 3.76▲ | 0.5 |
| 3/4 | 100 | SP75 | 3JR47 | 3.98▲ | 0.6 |
| 1 | 100 | SP100 | 3JR37 | 4.49▲ | 0.6 |
| 1 | 25 | SP100B | 3JR38 | 3.10▲ | 0.2 |
| 1 1/4 | 100 | SP125 | 3JR39 | 5.20▲ | 0.8 |
| 1 1/2 | 100 | SP150 | 3JR40 | 5.40▲ | 0.9 |
| 1 1/2 | 25 | SP150B | 3JR41 | 3.10▲ | 0.4 |
| 2 | 100 | SP200 | 3JR42 | 7.17▲ | 1.2 |
| 2 1/2 | 100 | SP250 | 3JR43 | 7.97▲ | 1.4 |
| 2 1/2 | 25 | SP250B | 3JR44 | 3.10▲ | 0.4 |
| 3 | 100 | SP300 | 3JR45* | 9.19▲ | 1.7 |

### .300 HEADED/.144 SHANK DIA.— WITH 1" DIAMETER WASHER SPW Series

| | | | | | |
|---|---|---|---|---|---|
| 1 1/4 | 100 | SPW125 | 3JR48 | 10.78▲ | 2.1 |
| 1 1/2 | 100 | SPW150 | 3JR49 | 10.98▲ | 2.4 |
| 2 | 100 | SPW200 | 3JR50 | 11.19▲ | 2.5 |
| 2 1/2 | 100 | SPW250 | 3JR51 | 11.39▲ | 2.7 |
| 3 | 100 | SPW300 | 3JR52* | 11.69▲ | 2.9 |

### 8mm HEADED/.144 SHANK DIA.—RDN Series†

| | | | | | |
|---|---|---|---|---|---|
| 1 1/16 | 100 | RDN27 | 3JR25 | 4.99▲ | 0.7 |
| 1 1/4 | 100 | RDN32 | 3JR26 | 5.70▲ | 0.8 |
| 1 15/32 | 100 | RDN37 | 3JR27 | 5.99▲ | 0.9 |
| 2 1/16 | 100 | RDN52 | 3JR28 | 6.99▲ | 1.0 |
| 2 7/16 | 100 | RDN62 | 3JR29 | 7.99▲ | 1.2 |
| 2 13/16 | 100 | RDN72 | 3JR30 | 9.99▲ | 1.5 |

### 1/4-20 x 1/2" THREADED STUDS—MTC Series

| | | | | | |
|---|---|---|---|---|---|
| 1/2 | 100 | 100765 | 3JR06 | 16.50▲ | 0.9 |
| 1/2 | 25 | 100761 | 3JR02 | 5.99▲ | 0.3 |
| 1 | 100 | 100766 | 3JR07 | 12.50▲ | 1.0 |
| 1 | 25 | 100760 | 3JR01 | 5.99▲ | 0.4 |

### CONDUIT CLIPS—ATW Series

| | | | | | |
|---|---|---|---|---|---|
| 1/2 | 100 | 100762 | 3JR03 | 15.30▲ | 4.5 |
| 1/2 | 15 | 100758 | 3JP98 | 4.50▲ | 0.6 |
| 3/4 | 50 | 100763 | 3JR04 | 11.00▲ | 2.9 |
| 3/4 | 10 | 100759 | 3JP99 | 3.10▲ | 0.7 |
| 1 | 25 | 100764 | 3JR05 | 8.50▲ | 1.9 |

### DEPTH CONTROL DISK

| | | | | | |
|---|---|---|---|---|---|
| — | 100 | DISKS | 3JR22# | 3.75▲ | 0.8 |

(*) For use with No. 3JR13 with optional guide Part No. TA4095. (†) Designed to fit Hilti® brand tool models DX35, DX36M, DX350, DX400B/E, DX451, DX600N. (‡) Structural steel pin with knurled shaft. (#) Use if power fastener goes below the top surface of board. (▲) Net prices, not subject to discounts.

**Note:** Hilti is a registered trademark of Hilti Corp.

## POWER LOADS SPECIFICATIONS AND ORDERING DATA

### CALIBER LOADS

| Caliber | Color | Grade | Package Quantity | Remington Model | Stock No. | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 22 | Gray | Light-Duty | 100 | A22C1 | 3JR14 | $5.52▲ | 0.2 |
| 22 | Gray | Light-Duty | 25 | A22C1B | 3JR15 | 3.20▲ | 0.1 |
| 22 | Brown | Medium-Duty | 100 | A22C2 | 3JR16 | 5.52▲ | 0.2 |
| 22 | Brown | Medium-Duty | 25 | A22C2B | 3JR17 | 3.20▲ | 0.1 |
| 22 | Green | Heavy-Duty | 100 | A22C3 | 3JR18 | 5.52▲ | 0.2 |
| 22 | Green | Heavy-Duty | 25 | A22C3B | 3JR19 | 3.20▲ | 0.1 |
| 22 | Yellow | Extra Heavy-Duty | 100 | A22C4 | 3JR20 | 5.52▲ | 0.2 |
| 22 | Yellow | Extra Heavy-Duty | 25 | A22C4B | 3JR21 | 3.20▲ | 0.1 |

### STRIP LOADS (10 Loads Per Strip)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 27 | Green | Medium-Duty | 100 | S27C3 | 3JR34 | 8.21▲ | 0.3 |
| 27 | Yellow | Heavy-Duty | 100 | S27C4 | 3JR35 | 8.21▲ | 0.3 |
| 27 | Red | Extra Heavy-Duty | 100 | S27C5 | 3JR36 | 8.21▲ | 0.3 |

(▲) Net prices, not subject to discounts.

# HAMMER DRILLS

## 3/8" HAMMER-DRILL Nos. 6Z337 & 2Z732

**Type:** Variable speed reversing

**Cord:** 8 ft., 3-cond. cord

**Power:** For AC operation only

**Approvals:** UL Listed, CSA Certified

**Capacities:** 9/16" percussion bits in concrete; 1/4" twist drills in steel and 1/2" twist drills in wood

**Includes:** Nos. 6Z337 has drill with depth gauge, side handle & chuck key; Nos. 2Z732 has drill with depth gauge, removable side handle, rubber dust shield, 4 bits (3/16, 1/4, 3/8, 5/16" percussion carbide tip bits), steel carrying case

**Features:** Hammer Drill or Drill Only selection

## 1/2" HAMMER-DRILL No. 3LJ24

**Type:** Two-speed variable speed reversing Cord: 8' 2-cond. rubber cord

**Power:** For AC operation only, double insulated

**Approvals:** UL Listed, CSA Certified

**Capacities:** Drilling capacities - 1⅛" flat boring bits; 3½" hole saws, 1" auger bits; 1⅛" ship auger bits; 1-½" selfeed bits in wood; 1/2" twist drill in steel. Hammer Capacities - 7/8" soft and 5/8" hard carbide tip bits in masonry

**Includes:** Hammer-drill, chuck key, side handle and depth gauge

**Features:** Hammer Drill or Drill Only selection

## 1/2" HAMMER-DRILL No. 6Z044

**Type:** Variable speed

**Cord:** 8 ft., 3-cond. cord

**Power:** For AC operation only

**Approvals:** UL Listed, CSA Certified

**Capacities:** Drilling capacities—1½" flat boring bits; 3½" hole saws; 1" auger bits: 1⅛" ship auger bits; 1½" selfeed bits in wood; 1/2" twist drill in steel. Hammer Capacities—7/8" soft and 5/8" hard carbide tip bits in masonry

**Includes:** Drill with depth rod, side handle, chuck key, and steel carrying case

**Features:** Hammer Drill or Drill Only selection

## 1/2" HAMMER-DRILL Nos. 6Z040, 4Z817 & 1Y082

**Type:** Two gear V.S.R.*

**Cord:** 8 ft., 3-cond. Quik-Lok rubber cord

**Power:** For AC operation only

**Approvals:** UL Listed, CSA Certified

**Capacities:** 1/2" boring bits: 3¼" hole saws; 7/8" auger and ship auger bits; 1⅛" selfeed bits in wood; 1/2" twist drill in steel; 5/8" percussion bits in masonry; and 1/4" Tapcon screws in masonry

**Includes:** Include hammer drill with depth gauge, side handle, and chuck key; No. 1Y082 and; No. 4Z817 also has 4 bits (3/16, 1/4, 3/8, and 5/16" percussion carbide tip bits), and steel carrying case 1Y082 has keyless chuck.

**Features:** Hammer Drill or Drill Only selection



3/8" V.S.R.* Drills
Nos. 6Z337 & 2Z732

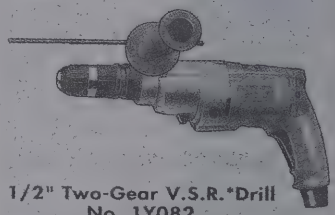
Milwaukee® Made in U.S.A.

Modification & Service Available
Contact Your Local Branch™



1/2" Variable Speed Drill
No. 6Z044

Replacement Parts Available
1-800-323-0620™



1/2" Two-Gear V.S.R.*Drill
No. 1Y082

| Chuck Size (In.) | No-Load RPM | Amps at 120V | Blows per Min. | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/8 | 0-2500 | 5.0 | 0-50,000 | Ball & Roller | 11 | 4½ | 5392-6 | **6Z337** | $234.00 | **$128.00▲** | 7.0 |
| 3/8 | 0-2500 | 5.0 | 0-50,000 | Ball & Roller | 11 | 4½ | 5397-6 | **2Z732** | 275.00 | **176.00▲** | 14.0 |
| 1/2 | 0-950 | 6.2 | 0-19,000 | Ball & Roller | 15½ | 7½ | 5399 | **6Z044** | 394.24 | **244.50▲** | 17.0 |
| 1/2 | 0-1000 | 5.5 | 0-20,000 | Ball & Roller | 13 | 5¾ | 5370-6 | **6Z040** | 320.00 | **195.00▲** | 8.0 |
| 1/2 | 0-1000<br>0-2500 | 5.5 | 0-20,000<br>0-500 | Ball & Roller | 13 | 5¾ | 5371-6 | **4Z817** | 360.00 | **230.50▲** | 16.0 |
| 1/2 | 0-1000<br>0-2500 | 5.5 | 0-20,000<br>0-500 | Ball & Roller | 13 | 5¾ | 5377-6 | **1Y082** | 360.00 | **230.50▲** | 16.0 |
| 1/2 | 0-1350<br>0-3250 | 6.5 | 0-22,000<br>0-570 | Ball & Roller | 13 | 4.9 | 5378-20 | **3LJ24** | 290.73 | **142.00▲** | 7.7 |

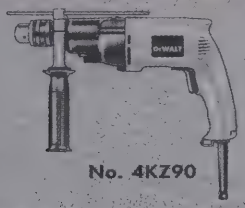
### ADDITIONAL MILWAUKEE HAMMER DRILLS AVAILABLE†

| Description (In.) | No-Load RPM | Amps at 120V | Blows per Min. | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 Magnum® | 0-2500 | 5.5 | 0-50,000 | 5374-1‡* | **6Z335** | 284.00 | **181.75▲** | 6.5 |

(†) Not shown. (‡) Made in the USA. (▲) Net prices, not subject to discounts.

**WE OFFER A WIDE RANGE OF ENERGY SAVING PRODUCTS**
**Electric motors, controls, blowers, fans and ventilators, lighting, boilers, ballasts, pumps, furnaces, water heaters, and other products. See Index under Energy Saving Products for complete listings.**

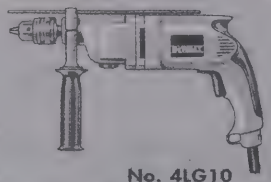
# HAMMER DRILLS AND CHUCK KEYS




DEWALT

Replacement Parts Available
1-800-323-0620

Modification & Service Available
Contact Your Local Branch




## 1/2" HAMMER DRILL Nos. 4KZ90 & 4KZ91

| | |
|---|---|
| ype: | Variable speed reversing |
| ord: | 8 ft., 2-cond. cord |
| ower: | For AC operation only |
| pprovals: | UL Listed, CSA Certified |
| apacities: | 1/2" percussion bits in masonry and brick; 3/8" twist drills in steel and 1½" twist drills in wood |
| ncludes: | Both include drill with depth rod, 360° side handle, chuck key, and holder; No. 4KZ91 only has heavy-duty carrying case |
| eatures: | Hammer Drill or Drill Only selection |

## 5/8" HAMMER DRILL Nos. 4LG10 & 4LG11

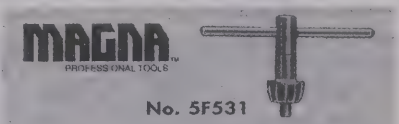
| | |
|---|---|
| Type: | Variable speed reversing |
| Cord: | 8 ft., 2-cond. cord |
| Power: | For AC operation only |
| Approvals: | UL Listed, CSA Certified |
| Capacities: | 5/8" percussion bits in masonry and brick; 3/8" twist drills in steel and 1½" twist drills in wood |
| Includes: | Drill with depth rod, 360° side handle; 1/2" chuck key and holder, and heavy-duty carrying case; No. 4LG10 has no case |
| Features: | Hammer Drill or Drill Only selection |

| Chuck Size & Drill Type | No-Load RPM | Amps @ 120V AC | Blows per Min. | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2" (13 mm) Dual Speed Range Hammerdrill** | 0-1100/ 0-2700 | 7.2 | 0-19,000/ 0-46,000 | 100% Ball & Roller Bearings | 13 | 4.8 | DW505 | **4KZ90** | $264.00 | **$151.75▲** | 5.4 |
| **1/2" (13 mm) Dual Speed Range Hammerdrill** | 0-1100/ 0-2700 | 7.2 | 0-19,000/ 0-46,000 | 100% Ball & Roller Bearings | 13 | 4.8 | DW505K | **4KZ91** | 290.00 | **172.50▲** | 13.0 |
| **5/8" (16 mm) Dual Speed Range Hammerdrill** | 0-900/ 0-2200 | 8.2 | 0-18,000/ 0-42,000 | 100% Ball & Roller Bearings | 14 | 5.5 | DW515 | **4LG10** | 318.00 | **183.75▲** | 6.7 |
| **5/8" (16 mm) Dual Speed Range Hammerdrill** | 0-900/ 0-2200 | 8.2 | 0-18,000/ 0-42,000 | 100% Ball & Roller Bearings | 14 | 5.5 | DW515K | **4LG11** | 344.00 | **207.75▲** | 10.0 |

▲) Net prices, not subject to discounts.

## MAGNA CHUCK KEYS & HOLDER

- **Fit all popular drill chucks**
- **Heads are precision-formed to ensure accurate fit**
- **Magna brand**







No. 5F538

### MAGNA CHUCK KEYS ORDERING DATA

| Description | Pilot Size (In.) | Magna Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **./4" Chuck Key** | 5/32 | 93000 | **5F531** | $2.72 | **$2.18** | 0.1 |
| **./4" Chuck Key** | 13/64 | 93001 | **5F532** | 2.72 | **2.18** | 0.1 |
| **./4-3/8" Chuck Key** | 1/4 | 93002 | **5F533** | 2.72 | **2.18** | 0.1 |
| **3/8" Chuck Key** | 15/64 | 93003 | **5F534** | 3.20 | **2.56** | 0.1 |
| **3/8-1/2" Chuck Key** | 9/32 | 93004 | **5F535** | 3.06 | **2.45** | 0.1 |
| **./2" Chuck Key** | 1/4 | 93005 | **5F536** | 3.70 | **2.96** | 0.1 |
| **./2" Chuck Key** | 11/32 | 93006 | **5F537** | 3.70 | **2.96** | 0.1 |
| **Chuck Key Holder** | — | 93007 | **5F538** | 1.36 | **1.09** | 0.1 |

### 2-CONDUCTOR QUIK-LOK CORD SET

.0 ft. Quik-Lok cord set for use with a variety of 2-conductor corded Milwaukee tools, including Nos. 2Z725 and 6Z321. Milwaukee brand (48-76-5010). UL Listed, CSA Certified.

**No. 1D580.** Shpg. wt. 0.9 lbs. List $25.58. Each ..... $19.08▲

▲) Net prices, not subject to discounts.

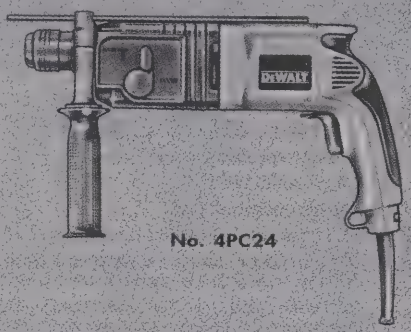
### 3-CONDUCTOR QUIK-LOK CORD SET

8 ft. Quik-Lok cord set for use with a variety of 3-conductor corded Milwaukee tools, including Nos. 4Z371, 6Z320, 4A937, 4Z564, 6Z040, 4Z817, and 4Z373. Milwaukee brand (48-76-4008). UL Listed, CSA Certified.

**No. 4AC24.** Shpg. wt. 0.7 lbs. List $25.59. Each ..... $17.48▲

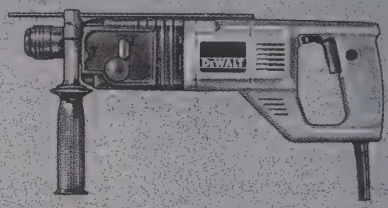
# ROTARY HAMMER KITS

DEWALT




No. 4PC24

New




No. 4PC26

Modification & Service Available
Contact Your Local Branch

Replacement Parts Available
1-800-323-0620

## HEAVY-DUTY 7/8" SDS ROTARY HAMMER KITS

- 6.9 Amp motor provides high performance and overload protection
- Hammer mechanism optimized for broad range of bit sizes
- Gearbox engineered for long life by keeping grease in and dust out
- Jampot design with removable rear handle makes service easy
- Switch and brushes designed for long life
- No. 4PC25 has a hammer-only mode that allows for light chipping and material removal applications
- Includes multi-position side handle, depth rod, and kit box
- DeWalt brand

## HEAVY-DUTY 1" SDS ROTARY HAMMER KIT WITH CHISELING FEATURE

- 6.9 Amp motor provides high performance and overload protection
- Hammer mechanism optimized for broad range of bit size
- Gearbox engineered for long life by keeping grease in and dust out
- D-handle grip configuration for optimal control overhead
- Switch and brushes designed for long life
- Includes multi-position side handle, depth rod, and kit bo
- DeWalt brand

### *New!* DEWALT SDS ROTARY HAMMER DRILL SPECIFICATIONS AND ORDERING DATA

| Chuck Size & Drill Type | No-Load RPM | Amps at 120V AC | Blows Per Min | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/8" (22mm) VSR Heavy-Duty SDS Rotary Hammer | 0-1150 | 6.9 | 0-4100 | 100% Ball & Roller Bearings | 14.2 | 5.5 | DW563K | 4PC24 | $390.00 | $238.25 ▲ | 12.0 |
| 7/8" (22mm) VSR Heavy-Duty SDS Rotary Hammer | 0-1150 | 6.9 | 0-4100 | 100% Ball & Roller Bearings | 14.2 | 5.5 | DW566K | 4PC25 | 410.00 | 250.50 ▲ | 12.0 |
| 1" (25mm) VSR Heavy-Duty SDS Rotary Hammer | 0-1150 | 6.9 | 0-5860 | 100% Ball & Roller Bearings | 16.2 | 6.6 | DW567K | 4PC26 | 450.00 | 275.00 ▲ | 14.0 |

(▲) Net prices, not subject to discounts.

## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

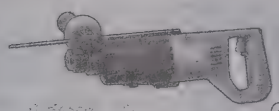
Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# ROTARY HAMMER KITS





5/8" Rotary Hammer
No. 3LJ21



3/4" Drive Kit
No. 6W285



1" Drive Kit
No. 6A345

Replacement Parts Available
1-800-323-0620

## 5/8" SDS PLUS ROTARY HAMMER No. 3LJ21

**ype:** Variable speed reversing
**ord:** 8 ft. 2-wire rubber cord
**ower:** For AC operation only
**pprovals:** UL Listed, CSA Certified
**apacities:** 5/8" in concrete or masonry
**ncludes:** Rotary hammer, steel carrying case, side handle, depth gauge
**eatures:** SDS Plus drive system, two mode operation - rotation with hammer, rotation only, electronic speed control trigger

## 3/4" SDS PLUS DRIVE KIT No. 6W285

**Type:** Variable speed reversing, 3/4"
**Cord:** 8 ft., 3-cond. Quik-Lok flexible rubber cord
**Power:** For AC operation only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 3/4" SDS bit or 1¾" core bit
**Includes:** Rotary hammer, side handle, depth gauge, 5 SDS bits, and steel carrying case
**Features:** Hammer Drill or Drill Only selection

## 1" SDS PLUS DRIVE No. 6A345

**Type:** Variable speed reversing, 1"
**Cord:** 8 ft., 3-cond. rubber cord
**Power:** For AC operation only
**Approvals:** UL Listed, CSA Certified
**Capacities:** 1" SDS bit or 3½" core bit
**Includes:** Rotary hammer, side handle, depth gauge, clamp, and steel carrying case
**Features:** Self-stopping long life brush and SDS bit retention systems; Hammer Drill or Drill Only selection

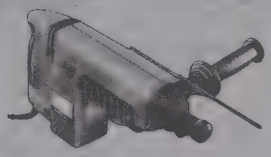


1⅛" Drive
No. 4GC23

Replacement Parts Available
1-800-323-0620



1½" Drive Kit
No. 6Z332 & 2Z734



Nos. 5M622, 5M623 & 3JL19

## 1⅛" SDS PLUS DRIVE KIT No. 4GC23

**ype:** Variable speed
**ord:** 9 ft., 2-cond. rubber cord
**ower:** AC only
**pprovals:** UL Listed, CSA Certified
**apacities:** 1⅛" SDS bit, 3½" core bit, 1½" flat boring bit, ⅝" twist drill
**ncludes:** Steel carrying case, side handle and depth gauge
**eatures:** Exclusive Quik-Lok chuck system for quick change of adapter from SDS chuck to standard geared drill chuck or SDS max chuck. Selector switch for rotation only, hammer only, and hammer with rotation

## 1½" DRIVE KITS Nos. 6Z332 & 2Z734

**Type:** Single speed, 1½"
**Cord:** Flexible rubber cord
**Power:** AC/DC
**Approvals:** UL Listed, CSA Certified
**Capacities:** For concrete drilling—1½" percussion; 6" in percussion core drilling
**Includes:** Rotary hammer, side handle, depth gauge and steel carrying case; 6Z332 also includes: 1/2", 5/8", and 3/4" x 16" spline shank bits, 12" bull point chisel and 12" cold chisel
**Features:** Stop-rotation control for hammer action only

## 1½" ROTARY HAMMERS Nos. 5M622, 5M623 & 3LJ19

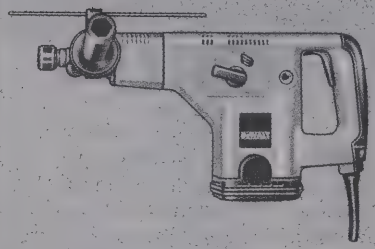
**Type:** Variable speed, 1½"
**Cord:** 9 ft., 2-cond. rubber cord
**Power:** For AC operation only
**Approvals:** UL Listed, CSA Approved
**Capacities:** 6" Core bit, 1½" spline drive, 3/4" hex shaft, 5/8" round shank tools. 3LJ19 uses SDS max, and 5M622 & 5M623 use spline tools
**Includes:** Steel carrying case, side handle, depth gauge; 5M623 also includes: 1/2", 5/8", and 3/4" x 16" spline shank bits, 12" bull point chisel and 12" cold chisel
**Features:** Vibration isolation system, ergonomically designed cushioned gripping surface, soft-shift, stop-rotation switch for chiseling

| Chuck Size (In.) & Drill Type | No-Load RPM | Amps at 120V | Blows per Min. | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1⅛ Variable | 0-990 | 7.6 | 0-4100 | Ball & Roller | 13½ | 7½ | 5303-20 | **4GC23** | $752.75 | **$435.00▲** | 19.0 |
| 1½ Variable | 0-550 | 8.5 | 0-4100 | Ball & Roller | 18½ | 17½ | 5313-20 | **3LJ19** | 1030.63 | **599.00▲** | 28.0 |
| 5/8 Variable speed reversing | 0-1250 | 5.0 | 0-4000 | Ball & Roller | 13 | 5½ | 5320-20 | **3LJ21** | 426.13 | **249.00▲** | 16.0 |
| 3/4 Variable speed reversing | 0-1100 | 6.0 | 0-5000 | Ball & Roller | 15 | 6½ | 5369-1 | **6W285** | 516.75 | **300.00▲** | 16.0 |
| l Variable speed reversing | 0-900 | 6.0 | 0-4500 | Ball & Roller | 14 | 7½ | 5362-6 | **6A345** | 694.48 | **423.00▲** | 15.0 |
| 1½ Single | 500 | 8.5 | 4100 | Ball & Roller | 17½ | 43⅛ | 5347-6 | **2Z734** | 973.31 | **595.00▲** | 22.0 |
| 1½ Single | 500 | 8.5 | 4100 | Ball & Roller | 17½ | 13½ | 5348-6 | **6Z332** | 1125.84 | **685.00▲** | 29.0 |
| 1½ Variable | 0-4100 | 8.5 | 0-4100 | Ball & Roller | 18½ | 18½ | 5316-6 | **5M622** | 946.93 | **579.00▲** | 28.0 |
| 1½ Variable | 0-4100 | 8.5 | 0-4100 | Ball & Roller | 18 | 18½ | 5317-6 | **5M623** | 1083.67 | **659.00▲** | 35.0 |

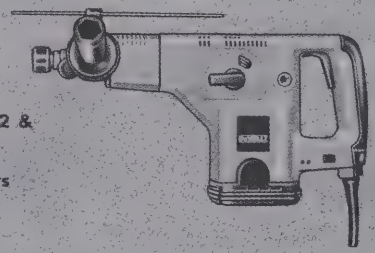
▲) Net prices, not subject to discounts.

# ROTARY HAMMER KITS

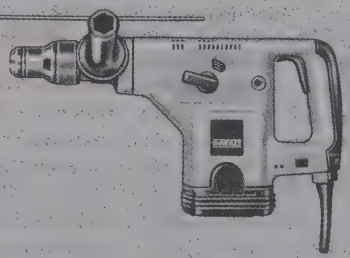
DEWALT



Nos. 4LC31 & 4LC22 1½ Rotary Hammer Kits



Nos. 4LC42 & 4LC50 Rotary Hammers



Nos. 4LC62 & 4LC64 Rotary Hammers

Replacement Parts Available
1-800-323-0620™

## 1½" ROTARY HAMMER KITS Nos. 4LC31 & 4LC22

- Single speed, 1½"
- 8 ft., 3-cond. cord
- For AC operation only
- UL Listed, CSA Certified
- 5/8" to 1½" percussion carbide bits, 1½-3½" core bits
- Rotary hammer, side handle, depth gauge, and heavy-duty carrying case
- No. 4LC31—Stop rotation for use with demolition tools
- Spline Drive System

## 1½" ROTARY HAMMERS Nos. 4LC42 & 4LC50

**No. 4LC42:**

- 8.3 amps AC, 100-295 RPM, 950-2800 BPM
- Optimum capacity 5/8"-1¼", maximum 1½", core bit 3½"

**No. 4LC50:**

- 10.6 amps AC, 100-275 RPM, 1000-2600 BPM
- Optimum capacity 3/4"-1½", maximum 1¾", core bit 4"

**Both Feature:**

- Spline shank drive system
- Electronic vari-speed/vari-impact
- Bit-lock, allows removal of jammed bits
- Include side handle, depth rod, and heavy-duty kit box

## 1½" ROTARY HAMMERS Nos. 4LC62 & 4LC64

**No. 4LC62:**

- 8.3 amps AC, 100-295 RPM, 950-2800 BPM
- Optimum capacity 5/8"-1¼", maximum 1½", core bit 3½"

**No. 4LC64:**

- 10.6 amps AC, 100-275 RPM, 1000-2600 BPM
- Optimum capacity 3/4"-1½", maximum 1¾", core bit 4"

**Both Feature:**

- SDS-max® drive system
- Electronic vari-speed/vari-impact
- Bit-lock, allows removal of jammed bits
- Include side handle, depth rod, and heavy-duty kit box

### ROTARY HAMMER KITS

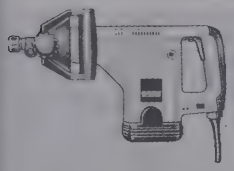
| Chuck Size & Drill Type | No-Load RPM | Amps at 120 | Blows Per Min | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½" Hammer | 380 | 9.4 | 3000 | Ball/Roller | 17.9 | 13.9 | DW530K | 4LC22 | $908.00 | $564.50▲ | 29.0 |
| 1½" Hammer | 380 | 9.4 | 3000 | Ball/Roller | 17.9 | 14.1 | DW531K | 4LC31 | 952.00 | 592.00▲ | 29.0 |
| 1½" Hammer | 100-295 | 9.4 | 950-2800 | Ball/Roller | 17.9 | 14.2 | DW532K | 4LC42 | 970.00 | 569.50▲ | 14.0 |
| 1¾" Hammer | 100-275 | 10.6 | 1000-2600 | Ball/Roller | 17.9 | 14.9 | DW533K | 4LC50 | 1363.00 | 800.50▲ | 15.0 |
| 1½" Hammer | 100-295 | 9.4 | 950-2800 | Ball/Roller | 17.5 | 13.2 | DW541K | 4LC62 | 970.00 | 569.50▲ | 13.0 |
| 1¾" Hammer | 100-275 | 10.6 | 1000-2600 | Ball/Roller | 17.5 | 13.9 | DW545K | 4LC64 | 1363.00 | 800.50▲ | 14.0 |

(▲) Net prices, not subject to discounts.



Put America's power tool powerhouse to work for you today.

# CHIPPING HAMMERS, BREAKER HAMMERS, AND DEMOLITION HAMMERS



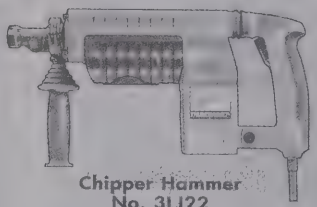
Chipper Hammer
No. 4LC65

DEWALT

New



Demolition Hammer
No. 4LG34

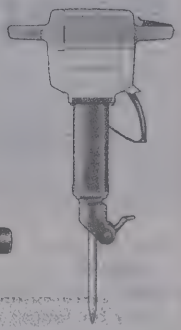


Chipper Hammer
No. 3LJ22

Milwaukee



Demolition Hammer
No. 5U710



Breaker Hammer
No. 3LJ23

Modification & Service Avai
Contact Your Local Branch

Replacement Parts Available
1-800-323-0620

## CHIPPING HAMMER
## No. 3LJ22

- 8.5 amp AC, 120 Volt
- Vibration isolation system for greater comfort, less fatigue
- Cushioned grips
- Speed control allows accurate hole placement without bit walk
- 0-4100 blows-per-minute
- Double insulated
- Includes side handle and steel carrying case
- Uses 3/4" hex x 21/32" round shank hammer iron tools
- 4.7 Ft./lbs. of impact energy

## CHIPPING HAMMER KIT
## No. 4LC65

- Cooling system circulates air around mechanism keeping it cooler for longer reliability
- Nylon outer housing is rubber mounted over inner mechanism to housing to reduce vibration
- L.E.D. signals when routine service is needed
- Includes side handle and sturdy kit box
- 10.6 amp AC, 120 Volt, 50/60Hz
- 1000-2600 blows-per-minute
- 6.2 Ft./lbs. of impact energy
- Uses 3/4" hex x 21/32" round shank hammer iron tools

## BREAKER HAMMER
## No. 3LJ23

- T-handles for operator control
- Heavy hitting 44 ft./lbs. of impact energy
- Uses 1⅛" hex shank hammer iron
- UL Listed, CSA Certified

## DEMOLITION HAMMER
## No. 5U710

- 13 amps, 1400 watts motor output
- Front handle rotates 360°
- Ball & roller bearings
- Vibration isolation in back handle
- Includes carrying case and dust shield
- Uses 3/4" hex shank hammer tools
- 1600 blows-per-minute
- 18.5 Ft./lbs. of impact energy
- UL Listed

## DEMOLITION HAMMER KIT
## No. 4LG34

- Powerful motor has overload protection and efficient cooling for constant use
- Low vibration rear handle and side handle can be rotated 360°
- Well-balanced, ergonomic design for easy handling
- Includes side handle, chisel, and sturdy kit box
- 10 amps AC, 120 Volt, 50/60HZ
- 1800 blows-per-minute
- 13.5 Ft./lbs. of impact energy
- Uses 3/4" hex shank hammer iron tools

| Description | Amps at 120 | Blows Per Min. | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr. Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1½" Chipper Hammer** | 8.5 | 0-4100 | Ball/Roller | 18.5 | 17.0 | Milw | 5334 | **3LJ22** | $729.79 | **$435.00▲** | 25.0 |
| **Chipping Hammer Kit** | 10.6 | 1000-2600 | Ball/Roller | 17.9 | 14.7 | DeWalt | DW551K | **4LC65** | 976.00 | **572.50▲** | 30.0 |
| **Demolition Hammer Kit** | 10 | 1800 | Ball/Roller | 24.0 | 24.2 | DeWalt | DW558K | **4LG34** | 1380.00 | **810.00▲** | 43.0 |
| **Demolition Hammer** | 13.0 | 1600 | Ball/Roller | 30.0 | 31.0 | Milw | 5335 | **5U710** | 1450.00 | **929.00▲** | 52.0 |
| **Breaker Hammer** | 15.0 | 1400 | Ball/Roller | 28.5 | 71.5 | Milw | 5338 | **3LJ23** | 2450.58 | **1510.00▲** | 80.0 |
| **Hammer Dolly for No. 3LJ23** | — | — | — | — | — | Milw | 48-08-0280 | **3LC97*** | 180.67 | **135.00▲** | 34.0 |

▲) Net prices, not subject to discounts. (*) Not shown.

# CARBIDE TIPPED HAMMER DRILL BITS

## SDS PLUS BITS

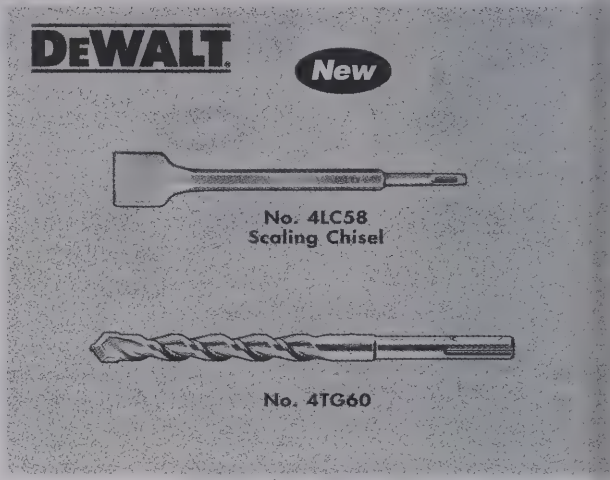



- For drilling in concrete, brick, stone, and other masonry materials
- New serrated titanium carbide tip provides extreme durability for longer drilling life
- Pilot point tip starts on contact for greater accuracy
- Improved flute design pulls out dust quickly for faster drilling
- Fits all drill hammers with SDS-Plus and Hilti (four flute drills) chucks. Only use diameters up to 5/8" for Hilti TE 12. Diameters up to 3/4" may be used for Hilti TE 12S

| Bit Dia. (In.) | Overall Length (In.) | Drilling Length (In.) | DeWalt Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5/32 | 6½ | 4½ | DW5401 | 4TF99 | $8.12 | $8.09▲ | 0.1 |
| 3/16 | 4 | 2 | DW5402 | 4TG02 | 6.12 | 6.11▲ | 0.1 |
| 3/16 | 6½ | 4½ | DW5403 | 4TG04 | 7.30 | 7.28▲ | 0.1 |
| 3/16 | 8½ | 6½ | DW5404 | 4TG06 | 9.16 | 9.13▲ | 0.1 |
| 3/16 | 10 | 8 | DW5405 | 4TG08 | 13.76 | 13.72▲ | 0.2 |
| 3/16 | 12 | 10 | DW5406 | 4TG10 | 14.58 | 14.54▲ | 0.2 |
| 3/16 | 14 | 12 | DW5407 | 4TG12 | 23.14 | 23.04▲ | 0.2 |
| 3/16 | 16 | 14 | DW5408 | 4TG13 | 26.56 | 26.55▲ | 0.6 |
| 7/32 | 6 | 4 | DW5410 | 4TG14 | 7.52 | 7.50▲ | 0.1 |
| 7/32 | 10 | 8 | DW5412 | 4TG16 | 10.92 | 8.68▲ | 0.2 |
| 1/4 | 4 | 2 | DW5416 | 4TG17 | 6.26 | 6.25▲ | 0.1 |
| 1/4 | 6 | 4 | DW5417 | 4TG19 | 6.82 | 6.80▲ | 0.1 |
| 1/4 | 8½ | 6½ | DW5418 | 4TG21 | 8.90 | 8.87▲ | 0.1 |
| 1/4 | 12 | 10 | DW5420 | 4TG23 | 17.38 | 17.37▲ | 0.4 |
| 1/4 | 14 | 12 | DW5421 | 4TG24 | 16.20 | 16.15▲ | 0.2 |
| 5/16 | 6 | 4 | DW5424 | 4TG25 | 8.00 | 7.83▲ | 0.3 |
| 5/16 | 12 | 10 | DW5426 | 4TG27 | 15.50 | 15.19▲ | 0.5 |
| 3/8 | 6 | 4 | DW5427 | 4TG28 | 8.60 | 8.60▲ | 0.2 |
| 3/8 | 10 | 8 | DW5429 | 4TG30 | 8.00 | 7.60▲ | 0.5 |
| 3/8 | 12 | 10 | DW5430 | 4TG31 | 16.42 | 16.34▲ | 0.1 |
| 3/8 | 18 | 16 | DW5431 | 4TG32 | 25.24 | 25.20▲ | 0.4 |
| 3/8 | 24 | 22 | DW5432 | 4TG33 | 33.74 | 33.65▲ | 0.5 |
| 7/16 | 6 | 4 | DW5433 | 4TG34 | 11.52 | 11.50▲ | 0.2 |
| 7/16 | 12 | 10 | DW5435 | 4TG35 | 18.72 | 18.65▲ | 0.2 |
| 1/2 | 6 | 4 | DW5437 | 4TG36 | 10.64 | 10.62▲ | 0.2 |
| 1/2 | 10 | 8 | DW5438 | 4TG38 | 17.86 | 17.82▲ | 0.3 |
| 1/2 | 12 | 10 | DW5439 | 4TG39 | 20.00 | 19.97▲ | 0.4 |
| 1/2 | 18 | 16 | DW5440 | 4TG40 | 25.50 | 25.50▲ | 0.6 |
| 1/2 | 24 | 22 | DW5441 | 4TG41 | 40.28 | 40.20▲ | 0.6 |
| 9/16 | 6 | 4 | DW5442 | 4TG42 | 13.94 | 13.90▲ | 0.3 |
| 9/16 | 12 | 10 | DW5443 | 4TG43 | 26.60 | 26.60▲ | 0.5 |
| 9/16 | 18 | 16 | DW5444 | 4TG44 | 36.78 | 36.75▲ | 0.8 |
| 5/8 | 8 | 6 | DW5446 | 4TG45 | 18.50 | 18.48▲ | 0.4 |
| 5/8 | 12 | 10 | DW5447 | 4TG47 | 28.62 | 28.60▲ | 0.6 |
| 5/8 | 18 | 16 | DW5448 | 4TG48 | 38.18 | 38.15▲ | 0.8 |
| 5/8 | 24 | 22 | DW5449 | 4TG49 | 49.62 | 49.60▲ | 1.1 |
| 11/16 | 8 | 6 | DW5450 | 4TG50 | 31.66 | 31.60▲ | 0.4 |
| 3/4 | 8 | 6 | DW5453 | 4TG51 | 32.04 | 32.00▲ | 0.5 |
| 3/4 | 12 | 10 | DW5455 | 4TG52 | 35.56 | 35.55▲ | 0.8 |
| 3/4 | 18 | 16 | DW5456 | 4TG53 | 42.98 | 43.00▲ | 1.0 |
| 3/4 | 24 | 22 | DW5457 | 4TG54 | 86.76 | 86.50▲ | 1.0 |
| 7/8 | 8 | 6 | DW5460 | 4TG55 | 42.80 | 42.70▲ | 0.6 |
| 7/8 | 12 | 10 | DW5461 | 4TG56 | 44.36 | 44.35▲ | 1.0 |
| 7/8 | 18 | 16 | DW5462 | 4TG57 | 54.94 | 54.85▲ | 1.0 |
| 1 | 10 | 8 | DW5464 | 4TG58 | 45.14 | 45.10▲ | 0.9 |
| 1 | 18 | 16 | DW5466 | 4TG59 | 68.84 | 68.65▲ | 1.0 |

(▲) Net prices, not subject to discounts.

## ACCESSORIES




### SDS CHUCK ADAPTER

Converts SDS hammers to 1/2" chuck capacity.

**No. 4LC60.** (DW5351). Shpg. wt. 0.1 lbs. List $22.68. Each.....**$17.86▲**

### 1/2" CHUCK AND KEY FOR No. 4LC60

**No. 4LT24.** 1/2" Chuck & Key (DW5353).. Shpg. wt. 0.9 lbs. List $40.50. Each.....**$30.40▲**

### 5-PC. SDS BIT SET

Includes 3/16 x 4½ x 6½", 1/4 x 2 x 4", 1/4 x 4 x 6", 3/8 x 4 x 6", 1/2 x 4 x 6" bits.

***New* No. 4TG60.** (DW5470). Shpg. wt. 1.8 lbs. List $59.42. Each.....**$51.75▲**

### 10" BULL POINT*

**No. 4LC57.** (DW5348). Shpg. wt. 1.0 lbs. List $15.35. Each.....**$12.09▲**

(*) Used only in SDS.

### 10 x 1½" SCALING CHISEL*

**No. 4LC58.** (DW5349). Shpg. wt. 0.7 lbs. List $26.00. Each.....**$20.48▲**

### 10 x 3/4" COLD CHISEL*

**No. 4LC59.** (DW5350). Shpg. wt. 1.0 lbs. List $15.35. Each.....**$12.09▲**

(▲) Net prices, not subject to discounts.

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

# CARBIDE TIPPED HAMMER DRILL BITS

## LARGE DIAMETER SPLINE SHANK BITS

- Large flute access for better dust extraction and longer life
- Double flute design gives quicker dust extraction and faster drilling
- Hardened core reduces breakage

## 4-CUTTER LARGE DIA. SPLINE SHANK BITS

- Four cutter heads reduce vibration for less user fatigue
- Concave head design allows dust to enter flute chambers quickly increasing bit life
- Double flute life design gives quicker dust extraction and faster drilling
- Hardened core reduces breakage

DEWALT




### SPLINE SHANK DRILL BITS

| Bit Dia. (In.) | Overall Length | Drilling Length (In.) | DeWalt Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/8 | 10 | 5 | DW5700 | **4LC66** | $40.98 | **$32.30** | ▲ | 0.7 |
| 3/8 | 13 | 8 | DW5701 | **4LC67** | 45.73 | **36.05** | ▲ | 0.8 |
| 7/16 | 10 | 5 | DW5702 | **4LC68** | 44.57 | **35.15** | ▲ | 0.7 |
| 1/2 | 10 | 5 | DW5703 | **4LC69** | 39.80 | **31.35** | ▲ | 0.8 |
| 1/2 | 16 | 11 | DW5704 | **4LC70** | 46.50 | **36.65** | ▲ | 0.9 |
| 1/2 | 22 | 17 | DW5705 | **4LC71** | 59.67 | **47.00** | ▲ | 1.1 |
| 1/2 | 27 | 22 | DW5706 | **4LC72** | 67.75 | **53.40** | ▲ | 1.3 |
| 1/2 | 36 | 31 | DW5707 | **4LC73** | 107.30 | **84.55** | ▲ | 2.0 |
| 9/16 | 10 | 5 | DW5708 | **4LC74** | 50.98 | **40.20** | ▲ | 0.8 |
| 5/8 | 10 | 5 | DW5709 | **4LC75** | 44.17 | **34.85** | ▲ | 0.8 |
| 5/8 | 16 | 11 | DW5710 | **4LC76** | 50.65 | **39.90** | ▲ | 1.0 |
| 5/8 | 22 | 17 | DW5711 | **4LC77** | 63.10 | **49.75** | ▲ | 1.3 |
| 5/8 | 27 | 22 | DW5712 | **4LC78** | 79.15 | **62.40** | ▲ | 1.6 |
| 11/16 | 10 | 5 | DW5713 | **4LC79** | 56.32 | **44.40** | ▲ | 0.9 |
| 3/4 | 10 | 5 | DW5714 | **4LC80** | 51.97 | **40.95** | ▲ | 1.0 |
| 3/4 | 16 | 11 | DW5715 | **4LC81** | 54.07 | **42.60** | ▲ | 1.2 |
| 3/4 | 22 | 17 | DW5716 | **4LC82** | 64.33 | **50.70** | ▲ | 1.5 |
| 3/4 | 27 | 22 | DW5717 | **4LC83** | 82.88 | **65.35** | ▲ | 1.9 |
| 7/8 | 16 | 11 | DW5719 | **4LC84** | 61.42 | **48.45** | ▲ | 1.4 |
| 7/8 | 22 | 17 | DW5720 | **4LC85** | 72.15 | **56.90** | ▲ | 1.9 |
| 1 | 16 | 11 | DW5721 | **4LC86** | 69.33 | **54.60** | ▲ | 1.6 |
| 1 | 22 | 17 | DW5722 | **4LC87** | 77.77 | **61.30** | ▲ | 2.1 |
| 1 | 36 | 31 | DW5723 | **4LC88** | 171.23 | **134.90** | ▲ | 3.9 |
| 1 1/8 | 10 | 5 | DW5724 | **4LC89** | 77.75 | **61.30** | ▲ | 1.4 |
| 1 1/8 | 16 | 11 | DW5725 | **4LC90** | 78.38 | **61.75** | ▲ | 2.0 |
| 1 1/8 | 22 | 17 | DW5726 | **4LC91** | 87.88 | **69.25** | ▲ | 2.7 |
| 1 1/4 | 16 | 11 | DW5727 | **4LC92** | 86.75 | **68.40** | ▲ | 2.1 |
| 1 1/4 | 22 | 17 | DW5728 | **4LC93** | 96.80 | **76.25** | ▲ | 3.0 |
| 1 3/8 | 16 | 11 | DW5729 | **4LC94** | 97.67 | **76.95** | ▲ | 2.5 |
| 1 3/8 | 22 | 17 | DW5730 | **4LC95** | 114.80 | **90.45** | ▲ | 3.5 |
| 1 1/2 | 16 | 11 | DW5731 | **4LC96** | 115.63 | **91.10** | ▲ | 2.7 |
| 1 1/2 | 22 | 17 | DW5732 | **4LC97** | 135.60 | **106.80** | ▲ | 4.0 |
| 1 3/4 | 22 | 17 | DW5733 | **4LC98** | 239.07 | **188.50** | ▲ | 5.4 |
| 2 | 22 | 17 | DW5734 | **4LC99** | 256.40 | **202.25** | ▲ | 6.4 |

### 4-CUTTER SPLINE SHANK DRILL BITS

| Bit Dia. (In.) | Overall Length | Drilling Length (In.) | DeWalt Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 5/8 | 10 | 5 | DW5740 | **4LD01** | 47.08 | **37.15** | ▲ | 0.1 |
| 5/8 | 16 | 11 | DW5741 | **4LD02** | 53.83 | **42.45** | ▲ | 2.0 |
| 5/8 | 22 | 17 | DW5742 | **4LD03** | 66.43 | **52.35** | ▲ | 1.4 |
| 5/8 | 27 | 22 | DW5743 | **4LD04** | 81.60 | **64.30** | ▲ | 1.6 |
| 3/4 | 10 | 5 | DW5746 | **4LD05** | 53.35 | **42.25** | ▲ | 0.9 |
| 3/4 | 16 | 11 | DW5747 | **4LD06** | 57.18 | **45.05** | ▲ | 1.2 |
| 3/4 | 22 | 17 | DW5748 | **4LD07** | 68.10 | **53.70** | ▲ | 1.6 |
| 3/4 | 27 | 22 | DW5749 | **4LD08** | 91.65 | **72.20** | ▲ | 2.0 |
| 7/8 | 16 | 11 | DW5752 | **4LD09** | 64.75 | **51.05** | ▲ | 2.0 |
| 7/8 | 22 | 17 | DW5753 | **4LD10** | 74.88 | **59.00** | ▲ | 2.1 |
| 1 | 16 | 11 | DW5755 | **4LD11** | 70.63 | **55.65** | ▲ | 2.5 |
| 1 | 22 | 17 | DW5756 | **4LD12** | 79.50 | **62.65** | ▲ | 3.4 |
| 1 1/8 | 16 | 11 | DW5758 | **4LD13** | 87.47 | **68.90** | ▲ | 2.2 |
| 1 1/8 | 22 | 17 | DW5759 | **4LD14** | 100.92 | **79.50** | ▲ | 2.9 |
| 1 1/4 | 16 | 11 | DW5760 | **4LD15** | 96.72 | **76.20** | ▲ | 2.4 |
| 1 1/4 | 22 | 17 | DW5761 | **4LD16** | 105.97 | **83.50** | ▲ | 3.3 |
| 1 3/8 | 16 | 11 | DW5763 | **4LD17** | 134.57 | **106.00** | ▲ | 3.8 |
| 1 1/2 | 22 | 17 | DW5764 | **4LD18** | 159.77 | **125.85** | ▲ | 4.3 |

### SPLINE DRIVE ADAPTERS *

| Converts to | DeWalt Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4-Taper | DW5792 | **4LD30** | $32.82 | **$25.85** | ▲ | 1.0 |
| 3/8-Taper | DW5793 | **4LD31** | 38.90 | **30.70** | ▲ | 1.0 |
| SDS | DW5791 | **4LD29** | 76.25 | **60.10** | ▲ | 1.2 |

*) Includes ejector key. (▲) Net prices, not subject to discounts.

## ACCESSORIES

**No. 4LD28.** Spline Shank Chuck Adapter (DW5790). Shpg. wt. 0.5 lbs. List $29.63. Each ..... **$25.20▲**

**No. 4LT24.** 1/2" Chuck & Key (DW5353). Shpg. wt. 0.9 lbs. List $40.50. Each ..... **$30.40▲**

## STRAIGHT SHANK PERCUSSION MASONRY CARBIDE-TIPPED BITS

DEWALT




**No. 4KZ92**
**7-Pc. Straight Bit Shank Set**

- Improved carbide tip provides up to 2 times longer life
- Innovative tip configuration reduces walking for improved accuracy
- Unique flute design efficiently removes dust, reducing bit binding

### 7-PC STRAIGHT BIT SHANK SET

Includes: 3/16 x 3", 1/4 x 4", two 1/4 x 6", 5/16 x 6", 3/8 x 6" and 1/2 x 6".

**No. 4KZ92.** (DW5207). Shpg. wt. 0.7 lbs. List $47.18. Each ..... **$37.20▲**

### STRAIGHT SHANK CARBIDE-TIPPED BITS

| Bit Dia. (In.) | Length (In.) Cutting | Length (In.) Drilling | Shank Size | DeWalt Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 3 | 2 | 1/8 | DW5221 | **4KZ93** | $3.58 | **3.09▲** | | 0.1 |
| 3/16 | 3 | 2 | 3/16 | DW5222 | **4KZ94** | 3.58 | **3.09▲** | | 0.1 |
| 3/16 | 6 | 4 | 3/16 | DW5223 | **4KZ95** | 3.82 | **3.30▲** | | 0.1 |
| 1/4 | 4 | 2 | 1/4 | DW5224 | **4KZ96** | 3.58 | **3.09▲** | | 0.1 |
| 1/4 | 6 | 4 | 1/4 | DW5225 | **4KZ97** | 4.57 | **3.94▲** | | 0.1 |
| 1/4 | 12 | 7 | 1/4 | DW5226 | **4KZ98** | 9.80 | **8.45▲** | | 0.1 |
| 5/16 | 6 | 4 | 5/16 | DW5228 | **4KZ99** | 5.42 | **4.68▲** | | 0.1 |
| 5/16 | 12 | 7 | 5/16 | DW5229 | **4LC01** | 11.23 | **9.68▲** | | 0.2 |
| 3/8 | 6 | 4 | 5/16 | DW5230 | **4LC02** | 6.57 | **5.67▲** | | 0.1 |
| 3/8 | 12 | 7 | 3/8 | DW5231 | **4LC03** | 11.83 | **10.20▲** | | 0.3 |
| 7/16 | 6 | 4 | 3/8 | DW5234 | **4LC04** | 7.13 | **6.15▲** | | 0.1 |
| 1/2 | 6 | 4 | 4⅜ | DW5235 | **4LC05** | 9.80 | **8.45▲** | | 0.2 |
| 1/2 | 12 | 7 | 7⅝ | DW5236 | **4LC06** | 14.27 | **11.77▲** | | 0.6 |
| 5/8 | 6 | 4 | 4⅜ | DW5241 | **4LC07** | 12.55 | **10.82▲** | | 0.2 |
| 5/8 | 12 | 7 | 7⅝ | DW5242 | **4LC08** | 17.82 | **14.71▲** | | 0.5 |
| 3/4 | 6 | 4 | 4⅜ | DW5244 | **4LC09** | 15.92 | **13.13▲** | | 0.5 |
| 3/4 | 12 | 7 | 1/2 | DW5245 | **4LC10** | 24.72 | **20.39▲** | | 1.0 |
| 1 | 12 | 7 | 1/2 | DW5249 | **4LC11** | 43.72 | **34.45▲** | | 1.3 |

(▲) Net prices, not subject to discounts

# CARBIDE TIPPED HAMMER DRILL BITS AND DEMOLITION INSERT TOOLS

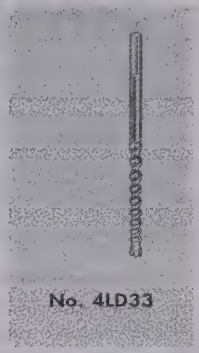
## CARBIDE TIPPED HAMMER DRILL BITS

**DEWALT**

**4-CUTTER SDS-max™ SHANK**

- Four cutter heads reduce vibration for less user fatigue
- Concave head design allows dust to enter flute chambers quickly increasing bit life
- Double flute life design gives quicker dust extraction and faster drilling
- Hardened core reduces breakage

Installation & Service Available
Contact Your Local Branch




### CARBIDE-TIPPED CORE BITS

| Type | DeWalt Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| **CENTERING BIT** | | | | | |
| **Centering Bit*** | DW5907 | **4LD65** | $30.17 | **$25.35▲** | 0.1 |
| **STANDARD CORE BODY** | | | | | |
| **1½" dia. x 4" lg.** | DW5900 | **4LD58** | 117.13 | **97.10▲** | 0.9 |
| **2" dia. x 4" lg.** | DW5901 | **4LD59** | 142.27 | **119.55▲** | 1.5 |
| **2½" dia. x 4" lg.** | DW5902 | **4LD60** | 171.18 | **143.80▲** | 2.3 |
| **3" dia. x 4" lg.** | DW5903 | **4LD61** | 210.88 | **177.25▲** | 3.1 |
| **3½" dia. x 4" lg.** | DW5904 | **4LD62** | 245.38 | **206.50▲** | 3.9 |
| **4" dia. x 4" lg.** | DW5905 | **4LD63** | 249.55 | **207.50▲** | 4.9 |
| **5" dia. x 4" lg.** | DW5906 | **4LD64** | 387.48 | **322.25▲** | 7.2 |
| **SHANK** | | | | | |
| **7" SDS Max Shank** | DW5911 | **4LT25** | 79.55 | **59.70▲** | 1.1 |
| **7" Spline Shank** | DW5909 | **4LD66** | 78.52 | **76.95▲** | 1.5 |
| **16" Spline Shank** | DW5910 | **4LD67** | 96.83 | **62.70▲** | 1.3 |

(*) Required for use with standard core body. (▲) Net prices, not subject to discounts.

### New! SDS-max™ SHANK DRILL BITS

| Bit Dia. (In.) | Overall Length (In.) | Drilling Length (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2*** | 13½ | 8 | DW5803 | **4LD33** | $61.48 | **$48.50▲** | 0.9 |
| **1/2*** | 21½ | 16 | DW5804 | **4LD34** | 77.42 | **61.05▲** | 1.1 |
| **5/8** | 13½ | 8 | DW5806 | **4LD35** | 72.35 | **57.05▲** | 1.0 |
| **5/8** | 21½ | 16 | DW5809 | **4LD36** | 98.00 | **77.25▲** | 1.2 |
| **3/4** | 13½ | 8 | DW5810 | **4LD37** | 70.52 | **55.55▲** | 1.2 |
| **3/4** | 21½ | 16 | DW5812 | **4LD38** | 98.60 | **77.65▲** | 1.6 |
| **7/8** | 13½ | 8 | DW5815 | **4LD39** | 89.00 | **70.10▲** | 1.5 |
| **7/8** | 21½ | 16 | DW5816 | **4LD40** | 101.25 | **79.75▲** | 1.9 |
| **1** | 13½ | 8 | DW5818 | **4LD41** | 88.68 | **69.90▲** | 1.7 |
| **1** | 21½ | 16 | DW5819 | **4LD42** | 102.93 | **81.10▲** | 2.2 |
| **1⅛** | 15 | 10 | DW5821 | **4LD43** | 118.88 | **93.70▲** | 2.0 |
| **1⅛** | 1/2 | 18 | DW5822 | **4LD44** | 135.48 | **106.75▲** | 2.8 |
| **1¼** | 15 | 10 | DW5824 | **4LD45** | 130.48 | **102.80▲** | 2.0 |
| **1¼** | 12 | 18 | DW5825 | **4LD46** | 145.63 | **114.75▲** | 3.6 |
| **1⅜** | 22½ | 18 | DW5827 | **4LD47** | 169.33 | **133.35▲** | 4.0 |
| **1½** | 22½ | 18 | DW5828 | **4LD48** | 196.97 | **155.25▲** | 4.6 |
| **1⅞16** | 22½ | 18 | DW5829 | **4PC27** | 207.56 | **178.50▲** | 5.0 |

(*) 2-cutter heads. (▲) Net prices, not subject to discounts.

### New! SDS-max™ SHANK CHIPPING TOOLS

| Description | Size (In.) | DeWalt Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **Bull Point** | 12 | DW5832 | **4LD49** | $28.85 | **$22.72▲** | 1.6 |
| **Bull Point** | 18 | DW5833 | **4LD50** | 33.88 | **26.75▲** | 2.5 |
| **Slotting** | 1½ x 12 | DW5842 | **4LD55** | 60.93 | **48.00▲** | 1.6 |
| **Scaling Chisel** | 2 x 12 | DW5837 | **4LD54** | 53.00 | **41.80▲** | 1.5 |
| **Cold Chisel** | 7/8 x 12 | DW5834 | **4LD51** | 28.85 | **22.72▲** | 1.6 |
| **Cold Chisel** | 7/8 x 15 | DW5835 | **4LD52** | 33.88 | **26.75▲** | 2.5 |
| **Bush Tool** | 1⅛ x 12 | DW5843 | **4LD56** | 145.32 | **114.45▲** | 3.0 |
| **Ground Rod Driver** | 5/8-3/4 Rods | DW5847 | **4LD57** | 90.17 | **71.05▲** | 3.0 |

(▲) Net prices, not subject to discounts.

### DON'T DELAY... ORDER FROM GRAINGER NOW!

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

## DEMOLITION INSERT TOOLS

### 3/4" HEX AND SPLINE INSERT TOOLS

| Description | For use with 3/4" Hex (In.) | For use with Spline Drive 3/4" Hex x 21/32" (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Bull Point** | 12 | — | DW5950 | **4LD69** | $13.93 | **$12.25▲** | 1.4 |
| **Bull Point** | 20 | — | DW5951 | **4LD70** | 16.73 | **14.72▲** | 1.9 |
| **Bull Point** | — | 12 | DW5770 | **4LD19** | 18.15 | **15.25▲** | 1.5 |
| **Bull Point** | — | 18 | DW5771 | **4LD20** | 22.57 | **18.96▲** | 2.3 |
| **Slotting Tool** | — | 12 | DW5772 | **4LD21** | 32.38 | **27.20▲** | 1.4 |
| **Scaling Chisel** | 3 x 12 | — | DW5952 | **4LD71** | 24.18 | **20.31▲** | 2.2 |
| **Scaling Chisel** | — | 1¼ x 12 | DW5773 | **4LD22** | 30.58 | **25.70▲** | 1.6 |
| **Scaling Chisel** | — | 2 x 12 | DW5774 | **4LD23** | 26.73 | **22.45▲** | 1.7 |
| **Cold Chisel** | 1 x 12 | — | DW5953 | **4LD72** | 13.93 | **12.25▲** | 1.4 |
| **Cold Chisel** | — | 7/8 x 12 | DW5779 | **4LD24** | 18.52 | **15.56▲** | 1.5 |
| **Cold Chisel** | 1 x 20 | — | DW5954 | **4LD73** | 16.73 | **14.72▲** | 1.9 |
| **Cold Chisel** | — | 7/8 x 18 | DW5780 | **4LD25** | 23.32 | **19.59▲** | 2.3 |
| **Asphalt Cutter** | 5 x 12 | — | DW5957 | **4LD76** | 77.75 | **65.35▲** | 3.8 |
| **Clay Spade** | 4½ x 16 | — | DW5959 | **4LD78** | 53.63 | **45.05▲** | 4.2 |
| **Ground Rod Driver** | 5/8-3/4 | — | DW5958 | **4LD77** | 86.42 | **72.65▲** | 1.3 |
| **Ground Rod Driver** | — | 5/8-3/4 | DW5785 | **4LD27** | 99.88 | **78.70▲** | 3.0 |
| **Bush Head** | 1¾ x 1¾ | — | DW5955 | **4LD74** | 40.42 | **34.00▲** | 1.4 |
| **Bush Head Shank** | 9 | — | DW5956 | **4LD75** | 13.23 | **11.64▲** | 1.4 |
| **2-Piece Bush Head Shank** | — | 1⅜ x 12 | DW5782 | **4LD26** | 68.93 | **57.90▲** | 2.4 |

### New! 1⅛" HEX PAVEMENT BREAKER INSERT TOOLS

| Description | Dimensions (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Bull Point** | 20 | DW5960 | **4LD79** | $25.88 | **$21.74▲** | 5.8 |
| **Wide Chisel** | 3 x 20 | DW5961 | **4LD80** | 37.85 | **31.85▲** | 6.1 |
| **Cold Chisel** | 20 | DW5962 | **4LD81** | 25.88 | **21.74▲** | 5.8 |
| **Asphalt Chisel** | 5 x 17 | DW5963 | **4LD82** | 90.60 | **76.15▲** | 9.2 |
| **Clay Spade** | 51/2 x 20 | DW5965 | **4LD84** | 103.92 | **87.35▲** | 10.0 |
| **Ground Rod Driver** | Up to 1" rods | DW5964 | **4LD83** | 73.65 | **61.90▲** | 1.9 |
| **Tamper Plate Shank** | 15 | DW5967 | **4LD86** | 67.33 | **56.60▲** | 6.9 |
| **Tamper Plate** | 6 x 6 | DW5966 | **4LD85** | 117.17 | **98.45▲** | 17.0 |

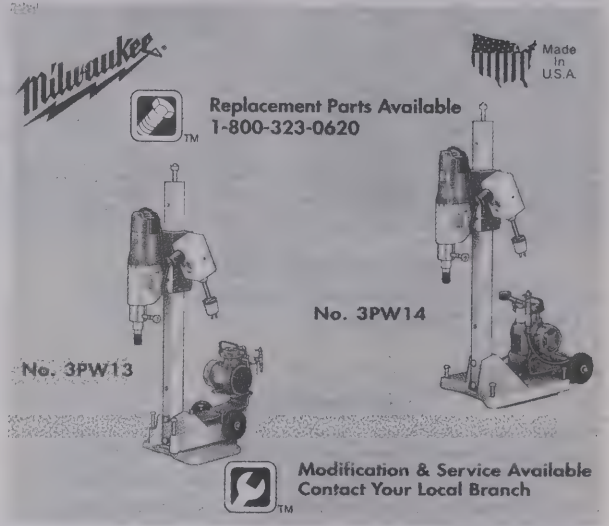
(▲) Net prices, not subject to discounts.

# DIAMOND CORING RIGS

- Cast aluminum base with 4 leveling screws for fast accurate leveling adjustment
- Durable precision-ground 2½" steel column, 43½" high
- Rear-mounted rack-and-pinion feed
- Jackscrew for ceiling and backwall bracing
- Reversible feed handle locking carriage
- Heavy-duty 5" solid rubber wheels
- Motors have clutch protection
- Spindle size—1¼ - 7"
- No. 3PW13 includes small base stand, vacuum pump, pump mounting bracket, hose, vacuum pad, meter box and 20 amp motor; No. 3PW14 includes all the above, but with a large base stand
- UL Listed, CSA Certified

| Volts | Amps | RPM | Tool Wt. (Lbs.) | Milwaukee Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 120 | 20 | 450/900 | 111½ | 4115-22 | 3PW13 | $2944.81 | $1975.00▲ | 187.0 |
| 120 | 20 | 450/900 | 115¼ | 4120-22 | 3PW14 | 3024.83 | 2033.00▲ | 192.0 |

▲) Net prices, not subject to discounts.



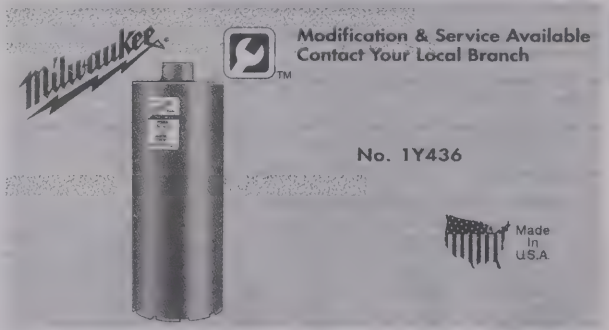

# DIAMOND CORING BITS

| Size (In.) | Milwaukee Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **PRESTRESSED CONCRETE DIAMOND BITS** | | | | | |
| 1 | 49-16-1007 | 1Y436 | $162.70 | $131.80▲ | 1.3 |
| 1½ | 49-16-1507 | 1Y439 | 207.70 | 168.25▲ | 2.3 |
| 2 | 49-16-2014 | 1Y442 | 272.64 | 221.00▲ | 3.3 |
| 2½ | 48-16-2514 | 1Y445 | 282.68 | 229.00▲ | 4.2 |
| 3 | 48-16-3014 | 1Y449 | 315.22 | 255.50▲ | 5.3 |
| 3½ | 48-16-3512 | 1Y452 | 348.98 | 282.75▲ | 6.7 |
| 4 | 48-16-4014 | 1Y455 | 372.82 | 302.00▲ | 6.9 |
| 4½ | 48-16-4507 | 1Y458 | 408.94 | 331.50▲ | 9.2 |
| 5 | 48-16-5014 | 1Y461 | 447.72 | 362.75▲ | 9.7 |
| 6 | 48-16-6014 | 1Y464 | 502.79 | 407.50▲ | 12.0 |
| **PREMIUM DIAMOND BITS** | | | | | |
| 1 | 48-16-1006 | 1Y435 | 209.01 | 169.25▲ | 1.2 |
| 1¼ | 48-16-1260 | 1Y437 | 257.74 | 208.75▲ | 1.5 |
| 1½ | 48-16-1506 | 1Y438 | 269.07 | 218.00▲ | 2.0 |
| 2 | 48-16-2013 | 1Y441 | 371.59 | 301.00▲ | 3.0 |
| 2½ | 48-16-2513 | 1Y444 | 411.69 | 333.50▲ | 4.0 |
| 2¾ | 48-16-2756 | 1Y446 | 427.85 | 346.50▲ | 4.5 |
| 3 | 48-16-3013 | 1Y448 | 474.18 | 384.25▲ | 5.4 |
| 3½ | 48-16-3511 | 1Y451 | 537.96 | 435.75▲ | 6.3 |
| 4 | 48-16-4013 | 1Y454 | 595.54 | 482.50▲ | 6.7 |
| 4½ | 48-16-4056 | 1Y457 | 690.57 | 559.50▲ | 9.1 |
| 5 | 48-16-5013 | 1Y460 | 736.91 | 597.00▲ | 9.8 |
| 6 | 48-16-6013 | 1Y463 | 896.98 | 726.50▲ | 12.0 |

▲) Net prices, not subject to discounts.

**Pre-Stressed Concrete (Premium Grade) DYMOBIT:** Specifically designed for diamond core drilling in prestressed concrete. Prestress bits also perform well in standard reinforced concrete.

**Premium Heavy-Duty Impregnated Diamond Bits:** Designed for fast, efficient cutting in a wide variety of concrete products ranging from poured, steel reinforced concrete to prestressed concrete and asphalt. Standard core length of 14" on all bits. For use with above diamond coring rigs.

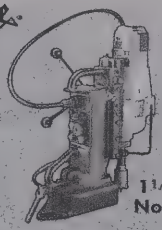



## LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.

# MAGNETIC DRILL PRESSES

Milwaukee



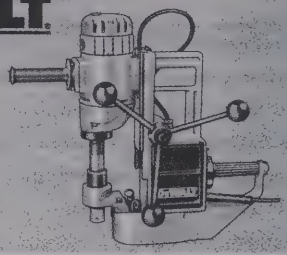
1¼" Press
No. 4A940

Made in U.S.A.

Replacement Parts Available
1-800-323-0620

Repair Service Available
Contact Your Local Branch

DEWALT



No. 4KV82

## MILWAUKEE MODELS

- 6 ft. safety chain is standard equipment
- Heavy-duty 9 ft. rubber cord
- UL Listed
- CSA Certified

### 3/4" PRESS No. 4A939

- Heavy-duty electronic speed control stand with increased holding power for materials as thin as 1/2" plate
- Up to 1670 lbs. drill point pressure on 1" steel plate
- 9" drill travel, reversible feed handle; adjustable gibs for smooth travel
- Motor mounts in 3 positions on rack and drill point centers 2 29/32" and 5 7/8" from base
- 3/4" chuck
- Includes 6Z291 and 6Z361
- Capacities: 3/4" drill bit; 1"-14 tap

### 1¼" PRESS No. 4A940

- Heavy-duty electronic speed stand with adjustable base; 3/4" movement forward and back; 20° movement right, left
- Up to 1915 lbs. drill point pressure on 1" steel plate
- 11" drill travel, reversible feed handle; adjustable gibs for smooth travel
- #3 morse taper arbor (Chuck and arbor not included; use No. 2Y794)
- Motor mounts in 3 positions on rack and drill point centers 3 13/32" and 5 33/64" from base
- Capacities: 1¼ drill bit; 1"-14 tap
- Includes Nos. 6Z362 and 6Z285

## DeWALT MODELS

- Oversized brush ring rotates for positive forward or reverse operation
- Feed handle is pushbutton reversible for close quarter operation
- 8 ft. 3-cond. cord
- 5 ft. safety chain is standard
- UL Listed, CSA Certified
- 1/2" minimum plate thickness

### 1/2" PRESS No. 4KW08

- 7⅛" stroke length (less bits and adapters)
- Includes magnetic base, 1/2" chuck and 5 ft. safety chain
- Capacities in mild steel: 5/64 to 1/2" tapping, reaming, or drilling

### 3/4" PRESS No. 4KW02

DeWalt annular cutters are available for No. 4KW02 and also fit Jancy, Hougen, Black & Decker, and other magnetic drill presses with 3/4" arbor collets; see Index.

- 6 3/16" stroke length (less bits and adapters)
- Includes magnetic base, 3/4" 3-jawed chuck, and 5 ft. safety chain
- Capacities in mild steel: 1/4 to 3/4" drilling; 5/8" tapping; 5/8" light gauge reaming; 1/2" heavy gauge reaming

### 2" PRESS No. 4KV82

- 2" stroke length (less bits and adapters)
- Arbor system designed for annular cutting use and provides automatic lubrication and slug ejection
- Includes magnetic base, arbor system, 5 ft. safety chain
- Capacities: 7/16" to 2" in mild steel with annular cutting
- Optional 3/4" chuck and arbor on No. 4KW03

| Type | No-Load RPM | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/4" Rev.** | 0-350 | 11.5 | Ball & Roller | 15 | 62 | Milw | 4210-1 | **4A939** | $2061.98 | **$1319.00▲** | 71.0 |
| **1¼" Rev.** | 500-250 | 11.5 | Ball & Roller | 17 | 84 | Milw | 4208-1 | **4A940** | 2427.97 | **1551.00▲** | 83.0 |
| **2" Rev.** | 375 | 10.0 | Ball & Roller | 16.5 | 49 | DeWalt | DW154 | **4KV82** | 2200.00 | **1368.00▲** | 64.0 |
| **3/4" Rev.** | 375 | 10.0 | Ball & Roller | 16.5 | 49 | DeWalt | DW156 | **4KW02** | 2038.00 | **1267.00▲** | 64.0 |
| **1/2" Rev.** | 450 | 7.0 | Ball & Roller | 16.5 | 42 | DeWalt | DW157 | **4KW08** | 1638.00 | **1018.00▲** | 55.0 |

## ADDITIONAL DRILL PRESS COMPONENTS AVAILABLE†

| Description | Bearings | No-Load RPM | Amps 120VAC | Mllw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Electromagnetic speed control drill press stand** | — | — | 12.5 | 4202 | **6Z361*** | $1240.99 | **$794.00▲** | 48.0 |
| **Electromagnetic speed control drill press stand with adjustable base** | — | — | 12.5 | 4203 | **6Z362*** | 1381.97 | **883.50▲** | 74.0 |
| **1/2" Rev. drill press motor** | Ball & Roller | 600 | 6.2 | 4253-1 | **6Z293*** | 481.99 | **307.50▲** | 8.0 |
| **3/4" Rev. drill press motor** | Ball & Roller | 350 | 11.5 | 4262-1 | **6Z291*** | 820.99 | **525.00▲** | 22.0 |
| **11/4" Rev. two-speed drill press motor** | Ball & Roller | 500/250 | 11.5 | 4297-1 | **6Z285*** | 1046.98 | **669.00▲** | 25.0 |
| **1/2" Press w/adjustable base** | Ball & Roller | 600 | 7.2 | 4204-1 | **3F863** | 1863.96 | **1191.00▲** | 68.0 |
| **3/4" Press w/adjustable base** | Ball & Roller | 350 | 12.5 | 4206-1 | **3F865** | 2202.97 | **1408.00▲** | 78.0 |

(*) UL Listed, CSA Certified. (†) Not shown. (▲) Net prices, not subject to discounts.

DEWALT



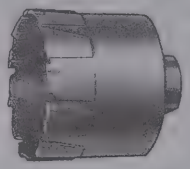
No. 4KV46

## ANNULAR CUTTERS

- Tooth geometry provides greater mass in the cutting edge to dissipate heat, thus reducing chance of breakage
- No center punch required for greater convenience
- Tougher, more durable than carbide cutters
- Can cut holes in material up to two inches thick
- For use with DeWalt models DW154 (No. 4KV82) with No. 4KW03 arbor and DW156 (No. 4KW02) with No. 4KW01 arbor; DW157 (No. 4KW08) with No. 4KW99 arbor; Jancy, Hougen, and other magnetic presses with 3/4" arbor collets

| Size (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1 x 9/16** | DW1502 | **4KV46** | $63.00 | **$46.85▲** | 0.3 |
| **1 x 5/8** | DW1503 | **4KV47** | 66.00 | **49.15▲** | 0.2 |
| **1 x 11/16** | DW1504 | **4KV48** | 69.00 | **51.30▲** | 0.3 |
| **1 x 3/4** | DW1505 | **4KV49** | 71.00 | **52.80▲** | 0.3 |
| **1 x 13/16** | DW1506 | **4KV50** | 76.00 | **56.55▲** | 0.3 |
| **1 x 7/8** | DW1507 | **4KV51** | 82.00 | **61.00▲** | 0.3 |
| **1 x 15/16** | DW1508 | **4KV52** | 88.00 | **65.40▲** | 0.3 |
| **1 x 1** | DW1509 | **4KV53** | 93.00 | **69.15▲** | 0.3 |
| **1" Pilot Bit** | DW1528 | **4KV70** | 22.00 | **16.33▲** | 0.3 |
| **2 x 9/16** | DW1531 | **4KV73** | 81.00 | **60.20▲** | 0.3 |
| **2 x 5/8** | DW1532 | **4KV74** | 88.00 | **65.40▲** | 0.4 |
| **2 x 11/16** | DW1533 | **4KV75** | 97.00 | **72.10▲** | 0.3 |
| **2 x 3/4** | DW1534 | **4KV76** | 107.00 | **79.50▲** | 0.4 |
| **2 x 13/16** | DW1535 | **4KV77** | 114.00 | **84.70▲** | 0.3 |
| **2 x 7/8** | DW1536 | **4KV78** | 120.00 | **89.15▲** | 0.3 |
| **2 x 15/16** | DW1537 | **4KV79** | 129.00 | **95.90▲** | 0.3 |
| **2 x 1** | DW1538 | **4KV80** | 140.00 | **104.05▲** | 0.4 |
| **2 x 1 1/16** | DW1539 | **4KV81** | 143.00 | **106.25▲** | 0.4 |
| **2" Pilot Bit** | DW1557 | **4KV98** | 28.00 | **20.80▲** | 0.2 |

Milwaukee



No. 4AK56

## STEEL HAWG® HOLE CUTTERS

- 2" cutting depth for steel plate, stainless steel, cast iron, or aluminum
- Carbide tipped inside/outside multiple cutting edges
- For Milwaukee models 4232-1 (No. 4A940) and 4233-1 (No. 4A939) with arbor listed below
- Will slot or notch material away from edge of workpiece or from edge of existing hole
- Premarked holes are located by positioning center pin of arbor on center mark; no pre-punching or pilot holes required

### HAWG WASH® CUTTING FLUID

- Water soluble chemical fluid concentrate with extra pressure additives in 16 oz. bottle. Sold in lots of 12. Priced per each.

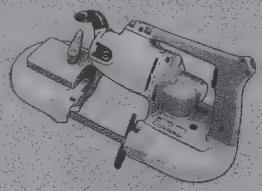
| Size (In.) | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/4** | 49-57-0750 | **4AK56** | $105.10 | **$74.50▲** | 0.1 |
| **13/16** | 49-57-0812 | **4AK57** | 113.27 | **80.30▲** | 0.1 |
| **7/8** | 49-57-0875 | **4AK58** | 119.10 | **84.45▲** | 0.1 |
| **15/16** | 49-57-0937 | **4AK59** | 128.44 | **91.05▲** | 0.3 |
| **1** | 49-57-1000 | **4AK60** | 140.11 | **99.30▲** | 0.4 |
| **1 1/16** | 49-57-1062 | **4AK61** | 141.27 | **100.15▲** | 0.4 |
| **1 1/8** | 49-57-1125 | **4AK62** | 167.01 | **118.35▲** | 0.4 |
| **1 3/16** | 49-57-1187 | **4AK63** | 174.01 | **123.35▲** | 0.4 |
| **1 1/4** | 49-57-1250 | **4AK64** | 178.67 | **126.65▲** | 0.6 |
| **1 5/16** | 49-57-1312 | **4AK65** | 190.35 | **134.90▲** | 0.4 |
| **1 3/8** | 49-57-1375 | **4AK66** | 199.69 | **141.50▲** | 0.4 |
| **1 7/16** | 49-57-1437 | **4AK67** | 228.86 | **162.25▲** | 0.6 |
| **1 1/2** | 49-57-1500 | **4AK68** | 239.37 | **170.00▲** | 0.5 |
| **1 9/16** | 49-57-1562 | **4AK69** | 268.61 | **190.50▲** | 0.5 |
| **1 5/8** | 49-57-1625 | **4AK70** | 288.45 | **204.50▲** | 0.6 |
| **1 11/16** | 49-57-1687 | **4AK71** | 298.96 | **212.00▲** | 0.6 |
| **1 3/4** | 49-57-1750 | **4AK72** | 317.64 | **225.25▲** | 0.1 |
| **1 13/16** | 49-57-1812 | **4AK73** | 332.81 | **236.00▲** | 0.5 |
| **1 7/8** | 49-57-1875 | **4AK74** | 351.48 | **249.25▲** | 0.6 |
| **1 15/16** | 49-57-1937 | **4AK75** | 374.82 | **265.75▲** | 0.6 |
| **2** | 49-57-2000 | **4AK76** | 390.05 | **276.50▲** | 0.6 |
| **#3 Morse Taper Arbor Assembly†** | 49-57-0100 | **4AK77** | 148.06 | **104.95▲** | 2.2 |
| **#2 Morse Taper Arbor Assembly†** | 49-57-0020 | **4AK78** | 148.12 | **104.95▲** | 0.1 |
| **3/4" Shank Arbor Assembly†** | 49-57-0030 | **4AK79** | 148.07 | **104.95▲** | 1.8 |
| **16 Oz. Hawg Wash*** ❸ | 49-32-0080 | **4AK80** | 7.37 | **7.22▲*** | 1.3 |

(*) Priced each. Sold in lots of 12.
(†) Assemblies consist of arbor, oil hose, and oiler. (▲) Net prices, not subject to discounts.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.


SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# PORTABLE BAND SAWS

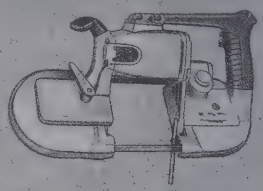


No. 2Z739

Modification & Service Available
Contact Your Local Branch

Made in U.S.A.

Replacement
Parts Available
1-800-323-0620



Nos. 6Z346 & 6W287

## MILWAUKEE PORTABLE BAND SAW KITS
## Nos. 2Z739, 5U711, 5U712 & 6Z344

- Feature needle bearing blade guides: cast-aluminum frame with glass reinforced nylon handle
- 44⅞ x 1/2 x 0.020" blade (3'-8⅞")
- Capacities: rounds and pipe up to 3½" diameter; rectangles up to 3½ x 4½"
- Kit includes band saw, one bi-metal blade, and metal carrying case; Nos. 5U711 & 6Z344 do not include case
- For AC operation only, except Nos. 5U711 and 5U712 AC/DC
- UL Listed, CSA Certified

## MILWAUKEE DEEP CUT PORTABLE BAND SAW KITS
## Nos. 6Z345, 6Z346 & 6W287

- Feature needle bearing blade guides: cast-aluminum frame with glass reinforced nylon handle
- Nos. 6Z345 & 6Z346 are variable speed; No. 6W287 is two speed
- 44⅞ x 1/2 x 0.020" blade (3'-8⅞")
- Capacities: rounds and pipe up to 4¾" diameter; rectangles up to 4¾ x 4¾"
- Kit includes band saw, one bi-metal blade, and metal carrying case; No. 6Z345 does not include case
- Nos. 6Z345 & 6Z346—AC operation only; No. 6W287—AC/DC
- UL Listed, CSA Certified

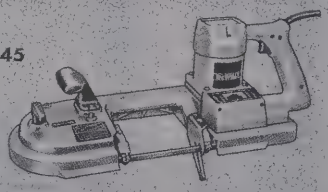
| Speeds | No-Load SFPM High | No-Load SFPM Low | Amps at 120V | Drive | Tool Length (In.) | Tool Wt. (Lbs.) | Blade Length (In.) | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 250 | 200 | 5.0/6.0 | Worm Gear & Chain | 20 | 16 | 44⅞ | 6226 | **2Z739** | $491.08 | **$284.00▲** | 29.0 |
| Variable | 0-350 | — | 6.0 | Worm Gear & Chain | 19¾ | 17 | 44⅞ | 6232 | **6Z346** | 531.06 | **308.00▲** | 31.0 |
| 2 | 350 | 250 | 6.0 | Worm Gear & Chain | 19¾ | 17 | 44⅞ | 6238 | **6W287** | 531.06 | **308.00▲** | 32.0 |
| 2 | 250 | 200 | 6.5/5.0 | Worm Gear & Chain | 20 | 16 | 44⅞ | 6223 | **5U711** | 464.27 | **264.00▲** | 20.0 |
| 2 | 250 | 200 | 6.5/5.0 | Worm Gear & Chain | 20 | 16 | 44⅞ | 6224-6 | **5U712** | 470.98 | **284.00▲** | 29.0 |
| 2 | 250 | 200 | 6/5 | Worm Gear & Chain | 70 | 16 | 44⅞ | 6225 | **6Z344** | 464.27 | **264.00▲** | 21.0 |
| Variable | 0-350 | — | 6.0 | Worm Gear & Chain | 20 | 17 | 44⅞ | 6230 | **6Z345** | 504.24 | **288.00▲** | 21.0 |

(▲) Net prices, not subject to discounts

## BAND SAWS Nos. 4KX45 & 4KX46

DEWALT

Nos. 4KX45



Modification & Service Available
Contact Your Local Branch

Features:

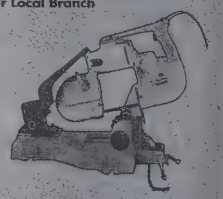
- Tracking control for blade
- Light weight for ease of operation
- Spur gear and chain drive
- Ball and needle bearing
- AC only
- Capacities: rectangles up to 4¾ x 4½"
- Includes band saw blade and blade wax
- No. 4KX45 includes kit box
- 44⅞ x 1/2 x .020 Blade (3' 8⅞")

| Speeds | SFPM High | SFPM Low | Amps at 120V | Drive | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Blade Lgth. (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Var. | 265 | 100 | 6.0 | Direct | 21.5 | 14 | 44⅞ | DW328K | **4KX45** | $570.00 | **$353.50▲** | 36.0 |
| 2 | 280 | 230 | 6.0 | Direct | 21.5 | 14 | 44⅞ | DW329 | **4KX46** | 516.00 | **320.50▲** | 17.0 |

(▲) Net prices, not subject to discounts

## PORTABLE BAND SAW TABLE

Modification & Service Available
Contact Your Local Branch



No. 1Y335

- Converts Milwaukee's portable band saws to stationary units
- Can be mounted on a workbench or used on the job with 3/4" diameter pipe for legs (pipe legs not supplied)
- Heavy-duty clamping chain and crank nut easily secures all shapes of materials
- Milwaukee brand (48-08-0260).

**No. 1Y335.** Shpg. wt. 38.0 lbs. List $481.78.
Each .....$359.25▲



*Put America's power tool powerhouse to work for you today.*

# PORTABLE BAND SAW BLADES, BAND SAWS, AND ACCESSORIES

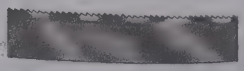
## PORTABLE BAND SAW BLADES

To allow a wide range of cutting capabilities for all standard portable band saws. Bi-Metal blades provide the best balance of metallurgical properties to resist heat, wear and shock. Flex-Back blades have a hardened tooth and flexible back.

Starrett®

Modification & Service Available Contact Your Local Branch

Replacement Parts Available 1-800-323-0620

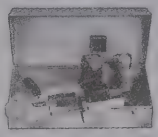


| Length | Dimensions Width (In.) | Thickness (In.) | Teeth Per Inch | To Fit Portable Band Saws from these Manufacturers | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **FLEX-BACK** | | | | | | | | |
| 3' 8⅞" | 1/2 | .020 | 14 | Black & Decker, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | HE14 | 4L050 | $3.82 | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 18 | Black & Decker, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | HE18 | 4L051 | 3.82 | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 24 | Black & Decker, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | HE24 | 5E718 | 3.82 | 0.3 |
| 4' 5¾" | 1/2 | .020 | 14 | Greenlee, Rockwell, Porter-Cable | RHE14 | 5E719 | 3.87 | 0.3 |
| **BI-METAL** | | | | | | | | |
| 3' 8⅞" | 1/2 | .020 | 14 | Black & Decker, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | BM14 | 4L225 | 8.86 | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 18 | Black & Decker, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | BM18 | 4L226 | 8.86 | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 24 | Black & Decker, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | BM24 | 4L227 | 8.86 | 0.3 |
| 4' 5¾" | 1/2 | .020 | 14 | Greenlee, Rockwell, Porter-Cable | RBM14 | 4L229 | 9.60 | 0.3 |
| 4' 5¾" | 1/2 | .020 | 18 | Greenlee, Rockwell, Porter-Cable | RBM18 | 4L231 | 9.60 | 0.3 |
| 4' 5¾" | 1/2 | .020 | 24 | Greenlee, Rockwell, Porter-Cable | RBM24 | 4L232 | 9.60 | 0.3 |



Replacement Parts Available 1-800-323-0620

No. 4Z958



No. 3JF63

PORTER-CABLE

Modification & Service Available Contact Your Local Branch

## VARIABLE SPEED PORTA-BAND SAW KIT No. 3JF63

- 6 amps, AC only
- 44⅞" blade; cuts 4½ x 4¾" rectangle
- Variable speed dial 100-245 SFPM
- Ball and needle bearings
- Include 18T bi-metal blade, blade wax and steel carrying case

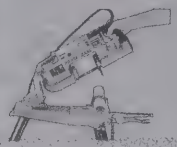
**No. 3JF63.** Porter Cable brand (97724). Shpg. wt. 27.0 lbs.
List $429.00. Each ..... $255.00▲

## PORTABLE BAND SAW KIT No. 4Z958

- Features free floating front pulley to maintain blade tension while cutting
- Capacities: rounds and pipe up to 3⅜" diameter; rectangles up to 3⅜ x 4⅛"
- 44⅞ x 1/2 x 0.020" blade (3'-8⅞")
- Kit includes band saw, blade, blade wax, gear lubricant, steel carrying case, and 10 ft., 3-cond. cord
- Two Speed 195/245 SFPM
- Power source AC/DC
- UL Listed, CSA Certified

**No. 4Z958.** Porter Cable brand (9725). Shpg. wt. 35.0 lbs.
List $474.00. Each ..... $277.50▲

▲) Net prices, not subject to discounts.



No. 3JF39



No. 3JF38

## PORTA-BAND SAW ACCESSORIES For No. 3JF63

### PORTA-BAND STAND

Increased Porta-Band saw flexibility. 11W x 10½H x 19⅞"L. Fits models 7724 and 7723.

**No. 3JF38.** Porter Cable brand (5028). Shpg. wt. 33.0 lbs.
List $380.00. Each ..... $288.00▲

## PORTA-BAND SAW ACCESSORIES For No. 4Z958

### PORTA-BAND STAND

Increased Porta-Band saw flexibility. 11W x 10½H x 19⅞"H. Fits models 724, 725, 726, 736 and 9725.

**No. 3JF39.** Porter Cable brand (5032). Shpg. wt. 33.0 lbs.
List $380.00. Each ..... $288.00▲

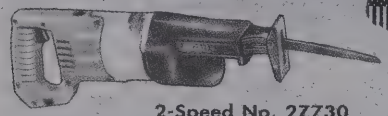
### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# RECIPROCATING SAWS

Replacement Parts Available 1-800-323-0620

Milwaukee



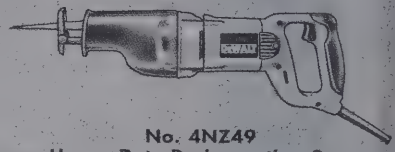
2-Speed No. 2Z730
Variable Speed Nos. 4Z373 & 6Z348

Made in U.S.A.



Dual Range
Variable Speed
Nos. 2AC04 & 2AC26

DEWALT New



No. 4NZ49
Heavy-Duty Reciprocating Saw

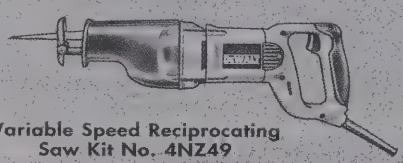
## SAWZALL, SAWZALL PLUS, AND SUPER SAWZALL® KITS

- Nos. 3LJ36, 4PF77, 4PF78 and 5M628 have Quik-Lock® blade clamp, blade clamp return spring, and impact protection system
- Nos. 2AC04, 2AC26, 3LJ36 & 5M628 have quick adjustable shoe release lever
- No. 2Z730 is 2-speed; Nos. 3LJ33 & 4Z373 are variable speed; Nos. 2AC04, 2AC26, 3LJ36, & 5M628 have dial speed selector
- Nos. 2Z730 & 2AC26 have 8-ft., 3-cond. rubber cord; Nos. 4PF78, 3LJ36, 2AC04, 5M628, & 4Z373 have 8-ft., 3-cond. Quik-Lock® detachable rubber cord
- Nos. 3LJ33 and 4PF77 have 8 ft. 2-cond. cord
- Rubber boot for superior grip and operator comfort
- Reversible blade clamp system for cutting upside down
- Includes Sawzall, 2 high performance Super Sawzall bi-metal blades, hex key, extra blade clamp/screw, and metal carrying case
- UL Listed, CSA Certified
- Adjustable pivot shoe
- Counter-balance mechanism reduces vibration for extra smooth operation

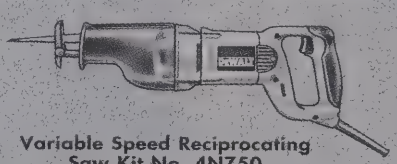
## HEAVY-DUTY KEYLESS RECIPROCATING SAWS Nos. 4NZ49 & 4NZ50

- 1¼" Stroke length
- Lever-action keyless blade clamp allows user to safely and easily change blades without touching the reciprocating shaft
- Push-button adjustable shoe
- Counter balance for low vibration
- Rubber grip and wider trigger for increased comfort

DEWALT New



Variable Speed Reciprocating Saw Kit No. 4NZ49



Variable Speed Reciprocating Saw Kit No. 4NZ50

PORTER-CABLE



Variable Speed
No. 6Z296

## DeWALT RECIPROCATING SAW KITS Nos. 4NZ48, 4NZ49, & 4NZ50

- No. 4NZ48 has full 1⅛" stroke; Nos. 4NZ49 and 4NZ50 have 1¼" stroke
- Variable speed; No. 4NZ49 is dual-speed
- Nos. 4NZ49 and 4NZ50 have rubber grip and wider trigger for increased comfort
- Nos. 4NZ49 and 4NZ50 have push-button adjustable shoe, and keyless blade clamp
- Includes metal and woodworking blades and kit box. No. 4NZ48 also includes Allen wrench and holder

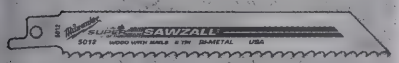
## PORTER-CABLE "QUICK CHANGE" TIGER SAW KIT

- Uses "quick change" blade clamp—no more Allen wrenches, simply twist collar and insert blade
- Orbital or straight line action with 1⅛" blade stroke
- Variable speed trigger switch—0-2600 SPM

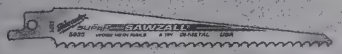
| Type | No-Load Strokes Per Min. | Blade Stroke (In.) | Amps at 120V | Bearings | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable | 0-1700 / 0-2400 | 3/4 | 6.0 | Ball & Roller | 16 | 7 | Milw. | 6507-6 | | 4Z373 | $278.00 | $162.00▲ | 17.0 |
| Variable | 0 - 2400 | 3/4 | 6.0 | Ball & Roller | 16 | 6¾ | Milw. | 6509-6 | | 3LJ33 | 277.32 | 119.00▲ | 17.0 |
| Variable | 0 - 2400 | 3/4 | 6.0 | Ball & Roller | 16 | 6¾ | Milw. | 6509-21 | New | 4PF77 | 266.40 | 154.75▲ | 17.0 |
| 2-Speed | 1700 / 2400 | 3/4 | 6.0 | Ball & Roller | 16 | 7 | Milw. | 6511-6 | | 2Z730 | 277.08 | 152.00▲ | 17.0 |
| Variable | 0 - 2800 | 1 | 7.5 | Ball & Roller | 17½ | 7½ | Milw. | 6517-20 | | 5M628 | 305.00 | 182.00▲ | 19.0 |
| Variable | 0 - 2000 / 0 - 2800 | 1¼ | 9.5 | Ball & Roller | 17½ | 8¾ | Milw. | 6527-6 | | 2AC04 | 360.81 | 169.00▲ | 20.0 |
| Variable | 0 - 3200 | 1¼ | 10.0 | Ball & Roller | 17½ | 8¾ | Milw. | 6537-22 | | 3LJ36 | 381.91 | 202.00▲ | 11.0 |
| Variable | 0 - 2000 / 0 - 2800 | 1¼ | 10.0 | Ball & Roller | 17½ | 8¾ | Milw. | 6528-6 | | 2AC26 | 346.99 | 213.00▲ | 20.0 |
| Variable | 0 - 2800 | 1¼ | 9.5 | Ball & Roller | 18 | 8¾ | Milw. | 6527-21 | New | 4PF78 | 343.00 | 211.25▲ | 20.0 |
| Variable | 0 - 2400 | 1⅛ | 6.5 | Ball & Roller | 16.7 | 6.5 | DeWalt | DW303K | New | 4NZ48 | 192.00 | 109.05▲ | 8.0 |
| 2-Speed | 0 - 2000/0 - 2800 | 1¼ | 9.0 | Ball & Roller | 17 | 6.9 | DeWalt | DW307K | New | 4NZ49 | 274.00 | 155.00▲ | 6.5 |
| Variable | 0 - 2900 | 1¼ | 10.0 | Ball & Roller | 17.5 | 8.7 | DeWalt | DW309K | New | 4NZ50 | 318.00 | 180.00▲ | 7.0 |
| Variable | 0-2600 | 1⅛ | 9.6 | Ball & Roller | 17 | 9 | Porter Cable | 9737 | | 6Z296 | 307.00 | 169.00▲ | 18.0 |

(▲) Net prices, not subject to discounts.

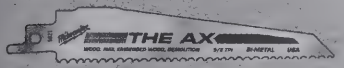
Modification & Service Available
Contact Your Local Branch



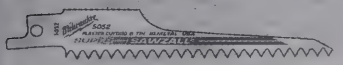
No. 1BV05
Wood Cutting Blade



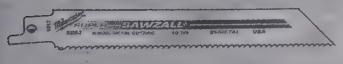
No. 2AC11
Wood Cutting Blade



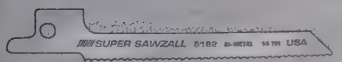
No. 3LC90
Wood, Nail Embedded Wood, & Demolition Blades



No. 1BV08
Plaster Cutting Blades



No. 1BV09
All Purpose Blades



No. 1BV10 Metal Scroll Cutting Blades

# HIGH PERFORMANCE SUPER SAWZALL® BLADES

- Matrix II high speed steel teeth with 8% cobalt
- Tough bi-metal design for the fastest cutting, longest blade life available
- 1/2" universal tang

## WOOD CUTTING BLADES

| Teeth Per In. | Lgth. (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 6 | 3/4 | Composition materials | 48-00-5012 | 5 | 1BV05 | $13.96 | $12.20▲ | 0.2 |

## WOOD CUTTING BLADES

| Teeth Per In. | Lgth. (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 5/8 | 6 | 3/4 | Very fast cutting, nail embedded wood, general roughing-in. | 48-00-5031 | 5 | 2AC11 | $17.03 | $12.45▲ | 0.2 |
| 6 | 6 | 3/4 | | 48-01-6031 | 50 | 1Y247 | 137.31 | 117.70▲ | 2.0 |
| 6 | 6 | 3/4 | | 48-00-5035 | 5 | 1BV06 | 17.03 | 14.94▲ | 0.2 |
| 6 | 9 | 3/4 | | 48-00-5036 | 5 | 2AC12 | 22.60 | 16.43▲ | 0.1 |
| 6 | 9 | 3/4 | | 48-01-6036 | 50 | 1Y248 | 181.23 | 155.50▲ | 3.5 |
| 6 | 12 | 3/4 | | 48-00-5037 | 5 | 1BV07 | 25.74 | 22.10▲ | 0.5 |
| 6 | 12 | 3/4 | | 48-01-6037 | 50 | 1BV28 | 198.17 | 170.00▲ | 5.0 |
| 4/6 | 6 | 1/2 | Very fast scroll cutting, circles, contours, nail embedded wood. | 48-00-5041 | 5 | 2AC13 | 18.74 | 14.73▲ | 0.2 |

## WOOD, NAIL EMBEDDED WOOD AND DEMOLITION BLADES

| Teeth Per In. | Lgth. (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 5/8 | 6 | 1 | Excellent for plunge cutting into wood and nail embedded wood. | 48-00-5021 | 5 | 3LC90 | $19.51 | $15.30▲ | 0.3 |
| 5/8 | 9 | 1 | Cut into walls that contain wood, nails, plaster and aluminum. | 48-00-5026 | 5 | 3LC91 | 25.80 | 20.30▲ | 0.4 |
| 5/8 | 12 | 1 | Extra long demolition blade | 48-00-5027 | 5 | 3LC92 | 29.74 | 22.32▲ | 0.9 |

## PLASTER CUTTING BLADES

| Teeth Per In. | Lgth. (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 5 | 3/4 | Plaster with metal lath, plasterboard | 48-00-5052 | 5 | 1BV08 | $12.18 | $10.40▲ | 0.1 |

## ALL PURPOSE BLADES

| Teeth Per In. | Lgth. (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 4 | 3/4 | All woods, nail embedded, plastic, composition material, non-ferrous metals | 48-00-5090 | 5 | 1BV09 | $10.57 | $9.09▲ | 0.1 |
| 10 | 6 | 3/4 | | 48-00-5092 | 5 | 2AC15 | 14.57 | 11.47▲ | 0.3 |
| 8/12 | 6 | 3/4 | All woods, nail embedded, plastic, composition material, non-ferrous metals, cast iron | 48-00-5091 | 5 | 2AC14 | 14.57 | 11.47▲ | 0.3 |
| 8/12 | 6 | 3/4 | | 48-01-6091 | 50 | 1Y250 | 115.55 | 99.10▲ | 2.8 |
| 8/12 | 8 | 3/4 | | 48-00-5093 | 5 | 2AC16 | 18.73 | 13.39▲ | 0.4 |
| 8/12 | 8 | 3/4 | | 48-01-6093 | 50 | 1Y252 | 149.18 | 127.85▲ | 3.9 |
| 8/12 | 12 | 3/4 | | 48-00-5094 | 5 | 2AC17 | 28.35 | 20.25▲ | 0.7 |
| 8/12 | 12 | 3/4 | | 48-01-6094 | 50 | 1Y253 | 219.26 | 188.00▲ | 4.9 |
| 10/14 | 8 | 5/8 | All woods, nail embedded, plastic, composition material, aluminum, non-ferrous metals | 48-00-5193 | 5 | 1BV18 | 17.80 | 15.30▲ | 0.2 |
| 10/14 | 12 | 5/8 | | 48-00-5194 | 5 | 1BV19 | 25.75 | 22.10▲ | 0.3 |

## METAL SCROLL CUTTING BLADES

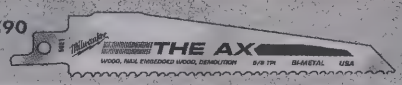
| Teeth Per In. | Lgth. (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 3⅝ | 5/16 | Scroll cutting wood, contours, nail embedded wood, plastics | 48-00-5161 | 5 | 1BV10 | $14.12 | $12.06▲ | 0.1 |
| 14 | 3⅝ | 5/16 | Scroll cutting metal 1/8" thru 3/16" | 48-00-5162 | 5 | 2AC18 | 14.12 | 10.55▲ | 0.2 |
| 18 | 3⅝ | 5/16 | Scroll cutting metal under 1/8" | 48-00-5163 | 5 | 1BV11 | 14.12 | 12.06▲ | 0.1 |

(▲) Net prices, not subject to discounts.

### LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

Check your frequently-ordered product categories for line extensions and new product offerings. Look fo. the "New Products" header at the top of the page and the "New" designation next to the stock number.

# RECIPROCATING SAW BLADES




## METAL CUTTING BLADES

| Teeth Per In. | Length (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 14 | 4 | 3/4 | Metal 3/16" thru 1/4", conduit, tubing, channels, pipe, rubber, fiber | 48-00-5181 | 5 | 1BV12 | $10.57 | $9.09 ▲ | 0.1 |
| 14 | 6 | 3/4 | | 48-00-5182 | 5 | 2AC19 | 14.57 | 11.47 ▲ | 0.2 |
| 14 | 6 | 3/4 | | 48-01-6182 | 50 | 1Y254 | 115.56 | 99.10 ▲ | 2.0 |
| 14 | 6 | 5/8 | | 48-00-5282 | 5 | 1BV20 | 12.56 | 10.71 ▲ | 0.1 |
| 14 | 9 | 3/4 | Metal 3/16" thru 1/4", conduit, tubing, channels, pipe, rubber, fiber | 48-00-5187 | 5 | 1BV15 | 17.79 | 15.30 ▲ | 0.3 |
| 18 | 4 | 3/4 | Metal 3/16" thru 1/4", conduit, tubing, channels, pipe | 48-00-5183 | 5 | 1BV13 | 10.57 | 9.09 ▲ | 0.1 |
| 18 | 6 | 3/4 | | 48-00-5184 | 5 | 2AC20 | 14.57 | 11.47 ▲ | 0.2 |
| 18 | 6 | 3/4 | | 48-01-6184 | 50 | 1Y255 | 115.56 | 99.10 ▲ | 2.0 |
| 18 | 9 | 3/4 | Metal 1/8" thru 3/16", conduit, tubing, channels, pipe | 48-00-5188 | 5 | 1BV16 | 17.79 | 15.30 ▲ | 0.3 |
| 18 | 9 | 3/4 | | 48-01-6188 | 50 | 1BV35 | 143.13 | 122.70 ▲ | 3.0 |
| 18 | 12 | 3/4 | | 48-00-5189 | 5 | 1BV17 | 22.24 | 19.08 ▲ | 0.4 |
| 24 | 4 | 3/4 | Metal thinner than 1/8", tubing, pipe, trim | 48-00-5185 | 5 | 1BV14 | 10.57 | 9.09 ▲ | 0.1 |
| 24 | 6 | 3/4 | | 48-00-5186 | 5 | 2AC21 | 14.57 | 11.47 ▲ | 0.3 |
| 24 | 6 | 3/4 | | 48-01-6186 | 50 | 1Y256 | 115.56 | 99.10 ▲ | 2.0 |
| 24 | 6 | 5/8 | | 48-00-5286 | 5 | 1BV22 | 12.56 | 10.71 ▲ | 0.1 |

## 787 SERIES METAL CUTTING BLADES

| Teeth Per In. | Length (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 5½ | 1* | Metal pipe, channels, tubing, angle iron up to 2", nail embedded wood | 48-01-5500 | 5 | 1BV23 | $40.15 | $34.40 ▲ | 0.4 |
| 8 | 8 | 1* | Metal pipe, channels, tubing, angle iron up to 4", nail embedded wood | 48-01-5510 | 5 | 1BV24 | 45.93 | 39.35 ▲ | 0.6 |

(*) Extra width and larger tang (20mm).

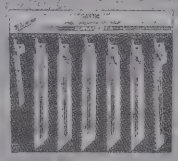
## TUNGSTEN CARBIDE BLADES

| Type Grit | Length (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Coarse | 4 | 3/4 | Medium and coarse grits for cutting hardwood flooring, cast iron, stainless steel, fiberglass materials, ceramic tile, stone slate, clay pipe, carbon, brick, plaster, marble and chalkboard | 48-00-1400 | 3 | 1Y227 | $15.97 | $14.76 ▲ | 0.1 |
| Medium | 3½ | 1/2 | | 48-00-1410 | 3 | 1Y228 | 17.23 | 14.75 ▲ | 0.1 |
| Coarse | 6 | 3/4 | | 48-00-1420 | 3 | 1Y229 | 19.23 | 16.50 ▲ | 0.1 |
| Coarse | 9 | 3/4 | | 48-00-1430 | 3 | 1Y230 | 24.75 | 21.20 ▲ | 0.2 |

## WOOD, NAIL EMBEDDED WOOD, AND DEMOLITION SAWZALL BLADES

| Teeth Per In. | Length (In.) | Width (In.) | Applications | Milwaukee Model | Pkg. Qty. | Stock No. | List | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 5/8 | 6 | 1 | Excellent for plunge cutting into wood and nail embedded wood | 48-00-5021 | 5 | 3LC90 | $19.51 | $15.30▲ | 0.3 |
| 5/8 | 9 | 1 | Cut into wall that contains wood, nails, plaster and aluminum | 48-00-5026 | 5 | 3LC91 | 25.80 | 20.30▲ | 0.4 |
| 5/8 | 12 | 1 | Extra long demolition blade | 48-00-5027 | 5 | 3LC92 | 29.74 | 22.32▲ | 0.9 |

(▲) Net prices, not subject to discounts.



No. 2AC22

## BLADE PACK ASSORTMENT

| No. of Pieces | Contains 1 each | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 7 | 48-01-5162, 5182, 5184 5091, 5092, 5031, 5041 | 2AC22 | $19.82 | $18.90▲ | 0.3 |

## SUPER SHARP® BI-METAL SAWZALL BLADES

- Fleam filed teeth for extremely fast cutting
- For nail-free wood and plastic cutting
- Available in 6, 9, or 12" lengths

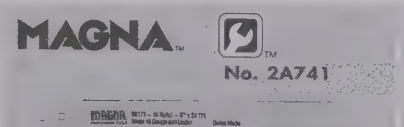
3/4" wide blade have high speed, 8% cobalt steel teeth, 6 per inch. 0.050" thickness with 1/2" universal tang. Sold in package quantities of 5.

| Blade Description | Milwaukee Model | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 6" Sawzall | 48-00-5015 | 4TR34 | $18.79▲ | 0.3 |
| 9" Sawzall | 48-00-5016 | 4TR35 | 24.09▲ | 0.3 |
| 12" Sawzall | 48-00-5017 | 4TR36 | 30.20▲ | 0.3 |
| 6" Scroll Sawzall | 48-00-5018 | 4TR37 | 20.09▲ | 0.3 |

# RECIPROCATING SAW BLADES, HACKSAW BLADES, AND HACKSAW

## BI-METAL BLADES

- 1/2" universal tang fits most U.S. and foreign made saws
- Flexible spring steel back for long blade life and hardened teeth allow for cutting in nail-embedded wood
- Last up to 5 times longer than ordinary carbon steel type blades




• Priced each. Sold only in pkgs. of 5

## UNIVERSAL SHANK SET

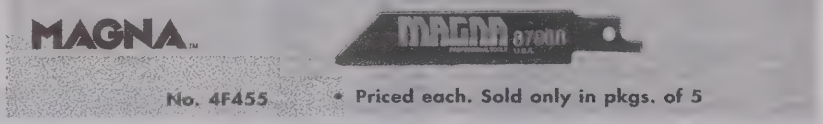
- Includes Nos. 5F558, 2A749, 2A750, 2A751 & 2A748
- Magna brand (88800)

**No. 5F560.** Shpg. wt. 0.2 lbs. List $12.38. Each $11.14; Lots 5 ..... $10.58

| Teeth per In. | Blade Length | Applications | Brand Name Cross-Reference: Milwaukee | Lenox | Bosch | Magna Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 6" | Wood cutting bi-metal | 48-01-3035 | 656R | S611DF | 88181 | **2A741** | $2.88 | **$2.59** | **$2.46** | 0.1 |
| 6 | 9 | | 48-01-3036 | 956R | S1511DF | 88182 | **4F454** | 4.70 | **4.23** | **4.02** | 0.1 |
| 6 | 12 | | 48-01-3037 | 156R | S1411DF | 88183 | **2A742** | 5.32 | **4.79** | **4.55** | 0.1 |
| 10 | 6 | | 48-01-5092 | 610R | S811HF | 88176 | **2A743** | 2.64 | **2.38** | **2.26** | 0.1 |
| 6 | 6 | | 48-01-1012 | 636RP | S811DF | 88180 | **2A748** | 2.56 | **2.30** | **2.19** | 0.1 |
| 10 | 4 | Metal cutting bi-metal | 48-01-1161 | 414R | 5518HF | 88164 | **5F556** | 2.16 | **1.94** | **1.85** | 0.1 |
| 10 | 8 | | — | — | S1118VF | 88174 | **4F453** | 3.38 | **3.04** | **2.89** | 0.1 |
| 10 | 3½ | | 48-01-1162 | 314RC | 5418BF | 88156 | **5F557** | 2.78 | **2.50** | **2.38** | 0.1 |
| 14 | 4 | | 48-01-1181 | 414R | 5518BF | 88161 | **5F558** | 2.02 | **1.82** | **1.73** | 0.1 |
| 14 | 6 | | 48-01-1182 | 614R | S918BF | 88177 | **2A750** | 2.56 | **2.30** | **2.19** | 0.1 |
| 18 | 4 | | 48-01-1183 | 418R | S518EF | 88162 | **2A749** | 2.02 | **1.82** | **1.73** | 0.1 |
| 18 | 6 | | 48-01-1184 | 618R | S918EF | 88178 | **2A751** | 2.56 | **2.30** | **2.19** | 0.1 |
| 18 | 3½ | | 48-01-1162 | 318RC | S418EF | 88157 | **2A752** | 2.52 | **2.27** | **2.15** | 0.1 |
| 24 | 6 | | 48-01-1186 | 624R | 5918AF | 88179 | **5F559** | 2.66 | **2.39** | **2.27** | 0.1 |
| 6 | 6 | Plaster cutting bi-metal | 48-00-1056 | — | S828DF | 87986 | **4F452** | 2.68 | **2.41** | **2.29** | 0.1 |

## CARBIDE GRIT BLADES

- Coarse grit cuts through tough, hard, and abrasive materials
- For faster cutting in thicker materials, and tight radius cuts
- Cuts tile, fiberglass, slate, plaster, and composition board

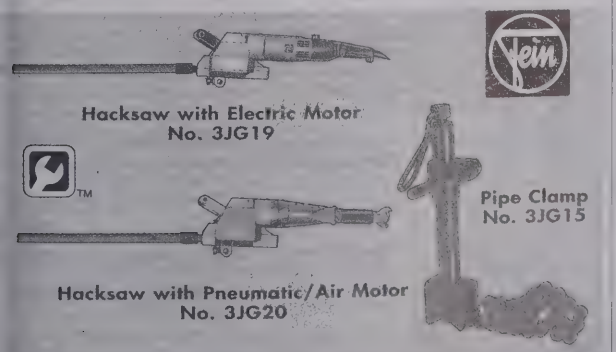



• Priced each. Sold only in pkgs. of 5

| Grit | Blade Length | Applications | Magna Model | Stock No. | List | Lots 5 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Coarse | 4" | Tough, hard | 87968 | **4F455** | $5.64 | **$5.08** | **$4.82** | 0.1 |
| Coarse | 6 | abrasive materials | 87969 | **4F456** | 6.62 | **5.96** | **5.66** | 0.1 |

## RECIPROCATING HACKSAW

Powerful hacksaw for pipes (up to 12¾" diameter) and profiles in high risk conditions, plant maintenance, and field demolition. See accessories below to select the clamp diameter and blade length required for your application. Available with double insulated electric motor or powerful pneumatic motor. No. 3JG19 is 120V, 60 Hz, 7.4 amp with 2-conductor 10 ft. cord.




## HACKSAW ACCESSORIES

### PIPE CLAMPS FOR HACKSAW

| Pipe Dia. (In.) | Fein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 6 | 90702001001 | **3JG15** | $255.00 | **$242.25▲** | 6.0 |
| 12¾ | 90702004006 | **3JG17** | 298.00 | **283.25▲** | 14.0 |

Note: No. 3JG15 also for mitre cuts. No. 3JG17 accommodates from 35/16".

Fein Hacksaw Guide. To help maintain straight cut on larger pipes, specifically pipes larger than 8" in diameter. Fein brand (90606002009).

**No. 3JG14.** Shpg. wt. 5.0 lbs. List $278.00. Each ..... $264.25▲

### HACKSAW BLADES

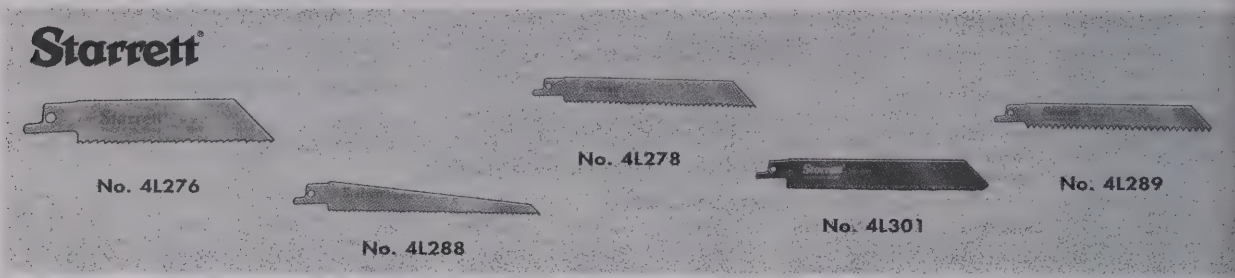
| Length (In.) | Teeth/ Inch | Blades Per Box | Fein Model | Stock No. | List | Each† | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 8 | 8 | 10 | 63503065009 | **3JF70** | $6.30 | **$5.99▲** | 2.0 |
| 8 | 16 | 10 | 63503066002 | **3JF71** | 6.30 | **5.99▲** | 0.5 |
| 8 | 24 | 10 | 63503067006 | **3JF72** | 6.30 | **5.99▲** | 0.5 |
| 12 | 16 | 10 | 63503063007 | **3JF68** | 6.30 | **5.99▲** | 0.2 |
| 12 | 12 | 10 | 63503070000 | **3JF75** | 7.20 | **6.84▲** | 0.4 |
| 16 | 16 | 10 | 63503064005 | **3JF69** | 10.09 | **9.08▲** | 0.3 |
| 16 | 8 | 10 | 63503068004 | **3JF73** | 10.09 | **9.08▲** | 0.3 |
| 20 | 14 | 10 | 63503072002 | **3JF76** | 15.91 | **14.32▲** | 0.8 |
| 21 | 4 | 10 | 63503040113 | **3JF67** | 14.76 | **13.29▲** | 0.5 |
| 21 | 12 | 10 | 63503069008 | **3JF74** | 14.04 | **12.64▲** | 0.4 |
| 24 | 14 | 10 | 63503073006 | **3JF77** | 22.46 | **20.21▲** | 0.8 |
| 24 | 8 | 10 | 63503074020 | **3JF78** | 24.02 | **21.62▲** | 0.8 |

(†) Priced each—sold in package quantities of 10 only. (▲) Net prices, not subject to discounts.

### HEAVY-DUTY RECIPROCATING HACKSAW SPECIFICATIONS AND ORDERING DATA

| Motor Type | PSI | CFM | Blade Stroke (In.) | Stroke Per Min. | Fein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Electric | — | — | 3⅝ | 100-350 | Astxe 649 | **3JG19** | $1841.84 | **$1658.00▲** | 19.0 |
| Air/Pneumatic | 86 | 51 | 2⅜ | 330 | Mot 6-18 | **3JG20** | 2030.60 | **1828.00▲** | 21.0 |

# RECIPROCATING SAW BLADES AND PORTABLE SAWHORSES




## STARRETT RECIPROCATING SAW BLADES

Starrett reciprocating saw blades are available in Bi-Metal, Fastcut™ and Carbide Grit edge. Universal shank.

**BI-METAL.** A high speed steel cutting edge combined with a flexible back, make these blades tough, shock absorbing and virtually unbreakable. Provides long blade life and user safety. Also cuts all forms of wood, metal and plastic.

| Teeth per Inch | Length (In.) | Blades per Pouch | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **BI-METAL** | | | | | | |
| **8-12*** | 4 | 5 | B4812-5 | **4L276** | **$7.40** | 0.2 |
| **10-14*** | 4 | 5 | B41014-5 | **4L288** | **7.39** | 0.2 |
| **14** | 4 | 5 | B414-5 | **4L246** | **7.40** | 0.1 |
| **18** | 4 | 5 | B418-5 | **4L247** | **5.96** | 0.2 |
| **6** | 6 | 5 | B66-5 | **4L249** | **8.94** | 0.2 |
| **6-10*** | 6 | 5 | B6610-5 | **4L278** | **8.92** | 0.2 |
| **8-12*** | 6 | 5 | B6812-5 | **4L277** | **8.94** | 0.2 |
| **10** | 6 | 5 | B610-5 | **4L251** | **7.58** | 0.3 |
| **10-14*** | 6 | 5 | B61014-5 | **4L279** | **8.94** | 0.2 |
| **14** | 6 | 5 | B614-5 | **4L252** | **7.58** | 0.1 |
| **18** | 6 | 5 | B618-5 | **4L253** | **7.58** | 0.2 |
| **24** | 6 | 5 | B624-5 | **4L254** | **8.94** | 0.3 |
| **10-14*** | 8 | 5 | B81014-5 | **4L327** | **12.64** | 0.3 |
| **18** | 8 | 5 | B818-5 | **4L328** | **12.64** | 0.5 |
| **6** | 12 | 5 | B126-5 | **4L257** | **17.02** | 0.6 |
| **6-10*** | 12 | 5 | B12610-5 | **4L281** | **16.96** | 0.7 |
| **10** | 12 | 5 | B1210-5 | **4L258** | **17.03** | 0.2 |
| **10-14*** | 12 | 5 | B121014-5 | **4L282** | **16.97** | 0.6 |

(*) Fastcut™.

**FASTCUT™.** Variable pitch high speed steel teeth allow fast cutting action on a wide selection of materials and thicknesses. Also provides smooth finishes and reduced noise levels on all forms of wood, metal and plastic.

### SPECIAL PURPOSE

- **Scroll Bi-Metal for radius and contouring**
- **Carbide Grit tooth edge for abrasive material cutting**

| Teeth per Inch | Length (In.) | Blades per Pouch | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **BI-METAL – TAPERED SHAPE** | | | | | | |
| **6** | 9 | 5 | BT96-5 | **4L362** | **$15.78** | 0.4 |
| **BI-METAL – SCROLL CUTTING** | | | | | | |
| **18** | 4 | 5 | SB418-5 | **4L323** | **9.71** | 0.1 |
| **24** | 4 | 5 | SB424-5 | **4L324** | **9.71** | 0.1 |
| **BI-METAL – PLASTER CUTTING** | | | | | | |
| **6** | 6 | 5 | VB66-5 | **4L289** | **9.16** | 0.2 |
| **CARBIDE GRIT** | | | | | | |
| **#30 Coarse** | 6 | 1 (per Blister Pack) | XR6-1 | **4L301** | **4.40** | 0.1 |

## FULTON TOTE-A-HORSE® PORTABLE SAWHORSE SETS




**Fully assembled/self-contained sawhorses** are ideal for maintenance workers and contractor tradesmen. Constructed of 14-gauge steel with high quality powder coated finish with convenient handle for carrying and storage. Load capacity 2,000 lbs. per pair.

**Tote-A-Horse® Portable Sawhorse Set.** Open: 25H x 38"L. Closed: 2D x 4H x 38"L. One pair per carton. Fulton brand (TS101).

**No. 3ZJ62.** Shpg. wt. 27.0 lbs. List $69.70. Each.....**$67.10▲**

**Tote-A-Horse® Portable Adjustable Sawhorse Set.** 8 variable height adjustments from 25" to 40". Closed: 2D x 4H x 38"L. One pair per carton. Fulton brand (TS-501).

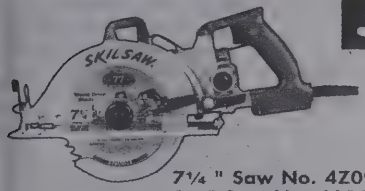
**No. 3ZJ63.** Shpg. wt. 37.0 lbs. List $89.80. Each.....**$82.15▲**

**LIMITED LIFE WARRANTY**

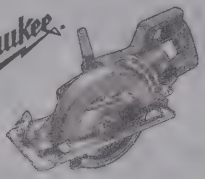
**Fulton warrants sawhorses for life against failure due to defects in material or workmanship. In the event of such failure, sawhorse will be repaired or replaced free of charge. See Manufacturers' Warranties on page opposite inside back cover.**

(▲) Net prices, not subject to discounts.

# WORM DRIVE AND CIRCULAR SAWS




7¼ " Saw No. 4Z095
8¼" Saw No. 4A155



Made in U.S.A.

7¼ " Saw No. 6Z051



4½ " Trim Saw
No. 6Z297

## 7¼ & 8¼" SAWS Nos. 4Z095 & 4A155

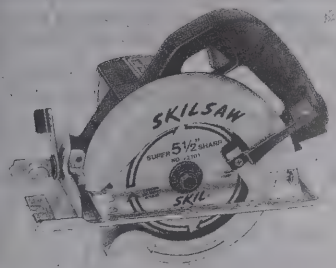
- No. 4Z095 is 7¼"; No. 4A155 is 8¼"
- Die-cast aluminum motor and gear housing with diamond blade arbor
- Blade guard automatically retracts on 45° cuts
- Include combination blade and blade wrench and heavy gauge 8 ft., 3-cond. rubber cord
- Power source AC/DC
- 5/8" diamond arbor
- No. 4A155 has 60° cut
- UL Listed, CSA Certified

## 7¼" SAW No. 6Z051

- Rigid steel wraparound shoe for maximum strength and accuracy
- Spindle lock and diamond arbor
- Oil plug is located at side of gear case for easy access
- Includes combination blade and 9/16" wrench
- 9 ft., 3-cond. rubber cord and plug
- Power source AC/DC
- UL Listed, CSA Certified

## 4½" TRIM SAW No. 6Z297

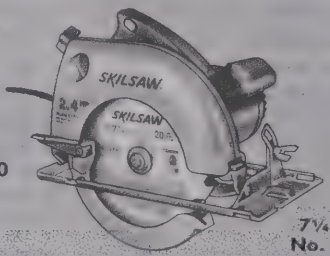
- Heavy-duty wrap-around base with insert to minimize chipping/splintering while cutting
- Oversize, rugged worm gear drive provides high torque
- Includes combination/rip blade, wrench, and case
- 10 ft., 3-cond. cord
- For AC operation only; 4.5 amp AC/DC
- 3/8" arbor hole
- UL Listed
- Replacement blade available through Grainger parts operations




5½" Saw
No. 4Z821

Made in U.S.A.

Replacement Parts Available
1-800-323-0620




7¼" Saw
No. 2Z562

## 5½" PROFESSIONAL TRIM SAW No. 4Z821

- Features heavy gauge steel wraparound foot plate for accurate cutting, locking depth and bevel controls, and adjustable depth of cut scales
- Includes combination blade and blade wrench
- 1/2" round blade arbor
- 8 ft., 3-cond. rubber cord and plug
- For AC operation only
- Replacement blade available through Grainger Parts Operations

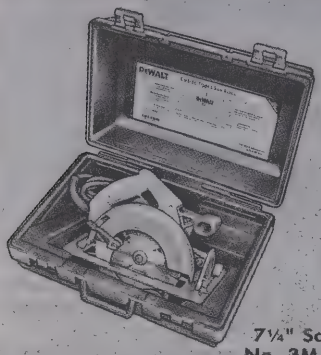
## 7¼" SKILSAW No. 2Z562

- 5/8" round blade arbor
- Includes combination blade and blade wrench
- Double insulated construction
- 6 ft., 2-cond. cord
- For AC operation only
- Features front handle for better control, remote switch, and helical gears

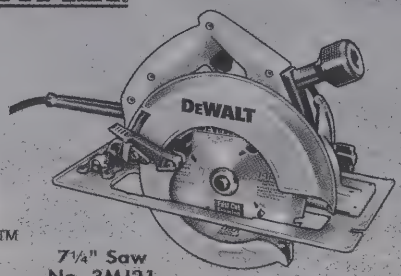
| Blade Dia. (In.) | No-Load RPM | Amps at 120V | Depth of Cut (In.) 45° | Depth of Cut (In.) 90° | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7¼ | 4400 | 13.0 | 1⁵⁄₁₆ | 2⅛ | Ball | 17 | 16 | Skil | HD77 | **4Z095** | $289.00 | **$168.00▲** | 19.0 |
| 8¼ | 4300 | 13.0 | 2¼ | 2⅝ | Ball | 18½ | 18½ | Skil | HD5860 | **4A155** | 350.00 | **216.50▲** | 22.0 |
| 7¼ | 4400 | 15.0 | 1⅞ | 2⅛ | Ball & Roller | 17 | 17 | Milw. | 6377 | **6Z051** | 365.00 | **217.75▲** | 19.0 |
| 4½ | 4500 | 4.5 | 1⅛ | 1⅜ | Ball & Needle | 10⅞ | 7 | P-C | 9314 | **6Z297** | 314.00 | **186.75▲** | 8.5 |
| 5½ | 4000 | 6.5 | 1⅜ | 1⅝ | Ball & Roller | 11 | 6½ | Skil | HD5510 | **4Z821** | 196.00 | **124.10▲** | 8.0 |
| 7¼ | 5500 | 10.0 | 1¹³⁄₁₆ | 2⅛ | Ball & Sleeve | 11¹³⁄₁₆ | 11½ | Skil | 5175 | **2Z562** | 117.95 | **64.85▲** | 11.0 |

(▲) Net prices, not subject to discounts.

# CIRCULAR SAWS AND CARPENTRY REFERENCE BOOK

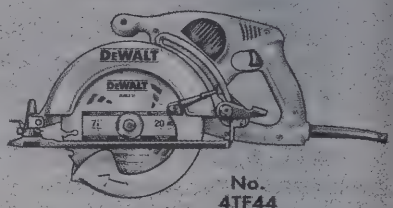

7¼" Saw
No. 3MJ20

DEWALT


7¼" Saw
No. 3MJ21

Replacement Parts Available
1-800-323-0620

New


No. 4TF44

## 7¼" LIGHTWEIGHT, HEAVY-DUTY CIRCULAR SAW KIT
## No. 3MJ20

- Cut steel helical gears
- Modular design allows critical components to be replaced or repaired
- 50° bevel capacity
- Planned aluminum shoe measures 1½" and 5½" from blade to assist in laying out and making cuts
- Parallel adjustment
- AC/DC power source
- 9 ft., 2-cond. rubber cord
- Includes 20-tooth blade and plastic carrying case
- UL Listed, CSA Certified
- Spindle lock

## 7¼ & 8¼" HEAVY-DUTY CIRCULAR SAW WITH ELECTRIC BRAKE & REAR PIVOT DEPTH OF CUT ADJUSTMENT
## Nos. 3MJ21AND 3MJ24

- Cut steel helical gears
- Modular design allows critical components to be replaced or repaired
- 50° bevel capacity with 2-second electric blade brake
- Planned aluminum shoe design based on measurements of dimensional lumber with rear pivot depth of cut adjustment
- Parallel adjustment for setting shoe parallel to blade
- Power source AC/DC
- 9 ft., 3-cond. cord
- Includes 20-tooth carbide blade and wrench
- UL Listed, CSA Certified
- Spindle lock

## HEAVY-DUTY 7¼" HIGH-TORQUE FRAMING SAW
## No. 4TF44

- 15.0 amp high-torque motor
- Integrated saw hook to hang tool on rafters/trusses
- Lower guard improves performance when making bevel cuts and cutting shims
- High-strength aluminum cast shoe with integral stiffeners for durability
- Shoe provides a1½" edge distance that matches dimensional lumber thickness
- 50° bevel capcity
- Includes 20-tooth carbide blade and wrench
- Spindle lock
- 9 ft. 3-cond. cord

| Blade Dia. (In.) | No-Load RPM | Amps at 120V | Depth of Cut (In.) 45° | Depth of Cut (In.) 90° | Bearings | Tool Lgth. (In.) | Tool Wt. (Lbs.) | DeWalt Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7¼ | 5500 | 15.0 | 1 13/16 | 2⅜ | Ball & Roller | 12½ | 10.9 | DW359K | | 3MJ20 | $238.00 | $139.70▲ | 16.0 |
| 7¼ | 5800 | 15.0 | 1⅞ | 2 7/16 | Ball & Roller | 13 9/16 | 12.3 | DW364 | | 3MJ21 | 298.00 | 158.50▲ | 15.0 |
| 7¼ | 4600 | 15.0 | 1 29/32 | 2⅜ | Ball & Roller | 15½ | 13.0 | DW378G | *New* | 4TF44 | 310.00 | 185.50▲ | 16.0 |
| 8¼ | 5800 | 15.0 | 2¼ | 2 15/16 | Ball & Roller | 13 9/16 | 12.7 | DW384 | | 3MJ24 | 328.00 | 196.75▲ | 16.0 |

(▲) Net prices, not subject to discounts.

## CARPENTRY REFERENCE BOOK

By Leonard Koel. Visually enhanced and comprehensive, this book addresses subjects such as materials, tools, building design and blueprint reading, foundations, roof frames, exterior and interior finishing. Heavy construction and concrete framework are also detailed. The author provides valuable trade tips acquired over many years on the job and while teaching. 736 pages, hard cover.

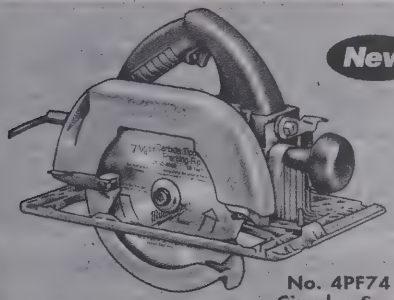
**No. 5H669.** Shpg. wt. 5.2 lbs. List $38.15. Each **$37.40;** Lots 8 ..... **$35.53**




**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**

# CIRCULAR SAWS AND 8" PANEL SAW

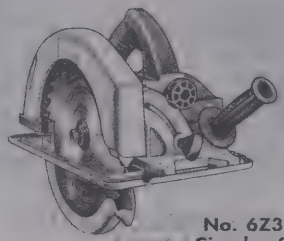


New

Milwaukee

Replacement Parts Available
1-800-323-0620

No. 4PF74
Circular Saw



No. 6Z314
Circular Saw

## 7¼" HEAVY-DUTY CIRCULAR SAWS Nos. 4PF74, 4PF75 & 4PF76

- New, 15.0 Amp, 3.25 peak horsepower, double-insulated motor
- Extra-wide, durable magnesium shoe
- Fast, easy adjustments with permanent scales
- Center balanced for comfort
- Heavy-duty steel gears and bearings for long life
- All models come with carbide blade and blade wrench; No. 4PF75 comes with rip fence and carrying case; No. 4PF76 comes with electric brake
- 50° bevel capacity to cut joists, rafters and trusses for unusual roof angles
- 9 ft. 2-cond. cord

## 8¼" CIRCULAR SAW No. 6Z050

- 5/8" blade arbor
- Housing and handle are made of strong nonconductive glass-reinforced nylon
- Includes spindle lock
- Shoe and upper and lower guard die-cast aluminum
- Includes combination blade and 9/16" wrench
- Has 9 ft., 3-prong 16-gauge SJ solvent resistant rubber cord
- UL Listed, CSA Certified

## 10¼" SAW No. 6Z314

- Heavy-duty saw has 5/8" blade arbor
- Includes combination/rip saw blade, auxiliary handle, rip fence, 9/16" utility wrench, and steel carrying case
- Rigid steel wrap-around shoe for maximum strength and accuracy
- 9 ft., 3-prong 16-gauge SJ solvent resistant rubber cord
- AC/DC operation
- UL Listed, CSA Certified

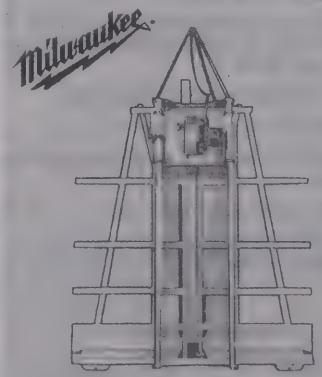
### SPECIFICATIONS AND ORDERING DATA

| Blade Dia. (In.) | No-Load RPM | Amps 120V | Depth of Cut (In.) 45° | Depth of Cut (In.) 90° | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Milw. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7¼ | 5800 | 15.0 | 1 5/16 | 2 5/16 | Ball & Roller | 9.1 | 11.5 | 6375-20 | New | 4PF74 | $279.00 | $171.50▲ | 15.0 |
| 7¼ | 5800 | 15.0 | 1 5/16 | 2 5/16 | Ball & Roller | 9.2 | 11.5 | 6375-21 | New | 4PF75 | 299.00 | 184.00▲ | 17.0 |
| 7¼ | 5800 | 15.0 | 1 5/16 | 2 5/16 | Ball & Roller | 9.2 | 11.5 | 6376-20 | New | 4PF76 | 300.99 | 184.75▲ | 17.0 |
| 8¼ | 5800 | 15.0 | 2 1/16 | 2 1/16 | Ball & Roller | 12 3/16 | 13.0 | 6405-6 | | 6Z050 | 325.55 | 179.00▲ | 15.0 |
| 10¼ | 5200 | 15.0 | 2 7/8 | 3 15/16 | Ball & Roller | 14 1/2 | 19.5 | 6460 | | 6Z314 | 545.01 | 319.00▲ | 38.0 |

▲) Net prices, not subject to discounts.

# HEAVY-DUTY 8" PANEL SAW

- UL Listed, CSA Certified
- For building contractors, lumber yards, building material suppliers, cabinet shops, remodelers, sign shops, and rental shop outlets
- 8" blade with 5/8" arbor
- Cuts up to 4 x 8 ft. section of paneling to size
- Cutting capacities: Thickness—1¾"; Height—50"
- Cutting accuracy is within 1/32" in either crosscutting or ripping direction
- Material being ripped can move from either right or left side
- Power unit can be easily changed from crosscutting to ripping
- All steel frame, square tubing is electrically welded; will not warp or twist
- Removable blade guard
- Saw carriage moves up and down on graphite impregnated nylon roller bearings which require no lubrication
- Vertical and horizontal scales provide quick and accurately measured cuts
- Heavy-duty all ball and roller bearing power unit
- Smooth acting roller mechanism allows heavy material to gently roll through machine
- Comes complete with rugged, self-support stand that folds into unit for easier portability

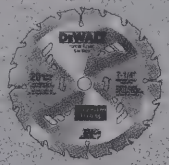



No. 6W289

| Blade Dia. (In.) | No-Load RPM | Amps 120V | Overall Height (In.) | Overall Length (In.) | Milwaukee Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 5800 | 13 | 70 | 60 | 6480 | 6W289 | $1855.00 | $1226.00▲ | 185.0 |

# CIRCULAR SAW BLADES


No. 5G890


No. 4KX38

DEWALT

New



No. 4LF42


No. 4KX56

## SERIES 20 LARGE DIAMETER SAW BLADES

Professional quality carbide-tipped blades offer greater durability, a faster, freer cut, and longer life than other carbide-tipped blades.

- **Exclusive wedge shoulder design puts more steel behind each tip for increased durability and accuracy**
- **Computer balanced plate reduces vibration for improved accuracy and better finish**
- **Thin kerf design for fast and smooth cutting action**
- **Fully hardened heat-treated steel body-retains its extreme flatness for a more accurate cutting line**

## SERIES 20 SMALL DIAMETER SAW BLADES

Professional quality carbide-tipped blades offer greater durability, a faster, freer cut, and longer life than other carbide-tipped blades.

- **25° hook angle for faster, freer cutting**
- **Wedge shoulder design puts more steel behind each tip for increased durability and accuracy**
- **Patented, ribbed heat vents allow blade to run cooler, reducing blade flexing and binding**
- **Ultra thin kerf blade design-yields more cuts per charge by minimizing battery drain**

## STEEL SAW BLADES

- **Precision sharpened teeth**
- **Thicker body for heavy-duty applications**
- **Fully hardened steel body**
- **Coated blade prevents rust and reduces friction**

### SERIES 20 CONSTRUCTION SAW BLADES (SMALL DIAMETER)

| Blade Dia. (In.) | No. of Teeth | Kerf | Tooth Grind | Hook Angle | Arbor Hole (In.) | | Plate Thickness (In.) | DeWalt Model | | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fast Cut Framing** | | | | | | | | | | | | | | |
| 6½ | 18 | .071 | ATB | +25° | 5/8 | ◆ | .047 | DW3161 | | 4KX36 | $18.27 | $15.07 | ▲ | 0.7 |
| 7¼ | 16 | .071 | ATB | +25° | 5/8 | ◆ | .047 | DW3171 | | 4KX37 | 15.80 | 13.04 | ▲ | 0.7 |
| 7¼ | 18 | .071 | ATB | +150° | 5/8 | ◆ | .047 | DW3191 | *New* | 4NZ53 | 22.72 | 16.55 | ▲ | 0.7 |
| **Combination Framing** | | | | | | | | | | | | | | |
| 7¼ | 20 | .071 | ATB | +25° | 5/8 | ◆ | .047 | DW3173 | | 4KX38 | 19.30 | 14.48 | ▲ | 0.7 |
| 8¼ | 24 | .080 | ATB | +20° | 5/8 | ◆ | .052 | DW3182 | | 4KX41 | 25.77 | 21.26 | ▲ | 0.8 |
| **Finishing** | | | | | | | | | | | | | | |
| 7¼ | 36 | .071 | ATB | +15° | 5/8 | ◆ | .047 | DW3176 | | 4KX39 | 37.48 | 31.00 | ▲ | 0.7 |
| 8¼ | 40 | .080 | ATB | +15° | 5/8 | ◆ | .052 | DW3184 | | 4KX42 | 45.33 | 35.70 | ▲ | 0.8 |

### SERIES 20 CONSTRUCTION CORDLESS SAW BLADES (SMALL DIAMETER)

| Blade Dia. (In.) | No. of Teeth | Kerf | Tooth Grind | Hook Angle | Arbor Hole (mm.) | Plate Thickness (In.) | DeWalt Model | | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **For general purpose wood cutting** | | | | | | | | | | | | | |
| 5⅜ | 16 Carbide | .059 | ATB | 20 | 10 | .039 | DW9055 | *New* | 4PC50 | $15.78 | $12.39 | ▲ | 0.3 |
| **For cutting aluminum extrusions, brass, cooper and other non-ferrous metals** | | | | | | | | | | | | | |
| 5⅜ | 30 Carbide | .059 | FTG | 3 | 10 | .039 | DW9052 | | 4LF42 | 37.63 | 29.70 | ▲ | 0.3 |
| **For smooth rips, crosscuts in trim molding, dimensional lumber & plywood** | | | | | | | | | | | | | |
| 5⅜ | 24 Carbide | .059 | ATB | 2 | 10 | .039 | DW9054 | | 4LF44 | 29.98 | 23.61 | ▲ | 0.4 |
| **For smooth rips, crosscuts in trim molding, dimensional lumber & plywood** | | | | | | | | | | | | | |
| 5⅜ | 78 Steel | .059 | ALT | -10/45 | 10 | .039 | DW9053 | | 4LF43 | 16.30 | 13.45 | ▲ | 0.3 |

### DEWALT® STEEL SAW BLADES

| Description | No. of Teeth | Blade Dia. (In.) | Arbor Hole (In.) | | DeWalt Model | | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **For fast, semi-smooth rips, crosscuts & miter. Ideal general purpose blade** | | | | | | | | | | | |
| Combination | 40 | 7¼ | 5/8 | ◆ | DW3325 | | 4KX50 | $8.15 | $7.03 | ▲ | 0.8 |
| **For fast rips, crosscuts & miters. Ideal framing blade** | | | | | | | | | | | |
| Fast cut combination | 18 | 6½ | 5/8 | ◆ | DW3310 | | 4KX47 | 7.98 | 6.89 | ▲ | 0.5 |
| Fast cut combination | 20 | 7¼ | 5/8 | ◆ | DW3323 | | 4KX48 | 7.92 | 6.83 | ▲ | 0.7 |
| Fast cut combination | 30 | 10 | 5/8 | ◆ | DW3370 | | 4KX56 | 13.30 | 11.48 | ▲ | 1.6 |
| **For satin smooth finish when cutting across the grain or miter cuts** | | | | | | | | | | | |
| Hollow ground planer | 12 | 7¼ | 5/8 | ◆ | DW3327 | | 4KX52 | 12.18 | 10.51 | ▲ | 0.1 |
| **For cutting aluminum, copper, lead and other non-ferrous metals** | | | | | | | | | | | |
| Non-ferrous metal | 68 | 7¼ | 5/8 | ◆ | DW3329 | | 4KX53 | 9.42 | 8.13 | ▲ | 0.7 |
| **For smoother results when cutting across the grain** | | | | | | | | | | | |
| Crosscut | 100 | 7¼ | 5/8 | ◆ | DW3324 | | 4KX49 | 8.47 | 7.30 | ▲ | 0.8 |
| **For satin smooth finish when cutting plywood and thin materials** | | | | | | | | | | | |
| Hollow ground plywood | 140 | 7¼ | 5/8 | ◆ | DW3326 | | 4KX51 | 11.73 | 10.12 | ▲ | 0.7 |
| **For pressure treated/wet lumber** | | | | | | | | | | | |
| Pressure treated/wet lumber | 20 | 7¼ | 5/8 | ◆ | DW3174 | *New* | 4NZ52 | 17.30 | 13.03 | ▲ | 1.0 |
| Pressure treated/wet lumber | 32 | 10 | 5/8 | ◆ | DW3104 | *New* | 4NZ51 | 22.72 | 16.55 | ▲ | 0.7 |

### PIRANHA® CARBIDE TIPPED SAW BLADES

| Blade Dia. (In.) | No. of Teeth | Arbor Hole (In.) | | Kerf | B & D Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 7¼ | 20 | 5/8 | ◆ | .076 | 73-717 | 5G890 | $13.00 | $9.75 | ▲ | 3.0 |
| 10 | 32 | 5/8 | | .126 | 73-740 | 5G895 | 32.72 | 24.54 | ▲ | 0.3 |
| 10 | 60 | 5/8 | | .126 | 73-770 | 5G901 | 66.42 | 49.85 | ▲ | 1.7 |

All 6½", 7¼", and 8¼" are (◆) Diamond knock-out blades. (▲) Net prices not subject to discounts

# CARBIDE TIPPED STEEL CIRCULAR SAW BLADES

## SERIES 20 - LARGE DIAMETER THIN KERF CARBIDE TIPPED SAW BLADES

DEWALT

New



No. 3MF70

Ideal for all cutting applications in softwood, hardwood, chip board, or plywood using a table saw or miter saw. Professional quality thin kerf carbide saw blades produce a smooth finish with minimal material waste.

- Ribbed heat vents for stiffer body and longer life (table saw blades only)
- Wedge shoulder for blade stability and durability
- Thin kerf for faster cutting
- Computer balanced for accuracy

### SERIES 20™ CONSTRUCTION

| Blade Dia. (In.) | No. of Teeth | Kerf | Tooth Grind | Hook Angle | Arbor Hole (In.) | Plate Thickness (In.) | DeWalt Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **General Purpose** | | | | | | | | | | | | |
| 10 | 32 | .099 | ATB | +5° | 5/8 rd | .071 | DW3103 | | 3MF70 | $35.27 | $28.70▲ | 2.0 |
| 12 | 32 | .099 | ATB | -5° | 1 rd | .071 | DW3123 | | 3MF72 | 65.33 | 54.95▲ | 2.7 |
| **Ripping** | | | | | | | | | | | | |
| 10 | 24 | .099 | ATB | +15° | 5/8 rd | .071 | DW3112* | | 4LK57 | 34.94 | 34.25▲ | 9.2 |
| **Combination** | | | | | | | | | | | | |
| 10 | 40 | .106 | ATB | +15° | 5/8 rd | .071 | DW3114* | | 4LK58 | 42.72 | 41.90▲ | 9.5 |
| **Fine Finish** | | | | | | | | | | | | |
| 10 | 60 | .099 | ATB | +5° | 5/8 rd | .071 | DW3106 | | 3MF71 | 71.65 | 49.30▲ | 2.0 |
| 10 | 60 | .099 | ATB | +15° | 5/8 rd | .071 | DW3116* | New | 4LK59 | 51.58 | 51.25▲ | 9.5 |
| 12 | 80 | .099 | ATB | +5° | 1 rd | .071 | DW3128 | | 3MF73 | 92.50 | 60.00▲ | 2.7 |

(*) Designed for use on DW744-Portable Table Saws. (▲) Net prices, not subject to discounts.

## SERIES 40 AND SERIES 60 WOODWORKING CARBIDE SAW BLADES

DEWALT



No. 3MF76

### SERIES 40

Large micrograin carbide tips deliver long service life

Unique laser cut expansion slots reduce vibration and noise for excellent surface finish

Laser cut plate is precision balanced and tensioned for extremely accurate cuts

### SERIES 60

Extra large, corrosion-resistant C4 submicrograin carbide stays sharper delivering the longest possible service life

Laser cut plate is precision balanced and tensioned for superior precision and accuracy

Arbor Hole is honed for improved blade to spindle fit

Exclusive starburst anti-vibration slots minimize blade resonance to deliver uncompromising surface finish

### SERIES 40™ WOODWORKING

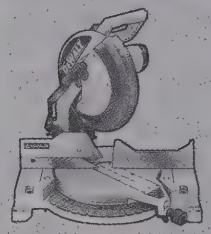
| Blade Dia. (In.) | No. of Teeth | Kerf | Tooth Grind | Hook Angle | Arbor Hole (In.) | Plate Thickness (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crosscut** | | | | | | | | | | | |
| 10 | 60 | .099 | ATB | +5° | 5/8 | .071 | DW7163 | 4LK92 | $73.26 | $71.90▲ | 2.0 |
| 10 | 60 | .126 | ATB | +10° | 5/8 | .087 | DW3215 | 3MF79 | 73.22 | 57.70▲ | 1.6 |
| 12 | 60 | .126 | ATB | +10° | 1 | .087 | DW3226 | 3MF85 | 92.88 | 73.20▲ | 2.2 |
| **Fine Crosscut** | | | | | | | | | | | |
| 8½ | 60 | .094 | ATB | -5° | 5/8 | .063 | DW7856 | 4LL04 | 71.58 | 70.20▲ | 0.1 |
| 10 | 80 | .098 | ATB | -5° | 5/8 | .071 | DW7183 | 4LK93 | 98.12 | 95.50▲ | 9.5 |
| 12 | 80 | .102 | ATB | -5° | 1 | .071 | DW3232 | 4LK63 | 109.48 | 106.35▲ | 9.6 |
| 12 | 80 | .098 | ATB | +10° | 1 | .071 | DW3228 | 3MF87 | 104.26 | 82.15▲ | 2.2 |
| **Combination** | | | | | | | | | | | |
| 8½ | 40 | .094 | ATB | -5° | 5/8 | .063 | DW7854 | 4LL03 | 67.36 | 66.15▲ | 1.5 |
| 10 | 40 | .126 | ATB | +10° | 5/8 | .087 | DW3213 | 3MF77 | 60.26 | 47.50▲ | 2.8 |
| 12 | 48 | .126 | ATB | +10° | 1 | .087 | DW3224 | 3MF84 | 86.04 | 67.80▲ | 3.5 |
| 10 | 50 | .126 | ATB+R | +10° | 5/8 | .087 | DW7150 | 4LK91 | 67.36 | 66.30▲ | 9.5 |
| 12 | 32 | .098 | ATB | -5° | 1 | .071 | DW3230 | 4LK61 | 79.80 | 78.30▲ | 9.6 |
| **Finishing** | | | | | | | | | | | |
| 12 | 60 | .102 | ATB | -5° | 1 | .071 | DW3231 | 4LK62 | 92.64 | 90.30▲ | 9.6 |
| **Laminate Cutting** | | | | | | | | | | | |
| 10 | 80 | .126 | TCG | +10° | 5/8 | .087 | DW3219 | 3MF83 | 98.10 | 77.30▲ | 1.6 |
| 12 | 80 | .126 | TCG | +10° | 1 | .087 | DW7281 | 4LK94 | 104.26 | 101.40▲ | 9.6 |
| **Nonferrous Metal Cutting** | | | | | | | | | | | |
| 10 | 80 | .126 | TCG | -5° | 5/8 | .087 | DW3217 | 3MF81 | 98.10 | 77.30▲ | 2.5 |
| 12 | 80 | .126 | TCG | -5° | 1 | .087 | DW3229 | 3MF88 | 104.26 | 82.15▲ | 2.2 |
| **Ultimate Finish** | | | | | | | | | | | |
| 12 | 96 | .126 | H-ATB | +5° | 1 | .087 | DW7296 | 4LK95 | 117.92 | 114.35▲ | 9.6 |

### SERIES 60™ PREMIUM WOODWORKING

| Blade Dia. (In.) | No. of Teeth | Kerf | Tooth Grind | Hook Angle | Arbor Hole (In.) | Plate Thickness (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 60 | .120 | ATB | +10° | 5/8 | .087 | DW7616 | 4LK96 | $113.68 | $110.30▲ | 9.5 |
| 10 | 80 | .120 | H-ATB | +10° | 5/8 | .087 | DW7620 | 4LK98 | 130.52 | 126.35▲ | 9.5 |
| 10 | 80 | .120 | TCG | +10° | 5/8 | .087 | DW7619 | 4LK97 | 126.32 | 122.35▲ | 9.5 |
| 12 | 80 | .120 | H-ATB | +10° | 1 | .087 | DW7628 | 4LK99 | 134.74 | 130.40▲ | 9.6 |
| 12 | 80 | .120 | TCG | +10° | 1 | .087 | DW7629 | 4LL01 | 143.16 | 138.40▲ | 2.0 |
| 12 | 96 | .120 | H-ATB | +10° | 1 | .087 | DW7630 | 4LL02 | 160.00 | 154.50▲ | 2.0 |

(▲) Net prices, not subject to discounts

# POWER MITER SAWS AND ACCESSORIES



DEWALT

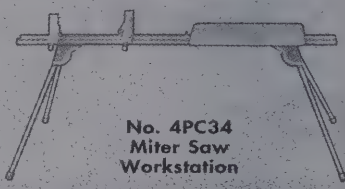
Made in U.S.A.

Replacement Parts Available 1-800-323-0620

Nos. 3W884 & 3W885



No. 4GD64



New

No. 4PC34 Miter Saw Workstation

## 12" MITER SAWS Nos. 3W884 & 3W885

- Powerful 13 amp motor with 1" arbor
- Positive stops at 0°, 15°, 22°, 30°, and 45° right or left
- No. 3W885 has stop at 31.62° for compound cuts
- Includes 32-tooth carbide blade and blade wrench
- Capacity: 2 x 8" at 90°, 2 x 6" at 45°
- Electric brake
- No. 3W885 includes compound cutting action; crown molding capacity of 6⅝" at 90°
- UL Listed, CSA Certified

## 12" DOUBLE BEVEL SLIDING COMPOUND MITER SAW No. 4GD64

- Electric brake
- 0-45° bevel capacity to the left and right
- 12" crosscut capacity at 90°
- Precision miters 0-50° left & 0-60° right
- Stainless steel detent plate with 11 positive stops
- Includes 60 tooth carbide blade & blade wrench
- Capacity: 5½" crown and base moulding vertically

## HEAVY-DUTY MITER SAW WORKSTATION No. 4PC34

- Universal design; lightweight, easy to transport and store
- 7 ft. beam for extra capacity
- Supports up to 300 lbs.
- Legs lock into place for stability
- Anodized aircraft-grade aluminum construction won't rust or corrode
- Double rail design allows tool mount, work stop, and work support to be repositioned quickly, easily
- On-board measuring system utilizes standard tape measure for fast, accurate cuts
- Tool mount has non-marring feet
- Includes tool mount, work support and work stop

***New*No. 4PC34.** DeWalt brand (DW730). Shpg. wt. 49.0 lbs. List $470.00. Each.....**$345.75▲**

| Description | Crosscut 90° H | Crosscut 90° W | Crosscut 45° H | Crosscut 45° W | No-Load RPM | Amps @ 120V | Tool Wt. (Lbs.) | Brake | Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12" Miter Saw** | 2½" | 7⅞" | 2½" | 5½" | 4000 | 13.0 | 36.0 | Electric | DW704 | **3W884** | $570.00 | **$328.50▲** | 35.0 |
| **12" Compound Miter Saw** | 2½ | 7⅞ | 2½ | 5½ | 4000 | 13.0 | 38.0 | Electric | DW705 | **3W885** | 692.00 | **379.00▲** | 35.0 |
| **12" Double Bevel Compound Miter Saw** | 4½ | 12 | 4½ | 8 | 4000 | 13.0 | 57.0 | Electric | DW708 | **4GD64** | 1210.00 | **683.00▲** | 63.0 |

(▲) Net prices, not subject to discounts.

## DeWALT MITER SAW ACCESSORIES

| Type | Description | DeWalt Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Extension Kit (For 3W884 & 3W885)** | Provides additional support for your material; sliding under-base storage; threaded rods allow overall length to extend; includes 1-pair 20" rods, end plate and all mounting hardware | DW7050 | | **2FX66** | $42.00 | **$38.50▲** | 3.0 |
| **(For 4GD64)** | | DW7080 | | **4LG13** | 42.00 | **38.10▲** | 3.0 |
| **7" Extension Kit (For 4PC34)** | Increases work length to 14" | DW7303 | *New* | **4PC36** | 290.00 | **212.50▲** | 25.0 |
| **30" Extension Kit (For 4PC34)** | Increases work length to 9'6" | DW7305 | *New* | **4PC37** | 120.00 | **87.25▲** | 6.2 |
| **Vertical Clamp (For 4GD64)** | Clamps the workpiece against the base. | DW7082 | | **4LG14** | 48.00 | **43.35▲** | 2.5 |
| **Length Stop** | Makes repetitive cuts of the same length; adjusts 0-42" from the blade on one Extension Kit Support System (No. 2FX66) | DW7051 | | **2FX67** | 36.00 | **34.60▲** | 2.8 |
| **Material Clamp** | Clamps workpiece against fence | DW7052 | | **2FX68** | 48.00 | **46.15▲** | 3.0 |
| **Dust Bag** | Dust port design provides more efficient dust collection | DW7053 | | **2FX69** | 18.00 | **17.64▲** | 0.4 |
| **Crown Stops (For 3W884 & 3W885)** | Accurately positions crown molding when cutting molding vertically against saw fence | DW7054 | | **2FX70** | 30.00 | **28.90▲** | 0.8 |
| **(For 4GD64)** | | DW7084 | | **4LG15** | 30.00 | **26.95▲** | 0.8 |
| **Carrying Case** | Heavy gauge steel construction; accommodates all miter saw accessories | DW7056 | | **2FX71** | 38.00 | **36.55▲** | 7.0 |
| **Flip Stop Support** | Work stop or work support that can flip out of the way | DW7304 | *New* | **4PC35** | 72.00 | **52.30▲** | 3.3 |

(▲) Net prices, not subject to discounts.

# POWER MITER SAWS



No. 3LJ32 & 5M627

## 10" SLIDE COMPOUND SAW Nos. 3LJ32 & 5M627

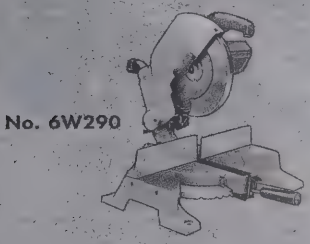
- Precision axis mechanism with dual guide tubes for superior cutting accuracy
- Powerful 15 amp motor
- Positive stops at 0°, 15°, 22½°, 30°, and 45° left and right sides
- Die-cast aluminum base with super smooth rotating table
- Automatic retracting lower guard for high visibility and large capacity Patented Flip Fence™ on left side
- Spindle lock and electric brake
- Override to lock table at any angle
- 5/8" arbor
- Double insulated. Includes carbide tipped blade
- UL Listed, CSA Certified Made in U.S.A.
- No. 3LJ32 includes 80-tooth carbide tipped blade, extension with stop gauge, vise, dust bag and wrench. No. 5M627 includes 40-tooth carbide tipped blade and wrench only



No. 3G713 & 1D578

## 10" COMPOUND SAW Nos. 3G713 & 1D578

- Powerful 15 amp motor
- Positive stops at 0°, 15°, 22½°, 30°, and 45° left and right sides
- Bevels angles for negative 50° left and 3° right
- Die cast aluminum base with super smooth rotating table
- Automatic retracting lower guard for high visibility and large capacity
- Patented Flip Fence for either compound or miter cutting
- Spindle lock and electric brake
- Override locks table at any angle
- Double insulated
- 5/8" arbor
- UL Listed, CSA Certified
- No. 3G713 includes 80 tooth 10" carbide tipped blade, extension with stop gauge, vise, dust bag and blade wrench. No. 1D578 includes 40-tooth carbide tipped blade and wrench only



No. 6W290

## 10" MAGNUM SAW No. 6W290

- Powerful 15 amp motor
- Positive stops at 0°, 15°, 22½°, 30°, and 45° left or right
- Includes 126-tooth steel blade and blade wrench
- Capacity: 2 x 8" at 90°, 6¼" high; 2 x 6" at 45°, 6¼" high
- Extra tall fence for large workpieces
- Spindles lock and electric brake
- Override locks table at any angle
- 5/8" arbor
- UL Listed, CSA Certified

Replacement Parts Available
1-800-323-0620

| Description | Crosscut 90° H | Crosscut 90° W | Crosscut 45° H | Crosscut 45° W | Table Dimensions (In.) | HP | No-Load RPM | Amps at 120V | Brake | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .0" Slide Compound Saw | 3 7/16 | 12 3/8 | 3 7/16 | 8 3/4 | 25 x 5 | 2.5 | 4800 | 15 | Electric | 6497-6 | 3LJ32 | $1235.91 | $747.50▲ | 67.0 |
| .0" Slide Compound Saw | 3 7/16 | 12 3/8 | 3 7/16 | 8 3/4 | 25 x 5 | 2.5 | 4800 | 15 | Electric | 6496-6 | 5M627 | 1104.46 | 668.00▲ | 57.0 |
| .0" Compound Saw | 2 1/2 | 5 9/16 | 2 1/2 | 3 7/8 | 25 x 5 | 2.5 | 4800 | 15 | Electric | 6495 | 3G713 | 725.00 | 463.75▲ | 50.0 |
| .0" Compound Saw | 2 1/2 | 5 9/16 | 2 1/2 | 3 7/8 | 25 x 5 | 2.5 | 4800 | 15 | Electric | 6494-6 | 1D578 | 625.71 | 378.75▲ | 45.0 |
| .0" Saw | 2 1/2 | 5 9/16 | 2 1/2 | 3 7/8 | 19 1/2 x 5 | 2.5 | 4800 | 15 | Electric | 6490-6 | 6W290 | 530.93 | 351.75▲ | 34.0 |

▲) Net prices, not subject to discounts.

| Type | Description | Milw. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Miter Saw Stand | Heavy Duty folding tool stand construction of 16 gauge rust resistant galvanized steel holds up to 500 lbs. 48 L x 36" H. Includes 2 riser supports and 2 mounting clamps. Fits all Milwaukee miter saws. | 48-08-0350 | 3ZW66 | $197.93 | $106.30▲ | 37.0 |
| Riser Support | Attaches to Milwaukee Miter Saw Stand to provide additional support to the work Height is adjustable. | 48-08-0360 | 3ZW67 | 32.77 | 17.55▲ | 2.2 |
| Roller Support | | 48-08-0370 | 3ZW68 | 64.79 | 34.75▲ | 5.3 |
| Mounting Clamps | Clamps secure miter saw to the stand. Includes 2 mounting clamps. | 48-08-0380 | 3ZW69 | 59.74 | 32.00▲ | 3.0 |

▲) Net prices, not subject to discounts.

# PORTABLE CHOP SAWS, CUT-OFF MACHINES AND CHOP SAW WHEELS

## [A] HEAVY-DUTY 14" HIGH POWER METAL-CUTTING CHOP SAW No. 4PC48

Powerful 15.0 amp, 5.5HP, 120V AC/DC motor, 3800 RPM, generates 4000 watts of power. Large, 5" cutting capacity allows enough clearance for even the largest materials. Ergonomically-designed handle and switch delivers superior comfort and control. Extra wide base provides maximum material support. 45° tool-free miter adjustment for greater versatility. Quick clamping vise. Ball and roller bearings. Includes 14" abrasive wheel and wrench. DeWalt brand.

## [B] 12" CUT-OFF MACHINE No. 4LF01

Cuts sheet metal, concrete, cinder block, reinforcing rods, 1/8" wire mesh, corrugated flooring, and ceiling forms. Maximum cutting depth 4". Blade rotation throws sparks and debris away from operator. Adjustable guard for different cutting depths is mounted in two places for proper alignment. Switch is protected from dust. Spindle lock button for fast, easy wheel changes. Handle is placed for lifting at tool centerline to prevent tilting. Includes: spindle nut wrench, 12" abrasive disc for masonry, and 12" abrasive disc for ferrous metals. Ball and roller bearings. UL Listed, CSA Certified. DeWalt brand.

## [C] HEAVY DUTY 14" CUT-OFF MACHINE No. 4GC36

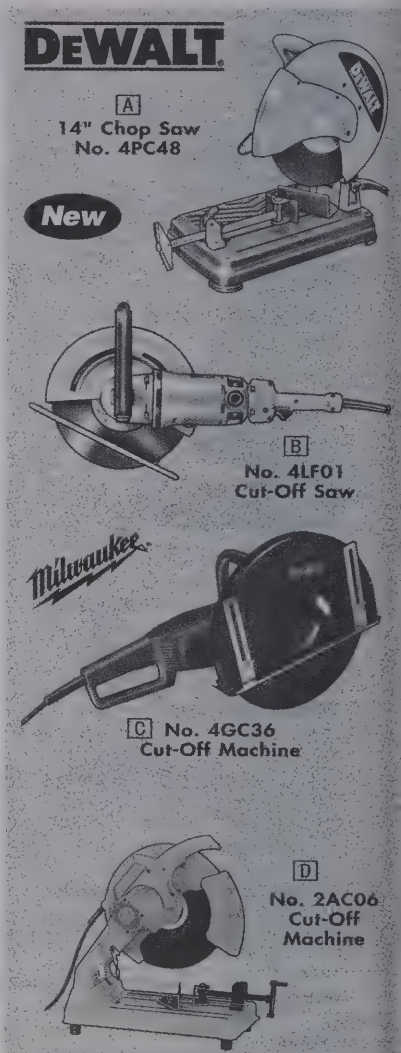
Superior performance and outstanding durability for rescue work, steel fabrication, salvage operations, roof decking, pipeline cutting, and general construction. Blade rotation directs sparks down and back for safety and clear visibility of work area. Enclosed handle protects switch from accidental start-up. Maximum cutting depth 4⅝". Includes wheel guard, guide frame, flanges, open end wrenches, and clamping nut. Ball and roller bearings. UL Listed, CSA Certified. Requires 5-20, 20A receptacle. Milwaukee brand.

## [D] HEAVY-DUTY 14" ABRASIVE CUT-OFF MACHINE No. 2AC06

**Designed for fast and efficient cutting** of angle iron, pipe, tubing, conduit, and channels. Built-in carrying handle maximizes operator comfort and job-site convenience. Cutting capacities are 4" outside pipe diameter, 2⁹⁄₁₆" bar stock diameter, 5" square stock, and 9" maximum opening. Wheel rotation directs particles away from operator. Quick release locking device swivels to 45°, spindle lock for positive safe changing of abrasive wheels 1" arbor size, chain for locking saw in down position. Ball and roller bearings. UL Listed, CSA Certified. Milwaukee brand.

| Key | Description | Arbor (In.) | No-Load RPM | Amps 120V | Mfr. | Mfr's. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 14" Chop Saw | 1 | 3800 | 15 | DeWalt | DW871 | *New* | **4PC48** | $392.00 | **$231.50▲** | 41.0 |
| B | 12" Machine | 1 | 5000 | 15 | DeWalt | DW866 | | **4LF01** | 840.00 | **493.25▲** | 36.0 |
| C | 14" Machine *† | 1 | 4350 | 18 | Milw. | 6184-21 | | **4GC36** | 1000.00 | **639.50▲** | 30.0 |
| D | 14" Chop Saw | 1 | 3500 | 15 | Milw | 6175 | | **2AC06** | 437.66 | **219.00▲** | 43.0 |

(*) Requires 5-20, 20A receptacle. (▲) Net prices, not subject to discounts.
(†) For additional chop saw wheels see Cut-off Wheels in product index.

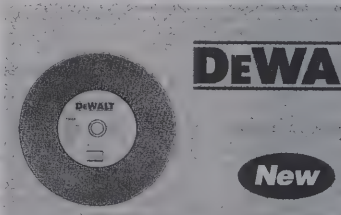



## DEWALT CHOP SAW WHEELS

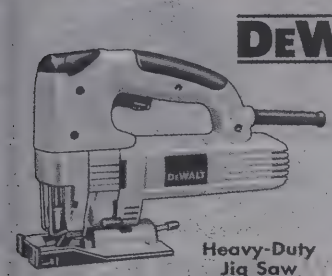
- **For general use in cutting metal with chop saws**

| Dia. (In.) | Blade Dimensions (In.) Thick | Arbor | Max. RPM | Applications | DeWalt Model | *New!* Stock No.❸ | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **12** | 3/32" | 1" | 5095 | General Purpose | DW8004 | **4PC44** | $11.92 | **$11.92** | ▲ | 3.5 |
| **14** | 3/32" | 1" | 4100 | Bar Cutter | DW8002 | **4PC42** | 9.36 | **9.36** | ▲ | 1.9 |
| **14** | 3/32" | 1" | 4100 | Stud Cutter | DW8003 | **4PC43** | 8.00 | **8.00** | ▲ | 1.9 |
| **14** | 3/32" | 1" | 4100 | General Purpose | DW8001 | **4LD94** | 8.60 | **7.42** | ▲ | 1.3 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite back cover. (▲) Net prices, not subject to discounts.



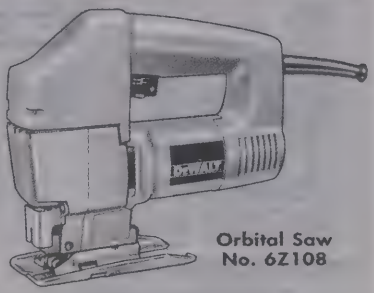
# JIG SAWS




Heavy-Duty Jig Saw No. 3ML17




Heavy-Duty Jig Saw No. 4NZ55



Orbital Saw No. 6Z108

Replacement Parts Available 1-800-323-0620

## HEAVY-DUTY JIG SAWS Nos. 3ML17, 3MM53 AND 4NZ55

- Keyless blade change system
- Shoe bevels to 45° in both directions without tools
- Variable speed
- Dust blower
- Uses T-shank or universal blades
- Anti-slip soft comfort grip
- Four position orbital action
- Includes 3 assorted cobalt steel blades and heavy-duty plastic carrying case; No. 4NZ55 does not include case
- No. 3MM53 has body grip design

## JIG SAWS Nos. 6W333 & 6Z108

- Accepts all 1/4" universal shank jig saw blades
- Double insulated construction
- 4-position orbital cutting action
- No. 6Z108 has straight cutting action and no carrying case
- Patented curved track yoke for maximum power
- Fully sealed to prevent dust and dirt contamination
- Infinite speed lock for precision cutting
- Capacities: 2³/₈," in hardwood, 3/4" in aluminum, and 1/4" in mild steel
- Includes Allen wrench, 2 metal/2 wood-cutting blades, blade clamp, and heavy-duty plastic carrying case
- For AC operation only

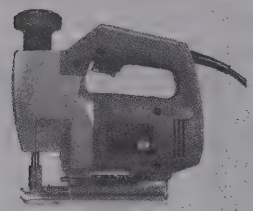
| Speed Type | No-Load SPM | Length of Stroke (In.) | Amps @ 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Orbital** | 0-3100 | 1 | 4.5 | Ball & Roller | 8¼ | 6.25 | DW318K | **6W333** | $228.00 | **$142.00▲** | 9.0 |
| **Straight** | 0-3100 | 1 | 4.5 | Ball & Roller | 8¼ | 6.25 | DW313 | **6Z108** | 206.00 | **128.05▲** | 6.6 |
| **Orbital** | 500-3100 | 1 | 5.8 | Ball & Roller | 11⅛ | 5.30 | DW321K | **3ML17** | 300.00 | **166.50▲** | 7.7 |
| **Orbital** | 500-3100 | 1 | 5.8 | Ball & Roller | 11⅛ | 5.30 | DW323K | **3MM53** | 300.00 | **193.25▲** | 7.7 |
| **Orbital** | 500-3100 | 1 | 5.8 | Ball & Roller | 11⅛ | — | DW321 | ***New*4NZ55** | 280.00 | **239.75▲** | 9.3 |

(▲) Net prices, not subject to discounts.

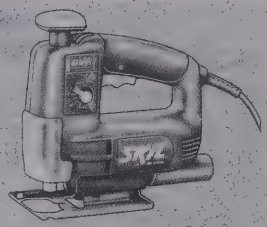
## DON'T DELAY... ORDER FROM GRAINGER NOW!

Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

# JIG SAWS AND SAW BLADES




No. 4Z825



No. 6Z122




No. 4Z813

## PROFESSIONAL VARI-ORBIT SAW No. 4Z825

- Features variable speed, 6 orbital actions: Variable speed control dial in trigger
- Capacities: 2" in softwood, 1¼" in hardwood, 3/8" in aluminum, and 3/16" in mild steel
- Supplied with one blade
- 8 ft., 2-wire rubber cord
- Uses universal blades
- For AC operation only
- UL Listed, CSA Certified

## WORKSHOP SAW No. 6Z122

- Features 5 orbital actions for cutting material from softwood to aluminum or steel
- Automatic scrolling capability
- Supplied with one blade and blade wrench
- 6 ft., 2-wire cord
- Double insulated construction
- Uses universal blades
- For AC operation only
- UL Listed, CSA Certified

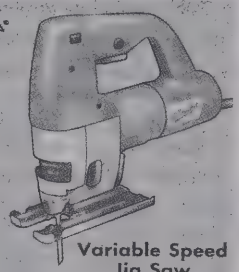
## MILWAUKEE SAW No. 4Z813

- Accepts standard 1/4" universal shank blades, base tilts 45°
- Includes 5 bi-metal quality wood and metal cutting blades
- Capacities: 2½" in hardwood, 1/4" nonferrous metal, and 1/8" in mild steel
- 8 ft., 2-wire cord
- Double insulated construction
- For AC operation only
- UL Listed, CSA Certified
- Variable speed




Variable Speed Jig Saw No. 3G711

New



Variable Speed Jig Saw No. 4PF73

## VARIABLE SPEED JIG SAWS Nos. 3G711 and 4PF73

- Double insulated construction
- Uses T-shank blades
- Features 4 orbital action settings and 1 non-orbiting setting
- 45° tilt for angle cutting
- Quik-Lok blade system for simple blade changes - no tools required
- Thumbwheel speed control
- Built-in dust collection port allows attachment to vacuum
- 2 blades included
- For AC operation only
- No. 4PF73 includes plastic carrying case

| Speed Type | No-Load SPM | Length of Stroke (In.) | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Orbital** | 0-3200 | 13/16 | 3.5 | Ball & Roller | 8¾ | 5½ | Skil | HD4580 | | **4Z825** | $179.00 | **$113.60▲** | 6.3 |
| **Orbital** | 800-3200 | 5/8 | 4.0 | Bronze Sleeve | 7¾ | 4 | Skil | 4470 | | **6Z122** | 100.95 | **67.60▲** | 4.5 |
| **Orbital** | 450-3100 | 1 | 5.7 | Ball & Roller | 11¾ | 6¼ | Milw. | 6266-6 | | **3G711** | 335.68 | **203.25▲** | 6.3 |
| **Orbital** | 450-3100 | 1 | 5.7 | Ball & Roller | 11¾ | 6¼ | Milw. | 6626-21 | *New* | **4PF73** | 309.35 | **195.00▲** | 7.5 |
| **Straight** | 0-3100 | 1 | 3.8 | Ball & Roller | 10⅜ | 5¾ | Milw. | 6256-6 | | **4Z813** | 298.84 | **191.50▲** | 7.0 |

(▲) Net prices, not subject to discounts.

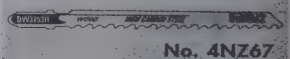
# HIGH SPEED STEEL JIG SAW BLADES

- Reinforced tooth design for precision cutting and long life
- Side chip path for superior finish

| Shank Type | Blade Type | Teeth per Inch | Length (In.) | No. in Pkg. | DeWalt Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **T-Shank** | Very fast cut/Rough finish wood | 6 | 4 | 5 | DW3750H | **4NZ67** | $11.06 | **$8.53 ▲** | 0.4 |
| **T-Shank** | Ripping/Crosscut straight (wide) | 6 | 4 | 5 | DW3751H | **4NZ68** | 11.06 | **8.53 ▲** | 0.4 |
| **T-Shank** | Fast cut/Clean finish wood | 6 | 4 | 5 | DW3753H | **4NZ70** | 11.06 | **8.53 ▲** | 0.4 |
| **T-Shank** | Aluminum/Fiberglass/Plastic Curve | 8 | 4 | 5 | DW3755H | **4NZ71** | 11.06 | **8.53 ▲** | 0.4 |
| **T-Shank** | Aluminum/Fiberglass/Plastic Straight | 8 | 6 | 5 | DW3756H | **4NZ72** | 11.06 | **8.53 ▲** | 0.4 |
| **T-Shank** | Fine cut/Smooth finish wood | 10 | 4 | 5 | DW3760H | **4NZ74** | 11.06 | **8.53 ▲** | 0.4 |
| **T-Shank** | Fine cut/Smooth finish straight cutting (wide) | 10 | 4 | 5 | DW3761H | **4NZ75** | 11.06 | **8.53 ▲** | 0.4 |
| **T-Shank** | Down cutting Laminate/Veneer | 10 | 4 | 5 | DW3762H | **4NZ77** | 11.06 | **8.53 ▲** | 0.4 |

DEWALT

New




No. 4NZ67



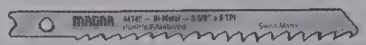

No. 4NZ71

# JIG SAW BLADES

## BI-METAL BLADES FOR JIG/SABRE SAWS

- For jig saws that use a 1/4" universal shank
- Bi-metal blades last up to 5 times longer than carbon steel blades
- High speed steel teeth provide sharp, long-lasting cutting life
- Flexible spring steel back for long blade life
- Hardened teeth allow for cutting nail-embedded wood
- Electron beam welding insures a strong blade and a long life
- Fits most U.S. and foreign saws
- Priced each. Sold only in pkgs. of 5

MAGNA PROFESSIONAL TOOLS No. 5F540



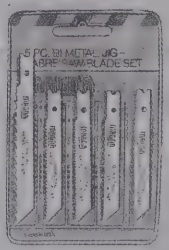
| Teeth Per In. | Length (In.) | Recommended Applications | Magna Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **WOOD-CUTTING BLADES** | | | | | | | |
| 6 | 3⅝ | Roughing particle board, fiberboard | 44749 | **5F540** | $2.66 | **$2.39** | 0.1 |
| 6 | 4 | Roughing wood, particle and fiberboard | 44753 | **2A744** | 2.58 | **2.32** | 0.1 |
| 10 | 4 | Wood, particle & fiberboard, & contour cutting | 44754 | **2A745** | 2.62 | **2.36** | 0.1 |
| 10 | 3⅝ | Wood (medium cut) and plastics | 44747 | **5F541** | 2.76 | **2.48** | 0.1 |
| 10 | 4 | Scroll cutting | 44738 | **4F448** | 2.96 | **2.66** | 0.1 |
| **METAL-CUTTING BLADES** | | | | | | | |
| 12 | 2¾ | Metal 18 gauge, to 1/4" | 44750 | **5F542** | 2.02 | **1.82** | 0.1 |
| 18 | 2¾ | Metal 18 gauge, to 3/16" | 44752 | **2A746** | 2.02 | **1.82** | 0.1 |
| 24 | 2¾ | Metal 18 gauge, and under | 44755 | **2A747** | 2.02 | **1.82** | 0.1 |
| 36 | 2¾ | Metal, ferrous & non-ferrous, up to 1/16" | 44751 | **5F543** | 1.86 | **1.67** | 0.1 |

## BI-METAL BLADE KIT

- Contains Nos. 5F540, 5F542, 2A746, 2A747, and 5F543
- Magna brand (88805)

**No. 5F545.** Shpg. wt. 0.1 lbs. List ..... $10.08.
Each **$9.07**; Lots 5 ..... **$8.62**

MAGNA PROFESSIONAL TOOLS

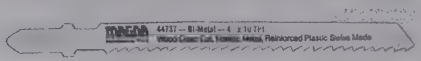



No. 5F545

## BOSCH STYLE SHANK BI-METAL BLADES

- Flexible, spring steel body
- Shatterproof
- Cuts plastic, metal, and other materials
- Lasts 5 times longer than carbon steel blades
- Priced each. Sold only in pkgs. of 5

MAGNA PROFESSIONAL TOOLS No. 5F549

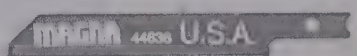


| Teeth Per In. | Overall Length (In.) | Recommended Applications | Magna Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 6 | 4 | Wood, fast rough cut | 44735 | **5F546** | $2.76 | **$2.48** | 0.1 |
| 8 | 4 | Wood, medium/rough cut, plastics | 44736 | **5F547** | 2.62 | **2.36** | 0.1 |
| 10 | 3 | Wood, scroll cutting | 44731 | **5F548** | 2.56 | **2.30** | 0.1 |
| 10 | 4 | Wood, clean cut, non-ferrous metal, reinforced plastic | 44737 | **5F549** | 2.76 | **2.48** | 0.1 |
| 12 | 3 | Metal 1/8 to 1/4" nail embedment, wood, non-ferrous metal & plastic | 44733 | **5F550** | 2.48 | **2.23** | 0.1 |
| 18 | 3 | Metal 1/8 to 3/16", contoured shapes, and tubing | 44732 | **5F551** | 2.44 | **2.20** | 0.1 |
| 24 | 3 | Metal less than 1/8" | 44734 | **5F552** | 2.44 | **2.20** | 0.1 |

## CARBIDE GRIT BLADES FOR JIG SAWS

- Fine Grit: For smooth finished cuts in hard, brittle materials
- Medium Grit: For general cutting with moderate finish
- Coarse Grit: For faster cutting in thicker materials, and tight radius cuts
- Priced each. Sold only in pkgs. of 5

MAGNA PROFESSIONAL TOOLS




No. 4F451

| Grit | Length (In.) | Recommended Applications | Magna Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Fine | 2⅞ | Cuts tile and plastic laminates, stainless steel trim, sheet metal (to 18 gauge), slate flooring | 44638 | **4F449** | $4.50 | **$4.05** | 0.1 |
| Medium | 2⅞ | Cuts paneling and plywood, hardwood veneers, tempered hardboard, flooring | 44639 | **4F450** | 4.50 | **4.05** | 0.1 |
| Coarse | 2⅞ | Cuts fiberglass, fiber reinforced cement, plaster with lath, composition board | 44640 | **4F451** | 4.50 | **4.05** | 0.1 |

# JIG SAW BLADES AND SCROLL SAW BLADES

## JIG SAW BLADES

Universal shank unless otherwise noted

### BI-METAL

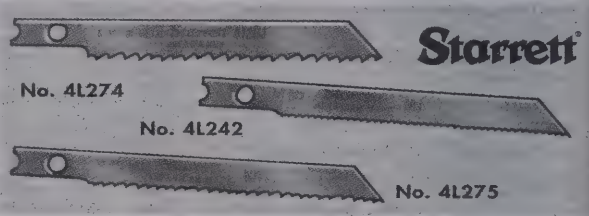
A high speed steel cutting edge combined with a flexible back, make these blades tough, shock absorbing and virtually unbreakable. Provides long blade life and user safety. Cuts almost all forms of wood, metal and plastic.

### FASTCUT™

Variable pitch high speed steel teeth allow fast cutting action on a wide selection of materials and thicknesses. Also provides smooth finishes and reduced noise levels on all forms of wood, metal and plastic.

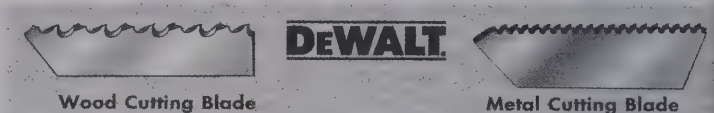
**BI-METAL**

| Teeth per Inch | Length (In.) | Blades per Blister Card Pack | Starrett Model | Stock No. | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **18** | 3 1/8 | 5 | 18BJ-5 | **4L242** | **$7.31** | 0.1 |
| **24** | 3 1/8 | 5 | 24BJ-5 | **4L317** | **7.31** | 0.1 |
| **32** | 3 1/8 | 5 | 32BJ-5 | **4L318** | **7.31** | 0.2 |
| **FASTCUT™ BI-METAL** | | | | | | |
| **8-12** | 3 1/8 | 5 | 812BJ-5 | **4L274** | **7.31** | 0.1 |
| **10-14** | 3 1/8 | 5 | 1014BJ-5 | **4L275** | **7.31** | 0.1 |




## HEAVY-DUTY COBALT STEEL JIG SAW BLADES

- Reinforced tooth design for precision cutting and long life
- Side chip path for superior finish
- Cobalt steel teeth for greater durability
- 1/4" universal shank




**COBALT STEEL JIG SAW BLADES — METAL CUTTING**

| Shank Type | Blade Type | Teeth per Inch | Length (In.) | Blades per Pack | DeWalt Model | Stock No. | List | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Universal** | Thick Metal Cutting | 14 | 3 | 3 | DW3720 | **3MF98** | $7.58 | **$7.43▲** | 0.1 |
| **Universal** | Extra long Thick Metal Cutting | 14 | 4⅝ | 3 | DW3723 | **4KX73** | 10.17 | **8.77▲** | 0.1 |
| **Universal** | Medium Metal Cutting | 18 | 3 | 3 | DW3724 | **4KX74** | 9.38 | **8.10▲** | 0.1 |
| **Universal** | Thin Metal Cutting | 24 | 3 | 3 | DW3726 | **4KX75** | 9.38 | **8.10▲** | 0.1 |
| **Universal** | Extra long Thin Metal Cutting | 24 | 4⅝ | 3 | DW3727 | **4KX76** | 10.17 | **8.77▲** | 0.1 |
| **Universal** | Sheet Metal Cutting | 36 | 3 | 3 | DW3728 | **4KX77** | 9.38 | **8.10▲** | 0.1 |

**COBALT STEEL JIG SAW BLADES — WOOD CUTTING**

| Shank Type | Blade Type | Teeth per Inch | Length (In.) | Blades per Pack | DeWalt Model | Stock No. | List | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Universal** | Rough Finish Wood | 6 | 4 | 3 | DW3703 | **4KX70** | $9.38 | **$8.10▲** | 0.3 |
| **Universal** | Masonry | Course Grit | 3 | 3 | DW3718 | **4KX72** | 12.98 | **11.19▲** | 0.3 |
| **Universal** | Very Fast Cut/Rough Finish Wood | 6 | 4 | 3 | DW3700 | **3MF91** | 7.58 | **6.54▲** | 0.1 |
| **Universal** | Ripping/Crosscut Straight (Wide) | 6 | 4 | 3 | DW3701 | **3MF92** | 8.32 | **7.18▲** | 0.1 |
| **Universal** | Aluminum/Fiberglass/Plastic Straight Cutting (Wide) | 8 | 4 | 3 | DW3706 | **3MF93** | 8.32 | **7.18▲** | 0.1 |
| **Universal** | Fine Cut/Smooth Finish Wood | 10 | 4 | 3 | DW3710 | **3MF94** | 7.58 | **7.43▲** | 0.1 |
| **Universal** | Fine Cut/Smooth Finish Straight Cutting (Wide) | 10 | 4 | 3 | DW3711 | **3MF95** | 8.32 | **7.18▲** | 0.1 |
| **Universal** | Down Cutting Laminate/Veneer | 10 | 4 | 3 | DW3712 | **3MF96** | 7.58 | **6.54▲** | 0.1 |
| **Universal** | Trim/Coping Wood Cutting | 12 | 3 | 3 | DW3715 | **3MF97** | 7.58 | **6.54▲** | 0.1 |

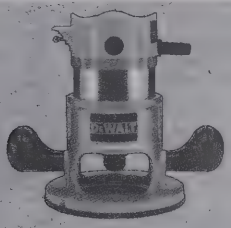
(▲) Net prices, not subject to discounts.

## 5" SCROLL SAW BLADES

**SCROLL SAW BLADES**

| Blade Type | TPI* | Description | DeWalt Model | Stock No. | List | Pkg. Qty. | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **#2/0 Skip** | 28 | Very Fine Fret Work | DW3940 | **4LF95** | $6.74 | 12 | **$6.40▲** | 0.6 |
| **#5 Skip** | 12 | Fine Fret Work/Veining | DW3941 | **4LF96** | 6.74 | 12 | **6.40▲** | 0.6 |
| **#9 Skip** | 11½ | General Purpose | DW3942 | **4LF97** | 6.74 | 12 | **6.40▲** | 0.6 |
| **#2 Reverse** | 20 | Very Fine Fret Work | DW3943 | **4LF98** | 6.74 | 12 | **6.40▲** | 0.6 |
| **#5 Reverse** | 12½ | Fine Fret Work | DW3944 | **4LF99** | 6.74 | 12 | **6.40▲** | 0.6 |
| **#7 Reverse** | 11½ | General Purpose | DW3945 | **4LG01** | 6.74 | 12 | **6.40▲** | 0.6 |
| **Spiral** | 41 | Bevel Cut Letters | DW3947 | **4LG02** | 6.74 | 12 | **6.40▲** | 0.6 |
| **Metal Cutting** | 36 | Metal | DW3948 | **4LG03** | 8.42 | 12 | **8.00▲** | 0.6 |
| **Precision Ground # 5** | 12 | Very Fine Fret Work | DW3949 | **4LG04** | 6.74 | 6 | **6.40▲** | 0.6 |
| **Precision Ground # 7** | 10 | Fine Fret Work/Veining | DW3950 | **4LG05** | 6.74 | 6 | **6.40▲** | 0.6 |
| **Precision Ground # 9** | 8 | General Purpose | DW3951 | **4LG06** | 6.74 | 6 | **6.40▲** | 0.6 |
| **Pinned** | 15 | Fine Finish | DW3952 | **4LG07** † | 3.16 | 6 | **3.00▲** | 0.6 |
| **Pinned** | 18½ | General Purpose | DW3953 | **4LG08** † | 3.16 | 6 | **3.00▲** | 0.6 |
| **36-Pc. Blade Assortment** | | | DW3956 | ***New*4NZ90** | 21.04 | 36 | **18.66▲** | 0.6 |
| **48-Pc. Blade Assortment** | | | DW3955 | **4LG09** | 21.04 | 48 | **20.15▲** | 0.1 |

(▲) Net prices, not subject to discounts. (*) TPI = Teeth per Inch. (†) 5" between pins.



1½ HP Router
No. 6W360

Modification & Service Available
Contact Your Local Branch

DEWALT

Replacement Parts Available
1-800-323-0620

No. 4Z566



## 1½ HP ROUTER No. 6W360

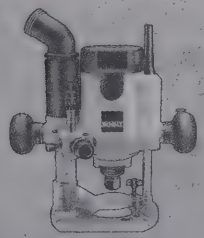
- Collet capacity: 1/4 & 1/2"
- For continuous production use
- Accurate calibrated depth adjustment
- Long collet system ensures positive bit holding and less runout
- 6" diameter base for easy bit changes, depth adjustments
- Includes 1/4 & 1/2" collets and two wrenches
- 8 ft., 2-cond. rubber cord
- For AC operation only
- UL Listed, CSA Certified

## 1½ HP ROUTER MOTOR No. 4LD87

- No. 4LD87 does not include base
- Collet capacity: 1/4" & 1/2"
- For continuous production use
- Accurate calibrated depth adjustment
- Long collet system ensures positive bit holding and less runout
- 8 ft., 2-cond. rubber cord
- For AC operation only
- UL Listed, CSA Certified

## 1½ & 2 HP ROUTERS Nos. 4Z566 & 6Z357

- Adjusting ring with 1/64" graduations with lock to maintain depth of cut
- No. 4Z566 includes 1/4" collet and two wrenches
- No. 6Z357 includes 1/2" collet and two wrenches
- Both models include 8 ft., 3-cond. rubber cord
- Power source AC/DC
- UL Listed, CSA Certified

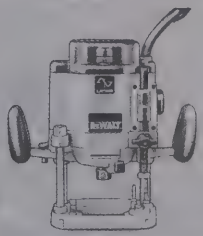


2 HP Router
No. 3MM54

Milwaukee

DEWALT

3 HP Router
No. 6Y933



## 2 HP PLUNGE ROUTER No. 3MM54

- Collet capacity: 1/4-1/2"
- Built-in dust extraction through plunge column
- Variable speed with electronic feedback circuitry maintains constant speed under load & provides soft start
- Micro-fine depth adjuster
- Spindle lock button
- Convenient round handles with plunge lock on one side and On/Off trigger on the other
- Includes 1/4 & 1/2" collets, template guide bushing adapter, vacuum adapter, and wrench

## 3 HP PLUNGE ROUTER No. 6Y933

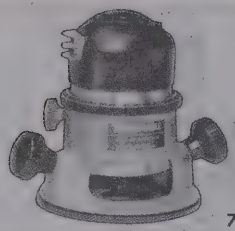
- No. 6Y933 is 3 HP, 120V router
- Accept 1/2, 1/4, and 3/8" collets
- Polished steel guide rods with machined bushings
- Plunge lock mechanism in handle
- Precision machined collet is slotted on six sides to minimize vibration and runout and prevent sticking
- Three-position turret depth setting
- Rack and pinion depth adjuster with magnified scale
- Variable speed with electronic feedback
- Includes 1/2 & 1/4"collet, template guide, bushing adapter, and three wrenches
- 10 ft., 2-cond. rubber cord
- For AC operation only
- UL Listed

| Type | HP | No-Load RPM | Amps at 120V | Bearings | Switch | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Router** | 1½ | 25,000 | 9.0 | 100% Ball & Roller | Toggle | 7.3 | DeWalt | DW610 | **6W360** | $271.00 | **$187.50▲** | 8.0 |
| **Router** | 1½ | 25,000 | 9.0 | 100% Ball & Roller | Toggle | 5.0 | DeWalt | DW612 | **4LD87** | 232.00 | **144.20▲** | 5.0 |
| **Motor** | 1½ | 24,500 | 10.0 | Ball | Slide | 8½ | Milwaukee | 5660 | **4Z566** | 357.00 | **228.50▲** | 11.0 |
| **Router** | 1½ | 26,000 | 12.0 | Ball | Slide | 8⅝ | Milwaukee | 5680 | **6Z357** | 367.00 | **234.75▲** | 11.0 |
| **Router** | 2 | 8000-24,000 | 10.0/9.0 | 100% Ball & Roller | Trigger | 9.0 | DeWalt | DW621 | **3MM54** | 402.00 | **223.25▲** | 13.0 |
| **Electronic Plunge Router** | 2 | 8000-22,000 | 15.0 | 100% Ball & Roller | Slide | 11.3 | DeWalt | DW625 | **6Y933** | 546.00 | **339.25▲** | 19.0 |

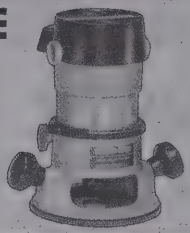
(*) 220 volts. (▲) Net prices, not subject to discounts.

# ROUTERS

PORTER-CABLE



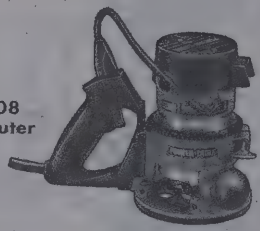
No. 4Z950
7/8 HP Router



No. 4Z951
1½ HP Router

Replacement Parts Available
1-800-323-0620

No. 6Z308
1½ HP Router



## 7/8 HP ROUTER No. 4Z950

- Small, compact design for easy control and maneuverability
- Motor and base die-cast aluminum
- Micrometer type of depth adjustment
- Collet capacity: 1/4"
- Includes: 1/4" collet and two collet wrenches
- 7 ft., 3-cond. cord
- Power source AC/DC
- UL Listed, CSA Certified

Modification & Service Available
Contact Your Local Branch

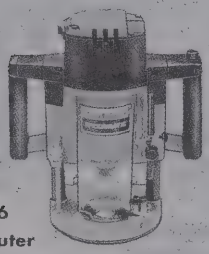
## 1½ HP ROUTER No. 4Z951

- For tradesman use where overload protection and high torque performance are needed
- Has flattop design for easy bit changes
- Motor and base die-cast aluminum
- Micrometer type of depth adjustment
- Max. collet capacity: 1/2"
- Includes 1/4 and 1/2" collet, self-releasing collets system, and two collet wrenches
- 7 ft., 3-cond. cord
- Power source AC
- UL Listed, CSA Certified

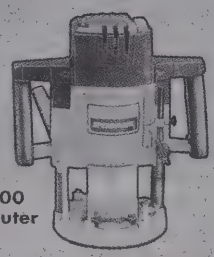
## 1½ HP D-HANDLE ROUTER No. 6Z308

- Solid die-cast aluminum motor housing and base
- Micrometer depth of cut control
- Adjustable subbase permits accurate centering of the template guide with bit
- Flat top design for easy bit changes
- Includes 1/4 and 1/2" collets and two collet wrenches
- New self-releasing collet system
- Power source AC only

PORTER-CABLE



No. 3W896
3¼ HP Router



No. 2AC00
3¼ HP Router



No. 3JF40

## 3¼ HP PLUNGE ROUTER No. 3W896

- 5-speed production plunge router
- 3" plunge capacity
- Die-cast housing has precision-machined 7/8" steel posts with DuPont Teflon®-lined bearings for smooth plunge action
- Posts are sealed for dust protection
- Powerful 15 amp motor
- Soft start feature for long motor life and user safety
- Includes 1/2" collet
- Self-releasing collet system

## 3¼ HP PLUNGE ROUTER No. 2AC00

- Solid die-cast aluminum motor housing and base
- Plunge capacity 3"
- Adjustable depth rod with six position stop turret
- Soft start for longer motor, switch, and bearing life
- Includes 1/2" collet
- New self-releasing collet system
- Power source AC only
- UL Listed, CSA Certified

## LOCK INSTALLATION KIT CYLINDRICAL LOCK BORING JIG

- The quick, easy way to install cylindrical locks
- Jig locates for 2⅜" or 2¾" backset in seconds
- Adjustable for door thickness from 1⁵⁄₁₆" to 2⅛"
- Drills all holes in one set-up
- Includes strike locator for accurate placement of jamb mortise

**No. 3JF40.** Shpg. wt. 6.0 lbs. List $272.00.
Each ..... $162.00▲

| HP | No-Load RPM | Amps at 120V | Bearings | Switch | Tool Length (In.) | Tool Wt. (Lbs.) | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **7/8** | 22,000 | 6.5 | Ball | Toggle | 7 | 7 | 100 | **4Z950** | $219.00 | **$122.85▲** | 9.0 |
| **1½** | 23,000 | 10.0 | Ball | Toggle | 8 | 8¾ | 690 | **4Z951** | 278.00 | **148.00▲** | 11.0 |
| **1½** | 23,000 | 10.0 | Ball | Trigger | 8 | 9¼ | 691 | **6Z308** | 307.00 | **182.75▲** | 12.0 |
| **3¼** | 21,000 | 15.0 | Ball | Trigger | 13⅛ | 17¼ | 7538 | **2AC00** | 515.00 | **306.00▲** | 20.0 |
| **3¼** | 21,000 | 15.0 | Ball | Trigger | 13⅛ | 17¼ | 7539 | **3W896** | 564.00 | **330.00▲** | 20.0 |

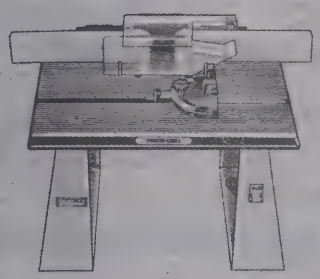
(▲) Net prices, not subject to discounts.



*Put America's power tool powerhouse to work for you today.*

## HEAVY-DUTY SHAPER TABLE No. 3W894

PORTER-CABLE



Shaper Table
No. 3W894

- Dust collection hood for 2½" hose
- Large, sturdy aluminum table top with 3⅝" hole
- 3/4" miter gauge slot to accommodate standard miter gauge
- 20 amp lockable switch for safety
- Can be used with Porter Cable models 514, 518, 520, 630, 690, 691, 7537, and 7539
- Split fence with micro adjustment for best accuracy.

Table top measures 16¾ x 19¾". Overall dimensions 20½W x 16D x 12"H. Net weight 26 lbs. Porter-Cable brand (698).

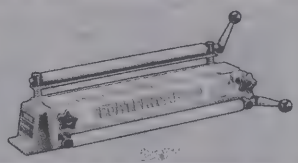
**No. 3W894.** Shpg. wt. 31.0 lbs. List $238.00. Each .....$175.25▲

(*) Teflon® is a registered trademark of DuPont. (▲) Net prices, not subject to discounts

## OMNIJIG® DOVETAIL MACHINE No. 3W897

PORTER-CABLE

Dovetail
Machine
No. 3W897



Easy-to-use machine handles stock up to 16" wide, 1/2" to 1" thick. 5/8" thick cast aluminum base. Both dovetails and pins can be made in one pass with standard template and router. Standard equipment includes: 1/2" half-blind dovetail template, 1/2" dovetail bit, template guide, locknut, and spacers. Porter-Cable brand (5116).

**No. 3W897.** Shpg. wt. 42.0 lbs. List $512.00. Each .....$305.25▲

### OPTIONAL TEMPLETS FOR No. 3W897

| Description | Application | PC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Dovetail Templet** | For Tapered Sliding Dovetails | 5121 | **3W900** | $60.50 | **$57.25▲** | 2.0 |
| **Dovetail Templet** | For Adjustable Through Dovetails | 5122 | **3W901** | 151.20 | **119.10▲** | 3.5 |
| **"Pins" Templet** | For 1/2" Hand Dovetails (2" Spacing) | 5118 | **3W898** | 43.70 | **34.45▲** | 1.6 |
| **"Tails" Templet** | For 1/2" Hand Dovetails (2" Spacing) | 5119 | **3W899** | 47.05 | **37.10▲** | 1.6 |

### ROUTER TEMPLET GUIDE KIT No.3W902

Kit includes seven templet guides, 2 locknuts, and plastic case. Porter-Cable brand (42000).

**No. 3W902.** Shpg. wt. 1.0 lbs. List $39.95. Each .....$31.50▲

## DML CONTRACTOR 1/4" SHANK CARBIDE ROUTER BIT SETS

- Especially for laminate work
- Bits have carbide tips for heavy-duty routing
- Packaged in molded plastic storage case

### 3-PC. LAMINATE TRIM SET

| Key | No. of Pieces | Includes | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **B** | 3 | Flush Trimmer, 22 Bevel Trimmer, (both with ball bearings) and 1/4" Straight Bit | **4AFC1** | $32.88 | **$26.30** | 0.3 |

### 10-PC. CARBIDE ROUTER BIT SET

| Key | No. of Pieces | Includes | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **C** | 10 | 1/4, 3/8, & 1/2" 2 Flute Straight Bits<br>3/8" V-Groove Bit<br>1/2" Core Box Bit<br>45 Chamfer Bit<br>1/4" Roman Ogee Bit<br>3/8" Rabbeting Bit<br>3/8" Cove Bit<br>3/8" Corner Rounding Bit | **4AFC0** | $226.28 | **$181.25** | 1.3 |

## DML ALL-PURPOSE 1/4" SHANK HIGH-SPEED STEEL ROUTER BITS

- For general stock removal, slotting, grooving, rabbeting, and freehand routing
- No. 4ACW9 also used for decorative edging
- Packaged in molded plastic storage case

### HIGH SPEED STEEL ROUTER BIT SETS

| Key | No. of Pieces | Bits Included | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **D** | 6 | 1/4, 3/8, & 1/2" Straight Bits, 1/4" Veining, 3/8" Corner Rounding, and 3/8" V-Groove | **4ACW9** | $32.22 | **$25.80** | 0.3 |

### INDIVIDUAL HSS ROUTER BITS

| Size (In.) | Description | No. of Flutes | Length (In.) Cutting | Length (In.) Shank | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/8** | Straight | 1 | 5/16 | 1 3/16 | **4AFK7** | $3.55 | **$2.84** | **$2.70** | 0.1 |
| **1/4** | Straight | 2 | 1/4 | 1 1/4 | **4AFK8** | 3.93 | **3.14** | **2.99** | 0.1 |
| **3/8** | Straight | 2 | 1/4 | 1 1/4 | **4AFK9** | 5.51 | **4.41** | **4.19** | 0.1 |
| **1/2** | Straight | 2 | 7/8 | 1 1/4 | **4AFL0** | 6.70 | **5.36** | **5.09** | 0.1 |
| **3/16** | Veining | 1 | 3/8 | 1 3/16 | **4AFL1** | 5.00 | **4.00** | **3.80** | 0.1 |
| **1/4** | Veining | 1 | 3/8 | 1 1/4 | **4AFL2** | 4.46 | **3.57** | **3.39** | 0.1 |
| **3/8** | V-Groove | 2 | 3/8 | 1 1/4 | **4AFL3** | 7.21 | **5.77** | **5.48** | 0.1 |
| **3/8 Radius** | Corner Round | 2 | 5/8 | 1 | **4AFL4** | 9.44 | **7.55** | **7.17** | 0.1 |

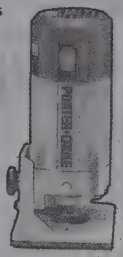
# LAMINATE TRIMMERS

## PORTER-CABLE

See Index for Trimmer Accessories



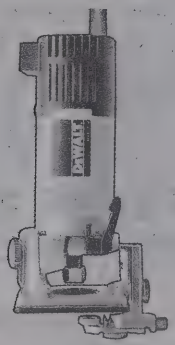
No.4Z953



No.6A706

Replacement Parts Available
1-800-323-0620

## DEWALT



No.1N560

## PORTER-CABLE TRIMMER No. 4Z953

- Compact, lightweight, design with 360° access to unit for greater control, safety, and durability during operation
- Precision-machined aluminum base tilts 45° left and 30° right
- Spindle lock for fast bit changes, 1/4" collet
- Double insulated sealed ball bearing construction
- Power source AC/DC
- UL Listed, CSA Certified

## PORTER-CABLE TRIMMER No. 6A706

- Die-cast precision-machined fixed aluminum base
- Spindle lock for fast bit changes, 1/4" collet
- Unique micro-set depth adjustment for pinpoint accuracy in seconds
- Double sealed ball bearing construction
- Power source AC/DC
- UL Listed, CSA Certified

### PORTER-CABLE ROUTER COLLETS

| Description | Application | PC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/2" Drop-In Style Collet** | For use with all current Porter-Cable models (except No. 4Z950) | 42950 | **3W903** | $11.75 | **$10.13▲** | 0.1 |
| **Corner Chisel** | | 42234 | **3W905** | 19.50 | **16.10▲** | 0.3 |
| **1/4" Drop-In Style Collet** | For use with Porter-Cable Nos. 4Z953 & 6A706 only | 43002 | **3W904** | 8.50 | **7.50▲** | 0.1 |

## DeWALT LAMINATE TRIMMER KIT No. 1N551

- 1/4" collet with spindle lock
- Micro-fine depth adjustment
- Includes motor pack, trim, tilt, and offset base, 5" diameter round base, ball bearing guide, solid surface skis, wrench, heavy-duty plastic carry case
- Tool-free base change and height adjustment for quick, accurate set-up
- For AC operation only
- UL Listed, CSA Certified

## DeWALT LAMINATE TRIMMER No. 1N560

- No. 1N560 has precision-machined 360° trim base
- 1/4" collet capacity with spindle lock
- Micro-fine depth adjustment
- Includes ball bearing guide & wrench
- Tool-free base change and height adjustment for quick, accurate set-up
- For AC operation only
- UL Listed, CSA Certified

## LAMINATE MOTOR No. 1N549

Replacement motor for DeWalt models DW670,DW671, DW672, DW673, and DW674. DeWalt brand (DW679).

**No. 1N549.** Shpg. wt. 4.8 lbs. List $152.00. Each ..... $94.55▲

### TRIMMER SPECIFICATIONS AND ORDERING DATA

| No-Load RPM | Amps at 120V | Bearings | Switch | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **30,000** | 5.6 | Ball | Slide | 7¾ | 4 | PC | 7319 | **4Z953** | $201.00 | **$153.25▲** | 5.0 |
| **30,000** | 5.6 | Ball | Slide | 7½ | 3¾ | PC | 7310 | **6A706** | 179.00 | **110.00▲** | 4.8 |
| **30,000** | 5.6 | Ball | Slide | 8½ | 4¼ | DeWalt | DW670 | **1N560** | 174.00 | **108.20▲** | 5.5 |
| **30,000** | 5.6 | Ball | Slide | 8½ | 3⅓ | DeWalt | DW673K | **1N551** | 330.00 | **205.50▲** | 14.0 |

### DeWALT LAMINATE TRIMMER ACCESSORIES

| Description | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Sub Base** - sub base only | DW6703 | **1N559** | $10.00 | **$9.80▲** | 0.5 |
| **Solid Surface Skis** | DW6704 | **1N558** | 6.00 | **5.88▲** | 0.5 |
| **Fixed Base** - Fixed Base Only | DW6705 | **1N557** | 58.00 | **55.80▲** | 2.0 |
| **Tilt Base** - Tilt base only | DW6706 | **1N556** | 70.00 | **67.35▲** | 2.0 |
| **Off-Set Base** - Off-set base only | DW6707 | **1N555** | 86.00 | **82.70▲** | 2.0 |
| **Laminate Seaming Base** - base only | DW6708 | **1N554** | 84.00 | **80.75▲** | 0.5 |

(▲) Net prices, not subject to discounts.



Put America's power tool powerhouse to work for you today.

# PLATE JOINER, PLATE JOINER KIT AND ACCESSORIES

## PLATE JOINER WITH TILT FENCE & CASE

**PORTER-CABLE**

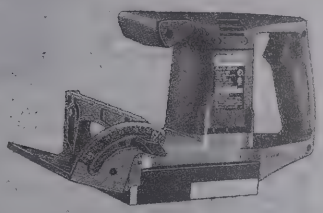


Plate Joiner
No. 6A707

Replacement Parts Available
1-800-323-0620

- For joining material and making joints quickly
- Easier and faster than doweling
- Unique vertical push-handle with trigger switch
- Super torque PD belt drive for quieter, smoother operation
- Exclusive miter fence permits precise matching of miter joint corners even if materials are of different thickness
- Easy-to-use fence with preset 45 and 90° faces; includes precision 0-45° tilt fence
- Easy rotating cutter adjustment with preset depth stop for accurate cutting for all three standard biscuit sizes
- Power source AC/DC
- UL Listed, CSA Certified

ıcludes 6 tooth carbide-tipped blade (8000 RPM), and steel car-ying case. Belt driven. 5.0 amps at 120V. 10" long, weighs 6 lbs. orter-Cable brand (556).

**o. 6A707.** Shpg. wt. 14.0 lbs. List ..... $240.00.
ach ..... $190.25▲

▲) Net prices, not subject to discounts.

## PLATE JOINER KIT

**DEWALT**

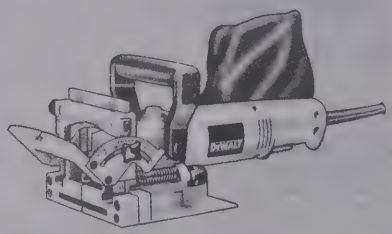


Plate Joiner Kit
No. 6W875

Replacement Parts Available
1-800-323-0620

- Rack and pinion integral adjustable fence ensures parallel plunge cuts for easy joining
- Fence tilts 0 to 90°; fence flips to 0° for flush cuts—no extra parts needed
- Retractable steel anti-slip pins
- 4" six tooth carbide blade No. 4GD63
- Fence allows location on either face of miter joint for accuracy
- Preset depth stops for #0, #10, and #20 biscuits and 20mm depth of cut
- 8 ft., 3-cond. rubber cord
- UL Listed

Includes heavy-duty plastic case, dustbag, deflector, 4" blade, vacuum adapter, and wrench. 10,000 RPM no-load speed, 6.5 amps at 120V. 12½" L, weighs 6.6 lbs. DeWalt brand (DW682K).

**No. 6W875.** Shpg. wt. 14.0 lbs. List ..... $300.00.
Each ..... $199.00▲

**No. 4GD63.** Shpg. wt. 1.6 lbs. List ..... $60.08.
Each ..... $47.40▲

## PLATE JOINER ACCESSORIES

**iscuits** are manufactured in the U.S.A. and completely inter-hangeable in size and performance with foreign-made biscuits. ssortment pack contains 500 of size "20" (24mm x 58mm), 250 of ize "10" (20mm x 52mm), and 250 size of "0" (16mm x 47mm). 'orter-Cable brand (5554).

**lo. 6A708.** Shpg. wt. 4.8 lbs. List $38.50.
:ach ..... $30.00▲

**Replacement Cutter** is interchangeable with all competitive plate-joiner cutter blades. 12 tooth carbide-tipped blade. 10,000 RPM max. Porter-Cable brand (5557).

**No. 6A709.** Shpg. wt. 0.6 lbs. List $67.15. Each ..... $55.45▲

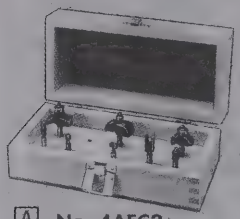
(▲) Net prices, not subject to discounts.


## IF YOU'RE IN A BIND, CALL GRAINGER

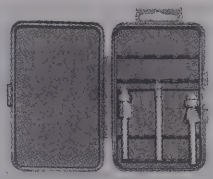
If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# INDUSTRIAL DUTY ROUTER BITS

**DML**

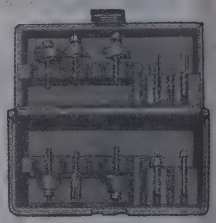


[A] No. 4AFC2
8-Pc. Woodmaster
Router Bit Set

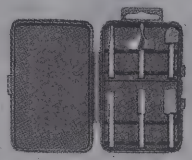


[B] No. 4AFC1 3-Pc.
Laminate Trimmer Set

[C] No. 4AFC0
10-Pc. Carbide
Router Bit Set



Replacement
Parts Available
1-800-323-0620



[E] No. 4ACW9 6 Pc. High
Speed Steel Router Bit Set

## DML CARBIDE-TIPPED SETS

### [A] 8-PC. WOODMASTER ROUTER BIT SET–1/4" SHANK

**No. 4AFC2.** Shpg. wt. 2.3 lbs. List ..... $155.56.
Each ..... **$124.45**

| Bits Included in Set |
|---|
| 1/2" Radius Cove Bit |
| 3/8" Radius Corner Rounding Bit |
| 5/32" Radius Roman Ogee Bit |
| Solid Carbide Flush Trimmer |
| HSS Key Slot Cutter |
| 90° Grooving Bit |
| 1/4" Double Flute Straight & Mortising Bits |

## DML CONTRACTOR 1/4" SHANK CARBIDE ROUTER BIT SETS

- Especially for laminate work
- Bits have carbide tips for heavy-duty routing
- Packaged in molded plastic storage case

### 3-PC. LAMINATE TRIM SET

| Key | No. of Pieces | Includes | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| B | 3 | Flush Trimmer, 22 Bevel Trimmer, (both with ball bearings) and 1/4" Straight Bit | 4AFC1 | $32.88 | **$26.30** | 0.3 |

### 10-PC. CARBIDE ROUTER BIT SET

| Key | No. of Pieces | Includes | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| C | 10 | 1/4, 3/8, & 1/2" 2 Flute Straight Bits<br>3/8" V-Groove Bit<br>1/2" Core Box Bit<br>45 Chamfer Bit<br>1/4" Roman Ogee Bit<br>3/8" Rabbeting Bit<br>3/8" Cove Bit<br>3/8" Corner Rounding Bit | 4AFC0 | $226.28 | **$181.25** | 1.3 |

## DML ALL-PURPOSE 1/4" SHANK HIGH-SPEED STEEL ROUTER BITS

- For general stock removal, slotting, grooving, rabbeting, and freehand routing
- No. 4ACW9 also used for decorative edging
- Packaged in molded plastic storage case

### HIGH SPEED STEEL ROUTER BIT SETS

| Key | No. of Pieces | Bits Included | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| D | 6 | 1/4, 3/8, & 1/2" Straight Bits, 1/4" Veining, 3/8" Corner Rounding, and 3/8" V-Groove | 4ACW9 | $32.22 | **$25.80** | 0.3 |

### INDIVIDUAL HSS ROUTER BITS

| Size (In.) | Description | No. of Flutes | Length (In.) Cutting | Length (In.) Shank | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/8** | Straight | 1 | 5/16 | 1 3/16 | 4AFK7 | $3.55 | **$2.84** | **$2.70** | 0.1 |
| **1/4** | Straight | 2 | 1/4 | 1 1/4 | 4AFK8 | 3.93 | **3.14** | **2.99** | 0.1 |
| **3/8** | Straight | 2 | 1/4 | 1 1/4 | 4AFK9 | 5.51 | **4.41** | **4.19** | 0.1 |
| **1/2** | Straight | 2 | 7/8 | 1 3/4 | 4AFL0 | 6.70 | **5.36** | **5.09** | 0.1 |
| **3/16** | Veining | 1 | 3/8 | 1 3/16 | 4AFL1 | 5.00 | **4.00** | **3.80** | 0.1 |
| **1/4** | Veining | 1 | 3/8 | 1 1/4 | 4AFL2 | 4.46 | **3.57** | **3.39** | 0.1 |
| **3/8** | V-Groove | 2 | 3/8 | 1 1/4 | 4AFL3 | 7.21 | **5.77** | **5.48** | 0.1 |
| **3/8** | Corner | 2 | 5/8 | 1 | 4AFL4 | 9.44 | **7.55** | **7.17** | 0.1 |

**ORDERING HAS NEVER BEEN EASIER!**

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# CARBIDE-TIPPED INDUSTRIAL ROUTER BITS

**Manufactured to meet the toughest, most demanding production requirements**

**Razor sharp cutting edges are diamond honed for satin smooth cuts**

**Radial relief eliminates friction and chatter**

**High hook and steep shear angles for faster chip clearance and quicker feed rates**

**Truest running shanks with concentricity of +0.000/–0.001" T.I.R. (Total Indicator Runout)**

**Ball bearing guides on selected edging and trimming bits prevent burning and marring**

**Precision O.D. and face ground for accuracy and balance**

**Triple tempered shanks for maximum durability**

**All straight bits are end-relieved for plunge cutting**

## ROUND NOSE BIT

| dius | Cutting Dia. | Length | Shank Dia. | Length | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| /4" | 1/2" | 3/8" | 1/4" | 1" | 1½" | 4AFK0 | $18.74 | $17.80 | 0.1 |

## RABBETING BIT

| rge ia. | Carbide Length | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| ¼" | 1/2" | 1/4" | 2⅛" | 4AFK1 | $20.53 | $19.50 | D,6,34 |

## FLUSH TRIMMER BIT

| tting dge | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4" | 1/4" | 1½" | 4AFH2 | $6.88 | $6.54 | 0.1 |

## BEVEL TRIMMER BIT

| tting dge | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4" | 1/4" | 1½" | 4AFH3 | $6.88 | $6.54 | 0.1 |

## H.S.S. KEY SLOT CUTTER

| ank | No. of Flutes | Cutting Dia. | Length | Shank Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| /8" | 2" | 3/8" | 3/8" | 1" | 4AFK6 | $8.42 | $8.00 | 0.1 |

## 19° BEVEL BOWL BIT

| ute ngth | Bearing Dia. | Angle | Shank Dia. | Length | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1" | 3/4" | 10 | 1/2" | 1⅝" | 3" | 4AFK2 | $72.75 | $69.08 | 0.1 |

## 19° ROUNDING OVER BOWL BIT

| lute ngth | Bearing Dia. | Angle | Shank Dia. | Length | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1" | 3/4" | 10 | 1/2" | 1⅝" | 3" | 4AFK3 | $83.10 | $78.95 | 0.4 |

## NO DRIP BIT

| Radi- uses | Flute Length | Bear- ing Dia. | Shank Dia. | Length | Over- all Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| /32,1/4 & 3/8" | 1" | 3/4" | 1/2" | 1⅝" | 2⅝" | 4AFK4 | $53.70 | $51.00 | 0.1 |

## SOLID SURFACE INLAY BIT

| lute ngth | Depth of Cut | Shank Dia. | Overall Dia. | Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2" | 1/8" | 1/2" | 7/8" | 3" | 4AFK5 | $32.50 | $30.84 | 0.1 |

# DML

## STRAIGHT BITS

| No. of Flutes | Cutting Dia. | Length | Shank Dia. | Length | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 1/4" | 5/8" | 1/4" | 1" | 1¾" | 4AFC5 | $9.68 | $9.20 | 0.1 |
| 2 | 3/8 | 1 | 1/4 | 1 | 2 | 4AFH4 | 11.04 | 10.49 | 0.1 |
| 2 | 1/2 | 1 | 1/4 | 1 | 2 | 4AFC6 | 11.76 | 11.17 | 0.1 |
| 2 | 5/8 | 5/8 | 1/4 | 1 | 1⅝ | 4AFH5 | 12.82 | 12.18 | 0.1 |
| 2 | 3/4 | 5/8 | 1/4 | 1 | 1⅝ | 4AFC7 | 14.26 | 13.54 | 0.1 |
| 2 | 1/4 | 7/8 | 1/2 | 1⅞ | 2 15/16 | 4AFH6 | 12.48 | 11.86 | 0.2 |
| 2 | 3/8 | 1¼ | 1/2 | 1¼ | 2¾ | 4AFC8 | 14.99 | 14.24 | 0.2 |
| 2 | 1/2 | 1¼ | 1/2 | 1¼ | 2¾ | 4AFC9 | 14.00 | 13.30 | 0.1 |
| 2 | 1/2 | 2 | 1/2 | 1⅞ | 4 | 4AFF0 | 14.85 | 14.11 | 0.1 |
| 2 | 3/4 | 1¼ | 1/2 | 1⅞ | 2⅞ | 4AFH7 | 14.85 | 14.11 | 0.3 |

## PANEL PILOT BITS

| No. of Flutes | Cutting Dia. | Length | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 | 1/4" | 3/4" | 1/4" | 2½" | 4AFF1 | $9.23 | $8.77 | 0.1 |
| 1 | 3/8 | 1 | 1/4 | 2⅞ | 4AFH8 | 15.09 | 14.33 | 0.1 |

## DOVETAIL BIT

| °Each Side | Large Dia. | Carbide Length | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 14° | 1/2" | 1/2" | 1/4" | 1⅞" | 4AFF3 | $12.98 | $12.33 | 0.1 |

## ROMAN OGEE BITS

| Radius | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 5/32" | 1/4" | 2" | 4AFF5 | $26.05 | $24.75 | 0.1 |
| 1/4 | 1/4 | 2⅛ | 4AFF6 | 28.75 | 27.31 | 0.1 |

## COVE BIT

| Radius | Large Dia. | Length of Cut | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/8" | 1¼" | 9/16" | 1/4" | 2 1/16" | 4AFF4 | $24.40 | $23.18 | 0.1 |

## CHAMFER BIT

| Angle | Carbide Length | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 45 | 12/32" | 1/4" | 2⅛" | 4AFF2 | $22.30 | $21.19 | 0.1 |

## BEADING BITS WITH BEARINGS

| Radius | Large Dia. | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8" | 1¼" | 1/4" | 2¼" | 4AFF7 | $24.06 | $22.86 | 0.1 |

## CORNER ROUNDING BITS

| Radius | Large Dia. | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8" | 1¼" | 1/4" | 2¼" | 4AFF8 | $24.34 | $23.12 | 0.1 |
| 1/2 | 1½ | 1/4 | 2⅝ | 4AFF9 | 25.85 | 24.52 | 0.1 |

## BALL BEARING TRIM BITS

| No. of Flutes | Cutting Dia. | Length | Shank Dia | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 | 1/2" | 1" | 1/4" | 2 11/16" | 4AFH0 | $12.40 | $11.78 | 0.1 |
| 2 | 25° Bevel | 5/16 | 1/4 | 2 | 4AFH1 | 15.79 | 15.00 | 0.1 |

## 90° V-GROOVING BIT

| Depth of Cut | Large Dia. | Shank Dia. | Overall Length | Stock No. | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5/16" | 5/8" | 1/2" | 2" | 4AFH9 | $26.05 | $24.73 | 0.1 |

# PORTER-CABLE
# INDUSTRIAL DUTY ROUTER BITS

## STRAIGHT SINGLE FLUTE

For general stock removal. Provides optimum chip removal at faster feed rates. For soft plastics in the ABS, polycarbonate; polystrene, and ductile PVC families.



**STRAIGHT SINGLE FLUTE—Solid Carbide**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/8"** | 9/32" | 1/4" | 1 1/16" | 43206 | **3ZJ88** | $18.00 | **$14.08▲** | 0.1 |
| **1/4** | 3/4 | 1/4 | 1 3/4 | 61-082 | **3ZK26** | 20.16 | **17.12▲** | 0.3 |
| **3/8** | 7/8 | 3/8 | 1 5/8 | 61-122 | **3ZK27** | 42.55 | **36.20▲** | 0.3 |
| **1/2** | 1 | 1/2 | 2 | 61-162 | **3ZK28** | 61.58 | **48.15▲** | 0.3 |

## STRAIGHT SINGLE O-FLUTE

For cutting soft plastics where faster feed rates are desired.



**STRAIGHT SINGLE O-FLUTE—Solid Carbide**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/16"** | 5/8" | 1/4" | 1" | 43815 | **3ZK12** | $17.00 | **$14.45▲** | 0.1 |

## STRAIGHT DOUBLE V-FLUTE

For cutting harder plastics, melamine, and laminates.



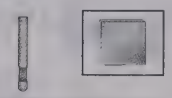
**STRAIGHT DOUBLE V-FLUTE—Solid Carbide**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/4"** | 3/4" | 1/4" | 1 1/2" | 43816 | **3ZK13** | $17.00 | **$14.45▲** | 0.1 |

## LAMINATE TRIMMING BITS

### FLUSH CUT — SELF PILOT

For trimming high-pressure plastic laminates flush with edge band or substrate.

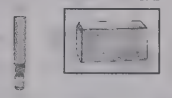


**FLUSH CUT—Solid Carbide, Self Pilot**

| Bevel | Dia. | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Flush** | 1/4" | 1/4" | 1/4" | 7/8" | 43509 | **3ZK05** | $9.90 | **$7.74▲** | 0.1 |

### BEVEL — SELF PILOT

For bevel trimming high-pressure plastic laminates, as in top edges where bevel is required.

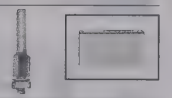


**BEVEL—Solid Carbide, Self Pilot**

| Bevel | Dia. | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **7°** | 1/4" | 1/4" | 1/4" | 7/8" | 43512 | **3ZK06** | $9.85 | **$7.69▲** | 0.1 |

### FLUSH CUT — DOUBLE FLUTE

For trimming high-pressure plastic laminate or Corian® flush with substrate.



**FLUSH CUT, DOUBLE FLUTE—Carbide Tipped, Ball Bearing Pilot**

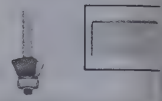
| Bevel | Dia. | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Flush** | 1/4" | 1" | 1/4" | 3/4" | 43286 | **3ZJ93** | $26.00 | **$20.34▲** | 0.1 |
| **Flush** | 3/8 | 1/2 | 1/4 | 1 17/64 | 43276 | **3ZJ92** | 16.00 | **12.51▲** | 0.1 |
| **Flush** | 3/8 | 1 | 1/4 | 1 1/4 | 43289 | **3ZJ94** | 15.75 | **12.32▲** | 0.1 |
| **Flush** | 1/2 | 1/2 | 1/4 | 1 1/16 | 43252 | **3ZJ90** | 16.00 | **12.51▲** | 0.1 |
| **Flush** | 1/2 | 1 | 1/4 | 1 1/2 | 43731 | **3ZK11** | 17.50 | **13.68▲** | 0.1 |

(▲) Net pricing, not subject to discounts.

## LAMINATE TRIMMING BITS cont.

### TWO-WING BEVEL

For trimming high-pressure plastic laminate counter top edges where a 25° bevel is required.



**TWO-WING BEVEL—Carbide Tipped, Ball Bearing Pilot**

| Bevel | Dia. | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **25°** | 13/16" | 3/8" | 1/4" | 1 1/4" | 43253 | **3ZJ91** | $21.00 | **$16.42▲** | 0.1 |

## EDGE FORMING BITS

### CORNER ROUND

For smooth, uniformly round edges.



**CORNER ROUND—Carbide Tipped, Ball-Bearing Pilot**

| Radius | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/8"** | 25/64" | 1/4" | 1 3/8" | 43421 | **3ZK04** | $29.50 | **$23.06▲** | 0.1 |
| **3/16** | 1/2 | 1/4 | 1 1/4 | 43085 | **3ZJ79** | 31.50 | **24.63▲** | 0.1 |
| **1/4** | 7/16 | 1/4 | 1 1/4 | 43402 | **3ZK01** | 32.00 | **25.05▲** | 0.1 |
| **3/8** | 5/8 | 1/4 | 1 1/4 | 43405 | **3ZK02** | 33.50 | **26.20▲** | 0.1 |
| **1/2** | 3/4 | 1/4 | 1 1/4 | 43408 | **3ZK03** | 34.00 | **26.60▲** | 0.1 |

### COVE

For cutting decorative edging and inverted radii with a smooth finish.



**COVE—Carbide Tipped, Ball Bearing Pilot**

| Radius | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/4"** | 9/16" | 1/4" | 1 1/4" | 43102 | **3ZJ80** | $32.00 | **$25.05▲** | 0.1 |
| **3/8** | 9/16 | 1/4 | 1 1/4 | 43103 | **3ZJ81** | 32.50 | **25.45▲** | 0.1 |
| **1/2** | 3/4 | 1/4 | 1 1/4 | 43104 | **3ZJ82** | 33.00 | **25.85▲** | 0.2 |

### CHAMFER

For 45° bevel cutting. Lower depth setting results in chamfer with fillet.



**CHAMFER—Carbide Tipped, Ball Bearing Pilot**

| Bevel | Flute Length | Fillet | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **45°** | 9/16" | 1/8" | 1/4" | 1 1/4" | 43072 | **3ZJ77** | $31.00 | **$24.24▲** | 0.1 |
| **45°** | 9/16 | 1/8 | 1/2 | 1 3/4 | 43190 | **3ZJ87** | 32.00 | **25.10▲** | 0.2 |

### ROMAN OGEE-REVERSE CURVE

For decorative edging and furniture. Lower depth setting results in addition of fillet.

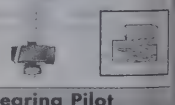


**ROMAN OGEE, REVERSE CURVE—Carbide Tipped, Ball Bearing Pilot**

| Overall Dia. | Flute Length | Radius | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1 1/8"** | 9/16" | 5/32" | 1/4" | 1 1/4" | 43126 | **3ZJ84** | $36.00 | **$28.20▲** | 0.1 |
| **1 3/8** | 5/8 | 1/4 | 1/4 | 1 1/4 | 43127 | **3ZJ85** | 37.80 | **29.60▲** | 0.1 |

### RABBETING

For rabbeting or step cutting edges with piloted bits.



**RABBETING—Carbide Tipped, Ball Bearing Pilot**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/8"** | 1/2" | 1/4" | 1 1/4" | 43082 | **3ZJ78** | $27.00 | **$21.12▲** | 0.2 |
| **1/2** | 1/2 | 1/4 | 1 5/8 | 43120 | **3ZJ83** | 32.00 | **25.05▲** | 0.2 |



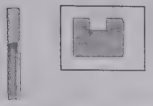
Put America's power tool powerhouse to work for you today.

# PORTER-CABLE
# INDUSTRIAL DUTY ROUTER BITS

## STRAIGHT BITS

### STRAIGHT DOUBLE-FLUTE

r soft, flexible plastics in the ABS poly-rbonate; polystrene, and PVC families.

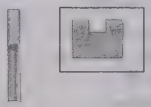


**STRAIGHT DOUBLE-FLUTE—High Speed Steel**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 16" | 5/8" | 1/4" | 1⅜" | 11-00 | 3ZJ64 | $10.88 | $8.52▲ | 0.3 |
| 4 | 3/4 | 1/4 | 1⅜ | 11-02 | 3ZJ65 | 9.28 | 7.26▲ | 0.3 |
| 8 | 1 | 3/8 | 1½ | 11-06 | 3ZJ66 | 12.15 | 9.50▲ | 0.3 |
| 2 | 1¼ | 1/2 | 1½ | 11-10 | 3ZJ67 | 14.33 | 11.22▲ | 0.3 |
| 8 | 3/4 | 1/4 | 1¼ | 43330 | 3ZJ95 | 16.00 | 12.51▲ | 0.1 |

### STRAIGHT DOUBLE FLUTE

r hard, rigid plastics in the acrylic, lon, melamine, and PVC families.

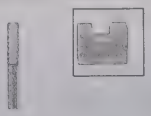


**STRAIGHT DOUBLE FLUTE—Solid Carbide**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 16" | 5/8" | 1/4" | 1⅜" | 56-062 | 3ZK23 | $19.59 | $15.33▲ | 0.3 |
| 8 | 7/8 | 3/8 | 1⅝ | 56-122 | 3ZK24 | 38.04 | 29.75▲ | 0.3 |
| 2 | 1 | 1/2 | 2 | 56-162 | 3ZK25 | 59.78 | 46.75▲ | 0.3 |

### STRAIGHT DOUBLE FLUTE—PLUNGE CUTTING

r general stock removal. Superior bal-ce and vibration-free cutting provide ıoother finish and longer bit life.



**STRAIGHT DOUBLE-FLUTE—Carbide Tipped**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 16" | 1/2" | 1/4" | 1⅝" | 43051 | 3ZJ74 | $13.50 | $10.56▲ | 0.1 |
| 4 | 7/8 | 1/4 | 1½ | 43718 | 3ZK07 | 16.00 | 12.49▲ | 0.1 |
| 4 | 7/8 | 1/2 | 1 7/32 | 43207 | 3ZJ89 | 16.50 | 12.91▲ | 0.1 |
| 16 | 1 | 1/4 | 1¼ | 43300 | 3ZJ95 | 16.00 | 12.51▲ | 0.1 |
| 8 | 1 | 1/4 | 1⅜ | 43312 | 3ZJ96 | 13.00 | 10.17▲ | 0.1 |
| 8 | 1 | 1/2 | 1 13/16 | 43719 | 3ZK08 | 16.50 | 12.91▲ | 0.1 |
| 2 | 1 | 1/4 | 1⅜ | 43318 | 3ZJ97 | 14.30 | 11.19▲ | 0.1 |
| 2 | 1 | 1/2 | 1¼ | 43057 | 3ZJ76 | 17.50 | 13.67▲ | 0.1 |
| 2 | 2 | 1/2 | 1¾ | 43721 | 3ZK09 | 19.50 | 15.25▲ | 0.2 |
| 8 | 1 | 1/4 | 1⅛ | 43333 | 3ZJ99 | 17.50 | 13.68▲ | 0.1 |
| 8 | 1¼ | 1/2 | 1¾ | 43189 | 3ZJ86 | 20.00 | 15.64▲ | 0.2 |
| 4 | 1¼ | 1/2 | 1¾ | 43722 | 3ZK10 | 19.50 | 15.25▲ | 0.2 |
| 4 | 1 | 1/4 | 1¼ | 43052 | 3ZJ75 | 18.50 | 14.46▲ | 0.1 |

SEE ADDITIONAL
PORTER-CABLE
PLASTIC CUTTING, LAMINATE TRIMMING, AND EDGE FORMING ROUTER BITS ON PREVIOUS PAGE

### WOOD ROUTE DOWN SPIRAL

For smooth trimming upper edges, sizing, and plunging applications. Pushes chips down from cut.

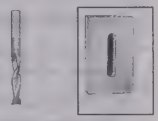


**WOOD ROUTE DOWN SPIRAL—Solid Carbide**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/8" | 1/2" | 1/4" | 1" | 43819 | 3ZK14 | $24.00 | $18.76▲ | 0.1 |
| 3/16 | 3/4 | 1/4 | 1 | 43821 | 3ZK16 | 24.50 | 19.16▲ | 0.1 |
| 1/4 | 1 | 1/4 | 1¼ | 43823 | 3ZK18 | 25.50 | 19.94▲ | 0.1 |
| 3/8 | 1¼ | 1/2 | 1¼ | 43825 | 3ZK20 | 54.00 | 42.25▲ | 0.3 |
| 1/2 | 1⅝ | 1/2 | 1¼ | 43827 | 3ZK21 | 67.00 | 52.40▲ | 0.3 |

### WOOD ROUTE UP SPIRAL

For fast, clean cutting with smooth finish. Combines effective chip removal with a cut superior to standard straight bits.

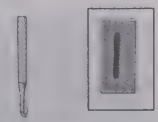


**WOOD ROUTE UP SPIRAL—Solid Carbide**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/8" | 1/2" | 1/4" | 1" | 43820 | 3ZK15 | $22.00 | $17.19▲ | 0.1 |
| 3/16 | 3/4 | 1/4 | 1 | 43822 | 3ZK17 | 21.50 | 16.79▲ | 0.1 |
| 1/4 | 1 | 1/4 | 1¼ | 43824 | 3ZK19 | 23.50 | 18.36▲ | 0.1 |
| 1/2 | 1⅝ | 1/2 | 1¼ | 43828 | 3ZK22 | 64.00 | 50.10▲ | 0.1 |

### SPIRAL UP DOUBLE FLUTE

For grooving, slotting, blind routing, and other applications where cutting speed and chip removal are primary considerations. For aluminum and natural woods.

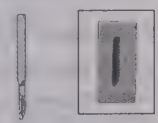


**SPIRAL UP DOUBLE FLUTE—High Speed Steel**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/8" | 3/8" | 1/4" | 2¼" | 40-101 | 3ZJ68 | $10.24 | $8.01▲ | 0.3 |
| 3/16 | 5/8 | 1/4 | 2¼ | 40-103 | 3ZJ70 | 10.24 | 8.01▲ | 0.3 |
| 1/4 | 3/4 | 1/4 | 2 | 40-107 | 3ZJ72 | 9.66 | 7.57▲ | 0.3 |

### SPIRAL DOWN DOUBLE FLUTE

For smooth trimming, sizing, and plunging applications. Pushes chips down from cut. For aluminum and natural woods.



**SPIRAL DOWN DOUBLE FLUTE—High Speed Steel**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/8" | 5/16" | 1/4" | 2⅝" | 40-102 | 3ZJ69 | $10.24 | $8.01▲ | 0.3 |
| 3/16 | 5/8 | 1/4 | 2¼ | 40-104 | 3ZJ71 | 10.24 | 8.01▲ | 0.3 |
| 1/4 | 3/4 | 1/4 | 2 | 40-108 | 3ZJ73 | 9.66 | 7.57▲ | 0.3 |

### KEY HOLE

For boring hole and routing to make a T-slot where wall mount and a nail or screw is required.

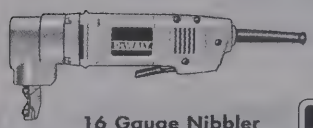


**KEY HOLE—Solid Carbide**

| Cut Width | Flute Length | Shank Dia. | Shank Length | P-C Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/8" | 3/16" | 1/4" | 1/4" | 43319 | 3ZJ98 | $22.00 | $17.21▲ | 0.1 |

) Net prices, not subject to discounts

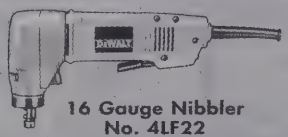
# NIBBLERS



16 Gauge Nibbler
No. 4LF25

DEWALT

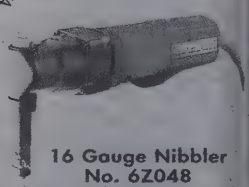
Replacement Parts Available
1-800-323-0620



16 Gauge Nibbler
No. 4LF22

Milwaukee

Made in U.S.A.



16 Gauge Nibbler
No. 6Z048

## 16 GAUGE PROFILE NIBBLER No. 4LF25

- Capacity: 16 gauge; 18 gauge stainless steel
- 6.5 amp motor for continuous duty
- Cuts corrugated trapezoids and square sheet profiles
- Rotating punch and die allows cut direction to be changed
- Multi-regrindable, easy-to-change tooling
- UL Listed

## 16 GAUGE NIBBLER

- For fast cutting of metal sheet stock
- 18 Gauge stainless steel
- Cutting mechanism rotates 360°; can be locked in any position
- Double insulated construction
- Includes collar, Allen wrench, die, and open end wrench
- UL Listed, CSA Certified

### REPLACEMENT PUNCHES FOR No. 4LF22

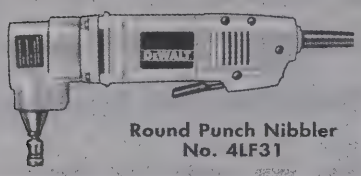
Set of 5. DeWalt brand (DW8967)

**No. 4LF24.** Shpg. wt. 0.1 lbs. List $75.00.
Each ..... $53.60▲

(▲) Net prices, not subject to discounts.

## 10 & 16 GAUGE NIBBLERS Nos. 6Z048 & 1Y135

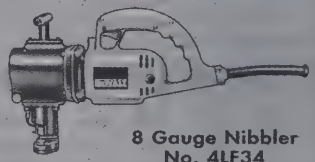
- Cuts curved and square corrugation
- 18 gauge stainless steel capacity for No. 6Z048
- 12 gauge stainless steel capacity for No. 1Y135
- 8-position indexing punch holder
- Paddle-type switch
- Ball and sleeve bearings
- Double insulated construction
- UL Listed, CSA Certified
- No. 1Y135 has AC/DC toggle switch



Round Punch Nibbler
No. 4LF31

DEWALT

Replacement Parts Available
1-800-323-0620



8 Gauge Nibbler
No. 4LF34

## 14 GAUGE ROUND PUNCH NIBBLER No. 4LF31

- Capacity: 14 gauge; 16 gauge stainless steel
- 6.5 amp motor for continuous duty
- 1950 strokes per minute for fast cutting
- Round punch for on the spot turning 360°
- Cutting line keeps clear because chips drop down
- Multi-regrindable, easy-to-change tooling
- Rotating tooling system allows cut direction to be changed
- UL Listed

## 8 GAUGE NIBBLER No. 4LF34

- Develops pressure of 2-ton press
- Capacity: 8 gauge, 10 gauge stainless steel
- Patented automatic oiler
- Carbide die for long effective cutting without distortion
- Turndown control on main shaft permits inspection of punch
- UL Listed, CSA Certified

### REPLACEMENT PUNCH FOR No. 4LF34

**No. 4LF36.** Shpg. wt. 0.2 lbs. List $46.23.
Each ..... $32.95▲

### PUNCH & CARBIDE DIE SET FOR No. 4LF34

**No. 4LF35.** Shpg. wt. 0.2 lbs. List $98.37.
Each ..... $70.05▲

| Type | No-Load Speed Strokes Per Min. | Amps at 120V | Min. Cut Radius (In.) | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 Gauge | 2100 | 3.0 | 0 | 9 7/10 | 4 1/2 | DeWalt | DW896 | 4LF22 | $540.00 | $354.75▲ | 5.3 |
| 16 Gauge | 1950 | 6.5 | 2 | 10 1/2 | 4 1/2 | DeWalt | DW897 | 4LF25 | 800.00 | 525.00▲ | 5.5 |
| 16 Gauge | 1900 | 3.8 | 1 3/4 | 11 1/4 | 4 3/4 | Milw | 6890 | 6Z048 | 861.10 | 574.00▲ | 5.8 |
| 14 Gauge | 1950 | 6.5 | 0 | 10 1/2 | 4 1/2 | DeWalt | DW898 | 4LF31 | 720.00 | 472.25▲ | 5.5 |
| 10 Gauge | 1000 | 4.0 | 2 1/2 | 12 1/4 | 7 3/8 | Milw | 6880 | 1Y135 | 1477.41 | 979.50▲ | 9.3 |
| 8 Gauge | 1000 | 7.0 | 3 3/32 | 15 1/2 | 15 3/4 | DeWalt | DW899 | 4LF34 | 1780.00 | 1168.00▲ | 19.0 |

(▲) Net prices, not subject to discounts.

# ELECTRIC SHEARS

## 12 GAUGE SHEAR No. 4LF17

Unsurpassed curve accessibility with easy-to-change cutters

Easy-to-change four edge blade
Fast precision cutting with minimum force
UL Listed

## 18 GAUGE SHEAR No. 4LF09

Cuts flat sheet metal quickly and accurately

Removes 7/32" width of material

Variable speed switch control

Replacement blades available, see Index

UL Listed, CSA Certified

## 14 GAUGE SHEAR No. 4LF15

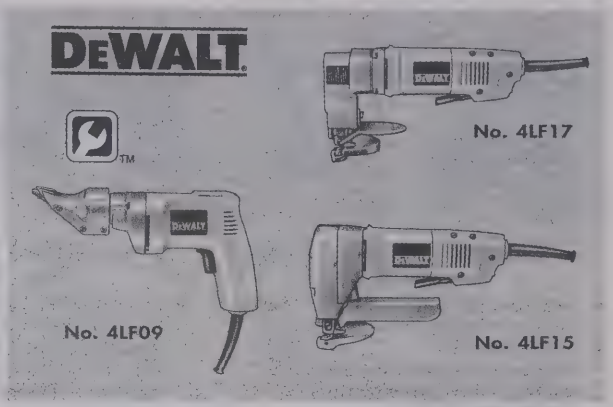
Highly polished, hardened steel shoe

Blades can be sharpened up to five times

Double insulated construction

Includes shoe, Allen wrench, feeler gauge, sharpening guide, and scrap deflector

UL Listed, CSA Certified




### SHEAR ACCESSORIES

| Description | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Shear Blade Replacement Kit for No. 4LF15 | DW8920 | **4LF16** | $32.00 | **$23.94** ▲ | 0.1 |
| Left Shear Blade for No. 4LF09 | DW8999 | **4LF37** | 31.00 | **22.14** ▲ | 0.2 |
| Center Blade for No. 4LF09 | DW8901 | **4LF11** | 32.00 | **22.84** ▲ | 0.3 |

(▲) Net prices, not subject to discounts.




## 18 GAUGE SHEAR No. 6Z045

Cuts round, square and irregular holes
Capacity 20 gauge stainless steel
Head swivels 360°
Center blade cuts 1/4" continuous metal curl; cuts up to 15 ft. per minute
7" minimum radius
8 ft., 3-cond. rubber cord
UL Listed, CSA Certified

## 16 AND 18 GAUGE SHEARS Nos. 6Z046 & 6Z047

- No. 6Z046 is 18 gauge; capacity 20 gauge stainless steel
- No. 6Z047 is 16 gauge; capacity 18 gauge stainless steel
- Toggle switch on No. 6Z047; paddle switch on No. 6Z046
- Double insulated construction
- 8 ft., rubber cord
- UL Listed, CSA Certified

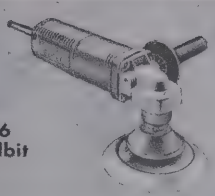
| Type | No-Load SPM* | Amps at 120V | Min. Cut Radius (In.) | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 Gauge** | 0-2500 | 5.0 | 5½ | 9⅛ | 5 | DeWalt | DW890 | **4LF09** | $334.00 | **$218.00▲** | 5.7 |
| **14 Gauge** | 2700 | 3.0 | 1/2 | 9½ | 5.5 | DeWalt | DW892 | **4LF15** | 504.10 | **336.75▲** | 6.2 |
| **12 Gauge** | 1950 | 6.5 | 3/4 | 10½ | 4.5 | DeWalt | DW893 | **4LF17** | 852.09 | **525.00▲** | 6.4 |
| **18 Gauge** | 2500 | 3.5 | 7 | 10⅛ | 4 | Milw. | 6850 | **6Z045** | 267.00 | **181.00▲** | 5.0 |
| **16 Gauge** | 4000 | 4.0 | 1/2 | 10¼ | 5 | Milw. | 6805 | **6Z047** | 494.69 | **308.00▲** | 6.0 |
| **18 Gauge** | 3600 | 3.0 | 1/2 | 9¾ | 4 | Milw. | 6855 | **6Z046** | 425.49 | **267.00▲** | 5.2 |

### ADDITIONAL SHEARS AVAILABLE†

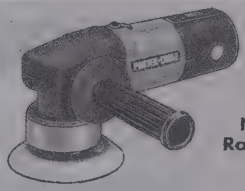
| Type | No-Load SPM* | Amps at 120V | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **14 Gauge Shears** | 4000 | 5.0 | Milw. | 6815** | **6Z359** | $553.32 | **$337.00▲** | 6.2 |

Strokes per minute. (†) Not shown. (**) UL Listed, CSA Certified. (▲) Net prices, not subject to discounts.

# RANDOM ORBIT SANDERS AND SANDPAPER



No. 3W786
Random Ordbit Sander



PORTER-CABLE

No. 3W893
Random Ordbit Sander



5" Sander
No. 6W283

## 5" RANDOM ORBIT SANDER No. 3W786

- Side handle switches to either side for right or left-handed operation
- Paddle switch
- Uses pressure sensitive adhesive sanding discs, see Index under "Adhesives, PSA"
- 8 ft., 2-cond. rubber cord
- Includes sander, 5" backing pad, 3 assorted sanding discs, and 3/4" wrench
- UL Listed, CSA Certified

## 5" RANDOM ORBIT SANDER No. 3W893

- Front grip for better control
- Side handle mounts on left or right
- Provides a swirl-free finish
- Spiral/bevel gears for smooth power transfer to the pad and quiet operation
- Industrial quality 10 ft., 2-cond. rubber cord
- Includes sander, standard profile 5" pad, assorted paper, and wrench
- Uses standard PSA disks

## 5" PALM GRIP RANDOM ORBIT SANDER No. 6W283

- All-position, lightweight palm grip sanders can be controlled from top or side for best maneuverability and control
- Small 3/32" orbit for super smooth finished results without swirl marks
- Pad Control feature prevents pad spin-up to prevent gouging
- Uses pressure sensitive adhesive disc
- 7 ft., 2-cond. rubber cord with separate strain relief
- Includes sander and 5" pressure-sensitive adhesive disc
- UL Listed, CSA Certified

| Size (In.) | No-Load RPM | Amps | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 10,000 | 5.5 | Ball & Roller | 12 | 5 | Milw | 6125 | **3W786** | $255.87 | **$145.05▲** | 5.9 |
| 5 | 2500-6000 | 3.7 | Ball | 10 | 5½ | P.C. | 7335 | **3W893** | 260.00 | **148.95▲** | 6.5 |
| 5 | 12,000 | 1.7 | Ball | 6¼ | 3⅛ | P.C. | 332 | **6W283** | 110.00 | **80.00▲** | 3.2 |

### RANDOM ORBIT SANDER ACCESSORIES

| | | | | | | |
|---|---|---|---|---|---|---|
| **5" Sander disc pad for use with 5" adhesive-backed abrasive discs** | P.C. | 13700 | **2AC02** | 17.55 | **15.13▲** | 0.2 |
| **5" Soft sander contour disc pad for contour sanding** | P.C. | 13701 | **2AC03** | 17.55 | **15.13▲** | 0.2 |

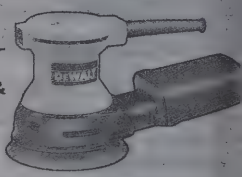
## 5" SANDERS Nos. 1N572, 1N573 AND 2FX57

- Heavy-duty construction for continuous shop use
- Controlled Finishing System™ maintains constant pad speed on or off work to prevent gouging
- Low profile design minimizes hand-to-surface distance
- Dust sealed switches, accessible brushes
- Nos. 1N573 and 2FX57, have 5" rubber pad that accepts pressure sensitive adhesive (PSA) sandpaper; 2FX57 uses 8 hole PSA sandpaper. No. 1N572 accepts 8 hole hook-and-loop-type sandpaper
- For AC operation only; includes 10-ft. rubber cord. UL Listed, CSA Certified
- Premium aluminum oxide grain removes material more efficiently
- Chemically treated backing resists tearing
- Resin adhesive resists heat build-up
- Stearate coating reduces gum-up

| Size (In.) | No-Load RPM | Amps | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 12,000 | 2.0 | Ball & Roller | 10 | 3.0 | DW420 | **1N573** | $114.00 | **$73.95▲** | 3.0 |
| 5 | 12,000 | 2.0 | Ball & Roller | 10 | 3.0 | DW421 | **1N572** | 124.00 | **69.00▲** | 3.2 |
| 5 | 12,000 | 2.0 | Ball & Roller | 8½ | 4.5 | DW422 | **2FX57** | 124.00 | **72.90▲** | 4.1 |

(▲) Net prices, not subject to discounts.

DEWALT



5" Sander with Dust Pick-Up System Nos. 1N572 & 2FX57



No. 1N571

### HOOK AND LOOP SANDPAPER

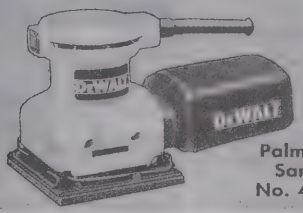
| Disc Size | No. of Holes | Qty. | Grit | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 5 | 8 | 5 | 80 | DW4301 | **1N571** | $4.30 | **$3.71▲** | 0.1 |
| 5 | 8 | 5 | 120 | DW4303 | **1N570** | 3.90 | **3.37▲** | 0.1 |
| 5 | 8 | 5 | 150 | DW4304 | **1N569** | 3.90 | **3.37▲** | 0.1 |
| 5 | 8 | 5 | 220 | DW4306 | **1N568** | 3.90 | **3.37▲** | 0.1 |
| 5 | 8 | 5 | Asst. | DW4307 | **1N567** | 4.30 | **3.71▲** | 0.1 |
| 5 | 8 | 25 | 80 | DW4309 | **1N566** | 17.10 | **14.11▲** | 0.5 |
| 5 | 8 | 25 | 100 | DW4310 | **1N565** | 15.52 | **12.80▲** | 0.4 |
| 5 | 8 | 25 | 120 | DW4311 | **1N564** | $15.52 | **$12.80▲** | 0.3 |
| 5 | 8 | 25 | 150 | DW4312 | **1N563** | 15.52 | **12.80▲** | 0.3 |
| 5 | 8 | 25 | 180 | DW4313 | **1N562** | 15.52 | **12.80▲** | 0.3 |
| 5 | 8 | 25 | 220 | DW4314 | **1N561** | 15.52 | **12.80▲** | 0.3 |
| 6 | 6 | 5 | 80 | DW4331 | **4GD43** | 5.20 | **4.49▲** | 0.6 |
| 6 | 6 | 5 | 150 | DW4334 | **4GD49** | 4.72 | **4.07▲** | 0.6 |

(▲) Net prices, not subject to discounts.

# ORBITAL SANDERS

DEWALT

Replacement Parts Available
1-800-323-0620



Palm Grip Sander
No. 4Z742

PORTER-CABLE



Speed Bloc Sander
No. 4Z956

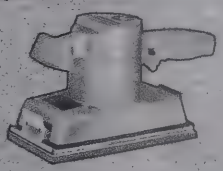
## PALM GRIP SANDER No. 4Z742

Removable top cap for access to brushes, switch, and cord-set
Sands flush on three sides
Dust-sealed switch
Metal-backed pads for easy changes
Accepts 1/4 sheet—standard sheet size in 9 x 11"
1/16" diameter orbit
Double insulated construction
Includes wide-mouth zipperless dust bag and paper hole punch
High efficiency through-the-pad dust collection and switch "boot" minimizes dust contamination
For AC operation only
8 ft., 2-cond. rubber cord
UL Listed, CSA Certified

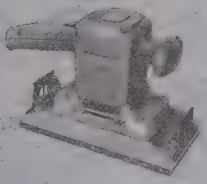
## SPEED BLOC® SANDER No. 4Z956

- Palm grip design for one hand operation
- Sands flush on all sides
- Double insulated construction
- Vibration free orbital action
- Uses 1/4" sheet—standard sheet size is 9 x 11"
- 5/64" diameter orbit
- Slide-type On-Off switch
- Includes one sheet of sandpaper and clamp tool
- Power source AC/DC
- 7 ft., 2-cond. cord
- UL Listed, CSA Certified

PORTER-CABLE



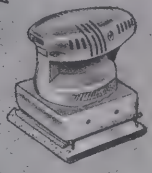
Heavy-Duty Sander
No. 4Z957



Heavy-Duty Sander
No. 4Z565

Replacement Parts Available
1-800-323-0620

Milwaukee



Heavy-Duty Sander
No. 4A941

## HEAVY-DUTY SANDER No. 4Z957

For continuous production use
Sands flush on three sides
Aluminum housing
Uses 1/2 sheet—standard sheet size in 9 x 11"
1/8" diameter orbit
Trigger switch with lock-on
Full width clamps
Includes one sheet of sandpaper and 3M StiKit® sandpaper pad
Power source AC/DC
7 ft., 3-cond. cord
UL Listed, CSA Certified

## HEAVY-DUTY SANDER No. 4Z565

- For continuous production use
- Sands flush on three sides
- 40% glass reinforced nylon housing and handles
- Uses 1/2 sheet—standard sheet size is 9 x 11"
- 1/8 diameter orbit
- Self-sticking backing pad
- Power source AC/DC
- 8 ft., 2-cond. rubber cord, double insulated
- UL Listed, CSA Certified

## HEAVY-DUTY SANDERS Nos. 4A941 & 6W286

- Compact one-hand design
- Sands flush on three sides
- 40% glass reinforced nylon housing and handles
- Double insulated construction
- Uses 1/4 sheet—standard sheet size is 9 x 11"
- 1/16" diameter orbit
- Rubber backing pad
- Power source AC operation only
- No. 6W286 includes dustbag
- 8 ft., 2-cond. rubber cord, double insulated
- UL Listed, CSA Certified

| Pad Size (In.) | No-Load Orbits Per Min. | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3½ x 5½ | 13,500 | 1.7 | Ball & Roller | 4½ | 2⅝ | DeWalt | DW411 | **4Z742** | $88.00 | **$51.70▲** | 3.3 |
| 3⅛ x 4½ | 14,000 | 1.2 | Ball & Roller | 4½ | 4 | P.C. | 330 | **4Z956** | 120.00 | **74.45▲** | 5.0 |
| 3½ x 9⅜ | 10,000 | 2.3 | Ball & Roller | 11½ | 7¼ | P.C. | 505 | **4Z957** | 258.00 | **153.25▲** | 9.0 |
| 3½ x 9¼ | 12,000 | 5.0 | Ball & Roller | 11½ | 7 | Milw. | 6010-6 | **4Z565** | 245.00 | **148.00▲** | 8.0 |
| 4 x 4⅜ | 13,000 | 1.8 | Ball & Roller | 4½ | 2⅜ | Milw. | 6016-6 | **4A941** | 101.00 | **61.00▲** | 3.6 |
| 4 x 4⅜ | 13,000 | 1.8 | Ball & Roller | 4½ | 2⅜ | Milw. | 6017-6 | **6W286** | 104.00 | **62.85▲** | 3.5 |

i Net prices, not subject to discounts.

# SANDERS, SANDING ACCESSORIES AND WET/DRY VACUUM

## DRYWALL SANDER No. 3JF52

- Lightweight to eliminate fatigue in day long operation
- 62" long, so operator can sand 10 ft. ceilings without using stilts or scaffold
- Motor located on opposite end of vacuum tube/handle arm from sanding head for best balance and control
- Patented foam-backed abrasive sanding design eliminates swirl marks, won't walk across the wall for fast, smooth sanding
- Powerful 3.5 amp motor features serviceable brushes for less down time

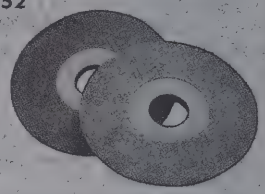
**No. 3JF52.** Shpg. wt. 8.0 lbs. List $640.00. Each.....$385.50▲

PORTER-CABLE

Repair Service Available
Call Your Local Branch
TM



No. 3JF52



No. 3JF53
Drywall
Sandpaper

## DRYWALL SANDING PADS
### FOR DRYWALL SANDER No. 3JF52

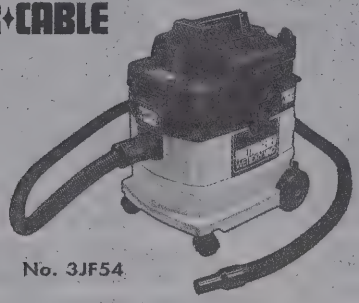
Specifically designed for drywall sanding, foam-backed pad "floats" over irregularities in the wall and helps provide a smooth, feathered edge to seams.

**DRYWALL SANDER PADS FOR No. 3JF52 SANDER**

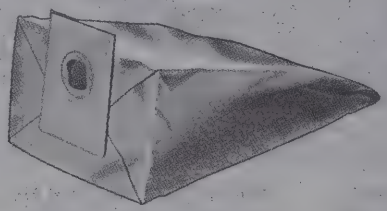
| Grit Type | Applications | Quantity Pack | P-C Model | Stock No. | List | Each | Shpg. W |
|---|---|---|---|---|---|---|---|
| **80 Grit** | For textured paint removal, wallpaper paste removal, paint conditioning. | 5 per box | 78085 | **3JF53** | $40.00 | **$31.45 ▲** | 0.8 |
| **100 Grit** | For fast sanding and smoothing. | 5 per box | 78105 | **3JF55** | 40.00 | **31.45 ▲** | 0.8 |
| **120 Grit** | For all-purpose applications. | 5 per box | 78125 | **3JF58** | 40.00 | **31.45 ▲** | 0.8 |
| **150 Grit** | For final sanding and smoothing. | 5 per box | 78155 | **3JF59** | 40.00 | **31.45 ▲** | 0.8 |
| **220 Grit** | For lightweight, quick-dry drywall sanding and smoothing. | 5 per box | 78225 | **3JF60** | 40.00 | **31.45 ▲** | 0.8 |

PORTER-CABLE

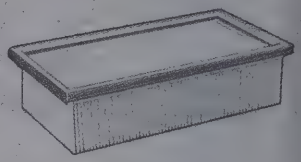
Repair Service Available
Call Your Local Branch
TM



No. 3JF54



No. 3JF56



No. 3JF57

## POWER TOOL TRIGGERED WET/DRY VACUUM

- Powerful 1000 watt motor and vacuum with 99.85% filtration efficiency
- Built-in outlet for power tool—vacuum starts automatically when tool is turned on or off
- Corrosion resistant polypropylene tank
- 25 ft. cord for extended reach without the need for extension cords
- Dual filtration system—washable automotive-type 5.7 sq. ft. paper filter on top of vacuum and 2-ply 5-gallon paper filter bag for dust pick-up applications
- Porter Cable brand (7810)

**No. 3JF54.** Shpg. wt. 21.0 lbs. List $470.00. Each.....$279.25▲

(▲) Net prices, not subject to discounts.

## FILTER BAGS

2-ply, 5 gallon paper filter bag for dust pick-up applications Porter Cable brand (78114).

**No. 3JF56.** Shpg. wt. 0.5 lbs. List $12.00. Each.....$10.34▲

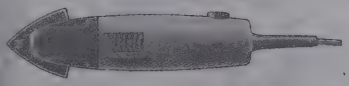
## EXHAUST FILTER—FLAT FILTER

5.7 sq. ft. washable, reusable; designed for keeping exhaust air and work area clean. Porter Cable brand (78115).

**No. 3JF57.** Shpg. wt. 0.3 lbs. List $17.75. Each.....$15.25▲

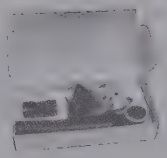
**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**



No. 3JG21

Modification & Service Availa
Contact Your Local Branch



No. 3JG18

## MULTI-MASTER

e **Multi-Master** is a powerful, variable speed tool which allows you to sand completely to a corner without chattering against vertical components. More features than just a nder—you can also cut, scrape, polish, and buff; or sand dustless with the Dust :traction Kit No. 3JG18. Available in PSA or Hook & Loop. Includes tool case, wrench, d 10 sheets each of 60, 80, and 120 grit sandpaper.

### MULTI-MASTER

| Sander Type | Amps | OPM's | Fein Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PSA** | 1.6 | 12-21,000 | MSxe 636-2PSA | **3JG21** | $250.00 | **$199.00▲** | 8.0 |
| **H&L** | 1.6 | 12-21,000 | MSxe 636-2H&L | **3JG22** | 250.00 | **199.00▲** | 8.0 |

## ACCESSORIES FOR MULTI-MASTER.

. **3JG09.** H&L Replacement Sanding Pad. 2 pads per box. Fein brand (63806129026). pg. wt. 0.2 lbs. List $12.48. Each ..... **$11.23▲**

. **3JG11.** PSA Replacement Sanding Pad. 2 pads per box. Fein brand (63806137017). pg. wt. 0.3 lbs. List $12.48. Each ..... **$11.23▲**

. **3JG12.** Felt Pad for polishing and buffing metals. 2 pads per box. Fein brand (63806140027). pg. wt. 0.3 lbs. List $34.32. Each ..... **$30.90▲**

. **3JG18.** H&L Dust Extraction Kit. Removes sanding dust by adapting to standard shop vac. :ludes dust extractor, 2 pads (No. 3JG10), 5 sheets of 60, 80, 120 grit sheets, and 2 adapters for ⌀" and 1¼" hose connections. Requires use of perforated dustless sanding sheets. Fein brand 2602063023). Shpg. wt. 0.8 lbs. List $68.64. Each ..... **$61.80▲**

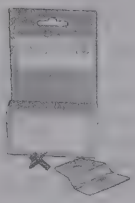
. **3JG10.** Replacement Sanding Pad for H&L Dust Extractor No. 3JG18. 2 pads per box. Fein and (63806136029). Shpg. wt. 0.3 lbs. List $19.34. Each ..... **$17.41▲**

. **3JF66.** Segment Saw Blade Set. 3⅛" saw blade with straight edge allows cuts against uprights d into corners without marring the upright. Fein brand (63502106015). Shpg. wt. 0.3 lbs. st $68.64. Each ..... **$61.80▲**

. **3JG13.** Scraper Blade. Heavy-duty ridged blade for scraping paint, removing tiles and glued rpet. Offset for easy use. Fein brand (63903178017). Shpg. wt. 0.3 lbs. st $29.74. Each ..... **$26.80▲**



No. 3JF66



No. 3JG13



No. 3JF81

## SANDPAPER FOR MULTI-MASTER

**OOK & LOOP SANDPAPER**

- Aluminum oxide
- Fully synthetic-resin bonded
- High stock removal, reduced clogging

**OOK & LOOP DUSTLESS SANDPAPER**

- Perforated for thru-the-pad dust extraction
- Used with Dust Extractor Sanding Pad No. 3JG10

**SA SANDPAPER**

- Aluminum oxide
- Fully synthetic-resin bonded
- High stock removal, reduced clogging

### HOOK & LOOP SANDPAPER

| Sandpaper Type | Grit | No. Per Box | Fein Model | Stock No. | List | Each Box | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **H&L** | 60 | 50 | 63717082011 | **3JF81** | $18.30 | **$16.47▲** | 0.5 |
| **H&L** | 80 | 50 | 63717083015 | **3JF84** | 18.30 | **16.47▲** | 0.5 |
| **H&L** | 120 | 50 | 63717085017 | **3JF85** | 18.30 | **16.47▲** | 0.5 |
| **H&L** | 150 | 50 | 63717087014 | **3JF87** | 18.30 | **16.47▲** | 0.5 |
| **H&L** | 220 | 50 | 63717089016 | **3JF88** | 18.30 | **16.47▲** | 0.5 |
| **H&L** | 60/80/120/180/240 | 50 | 63717082033 | **3JF82** | 18.30 | **16.47▲** | 0.5 |

### HOOK & LOOP DUSTLESS SANDPAPER

| Sandpaper Type | Grit | No. Per Box | Fein Model | Stock No. | List | Each Box | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **H&L Dustless** | 60 | 50 | 63717109013 | **3JG06** | $21.74 | **$19.57▲** | 0.5 |
| **H&L Dustless** | 80 | 50 | 63717110015 | **3JG07** | 21.74 | **19.57▲** | 0.5 |
| **H&L Dustless** | 120 | 50 | 63717112017 | **3JG08** | 21.74 | **19.57▲** | 0.5 |

### PSA SANDPAPER

| Sandpaper Type | Grit | No. Per Box | Fein Model | Stock No. | List | Each Box | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PSA** | 60 | 50 | 63717096019 | **3JF95** | $18.30 | **$16.47▲** | 0.5 |
| **PSA** | 80 | 50 | 63717097013 | **3JF96** | 18.30 | **16.47▲** | 0.5 |
| **PSA** | 120 | 50 | 63717099015 | **3JF98** | 18.30 | **16.47▲** | 0.5 |
| **PSA** | 180 | 50 | 63717101014 | **3JG01** | 18.30 | **16.47▲** | 0.5 |
| **PSA** | 220 | 50 | 63717102018 | **3JG02** | 18.30 | **16.47▲** | 0.5 |
| **PSA** | 60/80/120/180/220 | 50 | 63717082099 | **3JF83** | 18.30 | **16.47▲** | 0.5 |

(▲) Net prices, not subject to discounts.

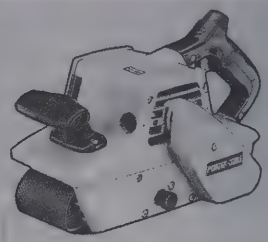
# BELT SANDERS

Replacement Parts Available
1-800-323-0620

PORTER-CABLE



No. 4Z954
3 x 21"
Belt Size



No. 4Z955
3 x 24"
Sander

## 3 x 21" DUSTLESS VARIABLE SPEED SANDER No. 4Z954

- Variable speed 850-1350 SFPM
- For heavy-duty use
- Die-cast aluminum housing
- Dependable belt/gear drive train with all metal pulleys and gears for smooth power transmission
- Motor is centered over platen for good balance control
- Gear and belt drive
- Trigger switch with lock-on
- Vacuum system minimizes dust
- Provides flush sanding capability
- Includes dustbag, nozzle, and sanding belt
- Power source AC
- 7 ft., 3-cond. cord
- UL Listed, CSA Certified

## 3 x 24" SANDER No. 4Z955

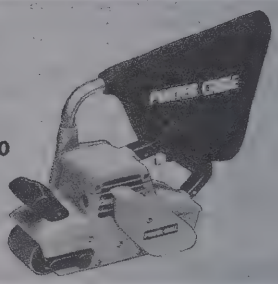
- Extra powerful motor is centered over platen for good balance control
- Special heat treated striker bar protects die-cast aluminum housing
- Dependable belt/gear drive train with all metal pulleys and gears for smooth power transmission
- Gear and belt drive
- Trigger switch with lock-on
- Lever belt releases for fast, easy belt changes
- 7 ft., 3-cond. cord
- Power source AC/DC
- UL Listed, CSA Certified

## 3 x 24" SANDER No. 6Z301

- For extra heavy-duty use
- Extra powerful motor for production use is centered over platen for good balance control
- Includes dustbag, nozzle and sanding belt
- Features die-cast aluminum housing, gear and belt drive, and trigger switch with lock-on
- Vacuum system minimizes dust
- Lever belt-release for fast, easy belt changes
- Provides flush sanding capability
- Power source AC/DC

PORTER-CABLE

Replacement Parts Available
1-800-323-0620



No. 6Z301
3 x 24"
Sander

| Belt Size (In.) | No-Load Speed SFPM* | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | P.C. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 x 21 | 850-1350 | 7.0 | Ball & Needle | 11¾ | 9½ | 352VS | 4Z954 | $332.00 | $175.00▲ | 13.0 |
| 3 x 24 | 1550 | 12.0 | Ball & Needle | 14 | 14 | 361 | 4Z955 | 389.00 | 231.50▲ | 15.0 |
| 3 x 24 | 1550 | 12.0 | Ball & Needle | 14 | 15 | 360 | 6Z301 | 402.00 | 238.75▲ | 16.0 |

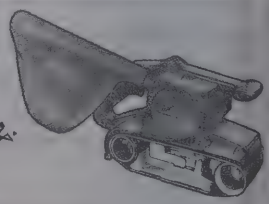
(*) Surface feet per minute. (▲) Net prices, not subject to discounts.

## 4 x 24" SANDER No. 2Z963

- For heavy-duty use, sands flush on one side
- Double insulated
- No-Load Speed: 1400 SFPM
- Positive brush stop prevents spring from damaging commutator
- Features trigger switch and heavy-duty strain relief
- Includes vacuum bag, one sanding belt and 8 ft., 2-cond. rubber cord
- For AC/DC operation, 120V, AMP 10
- UL Listed, CSA Certified

No. 2Z963
4 x 24"
Sander

Milwaukee



| Tool | Width (In.) | No-Load SFPM* | Amps @ 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Milwaukee Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sander | 4 | 1400 | 10 | Ball & Needle | 13½ | 14½ | 5936 | 2Z963 | $495.00 | $316.75▲ | 18.0 |

(▲) Net prices, not subject to discounts.

## 3 x 21" BELT SANDERS Nos. 6W355 & 6W356

- Lightweight with choice of one or two-handed use
- Easy-to-use clamping lever for rapid, easy belt changes
- Micro-adjustment for accurate belt tracking/tensioning
- Short suction duct to transverse mounted dust collection bag for unrestricted dust extraction
- No. 6W356 features electronic infinitely variable speed control for material-matched sanding of sensitive surfaces; high speeds for maximum material removal; medium speeds for between-coats sanding of paint and metals; low speeds for heat-sensitive surfaces, paints and varnishes
- UL Listed

DEWALT

Replacement Parts Available 1-800-323-0620




### SANDER ACCESSORIES

| Description | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Inversion Stand* | DW4051 | 6W503 | $100.00 | $80.15▲ | 4.0 |
| Sanding Frame* | DW4070 | 6W507 | 88.00 | 83.60▲ | 1.5 |

(▲) Net prices, not subject to discounts. (*) For use with Nos. 6W355 and 6W356.

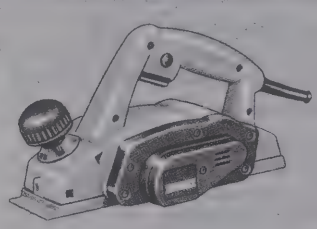
| Belt ize (In.) | No-Load SFPM† | Amps at 120V | Bearings | Tool Length * (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| x 21 | 1100 | 5.2 | Ball & Roller | 11½ | 6⅛ | DeWalt | DW430 | 6W355 | $300.00 | $186.75▲ | 9.4 |
| x 21 | 475-1100 | 4.2-5.2 | Ball & Roller | 11½ | 6⅛ | DeWalt | DW431 | 6W356 | 338.00 | 210.50▲ | 9.0 |

Length without dustbag. († ) Surface feet per minute. (▲) Net prices, not subject to discounts.

## 3¼" PLANER No. 4LG28

- For cuts up to 1/16" deep; rabbets up to 1/2" deep
- Includes efficient segmented Multi-V belt drive, positive detent depth adjustment, full length solid die-cast alloy machined shoe for accuracy, and 1 pair reversible carbide blades, rabbeting fence, steel carry case
- 8 ft., 3-cond. cord
- For AC operation only
- UL Listed

DEWALT



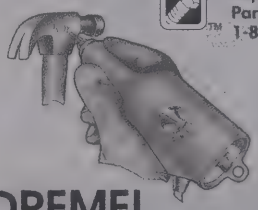

| Tool | Width (In.) | Depth of Cut (In.) | No-Load RPM | Amps @ 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Planer | 3¼ | 1/16 | 15,000 | 5.2 | Ball & Needle | 12½ | 5½ | DW677K | 4LG28 | $268.00 | $179.50▲ | 17.0 |

) Net prices, not subject to discounts.

## ELECTRIC CARBIDE-TIPPED ENGRAVER

- Writes like a pencil, no skill required
- Calibrated stroke adjustment knob
- Built-in hanger for convenient storage
- For AC operation only
- Solid carbide tip is virtually wearproof
- Rugged high-impact nylon housing is contoured for easy grip
- Top mounted On-Off switch
- UL Listed, CSA Certified

Replacement Parts Available 1-800-323-0620



DREMEL

| Type | Strokes Per Min. | Amps at 120V | Tool Length (In.) | Tool Wt. (Oz.) | Dremel Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| troke Adjustable | 7200 | 0.2 | 6⅛ | 7 | 290 | 2Z204 | $26.52 | $18.21▲ | 1.0 |

) Net prices, not subject to discounts.

## YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

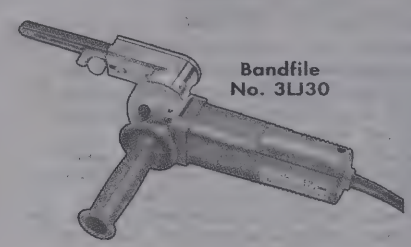
Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# BANDFILE AND BELTS

## BANDFILE

- 180° adjustable head
- 3-position side handle
- On/Off paddle switch
- Double insulated

Bandfile grinds and deburrs ends of metal stock, and sands hard to reach places in wood and non-metallic surfaces. Also blends, clean polishes, surfaces and conditions. UL Listed, CSA Certified. Made in U.S.A.



Bandfile
No. 3LJ30

Made In U.S.A.

Replacement Parts Available
1-800-323-0620

Modification & Service Available
Contact Your Local Branch

### BANDFILE SPECIFICATIONS AND ORDERING DATA

| Contact Arm Size (In.) | SFPM | Amps at 120V | Bearings | Tool Lgth. (In.) | Tool Wt. (Lbs.) | Milwaukee Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/2 x 18** | 2,300 | 5.5 | Ball & Roller | 18½ | 6 | 6101-6 | **3LJ30** | $356.68 | **$217.75▲** | 6.3 |

(▲) Net prices, not subject to discounts.

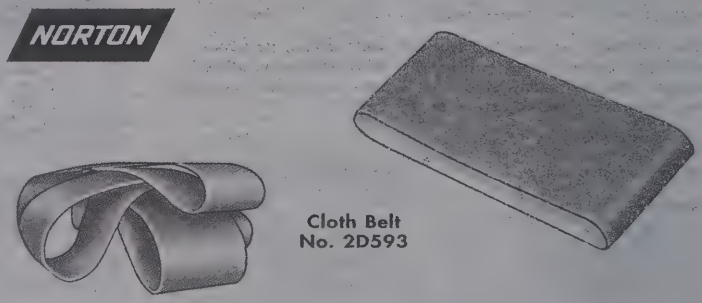
## CLOTH BANDFILE BELTS

### METALITE® R283 BELTS

- Offer improved resistance to grain shedding and a more flexible backing
- P-Graded Aluminum Oxide abrasive
- Waterproof close coated, resin bonded on a semi-flexible X-wgt.
- Developed specifically for use on portable belt machines

### NORTON SG® R981 BELTS

- For hard-to-grind, heat-sensitive metals such as alloyed steel
- Premium ceramic abrasive is specially coated to promote a cool-cutting action that gives a long, aggressive grinding life
- Resin bonded on a Y-weight polyester backing



Cloth Belt
No. 2D593

### BELT SELECTION

Look for abrasive requirement and select appropriate belt. When same size and grit are available, premium belts will offer faster stock removal and longer life. Coated Abrasive Belts are listed by groups in the following order:

1. **Width** (narrow to wide)
2. **Length** (short to long)
3. **Grit Size** (coarse grit to fine grit)
4. **Abrasive Type** (Aluminum Oxide Zirconia—SG Ceramic)
5. **Coating Type** (closed coat to open coat).

### CLOTH BANDFILE BELTS SPECIFICATIONS AND ORDERING DATA

| Width x Length (In.) | Grit | CAP Code | Description | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/2 x 18** | P40-X | R283 | Metalite | 780727-27561 | **2D597** | **$0.76** | **$0.69/25** | 0.1 |
| **1/2 x 18** | P60-X | R283 | Metalite | 780727-27560 | **2D596** | **0.73** | **0.67/25** | 0.1 |
| **1/2 x 18** | 60-Y | R981 | Norton SG | 780727-18704 | **2D520** | **1.90** | **1.72/25** | 0.1 |
| **1/2 x 18** | P80-X | R283 | Metalite | 780727-27559 | **2D595** | **0.72** | **0.67/25** | 0.1 |
| **1/2 x 18** | 80-Y | R981 | Norton SG | 780727-18705 | **2D521** | **1.82** | **1.64/25** | 0.1 |
| **1/2 x 18** | P120-X | R283 | Metalite | 780727-27558 | **2D594** | **0.71** | **0.66/25** | 0.1 |
| **1/2 x 18** | 120-Y | R981 | Norton SG | 780727-18706 | **2D522** | **1.80** | **1.62/25** | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# ELECTRIC HAND GRINDERS

## DIE GRINDERS

### DeWALT 1½" DIE GRINDER No. 4LF06

- For use in die shops, stamping plants, and tool rooms
- Extended spindle housing permits user to grip the tool near the stone
- Includes 1/4" collet and collet wrench
- For AC operation only
- UL Listed, CSA Certified

### DeWALT 2" DIE GRINDER No. 4LF08

- Powerful 5 amp motor for continuous use under heavy loads
- Ball bearing construction
- Extended spindle housing permits user to grip the tool near the stone
- 1/4" collet for mounted points and carbide burrs
- Includes 1/4" collet, 2 wrenches, and reducing sleeve for reducing collet opening to 1/8"
- UL Listed, CSA Certified

### MILWAUKEE 2" DIE GRINDERS Nos. 4Z818 & 1Y068

- For finishing, polishing, deburring, chamfering, and sharpening in die shops, stamping plants, and tool rooms
- Lightweight glass reinforced nylon motor housing and durable neoprene coated aluminum spindle housing
- Self-disconnecting brushes
- Dynamically balanced armature for efficient operation
- No. 4Z818 has On-Off toggle switch; No. 1Y068 has On-Off paddle switch
- Includes 1/4" collet, 1/2" and 11/16" open end wrenches
- 8 ft., 2-cond. rubber cord
- Power source AC/DC
- UL Listed, CSA Certified

## STRAIGHT GRINDERS

### DeWALT 2½" STRAIGHT GRINDER No. 4LF04

- For grinding, sanding, carving, buffing, sharpening, and any continuous production use
- Direct drive gear mountings
- Instant release trigger switch
- Adjustable wheel guard with wing nuts for fast wheel changes
- Wheel size: 2½" dia. x 1/2" thick x 3/8" arbor
- Shaped grips to prevent tool from turning in operator's hands
- Cast metal housing
- Includes clamp nut, adjustable steel wheel guard, and two wrenches
- Power source AC/DC
- UL Listed, CSA Certified

### DeWALT 6" STRAIGHT GRINDER No. 4LF05

- For material removal jobs
- 13 amp, 3 HP motor with high efficiency cooling system for long service life under continuous load
- All ball bearing construction
- Excellent ventilation; cools motor parts and prevents accumulation of dust and grit
- Includes adjustable wheel guard, arbor nut, washers, and 6" type 1 A24 grit wheel
- 8 ft., 2-cond. cord
- 6" dia. x 1" thick x 5/8" arbor
- UL Listed, CSA Certified

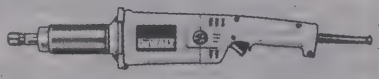
Replacement Parts Available
1-800-323-0620

Modification & Service Available
Contact Your Local Branch

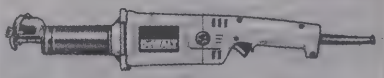
DEWALT
High Performance Industrial Tools



4LF06



4LF08

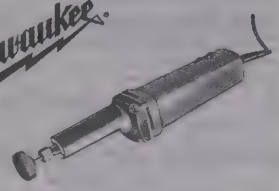


4LF04



4LF05

Milwaukee



Nos. 4Z818 & 1Y068

| Size & Type | No-Load RPM | Amps @ 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½" Die | 25000 | 3.0 | Ball | 13.0 | 3.3 | DeWalt | DW887 | 4LF06 | $244.00 | $148.00▲ | 4.3 |
| 2" Die | 19000 | 5.0 | Ball | 19.2 | 6.0 | DeWalt | DW888 | 4LF08 | 384.00 | 252.25▲ | 8.5 |
| 2" Die | 21000 | 4.5 | Ball | 13.5 | 4.5 | Milw | 5192 | 4Z818 | 329.00 | 210.75▲ | 4.5 |
| 2" Die | 21000 | 4.5 | Ball | 13.5 | 4.5 | Milw | 5194 | 1Y068 | 329.00 | 210.75▲ | 4.7 |
| 2½" Straight | 19000 | 5.0 | Ball | 18.5 | 6.8 | DeWalt | DW880 | 4LF04 | 384.00 | 232.50▲ | 9.9 |
| 6" Straight | 5700 | 13.0 | Ball | 24.25 | 14.8 | DeWalt | DW882 | 4LF05 | 540.00 | 354.25▲ | 20.0 |
| **ADDITIONAL HAND GRINDERS AVAILABLE** | | | | | | | | | | | |
| 2" Die | 14500 | 11.0 | Ball & Roller | 21.5 | 7.75 | Milw | 5196 | 6Z283* | 455.82 | 278.50▲ | 9.0 |
| 3" Straight | 14500 | 11.0 | Ball & Roller | 21.0 | 7.75 | Milw | 5211 | 6Z222† | 436.99 | 278.75▲ | 9.0 |
| 6" Straight | 5500 | 15.0 | Ball & Roller | 22.0 | 16.5 | Milw | 5243 | 6Z217* | 552.57 | 333.00▲ | 22.0 |

(†) Net prices, not subject to discounts. (*) Not shown

# ELECTRIC HAND GRINDERS

## 1/8" HAND GRINDER KITS Nos. 2Z163 & 2Z962

- Double insulated construction
- Shatterproof nylon housing
- Variable speed unit No. 2Z962 uses AC power source only and includes 72 accessories
- Two-speed unit No. 2Z163 uses AC power source only and includes 30 accessories
- UL Listed, CSA Certified
- Includes 3/32 and 1/8" collets, assorted high speed steel cutters, emery and silicon grinding wheels and points, wire brushes, felt polishing tip and wheel, sanding discs, drum sander and bands, mandrels, dressing stone, cutting wheels, collet key, and self-storing polyethylene carrying case.

## 1/8" FLEX-SHAFT HAND GRINDER No. 1A193

- 360° swivel base
- 34" thermoplastic rubber covered flex shaft with ball bearing
- 1/2" diameter handpiece
- Built-in hanger bracket
- Override switch for going from variable speed to full speed
- 1/8" collet included
- Accepts 1/32, 1/16, and 3/32" collets (not included)
- 3-cond. cord
- UL Listed, CSA Certified




## SPECIFICATIONS AND ORDERING DATA

| Size & Type | No-Load RPM | Amps at 115V | Bearings | Tool Length (In.) | Tool Wt. | Dremel Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/8" Med.-duty | 15,000 & 28,000 | 0.8 | Bronze | 7¼ | 11 oz. | 2850 | 2Z163 | $113.48 | $77.95▲ | |
| 1/8 Heavy-duty | 5-30,000 | 0.9 | Ball | 7¼ | 11 oz. | 3955 | 2Z962 | 145.51 | 99.90▲ | |
| 1/8 Flex-Shaft | 7,500-25,000 | 0.95 | Ball | 6 | 2 lbs. | 332 | 1A193 | 169.43 | 116.35▲ | |

(▲) Net prices, not subject to discounts

## HEAVY-DUTY 1/4" FLEX-SHAFT HAND GRINDER No. 6A423

- 1/5 HP motor (20,000 RPM) with high impact shatter resistant housing
- Built in hanger bracket
- 1" diameter all ball bearing aluminum handpiece with 1/4 and 1/8" collets
- 39" flexible shaft with quick release handpiece feature
- Solid state, rugged metal, variable speed (0-20,000 RPM) foot control with nonskid base
- 2 amps at 115V
- Tool length 6fi"; weight 3 lbs.
- UL Listed, CSA Certified

## FINE DETAIL 1/2" DIA. HANDPIECE No. 6A424

- Aluminum housing, all ball bearing
- Pencil-like grip
- Quick disconnect feature
- 1/8 and 3/32" collets included

## TOOL STAND No. 6A425

- For use with bench mount applications
- UL Listed

## 7.2 VOLT, 2-SPEED MULTIPRO™ CORDLESS TOOL KIT No. 3JP50

- Multipurpose cordless tool cuts, grinds, polishes and sands
- Lightweight, compact size is ideal for do-it-yourself projects around the home
- Ball bearing drive shaft with shaft lock for easy bit changes
- 2 speeds: 7500 & 15,000 RPM
- Tool kit includes cordless tool with rechargeable battery pack, 1/8" collet, 3-hour battery charger, accessories, guide book and storage case
- Accessories include 1/8" dia. drill bit, high speed cutter, two mandrels, bristle brush, 60 grit drum sander, 60 grit sanding band, (6) cut-off wheels, (2) 220 grit sanding discs, (3) 1/2" dia. felt polishing wheels, dressing stone, emery polishing wheel, felt polishing wheel, (2) 120 grit sanding bands, aluminum oxide grinding stone, and silicon carbide grinding stone

## REPLACEMENT BATTERY PACK FOR MULTIPRO™ CORDLESS TOOL KIT.

**No. 3JP49.** Dremel brand (757). Shpg. wt. 0.8 lbs. List $30.17. Each ..... $25.45




## ORDERING DATA

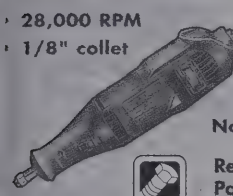
| Description | Dremel Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Heavy-duty Flex Shaft Tool | 7360 | 6A423 | $307.46 | $211.25▲ | 7.0 |
| 1/2" Dia. Handpiece | 235 | 6A424 | 59.60 | 40.95▲ | 0.2 |
| Flex Shaft Tool Stand | 2222 | 6A425 | 30.26 | 20.77▲ | 1.8 |
| Cordless Tool Kit | 7700 | 3JP50 | 85.30 | 50.50▲ | 3.0 |

(▲) Net prices, not subject to discounts.

# ELECTRIC HAND GRINDER AND ACCESSORIES

**DREMEL**

- 28,000 RPM
- 1/8" collet



No. 3W839

Replacement Parts Available 1-800-323-0620™

## SINGLE SPEED MOTO-TOOL KIT No. 3W839

- Long-life, lubricated bronze sleeve bearing motor provides steady power, and smooth operation
- Tapered housing shape for comfortable finger-tip control
- Double-insulated motor
- Thrust bearing for greater drilling capability
- Includes 15 pc accessory/bit assortment kit with holder, and 1/8" collet
- 6 ft., 2-cond. cord

Includes 2 grinding stones, 1 wrench, 1 cap brush, one 1/8" drill, 2 mandrels, 3 cut-off wheels, 3 sanding discs, and 2 felt polishing wheels. Dremel brand (2750).

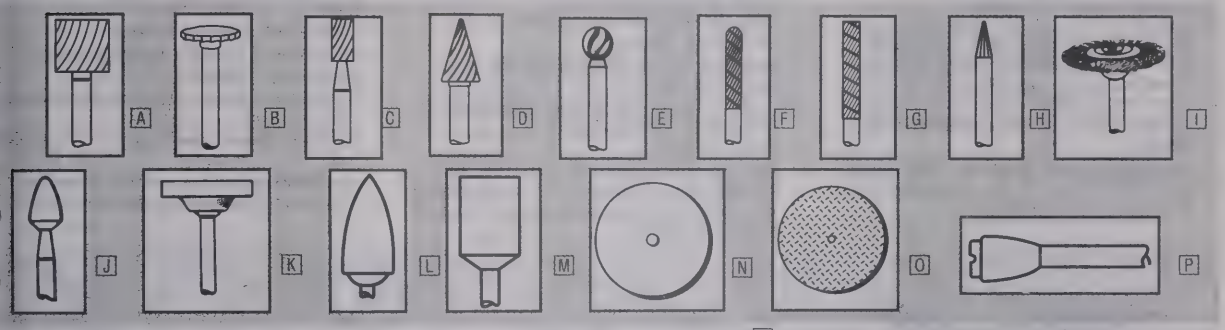
**No. 3W839.** Shpg. wt. 0.4 lbs. List $78.53.
Each ..... **$53.90▲**

### FLEX SHAFT ACCESSORY FOR 3W839

Versatile 36" cable has comfortable 1/2" dia. handpiece. For use with Nos. 2Z163, 2Z962, 4A945, 3W839. Dremel brand (225).

**No. 3W840.** Shpg. wt. 0.4 lbs. List $40.67.
Each ..... **$27.95▲**

## CUTTING & FINISHING TOOLS FOR HAND GRINDERS




### A B C D & E HIGH SPEED CUTTERS

3" Shank high speed cutters are made of high quality steel. Can used for shaping, hollowing most metals, plastics and woods. ot to be used at speeds exceeding 30,000 RPM. Dremel brand.

| Max. Cutting Head Dia. (In.) | Dremel Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 5/16 | 115 | **3W844** | $5.49 | **$3.77▲** | 0.1 |
| 3/8 | 199 | **3W845** | 5.49 | **3.77▲** | 0.1 |
| 1/8 | 194 | **3W846** | 5.49 | **3.77▲** | 0.1 |
| 1/4 | 125 | **3W847** | 5.49 | **3.77▲** | 0.1 |
| 3/16 | 192 | **3W848** | 5.49 | **3.77▲** | 0.1 |

### F G & H ROTARY CUTTERS

ngsten carbide steel cutters last longer than conventional gh-speed cutters. Used to cut, shape, hollow most plastics, met-, and woods. Shank 1/8" dia. x 1½" long. Dremel brand.

| Max. Cutting Head Dia. (In.) | Dremel Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/8 | 9903 | **6X194** | $10.33 | **$7.10▲** | 0.1 |
| 1/8 | 9900 | **3W851** | 10.33 | **7.10▲** | 0.1 |
| 1/8 | 9909 | **3W852** | 10.33 | **7.10▲** | 0.1 |

### I WIRE BRUSH, Pkg. of 5

eel brush removes rust and corrosion; cleans hard to reach etal surfaces. 3/4" brush dia., 1½ x 1/8" steel shank. Not to be ed at speeds exceeding 15,000 RPM. Wear faceshield or safety ggles. Dremel brand (428).

**. 6X201.** Shpg. wt. 0.1 lbs. List $13.83.
ch ..... **$9.49▲**

### J GRINDING POINTS, Pkg. of 5

icone-carbide grain heads for finishing steel, cermics, glass d other hard materials. Has 1¼ x 1/8" dia. steel shank. Not to use at speed exceeding 30,000RPM. Dremel brand.

| Key | Max. Cutting Head Dia. (In.) | Dremel Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| J | 3/16 | 84922 | **6X198** | $13.83 | **$9.49▲** | 0.1 |

### K GRINDING POINTS, Pkg. of 5

Silicone-carbide grain heads for finishing steel, ceramics, glass, and other hard materials. No. 6X199 has 1¼ x 1/8" dia. steel shank. Not to be used at speeds exceeding 30,000 RPM. Dremel brand.

| Key | Max. Cutting Head Dia. (In.) | Dremel Model | Stock No. | Package of 5 List | Package of 5 Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| K | 25/32 | 85422 | **6X199** | $13.83 | **$9.49▲** | 0.1 |

### L & M GRINDING STONES

Mounted aluminum-oxide grinding stones are of the highest industrial quality with long abrasive life. 1/8" shanks. Ideal for sharpening, deburring, and general purpose grinding. Dremel brand.

| Key | Max Cutting Head Dia. (In.) | Dremel Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| L | 3/8 | 952 | **3W849** | $2.76 | **$1.90▲** | 0.1 |
| M | 3/8 | 932 | **3W850** | 2.76 | **1.90▲** | 0.1 |

### N EMERY CUT-OFF WHEEL, Pkg. of 36

For slicing and cutting off metal, plastic. 15/16" dia. 0.025" thick. Package of 36. Dremel brand (409). Use with No. 3W843.

**No. 3W841.** Shpg. wt. 0.1 lbs. List $5.51.
Each ..... **$3.78▲**

### O FIBERGLASS CUT-OFF WHEEL, Pkg. of 5

Reinforced fiberglass wheel. 1¼" dia., 0.045" thick. Package of 5. Dremel brand (426). Use with No. 3W843.

**No. 3W842.** Shpg. wt. 0.1 lbs. List $7.96.
Each ..... **$5.47▲**

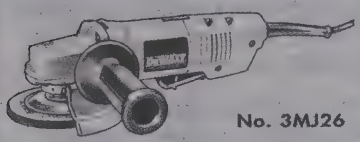
### P MANDREL No. 3W843

1/8" shank mandrel is for use with cutting wheels Nos. 3W841 and 3W842, sold above. Dremel brand (402).

**No. 3W843.** Shpg. wt. 0.1 lbs. List $2.76.
Each ..... **$1.90▲**

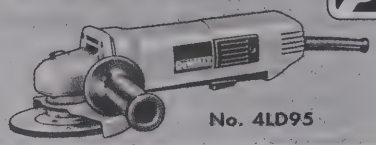
# SANDERS/GRINDERS

**NOTE: PROPER GUARDING REQUIRED FOR GRINDING OPERATIONS**

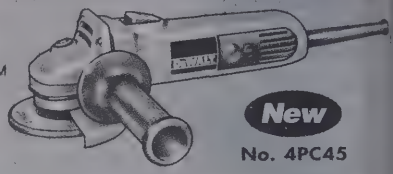


No. 3MJ26

DEWALT



No. 4LD95



New

No. 4PC45

## 4½" DISCS Nos. 3MJ26 & 4KZ07

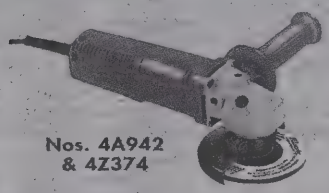
- Rotatable guard requires no tools for repositioning or removal
- Reversible side handle
- Includes 4½" x 1/4" depressed center wheel, metal guard, reversible side handle, spanner wrench, disc wheel adapter, adapter clamp nut
- 5/8"-11 spindle; arbor and flange nut for 7/8" non-threaded grinding wheels
- No. 3MJ26 has 10 ft., 2-cond. cord; No. 4KZ07 has 10 ft., 3-cond. cord
- UL Listed, CSA Certified

## 4½" SMALL ANGLE GRINDER No. 4LD95

- High performance, high-durability 1000 watt motor
- 5/8"-11 spindle thread
- Spindle lock for easy wheel and accessory changing
- High efficiency cooling system keeps motor cooler
- Paddle switch for easier operation at difficult working angles
- 8 ft. cord set
- Includes grinding disc, wrench, side handle, guard, backing flange, clamp nut for 7/8" non-threaded wheel and grinding wheel

## 4½" HEAVY-DUTY SMALL ANGLE GRINDER No. 4PC45

- Durable 5.0 amp, 120V AC/DC moto that generates 650 watts; 10,000 RPM
- 5/8" - 11 spindle thread
- Convenient spindle lock for easy accessory changes
- 2-position removable side handle for convenience
- External brush doors for easy servicing
- Includes grinding wheel, wrench, disc wheel, adapter and champ-nut



Nos. 4A942 & 4Z374

Milwaukee

Made in U.S.A.

Replacement Parts Available 1-800-323-0620



No. 5M624 Disc Sander

## 4½" DISCS Nos. 4A942 & 4Z374

- Motor automatically turns off when brushes are worn
- Glass filled nylon motor housing, durable aluminum gear housing
- Nonconductive paddle switch
- Reversible side handle
- Max. capacity 4½"
- Arbor and flange nut for 7/8" non-threaded grinding wheels
- Spindle lock
- UL Listed, CSA Certified
- 2-cond., 8 ft. rubber cord
- 5/8"-11 spindle, 4Z374 has 1/2"-13 spindle
- Includes spanner wrench, disc guard, side handle, grinding disc, flange and flange nut

## 4½" DISC Nos. 5M624, 5M625, & 4GC35

- Spindle lock for fast, easy wheel changes
- Quick set disc guard for "tools free" positioning in 5 preset locations; 3 position side handle
- Paddle switch with lock-on button for continuous operatio
- Include spanner wrench, disc guard, side handle, grinding disc, flange and flange nut; No. 5M625 also includes stee carrying case; No. 4GC35 has dial speed control and 10 ft. Quik-Lok cord
- 8 ft., 2-cond. rubber cord
- UL Listed, CSA Certified
- 5/8"-11 spindle; arbor and flange nut for 7/8" non-threaded grinding wheels

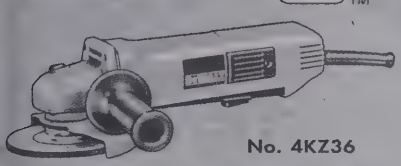
| Size (In.) | No-Load RPM | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (lbs.) | Mfr. | Mfr's. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4½ | 10,000 | 6.0 AC/DC | Ball & Roller | 10⅜ | 4½ | DeWalt | DW402 | | 3MJ26 | $168.00 | $92.30▲ | 5.5 |
| 4½ | 10,000 | 6.0 AC/DC | Ball & Roller | 10⅜ | 4½ | DeWalt | DW402G | | 4KZ07 | 172.00 | 106.90▲ | 6.3 |
| 4½ | 10,000 | 9.2 | Ball & Roller | 11¾ | 4½ | DeWalt | DW814 | | 4LD95 | 202.00 | 118.50▲ | 7.6 |
| 4½ | 4,000/11,000 | 12.0 | Ball & Roller | 15 | 6½ | Milw. | 6154-20 | | 4GC35 | 260.68 | 142.00▲ | 6.5 |
| 4½ | 10,000 | 5.0 | Ball & Roller | 11¾ | 6½ | DeWalt | DW815 | New | 4PC45 | 124.00 | 73.30▲ | 14.0 |
| 4½ | 10,000 | 5.5 | Ball & Needle | 10½ | 4½ | Milw. | 6140-6 | | 4A942 | 201.86 | 99.00▲ | 6.2 |
| 4½ | 10,000 | 5.5 | Ball & Needle | 10½ | 4½ | Milw. | 6145 | | 4Z374 | 202.01 | 122.00▲ | 6.3 |
| 4½ | 10,000 | 8.5 | Ball & Roller | 14 | 4⁹/₁₀ | Milw. | 6148-6 | | 5M624 | 217.55 | 117.00▲ | 6.6 |
| 4½ | 10,000 | 8.5 | Ball & Roller | 14 | 4⁹/₁₀ | Milw. | 6149-6 | | 5M625 | 260.68 | 145.00▲ | 14.0 |

(*) See Index for backing pads and guards. (▲) Net prices, not subject to discounts.

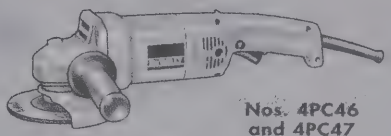
# SANDERS/GRINDERS AND ACCESSORIES

NOTE: PROPER GUARDING REQUIRED FOR GRINDING OPERATIONS

DEWALT

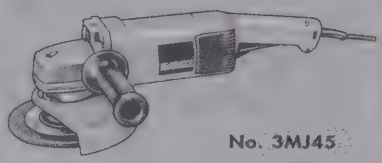


No. 4KZ36



Nos. 4PC46 and 4PC47

New



No. 3MJ45

## 5" SMALL ANGLE GRINDER No. 4KZ36

High performance, high-durability 1400 watt motor
5/8"-11 spindle thread
Spindle lock for easy wheel and accessory changing
High efficiency cooling system keeps motor cooler
Paddle switch for easier operation at difficult working angles
8 ft. cord set
Include grinding disc, wrench, side handle, guard, backing flange, clamp nut for 7/8" non-threaded wheel and grinding wheel

## HEAVY-DUTY 5 AND 7" MEDIUM ANGLE GRINDERS Nos. 4PC46 AND 4PC47

- 120V AC/DC capacity works off welding machines and generators for increased productivity and versatility
- No. 4PC46 has 12 amp, 10,000 RPM motor; No. 4PC47 has 15.0 amp, 8,000 RPM motor–provides high power and speed for grinding applications
- High power-to-weight ratio for greater efficiency and reduced user fatigue
- Rear handle design for greater comfort and control
- External brush doors for easy servicing
- Spindle lock for quick, easy wheel changes
- Includes depressed center wheel, wrench, backing flange, clamp nut and tool-free guard
- 5/8"-11 spindle thread

## 7" DISC GRINDER No. 3MJ45

- 3-position handle mounts on either side or top of grinder for two-handed control
- Externally accessible brushes
- Spindle lock for easy wheel changes
- 5/8"-11 spindle with arbor and flange nut for 7/8" nonthreaded grinding wheels
- Includes side handle, spanner wrench, back-up flange, flange washer, 7" guard, and 7" wheel
- 8 ft., 2-cond. cord
- UL Listed

| Type (In.) | No-Load RPM | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 10,000 | 13.0 | Ball & Roller | 11¾ | 4⅘ | DeWalt | DW458 | | **4KZ36** | $252.00 | **$147.80▲** | 7.8 |
| 5 | 10,000 | 12.0 | Ball & Roller | 14½ | 6.9 | DeWalt | DWS30 | *New* | **4PC46** | 222.00 | **130.85▲** | 9.5 |
| 7 | 8,000 | 15.0 | Ball & Roller | 15½ | 9.0 | DeWalt | DW840 | *New* | **4PC47** | 252.00 | **148.70▲** | 12.0 |
| 7 | 6,000 | 15.0 | Ball & Roller | 18½ | 13½ | DeWalt | DW474 | | **3MJ45** | 304.55 | **168.00▲** | 12.0 |

### ADDITIONAL POLISHERS, GRINDERS, & SANDER/GRINDERS AVAILABLE†

| Description | Bearings | No-Load RPM | Amps 120V AC/DC | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Angle grinder** | Ball & Roller | 10,000 | 5.5 | Milw. | 6141 | **6Z355*** | $214.21 | **$144.80▲** | 6.4 |

UL Listed, CSA Certified. (†) Not shown. (▲) Net prices, not subject to discounts.

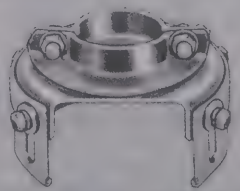
# ADDITIONAL SANDER/GRINDER ACCESSORIES AVAILABLE

### GRINDER ACCESSORIES

| Description | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Guard for Type 28 Wheel** | DW4709 | **4KZ50** | $57.25 | **$41.65▲** | 3.0 |
| **Flaring Cup Guard** | DW4730 | **4KZ60** | 71.57 | **53.40▲** | 3.0 |
| **Super Flex Rubber cking Pad** | DW4990 | **4KZ89** | 22.33 | **19.65▲** | 1.0 |

) Net prices, not subject to discounts.

DEWALT

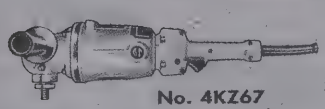


No. 4KZ60
Flaring Cup Guard

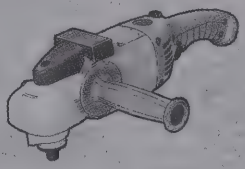
# SANDER/GRINDERS

**NOTE: PROPER GUARDING REQUIRED FOR GRINDING OPERATIONS**

DEWALT TM



No. 4KZ67



Nos. 4Z819, 2Z964, 4A944, 6Z354, 3G709,2Z736

Milwaukee



No. 6Z353, & 3LJ29

Made in U.S.A.

New

TM Replacement Parts Available 1-800-323-0620

## Nos. 4KZ67 & 4KZ69

- For continuous industrial use
- Trigger switch with lock-on
- Reversible side handle
- 5/8"-11 thread spindle
- Soft mount prevents wheel from locking
- Checkpoint brush system, fan and baffle system, and exhaust deflector
- UL Listed, CSA Certified
- 120 Volt AC/DC

## Nos. 4Z819, 3G709 & 3LJ29

All feature:

- UL listed CSA certified
- Glass-filled nylon motor housing
- 5/8"-11 Thread spindle
- Recessed spindle lock button
- Reversible side handle, flange and nylon washer
- No. 3G709 includes 10 ft. 2-wire Quik-Lok cord
- No. 3LJ29 includes 10 ft. 2-wire Quik-Lok cord, spanner wrench, 7" guard, spindle washer, disc hub adapter, disc retaining nut and flange washer for 7/8 bore type 27 grinding wheels. Order No. 5A871
- Nos. 3G709 and 3LJ29 have dial speed control

## Nos. 2Z736, 2Z964, 4A944, 6Z353 & 6Z354

- Heavy-duty aluminum gearcase and motor housing
- 5/8"-11 Thread spindle, side handle flange and nylon washer
- Nos. 2Z964, 6Z354, and 2Z736 include controlled start to reduce torque reaction when starting tool
- Nos. 2Z964 and 2Z736 include line lock-out to prevent tool from operating should voltage be restored to an interrupted line
- No. 6Z353 includes wheel guard and mounting hardware for type 28 grinding wheel; order No. 5A876 grinding wheel. See Index for listing
- UL Listed, CSA Certified

| Type | No-Load RPM | Amps at 120V | Bearings | Tool Length (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 & 9 | 5000 | 15.0 | Ball | 18½ | 14.5 | DeWalt | DW493 | New 4KZ67 | $299.17 | $180.50▲ | 16.0 |
| 7 | 6000 | 15.0 | Ball | 18½ | 14.5 | DeWalt | DW494 | New 4KZ69 | 299.18 | 180.50▲ | 14.0 |
| 7 | 6000 | 13.0 | Ball & Roller | 17 | 9.25 | Milwaukee | 6076 | 3LJ29 | 394.42 | 211.00▲ | 12.0 |
| 7 & 9 | 5000 | 13.0 | Ball & Roller | 17 | 9.25 | Milwaukee | 6072 | 4Z819 | 345.06 | 179.00▲ | 12.0 |
| 7 & 9 | 6000 | 13.0 | Ball & Roller | 17 | 9.25 | Milwaukee | 6078 | 3G709 | 366.03 | 189.00▲ | 11.0 |
| 7 & 9 | 5000 | 15.0 | Ball & Roller | 17½ | 12.00 | Milwaukee | 6095 | 2Z736 | 421.20 | 221.00▲ | 17.0 |
| 7 & 9 | 6000 | 15.0 | Ball & Roller | 17½ | 12.00 | Milwaukee | 6096 | 2Z964 | 421.20 | 221.00▲ | 17.0 |
| 7 & 9 | 5000 | 15.0 | Ball & Roller | 17½ | 12.00 | Milwaukee | 6065-6 | 4A944 | 332.92 | 182.00▲ | 16.0 |
| 7 | 8000 | 15.0 | Ball & Roller | 17½ | 12.00 | Milwaukee | 6098 | 6Z353 | 405.01 | 230.00▲ | 16.0 |
| 7 & 9 | 6000 | 15.0 | Ball & Roller | 17½ | 12.00 | Milwaukee | 6066-6 | 6Z354 | 332.96 | 182.00▲ | 15.0 |

(▲) Net prices, not subject to discounts. Note: Grinding and sanding accesssories required on all models except Nos. 3LJ29 and 6Z353 as noted.

# SANDER/GRINDER ACCESSORIES

## SANDING BACKING PAD & DISC ASSEMBLIES

| Size (In.) | Thread | Max. RPM | Mfr. | Mfr.'s Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4½ | 5/8"-11 | 13,000 | Milw. | 49-36-3455 | 4AC27* | $13.44 | $10.04▲ | 0.4 |
| 4½ | 1/2"-13 | 13,000 | Milw. | 49-36-3450 | 4AC28* | 13.44 | 10.04▲ | 0.5 |
| 4½ | 5/8"-11 | 13,000 | DeWalt | DW4945 | 4KZ72 | 13.27 | 11.68▲ | 0.4 |
| 4½ | 7/8 | 13,000 | DeWalt | DW4939 | 4LT22 | 6.67 | 5.34▲ | 0.1 |
| 5 | 5/8"-11 | 13,000 | Milw. | 49-36-3465 | 4AC29* | 13.44 | 10.04▲ | 0.5 |
| 7 | — | 7,000 | DeWalt | DW4951 | 4KZ77 | 15.00 | 13.88▲ | 0.9 |
| 7 | — | 7,000 | Milw. | 49-36-6000 | 2Z742† | 30.27 | 22.55▲ | 0.8 |
| 9 | — | 7,000 | Milw. | 49-36-6050 | 2Z743† | 35.06 | 26.10▲ | 0.8 |

(*) Includes backing pad, disc nut, and one each of 36 and 60 grit sanding discs.
(†) Incl. rubber pad, phenolic disc, disc nut. (▲) Net prices, not subject to discounts.

**PLACE YOUR ORDER WITH GRAINGER TODAY!**

### 7 & 9" SAFETY GUARDS

**For grinding applications only.** Provide safe conditions when using depressed-center wheels.

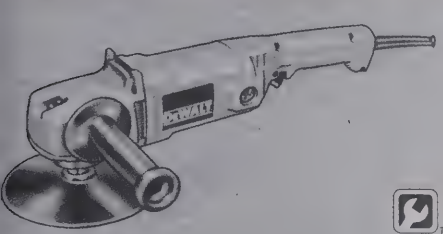
**For OSHA compliance angle grinders** must use safety guards when working with depressed-center wheels.

## GRINDING SAFETY GUARDS

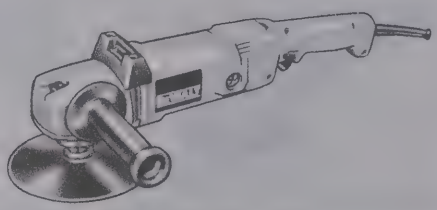
| Size (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 7 | Milw. | 49-12-0355 | 2Z740 | $31.52 | $23.49▲ | 1.3 |
| 7 | DeWalt | DW4707 | 4KZ48 | 29.00 | 21.53▲ | 1.3 |
| 9 | Milw. | 49-12-0345 | 2Z741 | 35.84 | 26.75▲ | 1.6 |
| 9 | DeWalt | DW4708 | 4KZ49 | 32.00 | 23.74▲ | 2.0 |

(▲) Net prices, not subject to discounts.

DEWALT



Modification & Service Available Contact Your Local Branch



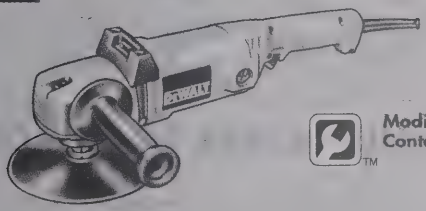
## 7/9" POLISHER No. 4LD96

- For heavy-duty work with acrylic and high-lustre liquid polishes
- 5/8"-11 spindle with spindle lock
- Includes backing pad, clamp washer, and reversing side handle
- 8 ft., 2-cond. cord
- For AC operation
- UL Listed, CSA Certified

## 7/9" SANDER/POLISHER No. 4LD98

- Rubber tool rest
- 5/8"-11 spindle
- Includes 7" flexible backing pad, clamp washer, and 2-position side handle, dial speed control, with electronic module for full power under load
- 8 ft., 2-cond. cord
- For AC operation only
- UL Listed, CSA Certified

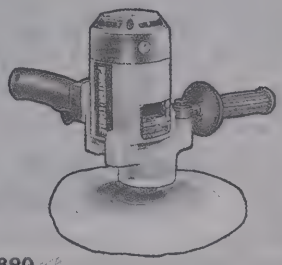
DEWALT



Modification & Service Available Contact Your Local Branch

No. 4LD97

PORTER-CABLE



No. 3W890

## 7/9" VARIABLE SPEED POLISHER No. 4LD97

- Rubber tool rest
- Heavy-duty 7 amp motor for heavy-duty use
- 5/8"-11 spindle with spindle lock
- Externally accessible brushes
- Includes side handle, backing pad, and clamp washer
- 8 ft., 2-cond. cord for AC operation only
- UL Listed
- Electronic variable feedback switch

## 7/9" POLISHER No. 3W890

- Vertical motor position for best control and finish
- Variable speed dial speed control
- Precision helical gears for quiet operation, low maintenance
- 5/8"-11 spindle with spindle lock
- Includes 7" hook and loop back pad and polishing bonnet
- 10 ft., 2-cond. double-insulated cord
- For AC operation only
- UL Listed, CSA Certified

| Size (In.) | No-Load RPM | Amps at 120 | Bearings | Tool Wt. (Lbs.) | Tool Length* (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| / 9 | 0-2300 | 7.0 | Ball & Roller | 7.8 | 15.9 | DeWalt | DW845 | **4LD96** | $260.00 | **$162.00▲** | 8.0 |
| / 9 | 0-1750 | 7.0 | Ball & Roller | 8.0 | 15.9 | DeWalt | DW847 | **4LD97** | 280.00 | **174.50▲** | 10.0 |
| / 9 | 0-1000/3000 | 8.0 | Ball & Roller | 8.2 | 17.3 | DeWalt | DW849 | **4LD98** | 360.00 | **224.00▲** | 8.2 |
| / 9 | 1500-2000 | 8.0 | Ball | 10.0 | 8.0 | P-C | 7401 | **3W890** | 274.00 | **160.75▲** | 10.0 |

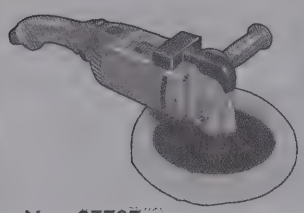
*Overall length of tool only—not including pad. (▲) Net prices, not subject to discounts.

### PORTER-CABLE BONNETS FOR POLISHER No. 3W890

**. 3W891.** Hook & Loop Polishing Bonnet. Shpg. wt. 0.2 lbs.
t $13.00. Each.....$9.13▲

**No. 3W892.** Hook & Loop Compounding Bonnet. Shpg. wt. 0.3 lbs.
List $13.00. Each.....$11.70▲

# SANDER/POLISHERS



Nos. 2Z737

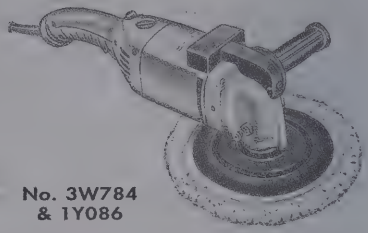
Milwaukee®

TM

Made In U.S.A.

TM

Replacement Parts Available 1-800-323-0620



No. 3W784 & 1Y086

## POLISHER No. 2Z737

- For use with latest acrylic and high-lustre liquid polishes
- 5/8"-11 spindle
- Includes 7" rubber backing pad, disc nut for spindle, and 2-position side handle
- 9 ft., 2-cond. cord
- AC/DC operation
- UL Listed, CSA Certified

## POLISHER Nos. 3W784 & 1Y086

- For use with latest acrylic and high-lustre liquid polishes
- Dial speed control on No. 3W784 and 1Y086
- 5/8"-11 spindle with spindle lock
- Includes 7" rubber backing pad, disc nut for spindle, and 2-position side handle
- 10 ft., 2-cond. Quik-Lok cord
- For AC operation
- UL Listed, CSA Certified

| Size (In.) | No-Load RPM | Amps at 120 | Bearings | Tool Length* (In.) | Tool Wt. (Lbs.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 & 9 | 1750 | 11.0 | Ball & Roller | 16½ | 8¾ | Milw. | 5455 | **2Z737** | $316.70 | **$192.00▲** | 13.0 |
| 7 | 0-2800 | 11.0 | Ball & Roller | 16½ | 8¾ | Milw. | 5540 | **1Y086** | 375.50 | **234.00▲** | 12.0 |
| 7 & 9 | 0-1750 | 10.0 | Ball & Roller | 16½ | 8¾ | Milw. | 5460-6 | **3W784** | 336.05 | **219.00▲** | 12.0 |

(*) Overall length of tool only—not including pad. (▲) Net prices, not subject to discounts.

## DEWALT 7½" CURL-UP POLISHING PADS

Heavy-duty pile with woven duck backing and 3/4 arbor hole.

For use with polishing and abrasive cleaning compounds.

**No. 4KZ87.** 100% wool with 11/2" thick pile. Very soft for final polishing to a high lustre finish. DeWalt brand (DW4988). Shpg. wt. 0.4 lbs. List $15.00. Each ..... **$12.38▲**

**No. 4KZ88.** 50% wool, 50% polyester with 11/2" thick pile. For cleaning, cutting, and polishing. DeWalt brand (DW4989). Shpg. wt. 0.5 lbs. List $13.25. Each ..... **$10.93▲**

(▲) Net prices, not subject to discounts.

## MILWAUKEE FOAM POLISHING PADS

Designed for use with operators experienced in polishir clearcoat finishes. Runs cooler than wool polyester and are les likely to burn clearcoats or create swirl marks. 8" dia. with 2 thick pile. For best results, use on machines less than 2000 RPM

**No. 3W782.** For high-gloss finish on clearcoat. Use with No. 3W912 backing pad. Shpg. wt. 0.5 lbs. List $24.28 Each..... **$18.09▲**

**No. 3W783.** For commpound/deep cleaning on clearcoat. Use with No. 3W912 backing pad. Shpg. wt. 0.5 lbs. List $24.28. Each..... **$18.09▲**

**No. 3W912.** Hook and Loop Backing Pad. Use with Nos. 3W782-3 pads Shpg. wt. 0.5 lbs. List $37.58. Each ..... **$28.00▲**

### DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# 12-SPEED, 15⅞" MILLING AND DRILLING MACHINE

**tures drilling capability in addition to boring, end milling, and face ling.** Precision, fine-feed spindle with 0.001" graduations. ndle travels up to 5" with adjustable depth stop gauge for peated operations.

**ill lock down control** securely clamps cutters at desired depth. spindle with drawbar included for positive arbor mounting.

**ling head swivels a full 360°** and travels vertically by rack and ion action.

**ling table is 32¼ x 9½" with three 5/8" T-slots** and has adjustable duated collars with 0.001" graduations. For every complete ndwheel rotation table travels 0.100". Maximum X axis travels ¼"; maximum Y axis travels 7". Dovetail ways with adjustable s.

tor not included. Order Dayton 1.5HP, 1725 RPM, 230V Only, 1 ase NEMA 56H Frame motor No. 6K419.

**nd is complete with coolant/chip pan.** 31¼ x 23½" Mill comes h R8 spindle to J3 taper adapter for drilling, 3" face cutter h arbor, and 5/8" chuck and key.

**2AC40.** Milling/Drilling Machine. Shpg. wt. 660.0 lbs. . $1990.00. Each ..... $1463.00▲

**3W913.** Milling/Drilling Machine Base Only. Shpg. wt. 119.0 lbs. : $400.00. Each ..... $280.00▲

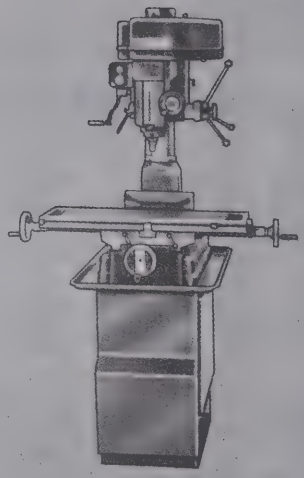
Net prices, not subject to discounts.

## GENERAL SPECIFICATIONS

| | |
|---|---|
| Drilling Capacity | 1¼" |
| Face Mill Capacity | 3" |
| End Mill Capacity | 3/4" |
| Swing | 15⅞" |
| Spindle to Column | 7 15/16" |
| Speeds | 12 Speeds: 120 to 2500 RPM |
| Column Diameter | 4½" |
| Quill Diameter | 3" |
| Maximum Distance Spindle to Table | 18" |
| Spindle Travel | 5" |
| Overall Height with Stand | 74" |
| Table Height on Stand | 41¼" |
| Table Height without Stand | 10½" |

Dayton®

Replacement Parts Available
1-800-323-0620



No. 2AC40
Milling/Drilling Machine

# SEMI-UNIVERSAL DIVIDING HEAD

**:ise, dependable indexing tool** for consistent, accurate machin- operations even on heavy cuts. Fast setups provide maximum ductivity on short or long runs.

**des 360° rotation into any division** from 2 to 50 and many divi- ıs from 52 to 380. Swivel head can be locked at any angle from below horizontal to 90° vertical. 40:1 Ratio between worm worm gear. Worm gear is easily adjustable and can be disen- ed for direct indexing.

**:ision machined assuring smooth, accurate operation.** Spindle is dened and ground and has 1½"-8 TPI male threading for face :e or threaded chuck (not included) and is rigidly held in :e by prelubricated taper roller bearings. Spindle runout is ranteed to 0.001".

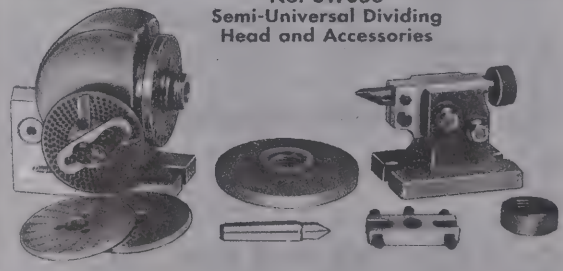
**!ures 7⅞" swing, 3 5/16" center height,** 33/64" spindle hole, and 3 No. 7 spindle taper. Includes adjustable tailstock, dead cen- center clamp, dividing attachments, and 5" threaded face :e.

**3W853.** Shpg. wt. 42.0 lbs. List $520.00. Each ..... $442.00

**:e-jaw, Self-centering 5" Scroll Chuck** features semi-steel body hardened and ground jaws. Two-piece jaws are reversible. :ck mounts directly to No. 3W853 spindle—back plate is :aded for 1½"-8 threads. Chuck includes wrench.

**3W856.** Shpg. wt. 15.0 lbs. List $284.45. Each ..... $227.75▲

Net prices, not subject to discounts. For a complete line of Bison chucks contact your local :h.



No. 3W853
Semi-Universal Dividing
Head and Accessories

Replacement
Parts Available
1-800-323-0620



No. 3W856
Three-Jaw
5" Scroll Chuck

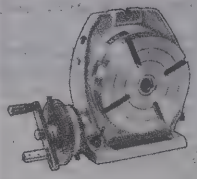
# ROTARY TABLES, ACCESSORIES, AND TOOL POST SETS

## HORIZONTAL/VERTICAL 8", 10", & 12" ROTARY TABLES

**Machinist's dual position, rotary table** is for indexing, circular cutting, angle setting, boring, spot facing, and similar operations. Worktable is precision machined of high density Meehanite with four T-slots and MT3 center taper. Worm gear of high carbon steel hardened and ground with 90:1 ratio, so that one turn of the handle moves the table through 4". Tables are graduated to a full 360°. Micro collar is graduated in divisions of 1 min. and vernier scale makes settings down to 10 seconds possible. 8" table accurate to 1 minute/20 seconds; 10" and 12" tables accurate to 45 seconds. Gear can be disengaged for free spinning of table; two lock downs at 180°. Machine remains very steady under load cutting.

Dayton®

Replacement Parts Available 1-800-323-0620™

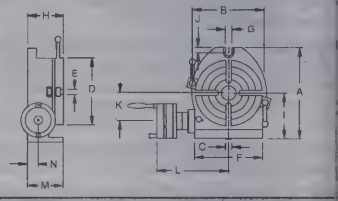


No. 2AC32

### ACCURACY & VARIATION GUIDE

| Accuracy | Variation |
|---|---|
| Clamping Surface Flatness | .0006 |
| Center Bore Concentricity | .0008 |
| Surface to Base Parallelism | .0008 |
| Surface to Center Slot Squareness | .0008 |
| Surface to Center Slot Squareness | .0008 |
| Surface to Angle Face Squareness | .0004 |

### DIMENSIONAL DRAWING




### ROTARY TABLES ORDERING DATA

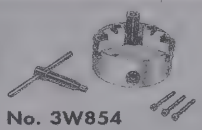
| Description (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **8 Table** | **2AC32** | $430.00 | **$387.00** | 92.0 |
| **10 Table** | **4K751** | 570.00 | **513.00** | 125.0 |
| **12 Table** | **4K746** | 900.00 | **810.00** | 202.0 |

### DIMENSIONS

| Description (In.) | Stock No. | Dimensions A | B | C | D | E | F | G | H | I | J | K | L | M | N | T-Slot |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 Table | 2AC32 | 11.2 | 9.400 | .650 | 7.782 | 3MT | 8.204 | .570 | 3.944 | 5.985 | .610 | 3.70 | 7.83 | 3.88 | 1.0 | .465 |
| 10 Table | 4K751 | 12.900 | 11.300 | .552 | 9.8 | 3MT | 9.960 | .562 | 4.330 | 6.750 | .630 | 4.100 | 8.652 | 4.175 | 1.9 | .465 |
| 12 Table | 4K746 | 16.125 | 14.250 | .710 | 12.625 | 4MT | 12.625 | .752 | 4.750 | 8.250 | .990 | 5.250 | 10.250 | 4.640 | 1.9 | .545 |



No. 4K730 Dividing Accessories



No. 3W854

## ROTARY TABLE ACCESSORIES

### CHUCKS

**Three-jaw, Self-centering, Plain Back 6" Scroll Chuck** features semi-steel body and hardened and ground jaws and scroll. Standard accessories include two sets of jaws: inside, outside, one wrench and one set of mounting screws.

**No. 3W854.** Shpg. wt. 20.0 lbs. List $270.00. Each.....**$216.00▲**

(▲) Net prices, not subject to discounts. For a complete line of Bison chucks contact your local branch.

### DIVIDING ACCESSORIES

Dividing attachments include crank handle, sector, spring washer, and two plates for dividing 360° rotation from 1-100 divisions

**No. 4K730.** Shpg. wt. 4.8 lbs. List $174.00. Each.....**$147.90**

### DIVIDING PLATE HOLE SIZES

| | |
|---|---|
| A-Plate | 26, 30, 34, 38, 41, 44, 47, 51, 57, 28, 32, 37, 39, 43, 46, 49, 53, 59 |
| B-Plate | 61, 67, 71, 77, 81, 87, 91, 97, 63, 69, 73, 79, 83, 89, 93, 99 |

ADVANTAGE PLUS



## 69-PIECE CLAMPING KIT

**Complete kit includes all components necessary to make any clamp operation safe and efficient.** Kit includes both 9/16" and 5/8" T-s nuts. To make clamping setups easier, entire length of 1/2" studs is threaded with flats for gripping. Kits can be used Dayton milling machine No. 2AC40, rotary table No. 2AC milling table No. 6Z849, and drill presses Nos. 5Z146, 3Z9 3Z918, 3Z919, 6W281, and 6W282.

**Set includes** four 9/16" T-slot nuts, four 5/8" T-slot nuts, six flan nuts, four coupling nuts, six step block pairs, six step clamps,, studs (four each: 3, 4, 5, 6, 7, & 8" lengths), storage rack, and t 1¾" wide U-clamp sets (consisting of two 5" studs, two flan nuts, two ball joint U-clamps, and two 9/16" T-slot nut Advantage Plus brand.

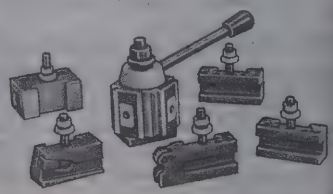
**No. 6Z850.** Shpg. wt. 28.0 lbs. List $166.30. Each.....**$141.**

## TOOL POST SETS

Each tool post set consists of a tool post and five (5) tool holders, 1 each of style number 1, 2, 4, 7, and 10.

| Post Type | Lathe Size | Tool Holders | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Piston** | 12 | 1-2-4-7-10 | **4K628** | $324.00 | **$275.50** | 12.0 |
| | 10-15 | 1-2-4-7-10 | **4K622** | 372.00 | **316.25** | 18.0 |
| | 13-18 | 1-2-4-7-10 | **4K617** | 474.00 | **403.00** | 26.0 |
| | 14-20 | 1-2-4-7-10 | **4K609** | 696.00 | **592.00** | 48.0 |
| **Wedge** | 12 | 1-2-4-7-10 | **4K624** | 372.00 | **316.25** | 12.0 |
| | 13-18 | 1-2-4-7-10 | **4K611** | 576.00 | **489.75** | 26.0 |
| | 14-20 | 1-2-4-7-10 | **4K606** | 756.00 | **643.00** | 46.0 |

Dayton®



No. 4K628



*Put America's power tool powerhouse to work for you today.*

# DRILL PRESSES

## A 8" BENCH TOP DRILL PRESS

Cast-iron construction for strength and durability designed to help reduce vibration
Table and base work surfaces are slotted for use with hold down accessories (not included) to keep workpiece secure
Depth gauge for precision repetitive drilling
Adjustable motor bracket to assure proper belt tensioning
Table adjusts vertically and tilts 45° right and left
Five drilling speeds from 620 to 3100 RPM (no load)
1/2" chuck with key accepts most standard sized bits and accessories
Drills to the center of an 8" workpiece

## B 13" FLOOR TOP DRILL PRESS

Cast iron construction for strength and durability designed to help reduce vibration
Table and base work surfaces are slotted for use with hold down accessories (not included) to keep workpiece secure
Depth gauge for precision repetitive drilling
Adjustable motor bracket to assure proper belt tensioning
Table tilts 45° right and left for precision drilling requirements
Rack and pinion elevation control for simple and precise height adjustments
12 drilling speeds from 250 to 3100 RPM (no load)
5/8" chuck with key accepts most standard sized bits and accessories
Drills to the center of a 15" workpiece

## C 15" BENCH TOP DRILL PRESS

Cast iron construction for strength and durability designed to help reduce vibration
Table and base work surfaces are slotted for use with hold down accessories (not included) to keep workpiece secure
Depth gauge for precision drilling of repetitive holes
Adjustable motor bracket to assure proper belt tensioning
Table tilts 45° right and left for precision drilling requirements
Rack and pinion elevation control for simple and precise height adjustments
12 drilling speeds from 250 to 3100 RPM (no load)
5/8" chuck with key accepts most standard sized bits and accessories
Drills to the center of a 15" workpiece

## D 15" FLOOR DRILL PRESS

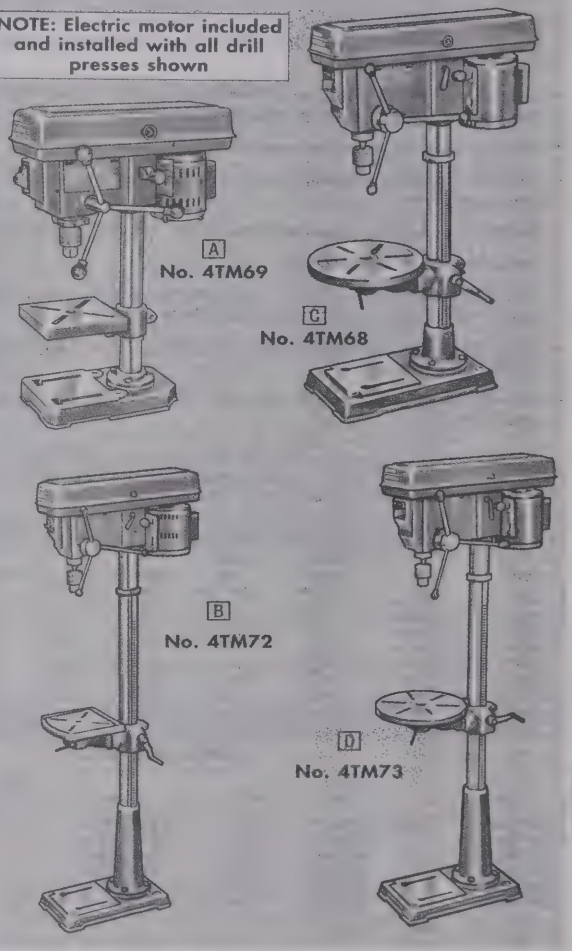
Cast iron construction for strength and durability designed to help reduce vibration
Table and base work surfaces are slotted for use with hold down accessories (not included) to keep workpiece secure
Depth gauge for precision repetitive drilling
Adjustable motor bracket to assure proper belt tensioning
Table tilts 45° right and left for precision drilling requirements
Rack and pinion elevation control for simple and precise height adjustments
12 drilling speeds from 250 to 3100 RPM (no load)
1/2" chuck with key accepts larger sized bits and accessories
Drills to the center of a 15" workpiece

WESTWARD™

Replacement Parts Available
1-800-323-0620

New

NOTE: Electric motor included and installed with all drill presses shown




## *New!* DRILL PRESS ORDERING DATA

| Key | Type | (In.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Bench | 8 | 4TM69 | $155.00 | $149.00▲ | 39.0 |
| B | Floor | 13 | 4TM72 | 286.00 | 249.00▲ | 136.0 |
| C | Bench | 15 | 4TM68 | 350.00 | 299.00▲ | 132.0 |
| D | Floor | 15 | 4TM73 | 360.00 | 299.00▲ | 154.0 |

(▲) Net prices, not subject to discounts.

## DRILL PRESS SPECIFICATIONS

| Stock No. | Type (In.) | Drilling Capacity Cast Iron (In.) | Drills To Center (In.) | Spindle Taper | Travel (In.) | RPM | Speeds | Quill Dia. (In.) | Column Dia. (In.) | Table Work Surface (In.) | Dimensions (In.) H | W | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4TM69 | 8 Bench | 1/2 | 8 | JT33 | 2 | 620-3100 | 5 | 1½ | 1⅞ | 6⅜ x 6⅜ | 22¾ | 9¼ | 16¼ |
| 4TM72 | 13 Floor | 5/8 | 13 | MT2 | 3⅜ | 250-3100 | 12 | 1½ | 2¾ | 8⅝ x 8⅝ | 63⅜ | 11⅞ | 22¾ |
| 4TM68 | 15 Bench | 5/8 | 15 | MT2 | 3⅜ | 250-3100 | 12 | 1⅜ | 2¾ | 12 x 12 | 41¾ | 13⅜ | 24⅜ |
| 4TM73 | 15 Floor | 5/8 | 15 | MT2 | 3⅜ | 250-3100 | 12 | 1¾ | 2¾ | 12 x 12 | 63⅜ | 13⅜ | 24⅜ |

# MAINTENANCE DRILL PRESSES

- For any general purpose to high volume drilling operation in tool rooms, machine/model shops, and production areas
- Cast-iron head, base, table, and column reduce vibration and increase strength and rigidity for safe, accurate operation
- Hardened steel rack and pinion mechanism for raising and lowering the table provides safe, quick, and easy table height adjustments
- Precision ground tilting worktable with 5/8" T-slots secure workpiece for accurate production
- Locking power switch prevents unauthorized use
- Full ball bearing construction provides long, maintenance-free operation
- Depth stop makes repeated operations accurate and easy
- Prewired for 115 Volt only
- No. 3Z993, 5Z146, 3Z917, and 3Z918 spindle speeds are 460, 740, 1150, 1680, and 2470 RPM
- No. 3Z919 spindle speeds are 260, 300, 440, 540, 1150, 1550, and 2220 RPM
- No. 4TJ87 spindle speeds are 540, 880, 1600, 2610, and 3600 RPM

Drill presses are shipped complete with pulleys, drive belt, chuck with key, front-mounted locking power switch, Securvue Drill Press Guard, and 6 ft. power cord. Motor not included.




No. 3Z993
13" 5-Speed
Benchtop Drill Press

Available with or without 1/3 HP Motor No. 5K281

No. 3Z919
20" 9-Speed
Floor Drill Press

Available with or without 3/4 HP Motor No. 5K460

## SPECIFICATIONS

| Stock No. | Type | Drilling Capacity Cast Iron | Drills To Center (In.) | Spindle Taper | Spindle Travel (In.) | Spindle RPM | Speeds | Quill Dia. (In.) | Column Dia. (In.) | Table Work Suface (In.) | Dimensions (In.) H | W | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4TJ87 | 10" Bench | 1/2" | 10 | JT33 | 2.36 | 540/3600 | 5 | 1.57 | 2.34 | 7.6 x 7.6 | 28⅜ | 11 | 19 |
| 3Z993 | 13" Bench | 1/2 | 12.5 | JT33 | 3.25 | 460/2470 | 5 | 1.57 | 2.87 | 10.3 x 10.2 | 39½ | 13 | 22 |
| 5Z146 | 16" Bench | 5/8 | 16 | JT33 | 3.34 | 460/2470 | 5 | 2.05 | 3.13 | 12 x 12 | 41⅛ | 13 | 26 |
| 3Z917 | 14" Floor | 1/2 | 14 | JT33 | 3.29 | 460/2470 | 5 | 1.85 | 2.87 | 10.2 x 10.2 | 64 | 12 | 25 |
| 3Z918 | 16" Floor | 5/8 | 16 | JT33 | 3.25 | 460/2470 | 5 | 2.05 | 3.13 | 12 x 12 | 65 | 13 | 26 |
| 3Z919 | 20" Floor | 5/8 | 20.5 | MT3 | 4.34 | 150/2220 | 9 | 2.44 | 3.35 | 16 x 13.7 | 67¾ | 19 | 33½ |

## ORDERING DATA

### DRILL PRESSES

| Type | | Stock No. | List | Each | Shpg. Wt. | Includes Motor | Recommended Motor |
|---|---|---|---|---|---|---|---|
| 10" Bench | New | 4TJ87 | $262.50 | $175.00▲ | 70.0 | No* | 5K916 |
| 13" Bench | | 3Z993 | 306.00 | 229.50▲ | 94.0 | No* | 5K281 |
| 16" Bench | | 5Z146 | 412.00 | 309.00▲ | 126.0 | No* | 5K433 or 5K281 |
| 14" Floor | | 3Z917 | 380.00 | 285.00▲ | 113.0 | No* | 5K281 |
| 16" Floor | | 3Z918 | 460.00 | 345.00▲ | 146.0 | No* | 5K433 or 5K281 |
| 20" Floor | | 3Z919 | 772.00 | 579.00▲ | 309.0 | No* | 5K460 |

(▲) Net prices, not subject to discounts.

### RECOMMENDED MOTORS

| Motor HP | Voltage | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|
| 1/3 | 115 | 5K916 | $112.00 | $64.60 | 1 |
| 1/3 | 115 | 5K281 | 112.00 | 71.40 | 1 |
| 1/2 | 115 | 5K433 | 140.00 | 100.70 | 2 |
| 3/4 | 115/230 | 5K460 | 230.00 | 175.75 | 2 |

(*) Use 1725 RPM, NEMA Frame 56 motor only.

# 69-PIECE CLAMPING KIT

**Complete kit includes all components necessary to make any clamping operation safe and efficient.** Kit includes both 9/16" and 5/8" T-slot nuts. To make clamping setups easier, entire length of 1/2"-13 studs is threaded with flats for gripping. Kits can be used on Dayton milling machine No. 2AC40, rotary table No. 2AC32, milling table No. 6Z849, and drill presses Nos. 5Z146, 3Z917, 3Z918, 3Z919, 6W281, and 6W282.

**Set includes** four 9/16" T-slot nuts, four 5/8" T-slot nuts, six flange nuts, four coupling nuts, six step block pairs, six step clamps,, 24 studs (four each: 3, 4, 5, 6, 7, & 8" lengths), storage rack, and two 1¾" wide U-clamp sets (consisting of two 5" studs, two flange nuts, two ball joint U-clamps, and two 9/16" T-slot nuts). Advantage Plus brand.

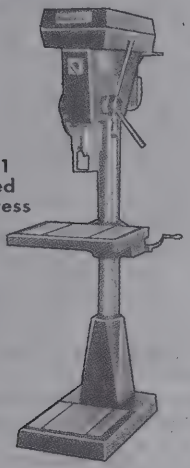
**No. 6Z850.** Shpg. wt. 28.0 lbs. List $166.30. Each.....$141.40



# HEAVY DUTY DRILL PRESSES

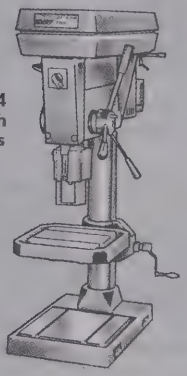
Dayton® New

Replacement Parts Available
1-800-323-0620™



No. 6W281
20" 9-Speed
Floor Drill Press

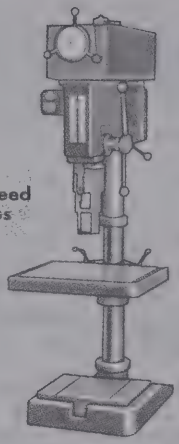
Includes 1 HP
110/220V Motor
(Prewired for 110V)



No. 4TJ94
20" Bench
Drill Press

Includes 1 HP
110/220V Motor
(Prewired for 110V)

69 Pc. Clamping Kit available;
order No. 6Z850. See page 1498



No. 6W282
20" Variable Speed
Floor Drill Press

Includes 1½ HP
110/220V Motor
(Prewired for 220V)

- **For any general purpose to high volume drilling operation in tool rooms, machine/model shops, and production areas**
- **Fine grain heavy cast-iron head, base, table, and column to reduce vibration and increase strength and rigidity for safe, accurate operation**
- **Rack and pinion mechanism with hardened steel gears for raising and lowering the table provides safe, quick, and easy table height adjustments**
- **Precision ground table and base work surfaces with 5/8" T-slots secure workpiece for accurate production**
- **Coolant trough for cleaner, more efficient operation**

**ill presses are shipped complete** with pulleys, drive belt, chuck th key, prewired power switch, and 6 ft. power cord.

## 9-SPEED 20" FLOOR DRILL PRESS No. 6W281 AND BENCH DRILL PRESS No. 4TJ94

**ills up to 1" in cast iron.** Convenient belt tensioning allows for ick, easy speed changes. 110 or 220V operation allows drill ess to be used in any location. Rotary drum switch is UL cognized.

**Spindle speeds are 150, 260, 300, 440, 490, 540, 1150, 1550, and 2220 RPM.** Motor pivots on a unique mounting system that allows quick and easy speed changes.

**Shipped complete** with pulleys, drive belt, 5/8" chuck with arbor, 1 HP, 60 Hz, 110/220 volt motor, Securvue Drill Press Guard, and 6 ft. power cord. Motor prewired for 110V.

## VARIABLE SPEED 20" FLOOR DRILL PRESS

**Drills up to 1½" cast iron.** Heavy-duty speed change mechanism provides quick, easy speed changes for all machining operations with infinite variable speeds from 300 to 2000 RPM with easy-to-read dial. Speeds are easily changed while motor runs by large up-front controls.

**Table rotates on lubricated ball bearings** for easy adjustments even with heavy workpieces on the table. Positive table lock locks securely in position for safe, accurate machining. Tension springs for spindle return provide soft spindle return and longer life.

**Shipped complete** with Securvue drill press guard, drive belts, and 1½ HP, 60 Hz, 110/220V motor and 5/8" chuck with arbor. Motor and magnetic starter switch are prewired for 220V. Motor is controlled by magnetic contactor to provide long life and safe operation.

## SPECIFICATIONS

| Stock No. | Type | Drilling Capacity Cast Iron | Drills to Center | Spindle Taper | Spindle Travel | Spindle RPM | Speeds | Quill Dia. | Column Dia. | Table Work Surface | Dimensions (In.) H | W | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TJ94 | 20" Bench | 1 | 20 | MT3 | 4.75 | 150/2200 | 9 | 2.16 | 4.00 | 18.2 x 14.2 | 45 | 19 | 30 |
| W281 | 20" Floor | 1 | 20 | MT3 | 4.75 | 150/2220 | 9 | 2.16 | 4.00 | 18.7 x 16.7 | 68 | 19 | 34 |
| W282 | 20" Floor | 1½ | 20 | MT3 | 6.50 | 300/2000 | Variable | 3.00 | 4.00 | 22.0 x 19.5 | 72 | 22 | 36 |

## ORDERING DATA

| Model Type | Motor HP | Voltage | Amps | HZ | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| " Bench | 1 | 110/220* | 16/8 | 60 | New | 4TJ94 | $1996.00 | $1228.00▲ | 295.0 |
| Speed | 1 | 110/220* | 16/8 | 60 | | 6W281 | 1596.80 | 1350.00▲ | 416.0 |
| riable Speed | 1½ | 220† | 24/12 | 60 | | 6W282 | 3276.20 | 2458.00▲ | 774.0 |

Prewired for 110 volt operation. (†) Prewired for 220 volt operation (only). (▲) Net prices, not subject to discounts.

# HEAVY-DUTY DRILL PRESSES AND MILLING TABLES

Wilton drill presses are designed to handle general purpose to high volume production drill operations. Ideally suited for tool rooms, job shops, fabrication shops, and maintenance shops. All Wilton drill presses feature heavy-duty cast iron construction, accurate fully enclosed spindles, positive lock depth stops, T-slotted production worktable and base, and variable speed drive that allows the operator to dial the best RPM for the tool and material while the job is running.

## 15" MODEL

15" Drill press with 1 HP, 115/220V, single phase motor. Wilton brand (A5816).

**No. 4LL11.** Shpg. wt. 260.0 lbs. List $1708.50. Each.....**$1675.00▲**

## 20" POWER FEED MODEL

20" Power feed 1½ HP, 115/230V, single phase drill press. Wilton brand (2035).

**No. 5Z134.** Shpg. wt. 730.0 lbs. List $7156.00. Each.....**$6211.00▲**

## 20" MANUAL FEED MODEL

20" Manual feed 1½ HP, 115/230V, single phase drill press. Wilton brand (2015).

**No. 3Z713.** Shpg. wt. 700.0 lbs. List $5132.64. Each.....**$4494.00▲**

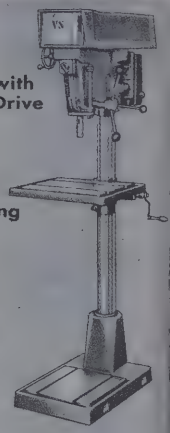
Convert either 20" production drill press into a vertical mill with optional milling table No. 3Z714 listed below. Use up to 1/2" milling cutters and use milling adapter and cutting tools without a drawbar. Spindle and threaded collar do not interfere with normal drilling functions.

## SPECIFICATIONS

| | 15" Model No. 4LL11 | 20" Power Feed Model No. 5Z134 | 20" Manual Feed Model No. 3Z713 |
|---|---|---|---|
| **Capacities:* (In.)** | | | |
| Cast Iron | Up to 5/8 | Up to 1½ | Up to 1½ |
| Steel | Up to 1/2 | Up to 1 | Up to 1⅛ |
| **Drills to Center (In.)** | 15 | 20 | 20 |
| **Spindle Nose** | #2 Morse Taper | #3 Morse Taper | #3 Morse Taper |
| **Spindle Travel (In.)** | 6 | 6¾ | 7 |
| **Spindle Speeds (RPM)** | 400-5000 | 80-1200 | 80-1200 |
| **Feed Rates** | — | 0.004-0.012 | — |
| **Quill Diameter (In.)** | 2¼ | 3 | 3 |
| **Column Diameter (In.)** | 3 | 4½ | 4½ |
| **Table Working Surface** | 12½ x 14½ | 18 x 25 | 18 x 25 |
| **Table Slots (In.)** | 1/2 | 1/2 | 1/2 |
| **Table Travel: (In.)** | | | |
| Spindle to Table | 41 | 30 | 30 |
| Spindle to Base | 47 | 41 | 41 |
| **Base Working Surface (In.)** | 10½ x 15 | 16 x 19 | 16 x 19 |
| **Base Slots (In.)** | 1/2 | 1/2 | 1/2 |
| **Spindle to Base (Max. In.)** | 47½ | 50 | 50 |
| **Overall Width (In.)** | 15 | 24 | 24 |
| **Overall Depth (In.)** | 28½ | 36 | 36 |
| **Overall Height (In.)** | 67½ | 80 | 80 |

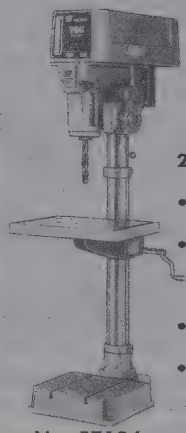
(*) Capacities for continuous production, use will vary per application.

WILTON CORPORATION



**No. 4LL11**
**15" Drill Press with Variable Speed Drive**

**15" Variable Speed Drill Press**
- **3" column for maximum rigidity**
- **2¼" quill ensures accurate drilling**
- **Rack and pinion table raiser**
- **6" spindle stroke for deep hole drilling**



**No. 5Z134**
**20" Drill Press with Power Feed**

**20" Variable Speed Drill Presses with Power Feed**
- **Variable speed gear drive provides full torque at low speeds**
- **Fully enclosed spindle with internal taper, ball bearings at top and thrust bearings at bottom, maximizes drilling accuracy**
- **Standard table raiser for easy setup and operator convenience**
- **7" spindle stroke/hand feed—6¾" spindle stroke/power feed for deep hole drilling**

## END MILL HOLDER

Used for milling applications. Holds any end mill with 3/8" diameter shank. Has #3 Morse taper for adapting to 20" drill press. Wilton brand (510446).

**No. 6X968.** Shpg. wt. 1.0 lbs. List $94.86. Each.....**$65.7(**

## CHUCK & ARBOR ATTACHMENT KIT

3/16 to 3/4" capacity chuck with arbor for drilling with straight shank drills. Chuck and arbor use #3 Morse taper for all connections and adapting to 20" drill press. Wilton brand (510801).

**No. 6X249.** Shpg. wt. 4.6 lbs. List $103.50. Each.....**$76.5(**

## MILLING TABLES

Tables, bases, and slides are cast iron. Use for drilling, milling, or grinding operations when coordinated table movements are required.

- **Compound Milling Table No. 6Z849 has an 18⅝ x 6" table surface**
- **Two 9/16" T-slots**
- **Clamp set included with 2 U-clamps 5 x 1/2" studs; 9/16" T-nuts and flange nuts**
- **Dayton brand**
- **Precision Milling Table No. 3Z714 has 22⁹⁄₁₆ x 9⁷⁄₁₆" table surface**
- **Three 1/2" T-slots and coolent trough**
- **Lead screw accuracy 0.0005" per inch with table accuracy in horizontal planes 0.001"**
- **Wilton brand (510456)**

## MILLING TABLE DIMENSIONS AND ORDERING DATA

| Description | Long. Feed (In.) | Cross Feed (In.) | Table Dimensions (In.) H | W | D | Travel Movement per Revolution | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Compound Milling Table** | 12¾ | 7½ | — | 18⅝ | 6 | .10 | **6Z849** | $276.66 | **$193.75 ▲** | 58( |
| **Precision Milling Table** | 14⁹⁄₆₄ | 6⅛ | 4½ | 9⁷⁄₃₂ | 10¹³⁄₆₄ | .20 | **3Z714** | 1857.00 | **1647.00 ▲** | 191.( |

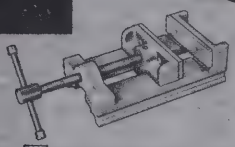
(▲) Net prices, not subject to discounts.

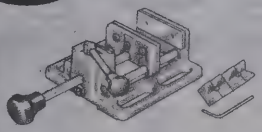


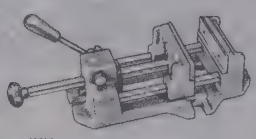
*Put America's power tool powerhouse to work for you today.*

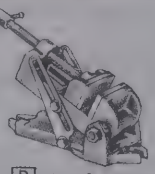
# DRILL PRESS VISES

Dayton® New


A Drill Press Vise

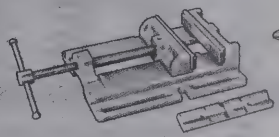

B Quick Release Vise

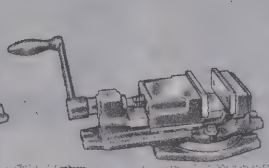

C Quick Release Vise

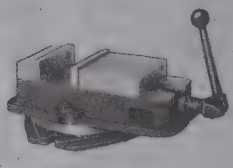

D Angle Vise


E Angle Vise


F Cross Vise


G Drill Press Vises


H Milling Vise


I Milling Vise


J Angle Milling Vise

## A 3½ & 6" DRILL PRESS VISE

se can be turned on either side or set on end for general use.

## B 3" QUICK VISE

›cking cam action grips workpiece securely. Prismatic jaw ›lds irregular cylindrical shapes. slotted shoulders for mount-g to machines.

## C 4 & 6" QUICK VISE

gh tensile strength vise with precision ground guide bars and ›cking cam action to grip workpiece securely. Each vise cludes prismatic jaw to hold irregular, tubular and cylindrical apes for drilling and shaping.

## D 4 & 6" ANGLE VISE

ounted on an angle base for quick adjustments to any angle 0° 90° vertical. Precision locking bolts linked by side plates lock e vise body securely. Hinged pin hole is precision drilled and amed for smooth accurate angle settings with no lateral end ay. Prismatic jaw secures irregular cylinder shapes.

## E 3½" ANGLE VISE

cludes trunnion base with 90° scale in 1° graduations. Positive nned stops at 0, 30, 45, 60, and 90°. Securely locks to any angle ›siton with wrenchless locking. 1/2" shoulder slots for clamping drill press table. Includes extra 3½" prismatic jaw to hold egular, tubular and cylindrical shapes.

**Replacement Parts Available**
**1-800-323-0620**

## F 6 & 8" CROSS VISES WITH PRISMATIC JAWS

Heavy-duty cross vises move workpiece in longitudinal and cross-feed directions for easy positioning of workpiece during machine operations. 6" vise has 8" longitudinal travel and 6" cross travel; 8" vise has 10" longitudinal travel and 8" cross travel. Each includes prismatic jaw.

## G 4, 6 & 8" STANDARD DRILL VISES

1/2" wide slotted shoulders for easy bolting to drill press table. One-piece construction slide bar and axial sleeve increases ruggedness and reliability. Each vise includes an extra prismatic jaw for gripping tubular and spherical objects.

## H 4 & 6" CAST-IRON MILLING VISE WITH SWIVEL BASE

Movable jaw plates are constructed of hardened and ground tool steel. Vise swivels 360° on base. Bed is guaranteed flat and parallel to 0.0005".

## I 6" PRECISION MILLING MACHINE VISES WITH SWIVEL BASES

Vise bed is guaranteed flat and parallel to 0.0001". Locking design provides 1/2 lb. vertical clamping pressure for every 1 lb. of horizontal pressure. Vise swivels 360° on base. Moveable jaw plates, enclosed lead screw, and all sliding surfaces are constructed of hardened and ground tool steel.

## J 3-WAY HEAVY-DUTY ANGLE MILLING VISES

Angles can be set in three directions: tilted 90° from the horizontal to the vertical, and also 45° to left or right of center. Vise swivels 360° on base. Jaws are made of hardened and ground tool steel.

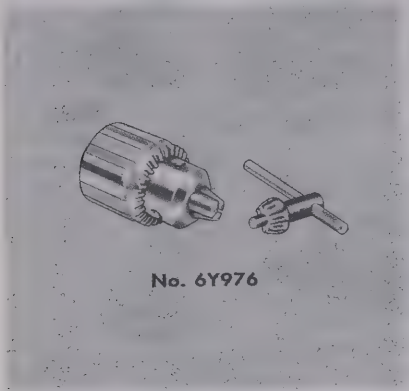
| y | Description | Jaw Width (In.) | Jaw Opening (In.) | Throat Depth (In.) | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | 3½" Drill Press Vise | 3 15/16 | 3 3/16 | 1 3/8 | | 3W761 | $37.50 | $32.00▲ | 8.4 |
| | 6" Drill Press Vise | 6 | 6 | 1 3/8 | New | 4TK04 | 92.50 | 69.00▲ | 16.0 |
| | 3" Quick Release Vise | 3 | 3 | 1 3/16 | New | 4TK06 | 52.50 | 33.00▲ | 6.4 |
| | 4" Quick Release Vise | 4 | 4 | 1 5/16 | New | 4TK05 | 145.00 | 94.00▲ | 24.0 |
| | 6" Quick Release Vise | 6 | 6 | 1 3/8 | | 6Z845 | 180.00 | 139.00▲ | 31.0 |
| | 4" Angle Vise | 4 | 4 | 1½ | New | 4TK07 | 120.00 | 89.00▲ | 31.0 |
| | 6" Angle Vise | 6 | 6 | 2 | New | 4TK08 | 238.50 | 159.00▲ | 55.0 |
| | 3½" Angle Vise | 3½ | 3 7/8 | 1½ | | 6Z844 | 65.80 | 54.00▲ | 16.0 |
| | 6" Cross Vise w/Prismatic Jaws | 6 | 5 3/8 | 1 3/8 | | 6Z848 | 121.56 | 99.00▲ | 44.0 |
| | 8" Cross Vise w/Prismatic Jaws | 8 | 7¼ | 2 | | 3W766 | 203.78 | 167.25▲ | 67.0 |
| | 4" Standard Drill Vise | 4 | 3¼ | 1¼ | | 6Z846 | 38.00 | 37.00▲ | 9.0 |
| | 6" Standard Drill Vise | 6 | 5 1/16 | 1½ | | 6Z847 | 63.00 | 53.00▲ | 18.0 |
| | 8" Standard Drill Vise | 8 | 8 | 1 9/16 | New | 4TK03 | 112.50 | 79.00▲ | 19.0 |
| | 4" Cast-Iron Milling Vise w/Swivel Base | 4 | 2½ | 1¼ | New | 4TJ90 | 195.00 | 130.00▲ | 22.0 |
| | 6" Cast-Iron Milling Vise w/Swivel Base | 6 | 4 1/2 | 1 3/8 | | 3W765 | 228.00 | 171.00▲ | 65.0 |
| | 6" Precision Milling Machine Vise | 6 | 5 7/8 | 1 3/8 | | 3W764 | 408.00 | 299.00▲ | 107.0 |
| | 3-Way Angle Milling Vise | 4 | 4 | 1 1/4 | | 3W762 | 530.00 | 375.00▲ | 73.0 |

Net prices, not subject to discounts.

# DRILL CHUCKS AND DRILL PRESS GUARDS

## ROHM® DRILL CHUCKS

**Keyed Drill Chucks** for stationary and portable drills feature hardened body, key holes, and jaws and provide vibration-free tool holding. Includes key.



No. 6Y976

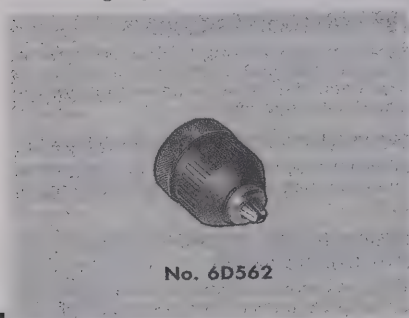
| Mount | Capacity (In.) | Jacobs Equiv. | Replacement Key | Rohm Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **KEYED DRILL CHUCKS, TAPER MOUNT** | | | | | | | | |
| **33JT** | 1/16-1/2 | 33 | S9 | 666572 | **6Y976** | $55.68 | **$45.70▲** | 1.1 |
| **2JT** | 1/32-3/8 | 2A | S9 | 666567 | **6Y978** | 52.55 | **43.10▲** | 0.8 |
| **6JT** | 1/16-1/2 | 34-06 | S9 | 666573 | **6Y979** | 55.68 | **45.70▲** | 1.1 |
| **3JT** | 1/32-5/8 | 3A | S10 | 666579 | **6Y980** | 64.26 | **52.70▲** | 2.1 |
| **4JT** | 3/16-3/4 | — | S13 | 081284 | **6Y981** | 104.10 | **85.40▲** | 3.5 |
| **KEYED DRILL CHUCKS, THREADED MOUNT** | | | | | | | | |
| **3/8-24** | 1/64-1/4 | 7BA-3/8 | S8 | 666563 | **6Y982** | 41.17 | **33.80▲** | 0.6 |
| **3/8-24** | 1/32-3/8 | 31BA-3/8 | S8 | 666565 | **6Y983** | 45.44 | **37.30▲** | 0.6 |
| **3/8-24** | 1/16-1/2 | 33BA-3/8 | S9 | 666574 | **6Y984** | 55.68 | **45.70▲** | 1.1 |
| **1/2-20** | 1/32-1/16-1/2-3/8 | 31BA-1/2 | S8 | 666566 | **6Y985** | 45.44 | **37.30▲** | 0.8 |
| **1/2-20** | 1/16-1/2 | 33BA-1/2 | S9 | 666575 | **6Y986** | 55.68 | **45.70▲** | 1.0 |
| **5/8-16** | 1/16-1/2 | 33BA-5/8 | S9 | 666576 | **6Y987** | 55.68 | **41.80▲** | 1.0 |

### REPLACEMENT KEYS FOR KEYED DRILL CHUCKS

| Jacobs Equivalent | Rohm Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **K30** | S8 | **6Y988** | $3.00 | **$2.46▲** | 0.1 |
| **K32** | S9 | **6Y989** | 4.10 | **3.36▲** | 0.1 |
| **K3** | S10 | **6Y990** | 6.00 | **4.92▲** | 0.2 |
| **K4** | S13 | **6Y991** | 16.10 | **13.20▲** | 0.3 |

## ROHM® KEYLESS DRILL CHUCKS

**Keyless Ball Bearing Drill Chucks** provide precision clamping capability for stationary and portable drills and are operated by hand only, eliminating the trouble of using and storing keys.



No. 6D562

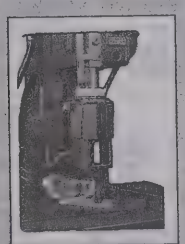
**KEYLESS DRILL CHUCKS**
**For Stationary and Portable Drills**

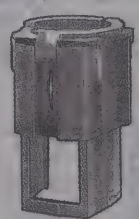
| Mount | Capacity (In.) | Rohm Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **TAPER MOUNT** | | | | | | |
| **33JT** | 1/16-1/2 | 20109 | **6Y992** | $97.14 | **$79.65▲** | 2.0 |
| **2JT** | 1/32-3/8 | 20097 | **6Y994** | 82.96 | **68.05▲** | 1.7 |
| **6JT** | 1/16-1/2 | 20113 | **6Y995** | 97.14 | **79.65▲** | 2.0 |
| **THREADED MOUNT** | | | | | | |
| **3/8-24** | 1/32-3/8 | 23929 | **6Y997** | 68.57 | **56.25▲** | 0.9 |
| **3/8-24** | 1/16-1/2 | 96455 | **6Y998** | 81.50 | **66.85▲** | 1.7 |
| **1/2-20** | 1/16-1/2 | 44274 | **6Y999** | 81.50 | **66.85▲** | 1.7 |

**KEYLESS DRILL CHUCKS**
**For Battery-Powered Screwdrivers and Battery-Powered or Cord-Powered Electric Drills**

| Mount | Capacity (In.) | Rohm Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8-24** | 1/64-3/8 | 681070 | **6D562** | $24.08 | **$19.75▲** | 0.9 |
| **3/8-24** | 1/16-1/2 | 706602 | **6D563** | 24.08 | **19.75▲** | 0.9 |
| **1/2-20** | 1/16-1/2 | 681072 | **6D565** | 28.48 | **23.35▲** | 0.9 |

## SECURVUE® DRILL PRESS GUARDS





No. 6D566

Guards attach directly to quill of drill. Guard pivots upward for quick chuck or drill changes and telescopes from collar to drill point for full protection. Polycarbonate window in lower half of guard provides safe, clear view. Select guard by matching quill diameter.

Nos. 6D566, 6D567, 6D568, and 6D570 are aluminum, No. 6D569 is polycarbonate. No. 6D570 can be machined to fit other size quills from 1¾ to 3½" diameter. Drill guards are painted bright orange. Securvue brand.

| Quill Diameter | Max. Chuck Diameter (In.) | Min. Stroke (In.) | Max. Stroke (In.) | Fits Dayton No. | Securvue Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **51-52mm** | 2¾ | 4⅝16 | 7 | 3Z993 | MTS-2 | **6D566** | $72.00 | **$61.05▲** | 1.0 |
| **65-66** | 2¾ | 4⅝16 | 7 | 5Z146, 3Z918 | MTS-2.5 | **6D567** | 72.00 | **61.05▲** | 1.0 |
| **74-75** | 2¾ | 4⅝16 | 7 | 3Z919 | MTS-2.9 | **6D568** | 72.00 | **61.05▲** | 1.0 |
| **51-52** | 2¾ | 4⅝16 | 7 | 3Z993 | BT-2 | **6D569** | 38.00 | **31.20▲** | 1.0 |
| **1¾-3½"** | 2¾ | 4⅝16 | 7 | — | MTS-0 | **6D570** | 72.00 | **61.05▲** | 1.0 |

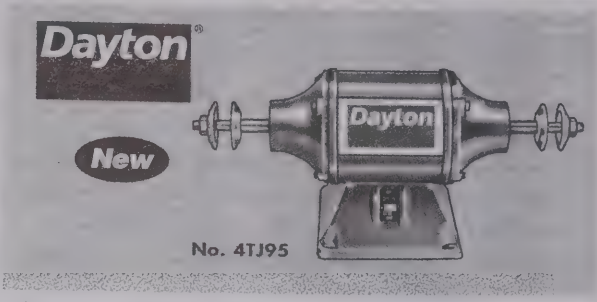
(▲) Net prices, not subject to discounts.

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG

# BUFFERS, BUFFING ACCESSORIES, AND BENCH GRINDERS

## 6 AND 8" BUFFERS

- Ideal for polished metal or brass
- Cast aluminum construction with capacitor start motor, large diameter shaft and sealed ball bearings
- Extra wide clearance for polishing long and odd shaped pieces
- 6 foot—3 conductor cord and plug; removable safety switch
- Use buffer and optional Grinder Tool Stand order No. 4Z154; order from page 1506



No. 4TJ95

**BUFFER SPECIFICATIONS**

| Size (In.) | HP | Stock No. | RPM | Diameter (In.) | Voltage | Amp |
|---|---|---|---|---|---|---|
| 6 | 1/3 | 4TJ99 | 3450 | 1/2 | 115 | 5.5 |
| 8 | 3/4 | 4TJ95 | 3450 | 5/8 | 115 | 10.8 |

***New* No. 4TJ99.** Shpg. wt. 33.0 List $150.00. Each.....$92.30▲

***New* No. 4TJ95.** Shpg. wt. 38.0 List $262.50. Each .....$161.75▲

## BUFFING WHEELS

**tton Buffing Wheels** are constructed of high grade, 100% bleached cotton sheeting with tough continuous spiral sewing 6" apart. 72 horizontal and 68 vertical threads per square inch. ply, 1/4" thick. For finishing brass, stainless steel, aluminum, onze, and cast iron.

**t Buff Wheels** are 100% unbleached cotton. Tightly woven; 220 ) threads per square inch. Centers only are spiral sewn. 1/4" ck. Use where high polished finishes are needed; stainless el, brass, aluminum, gold, silver, chrome, and wood.

| Dia. (In.) | Bore (In.) | Ply | Stitching | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **COTTON BUFFING WHEELS** | | | | | | | |
| 6 | 1/2 | 20 | Spiral sewn 1/4" | 5A724 | $3.15 | $2.57 ▲ | 0.2 |
| 8 | 5/8 | 20 | Spiral sewn 1/4 | 5A725 | 4.23 | 3.45 ▲ | 0.3 |
| 10 | 1 | 20 | Spiral sewn 1/4 | 5A726 | 5.40 | 4.41 ▲ | 0.4 |
| **SOFT BUFF WHEELS** | | | | | | | |
| 6 | 1/2 | 25 | Center only, | 6A825 | 3.84 | 3.13 ▲ | 0.1 |
| 8 | 5/8 | 25 | spiral sewn | 6A826 | 5.58 | 4.55 ▲ | 0.3 |
| 10 | 1 | 25 | | 6A827 | 7.80 | 6.36 ▲ | 0.4 |

(▲) Net prices, not subject to discounts.

## POLISHING & BUFFING WHEEL COMPOUNDS

e use with polishing wheel and buffs. Each box contains four s of compound; each bar is $4^{15}/_{16}$ x $1^{3}/_{16}$ x $1^{3}/_{16}$".

### ENERAL PURPOSE BENCH GRINDERS BLACK EMERY BAR

st cutting action for removal of rust and scale from iron and el. Pkg. of 4.

**3W767.●** Shpg. wt. 1.7 lbs. List $5.00. Each.....$4.59▲

### TRIPOLI BROWN ROUGE

buffing brass, aluminum, copper, pewter, bone, wood, plas-, and painted surfaces. Pkg. of 4.

**3W769.●** Shpg. wt. 1.2 lbs. List $5.00. Each .....$4.59▲

### WHITE ROUGE

Provides a bright shiny luster to stainless steel, aluminum, iron, chrome, and nickel surfaces. Pkg.of 4.

**No. 3W770.●** Shpg. wt. 1.5 lbs. List $5.00. Each .....$4.59▲

### RED ROUGE

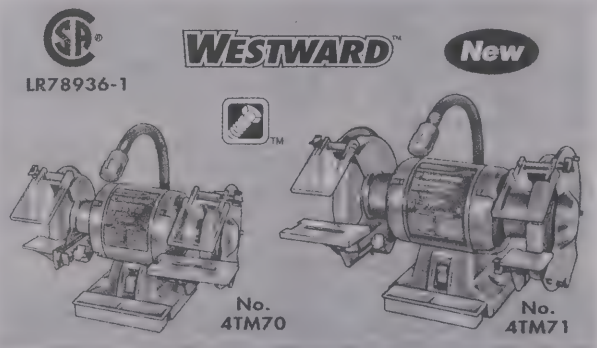
Enhances luster of items already buffed with another grade of compound. Buffs gold, sterling silver, platinum, and other precious metals. Pkg. of 4.

**No. 3W768.●** Shpg. wt. 1.5 lbs. List $5.00. Each .....$4.59▲

● These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## GENERAL PURPOSE BENCH GRINDERS

- deal for general maintenance and workshop use
- Cast metal construction for increased stability and durability; easy-to-adjust eyeshields and spark arrestors
- Adjustable flexible light has a rotating shade for work area illumination
- Heavy-duty, two-piece adjustable tool rest with sliding able and extended accessory for precision angle grinding
- Aluminum quench tray keeps workpiece from overheating; exhaust port directs dust and debris away from user
- lo. 4TM70 features 6 x 3/4" 36 and 60 grit aluminum xide grinding wheels
- lo. 4TM71 features 8 x 1" 36 and 60 grit aluminum oxide rinding wheels




| eel (In.) | Dust Collection | Wheel Dim. (In.) Face | Arbor | Exhaust Ports (In.) | Wheels C to C (In.) | Length (In.) | Height (In.) | Volts, 60 Hz HP | 1-Phase | Max. RPM | Amps | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No | 3/4 | 1/2 | 2 x 1⅛ | 12 | 15¾ | 9⅝ | 1/3 | 115 | 3450 | 4.0 | 4TM70 | $96.00 | $78.00▲ | 32.0 |
| | No | 1 | 5/8 | 2⅝ x 1⅝ | 14⅝ | 18¾ | 10½ | 1 | 115 | 3450 | 7.7 | 4TM71 | 193.00 | 149.00▲ | 58.0 |

) let prices, not subject to discounts.

# BENCH GRINDERS AND ACCESSORIES

Handle all grinding operations including sharpening of tool bits, shaping of parts, snagging, stock removal, and cleaning of rust and scale. Two-way adjustable cast aluminum tool rests adjust for wear and angle grinding.

- **Use in factories, foundries, garages, and machine shops**
- **Cast aluminum construction; Capacitor start motor**
- **Extra-wide clearance for grinding long, odd-shaped pieces**
- **Large cast aluminum tool rest that tilts for angle grinding**
- **Compliance with OSHA standards under normal use**
- **All grinders are UL Listed and CSA Certified, except Nos. 4Z910 and 4Z912**
- **Exhaust ports supplied on all grinders except Nos. 2Z425 and 4Z123**
- **All grinders include tool rests, spark arrestors, eyeshields, one 36 grit grinding wheel, one 80 grit grinding wheel, and 6 ft., 3-conductor cord**
- **Grinders are machined to accept Dayton lighted eyeshield No. 6X854 (Sold below)**

Dayton®

Replacement Parts Available 1-800-323-0620

Nos. 2Z341, 1Z707, and 1Z853 LR15562

Nos. 2Z425, 4Z123, 4Z672, 4Z908, 4Z909 LR111039



E52174 (Except Nos. 4Z910 & 4Z912

No. 4Z123 Designed for Heavy-Duty Applications

| Wheel Dia. (In.) | Dust Collection | Wheel Dimen. (In.) Face | Arbor | Exhaust Ports H x D (In.) | Wheels C to C* (In.) | Length (In.) | Height (In.) | HP | Volts, 60 Hz 1-Phase | 3-Phase | Max. RPM | Amps | Stock No. | List | Each | Ship Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HEAVY-DUTY GRADE BENCH GRINDERS** | | | | | | | | | | | | | | | | |
| **6** | No | 3/4 | 1/2 | — | 13 3/4 | 18 1/2 | 10 | 1/4 | 115 | — | 3450 | 5.0 | **2Z425** | $131.00 | **$89.00▲** | 26. |
| **6** | No | 3/4 | 1/2 | — | 13 3/4 | 18 1/2 | 10 | 1/3 | 115 | — | 3450 | 5.0 | **4Z123** | 154.00 | **99.00▲** | 26. |
| **6** | Yes | 3/4 | 1/2 | 2 1/2 x 2 3/4 | 15 1/2 | 19 1/4 | 10 1/2 | 1/3 | 115 | — | 3450 | 5.5 | **4Z672** | 178.00 | **124.00▲** | 27. |
| **7** | Yes | 1 | 5/8 | 3 x 1 3/4 | 15 1/2 | 20 3/4 | 12 1/2 | 1/2 | 115 | — | 3450 | 7.8 | **4Z908** | 192.00 | **144.00▲** | 38. |
| **8** | Yes | 1 | 5/8 | 3 x 1 3/4 | 17 | 21 | 13 | 3/4 | 115 | — | 3450 | 10.8 | **4Z909** | 248.00 | **179.00▲** | 38. |
| **8** | Yes | 1 | 5/8 | 3 x 1 3/4 | 17 | 21 | 13 | 3/4 | — | 220/440 | 3450 | 3.6/1.8 | **4Z910** | 248.00 | **179.00▲** | 42. |
| **10** | Yes | 1 | 1 | 3 x 2 | 20 | 24 | 13 1/2 | 1 | 115 | — | 1725 | 13.0 | **4Z911** | 398.00 | **295.00▲** | 100. |
| **10** | Yes | 1 | 1 | 3 x 2 | 20 | 24 | 13 1/2 | 1 | — | 220/440 | 1725 | 4.0/2.0 | **4Z912** | 398.00 | **295.00▲** | 100. |
| **ADDITIONAL HEAVY-DUTY BENCH GRINDERS** | | | | | | | | | | | | | | | | |
| **7** | No | 1 | 5/8 | 2 1/4 x 2 1/2 | 16 5/8 | 20 | 10 1/2 | 1/2 | 115 | — | 3600 | 6.6 | **2Z341*** | 279.00 | **209.25▲** | 41 |
| **8** | No | 1 | 5/8 | 2 1/4 x 2 7/8 | 17 3/8 | 21 | 10 1/2 | 3/4 | 115 | — | 3600 | 5.8 | **1Z707*** | 388.45 | **291.50▲** | 55 |
| **10** | No | 1 | 3/4 | 2 1/4 x 2 7/8 | 18 5/8 | 23 1/2 | 12 9/16 | 1 | 115 | — | 1800 | 12.8 | **1Z853*** | 499.83 | **375.00▲** | 86 |

(▲) Net prices, not subject to discounts. (*) Made in USA.

## BENCH GRINDER ACCESSORIES

### TOOL STAND FOR GRINDERS

Made from heavy cast iron with a 3½" steel column. **Predrilled and slotted 10 x 11" top** is 32⅝" high. 7L x 3W x 3"D cast-iron water pot is supplied for quenching hot workpieces. Water pot is removable for easy cleaning and filling. **Heavy, triangular base** measures 15 x 16¼" with mounting holes for securing stand to floor.

### LIGHTED EYESHIELD

Die-cast aluminum frame holds 40 watt bulb and 5¾ x 3¾" plexiglas lens. Provides increased visibility of grinding operation. Bolts directly to all Dayton grinders except Nos. 2Z341, 1Z707, and 1Z853. Comes with lens, bulb, grounded power cord, and mounting hardware.

### SAFETY SHIELDS

**3 x 5" Eyeshields** fit all Dayton industrial grinders. Protect eyes from sparks and chips. Safety glass inserts, plated steel frames. Sold in pairs. Dayton brand.

### GRINDING WHEEL DRESSERS

**Dresser No. 2X951** has 4 star-toothed hardened steel cutters and 2 spacers. Face width is 0.450" for use on grinding wheel face up to 2". **Heavy-duty Dresser No. 6Z851** grips with both hands for firm contact with grinding wheel. Has 7 star-toothed hardened steel cutters and 2 spacers. Face width is 0.930" for use on grinding wheel face up to 3½".

Dayton®

Replacement Parts Availal 1-800-323-0620




| Description | Dia. (In.) | Length (In.) | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|
| **Grinder Tool Stand** | — | — | **4Z154** | $89.88 | **$80.90▲** | 5( |
| **Lighted Eyeshield** | — | — | **6X854** | 53.72 | **48.35▲** | |
| **Safety Shields** | — | — | **4X868** | 13.52 | **10.38▲** | |
| **Dresser*** | 1¼ | 8½ | **2X951** | 8.10 | **6.48▲** | |
| **Heavy-Duty Dresser*** | 2⅜ | 14½ | **6Z851** | 23.54 | **21.19▲** | |

(*) Replacement wheels are available. Call 1-800-323-0620.
(▲) Net prices, not subject to discounts.

# COMBINATION BELT/DISC SANDERS AND HEAVY-DUTY FLOOR STAND

## 6" DISC, 2 X 42" BELT SANDER

**No. 6Y945 Belt Grinder** has 2 x 42" belt that travels at 4500 FPM and 6" disc that rotates at 3450 RPM. Belt table tilts 0-90° and disc table tilts 0-45°. Belt housing tilts from vertical to horizontal making sanding of long pieces easy. Belt is tensioned with spring-loaded mechanism that also provides for fast belt changes. Belt platen is removable for contour sanding. Direct drive 120V, 60 Hz motor produces 1/3 HP. Sander includes one medium grit 2 x 42" sanding belt, one medium grit 1 x 42" belt, and one medium grit 6" PSA sanding disc and miter gauge.

## 8" DISC, 2 x 48" BELT SANDER

**No. 6Z117 Belt/Disc Sander.** For both metal and wood operations, performs many shop and on-the-job tasks such as deburring, precision grinding, tool sharpening, inside finishing and contour sanding. Belt grinder has a 2 x 48" belt that travels at 3100 FPM and 8" disc that rotates at 3450 RPM. Belt table tilts at 0-90° and disc table tilts 0-45°. Belt is tensioned with a spring loaded mechanism that allows fast belt changing. Direct drive 120V, 60 Hz motor produces 1/2 HP. Sander includes one medium grit 1 x 42" sanding belt, one medium grit 2 x 42" sanding belt and a medium grit 8" PSA sanding disc and miter gauge. UL Listed ES2174.

## 9" DISC, 6 x 48" BELT SANDER

**No. 6Y001 Sander** comes complete with two worktables: 6 x 12" disc and 6 x 10" for belt sanding, miter gauge, safety switch, power cord, and 3/4 HP, 3450 RPM motor. Motor assembly has permanently lubricated ball bearings. UL Listed (ES2174).

For trade or home workshop sanding applications. Use 9" pressure sensitive adhesive sanding disc and 6 x 48" cloth sanding belt. Aluminum 6 x 12" worktable tilts 15-90° for disc and has graduated scale to show tilt angle. Belt operates in horizontal or vertical position and can be used for contour sanding. Belt is easily changed by sliding off after loosening tension handle.

## 12" DISC, 6 x 48" BELT SANDER

**No. 4TJ97 Sander** is designed for all types of finishing operations on wood, metal, plastic, and other building materials. Can perform typical sanding operations including surfacing, finishing, sanding, polishing, grinding, and deburring. Adjustable 6" belt operates vertically, horizontally, or can be set to any degree between with cast iron platen with backstop for accurate operation. Thermal overload protection. Features fine thread adjustment for accurate belt tracking which locks securely to hold belt in place. 12" abrasive disc provides fine finishes. Belt and disc have cast iron tables that tilt out 45° and in to 20° with a graduated scale to show angle of tilt. Table includes slots for miter gauges. Shipped complete with heavy gauge steel stand, tables, 4" dust port for belt and disc area, miter gauge, drive pully, V-belt, and motor prewired for 110V (6 ft. cord included).

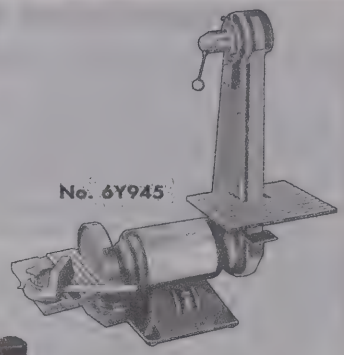
## HEAVY-DUTY FLOOR STAND

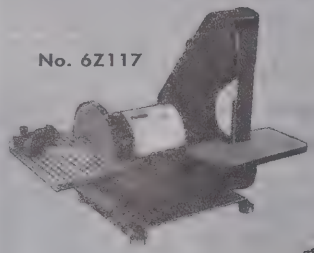
All-steel construction with 10 gauge table top. Has hole patterns for securing belt grinder No. 6Z117 and many other bench grinders and bench drill presses. Table surface: 10 x 19⅝"; height 33"; capacity 2500 lbs. Dimensions: 28D x 19W x 33½"H.

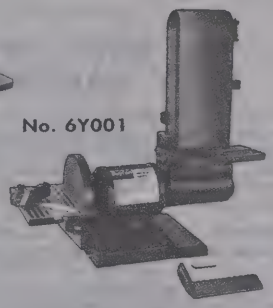
**No. 5A335.** Shpg. wt. 35.0 lbs. List $66.80. Each.....$54.80▲

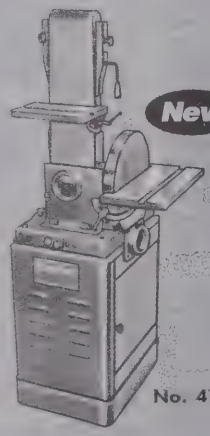
Dayton®

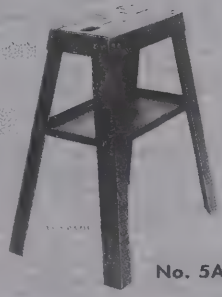
UL ES2174




## SPECIFICATIONS

| Stock No. | Disc Size (In.) | Disc Speed (RPM) | Belt Size (In.) | Belt Speed (FPM) | Disc Table Size (In.) | Table Tilt Angle | Overall Dimensions (In.) L | W | H |
|---|---|---|---|---|---|---|---|---|---|
| 6Y945 | 6 | 3450 | 2 x 42 and 1 x 42 | 4500 | 6¾ x 8 | 45° | 8 | 14½ | 23 |
| 6Z117 | 8 | 3450 | 2 x 48 | 3100 | 6 x 10 | 45° | 19 | 23 | 20 |
| 6Y001 | 9 | 3450 | 6 x 48 | 2700 | 6 x 10 | 45° to 90° | 17½ | 28 | 29 |
| 4TJ97 | 12 | 3450 | 6 x 48 | 2000 | 7 x 16 | 45° | 23½ | 21 | 55½ |

## BELT/DISC SANDER ORDERING DATA

| Stock No. | List | Each | Shpg. Wt. | Motor Information |
|---|---|---|---|---|
| **6Y945** | $180.00 | **$126.00** ▲ | 30.0 | 1/3 HP, 3450 RPM, 120V Motor is included with No. 6Y945 Belt Sander |
| **6Z117** | 278.00 | **199.00** ▲ | 71.0 | 1/2 HP, 3450 RPM, 115V Motor is included with No. 6Z117 Sander |
| **6Y001** | 330.20 | **264.25** | 89.0 | 3/4 HP, 3450 RPM, 115V Motor is included with No. 6Y001 Sander |
| ***New* 4TJ97** | 1037.50 | **692.00** ▲ | 195.0 | 1 HP, 3450 RPM, 115/220V Motor is included with No.4TJ97 Sander |

*) Specifications for optional disc assembly; sold separately. (▲) Net prices, not subject to discounts.

# 4-IN-1 SANDER AND COMBINATION BELT/DISC SANDERS

## PRODUCTION 4-IN-1 BELT SANDER

**Provides all-purpose surface preparation** from snagging to fine finishing by rotating the exclusive square wheel platen to one of three belt positions or using the serrated contact wheel. Operates at 4600 SFPM.

**8" diameter serrated contact wheel** is used for heavy stock removal, cleaning welds or snagging a casting. In calibrated platen belt position, belt is at perfect angle for high speed, precision flat and leveling grinding of tools, plastics, and other materials. An adjustable work rest and protractor type angle indicator make the job easier. Yoke surface belt position is best for grinding and finishing cylindrical shapes. Conforms to shape of surface being worked to produce an even, smooth finish. By rotating to either the 3" or 1½" contact wheel position, belt grinding of difficult to reach areas and contouring is quick and efficient.

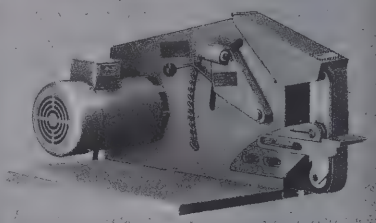
**Square wheel platen design for belt position changes.** Easy opening side door makes changing of the 2 x 72" belt quick and simple. Steel 25 x 15" base allows for easy set up on any workbench. Grinder comes with 1 HP, single phase, 115/230V, 60 Hz, TEFC motor with manual thermal protection and 5½ ft. cord. Wilton brand (4103).

**No. 3Z813.** Shpg. wt. 115.0 lbs. List $1125.00. Each ..... **$1033.00▲**

(▲) Net prices, not subject to discounts.

WILTON CORPORATION

Replacement Parts Available
1-800-323-0620



## 6" BELT, 12" DISC SANDERS

**All cast construction for heavy-duty operations** on metal, wood, plastic and leather in factories, cabinet shops, schools and pattern shops. Use for surface finishing, polishing, sanding, grinding, deburring, and cleaning operations.

**Adjustable position 6" belt is capable of performing multiple operations** vertically, horizontally or any position in between. Features an accurate belt tracking adjustment that locks securely to hold belt alignment tight. For contour finishing, upper belt guard is removable to expose surface of idler drum.

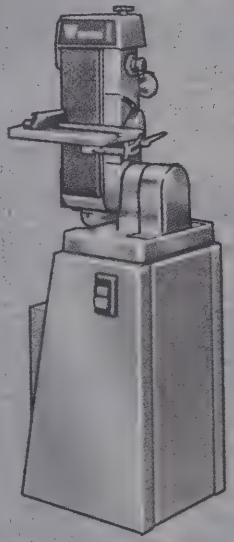
**Abrasive 12" disc simplifies polishing, deburring, chamfering and grinding operations.** Both belt and disc sanders have separate tilting worktables with miter gauge slots. Tables tilt out to 45° and in to 20° and have graduated scales to show angle of tilt. Miter gauges have readings through 120° swing.

**Shipped complete** with heavy gauge steel stand, tables, miter gauge, drive pulleys, V-belt, 6" belt and 12" disc. Also includes a 3-pole single throw toggle switch that can be used for single or 3-phase. Switch comes wired to motor housing for single phase. 115/230V operation and includes 10 ft. of 12/3 oil resistant power cord.

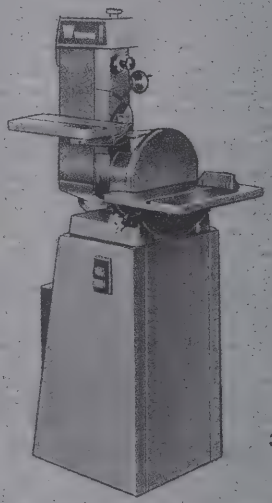
**Available in two models:** Combination Belt & Disc and 6 x 48" Belt only. Order motor separately below.

WILTON CORPORATION

Replacement Parts Available
1-800-323-0620



No. 4KM92



No. 3Z855

**No. 3Z855.** Combination 6" Belt, 12" Disc Sander without motor. Wilton brand (4200). Shpg. wt. 250.0 lbs. List $1635.00. Each ..... **$1321.00▲**

**No. 4KM92.** 6" Belt Sander without motor. Wilton brand (4300). Shpg. wt. 194.0 lbs. List $1318.00 Each ..... **$1182.00▲**

(▲) Net prices, not subject to discounts.

### SPECIFICATIONS

| Stock No. | Disc Size (In.) | Disc Speed (RPM) | Belt Size (In.) | Belt Speed (RPM) | Disc Table Size (In.) | Table Tilt Angle | Overall Dimensions ( In.) Length | Width | Height |
|---|---|---|---|---|---|---|---|---|---|
| 3Z855 | 12 | 3260 | 6 x 48 | 2400 | 12 x 16⅜ | 45° out; 20° in | 19 | 27 | 57½ |
| 4KM92 | — | — | 6 x 48 | 2400 | 12 x 16⅜ | 45° out; 20° in | 19 | 25½ | 57½ |

### MOTOR SELECTION

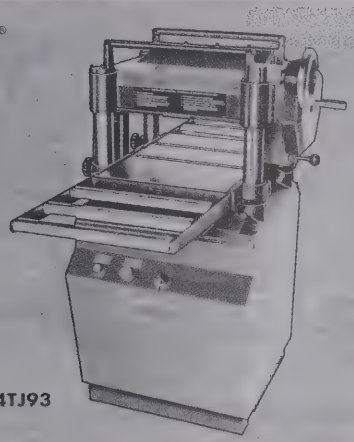
| For Stock No. | HP | RPM | Type | Recommended Motor Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3Z855 4KM92 | 1½ | 3450 | TEFC | **6K338** | $323.00 | **$199.00** | 34.0 |

# 12¹/₂" AND 15" WOOD PLANERS

## DAYTON 15" WOOD PLANER

Dayton®

New



No. 4TJ93

- Heavy-duty cast iron constructed planer handles large and irregularly-shaped stock up to 15"W and 6" deep
- Two-speed rate: 16 or 20' per minute
- Magnetic contacts with overload relay, push button emergency stop, key lock motor control, and anti kick back feature
- 3" dia meter 3-knife cutter head with jack-screws for easy knife adjustments or replacement; provides 10,500 cuts per minute
- Exterior adjustment for chip breaker, in-feed and out-feed roller pressure without disassembling
- Enclosed welded cabinet comes with 4" male hose connection adapter for dust collection ability
- Motor not included. Order Dayton 2 HP, 3500 RPM, 220V, 60 HZ single phase TEFC motor No. 3K344
- Cutter head and feed rollers raise and lower on four precise ground steel columns

| ORDERING DATA | | | | | | | MOTOR DATA | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overall Dimensions (In.) Depth | Width | Height | *New!* Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
| **51** | 31 | 45 | **4TJ93** | $1500.00 | **$923.00** ▲ | 507.0 | **3K344** | $389.00 | **$259.25** | 41.0 |

## 12¹/₂" HEAVY-DUTY PORTABLE THICKNESS PLANERS

laner features a 4-column head design with head lock for reduced snipe. Extra long infeed and outfeed support tables for more control and stability. Depth stops allow you ) make accurate and repeatable cuts. Magnified depth scale is easy to read. Material emoval scale. UL Listed. Meets OSHA requirements.

### PORTABLE PLANER SPECIFICATIONS AND ORDERING DATA

| Feed Rate Ft./Min.) | Board Capacity (In.) | Cuts Per Minute | No-Load RPM | Amps at 120V | Cuts Per Inch | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **26** | 1/8-6 | 20,000 | 10,000 | 15.0 | 64.1 | DW733 | **4GD65** | $758.00 | **$454.75** ▲ | 75.0 |

▲) Net prices, not subject to discounts.

o. **4LG17.** Planer Knives (DW7332). Shpg. wt. 0.8 lbs. List $64.00. Each ..... **$57.30**▲

o. **4LG16.** Planer Dust Hood (DW7331). Shpg. wt. 4.0 lbs. List $46.00. Each ..... **$41.85**▲

DEWALT



UL

No. 4GD65

Portable Thickness Planer

## 12¹/₂" WOOD PLANERS

o. **6Z960. Dayton 12½" Thickness Planer** is a lightweight, portable planer featuring cast uminum base, stamped steel construction, fold-up table extensions, and two large, astic coated carrying handles. Nonmarring rubber infeed and outfeed rollers feed ood under cutterhead at 26 SFPM. Two blade cutterhead rotates at 8000 RPM provid- g 16,000 cuts per minute. UL Listed.

**iiversal ball bearing motor** develops 2 HP at 115 volts, 60 Hz. Motor has overload protec- on with manual reset. Planes wood up to 12½" wide and 6" high, removing up to 3/32" er pass. Large cast-iron handwheel with handle raises head 1/16" per rotation and can e mounted on right or left side of planer. Two scales are provided making adjustment sy from either side of machine. Two steel rollers mounted on top of machine are used return planed wood to infeed side for additional planing. Adjustment tools and blade eight gauge included.

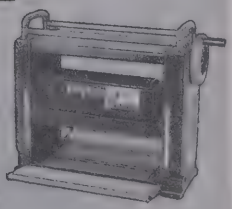
o. **6Z960.** Planer. Shpg. wt. 78.5 lbs. List $610.00. Each ..... **$395.50**▲

o. **5A344.** ( Replacement Planer Blades. One set (2 blades per package). Pkg. Shpg. wt. 1.0 lbs. st $19.00. Pkg. ..... **$17.10**

▲) Net prices, not subject to discounts.

Dayton®

UL



12¹/₂" Planer
No. 6Z960

Replacement Parts Available
1-800-323-0620

# IRONWORKER METAL FABRICATION MACHINE AND ACCESSORIES

## 40-TON IRONWORKER

**The Metalpro 4000 Ironworker** has 40 tons of electric hydraulic power to perform all the functions of a fabrication shop in one machine. This versatile machine performs punching, shearing, forming, bending, pressing, and notching operations.

- **Note: All capacities are based on 65,000 PSI tensile steel. Punch and die sets sold separately below**
- **Punching station is punch-ready with 2" die holder, stripper and punch retaining nut. Capacity is 1" diameter in 3/8" steel**
- **3-in-1 shear handles 3/4" rods, 3/8 x 4" flat, 1/4 x 6" flat, and 1/4 x 3 x 3" angle shear**
- **Power cavity accommodates 3-in-1 shear (included), optional 8" brake, and heavy-duty notcher sold separately below**
- **3/4 HP, 110V/10 amp, single-phase 60 Hz motor**




### 40 TON IRONWORKER SPECIFICATIONS AND ORDERING DATA

| Dimensions (In.) H | W | L | Speed Strokes/Minute | Motor | Throat Depth (In.) | Hydraulics | Oil Capacity | Metalpro Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 1/4 | 24 | 30 | 6 | 110V 3/4 HP* | 3 3/4 | 2500 PSI | 1 gal. | MP4000 | **3ZJ45** | $4195.38 | **$2622.00▲** | 408.0 |

(*) Motor can develop 1½ HP under maximum load. This requires a 20 amp 110V outlet. (▲) Net prices, not subject to discounts.

## IRONWORKER ACCESSORIES




### 8" BRAKE

- **Bends shapes up to 8" wide and 1/4" thick**
- **20 ton maximum force**

**No. 3ZJ46.** 8" Brake. Metalpro brand (MP4000). Shpg. wt. 62.0 lbs. List $839.29. Each ..... **$624.50▲**

### HEAVY-DUTY NOTCHER

- **Notches 1/4 x 2 x 1¾" notch in one stroke**

**No. 3ZJ47.** Shpg. wt. 14.0 lbs. List ..... $839.83. Each ..... **$625.00▲**

### PUNCH & DIE SETS

- **Made from heat treated tool steel**
- **1/32" die clearance for material up to 3/8" thick**
- **Easy resharpening for long life**
- **Individual sets available, see table below**

**No. 3ZJ48.** Shpg. wt. 6.4 lbs. List ..... $192.49. Each ..... **$144.40▲**

### INDIVIDUAL PUNCH & DIE SETS ORDERING DATA

| Description (In.) | Metalpro Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/4 Round** | MP8000 | **3ZJ49** | $42.78 | **$38.55▲** | 1.1 |
| **5/16 Round** | MP8002 | **3ZJ50** | 42.78 | **38.55▲** | 1.1 |
| **3/8 Round** | MP8004 | **3ZJ51** | 42.78 | **38.55▲** | 1.1 |
| **7/16 Round** | MP8006 | **3ZJ52** | 42.78 | **38.55▲** | 1.1 |
| **1/2 Round** | MP8008 | **3ZJ53** | 42.78 | **38.55▲** | 1.1 |
| **9/16 Round** | MP8010 | **3ZJ54** | 42.78 | **38.55▲** | 1.1 |
| **5/8 Round** | MP8012 | **3ZJ55** | 42.78 | **38.55▲** | 1.1 |
| **1 1/16 Round** | MP8014 | **3ZJ56** | 42.78 | **38.55▲** | 1.1 |
| **3/4 Round** | MP8016 | **3ZJ57** | 42.78 | **38.55▲** | 1.1 |
| **1 3/16 Round** | MP8018 | **3ZJ58** | 42.78 | **38.55▲** | 1.1 |
| **7/8 Round** | MP8020 | **3ZJ59** | 42.78 | **38.55▲** | 1.1 |
| **1 5/16 Round** | MP8022 | **3ZJ60** | 42.78 | **38.55▲** | 1.1 |
| **1 Round** | MP8024 | **3ZJ61** | 42.78 | **38.55▲** | 1.1 |

(▲) Net prices, not subject to discounts.

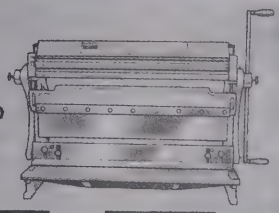
# METAL FORMING MACHINE, METAL NOTCHER, AND ARBOR PRESSES

## 30" SHEAR, BEND, AND ROLL METAL FORMING MACHINE

Dayton®

No. 2AC30
30" Shear

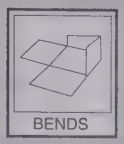
Replacement Parts Available
1-800-323-0620












**Press brake, slip roll, all-in-one sheet metal forming machine.** Shears 30" x 20 gauge (0.0359") mild steel. High carbon, dual edge reversible shear blade resharpenable when dull. Blade adjustable after wear or resharpening. Hold-down is positioned to allow visual location of the shear line.

**Bends 30" x 20 gauge (0.0359") mild steel** with high carbon, heat-treated steel male dies, sizes 1, 2, 3, 6, and 10". Continuous female "V" shaped forming die.

**Rolls cylindrical work up to 22 gauge** (0.0299") thickness. Three rollers, each 1½ x 30", with wire forming grooves. Rolls a minimum 1½" diameter to an unlimited maximum.

**Height stop-block,** two extension bars with 90° angle, iron adjustable length stop.

**No. 2AC30.** Shpg. wt. 363.0 lbs. List $1250.00. Each.....$599.00▲

(▲) Net prices, not subject to discounts.

## 4-TON METAL NOTCHER

**Ton metal notcher for box, chassis and panel blanks.** Shears up to 16 uge mild steel

**earing blades are precision ground,** heat-treated tool steel. Lower ades can be reversed and/or sharpened for extended use. djustable blades for varying thickness of sheet metal.

**aximum notch:** 6¼ x 6¼" x 90°; stroke 3/4"; worktable dimen-ons: 18 x 12".

**iangular ram accurately controls the alignment** of the cutting head all times. Cast-iron ways and quick set gauges.

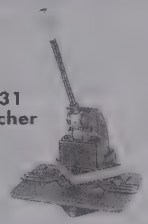
**o. 2AC31.** Shpg. wt. 235.0 lbs. List $809.94. Each.....$664.50▲

.) Net prices, not subject to discounts.

Dayton®

No. 2AC31
Metal Notcher

Replacement Parts Available
1-800-323-0620



## ARBOR PRESSES

**urdy cast-iron constructed arbor presses** for se when heavy pressure is needed in riv-ing, pressing, squeezing, punching, bend-g tubing, production and assembly work. achined table provides accurate work pport and has slotted, removable 4-posi-on revolving anvil to hold arbor work er table opening.

**eel ram with heavy large toothed rack** is dri-n by machined pinion; end of ram has a le with hex head bolt for inserting spe-al punches or tools. 3-pc. punch set cluded. Base is drilled for bolting to nch or pedestal. Dayton brand.

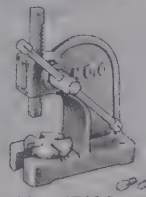
Dayton®

Replacement Parts Available
1-800-323-0620

New



No. 4Z328
3-Piece Punch Set
Included With All
Arbor Presses



No. 4TJ92

### ARBOR PRESS SPECIFICATIONS AND ORDERING DATA

| rce in ons | Swing (In.) | Work Area (In.) Table Dimensions | Work Area (In.) Anvil Diameter | Range of Slot Widths (In.) | Max. Work Height (In.) | Ram Dimensions (In.) | Ram Hole Dia. x Depth (In.) | Overall Height (In.) | Base Dimensions (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| /2 | 6½ | 4 x 3⅜ | 3½ | 3/8 - 5/16 | 4⅛ | 3/4 x 3/4 | 3/8 x 3/4 | 10½ | 4 x 9¼ | *New* 4TJ92 | $75.00 | $59.00 | 17.0 |
| 1 | 8 | 5 x 4½ | 4½ | 7/16 - 1⁹⁄₁₆ | 5½ | 1 x 1 | 1/2 x 3/4 | 12 | 5 x 10½ | 4Z328 | 95.00 | 87.25 | 32.0 |
| 2 | 10¾ | 6⅝ x 6½ | 6⅝ | 1 - 2 | 8 | 1¼ x 1¼ | 1/2 x 1 | 17¼ | 6⅝ x 16 | 4Z329 | 198.64 | 179.00 | 98.0 |
| 3 | 11.0 | 7⅞ x 7¼ | 6⅝ | 1 - 2" | 12½ | 1½ x 1½ | 1/2 x 1 | 22 | 7⅞ x 18 | 3Z949 | 312.60 | 287.00 | 124.0 |
| 4 | 16.0 | 9¼ x 9⅛ | 9½ | 1 - 2¼ | 15¾ | 1¾ x 1¾ | 1/2 x 1 | 29⅜ | 9¼ x 21¼ | 5Z077 | 622.50 | 560.50 | 212.0 |

### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

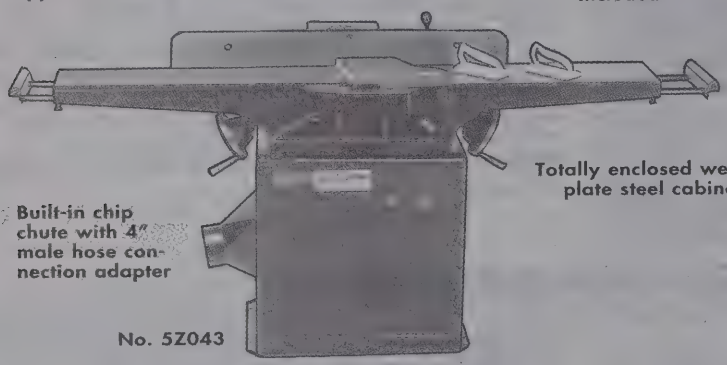
# 6" AND 8" JOINTER AND WOOD SHAPER

Dayton®

FREE DELIVERY on orders of $900 or more
See Freight Policy

10" table extension work supports with rollers

Push blocks included

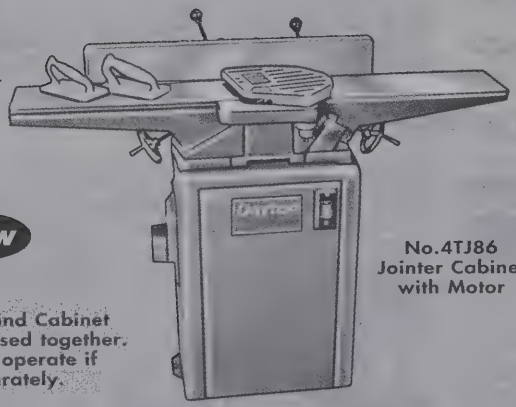


Totally enclosed welded plate steel cabinet

Built-in chip chute with 4" male hose connection adapter

No. 5Z043

Replacement Parts Available
1-800-323-0620



No. 4TJ98
6 1/8 Jointer

New

No.4TJ86
Jointer Cabinet
with Motor

NOTE: Jointer and Cabinet must be purchased together. Jointer will not operate if purchased separately.

## DAYTON 8" JOINTER

Designed for accurate production work. Balanced 3" diameter, three blade cutter head of ball bearing construction makes 13,500 cuts per minute. Built-in springs keep blades at proper height when adjustments are made, locking bar secures blades. Knife setting gauge is included. Cutter head assembly is easily removed and replaced for minimal downtime.

4"H x 38¼"L center mounted tilt fence adjusts to L45°, 90°, -R45° with positive stops and locks with a single lever control. Provisions made to expand fence length when desired. Cutter head is guarded in front and rear of rip fence in all positions.

Total table surface 9W x 66"L with a cutting capacity of 8⅛W x 1/2"D and a positive stop at 1/8" depth.

Table height adjustments for both "in feed" and "out feed" tables with large hand wheel crank handles. "Out feed" table has positive stop and locks at zero. Both ends of the table have 10" table extension work supports with rollers that increase table capacity to 86".

Totally enclosed welded plate steel cabinet 23½ x 23½ x 16½" with built-in chip chute and a 4" male hose connection adapter. Cabinet includes switch, 220V magnetic contactor, motor locking switch with key, and 14 gauge 3-wire harness for motor and adjustable motor mounting support. Push blocks included. Motor not included; must order separately. Jointer shipped in two cartons.

## DAYTON 6" JOINTER

- **Designed for accurate production**
- **Heavy cast iron table construction to dampen vibration**
- **Center mounted cast-iron fence tilts 0° to 45° for chamfering and beveling; moves forward for rabbeting operations**
- **Fully guarded cutter-head and push blocks for safe operation**
- **Totally enclosed welded plated steel cabinets with built-in chip chute and 4" male hose connector**
- **Cabinet with 3/4HP, 115/230V, 3450 RPM motor**
- **Jack screw knife-holding arrangement for east asdjustment or replacement**
- **Easy to read 0 to 1/2" depth of cut scale with positive stops at 1/8"**
- **3-knife cutting-head provides 14,400 cuts per minute**
- **1/8" cutting capacity for jointing — 1/2" cutting capacity for rabbeting**
- **4 x 28" center mounted tilt fence**

Features a 6⅝W x 45"L table surface. Balanced 2½" diameter 3-blade cutting head of ball bearing construction. In-feed table with lock handle for quick easy height adjustments. Adjustable out-feed table allows convenient knife setting. Cabinet includes removable safety switch and 115/230V, 3/4 HP, 3450 RPM single phase motor. Shipped in two cartons.

### ORDERING DATA

| Description | | Stock No. | | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **8" Jointer Bed** | | **5Z043** | * | $1220.36 | **$1001.00▲** | 397.0 |
| **Motor Cabinet** | | **6Z398** | * | 368.44 | **302.25** | 81.0 |
| **1½ HP Motor** | | **3K300** | * | 321.00 | **214.75** | 34.0 |
| **6⅛" Jointer** | ***New*** | **4TJ98** | † | 687.50 | **425.00▲** | 130.0 |
| **Jointer Cabinet** | ***New*** | **4TJ86** | † | 250.00 | **165.00▲** | 68.0 |

(*) Required to make complete 8" jointer unit. (†) Required to make complete 6⅛" jointer unit.
(▲) Net prices, not subject to discounts.

### SPECIFICATIONS

| Stock No. | Cutting Capacity (In.) Width | Depth | Rabbeting Capacity (In.) | Jointing Capacity (In.) | Overall Dimensions (In.) Heigth | Width | Length |
|---|---|---|---|---|---|---|---|
| 5Z043 | 8⅛ | 1/2 | 1/2 x 8⅛ | 1/8 x 8⅛ | 35½ | 25 | 66 |
| 4TJ98 | 6⅛ | 12 | 1/2 x 6⅛ | 1/8 x 6⅛ | 37 | 21 | 46 |

# TABLE SAW AND SCROLL SAWS

## 10" HEAVY-DUTY TABLE SAW

**obsite table saw** features an innovative telescoping fence to provide 24½" rip capacity vithout losing portability. Rack and pinion design makes fence adjustment fast, smooth, nd accurate—insures that fence is always parallel to the blade. High torque 13.0 amp, 20VAC motor delivers the power to cut framing, lumber, pressure-treated lumber, and ardwoods. Coated cast aluminum top will not mark or scratch delicate material such s melamine or plastic laminate. UL Listed. Meets OSHA requirements.

### HEAVY-DUTY TABLE SAW SPECIFICATIONS AND ORDERING DATA

| Rip Capacity (In.) | Depth of Cut (In.) | Table Dimensions (In.) | No-Load RPM | Amps at 120V | Arbor (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **4½ Right, 5½ Left of Blade** | 3⅛ @ 90° 2¼ @ 45° | 26½ x 19½ | 3650 | 13.0 | 5/8 | DW744 | **4GD66** | $918.00 | **$559.50▲** | 70.0 |

▲) Net prices, not subject to discounts.

**o. 4LG18.** Table Saw Stand. Shpg. wt. 28.0 lbs. List $138.00. Each.....**$128.65▲**

**o. 4LG19.** Saw Outfeed Support. Shpg. wt. 12.0 lbs. List $110.00. Each .....**$100.50▲**

## 20" HEAVY-DUTY VARIABLE SPEED SCROLL SAW

**croll saw** has extremely low noise level and low vibration due to a unique double paral- l link arm design. Tool-free blade changing. Oversized tear-drop shaped cast iron table lts 45° left and right; puts work where you need it. Front mounted controls are readily ccessible. Multi-directional dust blower keeps work surface clear of shavings and saw- ust. Uses standard 5" blade. UL Listed.

### VARIABLE SPEED SCROLL SAW SPECIFICATIONS AND ORDERING DATA

| troke (In.) | Capacity | Table Dimensions (In.) | No-Load RPM | Amps at 120V | Bevel (°) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3/4** | 2" @ 90° 13/16" @ 45° | 16 x 23¾ | 400-1750 | 1.3 | 45 Left and Right | DW788 | **4GD67** | $750.00 | **$455.00▲** | 75.0 |

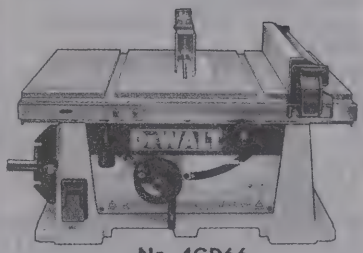
▲) Net prices, not subject to discounts.

**o. 4LG20.** Scroll Saw Stand. Shpg. wt. 22.0 lbs. List $105.00. Each.....**$98.05▲**

**o. 4LG21.** Scroll Saw Worklight. Shpg. wt. 3.5 lbs. List $47.00. Each.....**$42.65▲**

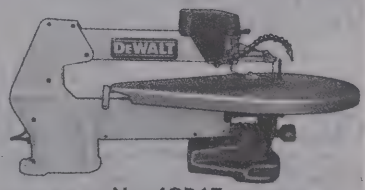
**o. 4LG09.** 48-Pc. Blade Assortment. Shpg. wt. 0.1 lbs. List $21.04. Each.....**$20.15**

DEWALT



No. 4GD66

Replacement Parts Available
1-800-323-0620



No. 4GD67

## DREMEL 16" SCROLL SAW

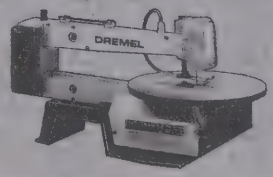
urdy cast iron and cast aluminum construction. Features two-speed direct drive motor or cutting wood, metal, or plastic. Smooth 12" round cast-aluminum table with 0 to 45° lt adjustment. Accepts pin and straight blade with 3/4" blade stroke. Sawdust blower eeps surface free of sawdust. Blade length gauge for accurate setting of distance etween blade adapters. 5" blade length; 2" cutting capacity. Top mount blade tension ontrol and convenient blade storage case on rear of saw. Includes 13 assorted wood id metal blades. UL Listed (E49858), CSA Certified (LR59093). Dremel brand.

| No-Load SPMs | Amps at 115V | Tool Length (In.) | Tool Wt. (Lbs.) | Dremel Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **09 Low-1790 High** | 1.65 Low/1.68 High | 25 | 43 | 1672 | **6A647** | $313.52 | **$215.50▲** | 42.0 |

.) Net prices, not subject to discounts. Scroll saw blades available. See Product Index.

DREMEL

No. 6A647



## 5" SCROLL SAW BLADES

### SCROLL SAW BLADES

| Blade Type | TPI* | Description | DeWalt Model | | Stock No. | List | Pkg. Qty. | Each/Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0 Skip** | 28 | Very Fine Fret Work | DW3940 | | **4LF95** | $6.74 | 12 | **$6.40** | 0.6 |
| **Skip** | 12 | Fine Fret Work/Veining | DW3941 | | **4LF96** | 6.74 | 12 | **6.40** | 0.6 |
| **Skip** | 11½ | General Purpose | DW3942 | | **4LF97** | 6.74 | 12 | **6.40** | 0.6 |
| **Reverse** | 20 | Very Fine Fret Work | DW3943 | | **4LF98** | 6.74 | 12 | **6.40** | 0.6 |
| **Reverse** | 12½ | Fine Fret Work | DW3944 | | **4LF99** | 6.74 | 12 | **6.40** | 0.6 |
| **Reverse** | 11½ | General Purpose | DW3945 | | **4LG01** | 6.74 | 12 | **6.40** | 0.6 |
| **ral** | 41 | Bevel Cut Letters | DW3947 | | **4LG02** | 6.74 | 12 | **6.40** | 0.6 |
| **tal Cutting** | 36 | Metal | DW3948 | | **4LG03** | 8.42 | 12 | **8.00** | 0.6 |
| **ecision Ground # 5** | 12 | Very Fine Fret Work | DW3949 | | **4LG04** | 6.74 | 6 | **6.40** | 0.6 |
| **ecision Ground # 7** | 10 | Fine Fret Work/Veining | DW3950 | | **4LG05** | 6.74 | 6 | **6.40** | 0.6 |
| **ecision Ground # 9** | 8 | General Purpose | DW3951 | | **4LG06** | 6.74 | 6 | **6.40** | 0.6 |
| **ned** | 15 | Fine Finish | DW3952 | | **4LG07 †** | 3.16 | 6 | **3.00** | 0.6 |
| **ned** | 18½ | General Purpose | DW3953 | | **4LG08 †** | 3.16 | 6 | **3.00** | 0.6 |
| **-Pc. Blade Assortment** | | | DW3956 | *New* | **4NZ90** | 21.04 | 1 | **18.66** | 0.6 |
| **-Pc. Blade Assortment** | | | DW3955 | | **4LG09** | 21.04 | 48 | **20.15** | 0.1 |

.) Net prices, not subject to discounts. (*) TPI = Teeth per Inch. (†) 5" between pins.

# TABLE SAWS AND ACCESSORIES

## DAYTON 10" TABLE SAW No. 4TJ88

- Features cast iron table top and two steel extensions wings
- Blade guide assembly includes splitter and anti-kick back paws for safety
- Metal miter gauge
- Machined T-slots on both sides of blade
- 5/8" standard/dado arbor dado table insert
- On/Off switch with removal key wired for 115V operation
- Front and rear locking rip fence assembly
- Open stand

Ideal for light industrial, contractor and home shop use. Saw has separate hand controls for the raising and tilting of blade. Includes saw stand, table insert, wrench, 1 HP, 15A universal motor.

## DAYTON 10" CONTRACTOR SAW No. 4TJ89

- Features cast iron table top and cast iron grid extension wings
- Blade guide assembly includes splitter and anti-back back paws for safety
- Cast iron miter gauge has positive stops at 45° left, 90° and 45°right
- Machined T-slots on both sides of blade
- 5/8" standard/dado arbor dado table insert
- On/Off switch with removal key wired for 115V operation
- Front and rear locking rip fence assembly; table is pre-drilled to accept Biesmeyer fence system
- Open stand with front, back panels

Heavy-duty contractor saw provides 3⅛" cuts at 90°, and 2⅛" cuts at 45°. Dado insert and dado arbor allow dadoing up to 13/16" wide. Saw pre-wired for 115V operation. Includes v-belt, 1-step motor pulley. Motor not included. Order Dayton 1.5 HP, 115/230V, 3500 RPM, 60 Hz single phase TEFC motor No. 3K300, below.

## DAYTON 10 AND 12" TILTING ARBOR TABLE SAWS

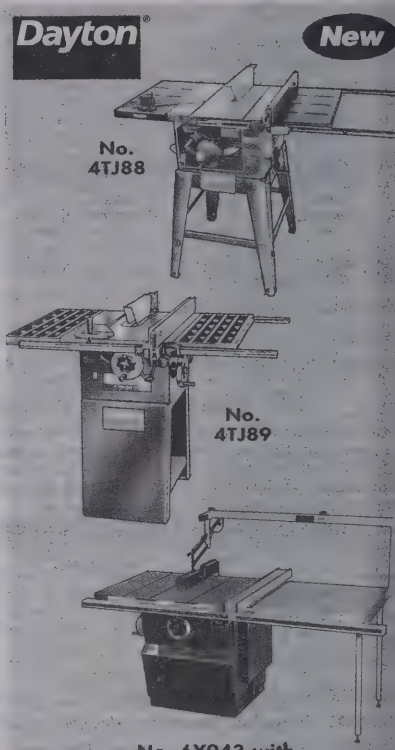
- Features cast iron table top and cast iron grid extension wings
- Blade guide assembly includes splitter and anti-back back paws for safety
- Cast iron miter gauge has positive stops at 45° left, 90° and 45° right
- Machined T-slots on both sides of blade
- 5/8" standard/dado arbor dado table insert
- Fully enclosed magnetic starter with overload protection and safety stop button
- Fully enclosed 12 gauge steel stand with 4" exhaust port

Designed and constructed for heavy use in lumberyards, furniture and cabinet-making shops, and large maintenance shops.

**No. 6Y943 10" Table Saw** cuts 3" at 90° and 2⅛ at 45°. Saw wired for 230V operation. Motor not included. Order Dayton 2HP, 230V, 3500 RPM, 60 Hz single phase TEFC motor No. 3K344. **No. 3Z997 12" Table Saw** cuts 4" at 90° and 2¾ at 45°. Saw wired for 230V operation. Motor not included. Order Dayton 3HP, 230V, 3500 RPM, 60 Hz single phase TEFC motor No. 6K145. Blade not included.

**No. 3Z998.** 39¾" Rip Fence for No. 3Z997. Shpg. wt. 35.0 lbs. List $330.00. Each.....**$270.75▲**

**No. 6Y994.** 36¾ Rip Fence for No. 6Y943. Shpg. wt. 1.3 lbs. List $82.96. Each.....**$68.05▲**




**No. 6Y943 with No. 6Y946 Biesemeyer T-Square Fence**

**Dayton 10 & 12" Table Saws use Biesemeyer® Accessories; See Index for Listings**

**Replacement Parts Available 1-800-323-0620**

| Stock No. | Table Dimension (In.) Distance in Front of Blade | Cutting Capacities (In.) Depth of Cut @90° | Depth of @ 45° | Rip Right | Rip Left | Overall Dimensions (In.) Table w/ Extensions | Height w/ Stand | Cabinet W | Cabinet D |
|---|---|---|---|---|---|---|---|---|---|
| 4TJ88 | 9 | 2½ | 2⅛ | 25 | 0 | 47½ x 20¼ | 38½ | 16 | 18¾ |
| 4TJ89 | 12¼ | 3⅛ | 2⅛ | 22½ | 12 | 40⅛ x 27 | 41 | 16½ | 20 |
| 6Y943 | 12 | 3 | 2⅛ | 25 | 15½ | 36 x 27 | 34½ | 36 | 33 |
| 3Z997 | 12¼ | 4 | 2¾ | 38 | 16¼ | 48 x 30 | 35½ | 48 | 36 |

## TABLE SAW ORDERING DATA

| Description | | Table Saws Stock No. | List | Each | Shpg. Wt. | Recommended Motor Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 10" Table Saw | New | 4TJ88 | $612.50 | **$379.00** | 140.0 | — | — | — | — |
| 10" Contractor Saw | New | 4TJ89 | 720.00 | **385.00** | 266.0 | 3K300 | $321.00 | **$214.75** | 34.0 |
| 10" Tilting Arbor Table | | 6Y943 | 1506.00 | **1055.00** | 490.0 | 3K344 | 389.00 | **259.25** | 41.0 |
| 12" Tilting Arbor Table | | 3Z997 | 1980.00 | **1374.00** | 600.0 | 6K145 | 465.00 | **303.50** | 77.0 |

## BIESEMEYER® TABLE SAW ACCESSORIES

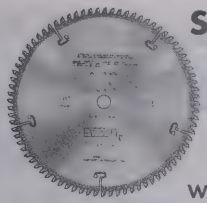
| Description | Stock No. | List | Each | Shpg. W |
|---|---|---|---|---|
| **T-Square Fence (Must be used with Guide Rail Set No. 6Y947)** | **6Y946** | $199.23 | **$179.75▲** | 28.0 |
| **Guide Rail Set (Must be used with T-Square Fence No. 6Y946)** | **6Y947** | 181.56 | **167.00▲** | 61.0 |
| **Blade Guard System** | **6Y951** | 484.61 | **436.25▲** | 36.0 |
| **Adjustable 1" Square Support Legs** | **6Y950** | 45.30 | **45.30▲** | 36.0 |
| **Extension Table for 12" Table Saw (No. 3Z997)** | **6Y949*** | 141.88 | **92.80▲** | 29.0 |
| **Extension Table for 10" Table Saw (No. 6Y943)** | **6Y948*** | 90.82 | **83.95▲** | 34.0 |

(*) NOTE: Extension tables must be used with Guide Rail Set No. 6Y947. (▲) Net prices, not subject to discount.

# TABLE SAW ACCESSORIES AND CARBIDE SAW BLADES

DEWALT

New



## SERIES 40 AND SERIES 60 WOODWORKING CARBIDE SAW BLADES

No. 3MF81
Series 40
Woodworking Blade

### SERIES 40™ WOODWORKING CARBIDE SAW BLADES

| Description | Blade Diam. (In.) | No. of Teeth | Kerf | Tooth Grind | Hook Angle | Arbor Hole (In.) | Plate Thickness (In.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| rosscut | 10 | 60 | .126 | ATB | +10° | 5/8 | .087 | DW3215 | **3MF79** | $73.22 | **$57.70▲** | 1.6 |
| | 12 | 60 | .126 | ATB | +10° | 1 | .087 | DW3226 | **3MF85** | 92.88 | **73.20▲** | 2.2 |
| ne Crosscut | 10 | 80 | .098 | ATB | -5° | 5/8 | .071 | DW7183 | **4LK93** | 98.12 | **95.50▲** | 9.5 |
| | 12 | 80 | .102 | ATB | -5° | 1 | .071 | DW3232 | **4LK63** | 109.48 | **106.35▲** | 9.6 |
| | 12 | 80 | .126 | ATB | -5° | 1 | .071 | DW3228 | **3MF87** | 104.26 | **82.15▲** | 2.2 |
| ombination | 10 | 40 | .126 | ATB | +10° | 5/8 | .087 | DW3213 | **3MF77** | 60.26 | **47.50▲** | 2.8 |
| | 12 | 48 | .126 | ATB | +10° | 1 | .087 | DW3224 | **3MF84** | 86.04 | **67.80▲** | 3.5 |
| nishing | 12 | 60 | .098 | ATB | -5° | 1 | .071 | DW3231 | **4LK62** | 92.64 | **90.30▲** | 9.6 |
| minate Cutting | 10 | 80 | .126 | TCG | +10° | 5/8 | .087 | DW3219 | **3MF83** | 98.10 | **77.30▲** | 1.6 |
| | 12 | 80 | .126 | TCG | +10° | 1 | .087 | DW7281 | **4LK94** | 104.26 | **101.40▲** | 9.6 |
| onferrous Metal Cutting | 10 | 80 | .126 | TCG | -5° | 5/8 | .087 | DW3217 | **3MF81** | 98.10 | **77.30▲** | 2.5 |
| | 12 | 80 | .126 | TCG | -5° | 1 | .087 | DW3229 | **3MF88** | 104.26 | **82.15▲** | 2.2 |
| ltimate Finish | 12 | 96 | .126 | ATB | +5° | 1 | .087 | DW7296 | **4LK95** | 117.92 | **114.35▲** | 9.6 |

▲) Net Prices, not subject to discounts.

### *New!* SERIES 40™ WOODWORKING SAW BLADES

| Description | Blade Diam. (In.) | No. of Teeth | Kerf | Tooth Grind | Hook Angle | Arbor Hole (In.) | Plate Thickness (In.) | DeWalt Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| st Ripping | 10 | 24 | .126 | FTG | +20° | 5/8 | 0.087 | DW7124 | **4TG66** | $57.98 | **$49.40▲** | 1.6 |
| | 12 | 30 | .126 | FTG | +20° | 1 | 0.087 | DW7230 | **4TG73** | 69.98 | **59.85▲** | 3.0 |
| | 10 | 30 | .126 | TCG | +10° | 5/8 | 0.087 | DW7130 | **4TG67** | 66.00 | **56.20▲** | 1.6 |
| nish Ripping | 10 | 40 | .126 | TCG | +10° | 5/8 | 0.087 | DW7140 | **4TG68** | 74.00 | **62.95▲** | 1.6 |
| | 12 | 40 | .126 | TCG | +10° | 1 | 0.087 | DW7240 | **4TG74** | 92.00 | **78.50▲** | 3.0 |
| ombination | 12 | 60 | .126 | ATB+R | +15° | 1 | 0.087 | DW7260 | **4TG75** | 104.00 | **88.60▲** | 3.0 |
| elamine and | 10 | 60 | .126 | HATB | 0° | 5/8 | 0.087 | DW7160 | **4TG69** | 92.00 | **78.15▲** | 1.6 |
| neers | 10 | 80 | .126 | HATB | 0° | 5/8 | 0.087 | DW7180 | **4TG71** | 108.00 | **91.70▲** | 1.6 |
| | 12 | 80 | .126 | HATB | 0° | 1 | 0.087 | DW7290 | **4TG76** | 114.00 | **97.10▲** | 3.0 |
| lid Surface and | 10 | 60 | .126 | M-TCG | 0° | 5/8 | 0.087 | DW7161 | **4TG70** | 94.00 | **79.85▲** | 1.6 |
| astics | 10 | 80 | .126 | M-TCG | 0° | 5/8 | 0.087 | DW7181 | **4TG72** | 110.00 | **93.40▲** | 1.6 |
| | 12 | 80 | .126 | M-TCG | 0° | 1 | 0.087 | DW7291 | **4TG77** | 116.00 | **98.75▲** | 3.0 |

### *New!* SERIES 60™ PREMIUM WOODWORKING SAW BLADES

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| st Ripping | 10 | 24 | .120 | FTG | +20° | 5/8 | 0.087 | DW7612 | **4TG78** | 90.00 | **76.45▲** | 1.9 |
| | 12 | 30 | .120 | FTG | +20° | 1 | 0.087 | DW7631 | **4TG87** | 98.00 | **83.55▲** | 3.0 |
| | 10 | 30 | .120 | TCG | +10° | 5/8 | 0.087 | DW7613 | **4TG79** | 98.00 | **83.25▲** | 1.6 |
| nish Ripping | 10 | 40 | .120 | TCG | +10° | 5/8 | 0.087 | DW7614 | **4TG80** | 110.00 | **93.40▲** | 1.6 |
| | 12 | 40 | .120 | TCG | +10° | 1 | 0.087 | DW7632 | **4TG88** | 118.00 | **100.45▲** | 3.0 |
| mbination | 10 | 50 | .120 | ATB+R | +15° | 5/8 | 0.087 | DW7615 | **4TG81** | 120.00 | **101.85▲** | 1.6 |
| | 12 | 60 | .120 | ATB+R | +15° | 1 | 0.087 | DW7633 | **4TG89** | 138.00 | **117.35▲** | 3.0 |
| neral Purpose | 10 | 40 | .120 | H-ATB | +20° | 5/8 | 0.087 | DW7623 | **4TG86** | 104.00 | **88.30▲** | 1.6 |
| elamines and | 10 | 60 | .120 | HATB | 0° | 5/8 | 0.087 | DW7617 | **4TG82** | 130.00 | **110.30▲** | 1.6 |
| neers | 10 | 80 | .120 | HATB | 0° | 5/8 | 0.087 | DW7618 | **4TG83** | 151.00 | **128.05▲** | 1.6 |
| | 12 | 80 | .120 | HATB | 0° | 1 | 0.087 | DW7634 | **4TG90** | 154.00 | **130.90▲** | 3.0 |
| lid Surface and | 10 | 60 | .120 | M-TCG | 0° | 5/8 | 0.087 | DW7621 | **4TG84** | 136.00 | **115.35▲** | 1.6 |
| astics | 10 | 80 | .120 | M-TCG | 0° | 5/8 | 0.087 | DW7622 | **4TG85** | 158.00 | **133.95▲** | 1.6 |
| | 12 | 80 | .120 | M-TCG | 0° | 1 | 0.087 | DW7635 | **4TG91** | 170.00 | **144.45▲** | 3.0 |

▲) Net prices, not subject to discounts.

## TABLE SAW ACCESSORIES

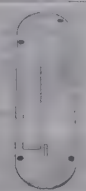
ado Throat Plate allows for use of stack dado cutters. DeWalt and (DW7444).

w No. 4PC38. Shpg. wt. 1.7 lbs. List $45.00, Each.....$32.60▲

▲) Net prices, not subject to discounts.

DEWALT

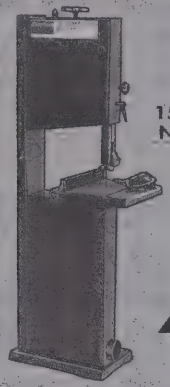
New



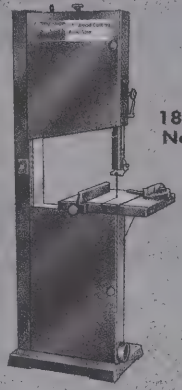
No. 4PC38

SHOP MACHINERY

# METAL-CUTTING BAND SAWS



15" Band Saws
Nos. 2AC28 &
6Y002

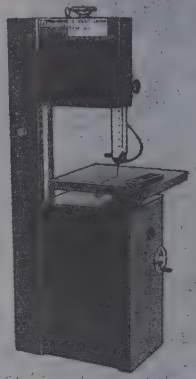


18" Band Saws
Nos. 2AC29 &
6Y942

Dayton®

New

15" Variable-Speed
Metal-Cutting Band
Saw No. 2AC27



FREE DELIVERY
on orders of
$900 or more
See Freight Policy

Replacement Parts Available
1-800-323-0620

## 3-SPEED BAND SAWS

Metal-cutting band saws Nos. 6Y002 and 6Y942 have three speed ranges: 80, 150, and 200 SFPM for cutting steel, cast-iron, and nonferrous metals. For tool and die makers and machine shops and machinists. No. 6Y002 is 15"; No. 6Y942 is 18".

All steel unibody construction. Precision ground cast-iron table tilts 45° and has miter gauge slot. Can be used for contour, bevel, straight, or resaw cutting. Rack and pinion adjusts upper blade guides to workpiece height. Built-in 4" exhaust port on wood-cutting saw, and chip chute on metal cutting saws. All saws feature rip fence, miter gauge, and wheel cleaning brush. No assembly necessary other than motor and worktable.

Motors not included. Order 3/4 HP, 1725 RPM, 56 NEMA frame rigid mount motor No. 6K639 for 15" band saw No. 6Y002 and order 1 HP, 1740 RPM, 143T NEMA frame rigid weld mount motor No. 6K827 for 18" band saw No. 6Y942.

## VARIABLE-SPEED BAND SAWS

**Metal-cutting Band Saws Nos. 2AC27 and 4TK02** offer precision cutting for tool and die makers, machine shops, and production work.

**Speed infinitely variable** from 80 - 350 FPM for No. 2AC27 and 82 - 384 for No. 4TK02 for cutting ferrous and nonferrous metals.

**No. 4TK02 includes** front mounted blade welder and grinder.

**Selection guide helps determine blade type** and speed for most metals. Industrial rated heavy-duty speed reducer; heavy gauge steel construction; cast-iron pulleys and table; rubberized cast-iron wheels; upper and lower carbon carbide blade guides.

**Features: push-button magnetic switch** with safety "Off" button, tilting worktable for angle cuts, built-in chip chute, eye bolt for moving, and flange mounting brackets for securing to the floor. Includes cleaning brush and chip blower. No. 2AC27 for 230V use, No. 4TK02 for 110/230V use.

**Motor not included with No. 2AC27**; order 1 HP, 1725 RPM, 56H NEMA frame, rigid weld mount motor No. 5K921.

**No. 4TK02 includes** 1 HP, 1725 RPM, 110/230V motor, prewired for 110V. Bandsaw comes completely assembled.

## SPECIFICATIONS

| Stock No. | Wheel Dia. (In.) | Blade to Column (In.) | Max Thickness of Cut (In.) | Table Size (In.) | Blade Length (In.) Min. | Blade Length (In.) Max. | Blade Width (In.) Min. | Blade Width (In.) Max. | Speeds (FPM) | Saw Dimensions (In.) H | W | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6Y002 | 15 | 14⅝ | 8½ | 15X15 | 107 | 111 | 3/16 | 3/4 | 80, 150, & 200 | 69 | 27 | 26 |
| 6Y942 | 18 | 17½ | 11 | 18X19 | 132 | 134 | 3/16 | 1 | 80, 150, & 200 | 75 | 33 | 28 |
| 2AC27 | 15⅛ | 15 | 10 | 19⅝ X 19⅝ | 117¼ | 120¾ | 1/8 | 3/4 | 80-350 | 69¾ | 31¼ | 27 |
| 4TK02 | 18 | 18 | 10 | 22¼ x 19⅞ | 138 | 141 | 1/8 | 5/8 | 82-384 | 72 | 40 | 21½ |

## ORDERING DATA

| BAND SAWS ONLY No. of Speeds | | Stock No. | List | Each | Shpg. Wt. | RECOMMENDED MOTOR HP | Motor Volts | RPM | Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | | 6Y002 | $1120.00 | $784.00▲ | 205.0 | 3/4 | 115/230 | 1725 | 11.2/5.6 | 6K639 | $259.00 | $198.50 | 26.0 |
| 3 | | 6Y942 | 1640.00 | 1148.00▲ | 270.0 | 1 | 115/230 | 1725 | 13.6/6.8 | 6K827 | 275.00 | 205.50 | 34.0 |
| Variable | | 2AC27 | 2800.00 | 2571.00▲ | 730.0 | 1 | 115/230 | 1725 | 6.8 | 5K921 | 255.00 | 165.25 | 28.0 |
| Variable | New | 4TK02 | 4750.00 | 2932.00▲ | 1012.0 | Motor Included with No. 4TK02 | | | | | | | |

## REPLACEMENT BLADES FOR BAND SAWS ABOVE

| Type | Teeth/Inch Tooth Style | Stock No. | Each |
|---|---|---|---|
| **BLADES FOR BAND SAW No. 6Y002** | | | |
| 3/4" Carbon | 14 Raker | 4L236 | $16.68 |
| 3/4" Bi-Metal | 10/14 Variable | 4L413 | 38.35 |
| **BLADES FOR BAND SAW No. 6Y942** | | | |
| 3/4" Carbon | 14 Raker | 4L416 | $18.76 |
| 3/4" Bi-Metal | 10/14 Variable | 4L417 | $44.85 |
| **BLADES FOR BAND SAW No. 2AC27** | | | |
| 1/2" Carbon | 6 Hook | 4L408 | $14.38 |
| 1/4" Carbon | 6 Hook | 4L409 | 13.65 |
| 3/4" Bi-Metal | 10/14 Variable | 4L339 | 39.95 |

**100' COILS FOR BAND SAW No. 4TK02**

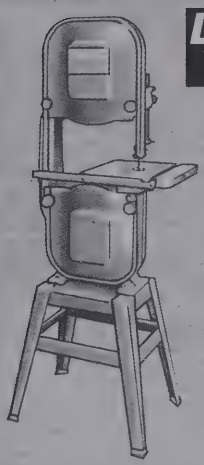
| | | | |
|---|---|---|---|
| Bi-Metal | 6/10 Variable | 4L304 | 286.50 |
| Bi-Metal | 12/14 Variable | 4L306 | 286.50 |
| Carbon | 10 Regular | 4L149 | 73.70 |
| Carbon | 14 Carbon | 4L144 | 66.20 |



Put America's power tool powerhouse to work for you today.

# WOOD-CUTTING BAND SAWS

## DAYTON 14" BAND SAW—WOOD CUTTING




No. 4TJ91

For contour cutting, straight cutting or resawing. Comes with saw stand, blade, blade guard, arbor, exhaust port, motor pulleys, drive belts and aluminum wheels. Table tilts 45° for bevel cutting. Upper and lower guides adjust independently to micrometer accuracy.

Cuts at 2000 and 2600 SFPM. Table is grooved for miter gauge and machined for rip fence. Direct reading blade tension scale.

Comes with 3/4 HP motor and stand. Includes basic machine; open steel stand with 3/4 HP, 115V, 60 Hz, 1725 RPM, single phase, capacitor start motor; 8 ft. cord and 115V grounding type plug; remote control On-Off toggle switch and cord connected to motor; chip chute; wheel, blade and belt guards; arbor and motor pulleys; V-belt; blade guides; and wood cutting blade.

***New* No. 4TJ91.** 14" Wood Cutting Band Saw. Shpg. wt. 159.0 lbs. List $675.00. Each.....**$415.00▲**

(▲) Net prices, not subject to discounts.

### SPECIFICATIONS

| No. of Speeds | Table Dimensions | Distance From Blade to Frame (In.) | Blade Length (In.) | Max. Thickness of Cut (In.) | Blade Range (In.) | Dimensions (In.) H | W | D |
|---|---|---|---|---|---|---|---|---|
| 2 | 14 x 14 | 14 | 93 | 6¼ | 1/8 - 3/4 | 65 | 25 | 21 |

### STARRETT REPLACEMENT BLADES FOR BAND SAW ABOVE

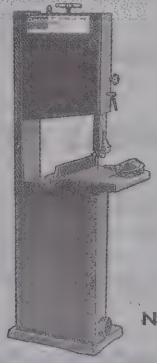
| Length | Size (In.) Width | Thickness | Teeth Per Inch | Metal Type | Tooth Set | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **7' 9"** | 1/2 | .025 | 10-14 | Bi-Metal | Variable | **4L331** | **$26.90** | 0.8 |
| **7' 9"** | 1/2 | .035 | 10-14 | Bi-Metal | Variable | **4L261** | **28.80** | 0.8 |
| **7' 9"** | 1/2 | .025 | 18 | Bi-Metal | Regular | **4L387** | **26.90** | 1.0 |
| **7' 9"** | 3/4 | .035 | 14 | Bi-Metal | Regular | **4L346** | **33.45** | 1.1 |

## 2-SPEED BAND SAWS

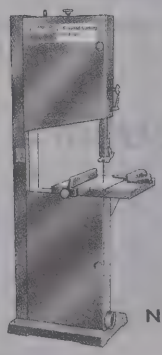
**Wood-cutting Band Saws Nos. 2AC28 and 2AC29** have two speed ranges: 3000 SFPM for cutting soft woods and other light material; 2000 SFPM for hardwoods and plastics. For cabinet makers, pattern makers, and carpenters. For 115V use. No. 2AC28 is 15"; No. 2AC29 is 18".

All steel unibody construction. Precision ground cast-iron table tilts 45° and has miter gauge slot. Can be used for contour, bevel, straight, or resaw cutting. Rack and pinion adjusts upper blade guides to workpiece height. Built-in 4" exhaust port on wood-cutting saws, and chip chute on metal cutting saws.

**All saws feature** rip fence, miter gauge, and wheel cleaning brush. No assembly necessary other than motor and worktable.



No. 2AC28




No. 2AC29

Replacement Parts Available
1-800-323-0620

### SPECIFICATIONS

| Stock No. | Wheel Dia. | Blade to Column (In.) | Max. Thickness of Cut (In.) | Table size (In.) | Blade Length (In.) Min. | Max. | Blade Width (In.) Min. | Max. | Speeds (FPM) | Saw Dimensions (In.) H | W | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2AC28** | 15 | 14⅝ | 8½ | 15 x 15 | 107 | 111 | 3/16 | 3/4 | 3000 & 2000 | 69 | 27 | 21 |
| **2AC29** | 18 | 17½ | 11 | 18 x 19 | 132 | 134 | 3/16 | 1 | 3000 & 2000 | 75 | 33 | 25 |

### ORDERING DATA

| BAND SAWS ONLY No. of Speeds | Stock No. | List | Each | Shpg. Wt. | RECOMMENDED MOTOR HP | Motor Volts | RPM | Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | **2AC28** | $800.00 | **$640.00** | 205.0 | **3/4** | 115/230 | 1725 | 11.2/5.6 | **6K639** | $259.00 | **$198.50** | 26.0 |
| **2** | **2AC29** | 1320.00 | **924.00▲** | 260.0 | **1** | 115/230 | 1725 | 13.6/6.8 | **6K827** | 275.00 | **205.50** | 34.0 |

### REPLACEMENT BLADES FOR BAND SAWS ABOVE

| Type | Teeth/Inch Tooth Style | Stock No. | Each |
|---|---|---|---|
| **BLADES FOR BAND SAW No. 2AC28** | | | |
| **1/2" Carbon** | 6 Hook | **4L411** | **$14.00** |
| **3/4" Carbon** | 8 Raker | **4L412** | **16.68** |
| **BLADES FOR BAND SAW No. 2AC29** | | | |
| **1/2" Carbon** | 6 Hook | **4L414** | **$15.54** |
| **3/4" Carbon** | 8 Raker | **4L415** | **$18.76** |

# 5 x 8" METAL-CUTTING BAND SAW, SUPPORT STAND AND BENCH MODEL COLD SAW

## 5 x 8" METAL-CUTTING BAND SAW

**Cuts metal, plastic, or wood in horizontal cutting position.** Gear reduction drive assembly is sealed in an oil bath to ensure continual lubrication for drive train assembly, which consists of a steel heat treated worm gear driving a bronze mating gear. Blade guide assembly consists of two ball bearings mounted on an eccentric shaft and a ball bearing rear guide. Outboard and rear guides adjust to maintain proper blade alignment. Equipped with a hydraulic feed which is assisted by an adjustable counter balancing spring resulting in longer blade life and more accurate cuts.

**Solid cast-iron construction of both head and bed** minimizes deflection, increases accuracy, and provides overall durability. Other features include blade tension and tracking control. OSHA specified blade guard, automatic shutoff, adjustable workstop and 45° swivel vise.

**Available in both wet and dry models.** The wet cutting band saw gives the most efficient operation and provides faster chip removal. Submersible centrifugal coolant pump operates in a one gallon tank; the pump is driven by a fan cooled thermally protected, 115V, 60 Hz single phase motor. A steel coolant trough runs the full length of the base to minimize oversplash. Powered by 1/2 HP, 1725 RPM, 115V, 60 Hz capacitor start motor.

**Shipped complete** with motor, blade, belt, 3-step pulleys, and 3-conductor cord set. Hose, shut-off valve, and spray nozzle are included. Stand and coolant components are shipped unassembled. Coolant not included, order synthetic metal-working coolant No. 4F745. Replacement blades are 5'8" long, 1/2" wide and 0.025" thick. (Sold below).

### DRY BAND SAW

**No. 3Z990.** Metal-Cutting Band Saw. Wilton brand (3130). Shpg. wt. 160.0 lbs. List $1119.96. Each.....$737.50▲

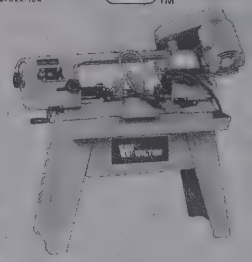
### WET KIT FOR USE WITH BAND SAW No. 5Z412

**No. 4Z402.** Wet Band Saw Kit. Shpg. wt. 5.0 lbs. Each.....$133.00▲

(▲) Net prices, not subject to discounts.

WILTON CORPORATION

Replacement Parts Available 1-800-323-0620



No. 3Z990
Dry Band Saw
with Stand and Motor

| GENERAL SPECIFICATIONS | |
|---|---|
| **Speeds** | 85-125-200 SFPM |
| **Blade Guides** | Ball Bearings |
| **Blade Wheel** | 7½" Dia. Flanged Cast Iron |
| **Blade Size** | 1/2 x 0.025 x 68" |
| **Cutting Capacity** | 7½W x 5"H Rectangle; 5" Rounds; 8W x 1"H Flat Stock; 4½W x 5"H at 45° Angle |
| **Dimensions** | 38"H in Horizontal Position; 58½"H in Vertical Position |
| **Machine Size** | 38L x 16W x 37" H |

### REPLACEMENT BLADES FOR BAND SAW ABOVE

| Teeth Per Inch | Metal Type | Tooth Set | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 10 | Flex-Back | Regular | 17448 | **4L376** | **$10.96** | 0.6 |
| 14 | Flex-Back | Regular | 17449 | **4L377** | **10.96** | 0.6 |
| 10-14 | Bi-Metal | Variable | 17456 | **4L378** | **22.01** | 0.6 |

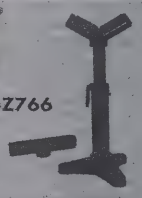
## SUPPORT STAND & HORIZONTAL HEAD

Heavy-duty support stand for 4 x 6" to 12 x 16" horizontal band saws. Used for round stock pipe, tube conduit, and structural steel when sawing, cutting, welding, and leveling. Holds up to 2000 lbs. and height adjusts from 23 to 37". Ball bearing "V" roller head accommodates 1 to 18" diameters. Cast-iron and steel base column and head. For use with table saws, optional horizontal ball bearing roller head. No. 6Z766, interchangeable with "V" roller head. Dayton brand.

**No. 6Z765.** Shpg. wt. 52.0 lbs. List $118.86. Each.....$83.20▲

**No. 6Z766.** 14" Horizontal Roller Head.. Shpg. wt. 13.0 lbs. List $37.80. Each.....$26.50▲

Dayton



No. 6Z765

No. 6Z766

## 9" BENCH MODEL COLD SAW

**Rugged, portable, lightweight bench model cold saw** features durable cast iron construction. Can cut small solids, tubing and structural shapes fast, with a smooth, mill-like finish. Miter cuts from 0 to 45" to the left.

Bronze worm gear and hardened ground worm screw gear box in an oil bath. Control handle with safety spring loaded trigger switch to start or stop machine. Coolant system, manual vise and adjustable work stop. Blade not included, order separately.

| SPECIFICATIONS | | |
|---|---|---|
| Cutting Capacity | Round (In.) | Square (In.) |
| **90°** | 2½ | 2 5/16 |
| **45° Left** | 2⅛ | 2 |

| GENERAL SPECIFICATIONS | |
|---|---|
| **Blade Speed** | 60 RPM |
| **Motor** | 1 HP |
| **Blade Size** | 225 x 32 x 2 (mm) |
| **Maximum Blade Size** | 9" |
| **Vise Opening Maximum** | 2¾" |
| **Weight** | 84 lbs. |

**No. 4KM96.** Bench Model Cold Saw. Wilton brand (W225). Shpg. wt. 84.0 lbs. Each.....$1097.00▲

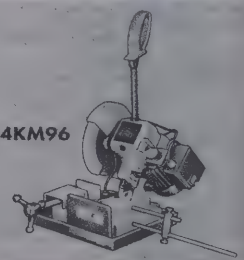
**No. 4KM93.** 180 Teeth 9" Blade. For use with pipe and tubing. Wilton brand (579000). Shpg. wt. 1.0 lbs. Each.....$85.00▲

**No. 4KM94.** 150 Teeth 9" Blade. For use with solids. Wilton brand (579002). Shpg. wt. 1.0 lbs. Each.....$85.00▲

WILTON CORPORATION



No. 4KM94



No. 4KM96



Put America's power tool powerhouse to work for you today.

# 6 X 10" METAL-CUTTING BAND SAW AND ARBOR PRESSES

## 6 x 10" METAL-CUTTING BAND SAW

Wilton 4-speed horizontal cutoff band saw for machine, maintenance and fabricating shops. Unit has cast design to provide reliable performance. Also offers the versatility of a vertical cutting feature.

**Adjustable blade guides** give full blade support. Adjustable roller bearings mounted on eccentric shafts provide proper alignment to deliver clean, accurate cuts.

**Hydraulic feed system** can be adjusted according to material and hardness, providing a smooth clean cut.

**Oil bath drive train** provides constant lubrication to internal moving parts. Gear reduction assembly uses a steel, heat-treated worm, driving a bronze worm gear to provide smooth, quiet operation.

**Other features include** blade tension and tracking control, OSHA specified blade guard, automatic shutoff, adjustable workstop, and 45° swivel vise.

**Rapid acting 45° vise** delivers quick and secure clamping of the workpiece. Adjusts easily for miter cutting.

**Saw can be operated** in both horizontal and vertical position. Vertical table is standard with each machine.

**Shipped complete** with 3/4 HP, 1725 RPM, 115/230V, 60 Hz single phase motor. Wired at factory for 115V operation. Also includes blade, belt, 4-step pulleys, and 3-conductor cord set. Stand and coolant components are shipped unassembled. Coolant not included, order synthetic metal-working coolant No. 4F745.

Wilton brand (3400).

**No. 5Z412.** Dry Band Saw. Shpg. wt. 270.0 lbs. List $1690.00.
Each.....$1426.00▲

**WET KIT FOR USE WITH BAND SAW No. 5Z412**

**No. 4Z402.** Wet Kit. Shpg. wt. 5.0 lbs. List $135.66.
Each.....$135.70▲

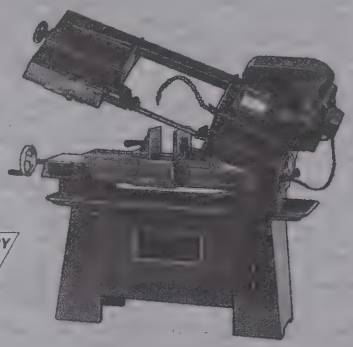
(▲) Net prices, not subject to discounts.

WILTON CORPORATION

Replacement Parts Available 1-800-323-0620

Dry Band Saw No. 5Z412

Optional Wet Kit No. 4Z402 Available



FREE DELIVERY on orders of $900 or more

See Freight Policy

### GENERAL SPECIFICATIONS

| | |
|---|---|
| Round Cutting Capacity | 6" |
| Flat Cutting Capacity | 9½" wide x 6" high rectangles<br>11" wide x 1" high flat stock<br>4" wide x 6" high at 45° |
| Blade Size | 3/4" wide, 0.032" thick, 93" long |
| Blade Speeds | 86, 132, 178, 260 SFPM |
| Blade Guides | Side: Eccentric shaft, ball bearings<br>Rear: Ball bearings |
| Blade Wheel | 11 7/16" diameter |
| Vise | Rapid Action |
| Overall Dimensions | 50L x 18W x 41"H (cutoff position) |

### REPLACEMENT BLADES FOR BAND SAW ABOVE SPECIFICATIONS AND ORDERING DATA

| Length | Size (In.) Width | Thickness | Teeth Per Inch | Metal Type | Tooth Set | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 7' 9" | 3/4 | 0.032 | 8 | Flex-Back | Regular | 17278 | **4L353** | **$14.58** | 1.1 |
| 7' 9" | 3/4 | 0.032 | 10 | Flex-Back | Regular | 17185 | **4L309** | **14.58** | 1.1 |
| 7' 9" | 3/4 | 0.032 | 14 | Flex-Back | Regular | 17189 | **4L341** | **14.58** | 1.1 |
| 7' 9" | 3/4 | 0.035 | 14 | Bi-Metal | Regular | 17402 | **4L346** | **33.45** | 1.1 |

## SYNTHETIC METALWORKING COOLANT

- **For machining operations such as drilling, turning, milling, grinding and tapping requiring friction reducing coolants**
- **2.5 gallon container**
- **Viscosity (SUS@100°F): 2031**
- **Flash Point: 305°F**
- **Pour Point: 20°F**
- **Mobil brand**

Mobil®



Non-toxic, bioresistant synthetic based soluble oil which, when added to water forms an effective metalworking coolant. Use with a wide range of ferrous and non-ferrous alloys. Optimal 5% concentration, with water, emulsifies spontaneously. Has good resistance to foaming and provides effective protection against rust. Does not contain halogens, sulfur, chlorine, biocides, phenols or nitrites. Proprietary formula requires less monitoring due to 250 day batch life and high resistance to bacterial growth. **NOTE: Add coolant to water. Do not add water to coolant.**

**No. 4F745.** (Mobilmet® Aqua Rho). Shpg. wt. 21.0 lbs. List $123.84. Each.....$104.95

# 7" x 12" METAL-CUTTING BAND SAW AND SUPPORT STAND

## 7" x 12" METAL-CUTTING BAND SAW

**Wilton heavy-duty 7 x 12" horizontal band saw** is built to deliver fast, accurate cutting on all types of materials.

**Heavy-duty, rigid steel construction** of head and base provides full blade support and eliminates vibration and deflection.

**Precision blade guides provide full roller support** and ensure proper blade alignment. Each assembly combines two cam follower side bearings with hardened races and a ball bearing rear guide. Outside cam follower bearing is mounted on an adjustable eccentric shaft. Upper blade guide is secured to a rigid adjustable precision slide maintaining full blade support whether fully extended or retracted.

**Gear power train utilizes a hardened steel worm shaft** supported at each end with tapered roller bearings driving a precision bronze worm gear in an oil bath. Delivers consistent speed to the blade resulting in longer blade life.

**Feed system combines a variable rate hydraulic feed** which is assisted by an adjustable counter balancing spring. This system delivers a smooth consistent feed rate resulting in longer blade life and greater accuracy. All controls are conveniently located for easy accessibility.

**Rapid-acting vise** with conventional tightening. Stationary jaw is secured with three bolts even when miter cutting at 45°.

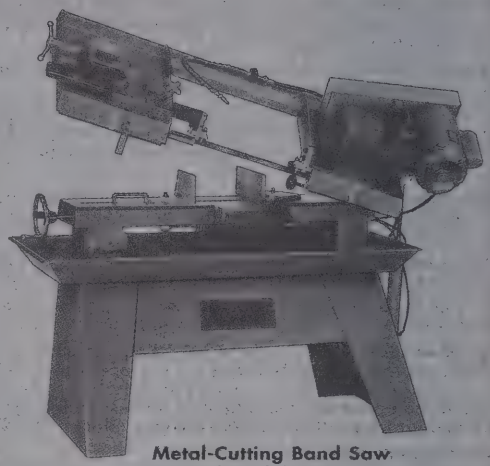
**Coolant system** consists of a large three gallon reservoir with a submersible thermally protected centrifugal pump. Designed for easy access for simple maintenance. Each machine is also equipped with an adjustable wire brush and rubber wiper to aid in removal of chips from blade. Coolant not included, order synthetic metalworking coolant No. 4F745, see page 2777.

**Shipped complete** with 3/4 HP, 1725 RPM, 115/230V, 60 Hz, single phase motor, blade, coolant system, belt, and four step pulleys. Machine shipped assembled. Wilton brand (3575T).

**No. 3Z518.** Wilton brand (3575T) Shpg. wt. 551.0 lbs. List $2965.00.
Each .....$2600.00▲

Replacement Parts Available 1-800-323-0620

WILTON CORPORATION



Metal-Cutting Band Saw No. 3Z518

### GENERAL SPECIFICATIONS

| | |
|---|---|
| Cutting Capacity | 7" Round; 11¼W x 7"H Rectangle; 2W x 2"H Flat Stock; 6W x 7"H at 45° |
| Blade Size | 3/4W x 0.032T x 101"L |
| Blade Speeds | Four: 60-110-155-205 SFPM |
| Blade Guides | Side: Eccentric Shaft, Ball Bearings; Rear: Ball Bearing |
| Blade Wheel | 11¹⁄₁₆" Diameter, Cast Iron |
| Blade Drive | Double reduction, internal gear assembly |
| Vise | Rapid Action Continuous Screw Tightening Vise |
| Coolant Pump | Submersible in 3 gallon tank. Complete with hose, flexible nozzle, shut-off valve, and tank baffle. |
| Overall Length | 58" |
| Overall Width | 20" |
| Overall Height | 46" (Cut-off position) |

### REPLACEMENT BLADES FOR BAND SAW ABOVE SPECIFICATIONS AND ORDERING DATA

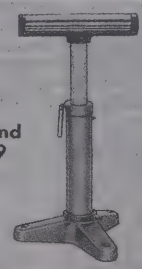
| Length | Size (In.) Width | Size (In.) Thickness | Teeth Per Inch | Metal Type | Tooth Set | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8' 5" | 3/4 | 0.032 | 10 | Flex-Back | Regular | 17229 | **4L130** | **$15.63** | 1.1 |
| 8' 5" | 3/4 | 0.032 | 14 | Flex-Back | Regular | 17258 | **4L199** | **15.63** | 1.1 |
| 8' 5" | 3/4 | 0.035 | 10/14 | Bi-Metal | Variable | 17403 | **4L392** | **35.05** | 1.2 |

## SUPPORT STAND

Heavy-duty support stand holds up to 2,000 lbs. Height adjusts from 23 to 37". Cast-iron and steel base, column and head. 2 x 14" ball bearing roller head smoothly moves workpiece. Quick action clamping mechanism allows easy height adjustment. Locking screws provide added safety for heavy loads. Dayton brand.

**No. 6A819.** Shpg. wt. 46.0 lbs. List $118.86.
Each .....$97.50▲

(▲) Net prices, not subject to discounts.



Support Stand No. 6A819

Dayton®



Put America's power tool powerhouse to work for you today.

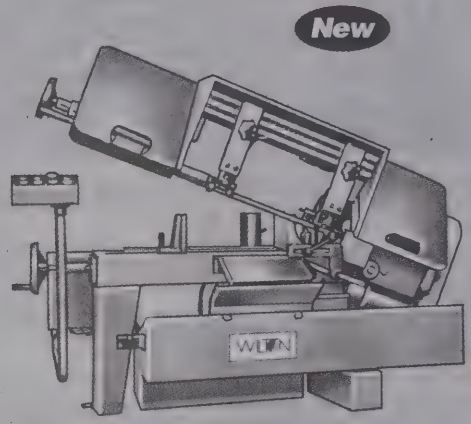
# 10" x 16" WET METAL-CUTTING BAND SAW

WILTON CORPORATION

Replacement Parts Available 1-800-323-0620

- Superior structural integrity
- 6 Point ball bearing and carbide blade guides
- Precision blade tension adjustment
- 3 Jaw rapid-acting vise
- Recirculating coolant system
- Hydraulic feed control
- Variable speed drive
- Swivel control panel

FREE DELIVERY on orders of $900 or more!
See Freight Policy




No. 4KM95

**Performance and innovation** are key with this ruggedly built horizontal general purpose wet band saw. This machine delivers accurate, fast cutting on a regular basis and is ideal for cutting ferrous and non-ferrous materials, solids, tubing and sectionals.

**Equipped with an exclusive swivel control panel** which allows the operator to use the machine from the front or back of the saw. Other exclusive features include the 6 contact point blade guide assemblies with coolant fed through the guides. These adjustable guides utilize cam follower bearing and carbide pads with each guide having 6 contact points with the blade for greater accuracy and longer blade life. Plus a rapid acting 3 jaw vise for simple, fast, accurate set up for both straight and miter cuts.

**Heavy-duty 1.5 HP, 1750 RPM motor,** coupled with a heavy-duty transmission of hardened and ground gears operating in an oil bath transmits smooth positive power to the blade. A variable speed drive system allows the operator to fine tune the blade performance. Machine also comes standard with coolant system, hydraulic feed system and deluxe work stop.

**No. 4KM95.** 10 x 16" Wet Metal Cutting Horizontal Band Saw with 1.5 HP, 1 phase, 115/220V motor with magnetic controls and 110V at switch. Wilton brand (7020). Shpg. wt. 725.0 lbs. Each.....$4995.00▲

(▲) Net prices, not subject to discounts.

## GENERAL SPECIFICATIONS

| | |
|---|---|
| Round Cutting Capacity | 10" |
| Square Cutting Capacity | 10" x 10" |
| Rectangle Cutting Capacity | 9" x 16" |
| Blade Size | 1" wide, 0.035" thick, 11' 3" long |
| Blade Speeds | 82 to 246 feet per minute - variable speed |
| Blade Wheels | 14" diameter/cast iron |
| Blade Guides | Adjustable 6 point contact combination bearing/carbide |
| Drive Motor | 1.5 HP, 1 phase |
| Vise | Rapid acting - 3 jaw design |
| Coolant System | Recirculating system standard with each machine complete with 1 GPM pump, 8 gallon reservoir and coolant applied through the blade guides |
| Machine Dimensions | 79L x 41H x 31"W |
| Machine Weight | 725 lbs. |

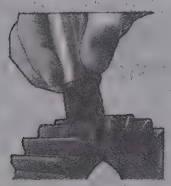
## *New!* REPLACEMENT BLADES FOR BAND SAW ABOVE

| Length | Width (In.) | Thickness (In.) | Teeth Per In. | Blade Type | Tooth Style | Starrett Model | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **11'3"** | 1 | 0.035 | 10 | Bi-Metal | Regular | 19662 | **4PG22** | **$55.55** | 2.0 |
| **11'3"** | 1 | 0.035 | 4/6 | Bi-Metal | Variable | 19663 | **4PG23** | **55.55** | 2.0 |
| **11'3"** | 1 | 0.035 | 6/10 | Bi-Metal | Variable | 19664 | **4PG24** | **55.55** | 2.0 |
| **11'3"** | 1 | 0.035 | 10/14 | Bi-Metal | Variable | 19665 | **4PG25** | **55.55** | 2.0 |

## MANY BRANDS OF POWER TOOL ACCESSORIES AVAILABLE

ITW Ramset/Red Head · NORTON · Weiler CORPORATION · Starrett®

# SELECTING A PARTS WASHER



**Parts washers are designed to clean parts in industrial plants, factories, automotive and truck repair stations, machine shops, print shops, and other maintenance facilities.**

**Consider the size and weight of the parts or batch of parts to be cleaned.** Choose a parts washer with a tank size to accommodate the part or parts.

If you are cleaning a large volume of parts, automatic parts washers reduce labor time and cost. Manual parts washers are ideally suited for lower volumes.

**Decide if the parts need to be presoaked to remove soils.** Tough oils, grease and hard to remove soil may need presoaking. Most parts washers provide effective presoaking capabilities.

**Choose the type of cleaning compound you require.**

Organic soils like oils, grease, and soft carbons are effectively removed with Super Agitene cleaning solvent No. 2W352. Use Super Agitene in solvent recirculating parts washers only.

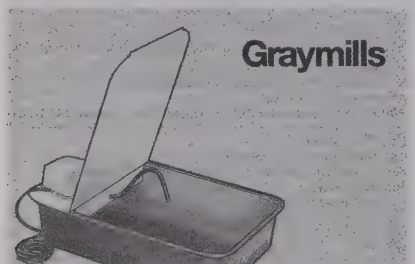
Inorganic soils such as epoxies, paints, processing compounds and corrosion are effectively removed with water-based Aquatene solutions No. 5W274 or 5A343. Aquatene must be used in heated parts washers.

## SOLVENT RECIRCULATING PARTS WASHERS

**Well suited for removing organic soils such as oils, grease and soft carbons.** In most models, parts are placed on removable, sloped metal work shelf above the solvent. (In some Handi-Kleen parts washers, parts may be placed at the bottom of the tank.) The pump circulates fluid from the tank through a flexible hose and nozzle, allowing the parts to be sprayed and cleaned. Parts can be soaked under the work shelf or at the bottom of the tank. Drain allows easy cleaning. Exclusive, Factory Mutual approved, automatic fusible link fire cover. In the event of a fire, the fusible link melts at 165°F, automatically closing the cover. Pump has no bearings in liquid, or seals to leak. Use Graymills Super Agitene solvent No. 2W352 (see page 1523). **Do not use chlorinated or flammable solutions.**

## HEATED WATER-BASE DETERGENT PARTS WASHERS

**Well-suited for removing inorganic and organic soils such as paints, epoxies, and processing compounds.** Heated parts washers heat Aquatene water-based cleaning solutions for effective soil removal. Aquatene meets EPA standards and is biodegradable. For proper, easy disposal of Aquatene solution, use detergent neutralizing powder and oil absorbant pads. Check with your local and state authorities for their specific regulations for disposal. Aquatene solutions, neutralizing powder and pads are sold on page 1525.




# SOLVENT RECIRCULATING PARTS WASHERS

## BENCH TOP PARTS WASHER/SOAK TANK

Compact unit combines industrial-grade construction and safety with bench top convenience. Includes Factory Mutual approved fusible link fire cover. In event of fire, fusible link melts at 165°F automatically closing cover.

**A solvent-resistant thermoplastic centrifugal pump** recirculates solvent through a hose to assist parts cleaning. Tank capacity is 2-5 gallons. Pump will operate with as little as 2 gallons of solvent in the tank. Powered by 115 volt, 60 Hz, single phase motor. 6 ft., 3-wire cord and plug.

**Steel tank.** Three clips hold cover securely to tank yet remove easily for maintenance. Dimensions: 23½L x 15½W x 6"D. Soaking depth 3¾". Graymills brand (EC-A).

**Use with Super Agitene cleaner No. 2W352** (not included; see page 1523). Do not use with chlorinated or flammable liquids.

**No. 4Z949.** Shpg. wt. 18.0 lbs. List $147.00. Each ..... $134.95

# DRUM-MOUNTED PARTS WASHER

- **5-10 or 10-20 gallon drum models**
- **100W work light**
- **Flexible metal flush hose adjusts to any position**
- **Factory Mutual approved**
- **Patented retractable pump speeds fluid changeovers and prevents pump damage**
- **Operates on standard 115V, On/Off switch, 6 ft., 3-wire cord and plug**

**Units plug into 115V outlet** and require minimal maintenance. No. 3Z901 operates with a minimum of 5 gal. of solvent, 10 gal. max.; No. 3Z986 operates with a minimum of 10 gal. of solvent, 20 gal. max. Parts are placed in durable 16 gauge metal tank.

**Use with Super Agitene cleaner** No. 2W352 (not included; see page 1523). Unit cannot be used with chlorinated or flammable liquids.




## DRUM-MOUNTED PARTS WASHER SPECIFICATIONS AND ORDERING DATA

| Tank Capacity | Inside Tank Dimensions (In.) Length | Width | Depth | Overall Height (In.) | Drum Capacity | Graymills Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **5-10 Gal.** | 32 | 18 | 8 | 35½ | 16 Gal. | DMD232 | **3Z901** | $499.00 | **$465.00** | 84.0 |
| **10-20** | 36 | 20 | 8 | 39½ | 30 | DMD236 | **3Z986** | 599.00 | **568.50** | 102.0 |

# SOLVENT RECIRCULATING PARTS WASHERS AND ACCESSORIES

## WASHER/SOAK TANKS

- Flexible metal hose adjusts to any position
- Include approved fusible link fire cover. In event of fire, fusible link melts at 165°F automatically closing cover
- Work shelves support parts above fluid level; remove easily for access to soak tank
- Solvent is continuously filtered through easily removed sludge collectors or filter baskets
- Rugged steel tanks have bottom drains for easy cleanout
- 115V, 60 Hz, single phase motor with 6 ft., 3-wire cord and plug
- Factory Mutual approved

**8½-15 Gallon Recirculating Washer No. 3Z746.** Comes with one-piece work tray that provides work area over tank. 6" soaking depth below shelf.

**15-42 Gallon Air Agitated Washer No. 3Z814.** Air agitation assists in loosening caked-on dirt, grease, and grime. Removable grated work shelf keeps parts off tank bottom, exposing all sides to cleaning action. Hanging parts basket is included for storage of brushes and small parts. Two removable sludge trays for easy clean up. Requires air flow of 2 SCFM at 50 PSI. 10" soaking depth. Use with Super Agitene Cleaner No. 2W352 (sold separately below). **Do not use with chlorinated or flammable liquids.**

Graymills

No. 3Z746 meets OSHA safety standards and is approved by Factory Mutual and city of Los Angeles



No. 3Z746
8½-15 Gallon

Replacement Parts Available
1-800-323-0620

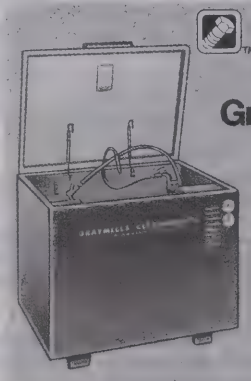
| Tank Capacity | Tank Dimensions (In.) Length | Width | Depth | Overall Height (In.) | Graymills Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **8½-15** | 36 | 22 | 16 | 38½ | PL36A | **3Z746** | $615.00 | **$609.50** | 160.0 |
| **15-42** | 42 | 22 | 20 | 38½ | PL422 | **3Z814** | 1090.00 | **958.50** | 185.0 |

## CLEAN-O-MATIC WASHER/SOAK TANK

- 16½" soaking depth
- Flexible metal flush hose adjusts to any position
- Auxiliary neoprene flush hose with pistol grip nozzle provides up to 18 GPM adjustable spray
- 3-way selector valve permits using pump, metal flush hose, or pistol-grip nozzle simultaneously or singly as desired
- Solvent flow-through on both hoses is continuously filtered through washable 40-mesh screen filter
- Includes Factory Mutual approved fusible link fire cover. In event of fire, fusible link melts at 165°F, automatically closing cover
- Removable sludge trays and bottom drain for easy tank cleanout
- Recessed On-Off switch and indicator lamp
- Graymills brand

Ruggedly constructed for years of trouble-free cleaning service, 50-85 gallon recirculating washer has bi-level work shelves which permit parts to be positioned both above and below the cleaning solution. Hydro-jet pump circulates 40 GPM of cleaning fluid through a manifold to loosen dirt and grime as parts soak. 115V, 60 Hz, single phase 1/3 HP motor with 6-ft., 3-wire cord and plug. Overall dimensions: 41⅜L x 29⅜W x 34"H (64"H with cover raised). Graymills brand.

**No. 6H013.** (800A). Shpg. wt. 300.0 lbs. List $2039.00. Each.....$2026.00



Replacement Parts Available
1-800-323-0620

Graymills

## Graymills ACCESSORIES FOR SOLVENT RECIRCULATING PARTS WASHERS

### SUPER AGITENE CLEANING SOLVENT

**A clear green parts cleaning solvent** with a mild fresh odor for use in Graymills parts washers. Cleans fast, Lanolin formulation reduces chances of skin irritation and chapping. Cleaner is stable and will not corrode metals. Flash point is 110°F. Five gallon container. Graymills brand (Super Agitene).

**No. 2W352.** ❶ ❸ Shpg. wt. 35.0 lbs. List $45.00. Each.....$44.50

### PARTS CLEANING BRUSH

**Designed for tough parts cleaning.** Won't ball up, flare out, or get flabby. Made of 2½" crimped nylon bristles with tapered wood handle. Graymills brand (Type 3B).

**No. 1A190.** Shpg. wt. 0.2 lbs. List $5.43. Each.....$5.24

### FLOW-THRU BRUSH

**Provides solvent flow where needed.** Fluid flows through 2 ft. hose and out heavy-duty nylon brush. Can be used instead of flexible metal flush hose on all Graymills Handi-Kleen parts washers except No. 4Z949. Graymills brand (6A).

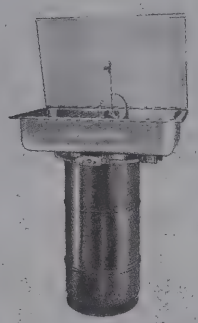
**No. 5A342.** Shpg. wt. 0.5 lbs. List $19.05. Each.....$18.57

❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY
Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, heck the Branch Locations listed in the front of this catalog.

Graymills

Replacement Parts Available 1-800-323-0620



No. 6Z509 8-12 Gallon

## HEATED DRUM MOUNTED PARTS WASHER

**Solution is circulated at 115°F** from the heated 16 gallon drum (included) to the stainless steel tank (28 x 16 x 6½") through a flexible hose. Contaminated solution returns through the disposable filter bag and is reheated and recirculated. Unit must be used with Aquatene cleaning solution No. 5W274 (see page 2951) or other water based cleaning solutions. Do not use with solvent based cleaning solutions.

**Stainless steel tank and cover.** 1500 watt electric immersion heater with On-Off Switch, submersible pump with On-Off Switch. 115 volt, 60 Hz. 8 ft. cord and plug. Flexible plastic hose and nozzle, filter bag and polybag drum liner. Overall dimensions: 31L x 19W x 55½"H. Graymills brand (DH226-A).

**No. 6Z509.** Shpg. wt. 45.0 lbs. List $815.00. Each.....$756.00

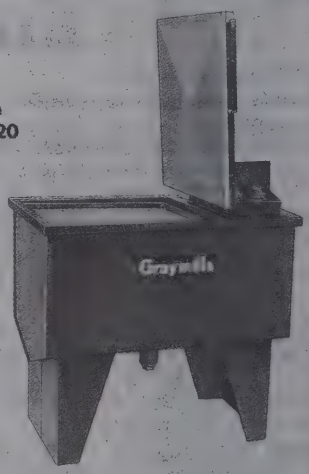
## LIFTKLEEN HEATED PARTS WASHER/SOAK TANK

- 12" soaking depth
- Automatic–immersion cleaning
- Pneumatic lift platform agitates vertically at 60-80 strokes per minute—flushes away dirt and grime from every surface, even blind holes and recesses
- All sides insulated for maximum heat efficiency
- Easy loading/unloading. Push button controlled lift platform holds 125 lbs. Operates on standard shop air (50 PSI minimum to 100 PSI maximum)
- Uses nonflammable Aquatene No. 5A343 (see page 1525) heated water-based detergent solution for effective cleaning and ease of disposal
- 4KW heater. Heats cleaning fluid up to 180°F for greatly increased cleaning efficiency. 60-180°F range. On/Off switch. 8 ft. cord and 230V AC plug
- Optional turbo jet stream pump agitation unit No. 6Z607 (see below) circulates 3000 GPH. Combines dual action of agitating platform and pump, circulating the Aquatene to speed cleaning time up to 40%
- Platform measures 22 x 19"
- Easy cleanout. V-shaped bottom with 2" drain
- Overall machine dimensions: 38⅞L x 24½W x 66"H
- Graymills brand (TH2420SL)

**No. 5Z057.** Shpg. wt. 255.0 lbs. List $2385.00. Each.....$2242.00

Graymills

Replacement Parts Available 1-800-323-0620




No. 5Z057 30-47 Gallon

## OPTIONAL ACCESSORIES FOR LIFTKLEEN PARTS WASHER

### STEEL PARTS BASKET

With handles and removable dividers. 22 x 18 x 6". Graymills brand.

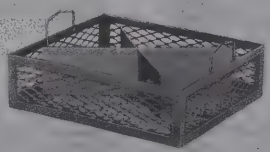
**No. 6Z605.** Shpg. wt. 26.0 lbs. List $210.00. Each.....$198.25

### PUMP AGITATION UNIT

1/3 HP centrifugal pump circulates 3000 gallons/hour of liquid in the tank. Use if additional cleaning agitation is required. Unit drops into top of tank and is held in place with 3 bolts. Cord on motor plugs into receptacle in control box. On-Off switch on motor. Graymills brand.

**No. 6Z607.** Shpg. wt. 48.0 lbs. List $828.00. Each.....$813.00

Graymills



No. 6Z605 Steel Parts Basket



No. 6Z607 Pump Agitation Unit

# HIGH PRESSURE SPRAY PARTS WASHER CABINET AND CLEANERS

**For industrial applications** such as: compound removal, batch cleaning of machined parts, blind hole cleaning, metal chip removal, machine and cutting oil removal, tool and die maintenance, and pneumatic and hydraulic cylinder cleaning. For automotive applications such as: transmission parts and assemblies, engine blocks, oil pumps, diesel injectors, wheel bearings, cylinder heads, valve covers, pistons and rocker arms.

**Combines cleaning power of heated, water-based industrial detergent with scouring action of concentrated high pressure spray.** 400 PSI of cleaning power strips away toughest automotive and industrial soils in seconds. Foot pedal controls power to pump, freeing hands to direct scouring spray where needed. Employs 1000-watt heater and uses water/detergent mixture. Can effectively clean precision parts like bearings and valve bodies without damage.

**By using rugged neoprene gloves, worker's hands never come in contact with dirty parts or chemicals.** Convenient working height and well-lighted cabinet. Tempest parts washer uses Aquatene solution No. 5A343, an alkaline detergent powder that mixes with water. Easily accessible 10 gallon fluid reservoir. Graymills brand (Tempest 10).

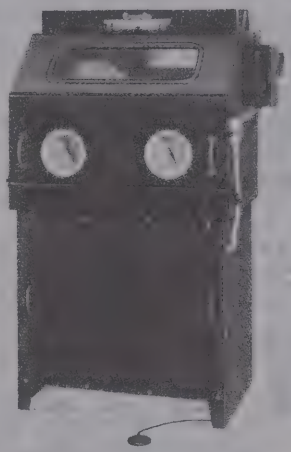
**No. 5Z150.** Shpg. wt. 345.0 lbs.
List $4085.00. Each ..... $4023.00

## TEMPEST HIGH PRESSURE SPRAY CABINET

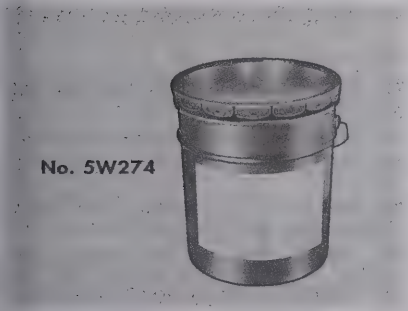
- Heated detergent model
- 3/4 HP piston pump delivers 2.2 gals. of filtered cleaning solution per minute at 400 PSI pressure. Single phase 115V power required
- #150 mesh filter bag traps metal chips and other solids
- "Dead Man" switch cuts power to window blower and pump when door is open
- Rugged neoprene gloves protect hands yet flexible enough to easily handle parts
- Thermostatically controlled (operating range: ambient to 115°F)



Graymills™ Replacement Parts Available 1-800-323-0620



## AQUATENE BIODEGRADABLE ALKALINE CLEANERS FOR HEATED PARTS WASHERS



No. 5W274

- Aquatene cleaners mix with water to form a nonflammable detergent-action cleaning solution
- Formulated to remove oils, greases, soft carbon, corrosion, oxides, varnishes, machining and finishing compounds
- Safe for use on ferrous and nonferrous materials including aluminum
- May be used to clean materials—most rubbers and elastomers which would be damaged by solvents. (Plated materials should be trial cleaned to test compatability)
- Minimize hazardous waste disposal. Treat used solution with oil absorbent pads and detergent neutralizer, listed below, to permit sewer disposal; check local codes for disposal regulations
- Available in two formulations, liquid concentrate and powder compound

### AQUATENE 330

Recommended for use in Graymills Heated Drum Mount Parts Washer and Tempest models. General purpose cleaner in liquid concentrate form. Mixed at 4 to 9 parts water, it may be used at room temperature or heated for faster cleaning action. Five gallon pail. Graymills brand. (Aquatene 330-CS).

**No. 5W274.** ❸ Shpg. wt. 45.0 lbs.
List $47.00. Each ..... $44.00

### AQUATENE 571

Recommended for use in Graymills Liftkleen and Tempest heated parts washer. White alkaline powder mixes at 3 to 8 ozs. per gallon of water. Use hot for best results, up to 180°F. 25 lb. carton. Graymills brand (GM571-25).

**No. 5A343.** ❶ ❸ Shpg. wt. 25.0 lbs.
List $74.00. Each ..... $63.90

## DETERGENT NEUTRALIZER SYSTEM

In two steps, used water-based alkaline detergent solution can be treated for sewer disposal. Check with your federal, state, and local authority for proper disposal of treated cleaning material as well as used pads.

Graymills brand (OAP-25-1). Sold in bundles of 25 pads.

### OIL ABSORBENT PAD

- Ideal for general use to soak up oil spills
- 18 x 18" pad floats on surface of tank solution as it absorbs up to 25 times its weight in oil
- Use to remove tramp oil from coolant pump reservoirs to prevent odor and algae build-up

**No. 5W480.** ❸ Shpg. wt. 3.33 lbs. List... $21.63.
Each Bundle ..... $21.44

### DETERGENT NEUTRALIZING POWDER

- Use to reduce pH level to a safe range before disposal of used hot tank solution
- Self-indicated color change eliminates the guesswork as to when solution is neutralized. 7 lb. container
- Graymills brand (DN 10-1)

**No. 5W481.** ❶ ❸ Shpg. wt. 7.2 lbs.
List $33.50. Each ..... $32.85

● These products are covered by California Proposition 65. California purchase or shipments, see first page of Grainger Branch Listing or call any local Grainger branch.
● These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# PORTABLE SANDBLASTING KITS

**Speedaire portable,** siphon-type sandblasters are used for removing rust, scale, paint, and dirt from metals, wood, brick, and stone, as well as etching glass. Can also be used for liquid spraying.

**Include ergonomically designed** die cast aluminum blast gun with 3/16" ceramic nozzle, air jet, and material hose. Air pressure range: 40-125 PSI. Hoppers are durable black polyethylene.

**No. 6W614** 30 lb. capacity hopper includes molded loop handle and shoulder strap for ease of use.

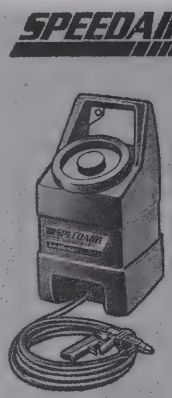
**No. 6W615** 60 lb. capacity hopper includes screened top opening which sifts blast media to help prevent clogging.

**No. 6W616** 120 lb. capacity hopper includes screened top opening, 8" dia. wheels, and pull handle for jobsite maneuverability.

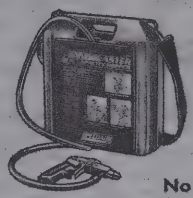
| Hopper Capacity (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **30** | **6W614** | $49.45 | **$45.50** | 5.0 |
| **60** | **6W615** | 89.50 | **74.50** | 7.6 |
| **120** | **6W616** | 136.00 | **109.75** | 14.0 |

SPEEDAIRE®

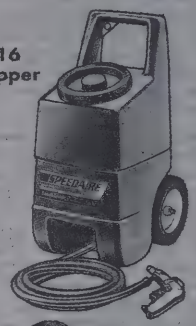
Replacement Parts Available 1-800-323-0620



No. 6W615 60 Lb. Hopper



No. 6W614 30 Lb. Hopper



No. 6W616 120 Lb. Hopper

| | SCFM | | |
|---|---|---|---|
| | @ 40 PSI | @ 90 PSI | @ 125 PSI |
| Minimum air requirement 50% duty | 2.2 | 4.8 | 6.2 |
| Maximum air requirement (based on continuous use 100% duty) | 4.4 | 9.6 | 12.4 |



No. 6W617 Replacement Gun

### REPLACEMENT BLAST GUN

Ergonomic design, die cast aluminum gun includes 3/16" ceramic nozzle and air jet. For use with all Speedaire siphon-type sandblasters.

**No. 6W617.** Shpg. wt. 1.1 lbs. List $29.00. Each ..... **$23.45**

### REPLACEMENT NOZZLE KITS FOR SANDBLASTERS ABOVE

Long life ceramic nozzle provides approximately 2-3 times the life of ordinary steel nozzles. Extra long life tungsten carbide nozzle lasts approximately 20 times longer than steel. Each kit contains nozzle and air jet.

### NOZZLE KIT ORDERING DATA*

| Nozzle Material | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Ceramic** | **6W618** | $14.00 | **$10.80** | 0.1 |
| **Tungsten Carbide** | **6W619** | 35.15 | **26.75** | 0.1 |

(*) Nozzle kits fit Nos. 6W614, 6W615, 6W616, and 6W617 only.

**NOTE: When using any sandblasting equipment, operator should wear appropriate safety equipment approved by MSHA/OSHA.**

# BLAST MEDIA

Potters Industries Inc.




No. 2W580

**Potters Ballotini™ impact glass bead and ground glass blast media** for use with abrasive blast finishing equipment in cleaning, deburring, finishing, and peening applications. 50 pounds of media comes in a leakproof plastic pail. Inert and environmentally pure. Can be induced into closed systems without risk of contamination. **Media contains no free silicas.**

**Glass bead** media is spherical shaped which makes it ideal for use on soft metals where tolerances must be maintained.

**Ground glass** is a sharp edged, abrasive media ideal for rapid cleaning when surface profile is not critical.

**No. 6ZC14** for peening applications as well as a glossy finish.

**No. 2W765** for heavy-duty cleaning with glossy finish.

**No. 2W580** for general purpose cleaning.

**No. 2W766** for light cleaning with matte finish.

**No. 6ZC13** for cleaning thin sheet metals which require a smooth dull matte finish.

**No. 5W022** Glass bead/aluminum oxide mixture provides extra cutting power for fast abrasive cleaning where fine workpiece tolerances are not required.

**No. 6ZC15** for rapid cleaning where a rougher surface profile is desired. For applications that usually utilize sand or slag media. Ideal for use with recirculating sandblasters to remove paint and rust from metals.

| Media Type | Nominal Diameter Inches Min. | Inches Max. | Microns Min. | Microns Max. | U.S. Sieve | Potters Model | Stock No.❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Extra Fine Glass Beads** | .0035 | .0017 | 90 | 45 | 170-325 | AH | **6ZC13** | $41.70 | **$34.10** | 50.0 |
| **Fine Glass Beads** | .0059 | .0035 | 150 | 90 | 100-170 | AE | **2W766** | 41.70 | **34.10** | 50.0 |
| **Medium Glass Beads** | .0083 | .0041 | 212 | 106 | 70-140 | AD | **2W580** | 38.25 | **31.50** | 50.0 |
| **Coarse Glass Beads** | .0098 | .0059 | 250 | 150 | 60-120 | AC | **2W765** | 38.25 | **31.50** | 50.0 |
| **Extra Coarse Glass Beads** | .0117 | .0083 | 300 | 212 | 50-70 | D | **6ZC14** | 41.70 | **34.10** | 50.0 |
| **Medium Glass Beads/Al Ox Mix** | .0008 | .0040 | 20 | 102 | 70-140 | M4 | **5W022** | 48.60 | **41.00** | 50.0 |
| **Ground Glass** | .0278 | .0165 | 710 | 425 | 25-40 | G3 | **6ZC15** | 26.75 | **19.70** | 50.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# PROFESSIONAL-DUTY SANDBLASTERS

## HIGH PERFORMANCE PRESSURE BLASTER

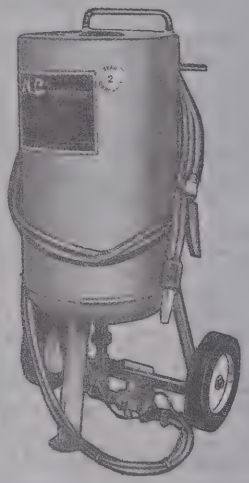
**ALC® Sandy Jet® Pressure-type Sandblaster** removes rust, scale, dirt and paint from metal, wood, concrete and brick. High performance pressure blaster can reduce time on job by as much as 75% compared to siphon blasters. ASME certified tank has capacity for 90-110 lbs. of abrasive. Provides 35-50 minutes blast time.

**Remote control handle system** automatically shuts off air/abrasive flow at tank if handle is released or control hose is damaged. Provides greater degree of safety than "deadman" controls, which only shut off flow at handle.

**Semi-automatic tank closure valve** seals instantly. Recessed top for quick, easy, no-mess filling. Single lever adjustable media mixing valve provides precise air/media mix during use. Engineered balance point for easy portability. Includes 10 ft. of 1/2" I.D. heavy-duty hose, three 1/8" and one 3/32" ceramic nozzles, pressure gauge, clean-out fitting, 8" wheels, handle, and protective hood.

**Air pressure range:** 50-125 PSI. Minimum air requirement: 7 CFM @ 80 PSI. Tank dimensions: 12" dia., 22"H, overall: 32"H. 1/2" NPT air inlet. Made in USA. ALC brand (F-110R).

**No. 6ZF22.** High Performance Pressure Blaster. Shpg. wt. 70.0 lbs. List $956.99. Each.....$897.50




- Can reduce job time by 75%
- Remote control handle system shuts off flow at tank
- Provides greater safety than "deadman" controls

**PRESSURE BLASTER PERFORMANCE GUIDE**

Average coverage rate for given nozzle size. Actual rate may vary depending on blast media and surface conditions.

| Nozzle Size (In.) | CFM Req'd. @ 80 PSI | Coverage Rate Sq. Ft./ Minute |
|---|---|---|
| 3/32 | 7 | 0.5 |
| 1/8 | 15 | 1.0 |
| 5/32 | 25 | 1.5 |
| 3/16 | 40 | 2.0 |
| 1/4 | 80 | 2.5 |

No. 6ZF22
Pressure Blaster

Replacement Parts Available
1-800-323-0620

### REPLACEMENT NOZZLE KITS FOR SIPHON BLASTERS

Steel or ceramic nozzles. Kit includes 3 each steel or 2 each ceramic nozzles, matching air jet, washer, and Allen wrench.

| Nozzle Material | Size (In.) | CFM Req'd. @ 80 PSI | ALC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Ceramic | 3/32 | 7 | FP-3/32K | 6ZF32 | $27.29 | $21.61 | 0.5 |
| | 1/8 | 15 | FP-1/8K | 6ZF33 | 20.65 | 17.88 | 0.5 |
| | 5/32 | 25 | FP-5/32K | 6ZF34 | 20.65 | 17.88 | 0.5 |
| | 3/16 | 40 | FP-3/16K | 6ZF35 | 20.65 | 17.88 | 0.5 |
| | 1/4 | 80 | FP-1/4K | 6ZF36 | 20.65 | 17.88 | 0.5 |
| Tungsten Carbide | 1/8 | 15 | FC-1TK | 6ZF23 | 134.70 | 128.55 | 0.5 |
| | 3/16 | 40 | FC-3TK | 6ZF24 | 134.70 | 128.55 | 0.5 |
| | 1/4 | 80 | FC-4TK | 6ZF25 | 134.70 | 128.55 | 0.5 |

## HEAVY-DUTY SIPHON BLASTERS

**ALC® Sandy Jet® Siphon Blasters** quickly clean brick, concrete, metals and wood without harsh chemicals, scraping, or sanding. Also used to etch glass and marble, remove graffiti, texture surfaces, and clean equipment after use.

### No. 6ZF20 SIPHON GUN KIT

**Insert pick-up tube in any blast media container** for essentially unlimited capacity and blast time. For use with abrasives or liquids. Includes pick-up tube, 10 ft. of 3/8" I.D. hose, Model F gun with 1/4" steel nozzle and 1/8" air jet, and two extra 13/64" nozzles with 5/64" air jet. Minimum air requirement 7,15, or 20 CFM @ 80 PSI, depending on nozzle size. Made in USA. ALC brand.

**No. 6ZF20.** Siphon Gun Kit (F-30). Shpg. wt. 4.0 lbs. List $60.83. Each.....$59.40

### No. 6ZF21 SIPHON BLASTER

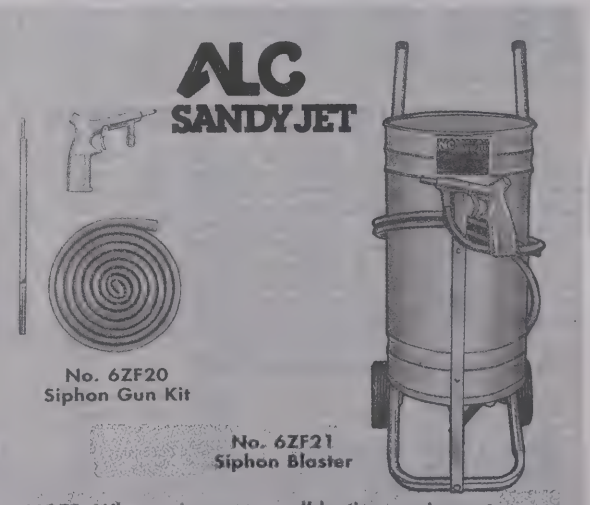
**Siphon blaster abrasive container** holds 90-110 lbs., depending on abrasive type. 70-80 minutes blast time per fill. Model F blast gun includes 13/64, 1/4, and 5/16" nozzles, air jets, 10 ft. of 3/8" I.D. hose, Allen wrench, goggles, and hood. Heavy-duty wheels and handle for easy movement of unit. Minimum air requirement 7, 15, or 20 CFM @ 80 PSI, depending on nozzle size. Made in USA. ALC brand.

**No. 6ZF21.** Siphon Blaster (F-90). Shpg. wt. 20.0 lbs. List $149.60. Each.....$145.80

### REPLACEMENT NOZZLE KITS FOR PRESSURE BLASTER

Ceramic or extra long life tungsten carbide. Kit includes 2 each ceramic or 1 each tungsten nozzle and replacement washer.

| Nozzle Material | Size (In.) | Air Jet Size/Color | CFM Req'd. @ 80 PSI | ALC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Steel | 13/64 | 5/64" Gold | 7 | F-16-SK | 6ZF26 | $20.46 | $18.03 | 0.5 |
| | 1/4 | 1/8 Silver | 15 | F-16-MK | 6ZF27 | 20.47 | 18.03 | 0.3 |
| | 5/16 | 5/32 Black | 20 | F-16-LK | 6ZF28 | 20.15 | 17.76 | 0.2 |
| Ceramic | 13/64 | 5/64 Gold | 7 | BF-16-SK | 6ZF29 | 20.48 | 18.04 | 0.1 |
| | 1/4 | 1/8 Silver | 15 | BF-16-MK | 6ZF30 | 20.48 | 18.04 | 0.1 |
| | 5/16 | 5/32 Black | 20 | BF-16-LK | 6ZF31 | 20.48 | 18.04 | 0.1 |




No. 6ZF20
Siphon Gun Kit

No. 6ZF21
Siphon Blaster

**NOTE: When using any sandblasting equipment, operators should wear appropriate safety equipment as approved by MSHA/OSHA**

### No. 6ZF52 REPLACEMENT BLAST GUN

**For use with Nos. 6ZF20 and 6ZF21 siphon blasters.** Includes 1/4" nozzle and 1/8" air jet. ALC brand (F-50-7).

**No. 6ZF52.** Shpg. wt. 1.2 lbs. List $50.91. Each.....$48.45

# ABRASIVE BLAST CABINETS

**Designed for surface cleaning and finishing** jobs. Econoline abrasive blast finishing equipment removes corrosion, chemicals and old paint. Cleans dies, molds, stampings and parts. Used to prepare surfaces for plating, scale removal as well as for deburring and peening for additional surface strength. Gray finish.

**Handles abrasives** including glass beads, aluminum oxide, nutshells and fine metal grit/shot. To order glass bead media, see Index, under Blast Media.

**Steel hopper seams are bent and butt welded** to prevent leakage. Atmospheric air inlet is internally guarded keeping abrasive materials from leaking out.

**Built-in rubber gloves** are cloth lined (except on No. 3Z848) for comfort.

**Large access door at front** on Nos. 3Z848 and 3Z850 provides easy loading. No. 3Z850 also has 17 x 11" side door.

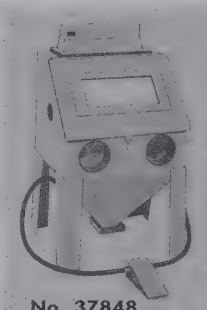
**Full width flip top opening** on Nos. 3Z887 and 3Z947, which has a counterbalanced mechanism that allows top to be opened or closed with very little effort.

**Sturdy, easy-to-replace window underlayment** protects interior of plexiglass sight window from blast media.

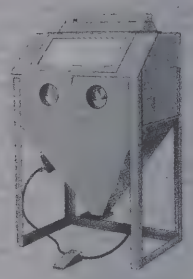
**Fluorescent tube** is located outside of unit to allow larger turning radius in working area and more even illumination.

**All models include** carbide nozzle, carbide air jet, regulator and gauge, foot pedal actuator, and door safety switch designed to automatically shut off air flow when access door is opened. All units require 12 CFM compressed air at 80 PSI. 5 HP air compressor (not included) is required for most blasting applications. Cabinets utilize No. 3JR93 or No. 4KR11 high-performance abrasive dust collectors (**sold separately**), except No. 3Z848 utilizes No. 2Z972 Dayton 4.0 HP steel tank workshop vac. Use No. 2Z212 hose to adapt dust collectors to sandblast cabinets.

• **Use blast media found on page 1526**

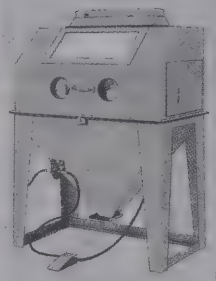


No. 3Z848



ECONOLINE

No. 3Z850



No. 3Z887



Gun Includes Tungsten Carbide Nozzle and Air Jet

No. 3Z947

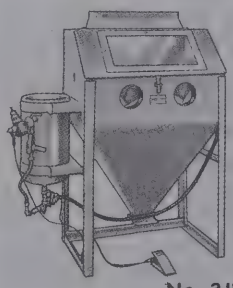
| Nominal Size (In.) | Work Area Dimensions (In.) Height | Width | Depth* | Overall Dimensions (In.) Height | Width | Depth* | Top Opening (In.) | Side Opening (In.) | Econoline Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 x 16** | 16 | 18 | 16 | 33 | 19 | 17 | 18 x 12 | None | MINI-BLAST | **3Z848** | $626.66 | **$565.00** | 68.0 |
| **36 x 24** | 23 | 36 | 24 | 65 | 36 | 24 | 36 x 13 | 17 x 11 | RA-36-1 | **3Z850** | 1054.96 | **914.50** | 224.0 |
| **42 x 24** | 23 | 42 | 24 | 65 | 45 | 54 | 42 x 24 | 17 x 11 | RA42 x 24 | **3Z887** | 1516.45 | **1332.00** | 370.0 |
| **40 x 40** | 30 | 40 | 40 | 72 | 43 | 77 | 40 x 40 | 20 x 30 | RA40 x 40CB | **3Z947** | 2225.81 | **1846.00** | 569.0 |

(*) With cover open.

# PRESSURE-FEED CABINETS

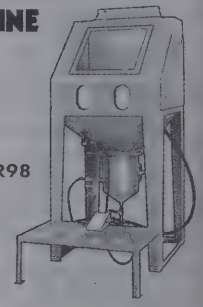
Designed for maximum efficiency for surface cleaning and finishing. Econoline pressure-feed abrasive blast equipment can reduce time on job by as much as 75% compared to siphon blasters reducing blasting time considerably. Can be used with all types of dry-blasting abrasives. Includes an ASME code pressure tank tungsten carbide 12CFM nozzle. No. 3JR98 has a hopper mounted, 1 cubic ft. pressure pot with media refill/reclaim capability. No. 3JR97 has a side mount 100 lb. capacity pressure pot. Both units include all of the features of Econoline siphon systems, as described above.

• **Use blast media found on page 1526**



No. 3JR97

ECONOLINE



No. 3JR98

| Nominal Size (In.) | Work Area Dimensions (In.) Height | Width | Depth* | Overall Dimensions (In.) Height | Width | Depth* | Top Opening (In.) | Side Opening (In.) | Econoline Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **36 x 24** | 23 | 36 | 24 | 65 | 53 | 24 | 36 x 13 | 12 x 11 | DP36-1 | **3JR97** | $1925.00 | **$1749.00** | 395.0 |
| **40 x 38** | 35 | 40 | 38 | 94 | 41 | 39 | — | 33 x 24 | WD-40X38 | **3JR98** | 3685.00 | **3349.00** | 515.0 |

(*) With cover open.

# GUN MOUNTING BRACKET

**Econoline's Gun Mounting Bracket** can be mounted on the wall or ceiling inside your Econoline cabinet to hold the gun for storage or hands free operation. Gun can be easily installed or removed. Telescopic design provides length adjustment from 7¾" to 12¾". Rotates 360° degrees. Fits all Econoline cabinets and guns.

**No. 3JR94.** Gun Mounting Bracket. Shpg. wt. 1.1 lbs. List .....$32.00
Each .....**$29.00**

## ABRASIVE CABINET DUST COLLECTORS

**Econoline's 100 AND 175 CFM Dust Collector system** is designed especially for the removal of dust and dirt particles created while blasting within a cabinet. In operation, the collector draws dust and dirty air from the cabinet into the canister where the heavier particles are deposited into the bottom of the barrel housing. The air is then drawn through the filter which removes the finer dust particles. This bag style dust collector requires only minor maintenance. A sewn-in weight drops, shaking the built up dust from the bag each time the collector motor is shut-off.

**No 3JR93 features:** 115V, 60 cycle, 8 amp motor. 50 micron polyfelt dust bag. 2½" diameter x 5 ft. hose. 8 ft. electric cord plugs into cabinet light box. Dimensions: 15" diameter, 62" height.

**No. 3JR93.** 100 CFM Dust Collector. Shpg. wt. 65.0 lbs. List $365.00. Each.....**$329.00**

**No. 4KR11 features:** 110 V, 60 cycle, 1/2 HP motor, 175 CFM. 50 micron polyfelt dust bag. 2½" diameter x 5 ft. hose. Quiet sound level, 87 db @ 4 ft. Low maintenance, self-cleaning bag style dust collector filter. Dimensions: 15" diameter, 68" height.

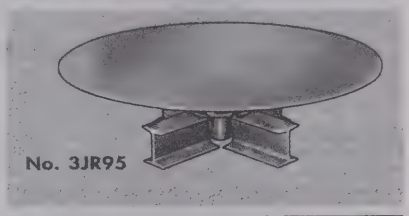
**No. 4KR11.** 175 CFM Dust Collector. Shpg. wt. 76.0 lbs. List $540.00. Each .....**$495.75**




## MANUAL TURNTABLES

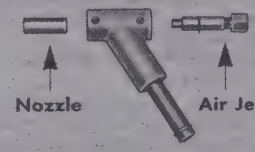
**Econoline turntables are designed** to easily rotate heavy or awkward pieces inside of blast cabinet. The hub contains sealed roller bearings, so all lubrication points are protected. The frame is constructed of I-Beam steel. The table plate is 7-gauge hot rolled steel. Weight capacity: 2000 lbs.

| Overall Dimensions (In). Diameter | Height | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **26** | 8 | **3JR95** | $280.00 | **$255.00** | 54.0 |
| **20** | 8 | **3JR96** | 270.00 | **245.00** | 47.0 |




## REPLACEMENT PARTS FOR ECONOLINE BLAST CABINETS



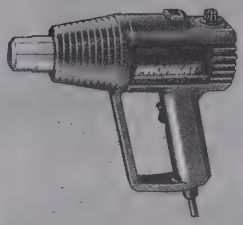

| Description | For Use on Stock No. | Unit of Packaging | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Window Underlayment (20 PK)** | 3Z848, 3Z850, 3Z887, 3Z947, 3JR97 | 20 Pack | **3JT12** | $17.50 | **$15.90** | 2.0 |
| **Window Underlayment (Roll)** | 3Z848, 3Z850, 3Z887, 3Z947, 3JR97, 3JR98 | 2 Rolls | **3JT13** | 17.50 | **15.90** | 0.9 |
| **Window - 12 x 25"** | 3Z850, 3Z887, 3Z947, 3JR97 | Each | **3JT14** | 19.50 | **17.90** | 1.2 |
| **Window - 23⅞ x 23⅞"** | 3JR98 | Each | **4KR23** | 32.00 | **29.20** | 7.0 |
| **Window - 6 x 12"** | 3Z848 | Each | **3JT15** | 10.50 | **9.65** | 0.3 |
| **Gloves - 24"** | 3Z850, 3Z887, 3JR97 | Pair | **3JT05** | 28.00 | **25.50** | 0.9 |
| **Gloves - 33"** | 3Z947 | Pair | **3JT06** | 42.00 | **38.00** | 1.3 |
| **Gloves - 24 x 6" Seamless** | 3JR97, 3JR98 | Pair | **4KR12** | 44.00 | **40.00** | 2.0 |
| **Lampshield - 12 x 25.5"** | 3Z850, 3Z887, 3Z947, 3JR97, 3JR98 | Each | **3JT10** | 17.50 | **15.75** | 0.4 |
| **Lampshield - 6.875 x 12.5"** | 3Z848 | Each | **3JT11** | 13.95 | **12.45** | 0.2 |
| **Filter Bag** | 3JR93, 4KR11 | Each | **3JR99** | 40.00 | **36.00** | 1.1 |
| | **SIPHON FEED** | | | | | |
| **12 CFM Gun Assembly** | 3Z848, 3Z850, 3Z887, 3Z947 | Each | **3JT01** | 79.00 | **71.50** | 0.7 |
| **25 CFM Gun Assembly** | 3Z848, 3Z850, 3Z887, 3Z947 | Each | **3JT02** | 91.00 | **82.75** | 0.7 |
| **1/4" I.D. Nozzle 12 CFM** | 3JT01 | Each | **3JT08** | 34.00 | **30.95** | 0.1 |
| **5/16" I.D. Nozzle 25 CFM** | 3JT02 | Each | **3JT07** | 37.50 | **33.95** | 0.3 |
| **12 CFM Air Jet** | 3JT01 | Each | **3JT04** | 14.95 | **13.50** | 0.2 |
| **25 CFM Air Jet** | 3JT02 | Each | **3JT03** | 14.95 | **13.50** | 0.2 |
| **Clear Abrasive Hose - 5/8" x 5 ft.** | 3Z848, 3Z850, 3Z887, 3Z947 | 5 ft. | **3JT09** | 10.00 | **9.00** | 0.9 |
| | **PRESSURE FEED** | | | | | |
| **3/4" I.D. Nozzle Holder** | | Each | **4KR14** | 23.50 | **21.50** | 0.1 |
| **1/8" I.D. Nozzle - DP** | | Each | **4KR15** | 49.00 | **45.00** | 0.1 |
| **3/16" I.D. Nozzle - DP** | 3JR97, 3JR98 | Each | **4KR16** | 49.00 | **45.00** | 0.1 |
| **1/4" I.D. Nozzle - DP** | | Each | **4KR17** | 49.00 | **45.00** | 0.1 |
| **5/16" I.D. Nozzle - DP** | | Each | **4KR18** | 49.00 | **45.00** | 0.1 |
| **1/16" I.D. Nozzle - DP** | | Each | **4KR19** | 49.00 | **45.00** | 0.1 |
| **3/32" I.D. Nozzle - DP** | 3JR97, 3JR98 | Each | **4KR20** | 49.00 | **45.00** | 0.1 |
| **Abrasive Hose - 8 ft.** | | Each | **4KR13** | 39.00 | **35.60** | 4.0 |
| **Media Valve - Blue - Steel** | | Each | **4KR21** | 142.00 | **130.00** | 2.0 |
| **Diaphram - Media Valve** | 3JR97 | Each | **4KR22** | 51.00 | **47.00** | 0.1 |

# VARIABLE TEMPERATURE HEAT GUNS AND BUTANE-POWERED MICROTORCHES

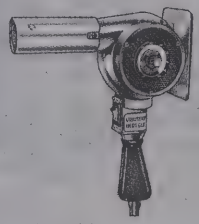
## VARIABLE TEMPERATURE HEAT GUNS

MASTER® APPLIANCE

Replacement Parts Available 1-800-323-0620



No. 3KH79



No. 3KH80

Heat guns are used in applications where fast, portable flameless heat is needed, such as activating/curing adhesives, bending and forming plastics, drying applications, melting solder, shrinking tubing, packaging/heat shrinkables, and stripping paint.

### PROHEAT® VARITEMP HEAT GUN No. 3KH79

- Variable temperature control allows dial-in temperatures from ambient to 1050°F (565°C), features tamper-proof temperature lock
- Self-limiting solid state electronic controller maintains selected temperature
- 15 CFM (425L/min) average air volume
- Permanent magnet DC motor allows high RPM airflow
- Enclosed ceramic heating element for durability
- 3-position rocker switch (no cool down required)
- Built-in hand and switch guard
- 6 ft., 3-wire grounded cordset
- Made in U.S.A., UL Listed (E40900), CSA (LR43386)
- Master Appliance Brand (PH-1200)

**No. 3KH79.** Shpg. wt. 2.3 lbs. List $135.27. Each ..... $110.00▲

### MASTER VARITEMP® HEAT GUN No. 3KH80

- For heavy-duty industrial and commercial applications that require high temperature and power
- Safe way to heat sensitive material such as thermoset resins and potting compounds
- Variable temperature control allows dial-in temperatures from ambient to 1000°F (540°C), features tamper-proof temperature lock
- 23 CFM (651L/min) air flow rating
- Universal motor for high speed performance
- Die-cast aluminum housing
- External, replaceable carbon brushes
- Nonslip, adjustable stand
- Off-Cool-Hot switch
- Reinforced, mica-insulated ceramic heating element
- 6 ft., 3-wire grounded cordset
- Made in U.S.A., UL Listed (E40990)
- Master Appliance brand (VT-750C)

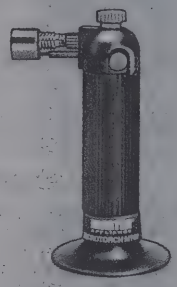
**No. 3KH80.** Shpg. wt. 5.2 lbs. List $169.00. Each ..... $115.00▲

## BUTANE-POWERED MICROTORCHES

MASTER® APPLIANCE




No. 3KH77



No. 3KH78

Butane powered microtorches can be used in a wide variety of torch applications such as aluminum welding, automotive repairs, light brazing, electrical/electronic repairs, lab use, melting plastics, shrinking tubing and connectors, silver soldering, soldering and desoldering, and windshield repair.

### MASTER MICROTORCH No. 3KH77

- 2500°F (1300°C) blue pinpoint flame adjustable by regulator on fuel cell
- 20 minutes non-stop burning with full charge
- Refillable fuel cell
- Waterproof self-ignition system with dead-mans switch
- Safety lock insures switch stays Off when not in use
- Compact size ideal for tools kits and field service kits
- Master Appliance brand (MT-10)

**No. 3KH77.** Shpg. wt. 0.4 lbs. List $18.00.Each ..... $14.95▲

### MASTER MICROTORCH No. 3KH78

- 2500°F (1300°C) blue pinpoint flame easily adjustable by air control sleeve
- Two hours non-stop burning with full charge
- Built-in refillable fuel tank allows table top, hands-free operation
- Built-in self-ignition system
- Ideal for applications that require continuous heat
- Master Appliance brand (MT-50)

**No. 3KH78.** Shpg. wt. 0.4 lbs. List $36.27. Each ..... $29.95▲

(▲) Net prices, not subject to discounts.

## PROHEAT® HEAT GUN

- For packaging, electronic, electrical, renovation, and automotive applications
- Provides user with two heat settings of 570 and 1050°F
- Airflow at 15 CFM/3650 FPM
- Compact, lightweight design, Easy-to-use heat gun
- Ergonomically designed handle for superb balance and secure grip
- Rugged, enclosed ceramic heating element for long life durability
- Built-in hand guard for extra protection
- Hanging loop for hands-free operation
- Three-position rocker switch; no cool down required
- Industrial quality, grounded 3-wire cordset
- Modular design for easy servicing
- Lexan housing for high impact durability
- Made in U.S.A.
- UL Listed (E40970), CSA Certified (LR43386)
- Master Appliance brand (PH1100)

**No. 3W771.** Shpg. wt. 2.0 lbs. List $74.82. Each.....$60.00▲

MASTER® APPLIANCE E40970 LR43386

Replacement Parts Available 1-800-323-0620™



## ULTRATORCH® HEAT TOOLS

- Completely cordless; no AC current or batteries required; run on butane refill fuel
- No electrical leakage or radio interference
- Perform a variety of tasks from soldering to shrinking and terminating insulated solder preforms and environmental splices
- Refillable from standard butane fuel containers (order No. 3W799 below)
- Lightweight and easy to handle
- UL Listed (MH16458)

MASTER® APPLIANCE MH16458

Replacement Parts Available 1-800-323-0620™

### PEN-SIZED HEAT TOOL

- Fits in shirt pocket for absolute portability
- Small as a pen, but has the power of an 80 watt soldering iron
- Includes protective cap, soldering tip, and heat tip
- 392°F to 842° soldering
- Master Appliance brand (MINI UT-50)

**No. 3W774.** Shpg. wt. 0.2 lbs. List $84.00. Each.....$68.00▲



No. 3W774
Pen-Sized Heat Tool

### SELF-IGNITING HEAT TOOL

- Highly portable tool for field maintenance and repairs
- Operates as a soldering iron and heat tool
- Use heat tip for electrical applications
- Includes one ejector for soldering, a soldering and heat tip, spanner wrench, open end wrench, shrink attachment, and protective cap
- 482°F to 932°F soldering
- Master Appliance brand (UT-100SI)

**No. 3W772.** Shpg. wt. 0.6 lbs. List $109.09. Each.....$88.00▲



No. 3W772
Self-Igniting Heat Tool

### SELF-IGNITING JUMBO HEAT TOOL

- Ultimate portability for heavy-duty maintenance jobs
- Operates as a soldering iron and heat tool
- Variable temperature control allows precision heat for shrinking tubing
- Includes soldering and heat tip, spanner wrench, open end wrench, heat shrink attachment, ejector for soldering and heat applications, and protective cap
- Master Appliance brand (UT-200SI)

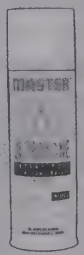
**No. 3W773.** Shpg. wt. 0.8 lbs. List $142.00. Each.....$114.00▲



No. 3W773
Self-Igniting
Jumbo Heat Tool

### MASTER ULTRATANE® BUTANE FUEL REFILL CONTAINER

**No. 3W799.** S Butane Fuel Canister. †5⅛ oz. Shpg. wt. 0.5 List $4.16. Each.....$3.50▲



No. 3W799

S These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available.
See page opposite inside back cover.
(†) DOT regulated product-shipped in full ship pack only. (▲) Net prices, not subject to discounts

# HEAT GUNS, BLOWERS AND ACCESSORIES

## [A] MASTER® HEAT GUNS

- Heavy-duty industrial quality to shrink heat shrinkable tubing, molded parts and shrink packaging, activate adhesives, bend and form plastics, soften resilient floor coverings, tiles and covings, strip paint, and for drying applications
- Features high air volume and high air temperatures
- Heavy-duty die-cast housing
- Externally replaceable brushes
- Reinforced mica-insulated ceramic heating element
- Rubber padded base rotates 90°
- 6 ft., 3-wire grounded cord set
- UL Listed (E40970)

## [B] MASTERFLOW® HEAT BLOWERS

- Brushless, shaded pole motor for continuous 24 hr. day-in, day-out operation
- For use on conveyor lines and shrink tunnels; singly or in multiples for drying, heating, and shrinking
- Steel constructed housing, metal blower wheel, 2-way off-cold-hot switch, adjustable nonslip stand
- UL Listed (E40970)
- No. 4Z718 requires an 18-amp 5-20R receptacle (shown) for operation

## [C] LIGHTWEIGHT HEAT GUN

- For assembly and repair applications in production plants, laboratories, and service shops
- 6 ft. cord with 3-wire grounded plug
- Complete with a set of 4 baffle adapters
- Oil and heat resistant

## [D] [E] FLAMELESS HEAT GUNS

- Dual temperature settings for applying heat shrink tubing, curing epoxy, loosening adhesives, thawing frozen pipes, softening and shaping plastics, and stripping paint
- High impact polymer housing, stainless steel heat shield, reinforced mica-insulated ceramic heating element, and 3-wire grounded plug
- UL Listed (E21922) and approved for outdoor use
- Heat gun No. 4A162 is for standard use; heavy duty heat gun No. 4A163 is for the demands of long and constant use

## HEAT GUN BAFFLE KIT

Includes spreader baffle, paint scraper baffle, and shrink tube reflector. Fits Weller units only.

**No. 4A164.** Shpg. wt. 0.6 lbs. List $9.37. Each.....$7.80

| Key | Description | Temp. Range (°F) | Amps @ 120V | Air Velocity FPM | Air Volume CFM | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Heat Gun | 300-500 | 12.0 | 3000 | 23 | Master Appliance | HG-301A | 4Z714 | $99.45 | $75.00▲ | 4.6 |
| A | Heat Gun | 500-750 | 14.0 | 3000 | 23 | Master Appliance | HG-501A | 4Z715 | 99.45 | 75.00▲ | 4.6 |
| A | Heat Gun | 750-1000 | 14.5 | 2600 | 19.8 | Master Appliance | HG-751B | 4Z716 | 99.45 | 75.00▲ | 4.6 |
| B | Heat Blower | 500 | 14.0 | 2200 | 47 | Master Appliance | AH-501 | 4Z717 | 163.82 | 131.50▲ | 8.1 |
| B | Heat Blower | 750 | 18.0 | 2200 | 47 | Master Appliance | AH-751 | 4Z718 | 163.82 | 131.50▲ | 8.2 |
| C | Heat Gun | 550-800 | 2.2 | 500 | 2.7 | Weller | 6966C | 2AC07 | 127.05 | 92.15▲ | 1.9 |
| D | Heat Gun | 790-1200 | 8.5 | 2900-2200 | 7.4-5.6 | Weller | 1095 | 4A162 | 49.94 | 37.10▲ | 1.8 |
| D | Heat Gun † | 700-1000 | 7.0 | 3000-2700 | 7.7-6.9 | Weller | 6970 | 4A163 | 118.96 | 85.35▲ | 3.3 |
| E | Heat Gun *† | 570 & 1000 | 11.6 | 1500 | 14.8 | Milwaukee | 8975-6 | 6Z360 | 102.00 | 68.90▲ | 2.0 |

(*) UL Listed, CSA Certified. (†) Not shown. (▲) Net prices, not subject to discounts.

## REPLACEMENT ELEMENT KITS

Replacement kit for heat guns include element, mica-insulation, hardware, and installation instructions. Kit for blowers include all of the above except mica-insulation. Master Appliance brand.

### HEAT GUN ELEMENTS

| Temp. (°F) Range | For Use with Mfg. No. | Master Appliance Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 300-500 | HG-301A | HAS-041K | 1A502 | $18.76 | $15.00 ▲ | 0.2 |
| 500-750 | HG-501A | HAS-011K | 1A503 | 18.76 | 15.00 ▲ | 0.2 |
| 750-1000 | HG-751A | HAS-015K | 1A504 | 18.76 | 15.00 ▲ | 0.2 |
| 750-1000 | HG-751B | HAS-043K | 2A443 | 18.76 | 14.73 ▲ | 0.2 |

### BLOWER ELEMENTS

| | | | | | | |
|---|---|---|---|---|---|---|
| 500 | 4Z717 | 30310 | 1A505 | 24.90 | 20.00 ▲ | 0.4 |
| 750 | 4Z718 | 30312 | 1A506 | 26.98 | 22.00 ▲ | 0.4 |

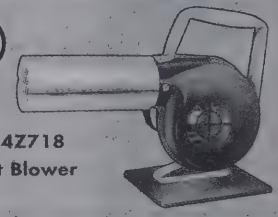
(▲) Net prices, not subject to discounts.

MASTER® APPLIANCE

Replacement Parts Available 1-800-323-0620™



[A] No. 4Z714 Heat Guns



[B] No. 4Z718 Heat Blower



No. 4A164 Heat Gun Baffle Kit

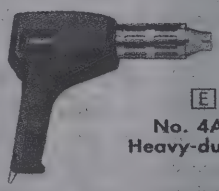


[C] No. 2AC07 Lightweight Gun

Weller®

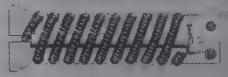


[D] No. 4A162 Standard-duty Gun

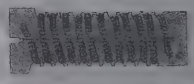


[E] No. 4A163 Heavy-duty Gun

No. 1A502 Heat Gun Element



No. 1A505 Blower Element



ELEMENTS NOT COVERED UNDER WARRANTY



(▲) Net prices, not subject to discounts.

# MODULAR SOLDERING IRONS

**Weller® COOPER Tools**

Professional modular soldering irons feature interchangeable handle, heaters from 23 to 50 watts, and five styles of 1/4" thread-on tips for custom applications, such as soldering electronic devices, printed circuit boards, and heavy wiring. Easy to maintain. UL Listed (E21922). Weller brand.

**COMPONENTS OF MODULAR SOLDERING IRON**



Handle — Heating Element — Tip

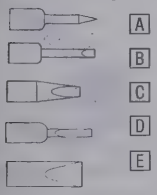
**Soldering Handle**



**Heating Element**



**Thread-On Tips**




## MODULAR SOLDERING HANDLE

Handle is 3-wire grounded with cool, "soft touch" acid and flux-resistant grip. Burn-resistant cord. UL Listed. Weller brand (7500).

**No. 6A907.** Shpg. wt. 0.3 lbs. List $27.99. Each ..... $22.69▲

## 1/4" THREAD-ON HEATING ELEMENTS

| Watts | Approx. Temp. | Weller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 23 | 700°F | 537S | 6A908 | $16.56 | $13.40▲ | 0.1 |
| 33 | 800 | 1237S | 6A909 | 18.07 | 14.76▲ | 0.1 |
| 45 | 900 | 4037S | 6A910 | 21.07 | 17.08▲ | 0.1 |
| 50 | 1000 | 37BK | 6A911 | 30.30 | 23.96▲ | 0.1 |

## 1/4" THREAD-ON TIPS

| Key | Tip Description | Weller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Precision Electronic | PL100 | 6A912 | $4.68 | $3.89▲ | 0.1 |
| B | Chisel | PL113 | 6A913 | 4.91 | 4.07▲ | 0.1 |
| C | Large Taper Chisel | PL133 | 6A914 | 5.58 | 4.61▲ | 0.1 |
| D | Screwdriver | PL151 | 6A915 | 4.99 | 4.14▲ | 0.1 |
| E | Large Chisel | PL350 | 6A916 | 8.84 | 7.33▲ | 0.1 |

(▲) Net prices, not subject to discounts.

## COMPLETE MODULAR SOLDERING IRONS

Ready-to-use professional soldering irons utilize interchangeable handles, heaters, and tips for custom applications and easy maintenance. Handle is 3-wire grounded with 4½ ft. cord and features "soft touch" acid and flux-resistant grips. UL Listed (E21922).



Includes handle (7400), 23-watt heater (5375-23W), and pencil point tip (PL111). Weller brand (SL325).

**No. 2AC08.** Shpg. wt. 0.5 lbs. List $31.80.
Each ..... $25.85▲



Includes handle (7400), 33-watt heater (1237S-33W), and chisel tip (PL113). Weller brand (SL335).

**No. 2AC09.** Shpg. wt. 0.5 lbs. List $33.77.
Each ..... $27.45▲



Includes handle (7400), 45-watt heater (4037S-45W), and long taper chisel tip (PL133). Weller brand (SL345).

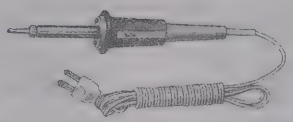
**No. 2AC10.** Shpg. wt. 0.5 lbs. List $35.79.
Each ..... $29.15▲

# SINGLE TEMPERATURE SOLDERING IRONS

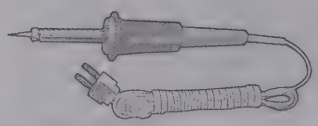
**Weller®**

**COOPER Tools**

**Replacement Parts Available**
**1-800-323-0620**



No. 4Z765



No. 4Z766

**Lightweight Soldering Iron No. 4Z765** has 25-watt (750°F tip) heat setting for workshop applications. Features replaceable nickel plated copper 1/8" cone shaped tip and heat-resistant pencil-style handle. Weller brand (SP23).

**No. 4Z765.** Shpg. wt. 0.2 lbs. List. $11.91. Each ..... $10.09▲

(▲) Net prices, not subject to discounts.

**Industrial Soldering Iron No. 4Z766** has 35-watt heat setting (900°F tip) for plumbing, automotive, and electrical applications. Features replaceable pretinned, iron-plated, chrome coated 1/8" screwdriver tip, and pencil-style iron with impact-resistant handle and black heat shield. Weller brand (WP35).

**No. 4Z766.** Shpg. wt. 0.4 lbs. List. $40.21. Each ..... $32.15▲

NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# SOLDERING EQUIPMENT

## DESOLDERING STATION

- **Meets military specifications; complies with MIL-STD-2000, DOD-STD-2001B, WS-6536E, and MIL-S-45743E**

Variable temperature, electronically controlled system for continual production applications such as; repair, rework, modification, bread-boarding, and salvage operations. Features precise, closed loop electronic control. Self-contained unit has fast response diaphragm-type vacuum pump. Desoldering range: 500 to 1000°F. 3-wire grounded, 120V input, 60 Hz. Dimensions: 6.66H x 5.12W x 7.5"D. Includes pistol-grip static dissipative desoldering handle. UL Listed. ESD safe. Weller brand (4024P).

**No. 6A902.** Shpg. wt. 9.5 lbs. List $593.57. Each.....**$493.75▲**

## SOLDERING/DESOLDERING STATION

- **Meets military specifications; complies with MIL-STD-2000, DOD-STD-2001B, WS-6536E, and MIL-S-45743E**

System simultaneously operates 24 volt desoldering handle and soldering iron for repair, rework, and modification tasks. A second soldering iron may be controlled in place of the desoldering handle.

Safe for work on voltage sensitive components. Desoldering range: 500 to 1000°F; soldering range: 450 to 850°F. 3-wire ground, 120V, 60 Hz. UL Listed. ESD safe. Weller brand (4624P).

**No. 6A903.** Shpg. wt. 9.9 lbs. List $775.89. Each.....**$675.50▲**

## SOLDERING STATIONS

**General Purpose Soldering Station** No. 6A904 combines accurate closed-loop temperature control with economy. Selectable heat from 600 to 800°F. 40 watts. Features long-life ceramic heaters and burn-resistant cord. Station is fully grounded, and meets military specifications. Equipped with Macro Iron (PL 100 tip) for general purpose soldering. Uses 1/4" thread-on tips. UL Listed. ESD safe. Weller brand (UTC100).

**No. 6A904.** Shpg. wt. 1.5 lbs. List $112.53. Each.....**$84.85▲**

**Professional Soldering Station No. 3W886** provides dual wattage control for use in home, farm. and workshop applications. Low setting is 21-watts (650°F); high setting is 35-watts (850°F). Includes a general purpose soldering tip. Station can also be used with the complete line of 1/4" thread-on tips. UL Listed. Weller brand (UTCSS).

**No. 3W886.** Shpg. wt. 2.0 lbs. List $55.24. Each.....**$39.20▲**

## SOLDERING GUNS

**Electric Solder Gun Kits** for most soldering jobs in industrial, farm, or workshop applications. Feature trigger selection switch for high or low temperature output in six seconds, built-in lamp, and 6 ft., 2-wire cord.

Kits include gun with pretinned copper tip, two extra untinned copper tips (curved and smooth), flux brush, soldering aid tool, coil of 40/60 rosin-core solder, and carrying case. UL Listed. Weller brand.

**No. 4Z763.**❸ 140 Watt Gun (8200PK). Shpg. wt. 0.3 lbs. List $38.90. Each.....**$32.30▲**
**No. 4Z764.**❸ 260 Watt Gun (D550PK). Shpg. wt. 3.6 lbs. List $52.78. Each.....**$43.70▲**

## SOLDERING ACCESSORIES

**Desoldering Pump** has spring-loaded piston for one-hand operation to provide ESD-safe vacuum to remove solder. Replaceable tip is self-cleaning, nonclogging, and static-free.

**Flux Dispensers** avoid spills and waste and place flux precisely where it is needed. Squeeze bottles dispense one drop of liquid resin, flux, oil or solvent through stainless steel needles. Static dissipative models protect static-sensitive components. ESD safe.

**Scrub-It™ Solvent Dispenser** distributes solvent through a brush for cleaning printed circuit boards and other solder connections. No mess, no waste. Horsehair bristles for static-safe applications. ESD safe. Solvent not included.

**Solder-Mate™ Dispenser** holds a 1 lb. solder spool.

| Description | Weller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Desoldering Pump** | 7874B | **3W887** | $18.33 | **$15.19 ▲** | 16.0 |
| **Flux Dispenser wtih 1 x 0.020" Needle** | FD2D | **6W719** | 3.00 | **2.53 ▲** | 0.1 |
| **Flux Dispenser wtih 1 x 0.008" Needle** | FD21D | **6W720** | 3.00 | **2.53 ▲** | 0.1 |
| **Flux Dispenser wtih 1 x 0.050" Needle** | FD22D | **6W721** | 3.00 | **2.53 ▲** | 0.1 |
| **Scrub-It™ Solvent Dispenser 2 oz.** | SD74H | **6W722** | 7.96 | **6.64 ▲** | 0.1 |
| **Solder-Mate™ Dispenser** | SM1 | **6W723** | 16.48 | **13.66 ▲** | 0.4 |

(▲) Net prices, not subject to discounts.

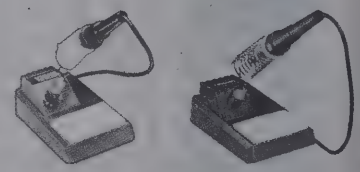
Weller®

Replacement Parts Available 1-800-323-0620



Desoldering Station No. 6A902

Soldering/Desoldering Station No. 6A903



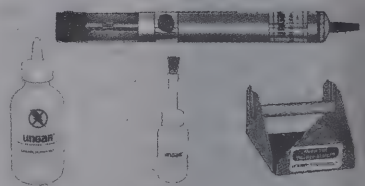
No. 6A904 No. 3W886 Soldering Stations

Weller® Electric Soldering Guns



No. 4Z763 No. 4Z764

Weller® Desoldering Pump No. 3W887



Flux Dispenser 2 oz. No. 6W719 Solvent Dispenser 2 oz. No. 6W722 Solder Dispenser No. 6W723

❷These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California Branch.
❸These products are covered by OSHA Hazard Communications Standard, and Material Safety Data Sheets (MSDS) are available. See opposite page inside back cover.

## WELLER® EXTRACTION SYSTEM

- **Designed for operation with 120V AC and suitable for up to two Weller FE-soldering irons**
- **Equipped with 4-stage filter set for the absorption of solder fume**
- **Condensation pre-filter extends the life of the main filter**
- **The required vacuum is produced by a low vibration rotation pump which is driven by a thermo-fused, maintenance-free, split-phase motor**

**SPECIFICATIONS:**

- **Voltage: 120V, 50/60 Hz; Noise Level: 40 dBA; Max. Vacuum: 100 mbar; Separation Degree: 99,995% DOP**

**Extracts noxious soldering fumes** before they have a chance to get into the atmosphere. Attached to each fume extractor iron is an adjustable tube which can be positioned directly above the soldering tip. The tube is connected to a vacuum pump fitted with special filters. As fumes rise from the heated solder, they are instantly sucked into the tube and captured in the filter housing.

**Completely self-contained system with no ducts or special electric works.** Built for continuous duty in a production environment. Portable unit is easily moved. Provides instant OSHA compliance by removing over 95% of all solder smoke at the source. Complete extraction system is made up of a pump with filter(s), a soldering station, and a soldering iron. Soldering station and soldering iron must be ordered separately. Weller brand (WFE-2P).

**No. 6W725.** Shpg. wt. 32.0 lbs. List $691.68. Each.....$632.00▲

## SOLDERING STATIONS

**Transformer-powered Soldering Station No. 4Z762** is ESD safe and safe for IC soldering and features a low voltage circuit which automatically maintains output and temperature in three ranges: 600, 700, and 800°F (with appropriate tip). 42 watts. Unique closed loop method of controlling maximum tip temperature protects sensitive components. Temperature is easily selected by changing tips.

Includes lightweight pencil-style iron with heat shield and 4 ft. nonburnable silicone cord, impact-resistant power unit with On-Off toggle switch, neon indicator light, non-heat sinking iron holder, storage tray for extra tips, tip cleaning sponge with receptacle, and 1/16", 700°F screwdriver tip. UL Listed. Must order soldering iron No. 6W727 to be able to use this soldering station with Fumex system. Weller brand (WTCPT).

**No. 4Z762.** Shpg. wt. 4.0 lbs. List $134.86. Each.....$103.15▲

**Electronically controlled Soldering Station No. 6W724** is electrostatic dissipative for all delicate soldering operations in even the most sophiscated applications. ESD safe and meets military specifications. Electronically controlled temperature range of 350 to 850°F. 40-watts. Dial calibrated in 10°F steps. No high voltage spikes or magnetic fields present on soldering tips due to the systems thyristor power control with zero thyristor drive.

Iron stand, with tip storage, positions left, right or remote from main unit. Includes soldering station and soldering iron. Weller brand (EC1002-1) must order soldering iron No. 6W728 to be able to use this Soldering Station with Fumex system.

**No. 6W724.** Shpg. wt. 4.0 lbs. List $237.36. Each.....$199.25▲

## SOLDERING IRONS

Designed for use with the Fumex system, these two fume extractor irons are highly efficient and comfortable to use. Each has an adjustable 3/16" diameter stainless steel exhaust tube (with 3/16" dia. x 7 ft. length of vinyl tubing) for precise positioning over the work.

**No. 6W727 42-Watt Soldering Iron** with ET series tip PTA-7 for use with Soldering Station No. 4Z762. Weller brand (TC201FE).

**No. 6W727.** Shpg. wt. 0.9 lbs. List $89.98. Each.....$74.75▲

**No. 6W728 40-Watt Soldering Iron** with ET series tip for use with Soldering Station No. 6W724. Weller brand (EC1201AFE).

**No. 6W728.**. Shpg. wt. 0.6 lbs. List $120.08. Each.....$99.30▲

## FUME EXTRACTION KIT

Converts existing standard and micro irons for use with the Weller Fumex system. Weller brand (AKFE6).

**No. 6W729.** Shpg. wt. 0.2 lbs. List $45.38. Each.....$37.40▲

(▲) Net prices, not subject to discounts.

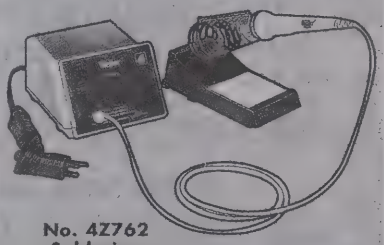
COOPER Tools

Weller®



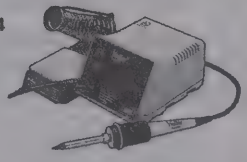
No. 6W725 One Filter Extraction System

Replacement Parts Available 1-800-323-0620



No. 4Z762 Soldering Station

No. 6W724 Soldering Station



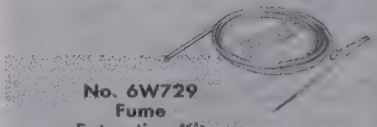
Soldering Irons



No. 6W727



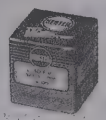
No. 6W728



No. 6W729 Fume Extraction Kit

# SOLDERS AND FLUX

- Kester solder is manufactured only from 100% virgin, grade A metals
- Meets all applicable military, federal, and electronic industry standards


Lead-Free Solder No. 6Z772


Acid Paste Flux No. 6Z775


Solder Flux Pen No. 6W280


Solder Syringe No. 6W277

## LEAD-FREE SOLDER

**Lead-Free Paste Solder No. 6A473.** No-lead, 95% tin, 5% antimony alloy. For applications where food or potable water might come in contact with soldered connection. Applications include copper tubing, pipes and fittings, copper utensils, and stainless steel repairs. Includes a noncorrosive flux for quick, easy application.

**Lead-Free Solder No. 6Z772.** For nonelectrical and plumbing applications. Formulated for drinking water lines where lead content is not allowed due to building codes or regulations. Can be used to install or repair copper plumbing, hot water tanks, and refrigeration systems. Use with flux and a soldering iron or propane torch.

**Lead and Cadmium-Free Silver Solder No. 6Z773.** For nonelectrical applications and for repairs on plumbing, stainless steel, jewelry, and kitchen utensils. Effective for joining silver, nickel alloys, copper, copper to steel, or where strength or a shiny finish is important. Use with flux and a soldering iron or propane torch.

## SOLID WIRE SOLDER

**Solid Wire Solder No. 1A055.** For nonelectrical applications. Must be applied with a flux. For repair of stained glass, household items, drainage plumbing, brass fittings and fixtures, steel, nickel plate and nickel alloys. Use with soldering iron or propane torch.

## ROSIN CORE SOLDER

Rosin core solder is used for a variety of applications on electrical components and electronic circuitry. Apply with soldering irons or guns. Contains activated rosin flux core to clean parts while soldering.

**60/40 Rosin Core No. 6A470** is for general purpose work.

**60/40 Rosin Core Nos. 6A471 and 6W273** are for smaller components.

**63/37 Rosin Core No. 6A472** is for heat-sensitive components.

**40/60 Rosin Core No. 2Z173** is for electrical applications such as repairing speaker wires, motors, generators, printed circuit boards, CB/home radios, TVs, and computers.

## ACID CORE SOLDER

**Acid Core Solder No. 2Z174.** For nonelectrical applications such as repairing tools, radiators, automotive parts, and sheet metal. Contains flux core with a highly active cleaner. Apply with soldering iron or propane torch.

**Note: Can harm or short circuit electrical connections.**

## PASTE FLUX

**Acid Paste Flux Nos. 6Z775 and 6W275.** High quality petroleum base zinc chloride solder flux for all nonelectrical applications. Use with solid wire and bar solders or when additional flux is needed.

**Rosin Paste Flux No. 6W276.** Benchtop flux for touch-up and soldering of electronic assemblies.

## FLUX-PEN™

For rework and touch-up soldering. Allows controlled application of flux eliminating mess from flux bottles. Spring-loaded chisel point tip dispenses just the right amount of flux while limiting operator exposure to soldering chemicals. Chisel point allows work in very confined spaces while the spring valve prevents the flux inside of pen from "drying out."

**RMA Rosin Flux-Pen™ No. 6W279.** Mildly activated rosin flux that is approved for military soldering under MIL-F-14256. Good heat stability properties minimizing "white residue."

**Low Solids, No Clean Flux-Pen™ No. 6W280.** Very low solids, halide free "no-clean" flux. Leaves minimal residue as well as eliminating interfering residues with "probe" testing.

## CARDED SOLDER SYRINGES

**Silver Solder Paste Syringe No. 6W277.** For all electrical soldering of wires, connectors, and cables, for use with copper piping in home plumbing applications, and for use in car radiators. Works with the heat of a match or lighter. Will not tarnish.

**Plumbers' Solder Syringe No. 6W278.** For making professional quality pipe joints with copper, brass, stainless steel, nickel, or bronze. Low melting temperature allows repair of existing joints without disassembly. Works with the heat of any torch or open flame. No flux required. Contains no lead, cadmium, or antimony.

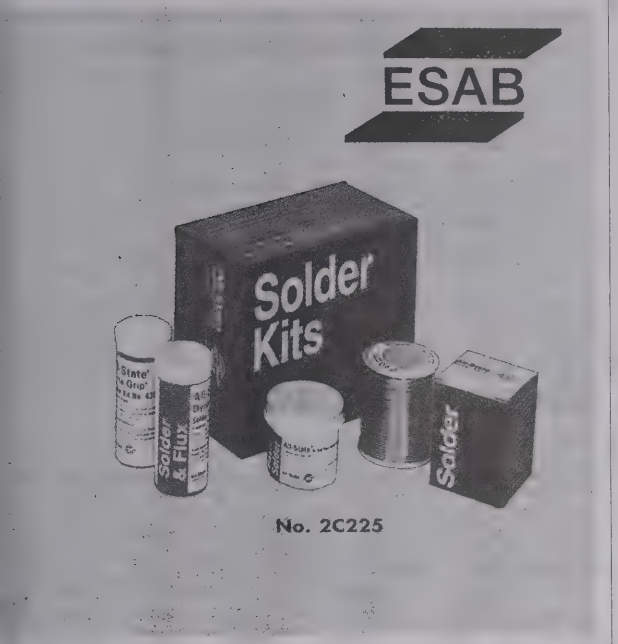
| Description | Metal Content | Wire Dia. (In.) | Size | Container | Kester Model | Stock No. ❸ | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Lead-Free Paste Solder** | 95% Tin, 5% Antimony | — | 8 oz. | Jar | 84-0000-1088 | **6A473** | $9.39 | **$6.29▲** | 0.5 |
| **Lead-Free Solder** | 95% Tin, 5% Antimony | 0.125 | 1 lb. | Spool | 14-7080-0125 | **6Z772** | 20.63 | **13.01▲** | 1.0 |
| **Lead-Free Silver Solder** | 98% Tin, 2% Silver | 0.125 | 1 lb. | Spool | 14-7016-0125 | **6Z773** | 29.34 | **20.55▲** | 1.0 |
| **Solid Wire Solder** | 50% Tin, 50% Lead | 0.125 | 1 lb. | Spool | 14-5050-0125 | **1A055❷** | 13.25 | **9.29▲** | 1.0 |
| **Rosin Core 60/40** | 60% Tin, 40% Lead | 0.062 | 1 lb. | Spool | 24-6040-0061 | **6A470❷** | 15.15 | **10.62▲** | 1.1 |
| **Rosin Core 60/40** | 60% Tin, 40% Lead | 0.031 | 1 lb. | Spool | 24-6040-0027 | **6A471❷** | 16.22 | **11.36▲** | 1.0 |
| **Rosin Core 60/40** | 60% Tin, 40% Lead | 0.031 | 0.5 oz. | Tube | 83400 | **6W273❷** | 1.17 | **0.85▲** | 0.1 |
| **Rosin Core 63/37** | 63% Tin, 37% Lead | 0.031 | 1 lb. | Spool | 24-6337-0027 | **6A472❷** | 17.88 | **12.53▲** | 1.0 |
| **Rosin Core 40/60** | 40% Tin, 60% Lead | 0.093 | 1 lb. | Spool | 24-4060-0066 | **2Z173❷** | 11.69 | **8.19▲** | 1.0 |
| **Acid Core Solder** | 40% Tin, 60% Lead | 0.125 | 1 lb. | Spool | 24-4060-2437 | **2Z174❷** | 11.69 | **8.19▲** | 1.0 |
| **Acid Paste Flux** | None | — | 1 lb. | Jar | 84-0000-1001 | **6Z775** | 6.92 | **4.85▲** | 1.2 |
| **Acid Paste Flux** | None | — | 2 oz. | Tin | 83001 | **6W275** | 1.26 | **0.90▲** | 0.2 |
| **Rosin Paste Flux** | None | — | 2 oz. | Tin | 83044 | **6W276** | 1.26 | **0.90▲** | 0.2 |
| **RMA Rosin Flux-Pen™** | None | — | 1 oz. | Pen | 186 | **6W279** | 4.35 | **2.61▲** | 0.1 |
| **Low Solids, No Clean Flux-Pen™** | None | — | 1 oz. | Pen | 951 | **6W280** | 4.35 | **2.61▲** | 0.1 |
| **Silver Solder Paste Syringe** | 95% Tin, 5% Silver, | — | 7.1 gm | Syringe | 82631 | **6W277** | 4.79 | **3.65▲** | 0.4 |
| **Plumbers' Solder Syringe** | 89% Tin, 5% Silver, 5% Bismuth, 1% Copper | — | 7.1 gm | Syringe | 82632 | **6W278** | 6.57 | **5.26▲** | 2.0 |

(▲) Net prices, not subject to discounts.

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# ALL-STATE® SOLDER ALLOYS




No. 2C225

## ALL-STATE® No. 430

Cadmium-free, low temperature, food grade solder for high strength on stainless steels and dissimilar metals. Deposits closely match stainless, and stay bright after prolonged service. Use with All-State Duzall® flux or All-State® 430 flux.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8" | 1 lb. spool | 69070044 | 2C225 | $53.25 | $53.25 | 1.1 |

## ALL-STATE® DYNAGRIP® SOLDER KIT

Contains 4 ft. No. 430 solder and 1/2 oz. Duzall® flux.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/16" | 1 kit each | 69070090 (.64 oz) | 2C244 | $12.66 | $12.66 | 0.2 |

## ALL-STATE® No. 430 PASTE

Cadmium-free, low temperature, food grade solder in mesh form premixed with flux. For use on stainless steel and dissimilar metal combinations.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| N/A | 8 oz. jar each | 69070080 | 2C234 | $41.80 | $41.80 | 0.6 |

## ALL-STATE® PASTE SOLDER

A 50/50 lead/tin solder for sealing, joining or tinning most common metals, except aluminum. Can be used with soldering iron or torch. Working temperature is 360° to 375°F.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 lb. jar (plastic) | 69070060 | 2C232 | $25.85 | $25.85 | 1.1 |

# ALL-STATE® ALUMINUM ALLOYS

## ALL-STATE 509 STRONGSET®

A solder of cadmium and zinc alloys with high strength and corrosion resistance, also resists galvanic corrosion. For joining aluminum and various ferrous and nonferrous metal combinations (except magnesium). Ideal at constant elevated temperatures up to 350°F and where continual vibration is encountered. Use with All-State® No. 509 flux. Kit contains 4 ft. wire coil, 1/2 oz. 509 flux.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/16" | 1 lb. spool | 69070050 | 2C227 | $50.00 | $50.00 | 1.1 |
| 1/8 | 1 lb. spool | 69070051 | 2C230 | 48.80 | 48.80 | 1.1 |
| 1/16 | 1 kit each | 69070100 | 2C246 | 12.37 | 12.37 | 0.2 |

## ALL-STATE 55 RUBBON®

Aluminum solder for joining aluminum at low temperatures without flux. For high strength and long service without galvanic action between base metal and solder.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 x 18" | 1 lb. tube | 69071030 | 2C250 | $15.65 | $15.65 | 1.1 |

# ALL-STATE® MISCELLANEOUS ALLOYS

## ALL-STATE GALVOVER®

Special low temperature alloy used to restore and protect galvanized area of sheet and angle iron. Smooth, with a firm bond that resists corrosion.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 sq. x 14" | 3 lb. tube | 69071070 | 2C252 | $64.10 | $64.10 | 3.4 |

# ALL-STATE AQUASAFE® 100 LEAD-FREE SOLDER KIT



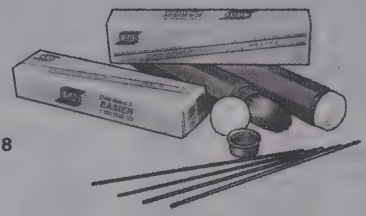

No. 2C248

Lead-free, cadmium-free solder and flux kit for joining copper and dissimilar metals in drinking water lines. Works, melts, and solders better than 50/50 lead/tin solder. Meets all Government and Plumbing Code specs. Flux performs to Fed. 0-F-506, Form A.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8" | 1 kit each (1 lb.) | 69070200 | 2C248 | $22.58 | $22.58 | 1.3 |

# ELECTRODES

ESAB



No. 2C428

**MILD STEEL COVERED ELECTRODE DESIGNATIONS**

**EXAMPLE:** E 60 1 0
(1) (2) (3) (4)

1. E—Stands for electrode.
2. Two (or three) digits indicate tensile strength X 1000 PSI.
3. Third digit refers to welding position.
   EXX1X All positions (flat, horizontal, vertical, overhead).
   EXX2X Horizontal and flat only.
   EXX3X Flat position only.
   EXX4X Flat, overhead, horizontal, vertical down.
4. Last digit indicates usability of the electrode, i.e., type of current and type of covering.

## ALL-STATE® MILD STEEL COVERED ELECTRODES

### ALL-STATE® 6010

**DC Electrode Positive.** General purpose. For welding vertical, flat or horizontal. Deep penetrating mild steel electrode used for farm and road equipment, tanks, piping, wrought iron, building structures, jigs and fixtures, and general maintenance. Must be run on DC welder with the electrode on the positive terminal.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32"** | 11 lb. carton | 69106160 | **2C428** | $19.74 | **$19.74** | 11.0 |
| **1/8** | 11 lb. carton | 69106161 | **2C431** | 17.63 | **17.63** | 11.0 |
| **5/32** | 11 lb. carton | 69106162 | **2C433** | 16.47 | **16.47** | 11.0 |
| **3/32** | 5 lb. tube | 69106133 | **2C411** | 12.64 | **12.64** | 5.0 |
| **1/8** | 5 lb. tube | 69106132 | **2C409** | 10.11 | **10.11** | 5.0 |
| **5/32** | 5 lb. tube | 69106134 | **2C413** | 10.02 | **10.02** | 5.0 |

### ALL-STATE® 6011

**AC-DC Electrode Positive.** General purpose. For welding vertical, flat, or horizontal position. Ideal for use on AC welders. Deep penetration allows for use on farm and road equipment, wrought iron, building structures and pipe. Works well on rusty, dirty steel. Similar to the E6010 (above) but can be used on AC or DC current. Popular electrode for utility type welders.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32"** | 11 lb. carton | 69106180 | **2C435** | $21.47 | **$21.47** | 11.0 |
| **1/8** | 11 lb. carton | 69106181 | **2C437** | 17.82 | **17.82** | 11.0 |
| **5/32** | 11 lb. carton | 69106182 | **2C439** | 16.85 | **16.85** | 11.0 |
| **3/32** | 5 lb. tube | 69106127 | **2C404** | 12.68 | **12.68** | 5.0 |
| **1/8** | 5 lb. tube | 69106126 | **2C402** | 10.11 | **10.11** | 5.0 |
| **5/32** | 5 lb. tube | 69106128 | **2C407** | 10.02 | **10.02** | 5.0 |

### ALL-STATE® 6013LV

**AC-DC Electrode Negative.** General purpose. For welding vertical, flat, and horizontal positions. Produces a soft arc and easy operation. Ideal for poor fitup applications, used for general repair and light thickness fabrication. Excellent for sheet metal work. Works well with low cost hobbyist-maintenance type AC welding machines with 40 Open Circuit Volts (O.C.V.).

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32"** | 11 lb. carton | 69106200 | **2C441** | $20.51 | **$20.51** | 11.0 |
| **1/8** | 11 lb. carton | 69106201 | **2C443** | 18.01 | **18.01** | 11.0 |
| **5/32** | 11 lb. carton | 69106202 | **2C446** | 17.24 | **17.24** | 11.0 |
| **5/64** | 5 lb. tube | 69106145 | **2C419** | 21.83 | **21.83** | 5.0 |
| **3/32** | 5 lb. tube | 69106144 | **2C417** | 12.64 | **12.64** | 5.0 |
| **1/8** | 5 lb. tube | 69106143 | **2C415** | 10.11 | **10.11** | 5.0 |

### ALL-STATE® 7014

**AC-DC Electrode Positive.** General purpose. All position. A high percentage iron powder in the coating allows for higher welding speeds and use of a drag technique. Easier to use than most electrodes. Works well on poor fitting joints as well as welds requiring very flat bead shape.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32"** | 11 lb. carton | 69104136 | **2C396** | $21.47 | **$21.47** | 11.0 |
| **1/8** | 11 lb. carton | 69104137 | **2C398** | 17.63 | **17.63** | 11.0 |
| **5/32** | 11 lb. carton | 69104138 | **2C400** | 17.24 | **17.24** | 11.0 |
| **3/32** | 5 lb. tube | 69104131 | **2C392** | 12.64 | **12.64** | 5.0 |
| **1/8** | 5 lb. tube | 69104130 | **2C390** | 10.11 | **10.11** | 5.0 |
| **5/32** | 5 lb. tube | 69104132 | **2C394** | 10.02 | **10.02** | 5.0 |

## ALL-STATE® LOW HYDROGEN COVERED ELECTRODES

### ALL-STATE® 7018

**DC Electrode Positive Low Hydrogen.** All position. Highest quality weld for mild steel. Ideal for carbon steel where cracking is a concern. The first choice for field construction and contracting and applications where weld quality is critical. Low hydrogen electrodes should be kept in a sealed container or electrode oven when not in use. (Do not store in the same container with other mild steel electrodes.)

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32"** | 11 lb. carton | 69501420 | **2C038** | $17.43 | **$17.43** | 11.0 |
| **1/8** | 11 lb. carton | 69501421 | **2C040** | 16.47 | **16.47** | 11.0 |
| **5/32** | 11 lb. carton | 69501422 | **2C042** | 15.12 | **15.12** | 11.0 |
| **3/32** | 5 lb. tube | 69501552 | **2C050** | 12.64 | **12.64** | 5.0 |
| **1/8** | 5 lb. tube | 69501550 | **2C046** | 10.90 | **10.90** | 5.0 |
| **5/32** | 5 lb. tube | 69501551 | **2C048** | 10.02 | **10.02** | 5.0 |

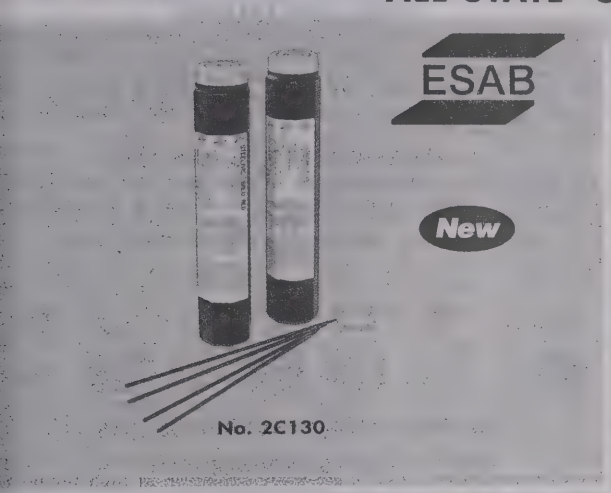
### ALL-STATE® 7018 AC

**AC-DC Electrode Positive Low Hydrogen.** All position. Low Hydrogen Electrode designed to operate on AC welding machines. Preferred by contractors using portable AC welding machines where weld quality is critical. High purity crack resistant welds on mild steel and carbon steels. Easier to operate than other low hydrogen electrodes.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32"** | 11 lb. carton | 69502868 | **2C064** | $21.47 | **$21.47** | 11.0 |
| **1/8** | 11 lb. carton | 69502869 | **2C066** | 17.24 | **17.24** | 11.0 |
| **5/32** | 11 lb. carton | 69502870 | **2C071** | 17.05 | **17.05** | 11.0 |
| **3/32** | 5 lb. tube | 69502863 | **2C060** | 12.64 | **12.64** | 5.0 |
| **1/8** | 5 lb. tube | 69502862 | **2C058** | 10.90 | **10.90** | 5.0 |
| **5/32** | 5 lb. tube | 69502866 | **2C062** | 10.02 | **10.02** | 5.0 |

# ELECTRODES

## ALL-STATE® STEEL ALLOYS




### ALL-STATE STEELARC® 80LV RED

This AC/DC straight or reverse polarity, all position electrode can be used with low voltage machines for short, intermittent or tack welds on thin, medium, and heavy sections of mild steel.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32 x 12"** | 5 lb. tube | 69015145 | **2C132** | $31.25 | **$31.25** | 5.5 |
| **1/8 x 14** | 5 lb. tube | 69015140 | **2C130** | 24.73 | **24.73** | 5.5 |

### ALL-STATE® No. 275

An AC/DC reverse, all position electrode that will produce high tensile and yield strengths on tool, high alloy, spring, stainless, aircraft, nickel clad and dissimilar steels.

| Diameter | Package Quantity | All-State Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/32 x 9"** | 5 lb. tube | 69010070 | *New* | **4UT73** | $144.40 | **$122.00** | 5.5 |
| **1/8 x 14** | 5 lb. tube | 69015071 | | **2C126** | 122.20 | **122.20** | 5.5 |
| **5/32 x 14** | 5 lb. tube | 69015072 | | **2C128** | 117.90 | **117.90** | 5.5 |

### ALL-STATE STEELARC PLUS®

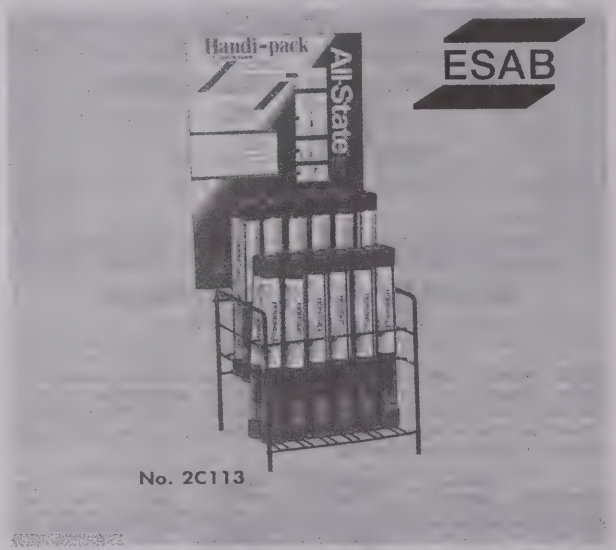
An AC/DC all position electrode for sound, dependable, spatter free welds, even on rusty, oily, dirty, painted mild steel. Can join light gauge to heavy steels.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32 x 12"** | 5 lb. tube | 69010090 | **2C092** | $25.40 | **$25.40** | 5.5 |
| **1/8 x 14** | 5 lb. tube | 69010096 | **2C094** | 21.16 | **21.16** | 5.5 |

### ALL-STATE HY-10®

A special AC/DC reverse, all position high strength electrode for low alloy and sulphur steels. Machinable and ideal for joining or build up.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/8 x 14"** | 5 lb. tube | 69015155 | **2C136** | $35.45 | **$35.45** | 5.5 |
| **5/32 x 14** | 5 lb. tube | 69015153 | **2C134** | 32.95 | **32.95** | 5.5 |




### ALL-STATE MONOWELD®

An almost stick-free AC/DC all position electrode for mild and low alloy steels. Deposit is strong, smooth, and may be painted.

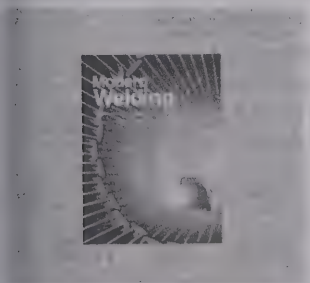
| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/16 x 10"** | 1 lb. tube | 69011108 | **2C113** | $10.78 | **$10.78** | 1.1 |

## ALL-STATE® COPPER ALLOY ELECTRODES

### ALL-STATE® No. 24 AC/DC

An AC/DC all position electrode that produces sound, porosity free deposits on bronze, brass, copper, cast iron and steel. Use as an overlay on cast iron or steel and to join dissimilar metals.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/8 x 14"** | 5 lb. tube | 69211009 | **2C303** | $107.15 | **$107.15** | 5.5 |




## MODERN WELDING TECHNICAL REFERENCE MANUAL

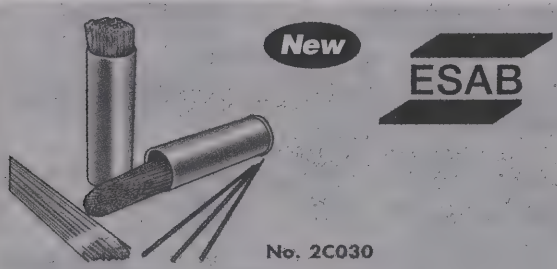
Written for students, apprenticeships, and journeymen. Covers the theory, fundamentals, equipment, and techniques of welding. Explains "how's" and "why's" of all major welding and cutting processes. Provides information on reading welding symbols, inspecting and testing welds, and certification. Contents correlate to AWS standard QC10-95. Full-color illustrations. 779 pages, hard cover, 1997 edition.

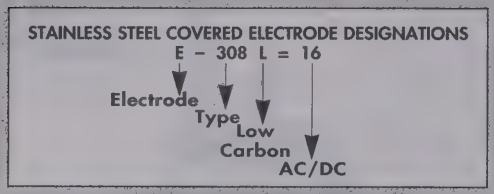
**No. 5H554.** Shpg. wt. 3.7 lbs. List $59.75. Each ..... **$46.00**

GRAINGER HAS EVERYTHING YOU NEED FROM A-Z.

Check Index and Order Today!

# STEEL, COPPER AND ALUMINUM ELECTRODES




## ALL-STATE® COVERED STAINLESS STEEL ELECTRODES

### ALL-STATE® 308L

**(E308L-16) AC-DC Electrode Positive.** All position stainless steel electrode. Designed for welding most types of 18-8 stainless steel (304,302). All-State® stainless electrodes have excellent wetting action and bead appearance. Highly corrosion resistant weld deposit and easy slag removal.

| Diameter (In.) | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32 x 9** | 6 lb. can | 69103336 | **2C030** | $36.70 | **$30.70** | 5.0 |
| **1/8 x 14** | 10 lb. can | 69103180 | **2C028** | 51.25 | **51.25** | 10.0 |
| **5/32 x 14** | 10 lb. can | 69103530 | **2C032** | 49.65 | **49.65** | 10.0 |

### ALL-STATE® 309L

**(E309L-16) AC-DC Electrode Positive.** All position stainless steel electrode. For welding most types of dissimilar stainless, e.g. 304 to 309, 308 to mild steel. 309 electrodes offer higher corrosion resistance and strength than type 308. Excellent welder appeal and easy slag removal.

| Diameter (In.) | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32 x 9** | 6 lb. can | 69807666 | **2C077** | $46.83 | **$39.05** | 5.0 |
| **1/8 x 14** | 10 lb. can | 69807564 | **2C073** | 67.15 | **67.15** | 10.0 |
| **5/32 x 14** | 10 lb. can | 69807571 | **2C075** | 65.95 | **65.95** | 10.0 |

### ALL-STATE® 316L

**(E316L-16) AC-DC Electrode Positive.** An electrode with excellent starting properties on all types of AC welding equipment. The arc is stable and smooth, with fine spray metal transfer, while the bead is uniform, flat or slightly concave with straight-line feathered edges. Penetration is complete and the weld metal is free from porosity. Slag is easily and completely removed without secondary film, which means less cleaning, grinding and polishing time. Electrode also has good out-of-position characteristics. Used for welding 316L and 318 type steels used in the chemical industry. Weld deposit has a maximum of .04% carbon.

| Diameter (In.) | Pkg. Qty. | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32 x 9** | 6-lb. can | 69122336 | **4UT80** | $73.08 | **$49.80** | 7.0 |
| **1/8 x 14** | 10-lb. can | 69122180 | **4UT79** | 110.30 | **74.20** | 11.0 |
| **5/32 x 14** | 10-lb. can | 69122530 | **4UT81** | 104.30 | **70.00** | 11.0 |

## ALL-STATE® HEAVY COATED STAINLESS STEEL ELECTRODES

Smoothcote Plus stainless steel electrodes are formulated with a heavier coating to optimize operation in the flat and horizontal positions. Beads are concave and finely rippled. Spatter is low and does not adhere to the plate, while slag is virtually self-removing. Clean-up time is minimized. The 3/32 " diameter features a heat-resistant coating.

### ALLSTATE SMOOTHCOTE PLUS 308L

Use for welding Cr/Ni steels such as 304L, 308L, 301, 303, 304 and 309, found in paper and chemical industries, food processing equipment, dairies, breweries, distilleries, kitchens and hospitals. Superior welding characteristics to all other stainless steel electrodes.

| Diameter (In.) | Pkg. Qty. | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32 x 12** | 8-lb. can | 69103535 | **4UT76** | $87.60 | **$74.10** | 11.0 |
| **1/8 x 14** | 10-lb. can | 69103536 | **4UT77** | 97.50 | **72.60** | 11.0 |
| **5/32 x 14** | 10-lb. can | 69103537 | **4UT78** | 95.20 | **70.60** | 11.0 |

### ALL-STATE® SMOOTHCOTE® PLUS 309L

An AC-DC reverse, all-position stainless steel electrode for welding dissimilar steels that must meet oxidation at high temperatures and retain high strength. (AWS E309L-17)

| Diameter (In.) | Pkg. Qty. | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32 x 12** | 8-lb. can | 69807425 | **4UV16** | $98.48 | **$83.20** | 11.0 |
| **1/8 x 14** | 10-lb. can | 69807426 | **4UV17** | 110.30 | **82.60** | 11.0 |
| **5/32 x 14** | 10-lb. can | 69807427 | **4UV18** | 103.70 | **78.20** | 11.0 |

### ALL-STATE® SMOOTHCOTE® PLUS 316L

AC-DC reverse, all-position, low-carbon stainless steel electrode for joining high corrosion type stainless. (AWS E316L-17)

| Diameter (In.) | Pkg. Qty. | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32 x 12** | 8-lb. can | 69131100 | **4UT95** | $101.44 | **$85.80** | 11.0 |
| **1/8 x 14** | 10-lb. can | 69131101 | **4UT96** | 115.40 | **86.40** | 11.0 |
| **5/32 x 14** | 10-lb. can | 69131102 | **4UT97** | 109.20 | **81.80** | 11.0 |

## ALL-STATE® STEEL ALLOYS

### ALL-STATE® No. 252

This AC/DC reverse, all-position electrode is used for welding 310 and 314 stainless subjected to corrosion and elevated temperatures, as well as dissimilar steels and stainless of unknown analysis.

| Electrodes Diameter (In.) | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/8 x 14** | 5 lb. tube | 69015062 | **2C115** | $98.55 | **$98.55** | 5.6 |
| **5/32 x 14** | 5 lb. tube | 69015063 | **2C123** | 96.55 | **96.55** | 5.5 |

## ALUMINUM ELECTRODES

### ALL-STATE® No. 34

A premium DC reverse, all position aluminum electrode with an extruded coating. For use on aluminum sheets, plates and castings of 1/8" thickness or heavier. Deposits are dense and smooth, and provide good color match to base metal. Also for build-up, cladding and reinforcing.

| Diameter (In.) | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/32 x 14** | 5 lb. can | 69010049 | **2C087** | $145.80 | **$145.80** | 5.5 |
| **1/8 x 14** | 5 lb. can | 69010053 | **2C089** | 137.50 | **137.50** | 5.5 |

# ARC GOUGING, METAL REMOVAL, CAST IRON AND HARDFACING ELECTRODES

## ALL-STATE® CAST-IRON ALLOYS

### ALL-STATE® No. 8

All position AC/DC reverse electrode for thin sections of cast iron. Provides a high nickel, machinable deposit. For welding parts, filling holes and defects and salvaging imperfect castings. Meets AWS A5.15, Class ENiCI-A.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/32 x 9" | 5 lb. tube | 69020000 | 2C139 | $128.15 | $128.15 | 5.5 |
| 1/8 x 14 | 10 lb. tube | 69020002 | 2C141 | 231.50 | 231.50 | 11.0 |
| 5/32 x 14 | 10 lb. tube | 69020004 | 2C143 | 231.50 | 231.50 | 11.0 |

### ALL-STATE® 8-60

All position AC/DC reverse nickel electrode for heavy sections of cast iron and ductile iron. For welding requiring machinable deposits with high strength and good ductility. Meets AWS A5.15, Class ENiFeCI-A.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 x 14" | 10 lb. tube | 69020012 | 2C145 | $183.75 | $183.75 | 11.0 |
| 5/32 x 14 | 10 lb. tube | 69020014 | 2C147 | 183.75 | 183.75 | 11.0 |
| 3/16 x 14 | 10 lb. tube | 69020016 | 2C149 | 181.50 | 181.50 | 11.0 |

### ALL-STATE® No. 6 IMP

An AD/DC reverse, all position electrode for cast iron. For high strength, dense, sound welds where machinability is not needed. Excellent for dirty or grease soaked castings.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 x 14" | 10 lb. tube | 69010026 | 2C085 | $67.30 | $67.30 | 11.0 |

### ALL-STATE® SUPER 4-60

AC/DC straight or reverse electrodes for heavy sections of cast iron, ductile iron and dissimilar metals. Strong, machinable, crack-resistant deposits without porosity, yet spatter-free. No overheating at rated amperages.

| Diameter (In.) | Pkg. Qty. | All-State Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/32 x 9 | 5-lb. tube | 69010017 | 4UT67 | $194.45 | $109.90 | 6.0 |
| 1/8 x 14 | 10-lb. tube | 69010019 | 4UT68 | 363.40 | 216.00 | 11.0 |
| 5/32 x 14 | 10-lb. tube | 69010024 | 4UT69 | 363.40 | 216.00 | 11.0 |

## ALL-STATE® ARC GOUGING ELECTRODES

Special formulation of carbon and graphite. Available copper-coated and plain non-jointed. Recommended for manual gouging of steel, stainless steel and copper alloys up to 60% copper. For use with DC power sources. Copper coating increases electrode life, retards penciling, and improves conductivity.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Copper Coated:** | | | | | | |
| 5/32 x 12" | 50/box | 69090160 | 2C270 | $23.75 | $23.75 | 1.6 |
| 3/16 x 12 | 50/box | 69090161 | 2C273 | 25.45 | 25.45 | 3.4 |
| 1/4 x 12 | 50/box | 69090162 | 2C275 | 27.20 | 27.20 | 5.4 |
| 5/16 x 12 | 50/box | 69090163 | 2C277 | 32.25 | 32.25 | 8.2 |
| 3/8 x 12 | 50/box | 69090164 | 2C279 | 39.00 | 39.00 | 11.0 |
| **Plain:** | | | | | | |
| 1/8 x 12" | 50/box | 69090180 | 2C281 | 28.05 | 28.05 | 0.9 |
| 5/32 x 12 | 50/box | 69090181 | 2C283 | 22.06 | 22.06 | 1.0 |
| 3/16 x 12 | 50/box | 69090182 | 2C285 | 19.51 | 19.51 | 3.2 |
| 1/4 x 12 | 50/box | 69090183 | 2C287 | 21.19 | 21.19 | 4.8 |
| 5/16 x 12 | 50/box | 69090184 | 2C289 | 23.71 | 23.71 | 6.8 |
| 3/8 x 12 | 50/box | 69090185 | 2C291 | 28.00 | 28.00 | 5.0 |

## ALL-STATE® METAL REMOVAL ELECTRODES




### ALL-STATE® CHAMFER ROD

An AC/DC straight, all position electrode for chamfering and gouging both ferrous and non ferrous metals.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/32 x 14" | 5 lb. tube | 69010138 | 2C098 | $26.75 | $26.75 | 5.5 |
| 1/8 x 14 | 5 lb. tube | 69010147 | 2C101 | 23.26 | 23.26 | 5.5 |

### ALL-STATE® CUTTING ROD

An AC/DC straight, all position electrode for cutting and piercing of all metals.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 x 14" | 5 lb. tube | 69010118 | 2C096 | $22.63 | $22.63 | 5.5 |

### ALL-STATE STUD PLUS®

AC/DC reverse electrode specially formulated for easy removal of broken studs and bolts. Kit package contains 8 sticks 3/32" diameter, 5 sticks 1/8" and 4 sticks 5/32".

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/32, 1/8, 5/32" | 1 lb. tube kit each | 69001015 | 2C079 | $28.40 | $28.40 | 1.1 |

## ALL-STATE® HARDFACING AND WEARFACING ELECTRODES

### ALL-STATE HS-2C®

An all position AC/DC reverse electrode for severe abrasion and moderate impact. Hardness 58 to 62 Rockwell C.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 x 14" | 10 lb. tube | 69010700 | 2C108 | $153.00 | $153.00 | 11.0 |

### ALL-STATE HS-65W®

A highly alloyed AC/DC reverse electrode for superior wear resistance involving extreme abrasion. Hardness up to 63-67 Rockwell C.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 x 14" | 10 lb. tube | 69010710 | 2C111 | $223.50 | $223.50 | 11.0 |

### ALL-STATE NI-MATRIX®

An all position AC/DC electrode for fabrication and build up of manganese steels. For constant heavy impact and abrasion. Hardness to 48 Rockwell C.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 x 14" | 10 lb. tube | 69010522 | 2C103 | $86.65 | $86.65 | 11.0 |

### ALL-STATE SUPER JOIN-M®

This AC/DC reverse electrode provides deposits for severe impact on manganese steel, and unknown iron base metals. Resistant to corrosion from water, steam, and mild corrosives.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 x 14" | 10 lb. tube | 69010527 | 2C105 | $184.75 | $184.75 | 11.0 |

# ALL-STATE® SOLID MILD STEEL MIG WELDING WIRE

## ALL-STATE® 70S-6

**(ER70S-6) DC Electrode Positive.** All position general purpose solid MIG wire. Multi-pass ($CO_2$ or Argon mixed gas required). Excellent for welding thinner gauge materials in all positions. Designed to be used on (light) dirty and rusty plate. Makes slag free, higher strength welds. Small diameter, 2 lb. and 10 lb. spools for 110 volt MIG welders.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0.035"** | 44 lb. spool | 69851491 | **1Z942** | $69.75 | **$69.75** | 44.0 |
| **0.045** | 44 lb. spool | 69851492 | **1Z947** | 61.30 | **61.30** | 44.0 |
| **0.023** | 12 lb. spool | 69130006 | **1Z959** | 32.70 | **32.70** | 12.0 |
| **0.030** | 12 lb. spool | 69130007 | **1Z975** | 29.10 | **29.10** | 12.0 |
| **0.035** | 12 lb. spool | 69851300 | **1Z979** | 28.50 | **28.50** | 12.0 |
| **0.023** | 2 lb. spool | 69130004 | **1Z954** | 9.67 | **9.67** | 2.0 |
| **0.030** | 2 lb. spool | 69130005 | **1Z956** | 8.88 | **8.88** | 2.0 |

## ALL-STATE® 70S-3

**(ER70S-3) DC Electrode Positive.** All position general purpose solid MIG wire. Multi-pass ($CO_2$ or Argon mixed gas required). Excellent for welding thinner gauge materials in all positions. Designed to be used on clean plate, no slag to remove.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0.030"** | 2 lb. spool | 69130062 | ***New*** **4UT91** | $11.64 | **$9.80** | 2.3 |
| **0.035** | 2 lb. spool | 69130063 | ***New*** **4UT92** | 10.84 | **9.16** | 2.3 |
| **0.030** | 12 lb. spool | 69130065 | ***New*** **4UT93** | 29.30 | **29.30** | 11.0 |
| **0.035** | 12 lb. spool | 69130066 | ***New*** **4UT94** | 26.80 | **26.80** | 11.0 |
| **0.030** | 44 lb. spool | 69850559 | ***New*** **4UV24** | 87.15 | **87.15** | 49.0 |
| **0.035** | 44 lb. spool | 69850560 | **1Z921** | 62.05 | **62.05** | 44.0 |

ESAB

*New*

**CARBON AND LOW ALLOY STEEL WIRE LETTER-NUMBER DESIGNATIONS**

E R X X S - X

- Electrode or Welding Rod
- Min. Tensile Strength X 100 PSI
- Chemical Composition
- Bare Solid Electrode or Rod

## ALL-STATE® 70S-2

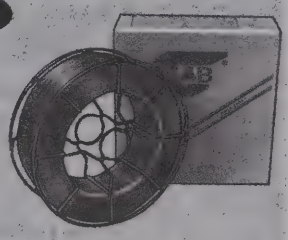
**(ER70S-2) DC Electrode Positive.** All-position copper-coated wire fo welding over rust and mill scale (CO2 or argon mixed ga required). Features a triple deoxidized (aluminum, titanium, an zirconium) welding wire. Less-fluid weld puddle makes it easy t control when used out of position.

| Diameter | Package Qty. | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0.023"** | 2 lb. spool | 69130050 | **4UT85** | $13.88 | **$11.72** | 2.3 |
| **0.030** | 2 lb. spool | 69130052 | **4UT86** | 12.56 | **10.60** | 2.3 |
| **0.035** | 2 lb. spool | 69130053 | **4UT87** | 11.66 | **9.84** | 2.3 |
| **0.023** | 12 lb. spool | 69130055 | **4UT88** | 44.80 | **44.80** | 13.0 |
| **0.030** | 12 lb. spool | 69130056 | **4UT89** | 40.20 | **40.20** | 11.0 |
| **0.035** | 12 lb. spool | 69130057 | **4UT90** | 37.45 | **37.45** | 11.0 |

# ALL-STATE® FLUX CORED WELDING WIRE

ESAB

*New*



No. 2C022

**FLUX CORED WIRE ELECTRODE DESIGNATIONS**

E X X T X - X

- Electrode or Welding Rod
- Min. Tensile Strength X 10,000 PSI
- 0: Flat and Horizontal Positions
- 1: All Positions
- Chemical Composition
- Usability and Performance
- Tubular or Flux Cored

## ALL-STATE® 71T-1

**(E71T-1) DC Electrode Positive.** All position general purpose gas shielded flux cored wire ($CO_2$ or Argon mixed shielding gas required). Used for single or multipass welding on low and medium carbon steel. This is the most versatile of the gas shielded fluxcore wires. Easy slag removal and flat smooth weld bead.

## ALL-STATE® SHIELD-FREE PLUS-MP

**(E71T-11) DC Electrode Negative.** All position general purpose self shielded flux cored wire for multi-pass welds (no gas required) Designed for outdoor welding or areas where weld cannot b protected from wind.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0.035"** | 10 lb. spool | 69220351 | ***New*** **4UT99** | $47.00 | **$47.00** | 11.0 |
| **0.045** | 10 lb. spool | 69220144 | ***New*** **4UT98** | 34.00 | **34.00** | 11.0 |
| **0.045** | 33 lb. spool | 69220140 | **1Z998** | 109.25 | **109.25** | 35.0 |

## ALL-STATE® SHIELD-FREE PLUS-SP

**(E71T-GS) DC Electrode Negative.** All position general purpose self shielded flux cored wire. For single-pass welds (no gas required) Works well on rusty, galvanized and other mild steels. This prod uct is designed for minimum burn through on thin gauge steels This wire in the small diameters and spools is most popular o 110 volt MIG welders where gas shielding is not desired.

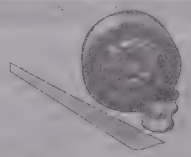
| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **0.030"** | 33 lb. spool | 69220194 | **2C001** | $206.50 | **$206.50** | 33.0 |
| **0.035** | 33 lb. spool | 69220160 | **2A074** | 174.75 | **174.75** | 33.0 |
| **0.045** | 33 lb. spool | 69220161 | **2A076** | 111.35 | **111.35** | 33.0 |
| **0.030** | 10 lb. spool | 69870416 | **2A556** | 65.65 | **65.65** | 10.0 |
| **0.035** | 10 lb. spool | 69870415 | **2A102** | 55.80 | **55.80** | 10.0 |
| **0.045** | 10 lb. spool | 69870423 | **2A260** | 35.00 | **35.00** | 10.0 |
| **0.030** | 2 lb. spool | 69870418 | **2A768** | 18.25 | **18.25** | 2.0 |
| **0.035** | 2 lb. spool | 69870420 | **2A558** | 16.36 | **16.36** | 2.0 |

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **0.035"** | 10 lb. spool | 69800067 | ***New*** **4UV13** | $44.80 | **$44.80** | 11.0 |
| **0.035** | 33 lb. spool | 69800062 | ***New*** **4UV12** | 141.25 | **141.25** | 37.0 |
| **0.045** | 33 lb. spool | 69800004 | **2C022** | 121.75 | **121.75** | 35.0 |
| **0.045** | 10 lb. spool | 69800003 | **2C020** | 40.25 | **40.25** | 10.0 |

# WELDING WIRE AND TIG WELDING RODS

New

ESAB



## ALL-STATE® MIG STAINLESS STEEL WIRE

### ALL-STATE® 308L HI-SIL

A smooth drawn, uniform surfaced stainless steel wire useful in applications where uniform appearance is essential. For use on stainless steel types 304, 305, 308, 321 and 347 as well as other 18-9 stainless steels where carbide precipitation may arise.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Spooled:** | | | | | | |
| **0.023"** | 2 lb. spool | 69130020 | **2C293** | $34.60 | **$34.60** | 2.2 |
| **0.030** | 2 lb. spool | 69130021 | **2C296** | 20.56 | **20.56** | 2.2 |
| **0.023** | 10 lb. spool | 69130022 | ***New*** **4UT82** | 189.20 | **160.00** | 11.0 |
| **0.030** | 10 lb. spool | 69130023 | ***New*** **4UT83** | 111.70 | **94.40** | 11.0 |
| **0.035** | 25 lb. spool | 69812351 | ***New*** **4UV19** | 250.00 | **198.00** | 28.0 |
| **0.045** | 25 lb. spool | 69812451 | ***New*** **4UV20** | 233.00 | **184.00** | 28.0 |

### ALL-STATE® 309L

Primarily used in the overlay of steel where intergranular corrosion must be kept to a minimum. Also used for welding mild or carbon steel to stainless steel provided the service temperature is less than 600° F (316° C). 309L is preferred to 309 MIG for cladding over carbon or low alloy steels as well as for dissimilar joints that undergo heat treatment.

| Diameter | Package Qty. | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **.030"** | 2 lb. spool | 69802599 | **4UV14** | $17.56 | **$17.56** | 2.3 |
| **.030** | 10 lb. spool | 69707605 | **4UV05** | 82.30 | **82.30** | 11.0 |
| **.035** | 10 lb. spool | 69803303 | **4UV15** | 81.30 | **81.30** | 11.0 |

### ALL-STATE® 316L HI-SIL

A smooth flowing, high deposition stainless wire with low carbon content. Excellent for corrosion resistance when used on equipment subject to sulphuric, sulphurous, cellulosic and citric acids.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Spooled:** | | | | | | |
| **.023"** | 2 lb. spool | 69130040 | **2C298** | $38.20 | **$38.20** | 2.2 |
| **.030** | 2 lb. spool | 69130042 | **2C301** | 24.17 | **24.17** | 2.2 |
| **.030** | 10 lb. spool | 69130045 | ***New*** **4UT84** | 125.50 | **106.00** | 11.0 |
| **.035** | 10 lb. spool | 69817552 | ***New*** **4UV23** | 71.70 | **71.70** | 11.0 |
| **.035** | 25 lb. spool | 69817351 | ***New*** **4UV21** | 277.00 | **215.50** | 28.0 |
| **.045** | 25 lb. spool | 69817451 | ***New*** **4UV22** | 260.75 | **206.50** | 28.0 |

## ALL-STATE® ALUMINUM WELDING WIRE

### ALL-STATE® No. 5356

H18 tempered bare aluminum MIG wire manufactured to exacting standards, perfectly extruded, and die-shaved. MIG spooled level-layer wound. Deposits provide high strength and ductility, excellent color match after anodizing, excellent compressive strength and resist salt water corrosion. Use on base metals 1060, 1100, 3003, 3004, 5052, 5083, 5154, 5454, 5456, 6061, 6063, 6151, 7005 and 7039, and cast alloys 13, 43 and D612. Certified to AWS A5.10 and ASME SFA-5.10.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **MIG Wire:** | | | | | | |
| **.030"** | 1 lb. spool | 69020120 | **2C157** | $7.06 | **$7.06** | 1.2 |
| **.035** | 1 lb. spool | 69020121 | **2C159** | 6.63 | **6.63** | 1.2 |
| **3/64** | 1 lb. spool | 69020122 | **2C161** | 5.97 | **5.97** | 1.2 |

## ALL-STATE® TIG STEEL RODS

### ALL-STATE® No. 4130-T

Low alloy TIG rod for medium and high carbon steels where complete heat treatment is desired such as SAE 4130, 4140, 4330, 4340, 8620, and 8630 steels. Hardness from 36 to 38 Rockwell C.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/16 x 36"** | 1 lb. tube | 69701140 | **2C320** | $9.88 | **$9.88** | 1.1 |
| **3/32 x 36** | 1 lb. tube | 69701141 | **2C322** | 9.50 | **9.50** | 1.1 |

### ALL-STATE® No. 88-T

(ER70S-6) A mild steel, copper coated TIG rod with good wetting characteristics, and excellent bead appearance. Can be used on uncleaned metal.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/16 x 36"** | 1 lb. tube | 69701150 | **2C324** | $6.71 | **$6.71** | 1.1 |
| **3/32 x 36** | 1 lb. tube | 69701151 | **2C326** | 6.50 | **6.50** | 1.1 |

### ALL-STATE® TIG MAINTENANCE WELDING KIT

Ten of our most versatile TIG rods for Maintenance and Repair Applications. One pound plastic tube each of the following:

4043 - 1/16" x 36" Aluminum
4043 - 3/32" x 36" Aluminum
252-T - 1/16" x 36" for Stainless
252-T - 3/32" x 36" for Stainless
4-60-T - 3/32" x 36" Nickel for Cast Iron
Phos Bronze "C" - 3/32" x 36" Copper Alloy
88-T - 1/16" x 36" Mild Steel
88-T - 3/32" x 36" Mild Steel
4130-T - 3/32" x 36" Low Alloy Steel
275-T - 3/32" x 36" for Dissimilar Steels

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **10-1 lb. tubes** | 69003000 | **2C081** | $177.75 | **$177.75** | 12.0 |

## ALL-STATE® ALUMINUM WELDING WIRE

### ALL-STATE® No. 4043

H18 tempered bare aluminum MIG wire manufactured to exacting standards, perfectly extruded, and die-shaved. MIG spooled level-layer wound. Deposits are strong and crack resistant when used on base metals 1060, 1100, 3003, 3004, 5005, 5050, 5052, 5662, 6005, 6061, 6063, 6101, 6151, 6201, 6351, 6951, and 6070 and cast alloys 13, 43, 319, 214, 356, A612 and C612. Certified to AWS A5.10 and ASME SFA-5.10.

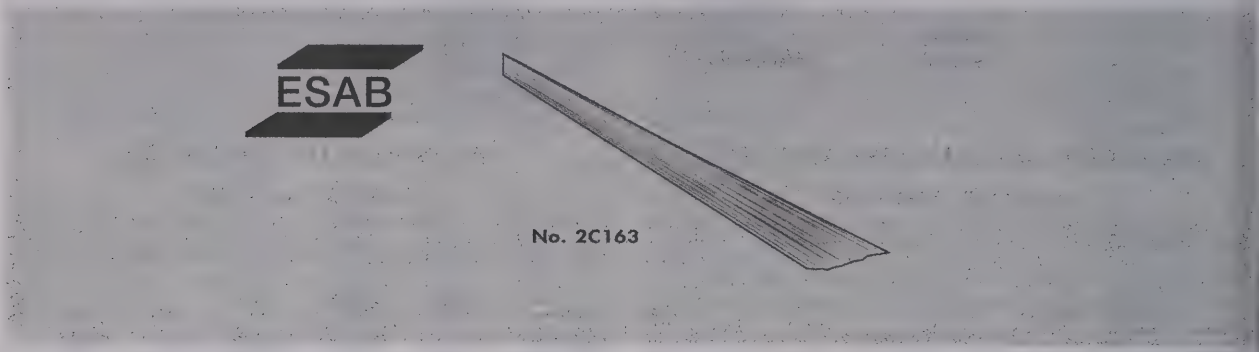
| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **MIG Wire:** | | | | | | |
| **.030"** | 1 lb. spool | 69020110 | **2C151** | $6.63 | **$6.63** | 1.2 |
| **.035"** | 1 lb. spool | 69020111 | **2C153** | 6.16 | **6.16** | 1.2 |
| **3/64** | 1 lb. spool | 69020112 | **2C155** | 5.50 | **5.50** | 1.2 |

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

# TIG WELDING RODS

## ALL-STATE® TIG ALUMINUM WELDING RODS




### ALL-STATE® No. 4043 TIG RODS

H18 tempered bare aluminum manufactured to exacting standards, perfectly extruded, and die-shaved. Deposits are strong and crack resistant when used on base metals 1060, 1100, 3003, 3004, 5005, 5050, 5052, 5662, 6005, 6061, 6063, 6101, 6151, 6201, 6351, 6951, and 6070 and cast alloys 13, 43, 319, 214, 356, A612 and C612. Meets AWS A5.10, MIL-E-16053, and QQ-R-566.

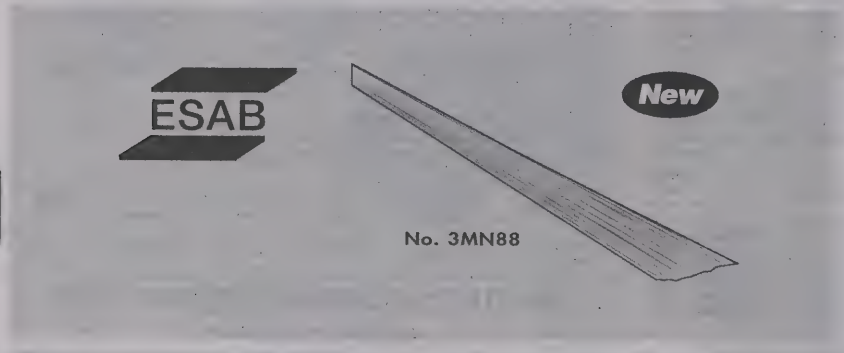
| Diameter (In.) | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **TIG Straight Lengths:** | | | | | | |
| **1/16" x 36"** | 5 lb. ctn. | 69030000 | **2C163** | $22.79 | **$22.79** | 5.4 |
| **3/32 x 36** | 5 lb. ctn. | 69030001 | **2C165** | 19.99 | **19.99** | 5.4 |
| **1/8 x 36** | 5 lb. ctn. | 69030002 | **2C167** | 20.87 | **20.87** | 5.4 |

### ALL-STATE® No. 5356 TIG RODS

H18 tempered bare aluminum manufactured to exacting standards, perfectly extruded, and die-shaved. Deposits provide high strength and ductility, excellent color match after anodizing, excellent compressive strength and resist salt water corrosion. Use on base metals 1060, 1100, 3003, 3004, 5052, 5083, 5154, 5454, 5456, 6061, 6063, 6151, 7005 and 7039, and cast alloys 13, 43 and D612.

| Diameter (In.) | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **TIG Straight Lengths:** | | | | | | |
| **1/16" x 36"** | 5 lb. ctn. | 69030030 | **2C169** | $24.55 | **$24.55** | 5.4 |
| **3/32 x 36** | 5 lb. ctn. | 69030031 | **2C171** | 22.45 | **22.45** | 5.4 |
| **1/8 x 36** | 5 lb. ctn. | 69030032 | **2C173** | 22.35 | **22.35** | 5.4 |

## ALL-STATE® TIG STAINLESS STEEL/BRONZE "C" WELDING RODS




### STAINLESS STEEL TIG RODS

| Tig Rod Type | Package Quantity | Diameter (In.) | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **308/308L** | 5 lb. tube | 1/16" x 36" | 69602113 | **3MN88** | $27.55 | **$27.55** | 5.5 |
| **308/308L** | 5 lb. tube | 3/32 x 36 | 69602333 | **3MN90** | 26.05 | **26.05** | 5.5 |
| **308/308L** | 5 lb. tube | 1/8 x 36 | 69602183 | **3MN89** | 24.82 | **24.82** | 5.5 |
| **309/309L** | 5 lb. tube | 1/16 x 36 | 69613112 | **3MN91** | 32.50 | **32.50** | 5.5 |
| **309/309L** | 5 lb. tube | 3/32 x 36 | 69603333 | **3MN93** | 31.15 | **31.15** | 5.5 |
| **309/309L** | 5 lb. tube | 1/8 x 36 | 69603183 | **3MN92** | 29.85 | **29.85** | 5.5 |
| **316/316L** | 5 lb. tube | 1/16 x 36 | 69607113 | **3MN94** | 32.90 | **32.90** | 5.5 |
| **316/316L** | 5 lb. tube | 3/32 x 36 | 69607333 | **3MN96** | 31.35 | **31.35** | 5.5 |
| **316/316L** | 5 lb. tube | 1/8 x 36 | 69607183 | **3MN95** | 29.60 | **29.60** | 5.5 |

### PHOSPHOR BRONZE "C" TIG RODS

| Tig Rod Type | Package Quantity | Diameter (In.) | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Phosphor Bronze "C"** | 1 lb. tube | 3/32 x 36 | 69701101 | ***New*4UV03** | $19.17 | **$16.20** | 1.3 |
| **Phosphor Bronze "C"** | 1 lb. tube | 1/8 x 36 | 69701102 | ***New*4UV04** | 19.00 | **16.06** | 1.3 |

### ALL-STATE® No. 308/308L

For welding types 201, 202, 301, 302, 304, 305, 308, 304L, 308L, 321, and 347. Same analysis as 308 wire except that carbon content is 0.03% max. to avoid carbide precipitation. May be used successfully for welding types 321 and 347 steels, provided the service temperature is below 500°F (260°C).

### ALL-STATE® No. 309/309L

For welding type 309. For high temperature applications, and welding straight chromium grades of stainless steels when preheat and postheat is not possible. For welding 304 clad stainless steel, stainless steel to mild steel, and stainless steel overlay work.

### ALL-STATE® No. 316/316L

For welding type 316, 316L and 318 chromium-nickel steel. Molybdenum added to increase the corrosion resistance to pitting by sulfuric and sulfurous acids, sulfites, chloride and cellulose solutions. Used in rayon, dye, and paper industries and welding of chemical equipment.

### ALL-STATE® PHOSPHOR BRONZE "C"

Produces high strength deposits on phosphor bronze materials. Can be used to join copper and brasses, overlay on cast iron or steel, and join dissimilar metals. For maintenance, repair, and fabrication. Use with 100% Argon or 25/75 Argon/Helium shielding gas mixture.

# BRAZING ALLOYS

## ALL-STATE® ALUMINUM ALLOYS

### ALL-STATE SEALCOR®

special aluminum flux cored brazing alloy for fabrication and epair of all weldable grades of aluminum including cast, sheet, nd wrought. Ideal for out-of-position work, building up and join- ıg dissimilar gauges of aluminum.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| /8 x 32" | 2 lb. tube | 69050093 | **2C181** | $53.95 | **$53.95** | 2.3 |

### ALL-STATE® No. 31

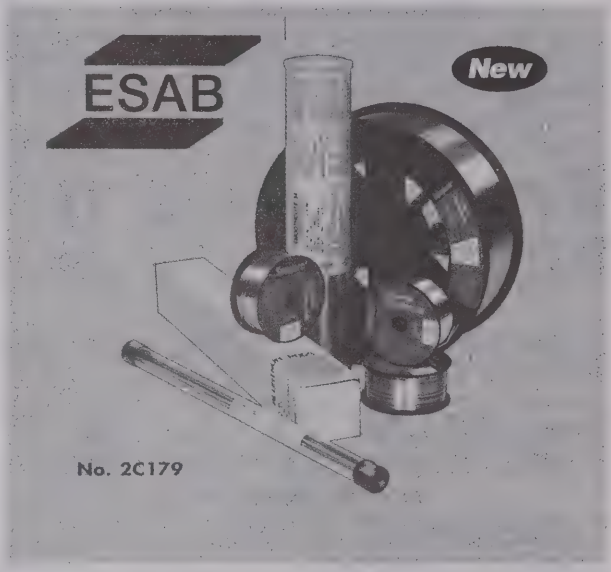
special brazing alloy for joining light gauge aluminum. Used xtensively in production and maintenance brazing of aluminum xcept 2011, 2014, 2017, 2024 and 7075 types. Alloy is very fluid nd has capillary action similar to silver brazing alloys. Use All- tate® Brazaloy No. 31 flux.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| /16 x 18" | 1 lb. tube | 69050073 | **2C179** | $15.02 | **$15.02** | 1.1 |

### ALL-STATE® No. 31 FLUX CORED

/se for torch application. Non-corrosive flux cored brazing alloy or joining light gauge aluminum. No separate flux required. luid alloy has a capillary action similar to silver brazing alloys. ecommended for brazing thin sheets, extruded shapes, and cor- er joints. Applications include production and maintenance razing of aluminum furniture, truck and trailer bodies, window ames, and aircraft instruments. Not recommended for the fol- owing grades of aluminum: 2011, 2014, 2017, 2024 and 7075.

| Diameter | Package Quantity | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/16 x 18"** | 2 oz. tube | 69010042 | **4UT70** | $23.46 | **$23.46** | 0.1 |
| **1/16 x 18** | 4 oz. tube | 69010045 | **4UT72** | 40.80 | **40.80** | 0.1 |
| **1/16** | 4 ft. coil | 69010044 | **4UT71** | 6.00 | **6.00** | 0.1 |

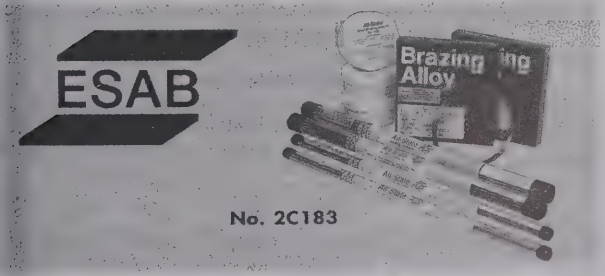



### ALL-STATE® 31 TORCH BRAZING PASTE

Use for torch application. Same applications as 31 Flux Cored wires. Paste is a non-corrosive, non-hygroscopic flux blended with aluminum wire in mesh form.

| Diameter | Package Quantity | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **N/A** | 2 oz. syringe | 69050329 | **4UT74** | $11.02 | **$11.02** | 0.1 |

## ALL-STATE® SILVER BRAZING ALLOYS




### ALL-STATE® No. 101 and No. 101 F/C TRUCOTE®

silver brazing alloy for use on light gauge material and tight fit- ing joints. Excellent capillary flow on ferrous metals and non- errous metals or combinations of both (excluding white metals). ontains cadmium. Not for food processing or handling equip- ıent. Use bare with All-State® No. 110 or All-State® S-200 flux. its with 1 oz. 110 flux.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| /16" | 4 oz. coil | 69050234 | **2C191** | $54.90 | **$54.90** | 0.5 |
| onvenience Tubes-F/C: /16 x 18 | 4 oz. tube | 69050120 | **2C183** | 55.10 | **55.10** | 0.3 |
| its: /16 coil | 2 oz. (10 ft.) | 69050170 | **2C187** | 34.15 | **34.15** | 0.3 |

### ALL-STATE® No. 155 and No. 155 F/C TRUCOTE®

A cadmium-free food grade brazing alloy with low melting point temperature. For joining and repair of steels, stainless steels, nickel, copper, and high speed steels. Use bare with All-State® No. 110 flux or All-State® S-200 flux. Kits with 1 oz. 110 flux.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/16"** | 4 oz. coil | 69050191 | **2C189** | $65.90 | **$65.90** | 0.5 |
| **Convenience Tubes-F/C: 1/16 x 18** | 4 oz. tube | 69050130 | **2C185** | 64.60 | **64.60** | 0.5 |
| **Kits: 1/16 coil** | 2 oz. (10 ft.) | 69050276 | **2C193** | 41.60 | **41.60** | 0.3 |

### ALL-STATE® No. 125

Cadmium-free 25% silver brazing alloy with good flow properties at relatively low melting range 1265°-1430°F. Wide plastic range helpful when filling loose connections. Use with All-State® 110 or S-200 flux.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/16"** | 4 oz. coil | 69050161 | **3MN87** | $45.00 | **$45.00** | 1.0 |
| **Kits:** | | | | | | |
| **1/16" coil w/ 1 oz. jar flux** | 2 oz. (10 ft.) | 69050140 | **3MN86** | 29.15 | **29.15** | 0.3 |

# BRAZING ALLOYS & GAS WELDING RODS

## ALL-STATE® COPPER ALLOYS

### ALL-STATE® LOW FUMING BRONZE

Bare or flux coated torch rod for fabricating or repairing steels, cast iron, copper base metals, galvanized and malleable irons or any combination of these metals. Use All-State® Brazo flux, All-State® Flux No. 5, or All-State Jet Flux® when using bare rod.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Bare:** | | | | | | |
| **1/16 x 36"** | 5 lb. tube | 69063000 | **2C211** | $33.25 | **$33.25** | 5.7 |
| **3/32 x 36** | 5 lb. tube | 69063001 | **2C213** | 26.70 | **26.70** | 5.7 |
| **1/8 x 36** | 5 lb. tube | 69063002 | **2C215** | 25.60 | **25.60** | 5.7 |
| **Flux Coated:** | | | | | | |
| **3/32 x 36"** | 5 lb. tube | 69063020 | **2C217** | 29.50 | **29.50** | 5.7 |
| **1/8 x 36** | 5 lb. tube | 69063021 | **2C219** | 28.30 | **28.30** | 5.7 |

### ALL-STATE® No. 41 F/C

A premium general purpose, flux coated brazing rod for joining or overlay of steel, cast iron, brass, bronze, galvanized and malleable irons or any combination of these metals.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/8 x 18"** | 3 lb. tube | 69053101 | **2C199** | $32.10 | **$32.10** | 3.0 |

### ALL-STATE SILFLO® "0"

A self-fluxing brazing alloy for copper to copper joining. For tight fitting (.001" to .002") areas. Use All-State S-200 flux when joining brass or bronze metals.

| Flat Rod | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **.050 x 1/8 x 18"** | 1 lb. tube | 69050055 | **2C177** | $11.33 | **$11.33** | 1.1 |

### ALL-STATE SILFLO® "5"

A self-fluxing alloy for copper to copper joining. Use where close fit-up cannot be maintained. Use All-State S-200 flux when joining brass or bronze metals.

| Flat Rod | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **.050 x 1/8 x 18"** | 1 lb. tube | 69060062 | **2C201** | $25.75 | **$25.75** | 1.1 |

### ALL-STATE SILFLO® "15"

A self-fluxing brazing alloy for copper to copper joining. Use for higher ductility in joints where close fit-up is impossible. Use All-State S-200 flux when joining brass or bronze metals.

| Flat Rod | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **.050 x 1/8 x 18"** | 1 lb. tube | 69060072 | **2C209** | $52.35 | **$52.35** | 1.1 |




## ALL-STATE® NICKEL SILVER ALLOYS

### ALL-STATE® No. 11 FLUX COATED

A high strength brazing alloy for joining ferrous and non-ferrous metals (except white metals), and carbon and alloy steels. Higher strength than ordinary bronze rods, can replace many higher cost silver alloys. Use with All-State® No. 1113 flux, No. 1 flux or Jet Flux®.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Flux Coated:** | | | | | | |
| **3/32 x 18"** | 3 lb. tube | 69053020 | **2C195** | $52.15 | **$52.15** | 3.0 |
| **1/8 x 18** | 3 lb. tube | 69053021 | **2C197** | 50.80 | **50.80** | 3.0 |

## ALL-STATE® CAST IRON ALLOYS

### ALL-STATE® No. 3

High quality general purpose cast iron torch brazing alloy flows at lower temperatures than electrodes-without melting base metal. Used for maintenance and repair of heavy and light castings. Use with All-State® No. 5 flux.

| Diameter | Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/8 x 20"** | 10 lb. carton | 69050005 | **2C175** | $205.75 | **$205.75** | 10.0 |

## ALL-STATE ® STEEL ALLOYS FOR OXY-FUEL WELDING

### ALL-STATE® RG-65

**(Bare Finish)** For oxy-fuel welding of tubes, pipes, sheets, pressure vessels, and tanks in the 65-75 ksi range. Creates higher weld strengths on low alloy steels.

| Diameter | Package Quantity | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Bare:** | | | | | | |
| **1/16 x 36"** | 5 lb. tube | 69710310 | **4UV09** | $27.70 | **$23.40** | 5.5 |
| **3/32 x 36"** | 5 lb. tube | 69710312 | **4UV10** | 25.25 | **21.30** | 5.5 |
| **1/8 x 36"** | 5 lb. tube | 69710314 | **4UV11** | 23.75 | **20.10** | 5.5 |

### ALL-STATE® RG-45

**(Bare Finish)** Primarily used in the overlay of steel where intergranular corrosion must be kept to a minimum. Can also be used for welding mild or carbon steel to stainless steel, provided the service temperature is less than 600°F (316°C).

| Diameter | Package Quantity | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Bare:** | | | | | | |
| **1/16 x 36"** | 5 lb. tube | 69710212 | **4UV06** | $22.30 | **$18.80** | 5.5 |
| **3/32 x 36"** | 5 lb. tube | 69710214 | **4UV07** | 20.15 | **17.10** | 5.5 |
| **1/8 x 36"** | 5 lb. tube | 69710216 | **4UV08** | 18.90 | **16.00** | 5.5 |

# METAL POWDER SPRAY KIT AND FLUXES

## ALL-STATE® TORCHWELD METAL POWDER SPRAY KIT




### ALL-STATE® POWDER TORCH KIT

Consists of Purox W-300 torch handle, powder hopper, flow control unit, three popular tips, and three nickel alloy metal powders. Attaches to existing oxy-acetylene equipment. For joining and overlay of cast iron, stainless steel and carbon steel.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 kit | 69320000 | 2C305 | $1061.00 | $1061.00 | 18.0 |

### ALL-STATE® RC 20 POWDER

Nickel base machinable build-up powder for cast iron, steels, stainless steels and nickel alloys. 16 to 20 Rockwell C.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 lb. jar each | 69320003 | 2C307 | $35.55 | $35.55 | 1.1 |

### ALL-STATE® RC 30 POWDER

Nickel base build-up machinable powder for cast iron, nickel alloys, steels and stainless steels. 26 to 32 Rockwell C.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 lb. jar each | 69320004 | 2C309 | $34.65 | $34.65 | 1.1 |

### ALL-STATE® RC 60 POWDER

Non-machinable, nickel-base powder for carbon steel, alloy steel, stainless steels, cast iron, copper, monel, nickel and cobalt base alloys. 55 to 60 Rockwell C.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 lb. jar each | 69320005 | 2C311 | $35.55 | $35.55 | 1.1 |
| 1 lb. jar each | 69320006* | 2C313 | 62.90 | 62.90 | 1.1 |

(*) RC 60 Powder with tungsten carbide particles.

### ALL-STATE BRAZALOY® No. 5

Red powder welding flux for cast iron, cast steels, mild and low alloy steels, and stainless steel to cast iron joining. Performs to AWS 5. Working range 1270° to 1500°F.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 lb. can | 69080204 | 2C256 | $9.23 | $9.23 | 0.8 |

### ALL-STATE BRAZO® FLUX

White powder flux for brazing on steel, cast iron, copper and brass. Active from 1400°F to 2200°F. Performs to MIL-F-16136B Type A, and AWS 3B. Active from 1300° to 1800°F.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 lb. can | 69080205 | 2C258 | $6.27 | $6.27 | 1.3 |

### ALL-STATE BRAZALOY® No. 31

Light blue powder flux for sheet and extruded aluminum. Removes oxides at just below the melting point of aluminum. Performs to AWS 1, and AMS 3412B.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 oz. plastic jar | 69080208 | 2C260 | $5.77 | $5.77 | 0.4 |

### ALL-STATE® No. 110

Blue paste brazing flux for stainless steel, nickel, monel, copper alloys, and silver alloys. Active at 1000°F, protects up to 1600°F. Performs to MIL-F-4483, AWS 3A, AMS 3410D and Fed. 0-F-499C Type B.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 7 oz. squeeze bottle | 69080215 | 2C262 | $6.40 | $6.40 | 0.5 |

### ALL-STATE® S-200

White paste brazing flux for stainless steels, monel, copper alloys, and silver alloys. Active at 1100°F and protects to 1800°F. Performs to MIL-F-4483, AWS 3A, AMS 3410D and Fed. 0-F-499C Type B.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 8 oz. plastic jar | 69080218 | 2C264 | $6.44 | $6.44 | 0.6 |

### ALL-STATE® No. 430 ACID FLUX

Clear liquid soldering flux particularly suited for corrosion resistant steels such as 316, 321, 347 and 430. Performs to MIL-F-4995 Type III, and Fed. 0-F-506C Type II, Form B.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 oz. squeeze bottle | 69080224 | 2C266 | $7.64 | $7.64 | 0.4 |

### ALL-STATE DUZALL® NCR PASTE FLUX

Paste has a no-run gel consistency and a neutral off-white color. Use gel instead of liquid Duzall® for neater, easier application. Produces non-corrosive residue.

| Package Quantity | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 oz. plastic jar | 69080181 | 4UT75 | $4.77 | $4.04 | 0.5 |

### ALL-STATE DUZALL®

Gen. purpose soldering flux. Use with soft solders on stainless and galvanized steels, copper alloys, gold, silver. Active at 430°F, Fed. Spec. O F-506B, Type I, Form B.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 oz. squeeze bottle | 69080161 | 2C254 | $4.20 | $4.20 | 0.4 |

### WELDERS ANTI-SPATTER SPRAY

Quick and easy means of applying anti-spatter to welding surfaces. Prevents spatter from sticking to metal surfaces, making welding easier and eliminating clean-up. Contains no silicone. 16 oz. can/16 oz. net wt. CRC brand (03083).

No. 2F137. Shpg. wt. 1.0 lbs. List $6.60.
Each $5.65. Lots 12.....$5.09

### ALL-STATE No. 509

Golden viscous aluminum and copper soldering flux active at 475° to 520°F.

| Package Quantity | All-State Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 oz. squeeze bottle | 69080226 | 2C268 | $8.90 | $8.90 | 0.4 |

### ALL-STATE® HANDI-JIG

Heat resistant compound for insulating metals from heat and for positioning parts for brazing and soldering.

| Package Quantity | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 lb. jar each | 69300650 | 4UV02 | $18.48 | $16.80 | 2.2 |

### ALL-STATE ALL-GUARD® NOZZLE GEL

Helps eliminate weld spatter build-up on gas nozzles and contact tubes. Provides better control of gas shielding and reduces filler wire snarling.

| Package Quantity | All-State Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 16 oz. jar each | 69300600 | 4UV01 | $5.28 | $4.80 | 1.0 |

# SELF-IGNITING TORCHES, JUMBO TORCH, MINI TORCH AND ACCESSORIES




## SELF-IGNITING, SWIVEL HEAD BRAZING TORCH

**High temperature, self-igniting brazing torch** produces a powerful turbo-action pressure regulated swirl flame for fast soldering. Excellent for brazing, silver soldering, general purpose soldering or any high temperature application. Burn tube is curved and swivels 360° to allow user access to the most difficult locations. Torch uses either Propane or MAPP® gas cylinders without an orifice change and produces a temperature of 3400°F with Propane and 3600°F with MAPP® gas. Tank not included.

Constructed of a durable solid brass body, high impact ABS knob, and a corrosion-resistant, stainless steel burn tube. Heat output is 12,000 Btu's per hour with flame temperature of 3600°F. SureFire brand (SF839TS).

**No. 3AC05.** Shpg. wt. 0.6 lbs. List $53.96. Each ..... **$42.60**

## JUMBO FLAME JET TORCH

- **Produces a 1¼" wide flame to heat larger surfaces**
- **Solid brass construction**

The Jet Torch outputs three times more normal heat than a basic brass torch by using a venturi that enhances air fuel mixture. Used to lay asphalt tile, remove paint and putty, thaw frozen metal pipes, and loosen rusted bolts. For use with Propane only.

**No. 3ZJ25.** Jumbo Flame/Solid Brass Jet Torch. Bernzomatic brand (JT680). Shpg. wt. 0.8 lbs. List $19.41. Each ..... **$15.53**

## LIGHTWEIGHT MINI TORCH

- **Compact, lightweight torch ideal for detail projects**
- **Operates continuously for over 29 hours**
- **Long, 42" flexible hose makes handling easier**

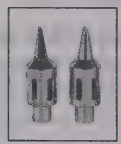
Features adjustable flame control that produces needlepoint flame lengths from 1/16" to 1½". Used for precision applications such as soft soldering 1/2" copper pipe, silver soldering intricate parts with MAPP® gas, electrical soldering, jewelry repair, heat shrinking, tube bending, and foam cutting. Pressure regulated for consistent performance. Operates on standard Propane and MAPP® gas cylinders.

**No. 3ZJ30.** Lightweight Mini Torch. Bernzomatic brand (ST900STS). Shpg. wt. 1.3 lbs. List $63.44. Each ..... **$50.80**

## LIGHTWEIGHT MINI TORCH ACCESSORY TIP SETS

- **Catalytic element provides flameless heat concentration**
- **For use with Propane fuel on Lightweight Mini Torch No. 3ZJ30**

### SOLDERING TIP SET No. 3ZJ28



Used for electrical soldering of small connections, wood burning, engraving, and stained glass applications. Includes 1.0mm and 2.4mm soldering tips.

**No. 3ZJ28.** Soldering Tip Set. Bernzomatic brand (ST9007). Shpg. wt. 0.4 lbs. List $17.20. Each ..... **$13.76**

### HOBBY/UTILITY TIP SET No. 3ZJ29



Used for heat shrink tubing, softening putty/caulk, cutting thin plastic, and cutting or trimming floor tile. Includes hot air tip, hot knife tip, and needlepoint burntip.

**No. 3ZJ29.** Utility/Hobby Tip Set. Bernzomatic brand (ST9008) Shpg. wt. 0.4 lbs. List $17.20. Each ..... **$13.76**

## SELF-IGNITING HOSE TORCH GUN

- **Capacity: 3530°F, 6600 Btu's with Propane; 3670°F, 8800 Btu's with MAPP® gas**
- **Includes Propane fuel cylinder**
- **UL Listed (MH5592)**

Designed for professional applications which require higher temperatures. Swirl-action brazing flame and flared burner tube further increase the heat rate. Comfortable pistol grip and abrasion-resistant fuel hose allow access to cramped areas where working space is limited. Can be used at any angle. Bernzomatic brand (TS6000MK).

**No. 6Z009.** ❸† Shpg. wt. 4.2 lbs. List $71.14. Each ..... **$50.20▲**

## SELF-IGNITING TORCH

- **Capacity: 3500°F, 4800 Btu's with Propane**
- **Includes 14.1 oz. Propane fuel cylinder**
- **For propane fuel only**
- **UL Listed (MH5592)**

Self-igniting torch offers automatic ignition and a fully adjustable flame. Trigger activated piezo ignitor for thousands of easy torch lights. Regulated fuel valve allows heating, soldering, sweating of pipes, and paint removal. Solid brass valve threads for easy cylinder attachment and removal. Stainless steel burner tube resists corrosion. Comfortable easy-to-hold grip. Bernzomatic brand (TS2000K).

**No. 6Z008.** ❸† Shpg. wt. 2.9 lbs. List $37.98. Each ..... **$28.50**

## SELF-IGNITING TORCH GUN

- **Features self-contained, trigger activated ceramic ignitor to instantly produce 3500°F/7000 Btu's per hour**
- **Includes 14 oz. Propane fuel cylinder**
- **UL Listed (MH5592)**

Used to heat, sweat, solder, and braze. Regulator valve delivers constant gas pressure at any angle or temperature. Stainless steel burner tube produces a swirl flame to heat work efficiently. Large grip provides positive fuel shutoff. Bernzomatic brand (TS5000MK).

**No. 4Z729.** ❸† Shpg. wt. 3.3 lbs. List $56.88. Each ..... **$42.15**

❸ These products are covered by OSHA Communication Standard, and Material Handling Data Sheets (MSDS) are available. See page opposite inside back cover.
(†) DOT regulated product—shipped in full ship pack only. (▲) Net prices, not subject to discounts.

# SELF-IGNITING TORCHES AND ACCESSORIES



| BTU OUTPUT PER HOUR | | |
|---|---|---|
| | PROPANE | MAPP GAS |
| BTU/HR. | 7250 | 7131 |
| FLAME TEMP. | 3400°F | 3600°F |

No. 5W956



No. 3ZJ31



No. 3ZJ32

## HIGH OUTPUT, SWIRL ACTION TORCH

- **Swirl action flame**
- **Self-igniting**
- **Burns either Propane or MAPP® gas**

Self-Igniting Torch features a heavy-duty ignitor for more consistent lighting. Swirl action burn tip substantially increases the heat output of the torch causing the torch to burn hotter with less Btu's, making it more fuel efficient. Unit includes built in pressure regulator for consistent performance in any position and an adjustable flame. Instant ON, Instant OFF. Can be used at any angle. Adjustable flame control. Perfect for soft soldering up to 4" copper pipe. Brazing or silver solder up to 1¼" copper pipe. Surefire brand (T655).

**No. 5W956.** Shpg. wt. 1.2 lbs. List $67.65. Each ..... **$49.50▲**

## CAST ALUMINUM, SELF-IGNITING TORCH

- **Cast aluminum construction**
- **Pressure regulated for consistent performance**
- **Burns either Propane or MAPP® gas without any conversion**

Self-Igniting Torch with general purpose flame. Can be converted to a pencil, swirl, or general purpose flame by replacing the orifice and burntip. Multiple uses for the professional. Use the Pencil Flame for detail work, the Swirl Flame for high heat output, and the General Purpose Flame for a variety of other projects. Sure-Fire brand (T111)

**No. 3ZJ31.** Self-Igniting Torch. Shpg. wt. 1.1 lbs. List. $53.56. Each ..... **$42.85**

## CAST ALUMINUM, SELF-IGNITING, HEAT SHRINK TORCH

- **Cast aluminum construction with trigger guard**
- **Solid brass burntip operates in high winds**
- **Burns either Propane or MAPP® gas**

Heat Shrink Torch can be converted to a pencil, swirl, or general purpose flame by replacing the orifice and burntip. Generates 10,700 BTU output per hour. Designed for heat shrink applications such as heat shrinkable tubing. SureFire brand (T751).

**No. 3ZJ32.** Shpg. wt. 1.3 lbs. List $97.85. Each ..... **$78.30**

## PERFORMANCE CHART

| Torch No. | Flame Type | Burntip Marking | Uses Burntip No. | Propane Gas Soft Solder (In.) | Propane Gas Silver Braze (In.) | MAPP® Gas Soft Solder (In.) | MAPP® Gas Silver Braze (In.) |
|---|---|---|---|---|---|---|---|
| 5W956 | Swirl | S | 5W958 | 1/8 to 3 | 1/8 to 1 | 1/4 to 4 | 1/8 to 1½ |
| 3ZJ31 | General Purpose | A | – | 1/8 to 2½ | 1/8 to 3/4 | 1/4 to 3 | 1/8 to 1 |
| Accessory | Pencil | C | 5W957 | 1/8 to 2 | 1/8 to 1/2 | 1/4 to 2½ | 1/8 to 3/4 |



No. 5W957



No. 5W958



No. 5W959



No. 5A336

## ACCESSORIES COMPATIBLE WITH TORCH Nos. 5W956, 3ZJ31, & 3ZJ32

### SWIRL FLAME BURN TIP AND ORIFICE

Replacement for original orifice and tip for torch. Kit includes replacement brass orifice and swirl action tip.

**No. 5W958.** SureFire (OT658). Shpg. wt. 0.2 lbs. List $7.72. Each..... **$6.64**

### PENCIL FLAME BURN TIP AND ORIFICE

Item converts the flame of torch to a fine pencil point. Includes a new brass orifice and pencil flame tip.

**No. 5W957.** SureFire brand (OT657). Shpg. wt. 0.1 lbs. List $7.72. Each ..... **$6.64**

### BURN TUBE ASSEMBLY

Replacement burn tube assembly for torch. Includes new stainless steel burn tube.

**No. 5W959.** SureFire brand (BT656). Shpg. wt. 0.2 lbs. List $17.95. Each ..... **$15.20**

### 12 FT. HOSE ASSEMBLY FOR LP TANK

Includes adapter for hose to LP tank valve, adapter for hose to torch, check valve, and 12 ft. hose.

**No. 5A336.** SureFire brand (H-101). Shpg. wt. 1.8 lbs. List $46.74. Each ..... **$41.20**

(▲) Net prices, not subject to discounts.

# PORTABLE TORCH KITS AND ACCESSORIES



Oxygen/Propane & Oxygen/MAPP® Gas Tote Torch Kit No. 3X673

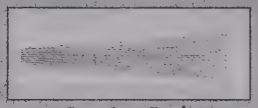


Propane Gas Torch Kit No. 3X671



Cylinder Stand No. 3ZJ24

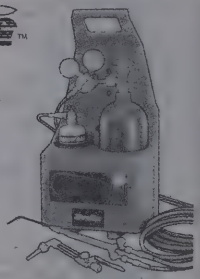




Brazing Rods



Disposable Fuel Cylinders



Oxygen/MAPP® Gas Torch Kit No. 3ZJ26

## MAPP GAS vs. ACETYLENE COMPARISON CHART

| MAPP Gas | Acetylene |
|---|---|
| 1. More stable: No limit on delivery pressure | 1. Less stable: Cannot be used over 15 PSI |
| 2. Economical | 2. Expensive |
| 3. Oxygen flame temp. 5301°F | 3. Oxygen flame temp. 5589°F |
| 4. High BTU release in both primary and secondary flame | 4. High BTU release in primary flame only |

## OXYGEN/PROPANE AND OXYGEN/MAPP® GAS PORTABLE TOTE TORCH™ KIT

Combines Oxygen and Propane (or MAPP® gas) to produce a concentrated high temperature flame of approx. 4600°F and 5200 Btu's per hour. Cuts, welds, brazes and solders. Capable of cutting 1/4" steel plate and 3/4" bolts. Disposable Propane and Oxygen cylinders are clean and safe—no tips to change, no filters or tip cleaners needed, no hot pellets or messy contents to dispose of.

Includes 14.1 oz. Propane and 1.1 cu.ft. Oxygen cylinders with stand, solid brass fuel and Oxygen regulator valves, nonclogging burner with hand-contoured grip, 4½ ft. hose plus spark lighter and five assorted welding brazing rods. Bernzomatic brand (0X2500).

**No. 3X673.**❸† Shpg. wt. 6.1 lbs. List $62.98.Each.....**$48.20**

## PROPANE GAS TORCH AND KIT

Propane torch produces a concentrated flame that delivers 3500°F and 4200 Btu's per hour. Use to solder, soften paint and putty, repair gutter leaks, sweat copper pipes, and loosen bolts and nuts. Up to 12 hours burning time per fuel cylinder.

Includes pencil flame brass burner head and 14.1 oz. Propane fuel cylinder. No. 3X671 also includes flame spreader, spark lighter and deluxe molded storage case. UL Listed. Bernzomatic brand.

**No. 3X670.** Propane Torch (JT10). Shpg. wt. 3.0 lbs. List $24.73. Each.....**$18.10**

**No. 3X671.** Torch Kit (JT25). Shpg. wt. 3.8 lbs. List $37.71. Each.....**$28.05**

### DISPOSABLE FUEL CYLINDERS

**No. 3X676.**❸† **Disposable Propane Fuel Cylinder.** Meets DOT 39 standards. 1" threaded bushing with pressure relief valve. 18,500 Btu's 14.1 oz, Bernzomatic brand (TX9). UL Recognized (MH5592) Shpg. wt. 2.0 lbs. List $5.66. Each.....**$2.97▲**

**No. 3X677.**❸† **Disposable Oxygen Fuel Cylinder.** Meets DOT 39 standards. Patented eutectic relief device. Bernzomatic brand (0X9).Shpg. wt. 1.6 lbs. List $9.65. Each.....**$7.64**

**No. 6Z010.**❸† **Disposable MAPP® Gas Cylinder.** Meets DOT 39 standards. 1" threaded bushing with pressure relief valve. Combines methylacetylene and propadiene to allow a higher heat rate of 21,000 Btu's for more efficient burning. 16 oz. Bernzomatic brand (MG-9). **NOTE:** Use only with Bernzomatic torch kits No. 6Z009 and 3X673. **DO NOT USE** with standard Propane appliances including No. 4Z729. Use only with MAPP® gas appliances Nos. 6Z009 and 5A341. UL Recognized (MH10820). Shpg. wt. 2.1 lbs. List $9.64. Each.....**$6.88▲**

## CYLINDER STAND

For use with all standard 14.1 oz. and 16.4 oz. cylinders of Propane and MAPP® gas. Fits cylinder Nos. 3X676, 3X677, and 6Z010. Bernzomatic brand (CS1000).

**No. 3ZJ24.** Cylinder Stand. Shpg. wt. 0.3 lbs. List $6.00. Each.....**$4.80**

## PORTABLE OXYGEN/MAPP® GAS TORCH KIT

- **Fluted torch handle design with check valves safeguards against reverse flow of gases**
- **Heavy-duty Oxygen regulator with 2" gauges and 1¾" diaphragm. CGA 540 cylinder connection with inlet filter to prevent contaminants from entering the system**
- **MAPP® gas fuel valve for precision gas flow control. CGA 600 cylinder connection**
- **#4 welding/brazing tip with in-tip mixer and brass coupler nut welds up to 1/8" and brazes up to 1/4"**
- **#56-1 MAPP® gas cutting tip cuts up to 1/2"**
- **Teflon-packed adjustment valves provide smooth operation**

Kit also includes 20 cu. ft. refillable Oxygen cylinder (shipped empty), 16 oz. disposable MAPP® gas cylinder for high temperature performance, 12½ ft. twin-welded hose with standard "B" fittings, safety goggles and spark lighter, and heavy-duty carrying case.

**No. 3ZJ26.**❸† Portable Oxygen/MAPP® Gas Torch Kit. SureFire brand (OM2750). Shpg. wt. 29.0 lbs. List $484.00. Each.....**$387.25**

## BRAZING RODS

**No. 3AC22 Bronze Flux Coated Brazing Rod.** With a 56-60% copper-based alloy, the balance is zinc for high strength joints and overlap on steel, cast iron, copper, brass, bronze, yellow brass, and galvanized parts. Brazing range 1595-1620°F.

**No. 3AC22.**❸ Shpg. wt. 1.0 lbs. List $15.09. Each.....**$11.68**

**No. 3AC23 Silver Brazing Rod.** Uses a substitute for silver content brazing alloys. Alloy mix of 92-93% copper and 7-8% phosphorous. Brazing range from 1310-1460°F. Approximate tensile strength is 90,000 PSI.

**No. 3AC23.**❸ Shpg. wt. 1.0 lbs. List $21.02. Each.....**$16.91**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(†)DOT regulated product–shipped in full ship pack only. (▲)Net prices, not subject to discount.

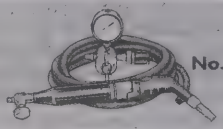
# HIGH OUTPUT SWIRL ACTION TORCH KITS

Spark-igniting swirl flame tip lights with one push of a button-spark lighters or matches are not needed. Compatible and interchangeable with current quick disconnect style tips.

No. 3ZJ14



SureFire™ A BERNZOMATIC PRODUCT



No. 3ZJ20

## AIR ACETYLENE SPARK-IGNITING TORCH KIT

- **Cool operating tip for extended life**
- **Each torch is lit and tested for leaks and proper flame**

Kit includes 3/8" spark-igniting swirl flame tip, quick disconnect torch handle with On/Off control, 12 ft. hose with "A" fittings, solid brass regulator with 2" contents gauge (fits "B" acetylene cylinder and 3/8"-24 LH hose nut), heavy-duty piezo electric ignitor, swirl action flame, and replaceable solid brass burntip for extended life.

**No. 3ZJ14.** Air Acetylene Spark-Igniting Torch Kit. SureFire brand (AA1000). Shpg. wt. 9.8 lbs. List $175.10. Each ..... $140.05

### AIR ACETYLENE TIPS

**No. 3ZJ15.** 1/4" Spark-Igniting Swirl Flame Tip. SureFire brand (AA1001S). Shpg. wt. 0.4 lbs. List $50.47. Each ..... $40.40

**No. 3ZJ16.** 3/8" Spark-Igniting Swirl Flame Tip. SureFire brand (AA1002S). Shpg. wt. 0.4 lbs. List $50.47. Each ..... $40.40

**No. 3ZJ17.** 1/2" Spark-Igniting Swirl Flame Tip. SureFire brand (AA1003S). Shpg. wt. 0.4 lbs. List $50.47. Each ..... $40.40

### ACCESSORIES

**No. 3ZJ18.** "B" to "MC" Acetylene Cylinder Adapter. SureFire brand (AA1201). Shpg. wt. 0.3 lbs. List $21.00. Each ..... $16.80

**No. 3ZJ19.** Screw to Quick Disconnect Adapter. SureFire brand (AA1202). Shpg. wt. 0.5 lbs. List $27.00. Each ..... $21.60

## AIR PROPANE/MAPP® GAS SPARK-IGNITING TORCH KIT

- **Cool operating tip for extended life**
- **Each torch is lit and tested for leaks and proper flame**

Kit includes 3/8" spark-igniting swirl flame tip, quick disconnect torch handle with On/Off control, 12 ft. hose with "A" fittings, solid brass regulator with 2" gauge (fits standard POL valve and 3/8"-24 LH hose nut), heavy-duty piezo electric ignitor, swirl action flame, and replaceable solid brass burntip for extended life. Surefire brand (AP500LS).

**No. 3ZJ20.** AirPropane/MAPP Gas Spark-Igniting Torch Kit. Shpg. wt. 9.8 lbs. List $175.10. Each ..... $140.05

### AIR PROPANE/MAPP® GAS TIPS

**No. 3ZJ21.** 3/8" Spark-Igniting Swirl Flame Tip. SureFire brand (AP5002S). Shpg. wt. 0.4 lbs. List $50.47. Each ..... $40.40

**No. 3ZJ22.** 1/2" Spark-Igniting Swirl Flame Tip. SureFire brand (AP5003S). Shpg. wt. 0.4 lbs. List $50.47. Each ..... $40.40

### ACCESSORIES

**No. 3ZJ23.** 12 ft. Hose with "A" fitting and 3/8"-24LH Hose Nut. SureFire brand (AA5601). Shpg. wt. 1.4 lbs. List $19.00. Each ..... $15.20

### AIR ACETYLENE SWIRL FLAME TIP PERFORMANCE CHART

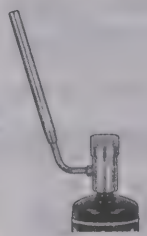
| Flame Tip Stock No. | Tip Size (In.) | Tip Size (MM) | Gas Flow (Cu.Ft./Hr.) | Gas Flow (Cu.M/Hr.) | Copper Tube Capacity Soft Solder (In.) | Copper Tube Capacity Soft Solder (MM) | Copper Tube Capacity Silver Solder (In.) | Copper Tube Capacity Silver Solder (MM) | Turbo Tip Equivalent |
|---|---|---|---|---|---|---|---|---|---|
| 3ZJ15 | 1/4 | 6.4 | 6.3 | 0.54 | 1/8-2 | 3-50 | 1/8-1 | 3-25 | A-3 & A-5 |
| 3ZJ16 | 3/8 | 9.5 | 9.1 | 0.78 | 1-4 | 25-100 | 1/2-2 | 12-50 | A-8 |
| 3ZJ17 | 1/2 | 12.7 | 11.4 | 0.98 | 2-6 | 50-150 | 1-4 | 25-100 | A-11 & A-14 |

### AIR PROPANE/MAPP® GAS SWIRL FLAME TIP PERFORMANCE CHART

| Flame Tip Stock No. | Tip Size (In.) | Tip Size (MM) | Gas Flow (Cu.Ft./Hr.) | Gas Flow (Cu.M/Hr.) | Copper Tube Capacity Soft Solder MAPP Propane (In.) | Copper Tube Capacity Soft Solder MAPP Propane (MM) | Copper Tube Capacity Silver Solder MAPP Propane (In.) | Copper Tube Capacity Silver Solder MAPP Propane (MM) | Turbo Tip Equivalent |
|---|---|---|---|---|---|---|---|---|---|
| 3ZJ21 | 3/8 | 9.5 | 0.17 | 0.21 | 1/8-1½ | 1/8-1 | 1/8-3/4 | 1/16-1/2 | T-2 & T-3 |
| 3ZJ22 | 1/2 | 12.7 | 0.39 | 0.48 | 1-4 | 1/4-2 | 1/4-1¼ | 1/4-3/4 | T-4 |

# HIGH OUTPUT, SWIRL FLAME SWIVEL BRAZING TORCH

- **Burntube swivels 360° and removes for quick replacement or use of accessories**
- **Pressure regulated**
- **Each torch is lit and tested for leaks and proper flame**
- **Adjustable flame control allows precision brazing**
- **Constructed of rugged brass and stainless steel**
- **Removable orifice provides easy cleaning**
- **Uses Propane or MAPP® gas**



SureFire™

**No. 3ZJ27.** Swirl Flame/Swivel Brazing Torch. SureFire brand (SF-9). Shpg. wt. 0.8 lbs. List $54.59. Each ..... $43.70

### SWIRL FLAME BRAZING PERFORMANCE CHART

| Swirl Flame, Swivel Brazing Torch No. | Flame Type | Propane Gas Soft Solder (In.) | Silver Silver (in.) | MAPP® Gas Soft Solder (In.) | Silver Solder (In.) |
|---|---|---|---|---|---|
| 3ZJ27 | 1/2" Swirl | 1/4 to 2½ | 1/4 to 1 | 1/4 to 3 | 1/4 to 1½ |

# SWIRLJET® TIPS, BRAZING KITS AND TANK CARRIERS

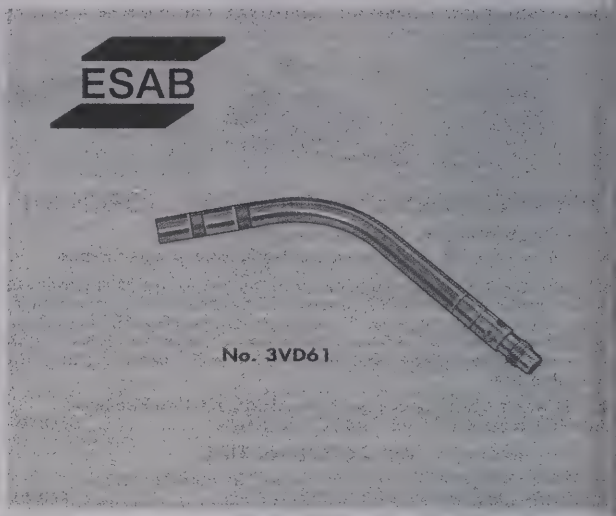
## SWIRLJET® TIPS

- **Superior to standard tips—provide maximum effective heating power**
- **Short wrap around flame for close work—no heat damage to walls or woodwork as close as 1" away**
- **All weather use—protected, high velocity flame works in wind, rain and sub-zero temperatures**
- **Interchangeable with both Prest-O-Lite 403 & 401M torch handles**
- **Run quieter, cooler and give better heat transfer than other comparable tips**
- **Can be used with the R-10 Liquid Fuel Gas Regulator on the 1 lb. disposable cylinders of FG-2, propane & MAPP**

In the Swirljet tip, mixed gases (air and fuel) are swirled at very high velocity through a propeller-like set of vanes at the rear of the flame tube. This swirling produces a much hotter, relatively short flame that concentrates heat output on the work. Swirljet tips are available for air-acetylene and air-fuel gas use.

### OPERATING PRESSURES:

Swirljet air-acetylene tips require a minimum acetylene pressure of 13 psi and are so labeled. Do not use with any regulator preset to deliver 10 psi or less. Swirljet air-fuel gas tips require pressure of 24 psi with Propane, 32 psi with FG-2 and 36 psi with MAPP. Operating at too low a pressure will cause overheating at the flame tube.



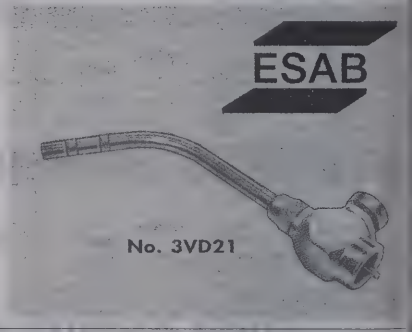

| Description | Pressure Fuel | Gas Flow (PSIG) | Copper Tubing Soft Solder ft. 3/hr (cfh) | Silver Braze Size (In.) | Silver Braze Capacity (In.) | ESAB Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SJ-3A** | Acetylene | 13 | 7.2 | 1 - 2 | 1/2 - 1 | 21471 | **3VD61** | $44.74 | **$43.00** | 0.3 |
| **SJ-4A** | Acetylene | 13 | 12.8 | 2 - 4 | 1 - 2 | 21472 | **3VD62** | 49.32 | **47.40** | 0.4 |
| **SJ-5A** | Acetylene | 13 | 33.8 | 4 - 6 | 1 - 4 | 21473 | **3VD63** | 53.90 | **51.80** | 0.7 |
| **SJ-3LPG** | FG-2* | 32† | 1.59 | 1/4 - 1½ | 1/4 - 1/2 | 21474 | **3VD64** | 44.74 | **43.00** | 0.3 |
| **SJ-4LPG** | FG-2* | 32† | 3.1 | 1/4 - 2½ | 1/4 - 1¼ | 21475 | **3VD65** | 49.32 | **47.40** | 0.4 |
| **SJ-5LPG** | FG-2* | 32† | 8.0 | 1 - 4 | 1/2 - 2 | 21476 | **3VD66** | 53.90 | **51.80** | 0.7 |
| **SJ-6LPG** | FG-2* | 32† | 16.2 | 1 - 6 | 3/4 - 4 | 21477 | **3VD67** | 58.49 | **56.20** | 0.8 |

(*) These tips can also be used with Propane and MAPP Gas.
(†) 24 PSI with Propane, 36 PSI with MAPP Gas.

## TRI-FLAME KIT

- **For soft soldering and silver brazing**
- **Triple convenience—burns FG-2, MAPP or propane in disposable cylinders**
- **Operates in all positions—even upside down**
- **Brings copper tubing to the brazing temperature 25% faster than propane**
- **High-flame velocity—works efficiently outdoors in cold, windy weather**
- **Regulator machined from solid brass bar stock—greater strength and durability**
- **Concentrated wrap around flame—reduces risk of damage to surrounding areas**
- **Includes: R-10 Regulator No. 4 Swirljet Tip**
- **Swirljet tips available in three sizes—No. 4 (standard) solders up to 3/4"; No. 5 (optional) solders up to 2"; No. 3 (optional) for fine work**

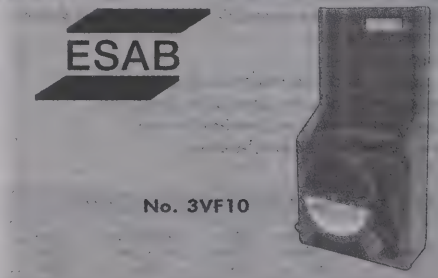
**No. 3VD21.** Tri-Flame Kit (17145). Shpg. wt. 1.5 lbs. List $91.99. Each ..... **$88.30**




## CARRIERS AND ADAPTERS

Kangaroo Kart is strong, lightweight polypropylene carrier for MC (10 cu. ft.) acetylene tank and an R (20 cu. ft.) oxygen tank. Includes handy accessory compartment. 24H x 12¼"W.

**No. 3VF10.** Kangaroo Kart (791F80). Shpg. wt. 5.1 lbs. List $39.80. Each ..... **$38.30**




### PREST-O-LITE ADAPTERS FOR REGULATORS

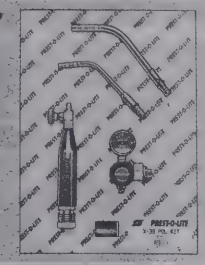
| Hose Connection | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Left-Hand A to B** | 18Z56 | **3VD35** | $6.17 | **$5.92** | 0.1 |
| **Right-Hand A to B** | 18Z57 | **3VD36** | 6.17 | **5.92** | 0.1 |

**Note:** These adapters allow an "A" size regulator to be attached to a "B" size hose. "A" fitting: 3/8-24, "B" fitting: 9/16"-18.

# AIR ACETYLENE, AIR PROPANE KITS AND ACCESSORIES

ESAB

New



## QUICK DISCONNECT TORCHES

**No. 4UT34 LP-2 POL KIT**

- For use with Air/Propane
- For jobbing and smaller work
- Soft solders to 2½ in. (60mm)
- Silver brazes to 1¼ in. (30mm)

**No. 4UT35 X-3B POL Kit**

- For use with air-acetylene
- Flexible kit bronze brazes light/medium gauge steel
- Soft solders to 4 in. (100mm)
- Silver brazes to 2 in. (50mm)
- "B" tank connection

### AIR-LP KIT (ONLY)

PREST-O-LITE® Quick Disconnect Torches operate on PREST-O-LITE® FG-2 propane, propylene, and all other LP gases. PREST-O-LITE® torches and tips provide maximum heat output and heat transfer with all of these gases.

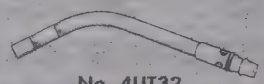
### *New!* QUICK DISCONNECT TORCH SPECIFICATIONS AND ORDERING DATA

| Description | Component | ESAB Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **LP-2 POL KIT** | R-511-LPG regulator, POL QD #1 Torch, 12½ ft. A-A Hose Fuel Gas, QD-SJ-3 LPG Tip, QD-SJ-5 LPG Tip | 21952 | **4UT34** | $223.94 | **$204.25** | 4.2 |
| **X-3B POL KIT** | R-511-B (CGA520) Regulator, POL QD #1 Torch, QD-SJ-3A Tip, QD-SJ-4A Tip, 12½ ft. A-A-3/16" Hose | 21954 | **4UT35** | 223.94 | **204.25** | 3.9 |

## SWIRLJET® TIPS AND TORCH HANDLES

These new Swirljet tips are designed to be used with the new PREST-O-LITE #1 Quick Disconnect torch handle. They run quieter, and cooler and give better heat transfer than other comparable tips. Tips will also fit TurboTorch® handles and replace existing TurboTorch® tips.

ESAB



No. 4UT32

New



No. 4UT27

### SPECIFICATIONS AND ORDERING DATA

| Description | Replaces TurboTorch Model | Fuel | Pressure PSIG | Gas Flow CFH | Copper Tubing Size & Capacity Soft Solder (In.) | Silver Braze (In.) | ESAB Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***New!* QUICK DISCONNECT TIPS** | | | | | | | | | | | |
| **QD SJ-3A** | A-8 | Acetylene | 13 | 7.2 | Up to 2 | 1/2-1 | 21703 | **4UT28** | $44.73 | **$40.75** | 0.3 |
| **QD SJ-4A** | A-14 | Acetylene | 13 | 12.8 | 2-4 | 1-2 | 21704 | **4UT29** | 49.32 | **44.90** | 0.4 |
| **QD SJ-5A** | A-32 | Acetylene | 13 | 33.8 | 4-6 | 1-4 | 21705 | **4UT30** | 53.90 | **49.10** | 0.4 |
| **QD SJ-3LPG** | T-3 | FG-2* | 32 | 1.5 | 1/4-1½ | 1/4-1/2 | 21706 | **4UT31** | 44.73 | **40.75** | 0.4 |
| **QD SJ-4LPG** | T-4 | FG-2* | 32 | 3.1 | 1/4-2½ | 1/4-1¼ | 21707 | **4UT32** | 49.32 | **44.90** | 0.5 |
| **QD SJ-5LPG** | T-5 | FG-2* | 32 | 8.0 | 1-4 | 1/2-2 | 21708 | **4UT33** | 53.90 | **49.10** | 0.6 |
| ***New!* TORCH HANDLE** | | | | | | | | | | | |
| **POL #1** | G-4 | — | — | — | — | — | 21702 | **4UT27** | $52.76 | **$48.05** | 0.8 |

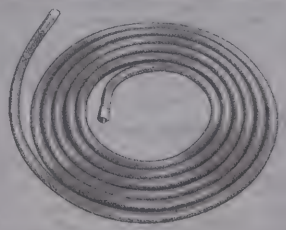
(*) These tips can also be used with Propane and MAPP Gas (refer to instruction literature for appropriate pressures and flows for these gases).
TurboTordh® is a registered trade name of Thermadyne.

## FITTED HOSE ASSEMBLIES

All PREST-0-LITE® outfits are supplied with hose assemblies. Top quality 3/16 in. I.D. hose is used, with brass fittings securely attached by means of aluminum ferrules. Single hose assemblies are offered in two lengths: 6 and 12½ feet. Twin hose assemblies (Oxygen and Acetylene hoses joined by stout web of rubber) for oxy-acetylene welding and cutting outfits are available in 12½ foot lengths.

ESAB

New



### *New!* FITTED HOSE ASSEMBLIES SPECIFICATIONS AND ORDERING DATA

| Description | Length (Ft.) | Inside Diameter (In.) | Connections | ESAB Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Single hose for acetylene** | 6 | 3/16 | A-A * | 501F11 | **4UT36** | $9.00 | **$8.20** | 0.6 |
| **Single hose for acetylene** | 12½ | 3/16 | A-A * | 501F12 | **4UT37** | 11.31 | **10.29** | 1.1 |
| **Twin hose for oxygen and acetylene** | 12½ | 3/16 | A-A * | 571F72 | **4UT38** | 17.28 | **15.72** | 1.1 |

(*) 3/8"-24 fitting

# AIR-ACETYLENE AND OXY-ACETYLENE OUTFITS

## PREST-O-LITE® GENERAL PURPOSE AIR-ACETYLENE OUTFITS

### GENERAL PURPOSE OUTFITS

- Precision flame control—for joints near a wall, against each other, and hard-to-reach places
- Instant heat—4000°F, without pumping or priming
- Convenient—small, light, easy to handle and always ready to use
- Efficient—ample range for run-of-shop work; unaffected by drafts, wind and rain

### 4-IN-1 OUTFITS

- Interchangeable tips—for proper flame size and heat
- Change tips in seconds—no tools necessary; tips lock in any working position
- Common torch handle—provides equivalent of five outfits




General-purpose air-acetylene outfits are designed for sweat-type fittings, and heating and brazing applications. Ideal for use with copper, brass, steel and wrought iron pipe with solder-type fittings. 4-in-1 outfits are suitable for all-purpose soldering, heating, and brazing. Both feature adjustable pressure regulator with contents gauge, and delivery pressure indicators on pressure adjustment knob for steady gas delivery and stable flame. "B" tank and "MC" tank models available.

### AIR-ACETYLENE OUTFIT COMPONENTS AND ORDERING DATA

| Air-Acetylene Outfits | Torch Handle | Brazing Tips | Swirljet Tips | Regulator | Included Accessories | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **"B" General Purpose** | 403 | #4 POL | Optional | R-411B | Hose 12.5 ft. x 3/16 in. A-A | 30X37 | **3VD86** | $116.39 | **$111.80** | 4.0 |
| **"MC" General Purpose** | 403 | #4 POL | Optional | R-411MC | Hose 12.5 ft. x 3/16 in. A-A | 30X38 | **3VD87** | 116.39 | **111.80** | 4.0 |
| **4-in-1 "B" Outfit** | 403 | #1A, 3, 4, & 5 | Optional | R-411B | Hose 12.5 ft. x 3/16 in. A-A | 30X63 | **3VD88** | 154.83 | **148.65** | 4.2 |
| **4-in-1 "MC" Outfit** | 403 | #1A, 3, 4, & 5 | Optional | R-411MC | Hose 12.5 ft. x 3/16 in. A-A | 30X64 | **3VD89** | 154.83 | **148.65** | 4.1 |

## PREST-O-LITE® OXY-ACETYLENE OUTFITS

- Torch handle has piston-type arrangement for hand-tight connection of welding heads and cutting attachment
- Cutting attachment offers ease-on control of cutting oxygen flow for smooth pierce starts; cuts up to 2" thick steel with optional larger nozzle
- Oxygen regulator designed to contain explosive fires caused by spontaneous ignition




Oxy-acetylene outfits are used for welding, cutting, brazing, and heating applications. Available in basic, standard, and deluxe for use with "R" (20 cu.ft.) oxygen cylinder and either "B" (40 cu.ft.) or "MC" (10 cu.ft.) acetylene tank. All kits include lightweight W-200 aircraft-style torch handle with replaceable "A" size inlets, solid brass bar stock body with drilled gas passages, and front-mounted throttle valves. Deluxe kits include adapter for air-acetylene soldering. Tanks not included.

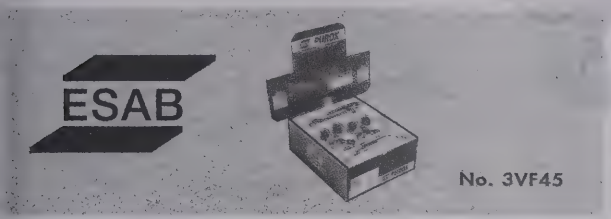
### OXY-ACETYLENE OUTFIT ORDERING DATA

| Oxygen-Acetylene Outfits | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **"MC" Basic Soldering and Brazing Outfit** | 639021 | **3VD98** | $306.17 | **$294.25** | 9.1 |
| **"MC" Standard Brazing and Cutting Outfit** | 998139 | **3VF17** | 420.88 | **404.25** | 10.0 |
| **"B" Deluxe General Maintenance Outfit** | 639103 | **3VF01** | 416.29 | **399.75** | 11.0 |
| **"MC" Deluxe General Maintenance Outfit** | 639130 | **3VF02** | 416.29 | **399.75** | 11.0 |

### COMPONENTS INCLUDED WITH OXY-ACETYLENE OUTFITS

| Stock No. | Oxygen-Acetylene Outfits | Components | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | W-200 Brazing Torch | Brazing Tips | Cutting Attachment | 1/2" Cutting Nozzle | Adapter | Regulators | Fitted Twin Hose Assembly & Goggles | Friction Lighter |
| **3VD98** | **"MC" Basic Soldering and Brazing Outfit** | 3VF43 | 3VC95 (#4)<br>3VC97 (#9) | — | — | — | 3VD33-Oxygen (R-22-75-540A)<br>3VC91-Acetylene (R-22-15-200) | Hose 12.5' x 3/16"A-A | 3MM60 |
| **3VF17** | **"MC" Standard Brazing and Cutting Outfit** | 3VF43 | 3VC95 (#4)<br>3VC96 (#6)<br>3VC97 (#9) | 3VC89 | 3VD15 | — | 3VD33-Oxygen (R-22-75-540A)<br>3VC91-Acetylene (R-22-15-200) | Hose 12.5' x 3/16"A-A | 3MM60 |
| **3VF01** | **"B" Deluxe General Maintenance Outfit** | 3VF43 | 3VC96 (#6)<br>3VD06 (#6 Welding Head) | 3VC89 | 3VD15 | W-200 to air-acetylene or air-propane | 3VD33-Oxygen (R-22-75-540A)<br>3VC90-Acetylene (R-22-15-520) | Hose 12.5' x 3/16"A-A | 3MM60 |
| **3VF02** | **"MC" Deluxe General Maintenance Outfit** | 3VF43 | 3VC96 (#6)<br>3VD06 (#6 Welding Head) | 3VC89 | 3VD15 | W-200 to air-acetylene or air-propane | 3VD33-Oxygen (R-22-75-540A)<br>3VC91-Acetylene (R-22-15-200) | Hose 12.5' x 3/16"A-A | 3MM60 |

## PUROX® TRADEMASTER OUTFIT



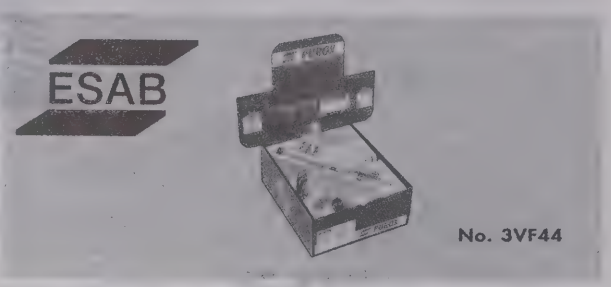

No. 3VF45

Particularly popular among journeyman users, the TradeMaster Outfit handily accomplishes any craftsman's full complement of welding, heating and cutting jobs — from light-duty to heavy-duty. It features top-line components, equally versatile for contractors, general shops, field applications, general maintenance work and trade schools.

### WELDING, CUTTING AND HEATING RANGES

| | Outfit as furnished | Outfit with optional heads and nozzles |
|---|---|---|
| Welding Range (metal thickness) | Up to 3/8 in. (10mm) | Up to 1 in. (25mm) |
| Cutting Range (metal thickness) | Up to 1½ in. (38mm) | Up to 8 in. (203mm) |
| Heating Range | Up to 55 cfh acet. (103,000 Btu/hr.) | Up to 200 cfh acet. (294,000 Btu/hr.) |

## PUROX® "E" MASTER OUTFIT




No. 3VF44

"E" Master is a prime performer for contractors, scrap burners, steel fabricators, structural iron workers, foundry men and other industrial users. In addition to a full range of normal cutting operations, its usefulness extends to pad washing, rivet cutting, gouging or grooving, piercing and heating, plus specialized applications.

### CUTTING RANGE

| | Outfit as furnished | Outfit with optional heads and nozzles |
|---|---|---|
| Cutting Range (metal thickness) | Up to 4 in. (102mm) | Up to 12 in. (305mm) |

### OUTFIT COMPONENTS AND ORDERING DATA

| Welding & Cutting Outfits | Torch Handle | Cutting Attach. | Welding Heads | Cutting Nozzles | Heating Heads | Oxygen Regulator | Acetylene Regulator | Included Accessories | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TradeMaster Purox** | W-300 | CW-300 | W-300/400 (6, 15, 30) | 4202 (1½") | W-300/400 | R-76-75-540 | R-76-15-510 | Hose 25' x 1/4"B-B, Goggles & Lighter | 999995 | **3VF45** | $826.26 | **$794.00** | 24.0 |
| **"E" Master** | Purox "E" | — | — | 4202 (1/2, 1½, 4") | — | R-76-150-540 | R-76-15-510 | Hose 25' x 1/4"B-B, Goggles, Lighter & Wrench | 999994 | **3VF44** | 674.28 | **647.50** | 20.0 |

## PUROX® METALMASTER OUTFIT

Smooth, dependable performance over a considerable operating range makes the MetalMaster Outfit an excellent choice for general purpose welding, heating and cutting. This package provides exactly the right combination of components ideal for professional auto repair and muffler work, trade schools, in addition to farm and light maintenance jobs. (No. 3VD95 same as No. 3VF28 except for CGA 300 connection on the acetylene regulator).




No. 3VF28

### WELDING, CUTTING AND HEATING RANGES

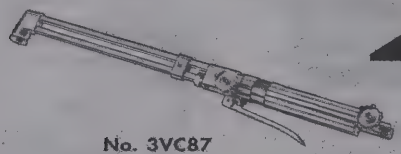
| Nos. 3VF28 & 3VD95 Specifications Only | Outfit as supplied | Outfit with optional heads and nozzles |
|---|---|---|
| Welding Range (metal thickness) | Up to 3/8 in. (10mm) | Up to 1 in. (25mm) |
| Cutting Range (metal thickness) | Up to 1½ in. (38mm) | Up to 8 in. (203mm) |
| Heating Range | Up to 30 cfh acet. (44,000 Btu/hr.) | Up to 200 cfh acet. (294,000 Btu/hr.) |

### METALMASTER OUTFIT COMPONENTS AND ORDERING DATA

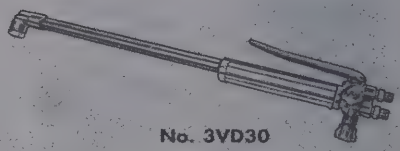
| Welding & Cutting Outfits | Torch Handle | Cutting Attach. | Welding Heads | Cutting Nozzles | Heating Heads | Oxygen Regulator | Acetylene Regulator | Included Accessories | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MetalMaster** | W-300 | CW-300 | W-300 (6,15,30) | 4202 (1½") | Optional | R-27-75-540 | R-27-15-510 | Hose 25' x 1/4" B-B, Goggles & Lighter | 998691 | **3VF28** | $593.07 | **$570.00** | 8.0 |
| **MetalMaster/ CGA 300** * | W-300 | CW-300 | W-300 (6,15,30) | 4202 (1½") | Optional | R-27-75-540 | R-27-15-300 | Hose 25' x 1/4" B-B, Goggles & Lighter | 603380 | **3VD95** | 592.90 | **570.00** | 18.0 |
| **GT-250 Dix.** | W-250 | CW-250 | W-250 (6) | 4202 (1½") | Optional | R-36-75-540 | R-36-15-510 | Hose 25' x 1/4" B-B, Goggles & Lighter | 21423 | **3VD60** | 289.63 | **278.50** | 17.0 |
| **Precision Master** | W-200 | CW-200 | W-200 (4,19,15) | 4202 (½") | Optional | R-22-75-540 | R-22-15-510 | Hose 12½' x 3/16" A-A, Goggles & Lighter | 639051 | **3VD99** | 472.47 | **454.00** | 11.0 |

*) The CGA 300 valve is exclusive to the East coast. Check with your local gas supply before purchasing this welding outfit.

# HAND WELDING AND CUTTING TORCHES



No. 3VC87



No. 3VD30

## TYPE "E"

- Ease-on control of cutting oxygen —ideal valve action for pierce starts, gouging, and rivet busting
- Performs efficiently with any fuel gas
- Gland nut restricts lateral movement of hand wheel — valve stem will not bend if the torch is dropped
- Extra long Teflon valve packing and extra fine pitch threads — provides fine control of flame while protecting against unintended fluctuation.
- Nozzle nut threaded to fit inside head, which causes it to tighten — less chance of leakage when torch is operated
- Front, bottom mounted cutting oxygen lever — for convenient handling
- Heat resistant nickel-silver alloy tubes — provide rigidity and high corrosion resistance

### TYPE "E" SPECIFICATIONS

Cutting Capacity:
Acetylene and Other Fuel Gases . . . . . up to 12 in. (305mm)
Nozzles:
Type "E" . . . . . 4200 series

### PUROX® TYPE "E" CUTTING TORCH*

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| w/75 deg. head for acet. | 04L04 | 3VC87 | $275.25 | $264.50 | 3.8 |
| w/90 deg. head for acet. | 04L06 | 3VC88 | 275.25 | 264.50 | 3.8 |
| w/75 deg. head for other fuel gases | 998259 | 3VF18 | 203.62 | 195.75 | 3.8 |
| w/90 deg. head for other fuel gases | 998260 | 3VF19 | 211.73 | 203.50 | 3.8 |

### MIXERS ONLY (FOR TYPE "E")

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| For acetylene | 19048 | 3VD37 | $26.16 | $25.15 | 0.1 |
| For low psi natural gas | 19417 | 3VD38 | 34.29 | 32.95 | 0.1 |

## C-84

- Lightweight, well-balanced, rugged, low cost torch for general purpose cutting—ideal economy torch for steel fabricators, shipyards, scrapyards, contractors, and foundries
- Replaceable inlet connections—thread damage does not require replacement of the rear body
- Universal mixer for all medium pressure fuel gases—one mixer for cutting up to 4" with acetylene and up to 12" with other fuel gases
- Forged brass fold-back cutting lever bottoms out on torch handle-excessive force will not damage cutting oxygen valve or lever
- Gases mixed in the head—reduces possibility of damage from flash-backs

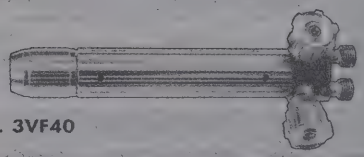
### C-84 SPECIFICATIONS

Cutting Capacity:
Acetylene . . . . . up to 4 in. (127mm
Other fuel gases . . . . . up to 12 in. (305mm
Nozzles . . . . . 4200 series

### PUROX® C-84 CUTTING TORCH

| Description | ESAB Model | Stock No. | List | Each | Shpg No. |
|---|---|---|---|---|---|
| 21 in. w/90 deg. head | 18260 | 3VD30 | $192.68 | $185.25 | 3.0 |
| 21 in. w/75 deg. head | 18261 | 3VD31 | 192.68 | 185.25 | 3.0 |
| 36 in. w/ 75 deg. head | 18893 | 3VD34 | 218.75 | 210.25 | 3.1 |

## PUROX® W-300 WELDING TORCH



No. 3VF40

**Welding Range:** Thin gauge to over 1 in.

**Heating Range:** 1 to 200 cfh acetylene*

- Ideal for all welding, brazing or medium heating applications in average production, repair or maintenance work
- Recommended for manual operations requiring speed and uninterrupted welding, heating and brazing
- Operates on medium pressure acetylene and other fuel gases
- Gas-mixer—high resistance to backfires, flame pops, and flashbacks
- Roll stamped permanent identification
- Extra length teflon valve packing for improved back-lash characteristics
- Order tips and cutting assembly separately. See Index for listings

**No. 3VF40.** (ESAB Model 999339).
Shpg. wt. 1.6 lbs. List $136.49.
Each . . . . . $131.1

(*) Equivalent to approximately 1400 to 300,000 Btu/hr. Acetylene and other fuel gases may be used.

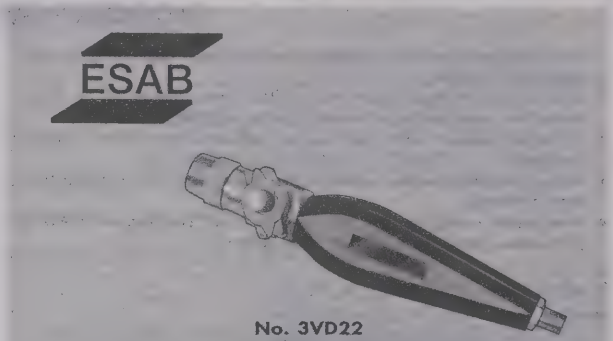
# PREST-O-LITE TORCH HANDLES AND TIPS

## TORCH HANDLES

- Compact and comfortable to work with
- Features a quick-acting connection for instant tip changes without tools
- Standard and SWIRLJET® tips fit interchangeably
- Valve assembly for 401M is located at the front of the handle for convenient flame adjustment
- Valve incorporates a gas flow adjustment knob with a shutoff lever, permitting relight without flame readjustment
- 403 has a valve at the rear for handy shutoff and automatic gas regulation
- ESAB brand

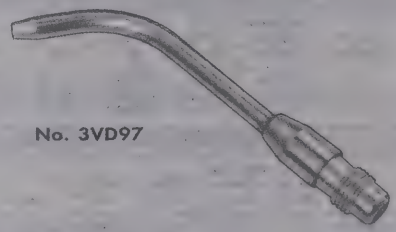
**No. 3VD22.** Torch Handle (401m) forward On/Off valve with flame control knob. Shpg. wt. 0.8 lbs. Each ..... $71.55

**No. 3VC86.** Torch Handle (403) Valve at rear. (19x39). Shpg. wt. 0.6 lbs. Each ..... $33.60



No. 3VD22


No. 3VC86


No. 3VD97

## STANDARD TORCH TIPS

- Interchangeable with both PREST-O-LITE torch handles
- Five sizes for open-flame heating and soldering with acetylene
- Acetylene flame spreader tip
- Two copper soldering iron tips for use with acetylene
- Two fuel gas tips for special applications in the telecommunications industry using FG-2, MAPP, or propane
- Mixer and mixer disc matched to tip orifice size
- Tips silver-soldered to mixer bodies

### OPERATING PRESSURES AND GAS CONSUMPTION

| Tip Size | Flame Port Size | Operating Pressure Range | Gas Consumption Range |
|---|---|---|---|
| 1A | 1/10 in. | 1 to 5 psi | 0.2 to 1 cfh |
| 3 | 5/32 in. | 1 to 10 psi | 1 to 4 cfh |
| 4 | 13/64 in. | 1 to 10 psi | 1.5 to 6 cfh |
| 5 | 1/4 in. | 1 to 10 psi | 3 to 9 cfh |
| 6 | 3/8 in. | 2 to 10 psi | 8 to 20 cfh |
| 8, 8C | 3/32 in. | 2 to 5 psi | 0.3 to 1 cfh |
| 9 | 1/32 x 2 in. | 5 to 10 psi | 2 to 6 cfh |
| 1 FG | 7/64 in. | 5 to 10 psi | 0.4 cfh |
| 6FG | 1.350 in. | 25 to 35 psi | 11 cfh |

### STANDARD TORCH TIPS SPECIFICATIONS AND ORDERING DATA

| Number | Gauge | Use | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FOR ACETYLENE USE** | | | | | | | |
| **1-A** | Fine | For fine jewelry work, telephone switchboard and other small-wire soldering, radiator fin soldering | 638948 | **3VD97** | $15.96 | **$15.33** | 0.2 |
| **3** | Light | For many wire splicing assignments, some jewelry work, light sheet metal work | 10X23 | **3VD06** | 13.84 | **13.29** | 0.2 |
| **4** | Medium | For automobile body work and copper tube joints in the 1/2 to 1 in. range | 10X24 | **3VD07** | 13.84 | **13.29** | 0.3 |
| **5** | Heavy | For most heating jobs and for copper tubing joints in the 3/4 to 1½ in. range | 10X25 | **3VD08** | 13.84 | **13.29** | 0.3 |
| **6** | Extra-Heavy | For maximum heating power, such as needed for large diameter copper tubing joints | 10X26 | **3VD09** | 17.33 | **16.64** | 0.4 |
| **8** | — | Soldering iron with pointed copper | 11X18 | **3VD12** | 72.49 | **69.60** | 0.7 |
| **8-C** | — | Soldering iron with chisel copper | 11X17 | **3VD11** | 79.89 | **76.75** | 0.8 |
| **9** | — | Flame Spreader for paint removal and tile cutting | 10X29 | **3VD10** | 112.62 | **108.15** | 0.6 |
| **FOR FG-2, MAPP OR PROPANE USE** | | | | | | | |
| **1FG** | — | Pencil flame tip for precision and soldering aluminum | 17861 | **3VD29** | 44.84 | **43.10** | 0.3 |
| **6FG** | — | Bushy flame tip for heat shrinking | 11X19 | **3VD13** | 57.81 | **46.30** | 0.7 |

# TORCHES, HEADS, AND CUTTING ATTACHMENTS

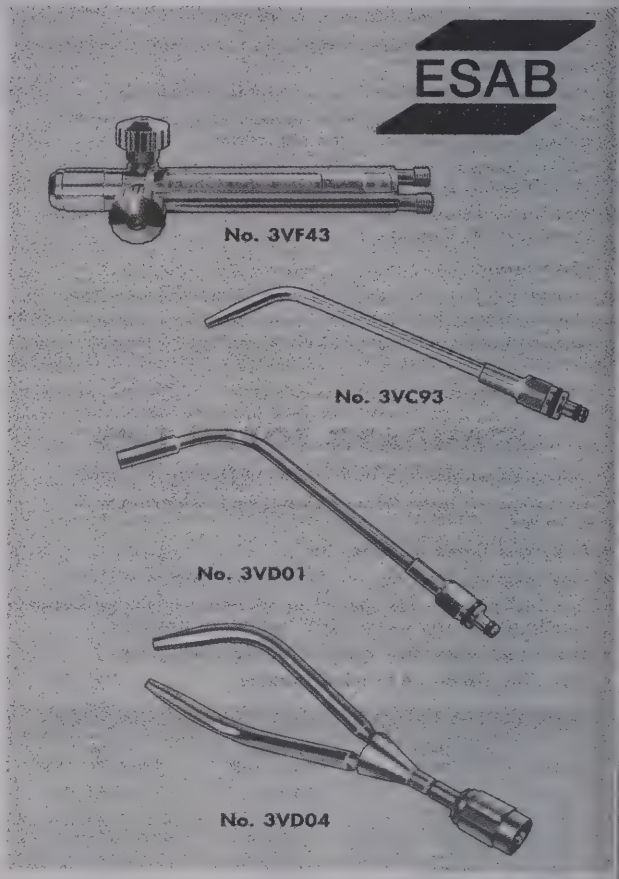
## PUROX® W-200 TORCH

- For light production welding and general light-duty welding and brazing
- Solid brass forged body has drilled gas passages to eliminate the possibility of mixed gases within the handle
- Forward valves—for convenient adjustment without changing grip
- Long, slender heads—reach into all spots and around jigs and fixtures
- Acetylene welding tips can be used for brazing with FG-2, propane, MAPP, and other fuel gases

**Welding Range:** Thin gauge to 3/8 in.

**Heating Range:** 1 to 40 cfh acetylene (1470 to 59,000 Btu/hr.)

**No. 3VF43.** ESAB brand (999805). Shpg. wt. 0.9 lbs. List $114.13.
Each.....$109.65




### W-200 ACETYLENE WELDING HEADS

(Single Flame)

| Steel Thickness (In.) | Size | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| To 32 ga. | 1 | 06L46 | **3VC93** | $32.10 | **$30.85** | 0.2 |
| 32 - 25 ga. | 2 | 06L47 | **3VC94** | 32.10 | **30.85** | 0.2 |
| 25 ga. - 1/32 | 4 | 06L48 | **3VC95** | 32.10 | **30.85** | 0.2 |
| 1/32 - 1/16 | 6 | 06L49 | **3VC96** | 32.10 | **30.85** | 0.3 |
| 1/16 - 1/8 | 9 | 06L50 | **3VC97** | 33.93 | **32.65** | 0.3 |
| 1/8 - 3/16 | 15 | 06L52 | **3VC98** | 33.93 | **32.65** | 0.2 |
| 3/16 - 3/8 | 30 | 06L54 | **3VC99** | 33.93 | **32.65** | 0.2 |

### W-200 ACETYLENE ROSEBUD HEATING HEADS

| Size | No. of Flames | Avg.Heat Output Btu/hr. | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 15 | 8 | 22,000 | 07L13 | **3VD01** | $56.78 | **$54.55** | 0.2 |
| 30 | 8 | 44,000 | 07L15 | **3VD02** | 56.78 | **54.55** | 0.2 |
| 40 | 8 | 59,000 | 07L17 | **3VD03** | 56.78 | **54.55** | 0.2 |

### W-200 TWIN-FLAME HEADS

| Size | Fuel | No. of Flames | Avg. Heat Output Btu/hr. | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 40 | Acetylene | 2 | 22,000 | 07L18 | **3VD04** | $101.99 | **$97.95** | 0.5 |
| 40 | P.G. | 2 | 44,000 | 07L19 | **3VD05** | 107.82 | **103.55** | 0.7 |

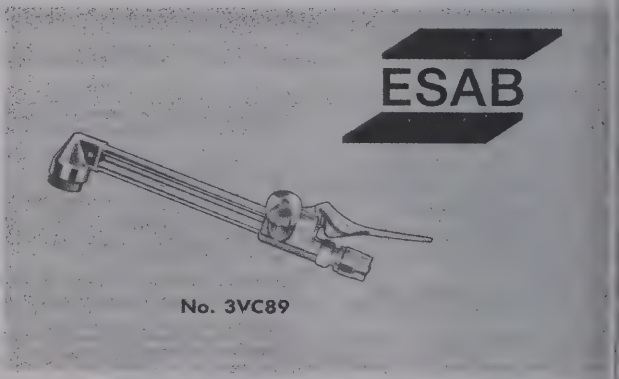
## PUROX® CW-200 CUTTING ATTACHMENT

- Adapts W-200 torch to oxy-fuel cutting—connects directly to torch handle
- Unique piston-type "O" ring seals provide positive leakproof connections
- Ease-on control of cutting oxygen flow for smoother starts
- Lightweight-easy to handle
- Ideal for work on aircraft, auto bodies and sheet metal fabrications as well as pad washing, gouging and rivet washing
- Cuts to 2 inches
- 90° head

**Cutting Range:** 1/16 - 2 in.

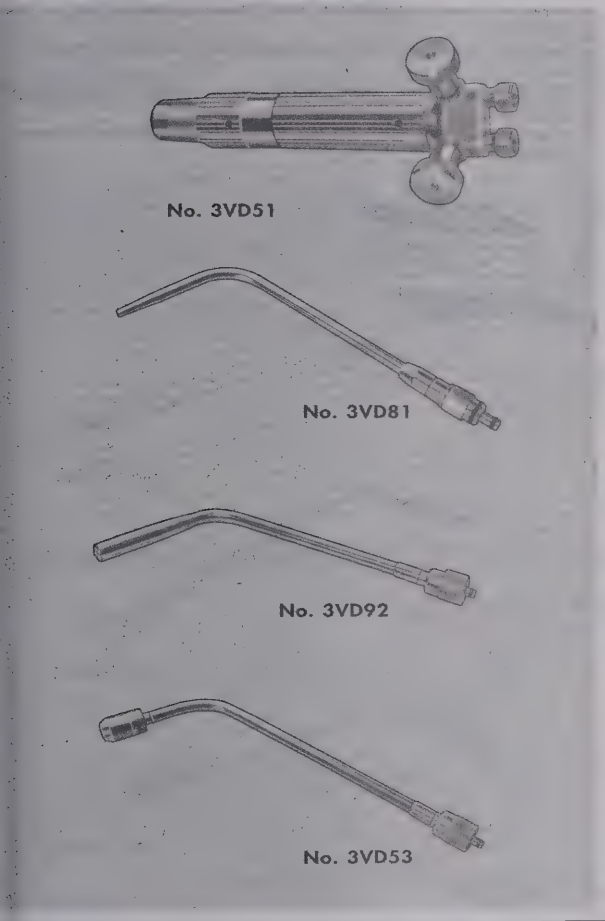
**Cutting Nozzles:** 4200 Series

**No. 3VC89.** ESAB brand (05L20). Shpg. wt. 1.2 lbs. List $149.11.
Each.....$143.20




TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# PUROX® W-250 TORCH




- For medium-duty production welding and brazing
- Heavy-duty rear mounted throttle valves with encapsulated stems
- "B" size replaceable inlets

## W-250 WELDING TORCH

**Welding Range:** Thin gauge to 1-in.

**Heating Range:** 2 to 70 cfh acetylene*

**No. 3VD51.** ESAB brand (21189). Shpg. wt. 1.6 List $81.98.
Each ..... $78.75

(*) Equivalent to approximately 2,800 to 102,000 Btu/hr. Acetylene and other fuel gases may be used.

## W-250 ACETYLENE WELDING HEADS (Single Flame)

| Steel Thickness (In.) | Complete Head Assembly Size | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **32 - 25 ga.** | 2A | 2214378 | **3VD81** | $31.75 | **$30.50** | 0.3 |
| **25 ga. - 1/32** | 4A | 2214379 | **3VD82** | 31.75 | **30.50** | 0.3 |
| **1/32 - 1/16** | 6A | 2214380 | **3VD83** | 27.52 | **26.45** | 0.3 |
| **1/16 - 1/4** | 15A | 2214381 | **3VD84** | 29.83 | **28.70** | 0.4 |
| **1/4 - 3/8** | 30A | 2214382 | **3VD85** | 33.26 | **31.95** | 0.3 |
| **3/8 - 5/8** | 55A | 42C49 | **3VD90** | 35.17 | **33.80** | 0.6 |
| **5/8-1** | 70A | 42C50 | **3VD91** | 48.57 | **46.65** | 0.6 |

## W-250 STANDARD MULTIFLAME HEATING HEADS

| Size | No. of Flames | Avg.Heat Output Btu/hr. | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **For Oxy-Acetylene Use** | | | | | | | |
| **55A** | 7 | 81,000 | 42C51 | **3VD92** | $96.33 | **$92.55** | 0.9 |
| **70A** | 7 | 102,000 | 42C52 | **3VD93** | 96.33 | **92.55** | 0.9 |
| **For Oxy-Fuel Gas Use-FG-2, propane, natural gas, etc.** | | | | | | | |
| **70FG** | 7 | 102,000 | 42C53 | **3VD94** | 100.03 | **96.10** | 0.9 |

## W-250 ROSEDBUD MULTIFLAME HEATING HEADS

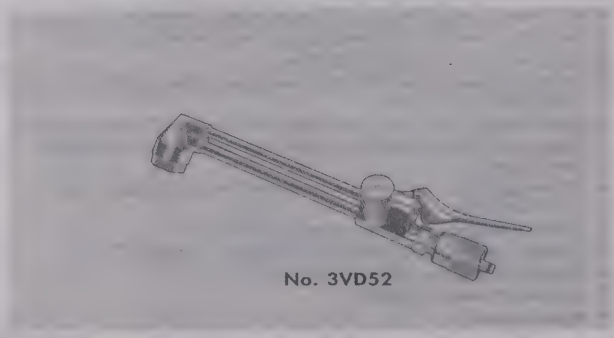
| Size | No. of Flames | Avg.Heat Output Btu/hr. | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **For Oxy-Acetylene Use** | | | | | | | |
| **55-0-A** | 9 | 81,000 | 21310 | **3VD53** | $62.83 | **$60.35** | 0.9 |
| **70-0-A** | 9 | 103,000 | 21311 | **3VD54** | 65.48 | **62.90** | 0.9 |
| **For Oxy-Fuel Gas Use FG-2, propane, natural gas etc.** | | | | | | | |
| **70-0-FG** | 8 | 104,000 | 21312 | **3VD55** | 60.66 | **58.25** | 0.9 |

# PUROX® CW-250 CUTTING ATTACHMENT

- Unique piston-type "O" ring seals provide positive leak proof connections
- Cuts up to 4"
- 90° head
- Operates with all medium pressure fuel gases
- Uses 4200 series nozzles

**Cutting Range using acetylene:** 1/16 to 4"
**Cutting Range using other fuel gases:** 1/16 to 2"
**Cutting Nozzles:** 4200 series

**No. 3VD52.** ESAB brand (21190). Shpg. wt. 1.5 lbs. List $107.81.
Each ..... $103.55




VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# W-300 AND W-400 WELDING AND HEATING HEADS

- Quick change, slip in and hand-tighten, no wrench needed; three separate parts all readily replaceable and individually sized
- Goose neck shape easy to manipulate in cramped working spaces
- Rosebud models off faster heat transfer over a larger heating area
- Swaged copper tips for maximum heat and wear resistance
- Rapid heat transfer provided by extra heavy forward wall sections
- Proven performance—all heads are factory-tested before shipment

## STANDARD ACETYLENE SINGLE FLAME WELDING HEADS

| Steel Thickness, (In.) | Size | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| To 32 ga. | 1A | 639438 | **3VF03** | $37.75 | **$36.30** | 0.4 |
| 32-25 ga. | 2A | 639439 | **3VF04** | 37.75 | **36.30** | 0.4 |
| 25 ga. - 1/32 | 4A | 639440 | **3VF05** | 37.75 | **36.30** | 0.4 |
| 1/32 - 1/16 | 6A | 639441 | **3VF06** | 37.75 | **36.30** | 0.4 |
| 1/16 - 1/8 | 9A | 639442 | **3VF07** | 44.49 | **42.80** | 0.2 |
| 1/8 - 3/16 | 12A | 17268 | **3VD24** | 44.51 | **42.75** | 0.4 |
| 3/16 - 1/4 | 15A | 639443 | **3VF08** | 44.49 | **42.80** | 0.5 |
| 1/4 - 3/8 | 30A | 17263 | **3VD23** | 44.51 | **42.75** | 0.5 |
| 3/8 - 5/8 | 55A | 998085 | **3VF11** | 53.67 | **51.55** | 0.6 |

## W-300 AND W-400 STANDARD MULTIFLAME HEATING HEADS

| Size | No. of Flames | Avg. Heat Output Btu/hr. | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FOR OXY-ACETYLENE USE** | | | | | | | |
| **55A** | 7 | 81,000 | 998089 | **3VF12** | $115.83 | **$111.30** | 1.1 |
| **70A** | 7 | 102,000 | 998090 | **3VF13** | 115.83 | **111.30** | 1.1 |
| **100A** | 8 | 147,000 | 998091 | **3VF14** | 115.83 | **111.30** | 1.1 |
| **150A** | 12 | 221,000 | 998092 | **3VF15** | 147.94 | **142.05** | 1.6 |
| **FOR OXY-FUEL GAS USE - FG-2, PROPANE, NATURAL GAS, ETC.** | | | | | | | |
| **70FG** | 7 | 104,000 | 998093 | **3VF16** | 137.63 | **132.20** | 1.1 |
| **100FG** | 8 | 147,000 | 998278 | **3VF21** | 137.63 | **132.20** | 1.1 |
| **150FG** | 12 | 220,000 | 998276 | **3VF20** | 145.66 | **139.90** | 1.6 |

## W-300 AND W-400 ROSEBUD STYLE MULTIFLAME HEATING HEADS

| Size | Avg. Heat No. of Flames | Output Btu/hr. | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FOR OXY-ACETYLENE USE** | | | | | | | |
| **15 O-A** | 6 | 22,000 | 998773 | **3VF30** | $79.81 | **$76.70** | 0.8 |
| **30 O-A** | 6 | 44,000 | 998774 | **3VF31** | 79.81 | **76.70** | 0.8 |
| **55 O-A** | 9 | 81,000 | 998775 | **3VF32** | 79.81 | **76.70** | 1.2 |
| **70 O-A** | 9 | 103,000 | 998776 | **3VF33** | 79.81 | **76.70** | 1.2 |
| **100 O-A** | 13 | 147,000 | 998777 | **3VF34** | 90.15 | **86.55** | 1.4 |
| **200 O-A** | 16 | 294,000 | 998778 | **3VF35** | 136.49 | **131.10** | 2.0 |
| **FOR OXY-FUEL GAS USE - FG-2, PROPANE, NATURAL GAS, ETC.** | | | | | | | |
| **70 O-FG** | 8 | 104,000 | 999225 | **3VF37** | 79.81 | **76.70** | 1.1 |
| **100 O-FG** | 8 | 148,000 | 999228 | **3VF38** | 103.98 | **99.85** | 1.4 |
| **200 O-FG** | 24 | 297,000 | 999231 | **3VF39** | 136.55 | **131.15** | 0.6 |

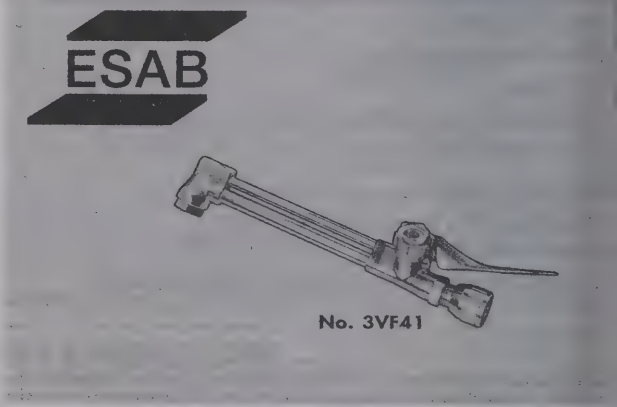



# PUROX® CW-300 CUTTING ATTACHMENT

- 90° head—No. 3VF41; 75° head—No. 3VF42
- Ease-on control of cutting oxygen for smoother starts
- Adapts torch to oxy-fuel cutting
- Unique piston-type "O" ring seals provide positive, leakproof connections
- Also effective for pad washing, gouging and rivet washing
- Operates with all medium-pressure acetylene and other fuel gases
- Valve packing nut contained under handwheel to resist stem damage
- Cutting range using acetylene 1/16 to 8"
- Cutting range using other fuel gases 1/16 to 4"
- Use torch handle No. 3VF40
- Use 4200 series nozzles
- ESAB brand

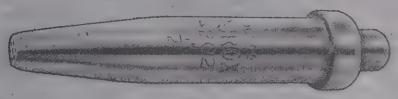
**No. 3VF41** (999340). Shpg. wt. 2.0 lbs. List $182.38.
Each.....$175.50

**No. 3VF42** (999341). Shpg. wt. 2.0 lbs. List $182.38.
Each.....$175.50



# NOZZLES

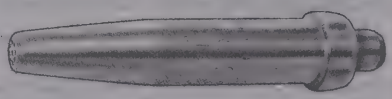
ESAB



No. 3VD96

- General purpose
- Medium preheat sufficient for beveling





No. 3VF22

- Heavy preheat for scrap cutting in excess of 45°
- Can be used with FG-2 or MAPP



## GENERAL PURPOSE ACETYLENE HAND OR MACHINE CUTTING NOZZLES — 4202 SERIES

| Size (In.) | Steel Thickness (In.) | (mm.) | Cleaning Drill Size Preheat | Cutting | No. Preheat Holes | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/8** | 1/8 | 3 | 73 | 76 | 4 | 638869 | **3VD96** | $18.02 | **$17.31** | 0.3 |
| **1/4** | 3/16-1/4 | 4-6 | 73 | 68 | 6 | 16K08 | **3VD14** | 18.02 | **17.31** | 0.2 |
| **1/2** | 1/2 | 13 | 73 | 60 | 6 | 16K09 | **3VD15** | 18.02 | **17.31** | 0.2 |
| **1 1/2** | 3/4-1 1/2 | 19-38 | 69 | 55 | 6 | 16K10 | **3VD16** | 18.02 | **17.31** | 0.2 |
| **4** | 2-4 | 50-100 | 68 | 50 | 6 | 16K11 | **3VD17** | 18.02 | **17.31** | 0.2 |
| **6** | 6 | 150 | 64 | 43 | 6 | 16K12 | **3VD18** | 18.02 | **17.31** | 0.2 |
| **10** | 8-10 | 200-250 | 60 | 35 | 6 | 16K13 | **3VD19** | 19.48 | **18.70** | 0.2 |
| **12** | 12 | 300 | 56 | 30 | 6 | 16K14 | **3VD20** | 19.48 | **18.70** | 0.2 |

## HEAVY PREHEAT ACETYLENE HAND OR MACHINE CUTTING NOZZLES — 4216 SERIES

| Size (In.) | Steel Thickness (In.) | (mm.) | Cleaning Drill Size Preheat | Cutting | No. Preheat Holes | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1/8-1/4 | 3-6 | 67 | 68 | 8 | 998589 | **3VF22** | $19.94 | **$19.15** | 0.2 |
| **1/2** | 1/2 | 13 | 67 | 60 | 8 | 998590 | **3VF23** | 19.94 | **19.15** | 0.2 |
| **1 1/2** | 3/4-1 1/2 | 19-38 | 64 | 53 | 8 | 998591 | **3VF24** | 19.94 | **19.15** | 0.1 |
| **4** | 2-4 | 50-100 | 62 | 46 | 8 | 998592 | **3VF25** | 19.94 | **19.15** | 0.1 |
| **8** | 6-8 | 150-200 | 59 | 39 | 8 | 998593 | **3VF26** | 19.94 | **19.15** | 0.1 |
| **12** | 10-12 | 250-300 | 56 | 31 | 8 | 998594 | **3VF27** | 19.94 | **19.15** | 0.1 |

ESAB



No. 3VD47

- General purpose cutting with all fuel gases except acetylene
- Heavy preheat for fast starts
- Use soft-bristled brush to clear preheat slots



## FUEL GASES HAND OR MACHINE CUTTING NOZZLES (INTERNAL) — 4217 SERIES

| Size (In.) | Steel Thickness (In.) | (mm.) | No. Preheat Holes or Slots | Cleaning Drill Size Preheat | Cutting | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1/4 | 6 | 12 | 1 | 68 | 19485 | **3VD39*** | $18.42 | **$17.68** | 0.1 |
| **1/2** | 1/2 | 13 | 12 | 1 | 60 | 19486 | **3VD40*** | 18.10 | **17.38** | 0.1 |
| **1** | 1 | 25 | 12 | 1 | 53 | 19487 | **3VD41*** | 18.10 | **17.38** | 0.1 |
| **2** | 2 | 50 | 12 | 1 | 50 | 19488 | **3VD42*** | 18.10 | **17.38** | 0.1 |
| **4** | 4 | 100 | 20 | 1 | 43 | 19489 | **3VD43†** | 18.10 | **17.38** | 0.1 |
| **6** | 6 | 150 | 20 | 1 | 39 | 19490 | **3VD44†** | 19.15 | **18.39** | 0.1 |
| **8** | 8 | 200 | 20 | 1 | 35 | 19491 | **3VD45†** | 19.15 | **18.39** | 0.1 |
| **12** | 12 | 300 | 20 | 1 | 31 | 19492 | **3VD46†** | 19.15 | **18.39** | 0.1 |

*) Uses No. 3VD47 external sleeve. (†) Uses No. 3VD48 external sleeve.

## EXTERNAL SLEEVES

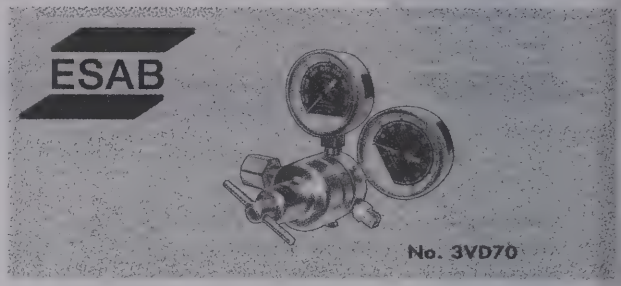
**No. 3VD47**. External Sleeve (19518). Shpg. wt. 0.1 lbs. List $11.93. Each ..... $11.46

**No. 3VD48**. External Sleeve (19519). Shpg. wt. 0.1 lbs. List $11.93. Each ..... $11.46

# REGULATORS

## PUROX® MEDIUM-DUTY R-72 REGULATORS

- Designed for medium-duty service and built for years of trouble-free performance with minimum maintenance
- Models available for oxygen, acetylene, and propane service
- Body and cap—all R-72's machined from solid, high-strength brass bar stock
- 2½" pressure gauges—easy-to-read for precision settings
- Patented baffle design incorporated in oxygen version for suppressing internal forces in case of a regulator burnout



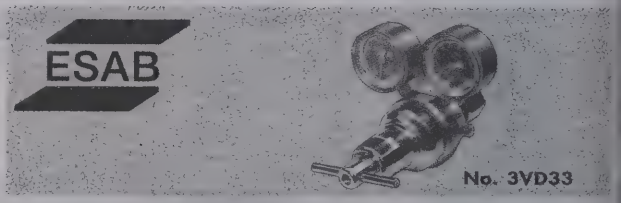

### MEDIUM-DUTY R-72 REGULATORS SPECIFICATIONS AND ORDERING DATA

| Gas Service | Model | Maximum Delivery Pressure (PSIG) | CGA Connection Inlet | CGA Connection Outlet | Weight (Lbs.) | Overall Length (In.) | Body Diameter (In.) | Gauge Size (In.) | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oxygen | R-72-75-540 | 75 | Nut .908-14 RH Female | 9/16 in. -18 RH Male | 3¼ | 5 | 2¼ | 2½ | 21524 | **3VD70** | $108.32 | **$104.05** | 4.4 |
| | R-72-125-540 | 125 | Nut .908-14 RH Female | 9/16 in. -18 RH Male | 3¼ | 5 | 2¼ | 2½ | 21528 | **3VD74** | 108.32 | **104.05** | 4.4 |
| Acetylene | R-72-15-510 | 15 | Nut .880-14 LH Male | 9/16 in. -18 LH Male | 3¼ | 5 | 2¼ | 2½ | 21525 | **3VD71** | 108.32 | **104.05** | 4.3 |
| | R-72-15-300 * | 15 | Nut .830-14 RH Female | 9/16 in. -18 LH Male | 3¼ | 5 | 2¼ | 2½ | 21526 | **3VD72** | 108.32 | **104.05** | 4.4 |
| LPG | R-72-75-510 † | 75 | Nut .880-14 LH Male | 9/16 in. -18 LH Male | 3¼ | 5 | 2¼ | 2½ | 21527 | **3VD73** | 108.32 | **104.05** | 4.0 |

(*) The CGA 300 valve is exclusive to the East coast. Check with your local gas supply before purchasing this regulator. (†) One gauge for outlet PSI.

## PREST-O-LITE® LIGHT-DUTY R-22 SERIES REGULATORS

- Light-duty regulators for maintenance and repair shops requiring occasional welding and cutting operations
- Forged brass body and 2" calibrated gauges—enough gas supply to weld 3/4" and cut 6" thick steel
- Baffle design incorporated in oxygen version for suppressing internal forces in case of a regulator burnout



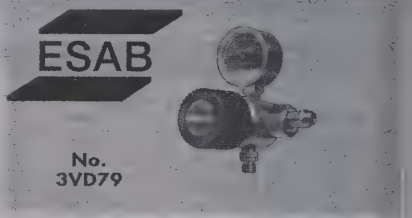

### LIGHT-DUTY R-22 REGULATORS SPECIFICATIONS AND ORDERING DATA

| Cylinder Gas | Model | Maximum Delivery Pressure (PSIG) | CGA Connection Inlet | CGA Connection Outlet | Weight (Lbs.) | Overall Length (In.) | Body Diameter (In.) | Gauge Size (In.) | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oxygen | R-22-75-540A | 75 | Nut .908-14 RH Female | 3/8 in. - 24 RH Male | 2 | 5½ | 2 | 2 | 18564 | **3VD33** | $105.49 | **$101.35** | 2.3 |
| Acetylene | R-22-15-510A | 15 | Nut .880-14 LH Male | 3/8 in. - 24 LH Male | 2 | 5½ | 2 | 2 | 998765 | **3VF29** | 94.04 | **90.30** | 2.1 |
| | R-22-15-520 | 15 | Nut .899-18 RH Female | 3/8 in.- 24 LH Male | 2 | 5½ | 2 | 2 | 05X01 | **3VC90** | 76.71 | **73.70** | 2.3 |
| | R-22-15-200 | 15 | Nut .628-20 RH Female | 3/8 in.- 24 LH Male | 2 | 5½ | 2 | 2 | 05X02 | **3VC91** | 76.71 | **73.70** | 1.9 |

## PREST-O-LITE® R-511 REGULATOR

- Fine mesh inlet filter that prevents contamination
- Piston design for improved performance
- Valox high impact coverall P.A. screw

With its simplified design, the R-511 has fewer parts that need repair, making it more reliable and economical. It also has more common parts with other regulators in the series, for even greater economy and flexibility. Small, yet lightweight, the R-511 is rugged and dependable, outperforming regulators twice its size and three times as heavy.




### R-511 REGULATORS SPECIFICATIONS AND ORDERING DATA

| Cylinder Gas | Model | Maximum Delivery Pressure (PSIG) | CGA Connection Inlet | CGA Connection Outlet* | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| MC Acetylene Tank (10 cf) | R-511MC | 15 | Nut .628-20 RH Female | A size | 21806 | **3VD78** | $55.48 | **$53.35** | 1.0 |
| B Acetylene Tank (40 cf) | R-511B | 15 | Nut .889-18 RH Female | A size | 21807 | **3VD79** | 55.48 | **53.35** | 0.7 |
| Propane, Propylene, MAPP | R-511LPG | 50 | Nut .880-14 LH Male | A size | 21820 | **3VD80** | 62.24 | **59.85** | 1.1 |

(*) 3/8-24"

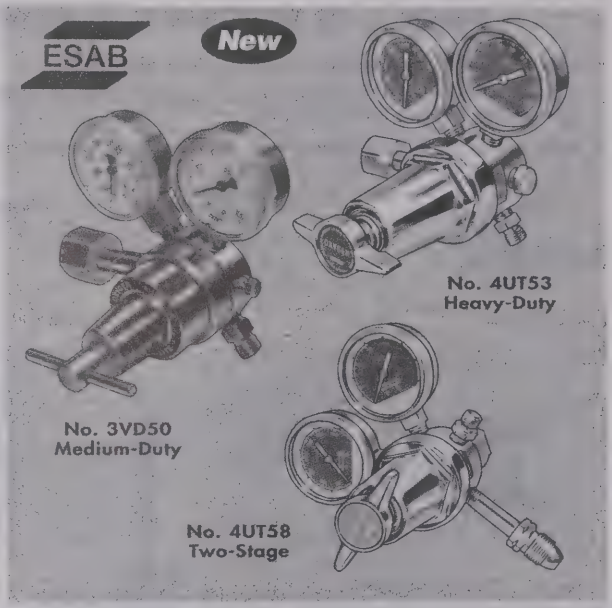
# REGULATORS

## PUROX® MEDIUM-DUTY R-36 REGULATORS

- Body—all R-36s machined from solid brass bar stock for maximum strength
- Pressure gauges—easy-to-read 2-in. diameter
- The R-36-75-580 model has a standard inert gas (5/8-18 RH female) outlet connection
- The R-36-125-580 and R-36-400-580 have 1/4-in. flare fittings that will accept standard refrigerant charging system hoses; designed for air-conditioning/refrigeration industry to perform nitrogen purging and testing of refrigerant systems

## HEAVY-DUTY TRIMLINE AND TWO-STAGE TRIMLINE REGULATORS

- Diaphragm—wafer thin, fabric reinforced with small diameter gives maximum flexibility and strength
- Pressure gauges—color-coded (oxygen-green, fuel gas-red, inert gas-blue) for easy identification; each gauge has a Lexan crystal for added durability and protection
- Seating materials—tailored to gas service. Viton-a for oxygen and neoprene for all other gases; results are additional operating reliability and reduced maintenance
- Feedback Bleeder System—Two-Stage Only-reduced spring force, 30-50 psig pressure differential; cylinders can be used to much lower pressures for increased gas savings
- Up to 10% of full cylinder content savings depending on regulator service




| Cylinder Gas | Model | Maximum Delivery Pressure (PSIG) | CGA Connection Inlet | CGA Connection Outlet | Weight (App.) (Lbs.) | Overall Length (In.) | Body Dia. (In.) | Gauge Size (In.) | ESAB Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MEDIUM-DUTY REGULATORS** | | | | | | | | | | | | | |
| **Oxygen** | R-36-75-540 | 75 | Nut .908-14 RH Female | 9/16 in.-18 RH Male | 3¼ | 5 | 2¼ | 2 | 21185 | **3VD50** | $94.03 | **$90.30** | 3.9 |
| **Oxygen** | R-36-500-540 | 500 | Nut .908-14 RH Female | 1/4 in. 37° flare | 3¼ | 5 | 2¼ | 2 | 21573 | **3VD77** | 103.20 | **99.15** | 4.0 |
| **Acetylene** | R-36-15-510 | 15 | Nut .880-14 LH Male | 9/16 in. -18 LH Male | 3¼ | 5 | 2¼ | 2 | 21184 | **3VD49** | 91.94 | **88.30** | 3.7 |
| **Acetylene** | R-36-15-300* | 15 | Nut .830-14 RH Female | 9/16 in. -18 LH Male | 3¼ | 5 | 2¼ | 2 | 21314 | **3VD57** | 91.95 | **88.30** | 3.4 |
| **Inert Gas** | R-36-75-580 | 75 | Nut .960-14 RH Male | 5/8 in.-18 RH Female | 3¼ | 5 | 2¼ | 2 | 21313 | **3VD56** | 94.03 | **90.30** | 3.9 |
| **Inert Gas** | R-36-125-580 | 125 | Nut .960-14 RH Male | 1/4 in. 37° flare | 3¼ | 5 | 2¼ | 2 | 21364 | **3VD58** | 96.89 | **93.05** | 3.8 |
| **Inert Gas** | R-36-400-580 | 400 | Nut .960-14 RH Male | 1/4 in. 37° flare | 3¼ | 5 | 2¼ | 2 | 21365 | **3VD59** | 100.90 | **96.90** | 4.0 |
| **HEAVY-DUTY REGULATORS** | | | | | | | | | | | | | |
| **Oxygen** | R-76-75-540 | 75 | Nut .908-14 RH Female | 9/16 in.-18 RH Male | 5½ | 6½ | 2⅜ | 2½ | 998323 | **4UT53** | 206.04 | **187.75** | 6.1 |
| **Oxygen** | R-76-150-540 | 150 | Nut .908-14 RH Female | 9/16 in.-18 RH Male | 5½ | 6½ | 2⅜ | 2½ | 998324 | **4UT54** | 210.75 | **192.00** | 6.1 |
| **Acetylene** | R-76-15-510 | 15 | Nut .880-14 LH Male | 9/16 in. -18 LH Male | 5½ | 6½ | 2⅜ | 2½ | 998370 | **4UT63** | 210.75 | **192.00** | 6.0 |
| **Acetylene** | R-76-15-300* | 15 | Nut .830-14 RH Female | 9/16 in. -18 LH Male | 5½ | 6½ | 2⅜ | 2½ | 998328 | **4UT55** | 210.75 | **192.00** | 6.1 |
| **FG-2,Prop.,MAPP** | R-76-75-510 | 75 | Nut .880-14 LH Male | 9/16 in. -18 LH Male | 5½ | 6½ | 2⅜ | 2½ | 998331 | **4UT56** | 210.75 | **192.00** | 5.6 |
| **Ar, He, N** | R-76-150-580 | 150 | Nut .960-14 RH Male | 5/8 in.-18 RH Female | 5½ | 6½ | 2⅜ | 2½ | 998334 | **4UT57** | 216.54 | **197.25** | 6.1 |
| **2-STAGE HEAVY-DUTY REGULATORS** | | | | | | | | | | | | | |
| **Oxygen** | R-77-75-540 | 75 | Nut .908-14 RH Female | 9/16 in.-18 RH Male | 6 | 8¼ | 2⅜ | 2½ | 998336 | **4UT58** | 280.22 | **255.25** | 7.1 |
| **Oxygen** | R-77-150-540 | 150 | Nut .908-14 RH Female | 9/16 in.-18 RH Male | 6 | 8¼ | 2⅜ | 2½ | 998337 | **4UT59** | 280.22 | **255.25** | 7.0 |
| **Acetylene** | R-77-15-510 | 15 | Nut .880-14 LH Male | 9/16 in. -18 LH Male | 6 | 8¼ | 2⅜ | 2½ | 998371 | **4UT64** | 269.80 | **245.75** | 7.0 |
| **Acetylene** | R-77-15-300* | 15 | Nut .830-14 RH Female | 9/16 in. -18 LH Male | 6 | 8¼ | 2⅜ | 2½ | 998340 | **4UT60** | 280.22 | **255.25** | 6.9 |
| **Ar, He, N** | R-77-75-580 | 75 | Nut .960-14 RH Male | 5/8 in.-18 RH Female | 6 | 8¼ | 2⅜ | 2½ | 998343 | **4UT61** | 280.22 | **255.25** | 7.0 |
| **Ar, He, N** | R-77-150-580 | 150 | Nut .960-14 RH Male | 5/8 in.-18 RH Female | 6 | 8¼ | 2⅜ | 2½ | 998344 | **4UT62** | 280.22 | **255.25** | 7.0 |

(*) The CGA 300 valve is exclusive to the East coast. Check with local gas supply before purchasing.

## PREST-O-LITE PRESSURE REGULATORS

- Small and lightweight
- Outperform regulators twice as big and three times heavier
- Fine mesh inlet filter — prevents contamination
- Large, color-coded gauges

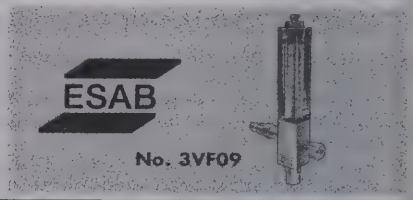



| Gas | Model | PSI | CGA Inlet Connection | Maximum Delivery Pressure Connectio | Gauges Outlet Contents | Gauges Delivery Pressure | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Liquefied Fuel Gas Cylinders with CGA 510 Outlet such as FG-2, MAPP, or Propane** | R-416 | 60 | Nut .880-14 LH Male | A size (3/8"-24) | none | 100 psi | 05X38 | **3VC92** | $69.38 | **$66.65** | 1.6 |

# REGULATORS-FLOWMETERS AND FLOWMETERS

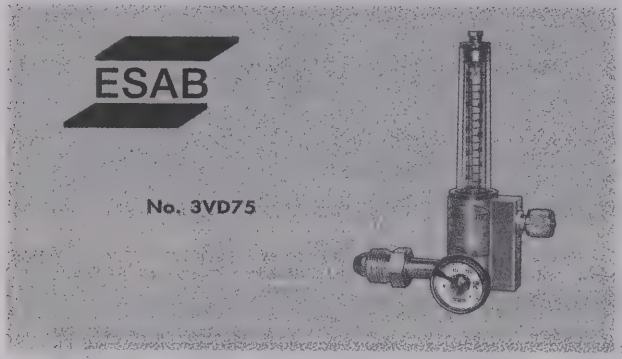
## PUROX ® L-32 ROTATING SCALE FLOWMETER

- Easy to read — rotate plastic scale to desired position
- Calibrated for electric welding process gases — argon, helium, $CO_2$, C-25 and nitrogen at 50 psig inlet pressure
- High-strength plastic external tube — withstands rough treatment




| Cylinder Gas | Model | Calibrated Flow Range (cfh) | Connections (CGA) Inlet | Outlet | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Argon, Helium, C-25 and Nitrogen** | L-32 | 10 to 70Ar<br>10 to 65 C-25<br>20 to 220 He<br>10 to 80 N2 | RH Male | 5/8-18 RH Female | 639751 | **3VF09** | $117.15 | **$112.55** | 1.4 |
| **Carbon Dioxide** | L-32 | 10 to 65 $CO_2$ | 1/4 NPT | 5/8-18 RH Female | 998843 | **3VF36** | 117.15 | **112.55** | 1.3 |

**Note:** The L-32 flowmeter is not equipped with a gauge or a regulator. It is calibrated to operate with 50 psig inlet pressure.
The $CO_2$ model is calibrated to operate at 80 psig inlet pressure.




## PUROX® R-33 REGULATOR-FLOWMETER

- Competitively priced
- Durable Lexan outer tube and flow tube with easy-to-read graduations
- Solid brass piston and machined brass body
- 3000 psi cylinder contents gauge

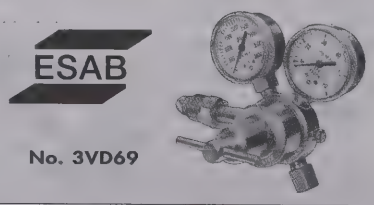
## PUROX ® R-50 SERIES REGULATOR-FLOWMETER COMBINATIONS, CONTROLLED-FLOW REGULATORS

- Lowest priced regulator/flowmeter
- Bar stock construction for long life and durability
- Equipped with cylinder contents gauge for convenience
- Equipped with reliable safety release system for operator and equipment protection

| Regulator Model | Gas Service | Flow Rate (cfh) | Connections (CGA) Inlet | Outlet | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Regulator-Flowmeters** | | | | | | | | | |
| **R-33-FM-580** | Argon | 10-50 | Nut .960-14 RH Male | 5/8-18 RH Female | 21557 | **3VD75** | $115.83 | **$111.25** | 1.8 |
| **R-33-FM-320** | $CO_2$ | 10-65 | Nut .830-14 RH Female | 5/8-18 RH Female | 21558 | **3VD76** | 115.83 | **111.25** | 1.8 |
| **R-50-FM-580** | Argon<br>Helium<br>Nitrogen<br>C-25 | 10 to 40<br>20 to 125<br>10 to 50<br>10 to 40 | Nut .960-14 RH Male | 5/8-18 RH Female | 17775 | **3VD27** | 171.03 | **164.50** | 2.8 |
| **R-50-FM-320** | $CO_2$ | 10 to 35 | Nut .830-14 RH Female | 5/8-18 RH Female | 17776 | **3VD28** | 171.04 | **164.50** | 2.8 |
| **Controlled-Flow Regulators** | | | | | | | | | |
| **R-50-TIG-580** | Argon or | 25 | Nut .960-14 RH Male | 5/8-18 RH Female | 18361 | **3VD32** | 105.00 | **100.85** | 1.2 |
| **R-50-MIG-580** | Argon Mix | 35 | Nut .960-14 RH Male | 5/8-18 RH Female | 17773 | **3VD25** | 105.00 | **100.85** | 1.2 |
| **R-50-MIG-320** | $CO_2$ | 35 | Nut .830-14 RH Female | 5/8-18 RH Female | 17774 | **3VD26** | 105.00 | **100.85** | 1.2 |

## PREST-O-LITE FLOWMETER-REGULATOR R-36-CF-580

- 2-in. delivery gauge scaled in cfh
- Accurate argon flow rate of 10 to 40 cfh




## PREST-O-LITE FLOWMETER-REGULATOR R-36-FM-580

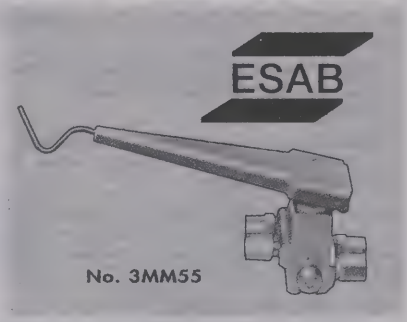
- Mounted with the well-known L-32 type flowmeter
- Accurate flow control of argon, helium, C-25 & nitrogen
- Delivery pressure to flowmeter factory preset to 50 PSIG




| Cylinder Gas | Model | Calibrated Flow Range (cfh) | CGA Connections Inlet | Outlet | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Inert Gas** | R-36-FM-580 | 10 to 70 Ar<br>20 to 220 He<br>10 to 80 N2<br>10 to 65 C-25 | Nut .960-14 RH Male | 5/8 in. - 18 RH female | 21505 | **3VD68** | $191.52 | **$184.25** | 4.1 |
| | R-36-CF-580 | 10 to 40 Ar | Nut .960-14 RH Male | 5/8 in. - 18 RH female | 21506 | **3VD69** | 100.90 | **96.90** | 3.9 |

# V-31 DOUBLE SHUT-OFF VALVE

V-31 is used in oxy-fuel gas welding for control of Stop/Start operations.




## MAXIMUM OPERATING PRESSURES

| | Oxygen | Acetylene | Other Fuel Gases | Height | Width | Length |
|---|---|---|---|---|---|---|
| V-31 | 100 PSIG (690 kPa) | 15 PSIG (103 kPa) | 75 PSIG (517 kPa) | 5" (127mm) | 4½" (114mm) | 10" (254 mm) |

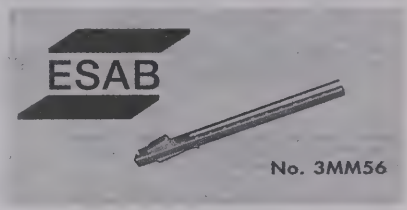
## ORDERING DATA

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **V-31 Double Shut-Off Valve** | 16X22 | **3MM55*** | $240.76 | **$231.50** | 3.4 |

(*) The V-31 valve is supplied with appropriate 1/4" NPT to "B" size inlet and outlet connection fittings, packed loose.

# OXWELD SOAPSTONE MARKERS

Indexable Model—a flat soapstone marker in stainless steel indexable holder—stone can be advanced to new position with one hand—oversize, sturdy clip.




## SPECIFICATIONS AND ORDERING DATA

| Description | Pkg. Qty. | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Indexable Model Soapstone** | Marker (Sold per piece) | 639133 | **3MM56** | $1.18 | **$1.14** | 0.1 |
| **Replacement Flat Soapstone** | Element (Pkg. of 144) | 639141 | **3MM57** | 13.83 | **13.28** | 7.2 |



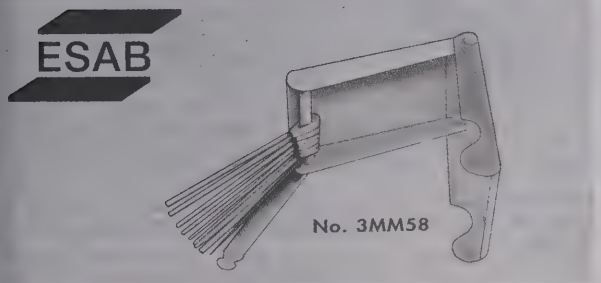

ESAB

# LARGE COMBINATION WRENCH

## SPECIFICATIONS AND ORDERING DATA

| Openings (In.) | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **7/16, 1/2, 9/16, 5/8, 11/16, 7/8, 1, 1 1/8** | 791F76 | **3MM63** | $6.68 | **$6.42** | 0.9 |

# OXWELD® TIP CLEANERS

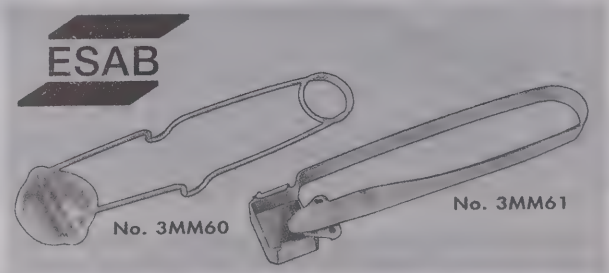



- For cleaning orifices of welding heads and cutting nozzles
- Stainless steel burnishers
- Sets hinged in aluminum cases
- Choice of two sets—each includes cleaning file
- Identification stamped on back of each case

## SPECIFICATIONS AND ORDERING DATA

| Set | No. of Cleaners | Drill Size Range | Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Standard** | 12 | 49-75 | 751F00 | **3MM58** | $3.31 | **$3.21** | 0.1 |
| **Master** | 21 | 30-75 | 753F00 | **3MM59** | 6.71 | **6.45** | 0.1 |

# FRICTION LIGHTERS




- Single-or triple-flint models
- Specially hardened file surface—over one square inch
- Fat spark—flint strikes file at angle
- Quick ignition—protection cup forms gas-collection pocket
- File turns automatically—equalizes wear
- Easily replaceable flints
- Individually blister packed

## ORDERING DATA

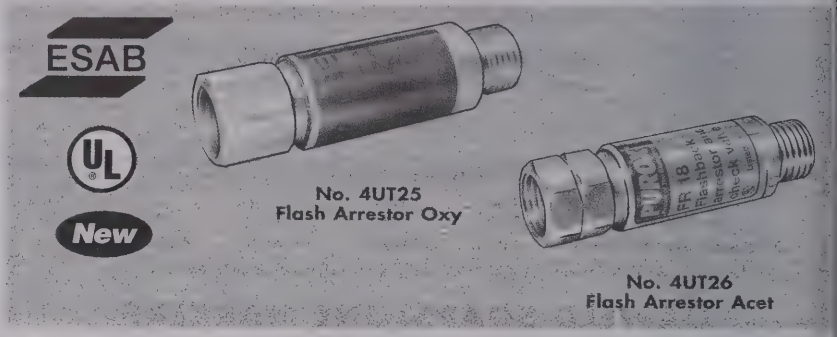
| Single Flint Lighter | Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Heavy-Duty Model** | 790F34 | **3MM60** | $1.99 | **$1.91** | 0.2 |
| **Three Flint Friction Lighter** | 790F35 | **3MM61** | 3.38 | **3.25** | 0.3 |
| **Renewal Unit for 3MM61** | 790F98 | **3MM62** | 0.62 | **0.60** | 0.1 |

# WELDING ACCESSORIES

## HOSE LINE FLASH ARRESTORS

- When attached to torch handles with B-size inlets, will actually stop a flashback
- Also designed to stop reverse flow of gases; should be left in place when hose is detached

NOTE: Fuel gas model will work on acetylene up to 15 psig. O2 up to 200 psig. and all other fuel gases up to 50 pdig.

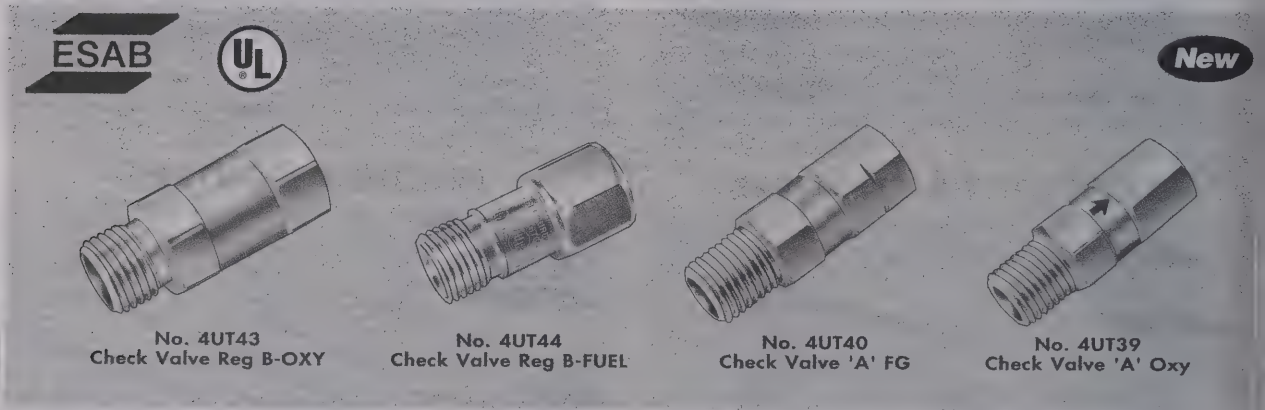



### *New!* FLASHBACK ARRESTOR SPECIFICATIONS AND ORDERING DATA

| Description | ESAB Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Torch flashback Arrestor Oxygen (B-size*) | 20373 | **4UT25** | $34.41 | **$31.35** | 0.2 |
| Torch flashback Arrestor Fuel (B-size†) | 20374 | **4UT26** | 34.41 | **31.35** | 0.2 |
| Torch Pair Oxygen/fuel (B-size‡) | 20357 | **4UT24** | 60.80 | **55.35** | 0.6 |

(*) 9/16" - 18 R.H. Thread. (†) 9/16" - 18 L.H. Thread. (‡) Both 9/16" - 18 R.H. Thread & 9/16 - 18 L.H. Thread.

## REVERSE FLOW CHECK VALVES




- Attached either to a torch or to a regulator, provide a certain measure of protection against reverse flow of gases
- Any condition that might cause reverse flow will close the valve completely
- Reverse flow check valves should be tested periodically for reverse flow leakage. Frequency of testing depends on severity of service

CAUTION: These valves ARE NOT designed to stop a flashback. Flow rate maximum—100 CFH using flash Arrestors or Check Valves.

### *New!* CHECK VALVE SPECIFICATIONS AND ORDERING DATA

| Description | ESAB Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Torch Check Valve Oxygen (A-size*) | 6271725 | **4UT39** | $14.64 | **$13.33** | 0.1 |
| Torch Check Valve Acetylene (A-size†) | 6271726 | **4UT40** | 14.64 | **13.33** | 0.1 |
| Torch Pair (A-size‡) | 18451 | **4UT23** | 23.64 | **21.51** | 0.1 |
| Torch Check Valve Oxygen (B-size ‡) | 639110 | **4UT42** | 3.87 | **3.52** | 0.1 |
| Torch Check Valve Fuel (B-size **) | 639109 | **4UT41** | 3.87 | **3.52** | 0.1 |
| Regulator Check Valve Oxygen (B-size ‡) | 639209 | **4UT43** | 5.46 | **4.97** | 0.1 |
| Regulator Check Valve Fuel (B-size **) | 639210 | **4UT44** | 5.46 | **4.97** | 0.1 |

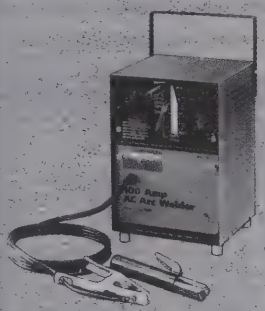
(*) 3/8" - 24 R.H. Thread. (†) 3/8" - 24 L.H. Thread. (‡) Both 3/8" - 24 R.H. Thread & 3/8" - 24 L.H. Thread.
(‡) 9/16" - 18 R.H. Thread. (**) 9/16" - 18 L.H. Thread.

# AC AND AC/DC ARC WELDERS

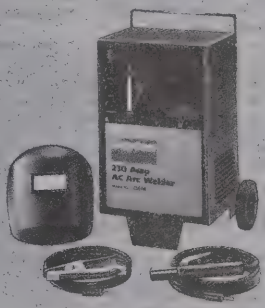
Dayton®

E49674

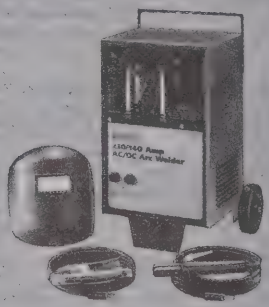
Replacement Parts Available
1-800-323-0620



No. 3Z744
100 Amp AC Welder



No. 3Z561
230 Amp AC Welder
Less Wheel Kit



No. 3Z563
230AC/140DC Welder
Less Wheel Kit



No. 3Z564
250AC/DC Amps
Less Wheel Kit

- **Easy to operate, quick set amperage control allows instant amp changes**
- **Easy to install. Operates on either standard 230 or 115V (No. 3Z744 only), 60 Hz single phase current**
- **Continuous current control allows operator to set exact heat needed for each job. Settings are precise and free from creep**
- **20% duty cycle at rated amp on all machines, except No. 3Z564 has 50% duty cycle at 175 amps**
- **All welders UL Listed and NEMA 1 Rated enclosures**

## 100 AMP AC WELDER No. 3Z744

**Versatile home and shop welder** welds, brazes, cuts, heats (for bending) and solders metal. No special wiring or circuits required. Features forced draft cooling system for component protection. Equipped with movable continuous current control from 25 to 100 amp welding range. Fully adjustable and operates from 115V outlet with 30 amp fuse or 20 amp time delay fuse **(NEMA 5-20R receptacle required)**.

Lightweight with carrying handle for easy portability. Comes with ground clamp and electrode holder. 5½ ft. cables, welding helmet also included. Overall dimensions: 14½H x 10W x 9"D.

## 230 AMP AC WELDER No. 3Z561

**Fan-cooled precision arc welder** cuts, bends, welds or pierces carbon and stainless steel; solders and welds cast iron. Instant amp changes are made possible by quick set amperage control. Handles up to 3/16" mild steel electrodes.

Welder provides continuous current control from 50 to 230 amps. 230V, 60 Hz single phase input. Aluminum wound transformer. Includes 6 ft. 3-cond. cord set, 10 ft. ground cable with clamp, 12 ft. #5 AWG electrode cable with holder, welding helmet **(NEMA 6-50R receptacle required)**. Overall dimensions: 21H x 15W x 22"D. CSA Certified (LR12812).

## 230/140 AMP, AC/DC WELDER No. 3Z563

**Provides maximum flexibility for use in maintenance departments, machine shops and training schools.** Welds with AC, DC+ or DC–, giving high operator flexibility; welds with all types of electrodes up to 3/16", all position welding. Welder provides continuous current from 20 to 230 amps. 230V, 60 Hz, single phase input. Aluminum wound transformer. Includes 6 ft. 3-cond. cord set, 12 ft. #5 AWG electrode cable with holder, 10 ft. ground cable with clamp and welding helmet **(NEMA 6-50R receptacle required)**. Overall dimensions: 21H x 15W x 22"D.

## 250 AMP, AC/DC WELDER No. 3Z564

**For light industry, plant maintenance and job shop use.** Welds with AC, DC+ or DC–, giving operator flexibility to weld with all types of electrodes up to 1/4", all position welding. High open circuit voltage (78VAC, 65VDC) ensures easy arc starting and maximum arc stability. Provides continuous current control from 30 to 250 amps. 208/230V, 60 Hz single phase input. Transformer is 60% copper and 40% aluminum. Has junction box, 12 ft. #4 AWG electrode cable with holder, 10 ft. #4 AWG ground cable with clamp and welding helmet. 21H x 15W x 22" deep. CSA Certified (LR12812). Power cord optional. Call 1-800-323-0620.

## OPTIONAL WHEEL KIT

Dayton wheel kit for use with Nos. 3Z561, 3Z563 and 3Z564. Includes two 6" wheels, axle, foot rest, handle and mounting brackets.

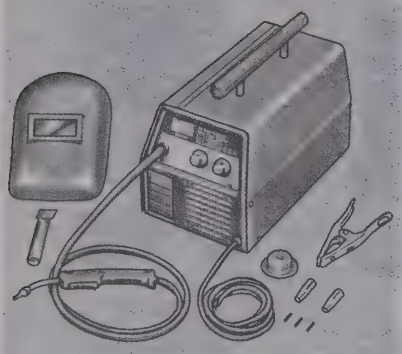
**No. 2Z966.** Shpg. wt. 5.6 lbs. List $29.96.Each.....**$19.44**

| Welding Range AC Amps | Welding Range DC Amps | Rated Current Output at 20% Duty Cycle Volts | Rated Current Output at 20% Duty Cycle Amps | Open Circuit Maximum Volts | Input Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **25-100** | — | 22 | 100 | 40 | 27 | **3Z744** | $237.92 | **$187.75** | 49.0 |
| **50-230** | — | 25 | 230 | 72 | 48 | **3Z561** | 343.14 | **256.50** | 75.0 |
| **50-230** | **20-140** | 25 | 230 | 72 | 48 | **3Z563** | 481.74 | **383.75** | 100.0 |
| **30-250** | **30-250** | 30 | 250 | 78 | 76 | **3Z564** | 772.29 | **596.50** | 141.0 |

# PORTABLE WIRE FEED WELDER

Dayton

E17102 LR12812



No. 6Z935

Replacement Parts Available
1-800-323-0620

## No. 6Z935 GASLESS WIRE FEED WELDER

**For home, farm or small jobs in the welding shop**

- 90 amp power welds 3/16" in a single pass
- Uses .030" self-shielding flux core wire, converts in seconds to .024 or .035" solid core wire for use with gas (with optional gas conversion kit)
- Heavy-duty drive system
- Multi-insulated transformer
- Ground clamp assembly
- Professional quality gun
- Includes starter spool of .030 wire

Gasless wire feed welder plugs into standard 120 volt outlet. 90 amp power welds 3/16" in a single pass. Welds with continuous wire electrodes, instead of individual short rods. Uses flux core wire to shield weld. UL Listed (E17102).

| Rated Amps | Duty Cycle | Input Volts | Input Amps | OCV | Overall Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 90 | 20% | 120AC | 20 | 28 | 18 | 10¼ | 13 | 6Z935 | $493.68 | $349.00 | 59.0 |

## OPTIONAL GAS CONVERSION KITS

**No. 3W721 Gas Conversion Kit for 85 Amp Gasless Wire Feed Welder.** Includes pressure regulator, gas cylinder bracket assembly and all necessary hardware to convert the 85 amp gasless wire feed welder to gas operation.

**No. 3W721.** Shpg. wt. 5.0 lbs. List $90.36. Each ..... $67.20

## REPLACEMENT SPOOLS

**No. 5W522 0.035" Self-Shielding Flux Core Wire** for all Dayton wire feed welders. 2½ lb. spool.

**No. 5W522.**❸ Shpg. wt. 3.0 lbs. List $41.80. Each ..... $32.30

**No. 3A548 0.045" Self-Shielding Flux Core Wire** for Nos. 3Z914 and 5Z136 Dayton wire feed welders. 10 lb. spool.

**No. 3A548.**❶❸ Shpg. wt. 11.0 lbs. List $76.05. Each ..... $60.70

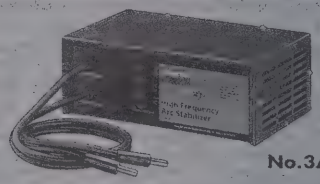
❶ These products are covered by California Proposition 65. California purchases or shipment, see first page of Grainger Branch Listing or call any California Branch. ❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety and Data Sheets (MSDS) are available. See page opposite inside back cover.

## HIGH FREQUENCY ARC STABILIZER

Establishes a welding arc without having to touch the electrode to the workpiece, making welding easier on dirty, painted, or rusty metals. Simplifies welding with difficult to run electrodes like low hydrogen, stainless steel, and cast iron. Required for AC TIG welding on aluminum, magnesium, and other alloy metals. For use with Dayton arc welders Nos. 3Z561, 3Z563 and 3Z564 only.

**No. 3AC01.** Shpg. wt. 16.0 lbs. List $304.56. Each ..... $235.25

Dayton



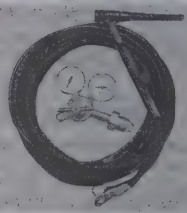
No. 3AC01

## DELUXE TIG TORCH KIT

Attaches to any AC or DC welder. Air cooled torch rated to 200 amps. Allows precision welds up to 1/4" max. thickness on aluminum, magnesium, stainless steel, and other alloy metals. Complete with 1/16" tungsten collet, collet body, and ceramic cup. Has 12½ ft. gas hose and power lead; comes complete with gas pressure regulator and gauges.

**No. 3AC00.** Shpg. wt. 6.3 lbs. List $178.88. Each ..... $138.00

Dayton



No. 3AC00

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# WIRE FEED WELDERS AND PLASMA CUTTING SYSTEMS

## WIRE FEED WELDERS

All models equipped with cart for holding standard gas bottles, and spot and stitch weld controls for use with very thin metals. Includes lift lens welding helmet, 6 ft. power cord with plug and receptacle, air-cooled 10 ft. heavy-duty gun assembly, gun liner for welding with steel, 10 ft. ground cable and clamp, gas hose and connection hardware, gasless flux core wire, and nozzles and contact tips for steel or aluminum welding.




### 110 AMP DC (MIG) WELDER No. 3Z913

Designed for maintenance departments, automotive repair applications and home use. 110 amp 20% duty cycle plugs into any standard 20 amp, 120 volt receptacle. Unit welds aluminum to 1/4" and steel from 26 ga. through 3/16" with a single pass, up to 3/8" steel with beveling and multiple passes. Handles 0.024 or 0.030" wire. Thermo-protected to prevent overheating, fully adjustable heat selector, and adjustable wire speed control.

### 160 AMP DC (MIG) WELDER No. 3Z914

Designed for production applications, farms, maintenance shops, schools and body shops. 160 amp, DC 60% duty cycle unit handles 0.024, 0.030, 0.035 and 0.045" wire. Welds aluminum, 22 gauge sheet metal and up to 1/4" steel with a single pass. Control panel features fully adjustable heat selector with variable wire speed control to feed wire as it melts. Polarity plug for DC+ and DC- welding.

### 225 AMP DC (MIG) WELDER No. 5Z136

Designed for heavy-duty welding applications, maintenance welding or fabrication. 225 amp DC, 60% duty cycle. Easily welds aluminum, with additional attachments and features phase control for precise selection of most efficient heat setting. Can handle from 26 gauge sheet metal up to 3/8" in single pass, or up to 1" with multiple passes. Uses 0.024, 0.030, 0.035, and 0.045" wire.

FLOWMETER REGULATORS AVAILABLE, SEE INDEX

| Rated Amps | Duty Cycle | Volts | Input Amps | Phase | Open Circ. Volts | Overall Dimensions (In.) L | W | H | (w/Stand) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110 | 20% | 120 | 20 | Single, 60Hz | 32 | 21½ | 13⅜ | 15½ | (37½) | 3Z913 | $1270.20 | $980.00 | 140.0 |
| 160 | 60 | 208/230 | 26/24 | Single, 60Hz | 32 | 29½ | 16½ | 20 | (36) | 3Z914 | 1832.46 | 1414.00 | 213.0 |
| 225 | 60 | 208/230 | 44/40 | Single, 60Hz | 35 | 47 | 21 | 22½ | (38½) | 5Z136 | 2399.24 | 1678.00 | 200.0 |

## PLASMA CUTTING SYSTEMS

### 20 AMP PLASMA CUTTER No. 3W722

- **Cuts up to 1/4" metal with 230 volt electricity and 65 PSI compressed air**
- **Free standing arc cuts expanded metal and cuts through clear coat paint and rust**
- **Compact, easy to move**

Unit comes complete with 15 ft. gun assembly, 10 ft. ground clamp assembly, 6 ft. power cord, pressure regulator welding/cutting helmet and plasma torch consumables kit. CSA Certified (LR12812).

### 50 AMP PLASMA CUTTER No. 5Z031

- **Cuts up to 1/2" metal using 230V, single phase electricity and 65 PSI compressed air**
- **75° gun head allows user to see guidelines while maintaining comfortable grip**
- **Three heat settings to suit cutting speed and temperature preference**
- **Cutting rates up to 180 inches-per-minute**
- **42% duty cycle**

Unit comes complete with wheel kit and handle for mobility, cable wraps for cord storage, 25 ft. plasma torch, 15 ft. ground cable, air pressure regulator, and plasma torch consumables kit. CSA Certified (LR12812).




### REPLACEMENT PLASMA CONSUMABLES KITS

**No. 5W564** for 15 and 20 amp plasma cutters Nos. 5Z135 and 3W22. Includes 3 nozzes, 3 electrodes, and silicon lubricant.

No. 5W912 for 50 amp plasma cutter No. 5Z031. Includes 3 nozzles, 3 electrodes, and silicon lubricant.

**No. 5W564.** Shpg. wt. 1.0 lbs. List $90.78. Each ..... $59.35

**No. 5W912.** Shpg. wt. 1.0 lbs. List $116.94. Each ..... $88.95

| Primary Input | Input Amps | Output Amps | Max. OCV | Arc Volts | Gas Supply (CFM) | PSI | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 208/230 | 35/31 | 20 | 290 | 100 | 4 | 65 | 23 | 16 | 18 | 3W722 | $1564.40 | $1189.00 | 114.0 |
| 208/230 | 60/55 | 50/40/30 | 260 | 100 | 4 | 65 | 33½ | 22¼ | 20½ | 5Z031 | 2570.20 | 2025.00 | 198.0 |

# GROUND CLAMPS, CABLE CONNECTORS, AND ACCESSORIES

| | Welding Accessory (Arc) Kit No. 1Z394 | Tig Torch Kit wa/cool 300 amp No. 1Z337 | High Freq. Unit No. 1Z536 | Finger Control No. 1Z729 | Foot Control No. 1Z712 | Flowmeter Reg. for AR, He, and C25 No. 3VD27 | Water Cooler 110 Volt No. 1Z542 | Water Cooler 220 Volt No. 1Z544 | Water Cooler 110 Volt No. 1Z546 | Snap Start No. 1Z540 | Running Gear No. 1Z57 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ARC & TIG WELDING** | | | | | | | | | | | |
| Maxstar 152 kit (Finger Control) No. 4UV58 | — | — | — | ○ | X | — | — | — | — | X | X |
| Maxstar 152 kit (Foot Control) No. 4UV57 | — | — | — | X | ○ | — | — | — | — | X | X |
| Econotig No. 1Z878 | — | — | — | — | — | — | — | — | — | — | X |
| Synchrowave No. 1Z827 | 1 | 2 | — | X | X | X | X | X | X | — | — |
| Synchrowave 250 w/cooler No. 4UV64 | 1 | X | — | X | ○ | X | — | — | — | — | — |
| Shopmaster 300 AC/DC No. 1Z836 | 1 | 2 | 3 | X | X | X | X | X | X | — | — |

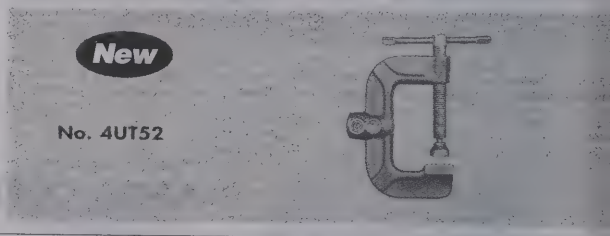
(○) Included; (X) Compatible; (1) Required for arc welding; (2) Must be used with water cooler; (3) Requires extra cables to attach to a power source.

| | Welding Accessory No. 1Z394 | Running Gear No. 1Z523 | Running Gear No. 1Z572 | Running Gear No. 1Z491 | Running Gear No. 1Z495 | Flowmeter Reg C25, AR No. 3VD27 | Flowmeter Reg. Co2 No. 3VD76 | Wire Feeder No. 1Z672 | M25 Mig Gun No. 1Z746 | Spoolgun 30 A No. 1Z716 | Spoolgun 185mm No. 4UV44 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MIG WELDING** | | | | | | | | | | | |
| Millermatic 130XP No. 1Z866 | — | — | X | — | — | X | X | — | — | — | — |
| Challenger 172 No. 4UV65 | — | — | X | — | — | X | X | — | — | — | — |
| Millermatic 185 No. 4UV56 | — | — | — | — | — | X | X | — | — | — | X |
| Millermatic 250 No. 1Z855 | — | — | — | — | — | — | — | — | — | X | — |
| Shopmaster No. 1Z836 | 1 | X | — | — | — | X | X | 3 | X | 2 | — |
| **ARC WELDING** | | | | | | | | | | | |
| Thunderbolt AC No. 1Z803 | — | — | — | — | X | — | — | — | — | — | — |
| Thunderbolt AC/DC No. 1Z807 | — | — | — | — | X | — | — | — | — | — | — |
| 300 Thunderbolt AC No. 4UV53 | — | — | — | — | X | — | — | — | — | — | — |
| 300 Thunderbolt AC/DC No. 4UV54 | — | — | — | — | X | — | — | — | — | — | — |
| Dialarc 250 No. 1Z799 | 1 | — | — | X | — | — | — | — | — | — | — |

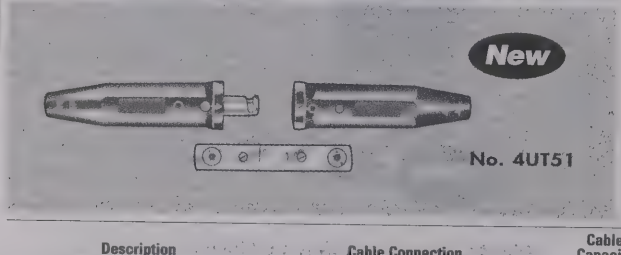
(X) Compatible; (1) Required for arc welding; (2) Requires WC24 No. 4UV51; (3) Requires extra cable to attach to a power source.

## GROUND CLAMPS

ESAB ground clamps provide the largest workpiece contact area of any clamp. They assure positive connections and slide easily under steel plate. The three mechanical clamps (Nos. 4UT48, 4UT49, and 4UT50) help eliminate arc blow and make it easy to change ground location. They also assure proper voltage for maximum weld results with all rods.




| Description | Type Cable Connection | Amp. Capacity | ESAB Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Ground Clamp Model 200** | Mechanical Oval-Point Screw | 200 | 81F11 | **4UT48** | $14.86 | **$13.53** | 0.9 |
| **Ground Clamp Model 300** | Mechanical Oval-Point Screw | 300 | 81F12 | **4UT49** | 22.28 | **20.27** | 1.9 |
| **Ground Clamp Model 500** | Mechanical Oval-Point Screw | 500 | 81F13 | **4UT50** | 28.09 | **25.60** | 2.2 |
| **Ground Clamp Model G** | Two Oval-Point Screws | 600 | 82F17 | **4UT52** | 53.65 | **48.85** | 4.4 |




## CABLE CONNECTORS

ESAB cable connectors have an advanced design that features metal parts precision machined from heavy, specially shaped brass extrusion. Cam action design of male half connector pulls the two halves tightly together. The connector covers are molded from special heat-and cold-resistant material. Cover has no metal liner to rust or corrode. Connectors easily install with a 1/4" Allen wrench.

| Description | Cable Connection | Cable Capacity | Part No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Cable Connector Model LC-40** | Oval-Point Screw Mech. | 1/0 thru 3/0 | 81F25 | **4UT51** | $17.68 | **$16.09** | 0.8 |

## MILLER ACCESSORIES

| Description | Replaces | ESAB Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Secondary Contactor Kit** | 041969 — 8W150-Secondary Cont. | 041969 | **4UV42** | $271.05 | **$255.75▲** | 4.0 |
| **REM Control Facilities** | 043679 — Remote Facilities | 043679 | **4UV43** | 245.84 | **231.75▲** | 2.0 |
| **Rocker Switch, RMLS-14** | 129337 — Switch RMLS | 129337 | **4UV48** | 119.76 | **112.95▲** | 2.0 |
| **Weld Control, WC-115A** | 137546 — WC115A Weld Control | 137546 | **4UV49** | 686.04 | **623.50▲** | 22.0 |
| **Contactor Kit, WC-115** | 137548 — WC 115 Contractor Kit | 137548 | **4UV50** | 262.65 | **248.00▲** | 5.0 |
| **Weld Control, WC-24** | 137549 — WC 24 Cont. | 137549 | **4UV51** | 209.06 | **197.25▲** | 3.0 |

(▲) Net prices, not subject to discounts.

# AC WELDERS AND AC/DC ARC WELDERS




## THUNDERBOLT® 225 WELDERS AC AND AC/DC 230V

- For SMAW (Stick) welding
- Continuous amperage adjustment 30-225 amps AC and 30-150 DC amps provides better weld
- Includes plug, 6-50R wall receptacle, 6 ft. power cord, 15 ft. electrode cable, electrode holder, and 10 ft. work cable with clamp
- Uses 230 VAC, single-phase 60 Hz input power
- Compact and lightweight

Better welds are possible with the continuous amperage control provided. Correct and consistent amperage output results in complete weld penetration. Both units have two amperage ranges. High range recommended for many welding, hardsurfacing, and cutting jobs. Low range recommended for use with low hydrogen and other special alloy stick electrodes. Thunderbolt 225 AC/DC has a DC range from 30-150 amps. Operates from 230 VAC, 60 Hz, single-phase input power. Fan cools unit constantly. Aluminum wound transformer. Accessories included with unit (see list above). Stick electrodes not included.

### MILLER TRUE BLUE WARRANTY

**3 years—parts and labor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

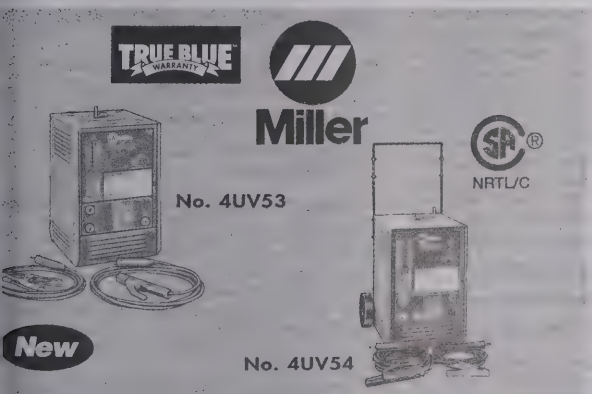
SEE OPTIONAL RUNNING GEAR BELOW

### SPECIFICATIONS AND ORDERING DATA

| ted nps | Duty Cycle | Input Volts | Input Amps | OCV | Overall Dimensions (In.) H | W | L | Series | Miller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 AC | 20% | 230 | 47.5 | 80 | 21½ | 12½ | 14 | THUNDERBOLT® 225 | 902031 | **1Z803** | $309.39 | **$304.00▲** | 98.0 |
| 25 AC/150 DC | 20% | 230 | 47.5 | 80 AC/72 DC | 21½ | 12½ | 14 | THUNDERBOLT™ AC/DC | 902775 | **1Z807** | 485.13 | **463.00▲** | 112.0 |

▲) Net prices, not subject to discounts.

## THUNDERBOLT® 300 WELDERS AC AND AC/DC 230V




- For SMAW (stick) welding
- Continuous amperage adjustment 35-300 amps AC/25-200 amps DC
- Includes 15 ft. electrode cable, electrode holder, 10 ft. ground cable with clamp, and 10 ft. power cord (less plug)

Miller's 300 amp AC and 300/200 amp AC/DC power sources let you choose between AC and DC weld output to handle either AC or DC Stick electrodes. DC output means fewer arc outages, less sticking and spatter, better control on thin work, and easier out-of-position welding. AC output produces less arc blow and easier starts.

### MILLER TRUE BLUE WARRANTY

**3 years - parts and labor. Original main power rectifier parts are warranted for 5 years. Text of warranty available on request. See "Manufacturer's Warranties" on page opposite inside back cover.**

| Model | Rated Output 20% Duty Cycle | 100% Duty Cycle | Welding Amp. Range High | Low | Max. Open-Circuit Voltage | Amps Input at Rated Output 220V | Dim. (In.) H | W | D | Miller Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| underbolt 300 AC | 300A @ 25VAC | 130A AC | 65-300 | 35-230 | 80 | 70 | 21½ | 12½ | 14 | 902938 | **4UV53** | $401.32 | **$394.25▲** | 115.0 |
| underbolt 300/200 AC/DC | 300A @ 30VAC<br>200A @ 25VAC | 130 A DC<br>90A DC | 65-300<br>25-200 | 35-230 | 80<br>72 | 70 | 21½ | 12½ | 14 | 902966 | **4UV54** | 666.08 | **622.00▲** | 141.0 |

▲) Net prices, not subject to discounts.

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

## OPTIONAL RUNNING GEAR

Two solid rubber tire wheels and a handle mount easily to frame of power source.

**No. 1Z495.** Shpg. wt. 4.0 lbs. List $30.95.
Each.....$29.25▲

(▲) Net prices, not subject to discounts.

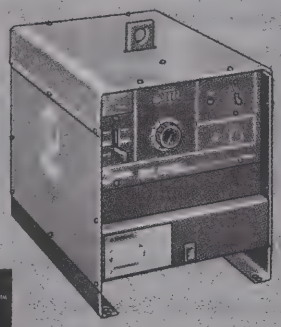
# AC/DC ARC WELDER AND DC INVERTER WELDERS

## DIALARC® 250 WELDER AC/DC

Miller

NRTL/C

Replacement Parts Available 1-800-323-0620



No. 1Z799

TRUE BLUE WARRANTY

- For SMAW (Stick) welding
- Uses single-phase 60 Hz input power
- Electrical control for fast, easy amperage selection

For garages, job shops, production lines, vocational training schools, sheet metal shops, and plant maintenance. This 250 amp constant current unit is rated at 30% duty cycle. Any desired amperage within the unit's two wide ranges is selectable. Running gear and welding accessories available below.

(Note: This unit is not supplied with a power cord.)

**MILLER TRUE BLUE WARRANTY**

**3 years—parts and labor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

### OPTIONAL ACCESSORY KIT (No. 2CWA)

Includes 35 ft. No. 2 electrode cable with insulated holder, 30 ft No. 2 work cable, work clamp, welding helmet, and wire scratch brush.

**No. 1Z394.** Shpg. wt. 24.0 lbs. List $215.54. Each.....**$205.25▲**

### OPTIONAL RUNNING GEAR KIT (No. 19)

Four 8" poly/rubber blend wheels with 30" towing handle. Shipped unassembled.

**No. 1Z491.** Shpg. wt. 34.0 lbs. List $170.77. Each.....**$164.25▲**

### SPECIFICATIONS AND ORDERING DATA

| Welding Range AC | Welding Range DC | Rated Amps | Duty Cycle | Input Volts | Input Amps | Max. OCV | Overall Dimensions (In.) H | W | L | Series | Miller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **35-300** | 35-265 | 250 AC | 30% | 200/230/460 | 103/90/45 | 70 | 26¼ | 19 | 28 | DIALARC® 250 | 901564 | **1Z799** | $1388.44 | **$1333.00 ▲** | 0. |

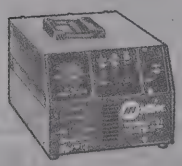
(▲) Net prices, not subject to discounts.



Miller

New

Nos. 4UV57 and 4UV58



No. 1Z900

## DC INVERTER WELDERS

For maintenance/repair, construction, fabrication, pipe welding, aircraft, precision welding, and commercial/ industrial users. Inverter welders are small and light but have comparable output to conventional welders. Inverter technology provides smooth DC welding current for better arc quality. Touch-start GTAW (TIG) welding allows arc starting without high frequency. Operates from 50 or 60 Hz, single-phase input power. Greater than 80% efficient power consumption at rated load. Fan-cooled with thermal overload protection.

### No. 1Z900 MAXSTAR® 91

- For GTAW (TIG), touch-start welding
- Plugs into 115 VAC, 20A receptacle
- Amperage adjusts from 1-90 amps
- Equipped with 7 ft. primary cord and remote control receptacle

### OPTIONAL REMOTE CONTROL TIG-TORCH (RCC-14)

**No. 1Z729.** Shpg. wt. 1.4 lbs. List $149.35. Each.....**$143.50▲**

### Nos. 4UV57 and 4UV58 MAXSTAR® 152 PAKS

- For GTAW (TIG), touch-start and SMAW (Stick) welding
- GTAW/SMAW selector switch
- Uses 230 VAC, 50/60 Hz single-phase power
- Amperage adjusts from 1-150 amps

MAXSTAR PAKS include: TIG torch, wor cable with clamp, consumable kit, gas reg ulator, gas hose, stick electrode holde with cable, remote control (foot contro with 4UV57 and finger control with 4UV58 and TIG calculator.

### OPTIONAL SNAP START II™ ARC STARTER HF 115 VOLT

Impresses high frequency on the weldin circuit for non-contact arc starting for DC GTAW only. Mounts under power source.

**No. 1Z540.** Shpg. wt. 24.0 lbs. List $897.13. Each.....**$831.00▲**

### SPECIFICATIONS AND ORDERING DATA

| Rated Amps | Duty Cycle | Input Volts | Input Amps | OCV | Overall Dimensions (In.) H | W | L | Series | Miller Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **90** | 20% | 115 | 19.5 | 95 | 8 | 9½ | 16½ | MAXSTAR® 91 | 903385 | **1Z900** | $1419.34 | **$1314.00 ▲** | 34.0 |
| **120** | 100% | 230 | 27.1 | 95 | 8 | 9½ | 16½ | MAXSTAR PAK 152 (Foot Control) | 903509 | **4UV57** | 2183.14 | **1983.00 ▲** | 66.0 |
| **120** | 100% | 230 | 27.1 | 95 | 8 | 9½ | 16½ | MAXSTAR PAK 152 (Finger Control) | 903510 | **4UV58** | 2183.14 | **1983.00 ▲** | 62.0 |

(▲) Net prices, not subject to discounts.

# WELDING MIG PACKAGES

## MILLERMATIC® 130XP AND CHALLENGER 172




No. 1Z866

Replacement Parts Available
1-800-323-0620

For maintenance/repair, garages, body shops, home, farm, heating/air conditioning with either gasless or gas shielded wire.

- **DC/CV wire feed welder**
- **For GMAW (MIG) or FCAW welding**
- **Protected from overheating, short-circuit, and motor overload**
- **130XP plugs into any 115 VAC "household" receptacle. The 172 requires a 230 V receptacle.**
- **Both include work cable and clamp, power cord, gun, flux-cored wire, gas valve, extra contact tips, and instructional video**

The Millermatic 130XP has 30-130 amperes output to weld materials up to 3/16" (4.5 mm) thick. The Challenger 172 has an output range of 40-170 amperes to join materials up to 1/4" (6.4mm) thick. The 130XP is designed to feed 0.023-0.030" dia. solid and stainless steel wire, 0.030-0.035" dia. flux-cored wires, and 0.030-0.035" dia. aluminum wires. The Challenger is capable of feeding larger diameter wire: 0.023-0.035" solid and stainless steel wire, 0.030 - 0.045" flux-cored wire, and 0.030 -0.045" aluminum wire. Both welders accommodate 4" and 8" wire spools, and can be adapted to 1 lb. spools as well. Power source covered by:

**MILLER TRUE BLUE WARRANTY**

**3 years—parts and labor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

Cast aluminum drive roll housing provides more accurate wire alignment. 16 gauge steel case provides longer service life. For welding solid, gas shielded wire, the following items are required: gas hose, regulator/flowmeter, cylinder of shielding gas, welding wire, and safety equipment. Order optional cart and cylinder rack No. 1Z572. See Index for listing.

| Rated Amps | Duty Cycle | Input Volts | Input Amps | OCV | Overall Dimensions (In.) H | W | L | Series | Miller Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90 | 20% | 115 | 20 | 30 | 15½ | 10 | 17 | MILLERMATIC® 130XP | 903556 | | 1Z866 | $616.97 | $580.50▲ | 80.0 |
| 130 | 30% | 230 | 19.5 | 30 | | | | CHALLENGER® 172 | 903587 | *New* | 4UV65 | 734.36 | 675.50▲ | 80.0 |

▲) Net prices, not subject to discounts.

## MILLERMATIC® WELDER MIG PACKAGES




No. 4UV66

No. 4UV56

**No. 4UV66 MILLERMATIC® 250X Features:**

- **Output range 40-300 amps (300A at reduced duty cycle)**
- **Welds material up to 1/2" thick in a single pass**
- **Quick-change drive roll system uses two gear-driven drive rolls**
- **Heavy-duty braking system handles wire spools up to 12" (305 mm)**
- **Wire sizes: solid steel, .023-.045" (0.6-1.2 mm); stainless steel, .023-.035" (0.6-0.9 mm); flux colored, .030-.045 in (0.8-1.2 mm)**
- **Options available for aluminum MIG welding (Note: Shipped from factory ready to feed .035" (0.9 mm) wire.**
- **Includes: 12" (3.7m) M25 200 amp MIG gun, work cable, 9 ft. (2.7m) power cord with plug (200/230 volt model only), factory-installed running gear/cylinder rack, regulator/flow gauge with hose, extra contact tips**

**OPTIONAL SPOOLMATIC 30A GUN**

For aluminum welding with Millermatic 250 and 250X only. Earlier Millermatic 250 models require receptacle module 2 (Part No. 042607, call 1-800-323-0620).

**No. 1Z716.** Shpg. wt. 19.0 lbs. List $909.49. Each .....$841.50▲

**No. 4UV56 Millermatic 185 Features:**

- **Wide output range of 30-185 amps**
- **High-strength, cast aluminum drive system**
- **Low, 24 VAC gun trigger circuit for extra safety**
- **Industrial-quality braking system for wire spools up to 12" (305mm)**
- **Wire feed speeds: 90-650IPM (2.3-16.5 m/min)**
- **Wire sizes: solid or stainless steel, .023-.035" (0.6-0.9 mm); flux colored, .030-.045" (0.8-1.2 mm); aluminum, .030-.035" (0.8-0.9 mm)**
- **Includes: power cord with plug, 10 ft. (3m) M15, 150 amp MIG gun and cable assembly, 10 ft. (3m) work cable with clamp, gas solenoid valve, flow gauge and 5 ft. (1.5m) gas hose for use with CO2/Argon cylinder, extra contact tips, factory-installed running gear and large cylinder rack**

**OPTIONAL SPOOLMATE 185 GUN**

For aluminum welding with Millermatic 185 (No. 4UV56), sold below.

***New* No. 4UV44.** Spoolmate 185. Shpg. wt. 12.0 lbs. List $419.18. Each .....$396.25▲

| Rated Amps | Duty Cycle | Input Volts | Input Amps | OCV | Overall Dimensions (In.) H | W | L | Series | Miller Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 60% | 200/208/230 | 30/26 | 33 | 27 | 18 | 36 | MILLERMATIC® 185 | 903497 | 4UV56 | $1312.19 | $1215.00▲ | 202.0 |
| 250 | 60% | 200/208/230 | 50/44/22 | 32 | 37 | 19 | 30½ | MILLERMATIC® 250X | 903603 | 4UV66 | 2026.60 | 1864.00▲ | 222.0 |

▲) Net Prices, not subject to discounts.

# AC/DC ARC WELDER, WIRE FEEDER, AND DRIVE ROLL KITS




## SHOPMASTER™ WELDER 300 AC/DC

- **Multiprocess power source for DC GMAW (MIG) and FCAW, AC/DC GTAW (TIG), and SMAW (Stick) welding**
- **Uses single-phase 60 Hz input power**
- **Solid-state contactor and controls provide longer service life**
- **Adjustable arc control for optimum SMAW arc characteristics.**

Current/constant voltage SHOPMASTER™ provides 200 amps, SQUAREWAVE™ balanced AC output for Stick and TIG welding. SQUAREWAVE™ AC output and balance control help eliminate tungsten spitting and allow the use of smaller diameter tungsten electrodes at higher current levels. For AC TIG welding No. 1Z536 high-frequency unit is required, see Index. 115 VAC duplex receptacle with 10 amp circuit breaker protection is provided for accessories.

**True Blue Warranty**

**3 years—parts and labor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

### OPTIONAL METER KIT A&V AC/DC KIT

Analog AC/DC meters display weld amperage and voltage.

**No. 1Z517.** Shpg. wt. 2.0 lbs. List $120.23. Each ..... **$112.00▲**

Remote Controls available, see Index for listings.

### AC/DC ARC WELDER SPECIFICATIONS AND ORDERING DATA

| Rated Amps | Duty Cycle | Input Volts | Input Amps | Max. OCV | Overall Dimensions (In.) H | W | L | Series | Miller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **300 DC** | 50% | 200/230/460 | 105/91.2/45.6 | 68 | 33½ | 19¼ | 27 | SHOPMASTER™ | 903126 | **1Z836** | $2549.25 | **$2406.00▲** | 391.0 |
| **200 AC** | 40% | 200/230/460 | 85/73.5/36.7 | 75 | | | | | | | | | |

(▲) Net prices, not subject to discounts.

## WIRE FEEDER

- **24 VAC constant speed wire feeder**
- **For GMAW (MIG) and FCAW**
- **Uses 24 VAC from constant voltage power source; must have 14-pin receptacle**
- **CSA NRTL/C Certified to both Canadian and U.S. standards**
- **Single, multi-conductor cord allows quick and easy connection**
- **Hinged cover allows quick and easy access to wire feed assembly**
- **Accommodates up to a 60 lb. coil of welding wire**

Uses solid-state control and brake circuit with a 24 VDC high-torque drive motor for optimum wire feed and speed regulation. Designed to feed 0.023-5/64" dia. wire with a wire-feed-speed range of 75-630 inches per minute. Equipped with gas solenoid valve for gas-shielded wires. Motor and circuit protected against overloading conditions. Polarity insensitive—may weld with straight or reverse polarity. Equipped with 10 ft. interconnecting cord. Extension cords available, see Index for listings. Does not include drive rolls (see Drive Roll Table below to order).

### OPTIONAL SPOT/BURNBACK CONTROL KIT

Installs inside feeder. Provides up to 5 seconds of spot weld time in two ranges. Burnback control up to 0.25 seconds. Time start when gun trigger switch is pressed. Can be used in spot or continuous mode.

**No. 1Z679.** Shpg. wt. 1.0 lbs. List $159.65. Each ..... **$153.50▲**

### OPTIONAL METER-DIGITAL V/WFS KIT

Dual function, backlit LCD digital meter with selector switch displays arc voltage or wire feed speed (wfs). Meter used when presetting wire feed speed, but only displays and monitors arc voltage when welding.

**No. 1Z742.** Shpg. wt. 1.0 lbs. List $222.48. Each ..... **$213.75▲**




### OPTIONAL REMOTE VOLTAGE CONTROL KIT

Installs into front panel of feeder and allows remote voltage control of most Miller electrically controlled CV or CC/CV power source equipped with a 14-pin receptacle.

**No. 1Z685.** Shpg. wt. 0.2 lbs. List $38.11. Each ..... **$36.60▲**

### WIRE FEEDER SPECIFICATIONS AND ORDERING DATA

| Input Volts | Input Amps | Phase | Wire Size | Overall Dimensions (In.) H | W | L | Series | Miller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24 VAC** | 3.5 | 50/60 Hz; Single | 0.023-5/64" | 8 | 10½ | 22½ | S-22A | 115396 | **1Z672** | $818.85 | **$760.50 ▲** | 36.0 |

### DRIVE ROLL KITS—Kit includes drive rolls and inlet guide.

| Wire Size (In.) | Stock No. "V"-groove (hard wire) | List | Each | Shpg. Wt. | Stock No. "U" Grove (soft wire or soft-shelled cored wires) | List | Each | Shpg. Wt. | "V"-knurled Stock No. (Hard-shelled cored wires) | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.023-0.025"** | **1Z661** | $24.61 | **$23.36▲** | 0.5 | — | — | — | — | — | — | — | — |
| **0.030** | **1Z619** | 24.61 | **23.36▲** | 0.5 | — | — | — | — | — | — | — | — |
| **0.035** | **1Z621** | 24.61 | **23.37▲** | 0.6 | — | — | — | — | **1Z640** | $40.68 | **$38.55 ▲** | 0.4 |
| **0.045** | **1Z623** | 24.61 | **23.36▲** | 0.5 | **1Z631** | $24.11 | **$22.89 ▲** | 0.5 | **1Z642** | 40.68 | **38.55 ▲** | 0.4 |
| **1/16** | — | — | — | — | — | — | — | — | **1Z646** | 40.68 | **38.55 ▲** | 0.4 |

(▲) Net prices, not subject to discounts.

# ACCESSORIES FOR MIG PACKAGES

**POOLMATIC® 30A SPOOL GUN.** Use for MIG welding with a constant voltage power source equipped with a 10-pin receptacle. 'erforms well for aluminum welding jobs. Air-cooled, 200 Amps, 00% duty cycle, with 30 ft. cable assembly. WC-24 Weld Control No. 4UV51) to attach spoolgun to Shopmaster, contactor (No. UV50) and WC115 control box (No. 4UV49) to attach spoolgun o the Bobcat. See Index for listings.

lo. 1Z716. Shpg. wt. 19.0 lbs. List $909.49. Each ..... $841.50▲

**YLINDER CART.** MM 130XP Wire feed welder and cylinder mount nto this cart. Fits cylinders 24-56" high with 6-9" dia.

lo. 1Z572. Shpg. wt. 69.0 lbs. List $249.25. Each ..... $249.25▲

**M-25 MIG GUN.** Use for MIG welding with DC constant voltage power source and wire feeder with a 14-pin receptacle. Air-cooled gun is rated 200 Amps, 100% duty cycle and includes 12 ft. cord. Durable one-piece handle molded from virtually unbreakable lightweight resin. Rugged unicable outer jacket, and steel coils on cable ends protect against fatigue. Trigger switch rated for 1.5 million cycles. (Accessory tips, liners, and nozzles listed below).

**No. 1Z746.** Shpg. wt. 7.5 lbs. List $243.08. Each ..... $198.25▲

## CONTACT TIPS

| Wire Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 023/0.025" | 1Z663 | $1.21 | $0.84▲ | 0.1 |
| 030 | 1Z385 | 1.21 | 0.84▲ | 0.1 |
| 035 | 1Z387 | 1.21 | 0.84▲ | 0.1 |
| 045 | 1Z389 | 1.25 | 0.86▲ | 0.1 |

▲) Net prices, not subject to discounts.

## CONTACT TIP ADAPTER

o. 1Z765. Shpg. wt. 0.2 lbs. List $5.96.
ach ..... $5.67▲

## REPLACEMENT LINERS

| Wire Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0.023/0.025" | 1Z769 | $16.98 | $16.21▲ | 1.0 |
| 0.030-0.035 | 1Z771 | 16.98 | 16.21▲ | 0.6 |
| 0.035-0.045 | 1Z775 | 16.98 | 16.21▲ | 0.8 |

(▲) Net prices, not subject to discounts.

## OUTLET GUIDE

**No. 1Z753.** Shpg. wt. 0.1 lbs. List $6.99.
Each ..... $6.63▲

(▲) Net prices, not subject to discounts.

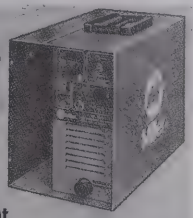
## NOZZLES

**No. 1Z759.** Standard 5/8" orifice and flush.
Shpg. wt. 0.2 lbs. List $12.65. Each ..... $12.00▲

**No. 1Z755.** 1/2" orifice and 1/8" recess.
Shpg. wt. 0.2 lbs. List $12.65. Each ..... $12.00▲

**No. 1Z757.** 5/8" orifice and 1/8" recess.
Shpg. wt. 0.2 lbs. List $12.65. Each ..... $12.00▲

**No. 1Z761.** 5/8" orifice and 1/8" stickout.
Shpg. wt. 0.2 lbs. List $12.65. Each ..... $12.00▲



Miller NRTL/C

HF-251D-1
No. 1Z536

Replacement Parts Available
1-800-323-0620

# HIGH FREQUENCY UNIT

**(For Use With AC, DC, or AC/DC Constant Current Arc Welding Power Sources and Arc Welding Generators)**

Impresses high frequency (HF) on the welding circuit to aid in starting and stabilizing the arc for GTAW (TIG) welding. This portable unit is designed for use with most AC, DC or AC/DC constant current arc welding power sources and arc welding generators. Use this unit with a constant current power source to weld aluminum, magnesium, thin stainless steel, brass, copper, alloys and other ferrous and non-ferrous metals.

Unit features include power On/Off switch with pilot light, HF start/off/continuous control, gas solenoid, intensity control, built-in postflow (15 seconds), protected secondary terminal, and 14-socket receptacle for connecting remote controls. CSA Certified.

| Rated Amps | Duty Cycle | Volts | Phase | Overall Dimensions (In.) H | W | L | Series | Miller Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 250 | 60% | 115 | Single; 50/60/100 Hz | 13 | 9¼ | 16 | HF-251D-1 | 042388 | 1Z536 | $852.84 | $792.00 | ▲ | 39.0 |

▲) Net prices, not subject to discounts.



No. 1Z714

No. 1Z712

# REMOTE CONTROLS

## REMOTE FOOT CONTROL (RFCS-14)

Use with constant current power sources with solid-state output control and 14-pin remote receptacle. Heavy-duty foot control provides remote current and contactor control. Includes 20 ft. cord and 14-pin plug.

**No. 1Z712.** Shpg. wt. 5.0 lbs. List $215.27. Each ..... $208.75▲

## HAND CONTROL (RHC-14)

Use with constant current power sources with solid-state output control and 14-socket remote receptacle. Miniature hand control provides remote current and contactor control. Includes 20 ft. cord and 14-pin plug.

**No. 1Z714.** Shpg. wt. 2.5 lbs. List $154.50. Each ..... $148.60▲

## EXTENSION CORDS

These extension cords may be added to remote controls or accessory equipment to move farther away from the power source or generator. 14-pin plugs are attached to each cord end.

**No. 1Z689.** 25 Ft. Cord Shpg. wt. 5.0 lbs.
List $119.48. Each ..... $115.40▲

**No. 1Z693.** 50 Ft. cord. Shpg. wt. 12.0 lbs.
List $154.50. Each ..... $150.00▲

**No. 1Z695.** 75 Ft. Cord. Shpg. wt. 18.0 lbs.
List $188.49. Each ..... $183.50▲

(▲) Net prices, not subject to discounts.

# AC/DC ARC AND TIG WELDERS




## ECONOTIG® 150 AMP AC/DC ARC WELDER

- **For home, hobbies, light-duty fabrication, maintenance shops, radiator repair shops, autobody repair, sheet metal shops, and marine repair**
- **Complete AC/DC, GTAW (TIG), or SMAW (Stick) welding package**
- **AC output for aluminum welding, DC output for mild and stainless steel welding**
- **Built-in internal arc assist starter for TIG**
- **Uses single-phase 60 Hz input power**
- **Protected from overheating**
- **Includes power cord, TIG torch, international-style quick torch disconnect, torch consumables, work cable with clamp, stick electrode holder, remote foot control, gas regulator and flow meter, shielding gas hose, and "How-To" video**

The ECONOTIG® is designed for easy operation, even for the novice or occasiona welder. This unit is best suited for light gauge TIG welding of 18 gauge through 3/16 thick steel, stainless steel, and aluminum. For thicker metals, it offers Stick welding per formance with 3/32 and 1/8" electrodes. Unique "flow-through" shielding gas TIG torc connection allows removal of torch without any tools. Automatic 15 second postflo timer (non-adjustable) provides enough shielding gas to protect tungsten, workpiece and torch. To start welding, just supply argon gas, stick electrodes, filler rod, and safe ty equipment. Remote Controls available, see Index for listings.

(▲) Net prices, not subject to discounts

**MILLER TRUE BLUE WARRANTY**

**3 years--parts and labor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Rated Amps | Duty Cycle | Input Volts | Input Amps | OCV | Overall Dimensions (In.) H | W | L | Series | Miller Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **150** | 20% | 230 | 52 | 78 | 18 | 13 | 25½ | ECONOTIG® | 903367 | **1Z878** | $1526.46 | **$1431.00▲** | 167. |

## SYNCROWAVE 250 AC/DC WELDER 250 AMP 200/230/460 AND SYNCHROWAVE 250 TIG RUNNER PACKAGE

- **For GTAW (TIG) and SMAW (Stick) welding**
- **Uses single-phase 60 Hz input power**
- **5-310 amps output**
- **Patented AC SQUAREWAVE™ output for the most demanding AC jobs**
- **Adjustable arc control for optimum SMAW arc characteristics**
- **Contactor-activated shielding gas solenoid valve and postflow timer prevents contamination of electrode and workpiece**
- **Internal high-frequency (HF) arc starter provides non-contact arc starting for GTAW**
- **TIG RUNNER PACKAGE includes running gear, foot control, and Cool Runner® coolant system**

The SYNCROWAVE and SYNCHROWAVE TIG RUNNER are a constant current AC/DC power sources. The AC balance control increases arc stability on various aluminum alloys. The SQUAREWAVE™ AC output and balance control also helps eliminate tungsten spitting and allows the use of smaller diameter tungsten electrodes at higher current levels.

Three-position high-frequency switch (Off/Start/Continuous), Polarity changing switch for quick and easy changes from GTAW to SMAW. 115 VAC duplex receptacle with 15 amp circuit breaker protection is also standard. Remote Controls and Coolant Systems available, see Index for listings.

### OPTIONAL METER KIT AMP/VOLT

Meters display AC and DC output, and mount into front panel.

**No. 1Z517.** Shpg. wt. 2.0 lbs. List..... $120.23.
Each..... **$112.00▲**

### OPTIONAL TIMER SPOT KIT

Adjusts TIG spot welding time from 0 to 5.7 seconds. Includes On/Off switch.

**No. 1Z519.** Shpg. wt. 2.0 lbs. List..... $178.96.
Each..... **$160.50▲**

### OPTIONAL PREFLOW TIMER KIT

Adjusts gas preflow time from 0 to 15 seconds. Includes On/Off switch.

**No. 1Z521.** Shpg. wt. 3.0 lbs. List..... $153.72.
Each..... **$137.80▲**

### OPTIONAL RUNNING GEAR

Includes two 10" wheels, two 5" casters, and two-compartment rack for gas cylinder(s) or coolant system.

**No. 1Z523.** Shpg. wt. 48.0 lbs. List..... $213.16.
Each..... **$205.75▲**

(▲) Net prices, not subject to discounts

**MILLER TRUE BLUE WARRANTY**

**3-year- parts and labor. Text of warranty available on request. See "Manufacturers' Warranties on page opposite inside back cover.**




| Series | Rated Amps | Duty Cycle | Input Volts | Input Amps | Max. OCV | Overall Dimensions (In.) H | W | L | Miller Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SYNCROWAVE® 250** | 250 | 40% | 200/230/460 | 105.8/92/46 | 80 | 30¼ | 19¼ | 27 | 903056 | **1Z827** | $2385.48 | **$2253.00** ▲ | 380. |
| **SYNCROWAVE® 250 TIG RUNNER PACKAGE** | 250 | 40% | 200/230/460 | 105.8/92/46 | 80 | 45¾ | 19¼ | 42 | 903586 | ***New* 4UV64** | 3387.13 | **3134.00** ▲ | 511. |

(▲) Net prices, not subject to discounts.

# WATER-COOLED SPOT WELDERS

## STATIONARY AND PORTABLE AIR-OPERATED SPOT WELDERS

Water-cooled spot welders for resistance spot welding. Choose from portable or stationary models. All operate from 50/60 Hz, single-phase input power. Weld materials up to 1/4" thick.

Cam-operated locking device makes bottom tong installation adjustment fast and easy. Ten-step current control and adjustable speed control valve. Both sides of control circuit are safety fused. Stationary models equipped with durable, steel construction pedestal. Easy-to-use, electric foot lever starts weld sequence.

Require minimum 60 PSI air pressure, however 100 PSI is recommended. Air-operated models also include safety shroud over pivot linkage, weld timer, 10 second adjustable solid-state, digital timer for squeeze time, foot lever, air filter, and oiler.

COOLMATE 3, and WATERMATE™ coolant systems recommended for water-cooled spot welders (see Index under Coolant Systems).

Spot welder does not include tongs or tips (see Tong and Tip Ordering Data Tables below).

### OPTIONAL TIP DRESSER

Evenly dresses top and bottom tips at the same time. For use with pointed tips.

**No. 1Z456.** Optional Tip Dresser. Shpg. wt. 0.6 lbs. List $83.74. Each ..... **$78.20▲**

(▲) Net prices, not subject to discounts.



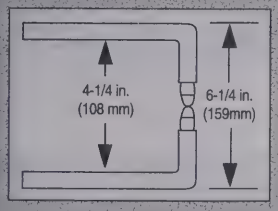

## SPECIFICATIONS AND ORDERING DATA

| Volts | Work Capacity Combined Thickness Mild Steel | Rated Output and Duty Cycle | OCV | Amps | Input Overall Dimensions (In.) H | W | L | Series | Miller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STATIONARY SPOT WELDERS** | | | | | | | | | | | | | |
| **220** | 1/4" | 20 KVA; 40% | 3.55 | 90 | 49 | 10 7/8 | 20 7/8 | SSW-2020ATT | 902996 | **1Z821** | $3603.97 | **$3355.00▲** | 225.0 |
| **440** | 1/4 | 20 KVA; 40% | 3.55 | 45 | 49 | 10 7/8 | 20 7/8 | SSW-2040ATT | 902997 | **1Z823** | 3636.93 | **3385.00▲** | 225.0 |
| **PORTABLE SPOT WELDER** | | | | | | | | | | | | | |
| **220** | 1/4 | 20 KVA; 40% | 3.55 | 90 | 16 | 12 1/4 | 16 5/8 | PSW-2020ATT | 902989 | **1Z815** | 3458.74 | **3222.00▲** | 232.0 |

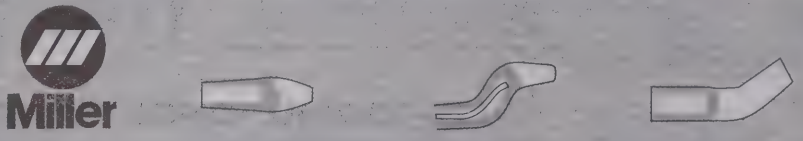
(▲) Net prices, not subject to discounts.

## WATER-COOLED TONGS AND TIPS

Tongs and tips must be ordered separately from the spot welder. Maximum welding capabilities are obtained with minimum tong length. One set of tips is supplied with each set of tongs. Order tips to match tong type and morse taper.




No. 1Z440 Standard (Std.) 90° Tongs




No. 1Z446 Std. 90 (Pointed) Tip

No. 1Z462 Std. 90 (Offset) Tip

No. 1Z470 Std. 45 (Offset) Tip

### WATER-COOLED TONG ORDERING DATA

| Type | Morse Taper No. | Tong Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Standard 90° | 1 | 6 | **1Z440** | $275.31 | **$257.75▲** | 5.1 |
| Standard 90° | 1 | 12 | **1Z442** | 288.40 | **278.00▲** | 7.4 |
| Standard 90° | 1 | 18 | **1Z444** | 337.24 | **319.75▲** | 9.9 |

### WATER-COOLED TIP ORDERING DATA

| Type | Morse Taper No. | Stock No. | Tip Qty. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Standard 90° (Pointed) | 1 | **1Z446** | 2 | $7.21 | **$6.93▲** | 0.1 |
| Standard 90° (Pointed) | 2 | **1Z464** | 2 | 10.32 | **8.94▲** | 0.3 |
| Standard 45° (Offset) | 1 | **1Z470** | 2 | 25.23 | **23.86▲** | 1.0 |
| Standard 90° (Offset) | 1 | **1Z462** | 2 | 16.48 | **15.86▲** | 0.3 |

(▲) Net prices, not subject to discounts.

### TECHNICAL REFERENCE LITERATURE

Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics

See Index under Books.

# AIR-COOLED SPOT WELDERS

## PORTABLE SPOT WELDERS

All models operate on 50/60 Hz, single-phase AC power. Durable, lightweight spot welders provide advantages of resistance welding in a compact tool. For sheet metal shops, manufacturers, production lines, truck and auto body shops, farm implement work, heating and air conditioning contractors. Multi-pressure lever locks tongs firmly onto material and provides positive, accurate pressure until work is welded. Lifting lever releases pressure and opens tongs. Can be adjusted to various material thicknesses quickly and easily.

Reversible handle for right or left-handed operation. Burnout-proof transformer is wound with high temperature resistant, glass insulated magnet wire. High grade silicon steel core.

Models with timer panel include 0-5 second weld timer, power On/Off switch, 10 ft. input power cord and 10 ft. interconnecting cord.

Spot welder does not include tongs or tips (see Tong and Tip Ordering Data Tables below).

### OPTIONAL SPOT WELD TIMER KIT

For No. 2Z543. 0-5 seconds mechanical weld timer (110V only).

**No. 1Z485.** Shpg. wt. 16.0 lbs. List $527.65. Each.....**$475.25▲**

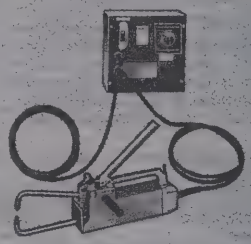
### OPTIONAL SPOT WELDER PEDESTAL

Leaves hands free to handle the work. When foot control is depressed, tongs close, and Start switch is activated.

**No. 2Z581.** Shpg. wt. 36.0 lbs. List $170.98. Each.....**$169.50▲**

Miller

Replacement Parts Available 1-800-323-0620



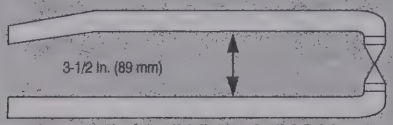
No. 2Z543 shown with Optional Timer No. 1Z485

### PORTABLE SPOT WELDERS SPECIFICATIONS AND ORDERING DATA

| Volts | Work Capacity Combined Thickness Mild Steel (In.) | Rated Output at 50% Duty Cycle | OCV | Overall Dimensions (In.) H | W | L | Series | Miller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PORTABLE SPOT WELDERS** | | | | | | | | | | | | |
| **110** | 1/8 | 1.5 KVA | 1.6 | 6 | 3¼ | 13 | MSW-41 | 900371 | **2Z543** | $380.07 | **$354.50▲** | 28.0 |
| **220** | 1/8 | 1.5 KVA | 1.6 | 6 | 3¼ | 13 | MSW-42 | 900374 | **1Z780** | 393.46 | **366.50▲** | 26.0 |
| **220** | 3/16 | 2.5 KVA | 2.5 | 6 | 3¼ | 16 | LMSW-52 | 900377 | **4Z425** | 456.43 | **414.25▲** | 35.0 |
| **PORTABLE SPOT WELDERS WITH TIMER PANEL** | | | | | | | | | | | | |
| **110** | 1/8 | 1.5 KVA | 1.6 | 6 | 3¼ | 13 | MSW-41T | 901345 | **1Z791** | 729.24 | **678.00▲** | 40.0 |
| **220** | 1/8 | 1.5 KVA | 1.6 | 6 | 3¼ | 13 | MSW-42T | 901351 | **1Z793** | 763.23 | **710.00▲** | 44.0 |
| **220** | 3/16 | 2.5 KVA | 2.5 | 6 | 3¼ | 16 | LMSW-52T | 901357 | **1Z795** | 839.45 | **781.50▲** | 50.0 |

(▲) Net prices, not subject to discounts.

## AIR-COOLED TONGS AND TIPS




Nos. 1Z400, 5A345, & 5A346 Standard Tongs

Miller



No. 1Z430 Flat Tips



No. 2Z545 Standard Tips

**Tongs and tips must be ordered separately** from the spot welder. Maximum welding capabilities are obtained with minimum tong length. One set of two tips is supplied with each set of tongs. Tips come in sets of 4. Tips are made of long wearing RWMA Class 2 alloy.

Order tips to match tong type. Tong length is measured from the center of the spot tips to the front of the mounting assembly.

(▲) Net prices, not subject to discounts.

### AIR-COOLED TONG ORDERING DATA

| Type | Tong Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Standard** | 6 | **1Z400** | $34.41 | **$31.90▲** | 1.9 |
| **Standard** | 12 | **5A345** | 43.57 | **41.95▲** | 3.0 |
| **Standard** | 18 | **5A346** | 51.60 | **49.10▲** | 4.5 |

### AIR-COOLED TIP ORDERING DATA

| Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Standard** | **2Z545** | $7.21 | **$6.93▲** | 0.1 |
| **Flat** | **1Z430** | 7.21 | **6.93▲** | 0.1 |

# WATER COOLANT SYSTEMS AND AIR PLASMA CUTTING SYSTEMS




## WATER COOLANT SYSTEMS

Water coolant systems are designed for GMAW (MIG) and GTAW (TIG) welding, resistance welding, and plasma cooling. Units use 50/60 Hz, single-phase input power. 1/4 HP motor is thermally protected from overheating. Units circulate water to equipment and connecting cables. All units feature a closed-loop design with a radiator to reduce coolant temperature and prevent the system from overheating. Use distilled water for coolant. Standard inlet and outlet torch fittings are 5/8-18 L.H. threads. 10 ft. power cord with plug included.

**COOLMATE 3** models have a 3 gal. coolant tank capacity. Compact, horizontal design can be conveniently mounted onto a trailer or other equipment. Radiator models are for use with water-cooled torches rated up to 600 amps. (Torch rating may vary depending on torch design and cable length). Also equipped with panel-mounted On/Off switch and water flow indicator.

**WATERMATE™** 1A has 2 gal. coolant tank capacity. Vertical design assures pump is always primed. For use with water-cooled torches rated up to 500 amps. (Torch rating may vary depending on torch design and cable length).

All units are CSA NRTL/C Certified to both Canadian and U.S. standards.

***New* No. 4UV46.** Low Conductivity Coolant (043810). Shpg. wt. 10.0 lbs. List $18.74.
Each ..... $18.74▲

| Input Volts | Input Amps | Max. Cooling Capacity At 1.25 qts./min. | Tank Capacity | Overall Dimensions (In.) H | W | L | Series | Miller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 115 | 5.9 | 14,000 BTU/hr. | 3 gal. | 13¼ | 12¼ | 23¼ | COOLMATE 3™ | 043007 | **1Z542** | $593.13 | **$498.00▲** | 56.0 |
| 230 | 3.0 | 14,000 BTU/hr. | 3 gal. | 13¼ | 12¼ | 23¼ | COOLMATE 3™ | 043008 | **1Z544** | 638.44 | **536.50▲** | 58.0 |
| 115 | 5.2 | 11,000 BTU/hr. | 2 gal. | 30¾ | 9¼ | 9¼ | WATERMATE™ 1A | 042495 | **1Z546** | 792.45 | **678.00▲** | 57.0 |

▲) Net prices, not subject to discounts.




**MILLER TRUE BLUE WARRANTY**
**3 year-parts and labor. Text of warranty available on request. "Manufacturers Warranties" on page opposite inside back cover.**

## AIR PLASMA CUTTING SYSTEMS

**Spectrum® 300 CutMate with 25 Amp Torch**
**Spectrum® 701 with 50 Amp Torch**

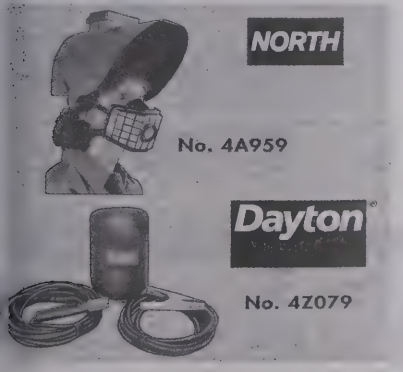
- **Diagnostic lights for quick troubleshooting**
- **Torch airflow design allows drag cutting without a standoff**
- **Controlled pilot arc for cutting grates, chain link fence and other perforated materials, and painted or coated surfaces, without retriggering the gun**
- **Exclusive postflow circuit cools consumables and torch to extend life**

Spectrum® 300 CutMate™ is an economical cutting system for work on all conductive materials including mild steel up to 3/8", aluminum to 1/4", and stainless steel to 5/16". Includes: ICE-25C torch with 15-ft. cable and consumables, 15-ft. work cable with clamp, 10-ft. power cord with 115 VAC, 20 A plug, built-in gas/air filter and regulator.

Spectrum 701 cutting and gouging system cuts mild and stainless steel up to 3/4" or aluminum to 5/8". Includes: ICE-50C torch with 25-ft. cable, 20-ft. work cable with clamp, factory-installed running gear and lifting eye, built-in gas/air filter and regulator, torch consumable kit.

| Rated Amps | Duty Cycle | Input Volts | Input Amps | OCV | Overall Dim. (In.) H | W | L | Series | Miller Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 60% | 200/230/460 | 42/37/18 | 285VDC | 38½ | 20½ | 19½ | SPECTRUM 701 | 950468 | **4UV67** | $2445.79 | **$2240.00▲** | 204.0 |
| 25 | 20% | 115/230 | 34/17 | 265VDC | 17 | 18 | 6¾ | SPECTRUM 300 | 903479 | **4UV55** | 1463.48 | **1331.00▲** | 52.0 |

▲) Net prices, not subject to discounts.




## WELDER DISPOSABLE RESPIRATOR

**Lightweight construction. Fits under any welding helmet.** Patented coaxial inhalation/exhalation valve system makes this the coolest and driest disposable/reusable respirator available. Low profile design minimizes vision obstruction; safety spectacles and goggles will not ride up. Soft, anatomically designed facepiece and 4-point adjustable headpiece assure a comfortable and snug fit. Can be used in most dust, mist environments and as protection from most fumes generated by welding, soldering, metal cutting and pouring. Approved for respiratory protection against dusts, mists and fumes having a time-weighted average not less than 0.05 milligram per cubic meter or 2 million particles per cubic foot. NIOSH/MSHA Approval No. TC-21C-338. North brand (7190).

**No. 4A959.** Shpg. wt. 0.4 lbs. List $10.80.
Each **$10.54;** Lots 12 ..... **$10.01**

### WELDER/GENERATOR ACCESSORY KIT

For Lincoln and Miller welder/generators. Accessory kit includes welding helmet with No. 12 shaded lens, 30 ft. No. 2 welding cable, 25 ft. No. 2 ground cable, electrode holder and ground clamp. Dayton brand.

**No. 4Z079.** Shpg. wt. 20.0 lbs. List $205.49.
Each ..... $148.60

# WELDER GENERATORS

| ENGINE DRIVE WELDERS | Arc Welding Accessory Kit No. 1Z391 | Lifting Eye No. 4UV47 | Running Gear No. 4UV45 | Running Gear No. 1Z578 | Spoolgun No. 1Z716 | S-32 Suitcase Wire Feeder No. 4UV52 | M25 Mig Gun No. 1Z746 | Flowmeter Reg. AR c25 No. 3VD27 | Flowmeter Reg. $CO_2$ No. 3VD76 |
|---|---|---|---|---|---|---|---|---|---|
| **ARC WELDING** | | | | | | | | | |
| Bluestar 3500 with Recoil Start No. 4UV61 | X | X | X | — | — | — | — | — | — |
| Bluestar 3500 with Electric Start No. 4UV62 | X | X | X | — | — | — | — | — | — |
| Bluestar 6000 with Recoil Start No. 4UV63 | X | X | X | — | — | — | — | — | — |
| Bluestar 6000 with Electric Start No. 1Z852 | X | X | X | — | — | — | — | — | — |
| Bobcat 225NT No. 1Z884 | X | — | — | X | — | — | — | — | — |
| Bobcat 225D No. 1Z841 | X | — | — | X | — | — | — | — | — |
| Trailblazer 251NT No. 4UV60 | X | — | — | X | — | — | — | — | — |
| Legend NT No. 4UV59 | X | — | — | X | — | — | — | — | — |
| **MIG WELDING** | | | | | | | | | |
| Bobcat 225NT No. 1Z884 | — | — | — | — | 2 | 3 | X | X | X |
| Bobcat 225D No. 1Z841 | — | — | — | — | 2 | 3 | X | X | X |
| Trailblazer 251NT No. 4UV60 | — | — | — | — | 1 | — | — | X | X |
| Legend NT No. 4UV59 | — | — | — | — | 2 | 3 | X | X | X |

(X) Compatible; (1) requires wc24 No, 4UV51; (2) requires wc115 circuitry No. 4UV49 and contactor No. 4UV50; (3) requires extra cables to attach to a power source.

| ENGINE DRIVE WELDERS | High Frequency Unit No. 1Z536 | Foot Control No. 1Z712 | Finger Control No. 1Z729 | Remote Extension 25 ft. No. 1Z689 | Remote Extension 75 ft. No. 1Z693 | Remote Extension 100 ft. No. 1Z695 |
|---|---|---|---|---|---|---|
| **TIG WELDING** | | | | | | |
| Bobcat 225NT No. 1Z884 | 1 & 2 | — | — | — | — | — |
| Bobcat 225D No. 1Z841 | 1 & 2 | — | — | — | — | — |
| Trailblazer 251NT No. 4UV60 | 1 | X | X | X | X | X |
| Legend NT No. 4UV59 | 1 | 3 | 3 | X | X | X |

(X) Compatible; (1) Requires extra cables to attach to a power source; (2) Secondary contactor kit No. 4UV42 & on/off switch No. 4UV48; (3) Requires remote control facility No. 4UV43.

## BLUE STAR™ 3500 WELDER/GENERATOR

- **Compact portable unit protected by a durable steel frame**
- **Powered by 9HP Honda gasoline engine**
- **Three-phase welding output produces smooth, stable welding arc**
- **Color-coded amperage control for easy weld amperage setting**
- **Simultaneous welding and auxiliary output**

The Blue Star™ 3500 is a compact welding and auxiliary power generator designed for construction, maintenance and agriculture applications, and where portability and versatility are needed. Its 3500 watts of auxiliary power easily powers most tools at the job site and features duplex receptacles with circuit breakers. Get excellent DC Stick performance with most electrodes; ideal for 1/8 - 5/32" (2.4-4 mm). Choose electric or manual start. Use with Welding Accessory Kit No. 1Z391 sold on page 1581.

**Miller True Blue Warranty 3 years — parts and labor. 2 Years Honda Engine parts and labor.**
**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**




No. 4UV62

(Shown with optional Lifting eye)

### *New!* ACCESSORIES ORDERING DATA

| Description | Miller Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Running Gear 24H1** | 043720 | **4UV45** | $209.06 | **$201.75▲** | 34.0 |
| **Lift Eye Kit** | 043829 | **4UV47** | 60.93 | **58.65▲** | 9.0 |

(▲) Net prices, not subject to discounts.

| Stock No. | Engine Brand | HP | Engine Type | Start | Tank Capacity (Gal.) | Rated Watts | Number of Receptacles 120 20A | 120 30A | 120/240 70/35A | 240 50A |
|---|---|---|---|---|---|---|---|---|---|---|
| 4UV61 | Honda | 9 | GX270 | Recoil | 1.6 | 3500 | 4 | 1 | — | — |
| 4UV62 | Honda | 9 | GX270 | Electric | 1.6 | 3500 | 4 | 1 | — | — |

### *New!* BLUE STAR 3500 SPECIFICATIONS AND ORDERING DATA

| Rated Amps AC | Rated Amps DC | Duty Cycle | Volt | Phase | Overall Dimension (In.) H | W | L | Series | Miller Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| — | 140 | 30% | 120 | 60 Hz, Single | 20¾ | 22¾ | 31¼ | Blue Star® 3500 | 903582 | **4UV61** | $1780.76 | **$1646.00▲** | 253.0 |
| — | 140 | 30% | 120 | 60 Hz, Single | 20¾ | 22¾ | 31¼ | Blue Star® 3500 | 903583 | **4UV62** | 1990.88 | **1841.00▲** | 290.0 |

(▲) Net prices, not subject to discounts.

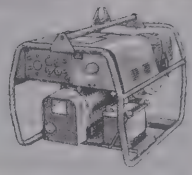
# BLUE STAR™ 6000 WELDER/GENERATOR

**For DC SMAW (Stick) welding**
**Welds up to 1/4" thick steel**
**Compact and portable**
**6,000 watts, 120V AC auxillary power**
**Gasoline, Honda OHV, 13 HP engine**
**180 amps DC welding output**
**Ideal DC Stick performance with 3/32 - 3/16 in electrodes**

- **Compact, portable unit protected by a durable steel frame**
- **Color-coded amperage control**
- **Utilizes the same accessories offered with the Bluestar 3500 model, sold on page 1580, and No. 1Z391 Welding Accessory Kit listed below**

he BLUE STAR® 6000 is a compact weld-ıg and 6000-watt auxiliary power genera-ɔr designed for light industrial Stick weld-ıg and maintenance applications. This ortable unit is capable of producing Ac uxiliary power even while welding.

The single-phase welding generator provides smooth arc performance for Stick welding with 3/32 - 3/16" electrodes. DC-TIG welding also possible. Equipped with engine hour meter.



No. 1Z852
(Shown with optional lifting eye)

**MILLER TRUE BLUE WARRANTY**

**3 years—parts and labor. 2 Years Honda Engine parts and labor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Stock No. | Engine Brand | HP | Engine Type | Start | Tank Capacity (Gal.) | Rated Watts* | Number of Receptacles 120 9A | 120 20A | 120 30A | 120/240 70/35A | 240 20A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1Z852 | Honda | 13 | 1-Cylinder, OHV | Electric | 1.7 | 6000 | — | 4 | — | — | 1 |
| 4UV63 | Honda | 13 | 1 Cylinder, OHV | Recoil | 1.7 | 6000 | — | 4 | — | — | 1 |

) Rating is for generator use only; available power reduced while welding.

| Rated Amps | Duty Cycle | Volts | Phase | Overall Dimensions (In.) H | W | L | Series | Miller Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **180** | 30% | 120 | 60 Hz; Single | 20¾ | 22¼ | 31¼ | BLUE STAR® 6000 | 903585 | | **1Z852** | $2466.85 | **$2331.00▲** | 278.0 |
| **180** | 30% | 120 | 60 Hz; Single | 20¾ | 22¼ | 31¼ | BLUE STAR® 6000 | 903584 | *New* | **4UV63** | 2306.06 | **2121.00▲** | 253.0 |

) Net prices, not subject to discounts.

# BOBCAT™ 225NT AND BOBCAT 225D PLUS

**For SMAW (Stick) and DC (TIG) welding**
**GMAW (MIG) and Flux cored welding possible with voltage sensing wire feeder**

- **Fine amperage adjustment control produces smooth SMAW welding**
- **Automatic idle**
- **8000W, 120/240V AC auxiliary output power**

hese welders provide versatile weld out-ut for SMAW. The GMAW and FCAW use onstant voltage adjustment control nixed gas recommended). Selector witch allows easy changes between DC-C and CV polarity reversing and AC out-ut selection. Auxiliary power receptacles 're circuit breaker protected. The two-ole, single-phase alternator design pro-ıces high quality welding characteristics ıd strong auxiliary power.

obcat NT 225 is equipped with an Onan erformer series 216 engine. The four-ycle gasoline engine is air-cooled and fea-ures twin cylinders with cast iron liners.

In addition, the Bobcat 225NT only includes a 360° rotatable exhaust, enclosed 60% more housing, and top fuel and oil fill.

Bobcat 225 D Plus is powered by a Deutz/Ruggerini MD-151 industrial 16-hp diesel engine. Engine has an aluminum block with replaceable cast-iron liners, in-line cylinders, and is air cooled.

**MILLER TRUE BLUE WARRANTY**

**3 years—parts and labor. 2 Yrs on 2000cc Diesel Deutz & Ruggerini engine. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**



No. 1Z884

## RUNNING GEAR (No. 27)

Rugged, lightweight, easy-to-move design. Includes handle, large 480/400 x 8 pneumatic ties, and adjustable axle.

**No. 1Z578.** Shpg. wt. 56.0 lbs. List.....$242.05. Each.....**$240.50▲**

## WELDING ACCESSORY KIT (2WA)

Includes 35 ft., 2/0 electrode cable with insulated holder and lug, 30 ft., 2/0 work cable with clamp and lug, welding helmet, and wire scratch brush.

**No. 1Z391.** Shpg. wt. 24.0 lbs. List.....$197.76. Each.....**$193.25▲**

| Stock No. | Engine Brand | HP | Engine Type | Start | Tank Capacity (Gal.) | Rated Watts* | Number of Receptacles 120 9A | 120 15A | 120 20A | 120/240 70/35A | 240 50A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1Z884 | Onan | 16 | Twin-cylinder | Electric | 10 | 8000 | — | 4 | — | — | 1 |
| 1Z841 | Deutz/ Ruggerini | 16 | Twin-cylinder | Electric | 7.5 | 8000 | — | — | 4 | 1 | — |

Rating is for generator use only; available power reduced while welding.

| ated mps AC | DC | Duty Cycle | Volts | Phase | Overall Dimen. (in.) H | W | L | Series | Miller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 225 | 200 | 100% | 120/240 | 60 Hz; Single | 33 | 18¾ | 45½ | BOBCAT™ | 903500 225NT | 1Z884 | $3180.64 | **$3021.00▲** | 632.0 |
| 225 | 210 | 100% | 120/240 | 60 Hz; Single | 31 | 18 | 47 | BOBCAT™ | 903462 225D | 1Z841 | 5921.47 | **5558.00▲** | 695.0 |

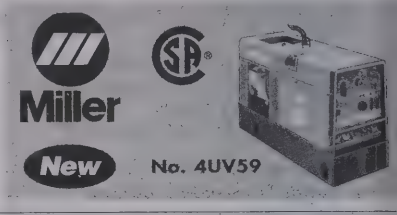
) Net prices, not subject to discounts.

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

## LEGEND NT® DC WELDER/GENERATOR

Miller Legend NT (New Tradition) is a quiet, dependable welding generator featuring a low-speed, four pole single-phase alternator that produces a smooth and stable welding arc. Ideal for Stick and TIG welding.

- Full case, rugged housing
- Enlarged, 10 gallon fuel tank and fuel gauge
- Onan Performer Series P218 gasoline engine
- Rotatable exhaust pipe
- Low, 1860 RPM idle/auxiliary power speed
- 5000 watts of AC auxiliary power
- Miller's True Blue® Warranty




| Stock No. | Engine Brand | HP | Engine Type | Start | Tank Capacity | Rated Watts* | Number of Receptacles 120 9A | 120 15A | 120 20A | 120 / 240 70 / 35A | 24 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4UV59 | Onan | 18 | Twin-cylinder | Electric | 10 gal. | 5000 | — | 4 | — | 1 | – |

(*) Rating is for generator use only; available power reduced while welding.

| Output | Rated Amps | Duty Cycle | Volts | Phase | Overall Dimensions (In.) H | W | L | Series | Miller Model | New! Stock No. | List | Each | Shpg Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AC<br>DC | 225<br>200 | 100%<br>100% | 120/240 | 100 Hz; Single | 33 | 18¾ | 45½ | LEGEND® NT | 903528 | 4UV59 | $3934.49 | $3644.00▲ | 618 |

(▲) Net prices, not subject to discounts.

## MILLER® SUPER S-32P VOLTAGE SENSING FEEDER




- Operates on open-circuit, arc voltages
- Voltage-sensing control circuit with CC/CV switch
- 50—700 IPM (1.3—18 m/min) wire speed range and high/low range switch
- High-torque, 24 VDC drive motor
- Solid-state speed control and brake circuit
- Overload protection
- Quick-change drive rolls and quick connect for Miller guns
- Insulated gun holding bracket
- Includes contactor and gas valve

Enclosed in a steel-reinforced, impac resistant and flame-retardant molded pla tic case, the Super S-32 has the durabilit to take the roughest treatment in field co struction work. This feeder operates o arc voltage, so a control cord is n required. Operates with most CV and C DC-type power sources.

The motor and control handle a wide var ety of wire sizes and types with the nece sary high-end speed for small diameter and the low-end speed and power for th more demanding larger diameter, all-pos tion, self-shielding wires. The Super S-32 includes professional features for max mum performance and reliability.

**MILLER TRUE BLUE® WARRANTY**

**Feeder is warranted for three years, parts and labor.**

| Input Power | Overall Dimensions (In.) H | W | L | Series | Miller Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| OCV: 15-100V | 15¼ | 8¾ | 22½ | SUPER S-32P | 159928021 | 4UV52 | $1463.48 | $1329.00▲ | 42.0 |

## TRAILBLAZER® 251 NT AC/DC WELDER/GENERATOR

- For SMAW (Stick), FCAW, GMAW (MIG), and GTAW (TIG) welding
- Welds with low alloy and mild steel (including E6010) electrodes
- Onan Performer Series P220 gasoline engine
- 8000W, 120/240V AC aux. power
- Adjustable stabilizer allows operator to "tailor" short arc performance
- Automatic idle saves fuel, reduces noise
- Hour meter accurately records engine "On" time
- Rotatable exhaust pipe

8 KW/KVA auxiliary power available while welding from 1-120 VAC duplex receptacles and 1-240 VAC duplex receptacle. Receptacles protected by circuit breakers. AC or DC weld output for SMAW and GTAW welding. 8.5. gal. fuel tank with easy-to-use side fill neck located below the generator. Four-pole, three-phase alternator produces smooth and stable arc results. 3600 RPM power and weld speed, 2200 RPM idle speed. Onan Performer Series P220 industrial 20 HP gasoline engine is twin-cylinder, four-cycle, and air cooled. Large maintenance-free battery is base mounted in slide-out tray for full protection and easy access.




**Order Accessory Kit No. 1Z391 and Running Gear No. 1Z578**

**MILLER TRUE BLUE WARRANTY**

**3 years—parts and labor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Stock No. | Engine Brand | HP | Engine Type | Start | Tank Capacity | Rated Watts* | Number of Receptacles 120 9A | 120 15A | 120 20A | 120 / 240 70 / 35A | 2 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4UV60 | Onan | 20 | Twin-cylinder | Electric | 10 gal. | 8000 | — | 4 | — | 1 | |

(*) Rating is for generator use only; available power reduced while welding.

| Output | Rated Amps | Duty Cycle | Volts | Phase | Overall Dimensions (In.) H | W | L | Series | Miller Model | New! Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DC<br>AC | 250<br>200 | 100%<br>60% | 120/240 | 60 Hz; Single | 33 | 18¾ | 45¼ | TRAILBLAZER® 251 | 903567 | 4UV60 | $4433.53 | $4097.00▲ | 63 |

(▲) Net prices, not subject to discounts.

# TIG TORCHES AND ACCESSORIES

## HELIARC® TIG TORCHES

)riginal designs, using modern materials for durability and reliaility. All are available with "Hard Body" HFC™ torch heads for iaximum durability or economical silicon rubber. Gas lens for est shielding available for all models. All torches rated at 50 ercent duty cycle.

### 140 AMP AIR-COOLED TORCH*

Iodels HW-20A & HW 20AR—Compact air-cooled version of the Iodel HW-20. Use in confined areas; available with gas valve. 'se accessory Kit No. 4UT66, sold below.

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Hard body torch, 12.5 ft., HW-20A | 19684 | 1Z193 | $123.01 | $118.15 | 2.5 |
| Hard body torch, 25 ft., HW-20A | 19685 | 1Z195 | 136.12 | 130.75 | 4.5 |
| Sil. rubber torch, 12.5 ft., w/valve, HW-20AR | 34561 | 1Z205 | 120.77 | 115.95 | 3.3 |
| Sil. rubber torch, 25 ft., w/valve, HW-20AR | 34562 | 1Z207 | 132.45 | 127.20 | 6.0 |

### 150 AMP AIR-COOLED TORCH*

:odels HW-17 and HW-17R—Most widely used air-cooled torch. vailable with gas valve. Models listed have composite gas ose/power cable; separate power cable and gas hose available s accessories. Use accessory Kit No. 4UT66, sold below.

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Hard body torch, 12.5 ft., HW-17 | 16X48 | 1Z165 | $87.02 | $83.55 | 2.4 |
| Hard body torch, 25 ft., HW-17 | 16X50 | 1Z171 | 99.61 | 95.65 | 4.3 |
| Hard body torch, 12.5 ft., w/valve, HW-17 | 16X48LV | 1Z167 | 121.18 | 116.40 | 2.5 |
| Hard body torch, 25 ft., w/valve, HW-17 | 16X50LV | 1Z173 | 134.33 | 129.00 | 4.5 |
| Sil. rubber torch, 12.5 ft., HW-17R | 16X48R | 1Z169 | 78.00 | 74.95 | 2.5 |
| Sil. rubber torch, 25 ft., HW-17R | 16X50R | 1Z175 | 89.07 | 85.55 | 4.4 |
| Sil. rubber torch, 12.5 ft., w/valve, HW-17R | 634705R | 1Z341 | 112.49 | 108.05 | 2.1 |
| Sil. rubber torch, 25 ft., w/valve, HW-17R | 634706R | 1Z343 | 125.99 | 121.00 | 4.4 |

### 220 AMP AIR-COOLED TORCH*

odels HW-26 and HW-26R—Advanced head and handle design ovides maximum current capacity in hand-held torch. ailable with gas valve. Models listed have composite gas se/power cable; separate power cable and gas hose available accessories. Use accessory Kit No. 4UT65, sold below.

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Hard body torch, 12.5 ft., HW-26 | 17137 | 1Z177 | $129.18 | $124.05 | 4.5 |
| Hard body torch, 25 ft., HW-26 | 46V29 | 1Z278 | 144.92 | 139.25 | 7.9 |
| Hard body torch, 12.5 ft., w/valve, HW-26 | 17138 | 1Z181 | 165.55 | 159.00 | 4.7 |
| Hard body torch, 25 ft., w/valve, HW-26 | 46V27 | 1Z272 | 180.44 | 173.50 | 8.0 |
| Sil. rubber torch, 12.5 ft., HW-26R | 17137R | 1Z179 | 121.53 | 116.70 | 4.5 |
| Sil. rubber torch, 25 ft., HW-26R | 46V29R | 1Z280 | 136.79 | 131.35 | 7.9 |
| Sil. rubber torch, 12.5 ft., w/valve, HW-26R | 17138R | 1Z183 | 152.17 | 146.15 | 4.7 |
| Sil. rubber torch, 25 ft., w/valve, HW-26R | 46V27R | 1Z274 | 167.39 | 160.75 | 8.0 |

### 300 AMPERE WATER-COOLED TORCH*

)dels HW-20 & HW-20R—Compact water-cooled design proles best joint access in a high capacity torch. Use accessory Kit ). 4UT66, sold below.

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| ard body torch, 12.5 ft., HW-20 | 948084 | 1Z361 | $136.68 | $131.25 | 2.1 |
| ard body torch, 25 ft., HW-20 | 948085 | 1Z365 | 150.98 | 145.00 | 3.3 |
| il. rubber torch, 12.5 ft., HW-20R | 948084R | 1Z363 | 134.61 | 129.25 | 2.1 |
| il. rubber torch, 25 ft., HW-20R | 948085R | 1Z367 | 141.33 | 135.75 | 3.2 |




### 425 AMPERE WATER-COOLED TORCH*

Models HW-18 & HW-18R—Most widely used water-cooled torch. Ideal for production welding. Lightweight for operator comfort; brazed cooling system for reliability. Use accessory Kit No. 4UT65, sold below.

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Hard body torch, 12.5 ft., HW-18 | 948361 | 1Z373 | $154.09 | $148.00 | 3.5 |
| Hard body torch, 25 ft., HW-18 | 948362 | 1Z377 | 163.76 | 157.25 | 5.7 |
| Sil. rubber torch, 12.5 ft., HW-18R | 948361R | 1Z375 | 149.67 | 143.75 | 3.5 |
| Sil. rubber torch, 25 ft., HW-18R | 948362R | 1Z379 | 156.18 | 149.95 | 5.7 |

## HELIARC® ACCESSORY KITS

Each package contains accessory items requested for use on Tig Torches, in easy-to-order kit form, packaged in handy boxes.

| No. 4UT65 Includes: | | No. 4UT66 Includes: | |
|---|---|---|---|
| (1) 57Y04 | Short Torch Cap | (1) 41V24 | Long Torch Cap |
| (1) 10N23 | 1/16 in. Collet | (1) 13N22 | 1/16 in. Collet |
| (1) 10N24 | 3/32 in. Collet | (1) 13N23 | 3/32 in. Collet |
| (1) 10N25 | 1/8 in. Collet | (1) 13N24 | 1/8 in. Collet |
| (1) 10N31 | 1/16 in. Collet Body | (1) 13N27 | 1/16 in. Collet Body |
| (1) 10N32 | 3/32 in. Collet Body | (1) 13N28 | 3/32 in. Collet Body |
| (1) 10N28 | 1/8 in. Collet Body | (1) 13N29 | 1/8 in. Collet Body |
| (1) 10N49 | No. 5 High-Impact Cup | (1) 13N09 | No. 5 High-Impact Cup |
| (1) 10N48 | No. 6 High-Impact Cup | (1) 13N10 | No. 6 High-Impact Cup |
| (1) 10N46 | No. 8 High-Impact Cup | (1) 13N11 | No. 7 High-Impact Cup |
| (1) 84Z19 | 1/16 in. dia. x 7 in. long, Ground Finish 2% Thor. Electrode | (1) 84Z19 | 1/16 in. dia. x 7 in. long, Ground Finish 2% Thor. Electrode |
| (1) 84Z20 | 3/32 in. dia. x 7 in. long, Ground Finish 2% Thor. Electrode | (1) 84Z20 | 3/32 in. dia. x 7 in. long, Ground Finish 2% Thor. Electrode |
| (1) 81Z79 | 1/8 in. dia. x 7 in. long, Ground Finish 2% Thor. Electrode | (1) 81Z79 | 1/8 in. dia. x 7 in. long, Ground Finish 2% Thor. Electrode |

***New*** **No. 4UT65.** ESAB brand (999126). Shpg. wt. 0.6 lbs. List $57.79. Each ..... $52.65

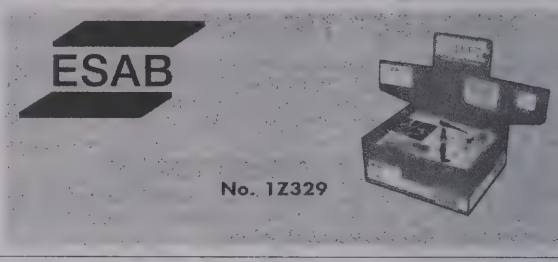
***New*** **No. 4UT66.** ESAB brand (999127). Shpg. wt. 0.5 lbs. List $63.20. Each ..... $57.55

The torches listed above do not include the collet, collet body, ceramic cup, and tungstens. These accessories are available on the following pages.

# TIG TORCH OUTFITS AND ACCESSORIES

## COMPLETE HELIARC TIG TORCH OUTFITS INCLUDE TORCH, ACCESSORY KIT, REGULATOR/FLOW METER, GAS/WATER HOSES, WORK CABLES & CLAMP

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **150 amp hard body, 25 ft., HW-17** | 600991 | **1Z329** | $357.56 | **$343.50** | 17.0 |
| **150 amp hard body, 25 ft., w/valve, HW-17V** | 600992 | **1Z331** | 385.56 | **370.50** | 17.0 |
| **220 amp hard body, 25 ft., HW-26** | 600993 | **1Z333** | 406.89 | **391.00** | 21.0 |
| **220 amp hard body, 25 ft., w/valve, HW-26V** | 600994 | **1Z335** | 435.00 | **417.75** | 19.0 |
| **425 amp hard body, 25 ft., HW-18** | 600996 | **1Z339** | 421.54 | **405.00** | 21.0 |
| **300 amp hard body, 25 ft., HW-20** | 600995 | **1Z337** | 409.43 | **393.25** | 17.0 |




## REPLACEMENT PARTS FOR 140 AMP AIR-COOLED & 300 AMP WATER-COOLED TORCHES (HW20A-HW20)

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Long cap** | 41V24 | **1Z217** | $3.75 | **$3.61** | 0.1 |
| **Short cap (Pkg./2)** | 41V33 | **1Z225*** | 3.65 | **3.51** | 0.1 |
| **Medium cap (Pkg./2)** | 41V35 | **1Z227*** | 3.65 | **3.51** | 0.1 |
| **Hard body, HW-20** | 948020 | **1Z357** | 84.68 | **81.35** | 0.2 |
| **Sil. rubber body, HW-20R** | 948020R | **1Z359** | 72.20 | **69.40** | 0.2 |
| **Cup gasket** | 598882 | **1Z327** | 2.46 | **2.36** | 0.1 |
| **Handle, HW20A, HW-20, 20R** | 53N06 | **1Z284** | 13.03 | **12.51** | 0.1 |
| **Power cable 12.5 ft., HW-20, 20R** | 45V03 | **1Z229** | 38.74 | **37.25** | 1.1 |
| **Power cable 25 ft., HW-20, 20R** | 45V04 | **1Z231** | 47.02 | **45.20** | 1.7 |
| **Power cable adapter, HW20A, AR** | 105Z57 | **1Z079†** | 11.63 | **11.16** | 0.3 |
| **Power cable adapter, HW20, 20R** | 45V11 | **1Z241‡** | 16.79 | **16.12** | 0.7 |
| **Water hose, 12.5 ft., HW-20, 20R** | 45V07 | **1Z233** | 11.79 | **11.32** | 0.7 |
| **Water hose, 25 ft., HW-20, 20R** | 45V08 | **1Z235** | 13.75 | **13.21** | 1.1 |
| **Gas hose, 12.5 ft., HW-20, 20R** | 45V09 | **1Z237** | 11.80 | **11.34** | 0.3 |
| **Gas hose, 25 ft., HW-20, 20R** | 45V10 | **1Z239** | 13.78 | **13.22** | 0.5 |
| **Handle, HW-20AR** | 105Z55R | **1Z077** | 13.03 | **12.52** | 0.1 |
| **Cable assem., 12.5 ft., HW-20AR** | 33946 | **1Z199#** | 54.89 | **52.75** | 3.3 |
| **Cable assem., 25 ft., HW-20AR** | 33947 | **1Z201#** | 75.08 | **72.15** | 5.8 |
| **Body w/valve, HW-20AR** | 84563 | **1Z209** | 65.41 | **62.85** | 0.2 |
| **Power cable, 12.5 ft., HW-20A** | 997022 | **1Z381** | 54.96 | **52.80** | 2.2 |
| **Power cable, 25 ft., HW-20A** | 997023 | **1Z383** | 75.26 | **72.30** | 3.9 |
| **Body, HW-20A** | 19686 | **1Z197** | 48.57 | **46.65** | 0.2 |

## REPLACEMENT PARTS FOR 150 AMP AIR-COOLED TORCHES (HW17)

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Medium cap (Pkg./2)** | 34015 | **1Z203*** | $2.97 | **$2.85** | 0.1 |
| **Handle** | 105Z55 | **1Z075** | 15.49 | **14.87** | 0.1 |
| **Power cable, 12.5 ft.** | 997022 | **1Z381##** | 54.96 | **52.80** | 2.2 |
| **Power cable, 25 ft.** | 997023 | **1Z383##** | 75.26 | **72.30** | 3.9 |
| **Power cable adapter** | 105Z57 | **1Z079†** | 11.63 | **11.16** | 0.3 |
| **Short cap (Pkg./2)** | 57Y04 | **1Z315*** | 2.51 | **2.42** | 0.1 |
| **Long cap** | 57Y02 | **1Z313** | 3.01 | **2.89** | 0.1 |
| **Hard body, HW-17** | 57Y06 | **1Z317** | 46.19 | **44.35** | 3.0 |
| **Hard body, w/valve, HW-17** | 57Y06LV | **1Z319** | 66.28 | **63.65** | 3.3 |
| **Sil. rubber body, w/valve, HW-17R** | 19576R | **1Z185** | 61.60 | **59.20** | 4.0 |
| **Sil. rubber body, HW-17R** | 57Y06R | **1Z321** | 41.35 | **39.75** | 3.3 |
| **Power cable 2 PC** | 33946 | **1Z199** | 54.89 | **52.75** | 3.3 |
| **Power cable 2 PC** | 33947 | **1Z201** | 75.08 | **72.15** | 5.8 |

## REPLACEMENT PARTS FOR 220 AMP AIR-COOLED TORCHES (HW26)

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Long cap** | 57Y02 | **1Z313** | $3.01 | **$2.89** | 0.1 |
| **Hard body** | 45V65 | **1Z268** | 52.09 | **50.10** | 0.4 |
| **Hard body handle** | 54N84 | **1Z311** | 14.43 | **13.86** | 0.1 |
| **Power cable, 12.5 ft.** | 46V28 | **1Z276##** | 69.96 | **67.20** | 3.8 |
| **Power cable, 25 ft.** | 46V30 | **1Z282##** | 103.36 | **99.30** | 7.6 |
| **Power cable adapter** | 45V62 | **1Z266†** | 17.23 | **16.55** | 0.7 |
| **Cap insert** | 19625 | **1Z189** | 2.93 | **2.82** | 0.4 |
| **Sil. rubber handle** | 19624 | **1Z187** | 14.40 | **13.83** | 0.2 |
| **Sil. rubber body** | 45V65R | **1Z270** | 46.70 | **44.90** | 0.4 |
| **Sil. rubber body, w/valve** | 598478R | **1Z325** | 71.65 | **68.80** | 7.0 |
| **Gasket** | 19626 | **1Z191** | 2.94 | **2.83** | 0.2 |
| **Hard body, w/valve** | 598478 | **1Z323** | 74.84 | **71.85** | 0.4 |
| **Insulator (Pkg./3)** | 54N01 | **1Z295*** | 4.06 | **3.90** | 0.1 |

## REPLACEMENT PARTS FOR 425 AMP WATER-COOLED TORCHES (HW18)

| Description | ESAB Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Long cap** | 57Y02 | **1Z313** | $3.01 | **$2.89** | 0.1 |
| **Short cap (Pkg./2)** | 57Y04 | **1Z315*** | 2.51 | **2.42** | 0.1 |
| **Hard body** | 948350 | **1Z369** | 79.79 | **76.65** | 6.3 |
| **Sil. rubber body** | 948350R | **1Z371** | 71.28 | **68.50** | 6.0 |
| **Hard body handle** | 10N15 | **1Z081** | 17.16 | **16.47** | 0.1 |
| **Sil. rubber body handle** | 10N15A | **1Z083** | 14.42 | **13.84** | 0.1 |
| **Power cable assem. 12.5 ft.** | 40V64 | **1Z211##** | 44.96 | **43.20** | 1.8 |
| **Power cable assem. 25.5 ft.** | 41V29 | **1Z219##** | 58.06 | **55.75** | 3.0 |
| **Power cable adapter** | 45V11 | **1Z241‡** | 16.79 | **16.12** | 0.7 |
| **Gas hose assem. 12.5 ft.** | 40V75 | **1Z215** | 11.79 | **11.33** | 0.9 |
| **Gas hose assem. 25 ft.** | 41V30 | **1Z221** | 13.75 | **13.21** | 1.4 |
| **Water hose assem. 12.5 ft.** | 40V74 | **1Z213** | 11.80 | **11.33** | 0.6 |
| **Water hose assem. 25 ft.** | 41V32 | **1Z223** | 13.75 | **13.21** | 1.4 |

## WEAR PARTS FOR 140 AMP AIR-COOLED & 300 AMP WATER-COOLED TORCHES (HW20-HW20A)

| Description | Pkg. Qty. | ESAB Model | Stock No. | List | Each* | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Collet 0.020-in.** | 5 | 13N20 | **1Z145** | $1.27 | **$1.23** | 0.1 |
| **Collet 0.040-in.** | 5 | 13N21 | **1Z147** | 1.27 | **1.23** | 0.1 |
| **Collet 1/16-in.** | 5 | 13N22 | **1Z149** | 1.27 | **1.23** | 0.1 |
| **Collet 3/32-in.** | 5 | 13N23 | **1Z151** | 1.27 | **1.23** | 0.1 |
| **Collet 1/8-in.** | 5 | 13N24 | **1Z153** | 1.27 | **1.23** | 0.1 |
| **Collet body 0.020-in.** | 2 | 13N25 | **1Z155** | 2.51 | **2.42** | 0.1 |
| **Collet body 0.040-in.** | 2 | 13N26 | **1Z157** | 2.51 | **2.42** | 0.1 |
| **Collet body 1/16-in.** | 2 | 13N27 | **1Z159** | 2.51 | **2.42** | 0.2 |
| **Collet body 3/32-in.** | 2 | 13N28 | **1Z161** | 2.51 | **2.42** | 0.2 |
| **Collet body 1/8-in.** | 2 | 13N29 | **1Z163** | 2.51 | **2.42** | 0.2 |
| **Gas lens collet body, 0.020-in.** | 1 | 45V41 | **1Z255** | 7.48 | **7.18** | 0.4 |
| **Gas lens collet body, 0.040-in.** | 1 | 45V42 | **1Z257** | 7.48 | **7.18** | 0.3 |
| **Gas lens collet body, 1/16-in.** | 1 | 45V43 | **1Z259** | 7.48 | **7.18** | 0.3 |
| **Gas lens collet body, 3/32-in.** | 1 | 45V44 | **1Z261** | 7.48 | **7.18** | 0.3 |
| **Gas lens collet body, 1/8-in.** | 1 | 45V45 | **1Z264** | 7.48 | **7.18** | 0.2 |
| **Std. high impact cups, No. 4** | 10 | 13N08 | **1Z121** | 2.69 | **2.59** | 0.1 |
| **Std. high impact cups, No. 5** | 10 | 13N09 | **1Z123** | 2.69 | **2.59** | 0.1 |
| **Std. high impact cups, No. 6** | 10 | 13N10 | **1Z125** | 2.69 | **2.59** | 0.1 |
| **Std. high impact cups, No. 7** | 10 | 13N11 | **1Z127** | 2.69 | **2.59** | 0.1 |
| **Std. high impact cups, No. 8** | 10 | 13N12 | **1Z129** | 2.69 | **2.59** | 0.1 |
| **Std. high impact cups, No. 10** | 10 | 13N13 | **1Z131** | 2.69 | **2.59** | 0.1 |
| **Std. ceramic cups, No. 4** | 10 | 13N14 | **1Z133** | 5.67 | **5.45** | 0.1 |
| **Std. ceramic cups, No. 5** | 10 | 13N15 | **1Z135** | 5.67 | **5.45** | 0.1 |
| **Std. ceramic cups, No. 6** | 10 | 13N16 | **1Z137** | 5.67 | **5.45** | 0.1 |
| **Std. ceramic cups, No. 7** | 10 | 13N17 | **1Z139** | 5.67 | **5.45** | 0.1 |
| **Std. ceramic cups, No. 8** | 10 | 13N18 | **1Z141** | 5.67 | **5.45** | 0.1 |
| **Std. ceramic cup, No. 10** | 10 | 13N19 | **1Z143** | 5.67 | **5.45** | 0.1 |
| **Gas lens high impact cups, No. 4** | 10 | 53N58 | **1Z287** | 2.69 | **2.59** | 0.1 |
| **Gas lens high impact cups, No. 5** | 10 | 53N59 | **1Z289** | 2.69 | **2.59** | 0.1 |
| **Gas lens high impact cups, No. 6** | 10 | 53N60 | **1Z291** | 2.69 | **2.59** | 0.1 |
| **Gas lens high impact cups, No. 7** | 10 | 53N61 | **1Z293** | 2.69 | **2.59** | 0.1 |

**GRAINGER HAS WHAT YOU'RE LOOKING FOR.**

**Place Your order Today!**

(*) Priced each—Sold in package quantities only. (†) For air-cooled torches. (‡) For water-cooled torches. (#) Two-piece—separate cable and hose. (##) One-piece power cable and hose.

# TIG TORCH ACCESSORIES, GOGGLES AND BLANKETS

## WEAR PARTS FOR 150 AMP AIR-COOLED, 220 AMP AIR-COOLED, AND 425 AMP WATER-COOLED TORCHES (HW17, 18 & 26)

| Description | ESAB Model | Stock No. | List | Each* | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ollet 0.020-in.** | 10N21 | **1Z085** | $1.51 | **$1.45** | 5 | 0.1 |
| **ollet 0.040-in.** | 10N22 | **1Z087** | 1.51 | **1.45** | 5 | 0.1 |
| **ollet 1/16th-in.** | 10N23 | **1Z089** | 1.51 | **1.45** | 5 | 0.1 |
| **ollet 3/32nd-in.** | 10N24 | **1Z091** | 1.51 | **1.45** | 5 | 0.1 |
| **ollet 1/8th-in.** | 10N25 | **1Z093** | 1.51 | **1.45** | 5 | 0.1 |
| **ollet 5/32nd-in.** | 54N20 | **1Z309** | 1.51 | **1.45** | 5 | 0.1 |
| **ollet body 0.020-in.** | 10N29 | **1Z099** | 3.24 | **3.12** | 2 | 0.1 |
| **ollet body 0.040-in.** | 10N30 | **1Z101** | 3.24 | **3.12** | 2 | 0.1 |
| **ollet body 1/16th-in.** | 10N31 | **1Z103** | 3.24 | **3.12** | 2 | 0.1 |
| **ollet body 3/32nd-in.** | 10N32 | **1Z105** | 3.24 | **3.12** | 2 | 0.1 |
| **ollet body 1/8th in.** | 10N28 | **1Z095** | 3.24 | **3.12** | 2 | 0.1 |
| **s lens collet body, 0.020** | 45V29 | **1Z253** | 8.27 | **7.94** | 1 | 0.1 |
| **s lens collet body, 0.040** | 45V24 | **1Z243** | 8.27 | **7.94** | 1 | 0.1 |
| **s lens collet body, 1/16th** | 45V25 | **1Z245** | 8.27 | **7.94** | 1 | 0.1 |
| **s lens collet body, 3/32nd** | 45V26 | **1Z247** | 8.27 | **7.94** | 1 | 0.1 |
| **s lens collet body, 1/8th** | 45V27 | **1Z249** | 8.27 | **7.94** | 1 | 0.1 |
| **s lens collet body, 5/32nd** | 45V28 | **1Z251** | 8.27 | **7.94** | 1 | 0.1 |
| **d. high impact cup, No. 4** | 10N50 | **1Z119** | 3.04 | **2.92** | 10 | 0.1 |
| **d. high impact cup, No. 5** | 10N49 | **1Z117** | 3.04 | **2.92** | 10 | 0.1 |
| **d. high impact cup, No. 6** | 10N48 | **1Z115** | 3.04 | **2.92** | 10 | 0.1 |
| **d. high impact cup, No. 7** | 10N47 | **1Z113** | 3.04 | **2.92** | 10 | 0.1 |
| **d. high impact cup, No. 8** | 10N46 | **1Z111** | 3.04 | **2.92** | 10 | 0.1 |
| **d. high impact cup, No. 10** | 10N45 | **1Z109** | 3.04 | **2.92** | 10 | 0.1 |
| **d. high impact cup, No. 12** | 10N44 | **1Z107** | 3.04 | **2.92** | 10 | 0.1 |

Priced each—Sold in package quantities only.

| Description | ESAB Model | Stock No. | List | Each* | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Std. ceramic cup No. 4** | 105Z43 | **1Z069** | $5.68 | **$5.46** | 10 | 0.1 |
| **Std. ceramic cup No. 5** | 105Z42 | **1Z067** | 5.68 | **5.46** | 10 | 0.1 |
| **Std. ceramic cup No. 6** | 105Z44 | **1Z071** | 5.68 | **5.46** | 10 | 0.1 |
| **Std. ceramic cup No. 7** | 105Z45 | **1Z073** | 5.68 | **5.46** | 10 | 0.1 |
| **Std. ceramic cup No. 8** | 08N78 | **1Z061** | 5.68 | **5.45** | 10 | 0.1 |
| **Std. ceramic cup No. 10** | 08N79 | **1Z063** | 6.26 | **6.00** | 10 | 0.1 |
| **Std. ceramic cup No. 12** | 08N80 | **1Z065** | 6.26 | **6.00** | 10 | 0.1 |
| **Gas lens high impact cup, No. 4** | 54N18 | **1Z305** | 3.04 | **2.92** | 10 | 0.1 |
| **Gas lens high impact cup, No. 5** | 54N17 | **1Z303** | 3.04 | **2.92** | 10 | 0.1 |
| **Gas lens high impact cup, No. 6** | 54N16 | **1Z301** | 3.04 | **2.92** | 10 | 0.1 |
| **Gas lens high impact cup, No. 7** | 54N15 | **1Z299** | 3.04 | **2.92** | 10 | 0.1 |
| **Gas lens high impact cup, No. 8** | 54N14 | **1Z297** | 3.04 | **2.92** | 10 | 0.1 |
| **Gas lens high impact cup, short** | 54N19 | **1Z307** | 3.04 | **2.92** | 10 | 0.1 |

(*) Priced each—Sold in package quantities only.

## HELIARC TUNGSTEN ELECTRODES, GROUND FINISH, 7 IN.

| Description | ESAB Model | Stock No. | List | Each* | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/16-in., pure** | 76Z51 | **1Z345** | $1.84 | **$1.77** | 10 | 0.1 |
| **3/32-in., pure** | 76Z57 | **1Z349** | 3.80 | **3.65** | 10 | 0.1 |
| **1/8-in., pure** | 76Z52 | **1Z347** | 6.25 | **6.00** | 10 | 0.1 |
| **1/16-in., 2% th.** | 84Z19 | **1Z353** | 2.05 | **1.98** | 10 | 0.1 |
| **3/32-in., 2% th.** | 84Z20 | **1Z355** | 4.23 | **4.07** | 10 | 0.1 |
| **1/8-in., 2% th.** | 81Z79 | **1Z351** | 6.98 | **6.70** | 10 | 0.1 |
| **1/16-in., Lanthana** | 796F58 | ***New*** **4UT45** | 1.69 | **1.54** | 10 | 0.1 |
| **3/32-in., Lanthana** | 796F63 | ***New*** **4UT46** | 3.48 | **3.17** | 10 | 0.1 |
| **1/8-in., Lanthana** | 796F68 | ***New*** **4UT47** | 5.74 | **5.23** | 10 | 0.1 |

(*) Priced each—Sold in package quantities only.

## WELDING GOGGLES




No. 4T544 No. 1N784

ft, comfortable vinyl frame features good ventilation through lirect vents to maximize radiation protection while minimizing gging of lenses. Goggles may be worn over prescription glass- 2 x 4¼". Shade 5 lens included. Meets requirements of ANSI 7.1-1989 Standard for welder's goggles. Sellstrom brand.

. 1N784 is a lift front goggle and also includes cover plate and pact plate. Uses standard filter, cover, magnifier, and impact ıtes.

. **4¼" Polycarbonate Replacement Plate** for use with No. 1N784 lift nt welding goggle. Shade 5. Meets ANSI Z87.1-1989 Standard. llstrom brand.

| Description | Sellstrom Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **ndard Goggles** | 85450 | **4T544** | $11.42 | **$10.28** | 0.4 |
| **Front Goggles** | 85550 | **1N784** | 13.71 | **12.34** | 0.4 |
| **olacement Shade 5 Plate Nos. 1N784 & 4T544** | 16605 | **1N790** | 2.01 | **1.81** | 0.1 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online... day or night.

## WELDING BLANKETS




No. 1H169

### GLASS WEB BLANKET

32 oz. woven material is 100% textured fiberglass. Flame retardant, withstands temperatures up to 1000°F. Superior electrical insulator. Inorganic, cannot burn or mildew. For use as welding blanket or protective shield. Hemmed on all four sides with brass grommets on 24" centers. White color. Steiner brand.

### BLACKFLEX BLANKET

24 oz. blend of fiberglass and aramid fibers. Protects from most molten metal, welding sparks and slag. Good abrasion characteristics. For use as welding blanket, screen, or curtain. Hemmed on all four sides with brass grommets on 24" centers. Black color. Steiner brand.

| Description | Size (Ft.) | Steiner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Glass Web** | 4 x 6 | 36646 | **1H173** | $71.90 | **$57.55** | 5.3 |
| | 6 x 6 | 36666 | **1H172** | 106.78 | **85.45** | 8.5 |
| | 8 x 6 | 36686 | **1H171** | 142.84 | **114.30** | 12.0 |
| | 10 x 6 | 36606 | **1H174** | 178.92 | **143.15** | 15.0 |
| **Blackflex** | 4 x 6 | 37646 | **1H169** | 66.23 | **53.00** | 3.9 |
| | 6 x 6 | 37666 | **1H168** | 99.19 | **79.40** | 5.9 |
| | 8 x 6 | 37686 | **1H167** | 132.24 | **105.85** | 8.1 |
| | 10 x 6 | 37606 | **1H170** | 165.29 | **132.25** | 11.0 |

# WELDING HELMETS




## A ARC WELDING HELMET

Lightweight nylon construction resists heat and weld spatter. Lens holder is molded into the shell to prevent light from entering helmet. Sweatband and pinstop for setting helmet angle. Large headgear knob for easy adjustment, even when wearing gloves. Meets ANSI Z87.1-1989 Standard. Helmet includes No. 4T545 No. 10 shade and No. 4T547 cover plate. Sellstrom brand (28501-10).

**No. 3T921.** Shpg. wt. 1.8 lbs. List $28.15. Each.....**$25.40**

## B C SILVER SUPER SLIM SUPER KOOL WELDING HELMETS

Drop down ratchet headgear adjusts to fit all head sizes. Compact design allows working in confined areas. Extended crown and rigid bib protect user and improve helmet rigidity. Sel-Snap™ lens retention system requires no gasket. Easy front loading provides quick release for replacement of filter and cover plates. Special coating makes helmet 30% cooler than uncoated models, and sheds welding spatter. Proven performance in subzero temperatures. Absorbent sweatband. Nylon lift and wide view fixed front plate retainer models. Includes No. 10 shade plate and cover plate. Lift front includes impact plate. Meets ANSI Z87.1-1989 Standard. Sellstrom brand (29311-10, 29911-10).

| Key | Helmet Type | Plate Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| B | Lift | 2 x 4¼ | **4T541** | $43.29 | **$39.00** | 1.9 |
| C | Fixed | 4½ x 5¼ | **4T542** | 36.64 | **33.00** | 2.0 |

## D SUPER SLIM SUPER TUFF WELDING HELMETS

Lightweight molded thermoplastic resin helmet provides high strength and heat resistance. Drop down ratchet headgear. Sel-Snap™ lens retention system requires no gasket. Easy front loading provides quick release for replacement of impact plate. Proven performance in subzero temperatures. 2 x 4¼" lift front plate retainer. Includes No. 10 shade plate. Meets ANSI Z87.1-1989 Standard. Sellstrom brand (29301-10).

**No. 4T543.** Shpg. wt. 1.8 lbs. List $36.23. Each.....**$32.65**

## E F AUTO-DARKENING WELDING FILTER AND HELMET

**Filters** increase welding accuracy and speed. When arc light strikes a Phantom filter, window will instantly darken to the designated shade in less than 1/25,000 of a second. Offers protection against UV/IR rays at all shades and in the off position. Uses standard cover and impact plates.

E **Phantom®** auto-darkening module has adjustable shade selection of 9-12. Two AAA Alkaline batteries are replaceable without removing module. The 4½ x 5¼" module is complete with a silver Super Slim Super Kool welding helmet. Silver helmet is 30% cooler than uncoated helmets and sheds spatter without burning. Large ratchet headgear knob allows for easy one hand adjustment for a perfect fit. Meets ANSI Z87.1-1989 Standard. Batteries included. Sellstrom brand.

F **Phantom Electro 10™** auto-darkening shade 10 module. 2 x 4¼ Module is complete with a black Super Slim Super Tuff weldi helmet. Helmet is extremely durable and features a drop do ratchet headgear. Large ratchet headgear knob allows for ea one hand adjustment for a perfect fit. Meets ANSI Z87.1-19 Standard. Two AAA Alkaline batteries included. Sellstrom bra

| Key | Description | Sellstrom Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| E | Phantom Helmet | 29711 | **1N791** | $249.63 | **$224.75** | 2. |
| F | Phantom Electro 10 Helmet | 29101-10 | **1N782** | 147.85 | **133.10** | 2. |

## REPLACEMENT PLATES

**2 x 4¼" Polycarbonate replacement plate.** For use with Nos. 3T92 4T541 and 4T543 welding helmets. Impact resistant. Protec welder from flash, sparks and sputtering welds. No. 10 shad Meets ANSI Z87.1-1989 Standard. Sellstrom brand (16610).

**4¼ x 5¼" Plate** for use with No. 4T542 welding helmet. No. shade. Sellstrom brand (16710).

**2 x 4½" Clear plastic cover plate** for use with No. 4T545 weldi plate. Meets ANSI Z87.1-1989 Standard. Sellstrom brand (19002

**4½ x 5¼" Clear cover plate** for use with No. 4T546 welding plat Sellstrom brand (19004).

| Description | For Use With Nos. | Sellstrom Model | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|
| **2 x 4¼" Polycarbonate** | 3T921 4T541 & 4T543 | 16610 | **4T545** | $2.50 | **$2.25** | 0. |
| **4½ x 5¼** | 4T542 | 16710 | **4T546** | 5.82 | **5.24** | 0. |
| **2 x 4¼ Clear Plastic** | 4T545 & 1N782 | 19002 | **4T547** | 0.85 | **0.77** | 0. |
| **4½ x 5¼** | 4T546 & 1N791 | 19004 | **4T548** | 2.27 | **2.05** | 0. |

## G H INFRA-GUARD™ SHADE 5 FACESHIELDS

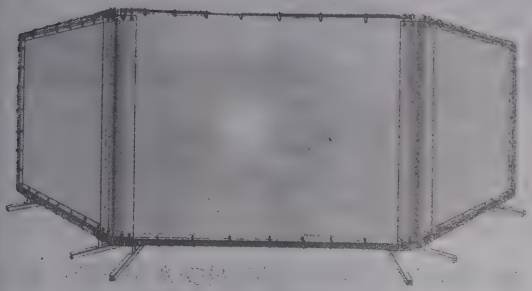
**Infra-Guard™ IR Shade 5 faceshields** offer the user protection fro infrared and ultraviolet rays during oxy-acetylene welding ar cutting operations. The faceshield window provides a wide vie ing area and offers excellent optics. Ratchet headgear allows f a perfect fit with one hand adjustment. Faceshield is available single crown with 8 x 12" window or, for added protection, crown and chin protector with 7 x 19" window. Meets AN Z87.1-1989 Standard. Sellstrom brand.

**Infra-Guard™ Replacement Windows** are 0.060" thick acetate ar offer excellent optics with a uniform shade 5. Window protec against infrared and ultraviolet rays. Use 8 x 12" window wit faceshield No. 1N785 and 7 x 19" window with faceshield N 1N786. Sellstrom brand.

| Key | Description | Sellstrom Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| G | Faceshield | 39150 | **1N785** | $25.64 | **$23.09** | 0. |
| H | Crown/Chin Faceshield | 38150 | **1N786** | 31.89 | **28.75** | 2. |
| — | 8 x 12" Replacement Window | 35050 | **1N788** | 11.04 | **9.94** | 0. |
| — | 7 x 19" Replacement Window | 36050 | **1N787** | 15.81 | **14.23** | 0. |

**RESPIRATORY PROTECTION IS RECOMMENDED WHILE WELDING; SEE INDEX**

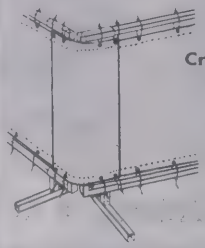
# PORTABLE WELDING SCREENS



No. 3W171
Durable Black Finish

Shown As Three Connecting Screens

**UNIQUE CURTAIN CONNECTIONS**



Create "No-Leak" Multi-Screens

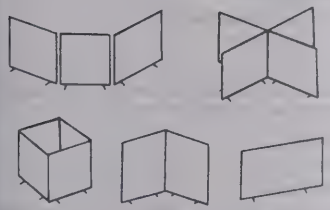
Can be used at any location along the screen.

Connecting Kit included; no extra parts needed.

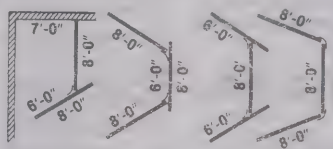
Replacement Parts Available
1-800-323-0620

## WELDING SCREEN CONFIGURATIONS

**UNLIMITED DESIGNS FOR CUSTOM WORK AREAS**

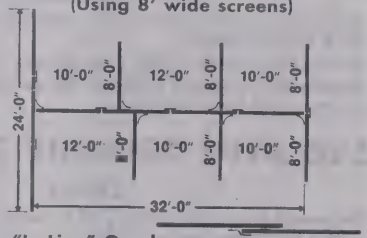


**CREATE SMALLER SIZES BY PLACING "FLEXIBLE HINGE" CONNECTORS IN VARIOUS LOCATIONS.**
**(Using 8′ wide screens)**




Design compensates for unlevel floors.

**Example Divided Work Area Plan View.**
**(Using 8′ wide screens)**



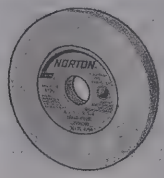

"In-Line" Overlap Allows any length, to the inch, to be accommodated

- Complies with OSHA 1910.252 (ii) Fire Curtains, (v) Shields, and California Fire Marshall Codes
- Provides protective barrier around operations producing flames, arcs, or sparks
- Create custom designed work areas
- Curtain connectors create "no-leak" multi-screens
- Connecting kit included
- No tools required for assembly
- Corrosion resistant black finish

Provides protective barrier around hazardous areas. Reinforced vinyl or canvas curtain shields operations producing flames, arcs or sparks. Slip-fit constructed with lightweight tubular steel frame. Free standing screen can be used alone or joined in multiples using connecting kit included. Versatile curtain connectors create "no-leak" multi-screens. Connectors may be used at corners or any location along the screen allowing unlimited combinations of size, length and shape. No tools required for assembly. Corrosion resistant black finish. Available in yellow transparent vinyl, orange transparent vinyl or olive drab canvas duck. J.C. Goss brand.

| Description | Dimensions (Ft.) H | W | Goss Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **WELDING SCREEN WITH FRAME SPECIFICATIONS AND ORDERING DATA** | | | | | | | |
| ow Transparent Vinyl | 6 | 6 | 66YF | 3T966 | $114.65 | **$86.00** | 20.0 |
| ow Transparent Vinyl | 6 | 8 | 68YF | 3W171 | 129.80 | **97.35** | 23.0 |
| nge Transparent Vinyl | 6 | 6 | 66OF | 3T967 | 114.65 | **86.00** | 20.0 |
| nge Transparent Vinyl | 6 | 8 | 68OF | 3T968 | 129.80 | **97.35** | 23.0 |
| e Drab Canvas Duck | 6 | 6 | 66CF | 3T969 | 113.65 | **85.25** | 22.0 |
| e Drab Canvas Duck | 6 | 8 | 68CF | 3T970 | 127.90 | **95.95** | 24.0 |
| **REPLACEMENT WELDING CURTAIN SPECIFICATIONS AND ORDERING DATA** | | | | | | | |
| ow Transparent Vinyl | 6 | 6 | 66YR | 3T971 | 40.30 | **30.25** | 5.0 |
| ow Transparent Vinyl | 6 | 8 | 68YR | 6X969 | 53.50 | **40.15** | 6.0 |
| nge Transparent Vinyl | 6 | 6 | 66OR | 3T972 | 40.30 | **30.25** | 5.0 |
| nge Transparent Vinyl | 6 | 8 | 68OR | 3T973 | 53.50 | **40.15** | 6.5 |
| e Drab Canvas Duck | 6 | 6 | 66CR | 3T974 | 39.25 | **29.45** | 6.0 |
| e Drab Canvas Duck | 6 | 8 | 68CR | 3T975 | 52.10 | **39.10** | 7.0 |

# TOOLROOM WHEELS



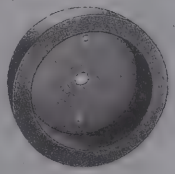

Type 1
Straight Wheel




Type 6
Straight Cup




Type 12
Dish Wheel



Type 50
Plate Mounted
Wheel

## ALUMINUM OXIDE

### 38A WHITE ALUMINUM OXIDE

- The value-priced wheel for cool, fast tool reconditioning
- Ideal for light grinding on all tool steels

### 32A GRAY ALUMINUM OXIDE

- The toolroom standard of performance
- Ideal on all tool steels, especially with moderate to heavy feeds

### 32AA ALUMINUM OXIDE

- Proprietary aluminum oxide, with up to 2 times the life of 32A on tool steels
- Draws less power, freer cutting, less burn, broad versatility
- High-performance VTR bond system for improved part tolerance and form holding

## 5SG BLUE CERAMIC SEEDED GEL

### 5SG-VS

- Patented wheel for D2, M, T, A, or S Series steels and other high temperature alloys
- Long lasting, cool cutting, minimal dressing
- 5SG-VSP with induced porosity for less heat generation
- Dress with SG diamond tools for maximum performance

## SILICON CARBIDE

### 37C BLACK SILICON CARBIDE

- Dark gray/black silicon carbide
- Use on cast iron and nonferrous metals

### 39C GREEN SILICON CARBIDE

- Use for hard cemented carbide, glass and ceramic tooling, and nonferrous metals

**TOOLROOM WHEEL SELECTION GUIDE**

| Abrasive Type | Grit Size | Grade Hardness | Bond Type | Bond Modification |
|---|---|---|---|---|
| EX: 38A | 60 | J | V | BE |
| 38A | Coarse | Soft, Free-cut | V = Vitrified | BE |
| 32A | 36 | F | | CE |
| 32AA | 46 | G | B = Resin | KS |
| 57A | 60 | H | | ME |
| | | I | | |
| A | 70 | J | | TR |
| | 80 | K | | |
| 5SG | 100 | L | | BEP Induced Pore |
| | | M | | SP Induced Pore |
| 37C | 120 | N | | |
| 39C | 150 | O | | |
| | 180 | P | | |
| | 220 | Q | | |
| | Fine | Hard, Form Hold | | |

## TECHNICAL TIPS: MAKING A WHEEL ACT HARDER OR SOFTER

Very often a wheel can be made to perform differently by varyi machine parameters.

If a wheel is acting too hard (causing burn, chatter, slow rate cut, loading) a wheel can be made to act softer by:

1) Increasing the work speed
2) Increasing traverse speed
3) Increasing infeed/downfeed
4) Decreasing the wheel speed
5) Dressing at a slower traverse rate
6) Dressing the wheel face thinner
7) Increasing the depth of dress per traverse
8) Dressing more often

If a wheel is acting too soft, (not holding size, or wearing prem turely) a wheel can be made to act harder by:

1) Decreasing the work speed
2) Decreasing the traverse speed
3) Decreasing infeed/downfeed
4) Increasing the wheel speed while observing proper safety procedures
5) Dressing at a faster traverse rate
6) Using a lighter dressing feed

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# TOOLROOM WHEELS

## TYPE 1 - STRAIGHT TOOLROOM WHEELS

| Dia. (In.) | Width x Hole (In.) | Wheel Specification | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3 | 1 x 1/2 | 38A60-MVBE | 2D243 | $6.61 | $5.94 | 5 | 0.6 |
| 3 | 1 x 1/2 | 37C60-MVK | 2D241 | 10.11 | 9.10 | 5 | 0.6 |
| 4 | 1/4 x 1/2 | 38A60-KVBE | 2D248 | 7.42 | 6.68 | 5 | 0.7 |
| 4 | 1/4 x 1/2 | 38A100-IVBE | 2D249 | 7.42 | 6.68 | 5 | 0.7 |
| 4 | 1/4 x 1/2 | 32A60-KVBE | 1H928 | 9.62 | 8.65 | 5 | 0.8 |
| 4 | 1/4 x 3/4 | 32A60-KVBE | 1H929 | 9.62 | 8.65 | 5 | 0.7 |
| 4 | 1/2 x 1/2 | 38A60-KVBE | 2D251 | 8.31 | 7.48 | 5 | 0.8 |
| 4 | 1/2 x 1/2 | 32A46-KVBE | 1H931 | 10.80 | 9.72 | 5 | 0.8 |
| 4 | 1/2 x 3/4 | 32A60-KVBE | 1H933 | 10.80 | 9.72 | 5 | 0.8 |
| 4 | 1/2 x 3/4 | 32A80-KVBE | 1H934 | 10.80 | 9.72 | 5 | 1.0 |
| 4 | 1 x 1/2 | 38A60-MVBE | 2D257 | 11.23 | 10.11 | 5 | 1.4 |
| 5 | 1/4 x 1/2 | 38A80-KVBE | 2D263 | 12.25 | 11.03 | 5 | 0.7 |
| 5 | 1/4 x 1/2 | 32A60-KVBE | 1H952 | 15.95 | 14.35 | 5 | 0.7 |
| 5 | 1/4 x 1¼ | 38A80-KVBE | 2D266 | 12.25 | 11.03 | 5 | 0.7 |
| 5 | 1/4 x 1¼ | 38A100-IVBE | 2D267 | 12.25 | 11.03 | 5 | 0.7 |
| 5 | 1/4 x 1¼ | 32A46-KVBE | 1H951 | 15.95 | 14.35 | 5 | 0.8 |
| 5 | 1/4 x 1¼ | 32A60-KVBE | 1H953 | 15.95 | 14.35 | 5 | 0.7 |
| 5 | 1/4 x 1¼ | 32A80-KVBE | 1H954 | 15.95 | 14.35 | 5 | 0.7 |
| 5 | 1/4 x 1¼ | 32AA60-KVTR | New 3UN73 | 18.53 | 16.67 | 5 | 0.7 |
| 5 | 1/4 x 1¼ | 32AA80-KVTR | New 3UN74 | 18.53 | 16.67 | 5 | 0.7 |
| 5 | 1/2 x 1/2 | 38A60-KVBE | 2D272 | 14.69 | 13.21 | 5 | 1.3 |
| 5 | 1/2 x 1/2 | 38A80-KVBE | 2D275 | 14.69 | 13.21 | 5 | 1.3 |
| 5 | 1/2 x 1/2 | 32A60-KVBE | 1H956 | 19.12 | 17.20 | 5 | 1.3 |
| 5 | 1/2 x 1¼ | 38A60-KVBE | 2D273 | 14.69 | 13.21 | 5 | 1.2 |
| 5 | 1/2 x 1¼ | 38A80-KVBE | 2D276 | 14.69 | 13.21 | 5 | 1.2 |
| 5 | 1/2 x 1¼ | 38A120-KVBE | 2D278 | 14.69 | 13.21 | 5 | 1.2 |
| 5 | 1/2 x 1¼ | 32A46-KVBE | 1H955 | 19.12 | 17.20 | 5 | 1.2 |
| 5 | 1/2 x 1¼ | 32A60-KVBE | 1H957 | 19.12 | 17.20 | 5 | 1.2 |
| 5 | 1/2 x 1¼ | 32A80-JVBE | 1H958 | 19.12 | 17.20 | 5 | 1.1 |
| 5 | 1/2 x 1¼ | 32AA46-KVTR | New 3UN75 | 22.19 | 19.97 | 5 | 1.2 |
| 5 | 1/2 x 1¼ | 32AA60-KVTR | New 3UN76 | 22.19 | 19.97 | 5 | 1.2 |
| 5 | 3/4 x 1/2 | 32A60-KVBE | 1H964 | 22.29 | 20.06 | 5 | 1.9 |
| 5 | 3/4 x 5/8 | 38A60-KVBE | 2D283 | 15.29 | 13.80 | 5 | 1.9 |
| 5 | 3/4 x 1¼ | 38A60-KVBE | 2D284 | 15.29 | 13.80 | 5 | 1.9 |
| 5 | 3/4 x 1¼ | 32A60-KVBE | 1H965 | 22.29 | 20.06 | 5 | 1.9 |
| 5 | 1 x 1¼ | 32A46-IVBE | 1H971 | 22.94 | 20.71 | 5 | 2.2 |
| 5 | 1 x 1¼ | 32A60-KVBE | 1H970 | 22.94 | 20.71 | 5 | 2.2 |
| 6 | 1/4 x 1¼ | 38A46-HVBE | 2D292 | 12.61 | 11.36 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 38A46-IVBE | 5A896 | 12.74 | 11.49 | 5 | 1.5 |
| 6 | 1/4 x 1¼ | 38A60-HVBE | 2D293 | 12.61 | 11.36 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 38A60-IVBE | 5A897 | 12.74 | 11.50 | 5 | 0.7 |
| 6 | 1/4 x 1¼ | 38A60-JVBE | 2D294 | 12.61 | 11.36 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 38A60-KVBE | 5A898 | 12.74 | 11.50 | 5 | 0.8 |
| 6 | 1/4 x 1¼ | 38A80-IVBE | 5A899 | 12.74 | 11.50 | 5 | 1.0 |
| 6 | 1/4 x 1¼ | 38A80-JVBE | 2D296 | 12.61 | 11.36 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 38A80-KVBE | 5A900 | 12.74 | 11.50 | 5 | 0.6 |
| 6 | 1/4 x 1¼ | 38A100-IVBE | 2D298 | 12.61 | 11.36 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 38A100-JVBE | 2D299 | 12.61 | 11.36 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 38A120-JVBE | 2D302 | 12.61 | 11.36 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 38A120-KVBE | 2D303 | 12.61 | 11.36 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 38A150-MV | 2D290 | 18.76 | 16.94 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 38A220-LV | 2D291 | 18.76 | 16.94 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32A46-HVBE | 1H978 | 16.36 | 14.78 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32A46-IVBE | 1H979 | 16.36 | 14.78 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32A46-JVBE | 1H980 | 16.36 | 14.78 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32A46-KVBE | 1H992 | 16.36 | 14.78 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32A60-HVBE | 1H981 | 16.36 | 14.78 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32A60-IVBE | 1H982 | 16.36 | 14.78 | 5 | 1.0 |
| 6 | 1/4 x 1¼ | 32A60-JVBE | 1H983 | 16.36 | 14.78 | 5 | 1.0 |
| 6 | 1/4 x 1¼ | 32A60-KVBE | 1H984 | 16.36 | 14.78 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32A80-IVBE | 1H985 | 16.36 | 14.78 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32A80-JVBE | 1H986 | 16.36 | 14.78 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32A80-KVBE | 1H987 | 16.36 | 14.78 | 5 | 1.0 |
| 6 | 1/4 x 1¼ | 32A100-IVBE | 1H989 | 16.36 | 14.78 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32AA46-IVTR | New 3UN79 | 21.32 | 19.19 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32AA46-KVTR | New 3UN80 | 21.32 | 19.19 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32AA60-IVTR | New 3NU81 | 21.32 | 19.19 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32AA60-JVTR | New 3NU82 | 21.32 | 19.19 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32AA80-IVTR | New 3NU83 | 21.32 | 19.19 | 5 | 0.9 |
| 6 | 1/4 x 1¼ | 32AA80-KVTR | New 3NU84 | 21.32 | 19.19 | 5 | 0.9 |
| 6 | 3/8 x 1¼ | 32A46-HVBE | 1H993 | 18.39 | 16.60 | 5 | 1.8 |

## TYPE 1 - STRAIGHT TOOLROOM WHEELS (cont.)

| Dia. (In.) | Width x Hole (In.) | Wheel Specification | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 7 | 3/8 x 1¼ | 32A60-KVBE | 1H997 | $18.39 | $16.60 | 5 | 1.2 |
| 7 | 1/2 x 1¼ | 38A46-GVBEP | 2D323 | 15.68 | 14.16 | 5 | 1.4 |
| 7 | 1/2 x 1¼ | 38A46-HVBE | 4F937 | 16.01 | 14.45 | 5 | 1.7 |
| 7 | 1/2 x 1¼ | 38A46-HVBEP | 2D324 | 15.68 | 14.16 | 5 | 1.4 |
| 7 | 1/2 x 1¼ | 38A46-IVBE | 5A901 | 15.86 | 14.32 | 5 | 1.6 |
| 7 | 1/2 x 1¼ | 38A46-KVBE | 5A902 | 15.86 | 14.32 | 5 | 1.7 |
| 7 | 1/2 x 1¼ | 38A60-HVBE | 2D312 | 15.68 | 14.15 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 38A60-IVBE | 5A903 | 15.86 | 14.32 | 5 | 1.6 |
| 7 | 1/2 x 1¼ | 38A60-JVBE | 2D313 | 15.68 | 14.15 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 38A60-KVBE | 5A904 | 15.86 | 14.32 | 5 | 1.7 |
| 7 | 1/2 x 1¼ | 38A80-HVBE | 2D314 | 15.68 | 14.15 | 5 | 1.6 |
| 7 | 1/2 x 1¼ | 38A80-IVBE | 5A905 | 15.86 | 14.32 | 5 | 1.7 |
| 7 | 1/2 x 1¼ | 38A80-JVBE | 2D315 | 15.68 | 14.15 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 38A80-KVBE | 5A906 | 15.86 | 14.32 | 5 | 1.7 |
| 7 | 1/2 x 1¼ | 38A100-IVBE | 2D317 | 15.68 | 14.15 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 38A120-JVBE | 2D320 | 15.68 | 14.15 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 38A120-KVBE | 2D321 | 15.68 | 14.15 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 38A150-KV | 2D309 | 23.04 | 20.81 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 38A220-QV | 2D310 | 23.04 | 20.81 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A46-FVBEP | 2D100 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A46-GVBEP | 2D101 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A46-HVBE | 1H999 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A46-HVBEP | 2D102 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A46-IVBE | 2D083 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A46-IVBEP | 2D103 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A46-KVBE | 2D084 | 20.38 | 18.40 | 5 | 1.6 |
| 7 | 1/2 x 1¼ | 32A60-GVBEP | 2D105 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A60-HVBE | 2D085 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A60-IVBE | 2D086 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A60-JVBE | 2D087 | 20.38 | 18.40 | 5 | 1.5 |
| 7 | 1/2 x 1¼ | 32A60-KVBE | 2D088 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A80-HVBE | 2D090 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A80-IVBE | 2D091 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A80-JVBE | 2D092 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A80-KVBE | 2D093 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A80-LVBE | 2D094 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A100-HVBE | 2D095 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A100-IVBE | 2D096 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A100-JVBE | 2D097 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32A120-LVBE | 2D099 | 20.38 | 18.40 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32AA46-IVTR | New 3UN85 | 26.65 | 23.91 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32AA46-JVTR | New 3UN86 | 26.65 | 23.91 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32AA46-KVTR | New 3UN87 | 26.65 | 23.91 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32AA60-IVTR | New 3UN88 | 26.65 | 23.91 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32AA60-JVTR | New 3UN89 | 26.65 | 23.91 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32AA60-KVTR | New 3UN90 | 26.65 | 23.91 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32AA80-IVTR | New 3UN91 | 26.65 | 23.91 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 32AA80-KVTR | New 3UN92 | 26.65 | 23.91 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 5SG46-GVSP | 2D424 | 44.75 | 40.29 | 5 | 0.9 |
| 7 | 1/2 x 1¼ | 5SG46-IVS | 2D422 | 42.55 | 38.26 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 5SG46-JVS | 2D438 | 42.55 | 38.26 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 5SG60-GVSP | 2D425 | 44.75 | 40.27 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 5SG60-IVS | 2D443 | 42.55 | 38.26 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 5SG60-IVSP | 2D444 | 44.75 | 40.27 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 5SG60-JVS | 2D423 | 42.55 | 38.26 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 5SG80-JVS | 2D421 | 42.55 | 38.26 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 39C60-IVK | 2D407 | 28.75 | 25.84 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 39C80-IVK | 2D408 | 28.75 | 25.84 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 39C100-IVK | 2D409 | 28.75 | 25.84 | 5 | 1.8 |
| 7 | 1/2 x 1¼ | 39C120-IVK | 2D410 | 28.75 | 25.84 | 5 | 1.8 |
| 7 | 3/4 x 1¼ | 38A46-KVBE | 2D328 | 18.78 | 16.96 | 5 | 2.8 |
| 7 | 3/4 x 1¼ | 38A60-IVBE | 2D330 | 18.78 | 16.96 | 5 | 2.0 |
| 7 | 3/4 x 1¼ | 38A60-KVBE | 2D329 | 18.78 | 16.96 | 5 | 2.8 |
| 7 | 3/4 x 1¼ | 32A46-HVBE | 2D110 | 24.39 | 22.01 | 5 | 2.8 |
| 7 | 3/4 x 1¼ | 32A46-IVBE | 2D111 | 24.39 | 22.01 | 5 | 2.8 |
| 7 | 3/4 x 1¼ | 32A60-IVBE | 2D113 | 24.39 | 22.01 | 5 | 2.8 |
| 7 | 3/4 x 1¼ | 32A60-KVBE | 2D114 | 24.39 | 22.01 | 5 | 2.8 |
| 7 | 3/4 x 1¼ | 5SG60-JVS | 2D448 | 50.90 | 45.83 | 5 | 2.8 |
| 7 | 1 x 1¼ | 38A46-HVBE | 2D334 | 21.56 | 19.44 | 5 | 3.4 |
| 7 | 1 x 1¼ | 38A60-IVBE | 2D335 | 21.56 | 19.44 | 5 | 3.4 |
| 7 | 1 x 1¼ | 32A46-HVBE | 2D119 | 28.10 | 25.30 | 5 | 3.4 |
| 7 | 1 x 1¼ | 32A46-IVBE | 2D120 | 28.10 | 25.30 | 5 | 3.4 |
| 7 | 1 x 1¼ | 32A60-IVBE | 2D121 | 28.10 | 25.30 | 5 | 3.4 |
| 7 | 1 x 1¼ | 32A60-KVBE | 2D131 | 28.10 | 25.30 | 5 | 3.4 |

These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets are available. See page opposite inside back cover.
Width on Face B.

# TOOLROOM WHEELS

## TYPE 1 - STRAIGHT WHEELS (cont.)

| Dia. (In.) | Width x Hole (In.) | Wheel Specification | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 8 | 1/4 x 1 1/4 | 38A60-IVBE | 2D343 | $15.17 | $13.69 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 38A60-JVBE | 2D344 | 15.17 | 13.69 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 38A80-IVBE | 2D345 | 15.17 | 13.69 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 38A80-JVBE | 2D346 | 15.17 | 13.69 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 38A80-KVBE | 2D350 | 15.17 | 13.69 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 38A100-IVBE | 2D347 | 15.17 | 13.69 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 38A100-KVBE | 2D348 | 15.17 | 13.69 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 38A120-KVBE | 2D349 | 15.17 | 13.69 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 38A150-MV | 2D342 | 22.61 | 20.41 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 32A46-HVBE | 2D135 | 19.74 | 17.81 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 32A60-IVBE | 2D138 | 19.74 | 17.81 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 32A60-KVBE | 2D134 | 19.74 | 17.81 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 32A80-IVBE | 2D139 | 19.74 | 17.81 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 32A80-KVBE | 2D140 | 19.74 | 17.81 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 32AA60-IVTR | 3UN97 | 25.70 | 23.12 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 32AA60-KVTR | 3UN98 | 25.70 | 23.12 | 5 | 1.2 |
| 8 | 1/4 x 1 1/4 | 32AA80-KVTR | 3UN99 | 25.70 | 23.12 | 5 | 1.2 |
| 8 | 1/2 x 1 1/4 | 38A46-HVBE | 4F938 | 19.00 | 17.30 | 5 | 2.1 |
| 8 | 1/2 x 1 1/4 | 38A46-HVBEP | 2D356 | 18.79 | 16.97 | 5 | 1.9 |
| 8 | 1/2 x 1 1/4 | 38A46-IVBE | 5A907 | 19.00 | 17.15 | 5 | 1.0 |
| 8 | 1/2 x 1 1/4 | 38A46-JVBE | 2D352 | 18.79 | 16.96 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 38A46-KVBE | 5A908 | 19.00 | 17.15 | 5 | 1.4 |
| 8 | 1/2 x 1 1/4 | 38A60-HVBE | 2D353 | 18.79 | 16.96 | 5 | 2.1 |
| 8 | 1/2 x 1 1/4 | 38A60-IVBE | 5A909 | 19.00 | 17.15 | 5 | 1.6 |
| 8 | 1/2 x 1 1/4 | 38A60-JVBE | 2D354 | 18.79 | 16.96 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 38A60-KVBE | 5A910 | 19.00 | 17.16 | 5 | 0.6 |
| 8 | 1/2 x 1 1/4 | 38A80-IVBE | 5A911 | 19.00 | 17.15 | 5 | 2.0 |
| 8 | 1/2 x 1 1/4 | 38A80-KVBE | 5A912 | 19.00 | 17.15 | 5 | 1.6 |
| 8 | 1/2 x 1 1/4 | 38A100-KVBE | 2D355 | 18.79 | 16.96 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32A46-HVBE | 2D141 | 24.40 | 22.03 | 5 | 1.9 |
| 8 | 1/2 x 1 1/4 | 32A46-HVBEP | 2D152 | 24.40 | 22.02 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32A46-IVBE | 2D142 | 24.40 | 22.02 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32A46-KVBE | 2D144 | 24.40 | 22.03 | 5 | 1.9 |
| 8 | 1/2 x 1 1/4 | 32A60-HVBE | 2D145 | 24.40 | 22.02 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32A60-IVBE | 2D146 | 24.40 | 22.03 | 5 | 1.9 |
| 8 | 1/2 x 1 1/4 | 32A60-JVBE | 2D147 | 24.40 | 22.03 | 5 | 1.9 |
| 8 | 1/2 x 1 1/4 | 32A60-KVBE | 2D148 | 24.40 | 22.02 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32A80-IVBE | 2D149 | 24.40 | 22.02 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32A80-KVBE | 2D150 | 24.40 | 22.02 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32AA46-IVTR | *New* 3UP01 | 31.85 | 28.63 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32AA46-KVTR | *New* 3UP02 | 31.85 | 28.63 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32AA60-IVTR | *New* 3UP03 | 31.85 | 28.63 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32AA60-JVTR | *New* 3UP04 | 31.85 | 28.63 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32AA60-KVTR | *New* 3UP05 | 31.85 | 28.63 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32AA80-KVTR | *New* 3UP06 | 31.85 | 28.63 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 32A100-IVBE | 2D151 | 24.40 | 22.02 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 5SG46-IVS | 2D429 | 50.90 | 45.84 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 5SG46-IVSP | 2D432 | 58.55 | 52.72 | 2 | 1.6 |
| 8 | 1/2 x 1 1/4 | 5SG46-JVS | 2D447 | 50.90 | 45.84 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 5SG60-IVS | 2D430 | 50.90 | 45.84 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 5SG60-IVSP | 2D433 | 58.55 | 52.71 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 5SG60-JVS | 4B506 | 50.90 | 45.84 | 5 | 2.2 |
| 8 | 1/2 x 1 1/4 | 5SG60-KVS | 2D431 | 50.90 | 45.84 | 5 | 2.2 |
| 8 | 3/4 x 1 1/4 | 38A46-IVBE | 2D357 | 22.39 | 20.20 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 38A46-KVBE | 2D358 | 22.39 | 20.20 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 38A60-IVBE | 2D360 | 22.39 | 20.20 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 38A60-KVBE | 2D361 | 22.39 | 20.20 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 32A46-IVBE | 2D154 | 29.20 | 26.25 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 32A46-IVBE | 2D161 | 29.20 | 26.25 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 32A46-JVBE | 2D155 | 29.20 | 26.25 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 32A46-KVBE | 2D156 | 29.20 | 26.25 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 32A60-IVBE | 2D158 | 29.20 | 26.25 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 32A60-JVBE | 2D159 | 29.20 | 26.25 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 32A60-KVBE | 2D160 | 29.20 | 26.25 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 32AA46-JVTR | *New* 3UP07 | 38.00 | 34.12 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 32AA60-JVTR | *New* 3UP08 | 38.00 | 34.12 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 5SG46-JVS | 2D434 | 60.65 | 54.64 | 5 | 3.0 |
| 8 | 3/4 x 1 1/4 | 5SG60-JVS | 2D435 | 60.65 | 54.63 | 5 | 3.6 |
| 8 | 1 x 1 1/4 | 38A46-IVBE | 2D363 | 26.45 | 23.84 | 5 | 3.4 |
| 8 | 1 x 1 1/4 | 38A60-IVBE | 2D362 | 26.45 | 23.84 | 5 | 3.4 |
| 8 | 1 x 1 1/4 | 32A46-IVBE | 2D162 | 34.40 | 30.99 | 5 | 3.4 |
| 8 | 1 x 1 1/4 | 32A46-KVBE | 2D163 | 34.40 | 30.99 | 5 | 3.4 |
| 8 | 1 x 1 1/4 | 32A60-IVBE | 2D164 | 34.40 | 30.99 | 5 | 3.4 |
| 10 | 1/2 x 3 | 38A80-KVBE | 2D366 | 26.90 | 25.42 | 2 | 3.1 |
| 10 | 1/2 x 3 | 32A60-KVBE | 2D171 | 40.85 | 38.64 | 2 | 3.1 |
| 10 | 3/4 x 3 | 32A46-GVBEP | 2D175 | 48.90 | 46.31 | 2 | 4.0 |
| 10 | 3/4 x 3 | 32A46-IVBE | 2D172 | 48.90 | 46.30 | 2 | 5.1 |
| 10 | 3/4 x 3 | 32A60-IVBE | 2D173 | 48.90 | 46.30 | 2 | 5.1 |
| 10 | 3/4 x 3 | 32A60-KVBE | 2D174 | 48.90 | 46.30 | 2 | 5.1 |
| 10 | 1 x 2 | 38A46-IVBE | 2D375 | 37.50 | 35.50 | 2 | 6.4 |
| 10 | 1 x 3 | 5SG60-JVS | 2D437 | 103.05 | 92.88 | 2 | 6.2 |
| 10 | 1 x 3 | 5SG46-JVS | 2D436 | 103.05 | 92.88 | 2 | 6.2 |
| 10 | 1 x 3 | 32A60-KVBE | 2D181 | 57.00 | 53.96 | 2 | 6.2 |

## TYPE 1 - STRAIGHT WHEELS (cont.)

| Dia. (In.) | Width x Hole (In.) | Wheel Specification | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 10 | 1 x 3 | 32AA46-IVTR | *New* 3UP09 | $68.25 | $61.39 | 2 | 6.2 |
| 10 | 1 x 3 | 32AA60-IVTR | *New* 3UP10 | 68.25 | 61.39 | 2 | 6.2 |
| 10 | 1 x 3 | 32A60-IVBE | 2D180 | 57.00 | 53.96 | 2 | 6.2 |
| 10 | 1 x 3 | 32A46-KVBE | 2D179 | 57.00 | 53.96 | 2 | 6.2 |
| 10 | 1 x 3 | 32A46-IVBE | 2D178 | 57.00 | 53.96 | 2 | 6.2 |
| 10 | 1 x 3 | 32A46-HVBE | 2D176 | 57.00 | 53.96 | 2 | 6.2 |
| 10 | 1 x 3 | 38A60-KVBE | 2D379 | 37.50 | 35.50 | 2 | 6.2 |
| 10 | 1 x 3 | 38A60-IVBE | 2D378 | 37.50 | 35.50 | 2 | 6.2 |
| 10 | 1 x 3 | 38A46-JVBE | 2D377 | 37.50 | 35.50 | 2 | 6.2 |
| 10 | 1 x 2 | 38A46-IVBE | 2D177 | 57.00 | 53.95 | 2 | 6.2 |
| 12 | 1/2 x 3 | 32A80-KVBE | 2D187 | 54.65 | 51.78 | 2 | 5.2 |
| 12 | 1/2 x 5 | 38A80-KVBE | 2D381 | 36.00 | 34.05 | 2 | 5.0 |
| 12 | 3/4 x 3 | 32A60-IVBE | 2D192 | 66.25 | 62.73 | 2 | 7.2 |
| 12 | 3/4 x 3 | 32A60-KVBE | 2D193 | 66.25 | 62.73 | 2 | 7.2 |
| 12 | 3/4 x 3 | 32A46-IVBE | 2D190 | 66.25 | 62.73 | 2 | 7.2 |
| 12 | 3/4 x 3 | 32A46-HVBE | 2D189 | 66.25 | 62.73 | 2 | 6.8 |
| 12 | 3/4 x 3 | 38A60-IVBE | 2D384 | 43.60 | 41.25 | 2 | 7.2 |
| 12 | 1 x 3 | 32A46-KVBE | 2D199 | 77.60 | 73.55 | 2 | 9.0 |
| 12 | 1 x 3 | 32A46-IVBE | 2D197 | 77.60 | 73.55 | 2 | 9.0 |
| 12 | 1 x 3 | 32A46-HVBE | 2D195 | 77.60 | 73.55 | 2 | 9.0 |
| 12 | 1 x 3 | 38A46-JVBE | 2D388 | 51.10 | 48.36 | 2 | 8.0 |
| 12 | 1 x 3 | 38A46-IVBE | 2D386 | 51.10 | 48.36 | 2 | 9.0 |
| 12 | 1 x 3 | 38A46-HVBE | 2D385 | 51.10 | 48.36 | 2 | 9.0 |
| 12 | 1 x 3 | 32A60-HVBE | 2D201 | 77.60 | 73.55 | 2 | 9.0 |
| 12 | 1 x 3 | 32A60-IVBE | 2D202 | 77.60 | 73.55 | 2 | 9.0 |
| 12 | 1 x 3 | 32A60-KVBE | 2D204 | 77.60 | 73.55 | 2 | 9.0 |
| 12 | 1 x 3 | 32A80-KVBE | 2D194 | 77.60 | 73.55 | 2 | 9.0 |
| 12 | 1 x 3 | 32AA46-IVTR | *New* 3UP11 | 93.05 | 83.69 | 2 | 9.0 |
| 12 | 1 x 3 | 32AA60-IVTR | *New* 3UP13 | 93.05 | 83.69 | 2 | 9.0 |
| 12 | 1 x 3 | 5SG46-JVS | 2D439 | 140.40 | 126.60 | 2 | 9.0 |
| 12 | 1 x 3 | 5SG60-JVS | 2D440 | 140.40 | 126.60 | 2 | 9.0 |
| 12 | 1 x 5 | 38A46-IVBE | 2D387 | 51.10 | 48.36 | 2 | 8.8 |
| 12 | 1 x 5 | 38A60-KVBE | 2D391 | 51.10 | 48.36 | 2 | 8.8 |
| 12 | 1 x 5 | 32A46-IVBE | 2D198 | 77.60 | 73.55 | 2 | 8.8 |
| 12 | 1 x 5 | 32A60-KVBE | 2D205 | 77.60 | 73.55 | 2 | 8.8 |
| 12 | 1 x 5 | 32A80-KVBE | 2D206 | 77.60 | 73.55 | 2 | 8.8 |
| 12 | 1 x 5 | 32AA46-IVTR | *New* 3UP12 | 93.05 | 83.69 | 2 | 7.8 |
| 12 | 1 x 5 | 5SG46-JVS | 2D442 | 140.40 | 126.60 | 2 | 8.8 |
| 12 | 1 x 5 | 5SG60-JVS | 2D441 | 140.40 | 126.61 | 2 | 7.8 |
| 12 | 1 1/2 x 3 | 32A46-HVBE | 2D210 | 107.70 | 102.02 | 2 | 13.0 |
| 12 | 1 1/2 x 3 | 32A46-IVBE | 2D211 | 107.70 | 102.02 | 2 | 13.0 |
| 12 | 1 1/2 x 3 | 32A46-KVBE | 2D208 | 107.70 | 102.02 | 2 | 12.0 |
| 12 | 1 1/2 x 5 | 32A46-HVBE | 2D209 | 107.70 | 102.02 | 2 | 12.0 |
| 12 | 1 1/2 x 5 | 32A46-IVBE | 2D212 | 107.70 | 102.02 | 2 | 12.0 |
| 12 | 1 1/2 x 5 | 32A60-HVBE | 2D213 | 107.70 | 102.02 | 2 | 13.0 |
| 12 | 1 1/2 x 5 | 32A60-KVBE | 2D207 | 107.70 | 102.02 | 2 | 12.0 |
| 14 | 1 x 3 | 32A46-HVBE | 2D220 | 103.85 | 98.47 | 2 | 12.0 |
| 14 | 1 x 3 | 32A46-IVBE | 2D222 | 103.85 | 98.47 | 2 | 12.0 |
| 14 | 1 x 3 | 32A60-IVBE | 2D226 | 103.85 | 98.52 | 2 | 6.4 |
| 14 | 1 x 5 | 38A60-IVBE | 2D397 | 68.35 | 64.74 | 2 | 12.0 |
| 14 | 1 x 5 | 32A46-HVBE | 2D221 | 103.85 | 98.48 | 2 | 11.0 |
| 14 | 1 x 5 | 32A46-IVBE | 2D223 | 103.85 | 98.48 | 2 | 11.0 |
| 14 | 1 x 5 | 32A46-JVBE | 2D224 | 103.85 | 98.48 | 2 | 11.0 |
| 14 | 1 x 5 | 32A60-IVBE | 2D227 | 103.85 | 98.47 | 2 | 12.0 |
| 14 | 1 x 5 | 32A60-KVBE | 2D228 | 103.85 | 98.47 | 2 | 12.0 |
| 14 | 1 x 5 | 32A80-KVBE | 2D229 | 103.85 | 98.47 | 2 | 12.0 |
| 14 | 1 x 5 | 5SG46-JVS | 2D445 | 188.50 | 169.49 | 2 | 12.0 |
| 14 | 1 x 5 | 5SG60-JVS | 2D446 | 188.50 | 169.49 | 2 | 12.0 |
| 14 | 1 x 5 | 39C60-JVK | 2D413 | 147.65 | 139.99 | 2 | 12.0 |
| 14 | 1 1/2 x 5 | 38A46-IVBE | 2D399 | 94.55 | 89.61 | 2 | 18.0 |
| 14 | 1 1/2 x 5 | 32A46-HVBE | 2D233 | 143.75 | 136.26 | 2 | 18.0 |
| 14 | 1 1/2 x 5 | 32A46-IVBE | 2D234 | 143.75 | 136.28 | 2 | 16.0 |
| 14 | 1 1/2 x 5 | 32A46-KVBE | 2D235 | 143.75 | 136.26 | 2 | 18.0 |
| 14 | 1 1/2 x 5 | 32A60-HVBE | 2D236 | 143.75 | 136.28 | 2 | 16.0 |
| 14 | 1 1/2 x 5 | 32A60-KVBE | 2D237 | 143.75 | 136.26 | 2 | 18.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

CONTINUED ON NEXT PAGE

## TYPE 5 RECESSED ON ONE SIDE

| ia. n.) | Width x Hole (In.) | Recess on 1 side (In.) | Wheel Specification | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 7 | 3/4 x 1¼ | 2¾ x ¼ | 32A60-IVBE | 2D117 | $27.55 | $24.82 | 5 | 2.6 |
| 7 | 3/4 x 1¼ | 3 x ½ | 38A46-HVBE | 2D336 | 23.93 | 21.60 | 5 | 3.2 |
| 7 | 3/4 x 1¼ | 2¾ x 1/4 | 32AA46-IVTR | 3UN93 | 35.90 | 32.24 | 5 | 2.6 |
| 7 | 3/4 x 1¼ | 2¾ x 1/4 | 32AA60-IVTR | 3UN94 | 35.90 | 32.24 | 5 | 2.6 |
| 7 | 1 x 1¼ | 3 x ½ | 38A46-IVBE | 2D338 | 23.93 | 21.60 | 5 | 3.2 |
| 7 | 1 x 1¼ | 3 x ½ | 38A46-KVBE | 2D337 | 23.93 | 21.60 | 5 | 3.2 |
| 7 | 1 x 1¼ | 3 x ½ | 38A60-IVBE | 2D339 | 23.93 | 21.60 | 5 | 3.2 |
| 7 | 1 x 1¼ | 3 x ½ | 38A60-JVBE | 2D340 | 23.93 | 21.60 | 5 | 3.2 |
| 7 | 1 x 1¼ | 3¾ x ½ | 32A46-HVBE | 2D123 | 31.20 | 28.11 | 5 | 2.8 |
| 7 | 1 x 1¼ | 3 x ½ | 32A46-HVBE | 2D124 | 31.20 | 28.09 | 5 | 3.2 |
| 7 | 1 x 1¼ | 2¾ x ½ | 32A46-HVBEP | 2D132 | 31.20 | 28.11 | 5 | 2.8 |
| 7 | 1 x 1¼ | 2¾ x ½ | 32A46-IVBE | 2D126 | 31.20 | 28.11 | 5 | 2.8 |
| 7 | 1 x 1¼ | 3 x ½ | 32A60-IVBE | 2D122 | 31.20 | 28.09 | 5 | 3.2 |
| 7 | 1 x 1¼ | 2¾ x ½ | 32A60-IVBE | 2D129 | 30.20 | 27.29 | 5 | 2.8 |
| 7 | 1 x 1¼ | 3 x ½ | 32A60-JVBE | 2D130 | 31.20 | 28.09 | 5 | 2.8 |
| 7 | 1 x 1¼ | 2¾ x ½ | 32AA46-IVTR | 3UN95 | 40.65 | 36.50 | 5 | 2.8 |
| 7 | 1 x 1¼ | 2¾ x ½ | 32AA60-IVTR | 3UN96 | 40.65 | 36.50 | 5 | 2.8 |
| 7 | 1 x 1¼ | 2¾ x ½ | 5SG46-JVS | 2D426 | 64.85 | 58.44 | 5 | 2.8 |
| 8 | 1 x 1½ | 2¼ x ½ | 32A46-IVBE | 2D166 | 37.80 | 34.02 | 5 | 3.2 |
| 8 | 1 x 1½ | 2¼ x ½ | 32A60-IVBE | 2D165 | 37.80 | 34.02 | 5 | 3.2 |
| 2 | 1½ x 5 | 7½ x ½ | 38A46-IVBE | 2D392 | 74.90 | 70.98 | 2 | 10.0 |
| 2 | 1½ x 5 | 7½ x ½ | 32A46-HVBE | 2D214 | 113.90 | 107.94 | 2 | 11.0 |
| 2 | 1½ x 5 | 7½ x ½ | 32A46-IVBE | 2D215 | 113.90 | 107.94 | 2 | 11.0 |
| 2 | 1½ x 5 | 7½ x ½ | 32A60-KVBE | 2D216 | 113.90 | 107.92 | 2 | 12.0 |
| 4 | 8 x 1/2 | 8 x ½ | 32A46-IVBE | 2D231 | 149.95 | 142.20 | 2 | 16.0 |
| 4 | 1½ x 5 | 8 x ½ | 32A60-KVBE | 2D238 | 149.95 | 142.20 | 2 | 16.0 |

## TYPE 6 - STRAIGHT CUP

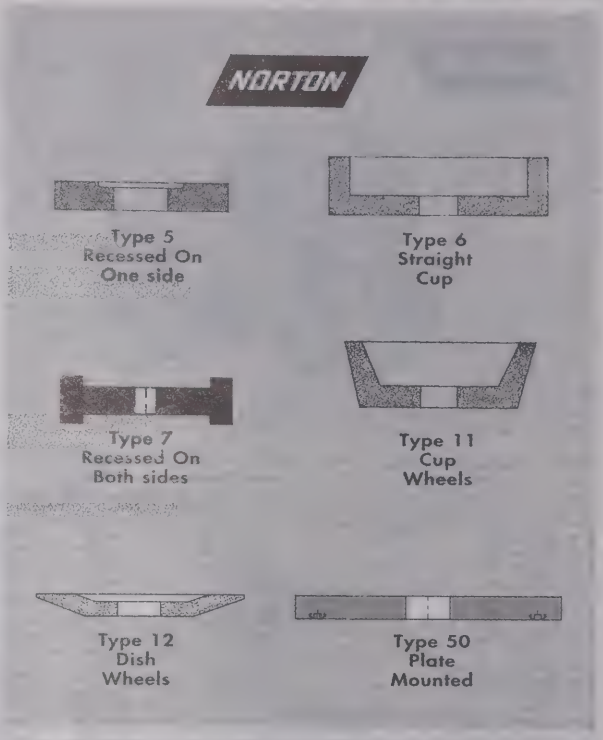
| ia. n.) | Width x Hole (In.) | Rim Back (In.) | Wheel Specification | Stock No. ❸ | Each | Price Ea. In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4 | 1½ x 1/2 | 1/2 | 32A60-KVBE | 1H938 | $21.29 | $19.21 | 5 | 1.4 |
| 4 | 1½ x 1¼ | 1/2 | 38A60-KVBE | 2D258 | 16.42 | 14.82 | 5 | 1.4 |
| 5 | 1½ x 1¼ | 3/8 | 38A46-KVBE | 2D261 | 22.83 | 20.60 | 5 | 1.6 |
| 5 | 1½ x 1¼ | 3/8 | 38A60-KVBE | 2D262 | 22.83 | 20.60 | 5 | 1.6 |
| 5 | 1½ x 1¼ | 3/8 | 32A46-KVBE | 1H945 | 29.75 | 26.80 | 5 | 1.6 |
| 5 | 1½ x 1¼ | 3/8 | 32A60-KVBE | 1H946 | 29.75 | 26.80 | 5 | 1.6 |
| 5 | 1½ x 1¼ | 3/8 | 39C60-IVK | 2D403 | 44.65 | 40.21 | 5 | 1.6 |
| 5 | 2 x 1¼ | 1/2 | 38A60-KVBE | 2D287 | 36.05 | 33.56 | 5 | 2.6 |

## TYPE 7 - RECESSED ON BOTH SIDES

| a. .) | Width x Hole (In.) | Recess on Ea. side (In.) | Wheel Specification | Stock No. ❸ | Each | Price Ea. In Pkg. Qty | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 | 2 x 3 | 7½ x 1/2 | 32A46-HVBE | 2D217 | $150.50 | $142.47 | 2 | 14.0 |
| 2 | 2 x 5 | 7½ x 1/2 | 38A46-IVBE | 2D393 | 98.90 | 93.72 | 2 | 13.0 |
| 2 | 2 x 5 | 7½ x 1/2 | 32A46-HVBE | 2D218 | 150.50 | 142.49 | 2 | 13.0 |
| 2 | 2 x 5 | 7½ x 1/2 | 32A46-HVBEP | 2D219 | 150.50 | 142.50 | 2 | 12.0 |
| 0 | 3 x 8 | 11¼ x 1/2 | 32A46-IVBE | 2D240 | 637.50 | 602.45 | 2 | 62.0 |
| 0 | 3 x 10 | 12¼ x 5/8 | 32A46-IVBE | 2D239 | 620.00 | 586.68 | 2 | 55.0 |

## TYPE 11 - CUP WHEELS

| ger/Smaller ameter (In.) | Width x Hole (In.) | Wheel Specification | Stock No. ❸ | Each | Price Ea. In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4 / 3 | 1½ x 1¼ | 32AA46-KVTR | 3UN68 | $24.68 | $22.21 | 5 | 1.3 |
| 4 / 3 | 1½ x 1¼ | 32AA60-JVTR | 3UN69 | 24.68 | 22.21 | 5 | 1.3 |
| 4 / 3 | 1½ x 1¼ | 32AA60-KVTR | 3UN70 | 24.68 | 22.21 | 5 | 1.3 |
| 4 / 3 | 1½ x 1¼ | 5SG60-JVS | 2D414 | 35.25 | 31.74 | 5 | 1.3 |
| 4 / 3 | 1½ x 1¼ | 5SG60-LVS | 2D415 | 35.25 | 31.74 | 5 | 1.3 |
| 5 / 3¾ | 1¾ x ¼ | 38A46-KVBE | 5A918 | 25.20 | 22.73 | 5 | 0.9 |
| 5 / 3¾ | 1¾ x ¼ | 38A60-JVBE | 5A919 | 25.20 | 22.73 | 5 | 0.9 |
| 5 / 3¾ | 1¾ x ¼ | 38A60-KVBE | 5A920 | 25.20 | 22.73 | 5 | 0.9 |
| 5 / 3¾ | 1¾ x ¼ | 32A46-JVBE | 1H947 | 32.90 | 29.58 | 5 | 1.6 |
| 5 / 3¾ | 1¾ x ¼ | 32A46-KVBE | 1H948 | 32.90 | 29.58 | 5 | 1.6 |
| 5 / 3¾ | 1¾ x ¼ | 32A60-JVBE | 1H949 | 32.90 | 29.58 | 5 | 1.6 |
| 5 / 3¾ | 1¾ x ¼ | 32A60-KVBE | 1H950 | 32.90 | 29.58 | 5 | 1.6 |
| 5 / 3¾ | 1¾ x ¼ | 32AA46-KVTR | 3UN71 | 42.70 | 38.38 | 5 | 1.6 |
| 5 / 3¾ | 1¾ x ¼ | 32AA60-JVTR | 3UN72 | 42.70 | 38.38 | 5 | 1.6 |
| 5 / 3¾ | 1¾ x ¼ | 5SG60-KVS | 2D416 | 68.20 | 61.48 | 5 | 1.6 |
| 6 / 4½ | 2 x 1¼ | 38A46-KVBE | 2D288 | 36.05 | 32.44 | 5 | 2.6 |
| 6 / 4½ | 2 x 1¼ | 32A46-KVBE | 1H977 | 46.85 | 42.19 | 5 | 2.0 |
| 6 / 4½ | 2 x 1¼ | 32A60-JVBE | 1H975 | 46.85 | 42.19 | 5 | 2.0 |
| 7 / 5 | 2 x 1¼ | 32A46-JVBE | 2D133 | 57.95 | 52.22 | 5 | 3.6 |




## TYPE 12 - DISH WHEELS

| Dia. (In.) | Width x Hole (In.) | Wheel Specification | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4 | 1/2 x 3/4 | 38A60-KVBE | 2D256 | $10.89 | $9.80 | 5 | 0.8 |
| 4 | 1/2 x 3/4 | 32A60-KVBE | 1H937 | 14.11 | 12.70 | 5 | 0.8 |
| 6 | 1/2 x 1¼ | 32A46-JVBE | 1H948 | 32.90 | 29.58 | 5 | 1.6 |
| 6 | 1/2 x 1¼ | 32A60-KVBE | 1H962 | 23.92 | 21.53 | 5 | 0.8 |
| 6 | 1/2 x 1¼ | 32A80-KVBE | 1H963 | 23.92 | 21.53 | 5 | 0.8 |
| 6 | 1/2 x 1¼ | 32AA46-KVTR | 3UN77 | 27.85 | 25.02 | 5 | 0.8 |
| 6 | 1/2 x 1¼ | 32AA60-KVTR | 3UN78 | 27.85 | 25.02 | 5 | 0.8 |
| 6 | 1/2 x 1¼ | 5SG60-LVS | 2D417 | 44.55 | 40.08 | 5 | 0.8 |
| 6 | 3/4 x 1¼ | 38A46-KVBE | 2D285 | 18.60 | 16.79 | 5 | 0.8 |
| 6 | 3/4 x 1¼ | 38A60-KVBE | 2D286 | 18.60 | 16.79 | 5 | 0.8 |
| 6 | 3/4 x 1¼ | 32A46-KVBE | 1H967 | 27.15 | 24.36 | 5 | 0.8 |
| 7 | 1/2 x 1¼ | 32A46-KVBE | 2D107 | 25.25 | 22.80 | 5 | 0.9 |
| 7 | 1/2 x 1¼ | 32A60-KVBE | 2D109 | 25.25 | 22.80 | 5 | 0.9 |
| 7 | 3/4 x 1¼ | 32A60-JVBE | 2D118 | 29.30 | 26.39 | 5 | 2.6 |

## TYPE 50 - PLATE MOUNTED

| Dia. (In.) | Width x Hole (In.) | Rim (In.) | Wheel Specification | Stock No. ❸ | Each | Price Ea. In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6 | 1 x 4 | 1 | 32A46-KVBE | 1H972 | $58.75 | $55.62 | 5 | 2.6 |
| 6 | 1 x 4 | 1 | 32A60-JVBE | 1H973 | 58.75 | 55.62 | 5 | 2.6 |
| 6 | 1 x 4 | 1 | 39C60-IVK | 2D404 | 69.50 | 65.94 | 5 | 2.6 |
| 6 | 1 x 4 | 1 | 39C100-IVK | 2D405 | 69.50 | 65.94 | 5 | 1.6 |
| 9 | 2 x 4 | 2 | 32A46-MVBE | 2D168 | 138.10 | 130.90 | 2 | 12.0 |
| 9 | 2 x 4 | 2 | 32A70-JVBEP | 2D167 | 138.10 | 130.90 | 2 | 12.0 |
| 10 | 2 x 7 | 1½ | 32A46-KVBE | 2D183 | 149.10 | 141.38 | 2 | 10.0 |
| 10 | 2 x 7 | 1½ | 39C60-IVK | 2D411 | 176.75 | 167.22 | 2 | 8.5 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available.

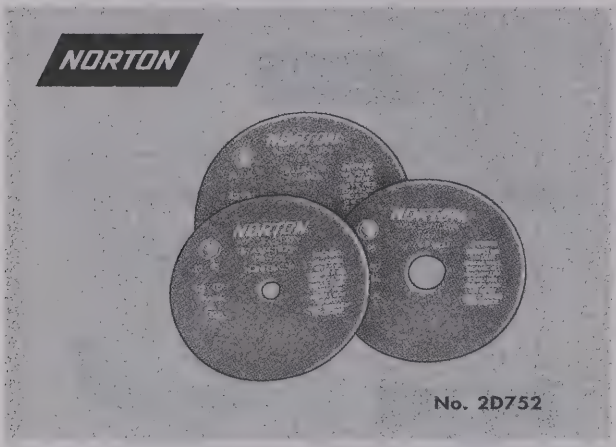
See page opposite inside back cover

### TECHNICAL REFERENCE LITERATURE

Technical reference literature is available on such subjects as welding, basic electricity, electric motors, hydraulics and pneumatics.

See Index under Books.

# TOOLROOM CUT-OFF WHEELS



No. 2D752

## REINFORCED TOOLROOM CUT-OFF WHEELS

- A60-OBNA2 proven specification for thin, straight, burr-free cutting of most steels
- Fully reinforced for maximum safety

## NON-REINFORCED TOOLROOM CUT-OFF WHEELS

- For well-fixtured applications where freeness of cut and durability are desired
- Grit Recommendations:
  46—Fastest cut rate, durable, finish unimportant
  541—Fast cut rate, durable, better finish
  60,601—Average cut, minimal burr
- Use softer wheels (M or O) on hard metals to avoid burn
- Use harder wheels (P, Q, R) on softer metals or to increas wheel life
- Bond Recommendations:
  B—Mild-acting bond for light, general purpose cutting
  B25—More durable bond for longer wheel life

| Diameter x Thickness x Hole Size (In.) | Specification | Max. RPM | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **REINFORCED TOOLROOM CUT-OFF WHEELS** | | | | | | | | |
| **6 x .035 x 3/8** | A60-OBNA2 | 10190 | 662528-35064 | **2D752** | **$8.15** | **$7.32** | **25** | 0.1 |
| **6 x .035 x 1/2** | A60-OBNA2 | 10190 | 662528-35053 | **2D749** | **8.15** | **7.32** | **25** | 0.1 |
| **6 x .035 x 5/8** | A60-OBNA2 | 10190 | 662528-35054 | **2D750** | **8.15** | **7.32** | **25** | 0.1 |
| **6 x .035 x 1 1/4** | A60-OBNA2 | 10190 | 662528-35055 | **2D751** | **8.15** | **7.32** | **25** | 0.1 |
| **7 x .035 x 1/2** | A60-OBNA2 | 8730 | 662529-38786 | **2D753** | **8.54** | **7.71** | **25** | 0.1 |
| **7 x .035 x 5/8** | A60-OBNA2 | 8730 | 662529-38787 | **2D754** | **8.54** | **7.71** | **25** | 0.1 |
| **7 x .035 x 1 1/4** | A60-OBNA2 | 8730 | 662529-38788 | **2D755** | **8.54** | **7.71** | **25** | 0.1 |
| **8 x .060 x 1/2** | A60-OBNA2 | 7640 | 662530-43009 | **2D758** | **10.11** | **9.11** | **25** | 0.3 |
| **8 x .060 x 5/8** | A60-OBNA2 | 7640 | 662530-42981 | **2D756** | **10.11** | **9.11** | **25** | 0.3 |
| **8 x .060 x 1 1/4** | A60-OBNA2 | 7640 | 662530-42983 | **2D757** | **10.11** | **9.11** | **25** | 0.3 |
| **10 x .060 x 5/8** | A60-OBNA2 | 6110 | 662531-49317 | **3UP22** | **16.45** | **14.81** | **25** | 0.4 |
| **10 x .060 x 1 1/4** | A60-OBNA2 | 6110 | 662531-49186 | **2D759** | **16.45** | **14.85** | **25** | 0.4 |
| **NON-REINFORCED TOOLROOM CUT-OFF WHEELS** | | | | | | | | |
| **6 x 1/32 x 1 1/4** | 57A60-M8B | 6370 | 662528-22958 | **2D762** | **7.73** | **6.97** | **25** | 0.2 |
| **6 x 1/16 x 1/2** | 57A541-RB25 | 7640 | 662528-22970 | **2D765** | **7.73** | **6.97** | **25** | 0.2 |
| **6 x 1/16 x 1 1/4** | 57A60-M8B | 7640 | 662528-22975 | **2D767** | **7.73** | **6.97** | **25** | 0.2 |
| **7 x 1/32 x 1 1/4** | 57A60-M8B | 5460 | 662529-22983 | **2D774** | **7.75** | **7.00** | **25** | 0.2 |
| **7 x 1/32 x 1 1/4** | 57A60-O8B | 5460 | 662529-22986 | **2D776** | **7.75** | **7.00** | **25** | 0.2 |
| **7 x 1/32 x 1 1/4** | 57A60-Q8B | 5460 | 662529-22987 | **2D777** | **7.75** | **7.00** | **25** | 0.2 |
| **7 x 1/32 x 1 1/4** | 57A601-PB25 | 5460 | 662529-22988 | **2D778** | **7.75** | **7.00** | **25** | 0.2 |
| **7 x 1/32 x 1 1/4** | 57A601-RB25 | 5460 | 662529-22989 | **2D779** | **7.75** | **7.00** | **25** | 0.2 |
| **7 x 1/16 x 1/2** | 57A60-O8B | 6550 | 662529-22672 | **2D769** | **7.75** | **6.99** | **25** | 0.2 |
| **7 x 1/16 x 1 1/4** | 57A46-M8B | 6550 | 662529-22677 | **2D770** | **7.75** | **6.99** | **25** | 0.2 |
| **7 x 1/16 x 1 1/4** | 57A60-M8B | 6550 | 662529-22681 | **2D772** | **7.75** | **6.99** | **25** | 0.2 |
| **7 x 1/16 x 1 1/4** | 57A60-O8B | 6550 | 662529-22684 | **2D773** | **7.75** | **6.99** | **25** | 0.2 |
| **8 x 1/16 x 1/2** | 57A60-M8B | 5730 | 662530-22702 | **2D784** | **8.69** | **7.84** | **25** | 0.3 |
| **8 x 1/16 x 1 1/4** | 57A60-M8B | 5730 | 662530-22708 | **2D788** | **8.69** | **7.84** | **25** | 0.3 |
| **10 x 1/16 x 5/8** | 57A46-Q8BW | 4585 | 662531-22816 | **2D789** | **11.93** | **10.77** | **25** | 0.5 |
| **10 x 1/16 x 5/8** | 57A46-M8BW | 4585 | 662531-22818 | **3UP21** | **11.93** | **10.73** | **25** | 0.5 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

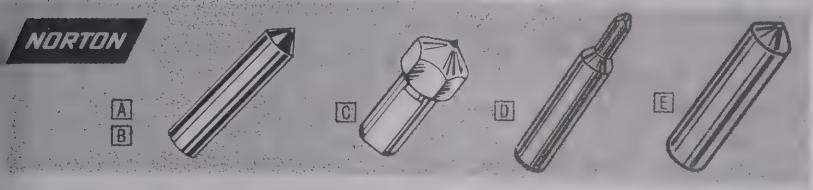
## DESK SPACE AT A PREMIUM?

### USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# DIAMOND DRESSING TOOLS AND DRESSING STICKS

## SINGLE POINT TOOLS




- **Use to dress a straight face onto a straight wheel**
- **Use to dress a particular form onto wheel face**
- **Use BC tools with conventional wheels, BCSG tools with SG wheels**
- **BC tool infeed is 0.0015 in. per pass maximum BCSG infeed is 0.001 in. per pass maximum**
- **Traverse rates range from 8 to 10 inches per minute**
- **Use at a 15° angle to wheel centerline**
- **Turn tool periodically to maintain sharp point**
- **Dress SG wheels less frequently to maximize SG grain**

A **BC General Purpose** single-point tools.

B **BCSG High performance** single-point tools for SG wheels.

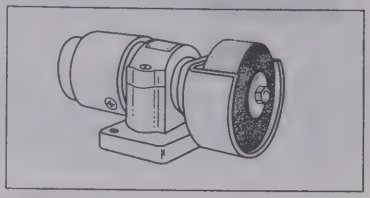
C **U-DEX-IT® TOOLS—BCUD-5:** Installed and used like other single point tools. Rotate tool ead with any standard 5/8" wrench when tool requires turning. Suited for 11 to 16" heels.

D **RADIUS TOOL—BCRD:** For concave or convex dressing.

E **PHONO POINT TOOLS—BCPP:** Forms tight concave or convex radii.

| Key | Diameter x Length (In.) | Type | Specification | Carat | Norton Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 3/8 x 2 | Single-point | BC2-6 | 0.25 | 662601-95000 | **4F803** | **$19.36** | 0.2 |
| | 7/16 x 2 | Single-point | BC2-7 | 0.25 | 662601-95001 | **4F804** | **19.36** | 0.1 |
| | 3/8 x 2 | Single-point | BC3-6 | 0.33 | 662601-95002 | **4F805** | **21.43** | 0.2 |
| | 7/16 x 2 | Single-point | BC3-7 | 0.33 | 662601-95003 | **4F806** | **21.43** | 0.2 |
| | 3/8 x 2 | Single-point | BC5-6 | 0.5 | 662601-95004 | **4F807** | **25.95** | 0.2 |
| | 7/16 x 2 | Single-point | BC5-7 | 0.5 | 662601-95005 | **4F808** | **25.95** | 0.2 |
| | 3/8 x 2 | Single-point | BC7-6 | 0.75 | 662601-95006 | **4B084** | **36.35** | 0.2 |
| | 7/16 x 2 | Single-point | BC7-7 | 0.75 | 662601-95007 | **4B085** | **36.35** | 0.2 |
| | 3/8 x 2 | Single-point | BC10-6 | 1 | 662601-95008 | **4B086** | **51.30** | 0.2 |
| | 7/16 x 2 | Single-point | BC10-7 | 1 | 662601-95009 | **4B087** | **51.30** | 0.2 |
| B | 7/16 x 2 | SG Single-point | BCSG3M7 | 0.33 | 662601-56906 | **3UN50** | **41.95** | 2.0 |
| | 7/16 x 2 | SG Single-point | BCSG5M7 | 0.5 | 662601-56907 | **3UN51** | **64.05** | 0.1 |
| | 3/8 x 2 | SG Single-point | BCSG3M6 | 0.30 | 662601-57008 | **3UN54** | **41.95** | 2.0 |
| | 3/8 x 2 | SG Single-point | BCSG5M6 | 0.5 | 662601-57009 | **3UN55** | **64.05** | 2.0 |
| C | 7/16 x 1-1/4 | U-DEX-IT | BCUD5 | 0.5 | 662601-95025 | **4B094** | **38.80** | 0.2 |
| D | 3/8 x 2 | Radius tool | BCRD | — | 662601-95016 | **4B090** | **19.89** | 0.2 |
| E | 1/8 x 1 - 60° angle | Phono point | BCPP60 | — | 662601-95017 | **4B091** | **7.73** | 0.2 |
| | 1/8 x 1 - 75° angle | Phono point | BCPP75 | — | 662601-95018 | **4B092** | **7.41** | 0.2 |
| | 1/8 x 1 - 90° angle | Phono point | BCPP90 | — | 662601-95019 | **4B093** | **6.90** | 0.2 |

## BRAKE CONTROLLED TRUING DEVICE

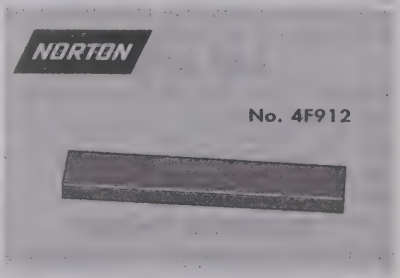


- **Ideal on straight wheels as used on chip breaker, tool and cutter, surface, and cylindrical grinding machines**

Designed for rapidly truing diamond and CBN wheels with minimum loss of diamond. Norton brand (UPC 662601/93530).

**No. 3UN57.** Each.....**$641.50**

## NORBIDE® DRESSING STICK




- **Designed for dressing and forming toolroom wheels, 10" and smaller, especially cup shapes**
- **3/16 x 1/2 x 3"**

**No. 4F912.** ①② Norbide Dressing Stick (614636-10148). Shpg. wt. 0.1 lbs. Each.....**$33.20**

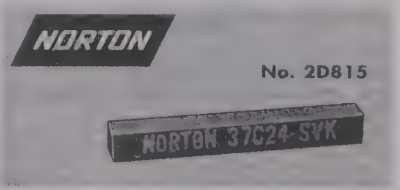
## DRESSING STICKS

**itrified Dressing Sticks** come in two abrasive ypes—Aluminum Oxide (38A or NSA) and ilicon Carbide (37C).

**luminum Oxide** sticks formulated for off- and dressing of diamond and CBN wheels after truing. Applied vigorously to wheel face, sticks will clean and expose new abrasives prior to grinding. Abrasive grit size in dressing stick should be 2 grit sizes finer than wheel grit size.

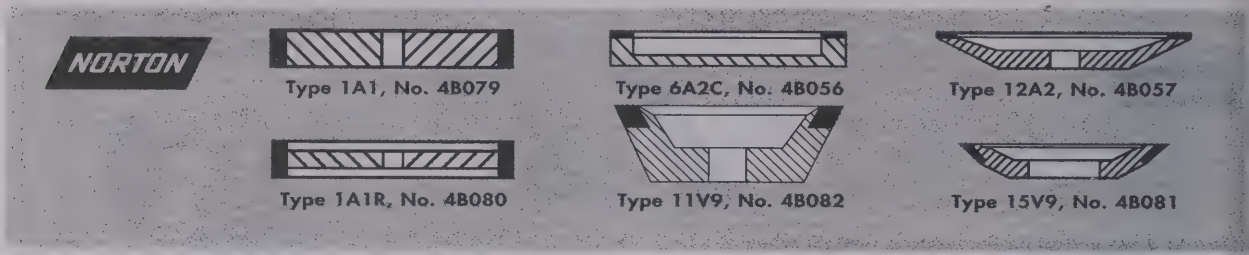
**Silicon Carbide** sticks Nos. 2D815 and 2D819 are most popular choice for off-hand truing and dressing of conventional vitrified grinding wheels, especially bench and pedestal wheels.

| Size (In.) | Specification | Norton Model | Stock No. | Each | Price Each Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2 x 1/2 x 6** | 38A150-IVBE | 614636-10303 | **2D817** | **$3.69** | **$3.32** | **2** | 0.2 |
| **1/2 x 1/2 x 6** | 38A220-HVBE | 614636-10103 | **2D813** | **3.69** | **3.32** | **2** | 0.2 |
| **1/2 x 1/2 x 6** | NSA320-G5V | 614636-10596 | **2D820** | **7.35** | **6.64** | **2** | 0.1 |
| **1/2 x 1/2 x 6** | 37C24-SVK | 614636-10285 | **2D815** | **3.89** | **3.51** | **2** | 0.2 |
| **3/4 x 3/4 x 4** | 38A220-HVBE | 614636-10290 | **2D816** | **4.20** | **3.79** | **2** | 0.2 |
| **3/4 x 3/4 x 8** | 38A220-HVBE | 614636-10280 | **2D814** | **6.98** | **6.30** | **2** | 0.4 |
| **1 x 1 x 6** | 38A150-IVBE | 614636-10453 | **2D818** | **7.77** | **7.02** | **2** | 0.5 |
| **1 x 1 x 6** | 37C24-SVK | 614636-10462 | **2D819** | **8.13** | **7.34** | **2** | 0.5 |




These products are covered by California Proposition 65. California purchases or shipment, see first page of Grainger Branch Listing or call any California branch.
These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# DIAMOND AND CBN WHEELS AND SUPERABRASIVES SELECTION GUIDE




## APPLICATION RECOMMENDATIONS

### SUPERABRASIVE TYPES

**SD**—An uncoated synthetic diamond that provides a free cut on carbide.

**ASD**—Armored synthetic diamond is nickel coated for added holding power and greater heat reduction in the resin bond. Versatile diamond used on carbide and carbide where a small amount (<33%) of steel is contacted.

**CB**—Cubic Boron Nitride is coated for greater crystal retention and durability when grinding hard tool and tough alloy steels.

### GRIT SIZES

**100/100S**—Most commonly used in roughing
**120**—For roughing where 100 is too coarse
**150**—For combined roughing and finishing
**180**—For improved finish
**220**—For finish grinding

### DIAMOND GRADE

**R**—Durable, all-purpose resin bond has been pre-engineered to maximize productivity.

### CBN GRADE

**T**—Mid-range durability designed for freer cutting action on low horsepower grinders. Ideal for toolroom resharpening operations when grinding dry (approx. 75 concentration).

### DIAMOND CONCENTRATIONS

**75**—For dry grinding, toolroom job shop applications gives free cut and is easy to dress.
**100**—Recommended for wet grinding or in dry applications where greater durability is needed. Works well on high horsepower, high stock removal jobs.

### BOND

**B99**—Pre-engineered resin bond for the widest range of applications.
**V99**—Vitrified bond for added durability when grinding carbide.

| Diameter x Width x Hole Size (in.) | Type | Specification | Max. RPM | Norton Model | Stock No. ❸ | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **DIAMOND WHEELS** | | | | | | | |
| **4 x 1/8 x 1¼** | 1A1 | SD150-R100B99-1/8 | 9075 | 690141-91677 | **4B079** | **$89.20** | 0.6 |
| **4 x 1/4 x 1¼** | 1A1 | SD150-R100B99-1/8 | 9075 | 690141-91683 | **4B058** | **110.70** | 0.6 |
| **6 x 1/8 x 1¼** | 1A1 | SD150-R100B99-1/8 | 6050 | 690141-92202 | **4B063** | **130.50** | 0.8 |
| **6 x 1/4 x 1¼** | 1A1 | SD150-R100B99-1/8 | 6050 | 690141-91692 | **4B069** | **160.75** | 1.1 |
| **6 x 1/2 x 1¼** | 1A1 | SD150-R100B99-1/8 | 6050 | 690141-91699 | **4B083** | **217.00** | 1.8 |
| **7 x 1/2 x 1¼** | 1A1 | ASD150-R75B99-1/8 | 5185 | 690141-91853 | **4B078** | **238.25** | 2.4 |
| **7 x 1/2 x 1¼** | 1A1 | ASD100-R75B99-1/8 | 5185 | 690141-92211 | **4B070** | **238.25** | 2.4 |
| **6 x .035 x 1¼** | 1A1R | SD100S-R100B99-1/4 | 10185 | 690141-92156 | **4B080** | **112.35** | 0.6 |
| **6 x 3/4 x 1¼** | 6A2C | ASD120-R75B99-1/16 | 6050 | 690141-91860 | **4B056** | **193.50** | 1.9 |
| **6 x 3/4 x 1¼** | 6A2C | SD150-P50V99-1/16 | 4140 | 690141-92217 | **4B053** | **279.50** | 1.9 |
| **6 x 3/4 x 1¼** | 6A2C | SD220-P50V99-1/16 | 4140 | 690141-91623 | **4B068** | **279.50** | 1.9 |
| **3¾ x 1½ x 1¼** | 11V9 | ASD120-R75B99-1/16 | 9075 | 690141-91660 | **4B082** | **120.60** | 0.7 |
| **3¾ x 1½ x 1¼** | 11V9 | ASD120-R75B99-1/8 | 9075 | 690141-91652 | **4B054** | **133.80** | 0.7 |
| **3¾ x 1½ x 1¼** | 11V9 | ASD150-R75B99-1/8 | 9075 | 690141-91651 | **2D781** | **133.80** | 0.1 |
| **6 x 1 x 1¼** | 12A2 | ASD120-R75B99-1/8 | 6050 | 690141-91630 | **4B057** | **173.75** | 1.3 |
| **6 x 3/4 x 1¼** | 15V9 | SD150-R100B99-1/16 | 6050 | 690141-92230 | **4B081** | **167.00** | 1.9 |
| **CBN WHEELS** | | | | | | | |
| **6 x 1/4 x 1¼** | 1A1 | CB120-TB99-1/16 | 6050 | 690141-91717 | **2D944** | **182.25** | 1.1 |
| **6 x 1/2 x 1¼** | 1A1 | CB120-TB99-1/16 | 6050 | 690141-92208 | **2D952** | **258.25** | 1.8 |
| **3¾ x 1½ x 1¼** | 11V9 | CB100-TB99-1/16 | 9075 | 690141-91719 | **2D953** | **152.00** | 0.7 |
| **3¾ X 1½ X 1¼** | 11V9 | CB120-TB99-1/16 | 9075 | 690141-92019 | **2D946** | **152.00** | 0.7 |
| **5 x 1¾ x 1¼** | 11V9 | CB120-TB99-1/16 | 7260 | 690141-92299 | **2D947** | **197.25** | 1.3 |
| **6 x ¾ x 1¼** | 15V9 | CB100-TB99-1/16 | 6050 | 690141-92232 | **2D951** | **218.50** | 1.9 |

❸ These products are covered by OSHA Hazard Communications Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

### TROUBLESHOOTING GUIDE

| PROBLEM: | POSSIBLE CAUSES: | SUGGESTED CORRECTION: |
|---|---|---|
| Burning (excessive heat): | Wheel loaded or glazed | Dress wheel with a dressing stick |
| | Excessive feed rate | Reduce infeed of wheel or workpiece |
| | Wheel too durable | Use freer cutting specification or slow down wheel speed |
| | Poor placement of coolant | Apply coolant directly to wheel/workpiece interface |
| Poor finish: | Excessive dressing | Use lighter dressing pressure. Stop dressing as soon as wheel starts to consume stick rapidly. |
| | Grit size too coarse | Select finer grit sizes |
| | Poor coolant flow | Apply heavy flood to wheel/workpiece interface |
| Chatter: | Wheel out of true | True wheel, ensure it is not slipping on mount |
| Short wheel life: | Incorrect coolant flow | Apply coolant to flood wheel/work surface |
| | Low wheel speed | Increase wheel speed |
| | Excessive dressing | Use lighter dressing pressure |
| | Wheel too soft or too hard | Change grit or grade, use higher concentration |

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

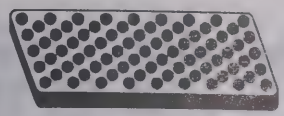
**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**



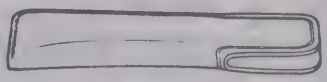
*Need abrasives? Choose a supplier with true grit. Choose Grainger.*

# DIAMOND WHETSTONE SHARPENERS

DMT®

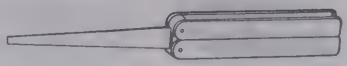


A No. 3KT18





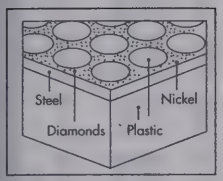
C No. 3KT15

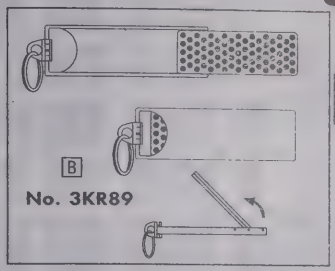


F No. 3KR93

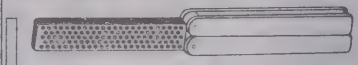


G No. 3KT07



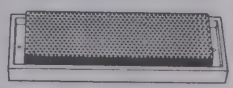
B No. 3KR89



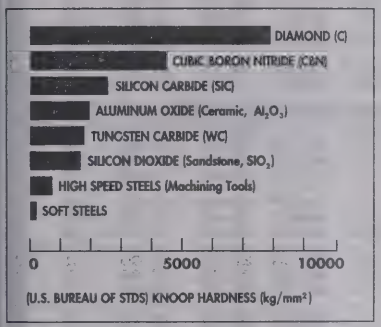
D No. 3KR98



E No. 3KR96



H No. 3KT11




**Fast**—Ultra-hard sharp diamond crystals and unique polka dot pattern chip clearing surface on whetstones

**Easy**—Micro cutting, not plowing, removes stock with less force

**Clean**—Use with water or dry, no oily mess

**Versatile**—Hone carbon steel, tool steel, stainless steel, carbide, ceramics, etc. (any hard material)

**Durable**—Strong, tough structural bases and wear-resistant monocrystalline diamond. Surface remains flat

**Extra-Fine Diamond**—Green-9 micron 1200 mesh—Polishes and refines cutting edges

**Fine Diamond**—Red—25 micron—600 mesh for regular honing of well maintained edges

**Course Diamond**—Blue—45 micron—325 mesh—Rapidly sharpens general cutting tools

**Extra-Coarse Diamond**—Black-60 micron —220 mesh—Remove material rapidly, for nicked or damaged edges, for heavy cutting such as axes and lawnmower blades.

### A POCKET DIAMOND WHETSTONE™ KITS

- 3 Grit set — Mini Diamond Stones

### B DIAMOND MINI-SHARP™ POCKET MODEL

- Swivel ring attachment for key chains, zipper pulls, etc.
- Convenient handle folds for storage

### C 4" MACHINIST DIAMOND WHETSTONES™

- 1" uninterrupted diamond at one end of stone for honing small pointed tools
- Leather storage sheath

### D 4"DIAFOLD™ DIAMOND WHETSTONES™

- Folding handle protects stone when closed

### E 4" DIAFOLD™ SERRATED KNIFE SHARPENER™

- Folding handle protects stone when closed
- Uninterrupted diamond coated cone surface tapers from 1/4 to 1/16" diameter over 4" of length
- Use on any curved blade or as a mini steel for straight edges

### F 4" DIAFOLD™ DIAMOND FLAT KNIFE

- Uninterrupted diamond abrasive on one side of 1/32" thick file
- Tapers from 3/4 to 1/4" over 4" in length
- Folding handle to protect file when closed
- Ideal for closely spaced cutting edges: garden pruners, shears and carbide circular saw blades

### G 6" BENCH DIAMOND WHETSTONE™

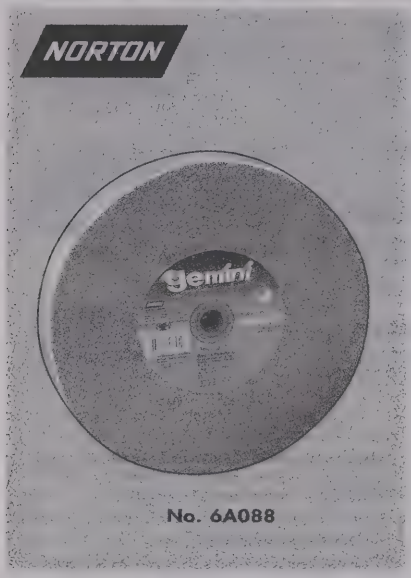
- Plastic case with non skid rubber feet and mounting screw holes

### H 8" BENCH DIAMOND WHETSTONE™

- Mounting holes molded into stone base
- Hardwood storage case with non-skid rubber feet

| Key | Description | Size (In.) | DMT Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Diamond Whetstone™ Sets | 2⅝ x 7/8 x 1/4, Extra-Fine/Fine/Coarse | W7EFC | 3KT18 | $22.03 | 0.3 |
| B | Diamond Mini Sharp® | 2⅝ x 7/8 x 1/4, Extra-Fine | F70E | 3KR89 | 10.46 | 0.1 |
| | | 2⅝ x 7/8 x 1/4, Fine | F70F | 3KR90 | 10.46 | 0.1 |
| | | 2⅝ x 7/8 x 1/4, Coarse | F70C | 3KR88 | 10.46 | 0.1 |
| C | 4" Machinist Diamond Whetstone™ Sets | 4⅛ x 7/8 x 3/16, Ex-Fine | WME | 3KT15 | 22.74 | 0.2 |
| | | 4⅛ x 7/8 x 3/16, Fine | WMF | 3KT16 | 22.74 | 0.2 |
| | | 4⅛ x 7/8 x 3/16, Coarse | WMC | 3KT14 | 22.74 | 0.2 |
| D | 4" Diafold™ Diamond Whetstone™ Sets | 4⅛ x 7/8 x 3/16, Extra-Fine | FWE | 3KR98 | 23.21 | 0.3 |
| | | 4⅛ x 7/8 x 3/16, Fine | FWF | 3KR99 | 23.21 | 0.2 |
| | | 4⅛ x 7/8 x 3/16, Coarse | FWC | 3KR97 | 23.21 | 0.2 |
| E | 4" Diafold™ Serrated Knife Sharpeners | 1/16 to 1/4 x 4 Cone, Fine | FSKF | 3KR96 | 24.59 | 0.2 |
| F | 4" Diafold™ Diamond Flat File | 1/4 to 3/4 x 4, Fine | FFF | 3KR93 | 24.13 | 0.2 |
| | | 1/4 to 3/4 x 4, Coarse | FFC | 3KR92 | 24.13 | 0.2 |
| G | 6" Bench Diamond Whetstone™ | 6 x 2 x 3/4, Extra-Fine | W6EP | 3KT07 | 41.40 | 0.7 |
| | | 6 x 2 x 3/4, Fine | W6FP | 3KT08 | 41.40 | 0.7 |
| | | 6 x 2 x 3/4, Coarse | W6CP | 3KT06 | 41.40 | 0.7 |
| | | 6 x 2 x 3/4, Extra-Coarse | W6XP | 3KT09 | 41.40 | 0.7 |
| H | 8" Bench Diamond Whetstone™ | 8 x 2⅝ x 1¼, Extra-Fine | W8E | 3KT11 | 79.40 | 1.6 |
| | | 8 x 2⅝ x 1¼, Fine | W8F | 3KT12 | 79.40 | 1.6 |
| | | 8 x 2⅝ x 1¼, Coarse | W8C | 3KT10 | 79.40 | 1.6 |
| | | 8 x 2⅝ x 1¼, Extra-Coarse | W8X | 3KT13 | 79.40 | 1.6 |

# BENCH & PEDESTAL WHEELS




No. 6A088

- A/O (Aluminum Oxide) gray wheels for all types of steel
- A/O Grit Ranges: Coarse (C)—36/46 grit for an extended range of non-precision grinding applications; Medium (M)—60/80 grit is a mid-range blend for a variety of bench and pedestal grinding jobs; Fine (F)—100 grit, a versatile blend for fine cleanup, small tool reconditioning, and deburring jobs
- S/C (Silicon Carbide) green wheels for tungsten carbide and nonferrous metals such as brass, bronze, and aluminum
- S/C Grit Ranges: Medium (M)—60 for roughing carbide tools; Fine (F)—80 for all-purpose grinding of carbide tools; Extra Fine (XF)—for finest grinding

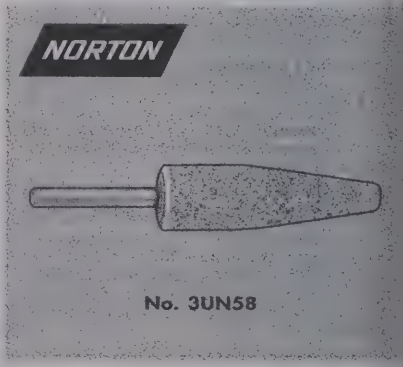
| Dia. (In.) | Width x Hole (In.) | Grit | Specification | Max. RPM | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **ALUMINUM OXIDE BENCH & PEDESTAL WHEELS** | | | | | | | | | | |
| **5** | 1/2 x 1 | 36/46 | A/O - C | 4965 | 662528-30650 | **6A082** | **$8.39** | **$7.56** | **2** | 1.2 |
| | | 60/80 | A/O - M | 4965 | 662528-30649 | **6A083** | **8.39** | **7.56** | **2** | 1.2 |
| | | 100 | A/O - F | 4965 | 662528-30739 | **5A880** | **8.39** | **7.56** | **2** | 1.0 |
| **6** | 1/2 x 1 | 36/46 | A/O - C | 4140 | 662528-36132 | **4B128** | **9.89** | **8.93** | **2** | 1.5 |
| | | 60/80 | A/O - M | 4140 | 662528-36131 | **4B127** | **9.89** | **8.93** | **2** | 1.3 |
| | | 100 | A/O - F | 4140 | 662528-36133 | **4B129** | **9.89** | **8.93** | **2** | 1.2 |
| **6** | 3/4 x 1 | 36/46 | A/O - C | 4140 | 662528-37103 | **6A084** | **11.60** | **10.46** | **2** | 2.2 |
| | | 60/80 | A/O - M | 4140 | 662528-37102 | **6A085** | **11.60** | **10.46** | **2** | 2.2 |
| | | 100 | A/O - F | 4140 | 662528-37101 | **6A086** | **11.60** | **10.46** | **2** | 2.0 |
| **6** | 1 x 1 | 36/46 | A/O - C | 3600 | 662528-37958 | **5A881** | **13.40** | **12.09** | **2** | 2.6 |
| | | 60/80 | A/O - M | 4140 | 662528-37957 | **5A882** | **13.40** | **12.09** | **2** | 2.4 |
| | | 100 | A/O - F | 4140 | 662528-37100 | **5A883** | **13.40** | **12.09** | **2** | 2.3 |
| **7** | 1 x 1 | 36/46 | A/O - C | 3600 | 662529-42292 | **6A087** | **16.39** | **14.80** | **2** | 3.8 |
| | | 60/80 | A/O - M | 3600 | 662529-42294 | **6A088** | **16.39** | **14.80** | **2** | 3.4 |
| | | 100 | A/O - F | 3600 | 662529-42295 | **6A089** | **16.39** | **14.80** | **2** | 3.4 |
| **8** | 1 x 1 | 24 | A/O - VC | 3600 | 662530-44454 | **4B138** | **20.04** | **18.08** | **2** | 4.9 |
| | | 36/46 | A/O - C | 3600 | 662530-44449 | **6A090** | **20.07** | **18.10** | **2** | 4.6 |
| | | 60/80 | A/O - M | 3600 | 662530-44448 | **6A091** | **20.07** | **18.10** | **2** | 4.4 |
| | | 100 | A/O - F | 3600 | 662530-44447 | **6A092** | **20.07** | **18.10** | **2** | 4.3 |
| **10** | 1 x 1¼ | 24 | A/O - VC | 2485 | 662531-60788 | **4B141** | **30.90** | **27.81** | **2** | 7.7 |
| | | 36/46 | A/O - C | 2485 | 661531-60787 | **6A093** | **30.95** | **27.85** | **2** | 7.0 |
| | | 60/80 | A/O - M | 2485 | 662531-60789 | **6A094** | **30.95** | **27.85** | **2** | 7.0 |
| | | 100 | A/O - F | 2485 | 662531-60350 | **4B140** | **30.90** | **27.81** | **2** | 6.8 |
| **12** | 2 x 1½ | 36/46 | A/O - C | 2070 | 662532-63055 | **5A884** | **74.75** | **67.41** | **2** | 21.0 |
| | | 60/80 | A/O - M | 2070 | 662532-63056 | **5A885** | **74.75** | **67.41** | **2** | 19.0 |
| **SILICON CARBIDE BENCH AND PEDESTAL WHEELS** | | | | | | | | | | |
| **6** | 1/2 x 1 | 60 | S/C-M | 4140 | 662528-36571 | **4B130** | **16.58** | **14.98** | **2** | 1.2 |
| | | 80 | S/C-F | 4140 | 662528-36572 | **4B131** | **16.58** | **14.98** | **2** | 1.2 |
| | | 120 | S/C-XF | 4140 | 662528-36573 | **4B132** | **16.58** | **14.98** | **2** | 1.2 |
| **6** | 3/4 x 1 | 60 | S/C-M | 4140 | 662528-37190 | **5A886** | **19.42** | **17.53** | **2** | 1.7 |
| | | 80 | S/C-F | 4140 | 662528-37191 | **5A887** | **19.42** | **17.53** | **2** | 1.7 |
| | | 120 | S/C-XF | 4140 | 662528-37192 | **4B134** | **19.63** | **17.70** | **2** | 1.5 |
| **6** | 1 x 1 | 60 | S/C-M | 4140 | 662528-37187 | **4B133** | **22.20** | **20.06** | **2** | 2.0 |
| | | 80 | S/C-F | 4140 | 662528-37193 | **4B135** | **22.20** | **20.06** | **2** | 2.0 |
| | | 120 | S/C-XF | 4140 | 662528-37194 | **4B136** | **22.20** | **20.06** | **2** | 2.0 |
| **7** | 1 x 1 | 60 | S/C-M | 3600 | 662529-42300 | **5A890** | **27.55** | **24.75** | **2** | 2.7 |
| | | 80 | S/C-F | 3600 | 662529-42301 | **5A891** | **27.55** | **24.75** | **2** | 2.8 |
| | | 120 | S/C-XF | 3600 | 662529-42302 | **4B137** | **27.80** | **25.00** | **2** | 2.6 |
| **8** | 1 x 1 | 60 | S/C-M | 3600 | 662530-44087 | **5A892** | **33.70** | **30.30** | **2** | 4.4 |
| | | 80 | S/C-F | 3600 | 662530-44534 | **5A893** | **33.70** | **30.30** | **2** | 4.4 |
| | | 120 | S/C-XF | 3600 | 662530-44535 | **4B139** | **34.05** | **30.58** | **2** | 3.6 |
| **10** | 1 x 1¼ | 60 | S/C-M | 2485 | 662531-44536 | **5A894** | **51.80** | **46.65** | **2** | 5.2 |
| | | 80 | S/C-F | 2485 | 662531-60366 | **5A895** | **51.80** | **46.65** | **2** | 5.4 |

## ARBOR ADAPTER BUSHINGS (Included with Wheel)

5, 6, & 7" Wheels include 1/2, 5/8, and 3/4" bushings. 8" wheels include 5/8, 3/4, and 7/8" bushings. 10" wheels include 3/4, 7/8, and 1" bushings. 12" wheels include 1" and 1¼" bushings.

## "CHARGER®" RESIN MOUNTED WHEELS

- Ideal for rapid stock removal in metal-fab, welding, and foundry applications where heavy pressure is applied. Highly versatile product.
- Very free-cutting Zirconia Alumina self-sharpening grain for fast metal removal.
- Extremely durable resin bond offers outstanding resilience under pressure.



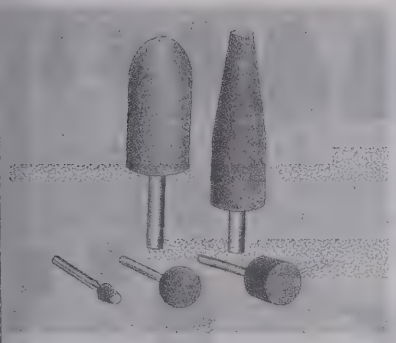

No. 3UN58

| Shape | Diameter x Thickness (In.) | Spindle Dia. (In.) | Grit | Max. RPM | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **"CHARGER®" RESIN MOUNTED WHEELS** | | | | | | | | | | |
| **A1** | 3/4 x 2½ | 1/4 | 30 | 16,500 | 614636-16458 | **3UN58** | **$6.26** | **$5.63** | **5** | 0.4 |
| **A3** | 1 x 2¾ | 1/4 | 30 | 16,100 | 614636-16460 | **3UN59** | **6.72** | **6.04** | **5** | 0.4 |
| **A5** | 3/4 x 1⅛ | 1/4 | 30 | 45,000 | 614636-16462 | **3UN60** | **3.54** | **3.19** | **5** | 0.1 |
| **A11** | 7/8 x 2 | 1/4 | 30 | 19,860 | 614636-16464 | **3UN61** | **4.60** | **4.14** | **5** | 0.3 |
| **W189** | 1/2 x 2 | 1/4 | 30 | 44,000 | 614636-16466 | **3UN62** | **3.43** | **3.09** | **5** | 0.3 |
| **W197** | 5/8 x 2 | 1/4 | 30 | 21,000 | 614636-16468 | **3UN63** | **3.66** | **3.29** | **5** | 0.2 |
| **W207** | 3/4 x 1½ | 1/4 | 30 | 24,000 | 614636-16470 | **3UN64** | **2.83** | **2.55** | **5** | 0.2 |
| **W208** | 3/4 x 2 | 1/4 | 30 | 18,750 | 614636-16472 | **3UN65** | **3.66** | **3.29** | **5** | 0.3 |
| **W221** | 1 x 1½ | 1/4 | 30 | 19,120 | 614636-16474 | **3UN66** | **2.94** | **2.65** | **5** | 0.4 |
| **W222** | 1 x 2 | 1/4 | 30 | 15,900 | 614636-16476 | **3UN67** | **3.78** | **3.40** | **5** | 0.4 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.



Need abrasives? Choose a supplier with true grit. Choose Grainger.



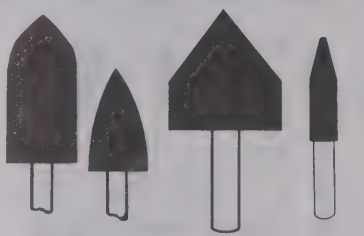
# VITRIFIED "PACESETTER®" MOUNTED WHEELS

- Aluminum oxide abrasive in a vitrified bond
- Ideal for deburring, tool sharpening, finishing cavities, removing mold marks and parting lines on ferrous and non-ferrous metals

NORTON



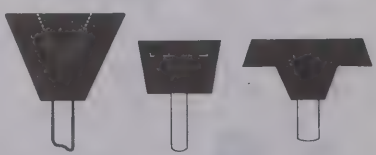
A1 A3 A4 A5



A11 A12 A13 A14 A15



A21 A23 A24 A25



A31 A32 A34

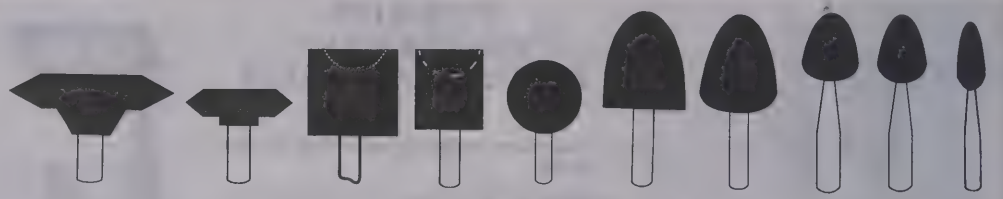
| Key Shape | Dia. x Thickness (In.) | Spindle Dia. (In.) | Specification | Max. RPM | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **VITRIFIED PACESETTER® MOUNTED WHEELS—A & B SHAPES ORDERING DATA** | | | | | | | | | | |
| A-1 | 3/4 x 2 1/2 | 1/4 | 38A Coarse | 19,800 | 614636-24374 | 4F758 | $2.73 | $2.45 | 5 | 0.1 |
| A-1 | 3/4 x 2 1/2 | 1/4 | 38A Medium | 19,800 | 614636-24375 | 4F759 | 2.73 | 2.45 | 5 | 0.1 |
| A-3 | 1 x 2 3/4 | 1/4 | 38A Coarse | 16,100 | 614636-24377 | 4F760 | 2.95 | 2.65 | 5 | 0.2 |
| A-3 | 1 x 2 3/4 | 1/4 | 38A Medium | 16,100 | 614636-24378 | 4F761 | 2.95 | 2.65 | 5 | 0.2 |
| A-4 | 1 1/4 x 1 1/4 | 1/4 | 38A Medium | 30,560 | 614636-24380 | 2D821 | 1.86 | 1.67 | 5 | 0.1 |
| A-5 | 3/4 x 1 1/8 | 1/4 | 38A Coarse | 45,000 | 614636-24381 | 4F762 | 1.56 | 1.41 | 5 | 0.1 |
| A-5 | 3/4 x 1 1/8 | 1/4 | 38A Medium | 45,000 | 614636-24382 | 2D822 | 1.56 | 1.41 | 5 | 0.1 |
| A-11 | 7/8 x 2 | 1/4 | 38A Coarse | 19,860 | 614636-24384 | 4F763 | 2.01 | 1.81 | 5 | 0.1 |
| A-11 | 7/8 x 2 | 1/4 | 38A Medium | 19,860 | 614636-24385 | 2D823 | 2.01 | 1.80 | 5 | 0.2 |
| A-12 | 11/16 x 1 1/4 | 1/4 | 38A Coarse | 48,000 | 614636-24387 | 4F764 | 1.56 | 1.41 | 5 | 0.1 |
| A-12 | 11/16 x 1 1/4 | 1/4 | 38A Medium | 48,000 | 614636-24388 | 4F765 | 1.56 | 1.41 | 5 | 0.1 |
| A-13 | 1 1/8 x 1 1/8 | 1/4 | 38A Medium | 33,950 | 614636-24389 | 4F766 | 1.88 | 1.71 | 5 | 0.9 |
| A-14 | 11/16 x 7/8 | 1/4 | 38A Medium | 55,560 | 614636-24390 | 4F767 | 1.18 | 1.07 | 5 | 0.1 |
| A-15 | 1/4 x 1 1/16 | 1/4 | 38A Medium | 72,750 | 614636-24391 | 2D824 | 1.49 | 1.35 | 5 | 0.1 |
| A-21 | 1 x 1 | 1/4 | 38A Medium | 34,500 | 614636-24392 | 2D825 | 1.28 | 1.15 | 5 | 0.1 |
| A-23 | 3/4 x 1 | 1/4 | 38A Medium | 39,370 | 614636-24394 | 2D826 | 1.18 | 1.07 | 5 | 0.1 |
| A-24 | 1/4 x 3/4 | 1/4 | 38A Medium | 76,500 | 614636-24395 | 2D827 | 1.07 | 0.97 | 5 | 0.1 |
| A-25 | 1 Ball | 1/4 | 38A Medium | 35,620 | 614636-24396 | 4F769 | 1.29 | 1.16 | 5 | 0.1 |
| A-26 | 5/8 Ball | 1/4 | 38A Medium | 61,120 | 614636-24397 | 2D828 | 1.13 | 1.03 | 5 | 0.1 |
| A-31 | 1 3/8 x 1 | 1/4 | 38A Coarse | 27,780 | 614636-24398 | 4F770 | 1.55 | 1.41 | 5 | 0.1 |
| A-31 | 1 3/8 x 1 | 1/4 | 38A Medium | 27,780 | 614636-24399 | 4F771 | 1.56 | 1.41 | 5 | 0.1 |
| A-32 | 1 x 5/8 | 1/4 | 38A Medium | 38,200 | 614636-24400 | 2D829 | 1.18 | 1.07 | 5 | 0.1 |
| A-34 | 1 1/2 X 3/8 | 1/4 | 38A Medium | 25,470 | 614636-24402 | 2D830 | 1.36 | 1.21 | 5 | 0.1 |
| A-36 | 1 5/8 x 3/8 | 1/4 | 38A Medium | 23,520 | 614636-24404 | 2D831 | 1.55 | 1.41 | 5 | 0.1 |
| A-37 | 1 1/4 x 1/4 | 1/4 | 38A Medium | 30,560 | 614636-24405 | 2D832 | 1.18 | 1.07 | 5 | 0.1 |
| A-38 | 1 x 1 | 1/4 | 38A Coarse | 34,500 | 614636-23637 | 4F772 | 1.09 | 0.97 | 5 | 0.1 |
| A-38 | 1 x 1 | 1/4 | 38A Medium | 34,500 | 614636-24406 | 4F773 | 1.09 | 0.97 | 5 | 0.1 |
| A-39 | 3/4 x 3/4 | 1/4 | 38A Medium | 47,250 | 614636-24407 | 2D833 | 0.90 | 0.81 | 5 | 0.1 |
| A-40 | 3/4 Ball | 1/4 | 38A Medium | 47,250 | 614636-24408 | 2D834 | 1.13 | 1.03 | 5 | 0.1 |
| A-41 | 5/8 x 5/8 | 1/8 | 38A Medium | 33,750 | 614636-24410 | 2D835 | 1.13 | 1.03 | 5 | 0.1 |
| A-42 | 1/2 x 3/4 | 1/8 | 38A Medium | 33,750 | 614636-24412 | 2D836 | 1.07 | 0.97 | 5 | 0.1 |
| A-43 | 1/4 x 5/16 | 1/8 | 38A Medium | 81,370 | 614636-24413 | 2D837 | 1.00 | 0.90 | 5 | 0.1 |
| A-44 | 7/32 x 3/8 | 1/8 | 38A Medium | 68,400 | 614636-24414 | 2D838 | 1.00 | 0.90 | 5 | 0.1 |
| A-45 | 3/16 x 5/16 | 1/8 | 38A Medium | 104,250 | 614636-24415 | 2D839 | 1.00 | 0.90 | 5 | 0.1 |
| A-46 | 1/8 x 5/16 | 1/8 | 38A Medium | 105,000 | 614636-24416 | 2D840 | 1.00 | 0.90 | 5 | 0.1 |
| A-52 | 3/8 x 3/4 | 1/4 | 38A Medium | 81,000 | 614636-24419 | 4F774 | 1.09 | 0.97 | 5 | 0.1 |
| A-53 | 5/16 x 5/8 | 1/8 | 38A Medium | 60,000 | 614636-24423 | 2D841 | 1.07 | 0.97 | 5 | 0.1 |
| A-54 | 1/4 x 1/2 | 1/8 | 38A Medium | 60,000 | 614636-24424 | 2D842 | 1.00 | 0.90 | 5 | 0.1 |
| A-55 | 1/8 x 1/4 | 1/8 | 38A Medium | 105,000 | 614636-24425 | 2D843 | 0.87 | 0.79 | 5 | 0.1 |
| A-61 | 3/4 x 5/16 | 1/4 | 38A Medium | 50,930 | 614636-24427 | 2D844 | 1.07 | 0.97 | 5 | 0.1 |
| A-62 | 1/2 x 3/8 | 1/8 | 38A Medium | 41,020 | 614636-24428 | 4F775 | 1.01 | 0.90 | 5 | 0.1 |
| A-72 | 1/2 x 1/8 | 1/8 | 38A Medium | 73,500 | 614636-24434 | 4F776 | 0.89 | 0.80 | 5 | 0.1 |
| A-73 | 1/2 x 3/32 | 1/8 | 38A Medium | 73,500 | 614636-24435 | 2D845 | 0.87 | 0.79 | 5 | 0.1 |
| A-81 | 3/4 x 3/16 | 1/8 | 38A Medium | 50,930 | 614636-24437 | 2D846 | 1.00 | 0.90 | 5 | 0.1 |
| A-82 | 1/2 x 1/4 | 1/8 | 38A Medium | 76,390 | 614636-24438 | 2D847 | 0.87 | 0.79 | 5 | 0.1 |
| A-91 | 1/2 x 5/8 | 1/8 | 38A Medium | 34,500 | 614636-24443 | 2D848 | 1.07 | 0.97 | 5 | 0.1 |
| A-92 | 1/4 x 1/4 | 1/8 | 38A Medium | 81,370 | 614636-24444 | 2D849 | 0.87 | 0.79 | 5 | 0.1 |
| A-95 | 1/8 x 3/16 | 1/8 | 38A Medium | 105,000 | 614636-24447 | 2D851 | 0.87 | 0.79 | 5 | 0.1 |
| A-96 | 1/8 x 1/4 | 1/8 | 38A Medium | 105,000 | 614636-24448 | 2D852 | 0.87 | 0.79 | 5 | 0.1 |
| A-97 | 1/8 x 3/8 | 1/8 | 38A Medium | 105,000 | 614636-24451 | 2D850 | 1.00 | 0.90 | 5 | 0.1 |
| A-98 | 3/32 x 1/4 | 1/8 | 38A Medium | 105,000 | 614636-24452 | 2D853 | 0.87 | 0.79 | 5 | 0.1 |
| A-102 | 5/8 x 1/2 | 1/8 | 38A Medium | 45,370 | 614636-24455 | 4F777 | 1.08 | 0.97 | 5 | 0.1 |
| A-103 | 5/8 x 3/16 | 1/8 | 38A Medium | 61,120 | 614636-24456 | 2D854 | 1.00 | 0.90 | 5 | 0.1 |
| A-111 | 7/16 x 11/16 | 1/4 | 38A Medium | 66,000 | 614636-24461 | 2D855 | 1.07 | 0.97 | 5 | 0.1 |
| A-121 | 1/2 Ball | 1/4 | 38A Medium | 76,390 | 614636-24467 | 4F778 | 1.01 | 0.90 | 5 | 0.1 |
| A-122 | 3/8 Ball | 1/8 | 38A Medium | 61,650 | 614636-24470 | 2D856 | 1.00 | 0.90 | 5 | 0.1 |
| A-123 | 3/16 Ball | 1/8 | 38A Medium | 104,250 | 614636-24472 | 2D857 | 0.87 | 0.79 | 5 | 0.1 |
| A-124 | 1/8 Ball | 1/8 | 38A Medium | 105,000 | 614636-24473 | 2D858 | 0.87 | 0.79 | 5 | 0.1 |
| A-131 | 1/2 x 1/2 | 1/8 | 38A Medium | 34,500 | 614636-24475 | 2D859 | 0.79 | 0.71 | 5 | 0.1 |
| A-132 | 3/8 x 1/2 | 1/8 | 38A Medium | 45,370 | 614636-24479 | 2D860 | 0.79 | 0.71 | 5 | 0.1 |
| A-133 | 3/8 x 3/8 | 1/8 | 38A Medium | 54,000 | 614636-24481 | 2D861 | 0.79 | 0.71 | 5 | 0.1 |
| A-134 | 5/16 x 3/8 | 1/8 | 38A Medium | 61,650 | 614636-24482 | 4F779 | 0.79 | 0.72 | 5 | 0.1 |
| A-135 | 1/4 x 1/2 | 1/8 | 38A Medium | 60,000 | 614636-24484 | 2D862 | 0.79 | 0.71 | 5 | 0.1 |
| A-136 | 1/4 x 5/16 | 1/8 | 38A Medium | 77,250 | 614636-24485 | 2D863 | 0.79 | 0.71 | 5 | 0.1 |

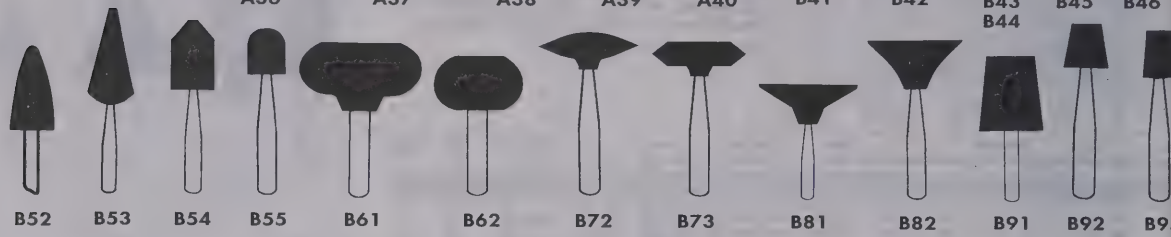
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

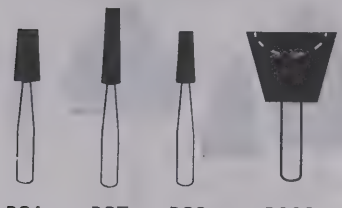
CONTINUED ON NEXT PAGE

# MOUNTED WHEELS

NORTON

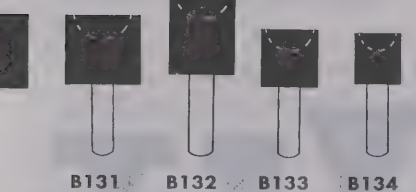












## MOUNTED WHEELS SPECIFICATIONS AND ORDERING DATA (cont.)

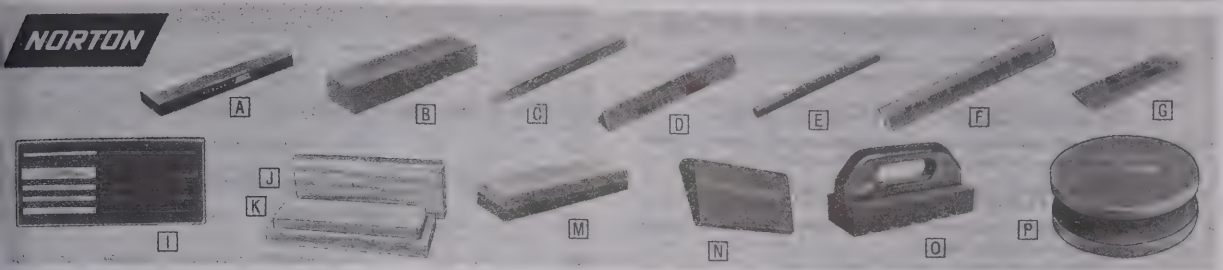
| Key Shape | Dia. x Thickness (In.) | Spindle Dia. (In.) | Specification | Max. RPM | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|
| **VITRIFIED PACESETTER® W SHAPES** | | | | | | | | | | |
| **W141** | 3/32 x 5/32 | 1/8 | 38A Medium | 105,000 | 614636-24486 | **2D864** | **$0.72** | **$0.66** | **5** | 0.1 |
| **W144** | 1/8 x 1/4 | 1/8 | 38A Medium | 105,000 | 614636-24488 | **2D865** | **0.72** | **0.66** | **5** | 0.1 |
| **W145** | 1/8 x 3/8 | 1/8 | 38A Medium | 105,000 | 614636-24489 | **2D866** | **0.79** | **0.71** | **5** | 0.1 |
| **W146** | 1/8 x 1/2 | 1/8 | 38A Medium | 105,000 | 614636-24491 | **2D867** | **0.79** | **0.71** | **5** | 0.1 |
| **W152** | 3/16 x 1/4 | 1/8 | 38A Medium | 105,000 | 614636-24495 | **2D868** | **0.72** | **0.66** | **5** | 0.1 |
| **W153** | 3/16 x 3/8 | 1/8 | 38A Medium | 80,850 | 614636-24496 | **2D869** | **0.79** | **0.71** | **5** | 0.1 |
| **W154** | 3/16 x 1/2 | 1/8 | 38A Medium | 70,500 | 614636-24497 | **2D870** | **0.79** | **0.71** | **5** | 0.1 |
| **W160** | 1/4 x 1/4 | 1/8 | 38A Medium | 81,370 | 614636-24501 | **4F780** | **0.72** | **0.66** | **5** | 0.1 |
| **W162** | 1/4 x 3/8 | 1/8 | 38A Medium | 68,400 | 614636-24503 | **2D871** | **0.79** | **0.71** | **5** | 0.1 |
| **W163** | 1/4 x 1/2 | 1/8 | 38A Medium | 60,000 | 614636-24504 | **2D872** | **0.79** | **0.71** | **5** | 0.1 |
| **W164** | 1/4 x 3/4 | 1/8 | 38A Medium | 45,900 | 614636-24505 | **2D873** | **0.81** | **0.73** | **5** | 0.1 |
| **W169** | 5/16 x 3/8 | 1/8 | 38A Medium | 61,650 | 614636-24510 | **2D874** | **0.79** | **0.71** | **5** | 0.1 |
| **W170** | 5/16 x 1/2 | 1/8 | 38A Medium | 52,500 | 614636-24511 | **2D875** | **0.79** | **0.71** | **5** | 0.1 |
| **W175** | 3/8 x 3/8 | 1/8 | 38A Medium | 54,000 | 614636-24516 | **2D876** | **0.79** | **0.71** | **5** | 0.1 |
| **W176** | 3/8 x 1/2 | 1/8 | 38A Medium | 45,370 | 614636-24517 | **4F781** | **0.79** | **0.72** | **5** | 0.1 |
| **W177** | 3/8 x 3/4 | 1/8 | 38A Medium | 33,750 | 614636-24518 | **2D877** | **0.81** | **0.73** | **5** | 0.1 |
| **W178** | 3/8 x 1 | 1/8 | 38A Medium | 26,250 | 614636-24519 | **2D878** | **0.87** | **0.79** | **5** | 0.1 |
| **W184** | 1/2 x 3/8 | 1/8 | 38A Medium | 41,020 | 614636-24524 | **2D879** | **0.79** | **0.71** | **5** | 0.1 |
| **W185** | 1/2 x 1/2 | 1/4 | 38A Medium | 61,500 | 614636-24526 | **4F782** | **0.79** | **0.72** | **5** | 0.1 |
| **W186** | 1/2 x 3/4 | 1/4 | 38A Medium | 51,000 | 614636-24528 | **2D880** | **0.81** | **0.73** | **5** | 0.1 |
| **W187** | 1/2 x 1 | 1/8 | 38A Medium | 20,620 | 614636-24529 | **2D881** | **0.87** | **0.79** | **5** | 0.1 |
| **W188** | 1/2 x 1½ | 1/4 | 38A Medium | 30,370 | 614636-24530 | **2D882** | **1.36** | **1.21** | **5** | 0.1 |
| **W189** | 1/2 x 2 | 1/4 | 38A Medium | 24,000 | 614636-24531 | **2D883** | **1.70** | **1.53** | **5** | 0.1 |
| **W194** | 5/8 x 1/2 | 1/4 | 38A Medium | 56,400 | 614636-24537 | **2D884** | **0.81** | **0.73** | **5** | 0.1 |
| **W196** | 5/8 x 1 | 1/4 | 38A Medium | 35,250 | 614636-24539 | **2D885** | **1.00** | **0.90** | **5** | 0.1 |
| **W197** | 5/8 x 2 | 1/4 | 38A Medium | 21,000 | 614636-24540 | **2D886** | **1.79** | **1.61** | **5** | 0.1 |
| **W200** | 3/4 x 1/8 | 1/8 | 38A Medium | 50,930 | 614636-24543 | **2D887** | **0.79** | **0.71** | **5** | 0.1 |
| **W203** | 3/4 x 1/2 | 1/4 | 38A Medium | 50,930 | 614636-24548 | **4F783** | **0.81** | **0.73** | **5** | 0.1 |
| **W204** | 3/4 x 3/4 | 1/4 | 38A Medium | 42,750 | 614636-24549 | **2D888** | **0.87** | **0.79** | **5** | 0.1 |
| **W205** | 3/4 x 1 | 1/4 | 38A Medium | 34,500 | 614636-24550 | **2D889** | **1.00** | **0.90** | **5** | 0.1 |
| **W206** | 3/4 x 1¼ | 1/4 | 38A Medium | 28,720 | 614636-24551 | **2D890** | **1.18** | **1.07** | **5** | 0.1 |
| **W207** | 3/4 x 1½ | 1/4 | 38A Medium | 24,000 | 614636-24552 | **2D891** | **1.42** | **1.28** | **5** | 0.1 |
| **W208** | 3/4 x 2 | 1/4 | 38A Medium | 18,750 | 614636-24553 | **2D892** | **1.79** | **1.61** | **5** | 0.2 |
| **W215** | 1 x 1/8 | 1/8 | 38A Medium | 38,200 | 614636-24560 | **2D893** | **0.81** | **0.73** | **5** | 0.1 |
| **W216** | 1 x 1/4 | 1/8 | 38A Medium | 30,520 | 614636-24561 | **2D894** | **0.81** | **0.73** | **5** | 0.1 |
| **W217** | 1 x 3/8 | 1/4 | 38A Medium | 38,200 | 614636-24563 | **2D895** | **0.87** | **0.79** | **5** | 0.1 |
| **W218** | 1 x 1/2 | 1/4 | 38A Medium | 38,200 | 614636-24564 | **2D896** | **0.87** | **0.79** | **5** | 0.1 |
| **W220** | 1 x 1 | 1/4 | 38A Coarse TVME | 25,500 | 614636-24043 | **4F784** | **1.34** | **1.19** | **5** | 0.1 |
| **W220** | 1 x 1 | 1/4 | 38A Medium | 25,500 | 614636-24566 | **4F785** | **1.08** | **0.97** | **5** | 0.1 |
| **W221** | 1 x 1½ | 1/4 | 38A Medium | 19,120 | 614636-24567 | **2D897** | **1.49** | **1.35** | **5** | 0.2 |
| **W222** | 1 x 2 | 1/4 | 38A Medium | 15,900 | 614636-24569 | **2D898** | **1.86** | **1.67** | **5** | 0.1 |
| **W225** | 1¼ x 1/4 | 1/4 | 38A Medium | 30,560 | 614636-24573 | **2D899** | **1.00** | **0.90** | **5** | 0.1 |
| **W226** | 1¼ x 3/8 | 1/4 | 38A Medium | 30,560 | 614636-24574 | **2D900** | **1.07** | **0.97** | **5** | 0.1 |
| **W227** | 1¼ x 1/2 | 1/4 | 38A Medium | 30,560 | 614636-24575 | **2D901** | **1.07** | **0.97** | **5** | 0.1 |
| **W230** | 1¼ x 1¼ | 1/4 | 38A Medium | 20,400 | 614636-24578 | **2D902** | **1.49** | **1.35** | **5** | 0.1 |
| **W235** | 1½ x 1/4 | 1/4 | 38A Medium | 25,470 | 614636-24583 | **2D903** | **1.07** | **0.97** | **5** | 0.1 |
| **W236** | 1½ x 1/2 | 1/4 | 38A Coarse TVME | 25,470 | 614636-24113 | **4F786** | **1.40** | **1.26** | **5** | 0.1 |
| **W236** | 1½ x 1/2 | 1/4 | 38A Medium | 25,470 | 614636-24585 | **4F787** | **1.14** | **1.03** | **5** | 0.1 |
| **W237** | 1½ x 1 | 1/4 | 38A Medium | 22,500 | 614636-24587 | **2D904** | **1.36** | **1.20** | **5** | 0.3 |
| **W238** | 1½ x 1½ | 1/4 | 38A Medium | 15,600 | 614636-24588 | **2D905** | **1.86** | **1.67** | **5** | 0.4 |
| **W242** | 2 x 1 | 1/4 | 38A Medium | 19,100 | 614636-24592 | **2D906** | **1.70** | **1.53** | **5** | 0.4 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposi inside back cover.



Need abrasives? Choose a supplier with true grit. Choose Grainger.

# SHARPENING STONES




## A B INDIA® BENCH STONES

**For sharpening high-quality tools where keenness of edge is primary concern**

**Produces strong, long-lasting edge for artisans, craftsmen, and mechanics**

## C INDIA® SQUARE FILES

**For stoning radial faces of router bits, touching up edges of reamer teeth, and radiusing, lapping, and honing to close tolerances**

## D INDIA® TRIANGULAR FILES

**For stoning cutting surfaces of milling cutters and radiusing, lapping, and honing tools, dies, and molds to close tolerances**

## E INDIA® ROUND FILES

**For dimensioning compound curves on templates and for radiusing, lapping, and honing to close tolerances**

## F INDIA® HALF ROUND FILES

**With both a round and a flat surface for imparting a fine finish on precision machine parts, tools and dies**

## G INDIA® KNIFE BLADES

**Used by clock and watchmakers to quickly sharpen and maintain edge and point of cutting tools**

## H INDIA®-SOFT ARKANSAS COMBINATION BENCH STONE

**Combination fast cutting action on one side and final honing on the other**

**Preferred by woodworkers**

## I HARD ARKANSAS-INDIA® FILE SET

**Set has the 10 most popular file shapes/sizes in both fine grit India and ultra-fine grit Hard Arkansas**

**Offers complete range of finishing, honing and polishing stones, including HF13, HF43, HF113, HF183, HF873, FF14, FF44, FF114, FF214, and FF724**

## J K MOUNTED ARKANSAS BENCH STONES

**Mounted in hardwood for permanent, dust-free protection**

**SM-6 Soft Arkansas stone is extra fine grit for final honing of straight blades and gouges**

**HM-6 Hard Arkansas stone is ultra fine grit for extremely fine edges on precision tools and instruments**

## SHARPENING STONES ORDERING DATA

| Desc. | Size (In.) | Grit | Norton Mod. (614636-..) | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A INDIA COMBINATION GRIT** | | | | | | | | |
| IB6 | 6 x 2 x 1 | Coarse/Fine | 85560 | 6A436 | $16.98 | $15.28 | 2 | 1.2 |
| IB8 | 8 x 2 x 1 | Coarse/Fine | 85565 | 6A437 | 20.09 | 18.07 | 2 | 1.6 |
| **B INDIA SINGLE GRIT** | | | | | | | | |
| MB6 | 6 x 2 x 1 | Medium | 85615 | 6A438 | 15.89 | 14.29 | 2 | 1.2 |
| FB8 | 8 x 2 x 1 | Fine | 85625 | 6A439 | 18.60 | 16.73 | 2 | 1.5 |
| MB8 | 8 x 2 x 1 | Medium | 85630 | 6A440 | 18.59 | 16.73 | 2 | 1.7 |
| **C INDIA SQUARE** | | | | | | | | |
| MF14 | 4 x 1/4 | Medium | 86070 | 6A441 | 4.44 | 3.99 | 10 | 0.1 |
| FF14 | 4 x 1/4 | Fine | 86065 | 4B108 | 4.45 | 4.00 | 10 | 0.1 |
| MF34 | 4 x 3/8 | Medium | 86085 | 4B110 | 4.45 | 4.00 | 10 | 0.1 |
| FF34 | 4 x 3/8 | Fine | 86080 | 4B109 | 4.45 | 4.00 | 10 | 0.2 |
| MF44 | 4 x 1/2 | Medium | 86100 | 6A443 | 4.46 | 4.00 | 10 | 0.2 |
| FF44 | 4 x 1/2 | Fine | 86095 | 6A442 | 4.45 | 4.01 | 10 | 0.2 |
| MF46 | 6 x 1/2 | Medium | 86115 | 6A444 | 7.14 | 6.43 | 10 | 0.3 |
| MF56 | 6 x 5/8 | Medium | 86130 | 4B112 | 7.68 | 6.90 | 10 | 0.3 |
| FF56 | 6 x 5/8 | Fine | 86125 | 4B111 | 7.68 | 6.90 | 10 | 0.2 |
| MF76 | 6 x 1 | Medium | 86160 | 6A445 | 8.23 | 7.41 | 10 | 0.7 |
| FF76 | 6 x 1 | Fine | 86155 | 4B113 | 8.20 | 7.38 | 10 | 0.6 |
| **D INDIA TRIANGULAR** | | | | | | | | |
| MF134 | 4 x 3/8 | Medium | 86250 | 6A446 | 6.20 | 5.58 | 10 | 0.1 |
| FF134 | 4 x 3/8 | Fine | 86245 | 6A447 | 6.21 | 5.58 | 10 | 0.1 |
| MF144 | 4 x 1/2 | Medium | 86265 | 4B115 | 6.20 | 5.58 | 10 | 0.2 |
| FF144 | 4 x 1/2 | Fine | 86260 | 4B114 | 6.20 | 5.58 | 10 | 0.1 |
| **E INDIA ROUND** | | | | | | | | |
| MF214 | 4 x 1/4 | Medium | 86475 | 6A448 | 7.15 | 6.44 | 10 | 0.1 |
| FF214 | 4 x 1/4 | Fine | 86470 | 4B120 | 7.14 | 6.44 | 10 | 0.1 |
| MF234 | 4 x 3/8 | Medium | 86490 | 6A449 | 7.67 | 6.92 | 10 | 0.1 |
| FF234 | 4 x 3/8 | Fine | 86485 | 4B121 | 7.45 | 6.70 | 10 | 0.1 |
| MF244 | 4 x 1/2 | Medium | 86505 | 4B123 | 7.68 | 6.90 | 10 | 0.1 |
| FF244 | 4 x 1/2 | Fine | 86500 | 4B122 | 7.67 | 6.90 | 10 | 0.4 |
| **F INDIA HALF ROUND** | | | | | | | | |
| MF334 | 4 x 3/8 | Medium | 86385 | 4B117 | 6.23 | 5.60 | 10 | 0.1 |
| FF334 | 4 x 3/8 | Fine | 86380 | 4B116 | 6.23 | 5.60 | 10 | 0.1 |
| MF344 | 4 x 1/2 | Medium | 86400 | 4B119 | 6.23 | 5.60 | 10 | 0.1 |
| FF344 | 4 x 1/2 | Fine | 86395 | 4B118 | 6.23 | 5.60 | 10 | 0.1 |
| **G INDIA KNIFE BLADES** | | | | | | | | |
| MF724 | 4 x 1 x 1/8 | Medium | 86775 | 6A451 | 8.12 | 7.32 | 10 | 0.1 |
| FF724 | 4 x 1 x 1/8 | Fine | 86770 | 6A450 | 8.12 | 7.32 | 10 | 0.1 |
| **H INDIA-SOFT ARKANSAS COMBINATION STONE** | | | | | | | | |
| SIB6 | 6 x 2 x 1 | Coarse/XF | 85700 | 4F756 | 34.85 | 31.28 | 2 | 1.0 |
| **I HARD ARKANSAS/INDIA FILE SET** | | | | | | | | |
| 10 Pc. File Set | | | 86840 | 4B124 | 82.50 | 74.20 | 2 | 0.5 |
| **J SOFT ARKANSAS MOUNTED STONE** | | | | | | | | |
| SM6 | 6 x 1⅞ | Soft | 86950 | 4B107 | 38.45 | 34.51 | 2 | 1.3 |
| **K HARD ARKANSAS MOUNTED STONE** | | | | | | | | |
| HM6 | 6 x 1⅞ | Hard | 85930 | 4B106 | 122.90 | 110.53 | 2 | 1.3 |

These products are covered by OSHA Hazard Communication Standard, and Material Safety ta Sheets (MSDS) are available. See page opposite inside back cover.

CONTINUED ON NEXT PAGE

# SHARPENING STONES, KNIFE SHARPENERS, AND REPLACEMENT STONES

## [L] ARKANSAS ROUND EDGE SLIP STONE

- For final honing after prior stoning with comparable shapes of India or Crystolon® stones

## [M] CRYSTOLON® BENCH STONES

- Fast-cutting action for general sharpening of cutting tools when speed is more important than fineness of cutting

## [N] CRYSTOLON® ROUND EDGE SLIPS

- To produce a sharp edge on curved knifes and tools, molder's knives and wood gouges

## [O] CRYSTOLON® RUBBING BRICK WITH HANDLE

- For concrete and masonry moldmark removal

## [P] MACHINE KNIFE STONE

- One side is coarse, the other fine for sharpening, honing paper & cloth cutting knives and planer knives on machine
- Mid-section groove protects fingers; easy to hold

## [Q] AXE & HATCHET STONE

- Palm-size stone for sportsmen, outdoorsmen, and tradesmen

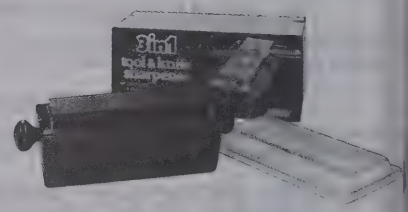
### SHARPENING STONES ORDERING DATA (cont.)

| Desc. | Size (In.) | Grit | Norton Model (614636-...) | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **[L] ULTRA FINE HARD ARKANSAS ROUND EDGE SLIP STONE** | | | | | | | | |
| **HS4** | 4 x 1¼ x 3/8 x 1/8 | Ultra Fine | 87045 | **6A452** | **$56.00** | **$50.37** | **2** | 0.4 |
| **[M] CRYSTOLON COMBINATION GRIT** | | | | | | | | |
| **JB6** | 6 x 2 x 1 | Coarse/ Fine | 85450 | **6A434** | **16.98** | **15.28** | **2** | 0.9 |
| **JB8** | 8 x 2 x 1 | Coarse/ Fine | 85455 | **6A435** | **20.09** | **18.08** | **2** | 1.5 |
| **[N] CRYSTOLON ROUND EDGE SLIPS** | | | | | | | | |
| **FJS44** | 4½ x 1¾ x 1/4 x 3/16 | Fine | 87090 | **4B125** | **7.74** | **6.97** | **2** | 0.2 |
| **[O] CRYSTOLON RUBBING BRICK WITH HANDLE** | | | | | | | | |
| **BFH6** | 6 x 3 x 1 | Coarse | 87800 | **4F755** | **16.92** | **15.23** | **2** | 2.0 |
| **[P] CRYSTOLON MACHINE KNIFE STONE** | | | | | | | | |
| **JB74** | 4 x 1½ | Coarse/ Fine | 87570 | **4B126** | **25.05** | **22.53** | **2** | 1.4 |
| **[Q] AXE AND HATCHET STONE** | | | | | | | | |
| **JT3** | 3 x 3 x 5/8 | Coarse/ Fine | 90544 | **4F757** | **7.71** | **6.95** | **2** | 0.3 |

## 3-IN-1 TOOL AND KNIFE SHARPENER

NORTON

- Three-stone oil bath system produces quick results when sharpening tools and knives
- Coarse and medium Crystolon® stones quickly generate new edges and angles and remove nicks and chips
- Fine India stone restores cutting edge and enhances finish
- Stones are reversible to expose two good surfaces, extending sharpener life, and sit in an easily rotated carriage passing through special oil bath, allowing proper amount of oil on stone
- Use XB1 specially formulated mineral oil (sold separately) for best results (oil meets FDA requirements for use near food)




No. 6A454

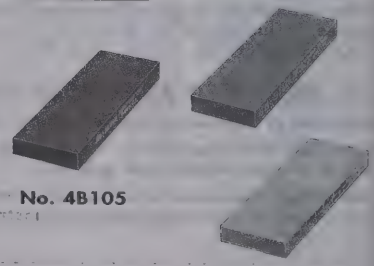
**No. 6A454.** 3-in-1 Sharpening Kit (614636-85356). Shpg. wt. 2.8 lbs.
Each $72.70; Lots 2 ..... $65.36

**No. 6A453❸.** 4 Oz. Mineral Oil XB1 (614636-87760). Shpg. wt. 0.5 lbs.
Each $4.40; Lots 2 ..... $3.95

## REPLACEMENT STONES FOR 3-IN-1 SHARPENER KIT

NORTON

- No. 4B105 is a medium Crystolon stone for initial cut
- No. 4B104 is a fine India stone for burr removal on the cutting edge
- No. 4B103 is a hard select Arkansas stone for final honing and a keen edge
- Stones are 6 x 2 x 1/2"



No. 4B104

No. 4B105

No. 4B103

### REPLACEMENT STONES ORDERING DATA

| Type | Description | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Crystolon** | JM61 | 614636-85350 | **4B105** | **$9.92** | **$8.92** | **2** | 0.5 |
| **India** | IM91 | 614636-85348 | **4B104** | **9.92** | **8.92** | **2** | 1.0 |
| **Hard Select Arkansas** | SHR26 | 614636-85345 | **4B103** | **52.95** | **47.58** | **2** | 0.5 |

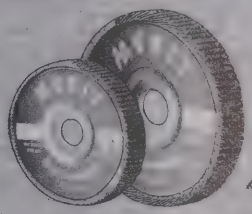


*Need abrasives? Choose a supplier with true grit. Choose Grainger.*

# POWERWHEELS AND POWERNUT

MERIT abrasives

New



No. 4UK51

## POWERWHEEL

- Wheel has layered abrasive flaps that wear away evenly, continually providing sharp grain
- Achieves both aggressive grinding and fine finishes, eliminating numerous sanding steps and tool changes
- PowerWheel is more durable than stone and won't brake if dropped
- Use in 90° angles, up in corners, and in edge and bottom sanding
- Quickly blends, polishes, and removes welds on stainless steel, and aluminum
- For use on portable tools or stationary grinders

### POWERWHEEL SPECIFICATIONS AND ORDERING DATA

| Dia. x Width x A.H. (In.) | Grit | Max. RPM | Merit Model | New! Stock No. | List | Each | Lots 5 | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 4 x 1 x 5/8 AH | 36ZRB | 8,000 | 91400 | 4UK51 | $8.30 | $7.89 | $7.10 | 5 | 0.1 |
| | 40ZRB | 8,000 | 91401 | 4UK52 | 8.30 | 7.89 | 7.10 | 5 | 0.1 |
| | 60ZRB | 8,000 | 91402 | 4UK53 | 8.30 | 7.89 | 7.10 | 5 | 0.1 |
| 4 x 1 x 5/8-11 THD | 36ZRB | 8,000 | 91405 | 4UK64 | 9.20 | 8.74 | 7.87 | 5 | 0.6 |
| | 40ZRB | 8,000 | 91406 | 4UK65 | 9.20 | 8.74 | 7.87 | 5 | 0.6 |
| | 60ZRB | 8,000 | 91407 | 4UK66 | 9.20 | 8.74 | 7.87 | 5 | 0.6 |
| 6 x 1 x 1 AH | 36ZRB | 6,000 | 91355 | 4UK54 | 10.75 | 10.21 | 9.19 | 5 | 1.0 |
| | 40ZRB | 6,000 | 91356 | 4UK55 | 10.75 | 10.21 | 9.19 | 5 | 1.0 |
| | 60ZRB | 6,000 | 91357 | 4UK56 | 10.75 | 10.21 | 9.19 | 5 | 1.0 |
| | 80ZRB | 6,000 | 91358 | 4UK57 | 10.75 | 10.21 | 9.19 | 5 | 1.0 |
| | 120ZRB | 6,000 | 91359 | 4UK58 | 10.75 | 10.21 | 9.19 | 5 | 1.0 |
| 6 x 1 x 5/8-11 THD | 36ZRB | 6,000 | 91380 | 4UK67 | 11.65 | 11.07 | 9.96 | 5 | 1.1 |
| | 40ZRB | 6,000 | 91381 | 4UK68 | 11.65 | 11.07 | 9.96 | 5 | 1.1 |
| | 60ZRB | 6,000 | 91382 | 4UK69 | 11.65 | 11.07 | 9.96 | 5 | 1.1 |
| | 80ZRB | 6,000 | 91383 | 4UK70 | 11.65 | 11.07 | 9.96 | 5 | 1.1 |
| | 120ZRB | 6,000 | 91384 | 4UK71 | 11.65 | 11.07 | 9.96 | 5 | 1.1 |
| 6 x 2 x 1 AH | 36ZRB | 6,000 | 91360 | 4UK59 | 14.80 | 14.06 | 12.65 | 5 | 2.0 |
| | 40ZRB | 6,000 | 91361 | 4UK60 | 14.80 | 14.06 | 12.65 | 5 | 2.0 |
| | 60ZRB | 6,000 | 91362 | 4UK61 | 14.80 | 14.06 | 12.65 | 5 | 2.0 |
| | 80ZRB | 6,000 | 91363 | 4UK62 | 14.80 | 14.06 | 12.65 | 5 | 2.0 |
| | 120ZRB | 6,000 | 91364 | 4UK63 | 14.80 | 14.06 | 12.65 | 5 | 2.0 |
| 6 x 2 x 5/8-11 THD | 36ZRB | 6,000 | 913385 | 4UK72 | 15.70 | 14.92 | 13.42 | 5 | 2.0 |
| | 40ZRB | 6,000 | 913386 | 4UK73 | 15.70 | 14.92 | 13.42 | 5 | 2.0 |
| | 60ZRB | 6,000 | 913387 | 4UK74 | 15.70 | 14.92 | 13.42 | 5 | 2.0 |
| | 80ZRB | 6,000 | 913388 | 4UK75 | 15.70 | 14.92 | 13.42 | 5 | 2.0 |
| | 120ZRB | 6,000 | 913389 | 4UK76 | 15.70 | 14.92 | 13.42 | 5 | 2.0 |

Jacobs® CHUCK MANUFACTURING CO.

New




No. 4PL54

## THE POWERNUT®

### TOOLLESS RETAINING NUT SYSTEM FOR ANGLE GRINDERS

- Change Type 27 and 28 grinding wheels at your fingertips; no wrenches needed
- No hub wheels—saves money
- Positive locking—increases productivity and safety
- Innovative design—improves performance with ergonomic comfort

The Powernut® won't self-tighten or lock up. Its ergonomic design and textured, non-slip rim make it easy to hand tighten and loosen for fast wheel replacement. The PowerNut® is heat-, corrosion-, and dirt- resistant.

Jacobs PowerNut® has been designed for use with electric angle grinders. For use in pipe fabrication shops, shipyards, petrochemical plants, steel fabricators, welding shops and foundries. Ideal for virtually any large surface that requires hogging out of material.

| Description | Jacobs Model No. | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Retaining Nut for 7 & 9" angle grinders | 33805 | 4PL54 | $24.99 | 0.7 |
| Retaining Nut for 4½ & 6 angle grinders | 33810 | 4PL55 | 14.99 | 0.4 |

DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!
Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# RAISED HUB WHEELS AND NOTCHERS

## GEMINI® GENERAL PURPOSE & MASONRY GRINDING WHEELS




No. 6A076

- Available with 5/8-11 threaded arbor with discard mount or 3/8, 5/8 or 7/8" arbor hole, see chart
- Wheels fit 4½, 7, and 9" grinders
- Always use proper grinder guard when using these wheels
- Wheels comply with ANSI Safety Code B-7.1
- Masonry wheels give long life and cool cut on all nonferrous metals and are fast cutting on concrete work
- Use Type 27 wheels on 15° angle for proper work contact
- Type 28 wheels have built-in 15° angle for out of position work
- Use notchers on O.D. for proper work contact

### GEMINI ALUMINUM GRINDING RAISED HUB WHEELS—TYPE 27

| Dia. (In.) | Thickness x Hole (In.) | Grit | Max. RPM | Norton Model | Stock No. ③ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 1/4 x 5/8 | A46 | 15280 | 662435-29741 | 4B173 | $4.31 | $3.88 | 20 | 0.8 |
| 4½ | 1/4 x 7/8 | A46 | 13580 | 662528-30627 | 4B175 | 4.55 | 4.11 | 20 | 0.5 |
| 4½ | 1/4 x 5/8-11 | A46 | 13580 | 662528-30433 | 4B174 | 5.40 | 4.89 | 20 | 0.4 |
| 7 | 1/4 x 5/8-11 | A24 | 8600 | 662529-40514 | 6A432 | 8.47 | 7.64 | 10 | 1.0 |
| 9 | 1/4 x 5/8-11 | A24 | 6600 | 662529-49045 | 6A433 | 11.59 | 10.47 | 10 | 2.0 |

### GEMINI GENERAL PURPOSE MASONRY RAISED HUB WHEELS — TYPE 27

| Dia. (In.) | Thickness x Hole (In.) | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 7 | 1/4 x 5/8-11 | 8600 | 662529-39307 | 6A078 | $4.03 | $3.64 | 10 | 1.1 |
| 9 | 1/4 x 5/8-11 | 6600 | 662530-49048 | 5A870 | 5.46 | 4.93 | 10 | 1.7 |

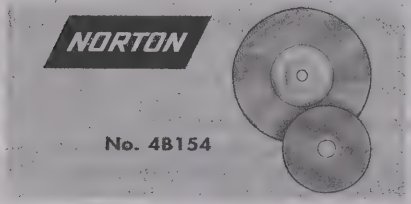
### GEMINI GENERAL PURPOSE RAISED-HUB WHEELS AND NOTCHERS — TYPE 27

| Dia. (In.) | Thickness x Hole (In.) | Description | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 1/8 x 3/8 | Mini Disc | 18000 | 662435-28639 | 4B167 | $1.74 | $1.56 | 20 | 0.1 |
| 3 | 1/4 x 3/8 | Mini Disc | 18000 | 662435-28855 | 4B168 | 1.80 | 1.62 | 20 | 0.2 |
| 4 | 1/8 x 3/8 | Mini Disc | 15280 | 662435-29686 | 4B169 | 1.76 | 1.59 | 20 | 0.2 |
| 4 | 1/8 x 5/8 | Mini Disc | 15280 | 662435-30619 | 5A863 | 1.76 | 1.59 | 20 | 0.2 |
| 4 | 1/4 x 3/8 | Mini Disc | 15280 | 662435-29748 | 4B170 | 1.78 | 1.61 | 20 | 0.3 |
| 4 | 1/4 x 5/8 | Mini Disc | 15280 | 662435-30620 | 6A624 | 1.80 | 1.62 | 20 | 0.3 |
| 4½ | 1/8 x 5/8-11 | Mini Disc | 13580 | 662528-30435 | 4B172 | 2.58 | 2.33 | 20 | 0.6 |
| 4½ | 1/8 x 7/8 | Mini Disc | 13580 | 662528-30609 | 5A864 | 1.76 | 1.59 | 20 | 0.2 |
| 4½ | 1/4 x 5/8-11 | Mini Disc | 13580 | 662528-30432 | 4B171 | 2.60 | 2.36 | 20 | 0.6 |
| 4½ | 1/4 x 7/8 | Mini Disc | 13580 | 662528-30611 | 6A076 | 1.78 | 1.61 | 20 | 0.4 |
| 5 | 1/8 x 7/8 | Notcher | 12225 | 662528-30614 | 5A865 | 2.74 | 2.47 | 20 | 0.5 |
| 5 | 1/4 x 7/8 | Mini Disc | 12225 | 662528-30615 | 5A866 | 3.59 | 2.45 | 20 | 0.4 |
| 7 | 1/8 x 5/8-11 | Notcher | 8600 | 662529-39259 | 5A872 | 3.85 | 3.43 | 10 | 0.9 |
| 7 | 1/8 x 7/8 | Notcher | 8600 | 662529-39207 | 5A871 | 3.77 | 3.39 | 20 | 0.7 |
| 7 | 1/4 x 5/8-11 | Disc | 8600 | 662529-40148 | 6A077 | 3.95 | 3.57 | 10 | 1.2 |
| 7 | 1/4 x 7/8 | Disc | 8600 | 662529-40098 | 5A867 | 3.04 | 2.74 | 20 | 1.0 |
| 9 | 1/8 x 5/8-11 | Notcher | 6600 | 662530-48983 | 5A874 | 5.11 | 4.62 | 10 | 1.3 |
| 9 | 1/8 x 7/8 | Notcher | 6600 | 662530-48994 | 5A873 | 5.58 | 5.01 | 20 | 1.0 |
| 9 | 1/4 x 5/8-11 | Disc | 6600 | 662530-49104 | 5A869 | 5.31 | 4.80 | 10 | 1.7 |
| 9 | 1/4 x 7/8 | Disc | 6600 | 662530-48991 | 5A868 | 4.44 | 4.01 | 20 | 1.4 |

### GEMINI GENERAL PURPOSE RAISED-HUB SAUCERS — TYPE 28

| Dia. (In.) | Thickness x Hole (In.) | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 7 | 1/4 x 5/8-11 | 8600 | 662529-40149 | 5A876 | $5.46 | $4.93 | 10 | 1.2 |
| 7 | 1/4 x 7/8 | 8600 | 662529-40095 | 5A875 | 4.52 | 4.09 | 20 | 1.0 |
| 9 | 1/4 x 5/8-11 | 6600 | 662530-49106 | 5A878 | 7.19 | 6.49 | 10 | 1.7 |
| 9 | 1/4 x 7/8 | 6600 | 662530-49081 | 5A877 | 6.31 | 5.69 | 20 | 1.5 |

## CHARGER® RAISED HUB GRINDING WHEELS—TYPE 27




No. 4B154

- Available with 5/8-11 threaded arbor with discard mount or 5/8 or 7/8" arbor hole, see chart
- Up to twice the life of aluminum oxide wheels
- Aggressive abrasive, premium bond
- Effectively grinds a variety of metals from alloys and stainless to gray iron

### CHARGER RAISED HUB WHEELS AND NOTCHERS—TYPE 27

| Dia. (In.) | Thickness x Hole (In.) | Description | Max. RPM | Norton Model | Stock No. ③ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 1/8 x 5/8 | Mini Disc | 15280 | 662435-29851 | 4B142 | $2.94 | $2.66 | 20 | 0.2 |
| 4 | 1/4 x 5/8 | Mini Disc | 15280 | 662435-29852 | 4B143 | 3.12 | 2.82 | 20 | 0.3 |
| 4½ | 1/8 x 5/8-11 | Mini Disc | 13580 | 662528-29853 | 4B144 | 3.87 | 3.50 | 20 | 0.4 |
| 4½ | 1/8 x 7/8 | Mini Disc | 13580 | 662528-29854 | 4B145 | 3.02 | 2.72 | 20 | 0.2 |
| 4½ | 1/4 x 5/8-11 | Mini Disc | 13580 | 662528-29855 | 4B146 | 3.98 | 3.60 | 20 | 0.6 |
| 4½ | 1/4 x 7/8 | Mini Disc | 13580 | 662528-29856 | 4B147 | 3.12 | 2.82 | 20 | 0.4 |
| 5 | 1/8 x 5/8-11 | Mini Disc | 12225 | 662528-29857 | 4B148 | 4.69 | 4.23 | 20 | 0.5 |
| 5 | 1/8 x 7/8 | Mini Disc | 12225 | 662528-29858 | 4B149 | 3.95 | 3.58 | 20 | 0.3 |
| 5 | 1/4 x 5/8-11 | Mini Disc | 12225 | 662528-29859 | 4B150 | 5.46 | 4.93 | 20 | 0.7 |
| 5 | 1/4 x 7/8 | Mini Disc | 12225 | 662528-29861 | 4B151 | 4.50 | 4.07 | 20 | 0.5 |
| 7 | 1/8 x 5/8-11 | Notcher | 8600 | 662529-29862 | 4B152 | 5.66 | 5.11 | 10 | 0.9 |
| 7 | 1/8 x 7/8 | Notcher | 8600 | 662529-29863 | 4B153 | 4.69 | 4.22 | 20 | 0.6 |
| 7 | 1/4 x 5/8-11 | Disc | 8600 | 662529-29864 | 4B154 | 6.14 | 5.56 | 10 | 1.3 |
| 7 | 1/4 x 7/8 | Disc | 8600 | 662529-29865 | 4B155 | 5.26 | 4.74 | 20 | 1.0 |
| 9 | 1/8 x 5/8-11 | Notcher | 6600 | 662530-29866 | 4B156 | 7.94 | 7.16 | 10 | 1.3 |
| 9 | 1/8 x 7/8 | Notcher | 6600 | 662530-29867 | 4B157 | 7.04 | 6.34 | 20 | 1.0 |
| 9 | 1/4 x 5/8-11 | Disc | 6600 | 662530-29868 | 4B158 | 8.65 | 7.80 | 10 | 1.9 |
| 9 | 1/4 x 7/8 | Disc | 6600 | 662530-29869 | 4B159 | 7.73 | 6.97 | 20 | 1.6 |

③ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

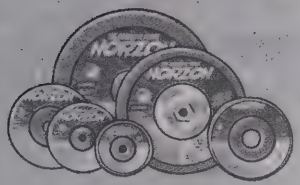


Need abrasives? Choose a supplier with true grit. Choose Grainger.

# NORZON® TAF RAISED HUB WHEELS AND ROUGH PORTABLE WHEELS

## HIGH PERFORMANCE NORZON® WHEELS

NORTON



Available with 5/8-11 threaded arbor with discard mount, or 3/8, 5/8, or 7/8 arbor hole. See chart.

Norzon® "The Absolute Force" outlasts aluminum oxide 6 to 1

## NORZON® (TAF) RAISED-HUB WHEELS AND NOTCHERS—TYPE 27

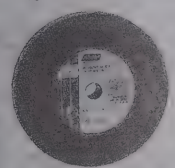
| Diameter (In.) | Thickness x Hole (In.) | Specification | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 1/8 x 3/8 | TAF Long Life | 18,000 | 662435-28697 | 3UW96 | $5.26 | $4.73 | 20 | 0.1 |
| 3 | 1/4 x 3/8 | TAF Long Life | 18,000 | 662435-28809 | 3UW97 | 6.74 | 6.06 | 20 | 0.3 |
| 4 | 1/8 x 3/8 | TAF Long Life | 15,280 | 662435-29884 | 3UW98 | 5.93 | 5.33 | 20 | 0.2 |
| 4 | 1/8 x 5/8 | TAF Long Life | 15,280 | 662435-29885 | 3UW99 | 5.93 | 5.33 | 20 | 0.2 |
| 4 | 1/4 x 3/8 | TAF Long Life | 15,280 | 662435-29886 | 3UP28 | 8.73 | 7.85 | 20 | 0.3 |
| 4 | 1/4 x 5/8 | TAF Fast Cut | 15,280 | 662435-10625 | 3UW95 | 7.71 | 6.95 | 20 | 0.2 |
| 4 | 1/4 x 5/8 | TAF Long Life | 15,280 | 662435-29887 | 3UP29 | 7.71 | 6.95 | 20 | 0.3 |
| 4½ | 1/8 x 5/8-11 | TAF Long Life | 13,580 | 662528-30445 | 3UX05 | 7.53 | 6.77 | 20 | 0.4 |
| 4½ | 1/8 x 7/8 | TAF Long Life | 13,580 | 662528-30444 | 3UX04 | 6.65 | 5.99 | 20 | 0.3 |
| 4½ | 1/4 x 5/8-11 | TAF Fast Cut | 13,580 | 662528-09700 | 3UX03 | 9.58 | 8.62 | 20 | 0.6 |
| 4½ | 1/4 x 5/8-11 | TAF Long Life | 13,580 | 662528-30449 | 3UX07 | 9.58 | 8.62 | 20 | 0.6 |
| 4½ | 1/4 x 7/8 | TAF Fast Cut | 13,580 | 662528-09698 | 3UX01 | 8.68 | 7.81 | 20 | 0.3 |
| 4½ | 1/4 x 7/8 | TAF Long Life | 13,580 | 662528-30448 | 3UX06 | 8.68 | 7.81 | 20 | 0.3 |
| 5 | 1/8 x 7/8 | TAF Long Life | 12,225 | 662528-30789 | 3UX08 | 7.60 | 6.84 | 20 | 0.3 |
| 5 | 1/4 x 7/8 | TAF Fast Cut | 12,225 | 662528-09699 | 3UX02 | 9.33 | 8.40 | 20 | 0.5 |
| 5 | 1/4 x 7/8 | TAF Long Life | 12,225 | 662528-30791 | 3UX09 | 9.33 | 8.40 | 20 | 0.5 |
| 7 | 1/8 x 5/8-11 | TAF Notcher | 8,600 | 662529-38855 | 3UX15 | 10.16 | 9.14 | 10 | 0.6 |
| 7 | 1/8 x 7/8 | TAF Notcher | 8,600 | 662529-38854 | 3UX14 | 9.13 | 8.22 | 20 | 0.4 |
| 7 | 1/4 x 5/8-11 | TAF Long Life | 8,600 | 662529-38899 | 3UP30 | 12.18 | 10.95 | 10 | 1.2 |
| 7 | 1/4 x 5/8-11 | TAF Fast Cut | 8,600 | 662529-05946 | 3UX13 | 12.18 | 10.95 | 10 | 0.7 |
| 7 | 1/4 x 7/8 | TAF Fast Cut | 8,600 | 662529-05945 | 3UX12 | 11.17 | 10.06 | 20 | 1.3 |
| 7 | 1/4 x 7/8 | TAF Long Life | 8,600 | 662529-38898 | 3UX16 | 11.17 | 10.06 | 20 | 1.3 |
| 9 | 1/8 x 5/8-11 | TAF Notcher | 6,600 | 662530-48897 | 3UX22 | 13.44 | 12.09 | 10 | 0.5 |
| 9 | 1/8 x 7/8 | TAF Notcher | 6,600 | 662530-48896 | 3UX21 | 12.41 | 11.18 | 20 | 1.1 |
| 9 | 1/4 x 5/8-11 | TAF Fast Cut | 6,600 | 662530-07016 | 3UX20 | 16.09 | 14.48 | 10 | 1.0 |
| 9 | 1/4 x 5/8-11 | TAF Long Life | 6,600 | 662530-48921 | 3UP31 | 16.09 | 14.48 | 10 | 0.2 |
| 9 | 1/4 x 7/8 | TAF Fast Cut | 6,600 | 662530-07015 | 3UX19 | 15.08 | 13.57 | 20 | 0.4 |
| 9 | 1/4 x 7/8 | TAF Long Life | 6,600 | 662530-48898 | 3UX23 | 15.08 | 13.57 | 20 | 0.4 |

## NORZON® THE ABSOLUTE FORCE™ SAUCERS — TYPE 28

| Diameter (In.) | Thickness x Hole (In.) | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 7 | 1/4 x 5/8-11 | 8,600 | 662529-05369 | 3UX11 | $13.63 | $12.28 | 20 | 0.7 |
| 7 | 1/4 x 7/8 | 8,600 | 662529-05368 | 3UX10 | 12.62 | 11.35 | 10 | 0.2 |
| 9 | 1/4 x 5/8-11 | 6,600 | 662530-06335 | 3UX17 | 18.02 | 16.22 | 10 | 1.0 |
| 9 | 1/4 x 7/8 | 6,600 | 662530-06336 | 3UX18 | 17.02 | 15.32 | 20 | 1.5 |

## ROUGH PORTABLE WHEELS

NORTON



No. 2D931

Type 1 Straight wheels and Type 11 Flaring cups fit all popular straight and angle head grinders

57A aluminum oxide for removal of metal in general maintenance/repair shops

57AC abrasives for work on sand cast parts, for removing gates, risers and parting lines

57AZ abrasive mixes aluminum oxide and zirconia alumina for long-lasting, faster cutting needs on weld beads

C abrasive for non-steel applications

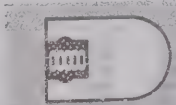
37C abrasive for cast iron finishing

4NZ abrasive for 3X life of aluminum oxide

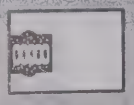
Grade ranges—P - softest, fastest cutting; Q - more durable, good cut; R - longest lasting, holds edge, good cut rate

## PORTABLE STRAIGHT AND CUP WHEELS

| Larger/Smaller (In.) | Thickness x Hole (In.) | Type | Specification | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3/8 x 3/8 | 1 | 57A24-R4BRA | 18,080 | 662435-22415 | 2D929 | $4.37 | $3.94 | 10 | 0.3 |
| 3 | 1/2 x 3/8 | 1 | 57A24-PBRA | 18,080 | 662435-22417 | 3UP16 | 7.94 | 7.14 | 10 | 0.4 |
| 3 | 1/2 x 3/8 | 1 | 57A24-R5B7 | 18,080 | 662435-22418 | 3UP17 | 5.34 | 4.82 | 10 | 0.4 |
| 6 | 1 x 5/8 | 1 | Gemini 57A16-QS | 8,000 | 662528-09563 | 3UP18 | 17.94 | 16.15 | 5 | 3.4 |
| 6 | 1 x 5/8 | 1 | Charger 4NZ14-RS | 8,000 | 662528-09564 | 2D939 | 18.06 | 17.14 | 5 | 3.4 |
| 6 | 1 x 5/8 | 1 | 57AZ16-PS | 8,000 | 662528-30752 | 2D931 | 15.32 | 14.54 | 5 | 3.2 |
| 8 | 1 x 5/8 | 1 | Gemini 57A16-PS | 6,000 | 662530-06883 | 3UP20 | 21.35 | 19.20 | 5 | 5.5 |
| 8 | 1 x 5/8 | 1 | Charger 4NZ14-RS | 6,000 | 662530-06672 | 3UP19 | 25.15 | 22.64 | 5 | 5.5 |
| 4 / 3 | 2 x 5/8-11 | 11 | Gemini 57A16-Q | 9,070 | 662528-10512 | 2D922 | 9.25 | 8.76 | 5 | 1.8 |
| 5 / 3¾ | 2 x 5/8-11 | 11 | C16-Q Masonry | 7,260 | 662528-30722 | 6A080 | 14.24 | 12.81 | 5 | 2.8 |
| 5 / 3¾ | 2 x 5/8-11 | 11 | Gemini 57A16-Q | 7,260 | 662528-09588 | 6A079 | 10.94 | 9.85 | 5 | 3.1 |
| 5 / 3¾ | 2 x 5/8-11 | 11 | Charger 4NZ16-Q | 7,260 | 662528-09208 | 2D925 | 20.06 | 19.03 | 5 | 3.2 |
| 6 / 4¾ | 2 x 5/8-11 | 11 | Gemini 57A16-Q | 6,000 | 662528-09618 | 6A081 | 10.69 | 9.63 | 5 | 4.2 |
| 6 / 4¾ | 2 x 5/8-11 | 11 | Charger 4NZ14-R | 6,000 | 662528-09211 | 2D938 | 22.83 | 21.60 | 5 | 4.8 |
| 6 / 4¾ | 2 x 5/8-11 | 11 | Charger 4NZ16-Q | 6,000 | 662528-09209 | 2D941 | 22.83 | 21.60 | 5 | 4.8 |
| 6 / 4¾ | 2 x 5/8-11 | 11 | 57AZ16-P | 6,000 | 662528-30743 | 2D930 | 20.52 | 19.47 | 5 | 4.6 |
| 6 / 4¾ | 2 x 5/8-11 | 11 | Gemini 57AC16-Q | 6,000 | 662528-09608 | 2D932 | 11.50 | 10.90 | 5 | 4.2 |
| 6 / 4¾ | 2 x 5/8-11 | 11 | Gemini 37C16-P | 6,000 | 662528-09609 | 5A879 | 12.76 | 11.49 | 5 | 3.8 |



Type 18R



Type 18



Type 16



Type 17

## GEMINI® CONES AND PLUGS

| Diameter (In.) | Length (In.) | Type | Specification | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 x 3/8-24 | 16 | Gemini 57A24-R | 36,290 | 614636-22342 | 2D920 | $3.87 | $3.49 | 25 | 0.4 |
| 1½ | 3 x 5/8-11 | 16 | Gemini 57A24-R | 24,190 | 614636-22190 | 2D917 | 4.96 | 4.49 | 25 | 0.5 |
| 1¾ | 3 x 5/8-11 | 16 | Gemini 57A24-R | 20,740 | 614636-22195 | 2D919 | 5.10 | 4.60 | 25 | 0.6 |
| 1 ½ x 1½ | 3 x 3/8-24 | 17 | Gemini 57A24-R | 24,190 | 614636-22194 | 2D921 | 4.96 | 4.49 | 25 | 0.8 |
| 1½ | 2½ x 3/8-24 | 18 | Gemini 57A24-R | 24,190 | 614636-22217 | 3UP14 | 4.50 | 4.05 | 25 | 0.4 |
| 1½ | 3 x 5/8-11 | 18 | Gemini 57A24-R | 24,190 | 614636-22191 | 2D918 | 4.96 | 4.48 | 25 | 0.6 |
| 2 | 3 x 5/8-11 | 18R | Gemini 57A24-R | 18,145 | 614636-22220 | 2D916 | 5.40 | 4.88 | 25 | 0.4 |

❶ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# ABRASIVE FLAP DISCS

## ZIRCONIUM LAYERED ABRASIVE SANDING/GRINDING DISCS

**FEATURES**

- Lasts up to 15 times longer than conventional abrasive discs
- Flap wear continually exposes new abrasive grain for longer work life
- Grind and finish in one easy step

**APPLICATIONS**

- Stainless steel grinding
- Metal fabrication
- Weld removal and blending
- Stock removal and dressing

### [A] BOBCAT™ 3" ABRASIVE FLAP DISCS

- Out performs conventional blending discs
- Smoother grinding and enhanced conformability
- Can use with drive mandrel or back-up pad
- Consistently high cut rate and outstanding edge durability
- For right angle air tools

### [B] 1/4" DRIVE MANDREL

- Mounts Bobcat™ Abrasive Flap Discs on tools with 1/4" collet

***New*** **No. 4KM70.** 1/4" Drive Mandrel. Weiler brand (07766). Shpg. wt. 0.1 lbs. List $10.17. Each.....$9.87

### [C] HEAVY-DUTY PHENOLIC BACKED BIG CAT™ DISCS

- Grinds faster, lasts longer (up to 40%) than standard flap discs
- A thicker disc with larger abrasive flaps for increased conformability on uneven or contoured surfaces
- Produces highly consistent finish
- For use with angle grinder sanders

### [D] PHENOLIC BACKED TIGER™ DISCS

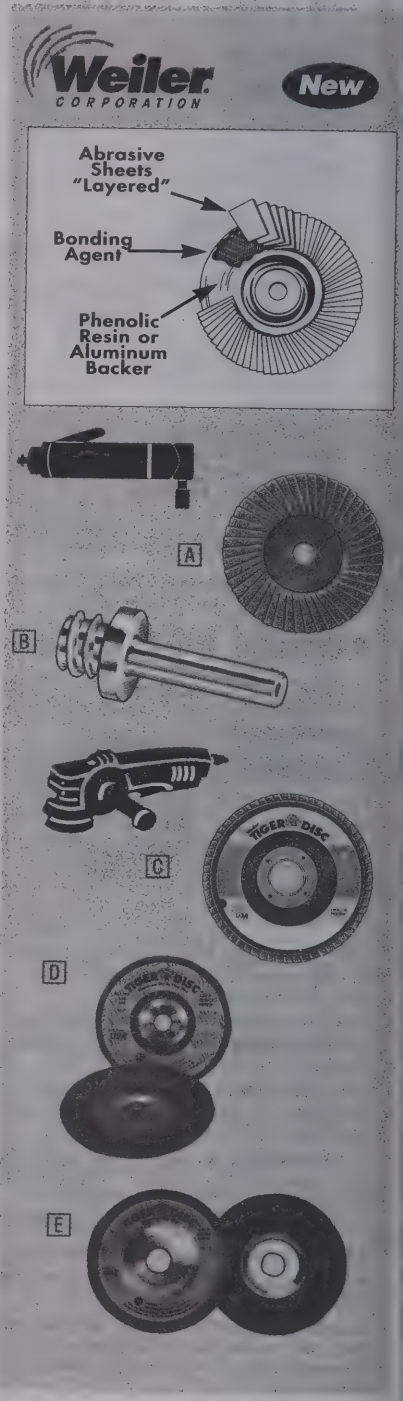
- Consumable backer, will not scratch workpiece during operation
- Best for grinding on flat and contoured surfaces
- For use with angle sander grinders

### [E] ALUMINUM BACKED TIGER™DISCS

- Lightweight backer
- Best for grinding on flat surfaces
- Provides rigid support for maximum aggression
- For use with angle sander grinders

| Key | Dia. (In.) | Arbor Hole (In.) | Grit Size | Max RPM | Weiler Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **BOBCAT™ 3" ABRASIVE FLAP DISCS** | | | | | | | | | |
| A | 3 | — | 36 | 20,000 | 50912 | **4KM65** | **$7.38** | **$6.64** | 0.1 |
| | 3 | — | 40 | 20,000 | 50913 | **4KM66** | **7.38** | **6.64** | 0.1 |
| | 3 | — | 60 | 20,000 | 50914 | **4KM67** | **7.38** | **6.64** | 0.1 |
| | 3 | — | 80 | 20,000 | 50915 | **4KM68** | **7.38** | **6.64** | 0.1 |
| | 3 | — | 120 | 20,000 | 50916 | **4KM69** | **7.38** | **6.64** | 0.1 |
| **HEAVY-DUTY PHENOLIC BACKED BIG CAT™ ABRASIVE DISCS†** | | | | | | | | | |
| C | 4½ | 7/8 | 40 | 12,000 | 50803 | **3H757** | **12.50** | **11.25** | 0.3 |
| | 4½ | 7/8 | 60 | 12,000 | 50804 | **3H759** | **12.50** | **11.25** | 0.3 |
| | 4½ | 7/8 | 80 | 12,000 | 50805 | **3H761** | **12.50** | **11.25** | 0.3 |
| | 4½ | 7/8 | 120 | 12,000 | 50806 | **3H763** | **12.50** | **11.25** | 0.3 |
| | 7 | 7/8 | 40 | 8,600 | 50823 | **3H765** | **23.24** | **20.92** | 0.6 |
| | 7 | 7/8 | 60 | 8,600 | 50824 | **3H767** | **23.24** | **20.92** | 0.6 |
| | 7 | 7/8 | 80 | 8,600 | 50825 | **3H769** | **23.24** | **20.92** | 0.6 |
| **PHENOLIC BACKED TIGER™ ABRASIVE DISCS†** | | | | | | | | | |
| D | 4 | 5/8 | 36 | 15,000 | 50592 | **3H739** | **9.53** | **8.58** | 0.2 |
| | 4 | 5/8 | 60 | 15,000 | 50594 | **3H741** | **9.53** | **8.58** | 0.2 |
| | 4½ | 7/8 | 24 | 13,000 | 50601 | **3H743** | **10.68** | **9.62** | 0.2 |
| | 4½ | 7/8 | 36 | 13,000 | 50602 | **3H745** | **10.68** | **9.62** | 0.2 |
| | 4½ | 7/8 | 60 | 13,000 | 50604 | **3H747** | **10.68** | **9.62** | 0.2 |
| | 4½ | 7/8 | 80 | 13,000 | 50605 | **3H749** | **10.68** | **9.62** | 0.2 |
| | 7 | 7/8 | 24 | 8,600 | 50621 | **3H751** | **19.86** | **17.88** | 0.5 |
| | 7 | 7/8 | 36 | 8,600 | 50622 | **3H753** | **19.86** | **17.88** | 0.5 |
| | 7 | 7/8 | 60 | 8,600 | 50624 | **3H755** | **19.86** | **17.88** | 0.5 |
| **ALUMINUM BACKED TIGER™ ABRASIVE DISCS†** | | | | | | | | | |
| E | 4 | 5/8 | 36 | 15,000 | 50502 | **4F746** | **7.60** | **6.84** | 0.2 |
| | 4 | 5/8 | 60 | 15,000 | 50504 | **4F747** | **9.36** | **8.42** | 0.2 |
| | 4½ | 7/8 | 24 | 13,000 | 50511 | **4F748** | **11.02** | **9.92** | 0.3 |
| | 4½ | 7/8 | 36 | 13,000 | 50512 | **4F749** | **11.02** | **9.92** | 0.3 |
| | 4½ | 7/8 | 60 | 13,000 | 50514 | **4F750** | **11.02** | **9.92** | 0.3 |
| | 4½ | 7/8 | 80 | 13,000 | 50515 | **4F751** | **11.02** | **9.92** | 0.3 |
| | 7 | 7/8 | 24 | 8,600 | 50531 | **4F752** | **18.00** | **16.20** | 0.6 |
| | 7 | 7/8 | 36 | 8,600 | 50532 | **4F753** | **18.00** | **16.20** | 0.6 |
| | 7 | 7/8 | 60 | 8,600 | 50534 | **4F754** | **18.00** | **16.20** | 0.6 |

(†) Note. BigCat™ and Tiger™ Abrasive Discs should be one or two grits coarser than resin fiber grinding discs for optimum results. Exception: 36" grit use same grit size.






*Need abrasives? Choose a supplier with true grit. Choose Grainger.*

# AVOS GRINDING SYSTEM

- Shape and holes allow swarf and loose abrasive to escape grinding zone
- Patented back-up pad designed to reduce heat generation

## FIBRE DISCS

**944-Norton SG Disc** provides the highest level of grinding performance on difficult-to-grind materials, including supper alloys and hardened steel.

**826-NorZon Plus Zirconia Alumina Disc** is ideal for fast stock removal and rough cutting applications.

**226-Aluminum Oxide Disc** offers general purpose cuts on a wide variety of materials, from stainless steel to malleable iron and bronze.

### AVOS® FIBRE DISCS - 4½" DIAMETER

| Grit | Norton SG-Ceramic (CAP Code F944) Norton Model 662611-... | Stock No. | Each | Norzon Plus Zirconia Alumina (CAP Code F826) Norton Model 662611-... | Stock No. | Each | Aluminum Oxide (CAP Code F226) Norton Model 662611-... | Stock No. | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 31425 | 4LL66 | $2.24 | 31420 | 4LL61 | $1.64 | 31413 | 4LL54 | $1.16 | 1 | 0.1 |
| 36 | 31426 | 4LL67 | 2.20 | 31421 | 4LL62 | 1.61 | 31414 | 4LL55 | 1.13 | 1 | 0.1 |
| 50 | 31427 | 4LL68 | 2.06 | 31422 | 4LL63 | 1.44 | 31415 | 4LL56 | 1.06 | 1 | 0.1 |
| 60 | 31428 | 4LL69 | 1.95 | 31423 | 4LL64 | 1.37 | 31416 | 4LL57 | 1.01 | 1 | 0.1 |
| 80 | 31429 | 4LL70 | 1.75 | 31424 | 4LL65 | 1.22 | 31417 | 4LL58 | 0.96 | 1 | 0.1 |
| 100 | 31430 | 4LL71 | 1.75 | — | — | — | 31418 | 4LL59 | 0.96 | 1 | 0.1 |
| 120 | 31431 | 4LL72 | 1.75 | — | — | — | 31419 | 4LL60 | 0.96 | 1 | 0.1 |

## BEAR-TEX DISCS (ALUMINUM OXIDE)

**Coarse:** Removes 60-120 grit grindlines. Excellent for light deburring.

**Medium:** Removes 120-180 grit grindlines. Excellent for cleaning and rust removal

**Very Fine:** Removes 180-230 grit grindlines. Excellent for finishing, polishing, and paint preparation.

### AVOS® BEAR-TEX DISCS—ALUMINUM OXIDE - 4½" DIAMETER

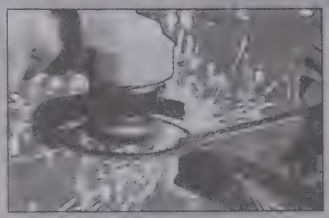
| Description | For Removing... | Norton Model | Stock No. | Pkg. Qty. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Coarse | 60-120 grit grindlines | 662610-31438 | 4LL40 | 25 | $2.50 | 0.1 |
| Medium | 120-180 grit grindlines | 662610-31439 | 4LL41 | 25 | 2.20 | 0.1 |
| Very Fine | 180-230 grit grindlines | 662610-31440 | 4LL42 | 25 | 2.20 | 0.1 |

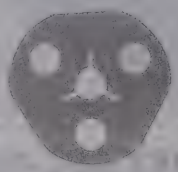
### TRIAL KITS

| Description | Kit Contains 2 Each* | Norton Model | Stock No. | Pkg. Qty. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Fiber | 4LL67, 69, 71 | 662611-31442 | 4LL73 | 1 | $19.61 | 0.4 |
| Bear-Tex | 4LL40, 41, 42 | 662610-61441 | 4LL43 | 1 | 19.61 | 0.4 |
| Fiber+ Bear-Tex | 4LL68, 40, 70 | 662611-31443 | 4LL74 | 1 | 19.61 | 0.4 |

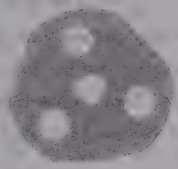
(*) All Trial Kits contain "5 degree" back-up pad and lock nut.

NORTON

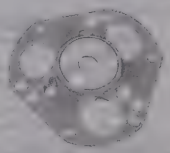




No. 4LL66



No. 4LL40



No. 4LL39

### 5° BACK-UP PAD WITH 5/8"-11 NUT

For Avos & Beartex discs. Norton brand (636425-02216).

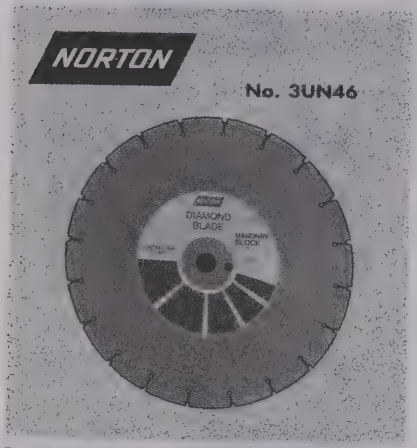
**No. 4LL39.** Shpg. wt. 0.2 lbs. Each .....$12.46

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# DIAMOND BLADES AND ABRASIVE GAS SAW BLADES

## DIAMOND BLADES FOR CONCRETE, MASONRY, AND ASPHALT




- "High Speed" offers fast cutting on a wide variety of masonry and concrete; is for dry cutting with hand-held gas and electric saws
- "Cured Concrete" and "Green Concrete and Asphalt" for all types of pavements
- "Masonry Brick & Block" used wet on stationary saws for hard brick, tile, and block
- For 8 to 65 HP concrete gas saws

| Application | Use | Diameter x Width x Arbor Hole | Norton Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **High-Speed General Purpose** | Dry | 12" x .110 x 20 mm | 67018 701 | **3UN46** | **$321.50** | 4.0 |
| **High-Speed General Purpose** | Dry | 12" x .110 x 1" | 67018 700 | **4F865** | **322.00** | 3.2 |
| **High-Speed General Purpose** | Dry | 14" x .110 x 20 mm | 67018 711 | **3UN47** | **400.25** | 5.0 |
| **High-Speed General Purpose** | Dry | 14" x .110 x 1" | 67018 708 | **3UN48** | **400.25** | 5.0 |
| **Cured concrete** | Wet | 12" x .110 x 1" | 67018 703 | **4F866** | **320.75** | 3.5 |
| **Cured concrete** | Wet | 14" x .110 x 1" | 67018 705 | **4F869** | **341.00** | 4.4 |
| **Green concrete/asphalt** | Wet | 12" x .125 x 1" | 67018 707 | **4F867** | **378.50** | 3.7 |
| **Green concrete/asphalt** | Wet | 14" x .125 x 1" | 67018 704 | **4F870** | **416.75** | 4.7 |
| **Masonry brick & block** | Wet | 14" x .100 x 1" | 67018 709 | **4F868** | **322.00** | 4.0 |

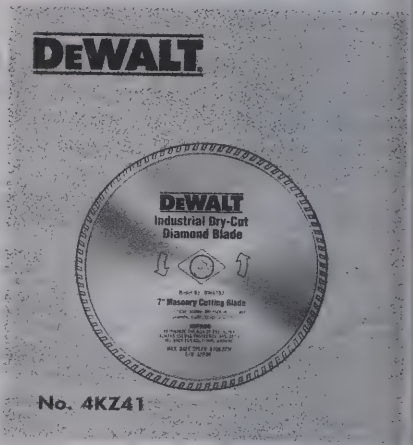
## DRY-CUT DIAMOND BLADES

- For dry cutting with hand-held gas and electric saws
- Serrated rim for fast cutting a wide variety of concrete and masonry
- Holes around the blade form a heat dissipation system for blade cooling
- Slot design controls core body stresses, eliminates flexing and improves speed of cut

| Blade Dia. (In.) | Maximum RPM | Arbor Size | Diamond Knockout | DeWalt Model | Stock No. ❶❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **4** | 13700 | 20mm, 5/8" | No | DW4700 | **4KZ41** | $82.82 | **$65.35▲** | 0.4 |
| **4 1/2** | 13300 | 5/8", 7/8" | No | DW4701 | **4KZ42** | 93.97 | **74.05▲** | 0.4 |
| **7** | 8500 | 5/8" | Yes | DW4702 | **4KZ43** | 160.30 | **126.30▲** | 1.0 |
| **8** | 7200 | 5/8" | Yes | DW4703 | **4KZ44** | 207.27 | **163.50▲** | 1.5 |
| **12** | 6300 | 20mm, 1" | No | DW4704 | **4KZ45** | 436.65 | **344.00▲** | 3.6 |

NOTE: Proper guarding should be used on all saws and grinders when using these blades. (▲) Net prices, not subject to discounts.

❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing, or call any California branch.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.




## HIGH SPEED REINFORCED ABRASIVE CUT-OFF WHEELS FOR PORTABLE GAS SAWS

- Concrete—Silicon Carbide (S/C) designed to cut concrete, cinder block, and other masonry products
- Metal—Aluminum Oxide (A/O) designed to cut rebar, sheet metal, angle iron, and cast-iron pipe
- Wheels comply with ANSI Safety Code B-7.1

| Diameter (In.) | Width x Bore (In.) | Application | Max. RPM | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **11 7/8** | 1/8 x 1 | Concrete | 6300 | 662563-62067 | **5A933** | **$6.60** | **$5.94** | **10** | 1.4 |
| **11 7/8** | 1/8 x 20mm | Concrete | 6300 | 662532-62068 | **6A106** | **6.60** | **5.94** | **10** | 1.4 |
| **13 3/4** | 1/8 x 1 | Concrete | 5400 | 662533-64110 | **5A935** | **11.04** | **9.94** | **10** | 0.6 |
| **13 3/4** | 1/8 x 20mm | Concrete | 5400 | 662533-64109 | **5A936** | **11.04** | **9.94** | **10** | 1.8 |
| **11 7/8** | 1/8 x 1 | Metal | 6300 | 662532-62070 | **6A107** | **6.60** | **5.94** | **10** | 1.4 |
| **11 7/8** | 1/8 x 20mm | Metal | 6300 | 662532-62071 | **6A108** | **6.60** | **5.94** | **10** | 1.4 |
| **13 3/4** | 1/8 x 1 | Metal | 5400 | 662533-64112 | **5A939** | **11.04** | **9.94** | **10** | 1.9 |
| **13 3/4** | 1/8 x 20mm | Metal | 5400 | 662533-64111 | **5A940** | **11.04** | **9.94** | **10** | 0.4 |

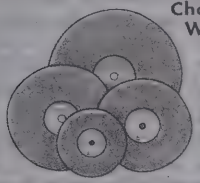
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

NORTON

Reinforced Cutoff and Chop Saw Wheels



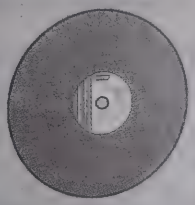
- Fully reinforced
- Available in Aluminum Oxide (A24) for cut-off jobs on ferrous metals and Silicon Carbide (C24) for nonferrous metals, ceramics, concrete, asphalt, and masonry applications
- Gemini Charger for general purpose jobs on steel
- Wheels comply with ANSI Safety Code B-7.1

## REINFORCED CUT-OFF AND CHOP SAW WHEELS

| Dia. (In.) | Width x Hole (In.) | Specification | Max RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **FULLY REINFORCED WHEELS FOR CIRCULAR SAWS** | | | | | | | | | |
| 6½ | 1/8 x D.M.† | A24 | 9395 | 076607-89000 | 6A095 | $3.80 | $3.43 | 2 | 0.4 |
| 6½ | 1/8 x D.M.† | C24 | 9395 | 076607-89050 | 6A096 | 3.98 | 3.59 | 2 | 0.4 |
| 7 | 1/8 x D.M.† | A24 | 8730 | 076607-89005 | 6A097 | 4.36 | 3.93 | 2 | 0.4 |
| 7 | 1/8 x D.M.† | C24 | 8730 | 076607-89055 | 6A098 | 3.81 | 3.43 | 2 | 0.4 |
| 8 | 1/8 x D.M.† | A24 | 7640 | 076607-89010 | 6A099 | 4.00 | 3.60 | 2 | 0.6 |
| 8 | 1/8 x D.M.† | C24 | 7640 | 076607-89070 | 6A100 | 4.37 | 3.94 | 2 | 0.8 |
| **GEMINI REINFORCED A/O WHEELS FOR STATIONARY MACHINES** | | | | | | | | | |
| 10 | 3/32 x 5/8 | Gemini Long Life | 6110 | 662531-06102 | 6A101 | 6.11 | 5.53 | 10 | 0.8 |
| 12 | 1/8 x 1 | Gemini Long Life | 5095 | 662532-07548 | 6A102 | 7.55 | 6.81 | 10 | 1.5 |
| 14 | 1/8 x 1 | Gemini Long Life | 4365 | 662533-06611 | 6A103 | 10.30 | 9.28 | 10 | 2.0 |
| 16 | 5/32 x 1 | Gemini Long Life | 3820 | 662534-10184 | 5A930 | 15.33 | 13.83 | 10 | 3.0 |
| 20 | 5/32 x 1 | Gemini Long Life | 2710 | 690786-09032 | 5A931 | 23.79 | 21.48 | 5 | 2.8 |
| **A/O CHOP SAW WHEELS FOR LOW HORSEPOWER MACHINES** | | | | | | | | | |
| 10 | 7/64 x 1 | Gemini Long Life | 6110 | 662531-06109 | 4B163 | 4.94 | 4.47 | 10 | 0.9 |
| 12 | 7/64 x 1 | Charger Free Cut | 5095 | 662532-07552 | 4B160 | 9.96 | 9.00 | 10 | 1.5 |
| 12 | 7/64 x 1 | Gemini Long Life | 5095 | 662532-07554 | 6A104 | 5.15 | 4.64 | 10 | 1.4 |
| 14 | 7/64 x 1 | Charger Free Cut | 4365 | 662533-06624 | 4B161 | 11.62 | 10.50 | 10 | 1.8 |
| 14 | 7/64 x 1 | Gemini Long Life | 4365 | 662533-06626 | 6A105 | 6.15 | 5.56 | 10 | 1.9 |
| 16 | 7/64 x 1 | Charger Free Cut | 3820 | 662534-10196 | 4B162 | 17.04 | 15.39 | 10 | 3.5 |
| 16 | 7/64 x 1 | Gemini Long Life | 3820 | 662534-10198 | 5A932 | 11.63 | 10.48 | 10 | 1.6 |

(†) Diamond mount arbor, includes bushings for 5/8 and 1/2 in holes.

NORTON



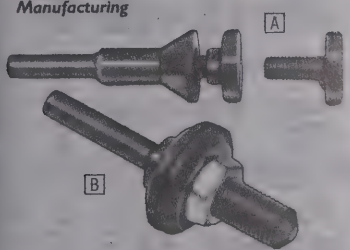
For use with wheel adapters listed below

- Gemini Free Cut for heavy-duty cut-off jobs on ferrous metals
- Grit Applications: A60 for burr-free cutting and A36 for rough cutting applications
- Norzon® TAF The Absolute Force® for longest life and fastest cut rate

## SMALL REINFORCED CUT-OFF WHEELS

| Dia. (In.) | Width x Bore (In.) | Specification | Max RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.035 x 1/4 | Gemini Free Cut (A60) | 30560 | 662434-11393 | 4F871 | $1.03 | $0.94 | 25 | 0.1 |
| 2 | 0.035 x 3/8 | Gemini Free Cut (A60) | 30560 | 662434-11394 | 4F872 | 1.03 | 0.94 | 25 | 0.1 |
| 2 | 1/16 x 1/4 | Gemini Free Cut (A36) | 30560 | 662434-11395 | 4F873 | 1.03 | 0.94 | 25 | 0.1 |
| 2 | 1/16 x 3/8 | Gemini Free Cut (A36) | 30560 | 662434-11396 | 4F874 | 1.03 | 0.94 | 25 | 0.1 |
| 2½ | 1/16 x 1/4 | Gemini Free Cut (A36) | 30560 | 662435-10640 | 4F875 | 1.09 | 1.00 | 25 | 0.1 |
| 2½ | 1/16 x 3/8 | Gemini Free Cut (A36) | 30560 | 662435-10641 | 4F876 | 1.09 | 1.00 | 25 | 0.1 |
| 3 | 0.035 x 1/4 | Gemini Free Cut (A60) | 25465 | 662435-10627 | 5A921 | 1.28 | 1.15 | 25 | 0.1 |
| 3 | 0.035 x 3/8 | Gemini Free Cut (A60) | 25465 | 662435-10368 | 5A922 | 1.28 | 1.15 | 25 | 0.1 |
| 3 | 1/16 x 1/4 | Gemini Free Cut (A36) | 25465 | 662435-10645 | 5A923 | 1.28 | 1.15 | 25 | 0.1 |
| 3 | 1/16 x 1/4 | TAF Free Cut | 25465 | 662435-10670 | 3UP24 | 4.12 | 3.71 | 10 | 0.1 |
| 3 | 1/16 x 3/8 | Gemini Free Cut (A36) | 25465 | 662435-10647 | 5A924 | 1.28 | 1.15 | 25 | 0.1 |
| 3 | 1/16 x 3/8 | TAF Free Cut | 25465 | 662435-10671 | 3UP25 | 4.12 | 3.71 | 10 | 0.1 |
| 3 | 1/8 x 1/4 | Gemini Free Cut (A36) | 25465 | 662435-10650 | 5A925 | 1.41 | 1.27 | 25 | 0.1 |
| 3 | 1/8 x 3/8 | Gemini Free Cut (A36) | 25465 | 662435-10651 | 5A926 | 1.41 | 1.27 | 25 | 0.1 |
| 4 | 0.035 x 1/4 | Gemini Free Cut (A60) | 19100 | 662435-10629 | 4B166 | 1.83 | 1.64 | 25 | 0.1 |
| 4 | 0.035 x 3/8 | Gemini Free Cut (A60) | 19100 | 662435-10630 | 5A927 | 1.83 | 1.64 | 25 | 0.1 |
| 4 | 1/16 x 1/4 | Gemini Free Cut (A36) | 19100 | 662435-10654 | 4B164 | 1.83 | 1.64 | 25 | 0.1 |
| 4 | 1/16 x 1/4 | TAF Free Cut | 19100 | 662435-10676 | 3UP26 | 6.05 | 5.45 | 10 | 0.1 |
| 4 | 1/16 x 3/8 | Gemini Free Cut (A36) | 19100 | 662435-10655 | 5A928 | 1.83 | 1.64 | 25 | 0.1 |
| 4 | 1/16 x 3/8 | TAF Free Cut | 19100 | 662435-10677 | 3UP27 | 6.05 | 5.45 | 10 | 0.1 |
| 4 | 1/8 x 1/4 | Gemini Free Cut (A36) | 19100 | 662435-10658 | 4B165 | 1.92 | 1.73 | 25 | 0.2 |
| 4 | 1/8 x 3/8 | Gemini Free Cut (A36) | 19100 | 662435-10659 | 5A929 | 1.92 | 1.73 | 25 | 0.2 |

CLESCO Manufacturing




Operate according to ANSI and OSHA guidelines and do not exceed maximum RPM noted on wheel being used.

## WHEEL ADAPTERS

•For use with cut-off wheels listed above, and wire brushes on pages 1630-1633

### A CUT-OFF WHEEL MANDRELS (SCREW-TYPE)

Machined from stress proof steel. Screw head is slotted for fast, easy change. Design holds wheel flush and permits wheel to be held close to work area. Stock No. 1F540 comes with both screws to mount either 1/4 or 3/8" holes. Plated finish.

### B GENERAL PURPOSE WHEEL ARBOR ADAPTERS (NUT-TYPE)

Arbor adapters mount all types of wheels (cut-offs, cloth buffs, wire wheels, etc.). Includes arbor, hex nut, and a pair of machined steel washers which have a recessed flange for extra-strong grip. Plated finish.

| Key | Description | Fits Hole (In.) | Max. Wheel Width (In.) | Shank Dia. (In.) | Washer Dia. (In.) | O.A.L. (In.) | Clesco Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Screw-Type | 1/4 | 1 | 1/4 | 3/4* | 2½ | M-22 | 1F544 | $3.16 | $2.53 | 0.1 |
| | | 3/8 | 1/4 | 1/4 | 3/4* | 2½ | M-23 | 1F542 | 3.16 | 2.53 | 0.1 |
| | | 1/4 or 3/8 | 1/4 | 1/4 | 3/4* | 2½ | M-3 | 1F540 | 4.10 | 3.28 | 0.1 |
| B | Nut-Type | 1/4 | 5/8 | 1/4 | 1 | 2½ | W-22T | 1F452 | 3.31 | 2.65 | 0.1 |
| | | 3/8 | 5/8 | 1/4 | 1 | 2½ | W-23MT | 1F450 | 4.10 | 3.28 | 0.1 |
| | | 1/2 | 1/2 | 1/4 | 1¼ | 2½ | W-24T | 1F448 | 4.72 | 3.78 | 0.1 |

(*) Indicates diameter of screw and mandrel head (no washer).

# HAND PADS AND SURFACE BLENDING DISCS




## NONWOVEN NYLON ABRASIVE HAND PADS

### No. 748 BEAR-TEX® FINAL SHINE HAND PAD

- Removes overspray on wood parts
- Polishes machine parts
- Use for mold and die polishing

### No. 851 BEAR-TEX VERY FINE SILICON CARBIDE HAND PAD

- Conformable to irregular surfaces
- Satin finishes on aluminum
- Cleans glass molds

### No. 796 BEAR-TEX VERY FINE ALUMINUM OXIDE HAND PAD

- Use for preparing surfaces for painting, applying finishes to copper, brass, aluminum, and stainless steel
- Removes corrosion from metals

### No. 747 BEAR-TEX GENERAL PURPOSE HAND PAD

- Cleans, finishes, removes rust, does light deburring
- Denibs plastic component parts
- Waterproof and solvent-resistant

### No. 777 BEAR-TEX GENERAL PURPOSE PAD

- Use where stiff, aggressive cutting action is needed for overall cleaning and deburring
- Removes corrosion, rust, and scale
- Waterproof and solvent-resistant

### No. 740 BEAR-TEX HAND PAD

- For Heavy-duty cleaning or deburring rust

**SELECTION GUIDE FOR HAND PADS**

| Least Aggressive | | | | | Most Aggressive |
|---|---|---|---|---|---|
| 748 | 851 | 796 | 747 | 777 | 740 |

Use on a broad range of off-hand applications, from heavy-duty cleaning to finishing, or light duty polishing. Will not rust.

| Width x Length (In.) | Norton Pad No. | Color | Grain | Grit | Application | Norton Model | New! Stock No. | Price/Each Pkg. Qty. | Price/ Lot Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **BEAR-TEX HAND PADS** | | | | | | | | | | |
| 6 x 9 | 740 | Dark Tan | A/O | Medium | Heavy Duty | 662610-74000 | 4LL46 | $2.00/20 | $1.80/40 | 0.1 |
| 6 x 9 | 747 | Maroon | A/O | Very Fine | General Purpose | 662610-74700 | 4LL48 | 0.71/20 | 0.64/40 | 0.1 |
| 6 x 9 | 748 | Gray | S/C | Micro fine | Final Shine | 662610-74800 | 4LL49 | 0.78/20 | 0.78/40 | 0.1 |
| 6 x 9 | 777 | Maroon | A/O | Very Fine | Long Life | 662610-77700 | 4LL50 | 0.73/20 | 0.73/40 | 0.1 |
| 6 x 9 | 796 | Green | S/C | Very Fine | Scouring | 662610-79600 | 4LL51 | 0.71/20 | 0.71/40 | 0.1 |
| 6 x 9 | 851 | Gray | S/C | Very fine | Blending | 662610-85100 | 4LL52 | 1.24/20 | 1.24/40 | 0.1 |
| **HAND PAD HOLDER** | | | | | | | | | | |
| 3 1/4 x 5 1/2 | | | | | | 662610-47583 | 3UM56 | 3.62 | 3.26/2 | 0.2 |
| **BEAR-TEX SCOUR 'N' SPONGE** | | | | | | | | | | |
| 3 5/8 x 5 7/8 | 893 | Green/Yellow | A/O | Very fine | General Purpose | 662610-59403 | 4LL53 | 1.76 | 1.57/10 | 0.1 |

## SURFACE BLENDING DISCS

- Impregnated on one side with a premium Aluminum Oxide grain
- Deliver consistent finishes whenever cleaning, deburring, blending, or finishing all types of metal, wood, and plastic
- Provides higher cut rate and longer life than surface blending discs
- Ideal for production applications

### 80 GRIT—BROWN

- Used for blending heavy grind lines, removing coatings and gasket residue or blending 80-150 grit grind lines

### 120 GRIT—MAROON

- Ideal for surface preparation before coatings for blending 150-180 grit grind lines

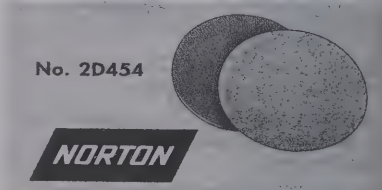
### 320 GRIT—BLUE

- Used for scratch blending, light scuffing, and fine finishing
- For blending 180-320 grit grind lines

**7" and smaller Blank Discs** are used with Surface Blending Back-Up Pads utilizing a hook-and-loop interlock disc backing.

### "HOOK AND LOOP" BEAR-TEX DISCS AND BACKUP PADS

- Designed to provide easy, press-on mounting and firm anchoring of discs
- Each pad has foam face containing numerous hooks which mate with loop fabric on disc




| Diameter | Specification | Color | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **SURFACE BLENDING STE DISCS — "HOOK AND LOOP"** | | | | | | | | |
| 4" Blank | A/O 80 (coarse) | Brown | 662610-55018 | 2D454 | $2.02 | $1.82 | 40 | 0.1 |
| | A/O 120 (medium) | Maroon | 662610-55019 | 2D455 | 2.02 | 1.82 | 40 | 0.1 |
| | A/O 320 (very fine) | Blue | 662610-55020 | 2D456 | 2.02 | 1.82 | 40 | 0.1 |
| 5" Blank | A/O 80 (coarse) | Brown | 662610-55021 | 2D457 | 2.83 | 2.55 | 40 | 0.1 |
| | A/O 120 (medium) | Maroon | 662610-55022 | 2D458 | 2.24 | 2.04 | 40 | 0.1 |
| | A/O 320 (very fine) | Blue | 662610-55023 | 2D459 | 2.24 | 2.04 | 40 | 0.1 |
| 6" Blank | A/O 80 (coarse) | Brown | 662610-55024 | 2D460 | 3.80 | 3.43 | 30 | 0.1 |
| | A/O 120 (medium) | Maroon | 662610-55025 | 2D461 | 3.01 | 2.71 | 30 | 0.1 |
| | A/O 320 (very fine) | Blue | 662610-55026 | 2D462 | 3.01 | 2.71 | 30 | 0.1 |
| 7" Blank | A/O 80 (coarse) | Brown | 662610-55027 | 2D463 | 4.88 | 4.42 | 25 | 0.2 |
| | A/O 120 (medium) | Maroon | 662610-55028 | 2D464 | 3.87 | 3.50 | 25 | 0.1 |
| | A/O 320 (very fine) | Blue | 662610-55029 | 2D465 | 3.87 | 3.50 | 25 | 0.1 |

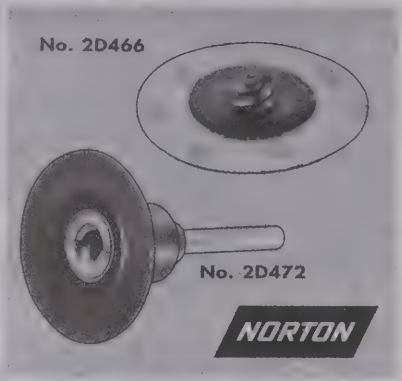
**BEAR-TEX "HOOK AND LOOP" BACK UP PADS**

| Diameter (In.) | Female Hole Thread (In.) | MAX RPM | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4 | 5/8-11 | 13000 | 626610-59304 | 2D511 | $23.97 | $22.74 | 5 | 0.2 |
| 5 | 5/8-11 | 10000 | 662610-59310 | 2D512 | 23.97 | 22.74 | 5 | 0.3 |
| 6 | 5/8-11 | 8000 | 662610-59312 | 2D513 | 23.97 | 22.74 | 5 | 0.3 |
| 7 | 5/8-11 | 6000 | 662610-59368 | 2D514 | 38.80 | 36.66 | 5 | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# BEAR-TEX® SPEED-LOK TR SURFACE BLENDING DISCS AND BACK UP PADS

- Speed-Lok TR Back-up Pads are designed to fit Norton and 3M Roloc® Systems
- Molded rubber back-up pad with 1/4" steel shank for speed mounting on portable tool chucks




| Dia. (In.) | Grit/Specification | Color | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 Blank | A/O 80 (coarse) | Brown | 662610-55036 | 2D466 | $0.83 | $0.76 | 50 | 0.1 |
| | A/O 120 (medium) | Maroon | 662610-55037 | 2D467 | 0.83 | 0.76 | 50 | 0.1 |
| | A/O 320 (very fine) | Blue | 662610-55038 | 2D468 | 0.83 | 0.76 | 50 | 0.1 |
| 3 Blank | A/O 80 (coarse) | Brown | 662610-55039 | 2D469 | 1.61 | 1.45 | 25 | 0.1 |
| | A/O 120 (medium) | Maroon | 662610-55040 | 2D470 | 1.61 | 1.45 | 25 | 0.1 |
| | A/O 320 (very fine) | Blue | 662610-55041 | 2D471 | 1.61 | 1.45 | 25 | 0.1 |

| Description | Max. RPM | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2" Back-Up Pad | 25000 | 662610-55103 | 2D472 | $11.16 | $10.57 | 10 | 0.1 |
| 3" Back-Up Pad | 20000 | 662610-55105 | 2D473 | 12.78 | 12.11 | 10 | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# BEAR-TEX® SPEED-LOK TS SURFACE BLENDING DISCS AND BACK UP PADS

- Remove imperfections and defects from irregular surfaces
- Clean molds; remove rust and oxides
- Pad 1/2" thick molded rubber with 1/4" steel shank




| Dia. (In.) | Grit/Specification | Grain | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 Blank | 80 (coarse) | A/O | 662610-55030 | 4F797 | $0.83 | $0.76 | 50 | 0.1 |
| | 120 (medium) | A/O | 662610-55031 | 4F798 | 0.83 | 0.76 | 50 | 0.1 |
| | 320 (very fine) | A/O | 662610-55032 | 4F799 | 0.83 | 0.76 | 50 | 0.1 |
| 3 Blank | 80 (coarse) | A/O | 662610-55033 | 4F802 | 1.60 | 1.45 | 25 | 0.1 |
| | 120 (medium) | A/O | 662610-55034 | 4F800 | 1.60 | 1.45 | 25 | 0.1 |
| | 320 (very fine) | A/O | 662610-55035 | 4F801 | 1.60 | 1.45 | 25 | 0.1 |

| Dia. (In.) | Shank Dia. (In.) | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 Back-Up | 1/4 | 25000 | 636425-43210 | 4F863 | $12.10 | $10.93 | 10 | 0.1 |
| 3 Back-Up | 1/4 | 20000 | 636425-43225 | 4F864 | 13.88 | 12.55 | 10 | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY

Grainger has over 350 branches nationwide, so we're close by.

To find the location nearest you, check the Branch Locations listed in the front of this catalog.

# BEAR-TEX CONVOLUTE WHEELS

| APPLICATION | WHEELS RECOMMENDED FOR DEBURRING/BLENDING/POLISHING | | | |
|---|---|---|---|---|
| Wheel Characteristics | Softer ← More comformable ← Less aggressive ← Coarser ← Good ← Light pressure | Finishing Action (for same grit) / Form Holding Ability | → Harder → Less conformable → More aggressive → Finer → Better → Heavy Pressure | |
| General Purpose | SERIES 1000 6 DENSITY | SERIES 1000 7 DENSITY | SERIES 1000 8 DENSITY | SERIES 1000 9 DENSITY |
| Exotic Alloys | SERIES 2000 6 DENSITY | SERIES 2000 7 DENSITY | SERIES 2000 8 DENSITY | |
| Exotic Alloys | | | SERIES 4000 8 DENSITY | SERIES 4000 9 DENSITY |

## MARKING SYSTEM

| Bond System | Density | Abrasive Grain | Grit Size |
|---|---|---|---|
| 1000, 2000, 4000 | 6, 7, 8, 9 | S = Silicon Carbide<br>A = Aluminum Oxide | F = Fine<br>M = Medium |

| Diameter (In.) | Width x Hole (In.) | Specification | Max. RPM | Norton Model | Stock No. | Each | Price Ea. In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **[A] BEAR-TEX CLEAN/FINISH WHEELS** | | | | | | | | | |
| 6 | 1 x 1 | S/C - Fine | 3,000 | 662610-58506 | **4F792** | **$24.21** | **$21.84** | 4 | 0.3 |
| 6 | 1 x 1 | S/C - Medium | 3,000 | 662610-58507 | **4F793** | **24.21** | **21.84** | 4 | 0.3 |
| **[B] BEAR-TEX SERIES 1000 - 6 DENSITY WHEELS** | | | | | | | | | |
| 6 | 1 x 1 | 1-6SF | 6,000 | 662610-55201 | **2D474** | **43.90** | **39.53** | 3 | 0.6 |
| 8 | 1 x 3 | 1-6SF | 4,500 | 662610-55207 | **2D475** | **55.65** | **50.12** | 3 | 0.4 |
| 12 | 1 x 5 | 1-6SF | 3,000 | 662610-55215 | **2D476** | **77.75** | **70.05** | 2 | 2.3 |
| **[C] BEAR-TEX SERIES 1000 - 7 DENSITY WHEELS** | | | | | | | | | |
| 6 | 1 x 1 | 1-7AM | 6,000 | 662610-55226 | **6A456** | **43.90** | **39.54** | 3 | 0.3 |
| 6 | 1 x 1 | 1-7SM | 6,000 | 662610-55224 | **6A455** | **43.90** | **39.53** | 3 | 0.3 |
| 8 | 1 x 3 | 1-7AM | 4,500 | 662610-55232 | **2D477** | **55.65** | **50.12** | 3 | 0.4 |
| 12 | 1 x 5 | 1-7AM | 3,000 | 662610-55239 | **2D478** | **77.75** | **70.04** | 2 | 2.7 |
| **[D] BEAR-TEX SERIES 1000 - 8 DENSITY WHEELS** | | | | | | | | | |
| 6 | 1 x 1 | 1-8SF | 6,000 | 662610-55249 | **2D479** | **43.90** | **39.55** | 3 | 0.4 |
| 8 | 1 x 3 | 1-8SF | 4,500 | 662610-55255 | **2D480** | **55.60** | **50.09** | 3 | 1.4 |
| 12 | 1 x 5 | 1-8SF | 3,000 | 662610-55262 | **2D481** | **77.75** | **70.03** | 2 | 3.2 |
| **[E] BEAR-TEX SERIES 1000 - 9 DENSITY WHEELS** | | | | | | | | | |
| 6 | 1/2 x 1 | 1-9SF | 6,000 | 662610-55272 | **2D482** | **31.20** | **28.08** | 4 | 0.6 |
| 6 | 1 x 1 | 1-9SF | 6,000 | 662610-55273 | **2D483** | **43.90** | **39.55** | 3 | 0.4 |
| 8 | 1 x 3 | 1-9SF | 4,500 | 662610-55275 | **2D484** | **55.55** | **50.09** | 3 | 1.7 |
| 12 | 1 x 5 | 1-9SF | 3,000 | 662610-55278 | **2D485** | **77.70** | **70.00** | 2 | 3.8 |
| **[F] BEAR-TEX SERIES 2000 - 8 DENSITY WHEELS** | | | | | | | | | |
| 6 | 1 x 1 | 2-8SF | 6,000 | 662610-55283 | **2D486** | **46.40** | **41.78** | 3 | 1.2 |
| 8 | 1 x 3 | 2-8SF | 4,500 | 662610-55287 | **2D487** | **58.85** | **52.94** | 3 | 1.4 |
| 12 | 1 x 5 | 2-8SF | 3,000 | 662610-55291 | **2D488** | **80.60** | **72.66** | 2 | 1.5 |
| **[G] BEAR-TEX SERIES 4000 - 8 DENSITY WHEELS** | | | | | | | | | |
| 6 | 1 x 1 | 4-8SF | 6,000 | 662610-04142 | **3UM53** | **48.70** | **43.78** | 3 | 0.8 |
| 8 | 1 x 3 | 4-8SF | 4,500 | 662610-04123 | **3UM50** | **61.65** | **55.47** | 3 | 1.3 |
| 12 | 1 x 5 | 4-8SF | 3,000 | 662610-04284 | **3UM55** | **86.30** | **77.63** | 2 | 2.6 |
| **[H] BEAR-TEX SERIES 4000 - 9 DENSITY WHEELS** | | | | | | | | | |
| 6 | 1 x 1 | 4-9SF | 6,000 | 662610-04141 | **3UM52** | **48.70** | **43.78** | 3 | 1.0 |
| 8 | 1 x 3 | 4-9SF | 4,500 | 662610-04135 | **3UM51** | **61.65** | **55.47** | 3 | 1.5 |
| 12 | 1 x 5 | 4-9SF | 3,000 | 662610-04148 | **3UM54** | **86.30** | **77.63** | 2 | 2.8 |
| **[I] BEAR-TEX B442-XHD DEBURRING WHEEL** | | | | | | | | | |
| 6 | 1 x 1 | S/C - Fine | 6,000 | 662610-58700 | **4F794** | **42.70** | **38.48** | 3 | 0.3 |

## [J] BEAR-TEX GENERAL DUTY UNIFIED WHEELS - DEBURRING APPLICATIONS

| Diameter (In.) | Width x Hole (In.) | Grain | Grit | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1/4 x 1/4 | A/O | 220 | 20,000 | 662610-52200 | **2D453** | **$2.83** | **$2.56** | **60** | 0.1 |
| 2 | 1/2 x 1/4 | S/C | 220 | 20,000 | 662610-58782 | **6A462** | **4.16** | **3.75** | **40** | 0.1 |
| 3 | 1/4 x 1/4 | A/O | 220 | 18,000 | 662610-58877 | **4F795** | **4.99** | **4.51** | **40** | 0.1 |
| 3 | 1/4 x 1/4 | S/C | 220 | 18,000 | 662610-58854 | **2D509** | **4.98** | **4.51** | **40** | 0.1 |
| 3 | 1/2 x 1/4 | S/C | 220 | 18,000 | 662610-58859 | **6A463** | **7.61** | **6.86** | **20** | 0.1 |
| 3 | 3/4 x 1/4 | A/O | 220 | 18,000 | 662610-58881 | **2D510** | **10.10** | **9.10** | **20** | 0.7 |

## MANDREL ASSEMBLIES FOR BEAR-TEX UNIFIED WHEELS

| Length (In.) | Shank Dia. (In.) | Washer Dia. (In.) | Specification | Fits | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1/4 | 5/8 | 5170D-3 | 2" wheels | 662610-59422 | **6A464** | **$7.24** | **$6.50** | **2** | 0.2 |
| 2¼ | 1/4 | 1 | 5170D-2 | 3" wheels | 662610-59421 | **6A465** | **7.24** | **6.50** | **2** | 0.3 |




**Bear-Tex Convolute Wheels** are formed by wrapping non-woven nylon, specially treated with abrasive and resin, around a center core, then bonding layers to create an abrasive wheel. Can be used dry or with lubricants.

**Convolute wheel applications** can be divided into two general categories:

1. Cleaning and finishing
2. Blending/deburring/polishing

**[A] Bear-Tex Clean/Finish Wheels** are for general clean-up, rust removal, and blending on stainless steel. Works best where light to moderate pressure and low speeds are utilized.

**[B] Bear-Tex Series 1000—6 Density Wheels** for applying decorative finishes, blending coated abrasive scratch patterns, and for general oxidation removal.

**[C] Bear-Tex Series 1000—7 Density Wheels** for general light deburring applications and blending where a more aggressive cut is needed.

**[D] Bear-Tex Series 1000—8 Density Wheels** used for deburring dies, finishing prior to buffing, and for polishing welds prior to final inspection.

**[E] Bear-Tex Series 1000—9 Density Wheels** are for toughest burr removal jobs, radiusing edges, while producing fine finish.

**[F] Bear-Tex Series 2000—8 Density Wheels** designed to be smearproof, cool cutting on moderate deburring and finishing of exotic alloys like titanium. Series 2000 conforms to eliminate gouging of parts.

**[G] Bear-Tex Series 4000— 8 Density Wheels** provide longer life than Series 1000 wheels where excellent edge and form holding is required. Smear-proof.

**[H] Bear-Tex Series 4000— 9 Density Wheels:** For longest life on heavy duty deburring, edge breaking, and parting line removal jobs on exotic alloys. Smear-proof.

**[I] Bear-Tex B442 Wheels** provide longest wheel life for deburring and finishing stainless steel, and for general deburring applications.

**[J] Bear-Tex Deburring Wheels** are for removing parting lines and applying high polish on soft metals.

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS ) are available. See page opposite inside back cover.



Need abrasives? Choose a supplier with true grit. Choose Grainger.

# BEAR-TEX® FLAP WHEELS AND BELTS

## REDUCING BUSHINGS

Reducing wheel bushings are available at no charge for wheels with 1" hole. Include order for bushings when ordering any Norton Bear-Tex abrasive product.

### REDUCING BUSHINGS FOR BEAR-TEX® WHEELS

| Wheel Center Hole (In.) | Reduces Hole (In.) | Norton Model (636425-...) | Stock No. | Wheel Center Hole (In.) | Reduces Hole (In.) | Norton Model (662610-...) | Stock No. | Each Pair |
|---|---|---|---|---|---|---|---|---|
| 1 | To 3/8 | 59436 | 6A457 | 2 | To 1/2 | 59464 | 2D515 | $24.48 |
| 1 | To 1/2 | 59437 | 6A458 | 2 | To 5/8 | 59466 | 2D516 | 24.48 |
| 1 | To 5/8 | 59438 | 6A459 | 2 | To 1 | 59468 | 2D517 | 24.48 |
| 1 | To 3/4 | 59439 | 6A460 | 3 | To 1 | 59472 | 2D518 | 34.30 |
| 1 | To 7/8 | 59440 | 6A461 | 3 | To 1 1/4 | 59473 | 2D519 | 34.30 |
| | | | | 5 | To 1 | 59487 | 3UM57 | 60.75 |
| | | | | 5 | To 1 1/4 | 59488 | 3UM58 | 60.75 |
| | | | | 5 | To 3 | 59491 | 3UM59 | 60.75 |




## BEAR-TEX® FLAP WHEELS

**Bear-Tex Flap Wheels are formed** by mounting sheets of Bear-Tex web material around a fiber center hub, the tightly packed pieces forming the spokes of the wheel. This construction provides cushioning action which is ideal for use on uneven or irregular surfaces.

**Bear-Tex Flap Wheels are available in a wide range** of abrasive, grit, and density combinations.

For many applications, including:

- **Producing uniform finishes on aluminum, brass, and stainless steel**
- **Imparting long line brushed finishes**
- **Cleaning threaded parts**
- **Removing oxide from printed circuit boards**
- **Deglossing plastic parts**

| Dia. x Width x Arbor (In.) | Specification | Max. RPM | Norton Model | Stock No. | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 x 1 x 1/4 | Medium | 22000 | 662610-51716 | 2D449* | $8.10 | $7.30 | 5 | 0.3 |
| | Very Fine | 22000 | 662610-51717 | 2D450* | 8.10 | 7.32 | 5 | 0.1 |
| 3 x 1 x 1/4 | Medium | 18000 | 662610-51718 | 2D451* | 10.42 | 9.41 | 5 | 0.2 |
| | Very Fine | 18000 | 662610-51719 | 2D452* | 10.42 | 9.39 | 5 | 0.6 |
| 6 x 1 x 2 | A/O Medium | 3000 | 662610-58456 | 2D507 | 29.80 | 26.87 | 4 | 0.4 |
| | A/O Fine | 3000 | 662610-58487 | 2D508 | 29.80 | 26.87 | 4 | 0.5 |
| | S/C Very Fine | 3000 | 662610-58450 | 2D506 | 29.80 | 26.87 | 4 | 0.4 |

*) With 1/4" diameter spindle mount.




No. 2D507

No. 2D449

## BEAR-TEX® SURFACE BLENDING STE BELTS

Used on portable, bench, and pedestal belt machines where less aggressive action or cushioning characteristics is desired.

**Surface Blending STE Belts use the same** scrim-backed material as STE discs, only in belt form. Applications include:

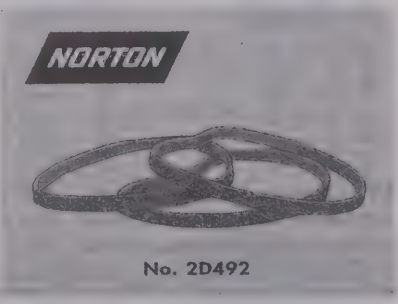
- **Buffing and polishing**
- **Generating #3 and #4 finishes on stainless steel**
- **Grind line conditioning**

Recommended starting points:

- **For blending 180-320 grit grind lines—STE 320 grit**
- **For blending 150-180 grit grind lines—STE 120 grit**
- **For blending 80-150 grit grind lines—STE 80 grit**

### SURFACE BLENDING STE BELTS SPECIFICATIONS AND ORDERING DATA

| Width x Length (In.) | Type | Norton Model | Stock No. 3 | Each | Price Each In Pkg. Qty | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 x 18 | A/O 80 | 662610-55309 | 2D489 | $3.97 | $3.59 | 24 | 0.1 |
| | A/O 120 | 662610-55310 | 2D490 | 3.97 | 3.59 | 24 | 0.1 |
| | A/O 320 | 662610-55311 | 2D491 | 3.97 | 3.59 | 24 | 0.1 |
| 1/2 x 24 | A/O 80 | 662610-55312 | 2D492 | 4.17 | 3.77 | 24 | 0.1 |
| | A/O 120 | 662610-55313 | 2D493 | 4.17 | 3.77 | 24 | 0.1 |
| | A/O 320 | 662610-55314 | 2D494 | 4.17 | 3.77 | 24 | 0.1 |
| 3 1/2 x 15 1/2 | A/O 80 | 662610-55324 | 2D498 | 17.03 | 15.38 | 8 | 0.3 |
| | A/O 120 | 662610-55325 | 2D499 | 17.03 | 15.38 | 8 | 0.3 |
| | A/O 320 | 662610-55326 | 2D500 | 17.03 | 15.38 | 8 | 0.3 |
| 6 x 48 | A/O 80 | 662610-55330 | 2D501 | 41.90 | 37.67 | 4 | 1.5 |
| | A/O 120 | 662610-55331 | 2D502 | 41.90 | 37.69 | 4 | 1.3 |
| | A/O 320 | 662610-55332 | 2D503 | 41.90 | 37.69 | 4 | 1.1 |




No. 2D492

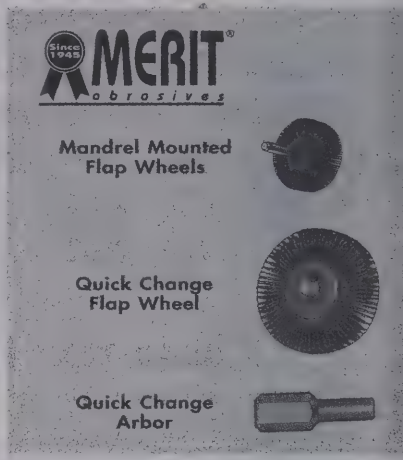
3 These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# FLAP WHEELS

## FLAP WHEELS SPECIFICATIONS AND ORDERING DATA

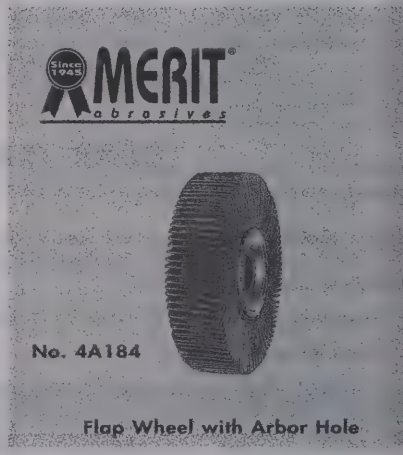
| Diameter x Width (In.) | Max. RPM | Grit Size | Merit Model | Stock No. ❸ | List | Each Pkg. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **MINI FLAP WHEELS—1/4" SHANK MANDREL MOUNTED** | | | | | | | | |
| 1 x 1 | 30,000 | 60 | 37310 | **4A172** | $18.69 | **$15.12** | 5 | 0.1 |
| 1 x 1 | | 80 | 37311 | **4A173** | 18.69 | **15.12** | 5 | 0.3 |
| 1 x 1 | | 120 | 37312 | **4A174** | 18.69 | **15.12** | 5 | 0.1 |
| 1 x 1 | | 180 | 37313 | **4A175** | 18.69 | **15.12** | 5 | 0.1 |
| 2 x 1/2 | 25,000 | 60 | 37350 | **4E790** | 26.02 | **21.05** | 5 | 0.5 |
| 2 x 1/2 | | 80 | 37151 | **4E791** | 26.02 | **21.05** | 5 | 0.5 |
| 2 x 1/2 | | 120 | 37152 | **4E792** | 26.02 | **21.05** | 5 | 0.5 |
| 2 x 1/2 | | 180 | 37353 | **4E793** | 26.02 | **21.05** | 5 | 0.8 |
| 2 x 1 | | 60 | 37370 | **4A176** | 27.90 | **22.56** | 5 | 0.7 |
| 2 x 1 | | 80 | 37371 | **4A177** | 27.90 | **22.56** | 5 | 0.7 |
| 2 x 1 | | 120 | 37372 | **4A178** | 27.90 | **22.56** | 5 | 0.7 |
| 2 x 1 | | 180 | 37373 | **4A179** | 27.90 | **22.56** | 5 | 0.7 |
| 3 x 1/2 | 20,000 | 60 | 37230 | **4E794** | 34.39 | **27.90** | 5 | 1.0 |
| 3 x 1/2 | | 80 | 37231 | **4E795** | 34.39 | **27.90** | 5 | 1.0 |
| 3 x 1/2 | | 120 | 37232 | **4E796** | 34.39 | **27.90** | 5 | 1.0 |
| 3 x 1/2 | | 180 | 37433 | **4E797** | 34.39 | **27.90** | 5 | 1.0 |
| 3 x 1 | | 60 | 37450 | **4A180** | 37.22 | **30.15** | 5 | 1.0 |
| 3 x 1 | | 80 | 37451 | **4A181** | 37.22 | **30.15** | 5 | 0.9 |
| 3 x 1 | | 120 | 37252 | **4A182** | 37.22 | **30.15** | 5 | 0.9 |
| 3 x 1 | | 180 | 37253 | **4A183** | 37.22 | **30.15** | 5 | 0.9 |
| **MINI QUICK CHANGE FLAP WHEELS—1/4-20 THREADED** | | | | | | | | |
| 1 x 1 | 30,000 | 60 | 31008 | **4E798** | 18.69 | **15.11** | 5 | 0.5 |
| 1 x 1 | | 80 | 31009 | **4E799** | 18.69 | **15.11** | 5 | 0.5 |
| 1 x 1 | | 120 | 31010 | **4E800** | 18.69 | **15.11** | 5 | 0.5 |
| 1 x 1 | | 180 | 31011 | **4E801** | 18.69 | **15.11** | 5 | 0.5 |
| 1⅝ x 1/2 | 25,000 | 60 | 32008 | **4E802** | 24.22 | **19.58** | 5 | 0.5 |
| 1⅝ x 1/2 | | 80 | 32009 | **4E803** | 24.22 | **19.58** | 5 | 0.5 |
| 1⅝ x 1/2 | | 120 | 32010 | **4E804** | 24.22 | **19.58** | 5 | 0.5 |
| 1⅝ x 1/2 | | 180 | 32011 | **4E805** | 24.22 | **19.58** | 5 | 0.5 |
| 2 x 1/2 | | 60 | 33001 | **4E806** | 26.02 | **21.04** | 5 | 0.8 |
| 2 x 1/2 | | 80 | 33002 | **4E807** | 26.02 | **21.04** | 5 | 0.8 |
| 2 x 1/2 | | 120 | 33003 | **4E808** | 26.02 | **21.04** | 5 | 0.5 |
| 2 x 1/2 | | 180 | 33004 | **4E809** | 26.02 | **21.04** | 5 | 0.8 |
| 2 x 1 | | 60 | 33015 | **4E810** | 27.90 | **22.55** | 5 | 1.0 |
| 2 x 1 | | 80 | 33016 | **4E811** | 27.90 | **22.55** | 5 | 1.0 |
| 2 x 1 | | 120 | 33017 | **4E812** | 27.90 | **22.55** | 5 | 1.0 |
| 2 x 1 | | 180 | 33018 | **4E813** | 27.90 | **22.55** | 5 | 0.7 |
| 3 x 1/2 | 20,000 | 60 | 35001 | **4E814** | 34.39 | **27.90** | 5 | 1.0 |
| 3 x 1/2 | | 80 | 35002 | **4E815** | 34.39 | **27.90** | 5 | 1.0 |
| 3 x 1/2 | | 120 | 35003 | **4E816** | 34.39 | **27.90** | 5 | 1.0 |
| 3 x 1/2 | | 180 | 35004 | **4E817** | 34.39 | **27.90** | 5 | 1.0 |
| 3 x 1 | | 60 | 35015 | **4E818** | 37.22 | **30.15** | 5 | 1.5 |
| 3 x 1 | | 80 | 35016 | **4E819** | 37.22 | **30.15** | 5 | 1.3 |
| 3 x 1 | | 120 | 35017 | **4E820** | 37.22 | **30.15** | 5 | 1.5 |
| 3 x 1 | | 180 | 35018 | **4E821** | 37.22 | **30.15** | 5 | 1.5 |
| **1/4" Quick Change Arbor** | | — | 37001 | **4E822*** | 1.20 | **1.02** | 1 | 0.1 |
| **FLAP WHEELS WITH ARBOR HOLE** | | | | | | | | |
| 3½ x 1 x 5/8AH | 12,000 | 60 | 22003 | **4A184** | 16.10 | **12.98** | 1 | 0.1 |
| 3½ x 1 x 5/8AH | | 80 | 22004 | **4A185** | 17.54 | **14.15** | 1 | 0.1 |
| 3½ x 1 x 5/8AH | | 120 | 22006 | **4A186** | 13.10 | **10.61** | 1 | 0.1 |
| 3½ x 1 x 5/8AH | | 180 | 22007 | **4A187** | 19.36 | **15.63** | 1 | 0.1 |
| 3½ x 2 x 5/8AH | | 60 | 22024 | **4A188** | 18.47 | **14.95** | 1 | 0.1 |
| 3½ x 2 x 5/8AH | | 80 | 22025 | **4A189** | 19.06 | **15.42** | 1 | 0.6 |
| 3½ x 2 x 5/8AH | | 120 | 22027 | **4A190** | 20.16 | **16.30** | 1 | 0.5 |
| 3½ x 2 x 5/8AH | | 180 | 22028 | **4A191** | 22.34 | **18.07** | 1 | 0.5 |
| 6 x 1 x 1 AH | 6,000 | 60 | 23011 | **4A192** | 21.67 | **17.53** | 1 | 0.8 |
| 6 x 1 x 1 AH | | 80 | 23012 | **4A193** | 22.77 | **18.41** | 1 | 0.8 |
| 6 x 1 x 1 AH | | 120 | 23014 | **4A194** | 24.60 | **19.90** | 1 | 0.8 |
| 6 x 1 x 1 AH | | 180 | 23016 | **4A195** | 26.94 | **21.78** | 1 | 0.8 |
| 6 x 2 x 1 AH | | 60 | 23033 | **4A196** | 35.62 | **28.85** | 1 | 1.6 |
| 6 x 2 x 1 AH | | 80 | 23034 | **4A197** | 37.83 | **30.65** | 1 | 1.6 |
| 6 x 2 x 1 AH | | 120 | 23036 | **4A198** | 41.17 | **33.35** | 1 | 1.6 |
| 6 x 2 x 1 AH | | 180 | 23038 | **4A199** | 45.51 | **36.95** | 1 | 1.6 |
| **5/8 & 1/2 Reducer Bushings (2 pcs)*** | | | 25017 | **4A200†** | 2.29 | **1.87** | 1 | 0.1 |
| **1/4" Adapter for 3½" diameter wheels** | | | 25001 | **4A201†** | 9.78 | **7.91** | 1 | 0.5 |
| **1/4" Adapter for 4-8" diameter wheels** | | | 25003 | **4A202†** | 10.18 | **8.24** | 1 | 0.5 |

(*) 1/4" Shank. (†) Not covered by Material Safety Data Sheets.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.




## MANDREL MOUNTED AND QUICK CHANGE FLAP WHEELS

- For use with portable drills, die grinders, and air tools
- 1/4" diameter hardened steel mandrel permanently mounted in epoxy core on mandrel mounted wheels
- 1/4-20 Threaded shank on quick change wheels
- Shape to fit any desired contour, even a compound radius




## FLAP WHEELS WITH ARBOR HOLE

- For use with portable drills, bench grinders, and air tools
- For areas not workable with other abrasive tools
- For metal, plastic, wood, fiberglass, and rubber applications
- High density wheel with tough resin-bonded abrasive cloth


Need abrasives? Choose a supplier with true grit. Choose Grainger.

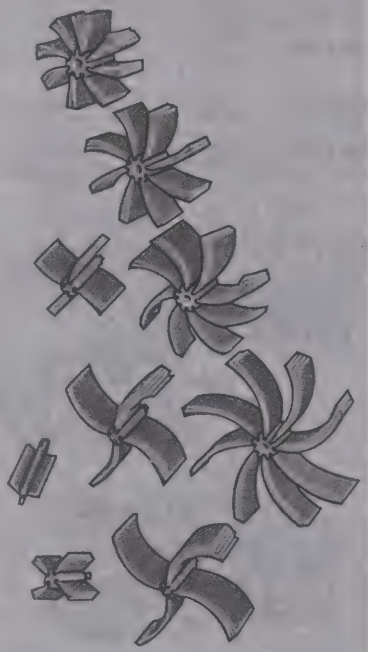
# BORE POLISHERS

'olishing interior diameters can be a real challenge. Quality and consistency are impor-ant, as well as versatility. Merit Abrasives manufacturers a wide range of flexible bore olishers that provide a solution to your interior polishing needs.

## ALO RESIN BOND

- **Uniform quality**
- **Flaps adjust automatically to interior diameter, polishing the entire surface area with each pass**
- **Bore polishers are self-centering, so they apply equal pressure to full wall of interior diameter**
- **As flaps wear, fresh abrasive is constantly exposed, for even, consistent cutting**
- **Smooth, vibration-free operation**
- **Equal spacing between packs of abrasive leafs eliminates heat build-up and assures perfect balance**
- **Fast, versatile polishing**
- **Spring-action design provides fast cleaning, deburring and polishing of interior diameters of cylinders, deep tubes and hydraulic fittings**
- **Finish a range of interior diameter sizes without changing polisher**

| Part Name | I.D. to be Polished (In.) | Max. RPM | Grit | Merit Model | Stock No. | Each Pkg. | Pkg. Qty. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **BORE POLISHERS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | |
| B-305 | 5/8 to 1 | 25000 | 60 | 54190 | 3T554 | $33.90 | 10 | $30.48 | 0.5 |
| | 5/8 to 1 | 25000 | 80 | 54191 | 3T556 | 33.90 | 10 | 30.48 | 0.5 |
| | 5/8 to 1 | 25000 | 120 | 54193 | 3T558 | 33.90 | 10 | 30.48 | 0.5 |
| | 5/8 to 1 | 25000 | 180 | 54195 | 3T560 | 33.90 | 10 | 30.48 | 0.5 |
| B-405 | 1 to 1½ | 22000 | 60 | 54091 | 3T514 | 63.55 | 10 | 57.14 | 1.0 |
| | 1 to 1½ | 22000 | 80 | 54092 | 3T516 | 63.55 | 10 | 57.14 | 1.0 |
| | 1 to 1½ | 22000 | 120 | 54093 | 3T518 | 63.55 | 10 | 57.14 | 1.0 |
| | 1 to 1½ | 22000 | 180 | 54094 | 3T520 | 63.55 | 10 | 57.14 | 1.0 |
| B-410 | 1½ to 2 | 20000 | 60 | 54100 | 3T522 | 66.15 | 10 | 59.49 | 1.0 |
| | 1½ to 2 | 20000 | 80 | 54101 | 3T524 | 66.15 | 10 | 59.49 | 1.0 |
| | 1½ to 2 | 20000 | 120 | 54102 | 3T526 | 66.15 | 10 | 59.49 | 1.0 |
| | 1½ to 2 | 20000 | 180 | 54103 | 3T528 | 66.15 | 10 | 59.49 | 1.0 |



No. 3T554

# INTERLEAFED FLAP WHEELS

- **Composed of flaps of our standard X-weight abrasive cloth. The flaps are interleafed with Abrasotex™ for a softer and more flexible wheel**
- **Used for deburring, producing decorative finishes, removing parting line, breaking edges, sanding sealer, and removing rust**
- **Produces finer finish than regular flap wheels**
- **Eliminates chatter at slow speeds**
- **Gives more mush to the wheel**

## INTERLEAFED FLAP WHEELS — 1/4" SHANK MANDREL MOUNTED

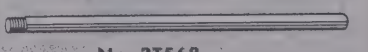
| Dia. x Width (In.) | Max. RPM | Grit | Merit Model | Stock No. | Each Pkg. | Pkg. Qty. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2 x 1 | 12000 | 120 | 44457 | 3T633 | $37.05 | 5 | $33.27 | 0.8 |
| | 12000 | 180 | 44458 | 3T635 | 37.05 | 5 | 33.27 | 0.8 |
| | 12000 | 320 | 44459 | 3T637 | 37.05 | 5 | 33.27 | 0.8 |
| 3 x 2 | 12000 | 120 | 44460 | 3T639 | 66.60 | 5 | 59.84 | 1.0 |
| | 12000 | 180 | 44461 | 3T641 | 66.60 | 5 | 59.84 | 1.0 |
| | 12000 | 320 | 44462 | 3T643 | 66.60 | 5 | 59.84 | 1.0 |



No. 3T633
1/4" Mandrel Mounted

## MANDRELS

| Size (In.) | Part Name | Merit Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **BORE POLISHER EXTENSION MANDRELS ORDERING DATA** | | | | | | |
| 1/4 dia. x 4 long | EM-144 | 54185 | 3T568 | $2.43 | $2.17 | 0.2 |
| 1/4 dia. x 6 long | EM-146 | 54186 | 3T570 | 2.66 | 2.41 | 0.2 |
| 1/4 dia. x 8 long | EM-148 | 54187 | 3T572 | 4.37 | 3.94 | 0.2 |
| **BORE POLISHER MANDRELS ORDERING DATA** | | | | | | |
| For B-3 Series | QC-5 5/16-18 Thread | 54182 | 3T562 | 2.31 | 2.10 | 0.2 |
| For B-4 Series | BPM-4 1/2-20 Thread | 54183 | 3T564 | 4.63 | 4.16 | 0.2 |



No. 3T568



No. 3T564

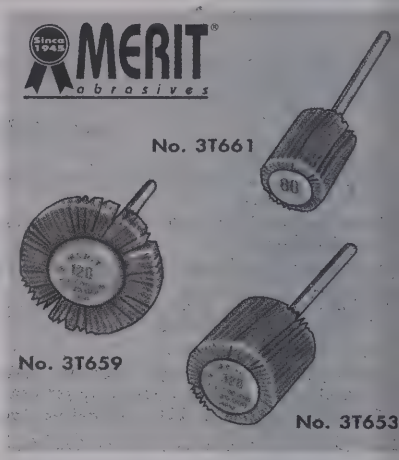
# MICRO-MINI FLAP WHEELS AND TEST KITS

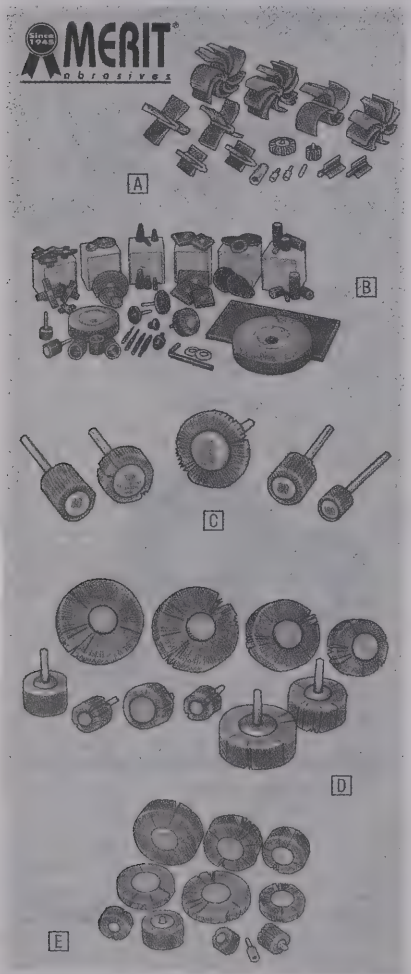
## MICRO-MINI FLAP WHEELS

- 3/8 to 1 3/16" diameter, mounted on 1/8" diameter hardened steel shank
- Provides fast polishing and light deburring of internal work with holes or grooves as small as 1/2"

MICRO-MINI FLAP WHEELS — 1/8" SHANK MANDREL MOUNTED

| Diameter x Width (In.) | Max. RPM | Grit | Merit Model | Stock No. | Each Pkg. | Pkg. Qty. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/8 x 3/8 | 40000 | 80 | 37471 | 3T645 | $30.45 | 10 | $27.39 | 0.3 |
| | 40000 | 120 | 37472 | 3T647 | 30.45 | 10 | 27.39 | 0.3 |
| | 40000 | 180 | 37473 | 3T649 | 30.45 | 10 | 27.39 | 0.3 |
| | 40000 | 240 | 37474 | 3T651 | 30.45 | 10 | 27.39 | 0.3 |
| | 40000 | 320 | 37475 | 3T653 | 30.45 | 10 | 27.39 | 0.3 |
| 5/8 x 5/8 | 37000 | 80 | 37481 | 3T661 | 33.00 | 10 | 29.66 | 0.3 |
| | 37000 | 120 | 37482 | 3T663 | 33.00 | 10 | 29.66 | 0.3 |
| 5/8 x 3/4 | 37000 | 80 | 37541 | 3T655 | 31.75 | 10 | 28.51 | 0.3 |
| | 37000 | 120 | 37542 | 3T657 | 31.75 | 10 | 28.51 | 0.3 |
| 3/4 x 3/4 | 35000 | 80 | 37591 | 3T665 | 33.70 | 10 | 30.28 | 0.3 |
| | 35000 | 120 | 37592 | 3T667 | 33.70 | 10 | 30.09 | 0.3 |
| | 35000 | 180 | 37593 | 3T669 | 33.70 | 10 | 30.28 | 0.3 |
| 1 3/16 x 3/16 | 30000 | 120 | 37502 | 3T659 | 31.75 | 10 | 28.51 | 0.3 |




## A BORE POLISHER TEST KIT "BP"

- Contains 10 Bore Polishers, 2 Mini Grind-O-Flex wheels in assorted sizes and grits for finishing 1 to 5" interior diameters, and mandrels for 1/4" chuck
- Merit brand (54181)

No. 3T627. Shpg. wt. 3.0 lbs. Each $69.95; Lots 5 ..... $62.90

## B GENERAL PURPOSE TEST KIT "GP"

- Includes samples of Merit abrasive tools and mandrels
- For deburring, polishing, and grinding applications
- Merit brand (69025)

No. 3T631. Shpg. wt. 3.0 lbs. Each $140.80; Lots 5 ..... $126.66

## C MICRO-MINI TEST KIT "MMC"

- Includes 5 wheels, 3/8 to 1 3/16" diameters with 1/8" shank, in various grits
- Merit brand (31493)

No. 3T621. Shpg. wt. 3.5 lbs. Each $19.63; Lots 5 ..... $17.67

## D MANDREL MOUNTED MINI GRIND-O-FLEX TEST KIT "CMM"

- Includes 10 wheels, 1 to 3" diameters, in various grits
- Each wheel comes with 1/4" hardened steel mandrel permanently mounted in an epoxy core
- Merit brand (38004)

No. 3T625. Shpg. wt. 1.2 lbs. Each $47.80; Lots 5 ..... $42.97

## E MINI GRIND-O-FLEX TEST KIT "CQ"

- Includes 10 wheels, 1 to 3" diameters, and 1/4" Quick-Change adapter
- Merit brand (38001)

No. 3T623. Shpg. wt. 1.2 lbs. Each $44.30; Lots 5 ..... $39.83



Need abrasives? Choose a supplier with true grit. Choose Grainger.

## CRATEX INTRODUCTORY KIT




- Contains 80 wheels and points plus four mandrels
- Ideal for use in a wide range of polishing, smoothing, and deburring applications
- Packaged in four compartment plastic box by grit texture (coarse, medium, fine, and extra fine) for easy selection
- Cratex brand (777 KIT)

**New No. 3P033.** Shpg. wt. 1.0 lbs. Each ..... $42.75

## CRATEX COMBINATION KIT




- Introductory assortment of Cratex Blocks and Sticks, Cones, 2" Wheels and 1/4" shank mandrels
- Items contained in kit are used in a broad range of industrial and metalcraft applications involving light deburring, smoothing, cleaning, and polishing
- Contains 4 each: oblong blocks, round sticks, tapered cones, cylinder cones straight wheels in an equal assortment in coarse, medium, fine, and extra fine grits; 1 each: cone and wheel mandrel
- Cratex brand (226 KIT)

**New No. 3N097.** Shpg. wt. 2.2 lbs. Each ..... $124.55

## CRATEX POINT TEST KIT




- Contains two each of all eight Cratex shapes equally assorted in four grit textures (coarse, medium, fine, and extra fine), plus 2 each Nos. 3N212 and 3N449 point mandrels
- Ideal for deburring, smoothing, and polishing hard-to reach surfaces
- Cratex brand (778 KIT)

**New No. 3P035.** Shpg. wt. 1.0 lbs. Each ..... $50.95

## CRATEX BLOCK & STICKS TEST KIT



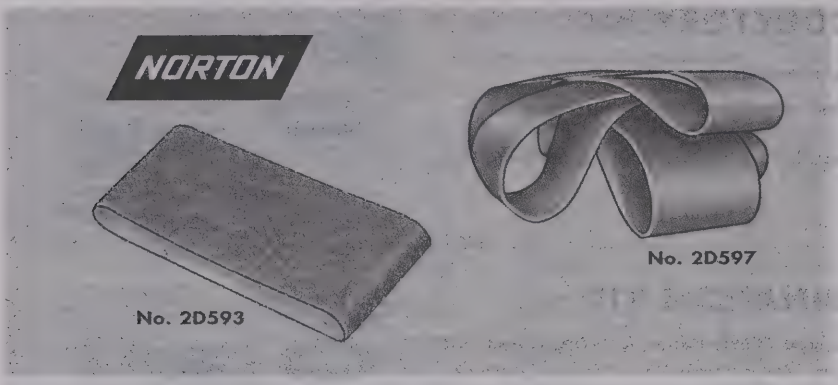

- Contains 16 popular Cratex blocks and sticks
- Excellent for cleaning, deburring, and polishing metal surfaces for breaking edges, smoothing away high spots, removing rust, heat marks, tarnish, and stain
- Contains 4 each of oblong blocks (6 x 1 x 3/8"), square blocks (6 x 1/2 x 1/2), round sticks (4-6 x 3/8" and 4-6 x 1/2), equal assortment in coarse, medium, fine, and extra fine grits
- Cratex brand (228 KIT)

**New No. 3N099.** Shpg. wt. 2.0 lbs. Each ..... $89.95

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# ABRASIVE BELTS, RESIN BOND




## COATED ABRASIVE BELTS

Coated Abrasive Belts are listed by groups in the following order:

1. **Width** (narrow to wide)
2. **Length** (short to long)
3. **Grit Size** (coarse grit to fine grit)
4. **Abrasive Type** (Aluminum Oxide, Zirconia, SG Ceramic)
5. **Coating Type** (closed coat to open coat)

## BELT SELECTION

Look for abrasive requirement and select appropriate belt. When same size and grit are available, premium belts will offer faster stock removal and longer life.

### METALITE® R228 BELTS

- Made of rugged Aluminum Oxide Closekote® resin bond X-weight cloth to provide aggressive cutting action and resistance to sanding heat
- For metalworking applications with moderate to heavy pressure
- Feature fast cutting action and long belt life

### METALITE® R283 BELTS

- Offer improved resistance to grain shedding and a more flexible backing
- P-Graded Aluminum Oxide abrasive
- Waterproof close coated, resin bonded on a semi-flexible X-wgt.
- Developed specifically for use on portable belt machines
- Specially-designed joint that gives smooth, trouble-free performance

### METALITE® R215 BELTS

- Aluminum oxide resin bond belt is open-coated for woodworking or use on soft metals that tend to load
- X-weight cotton back for dry use only

### NORZON® R821 BELTS

- Provides an aggressive, free-cutting action on metalworking applications where fast stock removal is required
- Unique design combines high-performance Zirconia Alumina abrasive with heavy-duty Y-weight cloth backing
- Close coated resin bonded

### NORZON® R823 BELTS

- Similar to Norzon® R821
- Aggressive, closed coat, long-lasting metalworking belt is on a waterproof, polyester X-weight backing for greater flexibility

### NORZON® R824 BELTS

- Designed for high pressure, coarse grit, heavy duty applications where a high rate of stock removal is desired, closed coat
- Extra-strong Y-weight polyester backing

### NORTON SG® R981 BELTS

- For hard-to-grind, heat-sensitive metals such as alloyed steel
- Premium ceramic abrasive is specially coated to promote a cool-cutting action that gives a long, aggressive grinding life
- Resin bonded on a Y-weight polyester backing

## ABRASIVE BELTS SPECIFICATIONS AND ORDERING DATA

| Width x Length (In.) | Grit | CAP Code | Description | Norton Model | Stock No. ❸ | Price Each Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 x 24 | P60-X | R283 | Metalite | 780727-27548 | 2D593 | $0.72 | $0.66 | 25 | 0.1 |
| 1/4 x 24 | P80-X | R283 | Metalite | 780727-27547 | 2D592 | 0.71 | 0.65 | 25 | 0.1 |
| 1/4 x 24 | P120-X | R283 | Metalite | 780727-27546 | 2D591 | 0.70 | 0.64 | 25 | 0.1 |
| 3/8 x 13 | 40-X | R283 | Metalite | 780727-11704 | 4F883 | 1.70 | 1.52 | 25 | 0.1 |
| 3/8 x 13 | 50-X | R283 | Metalite | 780727-11587 | 4F884 | 1.67 | 1.50 | 25 | 0.1 |
| 3/8 x 13 | 60-X | R283 | Metalite | 780727-04298 | 4F885 | 1.67 | 1.50 | 25 | 0.1 |
| 3/8 x 13 | 80-X | R283 | Metalite | 780727-10882 | 4F886 | 1.65 | 1.48 | 25 | 0.1 |
| 3/8 x 13 | 100-X | R283 | Metalite | 780727-10243 | 4F887 | 1.63 | 1.46 | 25 | 0.1 |
| 3/8 x 13 | 120-X | R283 | Metalite | 780727-10885 | 4F888 | 1.63 | 1.46 | 25 | 0.1 |
| 1/2 x 18 | P40-X | R283 | Metalite | 780727-27561 | 2D597 | 0.76 | 0.69 | 25 | 0.1 |
| 1/2 x 18 | P60-X | R283 | Metalite | 780727-27560 | 2D596 | 0.73 | 0.67 | 25 | 0.1 |
| 1/2 x 18 | 60-Y | R981 | Norton SG | 780727-18704 | 2D520 | 1.90 | 1.72 | 25 | 0.1 |
| 1/2 x 18 | P80-X | R283 | Metalite | 780727-27559 | 2D595 | 0.72 | 0.67 | 25 | 0.1 |
| 1/2 x 18 | 80-Y | R981 | Norton SG | 780727-18705 | 2D521 | 1.82 | 1.64 | 25 | 0.1 |
| 1/2 x 18 | P120-X | R283 | Metalite | 780727-27558 | 2D594 | 0.71 | 0.66 | 25 | 0.1 |
| 1/2 x 18 | 120-Y | R981 | Norton SG | 780727-18706 | 2D522 | 1.80 | 1.62 | 25 | 0.1 |
| 1/2 x 24 | 40-X | R283 | Metalite | 780727-27568 | 4F897 | 0.81 | 0.73 | 25 | 0.1 |
| 1/2 x 24 | 50-X | R283 | Metalite | 780727-27567 | 4F898 | 0.79 | 0.72 | 25 | 0.1 |
| 1/2 x 24 | 50-Y | R981 | Norton SG | 780727-18707 | 2D523 | 2.06 | 1.85 | 25 | 0.1 |
| 1/2 x 24 | 60-X | R283 | Metalite | 780727-27566 | 4F899 | 0.78 | 0.71 | 25 | 0.1 |
| 1/2 x 24 | 60-Y | R981 | Norton SG | 780727-18708 | 2D524 | 2.02 | 1.82 | 25 | 0.1 |
| 1/2 x 24 | 80-X | R283 | Metalite | 780727-27565 | 4F900 | 0.77 | 0.70 | 25 | 0.1 |
| 1/2 x 24 | 80-Y | R981 | Norton SG | 780727-18709 | 2D525 | 1.92 | 1.73 | 25 | 0.1 |
| 1/2 x 24 | 120-X | R283 | Metalite | 780727-27564 | 4F901 | 0.76 | 0.69 | 25 | 0.1 |
| 1/2 x 24 | 120-Y | R981 | Norton SG | 780727-18710 | 2D526 | 1.89 | 1.71 | 25 | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!



*Need abrasives? Choose a supplier with true grit. Choose Grainger.*

# ABRASIVE BELTS, RESIN BOND

| Width x Length (In.) | Grit | CAP Code | Description | Norton Model | Stock No. ③ | Each | Price Each in Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **ABRASIVE BELTS SPECIFICATIONS AND ORDERING DATA (cont.)** | | | | | | | | | |
| **3/4 x 20½** | 40-X | R283 | Metalite | 780727-27573 | **4F890** | **$1.08** | **$0.98** | **25** | 0.1 |
| **3/4 x 20½** | 50-X | R283 | Metalite | 780727-27572 | **4F891** | **1.06** | **0.97** | **25** | 0.1 |
| **3/4 x 20½** | 50-Y | R981 | Norton SG | 780727-18714 | **2D527** | **2.19** | **1.98** | **25** | 0.1 |
| **3/4 x 20½** | 60-X | R283 | Metalite | 780727-27571 | **4F892** | **1.04** | **0.95** | **25** | 0.1 |
| **3/4 x 20½** | 60-Y | R981 | Norton SG | 780727-18715 | **2D528** | **2.15** | **1.93** | **25** | 0.1 |
| **3/4 x 20½** | 80-X | R283 | Metalite | 780727-27570 | **4F893** | **1.02** | **0.92** | **25** | 0.1 |
| **3/4 x 20½** | 80-Y | R981 | Norton SG | 780727-18716 | **2D529** | **2.04** | **1.83** | **25** | 0.1 |
| **3/4 x 20½** | 100-X | R283 | Metalite | 780727-27569 | **4F894** | **1.01** | **0.91** | **25** | 0.1 |
| **3/4 x 20½** | 120-X | R283 | Metalite | 780727-27575 | **4F895** | **1.01** | **0.91** | **25** | 0.1 |
| **3/4 x 20½** | 120-Y | R981 | Norton SG | 780727-18717 | **2D530** | **2.01** | **1.81** | **25** | 0.1 |
| **1 x 42** | 40-X | R228 | Metalite | 780727-20910 | **5A980** | **2.26** | **2.06** | **10** | 0.2 |
| **1 x 42** | 40-Y | R821 | Norzon | 780727-26905 | **2D574** | **2.74** | **2.47** | **50** | 0.1 |
| **1 x 42** | 50-X | R228 | Metalite | 780727-20905 | **5A981** | **2.19** | **1.98** | **10** | 0.1 |
| **1 x 42** | 50-Y | R821 | Norzon | 780727-26904 | **2D573** | **2.67** | **2.39** | **50** | 0.1 |
| **1 x 42** | 60-X | R228 | Metalite | 780727-20900 | **5A982** | **2.15** | **1.93** | **10** | 0.1 |
| **1 x 42** | 60-X | R823 | Norzon | 780727-28596 | **2D606** | **1.66** | **1.49** | **50** | 0.1 |
| **1 x 42** | 80-X | R228 | Metalite | 780727-20895 | **5A983** | **2.07** | **1.86** | **10** | 0.1 |
| **1 x 42** | 80-X | R823 | Norzon | 780727-28504 | **2D605** | **1.54** | **1.39** | **50** | 0.1 |
| **1 x 42** | 100-X | R823 | Norzon | 780727-28592 | **2D604** | **1.41** | **1.27** | **50** | 0.1 |
| **1 x 42** | 120-X | R228 | Metalite | 780727-20885 | **5A984** | **2.02** | **1.82** | **10** | 0.1 |
| **1 x 42** | 120-X | R823 | Norzon | 780727-28590 | **2D603** | **1.36** | **1.21** | **50** | 0.1 |
| **1 x 42** | 150-X | R228 | Metalite | 780727-20880 | **2D536** | **2.03** | **1.82** | **10** | 0.1 |
| **1 x 42** | 180-X | R228 | Metalite | 780727-20875 | **5A985** | **2.02** | **1.82** | **10** | 0.1 |
| **1 x 42** | 220-X | R228 | Metalite | 780727-20871 | **2D535** | **2.03** | **1.82** | **10** | 0.1 |
| **1 x 42** | 320-X | R228 | Metalite | 780727-20865 | **2D534** | **2.03** | **1.82** | **10** | 0.1 |
| **1½ x 60** | 36-X | R228 | Metalite | 780727-21060 | **2D541** | **3.58** | **3.22** | **10** | 0.3 |
| **1½ x 60** | 36-Y | R821 | Norzon | 780727-26993 | **3UN44** | **3.91** | **3.52** | **10** | 0.2 |
| **1½ x 60** | 40-X | R228 | Metalite | 780727-21055 | **2D540** | **3.41** | **3.06** | **10** | 0.3 |
| **1½ x 60** | 50-Y | R821 | Norzon | 780727-26991 | **3UN45** | **4.48** | **4.03** | **10** | 0.1 |
| **1½ x 60** | 60-X | R228 | Metalite | 780727-21045 | **2D539** | **3.13** | **2.83** | **10** | 0.2 |
| **1½ x 60** | 80-X | R228 | Metalite | 780727-21040 | **2D538** | **2.98** | **2.69** | **10** | 0.2 |
| **1½ x 60** | 120-X | R228 | Metalite | 780727-21030 | **2D537** | **2.90** | **2.59** | **10** | 0.2 |
| **2 x 42** | 36-X | R228 | Metalite | 780727-43193 | **3UP53** | **4.49** | **4.04** | **10** | 0.2 |
| **2 x 42** | 50-X | R228 | Metalite | 780727-43934 | **3UP56** | **4.11** | **3.69** | **10** | 0.2 |
| **2 x 42** | 80-X | R228 | Metalite | 780727-43932 | **3UP55** | **3.77** | **3.39** | **10** | 0.3 |
| **2 x 42** | 120-X | R228 | Metalite | 780727-43930 | **3UP54** | **3.65** | **3.28** | **10** | 0.1 |
| **2 x 48** | 36-X | R228 | Metalite | 780727-21255 | **5A986** | **3.97** | **3.57** | **10** | 0.3 |
| **2 x 48** | 36-Y | R821 | Norzon | 780727-27103 | **2D577** | **4.69** | **4.20** | **10** | 0.3 |
| **2 x 48** | 40-X | R228 | Metalite | 780727-21250 | **2D542** | **3.74** | **3.36** | **10** | 0.3 |
| **2 x 48** | 40-Y | R821 | Norzon | 780727-27102 | **2D576** | **4.26** | **3.83** | **10** | 0.3 |
| **2 x 48** | 50-X | R228 | Metalite | 780727-21245 | **5A987** | **3.63** | **3.27** | **10** | 0.2 |
| **2 x 48** | 50-Y | R821 | Norzon | 780727-27101 | **2D575** | **4.09** | **3.66** | **10** | 0.3 |
| **2 x 48** | 60-X | R228 | Metalite | 780727-21240 | **5A988** | **3.48** | **3.13** | **10** | 0.2 |
| **2 x 48** | 60-X | R823 | Norzon | 780727-28621 | **2D610** | **3.78** | **3.40** | **10** | 0.2 |
| **2 x 48** | 80-X | R228 | Metalite | 780727-21235 | **5A989** | **3.31** | **2.97** | **10** | 0.2 |
| **2 x 48** | 80-X | R823 | Norzon | 780727-28619 | **2D609** | **3.46** | **3.10** | **10** | 0.2 |
| **2 x 48** | 100-X | R228 | Metalite | 780727-21230 | **5A990** | **3.21** | **2.87** | **10** | 0.2 |
| **2 x 48** | 100-X | R823 | Norzon | 780627-28617 | **2D608** | **3.16** | **2.85** | **10** | 0.2 |
| **2 x 48** | 120-X | R228 | Metalite | 780727-21225 | **5A991** | **3.21** | **2.88** | **10** | 0.1 |
| **2 x 48** | 120-X | R823 | Norzon | 780727-28615 | **2D607** | **3.03** | **2.72** | **10** | 0.1 |
| **2 x 48** | 180-X | R228 | Metalite | 780727-21223 | **3UN32** | **3.25** | **2.92** | **10** | 0.1 |
| **2 x 53¾** | 50-X | R228 | Metalite | 780727-20291 | **5A992** | **3.50** | **3.15** | **10** | 0.2 |
| **2 x 53¾** | 80-X | R228 | Metalite | 780727-20293 | **5A993** | **3.27** | **2.94** | **10** | 0.2 |
| **2 x 53¾** | 120-X | R228 | Metalite | 780727-20296 | **5A994** | **3.10** | **2.78** | **10** | 0.2 |
| **2 x 72** | 36-X | R228 | Metalite | 780727-21335 | **4F913** | **6.46** | **5.81** | **10** | 0.4 |
| **2 x 72** | 36-Y | R821 | Norzon | 780727-27147 | **4F916** | **8.51** | **7.64** | **10** | 0.6 |
| **2 x 72** | 40-Y | R821 | Norzon | 780727-27146 | **2D579** | **7.71** | **6.93** | **10** | 0.4 |
| **2 x 72** | 50-X | R821 | Norzon | 780727-27145 | **4F917** | **7.33** | **6.59** | **10** | 0.4 |
| **2 x 72** | 60-X | R228 | Metalite | 780727-21325 | **4F914** | **5.56** | **4.98** | **10** | 0.3 |
| **2 x 72** | 60-Y | R821 | Norzon | 780727-27144 | **2D578** | **6.72** | **6.04** | **10** | 0.3 |
| **2 x 72** | 80-X | R228 | Metalite | 780727-21320 | **4F915** | **5.23** | **4.71** | **10** | 0.4 |
| **2 x 72** | 80-Y | R821 | Norzon | 780727-27142 | **4F918** | **6.11** | **5.50** | **10** | 0.4 |
| **2 x 72** | 120-X | R228 | Metalite | 780727-21318 | **2D543** | **5.05** | **4.53** | **10** | 0.2 |
| **2 x 132** | 36-Y | R821 | Norzon | 780727-27191 | **2D582** | **13.83** | **12.43** | **25** | 0.8 |
| **2 x 132** | 40-Y | R821 | Norzon | 780727-27190 | **2D581** | **12.44** | **11.18** | **25** | 0.7 |
| **2 x 132** | 60-Y | R821 | Norzon | 780727-27188 | **2D580** | **10.70** | **9.63** | **50** | 0.6 |
| **2 x 132** | 80-X | R823 | Norzon | 780727-28667 | **2D611** | **9.64** | **8.67** | **50** | 0.5 |
| **2½ x 60** | 36-X | R228 | Metalite | 780727-21610 | **2D549** | **5.76** | **5.18** | **10** | 0.4 |
| **2½ x 60** | 36-Y | R821 | Norzon | 780727-27235 | **2D587** | **6.82** | **6.13** | **10** | 0.5 |
| **2½ x 60** | 40-X | R228 | Metalite | 780727-21605 | **2D548** | **5.49** | **4.92** | **10** | 0.4 |
| **2½ x 60** | 40-Y | R821 | Norzon | 780727-27234 | **2D586** | **6.21** | **5.57** | **10** | 0.4 |
| **2½ x 60** | 50-X | R228 | Metalite | 780727-21600 | **2D547** | **5.22** | **4.70** | **10** | 0.3 |
| **2½ x 60** | 50-Y | R821 | Norzon | 780727-27233 | **2D585** | **5.91** | **5.31** | **10** | 0.4 |
| **2½ x 60** | 60-X | R228 | Metalite | 780727-21595 | **2D546** | **4.98** | **4.49** | **10** | 0.3 |
| **2½ x 60** | 60-Y | R821 | Norzon | 780727-27232 | **2D584** | **5.44** | **4.89** | **10** | 0.4 |
| **2½ x 60** | 80-X | R228 | Metalite | 780727-21590 | **2D545** | **4.73** | **4.25** | **10** | 0.3 |
| **2½ x 60** | 80-Y | R821 | Norzon | 780727-27231 | **2D583** | **4.95** | **4.44** | **10** | 0.3 |
| **2½ x 60** | 120-X | R228 | Metalite | 780727-21580 | **2D544** | **4.56** | **4.10** | **10** | 0.3 |

) These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

CONTINUED ON NEXT PAGE

# ABRASIVE BELTS, RESIN BOND

| Width x Length (In.) | Grit | CAP Code | Description | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **ABRASIVE BELTS SPECIFICATIONS AND ORDERING DATA (cont.)** | | | | | | | | | |
| **3 x 18** | 50-X | R228 | Metalite | 780727-21664 | **4F904** | **$2.41** | **$2.17** | **10** | 0.2 |
| **3 x 18** | 80-X | R228 | Metalite | 780727-21662 | **4F905** | **2.25** | **2.03** | **10** | 0.1 |
| **3 x 18** | 120-X | R228 | Metalite | 780727-21660 | **4F906** | **2.20** | **1.98** | **10** | 0.1 |
| **3 x 21** | 40-X | R228 | Metalite | 780727-21691 | **6A001** | **2.83** | **2.54** | **10** | 0.2 |
| **3 x 21** | 50-X | R228 | Metalite | 780727-21690 | **6A002** | **2.61** | **2.35** | **10** | 0.2 |
| **3 x 21** | 60-X | R228 | Metalite | 780727-21685 | **6A003** | **2.53** | **2.27** | **10** | 0.1 |
| **3 x 21** | 80-X | R228 | Metalite | 780727-21680 | **6A004** | **2.42** | **2.18** | **10** | 0.1 |
| **3 x 21** | 100-X | R228 | Metalite | 780727-21676 | **6A005** | **2.36** | **2.12** | **10** | 0.1 |
| **3 x 21** | 120-X | R228 | Metalite | 780727-21675 | **6A006** | **2.36** | **2.12** | **10** | 0.1 |
| **3 x 24** | 36-X | R228 | Metalite | 780727-21770 | **6A007** | **3.06** | **2.75** | **10** | 0.2 |
| **3 x 24** | 40-X | R228 | Metalite | 780727-21765 | **2D550** | **2.93** | **2.62** | **10** | 0.2 |
| **3 x 24** | 50-X | R228 | Metalite | 780727-21760 | **6A008** | **2.82** | **2.54** | **10** | 0.2 |
| **3 x 24** | 50-X | R215 | Metalite | 780727-23630 | **2D565** | **2.82** | **2.53** | **10** | 0.1 |
| **3 x 24** | 60-X | R228 | Metalite | 780727-21755 | **6A009** | **2.72** | **2.45** | **10** | 0.2 |
| **3 x 24** | 60-X | R215 | Metalite | 780727-23625 | **2D564** | **2.72** | **2.46** | **10** | 0.1 |
| **3 x 24** | 80-X | R228 | Metalite | 780727-21750 | **6A010** | **2.60** | **2.34** | **10** | 0.1 |
| **3 x 24** | 80-X | R215 | Metalite | 780727-23620 | **2D563** | **2.60** | **2.34** | **10** | 0.1 |
| **3 x 24** | 100-X | R228 | Metalite | 780727-21745 | **6A011** | **2.51** | **2.26** | **10** | 0.1 |
| **3 x 24** | 100-X | R215 | Metalite | 780727-23615 | **2D562** | **2.53** | **2.27** | **10** | 0.1 |
| **3 x 24** | 120-X | R228 | Metalite | 780727-21740 | **6A012** | **2.51** | **2.26** | **10** | 0.1 |
| **3 x 24** | 120-X | R215 | Metalite | 780727-23614 | **2D561** | **2.53** | **2.27** | **10** | 0.1 |
| **3 x 132** | 36-Y | R824 | Norzon | 780727-50138 | **2D615** | **22.20** | **19.95** | **25** | 1.2 |
| **3 x 132** | 50-Y | R824 | Norzon | 780727-50134 | **2D614** | **18.84** | **16.95** | **25** | 1.0 |
| **3 x 132** | 60-X | R823 | Norzon | 780727-28795 | **2D613** | **15.85** | **14.24** | **50** | 0.8 |
| **3 x 132** | 80-X | R823 | Norzon | 780727-28793 | **2D612** | **14.22** | **12.78** | **50** | 0.7 |
| **3½ x 15½** | 36-X | R228 | Metalite | 780727-21997 | **2D552** | **3.57** | **3.21** | **10** | 0.2 |
| **3½ x 15½** | 60-X | R228 | Metalite | 780727-22000 | **2D553** | **3.29** | **2.96** | **10** | 0.1 |
| **3½ x 15½** | 60-Y | R981 | Norton SG | 780727-18750 | **2D531** | **5.99** | **5.38** | **10** | 0.1 |
| **3½ x 15½** | 80-X | R228 | Metalite | 780727-21995 | **2D551** | **3.21** | **2.89** | **10** | 0.1 |
| **3½ x 15½** | 80-Y | R981 | Norton SG | 780727-18751 | **2D532** | **5.66** | **5.09** | **10** | 0.1 |
| **3½ x 15½** | 120-Y | R981 | Norton SG | 780727-18753 | **2D533** | **5.56** | **4.99** | **10** | 0.1 |
| **4 x 21¾** | 36-X | R228 | Metalite | 780727-20397 | **4F947** | **5.66** | **5.09** | **5** | 0.3 |
| **4 x 21¾** | 50-X | R228 | Metalite | 780727-32639 | **4F948** | **5.31** | **4.78** | **5** | 0.2 |
| **4 x 21¾** | 80-X | R228 | Metalite | 780727-08913 | **4F949** | **4.98** | **4.48** | **5** | 0.2 |
| **4 x 21¾** | 120-X | R228 | Metalite | 780727-08914 | **4F950** | **4.87** | **4.38** | **5** | 0.2 |
| **4 x 24** | 40-X | R228 | Metalite | 780727-22057 | **6A013** | **4.70** | **4.22** | **10** | 0.3 |
| **4 x 24** | 50-X | R228 | Metalite | 780727-22056 | **6A014** | **4.55** | **4.09** | **10** | 0.2 |
| **4 x 24** | 50-X | R215 | Metalite | 780727-25933 | **2D572** | **4.57** | **4.11** | **10** | 0.2 |
| **4 x 24** | 60-X | R228 | Metalite | 780727-22055 | **6A015** | **4.42** | **3.97** | **10** | 0.2 |
| **4 x 24** | 60-X | R215 | Metalite | 780727-23664 | **2D570** | **4.44** | **3.98** | **10** | 0.2 |
| **4 x 24** | 80-X | R228 | Metalite | 780727-22050 | **6A016** | **4.26** | **3.83** | **10** | 0.2 |
| **4 x 24** | 80-X | R215 | Metalite | 780727-23662 | **2D569** | **4.27** | **3.85** | **10** | 0.2 |
| **4 x 24** | 100-X | R228 | Metalite | 780727-22045 | **6A017** | **4.16** | **3.74** | **10** | 0.2 |
| **4 x 24** | 100-X | R215 | Metalite | 780727-23660 | **2D568** | **4.17** | **3.76** | **10** | 0.1 |
| **4 x 24** | 120-X | R228 | Metalite | 780727-22044 | **6A018** | **4.16** | **3.74** | **10** | 0.2 |
| **4 x 24** | 120-X | R215 | Metalite | 780727-23659 | **2D567** | **4.18** | **3.76** | **10** | 0.1 |
| **4 x 36** | 36-X | R228 | Metalite | 780727-22110 | **4F907** | **6.09** | **5.48** | **10** | 0.5 |
| **4 x 36** | 40-X | R228 | Metalite | 780727-22105 | **2D556** | **5.83** | **5.24** | **10** | 0.4 |
| **4 x 36** | 50-X | R228 | Metalite | 780727-22100 | **4F908** | **5.60** | **5.03** | **10** | 0.4 |
| **4 x 36** | 50-Y | R821 | Norzon | 780727-27475 | **2D590** | **6.81** | **6.11** | **10** | 0.4 |
| **4 x 36** | 60-X | R228 | Metalite | 780727-22095 | **2D555** | **5.39** | **4.85** | **10** | 0.3 |
| **4 x 36** | 60-Y | R821 | Norzon | 780727-27474 | **2D589** | **6.32** | **5.68** | **10** | 0.3 |
| **4 x 36** | 80-X | R228 | Metalite | 780727-22090 | **4F909** | **5.18** | **4.65** | **10** | 0.3 |
| **4 x 36** | 80-Y | R821 | Norzon | 780727-27473 | **2D588** | **5.80** | **5.22** | **10** | 0.3 |
| **4 x 36** | 100-X | R228 | Metalite | 780727-22085 | **2D554** | **5.02** | **4.52** | **10** | 0.2 |
| **4 x 36** | 120-X | R228 | Metalite | 780727-22080 | **4F910** | **5.02** | **4.52** | **10** | 0.2 |
| **4 x 36** | 150-X | R228 | Metalite | 780727-22079 | **3UN35** | **4.98** | **4.49** | **10** | 0.2 |
| **4 x 36** | 180-X | R228 | Metalite | 780727-22075 | **3UN34** | **4.98** | **4.49** | **10** | 0.2 |
| **4 x 36** | 320-X | R228 | Metalite | 780727-22071 | **3UN33** | **4.98** | **4.49** | **10** | 0.2 |
| **6 x 48** | 36-X | R228 | Metalite | 780727-22590 | **5A995** | **11.17** | **10.03** | **10** | 0.9 |
| **6 x 48** | 36-Y | R821 | Norzon | 780727-27698 | **2D602** | **13.82** | **12.41** | **10** | 0.9 |
| **6 x 48** | 40-X | R228 | Metalite | 780727-22585 | **2D560** | **10.66** | **9.57** | **10** | 0.7 |
| **6 x 48** | 40-Y | R821 | Norzon | 780727-27697 | **2D601** | **12.62** | **11.33** | **10** | 0.8 |
| **6 x 48** | 50-X | R228 | Metalite | 780727-22580 | **5A996** | **10.19** | **9.17** | **10** | 0.7 |
| **6 x 48** | 50-Y | R821 | Norzon | 780727-27696 | **2D600** | **12.07** | **10.84** | **10** | 0.8 |
| **6 x 48** | 60-X | R228 | Metalite | 780727-22575 | **5A997** | **9.79** | **8.80** | **10** | 0.6 |
| **6 x 48** | 60-Y | R821 | Norzon | 780727-27695 | **2D599** | **11.14** | **10.01** | **10** | 0.7 |
| **6 x 48** | 80-X | R228 | Metalite | 780727-22570 | **5A998** | **9.31** | **8.37** | **10** | 0.5 |
| **6 x 48** | 80-Y | R821 | Norzon | 780727-27694 | **2D598** | **10.18** | **9.16** | **10** | 0.6 |
| **6 x 48** | 100-X | R228 | Metalite | 780727-22565 | **2D559** | **9.00** | **8.11** | **10** | 0.4 |
| **6 x 48** | 120-X | R228 | Metalite | 780727-22560 | **5A999** | **9.00** | **8.09** | **10** | 0.5 |
| **6 x 48** | 150-X | R228 | Metalite | 780727-22555 | **2D558** | **9.00** | **8.11** | **10** | 0.4 |
| **6 x 48** | 180-X | R228 | Metalite | 780727-22550 | **2D557** | **9.00** | **8.11** | **10** | 0.4 |
| **6 x 48** | 220-X | R228 | Metalite | 780727-22546 | **3UN38** | **9.14** | **8.23** | **10** | 0.3 |
| **6 x 48** | 240-X | R228 | Metalite | 780727-22545 | **3UN37** | **9.14** | **8.23** | **10** | 0.3 |
| **6 x 48** | 320-X | R228 | Metalite | 780727-22543 | **3UN36** | **9.14** | **8.23** | **10** | 0.3 |
| **6 x 60** | 36-X | R228 | Metalite | 780727-22680 | **3UN42** | **13.25** | **11.93** | **10** | 0.7 |
| **6 x 60** | 40-X | R228 | Metalite | 780727-22679 | **3UN41** | **12.58** | **11.31** | **10** | 0.7 |
| **6 x 60** | 60-X | R228 | Metalite | 780727-22665 | **3UN40** | **11.48** | **10.32** | **10** | 0.5 |
| **6 x 60** | 80-X | R228 | Metalite | 780727-22660 | **3UN39** | **10.87** | **9.78** | **10** | 0.6 |

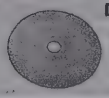
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets are available. See page opposite inside back cover.



*Need abrasives? Choose a supplier with true grit. Choose Grainger.*

# FIBRE DISCS

NORTON



Fibre Disc

- **Metalite F226 Fibre Discs provide superior results when grinding and blending carbon steel**
- **Norzon F826 Fibre Discs feature premium, self-sharpening zirconia alumina abrasive for consistently fast cut rates. For heavy stock removal; especially productive on stainless steel**
- **F944 Norton SG Fibre Discs offer sharp ceramic aluminum oxide grain. For carbon steel and welds in medium to heavy pressure production applications**
- **Use Fibre Discs with air-cooled rubber back-up pads with 5/8-11" threaded aluminum hubs for mounting. Sold on the following page**

| Diameter x Hole (In.) | Grit | CAP Code | Description | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 4 x 5/8 | 24 | F226 | Metalite (Boxed) | 662611-33434 | 3UN08 | $1.01 | $0.90 | 25 | 0.1 |
| | 36 | F226 | Metalite (Boxed) | 662611-33433 | 5A942 | 1.00 | 0.90 | 25 | 0.1 |
| | 36 | F944 | SG (Boxed) | 662611-39175 | 2D675 | 2.17 | 1.96 | 25 | 0.1 |
| | 50 | F226 | Metalite (Boxed) | 662611-33432 | 5A943 | 0.94 | 0.83 | 25 | 0.1 |
| | 50 | F944 | SG (Boxed) | 662611-39174 | 2D674 | 2.03 | 1.82 | 25 | 0.1 |
| | 60 | F226 | Metalite (Boxed) | 662611-33431 | 5A944 | 0.86 | 0.78 | 25 | 0.1 |
| | 80 | F226 | Metalite (Boxed) | 662611-33430 | 5A945 | 0.82 | 0.75 | 25 | 0.1 |
| | 80 | F944 | SG (Boxed) | 662611-39172 | 2D673 | 1.73 | 1.55 | 25 | 0.1 |
| | 100 | F226 | Metalite (Boxed) | 662611-33429 | 5A946 | 0.82 | 0.75 | 25 | 0.1 |
| | 120 | F226 | Metalite (Boxed) | 662611-33428 | 5A947 | 0.82 | 0.75 | 25 | 0.1 |
| 4½ x 7/8 | 24 | F226 | Metalite (Boxed) | 662611-33519 | 3UN09 | 1.09 | 0.99 | 25 | 0.1 |
| | 24 | F826 | Norzon (Boxed) | 662611-38457 | 2D643 | 1.77 | 1.59 | 25 | 0.1 |
| | 36 | F226 | Metalite (Boxed) | 662611-33517 | 5A948 | 1.08 | 0.98 | 25 | 0.1 |
| | 36 | F826 | Norzon (Boxed) | 662611-38456 | 2D642 | 1.72 | 1.54 | 25 | 0.1 |
| | 36 | F944 | SG (Boxed) | 662611-39182 | 2D679 | 2.36 | 2.12 | 25 | 0.1 |
| | 50 | F226 | Metalite (Boxed) | 662611-33515 | 5A949 | 1.01 | 0.91 | 25 | 0.1 |
| | 50 | F826 | Norzon (Boxed) | 662611-38454 | 2D641 | 1.54 | 1.40 | 25 | 0.1 |
| | 50 | F944 | SG (Boxed) | 662611-39181 | 2D678 | 2.21 | 1.98 | 25 | 0.1 |
| | 60 | F226 | Metalite (Boxed) | 662611-33513 | 5A950 | 0.96 | 0.85 | 25 | 0.1 |
| | 60 | F826 | Norzon (Boxed) | 662611-38453 | 2D640 | 1.47 | 1.33 | 25 | 0.1 |
| | 60 | F944 | SG (Boxed) | 662611-39180 | 2D677 | 2.10 | 1.87 | 25 | 0.1 |
| | 80 | F226 | Metalite (Boxed) | 662611-33511 | 5A951 | 0.90 | 0.81 | 25 | 0.1 |
| | 80 | F826 | Norzon (Boxed) | 662611-38452 | 2D639 | 1.33 | 1.18 | 25 | 0.1 |
| | 80 | F944 | SG (Boxed) | 662611-39179 | 2D676 | 1.88 | 1.69 | 25 | 0.1 |
| | 100 | F226 | Metalite (Boxed) | 662611-33509 | 5A952 | 0.90 | 0.81 | 25 | 0.1 |
| | 120 | F226 | Metalite (Boxed) | 662611-33507 | 5A953 | 0.90 | 0.81 | 25 | 0.1 |
| 5 x 7/8 | 24 | F226 | Metalite (Boxed) | 662611-33615 | 3UN10 | 1.27 | 1.14 | 25 | 0.1 |
| | 24 | F826 | Norzon (Boxed) | 662611-38563 | 3UN25 | 2.04 | 1.84 | 25 | 0.1 |
| | 36 | F226 | Metalite (Boxed) | 662611-33610 | 5A954 | 1.24 | 1.12 | 25 | 0.1 |
| | 36 | F826 | Norzon (Boxed) | 662611-38562 | 2D645 | 1.99 | 1.80 | 25 | 0.1 |
| | 36 | F944 | SG (Boxed) | 662611-39154 | 2D661 | 2.73 | 2.46 | 25 | 0.1 |
| | 50 | F226 | Metalite (Boxed) | 662611-33605 | 5A955 | 1.16 | 1.05 | 25 | 0.1 |
| | 50 | F826 | Norzon (Boxed) | 662611-38561 | 2D644 | 1.80 | 1.62 | 25 | 0.1 |
| | 50 | F944 | SG (Boxed) | 662611-39153 | 2D660 | 2.55 | 2.30 | 25 | 0.1 |
| | 60 | F226 | Metalite (Boxed) | 662611-33600 | 5A956 | 1.10 | 1.01 | 25 | 0.1 |
| | 60 | F826 | Norzon (Boxed) | 662611-38601 | 2D656 | 1.70 | 1.52 | 25 | 0.1 |
| | 60 | F944 | SG (Boxed) | 662611-39152 | 2D659 | 2.42 | 2.18 | 25 | 0.1 |
| | 80 | F226 | Metalite (Boxed) | 662611-33595 | 5A957 | 1.04 | 0.95 | 25 | 0.1 |
| | 80 | F826 | Norzon (Boxed) | 662611-38600 | 2D655 | 1.53 | 1.38 | 25 | 0.1 |
| | 80 | F944 | SG (Boxed) | 662611-39151 | 2D658 | 2.18 | 1.97 | 25 | 0.1 |
| | 100 | F226 | Metalite (Boxed) | 662611-33590 | 5A958 | 1.04 | 0.95 | 25 | 0.1 |
| | 120 | F226 | Metalite (Boxed) | 662611-33585 | 5A959 | 1.04 | 0.95 | 25 | 0.1 |
| | 120 | F944 | SG (Boxed) | 662611-39149 | 2D657 | 2.18 | 1.97 | 25 | 0.1 |
| 7 x 7/8 | 24 | F226 | Metalite (Boxed) | 662611-33755 | 5A960 | 1.46 | 1.33 | 25 | 0.2 |
| | 24 | F826 | Norzon (Boxed) | 662611-38594 | 2D654 | 2.50 | 2.24 | 25 | 0.2 |
| | 24 | F944 | SG (Boxed) | 662611-39162 | 2D667 | 3.21 | 2.89 | 25 | 0.2 |
| | 36 | F226 | Metalite (Boxed) | 662611-33750 | 5A961 | 1.44 | 1.30 | 25 | 0.1 |
| | 36 | F826 | Norzon (Boxed) | 662611-38593 | 2D653 | 2.45 | 2.20 | 25 | 0.1 |
| | 36 | F944 | SG (Boxed) | 662611-39161 | 2D666 | 3.14 | 2.83 | 25 | 0.1 |
| | 50 | F226 | Metalite (Boxed) | 662611-33745 | 5A962 | 1.34 | 1.21 | 25 | 0.1 |
| | 50 | F826 | Norzon (Boxed) | 662611-38592 | 2D652 | 2.19 | 1.97 | 25 | 0.1 |
| | 50 | F944 | SG (Boxed) | 662611-39160 | 2D665 | 2.93 | 2.63 | 25 | 0.1 |
| | 60 | F226 | Metalite (Boxed) | 662611-33740 | 5A963 | 1.27 | 1.15 | 25 | 0.1 |
| | 60 | F826 | Norzon (Boxed) | 662611-38591 | 2D651 | 2.09 | 1.86 | 25 | 0.1 |
| | 60 | F944 | SG (Boxed) | 662611-39159 | 2D664 | 2.77 | 2.50 | 25 | 0.1 |
| | 80 | F226 | Metalite (Boxed) | 662611-33735 | 5A964 | 1.19 | 1.08 | 25 | 0.1 |
| | 80 | F826 | Norzon (Boxed) | 662611-38590 | 2D650 | 1.88 | 1.69 | 25 | 0.1 |
| | 80 | F944 | SG (Boxed) | 662611-39158 | 2D663 | 2.50 | 2.24 | 25 | 0.1 |
| | 100 | F226 | Metalite (Boxed) | 662611-33730 | 5A965 | 1.19 | 1.08 | 25 | 0.1 |
| | 120 | F226 | Metalite (Boxed) | 662611-33725 | 5A966 | 1.19 | 1.08 | 25 | 0.1 |
| | 120 | F944 | SG (Boxed) | 662611-39156 | 2D662 | 2.50 | 2.24 | 25 | 0.1 |
| 9⅛ x 7/8 | 24 | F226 | Metalite (Boxed) | 662611-33885 | 5A967 | 2.01 | 1.82 | 25 | 0.3 |
| | 24 | F826 | Norzon (Boxed) | 662611-38584 | 2D649 | 3.42 | 3.08 | 25 | 0.3 |
| | 24 | F944 | SG (Boxed) | 662611-39169 | 2D672 | 4.39 | 3.95 | 25 | 0.3 |
| | 36 | F226 | Metalite (Boxed) | 662611-33880 | 5A968 | 1.97 | 1.78 | 25 | 0.2 |
| | 36 | F826 | Norzon (Boxed) | 662611-38583 | 2D648 | 3.36 | 3.03 | 25 | 0.2 |
| | 36 | F944 | SG (Boxed) | 662611-39168 | 2D671 | 4.31 | 3.87 | 25 | 0.2 |
| | 50 | F226 | Metalite (Boxed) | 662611-33875 | 5A969 | 1.84 | 1.66 | 25 | 0.2 |
| | 50 | F826 | Norzon (Boxed) | 662611-38582 | 2D647 | 3.01 | 2.72 | 25 | 0.2 |
| | 50 | F944 | SG (Boxed) | 662611-39167 | 2D670 | 4.02 | 3.62 | 25 | 0.2 |
| | 60 | F226 | Metalite (Boxed) | 662611-33870 | 5A970 | 1.75 | 1.57 | 25 | 0.2 |
| | 60 | F826 | Norzon (Boxed) | 662611-38581 | 2D646 | 2.86 | 2.58 | 25 | 0.2 |
| | 60 | F944 | SG (Boxed) | 662611-39166 | 2D669 | 3.82 | 3.44 | 25 | 0.2 |
| | 80 | F226 | Metalite (Boxed) | 662611-33865 | 5A971 | 1.65 | 1.49 | 25 | 0.2 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available.

See page opposite inside back cover.

CONTINUED ON NEXT PAGE

# FIBRE AND SPEED-LOK DISCS (AND BACK-UP PADS), CLOTH PSA DISCS

| Diameter x Hole (In.) | Grit | CAP Code | Description | Norton Model | Stock No. ❸ | Each | Price Each in Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **FIBRE DISCS SPECIFICATIONS AND ORDERING DATA (CONTINUED)** | | | | | | | | | |
| **9⅛ x 7/8** | 80 | F944 | SG (Boxed) | 662611-39165 | **2D668** | **$3.42** | **$3.08** | **25** | 0.2 |
| | 100 | F226 | Metalite (Boxed) | 662611-33860 | **5A972** | **1.65** | **1.49** | **25** | 0.2 |
| | 120 | F226 | Metalite (Boxed) | 662611-33855 | **5A973** | **1.65** | **1.49** | **25** | 0.2 |
| **SPEED-LOK TS DISCS** | | | | | | | | | |
| **2" Blank** | 36-X | R228 | Metalite Speed-Lok TS | 662611-38170 | **4F855** | **0.60** | **0.53** | **50** | 0.1 |
| | 50-X | R228 | Metalite Speed-Lok TS | 662611-38160 | **4F856** | **0.54** | **0.48** | **50** | 0.1 |
| | 50-Y | R981 | Norton SG Speed-Lok TS | 662611-37773 | **2D628** | **0.94** | **0.83** | **25** | 0.1 |
| | 60-Y | R981 | Norton SG Speed-Lok TS | 662611-37774 | **2D629** | **0.87** | **0.79** | **25** | 0.1 |
| | 80-X | R228 | Metalite Speed-Lok TS | 662611-38150 | **4F857** | **0.51** | **0.46** | **50** | 0.1 |
| | 80-Y | R981 | Norton SG Speed-Lok TS | 662611-37775 | **2D630** | **0.86** | **0.78** | **25** | 0.1 |
| | 120-X | R228 | Metalite Speed-Lok TS | 662611-38140 | **4F858** | **0.50** | **0.45** | **50** | 0.1 |
| | 120-Y | R981 | Norton SG Speed-Lok TS | 662611-37776 | **2D631** | **0.86** | **0.78** | **25** | 0.1 |
| **3" Blank** | 36-X | R228 | Metalite Speed-Lok TS | 662611-38205 | **4F859** | **0.79** | **0.72** | **50** | 0.1 |
| | 50-X | R228 | Metalite Speed-Lok TS | 662611-38195 | **4F860** | **0.75** | **0.67** | **50** | 0.1 |
| | 50-Y | R981 | Norton SG Speed-Lok TS | 662611-37777 | **2D632** | **1.27** | **1.14** | **25** | 0.1 |
| | 60-Y | R981 | Norton SG Speed-Lok TS | 662611-37778 | **2D633** | **1.22** | **1.09** | **25** | 0.1 |
| | 80-X | R228 | Metalite Speed-Lok TS | 662611-38185 | **4F861** | **0.72** | **0.64** | **50** | 0.1 |
| | 80-Y | R981 | Norton SG Speed-Lok TS | 662611-37779 | **2D634** | **1.19** | **1.07** | **25** | 0.1 |
| | 120-X | R228 | Metalite Speed-Lok TS | 662611-38175 | **4F862** | **0.69** | **0.64** | **50** | 0.1 |
| | 120-Y | R981 | Norton SG Speed-Lok TS | 662611-37780 | **2D635** | **1.18** | **1.06** | **25** | 0.1 |
| **BACK-UP PADS FOR FIBRE AND SPEED-LOK TS DISCS** | | | | | | | | | |
| **2" Pad** | 1/4" Mandrel | 25000 RPM | For Speed-Lok Discs | 636425-43210 | **4F863** | **12.10** | **10.93** | **10** | 0.1 |
| **3** | 1/4" Mandrel | 20000 | For Speed-Lok Discs | 636425-43225 | **4F864** | **13.88** | **12.55** | **10** | 0.1 |
| **5** | 5/8-11" Female | 10000 | For Fibre Discs | 636425-43421 | **5A974** | **26.15** | **23.59** | **2** | 0.4 |
| **7** | 5/8-11 Female | 8500 | For Fibre Discs | 636425-43422 | **5A975** | **38.45** | **34.63** | **2** | 0.8 |
| **9** | 5/8-11 Female | 6500 | For Fibre Discs | 636425-43423 | **6A035** | **45.85** | **41.24** | **2** | 1.2 |

# ADHESIVE-BACKED DISCS

## CLOTH PRESSURE-SENSITIVE ADHESIVE DISCS

| Dia. (In.) | Grit | CAP Code | Description | Norton Model | Stock No. ❸ | Each | Price Each in Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5 Blank** | 36-X | R228 | Metalite | 662611-36589 | **3UN19** | **$0.82** | **$0.75** | **50** | 0.1 |
| **5** | 40-X | R228 | Metalite | 662611-36588 | **3UN18** | **0.79** | **0.71** | **50** | 0.1 |
| **5** | 50-X | R228 | Metalite | 662611-36587 | **3UN17** | **0.74** | **0.67** | **50** | 0.1 |
| **5** | 60-X | R228 | Metalite | 662611-36586 | **3UN16** | **0.71** | **0.64** | **50** | 0.1 |
| **5** | 80-X | R228 | Metalite | 662611-36585 | **3UN15** | **0.68** | **0.62** | **50** | 0.1 |
| **5** | 100-X | R228 | Metalite | 662611-36584 | **3UN14** | **0.65** | **0.59** | **50** | 0.1 |
| **5** | 120-X | R228 | Metalite | 662611-36583 | **3UN13** | **0.65** | **0.59** | **50** | 0.1 |
| **5** | 150-X | R228 | Metalite | 662611-36582 | **3UN12** | **0.65** | **0.59** | **50** | 0.1 |
| **5** | 180-X | R228 | Metalite | 662611-36581 | **3UN11** | **0.65** | **0.59** | **50** | 0.1 |
| **6** | 60-X | R228 | Metalite | 662611-36596 | **3UN24** | **1.03** | **0.92** | **50** | 0.1 |
| **6** | 80-X | R228 | Metalite | 662611-36595 | **3UN23** | **0.99** | **0.89** | **50** | 0.1 |
| **6** | 100-X | R228 | Metalite | 662611-36594 | **3UN22** | **0.94** | **0.83** | **50** | 0.1 |
| **6** | 120-X | R228 | Metalite | 662611-36593 | **3UN21** | **0.94** | **0.83** | **50** | 0.1 |
| **6** | 180-X | R228 | Metalite | 662611-36592 | **3UN20** | **0.94** | **0.83** | **50** | 0.1 |
| **8** | 36-X | R228 | Metalite | 662611-36350 | **2D616** | **2.52** | **2.26** | **50** | 0.2 |
| **8** | 40-X | R228 | Metalite | 662611-36351 | **2D617** | **2.41** | **2.16** | **50** | 0.1 |
| **8** | 50-X | R228 | Metalite | 662611-36352 | **2D618** | **2.26** | **2.03** | **50** | 0.1 |
| **8** | 60-X | R228 | Metalite | 662611-36576 | **2D621** | **2.16** | **1.92** | **50** | 0.1 |
| **8** | 60-X | R228 | Metalite | 662611-11485 | **4F926** | **2.33** | **2.11** | **5** | 0.1 |
| **8** | 80-X | R228 | Metalite | 662611-36354 | **2D619** | **2.07** | **1.84** | **50** | 0.1 |
| **8** | 100-X | R228 | Metalite | 662611-10657 | **4F927** | **2.11** | **1.90** | **5** | 0.1 |
| **8** | 120-X | R228 | Metalite | 662611-36355 | **2D620** | **1.95** | **1.75** | **50** | 0.1 |
| **8** | 150-X | R228 | Metalite | 662611-04150 | **4F928** | **2.11** | **1.90** | **5** | 0.1 |
| **9** | 60-X | R228 | Metalite | 662611-11487 | **4F929** | **2.93** | **2.66** | **5** | 0.2 |
| **9** | 100-X | R228 | Metalite | 662611-10658 | **4F930** | **2.63** | **2.37** | **5** | 0.2 |
| **9** | 150-X | R228 | Metalite | 662611-03719 | **4F931** | **2.63** | **2.37** | **5** | 0.1 |
| **10** | 36-X | R228 | Metalite | 662611-36606 | **2D625** | **3.91** | **3.52** | **25** | 0.2 |
| **10** | 40-X | R228 | Metalite | 662611-36604 | **2D624** | **3.75** | **3.38** | **25** | 0.2 |
| **10** | 40-Y | R821 | Norzon | 662611-38314 | **2D636** | **4.97** | **4.47** | **25** | 0.2 |
| **10** | 50-X | R228 | Metalite | 662611-36607 | **2D626** | **3.51** | **3.17** | **25** | 0.2 |
| **10** | 60-X | R228 | Metalite | 662611-36602 | **2D623** | **3.34** | **3.02** | **25** | 0.2 |
| **10** | 60-Y | R821 | Norzon | 662611-38316 | **2D637** | **4.39** | **3.96** | **25** | 0.2 |
| **10** | 80-X | R228 | Metalite | 662611-36601 | **2D622** | **3.22** | **2.89** | **25** | 0.1 |
| **10** | 80-Y | R821 | Norzon | 662611-38317 | **2D638** | **4.07** | **3.65** | **25** | 0.2 |
| **12** | 36-X | R228 | Metalite | 662611-36635 | **2D627** | **5.67** | **5.11** | **25** | 0.6 |
| **12** | 36-Y | R821 | Norzon | 662611-38319 | **4F877** | **7.02** | **6.34** | **25** | 0.5 |
| **12** | 50-X | R228 | Metalite | 662611-36625 | **6A025** | **4.63** | **4.17** | **25** | 0.3 |
| **12** | 50-Y | R821 | Norzon | 662611-38321 | **4F878** | **6.11** | **5.53** | **25** | 0.3 |
| **12** | 80-X | R228 | Metalite | 662611-36615 | **6A026** | **4.22** | **3.81** | **25** | 0.2 |
| **12** | 80-Y | R821 | Norzon | 662611-38323 | **4F879** | **5.35** | **4.84** | **25** | 0.3 |
| **12** | 120-X | R228 | Metalite | 662611-36613 | **6A027** | **3.98** | **3.59** | **25** | 0.2 |

NORTON

## CLOTH SPEED-LOK TS DISCS

- **2 and 3" R228, R981 Cloth Speed-Lok TS Discs are for moderate to finish grinding-fast disc change. Use with thin, strong Speed-Lok TS back-up pads (see page 1609) for hard-to-reach areas**

## CLOTH PSA DISCS

- **PSA (Pressure Sensitive Adhesive) Cloth disc with adhesive backing for fast, convenient mounting**
- **Made without center holes for full-face usage**
- **Choose Norzon for long life and fast cut**
- **Choose Metalite for general purpose jobs**

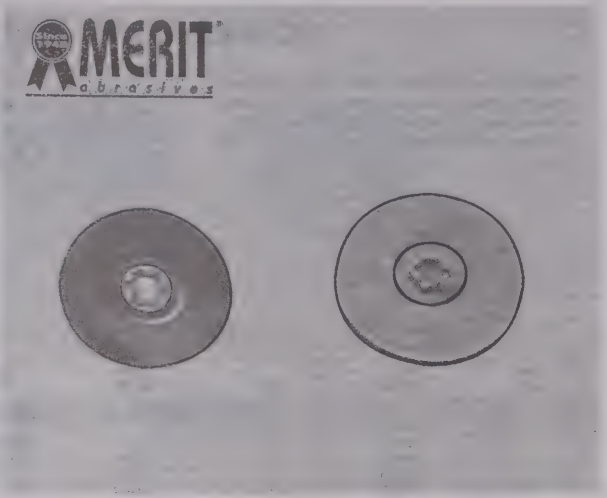
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.



*Need abrasives? Choose a supplier with true grit. Choose Grainger.*

## POWER-LOCK DISCS

- For general use, including blending light welds, breaking edges and removing parting lines and machine marks
- Can be used for working mild contours, as well as flat surfaces
- Abrasive surface is laminated to a tough backing for exceptional durability
- Snagging and shredding that can occur with pressure-sensitive discs is virtually eliminated
- Higher speeds can be utilized to reduce labor and disc costs
- Increased RPM's result in faster stock removal, thus reducing finishing time
- Loading and glazing are reduced
- Available in a variety of materials and types of construction
- Three types of fasteners available




## POWER-LOCK TYPE 1

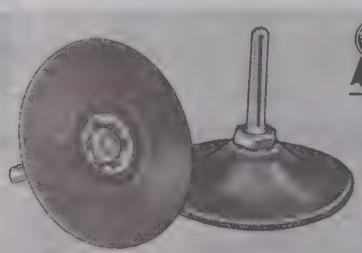
- Patented snap-on/snap-off fastener enables user to change discs quickly and safely, reducing downtime and cutting operating expenses

| Size (In.) | Max. RPM | Grit | Merit Model | Stock No. | Each Pkg.* | Pkg. Qty | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **TYPE 1 POWER-LOCK SNAP-ON DISCS — ALO RESIN BOND** | | | | | | | | |
| 2 | 30000 | 24 | 61041 | 3T697 | $9.55 | 25 | $8.60 | 0.3 |
| | 30000 | 36 | 61042 | 3T699 | 12.21 | 25 | 10.99 | 0.3 |
| | 30000 | 50 | 61044 | 3T701 | 11.29 | 25 | 10.17 | 0.3 |
| | 30000 | 60 | 61045 | 3T703 | 10.90 | 25 | 9.81 | 0.3 |
| | 30000 | 80 | 61046 | 3T705 | 10.76 | 25 | 9.69 | 0.3 |
| | 30000 | 100 | 61047 | 3T707 | 10.56 | 25 | 9.50 | 0.3 |
| | 30000 | 120 | 61048 | 3T709 | 10.56 | 25 | 9.50 | 0.3 |
| | 30000 | 150 | 61049 | 3T711 | 10.56 | 25 | 9.50 | 0.3 |
| | 30000 | 180 | 61050 | 3T713 | 10.56 | 25 | 9.51 | 0.3 |
| 3 | 20000 | 24 | 61055 | 3T719 | 17.92 | 25 | 16.12 | 0.6 |
| | 20000 | 36 | 61056 | 3T721 | 16.87 | 25 | 15.19 | 0.6 |
| | 20000 | 50 | 61058 | 3T723 | 15.89 | 25 | 14.31 | 0.6 |
| | 20000 | 60 | 61059 | 3T725 | 15.42 | 25 | 13.88 | 0.6 |
| | 20000 | 80 | 61060 | 3T727 | 14.85 | 25 | 13.37 | 0.6 |
| | 20000 | 100 | 61061 | 3T729 | 14.52 | 25 | 13.06 | 0.6 |
| | 20000 | 120 | 61062 | 3T731 | 14.52 | 25 | 13.06 | 0.6 |
| | 20000 | 180 | 61064 | 3T735 | 14.52 | 25 | 13.06 | 0.6 |
| | 20000 | 240 | 61065 | 3T737 | 14.52 | 25 | 13.06 | 0.6 |
| | 20000 | 320 | 61066 | 3T739 | 14.52 | 25 | 13.06 | 0.6 |

(*) Sold only in package quantities.

## POWER-LOCK HOLDERS

Last longer
Reduce replacement costs
Patented retainer ring permits higher speeds than other rubber holder pads
Retainer ring locks nylon to cam, protecting from disintegration under high speeds
Nylon reinforcing cloth keep rubber from expanding under high speeds
Use medium flexible pads for contour work, feathering and edging into corners, fillets and radii
Use hard pads for flat work, especially on heavy-duty jobs, for more aggressive cutting and heavy stock removal




No. 3V091

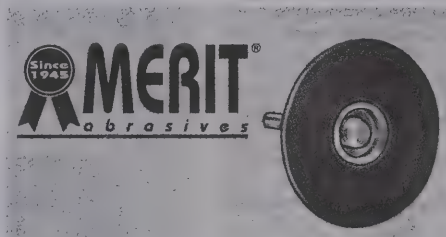
### TYPE 1 POWER-LOCK HOLDERS

| Size (In.) | Stiffness | Max RPM | Merit Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2 | Medium | 30000 | 64004 | 3V091 | $8.12 | $7.30 | 0.2 |
| 2 | Hard | 30000 | 63997 | 3V083 | 8.12 | 7.30 | 0.5 |
| 3 | Medium | 20000 | 64005 | 3V093 | 8.95 | 8.05 | 0.5 |
| 3 | Hard | 20000 | 63998 | 3V085 | 8.95 | 8.05 | 0.5 |

# POWER-LOCK DISCS

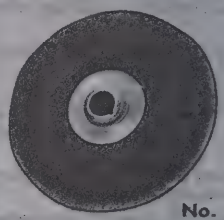
## POWER-LOCK TURN-ON DISC, TYPE 2

- Features a turn-on/turn-off style fastener which is equivalent to Standard Abrasives' Quick-Change™ locking system or Norton's Speed Lock™ fastener






No. 3V103



No. 3V012

| Size (In.) | Max RPM | Grit | Merit Model | Stock No. | Each Pkg.* | Pkg. Qty. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **TYPE 2 POWER-LOCK TURN-ON DISC — ALO RESIN BOND** | | | | | | | | |
| | 30000 | 24 | 65145 | **3V012** | **$9.55** | 25 | **$8.60** | 0.3 |
| | 30000 | 36 | 65146 | **3V014** | **12.21** | 25 | **10.99** | 0.3 |
| | 30000 | 50 | 65148 | **3V016** | **11.29** | 25 | **10.17** | 0.3 |
| **2** | 30000 | 60 | 65149 | **3V018** | **10.90** | 25 | **9.81** | 0.3 |
| | 30000 | 80 | 65150 | **3V020** | **10.76** | 25 | **9.69** | 0.3 |
| | 30000 | 100 | 65151 | **3V022** | **10.56** | 25 | **9.50** | 0.3 |
| | 30000 | 120 | 65152 | **3V024** | **10.56** | 25 | **9.50** | 0.3 |
| | 30000 | 150 | 65153 | **3V026** | **10.56** | 25 | **9.50** | 0.3 |
| | 30000 | 180 | 65154 | **3V028** | **10.56** | 25 | **9.51** | 0.3 |
| | 30000 | 240 | 65156 | **3V030** | **10.56** | 25 | **9.50** | 0.3 |
| | 30000 | 320 | 65158 | **3V032** | **10.56** | 25 | **9.50** | 0.3 |
| | 20000 | 24 | 65160 | **3V034** | **17.92** | 25 | **16.12** | 0.6 |
| | 20000 | 36 | 65161 | **3V037** | **16.87** | 25 | **15.19** | 0.6 |
| | 20000 | 50 | 65163 | **3V039** | **15.89** | 25 | **14.31** | 0.6 |
| | 20000 | 60 | 65164 | **3V041** | **15.42** | 25 | **13.88** | 0.6 |
| **3** | 20000 | 80 | 65165 | **3V043** | **14.85** | 25 | **13.37** | 0.6 |
| | 20000 | 100 | 65166 | **3V045** | **14.52** | 25 | **13.06** | 0.6 |
| | 20000 | 120 | 65167 | **3V047** | **14.52** | 25 | **13.06** | 0.6 |
| | 20000 | 150 | 65168 | **3V049** | **14.52** | 25 | **13.06** | 0.6 |
| | 20000 | 180 | 65169 | **3V051** | **14.52** | 25 | **13.06** | 0.6 |
| | 20000 | 240 | 65171 | **3V053** | **14.52** | 25 | **13.06** | 0.6 |
| | 20000 | 320 | 65173 | **3V055** | **14.52** | 25 | **13.06** | 0.6 |

| Size (In.) | Max RPM | Grit | Merit Model | Stock No. | Each Pkg.* | Pkg. Qty. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **TYPE 2 POWER-LOCK TURN-ON DISC — ZIRC PLUS** | | | | | | | | |
| | 30000 | 36 | 67065 | **3V203** | **$14.69** | 25 | **$13.22** | 0.3 |
| | 30000 | 50 | 65583 | **3V207** | **14.16** | 25 | **12.73** | 0.3 |
| **2** | 30000 | 60 | 67068 | **3V211** | **13.12** | 25 | **11.80** | 0.3 |
| | 30000 | 80 | 67069 | **3V225** | **12.94** | 25 | **11.64** | 0.3 |
| | 30000 | 100 | 67070 | **3V232** | **12.69** | 25 | **11.42** | 0.3 |
| | 30000 | 120 | 67071 | **3V593** | **12.69** | 25 | **11.42** | 0.3 |
| | 20000 | 36 | 67072 | **3V702** | **20.30** | 25 | **18.27** | 0.6 |
| | 20000 | 50 | 67074 | **3W002** | **19.83** | 25 | **17.85** | 0.6 |
| | 20000 | 60 | 67075 | **3W004** | **18.54** | 25 | **16.67** | 0.6 |
| | 20000 | 80 | 67076 | **3W191** | **17.86** | 25 | **16.07** | 0.6 |
| **3** | 20000 | 100 | 67077 | **3W196** | **17.43** | 25 | **15.68** | 0.6 |

(*)Sold only in package quantities

### TYPE 2 POWER-LOCK HOLDERS

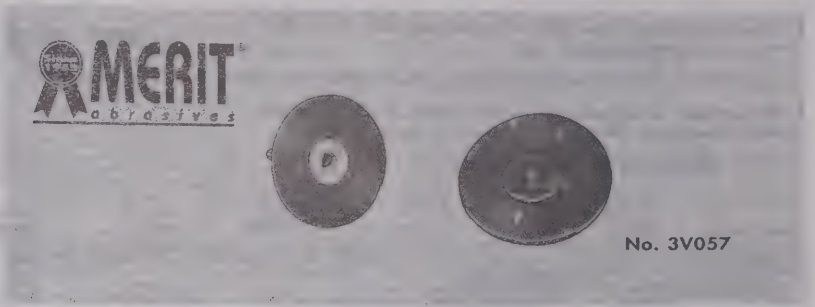
| Size (In.) | Stiffness | Max. RPM | Merit Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **2** | Medium | 30000 | 64198 | **3V103** | **$8.12** | **$7.30** | 0.5 |
| | Hard | 30000 | 64624 | **3V107** | **8.12** | **7.30** | 0.5 |
| **3** | Medium | 20000 | 64113 | **3V099** | **8.95** | **8.05** | 0.5 |
| | Hard | 20000 | 61626 | **3V079** | **8.95** | **8.05** | 0.5 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEWTHOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# TYPE 3 POWER-LOCK DISCS

- Features a roll-on/off style fastener equivalent to 3M's ROLOC™ fastening system




No. 3V057

## TYPE 3 POWER-LOCK ROLL-ON DISC — ALO RESIN BOND

| Size (In.) | Max. RPM | Grit | Merit Model | Stock No. | Each Pkg.* | Pkg. Qty. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 | 40000 | 36 | 66031 | 3V057 | $13.10 | 50 | $11.80 | 0.5 |
| | 40000 | 60 | 61105 | 3T741 | 12.10 | 50 | 10.89 | 0.5 |
| | 40000 | 80 | 66185 | 3V063 | 11.63 | 50 | 10.46 | 0.5 |
| | 40000 | 100 | 61364 | 3T753 | 11.62 | 50 | 10.46 | 0.5 |
| | 40000 | 120 | 61106 | 3T743 | 11.63 | 50 | 10.46 | 0.5 |
| 1½ | 30000 | 36 | 64048 | 3T763 | 14.57 | 50 | 13.12 | 0.5 |
| | 30000 | 50 | 64092 | 3T765 | 16.48 | 50 | 14.84 | 0.5 |
| | 30000 | 60 | 64902 | 3T769 | 15.55 | 50 | 13.99 | 0.5 |
| | 30000 | 80 | 61400 | 3T755 | 15.30 | 50 | 13.76 | 0.5 |
| | 30000 | 100 | 61288 | 3T751 | 13.71 | 50 | 12.34 | 0.5 |
| | 30000 | 120 | 64905 | 3T771 | 13.72 | 50 | 12.33 | 0.5 |
| | 30000 | 180 | 66251 | 3V073 | 13.71 | 50 | 12.34 | 0.5 |
| | 30000 | 240 | 61602 | 3T757 | 13.71 | 50 | 12.34 | 0.5 |
| 2 | 30000 | 24 | 64912 | 3T773 | 9.55 | 25 | 8.60 | 0.3 |
| | 30000 | 36 | 64913 | 3T775 | 12.21 | 25 | 10.99 | 0.3 |
| | 30000 | 50 | 64914 | 3T777 | 11.29 | 25 | 10.17 | 0.3 |
| | 30000 | 60 | 61155 | 3T745 | 10.90 | 25 | 9.81 | 0.3 |
| | 30000 | 80 | 64941 | 3T789 | 10.76 | 25 | 9.69 | 0.3 |
| | 30000 | 100 | 64917 | 3T781 | 10.56 | 25 | 9.50 | 0.3 |
| | 30000 | 120 | 61169 | 3T747 | 10.55 | 25 | 9.50 | 0.3 |
| | 30000 | 150 | 64786 | 3T767 | 10.56 | 25 | 9.50 | 0.3 |
| | 30000 | 180 | 64916 | 3T779 | 10.56 | 25 | 9.51 | 0.3 |
| | 30000 | 240 | 64919 | 3T783 | 10.56 | 25 | 9.50 | 0.3 |
| | 30000 | 320 | 66875 | 3V075 | 10.56 | 25 | 9.50 | 0.3 |
| 3 | 20000 | 24 | 61214 | 3T749 | 17.92 | 25 | 16.12 | 0.6 |
| | 20000 | 36 | 64938 | 3T785 | 16.87 | 25 | 15.19 | 0.6 |
| | 20000 | 50 | 64940 | 3T787 | 15.89 | 25 | 14.31 | 0.6 |
| | 20000 | 60 | 66183 | 3V059 | 15.42 | 25 | 13.88 | 0.6 |
| | 20000 | 80 | 66191 | 3V069 | 14.85 | 25 | 13.37 | 0.6 |
| | 20000 | 100 | 66189 | 3V067 | 14.52 | 25 | 13.06 | 0.6 |
| | 20000 | 120 | 66184 | 3V061 | 14.52 | 25 | 13.06 | 0.6 |
| | 20000 | 150 | 64340 | 3T759 | 14.52 | 25 | 13.06 | 0.6 |
| | 20000 | 180 | 66187 | 3V065 | 14.52 | 25 | 13.06 | 0.6 |
| | 20000 | 240 | 66225 | 3V071 | 14.52 | 25 | 13.06 | 0.6 |
| | 20000 | 320 | 63205 | 3T761 | 14.52 | 25 | 13.06 | 0.6 |

(*) Sold only in package quantities.

## TYPE 3 POWER-LOCK HOLDERS

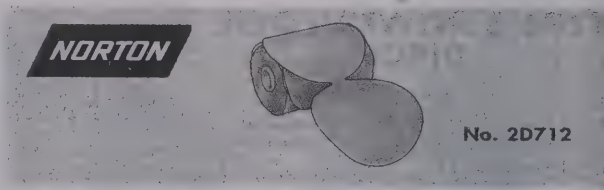
| Size (In.) | Stiffness | Max. RPM | Merit Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | Medium | 40000 | 64037 | 3V095 | $6.76 | $6.66 | 0.5 |
| 1½ | Medium | 30000 | 61174 | 3V077 | 7.39 | 6.66 | 0.5 |
| | Hard | 30000 | 64040 | 3V109 | 7.39 | 6.66 | 0.5 |
| 2 | Medium | 30000 | 64922 | 3V115 | 8.12 | 7.30 | 0.1 |
| | Hard | 30000 | 64043 | 3V111 | 8.12 | 7.30 | 0.5 |
| 3 | Medium | 20000 | 64949 | 3V117 | 8.95 | 8.05 | 0.5 |
| | Hard | 20000 | 64036 | 3V097 | 8.95 | 8.05 | 0.5 |

THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.

It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.

# STICK AND SAND PAPER DISC ROLLS

- Sandpaper discs (backed with pressure-sensitive adhesive) come in a poly-bagged roll
- Each disc is dispensed individually with no liner to remove
- Discs made of Openkote® resin bond A or C-wt. paper with Aluminum Oxide grain coating; resist loading
- 5/16"-24 Mount on back-up pads




| Disc Diameter | Grit | CAP Code | Description | Discs per Roll | Norton Model | Stock No. ❸ | Each | Price Each in Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **STICK AND SAND PAPER DISC ROLLS** | | | | | | | | | | |
| **5 Blank** | P60-C | A290 | No-Fil Adalox PSA | 100 | 662611-49831 | **2D712** | **$25.70** | **$23.19** | **2** | 2.0 |
| **5** | P80-C | A290 | No-Fil Adalox PSA | 100 | 662611-49830 | **2D711** | **23.37** | **21.10** | **2** | 3.0 |
| **5** | P80-A | A273 | No-Fil Adalox PSA | 100 | 662611-33010 | **4LL93** | **38.75** | **34.85** | **2** | 1.3 |
| **5** | P100-C | A290 | No-Fil Adalox PSA | 100 | 662611-49829 | **2D710** | **21.57** | **19.42** | **2** | 5.5 |
| **5** | 100-A | A273 | No-Fil Adalox PSA | 100 | 662611-33009 | **4LL92** | **28.70** | **25.74** | **2** | 1.1 |
| **5** | P120-C | A290 | No-Fil Adalox PSA | 100 | 662611-49828 | **2D709** | **21.57** | **19.48** | **2** | 2.0 |
| **5** | 120-A | A273 | No-Fil Adalox PSA | 100 | 662611-33008 | **4LL91** | **28.70** | **25.74** | **2** | 0.9 |
| **5** | 150-C | A290 | No-Fil Adalox PSA | 100 | 662611-49827 | **2D708** | **21.57** | **19.46** | **2** | 1.1 |
| **5** | 150-A | A273 | No-Fil Adalox PSA | 100 | 662611-33007 | **4LL90** | **28.70** | **25.74** | **2** | 0.8 |
| **5** | 180-A | A273 | No-Fil Adalox PSA | 100 | 662611-33006 | **4LL89** | **28.70** | **25.74** | **2** | 0.7 |
| **5** | 180-C | A290 | No-Fil Adalox PSA | 100 | 662611-49826 | **4LM09** | **23.26** | **20.93** | **2** | 0.8 |
| **5** | 220-A | A273 | No-Fil Adalox PSA | 100 | 662611-33005 | **4LL88** | **28.70** | **25.74** | **2** | 0.7 |
| **5** | 220-C | A290 | No-Fil Adalox PSA | 100 | 662611-49825 | **4LM08** | **23.26** | **20.93** | **2** | 0.7 |
| **5** | 240-C | A290 | No-Fil Adalox PSA | 100 | 662611-49824 | **4LM07** | **23.26** | **20.93** | **2** | 0.7 |
| **5** | 280-C | A290 | No-Fil Adalox PSA | 100 | 662611-49823 | **4LM06** | **22.64** | **20.37** | **2** | 0.6 |
| **5** | 320-A | A273 | No-Fil Adalox PSA | 100 | 662611-33002 | **4LL87** | **28.70** | **25.74** | **2** | 0.6 |
| **5** | 320-C | A290 | No-Fil Adalox PSA | 100 | 662611-49822 | **4LM05** | **23.26** | **20.93** | **2** | 0.6 |
| **5** | 400-A | A273 | No-Fil Adalox PSA | 100 | 662611-33000 | **4LL86** | **28.70** | **25.74** | **2** | 0.6 |
| **6 Blank** | P60-C | A290 | No-Fil Adalox PSA | 100 | 662611-49847 | **2D717** | **35.10** | **31.64** | **2** | 3.0 |
| **6** | P80-C | A290 | No-Fil Adalox PSA | 100 | 662611-49842 | **2D716** | **31.85** | **28.67** | **2** | 4.0 |
| **6** | P80-A | A273 | No-Fil Adalox PSA | 100 | 662611-33021 | **4LM04** | **42.15** | **37.89** | **2** | 1.7 |
| **6** | P100-C | A290 | No-Fil Adalox PSA | 100 | 662611-49841 | **2D715** | **29.40** | **26.47** | **2** | 5.0 |
| **6** | 100-A | A273 | No-Fil Adalox PSA | 100 | 662611-33020 | **4LM03** | **39.00** | **35.04** | **2** | 1.6 |
| **6** | P120-C | A290 | No-Fil Adalox PSA | 100 | 662611-49840 | **2D714** | **29.40** | **26.44** | **2** | 7.0 |
| **6** | 120-A | A273 | No-Fil Adalox PSA | 100 | 662611-33019 | **4LM02** | **39.00** | **35.04** | **2** | 1.3 |
| **6** | P150-C | A290 | No-Fil Adalox PSA | 100 | 662611-49839 | **2D713** | **29.40** | **26.47** | **2** | 1.5 |
| **6** | 150-A | A273 | No-Fil Adalox PSA | 100 | 662611-33018 | **4LM01** | **39.00** | **35.04** | **2** | 1.1 |
| **6** | 180-A | A273 | No-Fil Adalox PSA | 100 | 662611-33017 | **4LL99** | **39.00** | **35.04** | **2** | 1.0 |
| **6** | 180-C | A290 | No-Fil Adalox PSA | 100 | 662611-49838 | **4LM14** | **31.70** | **28.49** | **2** | 1.0 |
| **6** | 220-A | A273 | No-Fil Adalox PSA | 100 | 662611-33016 | **4LL98** | **39.00** | **35.04** | **2** | 0.9 |
| **6** | 220-C | A290 | No-Fil Adalox PSA | 100 | 662611-49837 | **4LM13** | **31.70** | **28.49** | **2** | 0.9 |
| **6** | 240-A | A273 | No-Fil Adalox PSA | 100 | 662611-33015 | **4LL97** | **39.00** | **35.04** | **2** | 0.9 |
| **6** | 240-A | A290 | No-Fil Adalox PSA | 100 | 662611-49836 | **4LM12** | **31.70** | **28.49** | **2** | 0.9 |
| **6** | 280-A | A273 | No-Fil Adalox PSA | 100 | 662611-33014 | **4LL96** | **39.00** | **35.04** | **2** | 0.8 |
| **6** | 280-A | A290 | No-Fil Adalox PSA | 100 | 662611-49835 | **4LM11** | **31.70** | **28.49** | **2** | 0.8 |
| **6** | 320-A | A273 | No-Fil Adalox PSA | 100 | 662611-33013 | **4LL95** | **39.00** | **35.04** | **2** | 0.8 |
| **6** | 320-A | A290 | No-Fil Adalox PSA | 100 | 662611-49834 | **4LM10** | **31.70** | **28.49** | **2** | 0.8 |
| **6** | 400-A | A273 | No-Fil Adalox PSA | 100 | 662611-33011 | **4LL94** | **39.00** | **35.04** | **2** | 0.7 |
| **BACK-UP PADS FOR STICK AND SAND DISCS** | | | | | | | | | | |
| **5 x 5/16" -24** | | | | | 636425-43850 | **6A023** | **18.78** | **16.95** | **2** | 0.4 |
| **6 x 5/16" -24** | | | | | 636425-43852 | **6A024** | **20.20** | **18.25** | **2** | 0.5 |

## DISC ROLL SELECTION GUIDE

| | 5" DISC ROLLS | | 6" DISC ROLLS | |
|---|---|---|---|---|
| **Cap Code ➡** | **A275** | **A290** | **A275** | **A290** |
| **Grit** | **Intermediate** | **Heavy Duty** | **Intermediate** | **Heavy Duty** |
| 60 | — | 2D712 | — | 2D717 |
| 80 | 4LL93 | 2D711 | 4LM04 | 2D716 |
| 100 | 4LL92 | 2D710 | 4LM03 | 2D715 |
| 120 | 4LL91 | 2D709 | 4LM02 | 2D714 |
| 150 | 4LL90 | 2D708 | 4LM01 | 2D713 |
| 180 | 4LL89 | — | 4LL99 | — |
| 220 | 4LL88 | — | 4LL98 | — |
| 240 | — | — | 4LL97 | — |
| 280 | — | — | 4LL96 | — |
| 320 | 4LL87 | — | 4LL95 | — |
| 400 | 4LL86 | — | 4LL94 | — |
| | 5" Back-Up Pad—6A023 for PSA Discs | | 6" Back-Up Pad—6A024 for PSA Discs | |

❸These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

**IF YOU'RE IN A BIND, CALL GRAINGER**

**If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you check the Branch Locations listed in the front of this catalog.**

# PLUMBER'S, HANDY, AND SHOP ROLLS



No. 4F880

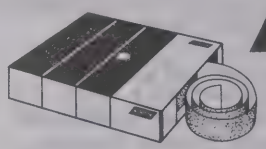
## PLUMBER'S ROLLS

- Open mesh construction removes scale, corrosion, and oxidation without clogging—sanding residue falls through the backing
- Silicon carbide abrasive grain is coated on both sides of an open-weave cloth backing
- Ideal for preparation of pipe joints

| Width (In.) | Length (Yds.) | Grit | Norton Model | Stock No. ❸ | Each | Price Each in Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 1/2 | 25 | 80 | 662611-07275 | 4F880 | $44.30 | $39.87 | 2 | 1.3 |
| 1 1/2 | 25 | 120 | 662611-07270 | 4F881 | 31.25 | 28.11 | 2 | 1.1 |
| 1 1/2 | 25 | 180 | 662611-07265 | 4F882 | 27.85 | 25.05 | 2 | 0.9 |

## HANDY ROLLS

- Metalite K224 Cloth Handy Rolls are the best choice for all-purpose dry sanding of metal surfaces
- Sharp Aluminum Oxide abrasive comes on flexible J-weight backings
- on grits 80 and finer for fine sanding and polishing
- Extra strength of X-weight backing on grits 50 and 60 is ideal for heavier duty coarse grit jobs

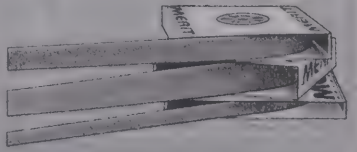


No. 2D727

| Width (In.) x Length (Yds.) | Grit | CAP Code | Description | Norton Model | Stock No. ❸ | Each | Price Each in Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1 x 50 | 50-X | K224 | E-Z Flex Metalite | 662611-09191 | 2D727 | $27.10 | $24.32 | 2 | 3.4 |
| | 60-X | | | 662611-09184 | 2D726 | 25.30 | 22.72 | 2 | 2.7 |
| | 80-J | | | 662611-09181 | 2D725 | 21.32 | 19.19 | 2 | 2.4 |
| | 100-J | | | 662611-09176 | 2D724 | 20.64 | 18.56 | 2 | 1.9 |
| | 120-J | | | 662611-09171 | 2D723 | 20.64 | 18.57 | 2 | 1.7 |
| | 150-J | | | 662611-09166 | 2D722 | 20.64 | 18.57 | 2 | 1.4 |
| | 180-J | | | 662611-09161 | 2D721 | 20.64 | 18.57 | 2 | 1.4 |
| | 240-J | | | 662611-09151 | 2D720 | 20.64 | 18.58 | 2 | 1.3 |
| | 320-J | | | 662611-09141 | 2D719 | 20.64 | 18.58 | 2 | 1.2 |
| | 400-J | | | 662611-09136 | 2D718 | 20.64 | 18.58 | 2 | 1.1 |
| 1 1/2 x 50 | 50-X | K224 | E-Z Flex Metalite | 662611-09266 | 2D738 | 37.95 | 34.03 | 2 | 4.7 |
| | 60-X | | | 662611-09261 | 2D737 | 35.50 | 31.81 | 2 | 4.2 |
| | 80-J | | | 662611-09256 | 2D736 | 29.95 | 26.87 | 2 | 3.3 |
| | 100-J | | | 662611-09251 | 2D735 | 29.00 | 25.99 | 2 | 2.6 |
| | 120-J | | | 662611-09246 | 2D734 | 29.00 | 26.00 | 2 | 2.3 |
| | 150-J | | | 662611-09239 | 2D733 | 29.05 | 26.01 | 2 | 2.0 |
| | 180-J | | | 662611-09236 | 2D732 | 29.05 | 26.01 | 2 | 2.0 |
| | 240-J | | | 662611-09226 | 2D731 | 29.05 | 26.01 | 2 | 1.7 |
| | 320-J | | | 662611-09216 | 2D730 | 29.05 | 26.01 | 2 | 1.6 |
| | 400-J | | | 662611-09211 | 2D729 | 29.05 | 26.01 | 2 | 1.5 |
| | 500-J | | | 662611-09206 | 2D728 | 29.05 | 26.01 | 2 | 1.5 |
| 2 x 50 | 50-X | K224 | E-Z Flex Metalite | 662611-09346 | 2D748 | 48.15 | 43.27 | 2 | 6.6 |
| | 60-X | | | 662611-09342 | 2D747 | 45.10 | 40.45 | 2 | 4.9 |
| | 80-J | | | 662611-09336 | 2D746 | 38.10 | 34.15 | 2 | 4.2 |
| | 100-J | | | 662611-09331 | 2D745 | 36.80 | 33.03 | 2 | 3.4 |
| | 120-J | | | 662611-09326 | 2D744 | 36.80 | 33.05 | 2 | 3.1 |
| | 150-J | | | 662611-09321 | 2D743 | 36.80 | 33.05 | 2 | 2.7 |
| | 180-J | | | 662611-09316 | 2D742 | 36.80 | 33.05 | 2 | 2.6 |
| | 220-J | | | 662611-09311 | 2D741 | 36.80 | 33.05 | 2 | 2.5 |
| | 240-J | | | 662611-09306 | 2D740 | 36.80 | 33.05 | 2 | 2.3 |
| | 320-J | | | 662611-09294 | 2D739 | 36.80 | 33.05 | 2 | 2.1 |
| 4 1/2 x 10 | 80-A | A273 | Adhesive-backed No-Fil Adalox Paper | 662611-06496 | 3UN31 | 29.35 | 26.38 | 2 | 1.1 |
| | 120-A | | | 662611-06494 | 3UN30 | 23.67 | 21.31 | 2 | 1.0 |
| | 150-A | | | 662611-06493 | 3UN29 | 23.67 | 21.31 | 2 | 0.7 |
| | 180-A | | | 662611-06492 | 3UN28 | 23.67 | 21.31 | 2 | 0.8 |
| | 220-A | | | 662611-06491 | 3UN27 | 23.67 | 21.31 | 2 | 0.7 |
| | 360-A | | | 662611-06487 | 3UN26 | 23.67 | 21.31 | 2 | 0.5 |

## MERIT SHOP ROLLS

- For contour sanding, stripping, deburring, rust removal, cut-down prior to polishing, and general maintenance work
- Pull and tear off desired length
- An essential tool in all types of industrial maintenance operations, machine shops, and welding shops



No. 4A203

| W (In.) | L (Yds.) | Grit Size | Merit Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | 50 | 80 | 91518 | 4A203 | $21.16 | $17.26 | 2.1 |
| 1 | 50 | 120 | 91519 | 4A204 | 19.96 | 16.29 | 2.0 |
| 1 | 50 | 180 | 91520 | 4A205 | 19.96 | 16.29 | 1.8 |
| 1 | 50 | 240 | 91521 | 4A206 | 19.96 | 16.29 | 1.8 |
| 1 | 50 | 320 | 91522 | 4A207 | 19.96 | 16.29 | 1.8 |
| 2 | 50 | 80 | 91523 | 4A208 | 40.67 | 33.25 | 4.1 |
| 2 | 50 | 120 | 91524 | 4A209 | 37.33 | 30.50 | 3.8 |
| 2 | 50 | 180 | 91525 | 4A210 | 37.33 | 30.50 | 3.3 |
| 2 | 50 | 240 | 91526 | 4A211 | 37.33 | 30.55 | 2.6 |
| 2 | 50 | 320 | 91527 | 4A212 | 37.33 | 30.55 | 2.6 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# COATED ABRASIVE SHEETS




### A ADALOX® PAPER

- Aggressive sheets for dry applications Aluminum Oxide/Openkote® Flexible D-, C-, and A-weight paper

### B A251 NO-FIL® ADALOX® PAPER SHEETS

- Conformable sheets dry applications
- Resists loading •Flexible A-weight paper/Openkote®

### C A275 NO-FIL ADALOX® SHEETS

- A275 Sheets fast-cutting action and tear resistance on dry applications where loading is a problem

### D GARNET PAPER

- For dry "finishing" applications, wood surfaces where loading is not a problem, and where conformability and consistently good finish are of prime concern

### E NO-FIL DURITE A413 PAPER SHEETS

- Open-coat silicon carbide for dry finishing of dense, hard surfaces where loading can be a problem

### F TUFBAK® DURITE® PAPER SHEETS

- Tear resistant/waterproof •Rough to intermediate finishing •Silicon Carbide/Closekote® •Flexible A-C weight paper

### G E-Z FLEX METALITE® CLOTH SHEETS

- Aggressive/general metal surfaces
- Aluminum Oxide/glue bond
- J-weight cloth •Heavier X-weight cloth for coarse grits

### H K622 EMERY CLOTH SHEETS

- Glue-bonded on flexible J-weight cloth
- For metal clean-up, light rust removal, hand polishing and lapping

### I K624 CROCUS CLOTH SHEETS

- K624 Crocus cloth is used for cleaning corroded surfaces of polished metals
- For superfine finishing and polishing

### J Q421 SCREEN-BAK® SHEETS

- Open mesh screen • Used wet or dry application • Resists loading

### A ADALOX A211, A212, AND A213 PAPER SHEETS

| Width x Length (In.) | Grit | CAP Code | Norton Model | Stock No. ❸ | Price Each in Pkg. Qty. | Pkg. Qty.* | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 9 x 11 | Assorted | | 076607-00365 | 4LL19 | $0.57 | 25 | 0.1 |
| 9 x 11 | 36-D | A211 | 662611-00335 | 6A036 | 0.92 | 25 | 0.1 |
| 9 x 11 | 40-D | A211 | 662611-00330 | 3UM89 | 0.84 | 25 | 0.1 |
| 9 x 11 | 50-D | A211 | 662611-00325 | 6A037 | 0.72 | 50 | 0.1 |
| 9 x 11 | 50-D | A211 | 076607-00360 | 4LL18 | 0.83 | 25 | 0.1 |
| 9 x 11 | 60-D | A211 | 662611-00320 | 3UM88 | 0.66 | 50 | 0.1 |
| 9 x 11 | 80-D | A211 | 662611-00315 | 6A038 | 0.55 | 50 | 0.1 |
| 9 x 11 | 80-D | A211 | 076607-00359 | 4LL17 | 0.64 | 25 | 0.1 |
| 9 x 11 | 100-C | A213 | 076607-00358 | 4LL16 | 0.57 | 25 | 0.1 |
| 9 x 11 | 100-C | A213 | 662611-00295 | 3UM87 | 0.49 | 100 | 0.1 |
| 9 x 11 | 120-C | A213 | 662611-00290 | 6A039 | 0.49 | 100 | 0.1 |
| 9 x 11 | 120-C | A213 | 076607-00357 | 4LL15 | 0.57 | 25 | 0.1 |
| 9 x 11 | 150-C | A213 | 076607-00356 | 4LL14 | 0.57 | 25 | 0.1 |
| 9 x 11 | 150-C | A213 | 662611-00285 | 3UM86 | 0.49 | 100 | 0.1 |
| 9 x 11 | 180-A | A212 | 662611-00245 | 6A040 | 0.31 | 100 | 0.1 |
| 9 x 11 | 180-A | A212 | 076607-00355 | 4LL13 | 0.36 | 25 | 0.1 |
| 9 x 11 | 220-A | A212 | 076607-00354 | 4LL12 | 0.36 | 25 | 0.1 |

### B C NO-FIL ADALOX A251 AND A275 PAPER SHEETS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 x 11 | 120-A | A251 | 662611-84105 | 4LM17 | 0.48 | 100 | 0.1 |
| 9 x 11 | 150-A | A251 | 662611-84108 | 4LM18 | 0.48 | 100 | 0.1 |
| 9 x 11 | 220-A | A251 | 662611-84103 | 4LM16 | 0.48 | 100 | 0.1 |
| 9 x 11 | 320-A | A251 | 662611-84100 | 4LM15 | 0.48 | 100 | 0.1 |
| 9 x 11 | 80-A | A275 | 662611-31634 | 4LL85 | 0.64 | 50 | 0.1 |
| 9 x 11 | 100-A | A275 | 662611-31633 | 4LL84 | 0.58 | 100 | 0.1 |
| 9 x 11 | 120-A | A275 | 662611-31632 | 4LL83 | 0.58 | 100 | 0.1 |
| 9 x 11 | 150-A | A275 | 662611-31631 | 4LL82 | 0.58 | 100 | 0.1 |
| 9 x 11 | 180-A | A275 | 662611-31630 | 4LL81 | 0.58 | 100 | 0.1 |
| 9 x 11 | 220-A | A275 | 662611-31629 | 4LL80 | 0.58 | 100 | 0.1 |
| 9 x 11 | 240-A | A275 | 662611-31628 | 4LL79 | 0.58 | 100 | 0.1 |
| 9 x 11 | 280-A | A275 | 662611-31627 | 4LL78 | 0.58 | 100 | 0.1 |
| 9 x 11 | 320-A | A275 | 662611-31626 | 4LL77 | 0.58 | 100 | 0.1 |
| 9 x 11 | 400-A | A275 | 662611-31624 | 4LL76 | 0.58 | 100 | 0.1 |
| 9 x 11 | P600-A | A275 | 662611-31622 | 4LL75 | 0.58 | 100 | 0.1 |

### D GARNET A511, A513, AND A514 PAPER SHEETS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 x 11 | 36-D | A514 | 662611-01575 | 6A041 | 0.91 | 25 | 0.1 |
| 9 x 11 | 50-D | A514 | 076607-01585 | 4LL37 | 0.82 | 25 | 0.1 |
| 9 x 11 | 50-D | A514 | 662611-01565 | 6A042 | 0.71 | 50 | 0.1 |
| 9 x 11 | 80-D | A514 | 076607-01584 | 4LL36 | 0.63 | 25 | 0.1 |
| 9 x 11 | 80-D | A514 | 662611-01555 | 6A043 | 0.54 | 50 | 0.1 |
| 9 x 11 | 100-C | A513 | 076607-01583 | 4LL35 | 0.57 | 25 | 0.1 |
| 9 x 11 | 120-C | A513 | 662611-01530 | 6A044 | 0.48 | 100 | 0.1 |
| 9 x 11 | 120-C | A513 | 076607-01582 | 4LL34 | 0.57 | 25 | 0.1 |
| 9 x 11 | 150-A | A511 | 076607-01581 | 4LL33 | 0.35 | 25 | 0.1 |
| 9 x 11 | 150-C | A513 | 662611-01525 | 3UN04 | 0.49 | 100 | 0.1 |
| 9 x 11 | 180-A | A511 | 662611-01489 | 6A045 | 0.31 | 100 | 0.1 |
| 9 x 11 | 180-A | A511 | 076607-01580 | 4LL32 | 0.35 | 25 | 0.1 |
| 9 x 11 | 220-A | A511 | 662611-01488 | 3UN03 | 0.31 | 100 | 0.1 |
| 9 x 11 | 220-A | A511 | 076607-01579 | 4LL31 | 0.35 | 25 | 0.1 |
| 9 x 11 | 240-A | A511 | 662611-01487 | 6A046 | 0.31 | 100 | 0.1 |

### E NO-FIL DURITE A413 PAPER SHEETS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 x 11 | 80-A | A413 | 662611-00801 | 3UM92 | 0.48 | 50 | 0.1 |
| 9 x 11 | 100-A | A413 | 662611-00800 | 3UM91 | 0.43 | 100 | 0.1 |
| 9 x 11 | 120-A | A413 | 662611-00799 | 3UM90 | $0.43 | 100 | 0.1 |
| 9 x 11 | 120-A | A413 | 076607-00815 | 4LL23 | 0.49 | 25 | 0.1 |
| 9 x 11 | 150-A | A413 | 662611-00802 | 3UM93 | 0.43 | 100 | 0.1 |
| 9 x 11 | 180-A | A413 | 662611-00803 | 3UM94 | 0.43 | 100 | 0.1 |
| 9 x 11 | 180-A | A413 | 076607-00814 | 4LL22 | 0.49 | 25 | 0.1 |
| 9 x 11 | 220-A | A413 | 662611-00804 | 3UM95 | 0.43 | 100 | 0.1 |
| 9 x 11 | 220-A | A413 | 076607-00813 | 4LL21 | 0.49 | 25 | 0.1 |
| 9 x 11 | 240-A | A413 | 662611-00805 | 3UM96 | 0.43 | 100 | 0.1 |
| 9 x 11 | 320-A | A413 | 076607-00812 | 4LL20 | 0.49 | 25 | 0.1 |
| 9 x 11 | 320-A | A413 | 662611-00807 | 3UM97 | 0.43 | 100 | 0.1 |

### F TUFBAK DURITE T421 AND T461 SHEETS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 x 11 | 80-C | T461 | 662611-01170 | 3UN01 | 0.95 | 50 | 0.1 |
| 9 x 11 | 100-C | T461 | 662611-01165 | 3UM99 | 0.82 | 50 | 0.1 |
| 9 x 11 | 120-C | T461 | 662611-01160 | 3UM98 | 0.72 | 50 | 0.1 |
| 9 x 11 | 150-C | T461 | 662611-01155 | 6A047 | 0.66 | 50 | 0.1 |
| 9 x 11 | 220-A | T421 | 076607-01226 | 4LL27 | 0.58 | 25 | 0.1 |
| 9 x 11 | 220-A | T421 | 662611-01220 | 6A048 | 0.49 | 50 | 0.1 |
| 9 x 11 | 320-A | T421 | 076607-01225 | 4LL26 | 0.58 | 25 | 0.1 |
| 9 x 11 | 320-A | T421 | 662611-01205 | 6A049 | 0.49 | 50 | 0.1 |
| 9 x 11 | 400-A | T421 | 076607-01224 | 4LL25 | 0.58 | 25 | 0.1 |
| 9 x 11 | 400-A | T421 | 662611-01195 | 6A050 | 0.49 | 50 | 0.1 |
| 9 x 11 | 500-A | T421 | 662611-01193 | 6A051 | 0.49 | 50 | 0.1 |
| 9 x 11 | 600-A | T421 | 076607-01223 | 4LL24 | 0.58 | 25 | 0.1 |
| 9 x 11 | 600-A | T421 | 662611-01192 | 2D793 | 0.49 | 50 | 0.1 |
| 9 x 11 | P1200-A | T421 | 662611-01230 | 2D794 | 0.69 | 50 | 0.1 |

### G METALITE K224 CLOTH SHEETS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 x 11 | 50-X | K224 | 662611-01862 | 2D801 | 1.27 | 25 | 0.2 |
| 9 x 11 | 60-X | K224 | 662611-01861 | 6A030 | 1.18 | 25 | 0.1 |
| 9 x 11 | 80-J | K224 | 662611-01838 | 3UN07 | 1.02 | 50 | 0.1 |
| 9 x 11 | 100-J | K224 | 662611-01837 | 6A031 | 0.92 | 50 | 0.1 |
| 9 x 11 | 120-J | K224 | 662611-01836 | 3UN06 | 0.96 | 50 | 0.1 |
| 9 x 11 | 150-J | K224 | 662611-01835 | 6A032 | 0.92 | 50 | 0.1 |
| 9 x 11 | 180-J | K224 | 662611-01834 | 3UN05 | 0.96 | 50 | 0.1 |
| 9 x 11 | 220-J | K224 | 662611-01833 | 6A033 | 0.92 | 50 | 0.1 |
| 9 x 11 | 240-J | K224 | 662611-01832 | 2D800 | 0.92 | 50 | 0.1 |
| 9 x 11 | 280-J | K224 | 662611-01831 | 2D799 | 0.92 | 50 | 0.1 |
| 9 x 11 | 320-J | K224 | 662611-01830 | 6A034 | 0.92 | 50 | 0.1 |
| 9 x 11 | 400-J | K224 | 662611-01829 | 2D798 | 0.92 | 50 | 0.1 |

### H EMERY K622 CLOTH SHEETS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 x 11 | X-Coarse | K622 | 662611-01255 | 3UN02 | 1.40 | 25 | 0.1 |
| 9 x 11 | Coarse | K622 | 076607-01272 | 4LL30 | 1.38 | 25 | 0.1 |
| 9 x 11 | Medium | K622 | 076607-01271 | 4LL29 | 1.26 | 25 | 0.1 |
| 9 x 11 | Fine | K622 | 076607-01270 | 4LL28 | 1.20 | 25 | 0.1 |
| 9 x 11 | Medium | K622 | 662611-01245 | 2D796 | 1.08 | 50 | 0.1 |
| 9 x 11 | Fine | K622 | 662611-01240 | 2D795 | 1.04 | 50 | 0.1 |

### I CROCUS K624 CLOTH SHEETS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 x 11 | — | K624 | 662611-00490 | 2D792 | 1.04 | 50 | 0.1 |

### J SCREEN-BAK DURITE Q421 SHEETS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 x 11 | 100 | Q421 | 662611-00955 | 6A056 | 2.14 | 25 | 0.1 |
| 9 x 11 | 150 | Q421 | 662611-00945 | 6A057 | 1.74 | 25 | 0.1 |
| 9 x 11 | 220 | Q421 | 662611-00935 | 6A058 | 1.64 | 25 | 0.1 |
| 9 x 11 | 320 | Q421 | 662611-00920 | 6A059 | 1.64 | 25 | 0.1 |

(*) Sold in package quantities only.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.



*Need abrasives? Choose a supplier with true grit. Choose Grainger.*

# LAPPING AND GRINDING COMPOUND SANDING ACCESSORIES

## CLOVER LAPPING AND GRINDING COMPOUND

**Clover Compound** is an abrasive paste perfectly suited for the cutting, smoothing and finishing of metal surfaces, and for the precision mating of metal parts.

This petroleum grease mix retains its texture and lubrication properties during extended lapping. Clover Compound contains hard, sharp silicon carbide crystals that break down in grinding and lapping operations to create more sharp edges for continued cutting. Sizes: 4 oz. and 1 lb. can.

FEL-PRO

New

No. 2C750



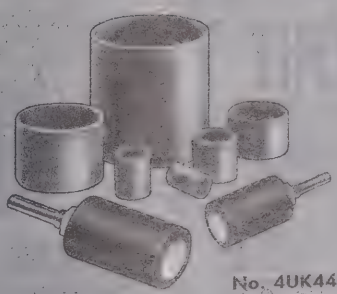
### GRADE AND GRIT SELECTOR GUIDE AND ORDERING DATA

| Grit | Grade | Application | Abrasive Particle Size 1/1000 Inches | Abrasive Particle Size Micorns (0.001mm) | Fel-Pro Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 7A | **Extremely Fine** | 0.12 | 3 | 7A51803 | *New* **4UX85** | $18.41 | **$17.53** | 6.0 |
| 1000 | 6A | High Polishing precision lapping | 0.20 | 5 | 6A51803 | *New* **4UX84** | 13.95 | **13.29** | 6.0 |
| 800 | 5A | | 0.38 | 9 | 5A1803 | *New* **4UX83** | 13.95 | **13.29** | 6.0 |
| 600 | 4A | **Very Fine** | 0.56 | 14 | 4A51803 | *New* **4UX82** | 13.95 | **13.29** | 6.0 |
| 500 | 3A | For fine polishing and lapping | 0.68 | 17 | 3A51803 | *New* **4UX81** | 8.63 | **8.22** | 6.0 |
| 400 | 2A | | 0.90 | 23 | 2A51803 | *New* **4UX80** | 8.63 | **8.22** | 6.0 |
| 280 | 1A | **Fine** | 1.28 | 33 | 1A51803 | *New* **4UX79** | 8.63 | **8.22** | 6.0 |
| 280 | A | For finishing, valve lapping, bearings, dies and gauges | 1.75 | 44 | A51804 | **2C750** | 16.72 | **15.55** | 1.3 |
| 280 | A | | 1.75 | 44 | A51803 | *New* **4UX86** | 7.05 | **6.71** | 6.0 |
| 240 | B | **Medium Fine** | 2.48 | 63 | B51804 | **2C754** | 16.72 | **15.55** | 1.3 |
| 220 | B | For cylinder lapping | 2.48 | 63 | B51803 | *New* **4UX87** | 7.05 | **6.71** | 6.0 |
| 220 | C | | 2.60 | 66 | C51804 | **2C759** | 16.72 | **15.55** | 1.3 |
| 220 | C | | 2.60 | 66 | C51803 | *New* **4UX88** | 7.05 | **6.71** | 6.0 |
| 180 | D | **Medium** General purpose for controlled metal removal | 3.40 | 86 | D51804 | **2C763** | 16.72 | **15.55** | 1.3 |
| 120 | F | **Coarse** | 5.60 | 142 | E51804 | **2C767** | 16.72 | **15.55** | 1.3 |
| 100 | F | For the inital "cut" fast removal of metal | 6.80 | 173 | F51804 | **2C771** | 16.72 | **15.55** | 1.3 |

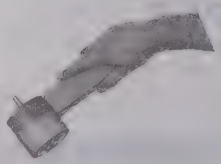
## SANDING ACCESSORIES

MERIT abrasives

New



No. 4UK44
18-Pc. Drum Sanding Kit



ADVANTAGE PLUS

No. 5W526

Abrasive Belt & Disc Cleaner

### ABRASIVE BELT AND DISC CLEANER

Solid natural rubber cleaner removes abraded materials of wood, plastic, copper, brass, and aluminum for portable and stationary sanding machines, abrasive belts and discs. Cleans belts, prevents burning, chatter marks, and machine vibrations. 1⅝ x 1⅝ x 1¾". Advantage Plus brand.

No. 5W526.③ Shpg. wt. 0.7 lbs. Each.....$7.68▲

### 18-PC. DRUM SANDING KIT

Spiral Bands are the correct choice when close tolerances are needed in curved, contoured, or hard-to-reach surfaces on plastic, wood, or metal. The spiral construction gives the benefit of smooth cutting action, thus avoiding unsightly shadow marks. Rubber expanding drum gives the abrasive a cushioned backing and enables the operator to quickly and easily replace the abrasive sleeves. Kit includes....six sizes of drums, ½ x ½", ¾ x 1", 1 x 1", 1½ x 1½", 2 x 1½ and 3 x 3", with one medium 80 grit and one fine 120 grit Aluminum Oxide abrasive sleeve to fit each drum size. Merit brand.

*New* No. 4UK44.③ Shpg. wt. 2.0 lbs. Each.....$35.90▲

③ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
▲) Net prices, not subject to discounts.

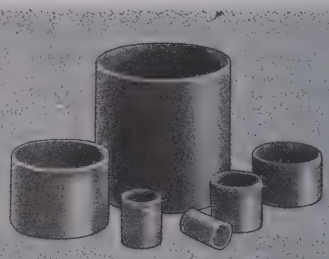
# SPIRAL WOUND BANDS AND ROLLS

## SPIRAL BANDS

- Spiral construction avoids shadow marks and provides smooth cutting action
- Achieve close tolerances when finishing curved or contoured areas and hard-to-reach areas
- Fast cutting removes toughest metal
- Sleeves are easily removed and replaced

MERIT® abrasives (Since 1945)

New



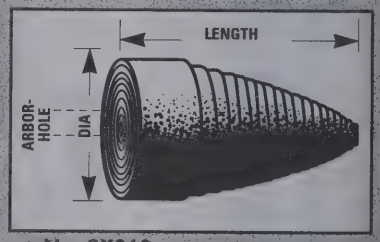
### SPIRAL WOUND BANDS

| Diameter x Width (In.) | Max RPM | Grit | Merit Model | | Stock No. | Each Pkg. | Pkg. Qty. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/2 x 1/2 | 30000 | 50 | 96228 | | 3X108 | $14.51 | 50 | $13.06 | 0.7 |
| | 30000 | 80 | 96179 | | 3X100 | 14.40 | 50 | 12.95 | 0.7 |
| | 30000 | 120 | 96069 | | 3X080 | 14.40 | 50 | 12.95 | 0.7 |
| 3/4 X 1 | 17000 | 50 | 96515 | | 3X112 | 16.11 | 50 | 14.50 | 0.7 |
| | 17000 | 80 | 96071 | | 3X082 | 15.50 | 50 | 13.95 | 0.7 |
| | 17000 | 120 | 96219 | | 3X106 | 15.50 | 50 | 13.95 | 0.7 |
| 1 X 1 | 18000 | 36 | 96072 | | 3X084 | 17.58 | 50 | 15.82 | 0.7 |
| | 18000 | 50 | 96184 | | 3X102 | 17.09 | 50 | 15.39 | 0.7 |
| | 18000 | 80 | 96074 | | 3X086 | 16.71 | 50 | 15.05 | 0.7 |
| | 18000 | 120 | 96177 | | 3X098 | 16.24 | 50 | 14.60 | 0.7 |
| 1½ X 1½ | 10000 | 36 | 96164 | | 3X092 | 23.83 | 50 | 21.46 | 0.7 |
| | 10000 | 60 | 96091 | | 3X090 | 22.73 | 50 | 20.46 | 0.7 |
| | 10000 | 80 | 96165 | | 3X094 | 22.37 | 50 | 20.13 | 0.7 |
| | 10000 | 120 | 96066 | | 3X078 | 22.13 | 50 | 19.90 | 0.7 |
| 2 X 1 | 11000 | 36 | 96233 | | 3X110 | 25.55 | 50 | 22.96 | 1.0 |
| | 11000 | 50 | 96186 | | 3X104 | 23.79 | 50 | 21.40 | 1.0 |
| | 11000 | 80 | 96166 | | 3X096 | 22.20 | 50 | 19.97 | 1.0 |
| | 11000 | 120 | 96595 | | 3X117 | 21.33 | 50 | 19.19 | 1.0 |
| 2 X 1½ | 8000 | 80 | 96259 | New! | 4UK49 | 30.80 | 50 | 27.71 | 0.5 |
| | 8000 | 120 | 96586 | New! | 4UK50 | 29.85 | 50 | 26.84 | 1.2 |
| 3 X 3 | 3000 | 36 | 96262 | New! | 4UK45 | 38.95 | 50 | 35.04 | 0.8 |
| | 3000 | 50 | 96253 | New! | 4UK46 | 36.40 | 50 | 32.75 | 0.5 |
| | 3000 | 80 | 96159 | New! | 4UK47 | 34.10 | 50 | 30.69 | 0.5 |
| | 3000 | 120 | 96572 | New! | 4UK48 | 33.25 | 50 | 29.90 | 0.5 |

## SPIRAL ROLLS

Especially useful for grinding-polishing of channels, fillets and radii and deburring small holes.

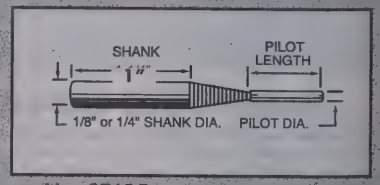
MERIT® abrasives (Since 1945)




No. 3X060

### SPIRAL ROLLS WITH PILOT ARBOR HOLES

| Diameter x Length x Pilot A.H. (In.) | Grit | Merit Model | Stock No. | Each Pkg. | Pkg. Qty. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8 x 1 x 1/8 AH | 60 | 81714 | 3X060 | $24.35 | 50 | $21.92 | 0.8 |
| | 80 | 81715 | 3X062 | 24.35 | 50 | 21.92 | 0.8 |
| | 120 | 81717 | 3X064 | 24.35 | 50 | 21.92 | 0.8 |
| 1/2 x 1 x 1/8 AH | 60 | 81734 | 3X066 | 24.59 | 50 | 22.14 | 0.8 |
| | 80 | 81735 | 3X068 | 24.59 | 50 | 22.14 | 0.8 |
| | 120 | 81737 | 3X070 | 24.59 | 50 | 22.14 | 0.8 |
| 1/2 x 1½ x 1/8 AH | 60 | 81744 | 3X072 | 27.95 | 50 | 25.12 | 0.8 |
| | 80 | 81745 | 3X074 | 27.95 | 50 | 25.12 | 0.8 |
| | 120 | 81747 | 3X076 | 27.95 | 50 | 25.12 | 0.8 |




No. 3T615

### CARTRIDGE & SPIRAL ROLL MANDREL

| Pilot Dia. x Length x Shank Dia. (In.) | Part Name | Merit Model | Stock No. | Each Pkg. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 x 1 x 1/4 | M9x2 | 80239 | 3T615 | $2.90 | $2.60 | 0.1 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

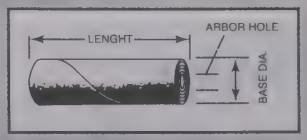
Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# CARTRIDGE ROLLS, TEST KITS, AND BODYFILES

## CARTRIDGE ROLLS

- Most effective for flash removal, polishing or removing machine tool marks, and edge breaking
- Reaches into corners where larger diameter tools cannot work

MERIT® abrasives




No. 3T586

### CARTRIDGE ROLLS WITH ARBOR HOLE

| Dia. x Width (In.) | Grit | Merit Model | Stock No. | Pkg. Each | Pkg. Qty. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8 x 1 x 1/8 AH | 60 | 80213 | 3T586 | $11.21 | 50 | $10.09 | 0.3 |
| | 80 | 80214 | 3T588 | 11.21 | 50 | 10.08 | 1.3 |
| | 120 | 80216 | 3T590 | 11.21 | 50 | 10.08 | 1.3 |
| 1/2 X 1½ X 1/8 AH | 60 | 80307 | 3T574 | 16.82 | 50 | 15.15 | 1.3 |
| | 80 | 80308 | 3T576 | 16.82 | 50 | 15.15 | 1.3 |
| | 120 | 80310 | 3T578 | 16.82 | 50 | 15.15 | 1.3 |
| 3/4 X 1½ X 1/8 AH | 60 | 80490 | 3T582 | 26.75 | 50 | 23.99 | 1.3 |
| | 80 | 80527 | 3T584 | 26.75 | 50 | 23.99 | 1.3 |
| | 120 | 80487 | 3T580 | 26.75 | 50 | 23.99 | 1.3 |

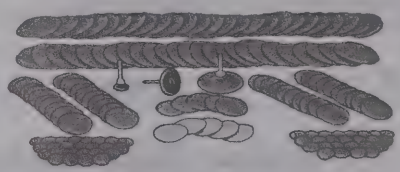
## TEST KITS

### POWER-LOCK TEST KIT "D"

- Type I Snap-on style
- Includes 150 discs, assorted grits in 1, 2, 3" diameters, and 3 holders
- Several Zirconia Alumina and Flex-Edge Discs A/O included
- Merit brand (65001)

No. 3T629. Shpg. wt. 3.0 lbs. Each $73.25; Lots 5 ..... $65.85

MERIT® abrasives

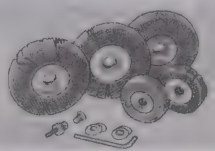


### GRIND-O-FLEX TEST KIT "E"

- Includes 5 wheels, 3½ to 6" diameters, in various grits
- Merit brand (26001)

No. 3T619. Shpg. wt. 3.5 lbs. Each $81.65; Lots 5 ..... $73.42

MERIT® abrasives

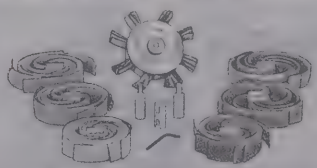


### SAND-O-FLEX TEST KIT "S"

- Includes Model 350-R metal body wheel, 8 assorted refills (scored and unscored), 5/8 to 1/2" arbor bushing, 1/4 and 3/3" chuck adapter
- Merit brand (14006)

No. 3T617. Shpg. wt. 3.5 lbs. Each $78.00; Lots 5 ..... $70.13

MERIT® abrasives



## NORTON BODYFILES FOR AUTOMOTIVE APPLICATIONS

- Aluminum oxide
- Open coat/resin bond
- 40 and 80 grit on heavy D-weight backing

### BODY FILE STRIP FOR AIR & HAND TOOLS

| Diameter (In.) | Grit | Norton Model | Stock No. ❸ | Each | Pkg. Qty. | Lots 100 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2¾ x 17½ | 40 | 662611-02075 | 6A028 | $0.50 | 100 | $0.43 | 0.1 |
| 2¾ x 17½ | 80 | 662611-02065 | 6A029 | 0.38 | 100 | 0.33 | 0.1 |

❸ These products are covered by OSHA Hazard Communications Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

### ORDERING HAS NEVER BEEN EASIER!

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

# WIRE BRUSHES

## CRIMPED WIRE BENCH GRINDER WHEELS




No. 3A194 Crimped Narrow Brush Face

No. 3A196 Crimped- Medium Brush face

Available in both carbon and stainless steel.

APPLICATIONS:

- Cleaning rust, scale, dirt, and paint
- Deburring
- Edge blending
- Roughening for adhesion
- Flash removal of rubber and plastic
- Finishing for appearance
- Finish preparation prior to painting or plating

| Dia. (In.) | Face Width (In.) | Wire Size (In.) | Arbor Hole (In.) | Max. RPM | Weiler Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **CRIMPED - NARROW BRUSH FACE** | | | | | | | | | |
| 4 | 1/2 | .008 | 1/2-3/8* | 6000 | 00114 | **3A194** | **$12.58** | **$11.33** | 0.3 |
| 4 | 1/2 | .0118 | 1/2-3/8* | 6000 | 00134 | **3H439** | **10.89** | **9.80** | 0.4 |
| 4 | 1/2 | .014 | 1/2-3/8* | 6000 | 00144 | **5X884** | **10.80** | **9.71** | 0.5 |
| 6 | 1/2 | .006 | 5/8-1/2* | 6000 | 01035 | **5X885** | **29.95** | **26.94** | 1.0 |
| 6 | 1/2 | .008 | 5/8-1/2* | 6000 | 01045 | **3H443** | **17.48** | **15.73** | 0.8 |
| 6 | 1/2 | .0118 | 5/8-1/2* | 6000 | 01065 | **3A195** | **13.67** | **12.30** | 1.0 |
| 6 | 1/2 | .014 | 5/8-1/2* | 6000 | 01075 | **5X886** | **12.95** | **11.66** | 1.0 |
| 8 | 1/2 | .014 | 5/8 | 6000 | 01175 | **5X887** | **18.06** | **16.27** | 1.4 |
| **CRIMPED - MEDIUM BRUSH FACE** | | | | | | | | | |
| 6 | 1 | .014 | 2 | 6000 | 06080 | **3A196** | **25.25** | **22.67** | 1.5 |
| 8 | 1 | .014 | 2 | 4000 | 06120 | **3A197** | **37.65** | **33.83** | 3.0 |
| **CRIMPED - WIDE BRUSH FACE** | | | | | | | | | |
| 6 | 1 1/8 | .014 | 2 | 6000 | 03070 | **5X888** | **36.45** | **32.72** | 2.0 |
| 8 | 1 3/8 | .014 | 2 | 4000 | 03150 | **5X889** | **54.70** | **49.15** | 4.1 |
| **CRIMPED - NARROW STAINLESS STEEL BRUSH FACE** | | | | | | | | | |
| 6 | 1/2 | .0118 | 5/8-1/2* | 6000 | 01705 | **4F720** | **30.20** | **27.18** | 1.0 |
| **LIGHT DUTY CRIMPED BRUSHES** | | | | | | | | | |
| 6 | 5/8 Med. | .014 | 5/8-1/2* | 6000 | 02325 | **4F721** | **15.03** | **13.53** | 1.0 |
| 7 | 3/4 Med. | .014 | 5/8 | 6000 | 02335 | **5Y001** | **18.47** | **16.63** | 1.3 |
| 6 | 7/8 Wide | .014 | 5/8-1/2* | 6000 | 06645 | **4F722** | **18.25** | **16.41** | 1.8 |
| 7 | 7/8 Wide | .014 | 5/8 | 6000 | 06655 | **5Y002** | **21.21** | **19.09** | 1.8 |

(*) Features plastic snap-out arbor hole adapter.

### CRIMPED - NARROW BRUSH FACE

- Produces flexible brushing action; conforms to uneven surfaces or irregular shapes

### CRIMPED - MEDIUM BRUSH FACE

- Greater fill density creates more aggressive brushing action

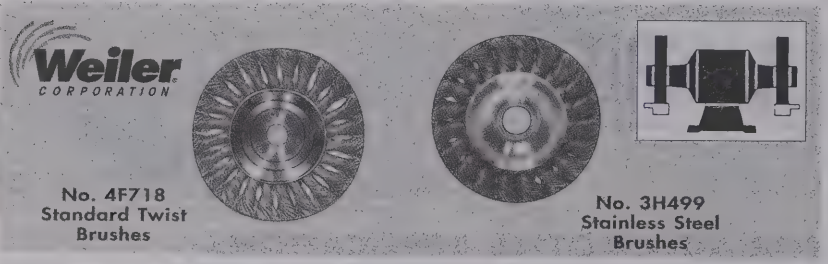
### CRIMPED - WIDE BRUSH FACE

- Heavy fill density creates minimal flexibility; fast aggressive cutting covers more surface area in a single pass

### STAINLESS STEEL BRUSHES

- Recommended for stainless steel, aluminum, non-ferrous alloyed metals

## KNOT WIRE BENCH GRINDER WHEELS




No. 4F718 Standard Twist Brushes

No. 3H499 Stainless Steel Brushes

### STANDARD TWIST BRUSHES

- Available in carbon and stainless steel

APPLICATIONS:

- Cleaning rust, scale, dirt, paint, weld spatter
- Heavy burr removal
- Roughening for adhesion
- Flash removal
- Finish preparation prior to painting or plating
- Weld cleaning

| Dia. (In.) | Face Width (In.) | Wire Size (In.) | Arbor Hole (In.) | Max. RPM | Weiler Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **STANDARD TWIST BRUSHES** | | | | | | | | | |
| 3 | 3/8 | .014 | 1/2-3/8* | 25000 | 08014 | **3A198** | **$13.00** | **$11.71** | 0.3 |
| 3 | 3/8 | .020 | 1/2-3/8* | 25000 | 08024 | **3H495** | **12.39** | **11.15** | 0.3 |
| 4 | 1/2 | .014 | 1/2-3/8* | 20000 | 08044 | **3A199** | **14.36** | **12.92** | 0.3 |
| 6 | 1/2 | .014 | 1/2-5/8* | 9000 | 08085 | **4F718** | **22.34** | **20.09** | 1.2 |
| **STAINLESS STEEL BRUSHES** | | | | | | | | | |
| 3 | 3/8 | .014 | 1/2-3/8* | 25000 | 08264 | **4F723** | **23.20** | **20.87** | 0.3 |
| 4 | 1/2 | .0118 | 1/2-3/8* | 20000 | 08284 | **3H499** | **27.10** | **24.32** | 0.4 |
| 4 | 1/2 | .014 | 1/2-3/8* | 20000 | 08294 | **4F724** | **26.95** | **24.21** | 0.4 |
| 6 | 1/2 | .016 | 1/2-5/8* | 9000 | 08345 | **4F719** | **48.05** | **43.18** | 1.8 |

(*) Features plastic snap-out arbor hole adapter.

### STAINLESS STEEL BRUSHES

- Recommended for stainless steel, aluminum, non-ferrous alloyed metals



Need abrasives? Choose a supplier with true grit. Choose Grainger.

# 7 AND 9" SANDER/GRINDER WIRE BRUSHES 2" ARBOR HOLE METAL ADAPTERS

## 7 AND 9" SANDER/GRINDER WIRE BRUSHES

Weiler CORPORATION



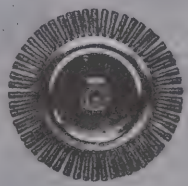
**APPLICATIONS:**
- Deburring
- Roughening
- Cleaning prior to welding
- Rust and paint removal
- Weld scale, spatter and corrosion removal
- Metal surface preparation for painting



A



B



C

### A CRIMPED WIRE CUP BRUSHES

**For medium and light duty brushing**

### B KNOT WIRE CUP BRUSHES

**For aggressive brushing action**

### C STRINGER BEAD KNOT WIRE WHEEL BRUSHES

- Tightly twisted wire to the end of the knot, creating a very narrow face
- Primarily used for weld cleaning

### C STAINLESS STEEL STRINGER BEAD KNOT WIRE WHEEL BRUSHES

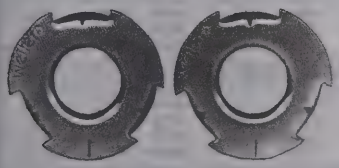
- Recommended for stainless, aluminum and non-ferrous alloyed metals

| Key | Dia. (In.) | Trim Length (In.) | Wire Size | Arbor Hole (In.) | Max. RPM | Weiler Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CRIMPED WIRE CUP BRUSHES** | | | | | | | | | | |
| A | 4 | 1 3/8 | .014 | 5/8-11UNC | 9000 | 14026 | 4F715 | $19.71 | $17.72 | 1.8 |
| | 4 | 1 3/8 | .020 | 5/8-11UNC | 9000 | 14036 | 5X893 | 18.81 | 16.93 | 1.6 |
| | 5 | 1 1/4 | .020 | 5/8-11UNC | 8000 | 14216 | 4F716 | 24.39 | 21.95 | 1.9 |
| | 6 | 1 1/4 | .014 | 5/8-11UNC | 6600 | 14066 | 4F717** | 33.65 | 30.18 | 2.6 |
| | 6 | 1 1/4 | .020 | 5/8-11UNC | 6600 | 14076 | 5X894** | 30.55 | 27.46 | 2.6 |
| **KNOT WIRE CUP BRUSHES** | | | | | | | | | | |
| B | 4 | 1 1/4 | .014 | 5/8-11UNC | 9000 | 12306 | 4F713 | 24.85 | 22.38 | 1.7 |
| | 4 | 1 1/4 | .023 | 5/8-11UNC | 9000 | 12316 | 5X891 | 22.30 | 20.06 | 1.7 |
| | 5 | 1 3/8 | .023 | 5/8-11UNC | 7000 | 12276 | 4F714** | 35.30 | 31.73 | 2.0 |
| | 6 | 1 3/8 | .014 | 5/8-11UNC | 6600 | 12356 | 3H593 | 48.05 | 43.21 | 2.5 |
| | 6 | 1 3/8 | .023 | 5/8-11UNC | 6600 | 12376 | 5X892 | 45.25 | 40.69 | 2.8 |
| **STRINGER BEAD KNOT WIRE WHEEL BRUSHES** | | | | | | | | | | |
| C | 4 3/4 | 7/8 | .020 | 5/8-11UNC | 12500 | 08756 | 3H523 | 12.45 | 11.21 | 1.6 |
| | 6 | 1 3/8 | .023 | 5/8-1/2* | 9000 | 08775 | 5X890* | 16.91 | 15.22 | 1.2 |
| | 6 | 1 3/8 | .023 | 5/8-11UNC | 9000 | 08776 | 3A200 | 16.88 | 15.20 | 1.4 |
| | 6 | 1 1/4 | .023 | 5/8-11UNC | 9000 | 08916 | 3H503 | 19.64 | 17.67 | 1.5 |
| | 6 | 1 1/8 | .020 | 5/8-11UNC | 9000 | 09400 | 3H505 | 18.88 | 16.99 | 1.2 |
| | 6 7/8 | 1 1/8 | .020 | 5/8-11UNC | 9000 | 09000 | 3A201 | 19.39 | 17.45 | 1.8 |
| **STAINLESS STEEL STRINGER BEAD KNOT WIRE WHEEL BRUSHES** | | | | | | | | | | |
| C | 6 7/8 | 1 1/8 | .020 | 5/8-11UNC | 9000 | 09200 | 3H525 | 33.15 | 29.74 | 1.6 |

) Features plastic snap-out arbor hole adapter. (**) Equipped w/an internal nut

Weiler CORPORATION

New



No. 3H575

## 2" ARBOR HOLE METAL ADAPTERS

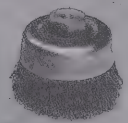
- Metal adapters are used in pairs and priced per pair
- Used with medium and wide-faced products that have a standard brush arbor hole size of 2"

| Brush Arbor (In.) | Arbor Hole (In.) | Description | Weiler Model | New! Stock No. | Each Pair | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2 | to 1/2 | 1/2 Adapter | 03809 | 3H567 | $0.95 | $0.86 | 0.2 |
| 2 | to 5/8 | 5/8 Adapter | 03810 | 3H569 | 0.95 | 0.86 | 0.2 |
| 2 | to 3/4 | 3/4 Adapter | 03811 | 3H571 | 0.95 | 0.86 | 0.2 |
| 2 | to 7/8 | 7/8 Adapter | 03824 | 3H573 | 0.95 | 0.86 | 0.2 |
| 2 | to 1 | 1 Adapter | 03812 | 3H575 | 0.95 | 0.86 | 0.2 |
| 2 | to 1 1/4 | 1 1/4 Adapter | 03813 | 3H577 | 0.95 | 0.86 | 0.2 |
| 2 | to 1 1/2 | 1 1/2 Adapter | 03814 | 3H579 | 0.96 | 0.86 | 0.2 |

# WIRE BRUSHES

## SMALL ANGLE GRINDER WIRE BRUSHES

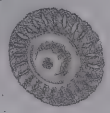




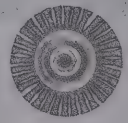
No. 3AC10
Crimped Cup Brush



No. 3AC06
Knot Cup Brush



No. 3AC14
Standard Twist Brush



No. 3AC18
Stringer Bead Wheel

**APPLICATIONS:**
- Deburring
- Roughening
- Cleaning prior to welding
- Rust and paint removal
- Weld scale, spatter and corrosion removal
- Metal surface preparation for painting

**CRIMPED WIRE CUP BRUSHES**
- Greater brushing flexibility for flat surfaces and relatively fine finish

**KNOT WIRE CUP BRUSHES**
- For tight operations, corners and angle welds, curved surfaces, pipe bevel cleaning

**STANDARD TWIST WIRE WHEELS BRUSHES**
- For broader cleaning coverage, deburring, edge blending, and finishing

**STRINGER BEAD TWIST WIRE WHEEL BRUSHES**
- Narrow brush face for stringer weld, piping, pipe grooves, and other hard-to-reach areas

**STAINLESS STEEL STRINGER BEAD TWIST WHEEL BRUSHES**
- Recommended for stainless steel, aluminum, and non-ferrous alloyed metals

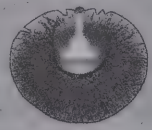
| Dia. (In.) | Trim (In.) | Wire Size | Arbor Hole | Max. RPM | Weiler Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **CRIMPED WIRE CUP BRUSHES** | | | | | | | | | |
| 3 | 7/8 | .014 | M-10 x 1.25 | 14000 | 13240 | 3AC10 | $15.07 | $13.56 | 0.6 |
| 3 | 7/8 | .014 | M-10 x 1.50 | 14000 | 13241 | 3AC11 | 15.07 | 13.56 | 0.6 |
| 3 | 7/8 | .014 | 1/2-13 UNC | 14000 | 13244 | 3AC12 | 15.07 | 13.56 | 0.6 |
| 3 | 7/8 | .014 | 5/8 -11 UNC | 14000 | 13245 | 3AC13 | 15.07 | 13.56 | 0.6 |
| **KNOT WIRE CUP BRUSHES** | | | | | | | | | |
| 2¾ | 7/8 | .020 | M-10 x 1.25 | 14000 | 13281 | 3AC06 | 13.00 | 11.70 | 0.6 |
| 2¾ | 7/8 | .020 | M-10 x 1.50 | 14000 | 13282 | 3AC07 | 13.00 | 11.70 | 0.6 |
| 2¾ | 7/8 | .020 | 1/2-13 UNC | 14000 | 13285 | 3AC08 | 16.16 | 14.54 | 0.6 |
| 2¾ | 7/8 | .020 | 5/8-11 UNC | 14000 | 13286 | 3AC09 | 13.63 | 12.27 | 0.6 |
| **STANDARD TWIST WIRE WHEEL BRUSHES** | | | | | | | | | |
| 4 | 7/8 | .020 | M-10 x 1.25 | 20000 | 13114 | 3AC14 | 14.27 | 12.84 | 0.6 |
| 4 | 7/8 | .020 | M-10 x 1.50 | 20000 | 13115 | 3AC15 | 14.27 | 12.84 | 0.6 |
| 4 | 7/8 | .020 | 1/2-13 UNC | 20000 | 13119 | 3AC16 | 14.27 | 12.84 | 0.6 |
| 4 | 7/8 | .020 | 5/8-11 UNC | 20000 | 13120 | 3AC17 | 14.27 | 12.84 | 0.6 |
| **STRINGER BEAD TWIST WHEEL BRUSHES** | | | | | | | | | |
| 4 | 7/8 | .020 | M-10 x 1.25 | 20000 | 13125 | 3AC18 | 12.54 | 11.29 | 0.6 |
| 4 | 7/8 | .020 | M-10 x 1.50 | 20000 | 13126 | 3AC19 | 12.54 | 11.29 | 0.6 |
| 4 | 7/8 | .020 | 1/2-13 UNC | 20000 | 13130 | 3AC20 | 12.54 | 11.29 | 0.6 |
| 4 | 7/8 | .020 | 5/8-11 UNC | 20000 | 13131 | 3AC21 | 12.54 | 11.29 | 0.5 |
| **STAINLESS STEEL STRINGER BEAD TWIST WHEEL BRUSHES** | | | | | | | | | |
| 4 | 7/8 | .020 | M-10x1.25 | 20000 | 13132 | 3H607 | 21.10 | 18.99 | 0.5 |
| 4 | 7/8 | .020 | 5/8-11 UNC | 20000 | 13138 | 3H609 | 21.10 | 18.99 | 0.5 |

## 1/4" STEM-MOUNTED END BRUSHES





No. 5X895
Crimped Wire
End Brush



No. 3H689
Circular Flared
End Brush



No. 3A202
Knot Wire
End Brush

**END BRUSH APPLICATIONS**

Carbon cleaning, I.D. pipe cleaning, die, mold and tool cleanin and polishing, rust and paint removal. Cleaning and finishing c recessed areas. Crimped and knot wire construction.

**CRIMPED WIRE END BRUSHES**
- For light duty brushing applications

**CIRCULAR FLARED END BRUSHES**
- Flare design accommodates the natural working angle for consistent finishing
- Allows easy access to a broad range of surface angles and contours

**KNOT WIRE END BRUSHES**
- For aggressive brushing applications

**STAINLESS STEEL**
- Recommended for stainless steel, aluminum, and non-ferrous alloyed metals

| Dia. (In.) | Trim Length (In.) | Wire Size | Shank (In.) | Max. RPM | Weiler Model | Stock No. | Each | Lots 5 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **CRIMPED WIRE END BRUSHES** | | | | | | | | | |
| 1/2 | 7/8 | .006 | 1/4 | 25000 | 10001 | 3H611 | $4.96 | $4.47 | 0.1 |
| 1/2 | 7/8 | .0104 | 1/4 | 25000 | 10002 | 3H613 | 4.29 | 3.85 | 0.1 |
| 1/2 | 7/8 | .014 | 1/4 | 25000 | 10003 | 3H615 | 4.29 | 3.85 | 0.1 |
| 3/4 | 7/8 | .006 | 1/4 | 22000 | 10005 | 4F703 | 7.77 | 7.00 | 0.2 |
| 3/4 | 7/8 | .0104 | 1/4 | 22000 | 10006 | 4F704 | 5.68 | 5.12 | 0.2 |
| 3/4 | 7/8 | .020 | 1/4 | 22000 | 10008 | 5X895 | 5.19 | 4.67 | 0.2 |
| 1 | 7/8 | .006 | 1/4 | 22000 | 10009 | 3H627 | 10.27 | 9.23 | 0.2 |
| 1 | 7/8 | .0104 | 1/4 | 22000 | 10010 | 4F705 | 6.66 | 6.00 | 0.2 |
| 1 | 7/8 | .014 | 1/4 | 22000 | 10011 | 3H629 | 6.54 | 5.89 | 0.2 |
| 1 | 7/8 | .020 | 1/4 | 22000 | 10012 | 5X896 | 6.30 | 5.67 | 0.3 |
| **STAINLESS STEEL CRIMPED WIRE END BRUSHES** | | | | | | | | | |
| 1/2 | 7/8 | .006 | 1/4 | 25000 | 10013 | 3H617 | 6.67 | 6.00 | 0.1 |
| 1/2 | 7/8 | .0104 | 1/4 | 25000 | 10014 | 3H619 | 5.76 | 5.18 | 0.1 |
| 1/2 | 7/8 | .014 | 1/4 | 25000 | 10015 | 3H621 | 5.69 | 5.13 | 0.1 |
| 1/2 | 7/8 | .020 | 1/4 | 25000 | 10016 | 3H623 | 5.64 | 5.07 | 0.1 |
| 3/4 | 7/8 | .006 | 1/4 | 22000 | 10017 | 3H625 | 8.39 | 7.55 | 0.1 |
| 3/4 | 7/8 | .0104 | 1/4 | 22000 | 10018 | 4F706 | 7.67 | 6.90 | 0.2 |
| 1 | 7/8 | .0104 | 1/4 | 22000 | 10022 | 4F707 | 11.24 | 10.12 | 0.2 |
| **CIRCULAR FLARED END BRUSHES** | | | | | | | | | |
| 1½ | — | .020 | 1/4 | 20000 | 10038 | 3H687 | 6.77 | 6.09 | 0.1 |
| 3 | — | .008 | 1/4 | 16000 | 10041 | 3H689 | 12.29 | 11.06 | 0.4 |
| 3 | — | .020 | 1/4 | 16000 | 10073 | 3H691 | 10.29 | 9.25 | 0.3 |
| **KNOT WIRE END BRUSHES** | | | | | | | | | |
| 3/4 | 7/8 | .014 | 1/4 | 22000 | 10025 | 4F708 | 10.11 | 9.08 | 0.2 |
| 3/4 | 7/8 | .020 | 1/4 | 22000 | 10026 | 4F709 | 10.03 | 9.02 | 0.2 |
| 1⅛ | 7/8 | .014 | 1/4 | 22000 | 10027 | 4F710 | 10.48 | 9.42 | 0.3 |
| 1⅛ | 7/8 | .020 | 1/4 | 22000 | 10028 | 3A202 | 10.33 | 9.29 | 0.2 |
| **STAINLESS STEEL KNOT WIRE END BRUSHES** | | | | | | | | | |
| 3/4 | 7/8 | .014 | 1/4 | 22000 | 10029 | 4F711 | 15.87 | 14.29 | 0.2 |
| 1⅛ | 7/8 | .014 | 1/4 | 22000 | 10031 | 4F712 | 19.80 | 17.82 | 0.3 |



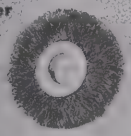
Need abrasives? Choose a supplier with true grit. Choose Grainger.

# WIRE BRUSHES

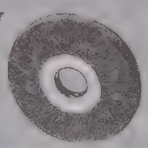
## SMALL DIAMETER WIRE BRUSHES




Copper Center Wire Wheel Brushes



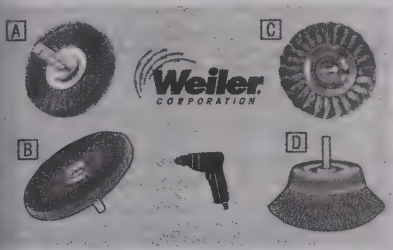
Polyflex® Copper Center Wire Wheel Brushes



**APPLICATIONS:**

- Burr removal in slots and narrow confined areas
- Rust removal
- Surface refinement and juncture blending
- Weld scale removal
- Flash removal of rubber or plastic

| Description | Dia. (In.) | Face Width (In.) | Wire Size | Arbor Hole (In.) | Max. RPM | Weiler Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Copper Center Wire Wheel Brushes** | 2 | 3/8 | .014 | 1/2-3/8 | 20000 | 15473 | **3A192** | **$3.72** | **$3.35** | 0.1 |
| | 3 | 1/2 | .014 | 1/2-3/8 | 20000 | 15573 | **3A193** | **4.48** | **4.03** | 0.1 |
| **Polyflex® Encapsulated Copper Center Wheel Brushes** | 2 | 1/4 | .014 | 1/2 | 20000 | 35070 | **3A190** | **10.57** | **9.53** | 0.1 |
| | 3 | 1/4 | .014 | 1/2 | 20000 | 35260 | **3A191** | **12.33** | **11.10** | 0.2 |




## 1/4" STEM-MOUNTED CUP AND WHEEL BRUSHES

**APPLICATIONS:**

Carbon cleaning. I.D. pipe cleaning. Die, mold and tool cleaning and polishing. Rust and paint removal. Cleaning and finishing of recessed areas.

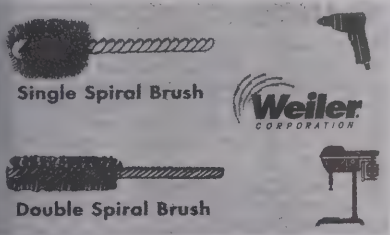
### STAINLESS STEEL

- Recommended for stainless steel, aluminum, and non-ferrous alloyed metals

### POLYFLEX® ENCAPSULATED BRUSHES

- Encapsulation material wears away during use, constantly exposing new wire tips
- Perpetual short trim minimizes long wire breakage

| Key | Description | Dia. (In.) | Face Width (In.) | Wire Size | Shank (In.) | Max. RPM | Weiler Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Crimped Wire Wheel Brushes | 2 | 3/8 | .006 | 1/4 | 20000 | 17609 | **3A204** | **$7.24** | **$5.51** | 0.2 |
| | | 2 | 3/8 | .0118 | 1/4 | 20000 | 17610 | **3A205** | **6.53** | **4.92** | 0.2 |
| | | 3 | 3/8 | .008 | 1/4 | 20000 | 17615 | **5X897** | **8.60** | **6.42** | 0.2 |
| | | 3 | 3/8 | .0118 | 1/4 | 20000 | 17616 | **5X898** | **7.59** | **5.69** | 0.2 |
| **A** | Stainless Steel Crimped Wire Wheel Brushes | 2 | 3/8 | .0118 | 1/4 | 20000 | 17611 | **3H697** | **12.55** | **11.31** | 0.1 |
| | | 3 | 3/8 | .014 | 1/4 | 20000 | 17618 | **3H699** | **17.67** | **15.91** | 0.2 |
| **B** | Polyflex® Encapsulated Wire Wheel Brushes | 2 | 1/4 | .0118 | 1/4 | 20000 | 35305 | **3H701** | **12.83** | **11.55** | 0.1 |
| | | 3 | 1/4 | .0118 | 1/4 | 20000 | 35315 | **3A206** | **16.49** | **14.84** | 0.3 |
| **C** | Knot Wire Wheel Brushes | 3 | 3/8 | .014 | 1/4 | 25000 | 17681 | **3A207** | **14.97** | **13.46** | 0.3 |
| | | 4 | 1/2 | .014 | 1/4 | 20000 | 17687 | **3A208** | **16.44** | **14.80** | 0.5 |
| **D** | Utility Crimped Wire Cup Brushes | 1¾ | — | .0118 | 1/4 | 13000 | 14301 | **3A203** | **6.23** | **5.61** | 0.2 |




## POWER TUBE BRUSHES

**APPLICATIONS:**

- Fine wire single spiral brushes for light cleaning and deburring
- Fine wire double spiral brushes for general purpose cleaning/deburring
- Medium wire double spiral brushes for more demanding applications
- Package quantity 10
- For deburring, honing, thread chasing, and cleaning blind and threaded holes
- Typically used on low RPM drill presses and portable drills, but can also be installed on multi-head CNC machine tools
- Pipe fitting, cleaning holes, refurbishing welding equipment and power painting equipment, general MRO cleaning applications

| Descriptiion | Dia. (In.) | Wire Size | Stem Dia. (In.) | Brush Length (In.) | OAL (In.) | Weiler Model | Stock No. | Pkg. Each | Pkg. Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Single Spiral Brushes—Fine** | 1/4 | .004 | 1/8 | 1 | 3½ | 21072 | **4F725** | **$33.30** | **$29.87** | 0.1 |
| | 3/8 | .004 | 1/8 | 1 | 3½ | 21073 | **4F726** | **34.25** | **30.73** | 0.1 |
| | 1/2 | .005 | 3/16 | 1 | 3½ | 21074 | **4F727** | **31.50** | **28.24** | 0.1 |
| | 5/8 | .005 | 3/16 | 1 | 3½ | 21075 | **4F728** | **32.40** | **29.10** | 0.2 |
| | 3/4 | .006 | 7/32 | 1 | 3½ | 21076 | **4F729** | **37.20** | **33.43** | 0.5 |
| | 7/8 | .006 | 7/32 | 1 | 3½ | 21077 | **4F730** | **38.35** | **34.45** | 0.4 |
| | 1 | .008 | 1/4 | 1 | 3½ | 21078 | **4F731** | **42.40** | **38.05** | 0.6 |
| **Double Spiral Brushes—Fine** | 1/2 | .006 | 5/32 | 2 | 6 | 21107 | **4F732** | **80.15** | **72.08** | 0.2 |
| | 5/8 | .005 | 7/32 | 2 | 6 | 21108 | **4F733** | **87.65** | **78.80** | 0.5 |
| | 3/4 | .006 | 1/4 | 2½ | 6½ | 21110 | **4F734** | **86.60** | **77.82** | 0.7 |
| | 7/8 | .006 | 1/4 | 2½ | 6½ | 21112 | **4F735** | **92.35** | **83.03** | 0.7 |
| | 1 | .006 | 1/4 | 2½ | 6½ | 21114 | **4F736** | **93.45** | **83.99** | 0.8 |
| **Double Spiral Brushes—Medium** | 3/4 | .0104 | 1/4 | 2½ | 6½ | 21111 | **4F737** | **82.90** | **74.57** | 0.7 |
| | 7/8 | .0104 | 1/4 | 2½ | 6½ | 21113 | **4F738** | **85.10** | **76.56** | 0.8 |
| | 1 | .0104 | 1/4 | 2½ | 6½ | 21115 | **4F739** | **84.25** | **75.70** | 0.9 |

# TERMINOLOGY AND TECHNICAL DATA

**Tungsten Carbide Grade:** This group consists of uncoated, chemical vapor deposition (CVD) coated and physical vapor deposition (PVD) coated materials. Each coated grade consists of various substrates of unalloyed (straight WC/Co), and alloyed (WC/TaC/TiC/NbC/Co) compositions.

## TURNING GRADES FOR CUTTING MATERIAL

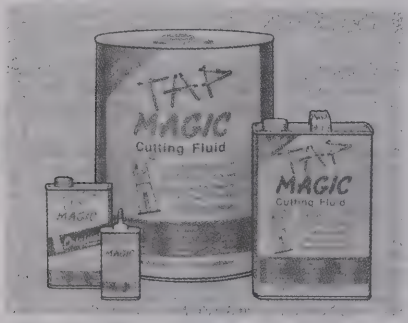
### TUNGSTEN CARBIDE GRADES

| Grades | Composition And Application | ISO |
|---|---|---|
| | **CVD Tri-Phase Coated Carbide Grades** | |
| **KC850** | composition: A TiC/TiCN/TiN coating on an extra-strong, cobalt-enriched substrate.<br>application: For your toughest jobs on a wide variety of materials. Used for interrupted cuts and heavy to moderate roughing of carbon and alloy steels, tool steels, stainless steels, alloy cast steels, and ductile irons. Excellent thermal and mechanical shock resistance makes grade KC850 ideally suited for applications requiring maximum edge strength. | M25-M45<br>P25-P45 |
| **USA Coated** | composition: A TiC/TiCN/TiN coating.<br>application: For your tough jobs on a wide variety of materials. Used for interrupted cuts and heavy to moderate roughing of carbon and alloy steels, tool steels, stainless steels, alloy cast steels, and ductile irons. Excellent thermal and mechanical shock resistance. | M25-M45<br>P25-P45 |
| | **PVD TiN (Titanium Nitride) Coated Carbide Grades** | |
| **KC730** | composition: A PVD coated carbide grade.<br>application: For machining high-temperature alloys, aerospace materials, refractory metals, and 200 or 300 series stainless steels. The substrate offers superior thermal deformation resistance, depth of cut notch resistance, and edge strength. The uniformly dense PVD coating increases wear resistance, reduces problems with edge buildup, and provides an unusually good combination of properties for machining difficult-to-machine materials and aluminum. | M05-M20<br>S15-S25 |
| | **Uncoated Carbide Grades** | |
| **USA Uncoated** | composition: A general purpose WC/Co unalloyed grade.<br>application: Excellent edge wear resistance for machining stainless steels, cast irons, nonferrous metals, nonmetals, and most high-temperature alloys. | K05-K15<br>M10-M20 |

## MILLING GRADES FOR CUTTING MATERIAL

### TUNGSTEN CARBIDE GRADES

| Grades | Composition And Application | ISO |
|---|---|---|
| | **Coated—Titanium Nitrides PVD** | |
| **KC710** | composition: A PVD TiN coated carbide grade that has good toughness and thermal shock resistance with good crater wear resistance and resistance to buildup on the cutting edge.<br>application: Greatly improved productivity when cutting a variety of steels and tool steels over a broad range of feeds at moderate to high speeds. | M1-M25<br>P15-P25 |
| **KC725M** | composition: A patented, multi-layer, PVD TiN/TiCN/TiN coated carbide.<br>application: A new milling grade engineered for high productivity wet and dry milling of carbon, alloy, and austenitic stainless steels. The high thermal shock resistance of the tough carbide substrate combined with the patented multi-layer coating provides long and reliable tool life in aggressive milling operations with or without coolant. It is the higher speed companion to KC720 in wet steel milling. | M15-M35<br>P20-P35 |
| **KC730** | composition: A PVD TiN coated carbide grade.<br>application: For milling cast and ductile irons, high-temperature alloys, aerospace materials, refractory metals, and 200 and 300 series stainless steels. The substrate offers superior thermal deformation resistance, depth of cut notch resistance, and edge strength. The uniformly dense PVD coating increases wear resistance, reduces problems with edge buildup, and provides an unusually good combination of properties for machining difficult-to-machine materials and aluminum. | K05-K15<br>M05-M15 |




## CUTTING FLUIDS

### TAP MAGIC™

Special blend of extreme pressure lubricants penetrate to the cutting edge to break down surface tension, stress and prevent metal-to-metal adhesion (weldment). Drilling, tapping, threading, and boring operations are free of drag. Provides greater precision, superior finish while greatly extending tool life.

[A] **New Tap Magic.** Formulated with Ep-Xtra™ to replace 1,1,1 trichloroethane. Highly effective fluid yields micro-fine finish while preventing rust and corrosion. Ideal for difficult cutting operations including long duration extreme-pressure cuts. For use with all metals including stainless steel, aluminum and titanium. Longer cling time reduces need for reapplication.

[B] **Protap.** Highly effective on all metals. Completely biodegradable and free of all regulated chemicals.

[C] **Aluminum.** Formulated specifically for use on aluminum. Provides excellent performance for all cutting operations.

| Key | Size | Tap Magic Model | Stock No. ❸ | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **A** | 4 oz. | 10004E | **6Y645** | $1.83 | **$1.79** | **$1.61/24** | 0.4 |
| | 16 oz. | 10016E | **4F963** | 6.17 | **6.10** | **5.49/12** | 1.3 |
| | 1 gal. | 10128E | **6Y646** | 37.00 | **35.00** | **31.50/ 2** | 9.0 |
| | 5 gals. | 10640E | **6Y647** | 160.00 | **149.00** | **134.10/ 1** | 47.0 |
| **B** | 16 oz. | 30016P | **4ZF07** | 6.17 | **6.10** | **5.49/12** | 1.3 |
| **C** | 16 oz. | 20016A | **4R818** | 8.39 | **6.99** | **6.29/12** | 1.3 |
| | 1 gal. | 20128A | **4R820** | 37.00 | **35.00** | **31.50/ 2** | 8.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Data Safety Sheets (MSDS) are available. See page opposite inside back cover.
❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

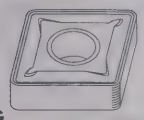


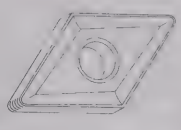
*Set up your next job with quality cutting tools from Grainger.*

# LATHE TURNING INSERTS

USA

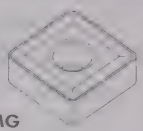
New





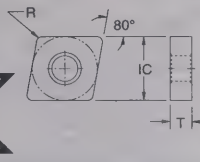


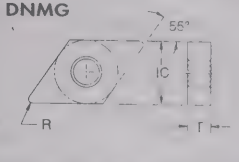


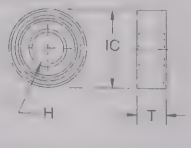


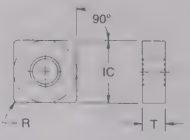


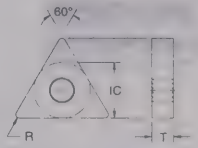
K




## LATHE TURNING INSERTS APPLICATION CHART

| Grade | Speed Range | Material Type: SFM Range (1) Steels | SFM Range (2) Stainless Steels | SFM Range (3) Cast Irons | SFM Range (4) High Temp./ Ni-Based Alloys |
|---|---|---|---|---|---|
| USA UNCOATED | L | — | ● | ● | ● |
| USA COATED | L-M | ● | ● | — | — |
| Kennametal KC730 | L-M | — | ● | ● | ● |
| Kennametal KC850 | L-M | ● | ● | — | — |

FM Ranges (1), (2), (3): L-Low (0-400); M-Medium (400-800); H-High (800-1200); VH-Very High (1200-3500).
FM Range (4); L-Low (0-200); M-Medium (200-350); H-High (300-450); VH-Very High (400-800).

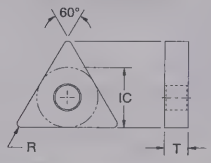
## LATHE TURNING INSERTS

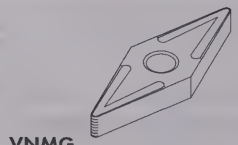
| Style | Dimensions (In.) I.C. | T | R | USA Model Grade | New! Stock No. | Each | Lots 10 | Kennametal Model Grade | | Stock No. | Price Each* Pkg. of 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CNMG-431 | 1/2 | 3/16 | 1/64 | Uncoated | 4UR61 | $5.04 | $4.53 | — | | — | — | 1.0 |
| CNMG-431 | 1/2 | 3/16 | 1/64 | Coated | 4UR60 | 6.02 | 5.42 | CNMG-431KC850 | | 2M123 | 9.06 | 0.1 |
| CNMG-431F | — | — | — | — | — | — | — | CNMG-431KC730 | | 2M467 | 8.43 | 0.1 |
| CNMG-431LF | 1/2 | 3/16 | 1/64 | — | — | — | — | CNMG-431LF KC730 | | 2M678 | 8.43 | 0.1 |
| CNMG-432 | 1/2 | 3/16 | 1/32 | Uncoated | 4UR63 | 5.04 | 4.53 | — | | — | — | 1.0 |
| CNMG-432 | 1/2 | 3/16 | 1/32 | Coated | 4UR62 | 6.02 | 5.42 | CNMG-432KC850 | | 2M127 | 9.06 | 0.1 |
| CNMG-432LF | 1/2 | 3/16 | 1/32 | — | — | — | — | CNMG-432KC730 | | 2M469 | 8.43 | 0.1 |
| CNMG-432LF | — | — | — | — | — | — | — | CNMG-432LF KC730 | | 2M670 | 8.43 | 0.1 |
| CNMG-433 | 1/2 | 3/16 | 3/64 | Uncoated | 4UR65 | 5.04 | 4.53 | — | | — | — | 1.0 |
| CNMG-433 | 1/2 | 3/16 | 3/64 | Coated | 4UR64 | 6.02 | 5.42 | CNMG-433KC850 | | 2M131 | 9.06 | 0.1 |
| CNMG-433 | — | — | — | — | — | — | — | CNMG-433KC730 | | 3DL81 | 8.43 | 0.1 |
| CNMG-433LF | 1/2 | 3/16 | 3/64 | — | — | — | — | CNMG-433LF KC730 | | 2N209 | 9.83 | 0.1 |
| CNMP-432 | 1/2 | 3/16 | 1/32 | — | — | — | — | CNMP-432 KC730 | | 3EL66 | 9.26 | 0.1 |
| CNMP-432 | 1/2 | 3/16 | 1/32 | — | — | — | — | CNMP-432 KC850 | | 3DF35 | 10.21 | 0.1 |
| DNMG-431 | 1/2 | 3/16 | 1/64 | Uncoated | 4UR67 | 8.19 | 8.19 | — | | — | — | 1.0 |
| DNMG-431 | 1/2 | 3/16 | 1/64 | Coated | 4UR66 | 9.08 | 9.08 | DNMG-431KC850 | | 2M228 | 13.12 | 0.1 |
| DNMG-431LF | 1/2 | 3/16 | 1/64 | — | — | — | — | DNMG-431LFKC730 | New | 4UW63 | 13.12 | 0.1 |
| DNMG-431P | 1/2 | 3/16 | 1/64 | — | — | — | — | DNMG-431P KC730 | | 3EW46 | 12.29 | 0.1 |
| DNMG-432 | 1/2 | 3/16 | 1/32 | Uncoated | 4UR69 | 8.19 | 7.37 | — | | — | — | 1.0 |
| DNMG-432 | 1/2 | 3/16 | 1/32 | Coated | 4UR68 | 9.08 | 8.17 | DNMG-432KC850 | | 2M232 | 13.12 | 0.1 |
| DNMG-432 | 1/2 | 3/16 | 1/32 | — | — | — | — | DNMG-432KC730 | New | 4UW64 | 12.29 | 0.1 |
| DNMG-432LF | 1/2 | 3/16 | 1/32 | — | — | — | — | DNMG-432LF KC730 | | 2M698 | 12.29 | 0.1 |
| DNMP-432 | 1/2 | 3/16 | 1/32 | — | — | — | — | DNMP-432 KC730 | | 3DL71 | 13.16 | 0.1 |
| DNMP-432 | 1/2 | 3/16 | 1/32 | — | — | — | — | DNMP-432 KC850 | | 3CV42 | 13.95 | 0.1 |
| DNMG-433 | 1/2 | 3/16 | 3/64 | Uncoated | 4UR71 | 8.19 | 7.37 | — | | — | — | 1.0 |
| DNMG-433 | 1/2 | 3/16 | 3/64 | Coated | 4UR70 | 9.08 | 8.17 | DNMG-433KC850 | | 2M236 | 13.12 | 0.1 |
| RNMG-43 | 1/2 | 3/16 | — | Uncoated | 4UR73 | 3.70 | 3.33 | — | | — | — | 1.0 |
| RNMG-43 | 1/2 | 3/16 | — | Coated | 4UR72 | 5.93 | 5.33 | RNMG-43KC850 | | 2M250 | 8.01 | 0.1 |
| SNMG-432 | 1/2 | 3/16 | 1/32 | Uncoated | 4UR75 | 4.90 | 4.41 | — | | — | — | 1.0 |
| SNMG-432 | 1/2 | 3/16 | 1/32 | Coated | 4UR74 | 5.93 | 5.33 | SNMG-432KC850 | | 2M309 | 8.85 | 0.1 |
| SNMG-432 | 1/2 | 3/16 | 1/32 | — | — | — | — | SNMG-432KC730 | | 3EW26 | 8.34 | 0.1 |
| SNMG-432LF | 1/2 | 3/16 | 1/32 | — | — | — | — | SNMG-432LF KC730 | | 2M682 | 8.34 | 0.1 |
| SNMG-433 | 1/2 | 3/16 | 3/64 | Uncoated | 4UR77 | 4.90 | 4.41 | — | | — | — | 1.0 |
| SNMG-433 | 1/2 | 3/16 | 3/64 | Coated | 4UR76 | 5.93 | 5.33 | SNMG-433KC850 | | 2M313 | 8.85 | 0.1 |
| SNMG-433 | 1/2 | 3/16 | 3/64 | — | — | — | — | SNMG-433KC730 | | 3EW27 | 8.34 | 0.1 |
| TNMG-222 | 1/4 | 1/8 | 1/32 | — | — | — | — | TNMG222 KC730 | New | 4UW68 | 5.73 | 0.1 |
| TNMG-321 | 3/8 | 1/8 | 1/64 | Uncoated | 4UR83 | 3.17 | 2.85 | — | | — | — | 1.0 |
| TNMG-321 | 3/8 | 1/8 | 1/64 | Coated | 4UR82 | 4.06 | 3.65 | TNMG-321KC850 | | 2M357 | 6.56 | 0.1 |
| TNMG-321 | 3/8 | 1/8 | 1/64 | — | — | — | — | TNMG-321KC730 | New | 4UW69 | 6.10 | 0.1 |
| TNMG-322 | 3/8 | 1/8 | 1/32 | Uncoated | 4UR85 | 3.17 | 2.85 | — | | — | — | 1.0 |
| TNMG-322 | 3/8 | 1/8 | 1/32 | Coated | 4UR84 | 4.06 | 3.65 | TNMG-322KC850 | | 2M359 | 6.56 | 0.1 |

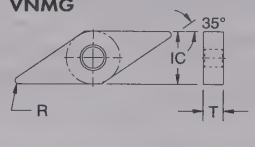
) Kennametal inserts are Priced Each, sold in standard package quantities

# LATHE TURNING INSERTS



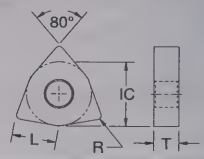










New

USA

## LATHE TURNING INSERTS APPLICATION CHART

| Grade | Speed Range | Material Type: SFM Range (1) Steels | SFM Range (2) Stainless Steels | SFM Range (3) Cast Irons | SFM Range (4) High Temp./ Ni-Based Alloys |
|---|---|---|---|---|---|
| **USA UNCOATED** | L | | ● | ● | ● |
| **USA COATED** | L-M | ● | ● | | |
| **Kennametal KC730** | L-M | | ● | ● | ● |
| **Kennametal KC850** | L-M | ● | ● | | |

SFM Ranges (1), (2), (3): L-Low (0-400); M-Medium (400-800); H-High (800-1200); VH-Very High (1200-3500).
SFM Range (4); L-Low (0-200); M-Medium (200-350); H-High (300-450); VH-Very High (400-800).

## LATHE TURNING INSERTS

| Style | Dimensions (In.) IC | T | R | USA Made Grade | *New!* Stock No. | Each | Lot 10 | Kennametal Model Grade | | Stock No. | Price Each* Pkg. of 10 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TNMG-331** | 3/8 | 3/16 | 1/64 | Uncoated | **4UR87** | **$4.02** | **$3.61** | — | | — | — | 1.0 |
| **TNMG-331** | 3/8 | 3/16 | 1/64 | Coated | **4UR86** | **4.77** | **4.29** | TNMG-331KC850 | | **3FP87** | **$7.30** | 0.1 |
| **TNMG-331** | 3/8 | 3/16 | 1/64 | — | — | — | — | TNMG-331KC730 | | **3EW49** | **6.93** | 0.1 |
| **TNMG-332** | 3/8 | 3/16 | 1/32 | Uncoated | **4UR89** | **4.02** | **3.61** | — | | — | — | 1.0 |
| **TNMG-332** | 3/8 | 3/16 | 1/32 | Coated | **4UR88** | **4.77** | **4.29** | TNMG-332KC850 | | **3FP81** | **7.30** | 0.1 |
| **TNMG-332** | 3/8 | 3/16 | 1/32 | — | — | — | — | TNMG-332KC730 | | **3EW25** | **6.93** | 0.1 |
| **TNMG-332LF** | 3/8 | 3/16 | 1/32 | — | — | — | — | TNMG-332LF KC730 | | **2M694** | **6.93** | 0.1 |
| **TNMG-332LF** | 3/8 | 3/16 | 1/32 | — | — | — | — | TNMG-332LF KC850 | | **3FR45** | **8.64** | 0.1 |
| **TNMG-333** | 3/8 | 3/16 | 3/64 | Uncoated | **4UR91** | **4.02** | **3.61** | — | | — | — | 1.0 |
| **TNMG-333** | 3/8 | 3/16 | 3/64 | Coated | **4UR90** | **4.77** | **4.29** | TNMG-333KC850 | | **3FP61** | **7.30** | 0.1 |
| **TNMG-431** | 1/2 | 3/16 | 1/64 | — | — | — | — | TNMG-431 KC730 | | **2M471** | **9.31** | 0.1 |
| **TNMG-431** | 1/2 | 3/16 | 1/64 | — | — | — | — | TNMG-431 KC850 | | **2M361** | **10.05** | 0.1 |
| **TNMG-432** | 1/2 | 3/16 | 1/32 | Uncoated | **4UR93** | **5.70** | **5.13** | — | | — | — | 1.0 |
| **TNMG-432** | 1/2 | 3/16 | 1/32 | Coated | **4UR92** | **6.73** | **6.05** | TNMG-432KC850 | | **2M365** | **10.05** | 0.1 |
| **TNMG-432** | 1/2 | 3/16 | 1/32 | — | — | — | — | TNMG-432KC730 | | **2M473** | **9.31** | 0.1 |
| **TNMG-432LF** | 1/2 | 3/16 | 1/32 | — | — | — | — | TNMG-432LF KC730 | | **2M690** | **9.31** | 0.1 |
| **TNMG-433** | 1/2 | 3/16 | 3/64 | Uncoated | **4UR95** | **5.70** | **5.13** | — | | — | — | 1.0 |
| **TNMG-433** | 1/2 | 3/16 | 3/64 | Coated | **4UR94** | **6.73** | **6.05** | TNMG-433KC850 | | **2M369** | **10.05** | 0.1 |
| **TNMP-432** | 1/2 | 3/16 | 1/32 | — | — | — | — | TNMP-432 KC850 | | **3FN12** | **11.30** | 0.1 |
| **TNMP-432** | 1/2 | 3/16 | 1/32 | — | — | — | — | TNMP-432 KC730 | *New* | **4UW70** | **10.25** | 0.1 |
| **VNMG-331** | 3/8 | 3/16 | 1/64 | Uncoated | **4UT14** | **7.66** | **6.89** | — | | — | — | 1.0 |
| **VNMG-331** | 3/8 | 3/16 | 1/64 | Coated | **4UT13** | **8.42** | **7.57** | — | | — | — | 1.0 |
| **VNMG-331P** | 3/8 | 3/16 | 1/64 | — | — | — | — | VNMG-331PKC850 | | **3FH39** | **12.55** | 0.1 |
| **VNMG-331P** | 3/8 | 3/16 | 1/64 | — | — | — | — | VNMG-331PKC730 | | **3EW36** | **11.56** | 0.1 |
| **VNMG-332** | 3/8 | 3/16 | 1/32 | Uncoated | **4UT16** | **7.66** | **6.89** | — | | — | — | 1.0 |
| **VNMG-332** | 3/8 | 3/16 | 1/32 | Coated | **4UT15** | **8.42** | **7.57** | — | | — | — | 1.0 |
| **VNMG-332MG** | 3/8 | 3/16 | 1/32 | — | — | — | — | VNMG-332MGKC850 | | **2M453** | **12.55** | 0.1 |
| **VNMG-332** | 3/8 | 3/16 | 1/32 | — | — | — | — | VNMG-332KC730 | *New* | **4UW71** | **11.56** | 0.1 |
| **VNMG-332LF** | 3/8 | 3/16 | 1/32 | — | — | — | — | VNMG-332LF KC730 | | **2M686** | **11.56** | 0.1 |
| **VNMP-332** | 3/8 | 3/16 | 1/32 | — | — | — | — | VNMP-332 KC850 | | **3FG87** | **13.16** | 0.1 |
| **VNMG-432** | 1/2 | 3/16 | 1/32 | Uncoated | **4UT18** | **8.77** | **7.89** | — | | — | — | 1.0 |
| **VNMG-432** | 1/2 | 3/16 | 1/32 | Coated | **4UT17** | **12.24** | **11.01** | VNMG-432KC850 | | **2M459** | **15.40** | 0.1 |
| **VNMG-433** | 1/2 | 3/16 | 1/32 | — | — | — | — | VNMG-433 KC850 | | **2M463** | **15.40** | 0.1 |
| **WNMG-431** | 1/2 | 3/16 | 1/64 | Uncoated | **4UT20** | **6.95** | **6.25** | — | | — | — | 1.0 |
| **WNMG-431** | 1/2 | 3/16 | 1/64 | Coated | **4UT19** | **7.53** | **6.77** | — | | — | — | 1.0 |
| **WNMG-431LF** | 1/2 | 3/16 | 1/64 | — | — | — | — | WNMG-431LFKC850 | *New* | **4UW72** | **9.89** | 0.1 |
| **WNMG-431** | 1/2 | 3/16 | 1/64 | — | — | — | — | WNMG-431KC730 | | **3ER94** | **9.22** | 0.1 |
| **WNMG-432** | 1/2 | 3/16 | 1/32 | Uncoated | **4UT22** | **6.95** | **6.25** | — | | — | — | 1.0 |
| **WNMG-432** | 1/2 | 3/16 | 1/32 | Coated | **4UT21** | **7.53** | **6.77** | WNMG-432KC850 | | **2K965** | **9.89** | 0.1 |
| **WNMG-432** | 1/2 | 3/16 | 1/32 | — | — | — | — | WNMG-432KC730 | | **3EW47** | **9.22** | 0.1 |
| **WNMG-432LF** | 1/2 | 3/16 | 1/32 | — | — | — | — | WNMG-432LF KC730 | | **2K995** | **9.22** | 0.1 |
| **WNMG-432LF** | 1/2 | 3/16 | 1/32 | — | — | — | — | WNMG-432LF KC850 | *New* | **4UW73** | **9.89** | 0.1 |
| **WNMG-433** | 1/2 | 3/16 | 3/64 | — | — | — | — | WNMG-433 KC850 | | **2K967** | **9.89** | 0.1 |
| **WNMG-433LF** | 1/2 | 3/16 | 3/64 | — | — | — | — | WNMG-433LF KC730 | | **2K991** | **9.22** | 0.1 |

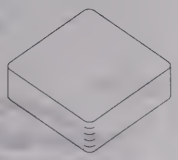
(*) Kennametal inserts are Priced Each, Sold in standard package quantities.

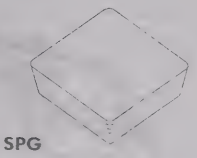


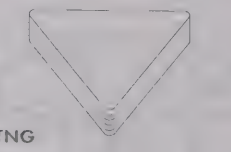
*Set up your next job with quality cutting tools from Grainger.*

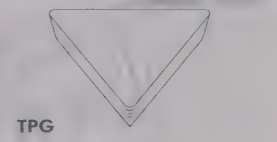
# LATHE TURNING INSERTS

New




## LATHE TURNING INSERTS APPLICATION CHART

| Grade | Speed Range | Material Type: SFM Range (1) Steels | SFM Range (2) Stainless Steels | SFM Range (3) Cast Irons | SFM Range (4) High Temp./ Ni-Based Alloys |
|---|---|---|---|---|---|
| USA UNCOATED | L | — | ● | ● | ● |
| USA COATED | L-M | ● | ● | — | — |
| Kennametal KC730 | L-M | — | ● | ● | ● |
| Kennametal KC850 | L-M | ● | ● | — | — |

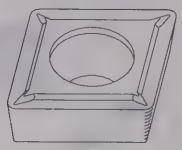
FM Ranges (1), (2), (3): L-Low (0-400); M-Medium (400-800); H-High (800-1200); VH-Very High (1200-3500)
FM Range (4); L-Low (0-200); M-Medium (200-350); H-High (300-450); VH-Very High (400-800).

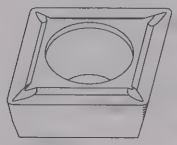
## LATHE TURNING INSERTS

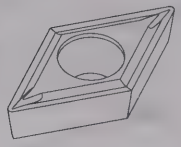
| Style | Dimensions (In.) I.C. | T | R | USA Model Grade | New! Stock No. | Each | Lot 10 | Kennametal Model Grade | Stock No. | Price Each* Pkgs. of 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SNG-432 | 1/2 | 3/16 | 1/32 | — | — | — | — | SNG-432 KC850 | 2GP77 | $11.30 | 0.1 |
| SPG-432 | 1/2 | 1/8 | 1/32 | — | — | — | — | SPG-422 KC730 | 2N461 | 10.94 | 0.1 |
| SPG-432 | 1/2 | 1/8 | 1/32 | — | — | — | — | SPG-422 KC850 | 2N463 | 11.77 | 0.1 |
| SPG-432 | 1/2 | 1/8 | 1/32 | — | — | — | — | SPG-432 KC850 | 3FX18 | 13.06 | 0.1 |
| TNG-321 | 3/8 | 1/8 | 1/64 | Uncoated | 4UR79 | $4.50 | $4.05 | — | — | — | 1.0 |
| TNG-321 | 3/8 | 1/8 | 1/64 | Coated | 4UR78 | 5.26 | 4.73 | — | — | — | 1.0 |
| TNG-322 | 3/8 | 1/8 | 1/32 | Uncoated | 4UR81 | 4.50 | 4.05 | — | — | — | 1.0 |
| TNG-322 | 3/8 | 1/8 | 1/32 | Coated | 4UR80 | 5.26 | 4.73 | — | — | — | 1.0 |
| TNG-332 | 3/8 | 3/16 | 1/32 | — | — | — | — | TNG-332 KC850 | 3FR63 | 9.64 | 0.1 |
| TNG-432 | 1/2 | 3/16 | 1/32 | — | — | — | — | TNG-432 KC850 | 2N565 | 12.70 | 0.1 |
| TPG-221 | 1/8 | 1/8 | 1/64 | Uncoated | 4UR97 | 5.26 | 4.73 | — | — | — | 1.0 |
| TPG-221 | 1/8 | 1/8 | 1/64 | Coated | 4UR96 | 6.33 | 5.69 | TPG-221KC850 | 2N603 | 9.69 | 0.1 |
| TPG-221 | 1/8 | 1/8 | 1/64 | — | — | — | — | TPG-221KC730 | 2N601 | 8.90 | 0.1 |
| TPG-222 | 1/8 | 1/8 | 1/32 | Uncoated | 4UR99 | 5.26 | 4.73 | — | — | — | 1.0 |
| TPG-222 | 1/8 | 1/8 | 1/32 | Coated | 4UR98 | 6.33 | 5.69 | TPG-222KC850 | 2N611 | 9.69 | 0.1 |
| TPG-222 | 1/8 | 1/8 | 1/32 | — | — | — | — | TPG-222KC730 | 2N609 | 8.90 | 0.1 |
| TPG-320.5 | 3/8 | 1/8 | .008 | — | — | — | — | TPG320.5 KC730 | 2N733 | 10.52 | 0.1 |
| TPG-321 | 3/8 | 1/8 | 1/64 | Uncoated | 4UT02 | 6.50 | 5.85 | — | — | — | 1.0 |
| TPG-321 | 3/8 | 1/8 | 1/64 | Coated | 4UT01 | 7.66 | 6.89 | TPG-321KC850 | 2N621 | 11.34 | 0.1 |
| TPG-321 | 3/8 | 1/8 | 1/64 | — | — | — | — | TPG-321KC730 | 2N619 | 10.52 | 0.1 |
| TPG-322 | 3/8 | 1/8 | 1/32 | Uncoated | 4UT04 | 6.50 | 5.85 | — | — | — | 1.0 |
| TPG-322 | 3/8 | 1/8 | 1/32 | Coated | 4UT03 | 7.66 | 6.89 | TPG-322KC850 | 2N633 | 11.34 | 0.1 |
| TPG-322 | 3/8 | 1/8 | 1/32 | — | — | — | — | TPG-322KC730 | 2N631 | 9.99 | 0.1 |
| TPG-323 | 3/8 | 1/8 | 3/64 | Uncoated | 4UT06 | 6.50 | 5.85 | — | — | — | 1.0 |
| TPG-323 | 3/8 | 1/8 | 3/64 | Coated | 4UT05 | 7.66 | 6.89 | TPG-323KC850 | 2N643 | 10.77 | 0.1 |
| TPG-323 | 3/8 | 1/8 | 3/64 | — | — | — | — | TPG-323KC730 | 2N641 | 10.52 | 0.1 |
| TPG-431 | 1/2 | 3/16 | 1/64 | Uncoated | 4UT08 | 8.95 | 8.05 | — | — | — | 1.0 |
| TPG-431 | 1/2 | 3/16 | 1/64 | Coated | 4UT07 | 10.46 | 9.41 | TPG-431KC850 | 2N657 | 15.24 | 0.1 |
| TPG-431 | 1/2 | 3/16 | 1/64 | — | — | — | — | TPG-431KC730 | 2N655 | 13.99 | 0.1 |
| TPG-432 | 1/2 | 3/16 | 1/32 | Uncoated | 4UT10 | 8.95 | 8.05 | — | — | — | 1.0 |
| TPG-432 | 1/2 | 3/16 | 1/32 | Coated | 4UT09 | 10.46 | 9.41 | TPG-432KC850 | 2N667 | 15.24 | 0.1 |
| TPG-432 | 1/2 | 3/16 | 1/32 | — | — | — | — | TPG-432KC730 | 2N665 | 13.99 | 0.1 |
| TPG-433 | 1/2 | 3/16 | 3/64 | Uncoated | 4UT12 | 8.95 | 8.05 | — | — | — | 1.0 |
| TPG-433 | 1/2 | 3/16 | 3/64 | Coated | 4UT11 | 10.46 | 9.41 | TPG-433KC850 | 2N677 | 15.24 | 0.1 |
| TPG-433 | 1/2 | 3/16 | 3/64 | — | — | — | — | TPG-433KC730 | 2N675 | 13.99 | 0.1 |

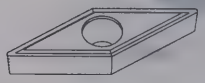
*) Kennametal inserts are Priced Each, sold in standard packages only

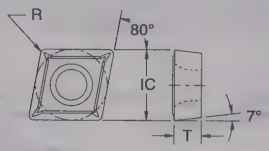
# LATHE TURNING INSERT

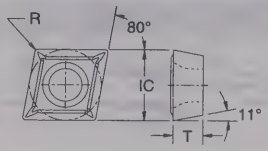

CCMT

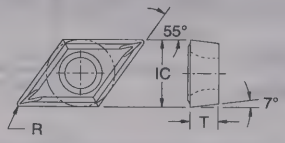

CPMT

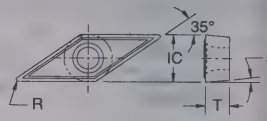

DCMT


VBMT




## LATHE TURNING INSERTS APPLICATION CHART

| Grade | Speed Range | Material Type | | | |
|---|---|---|---|---|---|
| | | SFM Range (1) | SFM Range (2) | SFM Range (3) | SFM Range (4) |
| | | Steels | Stainless Steels | Cast Irons | High Temp./ Ni-Based Alloys |
| **USA UNCOATED** | L | — | ● | ● | ● |
| **USA COATED** | L-M | ● | ● | — | — |
| **Kennametal KC730** | L-M | — | ● | ● | ● |
| **Kennametal KC850** | L-M | ● | ● | — | — |

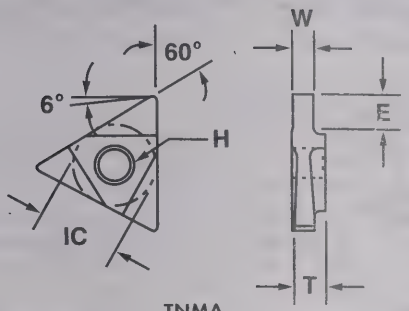
SFM Ranges (1), (2), (3): L-Low (0-400); M-Medium (400-800); H-High (800-1200); VH-Very High (1200-3500).
SFM Range (4); L-Low (0-200); M-Medium (200-350); H-High (300-450); VH-Very High (400-800).

## SCREW-ON LATHE TURING INSERTS

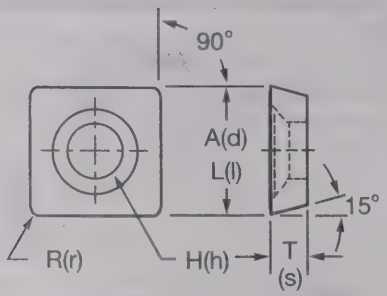
| Style | Dimensions (In.) I.C. | T | R | Grade | Stock No. | Price Each* Pkg. of 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CCMT-21.51LF** | 1/4 | 3/32 | 1/64 | KC730 | **2N201** | **$9.83** | 0.1 |
| **CCMT-21.51LF** | 1/4 | 3/32 | 1/64 | KC850 | **2N035** | **10.56** | 0.1 |
| **CCMT-21.52LF** | 1/4 | 3/32 | 1/32 | KC730 | **2N203** | **9.83** | 0.1 |
| **CCMT-21.52LF** | 1/4 | 3/32 | 1/32 | KC850 | **2N037** | **10.56** | 0.1 |
| **CCMT-32.51LF** | 3/8 | 5/32 | 1/64 | KC730 | **2N225** | **10.82** | 0.1 |
| **CCMT-32.51LF** | 3/8 | 5/32 | 1/64 | KC850 | **2N043** | **11.81** | 0.1 |
| **CCMT-32.52LF** | 3/8 | 5/32 | 1/32 | KC730 | **2N207** | **10.82** | 0.1 |
| **CCMT-32.52LF** | 3/8 | 5/32 | 1/32 | KC850 | **2N045** | **11.81** | 0.1 |
| **CPMT-21.51LF** | 1/4 | 3/32 | 1/64 | KC730 | **2N279** | **9.83** | 0.1 |
| **CPMT-21.51LF** | 1/4 | 3/32 | 1/64 | KC850 | **2N061** | **10.56** | 0.1 |
| **CPMT-32.51LF** | 3/8 | 5/32 | 1/64 | KC730 | **2N181** | **10.82** | 0.1 |
| **CPMT-32.51LF** | 3/8 | 5/32 | 1/64 | KC850 | **2N067** | **11.81** | 0.1 |
| **DCMT-21.51LF** | 1/4 | 3/32 | 1/64 | KC730 | **2N215** | **9.83** | 0.1 |
| **DCMT-21.51LF** | 1/4 | 3/32 | 1/64 | KC850 | **2N079** | **10.56** | 0.1 |
| **DCMT-32.51LF** | 3/8 | 5/32 | 1/64 | KC730 | **2N173** | **11.87** | 0.1 |
| **DCMT-32.51LF** | 3/8 | 5/32 | 1/64 | KC850 | **2N085** | **12.59** | 0.1 |
| **DCMT-32.52LF** | 3/8 | 5/32 | 1/32 | KC730 | **2N223** | **11.87** | 0.1 |
| **DCMT-32.52LF** | 3/8 | 5/32 | 1/32 | KC850 | **2N089** | **12.59** | 0.1 |
| **TCMT-21.51LF** | 1/4 | 3/32 | 1/64 | KC730 | **2N243** | **10.78** | 0.1 |
| **TCMT-21.51LF** | 1/4 | 3/32 | 1/64 | KC850 | **2N113** | **11.87** | 0.1 |
| **TCMT-21.52LF** | 1/4 | 3/32 | 1/32 | KC730 | **2N235** | **10.78** | 0.1 |
| **TCMT-21.52LF** | 1/4 | 3/32 | 1/32 | KC850 | **2N117** | **11.87** | 0.1 |
| **TCMT-32.51LF** | 3/8 | 5/32 | 1/64 | KC730 | **2N245** | **12.33** | 0.1 |
| **TCMT-32.51LF** | 3/8 | 5/32 | 1/64 | KC850 | **2N119** | **13.80** | 0.1 |
| **TCMT-32.52LF** | 3/8 | 5/32 | 1/32 | KC730 | **2N247** | **12.33** | 0.1 |
| **TCMT-32.52LF** | 3/8 | 5/32 | 1/32 | KC850 | **2N121** | **13.80** | 0.1 |
| **VBMT-331LF** | 3/8 | 3/16 | 1/64 | KC730 | **2N239** | **14.11** | 0.1 |
| **VBMT-331LF** | 3/8 | 3/16 | 1/64 | KC850 | **2N149** | **15.30** | 0.1 |
| **VBMT-332LF** | 3/8 | 3/16 | 1/32 | KC730 | **2N241** | **14.11** | 0.1 |
| **VBMT-332LF** | 3/8 | 3/16 | 1/32 | KC850 | **2N153** | **15.30** | 0.1 |

(*) Kennemetal inserts are Priced Each, sold in standard package quantities.

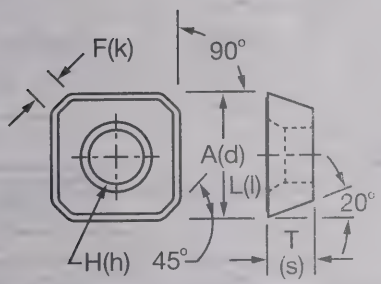

Set up your next job with quality cutting tools from Grainger.



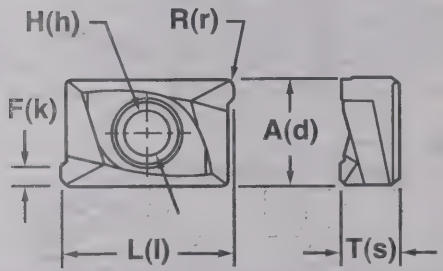

TNMA




SDEB




SEHW




ANGT

## GROOVING AND MILLING INSERTS--APPLICATION CHART

| Grade | Speed Range | Material Type: SFM Range (1) Steel | SFM Range (2) Stainless Steel | SFM Range (3) Cast Irons | SFM Range (4) High Temp Ni-Based Alloys |
|---|---|---|---|---|---|
| **KC710** | M | ● | — | — | — |
| **KC730** | L-M | — | ● | ● | ● |
| **KC725M** | L-M | ● | ● | — | ● |

(1), (2), (3): L-Low (0-400); M-Medium (400-800); H-High (800-1200); VH-Very High (1200-3500)
(4) L-Low (0-200); M-Medium (200-350); H-High (300-450), VH-Very High (1400-800)

## ON EDGE GROOVING INSERTS

| IC | Dimensions (In.) T | Width | Kennemetal Model | Stock No. | Price Each Pkg. of 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0.375** | 0.125 | .062 | TNMA-32NGR062 KC710 | **4CG43** | **$17.39** | 0.1 |
| **0.375** | 0.125 | .094 | TNMA-32NGR094 KC710 | **4CG42** | **17.39** | 0.1 |
| **0.375** | 0.125 | 125 | TNMA-32NGR125 KC710 | **4CG44** | **17.39** | 0.1 |
| **0.5** | 0.187 | .062 | TNMA-43NGR062 KC710 | **4UW65** | **16.36** | 0.1 |
| **0.5** | 0.187 | .094 | TNMA-43NGR094 KC710 | **4UW66** | **16.36** | 0.1 |
| **0.5** | 0.187 | .125 | TNMA-43NGR125 KC710 | **4UW67** | **16.36** | 0.1 |
| **0.5** | 0.187 | .156 | TNMA-43NGR156 KC710 | **4CG41** | **17.39** | 0.1 |

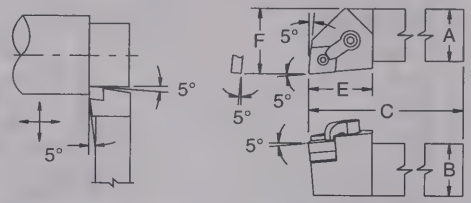
## SCREW-ON MILLING INSERTS

| A | L | Dimensions (In.) T | F | R | Kennametal Model | Stock No. | Price Each Pkg. of 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **0.327** | 0.327 | 3/32 | — | 1/32 | SDEB2.61.52KC725M | **2H875** | **$9.01** | 0.1 |
| **1/2** | 1/2 | 3/16 | 0.106 | — | SEHW43A6T725M | **2H983** | **11.14** | 0.1 |
| **0.268** | 0.394 | 0.142 | 0.051 | 0.02 | ANGT-1 623P3RKC725M | **4UW62** | **12.07** | 0.1 |

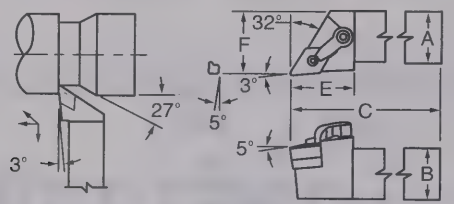
# KL-COMBINATION TOOLHOLDERS

- Clamp-on style chipbreakers should only be used on these toolholders when using an insert that does not have chip control geometry
- Shipped with all parts shown except optional hardware and inserts
- By replacing the KL-pin and shim provided with the optional shim and screw listed, thicker Kendex style ceramic inserts may be used in these toolholders
- Gage insert shown is for dimensional purposes only

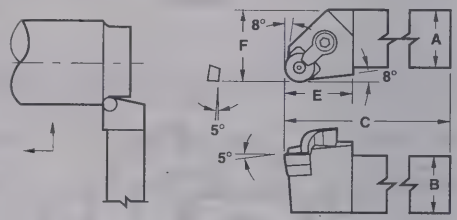
## MCL



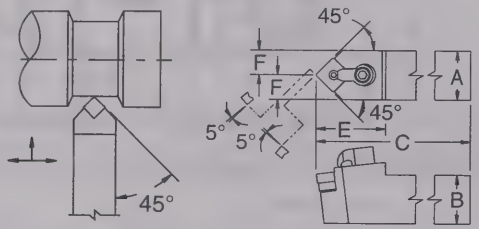

## MDJ



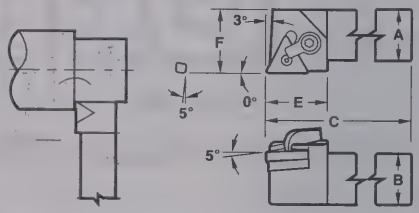

## MRG



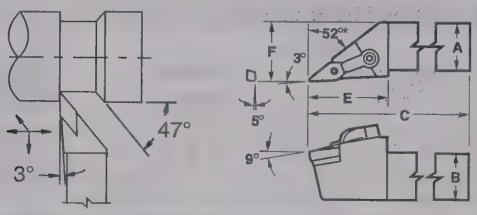

## MSD



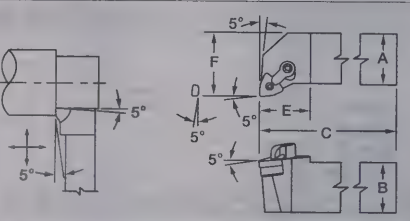

## MTG




## MVJ




## MWL




## KENLOC KL-COMBINATION TOOLHOLDERS

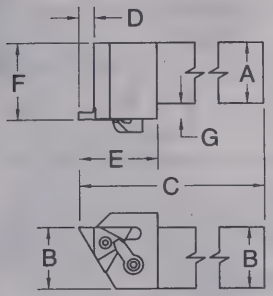
| Shank Dimensions (In.) A | B | C | E | F | Gage Inserts | Shim | KL-Pin | Clamp | Clamp Screw | Optional Shim Screw | Optional Shim | Kennametal Model | Stock No. | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 3/4 | 4 ½ | 1.200 | 1.000 | CNMG-432 | ICSN-433 | KL-46 | CK-20 | STC-20 | KAS-4 | — | MCLNR-124B | 2H248 | $59.60▲ | 0.8 |
| 1 | 1 | 6 | 1.200 | 1.250 | CNMG-432 | ICSN-433 | KL-46 | CK-20 | STC-20 | KAS-4 | — | MCLNR-164D | 2H343 | 61.15▲ | 1.5 |
| 3/4 | 3/4 | 4 ½ | 1.380 | 1.000 | DNMG-432 | IDSN-443 | KL-46L | CK-23 | STC-20 | KAS-4 | IDSN-433 | MDJNR-124B | 2H277 | 89.20▲ | 0.8 |
| 1 | 1 | 6 | 1.240 | 1.250 | DNMG-432 | IDSN-443 | KL-46L | CK-23 | STC-20 | KAS-4 | MDJNR-164D | 2H285 | 90.75▲ | 1.7 |
| 1 | 1 | 6 | 1.180 | 1.250 | RNMG-43 | IRSN-43 | KL-46 | CK-9 | STC-4 | KAS-4 | IRSN-44 | MRGNR-164D | 2H355 | 61.15▲ | 1.7 |
| 3/4 | 3/4 | 4 ½ | 1.390 | .375 | SNMG-432 | ISSN-433 | KL-46 | CK-9 | STC-4 | KAS-4 | ISSN-443 | MSDNN-124 | 2H206 | 56.45▲ | 0.7 |
| 1 | 1 | 6 | 1.390 | .500 | SNMG-432 | ISSN-433 | KL-46 | CK-9 | STC-4 | KAS-4 | ISSN-443 | MSDNN-164 | 2H208 | 59.30▲ | 1.0 |
| 3/4 | 3/4 | 4 ½ | 1.120 | 1.000 | TNMG-322 | ITSN-333 | KL-34L | CK-6 | STC-5 | KAS-3 | ITSN-323 | MTGNR-123B | 2H166 | 59.60▲ | 0.8 |
| 1 | 1 | 6 | 1.120 | 1.250 | TNMG-322 | ITSN-333 | KL-34L | CK-6 | STC-5 | KAS-3 | ITSN-323 | MTGNR-163D | 2H171 | 61.15▲ | 1.8 |
| 3/4 | 3/4 | 4 ½ | 1.200 | 1.000 | TNMG-432 | ITSN-433 | KL-46 | CK-9 | STC-4 | KAS-4 | ITSN-423 | MTGNR-124B | 2H175 | 59.60▲ | 0.8 |
| 1 | 1 | 6 | 1.200 | 1.250 | TNMG-432 | ITSN-433 | KL-46 | CK-9 | STC-4 | KAS-4 | ITSN-423 | MTGNR-164D | 2H327 | 61.15▲ | 1.8 |
| 3/4 | 3/4 | 4 ½ | 1.660 | 1.000 | VNMG-332 | IVSN-322 | KL-34L | CK-43 | STC-4 | KAS-3 | — | MVJNR-123B | 2H299 | 89.20▲ | 0.8 |
| 1 | 1 | 6 | 1.660 | 1.250 | VNMG-332 | IVSN-322 | KL-34L | CK-43 | STC-4 | KAS-3 | — | MVJNR-163D | 2H307 | 90.75▲ | 1.6 |
| 1 | 1 | 6 | 1.125 | 1.250 | WNMG-432 | IWSN-433 | KL-46 | CK-9 | STC-4 | — | — | MWLNR-164D | 2H391 | 61.15▲ | 1.7 |

(▲) Net prices, not subject to discounts.



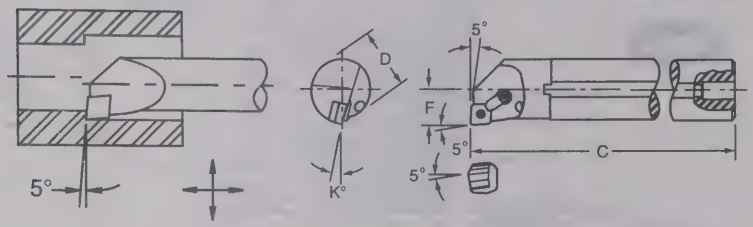
Set up your next job with quality cutting tools from Grainger.

# TOOL HOLDERS AND BORING BARS

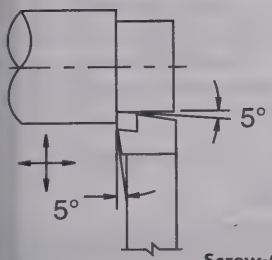


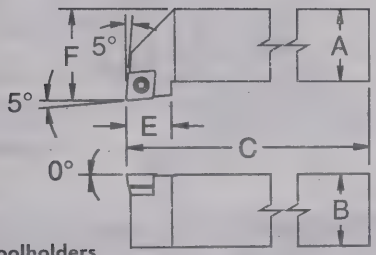

On Edge Threading and Grooving Toolholders

New

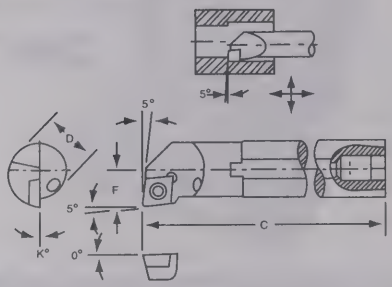



Steel Shank Boring Bars




Screw-On Toolholders




Screw-On Boring Bars

## ON-EDGE THREADING AND GROOVING TOOLHOLDERS

| Shank Dimensions (In.) A | B | C | D | E | F | G | Gage Insert | Ki. Pin | Clamp | Clamp Screw | Kennametal Model | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 5 | .170 | 1.020 | 1.125 | .120 | TNMA-32NGR | KLC-33 | CKM-7LP | STCC-38 | MTVOR-163C | 4UW84 | $67.45 ▲ | 2.0 |
| 1 | 1 | 6 | .250 | 1.250 | 1.250 | .245 | TNMA-48NGR | KLC-43 | CKM-7LP | STCC-9 | MTVOR-164D | 4UW85 | 67.45 ▲ | 2.0 |

## SCREW-ON TOOLHOLDERS

| Shank Dimensions (In.) A | B | C | E | F | Gage Insert | Shim | Shim Screw | Insert Screw | Torx Wrench | Kennametal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/8 | 3/8 | 2½ | .500 | .500 | CCMT-21.51 | — | — | MS-1153 | FT-7 | SCLCR-062 | 2G767 | $46.60▲ | 0.2 |
| 1/2 | 1/2 | 3½ | .500 | .625 | CCMT-21.51 | — | — | MS-1153 | FT-7 | SCLCR-082 | 2G771 | 52.80▲ | 0.4 |
| 5/8 | 5/8 | 4 | .625 | .750 | CCMT-32.52 | SKCP-343 | SRS-3 | MS-1156 | FT-15-3.5 | SCLCR-103 | 2G775 | 57.00▲ | 0.5 |
| 3/4 | 3/4 | 4½ | .625 | 1.000 | CCMT-32.52 | SKCP-343 | SRS-3 | MS-1156 | FT-15-3.5 | SCLCR-123 | 2G779 | 59.60▲ | 0.8 |
| 3/8 | 3/8 | 2½ | .625 | .500 | DCMT-21.51 | — | — | MS-1153 | FT-7 | SDJCR-062 | 2G791 | 66.35▲ | 0.1 |
| 1/2 | 1/2 | 3½ | .625 | .625 | DCMT-21.51 | — | — | MS-1153 | FT-7 | SDJCR-082 | 2G795 | 75.95▲ | 0.3 |
| 5/8 | 5/8 | 4 | .875 | .750 | DCMT-32.52 | SKCP-343 | SRS-3 | MS-1156 | FT-15-3.5 | SDJCR-103 | 2G799 | 86.10▲ | 0.5 |
| 3/4 | 3/4 | 4½ | .875 | 1.000 | DCMT-32.52 | SKCP-343 | SRS-3 | MS-1156 | FT-15-3.5 | SDJCR-123 | 2G803 | 89.20▲ | 0.8 |
| 3/8 | 3/8 | 2½ | .625 | .500 | TCMT-21.51 | — | — | MS-1153 | FT-7 | STGCR-062 | 2G751 | 46.60▲ | 0.1 |
| 1/2 | 1/2 | 3½ | .625 | .625 | TCMT-21.51 | — | — | MS-1153 | FT-7 | STGCR-082 | 2G755 | 52.80▲ | 0.3 |
| 5/8 | 5/8 | 4 | .750 | .750 | TCMT-32.52 | SKCP-343 | SRS-3 | MS-1156 | FT-15-3.5 | STGCR-103 | 2G759 | 57.00▲ | 0.5 |
| 3/4 | 3/4 | 4½ | .750 | 1.000 | TCMT-32.52 | SKCP-343 | SRS-3 | MS-1156 | FT-15-3.5 | STGCR-123 | 2G763 | 59.60▲ | 0.8 |

## STEEL SHANK BORING BARS: KENLOC KL-COMBINATION BORING BARS

| Shank Dimensions (In.) D | C | F | K | Min. Bore | Gage Insert | Shim | KL Pin | Clamp | Clamp Screw | Optional* Shim | Optional* Screw | Kennametal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12 | .640 | 14 | 1.200 | CNMG-432 | | KL-44 | CK-20 | STC-11 | — | — | A16-MCLNR4 | 2H416 | $203.50▲ | 2.5 |
| 1 | 12 | .640 | 12 | 1.200 | TNMG-332 | | KL-33L | CK-7 | STC-9 | — | — | A16-MTFNR3 | 2H399 | 203.50▲ | 2.5 |

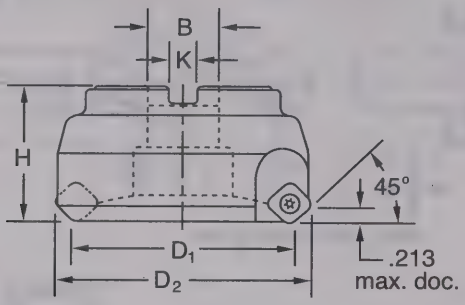
## SCREW-ON BORING BARS

| Shank Dimensions (In.) D | C | F | K | Minimum Bore | Gage Insert | Insert Screw | Torx Wrench | Kennametal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 8 | .312 | 3 | .600 | CPMT-21.51 | MS-1153 | FT-7 | A08-SCLPR2 | 2G869 | $81.10▲ | 0.5 |
| 5/8 | 10 | .406 | 2 | .770 | CPMT-32.51 | MS-1155 | FT-15 | A10-SCLPR3 | 2G873 | 99.45▲ | 0.9 |
| 3/4 | 10 | .500 | 2 | .930 | CPMT-32.51 | MS-1155 | FT-15 | A12-SCLPR3 | 2G877 | 120.05▲ | 1.3 |

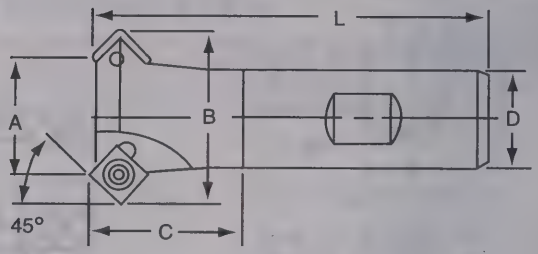
▲)Net prices, not subject to discounts.

# SCREW-ON INSERT MILLING CUTTERS

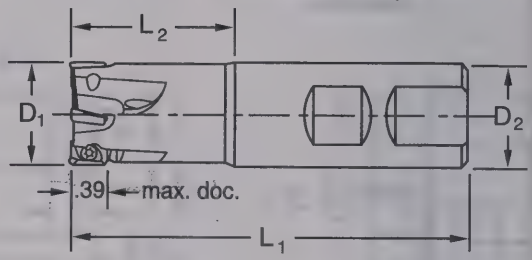
New




KSSR




KIPR-SD




KIPR-AN

## SCREW-ON INSERT MILLING CUTTERS

| Dimensions (In.) A | B | C | D | E | Insert Screw | Torx Driver | Inserts Required Inserts Stock No. | No. of Inserts | Kennametal Model | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .95 | 1.387 | 1.22 | .750 | 3.25 | MS-1369 | DT-8 | 2H875 | 2 | KIPR-0.95-SD2.6-45 | 3E902 | $85.30▲ | 0.5 |
| 1.97 | .750 | .67 | 2.470 | 1.57 | MS-1129 | DT-15 | 2H983 | 4 | KSSR-1.97-SE4-45-3 | 3F274* | 207.00▲ | 1.4 |
| 3.15 | 1.000 | 1.38 | 3.610 | 1.97 | MS-1129 | DT-15 | 2H983 | 6 | KSSR-3.15-SE4-45-4 | 3F280* | 332.00▲ | 3.2 |
| 3.94 | 1.250 | 1.69 | 4.480 | 1.97 | MS-1129 | DT-15 | 2H983 | 6 | KSSR-3.94-SE4-45-5 | 3F282* | 403.75▲ | 4.7 |
| .375 | — | .80 | .50 | 3.00 | MS-1861 | DT-8 | 4UW62 | 1 | KIPR-038AN1623-0-2 | 4UW79 | 103.10▲ | 1.5 |
| .500 | — | 1.03 | .62 | 3.25 | MS-1861 | DT-8 | 4UW62 | 1 | KIPR-050AN1623-0-2.5 | 4UW80 | 106.25▲ | 1.5 |
| .750 | — | 1.03 | .75 | 3.38 | MS-1861 | DT-8 | 4UW62 | 3 | KIPR-075AN1623-0F-3 | 4UW81 | 144.75▲ | 1.5 |
| 1.000 | — | 1.25 | 1.00 | 3.50 | MS-1861 | DT-8 | 4UW62 | 4 | KIPR-100AN1623-0F-4 | 4UW82 | 169.75▲ | 1.5 |
| 1.500 | — | 1.50 | 1.25 | 4.03 | MS-1861 | DT-8 | 4UW62 | 6 | KIPR-150AN1623-0F-5 | 4UW83 | 201.00▲ | 2.0 |

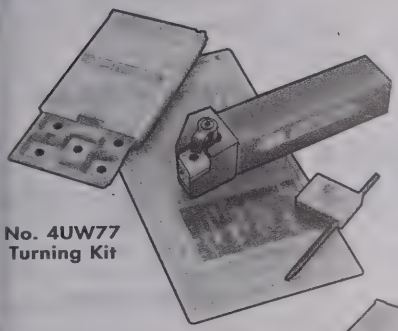
(*) Milling adapters available. See page 1644.

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

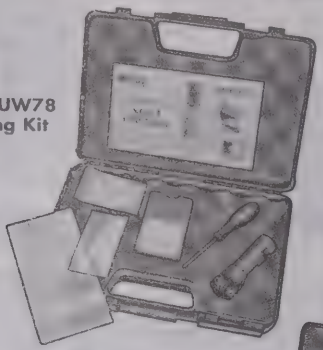
In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

# BORING, MILLING, AND TURNING KITS

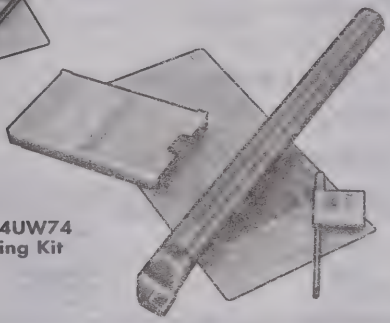
New



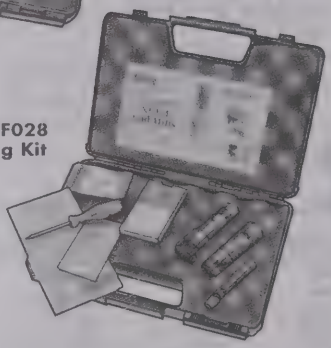
No. 4UW77
Turning Kit



No. 4UW78
Milling Kit



No. 4UW74
Boring Kit



No. 3F028
Milling Kit

## TURNING KITS

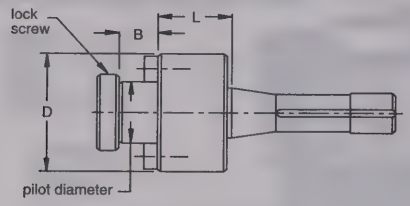
| Description | Kit Contents | Qty. | Kennametal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Kenloc KL-Combination Toolholder**<br>**Kenloc 80 Degree Diamond Inserts** | MCLNR-164C<br>CNMG-432 KC850 | 1<br>10 | K TURN KIT MCLNR-164C | ***New*** **4UW76** | **$103.95▲** | 2.0 |
| **Screw-On Insert Toolholder**<br>**80 Degree Diamond Screw-on Insert**<br>**Insert Screw**<br>**Torx Flag Wrench** | SCLCR-123<br>CCMT-32.52LF KC730<br>MS1156PKG<br>FT-15-3.5 | 1<br>10<br>1 Pkg.<br>1 | K TURN KIT MCLNR-123 | ***New*** **4UW77** | **114.60▲** | 2.0 |
| **Steel Shank Screw-on Insert Boring Bar**<br>**80 Degree Diamond Screw-on Insert**<br>**Insert Screw**<br>**Torx Flag Wrench** | A12-SCLPR3<br>CPMT-32.51LF KC730<br>MS1155PKG<br>FT-15-3.5 | 1<br>10<br>1 Pkg.<br>1 | K BORE KIT A12-SCLPR3 | ***New*** **4UW74** | **167.50▲** | 3.0 |

## MILLING KITS

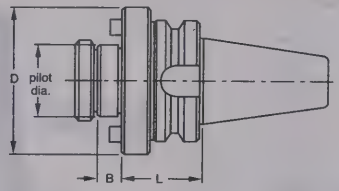
| | | | | | | |
|---|---|---|---|---|---|---|
| **NGE-1 New Generation End Mill**<br>**Screw-on Milling Insert**<br>**Insert Screw**<br>**Torx Driver**<br>**Anti-seize Lube** | KIPR-075AN1623-0F-3<br>ANGT-1.62.3P3R<br>MS1861PKG<br>DT-8<br>ASL-3G | 1<br>10<br>1 Pkg.<br>1<br>1 | K EMIL KIT 075A162 OF | ***New*** **4UW78** | **181.25▲** | 2.0 |
| **NGE-1 New Generation End Mill**<br>**Screw-on Milling Insert**<br>**Insert Screw**<br>**Torx Driver**<br>**Anti-seize Lube** | KIPR-100AN1623-0F-3<br>ANGT-1.62.3P3R<br>MS1861PKG<br>DT-8<br>ASL-3G | 1<br>10<br>1 Pkg.<br>1<br>1 | K EMIL KIT 1.00A162 OF | ***New*** **4UW75** | **190.75▲** | 2.0 |
| **5/8" Dia. End Mill - 1 Tooth**<br>**1" Dia. End Mill - 3 Tooth**<br>**1½" Dia. End Mill - 4 Tooth**<br>**High performance, positive chip forming inserts**<br>**Insert Screw**<br>**Torx Driver**<br>**Case** | K062J1R125M5-SXD052-5<br>KIPR1.00-XD2.322-0F-3<br>KIPR1.50-XD2.322-0-5<br>XDMT-2.322R KC720M<br>MS-1168PKG.<br>DT-15<br>K-ENDMILL-BX | 1<br>1<br>1<br>20<br>1 Pkg.<br>1<br>1 | K E-END MIL KIT-A | **3F028** | **449.50▲** | 3.6 |
| **5/8" Dia. End Mill - 1 Tooth**<br>**1" Dia. End Mill - 3 Tooth**<br>**1½" Dia. End Mill W/Bridgeport Shank- 4 Tooth**<br>**high performance, positive chip forming inserts**<br>**Insert Screw**<br>**Torx Driver**<br>**Case** | K062J1R125M5-SXD052-5<br>KIPR1.00-XD2.322-0F-3<br>KIPR1.50-XD2.322-0<br>XDMT-2.322R KC720<br>MS-1168PKG<br>DT-15<br>K-ENDMILL-BX | 1<br>1<br>1<br>20<br>1 Pkg.<br>1<br>1 | K E-END MIL KIT-B | **3F030** | **449.50▲** | 3.6 |

▲) Net prices, not subject to discounts.

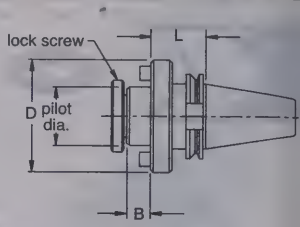
# SHANK TOOLING



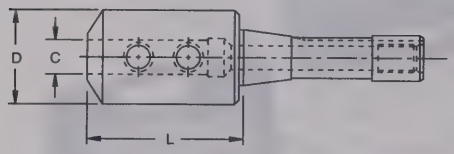

R8 Shell Mill Adapter



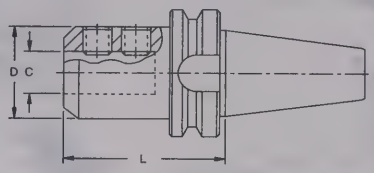

BT Shell Mill Adapter



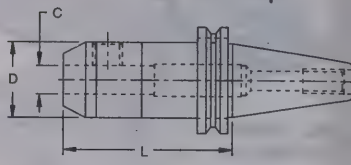

CV Shell Mill Adapter




R8 End Mill Adapter




BT End Mill Adapter




CV End Mill Tooling

## R8 BRIDGEPORT SHANK TOOLING

### SHELL MILL ADAPTERS

| Pilot Dia. | D | Dimensions (In.) L | B | Lock Screw | Drive Key | Kennametal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| .750 | 1.62 | 1.02 | .671 | KLS07 | — | R8SM075102 | 3C861 | $64.95▲ | 0.5 |
| 1.000 | 1.97 | 1.02 | .671 | KLS10 | — | R8SM100102 | 3C863 | 72.85▲ | 0.5 |
| 1.250 | 2.50 | 1.02 | .671 | KLS12 | — | R8SM125102 | 3C865 | 72.85▲ | 0.5 |

### END MILL ADAPTERS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .500 | 1.25 | 1.12 | — | 7/16-20UNF | — | R8EM050112 | 3C849 | 45.70▲ | 1.1 |
| .625 | 1.58 | 1.50 | — | 1/2-20UNF | — | R8EM162150 | 3C851 | 47.05▲ | 1.3 |
| .750 | 1.72 | 2.62 | — | 5/8-18UNF | — | R8EM075262 | 3C853 | 50.55▲ | 2.1 |
| 1.000 | 1.94 | 3.06 | — | 3/4-16UNF | — | R8EM100306 | 3C857† | 56.20▲ | 2.8 |
| 1.250 | 2.38 | 3.06 | — | 3/4-16UNF | — | R8EM125306 | 3C859† | 74.90▲ | 3.3 |

## BT SHANK TOOLING

### SHELL MILL ADAPTERS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .750 | 1.77 | 1.77 | .69 | KLS07 | 5KDKR0 | BT40SM075177 | 3A213 | 139.40▲ | 2.9 |
| 1.000 | 2.28 | 1.77 | .69 | KLS10 | KDKR08 | BT40SM100177 | 3C225 | 139.40▲ | 3.2 |
| 1.250 | 2.87 | 2.36 | .69 | KLS12 | KDKR08 | BT40SM125236 | 3C237 | 141.45▲ | 4.8 |

### END MILL ADAPTERS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .500 | 1.38 | 2.55 | — | ELS044038PKG | — | BT40EM050255 | 2Z514 | 108.20▲ | 2.7 |
| .625 | 1.61 | 2.55 | — | EL5050050PKG | — | BT40EM062255 | 2Z827 | 108.20▲ | 2.8 |
| 1.89 | 1.73 | 2.55 | — | ELS062050PKG | — | BT40EM075255 | 2Z882 | 108.20▲ | 3.4 |
| 2.35 | 2.36 | 3.74 | — | ELS075056PKG | — | BT40EM100374 | 2Z938* † | 116.50▲ | 3.8 |
| 2.48 | 2.48 | 3.35 | — | EL5100088PKG | — | BT40EM125335 | 2Z940* † | 118.60▲ | 0.1 |

## CV SHANK TOOLING

### SHELL MILL ADAPTERS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .750 | 1.75 | 1.38 | .69 | KLS07 | — | CV40SM075138 | 2V091 | 151.00▲ | 2.7 |
| 1.000 | 2.19 | 2.06 | .69 | KLS10 | — | CV40SM100206 | 2V093 | 116.50▲ | 3.2 |
| 1.250 | 2.88 | 2.12 | .69 | KLS12 | KDK08 | CV40SM125212 | 3DC09 | 127.95▲ | 7.7 |
| .750 | 1.75 | 1.50 | .69 | KLS07 | KDK05 | CV50SM075150 | 3CZ51 | 146.70▲ | 13.0 |
| 1.000 | 2.75 | 2.00 | .69 | KLS10 | KDK06 | CV50SM100200 | 2V171 | 152.00▲ | 8.1 |
| 1.250 | 2.88 | 1.50 | .69 | KLS12 | KDK08 | CV50SM125150 | 3CZ48 | 152.00▲ | 14.0 |

### END MILL TOOLING

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .500 | 1.25 | 2.62 | — | ELS044038PKG | — | CV40EM050262 | 2V036 | 99.85▲ | 4.7 |
| .625 | 1.50 | 3.75 | — | ELS056038PKG | — | CV40EM062375 | 2V040 | 108.20▲ | 3.2 |
| .750 | 1.75 | 3.75 | — | ELS062050PKG | — | CV40EM075375 | 2V044 | 99.85▲ | 0.9 |
| 1.000 | 2.00 | 4.00 | — | ELS075058PKG* | — | CV40EM100400 | 2V050 | 99.85▲ | 3.5 |
| 1.250 | 2.50 | 4.25 | — | ELS075062PKG* | — | CV40EM125425 | 2V056† | 137.30▲ | 5.2 |
| .500 | 1.25 | 2.62 | — | ELS044038PKG | — | CV50EM050262 | 2V101 | 105.05▲ | 7.1 |
| .625 | 1.63 | 3.75 | — | ELS056050PKG | — | CV50EM062375 | 2V105 | 116.50▲ | 7.7 |
| .750 | 1.75 | 3.75 | — | ELS062050PKG | — | CV50EM075375 | 2V109 | 105.05▲ | 8.0 |
| 1.000 | 2.00 | 4.00 | — | EL5075056PKG* | — | CV50EM100400 | 2V113 | 105.05▲ | 8.1 |
| 1.250 | 2.50 | 4.00 | — | ELS075062PKG* | — | CV50EM125400 | 2V125† | 129.00▲ | 9.0 |

(*) Two lock screws required. (†) Accepts single ended end mills only. (▲) Net prices, not subject to discounts.



Set up your next job with quality cutting tools from Grainger.

# BORING HEADS/BAR SETS

## 2 AND 3" BORING HEADS

Vide bearing surface assures maximum rigidity even when bor-ng bar holder is used in an offset position. Hardened and ground djusting screw and plainly marked dial face allow easy reading nd adjustments of .0005" or less.

| Boring Head I.D. Size (In.) | Boring Bar Hole Size (In.) | Offset (In.) | Threaded | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2 | 1/2 Round | 5/8 | 7/8 - 20TPI | 4K600 | $65.30 | 1.6 |
| 3 | 3/4 | 3/4 | 1½ - 18TPI | 4K598 | 91.80 | 4.5 |



No. 4K598

## ADAPTERS FOR BORING HEADS

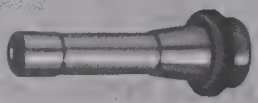
**No. 4K594 R8 Bridgeport adapter threaded 1½ x 18 per inch for use with No. 4K600**

**No. 4K596 R8 Bridgeport adapter threaded 7/8 x 20 per inch for use with No. 4K598**

**Advantage Plus brand**

**New No. 4K594.** Shpg. wt. 1.7 lbs. List $17.40. Each.....$14.79

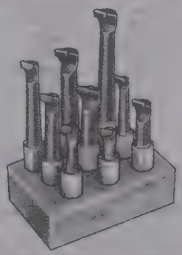
**New No. 4K596.** Shpg. wt. 1.5 lbs. List $17.40. Each.....$14.79



No. 4K596

## BORING BAR SETS

Heavy duty boring bars have a ground alloy steel shank. The arge head behind the cutting edge promotes rigidity and long life y reducing vibrations. All sets are grade C-6 and come with a vooden stand. Set includes one each of the bars listed.



No. 4K536

| Shank Dia. (In.) | Min Bore (In.) | Bore Depth (In.) | Overall Length (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/8" SHANK — 9 PIECE SET** | | | | | | |
| 3/8 | 5/16 | 3/4 | 2 | 4K536 | $28.60 | 1.6 |
| | 5/16 | 1⅛ | 2⅜ | | | |
| | 5/16 | 1½ | 3¾ | | | |
| | 3/8 | 15/16 | 2⅜ | | | |
| | 3/8 | 1 15/32 | 2 21/32 | | | |
| | 3/8 | 1⅞ | 3⅛ | | | |
| | 7/16 | 1⅛ | 2⅜ | | | |
| | 7/16 | 1⅞ | 2 15/16 | | | |
| | 7/16 | 2¼ | 3½ | | | |
| **1/2" SHANK — 9 PIECE SET** | | | | | | |
| 1/2 | 5/16 | 3/4 | 2¼ | 4K532 | 39.80 | 1.6 |
| | 5/16 | 1⅛ | 2⅝ | | | |
| | 5/16 | 1½ | 3 | | | |
| | 7/16 | 1⅛ | 2⅝ | | | |
| | 7/16 | 1 11/16 | 3 3/16 | | | |
| | 7/16 | 2¼ | 3¾ | | | |
| | 9/16 | 1½ | 3 | | | |
| | 9/16 | 2¼ | 3¾ | | | |
| | 9/16 | 3 | 4½ | | | |
| **5/8" SHANK — 12 PIECE SET** | | | | | | |
| 5/8 | 5/16 | 3/4 | 2¼ | 4K525 | 70.40 | 3.4 |
| | 5/16 | 1⅛ | 2⅝ | | | |
| | 5/16 | 1½ | 3 | | | |
| | 7/16 | 1⅛ | 2⅝ | | | |
| | 7/16 | 1 11/16 | 3 3/16 | | | |
| | 7/16 | 2¼ | 3¾ | | | |
| | 9/16 | 1½ | 3 | | | |
| | 9/16 | 2¼ | 3¾ | | | |
| | 9/16 | 3 | 4½ | | | |
| | 11/16 | 1⅞ | 3⅜ | | | |
| | 11/16 | 2 13/16 | 4 5/16 | | | |
| | 11/16 | 3¾ | 5¼ | | | |

| Shank Dia. (In.) | Min Bore (In.) | Bore Depth (In.) | Overall Length (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/4" SHANK — 12 PIECE SET** | | | | | | |
| 3/4 | 7/16 | 1⅛ | 3⅛ | 4K523 | $81.60 | 5.7 |
| | 7/16 | 1 1/16 | 3 1/16 | | | |
| | 7/16 | 2¼ | 4¼ | | | |
| | 9/16 | 1½ | 3½ | | | |
| | 9/16 | 2¼ | 4¼ | | | |
| | 9/16 | 3 | 5 | | | |
| | 11/16 | 1⅞ | 3⅞ | | | |
| | 11/16 | 2 13/16 | 4 13/16 | | | |
| | 11/16 | 3¾ | 5¾ | | | |
| | 13/16 | 2¼ | 4¼ | | | |
| | 13/16 | 3⅜ | 5⅜ | | | |
| | 13/16 | 4½ | 6½ | | | |
| **1" SHANK — 7 PIECE SET** | | | | | | |
| 1 | 9/16 | 3 | 5 | 4K521 | 111.20 | 9.2 |
| | 11/16 | 3¾ | 5¾ | | | |
| | 7/8 | 4½ | 6½ | | | |
| | 1 1/16 | 4½ | 6½ | | | |
| | 1⅛ | 5¾ | 7¾ | | | |
| | 1½ | 6¼ | 8¼ | | | |
| | 1⅝ | 7½ | 9½ | | | |

## ORDERING HAS NEVER BEEN EASIER!

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

## SQUARE

High speed steel (M2) and cobalt (Co5%) steel tool bits for general purpose and heavy duty cutting. M2 is for general purpose - works extremely well on mild steel, alloys and tool steel. Cobalt will work better where high heat is present like heavy cuts in hard steel.

| Square Size (In.) | Overall Length (In.) | Box Qty. | M2 H.S.S. | Each* | Lots 50 | 5% Cobalt Steel | Each* | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 2½ | 10 | 4K591 | $0.91 | $0.82 | 4K565 | $1.90 | $1.71 | 0.3 |
| 3/16 | 2½ | 10 | 4K589 | 0.91 | 0.82 | 4K561 | 1.90 | 1.71 | 0.1 |
| 1/4 | 2½ | 12 | 4K585 | 1.25 | 1.13 | 4K558 | 2.45 | 2.21 | 0.1 |
| 5/16 | 2½ | 5 | 4K583 | 1.45 | 1.31 | 4K556 | 3.39 | 3.05 | 0.3 |
| 3/8 | 3 | 5 | 4K581 | 2.08 | 1.87 | 4K554 | 3.78 | 3.40 | 0.5 |
| 7/16 | 3½ | 5 | 4K579 | 3.22 | 2.90 | 4K551 | 5.87 | 5.28 | 0.8 |
| 1/2 | 4 | 5 | 4K577 | 4.09 | 3.68 | 4K548 | 6.81 | 6.13 | 1.2 |
| 5/8 | 4½ | 1 | 4K574 | 6.81 | 6.13 | 4K546 | 12.13 | 10.92 | 2.6 |
| 3/4 | 5 | 1 | 4K572 | 11.08 | 9.97 | 4K544 | 18.66 | 16.79 | 4.1 |
| 7/8 | 6 | 1 | 4K570 | 16.95 | 15.26 | 4K540 | 32.05 | 28.83 | 8.0 |
| 1 | 7 | 1 | 4K568 | 21.22 | 19.10 | 4K538 | 39.10 | 35.18 | 6.1 |

(*) Priced Each. Sold Only in Pkg. Quantities.

## CARBIDE TIPPED — STYLE AR

- **C-2 grade for cast iron and non-ferrous materials**
- **C-5 grade for steel and steel alloys**

Used for general machining operations such as turning, boring and chamfering. Right hand for turning to square shoulder. Cuts right to left.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| AR4 | 1/4 | 4K519 | 4K407 | $2.48 | $2.23 | 0.4 |
| AR5 | 5/16 | 4K517 | 4K405 | 2.63 | 2.37 | 0.7 |
| AR6 | 3/8 | 4K515 | 4K403 | 2.63 | 2.37 | 0.9 |
| AR7 | 7/16 | 4K513 | 4K401 | 2.63 | 2.37 | 0.8 |
| AR8 | 1/2 | 4K511 | 4K399 | 3.03 | 2.73 | 1.1 |
| AR10 | 5/8 | 4K509 | 4K397 | 4.94 | 4.45 | 2.2 |
| AR12 | 3/4 | 4K507 | 4K395 | 9.26 | 8.33 | 1.4 |
| AR16 | 1 | 4K505 | 4K393 | 13.93 | 12.54 | 1.6 |

## CARBIDE TIPPED — STYLE AL

- **C-2 grade for cast iron and non-ferrous material**
- **C-5 grade for steel and steel alloys**

Used for general machining operations such as turning, boring and chamfering. Left hand for turning to a square shoulder, cuts left to right.

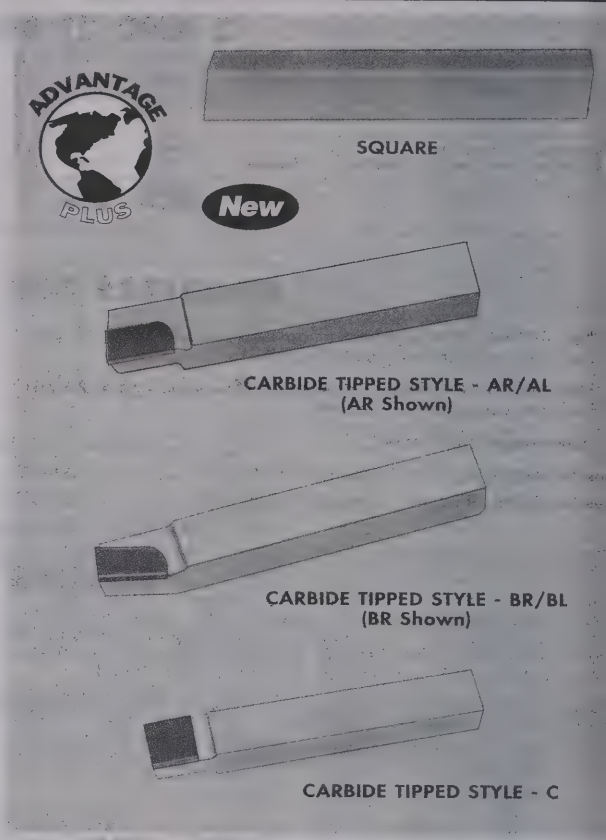
| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| AL4 | 1/4 | 4K503 | 4K391 | $2.48 | $2.23 | 0.4 |
| AL5 | 5/16 | 4K501 | 4K389 | 2.63 | 2.37 | 0.7 |
| AL6 | 3/8 | 4K499 | 4K387 | 2.63 | 2.37 | 0.9 |
| AL7 | 7/16 | 4K497 | 4K385 | 2.63 | 2.37 | 0.8 |
| AL8 | 1/2 | 4K495 | 4K383 | 3.03 | 2.73 | 1.1 |
| AL10 | 5/8 | 4K493 | 4K381 | 4.94 | 4.45 | 2.2 |
| AL12 | 3/4 | 4K491 | 4K379 | 9.26 | 8.33 | 1.4 |
| AL16 | 1 | 4K489 | 4K377 | 13.93 | 12.54 | 1.6 |

## CARBIDE TIPPED — STYLE BR

- **C-2 grade for cast iron and non-ferrous material**
- **C-5 grade for steel and steel alloys**

Used for general machining operations such as turning, boring, and chamfering. Right hand 15° lead angle for turning when no square shoulder is needed. Cuts from right to left.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| BR4 | 1/4 | 4K487 | 4K375 | $2.48 | $2.23 | 0.4 |
| BR5 | 5/16 | 4K485 | 4K373 | 2.63 | 2.37 | 0.7 |
| BR6 | 3/8 | 4K483 | 4K371 | 2.63 | 2.37 | 0.9 |
| BR7 | 7/16 | 4K481 | 4K369 | 2.63 | 2.37 | 0.8 |
| BR8 | 1/2 | 4K479 | 4K367 | 3.03 | 2.73 | 1.1 |
| BR10 | 5/8 | 4K477 | 4K365 | 4.94 | 4.45 | 2.2 |
| BR12 | 3/4 | 4K475 | 4K363 | 9.26 | 8.33 | 1.4 |
| BR16 | 1 | 4K473 | 4K361 | 13.93 | 12.54 | 1.6 |




## CARBIDE TIPPED — STYLE BL

- **C-2 grade for cast iron and non-ferrous materials**
- **C-5 grade for steel and steel alloys**

Used for general machining operations such as turning, borin and chamfering. Left hand 15° lead angle for turning when n square shoulder is needed. Cuts from left to right.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| BL4 | 1/4 | 4K471 | 4K359 | $2.48 | $2.23 | 0.4 |
| BL5 | 5/16 | 4K469 | 4K357 | 2.63 | 2.37 | 0.7 |
| BL6 | 3/8 | 4K467 | 4K355 | 2.63 | 2.37 | 0.9 |
| BL7 | 7/16 | 4K465 | 4K353 | 2.63 | 2.37 | 0.8 |
| BL8 | 1/2 | 4K463 | 4K349 | 3.03 | 2.73 | 1.1 |
| BL10 | 5/8 | 4K461 | 4K347 | 4.94 | 4.45 | 2.2 |
| BL12 | 3/4 | 4K459 | 4K345 | 9.26 | 8.33 | 1.4 |
| BL16 | 1 | 4K457 | 4K343 | 13.93 | 12.54 | 1.6 |

## CARBIDE TIPPED — STYLE C

- **C-2 grade for cast iron and non-ferrous materials**
- **C-5 grade for steel and steel alloys**

A general-purpose tool of great utility for chamfering, facing turning. Square nose.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| C4 | 1/4 | 4K455 | 4K341 | $2.52 | $2.27 | 0.4 |
| C5 | 5/16 | 4K453 | 4K339 | 2.63 | 2.37 | 0.7 |
| C6 | 3/8 | 4K451 | 4K337 | 2.63 | 2.37 | 0.9 |
| C7 | 7/16 | 4K449 | 4K335 | 2.63 | 2.37 | 0.8 |
| C8 | 1/2 | 4K447 | 4K333 | 2.83 | 2.55 | 1.1 |
| C10 | 5/8 | 4K444 | 4K331 | 4.65 | 4.19 | 2.2 |
| C12 | 3/4 | 4K442 | 4K329 | 7.30 | 6.57 | 1.4 |
| C16 | 1 | 4K440 | 4K327 | 13.07 | 11.76 | 1.6 |

# TOOL BITS

## CARBIDE TIPPED — STYLE D

**C-2 grade cast iron and non-ferrous materials**
**C-5 grade for steel and steel alloys**

pinted nose. 80° angle used for under cutting and O.D. and I.D. hamfering.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| D4 | 1/4 | 4K438 | 4K325 | $2.52 | $2.27 | 0.4 |
| D5 | 5/16 | 4K436 | 4K323 | 2.63 | 2.37 | 0.7 |
| D6 | 3/8 | 4K434 | 4K321 | 2.63 | 2.37 | 0.9 |
| D7 | 7/16 | 4K432 | 4K319 | 2.63 | 2.37 | 0.8 |
| D8 | 1/2 | 4K430 | 4K316 | 3.03 | 2.73 | 1.1 |
| D10 | 5/8 | 4K428 | 4K314 | 4.65 | 4.19 | 2.2 |
| D12 | 3/4 | 4K426 | 4K312 | 7.30 | 6.57 | 1.4 |
| D16 | 1 | 4K424 | 4K310 | 13.07 | 11.76 | 1.6 |

## CARBIDE TIPPED — STYLE E

**C-2 grade for cast iron and non-ferrous materials**
**C-5 grade for steel and steel alloys**

hreading tool. Standard 60° angle for universal threading, V-ooving, chamfering turning, boring and facing.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| E4 | 1/4 | 4K422 | 4K308 | $2.52 | $2.27 | 0.4 |
| E5 | 5/16 | 4K420 | 4K306 | 2.63 | 2.37 | 0.7 |
| E6 | 3/8 | 4K418 | 4K303 | 2.63 | 2.37 | 0.9 |
| E8 | 1/2 | 4K416 | 4K301 | 2.83 | 2.55 | 0.8 |
| E10 | 5/8 | 4K414 | 4K299 | 4.65 | 4.19 | 1.1 |
| E12 | 3/4 | 4K411 | 4K297 | 7.30 | 6.57 | 2.2 |
| E16 | 1 | 4K409 | 4K295 | 13.07 | 11.76 | 1.6 |

## CARBIDE TIPPED — STYLE ER

**C-2 grade for cast iron and non-ferrous materials**
**C-5 grade for steel and steel alloys**

)° offset threading tool. Carbide tipped bit is offset from shank or threading and V-grooving to a shoulder. Cuts right to left.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| ER4 | 1/4 | 4K242 | 4K229 | $4.15 | $3.74 | 0.4 |
| ER6 | 3/8 | 4K239 | 4K227 | 4.37 | 3.93 | 0.9 |
| ER8 | 1/2 | 4K237 | 4K225 | 5.88 | 5.29 | 1.1 |

## CARBIDE TIPPED — STYLE EL

**C-2 grade for cast iron and non-ferrous materials**
**C-5 grade for steel and steel alloys**

)° offset threading tool. Carbide tipped bit is offset from shank or threading and v-grooving to a shoulder. Cuts left to right.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| EL4 | 1/4 | 4K235 | 4K223 | $4.14 | $3.73 | 0.4 |
| EL6 | 3/8 | 4K233 | 4K221 | 4.39 | 3.95 | 0.9 |
| EL8 | 1/2 | 4K231 | 4K219 | 5.88 | 5.29 | 1.1 |

## CARBIDE TIPPED — STYLE FR

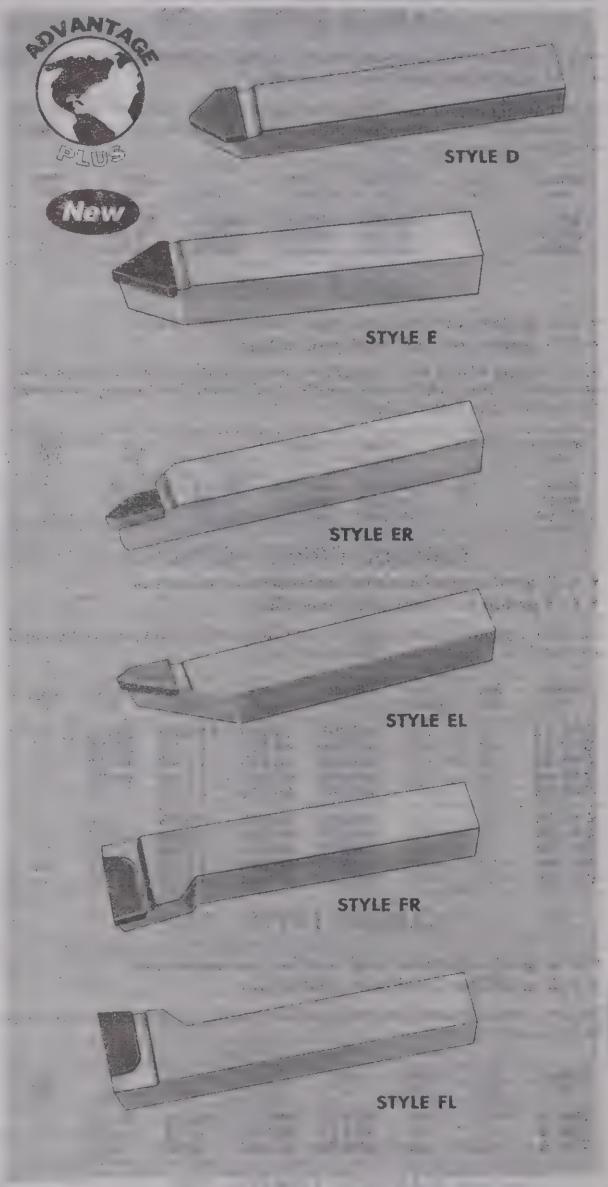
**C-2 grade for cast iron and non-ferrous materials**

**C-5 grade for steel and steel alloys**

**End cutting offset stool**

sed mainly for turret lathe operation. Right hand tool for facing square shoulder. Can be combined with FL tool for straddle acing.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| FR8 | 1/2 | 4K217 | 4K209 | $6.33 | $5.70 | 1.1 |
| FR10 | 5/8 | 4K215 | 4K207 | 7.49 | 6.74 | 0.9 |




## CARBIDE TIPPED — STYLE FL

- **C-2 grade for cast iron and non-ferrous materials**
- **C-5 grade for steel and steel alloys**

End cutting offset tool. Used mainly for turret lathe operation. Left hand tool for turning to a square shoulder. Can be combined with FR tool for straddle facing.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| FL8 | 1/2 | 4K213 | 4K205 | $6.33 | $5.70 | 1.1 |
| FL10 | 5/8 | 4K211 | 4K202 | 7.49 | 6.74 | 0.9 |

## CARBIDE TIPPED — GR

- C-2 grade cast iron and non-ferrous materials
- C-5 grade for steel and steel alloys

Side cutting offset tool. Ideal for facing work close to chuck jaws on turret lathes and boring mills. Right hand for facing to square shoulder. Cuts right to left.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| GR8 | 1/2 | 4K200 | 4K187 | $6.33 | $5.70 | 0.3 |
| GR10 | 5/8 | 4K198 | 4K185 | 7.49 | 6.74 | 0.5 |
| GR16 | 1 | 4K196 | 4K182 | 16.69 | 15.02 | 1.6 |

## CARBIDE TIPPED—GL

- C-2 grade cast iron and non-ferrous materials
- C-5 grade for steel and steel alloys

Side cutting offset tool. Ideal for facing work close to chuck jaws on turret lathes and boring mills. Left hand for facing to square shoulder. Cuts left to right.

| Industry No. | Size (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| GL8 | 1/2 | 4K194 | 4K179 | $6.33 | $5.70 | 0.3 |
| GL10 | 5/8 | 4K192 | 4K177 | 7.49 | 6.74 | 0.5 |
| GL16 | 1 | 4K189 | 4K175 | 16.69 | 15.02 | 1.8 |

## CARBIDE TIPPED—CTR:CTL

- C-2 grade cast iron and non-ferrous materials
- C-5 grade for steel and steel alloys

Carbide tipped cut off tool for maching non-ferrous materials and steel. CTR - right hand, CTL - left hand.

| Industry No. | Size (In.) | Tip Width (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| CTR 11 | 1/2 | 1/8 | 4K293 | 4K269 | $10.95 | $9.86 | 0.6 |
| CTR 22 | 1/2 | 3/16 | 4K290 | 4K267 | 11.18 | 10.06 | 0.6 |
| CTR 33 | 1/2 | 1/4 | 4K288 | 4K265 | 11.46 | 10.31 | 0.6 |
| CTR 44 | 1/2 | 5/16 | 4K286 | 4K257 | 11.46 | 10.31 | 0.6 |
| CTR 55 | 5/8 | 3/8 | 4K283 | 4K255 | 13.82 | 12.44 | 1.0 |
| CTL 11 | 1/2 | 1/8 | 4K281 | 4K253 | 10.95 | 9.86 | 0.6 |
| CTL 22 | 1/2 | 3/16 | 4K279 | 4K250 | 11.18 | 10.06 | 0.6 |
| CTL 33 | 1/2 | 1/4 | 4K277 | 4K248 | 11.46 | 10.31 | 0.6 |
| CTL 44 | 1/2 | 5/16 | 4K273 | 4K246 | 11.46 | 10.31 | 0.6 |
| CTL 55 | 5/8 | 3/8 | 4K271 | 4K244 | 13.82 | 12.44 | 1.0 |

## CARBIDE TIPPED—TSA

- C-2 grade cast iron and non-ferrous materials
- C-5 grade for steel and steel alloys

Square shank boring tool is used for boring to a square shoulder in 90° boring bars.

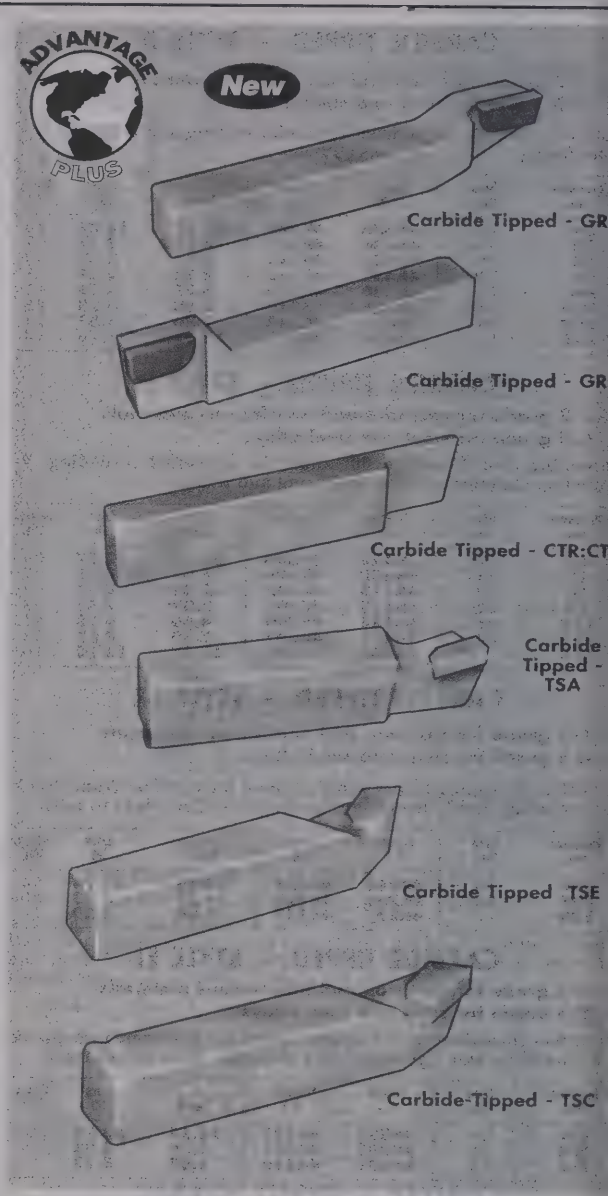
| Industry No. | Size (In.) | Radius (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| TSA 5 | 5/16 | 1/64 | 4K173 | 4K135 | $4.46 | $4.01 | 0.1 |
| TSA 6 | 3/8 | 1/64 | 4K171 | 4K117 | 4.33 | 3.90 | 0.1 |
| TSA 8 | 1/2 | 1/32 | 4K169 | 4K115 | 5.99 | 5.39 | 0.2 |

## CARBIDE TIPPED—TSE

- C-2 grade cast iron and non-ferrous materials
- C-5 grade for steel and steel alloys

Square shank boring tool is used for boring to a square shoulder in a 45° boring bar or boring with a 15° lead angle in a 30°boring bar.

| Industry No. | Size (In.) | Radius (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| TSE 5 | 5/16 | 1/64 | 4K152 | 4K069 | $4.32 | $3.89 | 0.8 |
| TSE 6 | 3/8 | 1/64 | 4K148 | 4K054 | 4.33 | 3.90 | 0.2 |
| TSE 8 | 1/2 | 1/32 | 4K140 | 4K052 | 5.95 | 5.36 | 0.7 |
| TSE 10 | 5/8 | 1/32 | 4K138 | 4K050 | 7.32 | 6.59 | 0.3 |



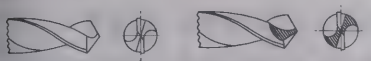

## CARBIDE TIPPED—TSC

- C-2 grade cast iron and non-ferrous materials
- C-5 grade for steel and steel alloys

Square shank boring tool is used for boring to a square shoulder in a 30° bar or internal chamfering (30°) in a 0°.

| Industry No. | Size (In.) | Radius (In.) | Grade C-2 | Grade C-5 | Each | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| TSC 5 | 5/16 | 1/64 | 4K167 | 4K080 | $4.33 | $3.90 | 0.1 |
| TSC 6 | 3/8 | 1/64 | 4K164 | 4K078 | 4.33 | 3.90 | 0.1 |
| TSC 8 | 1/2 | 1/32 | 4K160 | 4K076 | 5.99 | 5.39 | 0.2 |
| TSC 10 | 5/8 | 1/32 | 4K158 | 4K074 | 7.32 | 6.59 | 0.3 |
| TSC 12 | 3/4 | 1/32 | 4K156 | 4K072 | 8.60 | 7.74 | 0.5 |

# TWIST DRILL TECHNICAL DATA AND TERMINOLOGY

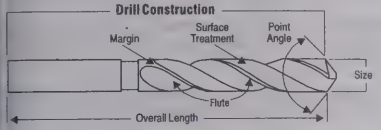


118° CONVENTIONAL POINT  135° SPLIT POINT

**118° CONVENTIONAL POINT.** Most commonly ed point angle for performance in a wide riety of materials

**135° SPLIT POINT.** Reduces thrust and elimi- tes walking at the drill point which akes it ideal for tight tolerance and rtable drill applications

## DRILL TYPES






**BBER LENGTH.** Standard length twist drill signed for a variety of applications from ght duty maintenance to heavy duty dustrial, depending on the drill construc- on and surface treatments.



**REW MACHINE.** Shorter length twist drill r drilling holes in thin metal, heating/air nditioning installation and auto body eet metal work. Shank size is same size drill diameter.



**PER LENGTH.** Longer, straight shank, gen- al purpose drill used where a deeper le is required. Shank size is same size as ill diameter.



**PER SHANK.** Self-holding taper fits direct- into machine spindle for rigid setups d fast tool changes.



**TRA LENGTH.** Extra length drills have the ngest overall length for drilling extreme- deep holes or other hard-to reach illing applications.



**DUCED SHANK.** 3/8" and 1/2" reduced ank drills allow the twist drill diameter exceed the chuck diameter. 1/2" shank ilver and Deming" drills range in diame- r from 1/2" to 1½". 3/8" shank drills range diameter from 25/64" to 1/2".



**SC./SPECIALTY.** Triumph and Greenfield ve a complete specialty drill selection mprised of items such as Combined Drill Countersinks, Screw Extractors, Drill anks, Spot Drills and many others.

## MATERIALS APPLICATION REFERENCE
### For HSS, HD-HSS, and HD-COBALT Twist Drills

| Material | Hardness BHN (3000Kg) | Drill Style | Feed | SFPM * Speed |
|---|---|---|---|---|
| Aluminum & Aluminum Alloys | | High Helix | Medium-Heavy | 200-300 |
| Brass-free Machining | | Low Helix | Medium-Heavy | 100-250 |
| Bronze-Common | | High Helix | Heavy | 200-250 |
| Cast Iron-Soft | Up to 150 | Gen. Purpose | Medium-Heavy | 75-100 |
| Cast Iron-Medium | 150-200 | Gen. Purpose | Medium | 50-100 |
| Cast Iron-Hard | 200-300 | Carbide | Light-Medium | 40-75 |
| High Temp Alloys (Cobalt, Iron, Nickel) | 150-400 | Heavy Duty and Cobalt | Medium | 5-30 |
| Alloy Steel | Up to 200 | Gen. Purpose | Medium-Heavy | 50-70 |
| | 200-300 | Heavy Duty | Medium | 40-50 |
| | Over 300 | H.D. and Cobalt | Medium | 20-50 |
| Stainless-free Machining | Up to 300 | Heavy Duty | Medium | 40-60 |
| Stainless Tough Machining & Precipitation Hardening | Over 300 | H.D. and Cobalt | Medium | 20-50 |
| Titanium | Over 200 | Cobalt | Medium | 20-50 |
| Wood | | Gen. Purpose | Medium-Heavy | 300-400 |
| Plastic | | Gen. Purpose | Medium-Heavy | 100-200 |

(*) Surface Feet Per Minute

## MATERIALS APPLICATION REFERENCE
### For Carbide Tipped and Solid Carbide Twist Drills

| Material | SFM Speed | Drill Diameter/ Feed Per Revolution 1/16 | 1/8 | 1/4 | 1/2 | 3/4 |
|---|---|---|---|---|---|---|
| Aluminum/Aluminum Alloys | 350-750 | .0010 | .0030 | .0070 | .0120 | .0180 |
| Brass/Bronze Soft | 200-225 | .0007 | .0020 | .0030 | .0040 | .0060 |
| Bronze/High Tensile | 150-200 | .0005 | .0020 | .0030 | .0040 | .0050 |
| Iron, Hard Cast | 150-225 | .0005 | .0020 | .0040 | .0070 | .0120 |
| Iron, Soft Cast | 200-350 | .0010 | .0030 | .0060 | .0120 | .0200 |
| Iron, Malleable | 100-250 | .0010 | .0020 | .0040 | .0070 | .0120 |
| Monel/Nickel Base Alloys | 80-200 | .0010 | .0030 | .0050 | .0090 | .0120 |
| Plastic and Related Mat. | 220-550 | .0010 | .0020 | .0040 | .0050 | .0070 |
| Steel, Hardened up to Rc 35 | 100-200 | .0005 | .0010 | .0020 | .0040 | .0060 |
| Steel, Hardened up to Rc 50 | 85-200 | .0005 | .0010 | .0020 | .0020 | .0030 |
| Steel, Hardened up to Rc 60 | 30-85 | .0005 | .0007 | .0010 | .0010 | .0020 |
| Steel, Low Carbon | 150-300 | .0007 | .0010 | .0020 | .0040 | .0060 |
| Steel, Tool | 80-110 | .0005 | .0010 | .0020 | .0040 | .0060 |
| Stainless Steel, Free Machining | 125-300 | .0007 | .0010 | .0020 | .0040 | .0060 |
| Stainless Steel, Work Hardening | 100-125 | .0007 | .0010 | .0020 | .0040 | .0060 |
| Titanium Alloys | 100-400 | .0010 | .0020 | .0040 | .0060 | .0080 |

## TROUBLE SHOOTING GUIDE

| Problem | Solution |
|---|---|
| **Drill Breaks:** | |
| Chip congestion | Check geometry references |
| Improper point geometry | Resharpen or replace |
| Dull drill | Resharpen or replace |
| Misalignment | Review and adjust |
| Vibration and chatter | Review set-up rigidity and adjust |
| **Drill Splits Up Center:** | |
| Insufficient clearance | Resharpen or replace |
| Web too thin | Resharpen or replace |
| Improper feed | Reduce feed |
| **Oversize Hole:** | |
| Improperly pointed drill | Resharpen or replace |
| Chip congestion | Check geometry references |
| Dull drill | Resharpen or replace |
| Misalignment | Review and adjust |

| Problem | Solution |
|---|---|
| **Outer Corner Breakdown:** | |
| Improper speed and feed | Reduce speed; Increase feed |
| Insufficient coolant flow | Review and Adjust |
| Improper Clearance | Resharpen or replace |
| Chip congestion | Check geometry references |
| Misalignment | Review and adjust |
| Inconsistency of material | Review and adjust |
| **Drill Will Not Enter Workpiece** | |
| Insufficient clearance | Resharpen or replace |
| Web too thick | Resharpen or replace |
| Dull drill | Resharpen or replace |
| Chisel edge angle too high | Resharpen or replace |
| Wrong rotation | Change rotation |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# JOBBERS LENGTH DRILLS 118° POINT - FRACTIONAL SIZE

TRIUMPH America's Choice

New Chicago-Latrobe®



Quality Import

No. 4UL41

- General purpose, production, maintenance, portable drilling
- Black oxide, bright finish, titanium nitride (Tin), carbide tippe
- 118° conventional point

**STANDARD PACKAGE QUANTITY**

| Drill Diameter (In.) | Pkg. Qty. | Drill Diameter | Pkg. Qty. |
|---|---|---|---|
| 1/64 - 19/64 | 12 | #1 - #97 | 12 |
| 5/16 - 1/2 | 6 | #A - #L | 12 |
| 33/64 - 11/16 | 1 | #M - #Z | 6 |

| Size | Dimensions (In.) Dec. Equiv. | Length Flute | Length Overall | *New!* IMPORT * Quality Ground General Purpose 118°Black-HSS Stock No. | Each | TRIUMPH Maintenance Grade 118°-Black HSS Stock No. | Each | CHICAGO LATROBE Production Grade 118°-Bright HSS Stock No. | Each | CHICAGO LATROBE Production Grade 118°-Black HSS Stock No. | Each | CHICAGO LATROBE Titanium Nitride 118°-(TiN) Stock No. | Each | CHICAGO LATROBE Carbide Tipped 118° Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/64 | 0.0156 | 3/16 | 3/4 | — | — | — | — | 1F741 | $1.40 | — | — | — | — | — | — |
| 1/32 | 0.0312 | 1/2 | 1⅜ | — | — | 1BR76 | $0.78 | 1F743 | 0.90 | — | — | — | — | — | — |
| 3/64 | 0.0469 | 3/4 | 1¾ | 4UL41 | $0.33 | 1BR77 | 0.65 | 1F745 | 0.88 | 1F487 | $0.88 | — | — | — | — |
| 1/16 | 0.0625 | 7/8 | 1⅞ | 4UL42 | 0.33 | 5X952 | 0.50 | 1F747 | 0.82 | 1F489 | 0.82 | 1V832 | $1.88 | — | — |
| 5/64 | 0.0781 | 1 | 2 | 4UL43 | 0.34 | 5X953 | 0.50 | 1F749 | 0.82 | 1F491 | 0.82 | 1V834 | 1.88 | — | — |
| 3/32 | 0.0938 | 1¼ | 2¼ | 4UL44 | 0.35 | 5X954 | 0.53 | 1F751 | 0.82 | 1F493 | 0.82 | 1V836 | 1.88 | — | — |
| 7/64 | 0.1094 | 1½ | 2⅝ | 4UL45 | 0.35 | 5X955 | 0.53 | 1F753 | 0.88 | 1F495 | 0.88 | 1V838 | 2.04 | — | — |
| 1/8 | 0.1250 | 1⅝ | 2¾ | 4UL46 | 0.39 | 5X956 | 0.60 | 1F755 | 0.92 | 1F497 | 0.92 | 1V840 | 2.14 | 1V997 | $17.05 |
| 9/64 | 0.1406 | 1¾ | 2⅞ | 4UL47 | 0.44 | 5X964 | 0.66 | 1F757 | 0.94 | 1F499 | 0.94 | 1V842 | 2.18 | 1W002 | 18.40 |
| 5/32 | 0.1562 | 2 | 3⅛ | 4UL48 | 0.46 | 5X965 | 0.68 | 1F759 | 0.97 | 1F501 | 0.97 | 1V844 | 2.25 | 1W004 | 18.04 |
| 11/64 | 0.1719 | 2⅛ | 3¼ | 4UL49 | 0.49 | 5X966 | 0.74 | 1F761 | 1.04 | 1F503 | 1.04 | 1V846 | 2.39 | 1W006 | 19.58 |
| 3/16 | 0.1875 | 2⅜ | 3½ | 4UL50 | 0.57 | 5X967 | 0.86 | 1F763 | 1.18 | 1F505 | 1.18 | 1V848 | 2.71 | 1W008 | 19.22 |
| 13/64 | 0.2031 | 2⅞ | 3⅝ | 4UL51 | 0.65 | 5X968 | 0.99 | 1F765 | 1.30 | 1F507 | 1.30 | 1V851 | 2.98 | 1W010 | 21.04 |
| 7/32 | 0.2188 | 2½ | 3¾ | 4UL52 | 0.70 | 5X969 | 1.06 | 1F767 | 1.48 | 1F509 | 1.48 | 1V853 | 3.42 | 1W012 | 20.94 |
| 15/64 | 0.2344 | 2⅝ | 3⅞ | 4UL53 | 0.75 | 5X970 | 1.14 | 1F769 | 1.59 | 1F511 | 1.59 | 1V855 | 3.67 | 1W014 | 22.67 |
| 1/4 | 0.2500 | 2¾ | 4 | 4UL54 | 0.88 | 5X971 | 1.33 | 1F771 | 1.73 | 1F513 | 1.73 | 1V857 | 3.96 | 1W016 | 22.67 |
| 17/64 | 0.2656 | 2⅞ | 4⅛ | 4UL55 | 1.04 | 5X972 | 1.57 | 1F773 | 1.98 | 1F515 | 1.98 | 1V862 | 4.55 | 1W018 | 26.70 |
| 9/32 | 0.2812 | 2⅞ | 4¼ | 4UL56 | 1.21 | 5X973 | 1.83 | 1F775 | 2.04 | 1F517 | 2.04 | 1V864 | 4.73 | 1W020 | 26.70 |
| 19/64 | 0.2969 | 3⅛ | 4⅜ | 4UL57 | 1.30 | 5X974 | 1.97 | 1F777 | 2.37 | 1F519 | 2.37 | 1V866 | 5.44 | 1W022 | 29.40 |
| 5/16 | 0.3125 | 3⅜ | 4½ | 4UL58 | 1.35 | 5X975 | 2.03 | 1F779 | 2.63 | 1F521 | 2.63 | 1V868 | 6.07 | 1W024 | 28.85 |
| 21/64 | 0.3281 | 3⅜ | 4⅝ | 4UL59 | 1.50 | 5X976 | 2.26 | 1F781 | 2.88 | 1F523 | 2.88 | 1V870 | 6.66 | 1W026 | 30.65 |
| 11/32 | 0.3438 | 3⅜ | 4¾ | 4UL60 | 1.70 | 5X977 | 2.57 | 1F783 | 3.22 | 1F525 | 3.22 | 1V873 | 7.43 | 1W028 | 30.65 |
| 23/64 | 0.3594 | 3½ | 4⅞ | 4UL61 | 1.90 | 5X978 | 2.88 | 1F785 | 3.63 | 1F527 | 3.63 | 1V875 | 8.36 | 1W030 | 32.65 |
| 3/8 | 0.3750 | 3⅝ | 5 | 4UL62 | 1.95 | 5X979 | 2.94 | 1F787 | 3.75 | 1F529 | 3.75 | 1V877 | 8.64 | 1W032 | 32.65 |
| 25/64 | 0.3906 | 3¾ | 5⅛ | 4UL63 | 2.21 | 5X980 | 3.33 | 1F789 | 4.24 | 1F531 | 4.24 | 1V879 | 9.80 | 1W034 | 35.60 |
| 13/32 | 0.4062 | 3⅞ | 5⅛ | 4UL64 | 2.24 | 5X981 | 3.38 | 1F791 | 4.37 | 1F533 | 4.37 | 1V882 | 10.07 | 1W037 | 35.60 |
| 27/64 | 0.4219 | 3⅞ | 5⅜ | 4UL65 | 2.48 | 5X982 | 3.74 | 1F793 | 4.84 | 1F535 | 4.84 | 1V884 | 11.15 | 1W039 | 38.45 |
| 7/16 | 0.4375 | 4⅛ | 5½ | 4UL66 | 2.67 | 5X983 | 4.02 | 1F795 | 5.04 | 1F537 | 5.04 | 1V886 | 11.61 | 1W041 | 38.45 |
| 29/64 | 0.4531 | 4⅛ | 5⅝ | 4UL67 | 3.11 | 5X984 | 4.69 | 1F797 | 5.64 | 1F539 | 5.64 | 1V888 | 12.99 | 1W043 | 44.15 |
| 15/32 | 0.4688 | 4⅜ | 5¾ | 4UL68 | 3.14 | 5X985 | 4.74 | 1F799 | 5.99 | 1F541 | 5.99 | 1V890 | 13.80 | 1W045 | 43.25 |
| 31/64 | 0.4844 | 4⅜ | 5⅞ | 4UL69 | 3.35 | 5X986 | 5.05 | 1F801 | 6.26 | 1F543 | 6.26 | 1V893 | 14.46 | 1W047 | 48.45 |
| 1/2 | 0.5000 | 4½ | 6 | 4UL70 | 3.35 | 5X987 | 5.05 | 1F803 | 6.40 | 1F545 | 6.40 | 1V895 | 14.72 | 1W049 | 48.45 |
| 33/64 | 0.5156 | 4⅝ | 6⅛ | — | — | — | — | — | — | 1F547 | 12.22 | — | — | — | — |
| 17/32 | 0.5312 | 4⅝ | 6⅛ | — | — | — | — | — | — | 1F549 | 12.82 | — | — | — | — |
| 35/64 | 0.5469 | 4⅝ | 6⅜ | — | — | — | — | — | — | 1F551 | 13.87 | — | — | — | — |
| 9/16 | 0.5625 | 4⅝ | 6⅜ | — | — | — | — | — | — | 1F553 | 14.53 | — | — | — | — |
| 37/64 | 0.5781 | 4⅝ | 6⅜ | — | — | — | — | — | — | 1F555 | 14.57 | — | — | — | — |
| 19/32 | 0.5938 | 5⅛ | 7⅛ | — | — | — | — | — | — | 1F557 | 14.96 | — | — | — | — |
| 39/64 | 0.6094 | 5⅛ | 7⅛ | — | — | — | — | — | — | 1F559 | 16.42 | — | — | — | — |
| 5/8 | 0.6250 | 5⅛ | 7⅛ | — | — | — | — | — | — | 1F561 | 16.02 | — | — | — | — |
| 41/64 | 0.6406 | 5⅛ | 7⅛ | — | — | — | — | — | — | 1F563 | 17.17 | — | — | — | — |
| 21/32 | 0.6562 | 5⅛ | 7⅛ | — | — | — | — | — | — | 1F565 | 18.02 | — | — | — | — |
| 43/64 | 0.6719 | 5⅝ | 7⅝ | — | — | — | — | — | — | 1F567 | 19.93 | — | — | — | — |
| 11/16 | 0.6875 | 5⅝ | 7⅝ | — | — | — | — | — | — | 1F569 | 19.46 | — | — | — | — |

(*) Sold only in standard package quantity; see chart above.

# DRILL DISPENSER CABINETS

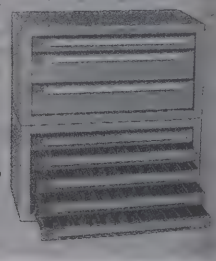
- Large enough to hold a generous supply of each drill size
- Available in fractional, number and letter drill sizes
- Marked drawer fronts allow easy identification of drill sizes
- Smooth-action drawer slides have safety stops to prevent spills
- Individual compartments for drill separation hold full drill packages (12 pcs.) and have rounded bottoms for easy pick-up
- Stackable design economizes on space
- All cabinets measure 7¾H x 14⅝W x 7⅜"D

| Drill Cabinet Description | Holds Drills Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Fractional | 1/16 to 1/2" by 64ths | 4F698 | $133.15 | $88.55 | 10.0 |
| Number | 1 to 60 Wire Gauge | 4F699 | 161.68 | 107.50 | 13.0 |
| Letter | A to Z Letter Sizes | 4F700 | 133.15 | 88.55 | 10.0 |

TRIUMPH America's Choice

No. 4F698

No. 4F699



# JOBBERS LENGTH DRILLS
# 118 AND 135° SPLIT POINT - FRACTIONAL SIZES

TRIUMPH
America's Choice

Chicago-Latrobe®



No. 4F544
Thunderbit®



No. 1P440



No. 1G855



No. 2BR46
Thunderbit®

- General purpose, maintenance, production, portable drilling
- Black Oxide, Titanium Nitride (TiN), Cobalt
- 135° Split point, 135° Thunderbit®
- Split point drills are self-centering and provide quick penetration
- Thunderbits: heavy-duty core construction provides greater strength and rigidity; wide spiral design increases chip ejection, leading to longer tool life

**STANDARD PACKAGE QUANTITY**

| Drill Diameter (In.) | Pkg. Qty. | Drill Diameter | Pkg. Qty. |
|---|---|---|---|
| 1/64 - 19/64 | 12 | #1 - #97 | 12 |
| 5/16 - 1/2 | 6 | #A - #L | 12 |
| 33/64 - 11/16 | 1 | #M - #Z | 6 |

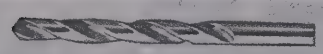
| Size | Dimensions (In.) Dec. Equiv. | Length Flute | Length Overall | CHICAGO LATROBE Production Grade Black HSS - 118° Split Point Stock No. | Each | TRIUMPH Maintenance Grade Black HSS - 135° Split Point Stock No | Each | CHICAGO LATROBE Production Grade 135° Split Point Stock No. | Each | TRIUMPH Thunderbits Black HSS - 135° Split Point Stock No. | Each | TRIUMPH Thunderbits TiN - 135° Split Point Stock No. | Each | CHICAGO LATROBE Production Grade 8% Cobalt 135° Split Point Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/64 | 0.0156 | 3/16 | 3/4 | — | — | | — | 1G170 | $1.55 | — | — | — | — | 1G851 | $2.56 |
| 1/32 | 0.0312 | 1/2 | 1⅜ | — | — | | — | 1G172 | 0.99 | — | — | — | — | 1G853 | 2.04 |
| 3/64 | 0.0469 | 3/4 | 1¾ | | | 2BR06 | $0.75 | 1G174 | 0.98 | — | — | — | — | 1G855 | 1.57 |
| 1/16 | 0.0625 | 7/8 | 1⅞ | 1P440 | $0.88 | 2BR09 | 0.67 | 1G485 | 0.88 | 4F544 | $0.79 | 2BR46 | $1.54 | 1G857 | 1.50 |
| 5/64 | 0.0781 | 1 | 2 | 1P442 | 0.88 | 2BR10 | 0.67 | 1G487 | 0.88 | 4F545 | 0.79 | 2BR47 | 1.54 | 1G859 | 1.48 |
| 3/32 | 0.0938 | 1¼ | 2¼ | 1P444 | 0.88 | 2BR11 | 0.75 | 1G489 | 0.88 | 4F546 | 0.87 | 2BR48 | 1.63 | 1G861 | 1.48 |
| 7/64 | 0.1094 | 1½ | 2⅝ | 1P446 | 0.98 | 2BR12 | 0.75 | 1G491 | 0.99 | 4F547 | 0.87 | 2BR49 | 1.63 | 1G863 | 1.57 |
| 1/8 | 0.1250 | 1⅝ | 2¾ | 1P448 | 0.99 | 2BR13 | 0.86 | 1G493 | 1.02 | 4F548 | 1.01 | 2BR50 | 1.77 | 1G865 | 1.90 |
| 9/64 | 0.1406 | 1¾ | 2⅞ | 1P450 | 1.03 | 2BR14 | 0.86 | 1G495 | 1.04 | 4F549 | 1.01 | 2BR51 | 1.77 | 1G867 | 1.88 |
| 5/32 | 0.1562 | 2 | 3⅛ | 1P452 | 1.04 | 2BR15 | 0.95 | 1G497 | 1.09 | 4F550 | 1.11 | 2BR52 | 1.87 | 1G869 | 2.13 |
| 11/64 | 0.1719 | 2⅛ | 3¼ | 1P454 | 1.13 | 2BR16 | 0.99 | 1G499 | 1.14 | 4F551 | 1.17 | 2BR53 | 1.93 | 1G871 | 2.26 |
| 3/16 | 0.1875 | 2⅜ | 3½ | 1P456 | 1.27 | 2BR17 | 1.13 | 1G501 | 1.30 | 4F552 | 1.34 | 2BR54 | 2.11 | 1G873 | 2.53 |
| 13/64 | 0.2031 | 2⅝ | 3⅝ | 1P458 | 1.41 | 2BR18 | 1.29 | 1G503 | 1.44 | 4F553 | 1.53 | 2BR55 | 3.05 | 1G875 | 2.90 |
| 7/32 | 0.2188 | 2½ | 3¾ | 1P460 | 1.60 | 2BR19 | 1.39 | 1G505 | 1.63 | 4F554 | 1.63 | 2BR56 | 3.16 | 1G877 | 3.16 |
| 15/64 | 0.2344 | 2⅝ | 3⅞ | 1P462 | 1.73 | 2BR20 | 1.50 | 1G507 | 1.75 | 4F555 | 1.77 | 2BR57 | 3.30 | 1G879 | 3.37 |
| 1/4 | 0.2500 | 2¾ | 4 | 1P464 | 1.82 | 2BR21 | 1.67 | 1G509 | 1.85 | 4F556 | 1.97 | 2BR58 | 3.51 | 1G881 | 3.61 |
| 17/64 | 0.2656 | 2⅞ | 4⅛ | 1P466 | 2.11 | 2BR22 | 2.00 | 1G511 | 2.15 | 4F557 | 2.34 | 2BR59 | 4.96 | 1G883 | 4.10 |
| 9/32 | 0.2812 | 2 15/16 | 4¼ | 1P468 | 2.22 | 2BR23 | 2.33 | 1G513 | 2.25 | 4F558 | 2.73 | 2BR60 | 5.36 | 1G885 | 4.28 |
| 19/64 | 0.2969 | 3 1/16 | 4⅜ | 1P470 | 2.58 | 2BR24 | 2.48 | 1G515 | 2.62 | 4F559 | 2.92 | 2BR61 | 5.55 | 1G887 | 5.11 |
| 5/16 | 0.3125 | 3⅛ | 4½ | 1P472 | 2.84 | 2BR25 | 2.57 | 1G517 | 2.88 | 4F560 | 3.00 | 2BR62 | 5.65 | 1G889 | 5.46 |
| 21/64 | 0.3281 | 3 5/16 | 4⅝ | 1P474 | 3.22 | 2BR26 | 2.84 | 1G519 | 3.18 | 4F561 | 3.32 | 2BR63 | 5.97 | 1G891 | 6.01 |
| 11/32 | 0.3438 | 3 3/8 | 4¾ | 1P476 | 3.61 | 2BR27 | 3.18 | 1G521 | 3.55 | 4F562 | 3.75 | 2BR64 | 6.41 | 1G893 | 6.59 |
| 23/64 | 0.3594 | 3½ | 4⅞ | 1P478 | 4.04 | 2BR28 | 3.59 | 1G523 | 4.00 | 4F563 | 4.20 | 2BR65 | 8.39 | 1G895 | 7.78 |
| 3/8 | 0.3750 | 3⅝ | 5 | 1P480 | 4.02 | 2BR29 | 3.68 | 1G525 | 4.11 | 4F564 | 4.33 | 2BR66 | 8.51 | 1G897 | 7.57 |
| 25/64 | 0.3906 | 3¾ | 5⅛ | 1P482 | 4.70 | 2BR30 | 4.13 | 1G527 | 4.82 | 2BR38 | 5.00 | 2BR67 | 9.67 | 1G899 | 8.64 |
| 13/32 | 0.4062 | 3⅞ | 5¼ | 1P484 | 4.88 | 2BR31 | 4.23 | 1G529 | 4.66 | 2BR39 | 5.14 | 2BR68 | 9.80 | 1G901 | 9.02 |
| 27/64 | 0.4219 | 3 15/16 | 5⅜ | 1P486 | 5.31 | 2BR32 | 4.68 | 1G531 | 5.33 | 2BR40 | 5.67 | 2BR69 | 10.35 | 1G903 | 9.95 |
| 7/16 | 0.4375 | 4 1/16 | 5½ | 1P488 | 5.66 | 2BR33 | 5.04 | 1G533 | 5.52 | 2BR41 | 6.11 | 2BR70 | 10.78 | 1G905 | 10.19 |
| 29/64 | 0.4531 | 4⅛ | 5⅝ | 1P490 | 6.29 | 2BR34 | 5.85 | 1G535 | 6.19 | 2BR42 | 7.09 | 2BR71 | 11.76 | 1G907 | 12.22 |
| 15/32 | 0.4688 | 4 3/16 | 5¾ | 1P492 | 6.68 | 2BR35 | 5.90 | 1G537 | 6.55 | 2BR43 | 7.14 | 2BR72 | 11.82 | 1G909 | 12.44 |
| 31/64 | 0.4844 | 4¼ | 5⅞ | 1P494 | 6.99 | 2BR36 | 6.16 | 1G539 | 6.92 | 2BR44 | 7.47 | 2BR73 | 12.13 | 1G911 | 13.50 |
| 1/2 | 0.5000 | 4 5/16 | 6 | 1P496 | 7.19 | 2BR37 | 6.29 | 1G541 | 7.04 | 2BR45 | 7.63 | 2BR74 | 12.30 | 1G913 | 12.81 |
| 33/64 | 0.5156 | 4 5/16 | 6⅛ | — | — | — | — | — | — | — | — | — | — | 4DN51 | 25.40 |
| 17/32 | 0.5312 | 4 3/16 | 6⅛ | — | — | — | — | — | — | — | — | — | — | 4DN52 | 26.65 |
| 35/64 | 0.5469 | 4 3/16 | 6⅝ | — | — | — | — | — | — | — | — | — | — | 4DN53 | 28.85 |
| 9/16 | 0.5625 | 4 3/16 | 6⅝ | — | — | — | — | — | — | — | — | — | — | 4DN54 | 30.20 |
| 37/64 | 0.5781 | 4 3/16 | 6⅝ | — | — | — | — | — | — | — | — | — | — | 4DN55 | 30.25 |
| 19/32 | 0.5938 | 5 1/16 | 7⅛ | — | — | — | — | — | — | — | — | — | — | 4DN56 | 31.10 |
| 39/64 | 0.6094 | 5 1/16 | 7⅛ | — | — | — | — | — | — | — | — | — | — | 4DN57 | 34.15 |
| 5/8 | 0.6250 | 5 1/16 | 7⅛ | — | — | — | — | — | — | — | — | — | — | 4DN58 | 33.35 |
| 41/64 | 0.6406 | 5 1/16 | 7⅛ | — | — | — | — | — | — | — | — | — | — | 4DN59 | 35.70 |
| 21/32 | 0.6562 | 5 1/16 | 7⅛ | — | — | — | — | — | — | — | — | — | — | 4DN60 | 37.45 |
| 43/64 | 0.6719 | 5⅝ | 7⅝ | — | — | — | — | — | — | — | — | — | — | 4DN61 | 41.45 |
| 11/16 | 0.6875 | 5⅝ | 7⅝ | — | — | — | — | — | — | — | — | — | — | 4DN62 | 40.45 |

IF YOU'RE IN A BIND, CALL GRAINGER

If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# TWIST DRILLS

## JOBBER LENGTH DRILLS - 118° POINT - WIRE SIZES



Chicago-Latrobe® New

Quality Import

TRIUMPH America's Choice

- HSS, black oxide, cobalt, TiN coated

### STANDARD PACKAGE QUANTITY

| Drill Diameter (In.) | Pkg. Qty. | Drill Diameter | Pkg. Qty. |
|---|---|---|---|
| 1/64 - 19/64 | 12 | #1 - #97 | 12 |
| 5/16 - 1/2 | 6 | #A - #L | 12 |
| 33/64 - 11/16 | 1 | #M - #Z | 6 |

| Wire Size | Dec. Equiv. | Dimensions (In.) Length Flute | Overall | New! Imports* General Purpose 118° Point Black-HSS Stock No. | Each | TRIUMPH Maintenance Grade 118° Point Black-HSS Stock No. | Each | CHICAGO LATROBE Production Grade 118° Point Black-HSS Stock No. | Each | CHICAGO LATROBE Production Grade 118° Point Bright-HSS Stock No. | Each | CHICAGO LATROBE Production Grade 118° Point TiN Coated Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.2280 | 2⅝ | 3⅞ | 4UL71 | $0.88 | 4AF67 | $1.42 | 1F571 | $1.75 | 1F805 | $1.75 | 1V719 | $4.02 |
| 2 | 0.2210 | 2⅝ | 3⅞ | 4UL72 | 0.86 | 4AF68 | 1.42 | 1F573 | 1.75 | 1F807 | 1.75 | 1V721 | 4.02 |
| 3 | 0.2130 | 2½ | 3¾ | 4UL73 | 0.88 | 4AF69 | 1.42 | 1F575 | 1.56 | 1F809 | 1.56 | 1V723 | 3.61 |
| 4 | 0.2090 | 2½ | 3¾ | 4UL74 | 0.88 | 4AF70 | 1.42 | 1F577 | 1.56 | 1F811 | 1.56 | 1V725 | 3.61 |
| 5 | 0.2055 | 2½ | 3¾ | 4UL75 | 0.88 | 4AF71 | 1.42 | 1F579 | 1.56 | 1F813 | 1.56 | 1V727 | 3.61 |
| 6 | 0.2040 | 2½ | 3¾ | 4UL76 | 0.88 | 4AF72 | 1.42 | 1F581 | 1.56 | 1F815 | 1.56 | 1V729 | 3.61 |
| 7 | 0.2010 | 2⅜ | 3⅝ | 4UL77 | 0.72 | 4AF73 | 1.17 | 1F583 | 1.41 | 1F817 | 1.41 | 1V731 | 3.26 |
| 8 | 0.1990 | 2⅜ | 3⅝ | 4UL78 | 0.72 | 4AF74 | 1.17 | 1F585 | 1.41 | 1F819 | 1.41 | 1V733 | 3.26 |
| 9 | 0.1960 | 2⅜ | 3⅝ | 4UL79 | 0.71 | 4AF75 | 1.15 | 1F587 | 1.41 | 1F821 | 1.41 | 1V735 | 3.26 |
| 10 | 0.1935 | 2⅜ | 3⅝ | 4UL80 | 0.71 | 4AF76 | 1.15 | 1F589 | 1.41 | 1F823 | 1.41 | 1V737 | 3.26 |
| 11 | 0.1910 | 2⅜ | 3½ | 4UL81 | 0.71 | 4AF77 | 1.15 | 1F591 | 1.30 | 1F825 | 1.30 | 1V739 | 2.98 |
| 12 | 0.1890 | 2⅜ | 3½ | 4UL82 | 0.71 | 4AF78 | 1.15 | 1F593 | 1.30 | 1F827 | 1.30 | 1V741 | 2.98 |
| 13 | 0.1850 | 2⅜ | 3½ | 4UL83 | 0.65 | 4AF79 | 1.04 | 1F595 | 1.25 | 1F829 | 1.25 | 1V743 | 2.89 |
| 14 | 0.1820 | 2⅜ | 3⅜ | 4UL84 | 0.65 | 4AF80 | 1.04 | 1F597 | 1.25 | 1F831 | 1.25 | 1V745 | 2.89 |
| 15 | 0.1800 | 2⅜ | 3⅜ | 4UL85 | 0.65 | 4AF81 | 1.04 | 1F599 | 1.25 | 1F833 | 1.25 | 1V747 | 2.89 |
| 16 | 0.1770 | 2⅜ | 3⅜ | 4UL86 | 0.65 | 4AF82 | 1.04 | 1F601 | 1.25 | 1F835 | 1.25 | 1V749 | 2.89 |
| 17 | 0.1730 | 2⅜ | 3⅜ | 4UL87 | 0.65 | 4AF83 | 1.04 | 1F603 | 1.25 | 1F837 | 1.25 | 1V751 | 2.89 |
| 18 | 0.1695 | 2⅛ | 3¼ | 4UL88 | 0.57 | 4AF84 | 0.93 | 1F605 | 1.04 | 1F839 | 1.04 | 1V753 | 2.39 |
| 19 | 0.1660 | 2⅛ | 3¼ | 4UL89 | 0.57 | 4AF85 | 0.93 | 1F607 | 1.04 | 1F841 | 1.04 | 1V755 | 2.39 |
| 20 | 0.1610 | 2⅛ | 3¼ | 4UL90 | 0.57 | 4AF86 | 0.93 | 1F609 | 1.04 | 1F843 | 1.04 | 1V757 | 2.39 |
| 21 | 0.1590 | 2⅛ | 3¼ | 4UL91 | 0.53 | 4AF87 | 0.85 | 1F611 | 0.97 | 1F845 | 0.97 | 1V759 | 2.25 |
| 22 | 0.1570 | 2 | 3⅛ | 4UL92 | 0.53 | 4AF88 | 0.85 | 1F613 | 0.97 | 1F847 | 0.97 | 1V761 | 2.25 |
| 23 | 0.1540 | 2 | 3⅛ | 4UL93 | 0.52 | 4AF89 | 0.85 | 1F615 | 0.94 | 1F849 | 0.94 | 1V763 | 2.18 |
| 24 | 0.1520 | 2 | 3⅛ | 4UL94 | 0.52 | 4AF90 | 0.85 | 1F617 | 0.94 | 1F851 | 0.94 | 1V765 | 2.18 |
| 25 | 0.1495 | 1⅞ | 3 | 4UL95 | 0.47 | 4AF91 | 0.76 | 1F619 | 0.94 | 1F853 | 0.94 | 1V767 | 2.18 |
| 26 | 0.1470 | 1⅞ | 3 | 4UL96 | 0.47 | 4AF92 | 0.76 | 1F621 | 0.94 | 1F855 | 0.94 | 1V769 | 2.18 |
| 27 | 0.1440 | 1⅞ | 3 | 4UL97 | 0.47 | 4AF93 | 0.76 | 1F623 | 0.94 | 1F857 | 0.94 | 1V771 | 2.18 |
| 28 | 0.1405 | 1¾ | 2⅞ | 4UL98 | 0.47 | 4AF94 | 0.76 | 1F625 | 0.87 | 1F859 | 0.87 | 1V773 | 1.99 |
| 29 | 0.1360 | 1¾ | 2⅞ | 4UL99 | 0.47 | 4AF95 | 0.76 | 1F627 | 0.87 | 1F861 | 0.87 | 1V775 | 1.99 |
| 30 | 0.1285 | 1⅝ | 2¾ | 4UM01 | 0.47 | 4AF96 | 0.76 | 1F629 | 0.87 | 1F863 | 0.87 | 1V778 | 1.99 |
| 31 | 0.1200 | 1⅝ | 2¾ | 4UM02 | 0.42 | 4AF97 | 0.67 | 1F631 | 0.87 | 1F865 | 0.87 | 1V781 | 1.99 |
| 32 | 0.1160 | 1⅝ | 2¾ | 4UM03 | 0.42 | 4AF98 | 0.67 | 1F633 | 0.87 | 1F867 | 0.87 | 1V783 | 1.99 |
| 33 | 0.1130 | 1½ | 2⅝ | 4UM04 | 0.83 | 4AF99 | 0.67 | 1F635 | 0.87 | 1F869 | 0.87 | 1V785 | 1.99 |
| 34 | 0.1110 | 1½ | 2⅝ | 4UM05 | 0.42 | 4AH00 | 0.67 | 1F637 | 0.87 | 1F871 | 0.87 | 1V787 | 1.99 |
| 35 | 0.1100 | 1½ | 2⅝ | 4UM06 | 0.42 | 4AH01 | 0.67 | 1F639 | 0.87 | 1F873 | 0.87 | 1V791 | 1.99 |
| 36 | 0.1065 | 1⁷⁄₁₆ | 2½ | 4UM07 | 0.40 | 4AH02 | 0.64 | 1F641 | 0.87 | 1F875 | 0.87 | 1V793 | 1.99 |
| 37 | 0.1040 | 1⁷⁄₁₆ | 2½ | 4UM08 | 0.40 | 4AH03 | 0.64 | 1F643 | 0.87 | 1F877 | 0.87 | 1V795 | 1.99 |
| 38 | 0.1015 | 1⁷⁄₁₆ | 2½ | 4UM09 | 0.40 | 4AH04 | 0.64 | 1F645 | 0.87 | 1F879 | 0.87 | 1V797 | 1.99 |
| 39 | 0.0995 | 1⅜ | 2⅜ | 4UM10 | 0.40 | 4AH05 | 0.64 | 1F647 | 0.87 | 1F881 | 0.87 | 1V799 | 1.99 |
| 40 | 0.0980 | 1⅜ | 2⅜ | 4UM11 | 0.40 | 4AH06 | 0.64 | 1F649 | 0.87 | 1F883 | 0.87 | 1V801 | 1.99 |
| 41 | 0.0960 | 1⅜ | 2⅜ | 4UM12 | 0.40 | 4AH07 | 0.64 | 1F651 | 0.87 | 1F885 | 0.87 | 1V803 | 1.99 |
| 42 | 0.0935 | 1¼ | 2¼ | 4UM13 | 0.39 | 4AH08 | 0.62 | 1F653 | 0.87 | 1F887 | 0.87 | 1V805 | 1.99 |
| 43 | 0.0890 | 1¼ | 2¼ | 4UM14 | 0.39 | 4AH09 | 0.62 | 1F655 | 0.87 | 1F889 | 0.87 | 1V807 | 1.99 |
| 44 | 0.0860 | 1⅛ | 2⅛ | 4UM15 | 0.39 | 4AH10 | 0.62 | 1F657 | 0.87 | 1F891 | 0.87 | 1V810 | 1.99 |
| 45 | 0.0820 | 1⅛ | 2⅛ | 4UM16 | 0.39 | 4AH11 | 0.62 | 1F659 | 0.87 | 1F893 | 0.87 | 1V814 | 1.99 |
| 46 | 0.0810 | 1⅛ | 2⅛ | 4UM17 | 0.39 | 4AH12 | 0.62 | 1F661 | 0.87 | 1F895 | 0.87 | 1V816 | 1.99 |
| 47 | 0.0785 | 1 | 2 | 4UM18 | 0.39 | 4AH13 | 0.62 | 1F663 | 0.87 | 1F897 | 0.87 | 1V818 | 1.99 |
| 48 | 0.0760 | 1 | 2 | 4UM19 | 0.39 | 4AH14 | 0.62 | 1F665 | 0.87 | 1F899 | 0.87 | 1V821 | 1.99 |
| 49 | 0.0730 | 1 | 2 | 4UM20 | 0.39 | 4AH15 | 0.62 | 1F667 | 0.87 | 1F901 | 0.87 | 1V823 | 1.99 |
| 50 | 0.7000 | 1 | 2 | 4UM21 | 0.39 | 4AH16 | 0.62 | 1F669 | 0.87 | 1F903 | 0.87 | 1V825 | 1.99 |
| 51 | 0.0670 | 1 | 2 | 4UM22 | 0.39 | 4AH17 | 0.62 | 1F671 | 0.87 | 1F905 | 0.87 | 1V827 | 1.99 |
| 52 | 0.0635 | 7/8 | 1⅞ | 4UM23 | 0.39 | 4AH18 | 0.62 | 1F673 | 0.87 | 1F907 | 0.87 | 1V829 | 1.99 |
| 53 | 0.0595 | 7/8 | 1⅞ | 4UM24 | 0.39 | 4AH19 | 0.62 | 1F675 | 0.87 | 1F909 | 0.87 | — | — |
| 54 | 0.0550 | 7/8 | 1⅞ | 4UM25 | 0.39 | 4AH20 | 0.62 | 1F677 | 0.87 | 1F911 | 0.87 | — | — |
| 55 | 0.0520 | 7/8 | 1⅞ | 4UM26 | 0.39 | 4AH21 | 0.62 | 1F679 | 0.87 | 1F913 | 0.87 | — | — |
| 56 | 0.0465 | 3/4 | 1¾ | 4UM27 | 0.39 | 4AH22 | 0.62 | 1F681 | 0.87 | 1F915 | 0.87 | — | — |
| 57 | 0.0430 | 3/4 | 1¾ | 4UM28 | 0.46 | 4AH23 | 0.74 | 1F683 | 0.87 | 1F917 | 0.87 | — | — |
| 58 | 0.0420 | 11/16 | 1¾ | 4UM29 | 0.46 | 4AH24 | 0.74 | 1F685 | 0.87 | 1F919 | 0.87 | — | — |
| 59 | 0.0410 | 11/16 | 1¾ | 4UM30 | 0.46 | 4AH25 | 0.74 | 1F687 | 0.87 | 1F921 | 0.87 | — | — |
| 60 | 0.0400 | 11/16 | 1⅝ | 4UM31 | 0.46 | 4AH26 | 0.74 | 1F689 | 0.87 | 1F923 | 0.87 | — | — |

(*) Sold only in standard package quantity, see chart above.

## CHICAGO LATROBE JOBBER LENGTH DRILLS – HSS 118° POINT - SMALL WIRE SIZES

### BRIGHT FINISH

| Wire Size | Dec. Equiv. | Length (In.) Flute | Overall | Stock No. | Each | Std. Pkg. Each |
|---|---|---|---|---|---|---|
| 61 | .0390 | 11/16 | 1⅝ | 1F925 | $0.93 | $0.84 |
| 62 | .0380 | 5/8 | 1½ | 1F927 | 0.93 | 0.84 |
| 63 | .0370 | 5/8 | 1½ | 1F929 | 0.93 | 0.84 |
| 64 | .0360 | 5/8 | 1½ | 1F931 | 0.93 | 0.84 |
| 65 | .0350 | 5/8 | 1½ | 1F933 | 0.93 | 0.84 |
| 66 | .0330 | 1/2 | 1⅜ | 1F935 | 0.93 | 0.84 |
| 67 | .0320 | 1/2 | 1⅜ | 1F937 | 0.93 | 0.84 |
| 68 | .0310 | 1/2 | 1⅜ | 1F939 | $0.93 | $0.84 |
| 69 | .0292 | 1/2 | 1⅜ | 1F941 | 0.99 | 0.89 |
| 70 | .0280 | 3/8 | 1¼ | 1F943 | 0.99 | 0.89 |
| 71 | .0260 | 3/8 | 1¼ | 1F945 | 1.19 | 1.07 |
| 72 | .0250 | 5/16 | 1¼ | 1F948 | 1.19 | 1.07 |
| 73 | .0240 | 5/16 | 1⅛ | 1F950 | 1.19 | 1.07 |
| 74 | .0225 | 1/4 | 1 | 1F952 | 1.19 | 1.07 |
| 75 | .0210 | 1/4 | 1 | 1F954 | $1.19 | $1.07 |
| 76 | .0200 | 3/16 | 7/8 | 1F956 | 1.19 | 1.07 |
| 77 | .0180 | 3/16 | 7/8 | 1F958 | 1.19 | 1.07 |
| 78 | .0160 | 3/16 | 7/8 | 1F960 | 1.19 | 1.07 |
| 79 | .0145 | 1/8 | 3/4 | 1F962 | 1.39 | 1.25 |
| 80 | .0135 | 1/8 | 3/4 | 1F964 | 1.39 | 1.25 |

(†) Shipped 12 per package.

# JOBBER LENGTH DRILLS - 118° AND 135° SPLIT POINT - WIRE SIZES

TRIUMPH
America's Choice

Chicago-Latrobe®

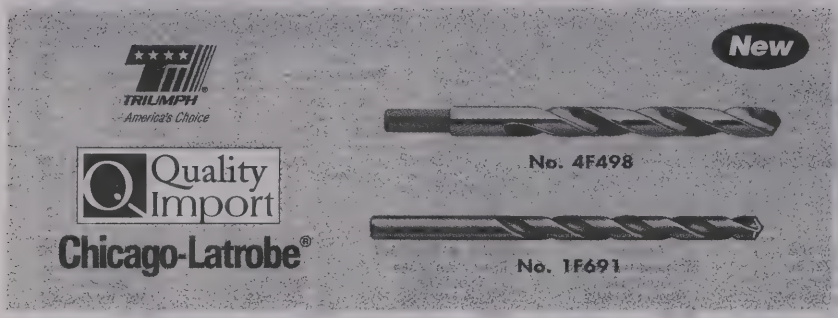


| STANDARD PACKAGE QUANTITY | | | |
|---|---|---|---|
| Drill Diameter (In.) | Pkg. Qty. | Drill Diameter (In.) | Pkg. Qty. |
| 1/64 — 19/64 | 12 | #1 — #97 | 12 |
| 5/16 — 1/2 | 6 | #A — #L | 12 |
| 33/64 — 11/16 | 1 | #M — #Z | 6 |

| Wire Size | Dimensions (In.) Dec. Equiv. | Length Flute | Overall | CHICAGO LATROBE Split Point Black 118° HSS Stock No. | Each | TRIUMPH Maintenance Grade Split Point Black 135° HSS Stock No. | Each | CHICAGO LATROBE-ASP Production Grade Split Point Black 135° HSS Stock No. | Each | TRIUMPH Thunderbit Split Point 135° HSS Stock No. | Each | CHICAGO LATROBE Production Grade Split Point 135° 8% Cobalt Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.2280 | 2⅜ | 3⅞ | 1P498 | $1.83 | 4BR48 | $1.87 | 1G551 | $1.93 | 5BR09 | $2.27 | 1G917 | $3.84 |
| 2 | 0.2210 | 2⅜ | 3⅞ | 1P500 | 1.83 | 4BR49 | 1.76 | 1G553 | 1.93 | 5BR10 | 2.13 | 1G919 | 3.84 |
| 3 | 0.2130 | 2½ | 3¾ | 1P502 | 1.66 | 4BR50 | 1.76 | 1G555 | 1.75 | 5BR11 | 2.13 | 1G921 | 3.44 |
| 4 | 0.2090 | 2½ | 3¼ | 1P505 | 1.66 | 4BR51 | 1.76 | 4EX07 | 1.75 | 5BR12 | 2.13 | 1G923 | 3.44 |
| 5 | 0.2055 | 2½ | 3¼ | 1P507 | 1.66 | 4BR52 | 1.76 | 4EX08 | 1.75 | 5BR13 | 2.13 | 1G925 | 3.44 |
| 6 | 0.2040 | 2½ | 3¼ | 1P509 | 1.66 | 4BR53 | 1.76 | 1G557 | 1.75 | 5BR14 | 2.13 | 1G927 | 3.44 |
| 7 | 0.2010 | 2⁷⁄₁₆ | 3⅜ | 1P511 | 1.48 | 4BR54 | 1.53 | 1G559 | 1.56 | 5BR15 | 1.86 | 1G929 | 2.70 |
| 8 | 0.1990 | 2⁷⁄₁₆ | 3⅜ | 1P513 | 1.48 | 4BR55 | 1.53 | 1G561 | 1.56 | 5BR16 | 1.86 | 1G931 | 2.81 |
| 9 | 0.1960 | 2⁷⁄₁₆ | 3⅜ | 1P516 | 1.48 | 4BR56 | 1.53 | 1G563 | 1.56 | 5BR17 | 1.86 | 1G933 | 3.23 |
| 10 | 0.1935 | 2⁷⁄₁₆ | 3⅜ | 1P524 | 1.48 | 4BR57 | 1.53 | 1G565 | 1.56 | 5BR18 | 1.77 | 1G935 | 2.81 |
| 11 | 0.1910 | 2⁵⁄₁₆ | 3½ | 1P528 | 1.37 | 4BR58 | 1.47 | 1G567 | 1.44 | 5BR19 | 1.77 | 1G937 | 3.00 |
| 12 | 0.1890 | 2⁵⁄₁₆ | 3½ | 1P530 | 1.37 | 4BR59 | 1.47 | 1G569 | 1.44 | 5BR20 | 1.77 | 1G939 | 3.00 |
| 13 | 0.1850 | 2⁵⁄₁₆ | 3½ | 1P536 | 1.33 | 4BR60 | 1.37 | 1G571 | 1.41 | 5BR21 | 1.66 | 1G941 | 2.74 |
| 14 | 0.1820 | 2⁵⁄₁₆ | 3⅜ | 1P540 | 1.33 | 4BR61 | 1.37 | 1G573 | 1.41 | 5BR22 | 1.66 | 1G943 | 2.74 |
| 15 | 0.1800 | 2⁵⁄₁₆ | 3⅜ | 1P542 | 1.33 | 4BR62 | 1.37 | 1G575 | 1.41 | 5BR23 | 1.66 | 1G945 | 2.74 |
| 16 | 0.1770 | 2⁵⁄₁₆ | 3⅜ | 1P544 | 1.33 | 4BR63 | 1.37 | 1G577 | 1.41 | 5BR24 | 1.58 | 1G947 | 2.62 |
| 17 | 0.1730 | 2⁵⁄₁₆ | 3⅜ | 1P546 | 1.33 | 4BR64 | 1.27 | 1G579 | 1.41 | 5BR25 | 1.53 | 1G949 | 2.49 |
| 18 | 0.1695 | 2⅛ | 3¼ | 1P552 | 1.10 | 4BR65 | 1.17 | 1G581 | 1.14 | 5BR26 | 1.42 | 1G951 | 2.26 |
| 19 | 0.1660 | 2⅛ | 3¼ | 1P561 | 1.10 | 4BR66 | 1.17 | 1G583 | 1.14 | 5BR27 | 1.42 | 1G953 | 2.20 |
| 20 | 0.1610 | 2⅛ | 3¼ | 1P593 | 1.10 | 4BR67 | 1.17 | 1G585 | 1.14 | 5BR28 | 1.42 | 1G955 | 2.14 |
| 21 | 0.1590 | 2⅛ | 3¼ | 1P602 | 1.03 | 4BR68 | 1.09 | 1G587 | 1.09 | 5BR29 | 1.32 | 1G957 | 2.20 |
| 22 | 0.1570 | 2 | 3¼ | 1P608 | 1.03 | 4BR69 | 1.09 | 1G589 | 1.09 | 5BR30 | 1.32 | 1G959 | 2.20 |
| 23 | 0.1540 | 2 | 3¼ | 1P625 | 1.02 | 4BR70 | 1.07 | 1G591 | 1.04 | 5BR31 | 1.28 | 1G961 | 2.20 |
| 24 | 0.1520 | 2 | 3¼ | 1P627 | 1.02 | 4BR71 | 1.07 | 1G593 | 1.04 | 5BR32 | 1.28 | 1G963 | 2.20 |
| 25 | 0.1495 | 1⅞ | 3 | 1P637 | 0.99 | 4BR72 | 1.01 | 1G595 | 1.04 | 5BR33 | 1.23 | 1G965 | 2.04 |
| 26 | 0.1470 | 1⅞ | 3 | 1P651 | 0.99 | 4BR73 | 1.01 | 1G597 | 1.04 | 5BR34 | 1.23 | 1G967 | 1.98 |
| 27 | 0.1440 | 1⅞ | 3 | 1P737 | 0.99 | 4BR74 | 0.96 | 1G599 | 1.04 | 5BR35 | 1.16 | 1G969 | 1.98 |
| 28 | 0.1405 | 1¾ | 2⅞ | 1P819 | 0.92 | 4BR75 | 0.96 | 1G601 | 0.97 | 5BR36 | 1.16 | 1G971 | 1.88 |
| 29 | 0.1360 | 1¾ | 2⅞ | 1P821 | 0.92 | 4BR76 | 0.96 | 1G603 | 0.97 | 5BR37 | 1.16 | 1G973 | 1.88 |
| 30 | 0.1285 | 1⅝ | 2¾ | 1P823 | 0.92 | 4BR77 | 0.96 | 1G605 | 0.97 | 5BR38 | 1.16 | 1G975 | 1.76 |
| 31 | 0.1200 | 1⅝ | 2¾ | 1P880 | 0.92 | 4BR78 | 0.83 | 1G607 | 0.97 | 5BR39 | 1.01 | 1G977 | 1.76 |
| 32 | 0.1160 | 1⅝ | 2¾ | 1P882 | 0.92 | 4BR79 | 0.83 | 1G609 | 0.97 | 5BR40 | 1.01 | 1G979 | 1.72 |
| 33 | 0.1130 | 1½ | 2⅝ | 1P904 | 0.92 | 4BR80 | 0.83 | 1G611 | 0.97 | 5BR41 | 1.01 | 1G981 | 1.67 |
| 34 | 0.1110 | 1½ | 2⅝ | 1P906 | 0.92 | 4BR81 | 0.83 | 1G613 | 0.97 | 5BR42 | 1.01 | 1G983 | 1.67 |
| 35 | 0.1100 | 1½ | 2⅝ | 1P940 | 0.92 | 4BR82 | 0.83 | 1G615 | 0.97 | 5BR43 | 1.01 | 1G985 | 1.67 |
| 36 | 0.1065 | 1⁷⁄₁₆ | 2½ | 1U017 | 0.92 | 4BR83 | 0.80 | 1G617 | 0.97 | 5BR44 | 0.98 | 1G987 | 1.67 |
| 37 | 0.1040 | 1⁷⁄₁₆ | 2½ | 1U019 | 0.92 | 4BR84 | 0.80 | 1G619 | 0.97 | 5BR45 | 0.98 | 1G989 | 1.67 |
| 38 | 0.1015 | 1⁷⁄₁₆ | 2½ | 1U021 | 0.92 | 4BR85 | 0.80 | 1G621 | 0.97 | 5BR46 | 0.98 | 1G991 | 1.53 |
| 39 | 0.0995 | 1⅜ | 2⅜ | 1U023 | 0.92 | 4BR86 | 0.78 | 1G623 | 0.97 | 5BR47 | 0.96 | 1G993 | 1.53 |
| 40 | 0.0980 | 1⅜ | 2⅜ | 1U025 | 0.92 | 4BR87 | 0.78 | 1G625 | 0.97 | 5BR48 | 0.96 | 1G995 | 1.53 |
| 41 | 0.0960 | 1⅜ | 2⅜ | 1U027 | 0.92 | 4BR88 | 0.77 | 1G627 | 0.97 | 5BR49 | 0.93 | 1G997 | 1.51 |
| 42 | 0.0935 | 1¼ | 2¼ | 1U029 | 0.92 | 4BR89 | 0.76 | 1G629 | 0.97 | 5BR50 | 0.91 | 1G999 | 1.50 |
| 43 | 0.0890 | 1¼ | 2¼ | 1U031 | 0.92 | 4BR90 | 0.76 | 1G631 | 0.97 | 5BR51 | 0.91 | 1K002 | 1.50 |
| 44 | 0.0860 | 1⅛ | 2⅛ | 1U033 | 0.92 | 4BR91 | 0.76 | 1G633 | 0.97 | 5BR52 | 0.91 | 1K004 | 1.50 |
| 45 | 0.0820 | 1⅛ | 2⅛ | 1U035 | 0.92 | 4BR92 | 0.76 | 1G635 | 0.97 | 5BR53 | 0.91 | 1K006 | 1.50 |
| 46 | 0.0810 | 1⅛ | 2⅛ | 1U042 | 0.92 | 4BR93 | 0.76 | 1G637 | 0.97 | 5BR54 | 0.91 | 1K008 | 1.50 |
| 47 | 0.0785 | 1 | 2 | 1U044 | 0.92 | 4BR94 | 0.76 | 1G639 | 0.97 | 5BR55 | 0.91 | 1K010 | 1.50 |
| 48 | 0.0760 | 1 | 2 | 1U046 | 0.92 | 4BR95 | 0.76 | 1G641 | 0.97 | 5BR56 | 0.91 | 1K012 | 1.50 |
| 49 | 0.0730 | 1 | 2 | 1U048 | 0.92 | 4BR96 | 0.76 | 1G643 | 0.97 | 5BR57 | 0.91 | 1K014 | 1.50 |
| 50 | 0.0700 | 1 | 2 | 1U080 | 0.92 | 4BR97 | 0.76 | 1G645 | 0.97 | 5BR58 | 0.91 | 1K016 | 1.50 |
| 51 | 0.0670 | 1 | 2 | 1U088 | 0.92 | 4BR98 | 0.76 | 1G647 | 0.97 | 5BR59 | 0.91 | 1K018 | 1.50 |
| 52 | 0.0635 | 7/8 | 1⅞ | 1U098 | 0.92 | 4BR99 | 0.76 | 1G649 | 0.97 | 5BR60 | 0.89 | 1K020 | 1.50 |
| 53 | 0.0595 | 7/8 | 1⅞ | — | — | 5BR01* | 0.68 | 1G176 | 0.97 | 5BR61 | 0.83 | 1K022 | 1.57 |
| 54 | 0.0550 | 7/8 | 1⅞ | — | — | 5BR02* | 0.68 | 1G178 | 0.97 | 5BR62 | 0.83 | 1K026 | 1.57 |
| 55 | 0.0520 | 7/8 | 1⅞ | — | — | 5BR03* | 0.68 | 1G180 | 0.97 | 5BR63 | 0.83 | 1K188 | 1.57 |
| 56 | 0.0465 | 3/4 | 1½ | — | — | 5BR04 | 0.68 | 1G343 | 0.97 | 5BR64 | 0.83 | 1K190 | 1.57 |
| 57 | 0.0430 | 3/4 | 1½ | — | — | 5BR05 | 0.77 | 1G369 | 0.97 | 5BR65 | 0.93 | 1K192 | 1.57 |
| 58 | 0.0420 | 11/16 | 1⅜ | — | — | 5BR06 | 0.77 | 1G375 | 0.97 | 5BR66 | 0.93 | 1K194 | 1.57 |
| 59 | 0.0410 | 11/16 | 1⅜ | — | — | 5BR07* | 0.77 | 1G390 | 0.97 | 5BR67 | 0.93 | 1K196 | 1.57 |
| 60 | 0.0400 | 11/16 | 1⅜ | — | — | 5BR08* | 0.77 | 1G396 | 0.97 | 5BR68 | 0.93 | 1K198 | 1.76 |

*) Not split point.

# JOBBER LENGTH DRILLS - 118° AND 135° SPLIT POINT - LETTER SIZES




- Black oxide finish
- 118° conventional point for general purpose use
- 135° split point is self-centering and provides quick penetration

**STANDARD PACKAGE QUANTITY**

| Drill Diameter (In.) | Pkg. Qty. | Drill Diameter | Pkg. Qty. |
|---|---|---|---|
| 1/64—19/64 | 12 | #1—#97 | 12 |
| 5/16—1/2 | 6 | #A—#L | 12 |
| 33/64—11/16 | 1 | #M—#Z | 6 |

| Letter Size | Dimensions (In.) Decimal Equiv. | Length Flute | Length Overall | *New!* IMPORT* General Purpose 118° Black-HSS Stock No. | Each | TRIUMPH Maintenance Grade 118° Black-HSS Stock No. | Each | CHICAGO LATROBE Production Grade 118° Black-HSS Stock No. | Each | CHICAGO LATROBE Heavy Duty ASP 135° Split Point Black-HSS Stock No. | Each | TRIUMPH Thunderbit 135° Split Point Black-HSS Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 0.2340 | 2 5/8 | 3 7/8 | 4UM32 | $0.90 | 4F497 | $0.52 | 1F691 | $1.83 | 1G651 | $2.07 | 6BR22 | $2.34 |
| B | 0.2380 | 2 3/4 | 4 | 4UM33 | 0.92 | 4F498 | 1.53 | 1F693 | 1.83 | 1G653 | 2.07 | 6BR23 | 2.34 |
| C | 0.2420 | 2 3/4 | 4 | 4UM34 | 0.85 | 4F499 | 1.42 | 1F695 | 1.83 | 1G655 | 2.07 | 6BR24 | 2.24 |
| D | 0.2460 | 2 3/4 | 4 | 4UM35 | 0.85 | 4F500 | 1.42 | 1F697 | 1.83 | 1G657 | 2.02 | 6BR25 | 2.24 |
| E | 0.2500 | 2 3/4 | 4 | 4UM36 | 0.91 | 4AH27 | 1.52 | 1F513 | 1.73 | 1G509 | 1.85 | 6BR26 | 2.24 |
| F | 0.2570 | 2 7/8 | 4 1/8 | 4UM37 | 1.06 | 4AH28 | 1.77 | 1F699 | 2.00 | 1G659 | 2.23 | 6BR27 | 2.54 |
| G | 0.2610 | 2 7/8 | 4 1/8 | 4UM38 | 1.12 | 4AH29 | 1.87 | 1F701 | 2.21 | 1G661 | 2.42 | 6BR28 | 2.63 |
| H | 0.2660 | 2 7/8 | 4 1/8 | 4UM39 | 1.17 | 4F501 | 1.96 | 1F703 | 2.21 | 1G663 | 2.51 | 6BR29 | 2.72 |
| I | 0.2720 | 2 7/8 | 4 1/8 | 4UM40 | 1.17 | 4AH30 | 1.96 | 1F705 | 2.21 | 1G665 | 2.51 | 6BR30 | 2.72 |
| J | 0.2770 | 2 7/8 | 4 1/4 | 4UM41 | 1.28 | 4F502 | 2.14 | 1F707 | 2.37 | 1G667 | 2.63 | 6BR31 | 3.23 |
| K | 0.2810 | 2 9/16 | 4 1/4 | 4UM42 | 1.28 | 4F503 | 2.14 | 1F709 | 2.62 | 1G669 | 2.91 | 6BR32 | 3.23 |
| L | 0.2900 | 2 9/16 | 4 1/4 | 4UM43 | 1.46 | 4F504 | 2.43 | 1F711 | 2.62 | 1G671 | 2.84 | 6BR33 | 3.66 |
| M | 0.2950 | 3 1/16 | 4 3/8 | 4UM44 | 1.46 | 4F505† | 2.43 | 1F713 | 2.74 | 1G673 | 3.10 | 6BR34† | 3.89 |
| N | 0.3020 | 3 1/16 | 4 3/8 | 4UM45 | 1.54 | 4F506† | 2.56 | 1F715 | 2.74 | 1G675 | 3.10 | 6BR35† | 3.89 |
| O | 0.3160 | 3 1/16 | 4 1/2 | 4UM46 | 1.57 | 4AH31 | 2.61 | 1F717 | 2.80 | 1G677 | 3.19 | 6BR36 | 3.89 |
| P | 0.3230 | 3 1/16 | 4 3/8 | 4UM47 | 1.70 | 4F507 | 2.48 | 1F719 | 3.13 | 1G679 | 3.51 | 6BR37 | 4.07 |
| Q | 0.3320 | 3 1/16 | 4 3/4 | 4UM48 | 1.71 | 4AH32 | 2.85 | 1F721 | 3.13 | 1G681 | 3.57 | 6BR38 | 4.07 |
| R | 0.3390 | 3 1/16 | 4 3/4 | 4UM49 | 1.78 | 4AH33 | 2.98 | 1F723 | 3.38 | 1G683 | 3.73 | 6BR39 | 4.07 |
| S | 0.3480 | 3 1/2 | 4 7/8 | 4UM50 | 1.97 | 4F508 | 3.28 | 1F725 | 3.55 | 1G685 | 4.03 | 6BR40 | 4.75 |
| T | 0.3580 | 3 1/2 | 4 7/8 | 4UM51 | 2.06 | 4F509 | 3.43 | 1F727 | 4.04 | 1G687 | 4.54 | 6BR41 | 4.75 |
| U | 0.3680 | 3 5/8 | 5 | 4UM52 | 2.06 | 4F510 | 3.44 | 1F729 | 4.04 | 1G689 | 4.42 | 6BR42 | 5.13 |
| V | 0.3770 | 3 5/8 | 5 | 4UM53 | 2.13 | 4AH34 | 3.56 | 1F731 | 4.18 | 1G691 | 4.81 | 6BR43 | 5.13 |
| W | 0.3860 | 3 3/4 | 5 1/8 | 4UM54 | 2.27 | 4F511 | 3.79 | 1F733 | 4.30 | 1G693 | 4.98 | 6BR44 | 5.49 |
| X | 0.3970 | 3 3/4 | 5 1/8 | 4UM55 | 2.69 | 4F512 | 4.51 | 1F735 | 5.22 | 1G695 | 6.01 | 6BR45 | 6.47 |
| Y | 0.4040 | 3 7/8 | 5 1/4 | 4UM56 | 2.82 | 4F513 | 4.71 | 1F737 | 5.85 | 1G697 | 6.99 | 6BR46 | 6.93 |
| Z | 0.4130 | 3 7/8 | 5 1/4 | 4UM57 | 3.11 | 4F514 | 5.19 | 1F739 | 6.24 | 1G699 | 7.17 | 6BR47 | 7.47 |

(*) Sold only in standard package quantity (see chart above).
(†) Standard package quantity = 12.

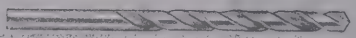
SEE PAGE 2777 FOR CUTTING OILS AND METALWORKING FLUIDS

# JOBBER LENGTH DRILLS PRODUCTION GRADE HSS 118° POINT-METRIC SIZE

- For use with a wide variety of materials and machines, both stationary and portable
- Black oxide or bright finish

| STANDARD PACKAGE QUANTITY | |
|---|---|
| Drill Diameter (In.) | Pkg. Qty. |
| 0.15 - 7.90 | 12 |
| 8.00 - 17.50 | 6 |

Chicago-Latrobe®



No. 1K250

## SMALLER METRIC SIZES—BRIGHT FINISH

| Metric Size | Dec. Equiv. | Length (mm) Flute | Length (mm) Overall | Stock No. | Each | Std. Pkg. Each | Metric Size | Dec. Equiv. | Length (mm) Flute | Length (mm) Overall | Stock No. | Each | Std. Pkg. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.35 | .0138 | 19 | 3 | 1K250 | $1.47 | $1.32 | 0.75 | .0295 | 28 | 9 | 1K266 | $0.97 | $0.88 |
| 0.40 | .0157 | 19 | 3 | 1K252 | 1.26 | 1.13 | 0.80 | .0315 | 30 | 10 | 1K268 | 0.97 | 0.88 |
| 0.45 | .0177 | 20 | 5 | 1K254 | 1.26 | 1.13 | 0.85 | .0335 | 30 | 10 | 1K270 | 0.97 | 0.88 |
| 0.50 | .0197 | 22 | 6 | 1K256 | 1.26 | 1.13 | 0.90 | .0354 | 32 | 11 | 1K272 | 0.97 | 0.88 |
| 0.60 | .0236 | 24 | 7 | 1K260 | 1.26 | 1.13 | 0.95 | .0374 | 32 | 11 | 1K274 | 0.97 | 0.88 |
| 0.70 | .0276 | 28 | 9 | 1K264 | 1.03 | 0.93 | | | | | | | |

## METRIC SIZES—BLACK OXIDE FINISH

| Metric Size | Dec. Equiv. | Length (mm) Flute | Length (mm) Overall | Stock No. | Each | Std. Pkg. Each | Metric Size | Dec. Equiv. | Length (mm) Flute | Length (mm) Overall | Stock No. | Each | Std. Pkg. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.00 | .0394 | 32 | 11 | 1K276 | $0.97 | $0.88 | 5.10 | .2008 | 86 | 52 | 1K388 | $1.47 | $1.32 |
| 1.15 | .0453 | 36 | 14 | 1K282 | 0.97 | 0.88 | 5.20 | .2047 | 86 | 52 | 1K390 | 1.67 | 1.50 |
| 1.20 | .0472 | 36 | 14 | 1K284 | 0.97 | 0.88 | 5.50 | .2165 | 86 | 52 | 1K396 | 1.67 | 1.50 |
| 1.25 | .0492 | 38 | 16 | 1K286 | 0.97 | 0.88 | 5.70 | .2244 | 93 | 57 | 1K400 | 1.79 | 1.61 |
| 1.30 | .0512 | 38 | 16 | 1K288 | 0.97 | 0.88 | 6.00 | .2362 | 93 | 57 | 1K406 | 1.92 | 1.73 |
| 1.45 | .0571 | 40 | 18 | 1K294 | 0.97 | 0.88 | 6.10 | .2402 | 93 | 57 | 1K408 | 1.92 | 1.73 |
| 1.50 | .0591 | 40 | 18 | 1K296 | 0.97 | 0.88 | 6.20 | .2441 | 101 | 63 | 1K410 | 1.92 | 1.73 |
| 1.55 | .0610 | 40 | 18 | 1K298 | 0.97 | 0.88 | 6.30 | .2480 | 101 | 63 | 1K412 | 1.92 | 1.73 |
| 1.60 | .0630 | 43 | 20 | 1K300 | 0.97 | 0.88 | 6.40 | .2520 | 101 | 63 | 1K414 | 2.23 | 2.00 |
| 1.65 | .0650 | 43 | 20 | 1K302 | 0.97 | 0.88 | 6.50 | .2559 | 101 | 63 | 1K416 | 2.23 | 2.00 |
| 1.75 | .0689 | 46 | 22 | 1K306 | 0.97 | 0.88 | 6.60 | .2598 | 101 | 63 | 1K418 | 2.23 | 2.00 |
| 1.80 | .0709 | 46 | 22 | 1K308 | 0.97 | 0.88 | 6.70 | .2638 | 101 | 63 | 1K420 | 2.23 | 2.00 |
| 1.90 | .0748 | 46 | 22 | 1K312 | 0.97 | 0.88 | 6.80 | .2677 | 101 | 63 | 1K422 | 2.31 | 2.08 |
| 2.00 | .0787 | 49 | 24 | 1K316 | 0.97 | 0.88 | 6.90 | .2717 | 101 | 63 | 1K424 | 2.31 | 2.08 |
| 2.05 | .0807 | 49 | 24 | 1K318 | 0.97 | 0.88 | 7.00 | .2756 | 101 | 63 | 1K426 | 2.31 | 2.08 |
| 2.10 | .0827 | 49 | 24 | 1K320 | 0.97 | 0.88 | 7.20 | .2835 | 109 | 69 | 1K430 | 2.67 | 2.40 |
| 2.15 | .0846 | 49 | 24 | 1K322 | 0.97 | 0.88 | 7.30 | .2874 | 109 | 69 | 1K432 | 2.67 | 2.40 |
| 2.20 | .0866 | 49 | 24 | 1K324 | 0.97 | 0.88 | 7.50 | .2953 | 109 | 69 | 1K436 | 2.67 | 2.40 |
| 2.30 | .0906 | 53 | 27 | 1K328 | 0.97 | 0.88 | 7.80 | .3071 | 109 | 69 | 1K442 | 2.97 | 2.67 |
| 2.35 | .0925 | 53 | 27 | 1K330 | 0.97 | 0.88 | 8.00 | .3150 | 117 | 75 | 1K446 | 3.27 | 2.94 |
| 2.40 | .0945 | 53 | 27 | 1K332 | 1.02 | 0.92 | 8.10 | .3189 | 117 | 75 | 1K448 | 3.27 | 2.94 |
| 2.50 | .0984 | 57 | 30 | 1K336 | 1.02 | 0.92 | 8.20 | .3228 | 117 | 75 | 1K450 | 3.27 | 2.94 |
| 2.60 | .1024 | 57 | 30 | 1K338 | 1.02 | 0.92 | 8.40 | .3307 | 117 | 75 | 1K454 | 3.65 | 3.29 |
| 2.90 | .1142 | 61 | 33 | 1K344 | 1.03 | 0.93 | 8.50 | .3346 | 117 | 75 | 1K456 | 3.65 | 3.29 |
| 3.00 | .1181 | 61 | 33 | 1K346 | 1.03 | 0.93 | 8.80 | .3465 | 117 | 75 | 1K462 | 4.09 | 3.68 |
| 3.10 | .1220 | 61 | 33 | 1K348 | 1.03 | 0.93 | 8.90 | .3504 | 117 | 75 | 1K464 | 4.09 | 3.68 |
| 3.20 | .1260 | 65 | 36 | 1K350 | 1.09 | 0.98 | 9.00 | .3543 | 117 | 75 | 1K466 | 4.09 | 3.68 |
| 3.30 | .1299 | 65 | 36 | 1K352 | 1.09 | 0.98 | 9.50 | .3740 | 125 | 81 | 1K476 | 4.23 | 3.81 |
| 3.40 | .1339 | 65 | 36 | 1K354 | 1.09 | 0.98 | 9.60 | .3780 | 125 | 81 | 1K478 | 4.77 | 4.30 |
| 3.50 | .1378 | 65 | 36 | 1K356 | 1.09 | 0.98 | 9.70 | .3819 | 125 | 81 | 1K480 | 4.77 | 4.30 |
| 3.60 | .1417 | 70 | 39 | 1K358 | 1.10 | 0.99 | 10.00 | .3937 | 125 | 81 | 1K486 | 4.93 | 4.44 |
| 3.90 | .1535 | 70 | 39 | 1K364 | 1.10 | 0.99 | 10.20 | .4016 | 133 | 87 | 1K500 | 4.93 | 4.44 |
| 4.00 | .1575 | 75 | 43 | 1K366 | 1.18 | 1.06 | 10.50 | .4134 | 133 | 87 | 1K488 | 5.48 | 4.93 |
| 4.10 | .1614 | 75 | 43 | 1K368 | 1.18 | 1.06 | 11.00 | .4331 | 133 | 87 | 1K490 | 5.68 | 5.11 |
| 4.20 | .1654 | 75 | 43 | 1K370 | 1.18 | 1.06 | 11.50 | .4528 | 142 | 94 | 1K492 | 6.36 | 5.73 |
| 4.30 | .1693 | 75 | 43 | 1K372 | 1.18 | 1.06 | 12.00 | .4724 | 142 | 94 | 1K494 | 7.09 | 6.38 |
| 4.50 | .1772 | 80 | 47 | 1K376 | 1.33 | 1.20 | 12.50 | .4921 | 151 | 101 | 1K496 | 7.22 | 6.50 |
| 4.90 | .1929 | 80 | 47 | 1K384 | 1.47 | 1.32 | 12.80 | .5039 | 151 | 101 | 1K510 | 11.10 | 9.99 |
| 5.00 | .1969 | 80 | 47 | 1K386 | 1.47 | 1.32 | 13.00 | .5118 | 151 | 101 | 1K498 | 12.29 | 11.06 |

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

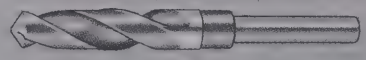
# 1/2" REDUCED SHANK SILVER AND DEMING DRILLS

TRIUMPH America's Choice

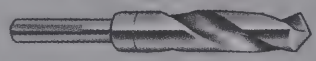
Quality Import

New

Chicago-Latrobe®



No. 4AK48



No. 1M875

- 6" overall length and 3⅛" flute length allow for minimal adjustments during tool changes
- Eliminates tool presetting
- Used for portable electric drills or drill presses to run drill sizes up to 1½"
- Chicago Latrobe flatted shanks provide a more positive grip in the drill chuck

| Drill Size | Dec. Equiv. | Dimensions (In.) Flute Length | Dimensions (In.) Overall Length | IMPORT General Purpose HSS-118° Round Shank *New!* Stock No. | IMPORT Each | TRIUMPH Maintenance Grade HSS-118° Round Shank Stock No. (*) | TRIUMPH Each | CHICAGO LATROBE Production Grade HSS - 118° Round Shank Stock No. | CHICAGO LATROBE Each | CHICAGO LATROBE Production Grade HSS - 118° Flat Shank - S/P Stock No. | CHICAGO LATROBE Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 0.5000 | 3⅛ | 6 | 4UM58 | $7.13 | — | — | 1P275 | $15.32 | 1M875 | $17.63 |
| 33/64 | 0.5156 | 3⅛ | 6 | 4UM59 | 10.33 | 2BT43 | $11.90 | 1P277 | 15.32 | 1M877 | 17.63 |
| 17/32 | 0.5312 | 3⅛ | 6 | 4UM60 | 7.13 | 4AK48 | 11.53 | 1P279 | 15.32 | 1M879 | 17.63 |
| 35/64 | 0.5469 | 3⅛ | 6 | 4UM61 | 7.36 | 2BT44 | 12.68 | 1P281 | 16.29 | 1M881 | 18.74 |
| 9/16 | 0.5625 | 3⅛ | 6 | 4UM62 | 7.59 | 5X989 | 12.28 | 1P283 | 16.29 | 1M883 | 18.74 |
| 37/64 | 0.5781 | 3⅛ | 6 | 4UM63 | 7.88 | 2BT45 | 13.55 | 1P285 | 17.50 | 1M885 | 20.13 |
| 19/32 | 0.5938 | 3⅛ | 6 | 4UM64 | 8.10 | 4AK49 | 13.13 | 1P287 | 17.50 | 1M887 | 20.13 |
| 39/64 | 0.6094 | 3⅛ | 6 | 4UM65 | 8.31 | 2BT46 | 14.16 | 1P296 | 18.33 | 1M889 | 21.08 |
| 5/8 | 0.6250 | 3⅛ | 6 | 4UM66 | 8.49 | 5X990 | 13.72 | 1P300 | 18.33 | 1M891 | 21.08 |
| 41/64 | 0.6406 | 3⅛ | 6 | 4UM67 | 8.63 | 2BT47 | 14.93 | 1P302 | 19.55 | 1M893 | 22.48 |
| 21/32 | 0.6562 | 3⅛ | 6 | 4UM68 | 8.94 | 4AK50 | 14.46 | 1P304 | 19.55 | 1M895 | 22.48 |
| 43/64 | 0.6719 | 3⅛ | 6 | 4UM69 | 9.36 | 2BT48 | 15.64 | 1P306 | 20.34 | 1M897 | 23.37 |
| 11/16 | 0.6875 | 3⅛ | 6 | 4UM70 | 9.36 | 5X991 | 15.15 | 1P308 | 20.34 | 1M899 | 23.37 |
| 45/64 | 0.7031 | 3⅛ | 6 | 4UM71 | 9.78 | 2BT49 | 16.35 | 1P310 | 20.59 | 1M901 | 23.67 |
| 23/32 | 0.7188 | 3⅛ | 6 | 4UM72 | 9.78 | 4AK51 | 15.83 | 1P312 | 20.59 | 1M903 | 23.67 |
| 47/64 | 0.7344 | 3⅛ | 6 | 4UM73 | 10.27 | 2BT50 | 17.12 | 1P314 | 22.44 | 1M905 | 25.80 |
| 3/4 | 0.7500 | 3⅛ | 6 | 4UM74 | 10.27 | 5X992 | 16.58 | 1P316 | 22.44 | 1M907 | 25.80 |
| 49/64 | 0.7656 | 3⅛ | 6 | 4UM75 | 10.76 | 2BT51 | 17.96 | 1P318 | 23.94 | 1M909 | 27.55 |
| 25/32 | 0.7812 | 3⅛ | 6 | 4UM76 | 10.76 | 4AK52 | 17.39 | 1P320 | 23.94 | 1M911 | 27.55 |
| 51/64 | 0.7969 | 3⅛ | 6 | 4UM77 | 11.50 | 2BT52 | 19.21 | 1P325 | 29.90 | 1M913 | 34.40 |
| 13/16 | 0.8125 | 3⅛ | 6 | 4UM78 | 11.50 | 5X993 | 18.60 | 1P334 | 25.15 | 1M915 | 28.95 |
| 53/64 | 0.8281 | 3⅛ | 6 | 4UM79 | 12.05 | 2BT53 | 20.14 | 1P336 | 30.90 | 1M917 | 35.50 |
| 27/32 | 0.8438 | 3⅛ | 6 | 4UM80 | 12.05 | 4AK53 | 19.51 | 1P338 | 26.05 | 1M919 | 29.95 |
| 55/64 | 0.8594 | 3⅛ | 6 | 4UM81 | 12.05 | 2BT54 | 20.73 | 1P340 | 32.10 | 1M921 | 36.95 |
| 7/8 | 0.8750 | 3⅛ | 6 | 4UM82 | 12.40 | 5X996 | 20.07 | 1P342 | 27.05 | 1M923 | 31.10 |
| 57/64 | 0.8906 | 3⅛ | 6 | 4UM83 | 13.00 | 2BT55 | 21.74 | 1P344 | 33.55 | 1M925 | 38.55 |
| 29/32 | 0.9062 | 3⅛ | 6 | 4UM84 | 13.00 | 4AK54 | 21.05 | 1P346 | 28.25 | 1M927 | 32.45 |
| 59/64 | 0.9219 | 3⅛ | 6 | 4UM85 | 13.52 | 2BT56 | 23.49 | 1P348 | 35.90 | 1M929 | 41.25 |
| 15/16 | 0.9375 | 3⅛ | 6 | 4UM86 | 13.95 | 1A051 | 22.75 | 1P350 | 30.20 | 1M931 | 34.75 |
| 61/64 | 0.9531 | 3⅛ | 6 | 4UM87 | 15.20 | 2BT57 | 25.50 | 1P353 | 37.90 | 1M933 | 43.60 |
| 31/32 | 0.9688 | 3⅛ | 6 | 4UM88 | 15.20 | 4AK55 | 24.65 | 1P355 | 31.90 | 1M935 | 36.65 |
| 63/64 | 0.9844 | 3⅛ | 6 | 4UM89 | 15.20 | 2BT58 | 26.85 | 1P357 | 42.20 | 1M937 | 48.55 |
| 1 | 1.0000 | 3⅛ | 6 | 4UM90 | 15.20 | 5X997 | 26.00 | 1P361 | 35.55 | 1M939 | 40.85 |
| 1 1/64 | 1.0156 | 3⅛ | 6 | — | — | 2BT59 | 37.25 | 4EG68 | 49.35 | 1M941 | 56.75 |
| 1 1/32 | 1.0312 | 3⅛ | 6 | — | — | 2BT60 | 37.25 | 4EG69 | 45.40 | 1M943 | 52.20 |
| 1 3/64 | 1.0469 | 3⅛ | 6 | — | — | 2BT61 | 37.25 | 4EG70 | 45.40 | 1M945 | 52.20 |
| 1 1/16 | 1.0625 | 3⅛ | 6 | — | — | 2BT62 | 37.25 | 1P363 | 41.70 | 1M947 | 47.95 |
| 1 5/64 | 1.0781 | 3⅛ | 6 | — | — | 2BT63 | 40.75 | 4EG71 | 46.85 | 1M949 | 53.90 |
| 1 3/32 | 1.0938 | 3⅛ | 6 | — | — | 2BT64 | 40.75 | 4EG72 | 48.40 | 1M951 | 55.65 |
| 1 7/64 | 1.1094 | 3⅛ | 6 | — | — | 2BT65 | 40.75 | 4EG73 | 50.50 | 1M953 | 58.05 |
| 1 1/8 | 1.1250 | 3⅛ | 6 | — | — | 2BT66 | 40.75 | 1P365 | 47.40 | 1M955 | 54.50 |
| 1 9/64 | 1.1406 | 3⅛ | 6 | — | — | 2BT67 | 43.40 | 4EG74 | 51.55 | 1M957 | 59.30 |
| 1 5/32 | 1.1562 | 3⅛ | 6 | — | — | 2BT68 | 43.40 | 4EG75 | 51.55 | 1M959 | 59.30 |
| 1 11/64 | 1.1719 | 3⅛ | 6 | — | — | 2BT69 | 43.40 | 4EG76 | 55.35 | 1M961 | 63.65 |
| 1 3/16 | 1.1875 | 3⅛ | 6 | — | — | 2BT70 | 43.40 | 1P370 | 52.30 | 1M963 | 60.10 |
| 1 13/64 | 1.2031 | 3⅛ | 6 | — | — | 2BT71 | 47.85 | 4EG77 | 59.60 | 1M965 | 68.50 |
| 1 7/32 | 1.2188 | 3⅛ | 6 | — | — | 2BT72 | 47.85 | 4EG78 | 60.95 | 1M967 | 70.05 |
| 1 15/64 | 1.2344 | 3⅛ | 6 | — | — | 2BT73 | 47.85 | 4EG79 | 60.95 | 1M969 | 70.05 |
| 1 1/4 | 1.2500 | 3⅛ | 6 | — | — | 2BT74 | 46.35 | 1P381 | 57.55 | 1M971 | 66.15 |
| 1 17/64 | 1.2656 | 3⅛ | 6 | — | — | — | — | 4EG80 | 70.45 | 1M973 | 81.00 |
| 1 9/32 | 1.2812 | 3⅛ | 6 | — | — | 2BT75 | 52.20 | 4EG81 | 70.45 | 1M975 | 81.00 |
| 1 19/64 | 1.2969 | 3⅛ | 6 | — | — | — | — | 4EG82 | 70.45 | 1M977 | 81.00 |
| 1 5/16 | 1.3125 | 3⅛ | 6 | — | — | 2BT76 | 52.20 | 4EG83 | 74.70 | 1M979 | 85.90 |
| 1 21/64 | 1.3281 | 3⅛ | 6 | — | — | — | — | 4EG84 | 81.00 | 1M981 | 93.15 |
| 1 11/32 | 1.3438 | 3⅛ | 6 | — | — | — | — | 4EG85 | 81.00 | 1M983 | 93.15 |
| 1 23/64 | 1.3594 | 3⅛ | 6 | — | — | — | — | 4EG86 | 81.00 | 1M985 | 93.15 |
| 1 3/8 | 1.3750 | 3⅛ | 6 | — | — | 2BT77 | 57.55 | 4EG87 | 85.90 | 1M987 | 98.75 |
| 1 25/64 | 1.3906 | 3⅛ | 6 | — | — | — | — | 4EG88 | 89.10 | 1M989 | 102.45 |
| 1 13/32 | 1.4062 | 3⅛ | 6 | — | — | — | — | 4EG89 | 89.10 | 1M991 | 102.45 |
| 1 27/64 | 1.4219 | 3⅛ | 6 | — | — | — | — | 4EG90 | 89.10 | 1M993 | 102.45 |
| 1 7/16 | 1.4375 | 3⅛ | 6 | — | — | 2BT78 | 66.40 | 4EG91 | 94.45 | 1M995 | 108.60 |
| 1 29/64 | 1.4531 | 3⅛ | 6 | — | — | — | — | 4EG92 | 98.00 | 1M997 | 112.70 |
| 1 15/32 | 1.4688 | 3⅛ | 6 | — | — | — | — | 4EG93 | 98.00 | 1M999 | 112.70 |
| 1 31/64 | 1.4844 | 3⅛ | 6 | — | — | — | — | 4EG94 | 98.00 | 1N634 | 112.70 |
| 1 1/2 | 1.5000 | 3⅛ | 6 | — | — | 2BT79 | 69.10 | 4EG95 | 103.90 | 1N636 | 119.50 |

(*) 3" flute length

# SCREW MACHINE LENGTH DRILLS - 118° AND 135° SPLIT POINT - FRACTIONAL SIZES

Chicago-Latrobe®

| Size | Dimensions (In.) Dec. Equiv. | Length Flute | Overall | TRIUMPH Maintenance Grade 135° Split Point Black-HSS Stock No. | Each | CHICAGO LATROBE Production Grade 118° Bright HSS Stock No. | Each | CHICAGO LATROBE Production Grade 135° Split Point-Black HSS Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|
| 3/64 | 0.0469 | 1/2 | 1 3/16 | 6BR48* | $0.61 | 1K720 | $0.93 | 4DM91 | $1.09 |
| 1/16 | 0.0625 | 5/8 | 1 5/16 | 4AK30 | 0.58 | 1K722 | 0.86 | 1M025 | 0.88 |
| 5/64 | 0.0781 | 11/16 | 1 11/16 | 6BR49 | 0.61 | 1K724 | 0.86 | 1M027 | 0.88 |
| 3/32 | 0.0938 | 3/4 | 1 3/4 | 4AK31 | 0.63 | 1K726 | 0.86 | 1M029 | 0.88 |
| 7/64 | 0.1094 | 13/16 | 1 13/16 | 6BR50 | 0.65 | 1K728 | 0.86 | 1M031 | 0.88 |
| 1/8 | 0.1250 | 7/8 | 1 7/8 | 5X988 | 0.71 | 1K730 | 0.86 | 1M033 | 0.88 |
| 9/64 | 0.1406 | 15/16 | 1 15/16 | 5X999 | 0.75 | 1K732 | 0.86 | 1M035 | 0.88 |
| 5/32 | 0.1562 | 1 | 2 1/16 | 6X002 | 0.82 | 1K734 | 0.99 | 1M037 | 1.02 |
| 11/64 | 0.1719 | 1 1/16 | 2 1/16 | 6BR51 | 0.91 | 1K736 | 1.07 | 1M039 | 1.04 |
| 3/16 | 0.1875 | 1 1/8 | 2 1/16 | 6X003 | 1.02 | 1K738 | 1.11 | 1M041 | 1.18 |
| 13/64 | 0.2031 | 1 3/16 | 2 1/4 | 6BR52 | 1.17 | 1K740 | 1.20 | 1M043 | 1.23 |
| 7/32 | 0.2188 | 1 1/4 | 2 3/8 | 6X004 | 1.29 | 1K742 | 1.40 | 1M045 | 1.48 |
| 15/64 | 0.2344 | 1 5/16 | 2 7/16 | 6BR53 | 1.49 | 1K744 | 1.44 | 1M047 | 1.51 |
| 1/4 | 0.2500 | 1 3/8 | 2 1/2 | 6X005 | 1.44 | 1K746 | 1.51 | 1M049 | 1.69 |
| 17/64 | 0.2656 | 1 7/16 | 2 9/16 | 6BR54 | 2.00 | 1K748 | 1.76 | 1M051 | 1.89 |
| 9/32 | 0.2812 | 1 1/2 | 2 11/16 | 4AK32 | 1.93 | 1K750 | 1.89 | 1M053 | 2.04 |
| 19/64 | 0.2969 | 1 9/16 | 2 3/4 | 6BR55 | 2.33 | 1K752 | 2.04 | 1M055 | 2.25 |
| 5/16 | 0.3125 | 1 5/8 | 2 13/16 | 4AK33 | 2.24 | 1K754 | 2.23 | 1M057 | 2.46 |
| 21/64 | 0.3281 | 1 11/16 | 2 15/16 | 6BR56 | 2.75 | 1K756 | 2.42 | 1M059 | 2.65 |
| 11/32 | 0.3438 | 1 11/16 | 3 | 4AK34 | 2.92 | 1K758 | 2.79 | 1M061 | 3.03 |
| 23/64 | 0.3594 | 1 3/4 | 3 1/16 | 6BR57 | 3.51 | 1K760 | 3.18 | 1M063 | 3.44 |
| 3/8 | 0.3750 | 1 13/16 | 3 1/8 | 4AK35 | 3.27 | 1K762 | 3.37 | 1M065 | 3.69 |
| 25/64 | 0.3906 | 1 7/8 | 3 1/4 | 6BR58 | 4.21 | 1K764 | 3.70 | 1M067 | 4.09 |
| 13/32 | 0.4062 | 1 15/16 | 3 5/16 | 4AK36 | 4.19 | 1K766 | 3.92 | 1M069 | 4.24 |
| 27/64 | 0.4219 | 2 | 3 3/8 | 6BR59 | 4.78 | 1K768 | 4.23 | 1M071 | 4.66 |
| 7/16 | 0.4375 | 2 1/16 | 3 7/8 | 4AK37 | 4.96 | 1K770 | 4.37 | 1M073 | 4.77 |
| 29/64 | 0.4531 | 2 1/8 | 3 9/16 | 6BR60 | 5.80 | 1K772 | 5.15 | 1M075 | 5.64 |
| 15/32 | 0.4688 | 2 1/8 | 3 5/8 | 4AK38 | 5.76 | 1K774 | 5.49 | 1M077 | 6.01 |
| 31/64 | 0.4844 | 2 3/16 | 3 11/16 | 6BR61 | 6.35 | 1K776 | 5.68 | 1M079 | 6.14 |
| 1/2 | 0.5000 | 2 1/4 | 3 3/4 | 4AK39 | 6.13 | 1K778 | 5.68 | 1M081 | 6.14 |
| 33/64 | 0.5156 | 2 3/8 | 3 7/8 | — | — | 1K780 | 12.97 | — | — |
| 17/32 | 0.5312 | 2 3/8 | 3 7/8 | — | — | 1K782 | 13.60 | — | — |
| 35/64 | 0.5469 | 2 1/2 | 4 | — | — | 1K784 | 14.13 | — | — |
| 9/16 | 0.5625 | 2 1/2 | 4 | — | — | 1K786 | 14.13 | — | — |
| 37/64 | 0.5781 | 2 5/8 | 4 1/8 | — | — | 1K788 | 16.23 | — | — |
| 19/32 | 0.5938 | 2 5/8 | 4 1/8 | — | — | 1K790 | 16.23 | — | — |
| 39/64 | 0.6094 | 2 3/4 | 4 1/4 | — | — | 1K792 | 16.96 | — | — |
| 5/8 | 0.6250 | 2 3/4 | 4 1/4 | — | — | 1K794 | 16.35 | — | — |
| 41/64 | 0.6406 | 2 7/8 | 4 1/2 | — | — | 1K796 | 18.78 | — | — |
| 21/32 | 0.6562 | 2 7/8 | 4 1/2 | — | — | 1K798 | 18.78 | — | — |
| 43/64 | 0.6719 | 2 7/8 | 4 5/8 | — | — | 1K800 | 20.83 | — | — |
| 11/16 | 0.6875 | 2 7/8 | 4 5/8 | — | — | 1K802 | 20.83 | — | — |
| 45/64 | 0.7031 | 3 | 4 3/4 | — | — | 1K804 | 22.58 | — | — |
| 23/32 | 0.7188 | 3 | 4 3/4 | — | — | 1K806 | 22.58 | — | — |
| 47/64 | 0.7344 | 3 1/8 | 5 | — | — | 1K808 | 24.30 | — | — |
| 3/4 | 0.7500 | 3 1/8 | 5 | — | — | 1K810 | 23.85 | — | — |
| 49/64 | 0.7656 | 3 1/4 | 5 1/8 | — | — | 1K812 | 26.30 | — | — |
| 25/32 | 0.7812 | 3 1/4 | 5 1/8 | — | — | 1K814 | 26.30 | — | — |
| 51/64 | 0.7969 | 3 3/8 | 5 1/4 | — | — | 1K816 | 28.10 | — | — |
| 13/16 | 0.8125 | 3 3/8 | 5 1/4 | — | — | 1K818 | 27.65 | — | — |
| 53/64 | 0.8281 | 3 1/2 | 5 3/8 | — | — | 1K820 | 29.25 | — | — |
| 27/32 | 0.8438 | 3 1/2 | 5 3/8 | — | — | 1K822 | 29.25 | — | — |
| 55/64 | 0.8594 | 3 1/2 | 5 1/2 | — | — | 1K824 | 30.30 | — | — |
| 7/8 | 0.8750 | 3 1/2 | 5 1/2 | — | — | 1K826 | 30.30 | — | — |
| 57/64 | 0.8906 | 3 5/8 | 5 5/8 | — | — | 1K828 | 31.50 | — | — |
| 29/32 | 0.9062 | 3 5/8 | 5 5/8 | — | — | 1K830 | 31.50 | — | — |
| 59/64 | 0.9219 | 3 3/4 | 5 3/4 | — | — | 1K832 | 34.70 | — | — |
| 15/16 | 0.9375 | 3 3/4 | 5 3/4 | — | — | 1K834 | 34.70 | — | — |
| 61/64 | 0.9531 | 3 7/8 | 5 7/8 | — | — | 1K836 | 37.75 | — | — |
| 31/32 | 0.9688 | 3 7/8 | 5 7/8 | — | — | 1K838 | 37.75 | — | — |
| 63/64 | 0.9844 | 4 | 6 | — | — | 1K840 | 40.00 | — | — |
| 1 | 1.0000 | 4 | 6 | — | — | 1K842 | 39.15 | — | — |
| 1 1/16 | 1.0625 | 4 | 6 1/4 | — | — | 1K844 | 48.85 | — | — |
| 1 1/8 | 1.1250 | 4 | 6 3/8 | — | — | 1K846 | 55.35 | — | — |
| 1 3/16 | 1.1875 | 4 1/4 | 6 5/8 | — | — | 1K848 | 64.20 | — | — |
| 1 1/4 | 1.2500 | 4 3/8 | 6 3/4 | — | — | 1K850 | 57.40 | — | — |
| 1 5/16 | 1.3125 | 4 3/8 | 7 | — | — | 1K852 | 84.80 | — | — |
| 1 3/8 | 1.3750 | 4 1/2 | 7 1/8 | — | — | 1K854 | 90.40 | — | — |
| 1 7/16 | 1.4375 | 4 3/4 | 7 3/8 | — | — | 1K856 | 96.95 | — | — |
| 1 1/2 | 1.5000 | 4 7/8 | 7 1/2 | — | — | 1K858 | 102.20 | — | — |
| 1 9/16 | 1.5625 | 4 7/8 | 7 3/4 | — | — | 1K860 | 115.45 | — | — |
| 1 5/8 | 1.6250 | 4 7/8 | 7 3/4 | — | — | 1K862 | 129.55 | — | — |
| 1 11/16 | 1.6875 | 5 1/8 | 8 | — | — | 1K864 | 148.15 | — | — |
| 1 3/4 | 1.7500 | 5 1/8 | 8 | — | — | 1K866 | 153.50 | — | — |
| 1 13/16 | 1.8125 | 5 3/8 | 8 1/4 | — | — | 1K868 | 168.50 | — | — |
| 1 7/8 | 1.8750 | 5 3/8 | 8 1/4 | — | — | 1K870 | 173.25 | — | — |
| 1 15/16 | 1.9375 | 5 3/8 | 8 1/2 | — | — | 1K872 | 183.75 | — | — |
| 2 | 2.0000 | 5 3/8 | 8 1/2 | — | — | 1K874 | 193.00 | — | — |

*) Not split point.

# SCREW MACHINE LENGTH DRILLS - WIRE AND LETTER SIZES

Chicago-Latrobe®

New

TRIUMPH® America's Choice

| Size | Dimensions (In.) Dec. Equiv. | Length Flute | Overall | CHICAGO LATROBE Production Grade 118° HSS-Bright Stock No. | Each | TRIUMPH Maintenance Grade 135° HSS-Black New! Stock No. | Each | CHICAGO LATROBE Production Grade 135° HSS-Black Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.2280 | 1 5/16 | 2 7/16 | 1K876 | $1.65 | 4AK40 | $1.51 | 1MO83 | $1.63 |
| 2 | 0.2210 | 1 5/16 | 2 7/16 | 1K878 | 1.65 | 6BR94 | 1.57 | 1MO85 | 1.81 |
| 3 | 0.2130 | 1 1/4 | 2 3/8 | 1K880 | 1.56 | 6BR95 | 1.49 | 1MO87 | 1.69 |
| 4 | 0.2090 | 1 1/4 | 2 3/8 | 1K882 | 1.56 | 6BR96 | 1.49 | 1MO89 | 1.69 |
| 5 | 0.2055 | 1 1/4 | 2 3/8 | 1K884 | 1.56 | 6BR97 | 1.49 | 1MO91 | 1.69 |
| 6 | 0.2040 | 1 1/4 | 2 3/8 | 1K886 | 1.56 | 6BR98 | 1.49 | 1MO93 | 1.69 |
| 7 | 0.2010 | 1 3/16 | 2 1/4 | 1K888 | 1.30 | 4AK41 | 1.18 | 1MO95 | 1.43 |
| 8 | 0.1990 | 1 3/16 | 2 1/4 | 1K890 | 1.30 | 6BR99 | 1.23 | 1MO97 | 1.43 |
| 9 | 0.1960 | 1 3/16 | 2 1/4 | 1K892 | 1.30 | 1BT01 | 1.23 | 1MO99 | 1.43 |
| 10 | 0.1935 | 1 3/16 | 2 1/4 | 1K894 | 1.10 | 4AK42 | 1.18 | 1M101 | 1.20 |
| 11 | 0.1910 | 1 3/16 | 2 1/4 | 1K896 | 1.10 | 4AK43 | 1.18 | 1M103 | 1.09 |
| 12 | 0.1890 | 1 3/16 | 2 1/4 | 1K898 | 1.30 | 1BT02 | 1.23 | 1M105 | 1.43 |
| 13 | 0.1850 | 1 1/8 | 2 3/16 | 1K900 | 1.30 | 1BT03 | 1.20 | 1M107 | 1.43 |
| 14 | 0.1820 | 1 1/8 | 2 3/16 | 1K902 | 1.30 | 1BT04 | 1.20 | 1M109 | 1.43 |
| 15 | 0.1800 | 1 1/8 | 2 3/16 | 1K904 | 1.30 | 1BT05 | 1.20 | 1M111 | 1.43 |
| 16 | 0.1770 | 1 1/8 | 2 3/16 | 1K906 | 1.30 | 1BT06 | 1.20 | 1M113 | 1.43 |
| 17 | 0.1730 | 1 1/8 | 2 3/16 | 1K908 | 1.30 | 1BT07 | 1.20 | 1M115 | 1.43 |
| 18 | 0.1695 | 1 1/16 | 2 1/8 | 1K910 | 1.11 | 1BT08 | 0.99 | 1M117 | 1.18 |
| 19 | 0.1660 | 1 1/16 | 2 1/8 | 1K912 | 1.11 | 1BT09 | 0.99 | 1M119 | 1.18 |
| 20 | 0.1610 | 1 1/16 | 2 1/8 | 1K914 | 1.11 | 4AK44 | 0.95 | 1M121 | 1.18 |
| 21 | 0.1590 | 1 1/16 | 2 1/8 | 1K916 | 1.07 | 4AK45 | 0.95 | 1M123 | 1.13 |
| 22 | 0.1570 | 1 1/16 | 2 1/8 | 1K918 | 1.07 | 1BT10 | 0.99 | 1M125 | 1.13 |
| 23 | 0.1540 | 1 | 2 1/16 | 1K920 | 1.07 | 1BT11 | 0.99 | 1M127 | 1.13 |
| 24 | 0.1520 | 1 | 2 1/16 | 1K922 | 1.07 | 1BT12 | 0.99 | 1M129 | 1.13 |
| 25 | 0.1495 | 1 | 2 1/16 | 1K924 | 1.03 | 1BT13 | 0.99 | 1M131 | 1.11 |
| 26 | 0.1470 | 1 | 2 1/16 | 1K926 | 1.03 | 1BT14 | 0.99 | 1M133 | 1.11 |
| 27 | 0.1440 | 1 | 2 1/16 | 1K928 | 1.03 | 1BT15 | 0.99 | 1M135 | 1.11 |
| 28 | 0.1405 | 15/16 | 1 15/16 | 1K930 | 0.90 | 1BT16 | 0.80 | 1M137 | 1.02 |
| 29 | 0.1360 | 15/16 | 1 15/16 | 1K932 | 0.78 | 4AK46 | 0.77 | 1M139 | 0.80 |
| 30 | 0.1285 | 15/16 | 1 15/16 | 1K934 | 0.78 | 4AK47 | 0.71 | 1M141 | 0.80 |
| 31 | 0.1200 | 7/8 | 1 7/8 | 1K936 | 0.90 | 1BT17 | 0.73 | 1M143 | 1.02 |
| 32 | 0.1160 | 7/8 | 1 7/8 | 1K938 | 0.90 | 1BT18 | 0.73 | 1M145 | 1.02 |
| 33 | 0.1130 | 7/8 | 1 7/8 | 1K940 | 0.90 | 1BT19 | 0.73 | 1M147 | 1.02 |
| 34 | 0.1110 | 7/8 | 1 7/8 | 1K942 | 0.90 | 1BT20 | 0.73 | 1M149 | 1.02 |
| 35 | 0.1100 | 7/8 | 1 7/8 | 1K944 | 0.90 | 1BT21 | 0.73 | 1M151 | 1.02 |
| 36 | 0.1065 | 13/16 | 1 13/16 | 1K946 | 0.90 | 1BT22 | 0.73 | 1M153 | 1.02 |
| 37 | 0.1040 | 13/16 | 1 13/16 | 1K948 | 0.90 | 1BT23 | 0.73 | 1M155 | 1.02 |
| 38 | 0.1015 | 13/16 | 1 13/16 | 1K950 | 0.90 | 1BT24 | 0.73 | 1M157 | 1.02 |
| 39 | 0.0995 | 13/16 | 1 13/16 | 1K952 | 0.78 | 1BT25 | 0.73 | 1M159 | 0.87 |
| 40 | 0.0980 | 13/16 | 1 13/16 | 1K954 | 0.78 | 1BT26 | 0.65 | 1M161 | 0.87 |
| 41 | 0.0960 | 13/16 | 1 13/16 | 1K956 | 0.90 | 1BT27 | 0.65 | 1M163 | 1.02 |
| 42 | 0.0935 | 3/4 | 1 3/4 | 1K958 | 0.90 | 1BT28 | 0.65 | 1M165 | 1.02 |
| 43 | 0.0890 | 3/4 | 1 3/4 | 1K960 | 0.90 | 1BT29 | 0.65 | 1M167 | 1.02 |
| 44 | 0.0860 | 3/4 | 1 3/4 | 1K962 | 0.90 | 1BT30 | 0.65 | 1M169 | 1.02 |
| 45 | 0.0820 | 3/4 | 1 3/4 | 1K964 | 0.90 | 1BT31 | 0.65 | 1M171 | 1.02 |
| 46 | 0.0810 | 3/4 | 1 3/4 | 1K966 | 0.90 | 1BT32 | 0.65 | 1M173 | 1.02 |
| 47 | 0.0785 | 1 1/16 | 1 1/16 | 1K968 | 0.90 | 1BT33 | 0.65 | 1M175 | 1.02 |
| 48 | 0.0760 | 11/16 | 1 1/16 | 1K970 | 0.90 | 1BT34 | 0.65 | 1M177 | 1.02 |
| 49 | 0.0730 | 11/16 | 1 1/16 | 1K972 | 0.90 | 1BT35 | 0.65 | 1M179 | 1.02 |
| 50 | 0.0700 | 11/16 | 1 1/16 | 1K974 | 0.90 | 1BT36 | 0.65 | 1M181 | 1.02 |
| 51 | 0.0670 | 11/16 | 1 1/16 | 1K976 | 0.90 | 1BT37 | 0.65 | 1M183 | 1.02 |
| 52 | 0.0635 | 11/16 | 1 1/16 | 1K978 | 0.90 | 1BT38 | 0.65 | 1M185 | 1.02 |
| 53 | 0.0595 | 5/8 | 1 5/8 | 1K980 | 0.90 | 1BT39 | 0.65 | 1M187 | 1.02 |
| 54 | 0.0550 | 5/8 | 1 5/8 | 1K982 | 0.90 | 1BT40 | 0.65 | 1M189 | 1.02 |
| 55 | 0.0520 | 5/8 | 1 5/8 | 1K984 | 0.90 | 1BT41 | 0.65 | 1M191 | 1.02 |
| 56 | 0.0465 | 1/2 | 1 3/8 | 1K986 | 0.90 | 1BT42 | 0.65 | 1M193 | 1.02 |
| 57 | 0.0430 | 1/2 | 1 3/8 | 1K988 | 0.90 | 1BT43 | 0.75 | 1M195 | 1.02 |
| 58 | 0.0420 | 1/2 | 1 3/8 | 1K990 | 0.90 | 1BT44 | 0.75 | 1M197 | 1.02 |
| 59 | 0.0410 | 1/2 | 1 3/8 | 1K992 | 0.90 | 1BT45 | 0.78 | 1M199 | 1.02 |
| 60 | 0.0400 | 1/2 | 1 3/8 | 1K994 | 0.90 | 1BT46 | 0.78 | 1M201 | 1.02 |

| Size | Dimensions (In.) Dec. Equiv. | Length Flute | Overall | CHICAGO LATROBE Production Grade/118°-Bright HSS Stock No. | Each |
|---|---|---|---|---|---|
| A | 0.2340 | 1 5/8 | 2 7/16 | 1K996 | $1.80 |
| B | 0.2380 | 1 3/8 | 2 1/2 | 2G438 | 1.80 |
| C | 0.2420 | 1 3/8 | 2 1/2 | 2G440 | 1.80 |
| D | 0.2460 | 1 3/8 | 2 1/2 | 1K998 | 1.80 |
| E | 0.2500 | 1 3/8 | 2 1/2 | 1K746 | 1.51 |
| F | 0.2570 | 1 7/16 | 2 5/8 | 1L232 | 1.98 |
| G | 0.2610 | 1 1/2 | 2 11/16 | 1L234 | 2.09 |
| H | 0.2660 | 1 1/2 | 2 11/16 | 1L236 | 2.09 |
| I | 0.2720 | 1 1/2 | 2 11/16 | 1L560 | 2.09 |
| J | 0.2770 | 1 1/2 | 2 11/16 | 1L562 | 2.25 |
| K | 0.2810 | 1 9/16 | 2 3/4 | 1L577 | 2.41 |
| L | 0.2900 | 1 9/16 | 2 3/4 | 1L579 | 2.41 |
| M | 0.2950 | 1 9/16 | 2 3/4 | 1L581 | 2.65 |

| Size | Dimensions (In.) Dec. Equiv. | Length Flute | Overall | CHICAGO LATROBE Production Grade/118°-Black HSS Stock No. | Each |
|---|---|---|---|---|---|
| N | 0.3020 | 1 5/8 | 2 13/16 | 1L583 | $2.65 |
| O | 0.3160 | 1 11/16 | 2 15/16 | 1L585 | 2.69 |
| P | 0.3230 | 1 11/16 | 2 15/16 | 1M003 | 2.99 |
| Q | 0.3320 | 1 11/16 | 3 | 1M005 | 2.99 |
| R | 0.3390 | 1 11/16 | 3 | 1M007 | 2.99 |
| S | 0.3480 | 1 3/4 | 3 1/16 | 1M009 | 3.43 |
| T | 0.3580 | 1 3/4 | 3 1/16 | 1M011 | 4.01 |
| U | 0.3680 | 1 13/16 | 3 1/8 | 1M013 | 4.01 |
| V | 0.3770 | 1 7/8 | 3 1/4 | 1M015 | 4.23 |
| W | 0.3680 | 1 7/8 | 3 1/4 | 1M017 | 4.44 |
| X | 0.3970 | 1 15/16 | 3 5/16 | 1M019 | 5.17 |
| Y | 0.4040 | 1 15/16 | 3 5/16 | 1M021 | 6.14 |
| Z | 0.4130 | 2 | 3 5/8 | 1M023 | 6.14 |

## 3/8" REDUCED SHANK DRILLS GENERAL PURPOSE—HSS 118° POINT

- Bright finish
- Expands the size and range capacity of 3/8" portable drill chuck
- Standard pack: 6
- Triumph brand

| Drill Size (In.) | Stock No. | Each | Std. Pkg. Each |
|---|---|---|---|
| **FRACTIONAL SIZES-SERIES T8** | | | |
| 25/64 | 4F489 | $4.98 | $4.48 |
| 13/32 | 4F490 | 4.98 | 4.48 |
| 27/64 | 4F491 | 5.78 | 5.20 |
| 7/16 | 4F492 | 5.78 | 5.20 |
| 29/64 | 4F493 | 6.41 | 5.77 |
| 15/32 | 4F494 | 6.41 | 5.77 |
| 31/64 | 4F495 | 7.28 | 6.56 |
| 1/2 | 4F496 | 7.28 | 6.56 |

## JOBBER LENGTH DRILLS- 3/8" REDUCED SHANK- THUNDERBIT® 135° SPLIT POINT

- Allows drill sizes larger than 3/8" to fit in 3/8" drill chucks
- Standard pack: 6
- Triumph brand

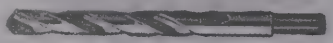
| Drill Size (In.) | Stock No. | Each | Std. Pkg. Each |
|---|---|---|---|
| **FRACTIONAL SIZES-SERIES T8HD** | | | |
| 25/64 | 4F565 | $5.57 | $5.01 |
| 13/32 | 4F566 | 5.67 | 5.11 |
| 27/64 | 4F567 | 6.19 | 5.57 |
| 7/16 | 4F568 | 6.59 | 5.93 |
| 29/64 | 4F569 | 7.53 | 6.77 |
| 15/32 | 4F570 | 7.56 | 6.80 |
| 31/64 | 4F571 | 7.85 | 7.07 |
| 1/2 | 4F572 | 8.00 | 7.20 |

## EXTRA LENGTH DRILLS— 135° SPLIT POINT AIRCRAFT

- Aircraft extension drills are ideal for use in mild steels where extra length for reach is required
- Black oxide
- Triumph brand

| Drill Size (In.) | Stock No. | Each | Lots Each | Lot Qty. | Shpg. Wt |
|---|---|---|---|---|---|
| **FRACTIONAL SIZES-SERIES T6HH 6" OVERALL LENGTH** | | | | | |
| 1/16 | 1BT50 | $1.85 | $1.66 | 6 | 0.1 |
| 5/64 | 1BT51 | 1.85 | 1.66 | 6 | 0.1 |
| 3/32 | 1BT52 | 1.38 | 1.24 | 6 | 0.1 |
| 7/64 | 1BT53 | 1.38 | 1.24 | 6 | 0.1 |
| 1/8 | 1BT54 | 1.38 | 1.24 | 6 | 0.1 |
| 9/64 | 1BT55 | 1.70 | 1.53 | 6 | 0.1 |
| 5/32 | 1BT56 | 1.70 | 1.53 | 6 | 0.1 |
| 11/64 | 1BT57 | 2.00 | 1.80 | 6 | 0.1 |
| 3/16 | 1BT58 | 2.00 | 1.80 | 6 | 0.1 |
| 13/64 | 1BT59 | 2.29 | 2.06 | 6 | 0.1 |
| 7/32 | 1BT60 | 2.29 | 2.06 | 6 | 0.1 |
| 15/64 | 1BT61 | 2.62 | 2.36 | 6 | 0.1 |
| 1/4 | 1BT62 | 2.62 | 2.36 | 6 | 0.1 |
| **WIRE SIZES-SERIES T6WW 6" OVERALL LENGTH** | | | | | |
| #7 | 1BT85 | 2.43 | 2.19 | 6 | 0.1 |
| #11 | 1BT89 | 2.03 | 1.83 | 6 | 0.1 |
| #21 | 1BT99 | 1.87 | 1.68 | 6 | 0.1 |
| #29 | 2BT08 | 1.87 | 1.68 | 6 | 0.1 |
| #30 | 2BT09 | 1.52 | 1.37 | 6 | 0.1 |
| #40 | 2BT19 | 1.38 | 1.24 | 6 | 0.1 |

TRIUMPH America's Choice



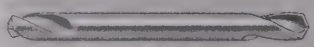
No.4F489
Reduced Shank Drill



No.4F565
Jobber Length Drill



No. 1BT50
Extra Length Drill



No. 3BT95
Double End Drill

## DOUBLE END DRILLS— HEAVY DUTY-HSS 135° SPLIT POINT

- For drilling in thin metals
- Two drills in one - saves time
- 135° Split point is self centering and provides quick penetration
- Standard pack: 12
- Triumph brand

| Drill Size (In.) | Stock No. | Each | Std. Pkg. Each |
|---|---|---|---|
| **FRACTIONAL SIZES - SERIES TSM8** | | | |
| 1/8 | 3BT95 | $1.04 | $0.94 |
| 9/64 | 3BT96 | 1.07 | 0.96 |
| 5/32 | 3BT97 | 1.18 | 1.07 |
| 3/16 | 3BT99 | 1.66 | 1.50 |
| 1/4 | 4BT02 | 2.36 | 2.12 |
| **WIRE SIZES - SERIES TSM8** | | | |
| #11 | 3BT98 | $1.79 | $1.61 |
| #20 | 4BT03 | 1.47 | 1.32 |
| #30 | 4BT04 | 1.04 | 0.94 |

# TWIST DRILLS

## TAPER SHANK DRILLS—HSS 118° POINT

Chicago-Latrobe®



No. 1N680
Production Grade
Taper Shank Drill

- Designed for drilling in many different materials and a wide range of applications
- Feature a surface treatment to improve chip flow and a taper shank made to American National Standard (Morse) dimensions
- Taper shank dimensions listed in the chart below
- Shipped 1 per pack

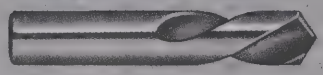
| Taper No. | Taper Per Ft. | Taper Per In. | Shank Size | Shank Length | Dimensions (In.) Taper Length | Tang Length | Tang Width | Tang Radius |
|---|---|---|---|---|---|---|---|---|
| 1 | .5985 | .0498 | .475 | 2.56 | 2.44 | .37 | .20 | .19 |
| 2 | .5994 | .0499 | .700 | 3.12 | 2.94 | .44 | .25 | .25 |
| 3 | .6023 | .0501 | .938 | 3.87 | 3.69 | .56 | .31 | .28 |
| 4 | .6232 | .0519 | 1.231 | 4.87 | 4.62 | .62 | .47 | .31 |
| 5 | .6315 | .0526 | 1.748 | 6.12 | 5.87 | .75 | .62 | .37 |

### FRACTIONAL SIZES—BLACK OXIDE FINISH, No. 110

| Drill Size | Dimensions (In.) Dec. Equiv. | Flute Length | Overall Length | Morse Shank No. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/8 | .1250 | 1⅞ | 5⅛ | 1 | 1N680 | $5.43 | 0.1 |
| 5/32 | .1562 | 2⅛ | 5⅜ | 1 | 1N684 | 5.73 | 0.1 |
| 3/16 | .1875 | 2½ | 5¾ | 1 | 1N691 | 8.09 | 0.1 |
| 7/32 | .2188 | 2¾ | 6 | 1 | 1N695 | 8.93 | 0.2 |
| 1/4 | .2500 | 2⅞ | 6⅛ | 1 | 1N699 | 9.51 | 0.2 |
| 9/32 | .2812 | 3 | 6¼ | 1 | 1N704 | 10.02 | 0.2 |
| 5/16 | .3125 | 3⅛ | 6⅜ | 1 | 1N708 | 10.23 | 0.2 |
| 11/32 | .3438 | 3¼ | 6½ | 1 | 1N712 | 14.96 | 0.2 |
| 3/8 | .3750 | 3½ | 6¾ | 1 | 1N716 | 16.51 | 0.2 |
| 13/32 | .4062 | 3⅝ | 7 | 1 | 1N720 | 16.51 | 0.2 |
| 7/16 | .4375 | 3⅞ | 7¼ | 1 | 1N725 | 17.85 | 0.3 |
| 15/32 | .4688 | 4⅛ | 7½ | 1 | 1N730 | 20.48 | 0.3 |
| 1/2 | .5000 | 4⅜ | 8¼ | 2 | 1N735 | 19.19 | 0.5 |
| 17/32 | .5312 | 4⅝ | 8½ | 2 | 1N765 | 21.47 | 0.5 |
| 9/16 | .5625 | 4⅞ | 8¾ | 2 | 1N769 | 23.41 | 0.6 |
| 19/32 | .5938 | 4⅞ | 8¾ | 2 | 1N773 | 24.91 | 0.6 |
| 5/8 | .6250 | 4⅞ | 8¾ | 2 | 1N777 | 25.60 | 0.6 |
| 21/32 | .6562 | 5⅛ | 9 | 2 | 1N781 | 28.30 | 0.6 |
| 11/16 | .6875 | 5⅜ | 9¼ | 2 | 1N799 | 29.75 | 0.7 |
| 23/32 | .7188 | 5⅝ | 9½ | 2 | 1N803 | 31.55 | 0.7 |
| 3/4 | .7500 | 5⅞ | 9¾ | 2 | 1N807 | 34.65 | 0.8 |
| 25/32 | .7812 | 6 | 9⅞ | 2 | 1N811 | 41.45 | 0.9 |
| 13/16 | .8125 | 6⅛ | 10¾ | 3 | 1N815 | 42.90 | 1.2 |
| 27/32 | .8438 | 6⅛ | 10¾ | 3 | 1N819 | 46.05 | 1.3 |
| 7/8 | .8750 | 6⅛ | 10¼ | 3 | 1N823 | 47.60 | 1.3 |
| 29/32 | .9062 | 6⅛ | 10¾ | 3 | 1N827 | $50.35 | 1.4 |
| 15/16 | .9375 | 6⅛ | 10¾ | 3 | 1N831 | 47.80 | 1.5 |
| 31/32 | .9688 | 6⅜ | 11 | 3 | 1N835 | 52.00 | 1.6 |
| 1 | 1.0000 | 6⅜ | 11 | 3 | 1N839 | 53.40 | 1.6 |
| 1 1/32 | 1.0312 | 6½ | 11⅛ | 3 | 1N843 | 58.15 | 1.6 |
| 1 1/16 | 1.0625 | 6⅝ | 11¼ | 3 | 1N847 | 61.50 | 1.7 |
| 1 3/32 | 1.0938 | 6⅝ | 12½ | 4 | 1N851 | 71.80 | 2.6 |
| 1 1/8 | 1.1250 | 7⅛ | 12¾ | 4 | 1N855 | 75.35 | 2.6 |
| 1 5/32 | 1.1562 | 7¼ | 12⅞ | 4 | 1N859 | 78.10 | 2.8 |
| 1 3/16 | 1.1875 | 7⅜ | 13 | 4 | 1N863 | 82.10 | 2.7 |
| 1 7/32 | 1.2188 | 7½ | 13⅛ | 4 | 1N867 | 87.55 | 2.8 |
| 1 1/4 | 1.2500 | 7⅝ | 13½ | 4 | 1N871 | 92.40 | 3.0 |
| 1 9/32 | 1.2812 | 8⅛ | 14⅛ | 4 | 1N875 | 110.80 | 3.3 |
| 1 5/16 | 1.3125 | 8⅜ | 14¼ | 4 | 1N879 | 112.55 | 3.5 |
| 1 11/32 | 1.3438 | 8¾ | 14⅜ | 4 | 1N883 | 118.95 | 3.5 |
| 1 3/8 | 1.3750 | 8⅞ | 14½ | 4 | 1N887 | 120.75 | 3.6 |
| 1 13/32 | 1.4062 | 9 | 14⅝ | 4 | 1N891 | 129.20 | 3.7 |
| 1 7/16 | 1.4375 | 9⅛ | 14¾ | 4 | 1N895 | 130.50 | 3.8 |
| 1 15/32 | 1.4688 | 9¼ | 14⅞ | 4 | 1N899 | 139.20 | 3.9 |
| 1 1/2 | 1.5000 | 9⅜ | 15 | 4 | 1N903 | 140.15 | 4.0 |
| 1 5/8 | 1.6250 | 10 | 17 | 5 | 1N905 | 194.50 | 4.4 |
| 1 3/4 | 1.7500 | 10⅛ | 17⅛ | 5 | 1N907 | 225.50 | 6.8 |
| 1 7/8 | 1.8750 | 10⅜ | 17⅜ | 5 | 1N909 | 251.50 | 7.4 |
| 2 | 2.0000 | 10⅜ | 17⅜ | 5 | 1N911 | 252.00 | 8.2 |

## SPOTTING DRILLS—118° POINT

Chicago-Latrobe®



No. 1M213
General Purpose
Spotting Drill

- No. 150NS-Short Length spotting drill with its extremely short flute length and overall length is very rigid and is able to start holes with excellent location accuracy
- Designed for centering work, making a starting hole for a larger drill and as a chamfering tool

### SHORT LENGTH FRACTIONAL SIZES—BRIGHT FINISH, 90° ANGLE, No. 150NS

| Drill Size | Dimensions (In.) Dec. Equil. | Flute Length | Overall Length | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | .2500 | 3/4 | 2½ | 1M213 | $15.73 | 0.1 |
| 3/8 | .3750 | 1⅛ | 3⅛ | 1M215 | 16.44 | 0.1 |
| 1/2 | .5000 | 1⅜ | 3¾ | 1M217 | 21.69 | 0.1 |

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.



## CARBIDE-TIPPED MASONRY DRILLS REDUCED SHANK HIGH HELIX 118° POINT

- Higher helix provides more support minimizing chipping of carbide tip
- For drilling in hard concrete aggregates and similar materials

| Drill Size (In.) | Shank Dia. (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **FRACTIONAL SIZES-SERIES BP11** | | | | |
| 1/8 X 3 | 1/8 | 5BP80 | $2.00 | 0.1 |
| 3/16 X 4 | 3/16 | 4AH35 | 1.94 | 0.1 |
| 1/4 X 4 | 1/4 | 4AH36 | 1.94 | 0.1 |
| 1/4 X 6 | 1/4 | 4AH37 | 2.52 | 0.1 |
| 5/16 X 4 | 1/4 | 4AH38 | 2.45 | 0.1 |
| 5/16 X 6 | 1/4 | 5BP81 | 2.49 | 0.1 |
| 3/8 X 4 | 1/4 | 5BP82 | 2.49 | 0.1 |
| 3/8 X 6 | 1/4 | 4AH39 | 3.66 | 0.1 |
| 7/16 X 4 | 1/4 | 5BP83 | 2.87 | 0.2 |
| 7/16 X 6 | 1/4 | 5BP84 | 2.99 | 0.2 |
| 1/2 X 4 | 1/4 | 4AH40 | 4.00 | 0.1 |
| 1/2 X 6 | 3/8 | 4AH41 | 4.12 | 0.2 |
| 9/16 X 6 | 3/8 | 5BP85 | 5.68 | 0.3 |
| 5/8 X 6 | 1/2 | 5BP86 | 5.83 | 0.4 |
| 3/4 X 6 | 1/2 | 5BP87 | 7.02 | 0.5 |
| 7/8 X 6 | 1/2 | 5BP88 | 9.14 | 0.8 |
| 1 X 6 | 1/2 | 5BP89 | 11.63 | 0.9 |

## CARBIDE-TIPPED MASONRY EXTRA LENGTH DRILLS-REDUCED SHANK REGULAR HELIX 118° POINT

- Particularly advantageous when extra length is required
- Reduced shanks over 1/4" diameter

| Drill Size (In.) | Shank Dia. (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **FRACTIONAL SIZES-SERIES T1212 13" OVERALL LENGTH** | | | | |
| 1/4 | 1/4 | 6BP20 | $5.42 | 0.2 |
| 5/16 | 1/4 | 6BP21 | 5.99 | 0.2 |
| 3/8 | 3/8 | 6BP22 | 7.20 | 0.3 |
| 1/2 | 3/8 | 6BP23 | 8.06 | 0.5 |
| 5/8 | 1/2 | 6BP24 | 11.26 | 0.5 |
| 3/4 | 1/2 | 6BP25 | 14.22 | 1.1 |
| 7/8 | 1/2 | 6BP26 | 18.35 | 1.6 |
| 1 | 1/2 | 6BP27 | 20.63 | 2.1 |

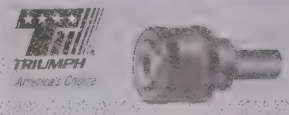
| Drill Size (In.) | Shank Dia. (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **FRACTIONAL SIZES-SERIES T1213 18" OVERALL LENGTH** | | | | |
| 1/4 | 1/4 | 6BP28 | $7.00 | 0.2 |
| 5/16 | 1/4 | 6BP29 | 8.06 | 0.3 |
| 3/8 | 3/8 | 6BP30 | 9.91 | 0.4 |
| 1/2 | 3/8 | 6BP31 | 10.54 | 0.7 |
| 5/8 | 1/2 | 6BP32 | 13.40 | 1.1 |
| 3/4 | 1/2 | 6BP33 | 15.46 | 1.4 |
| 7/8 | 1/2 | 6BP34 | 20.86 | 1.8 |
| 1 | 1/2 | 6BP35 | 22.69 | 2.8 |



## CARBIDE-TIPPED MASONRY DRILLS REDUCED SHANK REGULAR HELIX 118° POINT

- Drill in brick, stone, concrete and sandstone
- Wide flutes provide fast dust removal in softer material

| Drill Size (In.) | Shank Dia. (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **FRACTIONAL SIZES-SERIES BP12** | | | | |
| 1/8 X 3 | 1/8 | 5BP96 | $1.78 | 0.1 |
| 5/32 X 3 | 5/32 | 5BP97 | 1.73 | 0.1 |
| 3/16 X 4 | 3/16 | 5BP98 | 1.73 | 0.1 |
| 7/32 X 4 | 7/32 | 5BP99 | 1.78 | 0.1 |
| 1/4 X 4 | 1/4 | 6BP01 | 1.78 | 0.1 |
| 1/4 X 6 | 1/4 | 6BP02 | 1.99 | 0.1 |
| 5/16 X 4 | 1/4 | 6BP03 | 1.95 | 0.1 |
| 5/16 X 6 | 1/4 | 6BP04 | 2.23 | 0.1 |
| 3/8 X 4 | 1/4 | 6BP05 | 2.23 | 0.1 |
| 3/8 X 6 | 1/4 | 6BP06 | 2.53 | 0.1 |
| 7/16 X 4 | 1/4 | 6BP07 | 2.49 | 0.2 |
| 7/16 X 6 | 1/4 | 6BP08 | 2.55 | 0.2 |
| 1/2 X 4 | 1/4 | 6BP09 | 2.76 | 0.1 |
| 1/2 X 6 | 3/8 | 6BP10 | 2.86 | 0.2 |
| 9/16 X 6 | 3/8 | 6BP11 | 4.27 | 0.3 |
| 5/8 X 6 | 1/2 | 6BP12 | 4.59 | 0.4 |
| 3/4 X 6 | 1/2 | 6BP13 | 5.70 | 0.5 |
| 7/8 X 6 | 1/2 | 6BP14 | 7.21 | 0.7 |
| 1 X 6 | 1/2 | 6BP15 | 8.59 | 0.9 |
| 1⅛ X 6 | 1/2 | 6BP16 | 15.99 | 1.0 |
| 1¼x 10 | 1/2 | 6BP17 | 18.70 | 2.0 |
| 1⅜ x 10 | 1/2 | 6BP18 | 22.80 | 2.1 |
| 1½ x 10 | 1/2 | 6BP19 | 28.55 | 2.8 |



## QUICK CHANGE DRILL CHUCKS

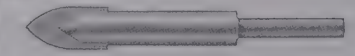
- Fits cordless and standard 3/8" or larger chuck power drills
- For use with any 1/4" hex shank drills, screwdrivers, or 1/4" hex power bits

**Adapter Chuck** mounts directly into the standard 3/8" or 1/2" drill chuck with 3/8" diameter shank; tighten with drill key.

No. 4F701. Shpg. wt. 0.2 lbs. List $13.59.
Each ..... $13.09

**Replacement Chuck** replaces standard adjustable chuck. Mounts directly to the standard 3/8"-24 drill spindle; tighten with locking collar.

No. 4F702. Shpg. wt. 0.3 lbs. List $25.03.
Each ..... $23.66

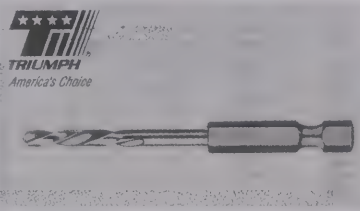


## CARBIDE-TIPPED GLASS & TILE SPEAR POINT

- Designed for drilling in glass, tile, mirrors or ceramics
- Spear point reduces cutting pressure for cleaner holes

| Drill Size (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| **FRACTIONAL SIZES-SERIES TG6** | | | |
| 1/8 | 3BT61 | $3.92 | 0.1 |
| 3/16 | 3BT62 | 4.29 | 0.1 |
| 1/4 | 3BT63 | 4.63 | 0.1 |
| 5/16* | 3BT64 | 5.41 | 0.1 |
| 3/8* | 3BT65 | 6.18 | 0.1 |
| 1/2* | 3BT66 | 8.03 | 0.1 |

(*) 1/4". reduced shank.



## 1/4" HEX SHANK DRILLS GENERAL PURPOSE-HSS 118° SPLIT POINT

- Fits power cordless screwdrivers
- Standard pack: 6

| Drill Size (In.) | Stock No. | List | Each | Std. Pkg. Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **FRACTIONAL SIZES-SERIES HEXT4** | | | | | |
| 1/16 | 4F634 | $3.25 | $2.29 | $2.07 | 0.1 |
| 3/32 | 4F635 | 3.31 | 2.34 | 2.10 | 0.1 |
| 1/8 | 4F636 | 3.41 | 2.40 | 2.16 | 0.1 |
| 5/32 | 4F637 | 3.51 | 2.47 | 2.23 | 0.1 |
| 3/16 | 4F638 | 4.06 | 2.86 | 2.58 | 0.1 |
| 7/32 | 4F639 | 1.65 | 3.28 | 2.96 | 0.1 |
| 1/4 | 4F640 | 5.63 | 3.97 | 3.57 | 0.1 |

### IF YOU'RE IN A BIND, CALL GRAINGER

**If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located.**

**To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

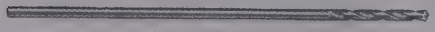
# TWIST DRILLS

## EXTRA LENGTH DRILLS —HSS 135° SPLIT POINT

Chicago-Latrobe®



No. 1C278



No. 1C465

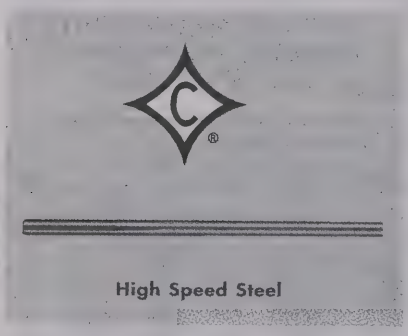
- Aircraft extension drills are made to A.I.A. - NAS-907 Standards 1973
- Used principally for the drilling of holes in inaccessible places which cannot be reached with regular length drills
- Furnished with jobber drill flute length

### FRACTIONAL SIZES—STRAIGHT SHANK

| Drill Size (In.) | Dec. Equiv. | Fluted Length (In.) | BLACK OXIDE—6" MODELS Overall Length (In.) | Stock No. | Each | Std. Pkg. Each | Pkg. Qty. | BLACK OXIDE—12" MODELS Overall Length (In.) | Stock No. | Each | Std. Pkg. Each | Pkg. Qty. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/16 | .0625 | 7/8 | 6 | 1C278 | $2.21 | $1.99 | 12 | 12 | 1C465 | $5.99 | $5.39 | 12 |
| 3/32 | .0938 | 1 1/4 | 6 | 1C282 | 1.74 | 1.56 | 12 | 12 | 1C469 | 5.99 | 5.39 | 12 |
| 1/8 | .1250 | 1 5/8 | 6 | 1C289 | 1.86 | 1.68 | 12 | 12 | 1C473 | 5.24 | 4.72 | 12 |
| 5/32 | .1562 | 2 | 6 | 1C293 | 2.22 | 2.00 | 12 | 12 | 1C477 | 5.52 | 4.97 | 12 |
| 3/16 | .1875 | 2 5/16 | 6 | 1C297 | 2.43 | 2.19 | 12 | 12 | 1C481 | 5.91 | 5.32 | 12 |
| 7/32 | .2188 | 2 1/2 | 6 | 1C301 | 2.98 | 2.68 | 12 | 12 | 1C485 | 7.85 | 7.06 | 12 |
| 1/4 | .2500 | 2 3/4 | 6 | 1C305 | 3.25 | 2.92 | 12 | 12 | 1C489 | 7.65 | 6.89 | 12 |
| 9/32 | .2812 | 2 15/16 | 6 | 1C309 | 8.10 | 7.29 | 12 | 12 | 1C493 | 9.64 | 8.68 | 12 |
| 5/16 | .3125 | 3 3/16 | 6 | 1C313 | 10.33 | 9.29 | 6 | 12 | 1C497 | 11.71 | 10.54 | 6 |
| 11/32 | .3438 | 3 7/16 | 6 | 1C317 | 10.88 | 9.79 | 6 | 12 | 1C501 | 12.31 | 11.08 | 6 |
| 3/8 | .3750 | 3 5/8 | 6 | 1C321 | 12.67 | 11.40 | 6 | 12 | 1C505 | 14.39 | 12.95 | 6 |
| 13/32 | .4062 | 3 7/8 | 6 | 1C325 | 12.73 | 11.45 | 6 | 12 | 1C509 | 15.18 | 13.66 | 6 |
| 7/16 | .4375 | 4 1/16 | 6 | 1C329 | 15.06 | 13.56 | 6 | 12 | 1C513 | 17.96 | 16.17 | 6 |
| 15/32 | .4688 | 4 5/16 | 6 | 1C333 | 17.12 | 15.41 | 6 | 12 | 1C517 | 20.41 | 18.36 | 6 |
| 1/2 | .5000 | 4 1/2 | 6 | 1C337 | 18.07 | 16.27 | 6 | 12 | 1C521 | 20.50 | 18.45 | 6 |

### WIRE SIZES—STRAIGHT SHANK

| Drill Size | Dec. Equiv. | Fluted Length (In.) | BLACK OXIDE—6" MODELS Overall Length (In.) | Stock No. | Each | Std. Pkg. Each | Pkg. Qty. | BLACK OXIDE—12" MODELS Overall Length (In.) | Stock No. | Each | Std. Pkg. Each | Pkg. Qty. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | .1935 | 3 5/8 | 6 | 1C359 | $2.91 | $2.62 | 12 | 12 | 1C541 | $7.03 | $6.33 | 12 |
| 20 | .1610 | 3 3/8 | 6 | 1C379 | 2.44 | 2.19 | 12 | 12 | 1C561 | 6.45 | 5.80 | 12 |
| 21 | .1590 | 3 3/8 | 6 | 1C381 | 2.65 | 2.39 | 12 | 12 | 1C563 | 6.45 | 5.80 | 12 |
| 27 | .1440 | 3 | 6 | 1C394 | 2.44 | 2.19 | 12 | 12 | 1C575 | 6.45 | 5.80 | 12 |
| 29 | .1360 | 3 | 6 | 1C398 | 2.44 | 2.19 | 12 | 12 | 1C579 | 6.45 | 5.80 | 12 |
| 30 | .1285 | 3 | 6 | 1C400 | 2.00 | 1.80 | 12 | 12 | 1C581 | 6.45 | 5.80 | 12 |
| 40 | .0980 | 2 1/2 | 6 | 1C420 | 1.81 | 1.63 | 12 | 12 | 1C601 | 6.45 | 5.80 | 12 |
| 41 | .0960 | 2 1/2 | 6 | 1C422 | 1.81 | 1.63 | 12 | 12 | 1C603 | 6.45 | 5.80 | 12 |
| 50 | .0700 | 2 | 6 | 1C440 | 2.30 | 2.07 | 12 | 12 | 1C621 | 5.99 | 5.39 | 12 |



High Speed Steel

## STRAIGHT FLUTE CHUCKING REAMERS

Use reamers to improve hole finish and improve hole roundness. Designed for efficient machine reaming in a wide range of materials and are commonly used in drill presses, turret lathes, and screw machines. All reamers have a 45° chamfer. Cleveland brand.

| Size (In.) | Dec. Equiv. (In.) | Overall Length (In.) | Length of Flute (In.) | No. of Flutes | Cleveland Model | Stock No. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/16 | 0.0625 | 2 1/8 | 1/2 | 4 | C25060 | 3K539 | $7.45 | $7.07 | 0.1 |
| 5/64 | 0.0781 | 3 | 3/4 | 4 | C25100 | 3K586 | 6.56 | 6.22 | 0.1 |
| 3/32 | 0.0938 | 3 | 3/4 | 4 | C25140 | 3K655 | 6.03 | 5.73 | 0.1 |
| 7/64 | 0.1094 | 3 1/2 | 7/8 | 4 | C25178 | 3K710 | 6.56 | 6.22 | 0.1 |
| 1/8 | 0.1250 | 3 1/2 | 7/8 | 4 | C25216 | 3K760 | 5.36 | 5.09 | 0.1 |
| 9/64 | 0.1406 | 4 | 1 | 4 | C25254 | 3K836 | 7.22 | 6.85 | 0.1 |
| 5/32 | 0.1562 | 4 | 1 | 4 | C25290 | 3K886 | 7.47 | 7.09 | 0.1 |
| 11/64 | 0.1719 | 4 1/2 | 1 1/8 | 6 | C25327 | 3K933 | 8.01 | 7.62 | 0.1 |
| 3/16 | 0.1875 | 4 1/2 | 1 1/8 | 6 | C25366 | 3L007 | 7.43 | 7.06 | 0.1 |
| 13/64 | 0.2031 | 5 | 1 1/4 | 6 | C25402 | 3L061 | 8.44 | 8.02 | 0.1 |
| 7/32 | 0.2188 | 5 | 1 1/4 | 6 | C25438 | 3L103 | 8.87 | 8.43 | 0.1 |
| 15/64 | 0.2344 | 6 | 1 1/2 | 6 | C25474 | 3L143 | 9.05 | 8.60 | 0.1 |
| 1/4 | 0.2500 | 6 | 1 1/2 | 6 | C25513 | 3L198 | 8.56 | 8.13 | 0.1 |
| 17/64 | 0.2656 | 6 | 1 1/2 | 6 | C25550 | 3L241 | 10.52 | 10.00 | 0.1 |
| 9/32 | 0.2812 | 6 | 1 1/2 | 6 | C25608 | 3L269 | 11.20 | 10.65 | 0.1 |
| 19/64 | 0.2969 | 6 | 1 1/2 | 6 | C25622 | 3L295 | 11.46 | 10.87 | 0.1 |
| 5/16 | 0.3125 | 6 | 1 1/2 | 6 | C25661 | 3L326 | 10.15 | 9.65 | 0.1 |
| 21/64 | 0.3281 | 6 | 1 1/2 | 6 | C25698 | 3L364 | 12.59 | 11.96 | 0.1 |
| 11/32 | 0.3438 | 6 | 1 1/2 | 6 | C25733 | 3L391 | 12.64 | 12.00 | 0.1 |
| 23/64 | 0.3594 | 7 | 1 3/4 | 6 | C25768 | 3L424 | 12.64 | 12.00 | 0.1 |
| 3/8 | 0.3750 | 7 | 1 3/4 | 6 | C25807 | 3L448 | 11.20 | 10.65 | 0.2 |
| 25/64 | 0.3906 | 7 | 1 3/4 | 6 | C25844 | 3L486 | 13.19 | 12.53 | 0.2 |
| 13/32 | 0.4062 | 7 | 1 3/4 | 6 | C25878 | 3L508 | 13.25 | 12.59 | 0.2 |
| 27/64 | 0.4219 | 7 | 1 3/4 | 6 | C25911 | 3L522 | 13.58 | 12.90 | 0.2 |
| 7/16 | 0.4375 | 7 | 1 3/4 | 6 | C25947 | 3L539 | 13.05 | 12.40 | 0.2 |
| 29/64 | 0.4531 | 7 | 1 3/4 | 6 | C25981 | 3L566 | 15.46 | 14.69 | 0.3 |
| 15/32 | 0.4688 | 7 | 1 3/4 | 6 | C26014 | 3L577 | 15.63 | 14.86 | 0.3 |
| 31/64 | 0.4844 | 8 | 2 | 6 | C26048 | 3L595 | 15.79 | 14.99 | 0.3 |
| 1/2 | 0.5000 | 8 | 2 | 6 | C26083 | 3L692 | 14.29 | 13.58 | 0.4 |

### 29-PC. STRAIGHT FLUTE CHUCKING REAMER SET

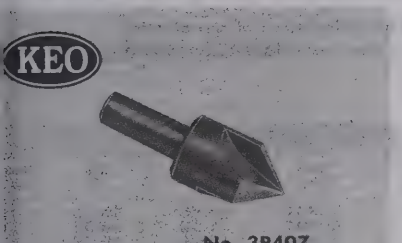
1/16th to 1/2 by 64ths in pouch. Cleveland brand.

**No. 3K464.** Shpg. wt. 2.8 lbs. List $444.71.
Each ..... **$325.25**



*Set up your next job with quality cutting tools from Grainger.*

## CENTER REAMER—GENERAL PURPOSE—HSS




No. 3P407
Center Reamer

- Used for centering lathe work on pre-drilled holes or counter-sinking for screw heads
- 3 flute
- Available with 82° or 90° included angle
- Shipped 1 per pack

**FRACTIONAL SIZES**

| Dimensions (In.) | | 82° | | 90° | |
|---|---|---|---|---|---|
| Dia. | Overall Length | Stock No. | Each | Stock No. | Each |
| 1/4 | 1½ | 3P390 | $4.85 | 3P392 | $4.75 |
| 3/8 | 1¾ | 3P399 | 5.45 | 3P401 | 5.45 |
| 1/2 | 2 | 3P386 | 6.72 | 3P388 | 6.59 |
| 5/8 | 2¼ | 3P403 | 8.76 | 3P405 | 8.93 |
| 3/4 | 2⅝ | 3P395 | 13.06 | 3P397 | 12.80 |
| 1 | 2¾ | 3P407 | 19.81 | 3P411 | 20.20 |

## SINGLE FLUTE COUNTERSINK DRILLS—GENERAL PURPOSE—HSS

High positive rake and single flute construction enable tools to countersink holes much smaller than multi-fluted countersinks

Predrilled hole should be no less than 10% the diameter of the countersink

Available with 82° or 90° included angle

Shipped 1 per pack

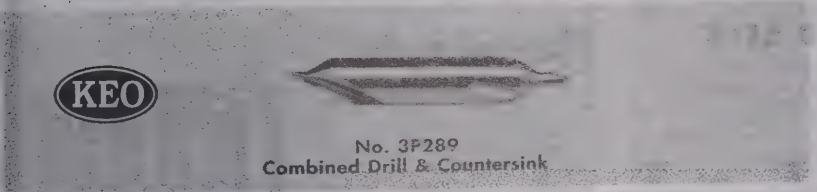
**FRACTIONAL SIZES**

| Dimensions (In.) | | 82° | | 90° | |
|---|---|---|---|---|---|
| Dia. | Overall Length | Stock No. | Each | Stock No. | Each |
| 1/4 | 1½ | 3P423 | $4.93 | 3P425 | $5.03 |
| 3/8 | 1¾ | 3P434 | 5.62 | 3P439 | 5.73 |
| 1/2 | 2 | 3P419 | 6.88 | 3P421 | 7.01 |
| 5/8 | 2¼ | 3P441 | 9.20 | 3P446 | 9.38 |
| 3/4 | 2⅝ | 3P427 | 13.42 | 3P429 | 13.69 |
| 1 | 2¾ | 3P415 | 22.38 | 3P417 | 22.83 |




No. 3P441
Black Oxide Single Flute Countersink Drill

## COMBINED DRILL & COUNTERSINK—GENERAL PURPOSE—HSS PLAIN TYPE




No. 3P289
Combined Drill & Countersink

- For centering work ends where the workpiece is to be revolved on machine centers
- 60° countersink angle fits all standard centers

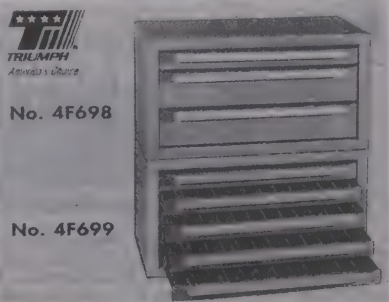
**PLAIN TYPE**

| Drill Size | Body Dia. | Point Dia. | Overall Length (In.) | Stock No. | Each |
|---|---|---|---|---|---|
| 00 | 1/8 | .025 | 1¼ | 3P275 | $3.79 |
| 0 | 1/8 | 1/32 | 1¼ | 3P277 | 3.87 |
| 1 | 1/8 | 3/64 | 1¼ | 3P279 | 3.08 |
| 2 | 3/16 | 5/64 | 1⅞ | 3P281 | 3.29 |
| 3 | 1/4 | 7/64 | 2 | 3P283 | 3.37 |
| 4 | 5/16 | 1/8 | 2⅛ | 3P285 | 3.53 |
| 5 | 7/16 | 9/16 | 2¾ | 3P287 | 5.49 |
| 6 | 1/2 | 7/32 | 3 | 3P239 | 8.43 |
| 7 | 5/8 | 1/4 | 3⅛ | 3P291 | 11.95 |
| 8 | 3/4 | 5/16 | 3½ | 3P293 | 16.97 |
| 9 | 7/8 | 11/32 | 3⅝ | 3P295 | 31.25 |
| 10 | 1 | 3/8 | 3¾ | 3P297 | 41.85 |

## DRILL DISPENSER CABINETS

- Large enough to hold a generous supply of each drill size
- Available in fractional, number and letter drill sizes
- Marked drawer fronts allow easy identification of drill sizes
- Smooth-action drawer slides have safety stops to prevent spills
- Individual compartments for drill separation hold full drill packages (12 pcs.) and have rounded bottoms for easy pick-up
- Stackable design economizes on space
- All cabinets measure 7¾H x 14⅝W x 7⅜"D

| Drill Cabinet Description | Holds Drills Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Fractional | 1/16 to 1/2" by 64ths | 4F698 | $133.15 | $88.55 | 10.0 |
| Number | 1 to 60 Wire Gauge | 4F699 | 161.68 | 107.50 | 13.0 |
| Letter | A to Z Letter Sizes | 4F700 | 133.15 | 88.55 | 10.0 |

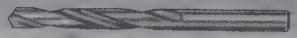



No. 4F698

No. 4F699

# CARBIDE TWIST DRILLS AND EXTRACTORS

## JOBBER LENGTH SOLID CARBIDE—REGULAR HELIX 118° POINT



No. 2C331

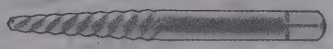
- 4-facet 118° point is self-centering and provides ease of penetration
- Use in aluminum, brass, bronze, carbon, steel, plexiglass, hard rubber, cast iron, and malleable materials
- Shipped 1 per pack

DRILL DISPENSER CABINETS AVAILABLE ON PAGE 1663

### FRACTIONAL SIZES—D33F

| Size (In.) | Decimal Equiv. | Length (In.) Flute | Length (In.) Overall | Stock No. | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/16 | .0625 | 3/4 | 1½ | 2C331 | $9.69 | $8.71 | 0.1 |
| 3/32 | .0937 | 1 | 2 | 2C401 | 11.52 | 10.36 | 0.1 |
| 5/64 | 0.0781 | 7/8 | 1¾ | 2C352 | 10.86 | 9.78 | 0.1 |
| 1/8 | .1250 | 1¼ | 2¼ | 2C430 | 13.24 | 11.93 | 0.1 |
| 5/32 | .1562 | 1⅜ | 2½ | 2C451 | 16.33 | 14.70 | 0.1 |
| 3/16 | .1875 | 1⅝ | 2¾ | 2C475 | 19.37 | 17.43 | 0.1 |
| 7/32 | .2187 | 1¾ | 3 | 2C499 | 24.10 | 21.68 | 0.1 |
| 1/4 | .2500 | 2 | 3¼ | 2C540 | 28.70 | 25.70 | 0.1 |
| 9/32 | .2812 | 2⅛ | 3½ | 2C558 | 32.55 | 29.16 | 0.1 |
| 5/16 | .3125 | 2⅜ | 3¾ | 2C568 | 38.10 | 34.18 | 0.2 |
| 11/32 | .3437 | 2½ | 4 | 2C591 | 48.85 | 43.86 | 0.2 |
| 3/8 | .3750 | 2¾ | 4¼ | 2C607 | 54.50 | 49.01 | 0.3 |
| 13/32 | .4062 | 2⅞ | 4½ | 2C622 | 68.30 | 61.42 | 0.5 |
| 7/16 | .4375 | 2⅞ | 4½ | 2C630 | 80.95 | 72.83 | 0.7 |
| 1/2 | .5000 | 3 | 4¾ | 2C636 | 97.10 | 87.17 | 0.9 |

Chicago-Latrobe®



No. 1U218

## SCREW EXTRACTORS

- For removing broken screws, bolts, and threaded parts
- Extractor is inserted into pre-drilled hole and broken screw is backed out with a wrench
- Also can be used for threading pipe sections together

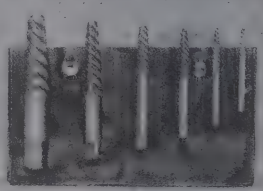
| Extractor Size | Diameter (In.) Small End | Diameter (In.) Large End | Length (In.) Taper | Length (In.) Overall | For Removing Screw (In.) | For Removing Pipe (In.) | Drill Size (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/16 | 5/32 | 3/4 | 2 | #8 to 1/4 | — | 5/64 | 1U216 | $2.09 | 0.1 |
| 2 | 0.086 | 0.18 | 3/4 | 2⅜ | 12 to 5/16 | — | 7/64 | 1U218 | 2.24 | 0.1 |
| 3 | 1/8 | 1/4 | 1 | 2¾ | 5/16 to 7/16 | — | 5/32 | 1U220 | 2.70 | 0.1 |
| 4 | 3/16 | 5/16 | 1 | 3 | 7/16 to 9/16 | 1/8 | 1/4 | 1U222 | 2.86 | 0.1 |
| 5 | 1/4 | 7/16 | 1½ | 3⅜ | 9/16 to 3/4 | 1/8 | 17/64 | 1U224 | 3.54 | 0.2 |
| 6 | 3/8 | 19/32 | 1¾ | 3¾ | 3/4 to 1 | 3/8 | 13/32 | 1U226 | 7.83 | 0.2 |
| 7 | 1/2 | 25/32 | 2¼ | 4⅛ | 1 to 1⅜ | — | 17/32 | 1U228 | 12.59 | 0.4 |
| 8 | 3/4 | 1 1/32 | 2¼ | 4⅜ | 1⅜ to 1¾ | 3/4 | 13/16 | 1U230 | 17.22 | 0.9 |
| 9 | 1 | 1 9/32 | 2¼ | 4⅝ | 1¾ to 2⅛ | 1 | 1 1/16 | 1U234 | 29.85 | 1.5 |

## SCREW EXTRACTOR SETS

- Carbon steel
- Bright finish
- In plastic pouch

| No. of Drills in Kit | Sizes | Screw Capacity (In.) | Pipe Capacity (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 5 | 1, 2, 3, 4, & 5 | 9/16 to 3/4 | 1/8 | 1U296 | $15.90 | 0.3 |
| 6 | 1, 2, 3, 4, 5, & 6 | 3/16 to 1 | 1/8 | 1U298 | 23.67 | 0.6 |

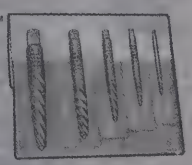
Chicago-Latrobe®



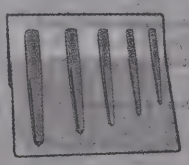
No. 1U296

## SPIRAL AND STRAIGHT FLUTE SCREW EXTRACTORS

MAGNA™



No. 6X987



No. 6X988

A quick and easy way to remove broken screws, bolts and studs. Made of heat-treated tool steel. Drill size for proper use is permanently marked on shank of extractors. Set of 5 contains screw extractors Nos. 1 through 5. In display package. Magna brand.

### SCREW EXTRACTOR SPECIFICATIONS

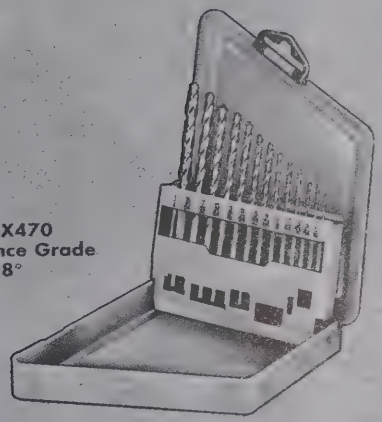
| No. 6X987 Spiral Flute | | | | No. 6X988 Straight Flute | |
|---|---|---|---|---|---|
| Screw Extractor Number | USS Screw, Stud, or Bolt Size (In.) | Pipe Size (In.) | Drill Size (In.) | Screw Extractor Number | USS Screw, Stud, or Bolt Size (In.) | Drill Size (In.) |
| 1 | 3/32 - 5/32 | — | 5/64 | 1 | 1/4, 5/16 | 5/64 |
| 2 | 5/32 - 7/32 | — | 7/64 | 2 | 3/8 | 7/64 |
| 3 | 7/32 - 9/32 | — | 5/32 | 3 | 7/16 | 5/32 |
| 4 | 9/32 - 3/8 | 1/8 | 1/4 | 4 | 1/2, 9/16 | 1/4 |
| 5 | 3/8 - 5/8 | 1/4 | 17/64 | 5 | 5/8 | 17/64 |

| Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Spiral Flute | 6X987 | $8.58 | $6.86 | 0.2 |
| Straight Flute | 6X988 | 12.70 | 10.16 | 0.6 |

# JOBBER LENGTH DRILL SETS

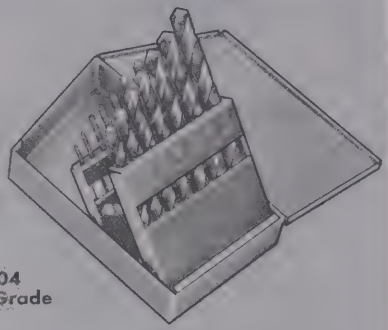
Chicago-Latrobe®

TRIUMPH America's Choice



No. 2X470
Maintenance Grade
118°

TRIUMPH America's Choice

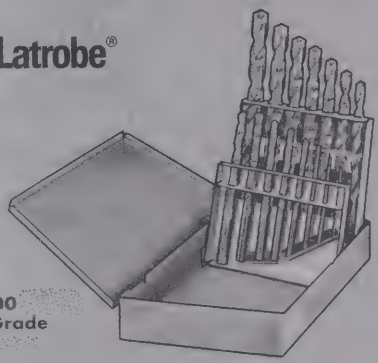


No. 1U104
Production Grade
118°

Quality Import

New

Chicago-Latrobe®



No. 1U200
Production Grade
135°

## 13-PIECE SETS

- Fractional sizes: 1/16 to 1/4 by 64ths

| Description | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| **HIGH SPEED STEEL** | | | |
| Triumph Maintenance Grade, 118° — Black | 2X470 | $9.78▲ | 0.8 |
| Chicago Latrobe Production Grade, 118° — Black | 1U100 | 14.78▲ | 0.6 |
| Chicago Latrobe Production Grade, 118° — Bright | 1M463 | 14.78▲ | 0.6 |
| Triumph Maintenance Grade, 135° Split Pt. — Black | 1BR72 | 12.74▲ | 0.8 |
| Thunderbit High Performance, 135° Split Pt. — Black/Bronze | 1BR73 | 17.10▲ | 0.8 |
| Thunderbit High Performance, 135° Split Point — Tin | 1BR74 | 27.70▲ | 0.8 |
| **COBALT** | | | |
| Chicago Latrobe Production Grade, 135° Split-Point Bronze | 1U198 | 33.25▲ | 0.8 |

(▲) Net prices, not subject to discounts.

## 15-PIECE SETS

- Fractional sizes: 1/16 to 1/2 by 32nds

| Description | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **HIGH SPEED STEEL** | | | | |
| Import General Purpose Grade, 118° — Black | *New* | 4UM91 | $19.28▲ | 2.0 |
| Triumph Maintenance Grade, 118° — Black | | 2X471 | 29.25▲ | 2.3 |
| Chicago Latrobe Production Grade, 118° — Black | | 1U104 | 40.45▲ | 2.0 |
| Chicago Latrobe Production Grade, 118° — Bright | | 1M467 | 40.45▲ | 2.0 |
| Chicago Latrobe Production Grade, 118° — Tin | | 1V698 | 98.10▲ | 2.0 |
| Triumph Maintenance Grade, 135° S/P — Black | | 1BR67 | 35.60▲ | 2.1 |
| Thunderbit High Performance, 135° S/P — Black/Bronze | | 1BR68 | 48.40▲ | 2.1 |
| Thunderbit High Performance, 135° S/P — Tin | | 1BR69 | 80.55▲ | 2.1 |
| Chicago Latrobe Production Grade, 135° S/P — Black | | 1V687 | 48.95▲ | 2.0 |
| **COBALT** | | | | |
| Chicago Latrobe Production Grade, 135° Split Pt. Bronze | | 1U200 | 86.50▲ | 2.3 |

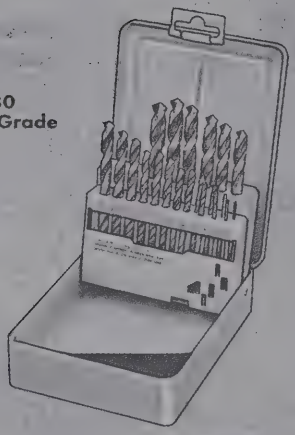
(▲) Net prices, not subject to discounts.

# JOBBER LENGTH DRILL SETS

TRIUMPH America's Choice

## Chicago-Latrobe®

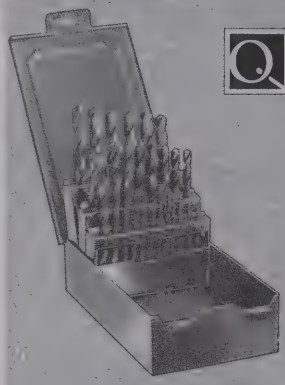
No. 4X780
Maintenance Grade
118°



Quality Import

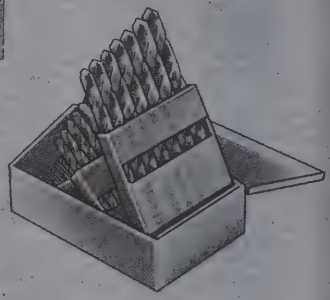
New

No. 4UM92
General Purpose
118°



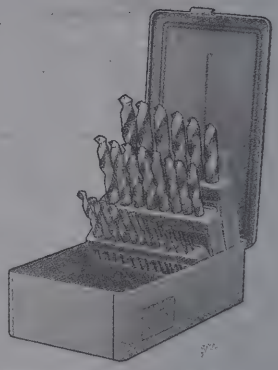
## Chicago-Latrobe®

No. 1G547
Production Grade
135°



TRIUMPH America's Choice

No. 1BR46
ThunderBit®
High Performance
135°



## 21-PIECE SETS

- Fractional sizes: 1/16 to 3/8 by 64ths

| Description | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| **HIGH SPEED STEEL** | | | |
| Triumph, Maintenance Grade, 118° — Black | 4X780 | $27.55▲ | 1.6 |
| Chicago Latrobe, Production Grade, 118° — Black | 1U102 | 36.55▲ | 1.6 |
| Chicago Latrobe, Production Grade, 118° — Bright | 1M465 | 36.55▲ | 1.5 |
| Triumph, Maintenance Grade, 135° S/P — Black | 1BR50 | 32.15▲ | 1.7 |
| Thunderbit, Hi-Performance, 135° S/P — Black/Bronze | 1BR51 | 44.00▲ | 1.6 |
| Thunderbit, Hi-Performance, 135° S/P — Tin | 1BR52 | 74.40▲ | 1.7 |
| **COBALT** | | | |
| Chicago Latrobe, Production Grade, 135° Split Point Bronze | 1V713 | 67.55▲ | 1.6 |

(▲) Net prices, not subject to discounts.

## 29-PIECE SETS

- Fractional sizes: 1/16 to 1/2 by 64ths

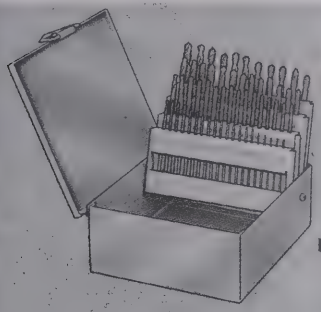
| Description | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **HIGH SPEED STEEL** | | | | |
| Import General Purpose Grade, 118° — Black | *New* | 4UM92 | $34.70▲ | 3.2 |
| Triumph Maintenance Grade, 118° — Black | | 6X001 | 58.30▲ | 3.5 |
| Chicago Latrobe Production Grade, 118° — Black | | 1U110 | 74.55▲ | 3.2 |
| Chicago Latrobe Production Grade, 118° — Bright | | 1M469 | 74.90▲ | 3.2 |
| Chicago Latrobe Production Grade, 118° — Tin | | 1V696 | 181.75▲ | 3.2 |
| Triumph Maintenance Grade, 135° S/P — Black | | 1BR44 | 64.80▲ | 4.0 |
| Thunderbit High Performance, 135° S/P — Black/Bronze | | 1BR45 | 90.90▲ | 4.0 |
| Thunderbit High Performance, 135° S/P — Tin | | 1BR46 | 155.50▲ | 3.4 |
| Chicago Latrobe Production Grade, 135° — Black | | 1G547 | 93.90▲ | 3.2 |
| **COBALT** | | | | |
| Chicago Latrobe Production Grade, 135° Split Pt. Bronze | | 1U196 | 176.25▲ | 3.2 |

(▲) Net prices, not subject to discounts.



Set up your next job with quality cutting tools from Grainger.

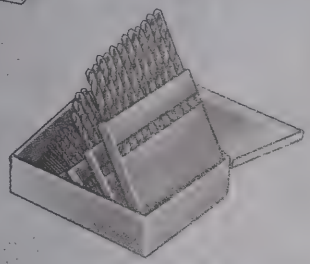
# JOBBER LENGTH DRILL SETS



Quality Import

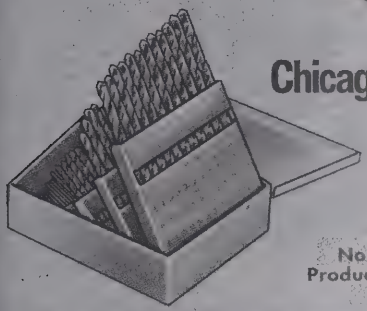
New

No. 4UM93
Import General Purpose
Grade - 118°



TRIUMPH
America's Choice

No. 1M471
General Purpose Grade
118°



Chicago-Latrobe®

No. 1G545
Production Grade
135°

## 20-PIECE SETS

- Wire sizes: #61 to #80

| Description | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| **HIGH SPEED STEEL** | | | |
| Chicago Latrobe General Purpose, 118° — Bright | 1U129 | $22.87▲ | 0.1 |
| Chicago Latrobe General Purpose, 118° — Black | 1V717 | 18.71▲ | 0.5 |

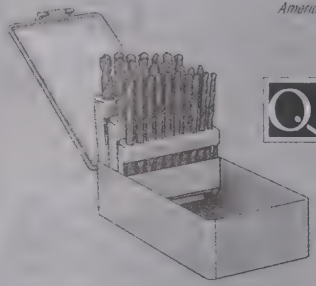
(▲) Net prices, not subject to discounts.

## 60-PIECE SETS

- Wire sizes: #1 to #60

| Description | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **HIGH SPEED STEEL** | | | | |
| Import General Purpose Grade, 118° | *New* | 4UM93 | $26.20▲ | 1.1 |
| Triumph Maintenance Grade, 118° — Black | | 2A736 | 42.90▲ | 1.7 |
| Chicago Latrobe Production Grade, 118° Black | | 1U131 | 58.25▲ | 1.1 |
| Chicago Latrobe Production Grade, 118° — Bright | | 1M471 | 58.25▲ | 1.1 |
| Thunderbit High Performance, 135° S/P — Black/Bronze | | 3BR92 | 81.80▲ | 0.1 |
| Chicago Latrobe Production Grade, 135° S/P — Black | | 1G545 | 72.70▲ | 1.1 |
| **COBALT** | | | | |
| Chicago Latrobe Prod. Grade, 135° — Split Point Bronze | | 1U202 | 133.10▲ | 1.1 |

(▲) Net prices, not subject to discounts.

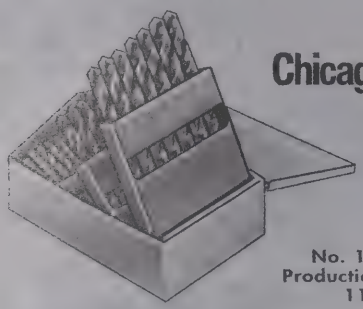


TRIUMPH
America's Choice

Quality Import

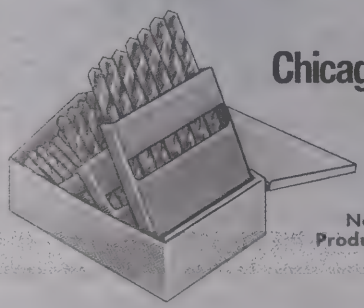
New

No. 4UM94
Import General
Purpose
118°



Chicago-Latrobe®

No. 1M473
Production Grade
118°



Chicago-Latrobe®

No. 1G543
Production Grade
135°

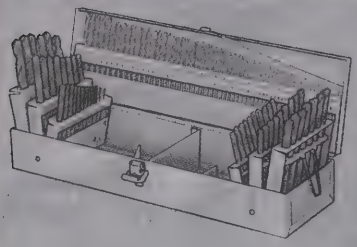
## 26-PIECE SETS

- Letter sizes: A-Z

| Description | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **HIGH SPEED STEEL** | | | | |
| Import General Purpose, 118° Black | *New* | 4UM94 | $35.10▲ | 3.0 |
| Triumph Maintenance Grade, 118° Black | | 2A737 | 59.60▲ | 3.5 |
| Chicago Latrobe Production Grade, 118° Black | | 1U133 | 75.15▲ | 3.0 |
| Chicago Latrobe Production Grade, 118° Bright | | 1M473 | 77.65▲ | 3.0 |
| Thunderbit High Performance 135° Black/Bronze | | 3BR86 | 97.65▲ | 3.0 |
| Chicago Latrobe Production Grade, 135° Black | | 1G543 | 88.95▲ | 3.0 |
| **COBALT** | | | | |
| Chicago Latrobe Prod. Grade 135° Split-Point Bronze | | 1V710 | 134.35▲ | 3.0 |

(▲) Net prices, not subject to discounts.

# JOBBER LENGTH DRILL SETS



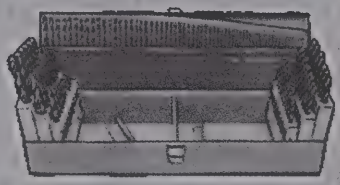
Quality Import

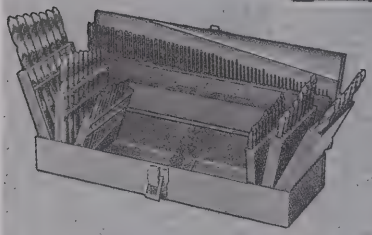
New

No. 4UM95
Import General Purpose
118°

TRIUMPH
America's Choice

No. 1A522
Maintenance Grade
118°

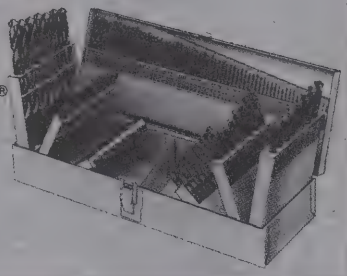




No. 6BP39
Thunderbit®
High Performance
135°

Chicago-Latrobe®

No. 1G549
Production Grade
135°



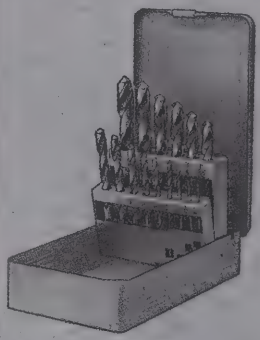
## 115-PIECE SETS

- Fractional, wire, letter sizes: 1/16 to 1/2 by 64ths, #1-#60, A-Z

| No. of Pieces | Sizes | Drill Style | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **METRIC SIZES — BLACK OXIDE** | | | | | |
| 11 | 1mm-6mm x 0.5mm | 150 | 1U137 | $15.59▲ | 0.6 |
| 25 | 1mm-13mm x 0.5mm | 150 | 1U139 | 80.60▲ | 3.0 |

| Description | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **HIGH SPEED STEEL** | | | | |
| Import General Purpose, 118° Point — Black | *New* | 4UM95 | $91.95▲ | 8.1 |
| Triumph Maintenance Grade, 118° Point — Black | | 1A522 | 174.00▲ | 8.1 |
| Chicago Latrobe Production Grade, 118° Point — Black | | 1U144 | 216.50▲ | 8.1 |
| Chicago Latrobe Production Grade, 118° Point — Bright | | 1M475 | 227.75▲ | 8.1 |
| Thunderbit High Performance, 135° S/P — Black/Bronze | | 6BP39 | 276.50▲ | 8.1 |
| Chicago Latrobe Production Grade, 135° S/P Black | | 1G549 | 298.75▲ | 8.1 |
| **COBALT** | | | | |
| Chicago Latrobe Production Grade, 135°Split Pt. Bronze | | 1G915 | 503.50▲ | 8.1 |

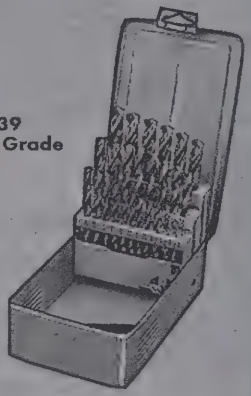
(▲) Net prices, not subject to discounts.



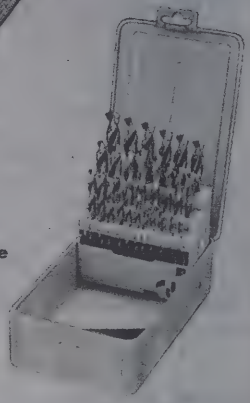
TRIUMPH
America's Choice

No. 2A738
Maintenance Grade
118°

No. 2A739
Maintenance Grade
118°



No. 4F644
High Performance
135°



## 15- AND 29-PIECE SETS

- 3/8" reduced shank sets

| Description | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| **HIGH SPEED STEEL** | | | |
| 15 Pc. Triumph Maintenance Grade, 118° — Black | 2A738 | $31.85▲ | 2.3 |
| 15 Pc. Thunderbit High Performance, 135° — Black/Bronze | 4F643 | 53.55▲ | 2.2 |
| 29 Pc. Triumph Maintenance Grade, 118° — Black | 2A739 | 61.15▲ | 3.4 |
| 29 Pc. Thunderbit High Performance, 135° S/P — Black/Bronze | 4F644 | 99.10▲ | 4.0 |

(▲) Net prices, not subject to discounts.



*Set up your next job with quality cutting tools from Grainger.*

# SILVER AND DEMING & SCREW MACHINE LENGTH DRILL SETS

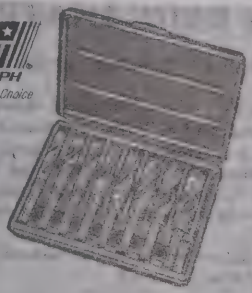
Quality Import

TRIUMPH America's Choice

New

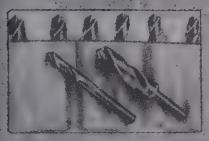


No. 4UM96
General Purpose
118°

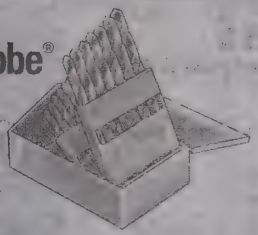


No. 1A050
Maintenance Grade
118°

Chicago-Latrobe®



No. 1U194
Production Grade 118°



No. 1V689
Production Grade 135°

## 8-Pc. 1/2" SHANK SILVER & DEMING DRILL SETS

**Fractional sizes: 9/16 to 1 by 16ths**

| Description | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **SILVER & DEMING SETS** | | | | |
| nport, General Purpose 118° — Black | *New* | 4UM96 | $63.95▲ | 2.0 |
| riumph Maintenance Grade, Wooden Case 118° — Black | | 1A050 | 125.45▲ | 4.6 |
| hicago Latrobe Production Grade, Round Shank, Plastic Case 118° — Black | | 1U194 | 181.00▲ | 3.7 |
| hicago Latrobe Production Grade, Round Shank, Metal Case 118° — Black | | 1V691 | 194.00▲ | 4.7 |
| hicago Latrobe Production Grade, Flatted Shank Plastic Pouch 118° — Black | | 1V693 | 208.75▲ | 3.7 |

(▲) Net prices, not subject to discounts.

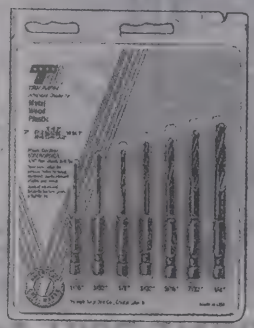
## 21- AND 29-Pc. SCREW MACHINE LENGTH DRILL SETS

**Fractional sizes: 21-Piece: 1/16 to 3/8 by 64ths; 29-Piece: 1/16 to 1/2 by 64ths**
**Wire sizes: #1 to #60**

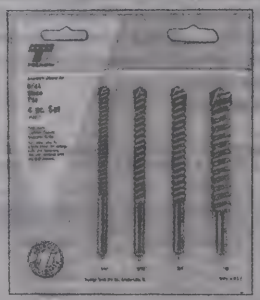
| Description | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| **FRACTIONAL** | | | |
| 21 Pc. Chicago Latrobe Production Grade, 135° S/P — Black | 1V689 | $40.90▲ | 1.8 |
| 29 Pc. Triumph Maintenance Grade, 135° S/P — Black | 4AK21 | 80.35▲ | 2.6 |
| 29 Pc. Chicago Latrobe Production Grade, 135° S/P — Black | 1U135 | 97.60▲ | 2.7 |
| **WIRE** | | | |
| 60 Pc. Triumph Maintenance Grade, 135° — Black | 4AK22 | 60.65▲ | 1.5 |
| 60 Pc. Chicago Latrobe Production Grade, 135° — Black | 1V708 | 62.70▲ | 1.0 |

(▲) Net prices, not subject to discounts.

TRIUMPH America's Choice



No. 4F642
Hex Shank Set
118°



No. 4X012
High Helix
118°

## HEX SHANK AND MASONRY DRILL SETS

**No. 4F642 7-Pc. 1/4" Hex Shank Drill Set:**

- Winged clamshell package
- Fractional sizes:1/16 to 1/4 by 32nds
- Black oxide finish

**No. 4X012 4-Pc. Carbide-Tipped Masonry Drill Set:**

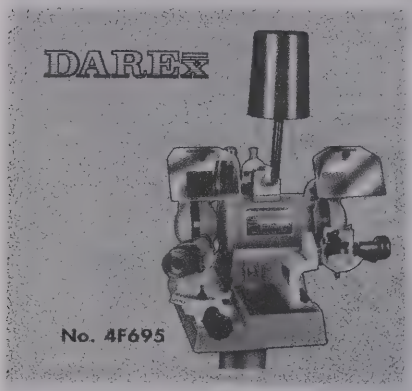
- Vinyl Storage Pouch and 4" OAL
- Fractional sizes: 1/4, 5/16, 3/8, and 1/2"
- High helix 118° point
- Black oxide finish

| Description | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| **HIGH SPEED STEEL** | | | |
| 7-Pc Maintenance Grade, 118° Split Pt. — Black | 4F642 | $16.96▲ | 0.2 |
| **CARBIDE - TIPPED MASONRY** | | | |
| 4-Pc High Helix, Maintenenance Grade, 118° Point. — Black | 4X012 | 11.22▲ | 0.4 |

(▲) Net prices, not subject to discounts.

# DRILL BIT SHARPENERS

## DAREX M5 PRECISION DRILL SHARPENER




- Accommodates 1/16 to 3/4" diameter drills, including letter, fractional, number, and metric sizes
- Produces factory perfect points that hand sharpening cannot achieve
- Resharpened drills increase drill life, cut faster, reduce rejects
- Includes machine, 2 precision chucks, machine lamp, and two super abrasive borazon (CBN) grinding wheels (180 grit and 100 grit)
- Accurately sharpens these and other drill points: 90-180° points, standard points, split points, web thinning, and bullet points with Bullet Point Attachment (sold separately)
- Bullet Point Attachment sharpens bullet, wood, and sheet metal drill points
- Grinding wheel size: 6 x 3/4 x 1"

| Description | Drill Diameters | HP | Grinding Wheel Dia. | Volts 1 Phase | Max. RPM | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Precision Drill Sharpener | 1/16-3/4" (1.5-19mm) | 1/3 | Two 6" | 115 | 3450 | 4F695 | $1281.00 | $1217.00 | 68.0 |
| Large Drill Attachment | 3/4-1⅛" (19-28mm) | — | — | — | — | 4F696 | 336.00 | 319.25 | 5.0 |
| Bullet Point Attachment* | 1/16 - 3/4" (1.5-19mm) | — | — | — | — | 4F697 | 112.00 | 106.40 | 3.0 |

(*) Does not accept Large Drill Attachment No. 4F696.

## DEWALT DRILL BIT SHARPENER

- Accurately sharpens 1/8 to 1/2" 118° standard point high speed twist drill bits in one minute
- Requires less than one square foot of bench space
- Calibrated feed control knob simplifies uniform grinding on both cutting edges
- 5 x 3/4" Grinding wheel with special angled face
- Rigidly-mounted chuck head assures consistent arc across wheels
- Includes grinding wheel, diamond wheel dresser, and bit locator
- For AC operation only
- UL Listed, CSA Certified




| No-Load RPM | Amps at 120V | Dimensions (In.) L | W | H | Arbor Hole (In.) | Capacity (In.) | Tool Wt. (Lbs.) | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3600 | 2.2 | 11¾ | 9½ | 8⅜ | 5/8 | 1/8-1/2 | 15¼ | DW751 | 4LD90 | $680.00 | $416.50▲ | 19.0 |

### DRILL BIT SHARPENER ACCESSORIES*

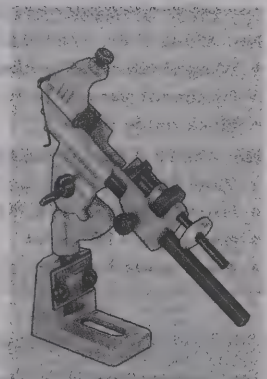
| Description | DeWalt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Grinding Wheel | DW7510 | 4LD91 | $22.00 | $16.45▲ | 1.8 |
| Diamond Dresser | DW7511 | 4LD92 | 36.00 | 25.75▲ | 0.3 |
| Bit Locator | DW7512 | 4LD93 | 12.00 | 9.36▲ | 0.1 |

(▲) Net prices, not subject to discounts.
(*) For use with Dewalt Model DW751, Grainger Stock No. 4LD90, and Black & Decker Model 4300.

## DRILL GRINDING ATTACHMENT

GENERAL

- Permits resharpening of drill bits to factory accuracy
- Angle adjustments to grind drill bits for a variety of materials
- Automatically adjusts to give correct clearance angle
- For use with ANSI, OSHA, UL Listed standard electric bench or surface grinders
- Has mounting holes for workbench
- Locks into five standard angles: 88, 68, 59, 49, and 41°
- Capacity: Fractional 1/8-3/4"; Number sizes 30-1; Letter A-Z; Millimeter 3.0-19.0.




**No. 3ZH44.** Shpg. wt. 2.2 lbs. List $28.74. Each .....$25.90

## DAREX DRILL DOCTOR PORTABLE DRILL SHARPENER




- Dimensions: 6.5L x 6W x 7"H
- Size capacity: 3/32"-3/4", 2.5-19mm
- 120V 1.75 amp motor, RPM 18,500
- Replaceable diamond wheel
- UL Listed in U.S. and Canada

Sharpens bits in 30-90 seconds (depending on drill bit size). Use to sharpen 3/32"-3/4", metric, number and letter size drill bits and conventional, split point, and masonry paint styles. Diamond wheel sharpens high speed steel, cobalt, and carbide drill bits. Adjustment free sharpening eliminates operator modifications and set-up procedures. Allows user to change point angle of the drill bit to meet specific needs. Steel stop plate assures consistent and maintenance-free drill bit grind-depth control and alignment.

***New*** **No. 4TL60.** Shpg. wt. 4.8 lbs. List $199.00. Each .....$189.00

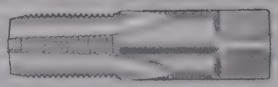
# TAPER PIPE TAPS AND CUTTING FLUIDS

## TAPER PIPE TAPS

- General purpose
- NPT/ANPT or NPTF
- Ground thread
- 2½ to 3½ thread chamfer

**General Purpose Pipe Taps** are appropriate for threading a wide variety of materials, both ferrous and nonferrous. Ground Thread Pipe Taps are standard in American Standard Pipe Form (NPT) and American Standard Dryseal Pipe Form (NPTF). NPT threads require the use of a sealer like Teflon tape or pipe compound. Dryseal taps are used to tap fittings which will give a pressure tight joint without the use of a sealer. The nominal size of a Pipe Tap is that of the pipe fitting to be tapped, not the actual size of the tap. The thread tapers 3/4" per foot. ANPT taps marked NPT may be used for NPT and ANPT applications.

GTD GREENFIELD



**TAPER PIPE**

| Thread | Drill | Thread | Drill | Thread | Drill |
|---|---|---|---|---|---|
| 1/16" | C | 1/4" | 7/16" | 3/4" | 29/32" |
| 1/8 | Q | 3/8 | 9/16 | 1 | 1 5/64" |
| | | 1/2 | 45/64 | | |

### TAPER PIPE TAPS—GENERAL PURPOSE (GREENFIELD No. 5320)

| Size (In.) | Pitch | Flutes | Length (In.) Thread | Length (In.) Overall | Std. Proj. | Tolerance | Stock No. NPT / ANPT | Stock No. NPTF | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/16 | 27 | 4 | 11/16 | 2 1/8 | .312 | ±1/16 | 4AKL0 | 1E286 | $20.39 | $18.36/12 | 0.1 |
| 1/8 | 27 | 4 | 3/4 | 2 1/8 | .312 | ±1/16 | 4AKL1 | 1E292 | 20.39 | 18.36/12 | 0.1 |
| 1/8 (Large Shank) | 27 | 4 | 3/4 | 2 1/8 | .312 | ±1/16 | 4AKL2 | 1E294 | 20.39 | 18.36/12 | 0.1 |
| 1/4 | 18 | 4 | 1 1/16 | 2 7/16 | .459 | ±1/16 | 4AKL3 | 1E298 | 22.47 | 20.22/12 | 0.1 |
| 3/8 | 18 | 4 | 1 1/16 | 2 9/16 | .454 | ±1/16 | 4AKL4 | 1E302 | 29.80 | 26.77/12 | 0.2 |
| 1/2 | 14 | 4 | 1 3/8 | 3 1/8 | .579 | ±1/16 | 4AKL5 | 1E306 | 47.15 | 42.36/12 | 0.2 |
| 3/4 | 14 | 5 | 1 3/8 | 3 1/4 | .565 | ±1/16 | 4AKL6 | 1E310 | 65.95 | 59.26/06 | 0.6 |
| 1 | 11 1/2 | 5 | 1 3/4 | 3 3/4 | .678 | ±3/32 | 4AKL7 | 1E314 | 99.70 | 89.67/03 | 0.8 |
| 1 1/4 | 11 1/2 | 5 | 1 3/4 | 4 | .686 | ±3/32 | 1E316 | 1E318 | 143.25 | 128.80/02 | 0.6 |
| 1 1/2 | 11 1/2 | 7 | 1 3/4 | 4 1/4 | .699 | ±3/32 | 1E320 | 1E322 | 192.75 | 172.80/02 | 2.0 |
| 2 | 11 1/2 | 7 | 1 3/4 | 4 1/2 | .667 | ±3/32 | 1E324 | 1E326 | 260.75 | 233.94/02 | 1.2 |

### TAP/DRILL SIZE REFERENCE CHART

| Thread Nom. Size | Pitch Series | Drill Size | Drill Decimal | Thread Nom. Size | Pitch Series | Drill Size | Drill Decimal | Thread Nom. Size | Pitch Series | Drill Size | Drill Decimal | Thread Nom. Size | Pitch Series | Drill Size | Drill Decimal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-80 | NF | 3/64 | .047 | 10-24 | NC-UNC | 25 | .150 | 18 | NF-UNF | 33/64 | .516 | 12 | NF-UNF | 1 19/64 | 1.297 |
| 1-64 | NC | 53 | .060 | 32 | NF-UNF | 21 | .159 | 5/8-11 | NC-UNC | 17/32 | .531 | 1 1/2-6 | NC-UNC | 1 11/32 | 1.344 |
| 72 | NF | 53 | .060 | 12-24 | NC | 16 | .177 | 18 | NF-UNF | 37/64 | .578 | 12 | NF-UNF | 1 27/64 | 1.422 |
| 2-56 | NC | 50 | .070 | 28 | NF | 14 | .182 | 3/4-10 | NC-UNC | 21/32 | .656 | 1 3/4-5 | NC-UNC | 1 9/16 | 1.563 |
| 64 | NF | 50 | .070 | 1/4-20 | NC-UNC | 7 | .201 | 16 | NF-UNF | 11/16 | .688 | 2-4 1/2 | NC-UNC | 1 25/32 | 1.781 |
| 3-48 | NC | 47 | .079 | 28 | NF-UNF | 3 | .213 | 7/8-9 | NC-UNC | 49/64 | .766 | 2 1/4-4 1/2 | NC-UNC | 2 1/32 | 2.031 |
| 56 | NF | 45 | .082 | 5/16-18 | NC-UNC | F | .257 | 14 | NF-UNF | 13/16 | .813 | 2 1/2-4 | NC-UNC | 2 1/4 | 2.250 |
| 4-40 | NC-UNC | 43 | .089 | 24 | NF-UNF | I | .272 | 1-8 | NC-UNC | 7/8 | .875 | 2 3/4-4 | NC-UNC | 2 1/2 | 2.500 |
| 48 | NF | 42 | .094 | 3/8-16 | NC-UNC | 5/16 | .313 | 14 | NS | 15/16 | .938 | 3-4 | NC-UNC | 2 3/4 | 2.750 |
| 5-40 | NC | 38 | .102 | 24 | NF-UNF | Q | .332 | 1 1/8-7 | NC-UNC | 63/64 | .984 | 3 1/4-4 | NC-UNC | 3 | 3.000 |
| 44 | NF | 37 | .104 | 7/16-14 | NC-UNC | U | .368 | 12 | NF-UNF | 1 3/64 | 1.047 | 3 1/4-4 | NC-UNC | 3 1/4 | 3.250 |
| 6-32 | NC-UNC | 36 | .107 | 20 | NF-UNF | 25/64 | .391 | 1 1/4-7 | NC-UNC | 1 7/64 | 1.109 | 3 3/4-4 | NC-UNC | 3 1/2 | 3.500 |
| 40 | NF | 33 | .113 | 1/2-13 | NC-UNC | 27/64 | .422 | 1 1/4-7 | NC-UNC | 1 7/64 | 1.109 | 4-4 | NC-UNC | 3 3/4 | 3.750 |
| 8-32 | NC-UNC | 29 | .136 | 20 | NF-UNF | 29/64 | .453 | 12 | NF-UNF | 1 11/64 | 1.172 | | | | |
| 36 | NF | 29 | .136 | 9/16-12 | NC-UNC | 31/64 | .484 | 1 3/8-6 | NC-UNC | 1 7/32 | 1.219 | | | | |

F-American National Fine Thread Series; NC-American National Coarse Thread Series; UNC-Unified Coarse Thread Series; UNF-Unified Fine Thread Series; NS-American National Thread Special.

## CUTTING FLUIDS

### CRC CUTTING OIL

**Thread-cutting lubricant for use on** all types of metal. Low-odor formula is safe on soft metals such as brass, copper, and aluminum, and has no strong sulfur odor. Additives create strong film that withstands extreme pressures, increasing tool life and ease of cutting. 16 oz. can/12 oz. net wt. CRC brand (14050).

**No. 2F146.** Shpg. wt. 1.0 lbs. List $5.62. Each ..... $5.35

CRC

LPS



No 2F019



No 2C649

### LPS® TAPMATIC GOLD CUTTING FLUIDS

**LPS® TAPMATIC #1 GOLD Cutting Fluid** simultaneously protects and lubricates to reduce friction and eliminate chip welding in tapping, drilling, reaming, and threading. Does not contain 1,1,1 trichloroethane, CFC's, chlorinated paraffins, water, solvents, or reactive fillers. Safe to use on all metals. LPS brand (40320).

**No. 2F019.** Shpg. wt. 0.3 lbs. List $4.36. Each ..... $3.80

**No. 2F021.** Shpg. wt. 1.1 lbs. List $8.57. Each ..... $7.45

### LPS® TAPMATIC AQUACUT

**LPS® Tapmatic® Aquacut cutting fluid** is a water-based cutting fluid that extends tool life and reduces friction, heat, and tool failure. Provides clean cuts and fine finishes. Designed for use on steel, aluminum, and other metals, except magnesium. Does not contain any sulfur, chlorine, or 1,1,1 trichloroethane. Will not stain metal. Nonflammable and cinnamon-scented. LPS brand (01216).

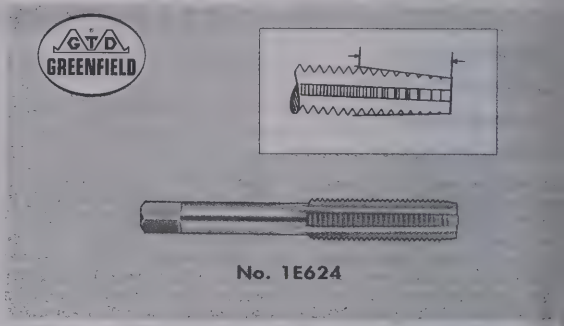
**No. 2C649.** Shpg. wt. 1.3 lbs. List $7.25. Each ..... $6.03

# HAND TAPS

## HIGH SPEED STEEL HAND TAPS

- **Ground thread**
- **Taper (7-10 pitches), plug (3-5 pitches), bottoming (1-2 pitches) chamfer**
- **Titanium Nitride (TiN) coated taps offer increased tool life and improved productivity through increased tapping speeds.**

For hand use or for tapping under power in general machine or CNC tapping. Appropriate for tapping the majority of materials in through shallow or blind hole conditions. Hand taps store chips in their flutes adjacent to the chamfered teeth during threading operations. The plug chamfer hand tap is the general purpose tap for use in through shallow or blind holes. Metric taps are manufactured to USCTI specifications and dimensions.




No. 1E624

| Size* | Pitch | Thread Type | PD Limits | Flutes | Length (In.) Thread | Length (In.) Overall | Stock No. Chamfer Taper | Stock No. Chamfer Plug | Stock No. Chamfer Bottoming | Individual Hand Taps Each | Individual Hand Taps Std. Pkg. Each | Tap Sets † Stock No. | Tap Sets † Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MACHINE SCREW AND FRACTIONAL SIZES (GREENFIELD Nos. 5305 & 5303)** | | | | | | | | | | | | | | |
| **2** | 56 | NC/UNC | H2 | 3 | 7/16 | 1¾ | — | — | — | — | — | **4AHL1** | **$25.65** | 0.1 |
| **3** | 48 | NC/UNC | H2 | 3 | 1/2 | 1 15/16 | — | — | — | — | — | **4AHL2** | **19.69** | 0.1 |
| **4** | 40 | NC/UNC | H2 | 3 | 9/16 | 1⅞ | **4AHL3** | **4AHL4** | **4AHL5** | **$5.37** | **$4.84** | **4AHL6** | **16.16** | 0.1 |
| **5** | 40 | NC/UNC | H2 | 3 | 5/8 | 1 15/16 | **4AHL7** | **4AHL8** | **4AHL9** | **5.37** | **4.84** | **4AHM0** | **16.16** | 0.1 |
| **6** | 32 | NC/UNC | H3 | 3 | 11/16 | 2 | **4AHM1** | **4AHM2** | **4AHM3** | **4.10** | **3.69** | **4AHM4** | **12.29** | 0.1 |
| **8** | 32 | NC/UNC | H3 | 4 | 3/4 | 2 1/16 | **4AHM5** | **4AHM6** | **4AHM7** | **4.25** | **3.82** | **4AHM8** | **12.77** | 0.1 |
| **10** | 24 | NC/UNC | H3 | 4 | 7/8 | 2 3/16 | **4AHN0** | **4AHN1** | **4AHN2** | **4.36** | **3.92** | **4AHN3** | **13.08** | 0.1 |
| **10** | 32 | NF/UNF | H3 | 4 | 7/8 | 2 3/16 | **4AHN4** | **4AHN5** | **4AHN6** | **4.36** | **3.92** | **4AHN7** | **13.08** | 0.1 |
| **1/4** | 20 | NC/UNC | H3 | 4 | 1 | 2 1/16 | **4AHN8** | **4AHN9** | **4AHP0** | **4.70** | **4.22** | **4AHP1** | **14.07** | 0.1 |
| **1/4** | 28 | NF/UNF | H3 | 4 | 1 | 2 1/16 | **4AHP2** | **4AHP3** | **4AHP4** | **4.70** | **4.22** | **4AHP5** | **14.07** | 0.1 |
| **5/16** | 18 | NC/UNC | H3 | 4 | 1 1/16 | 2 23/32 | **4AHP6** | **4AHP7** | **4AHP8** | **5.80** | **5.22** | **4AHP9** | **17.40** | 0.2 |
| **5/16** | 24 | NF/UNF | H3 | 4 | 1 1/16 | 2 23/32 | **4AHT0** | **4AHT1** | **4AHT2** | **5.80** | **5.22** | **4AHT3** | **17.40** | 0.2 |
| **3/8** | 16 | NC/UNC | H3 | 4 | 1¼ | 2 15/16 | **4AHT4** | **4AHT5** | **4AHT6** | **6.54** | **5.89** | **4AHT7** | **19.64** | 0.2 |
| **3/8** | 24 | NF/UNF | H3 | 4 | 1¼ | 2 15/16 | **4AHT8** | **4AHT9** | **4AHW0** | **6.54** | **5.89** | **4AHW1** | **19.64** | 0.2 |
| **7/16** | 14 | NC/UNC | H3 | 4 | 1 7/16 | 3 5/32 | **4AHW2** | **4AHW3** | **4AHW4** | **11.15** | **10.04** | **4AHW5** | **33.55** | 0.3 |
| **7/16** | 20 | NF/UNF | H3 | 4 | 1 7/16 | 3 5/32 | **4AHW6** | **4AHW7** | **4AHW8** | **11.15** | **10.04** | **4AHW9** | **33.55** | 0.3 |
| **1/2** | 13 | NC/UNC | H3 | 4 | 1 21/32 | 3⅜ | **4AXH0** | **4AHX1** | **4AHX2** | **11.87** | **10.69** | **4AHX3** | **35.75** | 0.4 |
| **1/2** | 20 | NF/UNF | H3 | 4 | 1 21/32 | 3⅜ | **4AHX4** | **4AHX5** | **4AHX6** | **13.26** | **11.95** | **4AHX7** | **40.00** | 0.4 |
| **9/16** | 12 | NC/UNC | H3 | 4 | 1 23/32 | 3 19/32 | **4AHX8** | **4AHX9** | **4AKC0** | **19.79** | **17.80** | **4AKC1** | **59.45** | 0.5 |
| **9/16** | 18 | NF/UNF | H3 | 4 | 1 23/32 | 3 19/32 | **4AKC2** | **4AKC3** | **4AKC4** | **19.78** | **17.80** | **4AKC5** | **59.45** | 0.5 |
| **5/8** | 11 | NC/UNC | H3 | 4 | 1 13/16 | 3 13/16 | **4AKC6** | **4AKC7** | **4AKC8** | **23.64** | **21.28** | **4AKC9** | **71.00** | 0.6 |
| **5/8** | 18 | NF/UNF | H3 | 4 | 1 13/16 | 3 13/16 | **4AKF0** | **4AKF1** | **4AKF2** | **23.64** | **21.28** | **4AKF3** | **71.00** | 0.6 |
| **3/4** | 10 | NC/UNC | H3 | 4 | 2 | 4¼ | **4AKF4** | **4AKF5** | **4AKF6** | **33.20** | **29.76** | **4AKF7** | **99.15** | 1.0 |
| **3/4** | 16 | NF/UNF | H3 | 4 | 2 | 4¼ | **4AKF8** | **4AKF9** | **4AKH0** | **33.20** | **29.76** | **4AKH1** | **99.15** | 1.0 |
| **7/8** | 9 | NC/UNC | H4 | 4 | 2 7/32 | 4 11/16 | — | **1C913** | **1C915** | **47.70** | **42.78** | **1C917** | **132.70** | 0.8 |
| **7/8** | 14 | NF/UNF | H4 | 4 | 2 7/32 | 4 11/16 | — | **1C919** | **1C921** | **47.70** | **42.78** | **1C923** | **142.80** | 0.8 |
| **1** | 8 | NC/UNC | H4 | 4 | 2½ | 5⅛ | — | **1C925** | **1C927** | **63.40** | **56.97** | **1C929** | **191.00** | 3.0 |
| **METRIC (GREENFIELD No. 5353)** | | | | | | | | | | | | | | |
| **M3** | 0.50mm | Metric | D3 | 3 | 5/8 | 1 15/16 | **1C942** | **1C944** | **1C946** | **7.17** | **6.45** | **1C948** | **21.52** | 0.1 |
| **M4** | 0.70mm | Metric | D4 | 4 | 3/4 | 2⅛ | **1C950** | **1C952** | **1C954** | **5.90** | **5.31** | **1C956** | **17.71** | 0.1 |
| **M5** | 0.80mm | Metric | D4 | 4 | 7/8 | 2⅜ | **1C958** | **1C960** | **1C967** | **5.90** | **5.31** | **1C970** | **17.71** | 0.1 |
| **M6** | 1.00mm | Metric | D5 | 4 | 1 | 2½ | **1C972** | **1C974** | **1C976** | **6.24** | **5.61** | **1C978** | **18.72** | 0.1 |
| **M7** | 1.0mm | Metric | D5 | 4 | 1⅛ | 2 23/32 | **1C980** | **1C994** | **1C996** | **6.81** | **6.14** | **1C998** | **20.48** | 0.2 |
| **M8** | 1.25mm | Metric | D5 | 4 | 1⅛ | 2 23/32 | **1E001** | **1E003** | **1E005** | **6.77** | **6.09** | **1E007** | **20.39** | 0.2 |
| **M10** | 1.50mm | Metric | D6 | 4 | 1¼ | 2 15/16 | **1E009** | **1E011** | **1E013** | **8.42** | **7.58** | **1E015** | **25.25** | 0.3 |
| **M12** | 1.75mm | Metric | D6 | 4 | 1 21/32 | 3⅜ | **1E017** | **1E019** | **1E021** | **15.05** | **13.55** | **1E023** | **45.35** | 0.3 |

### TiN COATED — MACHINE AND FRACTIONAL SIZES (GREENFIELD Nos. 2303 & 2305)

| Size | Pitch | Thread Type | PD Limits | Flutes | Length (In.) Thread | Length (In.) Overall | Stock No. Plug | Stock No. Bottoming | Each | Std. Pkg. Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 80 | NF/UNF | H2 | 2 | 5/16 | 1⅛ | **1E624** | **1E626** | **$15.70** | **$14.14** | 0.1 |
| **2** | 56 | NC-UNC | H2 | 3 | 7/16 | 1¾ | **1E628** | **1E630** | **12.50** | **11.25** | 0.1 |
| **4** | 40 | NC/UNC | H2 | 3 | 9/16 | 1⅞ | **1E632** | **1E634** | **7.89** | **7.09** | 0.1 |
| **5** | 40 | NC/UNC | H2 | 3 | 5/8 | 1 15/16 | **1E636** | **1E638** | **7.89** | **7.09** | 0.1 |
| **6** | 32 | NC/UNC | H2 | 3 | 11/16 | 2 | **1E640** | **1E642** | **6.39** | **5.75** | 0.1 |
| **8** | 32 | NC/UNC | H2 | 4 | 3/4 | 2 1/16 | **1E644** | **1E646** | **6.39** | **5.75** | 0.1 |
| **10** | 24 | NC/UNC | H3 | 4 | 7/8 | 2 3/16 | **1E648** | **1E650** | **6.64** | **5.97** | 0.1 |
| **10** | 32 | NF/UNF | H3 | 4 | 7/8 | 2 3/16 | **1E652** | **1E655** | **6.39** | **5.75** | 0.1 |
| **12** | 24 | NC/UNC | H3 | 4 | 15/16 | 2 3/16 | **1E657** | **1E659** | **6.77** | **6.09** | 0.1 |
| **1/4** | 20 | NC/UNC | H3 | 4 | 1 | 2 1/16 | **1E661** | **1E664** | **6.86** | **6.17** | 0.1 |
| **1/4** | 28 | NF/UNF | H3 | 4 | 1 | 2 1/16 | **1E666** | **1E668** | **6.86** | **6.17** | 0.1 |
| **5/16** | 18 | NC/UNC | H3 | 4 | 1 1/16 | 2 23/32 | **1E670** | **1E673** | **8.50** | **7.64** | 0.1 |
| **5/16** | 24 | NF/UNF | H3 | 4 | 1 1/16 | 2 23/32 | **1E677** | **1E680** | **8.50** | **7.64** | 0.1 |
| **3/8** | 16 | NC/UNC | H3 | 4 | 1¼ | 2 15/16 | **1E682** | **1E684** | **9.61** | **8.62** | 0.1 |
| **3/8** | 24 | NF/UNF | H3 | 4 | 1¼ | 2 15/16 | **1E687** | **1E689** | **9.61** | **8.62** | 0.1 |
| **7/16** | 14 | NC/UNC | H3 | 4 | 1 7/16 | 3 5/32 | **1E691** | **1E693** | **16.34** | **14.70** | 0.1 |
| **7/16** | 20 | NF/UNF | H3 | 4 | 1 7/16 | 3 5/32 | **1E695** | **1E697** | **16.34** | **14.70** | 0.1 |
| **1/2** | 13 | NC/UNH | H3 | 4 | 1 21/32 | 3⅜ | **1E699** | **1E701** | **17.35** | **15.62** | 0.1 |
| **1/2** | 20 | NF/UNF | H3 | 4 | 1 21/32 | 3⅜ | **1E703** | **1E705** | **19.41** | **17.48** | 0.1 |

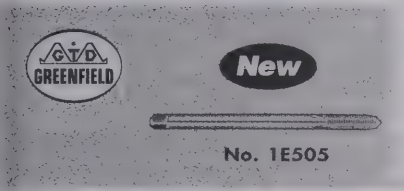
(*) Suitable for Unified Standard Threads and American National Standard Threads. (†)Includes one each of taper, plug, and bottom taps listed on same line of chart.



*Set up your next job with quality cutting tools from Grainger.*

# HAND & GUN TAPS

## HAND TAPS, 6 INCH EXTENSION, PLUG CHAMFER

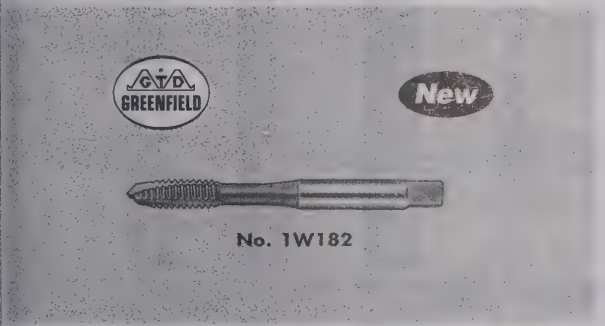



- One Piece High Speed Steel
- Ground Thread
- Plug (3-5 pitches)

Extension taps are of industrial quality and are avaliable in the popular H3 limit. They are made to standard USCTI tap dimensions, but with extended shanks for long reach applications. The long shank permits tapping in places that might be inaccessible for regular length hand taps.

| Size (In.) | Pitch | Thread Type | Pitch Dia. Limits | Flutes | Thread Length (In.) | Overall Length (In.) | GTD Model Plug | *New!* Stock No. | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 32 | NC/UNC | H3 | 3 | 11/16 | 6 | 18827 | **1E505** | **$37.30** | **$33.49** | 0.1 |
| **8** | 32 | NC/UNC | H3 | 4 | 3/4 | 6 | 18891 | **1E542** | **37.30** | **33.49** | 0.1 |
| **10** | 24 | NC/UNC | H3 | 4 | 7/8 | 6 | 18833 | **1E509** | **33.20** | **29.76** | 0.1 |
| **10** | 32 | NF/UNF | H3 | 4 | 7/8 | 6 | 18836 | **1E513** | **33.20** | **29.76** | 0.1 |
| **1/4** | 20 | NC/UNC | H3 | 4 | 1 | 6 | 18839 | **1E517** | **31.85** | **28.61** | 0.1 |
| **1/4** | 28 | NF/UNF | H3 | 4 | 1 | 6 | 18842 | **1E521** | **31.85** | **28.61** | 0.1 |
| **5/16** | 18 | NC/UNC | H3 | 4 | 1⅛ | 6 | 18845 | **1E525** | **33.20** | **29.76** | 0.2 |
| **5/16** | 24 | NF/UNF | H3 | 4 | 1⅛ | 6 | 18848 | **1E529** | **33.20** | **29.76** | 0.2 |
| **3/8** | 16 | NC/UNC | H3 | 4 | 1¼ | 6 | 18851 | **1E533** | **37.30** | **33.49** | 0.2 |
| **3/8** | 24 | NF/UNF | H3 | 4 | 1¼ | 6 | 18854 | **1E537** | **37.30** | **33.49** | 0.2 |

## EM-SS GUN TAPS (SH-50 TREATED)




- Gun Taps - No. 8301 Series
- Spiral Fluted Taps-No. 8304 Series
- High Vanadium Premium Steel
- SH-50 Surface Treated (Steam Oxide)
- Ground Thread

EM-SS Taps are designed for tough jobs in stainless steels and free machining steels. Due to their unique design, EM-SS Taps increase productivity through longer tool life. EM-SS Taps are surface treated to reduce loading and galling, improving tap wear life and thread quality. The necked design enhances the flow of cutting fluid to the cutting teeth and reduces surface contact between the tool and workpiece. EM-SS Gun Taps, featuring plug chamfer (3-5 pitches), are ideally suited for through hole tapping.

### GUN TAPS-No. 8301 SERIES

| Size (In.) | Pitch | Thread Type | Pitch Dia. Limits | Flutes | Thread Length (in.) | Neck Length (In.) | Overall Length (In.) | Plug Taps GTD Model | Plug Taps *New!* Stock No. | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 32 | NC | H3 | 3 | 0.413 | 0.274 | 2 | 82605 | **1W182** | **$9.25** | **$8.31** | 0.1 |
| **8** | 32 | NC | H3 | 3 | 0.453 | 0.297 | 2⅛ | 82607 | **1W184** | **9.25** | **8.31/12** | 0.1 |
| **10** | 32 | NF | H3 | 3 | 0.531 | 0.344 | 2⅛ | 82610 | **1W186** | **9.25** | **8.31/12** | 0.1 |
| **1/4** | 20 | NC | H3 | 3 | 0.591 | 0.409 | 2½ | 82613 | **1W188** | **10.00** | **9.00/12** | 0.1 |
| **1/4** | 28 | NF | H3 | 3 | 0.591 | 0.409 | 2½ | 82614 | **1W190** | **10.00** | **9.00/12** | 0.1 |
| **5/16** | 18 | NC | H3 | 3 | 0.669 | 0.456 | 2¾ | 82615 | **1W192** | **11.17** | **10.07/12** | 0.1 |
| **5/16** | 24 | NF | H3 | 3 | 0.669 | 0.456 | 2¾ | 82616 | **1W194** | **11.17** | **10.07/12** | 0.1 |
| **3/8** | 16 | NC | H3 | 3 | 0.748 | 0.502 | 2⅞ | 82617 | **1W196** | **13.05** | **11.74/12** | 0.1 |
| **3/8** | 24 | NF | H3 | 3 | 0.748 | 0.502 | 2⅞ | 82618 | **1W198** | **12.73** | **11.45/12** | 0.1 |
| **7/16** | 14 | NC | H3 | 3 | 0.866 | | 3⅛ | 82619 | **1W200** | **16.87** | **15.12/12** | 0.1 |
| **7/16** | 20 | NF | H3 | 3 | 0.866 | | 3⅛ | 82620 | **1W202** | **17.25** | **15.12/12** | 0.1 |
| **1/2** | 13 | NC | H3 | 3 | 0.984 | | 3⅜ | 82621 | **1W204** | **18.98** | **17.06/12** | 0.1 |
| **1/2** | 20 | NF | H3 | 3 | 0.984 | | 3⅜ | 82622 | **1W206** | **18.98** | **17.06/12** | 0.1 |
| **9/16** | 12 | NC | H3 | 3 | 0.984 | | 3⅜ | 82623 | **1W216** | **29.55** | **26.43/12** | 0.2 |
| **9/16** | 18 | NF | H3 | 3 | 0.984 | | 3⅜ | 82624 | **1W218** | **29.55** | **26.43/6** | 0.2 |
| **5/8** | 11 | NC | H3 | 3 | 1.083 | | 3⅝ | 82625 | **1W208** | **34.55** | **31.01/6** | 0.2 |
| **5/8** | 18 | NF | H3 | 3 | 1.083 | | 3⅝ | 82626 | **1W210** | **34.55** | **31.01/6** | 0.2 |
| **3/4** | 10 | NC | H3 | 3 | 1.201 | | 4⅛ | 82627 | **1W212** | **54.20** | **48.72/6** | 0.3 |
| **3/4** | 16 | NF | H3 | 3 | 1.201 | | 4⅛ | 82628 | **1W214** | **54.20** | **48.72/6** | 0.3 |

NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# SPIRAL POINT OR GUN TAPS

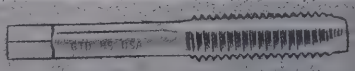
## HIGH SPEED STEEL SPIRAL POINT GUN® TAPS

- **Ground thread**
- **Plug (3-5 pitches) chamfer**

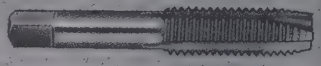
**Gun Taps** were originated and patented by Greenfield to solve the problem of tap breakage in through hole tapping in a wide variety of materials. Gun tap shoots chips ahead of the cutting action, thus reducing loading and clogging in the flutes. They are recommended for use in through holes, and are ideal for threading a wide variety of ductile materials, copper and copper alloys, brass, and nonmetallics. Metric taps are manufactured to USCTI specifications and dimensions.

**Titanium Nitride (TiN) coated gun taps** increase tool life, improve product thread flank finish, reduce tapping torque (lower frictional coefficient of tapping surface), and increase tapping speeds.

| PACKAGE QUANTITY | |
|---|---|
| Tap Size | Pkg. Qty. |
| 0 - 1/2 | 12 |
| 5/8 - 3/4 | 6 |
| All size metric taps | 12 |



No. 4AKK6
High Speed Steel



No. 1E566
TiN Coated High Speed Steel



No. 1C783

| Size | Pitch | Thread Type | PD Limits | Flutes | Length (In.) Thread | Length (In.) Overall | Stock No. | Each | Std. Pkg. Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **MACHINE SCREW AND FRACTIONAL SIZES (GREENFIELD No. 5301)** | | | | | | | | | | |
| **2** | 56 | NC/UNC | H2 | 2 | 7/16 | 1 3/4 | **4AKH2** | **$10.01** | **$9.02** | 0.1 |
| **3** | 48 | NC/UNC | H2 | 2 | 1/2 | 1 13/16 | **4AKH3** | **8.11** | **7.28** | 0.1 |
| **4** | 40 | NC/UNC | H2 | 2 | 1/2 | 1 13/16 | **4AKH4** | **6.48** | **5.84** | 0.1 |
| **5** | 40 | NC/UNC | H2 | 2 | 1/2 | 1 7/8 | **4AKH5** | **6.48** | **5.84** | 0.1 |
| **6** | 32 | NC/UNC | H3 | 2 | 11/16 | 2 | **4AKH6** | **5.46** | **4.90** | 0.1 |
| **8** | 32 | NC/UNC | H3 | 2 | 3/4 | 2 1/8 | **4AKH7** | **5.46** | **4.90** | 0.1 |
| **10** | 24 | NC/UNC | H3 | 2 | 7/8 | 2 3/8 | **4AKH8** | **5.46** | **4.90** | 0.1 |
| **10** | 32 | NF/UNF | H3 | 2 | 7/8 | 2 3/8 | **4AKH9** | **5.46** | **4.90** | 0.1 |
| **1/4** | 20 | NC/UNC | H3 | 2 | 1 | 2 1/2 | **4AKK0** | **5.46** | **4.90** | 0.1 |
| **1/4** | 28 | NF/UNF | H3 | 2 | 1 | 2 1/2 | **4AKK1** | **5.46** | **4.90** | 0.1 |
| **5/16** | 18 | NC/UNC | H3 | 2 | 1 1/8 | 2 23/32 | **4AKK2** | **5.87** | **5.28** | 0.1 |
| **5/16** | 24 | NF/UNF | H3 | 2 | 1 1/8 | 2 23/32 | **4AKK3** | **5.87** | **5.28** | 0.1 |
| **3/8** | 16 | NC/UNC | H3 | 3 | 1 1/4 | 2 15/16 | **4AKK4** | **6.99** | **6.29** | 0.1 |
| **3/8** | 24 | NF/UNF | H3 | 3 | 1 1/4 | 2 15/16 | **4AKK5** | **7.50** | **6.75** | 0.1 |
| **7/16** | 14 | NC/UNC | H3 | 3 | 1 7/16 | 3 5/32 | **4AKK6** | **11.95** | **10.76** | 0.1 |
| **7/16** | 20 | NF/UNF | H3 | 3 | 1 7/16 | 3 5/32 | **4AKK7** | **11.95** | **10.76** | 0.1 |
| **1/2** | 13 | NC/UNC | H3 | 3 | 1 21/32 | 3 3/8 | **4AKK8** | **12.01** | **10.81** | 0.2 |
| **1/2** | 20 | NF/UNF | H3 | 3 | 1 21/32 | 3 3/8 | **4AKK9** | **14.14** | **12.72** | 0.1 |
| **5/8** | 11 | NC/UNC | H3 | 3 | 1 13/16 | 3 13/16 | **1C771** | **27.90** | **25.03** | 0.2 |
| **5/8** | 18 | NF/UNF | H3 | 3 | 1 13/16 | 3 13/16 | **1C773** | **27.90** | **25.03** | 0.2 |
| **3/4** | 10 | NC/UNC | H3 | 3 | 2 | 4 1/4 | **1C775** | **39.45** | **35.46** | 0.3 |
| **METRIC SIZES (GREENFIELD No. 5351)** | | | | | | | | | | |
| **M3** | 0.50mm | Metric | D3 | 2 | 5/8 | 1 15/16 | **1C783** | **8.30** | **7.47** | 0.1 |
| **M3.5** | 0.60mm | Metric | D4 | 2 | 11/16 | 2 | **1C785** | **7.17** | **6.45** | 0.1 |
| **M4** | 0.70mm | Metric | D4 | 2 | 3/4 | 2 1/8 | **1C787** | **7.17** | **6.45** | 0.1 |
| **M5** | 0.80mm | Metric | D4 | 2 | 7/8 | 2 3/8 | **1C793** | **7.17** | **6.45** | 0.1 |
| **M6** | 1.00mm | Metric | D5 | 2 | 1 | 2 1/2 | **1C795** | **7.17** | **6.45** | 0.1 |
| **M8** | 1.25mm | Metric | D5 | 2 | 1 1/8 | 2 23/32 | **1C801** | **8.30** | **7.47** | 0.1 |
| **M10** | 1.50mm | Metric | D6 | 3 | 1 1/4 | 2 15/16 | **1C803** | **8.51** | **7.64** | 0.1 |
| **M12** | 1.75mm | Metric | D6 | 3 | 1 21/32 | 3 3/8 | **1C805** | **16.89** | **15.21** | 0.1 |
| **TiN COATED—MACHINE SCREW AND FRACTIONAL SIZES (GREENFIELD No. 2301)** | | | | | | | | | | |
| **0** | 80 | NF/UNF | H2 | 2 | 5/16 | 1 5/8 | **1E566** | **18.89** | **17.00** | 0.1 |
| **2** | 56 | NC/UNC | H2 | 2 | 7/16 | 1 3/4 | **1E568** | **14.45** | **13.00** | 0.1 |
| **3** | 48 | NC/UNC | H2 | 2 | 1/2 | 1 13/16 | **1E570** | **11.69** | **10.52** | 0.1 |
| **4** | 40 | NC/UNC | H2 | 2 | 9/16 | 1 7/8 | **1E572** | **9.35** | **8.41** | 0.1 |
| **5** | 40 | NC/UNC | H2 | 2 | 5/8 | 1 15/16 | **1E574** | **9.35** | **8.41** | 0.1 |
| **6** | 32 | NC/UNC | H2 | 2 | 11/16 | 2 | **1E576** | **7.87** | **7.08** | 0.1 |
| **6** | 32 | NC/UNC | H3 | 2 | 11/16 | 2 | **1E578** | **7.87** | **7.08** | 0.1 |
| **6** | 40 | NF/UNF | H2 | 2 | 11/16 | 2 | **1E580** | **8.96** | **8.07** | 0.1 |
| **8** | 32 | NC/UNC | H2 | 2 | 3/4 | 2 1/8 | **1E582** | **7.87** | **7.08** | 0.1 |
| **8** | 32 | NC/UNC | H3 | 2 | 3/4 | 2 1/8 | **1E584** | **7.87** | **7.08** | 0.1 |
| **10** | 24 | NC/UNC | H3 | 2 | 7/8 | 2 3/8 | **1E586** | **7.87** | **7.08** | 0.1 |
| **10** | 32 | NF/UNF | H2 | 2 | 7/8 | 2 3/8 | **1E588** | **7.87** | **7.08** | 0.1 |
| **10** | 32 | NF/UNF | H3 | 2 | 7/8 | 2 3/8 | **1E590** | **7.87** | **7.08** | 0.1 |
| **12** | 24 | NC/UNC | H3 | 2 | 15/16 | 2 3/8 | **1E592** | **8.96** | **8.07** | 0.1 |
| **1/4** | 20 | NC/UNC | H2 | 2 | 1 | 2 1/2 | **1E594** | **8.96** | **8.07** | 0.1 |
| **1/4** | 20 | NC/UNC | H3 | 2 | 1 | 2 1/2 | **1E596** | **7.87** | **7.08** | 0.1 |
| **1/4** | 20 | NC/UNC | H3 | 3 | 1 | 2 1/2 | **1E598** | **9.76** | **8.78** | 0.1 |
| **1/4** | 20 | NC/UNC | H5 | 2 | 1 | 2 1/2 | **1E600** | **8.96** | **8.07** | 0.1 |
| **1/4** | 28 | NF/UNF | H3 | 2 | 1 | 2 1/2 | **1E602** | **7.87** | **7.08** | 0.1 |
| **5/16** | 18 | NC/UNC | H3 | 2 | 1 1/8 | 2 23/32 | **1E604** | **8.48** | **7.62** | 0.1 |
| **5/16** | 24 | NF/UNF | H3 | 2 | 1 1/8 | 2 23/32 | **1E606** | **8.48** | **7.62** | 0.1 |
| **3/8** | 16 | NC/UNC | H3 | 3 | 1 1/4 | 2 15/16 | **1E608** | **10.10** | **9.08** | 0.1 |
| **3/8** | 24 | NF/UNF | H3 | 3 | 1 1/4 | 2 15/16 | **1E610** | **10.81** | **9.73** | 0.1 |
| **7/16** | 14 | NC/UNC | H3 | 3 | 1 7/16 | 3 5/32 | **1E612** | **17.25** | **15.51** | 0.1 |
| **7/16** | 20 | NF/UNF | H3 | 3 | 1 7/16 | 3 5/32 | **1E614** | **17.25** | **15.51** | 0.1 |
| **1/2** | 13 | NC/UNC | H3 | 3 | 1 21/32 | 3 3/8 | **1E616** | **17.49** | **15.74** | 0.3 |
| **1/2** | 20 | NF/UNF | H3 | 3 | 1 21/32 | 3 3/8 | **1E618** | **20.41** | **18.38** | 0.1 |

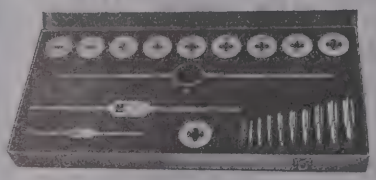


*Set up your next job with quality cutting tools from Grainger.*

## LITTLE GIANT® TAP AND DIE SETS

ie is in two pieces; each half has two cut-ng edges which are easy to sharpen and ermit an unusually wide range of adjust-ent. The two die halves fit into a beveled ollet cap. Simply tightening the guide akes the entire assembly a solid rigid die. et, it can easily be taken apart, the dies harpened and quickly reassembled. reenfield brand.

GTD GREENFIELD



No. 4ALF3
Little Giant Set

### LITTLE GIANT® SET CONTENTS*

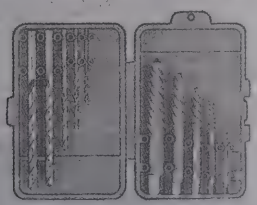
| Type Cut | No. 4ALF1 | 4ALF2 | 4ALF3 | 4ALF4 | 4ALF5 | 4ALF6 | 4ALF7 |
|---|---|---|---|---|---|---|---|
| lachine<br>crew<br>hreads | 4-40 NC 6-32 NC<br>8-32 NC 10-24 NC<br>10-32 NF 12-24 NC | | | | | | |
| ational<br>oarse(NC)<br>hreads<br>JSS) | 1/4-20 | 1/4-20 5/16-18<br>3/8-16 7/16-14<br>1/2-13 | 1/4-20 5/16-18<br>3/8-16 7/16-14<br>1/2-13 9/16-12<br>5/8-11 3/4-10<br>7/8-9 1-8 | | 1/4-20 5/16-18<br>3/8-16 7/16-14<br>1/2-13 | 1/4-20 5/16-28<br>3/8-16 7/16-14<br>1/2-13 9/16-12<br>5/8-11 3/4-10<br>7/8-9 | |
| ational<br>ine (NF)<br>hreads<br>AE) | | | | 1/4-28 5/16-24<br>3/8-24 7/16-20<br>1/2-20 9/16-18<br>5/8-18 3/4-16<br>7/8-14 | 1/4-28 5/16-24<br>3/8-24 7/16-20<br>1/2-20 | 1/4-28 5/16-24<br>3/8-24 7/16-20<br>1/2-20 9/16-18<br>5/8-18 3/4-16<br>7/8-14 | |
| ational Special (NS) | | | | 1-14 | | 1-14 | |
| letric | | | | | | | M6 x 1 M8 x 1.25<br>M10 x 1.5 M12 x 1.75<br>M14 x 2 M16 x 2<br>M18 x 2.5 |

### LITTLE GIANT® SET ORDERING DATA

| Set Description | Cutting Sizes | Die No. | Tap No. | Greenfield Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Machine Screw & Small Fractional Sizes** | 7 | A1 | 229 | 00020 | **4ALF1** | $427.92 | **$314.00** | 3.7 |
| **Single Stock, Coarse & Fine Threads** | 5 | 1 | 15 | 00039 | **4ALF2** | 510.99 | **375.00** | 9.3 |
| **Single Stock, Coarse & Fine Threads** | 10 | 5A | 15, 7 | 00047 | **4ALF3** | 1409.64 | **1034.00** | 29.0 |
| **Single Stock, Fine Threads** | 10 | 5A | 15, 7 | 00082 | **4ALF4** | 1409.64 | **1034.00** | 34.0 |
| **Combination Coarse & Fine Threads** | 10 | 1 | 15 | 00061 | **4ALF5** | 826.90 | **607.50** | 12.0 |
| **Combination Coarse & Fine Threads** | 20 | 1, 5B | 15, 7 | 00063 | **4ALF6** | 2315.83 | **1700.00** | 42.0 |
| **Metric Threads** | 7 | 5 | 15 | 00159 | **4ALF7** | 835.71 | **613.50** | 26.0 |

Set contains one tap, one die, and one collet for each cutting size listed.

## SPIRAL FLUTE SCREW EXTRACTOR AND DRILL BIT SET

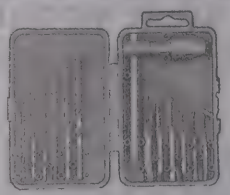


MAGNA PROFESSIONAL TOOLS

**0-Pc. set** includes tough alloy tool steel screw extractors Nos. 1 iru 5 and matching high speed steel twist drill bits sizes 5/64", /64", 5/32", 1/4" and 17/64". In durable molded plastic case. lagna brand.

**o. 3A144.** Shpg. wt. 0.4 lbs. List $19.02. Each ..... $15.22

## ELECTRICIAN'S TAP AND DRILL BIT SET



MAGNA PROFESSIONAL TOOLS

**13-Pc. set** includes 6 taps and 6 matching high speed steel drills, plus 1 T-handle wrench. Tap sizes are 4-40, 6-32, 8-32, 10-24, 10-32, and 1/4"-20. Drill sizes include Nos. 43, 36, 29, 25, 21, and 7. In durable molded plastic case. Magna brand.

**No. 3A143.** Shpg. wt. 0.4 lbs. List $24.62. Each ..... $19.70

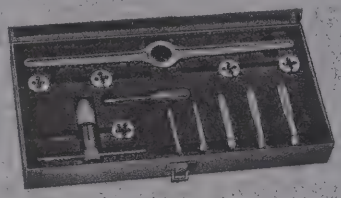
UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY

**Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.**

# TAP AND DIE SETS

## O.K. Jr.® TAP AND DIE SETS

Furnished with American National Form Threads, National Coarse, and National Fine Threads. Dies in these sets are also adjustable. Two screws in the sides of the stock provide contracting pressure while a third screw engages the split in the die to provide expanding pressure. Packed in solid steel cases with an Ethafoam moisture and oil resistant liner for protection.



No. 4ALH0 Single Stock, Coarse, and Fine Threads O.K. Jr. Set

### O.K. Jr.® SETS CONTENTS

| Type Cut | No. 4ALF8 | No. 4ALF9 | No. 4ALH0 | No. 4ALH1 | No. 4ALH2 | No. 4ALH3 | No 4ALH6 |
|---|---|---|---|---|---|---|---|
| Machine Screw Threads | 4-40 NC 6-32 NC<br>8-32 NC 10-24 NC<br>10-32 NF 12-24 NC | 4-40 NC 4-48 NF<br>6-32 NC 6-40 NF<br>8-32 NC 8-36 NF<br>10-24 NC 10-32 NF<br>12-24 NC 12-28 NF | | | | | TAPS ONLY<br>4-40 NC 6-32 NC<br>8-32 NC 10-24 NC<br>10-32 NC 12-24 NC |
| National Coarse (NC) Threads (USS) | 1/4-20 | | 1/4-20 5/16-18<br>3/8-16 7/16-14<br>1/2-13 | 1/4-20 5/16-18<br>3/8-16 7/16-14<br>1/2-13 5/8-11<br>3/4-10 7/8-9<br>1-8 | 1/4-20 5/16-18<br>3/8-16 7/16-14<br>1/2-13 | 1/4-20 5/16-18<br>3/8-16 7/16-14<br>1/2-13 9/16-12<br>5/8-11 3/4-10<br>7/8-9 1-8 | TAPS & DIES<br>1/4-20 5/16-18<br>3/8-16 7/16-14<br>1/2-13<br>TAPS ONLY<br>9/16-12 |
| National Fine (NF) Threads (SAE) | | | | | 1/4-28 5/16-24<br>3/8-24 7/16-20<br>1/2-20 | 1/4-28 5/16-24<br>3/8-24 7/16-20<br>1/2-20 9/16-18<br>5/8-18 3/4-16<br>7/8-14 | TAPS & DIES<br>1/4-28 5/16-24<br>3/8-24 7/16-20<br>1/2-20 9/16-18<br>5/8-18 3/4-16<br>7/8-14 |
| National Special (NS) | | | | | | 1/14 | TAPS & DIES<br>1-14 |
| Metric | | | | | | | TAPS ONLY<br>M14 x 1.25<br>M18 x 1.50 |
| National Pipe Threads (NPT) | | | | | 1/8-27 | 1/8-27 | TAPS ONLY<br>1/8-27 1/4-18<br>3/8-18 1/2-14 |

### O.K. Jr.® SETS ORDERING DATA

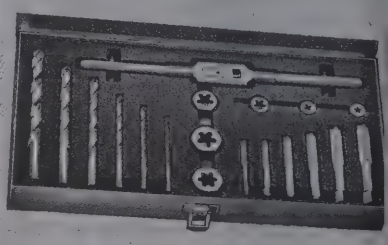
| Set Description | Cutting Sizes | Die No. | Tap Wrench No. | Greenfield Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| Machine Screw & Small Fractional Sizes | 7 | 13 | 329 | 00517 | **4ALF8** | $235.37 | **$173.00** | 2.0 |
| Machine Screw & Small Fractional Sizes | 10 | 13 | 329 | 00526 | **4ALF9** | 299.54 | **220.25** | 2.0 |
| Single Stock, Coarse & Fine Threads | 5 | 14 | 333 | 00518 | **4ALH0** | 273.11 | **201.25** | 4.4 |
| Single Stock, Coarse & Fine Threads | 10 | 14,15,16 | 15, 7 | 00522 | **4ALH1** | 994.30 | **730.00** | 20.0 |
| Combination Coarse & Fine Threads | 11 | 14 | 333 | 00528 | **4ALH2** | 456.87 | **335.25** | 4.8 |
| Combination Coarse & Fine Threads | 21 | 14,15,16 | 15, 7 | 00532 | **4ALH3** | 1648.76 | **1212.00** | 30.0 |
| Combination Coarse & Fine Threads | 28 Taps/15 Dies | 14,15,16 | 329,336,15 & 7 | 00533 | **4ALH6** | 1485.16 | **1090.00** | 28.0 |

(†) All sets except No. 4ALH6 contain one tap and one O.K. Jr. round split die for each cutting size listed.

## HIGH SPEED STEEL METRIC TAP AND DIE SETS

### METRIC SETS SPECIFICATIONS AND ORDERING DATA

| Set Description | Taps and Drill Sizes (1ea.) | Also Includes | Greenfield Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| ISO Metric High Speed Set | M2.5 X 0.45, M3 X 0.5, M3.5 X 0.6, M4 X 0.7, M4.5 X 0.75, M5 X 0.8, M6 X 1 | One high speed ground thread plug tap, one high speed round adj. die for each cutting size, No. 13 die stock, and No. 329 tap wrench | 00450 | **4ALH4** | $440.52 | **$323.75** | 2.2 |
| ISO Metric High Speed Set | M6 x 1, M7 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75 | One high speed ground thread plug trap, one high speed round adj. die for each cutting size, No. 14 die stock and No. 333 tap wrench | 00451 | **4ALH5** | 473.22 | **347.75** | 5.0 |
| Auto-Metric Set | M5 x 0.8, M6 x 1, M8 x 1.25, M10 x 1.5, M12 x 1.75, M14 x 2 | One high speed ground thread plug trap, one carbon hexagon rethreading die and one high speed jobber drill for each cutting size, and No. 15 tap wrench | 00534 | **4ALH7** | 397.71 | **292.00** | 5.0 |



No. 4ALH7 Auto-Metric Set

TAP & DIE LUBRICANTS AVAILABLE, SEE PAGE 2777

# TAP AND DIE SETS

## HIGH SPEED STEEL SETS

| Type Cut | Tap and Die Size | | |
|---|---|---|---|
| Machine Threads | 4-40<br>6-32 | 8-32<br>10-24 | 10-32<br>12-24 |
| Coarse Threads | 1/4"-20<br>5/16"-18 | 3/8"-16<br>7/16"-14 | 1/2"-13 |
| SAE Fine Threads | 1/4"-28<br>5/16"-24 | 3/8"-24<br>7/16"-20 | 1/2"-20 |
| National Pipe Threads (NPT) | 1/8"-27 | | |

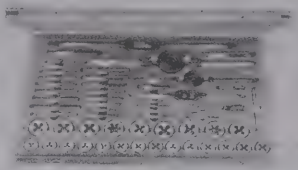
**10-Piece Set.** Includes 17 taps and 17 one-inch, hex shaped dies listed, plus 1 die stock, 1 tap wrench, 2 T-handle wrenches, screw pitch-gauge, and 1 screwdriver in molded plastic case. Magna brand.

**No. 3A142.** Shpg. wt. 5.5 lbs. List.....$248.70
Each .....**$199.00**

| Type Cut | Tap and Die Set | | |
|---|---|---|---|
| Machine Threads | 6-32<br>10-32 | 8-32<br>10-24 | 12-24 |
| Coarse Threads | 1/4"-20<br>7/16"-14<br>5/8"-11 | 5/16"-18<br>1/2"-13<br>3/4"-10 | 3/8"-16<br>5/16"-12 |
| SAE Fine Threads | 1/4"-28<br>7/16"-20 | 5/16"-24<br>1/2"-20 | 3/8"-24<br>5/16"-18 |
| National Pipe Threads (NPT) | 1/8"-27 | 1/4"-18 | |

**58-Piece Set.** Includes 23 taps and 23 hex shaped dies plus screwdriver, 2 tap wrenches, T-handle tap wrench, die stock, US thread gauge, and Nos. 1 through 5 spiral screw extractors. Magna brand.

**No. 1A520.** Shpg. wt. 15.0 lbs. List.....$588.56
Each .....**$471.00**



58-Pc. Set No. 1A520

## CARBON STEEL SETS

| Type Cut | Tap and Die Size | | |
|---|---|---|---|
| Coarse Threads | 1/4"-20<br>5/16"-18 | 3/8"-16<br>7/16"-14 | 1/2"-13 |
| SAE Fine Threads | 1/4"-28<br>5/16"-24 | 3/8"-24<br>7/16"-20 | 1/2"-20 |
| National Pipe Threads (NPT) | 1/8"-27 | | |

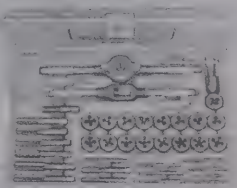
**27-Pc. Fractional Set.** Makes 11 cuts with 11 taps and 10 solid-type hexagon dies plus 1 solid pipe die. Also includes die stock, tap and reamer wrench, T-handle tap wrench, screw pitch gauge, and screwdriver. Molded plastic case. Magna brand.

**No. 4X574.** Shpg. wt. 4.5 lbs. List .....$92.30
Each .....**$73.85**

| Type of Cut | Tap and Die Size | | |
|---|---|---|---|
| Machine Threads | 4-40<br>6-32 | 8-32<br>10-24 | 10-32<br>12-24 |
| Coarse Threads | 1/4"-20<br>5/16"-18 | 3/8"-16<br>7/16"-14 | 1/2"-13 |
| SAE Fine Threads | 1/4"-28<br>5/16"-24 | 3/8"-24<br>7/16"-20 | 1/2"-20 |
| National Pipe Threads (NPT) | 1/8"-27 | | |

**39-Pc. Professional Set.** Makes 17 cuts with 17 taps and 16 solid-type hexagon dies plus 1 solid pipe die. Also includes die stock, tap and reamer wrench, T-handle tap, wrench, screw pitch gauge, and screwdriver. Molded plastic case. Magna brand.

**No. 4X575.** Shpg. wt. 4.5 lbs. List.....$125.56
Each .....**$100.45**



39-Pc. Set No. 4X575

| Type Cut | Tap and Die Size | | |
|---|---|---|---|
| Machine Threads | 6-32<br>10-32 | 8-32<br>10-24 | 12-24 |
| Coarse Threads | 1/4"-20<br>7/16"-14<br>5/8"-11 | 5/16"-18<br>1/2"-13<br>3/4"-10 | 3/8"-18<br>9/16"-12 |
| SAE Fine Threads | 1/4"-28<br>7/16"-20<br>5/8"-18 | 5/16"-24<br>1/2"-20<br>3/4"-16 | 3/8"-24<br>9/16"-18 |
| National Pipe Threads (NPT) | 1/8"-27 | 1/4"-18 | |

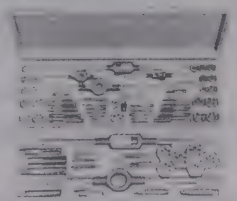
**38-Pc. Professional Set.** Makes 23 cuts with 23 taps and 21 solid-type hexagon dies plus 1 solid pipe dies. Also includes 2 die stocks, 2 tap and reamer wrenches, T-handle tap wrench, screw pitch gauge, screwdriver, and 5 No. 1 to 5 screw extractors. Molded plastic case. Magna brand.

**No. 6X628.** Shpg. wt. 11.0 lbs. List .....$252.98
Each .....**$202.50**

| Type of Cut | Tap and Die Size | | |
|---|---|---|---|
| Machine Threads | 4-40<br>10-32 | 6-32<br>10-24 | 8-32<br>12-24 |
| Coarse Threads | 1/4"-20<br>7/16"-14<br>5/8"-11<br>1"-8 | 5/16"-18<br>1/2"-13<br>3/4"-10 | 3/8"-16<br>9/16"-12<br>7/8"-9 |
| SAE Fine Threads | 1/4"-28<br>7/16"-20<br>5/8"-18<br>1"-12 | 5/16"-24<br>1/2"-20<br>3/4"-16 | 3/8"-24<br>9/16"-18<br>7/8"-14 |
| National Pipe Threads (NPT) | 1/8"-27<br>3/8"-18 | 1/4"-18<br>1/2"-14 | |

**77-Pc. Professional Set.** Makes 30 cuts with 30 taps and 30 solid type hexagon dies. Also includes 7 screw extractors Nos. 1 through 7, 1 T-handle tap wrench, 3 tap and reamer wrenches, 3 die stocks, screw pitch gauge, and screwdriver. Molded plastic case. Magna brand.

**No. 6X990.** Shpg. wt. 26.0 lbs. List .....$480.70
Each .....**$384.75**



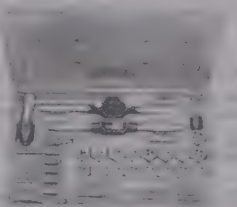
77-Pc. Set No. 6X990

## METRIC CARBON STEEL SET

| | | | |
|---|---|---|---|
| Size and Pitch | 3MM-.50<br>3MM-.60<br>4MM-.70<br>4MM-.75<br>5MM-.80<br>5MM-.90 | 6MM-1.00<br>7MM-1.00<br>8MM-1.25<br>9MM-1.00<br>9MM-1.25 | 10MM-1.25<br>10MM-1.50<br>11MM-1.50<br>12MM-1.50<br>12MM-1.75 |
| | 1/8-28 British Standard Pipe | | |

**40-Pc. Metric Set.** Includes 17 taps and 17 one-inch hexagon dies, plus 1 tap and reamer wrench, 1 die stock, 2 T-handle wrenches, 1 metric thread gauge, and 1 screwdriver in molded plastic case. Magna brand.

**No. 3A141.** Shpg. wt. 5.5 lbs. List .$143.04
Each .....**$114.45**



40-Pc. Metric Set No. 3A141

# DRILL AND TAP SETS AND TAP WRENCHES

## DRILL AND TAP SETS

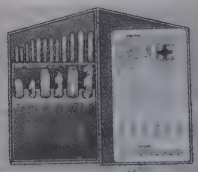
- Inch and metric sizes
- High speed steel
- Metal index case
- Plastic tap & drill chart included

Complete sets of jobber length drills are matched to HSS ground thread taps. Designed to handle a wide range of maintenance jobs. Drills are specified for 75% of thread height.

GTD GREENFIELD

Chicago-Latrobe®

No. 4ALK1

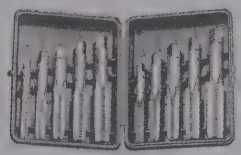


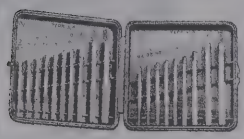
| No. of Pieces | Description | Drill Style | Drill Sizes | Tap Style | Tap Sizes | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 18 | Drill/Hand Tap F, 5/16, U, 27/64 | 150D (Bright) "5/16-18, 3/8-16, 7/16-14, 1/2-13" | 36, 26, 25, 21, 7 | 5303/5305 (Bright) | 6-32, 8-32, 10-24, 10-32, 1/4-20 | **4ALK1** | $128.71 | **$83.85▲** | 2.0 |
| 18 | Drill/Gun Tap F, 5/16, U, 27/64 | 150D (Bright) 5/16-18, 3/8-16, 7/16-14, 1/2-13" | 36, 26, 25, 21, 7 | 5301 (Bright) | 6-32, 8-32, 10-24, 10-32, 1/4-20 | **1N642** | 138.84 | **86.25▲** | 1.7 |
| 18 | Metric Drill/Hand Tap 5.0, 6.7, 8.5, 10.2 | 150 (Bl Oxide) "6x1.0, 8x1.25, 10x1.5, 12x1.75" | 2.05, 2.5, 3.3, 4.2 | 5353 (Bright) | 2.5x.45, 3 x.5, 3.5x0.6, 5x0.8 | **4ALK2** | 151.04 | **98.20▲** | 1.5 |
| 36 | Drill/Hand Tap 16, 15, 7, 3, F, I, 5/16, Q, U, 25/64, 27/64, 29/64 | 150D (Bright) 12-24, 12-28, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-2" | 36, 33, 29(2), 25, 21 | 5303/5305 (Bright) | 6-32, 6-40, 8-32, 8-36, 10-24, 10-32 | **1P273** | 284.02 | **176.50▲** | 3.8 |

(▲) Net prices, not subject to discounts.

GTD GREENFIELD

No. 4ALK0





No. 4ALH9

## HIGH SPEED GROUND THREAD TAP INDEX

**No. 4ALK0.** Shpg. wt. 1.1 lbs. List ..... $123.36.
Each ..... **$90.50**

### No. 4ALK0 SET CONTENTS

| Tap Size Size | Pitch Dia. Limit | No. of Flutes | Length Overall (In.) | Length Thread (In.) |
|---|---|---|---|---|
| 1/4-20NC | H3 | 4 | 2 1/2 | 1 |
| 1/4-28NF | H3 | 4 | 2 1/2 | 1 |
| 5/16-18NC | H3 | 4 | 2 23/32 | 1 1/8 |
| 5/16-24NF | H3 | 4 | 2 23/32 | 1 1/8 |
| 3/8-16NC | H3 | 4 | 2 15/16 | 1 1/4 |
| 3/8-24NF | H3 | 4 | 2 15/16 | 1 1/4 |
| 7/16-14NC | H3 | 4 | 3 5/32 | 1 7/16 |
| 7/16-20NF | H3 | 4 | 3 5/32 | 1 7/16 |
| 1/2-13NC | H3 | 4 | 3 3/8 | 1 21/32 |
| 1/2-20NF | H3 | 4 | 3 3/8 | 1 21/32 |

## HIGH SPEED HAND TAP INDEX

**No. 4ALH9.** Shpg. wt. 0.2 lbs. List $174.56.
Each ..... **$128.05**

### No. 4ALH9 SET CONTENTS

| Tap Size | Pitch Dia. Limit | No. of Flutes | Length Overall | Length Thread |
|---|---|---|---|---|
| **0-80NF** | H1 | 2 | 1 5/8" | 5/16" |
| **1-64NC** | H1 | 2 | 1 11/16 | 3/8 |
| **1-72NF** | H1 | 2 | 1 11/16 | 3/8 |
| **2-56NC** | H2 | 3 | 1 3/4 | 7/16 |
| **2-64NF** | H2 | 3 | 1 3/4 | 7/16 |
| **3-48NC** | H2 | 3 | 1 13/16 | 1/2 |
| **3-56NF** | H2 | 3 | 1 13/16 | 1/2 |
| **4-40NC** | H2 | 3 | 1 7/8 | 9/16 |
| **4-48NF** | H2 | 3 | 1 7/8 | 9/16 |
| **5-40NC** | H2 | 3 | 1 15/16 | 5/8 |
| **5-44NF** | H2 | 3 | 1 15/16 | 5/8 |
| **6-32NC** | H3 | 3 | 2 | 11/16 |
| **6-40NF** | H2 | 3 | 2 | 11/16 |
| **8-32NC** | H3 | 4 | 2 1/8 | 3/4 |
| **8-36NF** | H2 | 4 | 2 1/8 | 3/4 |
| **10-24NC** | H3 | 4 | 2 3/8 | 7/8 |
| **10-32NF** | H3 | 4 | 2 3/8 | 7/8 |
| **12-24NC** | H3 | 4 | 2 3/8 | 15/16 |
| **12-28NF** | H3 | 4 | 2 3/8 | 15/16 |

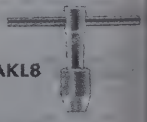
## TAP WRENCHES

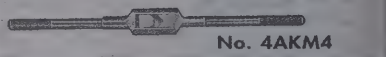
### STRAIGHT TAP WRENCHES

| No. | Hand Taps | M.S. Taps | Pipe Reamers | Hand Reamers | Length Inches | Greenfield Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 1/16-1/4 | 0-14 | — | 1/8-21/64 | 7 | 01287 | **4AKM4** | $46.04 | **$33.25** | 0.2 |
| **14** | 1/16-3/8 | 0-14 | — | 1/8-25/64 | 9 | 01292 | **4AKM5** | 64.48 | **46.55** | 0.6 |
| **15** | 5/32-1/2 | 7-14 | 1/8 | 11/64-7/16 | 11 | 01299 | **4AKM6** | 78.21 | **56.35** | 0.8 |
| **13** | 5/32-3/4 | 7-14 | 1/8-1/4 | 11/64-41/64 | 15 | 01304 | **4AKM7** | 87.24 | **62.75** | 1.7 |
| **7** | 1/4-1-1/8 | — | 1/8-3/4 | 9/32-29/32 | 19 | 01311 | **4AKM8** | 109.87 | **79.05** | 3.0 |

GTD GREENFIELD

No. 4AKL8





No. 4AKM4

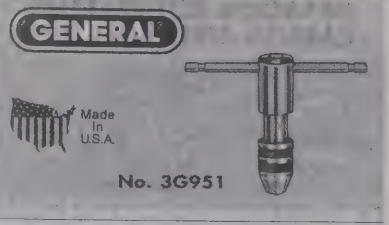
### T-HANDLE TAP WRENCHES

| Description | Typical Application | No. | Capacity-Inches Fractions Taps | Capacity-Inches M.S. Taps | Length (Inches) | Greenfield Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Nos. 328 and 332 Slip Handle** | T-handle may be "slipped" from side to side with a complete turn in close quarters. | 328 | 1/16-1/4 | 0-14 | 2 1/4 | 01350 | **4AKL8** | $22.63 | **$16.27** | 0.3 |
| | | 332 | 7/32-1/2 | 12-14 | 3 5/8 | 01355 | **4AKL9** | 33.22 | **23.87** | 0.5 |
| **Nos. 329 and 333 Plain Handle** | An all-purpose wrench with fixed handle. Ideal for ordinary out in the open tapping jobs. | 329 | 1/16-1/4 | 0-14 | 2 1/4 | 01352 | **4AKM0** | 17.13 | **12.30** | 0.3 |
| | | 333 | 7/32-1/2 | 12-14 | 3 5/8 | 01358 | **4AKM1** | 29.04 | **20.88** | 0.5 |
| **No. 337 Long Shank** | The long shank permits tapping in hard to get at places encountered in machine and automobile repair work. Has plain T-handle. | 337 | 7/32-1/2 | 12-14 | 10 5/8 | 01364 | **4AKM2** | 56.76 | **41.00** | 1.6 |
| **No. 339 Ratchet** | The combination of ratchet and slip handle make this an all-around wrench capable of handling most hand tapping jobs. | 339 | 7/32-1/2 | 12-14 | 5 | 01377 | **4AKM3** | 59.65 | **43.00** | 0.7 |

## RATCHET TYPE WRENCHES

Ratchet can be set for right or left hand operation or locked for non-ratchet use. Self-entering hardened tool steel jaws and knurled chuck sleeve provide positive grip. Zero clearance handle provides good leverage in confined spaces. No. 3G951 conforms to government specifications #GGG-W-680a.

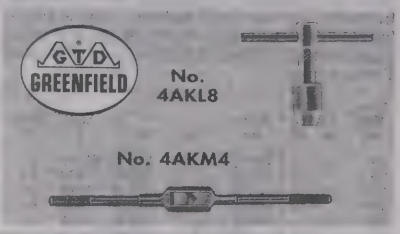
| Tap Capacity (Nos. and Inches) | Body Length | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| No. 0 to No. 8 | 2.75 | 160R | 3G951 | $23.79 | 0.3 |
| No. 0 to 1/4" | 3.50 | 161R | 3G953 | 24.28 | 0.5 |
| No. 12 to 1/2" | 4.25 | 162R | 3G955 | 30.95 | 1.0 |




## TAP WRENCHES

### STRAIGHT TAP WRENCHES

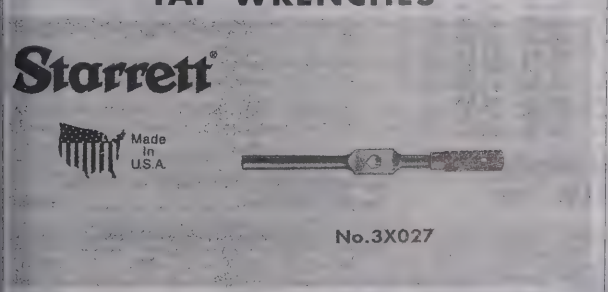
| No. | Hand Taps | M.S. Taps | Pipe Reamers | Hand Reamers | Length Inches | Greenfield Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1/16-1/4 | 0-14 | — | 1/8-21/64 | 7 | 01287 | 4AKM4 | $46.04 | $33.25 | 0.2 |
| 14 | 1/16-3/8 | 0-14 | — | 1/8-25/64 | 9 | 01292 | 4AKM5 | 64.48 | 46.55 | 0.6 |
| 15 | 5/32-1/2 | 7-14 | 1/8 | 11/64-7/16 | 11 | 01299 | 4AKM6 | 78.21 | 56.35 | 0.8 |
| 13 | 5/32-3/4 | 7-14 | 1/8-1/4 | 11/64-41/64 | 15 | 01304 | 4AKM7 | 87.24 | 62.75 | 1.7 |
| 7 | 1/4-1-1/8 | — | 1/8-3/4 | 9/32-29/32 | 19 | 01311 | 4AKM8 | 109.87 | 79.05 | 3.0 |




### T-HANDLE TAP WRENCHES

| Description | Typical Application | No. | Capacity-Inches Fractions Taps | Capacity-Inches M.S. Taps | Length (Inches) | Greenfield Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Nos. 328 and 332 Slip Handle | T-handle may be "slipped" from side to side with a complete turn in close quarters. | 328 | 1/16-1/4 | 0-14 | 2¾ | 01350 | 4AKL8 | $22.63 | $16.27 | 0.3 |
| | | 332 | 7/32-1/2 | 12-14 | 3⅜ | 01355 | 4AKL9 | 33.22 | 23.87 | 0.5 |
| Nos. 329 and 333 Plain Handle | An all-purpose wrench with fixed handle. Ideal for ordinary out in the open tapping jobs. | 329 | 1/16-1/4 | 0-14 | 2¾ | 01352 | 4AKM0 | 17.13 | 12.30 | 0.3 |
| | | 333 | 7/32-1/2 | 12-14 | 3⅜ | 01358 | 4AKM1 | 29.04 | 20.88 | 0.5 |
| No. 337 Long Shank | The long shank permits tapping in hard to get at places encountered in machine and automobile repair work. Has plain T-handle. | 337 | 7/32-1/2 | 12-14 | 10⅝ | 01364 | 4AKM2 | 56.76 | 41.00 | 1.6 |
| No. 339 Ratchet | The combination of ratchet and slip handle make this an all-around wrench capable of handling most hand tapping jobs. | 339 | 7/32-1/2 | 12-14 | 5 | 01377 | 4AKM3 | 59.65 | 43.00 | 0.7 |

## STARRETT TAP WRENCHES

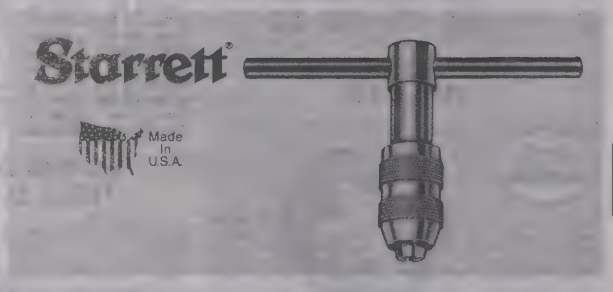



ghly finished with tempered gripping surfaces. Holds square or und shanks. Plunger operated by knurled sleeve. Spring inside eve causes plunger to back off when pressure is removed.

| Body ngth (In.) | Tap Size/ Capacity (In.) | Shank Capacity (In.) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6 | 1/16 – 1/4 | 3/32 – 5/32 | 91A | 3X027 | $27.45▲ | 0.2 |
| 9 | 3/16 – 1/2 | 5/32 – 9/32 | 91B | 3X029 | 39.35▲ | 0.6 |
| 12 | 1/4 – 5/8 | 5/32 – 3/8 | 91C | 3X031 | 62.15▲ | 1.2 |
| 16 | 5/16 – 3/4 | 13/64 – 7/16 | 91D | 3X033 | 85.10▲ | 2.0 |

Net prices, not subject to discounts.

## STARRETT T-HANDLE TAP WRENCHES




For holding taps, drills, reamers, and small tools to be turned by hand. Body is centered for use on lathe centers or drilling machines to start tap straight. Jaws heat treated to withstand hard use. Wrenches have sliding handle for positioning and leverage convenience. Larger bodies permit work at depths which cannot be reached with shorter wrenches.

| Body Length (In.) | Tap Size/ Capacity (In.) | Shank Capacity (In.) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2 | 1/16 – 3/16 | 1/16 – 5/32 square | 93A | 3X035 | $19.14▲ | 0.2 |
| 2½ | 7/32 – 7/16 | 5/32 – 1/4 square | 93B | 3X037 | 21.00▲ | 0.3 |
| 3½ | 1/4 – 1/2 | 3/16 – 5/16 square | 93C | 3X039 | 26.90▲ | 0.9 |
| 6 | 1/16 – 3/16 | 1/16 – 5/32 square | 93D | 3X041 | 28.80▲ | 0.3 |
| 10 | 7/32 – 7/16 | 5/32 – 1/4 square | 93E | 3X043 | 36.50▲ | 0.7 |
| 13 | 1/4 – 1/2 | 3/16 – 5/16 square | 93F | 3X045 | 42.00▲ | 1.5 |

(▲) Net prices, not subject to discounts.

# DIES AND DIE STOCKS

## HEXAGON RETHREADING CARBON STEEL BOLT DIES



For dressing over bruised or rusty threads. Also for cutting occasional new threads. Includes no special holder; any wrench large enough will work. Standard with right hand Unified and American National Thread form.

| Nom. Size (In.) | Threads Per In. NC | NF | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 | 20 | — | 4AKT5 | $18.12 | $13.47 | $12.12 | 0.1 |
| 1/4 | — | 28 | 4AKT6 | 18.12 | 13.47 | 12.12 | 0.1 |
| 5/16 | 18 | — | 4AKT7 | 20.39 | 15.14 | 13.62 | 0.1 |
| 5/16 | — | 24 | 4AKT8 | 20.39 | 15.14 | 13.62 | 0.1 |
| 3/8 | 16 | — | 4AKT9 | 21.27 | 15.81 | 14.23 | 0.2 |
| 3/8 | — | 24 | 4AKW0 | 21.27 | 15.81 | 14.23 | 0.1 |
| 7/16 | 14 | — | 4AKW1 | 23.93 | 17.78 | 16.01 | 0.1 |
| 7/16 | — | 20 | 4AKW2 | 23.93 | 17.78 | 16.01 | 0.1 |
| 1/2 | 13 | — | 4AKW3 | 25.93 | 19.27 | 17.35 | 0.1 |
| 1/2 | — | 20 | 4AKW4 | 25.93 | 19.27 | 17.35 | 0.4 |
| 9/16 | 12 | — | 4AKW5 | 27.44 | 20.38 | 18.35 | 0.1 |
| 9/16 | — | 18 | 4AKW6 | 27.44 | 20.38 | 18.35 | 0.1 |
| 5/8 | 11 | — | 4AKW7 | 31.34 | 23.28 | 20.95 | 0.2 |
| 5/8 | — | 18 | 4AKW8 | 31.34 | 23.28 | 20.95 | 0.2 |
| 11/16 | 11 | — | 1E967 | 35.49 | 27.50 | 24.71 | 0.3 |
| 11/16 | 16 | — | 1E969 | 35.49 | 27.50 | 24.71 | 0.3 |
| 3/4 | 10 | — | 4AKW9 | 41.92 | 31.30 | 28.07 | 0.2 |
| 3/4 | — | 16 | 4AKX0 | 41.92 | 31.30 | 28.07 | 0.2 |
| 7/8 | 9 | — | 4AKX1 | 46.95 | 35.05 | 31.42 | 0.4 |
| 7/8 | — | 14 | 4AKX2 | 46.95 | 35.05 | 31.40 | 0.5 |
| 1 | 8 | — | 4AKX3 | 53.75 | 40.05 | 35.98 | 0.4 |
| 1 | — | 12 | 4AKX4 | 53.75 | 40.05 | 35.98 | 0.5 |
| 1 | — | 14 | 1F259 | 53.75 | 41.70 | 37.42 | 0.5 |
| 1 1/8 | 7 | — | 4AKX5 | 63.06 | 47.00 | 42.21 | 0.5 |
| 1 1/8 | — | 12 | 4AKX6 | 63.06 | 47.00 | 42.21 | 0.5 |
| 1 1/4 | 7 | — | 4AKX7 | 73.25 | 54.60 | 49.02 | 0.6 |
| 1 1/4 | — | 12 | 4AKX8 | 73.25 | 54.60 | 49.02 | 0.6 |
| 1 3/8 | 6 | — | 4AKX9 | 83.18 | 61.85 | 55.63 | 0.8 |
| 1 3/8 | — | 12 | 4ALC0 | 83.18 | 61.85 | 55.63 | 0.7 |
| 1 1/2 | 6 | — | 4ALC1 | 93.13 | 69.35 | 62.31 | 0.8 |
| 1 1/2 | — | 12 | 4ALC2 | 93.13 | 69.35 | 62.31 | 0.7 |

## HEXAGON RETHREADING PIPE DIES




These carbon steel dies are used only for dressing over bruised or rusty threads. Furnished with American National Pipe Taper (NPT) thread only.

| Nom. Size (In.) | Thread Per Inch | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 | 27 | 4ALC5 | $27.18 | $20.19 | $18.17 | 0.1 |
| 1/4 | 18 | 4ALC6 | 40.39 | 30.15 | 27.01 | 0.2 |
| 3/8 | 18 | 4ALC7 | 53.24 | 39.75 | 35.64 | 0.2 |
| 1/2 | 14 | 4ALC8 | 70.10 | 52.30 | 46.91 | 0.2 |
| 3/4 | 14 | 4ALC9 | 90.37 | 67.35 | 60.48 | 0.2 |
| 1 | 11 1/2 | 4ALF0 | 119.07 | 88.65 | 79.67 | 0.8 |

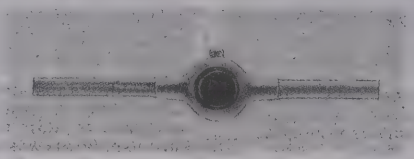
## HIGH SPEED ROUND ADJUSTABLE DIES




High Speed Steel adjustable dies suitable for machine threading or for use in a die stock for hand threading.

| Size | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|
| **13/16" x 1/4" O.D. ROUND DIES** | | | | | |
| 5-40 NC | 4AKN2 | $33.23 | $24.35 | $21.91 | 0.1 |
| 6-32 NC | 4AKN3 | 33.23 | 24.35 | 21.91 | 0.1 |
| 6-40 NF | 4AKN4 | 33.23 | 24.35 | 21.91 | 0.1 |
| 8-32 NC | 4AKN5 | 33.23 | 24.35 | 21.91 | 0.1 |
| 8-36 NF | 4AKN6 | 33.23 | 24.35 | 21.91 | 0.1 |
| 10-24 NC | 4AKN7 | 33.23 | 24.35 | 21.91 | 0.1 |
| 10-32 NF | 4AKN8 | 33.23 | 24.35 | 21.91 | 0.1 |
| 1/4-20 NC | 4AKN9 | 33.23 | 24.35 | 21.91 | 0.1 |
| 1/4-28 NF | 4AKP0 | 33.23 | 24.35 | 21.91 | 0.1 |
| **1 x 3/8" O.D. ROUND DIES** | | | | | |
| 6-32 NC | 4AKP1 | 41.53 | 30.55 | 27.40 | 0.1 |
| 8-32 NC | 4AKP2 | 41.53 | 30.55 | 27.40 | 0.1 |
| 10-24 NC | 4AKP3 | 41.53 | 30.55 | 27.40 | 0.1 |
| 10-32 NF | 4AKP4 | 41.53 | 30.55 | 27.40 | 0.1 |
| 12-24 NC | 1E850 | 41.53 | 31.50 | 28.24 | 0.1 |
| 1/4-20 NC | 4AKP5 | 41.53 | 30.55 | 27.40 | 0.1 |
| 1/4-28 NF | 4AKP6 | 41.53 | 30.55 | 27.40 | 0.1 |
| 5/16-18 NC | 4AKP7 | 41.53 | 30.55 | 27.40 | 0.1 |
| 5/16-24 NF | 4AKP8 | 41.53 | 30.55 | 27.40 | 0.1 |
| 3/8-16 NC | 4AKP9 | 41.53 | 30.55 | 27.40 | 0.1 |
| 3/8-24 NF | 4AKR0 | 41.53 | 30.55 | 27.40 | 0.1 |
| 7/16-14 NC | 4AKR1 | 41.53 | 30.55 | 27.40 | 0.1 |
| 7/16-20 NF | 4AKR2 | 41.53 | 30.55 | 27.40 | 0.1 |
| **1 1/2 x 1/2" O.D. ROUND DIES** | | | | | |
| 1/4-20 NC | 1E868 | 66.07 | 50.05 | 44.93 | 0.2 |
| 1/4-28 NF | 1E870 | 66.07 | 50.05 | 44.93 | 0.2 |
| 5/16-18 NC | 4AKR3 | 66.07 | 48.60 | 43.59 | 0.2 |
| 5/16-24 NF | 4AKR4 | 66.07 | 48.60 | 43.59 | 0.2 |
| 3/8-16 NC | 4AKR5 | 66.07 | 48.60 | 43.59 | 0.2 |
| 3/8-24 NF | 4AKR6 | 66.07 | 48.60 | 43.59 | 0.2 |
| 7/16-14 NC | 4AKR7 | 66.07 | 48.60 | 43.59 | 0.2 |
| 7/16-20 NF | 4AKR8 | 66.07 | 48.60 | 43.59 | 0.2 |
| 1/2-13 NC | 4AKR9 | 66.07 | 48.60 | 43.59 | 0.2 |
| 1/2-20 NF | 4AKT0 | 66.07 | 48.60 | 43.59 | 0.2 |
| 9/16-12 NC | 4AKT1 | 66.07 | 48.60 | 43.59 | 0.2 |
| 9/16-18 NF | 4AKT2 | 66.07 | 48.60 | 43.59 | 0.2 |
| 5/8-11 NC | 4AKT3 | 66.07 | 48.60 | 43.59 | 0.2 |
| 5/8-18 NF | 4AKT4 | 66.07 | 48.60 | 43.59 | 0.2 |

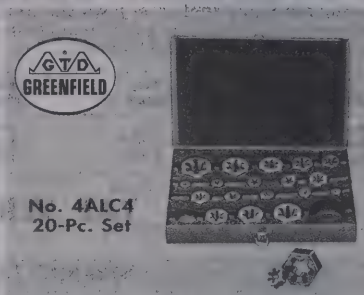
## ROUND DIE STOCKS THREE SCREW TYPE



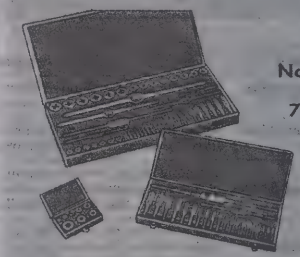
Accommodate all round adjustable dies of any construction, although they are specifically manufactured for holding dies with open-type adjustment.

| Takes Dies O.D. (In.) | Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 13/16 | 6 1/4 | 4AKM9 | $26.29 | $18.88 | 0.2 |
| 1 | 9 | 4AKN0 | 49.70 | 36.30 | 0.4 |
| 1 1/2 | 14 | 4AKN1 | 46.57 | 33.60 | 1.0 |

## HEXAGON RETHREADING DIE SETS



No. 4ALC4 20-Pc. Set



No. 4ALH8 Metric 7-Pc. Set

**No. 4ALC3.** 16-Pc. Set. Shpg. wt. 2.4 lbs.
List $464.42. Each..... **$345.7**

**Included in No. 4ALC3 Set**

| | | | |
|---|---|---|---|
| NC— | 1/4-20 | NF— | 1/4-28 |
| | 5/16-18 | | 5/16-24 |
| | 3/8-16 | | 3/8-24 |
| | 7/16-14 | | 7/16-20 |
| | 1/2-13 | | 1/2-20 |
| | 9/16-12 | | 9/16-18 |
| | 5/8-11 | | 5/8-18 |
| | 3/4-10 | | 3/4-16 |

**No. 4ALC4.** 20-Pc. Set. Shpg. wt. 5.0 lbs.
List $682.16. Each..... **$508.0**

**Included in No. 4ALC4 Set**

| | | | |
|---|---|---|---|
| NC— | 1/4-20 | NF— | 1/4-28 |
| | 5/16-18 | | 5/16-24 |
| | 3/8-16 | | 3/8-24 |
| | 7/16-14 | | 7/16-20 |
| | 1/2-13 | | 1/2-20 |
| | 9/16-12 | | 9/16-18 |
| | 5/8-11 | | 5/8-18 |
| | 3/4-10 | | 3/4-16 |
| | 7/8-9 | | 7/8-14 |
| | 1-8 | NS— | 1-14 |

**No. 4ALH8.** Metric 7-Pc. Set. Shpg. wt. 1.8 lbs.
List $236.61. Each..... **$176.2**

**Included in No. 4ALH8 Set**

| | |
|---|---|
| M6 x 1 | M14 x 2 |
| M8 x 1.25 | M16 x 2 |
| M10 x 1.5 | M20 x 2.5 |
| M12 x 1.75 | |



Set up your next job with quality cutting tools from Grainger.

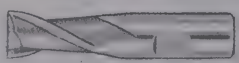
# HIGH SPEED STEEL END MILLS

## GENERAL PURPOSE 2-FLUTE END MILLS

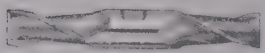
- High speed steel
- Center cutting
- Regular length
- Double end mills provide the added economy of two cutting ends for less cost than two single end tools

Two flute end mills are industrial quality, general purpose end mills manufactured in a wide variety of styles and sizes to mill and slot all types of materials. They feature right hand spiral and right hand cut.

Putnam®



No. 4ALK5 Single End



No. 4ALM2 Double End

### GENERAL PURPOSE 2-FLUTE END MILLS

| SINGLE END | | | | | | | | DOUBLE END | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diameter (In.) | Shank Diameter (In.) | Length of Cut (In.) | Overall Length (In.) | Stock No. | Each | Lots 6 | Shpg. Wt. | Diameter (In.) | Shank Diameter (In.) | Length of Cut (In.) | Overall Length (In.) | Stock No. | Each | Lots 6 | Shpg. Wt. |
| 1/8 | 3/8 | 3/8 | 2 5/16 | 4ALK3 | $10.92 | $9.83 | 0.1 | 1/8 | 3/8 | 3/8 | 3 1/16 | 4ALM2 | $15.08 | $13.58 | 0.1 |
| 3/16 | 3/8 | 7/16 | 2 3/8 | 4ALK4 | 10.92 | 9.83 | 0.1 | 5/32 | 3/8 | 7/16 | 3 1/8 | 4ALM3 | 16.25 | 14.62 | 0.1 |
| 1/4 | 3/8 | 1/2 | 2 7/16 | 4ALK5 | 10.92 | 9.83 | 0.1 | 3/16 | 3/8 | 7/16 | 3 1/4 | 4ALM4 | 15.08 | 13.58 | 0.1 |
| 5/16 | 3/8 | 9/16 | 2 1/2 | 4ALK6 | 10.92 | 9.83 | 0.1 | 7/32 | 3/8 | 1/2 | 3 1/4 | 4ALM5 | 16.25 | 14.62 | 0.1 |
| 3/8 | 3/8 | 9/16 | 2 1/2 | 4ALK7 | 10.92 | 9.83 | 0.2 | 1/4 | 3/8 | 1/2 | 3 3/8 | 4ALM6 | 15.36 | 13.83 | 0.1 |
| 7/16 | 3/8 | 13/16 | 2 11/16 | 4ALK8 | 15.25 | 13.73 | 0.1 | 9/32 | 3/8 | 9/16 | 3 3/8 | 4ALM7 | 16.39 | 14.76 | 0.1 |
| 1/2 | 3/8 | 13/16 | 2 11/16 | 4ALK9 | 15.25 | 13.73 | 0.1 | 5/16 | 3/8 | 9/16 | 3 1/2 | 4ALM8 | 15.08 | 13.58 | 0.1 |
| 1/2 | 1/2 | 1 | 3 1/4 | 4ALL0 | 15.94 | 14.34 | 0.3 | 11/32 | 3/8 | 9/16 | 3 1/2 | 4ALM9 | 16.25 | 14.62 | 0.1 |
| 9/16 | 1/2 | 1 1/8 | 3 3/8 | 4ALL1 | 19.26 | 17.33 | 0.2 | 3/8 | 3/8 | 9/16 | 3 1/2 | 4ALN0 | 15.36 | 13.83 | 0.1 |
| 5/8 | 1/2 | 1 1/8 | 3 3/4 | 4ALL2 | 21.56 | 19.41 | 0.2 | 13/32 | 1/2 | 13/16 | 4 1/8 | 4ALN1 | 24.44 | 22.00 | 0.3 |
| 5/8 | 5/8 | 1 5/16 | 3 3/4 | 4ALL3 | 22.27 | 20.04 | 0.3 | 7/16 | 1/2 | 13/16 | 4 1/8 | 4ALN2 | 23.57 | 21.21 | 0.1 |
| 3/4 | 1/2 | 1 5/16 | 3 5/8 | 4ALL4 | 25.35 | 22.78 | 0.2 | 1/2 | 1/2 | 13/16 | 4 1/8 | 4ALN3 | 23.57 | 21.21 | 0.2 |
| 3/4 | 5/8 | 1 5/16 | 3 3/4 | 4ALL5 | 25.35 | 22.78 | 0.3 | 9/16 | 5/8 | 1 1/8 | 5 | 4ALN4 | 33.30 | 29.89 | 0.3 |
| 3/4 | 3/4 | 1 5/16 | 3 7/8 | 4ALL6 | 25.35 | 22.78 | 0.4 | 5/8 | 5/8 | 1 1/8 | 5 | 4ALN5 | 32.55 | 29.27 | 0.3 |
| 7/8 | 5/8 | 1 1/2 | 4 | 4ALL7 | 30.45 | 27.33 | 0.4 | 3/4 | 3/4 | 1 5/16 | 5 5/8 | 4ALN6 | 41.05 | 36.90 | 0.3 |
| 7/8 | 3/4 | 1 1/2 | 4 1/8 | 4ALL8 | 30.80 | 27.69 | 0.4 | 7/8 | 7/8 | 1 9/16 | 6 1/8 | 4ALN7 | 51.70 | 46.47 | 0.7 |
| 1 | 5/8 | 1 1/2 | 4 | 4ALL9 | 35.45 | 31.83 | 0.1 | 1 | 1 | 1 5/8 | 6 3/8 | 4ALN8 | 63.60 | 57.22 | 0.7 |
| 1 | 3/4 | 1 1/2 | 4 1/8 | 4ALM0 | 35.45 | 31.83 | 0.5 | | | | | | | | |
| 1 | 1 | 1 5/8 | 4 1/2 | 4ALM1 | 39.35 | 35.36 | 0.8 | | | | | | | | |

## GENERAL PURPOSE MULTI-FLUTE END MILLS

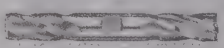
- High speed steel
- Non-center cutting
- Regular and long length
- Double end mills provide the added economy of two cutting ends for less cost than two single end tools

These non-center cutting end mills provide excellent finish and higher metal removal rates than two flute mills.

Putnam®



No. 4ALN9 Single End



No. 4ALR7 Double End

### GENERAL PURPOSE MULTI-FLUTE END MILLS

| SINGLE END | | | | | | | | | DOUBLE END | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diameter (In.) | Shank Diameter (In.) | No. of Flutes | Length of Cut (In.) | Overall Length (In.) | Stock No. | Each | Lots 6 | Shpg. Wt. | Diameter (In.) | Shank Diameter (In.) | No. of Flutes | Length of Cut (In.) | Overall Length (In.) | Stock No. | Each | Lots 6 | Shpg. Wt. |
| 1/8 | 3/8 | 4 | 3/8 | 2 5/16 | 4ALN9 | $11.20 | $10.08 | 0.1 | 1/8 | 3/8 | 4 | 3/8 | 3 1/16 | 4ALR7 | $15.36 | $13.83 | 0.1 |
| 3/16 | 3/8 | 4 | 1/2 | 2 3/8 | 4ALP0 | 11.20 | 10.08 | 0.1 | 5/32 | 3/8 | 4 | 7/16 | 3 1/8 | 4ALR8 | 16.25 | 14.62 | 0.1 |
| 1/4 | 3/8 | 4 | 5/8 | 2 7/16 | 4ALP1 | 11.20 | 10.08 | 0.1 | 3/16 | 3/8 | 4 | 1/2 | 3 1/4 | 4ALR9 | 15.36 | 13.83 | 0.1 |
| 5/16 | 3/8 | 4 | 3/4 | 2 1/2 | 4ALP2 | 11.20 | 10.08 | 0.1 | 7/32 | 3/8 | 4 | 9/16 | 3 1/4 | 4ALT0 | 16.25 | 14.62 | 0.1 |
| 3/8 | 3/8 | 4 | 3/4 | 2 1/2 | 4ALP3 | 11.20 | 10.08 | 0.1 | 1/4 | 3/8 | 4 | 5/8 | 3 3/8 | 4ALT1 | 15.08 | 13.58 | 0.1 |
| 7/16 | 3/8 | 4 | 1 | 2 11/16 | 4ALP4 | 15.08 | 13.58 | 0.1 | 9/32 | 3/8 | 4 | 11/16 | 3 3/8 | 4ALT2 | 16.25 | 14.62 | 0.1 |
| 1/2 | 3/8 | 4 | 1 | 2 11/16 | 4ALP5 | 15.08 | 13.58 | 0.1 | 5/16 | 3/8 | 4 | 3/4 | 3 1/2 | 4ALT3 | 15.08 | 13.58 | 0.1 |
| 1/2 | 1/2 | 4 | 1 1/4 | 3 1/4 | 4ALP6 | 15.08 | 13.58 | 0.2 | 11/32 | 3/8 | 4 | 3/4 | 3 1/2 | 4ALT4 | 16.25 | 14.62 | 0.1 |
| 9/16 | 1/2 | 4 | 1 3/8 | 3 3/8 | 4ALP7 | 19.40 | 17.46 | 0.2 | 3/8 | 3/8 | 4 | 3/4 | 3 1/2 | 4ALT5 | 15.08 | 13.58 | 0.1 |
| 5/8 | 1/2 | 4 | 1 3/8 | 3 3/8 | 4ALP8 | 21.26 | 19.14 | 0.2 | 13/32 | 1/2 | 4 | 1 | 4 1/8 | 4ALT6 | 22.59 | 20.33 | 0.2 |
| 5/8 | 5/8 | 4 | 1 7/8 | 3 7/8 | 4ALP9 | 23.44 | 21.09 | 0.3 | 7/16 | 1/2 | 4 | 1 | 4 1/8 | 4ALT7 | 22.00 | 19.79 | 0.2 |
| 3/4 | 1/2 | 4 | 1 5/8 | 3 5/8 | 4ALR0 | 25.60 | 23.03 | 0.3 | 1/2 | 1/2 | 4 | 1 | 4 1/8 | 4ALT8 | 22.00 | 19.79 | 0.2 |
| 3/4 | 5/8 | 4 | 1 5/8 | 3 3/4 | 4ALR1 | 25.60 | 23.03 | 0.3 | 9/16 | 5/8 | 4 | 1 3/8 | 5 | 4ALT9 | 32.15 | 28.86 | 0.3 |
| 3/4 | 3/4 | 4 | 1 5/8 | 3 7/8 | 4ALR2 | 26.80 | 24.07 | 0.4 | 5/8 | 5/8 | 4 | 1 3/8 | 5 | 4ALW0 | 32.15 | 28.86 | 0.3 |
| 7/8 | 3/4 | 4 | 1 7/8 | 4 1/8 | 4ALR3 | 33.05 | 29.63 | 0.5 | 3/4 | 3/4 | 4 | 1 5/8 | 5 3/8 | 4ALW1 | 40.50 | 36.39 | 0.6 |
| 1 | 5/8 | 6 | 1 7/8 | 4 | 4ALR4 | 38.80 | 34.85 | 0.5 | 7/8 | 7/8 | 4 | 1 7/8 | 6 1/8 | 4ALW2 | 51.45 | 46.22 | 0.8 |
| 1 | 3/4 | 4 | 1 7/8 | 4 1/8 | 4ALR5 | 38.05 | 34.19 | 0.5 | 1 | 1 | 4 | 1 7/8 | 6 3/8 | 4ALW3 | 62.35 | 56.04 | 1.2 |
| 1 | 1 | 4 | 2 | 4 1/2 | 4ALR6 | 40.35 | 36.24 | 0.8 | | | | | | | | | |

# SOLID CARBIDE END MILLS

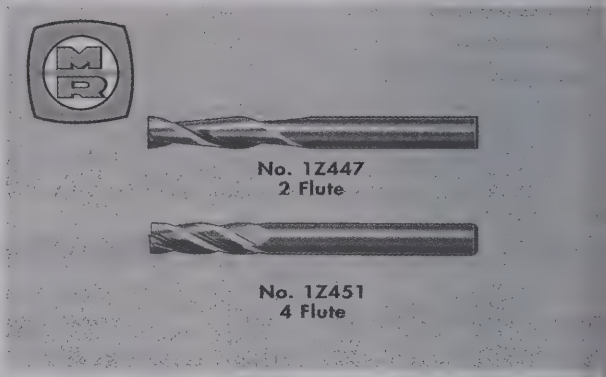
## SOLID CARBIDE END MILLS—GENERAL PURPOSE

- Single end
- Center cutting
- Standard length
- Straight shank
- 30° RHH, RHC

Rugged geometry for difficult machining applications or roughing cuts. Deflection is minimized at high cutting speeds, eliminating excessive shock on the tool. Core diameter and primary land are greater than high speed steel end mills.

**The 2 flute end mill** is a multi-purpose tool for plunge cutting, peripheral milling, and slotting applications. Most economical in milling cast irons, nonferrous light metals, and plastics.

**The 4 flute end mill** is used on more difficult to machine materials. Stiffer construction results in minimal deflection. The 4 flutes provide good wear resistant characteristics for excellent size control.




### SOLID CARBIDE 2 & 4 FLUTE END MILLS

| Cutting Size (In.) | Shank Dia. (In.) | Length of Cut (In.) | Overall Length (In.) | 2 FLUTE Stock No. | 2 FLUTE Each | 2 FLUTE Lots 6 | 2 FLUTE Shpg. Wt. | 4 FLUTE Stock No. | 4 FLUTE Each | 4 FLUTE Lots 6 | 4 FLUTE Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/8** | 1/8 | 1/2 | 1½ | **1Z447** | **$11.75** | **$10.57** | 0.1 | **1Z451** | **$11.75** | **$10.57** | 0.1 |
| **3/16** | 3/16 | 5/8 | 2 | **1Z471** | **16.58** | **14.92** | 0.1 | **1Z475** | **16.58** | **14.92** | 0.1 |
| **1/4** | 1/4 | 3/4 | 2½ | **1Z496** | **21.26** | **19.14** | 0.1 | **1Z500** | **21.26** | **19.14** | 0.1 |
| **5/16** | 5/16 | 13/16 | 2½ | **1Z520** | **25.45** | **22.87** | 0.1 | **1Z524** | **23.99** | **21.58** | 0.1 |
| **3/8** | 3/8 | 7/8 | 2½ | **1Z528** | **30.45** | **27.33** | 0.2 | **1Z533** | **30.45** | **27.33** | 0.2 |
| **7/16** | 7/16 | 1 | 2¾ | **1Z539** | **44.75** | **40.17** | 0.2 | **1Z543** | **44.75** | **40.17** | 0.2 |
| **1/2** | 1/2 | 1 | 3 | **1Z547** | **51.95** | **46.66** | 0.3 | **1Z551** | **51.95** | **46.66** | 0.3 |
| **9/16** | 9/16 | 1⅛ | 3½ | **1Z555** | **88.00** | **79.12** | 0.5 | **1Z559** | **88.00** | **79.12** | 0.5 |
| **5/8** | 5/8 | 1¼ | 3½ | **1Z563** | **96.60** | **86.86** | 0.6 | **1Z567** | **96.60** | **86.86** | 0.6 |
| **11/16** | 3/4 | 1⅜ | 4 | **1Z571** | **142.55** | **128.23** | 1.0 | **1Z575** | **142.55** | **128.23** | 1.0 |
| **3/4** | 3/4 | 1½ | 4 | **1Z579** | **142.55** | **128.23** | 1.0 | **1Z585** | **142.55** | **128.23** | 1.0 |
| **7/8** | 7/8 | 1½ | 4 | **1Z589** | **247.25** | **221.90** | 1.4 | **1Z593** | **247.25** | **221.90** | 1.4 |
| **1** | 1 | 1½ | 4 | **1Z597** | **252.75** | **226.90** | 1.8 | **1Z601** | **252.75** | **226.90** | 1.8 |

## ENGLISH-METRIC CONVERSION TABLES

### ENGLISH TO METRIC CONVERSION TABLE

| Multiply | By | To Obtain |
|---|---|---|
| Inches | 25.4 | Millimeters |
| Inches | 2.54 | Centimeters |
| Feet | .3048 | Meters |
| Inches per Minute | 25.4 | Millimeters per Minute |
| Cubic Inches per Minute | 16.387 | Cubic Centimeters per Minute |
| Surface Feet per Minute | .3048 | Surface Meters per Minute |

### METRIC TO ENGLISH CONVERSION TABLE

| Multiply | By | To Obtain |
|---|---|---|
| Millimeters | .03937 | Inches |
| Centimeters | .3937 | Inches |
| Meters | 3.2808 | Feet |
| Millimeters per Minute | .0394 | Inches per Minute |
| Cubic Centimeters per Minute | .0610 | Cubic Inches per Minute |
| Surface Meters per Minute | 3.2808 | Surface Feet per Minute |

**DON'T FORGET THE BACK OF THE BOOK!**
**MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# ROUGHING END MILLS

## COBALT ROUGHING END MILLS-MULTIPLE FLUTE

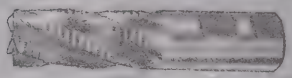
For general purpose machining. Knuckle tooth design achieves:

- Maximum strength for heavy cutting
- Constant form relieved for long tool life
- Staggered design for free cutting action

Niagara



No. 3T782



No. 3T760

New

### *New!* MULTIPLE FLUTE-NON CENTER CUTTING - COARSE PITCH

| Dia. (In.) | Shank (In.) | Flute Length (In.) | Overall Length (In.) | No. of Flutes | Niagara Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 3/8 | 5/8 | 2 7/16 | 4 | 71081 | 3T782 | $21.60 | 0.3 |
| 5/16 | 3/8 | 3/4 | 2 1/2 | 4 | 71101 | 3T784 | 21.60 | 0.3 |
| 3/8 | 3/8 | 3/4 | 2 1/2 | 4 | 71121 | 3T786 | 21.60 | 0.3 |
| 1/2 | 1/2 | 1 1/4 | 3 1/4 | 4 | 71162 | 3T788 | 27.90 | 0.3 |
| 1/2 | 1/2 | 2 | 4 | 4 | 71163 | 3T790 | 36.55 | 0.4 |
| 5/8 | 5/8 | 1 5/8 | 3 3/4 | 4 | 71203 | 3T792 | 34.85 | 0.6 |
| 3/4 | 3/4 | 1 5/8 | 3 7/8 | 4 | 71244 | 3T796 | 41.40 | 0.6 |
| 3/4 | 3/4 | 3 | 5 1/4 | 4 | 72244 | 3V023 | 51.85 | 0.5 |
| 3/4 | 3/4 | 3/4 | 3 | 4 | 72243 | 3V021 | 39.00 | 0.6 |
| 7/8 | 3/4 | 1 7/8 | 4 1/8 | 5 | 72284 | 3V025 | 54.45 | 0.7 |
| 7/8 | 3/4 | 3 1/2 | 5 3/4 | 5 | 71283 | 3T798 | 62.55 | 0.9 |
| 1 | 1 | 2 | 4 1/2 | 5 | 71326 | 3T920 | 62.10 | 1.1 |
| 1 | 1 | 4 | 6 1/2 | 5 | 72326 | 3V029 | 81.30 | 1.4 |

### *New!* MULTIPLE FLUTE-CENTER CUTTING - COARSE PITCH

| Dia. (In.) | Shank Length (In.) | Flute Length (In.) | Overall Length (In.) | No. of Flutes | Niagara Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 1/2 | 1 1/4 | 3 1/4 | 4 | 70031 | 3T760 | $36.00 | 0.3 |
| 1/2 | 1/2 | 2 1/4 | 4 | 4 | 70035 | 3T762 | 48.55 | 0.5 |
| 5/8 | 5/8 | 1 5/8 | 3 3/4 | 4 | 70039 | 3T764 | 44.05 | 0.6 |
| 3/4 | 3/4 | 1 5/8 | 3 7/8 | 4 | 70047 | 3T766 | 55.35 | 0.6 |
| 3/4 | 3/4 | 3 | 5 1/4 | 4 | 70051 | 3T768 | 68.85 | 0.9 |
| 1 | 1 | 2 | 4 1/2 | 5 | 70067 | 3T770 | 79.85 | 1.1 |
| 1 | 1 | 3 | 5 1/2 | 5 | 70071 | 3T772 | 91.75 | 1.3 |

### *New!* MULTIPLE FLUTE - NON-CENTER CUTTING - FINE PITCH

| Dia. (In.) | Shank Length (In.) | Flute Length (In.) | Overall Length (In.) | No. of Flutes | Niagara Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 3/8 | 5/8 | 2 7/16 | 4 | 44503 | 3T704 | $21.60 | 0.3 |
| 5/16 | 3/8 | 3/4 | 2 1/2 | 4 | 44507 | 3T706 | 21.60 | 0.3 |
| 3/8 | 3/8 | 3/4 | 2 1/2 | 4 | 44511 | 3T710 | 21.60 | 0.3 |
| 1/2 | 1/2 | 1 1/4 | 3 1/4 | 4 | 44517 | 3T712 | 27.90 | 0.4 |
| 5/8 | 5/8 | 1 5/8 | 3 3/4 | 4 | 44523 | 3T716 | 34.85 | 0.7 |
| 3/4 | 3/4 | 1 5/8 | 3 7/8 | 4 | 44527 | 3T720 | 41.40 | 0.7 |
| 3/4 | 3/4 | 3 | 5 1/4 | 4 | 44529 | 3T722 | 51.85 | 0.8 |
| 7/8 | 3/4 | 1 7/8 | 4 1/8 | 5 | 44535 | 3T726 | 54.45 | 0.8 |
| 1 | 1 | 2 | 4 1/2 | 5 | 44543 | 3T730 | 62.10 | 1.1 |
| 1 | 1 | 3 | 5 1/2 | 5 | 44545 | 3T732 | 78.05 | 1.3 |
| 1 | 1 | 4 | 6 1/2 | 5 | 44547 | 3T734 | 81.30 | 1.4 |
| 1 | 3/4 | 1 1/2 | 3 3/4 | 5 | 44551 | 3T736 | 60.70 | 0.8 |

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

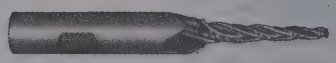
In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

# CNC TAPERED END MILLS

## CNC TAPERED END MILLS

- Shanks are ground to within .0005" to fit standard spring collets
- A standard flat in the shank permits positive lock
- All end mills are three flute, right hand spiral, right hand cut with flat end
- Cutters are hollow ground, flutes polished, and a double back off with proper clearance at the tip and large diameter

WOLVERINE CNC



No. 3JM39

### CNC HIGH SPEED STEEL TAPERED END MILLS

| Degree | Tip Dia. (In.) | Flute Length (In.) | Shank Dia. (In.) | Wolverine Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | 3/32 | 3/4 | 3/8 | 1-A-3 | 3JL63 | $17.21 | 0.1 |
| 1 | 1/4 | 1¼ | 3/8 | 1-D-5 | 3JL73 | 21.88 | 0.1 |
| 2 | 1/8 | 3/4 | 3/8 | 2-B-3 | 3JM21 | 17.61 | 0.1 |
| 3 | 3/32 | 1½ | 3/8 | 3-A-6 | 3JM39 | 21.09 | 0.1 |
| 3 | 1/8 | 3/4 | 3/8 | 3-B-3 | 3JM40 | 17.77 | 0.1 |
| 3 | 3/16 | 1¼ | 3/8 | 3-C-5 | 3JM46 | 22.04 | 0.1 |
| 3 | 1/4 | 1¼ | 3/8 | 3-D-5 | 3JM50 | 22.34 | 0.1 |
| 3 | 1/4 | 2¼ | 1/2 | 3-D-9 | 3JM51 | 35.40 | 0.2 |
| 5 | 3/32 | 3/4 | 3/8 | 5-A-3 | 3JM61 | 19.35 | 0.1 |
| 5 | 3/16 | 1¼ | 1/2 | 5-C-5 | 3JM71 | 23.13 | 0.1 |
| 5 | 1/4 | 1¼ | 1/2 | 5-D-5 | 3JM77 | 24.08 | 0.1 |
| 7 | 1/8 | 3/4 | 3/8 | 7-B-3 | 3JM84 | 18.56 | 0.1 |
| 10 | 3/32 | 1/2 | 3/8 | 10-A-2 | 3JL91 | 19.98 | 0.1 |
| 10 | 1/8 | 3/4 | 3/8 | 10-B-3 | 3JL93 | 19.35 | 0.1 |
| 10 | 1/4 | 3/4 | 1/2 | 10-D-3 | 3JL95 | 25.30 | 0.1 |
| 10 | 1/4 | 1¼ | 1/2 | 10-D-5 | 3JL96 | 36.40 | 0.2 |
| 15 | 3/16 | 1 | 1/2 | 15-C-4 | 3JM10 | 34.85 | 0.2 |
| 15 | 1/4 | 1 | 1/2 | 15-D-4 | 3JM12 | 43.45 | 0.4 |

### CNC CARBIDE TAPERED END MILLS

| Degree | Tip Dia. (In.) | Flute Length (In.) | Shank Dia. (In.) | Wolverine Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | 3/32 | 1 | 1/4 | C1-A-4 | 3JM88 | $32.05 | 0.1 |
| 1 | 1/8 | 3/4 | 1/4 | C1-B-3 | 3JM89 | 35.95 | 0.1 |
| 1 | 1/4 | 1¼ | 3/8 | C1-D-5 | 3JM91 | 49.20 | 0.1 |
| 2 | 1/4 | 1¼ | 3/8 | C2-D-5 | 3JM97 | 49.20 | 0.1 |
| 3 | 3/16 | 1¼ | 3/8 | C3-C-5 | 3JN01 | 49.20 | 0.1 |
| 3 | 1/4 | 2 | 1/2 | C3-D-8 | 3JN02 | 67.75 | 0.2 |
| 5 | 1/8 | 3/4 | 1/4 | C5-B-3 | 3JN04 | 32.80 | 0.1 |
| 5 | 1/8 | 1½ | 3/8 | C5-B-6 | 3JN06 | 49.20 | 0.1 |
| 5 | 1/4 | 1¼ | 1/2 | C5-D-5 | 3JN08 | 67.75 | 0.2 |


## VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# MILLING CUTTERS

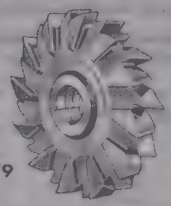
## STAGGERED TOOTH SIDE MILLING CUTTERS—HSS

**Cutters with same number of teeth and identical arbor holes interlock in infinite combinations**

**Longer side tooth design lets you regash & resharpen, for double the cutter life; ideal for deep slotting**

Niagara

New



No. 3P079

| Cutter Dia. (In.) | Face Width (In.) | Hole Size (In.) | No. of Teeth | Niagara Model | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2⅛ | 3/16 | 3/4 | 14 | 00004 | 3P079 | $44.40▲ | 0.8 |
| | 1/4 | 3/4 | 14 | 00008 | 3P081 | 44.85▲ | 0.3 |
| | 5/16 | 3/4 | 14 | 00012 | 3P083 | 48.10▲ | 0.2 |
| | 3/8 | 3/4 | 14 | 00016 | 3P085 | 50.15▲ | 0.2 |
| 2½ | 1/4 | 7/8 | 16 | 00020 | 3P087 | 44.30▲ | 0.2 |
| | 5/16 | 7/8 | 16 | 00030 | 3P089 | 43.75▲ | 0.3 |
| | 3/8 | 7/8 | 16 | 00040 | 3P091 | 50.25▲ | 0.3 |
| | 1/2 | 7/8 | 16 | 00050 | 3P093 | 52.95▲ | 0.4 |
| 2¾ | 1/4 | 1 | 16 | 00051 | 3P095 | 56.80▲ | 0.3 |
| | 5/16 | 1 | 16 | 00052 | 3P097 | 63.30▲ | 0.3 |
| | 3/8 | 1 | 16 | 00053 | 3P099 | 63.30▲ | 0.4 |
| | 7/16 | 1 | 16 | 00054 | 3P101 | 64.55▲ | 0.4 |
| | 1/2 | 1 | 16 | 00055 | 3P103 | 68.40▲ | 0.5 |
| 3 | 3/16 | 1 | 16 | 00060 | 3P105 | 42.95▲ | 0.3 |
| | 1/4 | 1 | 16 | 00100 | 3P109 | 46.10▲ | 0.3 |
| | 5/16 | 1 | 16 | 00140 | 3P115 | 51.50▲ | 0.4 |
| | 1/2 | 1 | 16 | 00240 | 3P121 | 63.40▲ | 0.6 |
| | 1 | 1¼ | 18 | 00410 | 3P129 | 87.85▲ | 1.3 |

▲) Net prices, not subject to discounts.

## STRAIGHT TOOTH SIDE MILLING CUTTERS

**Have 10° radial rake**

**Well adapted for a wide variety of slotting operations**

**Commonly used for straddle milling**

Niagara

New



No. 3P336

| Cutter Diameter (In.) | Face Width (In.) | Hole Size (In.) | No.of Teeth | Niagara Model | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2 | 1/4 | 5/8 | 14 | 05030 | 3P322 | $32.60▲ | 0.3 |
| | 3/8 | 5/8 | 14 | 05050 | 3P324 | 34.60▲ | 0.5 |
| 2½ | 1/4 | 7/8 | 16 | 05060 | 3P326 | 36.30▲ | 0.3 |
| | 3/8 | 7/8 | 16 | 05080 | 3P328 | 41.40▲ | 0.6 |
| | 1/2 | 7/8 | 16 | 05090 | 3P330 | 41.40▲ | 0.6 |
| 3 | 3/16 | 1 | 20 | 05100 | 3P332 | 38.20▲ | 0.4 |
| | 1/4 | 1 | 20 | 05120 | 3P336 | 38.55▲ | 0.5 |
| | 3/8 | 1 | 20 | 05160 | 3P338 | 45.30▲ | 0.8 |
| | 1/2 | 1 | 20 | 05190 | 3P340 | 45.90▲ | 0.9 |
| | 5/8 | 1 | 20 | 05210 | 3P342 | 59.80▲ | 1.1 |
| | 3/4 | 1 | 20 | 05230 | 3P344 | 63.00▲ | 1.4 |
| 4 | 1/4 | 1 | 24 | 05300 | 3P346 | 51.50▲ | 0.7 |
| | 3/8 | 1 | 24 | 05380 | 3P348 | 57.80▲ | 1.3 |
| | 1/2 | 1 | 24 | 05440 | 3P351 | 64.90▲ | 1.4 |
| | 5/8 | 1 | 24 | 05480 | 3P355 | 74.45▲ | 1.8 |
| | 3/4 | 1 | 24 | 05520 | 3P357 | 80.55▲ | 2.1 |
| | 1 | 1¼ | 24 | 05610 | 3P365 | 111.15▲ | 2.6 |

▲)Net prices,not subject to discounts.

YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

## STRAIGHT TOOTH SIDE SAWS-HSS

- Used for slotting and plunge cutting operations
- Recommended for cutting thin walled parts or applications requiring fine finish on work piece
- Have a concave grind on sides to prevent dragging or binding in the cut




| Cutter Diameter (In.) | Face Width (In.) | Arbor Hole (In.) | No. of Teeth | Niagara Model | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2½ | 1/16 | 7/8 | 28 | 08300 | 3P482 | $36.30▲ | 0.2 |
| | 3/32 | 7/8 | 28 | 08310 | 3P503 | 36.30▲ | 0.2 |
| | 1/8 | 7/8 | 28 | 08320 | 3P521 | 36.30▲ | 0.2 |
| 3 | 1/16 | 1 | 32 | 08330 | 3P535 | 43.60▲ | 0.2 |
| | 3/32 | 1 | 32 | 08340 | 3P537 | 43.60▲ | 0.3 |
| | 1/8 | 1 | 32 | 08350 | 3P539 | 43.60▲ | 0.3 |
| | 5/32 | 1 | 32 | 08360 | 3P541 | 43.60▲ | 0.3 |
| | 3/16 | 1 | 32 | 08370 | 3P543 | 63.55▲ | 0.4 |
| | 1/4 | 1 | 32 | 08390 | 3P581 | 64.10▲ | 0.5 |
| 4 | 1/19 | 1 | 36 | 08400 | 3P892 | 57.00▲ | 0.3 |
| | 5/64 | 1 | 36 | 08412 | 3T070 | 78.40▲ | 0.3 |
| | 3/32 | 1 | 36 | 08420 | 3T116 | 57.00▲ | 0.4 |
| | 1/8 | 1 | 36 | 08440 | 3T380 | 57.35▲ | 0.5 |
| | 5/32 | 1 | 36 | 08460 | 3T384 | 59.50▲ | 0.5 |
| | 3/16 | 1 | 36 | 08480 | 3T388 | 61.65▲ | 0.6 |
| | 7/32 | 1 | 36 | 08500 | 3T392 | 83.00▲ | 0.7 |
| | 1/4 | 1 | 36 | 08520 | 3T399 | 84.45▲ | 0.7 |
| 5 | 1/16 | 1 | 40 | 08540 | 3T511 | 72.75▲ | 0.4 |
| | 3/32 | 1 | 40 | 08560 | 3T515 | 75.00▲ | 0.6 |
| | 1/8 | 1 | 40 | 08580 | 3T519 | 77.05▲ | 0.7 |
| | 5/32 | 1 | 40 | 08600 | 3T523 | 79.40▲ | 0.7 |
| | 3/16 | 1 | 40 | 08620 | 3T527 | 80.95▲ | 0.8 |
| | 7/32 | 1 | 40 | 08640 | 3T531 | 104.80▲ | 0.9 |
| | 1/4 | 1 | 40 | 08660 | 3T535 | 109.80▲ | 1.0 |
| 6 | 1/16 | 1 | 42 | 08680 | 3T539 | 88.20▲ | 0.5 |
| | 3/32 | 1 | 42 | 08700 | 3T545 | 93.70▲ | 0.7 |
| | 1/5 | 1 | 42 | 08729 | 3T549 | 98.05▲ | 0.9 |
| | 5/32 | 1 | 42 | 08740 | 3T553 | 142.05▲ | 1.1 |
| | 3/16 | 1 | 42 | 08760 | 3T557 | 107.50▲ | 1.2 |
| | 7/32 | 1 | 42 | 08780 | 3T561 | 136.80▲ | 1.4 |

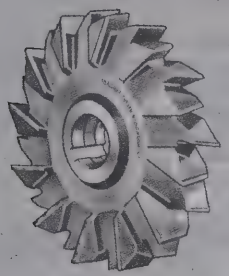
(▲) Net prices, not subject to discounts.

A NATIONWIDE NETWORK OF BRANCH LOCATIONS

Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.

## CONCAVE HIGH SPEED STEEL METAL SLITTING SAWS

Niagara



No. 3T601

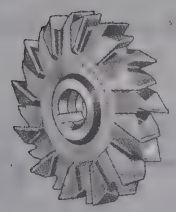
- Have cutting edges on periphery (O.D.) only
- Sides are ground with a slight concavity towards arbor hole to avoid dragging in the cut
- Designed for slitting and cut-off operations on all types of materials
- Recommended chip loads: .0002 to .002" per tooth

| Saw Dia. (In.) | Face Width (In.) | Hole Size (In.) | No. of Teeth | Niagara Model | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3 | 1/32 | 1 | 36 | 09250 | 3T577 | $22.86▲ | 0.1 |
| | 3/64 | 1 | 36 | 09260 | 3T579 | 22.86▲ | 0.1 |
| | 1/16 | 1 | 36 | 09270 | 3T581 | 23.40▲ | 0.2 |
| | 3/32 | 1 | 36 | 09280 | 3T583 | 23.40▲ | 0.3 |
| | 1/8 | 1 | 36 | 09290 | 3T585 | 24.12▲ | 0.3 |
| | 5/32 | 1 | 36 | 09300 | 3T587 | 25.50▲ | 0.4 |
| 4 | 1/32 | 1 | 40 | 09310 | 3T589 | 32.05▲ | 0.2 |
| | 3/64 | 1 | 40 | 09320 | 3T591 | 32.15▲ | 0.2 |
| | 1/16 | 1 | 40 | 09330 | 3T593 | 32.25▲ | 0.3 |
| | 3/32 | 1 | 40 | 09340 | 3T595 | 34.15▲ | 0.4 |
| | 1/8 | 1 | 40 | 09350 | 3T597 | 34.60▲ | 0.5 |
| | 3/16 | 1 | 40 | 09370 | 3T599 | 39.25▲ | 0.7 |
| 5 | 1/16 | 1 | 44 | 09380 | 3T601 | 44.20▲ | 0.4 |
| | 3/32 | 1 | 44 | 09390 | 3T603 | 47.20▲ | 0.5 |
| | 1/8 | 1 | 44 | 09400 | 3T605 | 50.60▲ | 0.7 |
| | 3/16 | 1 | 44 | 09416 | 3T608 | 78.60▲ | 0.7 |
| 6 | 1/32 | 1 | 48 | 09436 | 3T612 | 84.80▲ | 0.5 |
| | 1/16 | 1 | 48 | 09420 | 3T610 | 53.50▲ | 0.5 |
| | 1/8 | 1 | 48 | 09440 | 3T614 | 63.30▲ | 1.0 |
| | 3/16 | 1 | 48 | 09458 | 3T616 | 91.20▲ | 1.2 |

(▲) Net prices, not subject to discounts.

## DEEP SLOTTED HSS STAGGERED TOOTH SLITTING SAWS

Niagara



No. 3P393

- Saws have a 10° positive rake, and 10° alternate right and left helix angles
- Ground with slight concavity to avoid dragging in cut
- Best suited for deep slotting

| Face Dia (In.) | Face Width (In.) | Hole Size (In.) | No. of Teeth | Niagara Model | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3 | 3/32 | 1 | 28 | 07500 | 3P393 | $59.25▲ | 0.3 |
| | 1/8 | 1 | 28 | 07510 | 3P396 | 60.60▲ | 0.3 |
| | 3/16 | 1 | 28 | 07530 | 3P398 | 49.50▲ | 0.4 |
| | 1/4 | 1 | 28 | 07550 | 3P400 | 65.90▲ | 0.4 |
| 4 | 3/32 | 1 | 32 | 07560 | 3P402 | 78.75▲ | 0.4 |
| | 1/8 | 1 | 32 | 07580 | 3P404 | 78.85▲ | 0.5 |
| | 1/8 | 1¼ | 32 | 07590 | 3P406 | 78.85▲ | 0.5 |
| | 5/32 | 1 | 32 | 07600 | 3P408 | 84.60▲ | 0.5 |
| | 3/16 | 1 | 32 | 07620 | 3P414 | 64.80▲ | 0.6 |
| | 3/16 | 1¼ | 32 | 07630 | 3P416 | 81.40▲ | 0.5 |
| | 1/4 | 1 | 32 | 07660 | 3P418 | 95.50▲ | 0.7 |
| 5 | 1/8 | 1 | 36 | 07700 | 3P420 | 115.05▲ | 0.5 |
| | 3/16 | 1¼ | 36 | 07750 | 3P422 | 104.15▲ | 0.8 |
| | 1/4 | 1 | 36 | 07780 | 3P424 | 88.65▲ | 1.0 |
| | 1/4 | 1¼ | 36 | 07790 | 3P426 | 103.70▲ | 1.0 |
| 6 | 1/8 | 1 | 40 | 07800 | 3P428 | 141.95▲ | 1.0 |
| | 1/8 | 1¼ | 40 | 07810 | 3P433 | 141.95▲ | 1.0 |
| | 3/16 | 1 | 40 | 07840 | 3P438 | 109.80▲ | 1.2 |
| | 3/16 | 1¼ | 40 | 07850 | 3P440 | 109.80▲ | 1.2 |
| | 1/4 | 1 | 40 | 07880 | 3P442 | 115.60▲ | 1.5 |
| | 1/4 | 1¼ | 40 | 07890 | 3P447 | 115.60▲ | 1.5 |

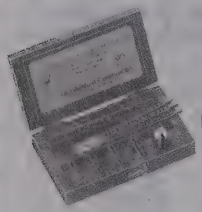
(▲) Net prices, not subject to discounts

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

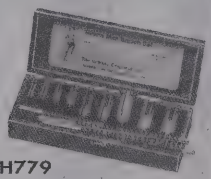
# KEYWAY BROACH SETS AND ARBOR PRESSES

## duMONT Minute Man

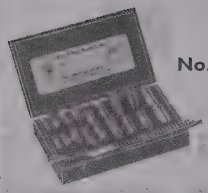


New

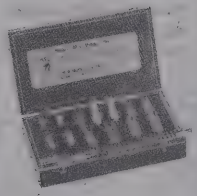
No. 3H777



No. 3H779



No. 3H781



No. 3H879

## KEYWAY BROACH SETS

Now you can make precision holes or keyway in seconds by a simple push-through broaching operation using a hand operated arbor press or hydraulic press. All Minute Man® Broach Sets are furnished in handsome varnished wood boxes, and come complete with precision broaches, slotted collared bushings and necessary shims.

- **No. 00 Precision Set**

**3 broaches and 5 bushings = 15 keyway combinations**

- **No. 10 Standard Set**

**4 broaches and 9 bushings = 18 keyway combinations**

- **No. 10-10A Combination Set**

**All bore sizes in 1/16" increments for keyways 1/8-3/8"**
**4 broaches and 18 bushings = 36 keyway combinations**

- **No. 70 Metric Set**

**4 broaches and 13 bushings = 26 keyway combinations**

| Keyway Sizes (In.) | Broach Style | Bushing Dia. (Bore Sizes Inches) | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **NO. 00 PRECISION SET** | | | | | |
| 1/16<br>3/32<br>1/8 | A | 1/4, 5/16, 3/8 , 7/16, 1/2 | **3H777** | **$146.50▲** | 0.9 |
| **NO. 10 STANDARD SET** | | | | | |
| 1/8<br>3/16 | B | 1/2, 5/8, 3/4, 7/8 | **3H779** | **263.50▲** | 7.6 |
| 1/4<br>3/8 | C | 1, 1⅛, 1¼, 1⅜, 1½ | | | |
| **NO. 10-10A COMBINATION SET** | | | | | |
| 1/8<br>3/16 | B | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8 | **3H781** | **338.75▲** | 13.0 |
| 1/4<br>3/8 | C | 15/16, 1, 1⅛, 1⅛, 1⅜, 1¼, 1⅝, 1⅜, 1⅞, 1½, 1⅝ | | | |
| **NO. 70 METRIC SET** | | | | | |
| 4mm<br>5 | B-1 | 12, 14 mm<br>15, 16 mm | **3H879** | **313.00▲** | 7.4 |
| 6<br>8 | C-1 | 18, 19, 20, 22 mm<br>24, 25, 26, 28, 30 mm | | | |

(▲) Net prices, not subject to discounts.

**Individual Keyways, Bushings, Square, and Hexagon Broaches Available. Contact your Local Branch.**

## ARBOR PRESSES

**Sturdy cast-iron constructed arbor presses** for use when heavy pressure is needed in riveting, pressing, squeezing, punching, bending tubing, production and assembly work. Machined table provides accurate work support and has slotted, removable 4-position revolving anvil to hold arbor work over table opening.

**Steel ram with heavy large toothed rack** is driven by machined pinion; end of ram has a hole with hex head bolt for inserting special punches or tools. 3-pc. punch set included. Base is drilled for bolting to bench or pedestal. Dayton brand.

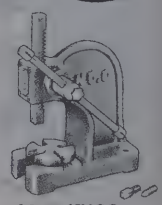
Dayton®

Replacement Parts Available
1-800-323-0620



No. 4Z328
**3-Piece Punch Set Included With All Arbor Presses**

New



No. 4TJ92

### ARBOR PRESS SPECIFICATIONS AND ORDERING DATA

| Force in Tons | Swing (In.) | Work Area (In.) Table Dimensions | Work Area (In.) Anvil Diameter | Range of Slot Widths (In.) | Max. Work Height (In.) | Ram Dimensions (In.) | Ram Hole Dia. x Depth (In.) | Overall Height (In.) | Base Dimensions (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 6½ | 4 x 3⅞ | 3½ | 3/8 x 5/16 | 4½ | 3/4 x 3/4 | 3/8 x 3/4 | 10½ | 4 x 9¼ | ***New* 4TJ92** | $75.00 | **$59.00** | 17.0 |
| **1** | 8 | 5 x 4½ | 4½ | 7/16 - 1⅝ | 5½ | 1 x 1 | 1/2 x 3/4 | 12 | 5 x 10½ | **4Z328** | 95.00 | **87.25** | 32.0 |
| **2** | 10¾ | 6⅝ x 6½ | 6⅝ | 1 - 2 | 8 | 1¼ x 1¼ | 1/2 x 1 | 17¼ | 6⅝ x 16 | **4Z329** | 198.64 | **179.00** | 98.0 |
| **3** | 11.0 | 7⅞ x 7¼ | 6⅝ | 1 - 2 | 12½ | 1½ x 1½ | 1/2 x 1 | 22 | 7⅞ x 18 | **3Z949** | 312.60 | **287.00** | 124.0 |
| **4** | 16.0 | 9¼ x 9⅛ | 9½ | 1 - 2¼ | 15¾ | 1¾ x 1¾ | 1/2 x 1 | 29⅜ | 9¼ x 21¼ | **5Z077** | 622.50 | **560.50** | 212.0 |

# CARBIDE BURS AND BUR SETS



**Carbide burs feature a chisel type cutting edge.** Machine ground and tool built to exacting tolerances of concentricity, size, and shape. Results in smooth running, fast metal removal and fine finishes when used with precision grinders.

**Right and left hand helical flutes** combine to produce a chisel type cutting tooth that results in faster penetration and stock removal with minimal bounce or chatter and less operator fatigue. Master Cut design produces easy-to-handle granular chips in most metals, not conventional sliver type chips. Maintains good finish on wide variety of workpiece materials.

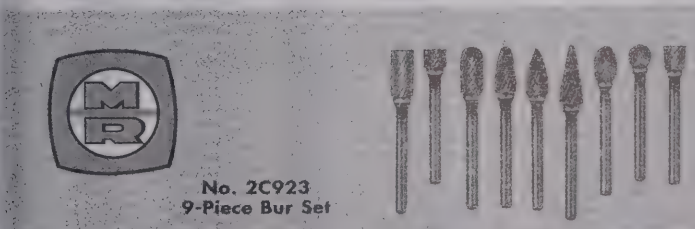
**Burs are available in the following shapes:** cylindrical, cylindrical end cut, cylindrical ball nose, round nose tree, pointed tree, pointed cone, egg shape, ball shape and flame shape. 8- and 9-piece bur sets of multiple shapes are available below. Metal Removal brand.

## BUR SPECIFICATIONS AND ORDERING DATA

| Cutter Diameter (In.) | Length Of Cut (In.) | Overall Length (In.) | Shank Size (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **CYLINDRICAL SHAPE—MR NO. CB1** | | | | | | |
| **1/8** | 9/16 | 1 1/2 | 1/8 | **1Z285*** | **$6.26** | 0.1 |
| **1/4** | 5/8 | 2 | 1/4 | **1Z318*** | **10.73** | 0.1 |
| **3/8** | 3/4 | 2 1/2 | 1/4 | **1Z326** | **15.09** | 0.1 |
| **1/2** | 1 | 2 3/4 | 1/4 | **1Z334** | **23.54** | 0.1 |
| **CYLINDRICAL END CUT SHAPE—MR NO. CB1-E** | | | | | | |
| **1/4** | 5/8 | 2 | 1/4 | **1Z320*** | **11.61** | 0.1 |
| **3/8** | 3/4 | 2 1/2 | 1/4 | **1Z328** | **16.57** | 0.2 |
| **1/2** | 1 | 2 3/4 | 1/4 | **1Z336** | **25.90** | 0.1 |
| **CYLINDRICAL BALL NOSE—MR NO. CB2** | | | | | | |
| **1/8** | 9/16 | 1 1/2 | 1/8 | **1Z288*** | **6.26** | 0.1 |
| **3/32** | 7/16 | 1 1/2 | 1/8 | **1Z292*** | **6.26** | 0.1 |
| **1/4** | 5/8 | 2 | 1/4 | **1Z352*** | **12.46** | 0.1 |
| **3/8** | 3/4 | 2 1/2 | 1/4 | **1Z356** | **16.77** | 0.1 |
| **1/2** | 1 | 2 3/4 | 1/4 | **1Z358** | **26.45** | 0.1 |
| **ROUND NOSE TREE SHAPE—MR NO. CB3** | | | | | | |
| **1/8** | 1/2 | 1 1/2 | 1/8 | **1Z306*** | **6.63** | 0.1 |
| **1/4** | 5/8 | 2 | 1/4 | **1Z366*** | **13.03** | 0.1 |
| **3/8** | 3/4 | 2 1/2 | 1/4 | **1Z368** | **16.41** | 0.1 |
| **1/2** | 1 | 2 3/4 | 1/4 | **1Z372** | **24.30** | 0.1 |
| **POINTED TREE SHAPE—MR NO. CB4** | | | | | | |
| **1/4** | 5/8 | 2 | 1/4 | **1Z378*** | **13.03** | 0.1 |
| **1/2** | 1 | 2 3/4 | 1/4 | **1Z382** | **23.83** | 0.1 |
| **POINTED CONE SHAPE—MR NO. CB5** | | | | | | |
| **1/4** | 1 | 2 | 1/4 | **1Z386*†** | **13.33** | 0.1 |
| **3/8** | 5/8 | 2 1/2 | 1/4 | **1Z390‡** | **20.75** | 0.1 |
| **1/2** | 7/8 | 2 3/4 | 1/4 | **1Z392‡** | **26.40** | 0.1 |
| **EGG SHAPE—MR NO. CB6** | | | | | | |
| **3/8** | 5/8 | 2 3/8 | 1/4 | **1Z399** | **16.77** | 0.1 |
| **BALL SHAPE—MR NO. CB8** | | | | | | |
| **1/8** | 1/8 | 1 1/2 | 1/8 | **1Z294*** | **6.26** | 0.1 |
| **1/4** | 1/4 | 2 | 1/4 | **1Z408*** | **11.47** | 0.1 |
| **3/8** | 3/8 | 2 25/64 | 1/4 | **1Z410** | **13.77** | 0.1 |
| **1/2** | 1/2 | 2 13/64 | 1/4 | **1Z412** | **18.58** | 0.1 |
| **FLAME SHAPE—MR NO. CB51** | | | | | | |
| **1/8** | 1/4 | 1 1/2 | 1/8* | **1Z296*** | **6.26** | 0.1 |

) Indicates solid carbide tool; all others have hardened steel shanks. (†) 14° angle. (‡) 28° angle.

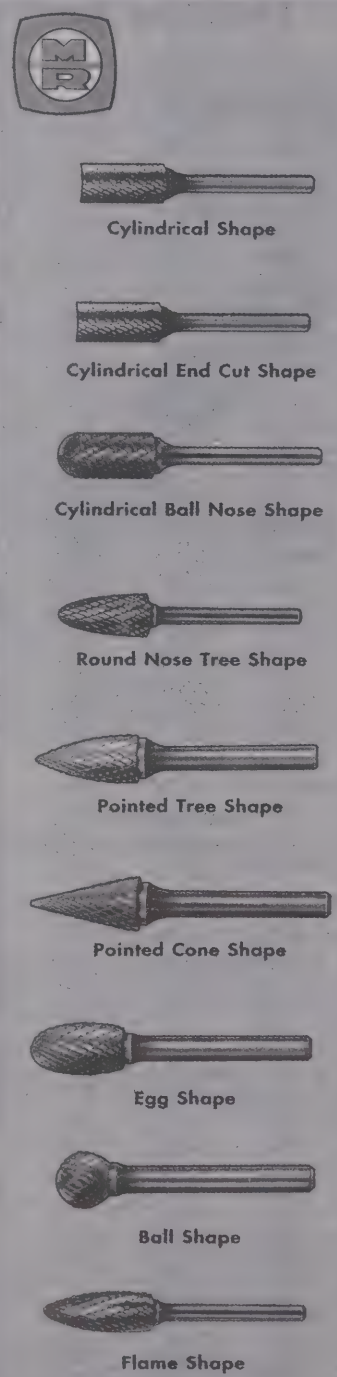
## BUR SETS



No. 2C923
9-Piece Bur Set

## BUR SET SPECIFICATIONS AND ORDERING DATA

| No. of Pieces | Set No. | Sets Include | Bur Dia. (In.) | Shank Dia. (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **8** | C-S | CB1C, CB2C, CB3C, CB4C, CB5C, CB6C, CB7C, CB8C | 1/4 | 1/4 | **2C919** | **$109.15** | 0.8 |
| **9** | A | CB1A (2), CB2A (2), CB3A, CB4A, CB5A, CB6A, CB8A | 1/8 | 1/8 | **2C923** | **66.75** | 0.4 |



# BAND SAW BLADES

## PREMIUM HARD-BACK CARBON STEEL BAND SAW BLADES




- Economical production cutting

### APPLICATIONS

- Light to medium vertical and horizontal machines
- Both contour and straight cutting
- Low alloy, non-ferrous metals

High carbon steel band has a precisely hardened tooth coupled with a hardened, spring-tempered back, resulting in a high tensile strength. Greater band tension and improved blade rigidity increase cutting rates and provide more accurate cuts. Double heat treatment improves Premium blade's strength. (Do **NOT** run blades above 3,000 SFM.)

| Length | Width (In.) | Thickness (In.) | Teeth Per Inch | Tooth Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **COIL LENGTHS** | | | | | | | | |
| **100'** | 1/4 | .025 | 10 | Regular | 13893 | **4L152** | **$71.90** | 2.1 |
| **100'** | 1/4 | .025 | 14 | Regular | 13894 | **4L153** | **71.90** | 2.1 |
| **100'** | 1/4 | .025 | 18 | Wavy | 10941 | **4L076** | **71.90** | 2.1 |
| **100'** | 1/4 | .025 | 6 | Regular | 13892 | **3MT49** | **64.00** | 2.1 |
| **100'** | 3/8 | .025 | 14 | Regular | 13898 | **4L154** | **75.75** | 3.2 |
| **100'** | 3/8 | .025 | 6 | Regular | 13895 | **3MT52** | **67.35** | 3.2 |
| **100'** | 3/8 | .025 | 18 | Wavy | 10946 | **3MP37** | **67.35** | 3.2 |
| **100'** | 1/2 | .025 | 6 | Regular | 13899 | **4L155** | **79.35** | 4.3 |
| **100'** | 1/2 | .025 | 10 | Regular | 13322 | **4L127** | **79.35** | 4.3 |
| **100'** | 1/2 | .025 | 14 | Regular | 13901 | **4L156** | **79.35** | 4.3 |
| **100'** | 1/2 | .025 | 18 | Wavy | 10954 | **4L077** | **79.35** | 4.3 |
| **100'** | 1/2 | .025 | 24 | Wavy | 10975 | **3MP43** | **70.70** | 4.3 |
| **100'** | 1/2 | .025 | 3 | Hook | 11001 | **3MP57** | **70.70** | 4.3 |
| **100'** | 1/2 | .025 | 4 | Hook | 11002 | **3MP58** | **70.70** | 4.3 |
| **100'** | 1/2 | .025 | 4 | Skip | 10990 | **3MP51** | **70.70** | 4.3 |
| **100'** | 3/4 | .032 | 14 | Regular | 13907 | **4L157** | **107.75** | 8.6 |
| **100'** | 3/4 | .032 | 3 | Hook | 13905 | **3MT56** | **95.85** | 8.6 |
| **100'** | 3/4 | .032 | 4 | Hook | 15830 | **3MW77** | **95.85** | 8.6 |
| **100'** | 3/4 | .032 | 6 | Regular | 13906 | **3MT57** | **95.85** | 8.6 |
| **WELDED TO LENGTH (READY TO USE)** | | | | | | | | |
| **5'** | 1/2 | .025 | 14 | Regular | 17244 | **2GL93** | **10.58** | 0.5 |
| **5'** | 1/2 | .025 | 14 | Wavy | 17250 | **2GL96** | **10.58** | 0.5 |
| **5'** | 1/2 | .025 | 18 | Wavy | 17745 | **3ND33** | **10.58** | 0.5 |
| **5' 4"** | 1/2 | .025 | 14 | Regular | 18143 | **3NH42** | **10.96** | 0.5 |
| **5' 4½"** | 1/2 | .020 | 14 | Regular | 17243 | **4L195** | **10.96** | 0.3 |
| **5' 4½"** | 1/2 | .025 | 10 | Regular | 17224 | **4L102** | **10.96** | 0.5 |
| **5' 4½"** | 1/2 | .025 | 14 | Regular | 17245 | **4L196** | **10.96** | 0.5 |
| **5' 4½"** | 1/2 | .025 | 14 | Wavy | 17251 | **2GL97** | **10.96** | 0.5 |
| **5' 4½"** | 1/2 | .025 | 18 | Wavy | 17226 | **2GL59** | **10.96** | 0.5 |
| **5' 4½"** | 1/2 | .025 | 24 | Wavy | 17861 | **3NF25** | **10.96** | 0.6 |
| **5' 4½"** | 1/2 | .025 | 6 | Regular | 17275 | **2GM63** | **10.96** | 0.5 |
| **5' 5"** | 1/2 | .025 | 14 | Regular | 18144 | **3NH43** | **10.96** | 0.5 |
| **6' 8"** | 1/4 | .025 | 10 | Regular | 17234 | **2GL87** | **11.58** | 0.6 |
| **6' 8"** | 1/4 | .025 | 14 | Regular | 17236 | **4L193** | **11.58** | 0.6 |
| **6' 8"** | 1/4 | .025 | 4 | Skip | 17980 | **3NG13** | **11.58** | 0.4 |
| **6' 8"** | 1/4 | .025 | 6 | Skip | 17222 | **2GL57** | **11.58** | 0.6 |
| **7' 5"** | 1/2 | .025 | 10 | Regular | 17197 | **4L082** | **12.48** | 0.8 |
| **7' 5"** | 1/2 | .025 | 10 | Wavy | 17198 | **4L083** | **12.48** | 0.8 |
| **7' 5"** | 1/2 | .025 | 14 | Regular | 17246 | **4L197** | **12.48** | 0.8 |
| **7' 5"** | 1/2 | .025 | 14 | Wavy | 17252 | **2GL98** | **12.48** | 0.8 |
| **7' 5"** | 1/2 | .025 | 18 | Wavy | 17199 | **4L084** | **12.48** | 0.8 |
| **7' 5"** | 1/2 | .025 | 24 | Wavy | 17200 | **2GL44** | **12.48** | 0.8 |
| **7' 5"** | 1/2 | .025 | 6 | Regular | 17239 | **2GL89** | **12.48** | 0.8 |
| **7' 5"** | 5/8 | .032 | 14 | Regular | 18172 | **3NH65** | **13.87** | 1.1 |
| **7' 6"** | 1/2 | .025 | 14 | Regular | 18148 | **3NH47** | **12.48** | 0.6 |
| **7' 9"** | 1/2 | .025 | 10 | Regular | 17749 | **3ND36** | **12.86** | 0.6 |
| **7' 9"** | 1/2 | .025 | 14 | Regular | 17247 | **4L198** | **12.86** | 0.8 |
| **7' 9"** | 1/2 | .025 | 14 | Wavy | 17253 | **2GL99** | **12.86** | 0.8 |
| **7' 9"** | 1/2 | .025 | 18 | Wavy | 17202 | **4L085** | **12.86** | 0.8 |
| **7' 9"** | 1/2 | .025 | 4 | Skip | 17201 | **2GL45** | **12.86** | 0.8 |
| **7' 9"** | 1/2 | .025 | 6 | Regular | 17240 | **2GL90** | **12.86** | 0.8 |
| **7' 9"** | 1/4 | .025 | 10 | Regular | 18278 | **3NJ47** | **12.27** | 0.4 |
| **7' 9"** | 1/4 | .032 | 14 | Regular | 18123 | **3NH28** | **12.27** | 0.4 |
| **7' 9"** | 3/4 | .032 | 10 | Regular | 17276 | **2GM66** | **15.10** | 1.1 |
| **7' 9"** | 3/4 | .032 | 14 | Regular | 17273 | **4L273** | **15.10** | 1.1 |
| **7' 9"** | 3/4 | .032 | 18 | Wavy | 19217 | **3NV67** | **15.10** | 1.1 |
| **7' 9"** | 3/4 | .032 | 8 | Regular | 19224 | **3NV74** | **15.10** | 1.1 |
| **7' 9"** | 5/8 | .032 | 10 | Regular | 17223 | **4L099** | **14.35** | 1.0 |
| **7' 9"** | 5/8 | .032 | 14 | Regular | 17254 | **2GM01** | **14.35** | 1.0 |
| **7' 9½"** | 1/2 | .025 | 10 | Regular | 17208 | **4L086** | **12.86** | 0.8 |
| **7' 9½"** | 1/2 | .025 | 14 | Regular | 17248 | **2GL94** | **12.86** | 0.8 |
| **7' 9½"** | 1/2 | .025 | 18 | Wavy | 17209 | **4L087** | **12.86** | 0.8 |
| **7' 9½"** | 1/2 | .025 | 4 | Hook | 17225 | **2GL58** | **12.86** | 0.8 |
| **7' 9½"** | 1/2 | .025 | 4 | Skip | 17207 | **2GL50** | **12.86** | 0.8 |
| **7' 9½"** | 1/2 | .025 | 6 | Regular | 17241 | **2GL91** | **12.86** | 0.8 |
| **7' 9½"** | 1/4 | .025 | 10 | Regular | 17235 | **4L192** | **12.27** | 0.6 |
| **7' 9½"** | 1/4 | .025 | 14 | Regular | 17237 | **4L194** | **12.27** | 0.6 |
| **7' 9½"** | 1/4 | .025 | 18 | Wavy | 17205 | **2GL48** | **12.27** | 0.6 |
| **7' 9½"** | 1/4 | .025 | 4 | Skip | 17203 | **2GL46** | **12.27** | 0.6 |
| **7' 9½"** | 1/4 | .025 | 6 | Hook | 18978 | **3NR32** | **12.27** | 0.4 |
| **7' 9½"** | 1/4 | .025 | 6 | Regular | 17233 | **2GL86** | **12.27** | 0.6 |
| **7' 9½"** | 1/4 | .025 | 6 | Skip | 17204 | **2GL47** | **12.27** | 0.6 |
| **7' 9½"** | 3/8 | .025 | 14 | Regular | 17270 | **2GM31** | **12.62** | 0.7 |
| **7' 9½"** | 3/8 | .025 | 4 | Skip | 17206 | **2GL49** | **12.62** | 0.7 |
| **7' 9½"** | 3/8 | .025 | 6 | Regular | 17238 | **2GL88** | **12.62** | 1.0 |
| **7' 9½"** | 3/8 | .025 | 8 | Regular | 17277 | **2GM67** | **12.62** | 0.7 |
| **7' 10"** | 1/2 | .025 | 14 | Regular | 18150 | **3NH48** | **12.86** | 0.6 |

CONTINUED ON NEXT PAGE

# BAND SAW BLADES

## PREMIUM HARD-BACK CARBON STEEL BAND SAW BLADES

### WELDED TO LENGTH (READY TO USE)




- Economical production cutting

**APPLICATIONS**

- Light to medium vertical and horizontal machines
- Both contour and straight cutting
- Low alloy, non-ferrous metals

High carbon steel band has a precisely hardened tooth coupled with a hardened, spring-tempered back, resulting in a high tensile strength. Greater band tension and improved blade rigidity increase cutting rates and provide more accurate cuts. Double heat treatment improves Premium Blade's strength. (Do **NOT** run blades above 3,000 SFM.)

| Length | Width (In.) | Thickness (In.) | Teeth Per Inch | Tooth Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 8' | 1/2 | .025 | 14 | Regular | 18152 | 3NH50 | $12.86 | 0.6 |
| 8' | 3/4 | .032 | 6 | Regular | 19200 | 3NV50 | 15.10 | 1.1 |
| 8' 2½" | 5/8 | .032 | 14 | Regular | 18176 | 3NH69 | 14.83 | 1.1 |
| 8' 5" | 3/4 | .032 | 10 | Regular | 17229 | 4L130 | 15.63 | 1.1 |
| 8' 5" | 3/4 | .032 | 14 | Regular | 17258 | 4L199 | 15.63 | 1.1 |
| 8' 10" | 5/8 | .032 | 14 | Regular | 18178 | 3NH71 | 15.30 | 0.9 |
| 8' 10½" | 3/4 | .032 | 6 | Regular | 17430 | 4L393 | 16.15 | 1.2 |
| 8' 10½" | 3/4 | .032 | 14 | Regular | 17431 | 4L394 | 16.15 | 1.2 |
| 8' 11" | 3/4 | .032 | 10 | Regular | 17230 | 2GL66 | 16.15 | 1.2 |
| 8' 11" | 3/4 | .032 | 14 | Regular | 17260 | 4L201 | 16.15 | 1.2 |
| 9' | 3/4 | .032 | 10 | Regular | 17210 | 2GL51 | 16.15 | 1.2 |
| 9' | 3/4 | .032 | 14 | Regular | 17259 | 2GM05 | 16.15 | 1.2 |
| 9' | 3/4 | .032 | 8 | Regular | 18053 | 3NG63 | 16.15 | 1.2 |
| 9' 3" | 1/2 | .025 | 6 | Hook | 17436 | 4L411 | 14.00 | 0.9 |
| 9' 3" | 3/4 | .032 | 8 | Regular | 17438 | 4L412 | 16.68 | 1.2 |
| 9' 3" | 3/4 | .032 | 14 | Regular | 17283 | 4L236 | 16.68 | 1.2 |
| 9' 6" | 3/4 | .032 | 10 | Regular | 17267 | 2GM23 | 16.68 | 1.2 |
| 9' 6" | 3/4 | .032 | 14 | Regular | 17268 | 4L221 | 16.68 | 1.2 |
| 9' 7" | 3/4 | .032 | 14 | Regular | 18187 | 3NH79 | 17.20 | 1.2 |
| 9' 7½" | 3/4 | .032 | 14 | Regular | 17261 | 4L202 | 17.20 | 1.2 |
| 9' 7½" | 3/4 | .032 | 10 | Regular | 17231 | 2GL67 | 17.20 | 1.2 |
| 9' 7½" | 3/4 | .032 | 18 | Wavy | 17232 | 4L131 | 17.20 | 1.2 |
| 9' 10" | 1/4 | .025 | 14 | Regular | 18124 | 3NH29 | 13.65 | 0.5 |
| 10' | 1/4 | .025 | 6 | Hook | 17434 | 4L409 | 13.65 | 0.7 |
| 10' | 1/2 | .025 | 6 | Hook | 17433 | 4L408 | 14.38 | 0.9 |
| 10' | 3/4 | .032 | 8 | Regular | 17432 | 4L407 | 17.20 | 1.3 |
| 10' | 1/2 | .025 | 10 | Regular | 17876 | 3NF36 | 14.38 | 0.7 |
| 10' | 1/2 | .025 | 14 | Regular | 18156 | 3NH53 | 14.38 | 0.7 |
| 10' | 3/4 | .032 | 10 | Regular | 18613 | 3NL98 | 17.20 | 1.2 |
| 10' 5" | 3/4 | .032 | 10 | Regular | 17212 | 4L089 | 17.72 | 1.3 |
| 10' 5" | 3/4 | .032 | 14 | Regular | 17262 | 4L203 | 17.72 | 1.3 |
| 10' 5" | 3/4 | .032 | 6 | Regular | 17255 | 2GM02 | 17.72 | 1.3 |
| 10' 5" | 3/4 | .032 | 8 | Regular | 17211 | 4L088 | 17.72 | 1.3 |
| 10' 9" | 3/4 | .032 | 10 | Regular | 17279 | 4L141 | 18.24 | 1.3 |
| 10' 10½" | 3/4 | .032 | 10 | Regular | 17214 | 4L090 | 18.24 | 1.5 |
| 10' 10½" | 3/4 | .032 | 10 | Wavy | 17215 | 2GL53 | 18.24 | 1.5 |
| 10' 10½" | 3/4 | .032 | 14 | Regular | 17263 | 2GM06 | 18.24 | 1.5 |
| 10' 10½" | 1 | .035 | 10 | Regular | 17280 | 4L101 | 21.10 | 2.0 |
| 10' 10½" | 1 | .035 | 14 | Regular | 18210 | 3NH95 | 21.10 | 1.9 |
| 10' 10½" | 1 | .035 | 8 | Regular | 17857 | 3NF24 | 21.10 | 1.9 |
| 10' 10½" | 3/4 | .032 | 14 | Wavy | 17265 | 2GM07 | 18.24 | 1.5 |
| 10' 10½" | 3/4 | .032 | 6 | Regular | 17256 | 2GM03 | 18.24 | 1.3 |
| 10' 10½" | 3/4 | .032 | 8 | Regular | 17213 | 2GL52 | 18.24 | 1.5 |
| 11' | 1 | .035 | 10 | Regular | 17269 | 2GM28 | 21.10 | 2.0 |
| 11' | 1 | .035 | 14 | Regular | 17274 | 2GM57 | 21.10 | 2.0 |
| 11' 1" | 1/2 | .025 | 6 | Hook | 17440 | 4L414 | 15.54 | 0.9 |
| 11' 1" | 3/4 | .032 | 8 | Regular | 17441 | 4L415 | 18.76 | 1.3 |
| 11' 1" | 3/4 | .032 | 14 | Regular | 17442 | 4L416 | 18.76 | 1.3 |
| 11' 5" | 3/4 | .032 | 10 | Regular | 17216 | 4L091 | 18.76 | 1.6 |
| 11' 5" | 3/4 | .032 | 14 | Regular | 17264 | 4L204 | 18.76 | 1.6 |
| 11' 6" | 3/4 | .032 | 10 | Regular | 17218 | 4L093 | 18.76 | 1.6 |
| 11' 6" | 3/4 | .032 | 14 | Regular | 17228 | 4N431 | 18.76 | 1.3 |
| 11' 6" | 1 | .035 | 6 | Regular | 17406 | 4L206 | 21.75 | 2.0 |
| 11' 6" | 1 | .035 | 10 | Regular | 17282 | 4L094 | 21.75 | 2.0 |
| 11' 6" | 1 | .035 | 14 | Regular | 18212 | 3NH96 | 21.75 | 1.3 |
| 11' 6" | 1 | .035 | 8 | Regular | 17776 | 3ND60 | 21.75 | 1.8 |
| 11' 6" | 3/4 | .032 | 10 | Wavy | 17219 | 2GL54 | 18.76 | 1.6 |
| 11' 6" | 3/4 | .032 | 14 | Wavy | 17266 | 2GM08 | 18.76 | 1.6 |
| 11' 6" | 3/4 | .032 | 18 | Wavy | 17220 | 2GL55 | 18.76 | 1.6 |
| 11' 6" | 3/4 | .032 | 6 | Regular | 17257 | 2GM04 | 18.76 | 1.6 |
| 11' 6" | 3/4 | .032 | 8 | Regular | 17217 | 4L092 | 18.76 | 1.6 |
| 11' 9" | 1 | .035 | 10 | Regular | 17435 | 4L399 | 22.39 | 2.1 |
| 11' 9" | 1 | .035 | 14 | Regular | 17048 | 4L401 | 26.40 | 2.1 |
| 12' | 1/2 | .025 | 4 | Skip | 17439 | 4L402 | 15.92 | 1.2 |
| 12' | 1 | .035 | 6 | Regular | 17284 | 4L235 | 22.39 | 2.0 |
| 12' | 1 | .035 | 10 | Regular | 17285 | 4L095 | 22.39 | 2.0 |
| 12' | 1/2 | .025 | 10 | Regular | 17782 | 3ND66 | 15.92 | 0.8 |
| 12' 6" | 1/4 | .025 | 4 | Skip | 17286 | 4L119 | 15.37 | 1.0 |
| 12' 6" | 3/8 | .025 | 4 | Skip | 17287 | 4L106 | 15.92 | 1.0 |
| 12' 6" | 1/2 | .025 | 4 | Skip | 17227 | 4L113 | 16.30 | 1.0 |
| 12' 6" | 1/2 | .025 | 10 | Regular | 17221 | 2GL56 | 16.30 | 1.2 |
| 12' 6" | 1/2 | .025 | 14 | Regular | 17249 | 2GL95 | 16.30 | 1.2 |
| 12' 6" | 1/2 | .025 | 14 | Wavy | 17272 | 4L272 | 16.30 | 1.2 |
| 12' 6" | 1/2 | .025 | 18 | Wavy | 17271 | 2GM32 | 16.30 | 1.2 |
| 12' 6" | 1/2 | .025 | 6 | Regular | 17242 | 2GL92 | 16.30 | 1.2 |
| 12' 6" | 3/8 | .025 | 6 | Hook | 19169 | 3NV21 | 15.92 | 0.7 |
| 12' 6" | 3/8 | .025 | 6 | Regular | 18571 | 3NL62 | 15.92 | 0.7 |
| 14' 6" | 3/8 | .025 | 4 | Skip | 17443 | 4L405 | 17.38 | 1.1 |
| 14' 6" | 1/2 | .025 | 4 | Skip | 17288 | 4L104 | 17.82 | 1.3 |
| 14' 6" | 1 | .035 | 6 | Regular | 17289 | 4L207 | 25.65 | 2.5 |
| 14' 6" | 3/4 | .032 | 10 | Regular | 17791 | 3ND73 | 21.89 | 1.8 |
| 14' 8" | 3/4 | .032 | 10 | Regular | 17290 | 4L096 | 22.41 | 0.8 |
| 14' 8" | 3/4 | .032 | 14 | Regular | 17281 | 4L205 | 22.41 | 1.1 |
| 14' 8" | 3/4 | .032 | 6 | Regular | 18184 | 3NH77 | 22.41 | 1.8 |
| 14' 8" | 3/4 | .032 | 8 | Regular | 17793 | 3ND74 | 22.41 | 1.8 |
| 14' 8" | 3/4 | .032 | 3 | Hook | 19170 | 3NV22 | 20.49 | 1.2 |
| 17' 8" | 1/2 | .025 | 6 | Regular | 18758 | 3NN19 | 34.80 | 3.0 |
| 21' 6" | 1 | .035 | | | | | | |

# BAND SAW BLADES

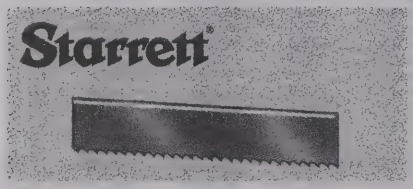
## PORTABLE BAND SAW BLADES

To allow a wide range of cutting capabilities for all standard portable band saws. Bi-Metal blades provide the best balance of metallurgical properties to resist heat, wear and shock. Flex-Back blades have a hardened tooth and flexible back. Starrett brand.




| Length | Dimensions Width (In.) | Thickness (In.) | Teeth Per Inch | To Fit Portable Band Saws from these Manufacturers | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **FLEX-BACK** | | | | | | | | |
| 3' 8⅞" | 1/2 | .020 | 10 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | HE10 | **4L049** | **$3.82** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 14 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | HE14 | **4L050** | **3.82** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 18 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | HE18 | **4L051** | **3.82** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 24 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | HE24 | **5E718** | **3.82** | 0.3 |
| 4' 5¾" | 1/2 | .020 | 14 | Greenlee, Rockwell, Porter-Cable | RHE14 | **5E719** | **3.87** | 0.3 |
| 4' 5¾" | 1/2 | .020 | 18 | Greenlee, Rockwell, Porter-Cable | RHE18 | **5E720** | **1.48** | 0.3 |
| 4' 5¾" | 1/2 | .020 | 24 | Greenlee, Rockwell, Porter-Cable | RHE24 | **5E721** | **1.48** | 0.3 |
| **BI-METAL** | | | | | | | | |
| 3' 8⅞" | 1/2 | .020 | 14 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | BM14 | **4L225** | **8.86** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 18 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | BM18 | **4L226** | **8.86** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 24 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | BM24 | **4L227** | **8.86** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 10 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | BM10 | **4L224** | **8.86** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 10 - 14 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | BM1014 | **4L285** | **8.86** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 14 - 18 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | BM1418 | **4L329** | **8.86** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 10 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | PR10 | **4L078** | **3.79** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 14 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | PR14 | **4L079** | **3.79** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 18 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | PR18 | **4L080** | **3.79** | 0.3 |
| 3' 8⅞" | 1/2 | .020 | 24 | DeWalt, Greenlee, Milwaukee, Rockwell, Ridgid, Porter-Cable, Skil | PR24 | **4L081** | **3.79** | 0.3 |
| 4' 5¾" | 1/2 | .020 | 14 | Greenlee, Rockwell, Porter-Cable | RBM14 | **4L229** | **9.60** | 0.3 |
| 4' 5¾" | 1/2 | .020 | 18 | Greenlee, Rockwell, Porter-Cable | RBM18 | **4L231** | **9.60** | 0.3 |
| 4' 5¾" | 1/2 | .020 | 24 | Greenlee, Rockwell, Porter-Cable | RBM24 | **4L232** | **9.60** | 0.3 |
| 4' 5¾" | 1/2 | .020 | 10 | Greenlee, Rockwell, Porter-Cable | RBM10 | **4L228** | **9.60** | 0.3 |
| 4' 5¾" | 1/2 | .020 | 10 - 14 | Greenlee, Rockwell, Porter-Cable | RBM1014 | **4L286** | **9.60** | 0.3 |
| 4' 5¾" | 1/2 | .020 | 14 - 18 | Greenlee, Rockwell, Porter-Cable | RBM1418 | **2GM71** | **9.60** | 0.3 |
| 4' 6" | 1/2 | .025 | 10 - 14 | Ensley, Greenlee, Porter-Cable | GBM1014 | **4L351** | **11.28** | 0.3 |
| 4' 6" | 1/2 | .025 | 14 - 18 | Ensley, Greenlee, Porter-Cable | GBM1418 | **4L352** | **11.28** | 0.3 |
| 4' 6" | 1/2 | .025 | 18 | Ensley, Greenlee, Porter-Cable | GBM18 | **4L348** | **11.28** | 0.3 |
| 4' 6" | 1/2 | .025 | 8 - 12 | Ensley, Greenlee, Porter-Cable | GBM812 | **4L349** | **11.28** | 0.3 |

## FLEX-BACK CARBON STEEL BAND SAW BLADES




- Carbon steel with precisely hardened teeth
- Standard and thin gage material
- Economical, general purpose cutting

**APPLICATIONS**

- Both contour and straight cutting
- Small light-duty machines
- Low alloy, non-ferrous metal
- Furniture, composition board
- Plastics of numerous types

Made from carbon steel with a flexible back. Ideal for general purpose cutting on easy-to-machine ferrous metal. Has an excellent fatigue factor to give long life on machines running at a high SFM, cutting non-ferrous metal and wood. (Not recommended above 10,000 SFM.) Flexible feature also suitable for absorbing contour cutting stresses.

| Length | Width (In.) | Teeth Thickness (In.) | Teeth Per Inch | Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **COIL LENGTH** | | | | | | | | |
| 100' | 1/8 | .025 | 14 | Regular | 10004 | **4L042** | **$77.60** | 1.2 |
| 100' | 1/4 | .025 | 6 | Regular | 13828 | **4L144** | **66.20** | 2.1 |
| 100' | 1/4 | .025 | 10 | Regular | 13829 | **4L145** | **66.20** | 2.1 |
| 100' | 1/4 | .025 | 14 | Regular | 13830 | **4L146** | **66.20** | 2.1 |
| 100' | 1/4 | .025 | 18 | Wavy | 10015 | **4L043** | **66.20** | 2.1 |
| 100' | 3/8 | .025 | 18 | Wavy | 10020 | **3MM74** | **63.95** | 3.2 |
| 100' | 3/8 | .025 | 4 | Hook | 10101 | **3MM98** | **63.95** | 3.2 |
| 100' | 3/8 | .025 | 6 | Regular | 13831 | **3MT10** | **63.95** | 3.2 |
| 100' | 3/8 | .025 | 8 | Regular | 13832 | **3MT11** | **63.95** | 3.2 |
| 100' | 3/8 | .025 | 10 | Regular | 13833 | **4L147** | **71.85** | 3.2 |
| 100' | 3/8 | .025 | 14 | Regular | 13834 | **4L148** | **71.85** | 3.2 |
| 100' | 1/2 | .025 | 6 | Regular | 13835 | **4L149** | **73.70** | 4.3 |
| 100' | 1/2 | .025 | 10 | Regular | 10025 | **4L044** | **73.70** | 4.3 |
| 100' | 1/2 | .025 | 14 | Regular | 13837 | **4L150** | **73.70** | 4.3 |
| 100' | 1/2 | .025 | 18 | Wavy | 10029 | **4L045** | **73.70** | 4.3 |
| 100' | 1/2 | .025 | 24 | Wavy | 10061 | **3MM86** | **65.65** | 4.3 |
| 100' | 1/2 | .025 | 3 | Hook | 10104 | **3MM99** | **65.65** | 4.3 |
| 100' | 1/2 | .025 | 4 | Hook | 10105 | **3MN01** | **65.65** | 4.3 |
| 250' | 3/8 | .025 | 3 | Hook | 10209 | **4L047** | **180.00** | 8.5 |
| 250' | 1/2 | .025 | 14 | Regular | 13855 | **4L151** | **184.50** | 11.0 |
| 250' | 1 | .035 | 2 | Hook | 10220 | **4L048** | **317.25** | 8.5 |
| **WELDED TO LENGTH (READY TO USE)** | | | | | | | | |
| 4' 4½" | 1/2 | .020 | 14 | Regular | 17444 | **4L373** | **9.90** | 0.5 |
| 4' 4½" | 1/2 | .020 | 18 | Wavy | 17445 | **4L374** | **9.90** | 0.5 |
| 4' 8⅛" | 1/8 | .025 | 14 | Regular | 17446 | **4L419** | **10.51** | 0.1 |
| 4' 8⅛" | 1/4 | .014 | 6 | Skip | 17191 | **4L307** | **9.15** | 0.3 |
| 4' 8⅛" | 3/8 | .014 | 6 | Skip | 17447 | **4L375** | **9.23** | 0.5 |
| 5' | 1/2 | .025 | 10 | Regular | 17192 | **4L052** | **10.25** | 0.4 |
| 5' | 1/2 | .025 | 14 | Regular | 17158 | **4L179** | **10.25** | 0.5 |
| 5' | 1/2 | .025 | 18 | Wavy | 17120 | **4L053** | **10.25** | 0.5 |
| 5' 4½" | 1/2 | .025 | 10 | Regular | 17143 | **4L097** | **10.61** | 0.5 |
| 5' 4½" | 1/2 | .025 | 14 | Regular | 17159 | **4L181** | **10.61** | 0.5 |
| 5' 4½" | 1/2 | .025 | 14 | Wavy | 17152 | **4L177** | **10.61** | 0.5 |
| 5' 4½" | 1/2 | .025 | 18 | Wavy | 17121 | **4L054** | **10.61** | 0.5 |
| 5' 4½" | 1/2 | .025 | 24 | Wavy | 17171 | **4L234** | **10.61** | 0.5 |
| 5' 8" | 1/2 | .025 | 10 | Regular | 17448 | **4L376** | **10.96** | 0.6 |
| 5' 8" | 1/2 | .025 | 14 | Regular | 17449 | **4L377** | **10.96** | 0.6 |
| 6' | 1/8 | .025 | 18 | Regular | 19238 | **3NV88** | **11.25** | 0.6 |
| 6' 1" | 1/2 | .025 | 14 | Regular | 17193 | **4L219** | **11.31** | 0.5 |
| 6' 1" | 1/2 | .025 | 18 | Wavy | 17450 | **4L379** | **11.31** | 0.6 |
| 6' 8" | 1/8 | .025 | 14 | Regular | 17148 | **2GL61** | **12.00** | 0.6 |
| 6' 8" | 1/8 | .025 | 18 | Regular | 17149 | **2GL65** | **12.00** | 0.6 |

# BAND SAW BLADES AND ACCESSORIES

## FLEX-BACK CARBON STEEL BAND SAW BLADES (cont'd.)



- Carbon steel with precisely hardened teeth
- Standard and thin gage material
- Economical, general purpose cutting

**APPLICATIONS**

- Both contour and straight cutting
- Small light-duty machines
- Low alloy, non-ferrous metal
- Furniture, composition board
- Plastics of numerous types

Made from carbon steel with a flexible back. Ideal for general purpose cutting on easy-to-machine ferrous metal. Has an excellent fatigue factor to give long life on machines running at a high SFM, cutting non-ferrous metal and wood. (Not recommended above 10,000 SFM.) Flexible feature also suitable for absorbing contour cutting stresses.



No. 4K940

Starrett

Made In U.S.A.



No. 4K582

## BAND SAW ALIGNMENT GAGE

" band saw alignment gage used for aligning blades on band saw machines for traight cuts. Starrett brand (PT92925).

lo. 4K940. Shpg. wt. 0.2 lbs. Each.....$10.71▲

## SAW TENSION GAGE

Checks for proper blade tension in either nglish or metric. Graduated both in ounds and kilograms. Gage can be read irectly on either band saws or power acksaws. Reads up to 60,000 PSI or 4,000 ilograms. Furnished with instructions, ncluding suggested tensions. Starrett rand (682EMZ).

o. 4K582. Shpg. wt. 2.0 lbs. Each.....$329.00▲

▲) Net prices, not subject to discounts.

| Length (In.) | Width (In.) | Teeth Thickness (In.) | Teeth Per Inch | Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 5'8" | 1/2 | .025 | 14 | Regular | 17449 | 4L377 | $10.96 | 0.6 |
| 6'1" | 1/2 | .025 | 14 | Regular | 17193 | 4L219 | 11.31 | 0.5 |
| 6'1" | 1/2 | .025 | 18 | Wavy | 17450 | 4L379 | 11.31 | 0.6 |
| 6'8" | 1/8 | .025 | 18 | Regular | 17149 | 2GL65 | 12.00 | 0.6 |
| 6'8" | 1/4 | .025 | 10 | Regular | 17173 | 2GM27 | 11.25 | 0.6 |
| 6'8" | 1/4 | .025 | 14 | Regular | 17151 | 2GL79 | 11.25 | 0.6 |
| 6'8" | 1/4 | .025 | 6 | Regular | 17184 | 2GM62 | 11.25 | 0.5 |
| 6'8" | 1/4 | .025 | 14 | Regular | 17148 | 2GL61 | 12.00 | 0.6 |
| 6'9" | 1/2 | .025 | 14 | Regular | 17194 | 4L182 | 11.65 | 1.0 |
| 6'9" | 1/2 | .025 | 18 | Wavy | 17451 | 4L381 | 11.65 | 0.8 |
| 7'2" | 1/2 | .025 | 14 | Regular | 17452 | 4L383 | 12.00 | 0.8 |
| 7'2" | 1/2 | .025 | 18 | Wavy | 17453 | 4L384 | 12.00 | 0.8 |
| 7'5" | 1/2 | .025 | 14 | Regular | 17160 | 4L183 | 12.00 | 0.8 |
| 7'5" | 1/2 | .025 | 18 | Wavy | 17123 | 4L056 | 12.00 | 0.8 |
| 7'5" | 1/2 | .025 | 10 | Regular | 17122 | 4L055 | 12.00 | 0.8 |
| 7'5" | 1/2 | .025 | 6 | Regular | 17180 | 2GM52 | 12.00 | 0.8 |
| 7'6" | 1/2 | .025 | 10 | Regular | 17658 | 3NC62 | 12.00 | 0.6 |
| 7'6" | 1/2 | .025 | 6 | Regular | 17454 | 4L385 | 12.00 | 0.8 |
| 7'6" | 1/2 | .025 | 14 | Regular | 17195 | 4L184 | 12.00 | 1.0 |
| 7'9" | 1/4 | .025 | 4 | Skip | 17455 | 4L386 | 11.90 | 0.7 |
| 7'9" | 1/2 | .025 | 4 | Skip | 17196 | 4L057 | 12.35 | 0.8 |
| 7'9" | 1/2 | .025 | 14 | Regular | 17161 | 4L185 | 12.35 | 0.8 |
| 7'9" | 3/4 | .025 | 8 | Regular | 17278 | 4L353 | 14.58 | 1.1 |
| 7'9" | 3/4 | .025 | 10 | Regular | 17185 | 4L309 | 14.58 | 1.1 |
| 7'9" | 3/4 | .025 | 14 | Regular | 17189 | 4L341 | 14.58 | 1.1 |
| 7'9" | 1/2 | .025 | 10 | Regular | 17124 | 4L058 | 12.35 | 0.8 |
| 7'9" | 1/2 | .025 | 18 | Wavy | 17125 | 4L059 | 12.35 | 0.8 |
| 7'9" | 1/2 | .025 | 6 | Regular | 17155 | 2GL82 | 12.35 | 0.8 |
| 7'9" | 3/4 | .032 | 6 | Regular | 17190 | 4L343 | 14.58 | 1.1 |
| 7'9" | 5/8 | .032 | 10 | Regular | 17126 | 4L060 | 13.96 | 1.1 |
| 7'9" | 5/8 | .032 | 14 | Regular | 17163 | 2GL84 | 13.96 | 1.0 |
| 7'9½" | 1/8 | .025 | 14 | Regular | 17127 | 4L061 | 12.75 | 0.6 |
| 7'9½" | 1/8 | .025 | 18 | Regular | 17128 | 4L062 | 12.75 | 0.6 |
| 7'9½" | 1/4 | .025 | 10 | Regular | 18060 | 3NG69 | 11.90 | 0.4 |
| 7'9½" | 1/4 | .025 | 14 | Regular | 18064 | 3NG72 | 11.90 | 0.4 |
| 7'9½" | 1/4 | .025 | 6 | Regular | 17174 | 2GM29 | 11.90 | 0.6 |
| 7'9½" | 1/4 | .025 | 4 | Skip | 17129 | 4L063 | 11.90 | 0.6 |
| 7'9½" | 1/4 | .025 | 6 | Skip | 17130 | 4L064 | 11.90 | 0.6 |
| 7'9½" | 3/8 | .025 | 14 | Regular | 17156 | 2GL80 | 12.23 | 1.3 |
| 7'9½" | 3/8 | .025 | 4 | Skip | 17131 | 4L065 | 12.23 | 0.7 |
| 7'9½" | 1/2 | .025 | 4 | Skip | 17132 | 4L066 | 12.35 | 0.8 |
| 7'9½" | 1/2 | .025 | 10 | Regular | 17133 | 4L067 | 12.35 | 0.8 |
| 7'9½" | 1/2 | .025 | 14 | Regular | 17162 | 4L186 | 12.35 | 0.8 |
| 7'9½" | 1/2 | .025 | 6 | Regular | 17156 | 2GL83 | 12.35 | 0.8 |
| 7'9½" | 1/2 | .025 | 14 | Regular | 17162 | 2GL81 | 12.23 | 1.2 |
| 8' 5" | 3/4 | .032 | 10 | Regular | 17181 | 2GM54 | 15.06 | 1.1 |
| 8' 5" | 3/4 | .032 | 14 | Regular | 17172 | 2GM24 | 15.06 | 1.1 |
| 8' 11" | 3/4 | .032 | 10 | Regular | 17147 | 2GL60 | 15.55 | 1.3 |
| 8' 11" | 3/4 | .032 | 14 | Regular | 18106 | 3NH11 | 15.55 | 1.2 |
| 8' 11" | 3/4 | .032 | 6 | Regular | 17182 | 2GM55 | 15.55 | 1.2 |
| 8' 11" | 3/4 | .032 | 8 | Regular | 17183 | 2GM56 | 15.55 | 1.2 |
| 9' | 3/4 | .032 | 10 | Regular | 17134 | 2GL43 | 15.55 | 1.2 |
| 9' | 3/4 | .032 | 14 | Regular | 17169 | 2GM21 | 15.55 | 1.2 |
| 9' | 3/4 | .032 | 6 | Regular | 17175 | 2GM30 | 15.55 | 1.2 |
| 9' | 3/4 | .032 | 8 | Regular | 17178 | 2GM49 | 15.55 | 1.2 |
| 9' 6" | 3/4 | .032 | 10 | Regular | 17177 | 2GM37 | 16.04 | 1.2 |
| 9' 6" | 3/4 | .032 | 14 | Regular | 17179 | 2GM51 | 16.04 | 1.2 |
| 9' 7½" | 3/4 | .032 | 10 | Regular | 17150 | 4L129 | 16.52 | 1.1 |
| 9' 7½" | 3/4 | .032 | 14 | Regular | 17170 | 2GM22 | 16.52 | 1.2 |
| 9' 7½" | 3/4 | .032 | 8 | Regular | 17186 | 2GM72 | 16.52 | 1.2 |
| 10' | 1/2 | .025 | 10 | Regular | 17694 | 3NC93 | 13.75 | 0.7 |
| 10' | 3/4 | .032 | 10 | Regular | 19063 | 3NT14 | 16.52 | 1.2 |
| 10' | 3/4 | .032 | 14 | Regular | 19205 | 3NV55 | 16.52 | 1.2 |
| 10' | 3/4 | .032 | 8 | Regular | 19278 | 3UW29 | 16.52 | 1.2 |
| 10'5" | 3/4 | .032 | 10 | Regular | 17136 | 4L069 | 17.01 | 1.3 |
| 10'5" | 3/4 | .032 | 14 | Regular | 17165 | 4L187 | 17.01 | 1.3 |
| 10'5" | 3/4 | .032 | 8 | Regular | 17135 | 4L068 | 17.01 | 1.3 |
| 10'10½" | 1 | .035 | 10 | Regular | 17847 | 3NF16 | 24.44 | 2.3 |
| 10'10½" | 1 | .035 | 14 | Regular | 18114 | 3NH19 | 20.17 | 1.7 |
| 10'10½" | 1 | .035 | 8 | Regular | 18735 | 3NM98 | 20.17 | 1.8 |
| 10'10½" | 3/4 | .032 | 10 | Regular | 17138 | 4L071 | 17.51 | 1.5 |
| 10'10½" | 3/4 | .032 | 14 | Regular | 17166 | 4L188 | 17.51 | 1.5 |
| 10'10½" | 3/4 | .032 | 8 | Regular | 17137 | 4L070 | 17.51 | 1.5 |
| 11' | 1 | .035 | 10 | Regular | 17145 | 4L103 | 20.17 | 2.0 |
| 11' | 1 | .035 | 14 | Regular | 17188 | 2GM74 | 20.17 | 2.0 |
| 11' | 1 | .035 | 6 | Regular | 17187 | 2GM73 | 20.17 | 2.0 |
| 11' | 1 | .035 | 8 | Regular | 17144 | 4L098 | 20.17 | 2.0 |
| 11'5" | 3/4 | .032 | 10 | Regular | 17139 | 4L072 | 17.99 | 1.6 |
| 11'5" | 3/4 | .032 | 14 | Regular | 17167 | 4L189 | 17.99 | 1.8 |
| 11'6" | 1 | .035 | 10 | Regular | 17704 | 3ND01 | 20.79 | 1.8 |
| 11'6" | 1 | .035 | 14 | Regular | 18115 | 3NH20 | 20.79 | 1.8 |
| 11'6" | 1 | .035 | 6 | Regular | 18110 | 3NH15 | 20.79 | 1.6 |
| 11'6" | 1 | .035 | 8 | Regular | 17703 | 3NC99 | 20.79 | 1.8 |
| 11'6" | 3/4 | .032 | 10 | Regular | 17141 | 4L074 | 17.99 | 1.6 |
| 11'6" | 3/4 | .032 | 14 | Regular | 17168 | 4L191 | 17.99 | 1.8 |
| 11'6" | 3/4 | .032 | 6 | Regular | 17164 | 2GL85 | 17.99 | 1.6 |
| 11'6" | 3/4 | .032 | 8 | Regular | 17140 | 4L073 | 17.99 | 1.6 |
| 12'6" | 1/2 | .025 | 10 | Regular | 17142 | 4L075 | 15.49 | 1.2 |
| 12'6" | 1/2 | .025 | 14 | Regular | 18089 | 3NG94 | 15.49 | 0.8 |

# BAND SAW BLADES

## FLEX-BACK CARBON STEEL BAND SAW BLADES (cont'd.)

| Length | Width (In.) | Thickness (In.) | Teeth Per Inch | Tooth Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **WELDED TO LENGTH (READY TO USE)** | | | | | | | | |
| 12' 6" | 1/2 | .025 | 18 | Wavy | 17146 | 4L105 | $15.49 | 1.9 |
| 12' 6" | 1/2 | .025 | 6 | Regular | 17157 | 4L178 | 15.49 | 1.2 |
| 12' 6" | 1 | .035 | 10 | Regular | 18792 | 3NN48 | 22.00 | 2.1 |
| 12' 6" | 1 | .035 | 6 | Regular | 18112 | 3NH17 | 22.00 | 2.1 |
| 19' 6" | 5/8 | .032 | 8 | Regular | 18037 | 3NG53 | 24.30 | 2.0 |

## POWERBAND MATRIX II BI-METAL HIGH SPEED STEEL BAND SAW BLADES




- Bi-metal blade with Matrix II high speed edge containing 8% cobalt
- Tooth hardness RC65-67

APPLICATIONS

- General cutting on light-to-medium duty vertical and horizontal machines
- Production cutting for steel, iron, aluminum, and stainless steel
- Contour cutting, irregular shapes and structurals

Powerband is the ideal general purpose metal sawing blade. It has a Matrix II high speed steel cutting edge welded to an alloy back, selected for its toughness and ductility. Matrix II provides the best balance of metallurgical properties to resist heat, abrasion, and shock in most production cutting operations for long blade life. Assures faster cutting rates over a wide range of materials.

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

| Length | Width (In.) | Thickness (In.) | Teeth Per Inch | Tooth Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **COIL LENGTHS** | | | | | | | | |
| 100 | 1/2 | .025 | 8-12 | Variable | 15845 | 3MW89 | $267.25 | 6.0 |
| 100 | 3/8 | .025 | 8-12 | Variable | 15840 | 3MW86 | 363.00 | 4.6 |
| 100 | 1/4 | .025 | 10-14 | Variable | 15835 | 4L303 | 286.50 | 2.1 |
| 100 | 3/8 | .025 | 10-14 | Variable | 15841 | 4L304 | 286.50 | 3.2 |
| 100 | 1/2 | .025 | 4 | Hook | 15843 | 4L305 | 286.50 | 4.3 |
| 100 | 1/2 | .025 | 10-14 | Variable | 15846 | 4L306 | 286.50 | 4.3 |
| 150* | 3/4 | .035 | 10 | Regular | 13965 | 4L161 | 528.50 | 14.0 |
| 150* | 3/4 | .035 | 10-14 | Variable | 15402 | 4L263 | 528.50 | 14.0 |
| 150* | 3/4 | .035 | 14 | Regular | 14352 | 4L218 | 528.50 | 14.0 |

(*) NOTE: Above coils are shipped random length which may vary plus or minus 10%.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **WELDED TO LENGTH (READY TO USE)** | | | | | | | | |
| 5' | 1/2 | .025 | 10-14 | Variable | 17400 | 4L347 | 19.57 | 0.6 |
| 5' 4½" | 1/2 | .035 | 10-14 | Variable | 17360 | 2GM38 | 22.09 | 0.6 |
| 5' 4½" | 1/2 | .020 | 10-14 | Variable | 17382 | 2GM59 | 18.83 | 0.3 |
| 5' 4½" | 1/2 | .025 | 10-14 | Variable | 17393 | 2GM79 | 20.79 | 0.3 |
| 5' 4½" | 1/2 | .025 | 14 | Regular | 17064 | 4L418 | 20.79 | 0.6 |
| 5' 4½" | 1/2 | .025 | 18 | Wavy | 17395 | 2GM81 | 20.79 | 0.5 |
| 5' 4½" | 1/2 | .025 | 14-18 | Variable | 17392 | 5E722 | 20.79 | 0.3 |
| 5' 8" | 1/2 | .025 | 10-14 | Variable | 17456 | 4L378 | 22.01 | 0.6 |
| 6' 9" | 1/2 | .025 | 10-14 | Variable | 17457 | 4L382 | 24.46 | 0.9 |
| 7' 5" | 1/2 | .035 | 10-14 | Variable | 17361 | 2GM39 | 27.45 | 0.9 |
| 7' 9" | 1/2 | .025 | 10-14 | Variable | 17088 | 4L331 | 26.90 | 0.8 |
| 7' 9" | 1/2 | .035 | 10-14 | Variable | 17411 | 4L261 | 28.80 | 0.8 |
| 7' 9" | 1/2 | .025 | 18 | Wavy | 17458 | 4L387 | 26.90 | 1.0 |
| 7' 9" | 3/4 | .035 | 14 | Regular | 17402 | 4L346 | 33.45 | 1.1 |
| 7' 9½" | 1/4 | .025 | 6 | Hook | 17459 | 4L388 | 26.90 | 0.7 |
| 7' 9½" | 3/8 | .025 | 4 | Hook | 17460 | 4L389 | 26.90 | 0.8 |
| 7' 9½" | 1/2 | .025 | 4 | Hook | 17461 | 4L391 | 26.90 | 1.0 |
| 8' 5" | 3/4 | .035 | 10-14 | Variable | 17403 | 4L392 | 35.05 | 1.2 |
| 8' 10½" | 3/4 | .035 | 10-14 | Variable | 17404 | 4L345 | 36.70 | 1.2 |
| 9' 3" | 3/4 | .035 | 10-14 | Variable | 17467 | 4L413 | 38.35 | 1.2 |
| 7' 5" | 1/2 | .025 | 10-14 | Variable | 17401 | 4L354 | 25.70 | 0.8 |
| 7' 5" | 1/2 | .035 | 10 | Regular | 17334 | 2GM09 | 27.45 | 0.8 |
| 7' 5" | 1/2 | .035 | 14 | Regular | 17336 | 2GM11 | 27.45 | 0.8 |
| 7' 9" | 3/4 | .035 | 10-14 | Variable | 18970 | 3NR24 | 33.45 | 1.1 |
| 10' | 3/4 | .035 | 6-10 | Variable | 18726 | 3NM89 | 39.95 | 1.3 |
| 10'5" | 3/4 | .035 | 8-12 | Variable | 17379 | 2GM53 | 41.60 | 1.3 |
| 10'10½" | 1 | .035 | 8-12 | Variable | 17353 | 4L223 | 48.10 | 2.0 |
| 10'10½" | 1 | .035 | 8 | Regular | 17347 | 2GM18 | 48.10 | 2.0 |
| 10'10½" | 3/4 | .035 | 5-8 | Variable | 17318 | 4L165 | 43.20 | 1.6 |
| 10'10½" | 3/4 | .035 | 8-12 | Variable | 17327 | 2GL77 | 43.20 | 1.6 |
| 10' | 3/4 | .035 | 10-14 | Variable | 17407 | 4L339 | 39.95 | 1.3 |
| 10'5" | 3/4 | .035 | 10 | Regular | 17342 | 4L208 | 41.60 | 1.3 |
| 10'5" | 3/4 | .035 | 10-14 | Variable | 17364 | 4L264 | 41.60 | 1.3 |
| 10'5" | 3/4 | .035 | 14 | Regular | 17462 | 4L395 | 41.60 | 1.3 |
| 10'9" | 3/4 | .035 | 4-6 | Variable | 17465 | 4L396 | 43.20 | 1.4 |
| 10'9" | 3/4 | .035 | 6-10 | Variable | 17463 | 4L397 | 43.20 | 1.4 |
| 10'10½" | 3/4 | .035 | 6-10 | Variable | 17301 | 4L132 | 43.20 | 1.6 |
| 10'10½" | 3/4 | .035 | 10 | Regular | 17343 | 4L209 | 43.20 | 1.6 |
| 10'10½" | 3/4 | .035 | 10-14 | Variable | 17365 | 2GM41 | 43.20 | 1.6 |
| 10'10½" | 1 | .035 | 4 | Regular | 17464 | 4L398 | 48.10 | 1.3 |
| 10'10½" | 1 | .035 | 4-6 | Variable | 17304 | 4L135 | 48.10 | 2.0 |
| 10'10½" | 1 | .035 | 5-8 | Variable | 17358 | 4L237 | 48.10 | 2.0 |
| 10'10½" | 1 | .035 | 6-10 | Variable | 17306 | 4L136 | 48.10 | 2.0 |
| 10'10½" | 1 | .035 | 10 | Regular | 17349 | 4L214 | 48.10 | 2.0 |
| 10'10½" | 1 | .035 | 10-14 | Variable | 17369 | 4L266 | 48.10 | 2.0 |
| 11' | 1 | .035 | 10-14 | Variable | 17385 | 4L308 | 48.10 | 2.0 |
| 11' | 1 | .035 | 4-6 | Variable | 17391 | 4L316 | 48.10 | 2.0 |
| 11' | 1 | .035 | 5-8 | Variable | 17357 | 2GM35 | 48.10 | 2.0 |
| 11' | 1 | .035 | 8-12 | Variable | 17359 | 2GM36 | 48.10 | 2.0 |
| 11' | 1 | .035 | 6-10 | Variable | 17378 | 4L315 | 44.85 | 2.1 |
| 11'1" | 3/4 | .035 | 10-14 | Variable | 17469 | 2GM50 | 48.10 | 2.0 |
| 11'1" | 3/4 | .035 | 10-14 | Variable | 17410 | 4L417 | 44.85 | 1.6 |
| 11'6" | 1 | .035 | 3-4 | Variable | 18789 | 3NN45 | 11.90 | 0.4 |
| 11'6" | 1 | .035 | 5-8 | Variable | 17321 | 4L168 | 49.95 | 2.1 |
| 11'6" | 1 | .035 | 8-12 | Variable | 17330 | 4L174 | 49.95 | 2.1 |
| 11'6" | 1 | .035 | 8 | Regular | 17348 | 2GM19 | 49.95 | 2.1 |
| 11'6" | 3/4 | .035 | 6 | Regular | 17338 | 2GM13 | 44.85 | 1.6 |
| 11'6" | 3/4 | .035 | 8-12 | Variable | 17328 | 4L172 | 44.85 | 1.6 |
| 11'6" | 3/4 | .035 | 8 | Regular | 17340 | 2GM15 | 44.85 | 1.6 |

CONTINUED ON NEXT PAGE

# POWERBAND MATRIX II BI-METAL HIGH SPEED STEEL BAND SAW BLADES (cont'd.)

Starrett

Made in U.S.A.



- Bi-metal blade with Matrix II high speed edge containing 8% cobalt
- Tooth hardness RC65-67

## APPLICATIONS

- General cutting on light-to-medium duty vertical and horizontal machines
- Production cutting for steel, iron, aluminum, and stainless steel
- Contour cutting, irregular shapes and structurals

Powerband is the ideal general purpose metal sawing blade. It has a Matrix II high speed steel cutting edge welded to an alloy back, selected for its toughness and ductility. Matrix II provides the best balance of metallurgical properties to resist heat, abrasion, and shock in most production cutting operations for long blade life. Assures faster cutting rates over a wide range of materials.

### A NATIONWIDE NETWORK OF BRANCH LOCATIONS

Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.

| Length (In.) | Width (In.) | Thickness (In.) | Teeth Per Inch | Teeth Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **WELD TO LENGTH (READY TO USE)** | | | | | | | | |
| 11' 6" | 3/4 | .035 | 4-6 | Variable | 17295 | 4L120 | $44.85 | 1.6 |
| 11' 6" | 3/4 | .035 | 5-8 | Variable | 17319 | 4L166 | 44.85 | 1.6 |
| 11' 6" | 3/4 | .035 | 6-10 | Variable | 17302 | 4L133 | 44.85 | 1.6 |
| 11' 6" | 3/4 | .035 | 10 | Regular | 17344 | 4L211 | 44.85 | 1.6 |
| 11' 6" | 3/4 | .035 | 10-14 | Variable | 17366 | 4L265 | 44.85 | 1.6 |
| 11' 6" | 3/4 | .035 | 14 | Regular | 17405 | 4L355 | 44.85 | 1.6 |
| 11' 6" | 1 | .035 | 4-6 | Variable | 17299 | 4L125 | 49.95 | 2.0 |
| 11' 6" | 1 | .035 | 6-10 | Variable | 17296 | 4L122 | 49.95 | 2.0 |
| 11' 6" | 1 | .035 | 10 | Regular | 17350 | 4L216 | 49.95 | 2.0 |
| 11' 6" | 1 | .035 | 10-14 | Variable | 17370 | 4L267 | 49.95 | 2.0 |
| 12' | 1¼ | .042 | 6-10 | Variable | 17376 | 2GM48 | 59.20 | 3.3 |
| 12' | 1 | .035 | 10-14 | Variable | 17371 | 2GM44 | 51.80 | 2.1 |
| 12' | 1 | .035 | 5-8 | Variable | 17322 | 2GL74 | 51.80 | 2.1 |
| 12' | 1 | .035 | 8-12 | Variable | 17331 | 2GL78 | 51.80 | 2.1 |
| 12' | 1 | .035 | 3-4 | Variable | 17377 | 4L269 | 51.80 | 2.1 |
| 12' | 1 | .035 | 4-6 | Variable | 17291 | 4L110 | 51.80 | 2.1 |
| 12' | 1 | .035 | 6 | Regular | 17346 | 4L213 | 51.80 | 2.1 |
| 12' | 1 | .035 | 6-10 | Variable | 17294 | 4L114 | 51.80 | 2.1 |
| 12' | 1 | .035 | 10 | Regular | 17408 | 4L217 | 51.80 | 2.1 |
| 12' | 1¼ | .042 | 3-4 | Variable | 17468 | 4L403 | 59.20 | 3.3 |
| 12' | 1¼ | .042 | 4-6 | Variable | 17300 | 4L126 | 59.20 | 3.3 |
| 12' | 1¼ | .042 | 5-8 | Variable | 17375 | 2GM47 | 59.20 | 3.3 |
| 12' 6" | 1/2 | .025 | 14 | Regular | 17337 | 2GM12 | 40.85 | 1.2 |
| 12' 6" | 1 | .035 | 3-4 | Variable | 19137 | 3NT88 | 53.65 | 1.5 |
| 12' 6" | 1 | .035 | 5-8 | Variable | 17323 | 4L169 | 53.65 | 2.1 |
| 12' 6" | 1 | .035 | 8-12 | Variable | 17332 | 4L175 | 53.65 | 2.2 |
| 13' 3" | 1 | .035 | 3-4 | Variable | 18890 | 3NP44 | 57.35 | 2.3 |
| 13' 3" | 1 | .035 | 4-6 | Variable | 18856 | 3NP11 | 57.35 | 2.1 |
| 13' 3" | 1 | .035 | 5-8 | Variable | 18891 | 3NP45 | 57.35 | 2.3 |
| 13' 3" | 1 | .035 | 6-10 | Variable | 18809 | 3NN64 | 57.35 | 2.3 |
| 13' 5" | 1¼ | .042 | 3-4 | Variable | 17394 | 2GM80 | 65.70 | 3.6 |
| 13' 6" | 1¼ | .042 | 3-4 | Variable | 18771 | 3NN29 | 65.70 | 3.6 |
| 13' 6" | 1¼ | .042 | 4-6 | Variable | 17298 | 2GL62 | 65.70 | 3.6 |
| 13' 6" | 1¼ | .042 | 5-8 | Variable | 17387 | 2GM65 | 65.70 | 3.6 |
| 13' 6" | 1¼ | .042 | 6-10 | Variable | 17311 | 2GL69 | 65.70 | 3.6 |
| 13' 6" | 1 | .035 | 3-4 | Variable | 18808 | 3NN63 | 57.35 | 2.1 |
| 13' 6" | 1 | .035 | 4-6 | Variable | 17292 | 4L111 | 57.35 | 2.3 |
| 13' 6" | 1 | .035 | 5-8 | Variable | 17355 | 2GM26 | 57.35 | 2.3 |
| 13' 6" | 1 | .035 | 6-10 | Variable | 17308 | 4L138 | 57.35 | 2.3 |
| 13' 6" | 1 | .035 | 8-12 | Variable | 17380 | 4L271 | 57.35 | 2.3 |
| 13' 11" | 1 | .035 | 10-14 | Variable | 17372 | 2GM45 | 59.20 | 2.4 |
| 13' 11" | 1 | .035 | 4-6 | Variable | 17917 | 3NF65 | 59.20 | 2.2 |
| 13' 11" | 1 | .035 | 5-8 | Variable | 17397 | 2GM82 | 59.20 | 2.3 |
| 13' 11" | 1 | .035 | 6-10 | Variable | 17309 | 4L139 | 59.20 | 2.3 |
| 13' 11" | 1 | .035 | 8-12 | Variable | 17374 | 2GM46 | 59.20 | 2.4 |
| 14' 6" | 1¼ | .042 | 2-3 | Variable | 18963 | 3NR17 | 70.00 | 3.8 |
| 14' 6" | 1¼ | .042 | 3-4 | Variable | 17945 | 3NF84 | 70.00 | 3.3 |
| 14' 6" | 1¼ | .042 | 3-4 | Variable | 17381 | 2GM58 | 70.00 | 3.8 |
| 14' 6" | 1¼ | .042 | 4-6 | Variable | 17313 | 4L142 | 70.00 | 3.8 |
| 14' 6" | 1¼ | .042 | 5-8 | Variable | 17325 | 2GL75 | 70.00 | 3.8 |
| 14' 6" | 1¼ | .042 | 6-10 | Variable | 17312 | 2GL70 | 70.00 | 3.8 |
| 14' 6" | 1 | .035 | 10 | Regular | 17351 | 2GM20 | 61.05 | 2.4 |
| 14' 6" | 1 | .035 | 3-4 | Variable | 17389 | 2GM69 | 61.05 | 2.4 |
| 14' 6" | 1 | .035 | 5-8 | Variable | 17324 | 4L171 | 61.05 | 2.4 |
| 14' 6" | 1 | .035 | 8-12 | Variable | 17333 | 4L176 | 61.05 | 2.4 |
| 14' 6" | 3/4 | .035 | 5-8 | Variable | 18700 | 3NM67 | 54.60 | 1.7 |
| 14' 6" | 3/4 | .035 | 8 | Regular | 17341 | 2GM16 | 54.60 | 1.9 |
| 14' 8" | 3/4 | .035 | 10-14 | Variable | 17368 | 2GM43 | 56.25 | 1.9 |
| 14' 8" | 3/4 | .035 | 10 | Regular | 17345 | 4L212 | 56.25 | 1.9 |
| 14' 8" | 3/4 | .035 | 4-6 | Variable | 17396 | 4L342 | 56.25 | 1.9 |
| 14' 8" | 3/4 | .035 | 5-8 | Variable | 17320 | 4L167 | 56.25 | 1.9 |
| 14' 8" | 3/4 | .035 | 6-10 | Variable | 17303 | 4L134 | 56.25 | 2.0 |
| 14' 8" | 3/4 | .035 | 6 | Regular | 17339 | 2GM14 | 56.25 | 1.9 |
| 14' 8" | 3/4 | .035 | 8-12 | Variable | 17329 | 4L173 | 56.25 | 1.9 |
| 15' | 1¼ | .042 | 3-4 | Variable | 17386 | 2GM64 | 72.20 | 3.9 |
| 15' | 1¼ | .042 | 4-6 | Variable | 17297 | 4L124 | 72.20 | 3.9 |
| 15' | 1¼ | .042 | 5-8 | Variable | 17326 | 2GL76 | 72.20 | 3.8 |
| 15' 6" | 1¼ | .042 | 3-4 | Variable | 17384 | 2GM61 | 74.35 | 4.0 |
| 15' 6" | 1 | .035 | 4-6 | Variable | 17918 | 3NF66 | 64.75 | 2.3 |
| 15' 8" | 1¼ | .042 | 4-6 | Variable | 17315 | 2GL71 | 76.50 | 4.0 |
| 15' 8" | 1¼ | .042 | 6-10 | Variable | 17383 | 2GM60 | 76.50 | 4.0 |
| 15' 8" | 3/4 | .035 | 6-10 | Variable | 17388 | 2GM68 | 59.50 | 2.0 |
| 16' | 1¼ | .042 | 4-6 | Variable | 17390 | 2GM70 | 76.50 | 4.0 |
| 17' 6" | 1½ | .050 | 2-3 | Variable | 17398 | 2GM83 | 106.05 | 5.7 |
| 17' 6" | 1½ | .050 | 3-4 | Variable | 17399 | 2GM84 | 106.05 | 5.7 |
| 18' 10" | 1½ | .050 | 4-6 | Variable | 17356 | 2GM33 | 114.45 | 6.1 |

CONTINUED ON NEXT PAGE

# BAND SAW BLADES AND BLADE WELDER

## POWERBAND MATRIX II BI-METAL HIGH SPEED STEEL BAND SAW BLADES

Starrett®

Made in U.S.A.



- Bi-metal blade with Matrix II high speed edge containing 8% cobalt
- Tooth hardness RC65-67

APPLICATIONS

- General cutting on light-to-medium duty vertical and horizontal machines
- Production cutting for steel, iron, aluminum, and stainless steel
- Contour cutting, irregular shapes and structurals

Powerband is the ideal general purpose metal sawing blade. It has a Matrix II high speed steel cutting edge welded to an alloy back, selected for its toughness and ductility. Matrix II provides the best balance of metallurgical properties to resist heat, abrasion, and shock in most production cutting operations for long blade life. Assures faster cutting rates over a wide range of materials.

| Length | Width (In.) | Thickness (In.) | Teeth Per Inch | Tooth Type | Starrett Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **WELDED TO LENGTH (READY TO USE)** | | | | | | | | |
| 12' 6" | 1/2 | .025 | 10-14 | Variable | 17409 | 4L356 | $37.90 | 1.4 |
| 12' 6" | 1/2 | .035 | 10-14 | Variable | 17362 | 4L262 | 40.85 | 1.3 |
| 12' 6" | 3/4 | .035 | 3 | Regular | 17470 | 4L404 | 48.10 | 1.7 |
| 12' 6" | 1 | .035 | 6-10 | Variable | 17307 | 4L137 | 53.65 | 2.2 |
| 14' 6" | 3/4 | .035 | 6-10 | Variable | 17317 | 2GL73 | 54.60 | 1.9 |
| 14' 6" | 3/4 | .035 | 10-14 | Variable | 17367 | 2GM42 | 54.60 | 1.9 |
| 14' 6" | 1 | .035 | 4-6 | Variable | 17293 | 4L112 | 61.05 | 2.4 |
| 14' 6" | 1 | .035 | 6-10 | Variable | 17310 | 4L140 | 61.05 | 2.4 |
| 14' 6" | 1 | .035 | 10-14 | Variable | 17373 | 4L268 | 61.05 | 2.4 |
| 15' 6" | 1 | .035 | 3-4 | Variable | 17466 | 4L406 | 64.75 | 2.5 |
| 15' 6" | 1¼ | .042 | 4-6 | Variable | 17314 | 4L143 | 74.35 | 4.0 |
| 11' 6" | 1 | .035 | 4-6 | Variable | 17299P2 | 2GM87 | 59.35 | 2.1 |
| 11' 6" | 1 | .035 | 5-8 | Variable | 17321P2 | 2GM88 | 59.35 | 2.1 |
| 11' 6" | 1 | .035 | 6-10 | Variable | 17296P2 | 2GM89 | 59.35 | 2.1 |
| 11' 6" | 1 | .035 | 8-12 | Variable | 17330P2 | 2GM90 | 59.35 | 2.1 |
| 11' 6" | 3/4 | .035 | 10-14 | Variable | 17336P2 | 2GM86 | 52.35 | 1.6 |
| 11' 6" | 3/4 | .035 | 5-8 | Variable | 17319P2 | 2GM85 | 52.35 | 1.6 |
| 12' | 1 | .035 | 3-4 | Variable | 17377P2 | 2GM91 | 61.55 | 2.1 |
| 12' | 1 | .035 | 4-6 | Variable | 17291P2 | 4L357 | 61.55 | 2.1 |
| 12' | 1 | .035 | 5-8 | Variable | 17322P2 | 2GM92 | 61.55 | 2.1 |
| 12' | 1 | .035 | 6-10 | Variable | 17294P2 | 2GM93 | 61.55 | 2.1 |
| 13' 6" | 1¼ | .042 | 2-3 | Variable | 19381 | 3NM03 | 77.75 | 3.6 |
| 13' 6" | 1¼ | .042 | 3-4 | Variable | 18771P2 | 2GN16 | 77.75 | 3.2 |
| 13' 6" | 1¼ | .042 | 4-6 | Variable | 17298P2 | 2GN01 | 77.75 | 3.8 |
| 13' 6" | 1 | .035 | 4-6 | Variable | 17292P2 | 2GM94 | 68.25 | 2.3 |
| 13' 6" | 1 | .035 | 5-8 | Variable | 17355P2 | 2GM95 | 68.25 | 2.3 |
| 14' 6" | 1¼ | .042 | 2-3 | Variable | 18963P2 | 2GN04 | 82.90 | 3.3 |
| 14' 6" | 1¼ | .042 | 3-4 | Variable | 17381P2 | 2GN17 | 82.90 | 3.4 |
| 14' 6" | 1¼ | .042 | 4-6/P | Variable | 17971P2 | 2GN05 | 82.90 | 3.3 |
| 14' 6" | 1¼ | .042 | 4-6 | Variable | 17313P2 | 4L359 | 82.90 | 3.8 |
| 14' 6" | 1¼ | .042 | 5-8 | Variable | 17325P2 | 2GN02 | 82.90 | 3.8 |
| 14' 6" | 1¼ | .042 | 8-12 | Variable | 17484P2 | 2GN03 | 82.90 | 3.3 |
| 14' 6" | 1 | .035 | 3-4 | Variable | 17389P2 | 2GM96 | 72.70 | 2.4 |
| 14' 6" | 1 | .035 | 4-6 | Variable | 17293P2 | 4L358 | 72.70 | 2.4 |
| 14' 6" | 1 | .035 | 5-8 | Variable | 17324P2 | 2GM97 | 72.70 | 2.4 |
| 14' 6" | 1 | .035 | 6-10 | Variable | 17310P2 | 2GM98 | 72.70 | 2.4 |
| 14' 6" | 1 | .035 | 8-12 | Variable | 17333P2 | 2GM99 | 72.70 | 2.4 |
| 150' Coil | 1¼ | .042 | 4-6 | Variable | 13029P2 | 4L123 | 768.00 | 29.0 |
| 15' | 1½ | .042 | 2-3/P | Variable | 19127P2 | 3NT78 | 85.50 | 3.9 |
| 15' | 1¼ | .042 | 3-4 | Variable | 17386P2 | 2GN18 | 85.50 | 3.5 |
| 15' | 1¼ | .042 | 4-6/P | Variable | 17972P2 | 2GN06 | 85.50 | 3.5 |
| 15' 2" | 1¼ | .042 | 5-8 | Variable | 17326P2 | 2GN07 | 85.50 | 3.5 |
| 15' 2" | 1½ | .050 | 2-3/P | Variable | 17493P2 | 2GN13 | 113.30 | 5.1 |
| 15' 4" | 1¼ | .042 | 4-6 | Variable | 18851P2 | 2GN08 | 88.05 | 3.6 |
| 15' 6" | 1½ | .050 | 2-3/P | Variable | 17494P2 | 2GN14 | 113.30 | 5.2 |
| 15' 6" | 1¼ | .042 | 2-3/P | Variable | 17491P2 | 2GN10 | 88.05 | 3.6 |
| 15' 6" | 1¼ | .042 | 3-4/P | Variable | 17950P2 | 2GN11 | 88.05 | 3.6 |
| 15' 6" | 1¼ | .042 | 3-4 | Variable | 17384P2 | 2GN19 | 88.05 | 3.6 |
| 15' 6" | 1¼ | .042 | 4-6 | Variable | 17314P2 | 4L361 | 88.05 | 3.6 |
| 15' 6" | 1¼ | .042 | 5-8 | Variable | 18058P2 | 2GN09 | 88.05 | 3.6 |
| 17' 6" | 1¼ | .042 | 4-6/P | Variable | 17492P2 | 2GN12 | 98.40 | 4.0 |
| 18' 10" | 1½ | .050 | 2-3/P | Variable | 17495P2 | 2GN15 | 136.80 | 6.1 |
| 18' 10" | 1½ | .050 | 3-4/P | Variable | 19195P2 | 3NV45 | 136.80 | 6.5 |

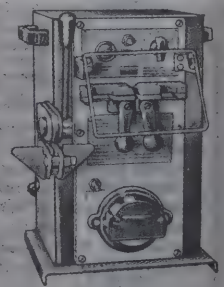
## BLADE WELDER

Blade welder has solid state circuitry to guarantee integrity of the welds on carbon and bi-metal blades.

Welder includes self-contained grinder for preparing blade prior to weld and removing buildup at seam after weld. Features thermal protection for transformer, vented bottom to aid in cooling, cutting shear with guides to produce square cut, safety Acrylic spark deflector, and carrying handles. Use welder with optional multipurpose tool stand No. 5A335.

Dayton

New



No. 4TJ96

| KVA Rating | Width (In.) | Thickness (In.) | Amps | Volts | Hz | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1.2 | 1/8-1/2 | .020-.035 | 8 | 110 | 60 | New 4TJ96 | $675.00 | $450.00 ▲ | 40.0 |
| 4.2 | 1/2-3/4 | .020-.035 | 20 | 240 | 60 | 6A489 | 954.00 | 495.50 ▲ | 52.0 |

(▲) Net prices, not subject to discounts.

VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

Castle Metals®



## COLD FINISHED ROUNDS

### Type 303 Annealed

The addition of phosphorus and sulfur improves machinability but slightly reduces some of the corrosion resistance. Used as shafts, bushings, valves, bolts, and nuts.

### Type 304/304L Annealed

A general purpose stainless steel with good resistance to atmosphere corrosion is less heat sensitive than other 18:8 steels.

### Type 316/316L Annealed

This stainless steel has a higher corrosion resistance than type 304. Contains molybdenum for better resistance, especially in environments containing chlorides. Applications include pulp and chemical equipment, pump shafts, valves, and fittings.

**Overall Length 6 Ft.**

| Size (In.) Diameter | Estimated Lbs./Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **STAINLESS STEEL ROUNDS TYPE 303** | | | | |
| **3/16** | 0.560 | **4LK32** | **$3.85** | 1.0 |
| **1/4** | 1.000 | **4LK33** | **6.01** | 1.0 |
| **5/16** | 1.560 | **4LK34** | **9.17** | 1.5 |
| **3/8** | 2.250 | **4LK35** | **12.78** | 2.0 |
| **1/2** | 4.010 | **4LK15** | **22.64** | 4.0 |
| **3/4** | 9.010 | **4LK36** | **40.55** | 9.0 |
| **7/8** | 12.270 | **4LK37** | **55.10** | 12.0 |
| **1** | 16.020 | **4LK38** | **72.15** | 16.0 |
| **1 1/8** | 20.280 | **4LK39** | **91.30** | 20.0 |
| **1 1/4** | 25.040 | **4LK40** | **111.15** | 25.0 |
| **1 1/2** | 36.050 | **4LK42** | **155.00** | 36.0 |
| **2** | 64.080 | **4LK45** | **248.75** | 64.0 |

Cold Finished, Annealed, ASTM A-582, ASTM A-484. 6' R/L (+/- 3").

**Overall Length 6 Ft.**

| Size (In.) Diameter | Estimated Lbs/Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **STAINLESS STEEL ROUNDS TYPE 304/L** | | | | |
| **1/4** | 1.000 | **4LK26** | **$6.56** | 1.0 |
| **3/8** | 2.250 | **4LK27** | **12.19** | 2.0 |
| **12** | 4.010 | **4LK28** | **21.95** | 4.0 |
| **5/8** | 6.260 | **4LK16** | **34.20** | 1.0 |
| **3/4** | 9.010 | **4LK18** | **39.50** | 9.0 |
| **1** | 16.020 | **4LK20** | **70.25** | 16.0 |
| **1 1/4** | 25.040 | **4LK22** | **108.25** | 25.0 |
| **1 1/2** | 36.050 | **4LK24** | **151.75** | 36.0 |
| **STAINLESS STEEL ROUNDS TYPE 316/L** | | | | |
| **1/4** | 1.000 | **4LK29** | **7.35** | 1.0 |
| **3/8** | 2.250 | **4LK30** | **14.68** | 2.0 |
| **1/2** | 4.010 | **4LK31** | **26.40** | 4.0 |
| **5/8** | 6.260 | **4LK17** | **36.85** | 6.0 |
| **3/4** | 9.010 | **4LK19** | **47.40** | 9.0 |
| **1** | 16.020 | **4LK21** | **84.30** | 18.0 |
| **1 1/4** | 25.040 | **4LK23** | **130.20** | 25.0 |
| **1 1/2** | 36.050 | **4LK25** | **195.00** | 36.0 |

Cold Finished, Annealed, ASTM A-276, ASTM A-484, ASTM A-479, ASTM A-193 B8 (except Para. 6.3). Supplied in 6' R/L (+/- 3")



## HEXAGONS

### Type 304 Annealed

A general purpose stainless steel with good resistance to atmosphere corrosion. Used in many applications including high temp. situations.

### Type 316 Annealed

This stainless steel has a higher corrosion resistance than type 304. It also improves pitting and crevice corrosion in environments containing chlorides. Applications include pulp and chemical equipment, pump shafts, valves and fittings.

**Overall Length 6 Ft.**

| Size (In.) | Estimated Lbs./Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **STAINLESS STEEL HEXAGONS - TYPE 304** | | | | |
| **3/8** | 2.480 | **4LK54** | **$22.33** | 2.5 |
| **1/2** | 4.420 | **4LK49** | **36.20** | 4.5 |
| **5/8** | 6.900 | **4LK48** | **48.15** | 7.0 |
| **3/4** | 9.940 | **4LK46** | **64.75** | 10.0 |
| **1** | 17.670 | **4LK47** | **112.20** | 18.0 |
| **STAINLESS STEEL HEXAGONS - TYPE 316*** | | | | |
| **1/2** | 4.420 | **4LK53** | **40.50** | 4.5 |
| **5/8** | 6.900 | **4LK52** | **58.65** | 7.0 |
| **3/4** | 9.940 | **4LK51** | **79.95** | 10.0 |
| **1** | 17.670 | **4LK50** | **138.75** | 18.0 |

Annealed, ASTM A-276, ASTM A-479, ASTM A-182, supplied in 6' R/L (+/-3").
* ASTM A-193 B8 (except Par. 6.3) applies to T-316 only.



## ANGLES

### Type 304 Hot Rolled, Annealed, and Pickled

A general purpose stainless steel with good resistance to atmosphere corrosion. Used in applications such as food and beverage processing and machined parts.

**Overall Length 6 Ft.**

| Size (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| **STAINLESS STEEL ANGLES TYPE 304** | | | |
| **1 x 1" WIDE** | | | |
| **1/8** | **4LJ76** | **$31.35** | 5.0 |
| **3/16** | **4LJ77** | **43.05** | 7.0 |
| **1/4** | **4LJ78** | **49.75** | 9.0 |
| **1 1/4 x 1 1/4" WIDE** | | | |
| **1/8** | **4LJ79** | **34.45** | 6.0 |
| **3/16** | **4LJ80** | **47.75** | 9.0 |
| **1/4** | **4LJ75** | **60.85** | 12.0 |
| **1 1/2 x 1 1/2" WIDE** | | | |
| **1/8** | **4LJ81** | **41.75** | 7.5 |
| **3/16** | **4LJ82** | **62.65** | 11.0 |
| **1/4** | **4LJ83** | **72.80** | 14.0 |
| **2 x 2" WIDE** | | | |
| **1/8** | **4LJ84** | **53.80** | 10.0 |
| **3/16** | **4LJ85** | **74.15** | 15.0 |
| **1/4** | **4LJ86** | **107.65** | 19.0 |
| **2 1/2 x 2 1/2" WIDE** | | | |
| **3/16** | **4LJ87** | **93.20** | 19.0 |
| **1/4** | **4LJ88** | **124.50** | 25.0 |

Hot Rolled, Annealed, Pickled, ASTM A-276, ASTM A-479, 6' R/L (+/-3").



## SQUARES

### Type 304 Annealed

**Overall Length 6 Ft.**

| Size (In.) | Estimated Lbs/Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **STAINLESS STEEL SQUARES (TYPE 304** | | | | |
| **1/2** | 5.100 | **4LK12** | **$42.15** | 5.0 |
| **3/4** | 11.480 | **4LK11** | **82.75** | 12.0 |
| **1** | 20.400 | **4LK14** | **124.05** | 21.0 |
| **1 1/4** | 31.880 | **4LK09** | **195.25** | 32.0 |
| **1 1/2** | 45.900 | **4LK13** | **270.75** | 46.0 |
| **2** | 40.800 | **4LK10** | **217.75** * | 41.0 |

Annealed, ASTM A-276, ASTM A-182, ASTM A-479,
ASTM A-484 (for 1" and under). 6' R/L (+/-3").
* Indicates 3' R/L (+/-3").



## EDGE CONDITIONED FLATS

### Type 304 Hot Rolled

Our flats are produced from sheet, plate, and coil in type 304. In the sizes listed, the flats are produced on Gauer edge conditioner. Edge-conditioned flats are used in many structural applications.

**Overall Length 6 Ft.**

| Size (In.) Thick/Wide | Estimated Lbs./Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **STAINLESS STEEL FLATS TYPE 304** | | | | |
| **3/16 x 1** | 3.83 | **4LJ94** | **$15.34** | 4.0 |
| **3/16 x 1 1/2** | 5.74 | **4LK02** | **21.95** | 6.0 |
| **3/16 x 2** | 7.65 | **4LK03** | **28.85** | 7.5 |
| **3/16 x 3** | 11.48 | **4LK07** | **38.40** | 12.0 |
| **1/4 x 1** | 5.10 | **4LJ90** | **20.03** | 5.0 |
| **1/4 x 1 1/2** | 7.65 | **4LJ93** | **29.15** | 7.5 |
| **1/4 x 2** | 10.2 | **4LJ91** | **33.80** | 10.0 |
| **1/4 x 3** | 15.3 | **4LJ92** | **44.00** | 15.0 |
| **1/4 x 4** | 20.4 | **4LJ95** | **59.20** | 21.0 |
| **3/8 x 1** | 7.65 | **4LJ89** | **33.45** | 7.5 |
| **3/8 x 1 1/2** | 11.48 | **4LK05** | **47.90** | 12.0 |
| **3/8 x 2** | 15.30 | **4LK01** | **63.40** | 16.0 |
| **3/8 x 3** | 22.95 | **4LK06** | **93.00** | 23.0 |
| **3/8 x 4** | 30.60 | **4LK04** | **113.75** | 31.0 |
| **1/2 x 1** | 10.21 | **4LK08** | **62.00** | 10.0 |
| **1/2 x 1 1/2** | 15.30 | **4LJ98** | **64.05** | 15.0 |
| **1/2 x 2** | 20.40 | **4LJ97** | **79.30** | 21.0 |
| **1/2 x 3** | 30.60 | **4LJ99** | **118.95** | 31.0 |
| **1/2 x 4** | 40.80 | **4LJ96** | **159.50** | 41.0 |

Edge Conditioned, Hot Rolled, Annealed, Pickled, ASTM A-240, supplied in 6' R/L (+/- 3"). 1/8-1/4" thick: ASTM A-276 (chem. & mechanicals only). ASTM A-479 (chem. & mechanicals only). 3/8-1/2" thick: ASTM A-276 (chem only). ASTM A-479 (chem. only).

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# ALUMINUM BAR STOCK

Castle Metals®

## ALUMINUM

### 6061-T6511 Aluminum

Generally selected where welding or brazing is required or for its particularly high cor rosion resistance. Applications include many structural components.

## EXTRUDED ROUNDS

Alloy 6061-T651 aluminum rounds 6' lengths, extruded rod, 1/2 tol.

| Size (In.) Dia. | Estimated Lbs/Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **ALUMINUM ROUNDS** | | | | |
| **3/8** | 0.780 | **4LH87** | **$4.40** | 0.8 |
| **1/2** | 1.380 | **4LH86** | **7.82** | 1.4 |
| **5/8** | 2.160 | **4LH76** | **12.41** | 2.2 |
| **3/4** | 3.110 | **4LH77** | **17.92** | 3.2 |
| **1** | 5.540 | **4LH82** | **26.45** | 5.7 |
| **1 1/8** | 7.010 | **4LH78** | **33.50** | 7.0 |
| **1 1/4** | 8.650 | **4LH79** | **37.95** | 8.7 |
| **1 3/8** | 10.470 | **4LH88** | **40.00** | 11.0 |
| **1 1/2** | 12.460 | **4LH84** | **47.55** | 13.0 |
| **1 3/4** | 16.970 | **4LH75** | **64.75** | 17.0 |
| **2** | 22.150 | **4LH81** | **84.55** | 22.0 |
| **2 1/4** | 28.030 | **4LH80** | **107.00** | 28.0 |
| **2 1/2** | 34.600 | **4LH85** | **134.80** | 35.0 |
| **3** | 49.820 | **4LH83** | **190.25** | 50.0 |

Extruded, QQ-A-200/8, ASTM B-221, 6' R/L (+/-3").

## EXTRUDED SQUARES

Overall Length 6 Ft.

| Size (In.) | Estimated Lbs/Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **ALUMINUM SQUARES** | | | | |
| **3/8** | 0.990 | **4LH66** | **$5.86** | 1.0 |
| **1/2** | 1.760 | **4LH70** | **9.60** | 1.8 |
| **5/8** | 2.750 | **4LH67** | **14.98** | 2.8 |
| **3/4** | 6.960 | **4LH71** | **21.63** | 4.0 |
| **1** | 7.060 | **4LH68** | **33.50** | 7.0 |
| **1 1/4** | 11.030 | **4LH72** | **42.10** | 11.0 |
| **1 1/2** | 15.880 | **4LH73** | **54.95** | 16.0 |
| **1 3/4** | 21.590 | **4LH74** | **82.40** | 22.0 |
| **2** | 28.220 | **4LH69** | **107.60** | 28.0 |

Extruded, QQ-A-200/8, ASTM B-221. 6' R/L (+/- 3".)

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

## EXTRUDED FLATS

Overall Length 6 Ft.

| Size (In.) Thick x Wide | Estimated Lbs./Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **ALUMINUM FLATS** | | | | |
| **1/8 x 1** | 0.880 | **4LH44** | **$4.91** | 0.9 |
| **1/8 x 2** | 1.760 | **4LH43** | **9.60** | 1.8 |
| **3/16 x 1** | 1.330 | **4LH45** | **7.22** | 1.3 |
| **3/16 x 1 1/2** | 1.980 | **4LH46** | **10.80** | 2.0 |
| **3/16 x 2** | 2.650 | **4LH47** | **14.38** | 2.6 |
| **3/16 x 3** | 3.960 | **4LH20** | **21.63** | 4.0 |
| **1/4 x 1** | 1.760 | **4LH34** | **9.60** | 1.8 |
| **1/4 x 1 1/2** | 2.650 | **4LH48** | **14.38** | 2.6 |
| **1/4 x 2** | 3.420 | **4LH49** | **19.22** | 3.5 |
| **1/4 x 3** | 5.290 | **4LH33** | **25.20** | 5.3 |
| **1/4 x 4** | 6.850 | **4LH50** | **34.35** | 7.2 |
| **3/8 x 1** | 2.650 | **4LH51** | **14.38** | 2.6 |
| **3/8 x 1 1/2** | 3.960 | **4LH52** | **20.42** | 3.8 |
| **3/8 x 2** | 5.290 | **4LH53** | **25.20** | 5.3 |
| **3/8 x 3** | 7.940 | **4LH32** | **33.65** | 7.9 |
| **3/8 x 4** | 10.580 | **4LH54** | **40.35** | 11.0 |
| **1/2 x 1** | 3.530 | **4LH38** | **19.22** | 3.5 |
| **1/2 x 1 1/2** | 5.190 | **4LH31** | **25.20** | 5.3 |
| **1/2 x 2** | 7.060 | **4LH28** | **33.60** | 7.1 |
| **1/2 x 3** | 10.580 | **4LH26** | **40.35** | 11.0 |
| **1/2 x 4** | 14.090 | **4LH27** | **53.80** | 14.0 |
| **1/2 x 6** | 21.170 | **4LH24** | **77.55** | 21.0 |
| **5/8 x 1** | 4.400 | **4LH55** | **22.60** | 4.5 |
| **5/8 x 1 1/2** | 6.620 | **4LH56** | **32.20** | 6.7 |
| **5/8 x 2** | 8.820 | **4LH57** | **38.15** | 9.0 |
| **5/8 x 3** | 13.220 | **4LH42** | **45.00** | 13.0 |
| **5/8 x 4** | 17.640 | **4LH19** | **67.30** | 18.0 |
| **3/4 x 1** | 5.290 | **4LH58** | **25.20** | 5.3 |
| **3/4 x 1 1/2** | 7.760 | **4LH59** | **34.30** | 8.1 |
| **3/4 x 2** | 13.580 | **4LH40** | **40.35** | 11.0 |
| **3/4 x 3** | 15.880 | **4LH39** | **57.95** | 15.0 |
| **3/4 x 4** | 21.130 | **4LH35** | **82.40** | 22.0 |
| **1 x 1 1/2** | 10.690 | **4LH60** | **41.20** | 11.0 |
| **1 x 2** | 14.110 | **4LH25** | **53.80** | 14.0 |
| **1 x 3** | 21.170 | **4LH29** | **82.40** | 22.0 |
| **1 x 4** | 28.220 | **4LH41** | **107.60** | 28.0 |
| **1 x 6** | 42.340 | **4LH30** | **161.50** | 42.0 |
| **1 1/4 x 2** | 17.640 | **4LH61** | **67.25** | 18.0 |
| **1 1/4 x 3** | 26.440 | **4LH21** | **102.95** | 27.0 |
| **1 1/4 x 4** | 35.240 | **4LH22** | **134.55** | 35.0 |
| **1 1/2 x 2** | 21.170 | **4LH62** | **80.55** | 21.0 |
| **1 1/2 x 3** | 31.750 | **4LH63** | **120.95** | 32.0 |
| **1 1/2 x 4** | 42.290 | **4LH64** | **161.50** | 42.0 |
| **1 1/2 x 6** | 63.420 | **4LH65** | **220.00** | 63.0 |
| **2 x 3** | 42.340 | **4LH36** | **161.50** | 42.0 |
| **2 x 4** | 56.390 | **4LH37** | **195.50** | 56.0 |
| **2 x 6** | 42.300 | **4LH23** | **167.25** | 42.0 |

Extruded, QQ-A-200/8, ASTM B-221, 6' R/L (+/-3").
* Indicates 3' R/L (+/-3").

## EXTRUDED ANGLES

Overall Length 6 Ft.

| Size (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| **ALUMINUM ANGLES** | | | |
| **1 X 1" WIDE** | | | |
| **1/8** | **4LH01** | **$10.96** | 1.7 |
| **3/16** | **4LH02** | **15.59** | 2.4 |
| **1/4** | **4LH03** | **19.92** | 3.1 |
| **1 1/4 X 1 1/4" WIDE** | | | |
| **1/8** | **4LH04** | **13.65** | 2.1 |
| **3/16** | **4LH05** | **19.86** | 3.1 |
| **1/4** | **4LG99** | **22.53** | 4.0 |
| **1 1/2 X 1 1/2" WIDE** | | | |
| **1/8** | **4LH06** | **16.78** | 2.6 |
| **3/16** | **4LH07** | **21.17** | 3.7 |
| **1/4** | **4LH08** | **27.65** | 4.9 |
| **2 X 2" WIDE** | | | |
| **1/8** | **4LH09** | **20.49** | 3.4 |
| **3/16** | **4LH10** | **29.00** | 5.1 |
| **1/4** | **4LH11** | **36.00** | 6.7 |
| **3/8** | **4LH12** | **47.20** | 9.6 |
| **2 1/2 X 2 1/2" WIDE** | | | |
| **1/4** | **4LH13** | **41.50** | 8.5 |
| **3/8** | **4LH14** | **56.00** | 12.0 |
| **3 X 3" WIDE** | | | |
| **1/4** | **4LH15** | **49.50** | 10.0 |
| **3/8** | **4LH16** | **73.15** | 15.0 |
| **4 X 4" WIDE** | | | |
| **1/4** | **4LH17** | **67.00** | 14.0 |
| **3/8** | **4LH18** | **98.15** | 20.0 |

Extruded, QQ-A-200/8, ASTM B-308, 6' R/L (+/-3").

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG

## DON'T DELAY... ORDER FROM GRAINGER NOW!

Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

Castle Metals®

# BRASS

CDA 360 Free Cutting Brass is used when improved knurling, thread rolling, deep drilling, staking and other difficult operations are important. It gives you increased tool life, higher production rates, and better finish of machined surfaces.

## COLD FINISHED FLATS

### Low Carbon 1018

A general purpose low carbon steel with good case hardening qualities. Especially suited to cold forming, bending, and welding operations.

**Overall Length 6 Ft.**

| Size (In.) Thick/Wide | Estimated Lbs./Bar | Stock No. | Each | | Shpg. Wt. |
|---|---|---|---|---|---|
| **CARBON STEEL FLATS** | | | | | |
| 1/4 x 1 | 5.10 | 4LJ39 | $14.00 | | 5.0 |
| 1/4 x 1 1/2 | 7.65 | 4LJ40 | 18.05 | | 8.0 |
| 1/4 x 2 | 10.20 | 4LJ41 | 22.74 | | 10.0 |
| 1/4 x 3 | 15.30 | 4LJ42 | 31.25 | | 15.0 |
| 1/4 x 4 | 20.40 | 4LJ43 | 40.10 | | 20.0 |
| 3/8 x 1 | 7.65 | 4LJ44 | 15.55 | | 8.0 |
| 3/8 x 1 1/2 | 11.48 | 4LJ45 | 23.50 | | 11.0 |
| 3/8 x 2 | 15.30 | 4LJ46 | 26.75 | | 15.0 |
| 3/8 x 3 | 22.95 | 4LJ47 | 40.10 | | 23.0 |
| 3/8 x 4 | 30.60 | 4LJ48 | 48.50 | | 30.0 |
| 1/2 x 1 | 10.20 | 4LJ49 | 24.60 | | 10.0 |
| 1/2 x 1 1/2 | 15.30 | 4LJ50 | 28.55 | | 15.0 |
| 1/2 x 2 | 20.40 | 4LJ51 | 34.90 | | 20.0 |
| 1/2 x 2 1/2 | 25.50 | 4LJ52 | 37.25 | | 26.0 |
| 1/2 x 3 | 30.60 | 4LJ53 | 40.25 | | 30.0 |
| 1/2 x 3 1/2 | 35.70 | 4LJ54 | 53.15 | | 36.0 |
| 1/2 x 4 | 40.80 | 4LJ55 | 58.50 | | 81.0 |
| 1/2 x 6 | 61.20 | 4LJ56 | 74.30 | | 61.0 |
| 3/4 x 1 | 15.30 | 4LJ57 | 29.65 | | 15.0 |
| 3/4 x 1 1/2 | 22.95 | 4LJ58 | 41.00 | | 23.0 |
| 3/4 x 2 | 30.60 | 4LJ59 | 47.10 | | 61.0 |
| 3/4 x 2 1/2 | 38.25 | 4LJ60 | 50.10 | | 38.0 |
| 3/4 x 3 | 45.90 | 4LJ61 | 53.95 | | 46.0 |
| 3/4 x 4 | 61.20 | 4LJ62 | 61.35 | | 61.0 |
| 3/4 x 6 | 45.90 | 4LJ63 | 63.20 | * | 46.0 |
| 1 x 1 1/2 | 30.60 | 4LJ64 | 45.85 | | 30.0 |
| 1 x 2 | 40.80 | 4LJ65 | 53.05 | | 41.0 |
| 1 x 2 1/2 | 51.00 | 4LJ66 | 62.00 | | 51.0 |
| 1 x 3 | 61.20 | 4LJ67 | 73.40 | | 61.0 |
| 1 x 3 1/2 | 71.40 | 4LJ68 | 78.30 | | 71.0 |
| 1 x 4 | 40.80 | 4LJ69 | 50.65 | * | 41.0 |
| 1 x 6 | 61.20 | 4LJ70 | 85.25 | * | 61.0 |
| 1 1/2 x 2 | 61.20 | 4LJ71 | 85.55 | | 61.0 |
| 1 1/2 x 2 1/2 | 38.25 | 4LJ72 | 75.00 | * | 76.0 |
| 1 1/2 x 3 | 45.90 | 4LJ73 | 80.00 | * | 46.0 |
| 1 1/2 x 4 | 61.20 | 4LJ74 | 92.00 | * | 61.0 |

(*) Indicates 3' R/L (+/-3").
1018 Cold Finished, ASTM A-108, 6' Random Length (+/-3")

## COLD DRAWN ROUNDS

### CDA 360 Free Cutting Brass

**Overall Length 6 Ft.**

| Size (In.) | Estimated Lbs/Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **BRASS ROUNDS 360** | | | | |
| 1/8 | 0.270 | 4LJ02 | $1.30 | 0.3 |
| 5/32 | 0.420 | 4LJ03 | 1.85 | 0.4 |
| 3/16 | 0.610 | 4LJ04 | 2.65 | 0.6 |
| 7/32 | 0.830 | 4LJ05 | 3.15 | 0.8 |
| 1/4 | 1.080 | 4LJ06 | 3.70 | 1.0 |
| 9/32 | 1.370 | 4LJ07 | 4.80 | 1.4 |
| 5/16 | 1.690 | 4LJ08 | 5.70 | 1.7 |
| 11/32 | 2.050 | 4LJ01 | 6.80 | 2.0 |
| 3/8 | 2.440 | 4LJ09 | 7.80 | 2.5 |
| 13/32 | 2.860 | 4LH99 | 9.10 | 3.0 |
| 7/16 | 3.320 | 4LJ10 | 10.45 | 3.3 |
| 15/32 | 3.810 | 4LH98 | 11.05 | 4.0 |
| 1/2 | 4.340 | 4LJ11 | 11.96 | 4.3 |
| 9/16 | 5.490 | 4LJ12 | 14.87 | 5.5 |
| 5/8 | 6.780 | 4LJ13 | 18.40 | 6.8 |
| 3/4 | 9.760 | 4LJ14 | 26.60 | 10.0 |
| 7/8 | 13.280 | 4LJ15 | 36.25 | 13.0 |
| 1 | 17.350 | 4LJ16 | 47.20 | 17.0 |
| 1 1/8 | 21.960 | 4LJ17 | 59.70 | 22.0 |
| 1 1/4 | 27.110 | 4LJ18 | 73.70 | 27.0 |
| 1 3/8 | 32.810 | 4LJ19 | 89.20 | 33.0 |
| 1 1/2 | 39.040 | 4LJ20 | 106.15 | 39.0 |
| 1 3/4 | 53.140 | 4LJ21 | 144.50 | 53.0 |
| 2 | 69.420 | 4LJ22 | 189.00 | 69.0 |

Cold Drawn, Free Cutting, Half Hard, ASTM B-16.
6' Random Lengths (+/-3")

GRAINGER...
YOUR ONE STOP
SHOPPING SOURCE!

## COLD DRAWN SQUARES

### CDA 360 Free Cutting Brass

**Overall Length 6 Ft.**

| Size (In.) | Estimated Lbs/Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **BRASS SQUARES 360** | | | | |
| 1/4 | 1.380 | 4LH90 | $4.47 | 1.4 |
| 1/2 | 5.530 | 4LH91 | 15.80 | 5.5 |
| 3/4 | 12.430 | 4LH92 | 33.30 | 13.0 |
| 7/8 | 16.930 | 4LH93 | 50.80 | 17.0 |
| 1 | 22.100 | 4LH94 | 63.20 | 22.0 |
| 1 1/4 | 34.540 | 4LH95 | 98.75 | 35.0 |
| 1 1/2 | 49.730 | 4LH96 | 142.50 | 50.0 |
| 1 3/4 | 67.680 | 4LH89 | 193.75 | 68.0 |
| 2 | 44.220 | 4LH97 | 131.65* | 44.0 |

Cold Drawn, Free Cutting, ASTM B-16. 6' Randsom Lengths (+/- 3"). (*) Indicates 3' Random Lengths (+/- 3").

## COLD DRAWN HEXAGONS

### CDA 360 Free Cutting Brass

**Overall Length 6 Ft.**

| Size (In.) | Estimated Lbs/Bar | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **BRASS HEXAGONS 360** | | | | |
| 1/4 | 1.200 | 4LJ23 | $3.85 | 1.2 |
| 5/16 | 1.870 | 4LJ24 | 5.92 | 1.9 |
| 3/8 | 2.690 | 4LJ25 | 8.05 | 2.7 |
| 7/16 | 3.660 | 4LJ26 | 10.78 | 3.7 |
| 1/2 | 4.790 | 4LJ27 | 13.05 | 4.8 |
| 9/16 | 6.050 | 4LJ28 | 16.45 | 6.0 |
| 5/8 | 7.480 | 4LJ29 | 20.35 | 7.5 |
| 3/4 | 10.770 | 4LJ30 | 29.30 | 11.0 |
| 7/8 | 14.660 | 4LJ31 | 40.60 | 15.0 |
| 1 | 19.140 | 4LJ32 | 52.10 | 19.0 |
| 1 1/8 | 24.230 | 4LJ33 | 70.00 | 24.0 |
| 1 1/4 | 29.910 | 4LJ34 | 81.40 | 30.0 |
| 1 3/8 | 36.190 | 4LJ35 | 98.50 | 36.0 |
| 1 1/2 | 43.070 | 4LJ36 | 117.25 | 43.0 |
| 1 3/4 | 58.620 | 4LJ37 | 159.75 | 59.0 |
| 2 | 38.280 | 4LJ38 | 110.55* | 38.0 |

Cold Drawn, Free Cutting, Half Hard, Sharp Cornered, ASTM B-16. 6' Random Lengths (+/- 3").
(*) Indicates 3' Random Lengths (+/- 3").

SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# TAPPING HEADS AND COLLETS

## X SERIES SELF-REVERSING TAPPING ATTACHMENTS

TAPMATIC

- **Pre-selective Torque Drive: Prevents breakage***
- **1.75 x 1 Reverse Ratio: Increases productivity**
- **Self-Feed: Ensures guage perfect threads**
- **Re-Entry cushion: Eliminates cross-threading**
- **Right hand tapping only**

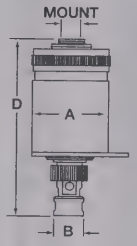


Self-reversing tapping units for manually operated drilling and milling machines.

Note: Order collets separately. Tool capacity reduced 25% for roll form taps. Options: Non-reversing X model also available.

## TC/DC SERIES SELF-REVERSING TAPPING ATTACHMENTS

- **Pre-selective Torque Drive: Prevents tap breakage***
- **1.75 x 1 Reverse Ratio: Increases productivity**
- **Self-Feed: Ensures guage perfect threads**
- **Re-Entry cushion: Eliminates cross-threading**
- **Right hand tapping only**
- **Adjustable Depth Control: For shallow hole, controlled depth tapping. This provides an adjustable means of reducing or increasing the amount of self-feed required for any specific tapping operation. The self-feed of these units may be reduced to as little as .078.**




Self-reversing, depth control tapping units for manually operated drilling and milling machines.

## R SERIES SELF-REVERSING TAPPING ATTACHMENTS

- **Pre-selective Torque Drive: Prevents tap breakage***
- **Ball Drive: Friction free design provides greater thread accuracy, higher production rates (Same drive feature as NCR units.) 1.75 x 1 Reverse ratio increases productivity**
- **Self-Feed: Ensures guage perfect threads**
- **Re-Entry Cushion: Eliminates cross-threading**
- **Right or Left Hand Tapping (Please specify taper mount for left hand tapping)**



Ball-drive, self-reversing, tapping unit for manually operated drilling and milling machines.

## SPD SERIES TAPPING ATTACHMENTS

- **Positive Drive & Reverse: Eliminates slippage**
- **Uses standard bore cycle for tapping**
- **Short Stroke Self-Feed: Compensates for any lead error**
- **Re-Entry Cushion: Eliminates cross-threading when re-entering previously threaded holes**
- **Choice of top holding systems: Rubber-flex collet chuck. Quick-change spindle accepts intertap or conventional style positive drive or torque control adapaters**

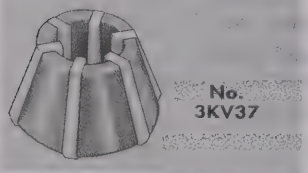


Self-reversing tapping units for large capacity applications on manually operated or automated equipment.

**Note:** For manual tool changes. Automatic tool change models available upon request. Select either Rubber-Flex collet chuck or Quick-Change spindle. Order collets or adapters separately. Tool capacity reduced 25% for roll form taps. Options: Hard start. Coolant port style available.

| Model | Capacity In 1010 Mild Steel | Mount | Collet Series | Rec* Max. Speed (RPM) | Dimensions A | B | D | Self-Feed | Tapmatic Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30X** | #0-1/4" Roll Form #10 Max. | #33 JT Taper | #21000 | 2000 | 1.875 | .750 | 4.45 113mm | .140 3.3mm | 10333 | **3KV05** | **$405.25▲** | 2.0 |
| **50X** | #6-1/2" Roll Form 3/8 " Max. | #33 JT Taper | #2200 | 1500 | 2.750 70mm | 1.070 27mm | 6.00 152mm | .235 6mm | 10533 | **3KV07** | **590.50▲** | 4.5 |
| **R3** | #0-1/4" Roll Form #10 Max | #33 JT Taper | #21000 | 2000 | 2.125 | .750 | 4.62 117mm | Min. .156 to Max. .312 4mm to 8mm | 30333 | **3KV48** | **437.00▲** | 2.5 |
| **R5** | #6-1/2" Roll Form #3/8" Max. NP 1/16", 1/8" | #33 JT Taper | #22000 | 1500 | 3.000 76mm | 1.070 27mm | 6.20 157mm | Min. .250 to Max. .437 6mm to 11mm | 30533 | **3KV50** | **636.00▲** | 5.0 |
| **30TC/DC** | #0-1/4" Roll Form #10 Max. | #33 JT Taper | #21000 | 2000 | 1.875 | .750 | 4.80 122mm | .078-.140 2mm-3mm | 14333 | **3KV13** | **420.25▲** | 1.8 |
| **50TC/DC** | #6-1/2" Roll Form 3/8" Max. NP 1/16", 1/8" | #33 JT Taper | #22000 | 1500 | 2.750 70mm | 1.070 27mm | 6.66 169mm | .078-.235 2mm-6mm | 14533 | **3KV15** | **615.50▲** | 4.5 |
| **SPD-3** | #0-1/4" Roll Form #10 Max. | #33 JT Taper | #21000 | 2000 | 2.085 | .750 | 4.66 118mm | | 18333 | **3KV21** | **431.00▲** | 2.5 |
| **SPD-5** | #6-1/2" Roll Form 3/8" Max. NP 1/16", 1/8" | #33 JT Taper | 22000 | 1500 | 2.718 | 1.070 | 5.83 148mm | | 18533 | **3KV27** | **528.00▲** | 4.5 |

(*) Run at the closest speed recommended by the tap manufacturer, not to exceed this RPM. (▲) Net prices, not subject to discounts.




## TAPMATIC RUBBER-FLEX® COLLETS

| Series No. | Description | Collet Range Tap Size (In.) | Shank Size (In.) | Tapmatic No. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **#21000 Series - For attachments with capacities (#0-1/4")** | 21600 Collet | #0-#8 Standard | .098-.177 | 21600 | **3KV37** | **$38.50▲** | 0.1 |
| | 21700 Collet | #10-1/4 Standard | .177-.256 | 21700 | **3KV38** | **38.50▲** | 0.1 |
| **#22000 Series - For attachments with capacities (#6-1/2")** | 22100 Collet | #0-1/4 Standard | .139-.257 | 22100 | **3KV39** | **37.50▲** | 0.2 |
| | 22200 Collet | 1/4-1/2 Standard | .253-.383 | 22200 | **3KV40** | **37.50▲** | 0.2 |

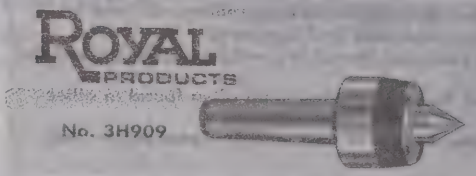
(▲) Net prices, not subject to discounts.

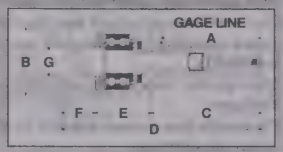


*Set up your next job with quality cutting tools from Grainger.*

## HEAVY-DUTY SPINDLE TYPE LIVE CENTERS

- ±0.0001" TIR guaranteed
- Double-row Radial Bearings (single-row on 1, 2, & 3 MT), thrust bearing, and needle bearing provide rigid point support
- Heat-treated alloy steel point and body
- 60° included point angle



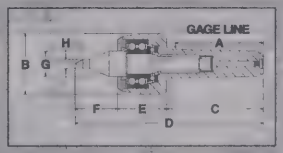

| Taper | Dimensions (In.) A | B | C | D | E | F | G | Max RPM* | Weight of Workpiece (lbs.) | Thrust Load (lbs.) | Comparative Load Rating (lbs.) | Royal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 MT | 2 9/16 | 1 3/4 | 2 13/16 | 5 1/32 | 1 7/16 | 1 1/32 | 7/8 | 4500 | 725 | 2,360 | 3,085 | 10102 | 3H905 | $183.25 | 1.3 |
| 3 MT | 3 1/16 | 2 3/8 | 3 7/16 | 6 1/32 | 1 3/4 | 1 1/4 | 1 | 4000 | 970 | 3,900 | 4,870 | 10103 | 3H907 | 208.75 | 2.9 |
| 4 MT | 4 1/16 | 2 3/4 | 4 7/16 | 7 3/8 | 1 7/8 | 1 1/2 | 1 1/4 | 4000 | 1,720 | 4,050 | 5,770 | 10104 | 3H909 | 267.50 | 4.4 |
| 5 MT | 5 3/16 | 3 1/2 | 5 5/16 | 10 1/4 | 2 1/16 | 1 3/4 | 1 1/2 | 3000 | 3,260 | 5,700 | 8,960 | 10105 | 3H911 | 403.25 | 11.0 |

*) Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

## HEAVY-DUTY N/C SPINDLE TYPE LIVE CENTERS

- Double-row Radial Bearings (single-row on 1, 2, & 3 MT), thrust bearing, and needle bearing provide rigid point support
- Extended point provides tool clearance often needed on CNC lathes
- Heat-treated alloy steel point and body
- 60° included point angle

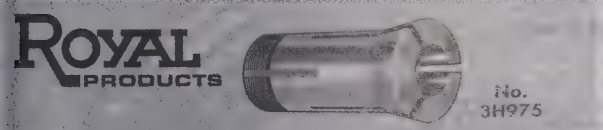



| Taper | Dimensions (In.) A | B | C | D | E | F | G | H | Max RPM* | Weight of Workpiece (lbs.) | Thrust Load (lbs.) | Comparative Load Rating (lbs.) | Royal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 MT | 2 9/16 | 1 3/4 | 2 13/16 | 5 3/4 | 1 7/8 | 1 1/2 | 7/8 | 5/8 | 4500 | 375 | 2,360 | 2,735 | 10212 | 3H915 | $183.25 | 1.3 |
| 3 MT | 3 1/16 | 2 3/8 | 3 7/16 | 7 1/16 | 1 1/4 | 1 7/8 | 1 | 3/8 | 4000 | 740 | 3,900 | 4,640 | 10213 | 3H917 | 215.50 | 3.0 |
| 4 MT | 4 1/16 | 2 3/4 | 4 7/16 | 8 5/8 | 1 31/32 | 2 5/32 | 1 1/4 | 1/2 | 4000 | 1,120 | 4,050 | 5,170 | 10214 | 3H919 | 274.00 | 4.5 |
| 5 MT | 5 3/16 | 3 1/2 | 5 5/16 | 11 | 2 13/16 | 2 5/8 | 1 1/2 | 1/2 | 3000 | 1,930 | 5,700 | 7,630 | 10215 | 3H921 | 410.25 | 11.0 |

*) Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

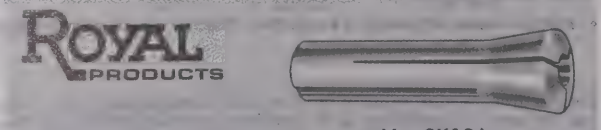
## 5C COLLETS




- Constructed of hardened and precision ground fine-grain carbon steel; 0.0005" TIR guaranteed
- Can be used on all lathes, indexers, and fixtures which accept 5C tooling

| Size (In.) | Royal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1/8 | 19308 | 3H957 | $24.46 | 0.9 |
| 3/16 | 19312 | 3H959 | 24.46 | 0.9 |
| 1/4 | 19316 | 3H961 | 24.46 | 0.9 |
| 5/16 | 19320 | 3H963 | 24.46 | 0.9 |
| 3/8 | 19324 | 3H965 | 24.46 | 0.9 |
| 7/16 | 19328 | 3H967 | 24.46 | 0.9 |
| 1/2 | 19332 | 3H969 | 24.46 | 0.9 |
| 9/16 | 19336 | 3H971 | 24.46 | 0.9 |
| 5/8 | 19340 | 3H973 | 24.46 | 0.9 |
| 11/16 | 19344 | 3H975 | 24.46 | 0.9 |
| 3/4 | 19348 | 3H977 | 24.46 | 0.9 |
| 13/16 | 19352 | 3H979 | 24.46 | 0.9 |
| 7/8 | 19356 | 3H981 | 24.46 | 0.9 |
| 15/16 | 19360 | 3H983 | 24.46 | 0.9 |
| 1 | 19364 | 3H985 | 24.46 | 0.9 |
| 1 1/16 | 19372 | 3H987 | 24.46 | 0.9 |

## R8 COLLETS




- Constructed of hardened and precision ground fine-grain carbon steel
- 0.0005" TIR guaranteed
- Can be used on all milling machines with an R8 taper

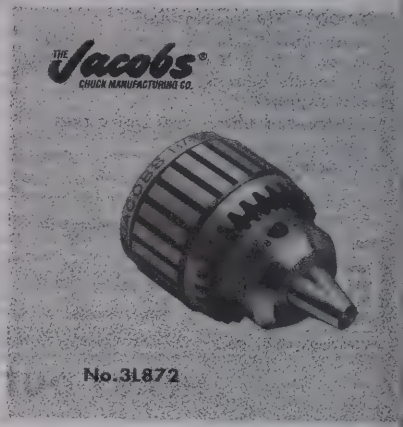
| Size (In.) | Royal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1/16 | 19504 | 3H989 | $24.46 | 0.8 |
| 1/8 | 19508 | 3H991 | 24.46 | 0.8 |
| 3/16 | 19512 | 3H993 | 24.46 | 0.8 |
| 1/4 | 19516 | 3H995 | 24.46 | 0.8 |
| 5/16 | 19520 | 3H997 | 24.46 | 0.8 |
| 3/8 | 19524 | 3H999 | 24.46 | 0.8 |
| 7/16 | 19528 | 3K046 | 24.46 | 0.8 |
| 1/2 | 19532 | 3K055 | 24.46 | 0.8 |
| 9/16 | 19536 | 3K066 | 24.46 | 0.8 |
| 5/8 | 19540 | 3K076 | 24.46 | 0.8 |
| 11/16 | 19544 | 3K078 | 24.46 | 0.8 |
| 3/4 | 19548 | 3K106 | 24.46 | 0.8 |
| 13/16 | 19552 | 3K108 | 24.46 | 0.8 |

# BALL AND PLAIN BEARING CHUCKS

## BALL BEARING SUPER CHUCKS

- **Ball bearing contraction maximizes gripping force and drilling accuracy**
- **Jaws center-ground for absolute straightness and alignment**
- **Jaws specially treated to ensure extended thread life and high gripping surface hardness**
- **One-piece sleeve eliminates crack between driving teeth often found in other designs**
- **Through-hardened sleeve teeth plus hardened nose and keyholes outstanding wear resistance**
- **Fluted sleeve standard**
- **Each chuck 100% inspected for performance and precision**

Designed for close tolerance production drilling on precision equipment. The Jacobs Super Chuck Ball Bearing Chuck is specifically engineered for heavy-duty, close tolerance production drilling. It is adaptable to a wide range of production drilling equipment, jig borers, milling machines, lathes and radials. Utilizing a ball thrust bearing to reduce friction to chuck closing mechanism, it permits the application of more gripping force on drill shanks to maximize drilling torque under the most demanding machining conditions.



No. 3L872

### BALL BEARING SUPER CHUCKS SPECIFICATIONS AND ORDERING DATA

| Capacity Range (In.) Min. | Max. | Mount Jacobs | Key No. | Dimensions (In.) Closed Length | Open Length | Sleeve Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **0*** | 0.250 | 2 JT† | K30 | 2.41 | 1.95 | 1.56 | 8-1/2N | **3L872** | **$78.55▲** | 0.6 |
| **0*** | 0.375 | 2 JT | K32 | 2.88 | 2.26 | 1.93 | 11N | **3L874** | **87.55▲** | 1.2 |
| **0*** | 0.500 | 3 JT | K3 | 3.88 | 2.97 | 2.44 | 14 N | **3L876** | **122.40▲** | 2.4 |
| **0.175** | 0.625 | 3 JT | K4 | 4.31 | 3.26 | 2.63 | 16N | **3L878** | **140.45▲** | 3.2 |
| **0.125** | 0.750 | 4JT | K4 | 5.12 | 3.95 | 3.01 | 18N | **3L880** | **211.75▲** | 4.1 |
| **0.375** | 1.000 | 5 JT | K5 | 5.50 | 4.23 | 3.65 | 20N | **3L882** | **284.75▲** | 6.3 |

(*) At minimum capacity will hold a No. 60 (0.040 in/1mm) drill. (†) No. 2 Jacobs Taper. (▲) Net prices, not subject to discounts.

## PLAIN BEARING CHUCKS — HEAVY-DUTY, TAPER MOUNT

- **Jaws center-ground for absolute straightness and alignment**
- **Specially treated jaws to ensure extended thread life and high gripping surface hardness**
- **Through-hardened sleeve teeth plus hardened nose and keyholes provide outstanding wear resistance**
- **Fluted sleeve standard except No. 3L856, which is smooth and ground**

For accuracy and durability on all types of industrial power and machine tools. Chucks can be used for medium- or heavy-duty portable, bench, or floor-mounted tools. This industrial chuck, with fully hardened and ground working components offers high accuracy, gripping power and durability. Both heavy- and medium-duty models are available in a wide range of capacities for use on threaded and taper mounted spindles.



No. 3M312

### PLAIN BEARING CHUCKS — HEAVY DUTY, TAPER MOUNT SPECIFICATIONS AND ORDERING DATA

| Capacity Range (In.) Min. | Max. | Mount Jacobs | Key No. | Dimensions (In.) Closed Length | Open Length | Sleeve Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **0.125** | 0.625 | 3 JT | K3 | 3.81 | 2.87 | 2.30 | 3A | **3M312** | **$95.15▲** | 2.1 |
| **0.125** | 0.625 | 3 JT | K3 | 4.06 | 3.12 | 2.29 | 3KD† | **3M315** | **127.80▲** | 2.1 |
| **0.125** | 0.625 | 3 JT | K3 | 4.06 | 3.12 | 2.29 | 3PD‡ | **3M318** | **149.35▲** | 2.1 |
| **0*** | 0.500 | 2 JT | K32 | 3.52 | 2.74 | 2.04 | 34-02 | **3L852** | **59.45▲** | 1.4 |
| **0*** | 0.500 | 6 JT | K3 | 3.52 | 2.74 | 2.04 | 34-06 | **3M522** | **79.35▲** | 1.5 |
| **0*** | 0.500 | 33 JT | K3 | 3.52 | 2.74 | 2.04 | 34-33 | **3L854** | **67.55▲** | 1.7 |
| **0*** | 0.500 | 33 JT | K3C | 3.71 | 2.93 | 2.00 | 34-33C# | **3L856** | **62.15▲** | 1.6 |
| **0.18** | 0.800 | 3 JT | K4 | 4.06 | 3.14 | 2.54 | 36 | **3M524** | **119.40▲** | 2.8 |
| **0.18** | 0.800 | 3 JT | K4 | 4.25 | 3.42 | 2.54 | 36KD† | **3L864** | **115.10▲** | 2.8 |
| **0.18** | 0.800 | 3 JT | K4 | 4.25 | 3.42 | 2.54 | 36PD‡ | **3L866** | **115.10▲** | 2.8 |

(*) At minimum capacity will hold a No. 60 (0.040 in/1mm) drill. (†) Equipped with positive drive slot. (‡) Equipped with pin-type positive drive.
(▲) Net prices, not subject to discounts.


*Set up your next job with quality cutting tools from Grainger.*

# PLAIN BEARING CHUCKS AND CHUCK KEYS

## PLAIN BEARING CHUCK, MEDIUM-DUTY, TAPER MOUNT

- Fluted sleeve standard, except No. 3M066
- Nos. 3M396, 3M520, and 3M398 are hammer capable



No. 3M066

### PLAIN BEARING CHUCK, MEDIUM-DUTY, TAPER MOUNT SPECIFICATIONS AND ORDERING DATA

| Capacity Range (In.) Min. | Max. | Mount | Key | Dimensions (In.) Closed Length | Open Length | Sleeve Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 0* | 0.156 | 0 JT | K0 | 1.45 | 1.10 | 0.850 | 0 | 3M066 | $52.70▲ | 0.1 |
| 0† | 0.250 | 1 JT | K1 | 1.92 | 1.54 | 1.180 | 1A | 3M301 | 42.50▲ | 0.3 |
| 0† | 0.375 | 2 JT | K2 | 2.81 | 2.17 | 1.670 | 2A | 3M306 | 58.75▲ | 0.9 |
| 0† | 0.375 | 1 JT | K30 | 2.49 | 2.01 | 1.420 | 31-01 | 3L858 | 64.35▲ | 0.5 |
| 0† | 0.375 | 2 JT | K30 | 2.49 | 2.01 | 1.420 | 31-02 | 3L860 | 67.20▲ | 0.5 |
| 0.08 | 0.500 | 33 JT | K32 | 3.21 | 2.52 | 1.792 | 33 | 3M396 | 65.75▲ | 1.0 |
| 0.08 | 0.500 | 0.6250 | K32 | 3.54 | 2.85 | 1.792 | 3326A | 3M520 | 83.45▲ | 1.1 |
| 0.08 | 0.500 | 33 JT | K32 | 3.46 | 2.77 | 1.792 | 33KD‡ | 3M398 | 73.25▲ | 1.1 |

*) No. 3M066 has a minimum capacity of a No. 80 (.0135 in./.344mm) drill. (†) At minimum capacity, will hold a No. 60 (0.040 in./1mm) drill.
‡) Equipped with a positive drive slot. (▲) Net prices, not subject to discounts.

## PLAIN BEARING CHUCKS, HEAVY-DUTY, THREAD MOUNT

- Fluted sleeve standard on all models



No. 3M344

### PLAIN BEARING CHUCKS, HEAVY-DUTY, THREAD MOUNT SPECIFICATIONS AND ORDERING DATA

| Capacity Range (In.) Min. | Max. | Mount | Key | Dimensions (In.) Closed Length | Open Length | Sleeve Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 0* | 0.250 | 3/4 - 24 | K7 | 2.23 | 1.74 | 1.53 | 7BA 3/8 | 3M344 | $48.35▲ | 0.5 |
| 0* | 0.375 | 1/2 - 20 | K32 | 3.05 | 2.31 | 1.79 | 32BA 1/2 | 3P036 | 63.85▲ | 0.9 |
| 0.025 | 0.625 | 5/8 - 16 | K3 | 3.81 | 2.84 | 2.29 | 3B 5/8 | 3M341 | 95.90▲ | 2.0 |
| 0.156 | 0.625 | 1/2 - 20 | K3 | 3.52 | 2.74 | 2.04 | 35B 1/2 | 3L862 | 72.25▲ | 1.6 |
| 0.188 | 0.800 | 3/4 - 16 | K4 | 4.12 | 3.20 | 2.54 | 36B 3/4 | 3M528 | 135.50▲ | 2.9 |
| 0.188 | 0.800 | 5/8 - 16 | K4 | 4.12 | 3.20 | 2.54 | 36B 5/8 | 3M526 | 144.30▲ | 2.9 |

*) At minimum capacity will hold a No. 60 (0.040 in./1mm) drill. (▲) Net prices, not subject to discounts.

## PLAIN BEARING CHUCKS, MEDIUM-DUTY, THREAD MOUNT

- Fluted sleeve standard, except Nos. 3M245, 3M304, and 3L964, which are smooth and ground
- New improved 41 Series Chucks (Nos. 3L964, 3L976, and 3L970) replace 31 Series Chucks



No. 3M345

### PLAIN BEARING CHUCKS, MEDIUM-DUTY, THREAD MOUNT SPECIFICATIONS AND ORDERING DATA

| Capacity Range (In.) Min. | Max. | Mount | Key | Dimensions (In.) Closed Length | Open Length | Sleeve Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 0* | 0.156 | 5/16 - 24 | K0 | 1.53 | 1.17 | 0.85 | OB 5/16 | 3M245 | $64.65▲ | 0.1 |
| 0† | 0.250 | 3/8 - 24 | K1 | 1.95 | 1.57 | 1.12 | 1B 3/8 | 3M304 | 43.15▲ | 0.3 |
| 0† | 0.375 | 3/8 - 24 | K2 | 2.81 | 2.17 | 1.67 | 2BA 3/8 | 3M308 | 57.80▲ | 0.9 |
| 0† | 0.375 | 3/8 - 24 | K30 | 2.50 | 2.05 | 1.43 | 41BA 3/8 | 3L964 | 51.10▲ | 0.6 |
| 0† | 0.375 | 3/8 - 24 | K30 | 2.50 | 2.05 | 1.43 | 41BA 3/8 - S | 3L976 | 51.10▲ | 0.5 |
| 0† | 0.375 | 1/2 - 20 | K30 | 2.50 | 2.05 | 1.43 | 41BA 1/2 | 3L970 | 67.90▲ | 0.5 |
| 0.08 | 0.500 | 1/2 - 20 | K32 | 3.09 | 2.43 | 1.79 | 33BA 1/2 | 3M453 | 59.65▲ | 1.1 |
| 0.08 | 0.500 | 3/8 - 24 | K32 | 3.09 | 2.43 | 1.79 | 33BA 3/8 | 3M400 | 62.25▲ | 1.1 |
| 0.08 | 0.500 | 5/8 - 16 | K32 | 3.09 | 2.43 | 1.79 | 3BA 5/8 | 3M502 | 62.10▲ | 1.1 |

*) No. 3M245 has a minimum capacity of a No. 80 (.0135 in./.344 mm) drill. (†) At minimum capacity, will hold a No. 60 (0.040 in./1mm) drill.
▲) Net pricing, not subject to discounts.

# SELF-EJECTING KEYS, WEDGE SETS, DRAIN AND KEYLESS CHUCKS

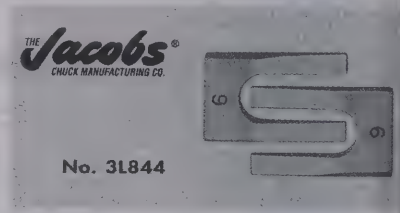
## SELF-EJECTING KEYS

| Pilot Size (In.) | Used On Nos. | Jacob Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 5/16 | 3M312, 3M315, 3M318, 3L854, 3M522, 3L854, 3L856, 3L876 | S-K3C | 3L868 | $7.65 ▲ | 0.2 |
| 9/32 | DC8, SM8, 74K, 23BA, 29033 | S-KK | 3L980 | 7.38 ▲ | 0.2 |

(▲) Net prices, not subject to discounts.

## WEDGE SETS

- For removing taper mount chucks from arbors
- For removing Jacobs® tapers No. 4 and 5, stack No. 3 and 6 Wedge Sets together

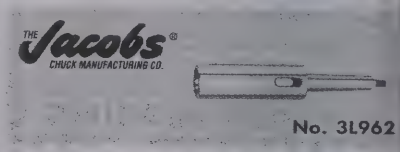



| Used On | Jacob Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1JT | #1 Wedge Set | 3L844 | $5.50 ▲ | 0.2 |
| 2JT | #2 Wedge Set | 3L846 | 5.50 ▲ | 0.2 |
| 3JT | #3 Wedge Set | 3L848 | 5.50 ▲ | 0.2 |
| 6JT & 33JT | #6 Wedge Set | 3L850 | 5.50 ▲ | 0.2 |

(▲) Net prices, not subject to discounts.

## DRAIN CHUCKS

- Specifically designed for use with flexible coil spring tools
- Allows coil spring to pass through chuck
- Chuck may be hand-tightened to secure coil spring at desired length, transmitting tool rotation to shaft
- Ideal for soil pipe and sewer cleaning tools

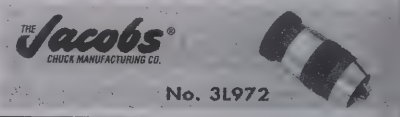



| Capacity Range (In.) Min. | Max. | Thread Mount | Dimensions (In.) Closed Length | Open Length | Sleeve Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 0.25 | 0.5 | 13/16 - 20 | 2.49 | 2.49 | 1.7 | DC4595 | 3L962 | $55.80▲ | 0.3 |

(▲) Net prices, not subject to discounts.

## INDUSTRIAL KEYLESS CHUCKS

- Tightened and released by hand, these chucks permit more rapid tooling changes
- For general machining operations
- Precision tested and certified

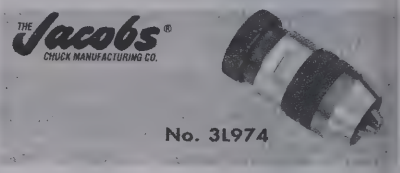



| Capacity Range (In.) Min. | Max. | Mount | Dimensions (In.) Closed Length | Open Length | Sleeve Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.255 | 1JT | 2.76 | 2.44 | 1.28 | JKP 65-J1 | 3L972 | $144.1▲ | 0.7 |
| 0.0 | 0.315 | J2S | 2.91 | 2.64 | 1.46 | JKP 80-J2S | 3P038 | 144.10▲ | 0.9 |
| 0.0 | 0.394 | J2 | 3.50 | 3.19 | 1.61 | JKP 100-J2 | 3P040 | 155.00▲ | 1.4 |
| 0.0 | 0.394 | J33 | 3.50 | 3.19 | 1.61 | JKP 100-J33 | 3P042 | 155.00▲ | 1.4 |
| 0.039 | 0.512 | J2 | 3.90 | 3.46 | 1.81 | JKP 130-J2 | 3P046 | 165.75▲ | 2.0 |
| 0.039 | 0.512 | J33 | 3.90 | 3.46 | 1.81 | JKP 130J33 | 3P044 | 165.75▲ | 2.0 |
| 0.039 | 0.512 | J6 | 3.90 | 3.46 | 1.81 | JKP 130-J6 | 3P048 | 165.75▲ | 2.0 |
| 0.118 | 0.630 | J6 | 4.21 | 3.74 | 2.17 | JKP 160-J6 | 3P050 | 192.25▲ | 2.8 |

(▲) Net prices, not subject to discounts.

## INDUSTRIAL KEYLESS CHUCKS, HIGH TORQUE/HIGH PRECISION MODEL

- Precision tested and certified to .0016" T.I.R. or better
- For use on CNC machining centers in drilling, boring, counter-boring and milling operations requiring heavy penetration
- Furnished with milled wrench flats and spanner wrench to allow the application of supplementary gripping torque
- Light tightening increases gripping torque up to 3 times higher than hand tightening
- Resists tool loosening on high speed machines with right hand rotation and instant spindle stop




| Capacity Range (In.) Min. | Max. | Mount | Dimensions (In.) Closed Length | Open Length | Sleeve Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 0.000 | 0.255 | 1JT | 2.76 | 2.44 | 1.28 | JKT 65-J1 | 3L974 | $160.25▲ | 0.7 |
| 0.000 | 0.315 | J2S | 2.91 | 2.64 | 1.46 | JKT 80-J2S | 3L940 | 160.25▲ | 0.9 |
| 0.039 | 0.512 | J2 | 3.90 | 3.46 | 1.81 | JKT 130-J2 | 3L942 | 192.25▲ | 2.0 |
| 0.039 | 0.512 | J33 | 3.90 | 3.46 | 1.81 | JKT 130J33 | 3L944 | 192.25▲ | 2.8 |
| 0.039 | 0.512 | J6 | 3.90 | 3.46 | 1.81 | JKT 130-J6 | 3L946 | 192.25▲ | 2.0 |
| 0.118 | 0.630 | J6 | 4.21 | 3.74 | 1.81 | JKT 160-J6 | 3L948 | 229.50▲ | 2.6 |

(▲) Net prices, not subject to discounts.



Set up your next job with quality cutting tools from Grainger.

# KEYLESS DRILL CHUCK & STAINLESS STEEL CHUCKS

## HAND-TITE® KEYLESS DRILL CHUCKS

- **Keyless Operation—Permits fast bit changes without lost key delays**
- **Superior Gripping Force—Provides high mechanical advantage to convert hand tightening torque into superior bit gripping force**
- **Versatility—Models available to fit all 10mm (3/8 in.) and 13mm (1/2 in.) variable speed corded and cordless portable drills**
- **Precision Operations—Meet or exceed stringent DIN run-out and dimensional specifications**
- **Ergonomic Design—Material and surface finish result in increased comfort and performance**
- **Rugged Construction—Constructed of high performance materials to maximize durability and performance**



No. 3L888

Patented keyless design, with 10 and 13mm capacities, produces greater bit gripping force than conventional keyed chucks. Hand-Tite keyless operation increases operator productivity by speeding bit changeovers and eliminating loss of key delays. Ergonomic design increases hand tightening efficiency and user comfort.

| Features | Capacity Range (In.) Min. | Max. | Thread Mount | Dimensions (In.) Overall Length | Sleeve Dia. | Boss/Body Clearance | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3/8" CAPACITY (10MM)** | | | | | | | | | | |
| **Metal Sleeve, Exposed Jaws, Black Finish** | 0.04 | 0.375 | 3/8 - 24 | 2.25 | 1.68 | 0.126 | 30354 | **3L888** | **$20.69▲** | 0.5 |
| **1/2" CAPACITY (13MM)** | | | | | | | | | | |
| **Hard Nose, Black Finish** | 0.062 | 0.500 | 1/2 - 20 | 2.90 | 1.68 | 0.082 | 31038 | **3L968** | **32.00▲** | 0.7 |
| **Hard Nose, Black Finish** | 0.062 | 0.500 | 3/8 - 24 | 2.90 | 1.68 | 0.082 | 31037 | **3L966** | **32.00▲** | 0.8 |

▲) Net prices, not subject to discounts.

## HAND-TITE® KEYLESS HAMMER DRILL CHUCKS

- **Hammerlock Mechanism—Automatically engages as chuck is tightened, maintains full gripping pressure to prevent bit slippage**
- **Precision Operation—Meets or exceeds stringent DIN run-out and dimensional specifications**
- **Ergonomic Design—Non-slip gripping surfaces enhance hand tightening capability and user comfort**
- **Hard Nose—Protects chuck from work surface abrasion**
- **Rugged Construction—Provides extended service under the most demanding concrete hole drilling conditions**
- **Keyless Convenience—Offers fast bit changeover, superior gripping force and no lost key delays**
- **Performance—Tested and approved on a wide range of AC powered and cordless hammer drills**



No. 3L978

Patented Hammerlock mechanism expands Hand-Tite keyless chuck performance and convenience to include 1/2 in. (13mm) AC or cordless hammer drills. Hand-Tite chucks are designed specifically for use on professional hammer drills and are equipped with the Hammerlock mechanism. This patented device automatically engages as the chuck is tightened on the drill bit. It maintains full gripping pressure to prevent drill bit slippage. Unlike rigid locking systems which cannot compensate for the effects of impact and vibration, the Hammerlock system absorbs and compensates for these forces.

| Features | Capacity Range (In.) Min. | Max. | Thread Mount | Dimensions (In.) Overall Length | Sleeve Dia. | Boss/Body Clearance | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/2" Capacity (13mm) Hammerlock Mechanism, Black Finish** | 0.062 | 0.500 | 1/2-20 | 2.90 | 1.68 | 0.082 | 31237 | **3L978** | **$37.95▲** | 0.3 |

(▲) Net prices, not subject to discounts.

## STAINLESS STEEL CHUCKS

- **For special applications on either portable air operated or stationary machine tools**
- **Resist chemical corrosion and reduce potential for hazardous sparking**



No. 3M530

| Capacity Range Min.* | Max. | Mount Style | Key No. | Dimensions (In.) Closed Length | Open Length | Sleeve Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.156 | 0 JT† | K0M | 1.45 | 1.10 | 0.85 | 0M | **3M530** | **$105.75▲** | 0.1 |
| 0 | 0.156 | 5/16-24 | K0M | 1.53 | 1.17 | 0.85 | 0MB 5/16 | **3M551** | **104.75▲** | 0.1 |
| 0 | 0.25 | 1 JT† | K1M | 1.92 | 1.54 | 1.12 | 1M | **3M584** | **97.20▲** | 0.3 |
| 0 | 0.25 | 5/16-24 | K1M | 1.95 | 1.57 | 1.12 | 1BM 5/16 | **3M749** | **106.30▲** | 0.3 |
| 0 | 0.25 | 3/8-24 | K1M | 1.95 | 1.57 | 1.12 | 1BM 3/8 | **3N049** | **103.75▲** | 0.3 |

*) Minimum capacity will hold a No. 70 (0.028 in./711mm) drill. (†) Jacobs taper. (▲) Net prices, not subject to discounts.

# DRILL CHUCKS AND ARBORS

## MULTI-CRAFT CHUCKS

- Features through-hardened jaws
- Ideal for corded or cordless reversible or nonreversible power drills
- Offered in 1/4, 3/8 and 1/2 in. capacities
- Through-hardened jaws for hard, wear resistant gripping surfaces

### MULTI-CRAFT CHUCKS SPECIFICATIONS AND ORDERING DATA

| Capacity Range (In.) Min. | Max. | Thread Mount | Key No. | Sleeve Finish | Dia. (In.) | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/4" CAPACITY** | | | | | | | | | |
| **0.028** | 0.250 | 3/8-24 | KG1 | Ground-Matte Band | 1.13 | 30243 | **3L884** | **$11.01▲** | 0.1 |
| **3/8" CAPACITY** | | | | | | | | | |
| **0.062** | 0.375 | 3/8-24 | KG1 | Ground-Black Band | 1.22 | 30247 | **3L886** | **13.31▲** | 0.1 |
| **1/2" CAPACITY** | | | | | | | | | |
| **0.078** | 0.500 | 3/8-24 | KK | Ground-Bright Band | 1.61 | 30598 | **3L950** | **17.61▲** | 0.2 |
| **0.078** | 0.500 | 1/2-20 | KK | Ground-Bright Band | 1.61 | 30602 | **3L952** | **17.61▲** | 0.8 |

(▲) Net prices, not subject to discounts.



No. 3L884

## ARBORS

- Precision machined and ground to master gages for maximum performance with Jacobs drill and tap chucks
- Adapt Jacobs taper to: Morse tapers, straight shanks, threaded shanks, and Bridgeport tapers
- Ideal for use with custom tool and work holder designs, and specialized machining applications

Precision CNC machined and ground to ensure high accuracy and close-tolerance fit.

### ARBORS SPECIFICATIONS AND ORDERING DATA

| Description | Overall Length Inches | Millimeters | Weight Ea. (Oz.) | AO No. | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **MORSE TAPER TO JACOBS® TAPER** | | | | | | | | |
| **2 Morse x 1JT** | 3.94 | 100.0 | 4 | AO201 | 7306 | **3N052** | **$13.53▲** | 0.3 |
| **2 Morse x 2JT** | 4.16 | 105.6 | 5 | AO202 | 7307 | **3N054** | **11.06▲** | 0.3 |
| **2 Morse x 3JT** | 4.50 | 114.3 | 7 | AO203 | 7308 | **3N056** | **10.85▲** | 0.5 |
| **2 Morse x 4JT** | 4.94 | 125.4 | 12 | AO204 | 7309 | **3N063** | **13.86▲** | 0.8 |
| **2 Morse x 6JT** | 4.28 | 108.7 | 5 | AO206 | 7311 | **3N065** | **14.88▲** | 0.3 |
| **2 Morse x 33JT** | 4.28 | 108.7 | 5 | AO233 | 7312 | **3N092** | **11.06▲** | 0.3 |
| **3 Morse x 1JT** | 4.69 | 119.1 | 10 | AO301 | 7313 | **3N094** | **15.47▲** | 0.6 |
| **3 Morse x 2JT** | 4.94 | 125.4 | 10 | AO302 | 7314 | **3N096** | **15.47▲** | 0.6 |
| **3 Morse x 3JT** | 5.27 | 133.8 | 12 | AO303 | 7315 | **3N098** | **15.17▲** | 0.8 |
| **3 Morse x 4JT** | 5.70 | 144.9 | 17 | AO304 | 7316 | **3N100** | **17.03▲** | 1.1 |
| **3 Morse x 5JT** | 5.94 | 150.8 | 23 | AO305 | 7317 | **3N163** | **18.08▲** | 1.4 |
| **3 Morse x 6JT** | 5.06 | 128.6 | 11 | AO306 | 7318 | **3N165** | **15.47▲** | 0.7 |
| **3 Morse x 33JT** | 5.06 | 128.6 | 11 | AO333 | 7319 | **3N167** | **15.47▲** | 0.7 |
| **4 Morse x 2JT** | 5.91 | 150.0 | 21 | AO402 | 7320 | **3N177** | **26.90▲** | 1.3 |
| **4 Morse x 3JT** | 6.25 | 158.8 | 23 | AO403 | 7321 | **3N209** | **23.60▲** | 1.4 |
| **4 Morse x 4JT** | 6.69 | 169.9 | 30 | AO404 | 7322 | **3N211** | **23.60▲** | 1.8 |
| **4 Morse x 5JT** | 6.91 | 175.4 | 35 | AO405 | 7323 | **3N213** | **33.05▲** | 2.2 |
| **4 Morse x 6JT** | 6.03 | 153.2 | 21 | AO406 | 7324 | **3N315** | **24.05▲** | 1.3 |
| **4 Morse x 33JT** | 6.06 | 154.0 | 22 | AO433 | 7325 | **3N319** | **24.90▲** | 1.4 |
| **5 Morse x 3JT** | 7.50 | 190.5 | 53 | AO503 | 7327 | **3N321** | **49.10▲** | 3.3 |
| **5 Morse x 4JT** | 7.94 | 201.6 | 58 | AO504 | 7328 | **3N438** | **48.35▲** | 3.6 |
| **5 Morse x 5JT** | 8.16 | 207.2 | 65 | AO505 | 7329 | **3N440** | **47.75▲** | 4.1 |

(▲) Net prices, not subject to discounts.



No. 3N052
Morse Taper to
Jacobs Taper

CONTINUED ON NEXT PAGE

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# BRIDGEPORT AND MORSE TAPERS AND STRAIGHT SHANK ARBORS

## ARBORS

- Precision machined and ground to master gages for maximum performance with Jacobs drill and tap chucks
- Adapt Jacobs taper to: Morse tapers, straight shanks, threaded shanks, and Bridgeport tapers
- Ideal for use with custom tool and work holder designs, and specialized machining applications

Precision CNC machined and ground to ensure high accuracy and close-tolerance fit.

### ARBOR SPECIFICATIONS AND ORDERING DATA, CONTINUED

| Mount Jacobs | Overall Length (In.) Min. | Max. | Length (In.) Min. | Max. | Diameter (In.) Min. | Max. | AO No. | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BRIDGEPORT TAPERS** | | | | | | | | | | | |
| 2 JT | 5.18 | 5.20 | 0.91 | 0.92 | 0.49 | 0.49 | AO802 | 7339 | **3N448** | **$59.80▲** | 1.0 |
| 3 JT | 5.53 | 5.55 | 1.25 | 1.27 | 0.75 | 0.75 | AO803 | 7340 | **3N457** | **59.80▲** | 1.1 |
| 6 JT | 5.31 | 5.33 | 1.03 | 1.05 | 0.62 | 0.63 | AO806 | 7342 | **3N459** | **59.80▲** | 1.0 |
| 33 JT | 5.31 | 5.33 | 1.03 | 1.05 | 0.56 | 0.56 | AO833 | 7343 | **3N468** | **59.80▲** | 1.0 |



No. 3N448
Bridgeport Taper

### THREADED SHANK-TO-MORSE TAPER

| Description | Overall Length (In.) | Threaded Extension (In.) | AO No. | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **2 Morse 3/8 x 24** | 3.69 | 0.56 | AO261 | 7345 | **3N999** | **$40.35▲** | 0.3 |
| **2 Morse 1/2 x 20** | 4.06 | 0.56 | AO264 | 7346 | **3P002** | **40.35▲** | 0.3 |
| **2 Morse 5/8 x 16** | 4.19 | 0.69 | AO268 | 7347 | **3P004** | **40.35▲** | 0.3 |



No. 3N999
Threaded
Shank-to-Morse Taper

### STRAIGHT SHANK-TO-JACOBS TAPER

| Description | Straight Shank (In.) | Overall Length (In.) | AO No. | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2 x 0JT** | 2.500 | 3.094 | A4000 | 7348 | **3P006** | **$11.13▲** | 0.1 |
| **1/2 x 1JT** | 2.500 | 3.312 | A4001 | 7349 | **3P008** | **11.13▲** | 0.1 |
| **1/2 x 2JT** | 2.500 | 3.531 | A4002 | 7350 | **3P010** | **11.13▲** | 0.1 |
| **1/2 x 3JT** | 2.500 | 3.875 | A4003 | 7351 | **3P012** | **11.13▲** | 0.3 |
| **1/2 x 6JT** | 2.500 | 3.656 | A4006 | 7353 | **3P014** | **14.52▲** | 0.3 |
| **1/2 x 33JT** | 2.500 | 3.656 | A4033 | 7354 | **3P016** | **11.13▲** | 0.3 |
| **5/8 x 1JT** | 2.500 | 3.312 | A4101 | 7355 | **3P018** | **13.72▲** | 0.3 |
| **5/8 x 2JT** | 2.500 | 3.531 | A4102 | 7356 | **3P020** | **13.72▲** | 0.3 |
| **5/8 x 3JT** | 2.500 | 3.875 | A4103 | 7357 | **3P022** | **19.22▲** | 0.4 |
| **5/8 x 6JT** | 2.500 | 3.656 | A4106 | 7359 | **3P024** | **14.98▲** | 0.3 |
| **5/8 x 33JT** | 2.500 | 3.656 | A4133 | 7360 | **3P026** | **12.79▲** | 0.3 |
| **3/4 x 2JT** | 3.000 | 4.031 | A4202 | 7361 | **3P028** | **19.22▲** | 0.4 |
| **3/4 x 3JT** | 3.000 | 4.375 | A4203 | 7362 | **3P030** | **17.56▲** | 0.4 |
| **3/4 x 6JT** | 3.000 | 4.156 | A4206 | 7364 | **3P032** | **20.43▲** | 0.4 |
| **3/4 x 33JT** | 3.000 | 4.156 | A4233 | 7365 | **3P034** | **20.73▲** | 0.4 |

▲) Net prices, not subject to discounts.



No. 3P006
Straight
Shank-to-Jacobs Taper

## DRILL DRIFTS

Hardened and zinc plated drill drifts are used for removing taper shanks from sleeves or spindles.

### DRILL DRAFT SPECIFICATIONS AND ORDERING DATA

| Fits Morse Taper Sockets & Sleeves | Length (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **MT1** | 4½ | **4H106** | **$2.77** | 0.1 |
| **MT2** | 5¼ | **4H104** | **2.77** | 0.2 |
| **MT3** | 6 | **4H102** | **3.48** | 0.3 |
| **MT4-5-6** | 7 | **4H100** | **4.54** | 0.4 |



No. 4H106


DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# DRILL SLEEVES AND TAPER EXTENSION SOCKETS

## MORSE TAPER DRILL SLEEVES

- Archer Series 600
- Adapt smaller Morse taper shank tools to larger machine spindles
- Oil toughened and externally precision ground with hardened tang
- Outside Morse taper sizes are 1 thru 6; inside Morse taper sizes are 0 thru 5




### DRILL SLEEVES ORDERING DATA

| Morse Taper No. Outside | Morse Taper No. Inside | Overall Length Inches | Overall Length Millimeters | Jacobs Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | 0 | 2.56 | 65 | 610 | 3L890 | $7.08▲ | 0.1 |
| 2 | 1 | 3.62 | 92 | 621 | 3L892 | 7.08▲ | 0.1 |
| 3 | 2 | 4.38 | 111 | 632 | 3L894 | 9.24▲ | 0.4 |
| 3 | 1 | 3.88 | 98 | 631 | 3L896 | 9.24▲ | 0.4 |
| 4 | 3 | 5.50 | 140 | 643 | 3L898 | 12.79▲ | 0.8 |
| 4 | 2 | 4.88 | 124 | 642 | 3L900 | 13.62▲ | 0.9 |
| 4 | 1 | 4.88 | 124 | 641 | 3L902 | 13.62▲ | 1.1 |
| 5 | 1 | 6.12 | 156 | 651 | 3L954 | 26.30▲ | 2.9 |
| 5 | 4 | 6.69 | 170 | 654 | 3L904 | 25.15▲ | 2.2 |
| 5 | 3 | 6.12 | 156 | 653 | 3L906 | 25.15▲ | 2.6 |
| 5 | 2 | 6.12 | 156 | 652 | 3L908 | 26.30▲ | 2.9 |
| 6 | 4 | 8.56 | 217 | 664 | 3L956 | 65.90▲ | 5.5 |
| 6 | 5 | 8.56 | 217 | 665 | 3L910 | 65.90▲ | 5.7 |

(▲) Net prices, not subject to discounts.

## MORSE TAPER EXTENSION SOCKETS

- Archer Series 800
- Extend tool lengths and application distances while adapting for increases or decreases in applied tool Morse taper sizes
- Externally precision ground with hardened tang
- Outside and inside Morse taper sizes are 1 through 5




### MORSE TAPER EXTENSION SOCKET SPECIFICATIONS AND ORDERNG DATA

| Morse Taper No. Outside | Morse Taper No. Inside | Overall Length Inches | Overall Length Millimeters | Length Inches | Length Millimeters | Diameter Inches | Diameter Millimeters | Jacobs Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 5.71 | 145 | 2.99 | 76 | 0.79 | 20 | 811 | 3L912 | $17.79▲ | 0.3 |
| 1 | 2 | 6.30 | 160 | 3.58 | 91 | 1.18 | 30 | 812 | 3L914 | 20.53▲ | 0.9 |
| 2 | 1 | 6.30 | 160 | 2.99 | 76 | 0.79 | 20 | 821 | 3L916 | 17.79▲ | 0.6 |
| 2 | 2 | 6.89 | 175 | 3.58 | 91 | 1.18 | 30 | 822 | 3L918 | 26.05▲ | 1.0 |
| 2 | 3 | 7.72 | 196 | 4.41 | 112 | 1.42 | 36 | 823 | 3L920 | 31.85▲ | 1.5 |
| 3 | 1 | 6.89 | 175 | 2.99 | 76 | 0.79 | 20 | 831 | 3L922 | 20.53▲ | 0.9 |
| 3 | 2 | 7.72 | 194 | 3.58 | 91 | 1.18 | 30 | 832 | 3L924 | 26.05▲ | 1.4 |
| 3 | 3 | 6.89 | 215 | 4.41 | 112 | 1.42 | 36 | 833 | 3L926 | 33.25▲ | 1.9 |
| 3 | 4 | 7.64 | 240 | 5.39 | 137 | 1.89 | 48 | 834 | 3L928 | 51.50▲ | 3.4 |
| 4 | 2 | 8.46 | 215 | 3.58 | 91 | 1.18 | 30 | 842 | 3L958 | 32.85▲ | 2.6 |
| 4 | 3 | 9.45 | 240 | 4.41 | 112 | 1.42 | 36 | 843 | 3L930 | 32.85▲ | 2.6 |
| 4 | 4 | 8.46 | 265 | 5.39 | 137 | 1.89 | 48 | 844 | 3L932 | 53.15▲ | 4.1 |
| 4 | 5 | 9.45 | 300 | 6.77 | 172 | 2.48 | 63 | 845 | 3L934 | 97.05▲ | 4.8 |
| 5 | 3 | 10.43 | 263 | 4.41 | 112 | 1.42 | 36 | 853 | 3L960 | 49.85▲ | 6.3 |
| 5 | 4 | 11.81 | 300 | 5.39 | 137 | 1.89 | 48 | 854 | 3L936 | 53.05▲ | 6.4 |
| 5 | 5 | 13.19 | 335 | 6.77 | 172 | 2.48 | 63 | 855 | 3L938 | 97.15▲ | 4.8 |

(▲) Net prices, not subject to discounts.

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

## ZIP/BURR SETS:"B" & "E" SERIES

- Holder telescopes from 1/2 to 5"
- Handle has storage compartment for blades
- "B" series blades can be inserted at 90° for deburring cross holes
- No. 3K189 Set includes: handle, telescoping blades holder, one B-10 blade, and one B-20 blade
- No. 3K203 set includes: handle, telescoping blades holder, one E-100 blade, one E-200 blade, and one E-300 blade

| Description | Series | Royal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Complete Zip/Burr "B" Set | B | 22600 | 3K189 | $7.83 | 0.3 |
| Zip/Burr Blade Holder Only | B | 22614 | 3K198 | 3.91 | 0.5 |
| Complete Zip/Burr "E" Set | E | 22620 | 3K203 | 8.81 | 0.5 |
| Zip/Burr Blade Holder Only | E | 22633 | 3K209 | 3.91 | 0.5 |
| Zip/Burr Handle | B, E | 22610 | 3K193 | 2.94 | 0.5 |

## ZIP/BURR KIT

Kit includes Double Burr, Zip/Burr Handle, Zip/Burr "B" Holder, B-10 and B-20 Blade, Zip/Burr "E" Holder, E-100 E-200, E-300 Blades, Storage Case; Zip/Burr "K" Holder, Standard Keyway Blade for slots 1/8 to 1/4" wide; Zip/Burr "C" Holder, C-12½" Countersink, C-20¾" Countersink, Two Zip/Burr "D" Holders, D-50 HSS Mini-Scraper, and D-66 HSS Internal Scraper.

**No. 3K215.** Royal brand (22800). Shpg. wt. 2.4 lbs. List $70.00. Each ..... $68.50

## STARTER ZIP/BURR SET

- Set includes: Zip/Burr Handle, Zip/Burr "B" Holder, B-10, B-20, and B-30 Blades; Zip/Burr "E", E-200, and E-300 blades

**No. 3K220.** Royal Brand (22820). Shpg. wt. 0.4 lbs. List $14.00. Each ..... $13.70

## SLIM GRIP DISPOSABLE BURR

- Low-cost throwaway deburing tool
- Uses one E-100 blade, included
- Pocket clip on handle

**No. 3K179.** Royal brand (22050). Shpg. wt. 0.8 lbs. List $28.00. Each ..... $27.40

## SLIM GRIP CHANGE-A-BURR "E" BLADE

- Similar to Disposable Burr but blade can be replaced
- Accepts any "E" series blades
- One E-100 blade included
- Royal brand (22172)

**No. 3K187.** Shpg. wt. 2.2 lbs. List $55.00. Each ..... $53.85

## MULTI/BURR 5

- Blades can be stored in lightweight plastic handle
- Accepts any "E" Series blade
- Blades easily changed by depressing locking button
- Includes handle and 1 each of following: E-100, E-200, E-350, E-101, and E-102
- Royal brand

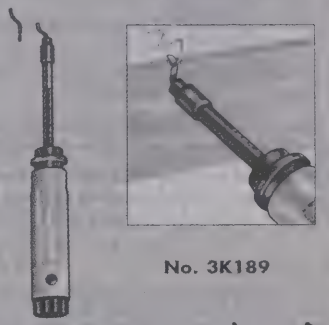
**No. 3K127.** Shpg. wt. 0.2 lbs. List $9.00. Each ..... $8.81

## REPLACEMENT BLADES

- All blades made of high speed steel
- "B" Blades are 0.10 in. dia. for working tight areas
- "E" Blades are 0.12 in. dia. for extra strength
- Sold in packages of 10

| Description | Royal Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| B-10 Blades for steel and aluminum | 22110 | 3K181 | $14.68 | 0.2 |
| B-20 Blades for brass and cast iron | 22120 | 3K183 | 14.68 | 0.2 |
| B-30 Blades for removing internal and external burrs simultaneously | 22130 | 3K185 | 15.66 | 0.2 |
| E-100 Blades for steel and aluminum | 22025 | 3K135 | 18.59 | 0.2 |
| E-200 Blades for brass and cast iron | 22030 | 3K137 | 18.59 | 0.2 |
| E-300 Blades for removing internal and external burrs simultaneously | 22040 | 3K158 | 18.59 | 0.2 |
| E-350 Blades for straight edges on all materials | 22035 | 3K145 | 18.59 | 0.2 |
| E-101 Blades for holes as small as 7/64" diameter | 22037 | 3K151 | 18.59 | 0.2 |
| E-102 Blades for small holes in brass and cast iron | 22039 | 3K154 | 18.59 | 0.2 |

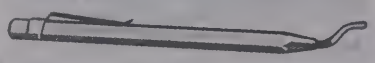
ROYAL PRODUCTS



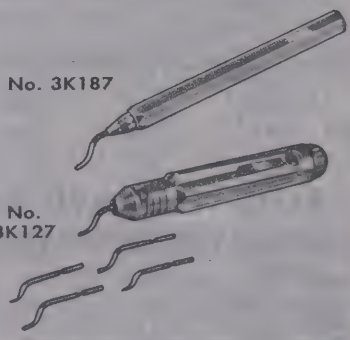
No. 3K189



No. 3K215 No. 3K220

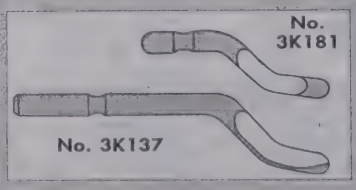


No. 3K179



No. 3K187

No. 3K127



No. 3K181

No. 3K137

# SHIM STOCK

## STEEL SHIM STOCK

- Made from full hard, cold rolled, low carbon 1010 material with a bright finish; Rockwell Hardness: RB90-100
- Use in general shimming applications and tool & die fields
- Used where hardness, flatness and accuracy are required
- Material can be punched or sheared with minimum burring and distortion
- Stiff and springy and has not been annealed after final cold rolling; Meets ASTM A-109 and AISI 1010

### 6 x 100" STEEL SHIM STOCK

| Thickness Decimal | Thickness Metric | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0.001 | 0.025 | 16130 | 3L432 | $9.83 | 0.3 |
| 0.0015 | 0.038 | 16155 | 3L434 | 11.67 | 0.3 |
| 0.002 | 0.051 | 16195 | 3L436 | 6.72 | 0.4 |
| 0.0025 | 0.064 | 16215 | 3L438 | 7.08 | 0.4 |
| 0.003 | 0.076 | 16245 | 3L441 | 8.57 | 0.6 |
| 0.0035 | 0.089 | 16265 | 3L443 | 9.14 | 0.6 |
| 0.004 | 0.102 | 16280 | 3L445 | 8.22 | 0.7 |
| 0.005 | 0.127 | 16320 | 3L447 | 7.53 | 1.0 |
| 0.006 | 0.152 | 16345 | 3L449 | 7.18 | 1.1 |
| 0.007 | 0.178 | 16370 | 3L452 | 7.51 | 1.3 |
| 0.008 | 0.203 | 16395 | 3L454 | 7.42 | 1.5 |
| 0.009 | 0.229 | 16415 | 3L456 | 7.79 | 1.7 |
| 0.010 | 0.254 | 16450 | 3L458 | 7.91 | 1.8 |
| 0.012 | 0.305 | 16480 | 3L461 | 7.74 | 2.2 |
| 0.0135 | 0.343 | 16500 | 3L463 | 8.02 | 2.3 |
| 0.015 | 0.381 | 16530 | 3L465 | 7.35 | 2.8 |
| 0.0165 | 0.419 | 16550 | 3L467 | 8.40 | 3.2 |
| 0.018 | 0.457 | 16560 | 3L469 | 8.32 | 3.6 |
| 0.020 | 0.508 | 16590 | 3L472 | 8.32 | 3.9 |
| 0.022 | 0.559 | 16610 | 3L474 | 8.68 | 4.3 |
| 0.025 | 0.635 | 16630 | 3L476 | 8.89 | 5.0 |
| 0.031 | 0.787 | 16660 | 3L478 | 9.35 | 6.6 |

### 6 X 12" STEEL SHIM STOCK ASSORTMENT

| Thickness Range (In.)* | No. of Pcs. | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| .001 - .015 | 12 | 16680 | 3L481 | $27.15 | 1.7 |
| .001 - .031† | 15 | 16685 | 3L483 | 32.75 | 3.3 |

(*) Thicknesses included are: .001, .0015, .002, .003, .004, .005, .006, .007, .008, .010, .012, and .015 in.
(†) Thicknesses included same as No. 3L481 plus .020, .025, and .031 in.

## STAINLESS STEEL SHIM STOCK

- Made from a full hard, cold rolled, Type 302 with a bright finish
- Used in conventional power plants, nuclear plants, oil and gas refineries and desalinization projects; used in applications where corrosion resistance and hardness is required
- Rockwell Hardness: RC 40-45
- Meets SAE 30302, AISI T302 and ASTM A666

### 6 x 50" STAINLESS STEEL SHIM STOCK

| Thickness Decimal | Thickness Metric | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| .0005 | 0.013 | 22110 | 3L596 | $56.70 | 0.2 |
| .001 | 0.025 | 22125 | 3L598 | 27.35 | 0.2 |
| .0015 | 0.038 | 22126 | 3L601 | 25.05 | 0.2 |
| .002 | 0.051 | 22150 | 3L603 | 17.35 | 0.3 |
| .003 | 0.076 | 22175 | 3L605 | 16.62 | 0.3 |
| .004 | 0.102 | 22195 | 3L607 | 16.21 | 0.4 |
| .005 | 0.127 | 22220 | 3L609 | 18.65 | 0.6 |
| .006 | 0.152 | 22240 | 3L685 | 18.63 | 0.6 |
| .007 | 0.178 | 22260 | 3L687 | 19.21 | 0.7 |
| .008 | 0.203 | 22285 | 3L689 | 19.52 | 0.8 |
| .009 | 0.229 | 22305 | 3L691 | 21.98 | 0.9 |
| .010 | 0.254 | 22320 | 3L693 | 20.26 | 1.0 |
| .012 | 0.305 | 22340 | 3L695 | 21.17 | 1.2 |
| .015 | 0.381 | 22365 | 3L697 | 22.90 | 1.5 |
| .020 | 0.508 | 22390 | 3L699 | 27.20 | 2.2 |
| .025 | 0.635 | 22410 | 3L701 | 31.90 | 2.7 |
| .031 | 0.787 | 22430 | 3L703 | 36.30 | 3.2 |

### 6 X 12" STAINLESS STEEL SHIM STOCK ASSORTMENT

| Thickness Range (In.)* | No. of Pcs. | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| .001 - .020 | 8 | 22445 | 3L705 | $63.85 | 1.5 |

(*) Thicknesses included are: .001, .002, .003, .005, .008, .010, .015, and .020 in.

PRECISION BRAND

## BRASS SHIM STOCK

- Made from half hard, cold rolled, CDA 260 alloy
- Frequently used in general maintenance fields; used in applications where corrosion problems exist
- Has excellent forming qualities and may be lightly drawn, blanked or stamped
- Low magnetic permeability, non-sparking
- Rockwell Hardness: 30T 56-68; meets SAE CA-260; CDA-260; ASTM B19, B36

### 6 x 100" BRASS SHIM STOCK

| Thickness Decimal | Thickness Metric | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0.001 | 0.025 | 17135 | 3L485 | $13.39 | 0.3 |
| 0.0015 | 0.038 | 17160 | 3L487 | 13.46 | 0.4 |
| 0.002 | 0.051 | 17195 | 3L489 | 13.89 | 0.5 |
| 0.003 | 0.076 | 17240 | 3L492 | 14.34 | 0.6 |
| 0.004 | 0.102 | 17265 | 3L494 | 15.10 | 0.8 |
| 0.005 | 0.127 | 17305 | 3L496 | 15.63 | 1.0 |
| 0.006 | 0.152 | 17330 | 3L498 | 16.10 | 1.2 |
| 0.007 | 0.178 | 17355 | 3L501 | 16.88 | 1.5 |
| 0.008 | 0.203 | 17370 | 3L503 | 17.81 | 1.6 |
| 0.009 | 0.229 | 17390 | 3L505 | 19.13 | 1.8 |
| 0.010 | 0.254 | 17415 | 3L507 | 20.82 | 2.0 |
| 0.012 | 0.305 | 17445 | 3L509 | 22.54 | 2.4 |
| 0.015 | 0.381 | 17475 | 3L512 | 26.05 | 3.1 |
| 0.020 | 0.508 | 17495 | 3L514 | 29.45 | 3.7 |
| 0.025 | 0.635 | 17515 | 3L516 | 35.20 | 5.1 |
| 0.031 | 0.787 | 17535 | 3L518 | 41.65 | 6.1 |

### 6 X 12" BRASS ASSORTMENT

| Thickness Range (In.)* | No. of Pcs. | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| .001 - .015 | 12 | 17545 | 3L521 | $27.20 | 1.9 |
| .001 - .031† | 15 | 17550 | 3L523 | 37.05 | 3.5 |

(*) Thicknesses included are: .001, .0015, .002, .003, .004, .005, .006, .007, .008, .010, .012, and .015 in. (†) Thicknesses included same as No. 3L521 plus .020, .025, and .031 in.

## BLUE TEMPERED SHIM STOCK

- Made from high carbon 1095 hardened and tempered spring steel; Rockwell Hardness: RC 48-51
- Used in tool & die fields for templates and shim applications where toughness and high fatigue strength are required
- Meets AMS 5122, SAE 1095 and AISI 1095

### 50" BLUE TEMPERED SHIM STOCK ORDERING DATA

| Thickness Decimal | Thickness Metric | Width (In.) | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0.002 | 0.051 | 3 | 23110 | 3L707 | $23.22 | 0.2 |
| 0.003 | 0.076 | 3 | 23120 | 3L709 | 24.38 | 0.2 |
| 0.004 | 0.102 | 5 | 23130 | 3L711 | 26.35 | 0.4 |
| 0.005 | 0.127 | 6 | 23145 | 3L713 | 23.22 | 0.5 |
| 0.006 | 0.152 | 6 | 23155 | 3L715 | 23.13 | 0.6 |
| 0.007 | 0.178 | 6 | 23165 | 3L717 | 23.59 | 0.7 |

### 6 X 12" BLUE TEMPERED SHIM STOCK ASSORTMENT

| Thickness Range (In.)* | No. of Pcs. | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| .005 - .032 | 6 | 23290 | 3L733 | $44.65 | 2.4 |

(*) Thicknesses included are: .005, .010, .015, .020, .025, and .032 in.

### 6 x 25" BLUE TEMPERED SHIM STOCK - FLAT SHEETS*

| Thickness Decimal | Thickness Metric | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0.008 | 0.203 | 23170 | 3L719 | $27.55 | 1.1 |
| 0.010 | 0.254 | 23180 | 3L721 | 30.10 | 1.3 |
| 0.012 | 0.305 | 23200 | 3L723 | 31.00 | 1.5 |
| 0.015 | 0.381 | 23220 | 3L725 | 33.70 | 1.7 |
| 0.020 | 0.508 | 23240 | 3L727 | 39.25 | 2.1 |
| 0.025 | 0.635 | 23260 | 3L729 | 44.85 | 2.6 |
| 0.032 | 0.813 | 23280 | 3L731 | 49.70 | 3.2 |

(*) 2 Sheets per package.



Set up your next job with quality cutting tools from Grainger.

## ALUMINUM SHIM STOCK

PRECISION BRAND.



No. 3L923

- Made from 99% commercially pure, 1100 series, H-18 full hard tempered aluminum; Brinell Hardness: 44
- For use in electrical, chemical, and aerospace fields
- Light weight with excellent corrosion resistance, workability and weldability
- High thermal and electrical conductivity
- Meets ASTM B209, FED QQA-250F, AISI 1100

### 6 x 100" ALUMINUM SHIM STOCK ORDERING DATA

| Thickness Decimal | Thickness Metric | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| .001 | 0.025 | 69130 | 3L923 | $22.81 | 0.2 |
| .002 | 0.051 | 69195 | 3L925 | 23.84 | 0.2 |
| .003 | 0.076 | 69245 | 3L927 | 24.53 | 0.3 |
| .004 | 0.102 | 69280 | 3L929 | 24.96 | 0.4 |
| .005 | 0.127 | 69320 | 3L931 | 25.50 | 0.5 |
| .006 | 0.152 | 69345 | 3L933 | 25.75 | 0.5 |
| .008 | 0.203 | 69395 | 3L935 | 28.60 | 0.7 |
| .010 | 0.254 | 69450 | 3L937 | 31.95 | 0.8 |

## COPPER SHIM STOCK

PRECISION BRAND.



No. 3L913

- Made from 110 annealed copper; for use in metalworking
- Good ductility and malleable attributes
- Excellent conductor of electricity and heat
- Meets ASTM B152, ASTM B451

### 6 x 100" COPPER SHIM STOCK ORDERING DATA

| Thickness Decimal | Thickness Metric | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0.001 | 0.025 | 68130 | 3L905 | $41.20 | 0.3 |
| 0.002 | 0.051 | 68195 | 3L907 | 44.25 | 0.5 |
| 0.003 | 0.076 | 68245 | 3L909 | 50.15 | 0.7 |
| 0.004 | 0.102 | 68280 | 3L911 | 50.65 | 0.9 |
| 0.005 | 0.127 | 68320 | 3L913 | 54.90 | 1.1 |
| 0.006 | 0.152 | 68345 | 3L915 | 58.20 | 1.2 |
| 0.007 | 0.178 | 68370 | 3L917 | 61.40 | 1.4 |
| 0.008 | 0.203 | 68395 | 3L919 | 64.40 | 1.6 |
| 0.010 | 0.254 | 68450 | 3L921 | 68.15 | 2.0 |

## STAINLESS STEEL SLOTTED SHIMS

- Made from a 300 series stainless which resists rust and corrosion
- Solve alignment and leveling problems
- Works on motors, pumps, generators and other plant machinery
- Available in four sizes to cover most applications
- Tabs eliminate the need to place hands under machinery during installation or removal
- Each shim marked with thickness in decimal and metric: .001 to .010" sizes are permanently etched; .015 to .125" sizes are permanently stamped
- Eliminates misalignment of expensive machinery
- Shims conform to standard bolt and stud size
- Slot Sizes: Size A=5/8", Size B=3/4", Size C=1¼", Size D=1⅝"
- Hole in tab for easier removal

PRECISION BRAND.



### REFILL PACKAGES—SIZE A-2 X 2" ORDERING DATA

| Thickness Decimal | Thickness Metric | Pieces per Pkg. | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| .001 | 0.025 | 20 | 42205 | 3L763 | $37.65 | 0.1 |
| .002 | 0.051 | 20 | 42210 | 3L767 | 37.65 | 0.1 |
| .003 | 0.076 | 20 | 42215 | 3L769 | 37.65 | 0.1 |
| .004 | 0.102 | 20 | 42220 | 3L771 | 37.65 | 0.1 |
| .005 | 0.127 | 20 | 42225 | 3L773 | 37.65 | 0.1 |
| .010 | 0.254 | 20 | 42230 | 3L775 | 37.65 | 0.2 |
| .015 | 0.381 | 10 | 42235 | 3L777 | 18.81 | 0.2 |
| .020 | 0.508 | 10 | 42240 | 3L779 | 21.04 | 0.2 |
| .025 | 0.635 | 10 | 42245 | 3L781 | 21.04 | 0.3 |
| .050 | 1.270 | 5 | 42250 | 3L783 | 11.32 | 0.3 |
| .075 | 1.910 | 5 | 42255 | 3L785 | 12.79 | 0.4 |
| .100 | 2.540 | 5 | 42260 | 3L787 | 15.06 | 0.5 |
| .125 | 3.180 | 5 | 42265 | 3L789 | 16.56 | 0.6 |

### REFILL PACKAGES—SIZE B-3 X 3" ORDERING DATA

| | | | | | | |
|---|---|---|---|---|---|---|
| .001 | 0.025 | 20 | 42305 | 3L791 | 45.15 | 0.1 |
| .002 | 0.051 | 20 | 42310 | 3L793 | 45.15 | 0.1 |
| .003 | 0.076 | 20 | 42315 | 3L795 | 45.15 | 0.2 |
| .004 | 0.102 | 20 | 42320 | 3L797 | 45.15 | 0.2 |
| .005 | 0.127 | 20 | 42325 | 3L799 | 45.15 | 0.3 |
| .010 | 0.254 | 20 | 42330 | 3L801 | 45.15 | 0.5 |
| .015 | 0.381 | 10 | 42335 | 3L803 | 22.58 | 0.4 |
| .020 | 0.508 | 10 | 42340 | 3L805 | 22.58 | 0.5 |
| .025 | 0.635 | 10 | 42345 | 3L807 | 22.58 | 0.6 |
| .050 | 1.270 | 5 | 42350 | 3L809 | 14.12 | 0.6 |
| .075 | 1.910 | 5 | 42355 | 3L811 | 18.81 | 0.9 |
| .100 | 2.540 | 5 | 42360 | 3L813 | 21.19 | 1.2 |
| .125 | 3.180 | 5 | 42365 | 3L815 | 23.53 | 1.4 |

### REFILL PACKAGES—SIZE C-4 X 4" ORDERING DATA

| Thickness Decimal | Thickness Metric | Pieces per Pkg. | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0.001 | 0.025 | 20 | 42405 | 3L817 | $59.50 | 0.1 |
| 0.002 | 0.051 | 20 | 42410 | 3L819 | 59.50 | 0.2 |
| 0.003 | 0.076 | 20 | 42415 | 3L821 | 59.50 | 0.3 |
| 0.004 | 0.102 | 20 | 42420 | 3L823 | 59.50 | 0.3 |
| 0.005 | 0.127 | 20 | 42425 | 3L825 | 59.50 | 0.4 |
| 0.010 | 0.254 | 20 | 42430 | 3L827 | 59.50 | 0.8 |
| 0.015 | 0.381 | 10 | 42435 | 3L829 | 29.75 | 0.6 |
| 0.020 | 0.508 | 10 | 42440 | 3L831 | 32.00 | 0.9 |
| 0.025 | 0.635 | 10 | 42445 | 3L833 | 32.00 | 1.0 |
| 0.050 | 1.270 | 5 | 42450 | 3L835 | 19.77 | 1.0 |
| 0.075 | 1.910 | 5 | 42455 | 3L837 | 27.30 | 1.5 |
| 0.100 | 2.540 | 5 | 42460 | 3L839 | 35.75 | 2.1 |
| 0.125 | 3.180 | 5 | 42465 | 3L841 | 40.50 | 2.5 |

### REFILL PACKAGES—SIZE D-5 X 5" ORDERING DATA

| | | | | | | |
|---|---|---|---|---|---|---|
| 0.001 | 0.025 | 20 | 42505 | 3L843 | 79.05 | 0.2 |
| 0.002 | 0.051 | 20 | 42510 | 3L845 | 79.05 | 0.3 |
| 0.003 | 0.076 | 20 | 42515 | 3L847 | 79.05 | 0.4 |
| 0.004 | 0.102 | 20 | 42520 | 3L849 | 79.05 | 0.5 |
| 0.005 | 0.127 | 20 | 42525 | 3L851 | 79.05 | 0.6 |
| 0.010 | 0.254 | 20 | 42530 | 3L853 | 79.05 | 1.3 |
| 0.015 | 0.381 | 10 | 42535 | 3L855 | 39.50 | 1.0 |
| 0.020 | 0.508 | 10 | 42540 | 3L857 | 45.15 | 1.3 |
| 0.025 | 0.635 | 10 | 42545 | 3L859 | 45.15 | 1.6 |
| 0.050 | 1.270 | 5 | 42550 | 3L861 | 30.10 | 1.7 |
| 0.075 | 1.910 | 5 | 42555 | 3L863 | 42.85 | 2.4 |
| 0.100 | 2.540 | 5 | 42560 | 3L865 | 57.45 | 3.2 |
| 0.125 | 3.180 | 5 | 42565 | 3L867 | 64.95 | 3.8 |

# SLOTTED AND COLOR-CODED SHIMS

## SLOTTED SHIM FULL ASSORTMENT KITS

- Each assortment contains 20 pieces of the following decimal sizes: .001, .002, .003, .004, .005, .010, .015, .020, .025, .050, .075, .100, and .125 in.
- Assortment contains 260 pieces packaged in a durable metal box

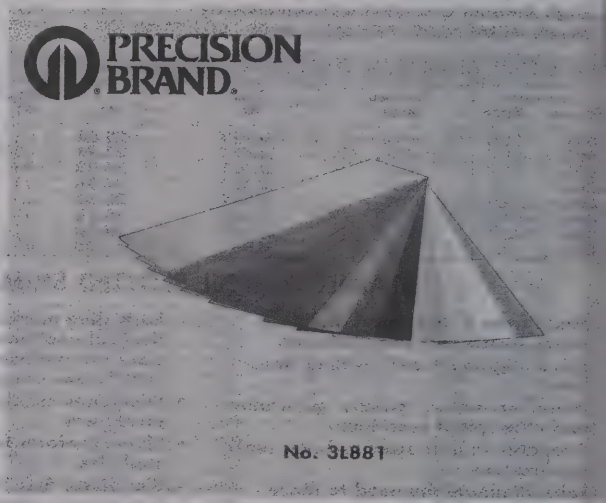



### STAINLESS STEEL SLOTTED SHIM FULL ASSORTMENT KITS

| Size (In.) | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| A - 2 x 2 | 42900 | 3L869 | $570.50 | 12.0 |
| B - 3 x 3 | 42910 | 3L871 | 717.00 | 26.0 |
| C - 4 x 4 | 42920 | 3L873 | 1038.00 | 43.0 |
| D - 5 x 5 | 42930 | 3L875 | 1515.00 | 63.0 |

## COLOR-CODED SHIM ASSORTMENTS (PLASTIC MATERIAL)

- Made of a high quality plastic material; .0005 to .005 is polyester and .0075 to .060 is vinyl
- Used for gaskets, special parts and various manufacturing applications
- Easy to cut; resists oil
- Minimal compression during use
- Thickness tolerances to industry standards
- Consistent performance
- Nonconductive to electricity
- Thickness indicated by shim color
- Eliminates need for micrometer, saves time and reduces error
- Assortments contain 1 each of the following decimal thicknesses: .0005, .001, .0015, .002, .003, .004, .005, .0075, .010, .0125, .015, .020, .025, and .030 in.




### COLOR-CODED SHIM ASSORTMENTS (PLASTIC MATERIAL)

| Size (In.) | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 5 x 20 | 44905 | 3L881 | $32.05 | 1.4 |
| 10 x 20 | 44910 | 3L883 | 64.10 | 2.8 |
| 20 x 20 | 44915 | 3L885 | 127.10 | 5.6 |

## SOF' SHOE® SLOTTED SHIM

- Solves angular soft foot alignment problems on motors, pumps, generator, turbines and other plant machinery in minutes
- Made of an elastomer which has unique cold-flow and set characteristics to fill irregular gaps
- An inexpensive alternative to more time consuming and expensive options such as milling the base or foot, hand cutting graduated shims, replacing base or rebuilding base with poured epoxy
- Compresses 12% permanently over a 10 to 14 day period, conforming to any irregularity on a foot and/or base
- Yellow shims are .045" thick and compress to .040"
- Blue shims are .020" thick and compress to .0175"
- Each shim has a hole in the tab to facilitate inventory control




### SOF' SHOE® SLOTTED SHIM SPECIFICATIONS AND ORDERING DATA

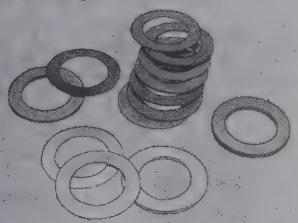
| Size (In.) | Thickness (In.) | Color | Pieces per Pkg. | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A - 2 X 2 | 0.020 | Blue | 10 | 49105 | 3L889 | $35.25 | 0.1 |
| A - 2 x 2 | 0.045 | Yellow | 10 | 49125 | 3L897 | 38.70 | 0.1 |
| B - 3 x 3 | 0.020 | Blue | 10 | 49110 | 3L891 | 57.15 | 0.1 |
| B - 3 x 3 | 0.045 | Yellow | 10 | 49130 | 3L899 | 64.45 | 0.2 |
| C - 4 x 4 | 0.020 | Blue | 10 | 49115 | 3L893 | 83.50 | 0.1 |
| C - 4 x 4 | 0.045 | Yellow | 10 | 49135 | 3L901 | 95.85 | 0.3 |
| D - 5 x 5 | 0.020 | Blue | 10 | 49120 | 3L895 | 113.55 | 0.2 |
| D - 5 x 5 | 0.045 | Yellow | 10 | 49140 | 3L903 | 132.00 | 0.4 |



Set up your next job with quality cutting tools from Grainger.

# ARBOR SHIM ASSORTMENTS AND MUSIC WIRE

PRECISION BRAND.

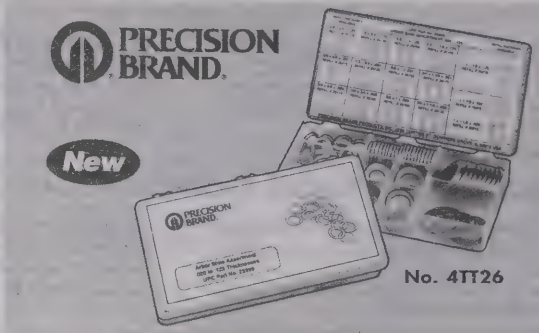


No. 3L745

## ARBOR SHIM ASSORTMENTS

- Made of full hard, cold rolled, low carbon 1010 material
- Used for fast, accurate spacing of milling cutters, gang cutters, saws, slitting blades, and grinding tools
- Packaged in air-tight poly bags
- 19-Piece assortment contains one piece of each of the following thicknesses: .001, .0015, .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .031, .047, .062, .093, and .125 in.
- Rockwell Hardness: RB90-100
- Meets ASTM A109 and AISI 1010

| I.D. Size (in.) | O.D. Size (in.) | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/8** | 5/8 | 25120 | **3L735** | **$6.84** | 0.1 |
| **1/2** | 3/4 | 25140 | **3L737** | **6.84** | 0.1 |
| **5/8** | 1 | 25160 | **3L739** | **8.39** | 0.1 |
| **3/4** | 1 1/8 | 25180 | **3L741** | **9.77** | 0.1 |
| **7/8** | 1 3/8 | 25200 | **3L743** | **10.57** | 0.2 |
| **1** | 1 1/2 | 25220 | **3L745** | **10.73** | 0.1 |
| **1 1/8** | 1 5/8 | 25240 | **3L747** | **11.54** | 0.1 |
| **1 1/4** | 1 3/4 | 25260 | **3L749** | **11.54** | 0.1 |
| **1 3/8** | 1 7/8 | 25280 | **3L751** | **12.89** | 0.2 |
| **1 1/2** | 2 1/8 | 25460 | **3L755** | **13.29** | 0.2 |
| **1 3/4** | 2 3/4 | 25320 | **3L753** | **19.92** | 0.5 |
| **2** | 2 3/4 | 25480 | **3L757** | **22.64** | 0.4 |




No. 4TT26

## ARBOR SHIM ASSORTMENT KITS

- These kits include the most popular sizes
- A convenient assortment kit is great to take on-site
- Packaged in a durable plastic box with individual shim compartments

### ARBOR SHIM ASSORTMENT KITS

| Assortment Thicknesses | Assortment Sizes | Precision Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| .005<br>.010<br>.015 | 3/8" x 5/8"<br>1/2" x 3/4"<br>5/8" x 1"<br>3/4" x 1-1/8"<br>7/8" x 1-3/8" | 25998* | **4TT25*** | $92.00 | **$60.00** | 0.5 |
| .020<br>.031<br>.125 | 3/8" x 5/8"<br>1/2" x 3/4"<br>5/8 " x 1"<br>3/4" x 1-1/8"<br>1" x 1-1/2" | 25999* | **4TT26*** | 129.00 | **70.00** | 1.4 |

(*) Each assortment contains 10 pieces of each thickness in each size, a total of 150 pieces in each assortment.

| Thickness Decimal | Thickness Metric | Approx. Ft./Lb. | Wire Guage No. | Approx. Tensile Strength (Min.-Max.) | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **0.006** | 0.152 | 10,404 | 4/0 | 415-455 | 21006 | **3L529** | **$86.25** | 1.1 |
| **0.007** | 0.178 | 7,644 | 3/0 | 407-447 | 21007 | **3L532** | **66.85** | 1.1 |
| **0.008** | 0.203 | 5,853 | 2/0 | 399-434 | 21008 | **3L534** | **47.85** | 1.1 |
| **0.009** | 0.229 | 4,624 | 1/0 | 393-428 | 21009 | **3L536** | **38.35** | 1.1 |
| **0.010** | 0.254 | 3,746 | 1 | 387-422 | 21010 | **3L538** | **31.15** | 1.1 |
| **0.011** | 0.279 | 3,096 | 2 | 382-417 | 21011 | **3L541** | **26.40** | 1.1 |
| **0.012** | 0.305 | 2,601 | 3 | 377-412 | 21012 | **3L543** | **22.82** | 1.1 |
| **0.013** | 0.330 | 2,217 | 4 | 373-408 | 21013 | **3L545** | **18.08** | 1.1 |
| **0.014** | 0.356 | 1,911 | 5 | 369-404 | 21014 | **3L547** | **16.15** | 1.1 |
| **0.016** | 0.406 | 1,464 | 6 | 362-392 | 2101o | **3L549** | **13.33** | 1.1 |
| **0.018** | 0.457 | 1,156 | 7 | 356-386 | 21018 | **3L552** | **12.08** | 1.1 |
| **0.020** | 0.508 | 937 | 8 | 350-380 | 21020 | **3L554** | **10.93** | 1.1 |
| **0.022** | 0.559 | 774 | 9 | 345-375 | 21022 | **3L556** | **9.97** | 1.1 |
| **0.024** | 0.610 | 651 | 10 | 341-371 | 21024 | **3L558** | **8.93** | 1.1 |
| **0.026** | 0.660 | 555 | 11 | 337-367 | 21026 | **3L561** | **8.93** | 1.1 |
| **0.029** | 0.737 | 446 | 12 | 333-363 | 21029 | **3L563** | **7.98** | 1.1 |
| **0.031** | 0.787 | 390 | 13 | 330-360 | 21031 | **3L565** | **7.98** | 1.1 |
| **0.033** | 0.838 | 344 | 14 | 327-357 | 21033 | **3L567** | **7.98** | 1.1 |
| **0.035** | 0.889 | 306 | 15 | 324-354 | 21035 | **3L569** | **7.72** | 1.1 |
| **0.037** | 0.940 | 274 | 16 | 321-351 | 21037 | **3L572** | **6.94** | 1.1 |
| **0.039** | 0.991 | 247 | 17 | 318-348 | 21039 | **3L574** | **6.94** | 1.1 |
| **0.041** | 1.041 | 223 | 18 | 315-345 | 21041 | **3L576** | **6.78** | 1.1 |
| **0.043** | 1.092 | 203 | 19 | 313-343 | 21043 | **3L578** | **6.78** | 1.1 |
| **0.045** | 1.143 | 185 | 20 | 309-339 | 21045 | **3L581** | **6.50** | 1.1 |
| **0.047** | 1.194 | 170 | 21 | 309-339 | 21047 | **3L583** | **6.50** | 1.1 |
| **0.049** | 1.245 | 156 | 22 | 306-336 | 21049 | **3L585** | **6.50** | 1.1 |
| **0.051** | 1.295 | 144 | 23 | 303-333 | 21051 | **3L587** | **6.50** | 1.1 |
| **0.055** | 1.397 | 124 | 24 | 300-330 | 21055 | **3L589** | **6.50** | 1.1 |
| **0.059** | 1.499 | 108 | 25 | 296-326 | 21059 | **3L592** | **6.32** | 1.1 |
| **0.063** | 1.600 | 95 | 26 | 293-323 | 21063 | **3L594** | **6.32** | 1.1 |

## MUSIC WIRE

- Made from high carbon steel alloy and is spring tempered
- Has high tensile strength and fatigue resistance
- Applications include springs, wire forms, control linkages, armature binding, ceramic cutting, and a variety of industrial uses
- Meets ASTM A228

PRECISION BRAND.



No. 3L538

# TOOL BLACK® KIT, STRIPPABLE COATING, PUNCH AND DIE SETS, AND TOOL WRAP

## TOOL BLACK KIT

- Includes one quart of Tool Black, one 16 fl. oz. aerosol can of Prevent®, and one quart of Cleaner-Degreaser
- Three-step process that is a fast alternative to black oxide
- No special equipment or ventilating system required
- One quart of Tool Black covers 100 to 150 square feet
- Precision brand (45125)

**No. 3L887.** Shpg. wt. 5.7 lbs. List $90.21. Each.....$77.00

## HOT MELT STRIPPABLE PROTECTIVE COATING — TYPE 1

- Packaged in convenient 5 pound bags
- Poly bag packaging means easy handling and storage
- Easy to use; coating is presliced into manageable pieces
- Set time is less than 60 seconds
- To remove, coating peels right off
- Melting temperature 340-350°F
- Precision brand

**No. 3L877.** Amber Coating (43005). Shpg. wt. 5.0 lbs. List $42.53. Each.....$36.15

**No. 3L879.** Clear Coating (43010). Shpg. wt. 5.0 lbs. List $42.53. Each.....$36.15

## PUNCH & DIE SET

- Traditional style punch & die set
- Economical way to make washers, shims and gaskets
- Cuts steel, brass, copper, aluminum, rubber and plastic up to .025" thick
- Cuts stainless and blue tempered shim up to .010" thick
- The base and punches are made of a hardened and ground A-2 tool steel
- Clear plastic top plate is marked with accurate center lines
- Nine punch sizes: 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4"
- Precision brand (40105)

**No. 3L759.** Shpg. wt. 2.2 lbs. List $181.51. Each.....$154.50

## TRU-PUNCH® PUNCH & DIE SET

- Self-centering punch & die set
- Make custom washers, shims, gaskets
- Patented punch, pilot and pin system; U.S. Patent #4,949,614
- No guess work to center I.D. or need to scribe center lines
- Cuts steel, brass, copper, aluminum, rubber, and plastic up to .025" thick
- Cuts stainless and blue tempered shim up to .010" thick
- Nine punch sizes: 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4"
- Eight I.D. sizes: 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2 and 5/8"
- Base and punches made of hardened and ground A-2 tool steel
- Precision brand (40110)

**No. 3L761.** Shpg. wt. 2.5 lbs. List $260.33. Each.....$221.50

## "THE BIG" TRU PUNCH™ PUNCH AND DIE SET

- Self-centering punch & die set for larger custom shims, washers and gaskets.
- Patented punch, pilot and pin system; U.S. Patent # 4,949,614
- No guess work to enter I.D. or need to scribe center lines
- 4 punch sizes: 7/8, 1, 1⅛, 1¼"
- 4 ID Pilot sizes: 3/4, 7/8, 1, 1⅛"
- Works in conjunction with Precision Brand's Tru Punch® Stock No. 3L761
- ID pilots are interchangeable to allow for 77 OD and ID shim combinations
- Cuts brass, copper, aluminum, rubber, and plastic up to .020" thick.
- Cuts steel up to .015" thick
- Cuts stainless and blue tempered shim up to .010" thick
- Base, top and punches are made of a hardened and ground A-2 tool steel
- Precision brand (40200)

***New*** **No. 4TT29.** Shpg. wt. 2.4 lbs. List $360.00. Each.....$260.00

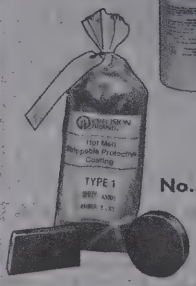
## TOOL WRAP

- Made of Type 321, soft annealed, stainless steel
- Helps protect from scale and oxide buildup during heat treating in atmospheric furnaces
- Eliminates decarburization buildup
- Resistant to chromium carbide precipitation during exposure to high temperatures
- Protects surface of air hardening tool steels
- Cut-to-fit stainless steel tool wrap creates airtight envelope around part
- Can use in furnaces up to 1850°F (996°C)
- Packaged in handy reclosable cartons

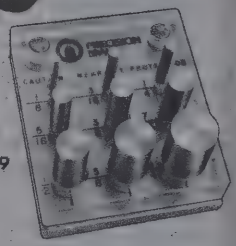
| Thickness (In.) | Approx. Width (In.) | Length (Ft.) | Precision Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| .002 | 24 | 50 | 20110 | 3L525 | $200.75 | 9.3 |
| .002 | 24 | 100 | 20210 | 3L527 | 381.50 | 18.0 |



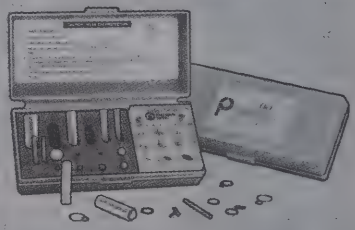

No. 3L887



No. 3L877



No. 3L759

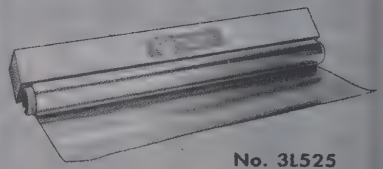


No. 3L761

New



No. 4TT29



No. 3L525

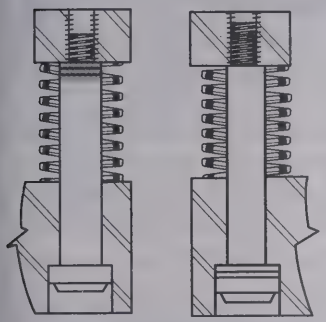


*Set up your next job with quality cutting tools from Grainger.*

# LENGTHENING AND SHORTENING SHIM ASSORTMENTS AND INDUSTRIAL MARKERS

## LENGTHENING/SHORTENING SHIM ASSORTMENTS

PRECISION BRAND. **New**



No. 4TT27 No. 4TT28

- Lengthening Shims fit over the stripper screw treads and under the shoulder which, in effect, lengthens the stripper screw
- Shortening Shims are placed around the shoulder screw shank to fit under the screw head, in effect, shortening the stripper screw
- All shims are made of high carbon spring steel
- Each assortment contains three thicknesses: .005", .015" and .032"
- Each assortment is packaged in a durable plastic compartment box

Lengthening & Shortening Shims are for Stripper Bolt/Shoulder Screw adjustments.

***New*** **No. 4TT27.** Shpg. wt. 0.4 lbs. List $93.61. Each ..... $69.00

***New*** **No. 4TT28.** Shpg. wt. 0.6 lbs. List $103.24. Each ..... $75.60

| Screw Size (In.) | Shim Thickness (In.) | LENGTHENING SHIMS No. 4TT27 Decimal Size I.D. | O.D. | SHORTENING SHIMS No. 4TT28 Decimal Size I.D. | O.D. |
|---|---|---|---|---|---|
| 1/4 | 005 | .171 | .248 | .252 | .366 |
| 1/4 | .015 | .171 | .248 | .252 | .366 |
| 1/4 | .032 | .187 | .248 | .252 | .366 |
| 5/16 | .005 | .234 | .308 | .313 | .424 |
| 5/16 | .015 | .234 | .308 | .313 | .424 |
| 5/16 | .032 | .234 | .308 | .313 | .424 |
| 3/8 | .005 | .289 | .371 | .376 | .557 |
| 3/8 | .015 | .289 | .371 | .376 | .557 |
| 3/8 | .032 | .296 | .371 | .376 | .557 |
| 1/2 | .005 | .352 | .496 | .501 | .738 |
| 1/2 | .015 | .352 | .496 | .501 | .738 |
| 1/2 | .032 | .352 | .496 | .501 | .738 |
| 5/8 | .005 | .473 | .621 | .626 | .870 |
| 5/8 | .015 | .473 | .621 | .626 | .870 |
| 5/8 | .032 | .473 | .621 | .626 | .870 |
| 3/4 | .005 | .598 | .748 | .751 | .995 |
| 3/4 | .015 | .598 | .748 | .751 | .995 |
| 3/4 | .032 | .598 | .748 | .751 | .995 |

Assortments contain 15 pieces of every size listed above; a total of 270 pieces in each assortment package.

## INDUSTRIAL MARKERS

### B PAINTSTIK®

All purpose, cold surface markers
For layout, color coding, inspection or fabrication
Marks easily on metal, glass, plastic, lumber, cement, cardboard, rubber

### H & HT PAINTSTIK®

Highly visible white marking for hot surfaces

### M PAINTSTIK® FOR HEAT-TREATING & ANNEALING

Mark at room temperature then subject it to temperatures up to 1600°F

### BLEED THROUGH PAINTSTIK®

Marks bleed through primer or painted surface for fabricating structural steel and layout work
To prevent bleeding through finished coat, seal area with water-based two-component epoxy paint.

### BALL PAINT MARKERS™

Produce long lasting, weather, and water-resistant fine line marks with real paint that dries in minutes

### SHARPIE® FINE TIP BLACK MARKER

For identification of parts, layout work, marking cartons and crates
Marks on metal, wood, cardboard, paper, plastic, glass, etc.

### DURA-INK ® #25 MARKER

For identification of equipment, marking, shipping cartons, sign making
Chisel tip makes fine lines or broad marks

### WHITE RAILROAD CHALK

- Ideal for making temporary marks on most surfaces
- Marks on metal, wood, concrete, cardboard, rubber, plastic, and more

### SOAPSTONE MARKER

- For the temporary marking of metal surfaces during fabrication operations
- Made of all natural soapstone for superior marking; flat shape

### LUMBER CRAYONS

- For layout work on rough or smooth surfaces
- Mark concrete blocks, lumber, metal, plastic, rubber, paper, cardboard, and ceramics

### VALVE ACTION PAINT MARKER™

- Ideal for metal, glass, wood, rubber, plastic, cardboard and paper
- Use on metal and plastic pipe, sheet metal, cartons, lumber, signs, tires




| Description | Temperature (°F) Marking Range | Unit Pack. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| White B Paintstick | -50 to 150 | 12 per Box | 5W535 | $8.99 | 1.3 |
| Yellow B Paintstick | -50 to 150 | 12 per Box | 5W536 | 9.35 | 1.1 |
| Red B Paintstick | -50 to 150 | 12 per Box | 2F904 | 10.13 | 1.2 |
| White HT Paintstik | 250 to 1600 | 144 per Box | 2F914 | 127.90 | 0.8 |
| White M Paintstik | 0 to 1600 | 12 per Box | 5W537 | 15.05 | 1.3 |
| Yellow Ball Paint | -50 to 150 | 12 per Box | 5W538 | 31.15 | 1.3 |
| White Ball Paint | -50 to 150 | 1 Bottle | 5W540 | 4.28 | 0.2 |
| White VPM | -50 to 150 | 1 Marker | 2F934 | 3.35 | 0.1 |
| Yellow VPM | -50 to 150 | 1 Marker | 2F936 | 3.35 | 0.1 |
| Black Sharpie | — | 1 Marker | 2F926 | 1.34 | 0.1 |
| Black Dura-Ink | — | 1 Marker | 2F928 | 2.59 | 0.1 |
| White Railroad Chalk | — | 144 per Box | 2F908 | 27.20 | 12.0 |
| White Soapstone, Flat | — | 144 per Box | 2F900 | 23.11 | 6.8 |
| Yellow Lumber Crayons | -50 to 150 | 12 per Box | 5W542 | 8.37 | 0.8 |
| Red Lumber Crayons | -50 to 150 | 12 per Box | 5W543 | 8.37 | 0.9 |
| Soapstone Holder, Flat | — | Each | 2F902 | 2.57 | 0.1 |

# RIVETING TOOLS



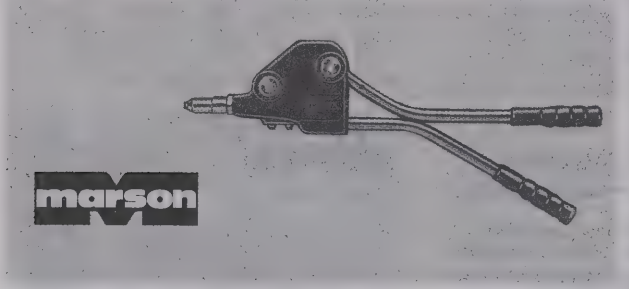

**Marson Kliker II**—A medium-duty riveting tool. Two interchangeable nosepieces set 1/8, 3/32, and 3/16" rivets in sheet metal, plastic, and Masonite. Has precision die-cast body with hardened carbon steel handle. Plastic grips. Marson brand (39040).

**No. 5X719.** Shpg. wt. 1.0 lbs. List $26.40. Each ..... **$17.14**



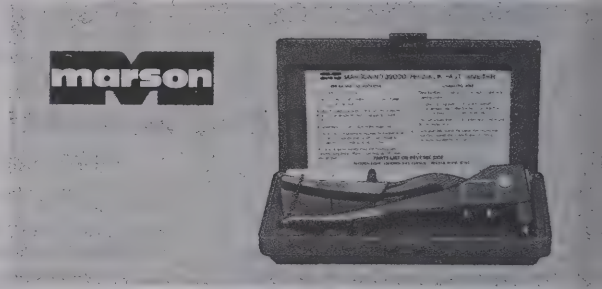

**Marson HP-2® Deluxe Riveter**—For daily use in riveting meta wood, Masonite, and Formica. Handles work up to 5/8" tot thickness. Interchangeable nosepieces accommodate 3/32, 1/ 5/32, and 3/16" diameters. Sets rivets from one side of wor permits riveting in blind spots on ductwork, metal support pipes, and built-in light fixtures. Die-cast aluminum alloy co struction. Rubber composition grips. Marson brand (39000).

**No. 4X577.** Shpg. wt. 1.2 lbs. List $35.85. Each..... **$22.6**




**Marson Big Daddy®**—High strength alloy construction and long handles provide easy installation of rivets through 1/4" diameter size. Steel insert into aluminum body provides stronger threads for nosepieces. One piece collet case eliminates adjusting tool when changing rivets. Interchangeable nosepieces set 5/32, 3/16, and 1/4" diameter rivets. Marson brand (39031).

**No. 4Y128.** Shpg. wt. 4.0 lbs. List $150.15. Each ..... **$138.65**




**Marson 200 Kit**—Sturdy plastic, closeable storage case holds HP 2® Deluxe Riveter No. 4X577, 5 boxes of rivets (50 each of Nos 4X578, 4X641, 4X581, and 5X516), and a nosepiece wrench. Fo daily use on riveting metal, wood, Masonry, and Formica Rubber composition grips. Marson brand (39001).

**No. 6A644.** Shpg. wt. 4.0 lbs. List $53.10. Each ..... **$35.5**

## REPLACEMENT JAW KIT

**For Marson Deluxe Riveter and Marson Kliker II.**

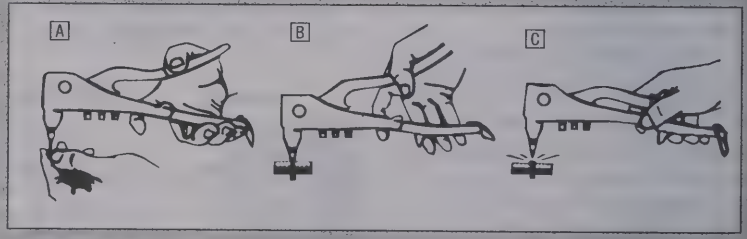
Fits riveters 4X577 and 5X719. Matched jaw set is made of hardened steel.

**No. 1R221.** Shpg. wt. 0.1 lbs. List $10.00. Each ..... **$5.24**

### VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

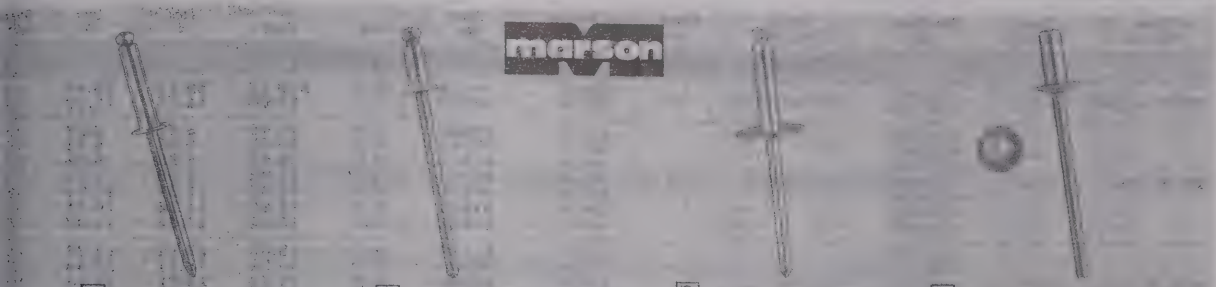
## HOW TO SET A RIVET




**A Insert rivet mandrel in rivet setting tool.**

**B Using tool as guide, insert rivet into prepared hole.**

**C Squeeze trigger or handles to set rivet. Mandrel ejects after rivet is set.**




A Button head Klik-Fast® Rivets

B Large Flange Klik-Fast® Rivets

C 120° Countersunk Klik-Fast® Rivets

D Closed-end Button head Hollow CoreKlik-Fast® Rivets

ibration resistant, will not back out or loosen. For blind side pplications and where both sides of work are not accessible. ill not mar or scratch painted or other finished materials.

### A Button head Klik-Fast® Rivets

- Popular for industrial applications
- Low profile head diameter is twice rivet body diameter
- Provides adequate bearing for many applications

### B Large Flange Klik-Fast Rivets

- Provide greater bearing surface for fastening soft and brit- ile facing materials such as plywood and plastics, including neoprene and vinyl

### C 120° Countersunk Klik-Fast Rivets

- For applications where flush appearance is required

### D Closed-end Button head Hollow Core Klik-Fast Rivets

- Have 100% mandrel head retention
- Have shear and tensile strength over open-end rivets of similar sizes and materials
- Moisture-resistant

| Rivet Dia. (In.) | Head Dia. (In.) | Grip Range (In.) | Drill #/ Hole Size | Rivets/ Box | Marson Model | Stock No. | List | Each | Lots 4 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A BUTTON HEAD PLATED STEEL RIVET/COATED STEEL MANDREL** | | | | | | | | | | | |
| **3/32" (0.094)** | 0.188 | 0.032-0.125<br>0.126-0.250 | #41<br>(0.096-0.100) | 500 | SB5-2<br>SB5-4 | **4Y001**<br>**4Y002** | $23.31<br>24.78 | **$11.90**<br>**12.80** | **$10.72**<br>**11.52** | **$10.12**<br>**10.87** | 0.8<br>0.9 |
| **1/8 (0.125)** | 0.250 | 0.032-0.062<br>0.063-0.125<br>0.126-0.187<br>0.188-0.250<br>0.251-0.312<br>0.313-0.375<br>0.376-0.500 | #30<br>(0.129-0.133) | 500 | SB4-1<br>SB4-2<br>SB4-3<br>SB4-4<br>SB4-5<br>SB4-6<br>SB4-8 | **4Y003**<br>**4X578**<br>**4Y004**<br>**4X580**<br>**4Y005**<br>**4X638**<br>**6A637** | 17.59<br>15.19<br>17.67<br>18.32<br>24.68<br>24.76<br>28.52 | **9.76**<br>**9.01**<br>**8.42**<br>**10.88**<br>**12.95**<br>**12.84**<br>**14.63** | **8.79**<br>**8.11**<br>**7.58**<br>**9.80**<br>**11.65**<br>**11.55**<br>**13.16** | **8.30**<br>**7.66**<br>**7.16**<br>**9.25**<br>**11.00**<br>**10.91**<br>**12.44** | 1.4<br>1.4<br>1.6<br>1.6<br>1.9<br>1.8<br>2.2 |
| **5/32 (0.156)** | 0.312 | 0.062-0.125<br>0.126-0.187<br>0.188-0.250<br>0.251-0.375<br>0.376-0.500 | #20<br>(0.160-0.164) | 500 | SB5-2<br>SB5-3<br>SB5-4<br>SB5-6<br>SB5-8 | **5X515**<br>**4Y006**<br>**5X516**<br>**4Y007**<br>**5X517** | 23.99<br>24.23<br>24.50<br>29.58<br>33.01 | **13.42**<br>**13.56**<br>**15.45**<br>**16.51**<br>**21.51** | **12.08**<br>**12.21**<br>**13.91**<br>**14.86**<br>**19.36** | **11.41**<br>**11.53**<br>**13.14**<br>**14.03**<br>**18.29** | 2.4<br>2.6<br>2.8<br>3.2<br>3.4 |
| **3/16 (0.187)** | 0.375 | 0.062-0.125<br>0.126-0.250<br>0.251-0.375<br>0.376-0.500<br>0.501-0.625<br>0.626-0.750<br>0.751-1.00 | #11<br>(0.192-0.196) | 250 | SB6-2<br>SB6-4<br>SB6-6<br>SB6-8<br>SB6-10<br>SB6-12<br>SB6-16 | **5X518**<br>**4X639**<br>**4X640**<br>**4Y008**<br>**5X519**<br>**4Y009**<br>**4Y010** | 17.34<br>17.62<br>18.51<br>24.05<br>29.53<br>36.10<br>47.17 | **9.78**<br>**10.45**<br>**10.54**<br>**12.23**<br>**15.14**<br>**18.27**<br>**27.05** | **8.80**<br>**9.41**<br>**9.49**<br>**11.00**<br>**13.63**<br>**16.43**<br>**24.33** | **8.31**<br>**8.88**<br>**8.96**<br>**10.40**<br>**12.87**<br>**15.52**<br>**22.97** | 2.0<br>2.1<br>2.4<br>2.7<br>1.0<br>3.0<br>3.6 |
| **1/4 (0.250)** | 0.500 | 0.062-0.250<br>0.251-0.375<br>0.376-0.500<br>0.501-0.750 | F<br>(0.257-0.261) | 100 | SB8-4<br>SB8-6<br>SB8-8<br>SB8-12 | **4AR31**<br>**4AR32**<br>**4AR33**<br>**4AR34** | 18.22<br>19.47<br>21.75<br>28.48 | **9.21**<br>**9.93**<br>**10.58**<br>**17.11** | **8.29**<br>**8.94**<br>**9.52**<br>**15.40** | **7.84**<br>**8.44**<br>**8.99**<br>**14.54** | 1.8<br>1.4<br>2.3<br>2.6 |
| **B LARGE FLANGE PLATED STEEL RIVET/ COATED STEEL MANDREL** | | | | | | | | | | | |
| **1/8 (0.125)** | 0.375 | 0.032-0.125<br>0.126-0.187<br>0.188-0.250 | #30<br>(0.129-0.133) | 500 | SBL4-2<br>SBL4-3<br>SBL4-4 | **4X579**<br>**4Y011**<br>**4Y012** | 26.84<br>30.99<br>35.90 | **13.92**<br>**15.76**<br>**18.13** | **12.53**<br>**14.17**<br>**16.31** | **11.84**<br>**13.39**<br>**15.41** | 1.6<br>2.0<br>2.0 |
| **3/16 (0.187)** | 0.625 | 0.062-0.250<br>0.251-0.375<br>0.376-0.500<br>0.501 0.625<br>0.626-0.750 | #11<br>(0.192-0.196) | 250 | SBL6-4<br>SBL6-6<br>SBL6 8<br>SBL6 10<br>SBL6-12 | **4Y013**<br>**4Y014**<br>**4Y015**<br>**4Y016**<br>**4Y017** | 23.10<br>23.42<br>29.94<br>40 71<br>44.85 | **11.68**<br>**12.18**<br>**15.18**<br>**20.62**<br>**22.56** | **10.51**<br>**10.96**<br>**13.66**<br>**18.56**<br>**20.31** | **9.93**<br>**10.35**<br>**12.90**<br>**17.52**<br>**19.17** | 2.6<br>3.0<br>3.5<br>3.6<br>3.6 |
| **C 120° COUNTERSUNK PLATED STEEL RIVET/ COATED STEEL MANDREL** | | | | | | | | | | | |
| **1/8 (0.125)** | 0.220 | 0.062-0.125<br>0.126-0.187<br>0.188-0.250 | #30(0.129-0.133) | 500 | SC4-2<br>SC4-3<br>SC4-4 | **4Y018**<br>**4Y019**<br>**4Y020** | 23.63<br>24.35<br>24.76 | **12.45**<br>**12.17**<br>**12.59** | **11.21**<br>**10.95**<br>**11.33** | **10.58**<br>**10.34**<br>**10.71** | 1.5<br>1.6<br>1.7 |

CONTINUED ON NEXT PAGE

# RIVETS

| Rivet Dia. (In.) | Head Dia. (In.) | Grip Range (In.) | Drill #/ Hole Size | Rivets/ Box | Marson Model | Stock No. | List | Each | Lots 4 | Lots 12 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **[A] BUTTON HEAD ALUMINUM RIVETS/ALUMINUM MANDREL** | | | | | | | | | | | |
| **3/32" (0.094)** | 0.188 | 0.032-0.125 | #41(0.097-0.100) | 500 | AB3-2A | **4Y021** | $20.35 | **$10.12** | **$9.10** | **$8.60** | 0.4 |
| | | 0.126-0.250 | | | AB3-4A | **4Y022** | 25.23 | **13.06** | **11.76** | **11.09** | 0.4 |
| **1/8 (0.125)** | 0.250 | 0.032-0.062 | #30(0.129-0.133) | 500 | AB4-1A | **4Y023** | 20.35 | **10.46** | **9.42** | **8.89** | 0.6 |
| | | 0.063-0.125 | | | AB4-2A | **4X641** | 16.56 | **10.03** | **9.03** | **8.53** | 0.6 |
| | | 0.126-0.187 | | | AB4-3A | **4Y024** | 18.12 | **10.63** | **9.58** | **9.05** | 0.6 |
| | | 0.188-0.250 | | | AB4-4A | **5X520** | 18.48 | **10.98** | **9.88** | **9.33** | 0.6 |
| | | 0.251-0.312 | | | AB4-5A | **4Y025** | 24.92 | **12.85** | **11.57** | **10.92** | 0.8 |
| | | 0.313-0.375 | | | AB4-6A | **5X521** | 25.19 | **12.60** | **11.34** | **10.71** | 0.6 |
| | | 0.376-0.500 | | | AB4-8A | **6A638** | 28.33 | **16.24** | **14.62** | **13.80** | 0.8 |
| **5/32 (0.156)** | 0.312 | 0.062-0.125 | #20(0.160-0.164) | 500 | AB5-2A | **6A639** | 28.47 | **15.05** | **13.55** | **12.75** | 1.0 |
| | | 0.126-0.187 | | | AB5-3A | **4Y026** | 29.00 | **14.52** | **13.07** | **12.34** | 1.0 |
| | | 0.188-0.250 | | | AB5-4A | **6A640** | 29.22 | **15.46** | **13.91** | **13.14** | 1.0 |
| | | 0.251-0.375 | | | AB5-6A | **4Y027** | 33.02 | **17.50** | **15.75** | **14.88** | 2.0 |
| | | 0.376-0.500 | | | AB5-8A | **6A641** | 43.65 | **21.72** | **19.55** | **18.46** | 1.3 |
| **3/16 (0.187)** | 0.375 | 0.062-0.125 | #11(0.192-0.196) | 250 | AB6-2A | **4X581** | 16.73 | **9.31** | **8.38** | **7.92** | 0.6 |
| | | 0.126-0.250 | | | AB6-4A | **4X642** | 17.67 | **10.30** | **9.27** | **8.76** | 0.8 |
| | | 0.251-0.375 | | | AB6-6A | **4X582** | 18.80 | **10.96** | **9.86** | **9.32** | 1.7 |
| | | 0.376-0.500 | | | AB6-8A | **4Y028** | 22.10 | **12.74** | **11.47** | **10.84** | 1.0 |
| | | 0.501-0.625 | | | AB6-10A | **5X522** | 30.27 | **15.57** | **14.02** | **13.24** | 1.0 |
| | | 0.626-0.750 | | | AB6-12A | **4Y029** | 37.87 | **19.88** | **17.89** | **16.90** | 1.0 |
| | | 0.751-1.00 | | | AB6-16A | **4Y030** | 48.40 | **24.11** | **21.71** | **20.50** | 1.4 |
| **1/4 (0.250)** | 0.500 | 0.062-0.250 | F (0.257-0.261) | 100 | AB8-4A | **4Y031** | 20.97 | **10.48** | **9.43** | **8.91** | 0.7 |
| | | 0.251-0.375 | | | AB8-6A | **4Y032** | 23.12 | **11.53** | **10.38** | **9.79** | 0.8 |
| | | 0.376-0.500 | | | AB8-8A | **4Y033** | 25.56 | **12.94** | **11.65** | **11.01** | 0.8 |
| | | 0.501-0.750 | | | AB8-12A | **4Y034** | 36.47 | **18.19** | **16.37** | **15.46** | 1.0 |
| **[B] LARGE FLANGE ALUMINUM RIVET/ ALUMINUM MANDREL** | | | | | | | | | | | |
| **1/8 (0.125)** | 0.375 | 0.032-0.125 | #30(0.129-0.133) | 500 | ABL4-2A | **4Y035** | 32.26 | **16.09** | **14.48** | **13.67** | 0.8 |
| | | 0.126-0.187 | | | ABL4-3A | **4Y036** | 32.53 | **15.70** | **14.13** | **13.34** | 0.8 |
| | | 0.188-0.250 | | | ABL4-4A | **4Y037** | 33.76 | **17.28** | **15.55** | **14.68** | 0.8 |
| **3/16 (0.187)** | 0.625 | 0.062-0.250 | #11(0.192-0.196) | 250 | ABL6-4A | **4Y038** | 32.45 | **17.36** | **15.63** | **14.76** | 1.1 |
| | | 0.251-0.375 | | | ABL6-6A | **4Y039** | 31.02 | **16.28** | **14.65** | **13.83** | 1.1 |
| | | 0.376-0.500 | | | ABL6-8A | **4Y040** | 36.62 | **18.75** | **16.88** | **15.94** | 1.3 |
| | | 0.501-0.625 | | | ABL6-10A | **4Y041** | 41.03 | **20.44** | **18.39** | **17.38** | 1.1 |
| | | 0.626-0.750 | | | ABL6-12A | **4Y042** | 45.21 | **22.52** | **20.28** | **19.14** | 1.5 |
| **[C] 120° COUNTERSUNK ALUMINUM RIVET/ ALUMINUM MANDREL** | | | | | | | | | | | |
| **1/8 (0.125)** | 0.220 | 0.062-0.125 | #30(0.129-0.133) | 500 | AC4-2A | **4Y043** | 26.12 | **12.94** | **11.65** | **11.01** | 0.6 |
| | | 0.126-0.187 | | | AC4-3A | **4Y044** | 26.92 | **13.11** | **11.80** | **11.15** | 0.6 |
| | | 0.188-0.250 | | | AC4-4A | **4Y045** | 29.60 | **14.43** | **12.99** | **12.27** | 0.6 |
| **[A] BUTTON HEAD ALUMINUM RIVET/ COATED STEEL MANDREL** | | | | | | | | | | | |
| **3/32 (0.094)** | 0.188 | 0.032-0.125 | #41(0.097-0.100) | 500 | AB3-2 | **4Y046** | 20.32 | **10.10** | **9.10** | **8.59** | 0.8 |
| | | 0.126-0.250 | | | AB3-4 | **4Y047** | 21.77 | **10.88** | **9.79** | **9.25** | 0.8 |
| **1/8 (0.125)** | 0.250 | 0.032-0.062 | #30(0.129-0.133) | 500 | AB4-1 | **4Y048** | 17.71 | **8.95** | **8.05** | **7.61** | 1.0 |
| | | 0.063-0.125 | | | AB4-2 | **4Y049** | 14.74 | **8.91** | **8.02** | **7.57** | 1.3 |
| | | 0.126-0.187 | | | AB4-3 | **4Y050** | 16.13 | **9.35** | **8.42** | **7.95** | 1.4 |
| | | 0.188-0.250 | | | AB4-4 | **4Y051** | 17.28 | **9.75** | **8.77** | **8.29** | 1.4 |
| | | 0.251-0.312 | | | AB4-5 | **4Y052** | 23.65 | **12.88** | **11.60** | **10.95** | 1.5 |
| | | 0.313-0.375 | | | AB4-6 | **4Y053** | 24.92 | **12.76** | **11.49** | **10.85** | 1.5 |
| | | 0.376-0.500 | | | AB4-8 | **4Y054** | 28.42 | **16.25** | **14.62** | **13.81** | 1.6 |
| **5/32 (0.156)** | 0.312 | 0.062-0.125 | #20(0.160-0.164) | 500 | AB5-2 | **4Y055** | 24.72 | **13.46** | **12.12** | **11.44** | 2.0 |
| | | 0.126-0.187 | | | AB5-3 | **4Y056** | 26.13 | **13.35** | **12.01** | **11.34** | 2.1 |
| | | 0.188-0.250 | | | AB5-4 | **4Y057** | 26.83 | **14.72** | **13.26** | **12.51** | 1.0 |
| | | 0.251-0.375 | | | AB5-6 | **4Y058** | 32.03 | **17.39** | **15.65** | **14.78** | 2.5 |
| | | 0.376-0.500 | | | AB5-8 | **4Y059** | 36.44 | **18.17** | **16.36** | **15.45** | 2.6 |
| **3/16 (0.187)** | 0.375 | 0.062-0.125 | #11(0.192-0.196) | 250 | AB6-2 | **4Y060** | 15.08 | **8.89** | **8.00** | **7.56** | 1.6 |
| | | 0.126-0.250 | | | AB6-4 | **4Y061** | 16.10 | **8.60** | **7.74** | **7.31** | 1.8 |
| | | 0.251-0.375 | | | AB6-6 | **4Y062** | 18.25 | **9.77** | **8.79** | **8.31** | 1.9 |
| | | 0.376-0.500 | | | AB6-8 | **4Y063** | 23.09 | **11.56** | **10.41** | **9.82** | 2.1 |
| | | 0.501-0.625 | | | AB6-10 | **4Y064** | 28.65 | **14.58** | **13.12** | **12.40** | 2.3 |
| | | 0.626-0.750 | | | AB6-12 | **4Y065** | 33.81 | **16.92** | **15.23** | **14.38** | 2.3 |
| | | 0.751-1.00 | | | AB6-16 | **4Y066** | 46.34 | **23.11** | **20.79** | **19.64** | 2.7 |
| **1/4 (0.250)** | 0.500 | 0.062-0.250 | F (0.257-0.261) | 100 | AB8-4 | **4Y067** | 17.50 | **12.28** | **11.06** | **10.44** | 1.3 |
| | | 0.251-0.375 | | | AB8-6 | **4Y068** | 20.00 | **13.08** | **11.78** | **11.12** | 1.3 |
| | | 0.376-0.500 | | | AB8-8 | **4Y069** | 22.59 | **14.01** | **12.61** | **11.91** | 1.6 |
| | | 0.501-0.750 | | | AB8-12 | **4Y070** | 27.26 | **15.23** | **13.71** | **12.95** | 1.9 |
| **[B] LARGE FLANGE ALUMINUM RIVET/ COATED STEEL MANDREL** | | | | | | | | | | | |
| **1/8 (0.125)** | 0.375 | 0.032-0.125 | #30(0.129-0.133) | 500 | ABL4-2 | **4Y071** | 25.80 | **13.37** | **12.03** | **11.36** | 1.4 |
| | | 0.126-0.187 | | | ABL4-3 | **4Y072** | 30.20 | **15.95** | **14.35** | **13.55** | 1.4 |
| | | 0.188-0.250 | | | ABL4-4 | **4Y073** | 31.31 | **15.67** | **14.10** | **13.32** | 1.6 |

CONTINUED ON NEXT PAGE

# RIVETS AND BLIND RIVET BACK-UP WASHERS

| Rivet Dia. (In.) | Head Dia. (In.) | Grip Range (In.) | Drill #/ Hole Size | Rivets Box | Marson Model | Stock No. | List | Each | Lots 4 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **[B] LARGE FLANGE ALUMINUM RIVETS/ COATED STEEL MANDREL, CONTINUED** | | | | | | | | | | | |
| | | 0.062-0.250 | | | ABL6-4 | **4Y074** | $24.00 | **$11.95** | **$10.75** | **$10.16** | 2.0 |
| | | 0.251-0.375 | #11 | | ABL6-6 | **4Y075** | 25.03 | **12.71** | **11.44** | **10.80** | 2.1 |
| **16" (0.187)** | 0.625 | 0.376-0.500 | (0.192-0.196) | 250 | ABL6-8 | **4Y076** | 28.54 | **15.08** | **13.57** | **12.82** | 2.2 |
| | | 0.501-0.625 | | | ABL6-10 | **4Y077** | 33.64 | **16.75** | **15.07** | **14.23** | 2.4 |
| | | 0.626-0.750 | | | ABL6-12 | **4Y078** | 36.95 | **18.49** | **16.64** | **15.71** | 2.5 |
| **[C] 120° COUNTERSUNK ALUMINUM RIVETS/ COATED STEEL MANDREL** | | | | | | | | | | | |
| | | 0.062-0.125 | | | AC4-2 | **4Y079** | 23.28 | **11.54** | **10.39** | **9.81** | 1.3 |
| **8 (0.125)** | 0.222 | 0.126-0.187 | #30 (0.129-0.133) | 500 | AC4-3 | **4Y080** | 24.60 | **12.71** | **11.44** | **10.80** | 1.3 |
| | | 0.188-0.250 | | | AC4-4 | **4Y081** | 26.28 | **13.15** | **11.85** | **11.19** | 1.3 |
| **[A] BUTTON HEAD STAINLESS RIVETS/STAINLESS MANDREL** | | | | | | | | | | | |
| | | 0.063-0.125 | | | SSB4-2S | **5X523** | 62.34 | **33.15** | **29.79** | **28.14** | 1.4 |
| | | 0.126-0.187 | | | SSB4-3S | **4Y082** | 65.47 | **33.90** | **30.48** | **28.79** | 1.6 |
| **8 (0.125)** | 0.250 | 0.188-0.250 | #30 (0.129-0.133) | 500 | SSB4-4S | **5X524** | 68.76 | **34.35** | **30.86** | **29.19** | 1.6 |
| | | 0.313-0.375 | | | SSB4-6S | **6A642** | 92.85 | **46.35** | **41.67** | **39.39** | 2.0 |
| | | 0.376-0.500 | | | SSB4-8S | **4Y083** | 106.57 | **54.05** | **48.62** | **45.92** | 1.8 |
| | | 0.062-0.125 | | | SSB5-2S | **4Y084** | 135.54 | **67.60** | **60.83** | **57.45** | 2.5 |
| **32 (0.156)** | 0.312 | 0.126-0.250 | #20 (0.160-0.164) | 500 | SSB5-4S | **4Y085** | 147.82 | **78.85** | **70.91** | **66.97** | 2.3 |
| | | 0.251-0.375 | | | SSB5-6S | **4Y086** | 151.25 | **75.50** | **67.92** | **64.15** | 2.5 |
| | | 0.062-0.125 | | 250 | SSB6-2S | **4Y087** | 91.91 | **45.90** | **41.28** | **38.98** | 1.8 |
| | | 0.126-0.250 | | 250 | SSB6-4S | **4Y088** | 93.33 | **46.80** | **42.09** | **39.75** | 2.0 |
| **16 (0.187)** | 0.375 | 0.251-0.375 | #11 | 250 | SSB6-6S | **4Y089** | 101.19 | **50.55** | **45.46** | **42.92** | 2.2 |
| | | 0.376-0.500 | (0.192-0.196) | 250 | SSB6-8S | **4Y090** | 107.90 | **53.85** | **48.43** | **45.73** | 2.6 |
| | | 0.501-0.625 | | 100 | SSB6-10S | **4Y091** | 53.57 | **26.20** | **23.55** | **22.25** | 1.3 |
| | | 0.626-0.750 | | 100 | SSB6-12S | **4Y092** | 71.76 | **35.10** | **31.54** | **29.79** | 1.3 |
| **[B] LARGE FLANGE STAINLESS RIVETS/STAINLESS STEEL** | | | | | | | | | | | |
| | | 0.062-0.125 | | | SSBL4-2S | **4Y093** | 87.63 | **43.95** | **39.55** | **37.35** | 2.0 |
| | | 0.126-0.187 | #30 | | SSBL4-3S | **4Y094** | 97.31 | **49.75** | **44.73** | **42.24** | 1.8 |
| **8 (0.125)** | 0.375 | 0.188-0.250 | (0.129-0.133) | 500 | SSBL4-4S | **4Y095** | 110.66 | **55.25** | **49.68** | **46.92** | 1.8 |
| | | 0.062-0.250 | | | SSBL6-4S | **4Y096** | 57.19 | **28.25** | **25.42** | **24.02** | 1.2 |
| | | 0.251-0.375 | #11 | | SSBL6-6S | **4Y097** | 55.62 | **29.40** | **26.46** | **24.98** | 1.2 |
| **16 (0.187)** | 0.625 | 0.376-0.500 | (0.192-0.196) | 100 | SSBL6-8S | **4Y098** | 59.35 | **32.45** | **29.19** | **27.57** | 1.3 |
| | | 0.501-0.625 | | | SSBL6-10S | **4Y099** | 74.71 | **36.55** | **32.84** | **31.02** | 1.8 |
| | | 0.626-0.750 | | | SSBL6-12S | **4Y100** | 102.12 | **38.10** | **34.28** | **32.38** | 1.8 |
| **#110 COPPER RIVETS/ COATED STEEL MANDREL** | | | | | | | | | | | |
| **8 (0.125)** | 0.250 | 0.063-0.125 | #30 | 500 | CB4-2 | **4Y101** | 34.89 | **16.97** | **15.27** | **14.42** | 1.6 |
| | | 0.188-0.250 | (0.129-0.133) | | CB4-4 | **4Y102** | 36.95 | **17.97** | **16.18** | **15.27** | 1.6 |
| **[A] BUTTON HEAD ALUMINUM RIVETS—PAINTED WHITE** | | | | | | | | | | | |
| **8 (0.125)** | 0.250 | 0.063-0.125 | #30 | 500 | AB4-2AW | **6A643** | 18.09 | **9.93** | **8.93** | **8.44** | 0.6 |
| | | 0.188-0.250 | (0.129-0.133) | | AB4-4AW | **4Y103** | 20.01 | **10.95** | **9.86** | **9.31** | 0.7 |
| **[A] BUTTON HEAD STEEL RIVET—PAINTED WHITE** | | | | | | | | | | | |
| **8 (0.125)** | 0.250 | 0.063-0.125 | #30 (0.129-0.133) | 500 | SB4-2W | **4Y104** | 16.72 | **10.77** | **9.69** | **9.15** | 1.4 |
| **[D] CLOSED-END BUTTON HEAD—HOLLOW CORE ALUMINUM RIVETS/ STEEL MANDREL** | | | | | | | | | | | |
| | | 0.032-0.062 | | | AB4-1CLD | **4Y105** | 26.86 | **19.90** | **17.92** | **16.93** | 1.2 |
| | | 0.063-0.125 | | | AB4-2CLD | **4Y106** | 27.86 | **18.49** | **16.64** | **15.71** | 1.2 |
| **8 (0.125)** | 0.236 | 0.126-0.187 | #30 (0.129-0.133) | 500 | AB4-3CLD | **4Y107** | 29.51 | **19.13** | **17.22** | **16.26** | 1.3 |
| | | 0.188-0.250 | | | AB4-4CLD | **4Y108** | 31.50 | **21.53** | **19.37** | **18.30** | 1.3 |
| | | 0.251-0.312 | | | AB4-5CLD | **4Y109** | 36.11 | **21.28** | **19.16** | **18.09** | 1.3 |
| | | 0.063-0.125 | | | AB5-2CLD | **4Y110** | 40.94 | **22.12** | **19.91** | **18.81** | 1.9 |
| **32 (0.156)** | 0.312 | 0.126-0.187 | #20 (0.160-0.164) | 500 | AB5-3CLD | **4Y111** | 45.83 | **25.10** | **22.58** | **21.33** | 2.0 |
| | | 0.188-0.315 | | | AB5-5CLD | **4Y112** | 47.86 | **23.70** | **21.33** | **20.15** | 2.3 |
| | | 0.063-0.125 | | | AB6-2CLD | **4Y113** | 23.78 | **13.26** | **11.93** | **11.27** | 1.6 |
| | | 0.126-0.250 | #11 | | AB6-4CLD | **4Y114** | 26.73 | **14.48** | **13.03** | **12.30** | 1.7 |
| **16 (0.187)** | 0.375 | 0.251-0.375 | (0.192-0.196) | 250 | AB6-6CLD | **4Y115** | 29.92 | **16.72** | **15.05** | **14.21** | 1.9 |
| | | 0.376-0.500 | | | AB6-8CLD | **4Y116** | 31.32 | **20.62** | **18.56** | **17.53** | 1.9 |
| | | 0.501-0.625 | | | AB6-10CLD | **4Y117** | 36.80 | **22.10** | **19.89** | **18.90** | 1.9 |
| | | 0.062-0.250 | F | | AB8-4CLD | **4Y118** | 19.65 | **14.22** | **12.80** | **12.16** | 1.4 |
| **(0.250)** | 0.500 | 0.251-0.375 | (0.257-0.261) | 100 | AB8-6CLD | **4Y119** | 22.87 | **14.60** | **13.14** | **12.48** | 1.4 |

## BLIND RIVET BACK-UP WASHERS ORDERING DATA

| Rivet ameter (In.) | Material | Size/ Shape | Washers Per Box | Marson Model | Stock No. | List | Each | Lots 4 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3/32** | Steel | 1/2"-Square | | SS-3 | **4Y120** | $8.96 | **$8.37** | **$7.53** | **7.11** | 2.1 |
| **1/8** | Steel | 1/2-Square | | SS-4 | **4Y121** | 8.96 | **8.90** | **8.01** | **7.57** | 2.0 |
| **3/16** | Steel | 1/2-Square | | SS-6 | **4Y122** | 9.90 | **9.67** | **8.70** | **8.27** | 1.7 |
| **1/8** | Steel | 3/8-Round | 500 | SS-8 | **4Y123** | 6.69 | **5.15** | **4.64** | **4.40** | 0.8 |
| **3/16** | Steel | 1/2-Round | | SS-10 | **4Y124** | 9.35 | **6.90** | **6.21** | **5.90** | 1.4 |
| **1/8** | Aluminum | 3/8-Round | | AS-8 | **4Y125** | 9.43 | **5.61** | **5.05** | **4.77** | 0.4 |
| **5/32** | Aluminum | 7/16-Round | | AS-9 | **4Y126** | 9.43 | **7.08** | **6.37** | **6.05** | 0.5 |
| **3/16** | Aluminum | 1/2-Round | | AS-10 | **4Y127** | 9.43 | **7.41** | **6.67** | **6.34** | 0.5 |

# TOGGLE BOLTS, PLASTIC ANCHORS AND HANGERMATE SYSTEM

## TOGGLE BOLTS

Rawl



No. 3X979

Spring type with combination (slotted/Phillips), round head bolt and wings that spring apart for a firm hold in hollow-type wall of ceiling after insertion in predrilled hole. Sold in boxes of 50 only. Rawl® brand packaged by Elco. GSA Specification FF-B-588C, Type 1, Class A, Style 1.

| Bolt Size (In.) | Drill (In.) | Anchors Per Box | Elco Model | Stock No. | Per Box List | Per Box Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/8 x 3** | 3/8 | 50 | 94033 | **3X979** | $14.20 | **$13.49** | 0.9 |
| **3/16 x 2** | 1/2 | 50 | 94121 | **5M524** | 16.84 | **15.17** | 1.6 |
| **3/16 x 3** | 1/2 | 50 | 94131 | **3X980** | 16.97 | **16.12** | 1.9 |
| **3/16 x 4** | 1/2 | 50 | 94141 | **5M525** | 19.56 | **17.68** | 2.1 |
| **3/16 x 5** | 1/2 | 50 | 94151 | **5M526** | 20.73 | **18.80** | 2.4 |
| **3/16 x 6** | 1/2 | 50 | 94161 | **5M527** | 22.24 | **20.21** | 2.8 |
| **1/4 x 3** | 5/8 | 50 | 94231 | **5M528** | 20.42 | **18.30** | 3.2 |
| **1/4 x 4** | 5/8 | 50 | 94241 | **5M529** | 22.33 | **20.42** | 3.7 |
| **1/4 x 5** | 5/8 | 50 | 94251 | **5M530** | 26.29 | **24.11** | 4.3 |
| **1/4 x 6** | 5/8 | 50 | 94261 | **5M531** | 29.33 | **26.90** | 5.0 |

## PLASTIC ANCHORS

Rawl



No. 3X977

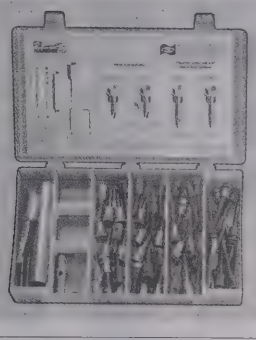
This is a lightweight plastic anchor suitable for concrete, block brick, and hollow wallboard applications. The plastic anchor is made of corrosion-resistant plastic and is recommended for ligh duty applications where holding power is not a critical factor For use with either wood screws or sheet metal screws. A pre drilled hole is required, and sizes range from 6-8 x 3/4" to 14-16 x 1/2". (Screws not included).

| Screw Size (In.) | Drill (In.) | Anchors Per Box | Elco Model | Stock No. | Per Box List | Per Box Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **6-8 x 3/4** | 3/16 | 100 | 97559 | **5M521** | $2.84 | **$2.67** ▲ | 0.1 |
| **8-10 x 7/8** | 3/16 | 100 | 97569 | **3X977** | 3.23 | **2.61** ▲ | 0.1 |
| **10-12 x 1** | 1/4 | 100 | 97579 | **3X978** | 3.98 | **3.16** ▲ | 0.3 |
| **14-16 x 1½** | 5/16 | 50 | 97589 | **5M520** | 3.20 | **3.00** ▲ | 0.3 |

(▲) Net prices, not subject to discounts.

## HANGERMATE ANCHORING/FASTENING SYSTEM

ELCO



Made in U.S.A.

No. 5M522

HangerMate is an anchoring/fastening system that allows fas and reliable attachment of 1/4 or 3/8" threaded rod in virtually al types of material found on a construction site including concrete steel, and wood. Eliminates the need to have different anchors fasteners, components and a wide variety of hand or power tools for each material.

| Description | Pkg. | Elco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4" - 20 Steel** | 50 | 88405 | **5M516** | $47.20 | **$45.95** | 2.4 |
| **1/4 - 20 Masonry/Wood** | 50 | 88455 | **5M517** | 47.20 | **46.00** | 2.8 |
| **3/8 - 16 Steel** | 50 | 88605 | **5M519** | 49.10 | **47.75** | 2.5 |
| **3/8 - 16 Masonry/Wood** | 50 | 88560 | **5M518** | 49.10 | **47.75** | 2.3 |
| **Starter Kit -10*** | | 88915 | **5M522** | 117.30 | **115.70** | 4.0 |
| **Starter Kit -15*** | | 88925 | **5M523** | 136.00 | **134.15** | 4.5 |

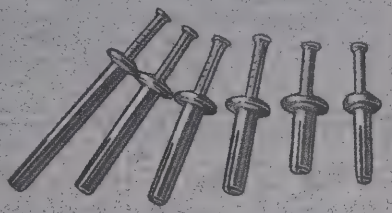
(*) Starter Kits contain: 10 or 15 each of 1/4-20 and 3/8-16 for steel, 1/4-20 and 3/8-16 for masonry or wood, 1 drive sleeve, 1 drive socket, 1 SDS drill bit, 1 T-angled drill bit. 1 drill bit adapter and 1 (1/8 in.) Hex key.

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

## HAMMER-SET™ ANCHORS

ITW Ramset/Red Head



Nail drive anchor can be used in concrete, block, or brick for applications such as sheet skirting and flashing, gutter and downspouts, electrical accessories, drywall track, HVAC straps (horizontally), frame brackets, and barrier plates

Steel construction

Easy through-the-work installation:

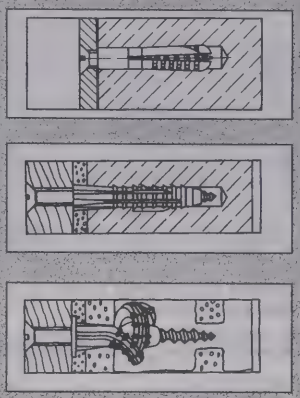
1) Drill hole through material to be fastened and into base material;

2) Insert Hammer-set into hole until head of anchor body is flush with material to be fastened. Tap the nail until flush with head of anchor; Anchor is now set

| escription (In.) | Drill Size (In.) | Max. Work Thickness (In.) | Min. Embedment (In.) | Pull-Out (Lbs) | Red Head Model | Stock No. | Sold in Boxes of 100 List | Sold in Boxes of 100 Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **16 x 7/8** | 3/16 | 1/4 | 5/8 | 527 | HS-1607 | **4E825*** | $25.33 | **$15.62** | 2.0 |
| **4 x 3/4** | 1/4 | 1/8 | 5/8 | 591 | HS-1406 | **4E826** | 27.35 | **16.86** | 2.2 |
| **4 x 1** | 1/4 | 1/4 | 3/4 | 1151 | HS-1410 | **4E827*** | 32.06 | **19.74** | 2.4 |
| **4 x 1 1/4** | 1/4 | 1/2 | 3/4 | 1151 | HS-1412 | **4E828*** | 37.08 | **22.85** | 2.6 |
| **4 x 1 1/2** | 1/4 | 3/4 | 3/4 | 1151 | HS-1414 | **4E829*** | 38.33 | **23.61** | 2.8 |
| **4 x 2** | 1/4 | 1 3/4 | 3/4 | 1151 | HS-1420 | **4E830** | 45.28 | **27.95** | 3.5 |

Meets GSA spec. PF-S-325 Group V, Type 2, Class 3 proof load requirement.

## POLY-SET ANCHOR KITS



ITW Ramset/Red Head



- For fastening in drywall, hollow block, and solid concrete
- Positive holding for paneling, hardboard, and ceiling tile
- Unique twisting action of plug upon expansion provides more positive hold in drywall applications
- Resistant to moisture, chemicals, or atmospheric conditions
- Kit No. 4AL67 includes 100 anchors, 100 screws, and one drill bit; Kit No. 4AL68 includes 50 anchors, 50 screws, and one drill bit
- Nos. 2G494 and 2G496 contain 100 anchors

| Drill Size (In.) | Anchor Lgth. (In.) | Screw Size | No. of Anchors* | Red Head Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **POLY-SET ANCHOR KITS** | | | | | | | | |
| **3/16** | 1 1/4 | #6-8 | 100 | PS-0608SKP | **4AL67** | $31.11 | **$17.80** | 1.0 |
| **9/32** | 1 7/16 | #10-12 | 50 | PS-1012SKP | **4AL68** | 24.31 | **13.92** | 1.2 |
| **POLY-SET ANCHORS ONLY** | | | | | | | | |
| **3/16** | 1 1/4 | #6-8 | 100 | PS-0608SP | **2G494** | 12.25 | **7.13** | 0.9 |
| **9/32** | 1 7/16 | #10-12 | 100 | PS-1012SP | **2G496** | 16.79 | **9.78** | 1.8 |

(*) Kit contains one drill bit, anchors and screws.

## E-Z TOGGLES™

Only self-drilling toggle bolt for heavy-duty anchoring to drywall

Features special rotating clamp (which flips as screw engages) and self-drilling point

Supports up to 75 pounds in 1/2" drywall

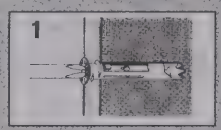
Deep No. 2 Phillips recess

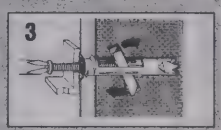
50 Toggles per package

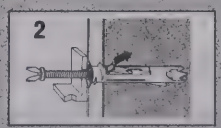
ITW Red Head brand (EZT50)

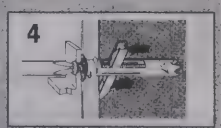
**4E824.** Shpg. wt. 2.0 lbs. List $35.95.
ch.....$32.35

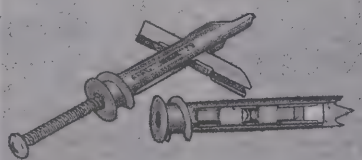
ITW Ramset/Red Head

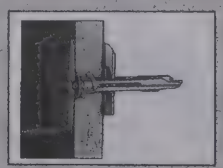


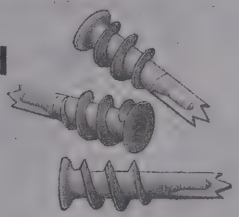





# ANCHORS AND FASTENERS

## E-Z ANCOR® PLASTIC ANCHORS

ITW Ramset/Red Head



- Gypsum wallboard anchor installs easily with a No. 2 Phillips screwdriver or cordless screwdriver
- Use No. 4E823 for light-duty applications such as thermostats, control systems, smoke detectors, telecommunications equipment, & signs
- Use No. 4AL66 for medium-duty applications such as electrical fixtures, HVAC and plumbing fixtures, shelving and supports, mirrors and security systems.
- No. 4E823 recommended for use with #6 sheet metal screws, No. 4AL66 for use with #8 sheet metal screws
- No predrilling or hole preparation necessary
- Can be easily backed out
- Deep thread provide strong engagement in 3/8, 1/2, and 5/8" drywall
- 100 Anchors per package

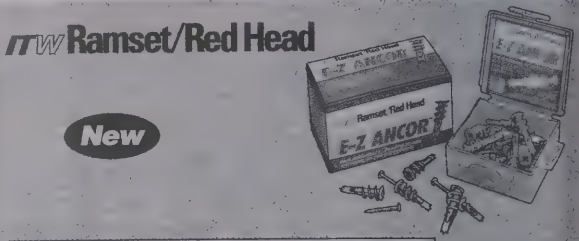
Use with #6 and #8 sheet metal screws (Sold on pages 1753 and 1754)

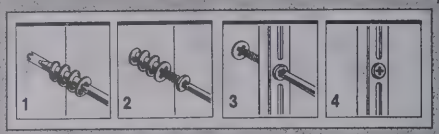
| Anchor Type | Fasteners per Box | Red Head Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Plastic, light-duty | 100 | EZL100 | **4E823** | $16.36 | **$12.36** | 0.2 |
| Plastic, medium-duty | 100 | EZP100 | **4AL66** | 20.42 | **17.54** | 0.5 |

## E-Z ANCOR® METAL ANCHORS

ITW Ramset/Red Head

New




- Gypsum wallboard anchor installs easily with either a No 2 Phillips screwdriver or cordless screwdriver
- Replaces Molly-type, plastic plug, or toggle systems.
- No predrilling or hole preparation necessary
- Deep threads provide strong engagement in 3/8, 1/2, and 5/8" gypsum wallboard
- Can be easily backed out
- ITW Red Head brand

Use with #8 type AB screw with 1" minimum thread engagement (See pages 1753 and 1754)

| Anchor Type | Fasteners per Box | Red Head Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Metal | 100 | EZ100 | *New* | **2G592** | $29.42 | **$17.14** | 1.6 |
| Metal w/ Screws | 25 | EZ25 | *New* | **2G590** | 15.13 | **8.81** | 0.6 |

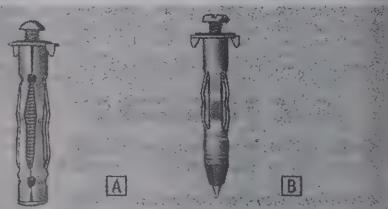
## HOLLOW WALL ANCHORS AND DRIVE ANCHOR

For fastening fixtures, drapery hardware, and towel bars to any hollow-type wall or ceiling of wallboard, plywood, or concrete block construction. Insert fastener in predrilled hole (except No. 3X976) and tighten screw to set anchor. Remove screw to complete installation. Sold in boxes only. Rawl® brand packaged by Elco. GSA Specification FF-B-588-5340.

[A] Standard Rawl fastener with slotted round head screw.

[B] Slotted pan head screw has steel point for driving fastener into wall or ceiling without predrilling hole.

Rawl




| Key | Size (In.) | Grip Range (Thickness of Anchoring Material) (In.) | Wall Thickness (In.) | Drill (In.) | Fasteners Per Box | Elco Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/8 Short | 1/8 to 1/2 | 3/8 to 1/2 | 5/16 | 100 | 92101 | **3X972** | $18.58 | **$17.65** | 1.6 |
| A | 3/16 Short | 1/8 to 5/8 | 3/8 to 5/8 | 3/8 | 50 | 92111 | **3X974** | 22.32 | **21.20** | 1.7 |
| B | 1/8 S Drive | 1/8 to 1/2 | 3/8 to 1/2 | — | 100 | 92182 | **3X976** | 28.63 | **27.20** | 1.4 |



GREENLEE®

## CONICAL ANCHOR KIT

**Kit includes** 100 slotted pan sheet metal screws. No. 10 x 1, and 10 plastic anchors, No. 3X978, and carbide tipped masonry drill.

**Screws are bright zinc chromate finish.** This kit is for general use.

**Plastic anchors are used in hollow or solid wall construction** for bot indoor and outdoor applications. Lipped collar prevents anchor from pushing through predrilled holes. Greenlee brand (84012).

**No. 6A645.** Shpg. wt. 1.2 lbs. List $9.06. Each ..... **$6.80**▲

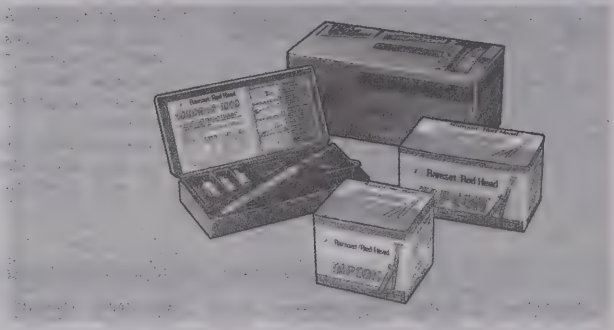
(▲) Net prices, not subject to discounts.

# TAPCON® CONCRETE ANCHORING KIT*

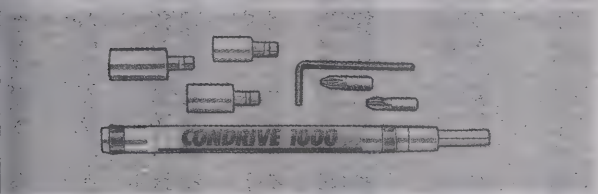
- For electrical, HVAC, carpentry, roofing, and maintenance applications
- Threads concrete, brick and hollow block
- Hex washer head
- Condrive fits standard hammer drills
- Specially sized carbide tipped bit in each box of anchors
- Kit includes Condrive C-1000 tool (No. 4AL05), and 100 each of 1/4" diameter hex washer heads in 1¼ and 1¾" lengths (Nos. 4AK86 and 4AK87)
- ITW Tapcon brand

. 5A188. Shpg. wt. 4.3 lbs. List $100.80. Each.....$94.30

ıcon replacement anchors available. Order from nearest Grainger branch for fastest service.



# TAPCON® CONDRIVE 1000 TOOL*




multi-purpose, dependable tool designed for installation of all ngths of Tapcon hex head and Phillips flat head anchors; also r use with Tapcon carbide bits. Patented "declutching" nose-ece on drive sleeve. ITW Tapcon brand.

›. 4AL05. Shpg. wt. 0.7 lbs. List $52.43. Each.....$49.40

# TAPCON® CARBIDE BITS*

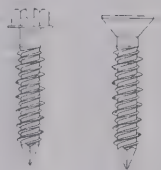


- Slotted shank carbide bits designed for use with Condrive 1000 installation tool
- SDS drive for use with all standard SDS rotary hammers
- Must match bit diameter to anchor diameter for optimum performance

| Length (In.) | Shank Dia. (In.) | Tapcon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **FOR 3/16" TAPCON ANCHORS** | | | | | | |
| 3½ | 5/32 | 790-0814 | 4AL06 | $4.30 | $4.24 | 0.16 |
| 4½ | 5/32 | 790-0818 | 4AL07 | 4.76 | 4.69 | 0.2 |
| 5½ | 5/32 | 790-0822 | 4AL08 | 5.21 | 5.16 | 0.2 |
| **FOR 1/4" TAPCON ANCHORS** | | | | | | |
| 3½ | 3/16 | 790-1014 | 4AL09 | 5.21 | 5.16 | 0.1 |
| 4½ | 3/16 | 790-1018 | 4AL10 | 5.28 | 5.22 | 0.2 |
| 5½ | 3/16 | 790-1022 | 4AL11 | 5.55 | 5.48 | 0.3 |
| **SDS BITS FOR 1/4" TAPCON ANCHORS** | | | | | | |
| 5 | 3/16 | 790-1060 | 4AL12 | 8.63 | 8.47 | 0.2 |
| 7 | 3/16 | 790-1059 | 4AL13 | 17.12 | 16.88 | 0.5 |

Tapcon hardened steel fasteners meet or exceed industry standards. However, ıy are not recommended for use with aluminum when moisture may be present.

# TAPCON® MASONRY ANCHORS*



Hex Washer Head | Phillips Flat Head

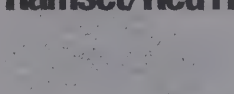
- Excellent for wood to concrete applications
- Fast and easy to install
- Superior pull-out and shear strengths
- No need to prespot holes, no inserts are required, and can be removed and reinstalled
- Accommodates close-to-edge applications
- Neat, finished appearance
- Hi-Lo threads with notches cut into masonry for greater stability and pullout values
- Tapered shank provides a wedging action for a strong reliable hold
- Nail-type point guides the anchor into the predrilled hole

| Length (In.) | Tapcon Model | Stock No. | List | Each Box of 100 | Lots of 3 Boxes | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/16" DIA HEX WASHER HEADS** | | | | | | |
| 1¼ | HW3-114 | 4AK81 | $24.06 | $17.91 | $16.12 | 0.9 |
| 1¾ | HW3-134 | 4AK82 | 27.18 | 20.21 | 18.19 | 1.1 |
| 2¼ | HW3-214 | 4AK83 | 29.77 | 22.13 | 19.93 | 1.4 |
| 2¾ | HW3-234 | 4AK84 | 35.07 | 26.10 | 23.83 | 1.6 |
| 3¼ | HW3-314 | 4AK85 | 44.64 | 33.25 | 29.88 | 2.0 |
| **1/4" DIA HEX WASHER HEADS** | | | | | | |
| 1¼ | HW4-114 | 4AK86 | 32.19 | 23.93 | 21.55 | 1.4 |
| 1¾ | HW4-134 | 4AK87 | 37.46 | 27.90 | 25.06 | 1.8 |
| 2¼ | HW4-214 | 4AK88 | 39.85 | 29.70 | 26.67 | 2.2 |
| 2¾ | HW4-234 | 4AK89 | 47.37 | 35.30 | 31.68 | 2.6 |
| 3¼ | HW4-314 | 4AK90 | 57.12 | 42.55 | 38.24 | 3.2 |
| 3¾ | HW4-334 | 4AK91 | 65.84 | 49.05 | 44.05 | 3.6 |
| 4 | HW4-400 | 4AK92 | 70.93 | 52.80 | 47.47 | 4.0 |
| **3/16" DIA PHILLIPS FLAT HEADS** | | | | | | |
| 1¼ | PF3-114 | 4AK93 | 24.06 | 17.91 | 16.13 | 0.8 |
| 1¾ | PF3-134 | 4AK94 | 27.18 | 20.21 | 18.19 | 1.0 |
| 2¼ | PF3-214 | 4AK95 | 29.77 | 22.13 | 19.93 | 1.4 |
| 2¾ | PF3-234 | 4AK96 | 35.07 | 26.10 | 23.47 | 1.6 |
| 3¼ | PF3-314 | 4AK97 | 44.64 | 33.25 | 29.88 | 1.8 |
| **1/4" DIA PHILLIPS FLAT HEADS** | | | | | | |
| 1¼ | PF4-114 | 4AK98 | 32.19 | 23.94 | 21.55 | 1.3 |
| 1¾ | PF4-134 | 4AK99 | 37.46 | 27.90 | 25.06 | 1.8 |
| 2¼ | PF4-214 | 4AL00 | 39.85 | 29.70 | 26.67 | 2.2 |
| 2¾ | PF4-234 | 4AL01 | 47.37 | 35.30 | 31.68 | 2.6 |
| 3¼ | PF4-314 | 4AL02 | 57.12 | 42.55 | 38.24 | 3.2 |
| 3¾ | PF4-334 | 4AL03 | 65.84 | 49.05 | 44.05 | 3.4 |
| 4 | PF4-400 | 4AL04 | 70.93 | 52.80 | 47.47 | 3.6 |

# WEDGE ANCHORS

## TRUBOLT WEDGE ANCHORS

ITW Ramset/Red Head



- Anchor size equals hole size
- One-piece wraparound stainless steel expander clip resists corrosion
- Provides 360° contact with concrete
- Comes complete with nuts and washers
- Versatile fully threaded design
- For low temperature applications use only stainless steel anchors

Zinc-plated carbon steel and stainless steel wedge anchors are available in anchor/drill sizes 1/4, 3/8, 1/2, 5/8, and 3/4" and lengths of 1¾" through 10". Meet U.S. Government G.S.A. Specifications FF-S-325 Group II, Type 4, Class I. For fastening electrical, heating, ventilating, air conditioning, and plumbing systems to concrete, tilt-up construction, pipe hanging, in-plant machinery mountings, and storage racks. ITW Red Head brand.

### CARBON STEEL WEDGE ANCHOR SPECIFICATIONS AND ORDERING DATA

| Anchor Dia. & Drill Bit Size (In.)/ Threads Per Inch | Overall Length (In.) | Max. Thickness of Material to be Fastened (In.) | Thread Length (In.) | Embedment in Concrete (In.) | Ultimate* Pullout (Lbs.) | Ultimate* Shear (Lbs.) | Red Head Model | Stock No. | List | Each Box | Anchors per Box | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 /20 | 1¾ | 3/8 | 3/4 | 1⅛ | 1559 | 1828 | WS-1416 | **3A442** | $51.31 | **$31.30** | 100 | 3.1 |
| | 2¼ | 7/8 | 1¼ | 1 5/16 | 2999 | 1910 | WS-1422 | **3A443** | 63.02 | **38.40** | 100 | 3.6 |
| | 3¼ | 1⅞ | 2¼ | 2¾ | 3051 | 1991 | WS-1432 | **3A444** | 73.92 | **45.70** | 100 | 4.7 |
| 3/8 /16 | 2¼ | 3/8 | 1⅛ | 1½ | 3219 | 4029 | WS-3822† | **3A445** | 38.31 | **23.48** | 50 | 4.1 |
| | 2¾ | 7/8 | 1⅝ | 1½ | 3219 | 4029 | WS-3826† | **3A446** | 40.54 | **25.20** | 50 | 4.7 |
| | 3 | 1⅛ | 1⅞ | 1½ | 3219 | 4029 | WS-3830† | **3A447** | 40.91 | **25.35** | 50 | 5.0 |
| | 3¾ | 1⅞ | 2⅝ | 3 | 5678 | 4305 | WS-3836† | **3A448** | 53.73 | **33.50** | 50 | 5.9 |
| | 5 | 3⅛ | 2½ | 4½ | 5935 | 4581 | WS-3850† | **3A449** | 67.32 | **41.55** | 50 | 7.4 |
| 1/2 /13 | 2¾ | 1/8 | 1¼ | 2¼ | 5384 | 6900 | WS-1226† | **3A450** | 34.91 | **21.88** | 25 | 4.6 |
| | 3¾ | 1⅛ | 2¼ | 2¼ | 5384 | 6900 | WS-1236† | **3A451** | 36.85 | **24.47** | 25 | 5.7 |
| | 4¼ | 1½ | 2¾ | 2¼ | 5384 | 6900 | WS-1242† | **3A452** | 38.83 | **25.70** | 25 | 6.2 |
| | 5½ | 2¾ | 3 | 4⅛ | 7333 | 7449 | WS-1254† | **3A453** | 46.00 | **29.75** | 25 | 7.7 |
| | 7 | 4¼ | 4½ | 6 | 9003 | 7998 | WS-1270† | **3A454** | 56.75 | **36.85** | 25 | 9.3 |
| 5/8 /11 | 3½ | 1/4 | 1¾ | 2¾ | 8000 | 12478 | WS-5834† | **3A455** | 25.97 | **16.79** | 10 | 3.6 |
| | 4½ | 1⅛ | 2½ | 2¾ | 8000 | 12478 | WS-5842† | **3A456** | 26.55 | **17.33** | 10 | 4.1 |
| | 5 | 1⅝ | 3¼ | 2¾ | 8000 | 12478 | WS-5850† | **3A457** | 27.64 | **18.27** | 10 | 4.7 |
| | 6 | 2⅝ | 3½ | 5⅛ | 10178 | 13285 | WS-5860† | **3A458** | 31.25 | **20.40** | 10 | 5.4 |
| | 7 | 3⅝ | 4½ | 5⅛ | 10178 | 13285 | WS-5870† | **3A459** | 38.89 | **23.86** | 10 | 6.2 |
| | 8½ | 5⅛ | 1¾ | 7½ | 12453 | 14092 | WS-5884† | **3A460** | 42.07 | **25.95** | 10 | 8.0 |
| 3/4 /10 | 4¼ | 1/4 | 1¾ | 3¼ | 9921 | 18128 | WS-3442† | **3A461** | 32.90 | **21.72** | 10 | 6.8 |
| | 4¾ | 3/4 | 2¼ | 3¼ | 9921 | 18128 | WS-3446† | **3A462** | 35.43 | **23.37** | 10 | 7.4 |
| | 5½ | 1½ | 3 | 3¼ | 9921 | 18128 | WS-3454† | **3A463** | 43.04 | **28.05** | 10 | 8.1 |
| | 6¼ | 2¼ | 3¾ | 3¼ | 16489 | 18585 | WS-3462† | **3A464** | 49.28 | **31.65** | 10 | 9.1 |
| | 7 | 3 | 4½ | 3¼ | 19953 | 19042 | WS-3470† | **3A465** | 56.69 | **34.05** | 10 | 9.7 |
| | 8½ | 4½ | 1¾ | 3¼ | 19953 | 19042 | WS-3484† | **3A466** | 62.18 | **40.00** | 10 | 12.3 |
| | 10 | 6 | 1¾ | 3¼ | 19953 | 19042 | WS-34100† | **3A467** | 77.61 | **48.95** | 10 | 14.0 |

### STAINLESS STEEL WEDGE ANCHOR SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 /20 | 1¾ | 3/8 | 3/4 | 1⅛ | 1869 | 2354 | WW-1416 | **2G554** | 149.57 | **87.15** | 100 | 3.2 |
| | 2¼ | 7/8 | 1¼ | 1 5/16 | 3084 | 2375 | WW-1422 | **2G556** | 162.84 | **94.85** | 100 | 3.7 |
| | 3¼ | 1⅞ | 2¼ | 2¾ | 3102 | 2395 | WW-1432 | **2G558** | 219.28 | **127.75** | 100 | 4.8 |
| 3/8 /16 | 2¼ | 3/8 | 1⅛ | 1½ | 3145 | 4338 | WW-3822† | **2G570** | 132.49 | **77.20** | 50 | 4.1 |
| | 2¾ | 7/8 | 1⅝ | 1½ | 3145 | 4338 | WW-3826† | **2G572** | 156.52 | **91.20** | 50 | 4.8 |
| | 3 | 1⅛ | 1⅞ | 1½ | 3145 | 4338 | WW-3830† | **2G574** | 162.51 | **94.70** | 50 | 5.1 |
| | 3¾ | 1⅞ | 2⅝ | 3 | 5661 | 5012 | WW-3836† | **2G576** | 189.09 | **110.15** | 50 | 6.0 |
| | 5 | 3⅛ | 2½ | 4½ | 6396 | 5686 | WW-3850† | **2G578** | 228.80 | **133.30** | 50 | 7.5 |
| 1/2 /13 | 2¾ | 1/8 | 1¼ | 2¼ | 6032 | 9542 | WW-1226† | **2G560** | 130.49 | **76.05** | 25 | 4.7 |
| | 3¾ | 1⅛ | 2¼ | 2¼ | 6032 | 9542 | WW-1236† | **2G562** | 148.32 | **86.45** | 25 | 5.8 |
| | 4¼ | 1½ | 2¾ | 2¼ | 6032 | 9542 | WW-1242† | **2G564** | 177.53 | **103.45** | 25 | 6.3 |
| | 5½ | 2¾ | 3 | 4⅛ | 8593 | 9773 | WW-1254† | **2G566** | 204.52 | **119.15** | 25 | 7.8 |
| | 7 | 4¼ | 4½ | 6 | 9974 | 10003 | WW-1270† | **2G568** | 243.22 | **141.65** | 25 | 9.4 |
| 5/8 /11 | 5 | 1⅝ | 3¼ | 2¾ | 7646 | 13339 | WW-5850† | **2G550** | 120.85 | **70.45** | 10 | 4.8 |
| | 6 | 2⅝ | 3½ | 2¾ | 11897 | 14227 | WW-5860† | **2G552** | 129.03 | **75.20** | 10 | 5.5 |

(*) Ultimate load capacity in 4000 PSI stone aggregate concrete. For load capacities in structural lightweight aggregate concrete, refer to ICBO Report No. 1372. Safe working loads for single installations under static loading should not exceed 25% of the ultimate load capacity. (†) Indicates UL Listing.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

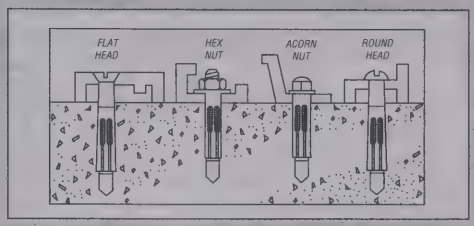
# DYNABOLT SLEEVE ANCHORS

- **Anchor can be installed through object to be fastened**
- **Six-rib sleeve design assures holding power of expansion device**
- **Filler sleeve eliminates galling between sleeve and tapered bolt head**
- **For use in concrete and hollow or shallow masonry**

rbon steel and stainless steel sleeve anchors range in size from 4 to 3/4", and in lengths from 5/8 to 6¼" styles include acorn t, hex nut, flat head and round head. Meet U.S. Government S.A. Specifications FF-S-325 Group II, Type 3, Class 3. For use cement block, thin wall, or solid concrete, brick, or stone. Also r anchoring electrical systems, transformers, cable trays, radi- t heating units, and partitions. ITW Red Head brand.

## ITW Ramset/Red Head






## CARBON STEEL ANCHOR SPECIFICATIONS AND ORDERING DATA

| Head Style | Anchor Dia. & Drill Bit Size (In.) | Effective Anchor Length (In.) | Bolt Dia. (In.)/ Threads per Inch | Min. Embed- ment (In.) | Max. Thickness of Material to Fastened (In.) | Ultimate* Pullout Lbs | Ultimate* Shear Lbs | Red Head Model | Stock No. | List | Each Box | Anchors per Box | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1/4 | 5/8 | 3/16 /24 | 1/2 | 1/8 | 500 | 1751 | AN-1405 | **2G502** | $48.51 | **$28.30** | 100 | 1.9 |
| corn Nut | 1/4 | 1⅜ | 3/16 /24 | 1⅛ | 1/4 | 1613 | 1751 | AN-1413 | **3A470** | 55.34 | **33.55** | 100 | 2.6 |
| | 1/4 | 2¼ | 3/16 /24 | 1⅛ | 1⅛ | 1613 | 1751 | AN-1422 | **3A471** | 76.03 | **46.25** | 100 | 3.7 |
| | 5/16 | 1½ | 1/4 /20 | 1⅛ | 1/4 | 2429 | 2487 | HN-1614 | **3A472** | 66.21 | **40.40** | 100 | 4.0 |
| | 5/16 | 2½ | 1/4 /20 | 1⅛ | 1¼ | 2429 | 2487 | HN-1624 | **3A473** | 82.10 | **50.35** | 100 | 5.9 |
| | 3/8 | 1⅞ | 5/16 /18 | 1½ | 3/8 | 2597 | 2872 | HN-3817 | **3A474** | 32.04 | **19.95** | 50 | 3.5 |
| | 3/8 | 3 | 5/16 /18 | 1½ | 1½ | 2597 | 2872 | HN-3830 | **3A475** | 39.93 | **25.85** | 50 | 4.9 |
| | 1/2 | 2¼ | 3/8 /16 | 1⅞ | 3/8 | 5358 | 5582 | HN-1222‡ | **3A476** | 29.66 | **18.50** | 25 | 3.3 |
| | 1/2 | 3 | 3/8 /16 | 1⅞ | 1½ | 5358 | 5582 | HN-1230‡ | **3A477** | 36.51 | **23.44** | 25 | 4.0 |
| ex Nut† | 1/2 | 4 | 3/8 /16 | 1⅞ | 2½ | 5358 | 5582 | HN-1240‡ | **3A478** | 45.56 | **29.55** | 25 | 5.3 |
| | 5/8 | 2¼ | 1/2 /13 | 2 | 1/4 | 5708 | 7435 | HN-5822‡ | **3A479** | 50.06 | **32.70** | 25 | 6.3 |
| | 5/8 | 3 | 1/2 /13 | 2 | 1 | 5708 | 7435 | HN-5830‡ | **3A480** | 54.45 | **35.80** | 25 | 7.0 |
| | 5/8 | 4¼ | 1/2 /13 | 2 | 2¼ | 5708 | 7435 | HN-5842‡ | **3A481** | 26.27 | **16.71** | 10 | 3.9 |
| | 5/8 | 6 | 1/2 /13 | 2 | 4 | 5708 | 7435 | HN-5860 | **3A482** | 33.20 | **21.77** | 10 | 4.9 |
| | 3/4 | 2 ½ | 5/8 /11 | 2¼ | 1/4 | 6470 | 13071 | HN-3424 | **2G498** | 30.71 | **17.89** | 10 | 4.7 |
| | 3/4 | 4 | 5/8 /11 | 2¼ | 1¾ | 6470 | 13071 | HN-3440 | **2G524** | 17.69 | **10.31** | 5 | 3.2 |
| | 3/4 | 6¼ | 5/8 /11 | 2¼ | 4 | 6470 | 13071 | HN-3462 | **2G526** | 26.02 | **15.15** | 5 | 4.3 |
| | 1/4 | 1½ | 3/16 /24 | 1⅛ | 3/8 | 1613 | 1751 | FS-1411 | **3A483** | 77.00 | **44.40** | 100 | 1.9 |
| | 1/4 | 2¼ | 3/16 /24 | 1⅛ | 1⅛ | 1613 | 1751 | FS-1420 | **3A484** | 78.12 | **45.55** | 100 | 2.7 |
| | 1/4 | 3⅛ | 3/16 /24 | 1⅛ | 2 | 1613 | 1751 | FS-1430 | **3A485** | 96.04 | **57.95** | 100 | 3.3 |
| lat Head | 1/4 | 4 | 3/16 /24 | 1⅛ | 2⅞ | 1613 | 1751 | FS-1440 | **3A486** | 109.25 | **66.20** | 100 | 4.7 |
| | 3/8 | 2⅞ | 5/16 /18 | 1½ | 1⅜ | 2597 | 2872 | FS-3826 | **3A488** | 62.67 | **39.65** | 50 | 3.8 |
| | 3/8 | 4 | 5/16 /18 | 1½ | 2½ | 2597 | 2872 | FS-3840 | **3A489** | 72.46 | **44.75** | 50 | 5.3 |
| | 3/8 | 5 | 5/16 /18 | 1½ | 3½ | 2597 | 2872 | FS-3850 | **3A490** | 99.79 | **63.75** | 50 | 6.6 |
| | 3/8 | 6 | 5/16 /18 | 1½ | 4½ | 2597 | 2872 | FS-3860 | **3A491** | 122.81 | **77.90** | 50 | 8.0 |
| | 1/4 | 1⅜ | 3/16 /24 | 1⅛ | 1/4 | 1613 | 1751 | RS-1411 | **2G504** | 85.03 | **49.60** | 100 | 1.9 |
| ound Hd. | 1/4 | 2 | 3/16 /24 | 1⅛ | 7/8 | 1613 | 1751 | RS-1420 | **2G506** | 87.01 | **50.70** | 100 | 2.7 |
| | 1/4 | 2⅞ | 3/16 /24 | 1⅛ | 1¾ | 1613 | 1751 | RS-1426 | **2G508** | 98.15 | **57.20** | 100 | 3.7 |
| | 3/8 | 2⅝ | 5/16 /18 | 1½ | 1⅛ | 2597 | 2872 | RS-3824 | **2G528** | 70.36 | **41.00** | 50 | 3.9 |

## STAINLESS STEEL ANCHOR SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1/4 | 1⅜ | 3/16 /24 | 1⅛ | 1/4 | 1613 | 1751 | SHN-1413 | **2G516** | 207.67 | **120.95** | 100 | 2.3 |
| | 3/8 | 1⅞ | 5/16 /18 | 1½ | 3/8 | 2597 | 2872 | SHN-3817 | **2G534** | 195.33 | **113.80** | 50 | 3.5 |
| | 3/8 | 3 | 3/8 /16 | 1⅞ | 3/8 | 2597 | 2872 | SHN-3830 | **2G536** | 279.02 | **162.50** | 50 | 4.9 |
| ex Nut | 1/2 | 2¼ | 3/8 /16 | 1⅞ | 3/8 | 2597 | 5582 | SHN-1222 | **2G518** | 167.60 | **97.70** | 25 | 3.3 |
| | 1/2 | 3 | 3/8 /16 | 1⅞ | 1⅛ | 5385 | 5582 | SHN-1230 | **2G520** | 201.64 | **117.50** | 25 | 4.0 |
| | 1/2 | 4 | 3/8 /16 | 1⅞ | 2⅛ | 5385 | 5582 | SHN-1240 | **2G522** | 245.77 | **143.20** | 25 | 5.3 |
| | 5/8 | 4¼ | 1/2 /13 | 2 | 2¼ | 5708 | 7435 | SHN-5842 | **2G500** | 161.23 | **93.95** | 10 | 3.9 |
| | 1/4 | 2¼ | 3/16 /24 | 1⅛ | 1⅛ | 1613 | 1751 | SFS-1420 | **2G510** | 388.66 | **226.50** | 100 | 2.7 |
| | 1/4 | 3⅛ | 3/16 /24 | 1⅛ | 2 | 1613 | 1751 | SFS-1430 | **2G512** | 455.65 | **265.50** | 100 | 3.8 |
| lat Head | 3/8 | 2⅞ | 5/16 /18 | 1½ | 1⅜ | 2597 | 2872 | SFS-3826 | **2G530** | 367.08 | **214.00** | 50 | 3.8 |
| | 3/8 | 4 | 5/16 /18 | 1½ | 2½ | 2597 | 2872 | SFS-3840 | **2G532** | 456.35 | **266.00** | 50 | 5.3 |

Ultimate load capacity in 4090 PSI 3/4 inch crushed limestone aggregate concrete. For load capacities in structural lightweight aggregate and masonry block units, refer to O Report No. 1372. Safe working loads for single installations under static loading should not exceed 25% of the ultimate load capacity. (†) Overall length of hex sleeve hors is longer than effective length shown on chart. (‡) Indicates FM Listing. Do not use for continuous low temperature applications below 0°F/ -17.8°C.

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# MULTI-SET ANCHORS AND HAMMER DRIVE TOOLS

## MULTI-SET II DROP-IN ANCHORS

ITW Ramset/Red Head



No. 3A492 No. 2G476

- **Setting tool included with each box of anchors**
- **Precise hole depth, hole clean-out not necessary**

Carbon steel drop-in anchors for use in heavy-duty concrete materials, or solid concrete base materials. Meet U.S. Government G.S.A. Specifications FF-S-325 Group VIII Type 1. For pipe hanging, mounting valves and pipes, machinery mountings, anchoring shelves, and insulation. ITW Red Head brand.

### CARBON STEEL ANCHOR SPECIFICATIONS AND ORDERING DATA

| Bolt Size (In.)/ Threads Per Inch | Anchor Type | Drill Bit Size (In.) | Thread Depth (In.) | Min. Hole Depth (In.) | Ultimate* Pullout (Lbs.) | Ultimate* Shear (Lbs.) | Red Head Model | Stock No. | List | Each | Anchors per Box | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4 /20** | Flange | 3/8 | 3/8 | 1 | 3204 | 1968 | RM-14 | **3A492** | $54.07 | **$32.85** | 100 | 2.6 |
| | Non-flange | 3/8 | 3/8 | 1 | 3204 | 1968 | RL-14 | **2G474** | 49.96 | **29.15** | 100 | 2.6 |
| **3/8 /16** | Flange | 1/2 | 1/2 | 1⅝ | 6350 | 3968 | RM-38†‡ | **3A493** | 33.63 | **22.10** | 50 | 3.4 |
| | Non-flange | 1/2 | 1/2 | 1⅝ | 6350 | 3968 | RL-38†‡ | **2G488** | 33.50 | **19.51** | 50 | 3.4 |
| **1/2 /13** | Flange | 5/8 | 3/4 | 2 | 8544 | 6502 | RM-12†‡ | **3A494** | 65.95 | **41.25** | 50 | 5.8 |
| | Non-flange | 5/8 | 3/4 | 2 | 8544 | 6502 | RL-12†‡ | **2G486** | 63.64 | **37.10** | 50 | 5.8 |
| **5/8 /11** | Flange | 7/8 | 1 | 2½ | 15218 | 10380 | RM-58†‡ | **3A495** | 60.30 | **37.45** | 25 | 7.8 |
| | Non-flange | 7/8 | 1 | 2½ | 15218 | 10380 | RL-58†‡ | **2G480** | 66.31 | **38.65** | 25 | 7.8 |
| **3/4 /10** | Flange | 1 | 1¼ | 3⅜16 | 17255 | 13962 | RM-34†‡ | **3A496** | 106.17 | **62.30** | 25 | 12.0 |
| | Non-flange | 1 | 1¼ | 3⅜16 | 17255 | 13962 | RL-34†‡ | **2G478** | 107.15 | **62.45** | 25 | 12.0 |

### STAINLESS STEEL ANCHOR SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4 /20** | Non-flange | 3/8 | 3/8 | 1 | 3204 | 1968 | SRM-14 | **2G476** | 292.37 | **170.50** | 100 | 2.7 |
| **3/8 /16** | Non-flange | 1/2 | 1/2 | 1⅝ | 6350 | 3968 | SRM-38†‡ | **2G492** | 288.59 | **168.25** | 50 | 3.4 |
| **1/2 /13** | Non-flange | 5/8 | 3/4 | 2 | 8544 | 6502 | SRM-12†‡ | **2G490** | 497.70 | **290.00** | 50 | 6.0 |
| **5/8 /11** | Non-flange | 7/8 | 1 | 2½ | 15218 | 10380 | SRM-58†‡ | **2G484** | 528.99 | **308.25** | 25 | 8.0 |
| **3/4 /10** | Non-flange | 1 | 1¼ | 3⅜16 | 17255 | 13962 | SRM-34†‡ | **2G482** | 597.78 | **348.50** | 25 | 12.0 |

(*) Ultimate load capacity in 5310 PSI 3/4 inch crushed limestone aggregate concrete. For load capacities in structural lightweight aggregate concrete, refer to ICBO Report No. 1372. Safe working loads for single installations under static loading should not exceed 25% of the ultimate load conditions.
(†) Indicates UL Listing.
(‡) Indicates FM Listing.

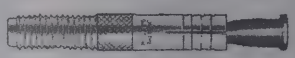
### REPLACEMENT SETTING TOOLS FOR MULTI-SET ANCHORS

| Bolt Size Per Inch | Red Head Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/4** | RT114 | **3A497** | $4.83 | **$3.87** | 0.3 |
| **3/8** | RT138 | **3A498** | 6.18 | **4.95** | 0.3 |

## STUD ANCHORS

Carbon steel stud anchors range in size from 1/4 to 3/4" and are ideal for variety of structural applications. Meet U.S. Government G.S.A. Specifications FF-S-325 group VIII, Type 1. Bottom-bearing design is especially suited for jacking and leveling such items as conveyors and machinery. Also for use in anchoring pipe run supports, blowers, pumps, or support racks. ITW Red Head brand.

ITW Ramset/Red Head



No. 3A503

| Hole & Drill Bit Size (In.)/ Threads/Inch | Length in Inches Overall | Stud | Thread | Minimum Embedment (In.) | Ultimate* Pullout (Lbs.) | Ultimate* Shear (Lbs.) | Red Head Model | Stock No. | List | Each Box | Anchors per Box | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4 /20** | 1¾ | ¾ | ⅝ | 1⅜ | 1909 | 2186 | JS-14C | **3A503** | $112.36 | **$77.30** | 100 | 3.0 |
| | 2¼ | 1⅛ | ⅞ | | | | JS-14H | **3A504** | 133.21 | **91.55** | 100 | 4.0 |
| | 3¼ | 2⅛ | ⅞ | | | | JS-14M | **3A505** | 151.76 | **104.30** | 100 | 4.0 |
| **3/8 /16** | 2¼ | 1 | ¾ | 1⅝ | 2327 | 4575 | JS-38C†‡ | **3A506** | 80.86 | **55.55** | 50 | 3.5 |
| | 3 | 1⅝ | 1¼ | | | | JS-38H†‡ | **3A507** | 102.77 | **70.60** | 50 | 4.5 |
| | 3¾ | 2¼ | 1¼ | | | | JS-38M†‡ | **3A508** | 112.66 | **77.35** | 50 | 6.3 |
| **1/2 /13** | 2¾ | 1⅛ | ⅞ | 1⅞ | 5826 | 6524 | JS-12C†‡ | **3A509** | 74.75 | **51.35** | 25 | 3.8 |
| | 4¼ | 2½ | 2 | | | | JS-12H†‡ | **3A510** | 93.79 | **64.40** | 25 | 5.7 |
| | 5¼ | 3⅝ | 2 | | | | JS-12M†‡ | **3A511** | 110.54 | **75.90** | 25 | 7.5 |
| **3/4 /10** | 5 | 3 | 2 ¼ | 2 ⅜ | 7705 | 11199 | JS-58H†‡ | **2G546** | 82.23 | **47.90** | 10 | 4.1 |
| | 6¼ | 3¾ | 2½ | 2⅞ | 9597 | 15276 | JS-34H†‡ | **2G542** | 131.19 | **76.45** | 10 | 7.6 |

- **Drill size equals anchor size, allowing anchor to be installed through object to be fastened**
- **Because anchor nut cannot be overtightened, there is a dependable load capacity regardless of torque on the nut**
- **A regular hammer can be used to expand the anchor**

(*) Ultimate load capacity in 4090 PSI 3/4 inch crushed limestone aggregate concrete. For load capacities in structural lightweight aggregate concrete, refer to ICBO Report. No. 1372 Safe working loads for single installation under static loading should not exceed 25% of the ultimate load capacity. (†) indicates UL Listing. (‡) Indicates FM Listing. Do not use for continuous low temperature applications below 0°F/-17.8°C.

## SHURE SET DRIVE TOOL

- **For use with 1/4" diameter hammer drive pins and accessories**
- **Use of a 2½ lb engineer's hammer is recommended**
- **No. 2G594 has an A-taper drill holder for pre-drilling into masonry**

**No. 4AL69.** Shpg. wt. 1.0 lbs. List $42.00. Each ..... **$38.55**

**No. 2G594.** Shpg. wt. 1.4 lbs. List $94.83. Each ..... **$55.30**

ITW Ramset/Red Head

No. 4AL69

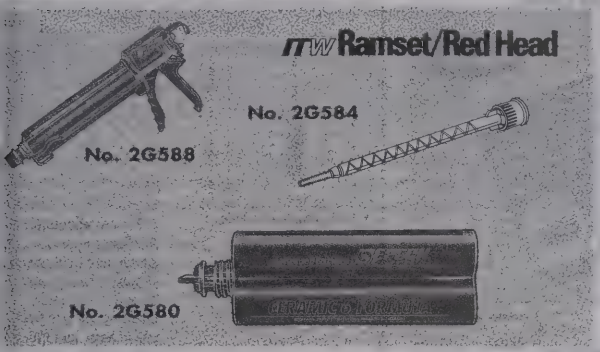


### 1/4" HEAD DIAMETER HAMMER DRIVE PINS

| Shank Length (In.) | ITW Model | Stock No. | List | Each Pkg of 100 | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/4** | P206 | **4AL71** | $22.42 | **$12.81** | 0.8 |
| **1** | P208 | **4AL72** | 23.88 | **13.66** | 0.8 |
| **1¼** | P210 | **4AL73** | 26.60 | **15.22** | 0.8 |
| **1½** | P212 | **4AL74** | 29.12 | **16.66** | 1.0 |
| **2** | P214 | **4AL75** | 34.44 | **19.66** | 1.2 |

# EPOXY CARTRIDGES AND ACCESSORIES

## CERAMIC 6 EPOXY AND ACCESSORIES



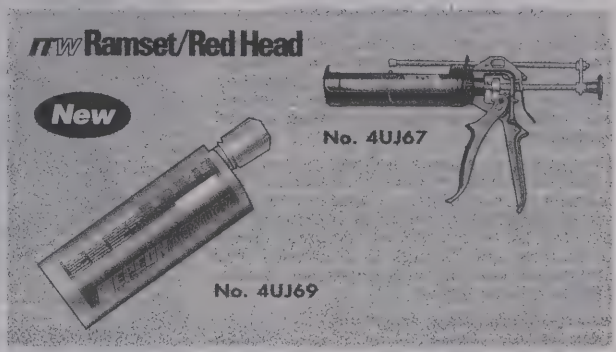

unique, ready-to-use, ceramic-filled epoxy developed for both lid concrete and hollow block applications. High-strength, fast-re formula makes Ceramic 6 perfect for threaded rod, rebar, ıwel rod, and screen applications. The epoxy resin and harden-are separated in a two-chambered cartridge.

**ı, 2G580.** Shpg. wt. 2.1 lbs. List $71.07. Each.....$39.35

### CERAMIC 6 EPOXY ACCESSORIES

| ıtridge | Outside Diameter(In.) | Tool | Epcon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| ı/G5 | 11/16 | E101 | E50 | **2G584** | $33.70 | **$32.10** | 0.6 |
| ı/G5 | 1/2 | E101 | E24 | **2G586** | 24.57 | **23.40** | 0.3 |
| ıection Hand Tool | | | E101 | **2G588** | 216.04 | **141.55** | 4.5 |

## ACRYLIC 7 EPOXY




This all-weather formula epoxy is fast curing and easy to dispense requiring less adhesive. It won't sag or drip and is for use with solid concrete and masonry. Use with injection tools below.

**No. 4UJ67.** Hand epoxy injection tool for use with A7 epoxy is compact and easy to maneuver. Made of lightweight, durable cast parts. Has convenient release lever.

**No. 4UJ68.** Epoxy mixing nozzle for A7 epoxy is easy to screw on and off and fits 3/8" holes.

| Description | Red Head Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Hand epoxy injection tool** | A101 | **4UJ67** | $117.15 | **$111.60** | 3.0 |
| **Epoxy mixing nozzle** | A24 | **4UJ68** | 2.22 | **2.12** | 0.1 |
| **Adhesive** | A7 | **4UJ69** | — | **19.63** | 1.0 |

## IMPACT CAPSULES




ass capsule has impact hammer in capsule for easy installation d no waste. Features fast curing time and can be used on raight and bent rods with no special tools or rods. Drill and ean hole, insert capsule, hammer in rebar, and allow to cure en set fixture.

| Description (In.) | Red Head Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/2** | EIC-12 | **4UJ80** | $3.02 | **$2.88** | 0.1 |
| **3/4** | EIC-34 | **4UJ81** | 5.57 | **5.31** | 0.2 |
| **3/8** | EIC-38 | **4UJ82** | 2.73 | **2.60** | 0.1 |
| **5/8** | EIC-58 | **4UJ83** | 3.38 | **3.22** | 0.1 |

## ACRYLIC 7 CAPSULES



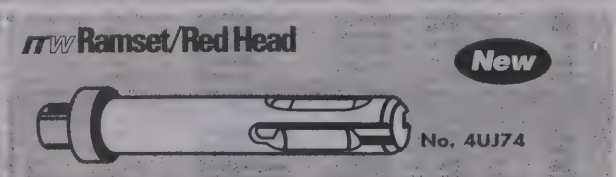

Mayima 7 spin-in capsule features high load capacity and minimal slip under load conditions. Provides consistent performance and can be used in damp holes and temperatures as low as 0° F. No injector tool required. Just drill and clean hole, insert capsule and double-nut threaded rod, and spin rod using rotary hammer plus Acrylic 7 capsule. Allow to cure and set fixture.

| Description (In.) | Red Head Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/2** | A7C-12 | **4UJ70** | $2.59 | **$2.47** | 0.1 |
| **3/4** | A7C-34 | **4UJ71** | 4.80 | **4.58** | 0.3 |
| **3/8** | A7C-38 | **4UJ72** | 2.37 | **2.26** | 0.1 |
| **5/8** | A7C-58 | **4UJ73** | 2.96 | **2.82** | 0.1 |

## SETTING TOOL FOR IMPACT AND SPIN-IN CAPSULES

ıe this setting tool in conjunction with with A7C capsules for choring and doweling applications.

| Description | Red Head Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **/2" square drive** | A7C-DD | **4UJ74** | $46.38 | **$44.20** | 0.5 |
| **/4" square drive** | A7C-DSM | **4UJ75** | 137.28 | **130.75** | 1.0 |



# EPCON EPOXY INJECTION SYSTEM AND ACCESSORIES

## EPOXY INJECTION SYSTEM
### FOR SMALLER APPLICATIONS

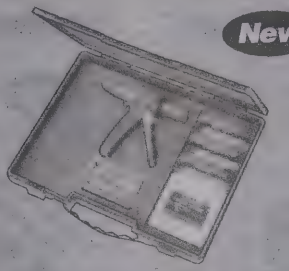
Anchors in solid concrete, hollow wall, and brick. For mounting vibratory machinery, hand and impact guard rails; installing signs, electrical boxes and pipe brackets; and filling cracks when you need a hard sealant.*

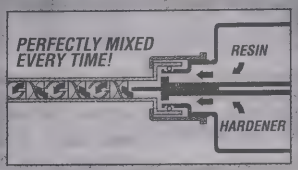
Features tremendous holding power and excellent vibratory load performance and wetting characteristics. Capable of underwater installation. Includes Derringer dispensing tools, six 1.7 oz. ceramic epoxy cartridges, and 12 high flow nozzles. For additional system accessories see below. ITW Red Head brand.

***New*** **No. 4VM52.** Shpg. wt. 6.0 lbs.
Each ..... $155.25

(*) Epoxy injection is not approved for overhead sprinkler applications.

ITW Ramset/Red Head




## KIT REPLACEMENT PARTS

| Description | Red Head Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Derringer Dispensing Tool Only** | E-400 | **4AL15** | $63.95 | **$60.95** | 0.7 |
| **1.7 Oz. Ceramic Epoxy Cartridge** | E-2 | **4AL16** ❸ | 7.42 | **6.62** | 0.2 |
| **High Flow Nozzle (Box of 24)** | E-12 | **4AL17** | 27.22 | **25.95** | 0.2 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## INJECTION SYSTEM ACCESSORIES

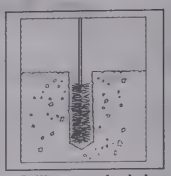
- **For heavy-duty attachments in single or double walls of block**
- **Screens have external tabs for ease of epoxy injection and installation**
- **Screens hold epoxy intact until rod is inserted**

| Size (In.) | Hole Dia. (In.) | Red Head Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ANCHOR SCREENS** | | | | | | |
| **1/4 x 2** | 3/8 | HB14-2 | **4AL18** | $3.38 | **$3.29** | 0.1 |
| **3/8 x 3 1/2** | 1/2 | HB38-312 | **4AL19** | 3.42 | **3.33** | 0.1 |
| **3/8 x 5** | 1/2 | HB38-6 | **4AL20** | 3.47 | **3.37** | 0.1 |
| **1/2 x 3 1/2** | 5/8 | HB12-312 | **4AL23** | 3.53 | **3.44** | 0.1 |
| **1/2 x 6** | 5/8 | HB12-6 | **4AL24** | 3.64 | **3.54** | 0.1 |
| **1/2 x 8** | 5/8 | HB12-8 | **4AL25** | 3.72 | **3.61** | 0.1 |
| **5/8 x 4 1/2** | 3/4 | HB58-412 | **4AL27** | 3.75 | **3.64** | 0.1 |
| **5/8 x 6** | 3/4 | HB58-6 | **4AL28** | 3.85 | **3.73** | 0.1 |
| **5/8 x 8** | 3/4 | HB58-8 | **4AL29** | 3.92 | **3.82** | 0.1 |
| **NYLON ANCHOR SCREENS** | | | | | | |
| **1/2 x 6** | 5/8 | HBP12-6 | ***New*** **4UJ84** | 1.89 | **1.81** | 0.1 |
| **1/2 x 8** | 5/8 | HBP12-8 | ***New*** **4UJ85** | 2.11 | **2.02** | 0.1 |
| **3/8 x 8** | 1/2 | HBP38-6 | ***New*** **4UJ86** | 1.69 | **1.61** | 0.1 |
| **3/8 x 8** | 1/2 | HBP38-8 | ***New*** **4UJ87** | 1.95 | **1.86** | 0.1 |
| **5/8 x 8** | 3/4 | HBP58-6 | ***New*** **4UJ88** | 2.25 | **2.15** | 0.1 |
| **5/8 x 8** | 3/4 | HBP58-8 | ***New*** **4UJ89** | 2.57 | **2.45** | 0.1 |

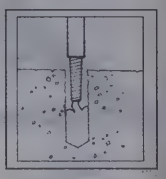
| Dia. (In.) | Red Head Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **NYLON BRUSHES** | | | | | |
| **1/2** | B012 | **4AL61** | $4.12 | **$4.01** | 0.1 |
| **3/4** | B034 | **4AL62** | 4.82 | **4.02** | 0.1 |
| **1** | B100 | **4AL63** | 5.62 | **5.22** | 0.1 |
| **1 1/4** | B114 | **4AL64** | 7.14 | **5.34** | 0.1 |
| **1 1/2** | B112 | **4AL65** | 13.82 | **8.02** | 0.1 |
| **WIRE BRUSHES** | | | | | |
| **1/2** | BW-012 | ***New*** **4UJ76** | 12.60 | **12.00** | 0.1 |
| **3/4** | BW-034 | ***New*** **4UJ77** | 16.80 | **16.00** | 0.1 |
| **3/8** | BW-038 | ***New*** **4UJ78** | 10.50 | **10.00** | 0.1 |
| **5/8** | BW-058 | ***New*** **4UJ79** | 14.70 | **14.00** | 0.1 |

## INSTALLATION PROCEDURES

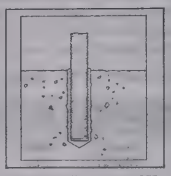
### SOLID CONCRETE



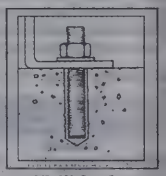
1. Drill proper size hole. Clean out hole. Complete hole preparation with use of a nylon brush (*do not use wire brush*).



2. Prior to injection, discharge approximately one fluid ounce of epoxy. Epoxy must be uniform in color. Insert nozzle into bottom of hole, and fill hole to 1/2 the hole depth.

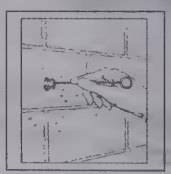


3. Insert the selected rod slowly by hand into bottom of hole using a slow twisting motion. Hardening will begin in 7 minutes at room temperature.



4. After recommended cure time, install and tighten fixture.

### HOLLOW WALL OR BRICK



1. Drill proper sized hole. Clean out hole with blowout bulb. Complete hole preparation with use of a nylon brush (*do not use wire brush*).



2. Prior to injection, discharge approximately one fluid ounce of epoxy. Epoxy must be uniform in color. Insert the Epcon System nozzle to bottom of screen and fill it completely while withdrawing the nozzle.



3. Insert the filled screen completely into the cleaned hole.



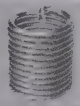
4. Hole the tab of the screen against the wall, insert the selected rod with a slow twisting motion. Wait for appropriate cure time before torquing fixture in place.

# THREAD REPAIR INSERTS AND KITS

## THREAD REPAIR INSERTS

RECOIL. QUALITY THREAD INSERT SYSTEMS

No. 2G882



- Manufactured from 18-8 (Type 302-304) stainless steel
- Minimum tensile strength of wire greater than 200,000 PSI
- Creates stronger and more efficient threads in most parent materials
- Thread types — UNC, UNF, Metric
- Registered to ISO 9001 and QS 9000

The Recoil thread repair system is the simplest method for repairing or creating stronger threads. The insert, which is larger in diameter than the tapped hole, is compressed during installation and then allowed to spring back, permanently anchoring the insert in the tapped hole.

| Size | No. Per Pkg. | Recoil Model No. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **UNC SERIES** | | | | | |
| 10-24X1.5D | 100 | 03603 | 2G882 | $28.10 | 0.1 |
| 1/4-20X1.5D | 100 | 03043 | 4CH22 | 28.15 | 0.3 |
| 5/16-18X1.5D | 100 | 03053 | 2G888 | 36.80 | 0.4 |
| 3/8-16X1.5D | 100 | 03063 | 2G890 | 51.40 | 0.7 |
| 1/2-13X1.5D | 100 | 03083 | 2G892 | 81.25 | 1.4 |
| 5/8-11X1.5D | 50 | 03103 | 2G900 | 73.10 | 1.3 |
| 3/4-10X1.5D | 50 | 03123 | 2G902 | 104.05 | 2.0 |
| **UNF SERIES** | | | | | |
| 10-32X1.5D | 100 | 04603 | 2G884 | 26.30 | 0.1 |
| **METRIC** | | | | | |
| M6-1X1.5D | 100 | 05063 | 2G886 | 28.15 | 0.2 |
| M8-1.25X1.5D | 100 | 05083 | 2G894 | 36.80 | 0.4 |
| M10-1.5X1.5D | 100 | 05103 | 2G896 | 51.40 | 0.7 |
| M12-1.75X1.5D | 100 | 05123 | 2G898 | 81.15 | 1.1 |

## THREAD REPAIR KITS

RECOIL. QUALITY THREAD INSERT SYSTEMS



No. 2G920

- Quickly repairs damaged threads to their original diameter

Kits contain high-speed steel ground thread intermediate (plug) taps with quantity of inserts indicated, installation/tang break tool and easy-to-follow instructions.

| Size | Ins/ Kit | Drill Size Inch | Drill Size mm | Recoil Model No. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **UNC SERIES** | | | | | | | |
| 1/4-20 | 10 | 17/64 | 6.7 | 33040 | 2G920 | $31.45 | 0.5 |
| 5/16-18 | 10 | 21/64 | 8.3 | 33050 | 2G922 | 33.65 | 0.4 |
| 3/8-16 | 10 | 25/64 | 9.9 | 33060 | 2G924 | 36.90 | 0.7 |
| 1/2-13 | 5 | 17/32 | 13.0 | 33080 | 2G926 | 45.80 | 0.9 |
| 5/8-11 | 5 | 21/32 | 16.5 | 33100 | 2G928 | 66.15 | 1.0 |
| 3/4-10 | 5 | 25/32 | 19.8 | 33120 | 2G930 | 80.65 | 1.3 |
| **UNF SERIES** | | | | | | | |
| 10-32 | 10 | 13/64 | 5.1 | 34600 | 2G932 | 34.05 | 0.5 |
| **METRIC** | | | | | | | |
| M6-1 | 10 | 1/4 | 6.3 | 35060 | 2G934 | 34.60 | 0.6 |
| M8-1.25 | 10 | 21/64 | 8.3 | 35080 | 2G936 | 35.50 | 0.7 |
| M10-1.5 | 10 | 13/32 | 10.4 | 35100 | 2G938 | 39.05 | 0.7 |
| M12-1.75 | 5 | 31/64 | 12.5 | 35120 | 2G940 | 48.10 | 0.9 |

## THREAD REPAIR RANGE KITS



No. 2G942

RECOIL. QUALITY THREAD INSERT SYSTEMS

- A range of thread repair sizes in one convenient carrying case

Kits contain high-speed steel ground thread intermediate (plug) taps with quantity of inserts indicated, installation/tang break tool and easy-to-follow instructions.

| Size | Qty. | Recoil Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| UNC 1/4, 5/16, 3/8, 7/16, 1/2 | 1 | 33004 | 2G942 | $181.50 | 2.7 |
| UNF 1/4, 5/16, 3/8, 7/16, 1/2 | 1 | 34004 | 2G944 | 187.00 | 2.5 |
| Metric Coarse M5, M6, M8, M10, M12 | 1 | 35004 | 2G946 | 181.75 | 2.4 |

## SCREW THREAD INSERT (STI) TAPS

RECOIL. QUALITY THREAD INSERT SYSTEMS

No. 2G948



- High-speed steel
- Intermediate (plug) lead
- 3B tolerance for Inch Series
- 4H5H tolerance for Metric Series

| Size | Qty. | Recoil Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **UNC SERIES** | | | | | |
| 1/4-20 | 1 | 43045 | 2G948 | $10.18 | 0.1 |
| 5/16-18 | 1 | 43055 | 2G950 | 10.93 | 0.2 |
| 3/8-16 | 1 | 43065 | 2G952 | 13.55 | 0.2 |
| 1/2-13 | 1 | 43085 | 2G954 | 18.32 | 0.2 |
| 5/8-11 | 1 | 43105 | 2G956 | 28.65 | 0.4 |
| 3/4-10 | 1 | 43125 | 2G958 | 35.20 | 0.5 |
| **UNF SERIES** | | | | | |
| 10-32 | 1 | 44605 | 4GL57 | 9.83 | 0.1 |
| **METRIC** | | | | | |
| M6-1 | 1 | 45065 | 2G960 | 10.18 | 0.1 |
| M8-1.25 | 1 | 45085 | 2G962 | 10.93 | 0.2 |
| M10-1.5 | 1 | 45105 | 2G964 | 13.55 | 0.2 |
| M12-1.75 | 1 | 45125 | 2G966 | 17.75 | 0.2 |

## INSTALLATION TOOLS



No. 2G904

RECOIL. QUALITY THREAD INSERT SYSTEMS

Recoil production hand installation tools feature a threaded mandrel which engages the tang and guides the insert into the tapped hole quickly and easily.

| Size | Qty. | Recoil Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **UNC SERIES** | | | | | |
| 1/4-20 | 1 | 53041 | 2G904 | $50.20 | 0.3 |
| 5/16-18 | 1 | 53051 | 2G906 | 58.35 | 0.4 |
| 3/8-16 | 1 | 53061 | 2G908 | 60.70 | 0.5 |
| 1/2-13 | 1 | 53081 | 2G910 | 65.35 | 0.8 |
| **UNF SERIES** | | | | | |
| 10-32 | 1 | 54601 | 2G912 | 50.20 | 0.2 |
| **METRIC** | | | | | |
| M6-1 | 1 | 55061 | 2G914 | 50.20 | 0.3 |
| M8-1.25 | 1 | 55081 | 2G916 | 58.35 | 0.4 |
| M10-1.5 | 1 | 55101 | 2G918 | 60.70 | 0.6 |

# SOCKET HEAD CAP SCREWS

- UNRC coarse thread series and UNRF fine thread series
- 1960 Series
- Heat treated alloy steel
- Unified 3A thread fit
- Meets ASME/ANSI B18.3

HOLO-KROME
A Dansher Company



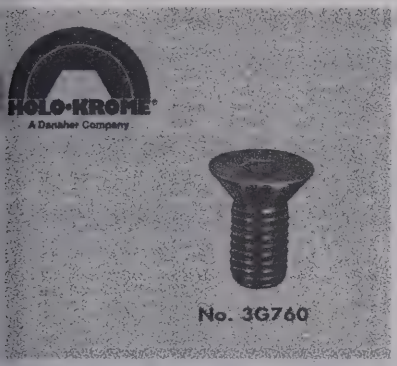
No. 3H550

| Length (In.) | Pcs. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **#2-56 DIA. COARSE THREAD** | | | | | | |
| 1/4 | 100 | 72004 | **3H550** | $24.34 | **$18.25** | 0.1 |
| **#4-40 DIA. COARSE THREAD** | | | | | | |
| 1/4 | 100 | 72018 | **3H564** | 12.79 | **9.58** | 0.2 |
| 3/8 | 100 | 72020 | **3H566** | 12.90 | **9.67** | 0.2 |
| 1/2 | 100 | 72022 | **3H568** | 13.31 | **9.98** | 0.3 |
| 3/4 | 100 | 72026 | **3H572** | 14.14 | **10.62** | 0.3 |
| **#6-32 DIA. COARSE THREAD** | | | | | | |
| 1/4 | 100 | 72038 | **3H584** | 13.21 | **9.92** | 0.3 |
| 3/8 | 100 | 72040 | **3H586** | 13.42 | **10.05** | 0.3 |
| 1/2 | 100 | 72042 | **3H588** | 13.62 | **10.21** | 0.4 |
| 5/8 | 100 | 72044 | **3H590** | 13.94 | **10.44** | 0.4 |
| 3/4 | 100 | 72046 | **3H592** | 14.46 | **10.85** | 0.4 |
| 1 | 100 | 72050 | **3H596** | 17.26 | **12.94** | 0.5 |
| **#8-32 DIA. COARSE THREAD** | | | | | | |
| 1/4 | 100 | 72052 | **3H598** | 12.79 | **9.58** | 0.4 |
| 3/8 | 100 | 72054 | **3H600** | 13.00 | **9.75** | 0.5 |
| 1/2 | 100 | 72056 | **3H602** | 13.73 | **10.28** | 0.4 |
| 5/8 | 100 | 72058 | **3H604** | 14.14 | **10.62** | 0.6 |
| 3/4 | 100 | 72060 | **3H606** | 15.08 | **11.32** | 0.7 |
| 1 | 100 | 72064 | **3H610** | 17.78 | **13.33** | 0.8 |
| 1 1/4 | 100 | 72066 | **3H612** | 20.49 | **15.37** | 0.9 |
| 1 1/2 | 100 | 72068 | **3H614** | 21.84 | **16.37** | 1.1 |
| **#10-24 DIA. COARSE THREAD** | | | | | | |
| 3/8 | 100 | 72070 | **3H616** | 13.73 | **10.28** | 0.6 |
| 1/2 | 100 | 72072 | **3H618** | 13.73 | **10.28** | 0.7 |
| 5/8 | 100 | 72074 | **3H620** | 14.25 | **10.68** | 0.8 |
| 3/4 | 100 | 72076 | **3H622** | 15.39 | **11.55** | 0.9 |
| 1 | 100 | 72080 | **3H626** | 17.89 | **13.42** | 1.0 |
| 1 1/4 | 100 | 72082 | **3H628** | 20.49 | **15.37** | 1.3 |
| 1 1/2 | 100 | 72084 | **3H630** | 21.74 | **16.30** | 1.4 |
| 2 | 100 | 72088 | **3H634** | 26.21 | **19.64** | 1.9 |
| **#10-32 DIA. FINE THREAD** | | | | | | |
| 3/8 | 100 | 73034 | **3K138** | 14.04 | **10.52** | 0.6 |
| 1/2 | 100 | 73036 | **3K146** | 14.35 | **10.75** | 0.6 |
| 5/8 | 100 | 73038 | **3K153** | 15.39 | **11.55** | 0.8 |
| 3/4 | 100 | 73040 | **3K157** | 16.22 | **12.16** | 0.8 |
| 7/8 | 100 | 73042 | **3K178** | 17.26 | **12.93** | 0.9 |
| 1 | 100 | 73044 | **3K180** | 18.93 | **14.19** | 1.0 |
| 1 1/4 | 100 | 73046 | **3K182** | 20.59 | **15.43** | 1.3 |
| 1 1/2 | 100 | 73048 | **3K184** | 22.67 | **16.98** | 1.4 |
| 1 3/4 | 100 | 73050 | **3K186** | 25.27 | **18.94** | 1.6 |
| 2 | 100 | 73052 | **3K188** | 27.87 | **20.89** | 1.9 |
| **1/4"-20 DIA. COARSE THREAD** | | | | | | |
| 3/8 | 100 | 72090 | **3H636** | 13.83 | **10.37** | 1.0 |
| 1/2 | 100 | 72092 | **3H638** | 15.18 | **11.38** | 1.1 |
| 5/8 | 100 | 72094 | **3H640** | 16.12 | **12.09** | 1.3 |
| 3/4 | 100 | 72096 | **3H642** | 16.43 | **12.32** | 1.4 |
| 7/8 | 100 | 72098 | **3H644** | 17.47 | **13.09** | 1.6 |
| 1 | 100 | 72100 | **3H646** | 19.55 | **14.66** | 1.7 |
| 1 1/4 | 100 | 72102 | **3H648** | 21.11 | **15.82** | 2.0 |
| 1 1/2 | 100 | 72104 | **3H650** | 23.30 | **17.46** | 2.3 |
| 1 3/4 | 100 | 72106 | **3H652** | 25.17 | **18.84** | 2.8 |
| 2 | 100 | 72108 | **3H654** | 27.46 | **20.57** | 3.0 |
| 2 1/4 | 100 | 72110 | **3H656** | 34.32 | **25.75** | 3.4 |
| 2 1/2 | 100 | 72112 | **3H658** | 38.17 | **28.65** | 3.8 |
| 2 3/4 | 100 | 72114 | **3H660** | 45.97 | **34.45** | 3.9 |
| 3 | 100 | 72116 | **3H664** | 50.54 | **37.90** | 4.3 |

| Length (In.) | Pcs. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4"-28 DIA. FINE THREAD** | | | | | | |
| 1/2 | 100 | 73056 | **3K192** | $16.22 | **$12.16** | 1.2 |
| 5/8 | 100 | 73058 | **3K197** | 16.43 | **12.32** | 1.4 |
| 3/4 | 100 | 73060 | **3K200** | 18.10 | **13.55** | 1.5 |
| 1 | 100 | 73064 | **3K208** | 20.59 | **15.43** | 1.8 |
| 1 1/4 | 100 | 73066 | **3K214** | 22.57 | **16.91** | 2.1 |
| **5/16"-18 DIA. COARSE THREAD** | | | | | | |
| 1/2 | 100 | 72120 | **3H670** | 18.24 | **13.67** | 2.0 |
| 5/8 | 100 | 72122 | **3H672** | 18.77 | **14.07** | 2.3 |
| 3/4 | 100 | 72124 | **3H674** | 20.16 | **15.09** | 2.5 |
| 7/8 | 100 | 72126 | **3H676** | 21.32 | **15.96** | 2.7 |
| 1 | 100 | 72128 | **3H678** | 22.81 | **17.08** | 2.9 |
| 1 1/4 | 100 | 72130 | **3H680** | 24.72 | **18.51** | 3.4 |
| 1 1/2 | 100 | 72132 | **3H682** | 27.15 | **20.33** | 3.9 |
| 1 3/4 | 100 | 72134 | **3H684** | 29.17 | **21.83** | 4.4 |
| 2 | 100 | 72136 | **3H686** | 31.93 | **23.91** | 4.9 |
| 2 1/4 | 100 | 72138 | **3H688** | 39.25 | **29.45** | 5.6 |
| 2 1/2 | 100 | 72140 | **3H690** | 42.96 | **32.20** | 5.9 |
| 2 3/4 | 100 | 72142 | **3H692** | 58.67 | **43.95** | 6.4 |
| 3 | 100 | 72144 | **3H694** | 67.57 | **50.65** | 6.9 |
| 3 1/2 | 50 | 72148 | **3H698** | 45.51 | **34.15** | 3.9 |
| **5/16"-24 DIA. FINE THREAD** | | | | | | |
| 3/4 | 100 | 73080 | **3K241** | 22.38 | **16.76** | 2.5 |
| 1 | 100 | 73084 | **3K245** | 25.14 | **18.84** | 2.9 |
| **3/8"-16 DIA. COARSE THREAD** | | | | | | |
| 1/2 | 100 | 72150 | **3H700** | 21.64 | **16.21** | 3.3 |
| 3/4 | 100 | 72154 | **3H704** | 23.76 | **17.77** | 4.0 |
| 7/8 | 100 | 72156 | **3H706** | 25.46 | **19.06** | 4.3 |
| 1 | 100 | 72158 | **3H708** | 27.48 | **20.55** | 4.5 |
| 1 1/4 | 100 | 72160 | **3H710** | 30.44 | **22.78** | 5.1 |
| 1 1/2 | 100 | 72162 | **3H712** | 32.99 | **24.70** | 5.7 |
| 1 3/4 | 50 | 72164 | **3H714** | 18.41 | **13.78** | 3.3 |
| 2 | 50 | 72166 | **3H716** | 19.73 | **14.76** | 3.5 |
| 2 1/4 | 50 | 72168 | **3H718** | 24.50 | **18.33** | 4.3 |
| 2 1/2 | 50 | 72170 | **3H720** | 26.95 | **20.16** | 4.5 |
| 2 3/4 | 50 | 72172 | **3H722** | 35.97 | **26.95** | 5.1 |
| 3 | 50 | 72174 | **3H724** | 39.15 | **29.40** | 5.1 |
| 3 1/4 | 50 | 72176 | **3H726** | 46.78 | **35.10** | 5.4 |
| 3 1/2 | 50 | 72178 | **3H728** | 53.68 | **40.25** | 5.8 |
| 4 | 50 | 72180 | **3H730** | 62.69 | **47.00** | 6.6 |
| 4 1/2 | 50 | 72182 | **3H732** | 73.41 | **55.00** | 7.4 |
| 5 | 50 | 72184 | **3H734** | 88.26 | **66.20** | 8.8 |
| 6 | 50 | 72185 | **3H736** | 130.38 | **97.75** | 9.5 |
| **3/8"-24 DIA. FINE THREAD** | | | | | | |
| 1 1/2 | 100 | 73110 | **3K283** | 37.55 | **28.15** | 6.0 |
| **7/16"-14 DIA. COARSE THREAD** | | | | | | |
| 1 1/2 | 50 | 72198 | **3H750** | 33.68 | **25.25** | 4.2 |
| **1/2"-13 DIA. COARSE THREAD** | | | | | | |
| 3/4 | 50 | 72222 | **3H772** | 27.10 | **20.28** | 4.2 |
| 1 | 50 | 72226 | **3H776** | 30.50 | **22.83** | 4.8 |
| 1 1/4 | 50 | 72228 | **3H778** | 32.46 | **24.30** | 5.3 |
| 1 1/2 | 50 | 72230 | **3H780** | 37.08 | **27.80** | 6.3 |
| 1 3/4 | 50 | 72232 | **3H782** | 40.47 | **30.35** | 6.5 |
| 2 | 50 | 72234 | **3H784** | 43.60 | **32.65** | 7.4 |
| 2 1/4 | 25 | 72236 | **3H786** | 24.03 | **17.99** | 4.0 |
| 2 1/2 | 25 | 72238 | **3H788** | 25.62 | **19.18** | 4.4 |
| 3 | 25 | 72242 | **3H792** | 31.43 | **23.53** | 4.9 |
| 3 1/4 | 25 | 72244 | **3H794** | 33.84 | **25.35** | 5.1 |
| 3 1/2 | 25 | 72246 | **3H796** | 36.28 | **27.25** | 6.0 |
| 4 | 25 | 72248 | **3H800** | 43.94 | **32.95** | 6.3 |
| 4 1/2 | 25 | 72250 | **3H802** | 50.89 | **38.15** | 7.0 |
| 5 | 25 | 72252 | **3H804** | 56.22 | **42.10** | 7.9 |
| 5 1/2 | 25 | 72254 | **3H806** | 61.53 | **46.15** | 8.6 |
| 6 | 25 | 72256 | **3H808** | 66.86 | **50.15** | 9.3 |
| 6 1/2 | 10 | 72258 | **3H810** | 40.07 | **30.05** | 3.8 |

| Length (In.) | Pcs. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5/8"-11 DIA. COARSE THREAD** | | | | | | |
| 1 | 25 | 72264 | **3H816** | $29.23 | **$21.87** | 4.3 |
| 1 1/4 | 25 | 72266 | **3H818** | 31.72 | **23.75** | 4.8 |
| 1 1/2 | 25 | 72268 | **3H820** | 34.21 | **25.65** | 5.3 |
| 1 3/4 | 25 | 72270 | **3H822** | 36.49 | **27.40** | 5.6 |
| 2 | 25 | 72272 | **3H826** | 38.93 | **29.20** | 6.0 |
| 2 1/4 | 25 | 72274 | **3H828** | 40.89 | **30.65** | 6.8 |
| 2 1/2 | 25 | 72276 | **3H830** | 43.10 | **32.30** | 7.3 |
| 2 3/4 | 25 | 72278 | **3H832** | 48.72 | **36.50** | 7.8 |
| 3 | 25 | 72280 | **3H834** | 50.74 | **38.00** | 8.4 |
| 3 1/2 | 25 | 72284 | **3H838** | 55.51 | **41.60** | 9.3 |
| 4 | 25 | 72286 | **3H840** | 61.29 | **45.90** | 11.0 |
| 4 1/2 | 20 | 72288 | **3H842** | 63.08 | **47.25** | 9.5 |
| 5 | 20 | 72290 | **3H844** | 68.23 | **51.10** | 11.0 |
| 5 1/2 | 10 | 72292 | **3H846** | 35.92 | **26.90** | 5.3 |
| 6 | 10 | 72294 | **3H848** | 38.87 | **29.15** | 5.3 |
| 6 1/2 | 10 | 72296 | **3H850** | 55.64 | **41.75** | 5.5 |
| 7 | 10 | 72298 | **3H852** | 68.96 | **51.70** | 6.2 |
| 8 | 10 | 72300 | **3H854** | 81.94 | **61.45** | 7.0 |
| **3/4"-10 DIA. COARSE THREAD** | | | | | | |
| 1 1/2 | 25 | 72304 | **3H858** | 58.93 | **44.15** | 7.0 |
| 1 3/4 | 25 | 72306 | **3H860** | 62.75 | **47.05** | 8.3 |
| 2 | 25 | 72308 | **3H862** | 66.35 | **49.95** | 9.1 |
| 2 1/4 | 25 | 72310 | **3H864** | 69.54 | **52.15** | 9.9 |
| 2 1/2 | 25 | 72312 | **3H866** | 72.45 | **54.25** | 11.0 |
| 2 3/4 | 25 | 72314 | **3H868** | 85.00 | **63.70** | 11.0 |
| 3 | 25 | 72316 | **3H870** | 90.65 | **67.95** | 12.0 |
| 3 1/2 | 25 | 72320 | **3H874** | 101.62 | **76.10** | 14.0 |
| 4 | 25 | 72322 | **3H878** | 107.94 | **80.85** | 15.0 |
| 4 1/2 | 20 | 72324 | **3H880** | 94.73 | **70.95** | 14.0 |
| 5 | 20 | 72326 | **3H882** | 103.22 | **77.30** | 15.0 |
| 6 | 10 | 72330 | **3H886** | 59.95 | **44.95** | 8.3 |
| 6 1/2 | 10 | 72332 | **3H888** | 78.08 | **58.50** | 9.0 |
| 7 | 10 | 72334 | **3H890** | 88.06 | **66.00** | 9.0 |
| 8 | 10 | 72336 | **3H892** | 110.12 | **82.55** | 11.0 |
| **1"-8 DIA. COARSE THREAD** | | | | | | |
| 2 | 10 | 72368 | **3H922** | 51.84 | **38.85** | 7.7 |
| 2 1/2 | 10 | 72372 | **3H926** | 58.94 | **44.15** | 8.8 |
| 3 | 10 | 72376 | **3H930** | 65.47 | **49.05** | 9.3 |
| 3 1/2 | 10 | 72380 | **3H934** | 72.42 | **54.25** | 10.0 |
| 4 | 10 | 72382 | **3H936** | 86.59 | **64.90** | 11.0 |
| 4 1/2 | 10 | 72384 | **3H938** | 101.25 | **75.85** | 12.0 |
| 5 | 10 | 72386 | **3H940** | 108.91 | **81.60** | 14.0 |
| 5 1/2 | 10 | 72388 | **3H942** | 119.36 | **89.45** | 15.0 |
| 6 | 10 | 72390 | **3H944** | 129.83 | **97.30** | 16.0 |
| 6 1/2 | 10 | 72392 | **3H946** | 162.68 | **121.90** | 17.0 |
| 7 | 10 | 72394 | **3H948** | 183.40 | **137.45** | 18.0 |
| 8 | 10 | 72396 | **3H950** | 225.28 | **169.00** | 20.0 |
| **1 1/4"-7 DIA. COARSE THREAD** | | | | | | |
| 3 | 1 | 72400 | **3H952** | 23.62 | **17.69** | 1.0 |
| 3 1/2 | 1 | 72402 | **3H954** | 23.72 | **17.76** | 1.3 |
| 4 | 1 | 72404 | **3H956** | 24.41 | **18.27** | 2.0 |
| 4 1/2 | 1 | 72406 | **3H958** | 27.39 | **20.52** | 2.1 |
| 5 | 1 | 72408 | **3H960** | 27.52 | **20.62** | 2.3 |
| 6 | 1 | 72412 | **3H964** | 31.75 | **23.77** | 2.9 |
| 7 | 1 | 72416 | **3H968** | 34.96 | **26.20** | 2.9 |

# FLAT AND BUTTON HEAD SOCKET SCREWS




- Coarse and fine thread series
- Heat treated alloy steel
- Unified 3A thread fit
- Meet ASME/ANSI B18.3

## FLAT HEAD SOCKET SCREWS

| Overall Length (In.) | No. Per Pkg. | Holo-Krome Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **#6-32 DIA. COARSE THREAD** | | | | | | |
| 3/8 | 100 | 60024 | **3G760** | $18.26 | **$13.69** | 0.2 |
| 1/2 | 100 | 60026 | **3G762** | 18.97 | **14.23** | 0.3 |
| **#8-32 DIA. COARSE THREAD** | | | | | | |
| 3/8 | 100 | 60032 | **3G768** | 17.75 | **13.31** | 0.3 |
| 1/2 | 100 | 60034 | **3G770** | 18.05 | **13.55** | 0.3 |
| **#10-24 DIA. COARSE THREAD** | | | | | | |
| 1/2 | 100 | 60044 | **3G780** | 19.18 | **14.39** | 0.5 |
| 3/4 | 100 | 60048 | **3G784** | 21.62 | **16.22** | 0.6 |
| **#10-32 DIA. FINE THREAD** | | | | | | |
| 3/8 | 100 | 61002 | **3G902** | 18.97 | **14.23** | 0.4 |
| 1/2 | 100 | 61004 | **3G904** | 19.18 | **14.39** | 0.5 |
| 3/4 | 100 | 61008 | **3G908** | 21.62 | **16.22** | 0.6 |
| 1 | 100 | 61010 | **3G910** | 25.40 | **19.05** | 0.8 |

| Overall Length (In.) | No. Per Pkg. | Holo-Krome Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4"-20 DIA. COARSE THREAD** | | | | | | |
| 1/2 | 100 | 60058 | **3G794** | $19.28 | **$14.46** | 0.9 |
| 5/8 | 100 | 60060 | **3G796** | 20.71 | **15.54** | 1.0 |
| 3/4 | 100 | 60062 | **3G798** | 21.62 | **16.22** | 1.1 |
| 1 | 100 | 60064 | **3G800** | 23.46 | **17.60** | 1.4 |
| 1 1/4 | 100 | 60066 | **3G802** | 31.42 | **23.55** | 1.7 |
| 1 1/2 | 100 | 60068 | **3G804** | 34.78 | **26.10** | 2.1 |
| **5/16"-18 DIA. COARSE THREAD** | | | | | | |
| 3/4 | 100 | 60078 | **3G814** | 25.30 | **18.98** | 2.0 |
| 1 | 100 | 60080 | **3G816** | 27.13 | **20.34** | 2.4 |
| 1 1/4 | 100 | 60082 | **3G818** | 33.86 | **25.45** | 2.9 |
| 1 1/2 | 100 | 60084 | **3G820** | 37.94 | **28.45** | 3.4 |
| **3/8"-16 DIA. COARSE THREAD** | | | | | | |
| 3/4 | 100 | 60098 | **3G834** | 35.09 | **26.35** | 3.0 |
| 1 | 100 | 60100 | **3G836** | 37.03 | **27.80** | 3.8 |
| 1 1/4 | 100 | 60102 | **3G838** | 38.25 | **28.70** | 4.2 |
| 1 1/2 | 100 | 60104 | **3G840** | 42.13 | **31.60** | 5.0 |
| **1/2"-13 DIA. COARSE THREAD** | | | | | | |
| 1 | 50 | 60126 | **3G862** | 39.58 | **29.70** | 3.0 |
| 1 1/2 | 50 | 60130 | **3G866** | 46.97 | **35.25** | 4.4 |
| 2 | 50 | 60134 | **3G870** | 56.41 | **42.30** | 5.5 |




- Coarse and fine thread series
- Heat treated alloy steel
- Unified 3A thread fit
- Meet ASME/ANSI B18.3
- ISO metric threads to ANSI B1.13M

## BUTTON HEAD SOCKET SCREWS

| Length Under Head (In.) | No. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **#4-40 DIA. COARSE THREAD** | | | | | | |
| 1/4 | 100 | 64002 | **3G962** | $12.04 | **$9.02** | 0.1 |
| **#6-32 DIA. COARSE THREAD** | | | | | | |
| 1/4 | 100 | 64008 | **3G968** | 12.24 | **9.19** | 0.2 |
| 3/8 | 100 | 64010 | **3G970** | 12.44 | **9.33** | 0.2 |
| 1/2 | 100 | 64012 | **3G972** | 13.26 | **9.94** | 0.3 |
| **#8-32 DIA. COARSE THREAD** | | | | | | |
| 1/4 | 100 | 64016 | **3G976** | 13.46 | **10.10** | 0.3 |
| 3/8 | 100 | 64018 | **3G978** | 14.28 | **10.71** | 0.3 |
| 1/2 | 100 | 64020 | **3G980** | 14.38 | **10.78** | 0.4 |
| **#10-24 DIA. COARSE THREAD** | | | | | | |
| 3/8 | 100 | 64028 | **3G988** | 14.99 | **11.25** | 0.4 |
| 1/2 | 100 | 64030 | **3G990** | 15.61 | **11.72** | 0.5 |
| 3/4 | 100 | 64034 | **3G994** | 17.03 | **12.77** | 0.7 |

| Length Under Head (In.) | No. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **#10-32 DIA. FINE THREAD** | | | | | | |
| 1/4 | 100 | 65002 | **3H454** | $14.79 | **$11.09** | 0.4 |
| 3/8 | 100 | 65004 | **3H456** | 14.99 | **11.25** | 0.4 |
| 1/2 | 100 | 65006 | **3H458** | 15.61 | **11.72** | 0.5 |
| 5/8 | 100 | 65008 | **3H460** | 16.42 | **12.30** | 0.6 |
| 3/4 | 100 | 65010 | **3H462** | 17.03 | **12.77** | 0.7 |
| **1/4"-20 DIA. COARSE THREAD** | | | | | | |
| 3/8 | 100 | 64040 | **3H002** | 15.50 | **11.63** | 0.8 |
| 1/2 | 100 | 64042 | **3H004** | 15.50 | **11.63** | 0.8 |
| 5/8 | 100 | 64044 | **3H006** | 16.52 | **12.40** | 0.9 |
| 3/4 | 100 | 64046 | **3H008** | 17.24 | **12.94** | 1.1 |
| 1 | 50 | 64050 | **3H012** | 9.95 | **7.45** | 0.7 |
| **5/16"-18 DIA. COARSE THREAD** | | | | | | |
| 3/4 | 100 | 64058 | **3H398** | 22.34 | **16.76** | 1.8 |
| 1 | 50 | 64062 | **3H424** | 12.75 | **9.56** | 1.1 |

## METRIC BUTTON HEAD SOCKET SCREWS

| Dia. | Length Under Head (mm) | Pitch (In.) | No. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **M3** | 8 | 0.50 | 100 | 86001 | **3L142** | $13.80 | **$10.38** | 0.2 |
| **M3** | 16 | 0.50 | 100 | 86006 | **3L148** | 19.46 | **14.66** | 0.4 |
| **M4** | 8 | 0.70 | 100 | 86007 | **3L151** | 15.86 | **11.98** | 0.6 |
| **M4** | 10 | 0.70 | 100 | 86009 | **3L153** | 15.98 | **12.05** | 0.6 |
| **M4** | 12 | 0.70 | 100 | 86011 | **3L155** | 16.50 | **12.38** | 0.6 |
| **M5** | 10 | 0.80 | 100 | 86015 | **3L159** | 15.98 | **12.10** | 1.0 |
| **M5** | 12 | 0.80 | 100 | 86017 | **3L162** | 16.78 | **12.59** | 1.0 |
| **M5** | 16 | 0.80 | 100 | 86019 | **3L164** | 18.04 | **13.69** | 1.2 |
| **M6** | 10 | 1.00 | 100 | 86027 | **3L173** | 16.95 | **12.88** | 1.4 |
| **M6** | 12 | 1.00 | 100 | 86029 | **3L175** | 18.04 | **13.71** | 1.4 |
| **M6** | 16 | 1.00 | 100 | 86031 | **3L177** | 18.26 | **13.91** | 1.8 |
| **M6** | 20 | 1.00 | 100 | 86033 | **3L179** | 20.35 | **15.26** | 2.2 |
| **M6** | 30 | 1.00 | 100 | 86037 | **3L184** | 24.67 | **18.85** | 2.8 |
| **M8** | 12 | 1.25 | 100 | 86041 | **3L188** | 21.96 | **16.77** | 2.4 |
| **M8** | 16 | 1.25 | 100 | 86043 | **3L191** | 23.44 | **17.58** | 3.0 |
| **M8** | 20 | 1.25 | 100 | 86045 | **3L193** | 23.26 | **17.89** | 3.8 |
| **M12** | 25 | 1.75 | 100 | 86065 | **3L217** | 75.93 | **56.95** | 3.2 |

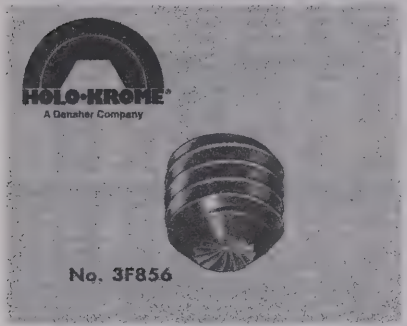
**A WIDE VARIETY OF DRILL & TAP AND TAP & DIE SETS ARE AVAILABLE. SEE THE PRODUCT INDEX**

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**

# SOCKET SET SCREWS

## SOCKET SET SCREWS WITH HOLO-KNURL® POINT




- Coarse and fine thread series
- Heat treated alloy steel
- Unified 3A thread fit
- Meet ASME/ANSI B18.3
- Ratchet locking action
- Superior holding power
- Thermo-Forged® point and socket
- Precision ground or rolled threads

### ORDERING DATA

| Overall Length (In.) | No. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **#4-40 DIA. COARSE THREAD** | | | | | | |
| 1/8 | 100 | 42002 | 3F856 | $10.59 | $7.94 | 0.1 |
| **#6-32 DIA. COARSE THREAD** | | | | | | |
| 1/8 | 100 | 42008 | 3F858 | 10.92 | 8.17 | 0.1 |
| 3/16 | 100 | 42010 | 3F860 | 10.92 | 8.17 | 0.1 |
| 1/4 | 100 | 42012 | 3F862 | 11.25 | 8.44 | 0.1 |
| **#8-32 DIA. COARSE THREAD** | | | | | | |
| 1/8 | 100 | 42014 | 3F864 | 10.59 | 7.94 | 0.1 |
| 3/16 | 100 | 42016 | 3F866 | 11.25 | 8.44 | 0.1 |
| 1/4 | 100 | 42018 | 3F868 | 11.25 | 8.44 | 0.1 |
| **#10-24 DIA. COARSE THREAD** | | | | | | |
| 1/4 | 100 | 42024 | 3F872 | 11.25 | 8.44 | 0.1 |
| **#10-32 DIA. FINE THREAD** | | | | | | |
| 3/16 | 100 | 43008 | 3F918 | 11.25 | 8.44 | 0.1 |
| 1/4 | 100 | 43010 | 3F920 | 11.25 | 8.44 | 0.1 |
| 3/8 | 100 | 43012 | 3F922 | 11.47 | 8.60 | 0.3 |
| 1/2 | 100 | 43014 | 3F924 | 11.47 | 8.60 | 0.3 |
| **1/4"-20 DIA. COARSE THREAD** | | | | | | |
| 3/16 | 100 | 42026 | 3F874 | 11.69 | 8.76 | 0.3 |
| 1/4 | 100 | 42028 | 3F876 | 11.47 | 8.60 | 0.2 |
| 5/16 | 100 | 42030 | 3F878 | 11.47 | 8.60 | 0.3 |
| 3/8 | 100 | 42032 | 3F880 | 12.56 | 9.42 | 0.3 |
| 1/2 | 100 | 42034 | 3F882 | 13.87 | 10.40 | 0.4 |
| 3/4 | 100 | 42036 | 3F884 | 18.02 | 13.52 | 0.8 |

| Overall Length (In.) | No. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4"-28 DIA. FINE THREAD** | | | | | | |
| 1/4 | 100 | 43018 | 3F928 | $11.47 | $8.60 | 0.3 |
| 3/8 | 100 | 43022 | 3F932 | 12.56 | 9.42 | 0.4 |
| **5/16"-18 DIA. COARSE THREAD** | | | | | | |
| 1/4 | 100 | 42038 | 3F886 | 13.21 | 9.91 | 0.4 |
| 5/16 | 100 | 42040 | 3F888 | 13.21 | 9.91 | 0.4 |
| 3/8 | 100 | 42042 | 3F890 | 13.55 | 10.17 | 0.5 |
| 1/2 | 100 | 42043 | 3F892 | 13.87 | 10.39 | 0.8 |
| 5/8 | 100 | 42044 | 3F894 | 17.58 | 13.18 | 1.0 |
| 3/4 | 100 | 42045 | 3F896 | 19.21 | 14.40 | 1.2 |
| 1 | 100 | 42046 | 3F898 | 27.30 | 20.46 | 1.7 |
| **3/8"-16 DIA. COARSE THREAD** | | | | | | |
| 3/8 | 100 | 42047 | 3F900 | 16.60 | 12.44 | 0.9 |
| 1/2 | 100 | 42048 | 3F902 | 17.15 | 12.86 | 1.1 |
| 3/4 | 100 | 42049 | 3F904 | 19.76 | 14.79 | 1.8 |
| 1 | 100 | 42050 | 3F906 | 29.16 | 21.84 | 2.3 |
| **1/2"-13 DIA. COARSE THREAD** | | | | | | |
| 1/2 | 100 | 42052 | 3F908 | 42.04 | 31.55 | 2.0 |
| 3/4 | 50 | 42056 | 3F912 | 24.35 | 18.24 | 1.4 |
| 1 | 50 | 42058 | 3F914 | 31.07 | 23.28 | 2.0 |

## 80-PC. SOCKET SCREW SET




80 Hex socket set screws with cup point. In plastic box.

| Size | Length (In.) | Quantity |
|---|---|---|
| 1/4"-20 | 1/4 | 20 |
| 1/4-20 | 3/8 | 20 |
| 5/16-18 | 5/16 | 10 |
| 5/16-18 | 1/2 | 10 |
| 3/8-16 | 3/8 | 10 |
| 3/8-16 | 1/2 | 10 |

**No. 2X643.** Shpg. wt. 0.5 lbs. List $16.00. Each.....$11.20

## 200-PC. SOCKET SCREW SET

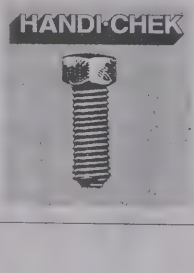



200 Hex socket set screws with cup point Handi-Chek brand

| Size | Length (In.) | Qty. | Size | Length (In.) | Qty. |
|---|---|---|---|---|---|
| 1/8"-40 | 3/16 | 10 | 5/16"-18 | 1/2 | 20 |
| 5/32-32 | 3/16 | 10 | 3/8-16 | 3/8 | 10 |
| 3/16-24 | 1/4 | 10 | 3/8-16 | 1/2 | 10 |
| 1/4-20 | 1/4 | 30 | 1/4-28 | 1/4 | 20 |
| 1/4-20 | 3/8 | 20 | 5/16-24 | 3/8 | 20 |
| 5/16-18 | 3/8 | 30 | 3/8-24 | 3/8 | 10 |

**No. 5A206.** Shpg. wt. 1.0 lbs. List $25.94.
Each .....$22.17

## 60-PC. SET SCREW ASSORTMENT




60 Square head screws in 6 sizes. Handi Chek brand.

| Sizes Included | Qty. in Kit | Sizes Included | Qty. in Kit |
|---|---|---|---|
| 1/4"-20 x 3/4" | 20 | 3/8"-16 x 3/4" | 10 |
| 5/16-18 x 3/4 | 10 | 3/8-16 x 1¼ | 8 |
| 5/16-18 x 1 | 8 | 1/2-13 x 1 | 4 |

**No. 4F415.** Shpg. wt. 1.6 lbs. List $17.01.
Each .....$14.75

### GRAINGER HAS OVER 350 BRANCHES NATIONWIDE

**We're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who care about your business. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# SHOULDER SCREWS, HEX KEYS, DOWEL PINS, AND LENGTHENING & SHORTENING SHIMS

## SHOULDER SCREWS

HOLO-KROME® A Danaher Company

No. 2X554



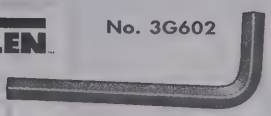
Heat treated alloy steel
Unified 3A thread fit
Meet ASME/ANSI B18.3

| Body Length (In.) | Thread Series UNRC | No. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/4" DIA. SHOULDER SCREWS** | | | | | | | |
| 3/8 | 10-24 | 25 | 08002 | **2X554** | $24.12 | **$18.09** | 0.4 |
| 1/2 | 10-24 | 25 | 08004 | **2X556** | 24.48 | **18.35** | 0.4 |
| 3/4 | 10-24 | 25 | 08008 | **2X560** | 25.40 | **19.05** | 0.5 |
| 1 | 10-24 | 25 | 08010 | **2X562** | 26.93 | **20.20** | 0.6 |
| 1 1/4 | 10-24 | 25 | 08012 | **2X564** | 28.85 | **21.63** | 0.6 |
| 1 1/2 | 10-24 | 25 | 08014 | **2X566** | 29.97 | **22.47** | 0.8 |
| **5/16" DIA. SHOULDER SCREWS** | | | | | | | |
| 3/8 | 1/4-20 | 25 | 08016 | **2X575** | 28.98 | **21.72** | 0.4 |
| 1/2 | 1/4-20 | 25 | 08018 | **2X580** | 28.25 | **21.18** | 0.4 |
| 3/4 | 1/4-20 | 25 | 08022 | **2X587** | 29.31 | **21.98** | 0.8 |
| 1 | 1/4-20 | 25 | 08024 | **2X592** | 31.55 | **23.67** | 0.9 |
| 1 1/4 | 1/4-20 | 25 | 08026 | **2X602** | 33.08 | **24.81** | 1.0 |
| **3/8" DIA. SHOULDER SCREWS** | | | | | | | |
| 3/8 | 5/16-18 | 25 | 08034 | **2X619** | 32.86 | **24.65** | 0.9 |
| 1/2 | 5/16-18 | 25 | 08036 | **2X627** | 33.35 | **25.00** | 1.0 |
| 3/4 | 5/16-18 | 25 | 08040 | **2X631** | 34.06 | **25.55** | 1.3 |
| 1 | 5/16-18 | 25 | 08042 | **2X635** | 34.28 | **25.70** | 1.4 |
| 1 1/4 | 5/16-18 | 25 | 08046 | **2X639** | 36.52 | **27.40** | 1.6 |
| 1 1/2 | 5/16-18 | 25 | 08048 | **2X641** | 37.70 | **28.30** | 1.9 |
| 1 3/4 | 5/16-18 | 25 | 08049 | **2X645** | 38.60 | **28.95** | 2.1 |
| 2 | 5/16-18 | 25 | 08050 | **2X647** | 40.84 | **30.65** | 2.3 |
| 2 1/2 | 5/16-18 | 25 | 08054 | **2X652** | 48.32 | **36.25** | 2.6 |
| **1/2" DIA. SHOULDER SCREWS** | | | | | | | |
| 2 | 3/8-16 | 25 | 08066 | **2X670** | 52.99 | **39.80** | 2.0 |
| 2 1/4 | 3/8-16 | 25 | 08070 | **2X674** | 53.76 | **40.35** | 2.4 |
| 2 1/2 | 3/8-16 | 25 | 08072 | **2X676** | 54.17 | **40.65** | 2.8 |
| 2 3/4 | 3/8-16 | 25 | 08074 | **2X678** | 56.87 | **42.70** | 3.1 |
| 3 | 3/8-16 | 25 | 08076 | **2X680** | 58.40 | **43.85** | 3.4 |
| 3 1/4 | 3/8-16 | 25 | 08078 | **2X682** | 62.06 | **46.55** | 3.8 |
| 3 1/2 | 3/8-16 | 25 | 08080 | **2X684** | 63.40 | **47.60** | 4.1 |
| 3 3/4 | 3/8-16 | 25 | 08082 | **2X686** | 67.17 | **50.40** | 4.5 |
| 4 | 3/8-16 | 25 | 08084 | **2X688** | 70.04 | **52.50** | 4.9 |
| 5 | 3/8-16 | 25 | 08088 | **2X695** | 78.62 | **59.00** | 5.6 |
| **5/8" DIA. SHOULDER SCREWS** | | | | | | | |
| 3 1/4 | 1/2-13 | 25 | 08100 | **2X741** | 86.70 | **65.00** | 5.0 |

## HEX KEYS

ALLEN

No. 3G602



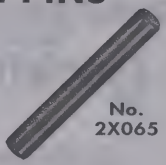
- Accurate dimensions
- Heat treated alloy steel
- Square cut ends
- Short and long arm styles

| Size (In.) | No. Per Pkg. | Allen Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **SHORT ARM HEX KEYS** | | | | | | |
| 0.050 | 10 | 57006 | **3G602** | $1.60 | **$1.28** | 0.1 |
| 1/16 | 10 | 57008 | **3G604** | 1.60 | **1.28** | 0.1 |
| 5/64 | 10 | 57010 | **3G606** | 1.60 | **1.28** | 0.1 |
| 3/32 | 10 | 57012 | **3G608** | 1.60 | **1.28** | 0.1 |
| 7/64 | 10 | 57013 | **3G610** | 1.80 | **1.44** | 0.1 |
| 1/8 | 10 | 57014 | **3G612** | 1.80 | **1.44** | 0.1 |
| 9/64 | 10 | 57018 | **3G614** | 2.20 | **1.76** | 0.2 |
| 5/32 | 10 | 57020 | **3G616** | 2.40 | **1.92** | 0.2 |
| 3/16 | 10 | 57022 | **3G618** | 3.10 | **2.48** | 0.3 |
| 7/32 | 10 | 57024 | **3G620** | 4.40 | **3.52** | 0.5 |
| 1/4 | 10 | 57026 | **3G622** | 6.10 | **4.88** | 0.7 |
| 5/16 | 5 | 57028 | **3G624** | 5.10 | **4.08** | 1.2 |
| 3/8 | 5 | 57030 | **3G626** | 8.00 | **6.40** | 1.0 |
| 1/2 | 1 | 57032 | **3G628** | 4.00 | **3.20** | 2.2 |
| 5/8 | 1 | 57036 | **3G630** | 7.67 | **6.14** | 4.0 |
| 3/4 | 1 | 57038 | **3G632** | 11.87 | **9.50** | 6.6 |
| 7/8 | 1 | 57040 | **3G634** | 17.82 | **14.26** | 10.0 |
| 1 | 1 | 57042 | **3G636** | 26.93 | **21.54** | 15.0 |
| **LONG ARM HEX KEYS** | | | | | | |
| 0.050 | 10 | 58003 | **3G676** | 2.20 | **1.76** | 0.1 |
| 1/16 | 10 | 58001 | **3G672** | 2.10 | **1.68** | 0.1 |
| 5/64 | 10 | 58002 | **3G674** | 2.20 | **1.76** | 0.1 |
| 3/32 | 10 | 58004 | **3G678** | 2.40 | **1.92** | 0.1 |
| 7/64 | 10 | 58005 | **3G680** | 2.90 | **2.32** | 0.2 |
| 1/8 | 10 | 58006 | **3G682** | 2.90 | **2.32** | 0.2 |
| 9/64 | 10 | 58010 | **3G684** | 3.10 | **2.48** | 0.1 |
| 5/32 | 10 | 58012 | **3G686** | 3.60 | **2.88** | 0.3 |
| 3/16 | 10 | 58014 | **3G688** | 4.40 | **3.52** | 0.5 |
| 7/32 | 10 | 58016 | **3G690** | 7.10 | **5.68** | 0.8 |
| 1/4 | 10 | 58018 | **3G692** | 3.60 | **2.88** | 1.0 |
| 5/16 | 5 | 58020 | **3G694** | 8.10 | **6.48** | 0.9 |
| 3/8 | 5 | 58022 | **3G696** | 12.10 | **9.68** | 1.4 |
| 1/2 | 1 | 58024 | **3G698** | 5.69 | **4.55** | 3.0 |
| 5/8 | 1 | 58028 | **3G700** | 12.49 | **9.99** | 5.7 |
| 3/4 | 1 | 58030 | **3G702** | 17.76 | **14.21** | 9.4 |
| 7/8 | 1 | 58032 | **3G704** | 26.69 | **21.35** | 5.9 |
| 1 | 1 | 58034 | **3G706** | 35.78 | **28.65** | 8.4 |

A full selection of hex keys appears on pages 1302 - 1303.

## DOWEL PINS

HOLO-KROME® A Danaher Company



No. 2X065

- Black luster finish
- 0.0002" over listed diameter
- Rust resistant
- Meet ASME/ANSI B18.8.2

| Overall Length (In.) | No. Per Pkg. | Holo-Krome Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/8" DIA. DOWEL PINS** | | | | | | |
| 3/8 | 100 | 01002 | **2X065** | $20.89 | **$15.67** | 0.5 |
| 1/2 | 100 | 01004 | **2X067** | 20.79 | **15.58** | 0.5 |
| 3/4 | 100 | 01008 | **2X071** | 21.64 | **16.24** | 0.5 |
| 1 | 100 | 01012 | **2X075** | 25.93 | **19.45** | 0.5 |
| **3/16" DIA. DOWEL PINS** | | | | | | |
| 1/2 | 100 | 01022 | **2X083** | 21.74 | **16.31** | 0.5 |
| 3/4 | 100 | 01026 | **2X087** | 24.53 | **18.40** | 0.5 |
| 1 | 100 | 01030 | **2X091** | 27.10 | **20.31** | 1.0 |
| 1 1/4 | 100 | 01032 | **2X093** | 29.46 | **22.10** | 1.5 |
| **1/4" DIA. DOWEL PINS** | | | | | | |
| 1/2 | 100 | 01040 | **2X101** | 24.85 | **18.62** | 1.0 |
| 3/4 | 100 | 01044 | **2X105** | 26.14 | **19.61** | 1.0 |
| 1 | 100 | 01048 | **2X109** | 28.39 | **21.29** | 1.5 |
| 1 1/4 | 100 | 01050 | **2X111** | 31.60 | **23.69** | 2.0 |
| 1 1/2 | 100 | 01052 | **2X113** | 36.20 | **27.20** | 2.0 |
| 2 | 100 | 01056 | **2X117** | 45.42 | **34.10** | 3.0 |
| 2 1/2 | 100 | 01060 | **2X121** | 56.02 | **42.05** | 3.5 |
| **5/16" DIA. DOWEL PINS** | | | | | | |
| 1 | 100 | 01070 | **2X133** | 34.18 | **25.65** | 2.0 |
| 1 1/4 | 100 | 01072 | **2X135** | 38.88 | **29.20** | 3.0 |
| 1 1/2 | 100 | 01074 | **2X137** | 41.99 | **31.50** | 3.5 |
| 2 | 100 | 01078 | **2X141** | 54.53 | **40.90** | 4.5 |
| **3/8" DIA. DOWEL PINS** | | | | | | |
| 1 | 100 | 01094 | **2X158** | 39.63 | **29.70** | 3.0 |
| 1 1/4 | 100 | 01096 | **2X160** | 44.89 | **33.70** | 4.0 |
| 1 1/2 | 100 | 01098 | **2X162** | 50.88 | **38.15** | 5.0 |
| 2 | 40 | 01102 | **2X166** | 25.02 | **18.75** | 2.6 |
| **1/2" DIA. DOWEL PINS** | | | | | | |
| 1 | 40 | 01126 | **2X190** | 33.38 | **25.05** | 2.4 |
| 1 1/2 | 40 | 01130 | **2X194** | 39.08 | **29.30** | 3.4 |
| 2 | 40 | 01134 | **2X198** | 46.62 | **34.95** | 4.6 |
| 2 1/2 | 20 | 01138 | **2X202** | 29.07 | **21.77** | 2.8 |
| **5/8" DIA. DOWEL PINS** | | | | | | |
| 2 | 10 | 01154 | **2X218** | 18.16 | **13.61** | 1.8 |

## LENGTHENING AND SHORTENING SHIM ASSORTMENTS

| Screw Size (In.) | Shim Thickness (In.) | Lengthen Shims No. 4TT27 I.D. | Lengthen Shims No. 4TT27 O.D. | Shortening Shims No. 4TT28 I.D. | Shortening Shims No. 4TT28 O.D. |
|---|---|---|---|---|---|
| 1/4 | .005 | .171 | .248 | .252 | .366 |
| 1/4 | .015 | .171 | .248 | .252 | .366 |
| 1/4 | .032 | .187 | .248 | .252 | .366 |
| 5/16 | .005 | .234 | .308 | .313 | .424 |
| 5/16 | .015 | .234 | .308 | .313 | .424 |
| 5/16 | .032 | .234 | .308 | .313 | .424 |
| 3/8 | .005 | .289 | .371 | .376 | .557 |
| 3/8 | .015 | .289 | .371 | .376 | .557 |
| 3/8 | .032 | .296 | .371 | .376 | .557 |
| 1/2 | .005 | .352 | .496 | .501 | .738 |
| 1/2 | .015 | .352 | .496 | .501 | .738 |
| 1/2 | .032 | .352 | .496 | .501 | .738 |
| 5/8 | .005 | .473 | .621 | .626 | .870 |
| 5/8 | .015 | .473 | .621 | .626 | .870 |
| 5/8 | .032 | .473 | .621 | .626 | .870 |
| 1 | .005 | .598 | .748 | .751 | .995 |
| 1 | .015 | .598 | .748 | .751 | .995 |
| 1 | .032 | .598 | .748 | .751 | .995 |

Assortments contain 15 pieces of every size listed above, otal of 270 pieces in each assortment package.

## LENGTHENING & SHORTENING SHIMS

- Lengthening shims fit over stripper screw treads and under the shoulder which lengthens the stripper screw
- Shortening shims are placed around the shoulder screw shank to fit under the screw head shortening the stripper screw
- All shims are made of high carbon spring steel
- Each assortment contains three thickness: .005", .015", and .032"
- Each assortment is packaged in a durable plastic compartment box

***New*** **No. 4TT27.** Shpg. wt. 0.4 lbs. List $93.61. Each.....$69.00

***New*** **No. 4TT28.** Shpg. wt. 0.6 lbs List $103.24. Each.....$75.60

PRECISION BRAND

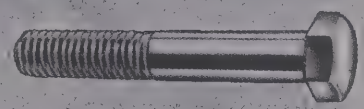
New



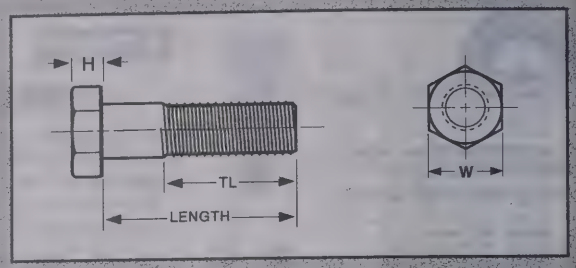
No. 4TT28

# HEX CAP SCREW - GRADE 2

QUALITY FASTENERS from ... Rockford



No. 4P100
Hex Cap Screw - Grade 2




- Zinc-Chromate plated—Low Carbon Steel
- Proof load; 55,000 PSI
- Minimum tensile strength: 74,000 PSI
- Meets or exceeds ANSI/ASME B18.2.1, SAE J429, SAE J1061 and ASTM 788 Standards
- Use with finished hex nut, sold on page 1742

**DIMENSIONS**

| Cap Screw Diameter (In.) | W Width (In.) of Hex Head | H Height (In.) | TL Thread Length (In.) |
|---|---|---|---|
| 1/4 | 7/16 | 5/32 | 0.750 |
| 5/16 | 1/2 | 13/64 | 0.875 |
| 3/8 | 9/16 | 15/64 | 1.000 |
| 7/16 | 5/8 | 9/32 | 1.125 |
| 1/2 | 3/4 | 5/16 | 1.250 |
| 9/16 | 13/16 | 23/64 | 1.375 |
| 5/8 | 15/16 | 25/64 | 1.500 |
| 3/4 | 1 1/8 | 15/32 | 1.750 |

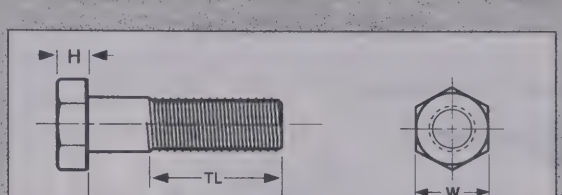
| Size | Length (In.) | No. Per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/4"-20** | 3/8 | 100 | **4P100** | $4.06 | **$3.25** | **$2.93** | 0.9 |
| **1/4-20** | 1/2 | 100 | **4P101** | 3.25 | **2.74** | **2.48** | 1.1 |
| **1/4-20** | 5/8 | 100 | **4P102** | 3.78 | **3.37** | **3.04** | 0.2 |
| **1/4-20** | 3/4 | 100 | **4P103** | 3.77 | **3.66** | **3.29** | 1.4 |
| **1/4-20** | 7/8 | 100 | **4P104** | 4.48 | **3.89** | **3.51** | 2.0 |
| **1/4-20** | 1 | 100 | **4P105** | 4.48 | **4.01** | **3.60** | 2.0 |
| **1/4-20** | 1 1/4 | 100 | **4P106** | 5.15 | **4.55** | **4.09** | 2.0 |
| **1/4-20** | 1 1/2 | 100 | **4P107** | 5.85 | **5.59** | **5.03** | 3.0 |
| **1/4-20** | 1 3/4 | 100 | **4P108** | 6.65 | **6.13** | **5.51** | 2.7 |
| **1/4-20** | 2 | 100 | **4P109** | 7.37 | **7.05** | **6.35** | 3.1 |
| **1/4-20** | 2 1/4 | 100 | **4P110** | 8.11 | **7.34** | **6.61** | 4.0 |
| **1/4-20** | 2 1/2 | 100 | **4P111** | 8.84 | **8.08** | **7.28** | 3.8 |
| **1/4-20** | 2 3/4 | 100 | **4P112** | 10.40 | **8.61** | **7.76** | 4.1 |
| **1/4-20** | 3 | 100 | **4P113** | 10.86 | **9.79** | **8.82** | 5.0 |
| **1/4-20** | 3 1/2 | 100 | **4P114** | 13.24 | **12.04** | **10.84** | 5.2 |
| **1/4-20** | 4 | 100 | **4P115** | 15.11 | **13.60** | **12.24** | 6.5 |
| **1/4-20** | 4 1/2 | 100 | **4P116** | 20.16 | **14.16** | **12.74** | 7.0 |
| **1/4-20** | 5 | 100 | **4P117** | 21.37 | **15.12** | **13.61** | 7.2 |
| **1/4-20** | 5 1/2 | 100 | **4P118** | 21.74 | **16.45** | **14.81** | 8.6 |
| **1/4-20** | 6 | 100 | **4P119** | 23.91 | **17.81** | **16.03** | 8.6 |
| **1/4-20** | 8 | 100 | **2M771** | 48.59 | **42.40** | **38.05** | 11.0 |
| **5/16-18** | 1/2 | 100 | **4P120** | 5.27 | **4.61** | **4.15** | 2.2 |
| **5/16-18** | 5/8 | 100 | **4P121** | 5.71 | **5.02** | **4.52** | 2.4 |
| **5/16-18** | 3/4 | 100 | **4P122** | 5.80 | **5.55** | **5.00** | 2.4 |
| **5/16-18** | 7/8 | 100 | **2M773** | 6.65 | **5.76** | **5.20** | 2.7 |
| **5/16-18** | 1 | 100 | **4P123** | 6.65 | **5.81** | **5.24** | 2.8 |
| **5/16-18** | 1 1/4 | 100 | **4P124** | 7.87 | **7.41** | **6.67** | 3.6 |
| **5/16-18** | 1 1/2 | 100 | **4P125** | 8.70 | **7.87** | **7.09** | 4.0 |
| **5/16-18** | 1 3/4 | 100 | **4P126** | 9.75 | **8.90** | **8.01** | 4.4 |
| **5/16-18** | 2 | 100 | **4P127** | 13.50 | **10.80** | **9.73** | 5.5 |
| **5/16-18** | 2 1/4 | 100 | **4P128** | 11.85 | **10.90** | **9.81** | 5.5 |
| **5/16-18** | 2 1/2 | 100 | **4P129** | 13.12 | **12.73** | **11.43** | 6.1 |
| **5/16-18** | 2 3/4 | 100 | **4P130** | 15.17 | **12.79** | **11.52** | 6.6 |
| **5/16-18** | 3 | 100 | **4P131** | 15.48 | **15.20** | **13.69** | 8.0 |
| **5/16-18** | 3 1/2 | 50 | **4P132** | 9.49 | **9.43** | **8.49** | 4.1 |
| **5/16-18** | 4 | 50 | **4P133** | 11.29 | **9.91** | **8.90** | 4.6 |
| **5/16-18** | 4 1/2 | 50 | **4P134** | 12.69 | **10.44** | **9.39** | 6.0 |
| **5/16-18** | 5 | 50 | **4P135** | 14.25 | **12.14** | **10.90** | 5.7 |
| **5/16-18** | 6 | 50 | **4P136** | 17.19 | **13.43** | **12.08** | 7.5 |
| **5/16-18** | 7 | 50 | **2M779** | 26.21 | **22.76** | **20.50** | 8.0 |
| **5/16-18** | 8 | 50 | **2M781** | 29.66 | **25.80** | **23.20** | 9.1 |
| **3/8-16** | 1/2 | 100 | **4P137** | 7.53 | **6.76** | **6.08** | 2.9 |
| **3/8-16** | 5/8 | 100 | **4P138** | 7.50 | **6.83** | **6.16** | 3.7 |
| **3/8-16** | 3/4 | 100 | **4P139** | 8.32 | **8.15** | **7.34** | 3.6 |
| **3/8-16** | 1 | 100 | **4P140** | 9.57 | **8.46** | **7.61** | 4.5 |
| **3/8-16** | 1 1/4 | 100 | **4P141** | 10.86 | **9.95** | **8.95** | 5.0 |
| **3/8-16** | 1 1/2 | 100 | **4P142** | 12.44 | **11.95** | **10.75** | 6.4 |
| **3/8-16** | 1 3/4 | 100 | **4P143** | 14.17 | **13.18** | **11.87** | 7.2 |
| **3/8-16** | 2 | 100 | **4P144** | 15.49 | **14.93** | **13.44** | 7.2 |
| **3/8"-16** | 2 1/4 | 50 | **4P145** | $8.45 | **$8.45** | **$7.61** | 4.0 |
| **3/8-16** | 2 1/2 | 50 | **4P146** | 9.24 | **9.11** | **8.21** | 4.4 |
| **3/8-16** | 2 3/4 | 50 | **4P147** | 10.73 | **9.83** | **8.85** | 4.8 |
| **3/8-16** | 3 | 50 | **4P148** | 11.11 | **10.89** | **9.81** | 6.0 |
| **3/8-16** | 3 1/4 | 50 | **2M783** | 12.77 | **11.09** | **9.99** | 5.4 |
| **3/8-16** | 3 1/2 | 50 | **4P149** | 18.48 | **14.79** | **13.31** | 6.0 |
| **3/8-16** | 4 | 50 | **4P150** | 19.24 | **15.39** | **13.84** | 7.5 |
| **3/8-16** | 4 1/2 | 50 | **4P151** | 17.63 | **17.41** | **15.67** | 8.3 |
| **3/8-16** | 5 | 50 | **4P152** | 20.16 | **18.05** | **16.24** | 8.3 |
| **3/8-16** | 5 1/2 | 50 | **2M785** | 22.06 | **19.14** | **17.24** | 9.4 |
| **3/8-16** | 6 | 50 | **4P153** | 24.01 | **23.57** | **21.22** | 9.8 |
| **3/8-16** | 7 | 50 | **2M789** | 35.00 | **30.50** | **27.34** | 12.0 |
| **3/8-16** | 8 | 50 | **2M793** | 40.80 | **35.50** | **31.90** | 13.0 |
| **7/16-14** | 1 | 100 | **2M803** | 14.26 | **12.37** | **11.14** | 5.9 |
| **7/16-14** | 1 1/4 | 50 | **2M805** | 7.92 | **6.87** | **6.19** | 3.5 |
| **7/16-14** | 1 3/4 | 50 | **2M809** | 10.55 | **9.15** | **8.24** | 4.5 |
| **7/16-14** | 2 | 50 | **2M811** | 10.94 | **9.47** | **8.54** | 4.9 |
| **7/16-14** | 3 | 50 | **2M815** | 15.45 | **13.39** | **12.06** | 7.0 |
| **1/2-13** | 3/4 | 50 | **2M825** | 9.18 | **7.97** | **7.19** | 3.8 |
| **1/2-13** | 1 | 50 | **4P154** | 9.69 | **8.46** | **7.61** | 4.6 |
| **1/2-13** | 1 1/4 | 50 | **4P155** | 10.42 | **9.74** | **8.76** | 5.2 |
| **1/2-13** | 1 1/2 | 50 | **4P156** | 11.46 | **10.70** | **9.62** | 6.2 |
| **1/2-13** | 1 3/4 | 50 | **4P157** | 12.69 | **11.96** | **10.77** | 6.5 |
| **1/2-13** | 2 | 50 | **4P158** | 14.08 | **12.25** | **11.03** | 7.2 |
| **1/2-13** | 2 1/4 | 50 | **4P159** | 15.38 | **14.29** | **12.87** | 7.9 |
| **1/2-13** | 2 1/2 | 50 | **4P160** | 16.68 | **16.53** | **14.86** | 9.0 |
| **1/2-13** | 2 3/4 | 50 | **4P161** | 24.28 | **19.42** | **17.47** | 9.5 |
| **1/2-13** | 3 | 50 | **4P162** | 19.57 | **17.90** | **16.12** | 9.9 |
| **1/2-13** | 3 1/2 | 25 | **4P163** | 11.37 | **10.54** | **9.48** | 5.7 |
| **1/2-13** | 4 | 25 | **4P164** | 13.18 | **11.06** | **9.95** | 7.0 |
| **1/2-13** | 4 1/2 | 25 | **4P165** | 14.82 | **12.93** | **11.63** | 7.1 |
| **1/2-13** | 5 | 25 | **4P166** | 16.47 | **13.30** | **11.97** | 8.3 |
| **1/2-13** | 5 1/2 | 25 | **4P167** | 17.98 | **15.28** | **13.74** | 8.6 |
| **1/2-13** | 6 | 25 | **4P168** | 19.48 | **15.51** | **13.95** | 9.7 |
| **5/8-11** | 1 | 25 | **2M843** | 8.56 | **7.44** | **6.71** | 3.8 |
| **5/8-11** | 1 1/2 | 25 | **4P169** | 9.76 | **9.08** | **8.18** | 4.7 |
| **5/8-11** | 2 | 25 | **4P170** | 11.66 | **10.18** | **9.17** | 6.3 |
| **5/8-11** | 2 1/2 | 25 | **4P171** | 13.77 | **12.51** | **11.26** | 6.9 |
| **5/8-11** | 3 | 25 | **4P172** | 15.87 | **13.50** | **12.15** | 8.0 |
| **5/8-11** | 3 1/2 | 25 | **4P173** | 18.31 | **16.17** | **14.55** | 8.9 |
| **5/8-11** | 4 | 25 | **4P174** | 22.94 | **16.98** | **15.28** | 10.0 |
| **3/4-10** | 2 | 20 | **2M883** | 14.94 | **12.50** | **11.26** | 6.7 |
| **3/4-10** | 2 1/2 | 20 | **2M885** | 17.00 | **14.22** | **12.81** | 7.9 |
| **3/4-10** | 3 | 20 | **2M887** | 19.50 | **16.33** | **14.72** | 9.1 |
| **3/4-10** | 3 1/2 | 20 | **2M889** | 22.14 | **18.55** | **16.70** | 10.0 |
| **3/4-10** | 4 | 20 | **2M891** | 24.82 | **20.80** | **18.73** | 12.0 |

# HEX CAP SCREWS - GRADE 5
## COARSE THREAD

QUALITY FASTENERS from ... Rockford®



No. 4P175
Hex Cap Screw - Grade 5




- Zinc-Chromate Plated medium carbon steel quenched and tempered
- Proof load: 85,000 PSI
- Minimum tensile strength: 120,000 PSI
- Full traceability as required by Public Law 101-592 "Fastener Quality Act"
- Meets or exceeds ANSI/ASME B18.2.1, SAE J1061, SAE J429/ASTM A449 specifications for tensile strength and hardness
- Use Grade 5 Hex Nut with Grade 5 Bolt, sold on page 1742

**DIMENSIONS**

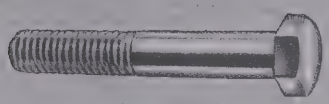
| Cap Screw Diameter (In.) | W Width (In.) of Hex Head | H Height (In.) | TL Thread Length (In.) |
|---|---|---|---|
| 1/4 | 7/16 | 5/32 | 0.750 |
| 5/16 | 1/2 | 13/64 | 0.875 |
| 3/8 | 9/16 | 15/64 | 1.000 |
| 7/16 | 5/8 | 9/32 | 1.125 |
| 1/2 | 3/4 | 5/16 | 1.250 |
| 9/16 | 13/16 | 23/64 | 1.375 |
| 5/8 | 15/16 | 25/64 | 1.500 |
| 3/4 | 1 1/8 | 15/32 | 1.750 |

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4"-20 | 3/8 | 100 | 2H636 | $6.64 | $5.79 | $5.23 | 1.0 |
| 4-20 | 1/2 | 100 | 4P175 | 5.09 | 4.08 | 3.43 | 1.3 |
| 4-20 | 5/8 | 100 | 4P176 | 5.58 | 4.47 | 3.75 | 1.3 |
| 4-20 | 3/4 | 100 | 4P177 | 4.58 | 4.53 | 3.80 | 1.4 |
| 4-20 | 7/8 | 100 | 4P178 | 7.03 | 5.63 | 4.72 | 1.8 |
| 4-20 | 1 | 100 | 4P179 | 5.37 | 5.10 | 4.28 | 2.3 |
| 4-20 | 1 1/4 | 100 | 4P180 | 6.25 | 6.13 | 5.16 | 2.3 |
| 4-20 | 1 1/2 | 100 | 4P181 | 9.11 | 7.29 | 6.13 | 2.4 |
| 4-20 | 1 3/4 | 100 | 2H638 | 8.25 | 7.16 | 6.45 | 2.7 |
| 4-20 | 2 | 100 | 4P182 | 9.30 | 8.34 | 7.00 | 3.3 |
| 4-20 | 2 1/4 | 100 | 4P183 | 10.35 | 10.22 | 8.59 | 3.4 |
| 4-20 | 2 1/2 | 100 | 4P184 | 11.38 | 9.77 | 8.22 | 3.8 |
| 4-20 | 2 3/4 | 100 | 4P185 | 13.57 | 12.60 | 10.60 | 5.0 |
| 4-20 | 3 | 100 | 4P186 | 13.97 | 12.73 | 10.70 | 4.5 |
| 4-20 | 3 1/4 | 100 | 4P187 | 16.93 | 15.46 | 12.99 | 5.7 |
| 4-20 | 3 1/2 | 100 | 4P188 | 17.70 | 17.58 | 14.78 | 6.0 |
| 4-20 | 3 3/4 | 100 | 2H640 | 20.84 | 18.10 | 16.29 | 5.5 |
| 4-20 | 4 | 100 | 4P189 | 21.86 | 20.29 | 17.07 | 6.5 |
| 4-20 | 4 1/2 | 100 | 2H642 | 26.08 | 22.63 | 20.37 | 6.8 |
| 4-20 | 5 | 100 | 2H644 | 28.76 | 24.95 | 22.48 | 7.6 |
| 4-20 | 5 1/2 | 100 | 2H646 | 31.52 | 27.45 | 24.64 | 8.1 |
| 4-20 | 6 | 100 | 2H648 | 34.26 | 29.85 | 26.78 | 9.0 |
| 16-18 | 1/2 | 100 | 4P190 | 6.45 | 6.15 | 5.18 | 2.0 |
| 16-18 | 5/8 | 100 | 2H655 | 7.19 | 6.24 | 5.63 | 2.3 |
| 16-18 | 3/4 | 100 | 4P191 | 7.31 | 6.99 | 5.88 | 2.4 |
| 16-18 | 7/8 | 100 | 2H657 | 8.02 | 6.94 | 6.27 | 2.7 |
| 16-18 | 1 | 100 | 4P192 | 8.19 | 7.83 | 6.58 | 3.0 |
| 16-18 | 1 1/4 | 100 | 4P193 | 9.67 | 9.02 | 7.58 | 3.7 |
| 16-18 | 1 1/2 | 100 | 4P194 | 11.15 | 10.19 | 8.57 | 3.9 |
| 16-18 | 1 3/4 | 100 | 4P195 | 12.55 | 12.43 | 10.45 | 4.4 |
| 16-18 | 2 | 100 | 4P196 | 13.96 | 12.52 | 10.54 | 5.0 |
| 16-18 | 2 1/4 | 100 | 4P197 | 15.36 | 15.12 | 12.73 | 6.5 |
| 16-18 | 2 1/2 | 100 | 4P198 | 16.76 | 15.28 | 12.86 | 6.1 |
| 16-18 | 2 3/4 | 100 | 4P199 | 19.32 | 17.67 | 14.85 | 6.6 |
| 16-18 | 3 | 100 | 4P200 | 19.92 | 17.88 | 15.05 | 7.1 |
| 16-18 | 3 1/4 | 50 | 4P201 | 11.73 | 9.66 | 8.14 | 4.4 |
| 16-18 | 3 1/2 | 50 | 4P202 | 12.49 | 10.23 | 8.60 | 4.1 |
| 16-18 | 4 | 50 | 4P203 | 14.62 | 11.41 | 9.60 | 4.6 |
| 16-18 | 4 1/2 | 50 | 2H661 | 17.39 | 15.07 | 13.58 | 5.4 |
| 8-16 | 1/2 | 100 | 4P204 | 12.11 | 9.70 | 8.15 | 3.2 |
| 8-16 | 5/8 | 100 | 2H682 | 10.35 | 8.97 | 8.08 | 3.4 |
| 8-16 | 3/4 | 100 | 4P205 | 10.58 | 9.61 | 8.08 | 3.6 |
| 8-16 | 7/8 | 100 | 2H686 | 11.83 | 10.26 | 9.25 | 4.0 |
| 8-16 | 1 | 100 | 4P206 | 12.00 | 10.84 | 9.11 | 4.2 |
| 8-16 | 1 1/4 | 100 | 4P207 | 13.94 | 12.15 | 10.20 | 5.5 |
| 8-16 | 1 1/2 | 100 | 4P208 | 15.98 | 13.77 | 11.59 | 6.5 |
| 8-16 | 1 3/4 | 100 | 4P209 | 18.26 | 15.48 | 13.02 | 6.4 |
| 8-16 | 2 | 100 | 4P210 | 20.20 | 17.10 | 14.37 | 7.2 |
| 8-16 | 2 1/4 | 50 | 4P211 | 11.42 | 10.47 | 8.81 | 4.0 |
| 8-16 | 2 1/2 | 50 | 4P212 | 12.16 | 10.58 | 8.90 | 5.1 |
| 8-16 | 2 3/4 | 50 | 4P213 | 13.65 | 12.15 | 10.23 | 5.4 |
| 8-16 | 3 | 50 | 4P214 | 13.88 | 12.35 | 10.38 | 5.2 |
| 8-16 | 3 1/4 | 50 | 4P215 | 16.42 | 13.01 | 10.94 | 5.6 |
| 3/8"-16 | 3 1/2 | 50 | 4P216 | $17.11 | $13.20 | $11.10 | 6.8 |
| 3/8-16 | 4 | 50 | 4P217 | 20.20 | 18.02 | 15.17 | 6.7 |
| 3/8-16 | 4 1/2 | 50 | 4P218 | 23.00 | 19.02 | 16.01 | 8.5 |
| 3/8-16 | 5 | 50 | 4P219 | 25.81 | 25.80 | 21.68 | 8.7 |
| 3/8-16 | 5 1/2 | 50 | 4P220 | 35.29 | 28.30 | 23.69 | 9.0 |
| 3/8-16 | 6 | 50 | 4P221 | 38.31 | 30.70 | 25.70 | 10.0 |
| 7/16-14 | 3/4 | 100 | 2H702 | 16.36 | 14.20 | 12.78 | 5.2 |
| 7/16-14 | 1 | 100 | 4P222 | 21.53 | 17.23 | 15.51 | 5.9 |
| 7/16-14 | 1 1/4 | 50 | 4P223 | 12.77 | 10.22 | 8.59 | 4.0 |
| 7/16-14 | 1 1/2 | 50 | 4P224 | 12.97 | 10.38 | 8.73 | 4.4 |
| 7/16-14 | 1 3/4 | 50 | 4P225 | 16.28 | 13.03 | 10.96 | 4.7 |
| 7/16-14 | 2 | 50 | 4P226 | 17.80 | 14.24 | 11.98 | 5.0 |
| 7/16-14 | 2 1/4 | 50 | 4P227 | 15.94 | 15.63 | 13.14 | 6.3 |
| 7/16-14 | 2 1/2 | 50 | 4P228 | 21.48 | 17.19 | 14.47 | 6.3 |
| 7/16-14 | 2 3/4 | 50 | 4P229 | 19.02 | 18.61 | 15.64 | 6.6 |
| 7/16-14 | 3 | 50 | 4P230 | 25.02 | 20.02 | 16.84 | 7.1 |
| 7/16-14 | 4 | 25 | 2H708 | 13.06 | 11.32 | 10.19 | 4.5 |
| 1/2-13 | 3/4 | 50 | 4P231 | 13.30 | 10.64 | 8.94 | 4.1 |
| 1/2-13 | 7/8 | 50 | 2H716 | 11.62 | 10.08 | 9.08 | 4.0 |
| 1/2-13 | 1 | 50 | 4P232 | 11.76 | 10.74 | 9.04 | 4.6 |
| 1/2-13 | 1 1/4 | 50 | 4P233 | 13.51 | 11.77 | 9.91 | 5.2 |
| 1/2-13 | 1 1/2 | 50 | 4P234 | 15.16 | 12.96 | 10.90 | 5.8 |
| 1/2-13 | 1 3/4 | 50 | 4P235 | 16.98 | 15.15 | 12.74 | 7.0 |
| 1/2-13 | 2 | 50 | 4P236 | 18.95 | 15.62 | 13.13 | 7.2 |
| 1/2-13 | 2 1/4 | 50 | 4P237 | 20.34 | 17.97 | 15.11 | 7.9 |
| 1/2-13 | 2 1/2 | 50 | 4P238 | 22.42 | 18.26 | 15.35 | 8.6 |
| 1/2-13 | 2 3/4 | 50 | 4P239 | 25.42 | 20.19 | 16.98 | 9.2 |
| 1/2-13 | 3 | 50 | 4P240 | 26.11 | 21.05 | 17.70 | 10.0 |
| 1/2-13 | 3 1/2 | 25 | 4P241 | 14.87 | 12.64 | 10.63 | 5.7 |
| 1/2-13 | 3 3/4 | 25 | 2H720 | 16.56 | 14.36 | 12.93 | 5.8 |
| 1/2-13 | 4 | 25 | 4P242 | 16.70 | 14.04 | 11.83 | 7.0 |
| 1/2-13 | 4 1/2 | 25 | 2H722 | 18.53 | 16.06 | 14.47 | 7.2 |
| 1/2-13 | 5 | 25 | 2H724 | 20.35 | 17.63 | 15.87 | 7.9 |
| 1/2-13 | 6 | 25 | 2H728 | 25.56 | 22.16 | 19.95 | 9.3 |
| 5/8-11 | 1 1/2 | 25 | 4P243 | 12.46 | 12.04 | 10.12 | 5.0 |
| 5/8-11 | 1 3/4 | 25 | 4P244 | 13.64 | 12.69 | 10.67 | 5.3 |
| 5/8-11 | 2 | 25 | 4P245 | 15.04 | 12.93 | 10.87 | 6.3 |
| 5/8-11 | 2 1/4 | 25 | 4P246 | 16.46 | 14.85 | 12.49 | 6.3 |
| 5/8-11 | 2 1/2 | 25 | 4P247 | 17.88 | 16.83 | 14.16 | 7.1 |
| 5/8-11 | 2 3/4 | 25 | 2H777 | 20.28 | 17.57 | 15.82 | 7.2 |
| 5/8-11 | 3 | 25 | 4P248 | 20.73 | 20.47 | 17.22 | 8.4 |
| 5/8-11 | 3 1/2 | 25 | 2H779 | 23.57 | 20.43 | 18.39 | 8.7 |
| 5/8-11 | 4 | 25 | 4P249 | 26.44 | 25.90 | 21.75 | 10.0 |
| 5/8-11 | 5 | 25 | 2H783 | 32.47 | 28.20 | 25.31 | 12.0 |
| 5/8-11 | 6 | 25 | 2H788 | 38.42 | 33.40 | 29.96 | 14.0 |
| 3/4-10 | 1 1/2 | 20 | 2H804 | 17.05 | 13.95 | 12.56 | 5.6 |
| 3/4-10 | 2 | 20 | 2H809 | 19.34 | 15.81 | 14.24 | 6.7 |
| 3/4-10 | 2 1/2 | 20 | 2H815 | 22.28 | 18.23 | 16.41 | 7.9 |
| 3/4-10 | 3 | 20 | 2H819 | 25.73 | 21.04 | 18.95 | 9.1 |
| 3/4-10 | 3 1/2 | 20 | 2H827 | 28.97 | 23.69 | 21.33 | 10.0 |
| 3/4-10 | 4 | 20 | 2H829 | 32.33 | 26.50 | 23.80 | 12.0 |
| 3/4-10 | 5 | 20 | 2H833 | 39.09 | 32.05 | 28.79 | 14.0 |

# HEX CAP SCREWS, CARRIAGE BOLTS, FLANGE BOLTS

## GRADE 5 HEX CAP SCREWS—FINE THREAD

QUALITY FASTENERS from ... Rockford



No. 4P175

- Same specifications as Grade 5 Hex cap screws—See page 1735
- Use with grade 5 nuts sold on page 1742

### SPECIFICATIONS AND ORDERING DATA

| Size (In.) | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4-28 | 1/2 | 100 | 2H922 | $4.55 | $3.72 | $3.36 | 1.3 |
| 1/4-28 | 5/8 | 100 | 2H924 | 5.13 | 4.19 | 3.78 | 1.4 |
| 1/4-28 | 3/4 | 100 | 2H926 | 5.23 | 4.28 | 3.86 | 1.6 |
| 1/4-28 | 1 | 100 | 2H928 | 6.20 | 5.09 | 4.58 | 1.9 |
| 1/4-28 | 1 1/4 | 100 | 2H931 | 7.20 | 5.89 | 5.31 | 2.2 |
| 1/4-28 | 1 1/2 | 100 | 2H933 | 8.28 | 6.78 | 6.11 | 2.6 |
| 1/4-28 | 1 3/4 | 100 | 2H939 | 9.50 | 7.78 | 7.01 | 2.8 |
| 1/4-28 | 2 | 100 | 2H941 | 10.67 | 8.73 | 7.87 | 3.2 |
| 1/4-28 | 2 1/2 | 100 | 2H947 | 13.12 | 10.73 | 9.67 | 3.8 |
| 1/4-28 | 3 | 100 | 2H951 | 16.12 | 13.18 | 11.88 | 4.6 |
| 5/16-24 | 1/2 | 100 | 2H978 | 7.42 | 6.08 | 5.48 | 2.1 |
| 5/16-24 | 5/8 | 100 | 2H980 | 8.29 | 6.78 | 6.11 | 2.3 |
| 5/16-24 | 3/4 | 100 | 2H982 | 8.43 | 6.89 | 6.22 | 2.5 |
| 5/16-24 | 1 | 100 | 2H984 | 9.45 | 7.74 | 6.97 | 3.0 |
| 5/16-24 | 1 1/4 | 100 | 2H986 | 11.13 | 9.10 | 8.21 | 3.5 |
| 5/16-24 | 1 1/2 | 100 | 2H988 | 12.78 | 10.46 | 9.42 | 4.0 |
| 5/16-24 | 1 3/4 | 100 | 2H990 | 14.43 | 11.81 | 10.63 | 4.4 |
| 5/16-24 | 2 | 100 | 2H992 | 16.11 | 13.18 | 11.88 | 5.1 |
| 5/16-24 | 2 1/2 | 100 | 2K225 | 19.24 | 15.74 | 14.18 | 6.1 |
| 5/16-24 | 3 | 100 | 2K230 | 22.94 | 18.77 | 16.90 | 7.2 |
| 3/8-24 | 1/2 | 100 | 2K246 | 10.73 | 8.78 | 7.91 | 3.0 |
| 3/8-24 | 3/4 | 100 | 2K248 | 12.13 | 9.93 | 8.94 | 3.7 |
| 3/8-24 | 1 | 100 | 2K288 | 13.80 | 11.30 | 10.17 | 4.4 |
| 3/8-24 | 1 1/4 | 100 | 2K333 | 16.03 | 13.11 | 11.82 | 5.0 |
| 3/8-24 | 1 1/2 | 100 | 2K335 | 18.32 | 15.00 | 13.50 | 5.8 |
| 3/8-24 | 1 3/4 | 100 | 2K337 | 21.04 | 17.21 | 15.50 | 6.5 |
| 3/8-24 | 2 | 100 | 2K339 | 23.23 | 19.00 | 17.12 | 7.3 |
| 3/8-24 | 2 1/2 | 50 | 2K455 | 14.00 | 11.46 | 10.33 | 4.4 |
| 3/8-24 | 3 | 50 | 2K467 | 15.99 | 13.09 | 11.79 | 5.3 |
| 7/16-20 | 1 | 100 | 2K804 | 19.89 | 16.28 | 14.66 | 6.1 |
| 7/16-20 | 1 1/4 | 50 | 2K806 | 11.11 | 9.09 | 8.20 | 3.6 |
| 7/16-20 | 1 1/2 | 50 | 2K808 | 12.62 | 10.33 | 9.31 | 4.0 |
| 7/16-20 | 2 | 50 | 2K812 | 15.81 | 12.94 | 11.65 | 5.0 |
| 7/16-20 | 2 1/2 | 50 | 2K816 | 19.15 | 15.67 | 14.12 | 6.1 |
| 7/16-20 | 3 | 50 | 2K820 | 22.47 | 18.38 | 16.56 | 7.1 |
| 1/2-20 | 3/4 | 50 | 2K834 | 12.13 | 9.93 | 8.94 | 3.4 |
| 1/2-20 | 1 | 50 | 2K836 | 13.55 | 11.07 | 9.99 | 4.4 |
| 1/2-20 | 1 1/4 | 50 | 2K838 | 15.54 | 12.71 | 11.46 | 5.0 |
| 1/2-20 | 1 1/2 | 50 | 2K840 | 17.45 | 14.27 | 12.86 | 5.6 |
| 1/2-20 | 1 3/4 | 50 | 2K842 | 19.54 | 16.00 | 14.39 | 6.2 |
| 1/2-20 | 2 | 50 | 2K844 | 21.83 | 17.86 | 16.09 | 7.1 |
| 1/2-20 | 2 1/2 | 50 | 2K848 | 25.82 | 21.11 | 19.02 | 8.4 |
| 1/2-20 | 3 | 50 | 2K852 | 30.06 | 24.58 | 22.13 | 9.7 |


### SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.


## GRADE 5 CARRIAGE BOLTS

QUALITY FASTENERS from ... Rockford



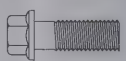
- Medium carbon steel
- Zinc Chromate finish
- Tensile strength: 120,000 PSI
- Lot controlled for full traceability
- For applications where additional strength is required. 60% stronger than regular Carriage bolts

### SPECIFICATIONS AND ORDERING DATA

| Size (In.) | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4-20 | 3/4 | 100 | 2M468 | $12.03 | $9.85 | $8.87 | 1.4 |
| 1/4-20 | 1 | 100 | 2M470 | 12.66 | 10.36 | 9.33 | 1.7 |
| 1/4-20 | 1 1/4 | 100 | 2M472 | 14.65 | 11.99 | 10.80 | 2.0 |
| 1/4-20 | 1 1/2 | 100 | 2M474 | 16.67 | 13.64 | 12.28 | 2.3 |
| 1/4-20 | 2 | 100 | 2M476 | 20.18 | 16.50 | 14.87 | 3.0 |
| 1/4-20 | 2 1/2 | 100 | 2M478 | 23.86 | 19.52 | 17.58 | 3.6 |
| 5/16-18 | 3/4 | 100 | 2M480 | 13.68 | 11.19 | 10.08 | 2.4 |
| 5/16-18 | 1 | 100 | 2M482 | 15.50 | 12.68 | 11.43 | 2.9 |
| 5/16-18 | 1 1/4 | 100 | 2M484 | 16.86 | 13.79 | 12.42 | 3.2 |
| 5/16-18 | 1 1/2 | 100 | 2M486 | 20.09 | 16.43 | 14.80 | 4.0 |
| 5/16-18 | 2 | 100 | 2M488 | 23.88 | 19.53 | 17.60 | 4.8 |
| 5/16-18 | 2 1/2 | 100 | 2M490 | 30.06 | 24.59 | 22.14 | 5.8 |
| 3/8-16 | 1 | 100 | 2M494 | 18.23 | 14.91 | 13.44 | 4.4 |
| 3/8-16 | 1 1/4 | 100 | 2M496 | 20.54 | 16.80 | 15.13 | 5.0 |
| 3/8-16 | 1 1/2 | 100 | 2M498 | 22.90 | 18.74 | 16.87 | 5.6 |
| 3/8-16 | 2 | 100 | 2M537 | 28.45 | 23.26 | 20.95 | 7.1 |
| 3/8-16 | 2 1/2 | 50 | 2M541 | 16.96 | 13.87 | 12.50 | 4.3 |
| 1/2-13 | 1 1/2 | 50 | 2M549 | 21.86 | 17.88 | 16.11 | 5.4 |
| 1/2-13 | 2 | 50 | 2M553 | 26.43 | 21.62 | 19.47 | 6.9 |
| 1/2-13 | 3 | 50 | 2M557 | 36.54 | 30.00 | 26.91 | 9.3 |

## GRADE 8 FLANGE BOLTS

QUALITY FASTENERS from ... Rockford

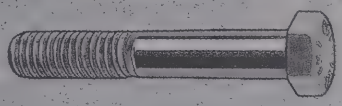


- Medium carbon alloy steel quenched and tempered, Phosphate finish
- Proof load: 120,000 PSI; Tensile strength: 150,000 PSI
- Use with flange lock nuts on page 1744
- Full traceability
- Eliminates the use of washers
- Meets or exceeds ASME/ANSI B18.2.1, SAE J429, J1061 and ASTM 788 standards

| Size (In.) | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8-16 | 1 | 25 | 2M921 | $10.23 | $8.37 | $7.54 | 1.3 |
| 3/8-16 | 1 1/4 | 25 | 2M923 | 11.09 | 9.06 | 8.18 | 1.5 |
| 3/8-16 | 1 1/2 | 25 | 2M925 | 12.12 | 9.92 | 8.94 | 1.7 |
| 1/2-13 | 1 1/4 | 25 | 2M931 | 17.92 | 14.66 | 13.21 | 3.2 |
| 1/2-13 | 1 1/2 | 25 | 2M933 | 19.09 | 15.61 | 14.07 | 3.4 |
| 1/2-13 | 1 3/4 | 25 | 2M935 | 20.27 | 16.58 | 14.92 | 3.7 |
| 1/2-13 | 2 | 25 | 2M937 | 23.40 | 19.13 | 17.24 | 4.0 |
| 1/2-13 | 2 1/2 | 25 | 2M941 | 26.63 | 21.79 | 19.60 | 4.7 |
| 1/2-13 | 3 | 25 | 2M945 | 31.33 | 25.65 | 23.08 | 5.3 |
| 1/2-13 | 4 | 25 | 2M949 | 40.69 | 33.35 | 29.96 | 6.9 |
| 5/8-11 | 1 1/2 | 25 | 2M951 | 34.27 | 28.10 | 25.23 | 5.9 |
| 5/8-11 | 1 3/4 | 25 | 2M953 | 36.05 | 29.60 | 26.56 | 6.3 |
| 5/8-11 | 2 | 25 | 2M955 | 38.29 | 31.40 | 28.20 | 6.8 |
| 5/8-11 | 2 1/4 | 15 | 2M957 | 25.25 | 20.65 | 18.60 | 4.5 |
| 5/8-11 | 2 1/2 | 15 | 2M959 | 26.71 | 21.86 | 19.68 | 4.8 |
| 5/8-11 | 2 3/4 | 15 | 2M961 | 28.24 | 23.10 | 20.81 | 5.1 |
| 5/8-11 | 3 | 15 | 2M963 | 30.61 | 25.05 | 22.54 | 5.7 |
| 5/8-11 | 3 1/2 | 15 | 2M965 | 35.35 | 29.00 | 26.04 | 6.3 |
| 5/8-11 | 4 | 15 | 2M967 | 39.37 | 32.25 | 28.99 | 6.8 |
| 3/4-10 | 2 | 15 | 2M971 | 106.82 | 92.70 | 83.37 | 5.3 |
| 3/4-10 | 2 1/4 | 15 | 2M973 | 112.46 | 97.60 | 87.76 | 5.8 |
| 3/4-10 | 2 1/2 | 15 | 2M975 | 133.43 | 115.70 | 104.13 | 6.2 |
| 3/4-10 | 2 3/4 | 15 | 2M977 | 135.00 | 117.15 | 105.36 | 6.7 |
| 3/4-10 | 3 | 15 | 2M979 | 142.26 | 123.35 | 111.02 | 7.2 |
| 3/4-10 | 3 1/2 | 15 | 2M981 | 157.91 | 137.00 | 123.23 | 8.1 |
| 3/4-10 | 4 | 15 | 2M983 | 173.57 | 150.75 | 135.45 | 9.1 |

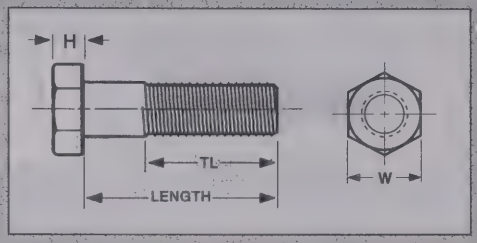
# GRADE 8 CAP SCREWS

QUALITY FASTENERS
from ...
Rockford®



No. 4P250
Hex Cap Screw - Grade 8




Zinc and gold dichromate plated
Medium carbon alloy steel quenched and tempered
Proof load: 120,000 PSI
Minimum tensile strength: 150,000 PSI
Full traceability as required by Public Law 101-592 "Fastener Quality Act"
Meets or exceeds ANSI/ASME B18.2.1, J429. J1061, and ASTM/788 standards
Use Grade 8 Hex Nuts with Grade 8 bolt. See page 1742
Use Alloy flat washers and lock-washers with Grade 8 bolt; see pages 1746 to 1747

**DIMENSIONS**

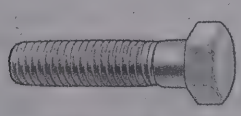
| Cap Screw Diameter (In.) | W Width (In.) of Hex Head | H Height (In.) | TL Thread Length (In.) |
|---|---|---|---|
| 1/4 | 7/16 | 5/32 | 0.750 |
| 5/16 | 1/2 | 13/64 | 0.875 |
| 3/8 | 9/16 | 15/64 | 1.000 |
| 7/16 | 5/8 | 9/32 | 1.125 |
| 1/2 | 3/4 | 5/16 | 1.250 |
| 9/16 | 13/16 | 23/64 | 1.375 |
| 5/8 | 15/16 | 25/64 | 1.500 |
| 3/4 | 1 1/8 | 15/32 | 1.750 |

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4"-20 | 1/2 | 100 | 4P250 | $9.26 | $6.33 | $5.69 | 1.2 |
| 4-20 | 3/4 | 100 | 4P251 | 9.26 | 6.49 | 5.46 | 1.4 |
| 4-20 | 1 | 100 | 4P252 | 9.79 | 7.18 | 6.05 | 1.9 |
| 4-20 | 1 1/4 | 100 | 4P253 | 11.16 | 8.46 | 7.12 | 2.8 |
| 4-20 | 1 1/2 | 100 | 4P254 | 12.38 | 9.37 | 7.86 | 2.7 |
| 4-20 | 1 3/4 | 100 | 4P255 | 14.56 | 10.95 | 9.21 | 2.7 |
| 4-20 | 2 | 100 | 4P256 | 15.45 | 11.17 | 9.39 | 3.8 |
| 4-20 | 2 1/4 | 100 | 4P257 | 17.59 | 12.00 | 10.08 | 4.0 |
| 4-20 | 2 1/2 | 100 | 4P258 | 20.45 | 14.54 | 12.23 | 3.8 |
| 4-20 | 2 3/4 | 100 | 2K958 | 24.82 | 21.60 | 19.45 | 4.1 |
| 4-20 | 3 | 100 | 4P259 | 28.07 | 18.51 | 15.57 | 4.9 |
| 4-20 | 3 1/2 | 100 | 2K960 | 37.54 | 32.80 | 29.40 | 5.3 |
| 4-20 | 4 | 100 | 2K962 | 46.48 | 40.55 | 36.41 | 6.2 |
| 16-18 | 1/2 | 100 | 4P260 | 12.22 | 8.70 | 7.31 | 2.1 |
| 16-18 | 3/4 | 100 | 4P261 | 12.65 | 8.98 | 7.55 | 2.4 |
| 16-18 | 1 | 100 | 4P262 | 14.42 | 9.12 | 7.68 | 2.8 |
| 16-18 | 1 1/4 | 100 | 4P263 | 16.57 | 12.65 | 10.64 | 4.0 |
| 16-18 | 1 1/2 | 100 | 4P264 | 17.89 | 12.76 | 10.73 | 3.9 |
| 16-18 | 1 3/4 | 100 | 4P265 | 19.96 | 15.12 | 12.72 | 4.4 |
| 16-18 | 2 | 100 | 4P266 | 21.70 | 16.99 | 14.30 | 5.0 |
| 16-18 | 2 1/2 | 100 | 4P267 | 25.97 | 20.01 | 16.83 | 6.0 |
| 16-18 | 2 3/4 | 100 | 2K966 | 29.16 | 25.35 | 22.81 | 6.5 |
| 16-18 | 3 | 100 | 4P268 | 31.40 | 22.07 | 18.56 | 7.6 |
| 16-18 | 3 1/2 | 50 | 2K968 | 21.05 | 18.28 | 16.46 | 4.3 |
| 16-18 | 4 | 50 | 2K970 | 27.59 | 24.00 | 21.61 | 4.8 |
| 16-18 | 5 | 50 | 2K972 | 46.47 | 40.55 | 36.41 | 6.0 |
| 8-16 | 1/2 | 100 | 2K974 | 16.01 | 13.93 | 12.55 | 2.9 |
| 8-16 | 3/4 | 100 | 4P269 | 18.08 | 12.08 | 10.15 | 4.3 |
| 8-16 | 1 | 100 | 4P270 | 19.20 | 13.59 | 11.42 | 4.0 |
| 8-16 | 1 1/4 | 100 | 4P271 | 22.81 | 15.35 | 12.91 | 4.9 |
| 8-16 | 1 1/2 | 100 | 4P272 | 24.12 | 17.22 | 14.49 | 5.6 |
| 8-16 | 1 3/4 | 100 | 4P273 | 27.79 | 20.53 | 17.27 | 7.0 |
| 8-16 | 2 | 100 | 4P274 | 28.70 | 20.90 | 17.58 | 7.5 |
| 8-16 | 2 1/4 | 50 | 4P275 | 16.07 | 13.50 | 11.36 | 4.0 |
| 8-16 | 2 1/2 | 50 | 4P276 | 17.45 | 16.31 | 13.72 | 4.4 |
| 8-16 | 2 3/4 | 50 | 2K976 | 18.65 | 16.19 | 14.58 | 4.7 |
| 8-16 | 3 | 50 | 4P277 | 19.89 | 18.10 | 15.22 | 5.2 |
| 8-16 | 3 1/4 | 50 | 2K978 | 25.63 | 22.29 | 20.06 | 5.4 |
| 8-16 | 3 1/2 | 50 | 2K980 | 27.13 | 23.57 | 21.22 | 5.8 |
| 8-16 | 4 | 50 | 2K982 | 32.24 | 28.10 | 25.23 | 6.6 |
| 8-16 | 4 1/2 | 50 | 2K984 | 44.71 | 39.00 | 35.01 | 7.4 |
| 8-16 | 5 | 50 | 2K986 | 48.92 | 42.65 | 38.29 | 8.6 |
| 8-16 | 6 | 50 | 2K990 | 57.13 | 49.75 | 44.72 | 10.0 |

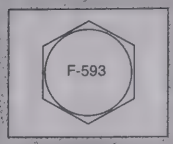
| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 7/16-14 | 3/4 | 100 | 2K998 | $27.57 | $23.97 | $21.57 | 5.2 |
| 7/16-14 | 1 | 100 | 4P278 | 32.27 | 27.05 | 24.33 | 3.5 |
| 7/16-14 | 1 1/4 | 50 | 4P279 | 17.65 | 15.03 | 12.64 | 3.4 |
| 7/16-14 | 1 1/2 | 50 | 4P280 | 19.09 | 17.25 | 14.51 | 4.4 |
| 7/16-14 | 1 3/4 | 50 | 4P281 | 20.56 | 19.34 | 16.25 | 4.4 |
| 7/16-14 | 2 | 50 | 4P282 | 22.33 | 21.76 | 18.28 | 5.5 |
| 7/16-14 | 2 1/4 | 50 | 4P283 | 22.93 | 22.90 | 19.27 | 6.3 |
| 7/16-14 | 2 1/2 | 50 | 4P284 | 25.87 | 25.70 | 21.62 | 6.5 |
| 7/16-14 | 3 | 50 | 4P285 | 30.91 | 30.25 | 25.32 | 7.9 |
| 1/2-13 | 1 | 50 | 2M014 | 19.61 | 17.06 | 15.35 | 4.2 |
| 1/2-13 | 1 1/4 | 50 | 2M016 | 21.17 | 18.40 | 16.57 | 4.8 |
| 1/2-13 | 1 1/2 | 50 | 4P286 | 21.96 | 16.74 | 14.08 | 5.8 |
| 1/2-13 | 1 3/4 | 50 | 4P287 | 26.08 | 24.80 | 20.85 | 6.5 |
| 1/2-13 | 2 | 50 | 4P288 | 33.99 | 27.25 | 22.87 | 7.5 |
| 1/2-13 | 2 1/4 | 50 | 4P289 | 31.25 | 29.75 | 24.93 | 7.9 |
| 1/2-13 | 2 1/2 | 50 | 4P290 | 32.81 | 32.20 | 26.96 | 8.6 |
| 1/2-13 | 2 3/4 | 50 | 4P291 | 36.53 | 34.85 | 29.20 | 9.2 |
| 1/2-13 | 3 | 50 | 4P292 | 40.14 | 37.45 | 31.40 | 9.9 |
| 1/2-13 | 3 1/2 | 25 | 2M018 | 21.84 | 18.96 | 17.08 | 5.4 |
| 1/2-13 | 4 | 25 | 2M020 | 25.51 | 22.15 | 19.95 | 6.1 |
| 1/2-13 | 5 | 25 | 2M024 | 34.52 | 30.10 | 27.01 | 7.9 |
| 1/2-13 | 6 | 25 | 2M028 | 40.48 | 35.60 | 31.98 | 9.3 |
| 1/2-13 | 6 1/2 | 25 | 2M030 | 91.32 | 80.10 | 72.03 | 9.9 |
| 5/8-11 | 1 1/2 | 25 | 4P293 | 21.23 | 19.50 | 16.40 | 5.2 |
| 5/8-11 | 1 3/4 | 25 | 4P294 | 22.49 | 21.44 | 18.03 | 5.2 |
| 5/8-11 | 2 | 25 | 4P295 | 24.24 | 23.01 | 19.36 | 6.0 |
| 5/8-11 | 2 1/4 | 25 | 4P296 | 26.79 | 25.30 | 21.27 | 6.3 |
| 5/8-11 | 2 1/2 | 25 | 4P297 | 28.16 | 27.35 | 22.95 | 7.5 |
| 5/8-11 | 3 | 25 | 4P298 | 32.55 | 31.70 | 26.50 | 8.4 |
| 5/8-11 | 3 1/2 | 25 | 2M073 | 35.54 | 30.95 | 27.79 | 8.7 |
| 5/8-11 | 4 | 25 | 2M075 | 39.84 | 34.70 | 31.13 | 9.8 |
| 5/8-11 | 4 1/2 | 25 | 2M077 | 44.11 | 38.40 | 34.48 | 11.0 |
| 5/8-11 | 5 | 25 | 2M079 | 48.35 | 42.05 | 37.80 | 12.0 |
| 5/8-11 | 6 | 25 | 2M083 | 56.97 | 49.55 | 44.54 | 14.0 |
| 3/4-10 | 2 | 20 | 2M104 | 29.81 | 24.40 | 21.97 | 6.7 |
| 3/4-10 | 2 1/2 | 20 | 2M108 | 35.43 | 29.05 | 26.11 | 7.9 |
| 3/4-10 | 3 | 20 | 2M115 | 40.20 | 33.00 | 29.62 | 9.1 |
| 3/4-10 | 3 1/2 | 20 | 2M118 | 44.96 | 36.90 | 33.13 | 10.0 |
| 3/4-10 | 4 | 20 | 2M120 | 49.71 | 40.80 | 36.62 | 12.0 |
| 3/4-10 | 5 | 20 | 2M124 | 56.55 | 46.40 | 41.64 | 14.0 |
| 3/4-10 | 6 | 20 | 2M128 | 65.64 | 53.80 | 48.35 | 17.0 |

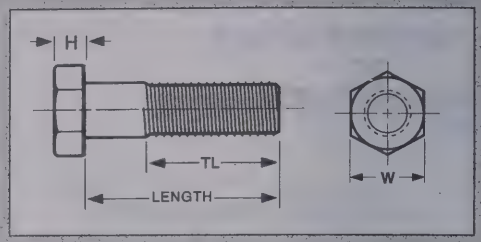
# STAINLESS STEEL HEX CAP SCREWS

QUALITY FASTENERS from ... Rockford



Stainless Steel Hex Cap Screw




- 18-8 Stainless steel for superior corrosion resistance
- Tensile strength: 85,000 PSI
- Rockwell Hardness B87 - B98
- Meets or exceeds ASME/ANSI B18.2.1 and ASTM F788
- Lot controlled for full traceability

## DIMENSIONS

| Cap Screw Diameter (In.) | W Width (In.) of Hex Head | H Height (In.) | TL Thread Length (In.) |
|---|---|---|---|
| 1/4 | 7/16 | 5/32 | 0.750 |
| 5/16 | 1/2 | 13/64 | 0.875 |
| 3/8 | 9/16 | 15/64 | 1.000 |
| 7/16 | 5/8 | 9/32 | 1.125 |
| 1/2 | 3/4 | 5/16 | 1.250 |
| 9/16 | 13/16 | 23/64 | 1.375 |
| 5/8 | 15/16 | 25/64 | 1.500 |
| 3/4 | 1 1/8 | 15/32 | 1.750 |

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4"-20 | 3/8 | 100 | 4P299 | $11.30 | $9.60 | $7.72 | 0.9 |
| 1/4-20 | 1/2 | 100 | 4P300 | 15.82 | 13.25 | 10.64 | 1.1 |
| 1/4-20 | 5/8 | 100 | 4P301 | 17.86 | 14.90 | 11.97 | 1.4 |
| 1/4-20 | 3/4 | 100 | 5F930 | 18.40 | 13.70 | 12.34 | 1.5 |
| 1/4-20 | 1 | 100 | 4P302 | 18.83 | 15.72 | 12.63 | 1.8 |
| 1/4-20 | 1 1/4 | 100 | 5F931 | 26.10 | 19.42 | 17.48 | 2.1 |
| 1/4-20 | 1 1/2 | 100 | 4P303 | 33.80 | 28.10 | 22.52 | 2.7 |
| 1/4-20 | 1 3/4 | 100 | 4P304 | 34.16 | 28.50 | 22.85 | 3.1 |
| 1/4-20 | 2 | 100 | 4P305 | 37.67 | 31.50 | 25.30 | 2.9 |
| 1/4-20 | 2 1/4 | 50 | 5F932 | 20.85 | 15.53 | 13.99 | 1.7 |
| 1/4-20 | 2 1/2 | 50 | 5F933 | 22.84 | 16.99 | 15.30 | 1.9 |
| 1/4-20 | 2 3/4 | 50 | 5F934 | 23.41 | 17.42 | 15.69 | 2.1 |
| 1/4-20 | 3 | 50 | 5F935 | 27.82 | 20.70 | 18.65 | 2.2 |
| 1/4-20 | 3 1/2 | 50 | 5F936 | 32.28 | 24.06 | 21.63 | 2.6 |
| 1/4-20 | 4 | 50 | 5F937 | 36.32 | 27.15 | 24.33 | 3.1 |
| 5/16-18 | 1 1/2 | 100 | 4P306 | 26.90 | 18.81 | 16.93 | 2.4 |
| 5/16-18 | 5/8 | 100 | 5F938 | 29.06 | 21.63 | 19.47 | 2.1 |
| 5/16-18 | 3/4 | 100 | 4P307 | 31.21 | 21.88 | 19.69 | 2.8 |
| 5/16-18 | 1 | 100 | 4P308 | 35.08 | 24.62 | 22.16 | 2.8 |
| 5/16-18 | 1 1/4 | 100 | 5F939 | 41.16 | 30.70 | 27.58 | 3.4 |
| 5/16-18 | 1 1/2 | 100 | 4P309 | 41.96 | 29.55 | 26.54 | 3.9 |
| 5/16-18 | 1 3/4 | 100 | 5F940 | 53.70 | 40.05 | 35.99 | 4.3 |
| 5/16-18 | 2 | 100 | 4P310 | 64.25 | 45.05 | 40.49 | 5.0 |
| 5/16-18 | 2 1/4 | 50 | 5F941 | 32.68 | 24.33 | 21.91 | 2.7 |
| 5/16-18 | 2 1/2 | 50 | 5F942 | 35.51 | 26.60 | 23.81 | 3.0 |
| 5/16-18 | 2 3/4 | 50 | 5F943 | 39.68 | 29.65 | 26.59 | 3.3 |
| 5/16-18 | 3 | 50 | 5F944 | 43.05 | 32.20 | 28.85 | 3.6 |
| 5/16-18 | 3 1/2 | 50 | 5F945 | 48.53 | 36.20 | 32.54 | 4.3 |
| 5/16-18 | 4 | 50 | 5F946 | 56.71 | 42.30 | 38.01 | 4.8 |
| 3/8-16 | 1/2 | 100 | 4P311 | 38.69 | 27.10 | 24.33 | 2.9 |
| 3/8-16 | 3/4 | 100 | 4P312 | 42.88 | 30.10 | 27.02 | 3.6 |
| 3/8-16 | 1 | 100 | 4P313 | 50.68 | 35.55 | 31.94 | 4.2 |
| 3/8-16 | 1 1/4 | 100 | 4P314 | 57.63 | 40.30 | 36.24 | 4.9 |
| 3/8-16 | 1 1/2 | 100 | 4P315 | 50.82 | 46.40 | 41.71 | 5.6 |
| 3/8-16 | 1 3/4 | 100 | 5F947 | 75.82 | 56.55 | 50.81 | 6.3 |
| 3/8-16 | 2 | 100 | 4P316 | 62.10 | 54.50 | 49.02 | 7.2 |
| 3/8-16 | 2 1/4 | 50 | 5F948 | 49.58 | 36.90 | 33.22 | 3.9 |
| 3/8-16 | 2 1/2 | 50 | 5F949 | 50.58 | 37.75 | 33.91 | 4.3 |
| 3/8-16 | 2 3/4 | 50 | 5F950 | 50.84 | 37.95 | 34.08 | 4.7 |
| 3/8-16 | 3 | 50 | 5F951 | 59.76 | 44.60 | 40.03 | 5.2 |
| 3/8-16 | 3 1/2 | 50 | 5F952 | 64.57 | 48.20 | 43.27 | 5.8 |
| 3/8-16 | 4 | 50 | 5F953 | 75.33 | 56.15 | 50.48 | 6.6 |
| 3/8-16 | 4 1/2 | 50 | 5F954 | 86.90 | 64.75 | 58.23 | 7.4 |
| 3/8-16 | 5 | 50 | 5F955 | 98.61 | 73.45 | 66.07 | 8.6 |
| 3/8-16 | 5 1/2 | 50 | 5F956 | 99.54 | 74.20 | 66.73 | 9.4 |
| 3/8-16 | 6 | 50 | 5F957 | 110.31 | 82.25 | 73.92 | 10.0 |

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shp Wt |
|---|---|---|---|---|---|---|---|
| 1/2"-13 | 3/4 | 50 | 5F958 | $46.98 | $35.05 | $31.47 | 3. |
| 1/2-13 | 1 | 50 | 4P317 | 51.66 | 36.20 | 32.55 | 4. |
| 1/2-13 | 1 1/4 | 50 | 5F959 | 62.13 | 46.35 | 41.60 | 4. |
| 1/2-13 | 1 1/2 | 50 | 4P318 | 62.52 | 43.80 | 39.39 | 5. |
| 1/2-13 | 1 3/4 | 50 | 4P319 | 70.49 | 49.40 | 44.45 | 6. |
| 1/2-13 | 2 | 50 | 4P320 | 74.79 | 52.45 | 47.19 | 7. |
| 1/2-13 | 2 1/4 | 50 | 5F960 | 88.11 | 65.70 | 59.05 | 7. |
| 1/2-13 | 2 1/2 | 50 | 4P321 | 95.51 | 66.75 | 60.03 | 8. |
| 1/2-13 | 2 3/4 | 50 | 5F961 | 103.45 | 77.10 | 69.32 | 8. |
| 1/2-13 | 3 | 50 | 4P322 | 104.92 | 73.40 | 66.04 | 9. |
| 1/2-13 | 3 1/2 | 25 | 5F962 | 63.03 | 47.00 | 42.26 | 5. |
| 1/2-13 | 4 | 25 | 4P323 | 68.58 | 47.90 | 43.06 | 8. |
| 1/2-13 | 4 1/2 | 25 | 5F963 | 83.20 | 62.05 | 55.74 | 7. |
| 1/2-13 | 5 | 25 | 5F964 | 93.70 | 69.80 | 62.78 | 7. |
| 1/2-13 | 5 1/2 | 25 | 5F965 | 101.52 | 75.60 | 68.03 | 8. |
| 1/2-13 | 6 | 25 | 5F966 | 110.58 | 82.40 | 74.09 | 9. |
| 5/8-11 | 1 | 25 | 4P324 | 45.14 | 31.65 | 28.49 | 4. |
| 5/8-11 | 1 1/4 | 25 | 5F967 | 49.67 | 37.10 | 33.29 | 4. |
| 5/8-11 | 1 1/2 | 25 | 4P325 | 54.61 | 38.20 | 34.34 | 4. |
| 5/8-11 | 1 3/4 | 25 | 5F968 | 60.07 | 44.80 | 40.25 | 5. |
| 5/8-11 | 2 | 25 | 4P326 | 64.65 | 45.30 | 40.71 | 5. |
| 5/8-11 | 2 1/4 | 25 | 5F969 | 111.69 | 83.15 | 74.74 | 6. |
| 5/8-11 | 2 1/2 | 25 | 5F970 | 76.95 | 57.35 | 51.57 | 6. |
| 5/8-11 | 2 3/4 | 25 | 5F971 | 82.76 | 61.70 | 55.45 | 7. |
| 5/8-11 | 3 | 25 | 4P327 | 89.93 | 63.00 | 56.68 | 8. |
| 5/8-11 | 3 1/2 | 25 | 4P328 | 82.40 | 75.90 | 68.27 | 9. |
| 5/8-11 | 4 | 25 | 4P329 | 115.02 | 80.45 | 72.37 | 10. |
| 5/8-11 | 4 1/2 | 25 | 5F972 | 132.89 | 99.00 | 89.03 | 11. |
| 5/8-11 | 5 | 25 | 5F973 | 134.26 | 100.05 | 89.96 | 12. |
| 5/8-11 | 5 1/2 | 25 | 5F974 | 157.40 | 117.20 | 105.43 | 13. |
| 5/8-11 | 6 | 25 | 5F975 | 176.63 | 131.55 | 118.29 | 14. |
| 3/4-10 | 1 1/2 | 20 | 5F976 | 71.12 | 53.05 | 47.63 | 5. |
| 3/4-10 | 1 3/4 | 20 | 5F977 | 76.00 | 52.15 | 46.88 | 6. |
| 3/4-10 | 2 | 20 | 5F978 | 80.92 | 55.55 | 49.94 | 6. |
| 3/4-10 | 2 1/4 | 20 | 5F979 | 88.61 | 60.85 | 54.66 | 7. |
| 3/4-10 | 2 1/2 | 20 | 5F980 | 104.02 | 71.25 | 64.04 | 7. |
| 3/4-10 | 2 3/4 | 20 | 5F981 | 103.02 | 70.70 | 63.56 | 8. |
| 3/4-10 | 3 | 20 | 5F982 | 119.47 | 81.80 | 73.55 | 9. |
| 3/4-10 | 3 1/2 | 20 | 5F983 | 126.47 | 86.65 | 77.92 | 10. |
| 3/4-10 | 4 | 20 | 5F984 | 130.22 | 89.65 | 80.59 | 12. |
| 3/4-10 | 4 1/2 | 20 | 5F985 | 153.90 | 105.65 | 94.99 | 13. |
| 3/4-10 | 5 | 20 | 5F986 | 174.39 | 119.50 | 107.49 | 14. |
| 3/4-10 | 5 1/2 | 20 | 5F987 | 187.71 | 128.60 | 115.69 | 15. |
| 3/4-10 | 6 | 20 | 5F988 | 204.00 | 140.00 | 125.89 | 17. |

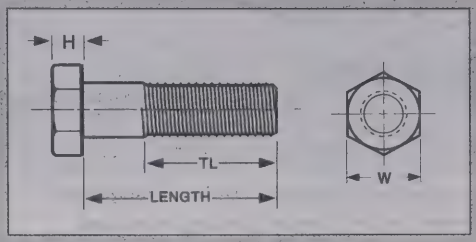
# METRIC HEX CAP SCREWS—CLASS 8.8 STANDARD THREAD

QUALITY FASTENERS from ... Rockford®



No. 2N056




## STANDARD THREAD

- Medium carbon steel, quenched and tempered
- Equivalent to SAE Grade 5 in tensile strength
- Zinc Chromate plate with RED DYE for easy identification
- Meets or exceeds SAE J1061, SAE 119 and ASME/ANSI B18.2.3.1
- Lot controlled for full traceability

### DIMENSIONS

| Cap Screw Diameter | Thread Length mm (In.) | Width Across Flats (Wrench Size) mm (In.) | Head Height mm (In.) |
|---|---|---|---|
| M6 (.236) | 18.0 (.708) | 10.0 (.394) | 4.15 (.163) |
| M8 (.315) | 22.0 (.886 | 13.0 (.512) | 5.30 (.216) |
| M10 (.394) | 26.0 (1.023) | 17.0 (.669) | 6.40 (.261) |
| M12 (.472) | 30.0 (1.181) | 19.0 (.748) | 7.50 (.305) |
| M14 (.551) | 34.0 (1.338) | 21.0 (.827) | 9.09 (.358) |
| M16 (.630) | 38.0 (1.496) | 24.0 (.945) | 10.32 (.406) |

| Size | Length (mm) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| M6x1.00 | 10 | 50 | 2N056 | $3.32 | $2.72 | $2.46 | 0.5 |
| M6x1.00 | 12 | 50 | 2N058 | 6.36 | 5.21 | 4.69 | 0.5 |
| M6x1.00 | 16 | 50 | 2N060 | 6.70 | 5.49 | 4.94 | 0.6 |
| M6x1.00 | 18 | 50 | 2N062 | 6.70 | 5.49 | 4.94 | 0.6 |
| M6x1.00 | 20 | 50 | 2N064 | 6.70 | 5.48 | 4.94 | 0.7 |
| M6x1.00 | 25 | 50 | 2N066 | 7.78 | 6.37 | 5.74 | 0.7 |
| M6x1.00 | 30 | 50 | 2N068 | 7.78 | 6.37 | 5.74 | 0.8 |
| M6x1.00 | 35 | 50 | 2N070 | 9.17 | 7.50 | 6.76 | 1.0 |
| M6x1.00 | 40 | 50 | 2N072 | 10.08 | 8.25 | 7.44 | 1.2 |
| M8x1.25 | 10 | 50 | 2N094 | 11.14 | 9.12 | 8.22 | 1.0 |
| M8x1.25 | 12 | 50 | 2N096 | 11.78 | 9.63 | 8.69 | 1.0 |
| M8x1.25 | 16 | 50 | 2N098 | 10.58 | 8.64 | 7.80 | 1.2 |
| M8x1.25 | 18 | 50 | 2N106 | 10.58 | 8.64 | 7.80 | 1.3 |
| M8x1.25 | 20 | 50 | 2N100 | 11.36 | 9.30 | 8.37 | 1.3 |
| M8x1.25 | 22 | 50 | 2N110 | 11.75 | 9.60 | 8.65 | 1.4 |
| M8x1.25 | 25 | 50 | 2N108 | 12.12 | 9.92 | 8.94 | 1.5 |
| M8x1.25 | 30 | 50 | 2N112 | 12.53 | 10.26 | 9.24 | 1.6 |
| M8x1.25 | 35 | 50 | 2N114 | 13.09 | 10.71 | 9.65 | 1.8 |
| M8x1.25 | 40 | 50 | 2N116 | 15.08 | 12.34 | 11.11 | 2.0 |
| M8x1.25 | 45 | 50 | 2N118 | 15.42 | 12.62 | 11.37 | 2.2 |
| M8x1.25 | 50 | 50 | 2N120 | 15.79 | 12.93 | 11.63 | 2.3 |
| M8x1.25 | 55 | 25 | 2N124 | 9.32 | 7.63 | 6.87 | 1.3 |
| M8x1.25 | 60 | 25 | 2N122 | 9.94 | 8.14 | 7.33 | 1.5 |
| M10x1.50 | 20 | 50 | 2N142 | 17.64 | 14.44 | 13.01 | 2.5 |
| M10x1.50 | 25 | 50 | 2N144 | 17.89 | 14.64 | 13.18 | 2.9 |
| M10x1.50 | 30 | 25 | 2N148 | 9.96 | 8.16 | 7.34 | 1.5 |
| M10x1.50 | 35 | 25 | 2N150 | 10.57 | 8.64 | 7.79 | 1.8 |
| M10x1.50 | 40 | 25 | 2N152 | 11.31 | 9.25 | 8.33 | 1.8 |
| M10x1.50 | 45 | 25 | 2N154 | 11.71 | 9.58 | 8.63 | 2.1 |
| M10x1.50 | 50 | 25 | 2N156 | 12.71 | 10.40 | 9.37 | 2.2 |
| M10x1.50 | 55 | 25 | 2N158 | 12.47 | 10.20 | 9.20 | 2.4 |
| M10x1.50 | 60 | 25 | 2N160 | 13.14 | 10.75 | 9.68 | 2.6 |
| M10x1.50 | 65 | 25 | 2N162 | 18.41 | 15.07 | 13.57 | 2.8 |
| M10x1.50 | 70 | 25 | 2N164 | 18.77 | 15.36 | 13.82 | 2.8 |
| M10x1.50 | 75 | 15 | 2N166 | 11.36 | 9.30 | 8.37 | 1.8 |
| M10x1.50 | 80 | 15 | 2N168 | 11.45 | 9.37 | 8.44 | 2.0 |
| M10x1.50 | 90 | 15 | 2N170 | 12.78 | 10.46 | 9.42 | 2.0 |
| M10x1.50 | 100 | 15 | 2N172 | 15.17 | 12.40 | 11.17 | 2.2 |
| M10x1.50 | 110 | 15 | 2N174 | 24.99 | 20.45 | 18.41 | 2.4 |
| M12x1.75 | 25 | 25 | 2N192 | 14.11 | 11.55 | 10.41 | 2.0 |
| M12x1.75 | 30 | 25 | 2N182 | 18.34 | 15.01 | 13.52 | 2.0 |
| M12x1.75 | 35 | 25 | 2N194 | 15.02 | 12.28 | 11.07 | 2.4 |
| M12x1.75 | 40 | 25 | 2N184 | 19.85 | 16.24 | 14.63 | 2.7 |
| M12x1.75 | 45 | 25 | 2N196 | 15.67 | 12.82 | 11.56 | 2.9 |
| M12x1.75 | 50 | 25 | 2N186 | 20.83 | 17.03 | 15.34 | 3.2 |
| M12x1.75 | 55 | 25 | 2N188 | 21.16 | 17.31 | 15.59 | 3.2 |

| Size | Length (mm) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| M12x1.75 | 60 | 25 | 2N190 | $21.81 | 17.84 | $16.07 | 3.7 |
| M12x1.75 | 65 | 25 | 2N198 | 20.35 | 16.66 | 15.00 | 3.9 |
| M12x1.75 | 70 | 25 | 2N200 | 25.03 | 20.48 | 18.44 | 4.1 |
| M12x1.75 | 75 | 25 | 2N202 | 25.38 | 20.76 | 18.69 | 4.4 |
| M12x1.75 | 80 | 15 | 2N204 | 15.89 | 13.00 | 11.70 | 2.8 |
| M12x1.75 | 90 | 15 | 2N206 | 17.66 | 14.45 | 13.01 | 3.0 |
| M12x1.75 | 100 | 15 | 2N208 | 19.64 | 16.07 | 14.48 | 3.3 |
| M12x1.75 | 110 | 15 | 2N210 | 23.51 | 19.23 | 17.32 | 3.6 |
| M12x1.75 | 120 | 15 | 2N212 | 28.28 | 23.13 | 20.83 | 3.9 |
| M14x2.00 | 20 | 25 | 2N252 | 22.31 | 18.25 | 16.43 | 2.6 |
| M14x2.00 | 25 | 25 | 2N254 | 23.22 | 19.00 | 17.11 | 2.9 |
| M14x2.00 | 30 | 25 | 2N256 | 23.64 | 19.35 | 17.42 | 3.2 |
| M14x2.00 | 35 | 25 | 2N258 | 25.49 | 20.85 | 18.78 | 3.4 |
| M14x2.00 | 40 | 25 | 2N260 | 46.76 | 38.30 | 34.45 | 3.7 |
| M14x2.00 | 45 | 25 | 2N262 | 30.16 | 24.67 | 22.21 | 4.0 |
| M14x2.00 | 50 | 25 | 2N264 | 32.51 | 26.65 | 23.95 | 4.2 |
| M14x2.00 | 55 | 15 | 2N266 | 20.85 | 17.07 | 15.36 | 2.7 |
| M14x2.00 | 60 | 15 | 2N268 | 22.62 | 18.51 | 16.67 | 2.9 |
| M14x2.00 | 65 | 15 | 2N270 | 24.77 | 20.27 | 18.25 | 3.1 |
| M14x2.00 | 70 | 15 | 2N272 | 25.04 | 20.48 | 18.44 | 3.2 |
| M14x2.00 | 75 | 15 | 2N274 | 28.41 | 23.24 | 20.94 | 3.4 |
| M14x2.00 | 80 | 15 | 2N276 | 28.61 | 23.40 | 21.07 | 3.5 |
| M14x2.00 | 90 | 15 | 2N278 | 30.87 | 25.25 | 22.74 | 3.9 |
| M14x2.00 | 100 | 15 | 2N280 | 36.84 | 30.20 | 27.14 | 4.2 |
| M14x2.00 | 110 | 15 | 2N282 | 40.83 | 33.45 | 30.07 | 5.0 |
| M14x2.00 | 120 | 15 | 2N284 | 44.17 | 36.20 | 32.52 | 5.5 |
| M14x2.00 | 130 | 15 | 2N286 | 51.64 | 42.30 | 38.02 | 5.8 |
| M16x2.00 | 25 | 15 | 2N230 | 18.17 | 14.87 | 13.39 | 2.3 |
| M16x2.00 | 30 | 15 | 2N232 | 18.48 | 15.12 | 13.62 | 2.5 |
| M16x2.00 | 40 | 15 | 2N234 | 20.70 | 16.93 | 15.25 | 3.0 |
| M16x2.00 | 45 | 15 | 2N236 | 22.00 | 17.99 | 16.21 | 3.2 |
| M16x2.00 | 50 | 15 | 2N238 | 23.27 | 19.04 | 17.15 | 3.4 |
| M16x2.00 | 55 | 15 | 2N216 | 24.28 | 19.87 | 17.88 | 3.9 |
| M16x2.00 | 60 | 15 | 2N218 | 25.18 | 20.60 | 18.54 | 4.1 |
| M16x2.00 | 65 | 15 | 2N220 | 26.03 | 21.31 | 19.19 | 4.4 |
| M16x2.00 | 70 | 15 | 2N222 | 26.93 | 22.03 | 19.84 | 4.7 |
| M16x2.00 | 75 | 15 | 2N240 | 30.14 | 24.65 | 22.20 | 4.5 |
| M16x2.00 | 80 | 15 | 2N242 | 30.55 | 25.00 | 22.50 | 5.1 |
| M16x2.00 | 90 | 15 | 2N224 | 30.91 | 25.30 | 22.76 | 5.6 |
| M16x2.00 | 100 | 15 | 2N226 | 37.21 | 30.50 | 27.41 | 6.0 |
| M16x2.00 | 110 | 15 | 2N244 | 40.88 | 33.50 | 30.10 | 6.1 |
| M16x2.00 | 120 | 15 | 2N228 | 44.66 | 36.60 | 32.89 | 7.0 |
| M16x2.00 | 130 | 15 | 2N246 | 55.46 | 45.45 | 40.84 | 6.9 |
| M16x2.00 | 140 | 15 | 2N248 | 60.93 | 49.85 | 44.87 | 7.4 |
| M16x2.00 | 150 | 15 | 2N250 | 69.02 | 56.50 | 50.83 | 7.8 |

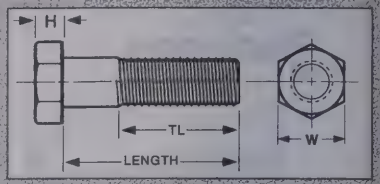
# METRIC HEX CAP SCREWS-FINE THREAD, ELEVATOR AND ANCHOR BOLTS

## METRIC 8.8 HEX CAP SCREWS - FINE/EXTRA FINE THREAD

QUALITY FASTENERS from ... Rockford





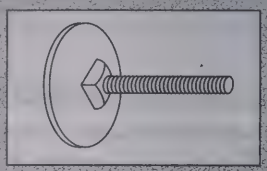




- Medium carbon steel, quenched and tempered
- Equivalent to SAE Grade 5 in tensile strength
- Zinc Chromate plate with RED DYE for easy identification
- Meets or exceeds SAE J1061, SAE 119 and ASME/ANSI B18.2.3.1
- Lot controlled for full traceability

| Size | Length (mm) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FINE THREAD** | | | | | | | |
| **M8x1.00** | 10 | 50 | **2N338** | $14.12 | **$11.56** | **$10.42** | 1.0 |
| **M8x1.00** | 20 | 50 | **2N340** | 15.13 | **12.38** | **11.15** | 1.3 |
| **M8x1.00** | 25 | 50 | **2N342** | 16.12 | **13.19** | **11.89** | 1.5 |
| **M8x1.00** | 30 | 50 | **2N344** | 16.65 | **13.62** | **12.27** | 1.7 |
| **M8x1.00** | 35 | 50 | **2N346** | 19.13 | **15.65** | **14.10** | 1.9 |
| **M8x1.00** | 40 | 50 | **2N348** | 22.30 | **18.23** | **16.42** | 2.1 |
| **M8x1.00** | 50 | 50 | **2N350** | 22.99 | **18.81** | **16.94** | 2.5 |
| **M8x1.00** | 60 | 25 | **2N352** | 14.39 | **11.77** | **10.61** | 1.5 |
| **M8x1.00** | 70 | 25 | **2N354** | 18.34 | **15.01** | **13.52** | 1.7 |
| **M8x1.00** | 80 | 15 | **2N356** | 13.10 | **10.71** | **9.65** | 1.1 |
| **M10x1.25** | 20 | 25 | **2N368** | 11.73 | **9.60** | **8.64** | 1.3 |
| **M10x1.25** | 25 | 25 | **2N370** | 12.20 | **9.98** | **8.99** | 1.5 |
| **M10x1.25** | 30 | 25 | **2N372** | 13.28 | **10.87** | **9.80** | 1.4 |
| **M10x1.25** | 35 | 25 | **2N374** | 14.08 | **11.52** | **10.38** | 1.7 |
| **M10x1.25** | 40 | 25 | **2N376** | 15.02 | **12.28** | **11.07** | 1.8 |
| **M10x1.25** | 50 | 25 | **2N378** | 17.14 | **14.02** | **12.63** | 2.1 |
| **M10x1.25** | 55 | 25 | **2N380** | 18.65 | **15.26** | **13.74** | 2.4 |
| **M10x1.25** | 60 | 25 | **2N382** | 19.65 | **16.09** | **14.48** | 2.5 |
| **M10x1.25** | 70 | 25 | **2N384** | 24.81 | **20.30** | **18.27** | 2.7 |
| **M10x1.25** | 80 | 15 | **2N386** | 18.76 | **15.34** | **13.82** | 1.8 |
| **M10x1.25** | 90 | 15 | **2N388** | 23.52 | **19.24** | **17.33** | 2.0 |
| **M10x1.25** | 100 | 15 | **2N390** | 24.41 | **19.96** | **17.98** | 2.2 |
| **M12x1.25** | 20 | 25 | **2N392** | 16.21 | **13.26** | **11.95** | 1.9 |
| **M12x1.25** | 25 | 25 | **2N394** | 19.12 | **15.65** | **14.10** | 2.0 |
| **M12x1.25** | 30 | 25 | **2N396** | 19.65 | **16.08** | **14.48** | 1.0 |
| **M12x1.25** | 35 | 25 | **2N398** | 19.87 | **16.27** | **14.65** | 2.4 |
| **M12x1.25** | 40 | 25 | **2N400** | 21.46 | **17.55** | **15.81** | 2.7 |
| **M12x1.25** | 45 | 25 | **2N404** | 23.28 | **19.04** | **17.15** | 2.9 |
| **M12x1.25** | 50 | 25 | **2N402** | 26.88 | **22.00** | **19.81** | 3.1 |
| **M12x1.25** | 60 | 25 | **2N406** | 30.05 | **24.59** | **22.13** | 3.7 |
| **M12x1.25** | 110 | 15 | **2N432** | 38.71 | **31.70** | **28.50** | 3.6 |
| **M12x1.25** | 120 | 15 | **2N434** | 43.20 | **35.45** | **31.81** | 3.9 |
| **M14x1.50** | 30 | 25 | **2N436** | 27.29 | **22.34** | **20.10** | 3.2 |
| **M14x1.50** | 35 | 25 | **2N438** | 30.33 | **24.81** | **22.34** | 3.5 |
| **M14x1.50** | 40 | 25 | **2N440** | 32.88 | **27.00** | **24.21** | 3.8 |
| **M14x1.50** | 50 | 25 | **2N442** | 37.78 | **30.95** | **27.83** | 4.3 |
| **M14x1.50** | 60 | 15 | **2N444** | 26.27 | **21.49** | **19.35** | 2.9 |
| **M14x1.50** | 75 | 15 | **2N446** | 32.88 | **27.00** | **24.21** | 3.4 |
| **M14x1.50** | 100 | 15 | **2N448** | 43.81 | **35.90** | **32.26** | 4.2 |
| **EXTRA FINE THREAD** | | | | | | | |
| **M10x1.00** | 20 | 50 | **2N358** | 23.49 | **19.22** | **17.31** | 2.5 |
| **M10x1.00** | 25 | 50 | **2N360** | 24.33 | **19.90** | **17.91** | 2.4 |
| **M10x1.00** | 30 | 25 | **2N362** | 12.49 | **10.22** | **9.22** | 1.6 |
| **M10x1.00** | 40 | 25 | **2N364** | 12.85 | **10.51** | **9.47** | 1.9 |
| **M10x1.00** | 50 | 25 | **2N366** | 16.19 | **13.24** | **11.93** | 2.1 |
| **M12x1.50** | 20 | 25 | **2N408** | 16.90 | **13.83** | **12.46** | 1.8 |
| **M12x1.50** | 30 | 25 | **2N410** | 19.12 | **15.65** | **14.10** | 2.2 |
| **M12x1.50** | 35 | 25 | **2N412** | 19.63 | **16.07** | **14.47** | 2.5 |
| **M12x1.50** | 40 | 25 | **2N414** | 19.96 | **16.33** | **14.71** | 2.6 |
| **M12x1.50** | 50 | 25 | **2N416** | 24.82 | **20.31** | **18.29** | 3.0 |
| **M12x1.50** | 55 | 25 | **2N418** | 27.00 | **22.09** | **19.89** | 2.8 |
| **M12x1.50** | 60 | 25 | **2N420** | 28.70 | **23.49** | **21.14** | 3.7 |
| **M12x1.50** | 65 | 25 | **2N422** | 29.52 | **24.15** | **21.75** | 3.8 |
| **M12x1.50** | 70 | 25 | **2N426** | 31.33 | **25.65** | **23.08** | 3.8 |
| **M12x1.50** | 75 | 25 | **2N424** | 31.91 | **26.15** | **23.50** | 4.3 |
| **M12x1.50** | 90 | 15 | **2N428** | 31.55 | **25.85** | **23.23** | 3.1 |
| **M12x1.50** | 100 | 15 | **2N430** | 35.45 | **29.05** | **26.11** | 3.3 |

## ELEVATOR BOLTS

QUALITY FASTENERS from ... Rockford

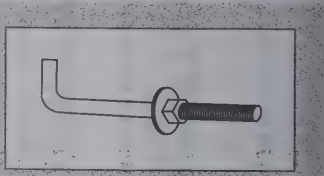


- Zinc chromate finish
- Large diameter flush head style
- Often used on industrial conveyer belt systems where bolt head clearance must be at a minimum
- Also used in fleet applications for trailer doors, hinges, and walls
- 1" diameter head

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **1/4" - 20** | 1 | 100 | **2M733** | $19.64 | **$16.07** | **$14.48** | 2.5 |
| **1/4 - 20** | 1 1/4 | 100 | **2M735** | 20.84 | **17.04** | **15.35** | 2.5 |
| **1/4 - 20** | 1 1/2 | 100 | **2M737** | 21.99 | **17.99** | **16.20** | 1.1 |

## ANCHOR BOLTS

QUALITY FASTENERS from ... Rockford



- Low carbon steel
- Plain finish
- Hex nut and flat washer included
- For use in concrete
- Also known as foundation bolts
- Length is measured from top of the hook to the end of threaded portion

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **3/8" - 16** | 6 | 25 | **2M599** | $17.93 | **$14.67** | **$13.21** | 4.5 |
| **3/8 - 16** | 8 | 25 | **2M601** | 18.35 | **15.01** | **13.52** | 5.8 |
| **1/2 - 13** | 6 | 25 | **2M607** | 23.07 | **18.87** | **16.99** | 10.0 |
| **1/2 - 13** | 8 | 25 | **2M609** | 26.88 | **21.99** | **19.80** | 12.0 |
| **1/2 - 13** | 10 | 25 | **2M611** | 27.54 | **22.53** | **20.29** | 14.0 |
| **1/2 - 13** | 12 | 25 | **2M613** | 35.41 | **29.05** | **26.09** | 16.0 |

# ROUND HEAD CARRIAGE BOLTS, HEX LAG SCREWS, AND METRIC HEX NUTS

## ROUND HEAD CARRIAGE BOLTS

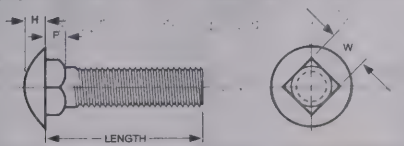
QUALITY FASTENERS from ... Rockford



- Zinc-chromate plated
- Bolts have circular head with a low rounded top surface, a flat bearing surface, and an integrally formed square neck
- Square neck prevents bolt from turning when tightened
- Meets or exceeds ANSI/ASME B18.5

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4"-20 | 3/4 | 100 | 4P330 | $3.75 | $3.54 | $3.18 | 1.4 |
| 1/4-20 | 1 | 100 | 4P331 | 4.25 | 2.92 | 2.63 | 2.2 |
| 1/4-20 | 1 1/4 | 100 | 4P332 | 4.93 | 3.33 | 3.00 | 2.9 |
| 1/4-20 | 1 1/2 | 100 | 4P333 | 5.62 | 3.70 | 3.32 | 2.2 |
| 1/4-20 | 1 3/4 | 100 | 4P334 | 6.17 | 5.37 | 4.82 | 2.9 |
| 1/4-20 | 2 | 100 | 4P335 | 6.79 | 4.61 | 4.15 | 2.9 |
| 1/4-20 | 2 1/4 | 100 | 4P336 | 7.36 | 6.30 | 5.67 | 3.7 |
| 1/4-20 | 2 1/2 | 100 | 4P337 | 8.03 | 5.87 | 5.28 | 3.6 |
| 1/4-20 | 3 | 100 | 4P338 | 9.55 | 6.85 | 6.17 | 4.3 |
| 1/4-20 | 3 1/2 | 100 | 4P339 | 11.02 | 7.59 | 6.83 | 5.0 |
| 1/4-20 | 4 | 100 | 4P340 | 12.88 | 9.03 | 8.13 | 6.0 |
| 1/4-20 | 5 | 100 | 2M623 | 15.76 | 12.90 | 11.61 | 7.0 |
| 1/4-20 | 5 1/2 | 100 | 2M625 | 17.15 | 14.03 | 12.63 | 7.7 |
| 1/4-20 | 6 | 100 | 2M627 | 18.75 | 15.33 | 13.81 | 8.4 |
| 5/16-18 | 3/4 | 100 | 4P341 | 6.26 | 5.37 | 4.83 | 2.4 |
| 5/16-18 | 1 | 100 | 4P342 | 7.15 | 4.87 | 4.38 | 3.3 |
| 5/16-18 | 1 1/4 | 100 | 4P343 | 8.16 | 6.66 | 5.99 | 3.2 |
| 5/16-18 | 1 1/2 | 100 | 4P344 | 9.05 | 6.90 | 6.21 | 4.0 |
| 5/16-18 | 1 3/4 | 100 | 4P345 | 9.54 | 8.21 | 7.38 | 5.7 |
| 5/16-18 | 2 | 100 | 4P346 | 11.06 | 7.37 | 6.63 | 4.7 |
| 5/16-18 | 2 1/4 | 100 | 4P347 | 12.35 | 9.64 | 8.67 | 5.6 |
| 5/16-18 | 2 1/2 | 100 | 4P348 | 13.24 | 9.21 | 8.29 | 6.5 |
| 5/16-18 | 3 | 100 | 4P349 | 15.61 | 10.33 | 9.29 | 6.6 |
| 5/16-18 | 3 1/2 | 50 | 4P350 | 8.87 | 5.96 | 5.37 | 4.0 |
| 5/16-18 | 4 | 50 | 4P351 | 10.10 | 7.50 | 6.75 | 5.0 |
| 5/16-18 | 4 1/2 | 50 | 2M641 | 11.37 | 9.30 | 8.37 | 5.1 |
| 5/16-18 | 5 1/2 | 50 | 2M645 | 13.58 | 11.11 | 10.01 | 6.1 |
| 3/8-16 | 3/4 | 100 | 2M649 | 9.79 | 8.01 | 7.23 | 3.8 |
| 3/8-16 | 1 | 100 | 4P352 | 11.06 | 8.87 | 7.98 | 5.2 |
| 3/8-16 | 1 1/4 | 100 | 4P353 | 12.05 | 9.79 | 8.81 | 5.9 |
| 3/8-16 | 1 1/2 | 100 | 4P354 | 13.44 | 10.83 | 9.75 | 7.0 |
| 3/8-16 | 1 3/4 | 100 | 4P355 | 15.08 | 11.89 | 10.68 | 6.3 |
| 3/8-16 | 2 | 100 | 4P356 | 16.46 | 13.03 | 11.73 | 7.3 |
| 3/8-16 | 2 1/4 | 50 | 4P357 | 8.40 | 7.17 | 6.45 | 4.0 |
| 3/8-16 | 2 1/2 | 50 | 4P358 | 9.81 | 7.45 | 6.71 | 4.3 |
| 3/8-16 | 3 | 50 | 4P359 | 11.44 | 8.44 | 7.59 | 5.1 |
| 3/8-16 | 3 1/2 | 50 | 4P360 | 13.06 | 9.54 | 8.59 | 5.9 |
| 3/8-16 | 3 3/4 | 50 | 2M655 | 13.91 | 11.38 | 10.25 | 6.3 |
| 3/8-16 | 4 | 50 | 4P361 | 14.61 | 10.50 | 9.45 | 6.3 |
| 3/8-16 | 4 1/2 | 50 | 4P362 | 16.41 | 12.66 | 11.40 | 7.6 |
| 3/8-16 | 5 | 50 | 4P363 | 18.06 | 13.81 | 12.44 | 8.0 |
| 3/8-16 | 5 1/2 | 50 | 4P364 | 19.77 | 15.02 | 13.51 | 8.9 |
| 3/8-16 | 6 | 50 | 4P365 | 21.27 | 13.68 | 12.32 | 9.7 |
| 1/2-13 | 1 1/2 | 50 | 2M669 | 13.65 | 11.17 | 10.06 | 5.4 |
| 1/2-13 | 2 | 50 | 2M671 | 16.24 | 13.27 | 11.96 | 6.6 |
| 1/2-13 | 2 1/2 | 50 | 2M673 | 18.94 | 15.50 | 13.96 | 8.0 |
| 1/2-13 | 3 | 50 | 2M675 | 21.50 | 17.59 | 15.84 | 9.3 |
| 1/2-13 | 4 | 25 | 2M679 | 13.53 | 11.06 | 9.97 | 6.0 |

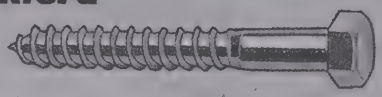
## DIMENSIONS FOR ROUND HEAD CARRIAGE SCREWS




| Carriage Bolt Diameter (In.) | W Body Dia. (In.) | H Head Height (In.) | P Square Depth (In.) |
|---|---|---|---|
| 1/4 | 0.260 | 0.145 | 0.156 |
| 5/16 | 0.324 | 0.176 | 0.187 |
| 3/8 | 0.388 | 0.208 | 0.219 |
| 1/2 | 0.515 | 0.270 | 0.281 |

## HEX LAG SCREWS

QUALITY FASTENERS from ... Rockford



- Zinc-chromate plated-low carbon steel
- 60° Gimlet point
- Meets or exceeds ANSI/ASME B18.2.1

| Size (In.) | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 | 1 | 100 | 4P366 | $6.03 | $3.78 | $3.41 | 1.5 |
| 1/4 | 1 1/4 | 100 | 4P367 | 6.82 | 4.82 | 4.35 | 2.0 |
| 1/4 | 1 1/2 | 100 | 4P368 | 7.31 | 4.73 | 4.24 | 2.1 |
| 1/4 | 1 3/4 | 100 | 4P369 | 8.48 | 6.00 | 5.40 | 2.5 |
| 1/4 | 2 | 100 | 4P370 | 8.67 | 5.06 | 4.55 | 2.6 |
| 1/4 | 2 1/2 | 100 | 4P371 | 10.41 | 6.52 | 5.86 | 3.2 |
| 1/4 | 3 | 100 | 4P372 | 11.97 | 7.62 | 6.85 | 4.1 |
| 1/4 | 3 1/2 | 100 | 4P373 | 14.97 | 9.60 | 8.63 | 4.3 |
| 1/4 | 4 | 100 | 4P374 | 17.05 | 10.46 | 9.41 | 4.9 |
| 5/16 | 1 | 100 | 4P375 | 9.33 | 6.29 | 5.67 | 2.8 |
| 5/16 | 1 1/4 | 100 | 4P376 | 10.61 | 7.24 | 6.51 | 3.2 |
| 5/16 | 1 1/2 | 100 | 4P377 | 10.98 | 7.03 | 6.34 | 3.8 |
| 5/16 | 2 | 100 | 4P378 | 13.06 | 8.64 | 7.79 | 4.0 |
| 5/16 | 2 1/2 | 100 | 4P379 | 15.36 | 10.08 | 9.08 | 5.4 |
| 5/16 | 3 | 100 | 4P380 | 17.33 | 11.89 | 10.69 | 5.5 |
| 5/16 | 3 1/2 | 50 | 4P381 | 10.03 | 6.80 | 6.12 | 3.6 |
| 5/16 | 4 | 50 | 4P382 | 11.70 | 7.14 | 6.42 | 4.1 |
| 3/8 | 1 1/2 | 100 | 4P383 | 15.99 | 10.95 | 9.84 | 5.3 |
| 3/8 | 1 3/4 | 100 | 4P384 | 17.47 | 12.17 | 10.97 | 5.2 |
| 3/8 | 2 | 100 | 4P385 | 18.83 | 11.91 | 10.71 | 6.3 |
| 3/8 | 2 1/2 | 50 | 4P386 | 10.86 | 7.09 | 6.37 | 3.6 |
| 3/8 | 3 | 50 | 4P387 | 12.32 | 8.21 | 7.38 | 4.0 |
| 3/8 | 3 1/2 | 50 | 4P388 | 14.08 | 9.38 | 8.43 | 4.6 |
| 3/8 | 4 | 50 | 4P389 | 16.02 | 9.89 | 8.91 | 6.0 |
| 3/8 | 5 | 50 | 4P390 | 19.88 | 13.72 | 12.35 | 6.8 |
| 3/8 | 6 | 50 | 4P391 | 24.10 | 16.47 | 14.83 | 8.0 |

## METRIC HEX NUTS

QUALITY FASTENERS from ... Rockford



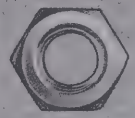
- Metric Property Class 8
- Zinc Chromate plate with RED DYE for easy identification
- Meets or exceeds ANSI/ASME B18.2.4.1 Standards

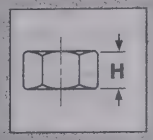
| Size | Width | Height | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **STANDARD THREAD** | | | | | | | | |
| M6x1.00 | 10.00 | 5.20 | 50 | 2N454 | $2.95 | $2.42 | $2.18 | 0.2 |
| M8x1.25 | 13.00 | 6.80 | 50 | 2N458 | 5.14 | 4.21 | 3.80 | 0.5 |
| M10x1.50 | 16.00 | 8.40 | 50 | 2N460 | 7.60 | 6.22 | 5.62 | 1.2 |
| M12x1.75 | 18.00 | 10.80 | 50 | 2N462 | 12.47 | 10.20 | 9.21 | 1.7 |
| M14x2.00 | 21.00 | 12.80 | 25 | 2N464 | 8.28 | 6.78 | 6.11 | 1.4 |
| M16x2.00 | 24.00 | 14.80 | 25 | 2N466 | 8.81 | 7.22 | 6.50 | 1.8 |
| **FINE THREAD** | | | | | | | | |
| M8x1.00 | 13.00 | 6.80 | 50 | 2N474 | 6.63 | 5.42 | 4.89 | 0.5 |
| M10x1.00 | 16.00 | 8.40 | 50 | 2N478 | 11.04 | 9.03 | 8.15 | 1.1 |
| M12x1.25 | 18.00 | 10.80 | 50 | 2N482 | 14.73 | 12.06 | 10.86 | 1.7 |
| M14x1.50 | 21.00 | 12.80 | 25 | 2N484 | 13.08 | 10.70 | 9.64 | 1.4 |
| **EXTRA FINE THREAD** | | | | | | | | |
| M10x1.25 | 16.00 | 8.40 | 50 | 2N476 | 9.14 | 7.48 | 6.75 | 1.1 |
| M12x1.50 | 18.00 | 10.80 | 50 | 2N480 | 13.99 | 11.45 | 10.31 | 1.7 |

# HEX NUTS

## FINISHED HEX NUTS

QUALITY FASTENERS from ... Rockford






- Low carbon steel - Grade 2
- Zinc chromate finish
- For general purpose repair and maintenance
- Meets or exceeds SAE J995, SAE 122 a, and ASME/ANSI B18.2.2 standards

| Size | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **COARSE THREAD** | | | | | | |
| 1/4"-20 | 100 | 4P408 | $1.79 | $1.36 | $1.22 | 0.7 |
| 5/16-18 | 100 | 4P409 | 2.79 | 2.07 | 1.87 | 1.1 |
| 3/8-16 | 100 | 4P410 | 4.11 | 2.88 | 2.58 | 1.6 |
| 7/16-14 | 10 | 4P411 | 3.64 | 2.67 | 2.41 | 1.4 |
| 1/2-13 | 50 | 4P412 | 4.85 | 3.63 | 3.26 | 1.9 |
| 5/8-11 | 25 | 4P413 | 4.93 | 3.54 | 3.18 | 1.9 |
| 3/4-10 | 20 | 4P414 | 6.33 | 5.55 | 4.99 | 3.0 |
| 7/8-9 | 15 | 4P415 | 7.97 | 5.79 | 5.20 | 3.0 |
| 1-8 | 10 | 4P416 | 8.96 | 6.36 | 5.73 | 3.0 |
| **FINE THREAD** | | | | | | |
| 1/4- 28 | 100 | 2U775 | 1.79 | 1.47 | 1.33 | 0.7 |
| 5/16-24 | 100 | 2U777 | 2.79 | 2.28 | 2.07 | 1.1 |
| 3/8-24 | 100 | 2U779 | 4.11 | 3.36 | 3.04 | 1.6 |
| 7/16-20 | 50 | 2U781 | 3.65 | 3.00 | 2.70 | 1.4 |
| 1/2-20 | 50 | 2U783 | 4.85 | 3.97 | 3.58 | 1.9 |

## GRADE 5 HEX NUTS

QUALITY FASTENERS from ... Rockford



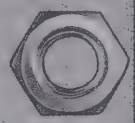


- Medium carbon steel
- Zinc chromate finish
- For use with Grade 5 hex cap screws
- Lot controlled for full traceability
- Meets or exceeds ANSI B18.2.2 and SAE J995 standards

| Size | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **COARSE THREAD - (UNC) (USS)** | | | | | | |
| 1/4"-20 | 100 | 2U745 | $3.99 | $3.26 | $2.95 | 0.7 |
| 5/16-18 | 100 | 2U747 | 6.07 | 4.96 | 4.48 | 1.1 |
| 3/8-16 | 100 | 2U749 | 8.08 | 6.62 | 5.96 | 1.6 |
| 7/16-14 | 50 | 2U751 | 6.22 | 5.09 | 4.60 | 1.4 |
| 1/2-13 | 50 | 2U753 | 8.73 | 7.15 | 6.44 | 1.9 |
| 5/8-11 | 25 | 2U757 | 7.34 | 6.00 | 5.42 | 1.8 |
| 3/4-10 | 20 | 2U759 | 9.33 | 7.64 | 6.88 | 2.4 |
| **FINE THREAD -(UNF) (SAE)** | | | | | | |
| 1/4-28 | 100 | 2U837 | 3.99 | 3.26 | 2.95 | 0.7 |
| 5/16-24 | 100 | 2U839 | 6.07 | 4.96 | 4.48 | 1.1 |
| 3/8-24 | 100 | 2U841 | 8.08 | 6.62 | 5.96 | 1.6 |
| 7/16-20 | 50 | 2U843 | 6.22 | 5.09 | 4.60 | 1.4 |
| 1/2-20 | 50 | 2U845 | 8.73 | 7.15 | 6.44 | 1.9 |

## FINISHED HEX NUTS—GRADE 8

QUALITY FASTENERS from ... Rockford



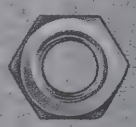


- Heat-treated medium carbon steel
- Zinc gold chromate for easy identification
- For use with Grade 8 hex bolts
- Full traceability as required by Public Law 101-592 "Fastener Quality Act"
- Meets or exceeds ASTM/ANSI B18.2.2 and SAEJ995 standards

| Size | Width (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4"-20 | 7/16 | 100 | 4P466 | $8.01 | $6.54 | $5.57 | 0.8 |
| 5/16-18 | 1/2 | 100 | 4P467 | 10.63 | 8.69 | 7.39 | 1.2 |
| 3/8-16 | 9/16 | 100 | 4P468 | 13.77 | 11.25 | 9.57 | 1.7 |
| 7/16-14 | 11/16 | 50 | 4P469 | 10.95 | 8.96 | 7.62 | 1.5 |
| 1/2-13 | 3/4 | 50 | 4P470 | 15.27 | 12.49 | 10.61 | 2.0 |
| 5/8-11 | 15/16 | 25 | 2U877 | 14.53 | 11.89 | 10.71 | 1.8 |
| 3/4-10 | 1 1/8 | 20 | 2U879 | 17.83 | 14.59 | 13.14 | 2.4 |

## STAINLESS STEEL FINISHED HEX NUTS

QUALITY FASTENERS from ... Rockford



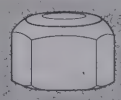
- 18-8 Stainless steel
- Resists many types of corrosive environments that cause pitting, galvanic corrosion and rust
- Possesses superior strength, toughness, and resistance to elevated temperature compared to lower alloy and carbon steel fasteners
- Meets or exceeds ASME/ANSI B18.2.2 standards

| Size | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4"-20 | 100 | 4P417 | $8.16 | $7.52 | $6.77 | 0.8 |
| 5/16-18 | 100 | 4P418 | 9.64 | 8.69 | 7.82 | 1.1 |
| 3/8-16 | 100 | 4P419 | 19.96 | 18.74 | 16.86 | 1.5 |
| 1/2-13 | 100 | 4P420 | 41.96 | 29.55 | 26.54 | 3.7 |
| 5/8-11 | 25 | 4P421 | 20.85 | 14.66 | 13.19 | 1.8 |
| 3/4-10 | 20 | 5L182 | 27.95 | 20.92 | 18.83 | 6.0 |

| Hex Nut Diameter (In.) | W Width of Hex Head (In.) | H Thickness of Hex Nut (In.) |
|---|---|---|
| 1/4 | 7/16 | 7/32 |
| 5/16 | 1/2 | 17/64 |
| 3/8 | 9/16 | 21/64 |
| 7/16 | 11/16 | 3/8 |
| 1/2 | 3/4 | 7/16 |
| 9/16 | 7/8 | 31/64 |
| 5/8 | 15/16 | 35/64 |
| 3/4 | 1 1/8 | 41/64 |
| 7/8 | 1 5/16 | 3/4 |
| 1 | 1 1/2 | 55/64 |

## PREVAILING TORQUE LOCKNUTS

QUALITY FASTENERS from ... Rockford

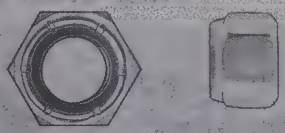


- Grade C coarse thread
- For use with Grade 8 cap screws
- Zinc gold chromate finish
- Reusable a minimum of 5 times
- Meets or exceeds IFI 100/107 and IFI 101 standards
- For use up to 600° F

| Size | Width (In.) | Height (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| /4"-20 | 7/16 | 0.145 | 100 | **2U891** | $16.43 | **$13.44** | **$12.11** | 0.7 |
| /16-18 | 1/2 | 0.166 | 100 | **2U893** | 18.11 | **14.81** | **13.34** | 1.0 |
| /8-16 | 9/16 | 0.198 | 100 | **2U895** | 23.16 | **18.95** | **17.06** | 1.4 |
| /16-14 | 11/16 | 0.223 | 50 | **2U897** | 17.45 | **14.27** | **12.86** | 1.3 |
| /2-13 | 3/4 | 0.262 | 50 | **2U899** | 20.12 | **16.45** | **14.82** | 1.8 |
| /8-11 | 15/16 | 0.329 | 25 | **2U903** | 19.28 | **15.77** | **14.21** | 1.6 |
| /4-10 | 1⅛ | 0.382 | 20 | **2U905** | 29.51 | **24.14** | **21.73** | 2.1 |

## NYLON INSERT LOCKNUTS

QUALITY FASTENERS from ... Rockford



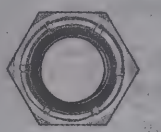
- For use with Grade 2 and Grade 5 hex cap screws
- Zinc chromate finish
- Nylon collar locks and resists vibration
- For use up to 250° F

| Size | Width (In.) | Pattern | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **COARSE THREAD** | | | | | | | | |
| -32 | 5/16 | NE | 100 | **4P429** | $2.82 | **$2.59** | **$2.32** | 0.3 |
| -32 | 11/32 | NE | 100 | **4P430** | 3.10 | **2.00** | **1.79** | 0.4 |
| .0-24 | 3/8 | NE | 100 | **4P431** | 3.30 | **2.12** | **1.91** | 0.5 |
| ./4"-20 | 7/16 | NE | 100 | **4P432** | 4.21 | **2.46** | **2.20** | 0.9 |
| /16-18 | 1/2 | NE | 100 | **4P433** | 6.23 | **3.10** | **2.78** | 1.2 |
| /8-16 | 9/16 | NE | 100 | **4P434** | 9.45 | **4.43** | **4.00** | 2.0 |
| '/16-14 | 11/16 | NE | 50 | **2X049** | 4.92 | **4.03** | **3.64** | 1.2 |
| ./2-13 | 15/16 | NE | 50 | **4P435** | 11.63 | **5.68** | **5.12** | 2.2 |
| /8-11 | 1⅛ | NE | 25 | **2X053** | 10.98 | **8.98** | **8.09** | 2.1 |
| /4-10 | 1⅝ | NE | 20 | **2X055** | 11.59 | **9.48** | **8.55** | 2.4 |
| '/8-09 | 3/4 | NE | 15 | **2X057** | 24.74 | **20.25** | **18.24** | 2.9 |
| **FINE THREAD** | | | | | | | | |
| ./4-28 | 7/16 | NE | 100 | **2X063** | 4.21 | **3.45** | **3.11** | 0.9 |
| /16-24 | 1/2 | NE | 100 | **5F894** | 6.23 | **5.10** | **4.60** | 1.2 |
| /8-24 | 9/16 | NE | 100 | **5F895** | 9.45 | **7.74** | **6.97** | 1.8 |
| '/16-20 | 11/16 | NE | 50 | **5F896** | 4.92 | **4.03** | **3.64** | 1.2 |
| ./2-20 | 3/4 | NE | 50 | **5F897** | 11.63 | **9.52** | **8.57** | 2.2 |

NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY

## STAINLESS STEEL NYLON INSERT LOCKNUTS

QUALITY FASTENERS from ... Rockford



- For use with stainless steel machine screws and hex cap screws
- 18-8 stainless steel for superior corrosion resistance
- Nylon collar locks and resists vibration
- For use up to 250° F

| Size | Width (In.) | Pattern | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **6-32** | 5/16 | NE | 100 | **5L183** | $8.07 | **$6.00** | **$5.42** | 0.3 |
| **8-32** | 11/32 | NE | 100 | **5L184** | 9.68 | **7.21** | **6.49** | 0.4 |
| **10-24** | 3/8 | NE | 100 | **5L185** | 12.10 | **9.01** | **8.11** | 0.5 |
| **10-32** | 3/8 | NE | 100 | **5L192** | 12.10 | **9.01** | **8.11** | 0.5 |
| **1/4"-20** | 7/16 | NE | 100 | **5L186** | 14.53 | **10.81** | **9.74** | 0.9 |
| **5/16-18** | 1/2 | NE | 100 | **5L187** | 21.80 | **16.21** | **14.60** | 1.2 |
| **3/8-16** | 9/16 | NE | 100 | **5L188** | 51.14 | **38.05** | **34.19** | 1.8 |
| **1/2-13** | 3/4 | NE | 50 | **5L189** | 56.87 | **42.25** | **37.93** | 2.2 |
| **5/8-11** | 15/16 | NE | 25 | **5L190** | 57.72 | **42.80** | **38.41** | 4.2 |
| **3/4-10** | 1⅛ | NE | 20 | **5L191** | 119.36 | **88.80** | **79.84** | 3.0 |

## METRIC NYLON INSERT LOCKNUTS

QUALITY FASTENERS from ... Rockford



- For use with Class 8.8 metric cap screws
- Zinc chromate finish
- Nylon collar locks and resists vibration
- For use up to 250° F

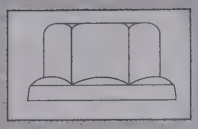
| Size | Width (mm) | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **STANDARD THREAD** | | | | | | |
| **M6x1.00** | 25 | **2N805** | $3.68 | **$3.02** | **$2.73** | 0.1 |
| **M8x1.25** | 25 | **2N809** | 4.27 | **3.50** | **3.16** | 0.3 |
| **M10x1.50** | 15 | **2N811** | 5.14 | **4.20** | **3.79** | 0.4 |
| **M12x1.75** | 15 | **2N813** | 5.89 | **4.82** | **4.34** | 0.6 |
| **M14x2.00** | 15 | **2N815** | 9.11 | **7.45** | **6.72** | 0.8 |
| **M16x2.00** | 15 | **2N817** | 14.01 | **11.46** | **10.33** | 1.2 |
| **FINE THREAD** | | | | | | |
| **M8x1.00** | 25 | **2N826** | 11.30 | **9.26** | **8.34** | 0.3 |
| **M10x1.25** | 15 | **2N830** | 11.30 | **9.26** | **8.34** | 0.4 |
| **M12x1.50** | 15 | **2N832** | 16.20 | **13.25** | **11.94** | 0.6 |
| **M14x1.50** | 15 | **2N836** | 22.78 | **18.65** | **16.78** | 0.8 |
| **EXTRA FINE THREAD** | | | | | | |
| **M10x1.00** | 15 | **2N828** | 11.30 | **9.26** | **8.34** | 0.4 |
| **M12x1.25** | 15 | **2N834** | 16.20 | **13.25** | **11.94** | 0.6 |

# LOCKNUTS, HEAVY HEX NUTS, WING NUTS, AND JAM NUTS

## FLANGE LOCKNUTS

- Heat treated medium carbon steel
- Phosphate finish
- For use with Grade 8 Flange Bolts and Grade 8 Hex Cap Screws
- Full traceability as required by public Law 101-592
- Eliminates the use of flat washers
- For use up to 600°F
- Meets or exceeds IFI 100-107 and IFI 101 standards

QUALITY FASTENERS from ... Rockford



### FLANGE LOCKNUTS

| Size | Width (In.) | Height (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/8"-16 | 9/16 | 0.198 | 100 | 2N018 | $29.11 | $23.81 | $21.45 | 1.4 |
| 1/2-13 | 3/4 | 0.262 | 50 | 2N020 | 29.73 | 24.32 | 21.91 | 1.8 |
| 5/8-11 | 15/16 | 0.329 | 25 | 2N022 | 24.55 | 20.08 | 18.08 | 1.6 |
| 3/4-10 | 1 1/8 | 0.382 | 15 | 2N024 | 56.98 | 49.45 | 44.48 | 2.6 |

## HEAVY HEX NUTS

QUALITY FASTENERS from ... Rockford



- Zinc-chromate plated low carbon steel
- Larger across flats and thickness than hex nut
- Gives greater bearing area and increased fatigue life
- Meets or exceeds ASME/ANSI B18.2.2, ASTM F812, SAE J122a and J995 standards

### HEAVY HEX NUTS

| Size | Width (In.) | Height (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4"-20 | 1/2 | 15/64 | 100 | 4P422 | $3.70 | $2.14 | $1.93 | 1.1 |
| 5/16-18 | 9/16 | 19/64 | 100 | 4P423 | 4.95 | 3.10 | 2.78 | 1.7 |
| 3/8-16 | 11/16 | 23/64 | 100 | 4P424 | 8.36 | 5.47 | 4.92 | 3.1 |
| 7/16-14 | 3/4 | 27/64 | 50 | 4P425 | 5.61 | 4.67 | 4.21 | 2.1 |
| 1/2-13 | 7/8 | 31/64 | 50 | 4P426 | 8.35 | 5.90 | 5.30 | 3.8 |
| 5/8-11 | 11/16 | 39/64 | 25 | 4P427 | 7.65 | 6.02 | 5.50 | 3.0 |
| 3/4-10 | 1 1/4 | 47/64 | 20 | 4P428 | 9.66 | 8.04 | 7.24 | 3.8 |

## HEX "KEPS"-LOCK NUTS

QUALITY FASTENERS from ... Rockford



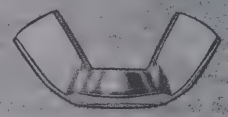


- Zinc-plated steel
- Standard finished hex nut with free spinning external tooth washer
- Washer used as a locking feature, helps resist vibration

| Size | Width (In.) | Height (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6-32 | 5/16 | 0.114 | 100 | 4P459 | $2.63 | $2.53 | $2.26 | 0.3 |
| 8-32 | 11/32 | 0.130 | 100 | 4P460 | 2.74 | 2.59 | 2.33 | 0.3 |
| 10-24 | 3/8 | 0.130 | 100 | 4P461 | 2.88 | 2.67 | 2.42 | 0.3 |
| 10-32 | 3/8 | 0.130 | 100 | 4P462 | 2.88 | 2.68 | 2.42 | 0.3 |
| 1/4"-20 | 7/16 | 0.193 | 100 | 4P463 | 10.43 | 8.35 | 7.51 | 0.7 |
| 5/16-18 | 1/2 | 0.273 | 100 | 4P464 | 8.69 | 8.12 | 7.32 | 1.3 |
| 3/8-16 | 9/16 | 0.385 | 100 | 4P465 | 18.10 | 14.49 | 13.02 | 2.2 |

## WING NUTS

QUALITY FASTENERS from ... Rockford



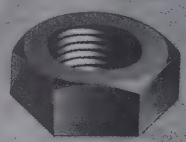
- Zinc-chromate plated low carbon steel
- Designed for manual turning without driver or wrench
- Cold forged for high strength
- Meets or exceeds ANSI/ASME B18.17 standards

### WING NUTS

| Size | No. per Pkg. | Stock No. | List | Each Pkg. | Lots 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 10-24 | 100 | 4P436 | $13.28 | $10.47 | $9.42 | 0.7 |
| 10-32 | 100 | 2U833 | 13.28 | 10.87 | 9.80 | 0.8 |
| 1/4"-20 | 100 | 4P437 | 15.27 | 7.53 | 6.78 | 2.0 |
| 5/16-18 | 50 | 4P438 | 9.26 | 4.83 | 4.34 | 1.2 |
| 3/8-16 | 50 | 4P439 | 15.42 | 7.94 | 7.15 | 1.9 |
| 1/2-13 | 25 | 4P440 | 16.95 | 10.22 | 8.67 | 2.2 |

## HEX JAM NUTS

QUALITY FASTENERS from ... Rockford



- Thin nuts used in combination with Full Hex Nuts to creat a locking action
- Zinc Chromate finish
- Meets or exceeds ASTM F812, SAE J122a, J995 and ASME/ANSI B18.2.2 standards

### HEX JAM NUTS SPECIFICATIONS AND ORDERING DATA

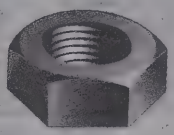
| Size | Width (In.) | Height (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots 5 Pkgs. | Shp Wt |
|---|---|---|---|---|---|---|---|---|
| **COARSE THREAD** | | | | | | | | |
| 1/4"-20 | 7/16 | 5/32 | 100 | 2T976 | $1.94 | $1.58 | $1.44 | 0. |
| 5/16-18 | 1/2 | 3/16 | 100 | 2T979 | 2.45 | 2.00 | 1.81 | 0. |
| 3/8-16 | 9/16 | 7/32 | 100 | 2T994 | 3.38 | 2.76 | 2.51 | 1. |
| 1/2-13 | 3/4 | 5/16 | 50 | 2U390 | 3.98 | 3.26 | 2.95 | 1. |
| 5/8-11 | 15/16 | 3/8 | 25 | 2U441 | 4.05 | 3.31 | 3.00 | 1. |
| **FINE THREAD** | | | | | | | | |
| 1/4-28 | 7/16 | 5/32 | 100 | 2U799 | $1.94 | $1.79 | $1.62 | 0. |
| 5/16-24 | 1/2 | 3/16 | 100 | 2U801 | 2.45 | 2.30 | 2.09 | 0. |
| 3/8-24 | 9/16 | 7/32 | 100 | 2U803 | 3.38 | 3.18 | 2.87 | 1. |
| 1/2-20 | 3/4 | 5/16 | 50 | 2U807 | 3.98 | 3.74 | 3.37 | 1. |

FOR ROD COUPLING NUTS
See page 1761

# MACHINE SCREW NUTS

## BRASS HEX MACHINE SCREW NUTS

QUALITY FASTENERS from ... Rockford



For use with brass machine screws

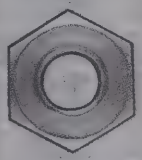
Meets or exceeds ASME/ANSI B18.6.3

### BRASS HEX MACHINE SCREW NUTS

| Size | Width (In.) | Height (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| #4-40 | 1/4 | 0.098 | 100 | 2U857 | $2.65 | $2.43 | $2.19 | 0.1 |
| 6-32 | 5/16 | 0.114 | 100 | 2U859 | 3.22 | 2.94 | 2.66 | 0.2 |
| 8-32 | 11/32 | 0.130 | 100 | 2U861 | 3.81 | 3.50 | 3.15 | 0.3 |
| 10-24 | 3/8 | 0.130 | 100 | 2U863 | 4.08 | 3.73 | 3.37 | 0.4 |
| 10-32 | 3/8 | 0.130 | 100 | 2U873 | 4.08 | 3.73 | 3.37 | 0.4 |
| 4"-20 | 7/16 | 0.193 | 100 | 2U867 | 7.72 | 7.06 | 6.36 | 0.7 |

## HEX MACHINE SCREW NUTS

QUALITY FASTENERS from ... Rockford



Zinc-chromate plated

Shorter height profile than full hex nut

Meets or exceeds ANSI/ASME B18.6.3 standards

| Size | Width (In.) | Height (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 40 | 1/4 | 0.098 | 100 | 4P448 | $1.48 | $0.89 | $0.81 | 0.2 |
| 32 | 5/16 | 0.114 | 100 | 4P449 | 1.59 | 0.92 | 0.83 | 0.3 |
| 32 | 11/32 | 0.130 | 100 | 4P450 | 1.71 | 1.11 | 1.01 | 0.3 |
| 36 | 11/32 | 0.130 | 100 | 2U765 | 3.85 | 3.15 | 2.84 | 0.3 |
| )-24 | 3/8 | 0.130 | 100 | 4P451 | 1.85 | 1.22 | 1.11 | 0.4 |
| )-32 | 3/8 | 0.130 | 100 | 4P452 | 1.85 | 1.22 | 1.11 | 0.4 |
| 2-24 | 7/16 | 0.161 | 100 | 2P509 | 2.44 | 2.00 | 1.81 | 0.6 |
| 4"-20 | 7/16 | 0.193 | 100 | 4P453 | 2.84 | 1.63 | 1.47 | 0.7 |
| 16-18 | 9/16 | 0.225 | 100 | 2P511 | 4.49 | 3.68 | 3.32 | 1.2 |

## STAINLESS STEEL HEX MACHINE SCREW NUTS

QUALITY FASTENERS from ... Rockford

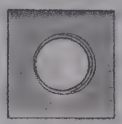


- 18-8 stainless steel
- Resists many types of corrosive environments that cause pitting, galvanic corrosion, and rust
- Shorter height profile than full hex nut
- Meets or exceeds ASME/ANSI B18.6.3 standards

| Size | Width (In.) | Height (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4-40 | 1/4 | 0.098 | 100 | 4P454 | $3.77 | $3.43 | $3.09 | 0.2 |
| 6-32 | 5/16 | 0.114 | 100 | 4P455 | 5.92 | 4.18 | 3.76 | 0.3 |
| 8-32 | 11/32 | 0.130 | 100 | 4P456 | 7.00 | 4.92 | 4.43 | 0.3 |
| 10-24 | 3/8 | 0.130 | 100 | 4P457 | 6.14 | 5.67 | 5.11 | 0.4 |
| 10-32 | 3/8 | 0.130 | 100 | 4P458 | 6.14 | 5.67 | 5.11 | 0.4 |
| 12-24 | 7/16 | 0.161 | 100 | 5L180 | 9.15 | 6.81 | 6.15 | 0.6 |
| 1/4"-20 | 7/16 | 0.193 | 100 | 5L181 | 9.90 | 7.37 | 6.65 | 0.6 |

## SQUARE MACHINE SCREW NUTS

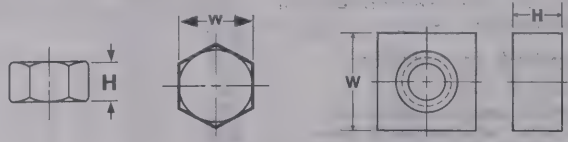
QUALITY FASTENERS from ... Rockford



- Zinc-chromate plated low carbon steel
- For limited space applications; excellent for the electrical industry
- Meets or exceeds ANSI/ASME B18.6.3 standards

| Size | Width (In.) | Height (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6-32 | 5/16 | 0.114 | 100 | 4P441 | $1.95 | $1.56 | $1.41 | 0.2 |
| 8-32 | 11/32 | 0.130 | 100 | 4P442 | 2.34 | 1.88 | 1.69 | 0.3 |
| 10-24 | 3/8 | 0.130 | 100 | 4P443 | 2.50 | 2.00 | 1.80 | 0.4 |
| 10-32 | 3/8 | 0.161 | 100 | 4P444 | 2.50 | 2.01 | 1.80 | 0.4 |
| 1/4"-20 | 7/16 | 0.193 | 100 | 4P445 | 3.19 | 3.03 | 2.72 | 0.7 |
| 5/16-18 | 9/16 | 0.225 | 100 | 4P446 | 4.96 | 4.37 | 3.94 | 1.4 |
| 3/8-16 | 5/8 | 0.257 | 100 | 4P447 | 9.34 | 7.35 | 6.62 | 2.0 |

DIMENSIONS FOR HEX AND SQUARE MACHINE NUTS ON THIS PAGE

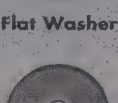


# FLAT WASHERS AND FENDER WASHERS

QUALITY FASTENERS from ... Rockford



Flat Washer



Fender Washer




## USS — SAE FLAT WASHERS

- Zinc Chromate finish
- Meets or exceeds ASME/ANSI B18.22.1 standards

## USS — SAE ALLOY FLAT WASHER

- Use with Grade 8 Hex cap Screws
- Alloy steel, hardened RC 45-53
- Zinc Gold Chromate finish for additional corrosion protection and easy identification
- Lot controlled for full traceability
- Meets or exceeds ASME/ANSI B 18.22.1 and ASTM F436 standards

## STAINLESS STEEL FLAT WASHERS

- Use with Stainless Steel Hex Cap Screws and Machine Screws
- Resists many types of corrosive environments that cause pitting, galvanic corrosion and rust

## METRIC FLAT WASHERS

- Zinc Chromate plate with RED DYE for easy identification

## FENDER WASHERS

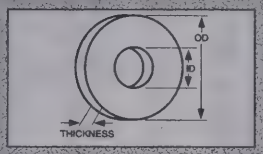
- Zinc Chromate finish
- Wide surface designed to bridge oversize holes or other wide clearance requirements

(*) These specifications may vary slightly due to min/max tolerances.

| Bolt Size | Inside* Diameter (In.) | Outside* Diameter (In.) | Thickness* (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **USS FLAT WASHERS** | | | | | | | | | |
| #10 | 1/4 | 9/16 | 3/64 | 100 | 2V023 | $1.65 | $1.36 | $1.22 | 0.3 |
| 1/4" | 5/16 | 3/4 | 1/16 | 100 | 4P471 | 2.92 | 1.90 | 1.70 | 0.9 |
| 5/16 | 3/8 | 7/8 | 5/64 | 100 | 4P472 | 4.35 | 2.57 | 2.30 | 1.2 |
| 3/8 | 7/16 | 1 | 5/64 | 100 | 4P473 | 5.18 | 4.46 | 4.02 | 1.5 |
| 7/16 | 1/2 | 1 1/4 | 5/64 | 100 | 4P474 | 8.37 | 4.67 | 4.21 | 2.4 |
| 1/2 | 9/16 | 1 3/8 | 7/64 | 100 | 4P475 | 12.46 | 7.05 | 6.35 | 3.9 |
| 9/16 | 5/8 | 1 15/32 | 7/64 | 100 | 2V025 | 15.88 | 12.99 | 11.70 | 4.6 |
| 5/8 | 11/16 | 1 3/4 | 9/64 | 100 | 4P476 | 24.31 | 14.74 | 13.26 | 8.5 |
| 3/4 | 13/16 | 2 | 5/32 | 50 | 4P477 | 16.63 | 10.53 | 9.48 | 5.5 |
| 7/8 | 15/16 | 2 1/4 | 11/64 | 50 | 4P478 | 23.05 | 15.08 | 13.57 | 7.7 |
| 1 | 1 1/16 | 2 1/2 | 11/64 | 50 | 4P479 | 28.49 | 15.53 | 13.98 | 9.4 |
| **SAE FLAT WASHERS** | | | | | | | | | |
| #6 | 1/64 | 3/8 | 3/64 | 100 | 2V033 | 1.07 | 0.88 | 0.81 | 0.1 |
| #8 | 3/16 | 7/16 | 3/64 | 100 | 4P489 | 1.36 | 0.89 | 0.81 | 0.2 |
| #10 | 7/32 | 1/2 | 3/64 | 100 | 4P490 | 1.48 | 1.37 | 1.22 | 0.3 |
| #12 | 1/4 | 9/16 | 1/16 | 100 | 2V035 | 1.82 | 1.49 | 1.36 | 0.1 |
| 1/4" | 9/32 | 5/8 | 1/16 | 100 | 4P491 | 2.13 | 1.67 | 1.51 | 0.5 |
| 5/16 | 11/32 | 11/16 | 1/16 | 100 | 4P492 | 2.53 | 1.81 | 1.62 | 0.6 |
| 3/8 | 13/32 | 13/16 | 1/16 | 100 | 4P493 | 2.96 | 1.88 | 1.68 | 0.8 |
| 7/16 | 15/32 | 59/64 | 1/16 | 100 | 4P494 | 4.16 | 3.43 | 3.09 | 1.0 |
| 1/2 | 17/32 | 1 1/16 | 3/32 | 100 | 4P495 | 6.71 | 3.77 | 3.39 | 1.9 |
| 9/16 | 19/32 | 1 5/32 | 3/32 | 100 | 4P496 | 8.70 | 4.96 | 4.48 | 2.7 |
| 5/8 | 21/32 | 1 5/16 | 3/32 | 100 | 4P497 | 9.50 | 5.35 | 4.82 | 2.8 |
| 3/4 | 13/16 | 1 1/2 | 9/64 | 50 | 4P498 | 8.11 | 4.67 | 4.20 | 2.4 |
| 7/8 | 15/16 | 1 3/4 | 9/64 | 50 | 4P499 | 10.98 | 6.13 | 5.52 | 3.2 |
| 1 | 1 1/16 | 2 | 9/64 | 50 | 4P500 | 14.61 | 11.57 | 10.42 | 4.2 |
| **USS ALLOY FLAT WASHERS** | | | | | | | | | |
| 1/4" | 5/16 | 3/4 | 1/16 | 100 | 2V037 | 9.27 | 7.59 | 6.83 | 0.7 |
| 5/16 | 3/8 | 7/8 | 5/64 | 100 | 2V039 | 11.78 | 9.63 | 8.69 | 1.2 |
| 3/8 | 7/16 | 1 | 5/64 | 100 | 2V041 | 15.77 | 12.91 | 11.62 | 1.5 |
| 7/16 | 1/2 | 1 1/4 | 5/64 | 100 | 2V043 | 20.41 | 16.70 | 15.04 | 2.4 |
| 1/2 | 9/16 | 1 3/8 | 7/64 | 100 | 2V045 | 33.79 | 27.70 | 24.88 | 3.9 |
| 5/8 | 11/16 | 1 15/32 | 9/64 | 100 | 2V049 | 61.69 | 50.55 | 45.44 | 7.7 |
| 3/4 | 13/16 | 1 3/4 | 5/32 | 50 | 2V053 | 37.49 | 30.75 | 27.62 | 5.5 |
| **SAE ALLOY 8 FLAT WASHERS** | | | | | | | | | |
| 1/4" | 9/32 | 5/8 | 1/16 | 100 | 4P529 | 7.42 | 4.92 | 4.14 | 0.4 |
| 5/16 | 11/32 | 11/16 | 1/16 | 100 | 4P530 | 9.41 | 6.22 | 5.22 | 0.6 |
| 3/8 | 13/32 | 13/16 | 1/16 | 100 | 4P531 | 12.59 | 8.15 | 6.85 | 1.2 |
| 7/16 | 15/32 | 59/64 | 1/16 | 100 | 4P532 | 16.34 | 10.78 | 9.06 | 1.0 |
| 1/2 | 17/32 | 1 1/16 | 3/32 | 100 | 4P533 | 27.03 | 18.36 | 15.44 | 2.0 |
| 5/8 | 21/32 | 1 5/16 | 3/32 | 100 | 4P534 | 49.38 | 35.50 | 31.89 | 2.8 |
| 3/4 | 13/16 | 1 1/2 | 9/64 | 50 | 4P535 | 30.01 | 24.95 | 20.98 | 2.4 |
| 7/8 | 15/16 | 1 3/4 | 9/64 | 50 | 4P536 | 44.14 | 33.70 | 28.27 | 3.2 |
| 1 | 1 1/16 | 2 | 9/64 | 50 | 4P537 | 56.22 | 41.15 | 34.54 | 4.2 |
| **18-8 STAINLESS STEEL FLAT WASHERS** | | | | | | | | | |
| #4 | 0.125 | 0.312 | 0.032 | 100 | 4P480 | 1.98 | 1.72 | 1.54 | 0.1 |
| #6 | 0.149 | 0.375 | 0.032 | 100 | 4P481 | 2.00 | 1.74 | 1.56 | 0.2 |
| #8 | 0.174 | 0.375 | 0.032 | 100 | 4P482 | 2.19 | 1.90 | 1.72 | 0.2 |
| #10 | 0.203 | 0.438 | 0.032 | 100 | 4P483 | 2.39 | 2.08 | 1.87 | 0.3 |
| #12 | 1/4 | 0.562 | 0.050 | 100 | 5M106 | 3.17 | 2.38 | 2.14 | 0.3 |
| 1/4" | 9/32 | 0.625 | 0.050 | 100 | 4P484 | 6.26 | 5.84 | 5.25 | 0.3 |
| 5/16 | 11/32 | 0.750 | 0.050 | 100 | 4P485 | 10.17 | 7.12 | 6.41 | 0.5 |
| 3/8 | 13/32 | 0.875 | 0.050 | 100 | 4P486 | 14.53 | 10.14 | 9.13 | 0.7 |
| 1/2 | 9/16 | 1.25 | 0.062 | 100 | 4P487 | 23.29 | 21.51 | 19.36 | 1.9 |
| 5/8 | 11/16 | 1.5 | 0.078 | 50 | 4P488 | 20.18 | 13.73 | 12.36 | 1.9 |
| 3/4 | 13/16 | 1.75 | 0.105 | 50 | 5M107 | 56.12 | 44.95 | 40.37 | 1.9 |
| **METRIC FLAT WASHERS** | | | | | | | | | |
| M6 | 6,4 | 12 | 1,6 | 100 | 2N532 | 4.72 | 3.86 | 3.49 | 0.3 |
| M8 | 8,4 | 16 | 1,6 | 100 | 2N538 | 4.56 | 3.73 | 3.37 | 0.5 |
| M10 | 10,5 | 21 | 2 | 100 | 2N542 | 9.36 | 7.67 | 6.90 | 0.9 |
| M12 | 13 | 24 | 2,5 | 100 | 2N546 | 11.18 | 9.15 | 8.25 | 1.4 |
| M14 | 15 | 28 | 2,5 | 100 | 2N550 | 15.95 | 13.06 | 11.75 | 1.9 |
| M16 | 17 | 30 | 3 | 100 | 2N552 | 19.23 | 15.73 | 14.17 | 2.5 |
| **ZINC FENDER WASHERS** | | | | | | | | | |
| 3/16" | 17/64 | 3/4 | 3/64 | 100 | 2X035 | 5.24 | 4.29 | 3.87 | 0.6 |
| 3/16 | 17/64 | 1 | 3/64 | 100 | 4P520 | 4.78 | 2.74 | 2.48 | 1.1 |
| 3/16 | 17/64 | 1 1/4 | 3/64 | 100 | 2X037 | 8.20 | 6.71 | 6.05 | 1.7 |
| 1/4 | 9/32 | 1 | 3/64 | 100 | 4P521 | 4.60 | 2.90 | 2.61 | 1.4 |
| 1/4 | 9/32 | 1 1/4 | 3/64 | 100 | 4P522 | 7.47 | 3.89 | 3.51 | 2.2 |
| 1/4 | 9/32 | 1 1/2 | 3/64 | 100 | 4P523 | 10.90 | 6.47 | 5.83 | 2.6 |
| 5/16 | 11/32 | 1 1/4 | 3/64 | 100 | 4P524 | 7.79 | 4.70 | 4.23 | 2.2 |
| 5/16 | 11/32 | 1 1/2 | 3/64 | 100 | 4P525 | 10.70 | 5.51 | 4.95 | 2.5 |
| 3/8 | 13/32 | 1 1/4 | 3/64 | 100 | 4P526 | 12.82 | 7.80 | 6.63 | 1.8 |
| 3/8 | 13/32 | 1 1/2 | 3/64 | 100 | 4P527 | 10.35 | 8.10 | 6.01 | 2.4 |
| 1/2 | 17/32 | 2 | 3/64 | 50 | 4P528 | 8.24 | 7.30 | 6.57 | 2.7 |

# FINISHING WASHERS, SPLIT LOCK WASHERS AND TOOTH LOCK WASHERS

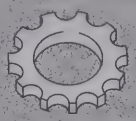
QUALITY FASTENERS from ... Rockford

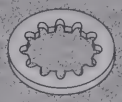




Finishing Washer


Bonded Neoprene Washers


External Lock washer


Internal Lock washer


Split Lock washer

## FINISHING WASHERS

Nickel plated finish
For use with flat or oval head screws
Countersunk design for a decorative, more finished look

## TAINLESS STEEL FINISHING WASHER

Stainless steel for superior corrosion resistance
For use with flat or oval head screws
Countersunk design for a decorative, more finished look

## BONDED NEOPRENE WASHERS

Galvanized washer with bonded neoprene surface
Helps to prevent water from seeping in around screw holes

## SPLIT LOCK WASHERS

- Zinc chromate finish
- Spring action holds tension in assembly and helps prevent loosening or movement between parts
- Meets or exceeds ANSI/ASME B18.21.1 Standards

## ALLOY SPLIT LOCK WASHERS

- For use with Grade 8 Hex Cap Screws hardened RC 45-53
- Zinc gold chromate finish
- Meets or exceeds ANSI/ASME B18.21.1 Standards

## STAINLESS STEEL LOCK WASHERS

- Use with Stainless Steel Hex Cap Screws and Machine Screws
- Resists many types of corrosive environments that cause pitting, galvanic corrosion and rust

## METRIC LOCK WASHERS

- Use with Class 8.8 and 10.9 Metric Hex Cap Screws
- Zinc chromate finish with red dye for easy Metric identification

## EXTERNAL TOOTH LOCK WASHERS

- Zinc chromate finish
- Provide extra resistance to vibration loosening
- Meets or exceeds ANSI/ASME B18.21.1 Standards

## INTERNAL TOOTH LOCK WASHERS

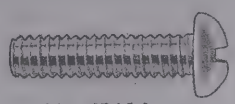
- Zinc chromate finish
- Provide extra resistance to vibration loosening
- Meets or exceeds ANSI/ASME B18.21.1 Standards

| Bolt Size | Diameter (In.) Inside | Outside | Thickness (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **FINISHING WASHERS** | | | | | | | | | |
| 5 | 11/64 | 15/32 | 3/32 | 100 | **2X041** | $1.85 | **$1.70** | **$1.53** | 0.1 |
| 8 | 3/16 | 17/32 | 3/32 | 100 | **2X043** | 1.99 | **1.82** | **1.65** | 0.1 |
| 10 | 15/64 | 19/32 | 1/8 | 100 | **2X045** | 2.59 | **2.38** | **2.14** | 0.1 |
| 12 | 9/32 | 11/16 | 1/8 | 100 | **2X047** | 3.16 | **2.90** | **2.62** | 0.2 |
| **FINISHING WASHERS 18-8 STAINLESS STEEL** | | | | | | | | | |
| 5 | 0.173 | 15/32 | 3/32 | 100 | **5M130** | 3.17 | **2.37** | **2.13** | 0.1 |
| 8 | 0.209 | 17/32 | 3/32 | 100 | **5M131** | 3.55 | **2.64** | **2.39** | 0.1 |
| 10 | 0.269 | 19/32 | 1/8 | 100 | **5M132** | 3.82 | **2.82** | **2.55** | 0.1 |
| 12 | 0.275 | 21/32 | 1/8 | 100 | **5M133** | 5.38 | **4.00** | **3.61** | 0.3 |
| 4" | 0.324 | 25/32 | 1/8 | 100 | **5M134** | 7.91 | **5.87** | **5.28** | 0.2 |
| **BONDED NEOPRENE WASHERS** | | | | | | | | | |
| 4-#6 | 0.150 | 3/8 | | 250 | **5M099** | 14.93 | **14.41** | **12.97** | 0.3 |
| 8-#10 | 0.200 | 1/2 | | 250 | **5M100** | 17.24 | **16.01** | **14.42** | 0.6 |
| 12-#14 | 0.275 | 5/8 | | 250 | **5M101** | 19.89 | **19.31** | **17.37** | 0.9 |
| **SPLIT LOCK WASHERS** | | | | | | | | | |
| 5 | 0.148 | 0.250 | 0.031 | 100 | **2V074** | 0.68 | **0.57** | **0.51** | 0.1 |
| 8 | 0.174 | 0.293 | 0.040 | 100 | **2V077** | 0.68 | **0.57** | **0.51** | 0.1 |
| 10 | 0.194 | 0.334 | 0.047 | 100 | **4P501** | 1.00 | **0.81** | **0.72** | 0.2 |
| 12 | 0.227 | 0.377 | 0.056 | 100 | **2V084** | 0.79 | **0.65** | **0.60** | 0.1 |
| 4" | 0.255 | 0.489 | 0.062 | 100 | **4P502** | 1.25 | **0.92** | **0.83** | 0.3 |
| 16 | 0.318 | 0.586 | 0.078 | 100 | **4P503** | 1.79 | **1.20** | **1.08** | 0.4 |
| 8 | 0.382 | 0.683 | 0.094 | 100 | **4P504** | 2.67 | **1.72** | **1.55** | 0.7 |
| 16 | 0.446 | 0.779 | 0.109 | 100 | **4P505** | 4.04 | **2.57** | **2.30** | 1.0 |
| 2 | 0.509 | 0.873 | 0.125 | 100 | **4P506** | 5.60 | **3.61** | **3.25** | 1.3 |
| 16 | 0.573 | 0.971 | 0.141 | 100 | **4P507** | 7.85 | **5.11** | **4.59** | 2.0 |
| 8 | 0.636 | 1.079 | 0.156 | 100 | **4P508** | 10.21 | **6.13** | **5.52** | 2.5 |
| 4 | 0.763 | 1.271 | 0.188 | 50 | **4P509** | 8.64 | **5.13** | **4.61** | 2.0 |
| 8 | 0.905 | 1.474 | 0.219 | 50 | **4P510** | 13.12 | **8.06** | **7.25** | 3.0 |
| | 1.042 | 1.661 | 0.250 | 50 | **4P511** | 19.86 | **11.07** | **9.96** | 4.4 |
| **SPLIT LOCK WASHERS - ALLOY** | | | | | | | | | |
| 4" | 0.262 | 0.489 | 0.062 | 100 | **2V098** | 3.28 | **2.69** | **2.43** | 0.2 |
| 16 | 0.326 | 0.586 | 0.078 | 100 | **2V100** | 4.98 | **4.08** | **3.68** | 0.4 |
| 8 | 0.390 | 0.683 | 0.094 | 100 | **2V102** | 6.78 | **5.56** | **5.01** | 0.6 |
| 16 | 0.455 | 0.779 | 0.109 | 100 | **2V104** | 10.37 | **8.48** | **7.66** | 0.9 |
| 2 | 0.518 | 0.873 | 0.125 | 100 | **2V106** | 13.83 | **11.32** | **10.19** | 1.3 |
| 8 | 0.650 | 1.079 | 0.156 | 100 | **2V110** | 31.57 | **25.85** | **23.25** | 2.4 |
| 4 | 0.775 | 1.271 | 0.188 | 100 | **2V112** | 45.54 | **37.35** | **33.54** | 4.0 |

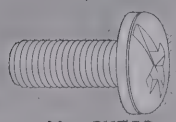
| Bolt Size | Dia. (In.) Inside | Outside | Thickness (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SPLIT LOCK WASHERS 18-8 STAINLESS STEEL** | | | | | | | | | |
| #6 | 0.156 | 0.375 | 0.049 | 100 | **4P512** | $1.52 | **$1.33** | **$1.19** | 0.1 |
| #8 | 0.188 | 0.438 | 0.049 | 100 | **4P513** | 1.62 | **1.41** | **1.27** | 0.3 |
| #10 | 0.219 | 0.500 | 0.049 | 100 | **4P514** | 1.98 | **1.72** | **1.54** | 0.2 |
| #12 | 0.250 | 0.562 | 0.065 | 100 | **5M108** | 3.12 | **2.32** | **2.09** | 0.1 |
| 1/4" | 0.281 | 0.625 | 0.065 | 100 | **4P515** | 4.46 | **3.16** | **2.84** | 0.3 |
| 5/16 | 0.344 | 0.688 | 0.065 | 100 | **4P516** | 6.35 | **4.51** | **4.06** | 0.4 |
| 3/8 | 0.406 | 0.812 | 0.065 | 100 | **4P517** | 9.15 | **6.47** | **5.83** | 0.7 |
| 1/2 | 0.531 | 1.062 | 0.095 | 100 | **4P518** | 20.99 | **14.73** | **13.26** | 1.3 |
| 5/8 | 0.656 | 1.312 | 0.095 | 50 | **4P519** | 19.65 | **13.54** | **12.19** | 1.4 |
| 3/4 | 0.812 | 1.469 | 0.134 | 50 | **5M109** | 33.63 | **25.05** | **22.53** | 2.4 |
| **METRIC SPLIT LOCK WASHERS** | | | | | | | | | |
| M4 | — | — | — | 100 | **2N486** | 4.10 | **3.36** | **3.04** | 0.1 |
| M6 | 6,1 | 11,8 | 1,6 | 100 | **2N494** | 4.38 | **3.59** | **3.24** | 0.2 |
| M8 | 8,2 | 14,8 | 2 | 100 | **2N502** | 4.28 | **3.51** | **3.17** | 0.4 |
| M10 | 10,2 | 18,1 | 2,2 | 100 | **2N506** | 9.03 | **7.39** | **6.66** | 0.6 |
| M12 | 12,2 | 21,1 | 2,5 | 100 | **2N510** | 10.93 | **8.94** | **8.06** | 0.8 |
| M14 | 14,2 | 24,1 | 3 | 100 | **2N514** | 15.04 | **12.30** | **11.08** | 1.3 |
| M16 | 16,2 | 27,4 | 3,5 | 100 | **2N516** | 17.41 | **14.24** | **12.83** | 2.0 |
| **LOCK WASHERS EXTERNAL TOOTH** | | | | | | | | | |
| #6 | 0.141 | 0.320 | 0.022 | 100 | **5F914** | 2.16 | **1.77** | **1.61** | 0.1 |
| #8 | 0.168 | 0.381 | 0.023 | 100 | **5F915** | 2.16 | **1.77** | **1.61** | 0.1 |
| #10 | 0.196 | 0.410 | 0.025 | 100 | **5F916** | 2.22 | **1.82** | **1.66** | 0.1 |
| #12 | 0.221 | 0.475 | 0.028 | 100 | **5F917** | 2.22 | **1.82** | **1.66** | 0.1 |
| 1/4" | 0.256 | 0.510 | 0.028 | 100 | **5F918** | 2.33 | **1.93** | **1.73** | 0.1 |
| 5/16 | 0.320 | 0.610 | 0.034 | 100 | **5F919** | 2.42 | **1.98** | **1.78** | 0.1 |
| 3/8 | 0.384 | 0.694 | 0.040 | 50 | **5F920** | 2.16 | **1.77** | **1.61** | 0.1 |
| 7/16 | 0.448 | 0.760 | 0.040 | 50 | **5F921** | 2.45 | **2.01** | **1.81** | 0.1 |
| 1/2 | 0.512 | 0.900 | 0.045 | 50 | **5F922** | 3.08 | **2.53** | **2.29** | 0.1 |
| **LOCK WASHERS INTERNAL TOOTH** | | | | | | | | | |
| #6 | 0.141 | 0.295 | 0.022 | 100 | **5F923** | 2.16 | **1.77** | **1.61** | 0.1 |
| #8 | 0.168 | 0.340 | 0.023 | 100 | **5F924** | 2.16 | **1.77** | **1.61** | 0.1 |
| #10 | 0.195 | 0.381 | 0.025 | 100 | **5F925** | 2.22 | **1.82** | **1.66** | 0.1 |
| #12 | 0.221 | 0.410 | 0.028 | 100 | **5F926** | 2.22 | **1.82** | **1.66** | 0.1 |
| 1/4" | 0.256 | 0.478 | 0.029 | 100 | **5F927** | 2.33 | **1.93** | **1.73** | 0.1 |
| 5/16 | 0.320 | 0.610 | 0.034 | 100 | **5F928** | 2.42 | **1.98** | **1.78** | 0.1 |
| 3/8 | 0.384 | 0.692 | 0.040 | 50 | **5F929** | 2.16 | **1.98** | **1.78** | 0.1 |

## MACHINE SCREWS

QUALITY FASTENERS from ... Rockford



No. 4P614



No. 5K752

- Zinc Plated carbon steel
- Chamfer on thread ends
- Length of Flat Head (Countersunk) Screws are measured from top of head
- Combination Drive Machine Screws offers the convenience of using either a slotted or Phillips screwdriver

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ROUND HEAD SLOTTED—COARSE THREAD** | | | | | | | |
| #4-40 | 1/4 | 100 | 5K128 | $1.59 | $1.30 | $1.18 | 0.1 |
| 4-40 | 3/8 | 100 | 5K129 | 1.62 | 1.34 | 1.20 | 0.1 |
| 4-40 | 1/2 | 100 | 5K130 | 1.65 | 1.36 | 1.23 | 0.1 |
| 4-40 | 5/8 | 100 | 5K131 | 1.99 | 1.64 | 1.48 | 0.2 |
| 4-40 | 3/4 | 100 | 5K132 | 1.80 | 1.47 | 1.34 | 0.2 |
| 4-40 | 1 | 100 | 5K133 | 1.90 | 1.56 | 1.42 | 0.2 |
| 4-40 | 1 1/2 | 100 | 5K135 | 2.79 | 2.28 | 2.07 | 0.3 |
| 5-40 | 1/2 | 100 | 5K137 | 1.71 | 1.40 | 1.27 | 0.2 |
| 5-40 | 3/4 | 100 | 5K138 | 1.88 | 1.54 | 1.40 | 0.3 |
| 5-40 | 1 | 100 | 5K139 | 1.96 | 1.60 | 1.46 | 0.3 |
| 6-32 | 1/4 | 100 | 5K144 | 1.65 | 1.36 | 1.22 | 0.2 |
| 6-32 | 3/8 | 100 | 4P614 | 1.45 | 1.18 | 1.07 | 0.3 |
| 6-32 | 1/2 | 100 | 4P615 | 1.48 | 1.37 | 1.22 | 0.4 |
| 6-32 | 5/8 | 100 | 5K145 | 1.88 | 1.54 | 1.40 | 0.3 |
| 6-32 | 3/4 | 100 | 4P616 | 1.59 | 1.44 | 1.28 | 0.4 |
| 6-32 | 7/8 | 100 | 5K146 | 1.71 | 1.40 | 1.26 | 0.3 |
| 6-32 | 1 | 100 | 4P617 | 1.79 | 1.68 | 1.51 | 0.4 |
| 6-32 | 1 1/4 | 100 | 5K147 | 2.33 | 1.91 | 1.73 | 0.5 |
| 6-32 | 1 1/2 | 100 | 5K148 | 3.70 | 3.03 | 2.74 | 0.5 |
| 6-32 | 1 3/4 | 100 | 5K150 | 3.93 | 3.22 | 2.91 | 0.6 |
| 6-32 | 2 | 100 | 5K155 | 4.16 | 3.41 | 3.07 | 0.7 |
| 6-32 | 2 1/2 | 100 | 5K156 | 3.93 | 3.22 | 2.91 | 0.8 |
| 6-32 | 3 | 100 | 5K157 | 5.64 | 4.62 | 4.16 | 1.0 |
| 8-32 | 1/4 | 100 | 5K159 | 1.80 | 1.47 | 1.34 | 0.2 |
| 8-32 | 5/16 | 100 | 5K160 | 2.27 | 1.87 | 1.69 | 0.3 |
| 8-32 | 3/8 | 100 | 4P618 | 1.59 | 1.35 | 1.20 | 0.4 |
| 8-32 | 1/2 | 100 | 4P619 | 1.71 | 1.56 | 1.41 | 0.4 |
| 8-32 | 5/8 | 100 | 5K161 | 2.08 | 1.70 | 1.54 | 0.4 |
| 8-32 | 3/4 | 100 | 4P620 | 1.94 | 1.64 | 1.48 | 0.4 |
| 8-32 | 1 | 100 | 4P621 | 2.13 | 1.78 | 1.60 | 0.8 |
| 8-32 | 1 1/4 | 100 | 4P622 | 2.55 | 2.17 | 1.95 | 0.8 |
| 8-32 | 1 1/2 | 100 | 4P623 | 3.64 | 2.25 | 2.03 | 1.0 |
| 8-32 | 2 | 100 | 4P624 | 4.16 | 2.65 | 2.39 | 1.1 |
| 8-32 | 2 1/2 | 100 | 5K163 | 6.06 | 4.96 | 4.48 | 1.3 |
| 8-32 | 3 | 100 | 5K176 | 6.49 | 5.31 | 4.79 | 1.5 |
| 10-24 | 1/4 | 100 | 5K177 | 2.08 | 1.70 | 1.54 | 0.4 |
| 10-24 | 3/8 | 100 | 5K178 | 1.79 | 1.47 | 1.34 | 0.4 |
| 10-24 | 1/2 | 100 | 4P625 | 1.93 | 1.78 | 1.60 | 0.6 |
| 10-24 | 5/8 | 100 | 5K182 | 2.08 | 1.70 | 1.54 | 0.6 |
| 10-24 | 3/4 | 100 | 4P626 | 2.25 | 1.99 | 1.79 | 0.7 |
| 10-24 | 1 | 100 | 4P627 | 2.55 | 2.23 | 2.01 | 0.9 |
| 10-24 | 1 1/4 | 100 | 4P628 | 2.96 | 2.67 | 2.41 | 1.0 |
| 10-24 | 1 1/2 | 100 | 4P629 | 3.47 | 2.93 | 2.63 | 1.4 |
| 10-24 | 1 3/4 | 100 | 5K190 | 4.52 | 3.71 | 3.34 | 1.2 |
| 10-24 | 2 | 100 | 5K195 | 4.89 | 4.02 | 3.62 | 1.4 |
| 10-24 | 2 1/2 | 100 | 5K198 | 6.57 | 5.37 | 4.85 | 1.7 |
| 10-24 | 3 | 100 | 5K200 | 7.26 | 5.94 | 5.35 | 1.9 |
| 10-24 | 4 | 100 | 5K211 | 9.19 | 7.51 | 6.78 | 2.5 |
| 12-24 | 1/2 | 100 | 5K219 | $2.93 | $2.41 | $2.17 | 0.7 |
| 12-24 | 3/4 | 100 | 5K222 | 3.90 | 3.19 | 2.89 | 0.9 |
| 12-24 | 1 | 100 | 5K223 | 4.35 | 3.57 | 3.22 | 1.1 |
| 12-24 | 1 1/2 | 100 | 5K226 | 5.78 | 4.73 | 4.26 | 1.5 |
| 12-24 | 2 | 100 | 5K227 | 7.23 | 5.91 | 5.33 | 1.9 |
| 1/4"-20 | 3/8 | 100 | 4P636 | 3.10 | 2.57 | 2.31 | 1.0 |
| 1/4-20 | 1/2 | 100 | 4P637 | 3.38 | 2.61 | 2.34 | 1.2 |
| 1/4-20 | 5/8 | 100 | 5K230 | 3.64 | 2.99 | 2.69 | 1.1 |
| 1/4-20 | 3/4 | 100 | 4P638 | 3.89 | 2.97 | 2.67 | 1.4 |
| 1/4-20 | 1 | 100 | 4P639 | 4.35 | 3.34 | 3.01 | 1.1 |
| 1/4-20 | 1 1/4 | 100 | 4P640 | 4.97 | 3.34 | 3.01 | 1.9 |
| 1/4-20 | 1 1/2 | 100 | 4P641 | 5.57 | 4.13 | 3.72 | 2.2 |
| 1/4-20 | 1 3/4 | 100 | 4P642 | 6.31 | 4.99 | 4.49 | 2.4 |
| 1/4-20 | 2 | 100 | 4P643 | 6.76 | 5.28 | 4.75 | 2.6 |
| 1/4-20 | 2 1/4 | 100 | 4P644 | 8.05 | 5.81 | 5.24 | 3.0 |
| 1/4-20 | 2 1/2 | 100 | 4P645 | 8.65 | 6.26 | 5.64 | 3.2 |
| 1/4-20 | 3 | 100 | 4P646 | 9.17 | 7.41 | 6.67 | 4.4 |
| 1/4-20 | 3 1/2 | 100 | 5K233 | 11.75 | 9.61 | 8.67 | 4.1 |
| 1/4-20 | 4 | 100 | 5K234 | 12.65 | 10.36 | 9.33 | 4.5 |
| **ROUND HEAD SLOTTED—FINE THREAD** | | | | | | | |
| #10-32 | 3/8 | 100 | 5K841 | 1.99 | 1.63 | 1.48 | 0.4 |
| 10-32 | 1/2 | 100 | 4P630 | 2.10 | 1.92 | 1.73 | 0.6 |
| 10-32 | 5/8 | 100 | 5K842 | 2.27 | 1.87 | 1.69 | 0.6 |
| 10-32 | 3/4 | 100 | 4P631 | 2.45 | 2.29 | 2.06 | 0.8 |
| 10-32 | 1 | 100 | 4P632 | 2.81 | 2.65 | 2.39 | 0.9 |
| 10-32 | 1 1/4 | 100 | 4P633 | 3.21 | 2.93 | 2.63 | 1.1 |
| 10-32 | 1 1/2 | 100 | 4P634 | 3.78 | 3.20 | 2.89 | 1.2 |
| 10-32 | 2 | 100 | 4P635 | 5.34 | 3.81 | 3.44 | 1.6 |
| 1/4"-28 | 1/2 | 100 | 5K855 | 3.70 | 3.03 | 2.73 | 1.0 |
| 1/4-28 | 3/4 | 100 | 5K857 | 4.30 | 3.52 | 3.17 | 1.3 |
| 1/4-28 | 1 | 100 | 5K858 | 4.75 | 3.88 | 3.51 | 1.6 |
| **ROUND COMBINATION HEAD—COARSE THREAD** | | | | | | | |
| #6-32 | 3/8 | 100 | 5K752 | 1.88 | 1.57 | 1.42 | 0.2 |
| 6-32 | 1/2 | 100 | 5K755 | 1.88 | 1.57 | 1.42 | 0.2 |
| 6-32 | 3/4 | 100 | 5K759 | 2.24 | 1.87 | 1.69 | 0.3 |
| 6-32 | 1 | 100 | 5K760 | 2.68 | 2.24 | 2.04 | 0.4 |
| 6-32 | 1 1/4 | 100 | 5K765 | 3.23 | 2.68 | 2.43 | 0.5 |
| 6-32 | 1 1/2 | 100 | 5K766 | 3.76 | 3.15 | 2.84 | 0.5 |
| 6-32 | 2 | 100 | 5K767 | 4.39 | 3.67 | 3.31 | 0.7 |
| 8-32 | 3/8 | 100 | 5K770 | 2.41 | 2.02 | 1.81 | 0.3 |
| 8-32 | 1/2 | 100 | 5K772 | 2.41 | 2.02 | 1.81 | 0.4 |
| 8-32 | 3/4 | 100 | 5K775 | 2.96 | 2.48 | 2.23 | 0.5 |
| 8-32 | 1 | 100 | 5K776 | 3.59 | 2.99 | 2.69 | 0.6 |
| 8-32 | 1 1/4 | 100 | 5K777 | 4.30 | 3.59 | 3.25 | 0.7 |
| 8-32 | 1 1/2 | 100 | 5K778 | 5.28 | 4.41 | 3.98 | 0.8 |
| 8-32 | 2 | 100 | 5K781 | 6.00 | 5.02 | 4.54 | 1.0 |
| 8-32 | 2 1/2 | 100 | 5K782 | 7.97 | 6.67 | 6.00 | 1.3 |
| 10-24 | 3/8 | 100 | 5K793 | 2.41 | 2.02 | 1.81 | 0.4 |
| 10-24 | 1/2 | 100 | 5K794 | 2.62 | 2.20 | 1.98 | 0.5 |
| 10-24 | 3/4 | 100 | 5K796 | 2.81 | 2.36 | 2.14 | 0.6 |
| 10-24 | 1 | 100 | 5K799 | 3.96 | 3.31 | 2.99 | 0.8 |
| 10-24 | 1 1/4 | 100 | 5K803 | 4.03 | 3.36 | 3.04 | 0.9 |
| 10-24 | 1 1/2 | 100 | 5K804 | 4.23 | 3.55 | 3.21 | 1.1 |
| 10-24 | 2 | 100 | 5K807 | 5.70 | 4.77 | 4.30 | 1.4 |
| 10-24 | 2 1/2 | 100 | 5K809 | 4.02 | 3.36 | 3.04 | 1.7 |
| 1/4"-20 | 3/8 | 100 | 5K818 | 3.96 | 3.31 | 2.99 | 0.8 |
| 1/4-20 | 1/2 | 100 | 5K821 | 4.23 | 3.55 | 3.20 | 1.0 |
| 1/4-20 | 5/8 | 100 | 5K824 | 5.11 | 4.27 | 3.86 | 1.1 |
| 1/4-20 | 3/4 | 100 | 5K825 | 5.24 | 4.39 | 3.97 | 1.2 |
| 1/4-20 | 1 | 100 | 5K826 | 6.11 | 5.12 | 4.62 | 1.6 |
| 1/4-20 | 1 1/4 | 100 | 5K827 | 6.91 | 5.80 | 5.22 | 1.8 |
| 1/4-20 | 1 1/2 | 100 | 5K828 | 7.92 | 6.63 | 5.98 | 2.0 |
| 1/4-20 | 2 | 100 | 5K829 | 9.80 | 8.20 | 7.39 | 2.6 |
| 1/4-20 | 2 1/4 | 100 | 5K830 | 11.62 | 9.71 | 8.76 | 2.8 |
| 1/4-20 | 2 1/2 | 100 | 5K836 | 12.08 | 10.11 | 9.12 | 3.1 |
| **ROUND COMBINATION HEAD—FINE THREAD** | | | | | | | |
| #10-32 | 3/8 | 100 | 5K892 | 2.01 | 1.75 | 1.58 | 0.4 |
| 10-32 | 1/2 | 100 | 5K893 | 2.55 | 2.21 | 2.01 | 0.5 |
| 10-32 | 3/4 | 100 | 5K894 | 2.81 | 2.45 | 2.21 | 0.6 |
| 10-32 | 1 | 100 | 5K897 | 3.63 | 3.15 | 2.84 | 0.8 |
| 10-32 | 1 1/4 | 100 | 5K902 | 4.56 | 3.96 | 3.58 | 0.9 |
| 10-32 | 1 1/2 | 100 | 5K912 | 4.90 | 4.25 | 3.84 | 1.1 |
| 10-32 | 2 | 100 | 5K913 | 5.98 | 5.19 | 4.68 | 1.4 |

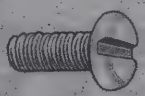
CONTINUED ON NEXT PAGE

# MACHINE SCREWS (cont.)

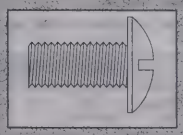
QUALITY FASTENERS from ... Rockford



No. 4P584



No. 4P663



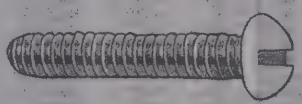
No. 5K681

## MACHINE SCREWS (cont.)

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FLAT HEAD SLOTTED-COARSE THREAD** | | | | | | | |
| #4-40 | 3/8 | 100 | 5K316 | $1.65 | $1.36 | $1.23 | 0.1 |
| 6-32 | 3/8 | 100 | 5K331 | 1.48 | 1.21 | 1.10 | 0.1 |
| 6-32 | 1/2 | 100 | 4P584 | 1.51 | 1.37 | 1.22 | 0.3 |
| 6-32 | 3/4 | 100 | 4P585 | 1.65 | 1.50 | 1.36 | 0.4 |
| 6-32 | 1 | 100 | 4P586 | 1.82 | 1.54 | 1.39 | 0.4 |
| 6-32 | 1¼ | 100 | 4P587 | 2.39 | 1.72 | 1.55 | 0.5 |
| 6-32 | 1½ | 100 | 4P588 | 3.79 | 2.28 | 2.06 | 0.6 |
| 6-32 | 1¾ | 100 | 5K335 | 4.04 | 3.30 | 2.99 | 0.6 |
| 6-32 | 2 | 100 | 4P589 | 4.27 | 2.52 | 2.26 | 0.7 |
| 8-32 | 1/4 | 100 | 5K336 | 1.82 | 1.49 | 1.36 | 0.2 |
| 8-32 | 1/2 | 100 | 4P590 | 2.04 | 1.58 | 1.43 | 0.4 |
| 8-32 | 3/4 | 100 | 4P591 | 1.99 | 1.76 | 1.58 | 0.6 |
| 8-32 | 1 | 100 | 4P592 | 2.22 | 1.94 | 1.75 | 0.7 |
| 8-32 | 1¼ | 100 | 4P593 | 2.64 | 2.29 | 2.06 | 0.8 |
| 8-32 | 1½ | 100 | 4P594 | 3.72 | 2.53 | 2.27 | 0.9 |
| 8-32 | 2 | 100 | 5K359 | 4.27 | 3.49 | 3.16 | 1.0 |
| 8-32 | 3 | 100 | 5K361 | 6.60 | 5.40 | 4.87 | 1.5 |
| 10-24 | 3/8 | 100 | 5K364 | 1.82 | 1.49 | 1.36 | 0.3 |
| 10-24 | 1/2 | 100 | 4P595 | 1.99 | 1.92 | 1.73 | 0.6 |
| 10-24 | 5/8 | 100 | 5K371 | 2.13 | 1.75 | 1.58 | 0.5 |
| 10-24 | 3/4 | 100 | 4P596 | 2.30 | 1.94 | 1.75 | 0.7 |
| 10-24 | 1 | 100 | 4P597 | 2.64 | 2.25 | 2.03 | 0.9 |
| 10-24 | 1¼ | 100 | 4P598 | 3.01 | 2.76 | 2.50 | 1.0 |
| 10-24 | 1½ | 100 | 4P599 | 3.56 | 3.03 | 2.72 | 1.2 |
| 10-24 | 1¾ | 100 | 4P600 | 4.63 | 3.34 | 3.01 | 1.5 |
| 10-24 | 2 | 100 | 4P601 | 5.04 | 3.60 | 3.24 | 1.4 |
| 12-24 | 1/2 | 100 | 5K383 | 2.98 | 2.45 | 2.21 | 0.6 |
| 12-24 | 3/4 | 100 | 5K384 | 3.98 | 3.26 | 2.95 | 0.8 |
| 1/4"-20 | 1/2 | 100 | 4P606 | 3.47 | 2.93 | 2.63 | 1.2 |
| 1/4-20 | 5/8 | 100 | 5K394 | 3.72 | 3.05 | 2.75 | 0.9 |
| 1/4-20 | 3/4 | 100 | 4P607 | 3.98 | 3.03 | 2.72 | 1.4 |
| 1/4-20 | 1 | 100 | 4P608 | 4.44 | 3.43 | 3.08 | 1.7 |
| 1/4-20 | 1¼ | 100 | 4P609 | 5.12 | 3.43 | 3.08 | 1.9 |
| 1/4-20 | 1½ | 100 | 4P610 | 5.71 | 4.23 | 3.81 | 2.0 |
| 1/4-20 | 2 | 100 | 4P611 | 6.91 | 5.16 | 4.65 | 2.5 |
| 1/4-20 | 2¼ | 100 | 5K396 | 8.25 | 6.75 | 6.09 | 2.5 |
| 1/4-20 | 2½ | 100 | 4P612 | 8.88 | 5.66 | 5.09 | 3.2 |
| 1/4-20 | 3 | 100 | 4P613 | 9.46 | 7.79 | 7.01 | 3.7 |
| 1/4-20 | 4 | 100 | 5K400 | 13.03 | 10.65 | 9.60 | 4.3 |
| /16"-18 | 3/4 | 100 | 5K414 | 8.15 | 6.67 | 6.00 | 1.7 |
| 5/16-18 | 1 | 100 | 5K415 | 8.96 | 7.34 | 6.62 | 2.1 |
| 5/16-18 | 1½ | 100 | 5K424 | 11.25 | 9.21 | 8.29 | 3.0 |
| **FLAT HEAD SLOTTED—FINE THREAD** | | | | | | | |
| #10-32 | 1/2 | 100 | 4P602 | 2.19 | 2.10 | 1.89 | 0.6 |
| 10-32 | 3/4 | 100 | 4P603 | 2.50 | 2.36 | 2.13 | 0.8 |
| 10-32 | 1 | 100 | 4P604 | 2.90 | 2.74 | 2.48 | 0.9 |
| 10-32 | 1¼ | 100 | 5K876 | 3.35 | 2.74 | 2.49 | 1.0 |
| **PAN HEAD SLOTTED—COARSE THREAD** | | | | | | | |
| #4-40 | 1/4 | 100 | 4P663 | $1.50 | $1.18 | $1.06 | 0.2 |
| 6-32 | 3/8 | 100 | 4P664 | 1.98 | 1.34 | 1.19 | 0.3 |
| 6-32 | 1/2 | 100 | 4P665 | 2.21 | 1.38 | 1.23 | 0.3 |
| 6-32 | 1 | 100 | 4P666 | 3.16 | 1.60 | 1.45 | 0.5 |
| 6-32 | 1¼ | 100 | 4P667 | 3.85 | 1.70 | 1.53 | 0.6 |
| 6-32 | 1½ | 100 | 4P668 | 4.36 | 1.84 | 1.64 | 0.7 |
| 8-32 | 1/4 | 100 | 4P669 | 2.77 | 1.51 | 1.37 | 0.3 |
| 8-32 | 3/8 | 100 | 4P670 | 2.56 | 1.55 | 1.40 | 0.4 |
| 8-32 | 1/2 | 100 | 4P671 | 2.82 | 1.60 | 1.45 | 0.5 |
| 10-24 | 1/2 | 100 | 4P672 | 3.69 | 1.46 | 1.32 | 0.6 |
| 10-24 | 1¼ | 100 | 4P673 | 7.82 | 2.56 | 2.30 | 0.9 |
| **PAN HEAD SLOTTED—FINE THREAD** | | | | | | | |
| #10-32 | 3/8 | 100 | 4P674 | 3.59 | 1.91 | 1.73 | 0.5 |
| 10-32 | 1/2 | 100 | 4P675 | 3.99 | 2.01 | 1.81 | 0.7 |
| 10-32 | 3/4 | 100 | 4P676 | 4.77 | 2.20 | 1.99 | 0.8 |
| **TRUSS HEAD SLOTTED—COARSE THREAD** | | | | | | | |
| #10-24 | 1/2 | 100 | 5K681 | 2.10 | 1.72 | 1.56 | 0.5 |
| 10-24 | 3/4 | 100 | 5K709 | 2.41 | 1.98 | 1.79 | 0.6 |
| 10-24 | 1 | 100 | 5K714 | 2.78 | 2.28 | 2.07 | 0.8 |
| 10-24 | 1½ | 100 | 5K716 | 3.72 | 3.05 | 2.75 | 1.1 |
| 1/4"-20 | 1/2 | 100 | 5K719 | 3.65 | 2.99 | 2.69 | 1.0 |
| 1/4-20 | 3/4 | 100 | 5K726 | 4.21 | 3.45 | 3.11 | 1.3 |
| 1/4-20 | 1 | 100 | 5K727 | 4.67 | 3.82 | 3.45 | 1.5 |
| 1/4-20 | 1¼ | 100 | 5K729 | 5.41 | 4.42 | 4.00 | 1.8 |
| 1/4-20 | 1½ | 100 | 5K732 | 6.03 | 4.93 | 4.46 | 2.0 |
| 5/16-18 | 3/4 | 100 | 5K737 | 8.57 | 7.01 | 6.32 | 2.1 |
| 5/16-18 | 1 | 100 | 5K741 | 9.45 | 7.74 | 6.97 | 2.6 |

# STAINLESS STEEL MACHINE SCREWS

QUALITY FASTENERS from ... Rockford



No. 4P647

- 18-8 Stainless Steel
- Resists many types of corrosion elements that cause pitting, corrosion, and rust
- Possesses superior strength, toughness, and resistance to elevated temperatures compared to lower alloy carbon steel fasteners
- Length of flat head screws are measured from the top of the head

## STAINLESS STEEL MACHINE SCREWS

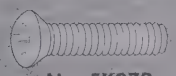
| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ROUND HEAD SLOTTED 18-8 STAINLESS STEEL—COARSE THREAD** | | | | | | | |
| #4-40 | 1/4 | 100 | 4P647 | $3.08 | $2.68 | $2.41 | 0.1 |
| 4-40 | 1/2 | 100 | 4P648 | 3.34 | 2.90 | 2.62 | 0.1 |
| 6-32 | 1/4 | 100 | 4P649 | 2.98 | 2.59 | 2.34 | 0.3 |
| 6-32 | 1/2 | 100 | 4P650 | 4.14 | 3.60 | 3.24 | 0.3 |
| 6-32 | 3/4 | 100 | 4P651 | 3.89 | 3.37 | 3.03 | 0.4 |
| 6-32 | 1 | 100 | 4P652 | 5.81 | 4.12 | 3.71 | 0.4 |
| 8-32 | 1/4 | 100 | 4P653 | 6.13 | 4.23 | 3.81 | 0.4 |
| 8-32 | 1/2 | 100 | 4P654 | 7.80 | 5.52 | 4.96 | 0.4 |
| 8-32 | 3/4 | 100 | 4P655 | 8.13 | 5.73 | 5.16 | 0.6 |
| 8-32 | 1 | 100 | 4P656 | 9.14 | 5.60 | 5.04 | 0.8 |

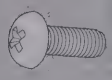
CONTINUED ON NEXT PAGE

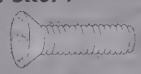
# MACHINE SCREWS AND STOVE BOLTS

## STAINLESS STEEL MACHINE SCREWS (cont.)

QUALITY FASTENERS from ... Rockford


No. 5K079

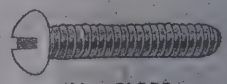

No. 5K008


No. 5K034

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ROUND HEAD SLOTTED 18-8 STAINLESS STEEL—COARSE THREAD (cont.)** | | | | | | | |
| **10-24** | 1/2 | 100 | **4P657** | $9.85 | **$6.94** | **$6.25** | 0.6 |
| **10-24** | 3/4 | 100 | **4P658** | 10.22 | **6.19** | **5.57** | 0.7 |
| **10-24** | 1 | 100 | **4P659** | 12.65 | **8.90** | **8.02** | 0.9 |
| **1/4"-20** | 1/2 | 100 | **5F997** | 20.72 | **14.04** | **12.64** | 1.0 |
| **1/4-20** | 3/4 | 100 | **5F998** | 25.30 | **17.15** | **15.44** | 1.2 |
| **1/4-20** | 1 | 100 | **5F999** | 25.94 | **17.65** | **15.89** | 1.6 |
| **ROUND HEAD SLOTTED 18-8 STAINLESS STEEL—FINE THREAD** | | | | | | | |
| **#10-32** | 1/2 | 100 | **4P660** | 10.76 | **6.95** | **6.26** | 0.6 |
| **10-32** | 3/4 | 100 | **4P661** | 11.57 | **8.12** | **7.31** | 0.8 |
| **10-32** | 1 | 100 | **4P662** | 13.29 | **7.17** | **6.45** | 0.9 |
| **18-8 STAINLESS STEEL ROUND HEAD PHILLIPS—COARSE THREAD** | | | | | | | |
| **#6-32** | 1/2 | 100 | **5K008** | 5.11 | **3.45** | **3.11** | 0.2 |
| **6-32** | 3/4 | 100 | **5K009** | 5.54 | **3.77** | **3.39** | 0.3 |
| **6-32** | 1 | 100 | **5K010** | 5.70 | **3.88** | **3.51** | 0.4 |
| **6-32** | 1½ | 100 | **5K011** | 5.96 | **4.10** | **3.69** | 0.5 |
| **8-32** | 1/2 | 100 | **5K013** | 6.24 | **4.25** | **3.82** | 0.4 |
| **8-32** | 3/4 | 100 | **5K014** | 7.85 | **5.35** | **4.84** | 0.5 |
| **8-32** | 1 | 100 | **5K015** | 10.22 | **6.95** | **6.27** | 0.6 |
| **8-32** | 1¼ | 100 | **5K016** | 11.95 | **8.14** | **7.33** | 0.7 |
| **8-32** | 1½ | 100 | **5K017** | 12.91 | **8.79** | **7.92** | 0.8 |
| **8-32** | 1¾ | 100 | **5K018** | 13.72 | **9.36** | **8.43** | 0.9 |
| **8-32** | 2 | 100 | **5K020** | 14.53 | **9.92** | **8.93** | 1.0 |
| **10-24** | 1/2 | 100 | **5K021** | 8.83 | **5.99** | **5.39** | 0.5 |
| **10-24** | 3/4 | 100 | **5K022** | 10.76 | **7.32** | **6.59** | 0.6 |
| **10-24** | 1 | 100 | **5K023** | 13.67 | **9.30** | **8.37** | 0.8 |
| **10-24** | 1¼ | 100 | **5K024** | 13.98 | **9.53** | **8.60** | 0.9 |
| **10-24** | 1½ | 100 | **5K025** | 16.15 | **11.01** | **9.92** | 1.1 |
| **10-24** | 1¾ | 100 | **5K026** | 17.22 | **11.74** | **10.58** | 1.2 |
| **10-24** | 2 | 100 | **5K028** | 18.30 | **12.53** | **11.27** | 1.4 |
| **1/4"-20** | 3/4 | 100 | **5K029** | 22.60 | **15.34** | **13.82** | 1.2 |
| **1/4-20** | 1 | 100 | **5K030** | 23.13 | **15.78** | **14.22** | 1.6 |
| **1/4-20** | 1½ | 100 | **5K032** | 24.75 | **16.96** | **15.27** | 2.0 |
| **1/4-20** | 2 | 100 | **5K033** | 26.90 | **18.51** | **16.68** | 2.6 |
| **18-8 STAINLESS STEEL FLAT HEAD PHILLIPS—COARSE THREAD** | | | | | | | |
| **#6-32** | 3/8 | 100 | **5K034** | 4.20 | **2.83** | **2.56** | 0.2 |
| **6-32** | 1/2 | 100 | **5K036** | 4.25 | **2.87** | **2.59** | 0.2 |
| **6-32** | 3/4 | 100 | **5K040** | 5.38 | **3.65** | **3.30** | 0.3 |
| **8-32** | 1/2 | 100 | **5K052** | 6.17 | **4.41** | **3.99** | 1.3 |
| **8-32** | 3/4 | 100 | **5K053** | 6.99 | **4.78** | **4.30** | 0.5 |
| **8-32** | 1 | 100 | **5K057** | 8.61 | **5.89** | **5.31** | 0.6 |
| **10-24** | 1/2 | 100 | **5K060** | 7.26 | **4.95** | **4.48** | 0.5 |
| **10-24** | 3/4 | 100 | **5K061** | 8.88 | **6.06** | **5.45** | 0.6 |
| **10-24** | 1 | 100 | **5K062** | 10.76 | **7.36** | **6.63** | 0.8 |
| **1/4"-20** | 1/2 | 100 | **5K071** | 13.98 | **9.55** | **8.61** | 1.0 |
| **1/4-20** | 3/4 | 100 | **5K072** | 15.60 | **10.76** | **9.69** | 1.6 |
| **1/4-20** | 1 | 100 | **5K073** | 27.02 | **18.40** | **16.56** | 1.6 |
| **18-8 STAINLESS STEEL OVAL HEAD PHILLIPS—COARSE THREAD** | | | | | | | |
| **#6-32** | 3/8 | 100 | **5K079** | 4.41 | **2.99** | **2.69** | 0.2 |
| **6-32** | 1/2 | 100 | **5K080** | 4.46 | **3.03** | **2.74** | 0.2 |
| **6-32** | 3/4 | 100 | **5K081** | 5.65 | **3.84** | **3.48** | 0.3 |
| **8-32** | 1/2 | 100 | **5K087** | 5.92 | **4.02** | **3.62** | 0.3 |
| **8-32** | 3/4 | 100 | **5K088** | 7.53 | **5.13** | **4.62** | 0.5 |
| **8-32** | 1 | 100 | **5K090** | 9.52 | **6.47** | **5.83** | 0.5 |
| **10-24** | 1/2 | 100 | **5K094** | 7.91 | **5.36** | **4.83** | 0.4 |
| **10-24** | 3/4 | 100 | **5K095** | 11.57 | **7.86** | **7.07** | 0.6 |
| **10-24** | 1 | 100 | **5K096** | 13.13 | **8.92** | **8.03** | 0.7 |
| **1/4"-20** | 3/4 | 100 | **5K100** | 18.83 | **12.84** | **11.57** | 1.2 |
| **1/4-20** | 1 | 100 | **5K102** | 26.59 | **18.09** | **16.30** | 1.6 |
| **1/4-20** | 1½ | 100 | **5K104** | 33.90 | **23.11** | **20.78** | 2.0 |

## BRASS MACHINE SCREWS

QUALITY FASTENERS from ... Rockford

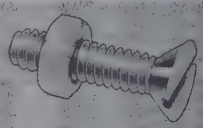

No. 5L008

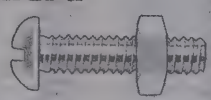
- Yellow Brass
- Resists corrosion
- Often used in electrical applications

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ROUND HEAD SLOTTED—COARSE THREAD** | | | | | | | |
| **#6-32** | 1/2 | 100 | **5K969** | $3.99 | **$3.65** | **$3.29** | 0.3 |
| **6-32** | 3/4 | 100 | **5K970** | 4.84 | **4.43** | **4.01** | 0.3 |
| **6-32** | 1 | 100 | **5K971** | 5.67 | **5.19** | **4.68** | 0.4 |
| **8-32** | 1/2 | 100 | **5K981** | 5.93 | **5.43** | **4.89** | 0.4 |
| **8-32** | 3/4 | 100 | **5K992** | 6.96 | **6.36** | **5.73** | 0.5 |
| **8-32** | 1 | 100 | **5K996** | 8.23 | **7.53** | **6.79** | 0.6 |
| **10-24** | 3/8 | 100 | **5L005** | 6.36 | **5.82** | **5.24** | 0.5 |
| **10-24** | 1/2 | 100 | **5L006** | 6.61 | **6.05** | **5.45** | 0.5 |
| **10-24** | 3/4 | 100 | **5L007** | 8.73 | **7.98** | **7.20** | 0.7 |
| **10-24** | 1 | 100 | **5L008** | 10.46 | **9.56** | **8.62** | 0.8 |
| **1/4"-20** | 1/2 | 100 | **5L018** | 13.69 | **12.52** | **11.27** | 1.1 |
| **1/4-20** | 3/4 | 100 | **5L019** | 16.43 | **15.03** | **13.54** | 1.4 |
| **1/4-20** | 1 | 100 | **5L020** | 19.19 | **17.54** | **15.80** | 1.7 |
| **1/4-20** | 1½ | 100 | **5L022** | 25.16 | **23.01** | **20.71** | 2.2 |
| **1/4-20** | 2 | 100 | **5L023** | 31.14 | **28.55** | **25.63** | 2.8 |

## STOVE BOLTS

QUALITY FASTENERS from ... Rockford


No. 5L121


No. 4P677

- Zinc Plated carbon steel
- Includes Nuts
- Length of flat head style is measured from the top of the head

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ROUND HEAD SLOTTED** | | | | | | | |
| **#5-40 (1/8)** | 3/4 | 100 | **5L061** | $4.53 | **$3.71** | **$3.34** | 0.5 |
| **5-40 (1/8)** | 1 | 100 | **5L062** | 4.64 | **3.80** | **3.44** | 0.5 |
| **5-40 (1/8)** | 1½ | 100 | **5L064** | 7.29 | **5.97** | **5.38** | 0.7 |
| **8-32 (5/32)** | 3/4 | 100 | **5L068** | 5.27 | **4.31** | **3.89** | 0.7 |
| **8-32 (5/32)** | 1 | 100 | **5L069** | 5.50 | **4.50** | **4.06** | 0.9 |
| **8-32 (5/32)** | 1½ | 100 | **5L071** | 7.55 | **6.18** | **5.57** | 1.1 |
| **10-24 (3/16)** | 1/2 | 100 | **4P677** | 4.55 | **2.91** | **2.61** | 0.9 |
| **10-24 (3/16)** | 3/4 | 100 | **4P678** | 4.90 | **3.16** | **2.84** | 1.1 |
| **10-24 (3/16)** | 1 | 100 | **4P679** | 5.24 | **3.38** | **3.05** | 1.2 |
| **10-24 (3/16)** | 1¼ | 100 | **4P680** | 5.69 | **3.70** | **3.33** | 1.4 |
| **10-24 (3/16)** | 1½ | 100 | **4P681** | 6.25 | **4.17** | **3.75** | 2.0 |
| **10-24 (3/16)** | 2 | 100 | **4P682** | 7.85 | **5.08** | **4.56** | 1.8 |
| **10-24 (3/16)** | 2½ | 100 | **4P683** | 9.82 | **6.43** | **5.79** | 2.7 |
| **10-24 (3/16)** | 3 | 100 | **5L080** | 11.33 | **9.27** | **8.36** | 2.3 |

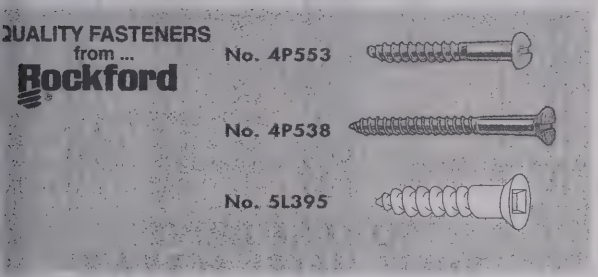
CONTINUED ON NEXT PAGE

# STOVE BOLTS AND WOOD SCREWS

## STOVE BOLTS (cont.)

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ROUND HEAD SLOTTED (cont.)** | | | | | | | |
| 1/4"-20 | 3/8 | 100 | 5L085 | $7.09 | $5.80 | $5.23 | 1.5 |
| 1/4-20 | 1/2 | 100 | 4P684 | 7.42 | 4.84 | 4.36 | 1.9 |
| 1/4-20 | 3/4 | 100 | 4P685 | 8.00 | 5.24 | 4.72 | 2.2 |
| 1/4-20 | 1 | 100 | 4P686 | 8.56 | 5.62 | 5.06 | 2.4 |
| 1/4-20 | 1¼ | 100 | 4P687 | 9.22 | 6.01 | 5.41 | 2.4 |
| 1/4-20 | 1½ | 100 | 4P688 | 9.90 | 6.52 | 5.86 | 2.9 |
| 1/4-20 | 2 | 100 | 4P689 | 11.24 | 7.43 | 6.69 | 3.4 |
| 1/4-20 | 2¼ | 100 | 5L089 | 12.66 | 10.37 | 9.34 | 3.4 |
| 1/4-20 | 2½ | 100 | 4P690 | 13.40 | 8.81 | 7.93 | 3.9 |
| 1/4-20 | 3 | 100 | 4P691 | 14.69 | 9.59 | 8.63 | 3.9 |
| 1/4-20 | 4 | 100 | 5L092 | 17.95 | 14.69 | 13.22 | 5.1 |
| **FLAT HEAD SLOTTED** | | | | | | | |
| #5-40 (1/8) | 1 | 100 | 5L121 | $4.84 | $3.84 | $3.48 | 0.5 |
| 5-40 (1/8) | 1¼ | 100 | 5L122 | 7.47 | 5.93 | 5.34 | 0.6 |
| 5-40 (1/8) | 1½ | 100 | 5L123 | 7.47 | 5.93 | 5.34 | 0.6 |
| 10-24 (3/16) | 3/4 | 100 | 5L132 | 5.01 | 3.99 | 3.60 | 0.9 |
| 10-24 (3/16) | 1 | 100 | 5L133 | 5.38 | 4.29 | 3.87 | 1.0 |
| 10-24 (3/16) | 1¼ | 100 | 5L134 | 5.84 | 4.67 | 4.20 | 1.2 |
| 10-24 (3/16) | 1½ | 100 | 5L135 | 6.44 | 5.11 | 4.62 | 1.3 |
| 10-24 (3/16) | 2 | 100 | 5L137 | 8.06 | 6.40 | 5.78 | 1.6 |
| 10-24 (3/16) | 3 | 100 | 5L140 | 11.68 | 9.29 | 8.37 | 2.2 |
| 1/4"-20 | 3/4 | 100 | 5L145 | 8.20 | 6.52 | 5.88 | 1.6 |
| 1/4-20 | 1 | 100 | 5L146 | 8.77 | 6.97 | 6.29 | 1.9 |
| 1/4-20 | 1¼ | 100 | 5L147 | 9.47 | 7.54 | 6.80 | 2.2 |
| 1/4-20 | 1½ | 100 | 5L148 | 10.19 | 8.11 | 7.31 | 2.4 |
| 1/4-20 | 2 | 100 | 5L150 | 11.58 | 9.24 | 8.32 | 3.0 |
| 1/4-20 | 3 | 100 | 5L154 | 15.06 | 12.01 | 10.82 | 4.0 |

## WOOD SCREWS




- Zinc Plated carbon steel
- Gimlet point
- Length of flat head screws is measured from the top of the head
- Meets or exceeds ANSI/ASME B18.6.1 standards and specifications
- Square Drive style offers superior driver engagement for less slippage. Helps to avoid stripping of drive head

### WOOD SCREWS

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ROUND HEAD SLOTTED** | | | | | | | |
| #4 | 1/2 | 100 | 4P553 | $1.90 | $1.35 | $1.20 | 0.2 |
| 6 | 1/2 | 100 | 4P554 | 2.02 | 1.47 | 1.33 | 0.3 |
| 6 | 3/4 | 100 | 4P555 | 2.25 | 1.65 | 1.49 | 0.4 |
| 6 | 1 | 100 | 4P556 | 2.73 | 1.81 | 1.62 | 0.6 |
| 6 | 1½ | 100 | 4P557 | 3.84 | 2.31 | 2.09 | 0.6 |
| 8 | 3/4 | 100 | 4P558 | 2.53 | 1.86 | 1.66 | 0.7 |
| 8 | 1 | 100 | 4P559 | 2.96 | 2.10 | 1.89 | 0.6 |
| 8 | 1¼ | 100 | 4P560 | 3.50 | 2.39 | 2.15 | 0.8 |
| 8 | 1½ | 100 | 4P561 | 3.95 | 2.67 | 2.41 | 1.2 |
| 8 | 2 | 100 | 4P562 | 5.27 | 3.19 | 2.87 | 1.3 |
| 10 | 3/4 | 100 | 4P563 | 3.01 | 2.25 | 2.03 | 0.7 |
| 10 | 1 | 100 | 4P564 | 3.50 | 2.61 | 2.34 | 0.8 |
| 10 | 1¼ | 100 | 4P565 | 4.12 | 2.97 | 2.67 | 1.4 |
| 10 | 1½ | 100 | 4P566 | 4.63 | 3.28 | 2.96 | 1.5 |
| 10 | 2 | 100 | 4P567 | 5.98 | 3.81 | 3.43 | 1.4 |
| **FLAT HEAD SLOTTED** | | | | | | | |
| #6 | 1/2 | 100 | 5L279 | $1.91 | $1.73 | 0.2 | |
| 6 | 5/8 | 100 | 5L281 | 2.01 | 1.81 | 0.2 | |
| 6 | 3/4 | 100 | 4P538 | 1.54 | 1.39 | 0.3 | |
| 6 | 1 | 100 | 4P539 | 1.70 | 1.52 | 0.4 | |
| 6 | 1¼ | 100 | 4P540 | 1.88 | 1.69 | 0.5 | |
| 6 | 1½ | 100 | 4P541 | 2.14 | 1.93 | 0.6 | |
| 7 | 3/4 | 100 | 5L289 | 2.25 | 2.05 | 0.3 | |
| 7 | 1 | 100 | 5L292 | 2.64 | 2.39 | 0.4 | |
| 8 | 1/2 | 100 | 5L297 | 2.10 | 1.90 | 0.3 | |
| 8 | 3/4 | 100 | 4P542 | 1.72 | 1.55 | 0.3 | |
| 8 | 1 | 100 | 4P543 | 1.99 | 1.79 | 0.5 | |
| 8 | 1¼ | 100 | 4P544 | 2.17 | 1.95 | 0.7 | |
| 8 | 1½ | 100 | 4P545 | 2.63 | 2.37 | 1.0 | |
| 8 | 1¾ | 100 | 5L301 | 4.54 | 4.09 | 0.8 | |
| 8 | 2 | 100 | 4P546 | 3.17 | 2.85 | 1.0 | |
| 8 | 2½ | 100 | 5L303 | 6.17 | 5.56 | 1.1 | |
| 8 | 3 | 100 | 5L304 | 8.55 | 7.70 | 1.3 | |
| 10 | 3/4 | 100 | 5L321 | 2.89 | 2.61 | 0.5 | |
| 10 | 1 | 100 | 4P547 | 2.39 | 2.15 | 0.8 | |
| 10 | 1¼ | 100 | 4P548 | 2.70 | 2.44 | 0.9 | |
| 10 | 1½ | 100 | 4P549 | 2.99 | 2.68 | 1.1 | |
| 10 | 1¾ | 100 | 5L323 | 5.28 | 4.77 | 1.1 | |
| 10 | 2 | 100 | 4P550 | 3.48 | 3.12 | 1.3 | |
| 10 | 2¼ | 100 | 5L324 | 6.71 | 6.05 | 1.4 | |
| 10 | 2½ | 100 | 4P551 | 4.23 | 3.80 | 1.7 | |
| 10 | 3 | 100 | 5L326 | 9.32 | 8.40 | 1.8 | |
| 12 | 1 | 100 | 5L332 | 4.34 | 3.92 | 0.8 | |
| 12 | 1¼ | 100 | 5L333 | 5.04 | 4.54 | 1.0 | |
| 12 | 1½ | 100 | 4P552 | 3.64 | 3.27 | 1.4 | |
| 12 | 2 | 100 | 5L335 | 7.28 | 6.57 | 1.6 | |
| 12 | 2¼ | 100 | 5L336 | 8.42 | 7.57 | 1.8 | |
| 12 | 2½ | 100 | 5L337 | 9.14 | 8.24 | 2.0 | |
| 12 | 3 | 100 | 5L338 | 11.12 | 10.02 | 2.4 | |
| 14 | 1½ | 100 | 5L345 | 7.13 | 6.42 | 1.5 | |
| 14 | 1¾ | 100 | 5L346 | 8.13 | 7.33 | 1.7 | |
| 14 | 3 | 100 | 5L352 | 12.89 | 11.60 | 2.8 | |
| **FLAT HEAD SQUARE DRIVE** | | | | | | | |
| #6 | 1/2 | 100 | 5L395 | 5.40 | 4.87 | 0.2 | |
| 6 | 3/4 | 100 | 5L396 | 6.09 | 5.49 | 0.3 | |
| 6 | 1 | 100 | 5L397 | 6.74 | 6.08 | 0.3 | |
| 6 | 1¼ | 100 | 5L398 | 7.42 | 6.70 | 0.4 | |
| 6 | 1½ | 100 | 5L399 | 8.14 | 7.34 | 0.5 | |
| 8 | 1/2 | 100 | 5L401 | 6.26 | 5.64 | 0.3 | |
| 8 | 3/4 | 100 | 5L402 | 7.05 | 6.35 | 0.4 | |
| 8 | 1 | 100 | 5L403 | 8.03 | 7.25 | 0.5 | |
| 8 | 1¼ | 100 | 5L404 | 9.00 | 8.11 | 0.6 | |
| 8 | 1½ | 100 | 5L405 | 10.17 | 9.16 | 0.7 | |
| 8 | 2 | 100 | 5L406 | 12.01 | 10.83 | 1.0 | |
| 8 | 2½ | 100 | 5L407 | 15.83 | 14.26 | 1.2 | |
| 8 | 3 | 100 | 5L408 | 18.00 | 16.21 | 1.5 | |
| 10 | 3/4 | 100 | 5L409 | 8.60 | 7.75 | 0.5 | |
| 10 | 1 | 100 | 5L411 | 9.84 | 8.87 | 0.7 | |
| 10 | 1¼ | 100 | 5L412 | 11.09 | 9.99 | 0.8 | |
| 10 | 1½ | 100 | 5L413 | 12.39 | 11.16 | 1.0 | |
| 10 | 1¾ | 100 | 5L414 | 13.23 | 11.92 | 1.1 | |
| 10 | 2 | 100 | 5L415 | 14.96 | 13.48 | 1.3 | |
| 10 | 2½ | 100 | 5L416 | 19.71 | 17.74 | 1.6 | |
| 10 | 3 | 100 | 5L417 | 22.56 | 20.32 | 2.0 | |
| **FLAT HEAD PHILLIPS** | | | | | | | |
| #4 | 1/2 | 100 | 5L418 | 1.97 | 1.77 | 0.1 | |
| 4 | 3/4 | 100 | 5L419 | 2.13 | 1.93 | 0.2 | |
| 5 | 5/8 | 100 | 5L423 | 2.12 | 1.92 | 0.2 | |
| 6 | 1/2 | 100 | 4P568 | 1.41 | 1.27 | 0.2 | |
| 6 | 5/8 | 100 | 5L425 | 2.13 | 1.93 | 0.2 | |
| 6 | 3/4 | 100 | 4P569 | 1.56 | 1.41 | 0.3 | |
| 6 | 1 | 100 | 4P570 | 1.72 | 1.55 | 0.4 | |
| 6 | 1¼ | 100 | 4P571 | 1.88 | 1.69 | 0.5 | |
| 6 | 1½ | 100 | 4P572 | 2.14 | 1.93 | 0.6 | |
| 7 | 1¼ | 100 | 5L432 | 2.76 | 2.50 | 0.5 | |
| 8 | 1/2 | 100 | 5L434 | 2.19 | 1.99 | 0.3 | |
| 8 | 3/4 | 100 | 4P573 | 1.72 | 1.55 | 0.4 | |
| 8 | 1 | 100 | 4P574 | 1.99 | 1.79 | 0.5 | |
| 8 | 1¼ | 100 | 4P575 | 2.21 | 1.99 | 0.7 | |
| 8 | 1½ | 100 | 4P576 | 2.44 | 2.19 | 0.8 | |
| 8 | 1¾ | 100 | 5L437 | 3.74 | 3.37 | 0.8 | |
| 8 | 2 | 100 | 4P577 | 2.90 | 2.61 | 1.0 | |
| 8 | 2¼ | 100 | 5L438 | 4.75 | 4.29 | 1.1 | |
| 8 | 2½ | 100 | 4P578 | 3.36 | 3.03 | 1.2 | |
| 9 | 1¼ | 100 | 5L443 | 3.20 | 2.90 | 0.7 | |

CONTINUED ON NEXT PAGE

# WOOD SCREWS AND SHEET METAL SCREWS

## WOOD SCREWS (cont.)

QUALITY FASTENERS from ... Rockford



No. 5L453

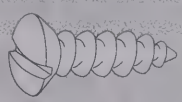
| Size | Length (In.) | No. per Pkg. | Stock No. | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **FLAT HEAD PHILLIPS (cont.)** | | | | | | |
| **10** | 3/4 | 100 | **5L453** | **$2.74** | **$2.48** | 0.5 |
| **10** | 1 | 100 | **4P579** | **2.39** | **2.15** | 0.7 |
| **10** | 1¼ | 100 | **4P580** | **2.70** | **2.44** | 0.9 |
| **10** | 1½ | 100 | **4P581** | **2.99** | **2.69** | 1.1 |
| **10** | 1¾ | 100 | **5L454** | **4.41** | **3.99** | 1.1 |
| **10** | 2 | 100 | **4P582** | **3.48** | **3.13** | 1.3 |
| **10** | 2½ | 100 | **4P583** | **4.23** | **3.80** | 1.6 |
| **10** | 3 | 100 | **5L456** | **7.77** | **7.00** | 1.8 |
| **12** | 1¼ | 100 | **5L462** | **3.94** | **3.55** | 1.0 |
| **12** | 1½ | 100 | **5L463** | **4.40** | **3.98** | 1.2 |
| **12** | 1¾ | 100 | **5L464** | **4.99** | **4.51** | 1.4 |
| **12** | 2 | 100 | **5L465** | **5.70** | **5.15** | 1.6 |
| **12** | 2½ | 100 | **5L467** | **7.18** | **6.46** | 2.0 |
| **12** | 3 | 100 | **5L468** | **8.75** | **7.89** | 2.3 |
| **12** | 3½ | 100 | **5L469** | **10.84** | **9.77** | 2.7 |
| **14** | 1½ | 100 | **5L474** | **5.90** | **5.32** | 1.5 |
| **14** | 2 | 100 | **5L476** | **7.10** | **6.39** | 1.9 |
| **14** | 3 | 100 | **5L478** | **10.73** | **9.66** | 2.8 |
| **14** | 4 | 100 | **5L481** | **14.31** | **12.90** | 3.8 |

## SLOTTED SHEET METAL SCREWS

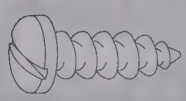
QUALITY FASTENERS from ... Rockford



No. 5L682



No. 5L713



No. 5L725

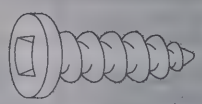
- Zinc Plated hardened steel
- Self tapping screws with slotted head
- Meets or exceeds ANSI/ASME B18.6.4 and SAE J933 standards

### SHEET METAL SCREWS

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FLAT HEAD SLOTTED** | | | | | | | |
| **#8** | 1/2 | 100 | **5L682** | $3.21 | **$2.63** | **$2.39** | 0.3 |
| **8** | 3/4 | 100 | **5L684** | 3.53 | **2.89** | **2.61** | 0.4 |
| **8** | 1 | 100 | **5L685** | 3.95 | **3.24** | **2.93** | 0.5 |
| **10** | 1/2 | 100 | **5L689** | 3.76 | **3.08** | **2.78** | 0.3 |
| **10** | 3/4 | 100 | **5L692** | 4.10 | **3.35** | **3.04** | 0.5 |
| **10** | 1 | 100 | **5L693** | 5.01 | **4.11** | **3.70** | 0.6 |
| **10** | 1½ | 100 | **5L695** | 6.41 | **5.25** | **4.73** | 0.8 |
| **12** | 3/4 | 100 | **5L701** | 6.39 | **5.23** | **4.71** | 0.7 |
| **12** | 1 | 100 | **5L702** | 7.15 | **5.86** | **5.28** | 0.8 |
| **14** | 3/4 | 100 | **5L708** | 7.75 | **6.34** | **5.72** | 0.9 |
| **14** | 1 | 100 | **5L709** | 8.69 | **7.11** | **6.41** | 1.1 |
| **14** | 1½ | 100 | **5L711** | 10.63 | **8.70** | **7.84** | 1.5 |
| **OVAL HEAD SLOTTED** | | | | | | | |
| **#6** | 1/2 | 100 | **5L713** | $3.25 | **$2.42** | **$2.18** | 0.2 |
| **6** | 3/4 | 100 | **5L714** | 3.48 | **2.69** | **2.42** | 0.3 |
| **8** | 1/2 | 100 | **5L716** | 3.79 | **3.05** | **2.74** | 0.4 |
| **8** | 5/8 | 100 | **5L717** | 3.85 | **3.11** | **2.80** | 0.4 |
| **8** | 3/4 | 100 | **5L718** | 3.96 | **3.22** | **2.90** | 0.4 |
| **10** | 3/4 | 100 | **5L722** | 4.42 | **3.76** | **3.37** | 0.6 |
| **10** | 1 | 100 | **5L723** | 5.19 | **4.61** | **4.15** | 0.7 |
| **10** | 1¼ | 100 | **5L724** | 5.85 | **5.33** | **4.79** | 0.8 |
| **PAN HEAD SLOTTED** | | | | | | | |
| **#4** | 1/4 | 100 | **5L725** | $1.62 | **$1.34** | **$1.20** | 0.1 |
| **4** | 1/2 | 100 | **5L727** | 1.76 | **1.45** | **1.32** | 0.1 |
| **6** | 3/8 | 100 | **5L733** | 1.90 | **1.56** | **1.42** | 0.2 |
| **6** | 1/2 | 100 | **5L734** | 1.96 | **1.61** | **1.46** | 0.2 |
| **6** | 3/4 | 100 | **5L736** | 2.17 | **1.77** | **1.61** | 0.3 |
| **6** | 1 | 100 | **5L738** | 2.59 | **2.12** | **1.92** | 0.4 |
| **6** | 1¼ | 100 | **5L739** | 2.91 | **2.39** | **2.15** | 0.4 |
| **7** | 1/2 | 100 | **5L744** | 2.25 | **1.85** | **1.67** | 0.3 |
| **7** | 1 | 100 | **5L747** | 2.73 | **2.23** | **2.03** | 0.4 |
| **8** | 3/8 | 100 | **5L752** | 2.13 | **1.75** | **1.58** | 0.3 |
| **8** | 1/2 | 100 | **5L753** | 2.36 | **1.93** | **1.75** | 0.3 |
| **8** | 3/4 | 100 | **5L755** | 2.59 | **2.12** | **1.92** | 0.4 |
| **8** | 7/8 | 100 | **5L756** | 2.73 | **2.23** | **2.03** | 0.5 |
| **8** | 1¼ | 100 | **5L758** | 3.72 | **3.06** | **2.76** | 0.6 |
| **8** | 1½ | 100 | **5L759** | 4.27 | **3.50** | **3.16** | 0.7 |
| **8** | 2 | 100 | **5L762** | 5.41 | **4.42** | **4.00** | 0.9 |
| **10** | 1/2 | 100 | **5L766** | 2.79 | **2.28** | **2.07** | 0.4 |
| **10** | 5/8 | 100 | **5L767** | 2.84 | **2.32** | **2.11** | 0.5 |
| **10** | 3/4 | 100 | **5L768** | 3.01 | **2.47** | **2.23** | 0.6 |
| **10** | 7/8 | 100 | **5L769** | 3.28 | **2.68** | **2.43** | 0.6 |
| **10** | 1 | 100 | **5L771** | 3.67 | **3.00** | **2.72** | 0.7 |
| **10** | 1¼ | 100 | **5L772** | 4.27 | **3.50** | **3.16** | 0.8 |
| **10** | 1½ | 100 | **5L773** | 4.73 | **3.87** | **3.50** | 0.9 |
| **10** | 2 | 100 | **5L775** | 5.78 | **4.73** | **4.27** | 1.2 |
| **12** | 1/2 | 100 | **5L778** | 4.41 | **3.61** | **3.26** | 0.6 |
| **12** | 5/8 | 100 | **5L779** | 4.61 | **3.78** | **3.42** | 0.7 |
| **12** | 3/4 | 100 | **5L781** | 4.67 | **3.83** | **3.46** | 0.7 |
| **12** | 1 | 100 | **5L783** | 5.27 | **4.31** | **3.89** | 0.9 |
| **12** | 1¼ | 100 | **5L784** | 5.78 | **4.73** | **4.27** | 1.1 |
| **12** | 1½ | 100 | **5L785** | 6.35 | **5.20** | **4.69** | 1.3 |
| **12** | 2 | 100 | **5L787** | 8.89 | **7.28** | **6.56** | 1.6 |
| **14** | 1/2 | 100 | **5L791** | 5.13 | **4.20** | **3.79** | 0.8 |
| **14** | 3/4 | 100 | **5L793** | 5.66 | **4.64** | **4.19** | 1.1 |
| **14** | 7/8 | 100 | **5L794** | 5.95 | **4.86** | **4.39** | 1.2 |
| **14** | 1 | 100 | **5L795** | 6.41 | **5.24** | **4.73** | 1.3 |
| **14** | 1¼ | 100 | **5L796** | 7.04 | **5.76** | **5.19** | 1.5 |
| **14** | 1½ | 100 | **5L797** | 7.80 | **6.39** | **5.76** | 1.7 |

## SQUARE DRIVE SHEET METAL SCREWS

QUALITY FASTENERS from ... Rockford



No. 5L841

- Zinc Plated hardened steel
- Square Drive style offers superior driver engagement for less slippage. Helps to avoid stripping of drive head
- Meets or exceeds ANSI/ASME B18.6.4 and SAE J933 standards

| Size | Length (In.) | No. per Pkg | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PAN HEAD SQUARE DRIVE** | | | | | | | |
| **#6** | 1/2 | 100 | **5L841** | $7.17 | **$5.50** | **$4.94** | 0.2 |
| **6** | 3/4 | 100 | **5L842** | 4.50 | **4.12** | **3.72** | 0.3 |
| **6** | 1 | 100 | **5L843** | 4.96 | **4.54** | **4.10** | 0.4 |
| **6** | 1¼ | 100 | **5L844** | 5.44 | **4.97** | **4.50** | 0.4 |
| **6** | 1½ | 100 | **5L845** | 7.61 | **6.96** | **6.28** | 0.5 |

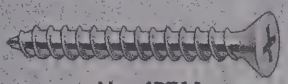
CONTINUED ON NEXT PAGE

## SQUARE DRIVE SHEET METAL SCREWS (cont.)

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PAN HEAD SQUARE DRIVE (cont.)** | | | | | | | |
| #8 | 1/2 | 100 | 5L846 | $4.82 | $4.41 | $3.98 | 0.3 |
| 8 | 3/4 | 100 | 5L847 | 5.44 | 4.97 | 4.50 | 0.4 |
| 8 | 1 | 100 | 5L848 | 6.10 | 5.58 | 5.03 | 0.5 |
| 8 | 1 1/4 | 100 | 5L849 | 6.84 | 6.26 | 5.64 | 0.6 |
| 8 | 1 1/2 | 100 | 5L850 | 7.56 | 6.91 | 6.24 | 0.7 |
| 8 | 2 | 100 | 5L851 | 10.38 | 9.48 | 8.54 | 0.9 |
| 10 | 3/4 | 100 | 5L852 | 6.70 | 6.13 | 5.53 | 0.6 |
| 10 | 1 | 100 | 5L853 | 8.10 | 7.40 | 6.67 | 0.7 |
| 10 | 1 1/2 | 100 | 5L854 | 9.32 | 8.52 | 7.69 | 0.9 |
| 10 | 2 | 100 | 5L855 | 10.98 | 10.04 | 9.04 | 1.2 |

## PHILLIPS SHEET METAL SCREWS

QUALITY FASTENERS from ... Rockford



No. 4P711



No. 5L924



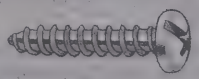
No. 5L895

- Zinc Plated hardened steel
- Self tapping screws with Phillips head
- Meets or exceeds ANSI/ASME B18.6.4 and SAE J933 standards

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PHILLIPS SHEET METAL SCREWS** | | | | | | | |
| **FLAT HEAD PHILLIPS** | | | | | | | |
| #4 | 1/2 | 100 | 5L856 | $1.91 | $1.63 | $1.48 | 0.1 |
| 4 | 3/4 | 100 | 5L858 | 2.05 | 1.77 | 1.61 | 0.1 |
| 4 | 1 | 100 | 5L859 | 2.50 | 2.14 | 1.95 | 0.2 |
| 6 | 1/2 | 100 | 4P711 | 2.05 | 1.61 | 1.45 | 0.3 |
| 6 | 5/8 | 100 | 5L863 | 2.13 | 1.82 | 1.66 | 0.2 |
| 6 | 3/4 | 100 | 4P712 | 2.27 | 1.80 | 1.63 | 0.3 |
| 6 | 1 | 100 | 4P713 | 2.73 | 1.97 | 1.77 | 0.4 |
| 6 | 1 1/4 | 100 | 5L864 | 3.93 | 3.36 | 3.05 | 0.4 |
| 6 | 1 1/2 | 100 | 5L865 | 4.47 | 3.85 | 3.49 | 0.5 |
| 8 | 1/2 | 100 | 5L868 | 2.45 | 2.11 | 1.91 | 0.3 |
| 8 | 3/4 | 100 | 4P714 | 2.73 | 1.99 | 1.79 | 0.5 |
| 8 | 1 | 100 | 4P715 | 2.96 | 2.30 | 2.08 | 0.6 |
| 8 | 1 1/4 | 100 | 4P716 | 3.93 | 2.67 | 2.42 | 0.7 |
| 8 | 1 1/2 | 100 | 4P717 | 4.47 | 3.04 | 2.74 | 0.7 |
| 8 | 2 | 100 | 5L871 | 5.84 | 5.03 | 4.54 | 0.8 |
| 8 | 2 1/2 | 100 | 5L872 | 6.49 | 5.59 | 5.04 | 1.1 |
| 8 | 3 | 100 | 5L873 | 7.41 | 6.36 | 5.73 | 1.2 |
| 10 | 1/2 | 100 | 4P718 | 2.87 | 2.37 | 2.13 | 0.5 |
| 10 | 3/4 | 100 | 4P719 | 3.07 | 2.52 | 2.26 | 0.6 |
| 10 | 1 | 100 | 4P720 | 3.72 | 2.70 | 2.44 | 0.8 |
| 10 | 1 1/4 | 100 | 5L875 | 4.39 | 3.76 | 3.39 | 0.7 |
| 10 | 1 1/2 | 100 | 4P721 | 4.81 | 3.53 | 3.18 | 1.0 |
| 10 | 2 | 100 | 5L877 | 5.95 | 5.10 | 4.61 | 1.1 |
| 10 | 3 | 100 | 5L878 | 7.69 | 6.60 | 5.95 | 1.7 |
| 12 | 3/4 | 100 | 5L879 | 4.98 | 4.27 | 3.86 | 0.8 |
| 12 | 1 | 100 | 5L881 | 5.35 | 4.59 | 4.14 | 0.8 |
| 12 | 1 1/2 | 100 | 5L883 | 6.35 | 5.44 | 4.90 | 1.1 |
| 12 | 2 | 100 | 5L885 | 7.83 | 6.72 | 6.07 | 1.6 |
| 12 | 3 | 100 | 5L886 | 8.99 | 7.71 | 6.95 | 2.3 |
| 14 | 1 | 100 | 5L888 | 6.89 | 5.92 | 5.34 | 1.4 |
| 14 | 1 1/2 | 100 | 5L890 | 8.52 | 7.32 | 6.60 | 1.8 |
| 14 | 2 | 100 | 5L892 | 11.13 | 9.54 | 8.59 | 2.3 |
| **OVAL HEAD PHILLIPS** | | | | | | | |
| #6 | 1/2 | 100 | 5L895 | $1.88 | $1.54 | $1.40 | 0.2 |
| 6 | 1 | 100 | 5L898 | 2.47 | 2.03 | 1.84 | 0.4 |
| 8 | 3/4 | 100 | 5L901 | 2.47 | 2.03 | 1.84 | 0.5 |
| 8 | 1 | 100 | 5L902 | 2.68 | 2.19 | 1.99 | 0.5 |
| 8 | 1 1/2 | 100 | 5L904 | 4.07 | 3.33 | 3.01 | 0.7 |
| 10 | 3/4 | 100 | 5L907 | 2.82 | 2.30 | 2.09 | 0.6 |
| 10 | 1 | 100 | 5L908 | 3.42 | 2.80 | 2.53 | 0.7 |
| 10 | 1 1/2 | 100 | 5L910 | 4.36 | 3.57 | 3.22 | 0.9 |
| **PAN HEAD PHILLIPS** | | | | | | | |
| #4 | 1/2 | 100 | 5L915 | 1.91 | 1.65 | 1.49 | 0.1 |
| 4 | 3/4 | 100 | 5L916 | 2.05 | 1.77 | 1.61 | 0.1 |
| 6 | 3/8 | 100 | 5L918 | 1.99 | 1.73 | 1.56 | 0.2 |
| 6 | 1/2 | 100 | 5L919 | 2.05 | 1.77 | 1.61 | 0.2 |
| 6 | 5/8 | 100 | 5L921 | 2.13 | 1.84 | 1.67 | 0.2 |
| 6 | 3/4 | 100 | 5L922 | 2.27 | 1.96 | 1.76 | 0.3 |
| 6 | 1 | 100 | 5L924 | 2.73 | 2.34 | 2.12 | 0.4 |
| 6 | 1 1/4 | 100 | 5L925 | 3.42 | 2.94 | 2.66 | 0.4 |
| 6 | 1 1/2 | 100 | 5L926 | 3.70 | 3.18 | 2.87 | 0.5 |
| 7 | 3/4 | 100 | 5L929 | 2.45 | 2.10 | 1.90 | 0.4 |
| 8 | 3/8 | 100 | 5L931 | 2.25 | 1.96 | 1.76 | 0.3 |
| 8 | 1/2 | 100 | 5L932 | 2.45 | 2.10 | 1.90 | 0.3 |
| 8 | 5/8 | 100 | 5L933 | 2.56 | 2.21 | 2.01 | 0.4 |
| 8 | 3/4 | 100 | 5L934 | 2.73 | 2.34 | 2.12 | 0.4 |
| 8 | 1 | 100 | 5L936 | 2.96 | 2.54 | 2.29 | 0.5 |
| 8 | 1 1/4 | 100 | 5L937 | 3.93 | 3.38 | 3.06 | 0.6 |
| 8 | 1 1/2 | 100 | 5L938 | 4.47 | 3.84 | 3.48 | 0.7 |
| 8 | 2 | 100 | 5L941 | 5.84 | 5.03 | 4.54 | 0.9 |
| 10 | 3/8 | 100 | 5L944 | 2.82 | 2.44 | 2.20 | 0.4 |
| 10 | 1/2 | 100 | 5L945 | 2.87 | 2.48 | 2.23 | 0.5 |
| 10 | 5/8 | 100 | 5L946 | 2.96 | 2.54 | 2.29 | 0.5 |
| 10 | 3/4 | 100 | 5L947 | 3.07 | 2.63 | 2.39 | 0.6 |
| 10 | 1 | 100 | 5L949 | 3.72 | 3.21 | 2.90 | 0.7 |
| 10 | 1 1/4 | 100 | 5L950 | 4.39 | 3.78 | 3.41 | 0.9 |
| 10 | 1 1/2 | 100 | 5L951 | 4.81 | 4.13 | 3.72 | 0.9 |
| 10 | 1 3/4 | 100 | 5L952 | 5.35 | 4.60 | 4.16 | 1.0 |
| 10 | 2 | 100 | 5L953 | 5.95 | 5.10 | 4.61 | 1.2 |
| 12 | 1/2 | 100 | 5L956 | 4.47 | 3.84 | 3.49 | 0.6 |
| 12 | 3/4 | 100 | 5L957 | 4.82 | 4.14 | 3.73 | 0.8 |
| 12 | 1 | 100 | 5L958 | 5.35 | 4.60 | 4.16 | 1.0 |
| 12 | 1 1/4 | 100 | 5L959 | 5.84 | 5.03 | 4.53 | 1.1 |
| 12 | 1 1/2 | 100 | 5L961 | 6.35 | 5.46 | 4.92 | 1.2 |
| 12 | 2 | 100 | 5L963 | 7.83 | 6.72 | 6.06 | 1.6 |
| 14 | 1/2 | 100 | 5L965 | 5.35 | 4.60 | 4.16 | 0.9 |
| 14 | 3/4 | 100 | 5L966 | 5.64 | 4.83 | 4.36 | 1.1 |
| 14 | 1 | 100 | 5L968 | 6.38 | 5.47 | 4.94 | 1.3 |
| 14 | 1 1/4 | 100 | 5L969 | 7.29 | 6.25 | 5.65 | 1.5 |
| 14 | 1 1/2 | 100 | 5L970 | 7.71 | 6.63 | 5.97 | 1.7 |
| 14 | 2 | 100 | 5L971 | 9.92 | 8.49 | 7.67 | 2.1 |
| 14 | 2 1/2 | 100 | 5L972 | 10.68 | 9.15 | 8.26 | 2.7 |

## COMBINATION DRIVE SHEET METAL SCREWS

QUALITY FASTENERS from ... Rockford



No. 4P722

- Zinc Plated hardened steel
- Self tapping screw with Combo Phillips/Slotted drive
- Meets or exceeds ANSI/ASME B18.6.4 and SAE J933

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PAN COMBINATION HEAD** | | | | | | | |
| #4 | 1/4 | 100 | 5L974 | $1.80 | $1.47 | $1.34 | 0.1 |
| 4 | 3/8 | 100 | 5L975 | 1.88 | 1.54 | 1.40 | 0.1 |
| 4 | 1/2 | 100 | 4P722 | 1.99 | 1.37 | 1.22 | 0.2 |
| 4 | 5/8 | 100 | 5L976 | 1.99 | 1.64 | 1.48 | 0.1 |
| 4 | 3/4 | 100 | 5L977 | 2.22 | 1.81 | 1.65 | 0.2 |
| 4 | 1 | 100 | 5L978 | 3.00 | 2.45 | 2.21 | 0.2 |

CONTINUED ON NEXT PAGE

# SHEET METAL SCREWS

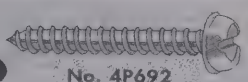
## COMBINATION SHEET METAL SCREWS (cont.)

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PAN COMBINATION HEAD (cont.)** | | | | | | | |
| 6 | 1/4 | 100 | 5L979 | $1.96 | $1.61 | $1.46 | 0.2 |
| 6 | 3/8 | 100 | 4P723 | 2.08 | 1.64 | 1.47 | 0.3 |
| 6 | 1/2 | 100 | 4P724 | 2.22 | 1.60 | 1.45 | 0.3 |
| 6 | 5/8 | 100 | 4P725 | 2.27 | 1.58 | 1.43 | 0.3 |
| 6 | 3/4 | 100 | 4P726 | 2.33 | 1.76 | 1.58 | 0.4 |
| 6 | 1 | 100 | 4P727 | 2.82 | 2.01 | 1.80 | 0.4 |
| 6 | 1 1/4 | 100 | 5L981 | 3.13 | 2.57 | 2.31 | 0.5 |
| 6 | 1 1/2 | 100 | 5L982 | 3.61 | 2.96 | 2.67 | 0.6 |
| 8 | 3/8 | 100 | 5L987 | 2.33 | 1.91 | 1.73 | 0.3 |
| 8 | 1/2 | 100 | 4P728 | 2.56 | 1.81 | 1.63 | 0.4 |
| 8 | 5/8 | 100 | 4P729 | 2.68 | 1.86 | 1.67 | 0.4 |
| 8 | 3/4 | 100 | 4P730 | 2.82 | 1.92 | 1.73 | 0.5 |
| 8 | 1 | 100 | 4P731 | 3.13 | 2.21 | 1.99 | 0.6 |
| 8 | 1 1/4 | 100 | 4P732 | 4.09 | 2.83 | 2.55 | 0.7 |
| 8 | 1 1/2 | 100 | 4P733 | 4.64 | 2.90 | 2.60 | 0.8 |
| 8 | 2 | 100 | 5L988 | 6.03 | 4.94 | 4.46 | 1.0 |
| 10 | 3/8 | 100 | 5L989 | 2.76 | 2.26 | 2.05 | 0.4 |
| 10 | 1/2 | 100 | 4P734 | 2.98 | 2.12 | 1.91 | 0.5 |
| 10 | 5/8 | 100 | 5L990 | 3.13 | 2.57 | 2.31 | 0.6 |
| 10 | 3/4 | 100 | 4P735 | 3.21 | 2.40 | 2.15 | 0.6 |
| 10 | 1 | 100 | 4P736 | 3.93 | 2.83 | 2.55 | 0.8 |
| 10 | 1 1/4 | 100 | 4P737 | 4.60 | 2.90 | 2.60 | 0.9 |
| 10 | 1 1/2 | 100 | 4P738 | 5.01 | 3.36 | 3.03 | 1.0 |
| 10 | 1 3/4 | 100 | 5L991 | 5.61 | 4.59 | 4.14 | 1.1 |
| 10 | 2 | 100 | 4P739 | 6.21 | 5.09 | 4.58 | 1.2 |
| 10 | 2 1/2 | 100 | 5L992 | 9.46 | 7.74 | 6.97 | 1.5 |
| 10 | 3 | 100 | 5L993 | 12.34 | 10.09 | 9.09 | 1.8 |
| 12 | 1/2 | 100 | 5L994 | 4.67 | 3.83 | 3.46 | 0.7 |
| 12 | 5/8 | 100 | 5L995 | 4.96 | 4.06 | 3.66 | 0.7 |
| 12 | 3/4 | 100 | 4P740 | 5.00 | 3.14 | 2.82 | 1.3 |
| 12 | 1 | 100 | 4P741 | 5.64 | 3.17 | 2.85 | 1.1 |
| 12 | 1 1/4 | 100 | 5L996 | 6.03 | 4.93 | 4.46 | 1.2 |
| 12 | 1 1/2 | 100 | 5L997 | 6.63 | 5.43 | 4.89 | 1.4 |
| 12 | 2 | 100 | 5L998 | 9.54 | 7.81 | 7.03 | 1.7 |
| 12 | 2 1/2 | 100 | 5M080 | 14.50 | 11.87 | 10.68 | 2.4 |
| 12 | 3 | 100 | 5M081 | 17.46 | 14.29 | 12.88 | 2.4 |
| 14 | 1/2 | 100 | 5M082 | 5.66 | 4.64 | 4.18 | 1.0 |
| 14 | 5/8 | 100 | 5M083 | 6.01 | 4.91 | 4.43 | 1.1 |
| 14 | 3/4 | 100 | 5M084 | 6.12 | 5.02 | 4.52 | 1.2 |
| 14 | 1 | 100 | 5M085 | 6.83 | 5.59 | 5.05 | 1.4 |
| 14 | 1 1/4 | 100 | 5M086 | 7.54 | 6.18 | 5.57 | 1.7 |
| 14 | 1 1/2 | 100 | 5M087 | 8.39 | 6.86 | 6.20 | 2.0 |
| 14 | 2 | 100 | 5M088 | 10.90 | 8.92 | 8.04 | 2.5 |

## HEX WASHER HEAD

QUALITY FASTENERS from ... Rockford

New



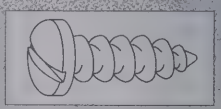
No. 4P692

- Zinc plated hardened steel
- Self tapping screw with hex washer head
- Meets or exceeds ANSI/ASME B18.6.4 and SAE J933

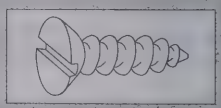
| Size | Length (In.) | Width of Hex Head | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **HEX WASHER HEAD** | | | | | | | | |
| #8 | 3/8 | 0.250 | 100 | 5L806 | $2.84 | $2.47 | $2.22 | 0.3 |
| 8 | 5/8 | 0.250 | 100 | 5L807 | 3.28 | 2.81 | 2.54 | 0.4 |
| 10 | 1/2 | 0.312 | 100 | New 4UH35 | 3.57 | 3.07 | 2.76 | 0.5 |
| 10 | 5/8 | 0.312 | 100 | 5L810 | 3.72 | 3.20 | 2.90 | 0.5 |
| 10 | 3/4 | 0.312 | 100 | New 4UH36 | 3.88 | 3.34 | 3.00 | 0.6 |
| 10 | 7/8 | 0.312 | 100 | 5L811 | 4.32 | 3.69 | 3.34 | 0.7 |
| 10 | 1 | 0.312 | 100 | New 4UH37 | 4.71 | 4.05 | 3.65 | 0.7 |
| 10 | 1 1/4 | 0.312 | 100 | New 4UH38 | 6.04 | 5.19 | 4.67 | 1.0 |
| 12 | 1/2 | 0.312 | 100 | 5L812 | 5.86 | 5.05 | 4.57 | 0.6 |
| 12 | 3/4 | 0.312 | 100 | 5L813 | 6.16 | 5.30 | 4.77 | 0.8 |
| 12 | 1 | 0.312 | 100 | New 4UH39 | 6.76 | 5.81 | 5.23 | 0.8 |
| 12 | 1 1/4 | 0.312 | 100 | 5L814 | 7.64 | 6.54 | 5.89 | 1.2 |
| 12 | 1 1/2 | 0.312 | 100 | 5L815 | 8.35 | 7.19 | 6.47 | 1.3 |
| 14 | 1/2 | 0.438 | 100 | 5L817 | 6.75 | 5.81 | 5.24 | 0.9 |
| 14 | 3/4 | 0.438 | 100 | New 4UH40 | 7.26 | 6.24 | 5.62 | 1.2 |
| 14 | 1 | 0.438 | 100 | 5L821 | 8.40 | 7.21 | 6.50 | 1.5 |
| 14 | 1 1/4 | 0.438 | 100 | 5L822 | 9.26 | 7.95 | 7.15 | 1.7 |
| **HEX WASHER HEAD (cont.)** | | | | | | | | |
| #14 | 1 1/2 | 0.438 | 100 | 5L823 | $10.28 | $8.83 | $7.96 | 2.0 |
| 14 | 2 | 0.438 | 100 | 5L824 | 13.36 | 11.45 | 10.32 | 2.4 |
| 5/16" | 3/4 | 0.500 | 100 | 5L825 | 9.54 | 8.19 | 7.38 | 2.2 |
| 5/16 | 1 | 0.500 | 100 | 5L826 | 11.90 | 10.19 | 9.19 | 2.7 |
| 5/16 | 1 1/2 | 0.500 | 100 | 5L827 | 15.29 | 13.09 | 11.80 | 3.5 |
| 3/8 | 1 | 0.562 | 100 | 5L828 | 22.62 | 19.40 | 17.46 | 4.0 |
| **CONTRACTOR PACKAGES** | | | | | | | | |
| #6 | 3/8 | 0.250 | 1000 | 4P692 | 23.96 | 13.12 | 11.81 | 2.9 |
| 6 | 1/2 | 0.250 | 1000 | 4P693 | 23.96 | 15.37 | 13.84 | 3.0 |
| 6 | 3/4 | 0.250 | 1000 | 4P694 | 27.15 | 19.19 | 17.27 | 3.7 |
| 6 | 1 | 0.250 | 1000 | 4P695 | 32.82 | 20.14 | 18.13 | 3.2 |
| 7 | 1/2 | 0.250 | 500 | 4P696 | 13.83 | 8.31 | 7.48 | 1.6 |
| 8 | 1/2 | 0.250 | 500 | 4P697 | 14.81 | 9.26 | 8.33 | 1.9 |
| 8 | 3/4 | 0.250 | 500 | 4P698 | 16.30 | 9.73 | 8.76 | 2.5 |
| 8 | 1 | 0.250 | 500 | 4P699 | 18.04 | 11.13 | 10.02 | 2.8 |
| 8 | 1 1/4 | 0.250 | 250 | 4P700 | 11.67 | 8.01 | 7.21 | 1.8 |
| 8 | 1 1/2 | 0.250 | 250 | 4P701 | 13.23 | 8.36 | 7.52 | 2.4 |
| 8 | 2 | 0.250 | 250 | 4P702 | 16.81 | 11.12 | 10.01 | 2.4 |
| 10 | 1/2 | 0.312 | 500 | 4P703 | 17.32 | 10.18 | 9.18 | 3.1 |
| 10 | 3/4 | 0.312 | 500 | 4P704 | 18.81 | 11.94 | 10.73 | 3.3 |
| 10 | 1 | 0.312 | 250 | 4P705 | 11.46 | 7.80 | 7.02 | 2.0 |
| 10 | 1 1/4 | 0.312 | 250 | 4P706 | 13.23 | 8.57 | 7.73 | 2.7 |
| 10 | 1 1/2 | 0.312 | 250 | 4P707 | 14.67 | 9.72 | 8.75 | 2.4 |
| 10 | 2 | 0.312 | 250 | 4P708 | 17.94 | 15.85 | 14.26 | 3.0 |
| 12 | 1 | 0.312 | 250 | 4P709 | 16.42 | 9.84 | 8.86 | 2.7 |
| 14 | 3/4 | 0.438 | 250 | 4P710 | 17.60 | 13.75 | 12.38 | 3.0 |

## 18-8 STAINLESS STEEL SLOTTED SHEET METAL SCREWS

QUALITY FASTENERS from ... Rockford



No. 5L582



No. 5L563

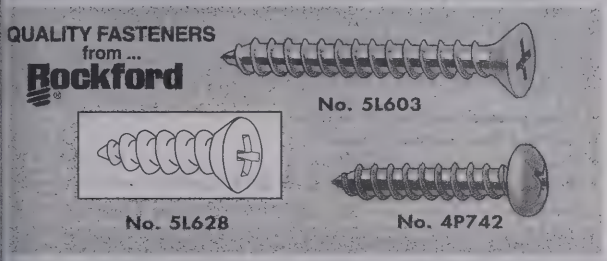
- Resists many types of corrosive elements that cause pitting corrosion and rust
- Possesses superior strength, toughness and resistance to elevated temperatures compared to lower alloy carbon steel fasteners

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FLAT HEAD SLOTTED** | | | | | | | |
| #6 | 1/2 | 100 | 5L548 | $4.95 | $3.68 | $3.31 | 0.2 |
| 6 | 3/4 | 100 | 5L549 | 5.06 | 3.76 | 3.39 | 0.2 |
| 6 | 1 1/2 | 100 | 5L551 | 5.38 | 4.01 | 3.61 | 0.5 |
| 8 | 1/2 | 100 | 5L552 | 5.92 | 4.40 | 3.97 | 0.3 |
| 8 | 3/4 | 100 | 5L553 | 7.48 | 5.57 | 5.02 | 0.4 |
| 8 | 1 | 100 | 5L554 | 8.28 | 6.16 | 5.56 | 0.5 |
| 10 | 1/2 | 100 | 5L557 | 6.45 | 4.80 | 4.32 | 0.3 |
| 10 | 3/4 | 100 | 5L558 | 9.15 | 6.82 | 6.14 | 0.5 |
| 10 | 1 | 100 | 5L559 | 10.43 | 7.77 | 7.00 | 0.6 |
| 12 | 3/4 | 100 | 5L563 | 11.57 | 8.61 | 7.76 | 0.7 |
| 12 | 1 | 100 | 5L564 | 15.39 | 11.45 | 10.32 | 0.8 |
| 12 | 1 1/2 | 100 | 5L566 | 21.53 | 15.99 | 14.40 | 1.1 |
| 14 | 3/4 | 100 | 5L568 | 21.53 | 15.99 | 14.39 | 0.9 |
| 14 | 1 | 100 | 5L569 | 22.34 | 16.62 | 14.95 | 1.1 |
| 14 | 1 1/4 | 100 | 5L571 | 23.14 | 17.20 | 15.49 | 1.3 |

CONTINUED ON NEXT PAGE

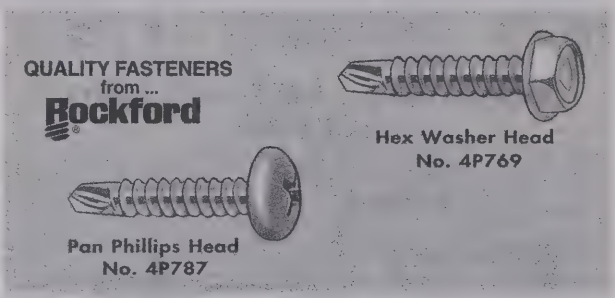
# 18-8 STAINLESS STEEL SHEET METAL SCREWS AND SELF-DRILLING SCREWS

## 18-8 STAINLESS STEEL SLOTTED SHEET METAL SCREWS (cont.)




| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PAN HEAD SLOTTED** | | | | | | | |
| #6 | 1/2 | 100 | 5L578 | $4.46 | $3.32 | $3.00 | 0.2 |
| 6 | 3/4 | 100 | 5L579 | 5.21 | 3.88 | 3.51 | 0.3 |
| 6 | 1 | 100 | 5L581 | 7.00 | 5.20 | 4.68 | 0.4 |
| 8 | 1/2 | 100 | 5L582 | 7.37 | 5.47 | 4.93 | 0.3 |
| 8 | 3/4 | 100 | 5L583 | 7.70 | 5.73 | 5.17 | 0.4 |
| 8 | 1 | 100 | 5L584 | 8.61 | 6.40 | 5.78 | 0.5 |
| 10 | 1/2 | 100 | 5L586 | 8.93 | 6.65 | 5.98 | 0.4 |
| 10 | 3/4 | 100 | 5L587 | 9.85 | 7.32 | 6.60 | 0.6 |
| 10 | 1 | 100 | 5L588 | 15.07 | 11.19 | 10.09 | 0.7 |
| 12 | 3/4 | 100 | 5L592 | 18.30 | 13.61 | 12.25 | 0.8 |
| 12 | 1 | 100 | 5L593 | 19.00 | 14.12 | 12.72 | 1.0 |
| 12 | 1 1/2 | 100 | 5L595 | 24.97 | 18.56 | 16.73 | 1.2 |
| 14 | 3/4 | 100 | 5L596 | 26.91 | 19.99 | 18.00 | 1.1 |
| 14 | 1 | 100 | 5L597 | 29.55 | 21.96 | 19.77 | 1.3 |
| 14 | 1 1/4 | 100 | 5L598 | 34.99 | 26.05 | 23.41 | 1.5 |
| 14 | 2 | 50 | 5L601 | 24.22 | 18.01 | 16.22 | 1.1 |
| **OVAL HEAD PHILLIPS** | | | | | | | |
| #6 | 1/2 | 100 | 5L628 | 3.81 | 2.82 | 2.56 | 0.2 |
| 6 | 3/4 | 100 | 5L629 | 5.92 | 4.40 | 3.97 | 0.3 |
| 6 | 1 | 100 | 5L631 | 7.53 | 5.59 | 5.04 | 0.4 |
| 8 | 1/2 | 100 | 5L632 | 7.10 | 5.29 | 4.77 | 0.3 |
| 8 | 3/4 | 100 | 5L633 | 7.53 | 5.60 | 5.04 | 0.5 |
| 8 | 1 | 100 | 5L634 | 9.68 | 7.21 | 6.50 | 0.5 |
| 10 | 1/2 | 100 | 5L637 | 7.75 | 5.76 | 5.19 | 0.3 |
| 10 | 3/4 | 100 | 5L638 | 8.61 | 6.40 | 5.77 | 0.6 |
| 10 | 1 | 100 | 5L639 | 10.43 | 7.77 | 7.00 | 0.7 |
| 12 | 3/4 | 100 | 5L643 | 12.38 | 9.20 | 8.29 | 0.8 |
| 12 | 1 | 100 | 5L644 | 15.33 | 11.41 | 10.27 | 0.9 |
| 12 | 1 1/2 | 100 | 5L646 | 22.07 | 16.39 | 14.76 | 1.2 |
| 14 | 3/4 | 100 | 5L648 | 20.45 | 15.21 | 13.69 | 1.1 |
| 14 | 1 | 100 | 5L649 | 25.30 | 18.81 | 16.93 | 1.3 |
| 14 | 1 1/2 | 50 | 5L652 | 6.85 | 5.21 | 4.69 | 0.9 |
| **FLAT HEAD PHILLIPS** | | | | | | | |
| #6 | 1/2 | 100 | 5L603 | 4.20 | 3.11 | 2.80 | 0.2 |
| 6 | 3/4 | 100 | 5L604 | 4.84 | 3.60 | 3.24 | 0.2 |
| 6 | 1 | 100 | 5L605 | 5.65 | 4.21 | 3.80 | 0.3 |
| 8 | 1/2 | 100 | 5L606 | 4.41 | 3.27 | 2.96 | 0.3 |
| 8 | 3/4 | 100 | 5L607 | 5.38 | 4.01 | 3.61 | 0.4 |
| 8 | 1 | 100 | 5L608 | 6.78 | 5.05 | 4.56 | 0.5 |
| 10 | 1/2 | 100 | 5L612 | 7.91 | 5.87 | 5.29 | 0.3 |
| 10 | 3/4 | 100 | 5L613 | 10.65 | 7.93 | 7.16 | 0.5 |
| 10 | 1 | 100 | 5L614 | 11.03 | 8.22 | 7.40 | 0.6 |
| 12 | 3/4 | 100 | 5L617 | 12.38 | 9.20 | 8.29 | 0.7 |
| 12 | 1 | 100 | 5L618 | 13.99 | 10.41 | 9.39 | 0.8 |
| 12 | 1 1/2 | 100 | 5L621 | 19.37 | 14.41 | 12.98 | 1.1 |
| 14 | 3/4 | 100 | 5L623 | 16.68 | 12.41 | 11.17 | 0.9 |
| 14 | 1 | 100 | 5L624 | 19.37 | 14.41 | 12.98 | 1.1 |
| 14 | 1 1/4 | 100 | 5L625 | 20.45 | 15.21 | 13.70 | 1.3 |
| **PAN HEAD PHILLIPS** | | | | | | | |
| #6 | 1/2 | 100 | 4P742 | 5.38 | 3.17 | 2.84 | 0.3 |
| 6 | 3/4 | 100 | 4P743 | 4.30 | 3.73 | 3.36 | 0.4 |
| 6 | 1 | 100 | 4P744 | 8.07 | 4.74 | 4.26 | 0.4 |
| 8 | 1/2 | 100 | 4P745 | 7.91 | 4.60 | 4.14 | 0.4 |
| 8 | 3/4 | 100 | 4P746 | 9.36 | 5.45 | 4.90 | 0.5 |
| 8 | 1 | 100 | 4P747 | 9.95 | 5.83 | 5.24 | 0.6 |
| 8 | 1 1/2 | 100 | 4P748 | 11.83 | 6.95 | 6.26 | 0.8 |
| 8 | 1 1/4 | 100 | 5L655 | 10.76 | 8.00 | 7.21 | 0.6 |
| 10 | 1/2 | 100 | 4P749 | $7.57 | $6.84 | $6.16 | 0.5 |
| 10 | 3/4 | 100 | 4P750 | 11.46 | 6.72 | 6.05 | 0.6 |
| 10 | 1 | 100 | 4P751 | 14.96 | 8.71 | 7.83 | 0.8 |
| 10 | 1 1/4 | 100 | 5L656 | 16.68 | 12.41 | 11.16 | 0.8 |
| 10 | 1 1/2 | 100 | 4P752 | 12.65 | 11.31 | 10.18 | 1.0 |
| 10 | 2 | 100 | 4P753 | 16.68 | 9.82 | 8.83 | 1.2 |
| 12 | 1/2 | 100 | 5L657 | 10.76 | 8.00 | 7.21 | 0.6 |
| 12 | 3/4 | 100 | 5L658 | 12.38 | 9.20 | 8.29 | 0.8 |
| 12 | 1 | 100 | 5L659 | 17.49 | 13.00 | 11.72 | 0.9 |
| 12 | 1 1/4 | 100 | 5L661 | 24.39 | 18.13 | 16.32 | 1.1 |
| 12 | 1 1/2 | 100 | 5L662 | 25.30 | 18.80 | 16.93 | 1.2 |
| 14 | 3/4 | 100 | 5L664 | 27.46 | 20.40 | 18.36 | 1.1 |
| 14 | 1 | 100 | 5L665 | 28.47 | 21.16 | 19.06 | 1.3 |
| 14 | 1 1/4 | 100 | 5L666 | 32.29 | 24.03 | 21.61 | 1.5 |
| 14 | 1 1/2 | 50 | 5L667 | 17.49 | 13.00 | 11.72 | 0.9 |
| 14 | 2 | 50 | 5L668 | 24.52 | 18.22 | 16.40 | 1.1 |

## SELF-DRILLING SCREWS




- Zinc Plated case hardened steel
- Drill, tap and fasten in one operation
- For attaching a variety of materials to metal up to 12-gauge
- Meets or exceeds SAE J78 standards

### HEX WASHER HEAD SELF-DRILLING SCREWS

| Size | Length (In.) | Width of Hex Head | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| #6-20 | 1/2 | 0.250 | 100 | 4P769 | $6.02 | $3.61 | $3.25 | 0.4 |
| 6-20 | 3/4 | 0.250 | 100 | 5L489 | 6.32 | 3.80 | 3.42 | 0.3 |
| 6-20 | 1 | 0.250 | 100 | 5L491 | 6.92 | 4.16 | 3.74 | 0.4 |
| 8-18 | 1/2 | 0.250 | 100 | 4P770 | 6.43 | 3.86 | 3.47 | 0.5 |
| 8-18 | 3/4 | 0.250 | 100 | 4P771 | 7.47 | 4.48 | 4.03 | 0.5 |
| 8-18 | 1 | 0.250 | 100 | 4P772 | 8.39 | 5.04 | 4.54 | 0.7 |
| 8-18 | 1 1/4 | 0.250 | 100 | 5L496 | 8.63 | 5.18 | 4.66 | 0.6 |
| 8-18 | 1 1/2 | 0.250 | 100 | 5L497 | 9.18 | 5.51 | 4.96 | 0.7 |
| 10-16 | 1/2 | 0.312 | 100 | 4P773 | 8.68 | 5.21 | 4.69 | 0.6 |
| 10-16 | 5/8 | 0.312 | 100 | 4P774 | 8.95 | 5.37 | 4.83 | 0.7 |
| 10-16 | 3/4 | 0.312 | 100 | 4P775 | 9.27 | 5.57 | 5.01 | 1.2 |
| 10-16 | 1 | 0.312 | 100 | 4P776 | 10.26 | 6.16 | 5.54 | 1.0 |
| 10-16 | 1 1/4 | 0.312 | 100 | 4P777 | 10.87 | 6.53 | 5.88 | 1.6 |
| 10-16 | 1 1/2 | 0.312 | 100 | 4P778 | 11.20 | 6.72 | 6.05 | 1.7 |
| 12-14 | 3/4 | 0.312 | 100 | 4P779 | 12.57 | 7.55 | 6.80 | 1.0 |
| 12-14 | 1 | 0.312 | 100 | 4P780 | 10.87 | 6.53 | 5.88 | 1.6 |
| 12-14 | 1 1/4 | 0.312 | 100 | 5L507 | 11.96 | 7.18 | 6.46 | 1.7 |
| 12-14 | 1 1/2 | 0.312 | 100 | 4P781 | 11.80 | 7.08 | 6.37 | 1.7 |
| 12-14 | 2 | 0.312 | 100 | 5L508 | 13.47 | 8.08 | 7.27 | 1.7 |
| 1/4-14 | 3/4 | 0.375 | 100 | 4P782 | 15.53 | 9.32 | 8.39 | 1.6 |
| 1/4-14 | 1 | 0.375 | 100 | 4P783 | 16.60 | 9.96 | 8.96 | 2.0 |
| 1/4-14 | 1 1/2 | 0.375 | 100 | 4P784 | 18.71 | 11.23 | 10.11 | 2.4 |
| 1/4-14 | 2 | 0.375 | 100 | 5L512 | 21.37 | 12.83 | 11.55 | 2.6 |
| 1/4-20 | 3/4 | 0.375 | 50 | 4P785 | 11.79 | 7.08 | 6.37 | 0.8 |
| 1/4-20 | 1 | 0.375 | 50 | 4P786 | 12.28 | 7.37 | 6.63 | 0.9 |

CONTINUED ON NEXT PAGE

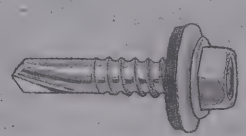
# SPECIALTY SCREWS

## HEX WASHER HEAD SELF-DRILLING SCREWS (cont.)

| Size | Length (In.) | Width of Hex Head | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **HEX WASHER HEAD SCREWS—CONTRACTOR PACKAGE** | | | | | | | | |
| #6-20 | 1/2 | 0.250 | 1000 | 5L488 | $57.40 | $34.45 | $31.00 | 3.0 |
| 8-18 | 1/2 | 0.250 | 1000 | 5L492 | 60.88 | 36.55 | 32.88 | 4.0 |
| 8-18 | 5/8 | 0.250 | 1000 | 5L493 | 66.87 | 40.15 | 36.12 | 5.0 |
| 8-18 | 3/4 | 0.250 | 1000 | 5L494 | 71.02 | 42.65 | 38.36 | 5.0 |
| 8-18 | 1 | 0.250 | 1000 | 5L495 | 79.52 | 47.75 | 42.94 | 6.0 |
| 10-16 | 5/8 | 0.312 | 1000 | 5L498 | 85.19 | 51.15 | 46.01 | 7.0 |
| 10-16 | 3/4 | 0.312 | 1000 | 5L499 | 88.02 | 52.85 | 47.53 | 8.0 |
| 10-16 | 1 | 0.312 | 1000 | 5L501 | 97.62 | 58.60 | 52.71 | 9.0 |
| 10-16 | 1¼ | 0.312 | 1000 | 5L502 | 109.88 | 65.95 | 59.34 | 16.0 |
| 10-16 | 1½ | 0.312 | 500 | 5L503 | 56.84 | 34.15 | 30.70 | 8.5 |
| 12-14 | 3/4 | 0.312 | 500 | 5L504 | 59.86 | 35.95 | 32.33 | 7.5 |
| 12-14 | 7/8 | 0.312 | 500 | 5L505 | 61.47 | 36.90 | 33.19 | 4.5 |
| 12-14 | 1 | 0.312 | 500 | 5L506 | 55.26 | 33.20 | 29.84 | 8.0 |
| 1/4"-14 | 3/4 | 0.375 | 500 | 5L509 | 78.25 | 46.95 | 42.26 | 8.0 |
| 1/4-14 | 1 | 0.375 | 500 | 5L511 | 83.74 | 50.25 | 45.23 | 10.0 |
| **PAN HEAD PHILLIPS SCREWS—STANDARD PACKAGE** | | | | | | | | |
| 8-18 | 1/2 | — | 100 | 4P787 | 6.39 | 3.84 | 3.46 | 0.4 |
| 8-18 | 3/4 | — | 100 | 4P788 | 6.98 | 4.19 | 3.77 | 0.5 |

## BOND SEAL SELF-DRILLING SCREWS

QUALITY FASTENERS from ... Rockford



No. 4P789

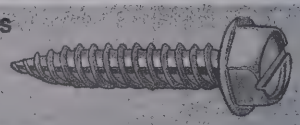
- Zinc plated steel with bonded neoprene washer
- 3/16" flute length
- For light gauge metals in construction, electrical, heating and cooling
- Seals out water, helps reduce vibration, insulates against sound, and protects surface from marring

### HEX WASHER HEAD SCREWS WITH BONDED NEOPRENE WASHERS

| Size | Length (In.) | Width of Hex Head | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **BOND SEAL SELF-DRILLING SCREWS—STANDARD PACKAGE** | | | | | | | | |
| #10-16 | 5/8 | 0.312 | 100 | 5L535 | $16.51 | $14.58 | $13.13 | 1.3 |
| 10-16 | 3/4 | 0.312 | 100 | 4P789 | 16.59 | 12.76 | 11.49 | 1.0 |
| 12-14 | 3/4 | 0.312 | 100 | 4P790 | 17.91 | 13.24 | 11.91 | 1.2 |
| 12-14 | 1 | 0.312 | 100 | 5L539 | 19.30 | 17.04 | 15.34 | 1.8 |
| 12-14 | 1½ | 0.312 | 100 | 5L542 | 20.06 | 17.72 | 15.96 | 2.0 |
| 12-14 | 2 | 0.312 | 100 | 5L543 | 20.79 | 18.34 | 16.51 | 1.5 |
| 1/4"-14 | 3/4 | 0.312 | 100 | 4P791 | 22.06 | 15.64 | 14.08 | 1.6 |
| 1/4-14 | 1 | 0.312 | 100 | 5L546 | 23.45 | 20.67 | 18.63 | 2.2 |
| **BOND SEAL SELF-DRILLING SCREWS—CONTRACTOR PACKAGE** | | | | | | | | |
| #10-16 | 5/8 | 0.312 | 1000 | 5L534 | 148.57 | 131.85 | 118.58 | 13.0 |
| 10-16 | 3/4 | 0.312 | 500 | 5L536 | 74.77 | 66.40 | 59.67 | 7.0 |
| 12-14 | 1 | 0.312 | 500 | 5L538 | 86.81 | 77.05 | 69.27 | 9.0 |
| 12-14 | 1½ | 0.312 | 250 | 5L541 | 47.66 | 42.35 | 38.03 | 5.0 |
| 1/4"-14 | 3/4 | 0.312 | 500 | 5L544 | 99.30 | 88.10 | 79.20 | 11.0 |
| 1/4-14 | 1 | 0.312 | 500 | 5L545 | 105.63 | 93.70 | 84.27 | 11.0 |

## SELF-PIERCING SCREWS

QUALITY FASTENERS from ... Rockford



No. 4P754

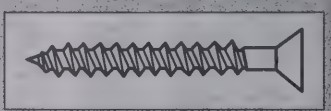
- Zinc plated hardened steel
- Slotted hex washer head
- Pierce point for self-drilling
- Primary use in thin metal and duct work

### HEX WASHER HEAD SELF-PIERCING SCREWS

| Size | Length (In.) | Width of Hex Head | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **HEX WASHER HEAD SCREWS—STANDARD PACKAGE** | | | | | | | | |
| #8 | 1/2 | 0.250 | 100 | 5L833 | $2.73 | $2.33 | $2.12 | 0.4 |
| 8 | 3/4 | 0.250 | 100 | 5L834 | 3.28 | 2.81 | 2.54 | 0.4 |
| 8 | 1 | 0.250 | 100 | 5L835 | 3.70 | 3.20 | 2.89 | 0.5 |
| 8 | 1½ | 0.250 | 100 | 5L836 | 5.07 | 4.35 | 3.94 | 0.7 |
| 10 | 1/2 | 0.250 | 100 | 5L837 | 3.30 | 2.84 | 2.57 | 0.5 |
| 10 | 3/4 | 0.250 | 100 | 5L838 | 3.99 | 3.44 | 3.11 | 0.6 |
| 10 | 1 | 0.250 | 100 | 5L839 | 5.01 | 4.32 | 3.90 | 0.8 |
| **HEX WASHER HEAD SCREWS—CONTRACTOR PACKAGE** | | | | | | | | |
| #8 | 1/2 | 0.250 | 500 | 4P754 | 16.81 | 13.45 | 12.11 | 2.0 |
| 8 | 3/4 | 0.250 | 500 | 4P755 | 15.53 | 14.41 | 12.97 | 2.7 |
| 8 | 1 | 0.250 | 500 | 4P756 | 22.76 | 18.21 | 16.38 | 3.0 |
| 8 | 1½ | 0.250 | 500 | 4P757 | 24.08 | 23.22 | 20.90 | 4.2 |
| 10 | 1/2 | 0.250 | 500 | 4P758 | 15.70 | 14.89 | 13.41 | 2.1 |
| 10 | 3/4 | 0.250 | 500 | 4P759 | 18.80 | 16.65 | 15.00 | 2.7 |
| 10 | 1 | 0.250 | 500 | 4P760 | 23.82 | 21.97 | 19.77 | 3.3 |

## PARTICLE BOARD SCREWS

QUALITY FASTENERS from ... Rockford



No. 5M092

- Coarse thread
- Zinc Gold Chromate finish for superior corrosion resistanc
- Fully threaded

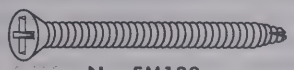
| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FLAT HEAD PHILLIPS—COARSE THREAD, FULLY THREADED, ZINC GOLD PLATED** | | | | | | | |
| #6 | 1 | 100 | 5M092 | $3.10 | $2.54 | $2.30 | 0.3 |
| 6 | 1¼ | 100 | 5M093 | 3.61 | 2.95 | 2.67 | 0.4 |
| 6 | 1⅝ | 100 | 5M091 | 4.47 | 3.65 | 3.30 | 0.5 |
| 6 | 2 | 100 | 5M094 | 5.07 | 4.15 | 3.75 | 0.6 |
| 7 | 2½ | 100 | 5M095 | 7.82 | 6.39 | 5.77 | 1.0 |
| 8 | 3 | 100 | 5M096 | 9.03 | 7.39 | 6.66 | 1.2 |
| 10 | 3½ | 100 | 5M097 | 17.07 | 13.96 | 12.57 | 1.9 |
| 10 | 4 | 100 | 5M098 | 21.44 | 17.54 | 15.80 | 2.2 |

CONTINUED ON NEXT PAGE

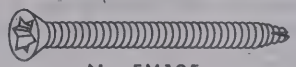
# SPECIALTY SCREWS

## TRAILER FLOOR SCREWS

QUALITY FASTENERS from ... Rockford



No. 5M138



No. 5M135

Plain finish

Case hardened steel

For installing wooden flooring in trailers and other applications

| Size (In.) | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FLAT HEAD PHILLIPS** | | | | | | | |
| 1/4 | 2 | 100 | 5M138 | $15.74 | $14.39 | $12.97 | 2.3 |
| 1/4 | 2 1/2 | 100 | 5M139 | 17.45 | 15.95 | 14.36 | 2.8 |
| **TORX DRIVE FLAT HEAD** | | | | | | | |
| 1/4 | 2 | 100 | 5M135 | 18.07 | 16.52 | 14.88 | 2.3 |
| 1/4 | 2 1/2 | 100 | 5M136 | 20.05 | 18.33 | 16.50 | 2.8 |
| 1/4 | 3 | 100 | 5M137 | 26.20 | 23.94 | 21.55 | 3.2 |

## REAMER TEKS FLOOR SCREWS

QUALITY FASTENERS from ... Rockford



No. 5M140

Plain finish

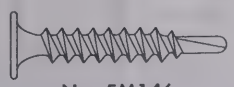
Case hardened steel

Reamer wings for drilling/reaming through wood and then drilling and tapping metal framing

| Size (In.) | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4-20 | 2 | 100 | 5M140 | $37.20 | $36.10 | $32.45 | 2.3 |
| 1/4-20 | 2 1/2 | 100 | 5M141 | 46.02 | 44.65 | 40.15 | 2.8 |
| 1/4-20 | 3 | 100 | 5M142 | 61.36 | 59.55 | 53.53 | 3.3 |

## WALL LINER SCREWS

QUALITY FASTENERS from ... Rockford



No. 5M146

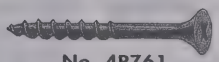
Case hardened drill point

For installing plywood wall liner panels to metal framing members of truck trailers

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **TORX WAFER HEAD** | | | | | | | |
| #10-16 | 1 | 50 | 5M146 | $9.06 | $7.25 | $6.55 | 6.1 |

## DRYWALL SCREWS

ELCO



No. 4P761

- Grips securely without splitting studs
- Black phosphate coated

For use in wallboard and multi-purpose wood applications. Interior use only. Black phosphate coating. Available in Twinfast or Coarse Thread in Phillips Bugle Head, Square Drive Trim Head or Phillips Trim Head.

| Size | Length (In.) | No. Per Pkg. | Drive | Head | Stock No. | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FINE THREAD (TWINFAST)** | | | | | | | |
| #6 | 1 | 1000 | Phillips | Bugle | 4P761 | $11.70 | 1.6 |
| 6 | 1 1/4 | 1000 | Phillips | Bugle | 4P762 | 12.70 | 2.1 |
| 6 | 1 5/8 | 500 | Phillips | Bugle | 4P763 | 8.76 | 2.6 |
| 6 | 2 | 500 | Phillips | Bugle | 4P764 | 12.70 | 2.2 |
| 8 | 2 1/2 | 250 | Phillips | Bugle | 4P765 | 8.14 | 3.0 |
| 8 | 3 | 250 | Phillips | Bugle | 4P766 | 11.50 | 2.6 |
| 6 | 1 5/8 | 100 | Square | Trim | 5M498 | 3.85 | 0.4 |
| 6 | 1 5/8 | 750 | Square | Trim | 5M514 | 23.16 | 3.1 |
| 6 | 2 1/4 | 100 | Square | Trim | 5M499 | 4.16 | 0.6 |
| 6 | 2 1/4 | 500 | Square | Trim | 5M512 | 21.37 | 2.6 |
| 6 | 1 5/8 | 250 | Phillips | Trim | 5M507 | 6.86 | 1.1 |
| 6 | 2 1/4 | 250 | Phillips | Trim | 5M508 | 7.97 | 1.5 |
| **COARSE THREAD** | | | | | | | |
| #6 | 1 1/4 | 100 | Square | Bugle | 5M494 | 2.52 | 0.4 |
| 6 | 1 5/8 | 100 | Square | Bugle | 5M493 | 2.04 | 0.5 |
| 6 | 2 | 100 | Square | Bugle | 5M495 | 3.76 | 0.6 |
| 8 | 2 1/2 | 100 | Square | Bugle | 5M496 | 4.36 | 1.0 |
| 8 | 3 | 100 | Square | Bugle | 5M497 | 6.07 | 1.3 |
| 6 | 1 1/4 | 100 | Phillips | Bugle | 5M500 | 1.70 | 0.5 |
| 6 | 1 1/4 | 300 | Phillips | Bugle | 5M510* | 15.13 | 1.3 |
| 6 | 1 1/4 | 1000 | Phillips | Bugle | 5M505 | 14.79 | 3.7 |
| 6 | 1 5/8 | 100 | Phillips | Bugle | 5M501 | 2.38 | 0.5 |
| 6 | 1 5/8 | 250 | Phillips | Bugle | 5M509* | 15.93 | 1.4 |
| 6 | 1 5/8 | 1000 | Phillips | Bugle | 5M506 | 21.12 | 4.8 |
| 6 | 2 | 100 | Phillips | Bugle | 5M502 | 3.45 | 0.6 |
| 6 | 2 | 800 | Phillips | Bugle | 5M515 | 24.24 | 4.7 |
| 8 | 2 1/2 | 100 | Phillips | Bugle | 5M503 | 4.79 | 1.0 |
| 8 | 2 1/2 | 500 | Phillips | Bugle | 5M513 | 21.27 | 4.6 |
| 8 | 3 | 100 | Phillips | Bugle | 5M504 | 5.81 | 1.3 |
| 8 | 3 | 400 | Phillips | Bugle | 5M511 | 20.47 | 4.4 |

(*) Self Drilling Drywall Screw

## DECK SCREWS

ELCO



No. 4P767

- Point will not split wood, case hardened
- For exposed outdoor construction—decks, gazebos, siding
- Dacrotized finish for corrosion resistance
- Stalgard-coated designed for pressure-treated lumber

| Size | Length (In.) | No. Per Pkg. | Drive | Head | Stock No. | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **DACROTIZED FINISH/COARSE THREAD** | | | | | | | |
| #6 | 1 5/8 | 1000 | Phillips | Bugle | 5M476 | $31.65 | 4.9 |
| 6 | 2 | 800 | Phillips | Bugle | 5M487 | 32.70 | 4.7 |
| 8 | 2 1/2 | 100 | Phillips | Bugle | 4P767 | 9.51 | 1.2 |
| 8 | 2 1/2 | 500 | Phillips | Bugle | 5M486 | 29.55 | 4.9 |
| 8 | 3 | 100 | Phillips | Bugle | 4P768 | 10.36 | 1.6 |
| 8 | 3 | 400 | Phillips | Bugle | 5M484 | 28.90 | 4.6 |
| **STALGARD COATED/COARSE THREAD** | | | | | | | |
| #8 | 2 | 300 | Square | Bugle | 5M482 | 21.40 | 2.7 |
| 8 | 2 1/2 | 250 | Square | Bugle | 5M480 | 23.47 | 2.7 |
| 10 | 3 | 200 | Square | Bugle | 5M477 | 26.10 | 3.1 |
| **STALGARD COATED/FINE THREAD** | | | | | | | |
| #6 | 1 5/8 | 500 | Phillips | Bugle | 5M485 | 17.83 | 2.7 |
| 6 | 2 | 400 | Phillips | Bugle | 5M483 | 18.42 | 2.4 |
| 8 | 2 1/2 | 250 | Phillips | Bugle | 5M481 | 16.41 | 2.5 |
| 8 | 3 | 200 | Phillips | Bugle | 5M478 | 16.07 | 2.3 |
| 10 | 3 3/4 | 200 | Phillips | Bugle | 5M479 | 29.60 | 4.0 |

# PRE-PACKED TRAY ASSORTMENTS

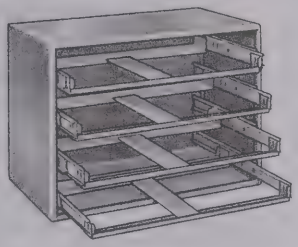
QUALITY FASTENERS from ... Rockford

New



Pre-packed Assortments Sold Below

No. 4UH50 Shown



## SLIDING DRAWER PARTS CABINET (EMPTY)

- Holds four compartment boxes (sold below)
- Sturdy compartment boxes measure 19.5 x 13.0 x 3.3"
- Can be stacked and bolted together
- Drawers can be easily removed for remote use
- Rugged all-steel construction
- Rust and acid-resistant blue baked enamel finish

**New No. 4UJ35.** Rockford Products brand (303-95). Shpg. wt. 37.0 lbs. List $92.15. Each.....**$70.20**

- Pre-packed assortments of popular products and sizes
- Maximum product selection in a minimum amount of space
- Find parts faster
- Excellent for mobile repair vehicles and jobsite repair stations
- 19.5 x 13.0 x 3.3", rugged steel

## PREVAILING TORQUE LOCKNUT ASSORTMENT—COARSE AND FINE - 890 PIECES

| Dia. | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 |
|---|---|---|---|---|---|---|---|
| NC | ● | ● | ● | ● | ● | ● | ● |
| NF | ● | ● | ● | ● | ● | ● | ● |

**New No. 4UH58.** (P8421-912).Shpg. wt. 28.0 lbs. Each .....**$235.00**

## GRADE 5 CAP SCREW ASSORTMENT—COARSE THREAD - 710 PIECES

| Dia. | 1/2 | 3/4 | 1 | 1¼ | 1½ | 2 | Nut | Flat | Lock |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | ● | ● | ● | | ● | ● | ● | ● | ● |
| 5/16 | | ● | ● | ● | ● | ● | ● | ● | ● |
| 3/8 | | ● | ● | ● | ● | ● | ● | ● | ● |

**New No. 4UH50** (P8421-901). Shpg. wt. 22.0 lbs. Each .....**$62.50**

## GRADE 8 CAP SCREW ASSORTMENT—COARSE THREAD - 910 PIECES

| Dia. | 1/2 | 3/4 | 1 | 1¼ | 1½ | 2 | Nut | Flat | Lock |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | ● | ● | ● | | ● | ● | ● | ● | ● |
| 5/6 | | ● | ● | ● | ● | ● | ● | ● | ● |
| 3/8 | | ● | ● | ● | ● | ● | ● | ● | ● |

**New No. 4UH52** (P8421-903).Shpg. wt. 21.0 lbs. Each .....**$111.30**

## 18-8 STAINLESS STEEL CAP SCREW ASSORTMENT—COARSE THREAD - 420 PIECES

| Dia. | 1/2 | 1 | 1½ | 2 | 2½ | Nut | Flat | Lock |
|---|---|---|---|---|---|---|---|---|
| 1/4 | ● | ● | ● | ● | | ● | ● | ● |
| 5/16 | ● | ● | ● | ● | | ● | ● | ● |
| 3/8 | | ● | ● | ● | ● | ● | ● | ● |

**New No. 4UH55** (P8421-906). Shpg. wt. 17.0 lbs. Each .....**$110.50**

## HEX WASHER HEAD SHEET METAL SCREW ASSORTMENT - 915 PIECES

| Dia. | 1/2 | 5/8 | 3/4 | 1 | 1¼ | 1½ |
|---|---|---|---|---|---|---|
| #8 | | | ● | ● | | |
| #10 | ● | | ● | ● | | ● |
| #12 | ● | | ● | ● | | |
| #14 | ● | ● | ● | ● | ● | ● |
| 5/16 | | | ● | ● | | |
| 3/8 | | | | ● | ● | ● |

**New No. 4UH57** (P8421-908). Shpg. wt. 18.0 lbs. Each .....**$79.90**

## FENDER WASHER ASSORTMENT - 1350 PIECES

| Dia. | 3/4 | 7/8 | 1 | 1¼ | 1½ | 1¾ | 2 |
|---|---|---|---|---|---|---|---|
| #6 | ● | | | | | | |
| 5/32 | | ● | | | | | |
| 3/16 | ● | | ● | ● | | | |
| 1/4 | | | ● | ● | ● | | |
| 5/16 | | | | ● | ● | ● | |
| 3/8 | | | | ● | ● | | |
| 1/2 | | | | | | | ● |

**New No. 4UH66** (P8421-934).Shpg. wt. 32.0 lbs. Each .....**$104.60**

## NYLON INSERT LOCKNUT ASSORTMENT—COARSE & FINE THREAD - 1090 PIECES

| Dia. | #10 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 |
|---|---|---|---|---|---|---|---|---|
| NC | ● | ● | ● | ● | ● | ● | ● | ● |
| NF | ● | ● | ● | ● | ● | ● | ● | ● |

**New No. 4UH61** (P8421-918). Shpg. wt. 31.0 lbs. Each .....**$126.60**

## GRADE 5 CAP SCREWS ASSORTMENT—FINE THREAD - 710 PIECES

| Dia. | 1/2 | 3/4 | 1 | 1¼ | 1½ | 2 | Nut | Flat | Lock |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | ● | ● | ● | | ● | ● | ● | ● | ● |
| 5/16 | | ● | ● | ● | ● | ● | ● | ● | ● |
| 3/8 | | ● | ● | ● | ● | ● | ● | ● | ● |

**New No. 4UH51** (P8421-902). Shpg. wt. 21.0 lbs. Each .....**$49.40**

## METRIC CLASS 8.8 CAP SCREWS ASSORTMENT—STANDARD THREAD - 431 PIECES

| Dia. | 12M | 16M | 20M | 25M | 30M | 40M | 50M | 70M | Nut | Flat | Lock |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M6 | ● | ● | ● | ● | ● | | | | ● | ● | ● |
| M8 | | ● | ● | ● | ● | ● | | | ● | ● | ● |
| M10 | | | ● | | ● | ● | ● | ● | ● | ● | ● |

**New No. 4UH53** (P8421-904). Shpg. wt. 12.0 lbs. Each .....**$116.70**

## METRIC CLASS 8.8 CAP SCREWS ASSORTMENT—FINE THREAD - 70 PIECES

| Dia. | 20M | 25M | 30M | 35M | 40M | 50M | 60M | 65M | 75M | Nut |
|---|---|---|---|---|---|---|---|---|---|---|
| M10 x 1.25 | ● | ● | ● | ● | ● | ● | ● | | | ● |
| M12 x 1.25 | | ● | | ● | | ● | | | | ● |
| M12 x 1.50 | ● | | ● | | ● | ● | | ● | ● | ● |

**New No. 4UH54.** (P8421-905). Shpg. wt. 13.0 lbs. Each .....**$100.50**

## HEX HEAD SELF-DRILLING SCREW ASSORTMENT-2000 PC.

| Dia. | 1/2 | 3/4 | 1 | 1¼ | 1½ |
|---|---|---|---|---|---|
| #6 | ● | ● | ● | | |
| #8 | ● | ● | ● | ● | ● |
| #10 | ● | ● | ● | ● | ● |
| #12 | | ● | ● | ● | ● |
| 1/4 | | ● | ● | | ● |

**New No. 4UH59** (P8421-913). Shpg. wt. 24.0 lbs. Each .....**$184.25**

## STEEL COTTER PIN ASSORTMENT - 1730 PIECES

| Dia. | 1/2 | 3/4 | 1 | 1¼ | 1½ | 1¾ | 2 | 2½ |
|---|---|---|---|---|---|---|---|---|
| 3/64 | ● | | | | | | | |
| 1/16 | ● | ● | ● | | ● | | ● | |
| 3/32 | | ● | ● | ● | ● | | ● | |
| 7/64 | | | ● | | | | | |
| 1/8 | | | ● | ● | ● | ● | ● | |
| 5/32 | | | | | ● | | ● | |
| 3/16 | | | | | ● | | ● | ● |
| 1/4 | | | | | | | ● | |

**New No. 4UH60** (P8421-916). Shpg. wt. 15.0 lbs. Each .....**$71.00**

# PRE-PACKED TRAY ASSORTMENTS

## ROUND SLOTTED MACHINE SCREW & NUT ASSORTMENT

| Dia. | 1/4 | 1/2 | 3/4 | 1 | 1¼ | 1½ | Nut |
|---|---|---|---|---|---|---|---|
| 6-32 | ● | ● | ● | ● | | | ● |
| 8-32 | | ● | ● | ● | | | ● |
| 10-24 | | ● | ● | ● | ● | ● | ● |
| 10-32 | | ● | ● | ● | ● | ● | ● |
| 12-24 | | ● | | ● | | | ● |

**ew No. 4UH62.** Rockford Products brand (P8421-920). 1125 Pieces.
ıpg. wt. 14.0 lbs. Each ..... $56.00

## COMBO DRIVE MACHINE SCREW WITH NUT ASSORTMENT

| Dia. | 3/8 | 1/2 | 3/4 | 1 | 1½ | Nut |
|---|---|---|---|---|---|---|
| 6-32 | ● | ● | ● | ● | | ● |
| 8-32 | | ● | ● | ● | ● | ● |
| 10-24 | | ● | ● | ● | ● | ● |
| 10-32 | | ● | ● | ● | | ● |
| 1/4-20 | | ● | ● | ● | ● | ● |

**ew No. 4UH67.** Rockford Products brand (P8421-935). 2400 Pieces.
ıpg. wt. 25.0 lbs. Each..... $98.70

## 18-8 STAINLESS STEEL SHEET METAL SCREW ASSORTMENT

| Dia. | Oval Phillips 1/2 | 3/4 | 1 | 1¼ | 1½ | Pan Phillips 1/2 | 3/4 | 1 | 1¼ | 1½ |
|---|---|---|---|---|---|---|---|---|---|---|
| #6 | ● | ● | ● | | | ● | ● | ● | | |
| #8 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| #10 | | ● | ● | ● | ● | | ● | ● | ● | ● |

**ew No. 4UH56.** Rockford Products brand (P8421-907). 600 Pieces.
ıpg. wt. 12.0 lbs. Each ..... $58.40

## PAN SLOTTED SHEET METAL SCREW ASSORTMENT

| Dia. | 3/8 | 1/2 | 3/4 | 1 | 1¼ | 1½ |
|---|---|---|---|---|---|---|
| #4 | ● | | ● | | | |
| #6 | ● | ● | ● | ● | | |
| #8 | ● | ● | ● | ● | ● | |
| #10 | | ● | ● | ● | ● | ● |
| #12 | | ● | ● | ● | ● | |
| #14 | | | ● | ● | ● | ● |

***New* No. 4UH63.** Rockford Products brand (P8421-923). 940 Pieces.
Shpg. wt. 13.0 lbs. Each ..... $61.20

## PAN COMBO DRIVE SHEET METAL SCREW ASSORTMENT

| Dia. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|---|---|
| #6 | ● | ● | ● | ● | ● | | | |
| #8 | | ● | ● | ● | ● | ● | ● | |
| #10 | | ● | | ● | ● | | ● | ● |
| #12 | | | | ● | ● | | ● | |

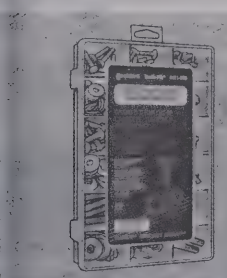
***New* No. 4UH64.** Rockford Products brand (P8421-931). 2000 Pieces.
Shpg. wt. 20.0 lbs. Each ..... $67.10

## PAN PHILLIPS SHEET METAL SCREW ASSORTMENT

| Dia. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|---|---|
| #6 | ● | ● | ● | ● | ● | | | |
| #8 | | ● | ● | ● | ● | ● | ● | |
| #10 | | ● | | ● | ● | | ● | ● |
| #12 | | | | ● | ● | | ● | |

(●) Indicates inclusion in set.

***New* No. 4UH65.** Rockford Products brand (P8421-932). 2000 Pieces.
Shpg. wt. 21.0 lbs. Each..... $64.30



QUALITY FASTENERS from ... Rockford

*New*

No. 4UH41

## KWIK PIK LARGE PLASTIC BOXED ASSORTMENTS

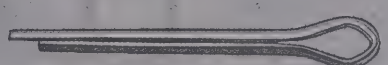
- Durable polypropylene plastic boxed assortments for easy parts access and storage
- Time-saver - Organization of small parts allows user to find parts faster
- Excellent for mobile repair vehicles and jobsite repair stations
- 7 x 10¾ x 1¾"
- Trilingual labeling

| Description | Pkg. Qty. | Rockford Model | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **ade 5 Cap Screw, Coarse Thread (Includes 1/4 x 1/2 through 8 x 2 Screws, Hex Nuts, Flat Washers & Lockwashers)** | 348 | P8421-500 | **4UH41** | **$22.69** | 5.0 |
| **etric Class 8.8 Cap Screws Standard Thread (Includes 6MM x 12 rough 10MM x 35 Screws, Hex Nuts, Flat Washers & Lockwashers)** | 224 | P8421-501 | **4UH42** | **20.59** | 3.3 |
| **3-8 Stainless Steel Fasteners (Includes Tapping Screws, Machine crews, Hex Nuts, Flat and Finishing washers & Lockwashers)** | 252 | P8421-502 | **4UH43** | **27.80** | 2.0 |
| **achine Screws with Nuts-Combo Drive (Includes 6-32 x 1/2 through 4 -20 x 1½ plus 10-32 Screws, Nuts, Flat Washers & Lockwashers)** | 1150 | P8421-503 | **4UH44** | **22.99** | 3.9 |
| **il-Pro Hex Head Self-Drilling Screws w/Chucks 3 x 1/2 through 1/4 x 1½** | 175 | P8421-504 | **4UH45** | **26.30** | 2.2 |
| **ieet Metal Screws-Combo Drive #6 x 1/2 through #14 x 1½** | 495 | P8421-505 | **4UH46** | **22.09** | 3.6 |
| **otter Pins-Steel 1/16 x 1/2 through 3/16 x 3** | 525 | P8421-506 | **4UH47** | **18.99** | 2.9 |
| **oodruff Keys 3/32 x 1/2 through 5/16 x 1¼** | 104 | P8421-507 | **4UH48** | **24.49** | 1.8 |
| **oring Pins 1/16 x 3/4 through 3/8 x 2** | 232 | P8421-508 | **4UH49** | **24.49** | 1.6 |

# SPECIALTY FASTENERS

## COTTER PINS

QUALITY FASTENERS from ... Rockford

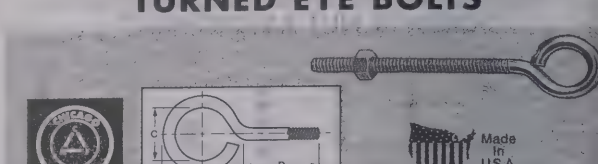


No. 4P792

- Zinc plated low carbon steel
- Extended prong
- Square cut ends
- Length is measured from under the head to the end of the shortest prong
- Complies with IFI standards and specifications for cotter pins, ANSI/ASME B18.8.1
- For steel or wrought iron pipe sizes

| Size (In.) | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **STEEL** | | | | | | |
| 1/16 | 3/4 | 100 | 4P792 | $0.88 | $0.81 | 0.2 |
| 1/16 | 1 | 100 | 4P793 | 1.20 | 1.02 | 0.2 |
| 1/16 | 1½ | 100 | 4P794 | 1.53 | 1.41 | 0.3 |
| 1/16 | 2 | 100 | 2V170 | 1.94 | 1.58 | 0.2 |
| 3/32 | ¾ | 100 | 2V175 | 1.22 | 1.00 | 0.2 |
| 3/32 | 1 | 100 | 4P795 | 1.36 | 1.24 | 0.3 |
| 3/32 | 1¼ | 100 | 2V177 | 1.73 | 1.42 | 0.3 |
| 3/32 | 1½ | 100 | 2V179 | 2.05 | 1.68 | 0.3 |
| 3/32 | 2 | 100 | 2V189 | 2.45 | 2.01 | 0.4 |
| 7/64 | 1 | 100 | 2V389 | 2.39 | 1.96 | 0.3 |
| 7/64 | 1½ | 100 | 2V457 | 3.33 | 2.73 | 0.5 |
| 1/8 | 1 | 100 | 4P796 | 2.39 | 2.19 | 0.5 |
| 1/8 | 1¼ | 100 | 4P797 | 2.84 | 2.60 | 0.6 |
| 1/8 | 1½ | 100 | 4P798 | 3.33 | 3.05 | 0.6 |
| 1/8 | 1¾ | 100 | 2V465 | 3.75 | 3.07 | 0.7 |
| 1/8 | 2 | 100 | 4P799 | 4.23 | 3.88 | 0.8 |
| 1/8 | 2½ | 100 | 2W101 | 5.18 | 4.25 | 0.9 |
| 5/32 | ¾ | 100 | 4P800 | 3.64 | 3.32 | 0.7 |
| 5/32 | 1½ | 100 | 2W107 | 5.18 | 4.25 | 0.9 |
| 5/32 | 2¾ | 100 | 2W109 | 5.84 | 4.78 | 1.0 |
| 5/32 | 2 | 100 | 2W111 | 6.46 | 5.28 | 1.2 |
| 5/32 | 2½ | 100 | 2W113 | 7.74 | 6.33 | 1.4 |
| 3/16 | 1½ | 100 | 2W119 | 7.12 | 5.83 | 1.3 |
| 3/16 | 2 | 100 | 4P801 | 7.17 | 6.45 | 1.9 |
| 3/16 | 2½ | 100 | 2W123 | 10.79 | 8.83 | 2.1 |
| 3/16 | 3 | 100 | 2W125 | 12.30 | 10.06 | 2.4 |
| 1/4 | 2 | 100 | 2W137 | 14.34 | 11.73 | 3.0 |
| 1/4 | 3 | 100 | 2W141 | 20.47 | 16.74 | 4.0 |
| 1/4 | 4 | 100 | 2W145 | 26.57 | 21.73 | 5.2 |
| **18-8 STAINLESS STEEL** | | | | | | |
| 1/16 | 3/4 | 100 | 5M110 | 2.68 | 1.77 | 0.1 |
| 1/16 | 1 | 100 | 5M111 | 3.28 | 2.14 | 0.1 |
| 3/32 | 1 | 100 | 5M112 | 6.51 | 4.27 | 0.2 |
| 1/8 | 1 | 100 | 5M113 | 9.63 | 6.31 | 0.4 |
| 1/8 | 1¼ | 100 | 5M114 | 11.46 | 7.52 | 0.5 |
| 1/8 | 1½ | 100 | 5M115 | 13.30 | 8.71 | 0.6 |
| 1/8 | 2 | 100 | 5M116 | 17.17 | 11.26 | 0.7 |
| 1/8 | 3 | 100 | 5M117 | 23.74 | 15.57 | 1.0 |
| 5/32 | 1½ | 100 | 5M118 | 20.62 | 13.52 | 0.9 |
| 5/32 | 2 | 100 | 5M119 | 26.54 | 17.40 | 1.2 |
| 5/32 | 2½ | 100 | 5M120 | 33.54 | 22.00 | 1.4 |
| 5/32 | 3 | 100 | 5M121 | 38.38 | 25.20 | 1.6 |
| 3/16 | 1½ | 100 | 5M122 | 27.45 | 17.99 | 1.3 |
| 3/16 | 2 | 100 | 5M123 | 34.34 | 22.55 | 1.7 |
| 3/16 | 2½ | 100 | 5M124 | 41.98 | 27.60 | 2.1 |
| 3/16 | 3 | 100 | 5M125 | 47.26 | 31.05 | 2.4 |
| 1/4 | 1½ | 100 | 5M126 | 48.44 | 31.90 | 2.4 |
| 1/4 | 2 | 100 | 5M127 | 60.55 | 39.80 | 3.0 |
| 1/4 | 2½ | 100 | 5M128 | 71.86 | 47.20 | 3.5 |
| 1/4 | 3 | 100 | 5M129 | 77.94 | 51.25 | 4.0 |

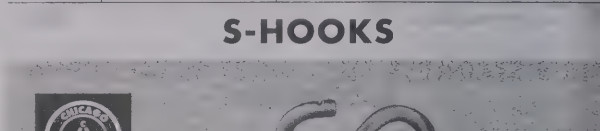
## TURNED EYE BOLTS




- Zinc plated low carbon steel
- Machine screw thread
- Supplied with one hex nut (unassembled)

| Size | Dimensions (In.) Length | B | C | No. per Pkg. | Stock No. | List | Each Pkg. | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4" - 20 | 2 | 1 | 1/2 | 10 | 4P802 | $2.65 | $2.26 | 0.4 |
| 1/4" - 20 | 3 | 2 | 1/2 | 10 | 4P803 | 3.01 | 2.56 | 0.8 |
| 1/4" - 20 | 4 | 3 | 1/2 | 10 | 4P804 | 3.59 | 3.05 | 1.0 |
| 1/4" - 20 | 6 | 5 | 1/2 | 10 | 4P805 | 3.91 | 3.33 | 1.0 |
| 3/8" - 16 | 3½ | 2 | 3/4 | 10 | 4P806 | 6.10 | 5.19 | 1.5 |
| 3/8" - 16 | 5½ | 4 | 3/4 | 10 | 4P807 | 8.67 | 7.37 | 2.1 |

## S-HOOKS

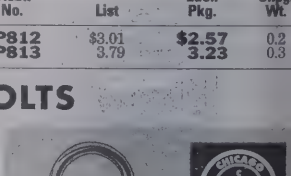


- Zinc-plated carbon steel
- For use with light and ceiling fixtures, canvas tie-downs, and tents

| Size (In.) | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Shpg Wt. |
|---|---|---|---|---|---|---|
| 0.080 | 3/4 | 50 | 4P812 | $3.01 | $2.57 | 0.2 |
| 0.105 | 1 | 50 | 4P813 | 3.79 | 3.23 | 0.3 |

## U-BOLTS

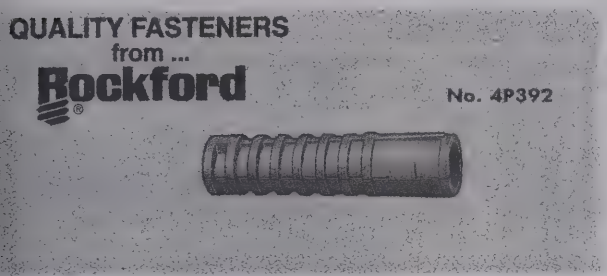
- For steel or wrought iron pipe sizes
- Zinc plated low carbon steel
- Coarse rolled threads
- Supplied with plates and nuts




| Size (In.) | Inside Length (In.) | Inside Width (In.) | For pipe Size (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 3/4 | 1 | 1/2 | 10 | 4P817 | $9.67 | $8.23 | 1.0 |
| 1/4 | 2 | 1⅛ | 3/4 | 10 | 4P818 | 10.41 | 8.85 | 1.2 |
| 1/4 | 2¾ | 1½ | 1 | 10 | 4P819 | 11.45 | 9.74 | 1.3 |
| 1/4 | 3 | 1¾ | 1¼ | 10 | 4P820 | 12.08 | 10.27 | 2.0 |
| 1/4 | 3¼ | 2 | 1½ | 10 | 4P821 | 12.50 | 10.63 | 1.5 |
| 5/16 | 2⅜ | 1⅜ | 1 | 10 | 4P822 | 14.07 | 11.97 | 1.9 |
| 5/16 | 2⅛ | 1¾ | 1/2 | 10 | 4P823 | 15.36 | 13.05 | 2.0 |
| 5/16 | 2⅛ | 2 | 3/4 | 10 | 4P824 | 15.88 | 13.50 | 2.1 |
| 5/16 | 3⅜ | 2½ | 2 | 10 | 4P825 | 17.29 | 14.71 | 2.4 |
| 5/16 | 3⅛ | 3 | 2½ | 10 | 4P826 | 18.81 | 16.00 | 2.6 |
| 3/8 | 2½ | 1½ | 1 | 10 | 4P827 | 20.85 | 17.73 | 3.0 |
| 3/8 | 2¾ | ¾ | 1/2 | 10 | 4P828 | 22.25 | 18.92 | 3.1 |
| 3/8 | 2⅝ | 2 | 3/4 | 10 | 4P829 | 22.72 | 19.32 | 3.3 |
| 3/8 | 3⅛ | 2½ | 2 | 10 | 4P830 | 24.72 | 21.02 | 3.6 |
| 3/8 | 3⅝ | 3 | 2½ | 10 | 4P831 | 27.55 | 23.43 | 4.2 |
| 3/8 | 4⅛ | 3½ | 3 | 10 | 4P832 | 29.67 | 25.25 | 5.0 |

# LAG SHIELDS, COUPLING NUTS, AND THREADED RODS

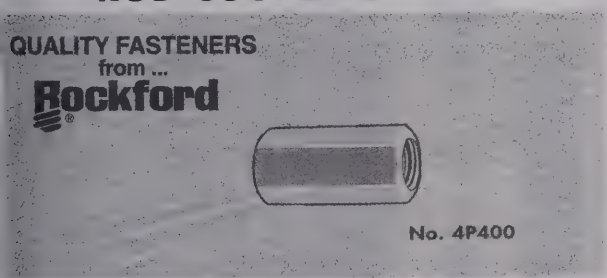
## LAG SHIELDS




- Rust-resistant alloy
- For use with hex lag screws in concrete, mortar, and joints
- Short-type for hard masonry; Long-type for soft masonry
- Layout required
- Screw length = work thickness + anchor length

| Drill Size (In.) | Size (In.) | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 1/4 | 1 Short | 50 | 4P392 | $15.59 | $13.14 | $11.83 | 1.6 |
| | 1/4 | 1 1/2 Long | 50 | 4P393 | 17.80 | 15.34 | 13.81 | 2.3 |
| 1/2 | 5/16 | 1 1/4 Short | 50 | 4P394 | 17.25 | 15.88 | 14.29 | 1.8 |
| | 5/16 | 1 3/4 Long | 50 | 4P395 | 23.97 | 19.19 | 17.26 | 2.3 |
| 5/8 | 3/8 | 1 3/4 Short | 50 | 4P396 | 28.83 | 23.42 | 21.07 | 3.4 |
| | 3/8 | 2 1/2 Long | 50 | 4P397 | 32.36 | 26.70 | 23.95 | 4.6 |
| 1/4 | 1/2 | 2 1/4 Short | 25 | 4P398 | 45.54 | 38.45 | 34.60 | 2.3 |
| | 1/2 | 2 3/4 Long | 25 | 4P399 | 51.45 | 49.15 | 44.19 | 4.2 |
| 7/8 | 5/8 | Short | 25 | 5M102 | 26.33 | 21.54 | 19.39 | 3.4 |
| | 5/8 | Long | 25 | 5M104 | 45.03 | 36.90 | 33.16 | 5.4 |
| 1 | 3/4 | Short | 10 | 5M103 | 13.71 | 11.21 | 10.10 | 1.5 |
| | 3/4 | Long | 10 | 5M105 | 24.35 | 19.91 | 17.93 | 2.4 |

## ROD COUPLING NUTS

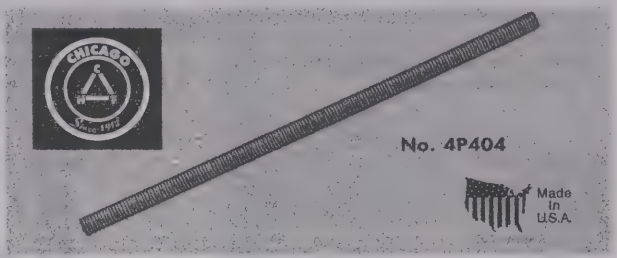



- Zinc-chromate plated
- Primarily for use with stud anchors and threaded rod
- Fully threaded
- Minimum material tensile strength: 50,000 PSI
- Minimum yield: 40,000 PSI

### ROD COUPLING NUT

| Size | Length (In.) | No. per Pkg. | Stock No. | List | Each Pkg. | Lots of 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4"-20 | 7/8 | 100 | 4P400 | $19.51 | $15.61 | $14.05 | 2.5 |
| 5/16-18 | 7/8 | 50 | 4P401 | 10.53 | 10.33 | 9.30 | 2.0 |
| 3/8-16 | 1 1/8 | 50 | 4P402 | 23.73 | 22.13 | 19.92 | 2.0 |
| 1/2-13 | 1 1/4 | 50 | 4P403 | 33.16 | 26.60 | 23.84 | 6.0 |

## ZINC PLATED THREADED ROD

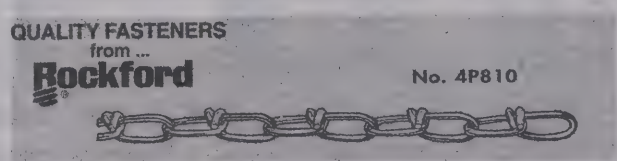



- 1010 Low carbon steel
- Tensile 65,000 to 75,000 PSI
- Yield strength 50,000 to 60,000 PSI
- Used for hanging, mounting, bracing, supporting, and fastening in plumbing, heating, electrical, construction, and fabricating fields applications
- Can be used with standard nuts and washers

| Size | Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4"-20 | 24 | 2G828 | $0.84 | $0.65▲ | 0.2 |
| 1/4-20 | 36 | 4P404 | 1.30 | 0.79▲ | 0.4 |
| 1/4-20 | 72 | 2G830 | 2.36 | 1.44▲ | 0.8 |
| 5/16-18 | 24 | 2G832 | 1.24 | 0.75▲ | 0.4 |
| 5/16-18 | 36 | 4P405 | 1.83 | 1.15▲ | 0.7 |
| 5/16-18 | 72 | 2G834 | 3.94 | 2.38▲ | 1.2 |
| 3/8-16 | 24 | 2G836 | 1.43 | 0.88▲ | 0.6 |
| 3/8-16 | 36 | 4P406 | 1.88 | 1.34▲ | 1.0 |
| 3/8-16 | 72 | 2G838 | 4.37 | 2.68▲ | 1.7 |
| 7/16-14 | 24 | 2G840 | 2.67 | 1.61▲ | 0.8 |
| 7/16-14 | 36 | 2G842 | 3.99 | 2.41▲ | 1.2 |
| 7/16-14 | 72 | 2G844 | 8.20 | 4.94▲ | 2.4 |
| 1/2-13 | 24 | 2G846 | 2.54 | 1.57▲ | 1.1 |
| 1/2-13 | 36 | 4P407 | 3.27 | 2.37▲ | 1.7 |
| 1/2-13 | 72 | 2G848 | 8.02 | 4.93▲ | 3.2 |
| 9/16-12 | 24 | 2G850 | 4.86 | 2.92▲ | 1.3 |
| 9/16-12 | 36 | 2G852 | 7.26 | 4.36▲ | 2.0 |
| 9/16-12 | 72 | 2G854 | 14.87 | 8.92▲ | 4.0 |
| 5/8-11 | 24 | 2G856 | 4.94 | 3.01▲ | 1.7 |
| 5/8-11 | 36 | 2G858 | 7.36 | 4.48▲ | 2.5 |
| 5/8-11 | 72 | 2G860 | 15.07 | 9.15▲ | 5.0 |
| 3/4-10 | 24 | 2G862 | 7.31 | 4.45▲ | 2.5 |
| 3/4-10 | 36 | 2G864 | 11.10 | 6.74▲ | 3.7 |
| 3/4-10 | 72 | 2G866 | 22.72 | 13.77▲ | 7.4 |
| 7/8-9 | 24 | 2G868 | 10.22 | 6.20▲ | 3.4 |
| 7/8-9 | 36 | 2G870 | 15.39 | 9.34▲ | 5.1 |
| 7/8-9 | 72 | 2G872 | 31.57 | 19.10▲ | 10.0 |
| 1-8 | 24 | 2G874 | 13.33 | 8.10▲ | 4.5 |
| 1-8 | 36 | 2G876 | 20.03 | 12.16▲ | 6.7 |
| 1-8 | 72 | 2G878 | 44.22 | 26.65▲ | 13.0 |

(▲) Net prices, not subject to discounts.

## JACK & DOUBLE LOOP CHAIN




**Jack Chain** for suspension of fixtures where high strength is not needed. 12-Gauge zinc-plated standard steel. Resists kinking. 100 Ft. length. 29 lbs. workload limit.

**No. 4P810.** Shpg. wt. 8.0 lbs. List $27.26. Each.....$25.85

**Double-Loop Chain** for uses similar to jack chain plus many other applications: 14-Gauge zinc plated low carbon steel. 100 Ft. length. 90 lbs. workload limit.

**No. 4P811.** Shpg. wt. 5.8 lbs. List $25.74. Each.....$24.41

# MACHINERY AND KEY STOCK

Mak-a-Key® machinery keys and key stock provide a positive means for transmitting torque between a shaft and the hubs of pulleys, sprockets, and gears. Key stock and bar stock are used to manufacture machinery keys. Just cut, file, and fit. All bars are 12" long.

## ZINC PLATED, OVERSIZE KEY STOCK

- Made from high quality, C1018 cold drawn carbon steel
- 5/32" and 9/32" sizes are made from 1215 material
- Plated tolerances: 3/4" and smaller = +.003" to -.000"; Over 7/8" - 1 ½" = +.004" to -.000"

| Size | Medalist Model | Stock No. | Pkg. Qty. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/16 sq. x 12" | 65-101 | 2F778 | 5 | $4.82 | $4.34 | 0.1 |
| 3/32 x 12 | 65-102 | 2F780 | 5 | 6.79 | 6.12 | 0.2 |
| 1/8 x 12 | 65-103 | 2F782 | 5 | 2.84 | 2.55 | 0.3 |
| 5/32 x 12 | 65-110 | 2F786 | 5 | 3.95 | 3.55 | 0.4 |
| 3/16 x 12 | 65-111 | 2F788 | 5 | 3.95 | 3.55 | 0.6 |
| 3/16 x 1/4 x 12 | 65-112 | 2F790 | 5 | 6.66 | 5.99 | 0.8 |
| 1/4 x 12 | 65-120 | 2F792 | 5 | 5.18 | 4.66 | 1.1 |
| 1/4 x 5/16 x 12 | 65-121 | 2F794 | 5 | 8.63 | 7.77 | 1.4 |
| 1/4 x 3/8 x 12 | 65-122 | 2F796 | 5 | 10.11 | 9.11 | 1.6 |
| 1/4 x 1/2 x 12 | 65-124 | 2F798 | 5 | 11.96 | 10.76 | 2.2 |
| 9/32 x 12 | 65-128 | 2F800 | 5 | 7.40 | 6.66 | 1.3 |
| 5/16 x 12 | 65-129 | 2F802 | 5 | 7.64 | 6.87 | 1.7 |
| 5/16 x 3/8 x 12 | 65-130 | 2F804 | 5 | 11.59 | 10.43 | 2.0 |
| 3/8 x 12 | 65-136 | 2F806 | 5 | 9.61 | 8.65 | 2.4 |
| 3/8 x 1/2 x 12 | 65-138 | 2F808 | 3 | 9.69 | 8.72 | 1.9 |
| 7/16 x 12 | 65-143 | 2F810 | 3 | 7.39 | 6.65 | 2.0 |
| 1/2 x 12 | 65-148 | 2F812 | 3 | 8.64 | 7.78 | 2.6 |
| 1/2 x 5/8 x 12 | 65-150 | 2F814 | 3 | 14.86 | 13.37 | 3.2 |
| 1/2 x 3/4 x 12 | 65-152 | 2F816 | 3 | 16.87 | 15.18 | 3.8 |
| 9/16 x 12 | 65-155 | 2F818 | 1 | 3.97 | 3.57 | 1.1 |
| 5/8 x 12 | 65-160 | 2F820 | 1 | 4.50 | 4.05 | 1.3 |
| 5/8 x 7/8 x 12 | 65-163 | 2F822 | 1 | 8.93 | 8.03 | 1.9 |
| 5/8 x 1 x 12 | 65-164 | 2F824 | 1 | 12.21 | 10.99 | 2.2 |
| 3/4 x 12 | 65-170 | 2F826 | 1 | 6.19 | 5.56 | 1.9 |
| 3/4 x 1 x 12 | 65-172 | 2F828 | 1 | 12.60 | 11.33 | 2.6 |
| 7/8 x 12 | 65-178 | 2F830 | 1 | 8.12 | 7.32 | 2.6 |
| 1 x 12 | 65-183 | 2F832 | 1 | 10.42 | 9.37 | 3.4 |
| 1 1/4 x 12 | 65-193 | 2F834 | 1 | 19.67 | 17.69 | 5.3 |
| 1 1/2 x 12 | 65-200 | 2F836 | 1 | 26.45 | 23.73 | 7.7 |
| Assortment * | 65-1025 | 2F784 | 1 | 53.95 | 48.53 | 12.0 |

(*) Contains 5 each of Nos. 2F782, 2F788, 2F792, 2F802, 2F806 and 3 each of Nos. 2F810 and 2F812.




## METRIC KEY STOCK-OVERSIZE

- Made from 1045 oversize material
- Zinc plated for clean handling and resistance to rust
- Pre-plated tolerance is +.002" to -.000" (+.0508 to -.000 mm)
- Plating may add up to +.001" (.025 mm) to thickness, width

| Size | Medalist Model | Stock No. | Pkg. Qty. | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 4mm x 4mm x 12" | 712-0404 | 2F860 | 5 | $11.12 | $10.01 | 0.4 |
| 5 x 5 x 12 | 712-0505 | 2F862 | 5 | 11.90 | 10.71 | 0.7 |
| 6 x 6 x 12 | 712-0606 | 2F864 | 5 | 13.67 | 12.31 | 1.0 |
| 7 x 7 x 12 | 712-0707 | 2F866 | 5 | 16.23 | 14.61 | 1.4 |
| 7 x 8 x 12 | 712-0708 | 2F868 | 5 | 19.13 | 17.21 | 1.6 |
| 8 x 8 x 12 | 712-0808 | 2F870 | 5 | 19.23 | 17.30 | 1.7 |
| 8 x 10 x 12 | 712-0810 | 2F872 | 5 | 24.80 | 22.32 | 2.1 |
| 8 x 12 x 12 | 712-0812 | 2F874 | 5 | 28.75 | 25.81 | 2.7 |
| 9 x 14 x 12 | 712-0914 | 2F876 | 5 | 36.30 | 32.62 | 3.5 |
| 10 x10 x 12 | 712-1010 | 2F878 | 3 | 16.08 | 14.47 | 1.6 |
| 12 x 12 x 12 | 712-1212 | 2F880 | 3 | 21.41 | 19.27 | 2.4 |
| 14 x 14 x 12 | 712-1414 | 2F882 | 3 | 28.95 | 25.99 | 3.2 |
| 16 x 16 x 12 | 712-1616 | 2F884 | 3 | 36.85 | 33.13 | 4.2 |
| 18 x 18 x 12 | 712-1818 | 2F886 | 3 | 45.40 | 40.82 | 5.2 |
| 20 x 20 x 12 | 712-2020 | 2F888 | 1 | 18.96 | 17.06 | 2.3 |
| 22 x 22 x 12 | 712-2222 | 2F890 | 1 | 20.27 | 18.24 | 2.6 |
| Assortment * | 68-1020 | 3K191 | 1 | 109.00 | — | 11.0 |

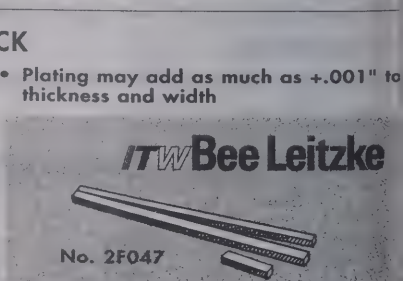
(*) Contains 5 each of Nos. 2F860, 2F862, 2F864, 2F866, 2F870, and 3 each of Nos. 2F878, and 2F880.




## ZINC PLATED, UNDERSIZE BAR STOCK

- Made of C1018 low carbon steel
- Pre-plating tolerance +.000" to -.002"
- Plating may add as much as +.001" to thickness and width

| Size | Medalist Model | Stock No. | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/16 sq. x 12" | 08-03 | 2F047 | $0.80 | $0.72/10 | 0.1 |
| 1/4 x 12 | 08-06 | 2F049 | 1.04 | 0.94/10 | 0.2 |
| 5/16 x 12 | 08-09 | 2F077 | 1.51 | 1.37/6 | 0.3 |
| 3/8 x 12 | 08-13 | 2F091 | 1.93 | 1.74/6 | 0.5 |
| 7/16 x 12 | 08-17 | 2F115 | 2.46 | 2.21/5 | 0.6 |
| 1/2 x 12 | 08-22 | 2F119 | 2.88 | 2.60/5 | 0.8 |
| 5/8 x 12 | 08-27 | 2F121 | 4.50 | 4.05/5 | 1.3 |
| 3/4 x 12 | 08-28 | 2F123 | 6.19 | 5.56/5 | 1.9 |
| 1 x 12 | 08-30 | 2F148 | 10.41 | 9.36/5 | 3.4 |



# KEY STOCK

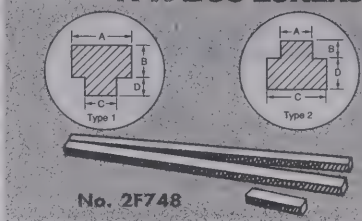
## STEP KEY STOCK

- Used when keyways in shafts and hubs are not the same
- Cold drawn 1018 carbon steel
- Milled/ground to A thru D dimensions

| Tolerances | Type 1 | Type 2 |
|---|---|---|
| A & C | -.000/+.002 | -.000/+.002 |
| B/D | -.003/+.003 | -.005/+.005 |
| B & D | -.004/+.004 | -.005/+.005 |

| Size | Dim. A | Dim. B | Dim. C | Dim. D | Stock No. | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1-1 | 3/16" | 3/32" | 1/8" | 1/16" | 2F748 | $9.63 | $8.66/5 | 0.1 |
| 3-2 | 3/16 | 3/32 | 1/4 | 1/8 | 2F750 | 9.85 | 8.87/5 | 0.2 |
| 4-2 | 1/4 | 1/8 | 5/16 | 1/8 | 2F752 | 9.65 | 8.68/5 | 0.2 |
| 6-2 | 1/4 | 1/8 | 3/8 | 3/16 | 2F754 | 10.51 | 9.45/5 | 0.4 |
| 8-1 | 3/8 | 3/16 | 5/16 | 5/32 | 2F756 | 12.26 | 11.04/5 | 0.4 |
| 11-2 | 3/8 | 3/16 | 1/2 | 1/4 | 2F758 | 14.20 | 12.78/5 | 0.7 |
| 15-2 | 1/2 | 1/4 | 5/8 | 1/4 | 2F760 | 18.48 | 16.62/4 | 1.7 |
| 7-Pc. Assortment contains one each of the above sizes. | | | | | 2F762 | 85.80 | 77.13/2 | 3.0 |

ITW Bee Leitzke



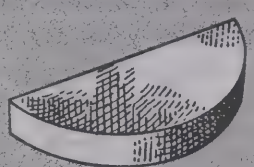

No. 2F748

## WOODRUFF KEYS/HALF MOON KEYS

- High quality S.A.E 1035 carbon steel
- 25 pieces per package
- Ground to a thickness tolerance of +.001" to -.000"

| Size | SAE No. | Medalist Model | Stock No. | Each Pkg. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/16 x 1/2" | No. 1 | 10-01 | 2F150 | $3.36 | $3.03 | 0.1 |
| 3/32 x 1/2 | No. 2 | 10-02 | 2F154 | 3.32 | 2.98 | 0.1 |
| 1/8 x 1/2 | No. 3 | 10-03 | 2F158 | 3.46 | 3.11 | 0.1 |
| 3/32 x 5/8 | No. 4 | 10-04 | 2F160 | 3.48 | 3.14 | 0.1 |
| 1/8 x 5/8 | No. 5 | 10-05 | 2F182 | 3.60 | 3.24 | 0.1 |
| 5/32 x 5/8 | No. 6 | 10-06 | 2F702 | 3.60 | 3.24 | 0.2 |
| 3/16 x 5/8 | No. 61 | 10-07 | 2F704 | 4.22 | 3.80 | 0.2 |
| 1/8 x 3/4 | No. 7 | 10-08 | 2F706 | 3.73 | 3.36 | 0.2 |
| 5/32 x 3/4 | No. 8 | 10-09 | 2F708 | 4.45 | 4.01 | 0.2 |
| 3/16 x 3/4 | No. 9 | 10-10 | 2F710 | 4.40 | 3.95 | 0.2 |
| 1/4 x 3/4 | No. 91 | 10-11 | 2F712 | 6.20 | 5.58 | 0.3 |
| 5/32 x 7/8 | No. 10 | 10-12 | 2F714 | 5.26 | 4.74 | 0.3 |
| 3/16 x 7/8 | No. 11 | 10-13 | 2F716 | 6.20 | 5.58 | 0.3 |
| 7/32 x 7/8 | No. 12 | 10-14 | 2F718 | 7.41 | 6.67 | 0.4 |
| 1/4 x 7/8 | No. A | 10-15 | 2F720 | 8.10 | 7.29 | 0.5 |
| 3/16 x 1 | No. 13 | 10-17 | 2F722 | 8.33 | 7.50 | 0.5 |
| 1/4 x 1 | No. 15 | 10-19 | 2F724 | 9.34 | 8.40 | 0.6 |
| 5/16 x 1 | No. B | 10-20 | 2F726 | 12.16 | 10.94 | 0.8 |
| 3/8 x 1 | No. 152 | 10-21 | 2F728 | 15.49 | 13.94 | 0.9 |
| 1/4 x 1⅛ | No. 18 | 10-24 | 2F730 | 12.60 | 11.35 | 0.7 |
| 5/16 x 1¼ | No. D | 10-29 | 2F732 | 19.99 | 17.99 | 1.1 |
| 3/8 x 1¼ | No. E | 10-30 | 2F734 | 23.35 | 21.01 | 1.4 |
| 3/8 x 1½ | No. G | 10-36 | 2F736 | 29.65 | 26.68 | 1.9 |
| 1/16 x 3/8 | No. 211 | 10-53 | 2F738 | 4.70 | 4.22 | 0.1 |
| 3/32 x 3/8 | No. 212 | 10-54 | 2F740 | 5.51 | 4.96 | 0.1 |
| 1/8 x 3/8 | No. 213 | 10-55 | 2F742 | 6.45 | 5.81 | 0.1 |
| 1/16 x 1/4 | No. 201 | 10-56 | 2F744 | 7.17 | 6.45 | 0.1 |
| 3/32 x 5/16 | No. 207 | 10-58 | 2F746 | 7.17 | 6.45 | 0.1 |

ITW Bee Leitzke



No. 2F150

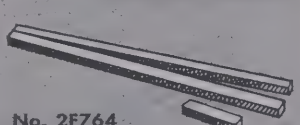
## HIGH CARBON KEY STOCK

- Manufactured of high carbon (1090-1095) steel, supplied in plain finish
- Annealed for easy machining

| Specs (In.) | Tolerances |
|---|---|
| .249" & smaller | +/-.0005 |
| .250 to .749 | +/-.001 |
| .750 to 1.00 | +/-.0015 |

| Size | Medalist Model | Stock No. | Pkg. Qty. | Each Pkg. | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/16 sq. x 12" | 412-220 | 2F764 | 5 | $13.59 | $12.23/5 | 0.6 |
| 1/4 x 12 | 412-230 | 2F766 | 5 | 17.41 | 15.67/5 | 1.0 |
| 5/16 x 12 | 412-240 | 2F768 | 5 | 24.82 | 22.34/5 | 1.7 |
| 3/8 x 12 | 412-250 | 2F770 | 5 | 36.75 | 33.01/5 | 2.4 |
| 1/2 x 12 | 412-270 | 2F772 | 3 | 44.90 | 40.35/3 | 2.5 |
| 5/8 x 12 | 412-290 | 2F774 | 1 | 23.54 | 21.19/3 | 1.4 |
| 3/4 x 12 | 412-310 | 2F776 | 1 | 33.45 | 30.05/3 | 3.5 |

ITW Bee Leitzke



No. 2F764

## STAINLESS STEEL OVERSIZE KEY STOCK (Type 303)

- Made of high quality, corrosion resistant, type 303 (18-8) stainless steel
- Tolerance: +.002" to -.000"
- May become slightly magnetic when cold drawn and worked

| Size | Medalist Model | Stock No. | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/8 sq. x 12" | 66-21 | 2F840 | $2.22 | $2.00/10 | 0.1 |
| 3/16 x 12 | 66-22 | 2F842 | 2.91 | 2.63/10 | 0.1 |
| 1/4 x 12 | 66-23 | 2F844 | 4.54 | 4.08/10 | 0.2 |
| 5/16 x 12 | 66-24 | 2F846 | 6.79 | 6.11/6 | 0.3 |
| 3/8 x 12 | 66-25 | 2F848 | 9.17 | 8.26/6 | 0.5 |
| 1/2 x 12 | 66-27 | 2F850 | 16.11 | 14.50/5 | 0.8 |
| 5/8 x 12 | 66-29 | 2F852 | 25.65 | 23.06/5 | 1.3 |
| 3/4 x 12 | 66-30 | 2F854 | 31.95 | 28.68/5 | 2.0 |
| 7/8 x 12 | 66-31 | 2F856 | 45.80 | 41.14/5 | 2.7 |
| 1 x 12 | 66-32 | 2F858 | 58.35 | 52.41/3 | 3.5 |
| 31-Pc. Assortment* | 66-1010 | 2F838 | 226.00 | 203.24/2 | 12.0 |

*) Contains five each of No. 2F840, 2F842, 2F844, 2F846, and 2F848, and three each of Nos. 2F850, and Medalist No. 66-26.

ITW Bee Leitzke



No. 2F840

## EXPANPIN KITS

HANDI-CHEK



### 170-PC EXPANPIN KIT

- **Pins expand to grip tightly; also called roll springs or tension pins**

**No. 5A197.** Shpg. wt. 1.0 lbs. List $16.88.
Each ..... $14.24

| Sizes Included | Qty. in Kit | Sizes Included | Qty. in Kit |
|---|---|---|---|
| 1/8 x 1" | 50 | 3/16 x 1½ | 25 |
| 1/8 x 1½ | 30 | 1/4 x 1¼ | 15 |
| 3/16 x 1 | 35 | 1/4 x 1½ | 15 |

### 204-PC EXPANPIN KIT

**No. 5A198.** Shpg. wt. 2.0 lbs. List $25.98.
Each ..... $22.30

| Sizes Included | Qty. in Kit | Sizes Included | Qty. in Kit |
|---|---|---|---|
| 1/16" x 3/4" | 30 | 7/32 x 1¼ | 10 |
| 3/32 x 1 | 15 | 1/4 x 7/8 | 10 |
| 3/32 x 1¼ | 15 | 1/4 x 1¼ | 10 |
| 5/32 x 1 | 20 | 1/4 x 1½ | 10 |
| 1/8 x 7/8 | 15 | ½1/2 | 10 |
| 1/8 x 1½ | 15 | 5/16 x 1¾ | 8 |
| 3/16 x 1 | 10 | 5/16 x 2½ | 8 |
| 3/16 x 1½ | 10 | 3/8 x 1¾ | 4 |
| | | 3/8 x 2¼ | 4 |

## SQUARE KEY 70-PC SET

HANDI-CHEK



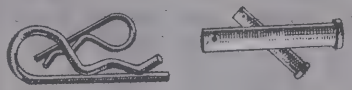
- **Used on power transmission shafts to hold pulleys and gears**
- **Tolerance is undersized**
- **Contains 70 pieces in 6 sizes**

**No. 5A201.** Shpg. wt. 1.8 lbs. List $19.09.
Each ..... $16.56

| Sizes Included | Qty. in Kit | Sizes Included | Qty. in Kit |
|---|---|---|---|
| 1/8 x 1/8 x 1½ | 20 | 1/4 x 1/4 x 1½" | 10 |
| 3/16 x 3/16 x 1½ | 12 | 5/16 x 5/16 x 1½ | 8 |
| 5/16 x 1/4 x 1½ | 12 | 3/8 x 3/8 x 1½ | 8 |

## COTTER PIN KITS

HANDI-CHEK



Hairpin Cotter  Clevis Pin

### 74-PC CLEVIS PIN & HAIRPIN COTTER PIN KIT

- **Used for many quick connect/disconnect applications**

**No. 4F411.** Shpg. wt. 2.3 lbs. List $21.10.
Each ..... $17.81

| Clevis Pin Sizes Included | Qty. in Kit | Hairpin Cotter Sizes Included | Qty. in Kit |
|---|---|---|---|
| 1/4 x 1½" | 10 | Fits 1/4-5/16" Pins | 20 |
| 5/16 x 1¾ | 6 | | |
| 3/8 x 1¼ | 6 | Fits 3/8-7/16" Pins | 15 |
| 3/8 x 2 | 5 | | |
| 7/16 x 2 | 4 | | |
| 1/2 x 2 | 3 | Fits 1/2" Pins | 5 |

HANDI-CHEK



Hairpin Cotter

### 130-PC HAIRPIN COTTER PIN KIT

- **Hairpin cotter pins are reusable pins that can be inserted and removed quickly; also called hitch pin cotters**

**No. 5A199.** Shpg. wt. 2.1 lbs. List $19.66.
Each ..... $16.82

| Sizes Included | Qty. in Kit | Sizes Included | Qty. in Kit |
|---|---|---|---|
| 3/16 x 0.042" | 20 | 1/2 x 0.120" | 20 |
| 1/4 x 0.0585 | 20 | 5/8 x 0.148 | 20 |
| 5/16 x 0.0725 | 20 | 1 x 0.178 | 10 |
| 3/8 x 0.0915 | 20 | | |

HANDI-CHEK



Cotter Pin

### 420-PC COTTER PIN KIT

- **Used as a locking device. Extended prong for easy insertion and spread**

**No. 5A205.** Shpg. wt. 2.2 lbs. List $16.14.
Each ..... $13.94

| Sizes Included | Qty. in Kit | Sizes Included | Qty. in Kit |
|---|---|---|---|
| 1/16 x 1" | 100 | 1/8 x 1½ | 60 |
| 3/32 x 1 | 100 | 3/32 x 1½ | 40 |
| 1/8 x 1 | 100 | 3/16 x 2 | 20 |

## MACHINERY & WOODRUFF KEY KIT

HANDI-CHEK



- **Master kit contains assorted sizes of the most popular keys making this kit ideal for repair and maintenance shops**
- **Locator cards on the inside cover show the size and location of each item**

**No. 5A202.** Shpg. wt. 8.5 lbs. List $117.99.
Each ..... $104.15

| Size Included | Qty. in Kit | Size Included | Qty. in Kit |
|---|---|---|---|
| **WOODRUFF KEYS** | | | |
| #3 1/2 x 1/8" | 45 | #A 7/8 x 1/4" | 15 |
| #5 5/8 x 1/4 | 45 | #13 1 x 3/16 | 12 |
| #6 5/8 x 5/32 | 22 | #15 1 x 1/4 | 20 |
| #7 3/4 x 1/8 | 22 | #C 1½ x 5/16 | 9 |
| #9 3/4 x 3/16 | 30 | #21 1¼ x 1/4 | 9 |
| #10 7/8 x 5/32 | 15 | #G 1½x 3/8 | 4 |
| **MACHINERY KEYS** | | | |
| 1/8 x 1/8 x 1½" | 50 | 1/4 x 1/4 x 1½ | 15 |
| 3/16 x 3/16 x 1½ | 30 | 5/16 x 5/16 x 1½ | 15 |
| 3/16 x 1/4 x 1½ | 25 | 3/8 x 3/8 x 1½ | 15 |

## WOODRUFF KEY KITS

HANDI-CHEK



### 72-PC KIT

**No. 5A200.** Shpg. wt. 0.8 lbs. List $16.77.
Each ..... $14.95

| Sizes Included | Qty. in Kit | Sizes Included | Qty. in Kit |
|---|---|---|---|
| #3 1/8 x 1/2" | 18 | #9 3/16 x 3/4" | 12 |
| #5 1/8 x 5/8 | 12 | #A 1/4 x 7/8 | 10 |
| #6 5/32 x 5/8 | 12 | #15 1/4 x 1 | 8 |

### 250-PC KIT

**No. 4F416.** Shpg. wt. 1.6 lbs. List $44.96.
Each ..... $38.55

| Sizes Included | Qty. in Kit | Sizes Included | Qty. in Kit |
|---|---|---|---|
| #211 1/16 x 3/8" | 10 | #7 1/8 x 3/4" | 20 |
| #212 3/32 x 3/8 | 20 | #8 5/32 x 3/4 | 10 |
| #213 1/8 x 3/8 | 10 | #9 3/16 x 3/4 | 20 |
| #1 1/16 | 10 | #10 5/32 x 7/8 | 5 |
| #2 3/32 x 1/2 | 20 | #11 3/16 x 7/8 | 5 |
| #3 1/8 x 1/2 | 20 | #12 7/32 x 7/8 | 5 |
| #4 3/32 x 5/8 | 10 | #61 3/16 x 5/8 | 5 |
| #5 1/8 x 5/8 | 30 | #91 1/4 x 3/4 | 5 |
| #6 5/32 x 5/8 | 40 | #A 1/4 x 7/8 | 5 |

# RETAINING RING KITS AND RETAINING AND E-RINGS




No. 5A203



No. 5A204



No. 4F420

## EXTERNAL RETAINING RING & E-RING KIT

- Includes reversible pliers
- Master kit contains 541 pieces in 23 sizes of external retaining and E-ring making kit ideal for maintenance shops and service trucks
- Locator cards on inside cover show size and location of each item

**No. 5A203**. Shpg. wt. 3.0 lbs. List $140.66.
Each ..... $100.75

| Size Included | Qty. in Kit | Size Included | Qty. in Kit |
|---|---|---|---|
| **EXTERNAL RINGS** | | | |
| SH-31 x 5/16" | 25 | SH-98 x 63/64" | 25 |
| SH-37 x 3/8 | 30 | SH-100 x 1 | 20 |
| SH-43 x 7/16 | 20 | SH-112 x 1⅛ | 15 |
| SH-50 x 1/2 | 30 | SH-125 x 1¼ | 10 |
| SH-62 x 5/8 | 25 | SH-137 x 1⅜ | 10 |
| SH-75 x 3/4 | 25 | SH-150 x 1½ | 10 |
| SH-93 x 15/16 | 20 | | |
| **E- RINGS** | | | |
| E-12 x 1/8" | 30 | E-43 x 7/16" | 25 |
| E-18 x 3/16 | 30 | E-50 x 1/2 | 25 |
| E-25 x 1/4 | 30 | E-62 x 5/8 | 30 |
| E-31 x 5/16 | 30 | E-74 x 3/4 | 25 |
| E-37 x 3/8 | 30 | E-87 x 7/8 | 20 |

## INTERNAL RETAINING RING KIT

- Includes pliers
- Master kit contains 396 pieces in 23 sizes of internal retaining rings
- Locator cards on inside cover show size and location of each item

**No. 5A204**. Shpg. wt. 2.9 lbs. List $142.98.
Each ..... $111.20

| Size Included | Qty. in Kit | Size Included | Qty. in Kit |
|---|---|---|---|
| **INTERNAL RINGS** | | | |
| HO-25 x 1/4" | 25 | HO-102 x 1.023" | 20 |
| HO-37 x 3/8 | 25 | HO-106 x 1⅛ | 10 |
| HO-50 x 1/2 | 25 | HO-112 x 1⅛ | 15 |
| HO-58 x 3/16 | 25 | HO-118 x 1⅜ | 15 |
| HO-62 x 5/8 | 25 | HO-125 x 1¼ | 15 |
| HO-75 x 3/4 | 20 | HO-131 x 1⅝ | 10 |
| HO-77 x 0.777 | 20 | HO-137 x 1⅜ | 10 |
| HO-81 x 13/16 | 20 | HO-143 x 1⅞ | 10 |
| HO-87 x 7/8 | 20 | HO-150 x 1½ | 10 |
| HO-90 x 0.901 | 20 | HO-156 x 1⅝ | 10 |
| HO-93 x 15/16 | 20 | HO-162 x 1⅝ | 10 |
| HO-100 x 1 | 15 | | |

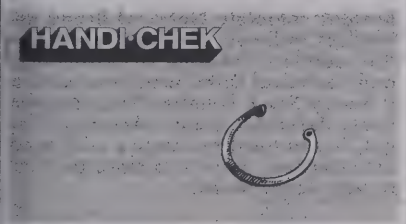
## INTERNAL & EXTERNAL RETAINING RING KIT

- Includes reversible pliers
- Master kit contains 222 pieces in 20 sizes (10 internal and 10 external) of retaining rings
- Locator cards on inside cover show size and location of each item

**No. 4F420**. Shpg. wt. 2.3 lbs. List $109.31.
Each ..... $75.05

| Size Included | Qty. in Kit | Size Included | Qty. in Kit |
|---|---|---|---|
| **INTERNAL RINGS** | | | |
| HO-37 x 3/8" | 15 | HO-75 x 3/4" | 10 |
| HO-43 x 7/16 | 15 | HO-87 x 7/8 | 9 |
| HO-50 x 1/2 | 15 | HO-93 x 15/16 | 9 |
| HO-56 x 9/16 | 10 | HO-100 x 1 | 8 |
| HO-62 x 5/8 | 10 | HO-102 x 1.023 | 8 |
| **EXTERNAL RINGS** | | | |
| SH-25 x 1/4 | 20 | SH-62 x 5/8 | 8 |
| SH-31 x 5/10 | 20 | SH-68 x 11/16 | 8 |
| SH-37 x 3/8 | 15 | SH-75 x 3/4 | 6 |
| SH-43 x 7/16 | 15 | SH-78 x 25/32 | 5 |
| SH-50 x 1/2 | 10 | SH-87 x 7/8 | 5 |

## INTERNAL RETAINING RING SHOP ASSORTMENT

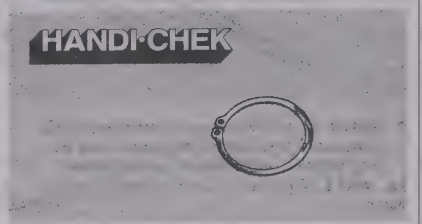



- Contains 218 pieces in 12 sizes

**No. 4F413**. Shpg. wt. 0.5 lbs. List $29.01.
Each ..... $24.46

| Size Included | Qty. in Kit | Size Included | Qty. in Kit |
|---|---|---|---|
| HO-25 x 1/4" | 20 | HO-62 x 5/8" | 20 |
| HO-31 x 5/16 | 20 | HO-75 x 3/4 | 20 |
| HO-37 x 3/8 | 30 | HO-81 x 13/16 | 10 |
| HO-43 x 7/16 | 20 | HO-87 x 7/8 | 15 |
| HO-50 x 1/2 | 30 | HO-100 x 1 | 10 |
| HO-56 x 9/16 | 20 | HO-125 x 1¼ | 3 |

## EXTERNAL RETAINING RING SHOP ASSORTMENT

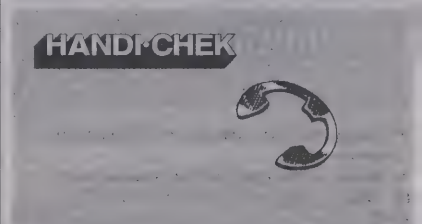



- Contains 218 pieces in 12 sizes

**No. 4F412**. Shpg. wt. 0.6 lbs. List $28.46.
Each ..... $24.39

| Size Included | Qty. in Kit | Size Included | Qty. in Kit |
|---|---|---|---|
| SH-25 x 1/4" | 20 | SH-62 x 5/8" | 20 |
| SH-31 x 5/16 | 20 | SH-75 x 3/4 | 20 |
| SH-37 x 3/8 | 30 | SH-81 x 1⅜ | 10 |
| SH-43 x 7/16 | 20 | SH-87 x 7/8 | 15 |
| SH-50 x 1/2 | 30 | SH-100 x 1 | 10 |
| SH-56 x 9/16 | 20 | SH-125 x 1¼ | 3 |

## E-RING SHOP ASSORTMENT




- Contains 300 pieces in 9 sizes

**No. 4F414**. Shpg. wt. 0.8 lbs. List $26.95.
Each ..... $24.97

| Size Included | Qty. in Kit | Size Included | Qty. in Kit |
|---|---|---|---|
| E-6 x 1/16" | 30 | E-50 x 1/2" | 40 |
| E-12 x 1/8 | 30 | E-62 x 5/8 | 20 |
| E-18 x 3/16 | 40 | E-75 x 3/4 | 20 |
| E-37 x 1/4 | 50 | E-87 x 7/8 | 20 |
| E-37 x 3/8 | 50 | | |

# RETAINING RING PLIERS AND FASTENING HARDWARE

## RETAINING RING PLIERS

- **Precision formed, induction hardened tips for accurate fit and long wear**
- **All have straight tip configurations**

### RETAINING RING PLIERS SET WITH REPLACEABLE TIPS

Includes one external (1/4-2") and one internal (3/8-2") pliers plus the following 16 interchangeable tips:

- **Four tips with 0.035" tip dia. and 90° tip angle**
- **Four tips with 0.045" tip dia. and 45° tip angle**
- **Four straight tips with 0.045" dia.**
- **Four straight tips with 0.060" dia.**
- **Proto brand (380)**

**No. 5C601.** Shpg. wt. 0.9 lbs. List $43.60.
Each.....$31.85

### RETAINING RING PLIERS SET

- **Set contains 12 professional pliers with a range of precision-formed induction-hardened tip diameters of 0.038" and 0.090" and tip angles of 45°, 90°, and straight**
- **Assortment covers a full range of popular rings form 1/4 to 3½"**
- **Pliers are convertible from internal to external and have comfortable cushion grip handles**
- **Includes blow molded carrying case with storage space for spare rings**
- **Proto brand (360B)**

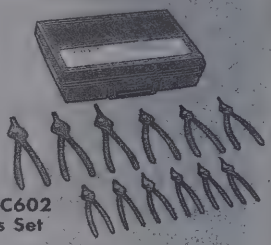
**No. 5C602.** Shpg. wt. 4.9 lbs. List $267.78.
Each.....$195.50

## RETAINING RING PLIERS

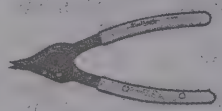


No. 5C601
Pliers set with Replaceable Tips

PROTO PROFESSIONAL TOOLS



No. 5C602
Pliers Set



No. 6A516

PROTO PROFESSIONAL TOOLS



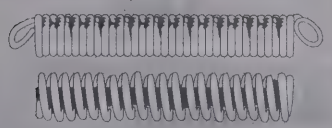
No. 5C599

### INDIVIDUAL RETAINING RING PLIERS

| Type | Length | Tip Diameter | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Internal/External** | 5.75" | 0.038" | B-H | PT-1285 | **6A515** | $15.28 | **$11.15** | 0.2 |
| **Internal/External** | 8.125 | 0.070 | B-H | PT-1286 | **6A516** | 16.02 | **11.69** | 0.3 |
| **External** | 6.125 | 0.038 | Proto | 391 | **5C599** | 14.96 | **10.92** | 0.2 |
| **External** | 6.875 | 0.070 | Proto | 393 | **5C628** | 17.44 | **12.73** | 0.2 |
| **External** | 9.125 | 0.115 | Proto | 395 | **5C629** | 22.04 | **16.09** | 0.5 |
| **Internal** | 5.375 | 0.038 | Proto | 389 | **5C630** | 14.96 | **10.92** | 0.1 |
| **Internal** | 6.5 | 0.070 | Proto | 392 | **5C631** | 17.44 | **12.73** | 0.2 |
| **Internal** | 9.0 | 0.090 | Proto | 394 | **5C600** | 22.04 | **16.09** | 0.5 |

## COMPRESSION AND EXTENSION SPRINGS

HANDI-CHEK



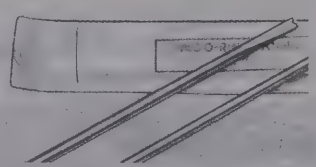
- **Contains 156 pieces in 18 popular sizes**
- **Made with zinc-plated music wire**

**No. 4F419.** Shpg. wt. 1.1 lbs. List $35.62.
Each.....$27.10

| Sizes (Compression) | Qty. in Kit | Sizes (Extension) | Qty. in Kit |
|---|---|---|---|
| 3/16 x 1 | 10 | 3/16 x 1¼ | 10 |
| 3/16 x 1¾ | 10 | 3/16 x 1½ | 10 |
| 1/4 x 1 | 10 | 3/16 x 2½ | 10 |
| 1/4 x 1¾ | 10 | 1/4 x 1½ | 10 |
| 1/4 x 2¼ | 10 | 1/4 x 2 | 6 |
| 5/16 x 1¼ | 10 | 5/16 x 1½ | 5 |
| 5/16 x 1½ | 8 | 5/16 x 2¼ | 6 |
| 5/16 x 2½ | 6 | 5/16 x 2½ | 6 |
| 3/8 x 2 | 8 | 3/8 x 1¾ | 5 |
| | | 3/8 x 2 | 6 |

## O-RING TOOL

HANDI-CHEK



- **Made of solid brass to minimize O-ring and hydraulic failures due to improper installation or removal**

**No. 4F418.** Shpg. wt. 0.1 lbs. List $15.97.
Each.....$13.84

## O-RING SPLICING KIT

Contains necessary items to make on-the-spot O-rings. Includes cord stock, adhesive, splicing fixture, cutting blade, and instructions. Loctite brand (17985).

**No. 5A234.** Shpg. wt. 2.0 lbs. List $61.06.
Each.....$57.70

### DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# HORIZONTAL HANDLE TOGGLE CLAMPS, FLAT-CUSHION SPINDLES

## 60 LBS. HOLDING CAPACITY

hoose solid arm or open arm for spindle adjustment. Arm opens 90°, handle moves 80°. upplied with #8-32 nylon hex-head spindle. Open-arm version also includes flanged ashers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **60** | Solid | Flanged | Stainless Steel | CL-150-HTC | **5E655** | **$6.37** | 0.1 |
| **60** | Open | Flanged | Stainless Steel | CL-250-HTC | **5E663** | **6.37** | 0.1 |

## 100 LBS. HOLDING CAPACITY

leally suited for light duty applications. Arm opens 90°, handle moves 90°. Supplied ith #8-32 stainless hex-head spindle.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **100** | Open | Flanged | Stainless Steel | CL-51-TC | **5E683** | **$11.59** | 0.1 |

## 200 LBS. HOLDING CAPACITY

or medium-duty applications. Arm opens 86°, handle moves 60°. Supplied with 1/4-20 ıort flat cushion spindle and two flanged washers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **200** | Open | Flanged | Stainless Steel | CL-350-HTC | **5E671** | **$8.58** | 0.3 |
| **200** | Open | Flanged | Stainless Steel | CL-350-HTC-S | **5E672** | **17.24** | 0.4 |

## 500 LBS. HOLDING CAPACITY

trong, compact clamp. Arm opens 90°, handle moves 65°. Supplied with 5/16-18 short at cushion spindle and two flanged washers.

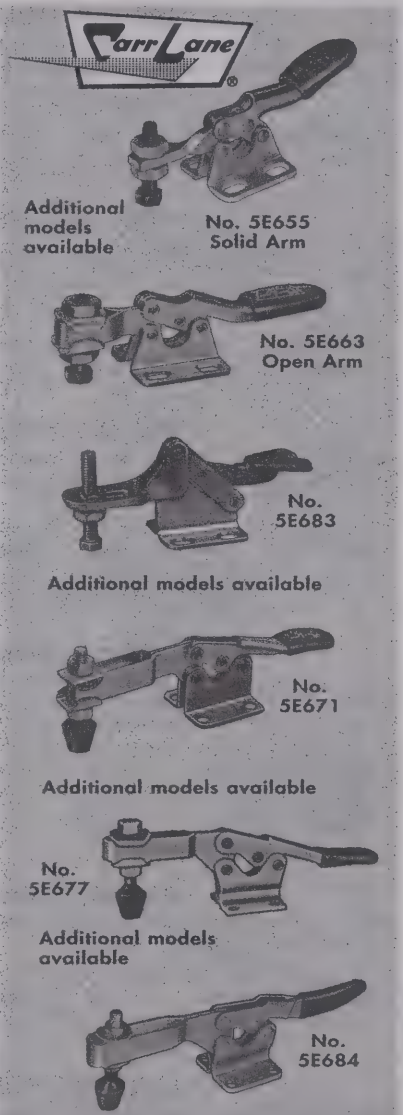
| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **500** | Open | Flanged | Stainless Steel | CL-450-HTC | **5E677** | **$10.07** | 0.6 |

## 750 LBS. HOLDING CAPACITY

eavy-duty compact clamp. Arm opens 90°, handle moves 55°. Supplied with 3/8-16 flat ıshion spindle and two flanged washers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **750** | Open | Flanged | Stainless Steel | CL-550-HTC | **5E684** | **$14.90** | 1.6 |

**CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS.**
**THOUSANDS OF QUALITY PRODUCTS ARE LISTED**




## FLAT-CUSHION SPINDLES

:andard spindle with molded neoprene tip provides scratch-free clamping with medium ›rce. Assembly includes two jam nuts.

| Thread Size | Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **#10-32** | Open | CL-316112-FC | **5E670** | **$1.67** | 0.1 |
| **1/4"-20** | Open | CL-14112-FC | **5E654** | **1.32** | 0.1 |



# VERTICAL HANDLE TOGGLE CLAMPS

## 100 LBS. HOLDING CAPACITY

Smallest wide-opening hold-down clamp. Open arm allows spindle adjustment. Arm opens 100°, handle moves 56°. Supplied with #10-32 flat-cushion spindle and 2 flanged washers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **100** | Open | Flanged | Steel | CL-150-VTC | **5E657** | **$7.66** | 0.2 |

## 150 LBS. HOLDING POWER

Miniature hold-down clamp with unique finger-grip T handle. Open arm allows spindle adjustment. Arm opens 92°, handle moves 175°. Supplied with #10-32 flat-cushion spindle and 2 flanged washers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **150** | Open | Flanged | Steel | CL-200-VTC | **5E660** | **$8.29** | 0.2 |

## 200 LBS. HOLDING CAPACITY

Small-yet-powerful clamp. Choose either a solid arm, or a long open arm for spindle adjustment. Arm opens 117°, handle moves 69°. Supplied with 1/4"-20 short flat-cushion spindle. Open-arm version supplied with 2 flanged washers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **200** | Solid | Flanged | Steel | CL-250-VTC | **5E666** | **$8.49** | 0.4 |
| **200** | Open (Long) | Flanged | Steel | CL-253-VTC | **5E667** | **8.49** | 0.2 |

## 500 LBS. HOLDING CAPACITY

Wide-opening clamp. Solid arm, open armor extra-long arms available. Arm opens 100°, handle moves 60°. Accepts 5/16"-18 short spindle. Solid-arm supplied with bolt retainer. Open-arm supplied with 2 flanged washers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **500** | Solid | Flanged | Steel | CL-350-VTC | **5E675** | **$10.35** | 0.7 |
| **500** | Open | Flanged | Steel | CL-450-VTC | **5E679** | **10.35** | 0.7 |
| **500** | Open (Long) | Flanged | Steel | CL-453-VTC | **5E680** | **10.35** | 0.7 |

## 750 LBS. HOLDING CAPACITY

Large wide-opening clamp. Arm opens 106°, handle moves 58°. Accepts 3/8"-16 spindle. Supplied with two flanged washers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **750** | Open | Flanged | Steel | CL-650-VTC | **5E686** | **14.91** | 1.3 |

## 1000 LBS. HOLDING CAPACITY

Extra-large clamp. Arm opens 120°, handle moves 67°. Accepts any 1/2"-13 spindle. Supplied with 2 flanged washers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1000** | Open | Flanged | Steel | CL-850-VTC | **5E687** | **20.97** | 2.5 |

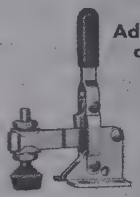
## 750 LBS. HOLDING CAPACITY (AUTOMATIC)

Automatically adjusts for various workpiece thicknesses. Clamp has the same force within 1¼" adjustment range (1¼"). Toggle action ensures workpieces remain clamped under severe vibration. Arm opens 106°, handle moves 58°. Supplied with 3/8"-16 radius spindle, 2 flanged washers.

| Holding Capacity (Lbs.) | Arm | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **750** | Open (Auto) | Flanged | Steel | CL-650-ATC | **5E685** | **$46.15** | 2.2 |

Carr Lane®

Additional models available for all clamps shown.



No. 5E657



No. 5E660



No. 5E666



No. 5E680



No. 5E686



No. 5E687



No. 5E687

# PUSH/PULL CLAMPS

## 100 LBS. HOLDING CAPACITY

Miniature plunger clamp for electronics fixturing and other light-duty applications. Locks in extended or retracted position. 5/8" plunger travel. Tapped-plunger version supplied with #8-32 nylon hex-head spindle.

| Holding Capacity (Lbs.) | Plunger | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **100** | Tapped | Flanged | Steel | CL-50-SPC | **5E681** | **$7.84** | 0.2 |

## 300 LBS. HOLDING CAPACITY

Medium-size plunger clamp that locks in extended or retracted position. 1¼" plunger travel. Plunger tapped to accept any 5/16"-18 spindle.

| Holding Capacity (Lbs.) | Plunger | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **300** | Tapped | Flanged | Steel | CL-150-SPC | **5E656** | **$12.30** | 0.6 |

## 800 LBS. HOLDING CAPACITY

Heavy clamp with extra plunger height. Locks in extended or retracted position. 1⅝" plunger travel. Plunger tapped to accept any 3/8"-16 spindle.

| Holding Capacity (Lbs.) | Plunger | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **800** | Tapped | Flanged | Steel | CL-250-SPC | **5E665** | **$20.25** | 1.8 |

## 2500 LBS. HOLDING CAPACITY

Compact, low profile, heavy-duty plunger clamp. Rugged forged steel base. Locks in extended or retracted position. 2" plunger travel. Plunger tapped to accept any 3/8"-16 spindle.

| Holding Capacity (Lbs.) | Plunger | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **2500** | Tapped | Flanged | Steel | CL-350-SPC | **5E674** | **$29.30** | 2.0 |

## 500–1500 LBS. HOLDING POWER

Durable plunger clamp with nodular iron base. Locks in either extended or retracted position. Choice of three sizes.

**No. 5E652**—Small-size clamp with 1$\frac{3}{16}$" plunger travel. Accepts any 5/16"-18 spindle.
**No. 5E659**—Medium-size clamp with 1$\frac{5}{8}$" plunger travel. Accepts any 3/8"-16 spindle.
**No. 5E669**—Large-size clamp with 2$\frac{11}{32}$" plunger travel. Accepts any 1/2"-13 spindle.

| Holding Capacity (Lbs.) | Plunger | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **500** | Tapped | Flanged | Steel | CL-100-SPC | **5E652** | **$16.46** | 0.8 |
| **850** | Tapped | Flanged | Steel | CL-200-SPC | **5E659** | **25.25** | 1.3 |
| **1500** | Tapped | Flanged | Steel | CL-300-SPC | **5E669** | **43.05** | 3.1 |

## 5000 LBS. HOLDING CAPACITY

Extra-heavy-duty clamp features a full 4" plunger travel. Rugged nodular iron base and a 7/8" diameter plunger. Locks in extended or retracted position. Plunger tapped to accept any 1/2"-13 spindle.

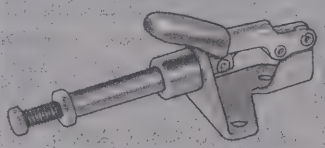
| Holding Capacity (Lbs.) | Plunger | Base | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **5000** | Tapped | Flanged | Steel | CL-450-SPC | **5E678** | **$72.75** | 7.0 |

## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

Carr Lane®

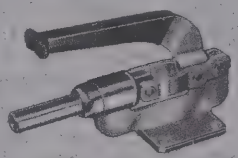
Additional models available.



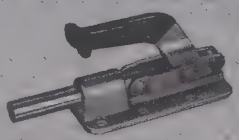
No. 5E681



No. 5E656



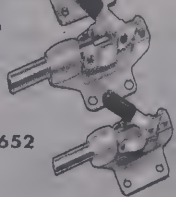
No. 5E665



No. 5E674



No. 5E669



No. 5E659

No. 5E652



No.5E678

# LATCH AND PNEUMATIC TOGGLE CLAMPS

## LATCH CLAMP WITH HOOK—375 OR 1000 LBS. HOLDING POWER

Latch clamp with versatile hook for grasping a rod or rim. Hook threaded at one end to allow adjustment after mounting. Base pivots to allow horizontal or vertical latching. Also available in stainless steel or with narrow base; extra hooks available.

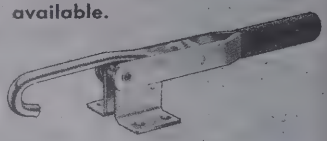
**Nos. 5E650 and 5E664**—Medium-size latch clamp with a 4" drawing movement. Threaded hook allows a 5/16" adjustment range.

**No. 5E673**—Large-capacity latch clamp with 6⅛" drawing movement. Threaded hook allows a 3/4" adjustment range.

| Holding Capacity (Lbs.) | Latch | Base | Material | Carr Lane Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **375** | Adj. Hook | Flanged | Steel | CL-250-PA | **5E650** | **$9.93** | 0.6 |
| **375** | Adj. Hook | Flanged | Stainless Steel | CL-250-PA-S | **5E664** | **21.43** | 0.6 |
| **1000** | Adj. Hook | Flanged | Steel | CL-350-PA | **5E673** | **21.41** | 2.5 |

Carr Lane®

Additional models available.



No. 5E650

## LATCH ACTION CLAMPS—360 to 2000 LBS. HOLDING POWER

Versatile latch clamp with a threaded U bolt for adjustability. Supplied with matching latch plate. Large, comfortable handle grip.

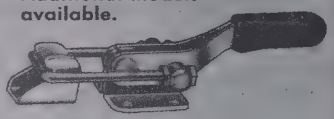
**No. 5E651**—Miniature latch clamp with high holding capacity. 1⅜" drawing movement. Threaded U bolt allows a 25/64" adjustment range.

**No. 5E658**—Medium-size latch clamp with 2-inch drawing movement. Threaded U bolt allows a 3/8" adjustment range.

**No. 5E668**—Heavy-duty latch clamp. Well-suited for applications such as plastic molding. 2½" drawing movement. Threaded U bolt allows a 15/16" adjustment range.

| Holding Capacity (Lbs.) | Latch | Base | Material | Carr Lane Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **360** | Adj. U Bolt | Flanged | Steel | CL-100-PA | **5E651** | **$10.17** | 0.2 |
| **700** | Adj. U Bolt | Flanged | Steel | CL-200-PA | **5E658** | **12.39** | 0.5 |
| **2000** | Adj. U Bolt | Flanged | Steel | CL-300-PA | **5E668** | **17.29** | 1.5 |

Additional models available.



No. 5E651

# AIR-POWERED CLAMPS

## 100 LBS. HOLDING CAPACITY

Super-compact hold-down clamp. Toggle linkage ensures positive mechanical locking even if air pressure fails. Arm opens 100°. 3/4" bore double-acting air cylinder with #10-32 ports. Supplied with flat-cushion spindle and two flanged washers. 100 PSI maximum input air pressure.

| Holding Capacity (Lbs.) | Arm | Material | Carr Lane Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **100** | Open | Steel | CL-400-PTC | **5E676** | **$77.90** | 0.8 |

Carr Lane®



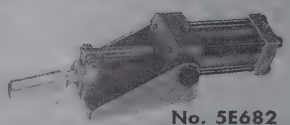
No. 5E676

Additional models available.

## 200 LBS. HOLDING CAPACITY

Small yet powerful hold-down clamp with a long open arm. Toggle linkage provides high holding capacity and insures positive mechanical locking even if air pressure fails. Arm opens 100°. 1¼" bore double-acting air cylinder with 1/8"-NPT ports. Accepts any 1/4"-20 short spindle and two flanged washers. 100 PSI maximum input air pressure.

| Holding Capacity (Lbs.) | Arm | Material | Carr Lane Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **200** | Open (Long) | Steel | CL-500-PTC | **5E682** | **$81.00** | 2.5 |

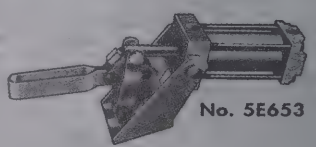


No. 5E682

## 500 LBS. HOLDING CAPACITY

Medium-size hold-down clamp with an open arm for spindle adjustment. Toggle linkage provides high holding capacity and insures positive mechanical locking even if air pressure fails. Arm opens 100°. 1¼" bore double-acting air cylinder with 1/8"-NPT ports. Accepts any 5/16"-18 short spindle and two flanged washers. 100 PSI maximum input air pressure.

| Holding Capacity (Lbs.) | Arm | Material | Carr Lane Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **500** | Open | Steel | CL-1000-PTC | **5E653** | **$87.80** | 3.0 |

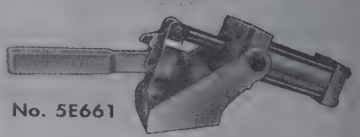


No. 5E653

## 1000 LBS. HOLDING CAPACITY

Extra-large hold-down clamp. Toggle linkage ensures positive mechanical locking even if air pressure fails. Arm opens 83°. 1½" bore double-acting air cylinder with 1/4"-NPT ports. Accepts any 1/2"-13 spindle and two flanged washers. 100 PSI maximum input air pressure.

| Holding Capacity (Lbs.) | Arm | Material | Carr Lane Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **1000** | Open | Steel | CL-2000-PTC | **5E661** | **$138.45** | 6.0 |

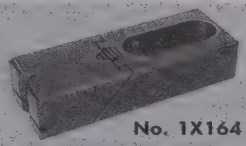


No. 5E661

# EDGE, HOOK AND ADJUSTABLE CLAMPS, DETENT AND BALL LOCK PINS, PLUNGERS

## EDGE CLAMPS

Additional sizes available



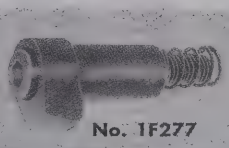
No. 1X164

High-noise adjustable clamp. Grips high on workpiece, close to the machining plane, for maximum clamping rigidity. Removable aluminum nose cover clamps soft or machined parts without damage.

| Mounting Screw Size | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1/2-13 or M12 | CL-45-SAC | 1X164 | $42.95 | 1.3 |
| 5/8-11 or M16 | CL-75-SAC | 1X186 | 48.10 | 2.8 |

## COMPACT HOOK CLAMPS

Additional sizes available

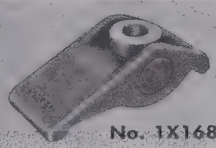


No. 1F277

Very compact socket-head swing clamp mounts in reamed hole. Ideal in tight spaces and where high clamping forces are required. Clamp body: 12L14 steel carburized-hardened, black oxide finish.

| Thread Size | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 5/16-18 | CL-1-CAC | 1F277 | $18.49 | 0.2 |
| 1/2-13 | CL-2-CAC | 1F311 | 19.55 | 0.2 |

## FORGED ADJUSTABLE CLAMPS



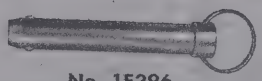
No. 1X168

Rugged forged steel pivot clamp. Instant height adjustment without blocks or shims. One-piece assembly allows quick setups and eliminates lost clamp pieces. Removable brass heel protects machine table. Clamp can swing 90° in either direction for loading clearance. Forged 1045 steel carbon, black oxide finish.

| Clamping Range (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0 - 1¾ | CL-6-FAC | 1X168 | $13.92 | 0.6 |
| 0 - 2 1/16 | CL-8-FAC | 1X196 | 18.01 | 1.2 |
| 0 - 3 | CL-10-FAC | 1X152 | 26.35 | 2.5 |
| 0 - 4¼ | CL-12-FAC | 1X156 | 38.80 | 3.8 |

## DETENT PINS

Additional sizes available



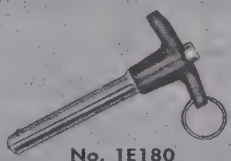
No. 1E296

Economical solid alignment pin. Locking balls are spring loaded, not positive locking. Simply push pin to insert, pull to remove. Shank: 4130 steel, 160,000 psi min, zinc or cadmium plated. Collar: Carbon steel, zinc or cadmium plated. Balls: 440C stainless. Ring: Carbon steel, zinc or cadmium plated, or 302 stainless steel.

| Shank Dia. (In.) | Stock Grip Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | 1.00 | CL-4-DEP-1.00 | 1E196 | $5.20 | 0.1 |
| 1/4 | 1.50 | CL-4-DEP-1.50 | 1E202 | 5.60 | 0.1 |
| 1/4 | 2.00 | CL-4-DEP-2.00 | 1E206 | 5.60 | 0.1 |
| 3/8 | 2.00 | CL-6-DEP-2.00 | 1E296 | 6.59 | 0.1 |

## BALL LOCK PINS

Additional sizes and models available



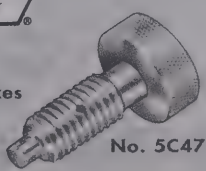
No. 1E180

Precision alignment pin with a ground shank. This single-acting type is positive locking until released by pushing the button, which moves the center spindle forward to allow the locking balls to retract into a radial groove. Ball lock pins can also be ordered in stainless steel. Shank: 4130 steel, 160,000 psi min., zinc or cadmium plated. Spindle: 4130 steel. Handle: Aluminum alloy. Collar: Carbon steel, zinc or cadmium plated. Button: Carbon steel, zinc or cadmium plated, or aluminum alloy, anodized. Balls: 440C stainless. Spring: 17-7PH, 302 stainless or music wire. Handle ring: Carbon steel, zinc or cadmium plated, or 302 stainless.

| Shank Dia. (In.) | Grip Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | 1.0 | CL-4-BLPT-1.00 | 1E180 | $11.72 | 0.1 |
| 1/4 | 1.5 | CL-4-BLPT-1.50 | 1E184 | 12.38 | 0.1 |
| 1/4 | 2.0 | CL-4-BLPT-2.00 | 1E192 | 12.38 | 0.1 |
| 3/8 | 1.5 | CL-6-BLPT-1.50 | 1E284 | 14.67 | 0.2 |
| 3/8 | 2.0 | CL-6-BLPT-2.00 | 1E288 | 14.67 | 0.2 |
| 3/8 | 3.0 | CL-6-BLPT-3.00 | 1E290 | 15.32 | 0.2 |
| 1/2 | 1.5 | CL-8-BLPT-1.50 | 1E304 | 16.57 | 0.2 |
| 1/2 | 2.0 | CL-8-BLPT-2.00 | 1E308 | 16.57 | 0.2 |
| 1/2 | 2.5 | CL-8-BLPT-2.50 | 1E312 | 17.36 | 0.2 |
| 1/2 | 3.0 | CL-8-BLPT-3.00 | 1E842 | 17.36 | 0.2 |
| 1/2 | 3.5 | CL-8-BLPT-3.50 | 1E844 | 17.36 | 0.3 |
| 1/2 | 4.0 | CL-8-BLPT-4.00 | 1E846 | 18.17 | 0.3 |

## HAND-RETRACTABLE PLUNGERS - KNURLED HEAD

Additional sizes and models available



No. 5C471

Spring-loaded plunger you can manually retract and lock. To lock in retracted position, pull back knob and twist 90°. Slight taper on plunger tip for easy alignment. Body: 12L14 steel, zinc plated clear chromate. Plunger: 12L14 steel, carburized-hardened, zinc plated clear chromate. Spring: 17-7PH stainless.

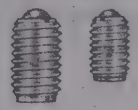
| Thread Dia. (In.) | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4-20 | Steel | CL-4-HRP | 5C471 | $7.72 | 0.1 |
| 1/4-20 | Stainless Steel | CL-4-HRP-S | 5C472 | 12.81 | 0.1 |
| 5/16-18 | Steel | CL-5-HRP | 5C485 | 8.48 | 0.1 |
| 3/8-16 | Steel | CL-6-HRP | 5C490 | 9.27 | 0.1 |
| 1/2-13 | Steel | CL-8-HRP | 5C499 | 9.93 | 0.1 |
| 1/2-13 | Stainless Steel | CL-8-HRP-S | 5C500 | 16.18 | 0.1 |

# BALL AND SPRING PLUNGERS, PLUNGE WRENCHES SWIVEL HEAD SCREWS, SWIVEL PADS AND NUTS

## BALL PLUNGERS

Carr Lane

Additional sizes and models available



Self-contained ball-and-spring device. 440C stainless steel ball. Install and/or adjust from either end. Locking element holds unit securely in place after installation. Body: 12L14 steel, zinc-plated or black oxide finish. Locking Element: Nylon 101. Spring: Music wire.

| Thread Size | End Force Final (Lbs.) | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| #4-48 | 1/2 | Stainless Steel | CL-5-SBP-1 | 5C486 | $3.59 | 0.1 |
| #8-32 | 1¼ | Stainless Steel | CL-22-SBP-1 | 5C310 | 3.18 | 0.1 |
| #10-32 | 1½ | Steel | CL-30-BP-1 | 5C311 | 2.96 | 0.1 |
| #10-32 | 3 | Steel | CL-30-BP-2 | 5C312 | 2.96 | 0.1 |
| #10-32 | 5 | Steel | CL-30-BP-3 | 5C313 | 2.96 | 0.1 |
| 1/4-20 | 4 | Steel | CL-40-BP-1 | 5C474 | 2.73 | 0.1 |
| 1/4-20 | 4 | Stainless Steel | CL-40-SBP-1 | 5C477 | 3.75 | 0.1 |
| 1/4-20 | 7 | Steel | CL-40-BP-2 | 5C475 | 2.73 | 0.1 |
| 1/4-20 | 12 | Steel | CL-40-BP-3 | 5C476 | 2.73 | 0.1 |
| 1/4-20 | 12 | Stainless Steel | CL-40-SBP-3 | 5C478 | 3.75 | 0.1 |
| 5/16-18 | 9 | Steel | CL-50-BP-2 | 5C487 | 2.74 | 0.1 |
| 3/8-16 | 10 | Steel | CL-60-BP-2 | 5C491 | 2.84 | 0.1 |
| 3/8-16 | 21 | Steel | CL-60-BP-3 | 5C492 | 2.84 | 0.1 |
| 1/2-13 | 12 | Steel | CL-70-BP-2 | 5C495 | 3.11 | 0.1 |
| 1/2-13 | 30 | Steel | CL-70-BP-3 | 5C496 | 3.11 | 0.1 |

## SPRING PLUNGERS

Carr Lane

Additional sizes and models available



Self-contained plunger-and-spring device. Long bearing length on nose for smooth operation. Install and/or adjust from either end. Locking element holds unit securely in place after installation. Nose: 12L14 steel, carburized-hardened, black oxide finish or zinc- plated clear chromate. Body: 12L14 steel, black oxide finish. Locking Element: Nylon 101. Spring: Music wire.

| Thread Size | End Force Final (Lbs.) | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| #10-32 | 11.1 | Steel | CL-30-SPS-1 | 5C314 | $2.88 | 0.1 |
| #10-32 | 2.7 | Steel | CL-30-SPS-2 | 5C315 | 2.88 | 0.1 |
| 1/4-20 | 9 | Steel | CL-42-SPS-1 | 5C481 | 2.86 | 0.1 |
| 1/4-20 | 13 | Steel | CL-40-SPS-1 | 5C479 | 3.07 | 0.1 |
| 1/4-20 | 4 | Steel | CL-40-SPS-2 | 5C480 | 3.07 | 0.1 |
| 5/16-18 | 15 | Steel | CL-50-SPS-1 | 5C488 | 3.07 | 0.1 |
| 3/8-16 | 14.5 | Steel | CL-60-SPS-1 | 5C493 | 3.27 | 0.1 |
| 1/2-13 | 17.4 | Steel | CL-70-SPS-1 | 5C497 | 3.07 | 0.1 |

## PLUNGER WRENCH

Carr Lane

Additional sizes available



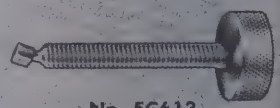
No. 5C502

Handy tool to speed up installation of ball plungers or spring plungers. Clearance hole in center prevents over-compressing internal spring when using screwdriver slot on ball/plunger end.

| Fits These Plunger Sizes | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1/4-20, 1/4-28, M6 | CL-8-SPW | 5C502 | $4.70 | 0.1 |

## SWIVEL HEAD SCREWS

Carr Lane



No. 5C613

Additional sizes, models available

Swivel-screw assemblies that include swivel-screw bodies and feet. Also available in stainless steel, or Delrin® foot. Body: 12L14 steel, carburized-hardened, zinc plated yellow chromate. Foot: 12L14 steel, zinc plated yellow chromate.

| Thread Size | Shank Length | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4-20 | 1½ | CL-2-SHS | 5E613 | $4.14 | 0.1 |
| 1/4-20 | 2 | CL-3-SHS | 5E617 | 4.23 | 0.1 |
| 1/4-20 | 3 | CL-33-SHS | 5E618 | 4.96 | 0.2 |
| 1/4-20 | 1 19/32 | CL-18-SHS | 5E413 | 4.23 | 0.1 |
| 1/4-20 | 2 9/32 | CL-19-SHS | 5E433 | 4.31 | 0.1 |
| 5/16-18 | 3 9/32 | CL-41-SHS | 5E621 | 4.87 | 0.2 |
| 3/8-16 | 3⅛ | CL-42-SHS | 5E622 | 10.34 | 0.2 |

## SWIVEL PADS

Carr Lane

Additional sizes, and models available



No. 4X214

Pad pivots to contact sloped workpiece surfaces evenly. Pad & Nut: 12L14 steel, carburized-hardened, black oxide finish.

| Thread Size | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 5/16-18 | CL-2-SPA | 4X214 | $3.99 | 0.1 |
| 3/8-16 | CL-3-SPA | 4X223 | 4.31 | 0.1 |
| 1/2-13 | CL-4-SPA | 4X233 | 4.44 | 0.1 |
| 5/8-11 | CL-5-SPA | 4X234 | 4.81 | 0.2 |
| 3/4-10 | CL-6-SPA | 4X244 | 7.25 | 0.4 |
| 1-8 | CL-7-SPA | 4X245 | 9.70 | 0.6 |

## SWIVEL NUT

Carr Lane

Additional sizes available



No. 4X398

Nut turns freely without pivoting while pad remains stationary. Prevents marring workpiece. Pad & Nut: 12L14 Steel, black oxide finish.

| Thread Size | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1/2-13 | CL-8-SN | 4X398 | $4.55 | 0.1 |

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# REST, LOCATING AND SPRING STOP BUTTONS, CONSTRUCTION BALLS AND COVERS

## JIG REST BUTTONS

Additional sizes available



No. 4T949

est button mounted with a socket-head cap screw (not fur-ished). Use as either a workpiece support or a jig foot. 12L14 eel.

| Dia. (In.) | Height (In.) | Uses This Size Screw | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2 | 3/8 | #10-32 | CL-00-JRB | 4T949 | $1.44 | 0.1 |
| 1/2 | 1/2 | #10-32 | CL-0-JRB | 4T948 | 1.44 | 0.1 |
| 5/8 | 3/8 | 1/4"-20 | CL-13-JRB | 4X003 | 1.60 | 0.1 |
| 5/8 | 1/2 | 1/4"-20 | CL-1-JRB | 4X001 | 1.61 | 0.1 |
| 5/8 | 5/8 | 1/4"-20 | CL-14-JRB | 4X004 | 1.72 | 0.7 |
| 5/8 | 3/4 | 1/4"-20 | CL-2-JRB | 4X022 | 1.72 | 0.1 |
| 5/8 | 1 | 1/4"-20 | CL-16-JRB | 4X007 | 2.17 | 0.1 |
| 7/8 | 3/8 | 1/4"-20 | CL-17-JRB | 4X008 | 2.17 | 0.1 |
| 7/8 | 1/2 | 5/16"-18 | CL-18-JRB | 4X009 | 2.17 | 0.1 |
| 7/8 | 3/4 | 5/16"-18 | CL-19-JRB | 4X021 | 2.63 | 0.1 |
| 7/8 | 1 | 5/16"-18 | CL-20-JRB | 4X025 | 2.72 | 0.1 |
| 1 1/4 | 3/4 | 3/8"-16 | CL-21-JRB | 4X026 | 3.14 | 0.2 |
| 1 1/4 | 1 | 3/8"-16 | CL-6-JRB | 4X027 | 3.52 | 0.1 |

## REST BUTTONS

Additional sizes and models available



No. 1E894

est button with a press-fit shank. Use as either a workpiece sup-ort or a jig foot. 1144 steel, heat treated, black oxide finish.

| Dia. (In.) | Rest Height (In.) | Carr Lane Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|
| 3/16 | 1/4 | CL-12-RB | 1E894 | $1.58 | 0.1 |
| 3/16 | 3/8 | CL-13-RB | 1E900 | 1.65 | 0.1 |
| 3/16 | 1/2 | CL-14-RB | 1E906 | 1.67 | 0.1 |
| 1/4 | 1/4 | CL-2-RB | 1E914 | 1.60 | 0.1 |
| 1/4 | 3/8 | CL-3-RB | 1E923 | 1.61 | 0.1 |
| 1/4 | 1/2 | CL-1-RB | 1E888 | 1.72 | 0.1 |
| 3/8 | 1/4 | CL-5-RB | 1E934 | 1.91 | 0.1 |
| 3/8 | 3/8 | CL-6-RB | 1E939 | 1.91 | 0.1 |
| 3/8 | 1/2 | CL-4-RB | 1E931 | 1.91 | 0.1 |
| 1/2 | 3/8 | CL-15-RB | 1E910 | 2.66 | 0.1 |

## SCREW REST BUTTONS

Additional sizes available



No. 1E929

ıreaded rest button, with .005 to .010 extra stock, for grinding ter installation. 12L14 steel.

| Thread Size (In.) | Rest Height (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4-20 | 1/4 | CL-1-SRB | 1E890 | $1.83 | 0.1 |
| 1/4-20 | 3/8 | CL-2-SRB | 1E916 | 1.83 | 0.1 |
| 1/4-20 | 1/2 | CL-3-SRB | 1E929 | 1.83 | 0.1 |
| 3/8-16 | 1/4 | CL-6-SRB | 1E941 | 1.97 | 0.1 |
| 3/8-16 | 3/8 | CL-7-SRB | 1E943 | 1.97 | 0.1 |
| 3/8-16 | 1/2 | CL-8-SRB | 1E950 | 1.97 | 0.1 |
| 3/8-16 | 1 | CL-10-SRB | 1E892 | 2.06 | 0.1 |

## ADJUSTABLE LOCATING BUTTONS

Additional sizes available



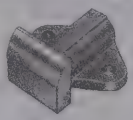
No. 1E962

A support screw with fine threads for precise adjustment. 12L14 steel.

| Thread Size (In.) | Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 10-32 | 1 | CL-LB-1 | 1E962 | $2.73 | 0.1 |
| 1/4"-28 | 1 1/2 | CL-LB-2 | 1E971 | 2.73 | 0.1 |
| 5/16"-24 | 1 3/4 | CL-LB-7 | 1F011 | 3.41 | 0.1 |
| 3/8"-24 | 2 | CL-LB-3 | 1E978 | 2.98 | 0.1 |
| 1/2"-20 | 2 1/2 | CL-LB-4 | 1E985 | 3.07 | 0.1 |
| 5/8"-18 | 3 | CL-LB-5 | 1E991 | 3.48 | 0.2 |
| 3/4"-16 | 3 1/2 | CL-LB-6 | 1E997 | 4.99 | 0.2 |

## SPRING STOP BUTTONS

Additional sizes and models available



No. 5E634 Flat Face



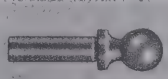
No. 5E633 Contact Button

Spring Stop Buttons are ideal for holding a workpiece against its locators until clamps are in place. Choice of three sizes in each type. Body: Aluminum alloy. Spring: Spring steel. Plunger: Mild steel, carburized-hardened, black oxide finish or zinc plated clear chromate.

| End Force Final (Lbs.) | Face | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 15 | Button | CL-10A-SSB | 5E633 | $5.34 | 0.1 |
| 15 | Flat | CL-10C-SSB | 5E634 | 5.93 | 0.1 |
| 26 | Button | CL-20A-SSB | 5E635 | 7.00 | 0.1 |
| 26 | Flat | CL-20C-SSB | 5E636 | 7.79 | 0.1 |
| 48 | Button | CL-30A-SSB | 5E637 | 9.31 | 0.1 |
| 48 | Flat | CL-30C-SSB | 5E638 | 10.25 | 0.1 |

## CONSTRUCTION BALLS

Additional sizes and models available



No. 5C504



No. 5C505

Precision tooling ball rigidly attached to its shank by a proprietary welding technique. Concentricity between ball and shank is .0002 TIR. Height-reference shoulder to locate the ball in three dimensions. Ball: 52100 steel, heat treated HRC 55, black oxide finish. Shank: 1018 steel, black oxide finish.

| Ball Dia. (In.) | Length, Ball Center To Shank Base (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| .5000 | 0.63 | CL-1-SCB | 5C504 | $14.68 | 0.1 |
| .5000 | 0.94 | CL-2-SCB | 5C506 | 14.68 | 0.1 |
| .5000 | 1.50 | CL-3-SCB | 5C669 | 15.91 | 0.1 |
| .5000 | 0.94 | CL-4-SCB | 5C771 | 15.26 | 0.1 |
| .5000 | 1.50 | CL-6-SCB | 5C772 | 20.62 | 0.1 |

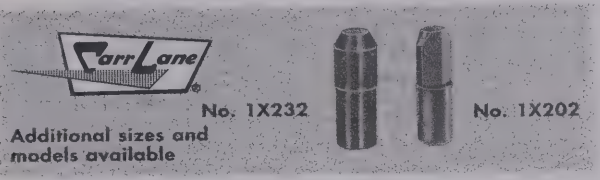
## CONSTRUCTION BALL COVER

Sturdy cover that protects a construction ball from damage after installation. Zinc die casting.

| Fits Ball Dia. (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| .5000 | CL-2-COVER | 5C505 | $1.48 | 0.1 |

# ROUND AND DIAMOND PINS, BULLET-NOSE PINS, DOWELS AND BUSHINGS

## ROUND AND DIAMOND PINS




Round pins and diamond pins are frequently used together in pairs to locate the workpiece from the hole. Diamond pins are relieved, to locate only radially around the round pin, avoiding redundant location. This prevents binding while loading and unloading the part, yet still maintains high accuracy. Note: Round pins also make excellent edge locators. Head and shank diameters are concentric to within .0005 TIR. 1144 steel, heat treated RC 50-55, black oxide finish.

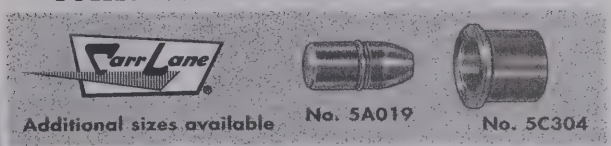
### ROUND PINS

| Head Dia. (In.) | Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | 3/4 | CL-1-RP | 1X232 | $1.90 | 0.1 |
| 5/16 | 7/8 | CL-2-RP | 1X238 | 1.90 | 0.1 |
| 3/8 | 1 | CL-3-RP | 1X246 | 2.06 | 0.1 |
| 7/16 | 1 1/4 | CL-4-RP | 1X248 | 2.34 | 0.1 |
| 1/2 | 1 3/8 | CL-5-RP | 1X258 | 2.88 | 0.1 |
| 9/16 | 1 1/2 | CL-6-RP | 1X260 | 2.94 | 0.1 |
| 5/8 | 1 3/4 | CL-7-RP | 1X276 | 3.07 | 0.1 |
| 3/4 | 2 1/8 | CL-9-RP | 1X278 | 3.75 | 0.2 |

### DIAMOND PINS

| Head Dia. (In.) | Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | 3/4 | CL-1-DPX | 1X202 | $2.94 | 0.1 |
| 1/4 | 3/4 | CL-1-DPY | 1X228 | 2.94 | 0.1 |
| 1/4 | 3/4 | CL-1-DPZ | 1X230 | 2.94 | 0.1 |
| 5/16 | 7/8 | CL-2-DPX | 1X234 | 2.94 | 0.1 |
| 5/16 | 7/8 | CL-2-DPY | 1X236 | 2.94 | 0.1 |
| 3/8 | 1 | CL-3-DPX | 1X240 | 3.07 | 0.1 |
| 3/8 | 1 | CL-3-DPY | 1X242 | 3.00 | 0.1 |
| 3/8 | 1 | CL-3-DPZ | 1X244 | 3.00 | 0.1 |
| 1/2 | 1-3/8 | CL-5-DPX | 1X254 | 3.97 | 0.1 |
| 1/2 | 1-3/8 | CL-5-DPY | 1X256 | 3.97 | 0.1 |

## BULLET-NOSE DOWELS AND BUSHINGS




Precision locating pin often used with a matching bushing to align two pieces of a fixture. The pin's head and shank diameters are concentric to within .0005 TIR. The bushing's ID and OD are concentric to within .0003 TIR. Dowel: 1144 steel, heat treated RC 50-62, black oxide finish.

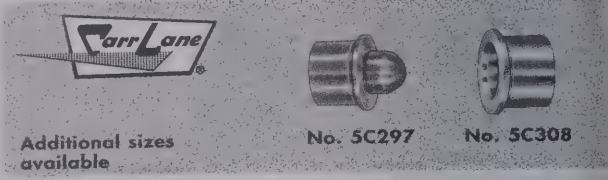
### DOWEL PINS

| Head Dia. (In.) | Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | 0.90 | CL-1-BND | 5A019 | $2.51 | 0.1 |
| 5/16 | 0.94 | CL-2-BND | 5A665 | 2.63 | 0.1 |
| 3/8 | 1.03 | CL-3-BND | 5A692 | 2.73 | 0.1 |
| 1/2 | 1.09 | CL-4-BND | 5C286 | 2.86 | 0.1 |

### BUSHINGS

| Inner Dia. (In.) | Height (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | 3/8 | CLB-1000 | 5C304 | $4.49 | 0.1 |
| 5/16 | 3/8 | CLB-2000 | 5C305 | 4.72 | 0.1 |
| 3/8 | 1/2 | CLB-3000 | 5C306 | 4.81 | 0.1 |
| 1/2 | 5/8 | CLB-4000 | 5C307 | 5.06 | 0.1 |

## BULLET-NOSE PINS AND BUSHINGS




Bullet-nose round pins and diamond pins are often used together (with matching bushings) to align two pieces of a fixture. The diamond pin is relieved, to locate only radially around the round pin, avoiding redundant location. This prevents binding, yet still maintains high accuracy. The pin's shank diameter and the bushing's OD are the same size to allow boring the installation hole in both fixture pieces at the same time, for greater accuracy. The pin's head and shank diameters are concentric to within .0005 TIR. Bushing's ID and OD are concentric to within .0003 TIR. Pin: 1144 steel, heat treated RC 50-62, black oxide finish.

### ROUND PINS

| Head Dia. (In.) | Shank Dia. (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 9/16 | 13/32 | CL-8-BND | 5C297 | $3.35 | 0.1 |
| 5/8 | 1/2 | CL-9-BND | 5C299 | 4.40 | 0.1 |
| 3/4 | 5/8 | CL-10-BND | 5A540 | 4.67 | 0.1 |
| 7/8 | 3/4 | CL-11-BND | 5A659 | 5.92 | 0.1 |

### DIAMOND PINS

| Head Dia. (In.) | Shank Dia. (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 9/16 | 13/32 | CL-8-BDP | 5C296 | $7.19 | 0.1 |
| 5/8 | 1/2 | CL-9-BDP | 5C298 | 8.15 | 0.1 |
| 3/4 | 5/8 | CL-10-BDP | 5A538 | 8.15 | 0.1 |
| 7/8 | 3/4 | CL-11-BDP | 5A657 | 8.15 | 0.1 |

### BUSHINGS

| Inner Dia. (In.) | Height (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | 7/16 | CLB-8000 | 5C308 | $5.06 | 0.1 |
| 5/16 | 7/16 | CLB-9000 | 5C309 | 5.28 | 0.1 |
| 3/8 | 7/16 | CLB-10000 | 5C302 | 5.52 | 0.1 |
| 1/2 | 1/2 | CLB-11000 | 5C303 | 5.79 | 0.1 |

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

# HAND KNOBS AND ASSEMBLIES, KNURLED KNOBS, KNURLED HEAD SCREWS, HAND WHEELS

## HAND KNOBS

Additional sizes, models available



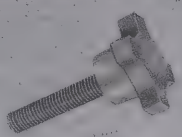
No. 1X574

asy-to-grip clamping knob in tapped and tapped-thru designs. ast iron, zinc plated clear chromate.

| Base Dia. (In.) | Tap Type (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | 5/16-18 Thru | CL-2-HK-2 | 1X574 | $2.42 | 0.1 |
| 1 | 3/8-16 Thru | CL-3-HK-4 | 1X580 | 3.09 | 0.4 |
| 1 | 3/8-16 x 1 Deep | CL-30-HK-4 | 1X584 | 2.98 | 0.1 |
| 1 | 1/2-13 Thru | CL-4-HK-4 | 1X592 | 3.35 | 0.1 |
| 1 | 1/2-13 x 1 Deep | CL-40-HK-4 | 1X596 | 3.35 | 0.1 |
| 1⅛ | 1/2-13 Thru | CL-9-HK-9 | 4R962 | 4.46 | 0.1 |

## HAND KNOB ASSEMBLIES

Additional sizes, models available



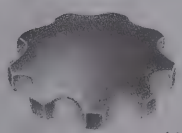
No. 1X566

and knob with a clamping screw cast securely in place. Knob: 19 aluminum alloy. Screw: 12L14 steel, nickel plated.

| Dia. (In.) | Screw Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4-20 | 1 | CL-1-HK2T | 1X566 | $3.50 | 0.1 |
| 1/4-20 | 1½ | CL-2-HK2T | 1X576 | 3.69 | 0.1 |
| 5/16-18 | 1 | CL-3A-HK2T | 1X586 | 3.91 | 0.1 |
| 5/16-18 | 1¾ | CL-3-HK2T | 1X578 | 3.99 | 0.1 |
| 5/16-18 | 2½ | CL-4-HK2T | 1X588 | 4.14 | 0.1 |
| 3/8-16 | 1 | CL-5A-HK4T | 4R946 | 4.65 | 0.2 |
| 3/8-16 | 1½ | CL-5B-HK4T | 4R948 | 4.67 | 0.2 |
| 3/8-16 | 2 | CL-5-HK4T | 1X600 | 4.92 | 0.1 |
| 3/8-16 | 2½ | CL-6-HK4T | 4R950 | 5.17 | 0.2 |
| 1/2-13 | 1 | CL-7A-HK4T | 4R954 | 6.05 | 0.3 |
| 1/2-13 | 1½ | CL-7B-HK4T | 4R956 | 6.09 | 0.2 |
| 1/2-13 | 2 | CL-7C-HK4T | 4R958 | 6.29 | 0.3 |
| 1/2-13 | 2½ | CL-7-HK4T | 4R952 | 6.95 | 0.1 |
| 1/2-13 | 3 | CL-8-HK4T | 4R960 | 7.58 | 0.1 |

## PALM-GRIP HAND KNOBS

Additional sizes, models available



No. 1X568

olished full-grip hand knob, available blank or tapped. 319 uminum alloy.

| Dia. (In.) | Tap Type (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2¾ | Blank | CL-11-PHK | 1X568 | $2.73 | 0.3 |
| 2¾ | 3/8-16 x 3/4 Deep | CL-13-PHK | 1X570 | 3.80 | 0.3 |
| 2¾ | 1/2-13 x 3/4 Deep | CL-14-PHK | 1X572 | 4.44 | 0.3 |

## KNURLED KNOBS

Additional sizes, models available



No. 4X033

Knurled-head knob for quick finger tightening. 300-series stainless steel.

| Dia. (In.) | Thread Size (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | 1/4-20 | CL-16513 | 4X033 | $3.57 | 0.1 |
| 1 | 1/4-20 | CL-16514 | 4X034 | 4.65 | 0.1 |
| 1 | 1/4-20 w/Counterbore | CL-16524 | 4X035 | 5.72 | 0.1 |
| 1 | 1/4-20 w/Counterbore | CL-16534 | 4X038 | 6.73 | 0.1 |
| 1¼ | 5/16-18 w/Counterbore | CL-16625 | 4X039 | 7.74 | 0.1 |
| 1¼ | 3/8-16 w/Counterbore | CL-16725 | 4X040 | 7.28 | 0.2 |
| 1¼ | 3/8-16 w/Counterbore | CL-16735 | 4X043 | 8.74 | 0.2 |

## KNURLED HEAD SCREWS

Additional sizes, models available



No. 4X030

Knurled head provides a positive grip for finger tightening in light clamping applications. 12L14 steel, carburized-hardened, black oxide finish.

| Thread Size | Thread Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4-20 | 1½ | CL-4-KHS | 4X030 | $2.13 | 0.1 |
| 1/4-20 | 2 | CL-5-KHS | 4X031 | 2.17 | 0.1 |
| 5/16-18 | 1½ | CL-7-KHS | 4X032 | 2.51 | 0.1 |
| 3/8-16 | 2 | CL-10-KHS | 4X028 | 2.70 | 0.2 |
| 3/8-16 | 3 | CL-12-KHS | 4X029 | 3.35 | 0.2 |

## ANGLED-SPOKE HAND WHEELS

Additional sizes, models available



No. 4R996



No. 1X536

Finished hand wheel blanks that can be easily customized for any application. Choose cast iron for maximum strength, or aluminum for light weight. Cast iron per ASTM-A48 class 30 or 310 aluminum alloy.

| Dia. (In.) | Material | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 6 | Cast Iron | CL-6-HWAF | 4R996 | $14.31 | 3.2 |
| 6 | Aluminum | CL-6-HWAFA | 4R998 | 15.66 | 1.5 |
| 6 | Cast Iron | CL-8-HWAF | 4T946 | 27.90 | 7.0 |

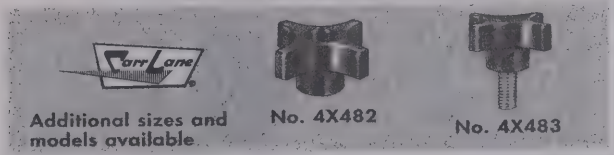
## HAND WHEEL HANDLES

When installed in a hand wheel, this threaded handle remains stationary in your hand while the wheel turns. 12L14 steel, black oxide finish. Note: Do not use press-fit handles on aluminum hand wheels

| Fits Hand Wheel Dia. (In.) | Type | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4, 5 | Revolving | CL-1-RH | 1X536 | $5.52 | 0.2 |
| 6, 8 | Revolving | CL-2-RH | 1X546 | 7.71 | 0.7 |
| 6, 8 | Solid | CL-2-SH | 1X550 | 6.13 | 0.4 |
| 10, 12, 14 | Revolving | CL-432-TH | 4X504 | 1.01 | 0.1 |

# PLASTIC KNOBS AND HANDLES, QUICK-ACTING AND SPEED BALL HANDLES

## FOUR-PRONG KNOBS




Four-prong knob for clamping and other applications requiring quick tightening and high torque. Molded-in brass insert provides strength. Knob: Black phenolic plastic, brass insert. Stud: Mild steel, zinc plated chromate.

| Dia. (In.) | Thread Size/ Type | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1¾ | 1/4-20 Through Hole | CL-1-PPK-2 | 4X482 | $1.29 | 0.1 |
| 1¾ | 1/4-20 Stud | CL-1-PPK2T | 4X483 | 1.34 | 0.1 |
| 1¾ | 5/16-18 Stud | CL-3A-PPK2T | 4X502 | 1.80 | 0.1 |
| 2¼ | 3/8-16 Stud | CL-5A-PPK4T | 4X820 | 1.96 | 0.1 |

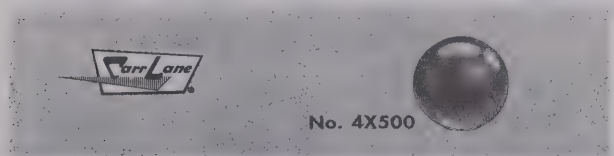
## FLUTED KNOBS




Knob for fine adjustment or high-torque applications. Brass insert provides strength. Black phenolic plastic with brass insert.

| Dia. (In.) | Thread Size (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1¾ | 3/8-16 | CL-46-PFK | 4X819 | $1.58 | 0.1 |
| 2¾ | 3/8-16 | CL-66-PFK | 5A015 | 1.91 | 0.2 |

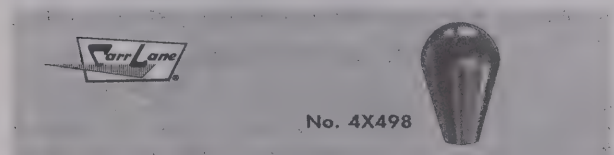
## BALL KNOBS




Durable multi-purpose knob. Molded-in brass insert provides strength. Black phenolic plastic with brass insert.

| Dia. (In.) | Thread Size (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | 1/4-20 | CL-232-PB | 4X500 | $0.78 | 0.1 |
| 1 | 1/4-20 | CL-232-PB | 4X503 | 0.90 | 0.1 |
| 1 | 5/16-18 | CL-442-PB | 4X630 | 0.84 | 0.1 |
| 1⅜ | 3/8-16 | CL-652-PB | 5A013 | 1.18 | 0.1 |
| 1⅜ | 1/2-13 | CL-672-PB | 5A017 | 1.24 | 0.1 |

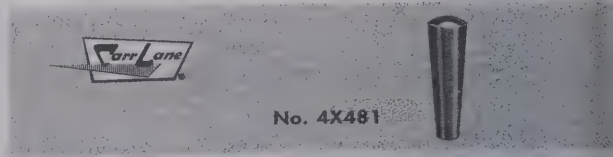
## OVAL TAPERED KNOBS




Suitable for control levers and push/pull rods. Molded-in brass insert provides strength. Black phenolic plastic with brass insert.

| Dia. (In.) | Thread Size | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | #10-32 | CL-23-PTK | 4X498 | $1.24 | 0.1 |

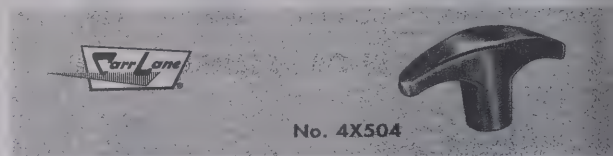
## TAPERED HANDLES




Heavy-duty tapped design used for grasp handle or machine shift lever. Molded-in brass insert provides superior thread strength. Black phenolic plastic with brass insert.

| Dia. (In.) | Thread Size | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 1/4"-20 | CL-1-PH | 4X481 | $1.69 | 0.1 |
| 1⅛ | 3/8-16 | CL-2-PH | 4X484 | 3.07 | 0.2 |
| 1⅜ | 1/2-13 | CL-3-PH | 4X501 | 4.72 | 0.1 |

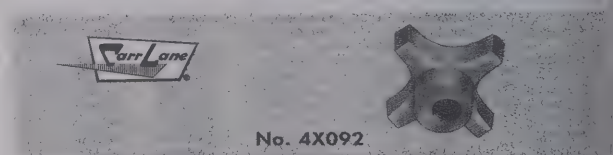
## T HANDLES




Molded-in brass insert provides superior thread strength. Black phenolic plastic with brass insert.

| Dia. (In.) | Thread Size (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2¼ | 1/4-20 | CL-432-TH | 4X504 | $1.01 | 0.1 |

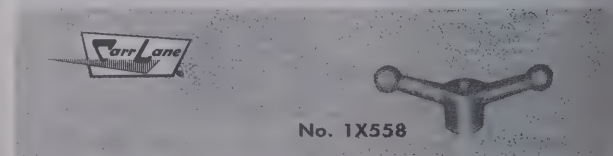
## QUICK-ACTING KNOBS




Heavy-duty, four-pronged quick-acting knob. Sintered iron, black oxide finish.

| Dia. (In.) | Thread Size (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 | 3/8-16 | CL-3-QAK | 4X092 | $4.85 | 0.2 |
| 2½ | 1/2-13 | CL-4-QAK | 4X093 | 5.97 | 0.3 |

## SPEED BALL HANDLES



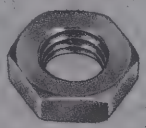

Speed handles that are weighted for quick turning. Long arm extensions provide leverage for hand tightening. Nodular iron per ASTM-A536 Class 65-45-12, zinc-plated clear chromate.

| Dia. (In.) | Thread Size | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 7/16 | 1/2-13 | CL-44-SBH | 1X558 | $8.34 | 0.8 |
| 6 | 5/8-11 | CL-64-SBH | 1X560 | 10.21 | 1.0 |
| 8 | 3/4-10 | CL-84-SBH | 1X564 | 12.68 | 2.0 |

# JAM FLANGE AND KNURLED NUTS, FLAT AND SPHERICAL WASHERS

## JAM NUTS

Additional sizes and models available



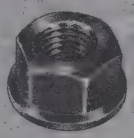
No. 4X311

igh-quality heavy jam nut. Mild steel, carburized-hardened, lack oxide finish.

| Thread Size | Height (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/8"-16 | 15/64 | CL-6-JN | 4X311 | $0.25 | 0.1 |
| 1/2-13 | 19/64 | CL-8-JN | 4X392 | 0.37 | 0.1 |
| 5/8-11 | 23/64 | CL-10-JN | 4X279 | 0.43 | 0.1 |
| 3/4-10 | 27/64 | CL-12-JN | 4X284 | 0.77 | 0.1 |

## FLANGE NUTS

Additional sizes and models available



No. 4X273

anged face provides large bearing surface to avoid damaging e part underneath, especially when clamping over a slot. ecision machined from one solid piece of steel for extra rength. 12L14 steel, carburized-hardened, black oxide finish.

| Thread Size | Height (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4-20 | 5/16 | CL-1-FN | 4X273 | $1.22 | 0.1 |
| 5/16-18 | 3/8 | CL-9-FN | 4X439 | 1.40 | 0.1 |
| 3/8-16 | 1/2 | CL-2-FN | 4X288 | 1.44 | 0.1 |
| 1/2-13 | 11/16 | CL-3-FN | 4X301 | 1.56 | 0.2 |
| 5/8-11 | 13/16 | CL-4-FN | 4X303 | 2.93 | 0.2 |
| 3/4-10 | 1 | CL-5-FN | 4X307 | 3.25 | 0.3 |
| -8 | 11/8 | CL-7-FN | 4X389 | 6.13 | 0.1 |

## KNURLED NUTS

Additional sizes available



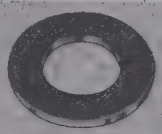
No. 4X263

avy lock nut can be tightened by hand or with extention rod /4" or 6mm diameter). Large contact surface. Also available in tric sixes. 12L14 steel, black oxide finish.

| Thread Size | Height (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4-20 | 7/16 | CL-0-KN | 4X263 | $2.22 | 0.1 |
| 3/8-16 | 7/16 | CL-1-KN | 4X277 | 2.31 | 0.1 |
| 1/2-13 | 7/16 | CL-2-KN | 4X297 | 2.68 | 0.1 |

## FLAT WASHERS

Additional sizes available



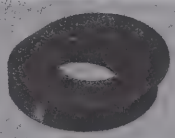
No. 5E702

Heavy-duty washer that is finished flat and parallel. Steel washer: 1010, carburized-hardened, black oxide finish. Stainless steel washer: 300-series.

| Fits Bolt Sizes | Height (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| #10 or M5 | 5/64 | CL-254 | 5E702 | $0.88 | 0.1 |
| 1/4" or M6 | 5/64 | CL-255 | 5E703 | 0.94 | 0.1 |
| 3/8 or M10 | 3/32 | CL-257 | 5E704 | 1.28 | 0.1 |
| 1/4 or M6 | 1/8 | CL-7-FW | 5E713 | 0.32 | 0.1 |
| 5/16 or M8 | 1/8 | CL-14-FW | 5E697 | 0.41 | 0.1 |
| 3/8 or M10 | 1/8 | CL-1-FW | 5E690 | 0.37 | 0.1 |
| 3/8 or M10 | 3/16 | CL-8-FW | 5E716 | 1.12 | 0.1 |
| 1/2 or M12 | 1/8 | CL-2-FW | 5E698 | 0.46 | 0.1 |
| 1/2 or M12 | 3/16 | CL-9-FW | 5E717 | 1.22 | 0.1 |
| 5/8 or M16 | 1/8 | CL-3-FW | 5E705 | 0.57 | 0.1 |
| 5/8 or M16 | 3/16 | CL-10-FW | 5E693 | 1.22 | 0.1 |
| 3/4 or M18 | 5/32 | CL-4-FW | 5E708 | 0.82 | 0.1 |
| 3/4 or M18 | 1/4 | CL-11-FW | 5E694 | 1.95 | 0.1 |
| 1 | 9/32 | CL-12-FW | 5E696 | 1.56 | 0.2 |

## SPHERICAL WASHERS

Additional sizes available



No. 5E692

Two-piece washer that compensates whenever a stud and clamp strap are not perpendicular. The top washer has a convex spherical radius, while the bottom washer has a matching concave spherical radius. 12L14 steel, carburized-hardened, black oxide finish.

| Fits Bolt Sizes | Height (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4" & M6 | 3/16 | CL-1-SW | 5E692 | $1.58 | 0.1 |
| 5/16 & M8 | 1/4 | CL-11-SW | 5E695 | 2.06 | 0.1 |
| 3/8 & M10 | 5/16 | CL-2-SW | 5E701 | 1.90 | 0.1 |
| 1/2 & M12 | 5/16 | CL-3-SW | 5E707 | 2.63 | 0.1 |
| 5/8 & M16 | 5/16 | CL-4-SW | 5E710 | 3.09 | 0.1 |
| 3/4 & M18 | 3/8 | CL-5-SW | 5E712 | 3.54 | 0.2 |
| 1 & M24 | 1/2 | CL-7-SW | 5E714 | 5.45 | 0.3 |

## SPHERICAL NUTS AND WASHERS

Additional sizes available



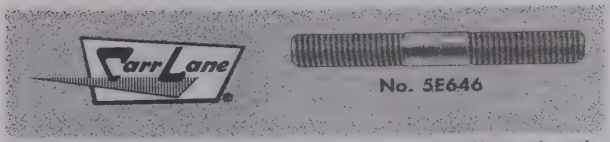
No. 5E700

Combination nut and washer that compensates whenever a stud and clamp strap are not perpendicular. The nut has a convex spherical radius, while the washer has a matching concave spherical radius. 12L14 steel, carburized-hardened, black oxide finish.

| Thread Size | Hex Size (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/8"-16 | 11/16 | CL-2-SNW | 5E700 | $2.84 | 0.1 |
| 1/2-13 | 7/8 | CL-3-SNW | 5E706 | 3.46 | 0.2 |
| 5/8-11 | 1 1/16 | CL-4-SNW | 5E709 | 4.03 | 0.3 |
| 3/4-10 | 1 1/4 | CL-5-SNW | 5E711 | 5.72 | 0.4 |

# STUDS, COUPLING NUT, T-NUTS, EYE AND SWING BOLTS, CAMS, HALF-TURN SCREWS

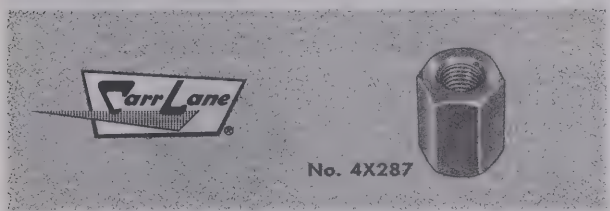
## STUDS




High-strength clamping stud, available in many different lengths (other lengths readily available as specials). 1144 steel, 115,000 psi min. tensile strength, black oxide finish.

| Thread Size (In.) | Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/8-16** | 3.00 | CL-3/8-16x3.00 | **5E646** | **$1.25** | 0.1 |
| **3/8-16** | 3.50 | CL-3/8-16x3.50 | **5E647** | **1.29** | 0.1 |
| **1/2-13** | 2.50 | CL-1/2-13x2.50 | **5E639** | **1.29** | 0.1 |
| **1/2-13** | 3.00 | CL-1/2-13x3.00 | **5E640** | **1.37** | 0.2 |
| **1/2-13** | 3.50 | CL-1/2-13x3.50 | **5E641** | **2.45** | 0.2 |
| **1/2-13** | 4.00 | CL-1/2-13x4.00 | **5E642** | **1.42** | 0.2 |
| **1/2-13** | 5.00 | CL-1/2-13x5.00 | **5E643** | **1.53** | 0.2 |
| **1/2-13** | 6.00 | CL-1/2-13x6.00 | **5E644** | **1.58** | 0.3 |
| **5/8-11** | 4.00 | CL-5/8-11x4.00 | **5E648** | **1.29** | 0.3 |
| **5/8-11** | 5.00 | CL-5/8-11x5.00 | **5E649** | **1.32** | 0.4 |
| **5/8-11** | 6.00 | CL-5/8-11x6.00 | **5E645** | **2.18** | 0.4 |

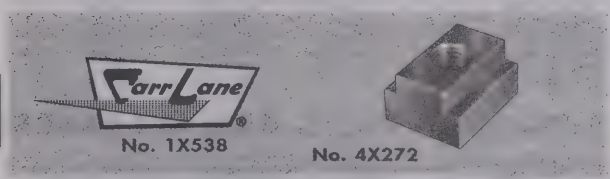
## COUPLING NUT




For joining two or more studs together to create an extra-long stud. 12L14 steel, carburized hardened, black oxide finish.

| Thread Size | Height (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/2-13** | 1-1/4 | CL-2-CN | **4X287** | **$2.42** | 0.2 |

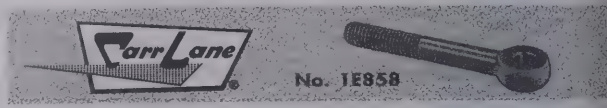
## T-NUTS




Sizes for all standard machine tables. Safety-stop feature prevents breaking the machine-table slot. Threads stop one short of going through T-nut to prevent a stud from jacking the nut out of the table. Also available in metric sizes and in T-nut and stud sets. Mild steel, carburized-hardened, black oxide finish.

| Table Slot Size | Thread Size | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **7/16"** | 3/8-16 | CL-00-TN | **4X272** | **$1.80** | 0.1 |
| **12mm** | 3/8-16 | CL-12-TN | **4X285** | **2.22** | 0.1 |
| **1/2"** | 3/8-16 | CL-0-TN | **4X269** | **1.80** | 0.1 |
| **9/16 or 14mm** | 3/8-16 | CL-1-TN | **4X278** | **2.06** | 0.1 |
| **9/16 or 14mm** | 1/2-13 | CL-9-TN | **4X479** | **2.25** | 0.1 |
| **5/8 or 16mm** | 1/2-13 | CL-2-TN | **4X300** | **2.31** | 0.1 |
| **11/16 or 18mm** | 1/2-13 | CL-3-TN | **4X302** | **2.77** | 0.2 |
| **11/16 or 18mm** | 5/8-11 | CL-10-TN | **4X281** | **2.82** | 0.2 |
| **3/4** | 5/8-11 | CL-4-TN | **4X305** | **2.93** | 0.2 |
| **13/16** | 5/8-11 | CL-5-TN | **4X309** | **4.38** | 0.4 |
| **13/16** | 3/4-10 | CL-11-TN | **4X282** | **4.90** | 0.4 |

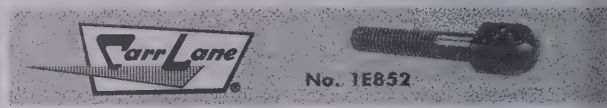
## EYE BOLTS




High-strength, fully machined eye bolt. Reamed hole for smooth bearing. 1144 steel, 115,000 psi min. tensile strength, black oxide finish.

| Thread Size (In.) | Ream (In.) | Length From Ream Center (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4-20** | 3/16 | 2 | CL-25-EB | **1E858** | **$4.08** | 0.1 |
| **1/4-20** | 3/16 | 3 | CL-26-EB | **1E860** | **4.81** | 0.1 |
| **5/16-18** | 1/4 | 3 | CL-31-EB | **1E864** | **6.13** | 0.1 |
| **3/8-16** | 5/16 | 3 | CL-38-EB | **1E872** | **5.73** | 0.1 |
| **3/8-16** | 3/8 | 3 | CL-40-EB | **1E876** | **5.82** | 0.1 |
| **3/8-16** | 3/8 | 3¾ | CL-37-EB | **1E866** | **6.44** | 0.1 |
| **3/8-16** | 3/8 | 5 | CL-39-EB | **1E874** | **7.12** | 0.2 |
| **1/2-13** | 3/8 | 3¾ | CL-50-EB | **1E878** | **7.81** | 0.3 |
| **1/2-13** | 3/8 | 5 | CL-51-EB | **1E880** | **10.67** | 0.4 |
| **5/8-11** | 5/8 | 4½ | CL-62-EB | **1E882** | **10.64** | 0.4 |
| **5/8-11** | 5/8 | 6 | CL-63-EB | **1E884** | **12.43** | 0.6 |

## SWING BOLTS




Shoulder-type eye bolt that can be used as a stationary hing point. Reamed hole for smooth bearing. 1144 steel, 115,000 ps min. tensile strength, black oxide finish.

| Thread Size (In.) | Ream (In.) | Length From Ream Center (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4-20** | 1/4 | 5/16 | CL-00-SB | **1E852** | **$4.01** | 0.1 |
| **3/8-16** | 3/8 | 1/2 | CL-1-SB | **1E854** | **5.70** | 0.1 |
| **1/2-13** | 1/2 | 5/8 | CL-2-SB | **1E856** | **7.78** | 0.1 |
| **1/2-13** | 1/2 | 5/8 | CL-2A-SB | **1E862** | **8.31** | 0.1 |

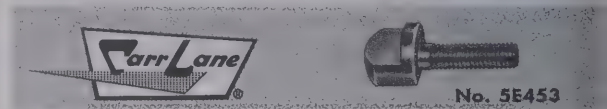
## DOUBLE CAMS




Straddle-type cam handle that can be used with an eyebolt o custom-made drawbar. Continuous-rise spiral cam locks secure ly in any position. Also available in metric sizes. 1020 steel, ca burized-hardened, black oxide finish.

| Matching Eyebolt Size | Hole Dia. (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/4-20** | 3/16 | CL-11-CH | **1X538** | **$11.22** | 0.2 |
| **3/8-16** | 5/16 | CL-12-CH | **1X542** | **14.08** | 0.4 |
| **1/2-13** | 3/8 | CL-13-CH | **1X544** | **17.64** | 0.8 |

## HALF-TURN SCREWS




Rotate screw 180° (1/2 turn) to latch. Allows latching swing-awa lids and jig plates without machining a slot. 12L14 steel, carbu ized-hardened, black oxide finish.

| Thread Size (In.) | Length (In.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/4-20** | 2 | CL-2-HTS | **5E453** | **$5.82** | 0.1 |

## SAFETY HOIST RINGS

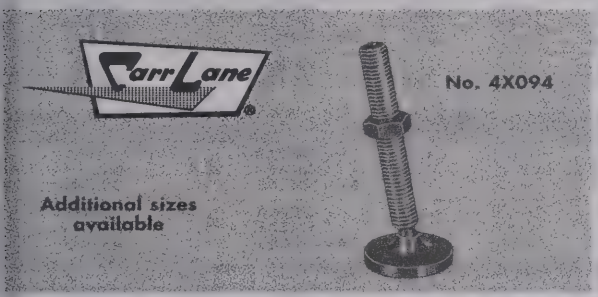



›rged base rotates 360° while solid-loop forged ring pivots to low lifting from any direction. Base: forged 1045 steel, black ide finish. Ring: forged 4130 steel, heat treated, magnafluxed r MIL-STD-1949, black oxide finish.

| Load ating (Lbs.)* | Installation Torque (Ft.-Lbs.) | Replacement Shoulder Screw | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1000** | 7-10 | CL-10-SHRB | CL-10-SHR | **4R966** | **$33.60** | 0.6 |

Safety Factor = 5:1

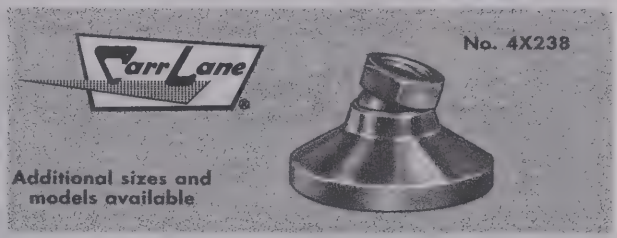
## JIG FEET LEVELING




›dium-duty leveling foot with removable pad. Lefthand thread pad prevents backout while pad rotates and pivots freely. tent No. 2,531,892. Screw: 12L14 steel, carburized-hardened, ıc plated yellow chromate. Foot: 12L14 steel, zinc plated yel- w chromate.

| Thread Size (In.) | Load Rating (Lbs.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/2-13** | 1,400 | CL-1-JFL | **4X094** | **$7.08** | 0.3 |
| **1/2-13** | 430 | CL-2-JFL | **4X213** | **8.40** | 0.4 |
| **5/8-11** | 1,200 | CL-4-JFL | **4X226** | **9.52** | 0.7 |
| **3/4-10** | 1,800 | CL-6-JFL | **4X237** | **17.23** | 1.1 |
| **1 - 8** | 6,400 | CL-8-JFL | **4X246** | **30.95** | 2.4 |

## LEVELING FEET




Heavy-duty leveling foot with large-diameter pad. Available in steel, steel with a Delrin® pad, or stainless steel. Steel 12L14, carburized-hardened (body only), zinc plated yellow chromate.

| Thread Size (In.) | Load Rating (Lbs.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/8-16** | 2,300 | CL-6-LF | **4X238** | **$7.85** | 0.2 |
| **1/2-13** | 4,200 | CL-8-LF | **4X259** | **10.39** | 0.4 |
| **5/8-11** | 6,600 | CL-10-LF | **4X095** | **14.72** | 0.7 |
| **3/4-10** | 10,000 | CL-12-LF | **4X099** | **20.37** | 1.4 |

## STUD LEVELING FEET




Heavy-duty leveling foot with large-diameter pad and integral stud. Stud and ball are one solid piece. 12L14 steel, carburized-hardened (body only), zinc plated yellow chromate.

| Thread Size (In.) | Load Rating (Lbs.) | Carr Lane Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/8-16** | 2,300 | CL-6-SLF | **4X243** | **$9.20** | 0.3 |
| **1/2-13** | 4,200 | CL-8-SLF | **4X261** | **12.52** | 0.6 |
| **5/8-11** | 6,600 | CL-10-SLF | **4X096** | **17.92** | 1.0 |
| **3/4-10** | 10,000 | CL-12-SLF | **4X170** | **13.71** | 1.8 |
| **1 - 8** | 180,000 | CL-16-SLF | **4X197** | **21.58** | 4.0 |

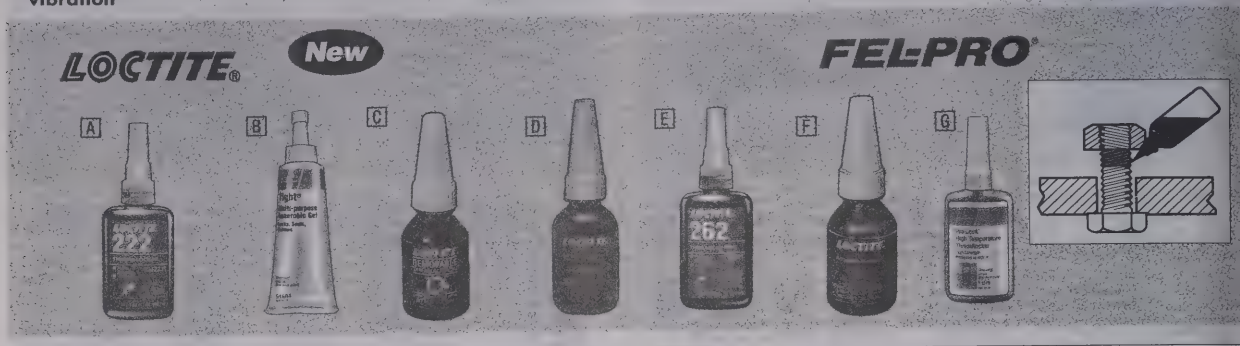
DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# THREADLOCKERS

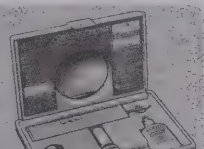
- Fills the gaps between threads and mates surfaces to form solid, one-part assembly
- Locks and seals while preventing parts loosening due to vibration
- Protects threads from corrosion
- Provides superior locking security over conventional lockwashers

LOCTITE® New FEL-PRO®




| Key | Description | Size | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | **GENERAL PURPOSE STRENGTH THREADLOCKERS** | | | | | | | |
| A | Threadlocker 222MS<br>For locking all fasteners 1/4" or smaller<br>Removable with hand tools | 10 ml<br>50 ml<br>250 ml | Loctite<br>Loctite<br>Loctite | 22221<br>22231<br>22241 | **5E212**<br>**5E213**<br>*New* **4KL28** | $11.34<br>28.95<br>105.65 | **$8.95▲**<br>**24.25▲**<br>**88.60▲** | 0.1<br>0.2<br>0.8 |
| B | Tight® Multi-Purpose Gel<br>Seals, locks, and retains up to 300°F<br>Designed to simplify thread locking. Removable with hand tools | 6 ml<br>50 ml | Fel-Pro<br>Fel-Pro | 51624<br>51604 | **4KM85**<br>**2A274** | 6.20<br>20.52 | **5.89**<br>**19.55** | 0.2<br>0.2 |
| | **MEDIUM STRENGTH THREADLOCKERS** | | | | | | | |
| C | Threadlocker 242®<br>Locking nuts and bolts up to 3/4"<br>Removable with hand tools | 10 ml<br>50 ml<br>250 ml | Loctite<br>Loctite<br>Loctite | 24221<br>24231<br>24241 | **5A228**<br>**2A269**<br>*New* **4KL40** | 11.34<br>28.00<br>105.65 | **8.95▲**<br>**24.25▲**<br>**88.60▲** | 0.1<br>0.2<br>0.8 |
| D | Threadlocker 290<br>Formulated for locking pre-assembled fasteners<br>Penetrates by capillary action, no disassembly required | 10 ml<br>50 ml<br>250 ml | Loctite<br>Loctite<br>Loctite | 29021<br>29031<br>29041 | **5E216**<br>**5E217**<br>*New* **4KL55** | 11.34<br>28.95<br>105.65 | **8.95▲**<br>**24.25▲**<br>**88.60▲** | 0.1<br>0.2<br>0.8 |
| | **HIGH STRENGTH THREADLOCKERS** | | | | | | | |
| E | Threadlocker 262<br>Locking bolts up to 3/4". For extreme environmental, chemcial conditions, heavy shock and vibration applications<br>Permanent strength requires heat and/or special tools for removal | 10 ml<br>50 ml<br>250ml | Loctite<br>Loctite<br>Loctite | 26221<br>26231<br>26241 | **5E214**<br>**5E215**<br>*New* **4KL49** | 11.34<br>28.95<br>105.65 | **8.95▲**<br>**24.25▲**<br>**88.60▲** | 0.1<br>0.2<br>0.8 |
| F | Threadlocker 271™<br>For fasteners up to 1" diameter, bolts, studs and press fits<br>Requires extra effort or special tools for removal | 10 ml<br>50 ml<br>250 ml | Loctite<br>Loctite<br>Loctite | 27121<br>27131<br>27141 | **5A230**<br>**5A231**<br>*New* **4KL50** | 11.34<br>28.95<br>105.65 | **8.95▲**<br>**24.25▲**<br>**88.60▲** | 0.1<br>0.2<br>0.8 |
| G | Hi-Temp Threadlocker<br>For locking studs and coarse bolts against severe shock, vibrations and temperature<br>Temperature resistance to 450° F | 50 ml | Fel-Pro | 51574 | **4KM82** | 28.46 | **27.05** | 0.2 |

LOCTITE®



No. 5A234

## O-RING SPLICING KIT

- Make any size O-ring in seconds
- Kit includes 3 ft. each of 3/32, 1/8, 3/16 and 1/4" Buna N cord stock, cutting blade, O-ring fixture, Quick Set™ adhesive, Clean-Up solvent, waterproofing solution
- Loctite brand

**No. 5A234.** Shpg. wt. 2.0 lbs. List $61.06. Each.....**$57.70**

## LUBRI-SIL™ SILICONE LUBRICANT

- O-ring lubricant
- Seals, protects and electrically insulates
- Use waterproof paste as an excellent rubber and plastic lubricant
- Dielectric grease
- Fel-Pro brand (51360G)

**No. 5E201.** 5.3 Oz. Tube. Shpg. wt. 0.4 lbs. List $11.12. Each .....**$10.59**

FEL-PRO®



No. 5E201

# RETAINING COMPOUNDS




## QUICK SELECTION GUIDE

**pplication: Shaft Mount, Press Fit**
se Stock Nos. 4KM29, 4KM30, 4KM31, 2A270, 5A451 or 4KM83

**pplication: Shaft Mount, Slip Fit**
nall Gap (up to 0.005"): Nos. 5A451, 2A270, 4KM83, 4KM29, KM30 or 4KM31
rger Gap (up to 0.020"): Nos. 5E227 or 2A274 (see page 1780)
ax. Strength (up to 0.015"): Nos. 4KM40 or 4KM41
ax. Temp. (450° F up to 0.015"): Nos. 4KM32, 4KM33, 4KM34, KM83, 2A270 or 5A451

**Application: Housing Mount, Press Fit**
Max. Strength: 5A451, 2A270, 4KM83, 4KM29, 4KM30 or 4KM31
Low Strength: Nos. 4KL40, 5A228 or 2A269 (see page 1780)

**Application: Housing Mount, Slip Fit**
Max. Strength: Nos. 5A451, 2A270, 4KM40, 4KM41 or 4KM83
High Strength: No. 5E227
Controlled Strength: No. 5E227
Low Strength: Nos. 4KL40, 5A228, 2A269 or 2A274 (see page 1780)

| ey | Description | Strength (PSI) Cure (hrs) | Max. Temp. (°F) | Size | Mfr. | Mfr. Model | | Stock No. | Each | Lots/ Qty. | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Retaining Compound 609<br>Low viscosity, fast cure for rigid metal assemblies | 3000 / 24 hrs. | 300 | 10 ml<br>50 ml<br>250 ml | Loctite<br>Loctite<br>Loctite | 60921<br>60931<br>60941 | <br><br>*New* | **4KM29**<br>**4KM30**<br>**4KM31** | **$10.49**<br>**26.80**<br>**100.65** | **$9.44 /10**<br>**24.12 /10**<br>**76.98 /10** | 0.1<br>0.2<br>0.8 |
| B | Retaining Compound 620<br>High temp. bond for cylindrical parts with up to .015" gap | 3800 / 24 hrs. | 450 | 10 ml<br>50 ml<br>250 ml | Loctite<br>Loctite<br>Loctite | 62015<br>62040<br>62070 | <br><br>*New* | **4KM32**<br>**4KM33**<br>**4KM34** | **12.46**<br>**31.15**<br>**110.30** | **11.21 /10**<br>**28.04 /10**<br>**84.35 /10** | 0.1<br>0.2<br>0.8 |
| C | Retaining Compound 680<br>High strength bond for cylindrical parts with up to .015" gap | 4000 / 24 hrs. | 300 | 10 ml<br>50 ml | Loctite<br>Loctite | 68015<br>68035 | | **4KM40**<br>**4KM41** | **12.62**<br>**31.15** | **11.36 /10**<br>**28.04 /10** | 0.1<br>0.2 |
| D | Retaining Compound<br>Restores fit to worn assemblies<br>High Temperature Retainer | 3000 / 24 hrs.<br>3000 / 24 hrs.<br>2500 / 24 hrs. | 300<br>300<br>450 | 10 ml<br>50 ml<br>50 ml | Fel-Pro<br>Fel-Pro<br>Fel-Pro | 51432<br>51434<br>51576 | <br><br>*New* | **5A451**<br>**2A270**<br>**4KM83** | **9.05**<br>**25.50**<br>**27.05** | **8.15 /6**<br>**22.94 /6**<br>**24.33 /6** | 0.1<br>0.2<br>0.2 |
| E | QUICK METAL®<br>Non-run paste for cylindrical parts, surface imperfections<br>Fills gaps up to .020", restores worn assemblies | 3000 / 24 hrs. | 300 | 50 ml | Loctite | 66040 | | **5E227** | **32.45** | **29.21 /10** | 0.2 |

## PRIMER-T CURING AEROSOL

**Recommended for use with anaerobic threadlockers, retaining compounds and pipe sealants**
**Improves cure speed and adhesive bond strength**
**Cleans bonding surfaces, provides curing of inactive surfaces**
**138° F Flash Point TCC**
**Loctite brand (22477)**

**3HV17.** Shpg. wt. 0.7 lbs. List $26.69. Each.....**$24.02**

## PRO LOCK CLEANER/PRIMER ACCELERATOR

**Activator/degreaser cleans anaerobic bonding surfaces**
**Speeds the cure of anaerobics**
**Meets MIL-S-22473-E Primer N, Primer T and MIL-S-46163 Primer F certified upon request**
**Fel-Pro brand (51481)**

**4KM81.** Shpg. wt. 1.0 lbs. List $11.76. Each.....**$11.17**

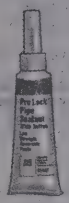



No. 3HV17
Primer-T Curing Aerosol

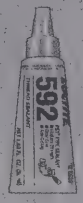
No. 4KM81
Cleaner/Primer Accelerator

# THREAD SEALANTS FOR PIPE AND FITTINGS

LOCTITE® New FEL-PRO® PERMATEX® INDUSTRIAL



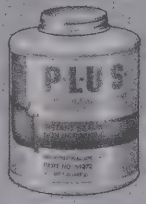

A No. 5A236



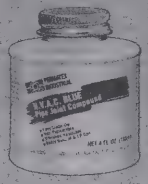

B No. 4KM24




C No. 5A237




D No. 4KM76




E No. 5E219




F No. 4KM86

### A PRO LOCK® PIPE SEALANT WITH TEFLON®,

- Instant sealing and chemical resistance for all sizes of threaded pipe
- Higher lubricity for stainless, galvanized, and difficult-to-assemble metal fittings
- Withstands temperatures to 400°F; for high pressure applications

### B THREAD SEALANT PST® 592®

- Controlled curing for difficult-to-assemble metal fittings
- Excellent solvent resistance, withstands high pressures

### C PNEUMATIC/HYDRAULIC SEALANT 545

- Won't foul hydraulic systems
- Used to lock and seal hydraulic and pneumatic fittings
- Disassemble with hand tools
- Withstands temps. of -65 to 300°F

### D PLUS PIPE SEALANT WITH TEFLON®

- Maximum thread engagement
- Provides lubrication to all metals
- UL listed
- Teflon-filled, solvent-free
- Seals, protects metal and plastic threaded joints

### E HVAC BLUE PIPE JOINT COMPOUND

- A tough, pliable sealant is resistant to loosening by thermal expansion; seals oily fittings for heating, air conditioning and refrigeration applications
- Non-flammable, non-corrosive, soap and water clean up
- Withstands temps. of -65 to 400°F

### F PIPE REPAIR KIT

- Easy-to-use kit
- On-site repairs made in minutes
- Use on metal, plastic, and composite pipes

| Key | Description | Size | Mfr. | Mfr. Model | | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Stainless Steel PST 567 Sealant with Teflon® | 50 ml. tube | Loctite | 56747 | | **5A236** | $16.84 | **$15.16** | **$13.64 /10** | 0.2 |
| | Stainless Steel PST 567 Sealant with Teflon® | 250 ml. tube | Loctite | 56765 | | **4KM17** | 57.39 | **51.65** | **46.49 /10** | 0.8 |
| | Pro Lock® Sealant for Stainless | 250 ml tube | Fel-Pro | 51598 | | **4KM84** | 48.02 | **45.65** | **41.09 / 4** | 0.8 |
| | Pro Lock® Pipe Sealant with Teflon | 50 ml. tube | Fel-Pro | 51462 | | **2A268** | 13.24 | **12.24** | **11.02 / 6** | 0.2 |
| | Pro Lock® Pipe Sealant with Teflon | 250 ml tube | Fel-Pro | 51464 | | **4KM80** | 43.57 | **41.40** | **37.26 / 4** | 0.8 |
| B | Slow Cure Thread Sealant PST 592® | 50 ml. tube | Loctite | 59231 | | **4KM24** | 12.83 | **11.55** | **10.40 /10** | 0.2 |
| | Slow Cure Thread Sealant PST 592 | 250 ml. tube | Loctite | 59241 | *New* | **4KM25** | 43.93 | **40.70** | **32.87 /10** | 0.8 |
| C | Pneumatic/Hydraulic Sealant 545 | 50 ml. tube | Loctite | 54531 | | **5A237** | 28.95 | **26.80** | **24.09 /10** | 0.2 |
| D | PLUS Pipe Thread Sealant w/Teflon | 4 oz. Brush top can | Fel-Pro | 51370 | | **4KM79** | 6.24 | **6.12** | **5.50 / 6** | 0.8 |
| | PLUS Pipe Thread Sealant w/Teflon | 8 oz. Brush top can | Fel-Pro | 51371 | | **4KM75** | 10.14 | **9.63** | **8.67 / 6** | 1.3 |
| | PLUS Pipe Thread Sealant w/Teflon | 1 lb. Brush top can | Fel-Pro | 51372 | | **4KM76** | 16.34 | **15.52** | **13.97 / 6** | 2.3 |
| E | HVAC Blue Pipe Joint Compound | 1/4 pint jar | Permatex | 82480 | | **5E219** | 4.21 | **3.79** | **3.50 /12** | 0.5 |
| F | Pipe Repair Tape Kit | 2" x 6' tape | Fel-Pro | 96321 | | **4KM86** | 34.60 | **32.90** | **29.61 / 6** | 0.7 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# PIPE, FLANGE, AND VALVE SEALANTS

## TFE™ PIPE SEALANT w/ TEFLON®

**Paste type, non-toxic**

**General purpose pipe sealant**

**Sealing temperatures: -200°F to +500°F**

## POLY-TEMP™ TEFLON TAPE

**99.9% pure, high density, DuPont® Teflon**

**Chemically inert for all services**

**Seals to 10,000 PSI liquid; 2000 PSI gas**

**Meets UL standards, MIL SPEC. T-27703A**

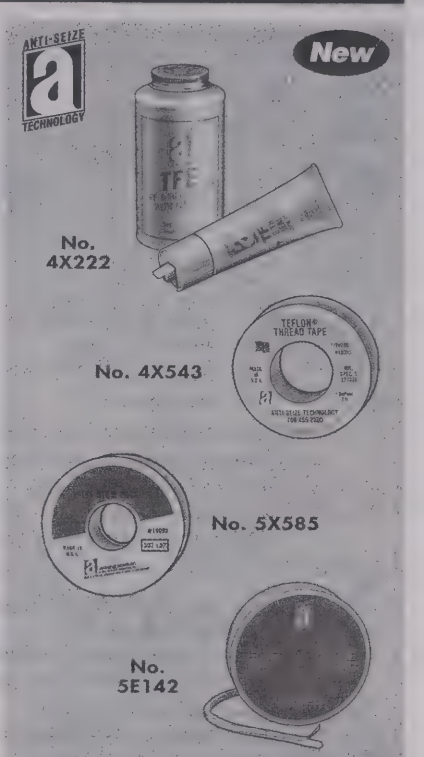
## POLY-TEMP™ VSP VALVE STEM PACKING

- **Pure PTFE for long service life**
- **Inert to all common chemicals**
- **Temperatures to +500°F and pressures to 500 PSI**

## POLY-TEMP™ JOINT PTFE JOINT SEALANT

- **Instant flange gasket material**
- **Soft, pliable, tough; will not deteriorate; resists common chemicals**
- **Temperatures from -450° to +600°F**
- **Pressure to 3000 PSI**
- **100% expanded PTFE**

| Description | Size | AST Model | | Stock No. | List | Each | Lots/ Qty. | Qty./ Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| TFE™ Pipe sealant w/ Teflon® | 3 fl. oz. tube | 14003 | | 5X998 | $12.00 | $8.40 | $7.14 | 10 / carton | 0.3 |
| | 8 fl. oz. brush top | 14012 | | 4X222 | 23.16 | 16.29 | 13.85 | 6 / carton | 0.8 |
| | 16 fl. oz. brush top | 14018 | *New* | 4UJ90 | 11.85 | 9.90 | 9.41 | 6 / carton | 1.3 |
| POLY-TEMP™ Teflon® Tape | 1/2" x 260" | 16030 | | 4X227 | 1.88 | 1.05 ▲ | — | 12 / box | 0.1 |
| | 1/2" x 520" | 16035 | | 4X543 | 3.67 | 1.99 ▲ | — | 12 / box | 0.1 |
| | 3/4" x 520" | 16050 | | 5X584 | 6.74 | 2.96 ▲ | — | 6 / box | 0.1 |
| POLY-TEMP™ Teflon® Tape, Bulk Pkg | 1/2" x 260", 200/cs | 16030B | *New* | 4UJ91 | 208.00 | 172.00 | — | 200 / carton | 8.0 |
| | 1/2" x 520", 200/cs | 16035B | *New* | 4UJ92 | 296.00 | 246.00 | — | 200 / carton | 10.0 |
| | 3/4" x 520" 200/cs | 16050B | *New* | 4UJ93 | 466.00 | 388.00 | — | 200 / carton | 15.0 |
| POLY-TEMP™ VSP Valve Stem Packaging | 3/32" x 240" | 19093 | | 4X773 | 14.56 | 12.79 | 10.87 | 1 / pkg | 0.2 |
| | 5/32" x 120" | 19155 | | 5X585 | 20.95 | 14.65 | 12.45 | 1 / pkg | 0.2 |
| | 7/32" x 84" | 19217 | | 5X720 | 26.18 | 18.89 | 16.06 | 1 / pkg | 0.3 |
| POLY-TEMP™ Joint PTFE Joint Sealant | 1/4" x 50' | 28007 | *New* | 4UK01 | 91.30 | 77.30 | — | 1 / box | 2.0 |
| | 3/8" x 25' | 28010 | | 5E141 | 68.78 | 65.50 | 55.68 | 1 / box | 0.8 |
| | 1/2" x 15' | 28014 | | 5E142 | 68.78 | 65.50 | 55.68 | 1 / box | 1.0 |
| | 3/4" x 15' | 28020 | | 5E143 | 127.46 | 121.40 | 103.18 | 1 / box | 0.8 |
| | 1" x 15' | 28025 | *New* | 4UK02 | 239.50 | 226.00 | — | 1 / box | 4.0 |




## SOF-SET™ SEALANT

**Dries to a soft set, brushes on easily**
**Pressures to 10,000 PSI liquid, 2600 PSI gas**
**Sealing temperatures to 400°F (204°C)**
**Use on metal, PVC, ABS, and CPVC pipe for water, steam, LP and natural gas, refrigerants, ammonia, fuel oils and hydraulic oil**

## POLY-TEMP® GAS YELLOW GAS LINE TAPE

**Extra heavy-duty Teflon® thread seal tape**
**Meets FDA and USDA requirements**
**UL Listed in USA and Canada**
**Meets the new Mil. Spec.-A-A-58092**
**Certified by A.G.A.,Made in U.S.A.**
**Pressures to 10,000 PSI**
**Temperatures to 500°F (260°C)**

## AST-PUT™ PLUMBERS PUTTY

- **For setting fixtures, faucets, bowls, basin cocks, strainers and other sealing and caulking applications**
- **Meets Federal Spec. TT-P-1536A**
- **Mold and mildew resistant**

## AST-PPD™ PLUMBERS PIPE DOPE

- **For all metal pipe and valves**
- **Non-toxic, safe for all water systems**
- **Temperature: to 400°F (204°C)**
- **Pressure: gases up to 1000 PSI, liquids up to 2000 PSI**
- **Contains no lead or silicone**

| Description | Size | AST Model | *New!* Stock No. | List | Each | Qty./ Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| OF-SET™ Pipe Sealant | 1/2 pt. brush top | 29010 | 4UK03 | $8.65 | $7.20 | 6/ctn | 0.8 |
| | 1 pt. brush top | 29018 | 4UK04 | 12.25 | 10.20 | 6/ctn | 1.7 |
| OLY-TEMP™ GAS Yellow Gas ne Tape | 1/2" x 260" | 46330 | 4UK05 | 2.25 | 1.85 | 12/bx | 0.1 |
| | 1/2" x 260' | 46335 | 4UK06 | 2.80 | 2.35 | 6/bx | 0.1 |
| | 3/4" x 520" | 46350 | 4UK07 | 4.45 | 3.15 | 6/bx | 0.1 |
| ST-PUT™ Plumbers Putty | 14 oz. Tub | 25201 | 4UJ96 | 1.50 | 1.15 | 24/ctn | 1.0 |
| | 5 Lb. Tub | 25205 | 4UJ97 | 6.75 | 5.35 | 6/ctn | 5.3 |
| ST-PPD™ Plumbers Pipe Dope | 1/2 pt. brush top | 25108 | 4UJ94 | 2.95 | 1.70 | 6/ctn | 1.0 |
| | 1 pt. brush top | 25118 | 4UJ95 | 4.75 | 3.10 | 6/ctn | 2.0 |



# GASKETS AND FLANGE SEALANTS

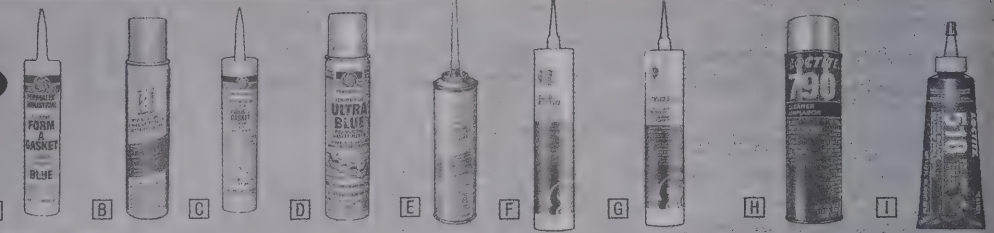
LOCTITE®

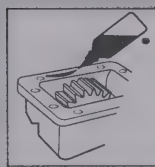
PERMATEX® INDUSTRIAL

ANTI-SEIZE TECHNOLOGY

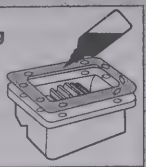
New

GE Silicones



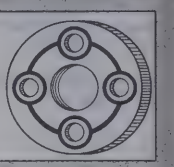



- Silicone gasketing products are best suited for large gap assemblies where flange flexing occurs



- Anaerobic gasketing products are best suited for small gap applications and rigid metal to metal assemblies

- Solvent based gasketing products serve as a liquid sealant, dressing and coating



## A RIGHT STUFF™ INSTANT GASKET

- Blow-out resistant; outperforms pre-cut gaskets
- Provides low pressure, instant seal in one minute

## B C D RTV SILICONE GASKETS

- Reliable "formed-in-place" gaskets resist cracking, shrinking, migrating
- Makes gaskets, fills gaps to 0.25" between mating parts
- Resists auto and shop fluids
- Coats pre-cut gaskets to increase reliability

## E AST-RTV™ SILICONE SEALANT

- General purpose adhesive/sealant
- Use for sealing, bonding, caulking, waterproofing and insulating
- Cures without shrinkage, seals against oil, water and antifreeze

## F HEAVY-BODIED INDUSTRIAL ADHESIVE SEALANT

- High strength sealing and bonding, excellent oil resistance
- For heavy-duty formed-in-place gasketing applications
- Easy application and quick set-up time

## G HIGH PERFORMANCE INDUSTRIAL ADHESIVE SEALANTS®

- High strength sealing and bonding for high temperature applications
- Room temperature curing for easy application and quick set-up time
- Excellent for in-place gasketing
- Seal out dirt, dust, moisture and environmental contaminants

## H CHISEL® 790 GASKET REMOVER

- Reduces scraping and sanding; prevents damage to flanges
- Prepares metal parts for new gasket and assembly
- Works on all types of gasketing adhesives and sealants

## I MASTER GASKET® KIT

- Anaerobic product ideal for use in place of cut gaskets
- Seals to 300°F (149°C) and fills gaps to 0.050" with primer
- Forms a flexible solvent-resistnat seal
- Includes primer

| Key | Description | Size | Mfr. | Mfr. Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Right Stuff™ Instant Gasket<br>Eight feet of gasket in every ounce<br>Leak proofs gaskets in one minute | 4 oz. tube dispenser<br>7 oz. tube dispenser | Permatex<br>Permatex | 25223<br>25224 | **4KL46**<br>**4KL47** | $15.89<br>19.94 | **$15.18**<br>**18.94** | **$13.60/6**<br>**17.95/6** | 0.5<br>0.8 |
| B | Blue RTV Silicone<br>General purpose gasketing temperature range -65°F to 450°F | 3 oz. tube<br>11 oz. cart.<br>12 oz. tube<br>8 oz. tube dispenser<br>8 oz. press. can | Permatex<br>Permatex<br>Permatex<br>Permatex<br>Anti-Seize | 80627<br>80628<br>80023<br>81860<br>27807 | **5E220**<br>**5E221**<br>**5E222**<br>**4KM58**<br>**5E146** | 4.17<br>14.55<br>17.20<br>12.75<br>10.61 | **4.02**<br>**13.96**<br>**16.46**<br>**12.30**<br>**10.10** | **3.61/12**<br>**12.55/12**<br>**14.82/12**<br>**11.05/6**<br>**8.59/6** | 0.3<br>0.9<br>0.9<br>0.8<br>0.7 |
| C | Red RTV Silicone<br>Heavy-duty gasketing under high temperature applications (-75°F to 600°F) | 3 oz. tube<br>11 oz. cartridge<br>8 oz. press. can<br>8 oz. tube dispenser | Permatex<br>Permatex<br>Anti-Seize<br>Permatex | 81160<br>81409<br>27805<br>81915 | **5E223**<br>**5E224**<br>**5E144**<br>**4KM63** | 5.73<br>15.38<br>11.96<br>13.10 | **5.50**<br>**12.10** ▲<br>**11.39**<br>**12.42** | **4.96/12**<br>—<br>**9.68/6**<br>**11.71/12** | 0.3<br>0.9<br>0.7<br>0.9 |
| D | Ultra Blue® RTV Silicone<br>High performance gasketing adheres to oily surfaces<br>Temp. range -75°F to 500°F | 3.35 oz. tube<br>13 oz. cartridge | Permatex<br>Permatex | 81724<br>81725 | **5E225**<br>**4KM57** | 5.77<br>14.95 | **5.54**<br>**14.50** | **4.99/12**<br>**13.15/12** | 0.3<br>1.0 |
| E | AST-RTV™ General Purpose Silicone<br>Adhesive/Sealant/Instant Gasket<br>Temp. range -85°F to 450°F | 8 oz. press. can<br>8 oz. press. can<br>8 oz. press. can | Anti-Seize<br>Anti-Seize<br>Anti-Seize | 27086<br>27084<br>27089 | **5E145**<br>***New* 4UJ98**<br>***New* 4UJ99** | 10.61<br>11.90<br>11.90 | **10.10**<br>**10.10**<br>**10.10** | **8.59/6**<br>**9.09/6**<br>**9.09/6** | 0.7<br>0.7<br>0.7 |
| F | Heavy-Bodied Industrial Adhesive Sealant | 10.1 oz. cartridge | GE Silicones | RTV1473 | ***New* 4UH14** | 9.02 | **8.59** | **7.73/24** | 0.9 |
| G | High Performance Industrial Adhesive Sealants<br>White; FDA, NSF, USDA, MIL SPEC.<br>Black; FDA, NSF, USDA, MIL SPEC.<br>High Temperature; red paste; FDA, MIL-A-46146<br>Clear paste; FDA, NSF, USDA, MIL SPEC.<br>Quick fix; Clear paste; FDA, NSF, USDA, MIL SPEC. | <br>10.1 oz. cartridge<br>10.1 oz. cartridge<br>10.1 oz. cartridge<br>10.1 oz. cartridge<br>2.8 oz. tube | <br>GE Silicones<br>GE Silicones<br>GE Silicones<br>GE Silicones<br>GE Silicones | <br>RTV102<br>RTV103<br>RTV106<br>RTV108<br>RTV108 | <br>***New* 4UH09**<br>***New* 4UH10**<br>***New* 4UH11**<br>**4UH12**<br>***New* 4UH13** | <br>5.04<br>5.04<br>27.29<br>4.93<br>3.03 | <br>**4.80**<br>**4.80**<br>**26.00**<br>**4.70**<br>**2.89** | <br>**4.32/24**<br>**4.32/24**<br>**23.39/24**<br>**4.23/24**<br>**2.60/24** | <br>0.9<br>0.9<br>0.9<br>0.9<br>0.3 |
| H | Chisel® 790 Gasket Remover | 18 oz. aerosol can | Loctite | 79040 | **4KM53** | 15.28 | **13.75** | **11.10/10** | 1.5 |
| I | Gasket Eliminator® 518 Flange Sealant Master Gasket® Kit. Contains 50 ml. syringe/0.88 primer | Kit | Loctite | 22423 | **4KL29** | 24.14 | **21.73** | **19.56/10** | 0.4 |

# GASKET SEALANTS AND EPOXIES

## [A] [B] FORM-A-GASKET® #1 & #2

**Sealant/dressing/coating for cut gaskets to improve seal and hold in place**

**#1 for rigid, permanent assemblies**

**#2 for non-rigid vibrating assemblies**

**Resistant to gasoline and other solvents**

## [C] GASKET ELIMINATOR®

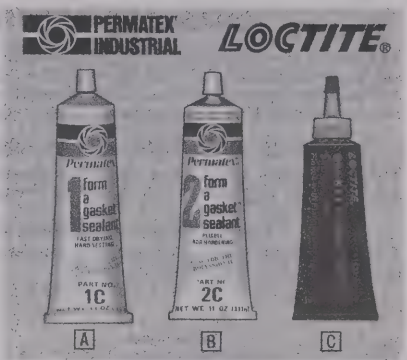
**Formulated to be used in place of gaskets for sealing rigid metal assemblies**

**Fills gaps up to .010"**

**Anaerobic cure**

**Applications include fuel and waterpumps, thermostats, split crank cases, gear boxes and transmission housings**

**Recommended for high pressure applications where "blow-out" is a problem**




| Key | Description | Container Size | Mfr. | Mfr. Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Form-A-Gasket® #1 Hardening | 11 oz. tube | Permatex | 80003 | **5A238** | $6.77 | **$6.51** | **$5.86/12** | 0.8 |
| B | Form-A-Gasket® #2 Non-Hardening | 3 oz. tube | Permatex | 80010 | **5A239** | 10.26 | **3.09** | **2.78/12** | 0.3 |
| | | 11 oz. tube | Permatex | 80011 | **2A265** | 7.69 | **7.39** | **6.66/12** | 0.8 |
| C | Gasket Eliminator® 515 Flange Sealant | 50 ml. tube | Loctite | 51531 | **5E226** | 12.49 | **11.86** | **10.65/10** | 0.2 |
| | | 300 ml cartridge | Loctite | 51580 | **4KM09** | 52.50 | **47.25** | **42.53/10** | 0.9 |

## 5-MINUTE® EPOXY

**Fast curing, general purpose adhesive**

**Forms a clear, strong, rigid bond in 5 minutes**

**Good adhesive tensile, impact strength and chemical resistance**

**Good for use with metals**

## 5-MINUTE® EPOXY GEL

**High viscosity, thixotropic gel epoxy for all metal bonding requiring fast cure and increased gap-filling capabilities**

**High adhesive tensile shear strength of 2500 psi**

**Use on vertical and rough surfaces**

## 2-TON® CLEAR EPOXY

**Strong, water-resistant, non-shrinking adhesive**

**Forms powerful bond with ferrous and non-ferrous metals, ceramics, wood, concrete or glass in any combination**

**Medium cure time**

## PLASTIC WELDER™

**High viscosity, fast-cure structural adhesive for bonding most common plastics, bare metals and dissimilar substrates**

**Features high shear, peel- and impact-strength over a wide range of temperatures**

**Bonds gaps up to 0.125"**

## MARK V APPLICATOR GUN

**Used with 50ml cartridges**

- **Ergonomically-designed, lightweight hand-held applicator gun**
- **Easy to dispense**
- **Used with mixing nozzle for production applications**

## MARK V MIX NOZZLES

**Used with Mark V Applicator Gun and 50 ml cartridges**

- **Quick, easy, "twist on" nozzle**
- **Thin, control tip for precise applications**
- **Provides thorough, air-free mixing**

## 400ml MIX NOZZLES

**Used with 400ml manual/pneumatic guns and Flexane cartridges**

- **Designed for 4:1 ratio**
- **Provides thorough air-free mixing of Flexanes**

## 400ml MANUAL GUN

**Used for all 400 ml 4:1 cartridges**

- **Lightweight**
- **Easy to use**
- **Ergonomically-designed for good balance**




| Description | Container Size | Type | Devcon Model | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **5-Minute Epoxy** | 1 oz. | Tube | 14250 | **5A462** | $3.32 | **$2.99** | **$2.70/6** | 0.2 |
| **5-Minute Epoxy Gel** | 1 oz. | Tube | 14240 | **5E156** | 4.42 | **3.98** | **3.58/12** | 0.3 |
| **5-Minute Epoxy Gel** | 50 ml | Cartridge | 14265 | ***New* 4TT41** | 7.74 | **7.38** | **6.64/12** | 0.2 |
| **5-Minute Epoxy** | 50 ml | Cartridge | 14270 | ***New* 4TT42** | 6.93 | **6.60** | **5.61/12** | 0.2 |
| **2-Ton Clear Epoxy** | 1 oz. | Tube | 14310 | **5E157** | 3.72 | **3.35** | **3.02/12** | 0.3 |
| **2-Ton Clear Epoxy** | 50 ml | Cartridge | 14260 | ***New* 4TT40** | 7.51 | **7.16** | **6.44/12** | 0.2 |
| **Plastic Welder™** | 1 oz. | Tube | 14300 | **5E158** | 7.05 | **6.35** | **5.72/12** | 0.4 |
| **Plastic Welder™** | 50 ml | Cartridge | 14320 | ***New* 4TT46** | 9.97 | **9.50** | **8.55/12** | 0.2 |
| **Mark V Applicator Gun** | — | — | 14280 | ***New* 4TT43** | 56.16 | **53.50** | —— | 1.0 |
| **Mark V Mix Nozzles (12/pkg)** | — | — | 14285 | ***New* 4TT44** | 1.67 | **1.59** | —— | 1.0 |
| **400 ml Mix Nozzles (1/pkg)** | — | — | DF047 | ***New* 4TT45** | 2.00 | **1.90** | —— | 1.0 |
| **400 ml Manual Gun** | — | — | DF043 | ***New* 4TT47** | 261.45 | **249.00** | —— | 4.4 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# EPOXY ADHESIVES AND APPLICATORS

## DURABOND ADHESIVES

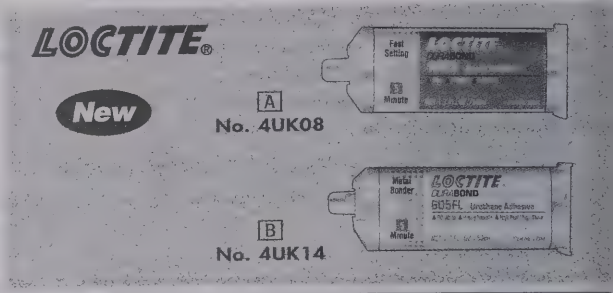
Adhesives are dispensed through hand held meter-mix dispensing systems which provide a convenient, cost-effective method to accurately apply adhesives with minimal waste. Available in 50 ml. cartridges. Use in structural bonding applications.

### [A] DURABOND EPOXY ADHESIVES

Two part, room temperature curing adhesives designed to tackle a wide range of structural bonding applications.

### [B] DURABOND URETHANE ADHESIVE

Two-part, room temperature curing urethane designed for impact resistance and highly flexible bonds.




| Key | Description | Substrates | Work Life (min) | Shear Strength (PSI)* | Loctite Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Durabond 100CL Fast Setting Flowable, Low Odor Epoxy Adhesive; Clear Color | Metals, thermoplastics, thermoset plastics, glass, ceramic, masonry, paper/hardboard | 5 | 2000-4000 | 28289 | **4UK08** | $8.80 | **$8.00** | 0.2 |
| A | Durabond 420HP Hi Strength Toughened, High Peel/High Shear Epoxy Adhesive; Off-white Color | Metals, thermoplastics, thermoset plastics, glass, ceramic, masonry, paper/hardboard | 20 | 3000-5000 | 29314 | **4UK09** | 8.80 | **8.00** | 0.2 |
| A | Durabond 190FL Flexible, Toughened, Impact-Resistant Epoxy Adhesive; Gray Color | Metals, thermoplastics, thermoset plastics rubber, wood, leather, masonry | 90 | 1000-3000 | 29309 | **4UK10** | 8.80 | **8.00** | 0.2 |
| A | Durabond 100NS Fast Cure, Non-Sag, Controlled Flow, Low Odor Epoxy Adhesive; Translucent | Metals, thermoplastics, thermoset plastics glass, ceramic, masonry, paper/hardboard | 5 | 2000-4000 | 29294 | **4UK11** | 8.80 | **8.00** | 0.2 |
| A | Durabond 7120HP Ultra Strength, Non-Sag Aerospace Grade Epoxy Adhesive; Amber Color | Metals, thermoplastics, thermoset plastics glass, ceramic, masonry, paper/hardboard | 120 | 3000-6000 | 29353 | **4UK12** | 8.80 | **8.00** | 0.2 |
| B | Durabond 650FL Metal Bonder Highly Flexible, High Peel, High Shear, Urethane Adhesive; Off-white Color | Metals, thermoplastics, thermoset plastics glass, ceramic, masonry, paper/hardboard, leather | 5 | 1000-3000 | 29348 | **4UK14** | 9.18 | **8.35** | 0.2 |

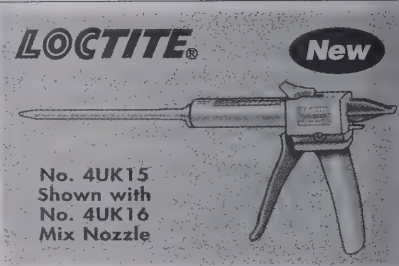
## ADHESIVE APPLICATORS

### 50 ML. MANUAL DISPENSING GUN

Designed for use with all Durabond 50 ml double barrel cartridges. Comes with two different plungers allowing it to be used with either 1:1 or 2:1 ratio cartridges.

### STEPPED END MIX NOZZLE

Disposable, plastic nozzles designed to attach to Durabond double barrel cartridges. Adhesive is automatically mixed as it travels through the nozzle. 10 per bag.




| Description | Application | Loctite Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Manual Dispensing Gun** | Use with all 50 ml. Durabond cartridges | 983435 | **4UK15** | $40.15 | **$36.50** | 0.7 |
| **Mix Nozzle** | Use with all Durabond 50 ml. cartridges. Sold separately | 983441 | **4UK16** | 10.98 | **9.99** | 1.3 |

## ADHESIVES AND EPOXY KITS

### [A] DEPEND® 330 KITS

- **General purpose structural adhesive for severe environments and applications with less than optimum cleanliness**
- **Good for use with metal, glass, fiberglass, composites and woods that require flexing and bending**

### [B] 5 MINUTE EPOXY POUCHES

- **Poxy Pouches® contain clear, liquid epoxy adhesive that repairs metal, glass, rubber, plastics, masonry, wood, and ceramic parts**
- **Mix-in-pouch packet for no measuring, no mess, and no waste; just enough for one application**

### [C] 5 MINUTE FAST CURE 445 EPOXY

- **Fast curing two-part epoxy in convenient pre-measured cups eliminates waste and measuring mistakes**
- **Cures in 5 minutes and can be sanded, drilled, machined, and painted in 24 hours**




| | Description | Loctite Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Depend® 330 No-Mix Adhesive Kit Contains 25 ml. syringe adhesive, 25 gm. aerosol can activator | 20251 | **4KL14** | $20.57 | **$18.54** | **$16.69/5** | 0.4 |
| A | Depend® 330 No-Mix Industrial Pac Contains 250 ml. tube adhesive, 4.5 oz. aerosol can activator | 20252 | **4KL15** | 53.50 | **48.15** | **43.34/5** | 1.3 |
| B | 5-Minute Poxy Pouches®: Contains 4 @ 4 gm. pouches | 82515 | **4KM64** | 3.78 | **3.40** | **3.06/6** | 0.1 |
| C | Fast Cure 45 Epoxy: Contains 10 @ 4 gm. cups | 21425 | **4KL23** | 20.11 | **18.10** | **16.29/10** | 0.4 |

# PUTTIES AND EPOXIES






## A UNDERWATER REPAIR PUTTY

- Repairs and patches
- Use in pulp and paper mills, wastewater treatment plants, and in marine environments
- Penetrates wetness to bond securely to steel, iron, aluminum, brass, bronze, concrete, wood, and some plastics

## B MAGIC BOND EPOXY PUTTY

- Hand kneadable
- Hardens in 20-30 minutes
- Permanent bonding

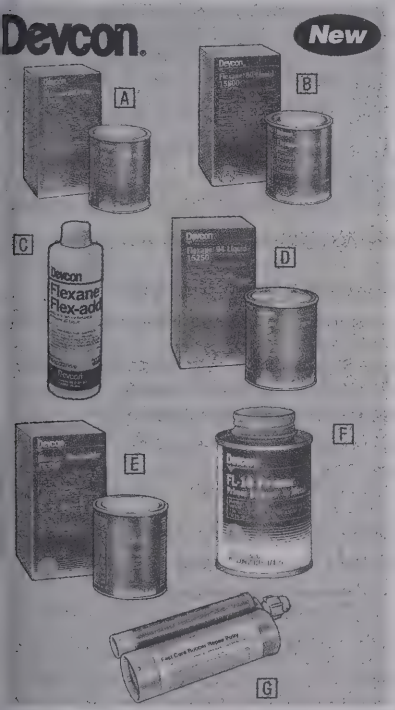
## C ZIP PATCH™

- Adhesive-impregnated
- Hardens at room temperature
- Fast setting for making permanent waterproof repairs to pipes, tanks, and other equipment
- Excellent adhesion with minimal surface preparation

## D DUCO CEMENT

- Medium strength
- Fast drying
- Bonds china, wood, and metal
- Dries clear

| Key | Description | Container Size | Type | Devcon Model | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Underwater Repair Epoxy | 1 | Can | 11800 | **5E151** | $41.77 | **$39.90** | **$35.84/2** | 1.4 |
| B | Magic Bond Epoxy Putty | 4 | Tube | 11600 | **5E152** | 8.39 | **8.00** | **7.21/6** | 0.7 |
| C | Zip Patch™ | 4 | 4 x 9" Patch | 11500 | **5E150** | 36.44 | **33.85** | **30.42/2** | 0.5 |
| D | Duco Cement | 1 | Tube | 6245 | ***New*** **4TT50** | 2.00 | **1.91** | — | 0.1 |




## A FLEXANE® 80 PUTTY

- Trowelable urethane compound
- Cures to a tough, rubber (Hardness Shore A 80) for broad range of lining and protection applications
- Bonds to metal, concrete, rubber, wood, and fiberglass

## B FLEXANE® 80 LIQUID

- Castable, non-shrinking medium viscosity urethane
- Use to make flexible molds; form dies; cast parts; non-scratching holding fixtures as well as abrasion and noise resistant linings; does not change shape while curing

## C FLEX-ADD™

- Flexibilizer used with Flexane® 80 Liquid to produce a lower durometer castable urethane

## D FLEXANE® 94 LIQUID

- Castable, non-shrinking urethane compound that cures to a rigid rubber compound
- Short demolding time, faster cure; more rigid than Flexane 80 Liquid
- Use for making flexible molds, cast parts, non-scratching holding fixtures

## E FLEXANE® BRUSHABLE

- Cures to a medium hard rubber (Hardness Shore A 86)
- Protect against wear due to abrasion and impact
- Protects processing equipment such as hoppers, chutes, pump impellers, feeder bowls, and fans

## F FLEXANE® PRIMERS

- FL10 enhances adhesion to metal
- FL20 enhances adhesion to rubber, wood and fiberglass

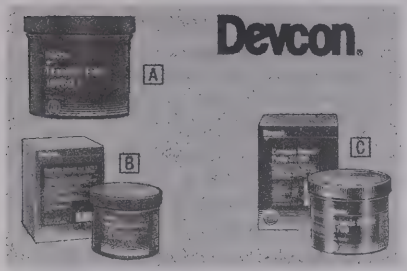
## G FAST CURE RUBBER REPAIR PUTTY/LIQUID

- Putty is tough urethane compound
- Liquid is castable urethane compound
- Convenient application system
- Cures in 1½ hours
- Tear- and impact-resistant

| ey | Description | Container Size | Type | Devcon Model | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Flexane® 80 Putty | 1 lb. | Can | 15820 | **5A459** | $29.83 | **$28.50** | **$25.59/12** | 1.5 |
| B | Flexane® 80 Liquid | 1 lb. | Can | 15800 | **5A460** | 29.83 | **28.50** | **25.59/12** | 1.5 |
| C | Flex-Add™ | 8 oz. | Bottle | 15940 | **5A461** | 11.65 | **11.12** | **10.01/12** | 0.5 |
| D | Flexane® 94 Liquid | 1 lb. | Can | 15250 | **5E154** ❶ | 29.83 | **28.50** | **25.58/2** | 1.7 |
| E | Flexane® Brushable | 1 lb. | Can | 15350 | **5E155** ❶ | 44.55 | **42.55** | **38.22/2** | 1.7 |
| F | FL-10 Primer | 4 oz. | Can | 15980 | **6V556** | 11.66 | **11.08** | **10.53/6** | 0.4 |
| F | FL-20 Primer | 4 oz. | Can | 15985 | **6V557** | 11.66 | **11.08** | **10.53/6** | 0.6 |
| G | Fast Cure Rubber Repair Urethane Putty | 400 ml | Cartridge | 15046 | ***New*** **4TT48** | 33.18 | **31.60** | **25.52/2** | 0.4 |
| G | Fast Cure Rubber Repair Castable Liquid | 400 ml | Cartridge | 15050 | ***New*** **4TT49** | 33.18 | **31.60** | **25.52/2** | 0.4 |

These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch listing or call any California Branch.
These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# PUTTIES AND EPOXIES




## A TITANIUM PUTTY

- Titanium reinforced epoxy
- Makes quick repairs to machinery and equipment that can be precision machined
- Resistance to a wide range of chemicals and acids
- Temperature resistant to 350°F

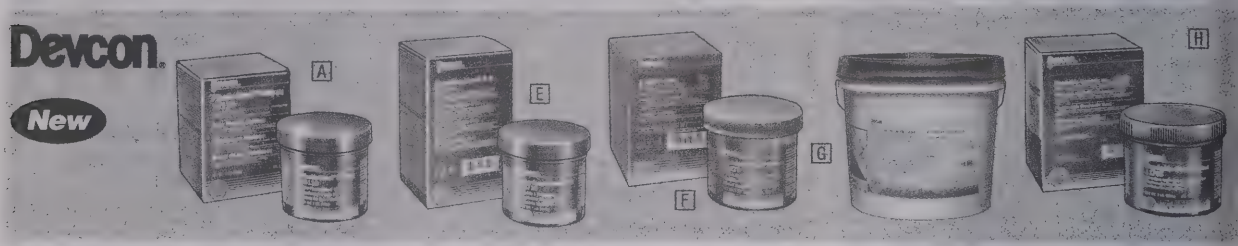
## B BRUSHABLE CERAMIC

- Protects against wear, abrasion, corrosion, erosion, and chemical attack
- Low friction surface reduces wear
- Temperature resistant to 350°F

## C CERAMIC REPAIR PUTTY

- Smooth, trowelable, alumina-filled epoxy compound
- For rebuilding and protecting processing equipment exposed to corrosion, erosion, cavitation, acids and temperatures up to 350°F

| Key | Description | Container Size | Type | Devcon Model | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Titanium Putty | 1 Lb. | Can | 10760 | **5E147** | $62.66 | **$59.80** | **$53.76/2** | 0.7 |
| B | Brushable Ceramic | 2 Lb. | Can | 11760 | **5E148** | 100.16 | **95.60** | **85.99/6** | 3.2 |
| C | Ceramic Repair | 3 Lb. | Can | 11700 | **5E149** | 122.55 | **116.95** | **105.14/2** | 3.7 |




## A PLASTIC STEEL PUTTY (A)

- For maintenance, production and tooling applications
- Bonds to most metal, concrete, and some plastics
- Forms a tough, durable metallic mass that can be drilled, tapped, machined, or painted
- Cures at room temperature

## B PLASTIC STEEL LIQUID (B)

- Can be cast over models for accurate detail reproduction when making holding fixtures, light-gauge forming dies and molds
- Ideal leveling compound for machinery and equipment

## C PLASTIC STEEL 5 MINUTE PUTTY (SF)

- Fast-curing, steel-filled, epoxy for emergency repairs
- Cures to a tough material that can be machined, drilled, tapped, or sanded

## D ALUMINUM PUTTY (F)

- For non-rusting repairs to aluminum castings, machinery and equipment
- Resists chlorofluorocarbons as well as other chemicals

## E ALUMINUM LIQUID (F-2)

- Aluminum-filled pourable epoxy
- Makes molds, patterns, holding fixtures, cosmetic casting repairs
- Low viscosity permits reproduction of delicate or intricate parts

## F STAINLESS STEEL PUTTY (ST)

- Ideal for patching, repairing, and rebuilding stainless steel food processing equipment
- Non-rusting, bonds to ferrous and non-ferrous materials
- Approved for USDA and FDA inspected plants

## G WEAR GUARD FINE/HIGH LOAD

- Ceramic bead-filled abrasion resistant epoxy
- Easy to mix and apply by trowel
- Excellent resistance to sliding abrasion
- Temperature resistance to 300° F
- Designed for particulate size less than 1/8″ in diameter

## H BRUSHABLE CERAMIC BLUE/WHITE

- Ceramic bead-filled abrasion resistant epoxy
- Easy to mix and apply by trowel
- Excellent resistance to sliding abrasion
- Temperature resistance to 300° F
- Designed for particulate size less than 1/8″ in diameter

| Key | Description | Container Size | Type | Devcon Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Plastic Steel Putty (A) | 1 Lb. | Can | 10110 | **5A453** | $25.75 | **$24.57** | **$22.12** | 1.3 |
| B | Plastic Steel Liquid (B) | | | 10210 | **5A454** ❶ | 25.75 | **24.57** | **22.12** | 1.3 |
| C | Plastic Steel 5-Minute Putty (SF) | | | 10240 | **5A455** | 30.55 | **29.15** | **26.20** | 1.3 |
| D | Aluminum Putty (F) | | | 10610 | **5A456** | 32.66 | **31.20** | **28.03** | 1.3 |
| E | Aluminum Liquid (F-2) | | | 10710 | **5A457** | 32.66 | **31.20** | **28.03** | 1.3 |
| F | Stainless Steel Putty (ST) | | | 10270 | **5A458** | 40.55 | **38.70** | **34.76** | 1.3 |
| G | Wear guard fine load | 30 Lb. | Kit | 11470 | ***New!* 4TT36** | 414.75 | **395.00** | — | 34.0 |
| G | Wear guard high load | 30 Lb. | Kit | 11490 | ***New!* 4TT37** | 236.77 | **225.50** | — | 34.0 |
| H | Brushable Ceramic Blue | 2 Lb. | Unit | 11765 | ***New!* 4TT38** | 93.77 | **89.35** | — | 2.4 |
| H | Brushable Ceramic White | 2 Lb. | Unit | 11770 | ***New!* 4TT39** | 99.05 | **94.35** | — | 2.4 |

❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

ADHESIVES

FEL-PRO LOCTITE PERMATEX INDUSTRIAL




A B C D E F G H I J K L

## A GENERAL PURPOSE ADHESIVES

**Adhesive bonds rubber, metal, ceramics, plastics**
**Excellent replacement for two-part epoxies**

## B RUBBER AND PLASTIC ADHESIVE

**Bonds rubber parts such as O-rings, belts, bumpers, and cushions**

## C METAL BONDING ADHESIVE

**Excellent for bonding close fitting metallic parts**
**Fills gaps to 0.005"**

## D PLASTIC AND VINYL ADHESIVE

**High strength adhesive ideal for bonding plastic and vinyl**
**Good humidity and weather resistance with gaps to .006"**

## E GAP FILLING ADHESIVE

**Slow setting high viscosity adhesive ideal for irregular surfaces or large gaps up to .008"**

## F GEL ADHESIVES

**Super Bonder® non-flowing gel fills gaps on irregular or porous surfaces and poorly matched parts; surface insensitive**
**Prism® 454 industrial grade formula for general purpose use on metal, plastic, and rubber**
**Gelmatic® Dispenser precisely applies non-run gel without any mess; keeps fingers glue free**
**Use on steel, plastic, leather, rubber, cork, paper, wood**

## G HIGH IMPACT ADHESIVE

- **General purpose adhesive provides very high impact, thermal shock and moisture resistance**
- **Excellent resistance to peel and impact**

## H FAST CURE INSTANT ADHESIVE

- **Adheres to difficult-to-bond surfaces like rough, porous and acidic**

## I PENETRATING ADHESIVE

- **Designed to penetrate pre-assembled components**
- **Capillary action, no disassembly required**
- **For metal and most plastics**

## J LOW ODOR ADHESIVE

- **Low odor formulation eliminates need for ventilation**
- **Excellent strength**
- **Appearance sensitive assembly**

## K CIRCUIT BOARD ADHESIVE

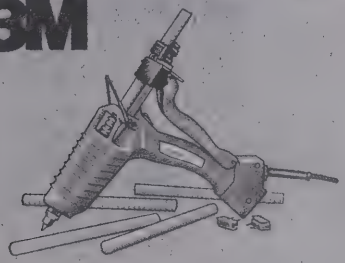
- **For mounting, reinforcing and repair of wire tacking and printed circuit board assembly and repair**

## L CLEAN-UP SOLVENT

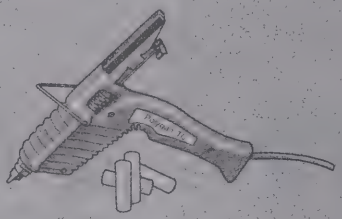
- **Use solvent to quickly and safely dissolve instant adhesives in between parts and/or on surfaces**

| Key | Description | Size | Mfr. | Mfrs. Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Pro Grip® 5500 | 1/3 oz. bottle | Fel-Pro | 51751 | **2A271** | $9.13 | **$8.70** | **$7.83/6** | 0.1 |
| | | 1 fl. oz. bottle | Fel-Pro | 51752 | **4KM78** | 14.97 | **14.22** | **12.80/6** | 0.2 |
| | Pro Grip® 4000 | 1/3 oz. bottle | Fel-Pro | 51726 | **4KM77** | 8.65 | **8.24** | **7.42/6** | 0.2 |
| | | 1 oz. bottle | Fel-Pro | 51727 | **2A273** | 17.32 | **16.50** | **14.85/6** | 0.1 |
| | Super Bonder® 495 | 3 gm. tube | Loctite | 49504 | **5E355** | 3.12 | **2.83** | **2.55/10** | 0.1 |
| | | 1 oz. bottle | Loctite | 49550 | **4KM01** | 15.51 | **13.96** | **12.56/10** | 0.1 |
| B | Quick Set™ 404 | 1/3 oz. bottle | Loctite | 46551 | **5E205** | 17.33 | **15.60** | **14.04/10** | 0.1 |
| C | Super Bonder® 430 | 1 oz. bottle | Loctite | 43050 | **5E206** | 15.66 | **14.09** | **12.68/10** | 0.1 |
| D | Super Bonder® 414 | 1 oz. bottle | Loctite | 41450 | **5E207** | 17.28 | **15.55** | **14.00/10** | 0.1 |
| E | Super Bonder® 416 | 1 oz. bottle | Loctite | 41650 | **5E208** | 15.51 | **13.96** | **12.56/10** | 0.1 |
| F | Super Bonder® 409 Gel | 3 gm. tube | Loctite | 40904 | **5E209** | 3.32 | **2.99** | **2.69/10** | 0.1 |
| | | 20 gm. tube | Loctite | 40945 | **5E210** | 14.37 | **12.93** | **11.64/10** | 0.1 |
| | Prism® 454 Gel | 3 gm. tube | Loctite | 45404 | **5A232** | 4.20 | **3.78** | **3.59/10** | 0.1 |
| | | 20 gm. tube | Loctite | 45440 | **5A233** | 18.31 | **16.48** | **14.83/10** | 0.1 |
| | GelMatic® Super Glue Gel Dispenser | 5 gm. dispenser | Permatex | 21937 | **4KL27** | 5.29 | **4.76** | **4.28/6** | 0.1 |
| G | Black Max® | 1 oz. bottle | Loctite | 38050 | **5E211** | 22.77 | **20.49** | **18.44/10** | 0.1 |
| | Prism® 411 | 20 gm. bottle | Loctite | 41145 | **4KL81** | 19.36 | **17.42** | **15.68/10** | 0.1 |
| H | Prism® 401 | 20 gm. bottle | Loctite | 40140 | **4KL71** | 17.33 | **15.60** | **14.04/10** | 0.1 |
| | Prism® 4471 | 20 gm. bottle | Loctite | 44740 | **4KL92** | 17.33 | **15.60** | **14.04/10** | 0.1 |
| I | Super Bonder® 420 | 1 oz. bottle | Loctite | 42050 | **4KL86** | 15.51 | **13.96** | **12.56/10** | 0.1 |
| J | Prism® 460 | 20 gm. bottle | Loctite | 46040 | **4KL96** | 19.93 | **17.94** | **16.15/10** | 0.1 |
| K | Tak Pak® 444 | 20 gm. bottle | Loctite | 12292 | **4KK94** | 12.36 | **11.12** | **10.01/10** | 0.1 |
| L | X-NMS® Clean Up Solvent | 2 oz. bottle | Loctite | 76820 | **4KM49** | 21.38 | **19.24** | **17.32/10** | 0.3 |

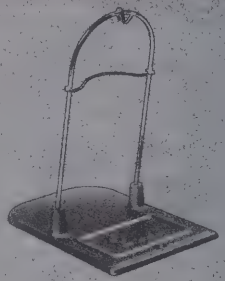
# ADHESIVES AND APPLICATORS



A No. 5E123



B No. 5E124



C No. 3XH55

## A POLYGUN™ EC APPLICATOR

For higher volume hot metal adhesive dispensing. Features all electric applicator, provides multiple temperatures with choice of pre-set temperature Module Kits that fit into handle. Use with above adhesive in larger 5/8" quadrack shape.

## B POLYGUN™ TC APPLICATOR

High temperature applicator, delivers up to 3.5 pounds of Jet-Melt adhesive per hour. Features precise, even adhesive delivery, exclusive cartridge holder and non-fatiguing thumb operation. For use with above designated adhesives.

## C POLYGUN™ EC, TC BENCHSTAND

Durable benchtop stand for Polygun EC & TC applicators. Fo use with 5E123 Polygun™ EC and 5E124 Polygun™ TC.

## D BRASS EXTENSION TIP

For application of hot melt adhesive. Use with 5E123 Polygun EC and 5E124 Polygun™ TC.

### APPLICATOR ORDERING DATA

| Key | Item | Application | 3M Model | Stock No. | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Polygun EC Applicator | For wide variety of jobs. Use with Nos. 5E120 & 5E122 Jet-Melt Adhesive | Polygun™ EC | 5E123 | $324.00 | $291.43/3 | 2.7 |
| B | Polygun TC Applicator | Use with Nos. 5E119 & 5E121 Jet-Melt Adhesive | Polygun™ TC | 5E124 | 102.50 | 92.23/6 | 1.5 |
| C | Polygun™ TC Benchstand | Use with No. 5E123 Polygun™ EC & No. 5E124 Polygun™ TC | Polygun™ TC, EC, Benchstand | 3XH55 | 51.30 | 46.10/3 | 4.5 |
| D | .072" Brass Extension | Use with No. 5E123 Polygun™ EC & No. 5E124 Polygun™ TC | 9946 | 3XH56 | 33.05 | 29.71/3 | 0.1 |

## FIRE STOP CAULK AND ACCESSORIES

### A INTUMESCENT SEALANT

Two-stage expansion offers fast acting protection for combustible penetrants. Stops flame and smoke from spreading through walls and openings. Won't re-emulsify after curing; stays flexible. UL Classified; FM Approved.

### B INTUMESCENT EXPANSION PUTTY

Easy to install. Mold & roll with your hands and install. Never hardens or cures. for easy retrofits. UL classified; FM Approved.

### C ELASTOMERIC FIRESTOP SPRAY

Non-halogenated, latex-based, non-toxic elastomeric coating. When cured it forms a flexible shield against the propagation of fire. UL classified.

### D MORTAR

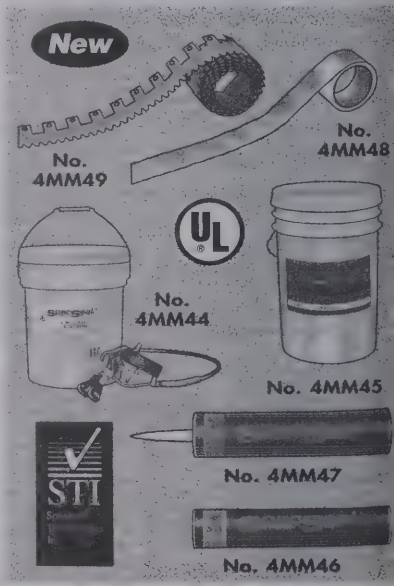
Economical, lighweight portland cement-based firestop. Ideal for filling large openings in concrete floors and walls. Yields approx. 1,250-1,425 cu-in. UL classified.

### E INTUMESCENT EXPANSION WRAP STRIP

Used to firestop plastic or insulated pipe. Must be used with 4MM48 when installed in tuck-in fashion or with 4MM49 when externally mounted. UL classified.

| Key | Description | Size | STI Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Intumescent Sealant | 10.5 oz tube | SSS100 | 4MM47 | $16.07 | $14.95 | 0.9 |
| B | Putty | 36 cu. in. tube | SSP100 | 4MM46 | 31.12 | 28.95 | 2.3 |
| C | Elastomeric Spray | 5 gallon pail | AS105 | 4MM44 | 408.54 | 380.00 | 59.0 |
| D | Mortar | 6 gallon pail | SSM106 | 4MM45 | 91.34 | 84.95 | 22.0 |
| E | Wrap Strip | 1½" wide x 12' long | SSWRED | 4MM50 | 56.93 | 52.95 | 3.0 |
| E | Foil Tape | 2" wide x 30' long | SSWFT | 4MM48 | 10.91 | 10.15 | 0.5 |
| E | Metal Restraining Collar | 25' roll | SSWRC2 | 4MM49 | 47.25 | 43.95 | 3.8 |

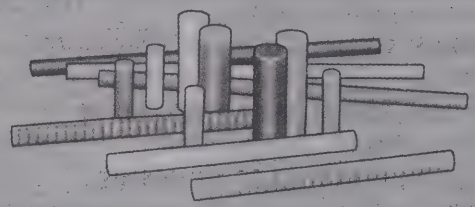
Note: Intumescent products expand when subjected to heat.

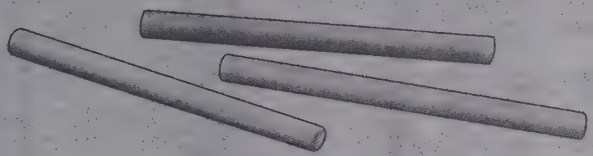


# JET MELT™ ADHESIVES

3M

- Provide a versatile line of high performance formulations for fast, strong bonds on a variety of surfaces





**A JET-MELT™ ADHESIVE 3762-TC**
ght Amber color, hot melt adhesive

**B JET-MELT™ ADHESIVE 3762-LM-Q**
ream color, hot melt adhesive

**C JET-MELT™ ADHESIVE 3792-TC**
lear colored, hot melt adhesive

**D JET-MELT™ ADHESIVE 3792-LM-Q**
Clear colored, hot melt adhesive

**E JET-MELT™ ADHESIVE 3776-LM-Q**
Light colored, low temperature applied hot melt adhesive

**F JET-MELT™ ADHESIVE 3778-LM-Q**
Light colored, low temperature applied hot melt adhesive

## JET-MELT™ ADHESIVES SPECIFICATIONS AND ORDERING DATA

| ey | Size (In.)/ Box Qty. | Application | Uses Dispenser | Substrates | App. Time (Seconds) | Strength Peel | Strength Shear | Strength Tensile | Temp. Range (°F) | 3M Model | Stock No. | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5/8 x 2 605 pcs. | Manual corrugated case and carton sealing. | Polygun™ TC (5E124) | Paper, corrugated wood | 35 | 7 | 545 | 450 | 0 to 130 | 3762TC Tan | **5E119** | **$80.85** | **$72.74** | 12.0 |
| B | 5/8 x 8 165 pcs. | Point of purchase display and trade exhibits, corrugate display manufacturing, counter top displays. | Polygun™ TC & EC (5E123) | Paper, rigid beadboard flexible grid urethane foam | 25 | 6 | 480 | 600 | 0 to 130 | 3762-LM-Q Light Amber | **5E120** | **81.25** | **73.03** | 12.0 |
| C | 5/8 x 2 605 pcs. | Furniture and woodworking, upholstered/reupholstered furniture, corner spacer blocks, drawer bottom stiffener, wood drawer guides, fabric bonding, V-Groove bonding. | Polygun™ TC (5E124) | Paper, rigid urethane foam, corrugated, fabric, wood | 50 | 13 | 250 | 400 | 0 to 140 | 3792-TC Clear | **5E121** | **100.25** | **90.14** | 12.0 |
| D | 5/8 x 8 165 pcs. | Industrial product assembly, plastic, luggage, sand core assembly, fabrics and apparel, costume design, toys and games, trophy nameplates | Polygun™ TC & EC (5E123) | Paper, polyolefine*, fabric, felt, rigid beadboard, ABS, PVC | 40 | 13 | 350 | 547 | 0 to 140 | 3792-LM-Q Clear | **5E122** | **104.05** | **93.60** | 12.0 |
| E | 5/8 x 8 165 pcs. | Bonding light gauge metal, primed or unprimed metal to various substrates and themselves. Designed for 3M low melt adhesives. | Polygun™ TC & EC (5E123) | Paper, cloth, fibrous glass | 40 | 9 | 600 | 270 | 0 to 130 | 3776-LM-Q Tan | **3XH45** | **97.25** | **87.49** | 12.0 |
| F | 5/8 x 8 165 pcs. | Bonds many wood and woodlike products, offers good adhesion to many other substrates including many plastics. Designed for 3M low melt adhesives. Excellent for woodworking and cabinet shops. | Polygun™ TC & CC (5E123) | Wood, woodlike products | 40 | 8 | 435 | 300 | 0 to 130 | 3778-LM-Q Tan | **3XH46** | **78.40** | **70.48** | 12.0 |

Includes Polyethylene, Polystyrene, Polypropylene, Powder paints.

# ADHESIVES

## [A] SUPER 77 SPRAY ADHESIVE

High coverage, fast-drying, transparent. Meets MMM-A-10558B specifications.

## [B] 80 CONTACT NEOPRENE ADHESIVE

High strength, plasticizer resistance, low misting, meets MMM-A-130B specifications and MIL-A-24179A.

## [C] SPRAY 90 HI-STRENGTH ADHESIVE

One minute dry time, meets MMM-A-130B specifications.

## [D] INDUSTRIAL SPRAY ADHESIVE

Economical, industrial grade, general purpose.

## [E] 74 FOAM FAST ADHESIVE

Fast tack, foam-tearing strength, soft, non-dimpling glue line, low misting, precise spray control, variable width spray.

## [F] GENERAL PURPOSE SPRAY ADHESIVE 201

Water-based, low VOC which complies with Southern California Aerosol Adhesive VOC limits, non-flammable, provides bonding strength and heat resistance comparable to a solvent-based product.




| Key | Item | Size (Fl. Oz.) | Application | Substrates | Application Time Surfaces One/Both | (°F) | 3M Model | Stock No. | Each | Lot Pkgs/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Spray Adhesive | 24 | Variety of Jobs in Display & Furniture. Attach Insulation to Sheet Metal, Wire Diagrams & Labels. Bond Gaskets in Water Pumps, Thin Decorative Film, Foils & Fabrics | Nylon, Paper, Felt, Fabric, Styrene, ABS, PVC | 15 Min/30 Min | -30 to 110 | 77 | 5E117 | $8.92▲ | – | 1.4 |
| B | Contact Neoprene Adhesive | 24 | All Types of Rubber Bonding except EPDM. Bonding Most Supported Vinyl, Leather. Adheres Stainless Steel Panels Stiffeners & Metal Kickplates. Adheres Many Plastic Laminate & Wood Products. | Wood, Metal, Glass, Ceramic, Leather, Flexible Vinyl, Paper | Not Recommended/ 1 Hour | -40 to 200 | 80 | 3L941 | 12.45▲ | – | 1.5 |
| C | Hi-Strength Adhesive | 24 | Decorative Laminate. Bonding to Tables, Cabinets, Shelving, Kickplates to Office Desks. Adhere Polyethylene, Polypropylene to Wood, Metal, Many Other Materials. Attach Plastic Sign Lettering to Wood. | Wood, Metal, Glass, Ceramics, Leather, Paper, Felt, Fabric | Not Recommended/ 15 Min. | -30 to 160 | 90 | 5E118 | 12.25▲ | – | 1.4 |
| D | Industrial Spray Adhesive | 24 | Bonds Lightweight Materials Including Paper,Cardboard Plastic Films, Foam, Fiberglass Insulation | Nylon, Paper, Felt, Fabric, Styrene, ABS, PVC | 15 Min/30 Min | -30 to 110 | Industrial Spray Adhesive | 3KT38 | 5.95▲ | – | 1.3 |
| E | Foam Fast Adhesive | 24 | General upholstery foam bonding. Bonding smaller foam pieces together. Forming foam shapes by knife edge bonding, boxing, edge turning. Attaching foam to metal. Bonding fabrics to aircraft interiors, speakers, office partitions. Bonds flexible urethane or latex foams to themselves and other lightweight materials. | Fabric, Felt, Cork, Glass, Flexible Foam, Latex, Urethane, Rigid Foam, Metal | Not Recommended/ 15 Min. | -30 to 120 | 74 | 3XH53 | 9.75▲ | – | 1.5 |
| F | General Purpose Spray Adhesive | 20 | Bonds many lightweight substrates from paper and fabrics to plastic, wood, aluminum and more. | Rigid PVC, Paper, Wood, Plastics, ABS, Nylon, Aluminum, Acrylic, Copper, Glass | 30 Min/60 Min | 160 High | 201 | 3XH52 | 13.20 | 11.89/12 | 1.4 |

(▲) Net prices, not subject to discounts.

# GENERAL ADHESIVES

### [A] SCOTCH-GRIP™ 847 RUBBER AND GASKET ADHESIVE

igh strength medium viscosity. Heat and olvent reactivatable.

### [B] SCOTCH-GRIP™ 1300 RUBBER AND GASKET ADHESIVE

eat resistant for rubber and metal, brush, ray, or roll coat, fast drying.

### [C] SCOTCH-GRIP™ 1357 HIGH PERFORMANCE CONTACT ADHESIVE

apid strength build-up, neoprene based, an be brushed or spray coated. Meets IL-A-21366A and MMM-A-121.

### [D] SCOTCH-SEAL™ 2084

luminum color, brush or flow applica- on, hand caulking gun may be used. esists weather, water, oil and gasoline.

### [E] 30NF FASTBOND™ CONTACT ADHESIVE

ater dispersed, high-strength, that anges color from blue to green when y. Also available in a neutral color. High coverage, long bonding range, good heat resistance. Meets requirements of MIL-A-24179-A. Apply with spray, roller, brush. Non-flammable in the wet state. Low VOC content

### [F] 42 PLUS NV FASTBOND™ INSULATION ADHESIVE

Black, fast tacking with resistance to elevated temperature and humidity. No VOC content. Non-flammable in the wet state. Great wet strength, rapid tack build-up. Applied with spray, brush/hand roller.

### [G] 4323 FASTBOND™ CONSTRUCTION MASTIC

High performance, versatile gray adhesive, resists water, heat, and dead load creep. Applied with caulk, flow, or trowel.

### [H] 4475 SCOTCH-GRIP™ PLASTIC ADHESIVE

A clear, fast-tacking general purpose adhesive that dries rapidly to a firm bond. Resists water, plasticizers, detergent, soap solutions, oils, and grease. Application method, flow.

### [I] 1099 SCOTCH-GRIP™ PLASTIC ADHESIVE

Light tan, fast-drying, resists weathering, water, oil, plasticizer migrations, aliphatic fuels. Meets MIL-A-13883B. Bonds made with it exhibit high strength.




## GENERAL ADHESIVES SPECIFICATIONS AND ORDERING DATA

| Key | Item | Size | Application | Substrates | Application Time | Temp Range(°F) | 3M Model | Stock No. | Each | Lots of 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Scotch-Grip™ Rubber & Gasket Adhesive | 5 Oz. Tube | Bonds leather, rubber, plastics, gasketing materials | Leather Rubber*, ABS, PVC, Fabric, Felt, Cork | Up to 15 Minutes | -40 to 180 | 847 | 5E125 | $6.53 | $5.88 | 0.4 |
| | | Quart | | | | | | 5E128 | 19.77 | 17.80 | 2.3 |
| B | Scotch-Grip™ Rubber & Gasket Adhesive | 5 Oz. Tube | Bonds gaskets to appliances, lighting fixtures, farm equipment | Rubber*, Glass, Ceramic, Metal, Leather, Acrylic, ABS, Paper | Up to 12 Minutes | -5 to 300 | 1300 | 5E126 ❶ | 6.65 ▲ | | 0.4 |
| | | Quart | | | | | | 5E129 ❶ | 20.34 | 18.31 | 2.2 |
| C | Scotch-Grip™ High Performance Contact Adhesive | 5 Oz. Tube | Bonds metals, plastic building panels, laminates, paper | Metal, Wood, Rubber*, Glass, Ceramic, Urethane Foam, Acrylic, ABS | 30 Minute Minimum | -20 to 250 | 1357 | 5E127 ❶ | 7.12 | 6.41 | 0.4 |
| | | Quart | | | | | | 5E130 ❶ | 15.69 | 14.13 | 2.1 |
| D | Scotch-Seal™ | 5 Oz. | Wide variety of sealant applications. Seals metal to glass in windows and doors | Metal, Wood, Glass | 24 Hours | 0 to 250 | 2084 | 2C704 | 7.16 | 6.44 | 0.4 |
| E | Fastbond™ Contact Adhesive | Quart (Green) | Used to bond foamed plastics, plastic laminate, wood, plywood and wood veneer and canvas to themselves and to each other as well as for post forming operations | Most Foam Plastics, Plastic Laminate, Wood, Plywood Veneer, Canvas and Metal | 30 Minutes | -40 to 220 | 30NF Green | 3XH48 | 15.01 | 13.51 | 2.6 |
| | | Quart (Neutral) | | | | | 30NF Neutral | 3XH47 | 15.01 | 13.51 | 2.7 |
| F | Fastbond™ Insulation Adhesive | 5 Gallon | Bonds low density fiberglass insulation, felt, cardboard, and cork to metal and other surfaces | Canvas, Steel, Aluminum, and Galvanized Steel | 3 Minutes | -20 to 180 | 42 Plus NV | 3XH49 | 98.20 | 88.31 | 43.0 |
| G | Fastbond™ Construction Mastic | 1/10 Gallon Cartridge | Bonds to hardwoods, plywood, concrete, aluminum, steel, polystyrene, foam, FPR, and some plastics | Hardwoods, Plywoods, Concrete, Aluminum, Steel, Polystyrene Foam | 15 Minutes | 0 to 180 | 4323 | 3XH50 | 5.00 | 4.50 | 0.9 |
| H | Scotch-Grip™ Plastic Adhesive | 5 Oz. Tube | Bond many ceramics, glass, leather, cloth and vinyls to themselves and a wide variety of substrates | Vinyl, Ceramics, Glass, Leather, Cloth, Metal, Wood | 24 Hours | -20 to 200 | 4475 | 3XH51 | 6.53 | 5.87 | 0.4 |
| I | Scotch-Grip™ Plastic Adhesive | 5 Oz. Tube | Bonds vinyl extrusions and sheeting, fabrics, foams, and many plastics | Vinyl Extrusion, Sheeting, Fabric, Foam, Many Plastics | 40 Minutes | -40 to 180 | 1099 | 3XH42 | 6.58 | 5.94 | 0.4 |

Except EPDM. ❶ These products are covered by California proposition 65, California purchases of shipments, see first page of Grainger Branch Listings.

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# CAULKS AND SEALANTS




## A DYNAFLEX 230 ADVANCED LATEX SEALANT

- Performs like silicone with latex ease-of-use
- Paintable, odorless, cleans up with water
- Forms long-lasting, permanently flexible, watertight and weatherproof seal; 50 year durability guarantee
- Withstands 50% total joint movement
- Meets Federal Spec. TT-S-002300C, Type II, Class A, and ASTM SOEC-920, Class 25

## B ALEX® PAINTER'S ACRYLIC LATEX CAULK

- Multi-purpose 25 year painter's caulk
- Paintable in 30 minutes with latex-based paints

## C KWIK SEAL TUB & TILE CAULK

- Forms watertight, mold-resistant seal around tubs, sinks, and shower stalls
- Resets loose tile

## D URETHANE SEALANT

- Single component, gun grade urethane
- Caulk cures to a tough, flexible, waterproof material
- Excellent resistance to weather, stress, and movement
- Meets USDA approval

## E KWIK FOAM®

- One component polyurethane expansion foam
- Fills/seals large cavities, stops air filtration; won't shrink
- Contains flame retardant
- Tan color

## F SILGLAZE® II CONSTRUCTION SEALANT

- Professional glazing sealant
- Tested to AAMA and ASTM specifications
- Primerless adhesion to wood, anodized aluminum, glass, PVC, and more
- 6-12 minute tooling time; flexible
- Temperature range: 80-300°F

## G WINDOW/DOOR 100% SILICONE RUBBER SEALANT

- Watertight and weatherproof with minimum shrinkage
- Long-lasting; remains flexible
- Available in handy tubes

## H MILDEW-RESISTANT SILICONE II SEALANT

- Low odor, watertight, and permanently flexible
- Won't shrink or yellow
- Available in handy tubes

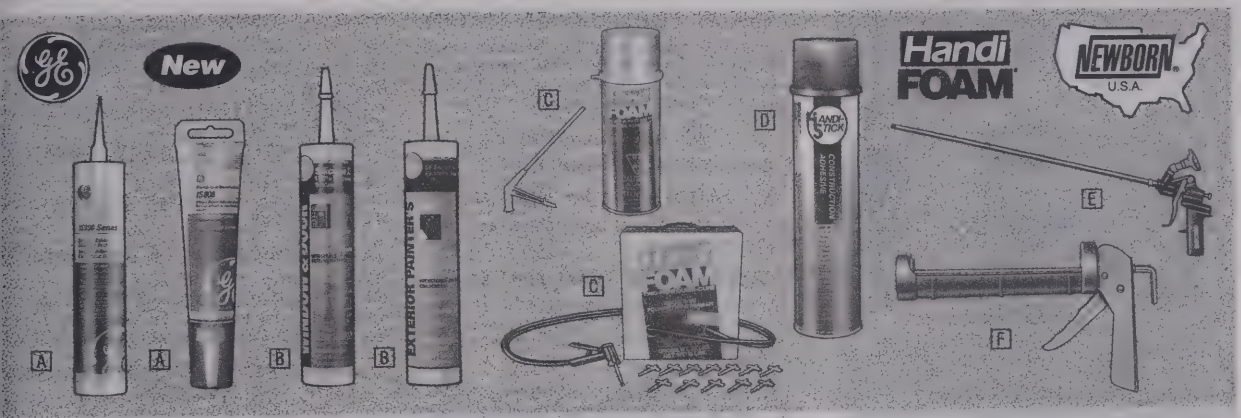
## I CONTRACTORS® SCS1000 SEALANT

- Primerless adhesion to glass, metals glazed surfaces, and many plastics
- UV- and weather-resistant
- Tested to ASTM and federal specifications
- Temperature range: -40 to 400°F
- Non-corrosive

| Key | Description | Color | Size (Oz.) | Mfr. | Mfr's. Model | Stock No. | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Advance Latex Sealant | White | 10.1 | DAP | 18300 | 5A468 ③ | $3.89 | $3.49/12 | 1.1 |
| | | Clear | | DAP | 18305 | 5A467 ③ | 3.89 | 3.49/12 | 0.8 |
| | | Alum. Gray | | DAP | 18301 | 5E076 ③ | 3.89 | 3.49/12 | 1.0 |
| B | Acrylic Latex Caulk | White | 10.1 | DAP | 18065 | 5E079 ③ | 1.64 | 1.48/12 | 1.2 |
| C | Tub & Tile Caulk | White | 5.5 | DAP | 18001 | 5E080 ③ | 2.27 | 2.03/12 | 0.6 |
| D | Urethane Sealant | Grey | 10.2 | Fel Pro | 97183 | 4KM87 | 8.13 | 7.32/12 | 0.9 |
| E | Kwik Foam®* | Tan | 12.0 | DAP | 18230 | 5E086 ③ | 6.25 | 5.63/12 | 1.3 |
| | | | 24.0 | DAP | 18232 | 5E087 ③ | 10.75 | 9.68/12 | 2.7 |
| F | SilGlaze® II Construction Sealant | Clear | 10.1 | GE | SCS2801 | New 4UH18 | 6.69 | 6.02/12 | 0.9 |
| | | White | 10.1 | GE | SCS2802 | New 4UH19 | 6.69 | 6.02/12 | 0.9 |
| G | Window/Door 100% Silicone Rubber Sealant | Clear | 10.1 | GE | GE012 | New 4UG98 ③ | 6.00 | 5.40/12 | 0.9 |
| | | White | 10.1 | GE | GE112 | New 4UG99 ③ | 6.00 | 5.40/12 | 0.9 |
| | | Clear | 2.8 | GE | GE361 | New 4UH02 ③ | 3.49 | 3.14/12 | 0.3 |
| H | Mildew Resistant Silicone II Sealant | Clear | 2.8 | GE | GE281 | New 4UH01 ③ | 3.49 | 3.14/12 | 0.3 |
| I | Contractors® SCS1001 Sealant | Clear | 10.1 | GE | SCS1001 | New 4UH15 ③ | 2.89 | 2.60/24 | 0.9 |
| | | White | | GE | SCS1002 | New 4UH16 ③ | 2.89 | 2.60/24 | 0.9 |

③ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(*) For DAPTex Latex Foam Sealant No. 4UK97, see page 1796.

# CAULKS, SEALANTS, AND CAULK GUNS




## A GENERAL PURPOSE INDUSTRIAL ADHESIVE SEALANT

Provides excellent sealing and bonding protection for equipment and building maintenance applications
Paste consistency material with room temperature cure for easy application and quick set-up time
Recommended for application requiring UL recognition
Provides excellent electrical insulation
Certified with FDA compliance and NSF status
Seals out dirt, dust, moisture, and environmental contaminants

## B SILICONE II 100% SILICONE SEALANT

Excellent adhesion for indoor/outdoor use
Watertight, weatherproof and won't shrink or yellow
Tested to federal specifications
Non-corrosive and UV resistant

## C HANDI-FOAM (STRAW FOAM)

- Expanding polyurethane foam ideal for filling holes and insulating
- Self-contained dispensing system

## C GUN FOAM SEALANT

- Controlled dispensing system in conjunction with Dispening Gun and Gun Foam Cleaner

## C DISPENSING GUN

- Reliable reusable performance
- Precise metered flow
- For use with No. 4KK27

## D HANDI-SUBFLOOR ADHESIVE

- Specially designed for subfloor construction
- Replaces up to 10 quart tube of adhesive
- Contains no VOCs
- Easy to dispense in cold weather
- Reduces squeeks, nail pops and sound transmissions
- AFG01 and ASTM D-3498 approved

## D HANDI-STICK CONSTRUCTION ADHESIVE

- Multi-purpose polyurethane adhesive
- Adheres frameboards, wall paneling, FRP panels, plywood and construction panels
- C557-93 and CGSB 71.25 approved

## E DISPENSING UNIT/FOAM GUNS

- For dispensing polyurethane foam and adhesives
- Reliable reusable performance
- Provides longer reach, precise metered flow

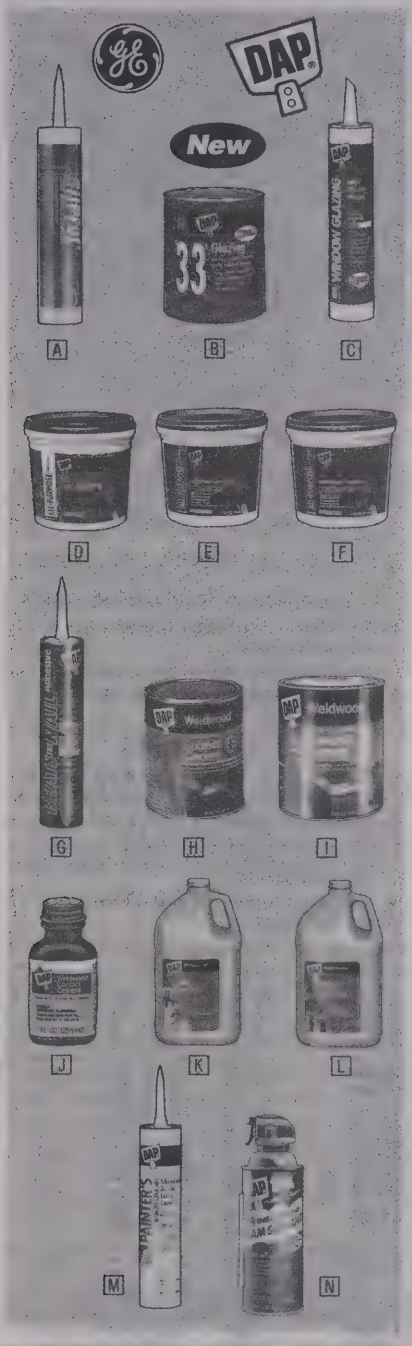
## F CAULK GUNS

- For use with 10.3 oz. and 29 oz. cartridge caulks, sealants and adhesives
- Durable, welded, all-steel construction
- Smooth rod guns have patented E-Z Thrust mechanism for smooth action, reduced effort
- Industrial guns are zinc-chromate plated for long life

| Key | Description | Color | Size (Oz.) | Mfr. | Mfr's. Model | | Stock No. | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | General Purpose Industrial Sealant | White | 10.1 | GE | IS802 | New | 4UH05 | $3.98 | $3.58 /24 | 0.9 |
| | | Black | 10.1 | | IS803 | New | 4UH06 | 3.98 | 3.58 /24 | 0.9 |
| | | Clear | 10.1 | | IS808 | New | 4UH07 | 3.98 | 3.58 /24 | 0.9 |
| | | Clear | 2.8 | | IS808 | New | 4UH08 | 2.75 | 2.48 /24 | 0.3 |
| B | Silicone II 100% Silicone Sealant | Clear | 10.1 | GE | GE5000 | New | 4UH03 | 6.99 | 6.29 /12 | 0.9 |
| | Exterior Painter's Sealant | White | 10.1 | | GE5091 | New | 4UH04 | 5.89 | 5.30 /12 | 0.9 |
| C | Gum Foam Sealant | — | 24.0 | FOMO | P10115G | | 4KK27 | 11.15 | 10.04 / 4 | 2.0 |
| | Straw Foam | — | 12.0 | | P10002G | | 4KK25 | 6.50 | 5.85 /12 | 1.2 |
| | Foam Gun Cleaner; use w/No. 4KK24 | — | 12.0 | | P10083G | | 4KK26 | 10.60 | 9.54 / 4 | 1.3 |
| | Foam Dispensing Gun; use w/No. 4KK27 | — | — | | P61000G | | 4KK24 | 34.90 | 31.41 / 6 | 0.3 |
| | 2-Part Foam Kit, Small | — | — | | P10600G | New | 4KK28 [8] | 24.95 | 22.46 /12 | 3.1 |
| | 2-Part Foam Kit, Medium | — | — | | P10700G | New | 4KK29 [8] | 197.25 | — — | 24.0 |
| D | Handi-Stick Subfloor Adhesive | — | 24.0 | FOMO | P10130 | New | 4TT06 | 19.85 | 16.03 /12 | 2.0 |
| | Handi-Stick Construction Adhesive | — | — | | P10135 | New | 4TT07 | 9.99 | 8.07 /12 | 2.0 |
| E | 22" Adhesive/Foam Gun | — | — | FOMO | F61020 | New | 4TT04 | 125.00 | — — | 16.0 |
| | 7" Adhesive/Foam Gun | — | — | | F61030 | New | 4TT05 | 85.00 | — — | 2.0 |
| | **CAULK GUNS** | | | | | | | | | |
| F | Standard Ratchet | — | 10.3 | Newborn | 77 | | 5A469 | 2.55 | 2.30 /12 | 1.1 |
| | Hex Rod, Parallel Frame | — | 10.3 | | 111 | | 5F569 | 5.85 | 5.26 /12 | 1.4 |
| | Industrial Hex Smooth Rod | — | 10.3 | | 301 | | 5F570 | 11.45 | 10.35 / 6 | 1.8 |
| | Industrial Super Ratchet | — | 10.3 | | 307 | | 5F571 | 11.99 | 10.85 / 6 | 2.0 |
| | Industrial Super Ratchet | — | 29.0 | | 315 | | 5E116 | 16.89 | 12.89 / 6 | 2.6 |

[8] These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
[9] These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# CAULKS AND SEALANTS




## A SilPruf® CONSTRUCTION SEALANT

Professional grade weather sealant tested to ASTM and Federal Specifications. Up to 30-minute tooling time. Long life. Adheres to Common Building Surfaces.

## B '33'® GLAZING

For glazing wood and metal sash.

## C LATEX WINDOW GLAZING

For wood, metal, and aluminum sash. Self-tooling spout.

## D ALL PURPOSE VINYL SPACKLING

Ready mix patching compound. For use with stucco, concrete, brick, wood, plaster, and drywall surfaces. Interior/exterior use. White color.

## E FAST N' FINAL™ ALL PURPOSE EXTERIOR LIGHTWEIGHT SPACKLING

No sanding or shrinkage. For use with stucco, concrete, brick, wood, plaster, and drywall surfaces. Interior/exterior use. White color.

## F LATEX WOOD DOUGH

Fills in cracks, dents, scratches, nail holes, and chips in wood surfaces. Holds nails and screws without cracking or crumbling. Can be sawed, drilled, painted; accepts stains.

## G BEATS THE NAIL® CONSTRUCTION ADHESIVE

Superior bonding strength. Exceeds ASTM C557-73 specifications.

## H WELDWOOD™ ORIGINAL CONTACT CEMENT

Fast, high strength bonding to a variety of surfaces. No clamping required. Meets MMM-A 130B performance requirements.

## I NON-FLAMMABLE CONTACT CEMENT

Provides superior adhesion. Neoprene rubber technology. Cleans up easily with water. Spreads easily - post formable. Low V.O.C. formula.

## J BOTTLED CONTACT CEMENT

For home, office, or workshop. Bonds on contact, without clamps. High strength, water resistant.

## K WELDWOOD™ PVA GLUE (WHITE)

High Quality PVA glue sets fast, dries clear. Bonds porous and and semi-porous materials; no harmful solvents or fumes. For use in home, shop, school, and office.

## L WELDWOOD CARPENTER'S GLUE (YELLOW)

For cabinetry, furniture making, edging and woodworking projects. Resists oil, grease, gasoline, paint solvents. Sets fast, grips tight, sands easily.

## M SILICONIZED ACRYLIC LATEX CAULK

Fast drying, tools easily, cleans up with water. Contains silicone to promote adhesion, flexibility, and water resistance. Exceeds ASTM Specification C-834-76. Interior/Exterior use. 35 year durability.

## N DAPTEX™ LATEX FOAM SEALANT

Water clean-up foam. Toolable, moldable, flexible, durable. Controlled expansion. Reusable product—non-clogging applicator. Interior/Exterior use. Seal and insulate pipes, heat, and AC ducts, electrical outlets, windows and doors, cables and faucets.

| Key | Description | Size | Mfg. Model | | Stock No. ❸ | | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | SilPruf® Construction Sealant | 10.1 Fl. Oz. | SCS2003 | *New* | 4UH17 | | $5.59 | $5.03/24 | 0.9 |
| B | "33" Glazing | Quart | 12122 | | 5E106 | | 5.75 | 5.18/6 | 4.7 |
| C | Latex Window Glazing | 10.3 oz. | 12108 | | 5E108 | | 2.91 | 2.63/12 | 1.3 |
| D | All Purpose Vinyl Spackling | Quart | 12164 | | 5E111 | | 5.13 | 4.62/6 | 3.8 |
| E | Fast N' Final™ All Purpose Lightweight Spackling | Quart | 12302 | | 5E113 | | 6.42 | 5.78/6 | 1.4 |
| F | Latex Wood Dough | Pint | 00527 | | 5E115 | | 4.10 | 3.70/12 | 1.7 |
| G | Beats The Nail™ All Purpose Construction Adhesive | 10.3 oz.<br>29.0 oz. | 25082<br>25084 | | 5E089<br>5E090 | | 1.99 ▲<br>4.75 ▲ | —<br>— | 1.1<br>2.8 |
| H | Weldwood™ Original Contact Cement | Quart<br>Gallon | 00272<br>00273 | | 5E094<br>5E095 | ❷<br>❷ | 5.90<br>17.94 | 5.31/6<br>16.14/4 | 2.3<br>8.5 |
| I | Non-Flammable Contact Cement | Quart<br>Gallon | 25332<br>25336 | *New*<br>*New* | 4UK98<br>4UK99 | | 11.40<br>33.80 | 10.26/6<br>30.42/4 | 1.7<br>10.0 |
| J | Bottled Contact Cement | 3.0 oz. | 00107 | | 5E096 | ❷ | 2.84 | 2.55/12 | 0.5 |
| K | Weldwood™ PVA Glue (White) | Gallon | 00283 | | 5E100 | | 13.25 | 11.93/4 | 10.0 |
| L | Weldwood™ Carpenter's Glue (Yellow) | Gallon | 00493 | | 5E104 | | 15.25 | 13.73/4 | 10.0 |
| M | Siliconized Acrylic Latex Caulk | 10.1 Oz. | 18054 | *New* | 4UK96 | | 1.49 | 1.34/12 | 1.2 |
| N | DAPTex™ Latex Foam Sealant | 12 Oz. | 18826 | *New* | 4UK97 | | 4.49 | 3.63/12 | 1.3 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(▲) Net prices, not subject to discounts

# OUTSIDE MICROMETERS

## STARRETT OUTSIDE MICROMETERS

icrometers feature forged frames, ribbed for extra strength, have black enamel finish nd are tapered for use in narrow slots and tight places. Satin chrome finish on sleeve nd thimble. Staggered lines and distinct figures on sleeve. Quick-reading figures on imble with every thousandth numbered. Micro-lapped finish on anvil and carbide mea-ring faces (except 4F137). One-piece hardened spindle with threads ground from the olid and stabilized one-piece frame. Easy-to-read balanced thimble diameter with con-enient decimal equivalents. 230 series has a full finish frame.

| Range | Graduations | Thimble Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-1"** | 0.0001" | Ratchet Stop | T230XRL | **3X232** | **$97.60▲** | 0.5 |
| **0-1** | 0.0001 | Friction | T230XFL | **3X234** | **97.60▲** | 0.4 |
| **Leather holster for 1" micrometers** | | | 914 | **4K800** | **12.40▲** | 0.3 |
| **0-1"** | 0.001" | — | 436P-1 | **4F137** | **78.10▲** | 0.4 |
| **0-1** | 0.001 | Ratchet Stop | 436XRL-1 | **4F141** | **83.00▲** | 0.4 |
| **1-2** | 0.001 | Ratchet Stop | 436XRL-2 | **4F151** | **98.20▲** | 0.6 |
| **2-3** | 0.001 | Ratchet Stop | 436XRL-3 | **4F161** | **113.65▲** | 0.9 |
| **0-1** | 0.0001 | Ratchet Stop | T436XRL-1 | **4F143** | **88.50▲** | 0.4 |
| **0-1** | 0.0001 | Friction | T436XFL-1 | **4F145** | **88.50▲** | 0.4 |
| **1-2** | 0.0001 | Ratchet Stop | T436XRL-2 | **4F153** | **104.90▲** | 0.6 |
| **1-2** | 0.0001 | Friction | T436XFL-2 | **4F155** | **104.90▲** | 0.6 |
| **2-3** | 0.0001 | Ratchet Stop | T436XRL-3 | **4F163** | **116.95▲** | 0.9 |
| **3-4** | 0.0001 | Ratchet Stop | T436XRL-4 | **4F169** | **127.20▲** | 1.0 |
| **4-5** | 0.0001 | Ratchet Stop | T436XRL-5 | **4F173** | **137.05▲** | 1.3 |
| **5-6** | 0.0001 | Ratchet Stop | T436XRL-6 | **4F177** | **148.50▲** | 1.7 |
| **0-25mm** | 0.01mm | Ratchet Stop | 436MXRL-25 | **4F147** | **85.95▲** | 0.4 |
| **25-50** | 0.01 | Ratchet Stop | 436MXRL-50 | **4F157** | **101.65▲** | 0.6 |
| **50-75** | 0.01 | Ratchet Stop | 436MXRL-75 | **4F165** | **113.65▲** | 0.9 |

▲) Net prices, not subject to discounts.

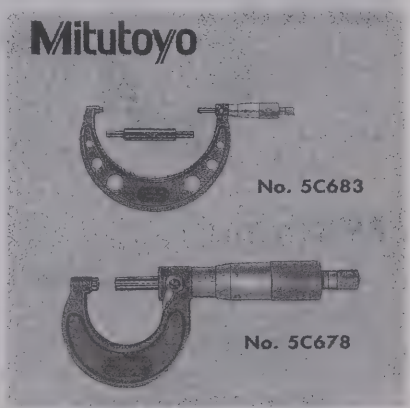



## MITUTOYO OUTSIDE MICROMETERS

licrometers feature clear graduations on satin chrome finish with carbide faces. Baked namel finished frame. Positive locking clamp and ratchet stop thimble for exact repet-ive readings. Complete with fitted carrying case. Micrometers over 1" or 25mm, sup-lied with standard.

| Range | Graduations | Thimble Type | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-1"** | 0.001" | Ratchet Stop | 103-259 | **5C687** | **$73.45▲** | 0.6 |
| **1-2** | 0.001 | Ratchet Stop | 103-178 | **5C681†** | **86.65▲** | 0.7 |
| **2-3** | 0.001 | Ratchet Stop | 103-179 | **5C682†** | **99.85▲** | 1.0 |
| **0-1** | 0.0001 | Friction | 103-135 | **5C677** | **82.30▲** | 0.4 |
| **0-1** | 0.0001 | Ratchet Stop | 103-260 | **5C688** | **80.75▲** | 0.5 |
| **1-2** | 0.0001 | Ratchet Stop | 103-262 | **5C689†** | **94.50▲** | 0.8 |
| **2-3** | 0.0001 | Ratchet Stop | 103-217 | **5C683†** | **105.75▲** | 1.0 |
| **3-4** | 0.0001 | Ratchet Stop | 103-218 | **5C684†** | **120.35▲** | 1.2 |
| **4-5** | 0.0001 | Ratchet Stop | 103-219 | **5C685†** | **131.20▲** | 1.7 |
| **5-6** | 0.0001 | Ratchet Stop | 103-220 | **5C686†** | **144.85▲** | 2.1 |
| **0-25mm** | 0.01mm | Ratchet Stop | 103-137 | **5C678** | **73.45▲** | 0.6 |
| **25-50** | 0.01 | Ratchet Stop | 103-138 | **5C679†** | **86.65▲** | 0.7 |
| **50-75** | 0.01 | Ratchet Stop | 103-139 | **5C680†** | **99.85▲** | 1.0 |

†) Supplied with standard. (▲) Net prices, not subject to discounts.

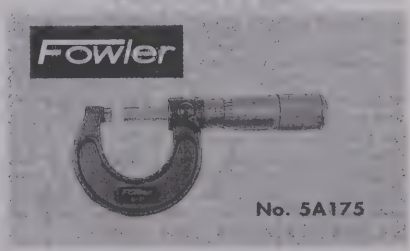



## FOWLER OUTSIDE MICROMETERS

licrofine measuring graduations on satin chrome finish and carbide-tipped measuring aces. Anvil and spindle hardened and precision ground with microlap finish on tips; pindle thread hardened, ground and lapped for accuracy. Friction thimble for exact and epetitive readings. Meet or exceed federal specifications for accuracy. Includes wrench nd case. No. 5A185 includes micrometer standard to monitor instrument setting.

| Range (in.) | Graduations (in.) | Thimble Type | Fowler Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-1** | 0.0001 | Friction | 52-240-001 | **5A175** | **$68.60▲** | 0.5 |
| **1-2** | 0.0001 | Friction | 52-240-002 | **5A185** | **86.00▲** | 0.8 |

▲) Net prices, not subject to discounts.







## CASES FOR STARRETT 1 AND 2" OUTSIDE MICROMETERS

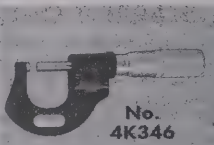
| Description | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Case for 1" Starrett Micrometers, Models 204, 210, 211, 221, 230, 256, 436, 575, 577, & 1230** | 910 | **4K311** | **$8.10▲** | 0.3 |
| **Case for 2" Starrett Micrometers, Models 226, 256, 436, & 486 - 1"** | 913 | **4K313** | **14.34▲** | 0.9 |

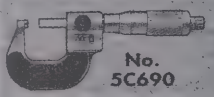
(▲) Net prices, not subject to discounts.

# DIGITAL, BLADE-TYPE, AND INSIDE MICROMETERS

## DIGITAL MICROMETERS

Digital micrometers feature carbide measuring faces for long life. Direct digital readout for fast accurate reading up to 0.0001" graduations. Counter reads to 0.001". Starrett and Fowler models feature a lock nut mechanism to secure the spindle at any reading. Mitutoyo uses a spindle lock. Nos. 5C691 and 3T128 include a standard to monitor instrument setting.







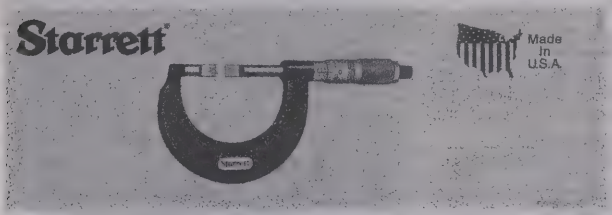
Replacement Parts Available
1-800-323-0620

### DIGITAL MICROMETER SPECIFICATIONS AND ORDERING DATA

| Range (In.) | Graduations (In.) | Thimble Type | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **STARRETT DIGITAL MICROMETERS** | | | | | | | |
| **0-1** | 0.0001 | Ratchet Stop | Starrett | T216XRL-1 | **4K346** | **$153.25▲** | 0.6 |
| **Case for 1" micrometer** | — | | Starrett | 216ZZ-1 | **4K352** | **11.12▲** | 0.5 |
| **1-2** | 0.0001 | Ratchet Stop | Starrett | T216XRL-2 | **4K382** | **171.25▲** | 0.7 |
| **Case for 2" micrometer** | — | | Starrett | 216ZZ-2 | **4K386** | **14.65▲** | 0.9 |
| **MITUTOYO DIGITAL MICROMETERS** | | | | | | | |
| **0-1** | 0.0001 | Friction | Mitutoyo | 193-211 | **5C690** | **126.30▲** | 0.8 |
| **1-2** | 0.0001 | Friction | Mitutoyo | 193-212 | **5C691** | **147.80▲** | 0.9 |
| **FOWLER DIGITAL MICROMETERS** | | | | | | | |
| **0-1** | 0.0001 | Ratchet Stop | Fowler | 52-222-001 | **5A182** | **110.25▲** | 0.7 |
| **1-2** | 0.0001 | Ratchet Stop | Fowler | 52-222-002 | **3T128** | **130.35▲** | 1.0 |

(▲) Net prices, not subject to discounts.

## STARRETT BLADE-TYPE MICROMETER

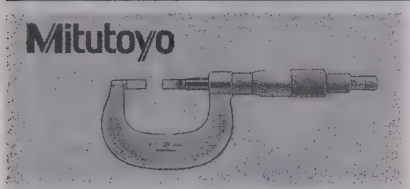



Blade-type anvil and spindle for measuring circular form tools, diameter and depth of narrow grooves, slots, keyways, recesses, shallow depths, and between lands and fins. Range 0-1" with 0.001" graduations. Nonrotating spindle prevents blade turning. Blades 0.030" thick, measure depths to 5/16". Speeder on end of thimble for faster settings and measurements. Specially forged, black enameled frame with satin chrome finish on sleeve and thimble. Starrett brand (486P-1).

**No. 4F291.** Shpg. wt. 0.6 lbs. Each ..... **$226.50▲**

(▲) Net prices, not subject to discounts.

## MITUTOYO BLADE-TYPE MICROMETERS




For measurements of narrow grooves, keyways, and other hard-to-reach dimensions. Range 0-1" with 0.001" graduations with quick zero adjustment on the sleeve. Features 0.030" blade thickness, decimal equivalents marked on frame, and nonrotating spindle. Mitutoyo brand (122-125).

**No. 5C692.** Shpg. wt. 0.9 lbs. Each..... **$205.00▲**

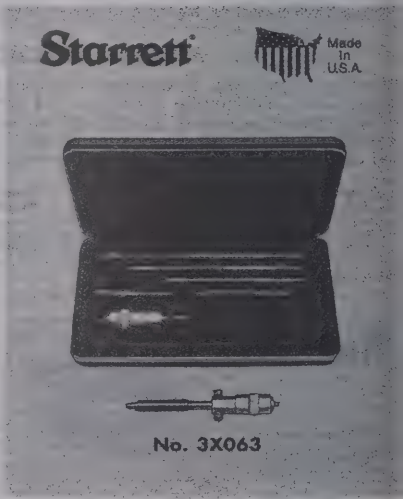
(▲) Net prices, not subject to discounts.

## SOLID ROD INSIDE MICROMETERS

Available in two sizes with overall range from 2 to 12" and 0.001" graduation. Measuring rods are solid and have thermal insulators. Each rod has individual length adjustment for anvil by means of special wrenches furnished. All contact surfaces on both rod and head anvils are hardened and ground. Quick, easy adjustments for taking up wear in micrometer screw is also provided. Useful for measuring inside diameters of cylinders and ring or measuring parallel surfaces. Case included.

## TUBULAR INSIDE MICROMETERS

Available in two sizes which measure down to 1½" minimum, with extension rods up to 12" maximum, inclusive. Graduation of 0.001". Extension rods made of steel tubing, centerless ground. Rods approx. 3/8" dia., have thermal insulators. Each rod marked with length and may be individually adjusted for wear by hardened and ground anvil at end. Used for internal linear measurements such as measuring cylinders, rings, setting calipers, comparing gages, and measuring parallel surfaces. Case included.




### INSIDE MICROMETER SPECIFICATIONS AND ORDERING DATA

| Type | Range (In.) | Graduations (In.) | Movement of Screw (In.) | No. of Measuring Rods | No. of Gages | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Solid** | 2-8 | 0.001 | 1/2 | 6 | (1) 1/2" | 124AZ | **3X063** | **$145.95▲** | 1.3 |
| **Solid** | 2-12 | 0.001 | 1/2 | 10 | (1) 1/2" | 124BZ | **3X067** | **176.50▲** | 2.1 |
| **Tubular** | 1½-8 | 0.001 | 1/2 | 5 & handle | — | 823AZ | **4K193** | **167.25▲** | 0.8 |
| **Tubular** | 1½-12 | 0.001 | 1/2 | 8 & handle | — | 823BZ | **4K195** | **200.00▲** | 1.5 |

(▲) Net prices, not subject to discounts.



*Take the guesswork out of your precision measuring tools purchase.*

# ELECTRONIC DIGITAL MICROMETERS

## STARRETT ELECTRONIC DIGITAL OUTSIDE MICROMETERS

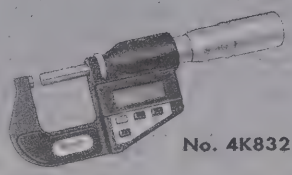
icrometers feature large, easy-to-read high-contrast LCD digital readout and are grad-ated to thousandths on sleeve and glare-free satin chrome thimble for conventional ading. Black wrinkle finish, ring-type knurled lock nut, hardened one-piece spindle nd microlapped carbide measuring faces. Friction thimble. All models feature zero at ny position, measurement hold button, Inch/mm conversion (except on mm only mod-s), and automatic off after 30 minutes of nonuse. Full function micrometers also fea-ure easy keyboard control with shift button, "Preset" button to install readings and any osition, and ability to install min./max. limits (except on mm only models). Output data or SPC analysis and documentation. Include battery (No. 5M308, over 1 year life with ormal use). All models (except Nos. 4K832 and 4K843) come in protective case.

| Range | Resolution | SPC Output | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **FULL FUNCTION MODELS** | | | | | | |
| **0-1" / 0-25mm** | 0.00005" / 0.001mm | Yes | 733XFL-1 | **4K832** | **$192.50▲** | 0.7 |
| **1-2" / 25-50mm** | 0.00005" / 0.001mm | Yes | 733XFLZ-2 | **3V084** | **235.00▲** | 1.7 |
| **2-3" / 50-75mm** | 0.00005" / 0.001mm | Yes | 733XFLZ-3 | **4K833** | **287.00▲** | 2.7 |
| **3-4" / 75-100mm** | 0.00005" / 0.001mm | Yes | 733XFLZ-4 | **4K834** | **309.50▲** | 3.0 |
| **4-5" / 100-125mm** | 0.0001" / 0.001mm | Yes | 733XFLZ-5 | **4K835** | **356.75▲** | 3.8 |
| **5-6" / 125-150mm** | 0.0001" / 0.001mm | Yes | 733XFLZ-6 | **4K836** | **370.00▲** | 4.5 |
| **BASIC MODEL** | | | | | | |
| **0-1" / 0-25mm** | 0.0005" / 0.001mm | No | 734XFL-1 | **4K843** | **143.85▲** | 0.7 |

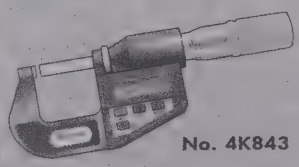
**ptional Case** for 1" Micrometers Nos. 4K832 and 4K843.
**o. 4K752.** Shpg. wt. 0.5 lbs. Each ..... **$7.54▲**

▲) Net prices, not subject to discount.

Starrett® Made in U.S.A.



No. 4K832



No. 4K843

## MITUTOYO DIGIMATIC SCREW THREAD MICROMETERS

asy and accurate way to measure pitch diameters of threaded parts. Features 0.00005" CD readouts and preset capability. Offers Inch/mm selection, ABS/INC mode for Zero et, and Automatic Off after 20 minutes. SPC output for data recording and analysis; rder connecting cable, No. 5C744 or 5C745, separately. Includes battery (SR44) Anvils ot included, order set of anvils No. 5C760 separately. No. 5C760 anvil attachment set overs ranges of 64-3 inch and 0.4-7.0 metric.

| Range (In.) | SPC Output | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **0-1** | Yes | 326-711-30 | **5C693** | **$496.25▲** | 0.3 |
| **1-2** | Yes | 326-712-30 | **5C694** | **525.00▲** | 0.8 |
| **.016-0.275 Anvil Set** | | 126-800 | **5C760** | **320.25▲** | 0.1 |

## MITUTOYO DIGIMATIC MICROMETERS

igimatic micrometers are an upgrade to the traditional outside micrometer and allow or quicker and more accurate measurements of O.D. (outside diameter) work. ushbutton controls turn the micrometer On and allow operator to set the LCD display o zero at any point along the range. 0.00005" LCD readouts. Preset capability to any esired measurements. Instant In./mm conversions of any displayed reading. Precise ernier scale on the thimble. Carbide tipped measuring faces (anvil and spindle) for reater durability. Automatic power-off after 20 minutes of idle time. Two year battery fe under normal use. Include battery (No. 5U014), key spanner, and fitted carrying ase.

| Range | Thimble Type | SPC Output | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-1" / 0-25mm** | Ratchet | Yes | 293-721-30 | **5C695** | **$187.25▲** | 0.9 |
| **1-2" / 25-50mm** | Ratchet | Yes | 293-722-30 | **5C696** | **220.75▲** | 1.1 |
| **2-3" / 50-75mm** | Ratchet | Yes | 293-723-30 | **5C697** | **270.50▲** | 1.9 |
| **0-1" / 0-25mm** | Friction | Yes | 293-725-30 | **5C698** | **187.25▲** | 0.9 |
| **0-1" / 0-25mm** | Ratchet | No | 293-761-30 | **5C699** | **131.55▲** | 0.9 |
| **0-1" / 0-25mm** | Friction | No | 293-765-30 | **5C721** | **131.55▲** | 0.9 |

▲) Net prices, not subject to discounts.

Mitutoyo



No. 5C693
Shown with No. 5C760



No. 5C697



No. 5C699

## FOWLER ELECTRONIC "DIGITRIX II" MICROMETER

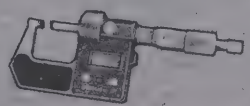
-1"/25mm Micrometer with large LCD easily read to 0.0001" (0.001mm) and a 0.00005" ndicator. Features true inch/metric conversion and absolute/relative modes to allow easurements of true size or comparison measurements of part to master. Hold feature olds value in the display. Output allows connection to a printer, computer, or data col-ector. Self-contained power of 3000 to 5000 hrs; auto-off after 5 minutes of nonuse. Also eatures carbide-tipped anvils, satin chrome finish, ratchet thimble, and locking knob. ncludes fitted case and two silver oxide button-type, 1.55V high drain batteries. Fowler rand (54-905-251).

**lo. 5A184.** Shpg. wt. 1.0 lbs. Each ..... **$233.50▲**

▲) Net prices, not subject to discounts.

Fowler

No. 5A184



# DEPTH, ANVIL, AND DISC-TYPE MICROMETERS

## STARRETT DEPTH MICROMETERS

Depth of holes, slots, shoulders and projections can be measured to .001". Both sleeve and thimble have no-glare satin chrome finish. Screw is precision ground and has a 1" movement. Lock nut holds setting at the precise measurement desired. Bases are hardened, ground and lapped for long-lasting precision. Measuring rods have individual length adjustment and are hardened, ground and lapped on the end measuring faces. Furnished in case with 1/8" diameter measuring rods.

Nos. 4F235 and 4F237 depth gages have a nonrotating, blade-type rod approx. 0.045" thick x 1/8" wide. By holding base in one hand blade can be turned with the fingers and positioned at any angle relative to the base. Blade does not turn, but moves perpendicularly only, permitting depth measurement of narrow shoulders without the blade rolling off.

| Range (In.) | Base Length (In.) | No. of Rods | Ratchet Stop | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0-3** | 2½ | 3 | No | 440Z-3L | **4F201** | **$133.00▲** | 1.4 |
| **0-3** | 2½ | 3 | Yes | 449AZ-3R | **4F235** | **159.00▲** | 1.3 |
| **0-6** | 2½ | 6 | Yes | 440Z-6RL | **4F203** | **162.75▲** | 1.5 |
| **0-6** | 2½ | 6 | Yes | 449AZ-6R | **4F237** | **194.00▲** | 1.4 |

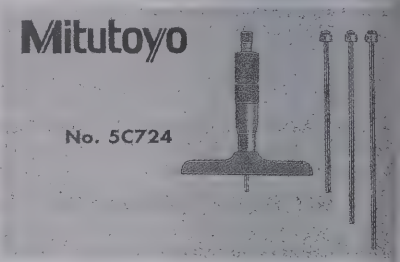



Replacement Parts Available 1-800-323-0620

## MITUTOYO DEPTH MICROMETERS

Extra-rigid depth micrometer is one of the basic measuring tools selected by machinists for depth measurements of stepped parts or heights of parts from reference surfaces. Entire bottom surface is micro-lapped to achieve a higher degree of accuracy with a satin-chrome finish throughout. Features 0.001" graduations and ratchet stop for consistent and repetitive measurements. Interchangeable rods have 0.157" diameter with lapped measuring end and are calibrated and tested. Rod length can be adjusted to compensate wear on the measuring tip with two supplied wrenches. Complete with case.

| Range (In.) | Base Length (In.) | No. of Rods | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-4** | 2½ | 4 | 129-127 | **5C722** | **$127.25▲** | 1.5 |
| **0-6** | 2½ | 6 | 129-128 | **5C723** | **153.75▲** | 1.6 |
| **0-6** | 4 | 6 | 129-132 | **5C724** | **165.75▲** | 1.6 |

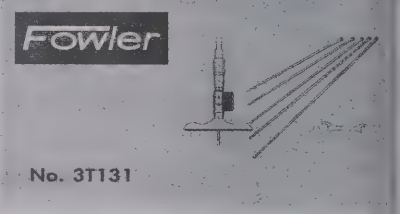


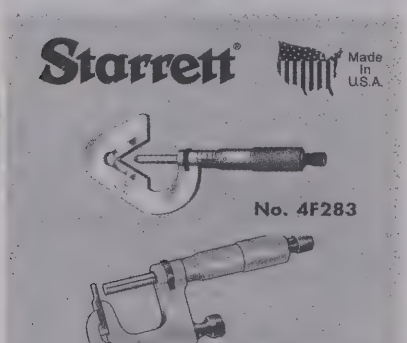

## FOWLER DEPTH MICROMETERS

Constructed of tool steel, hardened, precision ground, and microlapped. Threads are hardened, ground, and lapped for accuracy; screws are precision ground and lapped. Rods have a 0.168" diameter and a 1" measuring range. Feature microfine graduations to 0.001", ratchet stop thimble, and quick, easy zero adjustment. Meet or exceed federal specifications for accuracy. Include spanner wrench and case.

| Range (In.) | Base Length (In.) | No. of Rods | Fowler Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-3** | 2½ | 3 | 52-225-005 | **5A180** | **$110.25▲** | 1.1 |
| **0-6** | 2½ | 6 | 52-225-222 | **3T131*** | **211.25▲** | 2.0 |

(▲) Net prices, not subject to discounts. (*) Features a built-in digit counter.




## STARRETT V-ANVIL MICROMETER

For checking out-of-roundness in centerless grinding and other machining operations for measuring odd-fluted taps, end mills, reamers. Carbide facings on spindle and anvils Anvils match index of cutter teeth. Hardened, ground-from-solid spindle threads fo accurate, direct, quick reading. Satin chrome finish. Every thousandth numbered.

## STARRETT MUL-T-ANVIL MICROMETER

Interchangeable anvils permit quick, accurate measurement of tubing, cylindrical walls from a hole or slot to an edge, and in hard-to-reach places. Two anvils furnished: round anvil approx. 0.120" diameter and flat anvil approx. 0.125" and 0.060" thick. Anvils held in vise-type frame and quickly interchanged by single lock screw. Frame accommodates special anvils up to 5/16" thick. Can be used as height gage by removing vise jaw. No glare satin chrome finish resists rust. One-piece, extra-rigid carbide faced spindle and hardened, ground-from-the-solid spindle threads.

## STARRETT DISC-TYPE MICROMETER

Anvil and spindle discs, 1/2" diameter and 1/16" thick at center tapering to 0.015" edge thickness, enter narrow grooves, slots and recesses to measure work sections as ribs lands, fins; cutting edges on forming tools; and chordal thickness of gear teeth. 0-1" size is useful for measuring the thickness of paper, cardboard, rubber and sheet plastic Satin chrome finish on reading surfaces.

| Description | Range (In.) | Graduations (In.) | Thimble Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **V-Anvil Micrometer** | 0.093-1 | 0.001 | Ratchet Stop | 483XRL-1 | **4F283** | **$372.75▲** | 0.6 |
| **Mul-T-Anvil Micrometer** | 0-1 | 0.001 | Ratchet Stop | 220XRL-1 | **3X201** | **143.20▲** | 0.5 |
| **Disc-Type Micrometer** | 0-1 | 0.001 | Ratchet Stop | 256RL-1 | **4C396** | **180.00▲** | 0.4 |

(▲) Net prices, not subject to discounts.

# MICROMETER SETS AND BALL ATTACHMENTS

## STARRETT OUTSIDE MICROMETER SETS

ecommended for mechanics, automotive ervice, machine shops, toolrooms, inspec- ion departments, and wherever gaging nvolves a wide range of measurements. eature friction thimble or ratchet stop, ock nut, and carbide measuring faces. All ets come with standards in protective ases.

Starrett

Made in U.S.A.



### STARRETT OUTSIDE MICROMETER SET SPECIFICATIONS AND ORDERING DATA

| Description | Micrometers Included (In.) | Graduations (In.) | Thimble Type | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0-3" Set with 2 Standards** | 1, 2, 3 | 0.0001 | Friction | ST436AXFLZ | **4K575** | **$377.50▲** | 4.0 |
| **0-4" Set with 3 Standards** | 1, 2, 3, 4 | 0.0001 | Ratchet | ST436BXRLZ | **4K580** | **550.50▲** | 6.2 |
| **0-6" Set with 5 Standards** | 1, 2, 3, 4, 5, 6 | 0.0001 | Ratchet | ST436XCRLZ | **4F199** | **896.00▲** | 10.0 |

▲) Net prices, not subject to discounts.

## MITUTOYO MICROMETER SETS

omplete micrometer sets offer a wide ariety of sizes for many applications.

### SERIES 103 MICROMETER SETS

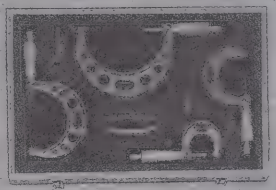
utside micrometers have carbide faces nd positive locking clamp with clear raduations on satin chrome finish. riction thimble or ratchet stop for exact epetitive readings. Baked-enamel finished rame. Sets come complete with standards nd spanner wrenches.

### DIGIMATIC MICROMETER SET

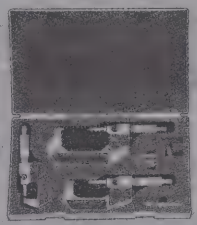
et features 3 micrometers, 0-3" range. igimatic micrometers have carbide mea- uring faces, ratchet stop thimble with nch/mm select, Zero and On/Off func- ions, and resolution of 0.00005"/0.001mm. eatures SPC output and rotating spindle. rder connecting cable, No. 5C744 or C745, separately. Set includes standards nd spanner wrenches.

Mitutoyo

Replacement Parts Available ™ 1-800-323-0620



No. 5C674



No. 5C676

### MITUTOYO MICROMETER SET SPECIFICATIONS AND ORDERING DATA

| Description | Micrometers Included (In.) | Graduations | Thimble Type | Mitutoyo Model | Stock. No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0-4" Set with 3 Standards** | 0-1, 1-2, 2-3 & 3-4 | 0.001" | Ratchet | 103-930 | **5C674** | **$320.25▲** | 3.8 |
| **0-3" Set with 2 Standards** | 0-1*, 1-2* & 2-3 | 0.0001 | Friction / Ratchet | 103-922 | **5C673** | **293.25▲** | 2.3 |
| **0-6" Set with 5 Standards** | 0-1*, 1-2*, 2-3, 3-4, 4-5 & 5-6 | 0.0001 | Friction / Ratchet | 103-907 | **5C675** | **695.50▲** | 11.0 |
| **0-3" Digimatic Set** | 0-1, 1-2 & 2-3 | 0.00005" / 0.001mm | Ratchet | 293-933-30 | **5C676** | **657.00▲** | 3.8 |

*) Friction thimble. (▲) Net prices, not subject to discounts.

## STARRETT BALL ATTACHMENTS

Starrett

Made in U.S.A.



Easily snaps on anvil or spindle of regular outside micrometers, converting them for measuring wall thickness of tubing, bearings, and sleeves. Ball is hardened and moves freely in retainer. Diameter (0.200" English/5mm metric) of each ball used must be subtracted from micrometer readings.

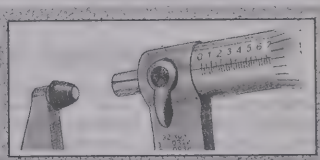
**No. 3X336.** For 0.235" Diameter Anvil. Model 247A. Shpg. wt. 0.1 lbs.. Each ..... $6.61▲

**No. 3X340.** For 0.270" Diameter Anvil. Model 247B. Shpg. wt. 0.1 lbs.. Each ..... $6.61▲

(▲) Net prices, not subject to discounts.

## MITUTOYO BALL ANVIL ATTACHMENT

Mitutoyo



Micrometer attachment for tube wall thickness measurements. Hardened steel with 0.200" dia. to place on 0.250" dia. anvils by rubber caps. With ball attachment, micrometers can measure cylindrical wall thickness (0.200" must be subtracted from the reading).

**No. 5C747.** Ball Anvil Attachment (101468). Shpg. wt. 0.1 lbs.. Each ..... $7.06▲

(▲) Net prices, not subject to discounts.

# CALIPERS AND DRIVE PIN PUNCHES

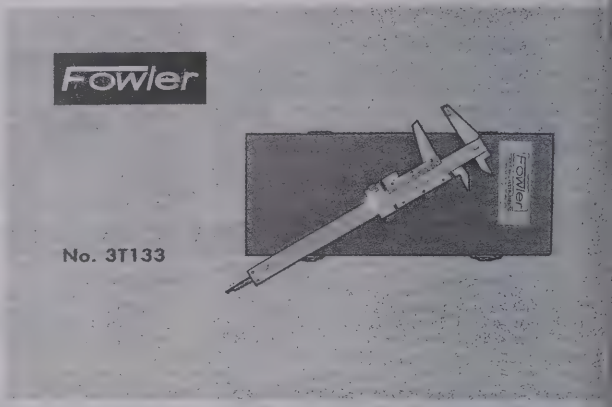
## FOWLER INCH AND METRIC VERNIER CALIPERS

- **Measures in inches or metric with vernier scales of 0.001" and 0.02mm**
- **Meet or exceed U.S. federal specifications for accuracy**

Four-way jaws for outside, inside, depth, and stop measurements. Measuring faces are ground and lapped for accuracy. Calipers are made of hardened stainless steel with microfine back graduations on satin chrome finish for easy, precise readings. Feature fine adjustment and extra-long vernier. All sliding surfaces are raised to prevent marring and wear of graduations. No. 3T133 offers depth feature that can be read directly from verniers. Include fitted case.

| Measuring Range | Jaw Depth (In.) | Accuracy (In.) | Fowler Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-6 / 150mm** | 1.6 | 0.001 | 52-058-016 | **3T133** | **$36.90▲** | 0.8 |
| **0-8 / 200mm** | 1.9 | 0.001 | 52-058-008 | **3T134** | **54.85▲** | 1.0 |
| **0-12 / 300mm** | 2.5 | 0.002 | 52-058-012 | **3T135** | **84.15▲** | 1.8 |

(▲) Net prices, not subject to discounts.




## STARRETT DRIVE PIN PUNCHES




For machine shop and motor service work. Made from specially selected tool steel, well proportioned and hardened. Highly polished with knurled finger grip. Size of punch is stamped on head of each set.

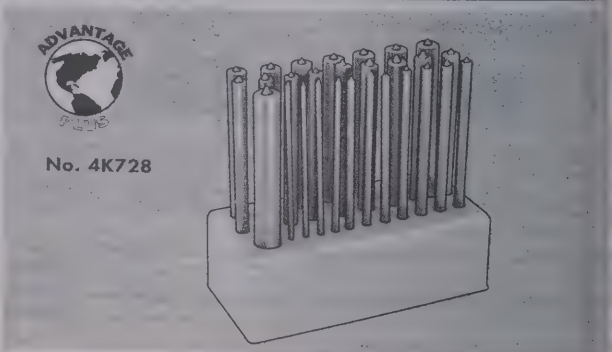
| Punch Dia. (In.) | Body Dia. (In.) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **4" LONG DRIVE PIN PUNCHES** | | | | | |
| **1/16** | 19/64 | 565A | **4F307** | **$3.30▲** | 0.1 |
| **3/32** | 19/64 | 565B | **4F309** | **3.30▲** | 0.1 |
| **1/8** | 19/64 | 565C | **4F670** | **3.30▲** | 0.1 |
| **5/32** | 19/64 | 565D | **4F991** | **3.30▲** | 0.1 |
| **3/16** | 5/16 | 565E | **4F993** | **3.30▲** | 0.1 |
| **7/32** | 25/64 | 565F | **4F995** | **3.30▲** | 0.1 |
| **1/4** | 25/64 | 565G | **4F997** | **3.30▲** | 0.1 |
| **5/16** | 29/64 | 565H | **4G005** | **3.30▲** | 0.2 |
| **8-Pc. Set (A-H) in round wood box** | — | S565WB | **4G008** | **32.80▲** | 0.9 |
| **8-Pc. Set (A-H) in protective case** | — | S565PC | **4G010** | **29.45▲** | 0.7 |
| **EXTRA LONG 8" DRIVE PIN PUNCHES** | | | | | |
| **1/8** | 7/16" | 248A | **3X344** | **4.55▲** | 0.2 |
| **3/16** | 1/2 | 248B | **3X346** | **4.55▲** | 0.3 |
| **1/4** | 1/2 | 248C | **3X348** | **4.55▲** | 0.3 |
| **5/16** | 1/2 | 248D | **3X350** | **4.55▲** | 0.3 |
| **3/8** | 9/16 | 248E | **3X367** | **4.55▲** | 0.4 |
| **5-Pc. Set (A-E) in protective case** | — | S248PC | **3X376** | **26.50▲** | 1.6 |
| **5-Pc. Set (A-E) in plain box** | — | S248 | **3X524** | **22.90▲** | 1.5 |

(▲) Net prices, not subject to discounts.

## TRANSFER PUNCH SET

A matched set of precision transfer punches for tool makers, machinists and tool cribs. Punches allow the easy transferring of threaded, drilled or reamed holes. Each punch is made of tool steel, carefully heat treated and undersized by 0.0025" for long life and easy use. Set includes 28 punches, each 4⅞" long. Size range 3/32 x 1/2 x 1/64", plus a handy 17/32" size. Indexed stand.

**No. 4K728.** Shpg. wt. 3.8 lbs. Each.....**$18.42**




### SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

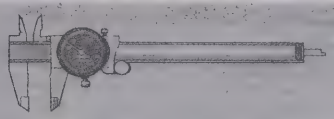
**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# DIAL CALIPERS

Starrett

Made in U.S.A.

Replacement Parts Available 1-800-323-0620



No. 4K884



No. 4K801

## STARRETT DIAL CALIPERS

- **Direct reading**
- **Knife edge contacts for inside measurements**
- **Positive split gear anti-backlash control**

merican-made in full 6, 9, and 12" ranges nglish, plus 150mm range metric. The 6", ', and 150mm models have a rod connect- d to the slide for obtaining depth dimen- ions. Rod contact is cut out to provide a ib for gaging small grooves and recesses. epth rod is available for 12" models.

alipers are hardened stainless steel with harp black bar graduations on a no-glare atin background. Feature rack of stabi- zed stainless steel with teeth pointed ownward to shed foreign matter.

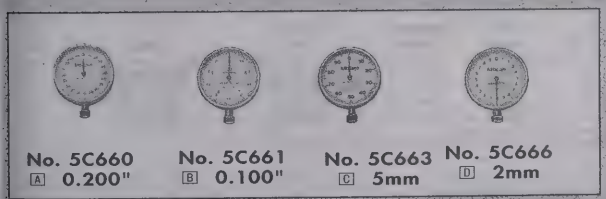
| Range (In.) | Range Per Revolution (In.) | Gradua- tions (In.) | Dial Color | Case Description | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **INCH DIAL CALIPERS** | | | | | | | | |
| **0-6** | 0.100 | 0.001 | White | Fitted case | 120A-6 | **4K884** | **$119.85▲** | 0.7 |
| **0-6** | 0.100 | 0.001 | Black | Fitted Case | B120A-6 | **4K885** | **119.85▲** | 0.7 |
| **0-6** | 0.100 | 0.001 | Red | Fitted Case | R120A-6 | **4K886** | **119.85▲** | 0.7 |
| **0-9** | 0.100 | 0.001 | White | With case | 120AZ-9 | **4K895** | **210.25▲** | 2.2 |
| **0-12** | 0.100 | 0.001 | White | With case | 120Z-12 | **4K547** | **238.00▲** | 3.4 |
| **0-12** | 0.100 | 0.001 | White | Without case | 120-12 | **4K549** | **213.00▲** | 1.2 |
| **METRIC DIAL CALIPERS** | | | | | | | | |
| **0-150mm** | 2mm | 0.2mm | Yellow | Fitted Case | 120M-150 | **4K360** | **119.85▲** | 0.7 |

### ACCESSORIES FOR DIAL CALIPERS

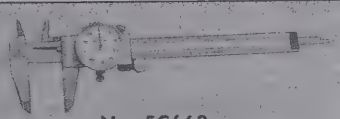
| Description | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Depth attachment for 6", 9", and 150mm dial calipers** | PT22431 | **4K911** | **$31.35▲** | 0.1 |
| **Center Gage Attachment for 6 & 12" dial calipers** | PT26151 | **4K849** | **46.00▲** | 0.2 |
| **12" Detachable depth rod** | PT26091 | **4K947** | **34.25▲** | 0.2 |
| **6" Leather holster ONLY** | 915 | **4K801** | **13.74▲** | 0.4 |

(▲) Net prices, not subject to discounts.

Mitutoyo



No. 5C660 [A] 0.200" | No. 5C661 [B] 0.100" | No. 5C663 [C] 5mm | No. 5C666 [D] 2mm



No. 5C663

## MITUTOYO DIAL CALIPERS

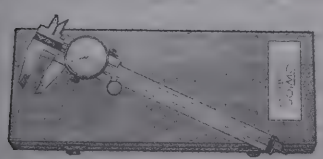
- **Hardened stainless steel with satin-chrome finish, extra-rigid main beam, and extra-large dial face for easy reading**
- **No. 5C667 features carbide inside and outside jaws**

Calipers are capable of inside, outside, depth, and step measurements to 0.001", 0.05mm, or 0.02mm readings.

| Range (In.) | Gradua- tions (In.) | Dial Face | Jaw Depth (In.) | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **INCH DIAL CALIPERS** | | | | | | | |
| **0-4** | 0.001 | A | 1 9/16 | 505-629-50 | **5C662** | **$74.05▲** | 0.7 |
| **0-6** | 0.001 | A | 1 9/16 | 505-626-50 | **5C660** | **85.90▲** | 0.8 |
| **0-6** | 0.001 | B | 1 9/16 | 505-637-50 | **5C663** | **123.55▲** | 0.8 |
| **0-6** | 0.001 | B† | 1 9/16 | 505-653-50 | **5C667** | **152.25▲** | 0.8 |
| **0-8** | 0.001 | B | 1 15/16 | 505-644-50 | **5C664** | **137.75▲** | 1.0 |
| **0-12** | 0.001 | B | 2 1/2 | 505-645-50 | **5C665** | **205.50▲** | 2.0 |
| **METRIC DIAL CALIPERS** | | | | | | | |
| **0-150mm** | 0.05mm | C | 40mm | 505-633-50 | **5C661** | **85.90▲** | 0.7 |
| **0-150** | 0.02 | D | 40 | 505-646-50 | **5C666** | **102.30▲** | 0.8 |

(†) Carbide-tipped O.D. and I.D. measuring faces. (▲) Net prices, not subject to discounts.

Fowler



No. 5A176

## FOWLER "ONE-REV" DIAL CALIPERS

- **Dial hand completes one revolution per each 0.100"**
- **Features outside, inside, step, and depth measurements**
- **Meet or exceed U.S. federal specifications for accuracy**

Inverted covered rack prevents dirt accumulation in rack gear teeth and dual pinion drive mechanism reduces wear on rack and pinion. Self-contained movement eliminates gear misalignment. Calipers have hardened stainless steel throughout with measuring faces precision ground and microlapped for accuracy. Feature knurled lock, thumbroll for rapid setting and easy adjustment, and raised bearing surface for sliding jaw to eliminate wear and marring of graduations on beam. Includes fitted case.

| Range (In.) | Graduations (In.) | Accuracy (In.) | Jaw Depth (In.) | Fowler Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0-6** | 0.001 | 0.001 | 1.6 | 52-008-006 | **5A176** | **$84.80▲** | 0.7 |
| **0-8** | 0.001 | 0.001 | 2.0 | 52-008-008 | **3T136** | **108.00▲** | 1.0 |
| **0-12** | 0.001 | 0.002 | 2 5/16 | 52-008-012 | **3T137** | **147.45▲** | 1.9 |

(▲) Net prices, not subject to discounts.

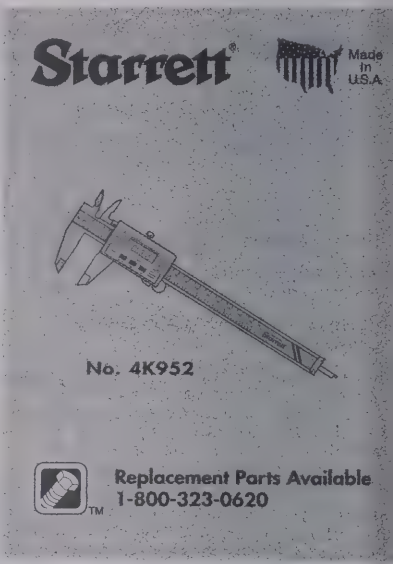
# ELECTRONIC DIGITAL CALIPERS

## STARRETT ELECTRONIC DIGITAL CALIPERS

- **Only electronic calipers made in America**
- **6" (150mm) linear accuracy ±.001" (0.03mm)**
- **Resolution .0005" (0.01mm)**
- **Hardened, stainless steel body**
- **Fine adjust for tighter measurements and slide lock for holding position**

**Electronic calipers** are offered in basic or full function versions with or without data output capability for SPC analysis and documentation. Feature large, easy-to-read LCD digital display, inch/mm conversion (except No. 4K956), both zero and hold readout at any position, and automatic off after 15 minutes of on/off use. Batteries (over one year of life with normal use) and instructions included.

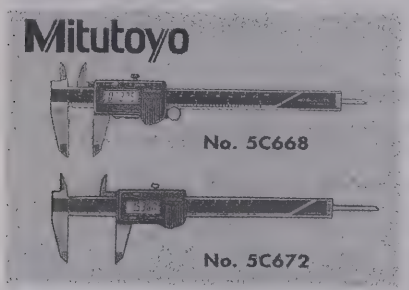
**Full Function Models** feature easy keyboard control by using a shift button, "limits" button to enter high/low dimensional limits (out of limits readings will flash on display), manual on/off, and output capability to Starrett computer hardware and data collection systems for SPC analysis and documentation.




| Length (In.) | Reading | Case | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **BASIC MODELS ORDERING DATA** | | | | | | |
| 6 | in/mm | Yes | 721A-6/150 | 4K952 | $161.25▲ | 0.7 |
| 6 | mm | Yes | 721MA-150 | 4K956 | 167.75▲ | 0.7 |
| **FULL FUNCTION MODELS WITH OUTPUT ORDERING DATA** | | | | | | |
| 6 | in/mm | Yes | 721B-6/150 | 4K953 | 205.00▲ | 0.7 |
| 9 | in/mm | No | 721B-9/225 | 4K955 | 270.25▲ | 0.6 |
| 12 | in/mm | No | 721BZ-12/300 | 4K970 | 533.50▲ | 1.3 |

(▲) Net prices, not subject to discounts.

## MITUTOYO DIGIMATIC CALIPERS




**Stainless steel and rugged construction** with rolling thumb wheel. Control switches include Zero, On/Off, and Inch/mm. Nos. 5C668 and 5C670 produce SPC output for data recording and analysis (order connecting cable No. 5C739 or 5C740 separately for No. 5C671). No. 5C672 features enlarged LCD and control buttons on face. The Absolute Digimatic Caliper offers special functions which allow it to always remember its measuring position even after the gauge has been switched off.

| Range | Jaw Depth (In.) | SPC Output | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0-6"/0-150mm | 1.57 | No | 500-196 | 5C672† | $140.05▲ | 0.7 |
| 0-6"/0-150mm | 1.57 | Yes | 500-171 | 5C668† | 196.00▲ | 0.7 |
| 008"/0-200mm | 1.97 | Yes | 500-172 | 5C670† | 235.25▲ | 1.1 |
| 0-12"/0-300mm | 2.52 | Yes | 500-173 | 5C671 | 503.00▲ | 1.1 |

(▲) Net prices, not subject to discounts. (†) Micrometer with ABS Absolute Scale.

## FOWLER ELECTRONIC CALIPERS

- **Include fitted case and battery**
- **True inch/metric conversions**

### "MAX-CAL" ELECTRONIC CALIPERS

Powerful (LSI) microchip allows full size computer functions in a small, portable tool. Three modes: limit, peak, and data output. Outside jaws are 1.57"/40mm; inside jaws 0.670"/17mm. Four-way measurements; inside, outside, depth and step. Holds measurement in the display. Two-stage auto off: displays off after 4.2 minutes, final/memory off after 33.6 minutes. Body is hardened stainless steel; black scale divisions of satin chrome.

### "ULTRA-CAL III" ELECTRONIC CALIPERS

Allow direct input from gage to a computer; output is for SPC applications. Noncontact linear measuring is insensitive to magnetic and electrical interference; also oil, dust, and chip resistant. No. 3T148 has four-way measurement only. Features floating zero and low-drain, high efficiency lithium-wafer battery. Battery offers 5000 hrs. of continuous use. Frame, jaws, and depth rod precision ground of hardened stainless steel. Fast measuring speed: up to 60" (1.5mm) per second. No. 3T149 features heavy-duty style frame.




| Measuring Range | Accuracy | Fowler Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **"MAX-CAL" ELECTRONIC CALIPERS ORDERING DATA** | | | | | |
| 0-6"/150mm | 0.001"/0.03mm | 54-200-777 | 5A183 | $157.00▲ | 0.9 |
| 0-8"/200mm | 0.001"/0.03mm | 54-200-888 | 3T139 | 264.75▲ | 1.3 |
| **"ULTRA-CAL III" ELECTRONIC CALIPERS ORDERING DATA** | | | | | |
| 0-6"/150mm | 0.001"/0.025mm | 54-100-333 | 3T148 | 159.25▲ | 0.7 |
| 0-12"/300mm | 0.0015"/0.04mm | 54-100-012 | 3T149 | 714.00▲ | 2.8 |

(▲) Net prices, not subject to discounts.



*Take the guesswork out of your precision measuring tools purchase.*

# HEIGHT AND DEPTH GAGES

## STARRETT HEIGHT GAGE

asy-to-read hardened stainless steel 6" dial height gage has 001" graduation. Thumb roll provides rapid travel and fine djustment. Knurled thumb screws lock the movable side and djustable indicator dial at any setting. Special hardened and round base is notched and allows reading from zero baseposi-on up to 6".Comes complete with hardened ground scriber point nd scriber carrier. Starrett brand (250-6).

**o. 4K557.** Shpg. wt. 1.8 lbs. Each.....$300.25▲

## HEIGHT TRANSFER GAGE

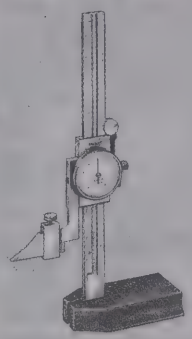
or use with test indicators or electronic amplifiers to accurate-transfer height settings from gage blocks, digital height gages r other standards. Extremely rigid, rectangular box-type hollow olumn mounted integrally on heavy base. Bottom of base has ree ground and lapped pads for stability and smooth movement n surface plate. Entire dovetail and slide unit has fine vertical djustment of approx. 3/8" relative to fixed column. Adjusting echanism is located in base, so vertical column and indicator re isolated and not affected by heat or hand pressure.

snug on slide provides two holes: 0.375" and 0.156" diameter or holding gage rods or scribers. 9" rod furnished with gage has ajor diameter of 0.375" and two stepped diameters of 1/4" and /32" at one end and 5/16" at opposite end. Range is 0-14": urnished with 9" rod and gage holding rod in finished case. tarrett brand (252Z-14).

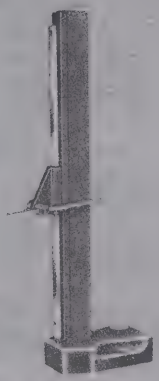
**o. 4K328.** Shpg. wt. 19.0 lbs. Each.....$575.00▲

Starrett

Made in U.S.A.



No. 4K557

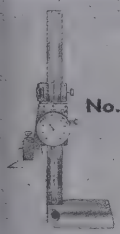


No. 4K328

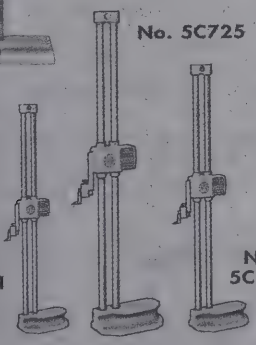
Replacement Parts Available
1-800-323-0620

## MITUTOYO DIAL HEIGHT GAGES

Mitutoyo



No. 5C702



No. 5C725

No. 5C701

No. 5C700

Replacement Parts Available
1-800-323-0620

### 6" DIAL HEIGHT GAGE

For layout and inspection of multi-step measurements up to 6" in height. Preferred over vernier height gages. Feature 0.001" dial reading with fine feed adjustments and carbide-tipped scriber with box clamp. Made of hardened stainless steel. Mitutoyo brand (509-313)

**No. 5C702.** Shpg. wt. 2.1 lbs.
Each.....$269.75▲

### DIAL HEIGHT GAGES WITH DUAL DIRECTIONAL DIGITAL COUNTER

For layout and inspection of multi-step measurements and large parts. Feature 0.001" dial reading. Digital counter comes with Zero Reset button and chrome-plated double beams. Bottom surface of base is hardened, ground and lapped for maximum flatness. Large hand wheel with coarse and fine vertical movement and column lock. Carbide-tipped scriber and clamp.

| Range (In.) | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0-12 | 192-150 | 5C701 | $696.00 ▲ | 9.3 |
| 0-18 | 192-151 | 5C725 | 956.50 ▲ | 25.0 |
| 0-24 | 192-152 | 5C700 | 1244.00 ▲ | 25.0 |

(▲) Net prices, not subject to discounts.

## STARRETT 6" RULE DEPTH GAGE

Starrett

Made in U.S.A.



No. 3X313

Consists of case hardened steel head, 2⅝" long x 1/8" thick, and 6" tempered steel rule graduated 32nds and 64ths fitted to slot in head. Rule locked in position by knurled nut and friction spring. Starrett brand (237).

**No. 3X313.** Shpg. wt. 0.2 lbs.
Each.....$29.20▲

(▲) Net prices, not subject to discounts.

## "LITTLE GIANT" JACK SCREWS

'or leveling work on planer beds, upright drills and setting up machinery. Ability to aise over 1,000 lbs.

| Description | Range (In.)* | Starrett Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|
| Complete set with all attachments | 2¼-6¾" | S190 | 3X183 | $33.55▲ | 1.3 |
| Complete set with all attachments | 1½-3¼ | S191 | 3X185 | 33.55▲ | 0.5 |

*)Maximum with attachments. (▲) Net prices, not subject to discounts.

Starrett

Made in U.S.A.



No. 3X185

# DIGITAL HEIGHT GAGES AND TELESCOPING GAGES

## STARRETT ELECTRONIC DIGITAL HEIGHT GAGES

Feature stainless steel construction, hardened and ground scriber, vibration-proof base, complete height measurement functions, and output capabilities for SPC analysis, data collection and hard copy documentation. Large, digital readout display. LCD display has resolution of 0.0005 inches (0.01mm). Clear bar graduations in .001" and 5mm increments. Knurled thumb screw locks scriber at any position. Fine adjust mechanism with +/- direction selector. Measurement functions include Zero at any position, Inch/mm conversion, and Hold capability to retain a reading. Powered by two 3V lithium coin-cell batteries with a life of over 1 year for convenient battery operation.

| Range | Accuracy per Ft. (In.) | LCD Readout Resolution | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-12" / 0-300mm** | 0.001 | 0.0005" / 0.01mm | 752A-12 | **4K829** | **$624.00▲** | 14.0 |
| **0-18" / 0-450mm** | 0.001 | 0.0005" / 0.01mm | 752A-18 | **4K830** | **976.50▲** | 19.0 |
| **0-24" / 0-600mm** | 0.001 | 0.0005" / 0.01mm | 752A-24 | **4K831** | **1194.00▲** | 20.0 |

(▲) Net prices, not subject to discounts.

### OPTIONAL CASES

| For Use With | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Starrett 12" height gages** | 928 | **4K309** | **$91.90▲** | 11.0 |
| **Starrett 18", 24" height gages (Models 752, 259, and 254)** | 945 | **4K543** | **151.75▲** | 16.0 |

(▲) Net prices, not subject to discounts.



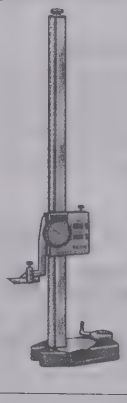

## STARRETT DIGITAL DIAL HEIGHT GAGE

- **Measuring range: 0-24"**
- **Dial Resolution: 0.001"**
- **Digital Counter Resolution: 0.1"**
- **Accuracy: ± 0.001"**
- **Repeatability: ± 0.0005"**

Simple, rugged, well balanced design. Large speeder-type knob moves slide from top to bottom rapidly; fine adjustment knob provides precise settings. Reset to zero at any point in range. Locks for easy, accurate scribing or mount dial indicator, depth attachment, electronic probe or other device in scriber holder. Fully chrome plated master bar. Natural grip hardened base. Includes auxiliary scriber and carrier. Starrett brand (259-24).

**No. 4K518.** Shpg. wt. 22.0 lbs.
Each ..... **$1608.00▲**

(▲) Net prices, not subject to discounts.




## MITUTOYO DIGIMATIC HEIGHT GAGES

- **Measuring range: 0-12" or 0-18"**
- **Graduations: 0.0005"/ 0.01 mm**

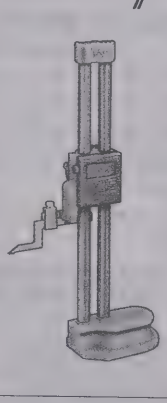
Instant, easy-to-see, error-free LCD read out for layout and measurement. Features 0.0005" reading and SPC output for data recording and analysis. Connecting cable for No. 5C703 and 5C704, are No. 5C738 (1M) and No. 5C740 (2M).

Extra-rugged, two-column construction for more precise upward and downward slider movements. Panel features include Inch/mm, ABS switch, Zero Set, Preset capability, and Hold. Switchable coarse/fine adjustment through large feed wheel. Includes carbide-tipped long (5.9") scriber and new clamp and three "AA" batteries.

**No. 5C703.** 0-12" Height Gage (192-670). Shpg. wt. 14.0 lbs. Each ..... **$1258.00▲**

**No. 5C704.** 0-18" Height Gage (192-671). Shpg. wt.25.0 lbs. Each ..... **$1628.00▲**

(▲) Net prices, not subject to discounts.




## TELESCOPING GAGE SETS

Gages are used for determining true size of holes, slots and recesses. Plunger or gage expands in hole to be measured, locks in place, then gage is removed from hole; final hole size is obtained by measuring over contacts with a micrometer. Constant spring tension gives uniform contact pressure and both plungers are easily locked at any setting by a slight turn of the knurled screw in end of handle. Ends of both contacts are hardened and precision ground on the measuring radius end.

### STARRETT 4-PC. TELESCOPING GAGE SETS

Four measurement ranges: 5/16-1/2", 1/2-3/4", ¾-1¼", and 1¼"-2⅛" in case. Starrett brand (S579GZ).

**No. 4G733.** Shpg. wt. 0.2 lbs. Each ..... **$86.40▲**

### MITUTOYO 4 AND 6-PC. TELESCOPING GAGE SETS

Satin chrome finished gages come in fitted carrying case.

**No. 5C718.** (155-907) Covers a 5/16 - 2⅛" range. Shpg. wt. 0.7 lbs. Each ..... **$81.30▲**

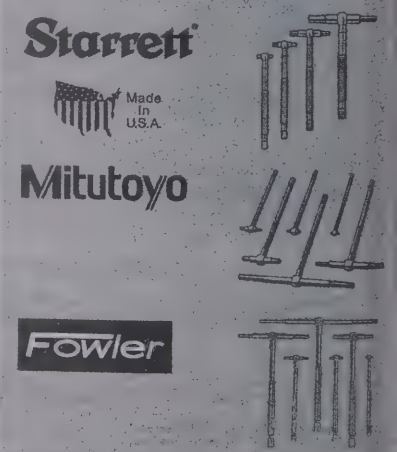
**No. 5C717.** (155-903) Covers a 5/16 - 6" range. Shpg. wt. 0.8 lbs. Each ..... **$136.10▲**

### FOWLER 6-PC. TELESCOPING GAGE SET

Six measurement ranges/depths: 5/16 to 1/2"/4"; 1/2 to 3/4"/4"; 3/4 to 1¼"/4"; 1¼ to 2⅛"/5"; 2⅛ to 3½"/5"; and 3½ to 6"/5" in fitted vinyl case. Fowler brand (52-470-006).

**No. 5A179.** Shpg. wt. 0.7 lbs. Each ..... **$89.40▲**

(▲) Net prices, not subject to discounts.



# STARRETT TOOL SETS

## AUTOMOTIVE SERVICE SET

or shops doing regrind, general maintenance, and repair. This English-type set comes n a protective case.

## INDUSTRIAL PRECISION TOOL SETS

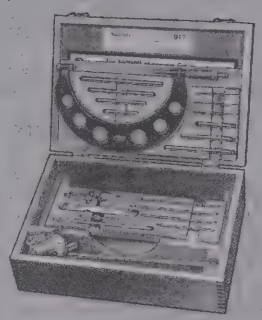
hese English-type sets were developed for industrial use and contain tools basic to per- orm numerous length, width, thickness, and diameter measurements. Each set comes in protective case.

| Description | Set Includes | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| -Pc. Automotive ervice Set | 2-6" Micrometer<br>2½-6" Cylinder Gage<br>2-8" Inside Micrometer<br>Thickness Gage | S917Z | 4K238 | $667.50▲ | 7.8 |
| -Pc. Precision Tool Set | 0-1" Micrometer<br>1-2" Micrometer<br>0-3" Depth Micrometer<br>1½-8" Tubular Inside Micrometer | S906Z | 4K522 | 547.00▲ | 4.4 |

▲) Net prices, not subject to discounts.

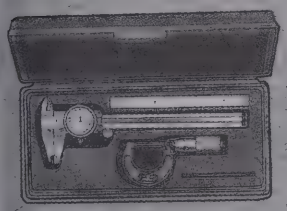
Starrett

Made in U.S.A.

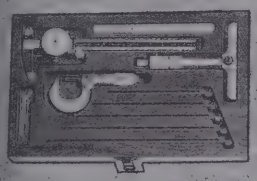


No. 4K238

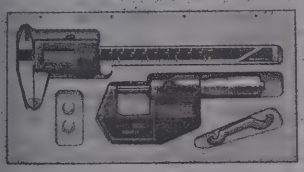
Mitutoyo



No. 5C657



No. 5C658



No. 5C659

# MITUTOYO TOOL KITS

## 3-PC. TOOL KIT

Includes 6" full flexible steel rule with 1/8, 1/16, 1/32, and 1/64" graduations, 0-1" outside micrometer with 0.001" graduations, and 6" dial caliper with 0.001" graduations (0.200" per revolution) in fitted mahogany case.

## 4-PC. TOOL KIT

Includes 6" full flexible steel rule with 1/32, 1/64, 1/50, and 1/100" graduations, 0-1" outside micrometer with 0.0001" graduations, 0-6" depth micrometer with 4" base span, 6 interchangeable rods, and 0.001" graduations, and 6" dial caliper with 0.001" graduations (0.100" per revolution) in fitted mahogany case.

## DIGIMATIC TOOL KIT

Includes 0-1" Digimatic micrometer and 0-6" Digimatic caliper and batteries for both gages in a solid, fitted mahogany case. Digimatic micrometer has Inch/mm, Zero, and On/Off fuctions with a 0.00005"/0.001mm readout. Digimatic caliper has large LCD display, line graduations on the beam, Inch/mm Select, and Zero functions, and 0.0005"/0.01 mm resolution.

| Description | Set Includes | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3-Pc. Tool Kit | 6" Full Steel Rule<br>0-1" Outside Micrometer<br>6" Dial Caliper | 950-902 | 5C657 | $209.75▲ | 4.0 |
| 4-Pc. Tool Kit | 6" Full Steel Rule<br>0-1" Outside Micrometer<br>0-6" Depth Micrometer<br>6" Dial Caliper | 950-909 | 5C658 | 351.50▲ | 6.9 |
| 2-Pc. Digimatic Tool Kit | 0-1" Digimatic Micrometer<br>0-6" Digimatic Caliper | 950-940-9 | 5C659 | 310.00▲ | 3.5 |

(▲) Net prices, not subject to discounts.

**REPLACEMENT PARTS AVAILABLE,**
**FOR FASTEST SERVICE CALL 1-800-323-0620**

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# DIAL TEST INDICATORS

### UNIVERSAL DIAL TEST INDICATORS

Universal dial test indicator adjusts to any angle. The slightest pressure on contact point produces a movement of hand on dial. Indicator comes with three hardened contact points which allow any outside surface to be checked including cutters, gears, and racks. Attachments included with 3X187. Tool post holder with sleeve is used in lathe work. Sleeve is used on 5/16" diameter surface gage spindles. Clamp attaches the indicator to lathe and planer tools and milling arbors. Hole attachment lets the indicator be used over obstructions and inside holes to a depth of 1⅝".
Dimensions: Tool post holder is 3/8 x 3/4 x 6" with upright spindle 5/16" diameter x 4½"; dial indicator stem is 1/4" diameter x 1½"; clamp is 5/16" diameter post with 1⁵⁄₁₆" capacity flat or round.

### LAST WORD® DIAL TEST INDICATORS

For precise measurements in machining, layout, checking and inspection work. Indicator attachment on end of body adapts indicator to jib borers, milling or boring machines. Ball swivel joint adjusts to sweep any hole or surface within its range. Universal shank attaches to end of indicator attachment adapting indicator to all Starrett Model 254 vernier height gages, as well as to lathe tool posts and milling machine arbors. Features jeweled lever for extra smooth indicator action; a switch lever on body to reverse action; hard chrome-plated 0.120" diameter ball contact point with ratchet joint for instant movement to any position; an adjustable 15/16" diameter dial; and a removable inspection hole cover screw for minor adjustments. Each indicator is furnished with three hardened steel, chrome plated contact points, complete in protective case. 4K168 includes double-jointed attachment, long and short arm, coupling, body snug complete, indicator attachment complete with shank, gooseneck shank, rubber dust guard, surface gage attachment, height gage attachments, and 3 contact points—.035", .062", and .120".

### SWIVEL HEAD DIAL INDICATOR

Indicator with unique swivel head positions at any angle between 0 and 90°. Horizontal, vertical and 45° dial indicator all in one. Contact lever is automatically reversible. Has jewel bearings and is compatible with most dovetail attachments. Contact is frictionally adjustable and reversing. Attachments include swivel clamp, dovetail body clamp, clamp sleeve, and holding bar. Case included.

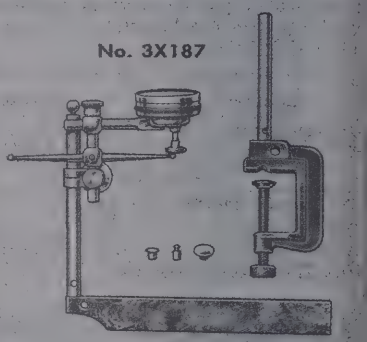
### DIAL TEST INDICATORS WITH DOVETAIL MOUNTS

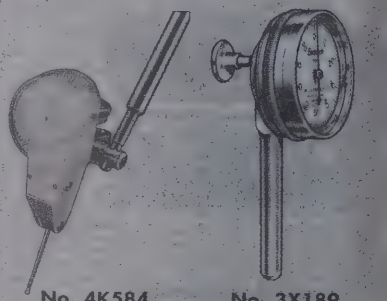
Feature large, easy-to-read, angled dial faces (1.35" O.D.) which provide ease of reading. Long 13/16" contact and narrow body provide inreach versatility. Standardized dovetails work with dial test indicator accessories. Has jeweled movement and rotatable bezel. Precision gear driven design and precision machined body. Clockwise hand rotation; contact point reverses automatically. Frictionally adjustable contact. Attachments include swivel post snug, dovetail body clamp, clamp snug, and holding bar.

### DIAL TEST INDICATOR WITH DEEP HOLE ATTACHMENT

Back plunger indicator includes a detachable deep hole attachment interconnecting directly with main spindle for positive action. Attachment is for checking internal dimensions of a workpiece while in fixtures or machines and can be easily removed. 1¹¹⁄₁₆" diameter bezel and 0-100 continuous reading dial. Adjustable dial to set zero at any point opposite the hand. Indicator mounting rod measures 1/4" diameter x 3⅜" long. Back plunger stem is AGD 3/8" diameter x 5/8" long. Indicator is furnished with three different AGD contact points for use in most applications.

Starrett® Made in U.S.A.



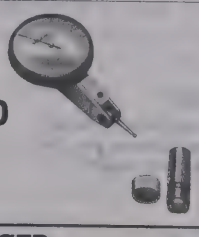




Replacement Parts Available 1-800-323-0620

| Description | Graduations | Range | Dial Reading | Dial Color | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Universal Dial Test Indicator** | 0.001" | 0.200" | 0-100 | — | 196A1Z | **3X187** | **$142.30▲** | 2.2 |
| **Universal Dial Test Indicator** | 0.001 | 0.200 | 0-100 | — | 196B1 | **3X189** | **82.20▲** | 0.2 |
| **Last Word Dial Test Indicator** | 0.001 | 0.030 | 0-15-0 | — | 711FSAZ | **4K157** | **109.95▲** | 0.7 |
| **Last Word Dial Test Indicator** | 0.0005 | 0.030 | 0-15-0 | — | 711HSAZ | **4K174** | **113.05▲** | 0.7 |
| **Last Word Dial Test Indicator** | 0.001 | 0.030 | 0-15-0 | — | 711GCSZ | **4K168** * | **155.00▲** | 0.9 |
| **Swivel Head Dial Indicator** | 0.0005 | ± 0.015 | 0-15-0 | White | 811-5CZ | **4K584** | **237.75▲** | 1.7 |
| **Dial Test Indicators w/ Dovetail Mounts** | 0.0001 | 0.010 | 0-5-0 | White | 708ACZ | **4K817** | **221.50▲** | 1.6 |
| **Dial Test Indicators w/ Dovetail Mounts** | 0.0001 | 0.010 | 0-5-0 | Red | R708ACZ | **4K898** | **221.50▲** | 1.6 |
| **Dial Test Indicators w/ Dovetail Mounts** | 0.0001 | 0.010 | 0-5-0 | Black | B708ACZ | **4K900** | **221.50▲** | 1.6 |
| **Dial Test Indicators w/ Dovetail Mounts** | 0.0005 | 0.030 | 0-15-0 | White | 709ACZ | **4K821** | **169.75▲** | 1.6 |
| **Dial Test Indicator w/ Deep Hole Attachment** | 0.001 | 0.200 | 0-100 | — | 650B1 | **4K861** | **129.40▲** | 0.5 |

(*) Includes double-jointed attachment, long and short arm, coupling, body snug complete, indicator attachment complete with shank, gooseneck shank, rubber dust guard, surface gage attachment, height gage attachments, and 0.035, 0.062, and 0.120" contact points. (▲) Net prices, not subject to discounts.

Mitutoyo



## MITUTOYO DIAL TEST INDICATOR

For comparative measurement or zero reference on height gage. Features 0.0001" reading; total range 0-0.008". One-piece bezel resists dust, dirt and water. Face is flat to help eliminate edge glare and plastic face is coated with scratch-resistant material. Indicating hand is highly sensitive and quick to respond due to the jeweled bearings. Lightweight design for greater stability in measurement, universal 3-point dovetail mount. Includes 3/8" diameter stems and 0.078" contact points, and nut. Mitutoyo brand (513-403).

**No. 5C705.** Shpg. wt. 0.3 lbs. Each.....**$117.45▲**

(▲) Net prices, not subject to discounts.



*Take the guesswork out of your precision measuring tools purchase.*

# DIAL INDICATORS

## STARRETT DIAL INDICATOR

GD Group 2 dial indicator has hardened stainless steel rack, pinions and gears which sist shock and extend wear life. Moving parts are finished to extremely fine tolerances, delivering smooth, sensitive action that minimizes friction and lost motion and sures precise repetitive readings.

dicator features sharp bezel serrations for positive grip and positive-acting clamp that cks bezel in position, nonreflecting white eggshell finish on dial, no-glare satin finish case, interchangeable contact point, and low friction jewel bearings. 2¼" diameter al with unbreakable crystal face. Measurement specifics: 0.0001" graduations; 0-5-0 al reading; 0.010" one revolution range; and 0.200" total range. Indicator conforms to GD specifications (except for range). Furnished with lug-on-center back and jewel earings. Starrett brand (25-511J).

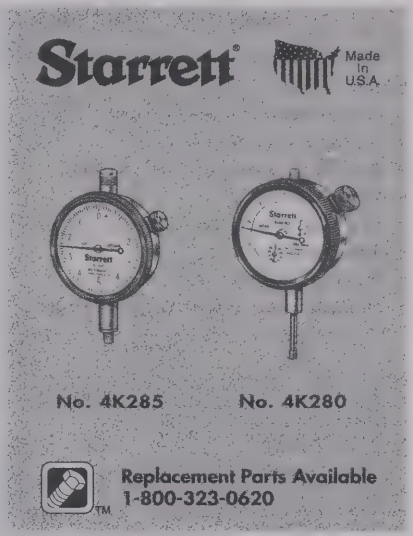
**o. 4K285.** Shpg. wt. 0.5 lbs. Each.....$172.00▲

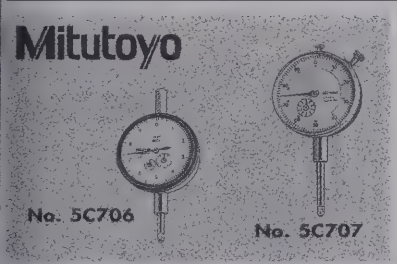
## TARRETT INTERMEDIATE AND LONG RANGE DIAL INDICATORS

dicators conform to AGD specifications (except for range). Furnished with continuous eading double dial and count hand, top lift and lug-on-center back, and with jewel bearigs.

| raduation (In.) | Dial Reading | Range One Rev. (In.) | Total Range (In) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 0005 | 0-50 | .050 | 1.000 | 25-631J | 4K289 | $105.15▲ | 0.5 |
| 001 | 0-50-0 | .100 | 1.000 | 25-341J | 4K276 | 101.35▲ | 0.5 |
| 001 | 0-100 | .100 | 2.000 | 25-2041J | 4K294 | 176.50▲ | 1.1 |
| 001 | 0-100 | 0.10 | 1.000 | 25-441J | 4K280 | 101.35▲ | 0.5 |

▲) Net prices, not subject to discounts.




## MITUTOYO DIAL INDICATORS

Basic requirement for comparative measurements and standard for inspection works. Include Series 2 dial face, stainless steel crush-resistant 3/8" stem mount, 4/48 thread removable contact point, and reversible counter. No. 5C706 has jeweled bearing and lug-on-center back. No. 5C707 has heavy-duty dial housing, sealed crystal/bezel, sealed lug-on-center back and long range indicator. Indicators meet or exceed American Gage Design (AGD) standards.

| Total Range (In.) | Dial Face | Graduations (In.) | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0.50 | 0-10 | 0.0001 | 2358-50 | 5C706 | $148.75 ▲ | 0.5 |
| 1.00 | 0-100 | 0.001 | 999-390 | 5C707 | 84.40 ▲ | 0.5 |

(▲) Net prices, not subject to discounts.

## FOWLER DIAL INDICATORS

eature revolution counter hand, extra-long springs for uniform pressure through entire ravel of spindle, knurled bezel adjusted through 360°, and adjustable tolerance limit narker. Movement mounted independently from case on rigid supporting plate.

pindle rack and contact points made of hardened stainless steel. Cases are forged brass nd satin chrome; gear wheels are hard brass. Pinions made of silver steel, hardened, empered, and burnished on pivots; lapped on teeth. Dial diameter is 2¼". Meet or xceed AGD Group 2 and federal accuracy specifications. Supplied with lug backs posiioned through 90° increments.

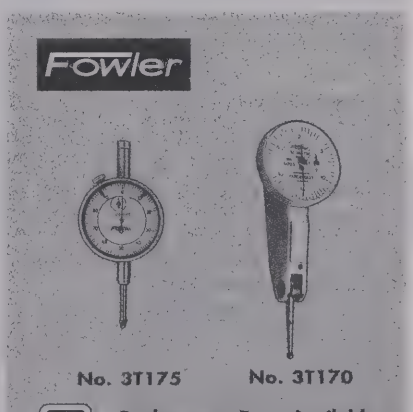
| Measuring Travel (In.) | Measuring Graduation (In.) | Continuous Reading | Fowler Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0.500 | 0.001 | 0-100 | 52-520-105 | 3T174 | $64.35▲ | 1.0 |
| 1.00 | 0.001 | 0-100 | 52-520-110 | 3T175 | 68.05▲ | 0.5 |

## FOWLER DOUBLE RANGE INDICATOR

eatures 1" dial diameter with total measuring range to 0.060". Dial reading, 0-15-0; divions, 0.0005". Revolution counter indicates total number of revolutions. Carbide conact points can be swiveled over 240° to reach any position. 1/4 and 7/32" dovetail clampng stems included. Diameter points included: 0.040, 0.080, 0.120"; Point length 0.800". owler brand (52-562-252).

**lo. 3T170.** Shpg. wt. 2.0 lbs. Each.....$160.00▲

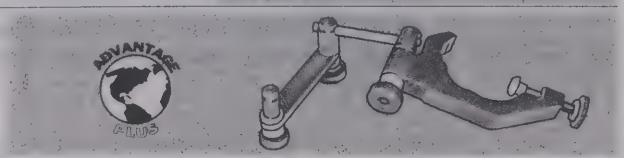
▲) Net prices, not subject to discounts.




## TEST INDICATOR HOLDER

uickest way for fast, positive indicating. Fits Bridgeport type illing machines. Clamping diameter 1 7/8". Reach from 0-12" iameter. Suitable for all popular indicators with 5/32" shank or ovetail.

**lo. 3X146.** Shpg. wt. 0.8 Each.....$14.03



# ELECTRONIC DIGITAL INDICATORS

## WISDOM™ ELECTRONIC DIGITAL INDICATORS

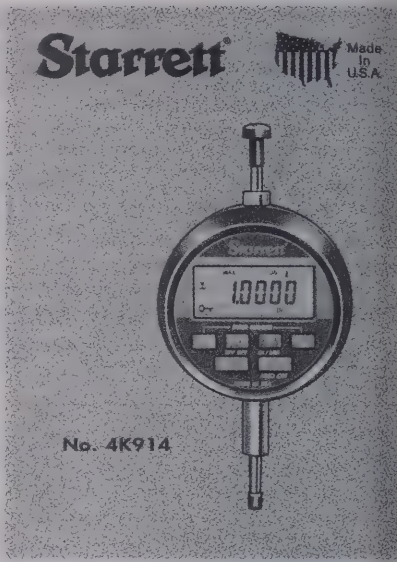
User-selectable resolution feature: up to 10 resolutions available in one indicator.

**BASIC SERIES:**

- Instant inch/mm conversion
- Maximum reading hold
- Zero tool at any spindle position
- Rotating bezel
- Auto Off after 10 minutes of non use
- Serial number
- Three power sources
- Multiple data output/input choices

**PLUS SERIES-Same features as Basic Series as well as:**

- Minimum reading hold
- Hold button to freeze display
- Preset mode
- Floating reference
- Tolerancing
- T.I.R. display
- Feature lock




| Description | Resolution Inch | Resolution mm | Accuracy Inch | Accuracy mm | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **WISDOM™ BASIC SERIES** | | | | | | | | |
| **Indicator with output** | 0.0005 | 0.01 | ±0.001 | ±0.025 | 2730-3 | **4K914** | **$362.50▲** | 0.6 |
| **Indicator with output** | 0.0001 | 0.002 | ±0.0002 | ±0.0005 | 2730-1 | **4K915** | **395.00▲** | 0.6 |
| **Indicator with output** | 0.00005 | 0.001 | ±0.0002 | ±0.003 | 2730-0 | **4K916** | **427.25▲** | 0.6 |
| **WISDOM™ PLUS SERIES** | | | | | | | | |
| **Indicator with output** | 0.0005 | 0.01 | ±0.001 | ±0.025 | F2730-3 | **4K917** | **416.50▲** | 0.6 |
| **Indicator with output** | 0.0001 | 0.002 | ±0.0002 | ±0.005 | F2730-1 | **4K918** | **427.25▲** | 0.6 |
| **Indicator with output** | 0.00005 | 0.001 | ±0.0002 | ±0.003 | F2730-0 | **4K919** | **459.75▲** | 0.6 |

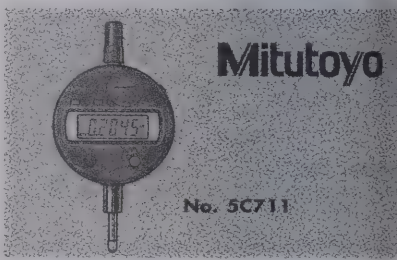
(▲) Net prices, not subject to discounts.

## MITUTOYO DIGIMATIC INDICATOR

**Flat-back Style Digimatic Indicator** offers the benefits of error-free digital readings in a basic and economical package. 0.500"/12.7mm travel with 0.0005"/0.01mm reading. Size conforms generally to AGD Series 2 specifications. Features Absolute Encoder Scale, On/Off, Zero-Set, inch/mm functions and SPC output port with dust cap. Display indicates reverse readings with minus sign. Order connecting cable, Nos. 5C739 or 5C740, separately. Includes battery (SR44) that has 20000 hour-life for continuous use. Mitutoyo brand (543-683B).

**No. 5C711.** Shpg. wt. 0.6 lbs. List $123.00. Each.....**$122.60▲**

(▲) Net prices, not subject to discounts.

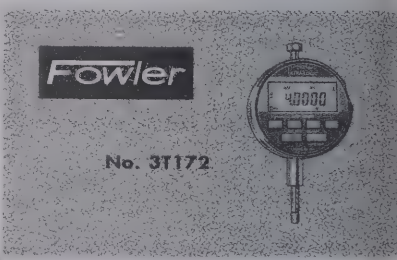



## FOWLER ELECTRONIC INDICATOR

**Ultra-Logic Electronic Indicator** is for use with conventional fixtures, bore gages, dial gage holders, optical comparators, and more. 0-1" measuring range; display resolution to 0.0001". Features full AGD Group 3 specification, infrared linear encoder, and center lug back for easy mounting. Has Inch/mm, Hold, Reverse and Zero-Reset functions and complete output capabilities for SPC applications. Set low and high limits for accurate tolerance comparisons. Bezel rotates 275° for proper viewing for all types of application. Includes standard AGD contact point interchangeable with any AGD #4-48 point and self-contained disposable batteries. Fowler brand (54-522-700).

**No. 3T172.** Shpg. wt. 0.7 lbs. List $433.67. Each.....**$414.00▲**

(▲) Net prices, not subject to discounts.




**UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY**

Grainger has over 350 branches nationwide, so we're close by.
To find the location nearest you, check the Branch Locations listed in the front of this catalog.

# MAGNETIC BASE INDICATOR HOLDERS

## MAGNETIC BASE INDICATOR HOLDERS WITH ATTACHMENTS

hree precision ground magnetic contact surfaces. Grips hori-ontally, vertically or upside down. V-step holds base to arbors, afts, and chucks. Push-button On/Off switch for one hand oper-ion. Magnetic base is 1 15/16H x 1 5/8W x 1 7/8"D. Black wrinkle fin-h on nonworking surfaces.

o. 4H029 **includes** magnetic base with upright base post, snug, eeve, rod, and indicator attachment. Indicator attachment is 4" O.D. one end and 1/4-20NC male threads opposite end with 8" O.D. shoulder between. Threaded end fits lug backs of all GD indicators and miniature indicators. Knurled cap holds indi-tors in desired position. Snug has 3/8 and 1/4" diameter holes. wo 1/4" diameter sleeve holes. Upright base post is 3/8" diame-r x 7 7/16" length overall. 1/4-20NC threaded end screws into mag-etic base. Rod has 1 /4" diameter x 6" long. Starrett brand 57AA).

o. 4H029. Shpg. wt. 2.0 lbs. Each.....$106.05▲

o. 4H077 **includes** magnetic base with post, snug, and rod. Extra 4-20NC tapped hole in one side of base (not shown) for mount-g post. Swivel post snug allows universal indicator adjustment o and down, to any vertical angle, in a complete circle, and any stance from base along gage holding rod. Snug has two 3/8" ameter holes. Features clamping mechanism for gripping lug ack of AGD dial indicators and miniature dial indicators. dicator may be set at any angle by loosening binding screw. od has 3/8" diameter x 9 1/2" long. Starrett brand (657D).

o. 4H077. Shpg. wt. 2.4 lbs. Each.....$123.85▲

## LEX-O-POST INDICATOR HOLDER WITH MAGNETIC BASE

his assembly of short tubular steel sections and precision ball ints linked by an internal steel cable can be adjusted to any osition and locked by turning a lever near magnetic base. When cked, post becomes rigid, holding its position until locking ver is released. For using an AGD dial indicator or a dial test dicator in awkward or hard-to-reach places. Base has three pre-sion ground magnetic contact surfaces. Grips horizontally, ver-cally or upside down. V-step holds base to arbors, shafts, ucks. Assembled to magnetic base. Flex-O-Post has vertical ach of 14 15/16" and a horizontal reach of 9 3/4". Indicator snug can rotated through 360° and locked in any position by a knurled umb screw. Starrett brand (657T).

o. 4H081. Shpg. wt. 2.8 lbs. Each.....$143.45▲

## HEAVY-DUTY MAGNETIC BASE INDICATOR HOLDER WITH ROTARY ON-OFF SWITCH AND INDICATOR

age has powerful permanent magnet base that attaches to flat round surfaces. Swivel post snug positions dial indicator at y height and at any vertical or horizontal angle and provides r axial travel and rotation of gage rod. Indicator is held by readed stud through standard lug back secured with knurled t. Knurled thumb screw locks each gage adjustment, with final dicator setting accomplished by a fine adjustment at opposite d of gage rod.

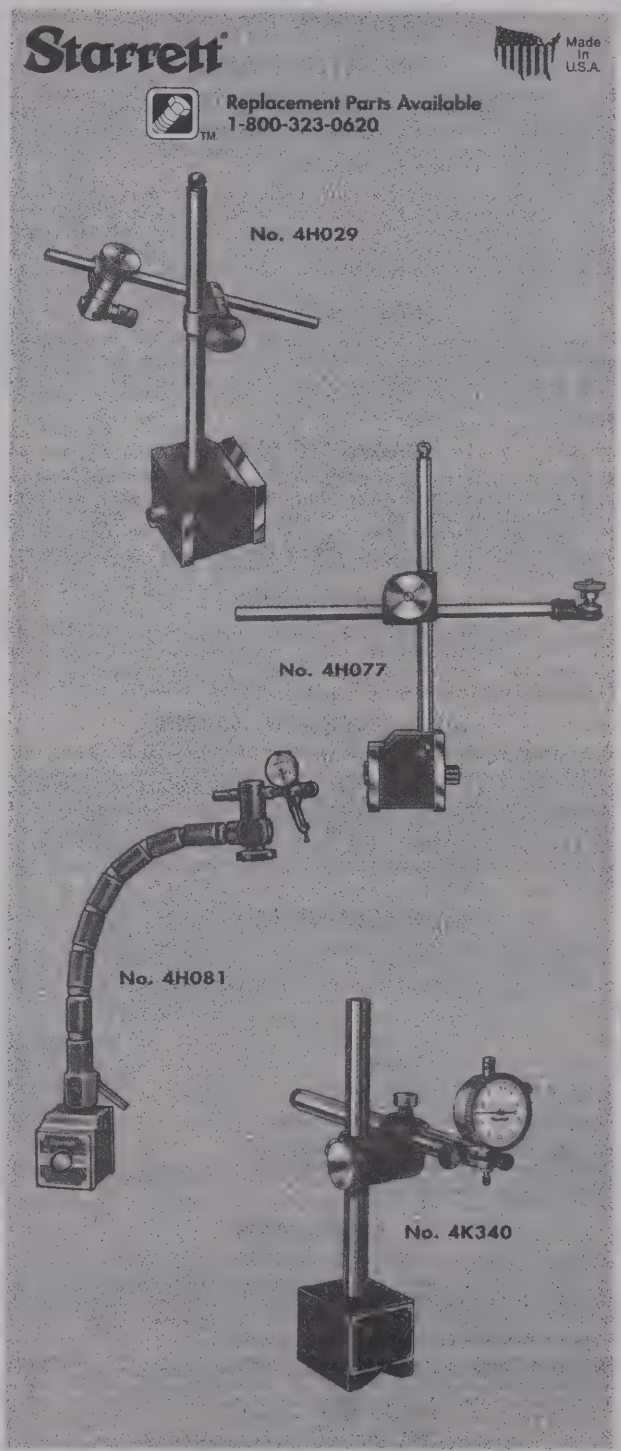
second tapped hole in one side of base is for mounting upright st horizontally or adding another post for multiple inspection rk. Both swivel post snug and base have precision ground base ntact surfaces. Comes with (No. 4K340) or without (No. 4K545) D indicator (0.0005" graduation, 0-25-0 dial reading, 0.125" nge) with jewel bearings. Has a rotary On/Off switch and form ound involute V for accurate seating on round work up to 5" ameter.

mensions: Base 2 3/8 x 2 3/8 x 3"; upright post 9 3/8 x 3/4" diameter; ge rod 9 3/8 x 3/4" diameter.

o. 4K545. Includes base with upright post, swivel snug, gage rod, indi-tor clamp, fine adjustment, and threaded adapter (659A). Shpg. wt. lbs. Each.....$312.75▲

o. 4K340. Includes base with upright post, swivel snug, gage rod, indi-tor clamp, fine adjustment, threaded adapter, indicator, and case 59BZ). Shpg. wt. 13.0 lbs. Each.....$463.25▲

) Net prices, not subject to discounts.



# MITUTOYO STANDS

## TRANSFER STAND

Holds indicator for comparative measurements for layout in inspection. Big, sturdy, enameled cast-iron base is precision ground stainless steel, micro-lapped with ground post mounted at perfect right angles to the base. Can be used with any AGD dial test indicator or AGD dial indicator.

Arm is easily rotated to position gage head over surface plate or anvil. Rapid preliminary positioning with coarse adjustment knob. Fine adjustment knob on stand head for zero settings. Universal adjustment in horizontal planes. 17" high column for wide range of work. Supplied with serrated anvil.

## DIAL GAGE STAND

Compact and versatile general-purpose stand for comparison measurements. Feature a wide fine-adjusting range for zero-setting gage heads. Designed for and accommodate all AGD-type dial indicators with 3/8" diameter stems. 5" maximum height capacity.

## MAGNETIC STAND

Accept all AGD-type dial indicators, test indicators and probes having 3/8" dia. shank and/or lug back with 1/4" dia. mounting hole. On/Off switch offers instant mounting and dismounting without any adverse effect to the indicator or work surface. Magnetic pull: 80 lbs. Supplied with 6" adjustable rod and universal clamp.

## FLEXI-STAND

Multi-position capability for measurements. Accepts all AGD 3/8" dia. stems. Dial indicators held by the stem; test indicators held by dovetail mount. Overall length is approximately 15". Permanent magnet with 80 lbs. pull and On/Off switch.

## MINI-MAGNETIC STAND

Very small magnetic stand permits use of dial indicators and test indicators in confined areas. Features fine adjustment. Square base will accept stems of 3/8" diameter and are furnished with sleeve for locking on stems of 8mm diameter. Stand also has fixture for mounting dial indicators with lug-on-center backs. Base dimensions: 1.3 x 1.3"; height 4.7". Stands have ball and socket joint and universal clamp for multi-positioning. Magnetic pull: 30-35 lbs.

## MINI-MAGNETIC STAND

For dial and test indicators with fine adjustment. For all AGD dial indicators with standard lug-on-center back. Supplied with 0.234, 5/16 and 7/32" dia. rods and clamp. Magnetic pull: 30-35 lbs.

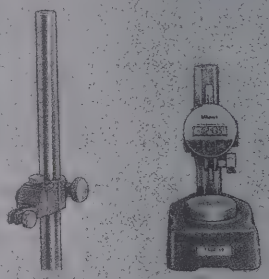
Mitutoyo

Replacement Parts Available 1-800-323-0620

NOTE: Stands shown do not include indicators

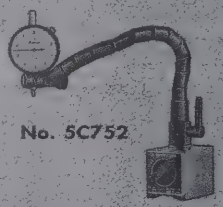


No. 5C751

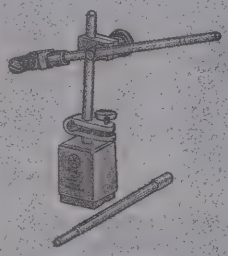


No. 5C749

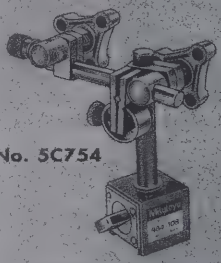
No. 5C750



No. 5C752



No. 5C753



No. 5C754

| Description | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Transfer Stand with Serrated Anvil** | 519-109E | **5C749** | **$370.25▲** | 14.0 |
| **5" Dial Gage Stand with Flat Anvil** | 7004 | **5C750** | **248.00▲** | 10.0 |
| **Magnetic Stand w/ Adj. Rod & Univ. Clamp** | 7011BN | **5C751** | **110.55▲** | 3.2 |
| **15" Flex-Stand** | 7012 | **5C752** | **137.95▲** | 3.5 |
| **Mini-Magnetic Stand for Dial/Test Indicators** | 7021 | **5C753** | **70.50▲** | 1.2 |
| **Mini-Magnetic Stand for Dial/Test Indicators** | 984-108 | **5C754** | **106.65▲** | 1.2 |

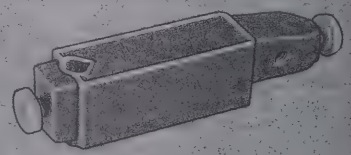
(▲) Net prices, not subject to discounts.

## MEGA MAG

A universal magnetic base that saves time and improves accuracy. Constructed of zinc die cast housing with magnet capable of 25 lbs. of holding power. Base has five different locations for mounting accessories; 3 position 1/4 -20 lug mounts; one tapped hole 10-32 and 1 reamed hole 3/8" diameter.

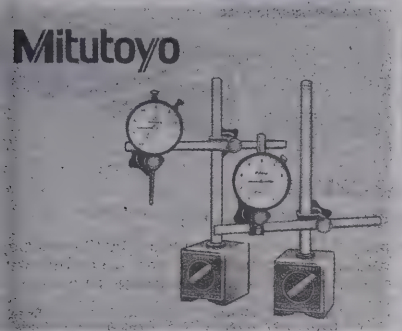
**No. 3X144.** Shpg. wt. 0.5 lbs. Each.....**$8.43**

ADVANTAGE PLUS



No. 3X144

## MITUTOYO MAGNETIC STANDS & DIAL INDICATORS

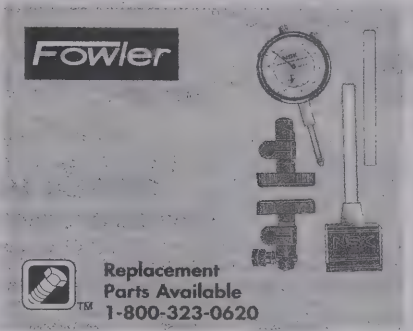



lagnetic stand comes with a choice of 2 anges of dial indicators: 0-0.050" range; .0001" resolution indicator is for close olerance work and 0-1" range; 0.001" reso- ution indicator is for general measuring urposes. Both indicators are AGD-type eries 2. Magnetic stand can be attached n a flat surface, perpendicularly or hori- ontally, or on cylindrical surface. ermanent magnet with On/Off switch. ost and arm fully chrome plated.

**lo. 5C708.** 0-0.050" Indicator with Stand 7045). Shpg. wt. 4.2 lbs. Each.....$223.75▲

**lo. 5C709.** 0-1" Indicator with Stand (7046). hpg. wt. 4.2 lbs. Each.....$193.00▲

## FOWLER MAGNETIC BASE AND INDICATOR SET



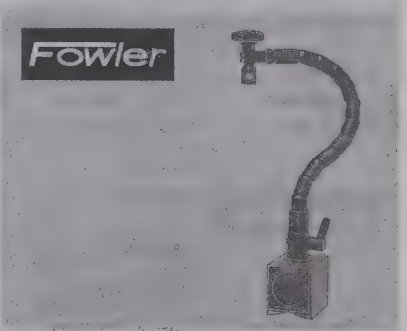

Replacement Parts Available 1-800-323-0620

Set includes magnetic base, rods, swivel clamp, satin chrome dial indicator, and extra-thin fitted wooden case for storage in toolbox or drawer. 0.001" dial indicator has 0-1" range, tolerance hands, lug back, 3/8" stem, and balanced, adjustable locking 2" dia. dial with revolution counter.

Base size: 1½L x 1½W x 1¾"H; overall 6"H; side arm is 4½"L. Base is finished in anticorrosive bright safety yellow plastic casing and has 50 lb. pull and keeper. Posts and fittings are anodized black. Fowler brand (52-520-101).

**No. 5A177.** Shpg. wt. 2.1 lbs. Each.....$150.50▲

## FOWLER FLEX-ARM MAGNETIC BASE



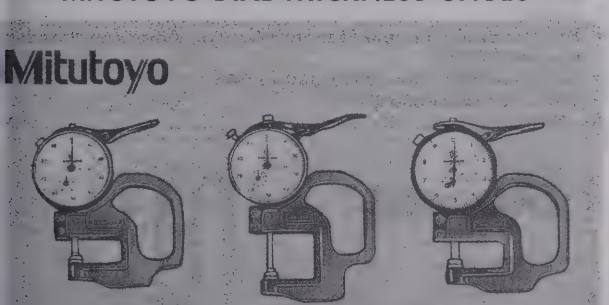

Accepts all test indicators with stems from 15/64" through 5/16". Has V-groove for placing on round surface (milling machines, lathes, etc.).

Overall length 13"; base 2 x 2 11/32 x 1 13/16". 85 lb. pull; On/Off lever releases magnet. Stem flexes about 360° and flex-arm base rigidly holds in any position with quick loading clamp. Fowler brand (52-585-015).

**No. 3T162.** Shpg. wt. 3.3 lbs. Each.....$56.70▲

(▲) Net prices, not subject to discounts.

## MITUTOYO DIAL THICKNESS GAGES




No. 5C712 No. 5C713 No. 5C714

Replacement Parts Available 1-800-323-0620

or quick measurement of paper, film, sheet, and flat stock. onsist of Series 2 dial indicator with revolution counter and gid frame with handle. Feature 0.394" contact surface with iterchangeable contact and constant spindle pressure.

| Range (In.) | Graduations (In.) | Throat Clearance (In.) | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0-0.400 | 0.001 | 1 | 7300 | 5C712 | $90.05▲ | 0.7 |
| 0-1 | 0.001 | 1 1/8 | 7304 | 5C713 | 108.65▲ | 0.8 |
| 0-0.050 | 0.0001 | 1 | 7326 | 5C714 | 148.80▲ | 0.7 |

▲) Net prices, not subject to discounts.

## STARRETT DIAL THICKNESS GAGES




No. 4K247

No. 4K241

**Portable Dial Hand Gages** are gripped by finger holes and operated by pressing down thumb lever for inserting work between measuring contacts. Readings are taken directly from indicators which have jewel bearings and continuous dials. Dial can be adjusted relative to zero and locked with a bezel clamp screw. Diameter of contacts is 3/8" with 1/4" flat.

**Pocket Dial Thickness Gages** check thickness of materials up to 3/8". Gages have small count hand for recording each revolution of large hand. Die-cast, chrome-plated case has an unbreakable crystal. Diameter of flat contacts is 1/4". Includes case.

| Range (In.) | Graduations (In.) | Dial Reading | Throat Depth (In.) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PORTABLE DIAL GAGES** | | | | | | | |
| 1/2 | 0.0005 | 0-50 | 2½ | 1015A | 4K247 | $188.50▲ | 1.0 |
| 1 | 0.001 | 0-100 | 2½ | 1015B | 4K251 | 216.00▲ | 1.0 |
| **POCKET DIAL THICKNESS GAGES** | | | | | | | |
| 3/8 | 0.001 | 0-100 | 1/2-5/16 | 1010Z | 4K241 | 145.15▲ | 0.2 |
| 3/8 | 0.0005 | 0-50 | 1/2-5/16 | 1010EZ | 4K243 | 157.50▲ | 0.2 |

(▲) Net prices, not subject to discounts.

# PRECISION MEASURING KITS

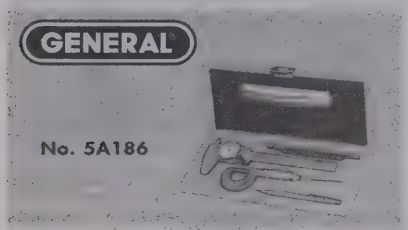
## FOWLER TOOLMAKER UNIVERSAL MEASURING SET

Includes 0-6" "One-Rev" dial caliper with 0.001" graduations (each revolution is 0.100"), 0-1" micrometer with 0.0001" graduations and 0.0001" accuracy, and flexible 6" long x 1/2" wide rule with 5R graduations. Comes in a protective case.

| Description | Set Includes | Fowler Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3-Pc. Toolmaker Universal Measuring Set** | "One-Rev" Dial Caliper<br>Micrometer<br>6" Rule | 52-095-018 | **3T160** | **$137.10▲** | 1.5 |

(▲) Net prices, not subject to discounts.



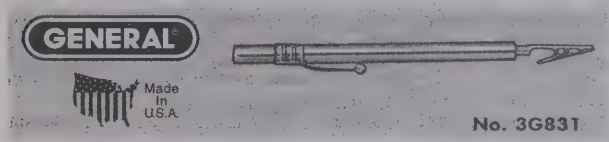




## GENERAL MEASURING KIT

### SERVICEMAN'S PRECISION MEASURING KIT

Includes 0-6" dial caliper with 0.001" graduations, 0-1" micrometer with 0.001" accuracy a 6" stainless steel rule with 1/8, 1/16, 1/32, and 1/64" graduations, and a scriber with reversible tungsten tip and an Alnico permanent magnet. Comes in a protective case.

| Description | Set Includes | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **4-Pc. Serviceman's Precision Measuring Kit** | Dial Caliper<br>Micrometer<br>6" Steel Rule<br>Scriber and Magnet | S-004 | **5A186** | **$85.90** | 1.3 |

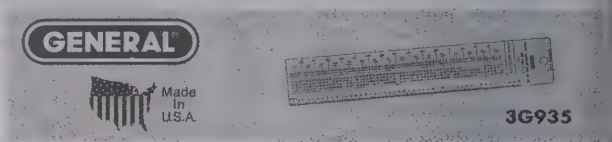



## TELESCOPING ALLIGATOR CLIP

- **Ideal for holding match when lighting hot water heater, as a screw starter or as a small part holder**
- **Overall length is 6½" and telescopes to 24½"**
- **Body is nickel-plated with pocket clip**
- **General Tool brand (400)**

**No. 3G831.** Shpg. wt. 0.1 lbs. Each.....$4.43

**REPLACEMENT TIPS AVAILABLE, CALL 1-800-323-0620**




## REFERENCE TABLE

- **Tap drill and decimal equivalents reference table for toolmakers, machinist, and mechanics**
- **Front has machine screw size tap drill chart for 75% depth thread**
- **Back has decimal equivalents table in 64ths from 1/64 to 63/64"**
- **For National Fine and National Coarse, American Standard Pipe and Metric**
- **Convenient 6" rule graduated in 64ths**
- **General Tool brand (715)**

**No. 3G935.** Shpg. wt. 0.1 lbs. Each.....$5.5

## STARRETT JEWELER'S SCREWDRIVER SET

6-Piece screwdriver set designed for delicate work. Steel bodies are knurled and nickel plated. Swivel knobs are concaved to fit the finger and hexagonal in shape to prevent rolling. High quality, properly tempered steel blades range in widths from 0.025 to 0.100" and can be securely locked with knurled chucks. Chucks are grooved to designate size of blade. Blades can be reversed in body for carrying in pocket. Overall length is 3¾", body diameter 1/4". Includes case. Starrett brand (S555Z-6).

**No. 4F305.** Shpg. wt. 0.3 lbs. Each.....$41.70▲

(▲) Net prices, not subject to discounts.

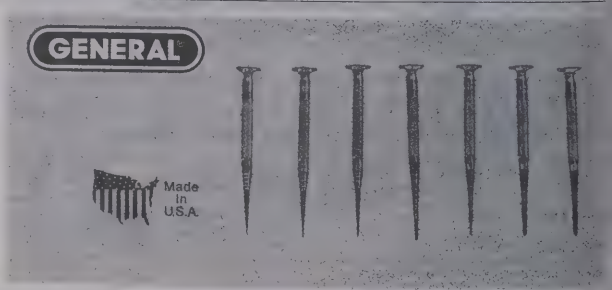



## GENERAL JEWELER'S SCREWDRIVER SET

**7-Piece set designed** with individual drivers is used by precision craftsmen, instrument makers or repairmen, subminiature parts assemblers, and tradesmen working on small apparatus or mechanisms. Nickel-plated blades, sizes: 0.100", 0.080", 0.070", 0.055", 0.040", 0.025" conform to government specification GGG-S-1808. Also includes No. 0 crosspoint blade (does not conform to GGG-S-1808).

Screw chucks have positive lock for tight and precise blade grip, also each driver marked with identification ring grooves showing blade size. Overall length of each screwdriver is 3⅞". Plastic tube with screw-on cap for convenient storage. General brand.

**No. 1ATF1.** Shpg. wt. 0.4 lbs. List $22.64. Each.....$19.91






*Take the guesswork out of your precision measuring tools purchase.*

## STARRETT SCRIBERS

Used for layout and marking of metal and plastic parts. Tempered steel points, well finished. Bent point is handy for reaching through holes. 9" long. Points screw into handle and fit either end. Knurled handle is nickel plated.

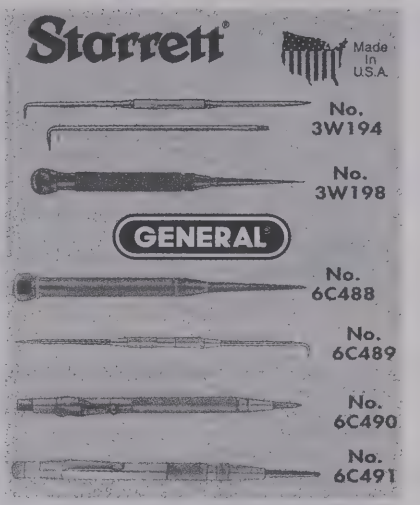
Pocket scriber has steel tubing handle, knurled and nickel plated. Scriber point held firmly in handle by chuck and, when not in use, can be reversed, telescoped into handle and locked by a slight turn of chuck. Hexagon head prevents rolling.

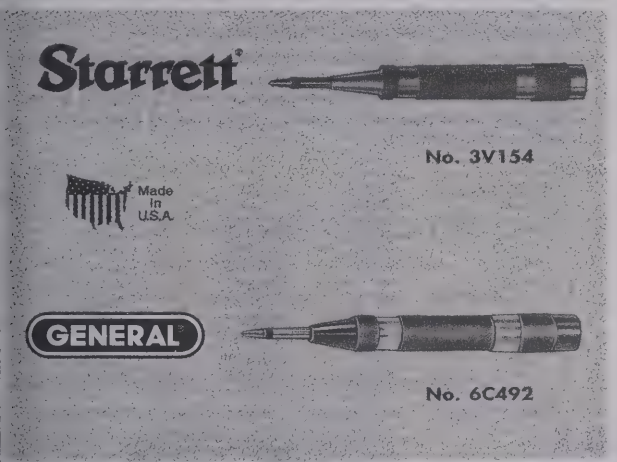
## GENERAL SCRIBERS

Used for layout and marking of metal and plastic parts. No. 6C488 has a replaceable, hardened and centerless ground reversible tip. No. 6C489 has two machinist's fixed tips: straight and 90°. No. 6C490 has reversible tungsten carbide tip with Alnico magnet. No. 6C491 pocket automatic center punch with adjustable stroke and replaceable alloy steel tip.

| Description | Length (In.) | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Pocket Scriber with 1/4" Handle Dia. | 2⅜ | Starrett | 70A | 3W198 | $5.95 ▲ | 0.1 |
| Pocket Scriber with 3/8" Handle Dia. | 2⅞ | Starrett | 70B | 3W200 | 7.80 ▲ | 0.1 |
| Scriber with 2 Points (Straight & Bent) | — | Starrett | 67B | 3W194 | 15.75 ▲ | 0.1 |
| Pocket Scriber | 5⅞ | General | 81 | 6C488* | 4.22 | 0.2 |
| Scriber with 90° Scriber End | 8½ | General | 80 | 6C489 | 2.91 | 0.1 |
| Pencil-type Scriber with Magnet | 6 | General | 88CM | 6C490* | 5.54 | 0.1 |
| Scriber and Automatic Center Punch | 5¾ | General | 87 | 6C491* | 11.76 | 0.1 |

(*) Replacement tips available, call 1-800-323-0620. (▲) Net prices, not subject to discounts.




## ADJUSTABLE AUTOMATIC CENTER PUNCHES

Recommended for fast, accurate marking of close work. When handle is pressed down, built-in mechanism strikes blow, no hammer required. Force of blow is regulated by turning knurled cap. Constant spring tension assures uniform depth and size of center marking for each setting of cap. Point removes for regrinding. All working parts hardened.

| Length (In.) | Diameter (In.) | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 5 | 9/16 | Starrett | 18A | 3V154 | $24.61▲ | 0.2 |
| 5 | 5/8 | Starrett | 818 | 3PM98 | 20.95▲ | 0.2 |
| 5¼ | 11/16 | Starrett | 18B | 3V158 | 27.15▲ | 0.3 |
| 5¼ | 11/16 | Starrett | 18C | 3RK65† | 29.05▲ | 0.3 |
| 5 | 1/2 | General | 79 | 6C492* | 19.19 | 0.2 |

(*)For replacement tips, call 1-800-323-0620. (†)Heavy-duty model.

**Spacing Attachment** for use with No. 3V158 for accurately spacing center distances. Can be instantly screwed into punch shank in place of regular point, quickly spaces distances within its 1/8 - 1¾" range. Starrett brand (18SB).

**No. 3V164.** Shpg. wt. 0.1 lbs. Each ..... $35.60▲

(▲) Net prices, not subject to discounts.




## STARRETT CENTER PUNCH SETS

Punches are made of specially selected fine tool steel and hardened on both ends. Special tempering process prevents heads from fracturing, adding to punch life. Punches are well proportioned, highly finished and have knurled finger grip. Points are ground at the proper angle for maximum service, and tips are accurately centered. Starrett brand.

**No. 3X057.** 5-Pc. Round Shank Center Punch Set (S117PC). Shpg. wt. 0.4 lbs. Each ..... $18.74▲

**No. 4F011.** 7-Pc. Square Shank Center Punch Set (S264WB). Shpg. wt. 1.1 lbs. Each ..... $39.15▲

(▲) Net prices, not subject to discounts.

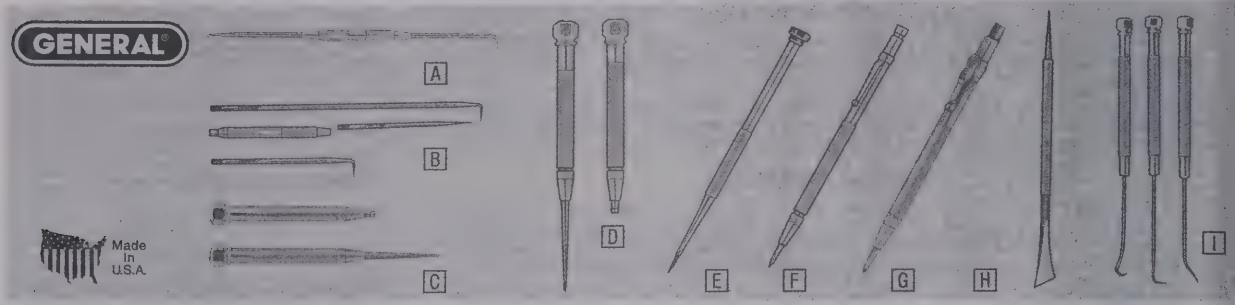
**PUNCHES INCLUDED IN No. 3X057 SET**

| Punch | Dimensions (In.) Length (In.) | Dia. at Top of Tapered Point | Dia. of Body |
|---|---|---|---|
| AA | 3 | 1/16 | 3/16 |
| A | 4 | 5/64 | 9/32 |
| B | 4 | 3/32 | 5/16 |
| C | 4 | 1/8 | 5/16 |
| D | 4 | 5/32 | 3/8 |

**PUNCHES INCLUDED IN No. 4F011 SET**

| Punch | Dimensions (In.) Length | Dia. at Top of Tapered Point | Thickness of Square Body |
|---|---|---|---|
| A | 3 | 1/16 | 3/8 |
| B | 3½ | 5/64 | 3/8 |
| C | 3¾ | 3/32 | 3/8 |
| D | 4 | 1/8 | 3/8 |
| E | 4¼ | 5/32 | 3/8 |
| F | 4½ | 3/16 | 7/16 |
| G | 5 | 1/4 | 7/16 |

# SCRIBERS, PROBES AND CENTER PUNCHES




## SCRIBERS AND PROBES

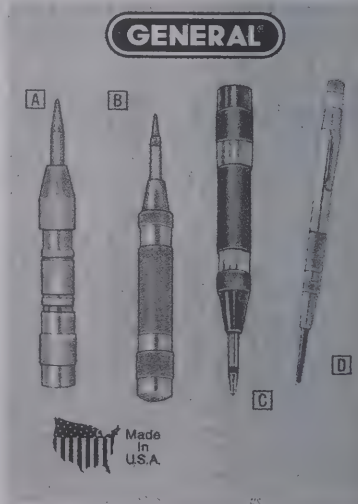
- No. 6C489 is a basic tool for scribing, layout work, and tool marking. Hardened and ground steel needle points are fixed to a knurled body which has one straight and one bent point
- No. 3G937 Aluminum knurled body, with three interchangeable threaded points: short straight, short bent, and long bent; handle and short points are 3" long, long bent is 6" long
- Nos. 6C488 and 3G941 Pocket Scribers have replaceable hardened and centerless ground points; point reverses into knurled body for safety, hex head prevents rolling, and conforms to government specifications GGG-S-131E
- No. 3G943 Replaceable needle point scriber marks stainless steel, copper, brass, glass, and ceramics; nork patterned with four extra points in handle
- Nos. 3G947 and 6C490 Tungsten carbide tip marks hard materials including hardened steel, ceramics, and glass; scriber point replaceable and reversible
- No. 6C490 has permanent magnet to pick up small parts, and retrieves steel chips from hard to reach places
- No. 3G939 Scriber scraper used for marking, punching, cutting, and carving plastics, leather, paper, and rubber; combines a needle sharp hardened scriber with a specially designed hardened raked angle chisel scraper
- No. 3G945 3-piece probe set for probing, cleaning, picking, or marking small work surfaces; three heat treated, high carbon steel point configurations: 45°, double bend, and hook all mounted in extra long knurled body. Hex heads prevent rolling

| Key | Body Dia. (In.) | Overall Length (In.) | Point Type | Magnet End | Replaceable Tip | General Model | Stock No. | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | .312 | 8.50 | Straight and 90° | No | No | 80 | **6C489** | **$2.91** | 0.1 |
| B | .312 | 9 or 12 | Straight and 90° | No | Yes/3 | 380A | **3G937** | **3.62** | 0.1 |
| C | .375 | 5.875 | Steel Point | No | Yes | 81 | **6C488*** | **4.22** | 0.2 |
| D | .250 | 4.75 | Steel Point | No | Yes | 83 | **3G941*** | **3.14** | 0.1 |
| E | .250 | 5.312 | Nork | No | Yes | 84 | **3G943*** | **3.45** | 0.1 |
| F | .250 | 6.00 | Carbide | No | Yes | 88 | **3G947*** | **3.93** | 0.2 |
| G | .250 | 6.00 | Carbide | Yes | Yes | 88CM | **6C490*** | **5.54** | 0.1 |
| H | .250 | 6.50 | Shape And Chisel | No | No | 381 | **3G939** | **3.90** | 0.1 |
| I | .250 | 6.50 | 45°, Bent and Hook | No | No | 862 | **3G945** | **6.23** | 0.1 |

(*) Replacement parts available call 1-800-323-0620

## AUTOMATIC CENTER PUNCHES

- Automatic center punches are a precise means of punching center holes for drilling or marking in layout work, scribing, and starting nail or screw holes.
- Single hand operation. Stored energy design eliminates the need for striking
- Spring tension cap can be adjusted for light or heavy strokes
- Punch depth can be set for repetitive work
- Automatic center punch No. 3G833 has lightweight aluminum body with alloy steel parts
- Steel center punches No. 3G835 and No. 6C492 have lightweight aluminum pencil body with pocket clip, black oxide finish which inhibits rust, and hardened steel points
- Pocket punch No. 6C491 punches, marks, scribes, and starts nail or screw holes
- Pocket punch No. 6C491 has lightweight aluminum pencil slim body



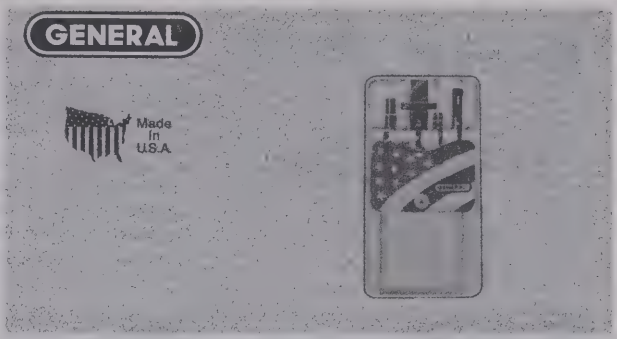

**Replacement Parts Available**
**1-800-323-0620**

| Key | Length (In.) | Body Dia. (In.) | Replaceable Point | Adjustable | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 5.00 | .625 | Yes | Yes | 77 | **3G833** | **$13.38** | 0.1 |
| B | 6.00 | .625 | Yes | Yes | 78 | **3G835** | **25.25** | 0.3 |
| C | 5.00 | .500 | Yes | Yes | 79 | **6C492** | **19.19** | 0.2 |
| D | 5.75 | .300 | Yes | Yes | 87 | **6C491** | **11.76** | 0.1 |



*Take the guesswork out of your precision measuring tools purchase.*

## POCKET TOOL SET




4-pc. pocket tool set designed for the mechanic and machinist

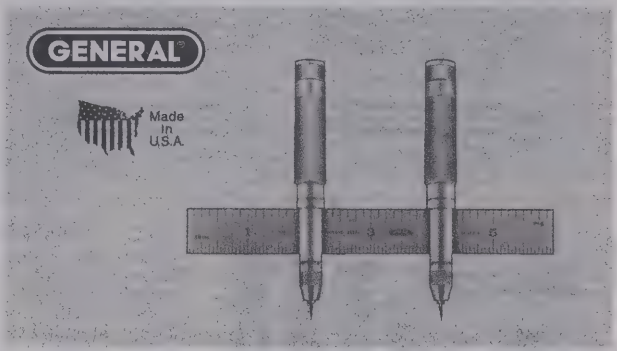
Kit includes: 6" stainless steel rule, telescoping magnetic pickup No. 3G923, automatic center punch No. 6C491, and carbide scriber No. 3G947

All tools fit in vinyl pocket protector, which can be snapped closed

General Tool brand (S008)

**No. 3G917.** Shpg. wt. 0.4 lbs. Each ..... $24.05

## PRECISION TRAMMEL SET




Designed to accurately transfer measurements, scribe arcs, and lay out circles too large for conventional compass

Will mount on any ruler or scale 1/2 to 1 1/8" wide

Two scriber points and two pencil points included

Aluminum knurled body with free-wheeling thimble

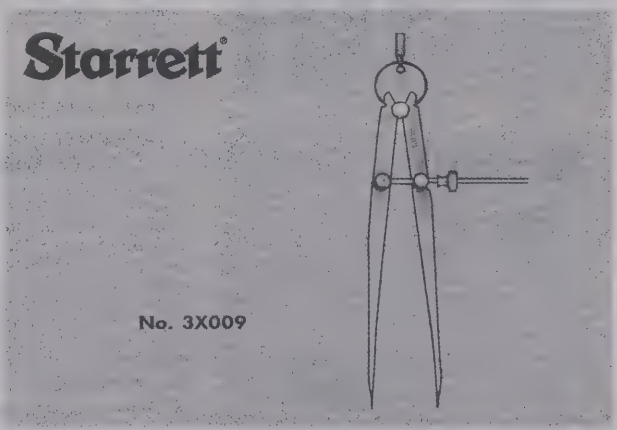
Steel collet holds replacement leads, scriber, and crayons

Points reverse into body for safety

General Tool brand (524)

**No. 3G949.** Shpg. wt. 0.1 lbs. Each ..... $12.69

## 6" SPRING DIVIDERS




Made from high grade steel; well finished

Legs are made of flat stock and are very durable

Fulcrum stud is hardened and has a smooth bearing surface

Flexible bow spring is strong to assure reliability

No. 3X009 furnished with solid nut; No. 3PC82 furnished with quick-spring nut

**No. 3X009.** Starrett brand (83A-6). Shpg. wt. 0.2 lbs. Each..... $20.50▲

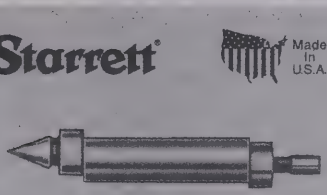
**No. 3PC82.** Starrett brand (83B-6). Shpg. wt. 0.2 lbs. Each..... $22.05▲

▲) Net prices, not subject to discounts.

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

## STARRETT EDGE FINDERS




Work with flat, straight edges, shoulders, grooves, round work, studs, and dowels. Double end model has pointed contact at opposite end for locating center points and scribed lines. Body and contacts made of tool steel, hardened, ground and lapped to close tolerances for diameter and concentricity. Furnished in protective case.

**Single End Edge Finder** has 0.375" body diameter x 0.200" contact diameter. Starrett brand (827A).

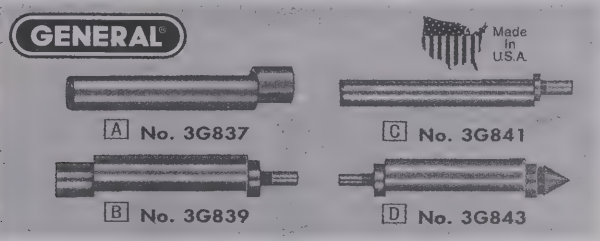
**No. 4K206.** Shpg. wt. 0.1 lbs. Each.....$18.09▲

**Double End Edge Finder** has 0.500" body diameter, 0.200" contact diameter at one end, and pointed contact at the other end. Starrett brand (827B).

**No. 4K208.** Shpg. wt. 0.2 lbs. Each.....$28.90▲

(▲) Net prices, not subject to discounts.

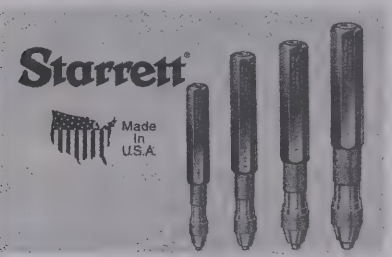
## GENERAL EDGE FINDERS




- **Edge finders accurately locate working edges, shoulders, grooves, center points, and scribed lines**
- **Time-saving positioning tools for jig borers, milling, and other machines**
- **Hardened and centerless ground to precision tolerance**

| Key | End Style | Face Size (in.) | Length (In.) | Shank Dia. (in.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Single | .500 | 3 | .500 | 260 | **3G837** | **$12.42** | 0.1 |
| B | Double | .200/.500 | 3 | .500 | 262 | **3G839** | **15.57** | 0.1 |
| C | Single | .200 | 3 | .375 | 263 | **3G841** | **13.06** | 0.1 |
| D | Double | .200/point | 3 | .500 | 264 | **3G843** | **18.87** | 0.1 |

## STARRETT PIN VISES

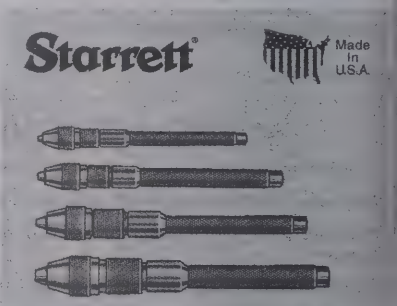



For holding wires, scriber points, small files, taps, and drills. A hole extends through full length of handle to hold wires of any length. Insulated PVC handle is octagon in shape to prevent rolling.

| Range English (In.) | Range Metric (mm) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 0 – 0.040 | 0 – 1 | 166A | 3X137 | $11.00▲ | 0.1 |
| 0.030 – 0.062 | 0.8 – 1.6 | 166B | 3X139 | 12.00▲ | 0.1 |
| 0.050 – 0.125 | 1.3 – 3.2 | 166C | 3X141 | 12.86▲ | 0.1 |
| 0.115 – 0.187 | 2.9 – 4.8 | 166D | 3X143 | 13.84▲ | 0.1 |

(▲) Net prices, not subject to discounts.

## STARRETT PIN VISE SET WITH DOUBLE BEVEL COLLETS




Special collet design with tapers at both ends for maximum clamping surface and better grip. Smooth section on handles allows vises to be held in machine chucks or collets. Handles have holes through entire length to accommodate stock up to full size capacity so that long rods can be gripped close to end. End of handles are knurled and have a smaller diameter than chuck which allows fast opening and closing and rapid rotation between thumb and finger when filing or forming small work. Heavy nickel-plated finish.

Set includes A, B, C, and D pin vises in protective case. Starrett brand (S240Z).

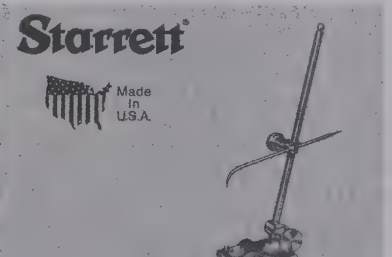
**No. 3X333.** Shpg. wt. 0.3 lbs.
Each.....$62.95▲

(▲) Net prices, not subject to discounts.

### INCLUDED IN SET No. 3X333

| Pin Vise | Range English (In.) | Range Metric (mm) |
|---|---|---|
| A | 0.010 – 0.055 | 0.25 – 1.4 |
| B | 0.025 – 0.075 | 0.64 – 1.9 |
| C | 0.045 – 0.135 | 1.2 – 3.4 |
| D | 0.110 – 0.200 | 2.8 – 5.1 |

## STARRETT UNIVERSAL SURFACE GAGE WITH CAST BASE

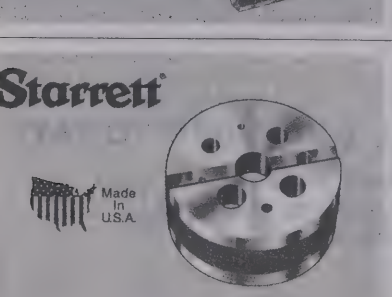



Standard size for all-around work. Cast base 3 x 2 9/16" with black wrinkled finish. Ground bottom surface, polished sides, two gage pins for linear work, and V-groove for cylindrical work. 9" spindle adjustable to any angle above or below work. Scriber may be used in small hole of lower sleeve in place of spindle. Fine adjusting screw in base rocker. Starrett brand (57A).

**No. 3V231.** Shpg. wt. 2.3 lbs. Each.....$82.70▲

(▲) Net prices, not subject to discounts.

## STARRETT BENCH BLOCK




Handy for holding work when driving pins or drilling. V groove across face accommodates round and odd shaped stock. Block is made from steel, hardened and ground. Smooth finish on face preserves finish of work being held. Knurled side for easy handling. Base is recessed to make it lighter in weight and yet strong to withstand heavy use. Size is approximately 1½" high and 3" in diameter. Holes vary in size from 1/8 – 5/8". Starrett brand (129).

**No. 3X075.** Shpg. wt. 1.6 lbs. Each.....$56.25▲

(▲) Net prices, not subject to discounts.



*Take the guesswork out of your precision measuring tools purchase.*

# STEEL RULES

urable, tempered stainless steel and satin chrome finished rules or day-to-day use. Graduations are marked in clear, crisp black onglare satin chrome finish. Rust and wear-resistant for extra-rdinary durability.

## POCKET STEEL RULE

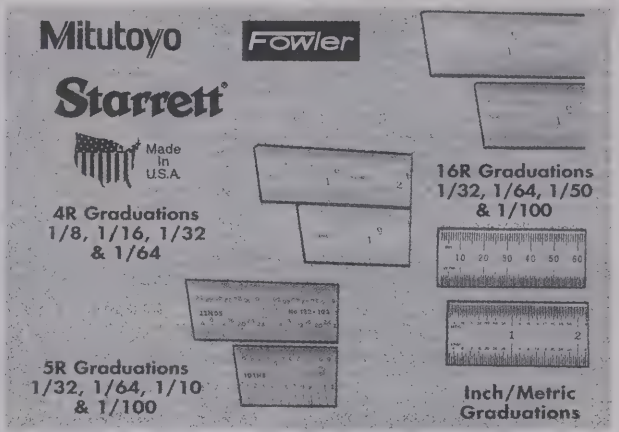


50mm long with inch/metric graduations to 64ths or 1mm. 0.470" ide by 0.021" thick. Mitutoyo brand (950-300).
o. 6C300. Shpg. wt. 0.1 lbs. Each ..... $8.81▲

## 6" STEEL RULE WITH POCKET CLIP



'2 x 1/64" Rule is made of tempered full flexible steel and has ccurate machine-divided graduations in 32nds on one edge and 4ths on the opposite edge. Starrett brand (C310K-6).
o. 4K560. Shpg. wt. 0.1 lbs. Each ..... $13.34▲




▲) Net prices, not subject to discounts.

| Length | Graduations | Width x Thickness | Type | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | **3R GRADUATIONS** | | | | | | | |
| 6" | 10ths, Air Craft Quick-Reading 50th, 32nds and 64ths | 1/2 x 1/64 | Full-flexible | Starrett | C303R-6 | 4F041 | $12.73 ▲ | 0.1 |
| | **4R GRADUATIONS** | | | | | | | |
| 6" | 8ths, 16ths, Quick-Reading 32nds and 64ths; 32nds both ends one side | 3/4 x 1/50" | Semi-flexible | Starrett | C304SRE-6 | 4F045 | 14.34 ▲ | 0.1 |
| 6 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 3/4 x 3/64 | Rigid | Starrett | 604R-6 | 4G978 | 11.10 ▲ | 0.1 |
| 6 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 3/4 x 3/64 | Rigid | Starrett | C604R-6 | 4G987 | 12.60 ▲ | 0.1 |
| 6 | 8ths, 16ths, Quick-Reading 32nds and 64ths; End Grad. in 32nds both ends one side | 3/4 x 3/64 | Rigid | Starrett | C604RE-6 | 4G981 | 14.34 ▲ | 0.1 |
| 6 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 1/2 x 1/64 | Flexible | Mitutoyo | 182-201 | 6C289 | 14.19 ▲ | 0.1 |
| 6 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 3/4 x 3/64 | Rigid | Mitutoyo | 182-101 | 6C301 | 14.19 ▲ | 0.1 |
| 6 | 8ths, 16ths, 32nds and 64ths | 3/4 x 3/64 | Rigid | Fowler | 52-330-006 | 3T156 | 8.49 ▲ | 0.1 |
| 2 | 8ths, 16ths, Quick-Reading 32nds and 64ths; 32nds both ends one side | 1 x 1/40 | Semi-flexible | Starrett | C304SRE-12 | 4F047 | 30.35 ▲ | 0.1 |
| 2 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 1 x 3/64 | Rigid | Starrett | C604R-12 | 4G989 | 24.15 ▲ | 0.2 |
| 2 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 1/2 x 1/64 | Flexible | Mitutoyo | 182-221 | 6C290 | 26.95 ▲ | 0.1 |
| 2 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 1 x 3/64 | Rigid | Mitutoyo | 182-121 | 6C302 | 26.95 ▲ | 0.2 |
| 8 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 1⅛ x 3/64 | Rigid | Starrett | C604R-18 | 4G991 | 47.50 ▲ | 0.3 |
| 8 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 3/4 x 1/64 | Flexible | Mitutoyo | 182-141 | 6C291 | 46.05 ▲ | 0.1 |
| 4 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 1⅜ x 3/64 | Rigid | Mitutoyo | 182-241 | 6C303 | 46.60 ▲ | 0.3 |
| 4 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 3/4 x 1/50 | Flexible | Starrett | C304R-24 | 4K516 | 62.00 ▲ | 0.1 |
| 4 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 1¼x 3/64 | Rigid | Starrett | C604R-24 | 4H001 | 60.10 ▲ | 0.4 |
| 4 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 3/4 x 1/64 | Flexible | Mitutoyo | 182-261 | 6C292 | 65.70 ▲ | 0.1 |
| 4 | 8ths, 16ths, Quick-Reading 32nds and 64ths | 13/16 x 3/64 | Rigid | Mitutoyo | 182-161 | 6C304 | 70.10 ▲ | 0.4 |
| | **5R GRADUATIONS** | | | | | | | |
| 6" | Quick-Reading 10ths; Aircraft Quick Reading 100ths, 32nds and 64ths | 1/2 x 1/64 | Flexible | Starrett | C305R-6 | 4F049 | 13.44 ▲ | 0.1 |
| 6 | Quick-Reading, Front: 32nds and 64ths; Back: 10ths and 100ths | 1/2 x 1/64 | Flexible | Mitutoyo | 182-203 | 6C293 | 14.19 ▲ | 0.1 |
| 6 | Quick-Reading, Front: 32nds and 64ths; Back: 10ths and 100ths | 3/4 x 3/64 | Rigid | Mitutoyo | 182-103 | 6C305 | 14.19 ▲ | 0.1 |
| 2 | Quick-Reading 10ths; Aircraft Quick Reading 100ths, 32nds and 64ths | 1/2 x 1/64 | Flexible | Starrett | C305R-12 | 4F051 | 28.90 ▲ | 0.1 |
| 2 | Quick-Reading, Front: 32nds and 64ths; Back: 10ths and 100ths | 1/2 x 1/64 | Flexible | Mitutoyo | 182-223 | 6C294 | 26.95 ▲ | 0.1 |
| 2 | Quick-Reading, Front: 32nds and 64ths; Back: 10ths and 100ths | 1 x 3/64 | Rigid | Mitutoyo | 182-123 | 6C306 | 26.95 ▲ | 0.2 |
| | **9R GRADUATIONS** | | | | | | | |
| 6" | 16ths and Quick-Reading 32nds on one side; Quick-Reading 64ths on reverse side. | 1/2 x 1/64 | Full-flexible | Starrett | C309R-6 | 4F059 | 12.86 ▲ | 0.1 |
| | **16R GRADUATIONS** | | | | | | | |
| 6" | Quick-Reading 32nds and 64ths; Aircraft Quick Reading 50ths and 100ths | 1/2 x 1/64 | Flexible | Starrett | C316R-6 | 4F061 | 13.99 ▲ | 0.1 |
| 6 | Quick-Reading, Front: 32nds and 64ths; Back: 50ths and 100ths | 1/2 x 1/64 | Flexible | Mitutoyo | 182-202 | 6C295 | 14.19 ▲ | 0.1 |
| 2 | Quick-Reading 32nds and 64ths; Aircraft Quick Reading 50ths and 100ths | 1/2 x 1/64 | Flexible | Starrett | C316R-12 | 4F063 | 30.35 ▲ | 0.1 |
| 2 | Quick-Reading, Front: 32nds and 64ths; Back: 50ths and 100ths | 1/2 x 1/64 | Flexible | Mitutoyo | 182-222 | 6C296 | 26.95 ▲ | 0.1 |
| | **INCH/METRIC GRADUATIONS** | | | | | | | |
| 50mm | 32nds and 64ths; 1mm and 1/2mm | 12.7 x 0.4mm | Flexible | Starrett | C331-150 | 4F037 | 14.34 ▲ | 0.1 |
| 50 | Quick-Reading 10ths and Aircraft Quick Reading 50ths; 1mm and 1/2mm | 12.7 x 0.4 | Flexible | Starrett | C334-150 | 4K392 | 15.19 ▲ | 0.1 |
| 50 | 32nds and 1/2mm; 64ths and 1mm | 19.1 x 1.2 | Rigid | Starrett | C636ME-150 | 4G747 | 14.25 ▲ | 0.1 |
| 50 | Quick-Reading 32nds and 64ths; 1mm and 1/2mm | 1/2 x 1/64 | Flexible | Mitutoyo | 182-205 | 6C297 | 14.68 ▲ | 0.1 |
| 50 | 50ths and 100ths; 1mm and 1/2mm | 1/2 x 1/100 | Flexible | Mitutoyo | 182-206 | 6C298 | 14.68 ▲ | 0.1 |
| 50 | Quick-Reading 32nds and 64ths; 1mm and 1/2mm | 3/4 x 3/64 | Rigid | Mitutoyo | 182-105 | 6C307 | 14.68 ▲ | 0.1 |
| 50 | 32nds and 64ths; 1mm and 1/2mm | 1/2 x 3/64 | Flexible | Fowler | 52-380-006 | 5A178 | 8.02 ▲ | 0.1 |
| 00mm | 32nds and 64ths; 1mm and 1/2mm | 12.7 x 0.4mm | Flexible | Starrett | C331-300 | 4F039 | 28.90 ▲ | 0.1 |
| 00 | Quick-Reading 10ths and Aircraft Quick Reading 50ths; 1mm and 1/2mm | 12.7 x 0.4 | Flexible | Starrett | C334-300 | 4K555 | 32.80 ▲ | 0.1 |
| 00 | 32nds and 1/2mm; 64ths and 1mm | 25.4 x 1.2 | Rigid | Starrett | C636-300 | 4G877 | 31.55 ▲ | 0.2 |
| 00 | Quick-Reading 32nds and 64ths; 1mm and 1/2mm | 1/2 x 1/64 | Flexible | Mitutoyo | 182-225 | 6C299 | 26.95 ▲ | 0.1 |
| 00 | Quick-Reading 32nds and 64ths; 1mm and 1/2mm | 1 x 3/64 | Rigid | Mitutoyo | 182-125 | 6C308 | 26.95 ▲ | 0.2 |

▲)Net prices, not subject to discounts.

# COMBINATION SQUARES

## COMBINATION SETS

Combination squares are used for layout, setup, checking heights and depths and setting angles. Also used as squares, center gages, bevel protractors, rules and straight edges.

**Starrett 3 and 4-Pc. Combination Sets** have reversible lock bolts, spirit level and tempered steel machine-divided blade. Satin chrome finish blade. Forged and hardened square and center heads with smooth black enamel finish. Nos. 4K415 & 4K423 have cast-iron heads. Direct reading double 180° protractor scale.

| Graduations | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **2-PC. COMBINATION SET— Include Combination Blade and Square Head** | | | | | |
| **12" 4R** | Fowler | 52-388-012 | **5A181** | **$74.70▲** | 1.3 |
| **3-PC. COMBINATION SETS— Include Combination Blade and Square and Center Heads** | | | | | |
| **6" 4R** | Starrett | C11H-6-4R | **4K415** | **52.05▲** | 0.5 |
| **6" 4R** | Starrett | C33HC-6-4R | **4K472** | **95.15▲** | 0.6 |
| **6" 4R** | Mitutoyo | 180-901 | **6C309** | **82.70▲** | 0.5 |
| **12" 4R** | Starrett | C11H-12-4R | **4K423** | **63.60▲** | 1.5 |
| **12" 4R** | Starrett | C33HC-12-4R | **4K480** | **114.30▲** | 1.5 |
| **12" 4R** | Starrett | C33H-12-4R | **4K478** | **77.30▲** | 1.2 |
| **12" 4R** | Mitutoyo | 180-903 | **6C310** | **103.75▲** | 1.4 |
| **12" 16R** | Starrett | C33HC-12-16R | **4K484** | **118.30▲** | 1.5 |
| **12" 16R** | Mitutoyo | 180-904 | **6C311** | **105.70▲** | 1.4 |
| **4-PC. COMBINATION SETS— Include Combination Blade and Square, Center, and Protractor Heads** | | | | | |
| **12" 4R** | Starrett | C434-12-4R | **4F125** | **176.25▲** | 2.3 |
| **12" 4R** | Mitutoyo | 180-905 | **6C312** | **162.75▲** | 2.2 |
| **12" / 300mm** | Starrett | C434M-300 | **2GJ49** | **181.50▲** | 2.4 |
| **12" / 300mm** | Mitutoyo | 180-907 | **6C313** | **164.75▲** | 2.2 |

(▲)Net prices, not subject to discounts.

## SQUARE, CENTER, AND PROTRACTOR HEADS

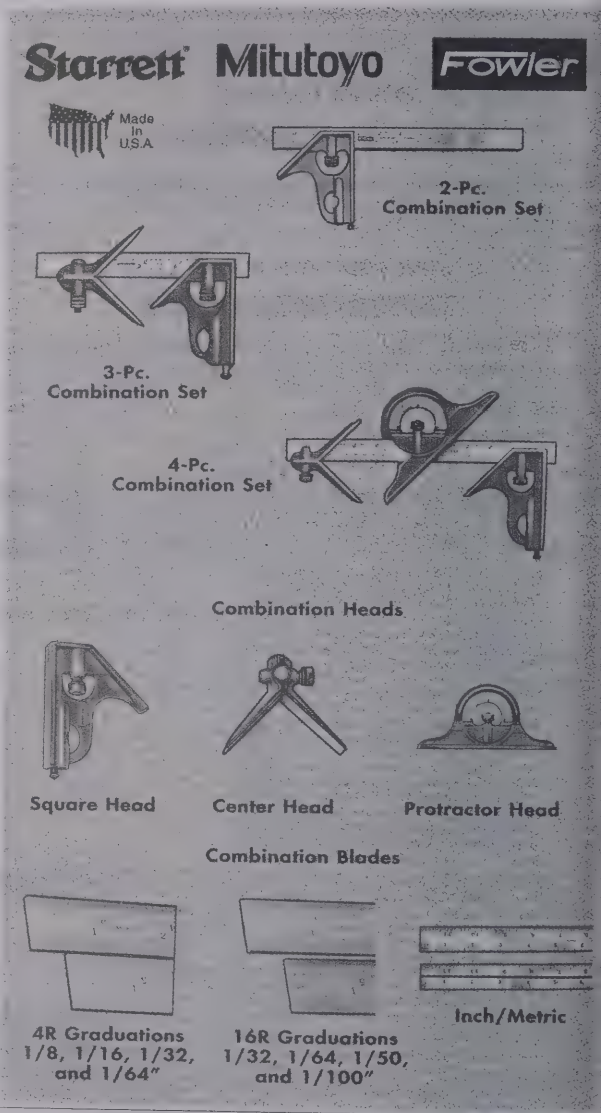
**Square heads** have precision ground 90° square face and 45° miter face and come with hardened scriber and spirit level.

**Center heads** have precision faces and are forged and hardened with smooth black enamel finish.

**Protractor heads** are cast, with spirit level and revolving turrets with direct reading double graduations a full 0-180° in opposite directions. No. 4K896 is reversible with shoulders on both sides of blade and black wrinkle finish with satin chrome finish on turret.

| Head Type | Head Size (In.) | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Square** | 12-24 | Starrett | H33-1224 | **3V186** | **$43.80▲** | 0.6 |
| **Square** | 12-24 | Mitutoyo | 180-102 | **6C320** | **39.25▲** | 0.6 |
| **Center** | 12-24 | Starrett | C33-1224 | **3V193** | **36.95▲** | 0.3 |
| **Center** | 12-24 | Mitutoyo | 180-202 | **6C321** | **33.85▲** | 0.4 |
| **Protractor** | 12-24 | Starrett | CPR1224W | **4K896** | **61.85▲** | 1.0 |
| **Protractor** | 12-24 | Mitutoyo | 180-301 | **6C322** | **59.70▲** | 1.5 |

(▲)Net prices, not subject to discounts.




## COMBINATION BLADES

Blades fit combination squares, combination sets, and bevel protractors. Satin chrome finished for resistance to stains and corrosion, and for sharp, glare-free graduations.

| Length | Graduations | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12"** | 8ths, 16ths, Quick Reading 32nds & 64ths (4R) | Starrett | CB12-4R | **3V122** | **$33.60▲** | 0.3 |
| **12** | Quick Reading 32nds & 64ths; Aircraft Quick Reading 50ths & 100ths (16R) | Starrett | CB12-16R | **3V124** | **37.60▲** | 0.3 |
| **12** | 8ths, 16ths, 32nds, & 64ths (4R) | Mitutoyo | 180-501 | **6C317** | **28.95▲** | 0.3 |
| **12** | 32nds, 64ths, 50ths, & 100ths (16R) | Mitutoyo | 180-502 | **6C318** | **31.85▲** | 0.3 |
| **600mm** | 1/2mm & 1mm | Starrett | CB600-35 | **4K368** | **72.90▲** | 0.6 |
| **150mm / 5 1/4"** | 1/2mm & 32nds; 1mm & 64ths | Starrett | CB150-36 | **4K370** | **30.25▲** | 0.1 |
| **150mm / 6"** | 1/2 mm & 32nds, 1mm & 64ths | Mitutoyo | 180-403 | **6C316** | **26.95▲** | 0.1 |
| **300mm / 11 3/4"** | 1/2mm & 32nds; 1mm & 64ths | Starrett | CB300-36 | **4K372** | **38.95▲** | 0.3 |
| **300mm / 12"** | 1/2 mm & 32nds; 1mm & 64ths | Mitutoyo | 180-503 | **6C315** | **31.85▲** | 0.3 |
| **450mm / 18"** | 1/2mm & 32nds; 1mm & 64ths | Mitutoyo | 180-703 | **6C319** | **55.35▲** | 0.5 |

(▲)Net prices, not subject to discounts.



Take the guesswork out of your precision measuring tools purchase.

## MASTER PRECISION LEVEL

or critical machinery setups of all types. Ground and graduated main vial of 10-second ccuracy – one division equals 0.0005" per foot. Auxiliary level vial shows lateral posi-on as guide to horizontal setting. Insulated from handling by nonconductive top plate. evel vials positioned to reduce breakage. Made of seasoned cast iron. Base carefully recision machined. Black wrinkled finish on nonworking surfaces. Furnished in wood ase.

## MECHANICS' IMPROVED LEVELS

evels have ground and graduated main vials. All levels have cross test vial. 12" size also as a ground plumb vial. Main vials are adjustable for positive setting and housed in atin-chromed brass tube with friction fit closing cover to prevent breakage. Level base made from finest seasoned castings with black wrinkle finish, accurately machined nd finished on bearing surface. Involute longitudinal groove between bearing flats pro-ides accurate seating on round work.

## CROSS TEST LEVEL AND PLUMB

or approximate squaring, leveling, machine setup. Has two vials at right angles for ross test leveling without moving tool and plumb level at top for checking squareness. eliable and compact.

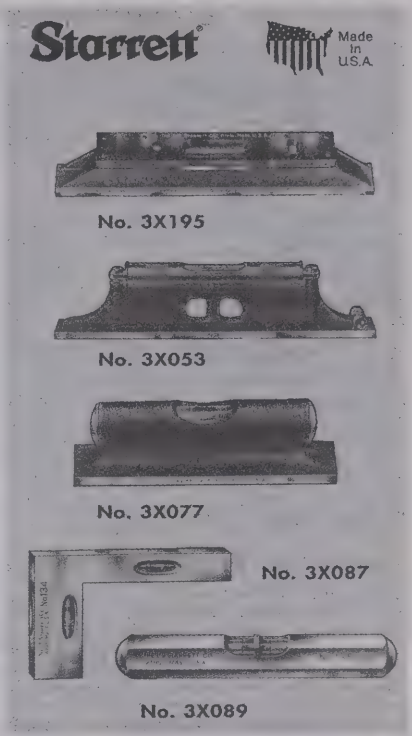
## SMALL BENCH LEVEL

⅛" long with single vial. Sturdy body made of seasoned cast iron with black wrinkle nish and nickel-plated ends. Accurately machined base leveling surface.

## POCKET LEVELS

ade from hexagonal stock with satin nickel-plated finish. Made with convex ends.

| Description | Size (In.) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| aster Precision Level | 15L x 1⅝W x 3H | 199Z | **3X195** | **$481.00▲** | 8.1 |
| echanic's Improved Level | 6L | 98-6 | **3X049** | **65.15▲** | 0.9 |
| echanic's Improved Level | 8L | 98-8 | **3X051** | **83.30▲** | 1.6 |
| echanic's Improved Level | 12L | 98-12 | **3X053** | **114.30▲** | 3.3 |
| ross Test Level and Plumb | 2 x 3 x 1/2 | 134 | **3X087** | **27.95▲** | 0.2 |
| mall Bench Level | 3⅜L | 130 | **3X077** | **21.13▲** | 0.3 |
| ocket Level with Main Vial | 2½L x 3/8W | 135A | **3X089** | **14.90▲** | 0.1 |
| ocket Level with Main Vial | 3½L x 1/2W | 135B | **3X091** | **16.25▲** | 0.2 |







## LASER BEAM SPLITTER

Locks over end cap of Starrett laser beam level, permitting one beam to deflect or "split" into two beams 90° apart. Axis of beam splitter can be rotated 360° so that any point or line 90° from axis of level can be identified. Also features level vial to establish true vertical down position. For squaring layout work and corners, for setting tile, walls, partitions, posts and more. Ideal for work inside buildings.

## HEAVY-DUTY ALUMINUM TRIPOD

Strong, rigid tripod for use by surveyors, engineers and contractors. Wide-frame extension leg type. 65" open; 42" closed. Extension legs and side struts are anodized. Includes brass adapter for mounting transit heavy-duty hardware, interchangeable heads, hardened steel replaceable shoe points, and poly-webbed shoulder strap. Bright orange.

## SWIVEL BASE/MOUNT FOR TRIPOD

Fits Starrett tripod, permitting mounting of Starrett laser beam level. Rugged aluminum base design allows for easy calibration to insure accuracy. Rotary base for moving level in circular fashion allows 360° sighting without having to reposition tripod legs. Base tilts by means of an adjust knob, permitting sighting of grades and angles.

| Description | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Laser Beam Splitter** | LZBS | **4L683** | **$154.75** | 0.3 |
| **Heavy-duty Aluminum Tripod** | 99LT | **4L682** | **191.00** | 13.0 |
| **Swivel Base/Mount for Tripod** | LZSM | **4L684** | **122.00** | 3.0 |

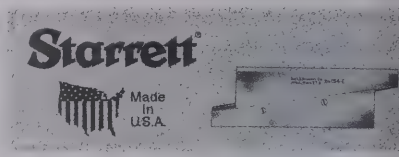
**Box Beam Laser Level No. 4L681 sold on page 1385**

▲) Net prices, not subject to discounts.

# PARALLELS AND PROTRACTORS

## STARRETT ADJUSTABLE PARALLELS

For a wide range of uses in layout, gaging, inspection work and for setups on machine tools. Adjust to exact size. Check size of openings by inserting and expanding parallels to size; then determine size by measuring parallels externally with a micrometer. Parallels consist of two pieces of dovetailed ground steel which slide smoothly and can be easily adjusted. Smaller sizes, 3/8–15/16", are locked by one screw, while larger sizes, 15/16–1 3/4", have two lock screws. All parallels are 9/32" thick.




| Lengths (In.) | Range English (In.) | Range Metric (mm) | Description (In.) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 3/4 – 3 9/16 | 3/8 – 1 5/16 | 9.5 – 33.3 | Set of 4 parallels: 3/8 – 1/2, 1/2 – 11/16, 11/16 – 15/16, 15/16 – 1 5/16 in case | S154SZ | 3X105 | $86.30▲ | 0.6 |
| 1 3/4 – 5 1/16 | 3/8 – 2 1/4 | 9.5 – 57.1 | Set of 6 parallels: 3/8 – 1/2, 1/2 – 11/16, 11/16 – 15/16, 15/16 – 1 5/16, 1 5/16 – 1 3/4", 1 3/4 – 2 1/4" in case | S154LZ | 3X107 | 141.20▲ | 2.1 |

(▲) Net prices, not subject to discounts.

## STARRETT STEEL PROTRACTOR

Used to set bevels, transfer angles, and as a small T-square. Flat back allows use for drafting. Head is rectangular providing four working edges. Double graduations from 0-180° in opposite directions permit reading an angle directly and also supplementary angle. 6" blade can be locked firmly at any angle by patent lock joint and knurled nut. Satin chrome finish. Starrett brand (C183).

**No. 3X173.** Shpg. wt. 0.3 lbs. Each ..... **$48.10▲**

## STARRETT PROTRACTOR AND DEPTH GAGE

Combining protractor head graduated from 0-180° in opposite directions with 6" blade graduated one side in 32nds and on reverse side in 64ths. Blade adjusts to any angle and may be clamped anywhere along its length by knurled thumb nut. Has a rectangular protractor head providing four convenient working edges. Flat surface on back of head permits laying tool flat upon paper or work and knurled thumb nut locks blade in any position. Satin chrome finish. Starrett brand (C493B).

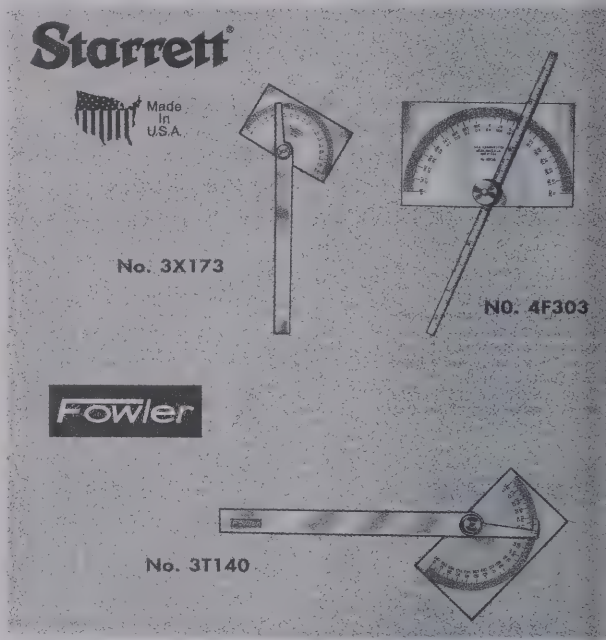
**No. 4F303.** Shpg. wt. 0.2 lbs. Each ..... **$47.70▲**

## FOWLER PROTRACTOR WITH RECTANGULAR HEAD

Used to transfer angles and set bevels. Made of chrome steel with satin finish and has 6" arm with knurled thumb lock nut. Measures angles from 0-180°. Blade secured firmly at any angle by a lock joint and knurled nut. Rectangular head measures 3 5/16 x 2" and provides four working edges. Fowler brand (52-450-010).

**No. 3T140.** Shpg. wt. 0.3 lbs. Each ..... **$39.75▲**

(▲) Net prices, not subject to discounts.







- Includes wooden storage box
- For layout work, standards, and setups
- Constructed of high grade alloy steel, hardened and ground on all six sides
- Parallelism within 0.001"
- Heights within ±0.002"
- Holes for easier handling and setups

## PRECISION PARALLELS

### PRECISION PARALLELS

| Number of Pairs | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Set of 10 Pair | 3W859 | $110.00 | $93.50 | 1.2 |
| Set of 9 Pair | 3W860 | 192.00 | 163.25 | 10.0 |
| Set of 8 Pair | 3W861 | 220.00 | 187.00 | 19.0 |

### SIZE OF PAIRS INCLUDED

| No. 3W859 | | No. 3W860 | | No. 3W861 | |
|---|---|---|---|---|---|
| Hole Dia. (In.) | Size (In.) | Hole Dia. (In.) | Size (In.) | Hole Dia. (In.) | Size (In.) |
| 13/64 | 1/8 x 1/2 x 6 | 5/16 | 1/4 x 3/4 x 6 | 5/16 | 1/2 7/8 x 6 |
| 1/4 | 1/8 x 5/8 x 6 | 5/16 | 1/4 x 7/8 x 6 | 5/16 | 1/2 x 1 x 6 |
| 15/16 | 1/8 x 3/4 x 6 | 5/16 | 1/4 x 1 x 6 | 3/8 | 1/2 x 1 1/8 x 6 |
| 5/16 | 1/8 x 7/8 x 6 | 3/8 | 1/4 x 1 1/8 x 6 | 3/8 | 1/2 x 1 1/4 x 6 |
| 5/16 | 1/8 x 1 x 6 | 3/8 | 1/4 x 1 1/4 x 6 | 7/16 | 1/2 x 1 3/8 x 6 |
| 3/8 | 1/8 x 1 1/8 x 6 | 7/16 | 1/4 x 1 3/8 x 6 | 7/16 | 1/2 x 1 1/2 x 6 |
| 3/8 | 1/8 x 1 1/4 x 6 | 7/16 | 1/4 x 1 1/2 x 6 | 1/2 | 1/2 x 1 5/8 x 6 |
| 7/16 | 1/8 x 1 3/8 x 6 | 1/2 | 1/4 x 1 5/8 x 6 | 1/2 | 1/2 x 1 3/4 x 6 |
| 1/2 | 1/8 x 1 1/2 x 6 | 1/2 | 1/4 x 1 3/4 x 6 | | |
| 1/2 | 1/8 x 1 5/8 x 6 | | | | |



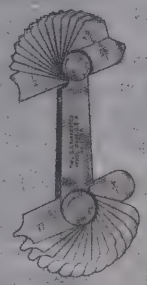
*Take the guesswork out of your precision measuring tools purchase.*

## RADIUS GAGES

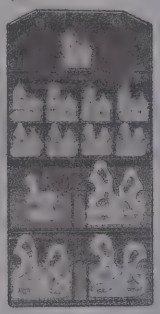
Starrett Made In U.S.A. Mitutoyo Fowler



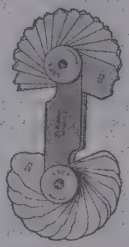
No. 3X153



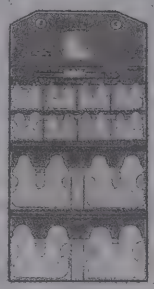
No. 3X165



No. 5C729



No. 5C728



No. 3T165

**adius Gage Sets** have individual gage for ach dimension to verify radius accurately ı machining, layout, inspection and pat- ern-making work. Each gage is identified ith radius dimension and has five differ- nt gaging surfaces for both convex and oncave radii. Measuring surfaces are pre- isely finished with smooth, accurate dge. Gages have satin finish and come in ase.

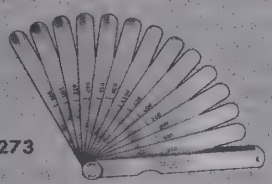
**adius or Fillet Gages** are for tool and die akers and other mechanics to lay out and heck radii. Each leaf, stamped with adius size, measures both concave and onvex radii. Locking device holds any leaf ecurely in position. Made of finely fin- hed, high quality steel.

| Gages Per Set | Size / Range | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **25 Leaves** | 1/64 to 17/64" by 64ths and 9/32 to 1/2" by 32nds | Starrett | S167CHZ | **3X153** | **$99.20▲** | 0.8 |
| **26 Leaves** | 0.010-0.025" by 0.005"; 0.030-0.100" by 0.10"; 0.120-0.300" by 0.020"; 0.350-0.500" by 0.050" | Starrett | SD167GHZ | **4K658** | **129.20▲** | 0.8 |
| **26 Leaves** | 0.010-0.030" by 0.005"; 0.040-0.100" by 0.010"; 0.120-0.220" by 0.020"; 0.240-0.300" by 0.020"; 0.350-0.500" by 0.050" | Mitutoyo | 186-906 | **5C729** | **107.75▲** | 0.5 |
| **26 Leaves** | 1/64 to 17/64" by 64ths and 9/32 to 1/2" by 32nds | Fowler | 52-470-010 | **3T165** | **63.60▲** | 0.6 |
| **30 Leaves** | 1/32 to 1/4" by 64ths | Starrett | 178A | **3X165** | **33.75▲** | 0.2 |
| **30 Leaves** | 1/32 to 1/4" by 64ths | Mitutoyo | 186-101 | **5C728** | **30.30▲** | 0.1 |

(▲) Net prices, not subject to discount.

## STARRETT THICKNESS GAGES

Starrett Made In U.S.A.



No. 4F273

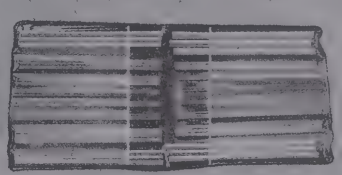
sed in many applications from automotive to jig, fixture, and ıge work. Leaves made of finest tempered steel, carefully fin- hed to correct thickness, and individually tested and marked ith thickness. Locking device on most gages secures leaves in ıy position. Leaves easily removed or replaced. Rugged, sub- antial steel case protects leaves. Nos. 4F273 and 3X163 have raight leaves; No. 3X161 has tapered leaves.

| Range (In.) | Size of Leaves (In.) | No. of Leaves | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| .0015-0.200 | 1/2 x 4½ | 13 | 467 | **4F273** | **$53.30▲** | 0.4 |
| .002-0.015 | 1/2 x 12 | 8 | 172E | **3X163** | **39.85▲** | 0.3 |
| .002-0.015 | 1/2-1/4 x 6 | 8 | 172CT | **3X161** | **29.20▲** | 0.2 |

) Net prices, not subject to discount.

## THREAD MEASURING WIRE SET

ADVANTAGE PLUS



Measure U.S. threads from 3-48 threads per inch and metric threads from .05 to 0.6mm. Wires are 3" long and range from 0.018 to 0.185. Set includes 16 sizes with 3 wires per size. All are 60° threads. Dust proof, non-corrosive plastic case has the wire size stamped above each pocket.

**No. 3X142.** Shpg. wt. 0.3 Each ..... $12.75

## STARRETT TAPER GAGES

Series 269 taper gages are for determining hole size in dies and all kinds of work. Reads in thousandths of an inch. All sizes are made from spring tempered steel approximately 0.012" thick and have locking device which makes it possible to lock any leaf in position for use. Furnished in a red vinyl protective case.

**No. 4F013** is 2½" long and has 8 leaves with a measuring range of 1/2–1" in 0.001". Starrett brand (269A).

**No. 4F013.** Shpg. wt. 0.1 lbs. Each ..... $80.60▲

**No. 4F015** is 2¾" long and has 10 leaves with a measuring range of 1/2–1" in 0.001". Starrett brand (269B).

**No. 4F015.** Shpg. wt. 0.1 lbs. Each ..... $94.15▲

**Series 270 taper gage** is very useful on bearing work and for gaging slots. Gage is made of quality tool steel 7/16" wide by 6¼" long and is accurately tapered throughout entire length for quick, convenient measuring of slot widths. One side is graduated from 0.010 to 0.150" in thousandths and reverse side from 0.3mm to 4mm in one-twentieth of a mm (0.05mm). Starrett brand (270).

**No. 4F017.** Shpg. wt. 0.1 lbs. Each ..... $66.50▲

(▲) Net prices, not subject to discounts.



No. 4F017

## STARRETT SCREW PITCH GAGES

Quickly determine pitch of various threads. Consist of steel case with folding leaves at both ends, each leaf having teeth corresponding to a definite pitch. By matching teeth with thread, correct pitch can be read directly from leaf. All gages feature locking device at both ends of the case allowing leaves to be securely locked in position for use. Leaves have special narrow design permitting checking internal threads in nuts, etc. and flattened teeth for checking both V and American National or U.S. Standard threads.

No. 4F275 has 51 pitches, range 4 to 84 threads per inch, also 11½ and 27 pipe thread pitches. Starrett brand (472).

**No. 4F275.** Shpg. wt. 0.3 lbs. Each ..... $43.70▲

No. 4F277 has 28 pitches, range 4 to 80 threads per inch, also 11½ and 27 pipe thread pitches. Starrett brand (474).

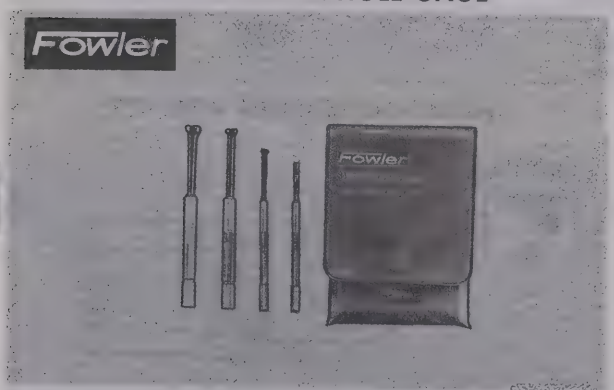
**No. 4F277.** Shpg. wt. 0.1 lbs. Each ..... $23.95▲

(▲) Net prices, not subject to discounts.



No. 4F275

## FOWLER SMALL HOLE GAGE

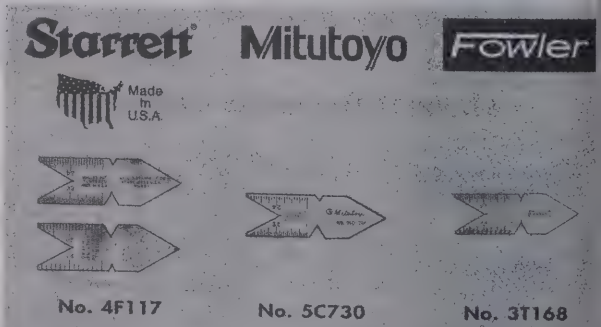



Extra long design for gaging deep or shallow holes, slots, and similar work. Hole size obtained by measuring over contact points with micrometer. Knurled knob at end of handle used for easy size adjustment. Gaging surface is full-round with flat bottom for use in small shallow holes, slots, and grooves; fully hardened. Four measuring ranges/probe depths: 0.125 to 0.200"/0.880"; 0.200 to 0.300"/1.200"; 0.300 to 0.400"/1.600"; and 0.400 to 0.500"/1.600". Includes fitted case. Fowler brand (52-472-104).

**No. 3T167.** Shpg. wt. 0.3 lbs. Each ..... $56.75▲

(▲) Net prices, not subject to discounts.

## CENTER GAGES



No. 4F117 No. 5C730 No. 3T168

For American National - U.S. 60° Standard. Has scale graduate in 14ths, 20ths, 24ths, and 32nds for finding number of thread per inch. Made of tempered steel with lapped edges and notche and satin chrome finish. No. 4F117 also features table of doubl depths of threads for determining size of tap drills.

| Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Starrett | C391 | 4F117 | $12.50▲ | 0.1 |
| Mitutoyo | 950-201 | 5C730 | 11.74▲ | 0.4 |
| Fowler | 52-505-001 | 3T168 | 7.94▲ | 0.2 |

(▲) Net prices, not subject to discounts.



Take the guesswork out of your precision measuring tools purchase.

## DRILL POINT GAGE

For determining correct 59° drill point angle and correct length of drill lips. Consists of 6" hook rule with sliding head that can be locked anywhere along rule by knurled thumb nut. Head is beveled to 59° and graduated in 32nds. Also useful as plain rule, hook rule, depth gage, try square, and slide caliper. Sliding head fits all steel rules 3/4" wide by 3/64" thick.

## DRILL GAGES

For quick check of fractional, decimal, and metric drill sizes. Hardened with satin finish.

**Starrett Letter Size Drill Gage** is marked with decimal equivalents and has 5/64" thick by 2 5/16" wide by 6 1/4" long plate size.

**Mitutoyo Drill Gages** have a plate size of 5/64" thick by 2 1/2" wide by 3/8" long. No. 5C732 is graduated in 64ths and marked with both fractional and drill sizes.

## TAP AND DRILL GAGES

Provide a quick check of tap and drill sizes. Show correct tap drill for National Fine or National Coarse thread series. Hardened with satin finish.

**Starrett Tap and Drill Gage** leaves right amount of stock for approx. 65% full thread. Gage also shows correct body size drill and provides 60 holes marked with number size and decimal equivalent of drills from No. 1 through No. 60. Plate size is 5/64" thick by 2 5/16" wide by 6 1/4" long.

**Mitutoyo Tap and Drill Gage** leaves right amount of stock for approx. 75% full thread. Plate size is 5/64" thick by 2 1/2" wide by 3/8" long.

## JOBBER'S DRILL GAGE

Quickly determine size of any twist drill from 1/16 to 1/2" by 64ths. Gage has 29 holes, each marked with drill size in inches and decimal equivalent. Tested after hardening, ground and polished with satin finish. Approx. 5/64" thick by 2 5/16" wide by 6 1/4" long.

## AMERICAN STANDARD WIRE GAGES

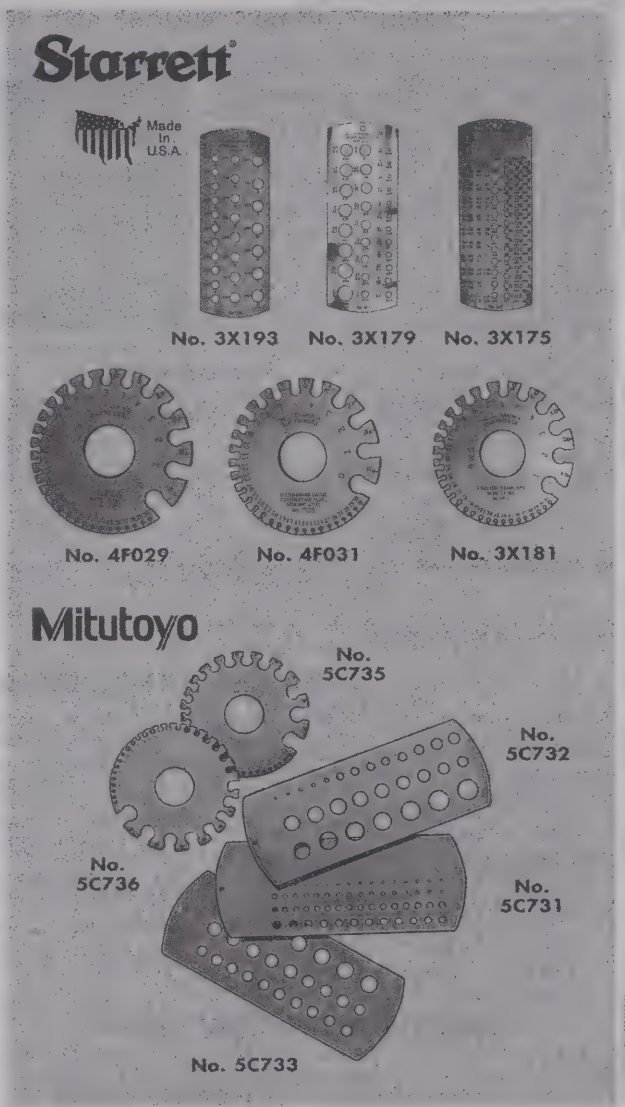
For quick check of wire size of nonferrous metals like copper, brass, and aluminum. Highly useful gage for finding wire, sheet, or plate sizes. Screw slotting cutters are also made to this gage. Hardened with satin finish. Starrett Model: 3 3/16" diameter by 1/10" thick, and decimal equivalents.

## U.S. STANDARD GAGE

For verification of gage thickness of sheet, plate iron, and steel. Time saving tool when a plate size must be quickly determined. Each numbered slot is marked with decimal equivalents.

## ENGLISH STANDARD GAGE

Birmingham or Stubs wire gauge. Made to U.S. specifications for uncoated sheet, plate iron, and steel. Based on weights in ounces per square foot. Hardened with satin finish and marked with decimal equivalents.




| Description | Size/Range | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Drill Point Gage** | 8ths, 16ths, Quick-Reading 32nds, & 64ths | Starrett | 22C | **3V176** | **$33.75▲** | 0.2 |
| **Drill Gage** | Drill Size 1/16" to 1/2"; 29 holes | Mitutoyo | 950-206 | **5C732** | **27.95▲** | 0.3 |
| **Drill Gage** | Drill Size 1.0-5.9mm; 57 holes | Mitutoyo | 950-208 | **5C733** | **28.95▲** | 0.3 |
| **Drill Gage** | Drill Size A to Z | Starrett | 198 | **3X193** | **32.35▲** | 0.3 |
| **Drill Gage** | Drill Size A to Z | Mitutoyo | 950-209 | **5C734** | **27.95▲** | 0.3 |
| **Tap and Drill Gage** | Tap Size #2-56NC to 1/4-28NF | Starrett | 185 | **3X175** | **38.15▲** | 0.3 |
| **Tap and Drill Gage** | Tap Size #2-56NC to 1/4-28NF | Mitutoyo | 950-204 | **5C731** | **27.95▲** | 0.3 |
| **Jobber's Drill Gage** | Drill Size 1/16 to 1/2" | Starrett | 187 | **3X179** | **34.95▲** | 0.3 |
| **American Std Wire Gage** | Gage No. 0 to 36 (Nonferrous) | Starrett | 281 | **4F029** | **39.55▲** | 0.2 |
| **American Std Wire Gage** | Gage No. 0 to 36 (Nonferrous) | Mitutoyo | 950-202 | **5C735** | **27.95▲** | 0.2 |
| **U.S. Standard Gage** | Gage No. 0 to 36 (Nonferrous) Starrett | Starrett | 283 | **4F031** | **39.55▲** | 0.2 |
| **U.S. Standard Gage** | Gage No. 0 to 36 (Nonferrous) | Mitutoyo | 950-203 | **5C736** | **27.95▲** | 0.2 |
| **English Standard Gage** | Gage No. 1 to 36 | Starrett | 188 | **3X181** | **46.15▲** | 0.2 |

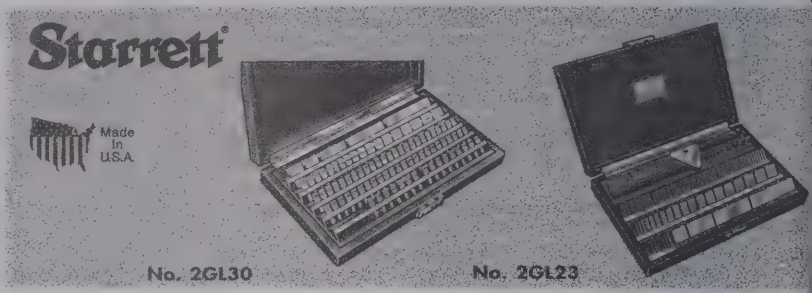
▲) Net prices, not subject to discounts.

# GAGE BLOCK AND BORE GAGE SETS

## STARRETT-WEBBER SQUARE AND RECTANGULAR STEEL GAGE BLOCK SETS

Accurate to within millionths of an inch to provide improved quality of production and lower costs. Grades guaranteed to meet or exceed federal specification GGG-G-15C and others. Grade 2 (A1). All gage blocks include a Standards Certification traceable to the National Institute of Standards and Technology (NIST).

Steel blocks have a Rockwell hardness of 65± 1/2"C scale, and feature an unusually fine hard grain structure for a lifetime of use without wear or abrasion. Standards of surface finish are actually higher than government requirements. Sets furnished in rugged, handsome wood case.




| Description | Measuring Range | Blocks Included in Set | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **81-Pc. Rectangular Gage Set** | 0.100 – 12.000" (steps of 0.001")<br>0.200 – 12.000" (steps of 0.0001") | 9 blocks: 0.1001 – 0.1009" in 0.0001" steps<br>49 blocks: 0.101 – 0.149" in 0.001" steps<br>19 blocks: 0.050 – 0.950" in 0.050" steps<br>4 blocks: 1.000 – 4.000" in 1" steps | RS 81.A1 | **2GL30** | **$1357.00▲** | 11.0 |
| **9-Pc. Rectangular Gage Set** | 0.0625 – 4.000" (steps of 0.0625")<br>0.100 – 4.000" (steps of 0.100") | 1 block: 0.0625"<br>1 block: 0.100"<br>1 block: 0.125"<br>3 blocks: 0.200, 0.250 & 0.300"<br>3 blocks: 0.500, 1.000 & 2.000" | RS 9.A1 | **2GL33** | **214.00▲** | 2.0 |
| **81-Pc. Square Gage Set** | 0.100 – 12.000" (steps of 0.001")<br>0.200 – 12.000" (steps of 0.0001") | 9 blocks: 0.1001 – 0.1009" in 0.0001" steps<br>49 blocks: 0.101" in 0.001" steps<br>19 blocks: 0.050 – 0.950" in 0.050" steps<br>4 blocks: 1.000 – 4.000" in 1" steps | SS 81.A1 | **2GL23** | **2082.00▲** | 13.0 |

(▲) Net prices, not subject to discounts.

## MITUTOYO 81-PC. RECTANGULAR GAGE BLOCK SET

All gage blocks are made of special steel alloy which possesses excellent stability with thermal expansion coefficiency for most measuring applications. Grade 2 (A+). All gage blocks meet or exceed federal specification GGG-G-15C and are are furnished with a Certificate of Calibration traceable to the National Institute of Standards and Technology (NIST).

| BLOCK COMBINATIONS IN SET | |
|---|---|
| 9 blocks: | 0.1001-0.1009" in 0.0001" steps |
| 49 blocks: | 0.101-0.149" in 0.001" steps |
| 19 blocks: | 0.050-0.950" in 0.050" steps |
| 4 blocks: | 1.000-4.000" in 1.000" steps |

Block edges have blended radius and are burr-proofed. Wringing or stacking block does not cause damage to measuring surface. Come in rugged wooden box with index numbers specially treated to keep moisture away from blocks; underside of case has four soft pads to prevent slippage. Mitutoyo brand (516-902).

**No. 6C323.** Shpg. wt. 8.3 lbs. Each.....**$1402.00▲**

(▲) Net prices not subject to discounts.




## MITUTOYO BORE GAGE SETS

Wide size range for I.D. (inside diameter) measurements in bearings, engine bore, etc. Dial bore gages have interchangeable anvils and necessary accessories to perform close tolerance I.D. (inside diameter) measurements. Range is 0.7-6" covering most ID bore gaging sizes.

Equipped with a unique self-centering guiding device which facilitates accurate measurement of the bore. Reference chart indicates spacer and rod sizes to be selected for specific range. Include AGD Series 2 Dial Indicator with a rugged cover, 2" Extension rod, 26 anvils, and complete indexed, fitted carrying case.

| Range (In.) | Probe Depth (In.) | Graduation (In.) | Mitutoyo Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0.7-6.0** | 4 / 6 | 0.0005 | 511-911 | **5C715** | **$682.00▲** | 4.9 |
| **0.7-6.0** | 4 / 6 | 0.0001 | 511-912 | **5C716** | **720.00▲** | 5.0 |

(▲) Net prices, not subject to discounts.




**UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY**

**Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.**

# 1-2-3 BLOCKS, V-BLOCKS AND CLAMPS

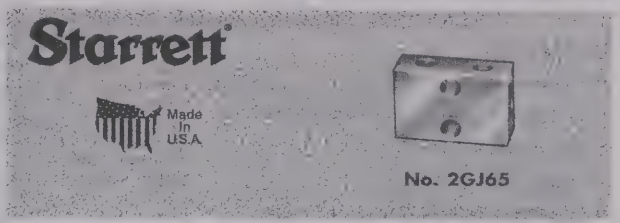
## 1-2-3 BLOCKS

Precisely ground blocks for measuring 1, 2, or 3" when setting up workpieces for layout, inspection, and machining.

**Starrett model** is manufactured to precision tolerances: 0.0001" parallelism, 63-65 HRC hardness, 0.0001" squareness, and 0.0001" flatness. Hardened ground steel. Supplied with case. Starrett brand (706AZ).

**No. 2GJ65.** Single 1-2-3 Block. Shpg. wt. 2.1 lbs. Each.....**$167.50▲**

▲) Net prices, not subject to discounts.




## V-BLOCKS AND CLAMPS

**V-Blocks and Clamps for Round and Square Work.** Clamps can be mounted on V-block in low or high position for small or large work. Clamps do not project; blocks can be used on base, ends or sides. Blocks hold round work up to 2" diameter and square work up to 1 7/16" (or 1 9/16" square with screw top). Tapped holes for mounting V-blocks on face plates or angle irons. V-blocks are made of hardened steel. All sides are precision ground parallel and square and V-groove ground central and parallel to sides and bases. V-grooves of matched pair have perfect alignment. Come in pairs.

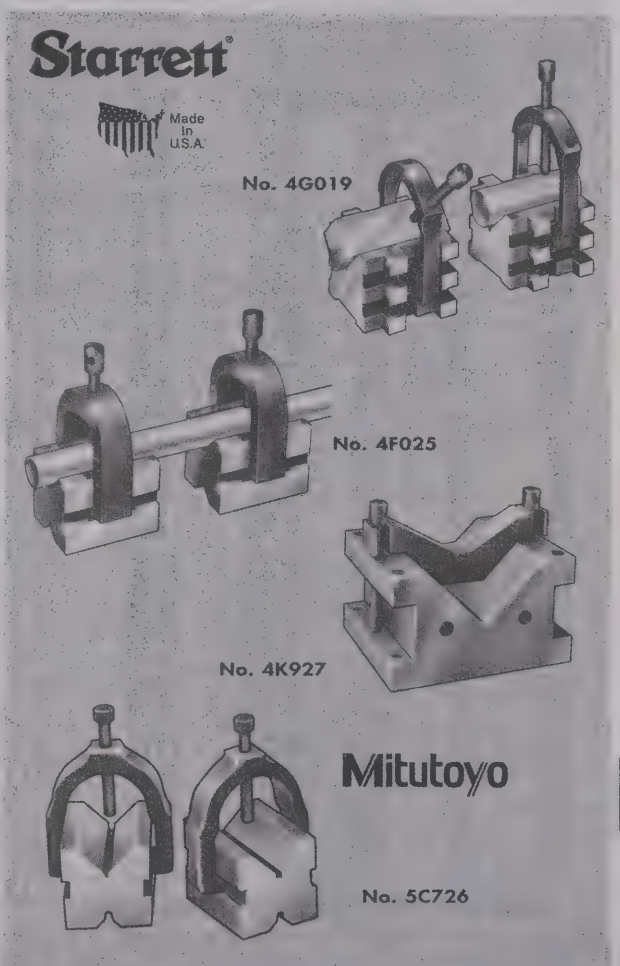
**V-Blocks and Clamps for Round Work.** 90° V's are ground central, parallel and square with ends and sides. Made of special steel, hardened and ground. Tapped hole 1/4-20 through sides. Angle iron and blocks can then be attached to lathe face-plate or held by magnetic chuck. Each block 1¼" square and 1⅝" long. Supplied in matched pairs.

**Precision V-Block and Clamp.** V-block will handle round work up to 1" diameter. Block can be used on side or end for machining or inspection with no interference from reversible, swing-away style clamp. Three tapped hole positions in V-block allows positioning at either end or at center. Two tapped holes in one end of V-block provide for mounting it perpendicular to a face-plate. Clearance holes in bottom provide for mounting V-block to angle plates or other fixturing. Block is 5¼" wide, 3" high, and 3⅜" long and made of hardened steel, precision ground.

**"A" Clamps** combine compact size and shape with cam activation for maximum clamping versatility and ease of use. Cam lock quick-release feature makes changing workpieces fast and easy. Hardened swivel contact pads provide maximum holding power regardless of work orientation or load increase. "A" clamps provide up to 50% more clamping pressure than parallel clamps and are more versatile than conventional "C" or parallel clamps.

| Description | Capacity (In.) | Mfr. | Mfr's. Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **V-BLOCKS AND CLAMPS** | | | | | | |
| For Round and Square Work | 2 | Starrett | 568C | 4G019 * | $239.75▲ | 6.6 |
| For Round Work | 1 | Starrett | 278 | 4F025 * | 133.50▲ | 1.5 |
| For Round Work | 1 | Mitutoyo | 181-901 | 5C726 * | 145.85▲ | 2.4 |
| For Round Work | 2 | Mitutoyo | 181-904 | 5C727 * | 213.00▲ | 10.0 |
| Precision Block + Clamp | Max. 4; Min. 9/16 | Starrett | 578A | 4K927 | 376.75▲ | 12.0 |
| Precision Clamp Only | — | Starrett | 578B | 4K935 | 37.85▲ | 1.1 |
| **"A" CLAMPS** | | | | | | |
| 1/4" Clamp | 1 5/16 Throat Depth | Starrett | 164A | 4K685 | 26.55▲ | 0.9 |
| 1" Clamp | 2 Throat Depth | Starrett | 164B | 4K687 | 29.20▲ | 1.7 |
| 1" Clamp | 2¾ Throat Depth | Starrett | 164C | 4K689 | 33.30▲ | 2.7 |

*) Sold in pairs; Each price is for a pair of V-blocks and clamps.
▲) Net prices, not subject to discounts.




## STARRETT PRECISION ANGLE PLATE

Precision ground angle plate is 3 x 3 x 3" and made from hardened steel. 1" wall thickness with a grinding step of 1/4" wide x 1/4" down from top surface allows for grinding, machining, or inspection of small hardware items. Ten 1/4-20 tapped holes, six in face and two on each end, provide for clamping of work to angle plate and/or clamping angle block to a sine fixture or machine. Starrett brand (580).

**No. 4K930.** Shpg. wt. 4.3 lbs. Each.....**$283.50▲**

▲) Net prices, not subject to discounts



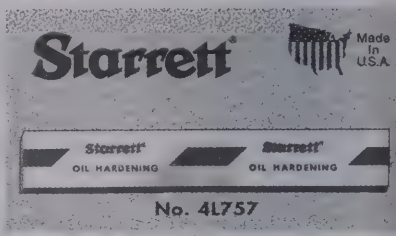
# FLAT STOCK AND GRINDING VISE

## STARRETT PRECISION GROUND OIL HARDENING FLAT STOCK—18" LENGTHS

**TOLERANCES:**

- **Thickness ± 0.001"**
- **Width: Up to 6" +0.000/0.005"**
- **Squares ± 0.010/0.015"**
- **Length 18" +1/4"**
- **Edge Squareness 0.003 per inch**

Make your own machine parts, jigs, fixtures, shims, stamps, and more. Made of dimensionally stable chromium, tungsten, vandium electric furnace tool steel. Low 1450-1500°F hardening range makes this steel easy to harden. Vandium content assures fine grain and high toughness. Fully spheroidized annealed for uniform carbide size and easy machining. Each piece is individually wrapped and clearly marked with size, analysis, and correct hardening and tempering information.



No. 4L757

| Thickness (In.) | Width (In.) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/32 | 1/2 | 53933 | 4L757 | $6.27 | 0.1 |
| 1/32 | 1 | 53935 | 4L758 | 9.94 | 0.2 |
| 1/32 | 1½ | 53937 | 4L759 | 13.66 | 0.3 |
| 3/64 | 1/2 | 53943 | 4L761 | 5.74 | 0.1 |
| 3/64 | 1 | 53945 | 4L762 | 9.11 | 0.2 |
| 3/64 | 2 | 53948 | 4L763 | 15.68 | 0.5 |
| 1/16 | 1/2 | 53954 | 4L764 | 4.09 | 0.2 |
| 1/16 | 3/4 | 53955 | 4L765 | 5.21 | 0.2 |
| 1/16 | 1 | 53956 | 4L766 | 6.28 | 0.3 |
| 1/16 | 1¼ | 53957 | 4L767 | 7.34 | 0.4 |
| 1/16 | 2 | 53960 | 4L768 | 10.63 | 0.6 |
| 1/16 | 3 | 53962 | 4L769 | 14.97 | 1.0 |
| 1/16 | 4 | 53964 | 4L771 | 19.28 | 1.3 |
| 1/16 | 6 | 53966 | 4L772 | 28.05 | 2.0 |
| 5/64 | 1/2 | 53969 | 4L773 | 5.15 | 0.2 |
| 3/32 | 1/2 | 53978 | 4L774 | 5.34 | 0.2 |
| 3/32 | 3/4 | 53979 | 4L775 | 6.62 | 0.4 |
| 3/32 | 1 | 53980 | 4L776 | 8.05 | 0.5 |
| 3/32 | 1½ | 53982 | 4L777 | 10.65 | 0.7 |
| 3/32 | 2 | 53983 | 4L778 | 13.35 | 1.0 |
| 1/8 | 1/8 | 53998 | 4L779 | 13.29 | 0.1 |
| 1/8 | 1/4 | 57228 | 4L953 | 4.85 | 0.2 |
| 1/8 | 3/8 | 57229 | 4L954 | 5.62 | 0.3 |
| 1/8 | 1/2 | 53999 | 4L781 | 6.21 | 0.3 |
| 1/8 | 5/8 | 54000 | 4L782 | 7.16 | 0.4 |
| 1/8 | 3/4 | 54001 | 4L783 | 7.74 | 0.5 |
| 1/8 | 1 | 54002 | 4L784 | 9.17 | 0.6 |
| 1/8 | 1¼ | 54003 | 4L785 | 10.53 | 0.8 |
| 1/8 | 1½ | 54004 | 4L786 | 12.06 | 1.0 |
| 1/8 | 2 | 54006 | 4L787 | 15.00 | 1.3 |
| 1/8 | 2½ | 54007 | 4L788 | 17.91 | 1.6 |
| 1/8 | 3 | 54008 | 4L789 | 20.88 | 2.0 |
| 1/8 | 4 | 54010 | 4L791 | 26.80 | 2.6 |
| 1/8 | 6 | 54013 | 4L792 | 38.55 | 3.8 |
| 5/32 | 1/2 | 54028 | 4L793 | 7.69 | 0.4 |
| 5/32 | 3/4 | 54029 | 4L794 | 9.49 | 0.6 |
| 5/32 | 1 | 54030 | 4L795 | 11.30 | 0.8 |
| 3/16 | 3/4 | 54044 | 4L801 | 10.21 | 0.7 |
| 3/16 | 1 | 54045 | 4L802 | 12.06 | 1.0 |
| 3/16 | 1¼ | 54046 | 4L803 | 13.78 | 1.2 |
| 3/16 | 1½ | 54047 | 4L804 | 15.60 | 1.4 |
| 3/16 | 1¾ | 54048 | 4L805 | 17.41 | 1.7 |
| 3/16 | 2 | 54049 | 4L806 | 19.27 | 2.0 |
| 3/16 | 2½ | 54050 | 4L807 | 22.91 | 2.4 |
| 3/16 | 3 | 54051 | 4L808 | 26.65 | 2.9 |
| 3/16 | 4 | 54053 | 4L809 | 34.00 | 3.8 |

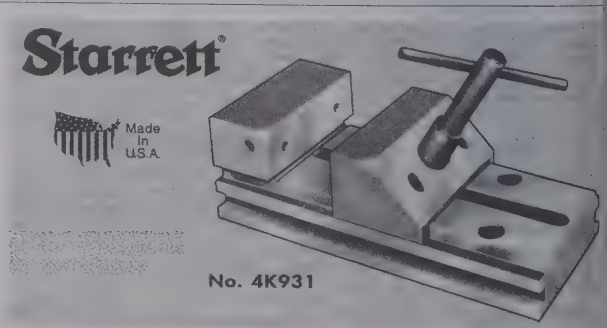
| Thickness (In.) | Width (In.) | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | 1/4 | 54068 | 4L810 | $12.05 | 0.3 |
| 1/4 | 3/8 | 54069 | 4L811 | 9.53 | 0.5 |
| 1/4 | 1/2 | 54070 | 4L812 | 10.45 | 0.6 |
| 1/4 | 3/4 | 54071 | 4L813 | 12.64 | 1.0 |
| 1/4 | 1 | 54072 | 4L814 | 14.89 | 1.3 |
| 1/4 | 1¼ | 54073 | 4L815 | 16.88 | 1.6 |
| 1/4 | 1½ | 54074 | 4L816 | 19.21 | 2.0 |
| 1/4 | 2 | 54076 | 4L817 | 23.52 | 2.6 |
| 1/4 | 2½ | 54077 | 4L818 | 27.95 | 3.4 |
| 1/4 | 3 | 54078 | 4L819 | 32.35 | 3.8 |
| 1/4 | 4 | 54080 | 4L821 | 41.10 | 4.9 |
| 1/4 | 6 | 54084 | 4L822 | 58.65 | 7.5 |
| 5/16 | 5/16 | 54101 | 4L823 | 13.08 | 0.5 |
| 5/16 | 1/2 | 54102 | 4L824 | 12.52 | 0.8 |
| 5/16 | 3/4 | 54103 | 4L825 | 15.17 | 1.2 |
| 5/16 | 1 | 54104 | 4L826 | 17.77 | 1.6 |
| 5/16 | 2 | 54107 | 4L827 | 28.05 | 3.2 |
| 3/8 | 3/8 | 54116 | 4L828 | 16.55 | 0.7 |
| 3/8 | 1/2 | 54117 | 4L829 | 15.25 | 1.0 |
| 3/8 | 3/4 | 54118 | 4L830 | 18.45 | 1.4 |
| 3/8 | 1 | 54119 | 4L831 | 21.58 | 1.9 |
| 3/8 | 1¼ | 54120 | 4L832 | 24.48 | 2.4 |
| 3/8 | 2½ | 54125 | 4L833 | 40.20 | 4.8 |
| 3/8 | 3½ | 54126 | 4L834 | 59.90 | 5.7 |
| 3/8 | 4 | 54127 | 4L835 | 65.40 | 7.7 |
| 1/2 | 1/2 | 54147 | 4L836 | 19.52 | 1.3 |
| 1/2 | 5/8 | 54148 | 4L837 | 21.48 | 1.7 |
| 1/2 | 3/4 | 54149 | 4L838 | 23.52 | 2.0 |
| 1/2 | 1 | 54150 | 4L839 | 27.45 | 2.5 |
| 1/2 | 1¼ | 54151 | 4L841 | 31.30 | 3.2 |
| 1/2 | 1½ | 54152 | 4L842 | 35.25 | 4.1 |
| 1/2 | 2 | 54153 | 4L843 | 43.20 | 5.1 |
| 1/2 | 3 | 54155 | 4L844 | 59.30 | 7.8 |
| 1/2 | 4 | 54157 | 4L845 | 74.95 | 10.0 |
| 1/2 | 6 | 54160 | 4L846 | 107.20 | 15.0 |
| 5/8 | 5/8 | 54172 | 4L847 | 26.40 | 2.0 |
| 5/8 | 1 | 54174 | 4L848 | 33.40 | 3.3 |
| 5/8 | 2 | 54177 | 4L849 | 52.05 | 6.4 |
| 3/4 | 3/4 | 54187 | 4L850 | 33.60 | 2.9 |
| 3/4 | 1 | 54188 | 4L851 | 39.05 | 3.8 |
| 3/4 | 1½ | 54190 | 4L852 | 49.55 | 5.8 |
| 3/4 | 2 | 54191 | 4L853 | 60.40 | 7.7 |
| 1 | 1 | 54211 | 4L854 | 49.10 | 5.0 |
| 1 | 1½ | 54213 | 4L855 | 61.85 | 7.6 |
| 1 | 2 | 54214 | 4L856 | 74.95 | 10.0 |

## STARRETT PRECISION GRINDING VISE

Features one-piece hardened steel construction with a movable jaw. Vise opens to a full 4" size and has a 1¼" jaw depth capacity. Quick-setting locking mechanism clamps at approximately 45° to prevent lifting of movable jaw under loaded conditions, providing maximum holding power. Movable slide is designed slightly narrower than base to allow vise to be used on its side without interference or loss of accuracy. One 1/4-20 tapped hole in each side of base jaw allows use of stop for repetitive operations. Four drilled and counterbored holes for 5/16 bolts at base of vise bolt vise to sine plate or bed of machine tool. T-handle wrench is provided for tightening movable jaw. Starrett brand (581).

**No. 4K931.** Shpg. wt. 9.3 lbs. Each.....$693.00▲

(▲) Net prices, not subject to discount.



No. 4K931



*Take the guesswork out of your precision measuring tools purchase.*

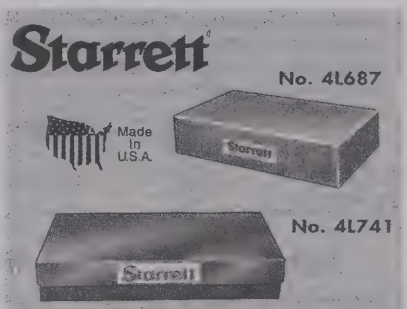
## STARRETT GRANITE SURFACE PLATES

### CRYSTAL PINK GRANITE SURFACE PLATES

For general inspection shop work. Uniform distribution of crystals provided. Great surface hardness and wear resistance – highest percent of quartz crystals of any granite plate. Smooth, jewel-like quartz bearing points protect accuracy and finish minimizing tool drag and wear while assuring a smooth sliding action for instruments used in inspection work. Competes directly with black granite plates while outlasting them as much as 5 to 1. Meet or exceed 50 lbs. per square foot load bearing specifications. Meet or exceed federal specifications for flatness – right to each edge.

### BLACK GRANITE SURFACE PLATES

For general inspection shop work and load carrying applications. Properties of black granite surface plates include a high modulus of rigidity, tight porosity, and very fine grain. Contain no crystalline quartz, so wear life is less than that of crystal pink surface plates, but take a fine finish and meet flatness requirements equally well. Rigidity allows black plates to be made thinner. Will take 50 lbs. per square foot concentrated load per federal specification and not deflect more than half the flatness tolerance specified.




| Surface Size Inch | Surface Size mm | Flatness Unilateral Tolerance (In.) | Thickness mm | Thickness Inch | Weight mm | Weight Lb. | Weight kg | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GRADE A CRYSTAL PINK GRANITE SURFACE PLATES – INSPECTION – NO LEDGE** | | | | | | | | | | | |
| **12 x 18** | 300 x 450 | 0.0001 | 0.0025 | 4 | 100 | 85 | 39 | 80613 | **4L687** | **$207.00▲** | 93.0 |
| **18 X 24** | 450 X 600 | 0.00013 | 0.0033 | 6 | 150 | 248 | 113 | 80631 | **4L692** | **407.50▲** | 270.0 |
| **24 X 36** | 600 X 900 | 0.00017 | 0.0043 | 6 | 150 | 495 | 225 | 80658 | **4L696** | **782.50▲** | 522.0 |
| **GRADE B CRYSTAL PINK GRANITE SURFACE PLATES – TOOLROOM – NO LEDGE** | | | | | | | | | | | |
| **12 x 12** | 300 x 300 | 0.0002 | 0.0050 | 4 | 100 | 55 | 25 | 80607 | **4L686** | **120.90▲** | 57.0 |
| **12 x 18** | 300 x 450 | 0.0002 | 0.0050 | 4 | 100 | 85 | 39 | 80616 | **4L688** | **155.00▲** | 90.0 |
| **18 x 24** | 450 x 600 | 0.00026 | 0.0066 | 4 | 100 | 165 | 75 | 80634 | **4L693** | **289.75▲** | 185.0 |
| **24 x 24** | 600 x 600 | 0.00028 | 0.0071 | 4 | 100 | 220 | 100 | 80652 | **4L695** | **415.75▲** | 249.0 |
| **24 x 36** | 600 x 900 | 0.00034 | 0.0086 | 6 | 150 | 495 | 225 | 80661 | **4L697** | **568.50▲** | 521.0 |
| **36 x 48** | 900 x 1200 | 0.0005 | 0.0125 | 6 | 150 | 990 | 449 | 80716 | **4L702** | **1318.00▲** | 1030.0 |
| **GRADE B BLACK GRANITE SURFACE PLATES – TOOLROOM – NO LEDGE** | | | | | | | | | | | |
| **12 x 18** | 300 x 450 | 0.0002 | 0.0050 | 3 | 75 | 72 | 33 | 85016 | **4L741** | **175.00▲** | 74.0 |
| **18 x 24** | 450 x 600 | 0.00026 | 0.0066 | 3 | 75 | 143 | 65 | 85034 | **4L743** | **321.75▲** | 158.0 |
| **24 x 36** | 600 x 900 | 0.00034 | 0.0086 | 4 | 100 | 380 | 172 | 85061 | **4L745** | **655.50▲** | 430.0 |
| **36 x 48** | 900 x 1200 | 0.0005 | 0.0125 | 4 | 100 | 760 | 345 | 85116 | **4L749** | **1839.00▲** | 800.0 |

NOTE: Grade AA, A, 2-ledge, or larger sizes available on request. (▲) Net prices, not subject to discounts.

## STARRETT SURFACE PLATE CLEANER

For keeping surface plates and other precision granite products in top condition. Prevents abrasion of tools by dirt and other foreign particles. Cleaner, which also acts as a degreaser and rust inhibitor, should be used without water to minimize risk of rusting tools.

**No. 4L716.** Shpg. wt. 1.3 lbs. List $5.25. Each.....**$5.25▲**

## STARRETT TOOL AND INSTRUMENT OIL

Highly refined, colorless, oil for use in extreme temperatures on close-fitting parts.

## STARRETT M1 ALL-PURPOSE LUBRICANT

Protects high quality precision tools. FDA approved for use in or near food-related environments. Works in extreme temperatures. Removes grease, tar and grime from metal parts and painted surfaces. Cleans, polishes, and protects against rust and corrosion damage. Prevents short circuits and halts electrical leakage from wet ignition wires. Contains no fluorocarbons, detergents, or silicone and is not water soluble.




| Description | Container Size | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Tool and Instrument Oil** | 4 Fluid Oz. Plastic Bottle | 1620 | **4K256** | **$4.15▲** | 0.3 |
| **M1 All-Purpose Lubricant** | 12 Oz. Aerosol Can | M1-95173 | **4L958** | **3.69** | 1.1 |

(▲) Net prices, not subject to discounts.

### ORDER DIRECT FROM GRAINGER

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**

# INSPECTION MIRRORS, MAGNETIC STRIPS, WELDING LINK/CLAMP AND MAGNETS

## INSPECTION MIRRORS

- Facilitate inspection of inaccessible workpieces and machines by toolmakers, assemblers, inspectors, and mechanics
- Fully polished mirrors are enclosed in plated holders attached to knurled handles with ball and socket joints

| Mirror Size | Overall Length (In.) | Telescoping Size (In.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1.25 Dia.** | 8 | N/A | 555 | **3G845** | **$5.43** | 0.1 |
| **2.25 Dia.** | 8 | 10½ to 15 | 557 | **3G847** | **7.71** | 0.4 |
| **1 x 2 Oval** | 9 | N/A | 558 | **3G849** | **6.05** | 0.2 |
| **3.50 x 2 Oblong** | 9 | 11½ to 16 | 560 | **3G851** | **8.23** | 0.4 |

## MAGNETIC BASE INSPECTION MIRROR

- Adjustable 3.50 x 2" oblong inspection mirror mounted to a permanent magnetic base
- Attaches to any steel or iron surface, machine, tool, appliance, other equipment
- Has wing nut ball joint adjustment
- Magnet with keeper
- General Tool brand (MB560)

**No. 3G853.** Inspection Mirror. Shpg. wt. 0.7 lbs. Each ..... $23.87

## MAGNETIC STRIP

- Flexible magnetic strip with adhesive backing
- Holds small metal objects
- Easily cut to desired length

| Width (In.) | Length (Ft.) | Thickness (In.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1.00** | 10 | .060 | 369 | **3G855** | **$9.13** | 1.0 |
| **1.00** | 100 | .060 | 369-100 | **3G857** | **67.20** | 11.0 |

## MAGNETIC WELDING LINK AND CLAMP

- Adjustable welding link No. 3G919 designed to hold steel plates in position for welding, brazing, and soldering
- Eliminates need for clamps or temporary fastening
- Constructed of two heavy duty Alnico 5 magnetic blocks linked together with a steel bar and wing nuts for easy angle adjustment
- Size of blocks 2 x 1 x 1"
- Magnetic holding clamp No. 3G921 for holding ferrous metals at fixed angles for clamping or welding applications
- Permanent ceramic magnetic is sandwiched between two steel plates for strength
- Provided fixed 90, 75, 45, and 30° angles
- General Tool brand

**No. 3G919.** Welding Link (375). Shpg. wt. 1.4 lbs. Each ..... $54.80

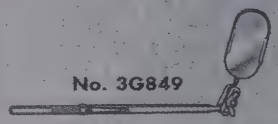
**No. 3G921.** Welding Link Protractor (377). Shpg. wt. 0.6 lbs. Each ..... $10.38

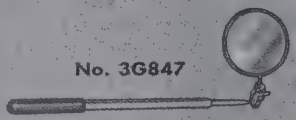
## ALNICO BUTTON TYPE MAGNETS

- Button shaped magnet used primarily for attracting applications
- Center hole in top for easy mounting
- Supplied with keeper

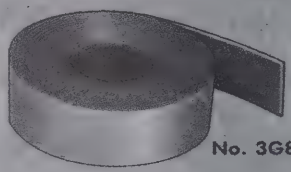
| Dimensions (In.) Dia. | Ht. | Hole (In.) | Max. Pull (Lbs.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **.500** | .375 | .125 | 1.5 | 372A | **3G877** | **$3.18** | 0.1 |
| **.750** | .500 | .125 | 4 | 372B | **3G879** | **4.56** | 0.5 |
| **1.000** | .625 | .187 | 6.5 | 372C | **3G881** | **5.99** | 0.2 |
| **1.250** | .750 | .187 | 14 | 372D | **3G883** | **14.09** | 0.3 |
| **1.500** | .875 | .250 | 18.5 | 372E | **3G885** | **20.00** | 0.4 |

GENERAL™ Made in U.S.A.

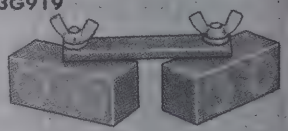

No. 3G849

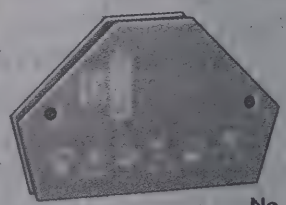

No. 3G847

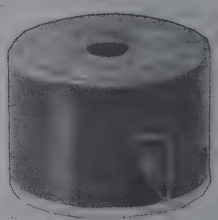

No. 3G853


No. 3G855

No. 3G919




No. 3G921

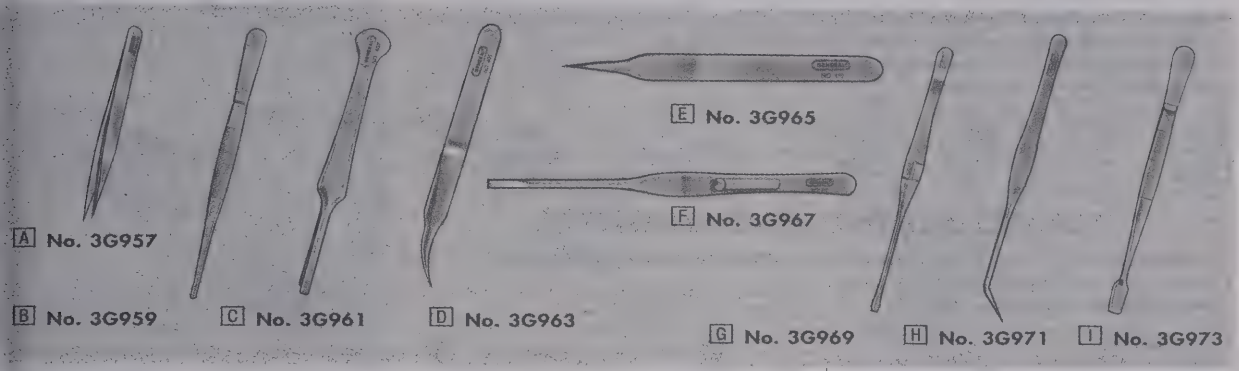

No. 3G877



Take the guesswork out of your precision measuring tools purchase.

# TWEEZERS AND MAGNETS

## TWEEZERS




**Designed for toolmakers, repairmen, electronic assemblers**
**Finish is stainless steel**

Made in U.S.A.

GENERAL®

| ey | Point Style | Length (In.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Strong Bevel | 5 | 401AA | **3G957** | **$5.56** | 0.1 |
| B | Blunt Serrated | 6 | 403 | **3G959** | **4.58** | 0.1 |
| C | Blunt Soldering | 4 | 407 | **3G961** | **2.90** | 0.1 |
| D | Sharp Bent | 4.25 | 408 | **3G963** | **4.19** | 0.1 |
| E | Narrow Sharp | 4.25 | 410 | **3G965** | **3.47** | 0.1 |
| F | Blunt-Slide lock | 6.50 | 412 | **3G967** | **4.89** | 0.1 |
| G | Blunt Serrated-Self Closing | 6.50 | 414 | **3G969** | **4.16** | 0.1 |
| H | Curved | 6.50 | 415 | **3G971** | **4.56** | 0.1 |
| I | Spade | 4.50 | 416 | **3G973** | **2.30** | 0.1 |

## TWEEZER MAGNIFIER



No. 3G975

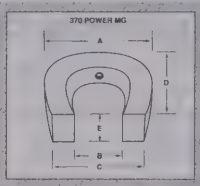
- 5 Power lens
- Useful for detailed projects holding sub-miniature parts
- Stainless steel tweezer
- Double hinged adjustable arm
- General Tool brand (425)

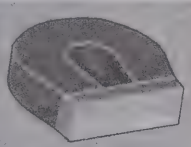
**No. 3G975.** Shpg. wt. 0.1 lbs. Each.....$4.40

## PERMANENT ALNICO MAGNETS

**Aluminum, nickel, and cobalt alloy makes these magnets strong and permanent**
**Under normal conditions and temperature Alnico magnets retain their magnetism indefinitely**
**Excellent temperature stability to 1000°F**
**Removable keepers insure permanence**
**Hole in top for easy mounting**

GENERAL®



No. 3G859

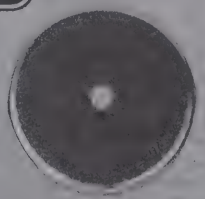
| Dimensions (In.) A | B | C | D | E | Hole Dia. (In.) | Max. Pull (Lbs.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 090 | .250 | .875 | 1.000 | .296 | — | 2.25 | 370-1 | **3G859** | **$4.06** | 0.1 |
| 187 | .590 | 1.187 | .750 | .812 | .187 | 13 | 370-2 | **3G867** | **8.99** | 0.2 |
| 570 | .750 | 1.570 | 1.000 | 1.000 | .187 | 22 | 370-4 | **3G871** | **14.40** | 0.4 |
| 750 | .910 | 1.750 | 1.187 | 1.187 | .187 | 30 | 370-6 | **3G873** | **18.47** | 0.6 |
| 187 | 1.187 | 2.187 | 1.812 | .937 | .187 | 32 | 370-8 | **3G875** | **29.80** | 0.6 |
| 437 | 1.187 | 2.437 | 2.000 | .937 | .187 | 37 | 370-10 | **3G861** | **40.15** | 0.8 |
| 625 | 1.375 | 2.625 | 2.25 | .937 | .187 | 42 | 370-12 | **3G863** | **45.40** | 0.9 |
| 000 | 1.500 | 3.000 | 2.50 | .937 | .187 | 50 | 370-16 | **3G865** | **56.65** | 1.2 |
| 625 | 1.375 | 2.530 | 1.812 | 1.875 | .250 | 70 | 370-24 | **3G869** | **87.10** | 1.9 |

## CERAMIC SHALLOW POT MAGNETS

**Ceramic magnets are bonded into a circular plated steel pot**
**Shallow depth permits use in confined spaces**
**Greater resistance to demagnetization than Alnico 5 magnets**
**Magnetic strength decreases above 175°F, maximum temperature 750°F**

Made in U.S.A.

GENERAL®



No. 3G899

| Dimensions (In.) Diameter | Height | Hole Dia. (In.) | Max. Pull (Lbs.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1.375 | .281 | .187 | 12 | 376A | **3G899** | **$3.43** | 0.1 |
| 2.030 | .312 | .187 | 20 | 376B | **3G901** | **4.43** | 0.4 |
| 2.625 | .375 | .281 | 35 | 376C | **3G903** | **5.43** | 0.4 |
| 3.250 | .437 | .281 | 50 | 376D | **3G905** | **8.03** | 0.5 |

# MAGNETS AND POT MAGNETS

## ALNICO RECTANGULAR BAR MAGNETS

- Set of 2 for laboratory and shop use
- May be used singly, in pairs, or end-to-end in multiples
- Removable keepers insure permanence
- Not rated for maximum pull

| Dimensions (In.) Length | Height | Width | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2.000** | .593 | .390 | 373-2 | **3G887** | **$16.35** | 0.3 |
| **3.000** | .593 | .390 | 373-3 | **3G889** | **18.33** | 0.5 |

## ALNICO ROUND BAR MAGNETS

- Permanent Alnico round bar magnets are notched to identify north pole
- Set of 2 for laboratory and shop use
- Not rated for maximum pull

| Dimensions (In.) Dia. | Length | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **.250** | .812 | 393A | **3G913** | **$3.61** | 0.1 |
| **.312** | 1.000 | 393B | **3G915** | **4.21** | 0.3 |

## ALNICO POT MAGNETS

- Combination of strong magnet with insulating ring gives magnet powerful holding power
- Excellent temperature stability to 428°F
- Threaded hole for easy mounting
- Removable keepers insure permanence

| Dimensions (In.) Dia. | Height | Hole Thread (In.) | Max. Pull (Lbs.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **.687** | .625 | 1/4 x 20 | 6 | 374A | **3G891** | **$7.37** | 0.2 |
| **.812** | .750 | 1/4 x 20 | 10 | 374B | **3G893** | **8.25** | 0.3 |
| **1.060** | 1.000 | 1/4 x 20 | 18 | 374C | **3G895** | **11.22** | 0.2 |
| **1.375** | 1.180 | 1/4 x 20 | 35 | 374D | **3G897** | **16.09** | 0.5 |

## ALNICO SHALLOW POT MAGNETS

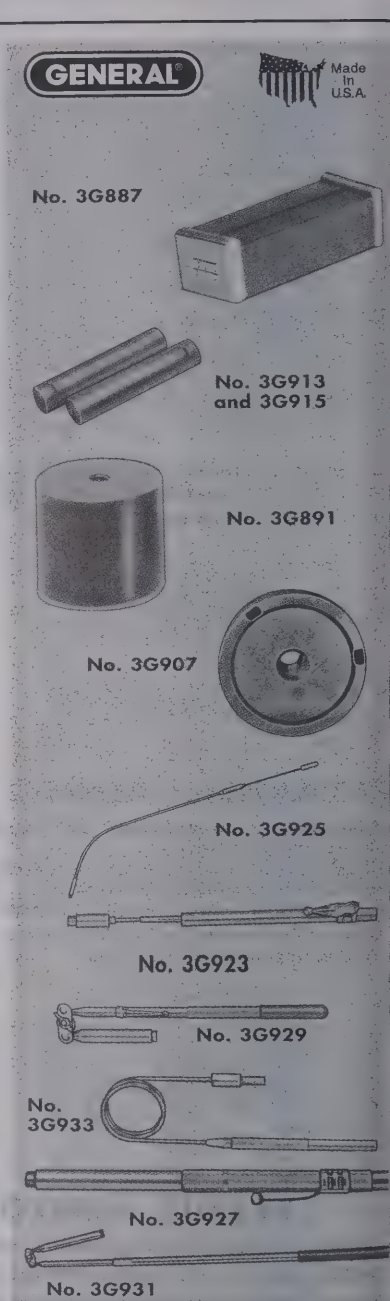
- Shallow depth permits use in confined spaces
- Excellent temperature stability to 428°F
- Removable keepers insure permanence

| Dimensions (In.) Dia. | Depth | Hole Dia. (In.) | Max. Pull (Lbs.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **.750** | .313 | .147 | 7 | 378A | **3G907** | **$5.16** | 0.1 |
| **1.125** | .344 | .190 | 11 | 378B | **3G909** | **7.13** | 0.1 |
| **1.500** | .406 | .190 | 29 | 378C | **3G911** | **9.44** | 0.2 |

## MAGNETIC PICKUPS

- Telescoping magnetic pickup No. 3G923 is ideal for retrieving steel and iron parts from hard-to-reach places; magnet is fitted in a $5^1/_2$" long nickel-plated steel handle that can extend up to $23^1/_2$"; holder is fitted with pocket clip
- Flex-O-Stiff pickup No. 3G925 is fitted into an 18" nickel-plated holder; can be extended to a 32" flexible retriever
- Pocket magnetic pickup No. 3G927 has knurled body with pocket clip; 6 times more powerful than cobalt magnet of same size
- Locking pivot joint magnetic pickup No. 3G929 allows magnetic head to be turned in order to reach around corners; nickel-plated steel body with cushion grip handle; pocket clip for storage; $8^3/_4$" OAL
- Extra-long magnetic pickup No. 3G931 with locking pivot joint allows user to retrieve parts from around corners; 13" body is chrome plated, with a vinyl cushion grip handle and can be extended to 27"
- Flexible magnetic pickup No. 3G933 has knurled aluminum body with 15" long bendable wire to position magnet, 20" OAL

| Type | Length (In.) | Extended Length (In.) | General Model | Stock No. | Each | Sh W |
|---|---|---|---|---|---|---|
| **Telescope** | 5.50 | 23.50 | 383NX | **3G923** | **$6.23** | 0. |
| **Flexible** | 18.00 | 32.00 | 384N | **3G925** | **7.95** | 0. |
| **Pocket** | 5.50 | — | 386 | **3G927** | **4.43** | 0. |
| **Adjustable** | 8.75 | — | 392 | **3G929** | **4.97** | 0. |
| **Adjustable & Telescope** | 13.00 | 27.00 | 394 | **3G931** | **10.04** | 0. |
| **Bendable** | 20.00 | — | 395 | **3G933** | **5.21** | 0. |

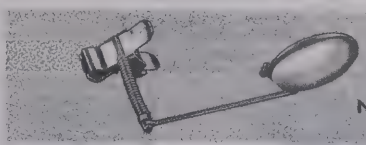





Take the guesswork out of your precision measuring tools purchase.

## EYEGLASS LOUPES

ttaches to various size eyeglass temples. ptical quality glass lens(es). Easily flips p out of the way in ready-to-use position. ingle and 2-lens styles with powers from X to 7X.



No. 3H011

| Power | Diopters | Focal Distance | Lens Diameter | Bausch & Lomb Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| X | 12D | 3.3"/8.4cm | 24.0mm | 81-41-17 | **3H011** | **$32.00** | 0.1 |
| X | 20D | 2"/5.1cm | 24.0 | 81-41-37 | **3H091** | **33.65** | 0.1 |
| X | 28D | 1.5"/3.8cm | 24.0 | 81-41-47 | **3H133** | **35.15** | 0.1 |
| X & 7X | 16D & 28D | 2.5" & 1.5" | 24.0 (2) | 81-41-78 | **3H425** | **41.30** | 0.1 |

## WATCHMAKER'S LOUPES

ightweight with optical quality glass lenses. Precision molded case for comfortable fit ver the eye lids. Available Velcro headband positions loupe comfortably when in use or p on the forehead in a ready position.

| Powar | Diopters | Focal Distance | Lens Dia. (mm) | Bausch & Lomb Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 0X | 40D | 1"/2.5cm | 25.4 | 81-41-70 | **3H230** | **$13.95** | 0.1 |
| X | 28D | 1.5"/3.8cm | 25.4 | 81-41-71 | **3H372** | **11.80** | 0.1 |
| X | 20D | 2"/5.1cm | 25.4 | 81-41-72 | **3H421** | **11.80** | 0.1 |
| X | 16D | 2.5"/6.4cm | 25.4 | 81-41-73 | **3H423** | **11.80** | 0.1 |
| eadband | NA | NA | NA | 81-41-14 | **3H009** | **8.41** | 0.1 |

## HASTINGS TRIPLET MEASURING MAGNIFIER

valuable tool whenever precision work is performed. The 7X Hastings lens, which is djustable for individual focus, provides a flat, distortion-free image. The transparent ody allows illumination to fall on the magnified area. Leather case is included. easuring scales must be ordered separately.

| escription | Diopters | Focal Distance | Lens Dia. (mm) | Bausch & Lomb Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| X Power | 28D | 1.5"/3.9cm | 19.8 | 81-34-35 | **3G995** | **$63.05** | 0.2 |

### MEASURING SCALES

| scription | Bausch & Lomb Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| neral Purpose Scale for measuring radii from 1/16 to 3/8", ngles in single degrees to 90°, 0.005" & 0.1mm scales, line widths f 0.001, 0.002 & 0.003" | 81-34-36 | **3G997** | **$35.35** | 0.1 |
| ch Scale, 3/4" in 0.005" intervals | 81-34-37 | **3G999** | **35.35** | 0.1 |
| etric Scale, 20mm in 0.1mm intervals | 81-34-38 | **3H001** | **35.35** | 0.1 |
| otractor Scale, 360° in single degrees | 81-34-39 | **3H003** | **35.35** | 0.1 |

## HASTINGS TRIPLET MAGNIFIERS

ree separate lenses, bonded together to form a compound lens, provide sharp, very stinct magnified images; with no color distortion even under 20 power magnification. swing-away nickle-plated case protects the lens and serves as a handle.

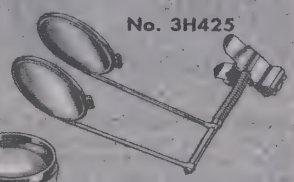
| wer | Diopters | Focal Distance | Lens Dia. (mm) | Bausch & Lomb Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 0X | 40D | 1"/2.5cm | 15.8 | 81-61-71 | **3H431** | **$42.00** | 0.1 |
| 0X | 80D | 0.5"/1.3cm | 8.3 | 81-61-81 | **3H433** | **49.50** | 0.1 |

## CODDINGTON MAGNIFIERS

rrection in these magnifiers is achieved through the use of a single thick lens with a ntral groove diaphragm. This provides a sharp, clear image. A swing-away, nickel-plat- case also serves as a handle.

| wer | Diopters | Focal Distance | Lens Dia. (mm) | Bausch & Lomb Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| X | 40D | 1"/2.5cm | 19.8 | 81-61-31 | **3H427** | **$25.45** | 0.1 |
| X | 80D | 0.5"/1.3cm | 12.5 | 81-61-41 | **3H429** | **31.40** | 0.1 |

BAUSCH & LOMB



No. 3H425



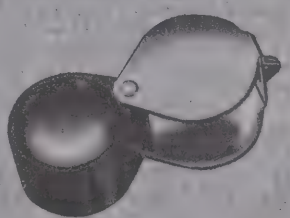
No. 3H230



No. 3H421 Loupe with No. 3H009 Headband



No. 3G995



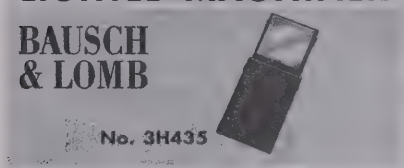
No. 3H431



No. 3H427

# MAGNIFIERS

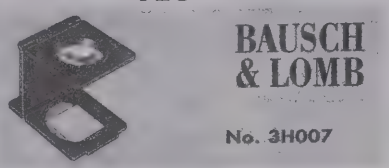
## 2X COMPACT LIGHTED MAGNIFIER




Illuminated magnification in a convenient size for tool box, workbench, glove box, pocket, etc. Take it anywhere. Stores in its own protective case. Push buttons first to release the large 2" square lens, again to light the lamp. Ideal for low-light conditions, or where convenience is important. Diopters—8D; focal distance—5"; lens diameter—50.8 x 50.8mm. Uses 2 AAA batteries; included. Bausch & Lomb brand .

**No. 3H435.** Shpg. wt. 0.2 lbs. Each.....**$9.00**

## 5X LINEN TESTER




The Linen Tester has almost limitless uses for countless people—from industrial engineers to stamp collectors. Incorporates a strong 5X double lens of optical quality and a fold-out stand with an inch (in 32nds) and a 20mm (in 1.0mm) scale in the base. Supplied with a rigid plastic case for storage and protection. Diopters—20D; focal distance—2"/5.1cm; lens diameter—24.5mm. Bausch & Lomb brand (81-34-49).

**No. 3H007.** Shpg. wt. 0.1 lbs. Each.....**$8.67**

## 7X LENSCOPE MAGNIFIER




The Lenscope magnifier is a precision examination and inspection tool that fits in the palm of your hand. It provides a clear, distortion-free image and can be used for virtually any kind of close inspection or measurement. This versatile magnifier features a 7X Hastings triplet lens with an ergonomic plastic body. Two angled illumination lamps (45 or 90° from viewing angle). Usable with 4 different precision measurement scales; must be ordered separately. Hinged-top storage case included. Diopters—28D; focal distance—3.9cm; lens diameter—19.8cm. Uses 2 AA batteries; not included. Bausch & Lomb brand (81-34-43).

**No. 3H005.** Shpg. wt. 0.1 lbs. Each.....**$59.25**

## ILLUMINATING CODDINGTON MAGNIFIER

The Illuminating Coddington eliminates the problem of lack of sufficient light on objects when using a high power magnifier. A flashlight bulb inserted into the groove of the Coddington lens illuminates the object being examined. Uses two AA batteries; not included. 10X power; diopters—40D; focal distance—1"/2.5cm; lens diameter—19.8mm. Bausch & Lomb brand (81-34-34).

**No. 3G993.** Shpg. wt. 0.1 lbs. Each.....**$28.90**

## PACKETTE MAGNIFIER

A smart contemporary design, just slightly larger than a book of matches. The hard plastic cover snaps open, clicks shut. Incorporates a 5X , optical quality aspheric lens for greater magnification with edge-to-edge sharpness. Large lens for excellent field of view. Diopters—20D; focal distance—2"/5.1cm; lens diameter—36.0mm. Bausch & Lomb brand (81-31-33).

**No. 3G985.** Shpg. wt. 0.1 lbs. Each.....**$8.45**




## FOLDING POCKET MAGNIFIERS

A swing-away case of tough durable plastic serves both as a handle and as a protective case. Lenses are of optical quality glass. Models are available with 1, 2 or 3 lenses in a wide range of powers from 3X to 20X. These are especially versatile since the lenses can be used alone or in combination to produce different powers. By combining lenses, three powers are available with the two lens models; seven different powers with the three lens model.

| Power | Diopters | Focal Distance (In.) | Lens Diameter | Bausch & Lomb Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **4X** | 16D | 2.5 | 36.0mm | 81-23-54 | **3G977** | **$15.03** | 0.1 |
| **3X to 7X** | 12D to 28D | 3.3 to 1.4 | 37.0 (2) | 81-23-63 | **3G979** | **21.13** | 0.1 |
| **4X to 9X** | 16D to 36D | 2.5 to 1.1 | 23.0 (2) | 81-23-64 | **3G981** | **21.13** | 0.1 |
| **5X to 20X** | 20D to 80D | 2.0 to 0.5 | 20.3 (2) & 15.2 | 81-23-67 | **3G983** | **25.80** | 0.1 |

## ROUND AND RECTANGULAR ASPHERIC MAGNIFIERS

Bausch & Lomb has improved the traditional round and rectangular magnifier by use of a scientifically designed aspheric lens. Aspheric lenses assure edge-to-edge clarity. The single piece design assures product durability. An ergonomically designed handle conforms to the natural shape of the hand and assures hours of comfortable use.

| Description | Power | Focal Distance (In.) | Lens Diameter | Bausch & Lomb Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Round** | with 4X/16D Inset | 5 | 3"/87.7mm | 81-33-03 | **3G987** | **$15.02** | 0.3 |
| **Round** | with 4X/16D Inset | 5 | 5"/133.0mm | 81-33-05 | **3G989** | **27.35** | 0.6 |
| **Rectangular** | 2X/8D | 5 | 2 x 4"/50.8mm | 81-33-76 | **3G991** | **15.13** | 0.3 |



*Take the guesswork out of your precision measuring tools purchase.*

# HARD FLOOR CARE SYSTEMS

RAMSEY®




No. 3UT21



No. 3UR90



No. 3UR85




No. 3UT24



No. 3UR93

Ramsey® offers simple and cost effective solutions to ultra high speed, spray buff, and low maintenance floor care systems. Choose the floor finish that matches your maintenance system, along with a gloss maintainer, floor cleaner, and floor stripper. Some floors may require a floor sealer for added protection.

## FLOOR FINISHES

**BOARDWALK®**

**The Low Maintenance, High Durability Floor Finish/Seal**

- **Stands up to the heaviest traffic conditions, with little or no maintenance. Put it down and walk away. Looks great day after day. Great initial gloss and extended durability**
- **Resistance to scuff, scratches, and heel marks. Can be spray buffed and burnished**

**GRANDSTAND®**

**Spray Buff Floor Finish**

- **A durable, long lasting, high gloss finish for spray buffing programs**
- **Excellent response to spray buffing with a 175 to 1500 RPM machine. Use No. 3UT32 Sure Pass™ Spray Buff for optimum results**
- **Easy to apply and dries quickly**

**TRADEMARK®**

**Premier Ultra High Speed Floor Finish**

- **Super tough UHS finish that stands up to the heaviest traffic conditions and daily cleaning with an auto scrubber. Best resistance to scuffs, scratches, and heel marks**
- **Delivers a high gloss that continues to build into a brilliant gloss with burnishing**
- **Use an aggressive natural fiber UHS pad**

**ALTITUDE®**

**Specialty Ultra High Speed Floor Finish**

- **Provides a brilliant wet-look gloss and quick response to UHS machines**
- **The best choice when burnishing daily or when using a propane burnishing machine**
- **Use medium aggressive synthetic fiber UHS pad**

## FLOOR SEALER

**PILLAR™**

**Floor Sealer**

- **The long-lasting, durable, high gloss undercoat for all resilient and stone floors**
- **Use alone as a seal and finish for terrazzo, quarry tile, brick, slate, concrete, and unglazed ceramic and Mexican tile**
- **Enhances the gloss of all floor finishes**

| Description | Required RPM | Maintenance Frequency | Size | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **FLOOR FINISHES*** | | | | | | | | |
| **Boardwalk** | 175-2000 | Low Maintenance | 1 gal. | **3UT21** | $19.10 | **$18.15** | **$16.33/4** | 9.4 |
| | | | 5 gal. | **3UT20** | 90.75 | **86.25** | — | 46.0 |
| | | | 55 gal. | **3UT22** | 946.00 | **899.00** | — | 499.0 |
| **Grandstand** | 175-2000 | Spray Buff Maintenance | 1 gal. | **3UR90** | 15.60 | **14.82** | **13.34/4** | 9.3 |
| | | | 5 gal. | **3UR89** | 74.10 | **70.40** | — | 46.0 |
| | | | 55 gal. | **3UR91** | 772.20 | **734.00** | — | 497.0 |
| **Trademark** | 1500-2500 | Less Frequent Burnishing | 1 gal. | **3UR85** | 19.90 | **18.91** | **17.01/4** | 9.4 |
| | | | 5 gal. | **3UR84** | 94.50 | **89.80** | — | 46.0 |
| | | | 55 gal. | **3UR86** | 985.05 | **936.00** | — | 500.0 |
| **Altitude** | 1500-2500 | Frequent Burnishing | 1 gal. | **3UT24** | 20.10 | **19.10** | **17.19/4** | 9.3 |
| | | | 5 gal. | **3UT23** | 95.50 | **90.75** | — | 46.0 |
| | | | 55 gal. | **3UT25** | 994.95 | **945.50** | — | 496.0 |
| **FLOOR SEALER** | | | | | | | | |
| **Pillar** | 175-1500 | Low Maintenance | 1 gal. | **3UR93** | 18.60 | **17.67** | **15.90/4** | 9.3 |
| | | | 5 gal. | **3UR92** | 88.35 | **83.95** | — | 46.0 |
| | | | 55 gal. | **3UR94** | 920.70 | **875.00** | — | 494.0 |

*These products are covered by OSHA Communication Standard, and Material Safety Data Sheets (MSDS) are available upon request. See page opposite inside back cover.
*Drying time is 20-30 minutes. Covers 2,000 sq. ft. per gallon. Meets ASTM D2047 requirements for slip-resistance.

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

# HARD FLOOR CARE SYSTEM

## HIGH SPEED FLOOR RESTORERS

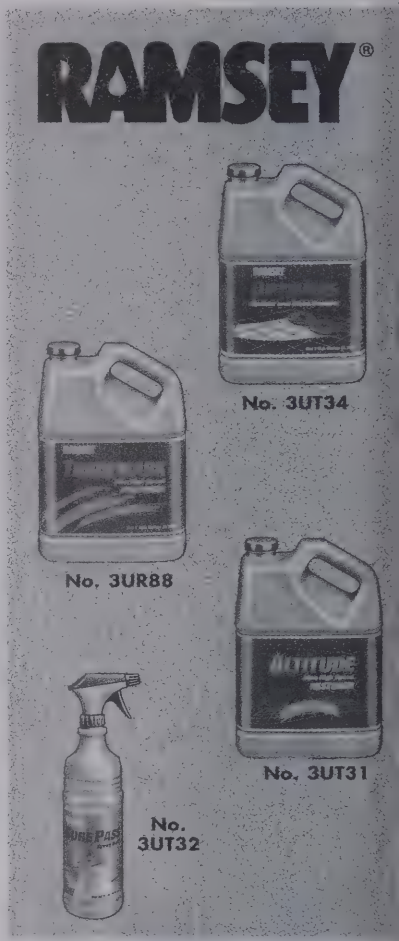
**OPTIMIZE®**
**One Step Neutral Cleaner and Gloss Restorer**
- Cleans and restores the gloss in one easy step when used through an automatic scrubber or when applied with a mop
- Fills in surface scratches and scuffs for a uniform wet-look gloss after burnishing
- Use over any Ramsey high speed floor finish
- Dilution: automatic scrubber 4 oz./gallon; mop and bucket 2 oz./gallon

**TRADEMARK® RESTORER**
**Mop On Ultra High Speed Restorer**
- Mop On UHS Restorer is matched to Trademark UHS Floor Finish
- Extends finish durability by filling in scratches and worn areas, and optimizes the brilliant gloss
- Dilution: 1:4

**ALTITUDE® RESTORER**
**Mop On Ultra High Speed Restorer**
- Mop On UHS Restorer is matched to Altitude UHS Floor Finish
- Extends finish durability by filling in scratches and worn areas, and optimizes the wet-look gloss
- Dilution: 1:4

## SPRAY BUFF

**SURE PASS®**
**Ready-to-Use Spray Buff**
- Quickly cleans and removes deep scuffs, scratches, and dirt penetration, and returns the finish to the highest possible gloss
- For 175 to 1500 RPM machines
- Citrus fragrance




| Description | Required RPM | Maintenance Frequency | Size | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **HIGH SPEED FLOOR RESTORERS** | | | | | | | | |
| **Optimize** | 1500-2500 | 1-3 times/week | 1 gal. | **3UT34** | $19.30 | **$18.34** | **$16.50/4** | 9.0 |
| | | | 5 gal. | **3UT33** | 91.70 | **87.15** | — | 45.0 |
| | | | 55 gal. | **3UT35** | 955.35 | **908.00** | — | 482.0 |
| **Trademark Restorer** | 1500-2500 | 1-4 times/month | 1 gal. | **3UR88** | 20.05 | **19.05** | **17.14/4** | 9.4 |
| | | | 5 gal. | **3UR87** | 95.25 | **90.50** | — | 46.0 |
| **Altitude Restorer** | 1500-2500 | 1-4 times/month | 1 gal. | **3UT31** | 20.25 | **19.24** | **17.31/4** | 9.3 |
| | | | 5 gal. | **3UT30** | 96.20 | **91.40** | — | 46.0 |
| **SPRAY BUFF** | | | | | | | | |
| **Sure Pass** | 175-1500 | 1-2 times/week | 1 qt. | **3UT32** | 5.05 | **4.80** | **4.32/12** | 2.3 |

❸ These products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road.
Contact your local branch for more information.

RAMSEY®




No. 3UT03



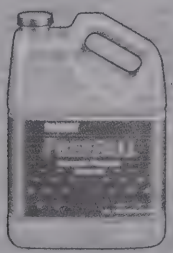

No. 3UT28



No. 3UT50




No. 3UR96



No. 3UR99

## FLOOR STRIPPERS

**BREAK AWAY®**
**Extra Heavy-Duty No Scrub/No Rinse Stripper**
- Ramsey's most powerful fast-acting stripper that dissolves heavy floor finish and seal build-up
- The ultra low residue, no rinse formula makes stripping jobs faster, saving rinsing steps, effort, and floor down time. Non-ammoniated, low foaming
- Dilution: machine scrub stripping, 1:4; no scrub stripping, 1:1

**QUICK LIFT®**
**Heavy-Duty No Rinse Floor Stripper**
- This powerful fast-acting stripper will easily strip off normal to heavy floor finish and seal build-up
- The ultra low residue, no rinse formula makes stripping jobs faster, saving rinsing steps, effort, and floor down time. Non-ammoniated, low foaming
- Dilution: machine scrub stripping, 1:4

**BORDER PATROL®**
**Aerosol Baseboard Stripper**
- Unique gel formula clings onto the baseboard, and delivers maximum dwell time to remove finish/seal build-up
- Easy-to-use spray nozzle allows efficient and precise application
- Also use in hard-to-scrub areas where build-up is difficult to reach
- Lemon fragrance

## FLOOR CLEANERS

**REFLECTA®**
**Neutral Floor Cleaner**
- Concentrate, cleans without dulling the gloss, leaves no residue and requires no rinsing
- Strong neutral detergents clean dirty and discolored traffic lanes
- Deodorizes with a great citrus fragrance, and is low foaming
- Dilution: mop and bucket, 3 oz./gallon; auto scrubber, 2 oz./gallon

**FREEFALL®**
**High Performance General Purpose Cleaner**
- Concentrate, versatile all purpose cleaner and light degreaser when daily floor cleaning is more demanding
- Also use to clean the floor before applying a new coat of floor finish
- Deodorizes with a great citrus fragrance
- Made with all biodegradable detergents, contains no butyl and is phosphate-free. USDA rating C1
- Dilution: mop and bucket, 2 oz./gallon; auto scrubber, 2 oz./gallon

| Description | Size | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **FLOOR STRIPPERS** | | | | | | |
| **Break Away** | 1 gal. | **3UT28** | $16.85 | **$16.01** | **$14.41/4** | 8.9 |
| | 5 gal. | **3UT27** | 80.05 | **76.05** | — | 44.0 |
| | 55 gal. | **3UT29** | 834.35 | **793.00** | — | 477.0 |
| **Quick Lift** | 1 gal. | **3UT03** | 11.90 | **11.31** | **10.17/4** | 9.1 |
| | 5 gal. | **3UT02** | 56.55 | **53.75** | — | 45.0 |
| | 55 gal. | **3UT04** | 589.05 | **560.00** | — | 485.0 |
| **Border Patrol** | 23 oz. | **3UT50** | 6.15 | **5.84** | **5.26/12** | 1.9 |
| **FLOOR CLEANERS** | | | | | | |
| **Reflecta** | 1 gal. | **3UR96** | 9.25 | **8.79** | **7.91/4** | 9.1 |
| | 5 gal. | **3UR95** | 43.95 | **41.75** | — | 45.0 |
| | 55 gal. | **3UR97** | 458.05 | **435.25** | — | 488.0 |
| **Reflecta Secondary Labels** | Pack of 10 | **4MG45** | — | **3.68** | — | 0.1 |
| **Freefall** | 1 gal. | **3UR99** | 9.90 | **9.40** | **8.46/4** | 9.4 |
| | 5 gal. | **3UR98** | 46.85 | **44.50** | — | 46.0 |
| | 55 gal. | **3UT01** | 425.70 | **404.50** | — | 499.0 |
| **Freefall Secondary Labels** | Pack of 10 | **3UT78** | — | **3.68** ▲ | — | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets are available. See page inside back cover. (▲) Net prices, not subject to discount.

## TIME OFF® FINISH

Tough, spray buffable floor finish and seal. Applies easily and performs well with minimum maintenance. High-gloss, non-yellowing finish is easy to apply. Can be used with 175-1500 RPM machines.

| Size (Gal.) | Stock No. ❸ | List | Each | Lots of 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 2U044 | $14.23 | $13.48 | $12.13 | 9.5 |
| 5 | 2U045 | 67.41 | 64.05 | — | 45.0 |
| 55 | 2U046 | 702.34 | 668.00 | — | 495.0 |

## PERFLEXION® FINISH

High-gloss, durable, versatile floor finish is ideal for facilities with a wide range of equipment speeds and traffic conditions. Use with 175-2000 RPM machines.

| Size (Gal.) | Stock No. ❸ | List | Each | Lots of 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 2U050 | $18.40 | $17.49 | $15.75 | 9.5 |
| 5 | 2U051 | 87.41 | 83.05 | — | 45.0 |
| 55 | 2U052 | 911.10 | 866.00 | — | 495.0 |

## PROTEGE® FINISH

The ideal floor finish for a high gloss appearance in an ultra high speed floor care program. Urethane fortified protection stands up to the heaviest traffic and provides outstanding gloss retention and repairability. Use with 1000-2500 RPM machines and UHS pad.

## PROTEGE® FLOOR FINISH & RESTORER

Ultra High Speed Mop On Restorer is matched to Protege Ultra High Speed Floor Finish. Extends the gloss and durability of the finish by filling in scratches and worn areas.

**PROTEGE® FLOOR FINISH**

| Size (Gal.) | Stock No. ❸ | List | Each | Lots of 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 2U053 | $19.15 | $18.24 | $16.42 | 9.5 |
| 5 | 2U054 | 91.00 | 86.50 | — | 45.0 |

**PROTEGE® UHS RESTORER**

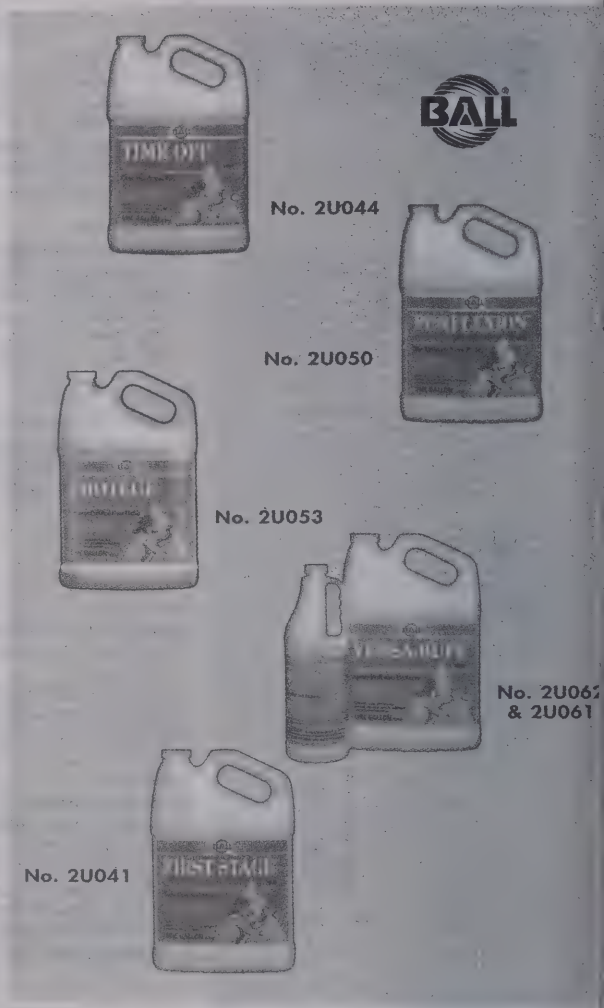
| | | | | | |
|---|---|---|---|---|---|
| 1 | 3VC85 | 23.75 | 17.73 | — | 9.4 |

## VERSA-BUFF® SPRAY BUFF

Water-based formula works as a ready-to-use spray buff or concentrated high speed gloss restorer, dilution 1:32.

| Size | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 qt. | 2U062 | $4.06 | $3.48 | $3.13/12 | 2.3 |
| 1 gal. | 2U061 | 16.10 | 12.09 | 10.88/4 | 9.5 |

10 secondary labels (96111).
No. 2U170.❸ Shpg. wt. 0.1 lbs. List $4.70. Each ..... $3.75▲




## FIRST STAGE® SEALER

Base coat for all finishes used on resilient flooring. Recommended undercoat for floor finishes to seal and protect against soil penetration and abrasion.

| Size (Gal.) | Stock No. ❸ | List | Each | Lots of 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 2U041 | $16.96 | $16.10 | $14.49 | 9.5 |
| 5 | 2U042 | 80.35 | 76.35 | — | 45.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover
(▲) Net prices, not subject to discounts.

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# HARD FLOOR CARE
# FLOOR STRIPPERS AND CLEANERS

## TERRA-COTE® SEAL & FINISH

eal and finish for terrazzo, marble, quarry tile, slate, Mexican le, and other stone floors. Easy to apply and remove.

| Size (Gal.) | Ball Model | Stock No. ③ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | 15431 | 2U068 | $24.41 | $19.53 | $17.57/4 | 9.5 |
| 5 | 15433 | 2U069 | 115.96 | 92.80 | — | 45.0 |

## STONECOAT® SEAL

ater-emulsion seal for interior concrete floor surfaces. utstanding detergent and soil resistance. "No solvents" formula- on meets all V.O.C. requirements. Prevents concrete dusting.

| Size (Gal.) | Ball Model | Stock No. ③ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | 15731 | 2U071 | $26.34 | $21.08 | $18.97/4 | 9.5 |
| 5 | 15733 | 2U072 | 125.19 | 100.20 | — | 45.0 |

## EXILE® STRIPPER

conomical stripper for normal stripping applications. enetrates, breaks down, and emulsifies floor finish for easy moval.

| Size (Gal.) | Stock No. ③ | List | Each | Lots of 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 2U034 | $12.30 | $9.84 | $8.28 | 9.5 |
| 5 | 2U035 | 58.44 | 46.80 | — | 45.0 |
| 55 | 2U036 | 575.46 | 460.50 | — | 495.0 |

## ERMINATOR® POWER STRIPPER

eavy-duty, non-ammoniated stripper designed to remove tough ish build-up caused by high-speed burnishing, repeated spray ffing, and recoat build-up.

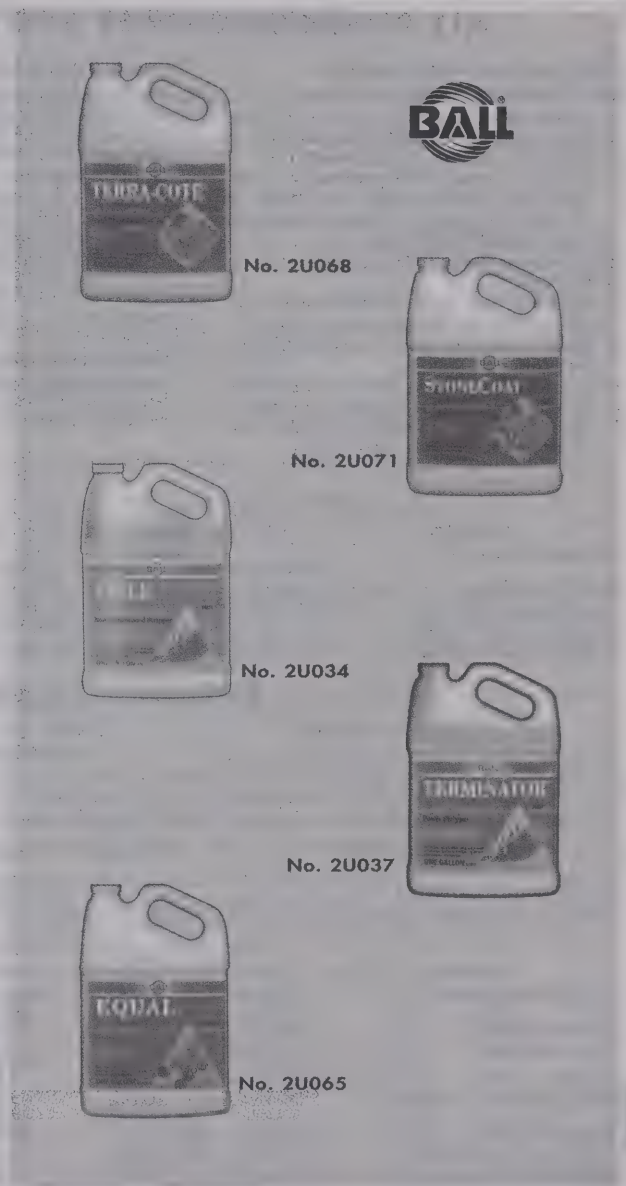
| Size (Gal.) | Stock No.*③ | List | Each | Lots of 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 2U037 | $19.39 | $15.52 | $13.96 | 9.5 |
| 5 | 2U038 | 92.15 | 73.75 | — | 45.0 |
| 55 | 2U039 | 960.32 | 768.50 | — | 495.0 |

## EQUAL® NEUTRAL FLOOR CLEANER

ncentrated neutral floor cleaner removes soil without attack- floor finish. Low foam formulation can be used in mop-on plications or through an autoscrubber.

| Size (Gal.) | Stock No.*③ | List | Each | Lots of 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 2U065 | $7.43 | $6.00 | $5.70 | 9.5 |
| 5 | 2U066 | 35.20 | 28.45 | — | 45.0 |
| 55 | 2U067 | 367.17 | 296.75 | — | 495.0 |

**secondary labels** (96131)
. 2U171.③ Shpg. wt. 0.1 lbs. List $4.70. Each.....$3.75▲




hese products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
hese products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
DOT regulated product shipped in full case only (case pack 4).
Net prices, not subject to discounts.

NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# CARPET CARE SYSTEMS

## ALL PURPOSE CARPET SPOTTERS

**[A] [A] PROFESSIONAL SPOTTER**

**All Purpose Water Based Spotter**

- Ready-to-use
- Powerful neutral pH7 formula and ultra-low residue formula will not cause resoiling. Safely removes wide range of stubborn spots and stains on all types of carpet. Lemon fragrance

**[B] CITRUS EXPRESS® GEL**

**Heavy-Duty Natural Citrus Solvent Spotter**

- Ready-to-use, natural d-limonene citrus solvent for tough carpet stains
- Ideal choice for gum removal. Citrus fragrance
- Gel formula safely sits on carpet surface for maximum product contact time. Removes adhesive, tar, oil, cosmetics, ink, crayon, copy toner

**[C] KIL-ODOR® ENZYME SPOTTER**

- Ready-to-use, permanently removes spots and their odors
- Unique blend of natural enzymes, odor counteractants and fresh Country Morning fragrance eliminates odors at the source
- Removes: milk, egg, urine, vomit, smoke, feces, pet stains, food, and other odor causing spots. Gentle pH won't harm fibers

**[D] COFFEE & TANNIN SPOTTER**

- Ready-to-use, powerful one-step stain remover
- Unique detergent and mild acidic formula removes coffee, tea, wine, cola, browning, water stains, and yellow oxidized stains




| Description | Size | Stock No. ❸ | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| **Professional Spotter** | 1 qt. | **3UR51** | **$7.28** | **$6.55/12** | 2.3 |
| | 1 gal. | **3UR50** | **17.16** | **15.44/4** | 8.9 |
| **Secondary Labels** | Pack of 10 | **3UT79** | **3.68▲** | — | 0.1 |
| **Citrus Express Gel** | 16 oz./pk6 | ***New*** **4MG38** | **66.15** | — | 7.0 |
| **Kil-Oder Enzyme Spotter** | 16 oz./pk6 | ***New*** **4MG40** | **43.05** | — | 7.5 |
| **Coffee & Tannin Spotter** | 16 oz./pk6 | ***New*** **4MG41** | **45.05** | — | 7.5 |

## SPECIALTY CARPET SPOTTERS

### PRE-OIL BREAK® SPOTTER

Ready-to-use, versatile heavy-duty spotter for tough water based spots and stains. Quickly breaks away oil barrier of difficult food and beverage stains.

### PROTEIN SPOTTER ™

Ready-to-use, removes protein spots and stains including blood, milk, chocolate, food, ice cream, and cooking oils.

### PAINT, OIL & GREASE SOLVENTSPOTTER

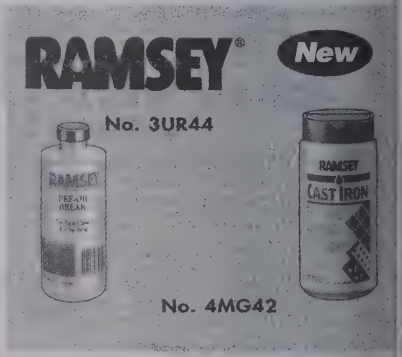
Ready-to-use, heavy-duty solvent based spotter for paint, tar, grease, and other solvent soluble spots.

### CAST IRON POWDER RUST REMOVER

Ready-to-use all purpose stain remover for carpet and hard surfaces also removes iodine & Betahine® Stains

### DELIBLE INK STAIN REMOVER ™

Ready-to-use formula removes various types of inks, pens, permanent markers and copier toner.




| Description | Size | Stock No. ❸ | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| **Pre-Oil Break Spotter** | 16 oz./pk6 | **3UR44** | **$48.00** | — | 11.0 |
| | 1 gal. | **3UR43** | **36.35** | — | 8.9 |
| **Secondary Labels** | Pack of 10 | **3UT75** | **3.68▲** | — | 0.1 |
| **Protein Spotter** | 16 oz./pk6 | **3UR38** | **41.00** | — | 11.0 |
| | 1 gal./pk4 | **3UR37** | **111.45** | — | 36.0 |
| **Secondary Labels** | Pack of 10 | **3UT73** | **3.68▲** | — | 0.1 |
| **Paint, Oil & Grease Spotter** | 16 oz./pk6 | **3UR48** | **57.00** | — | 11.0 |
| | 1 gal. | **3UR47** | **40.45** | **36.41** | 8.9 |
| **Secondary Labels** | Pack of 10 | ***New*** **3UT17** | **88.30** | — | 46.0 |
| **Cast Iron Rust Remover** | 16 oz./pk6 | ***New*** **4MG42** | **57.00** | — | 8.5 |
| **Delible Ink Stain Remover** | 16 oz./pk6 | **3UR54** | **54.00** | — | 11.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Safety Material Data Sheets (MSDS) are available. See page opposite inside back cover.
(▲) Net prices, not subject to discounts.

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

RAMSEY®




No. 3UR71




No. 3UT08




No. 3UR36




No. 3UR29




No. 3UR75




No. 3UR73




No. 3UT19




No. 3UT06

## CARPET PRESPRAYS

**TRAIL BREAKER™**

**Heavy Duty Prespray with Enzyme**

- Highly concentrated, heavy-duty liquid prespray with Prozyme-natural odor and soil digesting enzymes, with a great Country Morning fragrance.
- Prozyme's natural odor digesting enzymes permanently eliminate tough odors and soils on carpet. Dilution: 1:12.

**PREMULSION**

**NEUTRAL PH PRESPRAY**

- Concentrated, pH7 neutral prespray fortified with d-limonene, easily cuts through heavy traffic lane soils. Great natural Citrus deoderizing fragrance.
- Safe for commercial, residential and 100% wool carpets. Dilution: 1:8.

**SOIL RELEASE**

**Economical Prespray**

- Concentrated, alkaline prespray for heavy soils. Use when you are on a regular extraction program, fragrance free. Dilution 1:8.

**BALLISTIC**

**Powder Prespray with Enzyme**

- Concentrated, high alkaline prespray with Prozyme-natural odor and soil digesting enzymes.
- Excellent at removing heavy food grease on carpets. Deoderizing Citrus fragrance. Dilution: 1:64.

## CARPET EXTRACTION CLEANERS

**STEAMETTE®**

**Liquid Extraction Cleaner (Regular or Phosphate Free)**

- Ultra Concentrate, powerful combination of detergents, solvents and deoderizing fragrance quickly remove tough soils and odors on the carpet. Carpets are left soft and residue free after cleaning.
- Outstanding economy, one gallon makes 321 gallons of ready to use extraction cleaner.
- Safe for commercial and residential carpets. Great country Morning fragrance. Contains corrosion inhibitors to protect equipment. pH of 8.5 in dilution.

**RINSOFT®**

**Mild Acidic Extraction Rinse**

- Concentrate, use as a final rinse step after prespraying the carpet. Leaves carpet soft and totally residue free.
- Also use to rinse out and neutralize residues caused by detergent build-up.
- Safe for commercial, residential and 100% wool carpets. Dilution: 1:128.

**STEAMETTE®**

**Power Extraction Cleaner**

- Powder Concentrate, a powerful combination of powdered detergents, solvents and Country Morning deoderizing fragrance, quickly remove tough soils and odors. Carpets are left soft and residue free.
- Idea for Truck Mount and portable extractors, pH of 9.8 in dilution.

| Description | Size | Stock No. ❸ | Each | Lots Qty./4 | Shpg. Wt. |
|---|---|---|---|---|---|
| **Trail Breaker™ Prespray** | 1 gal. | **3UR29** | **$27.50** | **$24.75** | 8.9 |
| | 5 gal. | **3UR28** | **119.30** | — | 46.0 |
| | 55 gal. | **3UR30** | **1250.00** | — | 8.9 |
| **Secondary Labels** | Pack 10 | **3UT68** | **3.68▲** | — | 0.1 |
| **Premulsion™ Prespray** | 1 gal. | **3UR73** | **16.87** | **15.18** | 8.9 |
| | 55 gal. | **3UR74** | **740.50** | — | 482.0 |
| **Secondary Labels** | Pack 10 | **3UT91** | **3.68▲** | — | 0.1 |
| **Soil Release™ Prespray** | 1 gal./pk4 | **3UR36** | **55.30** | — | 36.0 |
| **Secondary Labels** | Pack 10 | **3UT72** | **3.68▲** | — | 0.1 |
| **Ballistic™ Powder Prespray** | 6 lb/pk4 | **3UR75** | **104.55** | — | 27.0 |
| **Secondary Labels** | Pack 10 | **3UT92** | **3.68▲** | — | 0.1 |
| **Steamette® Liquid™ Extraction Cleaner*** | 1 gal. | **3UT06** | **18.72** | **16.85** | 8.9 |
| | 5 gal. | **3UT05** | **80.30** | — | 46.0 |
| | 55 gal. | **3UT07** | **824.00** | — | 482.0 |
| **Steamette® Liquid™ Phosphate-Free Extraction Cleaner** | 1 gal./pk4 | **3UT19** | **74.90** | — | 36.0 |
| | 5 gal. | **3UT17** | **88.30** | — | 46.0 |
| **Rinsoft® Extraction Rinse** | 1 gal. | **3UR71** | **18.00** | **16.20** | 8.9 |
| | 55 gal. | **3UR72** | **797.50** | — | 482.0 |
| **Steamette® Powder™ Extraction Cleaner** | 6 lb/pk4 | **3UT08** | **81.15** | — | 27.0 |
| | 50 lb pail | **3UT09** | **121.30** | — | 54.0 |

(*) Not for sale in Massachusetts and Oregon. (▲) Net prices, not subject to discounts.

# BONNET CLEANERS, SANITIZERS AND SHAMPOOS

## HARD CHARGER
### Heavy Duty Spin Bonnet Cleaner With Enzyme

Highly concentrated, heavy-duty, low residue spin bonnet cleaner and deodorizer with Prozyme soil and odor digesting enzymes.

Prozyme's natural odor digesting enzymes permanently eliminate tough odors while spin cleaning. Prozyme's enzyme action continues to clean and deodorize even after the bonnet has left the carpet. Dilution: 1:12.

## TOP SPIN®
### Spin Bonnet Cleaner

Concentrate, for regular spin bonnet program, this ultra-low residue spin bonnet cleaner will penetrate, loosen, and lift away your carpet soils.

Ultra-low residue formula prevents re-soiling and helps the carpet dry faster. Dilution 1:8.

## TRI-GUARD
### Spin Bonnet and Extraction Cleaner

Concentrated EPA-registered cleaner, sanitizer and deodorizer kills odor causing bacteria on synthetic carpets. Dilution: 1:32 for spin cleaning or 1:64 for extraction cleaning.

## HIGH PERFORMANCE
### Carpet Shampoo

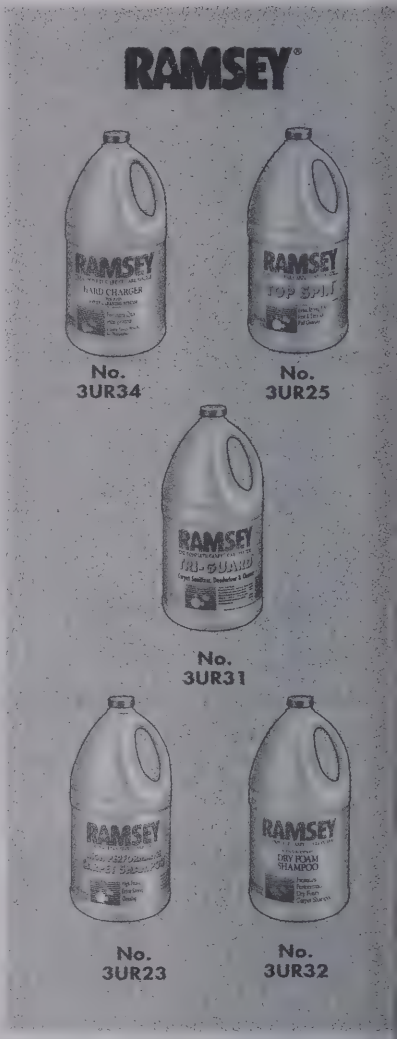
- **Highly concentrated rotary shampoo for extra-strength cleaning and brightening.**
- **High foaming cleaners lift away heavy carpet traffic lane soils quickly and easily. Dilution: 1:32.**

## DRY FOAM SHAMPOO

- **Highly concentrated super-dry foam allows for ultra-low moisture and exceptional cleaning in dry foam equipment.**
- **Foam dries to a powder after cleaning for easy vacuuming. Contains a built-in soil retardant to protect against re-soiling. Dilution: 1:32.**

| Description | Size | Stock No. | Each | Lots Qty./4 | Shpg. Wt. |
|---|---|---|---|---|---|
| **Hard Charger™ Spin Bonnet Cleaner** | 1 gal. | **3UR34** | **$21.96** | **$19.76** | 8.9 |
| | 5 gal. | **3UR33** | **94.30** | — | 46.0 |
| | 55 gal. | **3UR35** | **976.00** | — | 482.0 |
| **Secondary Labels** | Pack 10 | **3UT71** | **3.68** ▲ | — | 0.1 |
| **Top Spin™ Spin Bonnet Cleaner** | 1 gal. | **3UR25** | **17.58** | **15.82** | 9.0 |
| | 55 gal. | **3UR26** | **807.50** | — | 482.0 |
| **Secondary Labels** | Pack 10 | **3UT66** | **3.68** ▲ | — | 0.1 |
| **Tri-Guard™ Spin Bonnet & Extraction Cleaner** | 1 gal. | **3UR31** | **19.14** | **17.23** | 8.9 |
| **Secondary Labels** | Pack 10 | **3UT69** | **3.68** ▲ | — | 0.1 |
| **High PerformanceCarpet Shampoo™** | 1 gal. | **3UR23** | **19.07** | **17.16** | 8.9 |
| | 5 gal. | **3UR22** | **81.10** | — | 46.0 |
| | 55 gal. | **3UR24** | **823.00** | — | 482.0 |
| **Dry Foam Shampoo** | 1 gal./pk4 | **3UR32** | **111.15** | — | 38.0 |
| **Secondary Labels** | Pack 10 | **3UT70** | **3.68** ▲ | — | 0.1 |

(▲) Net prices, not subject to discounts.





## DESK SPACE AT A PREMIUM?

## USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# CARPET TREATMENTS

### ONCENTRATED CARPET PROTECTOR

ncentrate, DuPont Teflon Fluorotreatment forms a durable, ng-lasting no-stick barrier around each fiber to lock out dirt, ime, and oil-based soils. Helps to extend carpet life and reduce mber of cleanings per year.

### EFOAMER LIQUID

per-concentrated, anti-foam liquid is added into recovery tank eliminate foam.

### EFOAMING CRYSTALS POWDER

rinkle onto carpet, and as you extract, foam is eliminated in e extraction hose and recovery tank. Also can be placed in covery tank.

### CTIVATED COLOR BOOSTER POWDER

ld to most carpet cleaning products to boost cleaning and odorizing power. Formulated with alkaline builders and odor-lling oxidizers that eliminate tough odors.

### OLOR BRITE POWDER

ld to most carpet or upholstery cleaning products to brighten lors and help remove stains.

### ATIC CONTROL

ncentrate, use to reduce static electricity around computers d other electronic equipment on carpet.

### NNIN BROWNING TREATMENT

r browning and yellowing stains.




### RPET AND UPHOLSTERY ACCESSORIES

ne Scraper: Use to agitate and loosen carpet spots.

otting Brush: Use to tamp out residues after applying spotters.

rpet Syringe: Use to inject deodorizer into carpet areas after aning.

## CARPET TREATMENT SPECIFICATIONS AND ORDERING DATA

| Description | Size | Stock No. | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| centrated Carpet Protector™ - DuPont Teflon® Fluorotreatment prevents soils and stains from | 1 gal. | 3UR64 | $49.35 | $44.42/4 | 8.9 |
| aging carpet fibers | 55 gal. | 3UR65 | 2342.00 | — | 482.0 |
| ondary Labels | Pack 10 | 3UT86 | 3.68▲ | — | 0.1 |
| ic Control™ - Use to reduce static electricity around computers and other electronic equipment | 1 gal./pk4 | 3UR66 | 62.50 | — | 36.0 |
| ondary Labels | Pack 10 | 3UT87 | 3.68▲ | — | 0.1 |
| vated Color Booster™ Powder - Cleaning additive for extractors to deodorize carpets. For synthetic carpets only | 3.5 lb/pk6 | 3UR70 | 167.25 | — | 24.0 |
| ondary Labels | Pack 10 | 3UT89 | 3.68▲ | — | 0.1 |
| r-Brite™ Powder - Brightening additive for extractors. For synthetic and natural carpets, and upholstery | 5 lb/pk6 | 3UR63 | 196.75 | — | 33.0 |
| ondary Labels | Pack 10 | 3UT85 | 3.68▲ | — | 0.1 |
| amer™ Liquid - Super-concentrated, anti-foam liquid quickly eliminates foam in recovery tank | 1 gal. | 3UR27 | 18.70 | 17.77/4 | 8.9 |
| ondary Labels | Pack 10 | 3UT67 | 3.68▲ | — | 0.1 |
| aming Crystals™ Powder - Sprinkle on carpets. As you extract, foam is eliminated in hose and recovery tank | 8 lb/pk4 | 3UR76 | 69.50 | — | 34.0 |
| nin Browning Treatment - For browning and yellowing stains | 1 gal./pk 4 | 3UR45 | 93.60 | — | 36.0 |
| ondary Labels | Pack of 10 | 3UR46 | 24.07▲ | — | 11.0 |

## CARPET ACCESSORIES

| Description | Quantity | Stock No. | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| e Scraper | Pack of 4 | 3UR67 | $30.55 | — | 0.5 |
| ting/Tamping Brush | Pack of 4 | 3UR68 | 44.05 | — | 3.0 |
| et Syringe | Pack of 12 | 3UR69 | 86.15 | — | 0.5 |

hese products are covered by OSHA Hazard Communication Standard,and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
Net prices, not subject to discounts.

# CARPET UPHOLSTERY CARE SYSTEMS

## UPHOLSTERY AND FINE FABRIC CLEANERS

**A PRESPRAY**

Concentrate pH balanced prespray with powerful emulsifiers to loosen soil on upholstery. Dilution 1:20.

**B EXTRACTION RINSE**

Concentrate, applying applying Ramsey's U&FF Prespray, extract the upholstery and remove soils. Leaves fabric soft and residue-free.

**C SHAMPOO**

Concentrate, pH balanced high-foaming, low-residue shampoo. Dilution-1:6.

**D WHITE COTTON EXTRACTION CLEANER**

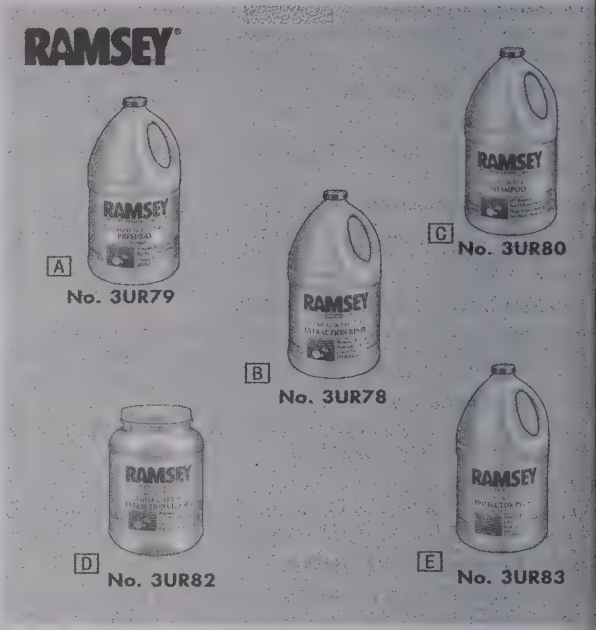
Concentrate, pH balanced powdered cleaner; cleans, brightens, and whitens in one extraction step. Dilution- 1:32.

**E PROTECTOR PLUS**

Ready-to-Use water-based protector for protection against dry, oil, and water-based spills.

| Description | Size | Stock No. ❸ | Each | Shpg. Wt. |
|---|---|---|---|---|
| Prespray™ | 1 gal./PK4 | 3UR79 | $91.15 | 36.0 |
| Secondary Labels | Pack 10 | 3UT94 | 3.68▲ | 0.1 |
| Extraction Rinse | 1 gal./PK4 | 3UR78 | 83.60 | 36.0 |
| Shampoo™ | 1 gal./PK4 | 3UR80 | 74.10 | 36.0 |
| Secondary Labels | Pack 10 | 3UT95 | 3.68▲ | 0.1 |
| White Cotton Extraction Cleaner | 6 lb/PK4 | 3UR82 | 99.45 | 27.0 |
| Protector Plus™ | 1 gal./PK4 | 3UR83 | 122.75 | 36.0 |
| Secondary Labels | Pack 10 | 3UT98 | 3.68▲ | 0.1 |

(▲) Net prices, not subject to discounts.




## BALL SPOT AND STAIN REMOVERS

| Item | Application | Container | Ball Model | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Quick Time® | Ready-to-use prespray formulated to remove oil and water-based spots from high traffic areas prior to shampooing, cleaning, or extracting | 1 qt. | 25181 | 2U082 | $4.81 | $4.01 | $3.61/12 | 2.3 |
| | | 1 gal. | 25171 | 2U081 | 11.66 | 9.36 | 8.43/4 | 9.5 |
| Persuasion® Enzyme Carpet Spotter | Dissolves grease, dirt and oil-based stains. Foaming enzyme action digests protein and organic soils and stains such as food, blood and urine. Deodorizes too. No CFCs. | 20 oz. aerosol can | 85221 | 3U033 | 6.80 | 5.44 | 5.17/12 | 1.5 |
| Bubble Buster® Gum Remover | Quickly isolates and freezes gum and wax to a brittle condition for easy removal. Fast-acting gum remover won't damage sensitive fabrics or cause color fade. No CFCs | 12 oz. aerosol can | 85231 | 3U024 | 5.45 | 5.18 | 4.65/12 | 0.6 |
| Bull's Eye® Remover | A spot and stain remover with odor suppressants. Upside-down spray valve makes applications easy. Water soluble. No CFCs. | 20 oz. aerosol can | 85211 | 3U025 | 5.34 | 5.08 | 4.58/12 | 1.5 |







## CARPET SHAMPOO EXTRACTOR AND CLEANER

**MATCH PLAY® SHAMPOO.**

Carpet and upholstery shampoo. Powerful formula assures optimal cleaning results in rotary shampooing or dry foam equipment.

**No. 2U086.** Shpg. wt. 9.5 lbs. List.....$16.37. Each **$13.05**; Lots 4.....**$11.75**

**PULL UP® CLEANER.**

Extraction cleaner. Liquid extracti cleaner is effective with all types of carp extraction equipment. Dilute 1:6 Contains corrosion inhibitors and optic brighteners.

**No. 2U090.** Shpg. wt. 9.5 lbs. List.....$14.1 Each **$11.34**; Lots 4.....**$10.**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(*) Size refers to container size. Weight of product may vary.

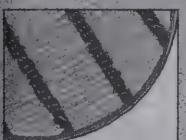


For complete listings, see Index

## ADJUST-A-GLIDE CARPET SHAMPOO BRUSHES

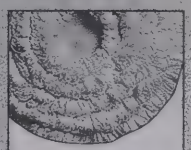
Brushes have strong .025 polyester fibers. Adjustable brush glider supports full weight of machine. Adjustable brush height for most effective cleaning. Grooved, channeled shower-feed block spreads solution evenly. Includes clutch plate. Fits Dayton and Clarke machines. FloPac brand.

| Brush Size (In.) | FloPac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **15** | 1447-15 | **3U959** | $142.06 | **$117.15** | 7.0 |
| **18** | 1447-18 | **3U965** | 192.56 | **159.25** | 11.0 |

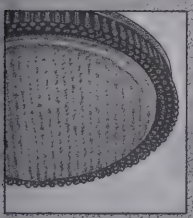


Spin Klean with Strips

Rubbermaid®



Spin Klean



No. 3U958 Brush/Bonnet

For complete listing, see Index.

## CARPET BONNETS AND DIRT NAPPER™

**CARPET BONNETS. Spin Klean® (with strips):** For use with any standard rotary floor machine to scrub and absorb soil from carpet. Absorbent, durable blended loop yarn. Features double sided cleaning strips. **Spin Klean®:** Thick pile durable 6-ply, cut and loop yarn for excellent absorption. For medium to thick pile carpet. Double sided. Seco brand.

**DIRT NAPPER.** Combines brush and bonnet features for effective carpet cleaning. Durable plastic block. 3 outer poly rows trimmed 1/4"; inner rows 5/16". Includes bonnet, riser, clutch plate. Fits Clarke and Dayton equipment. FloPac brand.

| Description | Size (In.) | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CARPET BONNETS** | | | | | | | |
| **Spin Klean® (with strips)** | 17 | Rubbermaid | P267 | **3U908** | $18.66 | **$17.73** | 1.6 |
| **Spin Klean® (with strips)** | 19 | Rubbermaid | P269 | **3U909** | 20.04 | **19.04** | 1.8 |
| **Spin Klean® (with strips)** | 21 | Rubbermaid | P271 | **3U910** | 21.86 | **20.77** | 2.0 |
| **Spin Klean®** | 17 | Rubbermaid | P117 | **3U911** | 21.86 | **20.77** | 1.6 |
| **Spin Klean®** | 19 | Rubbermaid | P119 | **3U912** | 23.34 | **22.17** | 1.8 |
| **Spin Klean®** | 21 | Rubbermaid | P121 | **3U913** | 26.94 | **25.60** | 2.0 |
| **DIRT NAPPER** | | | | | | | |
| **Brush/Bonnet** | 17 | FloPac | 1448-17 | **3U958** | 150.96 | **121.95** | 10.0 |
| **Replacement Bonnet** | — | FloPac | 3548-15 | **2U532** | 26.14 | **22.80** | 1.7 |
| **Brush/Bonnet** | 19 | FloPac | 1448-19 | **3U964** | 178.30 | **144.45** | 12.0 |
| **Replacement Bonnet** | — | FloPac | 3548-17 | **2U533** | 33.08 | **30.40** | 2.1 |

## 175 RPM FLOOR MACHINES

**ARKE® FM SERIES HEAVY-DUTY FLOOR ACHINES** are designed for the toughest dustrial applications including scrubng, stripping, sanding, and grinding.

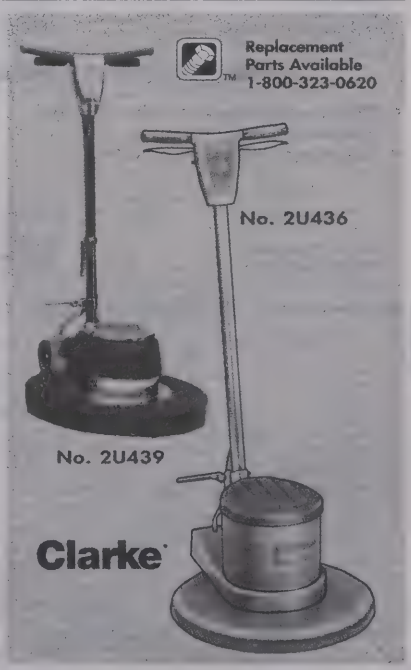
onstructed with a heavy one-piece cast uminum housing and dual long life micro vitches for durability. Wide transport heels provide easy maneuverability. Also atures orthopedically designed operating ndle, safety-interlock switch, and vinyl mpers.

ese 175 RPM heavy-duty floor machines ve a 1 HP motor with sealed double anetary gear system.

**CLARKE® C-LINE SERIES FLOOR MACHINES** are ideal for industrial stripping, scrubbing, and shampooing operations.

Polyurethane enamel painted motor shroud and brush housing are virtually indestructible. Also feature big nonmarking transport wheels and vinyl bumpers.

C-Line 175 RPM floor machines Nos. 2U436 and 2U437 have a 1 HP motor, No. 3KH84 has a 1/3 HP motor and all run on 115V, 60 Hz.




### CLARKE® LIMITED WARRANTY

rke warrants motors and gearboxes on FM Series for 7 years and C-Line Series, Nos. 2U436 and 2U437 for 5 years, No.3KH84 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**PAD DRIVERS AND BRUSHES SOLD SEPARATELY**
**See Index Under Appropriate Heading**

| Description | Size (In.) | 60 Hz Volts | Amps | Cord Length (Ft.) | Clarke Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **I Series** | 17 | 115 | 15.0 | 50 | FM-1700 | **2U438** | $2305.00 | **$2190.00** | 112.0 |
| **I Series** | 20 | 115 | 15.0 | 50 | FM-2000 | **2U439** | 2440.00 | **2318.00** | 116.0 |
| **-ine Series** | 13 | 115 | 15.0 | 25 | C-1300 | **3KH84** | 940.00 | **893.00** | 40.0 |
| **-ine Series** | 18 | 115 | 15.0 | 50 | C-1800 | **2U436** | 1250.00 | **1188.00** | 104.0 |
| **-ine Series** | 20 | 115 | 15.0 | 50 | C-2000 | **2U437** | 1300.00 | **1235.00** | 104.0 |

# INDUSTRIAL CLEANERS/DEGREASERS

## POWER BOLT™ RTU SPRAY & WIPE POWER CLEANER

- Pleasant to use cleaner and industrial degreaser
- Use on most washable surfaces; no rinsing required
- Cleans toughest soils: grease, oil, carbon film, graffitti, hydraulic fluids, road tar, cooking oils, various inks, permanent marker, heel marks
- Pleasant citrus fragrance deodorizes as it cleans
- USDA Authorized C1

**Environmental Advantages:** Non toxic by OSHA standards, made with all biodegradable ingredients. Contains no butyl; is non-corrosive, non-combustible,non-flamible and phosphate-free. USDA rating C1.

| Description | Size | Stock No. ❷ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Power Bolt™ w/ power Bolt Trigger** | 22 oz. | ***New*4TL65** | $6.70 | **$6.03** | — | 1.8 |
| **Power Bolt** | 1 qt. | **3UT38** | 3.90 | **3.34** | **3.17/12** | 2.4 |
| **Power Bolt** | 1 gal. | **3UT37** | 12.40 | **10.60** | **10.07/4** | 9.1 |
| **Power Bolt** | 55 gal. | **3UT39** | 613.80 | **525.50** | — | 484.0 |
| **10 Secondary Labels** | | **3UV18** | — | **3.68▲** | — | 0.1 |




## POWER BOLT CONCENTRATED POWER CLEANER AND INDUSTRIAL DEGREASER

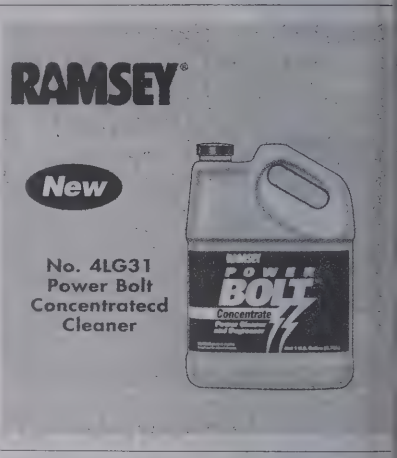
**For multiple cleaning applications:** mop & bucket, automatic scrubbers, pressure washer, and spray and wipe cleaning applications. Cuts away grease, oil, carbon film, hydraulic fluids, anti-freeze, transmission oils, road tar, cooking oils, various inks, permanent marker, black heel marks, and more.

**Environmental Advantages:** non-toxic by OSHA standards. Made with biodegradable detergents. Contains no butyl. Non-corrosive, non-combustible, phosphate-free. USDA rating C1.

**Safe on most surfaces:** vinyl, aluminum, brass, ceramic, chrome, enamel, fiberglass, Formica, glass, plastic, porcelain, stainless, concrete.

**Dilution:** Heavy soils, 6 to 8 oz./gallon; normal soils, 3 to 5 oz./gallon; light soils, 1 to 2 oz./gallon.

| Description | Size (Gal.) | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Power Bolt** | 1 gal. | **4LG31** | $16.95 | **$16.10** | **$14.49/4** | 9.0 |
| **Power Bolt** | 5 gal. | **4LG32** | 80.55 | **76.55** | — | 44.0 |
| **Power Bolt** | 55 gal. | **4LG33** | 838.20 | **796.50** | — | 484.0 |
| **10 Secondary Labels** | — | **4MG47** | — | **3.68▲** | — | 3.5 |



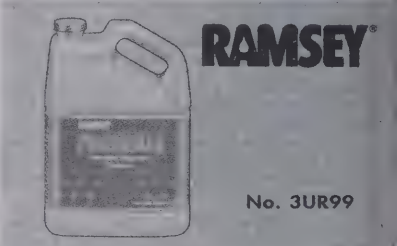

## FREEFALL™ GENERAL PURPOSE CLEANER

- Strong emulsifiers dissolve dirt and grease on contact
- Non-butyl and phosphate free

USDA rating: C-1. Pleasant citrus fragrance. Low foaming. Ramsey brand.

| Description | Size (Gal.) | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Freefall® General Purpose Cleaner** | 1 | **3UR99** | $9.90 | **$9.40** | **$8.46/1** | 9.4 |
| | 5 | **3UR98** | 46.85 | **44.50** | — | 46.0 |
| | 55 | **3UT01** | 425.70 | **404.50** | — | 499.0 |

**10 secondary labels.** (07441) **No. 3UT78.** Shpg. wt. 0.1 lbs. Each.....$3.68▲



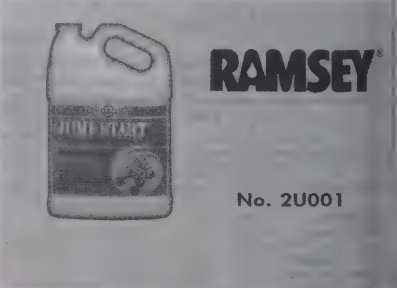

## JUMP START GENERAL-PURPOSE, NON-BUTYL CLEANER/DEGREASER

Economical general purpose cleaner. Formulated to remove all types of dirt, grit, grease and soap scum. Does not leave a residue, no rinsing required. Peasant sassafras scent. Non-caustic, no-butyl, biodegradable. Highly concentrated—dilutes up to 1:128. USDA A4.

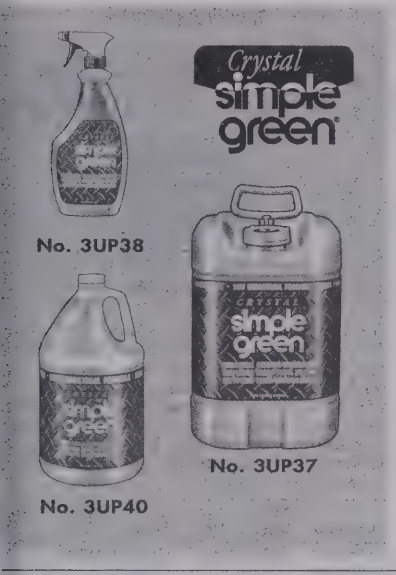
| Description | Size (Gal.) | Stock No. ❸ | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Jump Start All Purpose** | 1 | **2U001** | $7.86 | **$6.70** | **$6.70** | 9.5 |
| | 5 | **2U002** | 37.18 | **31.85** | — | 45.0 |
| | 55 | **2U003** | 387.18 | **331.25** | — | 495.0 |

**10 secondary labels** (96311). **No. 2U182.** Shpg. wt. 0.1. Each.....$3.75▲

(▲) Net prices, not subject to discounts.



# INDUSTRIAL CLEANERS/DEGREASERS AND LIME SCALE REMOVER




## CRYSTAL SIMPLE GREEN® INDUSTRIAL STRENGTH CLEANER/DEGREASER

- **Industrial formulation of original Simple Green®**
- **Color-free with no added fragrance**
- **Non-toxic, non-ionic, biodegradable, excellent rinsability**
- **Economical concentrate is non-flammable and non-abrasive with no caustic fumes. Ideal for parts washing applications**
- **Exempt from OSHA and EPA special handling and personal protection requirements for hazardous materials**
- **USDA Authorized - a safer alternative**

**Crystal Simple Green®** is a safe, effective, and powerful all-purpose cleaner/degreaser for critical cleaning applications that demand a fragrance-free and color-free solution. Multi-purpose formulation is ideal for all industrial/institutional needs. Authorized for use in Federally inspected meat and poultry plants. Also meets FDA requirements for cleaning in cosmetics, medical, and pharmaceutical environments where Good Manufacturing Practices (GMP) are followed. Meets Montreal Protocol Guidelines. No ozone-depleting substance (ODS) warning labels required. Zero VOC content. Mild 9.35 pH. Cold/hot water activated. Simple Green® brand.

| Container Size | Simple Green® Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **24 oz. w/ Trigger** | 19024 | **3UP38** | $8.85 | **$7.08▲** | 2.0 |
| **1 gallon** | 19128 | **3UP40** | 20.20 | **16.16▲** | 9.3 |
| **5 gallon** | 19005 | **3UP37** | 87.81 | **70.25▲** | 46.0 |
| **55 gallon** | 19055 | **3UP39** | 703.68 | **563.00▲** | 494.0 |

(▲)Net prices, not subject to discounts.




## SIMPLE GREEN® ALL PURPOSE CLEANER/DEGREASER

- **Biodegradable**
- **Non-toxic**
- **Non-abrasive**
- **Non-flammable**

**Original Formulation concentrated, waterbased cleaner/degreaser** contains blend of synthetic, high-grade penetrants activated by cold/hot water. Non-ionic, non-flammable, non-abrasive. Biodegradable. Use in broad range of applications including window washing. "Clear green" liquid has mild pH of 9.3 to 9.5 and a pleasant sassafras scent. Exempt from OSHA and EPA requirements for special handling or personal protection. Contains no petroleum. Simple Green® brand. USDA authorized. Simple Green® brand.

| Container Size | Simple Green® Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **24 oz. w/ Trigger** | 13012 | **3U498** | $6.94 | **$5.55▲** | 2.0 |
| **1 Gallon** | 13005 | **3U499** | 16.36 | **13.09▲** | 9.3 |
| **2.5 Gallon** | 13225 | **3U500** | 39.68 | **31.75▲** | 25.0 |
| **5 Gallon** | 13006 | **3U501** | 72.68 | **58.15▲** | 46.0 |
| **55 Gallon** | 13008 | **2U298** | 585.62 | **468.50▲** | 495.0 |

(▲)Net prices, not subject to discounts.

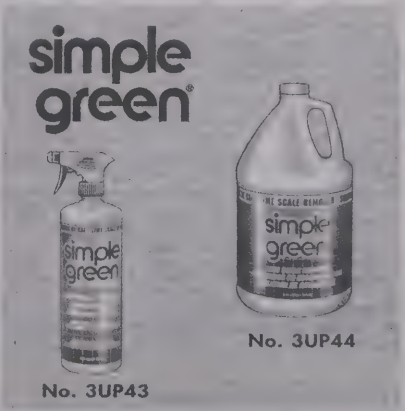
## SIMPLE GREEN® LIME SCALE REMOVER

**Dissolves soap scum and mineral deposits**
**Deodorizes with fresh wintergreen scent**
**Non-abrasive and non-flammable**
**Contains no bleach, ammonia or phosphorous**

**nple Green® Lime Scale Remover** utilizes a mild buffered acid commonly used in the cos-etic industry. Strong enough to remove hard water deposits but mild enough to protect rfaces from damage that harsher removers can cause. It will not strip protective fin-ıes from porcelain, tile, or plumbing and will not harm drains or pipes, including PVC. eps fixtures bright and shiny. Specially formulated to dissolve and remove mineral posits, hard water stains, and soap scum. Safer to use on porcelain fixtures, ceramic e and fixtures, glass shower doors, aluminum, chrome, and stainless steel. The 32 oz. ttle has a durable spray head with a special "pull-out" foaming tip for effective appli-tion on vertical surfaces. Simple Green® brand.

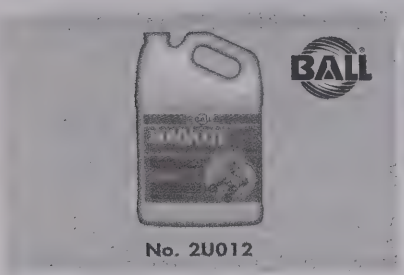
| Container Size | Simple Green® Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **! oz. w/ Trigger** | 50032 | **3UP43** | $6.73 | **$5.39▲** | 2.3 |
| **gallon** | 50128 | **3UP44** | 15.52 | **12.42▲** | 8.2 |

Net prices, not subject to discounts.



# DEGREASERS

## DOMINATE®



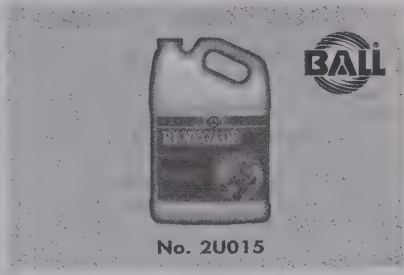
No. 2U012

Maximum Strength Industrial Degreaser. Powerful restorative alkaline and butyyl-based clearner/degreaser formulated for power degreasing. Fast acting formulation penetrates and lifts heavy soils with minimal mechanical action. Contains corrosion inhibitors. Biodegradable and phosphate free. Concentrated - dilutes up to 1:15. USDA A4.

| Container | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 gallon | 2U012* | $14.78 | $10.40 | $9.88/4 | 9.5 |
| 5 gallon | 2U013 | 73.89 | 52.05 | — | 45.0 |
| 55 gallon | 2U014 | 813.20 | 573.00 | — | 495.0 |

**10 secondary labels** (96451)..
**No. 2U185.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each .....$3.75▲

## RENEGADE®



No. 2U015

Heavy Duty, Highly Concentrated, Industrial Cleaner/Degreaser. Powerful butyl-based cleaner/degreaser. Excellent economy and cleaning performance. Built in corrosion inhibitors help protect equipment. Non-caustic, non-flammable. Highly concnetrated - dilutes up to 1:128. USDA A1.

| Container | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 gallon | 2U015* | $11.97 | $9.58 | $8.62/4 | 9.5 |
| 5 gallon | 2U016 | 47.88 | 38.35 | — | 45.0 |
| 55 gallon | 2U017 | 526.97 | 421.75 | — | 495.0 |

**10 secondary labels** (96421).
**No. 2U186.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each .....$3.75▲

## BATTALION®



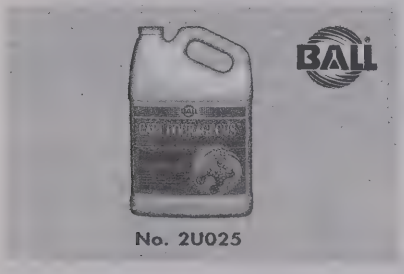
No. 2U018

Industrial Strength, Low Foaming Cleaner-Degreaser. Versatile, butyl-based low foam cleaner/degreaser designed for wide variety of cleaning tasks. Ideal fo use with pressure washers, steam clean ers, and automatic scrubbers. Contain corrosion inhibitors. Non-caustic, nor flammable. Concentrated - dilutes up t 1:64. USDA A4/A8.

| Container | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 gallon | 2U018 | $10.29 | $8.24 | $7.42/4 | 9.5 |
| 5 gallon | 2U019 | 41.19 | 33.00 | — | 45.0 |
| 55 gallon | 2U020 | 453.41 | 362.75 | — | 495.0 |

**10 secondary labels** (96431).
**No. 2U187.** Shpg. wt. 0.1 lbs. List.....$4.7(
Each .....$3.75.

## CAPT COURAGEOUS®



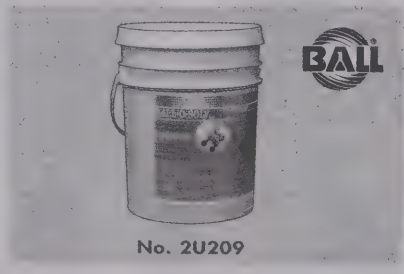
No. 2U025

Heavy-duty non-butyl cleaner/degreaser. Versatile, food service and industrial cleaner/degreaser. Effectively removes animal fats, grease build-up, oils, wax, inks and soap scum from hard surfaces. For use with pressure washers, foam guns, automatic scrubbers, brush, mop, or trigger sprayers. Biodegradable, non-butyl, non-caustic, and non-flammable. Concentrated - dilutes up to 1:64. USDA A1.

| Container | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 gallon | 2U025 | $10.63 | $6.81 | $6.47/4 | 9.5 |
| 5 gallon | 2U026 | 42.53 | 27.25 | — | 45.0 |
| 55 gallon | 2U027 | 468.12 | 299.75 | — | 495.0 |

**10 secondary labels** (96451).
**No. 2U188.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each .....$3.75▲

## BALL-O-SOLV®



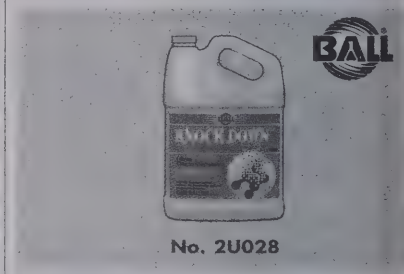
No. 2U209

**Maximum Strength, Natural Citrus-Based Industrial Cleaner/Degreaser.** d-Limenene-based degreaser derived from natural citrus oils. Super strenth cleaner and degreaser removes grease, inks, carbon, latex, adhesive residues, dirt, and road tar. Emulsifies vegetable oils and animal fats. Contains no butyl and no petroleum solvents. Non-corrosive, non-caustic, and biodegradable. Concentrated - dilutes up to 1:50. USDA C1.

| Container | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 5 gallon | 2U209 | $253.59 | $203.50 | 43.0 |
| 55 gallon | 2U210 | 2483.25 | 1987.00 | 473.0 |

**10 secondary labels** (96761).
**No. 2U290.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each .....$3.75▲

## KNOCK DOWN®



No. 2U028

Heavy Duty, Natural Citrus-Based Indsustrial Cleaner/Degreaser. d-Limonene fortified cleaner degreaser removes tar, wax, gum, rubber, lipstick inks and grease. Contains no petroleum solvents. Non-corrosive, non-caustic, and biodegradable. Aerosol has 360° valve contains no CFC's. Concentrated - dilutes up to 1:8. USDA C1.

| Container | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 20 oz. aerosol* | 3U038 | $5.94 | $4.07 | $3.87 /12 | 1.4 |
| 1 gallon | 2U028 | 16.38 | 11.54 | 10.96/4 | 9.5 |
| 5 gallon | 2U029 | 65.53 | 46.20 | — | 45.0 |
| 55 gallon | 2U030 | 720.91 | 508.00 | — | 495.0 |

(*) Size refers to container size. Weight of product may vary.

**10 secondary labels** (96461).
**No. 2U189.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each .....$3.75▲

(▲) Net price, not subject to discounts.

# HOSPITAL GRADE DISINFECTANTS

## FREQUENCY™ NEUTRAL DISINFECTANT CLEANERS

EPA registered FreQuency 256, 128, and 64 neutral cleaners, disinfectants and deodorizers pass EPA required tests for use in hospitals and other commercial institutions. Bactericidal, fungicidal, mildewstat, and virucidal. Neutral pH will not dull floor finish. Shown effective as a disinfectant by the AOAC (Use Dilution Test) at 400 ppm water hardness (as calcium carbonate) and 5% serum (as organic soil) against HIV-1 (AIDS virus), Pseudomonas aeruginosa, Salmonella choleraesius, Methicillin, staphylococcus aureus (MRSA) resistant.

## ALTIMA™ PHENOLIC DISINFECTANT CLEANER

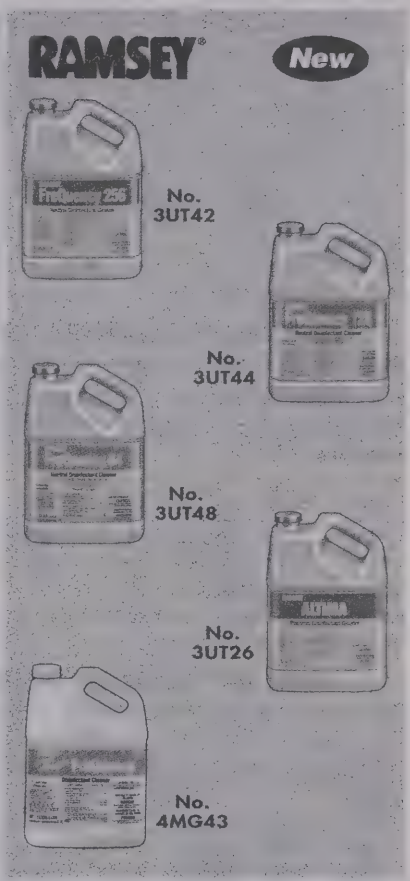
Passes EPA tests for use in hospitals. Meets OSHA guidelines for bloodborne pathogens. Shown effective as a disinfectant by the AOAC (Use Dilution Test) at 1:256 dilution and 500 ppm water hardness (as calcium carbonate) and 10% serum (as organic soil) against HIV-1 (AIDS virus), Mycobacterium bovis (BCG), AOAC tuberculocidal Test, Staphylococcus aureus (MRSA), and Methicillin resistant Staphylococcus aureus (MRSA). AOAC at 1:256 dilution and 500 ppm water hardness (as calcium carbonate) and 5% serum (as organic soil) against Salmonella choleraesius and Pseudomonas aeruginosa. Sold in packages of 4. Ramsey brand.

## HIGH FREQUENCY™ DISINFECTANT CLEANER

Passes EPA tests for use in hospitals. Meets OSHA guidelines for use on bloodborne pathogens. Shown effective as a disinfectant by the AOAC (Use Dilution Test) at 1:64 dilution against Hepatitis B (HBV), HIV-1 (AIDS), Methicillin resistant Staphylococcus aureus (MRSA), Vancomycin resistant Enterococcus Faecalis (VRE) and others.

| Description | Size (Gal.) | | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Frequency 256™ | 1 | | 3UT42 | $22.90 | $21.76 | $19.58/4 | 9.1 |
| Frequency 256 | 5 | | 3UT40 | 108.80 | 103.40 | — | 45.0 |
| 10 Secondary Labels | — | | 3UV19 | — | 3.68▲ | — | 0.1 |
| Frequency 128™ | 1 | | 3UT44 | 15.85 | 15.06 | 13.55/4 | 9.0 |
| Frequency 128 | 5 | | 3UT43 | 75.30 | 71.55 | — | 45.0 |
| Frequency 128 | 55 | | 3UT45 | 784.85 | 746.00 | — | 483.0 |
| 10 Secondary Labels | — | | 3UV20 | — | 3.68▲ | — | 0.1 |
| Frequency 64™ | 1 | | 3UT48 | 13.45 | 12.78 | 11.50/4 | 9.0 |
| Frequency 64 | 5 | | 3UT46 | 63.90 | 60.75 | — | 45.0 |
| Frequency 64 | 55 | | 3UT49 | 666.05 | 633.00 | — | 482.0 |
| 10 Secondary Labels | — | | 3UV21 | — | 3.68▲ | — | 0.1 |
| Altima™ | — | | 3UT26 | 196.40 | 186.75 | — | 39.0 |
| 10 Secondary Labels | — | | 3UV11 | — | 3.68▲ | — | 0.1 |
| High Frequency™ | — | *New* | 4MG43 | 18.52 | 17.60 | — | 9.3 |
| High Frequency | — | *New* | 4MG44 | 39.04 | 37.10 | — | 18.0 |
| 10 Secondary Labels | — | *New* | 4MG48 | — | 3.68▲ | — | 0.1 |

❸ Net prices, not subject to discounts.




**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# INSTITUTIONAL GRADE DISINFECTANTS/SANITIZERS

## SIMPLE GREEN® D™ CLEANER/DISINFECTANT

Multi-purpose cleaner/degreaser/disinfectant contains quaternary ammonium for one-step disinfecting. Biodegradable. Use in health care, hotels, schools. Contains high-grade penetrants that are cold/hot water activated. Effective against HIV-1 (AIDS virus) and E-coli. Pleasant sassafras scent. EPA Registered.

| Size | Simple Green Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1-gal. | 30128 | **3U503** | $19.21 | **$15.37▲** | 99.33 |
| 5 | 30640 | **3U504** | 88.56 | **70.85▲** | 46.0 |

**10 secondary labels.**

**No. 2U392.** Shpg. wt. 0.1 lbs. List $4.06. Each ..... **$3.25▲**

(▲) Net prices, not subject to discounts.



No. 3U503

## LEMON 64® CLEANER/DISINFECTANT

Concentrated (1:64) EPA registered, institutional grade, quaternary cleaner/disinfectant. Effective on all hard, non-porous surfaces against a broad range of microorganisms including HIV-1 (AIDS virus). Disinfects, cleans, and deodorizes in one labor saving step. Fungicidal, virucidal and mildewstatic. Pleasant lemon fragrance.

| Size | Ball Model | Stock No. ❸ | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1-gal. | 35521 | **2U151** | $12.25 | **$9.91** | **$9.41/4** | 9.5 |
| 5 | 35523 | **2U152** | 58.15 | **47.00** | — | 45.0 |
| 55 | 35527 | **2U153** | 605.78 | **489.75** | — | 495.0 |

**10 secondary labels** (96561).

**No. 2U191.** Shpg. wt. 0.1 lbs. List $4.70. Each ..... **$3.75▲**

(▲) Net prices, not subject to discounts.



No. 2U151

## PINE 64® CLEANER/DISINFECTANT

Concentrated (1:64) EPA registered, institutional grade, quaternary cleaner/disinfectant. Effective on all hard, non-porous surfaces against a broad range of microorganisms including HIV-1 (AIDS virus). Cleans disinfects and deodorizes in one laborsaving step. Fungical, virucidal and mildewstatic. Pleasant pine fragrance.

| Size | Ball Model | Stock No. ❸ | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1-gal. | 35541 | **2U154** | $12.25 | **$9.91** | **$9.41/4** | 9.5 |
| 5 | 35543 | **2U155** | 58.15 | **47.00** | — | 45.0 |
| 55 | 35547 | **2U156** | 605.78 | **489.75** | — | 495.0 |

**10 secondary labels** (96591).

**No. 2U192.** Shpg. wt. 0.1 lbs. List $4.70. Each ..... **$3.75▲**

(▲) Net prices, not subject to discounts.



No. 2U154

## QUAD-10® SANITIZER/DISINFECTANT/DEODORIZER

Concentrated sanitizer for use on food contact surfaces and processing equipment. USDA D2. EPA Registered.

| Size | Ball Model | Stock No. ❸ | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1-gal. | 35831 | **2U157** | $18.65 | **$14.93** | **$13.43/4** | 99.55 |

**10 secondary labels** (96591).

**No. 2U193.** Shpg. wt. 0.1 lbs. List $4.70. Each ..... **$3.75▲**



No. 2U157

## CLOROX BLEACH

EPA Registered germicidal bleach for sanitizing dishes, glassware, utensils, refrigerators, and freezers. Also used to disinfect floors, walls, mops, brushes, brooms, and rags. (Sold only in case of 6-1 gallon containers.) Clorox brand (00128).

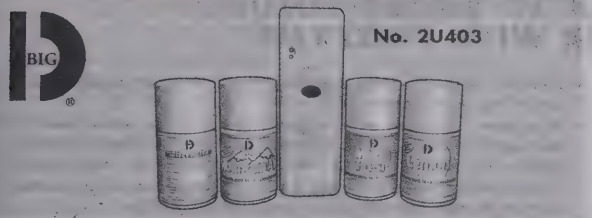
**No. 1CH10.** ❸ Shpg. wt. 58.0 lbs. List $17.05. Each ..... **$14.15▲**

(▲) Net prices, not subject to discounts.



No. 1CH10

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

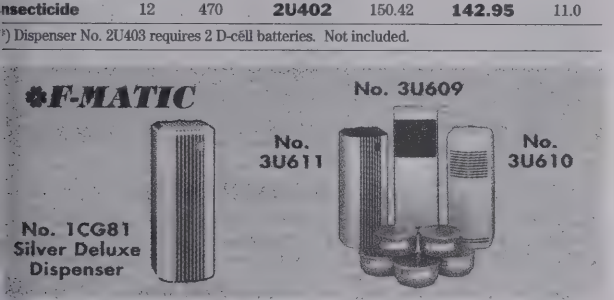



## METERED AEROSOLS AND DISPENSER

Automatic Metered Aerosols offer assorted fragrances which contain special odor neutralizers. Dispenser equipped with LED indicator which signals when to replace canister and/or batteries. Light activated feature turns off dispenser when there is no light in room. Adjustable spray intervals can be set at 5, 15, or 30 minutes and provide 3,000 to 3,300 sprays per 7.5 oz. can.

| Description | Case Qty. | Big D Model | Stock No. | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Dispenser-Ivory | 1 | 767 | 2U403* | $52.96 | $38.85 | 1.5 |
| Lemon | 12 | 451 | 2U399 | 62.67 | 59.55 | 11.0 |
| Mountain Air | 12 | 463 | 2U400 | 62.67 | 59.55 | 11.0 |
| Mint Fresh | 12 | 450 | 2U401 | 62.67 | 59.55 | 11.0 |
| Insecticide | 12 | 470 | 2U402 | 150.42 | 142.95 | 11.0 |

(*) Dispenser No. 2U403 requires 2 D-cell batteries. Not included.




## F-MATIC DISPENSERS

**No. 1CG81 Silver Deluxe Dispenser.** Wall mount or free-standing; covers 15 x 20' area. Dry vapor system disperses botanical odor neutralizers continuously. On/Off switch, ABS plastic construction, and brushed aluminum finish. Requires one D-cell battery (not included). No. 3U610 Dispenser has adjustable fragrance output. On/Off switch. Neutral beige color. No. 3U609 Dispenser features continuous operation and dual cartridge capacity.

## F-MATIC FRAGRANCE CARTRIDGES

Each spillproof solid gel cartridge neutralizes specific odor problems and reduces airborne bacteria. Apple for restrooms: Fruisair (Citrus scent) for mildew, perspiration, and restrooms: Hibiscus for animal, smoke, and garbage odors: Jasmine for hotels, offices, and retail showrooms: Sun Green (Evergreen scent) for healthcare and human odors. Pure botanical formulations are hypo-allergenic and contain no volatile organic compounds (VOC's). Sold in box of 10 cartridges.

| Description | F-Matic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Gel Dispenser (2000 cu. ft. coverage) | RR-1 | 3U610 | $39.07 | $35.20 | 0.8 |
| Gel Dispenser (3000 cu. ft. coverage) | CLASSIC | 3U611 | 33.49 | 30.15 | 0.6 |
| Gel Dispenser (4000 cu. ft. coverage) | NS-1 | 3U609 | 60.16 | 54.15 | 1.2 |
| Silver Deluxe Disp. (3000 cu. ft. coverage) | NR-1 | 1CG81 | 44.51 | 40.10 | 0.8 |
| Apple-Fragrance Cartridge (Box 10) | C-100 | 3U612 | 91.00 | 77.40 | 1.0 |
| Fruisair-Fragrance Cartridge (Box 10) | C-200 | 3U613 | 91.00 | 77.40 | 1.0 |
| Hibiscus-Fragrance Cartridge (Box 10) | C-400 | 3U614 | 91.00 | 77.40 | 1.0 |
| Jasmin-Fragrance Cartridge (Box 10) | C-500 | 3U615 | 91.00 | 77.40 | 1.0 |
| Sun Green-Fragrance Cartridge (Box 10) | C-700 | 3U616 | 91.00 | 77.40 | 1.0 |

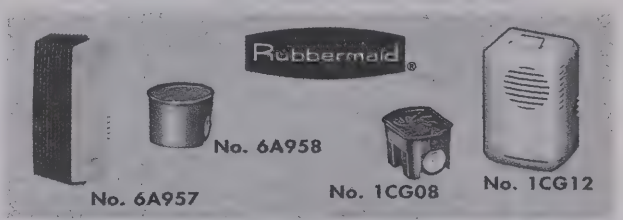



## SeBREEZE® AEROSOLS AND DISPENSERS

Odor control system provides effective odor control automatically, producing a consistent metered spray for up to 3,000 repetitions. Specially designed fragrances provide customer satisfaction, while an "Empty Refill" LED message and back-up audible tone signal when it's time to replace the fragrance canister or battery. Fragrance canisters provide up to 6,000 cubic feet of coverage, and meet US VOC requirements. Two fragrances meet the State of California 30% VOC requirement. Mounting hardware is included.

| Description | Size (Oz.) | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Dispenser (White) | — | 5135 | 4KT36 | $59.50 | $47.60 | 0.8 |
| Spring Garden Fragrance | 7 | 5138 | 4KT38 | 7.30 | 5.84 | 0.3 |
| Citrus Breeze Fragrance | 7 | 5139 | 4KT39 | 7.30 | 5.84 | 0.3 |
| Rain Forest Fragrance | 7 | 5140 | 4KT40 | 7.30 | 5.84 | 0.3 |
| Vanilla Classic Fragrance | 7 | 5141 | 4KT41 | 7.30 | 5.84 | 0.3 |
| Dispenser (White, for use w/4KT42 & 4KT43) | — | 5136 | 4KT37 | 60.50 | 48.40 | 0.8 |
| Spring Garden II Fragrance | 7 | 5142* | 4KT42 | 7.30 | 5.84 | 0.3 |
| Citrus Breeze II Fragrance | 7 | 5143* | 4KT43 | 7.30 | 5.84 | 0.3 |

(*) Meets State of California 30% VOC requirement. Dispensers 4KT36 & 4KT37 require 1 D-cell battery.




## RUBBERMAID SeBREEZE® SYSTEM

System provides efficient, effective odor control automatically. The organic fragrances are specifically designed for commercial odor control applications.

Battery is included with fragrance gel for simple, error-free replacement. Dispenser No. 5M868 features a blinking LED while in use, and an audible tone sounds when. casette needs changing. ABS dispensers can be free standing or wall mounted. Adjustable fan allows for fine tuning fragrance level. Fragrances sold in case of 6 containers.

| Description | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Odor Control Disp. (4800 cu. ft. coverage) | 5114 | 6A957 | $38.48 | $30.80 | 1.0 |
| Odor Control Disp. w/LED | 5115 | 5M868 | 42.84 | 34.30 | 1.2 |
| Powder Fragrance* (Case 6) | 5120 | 6A958 | 43.20 | 34.60 | 2.4 |
| Orange/Lemon Fragrance* (Case 6) | 5121 | 6A959 | 43.20 | 34.60 | 2.4 |
| Jungle Rain Floral Fragrance* (Case 6) | 5119 | 3U669 | 43.20 | 34.60 | 2.3 |
| Dispenser (2400 cu. ft. coverage) | 5116 | 1CG12 | 13.30 | 10.64 | 2.3 |
| Cinnamon Spice Fragrance† (Case 6) | 5134 | 1CG08 | 27.00 | 21.60 | 2.2 |
| Pine Fragrance† (Case 6) | 5133 | 1CG09 | 27.00 | 21.60 | 2.2 |
| Lime Fragrance† (Case 6) | 5131 | 1CG11 | 27.00 | 21.60 | 2.2 |

(*) Fit No. 6A957 dispenser. (†) Fit No. 1CG12 dispenser.

These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# DEODORANTS

## KIL-ODER™ CONCENTRATED WATER-SOLUBLE LIQUID DEODORIZER WITH PROZYME

Use Kil-Oder anywhere odors are a problem. Deodorize the air and surface, or mix into your cleaning solution to give them great deodorizing power. Kil-Oder is a Three-In-One deodorizer with powerful fresh fragrances, odor counteractants, and prozyme--enzyme action.

- **Choose from Five powerful fragrances—Original Cherry Almond, Country Morning, Lemon Burst, Fresh Apple, and Spring Floral.**
- **Built-in Odor Counteractants—prevent odor molecules from entering your sense of smell**
- **Prozyme—natural odor digesting enzymes permanently eliminate tough odors: urine, cigarette smoke, cooking odors, pet odors, vomit, mildew, trash odors and more**
- **Can also be used in daily drain and grease trap maintenance to prevent clogging and reduce odors**

| Description | Size | Stock No. ❸ | Each | | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Original Cherry Almond Deodorizer** | 1 qt. | **3UR40** | **$8.45** | | **$7.61/12** | 2.3 |
| | 1 gal. | **3UR39** | **21.93** | | **19.74/4** | 8.9 |
| | 55 gal. | **3UR42** | **971.50** | | — | 482.0 |
| **Secondary Labels** | Pkg. of 10 | **3UT74** | **3.68** | ▲ | — | 0.1 |
| **Country Morning Deodorizer** | 1 qt. | **3UR58** | **8.45** | | **7.61/12** | 2.3 |
| | 1 gal. | **3UR57** | **21.93** | | **19.74/4** | 9.0 |
| | 5 gal. | **3UR56** | **93.90** | | — | 45.0 |
| | 55 gal. | **3UR59** | **971.50** | | — | 482.0 |
| **Secondary Labels** | Pkg. of 10 | **3UT83** | **3.68** | ▲ | — | 0.1 |
| **Lemon Burst Deodorizer** | 1 qt. | **3UR61** | **8.45** | | **7.61/12** | 2.3 |
| | 1 gal. | **3UR60** | **21.93** | | **19.74/4** | 8.9 |
| | 55 gal. | **3UR62** | **971.50** | | — | 482.0 |
| **Secondary Labels** | Pkg. of 10 | **3UT84** | **3.68** | ▲ | — | 0.1 |
| **Fresh Apple Deodorizer** | 1 qt. | **3UT12** | **8.45** | | **7.61/12** | 2.3 |
| | 1 gal. | **3UT11** | **21.93** | | **19.74/4** | 8.9 |
| | 55 gal. | **3UT13** | **971.50** | | — | 482.0 |
| **Secondary Labels** | Pkg. of 10 | **3UV08** | **3.68** | ▲ | — | 0.1 |
| **Spring Floral Deodorizer** | 1 qt. | **3UT15** | **8.45** | | **7.61/12** | 2.3 |
| | 1 gal. | **3UT14** | **21.93** | | **19.74/4** | 8.9 |
| | 55 gal. | **3UT16** | **971.50** | | — | 482.0 |
| **Secondary Labels** | Pkg. of 10 | **3UV09** | **3.68** | ▲ | — | 0.1 |




## AEROSOL DEODORANTS




## GLADE AIR FRESHENERS

Eliminates strong, persistent odors with a clean fragrance. Use in commercial, industrial, or institutional buildings. Contain no CFCs. Sold in case of twelve 13-oz. aerosol can containers*.

| Name | Description | Glade Model | Stock No. ❸ | List | Case 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **SMOKE ODOR ELIMINATOR** | Cleans the air of stale smoke residue and leaves a fresh clean scent. | 94787 | **3U562** | $48.30 | **$37.35** | 14.0 |
| **SUPER FRESH** | A crisp "breath of fresh air." Clean smelling, with just a hint of cinnamon. | 94782 | **3U563** | 48.30 | **37.35** | 14.0 |

## BALL DRY AIR FRESHENERS

Long-lasting air freshener quickly eliminates unwanted odors. Finely atomized dry spray also neutralizes tobacco odors. No CFC's, VOC compliant. 20-oz. aerosol can containers*. USDA C1.

| Name | Description | Ball Model | Stock No. ❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **NEW BLOSSOM™** | Floral fragrance | 85511 | **3U041** | $5.02 | **$3.41** | **$3.24** | 1.0 |
| **MORNING ORCHARD™** | Green Apple fragrance | 85521 | **3U043** | 5.02 | **3.41** | **3.24** | 1.0 |
| **BAHAMA BREEZE™** | Sugar & Spice fragrance | 85531 | **3U042** | 5.02 | **3.41** | **3.24** | 1.0 |

## FIRE D AFTER-FIRE ODOR CONTROL

Helps remove smoke odors from deep cracks and crevices, or from porous materials. Use bulk liquid (No. 4KN48) undiluted. 6 oz. aerosol can (No. 4KN49) may be used in automobiles or other small areas where a fogging machine is not practical, or as a hand-operated spray gun for concentrated burn areas.

| Description | Size | Case Qty. | Big D Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Fire D One Shot After-Fire Odor Control** | 6 oz. | 12 | 202 | **4KN49** | $60.48 | **$57.60** | 5.0 |
| **Fire D After-Fire Odor Control** | Gal. | 4 | 120200 | **4KN48** | 80.43 | **76.60** | 9.0 |




❸ These products are covered by OSHA Hazard Communications Standard, and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.
(▲) Net prices, not subject to discounts. (*) Size refers to container size. Weight of product may vary.

# URINAL BLOCKS AND SCREENS

## EXTRA-DUTY URINAL SCREEN WITH PARA BLOCK

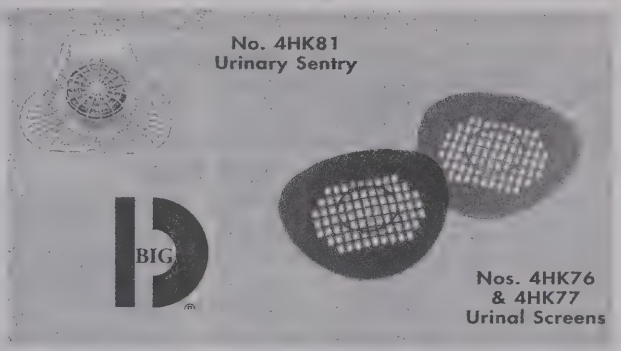
Contains paradichlorobenzene and Big D odor counteractants. Long-lasting combination screen and chemical block to help keep urinals clean and odor free. Lemon fragrance. 12 blocks/case. Big D brand (951).

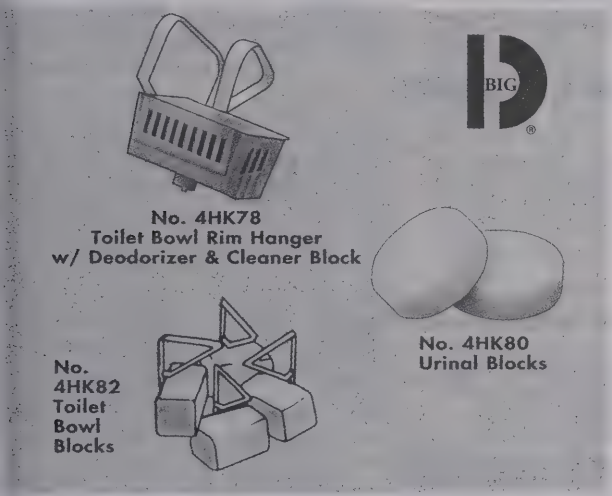
**No. 4HK81.** ❸ Shpg. wt. 4.7 lbs. Case List ..... $32.23
Case Each ..... **$30.70**

## URINAL SCREENS

Long-lasting, scented deodorant screens protect drain from debris while deodorizing the immediate area for up to 45 days. Flexible to fit the shape of all urinals.

| Description | Case Qty. | Big D Model | Stock No. ❸ | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Natural | 12 | 650 | **4HK76** | $24.41 | **$22.16** | 2.0 |
| Cherry | 12 | 652 | **4HK77** | 24.41 | **22.16** | 2.0 |




## TOILET BOWL RIM HANGER WITH DEODORIZER AND CLEANER BLOCK

Plastic clip-on non-para block for cleaning and deodorizing. Cleans, deodorizes, and freshens with every flush. Evergreen scent. 12 blocks per case. Big D brand (675).

**No. 4HK78.** ❸ Shpg. wt. 1.7 lbs. Case List ..... $28.29.
Case Each ..... **$26.95**

## URINAL TOSS BLOCK RESTROOM DEODORIZER

Solid, powerful deodorant block neutralizes urine odors. Contains paradichlorobenzene for long-lasting odor control. Cherry fragrance. 12 4-oz. blocks/case. Big D brand (900).

**No. 4HK80.** ❸❶ Shpg. wt. 3.3 lbs. Case List ..... $9.19.
Case Each ..... **$8.76**

## TOILET BOWL BLOCKS

Freshly scented, long-lasting paradichlorobenzene based deodorant block designed to neutralize bowl odors. Comes with a rust-free plastic hanger. Cherry fragrance. 12 blocks per case. Big D brand (960).

**No. 4HK82.** ❸❶ Shpg. wt. 3.3 lbs. Case List ..... $12.11.
Case Each ..... **$11.54**

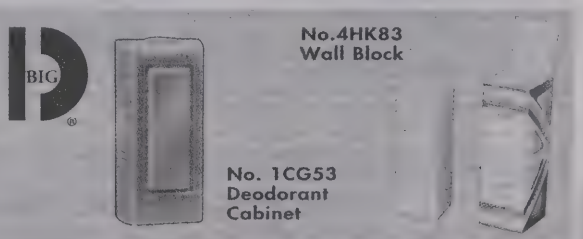
## WALL BLOCKS

Pleasantly perfumed deodorant block in self-contained dispenser carton. Effectively neutralizes all odors. Contains paradichlorobenzene for constant odor control. Cherry fragrance. Six 24-oz. blocks per case. Big D brand (980).

**No. 4HK83.** ❸❶ Shpg. wt. 9.3 lbs. Case List ..... $29.76.
Case Each ..... **$28.35**

**Deodorant Cabinet for Wall Blocks.**

**No. 1CG53.** Shpg. wt. 0.6 lbs. List $5.03. Each ..... **$4.78**




❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
) Size refers to container size. Weight of product may vary.

**DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG
TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# RESTROOM CARE/DISINFECTANTS

## TOILET BOWL CLEANERS

### SHAPE UP®

Thick and clinging non-acid bowl and bathroom hospital type disinfectant. Cleans, disinfects, and deodorizes toilets, tubs, tile, porcelain, grout, fiberglass, and many other surfaces. (EPA Registered) (USDA Authorized C2). 1 qt. Ball brand (45121).

**No. 3U049.** ❸ Shpg. wt. 2.5 lbs. List .....$3.94.
Each **$2.80;** Lots 12.....**$2.66**

### ANY TIME®

A detergent-thickened 9.5% hydrochloric acid toilet bowl cleaner for the daily use and removal of organic material and hard water buildup. Cleans, disinfects, and deodorizes in one step. (EPA Registered) (USDA Authorized C2). 1 qt. Ball brand (45131).

**No. 3U045.** ❸ Shpg. wt. 2.5 lbs. List .....$3.61.
Each **$2.56;** Lots 12.....**$2.43**

### HEAVY HITTER®

A powerful 23% hydrochloric acid bowl cleaner that dissolves tough iron, calcium, and lime stains, leaving bowls and urinals sparkling clean. Ideal for restorative use, in hard water areas and where heavy soil conditions exist. (USDA Authorized C2). 1 qt. Ball brand (45141).

**No. 3U046.** ❸ Shpg. wt. 2.7 lbs. List .....$3.51.
Each **$2.58;** Lots 12.....**$2.45**




## BOWL & BATH CLEANERS

### DOUBLE TIME™

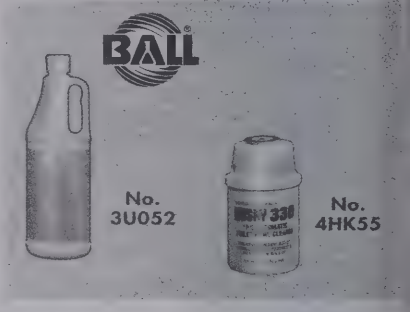
Extra thick detergent-based disinfectant creme cleanser disinfects while it safely removes stubborn organic stains, rust build-ups, grease, oil, soap scum, and more. Mild abrasives for deep cleaning action are safe on porcelain, ceramic tile, stainless steel, brass, fiberglass, and formica. (EPA Registered) (USDA Authorized A6). 1 qt. Ball brand (45311).

**No. 3U052.** Shpg. wt. 2.9 lbs. List.....$4.35.
Each **$3.63;** Lots 12.....**$3.27**

### HUSKY 330

Automatic in-tank bowl cleaner prevents scale build-up, is non-toxic and non-corrosive. Safe for use in septic systems, works well in hard or soft water. Blue color. Twelve 9-oz. containers. Canberra brand (330).

**No. 4HK55.** Shpg. wt. 12.0 lbs. List.....$31.05.
Each .....**$29.55**




## MULTI-SURFACE CLEANER

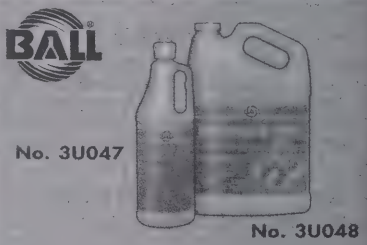
### SANI-SCALE PLUS®

Mild phosphoric acid-based disinfectant bowl and bathroom cleaner for daily maintenance of toilets, tubs, tile, porcelain, grout, and fiberglass. Clings to vertical surfaces for more efficient cleaning action. (EPA Registered) USDA Authorized C2.

| Size | Ball Model | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1-qt. | 45241 | 3U047 | $4.14 | $3.56 | $3.20/4 | 2.7 |
| 1-gal. | 45231 | 3U048 | 13.94 | 11.62 | 10.46/4 | 9.8 |

**10 secondary labels.** (96711)

**No. 2U195.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each .....**$3.75▲**




❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover. (▲) Net prices, not subject to discounts.

### RUTHLESS® GERMICIDAL CLEANER

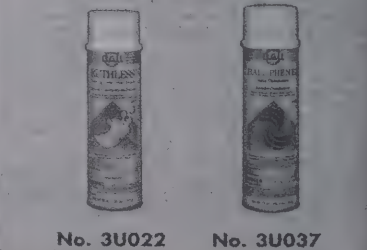
Foaming aerosol disinfects and deodorizes in one step. Disinfects organisms on hard, non-porous, inanimate environmental surfaces. Kills germs that cause flu, pneumonia, staph infections, cold sores, food poisoning, and skin infections. Also effective against Herpes Simplex Type I and II and HIV-1 (AIDS-virus). No CFC's, low VOC's. EPA-registered, hospital-grade disinfectant. 360° valve. (USDA-C2) 20-oz. aerosol can container*. Ball (85411).

**No. 3U022.** ❸ Shpg. wt. 1.5 lbs. List .....$4.07.
Each **$2.95;** Lots 12.....**$2.80**

### BALL-PHENE™ SPRAY DISINFECTANT

Effective phenolic disinfectant for hard surfaces for general hospital use, schools, medical, dental and business offices. Eliminates malodors emitted by human or animal waste, trash receptacles, stale air, smoke, mildew, etc. Effective against Herpes Simplex Type I and II, kills TB and HIV-1 (AIDS-virus). Mildewstat. Fungicidal. EPA-registered formula (USDA-C1). Aerosol contains no CFC's. Ball (35481).

| Size | Ball Model | Stock No. ❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 20 oz. aerosol can* | 85431 | 3U037 | $7.19 | $4.95 | $4.70 | 1.4 |
| 1 qt. bottle | 35481 | 2U287 | 6.46 | 6.15 | 5.53 | 2.5 |



## FOAM BURST™ READY-TO-USE HEAVY-DUTY WASHROOM CLEANER




- **Powerful spray and wipe foaming cleaner and deodorizer for the toughest daily washroom soils**
- **Clinging foam cuts away soap scum build-up, hard water deposits, and oily residues**

Use daily or as needed. Pleasant deodorizing Citrus fragrance. Two special foaming spray nozzles in every case of quarts. Ramsey brand (6085320)

**No. 3UT36.** Shpg. wt. 2.4 lbs. List.....$4.50
Each **$4.28;** Lots 12.....**$3.85**

## SPLASH® SHOWER ROOM CLEANER




Powerful, fast-acting, tri-acid and detergent-based cleaner instantly dissolves soap scum, body oils, urinary salts, and mineral deposits such as lime, calcium, and iron. Cleans grout and controls mildew. (USDA Authorized A3).

| Size (Gal.) | Ball Model | Stock No. ❸ | List | Each | Lots/ Qty | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | 45351 | **3U054** | $15.03 | **$12.53** | **$11.28/4** | 9.8 |
| 5 | 45353 | **3U055** | 70.34 | **58.65** | — | 45.0 |

**10 secondary labels** (96731).

**No. 2U196.** Shpg. wt. 0.2 lbs. List .....$4.70
Each .....**$3.75▲**

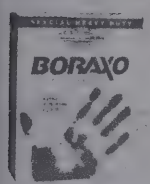
## COMET WITH CHLORINOL®




Disinfects and deodorizes as it cleans. Professional Line Comet wipes out most germs including staph, salmonella, and pseudomonas. Helps remove rust, hard water build-up, and soil stains on hard surfaces. EPA Registered. Sold only in cases of 24 21-oz cans. Comet (08447).

**No. 3U557.** ❸ Shpg. wt. 35.0 lbs. List.....$47.84
Each .....**$33.60▲**

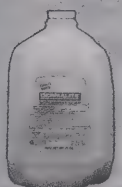
## HAND SOAPS AND DISPENSERS



No. 1CG37



No. 1CG34


No. 3VF50


No. 1CG33



No. 1CG32



No. 3U556



No. 3U554

| Brand | Description | Container Qty. | Mfr./ Model # | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **POWDERED HAND SOAP CLEANERS** | | | | | | | |
| ORAXO POWDERED AND SOAP | Heavy-duty soap contains coarser particles than regular powdered soap. | 5 lb. box 10/case | Dial/ 02303 | **1CG37** | $89.14 | **$75.85** | 56.0 |
| MT POWDERED AND SOAP | Economical blend of soap and borax. Cleans tough grime from hands. Water soluble formulation won't clog drains. | 5 lb. box 10/case | Dial/ 02561 | **1CG34** | 70.89 | **60.35** | 55.0 |
| ERMALITE® CRUBBING SOAP | Concentrated powder soap for medium to heavy-duty jobs. Dry hand cleaner replaces ordinary powder. Works well in all dispensers. | 1 gallon 6/case | GOJO/ 2015 | **3VF50** | 88.74 | **79.90** | 12.0 |
| **POWDERED HAND SOAP DISPENSERS** | | | | | | | |
| IC 36 HAND SOAP SPENSER | All metal construction with white enamel finish. Chrome plated cover swings open for easy filling. | — | Dial/ 03365 | **1CG33** | 40.39 | **34.40** | 3.1 |
| IC 90 HAND SOAP SPENSER | Large capacity; holds up to 12 lbs. of powdered soap. Heavy-duty plastic construction. Refill indicator mark. | — | Dial/ 03808 | **1CG32** | 36.04 | **30.65** | 2.4 |
| **BAR SOAPS** | | | | | | | |
| ORY® | America's favorite bar soap. Rich, thick lather provides a pure, natural kind of clean without added ingredients. | 192 3.1 oz. bars | P&G/ 06869 | **3U556** | 109.63 | **76.85▲** | 36.0 |
| VA® | A heavy-duty, pumice formulated soap for powerful cleaning of tough ground-in grease and grime. | 48- 4 oz. bars | P&G/ 08152 | **3U554** | 70.98 | **49.80▲** | 16.0 |

All products are covered by OSHA Hazard Communications Standard, and Material Safety and Data Sheets (MSDS) are available upon request.
e page opposite inside back cover. (▲) Net prices, not subject to discounts.

# BAG-IN-BOX SOAP DISPENSING SYSTEMS

## DERMAPRO® 800 ML SKIN CARE SYSTEM



No. 5W626

DERMAPRO® 800 ml bag-in-box lotion soap system for office buildings, schools, nursing homes, doctors' and dentists' offices, shower facilities and food service or preparation areas.

Each 800 ml refill cartridge has a built-in valve. No leak, no mess. They fit directly into the attractive DERMAPRO® dispenser for easy, convenient refilling. Up to 1200 washings per cartridge. Refills fit DERMAPRO®, Sani-Fresh and other 800 ml dispensers.



No. 1GG87

| Name | Description | Pack Qty. | GOJO Model | Stock No. ❸ | List | Each Pack | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **DERMAPRO® Dispenser** | Accepts all 800 ml soaps and lotions listed on this page. Pearl white, push, one-hand operation. Easy to install with tape (provided) or fasteners. | 1 | 9034 | **5W626** | $30.00 | **$8.89** | 1.8 |
| **DERMAPRO® Dispenser** | Same as No. 5W626 above except Black color. | 1 | 9033 | **1GG87** | 30.00 | **8.89** | 1.5 |

### [A] LOTION SKIN CLEANSER

Pearlized pink formula, mild and rich lathering. Cleans hands gently. Concentrated for extra value. Recommended for general purpose restroom use. Sold in packages of 12. GOJO brand (9112).

**No. 3U523.** ❸ Shpg. wt. 25.0 lbs. List.....$60.12.
Each.....**$49.85**

### [B] ENRICHED LOTION SOAP

Rich, natural gold lotion soap combines coconut oil with moisturizers to condition skin. Gentle cleaning for even sensitive skin. Recommended for offices. Sold in packages of 12. GOJO brand (9102).

**No. 3U522.** ❸ Shpg. wt. 25.0 lbs. List.....$65.64.
Each.....**$59.10**

### [C] FOOD INDUSTRY E2 LOTION SOAP

Pleasant-to-use sanitizing soap. Hands need not be chlorine dipped after using. USDA E2 authorized for federally inspected meat and poultry plants. Sold in packages of 12. GOJO brand (9132).

**No. 3U524.** ❸ Shpg. wt. 25.0 lbs. List.....$73.08.
Each.....**$65.80**

### [D] SPA BATH® BODY AND HAIR SHAMPOO

Rich, high-sudsing pink gel for shower room or sink use. Does not leave soap scum on walls. Helps meet OSHA hygiene regulations for industries handling lead, arsenic, cadmium, metals and asbestos. Aloe, vitamin E emollients, conditioners. Sold in packages of 12. GOJO brand (9152).

**No. 2HC08.** ❸ Shpg. wt. 25.0 lbs. List.....$65.52.
Each.....**$59.00**

### [E] MEDICATED SKIN LOTION

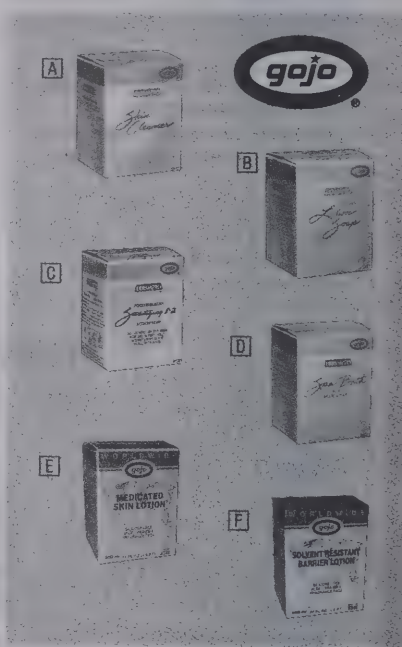
Silicone-free medicated lotion is designed to help prevent chapping and dermatitis. Sold in packages of 6. GOJO brand (8240).

**No. 2HC02.** ❸ Shpg. wt. 12.0 lbs. List.....$40.86.
Each.....**$36.80**

### [F] SOLVENT RESISTANT BARRIER LOTION

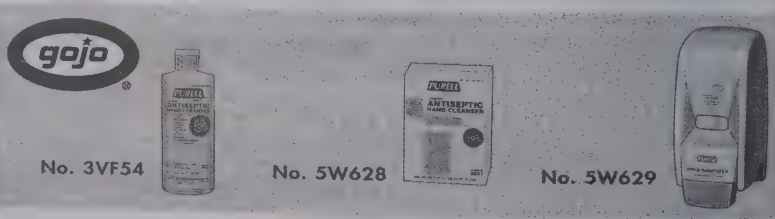
Helps protect skin from solvent-based irritants. Silicone-free. Non greasy. Sold in packages of 6. GOJO brand (8246).

**No. 1GG88.** ❸ Shpg. wt. 11.0 lbs. List.....$74.94.
Each.....**$67.45**




## PURELL® INSTANT HAND SANITIZING

Instant hand sanitizer helps in reducing the risk of hand-spread disease. Ideal for food service, health care facilities, schools, daycare centers, municipalities, and emergency response teams.



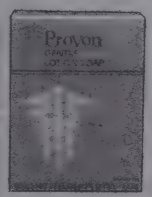

No. 3VF54 No. 5W628 No. 5W629

| Name | Description | Pack Qty. | GOJO Model | Stock No. ❸ | Pack List | Pack Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Instant Hand Sanitizer** | Eliminates 99.9% of most disease-causing germs within 15 seconds. Mild formula for frequent use without irritation. Use at work stations. Helps employers meeet OSHA Bloodborne Pathogens Standards. (Title 29 Code of Federal Regulations, Part 1910, Vol. 56, No. 235, 112/6/91) OSHA Enforcement of Federal Regulations, Part 1910, Vol. 56, No. 235, 12/6/91.) OSHA Enforcement of Engineering Work Practices under this standard beginning July 6, 1992. | 6 | 9656 | **5W628** | $44.28 | **$35.95** | 11.0 |
| **Dispenser** | Dispenser for Antiseptic Hand Cleaner/Instant Hand Sanitizer. | 1 | 9621 | **5W629** | 30.00 | **7.11** | 1.8 |
| **Instant Hand Sanitizer** | 4-oz. pocket-size squeeze bottle. Handy for medical carts, mobile health care units, and sanitation job sites. Sanitize hands without going to a sink. | 24 | 9651 | **3VF54** | 48.48 | **43.65** | 7.0 |

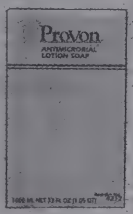
❸These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# HAND SOAPS/SKIN CARE

## PROVON® SKIN CARE SYSTEM



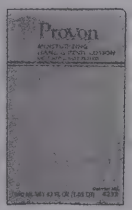

No. 3U526



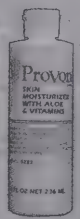

No. 3U532



No. 2U411




No. 3U533




No. 3U537

[elps hospitals, nursing homes, and clinics comply with CDC, .PIC and OBRA handwashing guidelines for the reduction of osocomial infections. Formulated for exceptional mildness, as ell as efficacy, to help maintain healthy skin (the body's natural barrier to infection). Packaged in sealed, sanitary refills for use in trouble-free PROVON® Brand 1000 ml Soap Dispensers to help your facility control infection, quality and cost. (All PROVON® Brand lotion soaps are also available in 800 ml refills.)

| Name | Description | Size Container | Qty. | Provon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| ENTLE LOTION OAP | Exceptionally mild hand soap for healthcare professionals to encourage compliance with CDC, APIC and OBRA guidelines for the prevention of nosocomial infections. Dermatologist tested. | 1000 ml | 10 | 4222 | **3U530** | $81.70 | **$69.45** | 23.0 |
| | | 800 | 12 | 4228 | **3U526** | 81.60 | **69.40** | 24.0 |
| ILD LOTION OAP | Mild lotion soap for healthcare personnel and patient use. Dermatologist tested. | 800 | 12 | 4008 | **3U528** | 69.60 | **59.20** | 24.0 |
| EDICATED TION SOAP | Medicated soap combining natural soaps and synthetic cleansers with a protein complex. Dermatologist tested. | 1000 | 10 | 4202 | **3U531** | 84.10 | **71.50** | 23.0 |
| | | 800 | 12 | 4208 | **3U527** | 84.12 | **71.55** | 24.0 |
| NTIMICROBIAL TION SOAP | Highly effective mild antimicrobial soap with PCMX, a broad spectrum degerming agent. Dermatologist tested. | 1000 | 10 | 4212 | **3U532** | 68.30 | **49.85** | 23.0 |
| | | 800 | 12 | 4218 | **3U525** | 68.28 | **58.05** | 24.0 |
| | | 1 gal. | 4 | 4216 | **3U545** | 77.43 | **65.90** | 40.0 |
| ROVON® 800 ML SPENSER | Accommodates PROVON 800 ml refill cartridge. | — | 1 | 4021 | **2U411** | 30.00 | **8.89** | 1.8 |
| ROVON® 1000 ML SPENSER | Accommodates PROVON 1000 ml refill cartridge. | — | 1 | 4022 | **3U529** | 30.00 | **8.89** | 1.8 |
| ARLESS SHAMPOO BODY WASH | Exceptionally gentle, effective and moderate lathering tearless shampoo and total body cleanser. Dermatologist tested. | 2000 ml | 4 | 4032 | **3U535** | 77.84 | **66.20** | 21.0 |
| | | 1 gal. (flat top) | 4 | 4405 | **3U547** | 97.00 | **82.45** | 40.0 |
| | | 1 gal. | 4 | 4406 | **3U543** | 97.00 | **82.45** | 40.0 |
| | | 10 oz. | 24 | 4402 | **3U539** | 70.56 | **60.00** | 19.0 |
| RICHED SHAMPOO R BODY & HAIR | Mild skin cleanser and luxurious shampoo for body and hair with a rich, clean rinsing lather. Dermatologist tested. | 2000 ml | 4 | 4033 | **3U536** | 58.92 | **50.10** | 21.0 |
| | | 1 gal. (flat top) | 4 | 4015 | **3U548** | 72.92 | **62.00** | 40.0 |
| | | 1 gal. | 4 | 4016 | **3U549** | 72.92 | **62.00** | 40.0 |
| | | 10 oz. | 24 | 4012 | **3U540** | 63.60 | **54.10** | 19.0 |
| OVON® 2000 ML SPENSER | Accommodates PROVON Brand 2000 ml refill cartridge. | — | 1 | 4031 | **3U534** | 22.00 | **15.00** | 3.0 |
| ANK-TYPE LOTION SPENSER | Accommodates flat top gallon containers. | — | 1 | 1275 | **6Z933** | 36.10 | **34.40** | 3.0 |
| OISTURIZING ND & BODY TION | A balanced and dermatologist tested blend of moisturizers and skin conditioners which conditions delicate skin and inhibits dryness. | 1000 ml | 10 | 4233 | **3U533** | 87.10 | **74.05** | 23.0 |
| | | 1 gal. | 4 | 4236 | **3U546** | 99.20 | **84.35** | 40.0 |
| IN MOISTURIZER ITH ALOE VITAMINS | An emollient, aloe and vitamin enriched lotion specifically formulated to help keep skin well lubricated and moisturized. | 8 oz. | 24 | 4252 | **3U537** | 27.12 | **23.05** | 14.0 |
| RICHED LOTION EANSER | A mild, rich lathering pink lotion skin cleanser. Dermatologist tested. | 1000 ml | 10 | 4017 | **1GG95** | 63.70 | **54.15** | 25.0 |

## SENSOR SOAP DISPENSER

**frared motion sensor** recognizes hand presence with 4" range. ispenser releases approximately 0.7cc of soap per pumping :tion with a 1-second response time. Requires 4 "D" alkaline bat-ries, not included. Battery life approximately 1 year with normal sage. Ideal for food service and healthcare applications. ccomodates most types of 800-ml bag-in-box soaps. Impact and (9360).

**. 4HJ62.** Shpg. wt. 2.0 lbs. List $69.46. Each ..... $66.15



No. 4HJ62

# INDUSTRIAL SKIN CARE SYSTEM

## GOJO® PRO DISPENSER SYSTEMS




GOJO® skin conditioning hand cleaners, skin lotions, and barrier lotions all work together to remove irritants, help reduce risk of dermatitis, and protect against cracked, dry and irritated skin.

GOJO® PRO 2000 and PRO 5000 SYSTEMS. GOJO® PRO systems provide dependable, maintenance-free operation in industrial, service, repair, maintenance or commercial environments. Both systems provide metered portion controlled dispensing. Push, one hand operation. Easy to install with supplied adhesive mounting system. Choose the PRO 2000 with over 2000 uses per refill cartridge for small and medium sized shops. Use the PRO 5000 with over 5000 uses per refill for high volume wash up areas.

GOJO® PRO 2000 and PRO 5000 REFILL CARTRIDGES. GOJO® professional skin care formulas quickly, effectively, and safely remove irritants. Each refill has a new dispensing valve for dependable operation. Refills are sanitary sealed. Messy soap reservoirs are eliminated.

### GOJO® PRO 2000 DISPENSER

Portion control dispenser for GOJO PRO 2000 ml refill cartridges (7200).

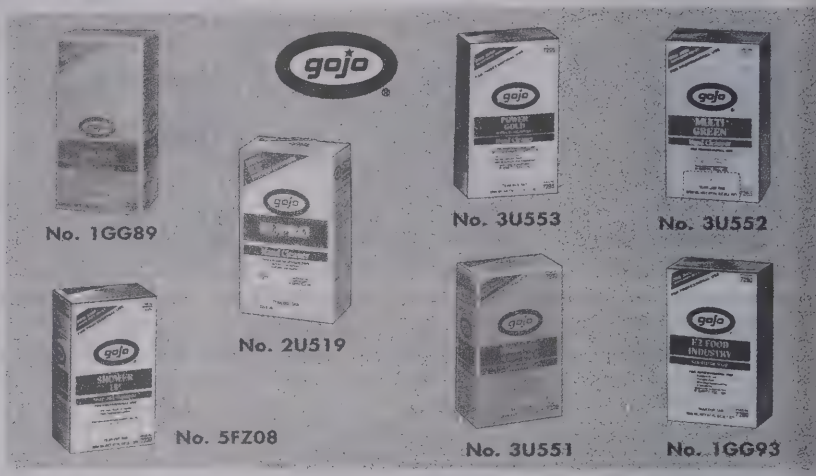
**No. 3U515.** Shpg. wt. 3.0 lbs. List.....$22.00.
Each ..... **$15.00**

### GOJO® PRO 5000 DISPENSER

Portion control dispenser for GOJO PRO 5000 ml refill cartridges (7500).

**No. 3U550.** Shpg. wt. 12.0 lbs. List.....$22.00.
Each ..... **$16.50**

## GOJO® HAND CLEANERS




### GOJO® NATURAL* ORANGE HAND CLEANER WITH PUMICE

Fast cleaning, mild hand cleaner for removing medium to heavy-duty soils. Scrubbing particles for added cleaning power.

| PRO System | GOJO Model | Pkg. Qty. | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2000 | 7255 | 4 | 1GG92 | $56.64 | $51.00 | 21.0 |
| 5000 | 7556 | 2 | 1GG89 | 55.50 | 45.95 | 24.0 |

(*)Natural citrus formula contains no petroleum solvents.

### GOJO® SUPRO™ HAND CLEANER

For difficult soils like adhesives, sealants, epoxies, and inks. Also cleans grease and grime. Use with water. Mild, non-irritating formula. Advanced soft scrubber system for enhanced cleaning. Will not clog drains. With aloe and Vitamin E. No. 3U517 fits Stockhausen dispenser and other dispensers. Pkg. quantity: No. 2U517, 4; No. 2U519, 2; No. 3U517, 1.

| Size (ml) | GOJO Model | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2000 | 7275 | 2U517 | $74.44 | $67.00 | — | 21.0 |
| 5000 | 7575 | 2U519 | 74.46 | 67.05 | — | 12.0 |
| 2000 | 7092 | 3U517 | 18.39 | 16.55 | $14.90/6 | 5.0 |

### GOJO® SHOWER UP

A high-sudsing premium deodorant soap for body, hair and facial use. Enriched with conditioners and moisturizers, aloe and Vitamin E. Free rinsing. Light copper color and floral fragrance.

| PRO System | GOJO Model | Pkg. Qty. | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2000 | 7230-04 | 4 | 5FZ08 | $47.64 | $42.90 | 21.0 |
| 5000 | 7530-02 | 2 | 1GG90 | 45.36 | 40.85 | 24.0 |

### GOJO® POWER GOLD™ WITH CRUSHABLES®

Cleans heavy grease, tar, sludge and grime. CRUSHABLES scrubbing particles help break up and absorb dirt. Will not clog drains.

| PRO System | GOJO Model | Pkg. Qty | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2000 | 7295 | 4 | 3U518 | $71.76 | $64.60 | 21.0 |
| 5000 | 7596 | 2 | 3U553 | 69.66 | 62.70 | 12.0 |

### GOJO® MULTI-GREEN™

Multi-duty soap for plant-wide use. Natural citrus base, fresh lime fragrance. With scrubbing particles. Contains emollients and conditioners. Will not clog drains.

| PRO System | GOJO Model | Pkg. Qty. | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2000 | 7265 | 4 | 3U516 | $67.72 | $60.95 | 21.0 |
| 5000 | 7565 | 2 | 3U552 | 65.16 | 58.65 | 12.0 |

### GOJO® FOOD INDUSTRY SANITIZING LOTION SOAP

One-step handwashing and sanitizing soap. Authorized by the USDA for use in federally inspected meat and poultry plants (USDA Authorized E2).

| PRO System | GOJO Model | Pkg. Qty. | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2000 | 7280 | 4 | 1GG91 | $68.04 | $61.25 | 21.0 |
| 5000 | 7580 | 2 | 1GG93 | 65.40 | 58.90 | 25.0 |

### GOJO® RICH PINK ANTIBACTERIAL LOTION SOAP

Antibacterial PCMX helps kill germs from hands. Contains aloe and Vitamin E.

| PRO System | GOJO Model | Pkg. Qty. | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2000 | 7220 | 4 | 5FZ07 | $38.92 | $35.05 | 21.0 |
| 5000 | 7520 | 2 | 3U551 | 37.08 | 33.40 | 12.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# GOJO® HEAVY-DUTY WATERLESS HAND CARE




Nos. 3VF47 & 6Z631

No. 6Z635 on Dispenser No. 5W760 (Sold Separately)

GOJO® heavy-duty hand cleaners clean the heaviest grease, tar, and grime without the use of harsh solvents. Fresh citrus scent. Skin conditioning formulas have emollients and conditioners. Choose from a variety of sizes and dispensers to meet all types of heavy-duty cleaning needs. GOJO NATURAL* ORANGE lotion hand cleaner is a petroleum-free citrus formula and has scrubbing pumice to deep clean, plus lanolin, aloe, and jojoba to help protect hands. GOJO LEMON and GOJO LEMON WITH PUMICE cremes clean thoroughly with or without water.

## GOJO® LEMON HAND CLEANER

Rich creme waterless style hand cleaner with a fresh lemon scent. No harsh solvents. Effectively removes heavy-duty grease and grime. Vitamin E, aloe, and lanolin condition hands and help reduce chapping and irritation.

**ORDERING DATA**

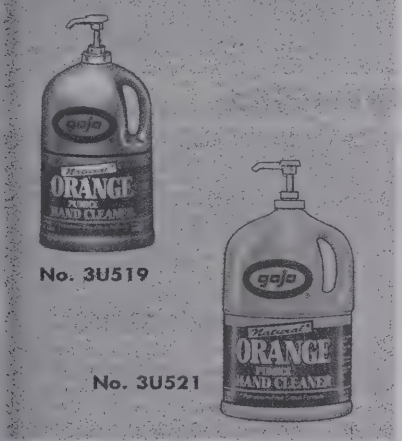
| Size | GOJO Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4½ lb. | 0905 | 6Z632 | $11.88 | $10.10 | 5.0 |
| 22 oz. | 0903 | 6Z631 | 5.80 | 5.22 | 1.5 |

## GOJO® LEMON HAND CLEANER WITH PUMICE

Rich creme waterless style heavy-duty hand cleaner with pumice removes tough ground-in grease and grime. Fresh lemon scent. No harsh solvents. Vitamin E, aloe, and lanolin. Conditions hands to help reduce chapping and irritation.

**ORDERING DATA**

| Size | GOJO Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4½ lb. | 0915 | 6Z635 | $12.45 | $10.58 | 5.0 |
| 22 oz. | 0913-Pk 12 | 3VF47 | 72.72 | 65.45 | 18.0 |




No. 3U519

No. 3U521

## WATERLESS HAND CLEANER DISPENSER

Push-type dispenser accommodates 4½ lb. cartridges of GOJO heavy-duty hand cleaners and many other brands. GOJO (1204).

**No. 5W760.** Shpg. wt. 1.0 lbs. List $18.40. Each ..... $15.24

## GOJO® NATURAL* ORANGE HAND CLEANER WITH PUMICE

A fast cleaning, mild petroleum-free citrus hand cleaner for medium and heavy dirt. Contains deep scrubbing pumice. With aloe, lanolin and jojoba. Quick-rinsing. Clean, fresh scent.

**GOJO ® NATURAL* ORANGE HAND CLEANER W/ PUMICE ORDERING DATA**

| Pump Size | GOJO Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 gal. | 0954 | 3U519 | $11.06 | $9.95 | 4.7 |
| 1 gal. | 0955 | 3U521 | 17.76 | 15.98 | 8.3 |

(*) Petroleum-free citrus formula

# GOJO® MEDICATED SKIN AND BARRIER LOTIONS




No. 3VF52 Water Resistant Barrier Lotion

No.2HC09 Paint & Stain Hand Cleaner

| Description | Size | GOJO Model | Stock No. | List | Pack Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **GOJO Medicated Skin Lotion** | | | | | | | |
| Medicated lotion, silicone free. Helps prevent chapping and dermatitis. Case 24 | 5 oz. | 8140 | 3VF51 | $62.64 | $56.40 | — | 9.5 |
| **Water Resistant Barrier Lotion** | | | | | | | |
| Water resistant lotion with silicone. Helps protect against aqueous solutions. Case 24. | 5 oz. | 8144 | 3VF52③ | 72.00 | 64.80 | — | 9.5 |
| **Solvent Resistant Barrier Lotion** | | | | | | | |
| Solvent resistant lotion, silicone free. Helps protect against solvents and grease. Case 24 | 5 oz. | 8146 | 3VF53③ | 68.88 | 62.00 | — | 9.5 |
| **Paint & Stain Hand Cleaner** | | | | | | | |
| Quickly and safely removes all types of oil-base and latex paints, adhesives and sealants. Skin conditioning formula. | 22 oz. | 1018 | 2HC09③ | 15.00 | 13.50 | $12.15 | 2.0 |

These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# LIQUID HAND SOAPS AND DISPENSERS

## ALL PURPOSE LOTION SOAP

Rich natural soap intended for light industrial use. Concentrated formula. 1 gallon. Suitable for use in undercounter dispensers. GOJO® brand (1807).

**No. 5W208.** ❸ Shpg. wt. 9.0 lbs. List.....$9.74. Each **$8.76**; Lots 6.....**$7.89**

## CASTILLIAN LOTION SOAP™

A gentle, natural soap with pure coconut oil and special moisturizing emollients. Pearlized gold color; floral fragrance. Concentrated.

| Size Gal. | GOJO Model | Stock No.❸ | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | 1837 | **2U137** | $11.66 | **$6.67** | **$6.34** | 9.0 |
| 55 | 1839 | **2U138** | 413.62 | **319.25** | — | 462.0 |

## DERMAPRO® SPA BATH™

A high-sudsing premium deodorant soap for body, hair and facial use. Enriched with conditioners and moisturizers, aloe and vitamin E. Free rinsing. Light copper color, floral fragrance.

| Size Gal. | GOJO Model | Stock No.❸ | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | 9157 | **2U133** | $11.64 | **$10.61** | **$9.56** | 9.0 |
| 55 | 9159 | **2U134** | 544.63 | **494.75** | — | 462.0 |
| Flat top (Case 4) | 9155 | **5FX70** | 73.70 | **66.40** | — | 36.0 |

## LOTION CREAM SOAP

Moisture rich formula contains blend of herbs, botanicals and plant extracts. Dermatologist tested. USDA E-1 authorized. Pearlized light pink color, light herbal fragrance.

| Size Gal. | GOJO Model | Stock No.❸ | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | 1827 | **2U135** | $8.74 | **$6.75** | **$6.41** | 9.0 |
| 55 | 1829 | **2U136** | 450.00 | **324.50** | — | 462.0 |
| Flat top (Case 4) | 1825 | **3JT18** | 45.60 | **41.15** | — | 36.0 |

## MICRELL® ANTI BACTERIAL LOTION SOAP

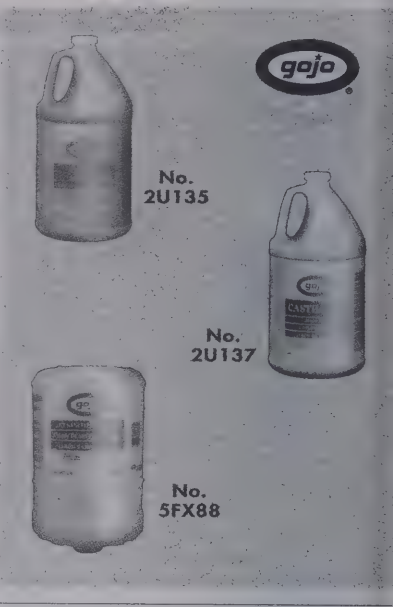
Formulated with a quick-acting antimicrobial agent. Conditions and moisturizes. Amber color; citrus fragrance. Micrell® brand (9755).

**No. 5FZ25.** ❸ Shpg. wt. 36.0 lbs. List.....$51.02. Each.....**$46.00**

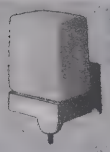
## E-2 SANITIZING SOAP

E-2 authorized by the USDA for use in federally inspected meat and poultry plants. One-step handwashing and sanitizing soap eliminates the need for chlorine dip. Clear; fragrance free. GOJO® brand (1895).

**No. 5FX88.** Shpg. wt. 36.0 lbs. List.....$97.61. Each.....**$87.90**




# BOBRICK LIQUID HAND SOAP DISPENSERS


No. 2U325


No. 2U330


No. 2U328

## LIQUIDMATE®

Large capacity. Non-corroding valve dispenses thin, free-flowing soaps. Valve operates with less than 5 lbs. of force. Complies with ADA Accessibility Guidelines. Theft resistant polyethylene containers. Not for use with Antimicrobial or Antibacterial soap. Not for use with liquid soaps listed above.

| Cap. (fl. oz.) | Bracket Mounting | Bobrick Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 24 | Chrome Plated | B-155 | **2U325** | $15.73 | **$14.94** | 1.0 |
| 24 | Beige | B-156 | **2U326** | 9.94 | **9.44** | 0.6 |

## SURFACE-MOUNTED

A Corrosion-resistant, self-cleaning push-in valve dispenses viscous to thin free-flowing soaps, lotions and synthetic detergents. Valve operates with less than 5 lbs. of force. Complies with ADA accessibility Guidelines. Vandal resistant lid. Easy top filling. Black/gray color. Not for use with Antimicrobial or Antibacterial soap.

B Same valve as No. 2U328, but has extra-large plastic container for high-volume use. Valve operates with less than 5 lbs. of force. Complies with ADA Accessibility Guidelines. Oversized opening for quick top filling. Opaque white color. Not for use with Antimicrobial or Antibacterial soap.

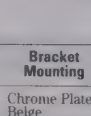
| Key | Cap. | Bobrick Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 40 fl. oz. | B-40 | **2U328** | $23.10 | **$21.95** | 1.0 |
| B | 1½ gal. | B-60 | **2U327** | 63.82 | **60.70** | 1.7 |

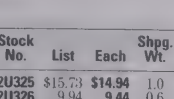
## CONTURA™ SERIES

A Surface mounted. 20 gauge stainless steel construction. Corrosion-resistant valve dispenses liquid soaps, lotions and detergents. Concealed wall fastening. Locked, hinged filler-top. Valve operates with less than 5 lbs. of force. Complies with ADA Accessibility Guidelines. Vandal resistant. Not for use with Antimicrobial or Antibacterial soap.

B Lavatory mounted. Non-corroding valve dispenses liquid soaps, lotions and detergents. Valve operates with less than 5 lbs. of force. Complies with ADA Accessibility Guidelines. Top filling. Concealed locking feature. Not for use with Antimicrobial or Antibacterial soap.

| Key | Cap. | Bobrick Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 40 fl. oz. | B-4112 | **2U329** | $61.73 | **$58.70** | 1.9 |
| B | 34 fl. oz. | B-822 | **2U330** | 40.39 | **38.40** | 1.0 |


No. 6Z638


No. 6Z933

## FLAT TOP SOAP AND DISPENSER

| Product Name | Description | Size | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Thick Pink Antiseptic Lotion Soap** | Pink antiseptic lotion soap for 6Z933 dispenser (flat top gallon container) | 1 gal. | GOJO™ 1845 | **6Z638**❸ | $12.55 | **$11.30** | 9.0 |
| **Crank-Type Lotion Dispenser** | Crank-type lotion soap dispenser for flat top gallon container | 1 Dispenser | Impact 1300 | **6Z933** | 36.10 | **34.40** | 3.0 |

❾ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# GOJO 500ml REFILL CARTRIDGES, HAND TOWELS AND WIPING CLOTHS

## MICRELL® ANTIBACTERIAL SOAP

**NewNo. 4MK61.** Six 500 ml. cartridges (9517-06). Shpg. wt. 8.0 lbs. List $33.30. Each ..... $30.00

**NewNo. 4MK62.** Eighteen 500 ml cartridges (951718). Shpg. wt. 23.0 lbs. List ..... $67.68. Each ..... $60.95

## PROVON® ANTIMICROBIAL LOTION SOAP

**NewNo. 4MK55.** Eighteen 500 ml cartridges/case. (455-18). Shpg. wt. 23.0 lbs. List $82.22. Each ..... $74.05

## GOJO® EMERALD HAND AND FACIAL CLEANSER

**NewNo. 4MK63.** Eighteen 500 ml cartridges (9538-18). Shpg. wt. 23.0 lbs. List $61.92. Each ..... $55.75

## GOJO® LOTION SKIN CLEANSER

**NewNo. 4MK65.** Six 500 ml cartridges (9553-06). Shpg. wt. 8.0 lbs. List $33.30. Each ..... $30.00

**NewNo. 4MK66.** Eighteen 500 ml cartridges (9553-18). Shpg. wt. 23.0 lbs. List $67.68. Each ..... $60.95

## GOJO® SPA BATH FOR BODY & HAIR

**NewNo. 4MK64.** Eighteen 500 ml cartridges (9542-18). Shpg. wt. 23.0 lbs. List $70.02. Each ..... $63.05

## GOJO® MOISTURIZING HAND CREAM

**NewNo. 4MK67.** Six 500 ml cartridges (9560-06). Shpg. wt. 8.0 lbs. List $32.22. Each ..... $29.00

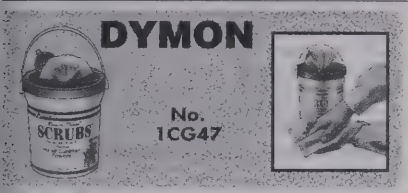
## PURELL® INSTANT SANITIZER

**NewNo. 4MK68.** Six 500 ml refill cartridges (9626-06). Shpg. wt. 8.0 lbs. List $37.92. Each ..... $34.15




## DYMON

No. 1CG47




## SCRUBS® WATERLESS HAND CLEANER TOWELS

Fast, easy, and effective one-step hand cleaner for removing grease, tar, graphite, even printers' ink. Premoistened towels contain germ fighters and need no rinsing or drying. Leave no residue. Self-contained package allows convenient one-at-a-time dispensing. Each dispensing canister contains 72 10½ x 12¼" perforated towels. Dymon brand (422C-072).

**No. 1CG47.** Shpg. wt. 2.9 lbs. List $13.32. Each ..... $12.66

## SCRUBS® GRAFFITI & SPRAY PAINT REMOVER

Combine a high-quality graffiti & spray paint remover formula and a highly absorbent, non-scratching, abrasive towel. Works on hard non-porous surfaces, such as aluminum, plastic, stainless steel, glass, Plexiglas, vinyl, steel and more. For use on subways, phone booths, restrooms, signs, schools, trains, buses, vehicles, billboards. Contains 30 10½ x 12¼" perforated removers. Dymon brand (901.030).

**No. 4HK51.** Shpg. wt. 1.4 lbs. List $9.21. Each ..... $8.75

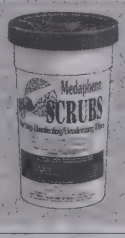



## DYMON

No. 4HK51

## DYMON

No. 4HK52




## MEDAPHENE® SCRUBS®
### DISINFECTING/DEODORIZING WIPES

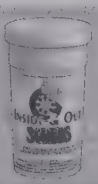
Designed to disinfect & deodorize hard non-porous surfaces in one-step, with no overspray or formula waste. Fungicidal, Pseudomonacidal, Tuberculocidal (TB), Bactericidal & Virucidal. Kills Herpes Simplex Virus Type 1 & 2, Influenza A2 (Hong Kong) & HIV-1 (Aids Virus). Contain a non-scratching, abrasive wipe that breaks through the Biofilm where germs breed, allowing the wipe to disinfect and deodorize the organic debris present on surface. EPA Registered. Patented phenolic/gluteraldehyde based formula. Non-alcohol. Contains 65 6.0 x 10⅛" perforated wipes. Dymon brand (903.065)

**No. 4HK52.** Shpg. wt. 2.2 lbs. List $7.68. Each ..... $7.30

## INSIDE & OUT SCRUBS®
### VINYL, RUBBER & LEATHER PROTECTANT CLOTHS

Combine a high-quality cleaner/protectant formula and a highly absorbent, non-scratching, abrasive cloth. Leaves treated surface with a glossy protective finish. No unwanted overspray. For use on dashboards, tires, bumpers, upholstery, moldings, vinyl seats, exercise equipment, vinyl tops, naugahyde and more. Use for home, car, boat, RV, plane, bike, health club. Contains 30 9¾ x 10½" perforated cloths. Dymon brand (905.030).

**No. 4HK53.** Shpg. wt. 1.2 lbs. List $7.37. Each ..... $6.96

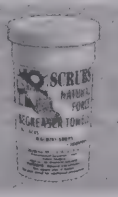



## DYMON

No. 4HK53

## DYMON

No. 4HK54




## SCRUBS® NATURAL FORCE® DEGREASER TOWELS

A degreasing & deodorizing system for use on tools, range hoods, parts, equipment, tile walls, workbenches, stainless steel, engines and more. Combines a biodegradable, non-corrosive citrus based (d-limonene) degreaser formula with a highly absorbent, non-scratching, abrasive towel. Effective in breaking down oil, grease, ink, tar, and adhesives without redepositing contaminants on hands, clothing or surfaces. (USDA-C1) Contains 30 10½ x 12¼" perforated towels. Dymon brand (906.030).

**No. 4HK54.** Shpg. wt. 1.4 lbs. List $8.18. Each ..... $7.77

## DOMINATE®

Highly concentrated alkaline and butyl based, degreaser/cleaner. Works where other degreasers fail. Contains corrosion inhibitors. (USDA-A4)

| Container | Stock No.❸ | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 gallon | 2U012* | $14.78 | $10.40 | $9.88/4 | 9.5 |
| 5 gallon | 2U013 | 73.89 | 52.05 | — | 45.0 |
| 55 gallon | 2U014 | 813.20 | 573.00 | — | 495.0 |

**10 secondary labels** (96451).

**No. 2U185.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each.....$3.75▲




No. 2U012 No. 2U025

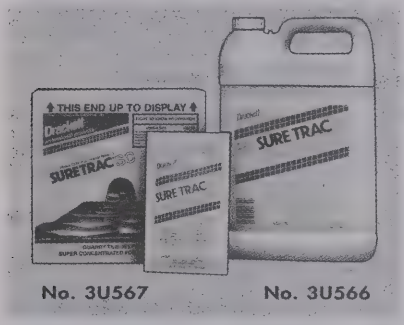
## CAPT COURAGEOUS® CLEANER/DEGREASER

Heavy-duty, non-butyl, concentrated food soil degreaser and heavy-duty cleaner. Effectively removes animal fats and grease build-up from hard surfaces. Dilutes up to 1:64. (USDA-A1)

| Size | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 gallon | 2U025 | $10.63 | $6.81 | $6.47 | 9.5 |
| 5 gallon | 2U026 | 42.53 | 27.25 | — | 45.0 |
| 55 gallon | 2U027 | 468.12 | 299.75 | — | 495.0 |

**10 secondary labels** (96451).

**No. 2U188.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each.....$3.75▲




No. 3U567 No. 3U566

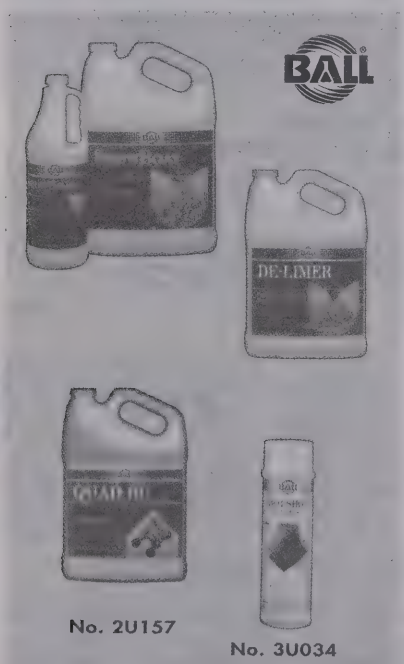
## SURE TRAC™ QUARRY TILE CLEANER

**Sure Trac™ Liquid Deep Cleaner.** Effective way to get food service floors clean and grease-free. Sure Trac penetrates into pores, cracks, and grout lines, which typically soak up grease and oils on food service area floors, and emulsifies/lifts grease away. Use on quarry, resilient, and ceramic tile as well as brick and vinyl floors. Contains no annoying fragrances and is phosphate-free. (USDA-A4)

**Sure Trac™ SC Pre-Measured Pouch Packs.** Super-concentrated 3-oz. packs of Sure Trac cleaner listed at left. 3-oz. packs simplify product handling, minimize waste, and control floor cleaning cost. For mop and bucket use. (USDA-A4)

- **Biodegradable and can be used with hot or cold water**
- **Helps increase slip-resistant properties**

| Size | Sure Trac Model | Stock No. ❸ | List | Each | Lots/ Qty | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 36 - 3 oz. | 90642 | 3U567 | $56.51 | $43.70 | $39.33/4 | 8.5 |
| 1 gal. | 90632 | 3U566 | 16.18 | 12.50 | 11.25/2 | 9.7 |




No. 2U157 No. 3U034

## SHOWBOAT® DISHWASHING LIQUID

Concentrated, free-rinsing, premium dishwashing liquid detergent for manual dishwashing of dishes, pots, pans and kitchen utensils. Rich long-lasting suds. May be used as a general purpose cleaner in soft or hard water.

| Size | Stock No. ❸ | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 qt. | 2U119 | $5.01 | $4.01 | $3.61/12 | 2.3 |
| 1 gal. | 2U116 | 14.44 | 11.56 | 10.40/4 | 9.5 |
| 5 gal. | 2U117 | 68.61 | 54.90 | — | 45.0 |

## QUAD-10™ FOOD SERVICE SANITIZER

Powerful, multi-use, super-concentrated sanitizer for hard surfaces. Formulated for use in food processing plants, restaurants, schools, hospitals, nursing homes. Also controls mold and mildew on pre-cleaned, hard, non-porous surfaces. EPA Registered. USDA-D2.

**No. 2U157.** Shpg. wt. 9.5 lbs. List.....$18.65.
Each.....$14.93

**No. 2U158.** Shpg. wt. 45.0 lbs. List.....$88.67.
Each.....$22.00▲

**10 secondary labels** (96591)

**No. 2U193.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each.....$3.75▲

## DE-LIMER LIME REMOVER

Removes lime deposits, soap scum and hard water scale from stainless steel, aluminum, glass, fiberglass, ceramic tile and other surfaces. Use in dishwashing machines, coffee urns, and on steam tables and other areas where lime deposits are a problem.

**No. 2U118.** ❸ 1 Gallon. Shpg. wt. 9.5 lbs. List $15.18. Each **$10.32**; Lots 4..... **$9.80**

**10 secondary labels** (96872).

**No. 2U206.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each.....$3.75▲

## HOT SHOT® OVEN & GRILL CLEANER

Heavy-duty oven and grill cleaner fortified with d-Limonene and formulated for institutional use. Clings to vertical surfaces and quickly penetrates and liquifies baked on food, grease and carbon deposits from commercial and industrial ovens, grills, drip pans, hoods, rotisseries and deep fat fryers.

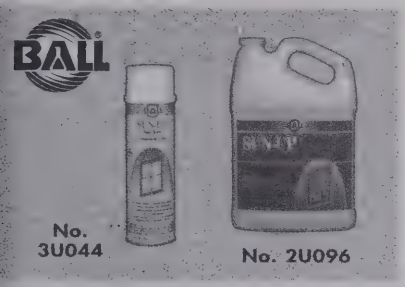
| Container Size | Ball Model | Stock No.❸ | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 20 oz.* | 85641 | 3U034 | $4.42 | $4.00 | $3.60 /12 | 1.5 |
| 1 gal.** | 50321 | 2U120 | 13.77 | 11.02 | 9.92 /4 | 9.5 |

**10 secondary labels** (96871).

**No 2U204.** Shpg. wt. 0.1 lbs. List.....$4.70.
Each.....$3.75▲

(*) Size refers to container size. Weight of product may vary. (**) DOT regulated product shipped in full case only (case pack 4). (▲)Net prices, not subject to discounts.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# GLASS CLEANERS, FURNITURE POLISH, AND SWEEPING COMPOUND




## SUN-UP® RTU GLASS CLEANER

Premium, ready-to-use, high-performance, glass, plastic, and hard surface cleaner for institutional, commercial, and industrial use.

Residue-free formula eliminates spots, film and streaks. Foaming formula clings to surfaces to loosen and lift dirt and grime. Cleans any hard surface. Bulk liquid and aerosol. 360° valve. No CFC's. USDA-C1 (aerosol). VOC Compliant.

| Container Size | Stock No. ③ | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| **20 oz. can*** | **3U044** | $3.17 | **$2.52** | **$2.39/12** | 1.5 |
| **1 qt.** | **2U099** | 3.38 | **2.71** | **2.44/12** | 2.3 |
| **1 gal.** | **2U096** | 10.56 | **8.45** | **7.61/4** | 9.5 |

**10 secondary labels** (96921). **No. 2U200.** Shpg. wt. 0.1. Each ..... **$3.75▲**



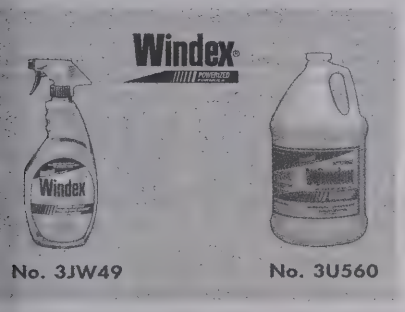

## SPY GLASS® GLASS CLEANER CONCENTRATE

Concentrated (1:20) high-performance, non-streaking glass, plastic, and hard surface cleaner. For institutional, commercial and industrial use. Pleasant fragrance. Residue free. 1 gallon.

**No. 2U110.** ③ Shpg. wt. 9.5 lbs. List .....$12.97. Each **$10.38**; Lots 4 ..... **$9.34**

**10 secondary labels** (96911). **No. 2U199.** Shpg. wt. 0.1 lbs. List $4.70. Each..... **$3.75▲**

(▲) Net prices, not subject to discount.




## WINDEX® GLASS CLEANER

Institutional strength glass cleaners start cleaning before you start wiping. Exclusive Ammonia-D® plus special grease-cutting actives and surfactants loosen soil on contact. No streaking, filming. Pleasantly scented, phosphate-free. Excellent for cleaning stainless steel, chrome, porcelain, ceramic tile, Plexiglas®, Formica® counters and tabletops, and glass. Available in 32 oz. trigger sprayer bottle with trigger sprayer taped to side of bottle (No. 3JW49), 1 gal. jug (No. 3U560) for refilling sprayer bottles, and 67.6 oz. bottle of concentrate (No. 3U561).

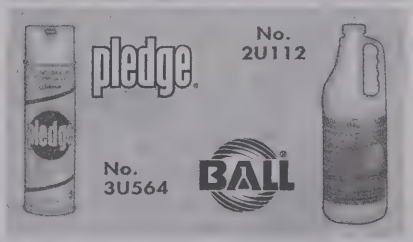
| Container Size | Windex Model | Stock No. ③ | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **32 oz. bottle w/trigger spray attached. Sold in case of 12** | 90135 | **3JW49** | $59.56 | **$43.80** | ▲ | 30.0 |
| **1 gal.** | 90940 | **3U560** | 12.27 | **8.85** | ▲ | 9.4 |
| **67.6 oz. concentrate** | 90606 | **3U561** | 9.75 | **7.03** | ▲ | 5.1 |

(▲) Net prices, not subject to discounts.

## PLEDGE® FURNITURE POLISH

Helps protect wood furniture and other surfaces while you clean. Dustblock formula reduces dust accumulation. For commercial, industrial and institutional buildings. No polish/waxy buildup. No CFC's. Lemon fragrance. Sold in case of 6 18-oz. aerosol cans*. (94430).

**No. 3U564.** ③ Shpg. wt. 9.0 lbs. List $45.95. Each ..... **$28.45▲**




## LEMON-UP® FURNITURE POLISH

Lemon furniture polish cleans, protects, and polishes in one application. No wax build-up or residue. One-step cleaning. Dries to protective film. No CFC's. 20oz. aerosol can. Ball model (85961).

**No. 2U112.** ③ Shpg. wt. 2.3 lbs. List $4.61.
Each ..... $3.69
Lots 12..... $3.32

Using the pushing action of a broom, this lightly oiled compound suppresses airborne dust, gathers dirt and cleans flooring. Recommended brooms to be used have medium stiffness and nonflagged ends, see Nos. 1A842 and 1A843 on page 1941.

### SANDED OIL BASE

For rough concrete surfaces and unfinished wood floors. Made with select kiln-dried softwood sawdust, certified oils, and hard, dry "angular" silica sand. Cotto-Waxo brand.

### GRITLESS OIL BASE

Used on non-waxed floors, painted surfaces, and glass-like floors that would scratch if sand (or grit) were present. Made with select kiln-dried softwood sawdust and certified oils. Velvet brand.

**Not for sale in Minnesota due to state laws which prohibit use of sweeping compounds that contain petroleum.**

## SWEEPING COMPOUND



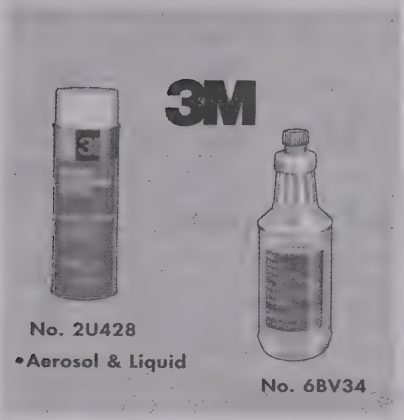
| Description | Color | Volume | Mfr's. Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Sanded Oil Base** | Red | 15 gal./100 lbs. | A3-Red | **3H399** | $26.09 | **$23.93** | 103.0 |
| **Sanded Oil Base** | Green | 15 /100 | A3-Green | **3H400** | 26.09 | **23.93** | 103.0 |
| **Gritless Oil Base** | Red | 15 /50 | G3-Red | **3H401** | 27.37 | **24.13** | 52.0 |

**Warning: Do not use oil compound on waxed surfaces or composition floors made of asphalt, rubber, or cork. Oil acts as a solvent and will soften and disintegrate petroleum based floor materials.**

❶ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover. STAINLESS STEEL CLEANER (▲) Net prices, not subject to discounts.

# SPECIALTY CLEANERS

## 3M STAINLESS STEEL CLEANER & POLISH




Cleans and polishes stainless steel, chrome, architectural aluminum and laminated plastic surfaces to a high gloss. Wipes clean without oily film or residue. Resists streaking, masks surface blemishes. No harmful petrochemical distillates. Authorized by USDA. 3M brand.

| Container Size | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 20.5-oz* | 2U428 | $8.70 | $7.11 | 2.0 |
| 1 qt. | 6BV34 | 12.99 | 8.69 | 2.3 |
| 1 gal. | 6BV35 | 37.10 | 25.15 | 8.4 |

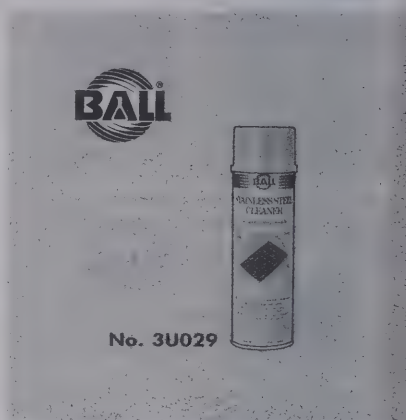
## LUSTER SHEEN® STAINLESS STEEL CLEANER




Water-based stainless steel cleaner fortified with d-Limonene that cleans, polishes and preserves high luster of stainless steel finishes. Ready-to-use, 21.5* oz. aerosol can leaves no residue.USDA-C1. 360° valve, no CFC's. Ball brand (85941).

**No. 3U035.** ❸ Shpg. wt. 1.5 lbs. List $4.32.
Each ..... $3.55
Lots 12 ..... $3.37

## STAINLESS STEEL CLEANER




Oil-based stainless steel cleaner maintains bright and clean finish on stainless steel and other interior metal surfaces. Polishes and cleans; leaves a special coating that resists further soiling. 20* oz. aerosol can. 360° valve. No CFC's. USDA-C1. Ball brand (85951).

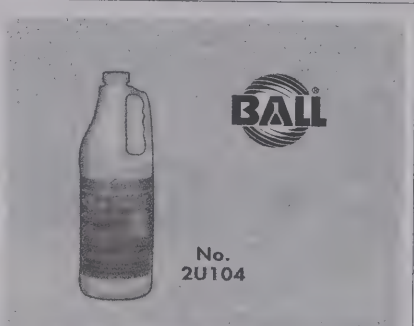
**No. 3U029.** ❸ Shpg. wt. 1.4 lbs. List $8.65.
Each ..... $6.18
Lots 12 ..... $5.87




## DUST-SHEEN® DUST MOP TREATMENT

Paraffin-based. Cleans, polishes, and protects in one step. Safe for all floors, finished wood, metal, and laminated surfaces. 20* oz. aerosol can. No CFC's.

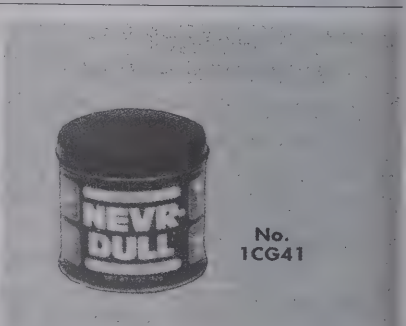
**No. 3ZH54.** ❸ ❶ Shpg. wt. 1.5 lbs.
List $8.61. Each ..... $6.46
Lots 12 ..... $5.81




## AQUA-TREAT® DUST MOP TREATMENT

A ready-to-use, water-based, dust mop treatment that effectively and safely removes dust and surface dirt from all floors. Bulk liquid or aerosol. No CFC's.

| Container Size | Ball Model | Stock No. ❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 20 oz. | 85181 | 3U039 | $4.84 | $3.88 | $3.49 | 1.5 |
| 1 qt. | 70521 | 2U104 | 4.22 | 3.38 | 3.04 | 2.3 |




## NEVR DULL METAL POLISH

An effective, easy-to-use, metal cleaner and polish in a unique wadding form. Leaves a high luster protective film without scratching delicate surfaces.

| Container Size | George Basch Co. Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 5 oz. | #L | 1CG41 | $5.73 | $5.16 | 0.6 |
| 2 lb. | #E | 1CG42 | 22.88 | 20.59 | 2.8 |

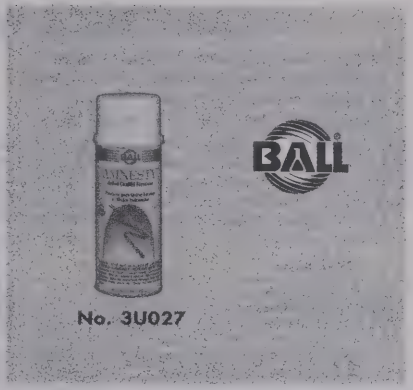
❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(*) Size refers to container size. Weight of product may vary.




## GOBBLE™ DRAIN MAINTAINER/DEODORIZER

Combination of enzymes and genetically engineered live bacteria designed to quickly digest grease, organic waste. Use as drain maintainer (in food service), carpet spotter and deodorizer/malodor counteractant (USDA-L2).

| Size | Ball Model | Stock No.❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 qt. | 70441 | 2U102 | $6.72 | $5.38 | $4.84 | 2.3 |
| 5 gal. | 70433 | 2U113 | 84.26 | 67.45 | — | 45.0 |
| 55 gal. | 70437 | 2U114 | 833.26 | 667.00 | — | 495.0 |




## AMNESTY® GRAFFITI REMOVER

Powerful aerosol graffiti remover specially formulated with a blend of unique solvents that will not harm glass, steel, aluminum, and most enamel surfaces. For graffiti removal on buses and other transit vehicle interiors. Jelled formulation adheres to vertical surfaces. Good for tape residue and adhesives. No CFC's. 16 oz. aerosol can*. Ball brand (85971).

**No. 3U027.❶❸** Shpg. wt. 0.9 lbs. List .....$5.89.
Each **$4.10**; Lots 12 .....**$3.90**




## LIQUID DRANO® DRAIN OPENER

Institutional, industrial, and commercial applications. Dissolves organic matter. Pours through standing water. Will not harm pipes or septic tanks. Sold in case of 12 1 quart bottles. (90485).

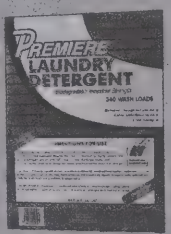
**No. 3U565.❸** Shpg. wt. 39.0. List .....$70.14
Each .....**$43.40▲**

(▲) Net prices, not subject to discounts.

## PREMIERE POWDERED LAUNDRY DETERGENT

Heavy-duty, highly-concentrated detergent with enzymes is formulated for the industrial market. Use 1/3 to 1/2 cup per washload. Provides up to 340 loads per 50 lb. size. Includes measuring scoop. Safe for all water temperatures. CP Industries brand.

| Container Size | CP Industries Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 50 lb. box | CPJ050PB | 3ZG68 | $49.80 | $47.30 | 50.0 |
| 100 lb. box | CPJ100PB | 3ZG69 | 94.60 | 89.90 | 104.0 |




SUPPLIER DIVERSITY™
Minority-Owned Business

No. 3ZG68

## ULTRA TIDE POWDERED LAUNDRY DETERGENT

Removes tough, institutional dirt and stains. Attacks grease, oil, ink and ground-in dirt better than leading laundry detergents. No. 3U558 is box of 12 22-oz. packages.

| Container Size | Procter & Gamble Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 12-22 oz. | 2289 | 3U558 | $78.24 | $54.90▲ | 27.0 |
| 263 oz. | 38447 | 1CF92 | 51.57 | 36.20▲ | 12.0 |




No. 3U558

(▲)Net prices, not subject to discounts.
(❶) All products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listings or call any California branch.
(❸) All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.
(*) Size refers to container size. Weight of product may vary.

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

## CAR/TRUCK WASH BRUSHES

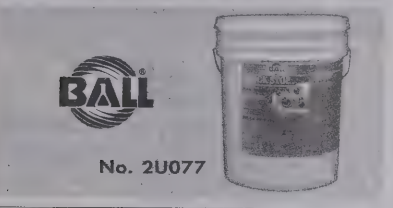



- **Adapts for use with fountain tube continuous flow handle, 12-foot telescoping threaded tip handle, or tapered tip handle; sold separately**
- **For continuous flow cleaning of cars, trucks, buses, boats, windows, building exteriors, etc**

**No. 3A338.** Extra Fine Synthetic fill with flagged tips for scratch-free wash. Trim length: 2½. No. 5A171. Fine Synthetic fill with flagged tips for gentle brushing finish, retains water well, acid and alkali resistant. Trim length: 2½". **No. 3ZG66.** Multi-Surface Brush angled for hard to reach high and low surfaces with on brushing action. Double flagged filament tips for gentle brushing/cleaning. Trim length: 2⅝"

| Description | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Car Wash Brush** | 44510 | **3A338** | $15.82 | **$13.45** | 1.8 |
| **Truck Wash Brush** | 73146 | **5A171** | 21.79 | **18.53** | 1.5 |
| **Multi-Surface Brush** | 44699 | **3ZG66** | 31.00 | **26.95** | 3.3 |

## TRUCK STOP® CAR, BUS & TRUCK WASH




Super strength, liquid bus and truck wash. Use at 1:256 with mechanical/automatic car wash systems. High foaming wetting agents produce lots of foam, yet rinse easily with no streaking or watermarks. Removes difficult to clean soils on buses, trucks, and heavy equipment. Contains corrosion inhibitors.

| Size (Gal.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **5** | **2U077** | $48.21 | **$38.60** | 45.0 |
| **55** | **2U078** | 503.90 | **403.25** | 495.0 |

## ARMOR ALL® PROTECTANT




- **Safe and easy way to clean, protect and beautify vinyl, rubber and plastic surfaces**
- **Anti-static ingredients repel dust and dirt, helping to keep surfaces looking cleaner longer**
- **Treated materials such as vinyl, rubber and plastic resist cracking, dulling and fading due to exposure to sun and other elements**
- **Non-toxic, non-flammable, non-corrosive, non-staining. Contains no hydrocarbon solvents or petroleum**

| Size | Armor All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **28 oz. w/trigger** | 10228 | **4HP11** | $7.91 | **$7.54▲** | 2.3 |
| **1 gal.** | 10710 | **4HP12** | 33.77 | **32.20▲** | 9.2 |

## LIGHTS OUT® ROACH & ANT SPRAY

Water-based, residual aerosol insecticide spray kills roaches, ants and other crawling insects: earwigs, spiders, silverfish, brown dog ticks, sowbugs, crickets, fleas and waterbugs. Provides 3 to 4 weeks of insect control. EPA Registered. USDA Authorized . . . F-2. Pinpoint spray. No CFCs. 20-oz. aerosol can container*. Ball (85811).

**No. 3U031.** ❸ Shpg. wt. 1.0 lbs. List $6.04. Each.....**$4.53▲**

## STOP SIGN® DRY FOG INSECTICIDE

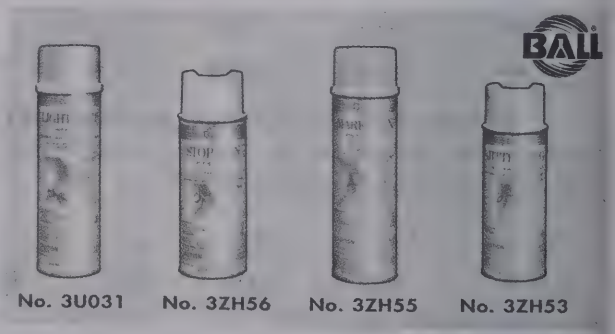
Dry fog Pyrenone®-based aerosol insecticide is a ready-to-use, high active strength, water-based formulation that kills insects on contact. Can be used in food processing areas. Kills moths, fleas, wasps, hornets, silverfish, roaches, , ants, scorpions, centipedes, sowbugs, bedbugs, and spiders. EPA Registered. USDA Authorized . . . F-1. 16-oz. aerosol can container*. Ball (85841).

**No. 3ZH56.** ❸ Shpg. wt. 1.1 lbs. List $9.97. Each **$7.48;** Lots 12.....**$6.73**

## MARKSMAN™ WASP & HORNET KILLER

Aerosol insecticide delivers powerful jet blast that kills wasps, hornets and yellow jackets on contact. Features immediate knockdown up to 15 feet away. Effective against ants, clover mites, crickets, fleas, millipedes, sowbugs, and brown dog ticks. No CFCs. Dielectric strength of 40,100 volts. VOC compliant. EPA Registered. 20-oz. aerosol can container*. Ball (85861).

**No. 3ZH55.** ❸ Shpg. wt. 1.3 lbs. List $8.07. Each **$5.45;** Lots 12.....**$5.18**



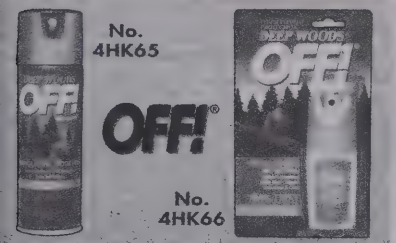

## JITTER BUG® CONTACT & RESIDUAL INSECTICIDE

Contact and residual aerosol insecticide kills flying and crawling insects. Use as a contact spray, a space spray or as a residual insecticide. Kills house flies, mosquitoes, spiders, wasps, centipedes, earwigs, grain mites, ants and roaches. EPA Registered. USDA Authorized . . . F-2. No CFCs. 16-oz. aerosol can container*. Ball (85831).

**No. 3ZH53.** ❸ Shpg. wt. 1.3 lbs. List $8.80. Each **$6.61;** Lots 12.....**$5.95**

❸ These products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.
(*) Size refers to container size. Weight of product may vary. (▲) Net prices, not subject to discounts.

# OFF!® AND RAID® INSECTICIDES




## DEEP WOODS OFF!®

Provides up to six hours of protection from mosquitoes, flies, ticks, chiggers and fleas. 30% DEET formula provides exceptional protection in higher infestation situations such as hiking, hunting and camping. Unscented. Non-greasy. Resists perspiration. No CFC's. EPA registered. 6 oz. aerosol can. Drackett (94903).

**No. 4HK65.** ❸ Shpg. wt. 0.6 lbs.
List $6.96. Each..... **$4.85**

## MAXIMUM PROTECTION DEEP WOODS OFF!®

100% DEET formula protects in the toughest conditions. Repels biting insects for up to 10 hours. Patented pump ensures application control. Won't spill or leak. Bottle fits easily into pocket or backpack. Non greasy. Unscented. EPA registered. 1 oz. unbreakable plastic bottle with pump sprayer. Drackett (94904).

**No. 4HK66.** ❸ Shpg. wt. 0.21 lbs.
List $6.79. Each..... **$4.73▲**




## RAID® FIRE ANT KILLER

Oil bait formula eliminates dangerous fire nt colonies. Worker ants consume and ass the bait throughout the colony, sterilzing the queen and eradicating the remaing brood. EPA registered. 15 oz. plastic ottle. Not available for sale in California, daho, New Hampshire and Colorado. Drackett (94902).

**lo. 4HK64.** ❸ Shpg. wt. 8.61 lbs.
ist $13.76. Each..... **$10.76**

## RAID® ANT BAIT PLUS

nt defense system containing Metastop™ ills a variety of household ants, including lack carpenter, argentine, cornfield and haraoh varieties. Kills the queen; kills the olony. EPA registered. 4 bait cartons. Drackett (94897).

**lo. 4HK59.** 3 Shpg. wt. 0.1 lbs.
ist $4.77. Each..... **$3.35▲**




## RAID® ANT & ROACH KILLER

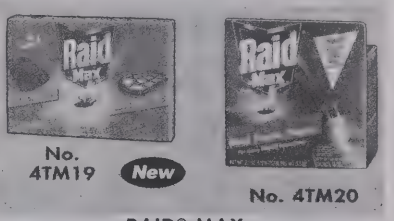
Kills roaches, waterbugs, ants, silverfish crickets and spiders. Residual keeps killing for up to four weeks. Contains quick-killing pyrethrum for rapid kill action.Outdoor fresh scent. Drackett (94788).

***New*No. 4TM18.** Shpg. wt. 1.5 lbs.
List $4.90. Each..... **$3.68▲**

## RAID® MAX ANT AND ROACH KILLER

Provides quick relief from the heaviest infestations of ants, roaches, waterbugs, palmetto bugs and more. Contains Cylahtrin® for fast kill and provides a 4 month residual. No CFC's. Pleasant fragrance. EPA registered. 14 oz. aerosol can. For domestic use. Drackett (94901).

**No. 4HK63.** ❸ Shpg. wt. 1.2 lbs.
List $8.49. Each..... **$6.65**




## RAID® MAX ROACH BAITS + EGG STOPPERS

Two-way roach control attracts and kills roaches, then sterilizes any roaches that pass within 9 feet of the bait. Kills roaches for up to 3 months. Baits are odorless; unobtrusive. Approved for use in areas frequented by humans and/or pets. Drackett (94792).

***New*No. 4TM19.** Shpg. wt. 3.8 lbs.
List $9.51. Each..... **$6.32▲**

## RAID® DEEP REACH MAX FOGGER

Recommended for heavy infestations, easy and clean to use Max Concentrated Deep Reach Fogger is able to kill even the toughest, most resistant roaches and pests. Contains Cypermethrin known for its fast knock down and residual control of indoor pests. Also kills spiders, black carpet beetles, wasps, hornets, yellow jackets, gnats, firebrats and silverfish. Drackett brand (94887).

***New*No. 4TM20.** Shpg. wt. 1.8 lbs.
Each..... **$12.56**

## RAID® COMMERCIAL FLYING INSECT KILLER

For extra-quick knockdown and kill of moths, flies and mosquitoes. Use in restrooms, arages, kitchens and garbage collection areas. Approved for use in restaurants and ood handling establishments. Pleasant scent. No CFC's, USDA rated F1, EPA registered. 9 oz. aerosol can. Drackett (94892).

**lo. 4HK57.** 3 Shpg. wt. 1.8 lbs. List $7.80. Each..... **$6.25**

## RAID® COMMERCIAL INSECT KILLER

All purpose" insecticide. for maximum effectiveness against crawling and flying sects. Knocks down and kills flies, mosquitoes, gnats and moths. Kills roaches, waterugs, ants, silverfish and spiders. Use in and around baseboards, cabinets, sinks, drains, ipes, sills and storage areas. Approved for use in food processing areas. Pleasant scent. o CFC's, USDA rated F1, EPA registered. 19 oz. aerosol can. Drackett (94891).

**o. 4HK56.** ❸ Shpg. wt. 1.8 lbs. List $10.46. Each..... **$7.85▲**

## RAID® WASP AND HORNET KILLER

ills paper wasps, yellow jackets, mud daubers, bees and bald-faced hornets in seconds, n contact from over 20 feet away. Residual action kills wasps and hornets that return the nest, as well as their pupae. Dielectric rating of 45,000 Volts. No CFC's. EPA regtered. 14 oz. aerosol can. Drackett (94898).

**o. 4HK60.** ❸ Shpg. wt. 1.5 lbs. List $5.80. Each..... **$4.35▲**




These products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.
) Net prices, not subject to discounts.

# PRE-MEASURED CHEMICALS AND DILUTION CONTROL SYSTEM

## PRE-MEASURED CHEMICALS

Water soluble packets dissolve completely in water, reducing solid waste. Pre-measured for no-mess, no-waste consistent cleaning. Packets contain powdered compound that goes into solution quickly. Packed in compact, recycleable plastic container. Product and package are color-coded for added convenience and safety. Easy Paks brand.

### NEUTRAL CLEANER

Cleans and protects high-gloss, high solids finishes. Ideal for high-traffic areas. Leaves no dulling film, even without rinsing. Leaves a fresh, forest-pine scent. Case qty.: 180 1/2-oz. packets. (90653).

**No. 3U569.** Shpg. wt. 8.0 lbs. List.....$58.44.
Each.....**$45.20**

### BOWL CLEANER

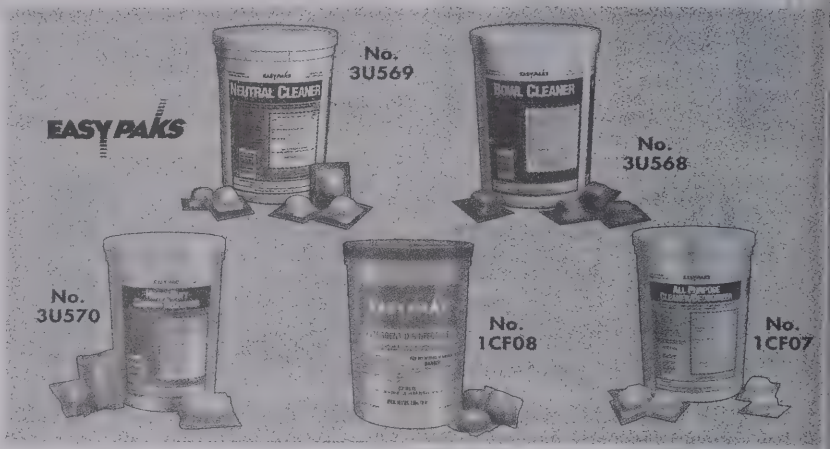
A blend of enzymes and detergents that attacks organic waste, scale, and urinary salts. Effective even in cool bowl water. Easy to use, simply toss packet in toilet bowl. Lavendar fragrance. Case qty.: 180 1/2-oz. packets. (90652).

**No. 3U568.** Shpg. wt. 8.0 lbs. List.....$30.53.
Each.....**$23.59**

### CLEANER/DEGREASER

Heavy-duty cleaner-degreaser quickly cuts through stubborn grease and oil buildups commonly found in food service establishments. Alkaline cleaner helps remove the grease on quarry tile floors. Use on floors and other hard surfaces, and for spray-and-wipe cleaning. Case qty.: 72 1½-oz. packets. (90682).

**No. 3U570.** Shpg. wt. 6.8 lbs. List.....$48.68.
Each.....**$37.65**




### SANI-SURE DISINFECTANT

Formulated for cleaning, disinfecting, and deodorizing surfaces in institutional settings. Case qty: 180 1/2-oz packets. (90650).

**No. 1CF08.** Shpg. wt. 8.0 lbs. List.....$41.64.
Each.....**$32.20**

### ALL-PURPOSE CLEANER

Cleans a wide variety of surfaces from stainless steel, chrome, and porcelain to ceramic, terrazzo, and vinyl. Case qty: 180 1/2 oz. packets. (90651).

**No. 1CF07.** Shpg. wt. 8.0 lbs. List.....$43.74.
Each.....**$33.85**

## DILUTION CONTROL SYSTEM

Practical Solutions Dilution Center delivers accurate, ready-to-use dilutions at the touch of a button, with no measuring. System combines push-button proportioning with high performance ultra-concentrated products. Reduce waste from mixing errors and improper dilutions, increase employee safety, and provide time and labor savings.

### FOUR PRODUCT SYSTEM

Dispensing system prepares and dispenses up to four ready-to-use cleaning products. Standard four product system comes with three spray bottle fill stations and one bucket fill station.

- Durable, molded cabinet is chemical-, stain-, and scratch-resistant. Secure locking design prevents theft and tampering. Convenient viewing ports display product levels. Lockable button for continuous product delivery. Changing ultra-concentrates is easy with the drop-down front panel door. Adjustable dilution rates for your desired cleaning performance and economy.
- Air Gap design prevents concentrate backflow. Considered safest and most effective form of backflow prevention; meets ANSI A112.1 standard.
- No Chemical Contact System reduces employee contact with concentrated chemicals. Protects against accidental spills and eye/skin contact.
- Complies with Federal, State, and Local regulatory requirements for unit hardware, material safety data sheets, labels and silk screened spray bottles.

### ONE PRODUCT SYSTEMS

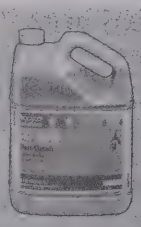
- **Small size can be placed anywhere there is a water source**
- **Contains same features as Four Product System**

Small, secured cabinet design prepares and dispenses one ready-to-use cleaning product. Available in two convenient dispensing systems: OPTION 1: Single dispensing unit fills mop bucket at a high flow rate. OPTION 2: Dual flow dispensing unit offers both high and low flow rates to fill mop buckets and spray bottles.

### QUALITY PRODUCTS

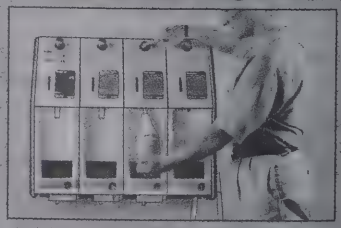
- **Ultra-concentrated formulations deliver multiple gallons of ready-to-use products; provides economy, lower freight costs, reduced storage requirements and less packaging waste**
- **Products and labeling system are color-coded, tri-lingual (English, Spanish, and French) and feature use icons for safety, training, and easy identification**

Broad line of high quality ultra-concentrated products include cleaners and degreasers, EPA-registered hospital grade disinfectants, deodorizers, floor care, washroom care and carpet care.



No. 3UT52

RAMSEY®



**No. 3UT64**
**Dispenses up to 16 cleaning products at the touch of a button**

**Replacement Parts Available**
**1-800-323-0620**

# DILUTION CONTROL AND PRE-MEASURED CHEMICALS

## PORTION CONTROL DISPENSING UNITS‡

| Description | Size | | Stock No. ❸ | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Four Button Unit (27 x 24 x 9") - Accurately dispenses 4 products (3 bottle fill, 1 bucket fill) | PS4 | | 3UT64 | $341.75▲ | 40.0 |
| One Button Unit (8 x 24 x 9") - Accurately dispenses 1 product (1 bucket fill) | PS1 | | 3UT63 | 137.55▲ | 12.0 |
| Dual Flow Unit (8 x 24 x 9") - Accurately dispenses 1 product (1 bucket or bottle) | PS | New | 4TL66 | 183.25▲ | 12.0 |

## PORTION CONTROL CHEMICALS

| Description | Recommended Dilution | Moderate Cleaning | Yield per Concentrated Gal. | Fragrance | Cost per Gallon of RTU Solutions | Size | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Sky Light® Glass Cleaner | 1-25 | — | 26 RTU gal. | None | $1.32 | 1 gal./2PK | | 3UT52 | $68.70 | 19.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV23 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ38 | 23.40 | 4.0 |
| Reflecta® Neutral Floor Cleaner | 1-220 | — | 221 RTU gal. | Citrus | .16 | 1 gal./2PK | | 3UT53 | 71.55 | 19.0 |
| Secondary Labels | | | | | | pack of 10 | New | 4MG46 | 3.68▲ | 0.1 |
| Power Bolt® Spray and Wipe Cleaner/Degreaser† | 1-5 | 1-10 | 6 RTU gal. | Lemon | 9.64 | 1 gal./2PK | | 3UT51 | 115.65 | 19.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV22 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ37 | 23.40▲ | 4.0 |
| Clean-Up™ Heavy Duty Non-Acid Cleaner/Deodorizer | 1-10 | 1-16 | 11 RTU gal. | Summer Storm | 3.32 | 1 gal./2PK | | 3UT57 | 73.05 | 20.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV16 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ33 | 23.40▲ | 4.0 |
| Wide Range™ Disinfectant Cleaner/Deodorizer† | 1-21 | — | 22 RTU gal. | Lemon | 1.73 | 1 gal./2PK | | 3UT56 | 76.10 | 20.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV27 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ39 | 23.40▲ | 4.0 |
| Frequency 64™ Neutral Disinfectant Cleaner/Deodorizer | 1-64 | — | 65 RTU gal. | Clean 'N' Fresh | .23 | 1 gal./2PK | | 3UT47 | 30.20 | 19.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV21 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ34 | 23.40▲ | 4.0 |
| Frequency 256™ Neutral Disinfectant Cleaner/Deodorizer | 1-256 | — | 257 RTU gal. | None | .10 | 1 gal./2PK | | 3UT41 | 50.45 | 19.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV19 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ29 | 23.40▲ | 4.0 |
| Ultima™ Phenolic Disinfectant Cleaner/Deodorizer | 1-256 | — | 257 RTU gal. | None | .19 | 1 gal./2PK | | 3UT61 | 99.50 | 19.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV11 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ30 | 23.40▲ | 4.0 |
| Oil-Oder Plus® Water Soluble Deodorizer† | 1-18 | 1-32 | 19 RTU gal. | Country Morning | 2.96 | 1 gal./2PK | | 3UT54 | 112.50 | 19.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV25 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ32 | 23.40▲ | 4.0 |
| Oil-Oder Plus® Water Soluble Deodorizer† | 1-18 | 1-32 | 19 RTU gal. | Lemon Burst | 2.96 | 1 gal./2PK | | 3UT55 | 112.50 | 19.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV26 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ36 | 23.40▲ | 4.0 |
| Freefall® General Cleaner and Degreaser† | 1-64 | 1-256 | 65 RTU gal. | Clean 'N' Fresh | .66 | 1 gal./2PK | | 3UT60 | 86.10 | 19.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV30 | 3.68 | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ35 | 23.40▲ | 4.0 |
| Cutting Force™ Heavy Duty Cleaner/Degreaser† (USDA A-1) | 1-10 | 1-32 | 11 RTU gal. | None | 2.85 | 1 gal./2PK | | 3UT59 | 62.60 | 20.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV29 | 3.68▲ | 0.1 |
| 32 oz. Silk Screen Bottle w/ Sprayer | | | | | | 32 oz. | New | 4TJ31 | 23.40▲ | 4.0 |
| Steamette® Carpet Extraction Cleaner | 1-256 | — | 257 RTU gal. | Country Morning | .08 | 1 gal./2PK | | 3UT18 | 38.80 | 20.0 |
| Rinsoft™ Carpet Extraction Rinse | 1-128 | 1-640* | 129 RTU gal. | Country Morning | .13 | 1 gal./2PK | | 3ZG63 | 34.75 | 19.0 |
| Soil Release™ Carpet Prespray | 1-20 | — | 21 RTU gal. | Spring Clean | 2.09 | 1 gal./2PK | | 3UT62 | 87.60 | 20.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV31 | 3.68▲ | 0.1 |
| Top Spin® Carpet Spin Bonnet Cleaner | 1-20 | — | 21 RTU gal. | Citrus | 1.55 | 1 gal./2PK | | 3UT58 | 64.90 | 18.0 |
| Secondary Labels | | | | | | pack of 10 | | 3UV28 | 3.68▲ | 0.1 |

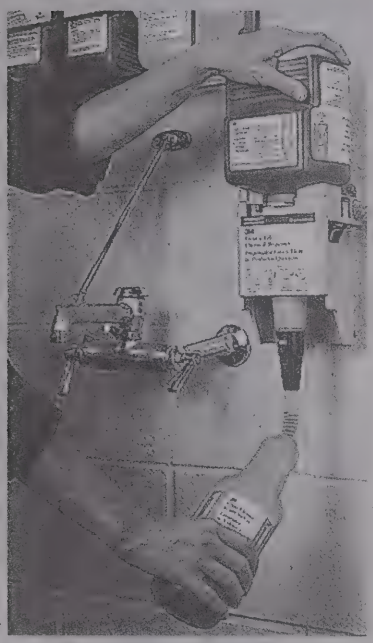
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
▲) Net prices, not subject to discounts. (*) Dilution ratio for use on wool carpets. (†) USDA Rated. (‡) Assembly not included.

## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

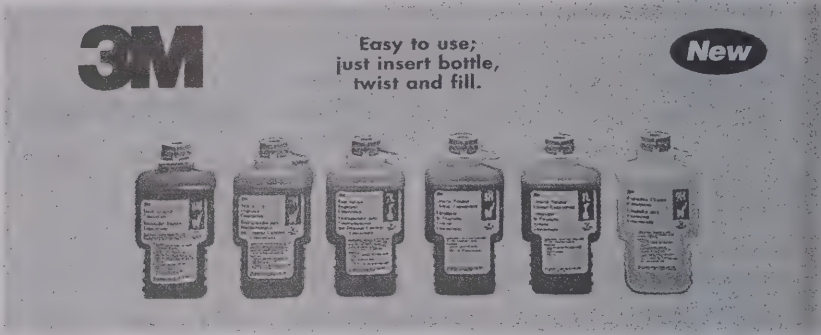
Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# TWIST 'N FILL PORTION CONTROL SYSTEM

## TWIST 'N FILL CHEMICAL MANAGEMENT SYSTEM



Compact 3M Twist n' Fill dispenser fits even the smallest closet.




3M brand Twist 'N Fill system features a single, compact dispenser that accurately mixes and dispenses a wide range of cleaning chemicals. Easy to use: simply choose the cleaning chemicals needed, insert the bottle, and twist. Chemicals are automatically mixed and dispensed all through the same dispenser. No additional backflow protection is needed.

System lowers operating costs. Automated mixing means consistent, effective chemicals every time. Employee contact with hazardous chemicals is limited, increasing safety. Storage is reduced to a fraction of that needed with traditional systems. Worker productivity is increased.

Wire shelves for storing chemical bottles are available. Each shelf holds four 2-liter bottles. Also available in locking style. Provide neat storage and easy accessibility of chemicals.

Convenient spout cap and sprayer bottles are also available for use with mixed cleaning chemicals. Come preprinted with chemical labels for bathroom cleaner, quat disinfectant, food service degreaser, general purpose cleaner, heavy-duty multi-surface cleaner, deodorizer, sanitizer and glass cleaner. 12 per pack.

### TWIST 'N FILL DISPENSER, SHELVES, & PREPRINTED BOTTLES

| Description | Qty. Per Pack | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Twist 'N Fill Dispenser** | 1 | **2U692** | $59.50 | **$58.35▲** | 2.2 |
| **Wire Shelf** | 1 | **2BV53** | 33.05 | **16.52▲** | 3.0 |
| **Locking Wire Shelf** | 1 | **2BV54** | 47.08 | **23.54▲** | 4.0 |
| **4L Bathroom Cleaner Bottle w/Spout cap** | 12 | **1GH05** | 45.47 | **22.74▲** | 4.0 |
| **4L Bathroom Cleaner Bottle w/Sprayer** | 12 | **1HH98** | 45.47 | **22.74▲** | 4.0 |
| **5L Quat Disinfectant Bottle w/Sprayer** | 12 | **1HH97** | 45.47 | **22.74▲** | 4.0 |
| **7L Food Service Degreaser Bottle w/Sprayer** | 12 | **1HH96** | 45.47 | **22.74▲** | 4.0 |
| **8L General Purpose Cleaner Bottle w/Sprayer** | 12 | **1GH06** | 45.43 | **22.74▲** | 0.3 |
| **2L H-D Multi-Surface Cleaner Bottle w/Sprayer** | 12 | **1HH99** | 45.47 | **22.74▲** | 4.0 |
| **1L Glass Cleaner Bottle w/Sprayer** | 12 | **2AV87** | 45.44 | **22.74▲** | 0.3 |

### TWIST 'N FILL CLEANING CHEMICALS

| Chemical No. | Description | Container Size † | Yield per 2-Liter Bottle‡ | | Stock No. ● | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1L** | Glass Cleaner | 2 liter | 35 RTU gals. | *New* | **4MH70** | **$37.85▲** | 5.0 |
| **2L** | Heavy-Duty Multi-Surface Cleaner | 2 | 6 RTU gals. | | **2U674** | **29.20▲** | 5.0 |
| **3H** | Neutral Cleaner | 2 | 200 RTU gals. | | **2U675** | **31.10▲** | 5.1 |
| **4L** | Bathroom Cleaner | 2 | 26 RTU gals. | | **2U676** | **88.90▲** | 5.6 |
| **5L** | Quat Disinfectant | 2 | 123 RTU gals. | | **4HN94** | **25.90▲** | 4.7 |
| **5H** | Quat Disinfectant | 2 | 123 RTU gals. | | **4HN95** | **25.90▲** | 4.7 |
| **6H** | Speed Stripper | 2 | 8 RTU gals. | | **2U679** | **31.80▲** | 5.3 |
| **7L** | Food Service Degreaser | 2 | 119 RTU gals. | *New* | **4MH69** | **80.20▲** | 5.0 |
| **7H** | Food Service Degreaser | 2 | 119 RTU gals. | *New* | **4MH68** | **80.20▲** | 0.6 |
| **8L** | General Purpose Cleaner | 2 | 34 RTU gals. | | **2U682** | **23.58▲** | 5.1 |
| **8H** | General Purpose Cleaner | 2 | 34 RTU gals. | | **2U683** | **23.58▲** | 5.1 |
| **9H** | Extraction Cleaner | 2 | 200 RTU gals. | | **3VC55** | **37.20▲** | 5.0 |
| **10H** | Pretreatment Cleaner | 2 | 79 RTU gals. | | **2U690** | **115.25▲** | 5.1 |
| **11L** | Bonnet Cleaner | 2 | 26 RTU gals. | | **2BW56** | **47.00▲** | 5.0 |
| **12L** | Country Garden Deodorizer | 2 | 33 RTU gals. | | **2BW59** | **86.55▲** | 5.0 |
| **13L** | Fresh Scent Deodorizer | 2 | 30 RTU gals. | | **2BW61** | **79.15▲** | 5.0 |
| **14L** | Mountain Spice Deodorizer | 2 | 33 RTU gals. | | **2BW60** | **86.55▲** | 5.0 |
| **15L** | Non-Acid Bathroom Cleaner | 2 | 61 RTU gals. | | **3VC57** | **83.20▲** | 5.0 |
| **16L** | Sanitizer | 2 | 84 RTU gals. | | **2BW55** | **14.65▲** | 5.0 |
| **17L** | Carpet Protector II | 2 | 20 RTU gals. | | **3VC54** | **149.75▲** | 5.0 |
| **18H** | Phenolic Disinfectant | 2 | 123 RTU gals. | | **3VC56** | **33.65▲** | 5.0 |
| **19L** | Bathroom Cleaner | 2 | 21 RTU gals. | | **4HN93** | **61.35▲** | 4.7 |
| **20L** | Heavy-Duty Glass Cleaner | 2 | 11 RTU gals. | *New* | **4MH71** | **32.65▲** | 5.0 |
| **72L** | Heavy-Duty Aircraft Cleaner | 2 | 4 RTU gals. | | **2U691** | **17.16▲** | 5.0 |

### SECONDARY LABELS

| Qty. Per Pack | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 10 | | **1CJ98** | $5.71 | **$3.30▲** | 0.1 |
| 10 | | **1CJ97** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **1CJ96** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **1CJ95** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **1CJ94** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **1CJ94** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **1CJ92** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **1CJ90** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **1CJ90** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **1CJ88** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **1CJ88** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **3XH41** | 5.71 | **3.30▲** | 0.2 |
| 10 | | **1CJ99** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **2FP43** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **2FP44** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **2FP45** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **2FP46** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **3XH40** | 5.71 | **3.30▲** | 0.2 |
| 10 | | **2FP48** | 5.71 | **3.30▲** | 0.1 |
| 10 | | **3XH38** | 5.71 | **3.30▲** | 0.2 |
| 10 | | **3XH39** | 5.71 | **3.30▲** | 0.2 |
| 10 | *New* | **4MJ01** | 5.71 | **3.30▲** | 0.2 |
| — | | — | — | — | — |
| 10 | | **1CJ91** | 5.71 | **3.30▲** | 0.1 |

(*) L = Low Flow. H = High Flow. (†) Order 6 containers of same chemical for case quantity. (‡) RTU = Ready-to-Use. (▲) Net prices, not subject to discounts.
● These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite back cover.

# FLOOR MACHINES

## 175 RPM, 1- AND 2-SPEED FLOOR MACHINES

**Dayton Floor Machines** are designed for scrubbing, stripping, bonnet cleaning, shampooing, or any hard floor maintenance of commercial and industrial facilities.

**The Dayton Dual Speed Machine No. 3Z984** has the ability to scrub and strip at a low speed and spray buff at 350 RPM. This one machine handles the entire maintenance of your tile floors.

All machines are made with a 1-piece cast aluminum housing and switch box, and a chrome-plated handle tube and axle. This provides unsurpassed quality throughout the life of the machine. Maneuvers easily on 5" wheels. Non-marking bumper.

A safety switch lever is standard, and easily activated. All wires are enclosed within the motor shroud for added operator protection.

The 175 RPM floor machines have a 1 HP motor with double planetary gearbox. The dual speed unit (No. 3Z984) has a 1.5 HP motor with triple planetary gearbox. Motors are heavy-duty NEMA 66 frame.

**DAYTON 2-YEAR LIMITED WARRANTY**
Text of motor and gearbox warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

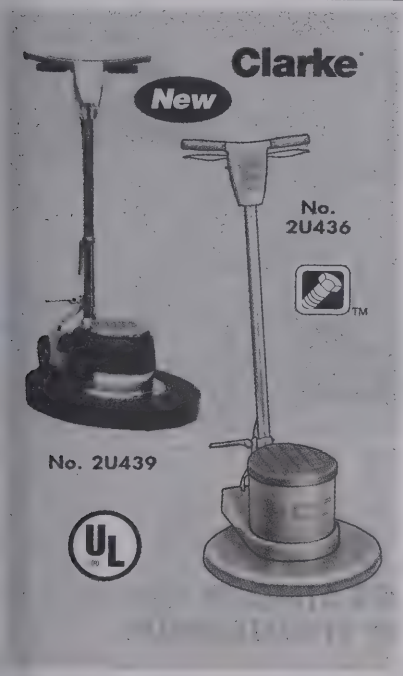
Replacement Parts Available 1-800-323-0620

Dayton® No. 3Z938



**PAD DRIVERS AND BRUSHES SOLD SEPARATELY ON PAGE 1875.**
**SEE PAGE 1873 FOR FLOOR PADS.**

| Size | Speed | Motor HP | 60 Hz Volts | Amps | Brush RPM | Cord Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 17" | Single | 1 | 115 | 15.0 | 175 | 50 ft. | **3Z983** | $1060.00 | **$936.50** | 98.0 |
| 20 | Single | 1 | 115 | 15.0 | 175 | 50 | **3Z666** | 1140.00 | **1008.00** | 106.0 |
| 20 | Dual | 1½ | 115 | 15.0 | 175/350 | 75 | **3Z984** | 1505.00 | **1325.00** | 110.0 |




## 175 RPM FLOOR MACHINES

**CLARKE® FM SERIES HEAVY-DUTY FLOOR MACHINES** are designed for the toughest industrial applications including scrubbing and stripping.

Constructed with a heavy one-piece cast aluminum housing and dual long life micro switches for durability. Wide transport wheels provide easy maneuverability. Also features orthopedically designed operating handle, safety-interlock switch, and vinyl bumpers.

These 175 RPM heavy-duty floor machines have a 1 HP motor with sealed double planetary gear system.

**CLARKE® C-LINE SERIES FLOOR MACHINES** are ideal for industrial stripping, scrubbing, and shampooing operations.

Polyurethane enamel painted motor shroud and brush housing are virtually indestructible. Also feature big nonmarking transport wheels and vinyl bumpers.

C-Line 175 RPM floor machines Nos. 2U436 and 2U437 have a 1 HP motor, No. 3KH84 has a 1/3 HP motor and all run on 115V, 60 Hz.

**CLARKE® LIMITED WARRANTY**
Clarke warrants motors and gearboxes on FM Series for 7 years and C-Line Series, Nos. 2U436 and 2U437 for 5 years, No.3KH84 for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**PAD DRIVERS AND BRUSHES SOLD SEPARATELY ON PAGES 1874 AND 1875.**
**SEE PAGE 1873 FOR FLOOR PADS.**

| Description | Size (In.) | 60 Hz Volts | Amps | Cord Length | Clarke Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **FM Series** | 17 | 115 | 15.0 | 50 Ft. | FM-1700 | **2U438** | $2305.00 | **$2190.00** | 112.0 |
| **FM Series** | 20 | 115 | 15.0 | 50 | FM-2000 | **2U439** | 2440.00 | **2318.00** | 116.0 |
| **C-Line Series** | 13 | 115 | 15.0 | 25 | C-1300 | **3KH84** | 940.00 | **893.00** | 40.0 |
| **C-Line Series** | 18 | 115 | 15.0 | 50 | C-1800 | **2U436** | 1250.00 | **1188.00** | 104.0 |
| **C-Line Series** | 20 | 115 | 15.0 | 50 | C-2000 | **2U437** | 1300.00 | **1235.00** | 104.0 |
| **Solution Tank** | – | – | – | – | 508641 | ***New* 4MK48** | 221.00 | **216.75▲** | 20.0 |

(▲) Net prices, not subject to discounts.

Clarke



## SOLUTION TANK DISPENSER

**Unbreakable 1-pc. polyethylene tank.** This 4-gallon tank with easy-fill wide mouth converts Dayton Nos. 3Z666 and 3Z984 floor polishers into scrubber/shampooers. Includes fittings, hand control valve, feed tube. Clarke® brand.

**No. 3U974.** Shpg. wt. 6.0 lbs. List.....$126.50. Each.....$124.00

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

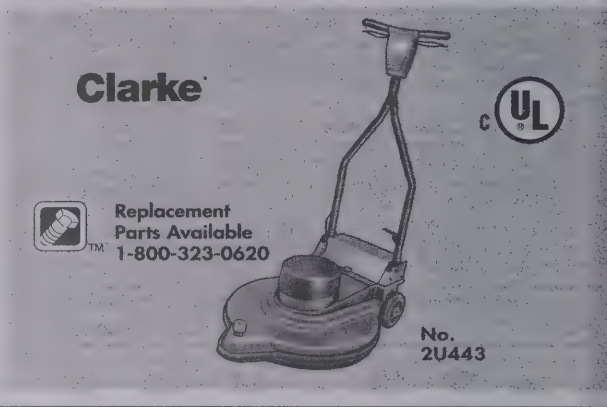
# HIGH SPEED BURNISHERS

## 1500 TO 2500 RPM HIGH SPEED BURNISHERS

**Clarke® high speed burnishers** feature a fold-up handle, cast aluminum switchbox, and integrated dust control system. 20" pad size.

**Positive safety interlock switch** prevents accidental start-up. Handle folds up for easy storage. 75 ft., 3-wire grounded power cord. 2000 hour carbon brushes. Brush wear indicator lights when carbon brushes need replacing. Rolls on 6" wheels so machine is easy to transport. Spring loaded front caster adds manuverability. Do not use these machines for floor stripping.

**1½ HP permanent magnet rectified direct-drive motor** has no belts to break or tighten. Balanced pad driver reduces wobble and operator fatigue. Pad leveler maintains proper pad contact for increased efficiency. Overload indicator tells when pad needs cleaning or changing.




| RPM | Pad Size (In.) | 60 Hz / Volts | Clarke Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1500** | 20 | 115 | 1500 | **2U443** | $1740.00 | **$1653.00** | 112.0 |
| **2000** | 20 | 115 | 2000 | **2U444** | 1840.00 | **1748.00** | 112.0 |
| **2500** | 20 | 115 | 2500 | **2U445** | 1940.00 | **1843.00** | 112.0 |

## 1500 AND 2000 RPM HIGH SPEED BURNISHERS

**Dayton 1500 and 2000 RPM Burnishers** are designed to provide the "wet" look on all types of hard floor surfaces. **Do not use these machines for stripping floors.**

**Both burnishers** feature a 1-piece cast aluminum housing and switch box, and a chrome-plated handle tube and axle. This provides unsurpassed quality throughout the life of the machine. Includes flexible pad drivers, 20" burnishing pad. 6" wheels make the machine easy to transport. Non-marking bumper. 75 ft. cord for wide coverage.

**Easily activated safety interlock switch lever** prevents accidental start-up. All wires are enclosed within the motor shroud for added operator protection.

**1½ HP, DC rectified direct-drive motor** has no belts to break or tighten. A spring loaded front caster lets you adjust the pad pressure to customize the machine to suit your specific application. Pad leveler maintains proper pad contact for increased efficiency.



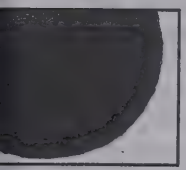

| RPM | Pad Size (In.) | 60 Hz / Volts | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1500** | 20 | 115 | **3Z985** | $1415.00 | **$1345.00** | 110.0 |
| **2000** | 20 | 115 | **5Z277** | 1455.00 | **1380.00** | 98.0 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# FLOOR PADS

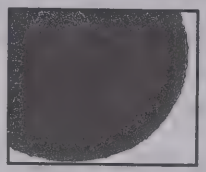
## 3M STRIPPING



### 7300 HIGH PRODUCTIVITY STRIPPING PAD

Unique, open web construction. Quickly and thoroughly removes old finish, dirt, and buildup. Stripping solution flows easily through pad to rinse out dirt and reduce loading. Reduced loading allows increased pad-to-floor contact, for more efficient stripping. Use to strip floors when finish buildup is heavy or when stripping must be done quickly. Use on standard and automatic floor machines.

| Size (In.) | Color | Stock No. | Case Qty | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 11 | Black | 3ZH57 | 5 | $22.98 | **$20.88** | 2.5 |
| 13 | Black | 3U064 | 5 | 30.56 | **27.80** | 2.0 |
| 15 | Black | 3U065 | 5 | 37.84 | **34.40** | 2.7 |
| 17 | Black | 3U066 | 5 | 45.05 | **41.00** | 3.2 |
| 19 | Black | 3U067 | 5 | 53.30 | **48.50** | 4.3 |
| 20 | Black | 3U068 | 5 | 58.53 | **53.20** | 4.6 |

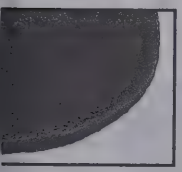


### 7200 BLACK STRIPPER PAD

Use to wet strip floors. Maintains consistent performance throughout the life of the pad. Use on standard and automatic floor machines.

| Size (In.) | Color | Stock No. | Case Qty. | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 11 | Black | 3ZH58 | 5 | $12.93 | **$11.73** | 1.8 |
| 13 | Black | 3U069 | 5 | 16.20 | **14.71** | 2.3 |
| 14 | Black | 3U070 | 5 | 18.20 | **16.53** | 2.8 |
| 15 | Black | 3U071 | 5 | 20.00 | **18.17** | 2.8 |
| 17 | Black | 3U072 | 5 | 23.76 | **21.59** | 3.2 |
| 19 | Black | 3U073 | 5 | 28.27 | **25.70** | 5.0 |
| 20 | Black | 3U074 | 5 | 30.91 | **28.10** | 5.8 |

## 3M SCRUBBING



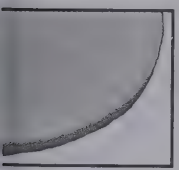
### 5300 BLUE CLEANER PADS

For wet or foam scrubbing. Can also be used for heavy duty spray cleaning. Removes dirt, spills and scuffs, leaving a clean surface ready for recoating.

Use on standard and automatic floor machines.

| Size (In.) | Color | Stock No. | Case Qty | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 11 | Blue | 3ZH59 | 5 | $12.93 | **$11.73** | 1.6 |
| 13 | Blue | 3U058 | 5 | 16.20 | **14.72** | 2.0 |
| 14 | Blue | 3U059 | 5 | 18.20 | **16.53** | 2.3 |
| 15 | Blue | 3U060 | 5 | 20.00 | **18.17** | 2.6 |
| 17 | Blue | 3U061 | 5 | 23.76 | **21.59** | 3.1 |
| 19 | Blue | 3U062 | 5 | 28.27 | **25.70** | 3.6 |
| 20 | Blue | 3U063 | 5 | 30.91 | **28.15** | 4.2 |

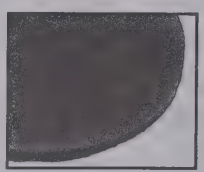
## 3M BUFF/CLEANING



### 4100 WHITE SUPER POLISH PAD

For use wet or dry. Maintains high gloss shine. Use to buff very soft finishes and lower traffic areas or use for polishing soft waxes on wood floors. For use on standard and automatic floor machines.

| Size (In.) | Color | Stock No. | Case Qty | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 11 | White | 3ZH61 | 5 | $12.93 | **$11.74** | 1.2 |
| 13 | White | 3U083 | 5 | 16.20 | **14.72** | 1.8 |
| 14 | White | 3U084 | 5 | 18.20 | **16.54** | 1.9 |
| 15 | White | 3U085 | 5 | 20.00 | **18.17** | 2.3 |
| 17 | White | 3U086 | 5 | 23.76 | **21.59** | 2.9 |
| 19 | White | 3U087 | 5 | 28.27 | **25.70** | 3.5 |
| 20 | White | 3U088 | 5 | 30.91 | **28.15** | 3.9 |

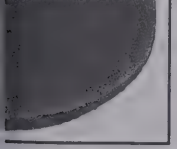


### 5100 RED BUFFER PAD

For use wet or dry. Specially designed for spray cleaning. Cleans when damp; buffs when dry. Quickly cleans and removes scuff marks while polishing floor to a high gloss. For use on standard and automatic floor machines.

| Size (In.) | Color | Stock No. | Case Qty | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 11 | Red | 3ZH60 | 5 | $12.93 | **$11.74** | 1.4 |
| 13 | Red | 3U089 | 5 | 16.20 | **14.72** | 1.7 |
| 14 | Red | 3U090 | 5 | 18.20 | **16.54** | 1.9 |
| 15 | Red | 3U091 | 5 | 20.00 | **18.17** | 2.2 |
| 17 | Red | 3U092 | 5 | 23.76 | **21.59** | 3.0 |
| 19 | Red | 3U093 | 5 | 28.27 | **25.70** | 3.0 |
| 20 | Red | 3U094 | 5 | 30.91 | **28.15** | 3.7 |

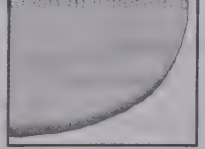
## 3M BURNISHING



### 3100 UHS AQUA BURNISH PAD

For use with ultra high speed machines (1500-3000 RPM) on softer finishes or in lower traffic areas. Produces a brilliant "wet-look" gloss. Exceptional durability and life.

| Color | Stock No. | Case Qty | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Aqua | 3U081 | 5 | $28.27 | **$25.70** | 3.5 |
| Aqua | 3U082 | 5 | 30.91 | **28.15** | 4.0 |



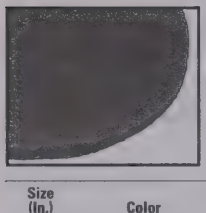
### 3500 NATURAL BLEND TAN PAD

Natural hair and synthetic fiber pad. For use with ultra high speed machines (1500-3000 RPM). Provides excellent results on a wide variety of floor finishes and traffic conditions.

| Size (In.) | Color | Stock No. | Case Qty | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 19 | Natural | 3U095 | 5 | $28.27 | **$25.70** | 3.7 |
| 20 | Natural | 3U096 | 5 | 30.91 | **28.15** | 4.4 |

# FLOOR PADS AND PAD DRIVERS

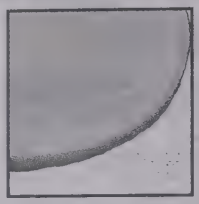
## 3M BURNISHING PADS



### 5000 TOPLINE PRE-CLEANING PAD

For scrubbing floors prior to burnishing. Excellent cleaning with minimal finish removal. Open construction resists clogging and allows for easy cleaning. Use with 3M Brand TopLine Pre-Burnish Floor Conditioner. Use on automatic floor machines.

| Size (In.) | Color | Stock No. | Case Qty | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 13 | Green/Brown | 3U077 | 5 | $18.56 | $16.86 | 1.8 |
| 17 | Green/Brown | 3U078 | 5 | 27.21 | 24.72 | 2.9 |
| 19 | Green/Brown | 3U079 | 5 | 34.36 | 31.30 | 3.2 |
| 20 | Green/Brown | 3U080 | 5 | 35.43 | 32.30 | 4.0 |



### 3200 TOPLINE SPEED BURNISH PAD

For use with ultra high speed machine (1500-3000 RPM) to restore gloss to du floors in a single pass. Works best wit TopLine Pre-Burnish Pad and TopLine Pre Burnish Floor Conditioner. Optimizes ultr high speed floor care on a wide variety c floor finishes. Works best on floors wit good base coat. Minimal finish removal.

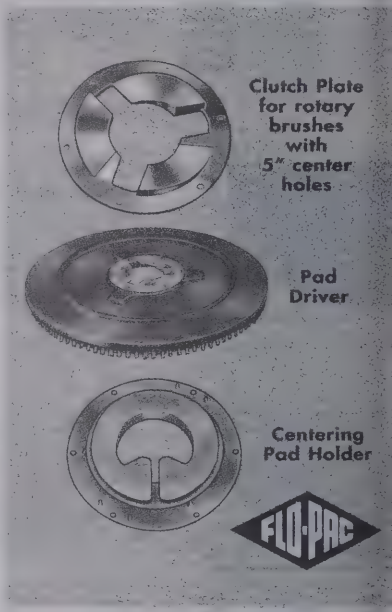
| Size (In.) | Color | Stock No. | Case Qty | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 19 | Peach | 3U075 | 5 | $32.41 | $29.55 | 3.8 |
| 20 | Peach | 3U076 | 5 | 35.43 | 32.30 | 3.8 |

## PAD DRIVER, CLUTCH PLATES, AND CENTERING PAD HOLDER

**Pad Drivers** feature short bristles that securely hold pads and provide optimum pad holding ability. For brushes and pad drivers with 5" diameter center holes. Refer to the table below for the proper clutch plate. When ordering a pad driver, a Pad Grab™ pad holder accessory No. 2U614 is recommended. Flo-Pac brand.

**Housing:** Double insulated die-cast aluminum
**Feature:** Full power in reverse
**Switch:** AC trigger switch
**Cord:** 8 ft. 2-cond. cord
**Power:** AC only
**Approvals:** UL Listed
**Max. Torque:** 290 ft.-lbs.
**No. 2U614.** Heavy-Duty for intermittent use.
Shpg. wt. 1.0 lbs. List .....$20.50.
Each .....$16.78

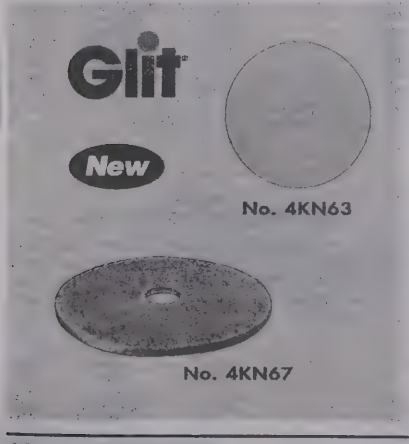
| Clutch Plate Fits the Following Machines with Plate Drive | Flo-Pac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Most Models: General | 4101A | 2U610 | $9.14 | $7.41 | 1.0 |
| Most Models: American, American Cleaning Equipment, Breuer, Clarke, Dayton, Holt, Johnson, Kent, Mastercraft, NSS, Nobles, Mercury, Pacific, and Pullman | 4101B | 2U611 | 9.14 | 7.41 | 1.0 |
| Most Models: Advance, Hillyard, and World | 4101C | 2U612 | 9.14 | 7.41 | 1.0 |
| Most Models: Hild | 4101D | 2U613 | 9.14 | 7.41 | 1.0 |




### PAD DRIVERS

| Machine Size (In.) | Block Size (In.) | Pad Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 13 | 12 | 13 | 2U588 | $39.44 | $31.95 | 6.0 |
| 15 | 14 | 15 | 2U592 | 49.04 | 39.95 | 4.0 |
| 16 | 15 | 16 | 2U596 | 52.60 | 42.75 | 8.0 |
| 17 | 16 | 17 | 2U600 | 59.78 | 48.60 | 9.8 |
| 18 | 17 | 18 | 2U601 | 65.82 | 53.60 | 10.0 |
| 19 | 18 | 19 | 2U605 | 69.84 | 56.80 | 11.0 |
| 20 | 19 | 20 | 2U609 | 75.90 | 61.85 | 12.0 |

## GLIT BURNISHING PADS




**Jackeroo Lite™** combines the effectiveness of lite natural hair lubrication with a sof binder. Brings out the luster on softer, more buffable finishes.

**Joey™** pads feature soft binders with fine synthetic fiber to create a super soft pad for dr burnishing.

**Walnutpad™ Clean/Shine Pad** combines walnut shells with coconut fibers for a pad tha cleans and shines. Use at 175-350 RPM for light cleaning. 1000+ RPM to shine harder more durable finishes.

**Cocopad™ Burnish Pads** feature biodegradable, natural lubricating coconut fibers whic contribute to the pads efficiency. Use at 1000+ RPM to burnish soft to medium finishes

| Description | Pad Size (In.) | Center Hole (In.) | Case Qty. | Glit Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Jackeroo Lite™ | 19 | 3¼ | 5 | 20441 | 4KN61 | $25.75 | $22.50 | 4.0 |
| | 20 | 3¼ | 5 | 20442 | 4KN62 | 26.93 | 24.52 | 4.0 |
| Joey™ | 19 | 3¼ | 5 | 20480 | 4KN63 | 33.50 | 30.45 | 3.0 |
| | 20 | 3¼ | 5 | 20481 | 4KN64 | 36.47 | 33.15 | 3.0 |
| Walnutpad™ | 20 | 3¼ | 2 | 24287 | 4KN67 | 29.54 | 26.85 | 4.0 |
| | 27 | 3¼ | 2 | 26017 | 4KN68 | 31.63 | 28.75 | 4.0 |
| | 27 | 3¼ | 2 | 24294 | 4KN69 | 31.63 | 28.75 | 4.0 |
| Cocopad™ | 19 | 3¼ | 5 | 24007 | 4KN65 | 27.10 | 24.63 | 4.0 |
| | 20 | 3¼ | 5 | 24008 | 4KN66 | 29.54 | 26.85 | 4.0 |

# REPLACEMENT ROTARY BRUSHES, PAD DRIVERS/ BONNETS AND CARPET CLEANING BRUSHES

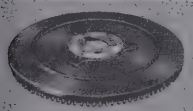
**eplacement rotary brushes and pad drivers** for floor machines and utomatic scrubbers. Brushes cover full range of stripping and rubbing procedures. Do not tear or lose their shape. Work equally well on new, old, and uneven floors. Can save time and labor costs while reducing operator fatigue. Flo-Pac brand.

## ROTARY BRUSH AND PAD DRIVER SPECIFICATIONS AND ORDERING DATA FOR CLARKE/DAYTON MACHINES

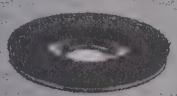
| Fits Clarke/ Dayton No. | Brushes Required | POLY SCRUB Stock No. | List | Each | Shpg. Wt. | SCRUB-GRIT® Stock No. | List | Each | Shpg. Wt. | NYLO-GRIT® Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dayton 3Z983, 2U438 | 1 | 3U955 | $78.02 | $65.25 | 7.0 | 3U956 | $203.54 | $167.75 | 7.0 | 3U957 | $246.52 | $203.50 | 7.0 |
| Dayton 3Z666, 3Z984, Clarke 2U437, 2U439 | 1 | 3U961 | 98.76 | 82.60 | 10.0 | 3U962 | 273.26 | 224.75 | 10.0 | 3U963 | 327.06 | 269.75 | 10.0 |
| Clarke Model 17 Compacts | 1 | 2U565 | 82.16 | 68.50 | 9.0 | 2U566 | 250.76 | 211.25 | 10.0 | 2U567 | 274.96 | 227.00 | 9.0 |
| Dayton 3Z667, Clarke Model 20 Compacts | 1 | 3U967 | 98.78 | 82.60 | 10.0 | 3U968 | 301.50 | 64.30 | 9.7 | 3U969 | 327.06 | 269.75 | 10.0 |
| Clarke Model C-1300 | 1 | — | — | — | — | — | — | — | — | 4KP62 | 142.82 | 113.60 | 3.0 |
| Clarke Model 21 Vision Series | 2 | 3XG22 | 64.02 | 49.45 | 4.8 | 3XG21 | 144.42 | 119.20 | 4.8 | 3XG20 | 154.54 | 127.15 | 4.8 |
| Clarke Model 2400 Leader Series, Vision V | 2 | 2U569 | 71.06 | 59.45 | 7.8 | 2U570 | 180.40 | 148.45 | 7.0 | 2U571 | 199.94 | 165.00 | 7.5 |
| Clarke Model 26 Vision Series | 2 | 2U573 | 77.94 | 67.80 | 7.0 | 2U574 | 198.40 | 164.25 | 7.5 | 2U575 | 234.36 | 193.50 | 7.8 |
| Clarke Model 3200 Leader Series, 32 Vision | 2 | 2U577 | 98.86 | 82.65 | 12.0 | 2U578 | 262.48 | 217.25 | 11.0 | 2U579 | 312.76 | 258.00 | 11.0 |
| Clarke Model 38 Vision Series | 2 | 2U581 | 127.44 | 106.60 | 13.0 | 2U582 | 307.48 | 258.00 | 14.0 | 2U583 | 379.10 | 312.75 | 14.0 |
| Clarke Model 34 Ride-On | 2 | 2U585 | 98.86 | 82.65 | 11.0 | 2U586 | 262.48 | 217.25 | 11.0 | 2U587 | 312.76 | 258.00 | 11.0 |
| | | PAD DRIVER | | | | DIRT NAPPER® | | | | ADJUST-A-GLIDE® | | | |
| Dayton 3Z983, 2U438 | 1 | 3U954 | 94.00 | 75.75 | 9.6 | 3U958 | 150.96 | 121.95 | 10.0 | 3U959 | 142.06 | 117.15 | 7.0 |
| Dayton 3Z666, 3Z984, 2U437, 2U439 | 1 | 3U960 | 105.10 | 84.50 | 9.8 | 3U964 | 178.30 | 144.45 | 12.0 | 3U965 | 192.56 | 159.25 | 11.0 |
| Clarke Model 17 Compacts | 1 | 2U564 | 95.02 | 86.10 | 10.0 | — | — | — | — | — | — | — | — |
| Dayton 3Z667, Clarke Model 20 Compacts | 1 | 3U966 | 105.10 | 93.85 | 11.0 | — | — | — | — | — | — | — | — |
| Clarke Model C-1300 | 1 | 4KP63 | 48.40 | 38.55 | 3.0 | — | — | — | — | — | — | — | — |
| Clarke Model 21 Vision Series | 2 | 3XG23 | 57.20 | 45.00 | 4.8 | — | — | — | — | — | — | — | — |
| Clarke Model 2400 Leader Series, Vision V | 2 | 2U568 | 83.62 | 71.05 | 7.5 | — | — | — | — | — | — | — | — |
| Clarke Model 26 Vision Series | 2 | 2U572 | 69.72 | 56.95 | 7.0 | — | — | — | — | — | — | — | — |
| Clarke Model 3200 Leader, 32 Vision | 2 | 2U576 | 104.21 | 85.50 | 10.0 | — | — | — | — | — | — | — | — |
| Clarke Model 38 Vision Series | 2 | 2U580 | 96.58 | 78.80 | 12.0 | — | — | — | — | — | — | — | — |
| Clarke Model 34 Ride-On | 2 | 2U584 | 86.50 | 70.60 | 12.0 | — | — | — | — | — | — | — | — |

otary brushes listed above are shipped pre-assembled with clutch plate or clip-on style mounting hardware.

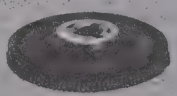
**GRAB HOLDER.** Recommended for use with pad drivers. **No. 2U614.** Shpg. wt.1.0 lbs. List $20.50. Each ..... $16.78



**Pad Driver**
hort bristle securely lds pads for optimum pad holding ability.



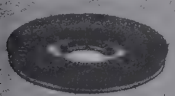
**Poly Scrub**
Ideal for light to medium scrubbing of most floor types.



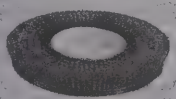
**Scrub-Grit II®**
For medium to mildly aggressive scrubbing of resilient floors, non-slip flooring, terrazzo, quarry tile, and concrete. Replaces red and blue pads.



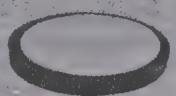
**Nylo-Grit®**
For aggressive scrubbing of concrete and stripping of resilient floors, terrazzo, and tile. Replaces brown and black pads.



**Nylon Carpet Brush**
Long lasting nylon ristles for aggressive carpet cleaning.



**Adjust-A-Glide®**
Scrubs carpets using a smooth, adjustable plate to support machine weight and position bristle at the proper cleaning depth.



**Dirt-Napper System®**
Combines a carpet cleaning brush to loosen dirt and an absorbent bonnet to pick up and hold debris.



**Replacement Bonnets**
Absorbent blend of yarn is constructed with a series of hooks and loops to absorb, clean, and dry carpet.

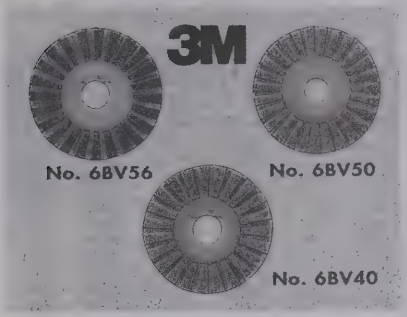
## ROTARY BRUSH SPECIFICATIONS AND ORDERING DATA (FOR ALL NON-CLARKE/DAYTON MACHINES)*

| achine ze (In.) | Block Size (In.) | POLY SCRUB Stock No. | List | Each | Shpg. Wt. | SCRUB-GRIT® II Stock No. | List | Each | Shpg. Wt. | NYLO-GRIT® Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 11 | 2U589 | $43.34 | $36.30 | 4.0 | 2U590 | $123.74 | $102.05 | 4.5 | 2U591 | $133.86 | $110.35 | 4.5 |
| 15 | 13 | 2U593 | 50.38 | 42.20 | 5.3 | 2U594 | 159.72 | 131.35 | 5.3 | 2U595 | 179.26 | 147.80 | 5.8 |
| 16 | 14 | 2U597 | 57.26 | 47.90 | 6.3 | 2U598 | 177.72 | 147.35 | 6.8 | 2U599 | 213.68 | 176.50 | 6.8 |
| 17 | 15 | 1CF32 | 69.06 | 57.80 | 6.3 | 1CF25 | 194.58 | 160.25 | 6.3 | 1CF26 | 237.56 | 196.75 | 6.0 |
| 18 | 16 | 2U602 | 73.20 | 61.20 | 9.3 | 2U603 | 219.34 | 180.75 | 9.3 | 2U604 | 266.00 | 219.50 | 9.8 |
| 19 | 17 | 2U606 | 78.18 | 65.35 | 9.8 | 2U607 | 241.80 | 196.00 | 10.0 | 2U608 | 292.08 | 241.25 | 11.0 |
| 20 | 18 | 1CF31 | 106.76 | 89.25 | 14.0 | | | | | 1CF24 | 318.10 | 269.00 | 9.3 |

| ine (In.) | Block Size (In.) | ADJUST-A-GLIDE® Stock No. | List | Each | Shpg. Wt. | NYLON CARPET BRUSH Stock No. | List | Each | Shpg. Wt. | DIRT NAPPER® Size (In.) | Stock No. | List | Each | Shpg. Wt. | REPLACEMENT BONNET Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11 | — | — | — | — | 2U615 | $70.06 | $57.80 | 4.3 | — | — | — | — | — | — | — | — | — |
| | 13 | 2U616 | $106.48 | $87.80 | 6.3 | 2U617 | 95.24 | 78.55 | 5.8 | — | — | — | — | — | — | — | — | — |
| | 14 | 2U619 | 117.96 | 97.30 | 6.8 | 2U620 | 106.72 | 88.00 | 6.8 | 15 | 2U621 | $120.20 | $97.05 | 6.8 | 1CF15 | $24.25 | $22.49 | 1.1 |
| | 15 | 1CF30 | 133.10 | 109.65 | 7.3 | 2U622 | 121.88 | 100.50 | 7.3 | 17 | 1CF28 | 142.00 | 116.20 | 8.5 | 2U532 | 26.14 | 22.80 | 1.7 |
| | 16 | 2U623 | 151.70 | 125.05 | 8.5 | 2U624 | 140.46 | 115.75 | 8.8 | 17 | 1CF28 | 142.00 | 116.20 | 8.5 | 2U532 | 26.14 | 22.80 | 1.7 |
| | 17 | 2U625 | 160.28 | 132.70 | 9.8 | 2U627 | 172.38 | 142.10 | 11.0 | 19 | 1CF27 | 169.34 | 137.25 | 11.0 | 2U533 | 33.08 | 30.40 | 2.1 |
| | 18 | 1CF29 | 183.60 | 150.50 | 9.9 | — | — | — | — | 19 | 1CF27 | 169.34 | 137.25 | 11.0 | 2U533 | 33.08 | 30.40 | 2.1 |

quire specific clutch plates (sold separately on page1874)

# FLOOR BRUSHES AND AUTOMATIC SCRUBBERS




Deep cleaning brushes attach like floor pads. Use on standard rotary and auto scrub equipment. Universal attachment allows for switching from brush to floor pad in seconds. Five brushes to choose from for specific cleaning needs. For rotary machines 175-350 RPM, auto scrubber. Daily cleaning of Marble.

## 3M™ FLOOR BRUSHES

| Description | Brush Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| #51 Light Duty Floor Brush - Green loop backing for scrubbing and dailing cleaning marble, raised rubber, or high-gloss finished floors. | 15" | 6BV56 | $123.40 | $112.25 | 2.1 |
| | 16 | 6BV57 | 131.07 | 119.20 | 2.5 |
| | 17 | 6BV58 | 139.26 | 126.60 | 2.6 |
| | 19 | 6BV59 | 156.42 | 142.25 | 3.4 |
| | 20 | 6BV60 | 174.27 | 159.00 | 8.0 |
| #53 Medium Duty Floor Brush - Violet loop backing for scrubbing of most floor surfaces, including quary tile, ceramic tile, grated surfaces, vinyl floors, marble, and stone. | 13 | 6BV50 | 296.41 | 269.75 | 1.9 |
| | 15 | 6BV51 | 177.99 | 162.25 | 2.2 |
| | 16 | 6BV52 | 189.96 | 172.75 | 2.7 |
| | 17 | 6BV53 | 205.81 | 187.50 | 3.2 |
| | 19 | 6BV54 | 236.48 | 215.25 | 4.3 |
| | 20 | 6BV55 | 268.43 | 244.50 | 3.8 |
| #57 Medium Duty Concrete Brush - Blue loop backing for scrubbing of rough, grated surfaces and concrete. | 16 | 6BV47 | 203.65 | 185.50 | 2.9 |
| | 17 | 6BV48 | 221.33 | 201.50 | 3.2 |
| | 19 | 6BV49 | 254.70 | 232.00 | 4.3 |
| #73 Extra Heavy-Duty Floor Brush - Brown loop backing for heavy-duty scrubbing/stripping of most floor surfaces, quary tile, and other grated surfaces such as terrazzo, unglazed ceramic, and pave brick. | 16 | 6BV40 | 189.96 | 172.75 | 2.9 |
| | 17 | 6BV41 | 205.81 | 187.50 | 2.8 |
| | 19 | 6BV42 | 236.48 | 215.25 | 3.9 |
| | 20 | 6BV43 | 268.43 | 244.50 | 4.1 |
| #77 Heavy Duty Concrete Brush - Black backing for scrubbing or stripping concrete, and ideal for industrial applications. | 16 | 6BV36 | 210.04 | 191.25 | 3.1 |
| | 17 | 6BV37 | 228.63 | 208.25 | 3.2 |
| | 19 | 6BV38 | 263.82 | 240.25 | 4.3 |
| | 20 | 6BV39 | 301.28 | 274.00 | 4.8 |

## VISION® 17 COMPACT AUTOMATIC FLOOR SCRUBBERS

- **17" cleaning swath**
- **Adjustable handles for different height operators**

Equipped with an infinitely adjustable brush control for use in numerous applications. Designed with a swing-style rear squeegee for superior water pick-up. Both models are complete with brush or pad driver. 75 ft. cable operating on 115VAC 60Hz.

| Description | Cleaning Path (In.) | Battery Size | Traverse | Clarke Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Vison 17E w/Pad Driver | 17 | NA | NA | 00372A | 3UV75 | $3045.00 | $2954.00 | 190.0 |
| Vison 17E w/Brush | 17 | NA | NA | 00371A | 3UV74 | 3020.00 | 2930.00 | 196.0 |




## 20" FLOOR SCRUBBERS

- **Large 14-gallon solution tank for increased productivity**
- **Electronic float shut-off prevents overfilling damage to vacuum motor**
- **Powerful 0.75HP, 3-stage vacuum motor for maximum water recovery**
- **Locking tank latch provides added operator safety**
- **Ergonomic control handle for added operator comfort**
- **Large, easy access drain hoses empty easily into bucket or floor drain**

Floor scrubbers are compact and economical. Both models feature a 1 HP, 2 stage tangential discharge vacuum motor with a 115V, 75 ft. cable with hospital grade plug.

| Description | Clarke Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 20" Electric Scrubber w/Brush | S20e | 4MK45 | $3195.00 | $3100.00 | 402.0 |
| 20" Electric Scrubber w/Pad Driver | S20 | 4MK46 | 3220.00 | 3124.00 | 402.0 |




**DON'T DELAY... ORDER FROM GRAINGER NOW!**

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

**CLARKE® LIMITED WARRANTY**

**Clarke warrants its Polydur™ solution and recovery tanks for eight years and its brush/pad drive motors for two years. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

# CARPET EXTRACTORS AND CARPET DRYER

## IMAGE™ SELF-CONTAINED EXTRACTORS



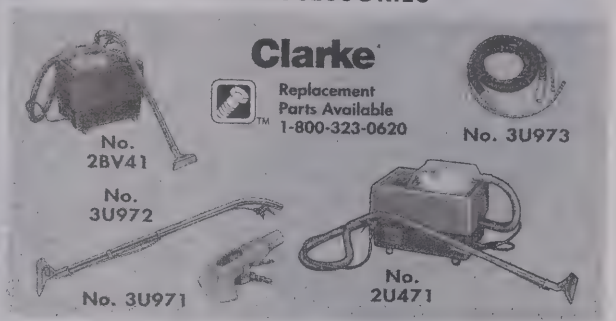

**Clarke® self-contained extractors** provide deep penetrating power to scrub and clean carpets. 100 PSI pump and double diamond brush provides three directional cleaning. The three stage vacuum motor provides 137" of waterlift pressure. Extractors have rotomolded seven gallon solution and recovery tanks. An automatic float shut-off system stops all operations to prevent recovery tank overflow.

**Nos. 2U469 and 3UW09** feature a compact design for convenient storage and transporting. 100 PSI maximum demand solution pump for deep penetration into carpet fibers. Height adjustable 3" scrubbing brush.

**No. 2BV39 and 3UW10** feature Interex, an alternative to bonnet cleaning. Include two brushes and adjustable pump pressure. High pressure and stiff brush provide restorative cleaning; low pressure and a soft double diamond brush provide quick dry time for interim cleaning. Quick change spray nozzles.

| | Brush Size, Dia. | Vac. Width | Max. Solution Pump PSI | Clarke Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Stage 16I | 13" | 16" | 100 | 04110A | 2U469 | $1995.00 | $1896.00 | 140.0 |
| Stage 16IX | 13 | 16 | 0-100 adj. | 04111A | 2BV39 | 2225.00 | 2114.00 | 145.0 |
| Stage 20I | 16 | 20 | 100 | 04115A | 3UW09 | 2150.00 | 2043.00 | 150.0 |
| Stage 20IX | 16 | 20 | 0-100 adj. | 04116A | 3UW10 | 2380.00 | 2261.00 | 152.0 |

## PORTABLE CARPET EXTRACTORS AND ACCESSORIES




Designed with large capacity solution tanks and a lift out recovery bucket for easy use. Clear recovery dome on top of recovery bucket provides a visible check for dirty solution level. Automatic float shut-off prevents recovery bucket overflow by shutting off the vacuum. Powerful tangential discharge motor has double ball bearings and a patented air seal. Units come standard with a 10 foot solution/vacuum hose. Order No. 3U972 for the 9" extraction floor tool and wand listed below. Clarke brand.

**No. 2U471** has a 65 PSI solution pump. **No. 2BV41** features a 0 to 100 PSI solution pump and a 2 HP, 135" lift vacuum motor.

| Solution Tank (Gal.) | Recovery Bucket | Cleaning Width | PSI | Clarke Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 11 | 3 Gal. | 9" | 65 | EXT-311 | 2U471 | $1155.00 | $1098.00 | 68.0 |
| 15 | 5 | 9 | 0-100 | EXT-515 | 2BV41 | 1610.00 | 1530.00 | 72.0 |

### CARPET EXTRACTOR ACCESSORIES*

| Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 4" Cast Aluminum Hand Tool | 3U971 | $115.00 | $112.70 | 2.6 |
| 9" Cast Aluminum Floor Tool and Wand | 3U972 | 245.00 | 240.25 | 7.0 |
| 10' Vacuum/Solution Hose Assembly | 3U973 | 166.25 | 163.00 | 7.0 |

(*) For use with all carpet extractors listed on this page.

## SELF-CONTAINED WALK BEHIND CARPET EXTRACTOR

eatures automatic switch with three pile-height adjustments. djustable speed control. Solution jets can be angle adjusted to it different applications.

**Stage, 2 HP vacuum motor** and 1/4 HP brush motor. 50-100 PSI ljustable demand solution pump penetrates deep into carpet pile. 25 illon Polydur™ solution and recovery tanks tilt for easy maintenance. cludes two 21" quick-change brushes for maintenance/restoration, cuum width 24". 75 ft. twist-lock detachable power cable. Operates 115VAC, 60 Hz. Clarke® brand (EXT-2100).

**. 2U470.** Shpg. wt. 296.0 lbs. List $4980.00. Each .....$4731.00

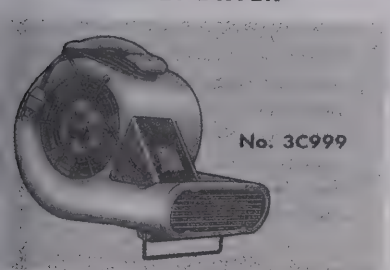
Clarke

Replacement
Parts Available
1-800-323-0620

**NOTE: Equipment service may not be available in all market areas.**




## CARPET DRYER




- **Easy-to-see yellow housing helps identify possible physical hazards such as falling or tripping as recommended by ANSI standard Z53.1**
- **Portable blower can be used for carpet drying, floor drying, exhausting foul air, ventilating, and spot cooling**
- **High density polyethylene housing has a built-in power cord wrap for easy cord storage and handling**
- **Cord connected ground fault interrupt helps protect user from possibility of hazardous shock**
- **20-Ft. 18/3, SJTW-A water resistant power cord is extra strong and durable**
- **Totally enclosed, 2-speed motor designed for indoor/outdoor use**
- **For added protection, blower guards comply with OSHA standards**

| Wheel (In.) Dia | W | Outlet Velocity in FPM High | Low | HP | Motor Volts | Amps | Overall Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10⅝ | 10⅝ | 3500 | 2870 | 1/2 | 115 | 9.0 | 19¾ | 18 | 23½ | 3C999 | $707.66 | $423.75 | 45.0 |

# COMMERCIAL SPACE AND UPRIGHT VACUUMS




## SPACE VAC

- **4 cubic feet collection bag**
- **3 pile height adjustment**
- **27" double row bristle brush**
- **Carpets only**

This wide area vacuum has a 27" vacuuming path for one-pass cleaning and can clean up to 20,000 square feet per hour. 4" diameter vac intake pipe and 9" impeller develops 265 CFM for efficient pickup of large objects. 4 cubic foot collection bag has a 5 micron filtration level. 3 pile height adjustment. Steel frame with damage-resistant ABS cover. Double row brush bristles angled toward center of the brush to better pickup debris and channel to vacuum. Fold down handle. 3/4 HP. 115V, 60 Hz. 75 ft., 3-wire power cord. Clarke brand (590).

**No. 2U476.** Shpg. wt. 164.0 lbs. List.....$2015.00.
Each.....**$1915.00**

## FILTRAVAC DUAL MOTOR UPRIGHT VACUUMS




Versatile twin motor vacuums have vacuum motor separate from brush head motor for easily converting to tank-type vacs for hard to reach areas. Included are built-in upholstery and crevice tools with 1¼" diameter, 7 ft. extendible crush-proof hose. Its low profile allows brush head to glide easily under sofas and chairs. Comes with a high filtration disposable paper bag. Well suited for use where clean air maintenance is a concern.

Standard features include: built-in tools and holder, bag "full" indicator light, 3-position carpet height adjustment, brush motor stops when tools are in use, low profile detachable tank, and 3-wire 40 ft power cord. Electronic vacs also feature cogged belt, brush indicator light, and stiffer bristles. Vacuums "shut down" automatically if vac is overloaded to protect vacuum motor from damage. Disposable paper bags are available. Clarke brand.

**Disposable Paper Bags.** Come in packages o 10. Clarke brand (50721B).

**No. 2U477.** Shpg. wt. 2.0 lbs. List.....$19.60
Each.....**$19.21**

**Vacuum Belt.** Clarke brand (50922A).

***New* No. 4MK49.** Shpg. wt. 0.1 lbs. List....$10.50
Each.....**$10.29**

| Description | Cleaning Path (In.) | No. of Adjustments | Motor HP Brush | Motor HP Vac | Clarke® Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Filtravac 14** | 14 | 3-Position | 1/4 | 1 | 03052A | **3KH87** | $655.00 | **$622.50** | 24.0 |
| **Filtravac 18** | 18 | 3-Position | 1/4 | 1 | 03054A | **3KH88** | 805.00 | **765.00** | 24.0 |




## DRY VACUUM CLEANING SYSTEM

Features a powerful 2.0 HP, two-stage motor. Belt driven brush. 120V, 60 Hz, 9.4 amps. 6 gallon tank, 35 ft. power cord. 6 ft. x 1¼" hose with airflow control, chrome interlocking extension wands, dual-surface hard floor/carpet nozzle, round dusting brush, crevice tool, and disposable paper filter bag. Average motor brush life: 750 hours*. UL(E40197) and CSA Listed.

**No. 5Z041.** Shpg. wt. 23.0 lbs. List.....$360.00.
Each.....**$288.00**

(*) Replacement motor brushes available through Grainger Parts Operation.

## LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# COMMERCIAL UPRIGHT VACS AND CARPET SPOTTERS

## Sanitaire

### A No. 3U712

- Quick Kleen® removable fan chamber
- Chromed steel beater bar brush roll
- Dual Edge Kleener®
- Chromed steel motor hood
- Heavy-duty top-filling cloth dust filter bag
- Non-marking wrap around furniture guard
- Large rear wheels for easy maneuverability

### B No. 3U477

- Quick Kleen® removable fan chamber
- All metal double bristle brush roll
- Dual Edge Kleener®
- Chromed steel motor hood
- Heavy-duty top-filling cloth dust filter bag
- Non-marking wrap around furniture guard
- Large rear wheels for easy mobility
- Brilliant headlight

### C No. 3U478

- Quick Kleen® removable fan chamber
- 16" wide cleaning path
- All metal beater bar brush roll
- Dual Edge Kleener®
- Chromed steel motor hood
- Heavy-duty top-filling cloth dust filter bag
- Non-marking wrap around furniture guard
- Brilliant headlight




## VACUUM ACCESSORIES

No. 5H070 ATTACHMENT KIT
For Nos. 3U712, and 3U477. Includes dusting brush, upholstery nozzle, crevice tool, extension wand, vinyl hose assembly, curved handle, base adapter. Eureka brand (60E).

**No. 5H070.** Shpg. wt. 2.5 lbs. List $25.00. Each ..... $23.75

***New* No. 4MK44.** Shpg. wt. 1.0 List $29.88. Each ..... $22.41▲

| ze (L) | Amps at 120V | No. of Adjustments | Light | Cord Length | Hood Height (In.) | Net Wt. | Eureka Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 7.0 | 6-Position | — | 50 ft., 3-wire | 6 | 18.0 | SC886 | **3U712** | $319.75 | **$256.00** | 20.0 |
| 2 | 7.0 | 6-Position | 25 Watt | 50 ft., 3-wire | 6 | 18.0 | SC888 | **3U477** | 355.00 | **284.00** | 20.0 |
| 6 | 7.0 | 6-Position | 25 Watt | 50 ft., 3-wire | 6 | 19.0 | SC899 | **3U478** | 426.00 | **341.00** | 20.0 |




## A PROFESSIONAL SPOTTER ALL-PURPOSE DAILY SPOTTER

- Powerful, ready-to-use daily carpet spotter removes a wide range of stubborn spots and stains
- Neutral pH7 formula will not cause resoiling. Pleasant lemon fragrance

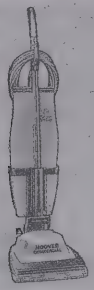
## B CITRUS EXPRESS® GEL SPOTTER

- Multi-purpose, ready-to-use gelled solvent spotter removes gum, adhesives, make up, tar, oils and more
- Gelled formula stays on the carpet surface and allows maximum product contact time. Pleasant citrus fragrance

| Key | Description | Size | | Stock No. | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Professional Spotter | 1 qt. | | **3UR51** | **$7.28** | **$6.55/12** | 2.3 |
| | | 1 gal. | | **3UR50** | **17.16** | **15.44/4** | 8.9 |
| | Secondary Labels | Pack of 10 | | **3UT79** | **3.68▲** | — | 0.1 |
| B | Citrus Express® Gel Spotter | 16 oz./6pk | *New!* | **4MG38** | **66.15** | — | 7.0 |

Net prices, not subject to discounts.

# UPRIGHT VACS AND ACCESSORIES



A
No. 4KN70

Bag not included with Nos. 4Z878 and 4Z879. Order separately below.



B
No. 4Z878
14" Nozzle

New

E5438

LR36575



C
No. 4Z879
18" Nozzle

Replacement Parts Available
1-800-323-0620

## A COMMERCIAL-DUTY UPRIGHT VACS

Rugged 2-brush steel ball bearing agitator action deep cleans and grooms all popular carpet types and provides dual edge cleaning. Features include 4-position height selection, nonmarking clear vinyl hand grip, chromed steel handle, and fingertip On/Off switch. Convenient low profile design and 3-position handle help optimize efficiency on the job. Base is constructed of rugged Lexan 500* with a full-wrap, nonmarking clear furniture guard. Extremely durable bag material is triple-layered providing outstanding filtering qualities. Double insulated wiring. Meets OSHA Requirements 29 CFR 1910 Subpart S. UL Listed(E5438). Hoover brand.

**No. 4KN70** features large capacity E-Z Empty™ dirt cup which eliminates vac bags, and 35 ft. SJT 2-wire power cord.

(*) Lexan is a registered trademark of General Electric Company.

## B & C COMMERCIAL VACS

**All models are equipped with a 7-blade high impact fan** for commercial and industrial cleaning. Lightweight, glass fiber reinforced polycarbonate base with high impact ABS thermoplastic motor hood.

**Units feature triple-action cleaning:** replaceable molded agitator with two sealed ball bearings. Uses beater bars to loosen dirt, agitator brushes sweep dirt, and powerful suction carries the debris int the collection bag. Clear plastic dirt duct has built-in particl trap.

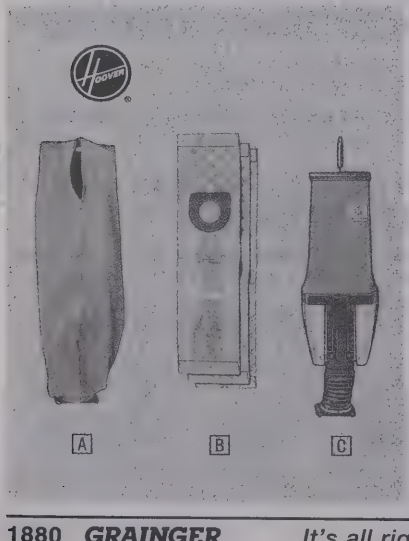
**6-position carpet dial** is located on front of machine. Toe-operate 3-position handle adjusts for storage, normal operation, and lo position cleaning. Features wraparound bumper guard, foot oper ated power switch, and four large transporting wheels. Tensio clutch adjusts V-belt drive. Includes 50-ft. cable and cord hook 113 CFM air flow.

**Bag not included with Nos. 4Z878 and 4Z879; see cloth and** dispos able bags and combination dirt cup/bag shown below. No. 2A77 bag assembly can be used alone, or use with disposable bag No 5H494 for added convenience. UL Listed(E5438). Meets OSH Requirements 29 CFR 1910 Subpart S. Hoover brand.

## D & E WINDTUNNEL™ COMMERCIAL UPRIGHT VACS

Pick up more dirt than any other clean-air upright. Reusable 3 layer cloth bag included. Also include 1 allergen filtration throw away paper bag. Feature 9-stage allergen filtration and 6-piec onboard tool set with super stretch hose. Edge groomers on bot sides eliminate detailing. Dual brushed agitation for superio cleaning. Nonmarking furniture guard protects furniture. 13" va comes with 35 ft. cable, 15" vac comes with 50 ft. cable. Hoove brand.

| Key | Nozzle Width (In.) | Amps 120V | Bag Type | Cord Length | Hood Height (In.) | Net Wt. | Hoover Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 12 | 6.0 | Dirt Cup | 35 ft., 2-wire | 6½ | 21.0 | C1429 | **4KN70** | $292.00 | **$233.75** | 21.0 |
| B | 14 | 6.5 | See Below | 50 ft., 3-wire | 7 | 23.5 | U7069-080 | **4Z878** | 558.00 | **446.50** | 27.0 |
| C | 18 | 7.0 | See Below | 50 ft., 3-wire | 7 | 24.2 | U7071-080 | **4Z879** | 668.00 | **534.50** | 28.0 |
| D | 13 | 12.0 | 1 cloth/1 paper | 35 ft., 3-wire | 7 | — | C1703900 | ***New* 4TL68** | 450.00 | **360.00** | 23.0 |
| E | 15 | 12.0 | 1 cloth/1 paper | 50 ft., 3-wire | 7 | — | C1705900 | ***New* 4TL69** | 520.00 | **416.00** | 24.0 |



A B C

## A RUBBER REINFORCED CLOTH BAG ASSEMBLY

For vac Nos. 4Z878, and 4Z879. 1097 cu-in capacity. Features rubber reinforced oute cloth bag with high filtration inner cloth bag. Use as is, or remove inner cloth bag an replace with disposable bag No. 5H494 for fast, easy cleaning. No. 5H494 bags no included. Hoover brand (40201060).

**No. 2A776.** Shpg. wt. 2.7 lbs. List $58.00. Each ..... $55.10▲

## B DISPOSABLE VACUUM BAGS

Optional Hoover bags for use with vacs Nos. 4Z878, and 4Z879. Package of 3 bags. Ca also be used with No. 2A776 cloth bag assembly above. Hoover brand (4010001A).

**No. 5H494.** Shpg. wt. 0.3 lbs. List $4.00. Each ..... $3.80▲

## C COMBINATION PLASTIC DIRT CUP AND FABRIC UPPER BAG

For vac Nos. 4Z878 and 4Z879. 900 cu-in capacity. Hoover brand (58642015).

**No. 2A777.** Shpg. wt. 3.6 lbs. List $70.00. Each ..... $66.50▲

## DISPOSABLE MICROFILTRATION VACUUM BAGS (Not Shown)

Designed to help those who suffer from dust-associated allergies or discomforts. Trap 99.9% (down to 5 microns) of typical household dust in an electrostatically charge liner. Prevents many pollens, spores, and dust mites from becoming airborne. Package of 3. Hoover brand (40100100A).

**No. 1D218.** Shpg. wt. 0.4 lbs. List $9.00. Each ..... $8.55▲

(▲) Net prices, not subject to discounts.

# PORTABLE VACUUMS

## NAPSAC® BACK PACK VACUUM CLEANER

Cleans areas that are not easily accessed by upright vacuum cleaners. Lightweight canister and orthopedic back brace keeps operator cool and comfortable. Single and two stage vacuum motor available. Single stage motor provides 112 cfm of air flow with 63" of waterlift pressure; Two stage motor provides 94 cfm of air flow with 90" of waterlift pressure to pick up heavier debris. The NapSac® comes complete with 1.25 and 1.5" dry tool kit including 6.5' stretch hose, wand, crevice, dusting, upholstery and carpet tool. The 1.25" tool kit also includes a telescoping wand and extension tube. Clarke brand.

Call 1-800/323-0620 for vacuum bags.




| Description | Clarke Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **NapSac® with 1.25" Tool Kit; Standard Power** | 02132B | **3UW06** | $445.00 | **$422.75** | 24.0 |
| **NapSac® with 1.5" Tool Kit; Standard Power** | 02134B | **3UW07** | 480.00 | **456.00** | 24.0 |
| **NapSac® with 1.5" Tool Kit; High Power** | 02136B | **3UW08** | 500.00 | **475.00** | 24.0 |
| **HEPA Filter Assembly** | 10618A | **3UW11** | 188.00 | **184.25** | 6.0 |
| **400 Hz Airline Conversion Kit** | 650904 | **3UW14** | 140.00 | **137.20** | 2.0 |

## DAYTON® BACK PACK VACUUM CLEANERS

### A BACK PACK VACUUM

Designed with special attention to cleaning productivity, indoor air quality, quiet performance and comfortable operation. Powerful two-stage flow-thru motor, top-fill micro bag, easy access switch and multi-surface floor nozzle. Carry handle. Contoured design for accessibility. Accessories include: 5' x 1½" pos-lock swivel hose, 2- lightweight aluminum wands, dual surface floor nozzle, crevice tool, wide strap shoulder/waist harness, 50 ft. power cord and micro-lined disposable bag and semi-permanent cloth filter.

### B 400 Hz. BACK PACK VACUUM FOR AIR CRAFT CLEANING

Filter Capacity/Area: 7 Qt/500 Sq. In. Micro Lined. Dimensions: 10½" x 8½" x 20. Power: 2.0 HP Two-stage flow-thru motor.

### BACK PACK VAC CLOTH COLLECTION FILTER

***New*** **No. 4TR18.** Shpg. wt. 1.0 List.....$27.41. Each.....**$22.95▲**

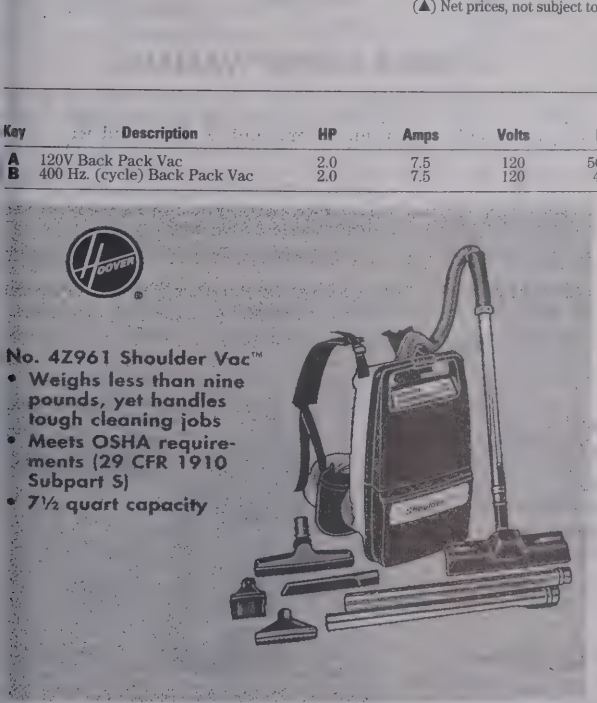
### BACK PACK PAPER COLLECTION FILTER

***New*** **No. 4TR17.** Shpg. wt. 3.0 List.....$25.46. Each.....**$19.95▲**

(▲) Net prices, not subject to discounts.




| Key | Description | HP | Amps | Volts | Hz. | Static Pressure (in.) | CFM | Tank Orifice (in.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 120V Back Pack Vac | 2.0 | 7.5 | 120 | 50/60 | 90 | 98 | 2½ | **4TR09** | $462.46 | **$400.00** | 19.0 |
| **B** | 400 Hz. (cycle) Back Pack Vac | 2.0 | 7.5 | 120 | 400 | 90 | 98 | 2½ | **4TR10** | 514.54 | **445.00** | 19.0 |




## INDUSTRIAL DUTY SHOULDER VAC™

Heavy-duty portable vacuum cleaner cleans hard-to-reach areas with ease. Comfortable padded shoulder straps are securely fastened to machine. Convenient handle for carrying.

Powerful 1900 watt, 7.5 amp, 120V, 60 Hz motor. 62" statuc pressure, 61 CFM. Filter protects motor from small impurities; easy to remove and clean. On-Off switch. 50 ft. SJT cord is double insulated.

New Super Stretch Hose with power suction cintrol and positive lock for tools, 11" crevice tool, 9" floor brush, 5" upholstery and drapery tool, 12" combination floor and carpet tool. Three 20" wands provide 6-ft. reach. Reusable clth bag. 7H x 11W x 19"L UL Listed. Meets OSHA requirements (29 CFR 1910 Subpart S). Hoover brand. (C2075-080).

**No. 4Z961.** Shpg. wt. 18.0 lbs. List $376.00. Each.....**$301.00**

**DISPOSABLE PAPER BAG** for No. 4Z961 industrial duty shoulder vac. Package of 3. Hoover brand (4010028K).

**No. 1D217.** Shpg. wt. 0.3 lbs. List $4.00. Each.....**$3.80▲**

**DISPOSABLE MICROFILTRATION VACUUM BAGS** for No. 4Z961 industrial duty shoulder vac. Designed to help those who suffer from dust-associated allergies or discomforts. Traps 99.9% (down to 5 microns) of typcial household dust. Package of 3. Hoover brand (4010100K).

**No. 1D215.** Shpg. wt. 0.4 lbs. List $9.00. Each.....**$8.55▲**

# PORTABLE VACS AND WORKSHOP DUST COLLECTOR

## PORTABLE VACS

### [A] No. 1D457 PORTABLE ONE GALLON WET/DRY VAC

Lightweight portable vac with compact wet/dry cleaning power. Tough 1.5 HP, 120V, 6.0 Amp by-pass motor. 6 ft. x 1¼" hose, round brush, utility nozzle, crevice tool, wall bracket/tool holder, 18 ft. power cord, No. 5X879 foam filter sleeve, and No. 6H008 dry disc filter. UL (E40197) and CSA Listed (16331). Dayton brand.

### [B] No. 4Z906 PORTABLE HAND VAC

Lightweight dry pick-up only vac picks up dirt, dust, and litter from office, workshop, car, work station and garage. Well-suited for cleaning hard-to-reach places. 120V, 60 Hz, 6.8 amp AC motor delivers 1.5 HP. Includes adjustable shoulder strap, removable soft-snout with wide mouth for direct cleaning, 3-ft. hose, utility nozzle and crevice tool. 18-ft., 3-conductor cord. 8H x 9¾ x 16½"D. Uses replacement bag No. 6H020 on page 1890. UL (E40197) and CSA Listed (16331). Dayton brand.

### [C] No. 2Z988 HANG-UP VACUUM

2½-gallon dry pick-up only vacuum for use in machine shops, workshops, garages, and computer rooms. Two-stage, thru-flow, 120V, 50/60 Hz, 7.5 Amp motor develops 84" static vacuum pressure and 95 CFM at 2½" tank orifice. Motor is equipped with permanently lubricated ball/ball bearings and On-Off switch. Hangs on wall. Reaches up to 18 ft. in any direction using 1½" dia. x 18-ft. crushproof hose and 6" master nozzle. Seamless tank dimensions are 8" dia., 24" high. Replacement hose No. 6X077 available. Replacement cartridge No. 6H021 on page 1890. UL (E40197) and CSA Listed (16331). Dayton brand.

### [D] No. 6X077 REPLACEMENT HOSE

1½" x 18-ft. crushproof hose for use with No. 2Z988 Hang-Up Vac.

### [E] No. 4TR22 QUIET PORTABLE CANISTER WET/DRY VACUUM

Features 1.5 gallon poly tank and 7.25 Amp permanently lubricated by-pass motor. Quiet operation design. Features 18' power cord and 4 - caster dolly system. Accessories include 6' x 1¼" hose, 2 extension wands, 12" deluxe swivel nozzle w/brush and squeege inserts, utility nozzle, crevice tool. round brush, foam filter (5X879), dry disc filter (6H008), and collection filter bag (4TR16). UL Listed. CSA Certified.




| Key | Description | HP | Amps | Volts | Hz | Static Pressure (In.) | CFM | Tank Orifice (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Portable Wet/Dry Vac | 1.5 | 6.0 | 120 | 50/60 | 52 | 60 | 1¼ | **1D457** | $53.43 | **$42.75▲** | 7.6 |
| B | Hand Vac | 1.5 | 6.8 | 120 | 60 | 52 | 60 | 1¼ | **4Z906** | 91.75 | **73.40** | 6.5 |
| C | Hang-Up Vac | 2.0 | 7.5 | 120 | 50/60 | 84 | 95 | 2½ | **2Z988** | 253.43 | **202.75** | 20.0 |
| D | Replacement Hose | — | — | — | — | — | — | — | **6X077** | 53.66 | **48.30▲** | 5.4 |
| E | Quiet Portable Canister Vac | — | 7.25 | 120 | 50/60 | 55 | 130 | 1¼ | ***New* 4TR22** | 81.77 | **58.50** | 12.0 |

(▲) Net prices, not subject to discounts.




## PORTA POWER™ VACUUM

**Use as a vacuum or blower.** Includes 6 ft. Tuflex® hose of two-ply reinforced vinyl, combination rug and floor nozzle with 3-position, adjustable brush, uphostery tool, 9" floor and wall brush dusting brush, crevice tool, and two 20" wands and sholder strap Reusable cloth dust bag has two quart capacity. 2.2 Peak HP motor produces 7.4 amps at 120V. 60" static pressure, 61 CFM 11H x 5W x 12" D. 35 ft. 2 wire cord with 2-prong plug. Hoover brand (S7065-060). UL Listd Meets OSHA Requirements.

**No. 5H489.** Shpg. wt. 14.0 lbs. List $172.43. Each ..... **$137.95**

**DISPOSABLE PAPER BAG** for No. 5H489 Porta Power™ vacuum. Package of 5. Hoover brand (4010038N).

**No. 1D216.** Shpg. wt. 0.1 lbs. List $4.00. Each..... **$3.80▲**

## WORKSHOP DUST COLLECTOR

- **Effective means to collect wood shavings and chips from woodworking equipment**
- **Sawdust and shavings are collected in 25-gallon plastic tank. Lighter airborne particles pass through blower and are captured in permanent filter bag.**
- **1.25 Peak HP universal motor is 120 volt, 60 Hz, and 6.0 amps to deliver 10" static vacuum pressure and 300 CFM airflow**
- **Two-part static ground system: Motor ground; Tank ground**
- **25-Gallon tank capacity**
- **Two-stage filter system: first stage cyclonic action separator, second stage cloth filter bag**
- **12 ft. x 4" flexible hose with clamps**
- **18 ft., 3-wire, 18-gauge power cord**
- **UL(E40197) and CSA Listed**

Not intended for use as a utility type dust collector. Specified for collection of woodworking debris only.

**No. 6H004.** Shpg. wt. 32.0 lbs. List $388.12. Each ..... **$310.50**



# VACUUMS

## DAYTON VACUUM SELECTION GUIDE

### STEP 1: DETERMINE THE PRIMARY APPLICATION

- Dayton offers vacuums for wet/dry, dry only and special applications
- How frequently will the vacuum be used?
- What type(s) of substance will the vacuum be picking up?

### STEP 2: CONSIDER MOTOR TYPE

(By-pass motors are required for wet pick-up)

1. SINGLE STAGE MOTOR (ONE VACUUM FAN):
- Typically develops a high air flow which moves a large volume of small/fine particles
- Sufficient suction for wet pick-up
- Designed for moderate frequency use in workshop, light industrial and general purpose applications
- Economical

2. TWO STAGE MOTOR (TWO VACUUM FANS):
- Greater suction for liquids and heavier particles
- Ability to pick up small/fine particles
- Designed for relatively high frequency use in heavy industrial applications
- Longer motor brush life, replacement motor brushes available

### Step 3: VACUUM PERFORMANCE

- PEAK HORSE POWER (HP) - The maximum output horsepower of a motor determined from a labortory dynamometer test
- CUBIC FEET PER MINUTE (CFM) - The volume of air moved by the vacuum cleaner motor. The higher the rating, the greater the ability to move large volumes of small/fine particles
- STATIC PRESSURE (SP) - Indicates the suction pressure of the vacuum. Suction is measured by how far up a glass tube a vacuum motor will lift a column of water, measured in inches of water. The higher the rating, the greater the suction ability of heavier materials and liquids
- FILTRATION - Proper filtration is essential to the performance and life of the vacuum. All units include standard filtration. Optional filtration, including multi-stage filtration for fine particles is also available for most Dayton Vacuums.

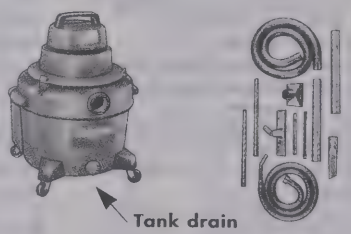
## DAYTON WET/DRY VACUUMS New

Best in class level of performance and features for multi-purpose cleaning applications. High airflow single-stage bypass 6.0 HP (peak) motor with quiet power operation, top-handle and 18 ft. power cord. Tough poly tanks are rustproof, dent resistant and include drain. High performance dependability for medium-duty usage. Avg. brush life of 500 hours, CFM @ 2½" is 175. 10.0 amps @120V, static pressure is 60.

Accessories include: 6' x 2½" hose, two extension wands, 6" utility nozzle, 2½" crevice tool, 7' x 1¼" hose, two 1¼" extension wands, 12" swivel floor nozzle with brush and squeegee, tool caddy and cartridge filter. UL Listed, CSA Approved. Dayton brand.

| Tank Size (Gal.) | Capacity (Gal.) Wet | Capacity (Gal.) Dry | Dimensions (In.) | | | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 14 | 11 | 13 | 21 | 20 | 26 | 4TR19 | $151.27 | $116.65 | 25.0 |
| 18 | 15½ | 17 | 21 | 20 | 30 | 4TR20 | 170.80 | 135.00 | 31.0 |

- Deluxe 2 1/2" and 1 1/4" tool package
- Low profile, anti-tip design
- Easy roll, heavy-duty caster




## DAYTON WET/DRY "PUMP VAC"




- 11.5 Amp single-stage by-pass motor
- Self priming in most circumstances, primer position for adverse conditions
- Uses conventional garden hose (not included)
- Empties up to 5 gallons per minute
- Pumps up to heights of 50 feet
- 10 gal. stainless steel tank

Quickly and easily pumps non-hazardous liquids from 10 gallon vacuum tank, eliminating transportation and emptying of liquid tank. Pump system allows easy conversion from wet/dry vac to pump operation and heavy-duty vac cart. NOTE: Not intended for use as a continuous running pump—electronically shuts off when liquid capacity is reached (no overflow), manual switch restart will lower liquid level so vacuuming can continue. Use in pump mode for flooded basements or sinks, clogged drains, aquariums or back yard ponds.

Accessories include: 10" x 1¼" hose, two extension wands, 12" deluxe floor nozzle w/brush and squeegee inserts, 3-wheel dolly system, foam filter (5X879) and cartridge filter (2W435). Avg. motor brush life is 500 hours. 11.5 amps @ 120V. 140 CFM @ 2½" orifice. Static pressure is 60, 20½ x 17 x 35¼". UL Listed, CSA certified. Dayton brand.

**New No. 4TR21.** Shpg. wt. 33.0 List.....$288.42.
Each.....**$229.00**




## DAYTON "ON DEMAND" VAC

- Power Tool Activated vacuum for clean work environment
- Built-in outlet for power tool
- 3-position switch On/Off/Auto
- Auto power adjusts to maintain maximum available vacuum power
- Auto start/delay stop (to clear debris) when tool is turned On/Off
- 4.0 HP single-stage, by-pass motor
- 9.5 amp, 120V, 50/60 Hz motor delivers 60" static vacuum pressure and 190 CFM at 2½" tank orifice

7 ft. x1½" crush-proof hose, 6" utility nozzle, brush insert, out board caster feet with on board tool caddy. Cartridge type filter and collection filter bag for fine dust. 18 ft. 3-cond. cord. Average motor brush life: 500 hours*. UL Listed, CSA Certified. Dayton brand.

**No. 3UP78.** Shpg. wt. 20.0 lbs. List.....$281.56.
Each.....**$225.25**

* designed for intermittent duty application. (•) Replacement motor brushes available through Grainger Parts Operation.

# COMMERCIAL WET/DRY VACS

Operating Environment:

Offices, stores, school, hotels/motels, shopping malls, theaters, restaurants, and property management.

•All vacs feature quiet operation motor housing design

Typical Pickup:

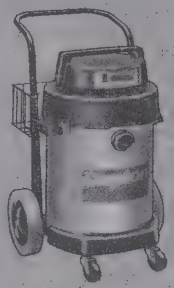
Non-combustible materials, dust, dirt, litter from carpet and floor surfaces, liquids and mixtures, squeegee floors dry. Use where quieter operation is preferred.

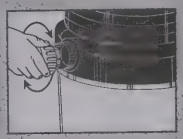
No. 3Z711
•4.0 peak HP
•15 gallon stainless steel tank



E40197

No. 3UP79
•4.0 peak HP
•10 gallon stainless steel tank





Positive lock and swivel connection secures hose end on Nos. 3Z711 3UP79 and 3UP75

Replacement Parts Available 1-800-323-0620

No. 3UP75
•3.0 peak HP
•10 gallon stainless steel tank



No. 4Z663
•2.0 peak HP
•6 gallon stainless steel tank



T6331

**No. 3Z711 Features:**
- 4.0 peak HP permanently lubricated two-stage bypass motor
- 4-wheel heavy-duty dolly with non-marking wheels
- 35 ft. power cord
- On board metal tool storage basket
- Positive lock & swivel hose connection
- 1½" metal tools included (See A below)

**No. 3UP79 Features:**
- 4.0 peak HP permanently lubricated two-stage bypass motor
- 4 wheel heavy-duty dolly with non-marking wheels
- 35 ft. power cord
- On board metal tool storage basket
- Positive lock and swivel hose connection
- 1½" tools included (See B below)

**No. 3UP75 Features:**
- 3.0 peak HP permanently lubricated two-stage bypass motor
- 3 wheel heavy-duty dolly with non-marking wheels
- 35 ft. power cord
- Positive lock and swivel hose connection
- 1½" tools included (See B below)

**No. 4Z663 Features:**
- 2.0 peak HP permanently lubricated two-stage bypass motor
- 35 ft. power cord
- Includes foam filter sleeve, full polyester super performance dry filter, and a high quality dual-ply collection filter bag
- 1¼" tools included (See C below)

| Tank Size (Gals.) | Peak HP | Amps @ 120V | Avg. Brush Life (Hrs.) | Hz | CFM @ 2½ Orifice | Static Pressure | Capacity (Gals.) Wet | Capacity (Gals.) Dry | Dimensions (In.) Diameter | Dimensions (In.) Height | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 4.0 | 10.0 | 800* | 50/60 | 110 | 105 | 13¼ | 13 | 17½ | 28 | 3Z711 | $1184.37 | $947.50 | 80.0 |
| 10 | 3.0 | 9.5 | 750* | 50/60 | 105 | 100 | 9 | 7 | 18½ | 36½ | 3UP75 | 561.87 | 449.50 | 30.0 |
| 10 | 4.0 | 11.5 | 800* | 50/60 | 110 | 105 | 9 | 7 | 15 | 32 | 3UP79 | 877.50 | 702.00 | 57.0 |
| 6 | 2.0 | 7.4 | 750* | 50/60 | 100 | 80 | 5 | 4¾ | 13½ | 25 | 4Z663 | 330.00 | 264.00 | 26.0 |

Vacs designed for intermittent duty application. (*) Replacement motor brushes available through Grainger Parts Operation.

## TOOLS INCLUDED WITH VACS LISTED ABOVE

A 1½" diameter all-metal tools included with 3Z711:

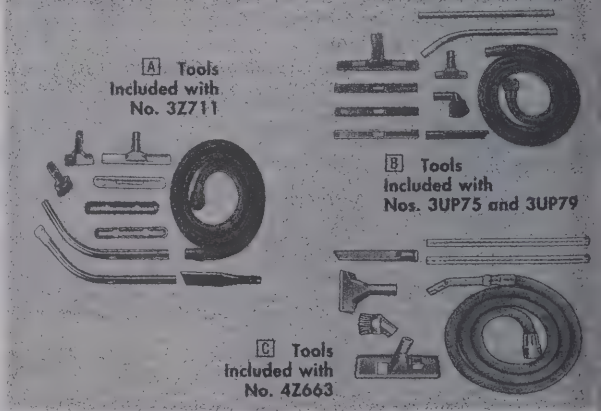
10' x 1½" crush proof hose with positive lock end, 2 chrome metal interlocking wands, 14" Metal Master Nozzle with double blade squeegee insert, floor brush and carpet tool, 15" crevice tool, round dusting brush, 6" utility nozzle. Includes foam filter sleeve, full polyester super performance dry filter, and a high quality dual-ply collection filter bag.

B 1½" diameter plastic tools included with Nos. 3UP75 and 3UP79:

10' x 1½" crush proof hose with positive lock end, 2 chrome metal interlocking wands, 14" ABS plastic Master Nozzle with double blade squeegee insert, floor brush, carpet tool, crevice sleeve, full polyester super performance dry filter and a high quality dual-ply filter collection bag.

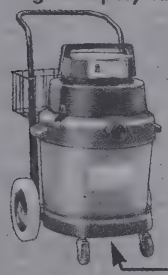
C 1¼" diameter plastic tools included with No. 4Z663:

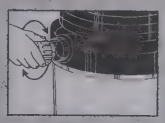
10' x 1¼" crush proof hose with handgrip and airflow control, 2 interlocking chrome metal wands, dual surface selector nozzle, crevice tool, round dusting brush, utility nozzle.



# COMMERCIAL WET/DRY VACS

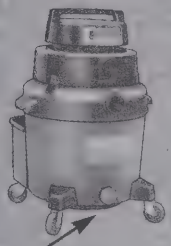
**No. 3UP80**
• 16 gallon poly tank





Positive lock and swivel connection secures hose on all four vacs features here.

**No. 3UP81**
• 16 gallon poly tank



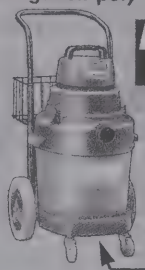
Tank Drain

• Vacs feature quiet operation motor housing design.

16331

E40197

**No. 3UP73**
• 12 gallon poly tank



**No. 3UP74**
• 12 gallon poly tank



Tank Drain

**No. 3UP80 Features:**
- 4.0 peak HP permanently lubricated two-stage bypass motor
- 4 wheel, heavy-duty dolly with non-marking wheels
- 35 ft. power cord
- Positive locking hose
- On-board metal tool storage basket
- 1½" metal tools included (See B below)
- Corrosion and dent resistant tank

**No. 3UP81 Features:**
- 4.0 peak HP permanently lubricated two-stage bypass motor
- Integral caster system, with 4 heavy-duty, non-marking casters
- 35 ft. power cord
- On-board tool storage caddy
- Corrosion and dent resistant plastic tank
- 1½" tools included (See A below)

**No. 3UP73 Features:**
- 3.0 peak HP permanently lubricated two-stage bypass motor
- 4 wheel heavy-duty dolly with non-marking wheels
- 35 ft. power cord
- Corrosion and dent resistant plastic tank
- On-board metal tool storage basket
- 1½" tools included (See A below)

**No. 3UP74 Features:**
- 3.0 peak HP permanently lubricated two-stage bypass motor
- Integral caster system, with 4 heavy-duty non-marking casters
- 35 ft. power cord
- On-board tool caddy
- Versatile lock-in tools for included Master Nozzle
- Corrosion and dent resistant plastic tank
- 1½" tools included (See A below)

## COMMERCIAL WET/DRY VAC SPECIFICATIONS AND ORDERING DATA

| Tank Size (Gal.) | Peak HP | Amps @ 120V | Avg. Brush Life (Hrs.) | Hz | CFM @ 2½" Orifice | Static Pressure (In.) | Capacity (Gals.) Wet | Capacity (Gals.) Dry | Dimensions (In.) Diameter | Dimensions (In.) Height | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 4.0 | 11.5 | 800* | 50/60 | 110 | 105 | 13¼ | 13 | 28 X 21 | 37 | 3UP80 | $945.00 | **$756.00** | 53.0 |
| 16 | 4.0 | 11.5 | 800* | 50/60 | 110 | 105 | 13¼ | 13 | 21 x 21 | 30 | 3UP81 | 635.00 | **508.00** | 40.0 |
| 12 | 3.0 | 9.5 | 750* | 50/60 | 105 | 100 | 9 | 11 | 25 x 19 | 37 | 3UP73 | 692.50 | **554.00** | 46.0 |
| 12 | 3.0 | 9.5 | 750* | 50/60 | 105 | 100 | 9 | 11 | 18 x 18 | 29½ | 3UP74 | 530.00 | **424.00** | 30.0 |

ilters included: foam filter sleeve, full pollyester super performance dry filter, and a high quality dual-ply collection filter bag.
acs designed for intermittent duty application. (*) Replacement motor brushes available through Grainger Parts Operation.

## TOOLS INCLUDED WITH VACS LISTED ABOVE

A 1½" diameter plastic tools included with Nos. 3UP73, 3UP74, nd 3UP81:

0' x 1.5" crush proof hose with positive lock end, 2 chrome ietal interlocking wands, 14" ABS Plastic Master Nozzle with ouble blade squeegee insert, floor brush and carpet tool, crevice ool, round dusting brush, utility nozzle.

B 1½" Diameter all-metal tools included with No. 3UP80:

0' x 1.5" crush proof hose with positive lock end, 14" metal mas- er nozzle with double blade squeegee insert, floor brush and car- et tool, 15" crevice tool, round dusting brush, 6" utility nozzle, ietal tool storage basket.



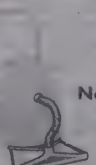

## FLOATING FLOOR NOZZLE

- **Features polyurethane squeegee blades, variegated for maximum performance**
- **Height from floor is adjustable**
- **All necessary hose and mounting hardware included**

0" wide vac nozzle front mounts easily to ios. 3Z711, 3UP79, 3UP80 and 3UP73. lakes vacuuming large areas fast and effi- ient. Nozzle picks up wet and dry iaterial, in either forward and reverse directions. Height from floor can be adjusted. Dayton brand.

**No. 3UP60.** Shpg. wt. 8.0 lbs. List .....$231.94. Each.....$208.75▲

(▲) Net prices, not subject to discounts.

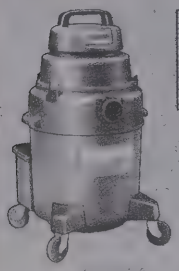


No. 3UP60

Vacuum not included

# COMMERCIAL WET/DRY VACS

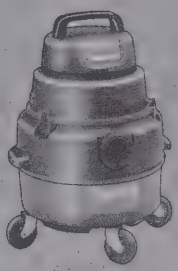
**No. 3UP76**
- 2.0 peak HP
- 10 Gallon poly tank





Positive lock and swivel connection secures hose end on No. 3UP76

**No. 3UP77**
- 2.0 peak HP
- 6 Gallon poly tank



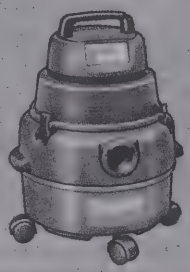
Nos. 3UP76, 3UP77, and 1D456 have quiet operation motor housing design

E40197

16331

Replacement Parts Available 1-800-323-0620

**No. 1D456**
- 6 Gallon poly tank



**No. 3UP57**
Mini Office Vac (dry only)



**No. 3UP76 Features:**
- 2.0 peak HP permanently lubricated two-stage by-pass motor
- Integral dolly system, with 4 heavy-duty, non-marking casters
- 35 ft. power cord
- On-board tool storage caddy
- Corrosion and dent resistant plastic tank
- Includes foam filter sleeve, full polyester super performance dry filter, and a high quality dual-ply collection filter bag
- 1½" tools included (See A below)

**No. 3UP77 Features:**
- 2.0 peak HP permanently lubricated two-by-pass motor
- 4 heavy-duty, non-marking casters
- 35 ft. power cord
- Corrosion and dent resistant plastic tank
- Includes foam filter sleeve, full polyester super performance dry filter, and a high quality dual-ply collection filter bag
- 1¼" tools included (See B below)

**No. 1D456 Features:**
- 3.0 peak, HP permanently lubricated, single-stage by-pass motor
- 4 dual-hooded caster wheels
- 18 ft. power cord
- Corrosion and dent resistant plastic tank
- Includes foam filter sleeve, reusable dry disc filter, and a high quality dual-ply collection filter bag
- 1¼" tools included (See C below)

**No. 3UP57 Features:**
- 1.5 qt. dry pick-up vacuum
- 1.75 peak HP permanently lubricated flow-thru motor
- 18 ft. power cord
- Built-in rear wheels and front glide for mobility
- High impact molded plastic case
- Disposable collection filter bag and secondary filter
- Special micro tools included (See D below) for cleaning keyboards, computers, small appliances

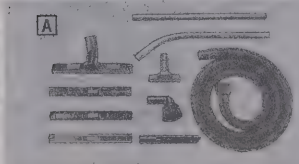
## COMMERCIAL WET/DRY VAC SPECIFICATIONS AND ORDERING DATA

| Tank Size | Peak HP | Amps at 120V | Avg. Brush Life (Hrs.) | Hz | CFM@ 2½" Orifice | Static Pressure (In.) | Capacity (Gals.) Wet | Capacity (Gals.) Dry | Dimensions (In.) Diameter | Dimensions (In.) Height | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 Gal. | 2.0 | 7.4 | 750* | 50/60 | 100 | 80 | 8 | 7¾ | 19¼ x 21¼ | 26¼ | 3UP76 | $459.68 | $367.75 | 24.0 |
| 6 | 2.0 | 7.4 | 750* | 50/60 | 100 | 80 | 4 | 3¾ | 14¼ | 25 | 3UP77 | 322.93 | 258.50 | 20.0 |
| 6 | 3.0 | 9.0 | 400 | 50/60 | 175 | 60 | 4 | 3¾ | 14¼ | 20 | 1D456 | 149.87 | 119.90 | 18.0 |
| 1.5 Qt. | 1.75 | 6.2 | 400* | 60 | 80 @ 1.25"† | 60 | dry only | 1.5 qt. | 11¼ x 7¼ | 16¼ | 3UP57 | 112.43 | 89.95▲ | 9.0 |

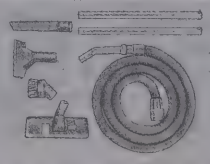
Vacs designed for intermittent duty application. (*) Replacement motor brushes available through Grainger Parts Operation. (†) 1¼" tank orifice. (▲) Net prices, not subject to discounts.

## TOOLS INCLUDED WITH VACS LISTED ABOVE

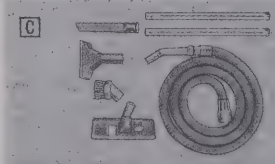
A



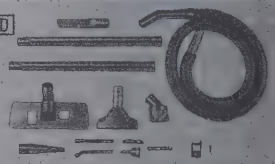
B



C



D



A **1½ Diameter plastic tools included with No. 3UP76:** 10 ft. x 1½" crush proof hose with positive lock end, 2 metal interlocking wands, 14" ABS Plastic Master Nozzle, double blade squeegee insert, floor brush and carpet tool, crevice tool, dusting brush, utility nozzle, on board tool storage caddy.

B **1¼" diameter plastic tools included with No. 3UP77:** 10 ft. x 1¼" crush proof hose, 2 metal interlocking wands, dual surface selector floor nozzle, crevice tool, round dusting brush, utility nozzle.

C **Tools included with No. 1D456:** 8 ft. x 1¼" hose with hand grip and airflow control, two 20" extension wands, dual surface selection floor nozzle, crevice tool, round dusting brush and utility nozzle.

D **Tools included with No. 3UP57:** 6 ft. x 1¼" hose with airflow control, two 20" extension wands, dual surface selector floor nozzle, crevice tool, round dusting brush, utility nozzle; micro cleaning tools include adapter, straight round brush, oval/round brush, crevice tool, straight wand, curved wand.

## STEEL TANK AND POLY TANK VACS

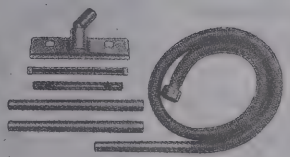


No. 2Z972
6-Gallon
Steel Tank
4.5 (Peak) HP

E40197

Replacement Parts Available
1-800-323-0620

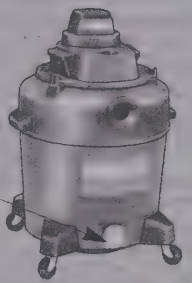
Dayton



Accessories included with steel and poly tank vacs



No. 6Z097
8-Gallon
Poly Tank
5.0 (Peak) HP




No. 6Z098
12-Gallon
Poly Tank
5.0 (Peak) HP

Steel tanks have rust-resistant phenolic-coated interior for longer life. Poly tanks are corrosion and dent resistant. Molded, rust proof, durable head assembly. Snap on Lid for easy tank emptying.

**Built for tough cleaning problems, wet or dry, indoors or out**

**Powerful 4.5 (peak) HP or 5.0 (peak) HP, 120V, 50/60 HZ single stage by-pass motor**

**Motor equipped with ball and sleeve bearings**

**Accessories included: 7' x 1¼" flexible hose with extension** 6' 3-cond. power cords. Automatic float shuts off suction when unit reaches full liquid capacity. Inlet takes 1¼" or 2½" hose without adapter for maximum versatility. Dayton brand.

**nozzle, 2-piece extension wands, deluxe 12" floor nozzle with brush and squeegee inserts, caster system**

- **High quality cartridge filter for more efficient general application filtration**
- **Feature an on-board tool storage (6Z097, 6Z098)**
- **UL and CSA Listed**

### STEEL AND POLY TANK VAC SPECIFICATIONS AND ORDERING DATA

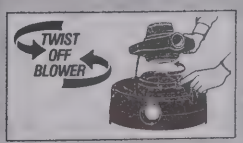
| Tank Size (Gal.) | Type | Avg. Brush Life (Hr.) | Peak HP | CFM @ 2½" Orifice | Amps @ 120V | Static Pressure (Sq. In.) | Capacity (Gals.) Wet | Capacity (Gals.) Dry | Dimensions (In.) Dia. | Dimensions (In.) Height | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **6** | Steel | 400 | 4.5 | 165 | 10.0 | 60 | 5 | 6 | 12½ | 21½ | **2Z972** | $101.93 | **$76.70** | 13.0 |
| **8** | Plastic | 400 | 5.0 | 175 | 11.0 | 58 | 6 | 7 | 19¼ | 20⅝ | **6Z097** | 106.00 | **84.80** | 12.0 |
| **12** | Plastic | 400 | 5.0 | 175 | 10.0 | 58 | 10 | 11 | 18½ | 25¼ | **6Z098** | 123.93 | **96.50** | 15.0 |

Dayton



No. 6H005
5.0 (Peak) HP Vacuum
Accessories Included

E40197




Replacement Parts Available
1-800-323-0620

## WET/DRY VACS WITH PORTABLE BLOWER

Two powerful cleaners in one. Combines the versatility of a wet/dry vacuum with the convenience of a hand-held portable blower. For vacuuming dry dust, wood and metal chips, small nails, glass, and plastic as well as wet pickup. Detachable blower with wand attachment can be used to power sweep leaves, litter and clippings.

120V, 50/60 HZ single-stage bypass motor, safety edge lid, automatic float shut-off to stop wet pickup when full and prevent overflow, dent and rust-resistent plastic tank, and inlet that accepts 1¼" or 2½" hoses without adapter.

Portable blower features impact resistant plastic housing, two handles for greater control, and lightweight design.

Accessories included: 6ft. x 2½" hose, two 2½" extension wands, 2½" utility nozzle, 14" floor nozzle with brush and squeegee insert, 2½" crevice tool, blower nozzle, diffuser, dry and foam filter, snap-on caster system on board tool storage, high quality cartridge filter.

| Tank Size (Gal.) | Peak HP | Avg. Brush Life (Hrs.) | CFM @ 2½" Orifice | Amps @ 120V | Static Pressure (Sq. In.) | Capacity (Gals.) Wet | Capacity (Gals.) Dry | MPH Velocity at Blower Nozzle | Filter | Power Cord (Ft.) | Dimensions (In.) Dia. | Dimensions (In.) Height | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16** | 5.0 | 500 | 185 | 11.0 | 56 | 13¼ | 15 | 172 | Cartridge | 18 | 19⅛ | 31⅜ | **6H005** | $173.81 | **$139.05** | 23.0 |

# INDUSTRIAL WET/DRY VACS

## INDUSTRIAL TWO-STAGE—2.0 HP (PEAK) VACUUMS




- **Powerful 2.0 Peak HP two-stage by-pass motor**
- **Steel tank on No. 4TR11 and 4TR13, Stainless Steel tank on No. 4TR12, Poly tanks on Nos. 4TR14 and 4TR15**
- **Integral heavy-duty vac cart on Nos. 4TR11, 4TR13, 4TR12**
- **Deluxe on-board tool storage basket on Nos. 4TR14 and 4TR15**
- **No. 4TR13 features a vac dolly with two 10" full pneumatic treaded tires and a 50 ft. power cord for mobility over rugged terrain and surfaces and wide area coverage. Designed for construction sites or anywhere distance and access are a consideration.• Includes 7' x 1½" hose, 6" utility nozzle with squeegee insert, cartridge filter.**

These rugged wet/dry vacuums have ball/ball bearing construction by-pass motors for dependable cleaning performance. Motor housings feature top-handle, blower outlet, quieter operation and 18 foot power cord. Available with coated rust-resistant steel tanks, durable stainless steel tank, or dent resistant, rustproof poly tank with tank drains. Typical applications include general purpose cleaning at workshops, garages, light industrial facilities and institutional use. UL Listed. CSA Certified. Dayton Brand.

| Tank Size (Gal.) | Peak HP | Amps at 120V | Avg. Brush Life (Hrs.) | Tank Type | CFM at 2½" Orifice | Static Pressure | Capacity Wet | Capacity Dry | Dimensions (In) L | W | H | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 2.0 | 8.0 | 750* | Steel | 100 | 80 | 9 | 10 | 19 | 18 | 35½ | **4TR11** | $210.69 | **$168.75** | 30.0 |
| **10** | 2.0 | 8.0 | 750* | Stainless Steel | 100 | 80 | 9 | 10 | 19 | 18 | 35½ | **4TR12** | 244.41 | **197.50** | 27.0 |
| **16** | 2.0 | 8.0 | 750* | Steel | 100 | 80 | 14¼ | 16 | 21 | 24 | 39¼ | **4TR13** | 397.63 | **337.75** | 49.0 |
| **20** | 2.0 | 8.0 | 750* | Poly | 100 | 80 | 16¼ | 18¾ | 21½ | 20½ | 31¼ | **4TR14** | 222.97 | **189.25** | 29.0 |
| **25** | 2.0 | 8.0 | 750* | Poly | 100 | 80 | 21 | 23½ | 22 | 20½ | 36 | **4TR15** | 235.28 | **199.50** | 31.0 |

## INDUSTRIAL TWO-STAGE VACUUMS

### 3.0 HP

For vacuuming wet and dry noncombustible materials, dust, dirt, woodchips, glass, plastic, metal shavings, nails, nuts, and bolts. Steel tanks on Nos. 4Z227 and 3Z708 have a rust-resistant epoxy phenolic coated interior for long life. Stainless steel tanks on Nos. 2Z974 and 3Z707 are able to handle mildly corrosive liquids including detergents and shampoos.

All units come complete with side handles on tank and motor housing, 1½ x 7 ft. crushproof hose, 6" utility nozzle, 6" squeegee insert, and heavy-duty industrial dolly with 10" wheels, metal hub and full swivel caster. They also include 18 ft. 3-cond.cord, foam and full circumference cloth filter. Powered by 11.0 amp, 120V, 50/60 Hz motor. UL Listed and CSA Certified (E40197). Dayton brand.

### 4.0 HP

For vacuuming wet and dry noncombustible materials. Lid is rust and dent-resistant. Stainless steel tank handles mildly corrosive liquids including detergent and shampoos. Steel tank has a rust-resistant epoxy phenolic coated interior for long life.

All units come complete with side handles on tank and motor housing. 1½" x 7 ft. crushproof hose, 6" utility nozzle, 6" squeegee insert and heavy-duty industrial dolly with 10" wheels, metal hub and full swivel caster. They also include 18 ft. 3-cond. cord, foam and full circumference cloth filter. Powered by 11.5 amp, 120V, 50/60 Hz motor. Vacuums use 1½ vacuum accessories listed on nearby page. UL Listed (E40197) and CSA Certified (16331). Dayton brand.




| Tank Size (Gal.) | Peak HP | Avg. Brush Life (Hrs.) | Tank Type | CFM @ 2½ Orifice | Static Pressure (In.) | Capacity (Gals.) Wet | Capacity (Gals.) Dry | Dimensions (In.) Diameter | Height | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 3.0 | 750* | Steel | 105 | 100 | 8¾ | 7½ | 15½ | 25½ | **4Z227** | $401.25 | **$321.00** | 25.0 |
| **20** | 3.0 | 750* | Steel | 105 | 100 | 18¼ | 17¼ | 17 | 33 | **3Z708** | 449.06 | **359.25** | 37.0 |
| **10** | 3.0 | 750* | Stainless Steel | 105 | 100 | 8¾ | 7½ | 15½ | 25½ | **2Z974** | 455.31 | **364.25** | 28.0 |
| **20** | 3.0 | 750* | Stainless Steel | 105 | 100 | 18¼ | 17¼ | 17 | 33 | **3Z707** | 559.68 | **447.75** | 35.0 |
| **15** | 4.0 | 800* | Stainless Steel | 110 | 100 | 13¾ | 12¼ | 17 | 29 | **6Z095** | 706.25 | **565.00** | 44.0 |
| **20** | 4.0 | 800* | Steel | 110 | 100 | 18¼ | 17¼ | 17 | 32½ | **6Z094** | 578.75 | **463.00** | 46.0 |

Vacs designed for intermittent duty application. (*) Replacement motor brushes available through Grainger Parts Operations.

## YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly plus the solutions you need to keep your operation running more profitably.**

# FILTER CROSS-REFERENCE FOR DAYTON VACS AND VAC FILTER BAGS

## VACUUM FILTER TO VACUUM CROSS-REFERENCE

| Filter Rating | GOOD | | | BETTER | | | | BEST | | | | PREMIUM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vacuum Stock No. | Wet 5X879 | Dry 6H008 | Dry 5X878 | Dry/Wet 2W435 | Dry 6H017 | Dry 6H014 | Dry 6H015 | Dry 3UP64 | Dry 3UP65 | Dry 3UP66 | Dry 3UP67 | Dry 3UP69 | Dry 3UP70 | Dry 3UP71 | Dry 3UP72 |
| | Foam Sleeve | Reusable Disc | Cloth Bag | Cartridge | Full Cloth Filters | | | High Quality Dual Ply Collection Bags | | | | Premium Quality Micro Collection Bags | | | |
| 1D456 | ■ | ■ | ○ | ○ | ○ | | | ■ | | | | ○ | | | |
| 1D457 | ■ | ■ | ○ | | | | | | | | | | | | |
| 2Z972 | ○ | | | ■ | | | | | ○ | | | | ○ | | |
| 2Z974 | ■ | | | ○ | | ■ | | | | ○ | | | | ○ | |
| 2Z988 | (Standard Replacement Filter 6H021) | | | | | | | | | | | | | | |
| 3UP57 | (Standard Replacement Filter 6H019) | | | | | | | | | | | | | | |
| 3UP73 | ■ | | | ○ | ■ | | | | | ■ | | | | ○ | |
| 3UP74 | ■ | | | ○ | ■ | | | | | ■ | | | | ○ | |
| 3UP75 | ■ | | | ○ | | ■ | | | | ■ | | | | ○ | |
| 3UP76 | ■ | | | ○ | ■ | | | | | ■ | | | | ○ | |
| 3UP77 | ■ | | | ○ | ■ | | | ■ | | | | ○ | | | |
| 3UP78 | ○ | | | ■ | ○ | | | | ■ | | | | ○ | | |
| 3UP79 | ■ | | | ○ | | ■ | | | | ■ | | | | ○ | ○ |
| 3UP80 | ■ | | | ○ | | ■ | | | | | ■ | | | | ○ |
| 3UP81 | ■ | | | ○ | | ■ | | | | | ■ | | | | ○ |
| 3Z707 | ■ | | | ○ | | | ■ | | | | ○ | | | | ○ |
| 3Z708 | ■ | | | ○ | | | ■ | | | | ○ | | | | |
| 3Z709 | ○ | | | ■ | | | | | | | | | | | |
| 3Z711 | ■ | | | ○ | | | ■ | | | | ■ | | | | ○ |
| 4TR09 | (Standard Replacement Filters 4TR17 and 4TR18) | | | | | | | | | | | | | | |
| 4TR10 | (Standard Replacement Filters 4TR17 and 4TR18) | | | | | | | | | | | | | | |
| 4TR11 | ○ | | | ■ | | ○ | | | | ○ | | | | ○ | |
| 4TR12 | ○ | | | ■ | | ○ | | | | ○ | | | | ○ | |
| 4TR13 | ○ | | | ■ | | | ○ | | | | ○ | | | | ○ |
| 4TR14 | ○ | | | ■ | | ○ | | | | | ○ | | | | ○ |
| 4TR15 | ○ | | | ■ | | ○ | | | | | ○ | | | | ○ |
| 4TR19 | ○ | | | ■ | | ○ | | | | ○ | | | | ○ | |
| 4TR20 | ○ | | | ■ | | ○ | | | | | ○ | | | | ○ |
| 4TR21 | ■ | | | ■ | | | | | | ○ | | | | ○ | |
| 4TR22 | ■ | ■ | ○ | (Replacement Collection Filter Bags 4TR16) | | | | | | | | | | | |
| 4Z227 | ■ | | | ○ | | ■ | | | | ○ | | | | ○ | |
| 4Z663 | ■ | | | ○ | ■ | | | | ■ | | | | ○ | | |
| 4Z906 | (Standard Replacement Filter 6H020) | | | | | | | | | | | | | | |
| 5Z041 | | | ■ | | ○ | | | ■ | | | | ○ | | | |
| 6H005 | ○ | | | ■ | | ○ | | | | | ○ | | | | ○ |
| 6Z094 | ■ | | | ○ | | | ■ | | | | ○ | | | | ○ |
| 6Z095 | ■ | | | ○ | | | ■ | | | | ○ | | | | ○ |
| 6Z096 | ○ | | | ■ | | | | | | | | | | | |
| 6Z097 | ○ | | | ■ | ○ | | | | ○ | | | | ○ | | |
| 6Z098 | ○ | | | ■ | ○ | | | | | ○ | | | | ○ | |

Replacement. (○) Optional.

See Cross-Reference Information on page opposite inside back cover

## VAC FILTER BAGS

### DUAL-PLY COLLECTION FILTER BAG

- Constructed with a high efficiency inner liner which improves filtration, strength and dust capacity.
- Electrostatically charged
- Traps most microscopic indoor irritants and pollutants
- Convenient to use

### MICRO COLLECTION FILTER BAG

- Superior airflow capabilities
- Microfibers of polypropylene media provide superior filter strength and allows maximum cleaning suction
- Resists moisture and degradation
- Combination of mechanical capture mechanisms and electrostatic charged fibers provide superior particle capture
- Large filtration area

Dayton®



No. 3UP64

Collection filter bags are designed for maximum air quality and are not intended for hazardous materials

### DUAL-PLY COLLECTION FILTER BAG ORDERING DATA

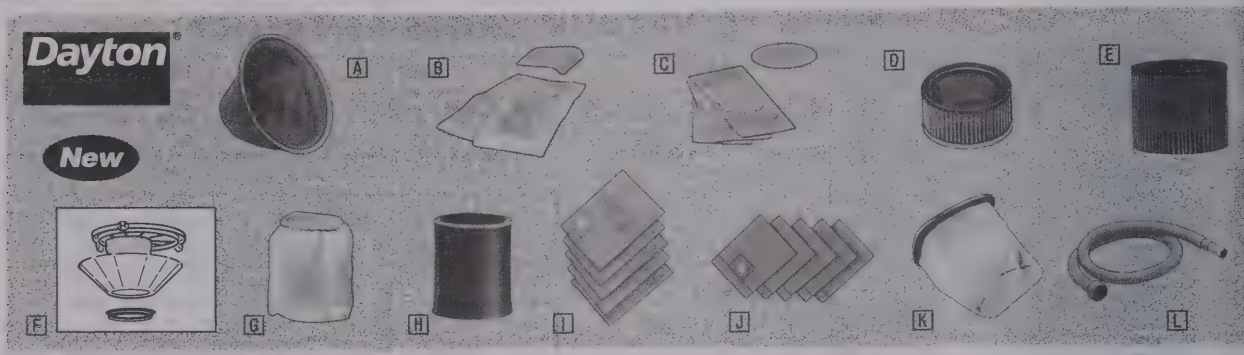
| Size/Gal. | Bags/ Package | Micron Rating 95% Eff. | Filter Area Sq. in. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 6 (short) | 5 | 0.1 | 866 | 3UP64 | $23.68 | $21.32▲ | 0.4 |
| 5,6,8 | 5 | 0.1 | 915 | 3UP65 | 23.78 | 21.41▲ | 0.8 |
| 10,12 | 5 | 0.1 | 1560 | 3UP66 | 32.87 | 29.60▲ | 1.1 |
| 15-25 | 5 | 0.1 | 1560 | 3UP67 | 35.09 | 31.60▲ | 1.1 |

### MICRO COLLECTION FILTER BAG ORDERING DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6 (short) | 5 | 0.3 | 930 | 3UP69 | 78.50 | 70.65▲ | 0.8 |
| 5,6,8 | 5 | 0.3 | 960 | 3UP70 | 78.50 | 70.65▲ | 0.8 |
| 10,12 | 5 | 0.3 | 1080 | 3UP71 | 98.83 | 88.95▲ | 1.5 |
| 15-25 | 5 | 0.3 | 1080 | 3UP72 | 102.16 | 91.95▲ | 1.1 |

(▲)Net prices, not subject to discounts.

# VAC ACCESSORIES FOR DAYTON VACS



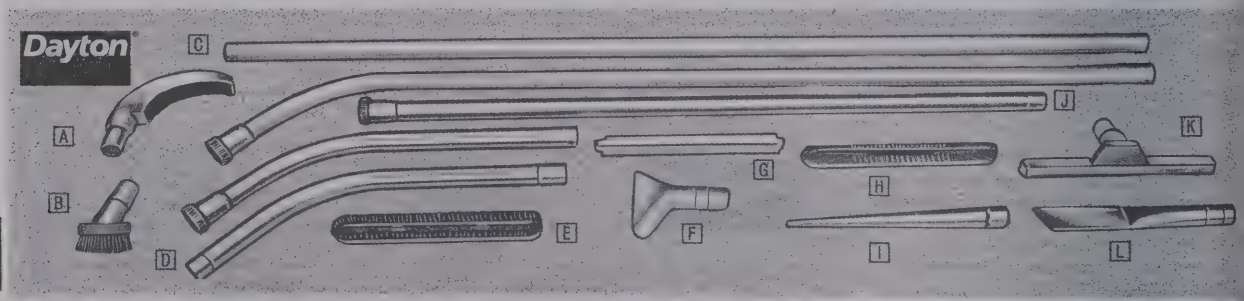

VACUUM FILTER TO VACUUM CROSS-REFERENCE GUIDE ON PAGE 1889.

## ROTARY BRUSHES, FILTERS AND FILTER BAGS FOR DAYTON VACS

| Key | Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| A | Polyester Full Cloth, 14" diameter | 6H014 | $29.16 | $26.25▲ | 1.0 |
| A | Polyester Full Cloth, 16" diameter | 6H015 | 32.00 | 28.80▲ | 1.0 |
| A | Polyester Full Cloth, 11" diameter | 6H017 | 26.55 | 23.90▲ | 1.0 |
| B | Office vac filter (Pkg. of 3)-(for model 3UP57) | 6H019 | 5.73 | 5.16▲ | 0.2 |
| C | Portable vac filter(Pkg. of 3)-(for model 4Z906) | 6H020 | 5.73 | 5.16▲ | 0.2 |
| D | Cartridge filter (for model 2Z988) | 6H021 | 12.11 | 10.90▲ | 1.0 |
| E | Cartridge filter | 2W435 | 12.97 | 11.68▲ | 1.0 |
| F | Dry disc filter (Pkg of 3) | 6H008 | 4.15 | 3.74▲ | 0.3 |
| G | Polyester cloth filter bag for dry vacuuming only | 5X878 | 6.59 | 5.94▲ | 0.2 |
| H | Foam sleeve for wet/dry vacuums only | 5X879 | 4.00 | 3.60▲ | 0.2 |
| I | Quiet Portable Filter Bags (5Pk) for Model 4TR22 | *New* 4TR16 | 10.19 | 8.79▲ | 2.0 |
| J | Back Pack Vac Filter Bags (5Pk) for Models 4TR09 & 4TR10 | *New* 4TR17 | 25.46 | 19.95▲ | 3.0 |
| K | Back Pack Vac Cloth Filter for Models 4TR09 & 4TR10 | *New* 4TR18 | 27.41 | 22.95▲ | 1.0 |

## HOSES AND CONVERTERS FOR DAYTON VACS

| Key | Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| L | 1¼" x 6 ft. plastic hose | 2Z290 | 13.17 | 11.86▲ | 1.3 |
| — | 1½" x 7 ft. crushproof hose | 5X882 | 24.37 | 21.94▲ | 2.6 |
| — | 1½"x 12' crushproof hose | 3UP61 | 44.33 | 39.90▲ | 4.3 |
| — | 1½" x 18 ft. crushproof hose | 6X077 | 53.66 | 48.30▲ | 5.4 |
| — | 1½"x 25' crushproof hose | 3UP59 | 80.55 | 72.50▲ | 7.5 |
| — | 2½" x 6 ft. hose with 2½" coupler | 2Z212 | 16.76 | 15.09▲ | 2.3 |
| — | 2½ to 1½" converter to use 1½" hose with 2½" accessories | 2Z446 | 4.99 | 4.49▲ | 0.2 |
| — | 2½ to 1¼" converter to use 2½" hose with 1¼" accessories | 2Z283 | 3.85 | 3.47▲ | 0.1 |
| — | 2½" flanged ferrule for attaching vac to power tools | 2Z282 | 4.49 | 4.05▲ | 0.2 |

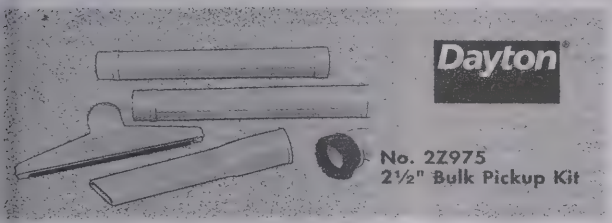



## METAL 1½" DIA. ACCESSORIES FOR DAYTON 1½" VAC HOSES

| Key | Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| A | Pipe cleaning tool | 6X887 | $57.17 | $51.50▲ | 1.5 |
| B | 3" Round brush* | 6X885 | 31.36 | 28.25▲ | 0.5 |
| C | Set of two 6-ft. overhead extension wands | 3W160 | 136.77 | 123.10▲ | 6.0 |
| D | Set of two 1½ x 20" extension wands | 5X872 | 75.44 | 67.90▲ | 3.3 |
| E | 14" Brush shoe† | 6X888 | 21.09 | 18.99▲ | 0.9 |
| F | 7" Gulper tool* | 6X886 | 28.13 | 25.35▲ | 0.9 |
| G | 14" Single blade squeegee† | 6X880 | 24.28 | 21.85▲ | 0.8 |
| H | 14" Rug shoe† | 6X881 | 25.02 | 22.52▲ | 0.8 |
| I | Blower nozzle* | 6X883 | 24.69 | 22.23▲ | 0.5 |
| J | 48" Extension wand (Use with 5X872 only) | 3W159 | 52.61 | 47.35▲ | 3.8 |
| K | 14" Master nozzle | 6X879 | 42.50 | 38.25▲ | 1.0 |
| L | 15" Crevice tool* | 6X884 | 15.14 | 13.63▲ | 0.8 |

(*) Use with hose only; not for use with wands. (†) Use with master nozzle No. 6X879. (▲) Net prices, not subject to discounts.

# ACCESSORIES FOR WET/DRY VACUUMS



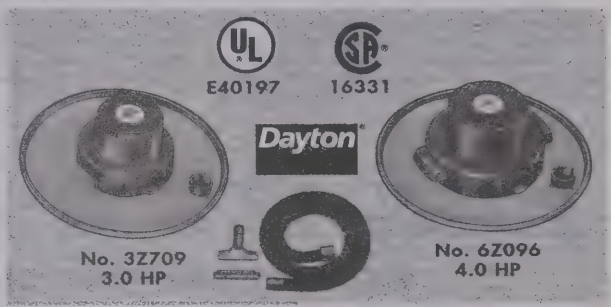

## WET/DRY VAC PICKUP HOSE AND KITS

**2½" Diameter, 6 ft. bulk pickup hose** for bulk debris in shop, basement, and garage work areas. Dayton brand.
**No. 2Z212.** Shpg. wt. 2.3 lbs. List $16.76. Each .....$15.09▲

**2½" Diameter bulk dry pickup kit** for wet/dry vacs. Contains: two 20" extension tubes, 10" long crevice tool, round dusting brush, and 14" floor nozzle with brush. Sturdy plastic. Dayton brand.
**No. 2Z975.** Shpg. wt. 2.4 lbs. List $25.06. Each .....$22.56▲

**8-Pc. 1¼" Diameter wet/dry pickup kit** is only for wet/dry vacuums. Kit contains: two 20" plastic extension wands, deluxe 12" master nozzle, brush insert, squeegee insert, crevice tool, round brush, utility nozzle. Dayton brand.
**No. 2Z976.** Shpg. wt. 3.0 lbs. List $24.35. Each .....$21.92▲

(▲) Net prices, not subject to discounts.

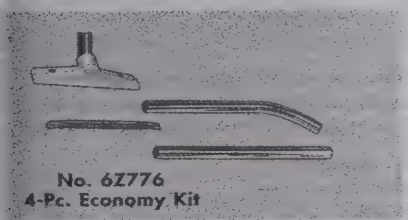



## WET/DRY VAC HEADS

Mount on 55 gallon, USA made full removable head (FRH) drum. Two-stage, bypass, 120V, 50/60 Hz motor. Come with 7 ft. x 1½" hose, 6" utility nozzle with squeegee, three vac head securing clamps and 18 ft. 3-cond. cord. Cartridge type filter. UL Listed (E40197). CSA Certified (16331). Dayton brand.

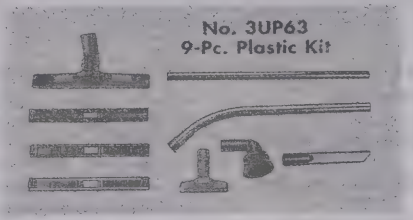
| Peak HP | Amps | Avg. Brush Life (Hrs.) | Static Pres. (In.) | CFM @ 2½" | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3 | 11.0 | 750 | 100 | 105 | 3Z709 | $315.62 | $252.50 | 24.0 |
| 4 | 11.5 | 800 | 105 | 110 | 6Z096 | 466.25 | 373.00 | 34.0 |

# 1½" WET/DRY VACUUM KITS



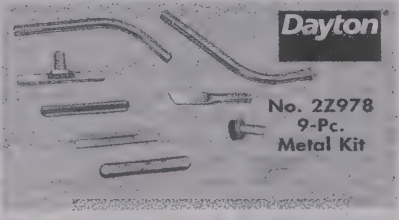

**Four-Piece Economy Kit** contains: two interlocking chrome extension wands, 14" metal master nozzle (with brush), and 14" squeegee shoe.
**No. 6Z776.** Shpg. wt. 5.0 lbs. List.....$59.33. Each.....$53.40▲

(▲) Net prices, not subject to discounts.




**Nine-Piece Commercial Plastic Kit** contains: two interlocking chrome extension wands, 14" ABS master nozzle, brush, rug squeegee shoes, crevice tool, round brush, 6" utility nozzle.
**No. 3UP63.** Shpg. wt. 6.0 lbs. List.....$131.22. Each.....$118.10▲

(▲) Net prices, not subject to discounts.




**Nine-Piece Chrome Plated Metal Kit** contains: 4 ft. two-piece extension wand, 14" master nozzle with brush, rug and squeegee shoes, 7" utility nozzle, 15" crevice tool, and round brush.
**No. 2Z978.** Shpg. wt. 9.0 lbs. List.....$203.88. Each.....$183.50▲

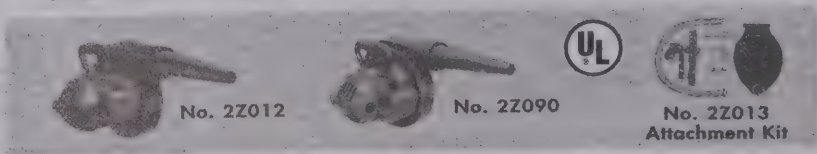
(▲) Net prices, not subject to discounts.

# CADILLAC™ HEAVY-DUTY VACUUM & BLOWER

Uses include: cleaning by blowing and by vacuuming, air drying, inflating, testing for air duct leaks, blowing insulation, blowing pool liners, and power sweeping debris.

Durable, all-aluminum design gives many years of rugged use: cast aluminum housing, impeller, and fan chamber. Sealed and permanently lubricated bearings. Heavy-duty universal motor for long life. Shipped as a blower, with optional attachment kit, the unit easily converts to a powerful vacuum.

Choose either single-speed (2Z012) or two speed unit (2Z090). Both are shipped with 8½" long nozzle and 20 ft. three-wire grounded cord. Specifications data reported at operating speed. UL Listed. Powered by 115VAC, AC/DC. Baked powder finish. Blue. Cadillac brand. All parts made and assembled in the U.S.A.



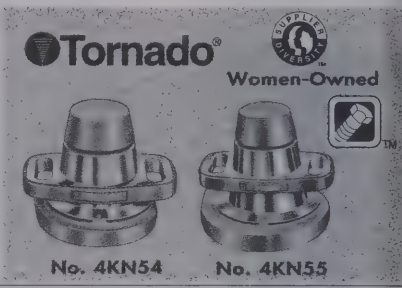

| Speeds | Peak HP | Amps | Capacity CFM | Velocity Lin. FPM | Dimensions (In.) H | W | L | Cadillac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Single | 1¼ | 5 | 109 | 27,050 | 7¼ | 7¼ | 20½ | F-10 | 2Z012 | $401.56 | $393.50 | 10.0 |
| 2 Low | 2 | 8.3 | 150 | 29,660 | 9¾ | 9¼ | 21½ | HP-33 | 2Z090 | 450.00 | 440.50 | 17.0 |
| 2 High | 3 | 11 | 196 | 33,570 | | | | | | | | |

**Attachment Kit** for Nos. 2Z012 and 2Z090 blower-suction cleaners only. Includes 1½" dia. x 4 ft. hose with swivel, dust bag, crevice tool, single row brush, and web belt for carrying unit to work area. Cadillac brand (SA-82).
**No. 2Z013.** Shpg. wt. 3.1 lbs. List.....$88.24. Each.....$86.35

# BLOWER MOTORS AND AIR-POWERED VACS

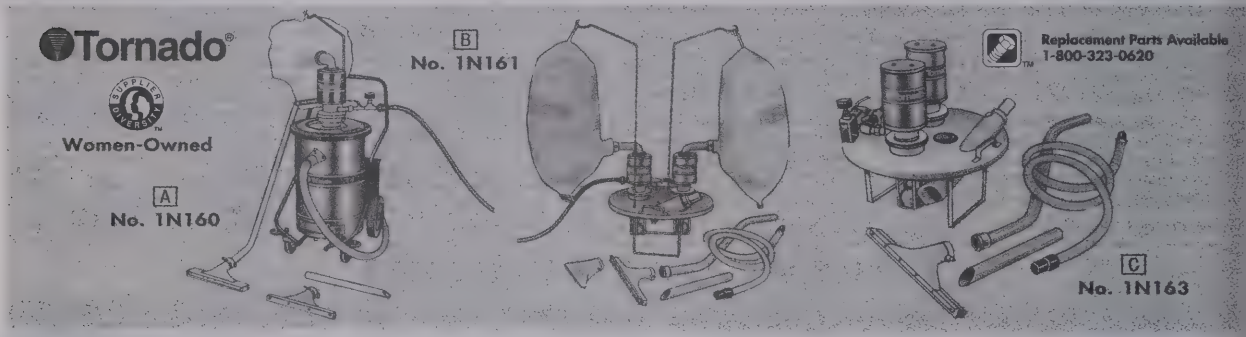
## HEAVY DUTY BLOWER MOTORS

Stand alone motors are built with a heavy-duty, single impellar, sealed bearing, by-pass design. Ideal for any blowing or drying applications, or use for inflating, seal testing, and air circulation. Motors feature dual handles with bumper band for easy handling and protection against damage to motor. 50 foot, non-marking, grounded power cable included.




| Description | HP | CFM | Breuer/ Tornado Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Blower Motor w/50' Cable** | 1½ | 155 | 98800 | **4KN54** | $513.90 | **$463.00** | 22.0 |
| **Blower Motor w/50' Cable** | 2¼ | 184 | 98900 | **4KN55** | 523.03 | **487.50** | 26.0 |

## WET/DRY AND WET ONLY AIR-POWERED VACS




**A No. 1N160 18-Gallon Portable Air Vacuum**

- **Only 19" wide—Air power through tight spaces**
- **50 CFM air at 80 PSI**
- **Compressed air powered vacuum, single venturi, packaged with three jet sizes**
- **External filter resists clogging and handles simultaneous wet/dry pickup**

Portable; two rear wheels, two front swivel casters. Hinged stainless steel tank—just tilt to empty. Comes with 15 ft. x 1½" static conductive urethane hose with sleeve, double curved wand, 14" floor squeegee tool, 14" hard floor tool, 18 x 1½" hand nozzle.

**B No. 1N161 55-Gallon Dual-Venturi Air-Vacuum Head**

- **Reach deeper and farther to recover heavier water, dirt, and sludge**
- **Three jet sizes**
- **External filters resist clogging**
- **Simultaneous wet and dry pickup**

Jumbo air vac with drum mount and attachments, fits 55-gallon roll top drum, No. 1N159. Includes dual liquid shut-off (installed), 2" hose adapter, 15 ft. x 2" static conductive neoprene hose, double curve wand, 22 x 2" floor squeegee, floor gulper tool, and 18" hand nozzle.

**B No. 1N162 55-Gallon Quad Air-Vacuum Head**

- **In less than a minute recovers 55 gallons of viscous liquids from 100 ft. away. Also picks up shot, blasting sand, and ultrafine dust**
- **External filters resist clogging**
- **Simultaneous wet and dry pickup**
- **Liquid shut-off installed**

Fits 55-gallon roll top drum, No. 1N159. Includes 2" hose adapter 15 ft. x 2" static conductive neoprene hose, double curve wand 22" floor squeegee tool, floor gulper tool, and 18" hand nozzle.

**C No. 1N163 55-Gallon Dual-Head Internal Air Vacuum**

- **For wet recovery only**
- **For flood control, sludge pick up, and cleaning of sumps and coolant tanks**
- **Mufflers provide quiet operation**

Fits 55-gallon roll top drum, No. 1N159. Incl. dual liquid shut offs, 2" hose adapter, 15 ft. x 2" static conductive neoprene hose two-piece double curve wand, 22" floor squeegee tool, and 18' hand nozzle.

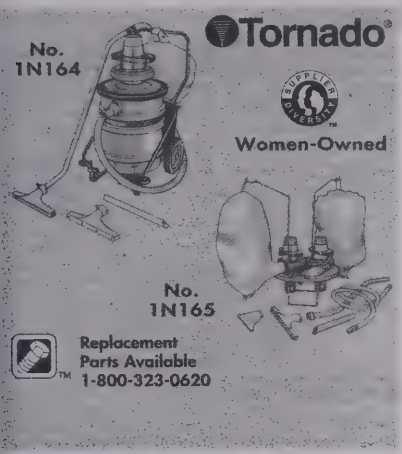
### ACCESSORIES FOR WET/DRY VACS

**D No. 1N159 55-Gallon Jumbo Drum (Not Shown).** 18-gauge stee roll-top drum. 2" Positive-seal drain valve for easy emptying.

**E No. 1N152 Powerhead Silencer (Not Shown).** This flow-through muffler fits between power unit and filter. Reduces the sound level of electric and air powerheads. One required for each powe unit.

| Key | Compressor HP | Air Line Dia. (In.) | Air Line CFM | Static Water-Lift | Air Flow CFM | Hose Dia. (In.) | Vertical Lift (Ft.) | Horizontal Reach (Ft.) | Breuer / Tornado Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 15 | 1/2 | 47* | 242"† | 83 | 1½ | 15 | 30 | 98690 | **1N160** | $1824.05 | **$1642.00** | 98.0 |
| **B** | 25 | 3/4 | 94* | 239 | 160 | 2 | 25 | 50 | 98691 | **1N161** | 2379.39 | **2141.00** | 109.0 |
| **B** | 50 | 1 | 198 | 200 | 238 | 2 | 50 | 100 | 98692 | **1N162** | 2897.92 | **2608.00** | 132.0 |
| **C** | 25 | 3/4 | 94 | 239 | 160 | 2 | 25 | 50 | 98693 | **1N163** | 1838.26 | **1654.00** | 95.0 |
| **D** | 55-Gallon Jumbo Drum Vacuum Accessory. | | | | | | | | 95942 | **1N159** | 224.54 | **213.50** | 50.0 |
| **E** | Powerhead Silencer Vacuum Accessory. | | | | | | | | 90550 | **1N152** | 93.69 | **89.05** | 3.0 |

(*) 3/16" jet @ 90 PSI installed. 7/32" and 1/4" jets also supplied. (†) 1/4" jet @ 90 PSI installed. 3/16" and 7/32" also supplied.




## WET/DRY ELECTRIC VACS

### No. 1N164 16 GALLON T-LITE ELECTRIC VACUUM

- **Crack-proof, corrosion-proof, thermo-plastic tank has 5-year warranty**
- **2.25 HP, 15 amp blower style motor**
- **115V portable vacuum with two rear wheels, two front swivel casters**
- **51" static waterlift—184 CFM air**
- **Hinged tank for easy emptying**
- **External filter resists clogging**

Detachable powerhead and large poly external filter. Includes liquid shut-off, 15 ft. x 1½" static conductive urethane hose with sleeve, two-piece double curve wand, 14" squeegee floor tool, 14" hard floor tool and 18" hand nozzle. Breuer/Tornado brand (98954).

**No. 1N164.** Shpg. wt. 110.0 lbs. List....$1721.78.
Each.....**$1549.00**

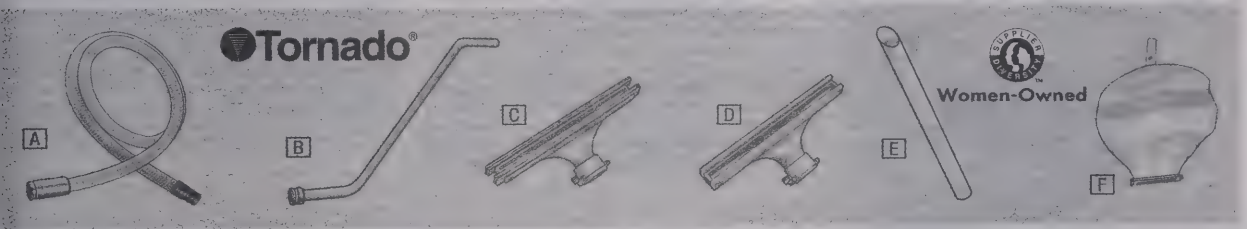
### No. 1N165 55 GALLON DUAL JUMBO ELECTRIC VACUUM HEADS

- **Dual 2.25 HP, 15 amp blower motors—removable motors for use as blowers**
- **Fits 55-gallon roll-top drum No. 1N159**
- **External filters resist clogging**
- **51" static waterlift—243 CFM air**
- **Installed liquid shut-off**

Simultaneously picks up wet and dry dirt. Includes liquid shut-off, 2" hose adapter, 15 ft. x 2" static conductive urethane hose, 2" two-piece double curve wand, 22" floor squeegee tool, floor gulper tool, 18" hand nozzle. Breuer/ Tornado brand (98958).

**No. 1N165.** Shpg. wt. 142.0 lbs. List....$2956.10.
Each.....**$2660.00**

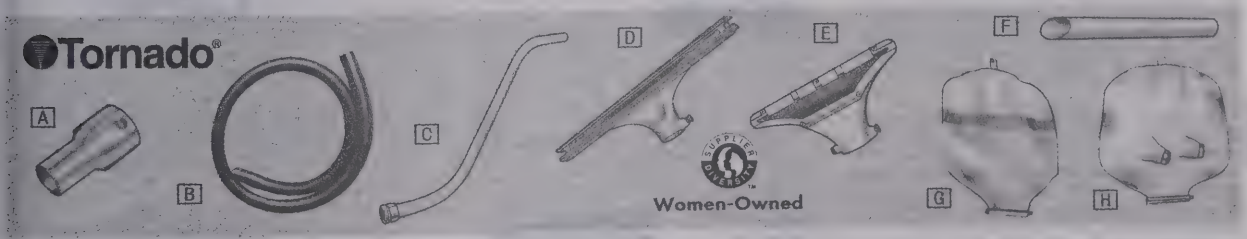
## 1½" TORNADO AIR VAC ACCESSORIES




### 1½" DIA. REPLACEMENT ACCESSORIES FOR PORTABLE VACS

| Key | Description | Tornado Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 15 ft. Static Conductive Clear Urethane Hose w/Sleeve | 90684 | **1N157** | $199.82 | **$190.00** | 5.3 |
| B | 2-Piece Double Curve Floor Wand | 90682 | **1N155** | 56.65 | **53.85** | 4.0 |
| C | Polyethylene 14" Floor Squeegee Tool | 90640 | **1N153** | 42.23 | **40.15** | 1.4 |
| D | Polyethylene 14" Hard Floor Tool | 90642 | **1N154** | 45.32 | **43.10** | 2.0 |
| E | 18" Hand Nozzle | 90414 | **1N149** | 28.84 | **27.40** | 0.5 |
| F | External Filter Bag for Portable Vacuums | 90377 | **1N147** | 113.30 | **107.65** | 3.0 |

## 2" TORNADO AIR VAC ACCESSORIES




### 2" DIA. REPLACEMENT ACCESSORIES FOR 55 GAL. JUMBO VACS

| Key | Description | Tornado Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 2" Hose Adapter | 90332 | **1N146** | $31.92 | **$30.35** | 0.5 |
| B | 15 ft. Static Conductive Black Neoprene Hose w/Sleeve | 90685 | **1N158** | 214.24 | **203.75** | 12.0 |
| C | 2-Piece Double Curve Floor Wand | 90683 | **1N156** | 77.25 | **73.40** | 5.3 |
| D | 22" Floor Squeegee Tool | 90317 | **1N144** | 114.33 | **108.65** | 5.0 |
| E | Floor Gulper Tool | 90320 | **1N145** | 104.75 | **99.55** | 4.0 |
| F | 18" Hand Nozzle | 90444 | **1N150** | 29.87 | **28.40** | 0.5 |
| G | External Filter Bag for Dual Head Jumbo Vacs | 90378 | **1N148** | 177.16 | **168.50** | 2.0 |
| H | External Filter Bag for Quad Head Air Vacuum | 90488 | **1N151** | 179.22 | **170.50** | 4.0 |

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# INDOOR/OUTDOOR VACUUM AND SWEEPERS

## INDOOR/OUTDOOR VACUUM




Use for quick and easy cleaning of small areas indoors or outdoors to clean litter, dirt, and debris from any hard surface area or low nap commercial carpeting.

**Typical Applications:** lobbies, sidewalks, and entryways; areas around equipment where light debris pick-up is required, and in hallways. Also use for touch-ups of local areas in malls, theaters, and auditoriums.

**Features:** 19" wide nozzle has 2 height settings. Safety operating switch. 8-gallon filter/collector bag has zipper for easy emptying. 120 Volt, 60 Hz. 6.0 Amp. 1.25 Peak HP. Single-stage motor. UL Listed (E40197) and CSA Certified (16331). Double insulated. Dayton brand.

**No. 6H003.** Shpg. wt. 18.0 lbs. List.....$167.25.
Each.....**$133.80**

## ELECTRIC & GASOLINE POWERED SWEEPERS




**Self-propelled Forward Electric or Gasoline Powered Walk-behind Sweepers increase productivity** and lower labor cost by providing efficient cleaning of large and small hard surface areas. Use in factories, warehouses, malls, auditoriums, parking lots, docks and walkways. Thoroughly cleans any relatively smooth, even floor including linoleum, concrete and asphalt. Unique design engages brushes smoothly and provides main drive speed control with a single control lever conveniently located on handle. Brushes rotate only when unit is activated which conserves power. No tools needed. Split shaft design for easy drive belt replacement. Durable one-piece unitized steel frame. UL Listed. Dayton brand. **Features include** 36" wide sweeping path, 14" dia. side broom (standard equipment). Vacuum filter system has a 49.2 sq.-ft. pleated filter panel, 2.7 cu.-ft. hopper, single control lever on handle, hour meter, 22,500 sq.-ft. average sweeping area per hour. Overall dimensions 60L x 38W x 39"H.

| Power Supply | Standard Equipment | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Electric (battery)** | 14" side broom, two 12-volt batteries, charger, charger timer, ammeter | **6H001** | $6345.00 | **$5076.00** | 451.0 |
| **Gasoline** | 14" side broom, 5 HP Briggs & Stratton engine | **6H002** | 5443.75 | **4355.00** | 312.0 |

## INDOOR/OUTDOOR PUSH SWEEPERS

Increase maintenance productivity with cleaner, more efficient results. Designed for quick cleaning of warehouses, manufacturing floors, machine shops, shopping malls, parking areas, sidewalks and lobbies. Cleans dirt, dust and litter from any hard surface such as asphalt, wood, cement, etc.

Cleans a 27" wide path. Side broom sweeps debris away from walls, curbs and obstacles into path of the main broom. The reverse rotation of the 8 x 19" main broom sweeps the debris into the large 1.4 cu-ft hopper. Carrying handle on dirt hopper makes removal and emptying easy.

**Features:** Two large 10" main wheels and 3" caster combined with lightweight, durable construction make the sweeper easy to push and maneuver. Handle is 7/8" dia. steel tubing. Adjustable side and main brooms. Dent and rust-resistant.

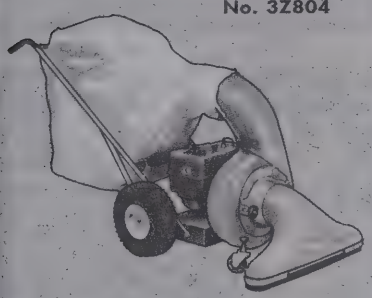



| Hopper Construction | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Steel** | Clarke | PS27 | **2U508** | $710.00 | **$674.50** | 82.0 |
| **Structural Foam** | Dayton | — | **5Z042** | 468.12 | **374.50** | 50.0 |

## PARKER PUSH VACS

Parker®

No. 3Z804



**The Parker VAC-35®** is a powerful, easy to operate walk-behind vacuum, well suited for cleaning up litter, debris, waste, and leaf covered grounds.

Aerodynamic design for maximum airflow of 2,000 CFM which exceeds 70 MPH at the 30" wide intake housing. Nonsparking aluminum/magnesium impeller in steel lined housing complete with anti-wrap protection. High-tech plastic technology reduces vibration, noise levels, and weight. Spin-Pak® safety deflector and debris packer protects operator while packing up to 19% more bulk material in to 7.2 bushel mildew-resistant felt collector bag. Heavy gauge steel handles, chassis and axles for maximum durability. Fully pneumatic 5 x 14" cleated tires and 3" dual swivel casters for easy maneuverability.

**No. 3Z803, 5 HP.** Briggs & Stratton 5 HP, 4-cycle engine with recoil starter, float type carburetor, easy access oil drain, handle mounted throttle control and shut-off. 3 quart fuel tank.

**No. 3Z804, 8 HP.** Kohler Magnum® cast-iron, 8 HP, 4-cycle engine. Added horsepower ensures big-job efficiency, longer life and maintenance-free service. Equipped with recoil starter, engine throttle control and shut-off in easy reach of operator. 1¼ gallon fuel tank.

**Replacement Collector Bags.** Mildew protected synthetic felt collector bag with 54" brass zipper.

**PARKER 2 YEARS PARTS AND 1 YEAR LABOR LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Replacement Parts Available
1-800-323-0620

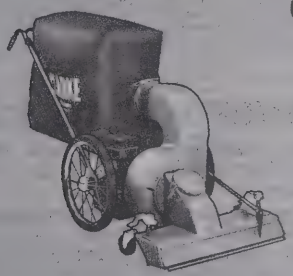
| HP | Dimensions (Inches) Height | Width | Length | Parker Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 | 42 | 30 | 78 | PV8705BT | 3Z803 | $1454.00 | 164.0 |
| 8 | 42 | 30 | 78 | PV8708KT | 3Z804 | 1853.00 | 204.0 |

### REPLACEMENT FELT BAGS FOR NOS. 3Z803 AND 3Z804

| For Vacuums | Parker Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Without Bag Platform (current vacuum models) | 350850 | 4Z395 | $91.00 | 3.6 |
| With Bag Platform (vacuums supplied 1987 and prior) | 350800 | 5W754 | 91.00 | 3.0 |

## INDOOR/OUTDOOR VAC

Clarke®



A powerful, easy to operate walk-behind vacuum for cleaning up litter, debris, waste, leaves and small twigs both in and outdoors. Large adjustable up/down front swivel casters and 30" cleaning path make this vacuum an efficient method for large area cleaning.

Powered by industrial 6 HP Tecumseh engine. Heavy-duty impeller picks up bottles, cans, sticks, leaves, etc. Trap door allows large debris to pass into the vacuum chamber. Nonrusting fan housing allows easy passage of debris to bag with a side zipper for easy disposal. Large 11 cu. ft. collector bag and large bicycle-type wheels. Clarke® brand (LV-30).

**No. 7A143.** Indoor/Outdoor Vacuum. Shpg. wt. 202.0 lbs. List..$2105.00.
Each ..... $2000.00

Replacement Parts Available
1-800-323-0620

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# PRESSURE WASHERS

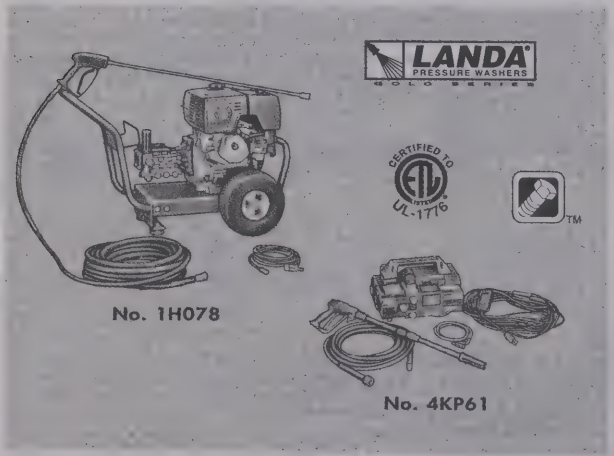
## WHY *LANDA* PRESSURE WASHERS?

**LANDA is America's largest manufacturer of Pressure Washers with the world's largest line of hot- and cold-water washers. LANDA is No. 1 because:**

- **Landa has North America's largest network of authorized service centers**
- **LANDA is the only manufacturer with its entire pressure washer line certified to the internationally recognized UL-1776 safety standards for OSHA compliance**
- **LANDA offers a limited 5-year parts and one-year labor warranty on nearly all of its pressure washers**
- **LANDA pressure washers have tri-lingual instructions: English, Spanish French**

| | COLD-WATER WASHERS | | | | | | | | | | HOT-WATER WASHERS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ELECTRIC POWERED | | | | | GASOLINE POWERED | | | | | ELECTRIC POWERED | | | | | | GAS |
| USAGE | No. 4KP61 | No. 1H077 | No. 1H076 | No. 1H075 | No. 1H074 | No. 1H080 | No. 1H078 | No. 1H079 | No. 1H071 | No. 1H070 | No. 1H067 | No. 1H072 | No. 1H066 | No. 1H064 | No. 1H065 | No. 5GH68 | No. 5GH54 |
| Light (Under 5 Hrs./Wk.) | ● | | | | | ● | | | | | | | | | | | |
| Medium (5-20 Hrs./Wk.) | | ● | ● | ● | ● | | ● | ● | | | ● | ● | ● | ● | ● | ● | |
| Heavy (20+ Hrs./Wk.) | | | | | | | | | ● | ● | | | | | | | ● |
| APPLICATIONS | | | | | | | | | | | | | | | | | |
| Auto Repair/parts | | | | | | | | | | | | | | | ● | ● | |
| Bldg. Maintenance | | | | | | | | | | | ● | | | | | | ● |
| Boat / Marina | | | | | | | | | | ● | | | ● | | | | ● |
| Contract Cleaning | | | | | | | | | ● | ● | | | | | | | ● |
| Construction | | | | | | | | | ● | ● | | | | ● | | | ● |
| Food Processing | | ● | | | ● | | | | | | | ● | | | | ● | |
| Golf Course | | | | | | | | | ● | | ● | | | | | | ● |
| Gutter Cleaning | | ● | | | | | ● | | | | | | | | | | |
| Heavy Equipment | | | | | | | | | | ● | | | | ● | | | ● |
| Home/Hobby | ● | | | | | ● | | | | | | | | | | | |
| Mobile Washing | | | | | | | | | | ● | | | | | | | ● |
| Paint Preparation | | | | | | | | ● | ● | | | | | | | | |
| Plant Maintenance | | | | | ● | | | | | | | ● | ● | | | | |
| Rental Center | | | ● | | | | | | ● | | ● | | | ● | | | ● |
| Restaurant Kitchen | | | | ● | | | | | | | | ● | | | | ● | |
| Swimming Pools | | ● | | | | | | ● | | | | | | | | | |
| Truck Washing | | | | | | | | | | ● | | | | ● | | | ● |

(*) Gasoline powered




## PRESSURE WASHERS

For light-duty (under 5 hours/week), occasional cleaning o shops, roofs, siding, and light equipment.

- **Trigger gun is standard**
- **Max. intake water temperature from garden hose is 140°F**

**Electric compact model No. 4KP61** has a durable plastic housing with a high-low pressure wand, chemical metering valve, ground fault interrupter, 35 ft. power cord, and General triplex pump.

- **Lightweight with handle for ease of portability**
- **Easy to operate: Turn on one heavy-duty rocker switch an pull trigger**

**Gas-driven model No. 1H078** has General triplex, oil-bath pump Briggs & Stratton engine with cast-iron block and steel sleeves and stainless steel cleaning wand.

- **Two quick-connect nozzles: 15" high pressure and brass soap injection**
- **Heavy-duty chassis with pull bar, hose hanger and durable powder coat finish**

Detergent injection for No. 1H078 is controlled by use of the soa nozzle. No. 4KP61 has metering valve on the unit for regulatin soap flow.

| HP | Operating Pressure (PSI) | GPM | Volts | Amps | Engine | Portable | Hose Dimensions | Dimensions (In.) L | W | H | Landa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.5** | 1000 | 2.1 | 120 | 15 | N/A | Handle | 1/4" x 25 ft. | 14 | 9 | 10 | 7F2-10021D | **4KP61** | $799.00 | **$479.50▲** | 56.0 |
| **3.5** | 1500 | 1.8 | N/A | N/A | B&S | Wheels | 1/4" x 25 ft. | 30 | 19 | 28 | ZG2-15421 | **1H078** | 865.00 | **580.50▲** | 100.0 |

(▲) Net prices, not subject to discounts.

## ELECTRIC COLD WATER PRESSURE WASHERS

For medium-duty use (5-20 hours/week) in cleaning automobiles, equipment, shop floors, food processing. Use anywhere water and electricity are available. Especially suited for indoor use due to low noise and no fumes.

Industrial quality single-phase electric motors are used with heavy-duty On-Off controls. All have capacitor starts, thermal overload protection, and 35 ft. power cords with ground fault circuit interrupters (GFCI) for operator safety.

230V models Nos. 1H075 and 1H074 come without electrical plug ends. No. 1H076 uses a NEMA 5-20p 20 amp plug.

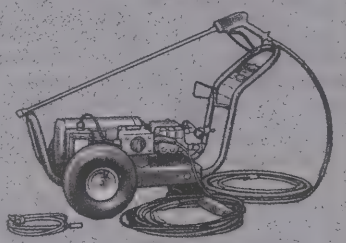
Industrial General triplex water pumps have three ceramic plungers and an oil bath crank case. Oil-end of pump has limited 5-year part warranty.

- **Soap injection with quick-connect brass nozzle; do not use acids**
- **Trigger gun and stainless steel wand**
- **25 ft. high-pressure, wire braid hose**
- **Ideal for: Food service, showers, nursery, gutters, floors, school, swimming pools, food processing**
- **Max. intake water temperature from garden hose 140°F**
- **Easy to operate: Simply turn on one heavy-duty toggle or rotary switch and pull trigger**
- **Heavy-duty chassis designed for industrial use. Specially treated steel with durable powder coat finish**
- **Comes with 15° high-pressure nozzle and a brass soap injection nozzle**

LANDA PRESSURE WASHERS GOLD SERIES

CERTIFIED TO ETL INTERTEK UL-1776

Replacement Parts Available 1-800-323-0620



No. 1H074

| HP | Operating Pressure (PSI) | GPM | Volts | Amps | Pump Drive | Portable | Hose Dimensions | Dimensions (In.) L | W | H | Landa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.5** | 1000 | 2.0 | 120 | 15 | Direct | Wheels | 3/8" x 25 ft. | 30 | 19 | 28 | PDE2-11021D | **1H077** | $1199.00 | **$1020.00** | 114.0 |
| **2.0** | 1500 | 1.8 | 120 | 20 | Direct | Wheels | 3/8" x 25 ft. | 30 | 19 | 28 | PDE2-15021D | **1H076** | 1349.00 | **1147.00** | 121.0 |
| **3.0** | 1500 | 2.7 | 230 | 14 | Direct | Wheels | 3/8" x 25 ft. | 30 | 19 | 28 | PDE3-15021A | **1H075** | 1479.00 | **1258.00** | 131.0 |
| **5.0** | 2000 | 3.6 | 230 | 20 | Direct | Wheels | 3/8" x 25 ft. | 30 | 19 | 28 | PDE4-20021A | **1H074** | 1699.00 | **1445.00** | 152.0 |

## GAS ENGINE COLD WATER PRESSURE WASHERS

**For outdoor use** including agriculture, automobiles, trucks, equipment, contract cleaning, mobile washing, well drilling. Use where water is available but not electricity.

**Industrial General triplex water pump** with three ceramic plungers and oil bath crank case. Maximum water intake temperature is 140°F.

**Standard on all gas engine cold water pressure washers:**

- **Trigger gun for remote operation**
- **Soap injection assembly with brass soap nozzle**
- **50 ft. of high pressure wire-braid hose**
- **Spring-loaded feet to absorb vibration**
- **Pneumatic wheels**
- **Pressure relief valve opens automatically if excessive pressure develops**
- **Ideal for: Marina, agriculture, mobile wash, golf course, aviation, well drilling, heavy construction**
- **Uses 10W30 non-detergent pump oil, No. 4ZF21; and 10W30 detergent-dispersant engine oil, No. 4F743**

**Direct-drive models** Nos. 1H080 and 1H079 are for medium-duty use (5-20 hours/week). Powered by Briggs and Stratton Industrial Plus engines which are coupled directly to the pumps.

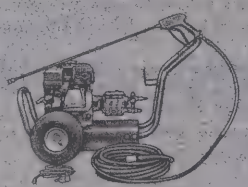
- **Engines have low-oil alert shutoff and recoil start**
- **36" stainless steel wand and 2 quick-couple nozzles: 15° high pressure an brass soap**

**Belt-drive models** Nos. 1H071 and 1H070 are for heavy-duty use (20+ hours/week). Designed for longer life due to belt which absorbs engine vibration and reduces water pump RPM.

- **Belt runs on adjustable cast-iron pulleys; high-impact plastic belt guard**
- **4-spray nozzles for varied spray patterns: 0°, 15°, 25°, 40°**
- **48" variable pressure wand assembly**
- **Stainless steel variable pressure wand has built-in soap nozzle. Pressure and soap easily adjusted with the twist of a handle**

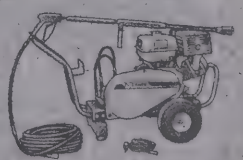
**No. 1H070 has a 6-gallon detached marine fuel tank.** Requires 12V U-1 garden tractor battery (not included).

LANDA PRESSURE WASHERS GOLD SERIES



No. 1H079

CERTIFIED TO ETL INTERTEK UL-1776



No. 1H071

Replacement Parts Available 1-800-323-0620

| HP | Operating Pressure (PSI) | GPM | Engine | Starter | Pump Drive | Hose Dimensions | Dimensions (In.) L | W | H | Landa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 1500 | 2.7 | Briggs I/P | Recoil | Direct | 3/8" x 50 ft. | 30 | 19 | 28 | PC3-15421 | **1H080** | $1469.00 | **$1176.00** | 126.0 |
| **8** | 2000 | 3.5 | Briggs I/P | Recoil | Direct | 3/8 x 50 | 30 | 19 | 28 | PC4-20421 | **1H079** | 1799.00 | **1440.00** | 154.0 |
| **11** | 3000 | 3.5 | Honda | Recoil | Belt | 3/8 x 50 | 41 | 29 | 28 | PGS4-30321 | **1H071** | 2945.00 | **2356.00** | 231.0 |
| **16** | 3500 | 4.7 | Vanguard | Electric | Belt | 3/8 x 50 | 41 | 29 | 28 | PGS5-35221E | **1H070** | 3999.00 | **3200.00** | 272.0 |

# HOT WATER PRESSURE WASHERS

**For medium-duty use** (5-20 hours/week) where high pressure and hot water (up to 190°F) are needed, such as degreasing, sanitizing, and heavy grime washing. Especially adept at cleaning in tough construction, trucking, farming, food processing, restaurant, etc. Use anywhere water and electricity are available.

**Industrial quality single-phase electric motors** are used to drive the water pump and water heater burner. Both motors have heavy-duty On-Off controls, capacitor starts, and thermal overload protection.

Industrial-strength high pressure pump made by General is coupled to the motor (direct drive) and features three ceramic plungers and an oil bath crank case. Oil-end of pump has limited 5-year part warranty.

**Vertical coil** made of 1/2" cold-rolled steel pipe and features Landa's unique stainless steel heat-saving retention plate. Coil has limited 5-year part warranty.

**Safety pressure relief valve** opens automatically if excessive pressure develops. Resets automatically.

**Trigger gun control** for remote operation at the gun.

**Variable pressure washing wand** has built-in soap nozzle. Control of pressure and soap can be adjusted simply by turning a handle on the wand.

**Soap injection assembly** is standard with a quick connect union that allows for remote injection of soap at the wand. Do no use acids.

**Standard with 35 ft. power cord** and ground fault circuit interrupter (GFCI) for operator safety.

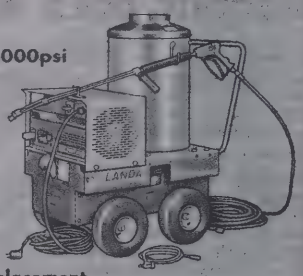
**230 unit No. 1H064 comes without electrical plug. Nos. 1H065, 1H066, 1H067, and 5GH72 use a NEMA 5-20p 20 amp plug.**

**50 ft. high pressure wire-braid hose** is temperature, chemical, and oil-resistant.

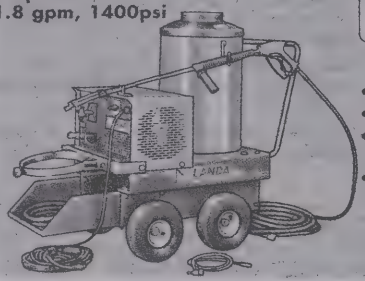
LANDA® PRESSURE WASHERS GOLD SERIES

CERTIFIED TO ETL LISTED UL-1776

No. 1H067
oil-fired
2.0 gpm, 1000psi



No. 5GH72
propane
1.8 gpm, 1400psi



Replacement Parts Available 1-800-323-0620

- Portable, double-axle chassis
- Triplex General pump
- Trigger gun, variable pressure wand, soap injector
- 50 ft. high pressure hose

**LANDA LIMITED WARRANTY**
5-year limited warranty on coil. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- **Water is supplied to pressure washer with garden hose (not included). Max. intake water temperature 140°F**
- **Water output temperature approx. 190°F**
- **High limit safety temperature control**
- **Comes with 15° high pressure nozzle**
- **Easy to operate. Simply turn on one switch and pull the trigger**
- **Handles easily with pneumatic wheels, push handle, hose hanger**
- **Heavy-duty, tandem-axle chassis made of specially treated steel with durable powder coat finish**

Oil-fired models Nos. 1H067, 1H066 1H064, and 1H065 use #2 diesel fuel kerosene, or #1 home heating oil for the water heater burner. 5 gal. polyethylene fuel tank is rustproof and easy to remove for cleaning.

Propane models are supplied with gas regulator, LP valve shut off, 10 ft. of gas hose and tank carrier with snug-fit band. Tank is not supplied; minimum tank size is 30 pounds. While tank carrier is supplied, tank must be removed from machine during operation. Use vapor type of propane. Do not use a liquid type tank such as used on forklifts.

Combination steam cleaners/pressure washers Nos. 1H065 and 1H068 have convenient steam valve that resists water flow and converts hot water into "wet steam" at 250°F. PSI in steam mode is 350°F.

| HP | Operating Pressure | GPM | Volts | Amps | Pump Drive | Burner Fuel | Hose Dim. (In. x Ft.) | Dimensions (In.) L | W | H | Landa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HOT WATER PRESSURE WASHERS** | | | | | | | | | | | | | | | |
| **1.5** | 1000 | 2.0 | 120 | 18 | Direct | Oil | 3/8 x 50 | 36 | 26 | 41 | VHW2-11021D | **1H067** | $2799.00 | **$2576.00** | 376.0 |
| **2.0** | 1400 | 1.8 | 120 | 17 | Direct | LP | 3/8 x 50 | 50 | 26 | 41 | VHP2-14021D | **5GH72** | 3039.00 | **2918.00** | 375.0 |
| **2.0** | 1400 | 1.8 | 120 | 20 | Direct | Oil | 3/8 x 50 | 36 | 26 | 41 | VHW2-14021D | **1H066** | 2859.00 | **2631.00** | 381.0 |
| **5.0** | 2000 | 3.5 | 230 | 20 | Direct | Oil | 3/8 x 50 | 36 | 26 | 41 | VHW4-20021A | **1H064** | 3349.00 | **3082.00** | 402.0 |
| **COMBINATION STEAM CLEANERS/PRESSURE WASHERS** | | | | | | | | | | | | | | | |
| **1.5** | 700 | 2.7 | 120 | 18 | Direct | Oil | 3/8 x 50 | 36 | 26 | 41 | VHW3-70021D | **1H065** | 2859.00 | **2631.00** | 396.0 |
| **1.5** | 700 | 2.7 | 120 | 15 | Direct | LP | 3/8 x 50 | 50 | 26 | 41 | VHP3-70021D | **1H068** | 2949.00 | **2832.00** | 381.0 |

## ACCESSORIES/REPLACEMENT PARTS FOR LANDA PRESSURE WASHERS

Items work with any Landa Pressure Washer (except ZF Series).

**FEMALE COUPLERS** — Precision brass design, unrestricted free flow. 3500 PSI max. Available 1/4 or 3/4".

**ZINC-PLATED NIPPLES** — Hardened steel, 3500 PSI max. Available 1/4 x 1/4" NPT or 3/8 x 3/8" NPT.

**VARIABLE PRESSURE WANDS** — No. 4MG69 features zinc-plated tubes and stainless seat and stem. Fully insulated, includes coupler. No. 4MG70 features stainless steel tube and brass body. Fully insulated, includes coupler.

| Description | Landa Model | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **1/4" Coupler** | 2-2000 | **4MG65** | **$3.70▲** | 0.5 |
| **3/8" Coupler** | 2-2002 | **4MG66** | **4.26▲** | 0.5 |
| **1/4 x 1/4" NPT Nipple** | 2-2005 | **4MG67** | **1.60▲** | 0.5 |
| **3/8 x 3/8" NPT Nipple** | 2-2007 | **4MG68** | **1.66▲** | 0.5 |
| **Zinc-Plated Wand** | 4-011142A | **4MG69** | **86.00▲** | 5.0 |
| **Stainless Steel Wand** | 4-011143A | **4MG70** | **79.00▲** | 5.0 |

(▲) Net prices, not subject to discounts.

# HOT WATER PRESSURE WASHER AND FLAT SURFACE CLEANER

## GAS ENGINE HOT WATER PRESSURE WASHER

**For outdoor, heavy-duty use** (20+ Hr/Wk), such as heavy equipment cleaning on a job site or in the field where hot water is needed, but electricity is not available.

**Direct-drive General triplex pump** with three ceramic plungers and an oil bath crankcase.

**Industrial-strength engine,** 11 HP Honda has electric start (rope stand-by). Low-oil alert shutoff; gas capacity is 1.7 gal.

**Landa's Duracoil** made of cold-rolled steel pipe with a unique heat-saving baffle. Coil is surrounded by a blanket of insulation; covered by Landa's 5-year limited warranty.

**No need for generator** with 12V DC burner assembly; battery box and cable included; 12V battery not included. Group 24 90 amp rating required.

**Safety pressure relief valve** opens automatically if excessive pressure develops. Resets automatically.

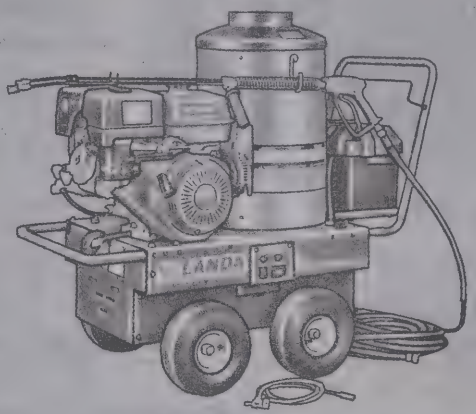
**Trigger gun control** for remote operation at the gun.

**Variable pressure washing wand** has built-in soap nozzle. Control of pressure and soap can be adjusted simply by turning a handle on the wand.

**Soap injection assembly** is standard with a quick connect union that allows for remote injection of soap at the wand. Do not use acids.

- **High limit safety temperature control**
- **Max. water intake from garden hose (not included) is 140°F**
- **Comes with 15° high pressure nozzle**
- **50 ft. of high pressure wire-braid hose resistant to temperature, oil, and chemicals.**
- **Water output temp. approx. 190°F**

LANDA® PRESSURE WASHERS GOLD SERIES



CERTIFIED TO ETL LISTED UL-1776

**No. 5GH54**
**3.5 gpm**
**3000 psi**
**12V battery not included**

Replacement Parts Available
1-800-323-0620

- **Uses 10W30 non-detergent pump oil, No. 4ZF21; and 10W30 detergent dispersant engine oil, No. 4F743**
- **Heavy-duty, tandem-axle chassis made of specially treated steel with durable powder coat finish**
- **Pneumatic wheels for easy maneuvering**
- **Burner fuel is #2 diesel, kerosene, or #1 home heating oil. Fuel capacity is 6 gallons**

| HP | GPM | Operating Pressure | Engine | Starter | Pump Drive | Hose Dimensions | Dimensions (Inches) L | W | H | Landa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **11** | 3.5 | 3000 | Honda | Electric | Direct | 3/8" x 50 ft. | 47 | 26 | 41 | MVP4-30321E | **5GH54** | $5195.00 | **$5092.00** | 460.0 |



LANDA® PRESSURE WASHERS GOLD SERIES

**No. 5GH53**
**Water Jet-Surface Cleaner Attachment**

## FLAT SURFACE CLEANER

**Cleans flat surfaces** fast by attaching to either a hot- or cold-water pressure washer (up to 4000 psi and 200°F). Spray bar, with two jet spray nozzles, spins at a rate of 2000 RPM causing the water to hit the surface 66 times per second for consistent and streak-free, deep cleaning power. Landa brand (30-585).

**Variable height adjustment** of spray bar so you can blast off concrete but not dig up asphalt or wood.

**Holster-mounted spray gun** for quick spot cleaning of hard-to-reach places; water flow automatically switched at will.

- **Maximum pressure: 4,000 PSI; Dimensions: 48L x 22W x 37"H**
- **Pneumatic wheels and swivel front caster for easy maneuvering into corners**
- **Rotary union has industrial ball bearings, tungsten carbide seat and stainless steel housing**
- **Fatigue-free trigger handle for operator safety**

**No. 5GH53.** Shpg. wt. 60.0 lbs. List $1575.00. Each.....**$1544.00**

# RECYCLED TISSUE, TOWEL AND NAPKIN PRODUCTS

## ENVISION®

The Envision line is America's first complete system of towel, tissue and napkin products designed to meet Environmental Protection Agency (EPA) Guideline levels for Postconsumer Fiber Content. Today, all Envision products not only meet, but significantly exceed these guidelines. Purchasing Envision products is an effective way to "Think Globally and Act Locally" with 100% recycled Envision products.




- **Made with 100% Total Recycled Fiber Content**
- **Certified by Fort James to significantly exceed E.P.A. guidelines for Postconsumer Fiber Content**
- **Virgin fiber-free**
- **Made by Fort James, winner of the E.P.A. Administrator's Award for Innovative Recycling Leadership**
- **All shipping cases, cartons, roll cores and paper wrappers contain 100% recycled and at least 10% postconsumer fiber.**

Grainger is offering Envision® in three performance categories. They include Premium "Best", Near-Premium "Better", and Economy "Good" products. This allows the Envision® brand to meet your full range of needs while at the same time benefitting the environment.

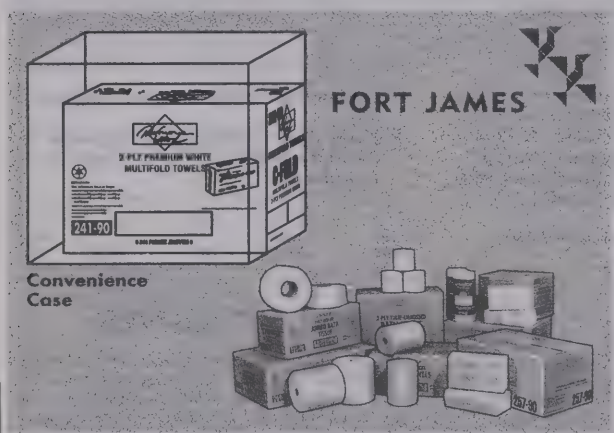
**Envision® Preference® Ultra Premium** products offer the ultimate in performance. They provide the highest levels of quality and performance with unsurpassed environmental benefits. Use for upscale, luxury office buildings, healthcare centers and lodging facilities.

**Envision® Preference® Near-Premium** products offer better quality performance. Ideal for mid-range office buildings, healthcare centers foodservice and lodging facilities.

**Envision® Acclaim® Economy** products offer consistent and reliable performance at the lowest cost per use. Ideal for high traffic areas in public facilities, schools, office buildings, foodservice and healthcare centers.

## CONVENIENCE CASES

When storage space is limited and large quantities of product are not needed, choose Convenience Cases. They contain smaller quantities of Envision bath tissue, folded towels, and roll towels. This reduces the overall size and weight of the case for easier handling and storage. (These products are also available in regular size cases.)




### ENVISION® BATH TISSUE

**No. 1D508 Envision® Preference® Near-Premium Bath Tissue.** A high quality 2-ply 500 sheet roll for applications where quality and appearance are important. Sheet size 4½ x 4½", 500 sheets/roll, 24 rolls/case. Fort James brand. (124-90).

**No. 1D508.** Shpg. wt. 12.0 lbs. List $22.69. Each.....**$17.96**

**No. 1D509 Envision® Acclaim® Economy Jumbo Roll Tissue.** Jumbo rolls have more feet per roll than standard rolls. These Jumbo 9" rolls last up to six times longer than standard tissue rolls. Fewer roll changes mean reduced labor and maintenance costs. 1000 ft., 2-ply, four rolls/case. For use with dispenser No. 2U256. 1⅝" core. Fort James brand (121-90).

**No. 1D509.** Shpg. wt. 10.0 lbs. List $28.48. Each .....**$22.63**

### ENVISION® FOLDED TOWELS

**No. 1D495 Envision® Preference® Ultra Premium C-Fold Towels.** These premium soft and absorbent C-Fold Towels feature a unique patented honeycomb emboss design and two heavy paper plies. Offer your guests, tenants and customers the ultimate in luxury. Sheet size 10¼ x 13¼", 120 towels/sleeve, 12 sleeves/case. For use with dispenser No. 4CJ95 (white) or No. 1CF38 (chrome). Fort James brand (254-90).

**No. 1D495.** Shpg. wt. 17.0 lbs. List $32.29. Each .....**$25.55**

**No. 1D505 Envision® Preference® Ultra Premium Multifold 2-ply Towels.** Feature a unique, patented honeycomb emboss that gives these premium towels a thick, luxurious and soft-to-the-hand feel. Sheet size 9¼ x 9½", 125 towels/sleeve, 8 sleeves/case. For use with dispenser No. 4CJ95. Fort James brand (241-90).

**No. 1D505.** Shpg. wt. 7.1 lbs. List $17.10. Each .....**$13.55**

### ENVISION® ROLL TOWELS

**No. 1D506 Envision® Acclaim® Natural Hardwound Roll Towels.** Economical, lightweight, natural colored 350 feet roll towel. Standard size rolls. Six 350 ft. rolls/case. 7⅞" wide. 1½" core. For use with dispenser No. 2U235 (smoke gray) or No. 2U236 (beige). Fort James brand (268-90).

**No. 1D506.** Shpg. wt. 17.0 lbs. List $28.32. Each .....**$22.40**

**No. 1D507 Envision® Preference® Ultra Premium Hardwound Roll Towels.** Offers the ultimate in softness and absorbency. Ideal for upscale facilities with high traffic washrooms. Six 350-ft rolls/case. 7⅞" wide. 1½" core. For use with dispenser No. 2U235 (smoke gray) or No. 2U236 (beige). Fort James brand (269-90).

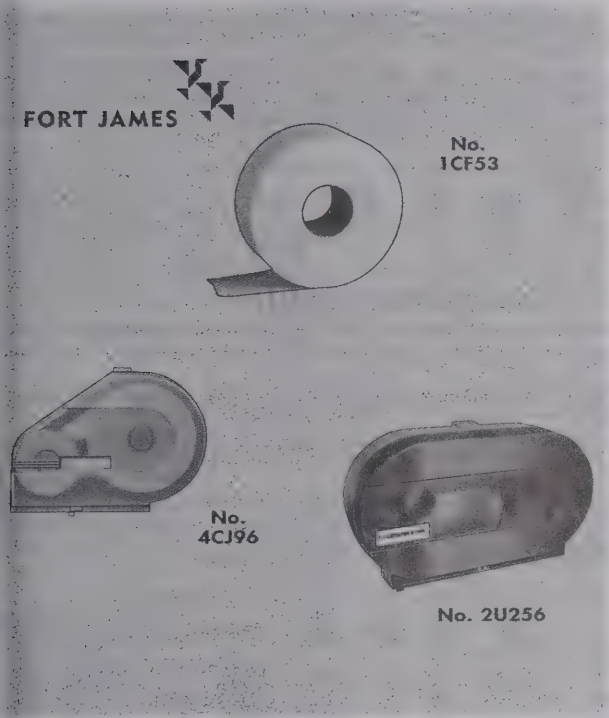
**No. 1D507.** Shpg. wt. 24.0 lbs. List $37.40. Each .....**$29.60**

**No. 1D504 Envision® Preference® Perforated Roll Towels.** Excellent 2 ply towel is strong and absorbent, 100 sheets/roll, sheet size: 11 x 8.8". 12 rolls/case. 1⅝" core. Fort James brand (265-90).

**No. 1D504.** Shpg. wt. 9.0 lbs. List $23.69. Each .....**$18.77**

# JUMBO ROLL TOILET TISSUE DISPENSING SYSTEM, FACIAL TISSUE & TOILET SEAT COVERS

## ENVISION® Acclaim® ROLLSAVR® JUMBO ROLL TOILET TISSUE DISPENSING SYSTEM




**Jumbo roll tissue.** Soft, facial quality toilet tissue available in one and two-ply 9" and 11¾" diameter rolls. Jumbo rolls have more feet per roll than standard rolls. 9" rolls last up to six times longer and 11¾" rolls last up to 10 times longer than standard rolls. Fewer roll changes mean reduced maintenance costs. 3" core. Sold in cases.

**Sleek, simple design** of this dispensing system complements any washroom. Formed of high impact, smoked grey plastic, the dispenser accommodates one and two-ply rolls.

**Easy installing, easy dispensing.** Dispenser has three-sided, serrated edge so tissue can be torn off at any angle. Convenient design allows dispenser to be mounted on either side of washroom stall.

**Total traffic managing system** for high traffic areas. Dispensing system can reduce maintenance costs, stub roll waste, pilferage, and tissue run-out.

**Single-handed operation** for faster roll changes. See-through door allows maintenance personnel to monitor roll tissue supply at a glance.

**Security** comes from a special locking mechanism providing smooth, long-lasting operation reducing vandalism and pilferage.

### ENVISION® ACCLAIM™ JUMBO ROLL TISSUE

| Description | Ply | Color | Roll Size (Ft.) | Case Qty. | F-J Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 9" Dia. Roll | 1-ply | White | 2100 | 12 rolls | 151-90 | 1GH03 | $56.89 | $46.50 | 41.0 |
| 9" Dia. Roll* | 2-ply | White | 1075 | 12 rolls | 152-90 | 1CF53 | 57.52 | 47.00 | 31.0 |
| 11¾" Dia. Roll | 2-ply | White | 2000 | 6 rolls | 131-90 | 2U249 | 56.06 | 44.90 | 31.0 |
| 11¾" Dia. Roll | 1-ply | White | 3900 | 6 rolls | 130-90 | 4CJ66 | 58.42 | 51.70 | 35.0 |

(*) Available in easy-to-handle convenience cases (PP1901).

### DISPENSERS

| Description | Fits Roll Size | Dimensions (In.) | Color | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2-Roll Disp. | 9 | 13¼x20⅜16x5⅝ | Smoke Grey | 582-50 | 2U256 | $54.23 | $30.00 ▲ | 6.0 |
| 1-Roll w/Stub Roll | 12 | 16x21½x5⅞ | | 593-50 | 4CJ96 | 90.00 | 45.00 ▲ | 8.0 |

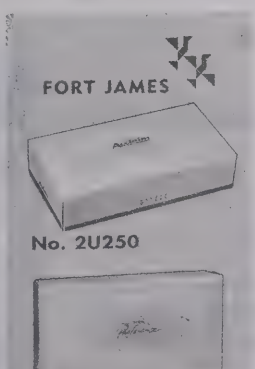
(▲) Net prices, not subject to discounts.

## ENVISION® BOXED FACIAL TISSUE

**Nos. 3JH07 (cube), 3JH08, 3XK35 and 3XK36. Preference® Ultra Premium Facial Tissue.** Only 3-ply product available for upscale accommodations and office buildings. Boxes have a polyshield opening to keep tissues sanitary and dispensing one-at-a-time. Tissue white (3XK35 and 3XK36 peach), sheet size 8⅓ x 8" (3XK35, 8¾ x 8⅓).

**No. 2U251. Preference® Near-Premium Facial Tissue.** Better quality 2-ply tissue for vanity or built-in dispensers. Polyshield dispenser opening keeps tissues sanitary, and no dispensing one at a time. Tissue white, sheet size 8⅓ x 8".

**No. 2U250. Acclaim® Economy Tissue.** Good quality, soft, 2-ply facial tissue. Highly absorbent. Dispenser box is ideal for wall fixtures or countertops. Tissue white, sheet size 8⅓ x 8".




| Description | Count (Sheets/ Box) | Case Qty. (Boxes) | Color | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Preference® Ultra Premium | 84 | 30 | White | 497-90 | 3JH08 | $55.48 | $27.75 | 12.0 |
| Preference® Ultra Premium | 66 | 36 | White | 485-90 | 3JH07 | 67.58 | 36.40 | 17.0 |
| Preference® Ultra Premium | 66 | 36 | Peach | 465-85 | 3XK35 | 38.50 | 34.45 | 17.0 |
| Preference® Ultra Premium | 84 | 30 | Peach | 477-85 | 3XK36 | 29.41 | 26.15 | 12.0 |
| Preference® Near-Premium | 100 | 30 | White | 460-90 | 2U251 | 24.41 | 21.59 | 13.0 |
| Acclaim® Economy | 100 | 30 | White | 480-90 | 2U250 | 23.71 | 20.26 | 13.0 |

## TOILET SEAT COVERS AND DISPENSERS

Sanitary seat covers are completely biodegradable and disintegrate rapidly to prevent toilet clogging. Flushable to provide greater user protection and to help reduce litter. Covers fully enclose seat for total sanitation.

**1/4 Fold Disposable Toilet Seat Covers.** Made from recycled paper. Sold only in cases of 5000 (25 packages of 200 covers).

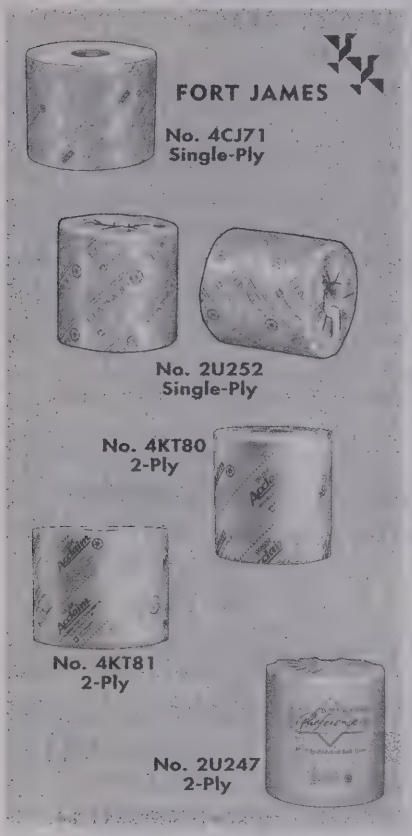
**Hospeco Health Gards® "Green" toilet seat covers.** Made from 100% recycled paper. 1/2 fold seats are white and sold in cases of 5000 (20 packages of 250 each). **Only fit dispenser No. 2U628.**

**Hospeco Health Gards Seat Cover Dispenser.** White dispenser dispenses one cover at a time.




| Description | Color | Count | Case Qty. | Hospeco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 Fold Seats | White | 200/pkg. | 25 pkgs. | Green 1/4-500 | 1CF59 | $59.13 | $56.20 | 30.0 |
| Health Gards Seat Covers | White | 250/pkg. | 20 pkgs. | Green 5000 | 3U826 | 55.37 | 48.45 | 26.0 |
| Health Gards Seat Cover Dispenser | White | — | 2 each | HG-1-2 | 2U628 | 8.48 | 8.06 | 2.6 |

# TOILET TISSUE AND DISPENSERS




## ENVISION® TOILET TISSUE

### ONE-PLY TOILET TISSUE

**No. 2U252. Acclaim® Economy Tissue** is a good quality, good value 1-ply service roll. Sold in cases of 96 rolls. 1⅝" core.

**No. 4CJ71 Acclaim® Micro-Twin® Tissue** is a 1,800 Ct. 1-ply roll (More tissue per roll than standard 1,000 Ct. roll tissue). Larger rolls mean fewer roll changes reducing service interruptions and labor cost. 1⅝" core. Micro-Twin® Bath Tissue combined with the Micro-Twin® Dispenser create the ultimate cost saving regular roll tissue system.

| Description | Sheet Size (In.) | Sheets/ Roll | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Acclaim™ Economy | 4½ x 4½ | 1000 | 96 | 155-90 | **2U252** | $116.91 | **$57.65** | 55.0 |
| Acclaim™ Micro-Twin® | 3.95 x 4.5 | 1000 | 48 | 171-90 | **4KT81** | 59.22 | **49.35** | 40.0 |

### TWO-PLY TOILET TISSUE

**No. 3JG95. Preference® Ultra Premium Tissue.** The unique quilted emboss combines to offer maximum softness, thickness, strength, and absorbency. Give your guests, tenants, and customers the ultimate in bath tissue. 1⅝" core.

**No. 2U247. Preference® Near-Premium Tissue** is a high quality 2-ply roll for applications where quality and appearance are important. Sold in cases of 96 rolls. 1⅝" core.

**Nos. 2U253 and 4KT80 Acclaim® Economy Tissue** is a 2-ply soft-knit roll providing good quality and economy. Sold in cases of 96 rolls. Available in white or natural/unbleached versions. 1⅝" core.

**No. 4CJ70 Acclaim® Micro-Twin® Tissue** is a 1,000 Ct. 2-Ply roll (More tissue per roll than standard 500 Ct. roll tissue). Larger rolls mean fewer roll changes reducing service interruptions and labor cost. Micro-Twin® Bath Tissue combined with the Micro-Twin® Dispenser create the ultimate cost saving regular roll tissue system. 1⅝" core.

| Description | Sheet Size (In.) | Sheets/ Roll | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Preference® Ultra Premium | 4½ x 4½ | 420 | 60 | 165-90 | **3JG95** | $70.20 | **$35.10** | 25.0 |
| Acclaim® Economy | 4½ x 4½ | 500 | 96 | 163-90 | **4KT80** | 46.03 | **38.40** | 39.0 |
| Preference® Near-Premium* | 4½ x 4½ | 500 | 96 | 162-90 | **2U247** | 119.46 | **49.35** | 47.0 |
| Acclaim® Economy | 4½ x 4½ | 500 | 96 | 159-90 | **2U253** | 105.21 | **47.05** | 47.0 |
| Acclaim® Micro-Twin® Economy | 3.9 x 4.5 | 1800 | 48 | 173-90 | **4KT82** | 62.04 | **51.70** | 43.0 |

(*) Available in easy-to-handle convenience cases.

## TOILET TISSUE DISPENSERS

### SINGLE ROLL DISPENSERS

Open style, single roll dispenser has concealed push hinge release that prevents pilferage. Meets the Americans With Disabilities Act requirements. Franklin Brass brand (1974).

**No. 5W552.** Shpg. wt. 1.0 lbs. List $16.98. Each.....$13.20

### TWO-ROLL DISPENSERS

A variety of chrome-plated two-roll tissue dispensers compatible with any setting. Multi-roll units save maintenance time.

**No. 4CJ94. Micro-Twin® 2-Roll Regular Bath Tissue Dispenser's** unique design complements any decor, reduces maintenance cost and service interruptions. The dispenser is easy to service, prevents pilferage and eliminates stub roll waste. Combined with Micro-Twin® Bath Tissue the Micro-Twin® Dispenser creates the ultimate cost saving regular roll tissue system. Fort James brand.

**No. 2U257.** A covered, two-roll dispenser with key lock. Fort James brand.

**No. 1CF03.** Theft-resistant toilet roll replacement spindle. Bobrick brand.

**No. 1CF04.** Chrome plated toilet roll replacement spindle. Bobrick brand.

| Description | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Covered, metal | Fort James | 573-20 | **2U257** | $22.75 | **$13.65▲** | 2.8 |
| Covered, plastic | Fort James | 521-02 | **4CJ94** | 90.00 | **45.00▲** | 3.0 |
| Theft-Resist. Spindle | Bobrick | 283-604 | **1CF03** | 4.60 | **4.37** | 0.2 |
| Chrome Spindle | Bobrick | 283-504 | **1CF04** | 2.65 | **2.52** | 0.1 |

(▲)Net prices, not subject to discounts.



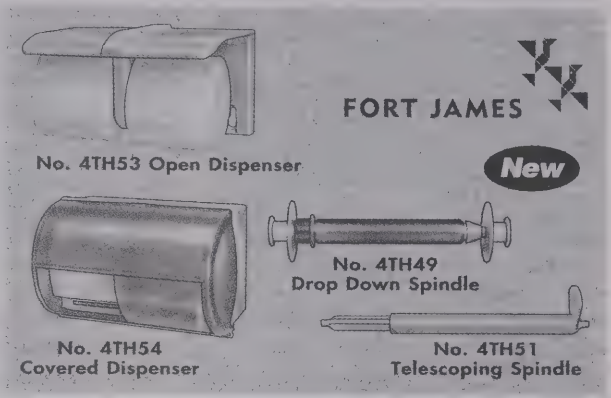
# COMPACT™ CORELESS BATH TISSUE SYSTEM

**Compact™ Coreless Bath Tissue System** offers double, or even triple, the capacity compared to standard 500-sheet rolls, in a traditional look and user-friendly dispensing system that customers are comfortable with.

**Compact™ Coreless Bath Tissue:** No core in this roll, so there's more room for soft, absorbent bath tissue. You get 1000, or 1500, 2-ply sheet instead of the 500 in a standard size roll. Increase service intervals between roll changes, while being easy to handle.

**Compact™ Coreless Bath Tissue Dispenser:** These two roll dispensers are available in a variety of styles that fit with any decor. The capacity of a Compact Covered Dispenser is equal to a 9-inch single giant roll system, and takes up less space. Covered dispensers allow for complete one-at-a-time roll usage, while protecting the spare roll.

**Compact™ Coreless Adapter Spindles:** Double the capacity of existing universal bath tissue dispensers. These spindles adapter kits can turn conventional size roll dispensers into a Compact Coreless Bath Tissue System.




## *New!* COMPACT™ CORELESS BATH TISSUE SYSTEM

### BATH TISSUE

| Description | Sheet Size (In.) | No. of Ply | Color | Sheets per Roll | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Compact™ Bath Tissue | 4 x 4.5 | 2 | White | 1000 | 36 | 19375 | **4TH42** | $85.50 | **$51.35** | 28.0 |
| Compact™ Bath Tissue | 4 x 4.5 | 2 | White | 1500 | 24 | 19377 | **4TH44** | 85.50 | **51.35** | 26.0 |

### BATH TISSUE DISPENSERS

| Description | Sheet Size (In.) | Color | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Compact™ Coreless Two-Roll, Open Dispenser | 4¾ x 9 x 5½ | Granite | 12 | 53751 | **4TH53** | $12.50 | **$7.50▲** | 15.0 |
| Compact™ Coreless Two-Roll, Covered Dispenser | 7⅛ x 10⅛ x 6¾ | Grey | 8 | 53771 | **4TH54** | 25.00 | **15.00▲** | 22.0 |
| Compact™ Coreless Two-Roll, Covered Dispenser | 7⅛ x 10⅛ x 6¾ | White | 8 | 53772 | **4TH55** | 25.00 | **15.00▲** | 22.0 |

### ADAPTER SPINDLES

| Description | Spindle Kit Application | Kit Contents | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Drop Down Spindle with Base | Bobrick Drop Down | 2 Spindles, base | 50011 | **4TH49** | $3.00 | **$1.50▲** | 5.0 |
| Drop Down Spindle with Base | A.S.I. Drop Down | 2 Spindles, base | 50012 | **4TH50** | 3.00 | **1.50▲** | 5.0 |
| Telescoping Spindle | Side by side/single | 1 Spindle | 50030 | **4TH51** | 3.00 | **1.50▲** | 4.8 |
| Telescoping Spindle with End Caps | Side by side/single | 2 Spindles, 4end caps | 50040 | **4TH52** | 3.00 | **1.50▲** | 5.0 |

# ENVISION® C-FOLD TOWELS

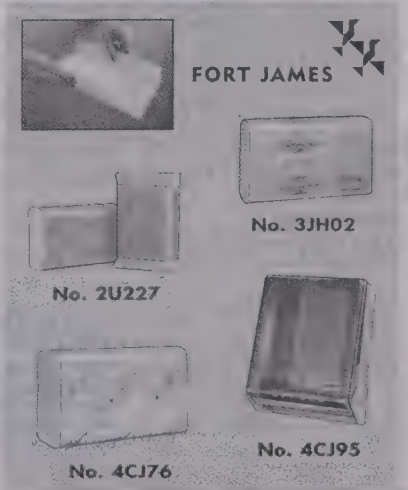
C-Fold towels are intended to be used folded. 2-ply for added strength. Better water absorption increases speed of drying. C-Fold towels dispense one at a time to reduce towel waste.

**No. 3JH02 Preference® Ultra Premium.** 2-ply C-Fold towels feature a patented honeycomb emboss design and two heavy paper plies. (120 towels/pkg.).

**No. 4CJ76 Preference® Near-Premium.** Better quality bleached white towel combines higher strength and absorbency in a softer towel. Sold only in cases of 12 packages (200 towels/pkg.).

**No. 2U227 Acclaim® Economy.** Good quality bleached white C-Fold towel offering high quality at an economical price. Sold only in cases of 10 packages (240 towels/pkg.).

**C-Fold Dispenser.** Attractive Combi-Fold® VISTA®, wall mount dispenser equipped with key lock for security. Holds 400 C-Fold towels. No. 4CJ95 is See-Through Grey with Grey back. Dimensions: 14⅜ x 1¾ x 5⅛".




| Description | Sheet Size (In.) | Count | Case Qty. | Ft. James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Preference® Ultra Premium* | 10¼ x 13¼ | 120/pkg. | 12/pkgs. | 257-90 | **3JH02** | $38.35 | **$19.18** | 18.0 |
| Preference® Near-Premium | 10¼ x 13¼ | 200/pkg. | 12/pkgs. | 253-90 | **4CJ76** | 59.46 | **27.40** | 26.0 |
| Acclaim® Economy | 10¼ x 13¼ | 240/pkg. | 10/pkgs. | 251-90 | **2U227** | 51.81 | **22.71** | 23.0 |
| See-Through Grey Dispenser | — | — | — | 566-50 | **4CJ95** | 60.00 | **30.00▲** | 4.5 |

▲)Net prices, not subject to discounts. (*) Available in easy-to-handle convenience cases on page 1900.

# FOLDED TOWELS AND DISPENSERS

## ENVISION® MULTIFOLD TOWELS

**Inter-folded** for continuous dispensing. Ideal for high traffic areas where quality and economy are factors.

**No. 3JH01 Preference® Ultra Premium.** 2-ply Multifold towels feature a unique, patented honeycomb emboss that gives these premium towels a thick, luxurious and soft-to-the-hand feel. Plus, these 2-ply bright white towels are strong, durable and absorb water fast.

**No. 2U218 Preference® Near-Premium.** Better quality, soft, absorbent heavier weight towel. Provides better quality in a bleached white multifold towel.

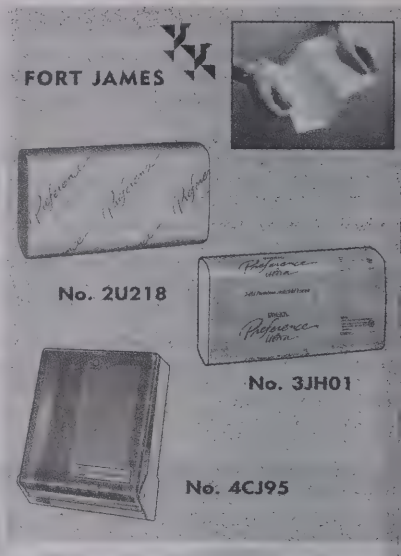
**No. 2U228 Acclaim® Economy.** Good quality, economical, bleached white natural towel.

**No. 2U229 Acclaim® Economy.** Natural towel combines good quality and economy.

**No. 4CJ95 C-Fold Dispenser.** Attractive Combi-Fold® VISTA® , wall mount dispenser equipped with key lock for security. Holds 400 C-Fold towels. No. 4CJ95 is See-Through Grey with Grey back. Dimensions: 14⅜ x 11¾ x 5⅛".

| Description | Sheet Size (In.) | Count | Case Qty. | Ft. James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Preference® Ultra Premium*** | 9¼ x 9½ | 125/pkg. | 16/pkgs. | 248-90 | **3JH01** | $32.55 | **$14.98** | 16.0 |
| **Preference® Near-Premium** | 9¼ x 9½ | 180/pkg. | 16/pkgs. | 243-91 | **2U218** | 64.53 | **21.30** | 28.0 |
| **Acclaim® Economy white** | 9¼ x 9½ | 250/pkg. | 16/pkgs. | 245-90 | **2U228** | 57.11 | **25.55** | 24.0 |
| **Acclaim® Economy natural** | 9¼ x 9½ | 250/pkg. | 16/pkgs. | 249-90 | **2U229** | 38.52 | **20.01** | 23.0 |
| **See-Through Grey Dispenser** | — | — | — | 566-50 | **4CJ95** | 60.00 | **30.00▲** | 4.5 |

(▲) Net prices, not subject to discounts. (*) Available in easy-to-handle convenience cases on page 1900.

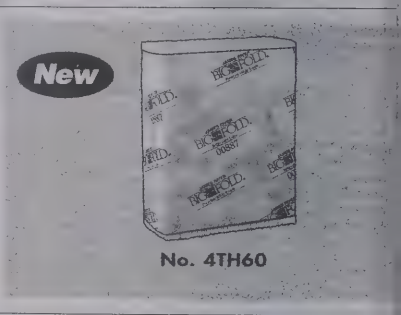



## BIGFOLD® TOWELS

Soft, absorbent towels specially design to unfold completely right form the towel dispenser. Allows a larger area for more effective hand drying per sheet. Big Fold Towels are big on savings, as much as 20% over C-fold towels. They fit in your existing C-fold cabinets, which reduce change over costs. Towels dispense one at a time, so less waste occurs from fall out or other dispensing problems. Helps to reduce maintenance cost by saving time and reducing the number of trips to refill dispensers, towels are easier to load, and more towels fit in the cabinet than C-folds. Uses dispenser No. 4CJ95.

***New!* BIGFOLD® TOWELS**

| Description | Sheet Size (In.) | Color | Count | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **BigFold® Towels** | 10-¼ x 11 | White | 184 | 12 | 88700 | **4TH60** | $62.10 | **$31.05** | 21.0 |




## ENVISION® SINGLEFOLD TOWELS

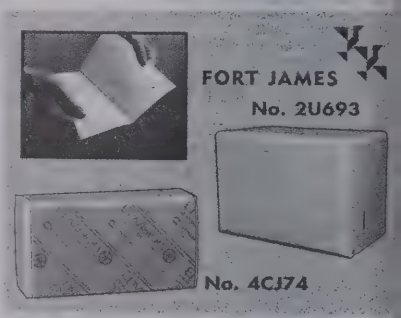
The most economical folded towels. Ideal for high traffic areas in schools, plants, and government buildings. Interfolded for continuous dispensing. Sold in cases of 16 packages (250 towels/pkg.).

**No. 4CJ75.** Natural. **No. 4CJ74.** White.

**Singlefold Towel Dispensers.** Attractive wall mounted dispenser holds 500 singlefold towels. No. 2U693 is White.

| Description | Sheet Size (In.) | Count | Case Qty. | Ft. James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Acclaim® Economy natural** | 9½ x 10⅝ | 250/pkg. | 16/pkgs. | 240-90 | **4CJ75** | $44.12 | **$22.06** | 26.0 |
| **Acclaim® Economy white** | 9½ x 10⅝ | 250/pkg. | 16/pkgs. | 239-90 | **4CJ74** | 60.22 | **30.15** | 27.0 |
| **White Dispenser** | — | — | — | 567-01 | **2U693** | 27.41 | **16.45▲** | 4.7 |

(▲)Net prices, not subject to discounts.




**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# ROLL TOWELS AND DISPENSERS

## ENVISION® ROLL TOWELS

Washroom roll towels provide economical, effective hand drying. Rolls are available in various lengths. Roll lengths range from 350 to 800 ft.

**No. 3JH04 Preference® Ultra Premium** White standard Roll Towels. Offers the ultimate in softness and absorbency with a unique patented honeycomb emboss design. This premium 350 foot roll is perfect for upscale facilities with high traffic washrooms.

**No. 4CJ77 Preference® NearPremium** White standard Roll Towels. Thicker, more absorbent and softer than standard Economy Towels. "Heavy weight" White Hardwound Roll Towels offer more strength and absorbency than Economy Roll Towels. Twelve 350 ft. rolls/case.

**No. 2U230 Acclaim® Economy** White Roll Towels. Quality, bleached lightweight towel is soft, absorbent, and economical. Standard size roll. Sold in cases only. Twelve 350-ft. rolls/case).

**No. 2U231 Acclaim® Economy** Natural Roll Towels. Economical, lightweight natural colored roll towel. Standard size roll. Sold in cases (Twelve 350-ft. rolls/case).

**No. 4CJ78 Acclaim® Economy** White Jumbo Roll Towels. Highest lineal footage roll towels for the least frequent roll changes offer the ultimate in labor savings. Low unit cost makes these hand towels the affordable choice for high traffic areas. White towels have the look of quality that your employees, guests or tenants will appreciate. Six 800 ft. rolls/case.

**No. 2U232 Acclaim® Economy** Jumbo Natural Roll Towels. Lightweight, economical towel in jumbo rolls. Sold in cases only (Six 800-ft. rolls/case).

| Description | Core (In.) | Sheet Width | Roll Lgth. | Case Qty./Rls. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Preference® Ultra Premium White Standard Roll* | 1½ | 7⅞" | 350 ft. | 12 | 284-90 | **3JH04** | $85.49 | **$42.75** | 36.0 |
| Preference® Near-Premium White Standard Roll | 1½ | 7⅞ | 350 | 12 | 272-91 | **4CJ77** | 65.00 | **32.95** | 37.0 |
| Acclaim® Economy White Standard Roll | 1½ | 7⅞ | 350 | 12 | 278-91 | **2U230** | 63.50 | **29.35** | 32.0 |
| Acclaim® Economy Natural Standard Roll* | 1½ | 7⅞ | 350 | 12 | 276-91 | **2U231** | 45.21 | **24.77** | 29.0 |
| Acclaim® Economy White Jumbo Roll | 1½ | 7⅞ | 800 | 6 | 288-91 | **4CJ78** | 73.00 | **36.70** | 32.0 |
| Acclaim® Economy Natural Jumbo Roll | 1½ | 7⅞ | 800 | 6 | 275-91 | **2U232** | 53.35 | **27.00** | 31.0 |

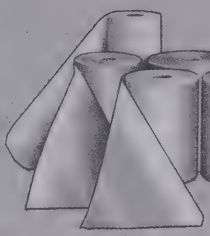
## ROLL TOWEL DISPENSER

Durable plastic and 20-gauge steel dispenser features adjustable lever-action. Allows towel dispensing in increments. Hold 850-ft. roll plus 200-ft. stub roll. Dimensions: 14⅞ x 12⅛ x 10". See-through smoke grey housing with grey back. Fort James (585-53).

**No. 2U235.** Adjust-A-Matic Level VISTA Dispenser. Shpg. wt. 12.0 lbs. List $43.95. Each ....**$30.00▲**

▲) Net prices, not subject to discounts.

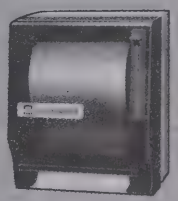
FORT JAMES



No. 3JH04



No. 2U232

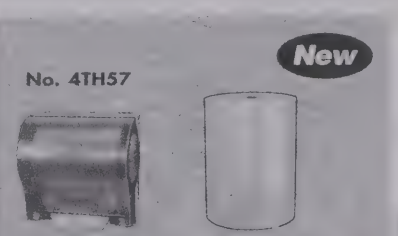


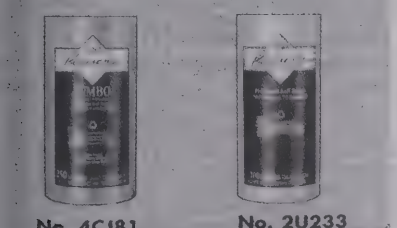
No. 2U235

## NUROLL™ TOUCHLESS TOWEL SYSTEM

Delivers the sanitary benefits of touchless dispensing combined with simplicity of use. Unique system allows users to touch only the towel they need-keeping the rest clean and sanitary. Utilizing a new type of soft, super absorbent paper, towels are specially perforated to ensure one-at-a-time dispensing. High-capacity 10-inch roll provides more paper than conventional 8-inch systems, or more towels than folded systems. Roll contains 675 10" x 8" sheets. Easy-view "out" indicator and easy to load design makes maintenance easy. Modern, sleek-looking dispensers are available in two popular colors, so NuRoll will blend with any decor.

| Description | Sheet Size (In.) | Color | Case Qty. | Fort James Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| NuRoll™ Roll Towels | 10 x 8 | White | 6 rolls | 28086 | **4TH46** | $95.00 | **$51.35** | 23.0 |
| NuRoll™ Dispenser | 14⅛ x 9⅝ x 13⅝ | White | 1 | 54086 | **4TH56** | 77.00 | **46.20▲** | 9.9 |
| NuRoll™ Dispenser | 14⅛ x 9⅝ x 13⅝ | Smoke/Translucent | 1 | 54087 | **4TH57** | 52.00 | **31.20▲** | 9.9 |



No. 4CJ81

No. 2U233

## ENVISION® PERFORATED ROLL TOWELS (PRT)

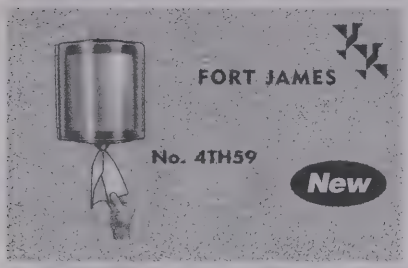
**No. 4CJ81 Natural Unbleached** Envision®JUMBO High-Count Perforated Roll Towels have superior 2-ply performance. Significantly stronger towels versus standard roll length towels. Envision® Jumbo fits in standard PRT dispensers. The Jumbo has the same number of towels versus standard 100-count rolls in half the case size for those concerned with storage space constraints.

**No. 2U233 Perforated Roll Towels.** 2-ply paper towels feature 100% total recycled fiber content. White color. Sheet size is 11 x 8.8". Sold only in cases (100 sheets/package, 30 pkgs/case). Fort James brand (279-90).

| Description | Sheet Size (In.) | Sheets Per Roll | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| JUMBO Roll Towel Near Premium | 11 x 8.8 | 250 | 12 rolls | 282-90 | **4CJ81** | $38.27 | **$26.40** | 23.0 |
| Roll Towel Near Premium* | 11 x 8.8 | 100 | 30 rolls | 279-90 | **2U233** | 32.51 | **28.65** | 24.0 |

# TOWELS, NAPKINS, DISPENSERS AND WIPING CLOTHS

## CENTERPULL TOWEL SYSTEM WITH SOFTPULL TOWELS

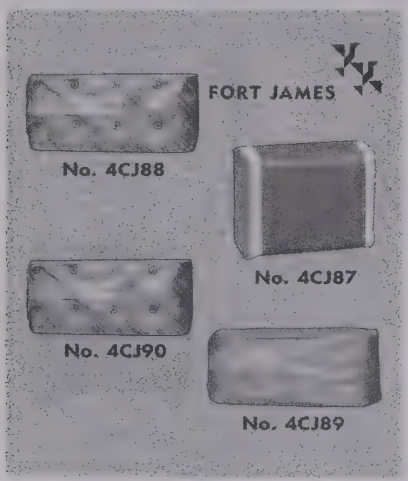



Reliable, quiet, one-at-a-time towel dispensing. Centerpull Towel System combines see through dispensers with large capacity rolls to reduce service interruptions and mainte nance time. Self-threading dispenser nozzle makes refilling a quick, easy job. Lockin dispensers help keep the towels dry and sanitary. Features side-hinged frames an sleek, contemporary design.

| Description | Sheet Size (In.) | Roll Length (Ft.) | Color | Case Qty. | Fort James Model | New! Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|
| **Sofpull Towels (Fit No. 4TH58 dispenser)** | 7.8 x 15 | 700 | White | 6 | 28123 | **4TH47** | $95.00 | **$56.80** | 24. |
| **Sofpull Towels (Fit No. 4TH59 dispenser)** | 7.18 x 15 | 400 | White | 6 | 28124 | **4TH48** | 61.00 | **36.70** | 14. |
| **Centerpull Dispenser (high capacity)** | 11½ x 10⅞ x 10⅜ | | Smoke Gray | 1 | 58201 | **4TH58** | 25.00 | **15.00▲** | 3. |
| **Centerpull Dispenser (regular capacity)** | 11½ x 9⅛ x 9 | | Smoke Gray | 4 | 58204 | **4TH59** | 25.00 | **15.00▲** | 11. |

(▲) Net prices, not subject to discounts.

## ENVISION® NAPKINS




### SMALL NAPKINS

**TIDYNAP® LIP AND FINGER NAPKINS.** Bright, soft, and super absorbent 1-ply napkin. Ide for use in coffee shops and schools. 9 x 13" sheets. White color. Sold only in cases 8000 napkins. Fort James brand (381-90).

**No. 4CJ88.** Shpg. wt. 30.0 lbs. List $76.18. Each.....**$34.5**

**HYNAP® LIP AND FINGER NAPKINS.** Popular 1-ply counter or table napkin. Deep embosse pattern provides excellent softness. 7¼ x 13½" sheets. White color. Sold only in case of 10,000 napkins. Fort James brand (380-90). Fits dispenser No. 2U240.

**No. 4CJ87.** Shpg. wt. 32.0 lbs. List $83.40. Each.....**$36.7**

### LARGE NAPKINS

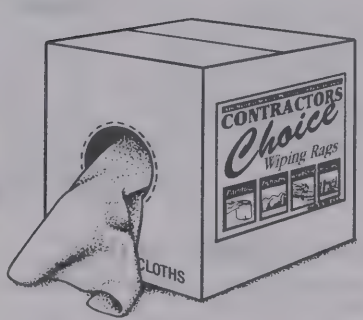
**MINI-MORNAP® Napkin.** An ecomonical version of the full-fold MORNAP®, yet offers be ter service for full-size lunches than lip and finger style products. The soft, white nap kins are 12 x 13". Sold only in cases of 6,000 napkins. Fort James brand (383-90).

**No. 4CJ90.** Shpg. wt. 30.0 lbs. List $90.30. Each.....**$45.1**

**MORNAP® LAP NAPKINS.** 1-Ply napkins are designed for carry-out services, cafeterias, an restaurants where full meals are served. Usage may be reduced because usually only on napkin per meal is needed. 12 x 17" sheets. White color. Sold only in cases of 6000 nap kins. Fort James brand (382-91).

**No. 4CJ89.** Shpg. wt. 39.0 lbs. List $124.75. Each.....**$59.6**

## WIPING CLOTHS*




**Packaged in convenient 25 lb. dispenser pack cartons with knock-out panel**

### NEW SELECTED WASHED AND BLEACHED KNIT

Superior absorbency and dust pick-up. For all polishing where soft, absorbent materi al is preferred.

**No. 3U585.** Shpg. wt. 25.0 lbs. List $67.84. Each.....**$61.10**

### NEW SELECTED WHITE SHEETING

Snow white seamless sheets wipe lint-free. Use where premium dusting cloth is need ed.

**No. 3U586.** Shpg. wt. 25.0 lbs. List.....$56.92. Each.....**$51.25**

### COLORED HUCK TOWELS

Green and blue mixed in assorted sizes. Excellent general purpose wiping cloths.

**No. 3U587.** Shpg. wt. 25.0 lbs. List.....$94.22. Each.....**$86.50**

### NEW TURKISH TOWEL

Domestically manufactured. Finished edges (hemmed, overedged, fringed) on all 4 sides. Use for mirrors and specialty cleaning.

**No. 3U588.** Shpg. wt. 25.0 lbs. List.....$130.26. Each.....**$117.25**

### NEW WHITE TERRY CLOTH

Combines minimum lint with maximu absorbency. Assorted sizes, some finishe edges. Use for mirrors, specialty polishin

**No. 3UT80.** Shpg. wt. 25.0 lbs. List .....$120.90 Each.....**$108.8**

### NEW COLORED SHEETING

Cotton and cotton blend washed sheetin Economical general purpose wipe.

**No. 3U590.** Shpg. wt. 25.0 lbs. List.....$41.32 Each.....**$37.2**

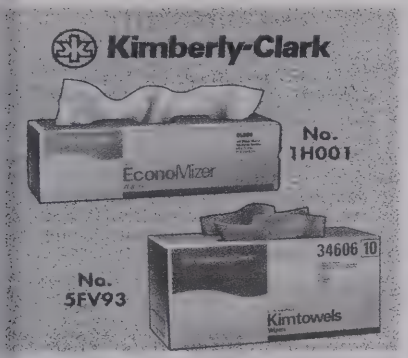
### COLORED TERRY CLOTH REMNANTS

Economical all-round wipe of reclaime Cotton terry cloth. Super absorbent, so for cleaning, polishing.

**No. 3U591.** Shpg. wt. 25.0 lbs. List.....$59.52 Each.....**$53.6**

(*) Average size of wiping cloths is 18 x 18".

# DISPOSABLE WIPERS




## KIMTOWELS® AND ECONOMIZER® GENERAL PURPOSE DISPOSABLE WIPERS

Kimtowels® and Economizer® wipers offer absorbency and softness at an economical price. Ideal wipers for small spills, and light-duty surface cleaning.

- **Absorb liquids, oils, and grease**
- **Durable for extra cleaning power**
- **Wipes clean with cloth-like softness**

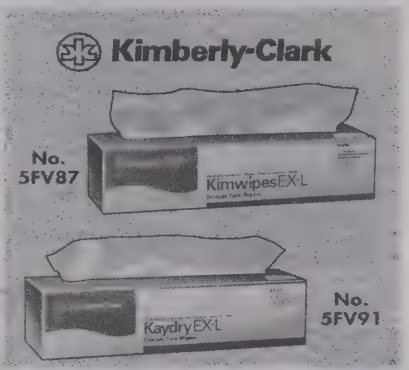
### GENERAL PURPOSE WIPERS

| Description | Sheet Size (In.) | Color | Count | Boxes/ Case | Kimberly-Clark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Kimtowels®** | 16½ x 20 | Tan | 150/box | 1 | 34606 | **5FV93** | $36.46 | **$26.80** | 7.2 |
| **Kimtowels®** | 11⅞ x 15 | Tan | 50/box | 16 | 47000 | **5FW12** | 75.47 | **48.25** | 15.0 |
| **Kimtowels®** | 11⅞ x 15 | Tan | 50/box | 16 | 47011 | **5FW13** | 66.03 | **51.20** | 19.0 |
| **Kimtowels®** | 9¾ x 16½ | Tan | 80/box | 10 | 47033 | **5FW15** | 71.43 | **66.60** | 20.0 |
| **EconoMizer®** | 9⅛ x 16⅝ | White | 100/box | 8 | 5800 | **1H001** | 67.78 | **54.10** | 15.0 |
| **EconoMizer®** | 9⅛ x 16⅝ | Blue | 100/box | 8 | 5810 | **1H002** | 81.31 | **63.45** | 15.0 |
| **EconoMizer®** | 9⅛ x 15⅛ | White | 300/roll | 2 | 5820 | **1H003** | 72.17 | **55.60** | 8.3 |

## KIMWIPES® EX-L AND KAYDRY® EX-L DELICATE TASK WIPERS

- **Soft and non-abrasive**
- **Wipe up liquid and dust**
- **Anti-stat dispensing reduces lint**
- **Controlled usage and portability reduces waste**

Wipes are extra-low lint and have an anti-stat, anti-fog silicone-free cleaning solution in the wipe to help remove dirt quickly and easily.




### DELICATE TASK WIPERS

| Description | Sheet Size (In.) | Color | Count | Boxes/ Case | Kimberly-Clark/ Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Kimwipes EX-L®** | 4½ x 8½ | White | 280/box | 60 | 34155 | **5FV85** | $159.00 | **$112.85** | 23.0 |
| **Kimwipes EX-L®** | 15 x 17 | White | 140/box | 15 | 34256 | **5FV87** | 118.53 | **85.35** | 19.0 |
| **Kaydry EX-L®** | 12 x 12 | White | 119/box | 15 | 34705 | **5FV90** | 90.57 | **83.10** | 21.0 |
| **Kaydry EX-L®** | 17 x 17 | White | 90/box | 15 | 34721 | **5FV91** | 201.00 | **117.05** | 28.0 |

## WYPALL® MEDIUM-DUTY WIPERS

### WYPALL® ALL PURPOSE WIPERS

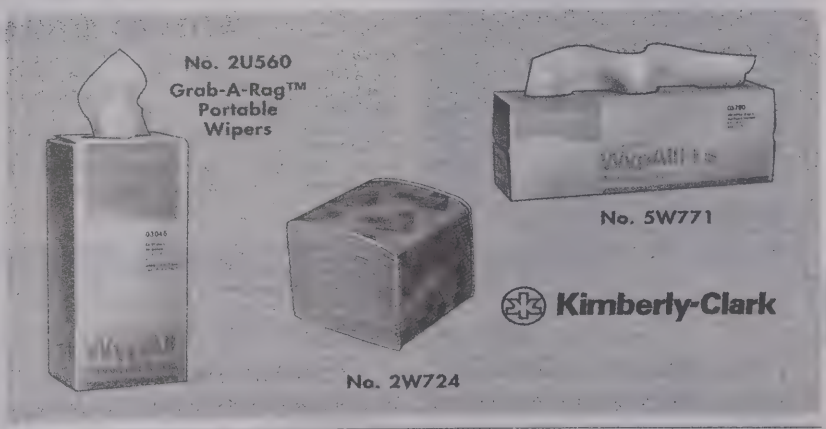
Cloth-like softness for medium to heavy industrial clean-up. Absorb liquids, greases, oils, detergents, and most common solvents found in factories, auto repair garages, machine shops, and office housekeeping. Manufacturing process means softer wipers with added strength. White wipers for general cleaning; shop blue color masks stains for industrial use.

### GRAB-A-RAG™ WYPALL® AND ECONOMIZER® WIPERS

Portable, convenient, easy pop-up dispensing Grab-A-Rag box contains the same all purpose WypAll wipers described above or super-soft, absorbent, and economical Economizer wipers for wiping up liquids and oils. Grab-A-Rag WypAll style comes in case of 12 boxes of 64 wipers per box. Economizer style comes in case of 12 boxes of 100 wipers each.

### WYPALL® PLUS WIPERS

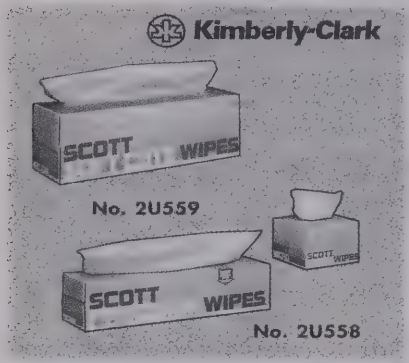
Made from the same cloth-like soft and absorbent material as original WypAll wipers but with 25% more strength. Absorb liquids, greases, oils, and common solvents. Bright white for general cleaning; shop blue masks stains and encourages employees to use same wipe longer. Pop-up cardboard dispenser. Come in case of 9 boxes of 100 wipers each.




### MEDIUM-DUTY WIPER ORDERING DATA

| Description | Sheet Size (In.) | Color | Count | Case Qty. | Kimberly-Clark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **WypAll®** | 12½ x 14⅜ | White | 56/pkg. | 18 pkgs | 05701 | **2W724** | $89.45 | **$72.25** | 23.0 |
| **WypAll®** | 12½ x 14⅜ | Blue | 50/pkg. | 8 pkgs | 05752 | **2W725** | 54.80 | **42.20** | 10.0 |
| **Grab-A-Rag™** | 11 x 10⅜ | White | 64/box | 12 boxes | 03046 | **2U560** | 79.20 | **52.00** | 17.0 |
| **Grab-A-Rag™** | 11 x 10⅜ | White | 100/box | 12 boxes | 03086 | **2U561** | 72.36 | **61.15** | 17.0 |
| **WypAll® Plus** | 9⅛ x 16⅜ | White | 100/box | 9 boxes | 05790 | **5W771** | 101.26 | **66.80** | 24.0 |
| **WypAll® Plus** | 9⅛ x 16⅜ | Blue | 100/box | 9 boxes | 05740 | **5W772** | 109.27 | **80.30** | 24.0 |
| **WypAll® Plus** | 10 x 15 | White | 200/roll | 2 rolls | 05796 | **1CG87** | 53.01 | **50.20** | 8.5 |

# DISPOSABLE WIPERS




## LIGHT-DUTY PRECISION WIPES®

- **Lower lint count when dispensing**
- **Soft, nonabrasive finish**
- **Anti-static polyshield reduces lint and protects wipers**

Both wipes deliver quality performance in basic wiping situations. 4½ x 8¼" wipes are specially designed for smaller surfaces and light touch-ups. Precision Wipes in standard 15 x 16¾" sheets are for general wiping. White color.

## MEDIUM-DUTY PRECISION WIPES®

- **2-ply and soft finish for extra strength, absorbency and protection**
- **Extra soft finish for use on delicate surfaces**

Paper wiper with extra soft finish for use on delicate surfaces. Spill-resistant, pop-up box features anti-static polyshield that protects against static electricity build-up and reduces lint generation during dispensing. White color.

| Description | Sheet Size (In.) | Count | Boxes/ Case | Kimberly-Clark Model | Stock No. | List | Each Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Light-Duty Precision Wipes®** | 4⅖ x 8³/₁₀ | 260/box | 60 | 5511 | **2U559** | $123.20 | **$96.55** | 26.0 |
| **Light-Duty Precision Wipes®** | 15 x 16⅘ | 140/box | 15 | 5514 | **2U558** | 119.38 | **77.60** | 24.0 |
| **Medium-Duty Precision Wipes®** | 15 x 16⅘ | 68/box | 20 | 5517 | **2U562** | 129.12 | **105.75** | 24.0 |

## HEAVY-DUTY WORKHORSE® RAGS

Durable and rag-tough, Workhorse® wipers are made from fast-absorbing Hydroknit®, which quickly absorbs most spills and is durable enough for wiping heavy greases, oils, and solvents.

- **Rag-tough construction; won't fall apart when wet**
- **Reusable, long-lasting performance**
- **Cloth-like strength and feel**

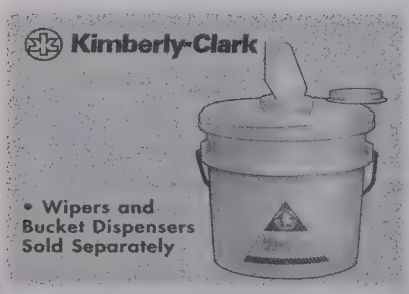
## HEAVY-DUTY SCOTTCLOTH®

Combine pulp and textile fibers for super strength and absorbency. Tough enough for heavy jobs involving metal chips, rust, and machined surfaces. Eliminates expense of shop rags or rented towels.

- **Strong material made from pulp and textile fibers**
- **Absorbent, low-lint cleaning power**
- **More economical than shop towels.**




| Description | Sheet Size (In.) | Color | Count | Boxes/ Case | Kimberly-Clark Model | Stock No. | List | Each Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Workhorse®** | 14⅞ x 16⅝ | White | 300/box | 1 | 41100 | **5FV58** | $53.45 | **$48.00** | 13.0 |
| **Workhorse®** | 12 x 16¾ | White | 150/box | 1 | 41300 | **5FV63** | 35.07 | **24.72** | 5.4 |
| **Workhorse®** | 9¾ x 16¾ | White | 100/box | 8 | 41455 | **5FV67** | 121.27 | **75.50** | 20.0 |
| **Workhorse®** | 9¾ x 13⅝ | White | 290/box | 4 | 41700 | **5FV70** | 119.82 | **106.70** | 22.0 |
| **Scottcloth®** | 9⅝ x 16⅝ | Orange | 100/box | 4 | 05930 | **5W770** | 76.65 | **58.65** | 12.0 |




## WETTASK® REFILLABLE WIPING SYSTEM

Reduces the risk of cross-contamination by delivering a fresh, clean wiper each time. Simply load the bucket with WetTask® wipers, pour chemical solution of your choice over the roll of wipers to a preferred level of saturation, then thread wiper through the opening of the lid for continuous, one-at-a-time dispensing.

- **Utilizes high-density polyethylene bucket dispenser**
- **Reduces total solvents used, and reportable VOCs**
- **Provides consistent saturated wiper each use**
- **Tailor your cleaning solvent type and usage to your need**

| Description | Size | Color | Count | Rolls/ Case | Kimberly-Clark Model | Stock No. | List | Each Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **WetTask® Wipers** | 11½ x 11½" | White | 60/roll | 6 | 6261 | **2BV07** | $78.60 | **$51.70** | 8.0 |
| **WetTask® Dispensers** | 1.2 gal. | Blue | 4/case | — | 9365 | **2BV01** | 70.77 | **52.90** | 6.0 |

## SPECIALTY WIPERS®

### TERI® REINFORCED WIPERS

- **Embossed tissue with extra scrubbing power**
- **Maintains strength, even when wet**
- **Controlled usage and portability reduce waste**

### KIMTEX® SHOP TOWELS

- **Strong towels are resistant to most solvents**
- **Polypropylene construction for lasting performance**
- **Wipes cleanly with low lint properties**




| Description | Sheet Size (In.) | Color | Count | Boxes/ Case | Kimberly-Clark Model | Stock No. | List | Each Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Teri®** | 9¾ x 16⅞ | White | 150/box | 6 | 34790 | **5FV97** | $97.33 | **$63.50** | 17.0 |
| **Teri®** | 13⅛ x 13½ | White | 50/box | 18 | 34865 | **5FV99** | 97.47 | **61.90** | 18.0 |
| **Teri® Plus** | 9¾ x 275 ft. | Blue | 275/roll | 6 | 35411 | **5FW04** | 143.93 | **99.10** | 21.0 |
| **Kimtex®** | 12 x 16¾ | Blue | 150/box | 1 | 33350 | **5FV51** | 33.80 | **23.60** | 3.1 |
| **Kimtex®** | 12 x 14 | Blue | 10/band | 50 | 33560 | **5FV53** | 80.94 | **56.90** | 10.0 |

# DISPOSABLE WIPER SYSTEMS

## PROTECTOR® and PROTECTOR® JR. DISPENSERS

rotector dispensers provide convenient, no touch dispensing, while protecting the roduct against dirt and moisture. Both models hold center-flow, cordless roll hand owels or cloth replacement wipers. Smoke gray case is made of heavy-duty ABS plastic. vailable in two sizes to fit a wide range of applications.

**rotector® Dispenser** dispenses hand towels or wipers from center of roll for simple one-anded use. High capacity dispensers have a dial-port feature that adjusts to a variety of and towel or wiper products.

or open spaces at work and wash stations where a large capacity dispenser is needed. olds up to 500 hand towels to minimize restocking and cut maintenance time.

**rotector Jr.® Dispenser** for small, tight spaces. Holds up 150 general purpose wipers. Use t work stations where convenience is important. Use in low volume/low traffic estrooms and wash stations.

## SCOTTSURPASS® HAND TOWELS

**cottSurpass® Extra-Soft Center-Flow Roll Hand Towels.** Their superior quality and absorben-y results in more efficient hand drying and less waste. Perfect for kitchens and estrooms where image is important.

**cottSurpass® Economy Center-Flow Roll Hand Towels.** For drying hands in high traffic/high olume restrooms and work areas.

## SCOTTCLOTH® HEAVY-DUTY WIPERS

**cottcloth® Cloth Wipers** are used for heavy clean-ups and spills. 10 x 15" orange wipers ombine pulp and textile fibers for strength and absorbency. More cost-effective than hop rags. Although soft like cloth, Scottcloth wipers are tough enough to wipe achined surfaces and rusted parts. Use No. 1H005 Protector Dispenser.

## ECONOMIZER® GENERAL PURPOSE WIPERS

**conoMizer® Wipers** are used for light-duty clean-ups and wiping applications. Cloth-like oftness absorbs liquids, greases and oils. Also available in convenience pack of two olls of 300 wipers each. Use No. 2U527 Protector Jr. Dispenser for No. 2U557 conoMizer roll. Use No. 1H005 Protector Dispenser for No. 1H003 EconoMizer roll.

## PROTECTOR® WALL MOUNT STARTER KIT

ontains one No. 1H005 Protector Dispenser and one 300 sheet roll of No. 1H003 conoMizer Wipers. Scott brand (03698).

**lo. 1D499.** Shpg. wt. 11.0. List $42.86
ach.....$34.30

Kimberly-Clark

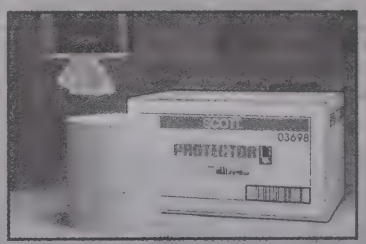
- Quality hand towels on a roll; can't fall out
- Holds up to 500 hand towels, reducing run-out
- Locking cover reduces pilferage



No. 1H005



No. 2U527




No. 1D499

## PROTECTOR® SYSTEM ORDERING DATA

| Description | Size (In.) | Color | Count | Rolls/ Case | Kimberly-Clark Model | Stock No. | List | Each Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **DISPENSERS** | | | | | | | | | |
| **Protector® Dispenser** | 12½ x 10 x 10⅜ | Smoked Gray | 1 ea. | — | 09335 | **1H005** | $55.60 | **$26.20▲** | 7.0 |
| **Protector Jr.® Dispenser** | 12⅛ x 8⅜ x 8½ | Smoked Gray | 1 ea. | — | 09336 | **2U527** | 42.96 | **21.16▲** | 5.0 |
| **CENTER-FLOW ROLL HAND TOWELS** | | | | | | | | | |
| **ScottSurpass® Extra Soft** | 8 x 15 | White | 250/roll | 4 | 01320 | **2U547** | 66.09 | **52.90** | 11.0 |
| **ScottSurpass® Economy** | 8 x 15 | White | 500/roll | 4 | 01051 | **2U548** | 47.93 | **39.10** | 16.0 |
| **GENERAL PURPOSE WIPERS** | | | | | | | | | |
| **Scottcloth® Roll** | 9⅛ x 15⅛ | Orange | 175/roll | 2 | 05940 | **1H004** | 72.16 | **56.45** | 10.0 |
| **EconoMizer® Roll** | 8 x 15 | White | 150/roll | 6 | 05830 | **2U557** | 86.63 | **74.30** | 11.0 |
| **EconoMizer® Roll** | 9⅛ x 15⅛ | White | 300/roll | 2 | 05820 | **1H003** | 72.17 | **55.60** | 8.3 |

▲) Net prices, not subject to discounts.

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

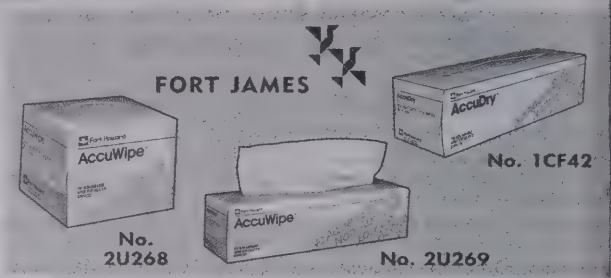
# DELICATE TASK, UTILITY AND LIGHT DUTY WIPERS

## DELICATE TASK WIPERS

### ACCUWIPE™ AND ACCUDRY™ WIPERS

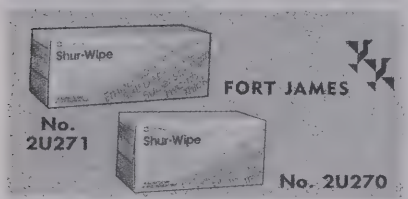
**AccuWipes™** are soft, non-abrasive 1-ply light duty wipers. Low lint and anti-static packages minimize contamination in sensitive areas. For use in critical care, clean rooms, labs, and electronic assembly plants. Excellent wiper for industrial applications where light duty wiping is the primary need.

**AccuDry™** wipers are similar to AccuWipes but with 3-ply strength and durability. Both AccuWipes™ and AccuDry™ are sold only in cases. Multi-ply construction absorbs faster and holds more. Ideal for cleaning incidental spills. Extra soft and gentle for wiping hands and face.




| Description | Sheet Size (In.) | Color | Count | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| AccuWipe™ | 4½ x 8¼ | White | 300/box | 54 boxes | 297-11 | **2U268** | $86.31 | **$65.00** | 27.0 |
| AccuWipe™ | 15 x 16¾ | White | 150/box | 15 boxes | 297-55 | **2U269** | 63.44 | **45.00** | 22.0 |
| AccuWipe™ | 15 x 8¼ | White | 300/box | 15 boxes | 297-33 | **1CF43** | 62.88 | **44.20** | 22.0 |
| AccuDry™ | 15 x 16¾ | White | 90/box | 15 boxes | 297-77 | **1CF42** | 69.94 | **48.00** | 27.0 |

## UTILITY AND LIGHT DUTY WIPERS




### SHUR-WIPE® UTILITY WIPERS

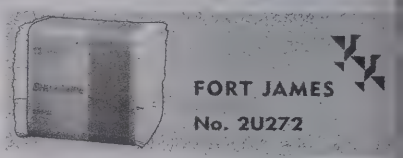
Utility wipers offer superior 2-ply strength and fast absorption at an economical cost. Ideal for cleaning glass, but also tough enough for general maintenance work. Sold only in cases.

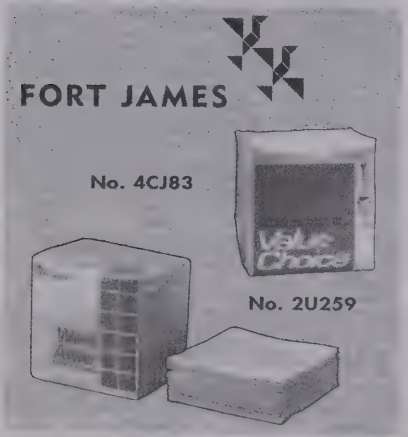
| Description | Sheet Size (In.) | Color | Count | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Shur-Wipe | 9⅞ x 10 | White | 125/box | 15 boxes | 298-11 | **2U270** | $36.38 | **$30.50** | 20.0 |
| Shur-Wipe | 9¾ x 12¾ | White | 125/box | 15 boxes | 298-15 | **2U271** | 42.25 | **37.60** | 26.0 |

### SHUR-WIPE® WIPERS

Quickly absorbs liquids without leaving a film on hands or work surfaces. Rugged 3-ply construction provides strength needed for most wiping applications. Wipers are tough enough to be reusable. Natural color. Sheet size: 13 x 13". Sold in cases only (50/pkg., 16 packages/case). Fort James brand (299-26).

**No. 2U272.** Shpg. wt. 19.0 lbs. List $44.75. Each.....$30.45




### VALUE-CHOICE™ LIGHT DUTY WIPERS

**Value-Choice™ wipers** are an affordable answer for dirt, grease, and oil clean-up problems. Developed by utilizing a "dryform" process, Value-Choice offers excellent absorbency with cloth-like softness. As an all-purpose wiper, Value-Choice can help you control costs while enjoying the performance of cloth. Available in convenient poly wrapped quarter fold. When used wet, wipers become an economical, disposable wash cloth. White color. 13 x 13" sheet, 65 wipes per package, 12 per case.

**No. 4CJ83.** Shpg. wt. 12.0 lbs. List $43.94. Each.....$33.80

### WIPE-AWAY™ LIGHT DUTY WIPERS

Heavier weight wipers than value-choice™ wipers. More absorbent, bulkier alternatives that are strong enough to handle the worst industrial grime, yet soft enough for personal use. Versatile wiper works like a cloth in a wide variety of wiping applications. Absorbs quickly, holding several times its own weight in liquid, grease, or oil.

| Description | Sheet Size (In.) | Color | Count | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Wipe -Away | 13 x 13 | White | 50/bag | 16 bags | 292-15 | **4CJ84** | $97.20 | **$48.60** | 18.0 |
| Wipe -Away | 13 x 13 | Blue | 50/bag | 8 bags | 292-23 | **2U259** | 36.75 | **27.45** | 10.0 |
| Wipe -Away | 9¾ x 12¾ | White | 75/box | 15 boxes | 292-90 | **1GG97** | 65.55 | **60.20** | 20.0 |

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

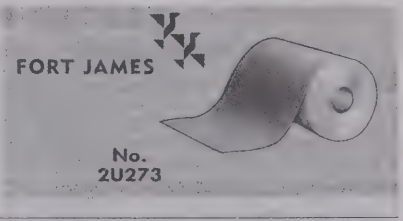
**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# MEDIUM DUTY WIPERS

## SHUR-TOWEL® MEDIUM DUTY WIPERS

oft, super absorbent wipers are 4 plies thick with a tough reinforcement nylon grid to esist tearing. Provide the advantages of rags and shop towels without the expense of leaning and storing. White color. Roll size: 9" sheets x 275 ft. roll. Sold only in cases (6 olls/case). Fort James brand (290-61).

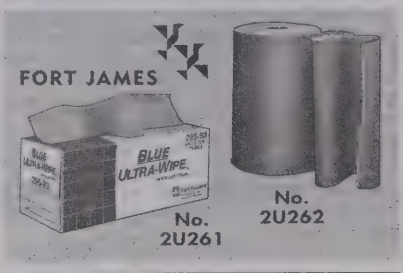
**lo. 2U273.** Shpg. wt. 18.0 lbs. List $89.50. Each.....$73.15

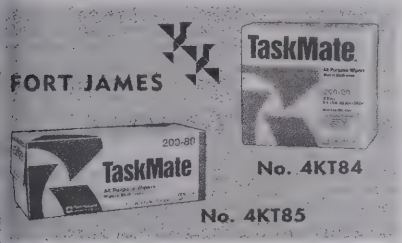



## ULTRA-WIPE™ MEDIUM DUTY WIPERS

Inique "dryform" general purpose wipers with rugged scrim reinforcement for strength nd durability. Cellulose fibers surround the reinforcement for abrasion resistance and xtra absorbency. Embossed surface picks up and holds dirt and grime from any surace. Effective on oil spills, auto repair jobs, and general maintenance work. Sold only n cases.

| Description | Sheet Size | Count | Case Qty | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Ultra-Wipe™ White** | 13 x 13" | 50/bag | 16 bags | 295-15 | **1CF46** | $58.10 | **$50.55** | 5.0 |
| **Ultra-Wipe™ Blue** | 9¾ x 12¾" | 75/box | 15 boxes | 295-93 | **2U261** | 74.56 | **59.55** | 18.0 |
| **Ultra-Wipe™ Blue** | 9" shts. x 130 ft. rolls | — | 12 rolls | 295-63 | **2U262** | 95.25 | **67.85** | 19.0 |
| **Ultra-Wipe™ White** | 9¾ x 12¾" | 75/box | 15 boxes | 295-90 | **4CJ85** | 86.97 | **66.90** | 21.0 |




## TASKMATE™ ALL PURPOSE WIPERS

New from Fort James, TaskMate™ wipers feature DRC fabric with Duraflex™ pockets that provide softness, absorbency, and durability. An ideal choice for a variety of jobs, TaskMate™ is available in quarterfold poly wrap, quarterfold polywrap half-case, and pop-up boxes. White color.

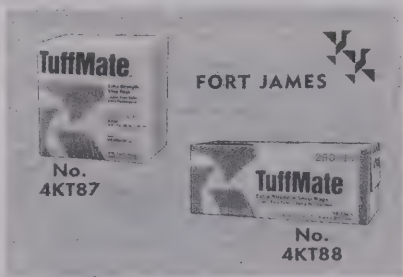
| Description | Sheet Size (in.) | Wipes/ Pkg. | Pkgs./ Case | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| TaskMate™ Quarterfold Poly | 12½ x 13 | 60 | 16 | 200-20 | **4KT84** | $54.06 | **$49.15** | 21.0 |
| TaskMate™ Pop-Up Box | 9 ¼ x 15 ½ | 100 | 8 | 200-70 | **4KT85** | 51.52 | **46.90** | 18.0 |

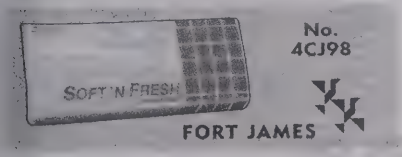
# HEAVY DUTY WIPERS

## TUFFMATE™ EXTRA STRENGTH SHOP RAGS

deal for heavy duty industrial applications, TuffMate™ wipers are made from lydraspun®, a patented technologically advanced process that provides extra strength n a rag, whether wet or dry. Absorbent on contact, TuffMate is free of contaminants ommonly left behind in laundered shop towels. Available in conveniently packaged uarterfold poly wrap, paper band, and pop-up boxes. White color.

| Description | Sheet Size (in.) | Wipes/ Pkg. | Pkgs./ Case | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| TuffMate™ Quarterfold Paper Band | 13 x 13 | 65 | 8 | 250-21 | **4KT86** | $57.75 | **$52.50** | 12.0 |
| TuffMate™ Quarterfold Poly | 13 x 13 | 50 | 16 | 250-20 | **4KT87** | 85.71 | **77.95** | 17.0 |
| TuffMate™ Pop-Up Box | 9¾ x 12⅜ | 100 | 8 | 250-80 | **4KT88** | 76.67 | **69.20** | 16.0 |

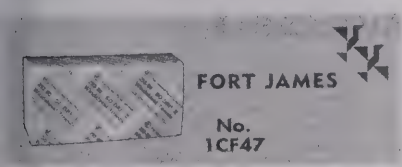



## SOFT 'N FRESH® PERSONAL CARE TOWELS

All the qualities of terry cloth at a fraction of the cost. Great for industry or healthcare applications as a disposable personal towel; tough enough for repeated use, economical enough for single use. Sheet size: 13 x 13" White color. 50 wipers/bag, 20 bags/ case. Fort James brand(805-34)

**No. 4CJ98.** Shpg. wt. 22.0 lbs. List $65.65. Each.....$50.50




## 2-PLY SO-DRI® WINDSHIELD TOWELS

Clean, soft, absorbent 2-ply towels are ideal for cleaning windshields, headlights, and mirrors. Also used as dipstick wipers when checking oil. Sheet size: 10 x 10". Blue color. Sold in cases only (140 sheets/package, 16 packages/case). Fort James brand (293-90).

**No. 1CF47.** Shpg. wt. 26.0 lbs. List $34.81. Each.....$33.65

# HAND TOWELS, FOODSERVICE TOWELS, AND DUSTING CLOTHS

## CENTER-PULL HAND TOWELS AND WIPERS

### FORTGUARD™ CENTER-PULL SYSTEMS

**The benefits of** hands-free dispensing with contamination resistance; a high capacity dispensing system offers up to 470 quality hand dries or wipes per roll, reducing costly maintenance checks and refills. Rugged, water resistant, see-through design. Locking system secures dispenser and product, reducing pilferage and vandalism. Components will not rust or corrode, assuring consistent quality dispensing.

**WIPING AND CLEANING APPLICATONS:**

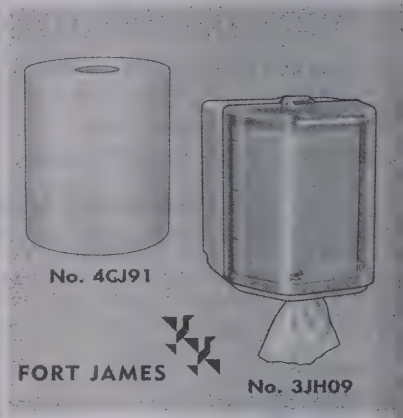
**Automotive Service and Repair:** Replacement of windshield towels at service island; shop rags and in mechanic's area.

**Food Service and Food Processing:** Replacement for kitchen roll towels or single sheet wipes; a sanitary, hands-free contamination resistant system for wiping work surfaces, glass, shelves and counters

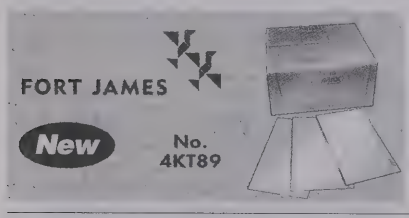
**Manufacturing:** Replacement for shop rags: for clean-up of oils, grease or solvents. Soft enough for use on hands and face.

**2-PLY WIPING TOWEL. Embossed for** superior absorbency and softness. Ideal for washroom or workroom. A premium 2-ply hand towel for medium duty-wiper.

**GENERAL PURPOSE WIPER. Absorbent bonded cellulose** material offers cloth-like feel and performance. Ideal for maintenance and manufacturing clean-ups. Soft enough for use on hands and face.



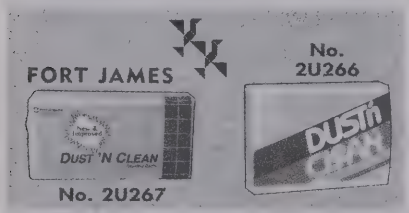

| Description | Sheet Size (In.) | Color | Roll Length (Ft.) | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **FortGuard 2-ply** | 13¼ x 9, 2-Ply | White | 470 | 6 | 440-00 | **4CJ91** | $79.39 | **$54.75** | 24.0 |
| **FortGuard General Purpose** | 13¼ x 9, 2-Ply | White | 200 | 6 | 445-00 | **4CJ92** | 71.34 | **49.20** | 14.0 |
| | **Size (In.)** | | **Count** | | | | | | |
| **FortGuard VISTA® Dispenser** | 10½ x 9⅞ x 10 | Smoke Grey | 1 each | — | 540-50 | **3JH09** | 87.00 | **60.00▲** | 3.8 |




## DYNAMAX™ FOODSERVICE TOWELS

Designed for fast, streak-free wiping of tabletops, counter tops, and stove tops. Made from spunlace, nonwoven fabric, DynaMax™ towels are long-lasting and absorbent. Reusable towels are machine washable, resist breakdown during bleaching, and rinse clean. White with gree stripe. 13" x 24" sheet size. Sold only i case of 150. Fort James brand (294-16

**No. 4KT89.** Shpg. wt. 16.0 lbs. List $56.76.
Each ..... $47.3(



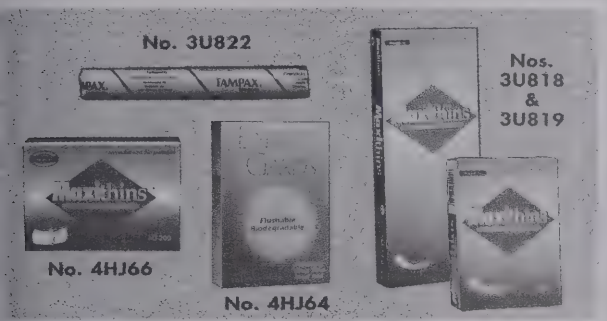

## DUST 'N CLEAN® DUSTING CLOTHS

Specially formulated to attract dust particles. "Stretchability" feature holds dust and increases cleaning efficiency. Dust by hand or attach to a mop to clean floors, ceilings and furniture. Disposable, so there's no need to count, sort and stor soiled cloths. Provides better housekeep ing all around. Available in three size Fort James brand.

| Description | Sheet Size (In.) | Color/Material | Case Qty. | Fort James Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Dust 'N Clean® Dusting Cloths** | 12 x 17 | Yellow Texturized Rayon | 500 | 296-00 | **2U266** | $78.06 | **$63.80** | 9.0 |
| **Dust 'N Clean® Dusting Cloths** | 17 x 24 | Yellow Texturized Rayon | 200 | 296-16 | **2U267** | 54.44 | **48.30** | 7.0 |
| **Dust 'N Clean® Dusting Cloths** | 24 x 24 | Yellow Texturized Rayon | 200 | 296-24 | **1CF44** | 71.00 | **59.95** | 10.0 |

**SEE INDEX FOR OUR SELECTION OF DUST POLISHES AND TREATMENTS AVAILABLE.**

## TAMPONS AND SANITARY NAPKINS




**egular Tampax Tampons.** 100% cotton, biodegradable, and 100% lushable. 500 per case. Tampax brand. (T-500).

**lo. 3U822.** Shpg. wt. 8.0 lbs. List $75.14. Each.....$71.40

**Maxithins 4" Maxi Pads.** Vendor style folded #4 (4¼ x 3 x 1"). ndividually boxed sanitary napkins come 250 per case. Maxithins brand (MT-4).

**lo. 3U818.** Shpg. wt. 14.0 lbs. List $47.43. Each.....$42.70

**Maxithins 8" Maxi Pads.** Vendor style flat #8 (8 x 3¼ x 13/16"). ndividually boxed sanitary napkins come 250 per case. Maxithins brand (MT-8).

**lo. 3U819.** Shpg. wt. 17.0 lbs. List $49.26. Each.....$44.35

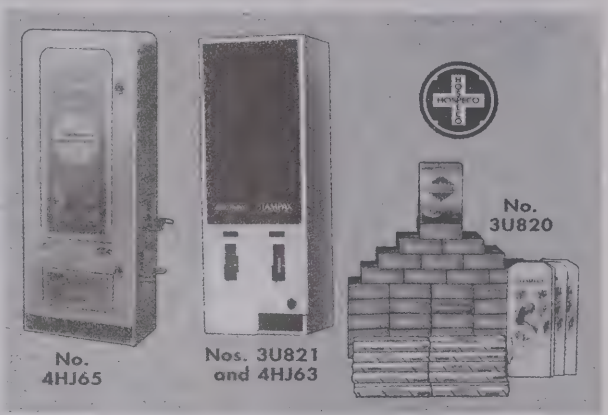
**MT-200 Maxithins® Ultra Thin With Gards®.** Vendor-style ultra thin anitary napkins with wrap-around Gards® for additional protec- ion. Individually boxed in #4 (4¼ x 3 x 1") carton. 200 per case. Vill vend in any vendor accepting #4 size carton. HOSPECO rand (MT-200).

**lo. 4HJ66.** Shpg. wt. 10.0 lbs. List $47.20. Each.....$42.50

**nviro Gards Flushable Sanitary Napkins.** Vendor-style, biodegrad- ble ultra-thin napkin which is flushable. Designed for use in all eptic and sewage systems. 125 individually boxed napkins per ase. (4¼ x 3 x 1"). HOSPECO brand (EG-4).

**lo. 4HJ64.** Shpg. wt. 7.0 lbs. List $47.20. Each.....$42.50

## TAMPON AND SANITARY NAPKIN DISPENSERS




**Dual Vendor Dispenser** for No. 3U818 maxi pads and No. 3U822 tampons. $0.25 coin release. Dispenser dispenses 15 pads and 25 tampons. White. Dimensions: 26¼ x 10 x 6½". HOSPECO brand (D1).

**No. 3U821.** Shpg. wt. 19.0 lbs. List $163.24. Each.....$155.25

**Stainless steel vendor** for No. 3U818 and 4HJ66 pads, and No. 3U822 tampons. $0.25 coin release. Capacity of 15 pads and 25 tampons. Made of 18 gauge, 304 stainless steel. Dimensions: 26¼ x 10 x 6¼". HOSPECO brand (D1-SS).

**No. 4HJ63.** Shpg. wt. 20.0 lbs. List $325.00. Each.....$308.75

**Enviro Gards® Vendor.** for No. 4HJ64 flushable pads and No. 3U822 tampons. Dispenses 16 boxes of flushable sanitary napkins (EG-4) and 20 Tampax® Tampons. $0.50 coin release. Dimensions: 27¾ x 11 x 6¼". HOPSECO Brand (EGD-1).

**No. 4HJ65.** Shpg. wt. 20.0 lbs. List $199.25. Each.....$189.50

**Starter Kit** contains 60 Maxithins pads, 60 Tampax tampons, and 60 necessities disposal bags. HOSPECO brand (MT-180).

**No. 3U820.** Shpg. wt. 5.0 lbs. List $54.57. Each.....$40.95

## SANITARY NAPKIN RECEPTACLES AND LINERS

### [A] FLOOR MODEL RECEPTACLE

'wo disposal openings service two stalls imultaneously. Foot pedal pressure opens elf-closing lid, eliminating hand contact. nti microbial treated Germ-Fighter® leak- roof rigid plastic liner, which holds up to 6 napkins. White powder-coated enamel inish. Meets OSHA standards. United rand.

### [B] PLASTIC WALL-MOUNTED RECEPTACLE

'ight-fitting lid keeps odors inside. ncludes easy to clean removable rigid ner, 5 waxed paper bags, and mounting ardware. Rubbermaid.

### [C] KRAFT WAXED PAPER LINERS

Use with No. 3U480 double-door napkin receptacle. 500 liners per case. Hospeco brand. (Not shown.)

### [D] KRAFT WAXED PAPER LINERS

Use with No. 3U933 napkin receptacle, and all standard sanitary napkin receptacles. 250 per case. Hospeco brand. (Not shown).

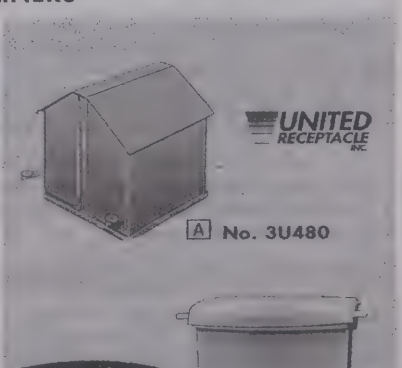
### [E] KRAFT WAXED PAPER LINERS

With gusset-wax finish. Fits sanisac and above units. 500 per case. HOSPECO brand.

### [F] NECESSITIES COURTESY BAGS

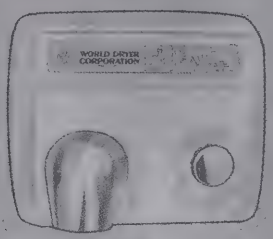
Printed-white bag with slit to mount on vendors. 500 per case. HOSPECO brand.

| ey | Finish Color | Dimensions (In.) | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | White | 9¼ x 9¾ x 11 | United | 13 | **3U480** | $74.87 | **$63.70** | 9.0 |
| | White | 12½ x 5¼ x 10¾ | Rubbermaid | 6140 | **3U933** | 32.92 | **26.35** | 2.9 |
| | Kraft | 8 x 7 x 8 | Hospeco | 6802W | **3U825** | 18.75 | **17.81** | 9.0 |
| | Kraft | 9 x 10 x 3¼ | Hospeco | HS-6141 | **3U824** | 16.91 | **15.22** | 4.5 |
| | Kraft | 7½ x 3½ x 10¼ | Hospeco | No. 260 | **5FW85** | 20.10 | **19.10** | 9.0 |
| | White | 8 x 3 x 2 | Hospeco | NEC-500 | **5FW86** | 33.50 | **31.85** | 3.0 |



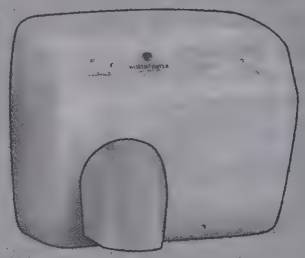
# WARM AIR HAND DRYERS

WORLD® DRYER®

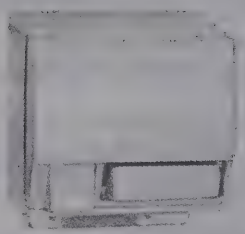


A No. 5W630

E19860

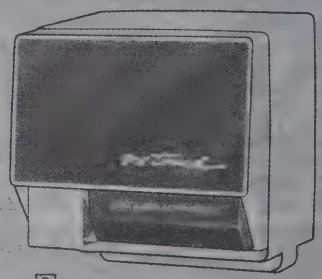


B No. 6H009



C No. 5W634

Replacement Parts Available
1-800-323-0620



D No. 6H010

Hand dryers can save 90% of the cost of paper towels, including storage, disposal, and related plumbing costs for clogged drains. World warm air dryers are clean, sanitary, and reduce wastebasket overflow. Push-button or automatic. Registered to ISO 9002.

### PUSH-BUTTON DRYERS

Push button to start dry cycle; cycle runs for 30 seconds. Mechanical timer withstands heavy usage.

### AUTOMATIC DRYERS

Dryers turn On automatically when hands are placed under nozzle; dryer turns Off when hands are removed. Clean and hygienic; hands touch nothing after they are cleaned. Energy-saving dryer is never left running. 10-Year parts warranty.

### MODEL "A" DRYERS

- **Heavy-duty construction with 1/4" thick cast iron cover**
- **Porcelain enamel finish won't break, dent, or scratch**
- **10-Year parts warranty**
- **Well-suited for heavy industrial plants, office buildings, schools, fast food restaurants, park and recreation facilities, and theaters**
- **Surface mount**

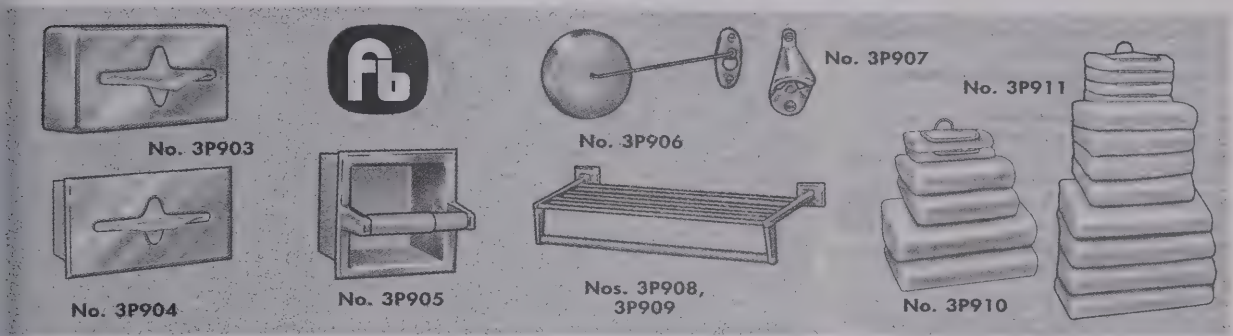
### AIRSPEED DRYERS

- **Durable 1/8" thick diecast zinc cover**
- **Triple-plated, brushed chrome finish hides smudges and fingerprints**
- **5-Year parts warranty**
- **Economical and well suited for lighter usage: light industrial facilities, office buildings, warehouses, churches, laboratories, hospitals, and day care centers**
- **Surface mount**

## AIR HAND DRYER SPECIFICATIONS AND ORDERING DATA

| Key | Nozzle Type | Activator | Volts | Amps | World Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **MODEL "A" DRYERS** | | | | | | | | | |
| A | Swivel | Pushbutton | 115 | 20.0 | A | **5W630** | $516.00 | **$325.00** | 29.0 |
| A | Swivel | Pushbutton | 230 | 10.0 | A4 | **5W631** | 516.00 | **325.00** | 29.0 |
| A | Fixed | Pushbutton | 115 | 20.0 | A5 | **5W632** | 516.00 | **325.00** | 29.0 |
| A | Fixed | Pushbutton | 230 | 10.0 | A54 | **5W633** | 516.00 | **325.00** | 29.0 |
| B | Fixed | Automatic | 120 | 17.0 | XA5 | **6H009** | 598.00 | **394.75** | 28.0 |
| **AIRSPEED DRYERS** | | | | | | | | | |
| C | Fixed | Pushbutton | 120 | 17.0 | WA126 | **5W634** | 376.00 | **242.25** | 24.0 |
| C | Fixed | Pushbutton | 240 | 8.5 | WA246 | **5W635** | 376.00 | **242.25** | 24.0 |
| D | Fixed | Automatic | 115 | 20.0 | NT126 | **6H010** | 512.00 | **348.25** | 24.0 |

## HOTEL/MOTEL ACCESSORIES




**Functional and durable accessories stand up to frequent use**
**Designed for guest convenience.**

**lo. 3P903. Surface Tissue Cabinet.** Chrome lated steel with snap-on cover. 10¾ x 5½ 2¼". Franklin Brass brand (915).

**lo. 3P903.** Shpg. wt. 1.8 lbs. List $18.87.
'ach.....**$15.44**

**lo. 3P904. Shallow Recessed Tissue Cabinet.** 'hrome plated steel with snap-on cover. 1⅝ x 6¼. Franklin Brass brand (925B)

**lo. 3P904.** Shpg. wt. 2.0 lbs. List $15.56.
'ach.....**$13.63**

**lo. 3P905. Recessed Extra Roll Paper Holder.** 'hrome plated frame and Zamak (zinc) osts with plastic roller. Spare roll stored n back. Requires wall opening of 5¼" quare by 4" deep. Overall size: 6¼" square. Franklin Brass brand (970).

**No. 3P905.** Shpg. wt. 1.6 lbs. List $24.08.
Each.....**$19.81**

**No. 3P906. Retractable Clothesline.** Chrome plated brass cover and flange. 72" cord retracts out of sight when not in use. Franklin Brass brand (910).

**No. 3P906.** Shpg. wt. 0.6 lbs. List $23.53.
Each.....**$19.35**

**No. 3P907. Bottle Opener.** Polished stainless steel. Franklin Brass brand (944).

**No. 3P907.** Shpg. wt. 0.1 lbs. List $4.64.
Each.....**$3.80**

**Nos. 3P908, 3P909. Towel Shelf with Bar.** Chrome plated Zamak posts. Stainless steel bars. Includes toggle installation bolts. Choose 18" (1452) or 24" length (1457). Franklin Brass brand.

**No. 3P908. 18" Towel Shelf.** Shpg. wt. 3.1 lbs. List $45.78. Each.....**$37.05**

**No. 3P909. 24" Towel Shelf.** Shpg. wt. 3.5 lbs. List $50.04. Each.....**$41.25**

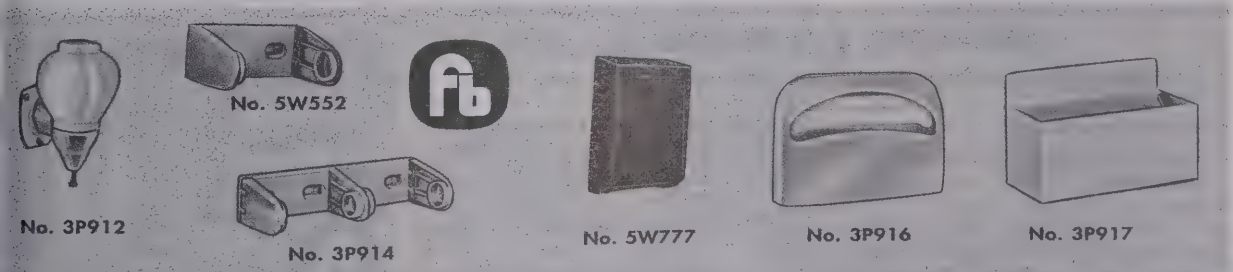
**No. 3P910. 2 Guest Towel Unit.** Saves space. Center hole spacing, 8⁵⁄₁₆" C.C. vertical. Measures: 12½ x 6⅜". Towels not included. Franklin Brass brand (950).

**No. 3P910.** Shpg. wt. 1.5 lbs. List $14.92.
Each.....**$13.15**

**No. 3P911. 4 Guest Towel Unit.** Center hole spacing, 18⅛" C.C. vertical. Measures: 22¹⁄₁₆ x 6⅜". Towels not included. Franklin Brass brand (960).

**No. 3P911.** Shpg. wt. 2.8 lbs. List $23.87.
Each.....**$21.67**

## PUBLIC WASHROOM ACCESSORIES




**Made extra durable to meet demands of public areas**
**For hotel/motel and commercial projects.**

**lo. 3P912. Liquid Soap Dispensers.** 16 Oz. apacity. Chrome plated Zamak bracket vith poly globe. 6⅜" high; 5⅛" projection. 'ranklin Brass brand (1925).

**lo. 3P912.** Shpg. wt. 0.6 lbs. List $16.98.
'ach.....**$13.40**

**lo. 5W552. Single Roll Deluxe Paper Holder.** Concealed push-button hinge release. leavy-duty chrome plated Zamak. 5⁹⁄₁₆ x ⁷⁄₁₆ x 4¼" projection. Franklin Brass rand (1974).

**No. 5W552.** Shpg. wt. 1.0 lbs. List $16.98.
Each.....**$13.20**

**No. 3P914. Double Roll Deluxe Paper Holder.** Like No. 5W552 above but 10⁷⁄₁₆" wide. Franklin Brass brand (1976).

**No. 3P914.** Shpg. wt. 1.8 lbs. List $23.94.
Each.....**$18.78**

**No. 5W777. Multi-fold/C-fold Towel Dispenser.** Stainless steel construction. White baked enamel finish. Holds 500 multi-fold or 400 C-fold towels. Has view slot and key lock. 11⁹⁄₁₆ x 15½ x 4¹⁄₁₆" projection. Franklin Brass brand (1954).

**No. 5W777.** Shpg. wt. 6.0 lbs. List $43.76.
Each.....**$41.10**

**No. 3P916. Toilet Seat Cover Cabinet.** Satin finish stainless steel. 500 seat cover capacity. Measures: 16½ x 11½ x 1⅞" projection. Franklin Brass brand (1988).

**No. 3P916.** Shpg. wt. 2.4 lbs. List $55.57.
Each.....**$31.40**

**No. 3P917. Rectangular Ash Tray.** Satin finish stainless steel. Top section pivots to allow removal of inner receptacle. Includes adhesive for secure installation. Measures: 7⅞ x 4⅞ x 3⁹⁄₁₆" projection. Franklin Brass brand (1998).

**No. 3P917.** Shpg. wt. 2.8 lbs. List $116.52.
Each.....**$90.70**

# BATH ACCESSORIES

## CHROME FINISH ACCESSORIES

- **Concealed screw models with installation plates included**
- **Made from high quality Zamak (virgin zinc alloy)**
- **Sparkling chrome finish**
- **Meets ASTM Standard B-86.**

**No. 3P893 Towel Ring.** Chrome-plated brass ring. Franklin Brass brand (1416).

**No. 3P893.** Shpg. wt. 0.4 lbs. List.....$10.41.
Each.....**$8.53**

**No. 3P894 Hook.** Double robe hook has a 1⅝" projection. Franklin Brass brand (1402)..

**No. 3P894.** Shpg. wt. 0.2 lbs. List.....$4.85.
Each.....**$4.04**

**No. 3P895 Paper Holder.** Toilet paper holder has plastic roller. Meets the Americans with Disabilities Act Requirements. Overall Length: 8". Franklin Brass brand (1408B)

**No. 3P895.** Shpg. wt. 0.7 lbs. List.....$9.06.
Each.....**$7.51**

**No. 3P896 Towel Bar.** 18" Towel bar set has 3/4" square polished stainless steel bar. Overall length: 20". Franklin Brass brand (1418).

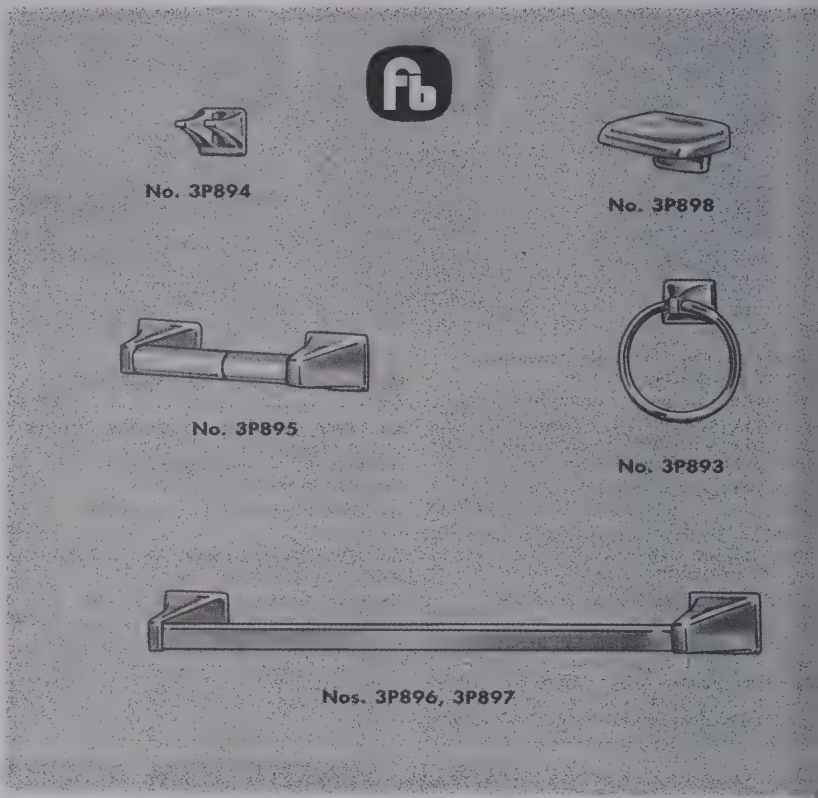
**No. 3P896.** Shpg. wt. 1.0 lbs. List.....$11.34.
Each.....**$9.22**

**No. 3P897 Towel Bar.** 24" Towel bar set has 3/4" square polished stainless steel bar. Overall length: 26". Franklin Brass brand (1424).

**No. 3P897.** Shpg. wt. 0.8 lbs. List.....$13.28.
Each.....**$10.19**

**No. 3P898 Soap Dish.** Chrome-plated Zamak zinc alloy. Franklin Brass brand (1406).

**No. 3P898.** Shpg. wt. 0.5 lbs. List.....$7.73.
Each.....**$6.09**




## RECESSED ACCESSORIES

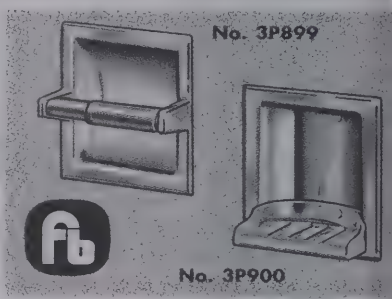
- **Complement all chrome bath accessories**
- **Round corner design**
- **Include wood screws for standard installations**
- **Meet ASTM Standard B-86.**

**No. 3P899 Paper Holder.** Recessed toilet paper holder has chrome-plated brass shell and plastic roller. Requires wall opening of 5¼" square x 2" deep. Overall size: 6¼" square. Franklin Brass brand (607B).

**No. 3P899.** Shpg. wt. 1.0 lbs. List.....$19.86.
Each.....**$16.51**

**No. 3P900 Soap Holder.** Recessed soap holder has polished stainless steel shell. Requires wall opening of 5¼" square x 2" deep. Overall size: 6¼" square. Franklin Brass brand (656).

**No. 3P900.** Shpg. wt. 0.9 lbs. List.....$14.36
Each.....**$11.60**



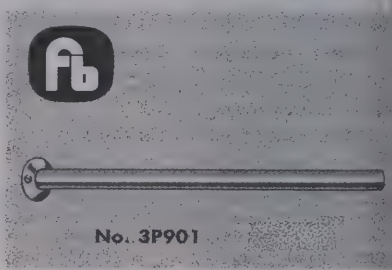

## SHOWER RODS

- **Polished stainless steel**
- **1" Heavy gauge construction**
- **For institutional and commercial projects.**

No. 3P901 and 3P902. 1" OD bar and cast chrome-plated Zamak flange. Comes in 5 and 6 ft. lengths. Franklin Brass brand (160-5 and 160-6)

**No. 3P901.** (5 ft. rod) Shpg. wt. 3.0 lbs. List $30.96. Each.....**$24.29**

**No. 3P902.** (6 ft. rod) Shpg. wt. 3.2 lbs. List $35.93. Each.....**$28.30**



## SAFETY FIRST™ BATH PRODUCTS




**These tub, shower and toilet safety items** are made of rustproof aluminum with a white finish. Come with a variety of fasteners for easy installation. Franklin Brass brand.

**No. 5E951 Tub and Shower Seat.** Molded plastic seat with side handles.

**No. 5E952 Tub and Shower Chair.** Molded plastic chair.

**No. 4LW27 Adjustable Tub and Shower Chair.** Non-Slip seats adjusts from 14" to 21" in 1" increments.

**No. 5E947 Toilet Safety Bar.** Attaches to standard toilets. Allows for easier entry and exit from toilet.

**Tub Safety Bars make bending,** sitting, or getting in and out of tub easier.

**No. 5E948 15" High Profile Tub Safety Bar.**

**No. 5E950 Low Profile Tub Safety Bar.**

**No. 5E949 Multi-Grip Tub Safety Bar.**

| Item | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Tub/Shower Seat | 5E951 | $39.81 | $33.20 | 6.0 |
| Tub/Shower Chair | 5E952 | 68.65 | 57.20 | 8.0 |
| Tub/Shower Chair | 4LW27 | 61.70 | 48.95 | 20.0 |
| Toilet Bar | 5E947 | 50.36 | 42.00 | 7.0 |
| High Tub Bar | 5E948 | 46.95 | 39.15 | 3.0 |
| Low Tub Bar | 5E950 | 44.26 | 36.90 | 2.2 |
| Multi-Grip Tub Bar | 5E949 | 49.27 | 41.15 | 3.5 |

## MIRRORS AND BATH CABINETS

- **All bath cabinets have mirrors and are American made**

**No. 4E569 Large Surface Mount Stainless Steel Framed Mirror** features a theft resistant galvanized steel back. Measures 18W x 24"L.

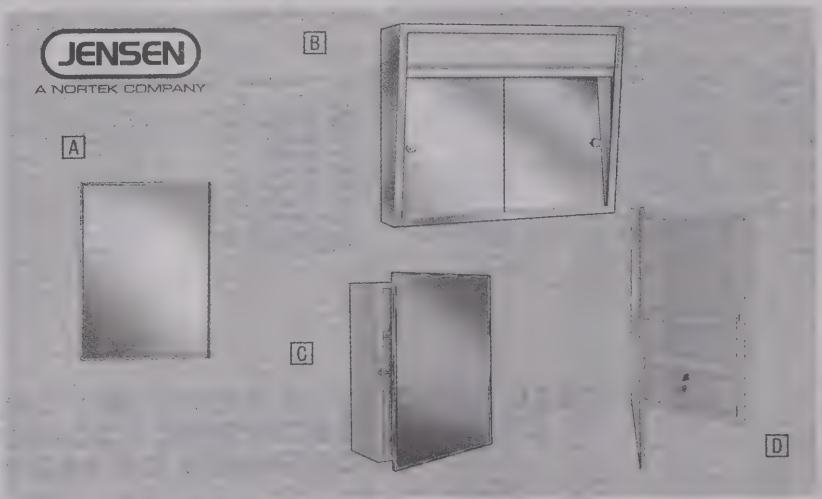
**No. 4E570 Surface Mount Stainless Steel Framed Mirror** features a theft resistant galvanized steel back. Measures 16W x 22"L.

**No. 4E565 Surface Mount Slider** has built-in four bulb light with switch. Stainless steel trim. Measures: 24W x 19"L.

**No. 4E566 Surface Mounted Cabinet** has a steel body and swing door. Features adjustable shelves and stainless steel framed mirror. Measures 16W x 22"L.

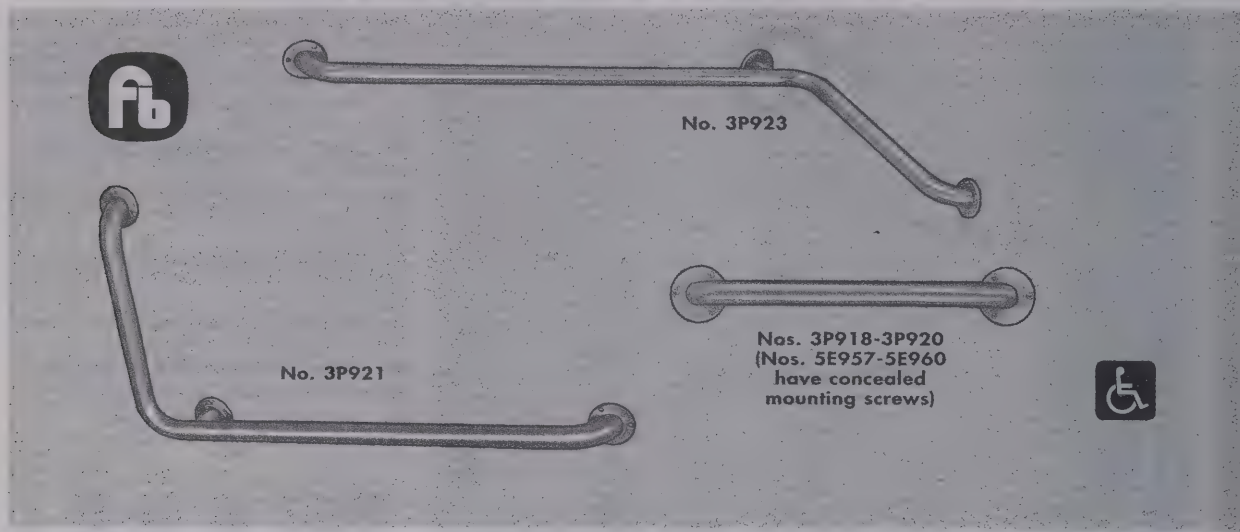
**No. 4E564 Recessed Cabinet** features a swing door and stainless steel framed mirror. Deep drawn seamless steel body with adjustable shelves. Requires 14W x 18"L wall opening. Overall measurements: 16W x 22"L.

**No. 4E985 Recessed Cabinet** features a built-in locking 5" security compartment, white steel body with stainless steel frame, 2 adjustable glass shelves, full length piano hinge, and magnetic door catch. Requires a rough opening of 13½W x 24L x 4"D. Measures 16W x 26"L.




| Key | Overall Measurements | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| | | MIRROR ONLY MODELS | | | |
| A | 18W x 24"L | 4E569 | $53.82 | $44.55 | 17.0 |
| A | 16 x 22 | 4E570 | 43.79 | 36.20 | 13.0 |
| | | SURFACE MOUNT MODELS | | | |
| B | 24 x 19 | 4E565 | 61.05 | 50.70 | 15.0 |
| C | 16 x 22 | 4E566 | 55.21 | 45.10 | 12.0 |
| | | RECESSED MODELS | | | |
| D | 16 x 22 | 4E564 | 43.55 | 36.20 | 13.0 |
| D | 16 x 26 | 4E985 | 88.07 | 73.00 | 16.0 |

# 1½" DIAMETER STAINLESS STEEL GRAB BARS




- All grab bars constructed of Type 304 stainless steel
- 1½" wall clearance meets Handicap Code requirements
- 18 gauge thickness 0.049 wall thickness
- Satin finish on exposed mount
- Surfaced polished bright finish on concealed mount
- Mounting screws and Phillips head screws provided
- Meets the Americans with Disabilities Act requirements
- For nursing homes, hospitals, and commercial projects

Nos. 3P918–3P920, and 5E957–5E960. Straight bars safety tested up to 1000 lbs. Available in 18, 24, 32, 36, and 42" lengths.

No. 3P921. 90° angle bar measures 16 x 32". For right hand use.

No. 3P922. 90° angle bar measures 16 x 32". For left hand use.

No. 3P923. Horizontal tub bar measures 40 x 20". Can be reversed for right or left hand use.

| Description | Mounting Screws | Franklin Brass Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **18" Straight Bar** | Exposed | 6318 | **3P920** | $32.40 | **$25.45** | 1.7 |
| **18" Straight Bar** | Concealed | 5618 PS | **5E957** | 38.85 | **32.40** | 1.9 |
| **24" Straight Bar** | Concealed | 5624 PS | **5E958** | 45.97 | **38.35** | 2.1 |
| **24" Straight Bar** | Exposed | 6324 | **3P918** | 36.60 | **29.10** | 2.0 |
| **32" Straight Bar** | Exposed | 6332 | **3P919** | 43.50 | **31.45** | 2.5 |
| **36" Straight Bar** | Concealed | 5636 PS | **5E959** | 59.55 | **44.70** | 3.2 |
| **42" Straight Bar** | Concealed | 5642 PS | **5E960** | 65.84 | **49.45** | 3.4 |
| **Right Hand 90° Bar** | Exposed | 6382RH | **3P921** | 74.94 | **59.20** | 4.5 |
| **Left Hand 90° Bar** | Exposed | 6382LH | **3P922** | 74.94 | **59.20** | 4.5 |
| **Horiz. Tub Bar** | Exposed | 6362 | **3P923** | 83.97 | **65.90** | 2.1 |

## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# BRUTE® ROUND CONTAINER SYSTEMS

Rugged, all-polyethylene construction withstands tough use and temperature extremes. Won't rust, leak or dent. Seamless construction permits easy cleaning. Rim and base reinforced for added durability. Built-in handles provide non-slip lifting. Molded base grip allows for easy, two-handed lifting. Gray, white and yellow Brute® containers are USDA approved and NSF tested/certified.

### A ROUND BRUTE® FUNNEL TOP

The funnel-top design guides refuse into the container and out of sight. 6⅞" center hole dia.

### B DOME TOPS (Round Styles)

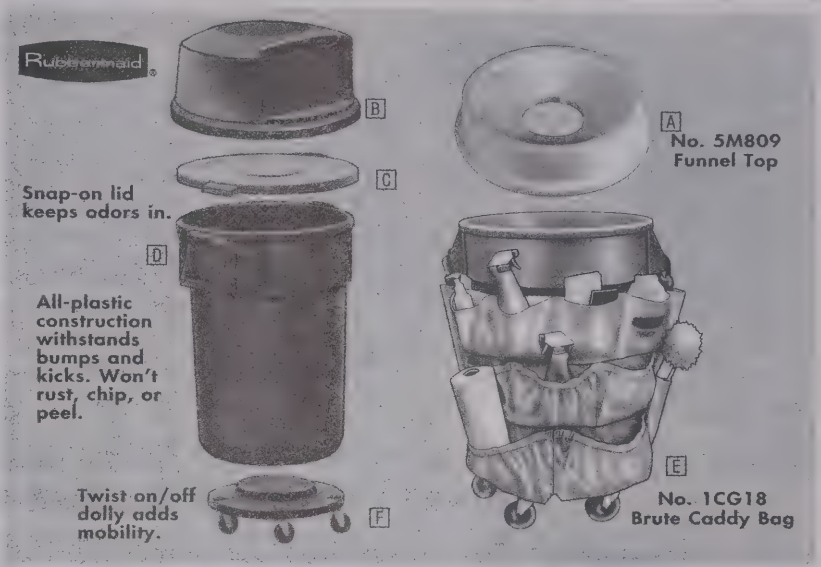
Smooth, light weight, strong surface is made of durable Structural Web construction. Structural Web process allows dome to have an upscale smooth gloss finish that is CSFM fire rated. Swing self-closing lid fits 32, 44, 55 round Brute® Containers. Dome tops also fits 55 gallon steel drums.

### C FLAT LIDS

Resist cracking and discoloration from exposure to sunlight. Recessed lid design allows easy stacking of containers. Contoured lids prevent moisture accumulation. Snap-on lid keeps odors in. 10, 20, 32, 44, and 55-gallon capacity.

### D ROUND BRUTE® BASES

Well-suited for restrooms, cafeterias, factories, hospitals. Crush resistant construction makes containers tough enough to withstand crushing blows.




### E BRUTE® CADDY BAG

Quickly turn Round Brutes® into a mobile cleaning cart. Multiple pockets provide easy access to cleaning tools and supplies. Elasticized holding straps fit firmly and easily on 32 and 44 gallon containers.

### F BRUTE® CASTERED DOLLY

Twist-on, twist-off, 5-wheel round dolly fits 20, 32, 44, and 55-gallon round bases. Structural foam construction. 300 pound capacity.

| Key | Description | Size or Capacity | Color | Dimensions (Inches) Dia. | Dimensions (Inches) H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| | **BRUTE® ROUND CONTAINER SYSTEMS** | | | | | | | | | |
| C | Brute Round Flat Lid | 10 Gal. | Gray | 16 | 1 | 2609 | **4HC06** | $5.22 | **$4.44** | 0.8 |
| C | Brute Round Flat Lid | 10 | White | 16 | 1 | 2609 | **3U946** | 5.22 | **4.44** | 0.9 |
| D | Brute Round Base | 10 | Gray | 15⅝ | 17⅛ | 2610 | **4HC05** | 15.20 | **12.16** | 3.0 |
| D | Brute Round Base | 10 | White | 15⅝ | 17⅛ | 2610 | **3U934** | 15.20 | **12.16** | 3.1 |
| C | Brute Round Flat Lid | 20 | Gray | 19⅞ | 1¼ | 2619 | **5W002** | 6.20 | **5.27** | 1.7 |
| C | Brute Round Flat Lid | 20 | White | 19⅞ | 1¼ | 2619 | **3U619** | 6.20 | **5.27** | 1.6 |
| D | Brute Round Base | 20 | Gray | 19½ | 22⅞ | 2620 | **4W015** | 23.88 | **19.10** | 6.5 |
| D | Brute Round Base | 20 | White | 19½ | 22⅞ | 2620 | **3U620** | 23.88 | **19.10** | 6.4 |
| B | Brute Dome Top | 32 | Gray | 22 11/16 | 12¼ | 2637 | **5W004** | 55.70 | **47.35** | 11.0 |
| B | Brute Dome Top | 32 | Red | 22 11/16 | 12¼ | 2637 | **5M765** | 55.70 | **47.35** | 12.0 |
| A | Brute Funnel Top | 32 | Gray | 22⅝ | 5 | 3543 | **5M809** | 25.66 | **21.81** | 2.5 |
| C | Brute Round Flat Lid | 32 | Gray | 22¼ | 1⅜ | 2631 | **5W003** | 9.12 | **7.75** | 2.2 |
| C | Brute Round Flat Lid | 32 | White | 22¼ | 1⅜ | 2631 | **3U621** | 9.12 | **7.75** | 2.2 |
| C | Brute Round Flat Lid | 32 | Yellow | 22¼ | 1⅜ | 2631 | **3U622** | 9.12 | **7.75** | 2.2 |
| D | Brute Round Base | 32 | Gray | 22 | 27¼ | 2632 | **2W276** | 31.68 | **25.35** | 8.7 |
| D | Brute Round Base | 32 | White | 22 | 27¼ | 2632 | **3U623** | 31.68 | **25.35** | 9.3 |
| D | Brute Round Base | 32 | Yellow | 22 | 27¼ | 2632 | **3U624** | 31.68 | **25.35** | 9.3 |
| B | Brute Dome Top | 44 | Gray | 24⅛ | 12 15/16 | 2647 | **4W018** | 58.08 | **49.40** | 13.0 |
| C | Brute Dome Top | 44 | Red | 24⅛ | 12 15/16 | 2647 | **5M770** | 58.08 | **49.40** | 13.0 |
| C | Brute Round Flat Lid | 44 | Gray | 24½ | 1½ | 2645 | **4W016** | 16.26 | **13.82** | 3.5 |
| C | Brute Round Flat Lid | 44 | White | 24½ | 1½ | 2645 | **3U627** | 16.26 | **13.82** | 2.9 |
| C | Brute Round Flat Lid | 44 | Yellow | 24½ | 1½ | 2645 | **3U628** | 16.26 | **13.82** | 2.9 |
| D | Brute Round Base | 44 | Gray | 24 | 31½ | 2643 | **3W224** | 47.80 | **38.25** | 14.0 |
| D | Brute Round Base | 44 | White | 24 | 31½ | 2643 | **3U625** | 47.80 | **38.25** | 14.0 |
| D | Brute Round Base | 44 | Yellow | 24 | 31½ | 2643 | **3U626** | 47.80 | **38.25** | 14.0 |
| D | Brute Round Base | 44 | Blue | 24 | 31½ | 2643 | **5M767** | 47.80 | **38.25** | 14.0 |
| B | Brute Dome Top | 55 | Gray | 27¼ | 14½ | 2657 | **4W304** | 73.88 | **62.80** | 13.0 |
| B | Brute Dome Top | 55 | Red | 27¼ | 14½ | 2657 | **5M771** | 73.88 | **62.80** | 15.0 |
| C | Brute Round Flat Lid | 55 | Gray | 26½ | 2 | 2654 | **4W017** | 23.06 | **19.60** | 4.0 |
| D | Brute Round Base | 55 | Gray | 26½ | 33 | 2655 | **3H240** | 73.30 | **58.65** | 17.0 |
| F | Brute Round Dolly | 20-55 | Black | 24⅜ | 7¼ | 2640 | **5W007** | 45.50 | **38.70** | 9.5 |
| | **BRUTE® CADDY BAG** | | | | | | | | | |
| E | Brute Caddy Bag | — | Yellow | — | — | 2642 | **1CG18** | 27.26 | **23.17** | 0.3 |

# CONTAINER SYSTEMS



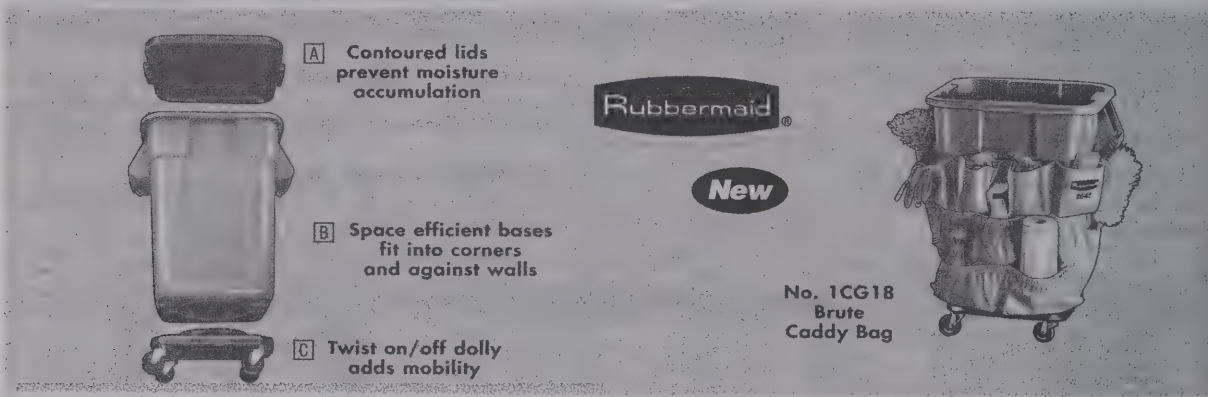

## BIG WHEEL SQUARE BRUTE® CONTAINER SYSTEMS

Rubbermaid's 50 and new 95 gallon Square Brute® Big Wheel containers are perfect for mobile collection and general refuse or material handling. 50 gallon container has built-in 8" rubber wheels that provide easy, stable mobility, particularly when negotiating stairs. Attached, tight fitting, hinged lid swings back and locks out of way when opened. Molded in handle provides easy turning. 50 gallon Square Brute® Big Wheel container is USDA approved and NSF tested/certified.

95 gallon Square Big Wheel container has 12" plastic recessed wheels and axle caps eliminate interference and guard against breakage while transporting to collection areas. Integrally molded in lift points have reinforced ribbing for strength and are designed to evenly distribute loads throughout the container body. 95 gallon container is compatible with all automated and semi-automated lifting systems with municipalities for curb side trash collection. Both containers are made of seamless, leakproof polyethylene construction that doesn't rust, dent, or corrode.

| Description | Cap. (Gal.) | Color | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Base & Lid** | 50 | Gray | 22 | 21⅛ | 38¼ | 3559 | **4W305** | $106.28 | **$85.05** | 24.0 |
| **Base & Lid** | 50 | Blue | 22 | 21⅛ | 38¼ | 3559 | **5M816** | 106.28 | **85.05** | 23.0 |
| **Base & Lid** | 50 | Yellow | 22 | 21⅛ | 38¼ | 3559 | **5M817** | 106.28 | **85.05** | 23.0 |
| **Base & Lid** | 95 | Blue | 33.7 | 28.7 | 45.1 | 356500 | ***New*4TJ46** | 172.08 | **137.70** | 50.0 |
| **Base & Lid** | 95 | Gray | 33.7 | 28.7 | 45.1 | 356500 | ***New*4TJ47** | 172.08 | **137.70** | 50.0 |

## SQUARE BRUTE® CONTAINER SYSTEMS




Square Brute® shape holds up to 14% more capacity in the same space as a round container. Fits into corners, against walls, or under counters. Containers lock side-by-side to conserve space. Square shape is more stable when container is placed on its side for trash removal or leaf pickup. Gray, white and yellow Square Brutes® containers are USDA approved and NSF tested/certified.

### A FLAT LIDS and DOME TOP

Polyethylene construction with ultraviolet inhibitors prevents cracking and discoloration from exposure to sunlight. Recessed lid design allows easy stacking of containers. Contoured lids prevent moisture accumulation. 28 and 40-gallon capacity.

### B SQUARE BRUTE™ BASES

Space efficient—up to 14% more capacity than conventional round containers. Fit into corners and against walls. Store under counters and in closets.

### C CASTERED DOLLIES

Four-wheel square dolly fits 28 and 40-gallon square bases. 300 pound capacity.

### BRUTE CADDY BAG ACCESSORY

Quickly turn your Square Brutes into a mobile cleaning cart. Multiple pockets provide easy access to cleaning tools and supplies. Elasticized holding straps fit firmly and easily on 40-gallon containers.

| Key | Description | Size or Capacity | Color | Dimensions (Inches) | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **A** | Brute Square Flat Lid | 28 Gal. | Gray | 22 Sq. x 2 | 3527 | **4HC08** | $9.06 | **$7.70** | 2.4 |
| **B** | Brute Square Base | 28 | Gray | 21½ Sq. x 22½ | 3526 | **4HC07** | 28.94 | **23.15** | 12.0 |
| **A** | Brute Square Flat Lid | 28 Gal. | Red | 22 Sq. x 2 | 3527 | ***New* 4TJ45** | 9.06 | **7.70** | 2.8 |
| **B** | Brute Square Base | 28 | Red | 21½ Sq. x 21½ | 3526 | ***New* 4TJ44** | 28.94 | **23.15** | 9.3 |
| **A** | Brute Square Flat Lid | 40 | Gray | 24 Sq. x 2 | 3539 | **4HC10** | 12.92 | **10.98** | 3.6 |
| **B** | Brute Square Base | 40 | Gray | 23½ Sq. x 28¾ | 3536 | **4HC09** | 41.10 | **32.90** | 13.0 |
| **C** | Brute Square Dolly | 28-40 | Black | 17¼ Sq. x 6¼ | 3530 | **4HC22** | 47.48 | **38.00** | 7.1 |
| — | Brute Caddy Bag | — | Yellow | — — — | 2642 | **1CG18** | 27.26 | **23.17** | 0.3 |

# OUTDOOR/INDOOR WASTE RECEPTACLES

## PLAZA CONTAINERS

Contemporary styled outdoor container is weather-resistant and loaded with features. Durable all plastic design withstands severe weather conditions and will maintain its appearance for years. Improved ergonomics; side opening door and standard slide out bag holder facilitates easy trash removal. Standard lock and key helps minimize vandalism. Ground mounting feature keeps container secured. Optional ash tray models available. FM fire rating.

## LANDMARK SERIES™ STONE PANEL CONTAINERS

Weather-resistant durable polycarbonate construction has ultraviolet inhibitor to resist fading, chipping, rusting, and denting. Lift-off top for easy emptying. Mold-in liner hooks.

**Frame and panels sold separately. Four panels required for each container.**

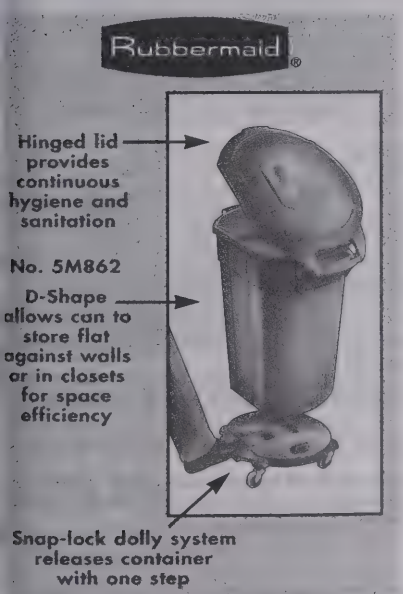



### SPECIFICATIONS AND ORDERING DATA

| Description | Cap. (Gal) | Color | Dimensions (In.) L | W | H | Rubbermaid Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Plaza Container w/o Ash Tray** | 50 | Beige | 24 | 24 | 45 | 3964 | *New* | **4TJ48** | $312.00 | **$249.75** | 78.0 |
| **Plaza Container w/o Ash Tray** | 50 | Green | 24 | 24 | 45 | 3964 | *New* | **4TJ49** | 312.00 | **249.75** | 78.0 |
| **Plaza Container w/ Ash Tray** | 50 | Beige | 24 | 24 | 45 | 3965 | *New* | **4TJ50** | 352.00 | **281.75** | 78.0 |
| **Plaza Container w/ Ash Tray** | 50 | Green | 24 | 24 | 45 | 3965 | *New* | **4TJ51** | 352.00 | **281.75** | 78.0 |
| **LandMark Frame Ash/Trash Lid** | 45 | Sable | 26 | 26 | 46½ | 3975 | | **5M843** | 472.86 | **378.50** | 59.0 |
| **LandMark Frame Ash/Trash Lid** | 20 | Sable | 21 | 21 | 30½ | 3966 | | **5M829** | 288.50 | **231.00** | 33.0 |
| **Landmark™ Frame** | 45 | Sable | 26 | 26 | 46½ | 3975 | | **5W767** | 409.28 | **348.00** | 47.0 |
| **Aggregate Panel*** | 45 | River Rock | 34²¹⁄₃₂ | 20²³⁄₃₂ | 3/8 thick | 4004 | | **5W768** | 38.40 | **32.65** | 15.0 |
| **Aggregate Panel*** | 20 | River Rock | 28 | 15¾ | 3/8 thick | 4002 | | **5M853** | 28.22 | **23.99** | 10.0 |

*) Sold individually - must buy four panels.

## ADVANTAGE™ CONTAINER SYSTEM




For office cleaning, food service operations, retail stores, hospitality and lodging, and other medium duty refuse needs. Ergonomically designed for easy handling, improved safety and efficiency. D-shape allows can to fit securely against body when carrying for improved leverage and reduced lifting strain. Stores flat against walls or in closets for space efficiency.

Side mounted, hinged lid system remains attached to container for continuous hygiene and sanitation. Large handles are ergonomically designed for comfort and control. Large molded-in handle of base provides additional leverage for lifting and emptying. Patented snap-lock dolly system releases container with one step, eliminating awkward body movements. Non-marking casters reduce floor cleaning rework and provide quicker operation.

No. 1CG18 Brute Caddy Bag turns the Advantage System into a mobile cleaning cart. Elasticized holding straps fit firmly and easily on 32-gallon Advantage container.

| Description | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 32 Gal. Container | 4032 | **5M862** | $31.68 | **$25.35** | 7.9 |
| 32 Gal. Flat Lid | 4033 | **5M863** | 9.12 | **7.75** | 1.7 |
| Snap Lock Dolly | 4050 | **5M864** | 45.50 | **38.70** | 5.2 |

Rubbermaid

UNITED RECEPTACLE INC

Factory Mutual System Approved

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# OUTDOOR/INDOOR WASTE RECEPTACLES

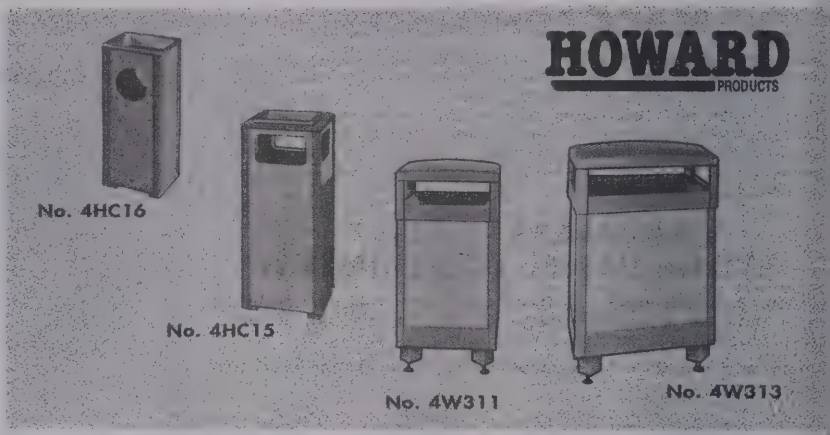
## STONE PANEL STEEL WASTE CONTAINERS

Heavy-duty fireproof hot-dipped galvanized steel construction with stainless steel legs. Brown Uni-Koat™ Powder Coated with desert brown stone panels. UV protection.

**No. 4HC16.** Sand urn and litter receptacle for disposal of cigarettes and litter. 2½-gallon Germ-Fighter® rigid plastic liner.

**No. 4HC15.** Sand urn and litter receptacle. Lift-off top for easy emptying. Encourages disposal of litter and cigarettes. 12-gallon Germ-Fighter® rigid plastic liner.

**Nos. 4W311 and 4W313.** Have 12-gauge hinges which open 80° for easy emptying and cleaning. Leg levelers adjust to uneven surfaces. No. 4W311 has removable galvanized steel liner. No. 4W313 has Germ-Fighter® rigid plastic liner.




| Description | Capacity (Gals.) | Color | Dimensions (Inches) L | W | H | Howard Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **STEEL WASTE CONTAINERS** | | | | | | | | | | |
| **Stone Panel** | 2½ | Brown | 10 | 10 | 24 | R41-201-PL | **4HC16** | $184.19 | **$156.75** | 25.0 |
| **Stone Panel** | 12 | Brown | 13½ | 13½ | 32 | R12SU-201-PL | **4HC15** | 305.24 | **259.75** | 54.0 |
| **Stone Panel** | 29 | Brown | 21 | 21 | 40 | R36HT-201-GL | **4W311** | 533.15 | **453.50** | 104.0 |
| **Stone Panel** | 48 | Brown | 26 | 26 | 40 | R48HT-201-PL | **4W313** | 655.79 | **558.00** | 142.0 |

## GALVANIZED STEEL CONTAINER

**Steel Waste Receptacle** for plants, factories, office buildings, shopping centers, sports centers, and other public areas. Covered steel top keeps out rain. Steel legs have levelers to adjust for uneven surfaces. 12-gauge steel hinges open 90° for easy emptying. Removable rigid plastic liner. 38 gallon capacity. Durable welded galvanized steel construction with brown powder-coated finish. UV protection. Howard brand (R38HT-STD-PL).

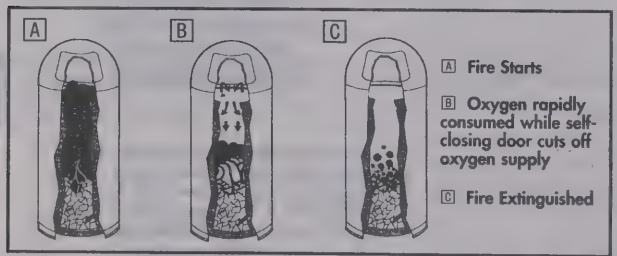
**No. 3W495.** Shpg. wt. 105.0 lbs. List $505.17. Each.....$429.50

## DESIGNER LINE RECEPTACLES

**Round Top Waste Receptacles**—Factory Mutual Approved Self-extinguishing Fire Safe Design. Use for schools, public buildings, and factories. All steel construction. Contoured stainless steel reinforced self-closing push door. Units have noncorrosive stainless steel base ring. Galvanized steel liner has 15-gal. capacity. 15D x 36"H. UL Listed. Meets OSHA standards. United brand. Choice of designer mirror chrome or powder coated white or beige finish. Satin chrome model has black lid.




| Finish Color | United Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **White** | R1536GLW | **2W270** | $157.59 | **$134.00** | 26.0 |
| **Beige** | R1536GLB | **2W447** | 157.59 | **134.00** | 26.0 |
| **Chrome** | R1536MCGL | **4W308** | 299.86 | **255.00** | 26.0 |
| **Satin Chrome** | R1536SCGL | **3U484** | 212.27 | **180.75** | 26.0 |




## SELF-EXTINGUISHING CLOSED SYSTEM

**SAFETY INFORMATION: The following waste receptacles are UL Listed and Factory Mutual Approved as Self-extinguishing when tested indoors with dry paper waste material:**

**United metal round top receptacles Nos. 3U484, 2W270, 2W447, and 4W308. United step cans Nos. 5W621, 4HC28, 4H429, 3U479, 3U481, 3U482, and 3U483.**

**Drum Top No. 3W136 is also Factory Mutual Approved when used on steel drums.**

**Highly flammable oily waste material or waste capable of spontaneous combustion should be disposed of in safety cans such as Nos. 2W274 and 2W560. See index under Cans, Safety.**

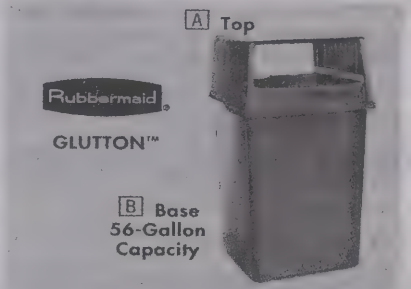
## LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

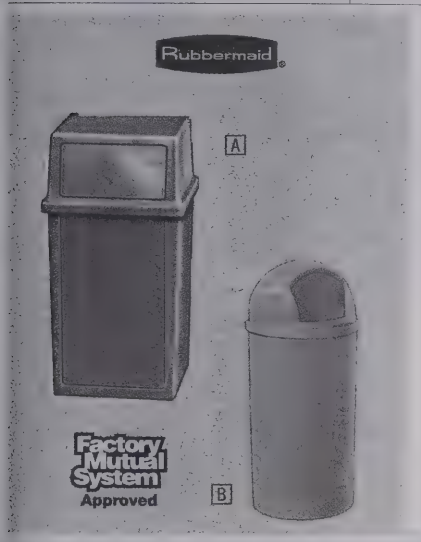
# OUTDOOR/INDOOR WASTE RECEPTACLES, DRUM TOP AND DOLLIES, AND RIGID LINERS

## GLUTTON™ PLASTIC CONTAINER

Use in plant lunch rooms, manufacturing and shopping areas, airports, parks. Huge 56-gal capacity eliminates frequent emptying. Rain-shield top. Rugged, high-density polyethylene base resists rust, dents, chips, or losing its shape. Top and base sold separately.




| Key | Description | Capacity (Gals.) | Color | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Glutton Top™ w/o Doors | — | Dk. Brn | 26½ | 23 | 13 | 256V | **4W022** | $117.48 | **$99.90** | 15.0 |
| A | Glutton Top™ w/o Doors | — | Red | 26½ | 23 | 13 | 256V | **3U659** | 117.48 | **99.90** | 13.0 |
| A | Glutton Top™ w/Doors | — | Lt. Brn | 26½ | 23 | 13 | 256X | **5M748** | 152.70 | **129.80** | 20.0 |
| A | Glutton Top™ w/Doors | — | Red | 26½ | 23 | 13 | 256X | **5M749** | 152.70 | **129.80** | 20.0 |
| B | Glutton™ Base | 56 | Dk. Brn | 25⅞ | 22⅞ | 31½ | 256B | **4W021** | 120.16 | **96.15** | 18.0 |
| B | Glutton™ Base | 56 | White | 25⅞ | 22⅞ | 31½ | 256B | **3U658** | 120.16 | **96.15** | 17.0 |
| B | Rigid Liner | 56 | Black | 23¼ | 20¼ | 29 | 256K | **5M746** | 78.06 | **66.40** | 9.0 |
| B | Hold Down Base | 56 | Black | 21⅛ | 18 | 5 | 256W | **5M747** | 63.44 | **50.80** | 7.0 |




## PLASTIC WASTE RECEPTACLES

### A RANGER® CONTAINERS

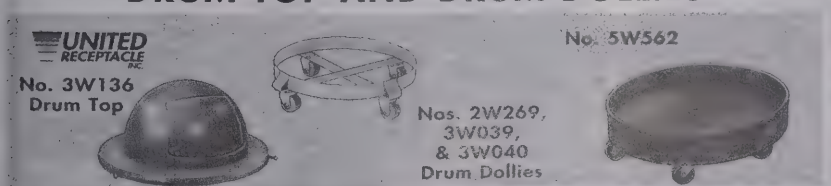
Attractive, heavy-duty containers for high traffic areas. Large 35 and 45 gallon is available in solid or with decorative brown or teak side panels. Made of tough Duramold™ structural foam. Lightweight, resists rust, corrosion, and warping. Cleans easily. Withstands outdoor sub-zero cold to hot summer heat. Two access doors keep rain out, trash odors in. Easily handles food trash, soft drink containers, and paper. Factory Mutual System Approved.

### B MARSHALL® CONTAINERS

Feature one-piece construction with hinged flip-top and bag holder for quick, easy emptying; gravity-closure door; and top with lip that fits snugly over base. Can be used as either an indoor or outdoor container. Withstand temperatures from sub-zero to summer heat. Factory Mutual System approved.

| Key | Description | Capacity (Gals.) | Color | Dimensions (Inches) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Ranger® | 35 | Beige | 19½ | 19½ | 39¾ | 8430 | **3U654** | $192.10 | **$153.75** | 35.0 |
| A | Ranger® | 35 | Brown | 19½ | 19½ | 39¾ | 8430 | **3U951** | 192.10 | **153.75** | 35.0 |
| A | Ranger® | 45 | Beige | 21⅜ | 21⅜ | 40¾ | 8440 | **3U656** | 234.40 | **187.75** | 43.0 |
| A | Ranger® | 45 | Brown | 21⅜ | 21⅜ | 40¾ | 8440 | **3U657** | 234.40 | **187.75** | 43.0 |
| B | Marshall® | 15 | Beige | 15" dia. | — | 37 | 8160 | **5W404** | 103.04 | **82.45** | 22.0 |
| B | Marshall® | 15 | Brown | 15" dia. | — | 37 | 8160 | **3U947** | 103.04 | **82.45** | 20.0 |
| B | Marshall® | 15 | White | 15" dia. | — | 37 | 8160 | **3U948** | 103.04 | **82.45** | 20.0 |
| B | Marshall® | 21 | Beige | 18" dia. | — | 42 | 8170 | **5W405** | 135.08 | **108.10** | 25.0 |
| B | Marshall® | 21 | Brown | 18" dia. | — | 42 | 8170 | **3U949** | 135.08 | **108.10** | 23.0 |
| B | Marshall® | 21 | White | 18" dia. | — | 42 | 8170 | **3U950** | 135.08 | **108.10** | 23.0 |

## DRUM TOP AND DRUM DOLLIES




**Self-closing drum top** features heavy-duty steel construction with green Powder-Coated finish. UV protection. Factory Mutual Approved Self-extinguishing Fire Safe features convert 55 gallon steel drums into economical and safe waste containers. Top securely fastens to drum rim with thumb screws. Door closes automatically after each use. 24⅝" diameter. Meets OSHA Standards. United brand (1855)

**No. 3W136.** Shpg. wt. 12.0 lbs. List $72.92. Each ..... $62.05

**Drum Dollies: No. 5W562** is of structural foam, has a solid bottom to better contain leaks, and includes five heavy-duty casters. **Nos. 2W269, 3W039, and 3W040** have frame of welded steel with cross bracing on the bottom and four heavy-duty swivel casters.

| For Drum Size | Dolly Capacity | Dolly Size (In.) Dia. | In. Dia. | Ht. | Size (In.) | Caster Type | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **To 55 gal.** | 500 lbs. | 24⅛ | 23½ | 7⅛ | 3 x 1¼ | Rubber/Steel Plate | 2650* | **5W562** | $84.38 | **$70.05** | 17.0 |
| **30** | 840 | 20⅝ | 19⅛ | 6¼ | 3 x 1¼ | Molded Plastic | 4866* | **2W269** | 53.54 | **48.15** | 14.0 |
| **45, 55** | 840 | 23½ | 23⅛ | 6¼ | 3 x 1¼ | Molded Plastic | 4000† | **3W039** | 59.67 | **53.70** | 19.0 |
| **45, 55** | 1400 | 23½ | 23⅛ | 6½ | 3 x 1¼ | Phenolic Resin | 4001† | **3W040** | 96.41 | **86.80** | 20.0 |

(*) Rubbermaid brand. (†) Wagner brand.

## RIGID LINERS




Seamless, lightweight, polyethylene liners are easy to clean, and extend the life of your containers. Designed to fit Rubbermaid and other manufacturers containers. **No. 5M819** fits Grainger containers 3U654, 3U655, 3U951, and 4W019. **No. 5M820** fits Grainger containers 3U656, 3U657, 4W020, 3U952, 5M908, 5M909, and 5M880. Gray color. Rubbermaid brand.

| Size (Gals.) | Dim. (In.) W | H | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 50 | 18⅞ sq | 34 | 3564 | **5M818** | $69.64 | **$59.20** | 13.0 |
| 35 | 16¼ sq | 28½ | 3566 | **5M819** | 69.78 | **59.35** | 7.3 |
| 45 | 18¼ sq | 29⅛ | 3567 | **5M820** | 72.46 | **61.60** | 7.3 |

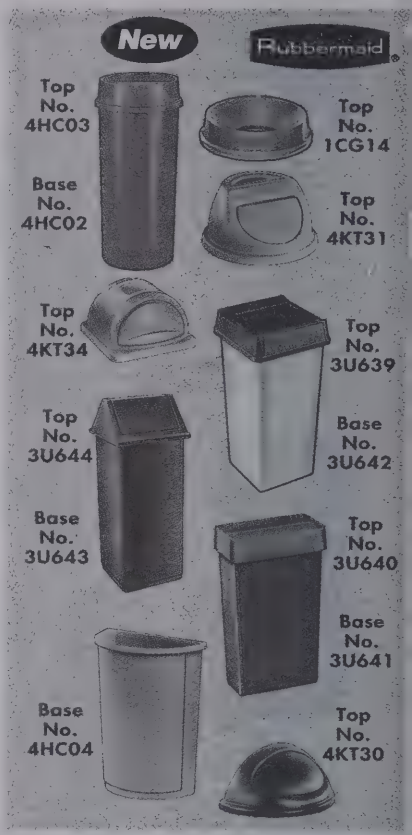
# INDOOR WASTE RECEPTACLES, SELF-CLOSING CONTAINER, AND OILY WASTE CONTAINERS

## INDOOR WASTE RECEPTACLES

Square, rectangular, and round containers available in a variety of shapes, colors, and sizes. Ideal for workstations, copiers, vending areas, restrooms, lobbies, and entranceways. Durable and crack resistance. Choose either free swinging utility lids that open at the lightest touch for hand-free trash collection and quickly close to keep contents from public view, or the Style Line dome lids which have an upscale appearance and are rated by CFSM for fire rating.

**NOTE: In table below, tops keyed with the letter A fit bases keyed with the letter B; C tops fit D bases; E tops fit F bases; G tops fit H bases; and I tops fit J bases.**

| Key | Description | Size (Gals.) | Color | Dimensions (In.) L | W | H | Mfr. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Round Top | — | Gray | 16 1/8 dia. | — | 5 | 2672 | | 4HC03 | $19.02 | $16.17 | 2.9 |
| A | Round Funnel Top w/ 5 7/8" Center Hole | — | Gray | 16 1/4 dia. | — | 4 | 3548 | | 1CG14 | 15.22 | 12.94 | 5.8 |
| A | Round StyleLine™ Top w/Ashtray | — | Gray | 16 1/4 dia. | — | 8 3/8 | 3623 | | 4KT31 | 89.90 | 71.95 | 3.3 |
| B | Round Base | 22 | Gray | 15 3/4 dia. | — | 30 1/8 | 3546 | | 4HC02 | 37.44 | 30.00 | 7.0 |
| B | Round Base | 11 | Beige | 15 3/4 dia. | — | 18 3/4 | 2947 | | 4KT26 | 11.24 | 8.99 | 2.5 |
| B | Round Base | 11 | Gray | 15 3/4 dia. | — | 18 3/4 | 2947 | | 4KT27 | 11.24 | 8.99 | 2.5 |
| C | Square Top | — | Brown | 14 3/4 | 14 3/4 | 5 | 2689 | | 3U639 | 18.18 | 15.45 | 2.5 |
| C | Square Top | — | Beige | 14 3/4 | 14 3/4 | 5 | 2689 | | 5W006 | 18.18 | 15.45 | 2.8 |
| C | Square Top | — | Gray | 14 3/4 | 14 3/4 | 5 | 2689 | | 3U638 | 18.18 | 15.45 | 2.5 |
| C | Square Swing Top | — | Brown | 15 | 15 | 14 7/8 | 3624 | | 3U644 | 32.90 | 28.00 | 2.7 |
| C | Square StyleLine™ Top | — | Gray | 15 | 15 | 9 1/4 | 3629 | | 4KT33 | 89.90 | 71.95 | 3.3 |
| C | Square StyleLine™ Top | — | Beige | 15 | 15 | 9 1/4 | 3629 | | 4KT32 | 89.90 | 71.95 | 3.3 |
| C | Square StyleLine™ Top w/Ashtray | — | Gray | 15 | 15 | 9 1/4 | 3630 | | 4KT35 | 99.90 | 79.95 | 4.3 |
| C | Square StyleLine™ Top w/Ashtray | — | Beige | 15 | 15 | 9 1/4 | 3630 | | 4KT34 | 99.90 | 79.95 | 4.3 |
| D | Square Base | 19 | Beige | 14 1/2 | 14 1/2 | 24 | 3568 | | 3U642 | 40.18 | 32.15 | 5.9 |
| D | Square Base | 23 | Beige | 14 1/2 | 14 1/2 | 28 | 3569 | | 5W005 | 42.46 | 34.00 | 7.0 |
| D | Square Base | 19 | Gray | 14 1/2 | 14 1/2 | 24 | 3568 | | 1CG13 | 40.18 | 32.15 | 23.0 |
| D | Square Base | 23 | Gray | 14 1/2 | 14 1/2 | 28 | 3569 | | 3U643 | 42.46 | 34.00 | 7.2 |
| E | Square Top | — | Beige | 20 1/8 | 20 1/8 | 6 1/4 | 2664 | New | 5M772 | 36.42 | 31.00 | 3.8 |
| E | Square Top | — | Gray | 20 1/8 | 20 1/8 | 6 1/4 | 2664 | New | 5M773 | 36.42 | 31.00 | 3.8 |
| F | Square Base | 35 | Beige | 19 5/8 | 19 5/8 | 27 1/4 | 3958 | | 5M824 | 68.48 | 54.80 | 8.8 |
| F | Square Base | 35 | Gray | 19 5/8 | 19 5/8 | 27 1/4 | 3958 | | 5M825 | 68.48 | 54.80 | 8.8 |
| F | Square Base | 50 | Beige | 19 3/4 | 19 3/4 | 34 | 3959 | | 5M826 | 94.64 | 75.75 | 13.0 |
| F | Square Base | 50 | Gray | 19 3/4 | 19 3/4 | 34 | 3959 | | 5M827 | 94.64 | 75.75 | 13.0 |
| G | Slim Jim® Swing Top | — | Gray | 20 3/8 | 11 3/8 | 4 3/4 | 2673 | | 3U640 | 25.12 | 21.35 | 2.6 |
| G | Slim Jim® Swing Top | — | Brown | 20 3/8 | 11 3/8 | 4 3/4 | 2673 | | 5W407 | 25.12 | 21.35 | 2.6 |
| G | Slim Jim® Handle Top | — | Gray | 20 | 11 3/4 | 3 1/4 | 2688 | | 5M776 | 25.90 | 22.02 | 1.4 |
| H | Slim Jim® Base | 15 | Gray | 20 | 11 | 24 7/8 | 3541 | | 5M808 | 31.90 | 25.55 | 5.5 |
| H | Slim Jim® Base | 23 | Gray | 20 | 11 | 30 | 3540 | | 3U641 | 42.22 | 33.80 | 7.8 |
| H | Slim Jim® Base | 15 | Beige | 23 9/32 | 11 | 24 7/8 | 3541 | | 5M807 | 31.90 | 25.55 | 5.5 |
| H | Slim Jim® Base | 23 | Beige | 20 | 11 | 30 | 3540 | | 5W406 | 42.22 | 33.80 | 8.0 |
| I | Half Round Style Line Top | — | Black | 21 3/8 | 12 3/8 | 9 1/8 | 3620 | | 4KT30 | 89.90 | 71.95 | 3.8 |
| J | Half Round Base | 21 | Gray | 21 | 11 | 28 | 3520 | | 4HC04 | 51.46 | 41.20 | 7.4 |
| J | Half Round Base | 21 | Beige | 21 | 11 | 28 | 3520 | | 5M795 | 51.46 | 41.20 | 7.8 |



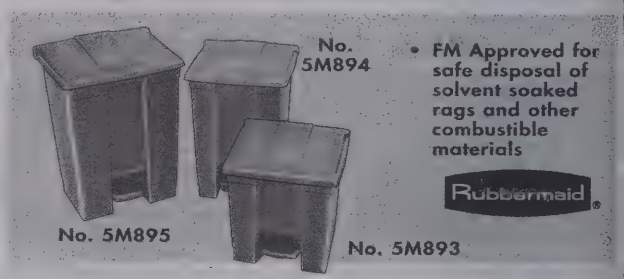




## WASTEMASTER™ SELF-CLOSING CONTAINER

Use fire safe steel receptacle in offices, corridors, washrooms, cafeterias, factories, stores, medical facilities, and schools. Full length piano hinge securely joins top to steel base. Steel guide rods prevent top from swinging backward and holds top at a 90° angle for easy bag removal. Folding steel retainer bands hold poly bags securely. Two 6 x 9½" disposal openings are protected by springless self-closing push door. Stainless steel legs have nylon buttons to protect floors. 24 gallon capacity. White Powder-Coated finish. Meets OSHA standards. 14" sq. x 35½"H. United brand (T1424).

**No. 4HC30.** Shpg. wt. 32.0 lbs. List $151.64. Each.....**$128.95**




- FM Approved for safe disposal of solvent soaked rags and other combustible materials

## OILY WASTE CONTAINERS

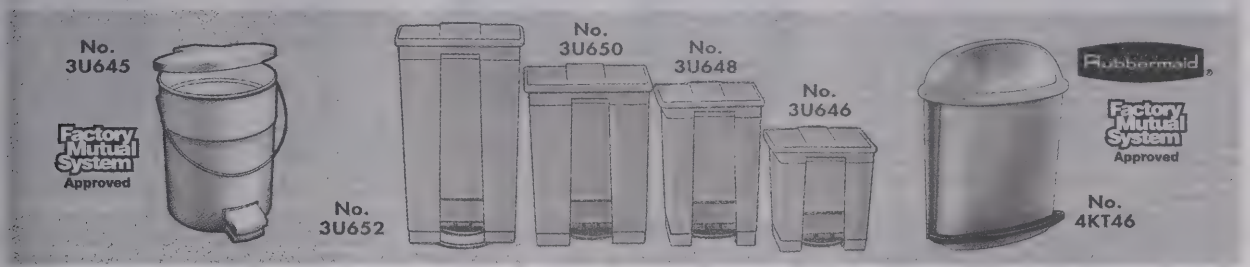
- **All plastic construction for use in spark free environments—won't rust, corrode, or leak**
- **Pedal operated lid allows free operation to open to 60° allowing easy access; tight fitting lid closes automatically**

| Capacity Containers | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **8 gal.** | 16 1/4 | 15 3/4 | 17 1/8 | 6343 | **5M893** | $67.40 | **$53.95** | 6.0 |
| **12** | 16 1/4 | 15 3/4 | 23 5/8 | 6344 | **5M894** | 78.10 | **62.50** | 10.0 |
| **18** | 19 3/4 | 16 1/8 | 26 1/2 | 6345 | **5M895** | 87.78 | **70.25** | 14.0 |
| **OPTIONAL RIGID LINERS** | | | | | | | | |
| **7.1** | 14 3/8 | 11 3/4 | 13 1/4 | 6243 | **5M890** | 19.34 | **16.44** | 3.0 |
| **12** | 14 3/8 | 11 3/4 | 19 3/4 | 6244 | **4KT50** | 24.86 | **19.89** | 3.8 |
| **15** | 18 | 12 1/4 | 22 | 6245 | **5M891** | 29.02 | **24.67** | 6.8 |

# PLASTIC STEP-ON CANS

**4½, 8, 12, 18 and 23-Gallon Plastic Step-On Cans.** Red or white foot-pedal operated containers with self-closing lids keep hands clear of infectious waste, reducing the risk of contamination. Rugged plastic construction won't chip, dent, or rust. Heavy-duty pedal assembly makes for quiet, durable operation. Tight-fitting lid with built-in deodorant holder works along with a leak-proof base to control the spread of germs. 4½ gallon model features a removable rigid liner with bail. 23 gallon has stainless steel wheel assembly for quick and easy transport. The red receptacles comply with the OSHA Bloodborne Pathogens Regulation, approving the use of red closeable, leakproof containers for the temporary containment of infectious waste. FM Approved for fire safety.

**14.5 gallon, Pedal Rolltop Containers** are available in white, red, and beige and are foot-pedal operated with self-closing lids to help keep hands clear of infectious waste, reducing the risk of contamination. Rolltop lid design opens without drawing odors into the air and eliminates the need for overhead clearance. Slim, oval shape fits into confined spaces, and rugged plastic construction won't chip, dent, or rust. Complies with OSHA's requirements and is FM Approved.




## PLASTIC STEP-ON CAN ORDERING DATA

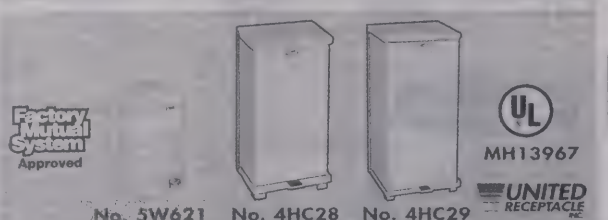
| Capacity (Gal.) | Finish Color | Dimensions (Inches) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 4½ | White | 13¼ Dia. | — | 15⅜ | 6142 | **3U645** | $66.40 | **$53.15** | 17.0 |
| 8 | White | 16¼ | 15¾ | 17⅛ | 6143 | **3U646** | 67.16 | **53.75** | 6.1 |
| 12 | White | 16¼ | 15¾ | 23⅝ | 6144 | **3U648** | 78.36 | **62.70** | 10.0 |
| 18 | White | 19¾ | 16⅛ | 26½ | 6145 | **3U650** | 89.54 | **71.65** | 14.0 |
| 23 | White | 19¾ | 16⅛ | 32½ | 6146 | **3U652** | 127.60 | **102.10** | 19.0 |
| 8 | Red | 16¼ | 15¾ | 17⅛ | 6143 | **3U647** | 67.16 | **53.75** | 6.1 |
| 12 | Red | 16¼ | 15¾ | 23⅝ | 6144 | **3U649** | 78.36 | **62.70** | 10.0 |
| 18 | Red | 19¾ | 16⅛ | 26½ | 6145 | **3U651** | 89.54 | **71.65** | 14.0 |
| 23 | Red | 19¾ | 16⅛ | 32½ | 6146 | **3U653** | 127.60 | **102.10** | 19.0 |
| 8 | Beige | 16¼ | 15¾ | 17⅛ | 6143 | **5M875** | 67.16 | **53.75** | 6.0 |
| 12 | Beige | 16¼ | 15¾ | 23⅝ | 6144 | **5M876** | 78.36 | **62.70** | 10.0 |
| 18 | Beige | 19¾ | 16⅛ | 26½ | 6145 | **5M877** | 89.54 | **71.65** | 14.0 |
| 23 | Beige | 19¾ | 16⅛ | 32½ | 6146 | **5M878** | 127.60 | **102.10** | 19.0 |
| **PEDAL ROLLTOP CONTAINERS** | | | | | | | | | |
| 14½ | White | 22¼ | 15 | 27¼ | 6177 | **4KT48** | 68.00 | **54.40** | 10.0 |
| 14½ | Red | 22¼ | 15 | 27¼ | 6177 | **4KT47** | 68.00 | **54.40** | 10.0 |
| 14½ | Beige | 22¼ | 15 | 27¼ | 6177 | **4KT46** | 68.00 | **54.40** | 10.0 |
| **OPTIONAL RIGID LINERS** | | | | | | | | | |
| 8 | — | 14⅜ | 11¾ | 13¼ | 6243 | **5M890** | 19.34 | **16.44** | 3.0 |
| 12 | — | 14⅜ | 11¾ | 19¾ | 6244 | **4KT50** | 24.86 | **19.89** | 3.8 |
| 18 | — | 18 | 12¼ | 22 | 6245 | **5M891** | 29.02 | **24.67** | 6.8 |

# THE DEFENDERS® STEEL STEP-CANS

**3½ Gallon Steel Step-Can Receptacle.** Uni-Koat™ Powder coating finish and galvanized steel liner. Foot-pedal opens self-closing lid. Use in washrooms, medical offices, patients' rooms for odor control and contaminated disposables. Complies with OSHA and OBRA requirements. Factory Mutual Approved. White powder-coated finish. UL Listed.

**Large 7, 12 & 24-Gallon Steel Step-Cans.** For disposal of non-infectious waste in labs, medical facilities, kitchens, schools. Folding retainer bands hold poly bags securely and keep them out of sight. Foot-pedal operated galvanized steel lid. Full length piano hinge with restraint prevents wall damage. Complies with OSHA and OBRA requirements. UL Listed (MH13967). White powder-coated finish. FM Approved Self-extinguishing.

**3½, 7 & 12-Gallon Steel Step-Cans.** Include Antimicrobial Treated Germ-Fighter rigid plastic liner. Complies with OSHA's Standard on Bloodborne Pathogens Regulation approving the use of Red Closeable, Leakproof Containers for the temporary containment of Infectious Waste. 7 and 12 gallon models are UL Listed, FM Approved. Red powder-coated finish.




| Capacity (Gal.) | Color | Dimensions (In.) L | W | H | United Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 3½ | White | 11 | Dia. | 17 | ST3.5E GL | **5W621** | $56.22 | **$47.85** | 9.0 |
| 7 | White | 12 | 12 | 17 | ST7E RB | **3U479** | 94.40 | **80.30** | 19.0 |
| 12 | White | 12 | 12 | 23 | ST12E RB | **4HC28** | 105.16 | **89.45** | 24.0 |
| 24 | White | 15 | 15 | 30 | ST24E RB | **4HC29** | 125.76 | **106.95** | 36.0 |
| 3½ | Red | 11 | Dia. | 17 | ST3.5E PL | **3U481** | 56.22 | **47.85** | 10.0 |
| 7 | Red | 12 | 12 | 17 | ST7E PL | **3U482** | 106.54 | **90.65** | 22.0 |
| 12 | Red | 12 | 12 | 23 | ST12E PL | **3U483** | 132.12 | **112.35** | 26.0 |

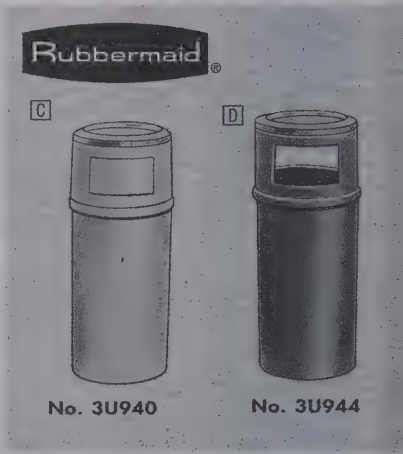
# SMOKING URNS AND WASTE RECEPTACLES

## FLOOR/WALL SMOKING URNS

**Floor and Wall Smoking Urns** resist rust, dents, and warping. Will not mark floors and walls. Urns are made of long-lasting materials, and have practical and functional designs that compliment their surroundings. Wall models include fasteners and instructions, one-piece self-closing top, and easy-to-empty, easy-to-clean insert cups. Floor models have a large-capacity metal ashtray top which lifts off for quick emptying and cleaning.

Ash/Trash containers combine refuse collection and smoking control. Rugged construction resists dents, scratches, and weather; perfect for entrances and smoking areas. Ashtray can be permanently attached or left unattached for easy lift off maintenance. Available with or without trash doors. Models with doors are FM Approved.




### SMOKING URN ORDERING DATA

| Key | Description | Trash Capacity | Color | Dimensions (Inches) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Wall Mounted Smoking Urn | — | Black | 10 | 5¼ | 5 | 2583 | **3U936** | $65.84 | **$52.70** | 2.4 |
| B | Floor Smoking Urn | — | Black | 11½ Dia. | — | 19½ | 2585 | **3U938** | 41.50 | **33.20** | 8.4 |
| C | Ash/Trash Container w/ doors | 15 Gal. | Beige | 15½ Dia. | — | 38 | 8184 | **3U940** | 224.28 | **179.50** | 22.0 |
| C | Ash/Trash Container w/ doors | 15 | Brown | 15½ Dia. | — | 38 | 8184 | **3U941** | 224.28 | **179.50** | 22.0 |
| C | Ash/Trash Container w/ doors | 21 | Beige | 18 Dia. | — | 42¼ | 8180 | **3U942** | 269.18 | **215.50** | 29.0 |
| C | Ash/Trash Container w/ doors | 21 | Brown | 18 Dia. | — | 42¼ | 8180 | **3U943** | 269.18 | **215.50** | 29.0 |
| D | Ash/Trash Container w/o doors | 15 | Beige | 15½ Dia. | — | 38 | 8185 | **5M906** | 192.32 | **154.00** | 19.0 |
| D | Ash/Trash Container w/o doors | 15 | Brown | 15½ Dia. | — | 38 | 8185 | **5M907** | 192.32 | **154.00** | 22.0 |
| D | Ash/Trash Container w/o doors | 21 | Beige | 18 Dia. | — | 42¼ | 8182 | **3U944** | 235.58 | **188.50** | 28.0 |
| D | Ash/Trash Container w/o doors | 21 | Brown | 18 Dia. | — | 42¼ | 8182 | **3U945** | 235.58 | **188.50** | 28.0 |

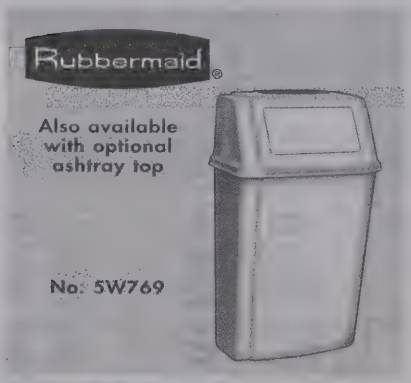
## DESIGNER LINE WASTE RECEPTACLES

**Steel Combo Urns**—For litter and cigarette disposal. Attractive satin brass or satin chrome finish. 5½" diameter opening in side of receptacle, with a 3½-gallon, anti-microbial treated, germ-fighter, leakproof rigid plastic liner. Sand tops are color matched aluminum. Overall 10" diameter x 27"H. Adds to decor of offices, corridors, elevator stations, entrances, and reception areas. Black vinyl base ring protects floor and carpeting. Fire safe steel construction. United brand.




### RECEPTACLE ORDERING DATA

| Finish Color | United Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Satin Chrome** | 1100SC | **4W309** | $100.96 | **$85.85** | 10.0 |
| **Satin Brass** | 1100SB | **4W310** | 100.96 | **85.85** | 10.0 |




## PROFILE SERIES™ CONTAINER

**Maximizes off-the-floor space efficiency in lobbies, restrooms and hallways**

Floor unit or wall mount for trash disposal without interrupting pedestrian traffic or floor maintenance operations. Modern, smooth contour design. High impact top has self-closing swing door. Molded-in liner hooks for easy servicing and out-of-sight bag fastening. Polypropylene body for long life and low maintenance. FM Approved when wall mounting. 15 gallon capacity.

| Description | Color | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Profile Series™ | Beige | 19½ | 11⅞ | 32⅝ | 7822 | **5W769** | $93.58 | **$74.90** | 11.0 |
| Profile Series™ | Brown | 19½ | 11⅞ | 32⅝ | 7822 | **5M902** | 93.58 | **74.90** | 12.0 |
| Profile Series™ w/Ashtray Top | Beige | 19½ | 11⅞ | 32⅝ | 7823 | **5M904** | 116.98 | **93.60** | 12.0 |

# WASTEBASKETS

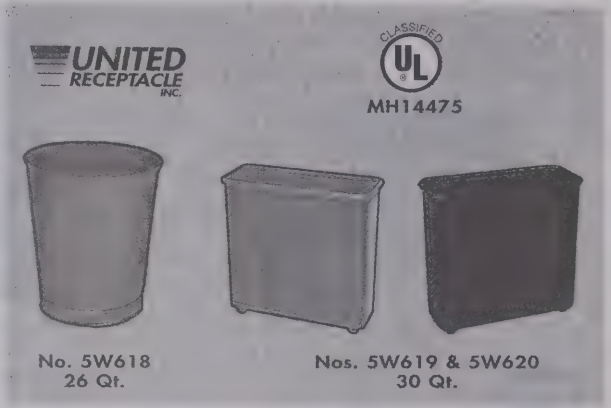
## WASTEBASKETS

**Round Wastebasket**—Fire Safe steel model features wired rim, embossed panels, and double locked seams. Recessed bottom prevents heat transfer to floors. UL Classified (MH14475). Meets GSA Specification A-A-182 for Fire Hazard and Flammability Prevention. 26-quart capacity. 13½" dia. x 14½" high. Gray Powder-Coated finish. United brand (WB26).

**No. 5W618.** Shpg. wt. 3.7 lbs. List $14.50. Each ..... **$12.33**

**Rectangular Wastebaskets**—Deluxe Fire Safe models feature steel construction with vinyl rim cushion and nylon bottom glides to protect furniture and floors. 1" raised bottom prevents heat transfer to floors. UL Classified (MH14475) and meets GSA Specification A-A-182 for Fire Hazard and Flammability Prevention. Uni-Koat™ Powder-Coated black or walnut finish. 30-quart capacity. 17W x 8D x 15"H. United brand.

| Finish Color | United Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Black** | WB30R | **5W619** | $34.90 | **$29.70** | 5.7 |
| **Walnut** | WB30R-WG | **5W620** | 42.28 | **36.00** | 5.7 |



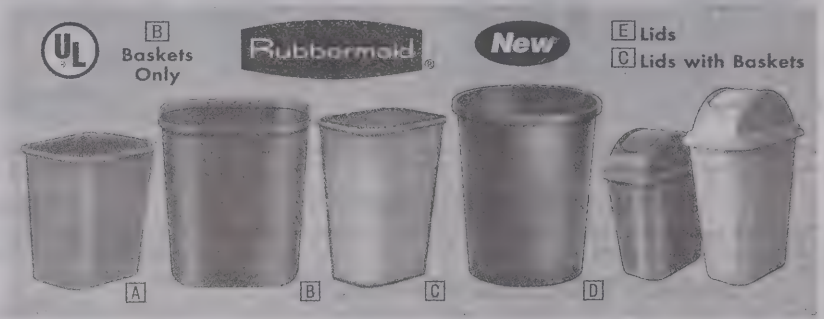
No. 5W618 26 Qt.

Nos. 5W619 & 5W620 30 Qt.

## WASTEBASKETS

A C D Molded baskets will not rust, chip or dent. Soft sided wastebaskets are made of polyethylene. B UL baskets are made of fiber-filled resin and are UL Listed to contain burning paper without melting or contributing to a fuel fire; meet requirements of the Dept. of Health and Human Services. Features new contemporary shape and scratch resistant texture.

E Globally styled, contemporary designed, Swing Top soft wastebasket domed lids hide refuse and help contain odors. Lid design allows swing door to operate without reducing wastebasket capacity. Swing door is gravity activated; no springs or mechanisms to wear out.




| Key | Description | Size or Capacity | Color | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Wastebasket | 8 qt. | Beige | 9⅞ | 6¾ | 10⅛ | 2952 | ***New* 4KT28** | $3.96 | **$3.17** | 0.7 |
| | Wastebasket | 13⅜ | Black | 11⅜ | 8¼ | 12⅛ | 2955 | **3U935** | 5.12 | **3.77** | 1.3 |
| | Wastebasket | 13⅜ | Beige | 11⅜ | 8¼ | 12⅛ | 2955 | **3U632** | 5.12 | **3.77** | 1.3 |
| | Wastebasket | 13⅜ | Gray | 11⅜ | 8¼ | 12⅛ | 2955 | **3U633** | 5.12 | **3.77** | 1.3 |
| B | Wastebasket, UL | 14 | Beige | 11¼ | 8¼ | 12¼ | 2541 | **3U637** | 19.70 | **15.76** | 3.2 |
| | Wastebasket, UL | 14 | Black | 11¼ | 8¼ | 12¼ | 2541 | **5M741** | 19.70 | **15.76** | 4.7 |
| | Wastebasket, UL | 28 | Beige | 14½ | 10½ | 15¼ | 2543 | **2W367** | 29.64 | **23.71** | 5.3 |
| | Wastebasket, UL | 40 | Beige | 15 | 11¼ | 20 | 2544 | **5M745** | 41.32 | **33.10** | 8.3 |
| C | Wastebasket | 28⅛ | Black | 14⅜ | 10¼ | 15 | 2956 | **5W001** | 5.48 | **4.03** | 2.0 |
| | Wastebasket | 28⅛ | Beige | 14⅜ | 10¼ | 15 | 2956 | **4HC00** | 5.48 | **4.03** | 2.5 |
| | Wastebasket | 28⅛ | Gray | 14⅜ | 10¼ | 15 | 2956 | **3U634** | 5.48 | **4.03** | 1.8 |
| E | Swing Top Lid | Fits 2956 Base | Beige | 15 | 10½ | 6 | 3066 | ***New* 4TJ40** | 7.40 | **6.29** | 1.1 |
| | Swing Top Lid | Fits 2956 Base | Black | 15 | 10½ | 6 | 3066 | ***New* 4TJ41** | 7.40 | **6.29** | 1.1 |
| C | Wastebasket | 41¼ | Black | 15¼ | 11 | 19⅞ | 2957 | **3U635** | 10.58 | **8.46** | 2.6 |
| | Wastebasket | 41¼ | Beige | 15¼ | 11 | 19⅞ | 2957 | **4HC01** | 10.58 | **8.46** | 2.5 |
| | Wastebasket | 41¼ | Gray | 15¼ | 11 | 19⅞ | 2957 | **3U636** | 10.58 | **8.46** | 2.6 |
| E | Swing Top Lid | Fits 2957 Base | Beige | 16 | 11½ | 6 | 3067 | ***New* 4TJ42** | 7.80 | **6.63** | 1.1 |
| | Swing Top Lid | Fits 2957 Base | Black | 16 | 11½ | 6 | 3067 | ***New* 4TJ43** | 7.80 | **6.63** | 1.1 |
| D | Round Wastebasket | 44 | Beige | 15¾ | — | 18¾ | 2947 | **4KT26** | 11.24 | **8.99** | 2.5 |
| | Round Wastebasket | 44 | Gray | 15¾ | — | 18¾ | 2947 | **4KT27** | 11.24 | **8.99** | 2.5 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# RECYCLING CONTAINERS




**Durable plastic containers** promote fast, easy, efficient recycling. "We Recycle" or "White Paper Only" recycling information imprinted on containers. Variety of sizes, shapes, and tops to fit your recycling needs. Containers and tops sold separately.

## DESK-SIDE CONTAINERS

**Soft-sided wastebaskets are** well-suited for recycling white and colored paper in the office.

## STATION RECYCLING CONTAINERS

**Slim Jim, square, and round containers and tops** have the capacity to handle areas of high paper generation near copiers, mailrooms and high bottle/can usage in cafeterias and vending areas. Recycling Box handles computer paper and glass/cans. No. 3XH25 Receptacle Dolly makes it easy to transport Slim Jim containers from station to station or to central collection containers.

## COLLECTION CONTAINERS

Used for collecting recycled materials from individual recycling containers. Brute dolly No. 5W007 fits round Brute containers for easier transport.

## TRANSPORT CONTAINERS

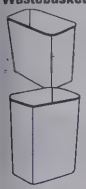
Move recycled product easily from work area to dock recycling collection stations and bailers with Cube or Tilt truck. Will fit through standard doorways and elevators.

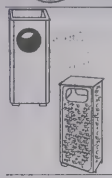
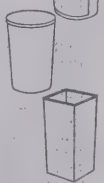
| Description | Size (Gal.) | Color | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **DESK SIDE CONTAINERS** | | | | | | | | | | |
| "White Paper Only" Wastebasket | 28 1/8 | Blue | 14 3/8 | 10 1/4 | 15 | 2956-97 | 4HC23 | $5.48 | $4.38 | 2.0 |
| "We Recycle" Wastebasket | 14 | Blue | 11 3/8 | 8 1/4 | 12 1/8 | 2955-06 | 5M781 | 5.12 | 4.10 | 1.3 |
| "We Recycle" Wastebasket | 28 | Blue | 14 3/8 | 10 1/4 | 15 | 2956-06 | 5M785 | 5.48 | 4.38 | 1.8 |
| "We Recycle" Wastebasket (French) | 28 | Blue | 14 3/8 | 10 1/4 | 15 | 2956-85 | *New* 4KT29 | 5.48 | 4.38 | 1.8 |
| **STATION RECYCLING CONTAINERS, TOPS, AND TROLLEY** | | | | | | | | | | |
| "White Paper Only" Slim Jim | 23 | Blue | 20 | 11 | 30 | 3540-97 | 4HC24 | 42.22 | 33.80 | 8.0 |
| "We Recycle" Slim Jim | 23 | Blue | 20 | 11 | 30 | 3540-06 | 3U630 | 42.22 | 33.80 | 7.8 |
| "We Recycle" Square | 19 | Blue | 14 1/2 | 14 1/2 | 24 | 3568-06 | 5M821 | 40.18 | 32.15 | 6.0 |
| "We Recycle" Square | 23 | Blue | 14 1/2 | 14 1/2 | 28 | 3569-06 | 5M822 | 42.46 | 34.00 | 7.3 |
| Slim Jim Receptacle w/Side Handle | 15 | Blue | 23 1/8 | 11 | 24 7/8 | 3541 | 3XH24 | 31.90 | 25.55 | 6.2 |
| Slim Jim Paper Slot Top Only | — | Blue | 20 1/3 | 11 1/4 | 3 1/4 | 2703 | 5M778 | 28.80 | 24.48 | 1.5 |
| Slim Jim Bottle/Can Top Only | — | Brown | 20 1/3 | 11 1/4 | 3 1/4 | 2692 | 5M779 | 25.90 | 22.02 | 1.4 |
| Slim Jim Bottle/Can Top Only | — | Green | 20 1/3 | 11 1/4 | 3 1/4 | 2692 | 5M780 | 25.90 | 22.02 | 1.4 |
| Slim Jim Trolley | — | Gray | — | — | — | 3551 | 3XH25 | 51.90 | 41.55 | 9.2 |
| "We Recycle" Box | 12 1/2 | Blue | 20 | 15 3/8 | 13 1/2 | 5712-06 | 4HC26 | 14.12 | 11.30 | 4.5 |
| "Computer Paper Only" Box | 12 1/2 | Blue | 20 | 15 3/8 | 13 1/2 | 5712-97 | *New* 4KT44 | 14.12 | 11.30 | 4.1 |
| **BRUTE COLLECTION CONTAINERS AND DOLLY** | | | | | | | | | | |
| "We Recycle" Brute | 32 | Blue | 22 Dia. | | 27 1/4 | 2632-06 | 4HC25 | 31.68 | 25.35 | 9.7 |
| "We Recycle" Brute | 44 | Blue | 24 Dia. | | 31 1/2 | 2643-06 | 3U631 | 47.80 | 38.25 | 14.0 |
| Brute Dolly | — | Black | — | — | — | 2640 | 5W007 | 45.50 | 38.70 | 9.5 |
| "We Recycle" Sq. Brute Big Wheel | 50 | Blue | 23 5/8 | 23 5/8 | 38 3/4 | 3559-06 | 5M815 | 106.28 | 85.05 | 23.0 |
| **TRANSPORT CONTAINERS** | | | | | | | | | | |
| "We Recycle" Tilt Truck | 1/2 cu. yd. | Blue | 60 1/2 | 28 | 38 5/8 | 1305-06 | 5M653 | 604.54 | 443.75 | 77.0 |
| "We Recycle" Cube Truck | 16 cu. ft. | Blue | 44 | 30 1/2 | 37 1/3 | 4616-06 | 5M733 | 362.96 | 290.75 | 49.0 |

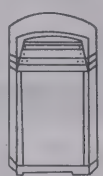
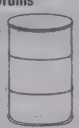
# LINER SELECTION GUIDE

## HOW TO SELECT THE RIGHT LINER FOR YOUR RECEPTACLE

**First find the container used in your facility below; then match with liner size shown at right. Liner thickness will be dependent upon the type of refuse being contained. Note: Not all styles of liners are available; available liners are shown on the following pages.**

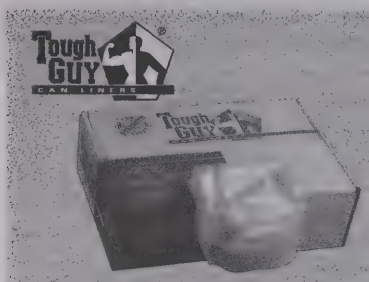
| Container | Description Capacity / Size | Liner Size |
|---|---|---|
| **Wastebaskets** | | |
|  | **Wastebasket,** Rectangular, Small, 3½-gal. 11⅜" x 8¼" x 12⅛"h | 20" x 22" |
| | **Wastebasket,** Rectangular, Medium, 7-gal. 14¾" x 10¼" x 15"h | 24" x 24" |
| | **Wastebasket,** Rectangular Large, 10-gal. 15¼" x 11" x 19⅞"h | 24" x 32" |
|  | **Metal Wasebasket,** Round, 6½-gal. 13½" dia. x 14½"h | 20" x 22" |
|  | **Metal Wasebasket,** Rectangular, 7½-gal. 17" x 8"dp. x 15"h | 24" x 24" |
| **Step-On Cans** | | |
|  | **Step-On Can,** 4½-gal. 13¼" x 15⅜" | 24" x 33" |
|  | **Step -On Container** 8-gal. 16¼" x 15¾" x 17⅛" | 24" x 33" |
| | **Step -On Container** 12-gal. 16¼" x 15¾" x 23⅝" | 30" x 37" |
| | **Step -On Container** 18-gal. 19¾" x 16⅛" x 26½" | 30" x 37" |
|  | **Step-On Mobile Container** 23-gal. 19¾" x 16⅛" x 32½" | 30" x 37" |
|  | **The Defenders® Step Can** Round, 3½-gal. 11" dia. x 17"h | 20" x 22" |
| | **The Defenders® Step Can** 7-gal. 12" sq. x 17"h | 24" x 33" |
|  | **The Defenders® Step Can** 12-gal. 12" sq. x 23"h | 24" x 33" |
| | **The Defenders® Step Can** 24-gal. 15" sq. x 30"h | 33" x 40" |
| **Round Top / Torpedo** | | |
|  | **Marshal®** 15-gal. 15⅜" dia. x 36½"h | 30" x 37" |
| | **Marshal®** 21-gal. 18" dia. x 42"h | 26" x 43" |
| **Wastemaster™** | | |
|  | **Wastemaster™ Container,** 16-gal. w/liner, 24-gal. w/o liner 14" sq. x 35½"h | 30" x 37" |

| Container | Description Capacity / Size | Liner Size |
|---|---|---|
| **Ash/Trash Containers** | | |
|  | **Ash/Trash Container** 15-gal. 15½" dia. x 38"h | 30" x 37" |
|  | **Steel Combo Smoking Urn** 3½-gal. 10" dia. x 27"h | 24" x 33" |
|  | **Aspen Container,** R41-201 PL 2½-gal. 10" sq. x 32"h | 24" x 33" |
| | **Aspen Container,** R12SU-201 PL 12-gal. 13½" sq. x 24"h | 30" x 37" |
| **Untouchables** | | |
|  | **Untouchable®,** Half Round, 21-gal. 21" x 11" x 28"h | 33" x 40" |
|  | **Untouchable®,** Round Base, 22-gal. 15¾ dia. x 30⅛"h | 30" x 37" |
| | **Untouchable®,** 19-gal. 15½" sq. x 24"h | 30" x 37" |
|  | **Untouchable®,** 23-gal. 14½" sq. x 28"h | 30" x 37" |
| | **Slim Jim®,** 23-gal. 20" x 11" x 30"h | 33" x 40" |
|  | **Profile Series™ Container,** 15-gal. 19½" x 11⅞" x 32⅝" | 33" x 40" |
| **Ranger®** | | |
|  | **Ranger® Container,** 35-gal. 19½" sq. x 30⅛"h | 40" x 48" |
| | **Ranger® Container,** 45-gal. 21⅜" sq. x 40¾"h | 43" x 49" |
| **Carts** | | |
|  | **Janitor Cart** 25-gal. | 33" x 40" |
|  | **Liner Cart** 30-gal. 18" x 8" x 43"h | 26" x 43" |
| | **Liner Cart** 38-gal. 18" x 12" x 46"h | 36" x 50" |

| Container | Description Capacity / Size | Liner Size |
|---|---|---|
| **Round Brute®** | | |
|  | **Brute®** 10-gal. 15⅜" dia. x 17⅛"h | 24" x 33" |
| | **Brute®** 20-gal. 19½" dia. x 22⅞"h | 30" x 37" |
| | **Brute®** 32-gal. 22" dia. x 27¼"h | 33" x 40" |
| | **Brute®** 44-gal. 24" dia. x 31½"h | 40" x 48" |
| | **Brute®** 55-gal. 26½" dia. x 33"h | 43" x 49" |
| **Square Brutes®** | | |
|  | **Brute®** 28-gal. 21½" sq. x 22½"h | 43" x 49" |
| | **Brute®** 40-gal. 23½" sq. x 28¾"h | 45" x 51" |
| **Glutton® Container** | | |
|  | **Glutton® Container** 56-gal. 25½" x 22¾"h | 43" x 49" |
| **Landmark Series™** | | |
|  | **Landmark Dome Top** 45-gal. 21" sq. x 46½"h | 52" x 57" |
| | **Landmark Dome Top** 35-gal. 26" sq. x 30½"h | 52" x 57" |
| **Aspen Container** | | |
|  | **Aspen Container,** R36HT-201 PL 36-gal. 21" sq. x 40"h | 43" x 49" |
| **Drums** | | |
|  | **Drum** 55-gal. | 36" x 60" |
| | **Drum** 60-gal. | 38" x 60" |
| **Galvanized Garbage Can** | | |
|  | **Galvanized Garbage Can** 31-gal. 21" x 27" | 33" x 40" |

# TRASH CAN LINERS

## TOUGH GUY TRASH CAN LINERS




**TOUGH GUY TRASH CAN LINER ADVANTAGES:**

- Made from top quality Linear Low Resins
- Star seal bottoms are virtually leakproof
- Available in 5 strengths tailored to meet your needs
- Provide maximum film strength
- Packed in convenient cartons that convert quickly to easy-to-use dispensers

**Use Rating within type of liner:**
LW = Lightweight Refuse
M = Medium Refuse
H = Heavy Refuse
H+ = Heavy Plus
XH = Extra Heavy Refuse

**BLIZZARD SERIES.** White color. For extra heavy loads.

### HEAVY PLUS LINEAR LOW (LLDPE) LINERS—BLIZZARD SERIES

| Capacity (Gallon) | Size W x L (In.) | Gauge (Mil)† | Use Rating | Case Count | Color | Stock No. | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30** | 30 x 37 | 1.0 | H+ | 200 | White | **3U854** | $29.05 | **$23.25** | 16.0 |
| **33** | 33 x 40 | 1.0 | H+ | 150 | White | **3U855** | 25.86 | **20.69** | 14.0 |
| **45** | 40 x 47 | 1.0 | H+ | 100 | White | **3U856** | 24.42 | **19.54** | 13.0 |
| **56** | 42½ x 49 | 1.0 | H+ | 100 | White | **3U857** | 27.28 | **21.82** | 15.0 |
| **60** | 38 x 59 | 1.0 | H+ | 100 | White | **3U858** | 29.23 | **23.38** | 16.0 |

**CLASSIC SERIES.** Buff color. Industry standard, ideal for most applications.

### HIGH VALUE LINEAR LOW (LLDPE) LINERS—CLASSIC SERIES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **4-7** | 17 x 17 | 0.425 | LW | 1000 | Buff | **3U839** | 15.31 | **12.25** | 8.7 |
| **7-10** | 20 x 21 | 0.425 | LW | 1000 | Buff | **3U840** | 22.29 | **17.84** | 13.0 |
| **10** | 24 x 23 | 0.425 | LW | 500 | Buff | **3U841** | 14.55 | **11.65** | 8.3 |
| **10-15** | 24 x 32 | 0.425 | LW | 500 | Buff | **3U842** | 20.25 | **16.20** | 12.0 |
| **20-30** | 30 x 37 | 0.64 | M | 250 | Buff | **3U843** | 22.12 | **17.70** | 13.0 |
| **30** | 26 x 44 | 1.28 | XH | 100 | Buff | **2U385** | 17.47 | **13.99** | 12.0 |
| **33** | 33 x 40 | 0.62 | M | 250 | Buff | **3U844** | 26.32 | **21.06** | 15.0 |
| **33** | 33 x 40 | 0.85 | H | 250 | Buff | **3U845** | 34.99 | **28.05** | 20.0 |
| **38** | 30 x 47 | 0.85 | H | 100 | Buff | **3U847** | 14.92 | **11.94** | 8.5 |
| **44** | 36 x 47 | 1.28 | XH | 100 | Buff | **3U846** | 26.79 | **21.44** | 15.0 |
| **45** | 40 x 47 | 0.84 | H | 125 | Buff | **3U848** | 24.80 | **19.83** | 14.0 |
| **45** | 40 x 47 | 1.28 | XH | 100 | Buff | **3U851** | 29.85 | **23.89** | 17.0 |
| **55** | 36 x 59 | 0.85 | H | 100 | Buff | **3U850** | 22.44 | **17.95** | 13.0 |
| **56** | 42½ x 49 | 0.85 | H | 100 | Buff | **3U849** | 22.12 | **17.70** | 13.0 |
| **60** | 38 x 59 | 0.85 | H | 100 | Buff | **3U852** | 23.78 | **19.02** | 14.0 |
| **60** | 38 x 59 | 1.28 | XH | 100 | Buff | **3U853** | 35.65 | **28.55** | 20.0 |

**MIDNITE SERIES.** Black color. Economical liner available in a full range of sizes.

### ECONOMY LINEAR LOW (LLDPE) LINERS—MIDNIGHT SERIES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **10** | 24 x 24 | 0.35 | LW | 500 | Black | **3U827** | 12.86 | **10.03** | 7.2 |
| **10-15** | 24 x 33 | 0.35 | LW | 500 | Black | **3U828** | 17.65 | **13.76** | 9.7 |
| **20-30** | 30 x 37 | 0.50 | M | 250 | Black | **3U829** | 17.65 | **13.76** | 9.7 |
| **20-30** | 30 x 37 | 0.675 | H | 250 | Black | **3U830** | 23.93 | **18.65** | 13.0 |
| **33** | 33 x 40 | 0.50 | M | 250 | Black | **3U831** | 21.18 | **16.51** | 12.0 |
| **33** | 33 x 40 | .675 | H | 250 | Black | **3U832** | 28.24 | **22.01** | 15.0 |
| **40-45** | 40 x 47 | 0.55 | M | 250 | Black | **3U833** | 33.06 | **25.80** | 18.0 |
| **40-45** | 40 x 47 | 0.725 | H | 125 | Black | **3U834** | 21.85 | **17.03** | 12.0 |
| **55** | 36 x 59 | 0.725 | H | 100 | Black | **3U835** | 19.78 | **15.42** | 11.0 |
| **56** | 42½ x 49 | 0.725 | H | 100 | Black | **3U838** | 19.23 | **15.39** | 11.0 |
| **60** | 38 x 59 | 0.725 | H | 100 | Black | **3U836** | 20.83 | **16.23** | 12.0 |
| **60** | 38 x 59 | 1.1 | XH | 100 | Black | **3U837** | 31.38 | **24.48** | 17.0 |

**PCW (POST CONSUMER WASTE) SERIES.** Brown. Full gauge film made with 10% post consumer waste. Gusseted seal. Heavy duty for toughest jobs.

### FULL GAUGE LINEAR LOW (LLDPE) LINERS—PCW (POST CONSUMER WASTE) SERIES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **15** | 15 x 9 x 32‡ | 1.0 | H+ | 250 | Brown | **3U859** | 23.08 | **18.47** | 13.0 |
| **30** | 16 x 14 x 36‡ | 1.5 | H+ | 125 | Brown | **3U860** | 24.44 | **19.56** | 14.0 |
| **33** | 23 x 10 x 39‡ | 1.5 | H+ | 125 | Brown | **3U861** | 28.82 | **23.06** | 16.0 |
| **45** | 23 x 17 x 46‡ | 2.0 | XH | 100 | Brown | **3U862** | 44.38 | **35.55** | 25.0 |
| **55** | 22 x 14 x 58‡ | 2.0 | XH | 50 | Brown | **3U864** | 25.07 | **20.06** | 14.0 |
| **56** | 22 x 20 x 48‡ | 2.0 | XH | 100 | Brown | **3U863** | 48.44 | **38.80** | 27.0 |
| **60** | 21 x 17 x 58‡ | 2.0 | XH | 50 | Brown | **3U865** | 26.39 | **21.12** | 15.0 |

(†) Note: these liners are manufactured with Linear Low Density polyethylene (LLDPE) which is 27% stronger, 10 times more puncture proof, and 6½ times more tear resistant than regular type low density polyethylene (LDPE). When comparing gauge thickness LLDPE liners will be less thick than LDPE liners without affecting bag strength.
(‡) Gusset Seal Construction.

# TRASH CAN LINERS AND DISPENSER

## TOUGH GUY TRASH CAN LINERS

**CRYSTAL SERIES.** High density liners feature a unique blend of 90% linear low (HPDE) and 10% linear low (LLDPE) resins for superior puncture resistance and strength. Prime virgin resins for added strength. Natural high density liners are USDA and FDA approved for food containment.



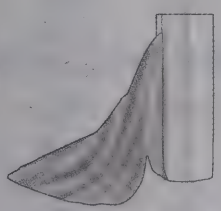
### HIGH DENSITY BLENDED RESINS LINERS—CRYSTAL SERIES

| Capacity (Gallon) | Size W x L | Gauge (Micron) | Gauge (Milo) | Use Rating* | Case Count | Color | Stock No. | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **4** | 17 x 18" | 6 | 0.24 | LW | 2000 | Natural | **3U866** | $19.98 | **$16.00** | 11.0 |
| **7** | 20 x 22 | 6 | 0.24 | LW | 2000 | Natural | **3U867** | 29.01 | **23.22** | 15.0 |
| **10** | 24 x 24 | 6 | 0.24 | LW | 1000 | Natural | **3U868** | 18.57 | **14.85** | 9.3 |
| **15** | 24 x 33 | 8 | 0.31 | LW | 1000 | Natural | **3U869** | 34.35 | **27.55** | 18.0 |
| **30** | 30 x 37 | 10 | 0.39 | M | 500 | Natural | **3U870** | 30.22 | **24.18** | 16.0 |
| **30** | 30 x 37 | 13 | 0.51 | H | 500 | Natural | **3U871** | 39.09 | **31.30** | 20.0 |
| **33** | 33 x 40 | 12 | 0.47 | H | 250 | Natural | **3U872** | 21.63 | **17.31** | 12.0 |
| **33** | 33 x 40 | 16 | 0.63 | XH | 250 | Natural | **3U873** | 28.69 | **22.96** | 15.0 |
| **44** | 37 x 46 | 14 | 0.55 | H | 250 | Natural | **3U874** | 32.32 | **25.90** | 17.0 |
| **45** | 40 x 48 | 13 | 0.51 | H | 250 | Natural | **3U875** | 34.12 | **27.35** | 18.0 |
| **45** | 40 x 48 | 16 | 0.63 | XH | 250 | Natural | **3U876** | 41.67 | **33.40** | 22.0 |
| **55** | 36 x 60 | 13 | 0.51 | H | 200 | Natural | **3U878** | 30.52 | **24.42** | 16.0 |
| **55** | 36 x 60 | 17 | 0.67 | XH | 200 | Natural | **2U383** | 39.21 | **31.40** | 18.0 |
| **56** | 43 x 48 | 16 | 0.63 | XH | 200 | Natural | **3U877** | 36.03 | **28.85** | 19.0 |
| **60** | 38 x 60 | 14 | 0.55 | H | 200 | Natural | **3U879** | 34.71 | **27.80** | 18.0 |
| **60** | 38 x 60 | 17 | 0.67 | XH | 200 | Natural | **3U880** | 42.21 | **33.80** | 22.0 |

(*) For explanation of Use Rating for Tough Guy liners, see page 1930

## ROL-OUT® CORELESS ROLL LINERS

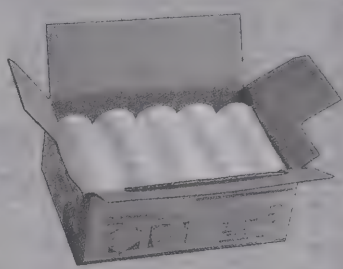




No. 3U765 Dispenser

**ROL-OUT TRASH CAN LINER ADVANTAGES:**

- 100% prime virgin resin
- Thinner, stronger films
- Superior bag construction with star seal bottom; no gussets or side seams
- Better inventory control
- Convenient dispensing with easy-to-find bag opening
- Consistant quality time after time



**Coreless roll liners** provide a user friendly system for more convenient and efficient dispensing and inventory control. 100% prime virgin resin polyethylene film results in stronger, more dependable trash bags. These films are thinner, but stronger than film produced from blended polyethylene. All linear low (LLDPE), high density (HMW-HDPE), and Super-Flex are manufactured of prime virgin resin polyethylene.

**Positive source reductions**—100% prime virgin resin trash liners use less raw material and energy to produce and place less solid waste into landfills. USDA and FDA approved on clear and white colors. State of the art construction: star bottom seal, no side seams, full dimension. All cases of liners are labeled with size, gauge, case count and poly weight. All liners comply with ASTM standards.

### USE RATING WITHIN TYPE OF LINER

| Use Code | XXXH+ | XXXH | XXH | XH | H | M | LW |
|---|---|---|---|---|---|---|---|
| Bag Holds | up to 200 lbs. | up to 120 lbs. | up to 80 lbs. | up to 65 lbs. | up to 50 lbs. | up to 35 lbs. | up to 20 lbs. |
| Type of Trash | Sharp, heavy construction. Meets highest OSHA Standards | Sharp, heavy construction, metal scrap, masonry | Sharp, heavy, irregular waste, abrasive materials | Most refuse, landscape items, sharp, light metal and wood | General refuse, cans, bottles, glass (unbroken), limited sharp | General refuse, paper, magazine, limited cans, limited wet | Paper, tissue, light, non-sharp, non-wet |

## ROLL LINER DISPENSER

- **The unique design dispenses one liner at a time**
- **Durable, easily filled, can be wall or cart mounted for convenient use**
- **White color, baked enamel**

**No. 3U765.** Shpg. wt. 2.8 lbs. List $24.08.
Each ..... **$18.31**

**A FULL LINE OF TRASH CANS AND RECEPTACLES IS AVAILABLE**

**See pages 1919-1928**

# TRASH CAN LINERS-CORELESS ROLLS

## ROL-OUT CORELESS ROLL LINERS



**PREMIUM SUPER-FLEX LINERS.** New technology resin gives this film exceptional puncture resistance and stretch. The strength is equal to bags 80% to 100% thicker. For the toughest, most demanding applications.

**PRIME TECH LINERS.** Linear low density industrial standard for typical trash. Stretchable and tear resistant.

**NU TECH LINERS.** High density liners with excellent load strength. Ideal for heavy trash (no sharp objects).

### SUPER-FLEX ROLL LINERS (Sold by the Roll)

| Capacity (Gallon) | Size (In.) W x L | MIL | Gauge (Micron) | Use Rating* | Case Count | Liners/ Roll | Rolls/ Case | Color | Stock No. | Roll List | Roll Each | Price Per Lot | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **7** | 21.5 x 22 | 0.75 | 19 | XXH | 1000 | 100 | 10 | White | **3U753** | $7.34 | **$5.58** | **$5.49/10** | 2.3 |
| **11-13** | 23.5 x 29 | 0.75 | 19 | XXH | 500 | 50 | 10 | White | **3U754** | 5.31 | **4.04** | **3.94/10** | 1.7 |
| **11-13** | 23.5 x 29 | 0.75 | 19 | XXH | 500 | 50 | 10 | Clear | **3U755** | 5.31 | **4.04** | **3.94/10** | 1.7 |
| **15-18** | 24 x 40 | 0.79 | 20 | XXH | 250 | 25 | 10 | Black | **3U756** | 4.25 | **3.23** | **3.12/10** | 1.4 |
| **33** | 35 x 39 | 0.79 | 20 | XXH | 250 | 25 | 10 | Black | **3U757** | 5.91 | **4.49** | **4.14/10** | 1.9 |
| **33** | 35 x 39 | 0.79 | 20 | XXH | 250 | 25 | 10 | Clear | **3U758** | 5.91 | **4.49** | **4.14/10** | 1.9 |
| **33** | 35 x 39 | 1.10 | 28 | XXXH | 200 | 25 | 8 | Black | **3U759** | 7.33 | **5.58** | **4.61/8** | 2.6 |
| **36** | 30 x 46 | 0.87 | 22 | XXH | 250 | 25 | 10 | Black | **3U760** | 6.50 | **4.95** | **4.68/8** | 2.1 |
| **45** | 38.5 x 44.5 | 0.87 | 22 | XXH | 200 | 25 | 8 | Black | **3U761** | 7.96 | **6.05** | **5.66/8** | 2.6 |
| **55** | 36 x 60 | 1.65 | 42 | XXXH+ | 100 | 20 | 5 | Black | **3U763** | 15.70 | **11.94** | **9.97/4** | 4.8 |
| **55** | 36 x 60 | 1.65 | 42 | XXXH+ | 100 | 20 | 5 | Clear | **3U764** | 15.70 | **11.94** | **9.97/4** | 4.8 |
| **56** | 42 x 48 | 1.20 | 30 | XXXH | 100 | 25 | 4 | Black | **3U762** | 13.35 | **10.16** | **9.31/4** | 4.2 |

### SUPER-FLEX LINERS (Sold by the Case)

| Capacity (Gallon) | Size (In.) W x L | Gauge (Micron) | MIL | Use Rating* | Case Count | Liners/ Roll | Rolls/ Case | Color | Stock No. | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20-30** | 30 x 37 | 20 | 0.79 | XXH | 200 | 25 | 8 | White | **4KN56** | $28.42 | **$23.68** | 13.0 |
| **33** | 33 x 40 | 20 | 0.79 | XXH | 150 | 25 | 6 | White | **4KN57** | 25.14 | **20.96** | 11.0 |
| **40-45** | 40 x 48 | 20 | 0.79 | XXH | 100 | 25 | 4 | White | **4KN58** | 24.48 | **20.41** | 11.0 |
| **56** | 43 x 48 | 20 | 0.79 | XXH | 100 | 25 | 4 | White | **4KN59** | 26.45 | **22.05** | 12.0 |
| **55** | 38 x 60 | 20 | 0.79 | XXH | 100 | 20 | 5 | White | **4KN60** | 29.12 | **24.27** | 13.0 |
| **33** | 33 x 40 | 19 | 0.75 | XXH | 250 | 25 | 10 | Dk Blue | **3U744** | 38.35 | **29.20** | 17.0 |
| **40-45** | 40 x 48 | 25 | 0.98 | XXXH | 150 | 15 | 10 | Dk Blue | **3U745** | 43.81 | **33.35** | 20.0 |
| **55** | 36 x 60 | 25 | 0.98 | XXXH | 150 | 15 | 10 | Dk Blue | **3U747** | 49.22 | **37.45** | 22.0 |
| **56** | 43 x 48 | 25 | 0.98 | XXXH | 150 | 15 | 10 | Dk Blue | **3U746** | 46.84 | **35.65** | 21.0 |

### PRIME TECH LINEAR LOW DENSITY (LLDPE) LINERS (Sold by the Case)

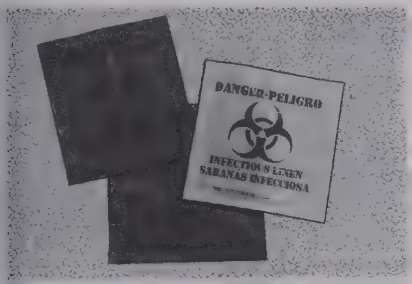
| Capacity (Gallon) | Size (In.) W x L | Gauge (Micron) | MIL | Use Rating* | Case Count | Liners/ Roll | Rolls/ Case | Color | Stock No. | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **7-10** | 24 x 24 | — | 0.36 | LW | 1000 | 100 | 10 | Black | **3U733** | $28.35 | **$21.56** | 15.0 |
| **12-16** | 24 x 33 | — | 0.36 | LW | 1000 | 100 | 10 | Black | **3U734** | 37.70 | **28.70** | 20.0 |
| **20-30** | 30 x 37 | — | 0.51 | M | 500 | 50 | 10 | Black | **3U735** | 36.33 | **27.65** | 20.0 |
| **33** | 33 x 40 | — | 0.70 | H | 250 | 25 | 10 | Black | **3U736** | 35.20 | **26.80** | 16.0 |
| **40-45** | 40 x 48 | — | 0.73 | H | 200 | 25 | 8 | Black | **3U737** | 34.61 | **26.35** | 20.0 |
| **40-45** | 40 x 48 | — | 0.98 | XH | 150 | 25 | 6 | Black | **3U738** | 41.91 | **31.90** | 20.0 |
| **40-45** | 40 x 48 | — | 1.15 | XXH | 100 | 20 | 5 | Black | **3U742** | 29.86 | **22.70** | 16.0 |
| **44** | 37 x 46 | — | 0.60 | H | 250 | 25 | 10 | Black | **3U739** | 30.45 | **23.15** | 17.0 |
| **55** | 36 x 60 | — | 0.75 | H | 200 | 25 | 8 | Black | **3U740** | 47.44 | **36.05** | 23.0 |
| **55** | 38 x 60 | — | 0.97 | XH | 100 | 20 | 5 | Black | **3U741** | 33.19 | **25.25** | 16.0 |
| **55** | 38 x 60 | — | 1.18 | XXH | 100 | 10 | 10 | Black | **3U743** | 36.51 | **27.80** | 19.0 |

### NU TECH HIGH DENSITY (HMW-HDPE) LINERS (Sold by the Case)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4** | 17 x 18 | 8 | 0.31 | LW | 2000 | 100 | 20 | Natural | **3U714** | 34.08 | **25.95** | 14.0 |
| **7** | 20 x 22 | 6 | 0.23 | LW | 2000 | 200 | 10 | Natural | **3U715** | 36.63 | **27.90** | 15.0 |
| **7-10** | 24 x 24 | 6 | 0.23 | LW | 1000 | 100 | 10 | Natural | **3U716** | 19.16 | **14.56** | 9.9 |
| **12-16** | 24 x 33 | 6 | 0.23 | LW | 1000 | 100 | 10 | Natural | **3U717** | 25.77 | **19.59** | 13.0 |
| **12-16** | 24 x 33 | 8 | 0.31 | M | 1000 | 100 | 10 | Natural | **3U718** | 40.96 | **31.20** | 18.0 |
| **20-30** | 30 x 37 | 8 | 0.31 | M | 500 | 50 | 10 | Natural | **3U719** | 22.81 | **17.34** | 13.0 |
| **33** | 33 x 40 | 13 | 0.51 | H | 500 | 50 | 10 | Natural | **3U720** | 52.54 | **39.95** | 24.0 |
| **40-45** | 40 x 48 | 12 | 0.47 | M | 250 | 25 | 10 | Natural | **3U723** | 35.20 | **26.80** | 16.0 |
| **40-45** | 40 x 48 | 14 | 0.55 | H | 250 | 25 | 10 | Natural | **3U724** | 34.31 | **26.15** | 19.0 |
| **40-45** | 40 x 48 | 19 | 0.75 | XXH | 200 | 20 | 10 | Dk Blue | **3U727** | 45.77 | **34.85** | 20.0 |
| **40-45** | 40 x 48 | 22 | 0.87 | XXH | 150 | 15 | 10 | Dk Blue | **3U728** | 33.36 | **25.40** | 18.0 |
| **44** | 37 x 46 | 12 | 0.47 | M | 250 | 25 | 10 | Natural | **3U721** | 26.29 | **19.98** | 15.0 |
| **44** | 37 x 46 | 14 | 0.55 | H | 250 | 25 | 10 | Natural | **3U722** | 36.69 | **27.95** | 17.0 |
| **55** | 38 x 60 | 14 | 0.55 | H | 200 | 20 | 10 | Natural | **3U725** | 32.89 | **25.05** | 18.0 |
| **55** | 38 x 60 | 17 | 0.67 | XH | 200 | 20 | 10 | Natural | **3U726** | 48.21 | **36.70** | 22.0 |
| **56** | 43 x 48 | 22 | 0.87 | XXH | 150 | 15 | 10 | Dk Blue | **3U729** | 42.80 | **32.55** | 19.0 |
| **55** | 36 x 60 | 22 | 0.87 | XXH | 150 | 15 | 10 | Dk Blue | **3U730** | 44.88 | **34.15** | 20.0 |

(*) For explanation of Use Rating for Rol-Out liners, see page 1931

# HOSPITAL LINERS




## ROL-OUT HOSPITAL CAN LINERS

- Printed waste bags are clearly identified for specific waste disposal in both English and Spanish
- Printed with waterbased inks only, in random repeat pattern
- Liners come in bright colors made from Heavy Metal-Free (HMF) pigments: RED for Infectious Waste, YELLOW for Infectious Linen, WHITE for Non-Contagious Linen, GREEN for Soiled Linen, BLUE for Soiled Linen
- Easily identified by the use of the Universal Biohazard Symbol

| Capacity (Gallon) | Size W x L (In.) | Gauge (Micron) | MIL | Use Rating* | Imprint | Case Count | Liners/ Roll | Rolls/ Case | Color | Stock No. | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SUPER-FLEX HOSPITAL LINERS†** | | | | | | | | | | | | | |
| **7-10** | 24 x 24 | 42 | 1.7 | XXXH+ | Infectious Waste | 200 | 25 | 8 | Red | **2U369#** | $31.11 | **$23.65** | 14.0 |
| **20-30** | 30 x 37 | 38 | 1.5 | XXXH+ | Infectious Waste | 100 | 10 | 10 | Red | **2U370#** | 27.10 | **20.60** | 12.0 |
| **33** | 31 x 43 | 38 | 1.5 | XXXH+ | Infectious Waste | 100 | 10 | 10 | Red | **2U371#** | 32.41 | **24.65** | 14.0 |
| **40-45** | 40 x 48 | 36 | 1.4 | XXXH+ | Infectious Waste | 100 | 10 | 10 | Red | **2U372#** | 43.76 | **33.30** | 19.0 |
| **33** | 31 x 43 | 38 | 1.5 | XXXH+ | — | 100 | 10 | 10 | Green | **2U366#** | 32.41 | **24.65** | 14.0 |
| **33** | 31 x 43 | 38 | 1.5 | XXXH+ | — | 100 | 10 | 10 | Blue | **2U367#** | 32.41 | **24.65** | 14.0 |
| **PRIME TECH HOSPITAL LINEAR LOW DENSITY (LLDPE) LINERS††** | | | | | | | | | | | | | |
| **7-10** | 24 x 24 | — | 2.0 | XXXH | Infectious Waste | 250 | 25 | 10 | Red | **2U377** | 46.84 | **35.65** | 20.0 |
| **12-16** | 24 x 33 | — | 2.0 | XXXH | Infectious Waste | 200 | 20 | 10 | Red | **2U378** | 51.41 | **39.10** | 22.0 |
| **33** | 33 x 40 | — | 2.0 | XXXH | Infectious Waste | 100 | 10 | 10 | Red | **2U379** | 40.79 | **31.05** | 18.0 |
| **40-45** | 40 x 48 | — | 2.0 | XXXH | Infectious Waste | 50 | 5 | 10 | Red | **2U380** | 30.45 | **23.15** | 14.0 |
| **40-45** | 40 x 48 | — | 3.0 | XXXH+ | Infectious Waste | 50 | 5 | 10 | Red | **2U381#** | 45.48 | **34.60** | 20.0 |
| **40-45** | 40 x 48 | — | 0.7 | H | — | 200 | 25 | 8 | Red | **2U374** | 43.81 | **33.35** | 20.0 |
| **40-45** | 40 x 48 | — | 3.0 | XXXH+ | Infectious Linen | 50 | 5 | 10 | Yellow | **2U382#** | 45.48 | **34.60** | 20.0 |
| **33** | 33 x 40 | — | 1.0 | XH | — | 150 | 25 | 6 | Blue | **2U373** | 34.73 | **26.45** | 15.0 |
| **40-45** | 40 x 48 | — | 1.2 | XXH | — | 100 | 20 | 5 | Blue | **2U375** | 34.26 | **26.10** | 16.0 |
| **NU TECH HOSPITAL HIGH DENSITY (HMW-HDPE) LINERS††** | | | | | | | | | | | | | |
| **7-10** | 24 x 24 | 11 | 0.43 | H | Infectious Waste | 1000 | 100 | 10 | Red | **3U748** | 41.50 | **31.55** | 18.0 |
| **40-45** | 40 x 48 | 16 | 0.63 | XH | Infectious Waste | 250 | 25 | 10 | Red | **3U750** | 49.34 | **37.55** | 22.0 |
| **40-45** | 40 x 48 | 16 | 0.63 | XH | Infectious Linen | 250 | 25 | 10 | Yellow | **3U751** | 49.34 | **37.55** | 22.0 |
| **33** | 31 x 43 | 14 | 0.55 | H | — | 250 | 25 | 10 | Blue | **2U364** | 29.74 | **22.61** | 13.0 |
| **33** | 31 x 43 | 14 | 0.55 | H | — | 250 | 50 | 5 | White | **3U752** | 27.33 | **20.78** | 13.0 |

(*) For explanation of Use Rating for Rol-Out liners, see page 1931
(†) Meets 165 gram dart drop test and 480 gram tear (MD and TD). (††) Meets 165 gram drop test.
(#) Meets State of Florida Bio-Medical Waste Standards.

## TOUGH GUY HOSPITAL CAN LINERS



- Printed waste bags are clearly identified for specific waste disposal in both English and Spanish
- Liners are color coded:
  - RED for Infectious Waste
  - YELLOW for Infectious Linens
  - BLUE for Non-Contagious Linens

### HIGH DENSITY BLENDED RESINS LINERS

| Capacity (Gallon) | Size W x L (In.) | Gauge (Micron) | Use Rating* | Case Count | Color | Stock No. | Case List | Case Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **7** | 17 x 18 | 12 | H | 1000 | Red | **3U881** | $23.55 | **$18.84** | 11.0 |
| **10** | 24 x 24 | 12 | H | 1000 | Red | **3U882** | 44.37 | **35.55** | 20.0 |
| **33** | 33 x 40 | 17 | XH | 250 | Red | **3U883** | 35.97 | **28.85** | 16.0 |
| **45** | 40 x 48 | 17 | XH | 200 | Red | **3U884** | 40.45 | **32.40** | 18.0 |
| **55** | 37 x 50 | 17 | XH | 200 | Red | **3U885** | 40.22 | **32.30** | 18.0 |
| **55** | 37 x 50 | 17 | XH | 200 | Yellow | **3U886** | 40.32 | **32.30** | 18.0 |
| **33** | 33 x 40 | 17 | XH | 250 | Blue | **3U887** | 35.97 | **28.85** | 16.0 |

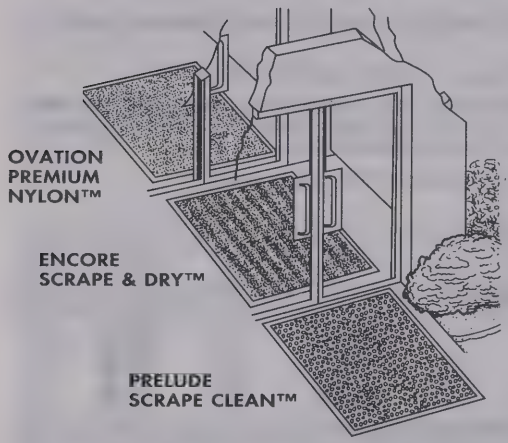
(*) For explanation of Use Rating for Tough Guy liners, see page 1930

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# FLOOR MATTING

## NOTRAX STAGES™ ENTRANCE SYSTEM

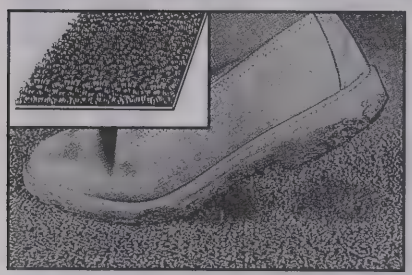



### Three-Step, Color Coordinated Entrance Matting System

Preventive maintenance begins at the front door with the right floor matting in the right places. Introducing Stages™ Entrance Matting, the first color-coordinated matting system designed to stop dirt and grime before they enter your facility.

Engineered for performance, Stages™ Entrance Matting begins outdoors, with Prelude Scrape Clean™ aggressively scraping dirt and debris from shoes. One step inside and Encore™ takes over, scraping dirt *and* absorbing moisture. Ovation™ completes the process, brushing residual dirt and drying remaining moisture.

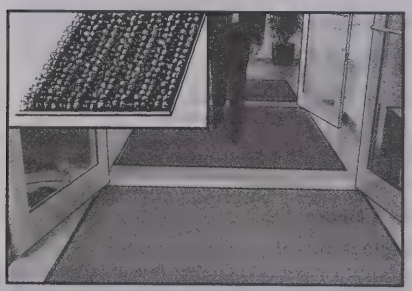
With the right matting in the right places you can trap and hide dirt—keeping it out of your building. The end result? Lower maintenance costs, protected floors and attractive entryways.



### NOTRAX PRELUDE SCRAPE CLEAN™†

- Durable outdoor entrance mat — coarse fibers scrape debris
- Vinyl back prevents shifting
- Nonabsorbent face yarn can be used for inside or outside entrances
- Loop-twist pile holds dirt below the surface • 1/4" thick

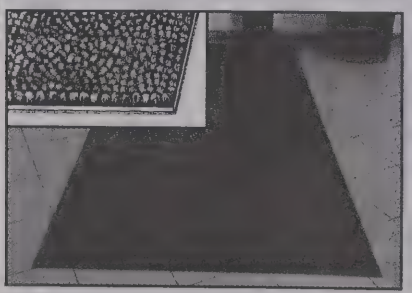
| Size (Ft.) | Color | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | Brown | 231S0035BR | 6Z499 | $53.86 | $48.50 | 13.0 |
| 3 x 5 | Charcoal | 231S0035CH | 5Z177 | 53.86 | 48.50 | 13.0 |
| 3 x 5 | Black | 231S0035BL | 3U014 | 53.86 | 48.50 | 13.0 |
| 4 x 6 | Brown | 231S0046BR | 6Z501 | 86.20 | 77.60 | 22.0 |
| 4 x 6 | Charcoal | 231S0046CH | 5Z178 | 86.20 | 77.60 | 22.0 |
| 4 x 6 | Black | 231S0046BL | 3U016 | 86.20 | 77.60 | 22.0 |



### NOTRAX ENCORE SCRAPE & DRY™†

- Busy foyer or indoor entrance — offers dual performance
- Nylon fibers retain moisture while rugged polypropylene loops scrape dirt
- Vinyl backed • 5/16" thick

| Size (Ft.) | Color | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | Brown | 146S0035BR | 3U007 | $67.81 | $61.05 | 14.0 |
| 3 x 5 | Gray | 146S0035GY | 3U008 | 67.81 | 61.05 | 14.0 |
| 3 x 5 | Black | 146S0035BL | 3UC09 | 67.81 | 61.05 | 14.0 |
| 3 x 5 | Burgundy | 146S0035BD | 5FX42 | 67.81 | 61.05 | 14.0 |
| 4 x 6 | Brown | 146S0046BR | 3U010 | 108.48 | 97.65 | 22.0 |
| 4 x 6 | Gray | 146S0046GY | 3U011 | 108.48 | 97.65 | 22.0 |
| 4 x 6 | Black | 146S0046BL | 3U012 | 108.48 | 97.65 | 22.0 |
| 4 x 6 | Burgundy | 146S0046BD | 5FX43 | 108.48 | 97.65 | 22.0 |



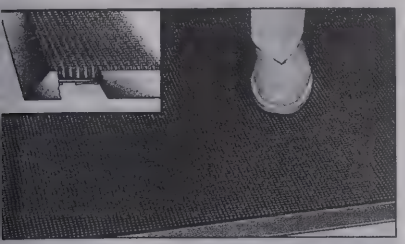
### NOTRAX OVATION PREMIUM NYLON™†

- Ideal indoor entrance mat for office — fine nylon fibers absorb moisture
- Nylon yarn offers years of resilient wear, resists soiling and staining
- Vinyl backing protects floors • 5/16" thick

| Size (Ft.) | Color | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | Brown | 141S0035BR | 3U001 | $60.02 | $54.05 | 12.0 |
| 3 x 5 | Gray | 141S0035GY | 3U002 | 60.02 | 54.05 | 12.0 |
| 3 x 5 | Black | 141S0035BL | 3U003 | 60.02 | 54.05 | 12.0 |
| 3 x 5 | Burgundy | 141S0035BD | 5FX40 | 60.02 | 54.05 | 15.0 |
| 4 x 6 | Brown | 141S0046BR | 3U004 | 96.04 | 86.45 | 22.0 |
| 4 x 6 | Gray | 141S0046GY | 3U005 | 96.04 | 86.45 | 22.0 |
| 4 x 6 | Black | 141S0046BL | 3U006 | 96.04 | 86.45 | 22.0 |
| 4 x 6 | Burgundy | 141S0046BD | 5FX41 | 96.04 | 86.45 | 22.0 |

(†) Passes Flammability Tests DOC-FF-1-70 and DOC-FF-2-70.

# ENTRANCE MATS

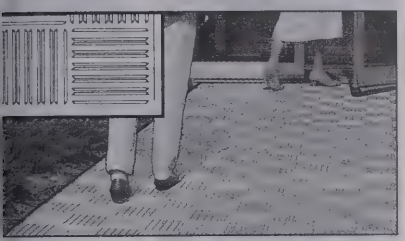


## NOTRAX RUBBER BRUSH™

- Thousands of tough flexible rubber fingers sweep shoes
- Suction cups on backside prevent shifting
- Solid SBR rubber compound stays flexible in extreme cold
- Edges beveled for safety • 5/8" thick • Black color

**Applications**
- Entrance - Outdoor
- High Traffic Areas
- Schools
- Plant Entrance

| Size (In.) | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 24 x 32 | 345S2432BL | 5W613 | $36.13 | $32.55 | 9.0 |
| 28 x 46 | 345S2846BL | 5W614 | 54.08 | 48.70 | 18.0 |
| 36 x 60 | 345S3660BL | 3U017 | 121.13 | 109.05 | 29.0 |
| 36 x 72 | 345S3672BL | 5W615 | 124.06 | 111.70 | 34.0 |



## NOTRAX SHAD-O-RUG II™

- Distinctive "V" rib design in alternating 6-inch squares
- High-quality rubber for indoor and outdoor service
- Easy to clean, simply hose down, damp mop or sweep
- Knobbed bottom for added comfort and floor hugging action
- Reversible, 1/4" thick • Black color

**Applications**
- Entrance - Outdoor
- High Traffic Areas
- Entrance - Indoor
- Hallways/Aisleways

| Size (Ft.) | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 x 5 | 349S0035BL | 3UG07 | $95.39 | $85.90 | 19.0 |
| 4 x 6 | 349S0046BL | 3UM35 | 152.64 | 137.40 | 30.0 |
| 3 x 10 | 349S0310BL | 3UM36 | 190.79 | 171.75 | 38.0 |

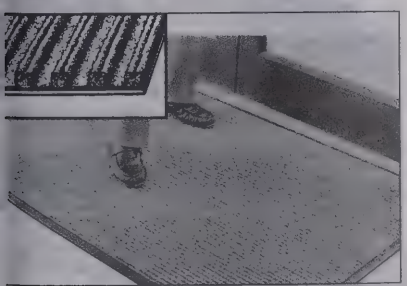


## NOTRAX ARROW TRAX™†

- Heavy-duty indoor entrance with chevron-ribbed design
- Dual weight fibers retain moisture and scrape dirt
- PVC backing assures edges will not ripple, crack, or curl
- Outwears ribbed matting in all critical areas of performance
- 3/8" thick

**Applications**
- Entrance - Indoor
- Hallways/Aisleways
- Office Area Runner
- Plant Office Entrance

| Size (Ft.) | Color | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | Charcoal | 118S0035CH | 3H396 | $79.17 | $71.30 | 15.0 |
| 3 x 5 | Brown | 118S0035BR | 5FX23 | 79.17 | 71.30 | 15.0 |
| 4 x 6 | Charcoal | 118S0046CH | 5FX27 | 126.65 | 114.00 | 24.0 |
| 4 x 6 | Brown | 118S0046BR | 5FX26 | 126.65 | 114.00 | 24.0 |
| 4 x 8 | Charcoal | 118S0048CH | 3H397 | 168.94 | 152.25 | 32.0 |



## NOTRAX HERITAGE RIB™†

- All-purpose indoor entrance — also good for hallways/office
- Ribbed top surface channels; conceals dirt below the surface
- Heavy vinyl backing reduces creeping and protects floors
- Solution-dyed colors resist fading, retain luster
- 3/8" thick

**Applications**
- Entrance - Indoor
- Lobby
- Grocery Stores/ Produce Areas
- Hallways/Aisleways

| Size (Ft.) | Color | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | Brown | 117S0035BR | 6Z495 | $49.97 | $42.50 | 14.0 |
| 3 x 5 | Charcoal | 117S0035CH | 6Z496 | 49.97 | 42.50 | 14.0 |
| 3 x 5 | Gray | 117S0035GY | 5Z175 | 49.97 | 42.50 | 14.0 |
| 4 x 6 | Brown | 117S0046BR | 6Z497 | 80.03 | 68.05 | 22.0 |
| 4 x 6 | Charcoal | 117S0046CH | 6Z498 | 80.03 | 68.05 | 22.0 |
| 4 x 6 | Gray | 117S0046GY | 5Z176 | 80.03 | 68.05 | 22.0 |



## NOTRAX SABRE™ DECALON™†

- .19 oz. per square yard of 5500 denier Decalon
- Dyed fiber is colorfast, non-staining, and easy to clean
- All-weather indoor fibers dry 2-3 times faster than other fibers
- Vinyl back protects floors from dirt and moisture • 1/4" thick

**Applications**
- Entrance - Indoor
- Lobby
- Vending Area
- Hallways/Aisleways

| Size (Ft.) | Color | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | Dark Brown | 130S0035DB | 6Z491 | $43.16 | $36.70 | 14.0 |
| 3 x 5 | Red/Black | 130S0035RB | 6Z492 | 43.16 | 36.70 | 14.0 |
| 3 x 5 | Charcoal | 130S0035CH | 5Z173 | 43.16 | 36.70 | 14.0 |
| 4 x 6 | Dark Brown | 130S0046DB | 6Z493 | 69.00 | 58.70 | 21.0 |
| 4 x 6 | Red/Black | 130S0046RB | 6Z494 | 69.00 | 58.70 | 21.0 |
| 4 x 6 | Charcoal | 130S0046CH | 5Z174 | 69.00 | 58.70 | 21.0 |
| 36" x 60 ft. roll | Dark Brown | 130C0038DB | 5Z055 | 498.39 | 423.75 | 149.0 |

†) Passes Flammability Tests DOC-FF-1-70 and DOC-FF-2-70.

# ANTI-FATIGUE MATS

## CUSHION TRAX™

- Solid vinyl surface with diamond pattern for optimal traction
- Thick sponge underside provides anti-fatigue relief
- Colored borders comply with OSHA Code 1910-144

**Applications**
- Industrial Work Areas
- Dry Heavy-Duty
- Assembly Lines
- Work Stations



| Size (Ft.) | Color | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2 x 3 | Black/Yellow | 479S0023YB | 5FX61 | $53.13 | $47.85 | 9.0 |
| 3 x 5 | Black/Yellow | 479S0035YB | 5FX62 | 132.81 | 119.55 | 20.0 |
| 3 x 12 | Black/Yellow | 479S0312YB | 5FX63 | 318.85 | 287.00 | 48.0 |

## ERGO MAT™

- Ergonomically designed to promote maximum relief
- 1/8" thick V-Groove Corrugated rubber surface improves traction
- Buoyant 3/8" sponge base for super cushioned fatigue relief
- 1/2" overall thickness • Black color

**Applications**
- Industrial Work Areas
- Dry Heavy-Duty
- Cashier Stations
- Work Stations



| Size (Ft.) | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 x 3 | 474S0023BL | 3H394 | $41.79 | $37.65 | 11.0 |
| 3 x 5 | 474S0035BL | 3H395 | 104.47 | 94.05 | 27.0 |
| 3 x 12 | 474S0312BL | 5FX58 | 241.07 | 217.00 | 60.0 |

## MARBLE SOF-TYLE™

- Durable 1/8" marbleized tile surface permanently bonded to a comfortable 3/8" rubber sponge base
- Beveled edges lie flat to reduce tripping

**Applications**
- Laboratories
- Shipping/Mail Department
- Pharmacy
- Cashier Stations



| Size (In.) | Color | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 24 x 36 | Black | 470S2436BL | 3H379 | $49.53 | $44.60 | 11.0 |
| 24 x 36 | Blue | 470S2436BU | 3H380 | 49.53 | 44.60 | 11.0 |
| 36 x 60 | Black | 470S3660BL | 3H377 | 121.46 | 109.35 | 27.0 |
| 36 x 60 | Blue | 470S3660BU | 3H378 | 121.46 | 109.35 | 27.0 |

## DIAMOND SOF-TRED™

- 1/2" thick PVC closed cell sponge relieves worker fatigue
- Rugged diamond pattern surface improves traction

**Applications**
- Packing Stations
- Dry Light-Duty
- Mail Room
- Assembly Line

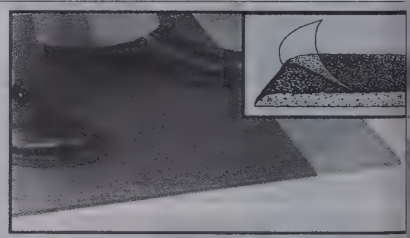


| Size | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 27" x 3 ft. | 419S5273BL | 5FX49 | $23.79 | $21.42 | 9.0 |
| 27 x 5 | 419S5275BL | 5FX50 | 38.55 | 34.70 | 15.0 |
| 3 X 5 | 419S0535BL | 5FX48 | 51.75 | 46.60 | 18.0 |
| 3 x 12 | 419S5312BL | 5FX51 | 121.83 | 109.70 | 44.0 |
| 3 x 60 ft. roll | 419C0536-60BL | 5FX46 | 570.44 | 513.50 | 216.0 |

## SHIELDED SOF-TRED™

- Deep sponge relieves worker fatigue and increases productivity
- Bright 4" yellow border enhances safety awareness
- Urethane coating resists wear and most chemicals

**Applications**
- Lab Areas
- Dry Light-Duty
- Packing Stations
- Nurses Stations

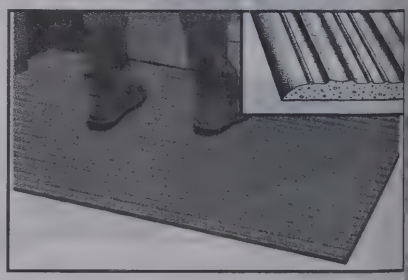


| Size | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 x 3 ft. | 415S0023BY | 5W712 | $26.93 | $24.24 | 5.0 |
| 3 x 5 | 415S0035BY | 5W713 | 67.38 | 60.65 | 12.0 |
| 3 x 12 | 415S0312BY | 5W714 | 161.80 | 145.65 | 30.0 |
| 3 x 60 ft. roll | 415C0036BY | 5Z275 | 763.17 | 687.00 | 135.0 |

## AIRUG®

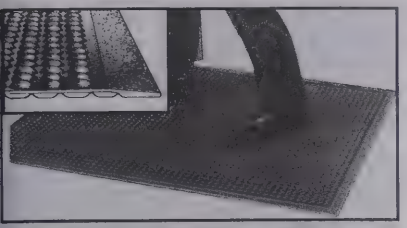
- Durable closed-cell vinyl sponge provides a comfortable surface to stand or walk on
- Economically insulates against cold, reduces noise and breakage
- Grease, oil and moisture-resistant • Ribbed design

**Applications**
- Industrial Areas
- Dry Light-Duty
- Mail Room
- Hostess/ Restaurant



| Size | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 27" x 3 ft. | 410S3273BL | 6Z503 | $21.63 | $18.39 | 5.0 |
| 27 x 5 ft. | 410S3275BL | 6Z504 | 35.04 | 29.80 | 9.0 |
| 36 x 12 ft. | 410S3312BL | 3U018 | 110.76 | 94.15 | 27.0 |
| 24 x 60 ft. roll | 410C0324BL | 5Z179 | 345.24 | 293.50 | 90.0 |
| 36 x 60 ft. roll | 410C0336BL | 5Z056 | 517.86 | 440.25 | 135.0 |
| 48 x 60 ft. roll | 410C0348BL | 5FX44 | 690.49 | 587.00 | 180.0 |

# SAFETY/ANTI-FATIGUE MATS



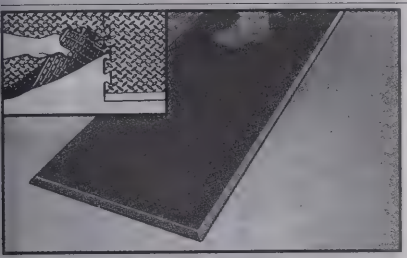
NOTRAX FLOOR MATTING

## COMFORT-EZE™

- Unique radial design lets air flow under workers' shoes
- 5/16" diameter knobs on top and underside provide cushioning
- Safety beveled edges eliminate tripping
- 3/8" thick • Black color

**Applications**
- Industrial Work Areas
- Dry Heavy-Duty
- Assembly Lines
- Packing Stations

| Size | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 24 x 36" | 447S2436BL | 5W616 | $36.45 | $32.85 | 10.0 |
| 30 x 60 | 447S3060BL | 5W617 | 74.63 | 67.20 | 20.0 |
| 30" x 10 ft. | 447S3010BL | 5FX52 | 149.26 | 134.35 | 40.0 |
| 30" x 20 ft. | 447S3020BL | 5FX53 | 298.52 | 268.75 | 80.0 |



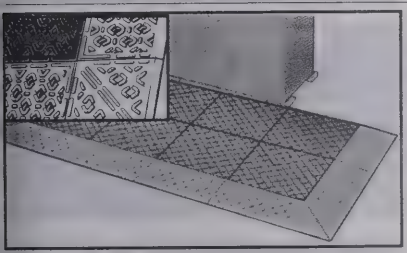
NOTRAX FLOOR MATTING

## DIAMOND TOP INTERLOCK™

- Interlocking design allows customizing to any length
- "Steel deck" wear resistant top surface offers ultimate traction
- "Air pockets" provide buoyant surface for fatigue relief
- 1/2" thick • Black color

**Applications**
- Industrial Work Areas
- Dry Heavy-Duty
- Parts Counters
- Customer Service

| Size (In.) | Section | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 28 x 31 | Center | 545M2831BL | 5W778 | $33.20 | $29.90 | 10.0 |
| 28 x 31 | End | 545E2831BL | 5W779 | 33.20 | 29.90 | 10.0 |
| 28 x 31 | Single | 545S2831BL | 5W780 | 33.20 | 29.90 | 10.0 |
| 36 x 31 | Center | 545M3631BL | 3UM40 | 39.15 | 35.25 | 15.0 |
| 36 x 31 | End | 545E3631BL | 3UM39 | 39.15 | 35.25 | 15.0 |
| 36 x 31 | Single | 545S3631BL | 3UM41 | 39.15 | 35.25 | 15.0 |



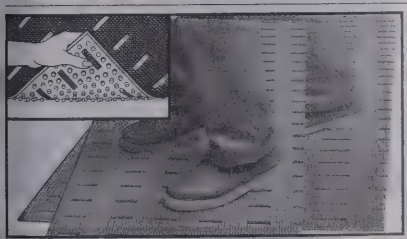
NOTRAX FLOOR MATTING

## CUSHION-LOK™

- Unique diamond surface provides safe, sure footing
- Bold 6" wide OSHA yellow ramps on 3 sides
- Liquid and debris fall through openings
- Resilient vinyl compound resists grease, oil, most chemicals
- 7/8" thick • Black/yellow color

**Applications**
- Industrial Work Areas
- Wet Heavy-Duty
- Hazardous Areas
- Work Stations

| Size (In.) | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 30 x 36 | 520S3036BY | 6Z507 | $66.95 | $56.95 | 13.0 |
| 30 x 48 | 520S3048BY | 6Z508 | 86.74 | 73.75 | 18.0 |
| 30 x 60 | 520S3060BY | 6Z926 | 106.64 | 90.65 | 23.0 |
| 30 x 72 | 520S3072BY | 6Z927 | 123.94 | 105.40 | 29.0 |



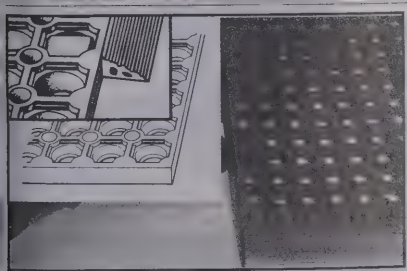
NOTRAX FLOOR MATTING

## CUSHION-DEK™

- Provides safety and comfort in wet or dry areas
- Slip-resistant pyramid surface for maximum traction
- Slotted surface and studded bottom provide drainage
- Soft vinyl is comfortable and resistant to grease and chemicals
- 7/16" thick • Black color

**Applications**
- Industrial Work Areas
- Dry Heavy-Duty
- Milling Machines
- Lathes - Oily Areas

| Size | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 x 3 ft. | 420S0023BL | 6Z505 | $34.76 | $31.30 | 12.0 |
| 2 x 6 | 420S0026BL | 6Z506 | 69.54 | 62.60 | 23.0 |
| 3 x 30 ft. Roll | 420C0036BL | 5Z132 | 521.76 | 469.75 | 171.0 |



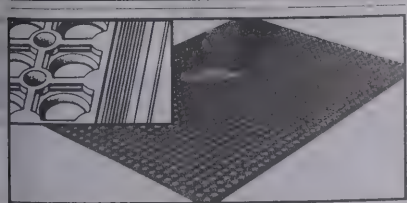
NOTRAX FLOOR MATTING

## SURE STEP™

- Large circular openings allow liquid/debris to drain through
- Resilient grease-resistant rubber compound
- Flat bottom supports eliminate mat movement
- Connectors available to lock mats together
- Optional edging snaps on for beveled border
- 7/8" thick • Black color • U.S.D.A. approved

**Applications**
- Food Service
- Industrial Work Areas
- Wet Heavy-Duty

| Size | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 39 x 29" | 540S3929BL | 5W783 | $59.70 | $53.75 | 20.0 |
| 39 x 58 | 540S3958BL | 5W782 | 108.48 | 97.65 | 39.0 |
| Connector | 540K0000BL | 5W784 | 2.34 | 2.11 | 0.1 |
| Edging (20 ft. roll) | 540N0000BL | 5W785 | 69.22 | 62.35 | 16.0 |



NOTRAX FLOOR MATTING

## WORK MASTER™

- Slim, lightweight design for easy maintenance
- Built-in beveled edges eliminate tripping
- Large openings allow drainage, keeping standing surface clean
- Grease-resistant rubber for use in commercial kitchens
- 1/2" thick • Black color • U.S.D.A. approved

**Applications**
- Food Service
- Industrial Work Areas

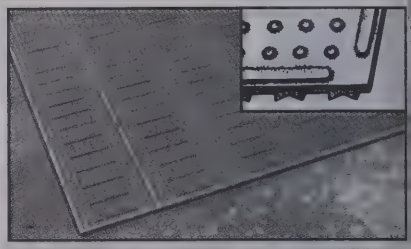
| Size (In.) | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 42 x 62 | 541S1060BL | 5W781 | $95.28 | $85.80 | 35.0 |

# SAFETY, ANTI-SLIP, AND ANTI-STATIC MATS

## NOTRAX NIRU™ VERSA RUNNER®

- A heavy-duty reversible runner ensures safe walking surfaces
- Open slots allow liquid and debris to drop through
- Knobbed traction pattern provides extra safety underfoot
- Reversible ribbed underside extends service life
- 3/8" thick • Black color

**Applications**
- Industrial Work Areas
- Wet/Oily Heavy-Duty
- Welding Areas
- Food Service

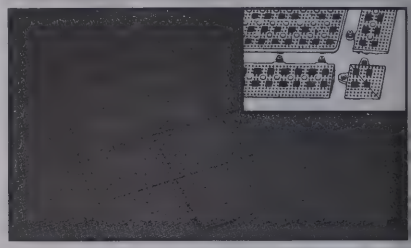


| Size (Ft.) | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 x 3 | 755S0023BL | 5FX66 | $62.03 | $55.85 | 9.0 |
| 3 x 5 | 755S0035BL | 5FX67 | 155.10 | 139.60 | 23.0 |
| 3 x 12 | 755S0312BL | 5FX68 | 372.24 | 335.25 | 54.0 |

## NOTRAX MODULAR LOK-TYLE

- Creates a safe raised area with comfortable modular tile
- Flexible vinyl 12" x 12" snap-together modular tile can be assembled in a variety of designs and shapes
- Open-grid drains liquid below the walking surface
- 9/16" thick • Black color

**Applications**
- Industrial Work Areas
- Wet Light-Duty
- Custom Site Areas
- Pools/Saunas



| Size | Case Count | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 12" x 12" Tiles | 24 tiles per case | 523STL24BL | 3UM38 | $119.29 | $107.40 | 25.0 |
| 2" x 12" Ramps/ 2" x 2" Corners | 16 ramps / 4 corners | 523SOBEVBL | 3UM37 | 38.24 | 34.45 | 4.5 |

## NOTRAX SAFETY GRID™

- Open grid (duckboard) design provides excellent drainage
- Super grip surface for optimal traction in wet areas
- Resistant to oil, grease, alkali, and acids
- 1/2" thick • Black color

**Applications**
- Industrial Work Areas
- Wet Light-Duty
- Laundry Rooms

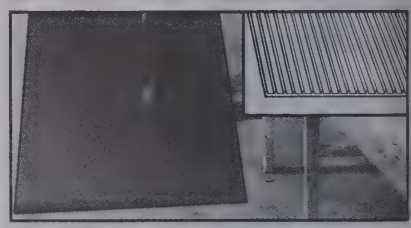


| Size | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 x 10 ft. | 531C0036-10 | 5T438 | $317.99 | $286.25 | 36.0 |
| 3 x 40 ft. Roll | 531C0036-40 | 5T439 | 1136.98 | 1024.00 | 144.0 |

## NOTRAX HIGH TRACTION CORRUGATED RUNNER™

- Improves safety, protects floors, and is easy to clean
- New sharp tooth corrugated rib profile increases traction
- Vinyl compound resists grease, oil, and most chemicals
- Easy clean-up
- 1/8" thick • Black color

**Applications**
- Anti-Slip Areas
- Aisleways
- Heavy-Duty
- Storage Areas

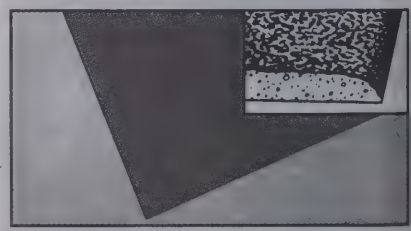


| Size | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 x 60 ft. | 733C0036-60 | 3H392 | $397.16 | $337.75 | 126.0 |
| 3 x 150 ft. roll | 733C0036-150 | 3H393 | 992.90 | 844.00 | 315.0 |

## NOTRAX CUSHION-STAT™

- Reduces uncontrolled static discharge
- Eliminates the hazards of losing data or damaging equipment
- Vinyl sponge relieves leg and back fatigue, improves efficiency
- All sides are safety beveled to reduce tripping hazards
- 3/8" thick • Brown color

**Applications**
- Computer Work Rooms/Anti-Static
- Production Lines/ Anti-Static



| Size (Ft.) | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 x 3 | 825S0023BR | 3UM42 | $32.66 | $29.40 | 5.0 |
| 3 x 5 | 825S0035BR | 3UM43 | 81.76 | 73.60 | 13.0 |

## NOTRAX SWITCHBOARD™

- Nonconductive corrugated matting insulates against shock
- Dielectric strength up to 30,000 volts/AC RMS
- Recommended maximum use 17,000 volts/AC RMS
- Conforms to ANSI/ASTM D-178 J6-7 Type 2, Class 2
- Meets OSHA requirements
- 1/4" thick • Black color

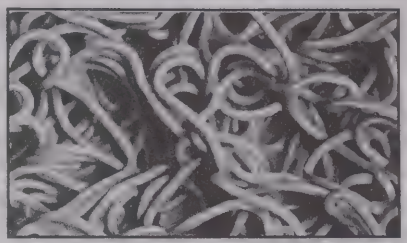
**Applications**
- High Voltage Equipment



| Size | NOTRAX Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 x 12 ft. | 830C0036-12 | 5T434 | $218.04 | $196.25 | 61.0 |
| 3 x 75 ft. roll | 830C0036-75 | 5T435 | 1241.13 | 1118.00 | 368.0 |

# INDOOR AND OUTDOOR MATS

## 3M NOMAD™ HEAVY TRAFFIC UNBACKED MATTING



- Durable heavy-duty vinyl loops scrape dirt and grime off shoes and boots
- Unbacked construction allows dirt and moisture to pass through
- For outside entrances, and recessed areas and mat wells
- 0.625" thick

| Size (Ft.) | Color | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 x 5 | Gray | 3U109 | $153.77 | $139.70 | 14.0 |
| 3 x 5 | Brown | 3U110 | 153.77 | 139.70 | 15.0 |
| 4 x 6 | Gray | 3U111 | 245.95 | 223.50 | 23.0 |
| 4 x 6 | Brown | 3U112 | 245.95 | 223.50 | 26.0 |

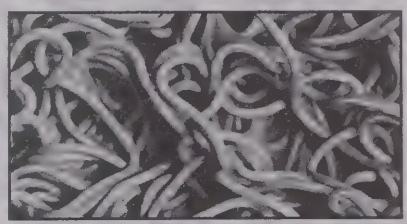
## 3M NOMAD™ HEAVY TRAFFIC BACKED MATTING



- Heavy-duty vinyl loops stand up to heavy traffic and won't mat down
- Loops trap and hide dirt and moisture
- Solid vinyl backing holds dirt and moisture from floor
- For hallways, inside or outside entrances, and other high traffic areas
- 0.45" thick

| Size (Ft.) | Color | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 x 5 | Gray | 3U105 | $153.77 | $139.70 | 14.0 |
| 3 x 5 | Brown | 3U106 | 153.77 | 139.70 | 14.0 |
| 4 x 6 | Gray | 3U107 | 245.95 | 223.50 | 21.0 |
| 4 x 6 | Brown | 3U108 | 245.95 | 223.50 | 19.0 |

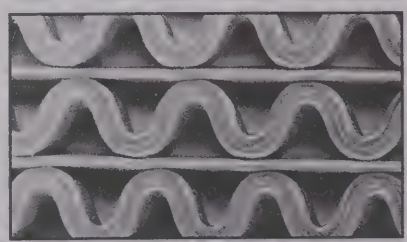
## 3M NOMAD™ CUSHION PLUS MED. TRAFFIC BACKED MATTING



- Resilient vinyl loop construction traps and hides dirt; surface stays clean
- Foam backing adds comfort and keeps moisture and dirt off floor
- For interior walkways and hallways (not recommended for outdoor use)
- 0.41" thick

| Size (Ft.) | Color | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 x 5 | Gray | 3U101 | $116.87 | $106.20 | 11.0 |
| 3 x 5 | Brown | 3U102 | 116.87 | 106.20 | 10.0 |
| 4 x 6 | Gray | 3U103 | 186.96 | 170.00 | 16.0 |
| 4 x 6 | Brown | 3U104 | 186.96 | 170.00 | 16.0 |

## 3M ENTRAP™ ALL SEASONS MATTING



- Particularly suited for carts and other wheeled traffic
- Foam backing reduces creeping, adds comfort, holds moisture and dirt off floor surface
- For hallways, interior walkways, and inside building entrances
- 0.24" thick

| Size (Ft.) | Color | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | Gray | 20234 | 3U113 | $105.91 | $96.15 | 14.0 |
| 3 x 5 | Brown | 20223 | 3U114 | 105.91 | 96.15 | 14.0 |
| 4 x 6 | Gray | 20239 | 3U115 | 169.35 | 154.00 | 21.0 |
| 4 x 6 | Brown | 20226 | 3U116 | 169.35 | 154.00 | 24.0 |

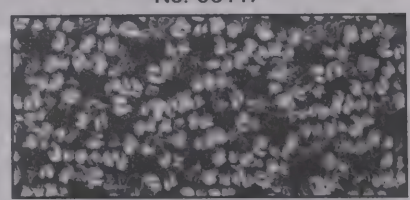
## 3M ENHANCE™ 750 and ENHANCE™ 850



No. 3U117

- Design features squares or random patterns of smaller and larger diameter fibers
- Dual function carpet-type entrance matting removes dirt and water
- For inside building entrances, interior walkways and hallways
- Vinyl edging and backing help reduce creeping and increase safety
- 0.32" thick

| Size (Ft.) | Color | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ENHANCE™ 750 SQUARE PATTERN MATTING** | | | | | | |
| 3 x 5 | Gray | 15431 | 3U117 | $144.79 | $131.55 | 13.0 |
| 3 x 5 | Brown | 15429 | 3U118 | 144.79 | 131.55 | 13.0 |
| 4 x 6 | Gray | 15439 | 3U119 | 231.61 | 210.75 | 21.0 |
| 4 x 6 | Brown | 15437 | 3U120 | 231.61 | 210.75 | 21.0 |
| **ENHANCE™ 850 RANDOM PATTERN MATTING** | | | | | | |
| 3 x 5 | Gray | 20559 | 3VC03 | 139.30 | 126.65 | 13.0 |
| 3 x 5 | Brown | 20544 | 3VC18 | 139.30 | 126.65 | 13.0 |
| 4 x 6 | Gray | 20560 | 3VC04 | 222.83 | 203.00 | 21.0 |
| 4 x 6 | Brown | 20545 | 3VC19 | 222.83 | 203.00 | 21.0 |



No. 3VC03

# MATS, TREADS, & MATTING ACCESSORIES

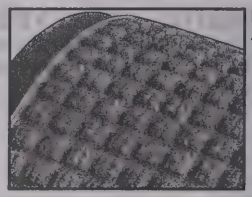
## WATERHOG™ AND MASTERPIECE GOLD™ MATS

- **TriGrip™ Cleated Rubber Backing minimizes creeping on carpets and other surfaces. Helps eliminate rippling and curling**
- **Rubber reinforced face nubs enhance mat performance**
- **Exclusive "water dam" helps prevent water seepage off mat sides to reduce slip hazards**
- **Masterpiece Gold™ features fashionable colors of blended 36 oz. solution-dyed polypropylene for stain resistance and durability**
- **Waterhog™ has rich, deep colors of 24 oz. solution-dyed polypropylene that dry quickly, resist fading, and clean easily**

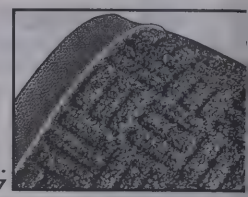


### WATERHOG SPECIFICATIONS AND ORDERING DATA

| Size (Ft.) | Color | Andersen Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | Dark Brown | TW35152 | **4HK20** | $73.58 | **$69.95** | 12.0 |
| 3 x 5 | Charcoal | TW35154 | **4HK21** | 73.58 | **69.95** | 12.0 |
| 3 x 5 | Evergreen | TW35159 | **4HK22** | 73.58 | **69.95** | 12.0 |
| 3 x 5 | Bordeaux | TW35160 | **4HK23** | 73.58 | **69.95** | 12.0 |
| 4 x 6 | Dark Brown | TW46152 | **4HK31** | 117.74 | **111.90** | 19.0 |
| 4 x 6 | Charcoal | TW46154 | **4HK32** | 117.74 | **111.90** | 19.0 |
| 4 x 6 | Evergreen | TW46159 | **4HK33** | 117.74 | **111.90** | 19.0 |
| 4 x 6 | Bordeaux | TW46160 | **4HK34** | 117.74 | **111.90** | 19.0 |



No. 4HK20



No. 4HJ67

### MASTERPIECE GOLD SPECIFICATIONS AND ORDERING

| Size (Ft.) | Color | Andersen Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | Spruce Mist | TE35201 | **4HJ67** | $83.70 | **$79.55** | 14.0 |
| 3 x 5 | Desert Sand | TE35202 | **4HJ68** | 83.70 | **79.55** | 14.0 |
| 3 x 5 | Heather Blue | TE35203 | **4HJ69** | 83.70 | **79.55** | 14.0 |
| 3 x 5 | Pebble Grey | TE35204 | **4HJ70** | 83.70 | **79.55** | 14.0 |
| 3 x 5 | Rose Petal | TE35205 | **4HJ71** | 83.70 | **79.55** | 14.0 |
| 3 x 5 | Red Wood | TE35206 | **4HK67** | 83.70 | **79.55** | 14.0 |
| 3 x 5 | Black Onyx | TE35207 | **4HJ72** | 83.70 | **79.55** | 14.0 |
| 3 x 5 | Brownstone | TE35208 | **4HJ73** | 83.70 | **79.55** | 14.0 |
| 4 x 6 | Spruce Mist | TE46201 | **4HJ84** | 133.90 | **127.25** | 20.0 |
| 4 x 6 | Desert Sand | TE46202 | **4HJ85** | 133.90 | **127.25** | 20.0 |
| 4 x 6 | Heather Blue | TE46203 | **4HJ86** | 133.90 | **127.25** | 20.0 |
| 4 x 6 | Pebble Grey | TE46204 | **4HJ87** | 133.90 | **127.25** | 20.0 |
| 4 x 6 | Rose Petal | TE46205 | **4HJ88** | 133.90 | **127.25** | 20.0 |
| 4 x 6 | Red Wood | TE46206 | **4HK70** | 133.90 | **127.25** | 20.0 |
| 4 x 6 | Black Onyx | TE46207 | **4HJ89** | 133.90 | **127.25** | 20.0 |
| 4 x 6 | Brownstone | TE46208 | **4HJ90** | 133.90 | **127.25** | 20.0 |

## 3M SAFETY-WALK™ TREADS, MATTING & ACCESSORIES

### GENERAL PURPOSE TREADS

**Mineral-coated, slip resistant material.** Highly durable surface. Low profile reduces trip hazard. For use on smooth, flat surfaces such as walkways, loading docks, and around machinery and vehicles.

| Color | Size | 3M Model | Stock No. | Qty. / Pkg. | Priced Per Pkg. List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Black | 6" x 24" piece | 610 | **5AN41** | 50 | $196.98 | **$179.50** | 10.0 |
| | 5½" x 5½" piece | | **6BV12** | 50 | 50.35 | **45.80** | 2.1 |
| | 1" x 60 ft. roll | | **6BV13** | 4 | 82.42 | **74.95** | 3.6 |
| | 2" x 60 ft. roll | | **5AN34** | 2 | 78.03 | **70.95** | 3.5 |
| | 4" x 60 ft. roll | | **6AD55** | 1 | 78.03 | **70.95** | 3.3 |
| | 6" x 60 ft. roll | | **3AH44** | 1 | 113.91 | **103.60** | 5.2 |
| | 12" x 60 ft. roll | | **6BV14** | 1 | 237.74 | **216.25** | 10.0 |
| Yellow | 2" x 60 ft. roll | 630 | **6BV15** | 2 | 82.42 | **74.95** | 3.5 |
| | 4" x 60 ft. roll | | **6BV16** | 1 | 82.42 | **74.95** | 3.5 |
| | 6" x 60 ft. roll | | **6BV17** | 1 | 143.58 | **130.55** | 5.2 |

### MEDIUM RESILIENT TREADS

**Resilient non-mineral, slip resistant material.** Soft surface is suitable for bare feet. Use in locker rooms, recreational/athletic equipment areas, boats, interior stairwells, entryways, and lobbies.

| Color | Size | 3M Model | Stock No. | Qty. / Pkg. | Priced Per Pkg. List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Black | 6" x 24" piece | 310 | **6BV24** | 50 | $234.18 | **$213.25** | 10.0 |
| Gray | 6" x 24" piece | 370 | **6BV28** | 50 | 234.18 | **213.25** | 10.0 |
| Black | 2" x 60 ft. roll | 310 | **6BV25** | 2 | 90.10 | **81.95** | 3.9 |
| Gray | 2" x 60 ft. roll | 370 | **6BV30** | 2 | 90.10 | **81.95** | 3.9 |
| Black | 4" x 60 ft. roll | 310 | **6BV26** | 1 | 90.10 | **81.95** | 3.9 |
| Gray | 4" x 60 ft. roll | 370 | **6BV29** | 1 | 90.10 | **81.95** | 3.9 |
| Black | 6" x 60 ft. roll | 310 | **6BV27** | 1 | 135.16 | **122.90** | 5.8 |
| Gray | 6" x 60 ft. roll | 370 | **6BV31** | 1 | 135.16 | **122.90** | 5.8 |

### CONFORMABLE TREADS

**High-friction slip resistant material** has aluminum backing that conforms around corners and adheres to irregular surfaces. Used for diamond grade safety plates, steps, ladder rungs, and heavy equipment and vehicles.

| Color | Size | 3M Model | Stock No. | Qty. / Pkg. | Priced Per Pkg. List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Black | 6" x 24" piece | 610 | **6BV20** | 50 | $273.69 | **$249.00** | 10.0 |
| | 2" x 60 ft. roll | | **6BV21** | 2 | 105.47 | **95.95** | 3.5 |
| | 4" x 60 ft. roll | | **6BV22** | 1 | 105.47 | **95.95** | 3.5 |
| | 6" x 60 ft. roll | | **6BV23** | 1 | 158.19 | **143.85** | 5.2 |




### EASY CLEAN TREADS

Durable, moppable construction. Slip-resistant surface for dry, wet or oily floors. Suitable for industrial and commercial applications. Used in heavy boot shoe and cart traffic areas. Comfortable for bare feet.

| Color | Size (In.) | 3M Model | Stock No. | Qty. / Pkg. | Priced Per Pkg. List | Each | Shpg. wt. |
|---|---|---|---|---|---|---|---|
| Brown | 5½ x 5½ piece | 460 | **6BV18** | 50 | $96.00 | **$86.40** | 3.5 |
| | 6 x 24 piece | | **6BV19** | 50 | 320.70 | **291.75** | 10.0 |

### SLIP-RESISTANT GENERAL PURPOSE MATTING

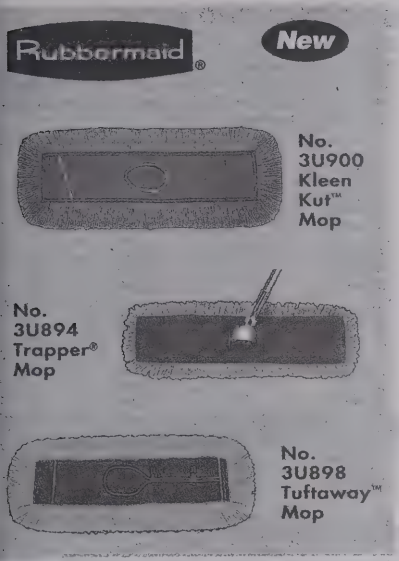
Used in food service and industrial applications. Low profile enables easy movement of cart and people traffic. Vinyl material will not absorb liquids. Excellent solution where oily/greasy quarry tiles present a safety concern.

| Color | Size (Ft.) | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Brown | 3 ft. x 5 ft. | 860 | **6BV68** | $189.02 | **$170.25** | 14.0 |
| | 3 ft. x 10 ft. | | **6BV69** | 377.78 | **340.00** | 29.0 |
| | 3 ft. x 20 ft. | | **6BV70** | 755.18 | **680.00** | 52.0 |
| | 3 ft. x 40 ft. | | **6BV71** | 1505.36 | **1355.00** | 100.0 |

### SAFETY-WALK™ ACCESSORIES

| Description | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Edge Sealing Compound - Seals tread edges exposed to water, grease or oil. Use with Safety-Walk™ products. 5 oz. tube** | 902 | **6BV33** | $7.97 | **$7.25** | 0.5 |
| **Primer - Use for preparing porous surfaces prior to tread applications. One quart** | 901 | **6BV32** | 23.94 | **21.75** | 2.3 |
| **Tub & Shower Strips - 3/4" x 17" fine textured strips for light traffic areas and bare skin applications. 400 strips per package** | 7705 | **6BT82** | 271.08 | **246.75** | 7.3 |

# DUST MOPS, FRAMES AND HANDLES




(▲) Net prices, not subject to discount.

## DUST MOPS

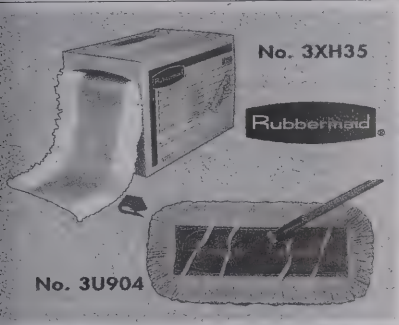
- **Launderable, high quality yarn for excellent dust retention**
- **Extra durable, 5" wide polyester backing**
- **Frame and handle not included; order separately below**

**Kleen Kut™ Tufted.** "Bonded" yarn helps eliminate fraying, unraveling, linting. Ring spun 100% cotton yarn. In 4 sizes. White yarn/green backing. Snap back style. Available in kits that include handle No. 4W320, frame and dust mop. White/green color.

**Trapper®.** Durable loop-end, cotton blended yarn eliminates fraying, unraveling and linting. Ideal for high tech, health care and laundering applications. In 4 sizes. Yellow yarn/yellow backing. Tie back style.

**Tuftaway™.** Natural colored, 4-ply cotton blended yarn, tufted for durability. Economically priced, ideal for industrial or commercial applications. In 4 sizes. Natural yarn/white backing. Tie back style.

| Mop Type | Size (In.) | Yarn/Backing Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Kleen Kut™ Tufted Dust Mop** | 18 | White/Green | J652 | **3U900** | $11.32 | **$10.75** | 1.1 |
| **Kleen Kut™ Tufted Dust Mop** | 24 | White/Green | J653 | **3U901** | 14.63 | **13.90** | 1.1 |
| **Kleen Kut™ Tufted Dust Mop** | 36 | White/Green | J655 | **3U902** | 19.08 | **18.13** | 1.5 |
| **Kleen Kut™ Tufted Dust Mop** | 48 | White/Green | J657 | **3U903** | 23.68 | **22.50** | 2.8 |
| **Kleen Kut™ Kit Mop/Handle** | 5 x 24 | White/Green | J653-67 | ***New*4TJ61** | 38.90 | **33.10** | 4.3 |
| **Kleen Kut™ Kit Mop/Handle** | 5 x 36 | White/Green | J655-67 | ***New*4TJ62** | 44.20 | **37.60** | 5.1 |
| **Kleen Kut™ Kit Mop/Handle** | 5 x 48 | White/Green | J655-67 | ***New*4TJ63** | 52.20 | **44.40** | 5.9 |
| **Trapper® Dust Mop** | 18 | Yellow/Yellow | J152 | **3U894** | 12.92 | **10.98** | 1.0 |
| **Trapper® Dust Mop** | 24 | Yellow/Yellow | J153 | **3U895** | 15.26 | **12.97** | 1.3 |
| **Trapper® Dust Mop** | 36 | Yellow/Yellow | J155 | **3U896** | 20.74 | **17.63** | 1.7 |
| **Trapper® Dust Mop** | 48 | Yellow/Yellow | J157 | **3U897** | 25.04 | **21.28** | 2.3 |
| **Tuftaway™ Dust Mop** | 18 | Natural/White | K352 | **3U898** | 8.42 | **7.16** | 1.0 |
| **Tuftaway™ Dust Mop** | 24 | Natural/White | K353 | **5W652** | 10.46 | **3.14▲** | 1.0 |
| **Tuftaway™ Dust Mop** | 36 | Natural/White | K355 | **5W653** | 14.68 | **12.48** | 1.7 |
| **Tuftaway™ Dust Mop** | 48 | Natural/White | K357 | **3U899** | 19.38 | **5.83▲** | 2.0 |

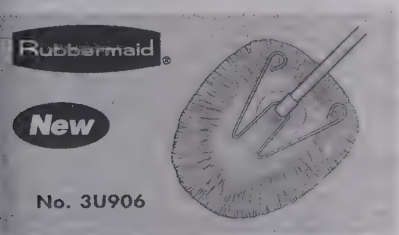



## DISPOSABLE DUST MOPS

**Castaway® Disposable Dust Mop** contains absorbent, bulky, cotton/synthetic blend yarn. Pretreated for maximum dust collection. Dusts up to 1 million sq. ft. Typar® backing uses ties and is available in 4 lengths. Natural yarn. Frames and handles not included; order separately below.

**Select-a-Length™ Dust Mop** lets you customize your mop to fit any standard mop. 4-ply cotton yarn offers excellent dust pick-up. Durable Typar® backing provides long service life. Convenient slide-in pockets fits most standard frames. 40 ft. roll stored in space efficient box.

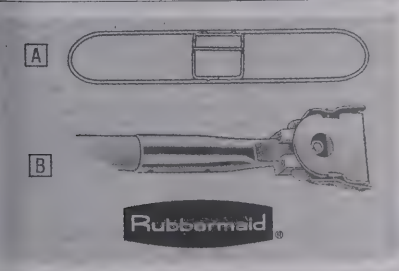
| Mop Type | Size (In.) | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Castaway® Disposable** | 5 x 18 | Natural | L152 | **3U904** | $5.56 | **$4.73** | 1.0 |
| **Castaway® Disposable** | 5 x 24 | Natural | L153 | **5W654** | 6.70 | **6.03** | 0.8 |
| **Castaway® Disposable** | 5 x 36 | Natural | L155 | **5W655** | 8.54 | **7.69** | 1.1 |
| **Castaway® Disposable** | 5 x 48 | Natural | L157 | **3U905** | 9.88 | **9.39** | 2.0 |
| **Select-a-Length™ Dust Mop** | 40 ft. roll | Natural | M150 | **3XH35** | 85.00 | **68.00** | 13.0 |




## KUT-A-WAY™ WEDGE MOP

**Wedge Mop** lies flat to fit under furniture and into other tight places. Head can be removed from metal wire frame. Cotton blend yarn with green polyester backing. Yarn spread: 12 x 17". Launderable head. Frame/handle sold separately. Available in a kit that includes handle/frame No. 3U907 and wedge dust mop. White/green color.

| Product | Size (In.) | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Kut-A-Way® Wedge Mop** | — | U130 | **3U906** | $7.22 | **$6.14** | 1.4 |
| **Dust Mop Frame/Handle** | 54 | U110 | **3U907** | 5.68 | **5.40** | 1.4 |
| **Kut-A-Way Wedge Mop/Handle/Frame Kit** | — | U130-67 | ***New* 4TJ64** | 18.20 | **15.47** | 2.6 |



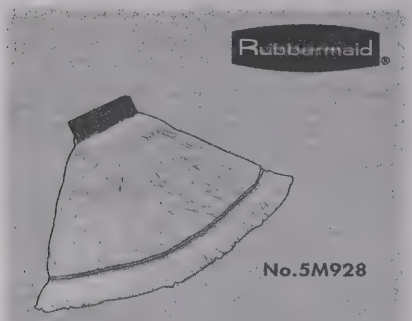

## DUST MOP FRAMES AND HANDLES

**A Snap On Frame.** In 4 lengths to fit dust mops on this page. Durable, plated metal frame resists rust and corrosion. Welded construction.

**B Snap On Handle.** Clip-on latch for easy mop changing. 360° free swivel action or rigid position control. Heavy-duty latch is plated for long life. 60" hardwood handle.

| Key | Mop Type | Size (In.) | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Snap On Frame | 18 | M252 | **3U888** | $4.60 | **$4.38** | 1.0 |
| A | Snap On Frame | 24 | M253 | **5W656** | 5.02 | **4.77** | 1.1 |
| A | Snap On Frame | 36 | M255 | **5W657** | 6.66 | **6.33** | 1.4 |
| A | Snap On Frame | 48 | M257 | **3U889** | 8.64 | **8.21** | 1.8 |
| B | Snap On Handle | 1 x 60 | M116 | **4W320** | 14.20 | **12.07** | 2.2 |

# WET MOPS




Small: 16-20 oz.
Medium: 24 oz.
Large: 32 oz.

Note: Oz. refers to the weight of the mop when dry.

## WEB FOOT™ SHRINKLESS LOOPED-END MOPS

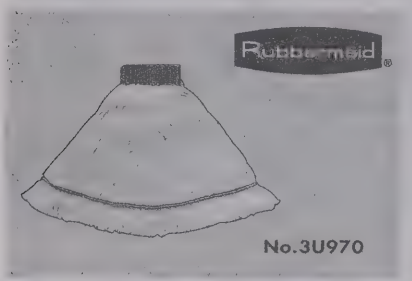
- **Ideal for health care**
- **Antimicrobial agent locked into yarn**
- **Launderable—won't shrink**
- **Headband size: 6 inches**

Mops feature 4-ply Uniblend™ construction combining cotton's absorbency, rayon's quick pick-up and water release, and the exceptional strength of a synthetic blend. Rubbermaid brand.

| Size | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | White | A251-White | **3U670** | $10.16 | **$8.13** | 0.8 |
| **Medium** | White | A252-White | **3U674** | 12.54 | **10.03** | 1.2 |
| **Large** | White | A253-White | **3U678** | 15.04 | **12.03** | 1.5 |
| **Small** | Blue | A251-Blue | **3U672** | 11.02 | **8.82** | 0.8 |
| **Medium** | Blue | A252-Blue | **3U676** | 13.74 | **10.99** | 1.2 |
| **Large** | Blue | A253-Blue | **3U680** | 16.76 | **13.41** | 1.5 |
| **Small** | Green | A251-Green | **3U671** | 11.02 | **8.82** | 0.8 |
| **Medium** | Green | A252-Green | **3U675** | 13.74 | **10.99** | 1.2 |
| **Large** | Green | A253-Green | **3U679** | 16.76 | **13.41** | 1.5 |
| **Small** | Orange | A251-Orange | **3U673** | 11.02 | **8.82** | 0.8 |
| **Medium** | Orange | A252-Orange | **3U677** | 13.74 | **10.99** | 1.2 |
| **Large** | Orange | A253-Orange | **3U681** | 16.76 | **13.41** | 1.5 |

### WEB FOOT™ STANDARD LOOPED-END MOPS

| | | | | | | |
|---|---|---|---|---|---|---|
| **Small** | White | A151-White/Pk 6 | **5M928** | 53.16 | **42.55** | 5.0 |
| **Medium** | White | A152-White/Pk 6 | **5M933** | 66.70 | **53.40** | 13.0 |
| **Large** | White | A153-White/Pk 6 | **5M938** | 82.44 | **66.00** | 9.0 |




## SWINGER LOOP® LOOPED-END WET MOPS

- **Loop-end yarn lasts over 8 times longer than cut-end mops and provides better liquid retention**
- **Eliminates fraying, unraveling, and excessive linting**
- **Tailband keeps yarn spread for maximum surface coverage**

**Swinger Loop.** High-grade layered blend of cotton/rayon/synthetic fibers provides excellent durability and absorbency. Ideal for general maintenance. 5" mesh head. Small, 8-12 oz.; medium, 16-20 oz.; large, 22-26 oz.; extra large, 30-34 oz. Rubbermaid brand.

| Mop Type | Size | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Swinger Loop** | Medium | White | C152 | **5W647** | $9.62 | **$8.18** | 0.9 |
| **Swinger Loop** | Large | White | C153 | **5W648** | 11.90 | **10.12** | 1.5 |
| **Swinger Loop** | X-Large | White | C154 | **3U970** | 14.94 | **12.70** | 1.7 |




## WEB FOOT™ FINISH MOPS

- **Loop-end yarn lasts over 8 times longer than cut-end mops and provides better liquid retention**
- **Eliminates fraying, unraveling, and excessive linting**
- **Tailband keeps yarn spread for maximum surface coverage**

**Web Foot Finish Mop.** Special Rayon blend provides controlled liquid release for finishing and disinfecting. Blue/white striped yarn with 1¼" headband. Rubbermaid brand.

| Mop Type | Size | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Web Foot** | Medium | White/Blue | A412 | **3U914** | $11.46 | **$9.80** | 1.2 |
| **Web Foot** | Large | White/Blue | A413 | **5W649** | 14.18 | **10.85** | 1.3 |




## FINISH MOPPING SYSTEM

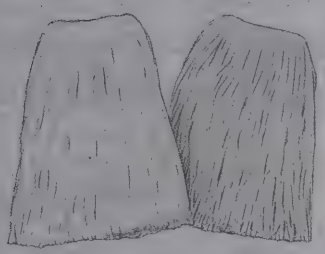
- **Flat mopping system reduces labor costs**
- **Provides 100% floor coverage**
- **No splashing; easy to handle**

Delivers 200-300 sq. ft. of coverage with a single mop load compared with 100 sq. ft. average coverage with a traditional mop using a wringer/bucket combination. Eliminates need for a wringer. Finish System mop fits snugly into bucket, absorbing right amount of finish needed for a smooth even finish coat. Two sediment screens inside bucket keep dirt down in bucket, out of finish and off floors and finish mop. When mopping is done, simply leave mop head and frame in bucket and snap on the air-tight lid. Keeps mop and material fresh until next use.

Finish System Starter Kit includes bucket, lid, two sieves, four casters, six mop heads and frame. Requires handle No. 4W320, sold separately. Rubbermaid brand.

| Description | Rubbermaid Model | Stock No. | List | Each | Lots / Qty | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Finish System Starter Kit** | E050 | **2U651** | $146.22 | **$117.00** | — | 11.0 |
| **18" Finish Mop Head Only** | E052 | **2U652** | 13.40 | **10.72** | **$9.65 /12** | 0.8 |
| **22 Qt. Finish Bucket Only** | E051 | **5M969** | 75.52 | **60.45** | — | 10.0 |

# CUT-END WET MOPS, MOP HANDLES AND SPONGE MOPS



No 3U916 No. 3U915

Rubbermaid

## CUT-END MOPS

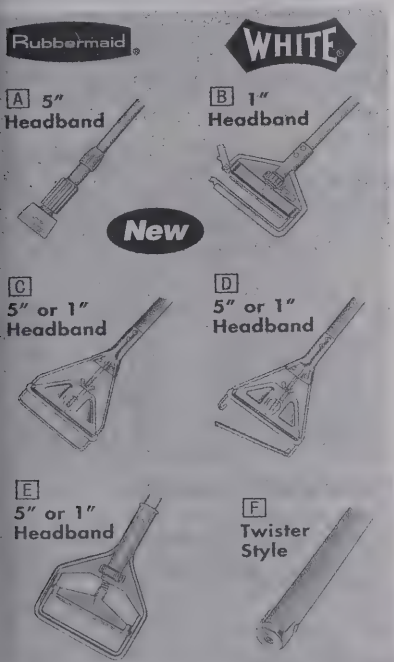
**ValuePro™ Cotton Mop** is ideal for general cleaning and scrubbing. Economical mop comes with a narrow 1" white headband. In 4 sizes.

**ValuePro™ Rayon Mop.** Rayon yarn has excellent liquid release properties, ideal for economical floor finishing and disinfecting or light maintenance use. Comes with a narrow 1" white headband. In 3 sizes.

**DuraPro® Cotton Twister Mop.** Good absorbency and economy. Screw-on handle. Ideal for general maintenance and scrubbing. In 3 sizes. White headband.

**DuraPro® Rayon Twister Mop.** Excellent liquid release properties, ideal for economical floor finishing and disinfecting or light maintenance. Screw-on handle. 3 sizes. White headband.

| Mop Type | Size | Color | Seco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CUT-END MOPS** | | | | | | | |
| **ValuePro™ 4-Ply Cotton** | #16 | Natural | V116 | **3U915** | $3.46 | **$3.29** | 1.0 |
| **ValuePro™ 4-Ply Cotton** | #20 | Natural | V117 | **5W641** | 4.22 | **3.80** | 1.3 |
| **ValuePro™ 4-Ply Cotton** | #24 | Natural | V118 | **5W642** | 5.18 | **4.19** | 1.5 |
| **ValuePro™ 4-Ply Cotton** | #32 | Natural | V119 | **3U916** | 6.94 | **6.59** | 1.9 |
| **ValuePro™ Rayon** | #16 | Natural | V416 | **3U920** | 5.18 | **4.92** | 1.0 |
| **ValuePro™ Rayon** | #24 | Natural | V418 | **5W643** | 7.14 | **6.43** | 1.5 |
| **ValuePro™ Rayon** | #32 | Natural | V419 | **3U921** | 9.20 | **8.74** | 1.9 |
| **TWISTER MOPS** | | | | | | | |
| **DuraPro® Cotton Twister** | 16 oz. | Natural | F166 | **3U922** | 5.42 | **4.34** | 1.2 |
| **DuraPro® Cotton Twister** | 24 oz. | Natural | F168 | **3U923** | 7.24 | **5.79** | 1.7 |
| **DuraPro® Cotton Twister** | 32 oz. | Natural | F169 | **3U924** | 9.52 | **7.62** | 2.3 |
| **DuraPro® Rayon Twister** | 16 oz. | Natural | F466 | **3U925** | 6.94 | **5.55** | 1.2 |
| **DuraPro® Rayon Twister** | 24 oz. | Natural | F468 | **3U926** | 9.20 | **7.36** | 1.7 |
| **DuraPro® Rayon Twister** | 32 oz. | Natural | F469 | **3U927** | 11.78 | **9.42** | 2.3 |




## MOP HANDLES

**A Gripper® Jaw Handle** lets you change mopheads quickly and easily. Designed for wideband mops. All-plastic head with vinyl-covered aluminum handle. Head and handle grip feature antimicrobial agent for bacteria control. In 54" or 60" length.

**B Invader® Plastic Hinged Side Gate Handle** lets mop slide on or off. Thumbwheel clamps mophead firmly in place. Plastic head with vinyl-covered aluminum handle. Head and handle grip feature antimicrobial agent for bacteria control. In 54" or 60" length.

**C Janitor Type Handle,** has plated metal head with wing-nut adjustment. For both narrow and wide headbands. 60" hardwood handle.

**D Speed Change Handle** allows fast mop changes through a hinged yolk bar. Head has durable plated metal construction with wing-nut adjustment. Ideal for both narrow and wide headbands. 60" hardwood handle.

**E Janitor Type Handle.** Extra durable high-impact plastic head won't rust or bend. Handle has thumbwheel adjuster. Holds both wide and narrow headband mops. 60" fiberglass or hardwood handle.

**F Twister Handle.** Use with Dura Pro style mopheads. Screw-on connection provides for quick mophead changes and lets mop lie flat on the floor. 60" hardwood handle.

| Key | Description | Shaft Length | Shaft Material | Color | Mfr. | Mfr. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Gripper® | 54" | Aluminum | Gray | Rubbermaid | H235 | | **3U502** | $15.72 | **$12.74** | 1.3 |
| **A** | Gripper® | 60 | Aluminum | Gray | Rubbermaid | H236 | | **3U505** | 16.16 | **13.09** | 1.4 |
| **A** | Gripper® | 60 | Fiberglass | Blue | Rubbermaid | H236 | ***New*** | **4TJ58** | 16.16 | **14.54** | 0.8 |
| **A** | Gripper® | 60 | Fiberglass | Green | Rubbermaid | H236 | ***New*** | **4TJ59** | 16.16 | **14.54** | 0.8 |
| **A** | Gripper® | 60 | Fiberglass | Red | Rubbermaid | H236 | ***New*** | **4TJ60** | 16.16 | **14.54** | 0.8 |
| **B** | Invader® | 54 | Aluminum | Gray | Rubbermaid | H135 | | **3U682** | 15.84 | **14.26** | 1.3 |
| **B** | Invader® | 60 | Aluminum | Gray | Rubbermaid | H136 | | **3U683** | 16.38 | **14.74** | 1.4 |
| **B** | Invader® | 60 | Fiberglass | Blue | Rubbermaid | H136 | ***New*** | **4TJ55** | 16.38 | **14.74** | 0.8 |
| **B** | Invader® | 60 | Fiberglass | Green | Rubbermaid | H136 | ***New*** | **4TJ56** | 16.38 | **14.74** | 0.8 |
| **B** | Invader® | 60 | Fiberglass | Red | Rubbermaid | H136 | ***New*** | **4TJ57** | 16.38 | **14.74** | 0.8 |
| **C** | Janitor Type | 60 | Wood | — | White | 93 | | **3U929** | 13.20 | **9.90** | 2.6 |
| **D** | Speed Change Handle | 60 | Wood | — | White | 83 | | **3U930** | 12.85 | **9.64** | 2.6 |
| **E** | Janitor Type- | 60 | Fiberglass | — | White | 94 | | **3U931** | 16.20 | **14.58** | 1.8 |
| **E** | Plastic Head | 60 | Wood | — | White | 95 | | **3U932** | 15.50 | **11.63** | 1.7 |
| **F** | Twister Handle | 60 | Wood | — | Seco | H316 | | **3U928** | 5.68 | **5.11** | 1.7 |




## SPONGE MOP

Front pull lever on handle operates solid steel rollers. Allows the user to easily squeeze liquids from 12" cellulose mop head. Use with No. 4W248 19 quart double bucket listed on page 1952 for quick response mopping. Mop head is replaceable. Rubbermaid brand.

| Description | Rubbermaid Model | Stock No. | List | Each | Lots | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Steel Roller Sponge Mop** | 6435 | **2U671** | $19.70 | **$17.73** | **$15.96** | 1.0 |
| **12" Replacement Mop Head** | 6436 | **2U672** | 8.54 | **7.69** | **6.92** | 0.3 |

# MOP WRINGERS AND BUCKETS



A No. 2W532



B No. 2W531

## PLASTIC MOP WRINGERS

Maximum water evacuation with little effort. 25-35% lighter than metal wringers. All styles feature non-slip handles, corrosion resistant bodies and hardware, and durable gearing for long, safe use. Mop wringers feature smooth, non-porous skin that stands up to harsh cleaning chemicals and cleans easily to maintain appearance.

### A DOWNWARD PRESSURE WRINGERS

Accommodate all mopheads (including those with rectangular mophead gripper). Heavy-duty use. Self-meshing, self-lubricating teeth for smooth operation. Wringer channels water directly into bucket. Extra high back to reduce spillage.

### B SIDEWARD PRESSURE WRINGERS

Tension spring linkage with enhanced water evacuation design for general use applications.

| Key | Wringer Pressure | Mop Capacity | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Downward | 8-16 oz. | Yellow | 6124 | **3U688** | $91.08 | **$72.90** | 8.3 |
| A | Downward | 8-16 | Brown | 6124 | **3U689** | 91.08 | **72.90** | 8.3 |
| A | Downward | 32 | Yellow | 7575 | **2W532** | 97.92 | **78.35** | 20.0 |
| A | Downward | 32 | Brown | 7575 | **3U685** | 97.92 | **78.35** | 20.0 |
| B | Sideward | 12-32 | Yellow | 6127 | **2W531** | 71.38 | **57.15** | 20.0 |
| B | Sideward | 12-32 | Brown | 6127 | **3U684** | 71.38 | **57.15** | 20.0 |

## PLASTIC MOP BUCKETS

Wide stance and low center of gravity for stable, easy movement over uneven floor surfaces or doorways. Feature multilingual "Caution" imprint on side.

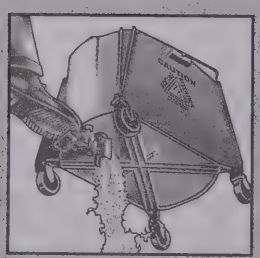



C No. 3U665

C **35 qt. capacity.** Structural web construction combines impact resistance of structural foam with a smooth skin for easy cleaning. Low front design minimizes mop lift into bucket. High back with top and bottom handles, and large spout with ledge detail allow for easier, safer dumping. Built-in floor scraper holder. Single bail has ergonomic grip and stops for easy lifting and handling. 3" all plastic, non-marking, swivel caster feature a removable axle for ease of cleaning and maintenance. Rubbermaid brand.

**44 qt. capacity.** Duramold plastic body resists denting, chipping, and peeling. Resists corrosion by cleaners, chemicals, germicides, waxes, and water. Features 3" non-marking swivel casters. Rubbermaid brand.

## EZMT™ MOP BUCKET

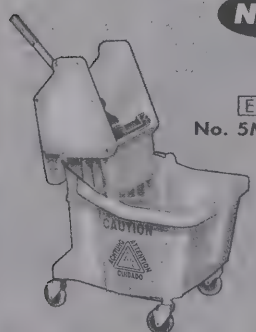


D No. 5M888

D EZMT™ bucket eliminates the bending and heavy lifting involved with emptying a mop bucket. Foot operated bottom drain mechanism releases water into floor drain. Sediment screen traps dirty residue, helping keep mop and water cleaner longer. Rubbermaid brand.

| Key | Mop Bucket Description | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| C | Brute 35-Qt. | Yellow | 7570 | **3U665** | $54.74 | **$43.80** | 13.0 |
| C | Brute 35-Qt. | Brown | 7570 | **3U666** | 54.74 | **43.80** | 13.0 |
| — | Brute 44-Qt. | Yellow | 6118-88 | **3U667** | 74.66 | **59.75** | 15.0 |
| — | Brute 44-Qt. | Brown | 6118-88 | **3U668** | 74.66 | **59.75** | 15.0 |
| — | EZMT 35-Qt. | Yellow | 7571 | **3XH28** | 74.36 | **59.50** | 12.0 |
| — | EZMT 35-Qt. | Brown | 7571 | **3XH27** | 74.36 | **59.50** | 12.0 |
| D | EZMT 44-Qt. | Yellow | 6185 | **5M888** | 94.12 | **75.30** | 17.0 |

New




E No. 5M901

## PLASTIC MOP BUCKET/WRINGER COMBOS

E Eliminate guesswork when ordering mop bucket/wringer combos. Combination numbers include the right bucket with the right wringer. Available in 35- and 44-qt. bucket capacity, with side or down pressure wringers. Use combination No. 5M900 for general purpose applications; and No. 5M901 combination for high volume mopping. 44-qt. combinations available with either down pressure wringer or EZMT side pressure wringer. Side pressure combos available in 5 different colors to allow color-coding of cleaning systems. Rubbermaid brand.

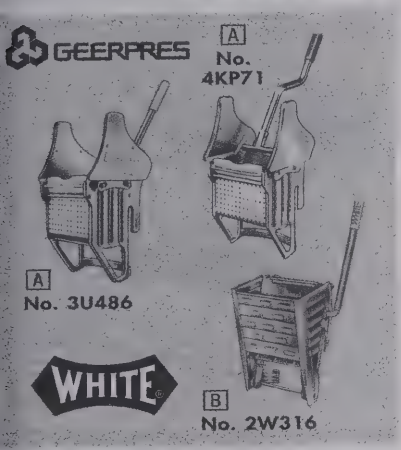
| Key | Description | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| — | 35-qt., Side Pressure Combo | Yellow | 7580 | **5M900** | $81.32 | **$65.10** | 21.0 |
| — | 35-qt., Side Pressure Combo | Brown | 7580 | **3XH29** | 81.32 | **65.10** | 21.0 |
| — | 35-qt., Side Pressure Combo | Blue | 7588 | *New* **4TJ52** | 94.00 | **75.20** | 12.0 |
| — | 35-qt., Side Pressure Combo | Green | 7588 | *New* **4TJ53** | 94.00 | **75.20** | 12.0 |
| — | 35-qt., Side Pressure Combo | Red | 7588 | *New* **4TJ54** | 94.00 | **75.20** | 12.0 |
| E | 35-qt., Down Pressure Combo | Yellow | 7582 | **5M901** | 117.68 | **94.15** | 21.0 |
| E | 35-qt., Down Pressure Combo | Brown | 7582 | **3XH30** | 117.68 | **94.15** | 22.0 |
| — | 44-qt., Down Pressure Combo | Yellow | 6134 | **1CG06** | 147.44 | **118.00** | 28.0 |
| — | 35-qt. EZMT, Down Pressure Combo | Brown | 7583 | **3XH31** | 152.98 | **122.40** | 22.0 |
| — | 35-qt. EZMT, Down Pressure Combo | Yellow | 7583 | **3XH32** | 152.98 | **122.40** | 22.0 |
| — | 44-qt. EZMT, Side Pressure Combo | Yellow | 6186 | **5M889** | 136.24 | **109.00** | 25.0 |




## STAINLESS STEEL DOWNWARD PRESSURE MOP WRINGERS

Stainless steel parts except for pressure bars and springs. These wringers resist rust, abrasion, discoloration, or staining under normal use. Flat band wringers are used with No. 4KP67 bucket (shown below). Geerpres brand.

| Model | Mop Capacity (Oz.) | Geerpres Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| SS Royal Knight® | 8-16 | 1008 | **3U487** | $242.90 | **$182.25** | 20.0 |
| SS Royal Prince® | 16-24 | 1009 | **3U497** | 303.38 | **227.75** | 25.0 |
| SS Royal Knight® (Flat Band) | 8-16 | 1006 | **4KP64** | 233.80 | **187.25** | 10.0 |
| SS Royal Prince® (Flat Band) | 16-24 | 1007 | **4KP65** | 286.00 | **229.00** | 31.0 |




## GALVANIZED MOP WRINGERS

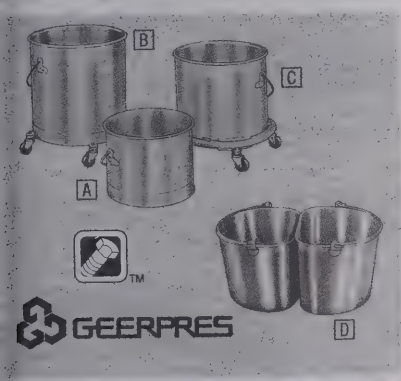
### A ZINC ELECTROPLATED DOWNWARD PRESSURE WRINGERS

**1-stroke operation** pushes water straight into bucket. All-metal, hot-dipped galvanized, welded and riveted construction. Solid-steel gear shaft, double-staggered metal gears for slipproof operation. Long-wearing steel bushings. Ergo wringers are ergonomically designed to reduce repetitive strain injuries. Geerpres.

### B SIDE-SQUEEZE WRINGER

**Heavy-gauge** zinc electroplated steel wringer. Resists corrosion. Highest water extraction, hopper cap. (442 cu in.) Large drain openings, handles up to 40-oz. mops. Special linkage system and 5/8" solid steel shaft put more force on mophead.

| Key | Wringer Description | Mop Capacity (Oz.) | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Floor-Knight® | 8-16 | Geerpres | 1021 | **3U486** | $114.63 | **$86.00** | 20.0 |
| A | Floor-Prince® | 16-24 | Geerpres | 1010 | **2W315** | 139.65 | **104.75** | 20.0 |
| A | Floor-King® | 24-36 | Geerpres | 1015 | **3U485** | 158.26 | **118.75** | 36.0 |
| A | Ergo-Knight® | 8-16 | Geerpres | 71021 | **4KP71** | 115.00 | **86.25** | 20.0 |
| A | Ergo-Prince® | 16-24 | Geerpres | 71010 | **4KP69** | 138.00 | **103.50** | 31.0 |
| A | Ergo-King® | 24-36 | Geerpres | 71015 | **4KP70** | 156.40 | **117.30** | 36.0 |
| B | Side-Squeeze | 20-40 | White | 2000 | **2W316** | 74.90 | **59.95** | 15.0 |




## GALVANIZED MOP BUCKETS

**A thru C 5 and 8 Gallon Round Stainless Steel Buckets.** Rolled, open rim reinforces buckets and prevents accumulation of dirt and bacteria. 1-piece design prevents leaks and makes bucket easy to sanitize. Bail ears are positioned below buckets rim to avoid interference with wringer placement.

**D Half-Round Stainless Steel Buckets.** Fastened together by an overlapping lip for stability. Feature tapered sides for nesting, compact storage. Permanently etched gradations for easy, accurate mixing, and safe, easy lift bails. Each bucket has a 5 gallon capacity. Geerpres brand.

| Key | Capacity (Gal.) | Casters | Bumper | Geerpres Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 5 | No | No | 2210 | **3U490** | $286.22 | **$214.75** | 7.0 |
| A | 8 | No | No | 2220 | **3U494** | 327.04 | **245.50** | 9.0 |
| B | 5 | Yes | No | 2211 | **3U492** | 323.84 | **243.00** | 9.0 |
| B | 8 | Yes | No | 2221 | **3U488** | 377.65 | **283.25** | 12.0 |
| C | 8 | Yes | Yes | 2223 | **3U493** | 415.99 | **312.00** | 14.0 |
| D | 5 (each) | No | No | 2250 | **4KP67** | 341.80 | **256.50** | 12.0 |




## GALVANIZED MOP BUCKETS

### 8 GALLON ROUND BUCKET

**8 Gallon Round Bucket.** More usable capacity than oval buckets, more durable than plastic buckets. Hot-dipped galvanized after bucket is formed. Zinc coating prevents leaks and corrosion. Bails are welded below rim to prevent interference with wringer. 1/8" thick steel reinforcing band protects bucket rim. 2" casters. Geerpres brand.

### 26 QUART OVAL BUCKET

**26 Quart oval bucket.** 24-gauge corrosion-resistant, pregalvanized steel. Heavy corrugation for added strength. Mechanically locked, hand soldered seams withstand the abuse of heavy mopping. Reinforced top ring, riveted bail ears and embossed measurement gradations. Use with No. 2W316 side-squeeze top ringer (see listing above). White brand.

| Key | Capacity | Shape | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 8 gal. | Round | Geerpres | 2023 | **2W317** | $113.83 | **$85.40** | 14.0 |
| B | 26 qt | Oval | White | 260 | **2W318** | 78.10 | **62.50** | 11.0 |

# FLOOR BRUSHES AND STREET BROOMS

## BRUSH & BROOM BLOCK MATERIALS

### PERMA-SWEEPS™

High-density foam block brush with long-wearing synthetic fill. Acid, solvent, oil, fungus and liquid resistant for wet or dry sweeping applications. Rugged synthetic block will not warp, crack, split, or house harmful bacteria. Excellent for hospital, laboratory, and food service applications. All Perma-Sweep™ 18 and 24" brushes include guaranteed replacement against cracking, warping or breaking, when used with handle No. 3H389 (See page 1947).

### WOOD BLOCK SWEEPS

Hardwood block with natural fiber fill for general purpose sweeping. Natural fiber retains liquids, performs well in wet applications. Hardwood block is kiln dried, finished and lacquered to resist moisture and cracking.

### FLOOR BRUSHES—FINE SWEEPING APPLICATIONS

- **Scratch-free sweeping on wood, ceramic tile, linoleum, smooth concrete, marble, and polished surfaces**
- **For use with threaded handles Nos. 1A839, 3H384, 3H389, 3U790. See page 1947**

| Description | Block Length (In.) | Trim Length (In.) | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Flagged Synthetic Fill** | 18 | 3 | 42163 | **3U766** | $15.01 | **$12.00** | 1.8 |
| Extra-fine sweeping, flagged | 24 | 3 | 42164 | **3H388** | 19.63 | **15.71** | 2.5 |
| tips pick up small particles of dust and dirt. Perma-Sweep® block | 36* | 3 | 42194 | **3U767** | 35.16 | **28.25** | 4.0 |
| **Un-Flagged Synthetic Fill** | 18 | 3 | 42165 | **1A840** | 14.29 | **12.87** | 1.6 |
| For use in wet or dry conditions Perma-Sweep® block | 36* | 3 | 42195 | **3U768** | 37.38 | **33.75** | 4.0 |

### FLOOR BRUSHES—MEDIUM GENERAL PURPOSE SWEEPING APPLICATIONS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Un-Flagged Synthetic Fill** | 18 | 3 | 42007 | **1A842** | 14.50 | **13.05** | 2.0 |
| For medium sweeping wood, tile. | 24 | 3 | 42008 | **1A843** | 19.98 | **17.98** | 3.0 |
| Wood block. | 24 | 3 | 42166 | **1A841** | 20.39 | **18.32** | 2.7 |




### SPECIALTY FLOOR BRUSHES-MEDIUM/HEAVY DUTY SWEEPING APPLICATIONS

- **Heavy-duty sweeping of caked-on dirt for concrete, rough wood, asphalt and brick surfaces**
- **Brush includes heavy-duty, wide-legged brace to secure and stregthen handle**
- **For use with threaded handles Nos. 1A839, 3H384, 3H389, 3U790. See page 1947**

| Description | Block Length (In.) | Trim Length (In.) | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Natural Tampico/Wire Center Fill** | 18 | 3 | 42019 | **3U775** | $19.58 | **$16.64** | 2.3 |
| Tempered steel center offers long life, flexing | 24 | 3 | 42020 | **3U776** | 25.44 | **21.63** | 3.0 |
| action, aggressive debris removal. Hardwood block | | | | | | | |




### GARAGE BRUSHES—MEDIUM/HEAVY DUTY SWEEPING APPLICATIONS

- **Sweeping or scrubbing heavy dirt on concrete, rough wood, blacktop, factory floors, or brick**
- **For use with threaded handles Nos. 1A839, 3H384, 3H389, 3U790. See page 1947**

| Description | Block Length (In.) | Trim Length (In.) | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Synthetic Fill** | 18 | 3 | 42167 | **1A846** | $14.54 | **$13.08** | 1.8 |
| Durable nylon for use in wet or dry | 24 | 3 | 42168 | **1A847** | 20.23 | **17.20** | 3.0 |
| conditions. Perma-Sweep® block | 36* | 3 | 42200 | **3U772** | 37.90 | **32.35** | 4.3 |
| **Brown Natural Palmyra Fill** | 18 | 4 | 42022 | **1A844** | 11.69 | **10.53** | 2.6 |
| Stiff texture for use in factories, mills | 24 | 4 | 42023 | **1A845** | 15.98 | **13.59** | 3.0 |
| commercial buildings. Wood block | | | | | | | |

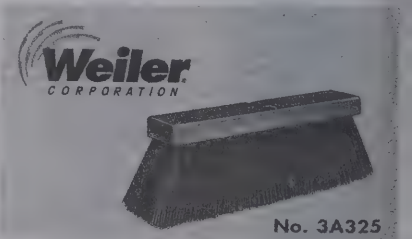
(*) All 36" Perma-Sweep™ brushes are manufactured with hardwood blocks to which the unconditional Perma-Sweep™ guarantee does not apply.



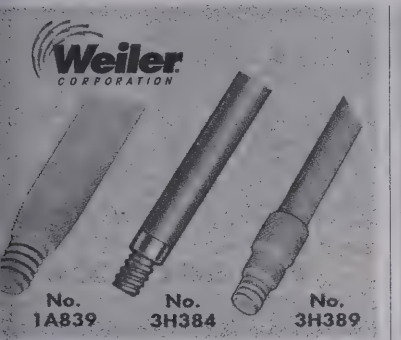

### STREET BROOMS—COARSE SWEEPING APPLICATIONS

- **Heavy-duty sweeping, scrubbing or moving dirt, debris on streets, parking lots, factories, garages, barns**
- **Broom includes Spring-Loc to secure handle into hole of sweeping back**
- **For use with tapered handle No. 3A326. See page 1947**

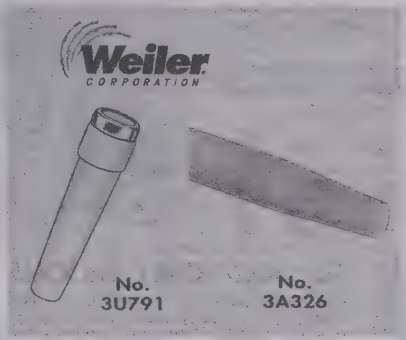
| Description | Block Length (In.) | Trim Length (In.) | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Heavy Duty w/Maroon Synthetic Fill** | 16 | 5¼ | 42033 | **3A325** | $16.07 | **$12.30** | 3.6 |
| Oil, solvent and heat resistant nylon for use in mills and factories. Hardwood block. | | | | | | | |
| **Natural Bassine Fill** | 16 | 6¼ | 42032 | **3A324** | 11.64 | **10.48** | 3.6 |
| Extra stiff natural fiber. Flared ends to sweep close to curbs, walls. Hardwood block | | | | | | | |



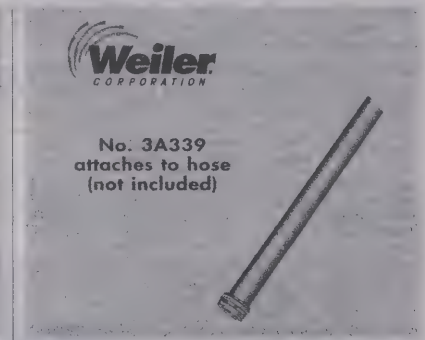
# THREADED TIP, TAPERED TIP, AND FOUNTAIN TUBE HANDLES




**eaded Tip Handles** for use with floor and rage brushes, industrial coatings, and neral purpose wash brushes.




**Tapered Tip Handles** for use with street brooms, floor/deck scrub brushes, squeegees, and window wash brushes.




**Fountain Tube Handle** for continuous flow use with car/truck wash brushes.

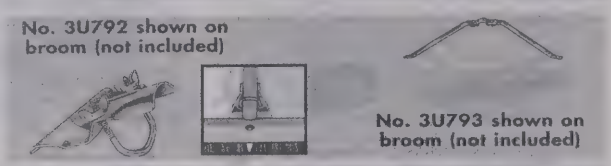
| Tip Description/Handle Type | Length (Ft.) | Dia. (Inches) | Tip Dimensions W x L (Inches) | Flo Pac Model | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **THREADED TIP HANDLES** | | | | | | | | | |
| **Threaded Hardwood Tip/Hardwood Handle** | 5 | 15/16 | .700 x 1 | — | 44018 | **1A839** | $5.44 | **$4.63** | 1.2 |
| **Threaded Hardwood Tip/Hardwood Handle** | 5 | 1 1/8 | .700 x 1 | — | 44019 | **3U790** | 7.19 | **6.11** | 1.5 |
| **Threaded Fiberglass Broom Handle** | 5 | 15/16 | .700 x 1 | 39001-5 | — | **1CF19** | 16.56 | **14.69** | 0.9 |
| **Threaded Metal Tip/Hardwood Handle** | 5 | 15/16 | .700 x 1 | — | 44300 | **3H384** | 8.90 | **7.58** | 1.2 |
| **Threaded Perma-Flex™ Tip/Hardwood Handle*** | 5 | 15/16 | .700 x 1 | — | 44301 | **3H389** | 7.54 | **6.41** | 1.2 |
| **TAPERED TIP HANDLES & ADAPTER** | | | | | | | | | |
| **Tapered Hardwood Tip/Hardwood Handle** | 5 | 1 1/8 | — | — | 44020 | **3A326** | 8.21 | **6.57** | 1.5 |
| **Tapered Fiberglass Broom Handle** | 5 | 15/16 | — | 2007-T | — | **1CF18** | 16.56 | **14.69** | 2.2 |
| **Adapter Tip (converts threaded tip to tapered)** | — | — | — | — | 75505 | **3U791** | 3.81 | **3.24** | 0.1 |
| **FOUNTAIN TUBE HANDLE** | | | | | | | | | |
| **5' Fountain Tube/Steel Handle (water flow-through)** | 5 | 7/8 | — | — | 44319 | **3A339** | 11.63 | **9.30** | 1.3 |

*Recommended for use with synthetic block floor and garage brushes.

## BRACES

| ip Description/Handle Type | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Solid Metal Brace†** | 75501 | **3U792** | $1.65 | **$1.40** | 0.2 |
| **Wide-Legged Brace‡** | 75502 | **3U793** | 4.09 | **3.48** | 0.7 |

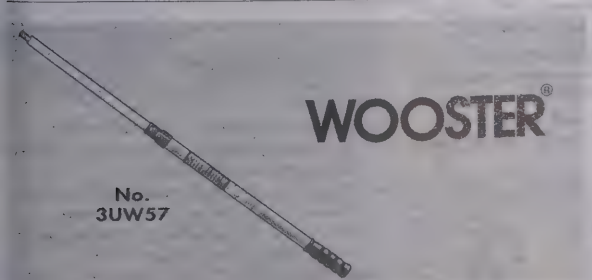
ncluded with all 24" hardwood block brushes.
ncluded with Heavy Duty Sweeps Nos. 3U775 and 3U776.




## TELESCOPING HANDLES

| Description/Handle Type | Length (Ft.) | Unger Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **readed Telescoping** | 8 | EP08 | **3U442** | $25.97 | **$24.68** | 1.3 |
| **uminum Handles** | 13 | EP13 | **3U443** | 35.12 | **33.45** | 2.0 |
| | 18 | EP18 | **3U444** | 53.80 | **51.20** | 3.1 |




## SHERLOCK® EXTENSION POLES

Rugged fiberglass outer pole, hexagonal aluminum inner pole prevents twisting. Change length in 6" increments with quick-adjust lever. Universal threaded tip.

| Extension Pole Size (Ft.) | Wooster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1 to 2** | R053 | **3UW55** | $28.98 | **$24.63** | 0.9 |
| **2 to 4** | R054 | **3UW56** | 32.02 | **27.25** | 1.2 |
| **4 to 8** | R055 | **3UW57** | 42.94 | **36.50** | 2.1 |
| **6 to 12** | R056 | **3UW58** | 54.62 | **46.45** | 3.2 |
| **8 to 16** | R057 | **3UW59** | 65.86 | **56.00** | 4.1 |

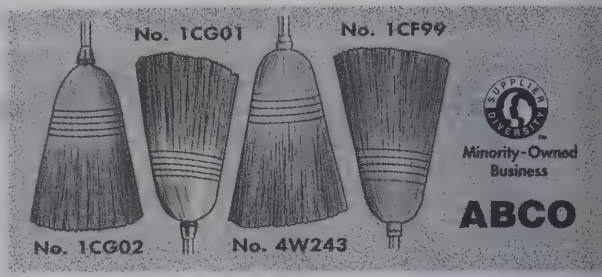
# UPRIGHT BROOMS AND UTILITY BRUSHES

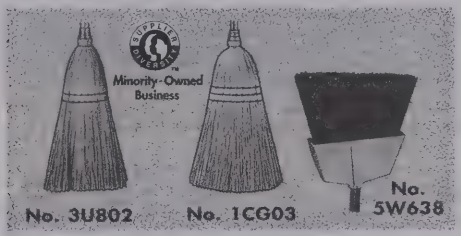
## CORN BROOMS

**Upright Brooms. No. 1CG01** is a 100% corn fiber janitor broom for medium to heavy-duty sweeping. **No. 1CG02** is a 100% corn fiber household broom for light-duty sweeping.

**Warehouse Brooms.** For heavy-duty, general purpose sweeping on wet, dry, smooth, or rough surfaces. **No. 4W243** is a handmade 100% corn fiber broom. **No. 1CF99** is a corn blend broom.

| Broom Type | Trim Length | Sweep Face | ABCO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Household** | 22" | 13" | BR10010 | **1CG02** | $9.91 | **$9.42** | 1.8 |
| **Janitor** | 21 | 13 | BR10003 | **1CG01** | 12.04 | **11.92** | 2.1 |
| **Warehouse** | 21 | 13 | BR10002 | **1CF99** | 12.47 | **11.86** | 2.5 |
| **Warehouse** | 18-22 | 16 | BR10001 | **4W243** | 15.77 | **14.99** | 2.8 |




## TOY AND LOBBY BROOMS

For light-duty spot sweeping. **No. 3U802** is a 100% corn toy broom. Handle length, 27"; overall length, 40". **No. 1CG03** is a 100% corn lobby broom. **No. 5W638** lobby broom has polypropylene bristles that will not shed or absorb water. Handle length, 27"; overall length, 33"

ABCO Rubbermaid

| Broom Type, Fill Type | Trim Length | Sweep Face | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Toy, 100% Corn Fiber** | 8" | 7" | ABCO* | BR10017 | **3U802** | $4.51 | **$4.05** | 0.8 |
| **Lobby, 100% Corn Fiber** | 12 | 7¾ | ABCO* | BR10015 | **1CG03** | 5.11 | **4.86** | 0.8 |
| **Lobby, Synthetic** | 5 | 9 | Rubbermaid | 6374 | **5W638** | 7.62 | **7.24** | 1.0 |

(*) Supplier Diversity Program — Minority-Owned Business.

## BASS FIBER BROOM



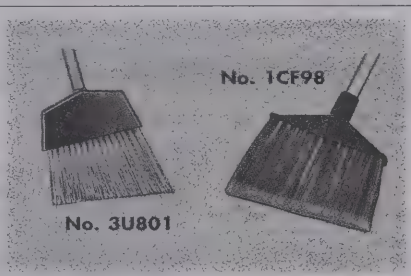

Upright broom for general purpose sweep ing. Made of bass fiber fill with a hard wood handle. 10" trim length and 12 sweep face. Weiler brand (44007).

**No. 4W242.** Bass Fiber Broom. Shpg. wt. 3.0 lbs. List $21.13. Each ..... **$19.65**

## ANGLE BROOMS

Angled trim allows access to corners, under low cabinets, and other hard-to-reach places. Synthetic fill is durable and long-wearing. **No 1CF98** has an aluminum handle.

Weiler CORPORATION Rubbermaid




| Fill Type | Trim Length | Sweep Face | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Synthetic** | 7½" | 8¾" | Weiler | 75161 | **3U801** | $9.14 | **$8.69** | 1.8 |
| **Polypropylene** | 6¾ | 12 | Rubbermaid | 6385 | **1CF98** | 22.36 | **15.65** | 1.9 |

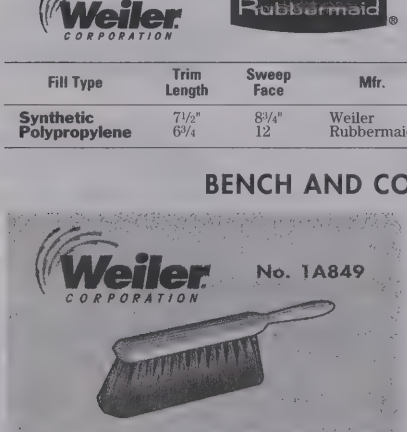
## WHISK BROOM




Natural fiber whisk broom can be used fo general industrial and automotive brush ing. Natural 100% corn fiber provide longer wear. ABCO (BR10019).

**No. 3H386.** Whisk Broom. Shpg. wt. 0.3 lbs. List $5.26. Each ..... **$4.2**

## BENCH AND COUNTER BRUSHES




- **Extra Fine Sweeping deluxe hardwood block with black horsehair fill. Scratch-free performance. Not recommended for wet or oily surfaces**
- **Fine Sweeping with plastic fill. Flagged tips provide gentle sweeping in wet or dry applications**
- **Medium Sweeping with plastic fill. Durable wet or dry; acid, alkali resistant**

| Fill Type | Handle Type | Trim Length | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Extra Fine** | Deluxe Wood | 2⅛" | 44003 | **1A849** | $13.65 | **$11.52** | 0.8 |
| **Fine** | Foam | 2⅛ | 42216 | **3U788** | 6.35 | **5.40** | 0.6 |
| **Medium** | Foam | 2⅛ | 44540 | **3A323** | 6.39 | **5.12** | 0.7 |

## BASEBOARD BRUSH




- **Solvent resistant, synthetic fiber**
- **Lacquered hardwood block with two threaded handle holes**
- **Angle design for cleaning low surfaces and hard to reach areas**
- **Use with threaded tip handle; sold separately, see page 1942**

**No. 3ZG67.** Weiler (73075). Shpg. wt. 0.8 lbs. List $30.12 Each..... **$26.8**

# UTILITY AND MAINTENANCE BRUSHES

## FLOOR/DECK SCRUB BRUSHES

] **Dual Surface® Brush** for scrubbing hard reach floor and wall surfaces.

] **Grit Fill Swivel Scrub® Brush** has U-joint esign for hard-to-reach detail cleaning.

] **Deck Brush** for general cleaning in wet dry applications.

**Nylon fill** for multi-purpose heavy-duty scrubbing. Will not absorb odors or water. Acid, alkali, and oil resistant.

**Palmyra fill** for multi-purpose medium scrubbing. For use with a variety of floor cleaning solutions.

| ey | Description | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Dual Surface Brush w/Squeegee | Flo-pac | 190 | **3U777** | $12.72 | **$11.62** | 1.3 |
| A | Dual Surface Brush | Flo-pac | 197 | **3U778** | 11.74 | **10.44** | 1.1 |
| B | Grit Fill Swivel Action Scrub Brush | Flo-pac | 5300 | **3U779** | 36.56 | **33.95** | 1.0 |
| B | Heavy-Duty Grit Filled Swivel Action Scrub Brush | Flo-pac | 5310 | **3U780** | 36.56 | **33.95** | 1.0 |
| C | Deck Brush, 10" Crimped Nylon | Weiler | 72136 | **3H382** | 7.44 | **6.33** | 0.8 |
| C | Deck Brush, 10" Brown Palmyra | Weiler | 44026 | **3H381** | 5.24 | **4.45** | 1.0 |




Use handle No. 3A326, Sold separately

## HAND HELD SCRUB BRUSHES

**uare End Brush** for general heavy-duty eaning and scrubbing in a variety of solu-ons.

**rved Block Brush.** Comfortable molded astic block won't crack or deteriorate der heavy use.

**Iron Style Brush.** Molded handle above brush keeps hands out of cleaning solutions and water.

**Nail Cleaning Brush.** Firm, easy grip on ribbed block for easy scrubbing with a variety of hand cleaners.

| Key | Brush Description | Block Type | Flo-pac No. | Weiler No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Square End Scrub Brush | Wood | — | 72127 | **3U783** | $4.43 | **$3.78** | 0.8 |
| B | Curved Block Scrub Brush | Plastic | 25071 | — | **3U784** | 7.10 | **6.51** | 0.4 |
| C | Iron Style Scrub Brush | Plastic | — | 44395 | **3U785** | 2.55 | **2.17** | 0.4 |
| D | Nail Cleaning Brush | Wood | 44314 | — | **3U786** | 1.68 | **1.55** | 0.2 |




Durable Synthetic Fill for multi-purpose medium scrubbing. Acid, alkali and water resistant.

## UTILITY BRUSHES

**plications include** cleaning cans, pots, bs, refuse containers, fenders, wheels, d tires.

**nite nylon fill** for sanitary cleaning. Will t absorb odors or water. Good for hospi-and food service applications.

**Maroon synthetic fill** for multi-purpose heavy-duty scrubbing. Acid, alkali, and water resistant.

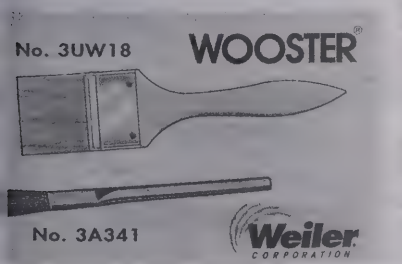
**Natural Tampico fill** for multi-purpose medium scrubbing. Retains fluids well for liquid-transfer to work surface.

| f | Brush Description | Block Type | Weiler No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | 8" White Nylon Brush | White Plastic | 44416 | **3U781** | $7.57 | **$6.44** | 0.6 |
| | 20" White Nylon Brush | White Plastic | 44418 | **3U782** | 10.04 | **8.54** | 0.7 |
| | 8½" Maroon Synthetic Brush | Foam | 79126 | **3A319** | 4.18 | **3.97** | 0.6 |
| | 20" Maroon Synthetic Brush | Foam | 79127 | **3A321** | 6.31 | **5.37** | 0.7 |
| | 20" Natural Tampico Brush | Foam | 44663 | **3A322** | 6.65 | **5.65** | 0.7 |




## CHIP BRUSHES

**Hog bristle fill is multipurpose and economical**
**Unfinished wood handle with tin-plated steel ferrule**
**Use for brushing metal chips, shavings, or clean-ups**




### CHIP BRUSH SPECIFICATIONS AND ORDERING DATA

| Brush Width (In.) | Thickness (In.) | Trim Length (In.) | Qty. Per Pkg. | Wooster Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1** | 5/16 | 1 15/16 | 36 | 1117-1 | **3UW18** | $37.44 | **$31.85** | 1.6 |
| **2** | 5/16 | 1 15/16 | 24 | 1117-2 | **3UW19** | 34.56 | **29.40** | 1.9 |
| **2½** | 5/16 | 1 15/16 | 24 | 1117-2½ | **3UW20** | 53.28 | **45.30** | 2.4 |
| **3** | 5/16 | 1 15/16 | 24 | 1117-3 | **3UW21** | 60.96 | **51.85** | 2.9 |

## FLUX BRUSHES

- Black horsehair 3/4" brush with tin ferrule
- 5¾" overall length

### FLUX BRUSH SPECIFICATIONS AND ORDERING DATA

| Brush Width (In.) | Qty. Per Pkg. | Weiler Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5/16** | 24 | 44088 | **3A341** | $6.17 | **$4.72** | 0.2 |
| **3/8** | 24 | 44089 | **3A342** | 6.63 | **5.09** | 0.4 |
| **1/2** | 24 | 44090 | **3A343** | 8.75 | **6.70** | 0.6 |

# UTILITY AND MAINTENANCE BRUSHES

## CAR/TRUCK/BOAT WASH BRUSHES

- For continuous flow cleaning of cars, trucks, buses, boats, windows, building exteriors, etc.
- Rubber bumper around block protects work surfaces from nicks and scratches
- Synthetic block will not crack or split and can be used in dipping or continuous flow applications
- Adapts for use with fountain tube continuous flow handle, 12-foot telescoping threaded tip handle, or tapered tip handle, all sold separately, see page 1947
- No. 3A338. Extra Fine Synthetic fill with flagged tips for scratch-free wash. Trim length: 2½"
- No. 5A171. Fine Synthetic fill with flagged tips for gentle brushing finish, retains water well, acid and alkali resistant. Trim length: 2½"
- No. 3ZG66. Multi-Surface Brush angled for hard to reach high and low surfaces with brushing action. Double flagged filament tips for gentle brushing/cleaning. Trim length: 2⅝

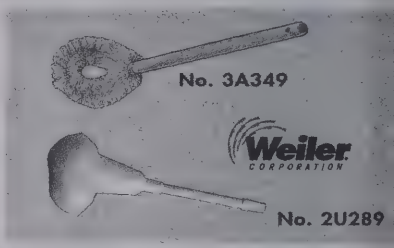
| Description | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Car Wash Brush | 44510 | **3A338** | $15.82 | **$13.45** | 1.8 |
| Truck Wash Brush | 73146 | **5A171** | 21.79 | **18.53** | 1.5 |
| 5' Fountain Tube Handle (water flow through) | 44319 | **3A339** | 11.63 | **9.30** | 1.3 |
| Multi-Surface Brush | 44699 | **3ZG66** | 31.00 | **26.95** | 3.3 |




## BOWL BRUSHES AND MOPS

- Contoured synthetic bowl brush is acid and alkali resistant
- Bowl mops offer easy clean-ups
- Heavy-duty handle with string hole. 2" Trim length
- Cone bowl mop removes excess liquids

| Description | Handle Type | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 20" White Tampico Bowl Brush | Wood | Weiler | 44001 | **3A349** | $3.75 | **$3.39** | 0.1 |
| 17" Synthetic Bowl Brush | Plastic | Flo-pac | 33 | **3U794** | 3.68 | **3.40** | 0.1 |
| Duralon Toilet Bowl Mop | Plastic | Impact | 204 | **2U288** | 1.11 | **1.06** | 0.4 |
| Cone Bowl Mop | Plastic | Impact | 3600 | **2U289** | 3.64 | **3.46** | 0.2 |




## CARPET/UPHOLSTERY SPOT BRUSH

- Wet or dry cleaning of stained carpet or floor areas
- Synthetic fill is long-wearing and moisture resistant
- 5/8" trim length. 8½" overall length

**No. 3U795.** Weiler (73235). Shpg. wt. 0.2 lbs. List $9.44. Each.....**$7.88**



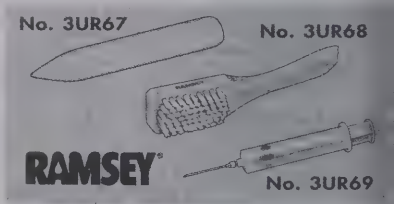

## CARPET TREATMENT ACCESSORIES

**Bone Scraper.** Use to agitate and loosen carpet spots.

**Spotting/Tamping Brush.** Use to tamp out residues after applying spotters.

**Carpet Syringe.** Use to inject deodorizers into carpet areas after cleaning.

| Description | Qty./ Pack | Stock No. | Each Pack | Shpg. Wt. |
|---|---|---|---|---|
| Bone Scraper | 4 | **3UR67** | **$30.55** | 0.5 |
| Spotting/Tamping Brush | 4 | **3UR68** | **44.05** | 3.0 |
| Carpet Syringe | 4 | **3UR69** | **86.15** | 0.5 |




## RADIATOR BRUSH

- Narrow, slender brush for cleaning hard-to-reach areas. 2¼" horsehair brush fill. 24" overall length

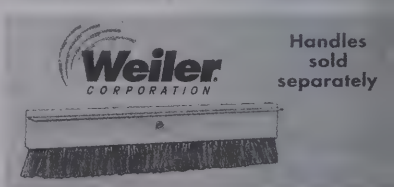
**No. 3U799.** Weiler (73057). Shpg. wt. 0.3. List $5.47. Each .....**$4.66**




## DRIVEWAY COATER W/SQUEEGEE

- For applying blacktop driveway and parking lot dressings, asphalt, sealers or roof coatings
- Natural brown palmyra brush delivers rugged performance for tough coating applications
- Rubber squeegee set firmly in hardwood block
- Block length: 18". Trim length: 2"
- Use threaded tip handle, page 1947

**No. 3H383.** Weiler (44339). Shpg. wt. 1.0 lbs. List $10.77. Each .....**$8.79**



# MAINTENANCE BRUSHES




## MASONRY BRUSHES

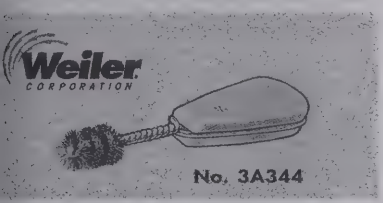
**No. 3A340 features:**

- Natural tampico brush ideal for fast applications of rubbing cement, waterpaints, and liquid waterproofing materials
- Heavy-duty brush designed for smooth or rough cement/masonry surfaces
- Finished hardwood block with shaped handle
- Block is 6⅜ x 1 11/16". Trim length: 3½"

**No. 3UW30 features:**

- Natural tampico fiber with 50 staggered tufts for better coverage
- Designed for thick-bodied paints and waterproofing, foundation or roof coatings
- Industrial quality polypropylene handle
- Pistol grip reduces wrist fatigue
- Built-in bucket clip
- Block is 6 x 1¾". Trim length: 4"

| Description | Weiler Model | Wooster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Masonry Brush** | 44031 | — | **3A340** | $5.48 | **$3.76** | 0.8 |
| **PREP CREW™ Masonry Coater** | — | 1826 | **3UW30** | 8.94 | **7.60** | 0.8 |




## COPPER TUBE FITTING BRUSHES

- Stiff wire 1" brush for internal cleaning/deburring of copper tube fittings
- Light socket cleaning brush to improve electrical contact

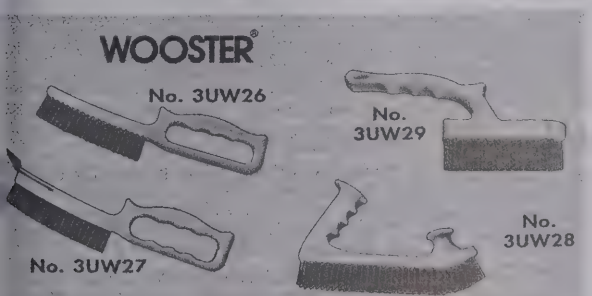
| Item Description | For Tube Diameter (In.) | Brush Diameter (In.) | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Tube Fitting Brush** | 1/8 | 1/4 | 44078 | **3A344** | $3.35 | **$2.48** | 0.1 |
| **Tube Fitting Brush** | 3/8 | 1/2 | 44080 | **3A345** | 3.35 | **2.48** | 0.1 |
| **Tube Fitting Brush** | 5/8 | 3/4 | 44082 | **3A346** | 3.38 | **2.50** | 0.1 |
| **Tube Fitting Brush** | 7/8 | 1 | 44084 | **3A347** | 3.41 | **2.53** | 0.1 |




## HAND SCRATCH/CLEANING BRUSHES

- Remove rust, paint scale, and solder. Clean threads, files, metal parts, and castings
- Stainless steel wire recommended for cleaning of aluminum and stainless steel materials

| Brush Description | No. of Rows | Block / Handle Description | Trim Length (In.) | Qty. Per Pack | Weiler Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Stainless Steel Wire** | 3 x 19 | 14" curved wood | 1 3/16 | 1 | 44054 | **3A334** | $5.82 | **$5.12** | 0.4 |
| | 4 x 16 | 10" shoe wood | 1 3/16 | 1 | 44064 | **3A335** | 6.60 | **5.78** | 0.4 |
| **Mini Stainless** | 3 x 7 | 7½" curved wood | 1/2 | 5 | 44167 | **3A336** | 11.92 | **9.42** | 0.4 |
| | 3 x 7 | 7½" curved plastic | 1/2 | 5 | 44075 | **3A337** | 11.92 | **9.42** | 0.4 |
| **Mini Brass** | 3 x 7 | 7½" curved wood | 1/2 | 5 | 44189 | **3U796** | 12.11 | **10.63** | 0.4 |
| **Mini Nylon** | 4 x 15 | 6½" curved plastic | 1/2 | 5 | 99383 | **3U797** | 12.11 | **10.63** | 0.4 |
| | 3 x 7 | 7½" curved wood | 1/2 | 5 | 44637 | **3U798** | 12.11 | **10.63** | 0.4 |
| **Carbon Steel Wire** | 3 x 19 | 14" curved wood | 1 3/16 | 1 | 44053 | **6X877** | 3.08 | **2.50** | 0.4 |
| | 4 x 16 | 10" shoe wood | 1 3/16 | 1 | 44063 | **6X878** | 3.40 | **2.78** | 0.4 |
| | 4 x 11 | Straight wood with metal scraper | 1½ | 1 | 44069 | **3H385** | 6.01 | **5.25** | 0.6 |




## WOOSTER® PREP CREW™ SURFACE PREP TOOLS

Heavy-duty brushes of exceptional quality, featuring comfortable, full-sized handles, staggered tufts for better coverage, and more wire than found in average brushes.

### LONGNECK® Wire Brush

**No. 3UW26.** Wrap-around handle protects fingers. Industrial quality with maximum wire content. Removes flaking paint, rust, scale from any surface. Cleans concrete, brick, other masonry.

### LONGNECK® Wire Brush With Scraper

**No. 3UW27.** Longneck brush with heavy-duty 3" steel scraper that has a baked-on, rust-resistant finish.

### PREP-PLANE® Wire Brush

**No. 3UW28.** Plane-shaped design for two-handed use, reduces work time. Angled tip to reach tough spots. Maximum wire content. Removes flaking paint, rust, scale from any surface.

### CORNER CLEANER® Wire Brush

**No. 3UW29.** Small size with pointed end for hard-to-reach areas. Finger grips and thumb rest for more control. Removes paint, rust, scale from any surface.

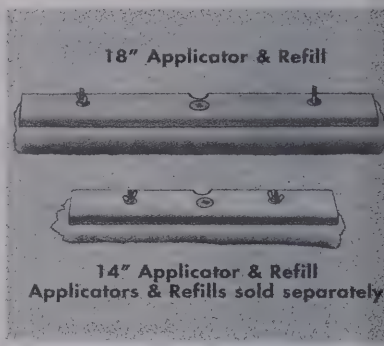
| Item Description | Block Size | No. of Tufts | Length Clear | Wooster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **LONGNECK® Brush** | 6 x 1 1/8" | 78 | 1 1/16" | 1820 | **3UW26** | $9.20 | **$7.82** | 0.6 |
| **LONGNECK® W/Scraper** | 6 x 1⅛ | 78 | 1¼ | 1821 | **3UW27** | 9.78 | **8.31** | 0.7 |
| **PREP-PLANE® Wire Brush** | 10 x 1⅜ | 156 | 1¼ | 1822 | **3UW28** | 9.54 | **8.11** | 1.0 |
| **CORNER CLEANER® Brush** | 5 x 1 | 64 | 1¼ | 1823 | **3UW29** | 6.80 | **5.78** | 0.5 |

# MAINTENANCE BRUSHES

## LAMBSWOOL AND SYNTHETIC APPLICATORS

**Applicator Blocks** are available in either 100% lambswool or a synthetic blend. Ideal for applying waxes, seals, and finishes. Applicator is a 2-piece lacquered hardwood block and includes the plated hardware and pad. Use with threaded handle No. 1A839, 3H384, or 3H389. Handles sold separately, see page 1947.

| Description | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|
| **14" Lambswool Applicator** | **3U468** | $17.38 | **$16.52** | — | 2.6 |
| **18" Lambswool Applicator** | **3U469** | 19.94 | **18.94** | — | 3.0 |
| **14" Synthetic Applicator** | **3U470** | 11.14 | **10.59** | — | 2.6 |
| **18" Synthetic Applicator** | **3U471** | 13.09 | **12.44** | — | 3.0 |
| **14" Lambswool Refill Pad** | **3U472** | 9.28 | **8.81** | **$7.93** | 0.2 |
| **18" Lambswool Refill Pad** | **3U473** | 11.25 | **10.69** | **9.62** | 2.6 |
| **14" Synthetic Refill Pad** | **3U474** | 2.90 | **2.76** | **2.48** | 0.2 |
| **18" Synthetic Refill Pad** | **3U475** | 3.42 | **3.25** | **2.93** | 0.2 |

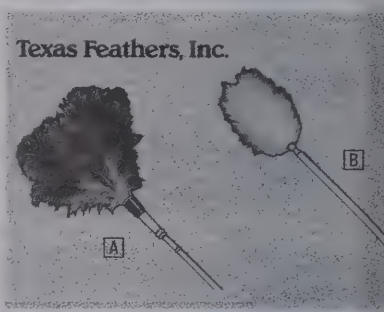


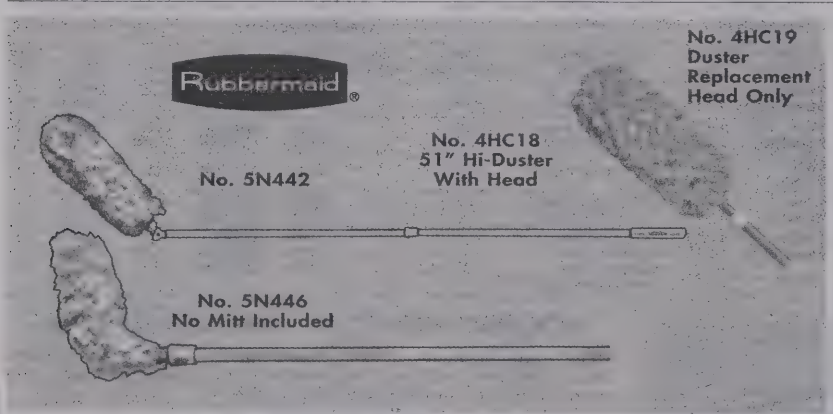

## FEATHER DUSTERS

**Ostrich Feather Dusters** are made of genuine ostrich feathers, which actually hold dust. Ideal for mini blinds, furniture, and computers. Feathers won't harm surfaces and are washable.

**Lambswool Dusters** are 100% genuine lambswool. Ideal for dusting broad, flat surfaces quickly and effectively. These colored dusters are processed to make them washable, for extended product life. Texas Featherduster brand.

| Key | Description | Texas Featherduster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **A** | 14" Ostrich Duster | 400S | **3U463** | $6.38 | **$6.08** | 0.1 |
| **A** | 12" Gray Ostrich Duster | 612G | **2U653** | 12.89 | **12.26** | 0.2 |
| **A** | 20" Premium Ostrich Duster | 713G | **3U464** | 20.10 | **19.10** | 0.3 |
| **A** | 31" Ostrich Duster | 1220 | **3U465** | 15.76 | **14.97** | 0.6 |
| **B** | 28" Lambswool Duster | 928 | **3U466** | 6.22 | **5.91** | 0.2 |
| **B** | 30 to 42" Extension Lambswool Duster | 942 | **3U467** | 9.56 | **9.09** | 0.3 |



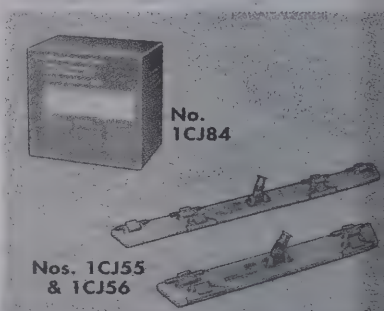




## HI-DUSTER® OVERHEAD DUSTING TOOLS

**Dusting tool telescopes** from 35¼" up to 60", for regular dusting of hard-to-reach places without ladders. Made of specially treated blended yarn for extra strength, longer product life, and extra pick up performance. Flexi Duster with its flexible head and Hi Duster with its lockable angled head feature are perfect for dusting fan blades, pipe, and other non-vertical surfaces. Removable yarn head attaches and detaches easily for easy cleaning. Withstands multiple launderings—Reuse many times and save cost of frequent replacements. Replacement heads sold separately. See chart below.

| Description | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **51" Hi-Duster With Head** | T110 | **4HC18** | $17.04 | **$13.63** | 0.7 |
| **51" Hi-Duster with Angled Head** | T120-Pk12 | **5N442** | 242.40 | **194.00** | 8.0 |
| **8.5 Ft. Hi-Duster with Head** | T130-Pk12 | **5N443** | 299.04 | **239.25** | 17.0 |
| **Refill Duster Heads** | T199 | **4HC19** | 6.32 | **5.06** | 0.3 |
| **60" Flexi Duster (no mitt inc.)** | T410-Pk 6 | **5N446** | 139.56 | **111.75** | 8.0 |
| **Dust Mitt for Hand or Flexi Duster** | T499-Pk12 | **5N447** | 62.88 | **50.35** | 5.0 |

## DOODLEDUSTER® DUSTING SYSTEM




A combination of dusting cloth and hol ers are an efficient and convenient way dust floors, walls, and furniture.

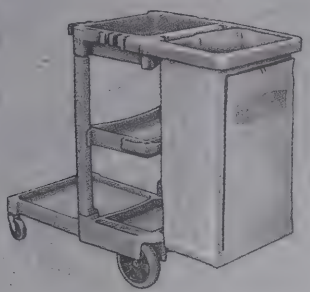
**Nos. 1CJ55 and 1CJ56 Dusting Cloth Holde** Durable, lightweight holder features a fle ible swivel and low profile for easy mane verability. Convenient clip for easy clo attachment and removal.

**No. 1CJ84 Dusting Cloth.** Cloth traps a holds dust and dirt without needing a treatment. Package of 4 rolls of 250 clot per roll. Cloth size: 7 x 13.8".

| Description | Stock No. | List | Each | Sh W |
|---|---|---|---|---|
| **25" Cloth Holder** | **1CJ56** | $22.27 | **$21.36▲** | 2 |
| **38" Cloth Holder** | **1CJ55** | 28.76 | **27.65▲** | 2 |
| **Cloths—4 rolls/pk** | **1CJ84** | 246.97 | **224.75** | 13 |

(▲)Net prices, not subject to discounts.

Rubbermaid®



No. 5M880

## JANITOR CART

**esigned with 25% more storage capacity** and an easy emptying vinyl ash bag with cover. Vinyl bag opens and closes easily from the ack with zipped velcro strips and allows trash bag to be emoved without lifting. Cover hides trash from public view and ontains odors. Large front platform can be used with double ıckets, single bucket, and can accommodate a 32 Brute™ ontainer.

olded-in hook holds mops, brooms and brushes firmly in place. urdy shelves store spray bottles, rags and other cleaning mate-als. Leakproof bucket compartment holds spills; protects oors. Strong structural web construction stands up to daily ear and is resistant to harsh cleaning chemicals. Swivel front ısters and large 8" rear wheels enable cart to roll easily any-here. Built-in bumper won't scratch furniture or walls. Handle lds away compactly to provide storage in closets or other tight reas. Assembles easily in minutes. Dimensions: 44⅞L x 20W x 3¼"H. Optional yellow Locking Cabinet keeps tools and chemi-ls secure and out of sight.

Rubbermaid®




## HOUSEKEEPING CARTS

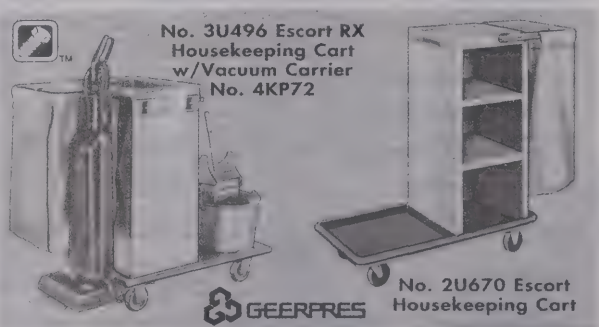
**Full-Size Housekeeping Carts** have handles on either side for greater maneuverability. Molded-in bag hooks and accessory holders keep supplies close at hand. Includes durable nylon-reinforced vinyl bag that resists leaking and can be cleaned for reuse. Four 8" casters provide excellent mobility. Standard underdeck vacuum holder and large, sturdy bottom shelf transports vacuum cleaner and other bulky items. Straw and brown color. **Standard Cart No. 5Z125** services 8-10 rooms. Dimensions: 58L x 21½W x 43"H. **Tall Cart No. 2U669** services 12-15 rooms. Dimensions: 58L x 21½W x 51"H. Optional doors on carts have lock to secure chemicals and materials when necessary.

## ESCORT RX™ HOUSEKEEPING CART

**cort RX Cart** features 18-22 gauge corrosion-proof stainless steel nstruction throughout. Easy to sanitize and keep looking new. mplete with door, vinyl bag, stainless steel trash lid, and dust op retainers which hold mops up and dry. Generous storage cludes extra-large top tray and interior compartment. The lock-le lift-off door fits flush and is double-walled for strength and gidity providing greater resistance to forced entry. Guaranteed, der normal use, against breakage, corrosion, cracking and her failures. Dimensions: 49L x 24¾W x 40½"H.

## ESCORT® HOUSEKEEPING CART

cort® cart wipes clean instantly, offers superior corrosion pro-ction, and features lift-out ridged ABS liners for easy bottom y cleaning. Thirty-gallon vinyl reinforced bags attach to han-s with Velcro™. Features adjustable shelves and fold-away ndles for easy storage. Epoxy coated. Dimensions: 47¾L x ½W x 39½"H.




| Description | Mfr. | Mfr. Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| anitor Cart | Rubbermaid | 6173 | 5M880 | $159.62 | $127.70 | 38.0 |
| ocking Cabinet | Rubbermaid | 6153 | 5M881 | 72.21 | 61.45 | 5.0 |
| lousekeeping Cart | Rubbermaid | 6165 | 5Z125 | 551.50 | 441.25 | 73.0 |
| lousekeeping Cart w/Doors | Rubbermaid | 6172 | 5M885 | 668.12 | 534.50 | 103.0 |
| all Housekeeping Cart | Rubbermaid | 6165-88 | 2U669 | 641.38 | 513.50 | 105.0 |
| scort RX™ Housekeeping Cart | Geerpres | 3661 | 3U496 | 1736.00 | 1390.00 | 110.0 |
| scort® Housekeeping Cart | Geerpres | 3655 | 2U670 | 762.27 | 610.00 | 77.0 |
| acuum Carrier Kit for RX Cart | Geerpres | 9675 | 4KP72 | 137.60 | 110.00 | 6.0 |

**VINYL BAGS**

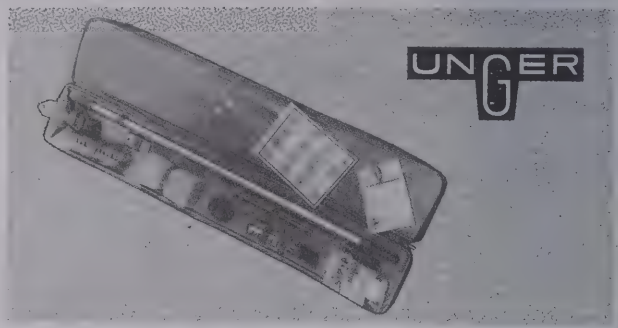
| Mfr. | Mfr. Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| — | — | — | — | — | — |
| — | — | — | — | — | — |
| Rubbermaid | 6166 | 2U647 | $32.64 | $27.75 | 2.0 |
| Rubbermaid | 6166 | 2U647 | 32.64 | 27.75 | 2.0 |
| Rubbermaid | 6166-88 | 5M882 | 40.94 | 34.80 | 2.2 |
| Geerpres | 9669 | 2U654 | 111.11 | 83.35 | 2.0 |
| Geerpres | 9310 | 2U659 | 79.36 | 59.55 | 2.0 |
| — | — | — | — | — | — |

# ALL-PURPOSE CLEANING KIT AND WINDOW CLEANING ACCESSORIES

## ALL-PURPOSE WINDOW CLEANING KIT

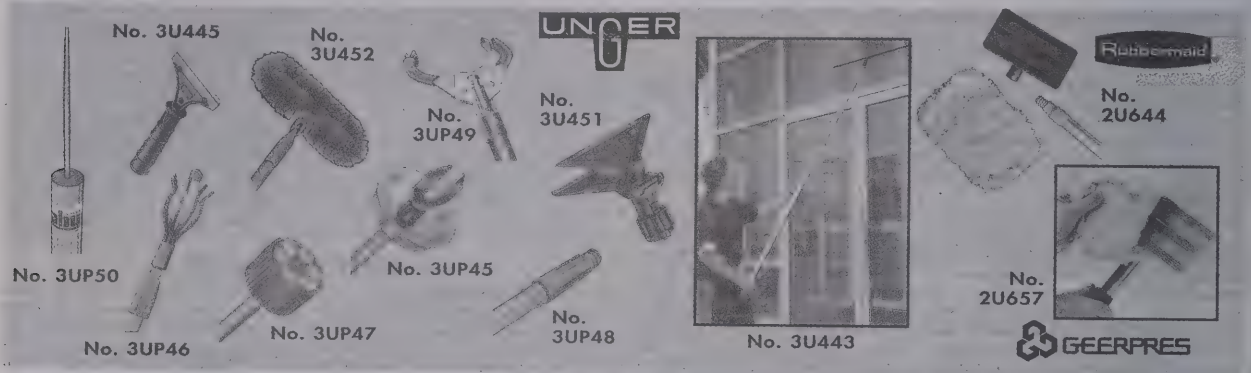
**INCLUDES:**

- **8-ft. telescopic pole**
- **Safety scraper with blade**
- **14" "Strip Pac" washer and sponge**
- **6", 12", and 18" Pro Channel with rubber blades and Pro Squeegee Handle; plus Fixi-Clamp and Handi-Brush**
- **"Trim 10" with 10 blades**
- **36" replacement rubber**




**"Tran-Set" Cleaning Kit with 12 tools** is an all-purpose kit for floors, walls, windows, and ceilings. Comes in a heavy-duty vinylized nylon case easily transported with shoulder straps. A convenient loop allows for wall storage. Each set includes instruction sheets in a see-through pocket, which may also be used to store wet tools. The Tran-Set bag is large enough to hold additional tools. Unger brand (TRS0).

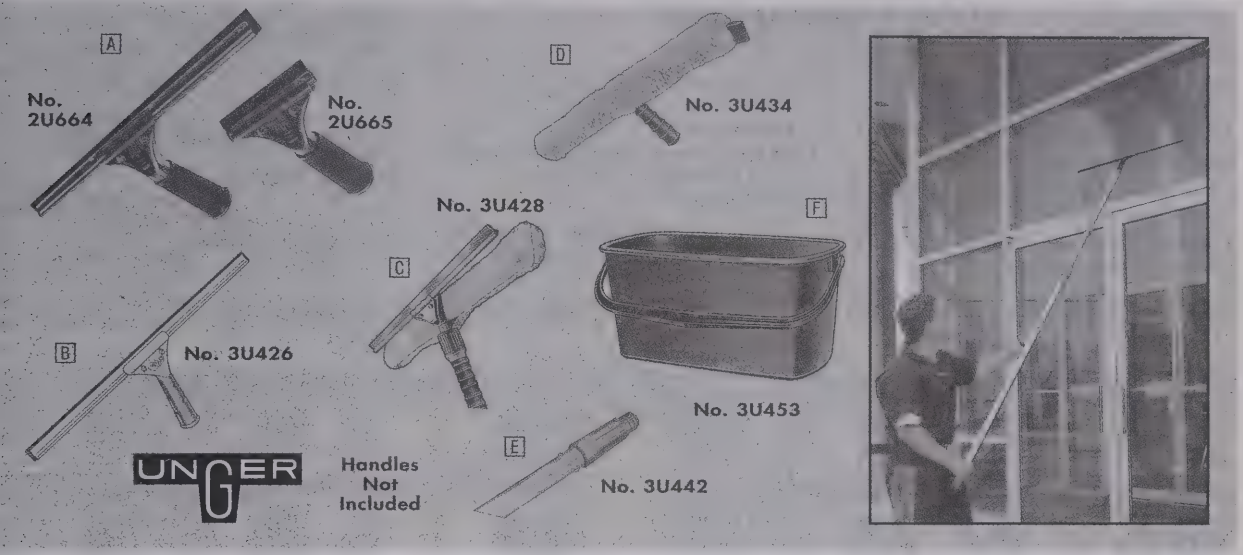
**No. 3U454.** Shpg. wt. 9.0 lbs. List $151.31. Each .....**$143.80**




| Item | Description | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Fixi-Clamp** | Adjustable clamp grips mops, sponges, rags, and chamois by tightening the locking collar. Just mount a brush to back of clamp for scrubbing floors, walls or ceilings. Clamp attaches to telescopic pole. | Unger | FIXI | **3U451** | $22.66 | **$21.54** | 0.6 |
| **8' Telescopic Pole** | Made of anodized, extruded, and drawn aluminum. Durable nylon locking collars, and a changeable snap-in threaded nylon cone. | Unger | EP08 | **3U442** | 25.97 | **24.68** | 1.3 |
| **13' Telescopic Pole** | | | EP13 | **3U443** | 35.12 | **33.45** | 2.0 |
| **18' Telescopic Pole** | | | EP18 | **3U444** | 53.80 | **51.20** | 3.1 |
| **Nylon Cone Adapter** | Replacement snap-in threaded nylon cone for all Unger telescopic poles. Acme thread fits paint rollers, brushes, all Unger accessories. | Unger | NCA0 | **3UP48** | 3.06 | **2.91** | 0.1 |
| **4" Scraper Head with Handle** | Comfortable nylon handle for hand use; also slips onto telescopic pole sold above. Blade has one blunt and one sharp edge. For use on floors and glass. Removes wax build up along baseboards. | Unger | SH04 | **3U445** | 10.30 | **9.79** | 0.4 |
| **4" Scraper Head with 48" Handle** | | | LH48 | **3U446** | 15.44 | **14.68** | 0.9 |
| **Replacement Blades for Short and Long Handle Scrapers** | Made of hardened tempered steel. Sharp side scrapes hard surfaces: blunt side for softer surfaces like vinyl tile. 100 per ctn. | Unger | RB04 | **3U447** | 54.40 | **51.70** | 1.5 |
| **Horse Hair/Poly Dust Brush** | Soft horse hair/poly dust brush is ideal for wall dusting, ceiling fan cleaning, and removing cobwebs. | Unger | WALB | **3U452** | 15.20 | **14.44** | 0.5 |
| **Light Bulb Changer** | Eight adjustable, rubber-coated, steel-gripping fingers conform to most bulbs including outdoor flood lights and recessed bulbs. Use with Unger tele-pole. | Unger | BS01 | **3UP46** | 12.04 | **11.45** | 0.4 |
| **Flood Bulb Changer** | Changes recessed flood lights, round, beveled, and flat bulbs, and bulbs 300 watts or larger. Adjustable collar acts as fulcrum to release bulb, so no string is needed. Use with Unger tele-pole | Unger | FS00 | **3UP47** | 16.22 | **15.42** | 0.3 |
| **Broken Bulb Remover** | Insulated tool with clear glass catcher easily removes broken light bulbs. Use with Unger tele-pole. | Unger | BEBE | **3UP45** | 11.12 | **10.57** | 0.2 |
| **36" Gripper Arm** | Without bending over, pick up debris along roads, parks, picnic areas. Use to retrieve items from high shelves, and picking up objectionable items. | Unger | NN90 | **3UP49** | 25.23 | **23.98** | 1.0 |
| **37" Trash Picker** | Durable, lightweight steel tubing with replaceable pin. Ideal for picking up paper debris and cans. | Unger | PPPP | **3UP50** | 12.26 | **11.65** | 0.7 |
| **Wall Washing Kit Replacement Heads** | Cleans all types of walls while eliminating drips, tarps, ladders, and bulky equipment. Lightweight aluminum telescoping handle with plastic mop holder that grips mop heads. | Geerpres | 5011 | **2U656** | 139.67 | **104.80** | 8.0 |
| | | | 9503 | **2U657** | 10.64 | **7.98** | 0.3 |
| **Wall Washing Kit Replacement Heads** | Makes cleaning walls or ceilings easy. Pivoting head allows washer to move evenly over surfaces. Raised rib design works with side or downward pressure. Washable pads. | Rubbermaid | S226 | **2U644** | 41.26 | **33.05** | 2.0 |
| | | | S299 | **2U645** | 9.16 | **7.33** | 0.7 |

# WINDOW CLEANING EQUIPMENT








| Key | Item | Description | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 12" Stainless Steel Squeegee (Complete)<br>18" Stainless Steel Squeegee (Complete) | Professional stainless steel with quick change channel. Comfortable rubber grip. | Unger | PR30<br>PR45 | 3U424<br>3U425 | $11.73<br>12.87 | $11.15<br>12.23 | 0.1<br>0.6 |
| A | Squeegee Handle (Only)<br>12" Squeegee Channel (Only)<br>18" Squeegee Channel (Only) | Quick change handle with rubber grip. Steel quick change channel with rubber. | Unger | PR00<br>PC30<br>PC45 | 2U664<br>2U665<br>2U666 | 7.31<br>5.02<br>5.98 | 6.96<br>4.78<br>5.69 | 0.3<br>0.2<br>0.3 |
| B | 12" Traditional Brass Squeegee (Complete)<br>18" Traditional Brass Squeegee (Complete) | Traditional brass handle and channel with end clips. | Unger | GS30<br>GS45 | 3U426<br>3U427 | 11.80<br>13.57 | 11.22<br>12.89 | 0.5<br>0.6 |
| — | 12" Squeegee Channel (Only)<br>18" Squeegee Channel (Only) | Brass channel with end clips and rubber. | Unger | GC30<br>GC45 | 2U667<br>2U668 | 5.90<br>7.76 | 5.61<br>7.39 | 0.3<br>0.3 |
| — | 12" Squeegee Rubber with Silicone<br>14" Squeegee Rubber with Silicone<br>18" Squeegee Rubber with Silicone<br>36" Squeegee Rubber with Silicone | Long lasting Easy Glider molded squeegee rubber made with more natural rubber, less impurities, and silicone. Easy Glider lasts longer and glides smoother. Use w/squeegee channel and handle | Unger | RR30<br>RR35<br>RR45<br>RR92 | 3U430<br>3U431<br>3U432<br>3U433 | 1.43<br>1.66<br>2.04<br>3.83 | 1.36<br>1.58<br>1.94<br>3.65 | 0.1<br>0.1<br>0.1<br>0.1 |
| C | 14" Squeegee and Strip Washer<br>18" Squeegee and Strip Washer | Patented squeegee and strip washer in one. Easy spring channel release. | Unger | VP35<br>VP45 | 3U428<br>3U429 | 25.70<br>28.10 | 24.42<br>26.70 | 0.8<br>1.1 |
| D | 14" Window Strip Washer<br>18" Window Strip Washer | The Original Strip Washer for window washing. Machine washable, long lasting woven fabric sleeve. | Unger | WC14<br>WC18 | 3U434<br>3U435 | 12.64<br>13.98 | 12.02<br>13.29 | 0.5<br>0.7 |
| — | 14" Replacement Sleeve<br>18" Replacement Sleeve | Original Strip Washer replacement scrubber sleeve. | Unger | WS14<br>WS18 | 3U436<br>3U437 | 7.87<br>9.09 | 7.48<br>8.64 | 0.1<br>0.2 |
| E | 8' Threaded Telescopic Pole<br>13' Threaded Telescopic Pole<br>18' Threaded Telescopic Pole | Made of anodized, extruded, and drawn aluminum. Durable nylon locking collars, and a changeable snap-in threaded nylon cone. | Unger<br>Unger<br>Unger | EP08<br>EP13<br>EP18 | 3U442<br>3U443<br>3U444 | 25.97<br>35.12<br>53.80 | 24.68<br>33.45<br>51.20 | 1.3<br>2.0<br>3.1 |
| F | Cleaning Bucket | Heavy-duty 18" polyethylene bucket. 6 gal. capacity | Unger | QB02 | 3U453 | 27.42 | 26.15 | 3.4 |

## WINDOW WASH BRUSHES

- Dipping brush for cleaning trucks, buses, vans, cars, and large window areas
- Synthetic brush fill is solvent resistant, will not rot or mildew
- Bristle tips are flagged for finer wash and carrying more water
- Use with tapered handle No. 3A326
- Trim length: 2½"




| Key | Brush Description | Block Description | Weiler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Standard Brush | 8" Hardwood | 73035 | 5A172 | $10.48 | $8.40 | 0.9 |
| B | Round Brush | 4½" Synthetic | 73009 | 5A173 | 10.30 | 8.25 | 0.9 |

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.

# FLOOR SQUEEGEES, PLASTIC PAILS AND BASEBOARD CLEANING SYSTEM

## FLOOR SQUEEGEES

**Neoprene Rubber:**

- For garages, service stations, and heavy industrial applications
- Long wearing, abrasion resistant

**Non-marking Rubber:**

- For hospitals, schools, restaurants, and food processing applications
- Resists most animal and vegetable products and by-products

**Sponge Rubber:**

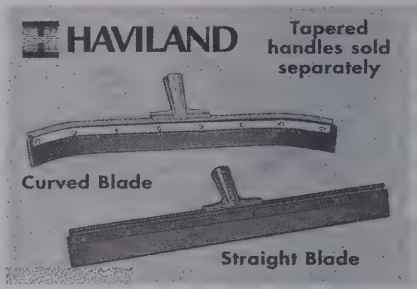
- For uneven and grouted floors
- Quick dry on smooth surfaces

**Curved Blade:**

- Allows greater control when moving large amounts of liquids

**Straight Blade:**

- Push or pull in cleaning applications
- For cleaning against walls and between objects

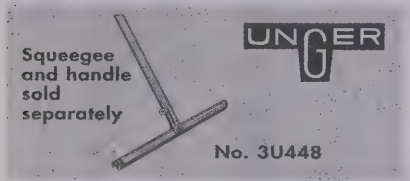



### SQUEEGEES

| Style | Blade Length | Haviland Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **NEOPRENE RUBBER (BLACK)** | | | | | | |
| **Curved Blade** | 24" | 02324NCSP | **3A333** | $31.71 | **$27.80** | 2.5 |
| **Curved Blade** | 36 | 02336NCSP | **5A168** | 43.19 | **32.45** | 4.0 |
| **Straight Blade** | 18 | 02318NSP | **5A169** | 23.74 | **19.54** | 2.0 |
| **Straight Blade** | 24 | 02324NSP | **3A332** | 27.38 | **23.95** | 2.5 |
| **NON-MARKING RUBBER (GRAY)** | | | | | | |
| **Curved Blade** | 24 | 01424CSP | **3U808** | 26.93 | **23.56** | 2.4 |
| **Curved Blade** | 36 | 01436CSP | **3U809** | 35.63 | **31.25** | 3.4 |
| **Straight Blade** | 18 | 01418SP | **3U806** | 20.45 | **17.86** | 2.0 |
| **Straight Blade** | 24 | 01424SP | **3U807** | 22.99 | **20.12** | 2.3 |
| **SPONGE RUBBER (BLACK)** | | | | | | |
| **Straight Blade** | 18 | 0718SP | **3U813** | 22.19 | **19.42** | 1.8 |
| **Straight Blade** | 24 | 0724SP | **3U814** | 24.90 | **21.79** | 2.0 |

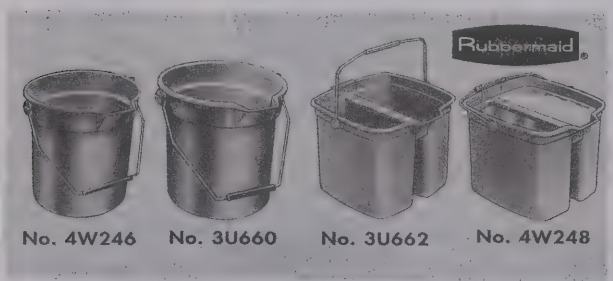
### REFILLS

| Item | Length (In.) | Haviland Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **NEOPRENE RUBBER REFILL BLADES** | | | | | | |
| **Refill Blade** | 24 | 2524N | **3U804** | $12.99 | **$11.37** | 0.6 |
| **Refill Blade** | 36 | 2536N | **3U805** | 19.36 | **16.96** | 1.0 |
| **Refill Blade** | 18 | 2518N | **3U803** | 9.96 | **8.48** | 0.8 |
| **Refill Blade** | 24 | 2524N | **3U804** | 12.99 | **11.37** | 0.6 |
| **NON-MARKING REFILL BLADES** | | | | | | |
| **Refill Blade** | 24 | 1924 | **3U811** | 15.15 | **13.27** | 0.6 |
| **Refill Blade** | 36 | 1936 | **3U812** | 22.84 | **19.98** | 1.0 |
| **Refill Blade** | 18 | 1918 | **3U810** | 11.52 | **10.08** | 0.5 |
| **Refill Blade** | 24 | 1924 | **3U811** | 15.15 | **13.27** | 0.6 |
| **SPONGE RUBBER REFILL BLADES** | | | | | | |
| **Refill Blade** | 18 | 1118 | **3U815** | 9.93 | **8.70** | 0.3 |
| **Refill Blade** | 24 | 1124 | **3U816** | 12.13 | **10.63** | 0.5 |




| Item | Description | Unger Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **22" Floor Squeegee** | Double moss rubber squeegee removes liquid from tiles, grout, cement and uneven surfaces. Adjusts for most handles. | MW22 | **3U448** | $8.93 | **$8.48** | 0.1 |
| **30" Heavy Duty Floor Squeegee** | Made of heavy-duty galvanized steel with splash guard, and adjustable sturdy socket. Moss rubber squeegee removes liquid from tiles,grout, cement, and uneven surfaces. | HM30 | **3U449** | 16.21 | **15.41** | 1.6 |
| **56" Tapered Handle** | Aluminum handle for floor squeegees | AL56 | **3U450** | 13.82 | **13.14** | 0.8 |

## BRUTE™ PLASTIC PAILS




Brute pails are constructed to resist cracking and provide greater flexibility. Pails feature molded-in graduations for accurate measuring and molded-in pour spouts. Button-like bail attachments keep bails firmly fixed. Zinc-plated bails resist rusting or bending. Thick rims have supporting ribs for easy, no-jam stacking. No. 4W248 19 qt. pail can be used with No. 2U671 sponge mop. Rubbermaid brand.

| Description | Color | Dimensions (In.) | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **10 qt. Round** | Gray | 10½ dia. x 10¼ H | 2963 | **4W246** | $6.54 | **$5.23** | 1.2 |
| **14 qt. Round** | Gray | 12 dia. x 11¼ H | 2614 | **3U660** | 10.32 | **8.26** | 2.1 |
| **17 qt. Double Pail** | Gray | 13⅞ x 14⅝ x 10⅛ H | 2617 | **3U662** | 16.24 | **12.99** | 2.9 |
| **19 qt. Double Pail** | Gray | 14½ x 18 x 10 H | 2628 | **4W248** | 16.86 | **13.49** | 4.2 |

## DOODLEBUG BASEBOARD CLEANING SYSTEM



Threaded handles sold separately, see page 1947

3M

Efficient, durable, and versatile. **Block holder** has special grippers to hold pads firmly in place. 3M brand.

**Pad holder** is threaded for attachment to broom handles. Includes 1 white, 1 brown pad. Handle not included. Use Nos. 1A839 or 3H389; see page 1947.

**White Cleansing Pads.** Use on delicate surfaces and for light cleaning like windows, ceramic tiles, swimming pools.

**Blue Pad.** Use for medium-duty tasks.

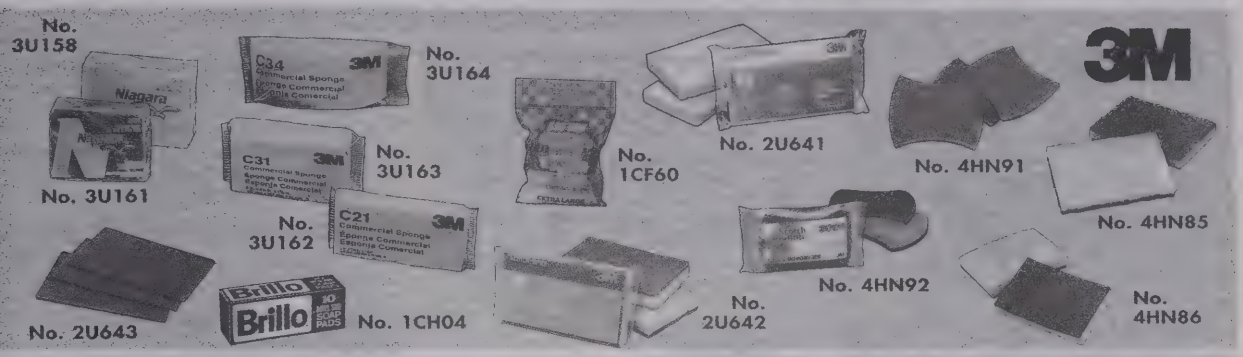
**Brown Pad.** Use for aggressive cleaning.

**High Productivity Black Stripping Pad.** To remove stubborn black marks, rust stains, and heavy dirt or finish build-up.

| Color | Pack Qty. | 3M Model | Stock No. | Pack List | Pack Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Blue** | 5 | 08005 | **3U098** | $8.77 | **$8.59** | 0.9 |
| **White** | 5 | 08003 | **3U099** | 8.77 | **8.59** | 0.8 |
| **Brown** | 5 | 08004 | **1CJ85** | 8.77 | **8.59** | 0.9 |
| **Black** | 10 | 05241 | **3U100** | 26.54 | **26.05** | 1.4 |
| **Pad Holder** | 1 | 08542 | **3U097** | 32.17 | **31.60** | 0.8 |
| **Block Holder** | 1 | 08548 | **1CJ79** | 26.18 | **25.65** | 1.4 |

# HAND PADS AND SPONGES






| Description | Size (In.) L | W | Quantity Per Pack | Stock No. | List Each | Each Pack | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **SCOURING PADS** | | | | | | | | |
| **Brillo Heavy-Duty Soap Pads**<br>• Scouring pads combine tough cleaning texture with grease cutting soap | — | — | 120 | **1CH04** | $69.64 | **$54.40▲** | — | 15.0 |
| **Niagara Heavy Duty Green Scouring Pads 86N**<br>• For tough maintenance jobs<br>• Replaces scrapers, steel wool, metal sponges<br>• Removes scuff marks on floors | 6 | 9 | 15 | **3U157** | 12.56 | **12.36** | **$11.12/6** | 0.6 |
| **Niagara Light Duty White Scouring Pads 98N**<br>• For light duty cleaning<br>• Won't scratch or dull surfaces<br>• Ideal for glass, stainless steel, chrome, copper, porcelain, ceramic | 6 | 9 | 20 | **3U158** | 10.28 | **10.11** | **9.10/6** | 0.6 |
| **Niagara Heavy Duty Dark Blue Pot & Pan Pads 88N**<br>• For extra heavy duty cleaning<br>• Ideal for heavily encrusted pots and pans, kitchen equipment, grimy maintenance equipment | 3.5 | 5 | 20 | **3U161** | 12.61 | **11.75** | **10.58/4** | 0.4 |
| **Scotch-Brite™ Medium Duty Green Scouring Pads No. 96**<br>• Ideal for most common cleaning jobs | 6 | 9 | 20 | **2U643** | 11.77 | **10.70** | **9.63/3** | 1.3 |
| **Scotch-Brite™ General Purpose Green Scrubbing Pads No. 9650**<br>• For every day general purpose cleaning jobs | 3.5 | 5 | 60 | **1CJ70** | 27.74 | **27.25** | — | 1.8 |
| **Scotch-Brite™ Power Pad No. 2000**<br>• Scours faster than conventional abrasive scouring pads and scratches less.<br>• Multi-purpose; cleans toughest jobs, but gentle enough for most surfaces<br>• Effective on heavy encrusted pots, pans, kitchen & cooking equipment | 5.5 | 3.9 | 20 | **4HN91** | 13.14 | **11.95** | — | 0.8 |
| **Scotch-Brite™ Power Sponge No. 3000**<br>• Two cleaning tools in one. Power pad combined with sponge that will stay fresh longer because of antibacterial protection that kills bacteria & odors in the sponge up to 99.9%<br>• Kills potential illness-causing germs such as E. Coli and Salmonella in the sponge | 5.5 | 3.9 | 20 | **4HN92** | 34.50 | **31.45** | — | 1.8 |
| **Scotch-Brite™ Soft Scour Pad No. 9488**<br>• Cleans all types of surfaces without scratching<br>• Effective on appliances, china dishes, aluminum pans, glass, stainless steel equipment, pyrex cookware, teflon and silverstone surfaces | 3.5 | 5 | 40 | **4HN85** | 25.07 | **24.56** | — | 1.7 |
| **SCRUBBING SPONGES** | | | | | | | | |
| **Heavy Duty Steel Wool Scrubbing Sponge**<br>• Quickly removes grease and grime. International Steel Wool brand | — | | 1 | **1CF60** | 1.97 | **1.92** | — | 0.2 |
| **Scotch-Brite™ Dual Action Pad/Sponges No. 74**<br>• Provides effective wet scrubbing action<br>• Cleans and scours with medium abrasive on one side, absorbs and carries solution to work surfaces on the other | 3.5 | 6.25 | 20 | **2U642** | 35.19 | **32.05** | — | 2.3 |
| **Scotch-Brite™ Cleansing Sponges No. 63**<br>• Two-sided pad combines light abrasive action and cellulose absorbency for effective cleaning without scratching<br>• Sponge side wipes up or carries liquid detergents to work surfaces | 3.69 | 6.13 | 20 | **2U641** | 35.19 | **32.05** | — | 2.3 |
| **Scotch-Brite™ Soft Scour Sponge No. 9489**<br>• Combines no-scratch scrubbing and moisture pickup<br>• Effective on tubs, sinks, showers, windows, mirrors, walls, elevator doors vinyl upholstery, formica & corian surfaces, ceramic tile, and railings | 3.5 | 5 | 40 | **4HN86** | 53.39 | **48.55** | — | 4.2 |
| **CELLULOSE SPONGES** | | | | | | | | |
| **Cellulose Sponges**—10 times more absorbent than polyurethane sponges | — | — | 1 | **3U163** | 1.37 | **1.33** | **1.20/48** | 0.2 |
| **3M C-31 Commercial Sponge. 6 x 4¼ x 1⅝"** | — | — | 1 | **3U162** | 0.80 | **0.77** | **0.69/48** | 0.1 |
| **3M C-21 Commercial Size Sponge. 6 x 3⅜ x 1"** | — | — | 1 | **3U164** | 2.04 | **1.98** | **1.78/24** | 0.3 |
| **3M C-34 Commercial Handy Grip Sponge. 7¾ x 3¾ x 1¾"** | | | | | | | | |

(▲) Net prices, not subject to discounts.

# SWEEPER, DUST PANS, CLOSET ORGANIZERS, AND CADDIES




## DUAL ACTION FLOOR SWEEPER

**Dual Action Commercial Sweeper** has a rugged commercial design for years of reliable use. Well suited for sweeping floors and carpets in lobbies, hallways, offices, theaters, and most other public areas.

- **Two brushes: natural boar brush for fine cleaning, crimped nylon brush for heavy debris**
- **Dual-debris canisters with one-touch cleaning doors**
- **Wide 7" sweeping path covers larger areas quickly**
- **Low profile cleans under furniture**
- **Soft bumper protects furniture and corners**
- **4 natural bristle corner brushes**
- **Soft rubber wheels and brushes conform to floor surface**
- **Rubbermaid brand (4213)**

**No. 4HC27.** Shpg. wt. 4.8 lbs. List .....$70.70.
Each.....$56.60




## DUST AND LOBBY PANS

### RUBBERMAID MODELS

**Heavy-Duty Dust Pan.** One-piece molded plastic eliminates sharp edges and maintains a straight edge on floor for more efficient pick-up. Has molded-in teeth for counter dusting/cleaning. Can be used with broom for most commercial and industrial floor sweeping.

**Lobby Dust Pan** is ruggedly constructed. Strong 36⅝" aluminum handle swings freely or snap-locks into upright position. ABS pan and scuff guards protect floors. Quiet, lightweight, and rustproof. Use with a broom to collect floor sweepings without bending over. For most commercial, industrial, and institutional facilities.

**Lobby Broom** is color coordinated to match lobby dust pan No. 5W637. Use in public areas. Polypropylene bristles won't shed or absorb water, ensuring longer product life. Wood handle painted for user safety. For all floor sweeping applications. 27" handle length, 33" overall length.

### WHITE MODELS

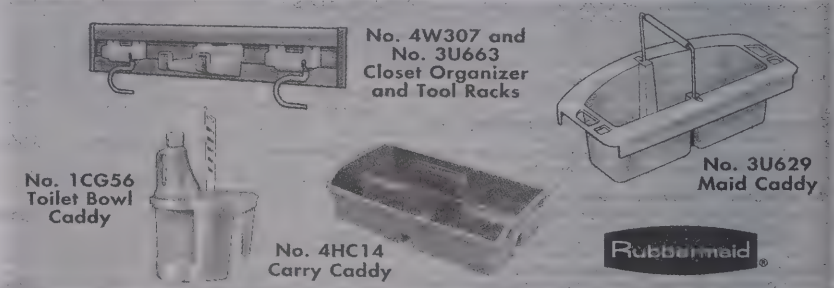
**Janitor Dust Pan** constructed of 20-gauge steel for heavy-duty use. Durable one-piece construction with corrugated ribs for added stiffness and strength. Baked black enameled finish with beveled edge.

**Lobby Dust Pan** for office areas, theaters, or other public areas. Self-opening and closing to provide simple, trouble-free operation. 30" handle. Black enamel finish.

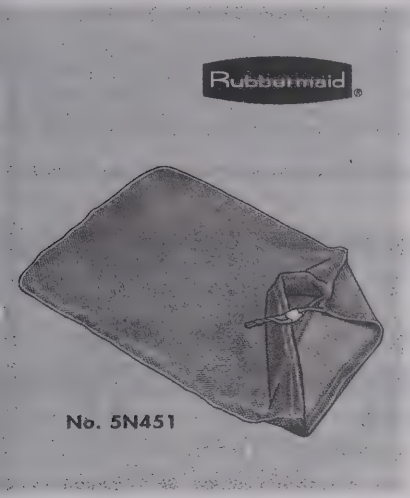
| Description | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Plastic Dust Pan** | Rubbermaid | 2005 | **5W636** | $3.38 | **$2.70** | 0.8 |
| **Plastic Lobby Pan** | Rubbermaid | 2007 | **5W637** | 15.76 | **12.61** | 2.7 |
| **Plastic Lobby Broom** | Rubbermaid | 6374 | **5W638** | 7.62 | **7.24** | 1.0 |
| **Metal Dust Pan** | White | 6 | **5W639** | 5.10 | **4.59** | 1.3 |
| **Metal Lobby Pan** | White | 64 | **5W640** | 47.64 | **33.35** | 4.2 |
| **Metal Dust Pan 16"** | White | 7 | **1CH74** | 7.90 | **7.51** | 2.5 |

## ALL PURPOSE CADDIES AND CLOSET ORGANIZERS

Caddies carry tools or cleaning supplies. No. 3U629 maid caddy is gray and fits Brute containers. No. 4HC14 carry caddy is brown and fits most janitorial and housekeeping carts. Toilet bowl caddy has locking strap and holds 32 ounce bottles and brush snugly. Hinged lid keeps mop hidden and corrosive fumes sealed in. 18" organizer has two S-hooks and one double hook; 33" organizer has three S-hooks, two double hooks, one message clip and one carry sling for electrical cord. Organizer kit comes with 2 S-hooks and 1 double hook.



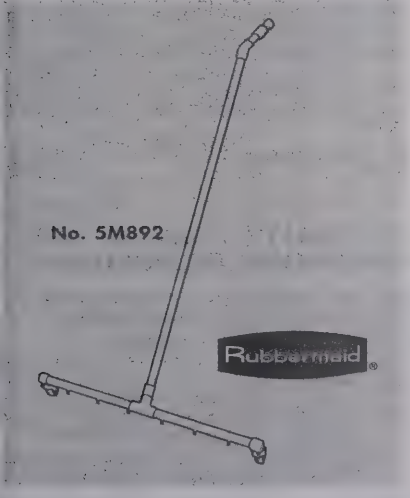

| Description | Size (In.) | Mfrs. | Mfr's. Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Closet Organizer/Tool Rack** | 18 | Rubbermaid | 1992 | **3U663** | $20.08 | **$16.06** | 1.2 |
| **Closet Organizer/Tool Rack** | 34 | Rubbermaid | 1993 | **4W307** | 32.04 | **25.65** | 2.8 |
| **Closet Organizer/Kit** | — | Rubbermaid | 1994 | **4KT25** | 10.92 | **8.74** | 0.7 |
| **Carry Caddy** | — | Rubbermaid | 3153-06 | **4HC14** | 9.40 | **7.52** | 1.1 |
| **Maid Caddy** | — | Rubbermaid | 2649 | **3U629** | 19.58 | **15.66** | 1.6 |
| **Toilet Bowl Caddy** | — | Impact | 100 | **1CG56** | 4.78 | **4.55** | 0.4 |




## LAUNDRY NETS

Help protect mops and other cleaning items during laundering. Made of heavy-duty synthetic mesh. Locking closure for secure washing. 24" x 36". White color. Pack 12. Rubbermaid brand (U210).

**No. 5N451.** Shpg. wt.6.0 lbs.
List.....$171.84.
Each.....**$137.50**

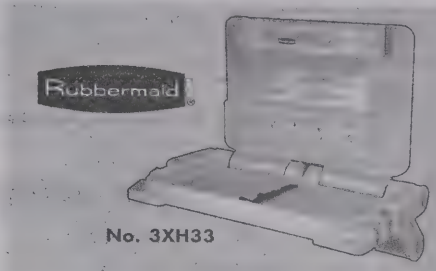



## WATERBROOM

Makes wet cleaning fast and easy. Six water jets help loosen dirt and sweep it away. Use with water temperatures up to 140°F and 150 PSI. Broom measures 30" wide. Great for general purpose cleaning in kitchens, laundry areas, outdoors and more. Rubbermaid brand (6313).

**No. 5M892.** Shpg. wt.5.7 lbs.
List.....$35.02.
Each.....**$28.05**

## STURDY STATION™ BABY CHANGING TABLE




- Includes mounting hardware and instructions for easy installation

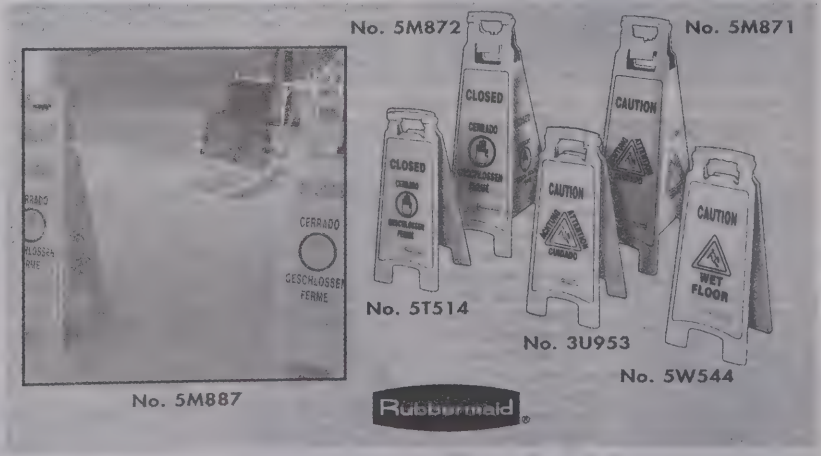
Sturdy Station™ Changing Table is designed for comfort and convenience. Its large, deep bed and adjustable safety belt provide control during changes. Its smooth hinges and hidden piston system reduce the potential for accidental pinching. Rated for use up to 50 lb.

- Helpful dispenser for liners at eye level for convenience and sanitary needs
- All plastic construction cleans easily
- Adjustable belt for control during changes
- Convenient hooks (one on each side) hold diaper bag securely and free hands
- The Off White color complements any restroom decor
- Smooth, non-porous surface maintains attractive appearance

| Description | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Sturdy Station™ Changing Table** | 7818 | **3XH33** | $280.80 | **$224.75** | 27.0 |
| **Liners/Packed 320 (4 stacks of 80)** | 7817 | **3XH34** | 77.98 | **62.40** | 4.8 |

## FLOOR SIGNS AND BARRIER CHAINS

Combine bright yellow color and bold graphics with durable polypropylene construction. Hot stamped lettering and graphics on both sides won't chip, peel or fade. Signs fold flat for easy storage and include handle for carrying or hanging. 37" signs are four sided. Hinge won't rust and requires no maintenance. Barrier chains are available in 20-foot lengths for use with four-sided, 37" floor signs.

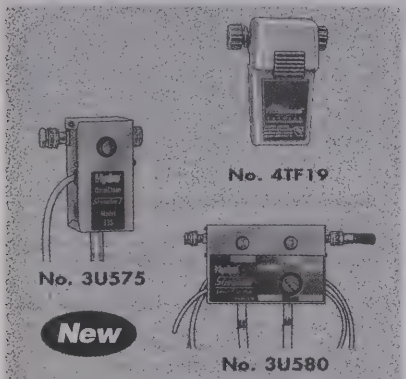



| Floor Sign Description | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **25-inch "Caution—Wet Floor"** | 6112-77 | **5W544** | $22.94 | **$18.35** | 2.0 |
| **37-inch "Caution—Wet Floor"** | 6112-77 | **3XH26** | 33.20 | **26.60** | 4.5 |
| **25-inch "Caution" Multilingual** | 6112-00 | **3U953** | 22.94 | **18.35** | 1.9 |
| **37-inch "Caution" Multilingual** | 6114-00 | **5M871** | 33.20 | **26.60** | 4.5 |
| **25-inch "Closed" Multilingual** | 6112-78 | **5T514** | 22.94 | **18.35** | 2.0 |
| **37-inch "Closed" Multilingual** | 6114-78 | **5M872** | 33.20 | **26.60** | 4.5 |
| **20-foot Barrier Chain** | 618400YEL | **5M887** | 17.72 | **14.18** | 1.5 |

# CHEMICAL PROPORTIONERS AND DISPENSERS

## CHEMICAL PROPORTIONERS

**Hydro Streamlines and AccuDoses™** are non-electric mixing/dispensing systems for centralized and/or point-of-use control. Streamlines and AccuDoses™ offer single or multiple chemical dispensing for multiple applications. Designed and built with quality and efficiency in mind, they offer push button ease, metering tip accuracy, tamper resistance and simple installation. All units feature chemically resistant components with stainless steel or ABS molded cabinets for wide range chemical compatibility and long term durability. Streamlines are built with siphon breakers to protect the fresh water supply from contamination. AccuDoses models have the added protection of air gap eductors to prevent backflow.




- **2 sets of 14 metering tips included**
- **All mounting hardware included**

- **Fourteen color-coded metering tips determine blend proportions. (2 sets included in 2- and 3-button proportioners)**
- **Includes all mounting hardware**

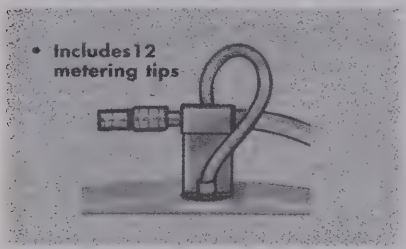
| Dispensing Buttons | Flow Rate | Hydro Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **STAINLESS STEEL CABINETS** | | | | | | |
| 1 | One @ 4 GPM | 835 | **3U575** | $98.70 | **$93.80** | 4.1 |
| 2 | Two @ 4 GPM | 845 | **3U577** | 157.75 | **149.90** | 7.1 |
| 3 | Three @ 4 GPM | 855 | **3U578** | 210.40 | **200.00** | 10.0 |
| **PLASTIC CABINETS** | | | | | | |
| 1 | One @ 4 GPM | 3833AG-2 | ***New*4TF19** | 72.00 | **68.35** | 3.6 |
| 3 | Three @ 4 GPM | 3853AG-2 | ***New*4TF20** | 174.00 | **165.75** | 6.9 |

### THE SELECT FOUR PLUS

Two dispensers in one: a single-product system on the left side dispenses at 4 GPM for filling mop buckets or small equipment for floor cleaning applications, while the right half is a 4-product dispenser filling at a 1 GPM rate, great to fill spray bottles for various housekeeping and building service applications. Small enough to fit easily into a janitor's closet or to mount on a rack, yet provides all the dispensing requirements of a comprehensive institutional cleaning regimen. Hydro brand (876).

**No. 3U580.** Shpg. wt. 11.0 lbs. List.....$257.50.
Each.....**$245.00**

## DRUM MOUNTED LIQUID PROPORTIONER

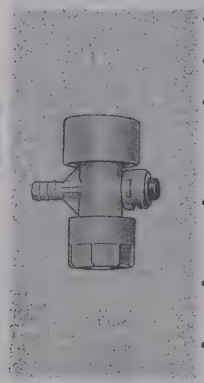


- **Includes 12 metering tips**

Ideal for use in health care facilities, restaurants, hotels, schools, car washes, supermarkets, service stations, and many other applications. The HydroMaster automatically mixes liquid chemical concentrate with water and dispenses the proportioned solution into any container. It eliminates the mess, guesswork and waste involved with manual mixing. The HydroMaster utilizes the tap water supply and features a standard hose connector. A siphon tube drops through the bung of a chemical drum and draws concentrate through a metering tip to produce the desired dilution ratio. When the drum of concentrate is empty a swivel adapter allows drum changes without disconnecting the water supply line. Hydro brand (206).

**No. 3U581.** Shpg. wt. 2.9 lbs. List .....$60.50.
Each.....**$57.50**

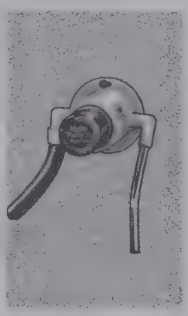
## HYDROFLO FAUCET PROPORTIONER



- **Dispense at the touch of a button**
- **Eliminate manual mixing time**
- **Prevent wasting of concentrate by delivering a predetermined dilution each time**
- **Includes an integral siphon breaker and 14 metering tips**
- **Will not corrode like metal proportioners**
- **Hydro brand (640)**

**No. 3U583.** Shpg. wt. 0.5 lbs. List.....$28.10.
Each.....**$26.70**

## CHEMICAL CONCENTRATE DISPENSERS

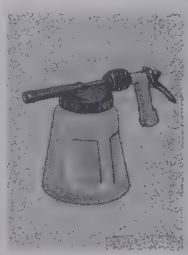


**Reliable:** The Hydro-Pump II consistently dispenses 1 oz. per push with water-thin or viscous products. Plunger recovers quickly for the next push. **NOTE:** Not for use with chlorine, iodine, or d-limonene based products.

**Easy to install:** Fits almost anywhere because it's small. Inlet and outlet ports swivel 360° to accommodate any set-up. Pump functions in any orientation (horizontal/vertical). No-drip spout directs discharge to container. Hydro brand (614).

**No. 3U582.** Shpg. wt. 2.0 lbs. List.....$26.95.
Each.....**$25.65**

## AUTOMATIC FOAMING HOSE END LIQUID PROPORTIONER



- **14 color coded metering tips included**

Connects to standard hose, operates at normal water pressure. Side handles allow ease of operation.

**Unique Design for Richer Foam.** HydroFoamer's unique injection concept for automatically mixing the proper amount of chemical with air and water maximizes use of the available tap water energy and produces thicker, richer foam for longer soak time.

**Designed for Durability.** Barrel and lid are injection molded of polypropylene for chemical resistance and strength. 96 oz. capacity. Hydro brand (481).

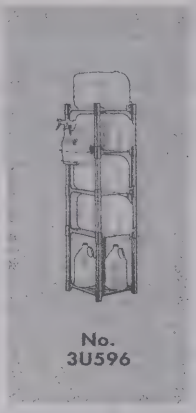
**No. 3U584.** Shpg. wt. 2.7 lbs. List.....$50.70.
Each.....**$48.15**

# PUMPS, TRIGGER SPRAYERS AND BOTTLES

## DISPENSING RACK

**Organizes liquids using minimum space**—uses only 14 x 15½" of floor space, and is less than 5 ft. high. Strong, safe, stable. Easy assembly—snaps together without nuts, bolts or screws. Fully loaded, stores up to 20 gallons of liquid plus supplies. Fill spray bottles without spilling. Designed with 11" extension legs to easily accept 5 gallon dispensing containers. Tolco brand (190165).

**No. 3U596.** Shpg. wt. 10.0 lbs. List $191.16.
Each.....$95.70


No. 3U596

## WIRE BASKET

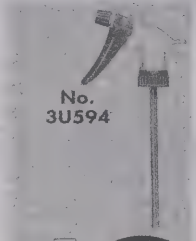
Wire basket for storing spray bottles. Use with plastic racks. Tolco brand (190166).

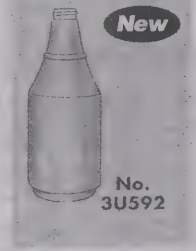
**No. 3U598.** Shpg. wt. 10.0 lbs. List $14.89.
Each.....$11.18

## TRIGGER SPRAYER AND SPRAY BOTTLES

**Versatile Sprayers** handle a variety of liquids. Comfortable trigger-type operation, large spray pattern. Adjust nozzle from fine mist to jet stream for a variety of jobs. Nos. 3U594 and 3U603 fit 24 and 32 oz. bottles. No. 4TH69 for heavy-duty jobs. No. 1CH73 fits 24 oz. bottle; No. 1CH72 fits 32 oz. bottle.

**Round Spray Bottles** in 24- or 32-oz. sizes. Molded oz./ml and dilution scale.

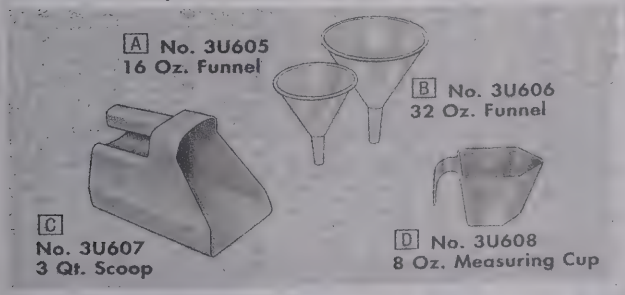

No. 3U594



No. 3U592

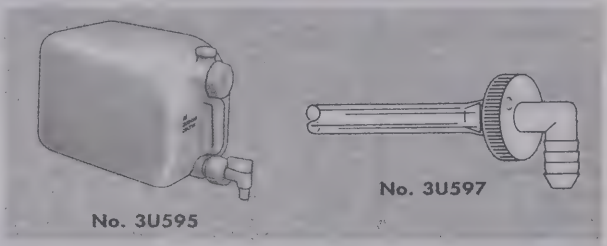
| Description | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|
| **Trigger Sprayer** | 3U594 | $2.23 | $1.53 | $1.45 | 0.2 |
| **Foaming Trigger Sprayer** | 3U603 | 3.01 | 2.25 | 2.03 | 0.2 |
| **Trigger Sprayer, Large** | *New* 4TH69 | 0.81 | 0.73 | — | 2.0 |
| **Chemical Resistant Trigger Sprayers** | | | | | |
| **7" (Fits 24 oz)** | 1CH73 | 2.87 | 2.33 | 2.21 | 0.8 |
| **9" (Fits 32 oz)** | 1CH72 | 2.91 | 2.37 | 2.25 | 0.1 |
| **24-oz Bottle Only** | 3U592 | 1.95 | 1.56 | 1.40 | 0.3 |
| **32-oz Bottle Only** | 3U593 | 2.13 | 1.73 | 1.64 | 0.3 |

## FUNNELS, SCOOP AND MEASURING CUP




| Key | Description | Tolco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | **16 oz. Plastic Funnel.** 5½" high, 5⅜" diameter top. Natural color. | 240138 | 3U605 | $4.38 | $3.27 | 0.1 |
| B | **32 oz. Plastic Funnel.** 6⅝" high, 6½" diameter top. Natural color. | 240118 | 3U606 | 7.82 | 5.84 | 0.1 |
| C | **3 qt. Polyethylene Scoop.** White. | 240120 | 3U607 | 6.14 | 4.60 | 0.6 |
| D | **8 oz. Polyethylene Measuring Cup.** Oz./ml scale molded inside. | 240121 | 3U608 | 1.40 | 1.05 | 0.1 |

## 5 GALLON DISPENSING CONTAINER




**DURABLE VENTED DISPENSING CONTAINER No. 3U595**

Holds 5 gallons of liquid. Extended faucet to fill bottles and other containers without spilling. Molded graduations. Tolco brand (180160).

**FILLING TUBE ASSEMBLY No 3U597**

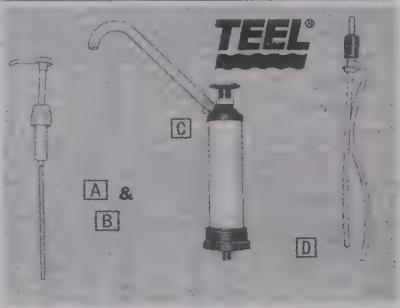
Adapts standard 5 gallon dispenser to proportioner discharge hose. Tolco brand (180161).

**No. 3U595.** Dispensing Container. Shpg. wt. 2.5 lbs. List $29.05.
Each.....$21.79

**No. 3U597.** Filling Tube Assembly. Shpg. wt. 0.1 lbs. List $6.12.
Each.....$3.07

## PUMPS

**Plastic Pumps** are designed for durability and long, trouble-free service. Sized to fit containers up to 55 gallon capacity.




| Key | Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| A | **1 oz. Plastic Pump.** Senior Rieke adapter to fit 5 gallon pails. 15" tube length | 3U599 | $4.80 | $3.60 | 0.2 |
| B | **1 oz. Plastic Pump.** 38/400 white adapter and return spring. For gallons. Flexible 11" dip tube. | 3U600 | 4.00 | 3.00 | 0.2 |
| C | **Drum Pump.** 3/4 to 2" adapter. 8 oz. per stroke. Polyethylene and polypropylene. Fits 3/4" and 2" drum openings and 5 gallon pails w/Senior Rieke spout. | 1N426 | 14.75 | 10.60 | 0.8 |
| D | **Plastic Siphon Pump** for metal drums. 2" IPS fine-thread adapter. 33" tube, 36" hose | 1N420 | 13.75 | 8.97 | 1.0 |

## PAIL LID OPENER


No. 3U604

Use to open plastic pails and drums. Glass-filled plastic construction. 8" in length. Green. Tolco brand (250131).

**No. 3U604.** Shpg. wt. 0.2 lbs. List $9.80. Each.....$7.32

# SPRAY GUN SELECTION

## CONVENTIONAL SPRAY GUN SUITABILITY

| COATINGS | No. 2Z497 | No. 2Z363 | No. 2Z364 | No. 2Z365 / No. 2Z366 | No. 4F338 | No. 4F339 | No. 4F340 / No. 4F341 | No. 4F342 | No. 4F343 | No. 4TH33 | No. 4TH36 | No. 4TH32 | No. 4TH35 | No. 4TH09 | No. 4TH07 | No. 4TH08 | No. 4TH06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Very Low Viscosity** | | | | | | | | | | | | | | | | | |
| **Dyes** | ○ | ◆ | ◆ | ● | ● | ◆ | ● | ● | ● | ◆ | ◆ | ● | ● | ● | ◆ | ● | ◆ |
| **Inks** | ○ | ◆ | ◆ | ● | ● | ◆ | ● | ● | ● | ◆ | ◆ | ● | ● | ● | ◆ | ● | ◆ |
| **Wash Primers** | ○ | ◆ | ◆ | ● | ● | ◆ | ● | ● | ● | ◆ | ◆ | ● | ● | ● | ◆ | ● | ◆ |
| **Stains** | ○ | ◆ | ◆ | ◆ | ● | ● | ● | ● | ● | ◆ | ◆ | ● | ● | ● | ◆ | ● | ◆ |
| **Solvents** | ○ | ◆ | ◆ | ● | ● | ● | ● | ● | ● | ◆ | ◆ | ● | ● | ● | ◆ | ● | ◆ |
| **Low Viscosity** | | | | | | | | | | | | | | | | | |
| **Sealers, Latex** | ○ | ◆ | ◆ | ◆ | ◆ | ● | ● | ● | ● | ○ | ○ | ● | ● | ● | ● | ● | ● |
| **Lacquers** | ○ | ◆ | ◆ | ◆ | ◆ | ● | ● | ◆ | ● | ○ | ○ | ● | ● | ● | ● | ● | ● |
| **Acrylics** | ○ | ◆ | ◆ | ● | ◆ | ● | ● | ● | ● | ○ | ○ | ● | ● | ● | ● | ● | ● |
| **Lubricants** | ○ | ◆ | ◆ | ◆ | ○ | ● | ● | ● | ● | ○ | ○ | ● | ● | ● | ● | ● | ● |
| **Medium Viscosity** | | | | | | | | | | | | | | | | | |
| **Enamels** | ○ | ○ | ◆ | ◆ | ◆ | ● | ● | ◆ | ● | NR | NR | ○ | ◆ | ● | ● | ● | ● |
| **Epoxies** | ○ | ○ | ◆ | ○ | ○ | ● | ● | ◆ | ◆ | NR | NR | ○ | ◆ | ● | ● | ● | ● |
| **Urethanes** | ○ | ○ | ◆ | ○ | ○ | ● | ● | ◆ | ◆ | NR | NR | ○ | ◆ | ● | ● | ● | ● |
| **Fillers** | ○ | ○ | ◆ | ○ | NR | ◆ | ● | ◆ | ◆ | NR | NR | ○ | ◆ | ● | ● | ● | ● |
| **Primers** | ○ | ○ | ◆ | ○ | ○ | ◆ | ● | ◆ | ◆ | NR | NR | ○ | ◆ | ● | ● | ● | ● |
| **High Viscosity*** | | | | | | | | | | | | | | | | | |
| **Enamels** | ○ | ○ | ◆ | ◆ | ○ | ◆ | ● | ◆ | ● | NR | NR | NR | ○ | ○ | ○ | ◆ | ● |
| **Adhesives** | ○ | ○ | ◆ | ○ | ○ | ○ | ◆ | ◆ | ● | NR | NR | NR | ○ | ○ | ○ | ◆ | ● |
| **House Paint** | ○ | ○ | ◆ | ○ | ○ | ◆ | ● | ○ | ◆ | NR | NR | NR | ○ | ○ | ○ | ◆ | ● |
| **Latex** | ○ | ○ | ◆ | ○ | ○ | ◆ | ● | ○ | ◆ | NR | NR | NR | ○ | ○ | ○ | ◆ | ● |

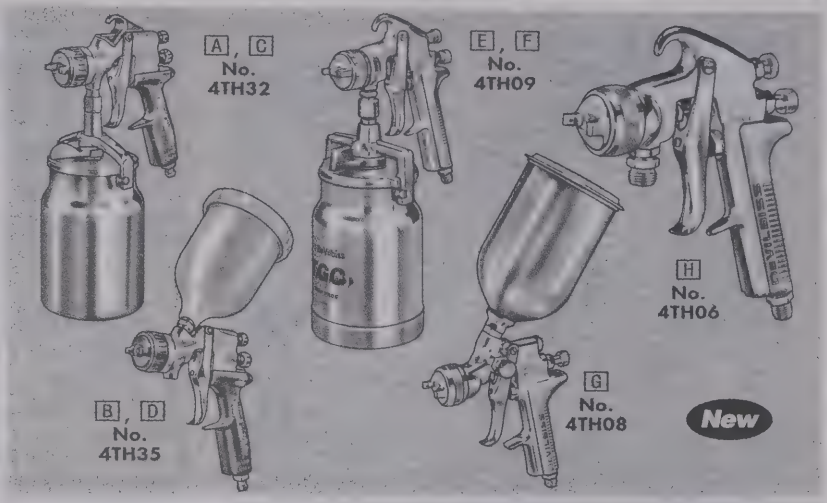
## HVLP SPRAY GUN SUITABILITY

| COATINGS | No. 4TH34 | No. 4TH17 | No. 4TH18 | No. 4TH37 | No. 4TH20 | No. 4TH38 | No. 4TH19 | No. 4KP93 | No. 4KP94 | No. 4KP95 | No. 4KP96 | No. 4KT22 | No. 4KT23 | No. 4KT24 | No. 3JR91 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Very Low Viscosity** | | | | | | | | | | | | | | | |
| **Dyes** | ● | ● | ● | ● | ● | ◆ | ○ | ● | ● | ◆ | ◆ | ● | ● | ● | ● |
| **Inks** | ● | ● | ● | ● | ● | ◆ | ○ | ● | ● | ◆ | ◆ | ● | ● | ● | ● |
| **Wash Primers** | ● | ● | ● | ● | ● | ◆ | ○ | ● | ● | ● | ● | ● | ● | ● | ● |
| **Stains** | ● | ● | ● | ● | ● | ◆ | ○ | ● | ● | ● | ● | ● | ● | ● | ◆ |
| **Solvents** | ● | ● | ● | ● | ● | ◆ | ○ | ● | ● | ● | ● | ● | ● | ● | ◆ |
| **Low Viscosity** | | | | | | | | | | | | | | | |
| **Sealers, Latex** | ● | ● | ● | ● | ● | ● | ◆ | ● | ● | ◆ | ◆ | ● | ● | ● | ● |
| **Lacquers** | ● | ● | ● | ● | ● | ● | ◆ | ● | ● | ◆ | ◆ | ● | ● | ● | ● |
| **Acrylics** | ● | ● | ● | ● | ● | ● | ◆ | ● | ● | ◆ | ◆ | ◆ | ● | ● | ● |
| **Lubricants** | ● | ● | ● | ● | ● | ● | ◆ | ● | ● | ● | ● | ● | ● | ● | ○ |
| **Medium Viscosity** | | | | | | | | | | | | | | | |
| **Enamels** | ◆ | ● | ● | ● | ● | ● | ● | ◆ | ◆ | ● | ● | ◆ | ● | ● | ● |
| **Epoxies** | ◆ | ● | ● | ● | ● | ● | ● | NR | ○ | ● | ● | ◆ | ● | ● | NR |
| **Urethanes** | ◆ | ● | ● | ● | ● | ● | ● | ◆ | ● | ◆ | ● | ● | ● | ● | ● |
| **Fillers** | ◆ | ● | ● | ● | ● | ● | ● | NR | ○ | ● | ◆ | ○ | ◆ | ◆ | ◆ |
| **Primers** | ◆ | ● | ● | ● | ● | ● | ● | NR | ○ | ● | ● | ◆ | ● | ● | ● |
| **High Viscosity** | | | | | | | | | | | | | | | |
| **Enamels** | NR | ○ | ◆ | ○ | ○ | ◆ | ● | NR | NR | ◆ | NR | ◆ | ● | ● | ● |
| **Adhesives** | NR | ○ | ○ | ○ | ○ | ◆ | ● | NR | NR | ◆ | NR | ○ | ◆ | ◆ | ◆ |
| **House Paint** | NR | ○ | ○ | ○ | ○ | ◆ | ● | NR | NR | ○ | NR | ○ | ◆ | ◆ | ● |
| **Latex** | NR | ○ | ○ | ○ | ○ | ◆ | ● | NR | NR | ○ | NR | ○ | ◆ | ◆ | ● |

(*) High Viscosity Coatings will require a pressure feed system for proper paint delivery to the spray gun. Note: Thinning may be required. (●) Best; (◆) Better; (○) Good; NR = Not Recommended. Note: Finish quality is dependent on material, equipment used, and application techniques. Chart provided is for informational purposes only. Consult with owner's manual, sales representatives, or refer to specifications indicated by coating material before beginning operation.

# CONVENTIONAL SPRAY GUNS

DEVILBISS
*The Right Way To Finish*




CONVENTIONAL SPRAY GUNS

Model FLG Spray gun and cup outfits come complete and ready to spray, featuring durable, lightweight engineered resin components which allow compatibility with both solvent and waterborne paints. These models offer high performance with the ability to operate from air compressors as small as 1½ HP (check gun CFM requirements with your air compressor's CFM delivery). Gravity feed models include a quantity of cup liners for spraying upside down without leaking. Liners also make clean-up quick and easy.

FLG SUCTION FEED MODELS

(includes a one quart aluminum drip free cup)

A No. 4TH33 #2 air cap recommended for smaller jobs, low cfm requirements are ideal for use with small air compressors.

C No. 4TH32 #1 air cap ideal for high performance spraying.

FLG GRAVITY FEED MODELS

(includes 20 oz. acetyl gravity feed cup)

B No. 4TH36 #2 air cap provides good atomization with low cfm requirements.

D No. 4TH35 #1 air cap allows high performance spraying with efficiencies of gravity feed design.

Model JGA spray guns have long been the "standard of the industry," and feature drop forged aluminum gun bodies for durability, stainless steel fluid tips, needles and fluid passages for compatibility with a wide range of paint applications. Model GFG gravity feed spray guns have same features as the JGA, without stainless fluid passages.

JGA SUCTION FEED MODELS

(includes a one quart aluminum drip free cup)

E No. 4TH09 features the #9000 air cap which allows automotive type finishes when used with low to medium viscosity paints.

F No. 4TH07 features the #80 air cap which is ideally suited for spraying heavier paints.

GFG GRAVITY FEED MODEL

(includes a one quart aluminum, drip free gravity feed cup)

G No. 4TH08 includes two fluid tips (.055"/.063") for spraying a wide range of paint viscosities. Includes quantity of cup liners for upside down spraying with "no drips."

JGA PRESSURE FEED MODEL

H No. 4TH06 will handle most low to high viscosity paints when used with a pressure feed cup or tank. Can be used with No. 4TH14 one qt. attached cup, No. 4TH11 two qt. remote cup, or a pressure tank set-up.

**Conventional Guns Vs. High Volume, Low Pressure (HVLP) Spray Guns**

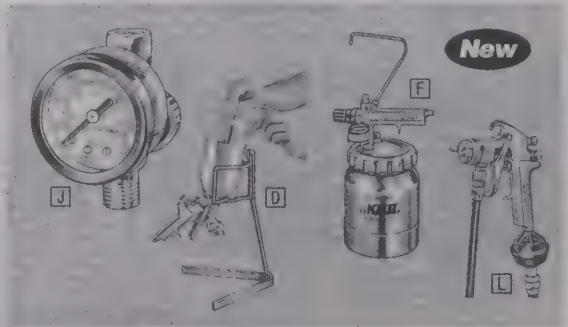
**Conventional spray guns atomize paint at higher air pressures, typically 30-60 psi. HVLP spray guns atomize paint at air pressures less than 10 psi (measured at the air cap). Lower air pressures mean less "bounce back" and less wasted paint.**

| Key | Paint Viscosity Optimum Range | Fluid Delivery Type | CFM @ PSI* | Nozzle Size (In./mm) | Additional Nozzle Incl. (In./mm) | Pattern Size (In.) | Fluid Delivery Speed | DeVilbiss Model | Mfr. Computer Number | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Very Low to Low | Suction | 6.9 @ 40 | .055/1.4 | — | 6 | Slow-Medium | FLG | 510214 | **4TH33** | $99.75 | **$95.00** | 2.6 |
| B | Very Low to Low | Gravity | 6.9 @ 40 | .047/1.2 | — | 6 | Slow-Medium | FLG | 512212 | **4TH36** | 110.25 | **105.00** | 2.0 |
| C | Very Low to Medium | Suction | 9.9 @ 40 | .063/1.6 | — | 10 | Medium | FLG | 510116 | **4TH32** | 99.75 | **95.00** | 2.6 |
| D | Very Low to Medium | Gravity | 9.9 @ 40 | .055/1.4 | — | 10 | Medium | FLG | 512114 | **4TH35** | 110.25 | **105.00** | 2.0 |
| E | Very Low to Medium | Suction | 12.0 @ 45 | .063/1.6 | — | 10 | Medium | JGA | 110228 | **4TH09** | 252.00 | **240.00** | 3.2 |
| F | Very Low to High | Suction | 14.0 @ 60 | .070/1.8 | — | 13 | Medium | JGA | 110082 | **4TH07** | 252.00 | **240.00** | 3.2 |
| G | Very Low to High | Gravity | 12.0 @ 45 | .055/1.4 | .063/1.6 | 10 | Medium-Fast | GFG | 110227 | **4TH08** | 278.25 | **265.00** | 3.4 |
| H | Very Low to High | Pressure | 12.0 @ 45 | .063/1.6 | — | 10 | Medium-Fast | JGA | 110013 | **4TH06** | 211.57 | **201.50** | 1.9 |

DEVILBISS
*The Right Way To Finish*

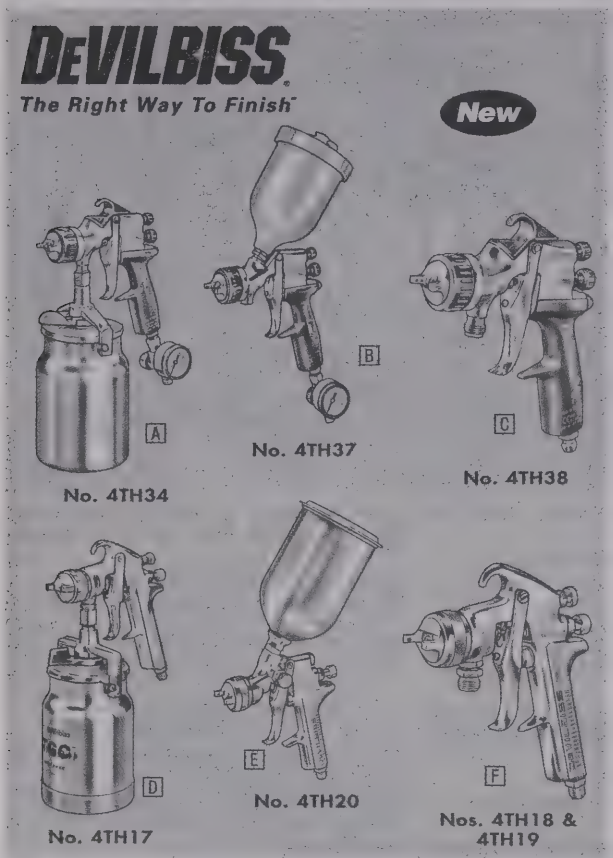
# ACCESSORIES FOR SPRAY GUNS

| Key | Description | DeVilbiss Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | One qt. Aluminum Drip Free Suction Feed Cup | 120011 | **4TH10** | $40.16 | **$38.25** | 1.4 |
| B | 20 oz. Acetyl Gravity Feed Cup | 190252 | **4TH25** | 32.28 | **30.75** | 0.6 |
| C | 32 oz. Aluminum Gravity Feed Cup | 120175 | **4TH13** | 44.10 | **42.00** | 1.1 |
| D | Disposable Liner Kit for Gravity Feed Cups (48) | 190966 | **4TH28** | 26.19 | **24.95** | 1.1 |
| E* | One qt. Aluminum Pressure Cup with Regulator | 120176 | **4TH14** | 152.25 | **145.00** | 1.7 |
| F | Two qt. Remote Pressure Cup with Regulator | 120033 | **4TH11** | 185.85 | **177.00** | 5.0 |
| G | Disposable Liner Kit for No. 4TH11 Cup (20) | 192025 | **4TH30** | 27.30 | **26.00** | 1.2 |
| H | Six Foot Air/Paint Hose Assy. for No. 4TH11 Cup | 220019 | **4TH31** | 38.32 | **36.50** | 1.9 |
| I | Gun Mounted Air Adjusting Valve | 180005 | **4TH21** | 10.23 | **9.75** | 0.3 |
| J | Gun Mounted Air Adjusting Valve with Gauge | 180006 | **4TH22** | 21.52 | **20.50** | 0.4 |
| K | Gun Mounted Air Regulator with Gauge | 130015 | **4TH15** | 38.85 | **37.00** | 0.8 |
| L | Gun Mounted Disposable Air Line Filter (Box 12) | 130049 | **4TH16** | 78.75 | **75.00** | 0.2 |




(*) Type JGA spray guns only.

# HVLP SPRAY GUNS




All DeVilbiss HVLP spray guns operate from standard compressed air systems. These spray guns meet current environmental laws for "High Transfer Efficiency" spray equipment.

Model FLG–HVLP spray gun and cup outfits offer high performance with the ability to operate from air compressors as small as 3 hp (check gun cfm requirements with your air compressor's cfm delivery). Gravity feed model includes a quantity of cup liners for spraying upside down without leaking. Suction and gravity feed models come with a No. 4TH22 air adjusting valve for easy air pressure adjustment at the spray gun handle.

FLG SUCTION FEED MODELS (includes a quart aluminum drip free cup)

A No. 4TH34 with the #3 air cap requires only 23 psi inlet air pressure to achieve maximum 10 psi air cap pressure for HVLP compliance. Includes two fluid tips. (.086"/.070")

FLG GRAVITY FEED MODELS (include a 20 oz. acetyl gravity feed cup, with cup liners).

B No. 4TH37 with the #3 air cap alows high production spraying of many different paints. Includes two fluid tips. (.070"/.063")

FLG PRESSURE FEED MODEL (includes two fluid tips—.063"/.070").

C No. 4TH38 with the #3 air cap with two different fluid tips can be used with No. 4TH11 two qt. remote cup, or a pressure tank set-up.

Model JGA -HVLP Spray guns utilize the same industry standard features of the conventional JGA, with all of the added benefits of HVLP technology. Achieving a fine finish with low overspray, JGA-HVLP models feature that famous lightweight "fit and feel". The model GFG-HVLP gravity feed spray gun has same features as the JGA-HVLP, without stainless fluid passages.

JGA SUCTION FEED MODEL (includes a one quart aluminum drip free cup)

D No. 4TH17 features the #57 air cap which provides the fine finishes of a conventional air cap, with the low overspray of HVLP design.

JGA GRAVITY FEED MODEL (includes a one quart aluminum, drip free gravity feed cup)

E No. 4TH20 requires only 11 cfm @ 40 psi—ideal for use with smaller air compressors. Includes a quantity of cup liners for upside down spraying and easy clean up.

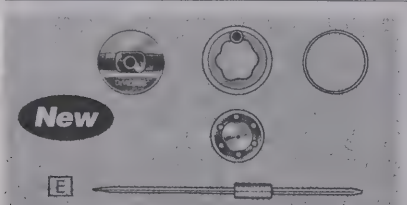
PRESSURE FEED MODELS (both models can be used with No. 4TH14 one qt. attached cup, 4TH11 two qt. remote cup, or a pressure tank set-up.)

F No. 4TH18 will handle most low to medium viscosity paints, requiring only 11 cfm of air @ 40 psi.

G No. 4TH19 includes a .070 fluid tip and is used for spraying medium to high viscosity paints.

| Key | Paint Viscosity Optimum Range | Fluid Delivery Type | CFM @ PSI* | Nozzle Size (mm.) | Additional Nozzle Included (mm.) | Pattern Size (In.) | Fluid Delivery Speed | Mfr's Model | Mfr's. Computer No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Very Low To Medium | Suction | 11.4 @ 23 | .086 / 2.2 | .070 / 1.8 | 10 | Medium-Fast | FLG | 510322 | **4TH34** | $177.45 | **$169.00** | 2.9 |
| B | Very Low to High | Gravity | 11.4 @ 23 | .070 / 1.8 | .063 / 1.6 | 10 | Medium | FLG | 512318 | **4TH37** | 183.75 | **175.00** | 2.6 |
| C | Very Low to High | Pressure | 11.4 @ 23 | .063 / 1.6 | .070 / 1.8 | 10 | Medium-Fast | FLG | 513316 | **4TH38** | 177.45 | **169.00** | 1.9 |
| D | Very Low To Medium | Suction | 22.0 @ 50 | .086 / 2.2 | — | 10 | Medium | JGA | 170039 | **4TH17** | 313.95 | **299.00** | 3.4 |
| E | Very Low to High | Gravity | 11.0 @ 40 | .063 / 1.6 | — | 11 | Medium-Fast | GFG | 170147 | **4TH20** | 292.95 | **279.00** | 3.4 |
| F | Very Low to High | Pressure | 11.0 @ 40 | .042 / 1.1 | — | 11 | Medium-Fast | JGA | 170057 | **4TH18** | 262.50 | **250.00** | 1.8 |
| G | Low to High | Pressure | 22 @ 50 | .070 / 1.8 | — | 10 | Medium-Fast | JGA | 170065 | **4TH19** | 262.50 | **250.00** | 1.9 |

(*) Note all HVLP spray gun inlet pressures shown are maximum allowable for HVLP compliance (10 PSI air cap pressure)




## ACCESSORIES

| Key | Description | Mfr's Model No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | #3 HVLP Air Cap - Test Kit | 519210 | **4TH41** | $52.23 | **$49.75** | 0.3 |
| B | #10 HVLP Air Cap - Test Kit | 190850 | **4TH27** | 80.85 | **77.00** | 0.4 |
| C | #57 HVLP Air Cap - Test Kit | 190998 | **4TH29** | 75.60 | **72.00** | 0.4 |
| D | #98 HVLP Air Cap - Test Kit | 190322 | **4TH26** | 60.63 | **57.75** | 0.4 |
| E* | JGA - HVLP Conversion Kit (#57/.086") | 190123 | **4TH23** | 110.25 | **105.00** | 0.7 |
| F* | JGA - HVLP Conversion Kit (#57/.070") | 190124 | **4TH24** | 110.25 | **105.00** | 0.6 |

(*) E and F for use with JGA type spray gun only.

**NEED ASSISTANCE WITH PRODUCT SELECTION?**
**WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY**



*Spray it, stack it, stamp it and more with these hard-working products.*

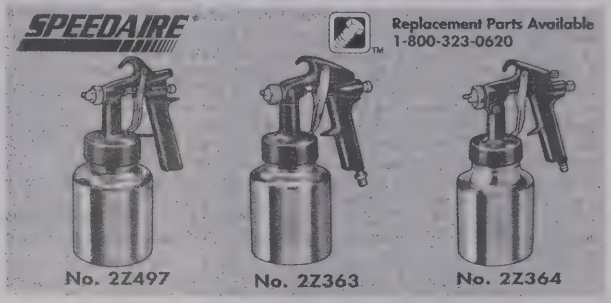
## A GENERAL PURPOSE SPRAY GUNS

**Speedaire General Purpose Spray Guns** are ideal small, occassional painting projects. All models include internal and external mix caps.

- **No. 2Z497 is bleeder type gun, pressure feed only**
- **Nos. 2Z363 and 2Z364 are convertible bleeder/non-bleeder type guns. Also convertible from siphon feed to pressure feed. Can be used with a pressurized paint tank system.**
- **No. 2Z364 features quick change siphon/pressure control**
- **Connections: Air-1/4" NPSM(M)*, Fluid-3/8" NPSM(M), except 2Z497**

REFER TO CHART ON PAGE 1962 FOR COATING CAPABILITY

(*) For NPSM(F) to NPT(M) adapter, use Stock No. 2F373. For NPSM(F) to NPT(F) adapter, use Stock No. 2F383.



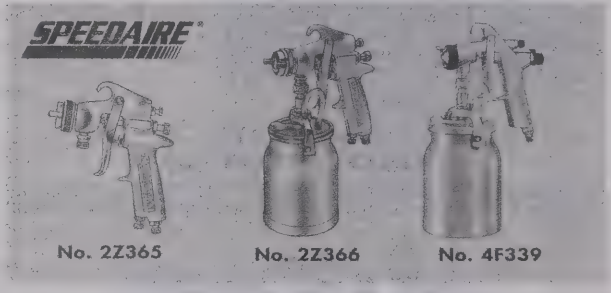

## B PROFESSIONAL SPRAY GUNS

**Speedaire Professional Spray Guns** are designed for commercial, maintenance, and small/medium production line applications. All models are non-bleeder, siphon feed type guns with external mix.

- **Nos. 4F338 and 4F339 have stainless steel fluid nozzles and innovative air cap that minimizes paint build-up**
- **All Professional models can be used with pressure feed system**
- **No. 4F338 features lightweight, compact design for easy maneuverability**
- **Connections: Air–1/4" NPSM(M)*, Fluid–3/8" NPSM(M)**

REFER TO CHART ON PAGE 1962 FOR COATING CAPABILITY

(*) For NPSM(F) to NPT(M) adapter, use Stock No. 2F373. For NPSM(F) to NPT(F) adapter, use Stock No. 2F383




## C INDUSTRIAL SPRAY GUNS

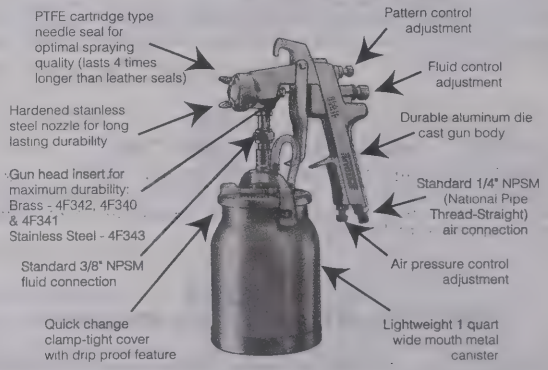
**Speedaire Industrial Spray Guns** are designed for assembly/production line and automotive body shop applications. Constructed with hardened stainless steel nozzle/needle and PTFE seals for extended life. New air cap design reduces paint build-up and minimizes downtime for clean up. All models are non-bleeder, siphon feed guns with external mix.

**All Industrial models:**

- **Deliver high quality finish**
- **Offer maximum durability, corrosion resistance and easy maintenance**
- **Can be used with pressure feed system**
- **Connections: Air–1/4" NPSM(M)*, Fluid–3/8" NPSM(M)**

**REFER TO CHART ON PAGE 1962 FOR COATING CAPABILITY**

(*) For NPSM(F) to NPT(M) adapter, use Stock No. 2F373. For NPSM(F) to NPT(F) adapter, use Stock No. 2F383.




| Key | Description | CFM* Required @ 30 PSI | CFM* Required @ 50 PSI | Control Capabilities Adjustable | Fluid Nozzle Size (In.) | Pattern Size (In.) @ 50 PSI† | Fluid Delivery Speed | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Gun/Cup | 2.4 | 4.0 | Fluid | 0.050 | 5.5 | Medium | **2Z497** | $42.00 | **$29.95** | 2.0 |
| | Gun/Cup | 2.8 | 4.2 | Fluid | 0.049 | 6.5 | Medium | **2Z363** | 57.00 | **39.95** | 2.0 |
| | Gun/Cup | 6.3 | 9.4 | Fluid/Pattern | 0.058 | 8.0 | Med-Fast | **2Z364** | 85.75 | **59.95** | 2.2 |
| B | Gun Only | 8.2 | 11.7 | Fluid/Pattern/Air | 0.065 | 10.0 | Medium | **2Z365** | 85.00 | **59.50** | 2.1 |
| | Gun/Cup | 8.2 | 11.7 | Fluid/Pattern/Air | 0.065 | 10.0 | Medium | **2Z366** | 99.50 | **69.95** | 3.5 |
| | Gun/Cup | 6.1 | 8.4 | Fluid/Pattern/Air | 0.059 | 7.5 | Medium | **4F338** | 128.75 | **90.75** | 2.2 |
| | Gun/Cup | 6.6 | 9.9 | Fluid/Pattern/Air | 0.075 | 8.0 | Med-Fast | **4F339** | 145.30 | **101.70** | 2.6 |
| C | Gun Only | 6.8 | 10.0 | Fluid/Pattern/Air | 0.079 | 8.5 | Med-Fast | **4F340** | 192.25 | **134.35** | 1.8 |
| | Gun/Cup | 6.8 | 10.0 | Fluid/Pattern/Air | 0.079 | 8.5 | Med-Fast | **4F341** | 224.75 | **156.00** | 2.6 |
| | Gun Only | 6.8 | 10.1 | Fluid/Pattern/Air | 0.071 | 9.6 | Med-Fast | **4F343** | 224.00 | **155.00** | 1.7 |
| | Cup Only | 1 qt. cup compatible with all Speedaire siphon feed spray guns except Nos. 2Z497, 2Z363, 2Z364 | | | | | | **4F337** | 43.00 | **28.95** | 1.1 |

(*) CFM required is for continuous operation, for intermittent operation; CFM required will be reduced. (†) Measured with guns 8" from surface.

# SPEEDAIRE HVLP SPRAY GUNS

Operate from standard compressed air systems. Use high volume of air delivered at low pressure and low velocity to atomize paint. As a result, far less material is lost in overspray and bounce back than with conventional spray guns. Spray guns meet current environmental regulations for "High Transfer Efficiency" spray equipment. Guns feature a self-aligning air cap to ensure a perfect spray pattern every time, hardened alloy steel fluid nozzle, forged aircraft aluminum air cap and head, and an aluminum body. Used to apply most industrial, marine, wood, plastic, and automotive finishes. All models are external mix, non-bleeder guns. Fluid inlet is 3/8" NPSM(M)(National Pipe Straight Thread), and air inlet is 1/4" NPSM(M). For NPSM(F) to NPT(M) adapter use Stock No. 2F373. For NPSM(F) to NPT(F) adapter use Stock No. 2F383.

## A No. 4KP93 SIPHON-FEED HVLP SPRAY GUN

085" nozzle. Excellent for applications with frequent color changes or small production operations. Use with 1 quart cup No. 4KP91. Can be used with a pressure-feed system for heavy viscosity materials.

## B No. 4KP91 1-QUART SIPHON CUP

Quick release lever and wide mouth for easy filling and cleaning. Includes internal anti-drip shield. Use with spray gun No. 4KP93 only.

## C Nos. 4KP94, AND 4KP95 PRESSURE-FEED HVLP SPRAY GUNS

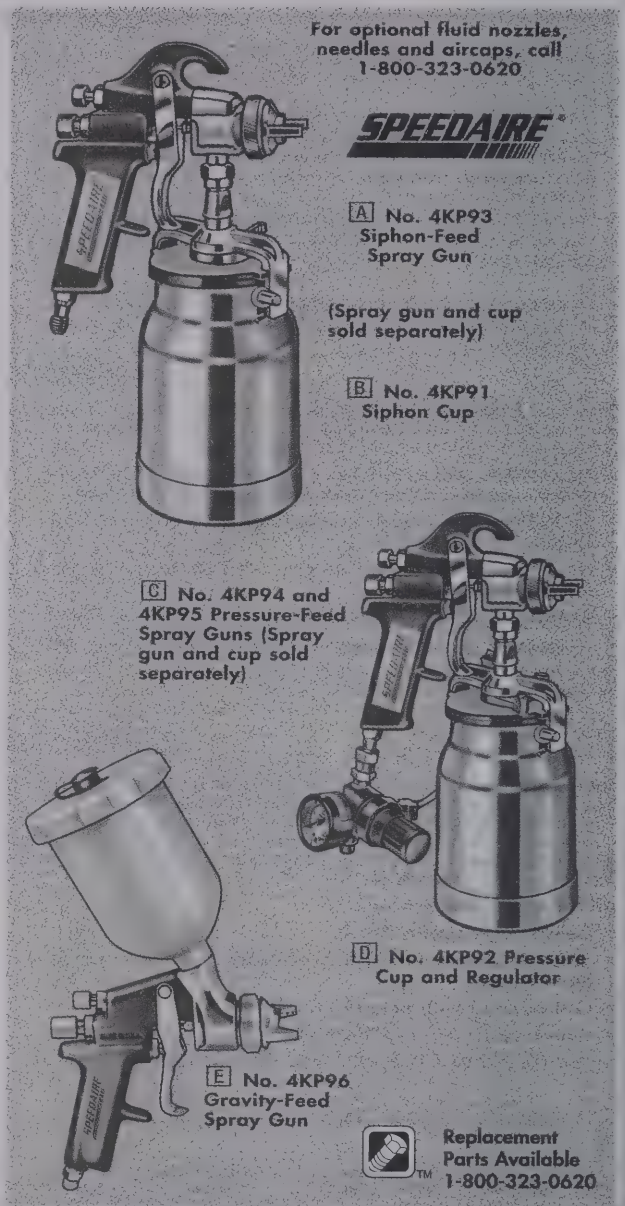
For applications where large quantities of material are to be applied quickly or where material is too heavy to be siphoned from a container. Use with pressure-feed cup No. 4KP92, pressurized tank or pump. No. 4KP94 gun with .030" nozzle. No. 4KP95 with .045" nozzle.

## D No. 4KP92 1-QUART PRESSURE CUP

Use with spray gun Nos. 4KP93, 4KP94, and 4KP95. Pressure adjustable from 1-10 PSI. Includes check valve, manual relief valve, safety relief valve, precision regulator, and gauge. Maximum pressure 10 PSI.

## E No. 4KP96 GRAVITY-FEED HVLP SPRAY GUN

Convenient gravity-feed cup ideal for application of small amounts of paint or expensive paints. Superior atomization for all automotive and industrial thin and medium viscosity materials. Forged aluminum handle, head and air cap. Includes wall-mount hanger and wrench. Includes nylon 22oz. gravity-feed cup.




## SPRAY GUNS SPECIFICATIONS AND ORDERING DATA

| Key | Description | CFM Required @ 40 PSI | CFM Required @ 50 PSI | Max. Pressure PSI* | Control Capabilities Adjustable | Nozzle Size (In.) | Pattern † Size (In.) @ Max. PSI | Fluid Delivery Speed | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Siphon Feed Gun | 13.5 | — | 40 | Fluid/Pattern | .085 | 10.5 | Medium | **4KP93** | $192.50 | **$179.00** | 1.6 |
| B | 1-Quart Siphon Cup | — | — | — | — | — | — | — | **4KP91** | 31.75 | **29.50** | 1.4 |
| C | Pressure Feed Gun | — | 13.9 | 50 | Fluid/Pattern | .030 | 11 | Medium/Fast | **4KP94** | 192.50 | **179.00** | 1.6 |
| C | Pressure Feed Gun | — | 13.9 | 50 | Fluid/Pattern | .045 | 12 | Fast | **4KP95** | 192.50 | **179.00** | 1.6 |
| D | 1-Quart Pressure Cup | — | — | — | — | — | — | — | **4KP92** | 128.00 | **119.00** | 2.1 |
| E | Gravity Feed Gun | — | 13.9 | 50 | Fluid/Pattern | .070 | 10.5 | Medium/Fast | **4KP96** | 267.00 | **249.00** | 3.0 |

(*) For HVLP compliance. (†) Measured 8" from surface.

# HIGH VOLUME/LOW PRESSURE SPRAY EQUIPMENT

## HV/LP PAINT SPRAYER

**SPECIFICATIONS**
**Manufacturer's Model:** HV2000
**Motor:** 115 V, 10 Amp.
**Maximum Air Flow:** 54 CFM
**Maximum Pressure:** 4 PSI
**Cup Capacity:** 1 Quart

Campbell-Hausfeld High Volume/Low Pressure (HV/LP) sprayers control the liquid being sprayed with a high volume of air at low pressure. This maximizes transfer efficiency and minimizes overspray, compared to conventional (non-HV/LP) spray equipment.

This Campbell Hausfeld Professional Series HV/LP sprayer is designed for small and medium sized professional and maintenance applications, especially railings, machinery, equipment, trimwork, cabinets, and furniture. It lightly applies a coat of latex, lacquer, stain, sealers, varnishes, enamels, and other oil and water based materials. Thinning may be required for heavier materials.

- **Air flow regulator and material control on gun for fine tuning spray pattern**
- **System is complete, no compressor needed**
- **2 Stage, tangential turbine for high volume air flow**
- **30 foot maximum hose length**
- **86% maximum transfer efficiency for less wasted material, more savings**
- **Cleaner air quality, less pollution**

**INCLUDES:**

- **Extra needle and nozzle for thin materials**
- **Heavy-duty gun with quick-release cup—large mouth for easy cleaning**
- **15 foot professional quality hose—stores around housing**
- **Viscosity stick to check proper thinning**
- **Cleaning brush and wrench for gun disassembly**
- **Strainer cones to filter out impurities**
- **Brass quick-connect fitting on hose for easy use**
- **Polypropylene housing—sturdy and easy to clean with built-in gun holder**
- **Easily accessible storage compartment for accessories**
- **Filtration system filters air to turbine and motor**
- **Balanced carry handle**
- **Lightweight 15 lbs. unit**

**No. 3JR91.** Professional High Volume, Low Pressure Paint Sprayer. Shpg. wt. 20.0 lbs.
List $275.00. Each..... **$229.00**

### REPLACEMENT BLOWER FILTER

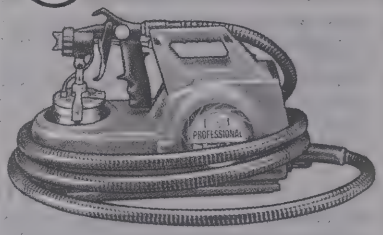
**Filter for the above HV/LP Sprayer No. 3JR91.** Replacement recommended after approximately 10 hours of operation.

**No. 3JR92.** Turbine Filter. Shpg. wt. 0.3 lbs.
List $8.19. Each..... **$6.80**

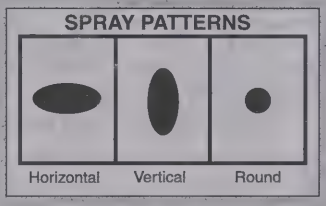
Campbell

Replacement Parts Available
1-800-323-0620

Made In U.S.A.



No. 3JR91




## PROFESSIONAL HV/LP PAINT SPRAYER

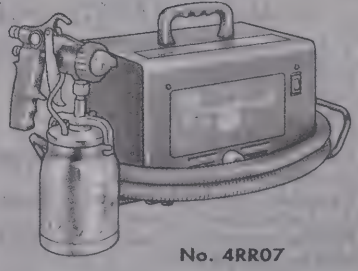
- **All-metal professional gun with molded handle for heat deflections, 1.00mm needle/nozzle set installed**
- **Three stage turbine delivers 65 CFM**
- **25 foot hose**
- **Two large foam filters allow for extended use**
- **Lightweight, portable design with hose rack allows for easy mobility around the job site**
- **Durable metal housing contains a storage compartment for storing accessory kit**
- **Easy to use controls for air flow, material flow, pattern size and pattern shape adjustments**
- **Accessory kit includes; gun wrench, cleaning brush, viscosity stick and .75 mm needle/nozzle set**

High volume, low pressure technology delivers excellent professional finish quality, with significant material savings, due to the high transfer efficiency (up to 90%). HVLP is ideal for woodworkers, cabinet shops, and other professionals who work with wood, metal and other surfaces. Great for spraying coatings such as water-bornes, lacquers, enamels, stains, and polyurethenes. Motor: 115V, 10 Amp. Maximum Air Flow: 65 cfm. Maximum Pressure: 6 PSI. Cup Capacity: 1 Quart. Campbell Hausfeld brand (HV3500)

***New* No. 4RR07.** Professional HV/LP Paint Sprayer. Shpg. wt. 28.0 lbs.
List $681.45. Each..... **$649.00**

Campbell

New



No. 4RR07

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# HIGH VOLUME/LOW PRESSURE SPRAY EQUIPMENT

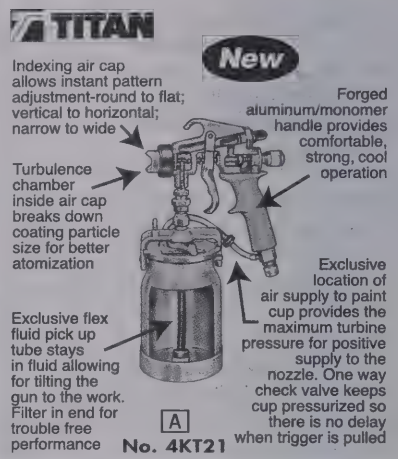
**Titan HV/LP Sprayers** provide up to 85% paint transfer efficiency (more paint on the item to be painted), by reducing over spray, improving air emission quality. All titan sprayers meet or exceed HV/LP regulations. Titan professional HV/LP units have higher output (6 & 8 PSI @ 80 CFM) that provide faster production speeds, give finer atomization, and will spray most paints and coatings (some coatings may have to be thinned).

**Titan HVLP Electric Turbine Sprayers** allow the user to spray with HVLP capability at the job site. No compressed air is requiered. They operate on 110V, 60 Hz, 15 amp circuits and can be used with extension cords. All Titan sprayers are furnished with industrially rated tangential turbines with dual air filtration, providing clean filtered air to the spray gun as well as cooling air for the turbine/motor for greater durability.

## [A] No. 4KT21 PRO-FINISH HV/LP SPRAY GUN/CUP

- **Fits on most other manufacturers' turbine systems without adapters**
- **Furnished with .051" nozzle/needle and 0 air cap**
- **Stainless steel fluid passages, nozzle, and needle**
- **Precision manufactured air cap provides quality atomization**
- **Easy to operate fluid and air volume control knobs**
- **Spray pattern adjustable from 11/16" round to over 15" wide ellipse style**

**No. 4KT21.** Shpg. wt. 3.0 lbs. List.....$338.75.
Each.....**$333.00**




## [B] No. 4TJ06 HV/LP ATOMIZING KIT

- **Provides user the ability to use almost any type of paint or coating by changing to the appropriate air nozzle, and fluid nozzle**
- **Comes complete with 1 each #1, #2, #3, and #4 air nozzles, .029, .043, .073 and .118 fluid/needle set**
- **Also furnished with 2 qt. cup gaskets and an extra one way air valve**
- **Fits No. 4KT21 spray gun and gun furnished with Nos. 4KT22, 4KT23 and 4KT24 HV/LP sprayers. Titan brand (773-164).**

***New* No. 4TJ06.** Shpg. wt. 2.0 List $247.15. Each.....**$235.00**

## [C] No. 4KT22 PRO-FINISH TS-40 TURBINE SPRAYER

- **3 stage turbine delivers 6 PSI and 80 CFM**
- **Achieves superior atomization of a wide range of coatings**
- **Furnished with 3/4" x 20' air supply hose and quick disconnect**
- **Pro-Finish spray gun with 1 quart cup**

**No. 4KT22.** Shpg. wt. 24.0 lbs. List.....$925.00.
Each.....**$906.50▲**

## [D] No. 4KT23 PRO-FINISH TS-50 TURBINE SPRAYER

- **4 stage turbine delivers 8 PSI and 82 CFM**
- **Applications include new high solids and water based paints**
- **Pro-Finish spray gun (.051" nozzle, 0 air cap) and 1 quart cup**
- **20' air supply hose and quick disconnect**

**No. 4KT23.** Shpg. wt. 24.0 lbs. List.....$1295.00.
Each.....**$1256.00▲**

## [E] No. 4KT24 PRO-FINISH TS-50P TURBINE SPRAYER

- **4 stage turbine delivers 8 PSI and 82 CFM**
- **Ideal for on-site applications requiring higher speed production**
- **Spray most high solids and water based paints as well as standard high quality coatings**
- **Equipped with both 1 quart cup and 2.5 gallon pressure pot**
- **Built in compressor provides air pressure for supply pot**
- **Turbine removable from cart for use with cup only, on smaller jobs**
- **All steel cart assembly with industrial rated wheels/pneumatic tires**
- **Furnished with Pro-Finish gun, and 20 ft. of fluid and air hose**

**No. 4KT24.** Shpg. wt. 112.0 lbs. List....$2075.00.
Each.....**$2000.00▲**

(▲) Net prices, not subject to discounts.

## [F] No. 4KT20 TURBINE HV/LP AIR SUPPLY HOSE

- **3/4" I.D. semi-rigid hose x 20 ft. long**
- **Fits all manufacturers' turbine guns**

**No. 4KT20.** Shpg. wt. 4.0 lbs. List.....$79.50.
Each.....**$77.95**



## 2-QUART PRESSURIZED CANISTER

For use with latex, enamel, lacquer, stain, acrylic, and primer coatings. Compatible with all Speedaire, Binks and Titan CSA spray guns except No. 2Z497. Maximum working pressure in canister is 50 PSI. Most painting applications require 10 PSI for enamels and 5 PSI for thinned lacquers. Includes regulator and gauge. Safety valve relieves at 55 PSI.

**No. 4F344.** Shpg. wt. 5.9 lbs. List ..... $117.75.
Each ..... **$82.50**

- **Includes 6-ft. air and material hoses**
- **Allows for twice the material capacity versus standard spray gun canisters**
- **Provides extra maneuverability, eliminating a cup connection to your spray gun**
- **Ideal for spray applications in tight areas or difficult angles**




## PRODUCTION PAINT TANKS

For use with internal or external mix spray guns by professional painters or production line operations. Leakproof Thiokol (polysulfide) gasket compatible with most materials. 3/8" NPSM(M) paint line connector. 1/4" NPSM(M) air line connector. Speedaire brand.

**No. 6Z899 2½-GALLON TANK**

- **Features pressure regulator and gauge, bleeder valve, and ASME safety valve**
- **Deep drawn seamless design; galvanized steel tanks prevent potential leakage problems associated with welded units**
- **Lightweight unit has diecast lid and 4 clamp-on lugs**
- **Tank exterior protected from impact damage by plastic sleeve**
- **Accepts 1-gallon paint can**
- **Max. working pressure: 50 PSI**

**No. 4F966 10-GALLON, HEAVY-DUTY ASME PAINT TANK**

- **Compatible with all 5-gallon plastic and metal containers**
- **Dual regulator with gauges allows you to adjust tank and spray gun pressures**
- **Tank constructed of ASME certified galvanized steel**
- **Features carry handles, 6 C-clamps with T-bolts, and ASME approved safety relief valve**
- **Max. working pressure: 110 PSI**

| Material Capacity (Gal.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2½ | 6Z899 | $159.98 | **$107.80** | 14.0 |
| 10 | 4F966 | 835.14 | **708.00** | 78.0 |

**REPLACEMENT LID GASKETS**

Come in packages of 2.

**No. 1R395.** for 3-gallon tank No. 2Z367. Shpg. wt. 0.4 lbs. List ..... $11.00.
Each Package of 2 ..... **$7.90**

**No. 4F967.** for 2½-gallon tank No. 6Z899. Shpg. wt. 0.1 lbs. List ..... $11.75.
Each Package of 2 ..... **$8.25**




## 200 PSI GENERAL PURPOSE AIR HOSE

Tube and cover made of PVC reinforced with polyester. Provides reliable service in normal use. Hose made in whole or part from recycled materials. Swan brand.

| I.D. Size (In.) | Fitting Size (In.) | Length (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/8 | 1/4 NPSM(F) | 15 | 1Z096 | $9.50 | **$8.40** | 1.5 |
| 3/8 | 1/4 NPSM(F) | 25 | 6W952 | 14.15 | **12.60** | 2.6 |

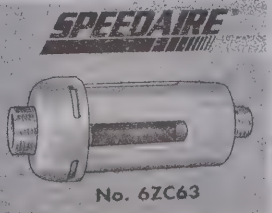
## 200 PSI MATERIAL HOSE ASSEMBLIES

For use with paints, solvents, gasoline, and insecticides: Neoprene cover is resistant to oils, greases, solvents and mild chemicals and acids. Nitrile tube has good resistance to most paints, solvents, oil and other petroleum products. Do not use with lacquer or lacquer-based paints. Speedaire brand.

| I.D. Size (In.) | Fitting Size (In.) | Length (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/8 | 3/8 NPSM(F) | 15 | 1Z530 | $16.95 | **$14.65** | 3.0 |
| 3/8 | 3/8 NPSM(F) | 25 | 2Z011 | 25.45 | **22.11** | 4.1 |

## DISPOSABLE IN-LINE DESICCANT FILTER/DRYER

- **Removes water, oil and dirt**
- **Changes color when replacement is needed**
- **Mounts directly to spray gun inlet**
- **1/4" NPT female inlet and male outlet**
- **Compact and lightweight**




Ideal for paint spraying applications, filter/dryer provides final protection against painting failures by removing oil aerosols and moisture that may have bypassed main air filtration system. Unit mounts directly to spray gun inlet for most efficient type of filtration. Removes oil, water and dirt by using a sintered bronze element for dirt, an oil removing filter media for oil vapor, and a desiccant drying agent for water vapor. Silica gel in clear plastic filter changes color when replacement is needed. 15 CFM. Max. PSI 125, max. temp. 130°F. 40 micron. **Package of two.** Speedaire brand.

**No. 6ZC63.** Disposable Air Filter/Dryer. Shpg. wt. 0.4 lbs.
List $12.50. Each ..... $11.95

# AIR POWERED PAINT SUPPLY PACKAGES

## REGULATED FLUID AIR POWERED PAINT SUPPLY PACKAGES

**Pre-assembled and ready to operate,** ARO ASAP™ paint packages save time by selecting the right components for production line spray applications. Works with conventional or HVLP spray guns set up to work with paint supply systems. The packages come in two styles, pail/drum cover mount or wall mount. Latest technology in paint supply systems, which has advantages over conventional pressure pot paint tanks. Paint is pumped instead of being pressurized in a container. This means that the paint does not have to be transferred into a separate container, but can stay in its original container that it came in. The container is not pressurized, so pressure vessel codes do not apply. Self-flushing pump cleans up easily, allowing for quick color change.

**All pre-assembled and piped packages include:**

- **A reliable ARO diaphragm pump**
- **Combination air filter/regulators to control both gun and pump separately**
- **2 GPM fluid pressure regulator that provides smooth and consistent material flow**
- **Siphon tube, wall mount units come with siphon hose and tube**
- **Grounding straps**
- **Stainless steel covers or wall mount brackets**
- **Quick-change air coupler set**

**Supply systems work with most Speedaire, DeVilbiss and Titan spray guns, sold separately, see index**

### No. 6CX42 - 5 GALLON PAIL

- **Pump delivers up to 7.5 GPM of material**
- **Comes with 5 gallon plastic pail**
- **Can be used with optional agitator, No. 3JR62**

### No. 6CX43 - WALL MOUNT

- **Siphon tube can be used in 5 gallon pail or 55 gallon drums**
- **Pump delivers up to 7.5 GPM of material**

### No. 6CX44 - 55 GALLON DRUM

- **Pump delivers up to 7.5 GPM of material**
- **Can be used with optional agitator, No. 3JR64**




| Fluid Port (M)NPS (In.) | Air Inlet NPS (In.) | CFM | Maximum Op. Press | Pump Materials Body | Checks | Diaphragms | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/8** | 1/4 (M) | 8 | 100 PSI | Acetal | St. Steel | Teflon | 650502 | **6CX42** | $1251.50 | **$1095.00** | 33.0 |
| **3/8** | 1/4 (M) | 8 | 100 PSI | Acetal | St. Steel | Teflon | 650503 | **6CX43** | 1271.46 | **1117.00** | 35.0 |
| **3/8** | 1/4 (M) | 8 | 100 PSI | Acetal | St. Steel | Teflon | 650504 | **6CX44** | 1612.07 | **1409.00** | 46.0 |

## NON-REGULATED FLUID AIR POWERED PAINT SUPPLY PACKAGES

Used in applications where multiple fluid regulators are used in a paint system, or remote paint room. Both units come with an ARO diaphragm pump, combination air filter/regulator, steel cover, grounding strap, and quick-change air coupler set. Units pre-assembled and piped, except siphon tube.

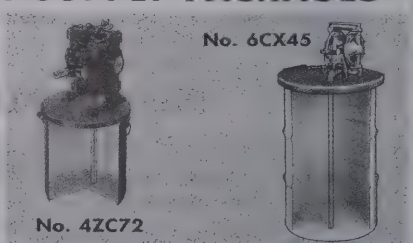
### No. 4ZC72 - 5 GALLON PUMP

- **Pump delivers up to 7.5 GPM of material**
- **Can be used with optional agitator, No. 3JR62**

### No. 6CX45 - 55 GALLON DRUM PUMP

- **Pump delivers up to 35 GPM of material**
- **Can be used with optional agitator, No. 3JR64**

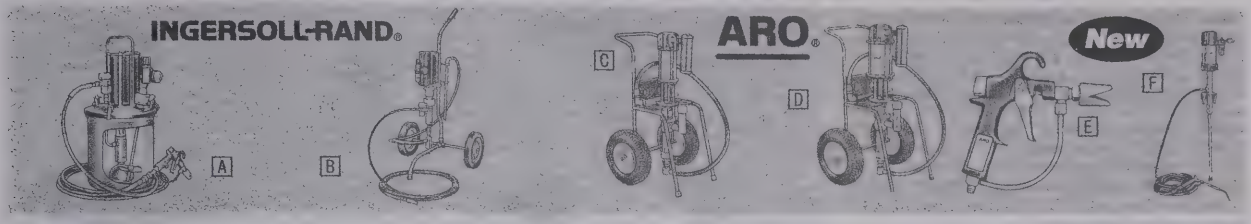
**INGERSOLL-RAND**
**FLUID PRODUCTS**
**ARO**




| Fluid Ports (In.) | Air Inlet (In.) | Max. GPM | CFM | Max. Op. Press | Pump Materials Body | Checks | Diaphragms | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 1/4 (F) | 7.5 | 8 | 100 PSI | Acetal | St. Steel | Teflon | 650754 | **4ZC72** | $784.00 | **$771.50** | 20.0 |
| **1** | 1/4 (F) | 35.0 | 20 | 120 PSI | St. Steel | St. Steel | Teflon | 650506 | **6CX45** | 2054.89 | **1796.00** | 75.0 |

# PAINT SUPPLY PACKAGES

## AIR-POWERED AIRLESS PAINT SUPPLY PACKAGES




**What is Airless Spray?**

Airless Spray is the process of forcing a material, under high pressure, through a small orifice. The restriction created by the small orifice causes the material to atomize. This produces very little overspray. Airless Spray is an excellent method of applying finishes to steel structures, storage tanks, buildings, concrete, and heavy equipment. It is also good for spraying adhesives and lubricants.

### A 5-GALLON AIRLESS SPRAY PACKAGE

No. 4RR02 package includes a 28:1 (carbon steel construction) pump, airless spray gun with swivel and tip, 25 feet of material hose, air line regulator. Also includes an air-operated (No. 3JR62) material agitator.

### B 28:1 CART-MOUNTED AIRLESS SPRAY PACKAGE

No. 4RR01 portable package includes a 28:1 (carbon steel construction) pump, airless spray gun with swivel and tip, 25 feet of material hose, portable cart, material filter, suction tube and air filter/regulator.

### C 30:1 CART-MOUNTED AIRLESS PRAY PACKAGE WITH STAINLESS STEEL

No. 4RP97 portable package features corrosion-resistant stainless steel pump, material filter/dampener, air line regulator, pump muffler, suction hose - all mounted on a heavy-duty cart.

### D 45:1 CART-MOUNTED AIRLESS SPRAY PACKAGE WITH STAINLESS TEEL

No. 4RP98 portable package features corrosion-resistant, stainless steel pump, material filter/dampener, air line regulator - all mounted on a heavy-duty cart.

### E AIRLESS SPRAY GUN

No. 4RP99 used for airless spray paints, lacquers, and other light fluids.Gun features 316 stainless steel wetted parts with non-clog tungsten carbide check seats. Includes tip guard and nut. ARO brand (651533).

***New*** **No. 4RP99.** Shpg. wt. 2.5 lbs. List..$365.00. Each.....**$353.50**

### F 4RP96 HIGH-PRESSURE SPRAY WASH PACKAGE (WALL-MOUNTED)

For the high-pressure cleaning of engines, construction equipment, plant structures, fleet vehicles. For use in applying degreasers, detergents, cleaning solutions, water and other cleaning fluids. Package includes 10:1 pump, wall-mount, 55-gallon suction tube assembly, 40 feet of material hose, high-pressure control handle with spray wand/tip and air line lubricator.

### AIRLESS SPRAY AND SPRAY CLEANING PUMP ORDERING DATA

| Key | Ratio | Flow Rate (GPM) | Body Material | Packings | Aro Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **A** | 28:1 | 0.75 | Carbon Steel | UHMW-PE/Teflon | NP328D02-2 | **4RR02** | $2020.00 | **$1970.00** | 38.0 |
| **B** | 28:1 | 0.75 | Carbon Steel | UHMW-PE/Teflon | NP328C02-2 | **4RR01** | 2050.00 | **2000.00** | 60.0 |
| **C** | 30:1 | 1.7 | Stainless Steel | UHMW-PE/Teflon | 650554 | **4RP97** | 3228.75 | **3106.00** | 140.0 |
| **D** | 45:1 | 2.5 | Stainless Steel | UHMW-PE/Teflon | 650556 | **4RP98** | 3794.86 | **3582.00** | 150.0 |
| **F** | 10:1 | 3.9 | Stainless Steel | Buna N | 613104 | **4RP96** | 2450.00 | **2313.00** | 53.0 |

## FLUID PRESSURE REGULATORS

**Ideal for HVLP or conventional spray systems,** these downstream pressure regulators work by reducing pressure to spray guns (or other devices) to a constant pressure, thereby eliminating unwanted "wink" or "pulse" patterns on your intended spray surface

### 6CX49, 6CX50, 6CX51 AND 6CX52 LOW PRESSURE,3 GPM REGULATORS

Used where medium to high flow rates are required. Features: Corrosion resistant stainless steel or Zinc/Aluminum construction. Patented "floating" ball and seat arrangement insures proper regulation. Easy access seat plug permits immediate access to the regulator's ball and seat for quick maintenance

### 6CX46, 6CX47 AND 6CX48 HIGH PRESSURE, 3 GPM REGULATORS

Used where high flow rates are required. Available in carbon steel or stainless steel. Patented "floating" ball and seat arrangement insures proper regulation. Easy access seat plug permits immediate access to the regulator's ball and seat for quick maintenance.




| Regulator Style | Ports (In.) | Regulated Pressure Range | Maximum Inlet Press. | GPM | Materials of Construction* Base/Bonnet | Seat | Ball | Diaph. | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Low Pressure** | 3/8 | 20-60 PSI | 120 PSI | 3 | Z/A | T/C | — | — | 651790-A1C-B | **6CX49** | $271.42 | **$233.50** | 8.0 |
| | 3/8 | 50-200 PSI | 600 PSI | 3 | Z/A | T/C | — | — | 651790-A1D-B | **6CX50** | 271.42 | **233.50** | 8.0 |
| | 3/8 | 20-60 PSI | 120 PSI | 3 | S/S | T/C | — | — | 651790-A3C-B | **6CX51** | 405.54 | **356.50** | 8.0 |
| | 3/8 | 50-200 PSI | 600 PSI | 3 | S/S | T/C | — | — | 651790-A3D-B | **6CX52** | 375.00 | **342.50** | 8.0 |
| **High Pressure** | 3/8 | 1000-3000 PSI | 6000 PSI | 3 | C/S | T/C | — | — | 651780-A1B-B | **6CX46** | 530.61 | **462.50** | 17.0 |
| | 3/8 | 400-1250 PSI | 3000 PSI | 3 | S/S | T/C | — | — | 651780-A3A-B | **6CX47** | 565.64 | **496.50** | 17.0 |
| | 3/8 | 1000-3000 PSI | 6000 PSI | 3 | S/S | T/C | — | — | 651780-A3B-B | **6CX48** | 565.64 | **496.50** | 17.0 |

(*) Material Code: Z/A = Zinc-Aluminum; T/C = Tungsten Carbide; C/S = Carbon Steel; S/S = Stainless Steel
Important: Always check for material compatibility between your fluid and desired regulator material

# MATERIAL AGITATORS, DRUM COVERS, SIPHON TUBES & HOSE

## AIR OPERATED AGITATORS

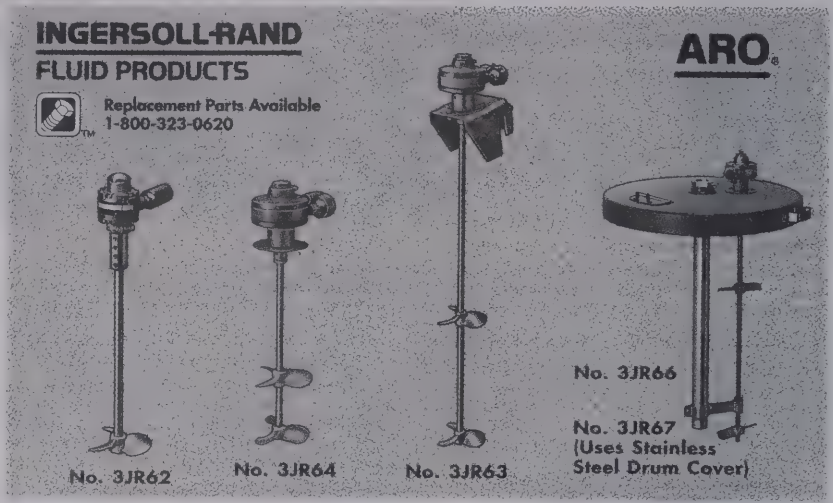
**These ARO material agitators** are available in a variety of mounting styles, shaft and propeller lengths and diameters to handle a wide range of mixing requirements. Constructed of rugged corrosion-resistant materials, including 316 series stainless steel, these material agitators provide dependable, maintenance-free operation. Do not use with pressurized paint tanks.

No. 3JR62 mounts on No. 3JR65 drum cover or Nos. 4ZC72, 6CX40 and 6CX42 paint supply packages.

No. 3JR64 can be used with Nos. 6CX44 or 6CX45 paint supply packages or on drum cover.

No. 3JR63 hangs on the side of an open 55 gallon drum.

Nos. 3JR66 steel cover and 3JR67 stainless steel cover units include: cover, agitator, 2 x 34" pipe extension, and 2" NPT (F) bung opening (No. 3JR66) or 1" return port (No. 3JR67). Accepts siphon tube from wall mount paint systems.




| Container Size (Gal.) | Mounting | Air Motor HP | Air Motor RPM | PSI | Air Motor Inlet NPT (F) | Shaft Length (In.) | Propeller Diameter (In.) | Material | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | Drum Cover | 1/3 | 500-1000 | 100 | 1/8 | 12 | 4 | 316 S.S | 651100 | **3JR62** | $315.31 | **$276.75** | 4.0 |
| 55 | Drum Cover | 3/4 | 300-3000 | 100 | 1/4 | 32 | 5 | 316 S.S | 651104-1 | **3JR64** | 473.38 | **416.00** | 9.0 |
| 55 | Side of Drum | 3/4 | 300-3000 | 100 | 1/4 | 32 | 5 | 316 S.S | 651103 | **3JR63** | 500.42 | **443.25** | 10.0 |
| 55 | Drum Cover | 3/4 | 300-3000 | 100 | 1/4* | 32 | 5 | 316 S.S | 651852 | **3JR66** | 690.88 | **608.50** | 13.0 |
| 55 | Drum Cover | 3/4 | 300-3000 | 100 | 1/4* | 32 | 5 | 316 S.S | 651853 | **3JR67** | 789.04 | **711.00** | 15.0 |

(*) Comes with flow control needle valve.




| Fluid Outlet (In.) | Material | Length (In.) | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/4 (F) | Carb. S.H. | 32 | 65109 | **3JR61** | $250.36 | **$226.75** | 9.0 |
| 3/4 (M) | Thiokol-Neo | 72 | 622681-6 | **3JR58** | 86.05 | **78.60** | 8.0 |
| 1 (F) | 316 S.S. | 30 | 66568 | **3JR68** | 695.88 | **608.00** | 12.0 |
| 1 (M) | Thiokol-Neo | 72 | 622702-6 | **3JR59** | 170.10 | **156.50** | 9.0 |

## DRUM COVER—5-GALLON

**Use with 3JR62 agitator** - drum cover also accepts siphon hose from wall-mounted stub-type pumps.

**No. 3JR65.** 5 Gallon Drum Cover. Aro Model Shpg. wt. 3.0 lbs. List $101.07. Each.....**$92.75**

## SIPHON TUBES, HOSES

**3JR61 Siphon Tube Assembly** - 55-gallon size can be used either directly on container with 2" NPT bung opening or from a wall-mounted, stub-type pump.

**3JR58 Siphon Hose** - 3/4" x 6' hose with stainless steel fittings, for use with 3JR61 siphon tube.

**3JR68 Siphon Tube Assembly with Filter and Check Valve** - same features as the 3JR61, only more suited to corrosive or high viscosity fluids. Constructed of 316 stainless steel.

**3JR59 Siphon Hose** - 1" x 6' hose with stainless steel fittings, for use with 3JR68 siphon tube.



*Spray it, stack it, stamp it and more with these hard-working products.*

# AIRLESS SPRAYER PUMP DESIGNS

Airless sprayers provide contractors, maintenance painters, and production lines with a device which sprays heavier coatings faster than conventional sprayers. Airless sprayers are more convenient and faster than conventional sprayers, but coating finish quality is not as high. **Benefits experienced with airless sprayers are the use of non-reduced paints and greater coverage per pass with less overspray than conventional sprayers.** Several types of pump designs for airless sprayers are available. Following is a basic description of pump types and their associated characteristics.

**POWER PAINTERS:** Motor armature drives piston which creates a vacuum, moving paint up from cup. Paint is then pressurized and pushed through tip at approximately 2500 PSI.

**DIAPHRAGM PUMP:** Motor drives high speed diaphragm which moves back and forth creating a pumping action that siphons spraying material. Single acting. Used for light body latex paints, oil, and solvent based material in **light commercial applications.**

**PISTON PUMP:** Compressed air or electric motor drives gears which are coupled to piston pump, producing pressure on both up and down stroke (dual acting). Pump provides more positive displacement of material. Used for most materials, especially heavily bodied architectural coatings.

## AIRLESS SPRAYER AND COATING MATERIAL COMPATIBILITY CHART

### CHECK OWNER'S MANUAL FOR PROPER APPLICATION AND THINNING INFORMATION

| COATING MATERIAL | AIRLESS PAINT SPRAYER DESCRIPTION AND STOCK NO. | | | | | |
|---|---|---|---|---|---|---|
| | Power Painters | | Diaphragm Pump | | Piston Pump | |
| | 2Z702 | 4ZC20 | 4ZC74 | 3JR90 | 4F324, 4F964 | 4F325, 4F326† |
| **Metallic Pigment** | No | No | No | No | Yes | Yes |
| **Glue (water base only)** | Yes | Yes | No | No | Yes | Yes |
| **Epoxy** | No | No | No | No | Yes | Yes |
| **Aluminum Paint** | No | Yes | No | No | Yes | Yes |
| **Latex Paint** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Oil Paint** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Pool Paint** | No | No | No | No | No | No |
| **Stucco Paint** | No | No | No | No | No | No |
| **Industrial Enamel** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Fast Dry Enamel** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Rubber Based Enamel** | No | No | No | No | No | No |
| **Zinc Metal Exterior Enamel** | No* | No* | No* | No* | No* | No* |
| **Stain** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Varnish** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Polyurethanes** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Primer** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Metal Primer** | No | Yes | Yes | Yes | Yes | Yes |
| **Block Filler** | No | No | No | No | No | No |
| **Blacktop Sealer** | No | No | No | No | No | No |
| **Concrete Sealer** | Yes | Yes | No | No | Yes | Yes |
| **Water Sealer** | Yes | Yes | Yes | Yes | Yes | Yes |
| **Water Seal with Stain** | Yes | Yes | No | No | Yes | Yes |

(*) Will not spray zinc rich primers. (†) Gasoline engine powered.

**FINISH QUALITY IS DEPENDENT ON MATERIAL, EQUIPMENT USED, AND APPLICATION TECHNIQUES. CHART PROVIDED IS FOR INFORMATIONAL PURPOSES ONLY. CONSULT WITH OWNER'S MANUAL, SALES REPRESENTATIVE OR REFER TO SPECIFICATIONS INDICATED BY COATING MATERIAL BEFORE BEGINNING OPERATION.**

## CHOOSING THE RIGHT SPRAY TIP

Airless tips control the spray pattern, normally elliptically shaped from 2 to 36" wide, and determine the amount of coating being applied. As the orifice size increases, while maintaining the same fan width size, the volume of coating applied to the same area will increase. Using a larger fan width size while maintaining the same orifice size, will result in the same amount of material being applied over a larger area, in a thinner layer.

## WHEN TO CHANGE THE TIP

Most protective coatings (paints) are very abrasive and will cause tip wear-out conditions. All coatings differ in their make-up so it is impossible to state how many gallons can be sprayed before changing a tip. A good rule of thumb is around 100 gallons. A tip will normally spray in a narrower pattern when worn out. The pattern will not have feathered edges, and will be more rounded. Worn out tips result in using much more coating than expected. New tips produce coating finishes consistent with the coating manufacturer's recommendations, thereby reducing coating failures.

## CHOOSING THE CORRECT TIP FOR THE JOB

All Titan airless tips are constructed from Titan's own tungsten carbide material and used for airless applications alone. They have been tested by outside sources and found to last significantly longer than competitor's. They are also manufactured to provide consistent tip sizing for both pattern width and orifice size. They can be used on any manufacturer's airless pump. The Titan adjustable tip provides both orifice adjustment and pattern width adjustment and is a self-cleaning tip to keep downtime to a minimum. The SC-5 reversible tips provide an easy way to clean tip clogs without removing the tip from the gun, or to allow quick tip changes for differing work. Flat tips are available as a cost savings alternative for use with coatings that don't clog the tips quickly.

# AIR BRUSH SETS, DETAIL SPRAY GUN AND PRO-FINISH CSA GUN

## TITAN PRO-FINISH HV/LP GUN

- **Meets California Rule 1151**
- **Converts conventional compressed air systems to HV/LP**
- **No additional pressure regulation required**

**Pro-Finish CSA gun converts shop** (standard compressor) air into high volume, low pressure air at gun. 10:1 pressure reducer engineered into gun downgrades PSI input, allowing excellent transfer efficiencies. Soft, low velocity pattern reduces overspray and bounce back. Spray gun can be used with most finishes in industrial, marine, wood, plastic, architectural and automotive industries. When sprayed at 10 PSI or less (100 PSI input), unit complies with SCAQMD air quality rules 1136 and 1151.

**24 oz. forged aluminum gun** has dual air diffuser system for both fan air and atomizing air providing even distribution. Operates from paint kitchen pumped supply systems, pressure pots or coupled remote supply cups, with no change in paint lines or controls. Unit includes .051 needle/nozzle set and #0 air cap. Maximum air consumption on continuous duty is 16 CFM at 100 PSI. Air requirements vary depending on application and duty cycle.

No. 4ZC60 includes 1 quart dripless paint supply cup with quick release lever and wide mouth for easy color change.

**No. 4ZC59.** Shpg. wt. 1.8 lbs. List ..... $380.00.
Each ..... **$366.75**

**No. 4ZC60.** Shpg. wt. 3.7 lbs. List ..... $427.45.
Each ..... **$412.75**

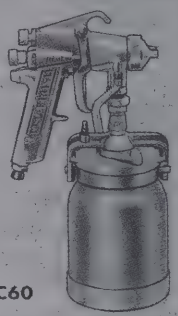
TITAN



— Standard 3/8" NPSM fluid connection

No. 4ZC59

— Standard 1/4" NPSM threads air connection. For NPS(F) to NPT(M) adapter use Stock No. 2F373. For NPS(F) to NPT(F) adapter use Stock No. 2F383.

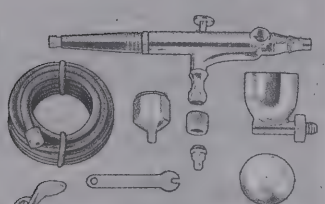


No. 4ZC60

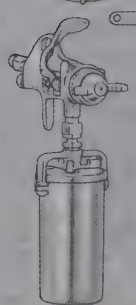
SPEEDAIRE New

No. 4RR09





No. 4RR10



No. 4RR06

## GENERAL PURPOSE AIR BRUSH KIT

Ideal for the automotive detailer, the hobbyist, or the artist.

- **Dual action trigger allows user to vary the fluid amount (and line width) while spraying**
- **Adptable to most air systems including air compressors, C02 tanks, and aerosol propellent cans**
- **Includes: air brush, 22 cc jar assembly, 7 cc metal color cup, 60 cc jar with lid, 6 ft. PVC air hose, air hose adapter, head wrench, hanger and impact resistant molded case**

***New*** **No. 4RR09.** Shpg. wt. 20.0 lbs. List $51.45. Each ..... **$49.00**

## PROFESSIONAL AIR BRUSH KIT

Ideal for detailing cars, trucks, motorcycles, crafts, artwork and more.

- **Dual action trigger with adjustable stop for precise control**
- **Detachable gravity feed cup is adjustable with swivel**
- **Adaptable to most air systems including air compressors, C02 tanks, and aerosol propellant cans**
- **Includes: air brush, 7 cc gravity feed cups with lid, 6 ft. PVC air hose adapter, head wrench, impact resistant molded case**

***New*** **No. 4RR10.** Shpg. wt. 20.0 lbs. List $72.45. Each ..... **$69.00**

## TOUCH-UP SPRAY GUN

Ideal for the hobbyist and auto body shops. For touch-up jobs, detailing, edging and customizing automobiles. Universal control trigger for left or right-hand use. Siphon feed, external mix air cap, non-bleeder operation. Fluid and pattern size adjustment controls.

- **Die cast aluminum, nickel plated body and trigger**
- **Solid brass air caps**
- **Adjustable for vertical or horizontal patterns**
- **1 qt. canister**
- **Requires 3.4 CFM at 50 psi**
- **1.8 mm fluid nozzle sprays all medium to high viscosity fulids**
- **Sprays larger pattern size, 9.0"**
- **Maxium pressure 70 PSI**

***New*** **No. 4RR06.** Shpg. wt. 3.2 lbs. List $61.95. Each ..... **$59.00**



*Spray it, stack it, stamp it and more with these hard-working products.*

# AIRLESS PAINT SPRAYERS

## AIRLESS PAINT SPRAYER

**SPECIFICATIONS**
**Manufacturer's model:** AL2320
**Motor:** 1/2 HP, 115 Volt, 60 Hz, 7.1 Amps
**Flow rate:** .33 GPM (Gallons Per Minute)
**Maximum pressure:** 2800 PSI
**Maximum tip size:** 0.015"

Campbell Hausfeld .33 GPM airless paint sprayers are used for small commercial painting projects or maintenance jobs whenever painting needs to be completed quickly and easily.

- **Suction feed diaphragm pump**
- **Quiet operation at 65 dB**
- **100 ft. maximum hose length**
- **Sprays up to 140 sq. ft. per minute**

**INCLUDES:**

- **.015" reversible tip**
- **25 feet of 1/4" high pressure hose**
- **Instructional VHS video tape**
- **6 ounces of pump protector (concentrated)**
- **Heavy-duty tubular cart with semi-pneumatic tires**

(▲) Net prices, not subject to discount.

**Quick-Clean Adapter**

Allows connection to garden hose to create a complete self-cleaning system for water-based paints.

**Brass By-Pass Fitting**

Increases durability and longevity of unit.

**Quick-Connect Inlet**

Quick and easy connecting and disconnecting of suction assembly with no special tools or wrenches.

**Diaphragm pump** driven by totally enclosed 1/2 HP, 115V, 60Hz motor. Develops pressure to 2500 PSI. Sprays up to one gallon every 3 minutes.

**Oil side pressure control** and tungsten valves provide long life. Unique push-button valve ensures consistent priming.

**Lightweight spray gun** minimizes operator fatigue and includes replaceable in-line filter and safety lock.

Instructional video demonstrates use and care of unit.

**No. 4ZC74.** Shpg. wt. 49.0 lbs. List.....$545.00.
Each ..... **$399.00▲**

Replacement Spray Gun for No. 4ZC74. Can be used with any airless sprayer. Equipped with .013" reversible tip and 100 mesh in-line barrel filter to reduce clogging and extend tip and gun valve life. Heavy-duty light weight plastic. Use gun filter No. 4KP84.

***New* No. 4RR08.** Shpg. wt. 1.0 lbs. List....$72.98.
Each ..... **$69.50**




## HIGH FLOW AIRLESS PAINT SPRAYER

**SPECIFICATIONS**
Manufacturer's model: AL2450
**Motor:** 3/4 HP, 115 Volt, 60 Hz, 7.1 Amps
**Flow rate:** .44 GPM (Gallons Per Minute)
**Maximum pressure:** 2800 PSI
**Maximum tip size:** .017" sold separately

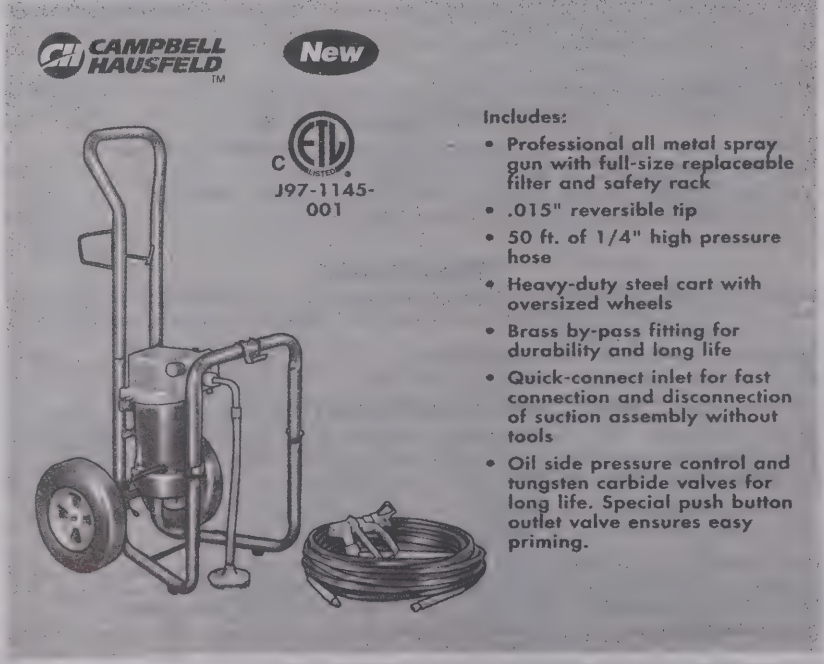
Campbell Hausfeld .44 GPM airless paint sprayers are used for medium sized commercial, professional, and maintenance type painting jobs where speed and ease of use are important.

- **High-output, suction feed diaphragm pump**
- **Quiet operation at 62 dB**
- **Large, totally enclosed, fan-cooled 3/4 HP AC Motor**
- **125-Ft. maximum hose length**
- **Sprays up to 160 sq. ft. per minute with .017 tip**

**No. 3JR90.** Shpg. wt. 63.0 lbs. List.....$779.00.
Each ..... **$563.50▲**

Replacement Spray Gun for No. 3JR90. Can be used with any airless sprayer. Equiped with .015" reversible tip and 100 mesh in-line filter to reduce clogging and extend tip and gun valve life. Heavy-duty metal construction. Use gun filter Nos. 3JR86 and 3JR87.

***New* No. 4RR04.** Shpg. wt. 1.0 lbs. List...$135.98.
Each ..... **$129.50**



# AIRLESS SPRAYER ACCESSORIES

## AIRLESS SPRAY GUN TIPS

**Self-cleaning reversible spray tips** for use with Campbell Hausfeld airless sprayers. Suitable for use with both latex and oil based paints. Replacement recommended every 50 to 75 gallons of paint. Constructed of tungsten carbide.

011" tip for use with with numbers 3JR90, 4F990, 4ZC74, 6Z756, and 4Z242.

**No. 4KP85.** Shpg. wt. 0.3 lbs. List $29.00. Each ..... $26.95

.013" tip for multi-purpose materials. For use with Nos. 3JR90, 4F990, 4ZC74, 6Z756, and 4Z242.

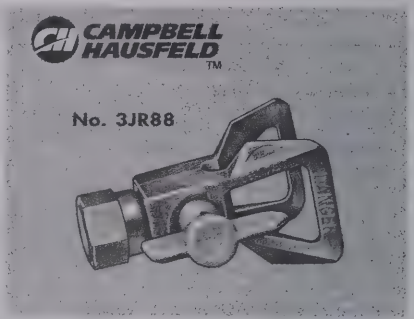
**No. 4KP86.** Shpg. wt. 0.3 lbs. List $29.00. Each ..... $26.95

.015" tip for multi-purpose materials. For use with Nos. 3RJ90, 4ZC74, 6Z756, and 4Z242.

**No. 4KP87.** Shpg. wt. 0.3 lbs. List $29.00. Each ..... $26.95

.017" tip for heavy viscosity materials. For use with 3JR90 only.

**No. 3JR88.** Shpg. wt. 0.3 lbs. List $29.00. Each ..... $26.95




## SPRAY GUN FILTERS

**Spray gun filter for Nos. 4ZC74, 6Z756, and 4Z242.** Package of three 100 mesh filters. For use with .011, .013, and .015" spray tips.

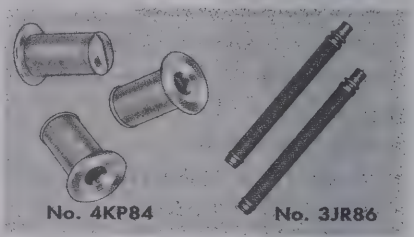
**No. 4KP84.** Shpg. wt. 0.5 lbs. List $9.50. Each ..... $8.95

**Airless spray gun filter for No. 3JR90 gun.** Package of two 50 mesh filters. For use with .017" spray tip.

**No. 3JR86.** Shpg. wt. 0.1 lbs. List $6.95. Each ..... $6.95

**Airless spray gun filter for No. 3JR90 gun.** Package of two 100 mesh filters. For use with .013 and .015" spray tips.

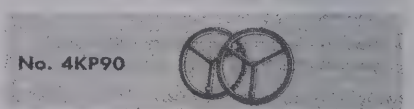
**No. 3JR87.** Shpg. wt. 0.1 lbs. List $8.39. Each ..... $7.95




## SUCTION TUBE FILTER

Cleans out impurities in paint. For use with Nos. 3JR90, 4ZC74, 6Z756, and 4Z242.

**No. 4KP90.** Shpg. wt. 0.2 lbs. List $8.39. Each ..... $7.95




## AIRLESS SPRAYER ROLLER ATTACHMENT

**Roller attachment** increases versatility of airless sprayers. Attaches to any airless sprayer, providing continuous paint application through internally fed roller. Can also be used with a paint tank with the included coupling converter. Includes 3/8" nap and 18" extension for hard-to-reach areas. Handle has Grip-Touch trigger. Constructed of aluminum and stainless steel. Fits Campbell Hausfeld airless spray guns Nos. 4ZC74, 6Z756, 4Z242, and 3JR90.

**No. 6Z119.** Shpg. wt. 3.0 lbs. List $138.50. Each ..... $99.00

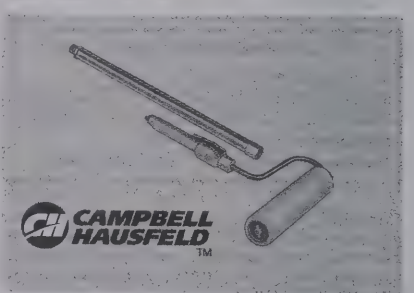
### REPLACEMENT ROLLER COVERS

3/8" Nap. For smooth surfaces like drywall and plaster. Standard with roller.

**No. 1R448.** Shpg. wt. 0.2 lbs. List $9.70. Each **$7.99**; Lots 4 ..... $7.59

3/4" Nap. For medium-rough surfaces such as textured walls and ceilings.

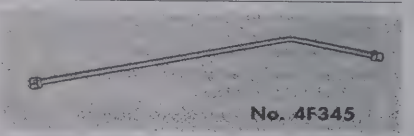
**No. 1R449.** Shpg. wt. 0.2 lbs. List $10.65. Each **$8.79**; Lots 4 ..... $8.35




## SPRAY WAND

**Durable Zinc Plated Steel Wand** for stand-up painting of floors and hard-to-reach walls and ceilings. 24" spray gun extensions. Fits Campbell Hausfeld airless spray guns Nos. 4ZC74, 6Z756, 4Z242, and 3JR90.

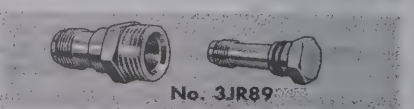
**No. 4F345.** Shpg. wt. 0.4 lbs. List $43.00. Each ..... $39.00




## REPLACEMENT INLET/OUTLET VALVE

Brass inlet/outlet valve for Campbell Hausfeld sprayers Nos. 3JR90 and 4ZC74. Replacement recommended after spraying approximately 250 gallons of paint.

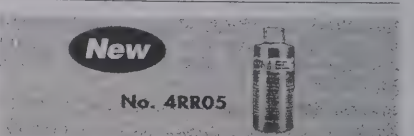
**No. 3JR89.** Shpg. wt. 0.8 lbs. List $50.99. Each ..... $42.50




## PUMP PROTECTOR

Can be used with any airless sprayer to reduce rust and lubricate valves. Just add 2 ounces to 1 gallon of water, run the solution through the sprayer, and your pump is protected until the next time it is needed. 1 quart bottle makes 16 applications.

***New* No. 4RR05.** Shpg. wt. 2.0 lbs. List $7.88. Each ..... $7.50






*Spray it, stack it, stamp it and more with these hard-working products.*

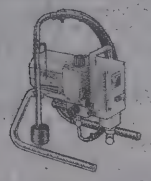
# AIRLESS PAINT SPRAYERS

**TITAN LIMITED WARRANTY**

Titan warrants drive train and pressure control for 2 years; all other components for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

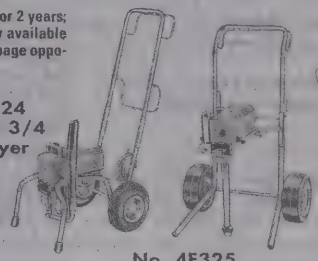
TITAN

LRB3731 (Except No. 4F326



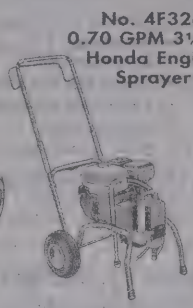
No. 4F964 Single-Pump 0.47 GPM 3/4 HP Sprayer

No. 4F324 0.47 GPM 3/4 HP Sprayer

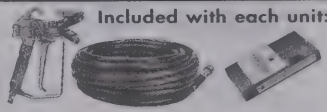


No. 4F325 0.70 GPM 1 HP Sprayer

No. 4F326 0.70 GPM 3½ HP Honda Engine Sprayer



Included with each unit:



- LX-80 Gun with .017 reversible tip and 50 ft. of 1/4" high pressure airless hose
- Instructional video tape

**A variety of portable airless sprayers** available, including gas and electric powered models. For the application of finishing and architectural coatings. For use by professional painters, plant maintenance personnel, property managers and small manufacturing finishing operators. Titan airless sprayers provide dependability, ease of operation, and long life.

**Compact and portable.** Units are portable piston design sprayers that fit into the trunk of most vehicles. Easily transportable to, from, and around job site.

**Modular fluid selection** features hard chromed piston and fluid section that is easily removed and serviced quickly. Unitized packings are simple to insert or remove. Inlet and outlet valves are easily accessible and can be reversed if wear occurs. Most wear items are interchangeable from one unit to another.

**Units feature** automatic pressure relief valve for safety and quick clean-up, self-adjusting packing for positive seal, tungsten carbide valve seats, 50 ft. of 1/4" high pressure airless hose, and LX-80 gun with .017 reversible tip. Accurate pressure control from 0 to 3200 PSI. Can use up to 150 ft. of 12-gauge extension cord. Also included with unit is the instructional video tape, "From Start to Clean-up, The Safe Approach to Airless Spraying," which details step-by-step safe and proper operation of airless spray equipment.

### No. 4F964

- Lightweight integral frame
- 0.47 GPM delivery
- 0.021 maximum tip size
- 200 ft. maximum hose length
- 0 to 3200 PSI operating pressure
- Amperage draw: 9.0
- 3/4 HP universal motor
- 60 mesh filter
- Suction tube feed

### No. 4F324

- Cart model with hose rack and pneumatic tires
- 0.47 GPM delivery
- 0.021 maximum tip size
- 200 ft. maximum hose length
- 0 to 3200 PSI operating pressure
- Amperage draw: 9.0
- 3/4 HP universal motor
- 60 mesh filter
- Suction tube feed

### No. 4F325

- Cart model with hose rack and pneumatic tires
- 0.70 GPM delivery
- 0.025 maximum tip size
- 200 ft. maximum hose length
- 0 to 3200 PSI operating pressure
- Amperage draw: 15.0
- 1 HP totally enclosed universal motor
- 60 mesh manifold filter
- Immersion tube feed

### No. 4F326

- Cart model with hose rack and pneumatic tires
- 3½ HP Honda engine with oil alert
- 0.70 GPM delivery
- 0.025 maximum tip size
- 250 ft. maximum hose length
- 0 to 3200 PSI operating pressure
- 60 mesh manifold filter
- Suction tube feed

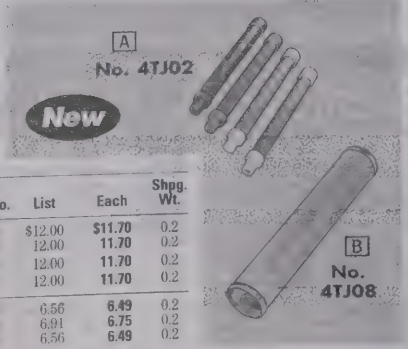
## SPECIFICATIONS AND ORDERING DATA

| GPM | Type | HP | Titan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 0.47 | Frame | 3/4 | 440e | 4F964 | $1475.00 | $999.00▲ | 30.0 |
| 0.47 | Cart | 3/4 | 440eLR | 4F324 | 1675.00 | 1295.00▲ | 47.0 |
| 0.70 | Cart | 1 | 660ex | 4F325 | 2395.00 | 1815.00▲ | 63.0 |
| 0.70 | Cart | 3½ | 690gx | 4F326 | 2895.00 | 2323.00▲ | 83.0 |

(▲) Net prices, not subject to discounts

## AIRLESS SPRAY GUN AND PUMP FILTERS

- Reduces clogged airless tip problems —less down time
- Available in various screen sizes to suit most types of coatings




| Key | Screen Mesh Size and Color | Use on Stock No. | New Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 30 Coarse, Green | 6Z662, 4F332, 4F324, 4F964 | 4TJ02 | $12.00 | $11.70 | 0.2 |
| | 60 Medium, White | 6Z662, 4F332, 4F324, 4F964 | 4TJ03 | 12.00 | 11.70 | 0.2 |
| | 100 Fine, Yellow | 6Z662, 4F332, 4F324, 4F964 | 4TJ04 | 12.00 | 11.70 | 0.2 |
| | 150 Very fine, Red | 6Z662, 4F332, 4F324, 4F964 | 4TJ05 | 12.00 | 11.70 | 0.2 |
| B | 60 Medium | 4F325 and 4F326 | 4TJ08 | 6.56 | 6.49 | 0.2 |
| | 100 Fine | 4F325 and 4F326 | 4TJ09 | 6.91 | 6.75 | 0.2 |
| | 30 Coarse | 4F325 and 4F326 | 4TJ10 | 6.56 | 6.49 | 0.2 |

## LUBRICANT FOR PISTON TYPE AIRLESS SPRAYERS




No. 4TJ07

Keeps upper piston free of dried coatings which lengthens packing life and helps maintain spray pressure. Compatible with most water based and solvent based paints and coatings. Convenient 8 oz. squeeze bottle with tip up applicator spout. Also suitable for all competitive piston airless spray pumps.

***New* No. 4TJ07.**
Shpg. wt. 7.0 lbs.
List.....$4.97.
Each.....**$4.83**

# AIRLESS SPRAYER ACCESSORIES

## AIRLESS SPRAY GUN




- **Comes with reversible tip**
- **All-metal 20-oz. lightweight construction**
- **3600 PSI maximum pressure**
- **Fits most common airless hose connections**
- **Built-in 60 mesh filter**

**Titan LX-80 airless spray gun** for use with any airless sprayer. Tungsten carbide ball valve, seat, and swivel assures wear resistance and durability. Ball bearing swivel for greater operator comfort and control. Ergonomically designed 4-finger trigger for easy spraying. Built-in 60 mesh filter reduces clogging and increases tip life. Equipped with 10" pattern 0.017" orifice. SC-5 reversible tip to resist clogs. Forged aluminium body and spring steel trigger guard for long life.

**No. 6Z662.** Airless spray gun. Shpg. wt. 1.5 lbs. List $180.00. Each.....**$177.00**

## SAFETY GUARDS




The Titan guards are constructed from a high quality monomer with a material that provides positive grounding. The integral retaining nut allows for use with existing airless spray guns. Safety guards must be used to comply with OSHA regulations.

**For use with SC-5 reversible tips:**

**No. 4KT08.** Safety Guard (641-100). Fits Titan, Graco, and Wagner S/T spray guns. Shpg. wt. 0.2 lbs. List $19.50. Each.....**$18.50**

**No. 4KT09.** Safety Guard (641-400). Fits Campbell-Hausfeld spray guns. Shpg. wt. 0.2 lbs. List $19.50. Each.....**$18.50**

**For use with Titan adjustable or flat tips:**

**No. 6X096.** Safety Guard (450-100). Fits Titan, Graco, and Wagner S/T spray guns. Shpg. wt. 0.2 lbs. List $19.50. Each.....**$18.50**

**No. 4KT07.** Safety Guard (450-400). Fits Campbell-Hausfeld spray guns. Shpg. wt. 1.0 lbs. List $19.50. Each.....**$18.50**

## ADJUSTABLE AIRLESS SPRAY TIP



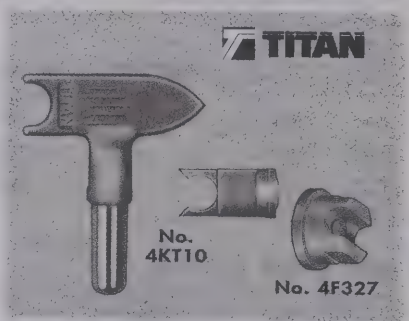

**Adjustable airless spray tip features** universal design that fits any airless gun. Achieves fan widths from 4 to 22" by turning adjustment knob. Reduces material cost by allowing selection of proper fan width for object being sprayed. Tip clogs can be eliminated by turning adjustment knob to full open. Tungsten carbide wear parts for long life. Titan Tool Inc. brand (341-028).

**No. 6X095.** Shpg. wt. 0.2 lbs. List.....$56.00. Each.....**$51.90**

## REVERSIBLE SELF-CLEANING TIPS

- **Quickly clear clogged tips without disassembly; Just reverse tip, squeeze trigger to blow out clog**
- **Posi-lock assures tip is either in spray or clean out position and tip is safely installed in guard for safe operation**
- **One seal for all coatings - from latex to hot solvents**
- **Pressure rated to 5000 PSI**

**See Airless Tip terminology, page 1968**




## AIRLESS FLAT TIPS

- **Sold in vials of 5, same size tip**
- **Same high quality tungsten as used in reversible and adjustable tip**
- **Best used on non-filled coatings that do not clog often**
- **Use with any airless gun**

**See Airless Tip terminology, page 1973**

### REVERSIBLE TIP ORDERING DATA

| Orifice (In.) | Spray Pattern (In.) | Flow Rate (GPM) @ 2000 PSI | Titan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0.011** | 8-10 | 0.12 | 641-411 | **4KT10** | $29.50 | **$28.80** | 0.2 |
| **0.013** | 8-10 | 0.18 | 641-413 | **4KT11** | 29.50 | **28.80** | 0.2 |
| **0.015** | 10-12 | 0.23 | 641-515 | **4KT12** | 29.50 | **28.80** | 0.2 |
| **0.017** | 10-12 | 0.30 | 641-517 | **4KT13** | 29.50 | **28.80** | 0.2 |
| **0.019** | 10-12 | 0.40 | 641-519 | **4KT14** | 29.50 | **28.80** | 0.2 |
| **0.023** | 12-14 | 0.57 | 641-623 | **4KT15** | 29.50 | **28.80** | 0.2 |
| **0.026** | 12-14 | 0.72 | 641-626 | **4KT16** | 29.50 | **28.80** | 0.2 |
| **0.015** | * | 0.23 | 645-1502 | **4KT17** | 32.75 | **32.20** | 0.2 |
| **0.017** | † | 0.30 | 645-1704 | **4KT18** | 32.75 | **32.20** | 0.2 |
| **0.023** | ‡ | 0.57 | 645-2304 | **4KT19** | 32.75 | **32.20** | 0.2 |

(*) Striping tip for 2" athletic lines. (†) Striping tips for 4-6" parking lot lines.
(‡) Striping tip for long 4-6" lines.

### FLAT TIP ORDERING DATA

| Orifice (In.) | Spray Pattern (In.) | Flow Rate (GPM) @ 2000 PSI | Titan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0.011** | 8-10 | 0.12 | 002-411 | **4KT05** | $45.00 | **$30.75** | 0.2 |
| **0.013** | 8-10 | 0.18 | 002-413 | **4F331** | 45.00 | **30.75** | 0.3 |
| **0.015** | 10-12 | 0.23 | 002-515 | **4F328** | 45.00 | **30.75** | 0.3 |
| **0.017** | 10-12 | 0.30 | 002-517 | **4F327** | 45.00 | **30.75** | 0.1 |
| **0.019** | 10-12 | 0.40 | 002-519 | **4F329** | 45.00 | **30.75** | 0.3 |
| **0.023** | 12-14 | 0.57 | 002-623 | **4F330** | 45.00 | **30.75** | 0.3 |
| **0.026** | 12-14 | 0.72 | 002-626 | **4KT06** | 45.00 | **30.75** | 0.2 |

## AIRLESS PAINT SPRAY HOSE

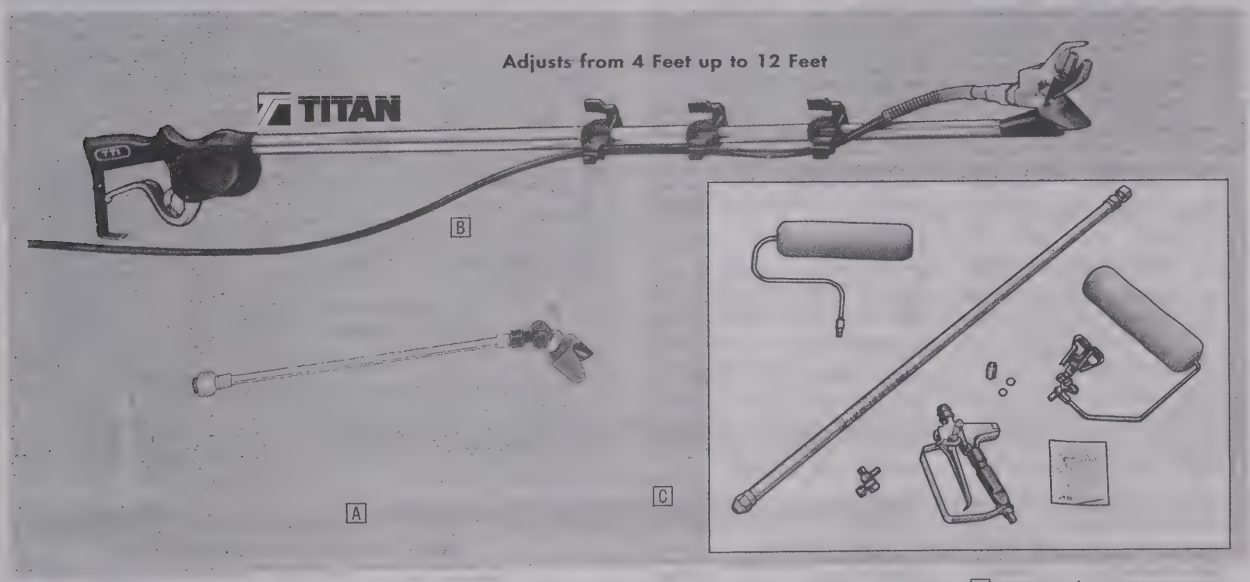
- **Will fit all of our airless sprayers**

**HPC Hytron® Hose by Dayco Eastman** conveys water-based and solvent-based paints, lacquers, and thinners. Compatible with most major brands of airless sprayers. Reinforcement: 2 braids of synthetic fiber with carbon-filled, static conductive elastomer strip between braids. Cover: abrasion-resistant, bonded polyurethane. Max. working pressure: 3000 PSI. Burst pressure: 12,000 PSI (4:1 safety factor). Temp range -40°F to 180°F. Min. bend radius: 2.0". Hose ID: 1/4". OD. .520". fitting: 1/4" (F)NPS. Separate 1/4" male/male adapter also included.

| Hose Length (Ft.) | Dayco Eastman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 25 | HPS04-25 | 4Z429 | $57.00 | $48.50 | 3.0 |
| 50 | HPS04-50 | 4Z430 | 88.00 | 62.00 | 4.9 |




## SPRAY GUN EXTENSION, TELESCOPING POLE GUN, AND SPRAY/ROLL APPLICATION KIT




### A AIRLESS SPRAY GUN EXTENSION

**Titan 12" spray gun extension** comes with anodized aluminum swivel head that rotates 260° to ensure painting from all angles of hard-to-reach areas. Large fluid passages enable spraying of materials with heavy viscosities. Includes tip guard for use with standard flat tips or Titan adjustable tip No. 6X095 (tips sold separately, see page 1973). Compatible with Binks, DeVilbiss, JGB, Sherwin Williams, Graco, Nordson and Spee-Flow. Titan Tool Inc. brand (611-12/630)

**No. 3X686.** Titan spray gun extension.
Shpg. wt. 0.6 lbs. List.....$57.40.
Each.....**$54.50**

### B TELESCOPING AIRLESS POLE GUN

**Lightweight Titan telescoping airless pole gun** is a combination pole extension and airless spray gun. Three sturdy four-foot aluminum sections extend the operator's reach from 4 feet up to 12 feet quickly and easily.

**Simplifies painting of high ceilings** and other hard-to-reach areas. Positive-hold lever mechanism secures each section in place without turning or slipping. Uses standard 1/4" airless hose (not included) held in place by clips along the pole.

**Spray pattern and width can be controlled** by adjusting pressure applied to trigger. Self-cleaning, positive shut-off when not triggered. Spray tip head swivels to any position. Easy to operate and clean. Can be used with any professional airless paint sprayer. Titan Tool Inc. brand.

**No. 4Z622.** Titan telescope pole gun. Shpg. wt. 8.0 lbs. List.....$415.00.
Each.....**$395.00**

### C SPRAY/ROLL APPLICATION KIT

**Titan Spray Roll Application Kit offers** variety of airless spray painting tools for many painting conditions. When using proper combination of tools, painter can either spray with pole extension for hard-to-reach areas, power roll when spraying is not possible, or spray and roll simultaneously on high profile surfaces such as unfinished block. Adaptable to any airless sprayer.

**Kit includes** Titan L-70 inline airless gun, 3 ft. extruded pole extension, 260° swivel head for flexible spraying, spray roller head assembly with reversible tip for simultaneous rolling and spraying, and inner feed pressure roller assembly for high production rolling. Roller assembly allows airless sprayer to feed 9" roller for greater speed. Titan Tool Inc. brand.

**No. 4F332.** Shpg. wt. 8.0 lbs. List.....$335.00.
Each.....**$319.00**

# PAINT SPRAY BOOTHS

- **High efficiency particulate removal**
- **Designed for maximum overspray control**
- **High capacity overspray capture**
- **Booth includes filter rack and clips for pads, hanger assembly, and grid pegs to hold roll media in place**
- **Complies with NFPA 33, OSHA, EPA, NEC, BOCA**

**Speedaire Double Filtration Spray Booths** are made of self-supporting 18-gauge galvanized sheet steel. Precision-flanged panel sections are punched on six inch centers and are easily assembled with supplied hardware. The bench style booth is floor mounted and has a "bench" located at normal working height. Floor booths have full floor to top work openings. Designed for either top or rear venting exhaust systems (see Individual Stock Nos. for size specifications of duct work required).

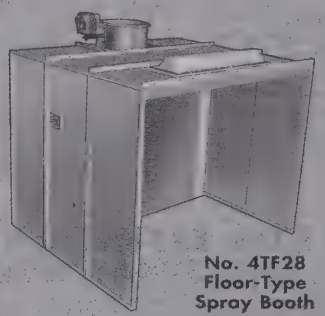
**Booths with Exhaust Fan and Motor** are available with belt-driven tubeaxial exhaust fan with hazardous location motors. Motors are 3-phase, 230/460V, 1725 RPM, 60 Hz, ball bearing. To order, see "4TF" combinations in chart below. Booth, fan, motor, motor pulley, and bolts are packed separately. Motor/fan combinations shown are for a maximum of 25 feet duct length at 1/4" static pressure.

**Includes:** All nuts and bolts, drawings and assembly hardware. Light fixture(s): 48" 4-tube fluorescent light fixture, 110 volt. (Explosion proof fixtures and 277 volt systems available on special request.) Fixture is UL and ETL listed, vaporproof, Class I, Div. 2, Groups A, B, C, D. Includes 15" x 53" x 1/4" clear tempered glass lens and gasketed seal. Fixture uses a rapid-start, energy efficient ballast system. Fixture accepts 40 watt bi-pin fluorescent lamps (not included). To order tubes, see Index under Tubes, Fluorescent. Light Assembly is designed to be serviced from the rear of the fixture.

**Draft Gauge (Manometer):** Provides the operator a visible monitor of filter loading. Diminished air flow within the booth provides a standard and indicator by which to replace the filters.

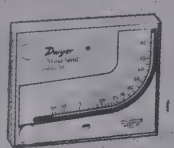
**Filter Pads:** Pad Arrestor Booths: Filters supplied with this booth are made from continuous filament glass fibers with an open weave pattern for maximum paint collection. These filters are approved and listed: Class 2 by Underwriters Laboratories and conform to OSHA Standards. Size: 20" x 20" x 2" deep. Grid retainers are also included. Roll filter media is not included.

SPEEDAIRE®



No. 4TF28 Floor-Type Spray Booth

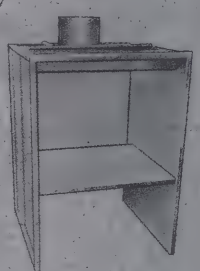
- **High efficiency particulate removal**
- **Designed for maximum overspray control**
- **High capacity overspray capture**
- **Booth includes filter rack and clips for pads, hanger assembly, and grid pegs to hold roll media in place**
- **Complies with NFPA 33, OSHA, EPA, NEC, BOCA**



**Draft Gauge included with all units**

FREE DELIVERY on orders of $900 or more

See Freight Policy



No. 4TF25 Bench-Type Spray Booth

**Replacement Parts Available 1-800-323-0620**

- **Adapters, extension kits and duct work are available through Grainger Parts Operation**

## SPRAY BOOTH SPECIFICATIONS AND ORDERING DATA

| (WITHOUT FAN AND MOTOR) | | | | | | | | | | | (WITH EXHAUST FAN AND MOTOR) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inside Working Dimensions (Ft.) Width | Height | Depth | Overall Dimensions Width | Height | Depth | Light Fixtures Quantity | Stock No. | List | Freight Prepaid Each | Shpg. Wt. | Motor HP | Explosion Proof Motor Type | Fan Dia. (In.) | CFM | Stock No. | List | Freight Prepaid Each | Shpg. Wt. |
| 5 | 4 | 3 | 5'4" | 7'2" | 5'2" | 1 | **4TF25** | $1999.00 | **$1720.00** | 580.0 | 1/2 | * | 18 | 3000 | **7D473** | $2350.00 | **$2248.00** | 658.0 |
| 6 | 7 | 6 | 6'4" | 7'2" | 9'2" | 1 | **4TF27** | 2050.00 | **1948.00** | 900.0 | 1 | * | 24 | 52500 | **7D470** | 2803.00 | **2670.00** | 1024.0 |
| 8 | 7 | 6 | 8'4" | 7'2" | 9'2" | 1 | **4TF28** | 2350.00 | **2233.00** | 1020.0 | 1½ | * | 24 | 7280 | **7D472** | 2880.66 | **2800.00** | 1155.0 |
| 8 | 8 | 6 | 8'4" | 8'2" | 9'2" | 1 | **4TF29** | 2652.00 | **2526.00** | 1050.0 | 2 | * | 24 | 8000 | **7D474** | 3800.00 | **3750.00** | 1270.0 |
| 10 | 8 | 6 | 10'4" | 8'2" | 9'2" | 2 | **4TF26** | 3550.00 | **3373.00** | 1200.0 | 2 | * | 30 | 11180 | **7D471** | 5000.00 | **4200.00** | 1420.0 |

(*) Hazardous Location, 3-phase

## OPTIONAL ACCESSORIES

Fiberglass paint collector media is designed for use in all spray booth overspray applications and is especially useful in high production situations. The 2½" thick, dry filter media (15 grams per sq. ft.) is progressively layered front to rear (air entering to air leaving) to enhance filter efficiency. Loosely woven construction allows paint to load evenly throughout service life. Easily cut to desired length with scissors. Media is simply rolled up and discarded after use. Widely used in conventional as well as downdraft spraybooth applications.

Expanded paper, high capacity media provides excellent efficiency and very high holding capacity. The high capacity paint collector media utilizes eight layers of expanded kraft. The first three layers employ extremely large baffle openings for maximum particulate holding capacity. For use with a wide range of coatings and especially with heavier, tacky-type coatings, conventional coatings and in situations requiring extended service life.

### ROLL MEDIA SPECIFICATIONS

| Dimensions W (In.) | L (Ft.) | D (In.) | Stock No. | Media | Style | Pads 20" x 20" Stock No. |
|---|---|---|---|---|---|---|
| 20½ | 260 | 2½ | **6B845** | Fiberglass | Standard Capacity | **2W001** |
| 25½ | 260 | 2½ | **6B844** | Fiberglass | Standard Capacity | **2W001** |
| 30 | 260 | 2½ | **6C525** | Fiberglass | Standard Capacity | **2W001** |
| 36 | 260 | 2½ | **6C526** | Fiberglass | Standard Capacity | **2W001** |
| 41 | 260 | 2½ | **6C527** | Fiberglass | Standard Capacity | **2W001** |
| 48 | 260 | 2½ | **6C528** | Fiberglass | Standard Capacity | **2W001** |
| 60 | 260 | 2½ | **6B843** | Fiberglass | Standard Capacity | **2W001** |
| 40 | 40 | 1 | **6B834** | Paper | Standard Capacity | **6W748** |
| 40 | 20 | 1 | **6B836** | Paper | High Capacity | **6W749** |
| 40 | 30 | 1 | **6B836** | Paper/Synthetic | High Solids | **6W751** |



*Spray it, stack it, stamp it and more with these hard-working products.*

# WOOSTER® PAINTBRUSHES

Professional paintbrushes have high-quality filaments or bristles, durable rust-resistant ferrules, and balanced hardwood handles. They provide increased paint capacity to reduce work time, a smooth finish with less brushmarks, and much better overall performance than economy brushes which are made for maintenance and utility painting.

### ULTRA/PRO® Nylon/Polyester

**Nos. 3UW39-3UW45** for all water-based and oil-based paints, acrylics, enamels, 1-part epoxies. Complete coverage, full cut-in control. Treated wood handle, rust-resistant ferrule.

### MAJESTIC™ Black China Bristle

**Nos. 3UW15-3UW17** for oil-based paints, enamels, polyurethanes, varnishes. Smooth finish quality, high production. Treated wood handle, rust-resistant ferrule.

### JOE™ Black China Bristle

**No. 3UW25** for oil-based paints, enamels, polyurethanes, varnishes. Very high capacity, smooth finish quality. Solvent-resistant handle, rust-resistant ferrule.

### V130™ Gray China Bristle

**Nos. 3UW46-3UW47** for oil-based paints, varnishes. Oval style for added control and smooth layoff. Solvent-resistant handle, seamless steel ferrule.

### BENT RADIATOR Black China Bristle

**Nos. 3UW31-3UW32** for oil-based paints, enamels, polyurethanes, varnishes. Long 13-3/4" wood handle reaches behind pipes, furniture, other fixtures.

### PREP CREW™ Masonry Coater™

**No. 3UW30** for thick-bodied paints and waterproofing, foundation or roof coatings. Natural tampico fiber. Polypropylene pistol grip handle reduces wrist fatigue. Built-in bucket clip.




### GOLDEN GLO® Nylon/Polyester, Utility

**Nos. 3UW33-3UW38** for all paints (latex, acrylics, oils, 2-part epoxies). Good capacity, resists wear. Solid plastic handle, brass-plated steel ferrule.

### AMBER FONG™ Brown China Bristle, Utility

**Nos. 3UW22-3UW24** for oil paints, varnishes, stains. Good capacity, smooth finish. Solid plastic handle, brass-plated steel ferrule.

### CHIP™ White Bristle, Tossaway

**Nos. 3UW18-3UW21** disposable brush for utility painting, stains, glues, roof coatings, coal tar epoxies. Unfinished wood handle.

## WOOSTER PAINTBRUSH SPECIFICATIONS AND ORDERING DATA

| Item Description | Size (In.) | Size Length (In.) | Size Thickness (In.) | Wooster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ULTRA/PRO® Nylon/Polyester - Angle Sash** | 2 | 2 11/16 | 9/16 | 4174 | **3UW41** | $14.50 | **$12.33** | 0.2 |
| | 2 1/2 | 2 15/16 | 5/8 | 4174 | **3UW42** | 17.78 | **15.11** | 0.3 |
| | 3 | 3 3/16 | 11/16 | 4174 | **3UW43** | 22.24 | **18.90** | 0.4 |
| **ULTRA/PRO® Nylon/Polyester - Flat Sash** | 2 | 2 11/16 | 9/16 | 4175 | **3UW44** | 12.82 | **10.90** | 0.2 |
| | 2 1/2 | 2 15/16 | 5/8 | 4175 | **3UW45** | 16.02 | **13.62** | 0.3 |
| **ULTRA/PRO® Nylon/Polyester - Wall** | 3 | 3 7/16 | 7/8 | 4173 | **3UW39** | 25.02 | **21.27** | 0.5 |
| | 4 | 3 15/16 | 7/8 | 4173 | **3UW40** | 33.84 | **28.80** | 0.6 |
| **MAJESTIC™ Black China Bristle - Varnish** | 2 | 2 15/16 | 9/16 | Z1104 | **3UW15** | 13.12 | **11.15** | 0.2 |
| | 2 1/2 | 3 3/16 | 5/8 | Z1104 | **3UW16** | 17.76 | **15.10** | 0.3 |
| | 3 | 3 7/16 | 11/16 | Z1104 | **3UW17** | 18.82 | **16.00** | 0.4 |
| **JOE™ Black China Bristle - Wall** | 4 | 3 15/16 | 7/8 | Z1310 | **3UW25** | 25.22 | **21.44** | 0.6 |
| **V130® Gray China Bristle-Oval Sash** | #6 | 1 15/16 | 1 x 11/16 | F5125 | **3UW46** | 4.98 | **4.23** | 0.1 |
| | #8 | 2 3/16 | 1 1/16 x 13/16 | F5125 | **3UW47** | 5.98 | **5.08** | 0.2 |
| **BENT RADIATOR Black China Bristle** | 2 | 2 3/16 | 9/16 | 1841 | **3UW31** | 16.02 | **13.62** | 0.2 |
| | 3 | 2 3/16 | 11/16 | 1841 | **3UW32** | 20.22 | **17.19** | 0.4 |
| **PREP CREW™ Masonry Coater™** | 6 | 4 | 1 1/4 | 1826 | **3UW30** | 8.94 | **7.60** | 0.8 |
| **GOLDEN GLO® Nylon/Polyester - Angle Sash, Utility** | 1 1/2 | 2 3/16 | 7/16 | Q3218 | **3UW37** | 5.50 | **4.68** | 0.1 |
| | 2 | 2 7/16 | 1/2 | Q3218 | **3UW38** | 6.38 | **5.42** | 0.2 |
| **GOLDEN GLO® Nylon/Polyester - Utility** | 1 | 1 15/16 | 7/16 | Q3118 | **3UW33** | 3.38 | **2.87** | 0.1 |
| | 2 | 2 7/16 | 9/16 | Q3118 | **3UW34** | 5.98 | **5.08** | 0.2 |
| | 3 | 2 15/16 | 11/16 | Q3118 | **3UW35** | 9.94 | **8.45** | 0.3 |
| | 4 | 3 7/16 | 7/8 | Q3118 | **3UW36** | 15.26 | **12.97** | 0.5 |
| **AMBER FONG™ Brown China Bristle - Utility** | 2 | 2 7/16 | 9/16 | 1123 | **3UW22** | 4.50 | **3.83** | 0.2 |
| | 3 | 2 7/16 | 11/16 | 1123 | **3UW23** | 8.48 | **7.21** | 0.3 |
| | 4 | 2 11/16 | 7/8 | 1123 | **3UW24** | 11.90 | **10.12** | 0.5 |
| **CHIP™ White Bristle - Tossaway** | 1 | 1 11/16 | 5/16 | 1117/Pk 36 | **3UW18** | 37.44 | **31.85** | 1.6 |
| | 2 | 1 11/16 | 5/16 | 1117/Pk 24 | **3UW19** | 34.56 | **29.40** | 1.9 |
| | 2 1/2 | 1 11/16 | 5/16 | 1117/Pk 24 | **3UW20** | 53.28 | **45.30** | 2.4 |
| | 3 | 1 11/16 | 5/16 | 1117/Pk 24 | **3UW21** | 60.96 | **51.85** | 2.9 |

# WOOSTER® PAINT ROLLERS

Including standard-size roller covers in 9" lengths, high-production rollers in 18" lengths for industrial and floor topping applications, and trim tools for edging and irregular surfaces.

### SUPER/FAB® Roller Covers

**Nos. 3UW67-3UW71** for all flat paints, stains, waterproofing. High capacity, complete coverage, non-bubbling, smooth finish. Strong copolymer Sherlock® core will not delaminate.

### PRO/WOOL® Roller Cover

**No. 3UW76** for all paints (flat to gloss) including acrylics, enamels, varnishes. Handmade natural shearling, high capacity, very smooth finish.

### PRO/DOO-Z™ Roller Covers

**Nos. 3UW78-3UW81** for all paints, primers, enamels, floor coatings, polyurethanes, epoxies. Shed-resistant, high capacity, non-bubbling. Strong copolymer Sherlock® core will not delaminate.

### MOHAIR BLEND Roller Cover

**No. 3UW64** for all oil-based paints, enamels, floor coatings, epoxies, polyurethanes. Shed-resistant, non-bubbling. Natural painting qualities with added durability.

### MINI-KOTER™ System

**Nos. 3UW61-3UW62** for all flat paints and stains. For trim work and hard-to-reach areas behind radiators, cabinets. Wire shank frame with threaded plastic handle, 6½" roller cover. R128 is 10½" long; R129 is 26½" long.

### MINI-KOTER™ Twin Packs

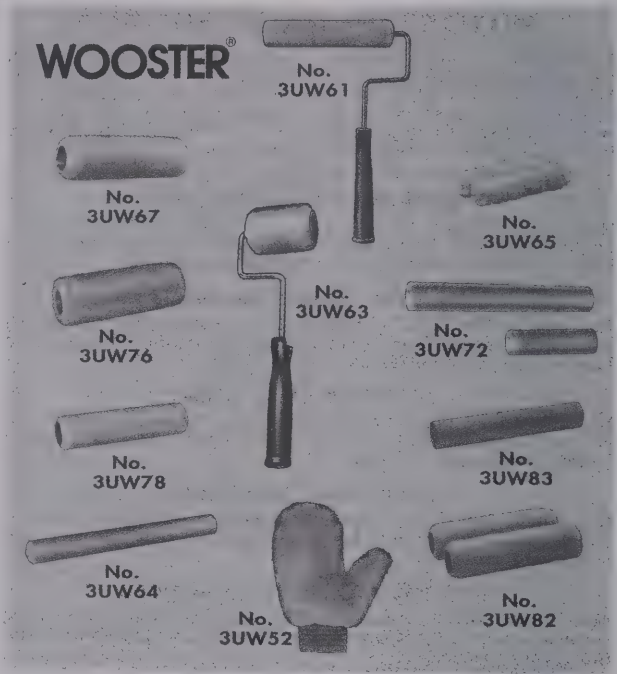
**Nos. 3UW65-3UW66.** Two replacement covers for use with the Mini-Koter frame. For all flat paints or stains.

### PORCUPINE® Spiked Roller

**Nos. 3UW72-3UW73.** Spiked roller relieves surface tension by eliminating gas bubbles in high-build or catalyzed epoxy floor coatings. Can be used further into the curing cycle. Smaller pins for smooth results.

### PHENOLIC ROLLER

**Nos. 3UW83.** Durable, solvent-resistant roller for spreading and leveling mastics, anti-slip floor toppings, other heavy coatings.




### PAINTER'S CHOICE™ 2-Pack Roller Covers

**No. 3UW82.** Disposable covers for flat paints, mastics, coal tar.

### SUPER TRIMMER Roller & Replacement

**No. 3UW63/4KR09** for all paints. Shed-resistant 4" roller, frame with threaded plastic handle. Use on small areas, trim, or striping parking, factory, playground areas. Use with pole No. 3H384.

### SYNTHETIC MITT With Thumb

**No. 3UW52** for painting pipes, railings, wrought iron, chains, and other uneven or detailed surfaces. For all paints.

| Item Description | Length (In.) | Nap | Surfaces | Wooster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| SUPER/FAB® Roller Covers | 9 | 3/8 | Smooth/Medium | R239 | 3UW67 | $5.30 | $4.51 | 0.2 |
| | 9 | 1/2 | Semirough | R240 | 3UW68 | 5.50 | 4.68 | 0.2 |
| | 4 | 3/4 | Rough | R241 | 3UW69 | 3.70 | 3.15 | 0.1 |
| | 9 | 3/4 | Rough | R241 | 3UW70 | 6.16 | 5.24 | 0.3 |
| | 9 | 1¼ | Very Rough | R243 | 3UW71 | 7.60 | 6.46 | 0.3 |
| PRO/WOOL® Roller Cover | 9 | 1/2 | Semirough | RR622 | 3UW76 | 13.74 | 11.68 | 0.2 |
| PRO/DOO-Z® Roller Covers | 9 | 3/16 | Smooth | RR641 | 3UW78 | 5.26 | 4.47 | 0.2 |
| | 18 | 3/16 | Smooth | RR641 | 3UW77 | 13.58 | 11.54 | 0.5 |
| | 9 | 3/8 | Smooth/Medium | RR642 | 3UW80 | 5.68 | 4.83 | 0.1 |
| | 18 | 3/8 | Smooth/Medium | RR642 | 3UW79 | 13.94 | 11.85 | 0.4 |
| | 9 | 1/2 | Semirough | RR643 | 3UW81 | 6.08 | 5.17 | 0.2 |
| MOHAIR BLEND Roller Cover | 18 | 1/4 | Smooth | R207 | 3UW64 | 14.02 | 11.92 | 0.5 |
| MINI-KOTER™ System, Short Handle | 10½ | 3/8 | Smooth/Medium | R128 | 3UW61 | 8.38 | 7.12 | 0.4 |
| MINI-KOTER™ System, Long Handle | 26½ | 3/8 | Smooth/Medium | R129 | 3UW62 | 9.12 | 7.75 | 0.7 |
| MINI-KOTER™ Twin Packs | 6½ | 1/2 | Semirough | R217 | 3UW65 | 8.46 | 7.19 | 0.1 |
| | 6½ | 3/8 | Smooth/Medium | R219 | 3UW66 | 8.18 | 6.95 | 0.1 |
| PORCUPINE® Spiked Roller | 9 | — | — | R244 | 3UW73 | 148.98 | 126.65 | 0.5 |
| | 18 | — | — | R244 | 3UW72 | 234.26 | 199.25 | 1.0 |
| PHENOLIC ROLLER - Pack 12 | 9 | — | — | R999 | 3UW83 | 12.24 | 10.40 | 1.1 |
| PAINTER'S CHOICE™ 2-Pack Roller Covers | 9 | 3/8 | Smooth/Medium | R729 | 3UW82 | 4.99 | 4.24 | 0.3 |
| SUPER TRIMMER Roller | 4 | 3/8 | Smooth/Medium | R189 | 3UW63 | 7.44 | 6.32 | 0.4 |
| SUPER TRIMMER Roller Replacement | 4 | 3/8 | Smooth/Medium | R205 | 4KR09 | 2.52 | 2.14 | 0.1 |
| PAINTING MITT With Thumb | — | — | Irregular | R044 | 3UW52 | 5.10 | 4.34 | 0.2 |



*Spray it, stack it, stamp it and more with these hard-working products.*

# ROLLER PAINTING TOOLS

Industrial and maintenance quality roller frames for 9" or 18" covers, extension poles to increase reach when painting walls and ceilings or applying floor toppings, and paint trays/bucket/screen.

### SHERLOCK® Roller Frame

**No. 3UW50**. Durable copolymer cage keeps the roller cover round. Quick-release spring prevents roller walk-off. Twin bearings eliminate graying and streaking in paint. Comfortable grip, fits all extension poles.

### SHERLOCK® WIDE BOY™ Adjustable Frame

**No. 3UW53**. Holds 1½" standard and 2¼" jumbo diameter rollers up to 18" long. Rigid tubular steel, durable, lightweight. Includes 1½" and 2¼" endcaps. Fits all extension poles.

### UTILITY ROLLER FRAME

**No. 3UW51**. Sturdy 5-wire cage provides support for the roller cover. Galvanized 1/4" shank. Threaded plastic handle.

### SHERLOCK® Extension Poles

**Nos. 3UW55-3UW59**. Rugged fiberglass outer pole, hexagonal aluminum inner pole prevents twisting. Change length in 6" increments with quick-adjust lever. Universal threaded tip.

### WOOD EXTENSION POLE, Threaded Tip

**No. 3H384**. Smooth, durable hardwood with clear lacquered finish. Full 60" long. Aluminum tip, standard threads.

### PLASTIC PAINT TRAY

**No. 3UW75**. Solvent-resistant polypropylene 2-quart tray. Larger 11" width. Designed to spread paint evenly onto the roller.

### METAL PAINT TRAY

**No. 3UW74**. Rust-resistant bright steel 1-quart tray. Ladder-lock legs, ribbed bottom. Larger 11" width for easier roller refills.

### WIDE BOY™ Paint Bucket

**No. 3UW48**. Five-gallon capacity. Built-in roll-off area easily loads 9-18" rollers, No-tip design, 14 x 24 x 10" D. Polypropylene bucket, galvanized steel handle. Paint bucket swivel casters available (No. 3A817, stem 3).

### WIRE SPREADER SCREEN

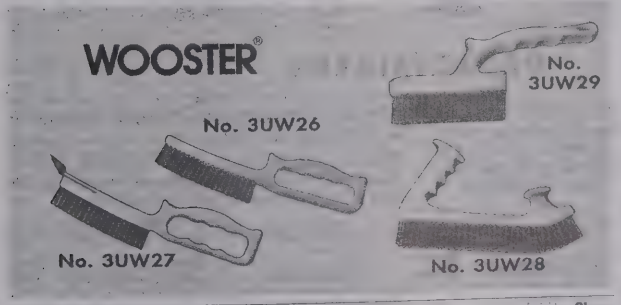
**No. 3UW49**. Load roller directly from 5-gallon bucket. 10" wide and 1½" long. Heavy-duty expanded wire, reinforced edges on all sides.




| Item Description | Size | Wooster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| SHERLOCK® Roller Frame | 9" | R017 | **3UW50** | $13.22 | **$11.24** | 1.0 |
| SHERLOCK® Adjustable Frame | 12-18" | R047 | **3UW53** | 37.92 | **32.25** | 1.8 |
| UTILITY ROLLER FRAME | 9 | R030 | **3UW51** | 3.99 | **3.39** | 0.6 |
| SHERLOCK® Extension Poles | 1'-2 | R053 | **3UW55** | 28.98 | **24.63** | 0.9 |
| | 2'-4 | R054 | **3UW56** | 32.02 | **27.25** | 1.2 |
| | 4'-8 | R055 | **3UW57** | 42.94 | **36.50** | 2.1 |
| | 6'-12 | R056 | **3UW58** | 54.62 | **46.45** | 3.2 |
| | 8'-16 | R057 | **3UW59** | 65.86 | **56.00** | 4.1 |
| WOOD EXTENSION POLE, Threaded Tip | 60" | 95854 | **3H384** | 8.90 | **7.58** | 1.2 |
| PLASTIC PAINT TRAY | 11" | R404 | **3UW75** | 4.64 | **3.94** | 0.9 |
| METAL PAINT TRAY | 11" | R402 | **3UW74** | 5.12 | **4.35** | 1.2 |
| WIDE BOY™ Paint Bucket | 24" | 8614 | **3UW48** | 44.72 | **38.05** | 4.4 |
| WIRE SPREADER SCREEN | 10" | R001 | **3UW49** | 5.20 | **4.42** | 0.8 |

# WOOSTER® PREP CREW™ SURFACE PREP TOOLS

Heavy-duty brushes of exceptional quality, featuring comfortable, full-sized handles, staggered tufts for better coverage, and more wire than found in average brushes.




### LONGNECK® Wire Brush

**No.3UW26**. Wrap-around handle protects fingers. Industrial quality with maximum wire content. Removes flaking paint, rust, scale from any surface. Cleans concrete, brick, other masonry.

### LONGNECK® Wire Brush With Scraper

**No.3UW27**. Longneck brush with heavy-duty 3" steel scraper that has a baked-on, rust-resistant finish.

### PREP-PLANE® Wire Brush

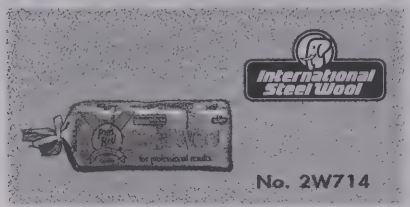
**No.3UW28**. Plane-shaped design for two-handed use, reduces work time. Angled tip to reach tough spots. Maximum wire content. Removes flaking paint, rust, scale from any surface.

### CORNER CLEANER® Wire Brush

**No.3UW29**. Small size with pointed end for hard-to-reach areas. Finger grips and thumb rest for more control. Removes paint, rust, scale from any surface.

| Item Description | Block Size | No. of Tufts | Length Clear | Wooster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| LONGNECK® Brush | 6 x 1⅛" | 78 | 1¼" | 1820 | **3UW26** | $9.20 | **$7.82** | 0.6 |
| LONGNECK® W/Scraper | 6 x 1⅛ | 78 | 1¼ | 1821 | **3UW27** | 9.78 | **8.31** | 0.7 |
| PREP-PLANE® Wire Brush | 10 x 1⅜ | 156 | 1¼ | 1822 | **3UW28** | 9.54 | **8.11** | 1.0 |
| CORNER CLEANER® Brush | 5 x 1 | 64 | 1¼ | 1823 | **3UW29** | 6.80 | **5.78** | 0.5 |

# DROP CLOTHS AND PAINTING ACCESSORIES



No. 2W714

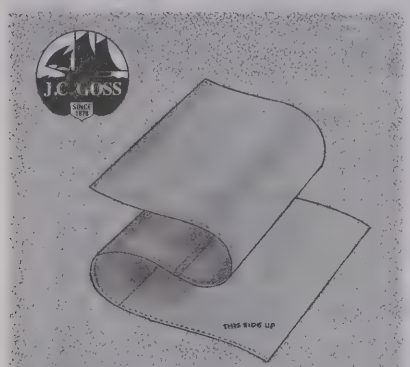
## INDUSTRIAL GRADE STEEL WOOL

**Made of the highest grade steel,** these heavy-duty steel wool pads are used in cleaning and finishing applications such as surface preparation, paint removal, wood refinishing and metal polishing. By using the correct grade of steel wool, difficult cleaning and finishing jobs are easily handled.

**Available in seven grades** ranging from 0000 (finest) to 3 (coarse). Complete description of application for each grade are on every package. Packaged in sleeves of 16 individual pads. International Steel Wool brand.

| Type | Grade | Application | Stock No. ②③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Finest** | 0000 | Buffs woodwork, shellac, lacquer and varnish (use with wax or oil). | **2W709** | $3.06 | **$2.97** | 0.8 |
| **Extra-Fine** | 000 | Buffs cabinetry and new wax finishes. Polishes aluminum, copper, brass and zinc. Removes minor burns from wood and leather. Removes paint drips and splatters. | **2W710** | 2.84 | **2.75** | 0.8 |
| **Fine** | 00 | Buffs final finish on painted trim. Cleans screens and frames. | **2W711** | 2.52 | **2.45** | 0.8 |
| **Medium-Fine** | 0 | Cleans aluminum, copper, brass, zinc and other metals. Removes rust from metal tools. (Use with light oil for best results.) | **2W712** | 2.32 | **2.25** | 0.8 |
| **Medium** | 1 | Cleans linoleum, rubber asphalt and other resilient floors. Prepares wood for the first coat of paint and smooths raised grain. | **2W713** | 2.32 | **2.25** | 0.8 |
| **Medium-Coarse** | 2 | Cleans glass brick, rough metal or stone surfaces. Removes rust and dirt from garden tools and machinery, scuff marks and old wax from floors. | **2W714** | 2.12 | **2.06** | 0.8 |
| **Coarse** | 3 | Removes old paint and varnish. | **2W715** | 2.12 | **2.06** | 0.8 |

② These products are covered by California Proposition 65. California purchase or shipments, see first page of Grainger Branch Listing or call any California branch.
③ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.



"This Side Up" label assures proper use

No. 5H908

## CANVAS DROP CLOTHS

**Well-suited for covering finished floors,** carpets and furniture when painting, sanding, staining, or mixing materials.

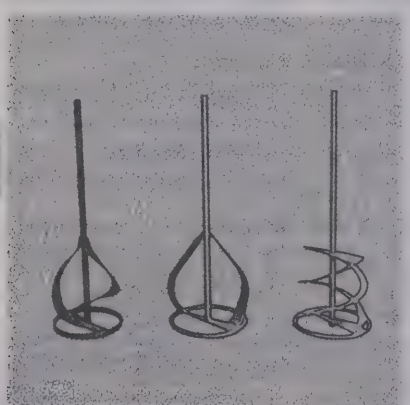
**Excellent as dust cloths** and for protecting furniture and equipment when temporarily or permanently stored indoors.

**Allows easy gathering and hauling of debris,** leaves, trimmings, and scraps.

**Used by painters,** furniture movers, contractors, schools, landscapers, plants, factories, maintenance crews, and warehouses.

- **Mildew-resistant thread, double stitched for durability**
- **Helps avoid paint drop damage**
- **Heavy-duty, durable 8-oz. canvas**
- **All "tripproof" seams are on the underside for added safety**
- **"This Side Up" labeling reminds user to always keep the clean side down**
- **Consistent quality—no patching or use of scraps**
- **Strong, flexible, washable**
- **Off-white color**
- **JC Goss brand**

| Description | Cut Size (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Runner** | 4 x 15 | **5H910** | $29.75 | **$20.83** | 4.5 |
| **Drop Cloth** | 9 x 12 | **5H908** | 46.65 | **32.70** | 7.5 |
| **Drop Cloth** | 12 x 15 | **5H909** | 77.75 | **54.45** | 13.0 |



## DRUM MIXERS

Computer designed mixers for varying density liquids and dry materials. Mixer revolves clockwise, material circulates downwards from the perimeter of the container and upwards in the center for a thorough mixing action without splashing or introducing water.

Heavy-gauge steel and welded parts. Painted finish. Used with portable drills and drill presses with 1/2" chucks.

| Description | Head | Shaft (In.) | Max. Speed (RPMs) | Applications | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Light-duty Mixer** | Round Head: 4" dia.—Low viscosity | 7/16 Hex x 23 | 800 | Fast mixing paints, inks, liquids | **6A820** | $16.20 | **$13.22** | 1.4 |
| **Medium-duty Mixer** | Round Head: 4⅝ dia.—Med. viscosity | 7/16 Hex x 23 | 700 | Interior/exterior paints, latex paints, wallpaper adhesives, concrete sludge | **6A821** | 33.00 | **26.40** | 2.0 |
| **Heavy-duty Mixer** | Spiral Head: 4¾ dia.—High viscosity | 7/16 Hex x 23 | 500 | Ready-mix mortar, plaster, gypsum pastes, carpet adhesives, granulates | **6A822** | 36.60 | **29.30** | 2.3 |

# RUST-OLEUM® SYSTEM SELECTOR GUIDE



**How To Use This Guide: To determine the system that best meets your needs, use the description below to determine the exposure conditions. Select the surface type to be coated, then choose the best coating system and primer according to the key feature for a given system. (If a specific stock no. is given, that indicates that specific product is recommended. Systems Include multiple stock nos.).**

## MILD ENVIRONMENTS

**Characterized By: Outdoor weathering, mild industrial fumes, and normal humidity with mold and mildew conditions.**
**Surfaces Include: Exterior or metal structures, shipping docks, doors, conveyors, piping, electrical equipment and storage tanks.**

### FOR COATING STEEL

| Key Features | Finish | Primer |
|---|---|---|
| **Several primers available based on surface preparation requirements and exposure conditions.** | 7600 or 3400 Industrial Oil-Based Enamels (See page 1990) | 7600 or 3400 Industrial Enamel Primers (See page 1990) |
| **Mold and mildew resistant. Can be applied on damp surfaces at temperatures as low as 18°F (–8°C).** | No. 6A396 Dairy White (See page 1989) | No. 6A394 Red Primer<br>No. 6A395 White Primer<br>(See page 1989) |
| **Good gloss retention indoors and outdoors, low odor. Thin and clean up with water.** | 5200 System High Performance Water-Based Acrylics (See page 1992) | No. 5H925 Red Primer<br>No. 5H893 Gray Primer<br>(See page 1992) |
| **1-coat application to tightly-bonded rust with minimal surface preparation. Moisture, chemical and abrasion resistance.** | 9100 System High Performance Epoxy (See page 1993,1996) | Not Applicable |
| **Direct to metal (DTM), fast dry, good gloss and color retention, soap and water clean-up. Low odor.** | 3100 Speedy-Dry DTM Water-Based Acrylics (See page 1992) | Not Applicable |
| **Outstanding color and gloss retention. High build, ideal for direct to sound rust.** | 9800 DTM Urethane Mastic (See page 1992,1996) | No. 1F766 Red Primer<br>No. 1BW42 Light Gray Primer<br>(See page 1991) |

### FOR COATING GALVANIZED STEEL/ALUMINUM

| | | |
|---|---|---|
| **Compatible with variety of surfaces and previous coatings. Good gloss retention, indoors and outdoors. Low odor. Thin and clean with water.** | 5200 System High Performance Water-Based Acrylics (See page 1992) | No. 5H925 Red Primer<br>No. 5H893 Gray Primer<br>(See page 1992) |
| **Direct to metal (DTM), fast dry, good gloss and color retention, soap and water clean-up. Low odor.** | 3100 Speedy-Dry DTM Water-Based Acrylics (See page 1992) | Not Applicable |
| **Outstanding color and gloss retention. High build, ideal for direct to sound rust.** | 9800 DTM Urethane (See page 1992,1996) | None |

### FOR COATING CONCRETE/MASONRY

| | | |
|---|---|---|
| **Compatible with variety of surfaces and previous coatings. Low odor. Thin and clean up with water.** | 5200 System High Performance Acrylics (See page 1992) | No. 5H925 Red Primer<br>No. 5H893 Gray Primer<br>(See page 1992) |
| **Direct to metal (DTM), fast dry, good gloss and color retention, soap and water clean-up. Low odor.** | 3100 Speedy-Dry DTM Water-Based Enamel (See page 1992) | Not Applicable |
| **Outstanding color and gloss retention. High build at 340 g/l VOC.** | 9800 DTM Urethane Mastic (See page 1992,1996) | None |

## MODERATE ENVIRONMENTS

**Characterized By: Frequent fumes and spillage of mild chemicals, product spillage, chemical cleaning. Intermittent high humidity and moisture, mold and mildew conditions. Surfaces Include: Walls, ceilings, conveyors, piping, motors/pumps, filling equipment, work tables, blending tanks, case loaders, hand rails.**

### FOR COATING STEEL

| | | |
|---|---|---|
| **Good gloss and color retention. Variety of colors.** | Industrial Oil-Based Enamels (See page 1989) | Industrial Oil-Based Enamel Primers (See page 1989) |
| **Outstanding gloss and chemical resistance. Minimum surface prep. Use 9700 for VOC compliance at 340 g/l.** | 9400 or 9700 Polyurethane (See page 1995 or 1992,1996) | No. 7A983 Red or No. 7A984 Buff High Solids Epoxy Primer (See page 1993,1994) |
| **Mold and mildew resistant. Can be applied on damp surfaces at temperatures as low as 18°F (-8°C).** | No. 6A396 Dairy White (See page 1989) | No. 6A394 Red Primer or No. 6A395 White (See page 1989) |
| **Good gloss retention indoors and out; low odor. Thin with water, soap & water clean-up.** | 5200 System High Performance Water-Based Acrylics (See page 1992) | No. 5H925 Red Primer, or No. 5H893 Gray Primer (See page 1992) |
| **Direct to metal (DTM), fast dry, good gloss and color retention, soap and water clean-up. Low odor.** | 3100 Speedy-Dry DTM Water-Based Acrylics (See page 1992) | Not Applicable |
| **Compatible with most previous coatings, low odor. Thin with water, soap & water clean-up.** | 5300 System Water-Based Epoxy (See page 1993,1996) | No. 7H580 Red Primer (See page 1993,1996) |
| **1-coat application to tightly-bonded rust with minimal surface preparation. Second coat optional for maximum performance.** | 9100 System High Performance Epoxy (See page 1993,1996) | Not Applicable |
| **Outstanding color/gloss retention. High build, ideal for direct to sound rust.** | 9800 DTM Urethane Mastic (See page 1992,1996) | 9800 DTM Urethane Mastic (See page 1992,1996) |

# RUST-OLEUM® SYSTEM SELECTOR GUIDE

| Key Features | Finish | Primer |
|---|---|---|
| **MODERATE ENVIRONMENTS (cont'd.)** | | |
| **Characterized By: Frequent fumes and spillage of mild chemicals, product spillage, chemical cleaning. Intermittent high humidity and moisture, mold and mildew conditions. Surfaces Include: Walls, ceilings, conveyors, piping, motors/pumps, filling equipment, work tables, blending tanks, case loaders, hand rails.** | | |
| **FOR COATING GALVANIZED STEEL/ALUMINUM** | | |
| **Compatible with variety of surfaces and previous coatings. Low odor. Thin and clean up with water.** | 5200 System High Performance Water-Based Acrylics (See page 1992) | No. 5H925 Red Primer or No. 5H893 Gray Primer (See page 1992) |
| **Direct to metal (DTM), fast dry, good gloss and color retention, soap and water clean-up. Low odor.** | 3100 Speedy-Dry DTM Water-Based Acrylics (See page 1992) | Not Applicable |
| **Low odor, thin with water. Apply on lightly rusted metal. Soap and water clean-up.** | 5300 System Water-Based Epoxy (See page 1993,1996) | No. 7H580 Red Primer or No. 7H581 (See page 1993,1996) |
| **Oustanding color and gloss retention. High build, ideal for direct to sound rust.** | 9800 DTM Urethane Mastic (See page 1992,1996) | No. 7H580 Red Primer or No. 7H581 Gray Primer (See page 1993,1996) |
| **FOR COATING CONCRETE/MASONRY** | | |
| **Compatible with variety of surfaces and previous coatings. Low odor. Thin with water. Soap and water clean-up.** | 5200 System High Performance Water-Based Acrylics (See page 1992) | No. 5H893 Gray Primer or 5H925 Red Primer (See page 1992) |
| **Can be applied to damp surfaces. Low odor. Thin with water. Soap and water clean-up.** | 5300 System Water-Based Epoxy (See page 1993,1996) | No. 7H581 Gray Primer or 7H580 Red Primer (See page 1993,1996) |
| **Heavy moisture, chemical, and abrasion resistance. Minimal surface preparation. Second coat optional for maximum performance.** | 9100 System High Performance Epoxy (See page 1993,1996) | Not Applicable |
| **Direct to metal (DTM), fast dry, good gloss and color retention, soap and water clean-up. Low odor.** | 3100 Speedy-Dry DTM Water-Based Acrylics (See page 1992) | Not Applicable |
| **Outstanding color and gloss retention. High build, 340 g/l VOC.** | 9800 DTM Urethane Mastic (See page 1992,1996) | 9100 System High Performance Epoxy (See page 1993,1996) |
| **SEVERE ENVIRONMENTS** | | |
| **Characterized By: strong chemicals-acids, alkalis, and solvents, high humidity and moisture conditions. Frequent product spillage and frequent chemical cleaning. Surfaces Include: Walls, conveyors, processing equipment, piping. Filling equipment, work tables, washing stations, chemical storage tanks, machinery, structural steel, outdoor weathering water storage tanks, and sewage treatment facilities.** | | |
| **FOR COATING STEEL** | | |
| **Apply to tightly-bonded rust with minimal surface preparation. Heavy moisture, chemical resistance.** | 9100 System High Performance Epoxy (See page 1993,1996) | 9100 System High-Performance Epoxy (See page 1993,1996) |
| **Outstanding gloss retention indoors and outdoors. Excellent chemical and abrasion resistance.** | 9400 System Polyurethane (See page 1995) | Nos. 1F766 & 7H601 Red Primers, Nos. 1BW42 & 7H602 Gray Primers (See page 1991 and 1995) |
| **Outstanding color and gloss retention. High build, 340 g/l VOC.** | 9800 DTM Urethane Mastic (See page 1992,1996) | No. 7A983 Red or No. 7A894 Buff High (See page 1992,1996) |
| **Outstanding color and gloss retention. High build, 340 g/l VOC.** | 9800 DTM Urethane Mastic (See page 1992,1996) | 9100 System High Performance Epoxy (See page 1993,1996) |
| **FOR COATING GALVANIZED STEEL/ALUMINUM** | | |
| **High gloss, interior exposures. Use on damp surfaces, low odor, water-thinning and soap and water clean up. Limited resistance to strong acids (ph 4).** | 5300 System Water-Based Epoxy (See page 1993,1996) | No. 7H580 Red Primer or No. 7H581 Gray Primer (See page 1993,1996) |
| **Outstanding gloss retention and chemical resistance.** | 9400 System Polyurethane (See page 1995) | No. 7H601 Red Primer or No. 7H602 (See page 1995) |
| **Outstanding color and gloss retention. High build, 340 g/l VOC.** | 9800 DTM Urethane Mastic (See page 1992,1996) | 9100 System High Performance Epoxy (See page 1993,1996) |
| (*) For optimal performance with SP-6 surface preparation use 2 coats of primer. | | |
| **FOR COATING CONCRETE/MASONRY** | | |
| **Heavy moisture, chemical, and abrasion resistance. Apply to damp surfaces. Low odor. Thin with water. Soap and water clean-up. Second coat optional for maximum performance.** | 5300 System Water-Based Epoxy (See page 1993,1996) | 5300 System Water-Based Epoxy (See page 1993,1996) |
| **Heavy moisture, chemical, and abrasion resistance; minimal surface preparation. Second coat optional for maximum performance.** | 9100 System High Performance Epoxy (See page 1993,1996) | 9100 System High Performance Epoxy (See page 1993,1996) |
| **FOR WATER IMMERSION-STEEL/CONCRETE** | | |
| **2-coats required for application at air and surface temperatures above 60°F (15°C). Not for use in potable water tanks. (7 day cure required)** | 9100 System High Performance Epoxy (Use Immersion Activator) (See page 1993,1996) | 9100 System High Performance Epoxy (Use Immersion Activator) (See page 1993,1996) |
| **Recommended for use in sewage treatment facilities, not for use in potable water tanks.** | No. 7A522 Coal Tar Epoxy (See page 1993,1994) | No. 7A522 Coal Tar Epoxy (See page 1993,1994) |



*Spray it, stack it, stamp it and more with these hard-working products.*

# RUST-OLEUM® SYSTEM SELECTOR GUIDE



| Key Features | Finish | Primer |
|---|---|---|
| **HIGH TEMPERATURE ENVIRONMENTS** | | |
| **Characterized By: Continuous or intermittent temperatures of over 300°F on any metal surface. Surfaces include: Boilers, steam lines, exhaust stacks, heaters, ovens, driers, retorts, and cookers. Must be heat cured.** | | |
| **Withstands temperatures of 500°F (260°C) to 1200°F (649°C). Must use 2 coats of No. 5H944 as both primer and finish on an abrasive blasted SP-10 surface.** | No. 5H944 High Heat Aluminum (See page 2002) | No. 5H944 High Heat Aluminum (See page 2002) |
| **Withstands temperatures up to 350°F (177°C) on indoor or outdoor exposures.** | No. 5A265 Aluminum or No. 6A926 Heavy-Duty Aluminum (See page 1989) | No. 5H928 Red Primer 5A270 (See pages 1989 and 1990) |
| **Withstands temperatures of 300°F (149°C) to 800°F (427°C) on indoor or outdoor exposures. Maximum corrosion resistance. Must use 2 coats of No. 5H942 as both primer and finish on an abrasive blasted SP-6 surface. Do not topcoat with any other products.** | No. 5H942 Gray Zinc Sele® (See page 2002) | No. 5H942 Gray Zinc Sele® (See page 2002) |
| **Withstands temperatures of 300°F (149°C) to 800°F (427°C) in indoor or sheltered outdoor exposures.** | 4200 System Heat-Resistant (See page 2002) | No. 5H940 Red Primer (See page 2002) |
| **FLOORS** | | |
| **Concrete floors subjected to lightweight, rubber-tired vehicle and foot traffic as well as moisture and chemical spillage. Surfaces include: factory floors, processing areas and warehouse floors.** | | |
| **For moderate duty and occasional light-weight, intermittent moisture, and mild chemical spillage, occasional steam, water or chemical cleaning. Low-odor, water-thinning, and clean up.** | 6000 System Water-based Epoxy (See page 1997) | 6000 System Water-based Epoxy (See page 1997) |
| **For foot and light-weight, rubber-tired vehicle traffic, frequent water, or chemical cleaning.** | 9100 High Performance Eoxy (See pages 1993,1996) | 9100 High Performance Eoxy (See page 1993,1996) |
| **For floors that may have a tendency to outgas.** | 6500 100% Solids Epoxy (See page 1997) | 6010 Clear Water-based Epoxy (See page 1997) |
| **For heavy foot, and heay weight, rubber-tired vehicle traffic, constant moisture and frequent chemical spillage. Low-odor.** | 6500 100% Solids Epoxy (See page 1997) | 6500 100% Solids Epoxy (See page 1997) |
| **Anti-slip floor coatings for areas where safety is a concern. Various profile levels available.** | AS5400, AS6000, AS6500 AS9100 Systems Anti-Slip Epoxy Floor Coatings (See pages 1998 and 1999) | 9100 High Performance Epoxy over metal floors only (See pages 1993,1996) |
| **ROOFS** | | |
| **Rusted Metal -- Direct to sound rusted metal. Premium leafing aluminum. Provides reflectivity for heat loss.** | 3915 DTM Fibered Aluminum (See page 2001) | None Required |
| **Clean Metal/Concrete & Masonry -- Tough durable protection. Water-based. High-build. Provides reflectivity for heat loss.** | 3990 High Build Acrylic Elastomeric (See page 2001) | No. 5200 Water-Based Acrylic Primer rusted areas only (See page 1992) |
| **Built-Up -- Provides waterproofing and weatherproofing maintenance. 3972 water-Based has zero VOC.** | 3971 Fibered Asphaltic (See page 2000) 3972 Fibered Asphaltic (See page 2000) | 3970 Asphaltic Primer (See page 2000) |
| **ASPHALT-INDOORS AND OUTDOORS** | | |
| **Direct to metal (DTM), fast dry, good gloss and color retention, soap and water clean-up. Low odor.** | 3100 Speedy-Dry DTM Water-based Acrylics (See page 1992) | Not Applicable |
| **Good gloss retention indoors and out; low odor, water-thinning and clean-up, low risk of flammability.** | 5200 System High Performance Water-Based Acrylics (See page 1992) | No. 5H925 Red Primer (See page 1992) |
| **Fast dry. Adheres to concrete, blacktop and grass. Weather and abrasion resistance for durability.** | 2300 System Labor Saver Marking and Striping Paint (See page 2003) | Not Applicable |
| **VEHICLES** | | |
| **Protects against weathering, road salt, and grime on semi-trailers and cabs, fork lifts, fleet vehicles, and delivery trucks** | | |
| **Quick-drying system minimizes equipment down time.** | 1500 System Speedy Dry Oil-Based Enamels (See page 1991) | No. 5H968 Yellow Primer (See page 1991) |
| **Best long-term gloss retention and resistance to chipping and corrosion. Use 9700 for VOC compliance at 340 g/l.** | 9400 Polyurethane (See page 1995) 9700 Polyurethane (See page 1992,1996) | No. 1F766 Red Primer (See page 1992,1996) No. 1D460 Gray Primer (See page 1992) |
| **Extremely fast drying. Good color and gloss retention. Low odor, water thinning, non flammable.** | 3100 Speedy Dry DTM Water-Based Acrylic (See page 1992) | No. 1D460 Gray Primer (See page 1992) |

# VOC REGULATIONS AND ICON DESCRIPTIONS

Several Federal, State and Local regulatory authorities have enacted regulations to reduce volatile organic compound(VOC) emissions from various commercial and consumer products. These products include architectural and industrial maintenance (AIM) coatings, aerosol spray paint, and general purpose cleaners.

Architectural coatings are those formulated and recommended for field application to stationary structures and accessories to those structures, to portable buildings, to pavements or to curbs. Included in the category of architectural coatings are typically several subgroups; Industrial Maintenance Coatings, Roof Coatings, High Temperature Coatings and Metallic Pigmented Coatings. Each of the subgroups has an applicable VOC limit.

Spray Paint is not an Architectural Coating. Spray Paint that is packaged in a pressurized disposable can is for hand-held application or for use in specialized equipment for ground traffic/marking applications. Within the Spray Paint category, each subcategory (Non-flat paint products, Clear coatings, Primers, Fluorescent coating, etc.) has an applicable VOC limit.

Similarly, general purpose cleaners, those recommended for all-purpose cleaning, have VOC limits.

The State, Local and (proposed) Federal rules differ in their categories, definitions and limits. The following restrictions apply to sales of Rust-Oleum® AIM Coatings, spray paint, and general purpose cleaners.

## ARCHITECTURAL AND INDUSTRIAL MAINTENANCE (AIM) - VOC REGULATIONS

1. Not for sale in Maricopa County, AZ. (Rule 335)
2. Not for sale in Jefferson County, KY. (Regulation 1.16)
3. Not for sale in Massachusetts. (310 CMR 7.25 (11))
4. Not for sale in New Jersey. (NJAC 7:27-23)
5. Not for sale in Bronx, Kings, Nassau, Queens, Richmond, Rockland, Suffolk, Westchester Counties and New York City. (Part 205)
6. Not for sale in portions of Clackamas, Multnomah and Washington Counties, OR. (OAR 340-22-1000)
7. Not for sale in Brazoria, El Paso, Galveston, Harris, Jefferson, Orange, Chambers, Collin, Denton, Fort Bend, Hardin, Liberty, Montgomery, Waller, Dallas and Tarrant Counties, TX. (31 TAC 115)
8. Not for sale in Southwest Clark County, WA. (SWAPCA 493-300)
9. Not for sale in San Joaquin, Stanislaus, Madera, Fresno, Tulare, Kings, Kern, Imperial, Sacramento and Santa Barbara Counties, CA.
10. Not for sale in Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma, Los Angeles, Orange, San Bernardino, Riverside and Ventura Counties, CA.

### NATIONAL AIM RULE

A rule covering AIM coatings throughout the United States, including the District of Columbia, the Commonwealth of Puerto Rico, the Virgin islands, Guam, American Samoa and the Commonwealth of the Northern Mariana islands is expected to become effective September 11, 1999. Products manufactured before the date will be "grandfathered," meaning they can be used and sold after the rule goes into effect. Note that the national AIM rule does not replace more stringent state and local rules-they remain in effect for regulated areas.

AEROSOL - VOC REGULATIONS

A. Not for sale in portions of Clackamas, Multnomah and Washington Counties, OR. (OAR 340-22-900)

B. Not for sale in southwest Clark County, WA. (SWAPCA 493-200)

C. Not for sale in California. (HSC 94520-28)

OTHER - REGULATIONS

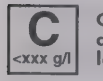
† Not for sale in Minnesota. Contains zinc chromate.

+ Not for sale in California, New York, New Jersey, Massachusetts. Subject to General Purpose Cleaner VOC Rule.

❹ All products (except where noted) can be used in USDA regulated facilities based on FSIS Directive 11,000.4 (November 24, 1995). Users should verify that the color is acceptable to the local USDA inspector before using any coating.

‡ Not subject to regulation in noted areas.

NOTE: Use of thinner may affect VOC compliance in some areas. Check product labeling.




Compliant with VOC regulations for architectural and/or industrial maintenance coatings. VOC level is stated.

## APPLICATION ICONS

Throughout the Paint & Painting Supplies section of this catalog you will see icons like those listed below. They are designed to guide you as to how to best apply the product the icons are associated with, or to further inform you of the products special requirements.



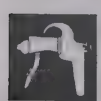
Apply product using either a brush or roller.



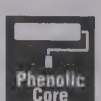
Apply product using a squeegee.




Use of a mechanical mixer is required with this product.



Apply product using a spray gun.




Apply product using a phenolic core roller.




Two-component system. Product must be mixed with an activator for it to work properly.

# INDUSTRIAL OIL-BASED ENAMELS MILD TO MODERATE ENVIRONMENT

## INDUSTRIAL ENAMELS

RUST-OLEUM.

One-Gallon Cans

**OIL BASED FINISHES:**

- Use on steel and wood surfaces
- Lasting protection against corrosion
- Exhibits superior color and gloss retention
- Tough, flexible film resists abrasion, chipping and peeling
- Withstands mild chemicals

**OIL BASED PRIMERS Nos. 5A270 & 5H928 Environment: Mild**

- General Purpose zinc chromate for use on new, lightly rusted, abrasive blasted, or previously painted steel
- Use No. 5A270 Yellow under light-colored topcoats
- Use No 5H928 Red under dark-colored topcoats

**Nos. 6H500 & 6H499 Environment:Moderate/Severe Coastal**

- Heavy-duty for use on new, clean, heavily rusted, previously painted, or abrasive blasted steel
- Apply where a thicker film build is needed (up to 3 mils per coat). Can apply directly to sound rust

**No. 5A260 Environment: Moderate**

- Use on dry or slightly damp sound rusted surfaces
- Penetrates rust to base metal and drives out air/moisture
- Can be exposed up to one year without topcoating

**Nos. 5H888 & 6A931 Environment: Moderate**

- Use on clean metal, sound rust, slightly rusted or previously painted steel
- Can be exposed to general weathering for up to 6 months without topcoating

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes | Primers |
|---|---|---|
| Practical Sq. Ft.: | 350-725 | 250-725 |
| Tack Free Hours: | 2-4 | ¼-6 |
| Handle Hours: | 4-7 | ½-12 |
| Recoat Hours: | 24 | 24-48 |




No. 6H024

**IMPORTANT! VOC regulations apply to this system in areas 1, 2 ,3, 4, 5, 6, 7, 8, 9, 10** **See page 1983.**

| Primer Description | Rust-Oleum Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| General Purpose Flat Yellow | 0960 | 5A270 | $36.37 | $29.15 | 12.0 |
| General Purpose Red | X-60 | 5H928 | 36.37 | 29.15 | 13.0 |
| Heavy-Duty Red‡ (1-8, 10) | 1069 | 6H500 | 46.10 | 36.90 | 7.5 |
| Heavy-Duty Gray ‡ (1-8,10) | 1060 | 6H499 | 46.45 | 37.25 | 7.5 |
| Damp-Proof Red‡ (1-8, 10) | 769® | 5A260 | 35.63 | 28.55 | 12.0 |
| Quick Dry-Red | 0678 | 5H888 | 36.37 | 29.15 | 12.0 |
| Quick Dry-Gray | 7086 | 6A931 | 36.37 | 29.15 | 11.0 |

| Finish Description | Rust-Oleum Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Thinner (Spray Applications)‡ | 0641 | 5A261 | $24.50 | $19.60 | 8.3 |
| Thinner (Brush Applications)‡ | 0633 | 5H887 | 24.50 | 19.60 | 7.8 |
| Yellow | 7446 | 6H376 | 47.05 | 37.70 | 5.5 |
| Yellow (Old Caterpillar) | 7448 | 6H385 | 46.20 | 37.00 | 8.9 |
| Yellow (New Caterpillar) | 7447 | 5H932 | 41.29 | 33.10 | 9.5 |
| Dunes Tan | 0865 | 5A274 | 37.63 | 30.10 | 9.5 |
| Chestnut Brown | 0977 | 6A390 | 37.15 | 29.75 | 9.0 |
| Green (John Deere) | 7434 | 6A392 | 43.50 | 34.85 | 9.8 |
| Vista Green | 0935 | 6A389 | 41.29 | 33.10 | 9.5 |
| Forest Green | 1282 | 5A272 | 40.12 | 32.10 | 9.5 |
| Marlin Blue | 0866 | 6A387 | 39.76 | 31.85 | 10.0 |
| National Blue | 0721 | 6A928 | 39.35 | 31.50 | 9.0 |
| International Orange | 0559 | 6H382 | 51.72 | 41.45 | 8.8 |
| Fire Hydrant Red | 1210 | 5A273 | 43.50 | 34.85 | 8.7 |
| Tile Red | 0745 | 6H023 | 38.24 | 30.65 | 9.4 |
| Light Neutral Gray | 7286 | 6H028 | 40.86 | 32.75 | 11.0 |
| Silver Gray | 0906 | 5A267 | 38.63 | 30.95 | 9.3 |
| Navy Gray | 0975 | 5A266 | 38.63 | 30.95 | 9.5 |
| Machine Tool Gray | 0904 | 6A388 | 38.63 | 30.95 | 9.0 |
| Flat Black‡ (1-8, 10) | 0412 | 6A386 | 33.79 | 27.05 | 12.0 |
| High Gloss Black | 0634 | 5A264 | 36.37 | 29.15 | 9.1 |
| Flat White‡ (1-8, 10) | 2764 | 5H890 | 41.29 | 33.10 | 13.0 |
| Semi-Gloss White | 7290 | 5H931 | 40.86 | 32.75 | 12.0 |
| High Gloss White | 2766 | 5A262 | 42.75 | 34.25 | 10.0 |
| Aluminum | 0470 | 5A265 | 38.63 | 30.95 | 9.0 |
| Heavy-Duty Aluminum‡ (1-6, 8-10) | 0473 | 6A926 | 46.10 | 36.90 | 9.0 |
| Blue Aluminum‡ (1-6, 8-10) | 1020 | 6H026 | 42.75 | 34.25 | 8.5 |
| Green Aluminum‡ (1-6, 8-10) | 1030 | 5H929 | 42.75 | 34.25 | 9.3 |
| Safety Blue | 0925 | 5A268 | 46.45 | 37.25 | 9.1 |
| Safety Green | 0933 | 6A929 | 44.95 | 36.00 | 9.5 |
| Safety Yellow | 0944 | 6H383 | 52.05 | 41.70 | 8.9 |
| Safety Orange | 0956 | 6H384 | 53.73 | 43.05 | 8.7 |
| Safety Red | 0964 | 5A271 | 53.56 | 42.90 | 8.8 |

## 8400 SYSTEM FOOD/BEVERAGE ENAMELS

RUST-OLEUM.

One-Gallon Cans

**FINISHES:**

- Oil-based primers and finish containing fungicide additive
- Use in food/beverage plants and areas of high humidity or frequent cleaning
- Apply to steel, wood, masonry, concrete, ceilings, walls, structural steel, tanks, and equipment
- Use No. 6A396 as topcoat over properly primed steel or wood. Can apply at temperatures as low as 18°F (-8°C)

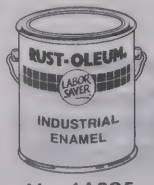
**PRIMERS:**

**No. 6A395 White Primer**

- Apply to clean, bare, or sanblasted metal, wood, wallboard

**No. 6A394 Red Primer**

- Apply to clean metal or directly to sound rusted metal




No. 6A395

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes | Primers |
|---|---|---|
| Recoat Hours: | 24 | 2-4 |
| Tack Free Hours: | 2-4 | 2-4 |
| Handle Hours: | 4-7 | 4-6 |
| Practical Sq. Ft.: | 270-550 | 300-625 |

**IMPORTANT! VOC regulations apply to this product in areas 2, 3, 4, 5, 7, 9, 10.** **See page 1988**

| Description | Rust-Oleum Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Clean Metal Primer-White‡ (1-8,10) | 8492 | 6A395 | $52.40 | $41.95 | 12.0 |
| Rusted Metal Primer-Red‡ (1-8,10) | 8469 | 6A394 | 47.55 | 38.10 | 12.0 |
| Dairy White | 8494 | 6A396 | 44.95 | 36.00 | 11.0 |

# INDUSTRIAL LOW VOC OIL BASED ENAMELS MILD TO MODERATE ENVIRONMENT

## 3400 SYSTEM LOW VOC ENAMELS

RUST-OLEUM®

C <340 g/l

One-Gallon Cans

Finishes:

- Oil-based primers and finishes at VOC of <340 g/l
- Low VOC version of Industrial Enamels
- Protection of steel and wood against corrosion and weathering
- Resists mild chemical fumes and light abrasion
- Higher solids means greater coverage per can
- Can thin finishes up to 10%, primers up to 5%, without exceeding 340 g/l
- 333 Thinner (does not affect VOC)

NOTE: Nos. 1F736 and 1F726 primers should NOT be used on galvanized metal. Use water-based 5200 System Primers under 3400 System topcoats for galvanized metal applications.

| DRY TIME AND COVERAGE (APPROX.) | Finishes | Primers |
|---|---|---|
| Tack Free Hours: | 4-6 | 4-6 |
| Handle Hours: | 6-12 | 8-12 |
| Recoat Hours: | 24 | 24-28 |
| Practical Sq. Ft.: | 450-875 | 350-550 |




3400 System Low VOC Enamel
No. 1F762

| Description | Rust-Oleum Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Red Primer | 3469 | 1F736 | $39.25 | $31.40 | 13.0 |
| Gray Primer | 3481 | 1F726 | 39.25 | 31.40 | 14.0 |
| Thinner ‡ | 0333 | 3JR74 | 20.25 | 16.20 | 5.5 |
| Aluminum | 3415 | 1F762 | 50.15 | 40.15 | 9.0 |
| Marlin Blue | 3423 | 1F760 | 46.15 | 36.95 | 10.0 |
| Safety Blue | 3425 | 1F758 | 50.15 | 40.15 | 9.0 |
| National Blue | 3427 | 1F756 | 46.15 | 36.95 | 9.0 |
| Safety Green | 3433 | 1F754 | 50.15 | 40.15 | 9.5 |
| Forest Green | 3438 | 1F752 | 46.15 | 36.95 | 9.5 |
| Safety Yellow | 3444 | 1F750 | 50.15 | 40.15 | 9.5 |
| Equipment Yellow | 3445 | 1F748 | 50.15 | 40.15 | 9.5 |
| Yellow | 3446 | 1F746 | 46.15 | 36.95 | 9.5 |
| Safety Orange | 3455 | 1F744 | 50.15 | 40.15 | 9.0 |
| Equipment Orange | 3456 | 1F742 | 61.15 | 49.00 | 9.5 |
| Safety Red | 3464 | 1F740 | 50.15 | 40.15 | 9.0 |
| Regal Red | 3465 | 1F738 | 50.15 | 40.15 | 9.0 |
| Dunes Tan | 3471 | 1F734 | 46.15 | 36.95 | 9.5 |
| Chestnut Brown | 3477 | 1F732 | 46.15 | 36.95 | 9.0 |
| Flat Black | 3478 | 1F730 | 46.15 | 36.95 | 14.0 |
| Gloss Black | 3479 | 1F728 | 46.15 | 36.95 | 9.0 |
| Silver Gray | 3482 | 1F724 | 46.15 | 36.95 | 9.5 |
| Navy Gray | 3486 | 1F722 | 46.15 | 36.95 | 9.0 |
| Gloss White | 3492 | 1F720 | 50.15 | 40.15 | 11.0 |

## 7600 SYSTEM LOW VOC ENAMELS

RUST-OLEUM®

C <420 g/l

One-Gallon Cans
Finishes:

- Oil-based primers and finishes at Low VOC of <420 g/l
- Low VOC version of Industrial Enamels
- Superior protection of steel and wood against corrosion and weathering
- Same long-lasting protection and beauty as Industrial Enamels
- Resists mild chemical fumes and light abrasion
- Higher solids means greater coverage per can
- 333 Thinner (does not affect VOC)

IMPORTANT! VOC regulations apply to this system in area 9. See page 1988.

| DRY TIME AND COVERAGE (APPROX.) | Finishes | Primers |
|---|---|---|
| Tack Free Hours: | 4-6 | 3-5 |
| Handle Hours: | 12-16 | 6-8 |
| Recoat Hours: | 24 | 24-48 |
| Practical Sq. Ft.: | 320-650 | 325-725 |




7600 System Low VOC Enamel
No. 6A398

| Description | Rust-Oleum Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Clean Metal Yellow Primer | 7673 | 6A951 | $36.37 | $29.15 | 11.0 |
| Red Primer | 7669 | 6A401 | 33.86 | 27.10 | 12.0 |
| Damp-Proof Red Primer | 769® | 5A260 | 35.63 | 28.55 | 12.0 |
| Heavy-Duty Red Primer | 1069 | 6H500 | 46.10 | 36.90 | 7.5 |
| Thinner (Spray applications)‡ (All) | 0641 | 5A261 | 24.50 | 19.60 | 8.3 |
| Thinner (Brush applications)‡ (All) | 0633 | 5H887 | 24.50 | 19.60 | 7.8 |
| Thinner‡ (All) | 0333 | 3JR74 | 20.25 | 16.20 | 5.5 |
| Equipment Yellow | 7645 | 6A399 | 43.99 | 35.20 | 8.8 |
| Yellow (Old Caterpillar) | 7648 | 6H388 | 41.93 | 33.60 | 9.1 |
| Dunes Tan | 7671 | 6A950 | 37.37 | 29.95 | 9.0 |
| Chestnut Brown | 7677 | 6A402 | 37.37 | 29.95 | 9.0 |
| Forest Green | 7638 | 6A944 | 39.27 | 31.45 | 8.7 |
| Marlin Blue | 7623 | 6A397 | 38.63 | 30.95 | 9.5 |
| National Blue | 7627 | 6A941 | 40.86 | 32.70 | 8.4 |
| Safety Orange | 7655 | 6H389 | 49.38 | 39.55 | 8.8 |
| Equipment Orange | 7656 | 6A400 | 61.00 | 48.85 | 9.0 |
| Regal Red | 7665 | 6A949 | 43.05 | 34.50 | 8.0 |
| Silver Gray | 7682 | 6A953 | 42.43 | 33.95 | 9.0 |
| Navy Gray | 7686 | 6A954 | 39.57 | 31.70 | 8.7 |
| Black | 7679 | 6A952 | 37.08 | 29.75 | 8.0 |
| White | 7692 | 6A955 | 45.25 | 36.25 | 10.0 |
| Safety Blue | 7625 | 6A942 | 42.43 | 33.95 | 8.5 |
| Safety Green | 7633 | 6A943 | 42.08 | 33.70 | 10.0 |
| Safety Yellow | 7644 | 6H387 | 47.24 | 37.85 | 9.2 |
| Safety Red | 7664 | 6A948 | 55.90 | 44.75 | 9.8 |

**Please see back of label for complete product information and application instructions.**

❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.

(‡) Exception: This specific stock number is compliant or exempt in areas noted.

For color representations of coating systems listed on this page, please see the Rust-Oleum Color Selection Guide.

# INDUSTRIAL OIL-BASED ENAMELS AND PRIMERS MILD TO MODERATE ENVIRONMENT

## 1500 SYSTEM SPEEDY DRY ENAMELS

RUST-OLEUM

One-Gallon Cans

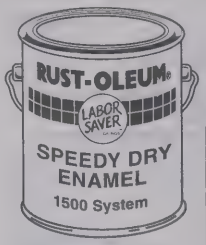
FINISHES:

- Fast-drying, use on steel and wood
- Use in maintenance, product finishing and color coding applications
- Smooth, high-gloss finish resists fading, dulling, cracking chipping and peeling
- Two-coat primer/topcoat system can be applied in typical 8-hour work day
- Reduces application time and down times

No. 5H968 RUST-INHIBITIVE PRIMER.

- Protects clean, abrasive-blasted, or slightly rusted metal from corrosion
- Excellent fast-drying shopcoat primer.

IMPORTANT! VOC regulations apply to this system in areas 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. See page 1988.




No. 5H965

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes | Primers |
|---|---|---|
| Tack Free Hours: | 1-2 | 1/4-1/3 |
| Handle Hours: | 2-4 | 2-4 |
| Recoat Hours: | N/A | 1-24 |
| Practical Sq. Ft.: | 225-500 | 225-375 |

| Description | Rust-Oleum Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Yellow Primer | 1573 | 5H968 | $44.62 | $35.75 | 11.0 |
| Thinner‡ | 0150 | 5H962 | 27.53 | 22.03 | 8.1 |
| New Caterpillar Yellow | 1547 | 5H965 | 51.62 | 41.35 | 10.0 |
| International Red | 1565 | 5H967 | 54.39 | 43.55 | 9.3 |
| Silver Gray | 1584 | 5H970 | 48.30 | 38.70 | 10.0 |
| Navy Gray | 1586 | 5H971 | 48.30 | 38.70 | 10.0 |
| Jet Black | 1579 | 5H969 | 45.55 | 36.50 | 9.0 |
| Chrome | 1510 | 5H963 | 48.30 | 38.70 | 9.0 |
| White | 1590 | 5H972 | 53.42 | 42.80 | 12.0 |
| Safety Yellow | 1545 | 6H390 | 61.94 | 49.60 | 9.3 |

## RUST-INHIBITIVE PRIMER

RUST-OLEUM

C <420 g/l

One-Gallon Cans

- Fast drying, high solids yellow primer (HS1573)
- Protects clean or slightly rusted metal
- Excellent shopcoat primer
- May be thinned with No. 3JR74

No. ❸ 6H045. Shpg. wt. 14.0 lbs. List $63.49. Each..... $50.80




No. 6H045

IMPORTANT! VOC regulations apply to this system in area 9. See page 1988.

**DRY TIME AND COVERAGE (APPROX.)**

| | Primers |
|---|---|
| Tack Free Hours: | 1/3-1/2 |
| Handle Hours: | 4-5 |
| Recoat Hours: | 1/2-1 |
| Practical Sq. Ft.: | 275-475 |

## QUICK DRY ENAMEL PRIMERS

RUST-OLEUM

C <340 g/l

One-Gallon Cans

- High solids, fast-drying primers for use with 3400, 9700, 3100, 9800 System finish coats
- Use for general maintenance, transportation and shop coat applications

| Description | Rust-Oleum Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Thinner‡ | 0333 | 3JR74 | $20.25 | $16.20 | 5.5 |
| Light Gray | 2082 | 1BW42 | 50.32 | 40.35 | 14.0 |
| Red | 2068 | 1F766 | 50.32 | 40.35 | 15.0 |




No. 1BW42

**DRY TIME AND COVERAGE (APPROX.)**

| | Primers |
|---|---|
| Tack Free Hours: | 1/2-1 |
| Handle Hours: | 1-2 |
| Recoat Hours: | 1 |
| Practical Sq. Ft.: | 325-550 |

**Please see back of label for complete product information and application instructions.**

❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.

For color representations of coating systems listed on this page, please see the Rust-Oleum Color Selection Guide.

# HIGH-PERFORMANCE WATER-BASED ACRYLICS MILD TO MODERATE ENVIRONMENT

## 5200 SYSTEM WATER-BASED ACRYLIC

RUST-OLEUM®

C <250 g/l

One-Gallon Cans

FINISHES:

- May apply to primed galvanized steel
- Apply to most previous coatings without lifting; apply to sound rusted metal without sandblasting
- Ideal for food plants, offices, schools, hospitals, restaurants
- Low odor/low risk flammability
- May thin with water

PRIMERS:

- Use on new or previously painted wood, concrete, masonry, plaster, steel, aluminum and galvanized metal




No. 3UR05

| DRY TIME AND COVERAGE (APPROX.) | Finishes | Primers |
|---|---|---|
| Tack Free Hours: | 1-2 | 1-2 |
| Handle Hours: | 2-4 | 2-4 |
| Recoat Hours: | 1-3 | 1-3 |
| Practical Sq. Ft.: | 185-350 | 250-350 |

| Description | Rust-Oleum Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Gray Primer | 5281 | 5H893 | $41.89 | $33.60 | 11.0 |
| Red Primer | 5269 | 5H925 | 41.89 | 33.60 | 11.0 |
| Green (John Deere) | 5234 | 3UR05 | 47.10 | 37.75 | 10.0 |
| Vista Green | 5235 | 3UR07 | 47.10 | 37.75 | 10.0 |
| Yellow (New Caterpillar) | 5247 | 3UR09 | 48.42 | 38.80 | 10.0 |
| Tile Red | 5268 | 3UR11 | 44.84 | 35.95 | 10.0 |
| Dunes Tan | 5271 | 5H926 | 41.89 | 33.60 | 11.0 |
| Semi-Gloss Black | 5274 | 3UR13 | 41.73 | 33.45 | 10.0 |
| Semi-Gloss Bronzetone | 5275 | 3UR15 | 41.89 | 33.60 | 10.0 |
| Chestnut Brown | 5277 | 5H927 | 41.89 | 33.60 | 11.0 |
| Forest Green | 5237 | 5H921 | 44.84 | 35.95 | 11.0 |
| Marlin Blue | 5222 | 5H918 | 41.89 | 33.60 | 11.0 |
| National Blue | 5227 | 6H029 | 47.10 | 37.75 | 10.0 |
| International Orange | 5256 | 5H923 | 47.10 | 37.75 | 10.0 |
| Fire Hydrant Red | 5265 | 5H924 | 52.62 | 42.15 | 11.0 |
| Silver Gray | 5282 | 6H034 | 41.89 | 33.60 | 9.8 |
| Navy Gray | 5286 | 5H894 | 41.89 | 33.60 | 10.0 |
| Machine Tool Gray | 5288 | 3UR17 | 41.89 | 33.60 | 10.0 |
| Aluminum | 5215 | 2FP52 | 63.45 | 50.80 | 10.0 |
| Gloss Black | 5279 | 5H892 | 41.89 | 33.60 | 9.5 |
| Flat Black | 5278 | 6H033 | 41.89 | 33.60 | 11.0 |
| Gloss White | 5292 | 5H895 | 44.84 | 35.95 | 11.0 |
| Semi-Gloss White | 5293 | 3UR19 | 44.84 | 35.95 | 10.0 |
| Flat White | 5290 | 6H035 | 44.84 | 35.95 | 12.0 |
| Safety Blue | 5225 | 5H919 | 41.89 | 33.60 | 11.0 |
| Safety Green | 5233 | 5H920 | 47.10 | 37.75 | 11.0 |
| Safety Yellow | 5244 | 5H922 | 48.42 | 38.80 | 11.0 |
| Safety Orange | 5255 | 6H031 | 63.45 | 50.80 | 9.4 |
| Safety Red | 5264 | 6H032 | 56.70 | 45.40 | 9.9 |

## 3100 SPEEDY DRY DIRECT TO METAL WATER-BASED ACRYLIC

RUST-OLEUM®

C <250 g/l

One-Gallon Cans

FINISHES:

- Use on steel, aluminum, galvanized, metal, or previously coated and primed surfaces
- Ideal for equipment, machinery and other areas where minimal downtime is required
- Fast-drying
- Can be applied directly to properly prepared metal
- Dries up to 50% faster than conventional fast-dry oil-based enamels
- High gloss protection
- Use No. 1D460 primer under lighter color finish coats for greater hiding
- Thin with water




No. 1D464

| DRY TIME AND COVERAGE (APPROX.) | Finishes | Primers |
|---|---|---|
| Tack Free Hours: | ¼-1 | ⅜-1 |
| Handle Hours: | 1-11/2 | 1-11/2 |
| Recoat Hours: | 11/2-2 | 1-11/2 |
| Practical Sq. Ft.: | 200-350 | 225-375 |

| Description | Rust-Oleum Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Red Primer | 3169 | 1D462 | $40.63 | $32.55 | 12.0 |
| Gray Primer | 3181 | 1D460 | 40.63 | 32.55 | 13.0 |
| Yellow (New Caterpillar) | 3147 | 1D464 | 44.96 | 36.00 | 11.0 |
| Red | 3165 | 1D463 | 44.96 | 36.00 | 10.0 |
| Navy Gray | 3186 | 1D459 | 44.50 | 35.65 | 10.0 |
| Aluminum | 3115 | 2FP50 | 51.68 | 41.40 | 10.0 |
| Dunes Tan | 3171 | 3UP90 | 42.71 | 34.20 | 11.0 |
| Black | 3179 | 1D461 | 44.50 | 35.65 | 10.0 |
| White | 3192 | 1D458 | 44.50 | 35.65 | 12.0 |
| Safety Blue | 3125 | 1D467 | 44.96 | 36.00 | 12.0 |
| Safety Green | 3133 | 1D466 | 44.96 | 36.00 | 11.0 |
| Safety Yellow | 3144 | 1D465 | 44.96 | 36.00 | 11.0 |

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# INDUSTRIAL EPOXY COATINGS MODERATE TO SEVERE ENVIRONMENT

## 5300 SYSTEM WATER-BASED EPOXY

RUST-OLEUM

C <340 g/l | 2 Components

One-Gallon Cans — Environment: Moderate to Severe

**FINISHES:**

- Water-based epoxy primer and finish coat system
- Apply to clean or sound rusted steel, galvanized metal, aluminum, concrete or masonry
- Ideal for use in food and beverage plants, clean rooms, hospitals, and schools
- Fast drying; 2-coat system can be applied in 3 hours
- Low odor, low flammability



No. 7H584

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes | Primers |
|---|---|---|
| Tack Free Hours: | 1-2 | 1/2-1 |
| Handle Hours: | 3-6 | 2-5 |
| Recoat Hours: | 1-2 | 1-2 |
| Practical Sq. Ft.: | 200-350 | 200-350 |

**PRIMERS:**

- For best results, apply one coat of 7H580, followed by one coat of 7H581, then desired finish color

| Description | Rust-Oleum Model | Stock No. ❸ | Price includes activator List | Price includes activator Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Red Primer (activated) | 5369 | 7H580 | $65.14 | $52.05 | 13.5 |
| Gray Primer (activated) | 5381 | 7H581 | 69.39 | 55.50 | 12.2 |
| Yellow | 5343 | 7H584 | 90.13 | 72.00 | 11.3 |
| Safety Yellow | 5344 | 7A965 | 98.83 | 79.15 | 11.2 |
| Dunes Tan | 5371 | 7H586 | 75.53 | 60.40 | 11.3 |
| Marlin Blue | 5323 | 7H582 | 79.08 | 63.20 | 10.8 |
| Tile Red | 5368 | 7H585 | 75.53 | 60.40 | 11.2 |
| Silver Gray | 5382 | 7H587 | 74.82 | 59.80 | 11.3 |
| Black | 5379 | 7H588 | 73.00 | 58.40 | 11.3 |
| White | 5392 | 7H589 | 81.55 | 65.25 | 11.1 |

**IMPORTANT NOTE: 2-COMPONENT SYSTEM. One pint of activator (for finishes) or one quart (for primers) must be mixed with each short-filled gallon. Result is one full gallon (activated).**

## 9100 SYSTEM HIGH PERFORMANCE EPOXY

RUST-OLEUM

C <340 g/l | 2 Components

One-Gallon Cans — Environment: Moderate to Severe

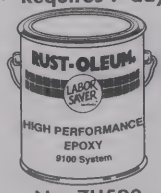
**IMPORTANT NOTE: 2-COMPONENT SYSTEM. One gallon of activator must be mixed with one gallon of finish. Result is two full gallons (activated).**

**FINISHES:**

- High solids, high build epoxy mastic coatings
- Apply directly to sound rusted or clean steel, galvanized metal, previously painted steel, or properly prepared concrete and masonry surfaces
- Self-priming; no additional primer needed
- Minimal surface preparation required
- Products available for standard, low temperature, or water immersion applications

**For Low Temperature Applications: (select low temperature kit below). For use when applying at temperatures between 40° and 60°F.**

- For Water Immersion Applications: (select water immersion application kit below)
- For service inside process water tanks, sewage treatment basins and water storage facilities
- NOT recommended for potable water tanks
- Use on abrasive blasted steel, concrete or masonry surfaces to be immersed in either fresh or salt water
- Apply only at temperatures between 60° and 100°F; 2-coat application required
- Requires 7 day cure



No. 7H590

**DRY TIME AND COVERAGE (APPROX.) FOR STANDARD APPLICATIONS**

| | Finishes |
|---|---|
| Tack Free Hours: | 6-8 |
| Handle Hours: | 6-12 |
| Recoat Hours: | 16-72 |
| Practical Sq. Ft./Gal.: | 125-225 |

| Description | Rust-Oleum Model | Standard Applications Stock No. ❸ | List | Each | Shpg. Wt. | Low Temperature Applications Stock No. ❸ | List | Each | Shpg. Wt. | Water Immersion Applications Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Immersion Thinner | 0165 | — | — | — | — | — | — | — | — | 6H076 | $29.02 | $23.22 | 8.0 |
| Thinner | 0160 | 6A934 | $26.69 | $21.35 | 8.4 | 6A934 | $26.69 | $21.35 | 8.4 | — | — | — | — |
| | | Price Below Includes 2 Full Gallons (Activated) | | | | Price Below Includes 2 Full Gallons (Activated) | | | | Price Below Includes 2 Full Gallons (Activated) | | | |
| Equipment Yellow | 9145 | 7H590 | 144.53 | 115.55 | 24.0 | 7H666 | 144.53 | 115.55 | 17.5 | 7H677 | 144.53 | 115.55 | 17.5 |
| Dunes Tan | 9171 | 7H593 | 139.92 | 111.85 | 25.0 | 7H669 | 139.92 | 111.85 | 18.5 | 7H680 | 139.92 | 111.85 | 18.5 |
| Marlin Blue | 9122 | 7H956 | 144.53 | 115.55 | 24.0 | 7H957 | 144.53 | 115.55 | 17.5 | 7H958 | 144.53 | 115.55 | 17.5 |
| Regal Red | 9165 | 7H591 | 144.53 | 115.55 | 24.0 | 7H667 | 144.53 | 115.55 | 17.5 | 7H678 | 144.53 | 115.55 | 17.5 |
| Tile Red | 9168 | 7H592 | 137.44 | 109.85 | 26.0 | 7H668 | 137.44 | 109.85 | 19.5 | 7H679 | 137.44 | 109.85 | 19.5 |
| Silver Gray | 9182 | 7A361 | 144.53 | 115.55 | 26.0 | 7A363 | 144.53 | 115.55 | 19.5 | 7A362 | 144.53 | 115.55 | 19.5 |
| Navy Gray | 9186 | 7H594 | 137.44 | 109.85 | 25.0 | 7H670 | 137.44 | 109.85 | 18.5 | 7H681 | 137.44 | 109.85 | 18.5 |
| Black | 9179 | 7H595 | 137.44 | 109.85 | 24.0 | 7H671 | 137.44 | 109.85 | 17.5 | 7H682 | 137.44 | 109.85 | 17.5 |
| White | 9192 | 7H596 | 142.40 | 113.75 | 26.0 | 7H672 | 142.40 | 113.75 | 19.5 | 7H683 | 142.40 | 113.75 | 19.5 |
| Aluminum | 9115 | 7H597 | 137.44 | 109.85 | 24.0 | 7H673 | 137.44 | 109.85 | 17.5 | 7H684 | 137.44 | 109.85 | 17.5 |
| Safety Blue | 9125 | 7H598 | 144.53 | 115.55 | 24.0 | 7H674 | 144.53 | 115.55 | 17.5 | 7H685 | 144.53 | 115.55 | 17.5 |
| Safety Yellow | 9144 | 7H600 | 155.60 | 124.40 | 25.0 | 7H676 | 155.60 | 124.40 | 18.5 | 7H687 | 155.60 | 124.40 | 18.5 |

**Please see back of label for complete product information and application instructions.**

❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.

# INDUSTRIAL EPOXY COATINGS

## 9300 HIGH SOLIDS EPOXY PRIMERS

RUST-OLEUM®

C <340g/l | 2 Component

One-Gallon Cans — Environment: Moderate to Severe

- Apply to sound rusted steel surfaces, previous coatings
- Use as a primer for 9100 System Epoxy Mastic, 9700 System Low VOC High Solids Polyurethane, and 9800 System DTM Urethane Mastic
- Offer extended recoat opportunities for up to 30 days
- High build, rust inhibitive primer
- Low VOC at <340 g/l
- With recommended topcoats, provides excellent protection against corrosion, chemical spills and fumes, heavy abrasion, and high moisture exposure

IMPORTANT NOTE: 2-COMPONENT SYSTEM. One-gallon of activator must be mixed with one-gallon of primer. Result is two full gallons (activated).




No. 6A934

**DRY TIME AND COVERAGE (APPROX.)**

| | |
|---|---|
| Tack Free Hours: | 4-6 |
| Handle Hours: | 10-13 |
| Recoat Hours | After 16 hrs., up to 30 days |
| Practical Sq. Ft./Gal.: | 187-312 |

| Description | Rust-Oleum Model | Stock No. | Price Includes Activator List | Price Includes Activator Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Thinner | 0160 | 6A934 | $26.69 | $21.35 | 8.4 |
| Red Primer (2 gals., activated) | 9360 | 7A983 | 101.63 | 91.40 | 12.8 |
| Buff Primer (2 gals., activated) | 9370 | 7A984 | 111.30 | 101.20 | 12.8 |

## 5800 SYSTEM HIGH PERFORMANCE LATEX INTERIOR PAINTS

RUST-OLEUM®

C <340 g/l | 2 Component

One-Gallon Can
Five-Gallon Pail — Environment: Interior only; mild to moderate

- Premium acrylic wall and ceiling paint
- Use on substrates such as cinder block, drywall, masonry, plaster, wood, or previously painted surfaces.
- Fast dry for minimum "down time"
- Easy to apply by brush, roller, or spray
- Easy clean-up with soap and water
- Superior gloss and color retention
- Stain resistant, washable finish
- Use in offices, hallways, locker rooms, warehouses and production areas
- Low Odor




**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes | Primers |
|---|---|---|
| Handle Hours | 2 | 2 |
| Recoat Hours: | 4 | 4 |
| Practical Sq. Ft.: | 225-255 | 190 |

No. 4MG52 — New

| Description | Gal. | R-O Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Flat White | 1 | 5893 | 4MG52 | $18.10 | $13.58 | 10.0 |
| Flat Off White | 1 | 5894 | 4MG54 | 18.10 | 13.58 | 11.0 |
| Low Lustre Semi-gloss White | 1 | 5993 | 4MG58 | 21.14 | 15.86 | 10.0 |
| Low Lustre Semi-gloss Off White | 1 | 5994 | 4MG60 | 21.14 | 15.86 | 11.0 |
| Primer/Sealer | 1 | 5995 | 4MG56 | 17.68 | 13.27 | 11.0 |
| Flat White | 5 | 5893 | 4MG51 | 90.48 | 67.90 | 51.0 |
| Flat Off White | 5 | 5894 | 4MG53 | 90.48 | 67.90 | 52.0 |
| Low Lustre Semi-gloss White | 5 | 5893 | 4MG57 | 105.73 | 79.30 | 52.0 |
| Low Lustre Semi-gloss Off White | 5 | 5894 | 4MG59 | 105.73 | 79.30 | 54.0 |
| Primer/Sealer | 5 | 5895 | 4MG55 | 88.41 | 66.35 | 52.0 |

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# RUST-OLEUM® COLOR SELECTION GUIDE



Rust-Oleum Coating Systems for industrial/commercial maintenance applications will protect machinery, equipment, structural steel, walls, ceilings and floors for indoor and outdoor usage. Coatings will protect against rust, heat, moisture wear, chemical attack, and other harsh environments.

## LABOR VS. MATERIAL COST

Coating material costs generally account for only 10-15% of total job cost. Labor costs, including surface preparation, application, and clean-up, account for 85-90%.

## LABOR SAVER™ COATING SYSTEMS

Save time, money, and worry. Easier to use than most comparable coatings. Long lasting durability reduces frequency of painting. Each system offers one or more of the following features:

- Minimal surface preparation
- Low risk of flammability
- Easy clean-up with soap and water
- Easy and convenient to apply with brush, roller, or spray
- Low odor and fumes, even in enclosed areas
- Apply over a variety of substrates
- Fast drying
- Apply in a wide range of temperatures



FOR A COMPLETE LISTING OF RUST-OLEUM COATING SYSTEMS AND COLORS AVAILABLE, PLEASE SEE PAGES 1984-1999.

# RECOMMENDED SURFACE PREPARATION

Correct surface preparation is necessary to achieve the desired performance of any coating system. For correct surface preparation for a given system, refer to the System Selector Guide listed on pages 1980-1982. For coating concrete floors, first assess the environment to which the floor will be exposed. The amount of abrasion, chemical abuse, and severity of chemical contact will determine which floor coating should be used. SP ratings based on Steel Structures Painting Council recommendations.

**NOTE: Chemical cleaning of surface must be employed before any mechanical surface preparation.**

## CHEMICAL CLEANING

### SP1 Chemical Cleaning

The surface must be rinsed thoroughly and completely dry before the application of coating. Use one or both of the following techniques:

Cleaner/Degreaser - For removal of grease, oil and dirt.

Steam Cleaning - For removal of grease, oil, salt, acid, alkali, and similar chemical residue from large areas.

## SCRAPING AND WIRE BRUSHING

### SP2 Hand Tool Cleaning; SP3 Power Tool Cleaning

Hand and Power Tools - For removal of loose rust, loose mill scale, and deteriorated coatings. Prior to scraping and wire brushing, remove grease, oil, salt, chemicals, dust, and other contaminants by Chemical Cleaning. Removal of heavy rust scale, light mill scale, or previous coatings over existing areas usually requires SSPC-SP6 Commercial Grade Blast Cleaning.

## ABRASIVE BLASTING

### SP5 White Metal Blast Cleaning

Complete removal of all mill scale, rust, rust scale, and previous coating by abrasive blasting.

### SP6 Commercial Grade Blast Cleaning

Removal of at least 66% of all rust scale, mill scale, and previous coatings from each square inch of surface area by abrasive blasting.

### SP7 Brush-Off Blast Cleaning

Removal of loose rust scale, loose mill scale, and loose coatings by abrasive blasting. (Leave only tightly bonded material.)

### SP10 Near White Blast Cleaning

Removal of at least 95% of all rust scale, mill scale, and previous coatings from each square inch of surface area by abrasive blasting.

## CONCRETE/MASONRY - SURFACE PREPARATION

New concrete should be allowed to cure for 30 days before application of any coating. If there is any doubt about the dryness of the concrete, conduct a test by simply placing a weighted rubber mat, plastic sheet, or other nonporous material on the surface for 24 hours. Check the underside of the mat and concrete for signs of moisture. The substrate will be darker if damp. If moisture is found, allow additional dry time (10-14 days) and repeat test. If moisture persists, concrete surface cannot be coated.

Remove oil, dirt, grease, and other chemical contaminants by cleaning with No. 5H885 Cleaner/Degreaser, detergent, or other suitable cleaner. Rinse with water. Etch concrete with No. 6A935 Cleaning and Etching Solution. Rinse thoroughly and allow to dry.

Very dense, nonporous or chemically treated concrete may require abrasive blasting or sanding to assure proper coating adhesion. Determine porosity by pouring one ounce of water onto the concrete. If water soaks in, the surface is porous enough for coating. If water beads up on the concrete, the surface is not porous and treatment is warranted. The presence of laitance (fine white particles) will also require abrasive blasting, sanding, or abrading to assure removal.

PAINT & PAINTING SUPPLIES

# RUST-OLEUM® COLOR SELECTION GUIDE



| SYSTEMS | PAGE | Gray | Silver Gray | Dove Gray | Smoke Gray | Navy Gray | Machine Tool Gray | Light Neutral Gray | Dunes Tan Brown | Chestnut | Green |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Industrial Enamel | 1989 | | 5A267 | | | 5A266 | 6A388 | 6H028 | 5A274 | 6A390 | 6A392 |
| 3400 Low VOC Industrial Enamel (<340g/l) | 1990 | | 1F724 | | | 1F722 | | | 1F734 | 1F732 | |
| 7600 Low VOC Industrial Enamel (<420g/l) | 1990 | | 6A953 | | | 6A954 | | | 6A950 | 6A402 | |
| 1500 Speedy Dry Enamel | 1991 | | 5H970 | | | 5H971 | | | | | |
| Hard Hat® Sprays | 2003/ 2004 | | 5H904 | 4CH76 | 4CH77 | 5H905 | | | 5H902 | 4TH67 | 4TH63 |
| 3100 Speedy Dry Water-Based Acrylic Enamel | 1992 | | | | | 1D459 | | | 3UP90 | | |
| 5200 High Performance Acrylic Enamel | 1992 | | 6H034 | | | 5H894 | 3UR17 | | 5H926 | 5H927 | 3UR05 |
| 5300 Water-Based Epoxy | 1993 | | 7H587 | | | | | | 7H586 | | |
| 9100 High Performance Epoxy | 1993 | | 7A361 | | | 7H594 | | | 7H593 | | |
| 9400 Rust-O-Thane® Polyurethane | 1995 | | 7H606 | | | | | | | | |
| 9700 High Solids Polyurethane | 1996 | | 7U006 | | | | | | | | |
| 9800 High-Build Urethane Mastic | 1996 | | 7A375 | | | 7A978 | | | 7A975 | | |
| 4200 & 4300 Heat Resistant | 2002 | 5H943 | | | | | | | | | |
| 6000 Moderate-Duty Water-Based Epoxy Floor | 1997 | | 7H620 | | | 7H621 | | | 7H618 | | |
| 6500 Heavy-Duty 100% Solids Epoxy Floor | 1997 | | 7H628 | | | 7H629 | | | 7H627 | | |
| 2300 Traffic Zone Striping (bulk) | 2003 | | | | | | | | | | |
| Anti-Slip Floor Coverings: | | | | | | | | | | | |
| AS5400 | 1999 | | 1F714† | | | 1F712† | | | 1F716† | | |
| AS6000 | 1998 | | 4CJ49† | | | 4CJ50† | | | 4CJ48† | | |
| AS9100 | 1999 | | 4CJ63† | | | 4CJ65† | | | 4CJ61† | | |



| SYSTEMS | PAGE | Black | Clear | White | Safety Blue | Safety Green | Safety Yellow | Safety Orange | Safety Red | Safety Purple |
|---|---|---|---|---|---|---|---|---|---|---|
| Industrial Enamel | 1989 | 6A386†, 5A264 | | 5H890.5A262 5H931 | 5A268 | 6A929 | 6H383 | 6H384 | 5A271 | |
| 3400 Low VOC Industrial Enamel (<340g/l) | 1990 | 1F730†, 1F728 | | 1F720 | 1F758 | 1F754 | 1F750 | 1F744 | 1F740 | |
| 7600 Low VOC Industrial Enamel (<420g/l) | 1990 | 6A952 | | 6A955 | 6A942 | 6A943 | 6H387 | 6H389 | 6A948 | |
| 1500 Speedy Dry Enamel | 1991 | 5H969 | | 5H972 | | | 6H390 | | | |
| Hard Hat® Sprays | 2003/ 2004 | 1F764†, 4CH75 5W179†, 5H903‡‡, 2FP66† | 4TH61 | 6A939†, 5H917, 5U707†, 5U708, 4TH68 | 5H896 | 5H897 | 5H912, 5H898 | 5H914, 5H899 | 5H916, 6H084 5H900 | 4CH74 |
| 3100 Speedy Dry Water-Based Acrylic Enamel | 1992 | 1D461 | | 1D458 | 1D467 | 1D466 | 1D465 | | | |
| 5200 High Performance Acrylic Enamel | 1992 | 6H033, 5H892 3UR13 | | 6H035, 5H895, 3UR19 | 5H919 | 5H920 | 5H922 | 6H031 | 6H032 | |
| 5300 Water-Based Epoxy | 1993 | 7H588 | | 7H589 | | | 7H965 | | | |
| 9100 High Performance Epoxy | 1993 | 7H595 | | 7H596 | 7H598 | | 7H600 | | | |
| 9400 Rust-O-Thane® Polyurethane | 1995 | 7H607 | 7H609 | 7H608 | 7H603 | | | | | |
| 9700 High Solids Polyurethane | 1996 | 7U005 | 7U001 | 7U007 | 7U002 | | | | | |
| 9800 High-Build Urethane Mastic | 1996 | 7A374 | | 7A377 | 7A969 | 7A368 | 7A369 | | | |
| 4200 & 4300 Heat Resistant | 2002 | 5H941 | | | | | | | | |
| 6000 Moderate-Duty Water-Based Epoxy Floor | 1997 | | 7H622 | | | | | | | |
| 6500 Heavy-Duty 100% Solids Epoxy Floor | 1997 | | 7H625 | | | | | | | |
| 2300 Traffic Zone Striping (bulk) | 2003 | | | 3XH15 | | | | | | |
| Anti-Slip Floor Coverings: | | | | | | | | | | |
| AS5400 | 1999 | 3XH19 | | | | | 2FP54† | | | |
| AS6000 | 1998 | | | | | | | | | |
| AS9100 | 1999 | | | | | | 4CJ57† | | | |

Note: Color names may differ between systems

† Matte finish
‡ Slightly more yellow than chip
‡‡ Slightly darker than chip
‡‡ Semi-gloss finish

# RUST-OLEUM® COLOR SELECTION GUIDE

**PAINT & PAINTING SUPPLIES**



| Vista Green | Forest Green | Hunter Green | Pleasant Green | National Blue | Marlin Blue | Yellow | Caution Yellow | Yellow | Equipment Yellow | Equipment Orange | Bronzetone |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6A389 | 5A272 | | | 6A928 | 6A387 | 6H376 | | | | | |
| | 1F752 | | | 1F756 | 1F760 | 1F746 | | | 1F748 | 1F742 | |
| | 6A944 | | | 6A941 | 6A397 | | | | 6A399 | 6A400 | |
| | 2FP63 | 4CH73 | | 2FP62 | 6A380, 4TH62 5H911 | 6A938, 2FP65 | 5H913 | | | | |
| 3UR07 | 5H921 | | | 6H029 | 5H918 | | | | | | 3UR15 |
| | | | | | 7H582 | | | 7H584 | | | |
| | | | | | 7H956 | | | | 7H590 | | |
| | | | | | | 7U003 | | | | | |
| | | | | | 7A366 | | | | 7A370 | | |
| | | | 5H939 | | | | | | | | |
| | | | | | 4KP51 | 3XH13 | | | | | |



| Fluorescent Green | Fluorescent Yellow | Fluorescent Orange | Fluorescent Red | Fluorescent Red Orange | Blue Aluminum | Green Aluminum | Aluminum Alumi-NON™ | International Orange | Fire Hydrant Red | Tile Red | Old Caterpillar Yellow | New Caterpillar Yellow |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 6H026 | 5H929 | 5A265, 6A926 | 6H382 | 5A273 | 6H023 | 6H385 | 5H932 |
| | | | | | | | 1F762 | | 1F738 | | | |
| | | | | | | | | | 6A949 | | 6H388 | |
| | | | | | | | 5H963 | | 5H967 | | | 5H965 |
| 5W908, 4CH78 | 5W907 | 5W177, 6A378 | 5W178 | 5H9 15 | | | 1D493, 3UP87‡ 3UP88‡‡, 2FP61 | 4TH64 | 5H901 | | | 2FP64 |
| | | | | | | | 2FP50 | | 1D463 | | | 1D464 |
| | | | | | | | 2FP52 | 5H923 | 5H924 | 3UR11 | | 3UR09 |
| | | | | | | | | | | 7H585 | | |
| | | | | | | | 7H597 | | 7H591 | 7H592 | | |
| | | | | | | | | | 7H605 | | | |
| | | | | | | | | | 7U004 | | | |
| | | | | | | | 7A365 | | 7A371 | 7A372 | | |
| | | | | | | | 5H938, 5H944 | | | | | |
| | | | | | | | | | | 7H619 | | |
| | | | | | | | | | | 7H626 | | |
| | | | | | | | | | | 1F718† | | |
| | | | | | | | | | | 4CJ47† | | |
| | | | | | | | | | | 4CJ59† | | |

**NOTE:** Colors of actual products may not be exact matches to the chips shown as chips change with age. very minor differences may exist between systems and production batches may vary slightly. Offsets of white may differ more than offsets in other colors. If color match is very critical, confirm with a test application prior to use.

PAINT & PAINTING SUPPLIES

# DEM-KOTE® COLOR SELECTION GUIDE

Colors shown are ink reproductions and may vary from actual paint color.



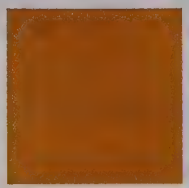
Gloss Yellow
No. 5FW95



Bright Yellow
No. 5FX01



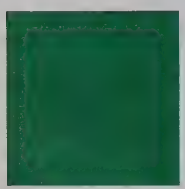
Yellow
(Caterpillar)
No. 5FX03



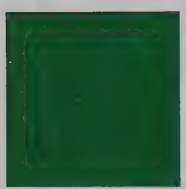
Yellow
(New Caterpillar)
No. 5FX04



Federal Highway
Yellow
No. 5FX05



Machine Green
No. 5FW96



Green
(John Deere)
No. 5FX12



Blue (Ford)
No. 5FW94



Medium Blue
No. 5FX09



Chrome Silver
No. 5FW97



Gloss Orange
No. 5FW99



Orange
(Allis Chalmers)
No. 5FX06



Gloss Red
No. 5FW93



Bright Red
No. 5FX07



Red
(International
Harvester)
No. 5FX08



Machine Gray
No. 5FW98



Industrial Gray
No. 5FX10



Blue-Gray
No. 5FX11



Gloss Black
No. 5FW88



Flat Black
No. 5FW90



Gloss White
No. 5FW89



Flat White
No. 5FW91



Appliance White
No. 5FW92



Low Luster Black
No. 4KP60

## 9400 SYSTEM
## RUST-O-THANE® POLYURETHANE

**RUST-OLEUM®**




One-gallon cans

**IMPORTANT NOTE: 2-COMPONENT SYSTEM. For finishes, one gallon of finish activator must be mixed with one gallon of finish. Result is two full gallons (activated).**

**FINISHES:**

- **Use on primed or previously painted steel or concrete in severely corrosive industrial, chemical, and marine environments**
- **Ideal for trucks, buses, construction, highway and mining equipment, food/beverage and chemical industries**
- **Tile-like, super high gloss finishes**
- **Superior to epoxies and oil-based enamels in color/gloss retention**
- **Superior to epoxies and oil-based enamels in corrosion-, chemical-, impact-, and abrasion-resistance**

| Finish Description | Rust-Oleum Model | Stock No. ❸ | Standard Applications Price Includes Activator List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Reducer (Thinner)‡ (All)** | 0190 | **5H949** | $33.81 | **$27.10** | 8.6 |
| **Blue** | 9425 | **7H603** | 209.82 | **168.00** | 20.5 |
| **Red** | 9465 | **7H605** | 250.28 | **200.50** | 21.5 |
| **Gray** | 9483 | **7H606** | 200.97 | **160.75** | 22.5 |
| **Black** | 9479 | **7H607** | 201.78 | **161.50** | 19.2 |
| **White** | 9492 | **7H608** | 209.82 | **168.00** | 22.5 |
| **Clear** | 9410 | **7H609** | 194.10 | **155.25** | 19.5 |

**PRIMERS:**

**IMPORTANT NOTE: 2-COMPONENT SYSTEM. For primers, one pint of primer activator must be mixed with each gallon of primer. Result is one full gallon (activated).**

**Nos. 7H601 and 7H602 Environment: Severe**

- **Two-component polyamide epoxy primers (HS9369, HS9381).**
- **Provide smooth finish for ultimate gloss**
- **Provide additional protection for finishes exposed to heavy abrasion, severe acid or alkali exposure**
- **Use No. 7H601 Red under dark-colored finishes**
- **Use No. 7H602 Gray under light-colored finishes**

| Description | Rust-Oleum Model | Stock No. | Price Includes Activator List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Thinner** | 0333 | **3JR74** | $20.25 | **$16.20** | 5.5 |
| **Red Primer‡ (1-8,10)** | HS 9369 | **7H601** | 76.96 | **64.30** | 13.9 |
| **Gray Primer‡ (1-8,10)** | HS 9381 | **7H602** | 85.47 | **71.40** | 13.9 |

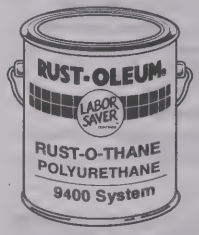
**Nos. 1BW42 and 1F766 Quick Dry Primers**

- **Single-component oil based enamel primer (does not require activator) (2068, 2082)**
- **Provides smooth finish; does not require sanding**
- **Can be recoated in one hour**
- **VOC<340 g/l**

**No. 1BW42.** Quick Dry Gray Primer (2082). Shpg. wt. 14.0 lbs.
List $50.32. Each.....**$40.35**

**No. 1F766.** Quick Dry Red Primer (2068). Shpg. wt. 15.0 lbs.
List $50.32. Each.....**$40.35**

**IMPORTANT! VOC regulations apply to this system in areas 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11. See page 1988**




**No. 7H603**

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes | Primers 7H601/7H602 | Primers 1BW42/1F766 |
|---|---|---|---|
| **Tack Free Hours:** | 2-4 | 1-2 | 1/2-1 |
| **Handle Hours:** | 4-8 | 3-4 | 1-2 |
| **Recoat Hours:** | 16-24 | 1 | 2 |
| **Practical Sq. Ft.:** | 250-600 | 280-475 | 325-550 |

**Note: These coatings contain isocyanates. Respiratory protection equipment is required when using these coatings. ❸**

**SPECIAL PERFORMANCE ADDITIVES:**

**No. 5H952 DRY TIME ACCELERATOR**

**To accelerate drying and reduce tape time 3 to 4 hours,** add No. 5H952 Accelerator to 9400 finish. Adding 4 oz. accelerator per gallon of activated finish cuts both dry time and pot life in half. **Does not meet VOC Compliance requirements.**

**No. 5H953 LEVELING ADDITIVE**

When applying finishes by airless spray, add 4 oz. Leveling Additive per activated gallon of finish for faster application and improved appearance. Not required for air atomized spray applications. Can be used with Dry Time Accelerator above. **Does not meet VOC Compliance requirements.**

| Description | Rust-Oleum Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Dry Time Accelerator** | 9402 | **5H952** | $11.50 | **$9.21** | 0.7 |
| **Leveling Additive** | 9404 | **5H953** | 6.60 | **5.25** | 0.7 |




**No. 1BW42**

**Please see back of label for complete product information and application instructions.**
❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.(‡) Exception: This specific stock number is compliant or exempt in areas noted.
For color representations of coating systems listed on this page, please see the Rust-Oleum Color Selection Guide.

# POLYURETHANE COATINGS SEVERE ENVIRONMENT

## 9700 SYSTEM LOW VOC HIGH SOLIDS POLYURETHANE

RUST-OLEUM®

C <340 g/l | 2 Component

One-gallon cans

**IMPORTANT NOTE: 2-COMPONENT SYSTEM. For finishes, one quart of activator must be mixed with each short-filled gallon of finish. Result is one full gallon (activated).**

FINISHES:

- Durable, high-solids (65-70%), low-VOC polyurethane
- Use on properly primed steel, previously coated surfaces
- Designed for heavy industrial, severe coastal, off-shore or chemical environments or vehicle refinishing
- Resists fading; superior gloss retention
- Excellent abrasion-, chemical-, and corrosion-resistance
- NOTE: A test patch is recommended on previous coatings to ensure compatibility• No thinning required

PRIMERS: 9100 Epoxy

- When exposed to heavy abrasion, acid, or alkali use 9100 System High Performance epoxies (except No. 7H597)

PRIMERS: 7H580 or 7H581

- Use No. 7H580 under dark-colored finishes (5369)
- Use No. 7H591 under light-colored finishes (5381)

PRIMER: 1D460

- Use 1D460 when fast dry times are required (3181)




No. 7U001

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes | Primers 7H580/ 7H581 | Primers 1D460 |
|---|---|---|---|
| Tack Free: | 6-8 hrs. | 1/2-1 hr. | 40-60 min. |
| Handle: | 6-21 hrs. | 2-5 hrs. | 1-1½ hr. |
| Recoat: | 8-16 hrs. | 1-2 hrs. | 1-1½ hr. |
| Practical Sq. Ft.: | 443-887 | 200-350 | 225-375 |

| Description | Rust-Oleum Model | Stock No. ❸ | Price Includes Activator List | Price Includes Activator Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Gray Primer | 3181 | 1D460 | $40.63 | $32.55 | 13.0 |
| Gray Primer (activated) | 5381 | 7H581 | 69.39 | 55.50 | 12.2 |
| Red Primer (activated) | 5369 | 7H580 | 65.14 | 52.05 | 13.5 |
| Clear | 9710 | 7U001 | 135.72 | 108.60 | 11.8 |
| Blue | 9725 | 7U002 | 157.97 | 126.35 | 13.7 |
| Yellow | 9745 | 7U003 | 201.44 | 161.25 | 12.3 |
| Red | 9765 | 7U004 | 145.63 | 116.50 | 12.7 |
| Black | 9779 | 7U005 | 144.79 | 115.90 | 12.1 |
| Silver Gray | 9782 | 7U006 | 149.20 | 119.30 | 13.7 |
| White | 9792 | 7U007 | 142.10 | 113.65 | 13.7 |

**NOTE: These coatings contain isocyanates. Respiratory protection equipment is required when using these coatings. See Material Safety and Data Sheet for details. ❸**

## 9800 DTM URETHANE MASTIC SYSTEM

RUST-OLEUM®

C <340 g/l | 2 Component

One-gallon cans

**IMPORTANT NOTE: 2-COMPONENT SYSTEM. For finishes, one short filled quart of activator must be mixed with each short-filled gallon of finish. Result is one full gallon (activated).**

FINISHES:

- Low-VOC, high gloss polyurethane applied at high film builds
- Apply directly to sound rust, prepared metal surfaces. No primer required
- Apply as finish coat to concrete/masonry primed with 9100 System High Performance Epoxy (except No. 7H597)
- Apply in aggressive environments such as heavy industrial, severe coastal, off-shore, chemical plants
- No thinning required
- High film build (3-5 mils dft) means more coverage, lower labor costs

PRIMERS:

- For clean metal exposed to heavy abrasion, acid or alkali; use 9100 System High Performance Epoxies (except No. 7H597)
- For extended recoat opportunities up to 30 days, use No. 7W003 or No. 7W001 Primer (9360/9370)

PRIMERS: Nos. 7H580 or 7H581 Environment: Moderate

- Use No. 7H580 under dark-colored finishes (5369)
- Use No. 7H581 under light-colored finishes (5381)

PRIMERS Nos. 1F766 or 1BW42 Environment: Mild

- Use No. 1F766 under dark-colored finishes (2068)
- Use No. 1BW42 under light-colored finishes (2082)




No. 4CH86

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes |
|---|---|
| Tack Free Hours: | 6-9 |
| Handle Hours: | 9-12 |
| Recoat Hours: | 8-72 |
| Practical Sq. Ft: | 164-274 |

| Description | Rust-Oleum Model | Stock No. ❸ | Price Incl. Activator List | Price Incl. Activator Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Red Primer | 2068 | 1F766 | $50.32 | $40.35 | 15.0 |
| Gray Primer | 2082 | 1BW42 | 50.32 | 40.35 | 14.0 |
| Thinner | 0190 | 5H949 | 33.81 | 27.10 | 8.6 |
| Red Primer (1 gal., activated) | 5369 | 7H580 | 65.14 | 52.05 | 13.5 |
| Gray Primer (1 gal., activated) | 5381 | 7H581 | 69.39 | 55.50 | 12.2 |
| Red Primer (2 gals., activated) | 9360 | 7A983 | 101.63 | 91.40 | 12.8 |
| Buff Primer (2 gals., activated) | 9370 | 7A984 | 111.30 | 101.20 | 12.8 |
| Aluminum | 9815 | 7A365 | 118.35 | 94.75 | 12.2 |
| Marlin Blue | 9822 | 7A366 | 118.35 | 94.75 | 12.2 |
| Safety Blue | 9825 | 7A969 | 126.51 | 101.30 | 12.2 |
| Safety Green | 9833 | 7A368 | 126.51 | 101.30 | 12.2 |
| Safety Yellow | 9844 | 7A369 | 158.14 | 126.60 | 12.2 |
| Equipment Yellow | 9845 | 7A370 | 158.14 | 126.60 | 12.2 |
| Regal Red | 9865 | 7A371 | 126.51 | 101.30 | 12.2 |
| Tile Red | 9868 | 7A372 | 126.51 | 101.30 | 27.2 |
| Dunes Tan | 9871 | 7A975 | 118.35 | 94.75 | 12.2 |
| Black | 9879 | 7A374 | 118.35 | 94.75 | 12.2 |
| Silver Gray | 9882 | 7A375 | 118.35 | 94.75 | 13.2 |
| Navy Gray | 9886 | 7A978 | 118.35 | 94.75 | 12.1 |
| White | 9892 | 7A377 | 118.35 | 94.75 | 12.1 |

**NOTE: These coatings contain isocyanates. Respiratory protection equipment is required when using these coatings. See Materials Safety Data Sheet for details. ❸**

Please see back of label for complete product information and application instructions.

❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.

# INDUSTRIAL FLOOR COATING SYSTEMS



## 6000 SYSTEM WATER-BASED EPOXY FLOOR COATINGS

RUST-OLEUM®

C <340 g/l | 2 Component

**One-gallon cans** — **Grade: Moderate-Duty**

**IMPORTANT NOTE: 2-COMPONENT SYSTEM. One pint of activator must be mixed with each short-filled gallon of finish. Result is 1 full gallon activated.**

- **Use on concrete floors exposed to heavy foot, and occasional lightweight, rubber-wheeled vehicle traffic**
- **Apply to previously coated concrete floors, or concrete floors still slightly damp from cleaning**
- **Dries fast; accepts light traffic after only 16 hours**
- **Exhibits excellent abrasion- and chemical-resistance**
- **Protects against occasional steam, chemical, or water washings**
- **Protects against intermittent spills of mild chemicals**
- **Low odor; cleans up with soap and water**




No. 7H622

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes |
|---|---|
| **Light Traffic Hours:** | 16 |
| **Recoat Hours:** | 1-2 |
| **Vehicle Traffic Hours:** | 72 |
| **Practical Sq. Ft.:** | 200-350 |

| Description | Rust-Oleum Model | Stock No. ❸ | Price Incl. Activator List | Price Incl. Activator Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Clear** | 6010 | **7H622** | $69.10 | **$55.25** | 9.8 |
| **Tan** | 6071 | **7H618** | 76.22 | **61.00** | 10.1 |
| **Tile Red** | 6068 | **7H619** | 76.22 | **61.00** | 10.1 |
| **Silver Gray** | 6082 | **7H620** | 76.22 | **61.00** | 12.3 |
| **Navy Gray** | 6086 | **7H621** | 76.22 | **61.00** | 12.3 |

## 6500 SYSTEM 100% SOLIDS EPOXY FLOOR COATINGS

RUST-OLEUM®

C <250 g/l | 2 Component | Mechanical Mixer

**One-gallon cans** — **Grade: Heavy-Duty**

- **Self-leveling, odorless, 100% solids epoxy**
- **Use on concrete floors exposed to heavy foot and rubber-covered wheel traffic, intermittent chemical spills, splashes, and power washings**
- **Ideal for food/beverage plants, or anywhere fumes cannot be tolerated**
- **Stubbornly adheres to properly prepared concrete**
- **Excellent abrasion-, impact- and chemical-resistance**
- **Low viscosity; self-leveling properties**

**IMPORTANT NOTE: 2-COMPONENT SYSTEM.** One short-filled gallon of activator must be mechanically mixed with each short-filled gallon of finish. Result is 1 full gallon activated. Mixing two components with mixer blade No. 1E524 or equivalent is required.

**No. 1E524.** Mixing Blade. Shpg. wt. 0.7 lbs. List ..... $28.42.
Each ..... $22.74




No. 7H625

Plastic Core

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes |
|---|---|
| **Light Traffic Hours:** | 10 |
| **Recoat Hours:** | 10-24 |
| **Vehicle Traffic Hours:** | 48-72 |
| **Practical Sq. Ft.:** | 100 |

| Description | Rust-Oleum Model | Stock No. ❸ | Price Incl. Activator List | Price Incl. Activator Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Clear** | S6510 | **7H625** | $122.48 | **$92.60** | 10.5 |
| **Dunes Tan** | S6571 | **7H627** | 122.48 | **92.60** | 12.7 |
| **Tile Red** | S6568 | **7H626** | 129.23 | **97.70** | 12.7 |
| **Navy Gray** | S6586 | **7H629** | 122.48 | **92.60** | 12.7 |
| **Silver Gray** | S6582 | **7H628** | 122.48 | **92.60** | 12.7 |

## WATER-BORNE CLEAR POLYURETHANE

RUST-OLEUM®

C <200 g/l

**One-gallon cans** — **Environment: Mild to Moderate**

- **Single-component, moisture-cured polyurethane (6711)**
- **Use on interior wood and concrete floors in industrial settings**
- **Produces an extremely hard, durable, glossy finish**
- **Low VOC level of <200 g/l**

**New** **No. 4MG61.** ❷ ❸ Shpg. wt. 9.5 List ..... $57.47.
Each ..... $43.10




New

No. 4MG61

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes |
|---|---|
| **Tack Free Minutes:** | 15 |
| **Recoat Minutes:** | 30 |
| **Light Foot Traffic:** | 1 Day |
| **Practical Sq. Ft.:** | 400-800 |

**Please see back of label for complete product information and application instructions.**

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listings, or call any California branch.
❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite back cover. For color representatives of coating systems listed on this page, please see the Rust-Oleum Color Selection Guide.

# INDUSTRIAL FLOOR COATINGS

## FLOOR COATING PRODUCTS

RUST-OLEUM®

C <250 g/l




No. 6A935




No. 6A936

### NO. 6A935 CLEANING AND ETCHING SOLUTION (108)
One-gallon bottles

- One step, dual-action cleaning and etching solution
- Use on concrete, cement, masonry
- Creates "sandpaper rough" profile on very dense, non-porous concrete to improve coating adhesion
- Dissolves grease, oil, and encapsulates it for easy removal
- Easy to use, solvent free and nonflammable
- One gallon cleans up to 400 sq. ft.

No. 6A935. ❸ Shpg. wt. 5.2 lbs. List $25.87. Each..... $20.70

### NO. 6A936 ANTI-SKID ADDITIVE (200)
One-quart bags

- Specially refined aggregate carefully selected to provide skid resistance
- Use on floors with No. 5H886 Dust Control Sealer, or 6000 System Water-Based Epoxy Floor Coatings
- Add directly into the final coating, or broadcast immediately between coats
- Use 1 bag per gallon of floor coating

No. 6A936. ❸ Shpg. wt. 1.2 lbs. List $3.20. Each..... $2.56




No. 5H886




No. 4MG50

### NO. 5H886 DUST CONTROL SEALER (5010)
One-gallon cans — Grade: Mild-duty

- Clear, water-based acrylic; VOC < 250 g/l
- Prevents dusting on properly prepared new concrete, or old uncoated concrete floors
- Low odor; easy application; soap and water clean-up
- One gallon covers up to 500 sq. ft.

No. 5H886. ❸ Shpg. wt. 10.0 lbs. List $40.88. Each..... $32.75

### NO. 5A279 CONCRETE PATCHING COMPOUND
Two-gallon kit (2 component kit) — Grade: Heavy-duty

- 100% Solids Epoxy compound formulated to repair cracks and holes in concrete warehouse floors, ramps, garages
- Easy to use
- Excellent chemical- and abrasion-resistance
- Can be coated after only 4 hours

No. 5A279. ❸ Concrete Patching Compound (5499) Shpg. wt. 35.0 lbs. List $120.66. Each..... $96.60

*New*No. 4MG49. ❸ Silver Gray Floor Joint Sealant (5180). Shpg. wt. 1.0 lbs. List $13.20. Each..... $9.90

*New*No. 4MG50. ❸ Navy Gray Floor Joint Sealant (5186). Shpg. wt. 1.0 lbs. List $13.20. Each..... $9.90

## AS6000 SYSTEM ANTI-SLIP LOW PROFILE EPOXY

RUST-OLEUM®

C <250 g/l | 2 Components | Mechanical Mixer | Phenolic Core

One-gallon cans
Grade: Pedestrian; Light to Moderate-Duty

IMPORTANT NOTE: 2-COMPONENT SYSTEM. One quart of AS60 activator must be mixed with each short-filled gallon of finish. Result is one full gallon (activated).

- Premixed aggregate anti-slip, low VOC, water-based epoxy with a low profile
- Specially formulated for wet areas on concrete
- Provides slip resistance for pedestrian traffic in showers, locker rooms, pools, laundries and walkways
- Low profile ideal for areas with barefoot, recreational, or pedestrian traffic
- Easy to clean
- Apply with a phenolic "no nap" roller cover.




No. 4CJ46

**DRY TIME AND COVERAGE (APPROX.)**

| | |
|---|---|
| Light Traffic Hours: | 24 |
| Heavy Traffic Hours: | 48 |
| Practical Sq. Ft: | 80-100 |

| Kit Color | Rust-Oleum Model | Stock No. ❸ | Includes Activator List | Includes Activator Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Tile Red | AS6068 | 4CJ47 | 119.26 | 95.45 | 11.0 |
| Dunes Tan | AS6071 | 4CJ48 | 110.68 | 88.60 | 11.0 |
| Silver Gray | AS6082 | 4CJ49 | 110.68 | 88.60 | 11.0 |
| Navy Gray | AS6086 | 4CJ50 | 110.68 | 88.60 | 11.0 |

Please see back of label for complete product information and application instructions.

❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover. For color representatives of coating system listed on this page, please see Rust-Oleum Color Selection Guide.



*Spray it, stack it, stamp it and more with these hard-working products.*

# INDUSTRIAL ANTI-SLIP FLOOR COATINGS

## AS5400 SYSTEM
## ANTI-SLIP ONE-STEP EPOXY

RUST-OLEUM®

C <340 g/l | Mechanical Mixer | Phenolic Core

**One-gallon cans** **Grade: Pedestrian, Heavy-Duty**

- Anti-slip with premixed aggregate, epoxy ester for easy, one-step application
- Use on clean concrete or metal primed with 9100 System
- Provides slip resistance on aisles, walkways, stairs, and areas around machinery/doorways
- Apply to areas with heavy foot/light vehicle traffic

| Description | Rust-Oleum Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Tile Red | AS5468 | 1F718 | $83.65 | $66.95 | 16.0 |
| Dunes Tan | AS5471 | 1F716 | 80.47 | 64.40 | 16.0 |
| Silver Gray | AS5482 | 1F714 | 80.47 | 64.40 | 16.0 |
| Navy Gray | AS5486 | 1F712 | 80.47 | 64.40 | 16.0 |
| Safety Yellow | AS5444 | 2FP54 | 83.65 | 66.95 | 16.0 |
| Black | AS5479 | 3XH19 | 80.47 | 64.40 | 15.0 |




No. 1F718

| DRY TIME AND COVERAGE (APPROX.) | |
|---|---|
| Light Traffic Hours: | 12 |
| Heavy Traffic Hours: | 48 |
| Practical Sq. Ft: | 40-60 |

## AS9100 SYSTEM
## ANTI-SLIP HIGH PERFORMANCE EPOXY

RUST-OLEUM®

C <250 g/l | 2 Components | Mechanical Mixer | Phenolic Core

**One-gallon cans** **Grade: Vehicular, Heavy-Duty**

**IMPORTANT NOTE: 2-COMPONENT SYSTEM. One quart of AS91 activator must be mechanically mixed with each short-filled gallon of finish. Result is one full gallon (activated).**

- Premixed aggregate, anti-slip, epoxy for maximum durability under heavy vehicle traffic
- Use on clean concrete or metal when primed with 9100 System (except No. 7H597)
- Provides slip resistance on ramps, walkways, forklift traffic, loading docks, stadiums
- Highly chemical resistant

| Kit Color | Rust-Oleum Model | Stock No. ❸ | Includes Activator List | Includes Activator Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Safety Yellow | AS9144 | 4CJ57 | $122.30 | $97.90 | 13.0 |
| Tile Red | AS9168 | 4CJ59 | 122.30 | 97.90 | 13.0 |
| Dunes Tan | AS9171 | 4CJ61 | 114.76 | 91.85 | 13.0 |
| Silver Gray | AS9182 | 4CJ63 | 114.76 | 91.85 | 13.0 |
| Navy Gray | AS9186 | 4CJ65 | 114.76 | 91.85 | 13.0 |




No. 4CJ57

| DRY TIME AND COVERAGE (APPROX.) | |
|---|---|
| Light Traffic Hours: | 12 |
| Heavy Traffic Hours: | 48 |
| Practical Sq. Ft: | 40-60 |

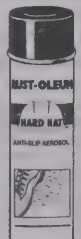
## AS2100 SYSTEM
## ANTI-SLIP AEROSOLS

RUST-OLEUM®

C <250 g/l

- Prevents slips and falls on interior or exterior concrete, metal, ceramic, and wood serfaces
- Ideal for use on stairs, pool deck, ramps, walkways, and more
- Tough, durable finish resists peeling and cracking
- VOC compliant

| Description | R-O Model | *New!* Stock No. | VOC Regulated Counties Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Black | AS2178 | 4MG64 | AS2178 | $15.78 | $11.84 | 1.4 |
| Safety Yellow | AS2144 | 4MG63 | AS2144 | 15.78 | 11.84 | 1.4 |




New

No. 4MG64

**Please see back of label for complete product information and application instructions.**

❸All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.
For color representations of coating systems listed on this page, please see the Rust-Oleum Color Selection Guide.

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS.
SEE PAGES AT BACK OF CATALOG

# ROOF MAINTENANCE COATINGS

## BUILT-UP ROOFING PRODUCTS

RUST-OLEUM®

Phenolic Core

### No. 3UP95 FIBERED ASPHALTIC COATING (3971)

- For maintenance and repair of asphalt-based built-up roofing
- Single-component product packaged in 5-gallon pails
- Asphalt-based coating for use on asphalt-based roofing
- Provides excellent elongation properties, waterproofing, weatherproofing protection

### No. 3UP96 FIBERED ASPHALTIC EMULSION (3972)

- Single-component asphalt-based product packaged in 5-gallon pails
- Water-based, zero VOC version of No. 3UP35 for low VOC areas

### No. 3UP94 ASPHALTIC PRIMER (3970)

- Single-component product packaged in one-gallon cans
- Low VOC asphalt-based primer
- Use to prime/condition asphaltic surfaces, and in areas where No. 3UP92 was previously applied




No. 3UP95

**IMPORTANT! VOC regulations apply to this product in areas 2, 3, 4, 5, 7, 9, 10.** **See page 1988.**

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes |
|---|---|
| **Foot Traffic Hours:** | 48 |
| **Recoat Hours:** | 24 |
| **Practical Sq. Ft. Coverage:** | 4 gals./100 sq. ft. |




No. 3UP94

**DRY TIME AND COVERAGE (APPROX.)**

| | Finishes |
|---|---|
| **Foot Traffic Hours:** | 1-2 |
| **Recoat Hours:** | 30-45 minutes |
| **Practical Sq. Ft. Coverage:** | 1 gal./100 sq. ft. |

## COMPANION PRODUCTS:

### No. 3UP92 E-PATCH® Emergency Roof Patch (3910)

- Two-gallon pails. Mixes with water instantly and stops leaks
- Dry granular materials for temporary repair of roof leaks
- Apply to built-up roofing or low-pitched metal roofing
- Can be applied during rain and periods of melting ice/snow

### No. 3UP99 URETHANE ROOF CAULK (3980)

- 11-oz. tubes
- Use on built-up roofing in conjunction with No. 3UP95 or No. 3UP96

### No. 3UP98 HEAVY-DUTY ROOF CEMENT (3974)

- Five-gallon pails
- Trowel-grade repair material for asphalt-based roofing
- Use to repair blisters, splits, flashings, plug leaks, bridge building materials




No. 3UP98




No. 3UP99

| Description | Rust-Oleum Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Fibered Asphaltic Coating** | 3971 | **3UP95** | $54.19 | **$51.50** | 40.0 |
| **Fibered Asphaltic Emulsion** | 3972 | **3UP96** | 82.61 | **70.25** | 42.0 |
| **Asphaltic Primer** | 3970 | **3UP94** | 11.58 | **9.84** | 7.9 |
| **Emergency Roof Patch** | 3910 | **3UP92** | 40.86 | **32.70** | 12.0 |
| **Urethane Roof Caulk** | 3980 | **3UP99** | 9.22 | **8.38** | 1.0 |
| **Heavy-Duty Roof Cement** | 3974 | **3UP98** | 71.53 | **60.85** | 41.0 |

Please see back of label for complete product information and application instructions.

❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.

For color representation of coating systems listed on this page, please see the Rust-Oleum Color Selection Guide.


### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# ROOF MAINTENANCE COATINGS

## SOUND RUSTED METAL ROOFING PRODUCTS

RUST-OLEUM®

### No. 3UP93 DTM FIBERED ALUMINUM (3915)

- Five-gallon pail
- Single-component product; aluminum color
- Asphalt-based aluminum coating with premium grade leafing aluminum
- Apply direct to sound rusted metal or clean metal roofing
- High-build finish protects from effects of weather and corrosion
- Provides reflectivity to help keep cooling costs down

### No. 3UP99 URETHANE ROOF CAULK (3980)

- 11 oz. tubes; black color
- Single-component, moisture-cured urethane sealant
- Use on sound rusted metal roofing, or asphalt-based built-up roofing
- Ideal for seams, flashings, fasteners, and roof protrusions
- Extremely flexible, resists weathering, expansion, and ultra-violet rays

### No. 3UP97 NEOPRENE FLASHING CEMENT (3973)

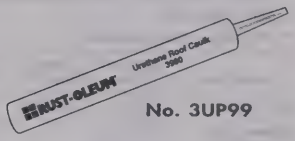
- One-gallon cans; black color
- Single-component
- Trowel-grade material for repairing sound metal or clean metal roofing
- Use to patch leaking areas, protect fastener heads, seal joints, metal laps, bridge different building materials
- Ideal for areas where 3UP93 will be applied as finish coat
- Allows for expansion and contraction of metal panels



No. 3UP93



No. 3UP97



No. 3UP99

| DRY TIME AND COVERAGE (APPROX.) | 3UP93 |
|---|---|
| **Foot Traffic Hours:** | 24 |
| **Recoat Hours:** | 24 |
| **Practical Sq. Ft. Coverage:** | 2 gals./100 sq. ft. |

| Description | Rust-Oleum Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| DTM Fibered Aluminum | 3915 | 3UP93 | $124.00 | $117.85 | 44.0 |
| Urethane Roof Caulk | 3980 | 3UP99 | 9.22 | 8.38 | 1.0 |
| Neoprene Flashing Cement | 3973 | 3UP97 | 58.82 | 55.95 | 11.0 |

## CLEAN METAL AND CONCRETE/ MASONRY ROOFING PRODUCTS

RUST-OLEUM®

### No. 3UR02 HIGH-BUILD ACRYLIC ELASTOMERIC (3990)

- Five-gallon pails; white color
- Single-component product
- Water-based, 100% acrylic, fibered coating
- Ideal for clean metal roofing, concrete roof protrusions, block walls, and masonry areas
- Creates high-build application in one coat
- Provides tough, durable film for protection against weathering
- Provides reflectivity to help keep cooling costs down

COMPANION PRODUCTS:

### No. 3UR01 ACRYLIC WATERPROOF SEALANT CAULK (3981)

- 11-oz. tubes; white color
- For clean metal roofing or concrete/masonry
- Use to repair seams, small cracks, seal fastener heads, skylights, vents, laps, and voids
- Creates a tough, resilient acrylic seal

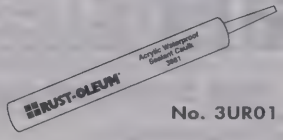
### No. 5A279 CONCRETE PATCHING COMPOUND (5499)

(NOTE: Two-component system)

- For concrete/masonry roofing protrusions, block walls
- Fills large cracks, voids, and mortar joints in parapet walls, copings
- Repairs spalled areas



No. 3UR02



No. 3UR01

| DRY TIME AND COVERAGE (APPROX.) | 3UR02 |
|---|---|
| **Foot Traffic Hours:** | 24 |
| **Recoat Hours:** | 24 |
| **Practical Sq. Ft. Coverage:** | 2 gals./100 sq. ft. |

| Description | Rust-Oleum Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| High Build Acrylic Elastomeric | 3990 | 3UR02 | $177.96 | $169.50 | 56.0 |
| Acrylic Waterproof Sealant Caulk | 3981 | 3UR01 | 6.50 | 5.51 | 1.0 |
| Concrete Patching Compound | 5499 | 5A279 | 120.66 | 96.60 | 35.0 |

Please see back of label for complete product information and application instructions.
❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.

# INDUSTRIAL SPECIALTY COATINGS AND PRODUCTS

## HIGH TEMPERATURE COATINGS

RUST-OLEUM®

C <250 g/l

For Icon Definitions, See Pg. 1988

**One-gallon (or as noted)** **Environment: Mild**

- Steel subjected to heat up to 1200° F (648° C)
- Excellent resistance to thermal shock
- No. 5H938 is packaged in a two-gallon can (4215)
- No. 5H942 is packaged as a two-gallon kit (4285)
- Important: Essential to measure the operating and maximum temperatures accurately with a surface thermometer, thermocouple, or similar device
- Surface preparation is critical in obtaining long term service from heat resistance coatings. (See System Selector for details)
- Must be heat cured

| Description | Can Size/ Gallon | Temp. Range (°F) | Rust-Oleum Model | Stock No. ③ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Red Primer | 1 | 300-800 | 4268 | 5H940 | $61.10 | $48.95 | 16.0 |
| Thinner‡ (All) | 1 | | 0140 | 5H937 | 23.63 | 18.90 | 9.0 |
| Gray‡ (2-6, 8) | 1 | | 4286 | 5H943 | 55.11 | 44.15 | 11.0 |
| Aluminum‡ (1) | 2 | 300-800 | 4215 | 5H938 | 112.46 | 90.00 | 22.0 |
| Green‡ (2-6, 8, 9) | 1 | | 4233 | 5H939 | 59.35 | 47.55 | 13.0 |
| Black‡ (2-6, 8) | 1 | | 4279 | 5H941 | 55.80 | 44.70 | 11.0 |
| Gray Zinc-Sele® | 1 | 300-800 | 4285 | 5H942 | 113.91 | 91.15 | 13.0 |
| Aluminum‡ (1-6, 8) | 1 | 500-1200 | 4315 | 5H944 | 113.91 | 91.15 | 9.9 |

(‡) Note: This specific SKU is compliant or exempt in areas noted.

**IMPORTANT: VOC regulations apply to this system in areas 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. See page 1988.**

### 4200 SYSTEM DRY TIME AND COVERAGE

| | Finishes (All except Nos. 5H938 and 5H942) | Finishes No. 5H938 | Primers |
|---|---|---|---|
| Tack Free Hours: | 1/2-1 | 1/2-1 | 1/2-4 |
| Handle Hours: | 1-2 | 1-2 | 6-12 |
| Recoat Hours: | 8-24 | 8-24 | 8-24 |
| Practical Sq. Ft.: | 225-550 | 200-500 | 250-500 |

### 4300 SYSTEM DRY TIME AND COVERAGE

| | Finishes | Primers |
|---|---|---|
| Tack Free Hours: | 1/2 | N/A |
| Handle Hours: | 1 | N/A |
| Recoat Hours: | 1-2 (Heat cure each coat) | N/A |
| Practical Sq. Ft.: | 300-450 | N/A |

## SPECIALTY COATINGS

RUST-OLEUM®

### RUST REFORMER®

**Environment: Mild**

- One-gallon bottles. Covers approx. 700 sq. ft. (3575)
- Use on existing sound rusted metal only
- Chemically transforms rust on metal surfaces into a tough, inert barrier against further corrosion
- No topcoat required
- Solvent-based coatings can be applied to the dry finish after 3 hours.

No. 5W181③. Shpg. wt. 3.0 lbs. List $80.44. Each.....$64.40

C <250 g/l

For Icon Definitions, See Pg. 1988

### BLOCK FILLER

**Environment: Mild**

- One-gallon cans (5199)
- Acrylic coating formulated with special fibers to fill small pores and voids for a smooth finish
- Use on new or uncoated cinder or concrete block, stucco, common brick
- Compatible with variety of Rust-Oleum finish coats, including Industrial oil-based enamels, acrylics and epoxies
- Squeegee off excess material

No. 6H048③. Shpg. wt. 13.0 lbs. List $25.62. Each.....$20.50

## PURE STRENGTH® CLEANER/DEGREASER

RUST-OLEUM®

### 100% CONCENTRATED CLEANER/DEGREASER

**Environment: Moderate to Severe**

- Removes accumulated grease, grime, stains, cutting fluids, diesel oil, adhesives, gum, food products from metal, floors, machinery and equipment (3599)
- As powerful as xylene, toluene, or trichloroethylene, but safer to use
- Oil, grease stay in solution; won't re-deposit on surface
- Non-caustic, non-abrasive, non-acidic, economical to use

| Description | Rust-Oleum Model | Stock No. | List | Each | Lots/ Qty | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 14-oz. Aerosol | 3599 | 5H884+ | $7.20 | $5.73 | $4.87/12 | 1.3 |
| 1-Quart Bottle | 3599 | 5H885 | 15.54 | 12.43 | 10.57/6 | 2.2 |
| 1-Gallon Bottle | 3599 | 5U697 | 47.38 | 37.95 | — | 8.0 |
| 5-Gallon Pail | 3599 | 6H083 | 236.88 | 189.75 | — | 40.0 |

### READY-TO-USE CLEANER/DEGREASER

**Environment: Mild to Moderate**

- 17-oz. foaming aerosol (3594)
- Removes grease from metal, previously coated surfaces, aluminum, bronze, stainless steel, fiberglass, tile, grout
- Foaming aerosol clings to vertical surfaces
- Effective in preparing surfaces prior to painting
- Non-caustic, non-abrasive, non-acidic, economical to use

No. 5U696③. Shpg. wt. 1.7 lbs. List $7.20.
Each.....$5.73
Lots 12.....$4.87

**IMPORTANT! VOC regulation + applies. See page 1988**

**Please see back of label for complete product information and application instructions.**

③ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover. For color representatives of coating systems listed on this page, please see the Rust-Oleum Color Selection Guide.

# MARKING AND STRIPING SPRAY PAINT

## HARD HAT® MARKING PAINT & WAND

RUST-OLEUM®

### MARKING PAINT

- 15-ounce aerosol cans
- VOC compliant, inverted-tip spray paint; no ozone-depleting chemicals
- Use on metal, concrete, blacktop, gravel, soil and grass
- Quick, easy marking of construction/evacuation sites, underground utilities, traffic safety areas
- Convenient, easy-to-use, large industrial size delivers up to 31% more product than conventional size aerosol containers
- NOTE: Paint will only spray when inverted. Can be used with Marking Wand No. 6A379

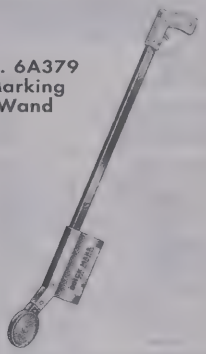
| Description | Rust-Oleum Model | Stock No. ❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Caution Blue | V2324 | 5H911❷ | $6.90 | $4.71 | $4.47 | 1.5 |
| Fluorescent Green | V2333 | 4CH78❷ | 9.05 | 6.15 | 5.84 | 1.4 |
| Caution Yellow | V2345 | 5H913❷ | 6.90 | 4.71 | 4.47 | 1.5 |
| White | V2392 | 5H917❷ | 6.90 | 4.71 | 4.47 | 1.5 |
| High Visibility Yellow | V2344 | 5H912❷ | 6.90 | 4.71 | 4.47 | 1.5 |
| Alert Orange | V2354 | 5H914❷ | 6.90 | 4.71 | 4.47 | 1.5 |
| Safety Red | V2363 | 5H916❷ | 6.90 | 4.71 | 4.47 | 1.5 |
| Fluorescent Orange | V2355 | 6A378❷ | 9.05 | 6.15 | 5.84 | 1.5 |
| Fluorescent Red/Orange | V2358 | 5H915❷ | 9.05 | 6.15 | 5.84 | 1.5 |
| Marking Wand | 2393 | 6A379 | 49.96 | 40.00 | — | 3.0 |

### No. 6A379 MARKING WAND

- Marks surfaces without back-straining or need for bending
- Easy loading, light touch spray control reduces fatigue, provides quick, accurate spraying




No. 5H911 Inverted Tip Marking Paint



No. 6A379 Marking Wand

## HARD HAT STRIPING PAINT & STRIPING MACHINE

RUST-OLEUM®

### STRIPING PAINT

- Designed to handle striping and zone marking jobs quickly and efficiently. Use with Striping Machine No. 6A940
- Use to mark aisles, lift truck routes, pallet positions, safe or dangerous areas
- Also for striping parking lots, stadiums, athletic facilities.
- Each can lays approx. 200 linear feet of 4 inch stripe depending upon application speed or surface porosity
- 18 oz. fill wt.
- For use only with striping machine No. 6A940
- Contains no ozone-depleting chemicals; VOC compliant

| Description | Rust-Oleum Model | Stock No. ❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Blue Striping Paint | 2326 | 6A380 ❷ | $9.05 | $6.15 | $5.84 | 1.5 |
| Yellow Striping Paint | 2348 | 6A938 ❷ | 9.05 | 6.15 | 5.84 | 1.5 |
| Black Striping Paint | 2378 | 1F764 ❷ | 9.05 | 6.15 | 5.84 | 1.5 |
| White Striping Paint | 2391 | 6A939 ❷ | 9.05 | 6.15 | 5.84 | 1.5 |
| Red Striping Paint | 2364 | 6H084 ❷ | 9.05 | 6.15 | 5.84 | 1.5 |
| Striping Machine | 2395 | 6A940 | 154.46 | 123.65 | — | 23.0 |




No. 6A380 Inverted Tip Striping Paint



No. 6A940 Striping Machine
•Stripe width is adjustable from 2" to 4"

## ACRYLIC TRAFFIC ZONE STRIPING PAINT

RUST-OLEUM®

C <250 g/l

### One-Gallon Cans

- Single-component, fast-drying, water-based acrylic coating
- Use on asphalt and concrete, interior or exterior exposures
- Use for large striping jobs such as large commercial parking lots, curbs, aisleways
- Fast drying (30 minutes); accepts traffic after 8 hours
- Apply by 1- or 5-gallon striping machines or by brush for quick touch-ups
- Blue available in 1-gallon size only
- Not for use with No. 6A940 Striping Machine
- Not intended for highway use

**DRY TIME AND COVERAGE (APPROX)**

| | Finishes |
|---|---|
| Touch: | 30 Min. |
| Recoat Hours: | 4 |
| Traffic Hours: | 8 |
| Linear Feet Per Gallon: | 460 |

| Description | Rust-Oleum Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Yellow | 2348-402 | 3XH13 | $24.06 | $19.25 | 9.5 |
| White | 2391-402 | 3XH15 | 24.06 | 19.25 | 10.0 |
| Blue | 2326-402 | 4KP51 | 24.06 | 19.25 | 9.5 |

Please see back of label for complete product information and application instructions
❷ These products are covered by California Proposition 65. California purchases or shipments: see first page of Grainger Branch Listing, or call any California branch.
❸ These products are covered by OSHA hazard Communications Standard and Material Safety and Data Sheets (MSDS) are availbale upon request. See page opposite inside
For color representations of coating systems listed on this page, please see the Rust-Oleum Color Spectrum Guide.

# SPRAY COATINGS AND PAINTS

## VOC COMPLIANT

| Color Description | Rust-Oleum Model | Stock No.❸❷ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **HARD HAT PRIMERS** | | | | | | |
| Red Primer | V2169 | 5U704 | $6.93 | $4.71 | $4.47 | 1.4 |
| Gray Primer | V2182 | 5U705 | 6.93 | 4.71 | 4.47 | 1.4 |
| **HARD HAT FINISHES** | | | | | | |
| Clear | V2102 | *New* 4TH61 | 6.93 | 4.71 | 4.47 | 1.4 |
| Gloss White | V2192 | 5U708 | 6.93 | 4.71 | 4.47 | 1.4 |
| Flat White | V2190 | 5U707 | 6.93 | 4.71 | 4.47 | 1.4 |
| Fleet White‡ | V2196 | *New* 4TH68 | 6.93 | 4.71 | 4.47 | 1.4 |
| Safety Yellow | V2143 | 5H898 | 6.93 | 4.71 | 4.47 | 1.4 |
| Industrial Yellow‡ | V2147 | 2FP64 | 6.93 | 4.71 | 4.47 | 1.4 |
| Equipment Yellow | V2148 | 2FP65 | 6.93 | 4.71 | 4.47 | 1.4 |
| Safety Orange | V2155 | 5H899 | 6.93 | 4.71 | 4.47 | 1.4 |
| Equipment Orange | V2156 | *New* 4TH64 | 6.93 | 4.71 | 4.47 | 1.4 |
| Safety Red‡ | V2163 | 5H900 | 6.93 | 4.71 | 4.47 | 1.4 |
| Bright Red‡ | V2164 | 5H901 | 6.93 | 4.71 | 4.47 | 1.4 |
| Safety Blue | V2124 | 5H896 | 6.93 | 4.71 | 4.47 | 1.4 |
| Light Blue | V2123 | *New* 4TH62 | 6.93 | 4.71 | 4.47 | 1.4 |
| Deep Blue | V2125 | 2FP62 | 6.93 | 4.71 | 4.47 | 1.4 |
| Purple | V2167 | 4CH74 | 6.93 | 4.71 | 4.47 | 1.4 |
| Safety Green | V2133 | 5H897 | 6.93 | 4.71 | 4.47 | 1.4 |
| Bright Green | V2134 | *New* 4TH63 | 6.93 | 4.71 | 4.47 | 1.4 |
| Dark Green | V2137 | 2FP63 | 6.93 | 4.71 | 4.47 | 1.4 |
| Hunter Green | V2138 | 4CH73 | 6.93 | 4.71 | 4.47 | 1.4 |
| Almond | V2170 | *New* 4TH65 | 6.93 | 4.71 | 4.47 | 1.4 |
| Tan | V2171 | 5H902 | 6.93 | 4.71 | 4.47 | 1.4 |
| Chestnut Brown | V2175 | *New* 4TH67 | 6.93 | 4.71 | 4.47 | 1.4 |
| Dark Brown | V2174 | *New* 4TH66 | 6.93 | 4.71 | 4.47 | 1.4 |
| Light Machine Gray | V2183 | 5H904 | 6.93 | 4.71 | 4.47 | 1.4 |
| Dark Machine Gray | V2187 | 5H905 | 6.93 | 4.71 | 4.47 | 1.4 |
| Dove Gray | V2184 | 4CH76 | 6.93 | 4.71 | 4.47 | 1.4 |
| Smoke Gray | V2188 | 4CH77 | 6.93 | 4.71 | 4.47 | 1.4 |
| Silver Aluminum | V2115 | 2FP61 | 6.93 | 4.71 | 4.47 | 1.4 |
| Matte Aluminum | V2118 | 3UP87 | 6.93 | 4.71 | 4.47 | 1.4 |
| Stainless Steel | V2119 | 3UP88 | 8.90 | 6.25 | 5.31* | 1.4 |
| High Gloss Black | V2179 | 5H903 | 6.93 | 4.71 | 4.47 | 1.4 |
| Flat Black | V2178 | 2FP66 | 6.93 | 4.71 | 4.47 | 1.4 |
| Semi-Gloss Black | V2177 | 4CH75 | 6.93 | 4.71 | 4.47 | 1.4 |

(‡) Some colors match specific manufacturers. Check color chart insert. (*) Lots of 6.

## RUST-OLEUM®

### HARD HAT® AEROSOL SPRAY COATINGS

**FINISHES: 15-oz. fill wt. Cover approx. 12-15 sq. ft.**

- Use on metal, wood, concrete/masonry

**PRIMERS: 15-oz. fill wt.**

- For spot priming and extra corrosion protection

**ZINC RICH COATINGS: 20-oz. fill wt.**

- Touch up galvanized metal, production welds, galvanized ducts, storage tanks, fences

**HIGH TEMPERATURE COATINGS: 15-oz. fill wt.**

- Apply to boilers, steam pipes, vents, drying vents. Resists temperatures up to 1000° F (538° C)

| Color Description | Rust-Oleum Model | Stock No.❸❷ | VOC Regulated Counties Rust-Oleum Model | VOC Regulated Counties Stock No.❸❷ | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **HARD HAT ZINC RICH COATINGS** | | | | | | | |
| Bright Galv. Compound | V2117 | 5W909 | V2117 | 5W909 | $10.12 | $9.61 | 1.7 |
| Cold Galv. Compound | V2185 | 5W180 | V2185 | 5W180 | 6.85 | 6.51 | 1.4 |
| **HARD HAT HIGH TEMPERATURE COATINGS** | | | | | | | |
| Black | V2176 | 5W179 | V2176 | 5W179 | 4.71 | 4.47 | 1.4 |
| Aluminum | V2116 | 1D493 | V2116 | 1D493 | 4.71 | 4.47 | 1.4 |
| **HARD HAT FLUORESCENTS** | | | | | | | |
| Yellow* | 2242 | 5W907 | — | — | 7.19 | 6.11 | 1.2 |
| Orange* | 2255 | 5W177 | — | — | 7.19 | 6.11 | 1.2 |
| Red* | 2264 | 5W178 | — | — | 7.19 | 6.11 | 1.2 |
| Green* | 2233 | 5W908 | — | — | 7.19 | 6.11 | 1.2 |

*IMPORTANT: VOC regulations A, B, C apply. See page 1988.

## DEM-KOTE®

### DEM-KOTE® ALL-PURPOSE SPRAY PAINTS

**FINISHES: 12-oz. fill wt.**

- All-purpose, fast-dry spray paints provide good coverage and hiding in industrial/commercial applications
- For interior or exterior general-purpose applications
- Use on metal, masonry, wood
- Dry tack-free in 15-20 minutes; hard in about 1 hour
- High gloss and flat finishes

(Note: No. 5FW97 has an 11-ounce fill wt.)

**PRIMERS:**

- For spot priming and corrosion protection
- Dries tack-free in 5-10 minutes; recoat at any time
- Use No. 5FW87 under light-colored finishes
- Use No. 5FX02 under dark-colored finishes
- Each can covers approximately 5-8 sq. ft.
- All are VOC compliant in regulated areas




No. 5FW95

### DEM-KOTE PRIMERS AND SPRAY PAINT ORDERING DATA

| Color Description | Stock No.❸❷ | List | Each | Lots 12 | Shpg. wt. |
|---|---|---|---|---|---|
| Gray Primer | 5FW87 | $5.37 | $2.94 | $2.79 | 1.2 |
| Red Primer | 5FX02 | 5.37 | 2.94 | 2.79 | 1.2 |
| Gloss Yellow | 5FW95 | 5.37 | 2.94 | 2.79 | 1.2 |
| Bright Yellow | 5FX01 | 5.37 | 2.94 | 2.79 | 1.2 |
| Yellow (Caterpillar)† | 5FX03 | 5.37 | 2.94 | 2.79 | 1.2 |
| Yellow (New Caterpillar)† | 5FX04 | 5.37 | 2.94 | 2.79 | 1.2 |
| Federal Highway Yellow | 5FX05 | 5.37 | 2.94 | 2.79 | 1.2 |
| Machine Green | 5FW96 | 5.37 | 2.94 | 2.79 | 1.2 |
| Green (John Deere)† | 5FX12 | 5.37 | 2.94 | 2.79 | 1.2 |
| Blue (Ford)† | 5FW94 | 5.37 | 2.94 | 2.79 | 1.2 |
| Medium Blue | 5FX09 | 5.37 | 2.94 | 2.79 | 1.2 |
| Chrome Silver | 5FW97 | 5.37 | 2.94 | 2.79 | 1.2 |
| Gloss Orange | 5FW99 | 5.37 | 2.94 | 2.79 | 1.2 |
| Orange (Allis Chalmers)† | 5FX06 | 5.37 | 2.94 | 2.79 | 1.2 |
| Gloss Red | 5FW93 | 5.37 | 2.94 | 2.79 | 1.2 |
| Bright Red | 5FX07 | 5.37 | 2.94 | 2.79 | 1.2 |
| Red (Intrl. Harvester)† | 5FX08 | 5.37 | 2.94 | 2.79 | 1.2 |
| Machine Gray | 5FW98 | 5.37 | 2.94 | 2.79 | 1.2 |
| Industrial Gray | 5FX10 | 5.37 | 2.94 | 2.79 | 1.2 |
| Blue-Gray | 5FX11 | 5.37 | 2.94 | 2.79 | 1.2 |
| Gloss Black | 5FW88 | 5.37 | 2.94 | 2.79 | 1.2 |
| Flat Black | 5FW90 | 5.37 | 2.94 | 2.79 | 1.2 |
| Low Luster Black | 4KP60 | 5.37 | 2.94 | 2.79 | 1.2 |
| Gloss White | 5FW89 | 5.37 | 2.94 | 2.79 | 1.2 |
| Flat White | 5FW91 | 5.37 | 2.94 | 2.79 | 1.2 |
| Appliance White | 5FW92 | 5.37 | 2.94 | 2.79 | 1.2 |

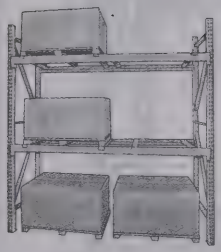
❷These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listings or call any California branch
❸ All products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite back cover.
†Closely matches color finish of farm implement manufacturer's name that is shown.
For color representations of coating systems listed on this page, please see the Rust-Oleum Color Selection Guide.

# RACK SELECTION GUIDE

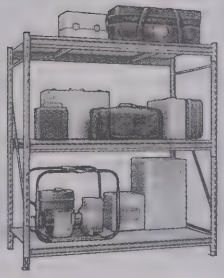


Racks are designed to store large and often very heavy unit loads that are on a pallet, in a container, or loose such as bar stock. The rack you choose depends on what you are handling and how you want to handle it. This guide provides basic information. Before selecting any product, please be sure to check local ordinances and understand code and seismic requirements.

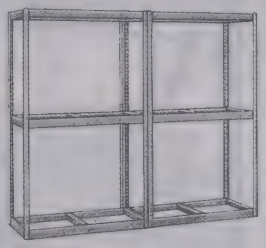
STEEL KING | JARKE CORPORATION | tennsco | UNARCO Material Handling, Inc. | PENCO



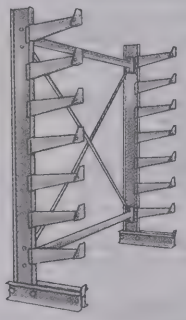
Pallet Rack



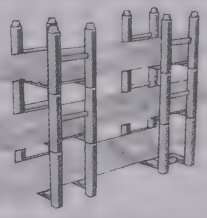
Bulk Rack



Boltless Rack



Cantilever Rack



Mini-Module®

## PALLET RACKS

Used primarily to store items that are on pallets or in containers that are loaded primarily by mechanized equipment. Also used to store heavy bulk loads. The Unarco and Penco pallet racks conform to the 1997 RMI (Rack Manufacturers' Institute) Standard which reflects state of the art design, national building codes, and safety considerations.

Ordering Tips:

1. Measure the largest load you expect to store; be sure to include pallet in measurement. To allow for positioning, add 8" to width and 6" to the height. Be sure to start at the floor when measuring for height. Determine number of pallets per level.

NOTE: Do not double stack.

2. Determine the weight of the heaviest load. Multiply that by the number of pallets per level.

3. Determine the number of levels required by dividing the height of your warehouse space by the height of the maximum load from step 1 (be sure to include 6").

4. Refer to ordering data and check for beam weight capacity and dimensions. Take the number of beam levels and height requirements to select uprights. Be sure not to exceed total (weight capacity of all beam levels) load capacity for the uprights.

## BULK STORAGE RACKS

Bulk storage racks bridge the gap between conventional shelving and pallet rack. It is ideal for wide, bulky, heavy loads that are handled manually.

Ordering Tips:

1. See Pallet Rack above for sizing tips.
2. Choose the best product type for application.
3. Choose the best decking type for application.

## BULK RACK

Similar to pallet rack construction. Front and rear posts are welded together as one piece. Front and rear beams are independent of each other.

## BOLTLESS RACK

This product's construction is closer to shelving. Posts and the level supports are independent pieces. Although there are more pieces to assemble than the bulk rack, it is quick and easy since you won't have to hassle with any nuts and bolts. Priced below bulk rack, it's a more economical option.

## DECKING TYPES

Wire decking allows for a clear view of inventory. It maximizes the efficiency of sprinkler systems and may be mandated by local fire codes. The open design keeps dust and dirt from settling.

Particleboard decking is the most economical choice of decking while providing adequate strength.

Steel decking is the strongest and most durable option. It handles your most heavy-duty storage needs effortlessly while making it easy to slide bulky, heavy items on and off.

## CANTILEVER RACKS

Ideal for storage of large, rigid products such as bar stock, tubing, pipe and lumber. These racks may be positioned for front loads; however, they're also ideal for hard-to-store, space intense applications that can be picked from the side.

## UNITIZED PORTABLE RACKS

This is a very flexible system because you can change your layout configuration easily. It's a "portable" racking system that moves to where you need it. Ideal for very large, bulky items—this system allows you to stack products one on top of the other while preventing compression damage. Also, this is an economical system due to lower maintenance, minimal installation and efficient uses of warehouse space compared to floor loading.

# PALLET RACK

**Most compatible rack design**—our tear drop style pallet rack design makes it easy to add to or replace existing pallet rack bays without having to redo an entire warehouse.

## CLOSED TUBE UPRIGHT FRAMES

**More cost effective design**—you can buy more capacity for less with our closed tube design versus open back columns and that means your system is more economical to install and maintain.

**30% - 40% more load carrying capacity**—offers greater flexibility in system design.

**200 times better resistance to torsional forces**—makes them better able to resist the twisting forces that tend to corkscrew ordinary rack.

**Pre-punched on 2" centers**—Lets you easily move beams to new locations as your needs change.

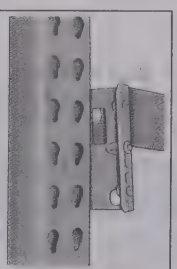
**All-welded construction**—provides maximum strength and simplicity of construction.

## BEAMS

**Built-in Gravity Lock**—beams can't be sprung or dislodged when struck from the bottom by a lift truck or pallet load.

**Reusable locking mechanism**—no tools needed when changing beam locations.

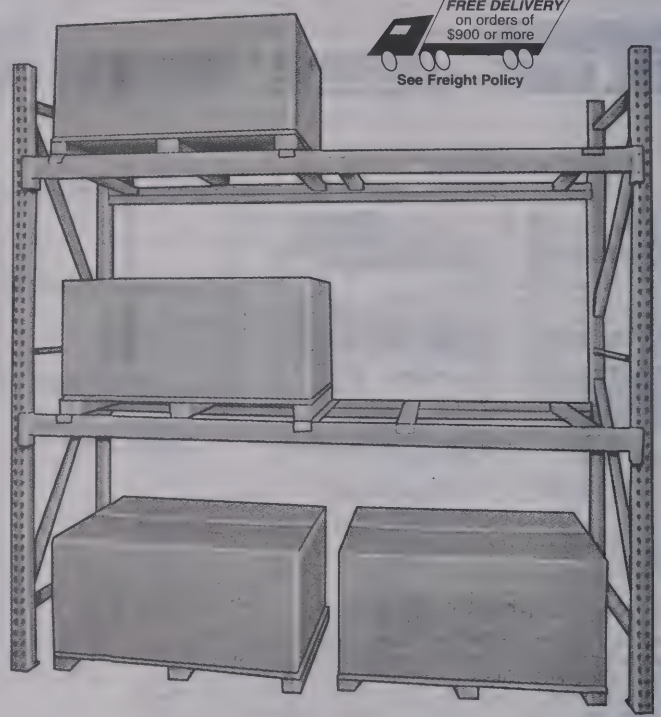
**Unarco's patented Gravity Lock System is built-in so it can't be lost, sprung or misplaced. It fits almost all tear drop style uprights.**



New

UNARCO Material Handling, Inc.

FREE DELIVERY on orders of $900 or more
See Freight Policy



Racks are designed to store large and often very heavy unit loads that are on a pallet, in a container, or loose such as bar stock. The rack you choose depends on what you are handling and how you want to handle it. This guide provides basic information. Before selecting any product, please be sure to check local ordinances and understand code and seismic requirements.

## TEAR DROP STYLE UPRIGHT FRAME ORDERING DATA

| Description* | Dimensions (In.) Ht. | Depth | Max. Load Capacity** | Unarco Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Frame | 96 | 36 | 23,232 | I0131096036L | 4UK27 | $104.41 | $83.55 | 57.0 |
| Frame | 96 | 42 | 23,232 | I0131096042L | 4UK28 | 106.61 | 85.30 | 58.0 |
| Frame | 120 | 36 | 23,232 | I0132120036L | 4UK33 | 125.16 | 100.15 | 76.0 |
| Frame | 120 | 42 | 23,232 | I0131120042L | 4UK30 | 127.75 | 102.20 | 74.0 |
| Frame | 144 | 36 | 23,232 | I0131144036L | 4UK31 | 143.83 | 115.10 | 85.0 |
| Frame | 144 | 42 | 23,232 | I0132144042L | 4UK34 | 147.02 | 117.65 | 93.0 |
| Frame | 192 | 42 | 23,232 | I0132192042L | 4UK35 | 200.94 | 161.00 | 124.0 |

(*)All uprights are painted deco green. (**)Frame capacities are based on a maximum unsupported length of 54". The maximum unsupported length is the measurement between the floor and the top of the first beam or the maximum spacing between beams—whichever is greater. RMI specifications call for each upright to be anchored through the front and rear baseplates during installation. Anchor bolts are not included with these beams and must be purchased separately.

## TEAR DROP STYLE BEAM ORDERING DATA

| Description* | Dimensions, (In.) Ht. | Span | Max. Load Capacity/Pair | Unarco Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Beams | 3⅜ | 96 | 4,019 | IG02F635096 | 4UK38 | $39.75 | $31.80 | 24.0 |
| Beams | 4⅜ | 96 | 5,190 | IG02F643096 | 4UK39 | 42.15 | 33.75 | 27.0 |
| Beams | 5 | 96 | 6,549 | IG02F65 096 | 4UK41 | 44.70 | 35.80 | 29.0 |
| Beams | 4⅜ | 108 | 4,364 | IG02F643108 | 4UK40 | 45.75 | 36.60 | 30.0 |
| Beams | 5 | 108 | 6,056 | IG02F65 108 | 4UK42 | 48.65 | 38.95 | 33.0 |
| Beams | 5 | 120 | 5,242 | IG02F65 120 | 4UK43 | 52.65 | 42.15 | 36.0 |
| Beams | 5 | 120 | 6,000 | IG02F45 120 | 4UK36 | 56.60 | 45.30 | 41.0 |
| Beams | 6 | 144 | 6,253 | IG02F46144 | 4UK37 | 72.75 | 58.20 | 53.0 |

(*) All beams are painted safety orange.

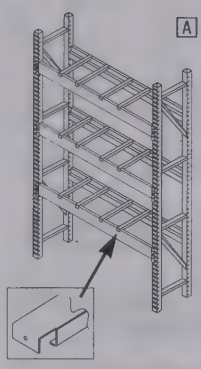


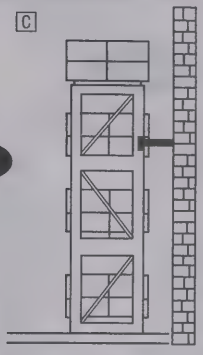
*As America's leading distributor, we know a thing or two about storage.*

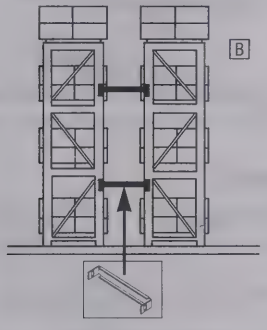
# PALLET RACK ACCESSORIES

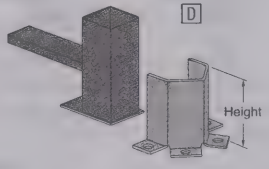
UNARCO
Material Handling, Inc.

## UNARCO PALLET RACK ACCESSORIES




**Row spacers should be position every 10 feet of height. Top spacer should be placed approximately 18" down from top of rack.**

### A FLANGED CROSSBARS

Help keep beams parallel. 36" or 42" long for use across long spans or with especially concentrated loads where step beams may have a tendency to spread. Provides additional load bearing surface to help support damaged or inferior pallets. R.M.I. Specification requires two crossbars for each pallet position. Pre-galvanized finish provides extra protection from rust and corrosion.

### B ROW SPACERS

Permit 2" to 4" parallel load overhang. Allows loads to be positioned properly on beams for even load distribution. Ties two rows of rack together, giving back-to-back rack installation greater stability by spreading load forces. Available in 6", 8", and 12" lengths to prevent pallet load overhangs from hitting each other when loading and unloading. 2 connectors included.

**Warning: Row spacers are not load carrying members. Do not place pallets or pallet loads on them.**

### C WALL TIES

Connect to wall to provide extra stability for a single row of rack that can't be tied to another rack upright. 6" & 12" wide for proper load distribution. The number of wall spacers you use depends on a 5 to 1 formula. If the rack is 3 feet deep there should be a wall spacer at 15 feet high. (Ex. 3 ft. deep x 5 = 15 ft.). Pre-galvanized finish provides extra protection from rust and corrosion. T-Bolt connnector for rack column included. Appropriate wall anchors required but not included.

**Warning: Wall spacers should only be used with walls that are structurally able to stand the additional load put on them by the rack tie-in.**

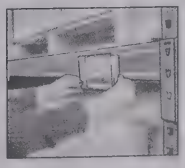
### D COLUMN PROTECTORS

For use with any upright or end-of-aisle upright that can be damaged by lift trucks. Completely independent of the upright and are bolted into the floor for maximum protection. (Does not include bolts or floor anchors.) Painted safety orange for maximum visibility.

| Key | Description | Length, (In.) | Capacity | Unarco Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Flanged Crossbar<br>Pre-galvanized finish | 36<br>42 | 1,430<br>1,250 | CC03F63G036<br>CC03F63G042 | **4UK17**<br>**4UK18** | $8.20<br>9.40 | **$6.56**<br>**7.52** | 5.0<br>6.0 |
| B | Row Spacer<br>Pre-galvanized finish | 6<br>8<br>12 | —<br>—<br>— | CC07 BC 006<br>CC07 BC 008<br>CC07 BC 012 | **4UK19**<br>**4UK20**<br>**4UK21** | 4.25<br>4.55<br>5.10 | **3.40**<br>**3.64**<br>**4.08** | 1.0<br>1.0<br>2.0 |
| C | Wall Tie<br>Pre-galvanized finish | 6<br>12 | —<br>— | CC08 07 006<br>CC08 07 012 | **4UK22**<br>**4UK23** | 10.80<br>11.00 | **8.64**<br>**8.80** | 2.0<br>3.0 |
| D | Column Protector<br>Painted Safety Orange | 12<br>18<br>24 | —<br>—<br>— | CC24 NP 012<br>CC24 NP 018<br>CC24 NP 024 | **4UK24**<br>**4UK25**<br>**4UK26** | 25.65<br>30.25<br>34.90 | **20.52**<br>**24.20**<br>**27.95** | 11.0<br>15.0<br>19.0 |

## SUPERSCAN LABEL HOLDERS

- **Special matte finish assures accurate bar code scanning**
- **Includes magnetic backing**
- **Extra large 4x6" size**
- **Includes laser/Ink jet compatible labels**



Magnetic backing allows for simple label relocation. Insertable feature lets you change or protect labels. Inserts are Laser/Ink Jet ready. Printing instructions included. 50 per box. Aigner/Cel-U-Dex brand (APX-46M).

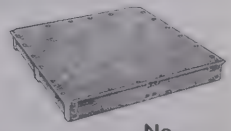
***New* No. 4TR23.** Shpg. wt. 3.9 lbs. List $45.00. Each ..... **$44.80**

## HEAVYWEIGHT RACKABLE PALLETS

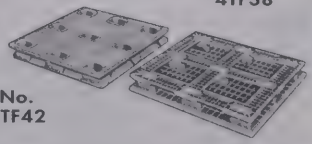
- **Constructed of maintenance-free, impact-resistant structural foam**
- **Recyclable**
- **No. 4TF38—40W x 48"D, 3500 lb. rackable load capacity**
- **No. 4TF42—40W x 48"D, 2000 lb. rackable load capacity**

ALLIBERT CONTICO

*New*



No. 4TF38



No. 4TF42

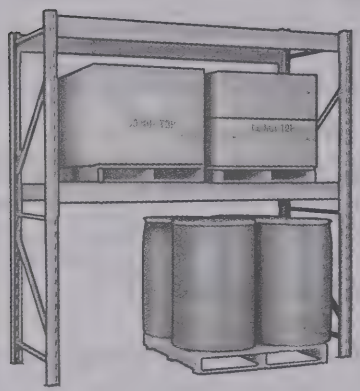
Structural foam pallets offer greater durability (outlasts wood on average of 50:1), is safer and easier to handle, and reduces the risk of product damage, commonly associated with wood pallets. Ideal for use on any type of unsupported rack.

***New* No. 4TF38.** Heavyweight Steel-Reinforced Rackable Pallet. Shpg. wt. 67.0 lbs. List $121.17. Each ..... **$109.05**

***New* No. 4TF42.** Heavyweight Structural Foam Pallet. Shpg. wt. 50.0 lbs. List $94.44. Each .. **$85.00**

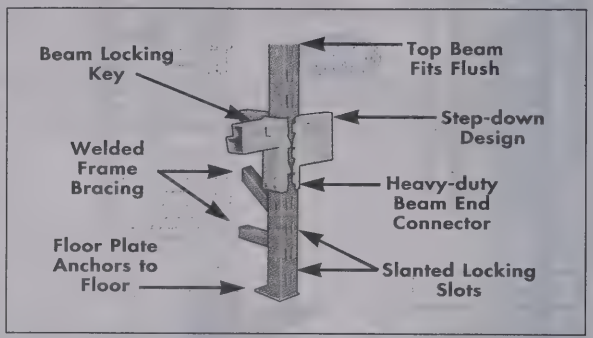
# PALLET RACKS

## DESIGNED TO STORE PALLETIZED AND HEAVY BULK LOADS HANDLED BY MECHANICAL EQUIPMENT



Rack Shown Consists of Two Frames and Four Beams

PENCO® New




Easily assembled Penco pallet racks provide safe, flexible storage to suit all your pallet storage needs. Not to be used as scaffolding.

**HOW TO ORDER:** Construct starter unit with two upright frames and two beams per shelf. Construct add-on units with one frame and two beams per shelf. Minimum of two shelf levels, or four beams, required per bay for safety.

### UPRIGHT FRAMES

To determine proper capacity for your application see Rack Selection Guide on page 2005.

- **Choose from 18,000 lbs. (3W x 1¾"D) or 24,000 lbs. (3W x 2¼" D) capacity**
- **Posts come in 96, 120, 144, and 192" heights; 36 or 42" depth**
- **Beam support slots punched full length on 3" centers**
- **Prefabricated frame posts are 14-gauge, steel with welded braces and footplates**
- **Gray enamel finish**

### BEAMS

Capacity limits given in the tables are based on evenly distributed loads. Add 11% to capacity requirement for 3 pallets wide. Add 25% of one pallet load to required capacity for shock loads if needed.

- **Beams are 14-gauge, steel roll formed in one piece with overlapped seam**
- **Beam end connector is 3 x 8½" oversize reinforced 3-prong connection for tight fit and increased lateral stability**
- **Choose from 96, 108, and 120" lengths, 2¾" wide with a 1⅝" step and 1" ledge**
- **Easy to use, built-in safety lock keys**
- **Safety yellow enamel finish**

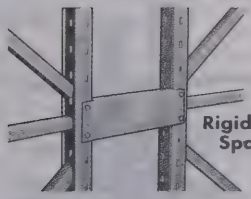
Racks are designed to store large and often very heavy unit loads that are on a pallet, in a container, or loose such as bar stock. The rack you choose depends on what you are handling and how you want to handle it. This guide provides basic information. Before selecting any product, please be sure to check local ordinances and understand code and seismic requirements.

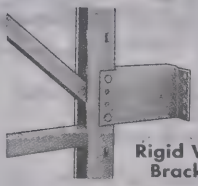
### PALLET STORAGE RACK SPECIFICATIONS AND ORDERING DATA

| Description | Dimensions (In.) D | H | Maximum Load Capacity per Bay (Lbs.) | Penco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Frame | 36 | 72 | 18,000 | 5FE072C028 | **New 4UF97** | $57.65 | **$44.70** | 34.0 |
| | 42 | 72 | 18,000 | 5FH072C028 | **New 4UF98** | 59.55 | **46.15** | 35.0 |
| | 36 | 96 | 18,000 | 5FE096C028 | **3W346** | 78.45 | **60.75** | 47.0 |
| | 42 | 96 | 18,000 | 5FH096C028 | **4W128** | 81.65 | **63.35** | 50.0 |
| | 36 | 120 | 18,000 | 5FE120C028 | **3W345** | 90.70 | **70.55** | 56.0 |
| | 42 | 120 | 18,000 | 5FH120C028 | **3W344** | 94.45 | **73.55** | 59.0 |
| | 36 | 144 | 18,000 | 5FE144C028 | **3W343** | 115.80 | **89.35** | 68.0 |
| | 42 | 144 | 18,000 | 5FH144C028 | **3W342** | 119.90 | **93.00** | 73.0 |
| Frame | 42 | 120 | 24,000 | 5GH120C028 | **4W129** | 100.35 | **78.40** | 64.0 |
| | 36 | 144 | 24,000 | 5GE144C028 | **New 4UF99** | 123.60 | **96.45** | 74.0 |
| | 42 | 144 | 24,000 | 5GH144C028 | **4W130** | 128.75 | **99.95** | 79.0 |
| | 42 | 192 | 24,000 | 5GH192C028 | **4W131** | 156.65 | **121.90** | 100.0 |

| Description | Dimensions (In.) Span | H | Maximum Load Capacity per Pair (Lbs.) | Penco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Beam (Each) | 96 | 3¼ | 4261 | 5BD096710 | **3W347** | $44.23 | **$36.40** | 30.0 |
| | 96 | 4⅛ | 6225 | 5BJ096710 | **3W348** | 47.78 | **39.40** | 33.0 |
| | 96 | 5¼ | 8282 | 5BS096710 | **4W132** | 53.38 | **44.00** | 37.0 |
| | 108 | 3⅝ | 4233 | 5BH108710 | **3W349** | 50.88 | **41.90** | 35.0 |
| | 108 | 4⅜ | 6266 | 5BN108710 | **3W350** | 55.80 | **46.10** | 39.0 |
| | 120 | 4⅛ | 4344 | 5BJ120710 | **4W133** | 58.18 | **48.10** | 41.0 |
| | 120 | 5¼ | 6595 | 5BS120710 | **4W134** | 65.13 | **53.85** | 46.0 |
| | 144 | 5¼ | 5297 | 5BS144710 | **New 4UG03** | 76.13 | **62.80** | 54.0 |

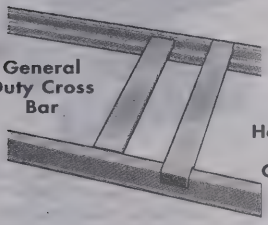
# PENCO PALLET RACK ACCESSORIES




PENCO®

Accessories are for use with Penco Pellet Storage Racks listed on previous page







**Rigid Row Spacers.** Structurally connect and evenly space two rows of racks back-to-back. Made of 12-gauge steel. Hardware included. Gray enamel finish.

**Rigid 6" Wall Bracket.** Structurally connects racks to wall for additional stability. Made of 12-gauge steel. Hardware included for attachment to upright only. Gray enamel finish.

**Cross Bars.** Support loads smaller than pallet rack depth. For use on 1 5/8" step beams; not for use with plywood decking. 16-gauge steel. Heavy-duty style cross bars have flange which provides extra protection against displacement caused by material handling equipment. Nos. 3W565 and 3W567 have 996 lb. load capacity*; Nos. 3W566 and 3W568 have 830 lb. capacity*. Can be mounted to beams, hardware not included. Gray enamel finish.

**Frame Protector.** Anchors to floor and front of post to protect against material handling vehicles. 18" high. 11-gauge steel. Anchoring hardware not included. Safety yellow enamel finish.

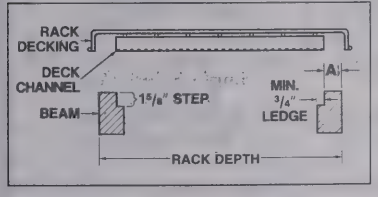
| Description | Frame Depth (In.) | Penco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Rigid 6" Row Spacer** | — | 5AR506710 | **3W562** | $6.15 | **$4.22** | 1.5 |
| **Rigid 12" Row Spacer** | — | 5AR512710 | **3W563** | 7.80 | **6.96** | 2.5 |
| **Rigid 6" Wall Bracket** | — | 5AR406710 | **3W564** | 5.95 | **5.65** | 0.5 |
| **General Duty Cross Bar** | 36 | 5AX636C028 | **3W565** | 11.15 | **9.31** | 4.4 |
| **General Duty Cross Bar** | 42 | 5AX642C028 | **3W566** | 12.65 | **10.42** | 5.8 |
| **H-D Flanged Cross Bar** | 36 | 5AX736C028 | **3W567** | 13.20 | **10.78** | 4.2 |
| **H-D Flanged Cross Bar** | 42 | 5AX742C028 | **3W568** | 14.75 | **11.93** | 5.4 |
| **Frame Protector** | — | 5AF018710 | **3W569** | 20.00 | **16.92** | 3.0 |

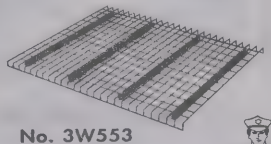
(*) Capacity per cross bar, based on evenly distributed loads. Two cross bars needed per pallet load. Capacity per pair of beams is not increased with addition of cross bars.

# STOR-MORE® GALVANIZED STEEL WIRE DECKING

## PALLET RACK DECKING

4-gauge wire construction with 2 x 4" mesh. Four rugged reinforcing underchannels are resistance welded with wire mesh at every intersection. Fits Penco and Unarco pallet racks and is also compatible with many other brands of pallet rack having a 36 or 42" depth and a 1⅝," step in the horizontal beam.



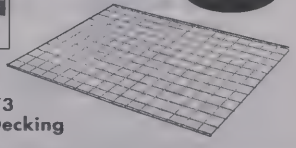
No. 3W553 Pallet Rack Decking

- **Pregalvanized to resist corrosion, then welded**
- **Open wire mesh design allows clear view of inventory and maximizes efficiency of overhead sprinkler system**
- **May help reduce insurance costs**
- **Will not trap dirt, oil, or debris**



**Easy to install — simply drop into place over rack beams. Front and back edges overlap beams to secure decking.**

New



No. 3VH73 Boltless Rack Decking




## HOW TO ORDER

1. Confirm that pallet rack depth is 36 or 42" and that beams have 1⅝" step with minimum 3/4" wide ledge.
2. Measure beam top surface "A". This measurement must be between 1⅝ and 1⅞".
3. Determine inside beam length between vertical uprights of rack. See below for decking needed.

**LOAD CAPACITY** of beams with decking must not exceed maximum beam or decking capacity. (Example: Beam capacity is 6225 lbs. per pair and decking is 7000 lbs. Load capacity of beams with decking is 6225 lbs.)

| Dim. (In.) D | Dim. (In.) L | Decking Required For Various Beam Lengths | Load Cap.* (Lbs.) | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 36 | 46 | 96"-2 ea.; 144"-3 ea. | 3500 | 3W553 | $39.50 | $26.75 | ▲ | 27.0 |
| 36 | 52 | 108"-2 ea. | 3500 | 3W554 | 42.35 | 28.50 | ▲ | 30.0 |
| 36 | 58 | 120"-2 ea.; 132"-2 ea. | 3500 | 3W555 | 46.10 | 29.95 | ▲ | 32.0 |
| 42 | 46 | 96"-2 ea.; 144"-3 ea. | 3500 | 3W556 | 51.25 | 33.90 | ▲ | 35.0 |
| 42 | 52 | 108"-2 ea. | 3500 | 3W557 | 50.75 | 34.25 | ▲ | 37.0 |
| 42 | 58 | 120"-2 ea.; 132"-2 ea. | 3500 | 3W558 | 53.90 | 36.00 | ▲ | 39.0 |

(*) Per piece, based on evenly distributed load. Multiply load capacity by number of pieces needed for total capacity pair of beams. Due to rigidity requirements, decking capacities may exceed beam capacities.

(▲) Net prices, not subject to discounts.

## DECKING FOR BOLTLESS HEAVY-DUTY BULK STORAGE RACKS

1/4" diameter steel wire welded into 3 x 3" mesh with double wire on long sides. Overall diameter is 1/8" less than nominal. Fits boltless bulk storage racks on pages 2016 and 2020 as well as other brands of similar boltless rack systems. Old particleboard shelving can be replaced with this wire decking in order to meet insurance and fire regulations. This design conforms to the National Fire Protection Assn. (NFPA) rack storage requirements (231c).

| Depth (In.) | Width (In.) | For 96" Width, Order Qty. | Stor-More Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 24 | 48 | 2 | RWD2448 | | 3VH73 | $46.00 | $29.65 | 13.0 |
| 24 | 60 | — | RWD2460 | New | 4VP72 | 57.50 | 37.50 | 17.0 |
| 24 | 72 | — | RWD2472 | | 3VH74 | 66.00 | 42.50 | 20.0 |
| 36 | 48 | 2 | RWD2648 | | 3VH75 | 63.00 | 40.60 | 27.0 |
| 36 | 60 | — | RWD3660 | New | 4VP73 | 78.75 | 50.00 | 22.0 |
| 36 | 72 | — | RWD3672 | | 3VH76 | 90.00 | 58.00 | 27.0 |
| 48 | 48 | 2 | RWD4848 | | 3VH77 | 80.00 | 51.55 | 24.0 |
| 48 | 60 | — | RWD4860 | New | 4VP74 | 100.00 | 64.50 | 30.0 |
| 48 | 72 | — | RWD4872 | | 3VH78 | 115.00 | 74.10 | 36.0 |

# CANTILEVER RACKS



Single Sided 8 Ft. Starter Unit

JARKE CORPORATION

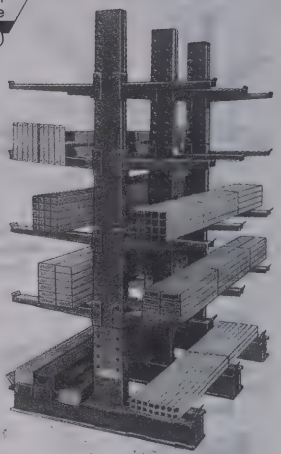
## STEELTREE®

FREE DELIVERY on orders of $900 or more

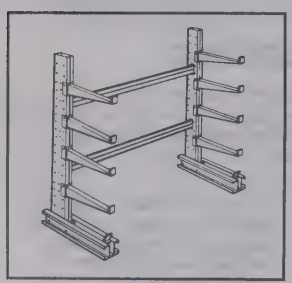
See Freight Policy

- Exclusive Jarke tapered column design and internal column stiffeners provide maximum durability
- Allow for safe, organized storage of awkward materials in small areas
- Available in starter and add-on units to create a single rack unit or a continuous assembly
- No special tools needed; all hardware included for fast, easy, rigid assembly
- Shipped unassembled for freight savings
- All units have 6 ft. wide bracing
- Storage for sheet material, bar and tube stock and other long, bulky items
- Double tube brace construction for greater stability

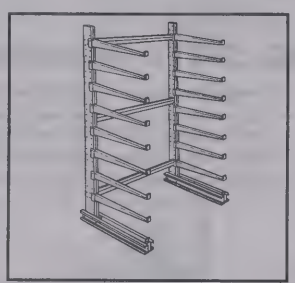
Questions? See Selection Guide on Page 2005



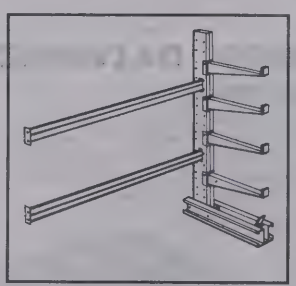
Double Sided 8 Ft. Starter Unit with One Add-On Unit



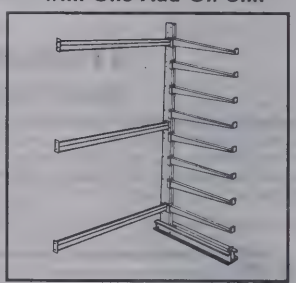
Single Sided 8 Ft. Starter Unit Double Sided Unit Also Available



Single Sided 12 Ft. Starter Unit Double Sided Unit Also Available



Single Sided 8 Ft. Add-On Unit Double Sided Unit Also Available



Single Sided 12 Ft. Add-On Unit Double Sided Unit Also Available

**Jarke Steeltree®** Cantilever Racks offer the ability to store large amounts of long heavy material in small areas of space. Highly suitable for use in manufacturing plants, steel service centers, warehouses, machine shops, maintenance rooms, and plumbing supply houses when storing such items as sheet material, bar and tube stock, and other long bulky items. Facilitate manual or fork-lift handling of clumsy or extremely heavy product.Straight arms are fully adjustable on 3" centers and have a removable lip on the ends to prevent stored items from falling over edge. Bases are 7-gauge steel. Units available in 8-ft. high columns with 24" long straight arms and 12-foot high columns with 48" long straight arms. 8 ft. high columns are 11-gauge steel with 11-gauge arms, 12-ft. high columns are 12-gauge high strength steel with 10-gauge arms. Both styles available single and double sided in both starter and add-on units. Cantilever rack can be assembled as a single starter rack or with a continuous assembly of add-on racks to handle longer materials. All units have 6 ft. wide bracing. Gray enamel finish. Jarke brand.

### STARTER CANTILEVER RACKS

| Height (Ft.) | Arms Qty. | Arms Length (In.) | Capacity Per Arm* (Lbs.) | Base Length (In.) | Capacity Per Unit † (Lbs.) | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SINGLE SIDED RACKS** | | | | | | | | | |
| 8 | 8 | 24 | 2000 | 37 | 16,000 | **3W588** | $643.09 | **$612.50** | 547.0 |
| 12 | 16 | 48 | 1000 | 58 | 16,000 | **3W589** | 1208.55 | **1151.00** | 1013.0 |
| **DOUBLE SIDED RACKS** | | | | | | | | | |
| 8 | 16 | 24 | 2000 | 65 | 32,000 | **3W590** | 873.41 | **832.00** | 726.0 |
| 12 | 32 | 48 | 1000 | 106 | 32,000 | **3W591** | 1782.90 | **1698.00** | 1571.0 |

### ADD-ON CANTILEVER RACKS

| Height (Ft.) | Arms Qty. | Arms Length (In.) | Capacity Per Arm* (Lbs.) | Base Length (In.) | Capacity Per Unit † (Lbs.) | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SINGLE SIDED RACKS** | | | | | | | | | |
| 8 | 4 | 24 | 2000 | 37 | 8000 | **3W592** | $363.13 | **$346.00** | 286.0 |
| 12 | 8 | 48 | 1000 | 58 | 8000 | **3W593** | 661.50 | **630.00** | 561.0 |
| **DOUBLE SIDED RACKS** | | | | | | | | | |
| 8 | 8 | 24 | 2000 | 65 | 16,000 | **3W594** | 477.92 | **455.25** | 394.0 |
| 12 | 16 | 48 | 1000 | 106 | 16,000 | **3W595** | 945.52 | **900.50** | 832.0 |

(*) Based on evenly distributed loads. Multiply by 2 for capacity per pair of arms.

(†) Based on evenly distributed loads. Does not include base load.

# CANTILEVER AND BAR RACKS

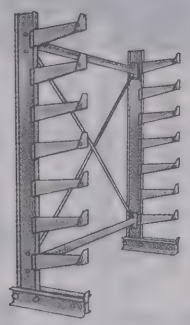
## QUICKTREE COLUMNS

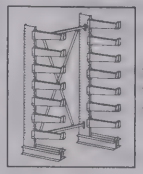
JARKE CORPORATION

- 500 Lb. capacity
- Tip-up lips on arms—up for round stock or flush for flat stock
- All-purpose storage for long and short materials

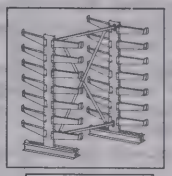
Quicktree columns are 84" high and constructed with structural 6" jr. I-beams which bolt to 4" channel base. 1½" arm adjustment centers. Arms/lips are made of 14 ga. galvanized steel and have 14: useable length. Brace sets are 3' or 6' made from 1½ x 2½" tubing with heavy steel diagonals. Shipped unassembled. Finish gray columns and brace arms galvanized. Jarke brand.

New

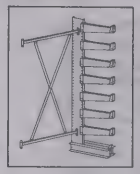




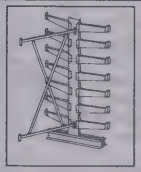
Single Sided Starter



Double Sided Starter



Single Sided Add-On



Double Sided Add-On

| Item | Arm Length (In.) | Capacity Per Arm (Lbs.) | Height (In.) | Base (In.) | Brace Center (Ft.) | STARTER UNIT No. of Arms | Stock No. | List | Each | Shpg. Wt. | ADD-ON UNIT No. of Arms | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Single-Sided Rack** | 14 | 500 | 84 | 21 | 3 | 14 | **4UK90** | $507.61 | **$461.50** | 237.0 | 7 | **4UK91** | $281.33 | **$256.00** | 135.0 |
| **Single-Sided Rack** | 14 | 500 | 84 | 21 | 6 | 14 | **4UK92** | 526.29 | **478.50** | 255.0 | 7 | **4UK93** | 300.01 | **272.75** | 153.0 |
| **Double-Sided Rack** | 14 | 500 | 84 | 34 | 3 | 28 | **4UK86** | 738.26 | **671.50** | 345.0 | 14 | **4UK87** | 396.71 | **360.75** | 189.0 |
| **Double-Sided Rack** | 14 | 500 | 84 | 34 | 6 | 28 | **4UK88** | 756.94 | **688.50** | 363.0 | 14 | **4UK89** | 415.39 | **377.75** | 207.0 |

## BUTTON-ON CANTILEVER RACK

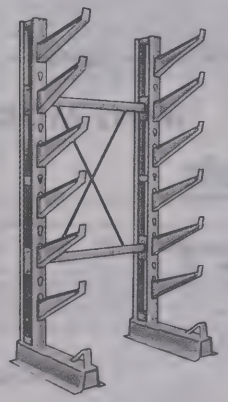
- 1000 Lb. capacity per arm
- Quick assembly
- Ideal for bar, pipe, and tubing
- Free standing or continuous
- Heavy loads and high abuse
- Especially suited for maintenance areas, tool rooms, and pipe shops

JARKE CORPORATION

New

For loads a person can reach and lift. Button-on lets you load up to 2000 lbs. at one time with a lift truck. . .or deposit materials manually for quick organized storage and retrieval. Provides an adjustable unit with as little as two columns, or assembles into a continous system that can grow as needed. Just "button" arms into position.

Button-on columns are 84" high and maded with 2 3-x-5" channels welded to 3/16" steel base. Arm adjustment key slots are 4" on centers. Arms are 16" inclined with 18° slope and uniquely designed just to button into position. They are all welded with 3/16" and 10 gauge steel. Brace is made from 1½ x 2½ tubing and heavy steel diagonals. Shipped unassembled and painted gray. Jarke brand.



No. 4UK77

| Item | Arm Length (In.) | Capacity Per Arm (Lbs.) | Height (In.) | Base (Lbs.) | Brace Center (Ft.) | Unit Capacity (Lbs) | STARTER UNIT No. of Arms | Stock No. | List | Each | Shpg. Wt. | ADD-ON UNIT No. of Arms | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Single-Sided Rack** | 16 Inclined | 1000 | 84 | 26½ | 6 | 12,000 | 12 | **4UK77** | $612.74 | **$557.50** | 314.0 | 6 | **4UK78** | $347.46 | **$316.00** | 182.0 |
| **Double-Sided Rack** | 16 Inclined | 1000 | 84 | 45 | 6 | 24,000 | 24 | **4UK79** | 999.63 | **909.00** | 406.0 | 12 | **4UK80** | 500.69 | **455.25** | 228.0 |

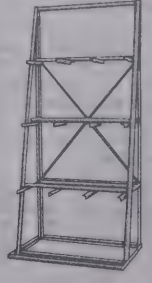
## VERTICAL BAR RACK

- 3000 Lb. capacity
- Store short and long lengths vertically
- Use as island storage for continuous rows

Solutions for solving vertical storage problems in tool rooms—maintenance departments, machining centers, storage areas, or as a point of purchase display. Steel components bolt together for quick and easy assembly. 6" arms extend beyond shelves and act as dividers creating 9" bays for storage. The frame is constructed of 1½" angle iron, diagonal bracing, and 4 shelves of heavy gauge steel. Shipped unassembled, painted gray. Jarke brand.

JARKE CORPORATION

New



No. 7D466

| Width | Rack Size (In.) Depth | Height | Capacity (Lbs) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **36** | 24 | 84 | 3000 | **7D466** | $187.10 | **$169.50** | 110.0 |

STORAGE EQUIPMENT

# STACK RACKS & MINI-MODULE SHELVING

## STACK RACKS

- Tubular steel base replaces wood pallets
- Tubular corner posts allow safe stacking four or more units high
- Portable—can be used as high density or high selectivity storage system
- Removable posts save space and shipping costs
- 4,000 pound capacity handles heavy loads

The unique StacKing rack gives users more flexibility than any other storage rack system. Users can easily set up and change storage configurations without costly professional installation. Corner posts protect loads during handling and shipping, allows multiple level storage, without load-on-load contact, eliminating product damage. By replacing standard wood pallets, eliminates the continual costs of purchasing, leasing, repairing, and disposing of wood pallets.

STEEL KING

New



No. 4TJ11
Base shown with
No. 4TJ17 corner posts

No. 4TJ12
with optional
posts

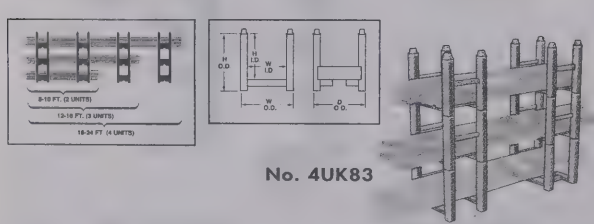
### *New!* STACKING PORTABLE RACK SPECIFICATIONS AND ORDERING DATA

| Description | Dimensions (In.) W | L | Deck Type | Steel King Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| StacKing Rack Base | 42 | 48 | Open | HD-4248-SF-OD-HS | 4TJ11 | $165.69 | $113.50 | 66.0 |
| | 42 | 48 | Wood Board | HD-4248-SF-WD-HS | 4TJ12 | 203.11 | 125.50 | 82.0 |
| | 42 | 60 | Open | HD-4260-SF-OD-HS | 4TJ13 | 131.77 | 114.60 | 95.0 |
| | 42 | 60 | Wood Board | HD-4260-SF-WD-HS | 4TJ14 | 146.86 | 127.70 | 70.0 |
| | 48 | 48 | Open | HD-4848-SF-OD-HS | 4TJ15 | 130.27 | 113.30 | 66.0 |
| | 48 | 48 | Wood Board | HD-4848-SF-WD-HS | 4TJ16 | 148.71 | 129.35 | 90.0 |
| Removable corner posts for StacKing rack, set of four (4) | | | — | HDC-36 | 4TJ17 | 59.67 | 51.90 | 38.0 |
| | | | — | HDC-48 | 4TJ18 | 71.40 | 62.10 | 52.0 |

## MINI-MODULE®

JARKE CORPORATION

New



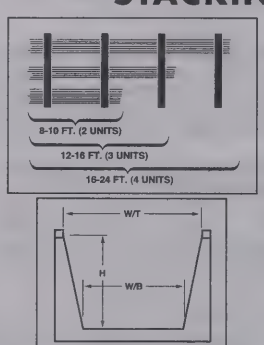

No. 4UK83

- No bolts, tools, or fittings required for set-up or take down
- Increase floor space
- Fast storage and retrieval of long material
- All welded steel construction

Efficient, low-cost mini-modules take only a minute to set-up. Sturdy, yet lightweight and easy to handle, they provide a highly flexible storage system for all types of materials. Mini-module installations are expandable in width, height, and length. Easily shift to meet changing storage requirements. Fast and convenient removal. Cut-off lengths can be returned to storage and quickly identified next time needed. Heavy-duty welded steel construction. Jarke brand.

| Capacity (Lbs.) | Inside Dimensions (In.) H | W | Outside Dimensions (In.) H | W | D | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2500 | 12 | 12 | 13½ | 16 | 12 | 4UK83 | $35.51 | $32.30 | 17.0 |
| 3700 | 15 | 15 | 17 | 19 | 14 | 4UK84 | 46.00 | 41.85 | 28.0 |
| 5600 | 18 | 18 | 20½ | 22 | 15 | 4UK85 | 46.42 | 42.20 | 34.0 |

## STACKING U-RACKS




JARKE CORPORATION

New



No. 4UK94

- Sets up quickly and easily
- Lightweight construction
- Ideally suited for changing storage requirements within plants or work areas
- All welded construction

Racking stacks up to 4 high offering stable storage of bars, pipe, tubing, angles, channels and plastic shapes in an instant. Ideal for long time storage, or as temporary storage for use next to machines and workstations. Racks stack by trapping the unit above with nesting flanges.

| Capacity (Lbs.) | Dimensions (In.) H | W/B | W/T | *New!* Stock No. | List* | Each* | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 6000/PR* | 15¾ | 16½ | 25¼ | 4UK94 | $55.00 | $50.00 | 13.0 |
| 1000/PR* | 15¾ | 16½ | 25¼ | 4UK95 | 60.62 | 55.15 | 15.0 |

(*) Priced each, sold and shipped in pairs.

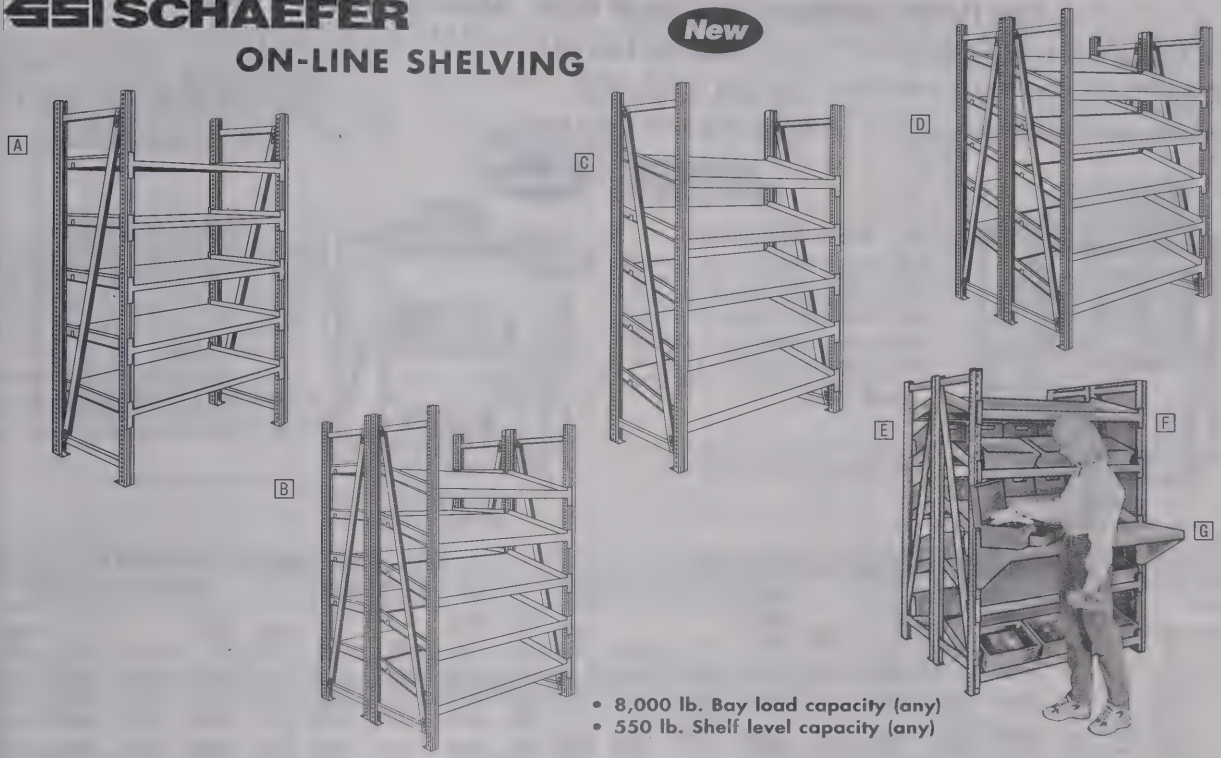


*As America's leading distributor, we know a thing or two about storage.*

# INDUSTRIAL STARTER AND ADD-ON PRODUCTION SHELVING

## SSI SCHAEFER ON-LINE SHELVING

New




- 8,000 lb. Bay load capacity (any)
- 550 lb. Shelf level capacity (any)

**Designed for production efficiency.** Reduces need for workers to leave workstation for supply/return. Parts slide forward on tilted shelves for easier picking. Empty return containers can slide out of the way on inverted shelves. Saves time, effort and money.

**Fast, easy, assembly.** Galvanized steel frames come pre-assembled. Shelf levels ship ready to assemble—with no nuts or bolts and complete with front and rear beams, shelf guides, and gray painted shelves.

**Cost-effectively utilizes valuable workspace.** Back-to-back double units maximize linear floor space.

**Mobile units** move parts to where they're needed. In single depth with four shelf levels.

Units include five shelf levels. Shelves can be easily rearranged in 2" increments. Add-on units of same depth can mix or match. Schaefer brand.

| Key | Configuration | Item | Dimensions (In.) D | W* | H | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Single Straight | Starter Unit | 24 | 48 | 78½ | 4VM03 | $572.44 | $520.50 | 257.0 |
| | | Add-On Unit | 24 | 48 | 78½ | 4VL64 | 471.58 | 428.75 | 238.0 |
| | | Extra Shelf | 24 | 48 | | 4VM26 | 72.68 | 66.10 | 24.0 |
| | Double Straight | Starter Unit | 48 | 48 | 78½ | 4VM04 | 1036.97 | 943.00 | 368.0 |
| | | Add-On Unit | 48 | 48 | 78½ | 4VL65 | 835.25 | 759.50 | 330.0 |
| | | Extra Shelf | 48 | 48 | | 4VM27 | 7.11 | 111.55 | 42.0 |
| B | Double Straight/Tilt | Starter Unit | 48 | 48 | 78½ | 4VM05 | 1052.65 | 957.00 | 381.0 |
| | | Add-On Unit | 48 | 48 | 78½ | 4VL66 | 850.93 | 774.00 | 343.0 |
| | | Extra Shelf | 48 | 48 | | 4VM28 | 125.82 | 114.40 | 45.0 |
| C | Single Tilt | Starter Unit | 24 | 48 | 78½ | 4VM06 | 591.80 | 538.50 | 269.0 |
| | | Add-On Unit | 24 | 48 | 78½ | 4VL67 | 490.96 | 446.50 | 250.0 |
| | | Extra Shelf | 24 | 48 | | 4VM29 | 75.87 | 69.00 | 27.0 |
| D | Double Tilt | Starter Unit | 48 | 48 | 78½ | 4VM07 | 1070.18 | 973.00 | 381.0 |
| | | Add-On Unit | 48 | 48 | 78½ | 4VL68 | 868.44 | 789.50 | 343.0 |
| | | Extra Shelf | 48 | 48 | | 4VM30 | 131.61 | 119.65 | 45.0 |
| E | Double Inverted Tilt | Starter Unit | 48 | 48 | 78½ | 4VM08 | 1068.33 | 971.50 | 393.0 |
| | | Add-On Unit | 48 | 48 | 78½ | 4VL69 | 866.61 | 788.00 | 355.0 |
| | | Extra Shelf | 48 | 48 | | 4VM31 | 128.95 | 117.25 | 42.0 |
| F | | Perf. Side Panel | | 24 | 78½ | 4VM17 | 55.71 | 50.65 | 33.0 |
| G | | Worktable | 16 | 48 | | 4VM18 | 169.84 | 154.50 | 35.0 |
| | Straight | Mobile Unit | 24 | 48 | 60 | 4VM09 | 845.16 | 768.50 | 248.0 |
| | Tilt | Mobile Unit | 24 | 48 | 60 | 4VM10 | 857.70 | 780.00 | 240.0 |

* Clear width between posts. For overall dimensions, add 4¾" for starter units and 2⅜" for add-on units.

# HEAVY DUTY BULK RACKS

## FOR HAND LOADED STORAGE OF HIGH, WIDE, AND BULKY ITEMS

**Easy Assembly** - NO TOOLS REQUIRED

**Levels adjust on 2" Increments** to conform to storage requirements

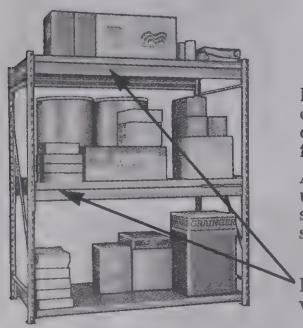
**Load Capacities up to 2400 lbs.***

**Access contents from either side**

**Three types of deck surface** – Heavy Gauge Steel. Wire. Particle Board

**Durable Gray baked enamel finish**

Penco heavy duty bulk storage racks, also known as Wide Span Shelving. Choose from a wide variety of widths, depths and heights. NOT FOR FORK TRUCK LOADING.



3 Shelf Starter Unit with Heavy Gauge Steel Shelves

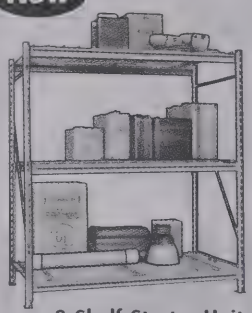
PENCO New

### STEEL DECK UNITS

Features smooth solid steel decks that are 1¾" high with double flange construction and full width reinforced pan.

Additional decks or add-on units may be added as necessary to accomodate changing storage needs.

Rigidity beams (included) provide superior lateral stability.



3 Shelf Starter Unit with Wire Decking

### WIRE DECK UNITS

Provides an outstanding surface for storage while allowing light to pass through and avoid the accululation of dirt. Waterfall design installs quickly over rigidity beams.

Wire is 4 gauge. Deck channels provide outstanding load carrying capacity. Add additional deck levels or add-on units as needed.

Finish is gray enamel.

## *New!* STEEL SHELF UNITS W/3 SHELVES

### STEEL DECK STARTER UNITS

| Dimensions (In.) H | W | D | Cap./ Shelf (Lbs.*) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 72 | 60 | 36 | 2400 | 4TZ44 | $447.45 | $295.50 | 248.0 |
| | 60 | 48 | — | — | — | — | — |
| | 72 | 36 | 2000 | 4TZ45 | 488.80 | 323.00 | 281.0 |
| | 72 | 48 | — | — | — | — | — |
| | 84 | 36 | 1600 | 4TZ46 | 533.45 | 352.50 | 314.0 |
| | 96 | 36 | 1200 | 4TZ47 | 574.50 | 379.50 | 352.0 |
| | 96 | 48 | — | — | — | — | — |
| 96 | 60 | 36 | — | — | — | — | — |
| | 60 | 48 | 1800 | 4TZ48 | 536.20 | 354.25 | 298.0 |
| | 72 | 36 | — | — | — | — | — |
| | 72 | 48 | 1800 | 4TZ49 | 584.45 | 386.00 | 335.0 |
| | 84 | 48 | 1600 | 4TZ50 | 645.85 | 382.00 | 373.0 |
| | 96 | 36 | — | — | — | — | — |
| | 96 | 48 | 1200 | 4TZ51 | 691.25 | 456.50 | 413.0 |
| 120 | 60 | 36 | 2400 | 4TZ52 | 495.40 | 327.25 | 276.0 |
| | 72 | 36 | 2000 | 4TZ53 | 536.70 | 354.50 | 335.0 |
| | 84 | 36 | 1600 | 4TZ55 | 581.45 | 384.00 | 353.0 |
| | 96 | 36 | 1200 | 4TZ56 | 622.40 | 411.25 | 377.0 |
| | 60 | 48 | 1800 | 4TZ57 | 553.45 | 365.50 | 319.0 |
| | 72 | 48 | 1800 | 4TZ58 | 601.55 | 397.25 | 359.0 |
| | 84 | 48 | 1600 | 4TZ59 | 663.15 | 438.00 | 398.0 |
| | 96 | 48 | 1200 | 4TZ60 | 708.35 | 468.00 | 437.0 |

### *New!* STEEL DECK ADD-ON UNITS

| *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|
| 4TZ61 | $398.10 | $263.00 | 226.0 |
| — | — | — | — |
| 4TZ62 | 439.45 | 290.25 | 259.0 |
| — | — | — | — |
| 4TZ63 | 484.10 | 319.75 | 293.0 |
| 4TZ64 | 525.15 | 347.00 | 330.0 |
| — | — | — | — |
| — | — | — | — |
| 4TZ66 | 468.60 | 309.50 | 265.0 |
| — | — | — | — |
| 4TZ67 | 516.85 | 341.50 | 303.0 |
| 4TZ68 | 578.35 | 382.00 | 340.0 |
| — | — | — | — |
| 4TZ69 | 623.65 | 412.00 | 381.0 |
| 4TZ70 | 422.00 | 278.75 | 240.0 |
| 4TZ71 | 463.30 | 306.00 | 302.0 |
| 4TZ72 | 508.05 | 335.75 | 317.0 |
| 4TZ73 | 549.00 | 362.75 | 341.0 |
| 4TZ74 | 477.25 | 315.25 | 280.0 |
| 4TZ75 | 525.35 | 347.00 | 320.0 |
| 4TZ77 | 586.95 | 387.75 | 359.0 |
| 4TZ78 | 632.15 | 417.50 | 398.0 |

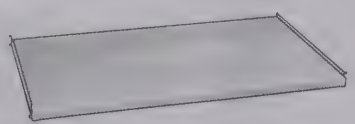
## WIRE SHELF UNITS W/3 SHELVES

### WIRE DECK STARTER UNITS

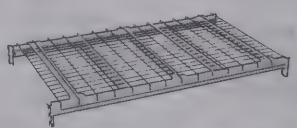
| Cap./ Shelf (Lbs.*) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2140 | 7B417 | $350.63 | $276.75 | 191.0 |
| 2140 | 7B418 | 394.63 | 311.75 | 238.0 |
| 1780 | 7B419 | 378.13 | 298.50 | 209.0 |
| 1780 | 7B420 | 436.98 | 345.25 | 268.0 |
| — | — | — | — | — |
| 1340 | 7B421 | 472.73 | 373.25 | 262.0 |
| 1340 | 7B422 | 533.78 | 421.50 | 325.0 |
| 2140 | 7B423 | 381.15 | 301.00 | 207.0 |
| 2140 | 7B424 | 428.45 | 389.50 | 258.0 |
| 1780 | 7B425 | 408.65 | 322.75 | 225.0 |
| 1780 | 7B426 | 470.80 | 371.75 | 288.0 |
| — | — | — | — | — |
| 1340 | 7B427 | 503.25 | 397.50 | 278.0 |
| 1340 | 7B428 | 567.60 | 448.00 | 345.0 |
| 2140 | 7B429 | 401.23 | 316.75 | 219.0 |
| 1780 | 7B431 | 428.45 | 338.50 | 237.0 |
| — | — | — | — | — |
| 1340 | 7B433 | 523.33 | 413.25 | 290.0 |
| 2140 | 7B430 | 446.88 | 353.00 | 270.0 |
| 1780 | 7B432 | 489.23 | 386.50 | 300.0 |
| — | — | — | — | — |
| 1340 | 7B434 | 586.30 | 462.75 | 357.0 |

### WIRE DECK ADD-ON UNITS

| *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|
| 7B381 | $300.58 | $273.25 | 169.0 |
| 7B382 | 342.10 | 270.25 | 215.0 |
| 7B383 | 328.08 | 259.00 | 187.0 |
| 7B384 | 384.45 | 303.75 | 245.0 |
| — | — | — | — |
| 7B385 | 422.68 | 333.75 | 240.0 |
| 7B386 | 481.25 | 380.00 | 302.0 |
| 7B387 | 315.98 | 249.50 | 177.0 |
| 7B388 | 359.15 | 283.50 | 225.0 |
| 7B389 | 343.20 | 271.00 | 195.0 |
| 7B390 | 401.23 | 317.00 | 255.0 |
| — | — | — | — |
| 7B391 | 438.08 | 345.75 | 248.0 |
| 7B392 | 498.03 | 393.25 | 312.0 |
| 7B393 | 325.88 | 257.25 | 183.0 |
| 7B395 | 353.38 | 279.00 | 201.0 |
| — | — | — | — |
| 7B397 | 447.98 | 353.75 | 254.0 |
| 7B394 | 368.23 | 290.75 | 231.0 |
| 7B396 | 410.58 | 324.25 | 261.0 |
| — | — | — | — |
| 7B398 | 507.38 | 400.75 | 318.0 |



New



## *New!* EXTRA STEEL DECKS W/SHELF SUPPORTS

| Dimensions (In.) W | D | H | Cap./ Shelf Lbs.* | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 60 | 36 | 1¾ | 2400 | 4UG59 | $94.00 | $59.85 | 57.0 |
| 60 | 48 | 1¾ | 1800 | 4UG60 | 111.40 | 70.95 | 70.0 |
| 72 | 36 | 1¾ | 2000 | 4UG61 | 105.60 | 67.25 | 66.0 |
| 72 | 48 | 1¾ | 1800 | 4UG62 | 125.35 | 79.80 | 81.0 |
| 84 | 36 | 1¾ | 1600 | 4TX99 | 118.35 | 75.35 | 76.0 |
| 84 | 48 | 1¾ | 1600 | 4TZ01 | 143.65 | 91.45 | 92.0 |
| 96 | 36 | 1¾ | 1200 | 4TZ02 | 129.75 | 82.60 | 89.0 |
| 96 | 48 | 1¾ | 1200 | 4TZ03 | 156.45 | 99.60 | 103.0 |

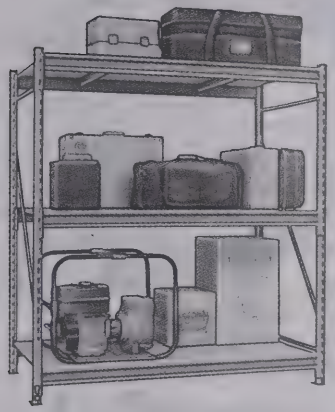
(*) For evenly distributed loads.

## *New!* EXTRA BEAMS W/WIRE DECK AND FRONT TO BACK BRACES

| Dimensions (In.) W | D | H | Cap./ Shelf Lbs.* | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 60 | 36 | 3 | 2140 | 7B437 | $83.49 | $75.90 | 49.0 |
| 72 | 36 | 3 | 1780 | 7B439 | 92.62 | 84.20 | 55.0 |
| 96 | 36 | 3 | 1340 | 7B441 | 124.30 | 113.00 | 73.0 |
| 60 | 48 | 3 | 2140 | 7B438 | 96.53 | 87.75 | 64.0 |
| 72 | 48 | 3 | 1780 | 7B440 | 110.66 | 100.60 | 74.0 |
| 96 | 48 | 3 | 1340 | 7B442 | 142.89 | 129.90 | 93.0 |

# HEAVY DUTY BULK RACKS

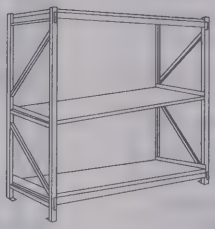
## BRIDGE THE GAP BETWEEN CONVENTIONAL SHELVING AND PALLET RACK



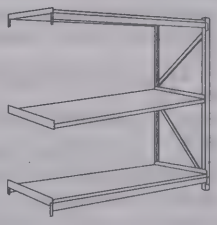
3-Shelf Starter Unit with Particleboard Decking

PENCO®

New



STARTER UNIT



ADD-ON UNIT

### PARTICLEBOARD UNITS

An economical solution to your bulk storage requirements. Plywood beams with supports and 5/8" particleboard decking. Extend the row with Add-on units.

**Starter Units** – Consist of 2 upright Frames and 3 pair of beams and the appropriate deck levels.

**Add-On Units** – Consist of 1 Upright Frame and 3 pair of beams and the appropriate deck levels.

Begin each row with a Starter unit and order Add-on units as required.

### *New!* PARTICLEBOARD DECK UNITS W/3 SHELVES

| Dimensions (In.) H | W | D | STARTER UNITS Cap./ Shelf (Lbs.*) | *New!* Stock No. | List | Each | Shpg. Wt. | ADD-ON UNITS *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **72** | 60½ | 36 | 1470 | **7B399** | $291.78 | **$265.25** | 216.0 | **7B363** | $248.05 | **$225.50** | 194.0 |
| **72** | 72½ | 36 | 1760 | **7B401** | 329.18 | **299.25** | 252.0 | **7B365** | 285.18 | **259.25** | 230.0 |
| **72** | 96½ | 36 | 1350 | **7B403** | 390.23 | **354.75** | 322.0 | **7B367** | 346.50 | **315.00** | 300.0 |
| **72** | 60½ | 48 | 1440 | **7B400** | 305.80 | **278.00** | 256.0 | **7B364** | 259.88 | **236.25** | 233.0 |
| **72** | 72½ | 48 | 1760 | **7B402** | 347.88 | **316.25** | 303.0 | **7B366** | 301.68 | **274.25** | 280.0 |
| **72** | 96½ | 48 | 1350 | **7B404** | 413.20 | **376.00** | 300.0 | **7B368** | 367.68 | **334.25** | 361.0 |
| **96** | 60½ | 36 | 1470 | **7B405** | 318.75 | **289.75** | 232.0 | **7B369** | 261.53 | **237.75** | 202.0 |
| **96** | 72½ | 36 | 1760 | **7B407** | 356.13 | **323.75** | 268.0 | **7B371** | 298.65 | **271.50** | 238.0 |
| **96** | 96½ | 36 | 1350 | **7B409** | 417.18 | **379.25** | 338.0 | **7B373** | 359.70 | **327.00** | 308.0 |
| **96** | 60½ | 48 | 1440 | **7B406** | 335.50 | **305.00** | 276.0 | **7B370** | 274.45 | **249.50** | 243.0 |
| **96** | 72½ | 48 | 1760 | **7B408** | 377.30 | **343.00** | 323.0 | **7B372** | 316.54 | **287.75** | 290.0 |
| **96** | 96½ | 48 | 1350 | **7B410** | 443.30 | **403.00** | 404.0 | **7B374** | 382.54 | **347.75** | 371.0 |
| **120** | 60½ | 36 | 1470 | **7B411** | 336.33 | **305.75** | 244.0 | **7B375** | 270.05 | **245.50** | 208.0 |
| **120** | 72½ | 36 | 1760 | **7B413** | 373.45 | **339.50** | 280.0 | **7B377** | 307.45 | **279.50** | 244.0 |
| **120** | 96½ | 36 | 1350 | **7B415** | 434.78 | **395.25** | 350.0 | **7B379** | 368.50 | **335.00** | 314.0 |
| **120** | 60½ | 48 | 1440 | **7B412** | 351.73 | **319.75** | 288.0 | **7B376** | 282.70 | **257.00** | 249.0 |
| **120** | 72½ | 48 | 1760 | **7B414** | 393.80 | **358.00** | 335.0 | **7B378** | 324.78 | **295.25** | 296.0 |
| **120** | 96½ | 48 | 1350 | **7B416** | 459.53 | **417.75** | 416.0 | **7B380** | 390.50 | **355.00** | 377.0 |



No. 7B443

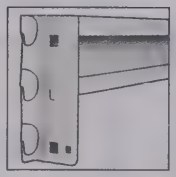
### *New!* EXTRA BEAM & PARTICLEBOARD LEVELS

| Dimensions (In.) W | D | H | Cap./ Shelf Lbs.* | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **60½** | 36 | 3½ | 1470 | **7B443** | $67.93 | **$61.75** | 57.0 |
| **60½** | 48 | 3½ | 1470 | **7B444** | 71.23 | **64.75** | 70.0 |
| **72½** | 36 | 3½ | 1760 | **7B445** | 80.36 | **73.05** | 69.0 |
| **72½** | 48 | 3½ | 1760 | **7B446** | 85.31 | **77.55** | 86.0 |
| **96½** | 36 | 3½ | 1350 | **7B447** | 100.87 | **91.70** | 93.0 |
| **96½** | 48 | 3½ | 1350 | **7B448** | 107.25 | **97.50** | 113.0 |

(*) For evenly distributed loads.

### DESIGN FEATURES

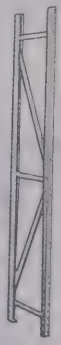
#### BEAMS



Patented Beam End connector helps prevent accidental dislodging (US Patent No. 4,928,834).

#### FRAMES

Upright Frames are made from heavy gauge steel, MIG welded into one rigid assembly containing posts, horizontal and diagonal braces, and foot plates. Frames have a capacity of 10,000 pounds vertical adjustment on 2" centers.





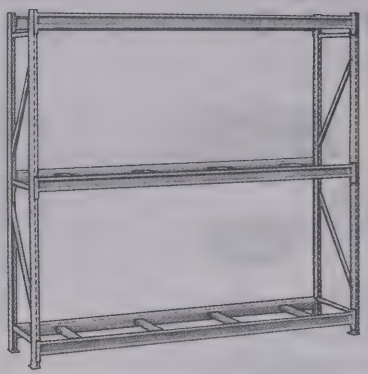
Bulk storage racks with steel decking shown above

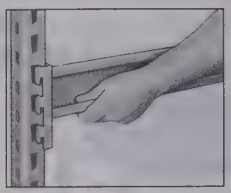
STORAGE EQUIPMENT

# HEAVY-DUTY BULK RACK

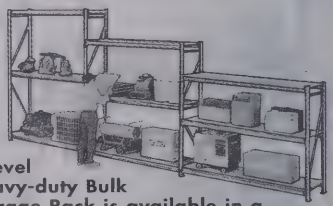
tennsco **New**

- Flexibility of installing your own decking
- 1400-2700 lb capacity per shelf
- Intended for hand loading bulky items
- Box beam construction for maximum strength
- Beams are electrically welded and made of 14-gauge heavy-duty steel
- Installs, disassembles, and expands easily—no tools required
- Adjacent units share a common upright for greater economy
- Levels adjust in 2" increments
- Medium gray finish





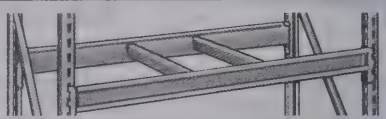
3-lug prong connector securely slides into tapered slots of uprights



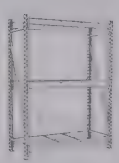
3-level Heavy-duty Bulk Storage Rack is available in a variety of sizes. Can be expanded at any time

## BULK RACK WITH NO DECKING

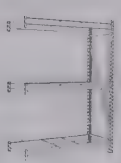
This option gives you the flexibility of installing your own decking



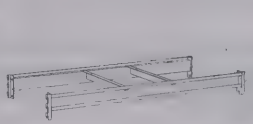
### STARTER



### ADD-ON



### ADD'L LEVELS



| Shelf Capacities† | |
|---|---|
| 4 ft. width | 2700 lbs. |
| 5 | 2500 |
| 6 | 1800 |
| 8 | 1400 |

(†) Based on evenly distributed loads.

| Dimensions (Ft.) H | W | D | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4 | 2 | **7B983** | $162.00 | **$137.70** | 101.0 | **7B895** | $124.29 | **$105.65** | 79.0 | **4TV18** | $25.13 | **$21.36** | 19.0 |
| | 4 | 3 | **7B984** | 171.65 | **145.90** | 111.0 | **7B896** | 131.88 | **112.10** | 87.0 | **4TV19** | 26.58 | **22.59** | 21.0 |
| | 4 | 4 | **7B985** | 182.65 | **155.25** | 116.0 | **7B897** | 140.06 | **119.05** | 91.0 | **4TV20** | 28.19 | **23.96** | 22.0 |
| | 5 | 2 | **7B986** | 176.29 | **149.85** | 116.0 | **7B898** | 138.47 | **117.70** | 94.0 | **4TV21** | 28.78 | **24.46** | 24.0 |
| | 5 | 3 | **7B987** | 185.00 | **157.25** | 126.0 | **7B899** | 146.11 | **124.20** | 102.0 | **4TV22** | 30.25 | **25.75** | 26.0 |
| **6** | 5 | 4 | **7B988** | 195.00 | **166.50** | 131.0 | **7B900** | 154.21 | **131.10** | 106.0 | **4TV23** | 31.85 | **27.10** | 27.0 |
| | 6 | 2 | **7B989** | 174.12 | **165.00** | 125.0 | **7B901** | 156.78 | **132.75** | 103.0 | **4TV24** | 34.05 | **28.95** | 27.0 |
| | 6 | 3 | **7B990** | 205.47 | **174.75** | 138.0 | **7B902** | 166.67 | **141.70** | 114.0 | **4TV25** | 36.26 | **30.85** | 30.0 |
| | 6 | 4 | **7B991** | 219.40 | **186.50** | 146.0 | **7B903** | 177.87 | **151.25** | 121.0 | **4TV26** | 36.68 | **32.90** | 32.0 |
| | 8 | 2 | **7B992** | 225.88 | **192.00** | 149.0 | **7B904** | 187.94 | **159.75** | 127.0 | **4TV27** | 42.92 | **36.50** | 35.0 |
| | 8 | 3 | **7B993** | 239.95 | **204.00** | 165.0 | **7B905** | 201.15 | **171.00** | 141.0 | **4TV28** | 45.84 | **39.00** | 39.0 |
| | 8 | 4 | **7B994** | 256.96 | **218.50** | 176.0 | **7B906** | 215.45 | **183.25** | 151.0 | **4TV29** | 49.08 | **41.75** | 42.0 |
| | 4 | 2 | **7B995** | 185.29 | **157.50** | 117.0 | **7B907** | 135.82 | **115.45** | 87.0 | **4TV18** | 25.13 | **21.36** | 19.0 |
| | 4 | 3 | **7B996** | 197.35 | **167.75** | 127.0 | **7B908** | 144.59 | **122.90** | 95.0 | **4TV19** | 26.58 | **22.59** | 21.0 |
| | 4 | 4 | **7B997** | 209.41 | **178.00** | 136.0 | **7B909** | 153.29 | **130.30** | 101.0 | **4TV20** | 28.19 | **23.96** | 22.0 |
| | 5 | 2 | **7B998** | 199.70 | **169.75** | 132.0 | **7B910** | 150.06 | **127.55** | 102.0 | **4TV21** | 28.78 | **24.46** | 24.0 |
| | 5 | 3 | **7B999** | 210.30 | **178.75** | 110.0 | **7B911** | 158.77 | **135.00** | 110.0 | **4TV22** | 30.25 | **25.75** | 26.0 |
| **8** | 5 | 4 | **7D026** | 222.21 | **189.00** | 151.0 | **7B912** | 167.44 | **142.35** | 116.0 | **4TV23** | 31.85 | **27.10** | 27.0 |
| | 6 | 2 | **7D027** | 217.35 | **184.75** | 141.0 | **7B913** | 167.71 | **142.55** | 111.0 | **4TV24** | 34.05 | **28.95** | 27.0 |
| | 6 | 3 | **7D028** | 230.83 | **196.25** | 154.0 | **7B914** | 179.33 | **152.50** | 122.0 | **4TV25** | 36.26 | **30.85** | 30.0 |
| | 6 | 4 | **7D029** | 245.87 | **209.00** | 166.0 | **7B915** | 191.09 | **162.50** | 131.0 | **4TV26** | 36.68 | **32.90** | 32.0 |
| | 8 | 2 | **7D030** | 249.41 | **212.00** | 165.0 | **7B916** | 199.41 | **169.50** | 135.0 | **4TV27** | 42.92 | **36.50** | 35.0 |
| | 8 | 3 | **7D031** | 265.30 | **225.75** | 181.0 | **7B917** | 213.81 | **181.75** | 149.0 | **4TV28** | 45.84 | **39.00** | 39.0 |
| | 8 | 4 | **7D032** | 283.42 | **241.00** | 196.0 | **7B918** | 228.67 | **194.50** | 161.0 | **4TV29** | 49.08 | **41.75** | 42.0 |
| | 4 | 2 | **7D033** | 201.47 | **171.25** | 131.0 | **7B919** | 143.76 | **122.20** | 94.0 | **4TV18** | 25.13 | **21.36** | 19.0 |
| | 4 | 3 | **7D034** | 217.35 | **184.75** | 141.0 | **7B920** | 154.59 | **131.40** | 102.0 | **4TV19** | 26.58 | **22.59** | 21.0 |
| | 4 | 4 | **7D035** | 229.70 | **195.25** | 150.0 | **7B921** | 163.47 | **138.95** | 108.0 | **4TV20** | 28.19 | **23.96** | 22.0 |
| | 5 | 2 | **7D036** | 215.59 | **183.25** | 146.0 | **7B922** | 168.00 | **134.30** | 109.0 | **4TV21** | 28.78 | **24.46** | 24.0 |
| | 5 | 3 | **7D037** | 230.36 | **196.00** | 156.0 | **7B923** | 168.82 | **143.50** | 117.0 | **4TV22** | 30.25 | **25.75** | 26.0 |
| **10** | 5 | 4 | **7D038** | 242.61 | **206.25** | 165.0 | **7B924** | 177.64 | **151.00** | 123.0 | **4TV23** | 31.85 | **27.10** | 27.0 |
| | 6 | 2 | **7D039** | 233.23 | **198.25** | 155.0 | **7B925** | 175.65 | **149.30** | 118.0 | **4TV24** | 34.05 | **28.95** | 27.0 |
| | 6 | 3 | **7D040** | 250.93 | **213.50** | 168.0 | **7B926** | 189.39 | **161.00** | 129.0 | **4TV25** | 36.26 | **30.85** | 30.0 |
| | 6 | 4 | **7D041** | 266.26 | **226.50** | 180.0 | **7B927** | 201.29 | **171.25** | 138.0 | **4TV26** | 36.68 | **32.90** | 32.0 |
| | 8 | 2 | **7D042** | 265.29 | **225.50** | 179.0 | **7B928** | 207.35 | **176.25** | 142.0 | **4TV27** | 42.92 | **36.50** | 35.0 |
| | 8 | 3 | **7D043** | 285.40 | **242.75** | 195.0 | **7B929** | 223.86 | **190.50** | 156.0 | **4TV28** | 45.84 | **39.00** | 39.0 |
| | 8 | 4 | **7D044** | 303.84 | **258.50** | 210.0 | **7B930** | 238.87 | **203.25** | 168.0 | **4TV29** | 49.08 | **41.75** | 42.0 |

### BULK STORAGE BENEFITS

Tennsco's Bulk Storage Rack is the most economical way to store and retrieve bulky items. It allows clean and convenient access from the front or rear, making it ideal for double entry aisleways. Because uprights are pre-welded it accommodates 10,000 pounds per upright while making assembly fast and easy. Use bulk storage racks wherever you need convenient storage and retrieval of heavier large, long or bulky items. Not for use with pallets or as scaffolding.

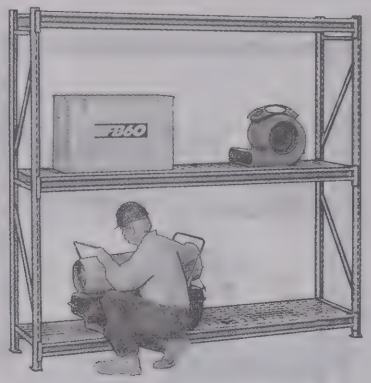
# HEAVY-DUTY BULK RACK

tennsco

## A WORD ABOUT WIRE DECKING OPTION

Heavy-duty wire decking option provides galvanized steel wire decking that resists rust and corrosion. It allows a clear view of inventory and maximizes the efficiency of overhead sprinkler systems while conforming to the National Fire Protection Association (NFPA) rack storage requirements.

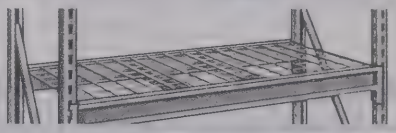
New



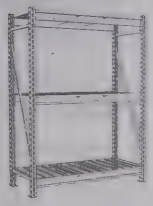
- Great Value—Combination of low cost, versatility and strength gives you more for your money
- Easy Installation—Unique design makes it a snap to erect or rearrange. Saves valuable labor hours
- Built-to-Last—State-of-the-art electronic welding of beams handles heavy loads and withstands the toughest use
- Peace-of-Mind—Connector design offers superior strength and safety mechanism to help keep personnel safe
- Medium gray finish

## BULK STORAGE RACK WITH WIRE DECKING

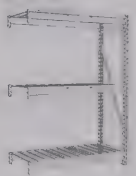
**Wire Decking option provides galvanized steel wire decking that resists rust & corrosion**



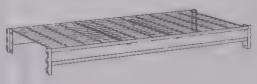
### STARTER



### ADD-ON



### ADD'L LEVELS



| SHELF CAPACITIES* | |
|---|---|
| 4 ft. width | 2700 lbs. |
| 5 | 2500 |
| 6 | 1800 |
| 8 | 1400 |

(*) Based on evenly distributed loads.

| Dimensions (Ft.) H | W | D | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4 | 2 | **7B469** | $216.95 | **$184.50** | 140.0 | **7B967** | $225.63 | **$180.50** | 118.0 | **7D438** | $43.80 | **$37.25** | 32.0 |
| | 4 | 3 | **7B470** | 264.86 | **225.25** | 192.0 | **7B968** | 282.83 | **214.50** | 168.0 | **7D439** | 57.03 | **48.50** | 48.0 |
| | 4 | 4 | **7B471** | 280.48 | **238.50** | 188.0 | **7B323** | 252.06 | **214.25** | 163.0 | **7D440** | 60.18 | **51.15** | 46.0 |
| | 5 | 2 | **7B472** | 249.79 | **212.50** | 116.0 | **7B324** | 214.32 | **182.25** | 94.0 | **7D441** | 53.66 | **45.65** | 37.0 |
| | 5 | 3 | **7B473** | 292.84 | **249.00** | 126.0 | **7B325** | 255.48 | **217.25** | 102.0 | **7D442** | 65.30 | **55.55** | 39.0 |
| **6** | 5 | 4 | **7B474** | 339.09 | **288.25** | 131.0 | **7B333** | 299.13 | **254.50** | 106.0 | **7D443** | 77.76 | **66.10** | 40.0 |
| | 6 | 2 | **7B475** | 276.98 | **235.50** | 185.0 | **7B334** | 241.53 | **205.50** | 163.0 | **7D444** | 61.83 | **52.55** | 47.0 |
| | 6 | 3 | **7B476** | 322.76 | **274.50** | 219.0 | **7B335** | 285.41 | **242.75** | 195.0 | **7D445** | 74.41 | **63.25** | 57.0 |
| | 6 | 4 | **7B477** | 371.44 | **315.75** | 254.0 | **7B336** | 331.48 | **282.00** | 229.0 | **7D446** | 87.46 | **74.35** | 68.0 |
| | 8 | 2 | **7B478** | 340.05 | **289.25** | 188.0 | **7B337** | 304.60 | **259.00** | 205.0 | **7D447** | 80.72 | **68.65** | 61.0 |
| | 8 | 3 | **7B479** | 432.10 | **367.50** | 327.0 | **7B345** | 394.75 | **335.75** | 303.0 | **7D448** | 107.20 | **91.15** | 93.0 |
| | 8 | 4 | **7B480** | 458.78 | **390.00** | 320.0 | **7B346** | 418.82 | **356.00** | 295.0 | **7D449** | 113.65 | **96.60** | 90.0 |
| | 4 | 2 | **7B481** | 239.22 | **203.50** | 156.0 | **7B347** | 201.77 | **171.50** | 126.0 | **7D438** | 43.80 | **37.25** | 32.0 |
| | 4 | 3 | **7B482** | 289.25 | **246.00** | 208.0 | **7B348** | 239.70 | **203.75** | 176.0 | **7D439** | 57.03 | **48.50** | 48.0 |
| | 4 | 4 | **7B483** | 305.96 | **260.25** | 208.0 | **7B349** | 265.29 | **225.50** | 173.0 | **7D440** | 60.18 | **51.15** | 46.0 |
| | 5 | 2 | **7B484** | 272.06 | **231.25** | 132.0 | **7B350** | 225.46 | **191.75** | 102.0 | **7D441** | 53.66 | **45.65** | 37.0 |
| | 5 | 3 | **7B485** | 317.22 | **269.75** | 142.0 | **7B142** | 267.67 | **227.75** | 110.0 | **7D442** | 65.30 | **55.55** | 39.0 |
| **8** | 5 | 4 | **7B486** | 364.56 | **310.00** | 151.0 | **7B145** | 311.87 | **265.25** | 116.0 | **7D443** | 77.76 | **66.10** | 40.0 |
| | 6 | 2 | **7B487** | 299.25 | **254.50** | 201.0 | **7B147** | 252.65 | **214.75** | 171.0 | **7D444** | 61.83 | **52.55** | 47.0 |
| | 6 | 3 | **7B488** | 347.15 | **295.25** | 235.0 | **7B149** | 297.60 | **253.00** | 203.0 | **7D445** | 74.41 | **63.25** | 57.0 |
| | 6 | 4 | **7B489** | 396.92 | **337.50** | 274.0 | **7B152** | 344.21 | **292.75** | 239.0 | **7D446** | 87.46 | **74.35** | 68.0 |
| | 8 | 2 | **7B490** | 362.31 | **308.00** | 243.0 | **7B177** | 337.80 | **287.25** | 234.0 | **7D447** | 80.72 | **68.65** | 61.0 |
| | 8 | 3 | **7B491** | 456.49 | **388.25** | 343.0 | **7B178** | 406.94 | **346.00** | 311.0 | **7D448** | 107.20 | **91.15** | 93.0 |
| | 8 | 4 | **7B492** | 484.26 | **411.75** | 340.0 | **7B180** | 431.55 | **367.00** | 305.0 | **7D449** | 113.65 | **96.60** | 90.0 |
| | 4 | 2 | **7B493** | 266.47 | **226.50** | 170.0 | **7B181** | 200.26 | **170.25** | 133.0 | **7D438** | 43.80 | **37.25** | 32.0 |
| | 4 | 3 | **7B494** | 308.60 | **262.50** | 222.0 | **7B183** | 249.37 | **212.00** | 183.0 | **7D439** | 57.03 | **48.50** | 48.0 |
| | 4 | 4 | **7B495** | 325.59 | **276.75** | 222.0 | **7B198** | 275.59 | **233.75** | 180.0 | **7D440** | 60.18 | **51.15** | 46.0 |
| | 5 | 2 | **7B496** | 287.34 | **244.25** | 146.0 | **7B199** | 233.11 | **198.25** | 109.0 | **7D441** | 53.66 | **45.65** | 37.0 |
| | 5 | 3 | **7B497** | 336.58 | **286.25** | 156.0 | **7B200** | 277.35 | **235.75** | 117.0 | **7D442** | 65.30 | **55.55** | 39.0 |
| **10** | 5 | 4 | **7B498** | 384.20 | **326.75** | 165.0 | **7B201** | 321.68 | **273.50** | 123.0 | **7D443** | 77.76 | **66.10** | 40.0 |
| | 6 | 2 | **7B499** | 314.53 | **267.50** | 215.0 | **7B202** | 260.29 | **221.25** | 178.0 | **7D444** | 61.83 | **52.55** | 47.0 |
| | 6 | 3 | **7B500** | 366.50 | **311.75** | 249.0 | **7B213** | 307.27 | **261.25** | 210.0 | **7D445** | 74.41 | **63.25** | 57.0 |
| | 6 | 4 | **7B501** | 416.55 | **354.25** | 288.0 | **7B215** | 354.03 | **301.00** | 246.0 | **7D446** | 87.46 | **74.35** | 68.0 |
| | 8 | 2 | **7B502** | 377.60 | **321.00** | 257.0 | **7B217** | 338.24 | **287.50** | 220.0 | **7D447** | 80.72 | **68.65** | 61.0 |
| | 8 | 3 | **7B503** | 475.84 | **404.50** | 195.0 | **7B220** | 416.61 | **354.25** | 318.0 | **7D448** | 107.20 | **91.15** | 93.0 |
| | 8 | 4 | **7B504** | 503.89 | **428.50** | 210.0 | **7B222** | 441.37 | **375.25** | 312.0 | **7D449** | 113.65 | **96.60** | 90.0 |

### HEAVY-DUTY BULK STORAGE RACK

Look closely at Tennsco's heavy-duty bulk storage racks and you'll see a real difference. Each upright is welded and preassembled, making installation fast and convenient. Beams for wire decking utilize a box beam construction method similar to the way many bridges are built for added strength and rigidity. For maximum weight load capacity, each beam is roll formed on the front and rear edge.

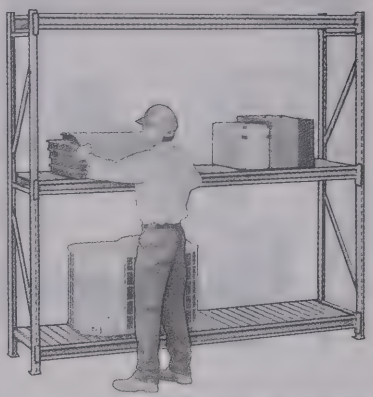
# HEAVY-DUTY BULK RACK

tennsco

## THE STEEL DECKING OPTION

Consider this option for your most heavy-duty storage applications. Ribbed decking is constructed of 22-gauge steel that is formed to produce a corrugated profiled shape. This technique offers a tremendous amount of rigidity even under heavy loads. You'll also find that loads also slide on and off the shelf easier and with less effort. Steel decking is provided in 1-foot sections and simply drops into recesses on cross beams for easy installation.

New



- Great Value—Combination of low cost, versatility and strength gives you more for your money
- Easy Installation—Unique design makes it a snap to erect or rearrange. Saves valuable labor hours
- Built-to-Last—State-of-the-art electronic welding of beams handles heavy loads and withstands the toughest use
- Peace-of-Mind—Connector design offers superior strength and safety mechanism to help protect personnel
- Medium gray finish

FREE DELIVERY on orders of $900 or more

See Freight Policy

## BULK STORAGE RACK WITH STEEL DECKING

**Ribbed Steel Decking option provides for extra strength**

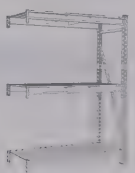


### STARTER



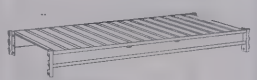
| Dimensions (Ft.) H | W | D | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6 | 4 | 2 | 7B505 | $209.54 | $188.75 | 140.0 |
| | 4 | 3 | 7B506 | 247.07 | 222.50 | 189.0 |
| | 4 | 4 | 7B507 | 286.43 | 258.00 | 221.0 |
| | 5 | 2 | 7B508 | 235.57 | 212.25 | 164.0 |
| | 5 | 3 | 7B509 | 280.07 | 252.25 | 240.0 |
| | 5 | 4 | 7B510 | 326.33 | 293.75 | 260.0 |
| | 6 | 2 | 7B511 | 265.33 | 239.00 | 185.0 |
| | 6 | 3 | 7B512 | 322.19 | 290.00 | 258.0 |
| | 6 | 4 | 7B513 | 374.09 | 336.75 | 323.0 |
| | 8 | 2 | 7B514 | 320.41 | 288.50 | 227.0 |
| | 8 | 3 | 7B515 | 387.74 | 349.00 | 285.0 |
| | 8 | 4 | 7B516 | 160.89 | 415.00 | 353.0 |
| 8 | 4 | 2 | 7B517 | 230.04 | 207.25 | 156.0 |
| | 4 | 3 | 7B518 | 269.54 | 242.75 | 205.0 |
| | 4 | 4 | 7B519 | 309.89 | 279.00 | 241.0 |
| | 5 | 2 | 7B520 | 256.07 | 230.50 | 180.0 |
| | 5 | 3 | 7B521 | 292.96 | 263.75 | 256.0 |
| | 5 | 4 | 7B522 | 349.78 | 315.00 | 280.0 |
| | 6 | 2 | 7B523 | 285.83 | 257.25 | 201.0 |
| | 6 | 3 | 7B524 | 344.65 | 310.25 | 274.0 |
| | 6 | 4 | 7B525 | 397.56 | 358.00 | 343.0 |
| | 8 | 2 | 7B526 | 340.91 | 307.00 | 243.0 |
| | 8 | 3 | 7B527 | 372.09 | 335.00 | 301.0 |
| | 8 | 4 | 7B528 | 432.20 | 389.00 | 373.0 |
| 10 | 4 | 2 | 7B529 | 244.11 | 219.75 | 170.0 |
| | 4 | 3 | 7B530 | 287.35 | 258.75 | 219.0 |
| | 4 | 4 | 7B531 | 327.96 | 295.25 | 255.0 |
| | 5 | 2 | 7B532 | 270.15 | 243.25 | 194.0 |
| | 5 | 3 | 7B533 | 320.35 | 288.50 | 270.0 |
| | 5 | 4 | 7B534 | 367.85 | 331.25 | 294.0 |
| | 6 | 2 | 7B535 | 299.91 | 270.00 | 215.0 |
| | 6 | 3 | 7B536 | 362.46 | 326.25 | 288.0 |
| | 6 | 4 | 7B537 | 415.63 | 374.25 | 357.0 |
| | 8 | 2 | 7B538 | 375.86 | 319.50 | 257.0 |
| | 8 | 3 | 7B539 | 428.02 | 385.25 | 315.0 |
| | 8 | 4 | 7B540 | 502.43 | 452.25 | 387.0 |

### ADD-ON



| New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|
| 7B223 | $176.89 | $159.25 | 118.0 |
| 7B236 | 212.69 | 191.50 | 165.0 |
| 7B260 | 249.63 | 224.75 | 196.0 |
| 7B261 | 202.93 | 182.75 | 142.0 |
| 7B262 | 245.67 | 221.25 | 216.0 |
| 7B263 | 289.54 | 260.75 | 235.0 |
| 7B270 | 232.69 | 209.50 | 163.0 |
| 7B284 | 287.79 | 259.25 | 234.0 |
| 7B285 | 337.30 | 303.75 | 298.0 |
| 7B286 | 287.76 | 259.00 | 205.0 |
| 7B287 | 366.02 | 329.50 | 328.0 |
| 7B288 | 424.09 | 381.75 | 328.0 |
| 7B289 | 187.13 | 166.50 | 126.0 |
| 7B296 | 223.91 | 201.75 | 173.0 |
| 7B308 | 261.35 | 235.25 | 206.0 |
| 7B309 | 213.17 | 192.00 | 150.0 |
| 7B310 | 256.90 | 231.25 | 224.0 |
| 7B311 | 301.26 | 271.25 | 245.0 |
| 7B312 | 257.22 | 218.75 | 171.0 |
| 7B313 | 299.02 | 269.25 | 242.0 |
| 7B321 | 349.02 | 314.25 | 308.0 |
| 7B322 | 298.00 | 268.25 | 213.0 |
| 7B969 | 364.56 | 328.25 | 128.0 |
| 7B970 | 435.81 | 392.25 | 338.0 |
| 7B971 | 194.17 | 174.75 | 133.0 |
| 7B972 | 232.81 | 209.75 | 180.0 |
| 7B973 | 270.39 | 243.50 | 213.0 |
| 7B974 | 229.83 | 207.00 | 231.0 |
| 7B975 | 265.81 | 239.25 | 231.0 |
| 7B976 | 310.30 | 279.50 | 252.0 |
| 7B977 | 249.96 | 225.00 | 178.0 |
| 7B978 | 307.93 | 277.25 | 249.0 |
| 7B979 | 358.06 | 322.25 | 315.0 |
| 7B980 | 305.04 | 274.75 | 220.0 |
| 7B981 | 373.48 | 336.25 | 276.0 |
| 7B982 | 444.87 | 400.50 | 345.0 |

### ADD'L LEVELS



| New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|
| 7D450 | $49.26 | $41.90 | 32.0 |
| 7D451 | 60.89 | 51.80 | 41.0 |
| 7D452 | 72.69 | 61.80 | 48.0 |
| 7D453 | 58.16 | 49.45 | 40.0 |
| 7D454 | 62.92 | 53.50 | 52.0 |
| 7D455 | 74.12 | 63.00 | 62.0 |
| 7D456 | 68.33 | 58.10 | 47.0 |
| 7D457 | 75.10 | 63.85 | 68.0 |
| 7D458 | 88.50 | 75.25 | 75.0 |
| 7D459 | 87.12 | 74.05 | 61.0 |
| 7D460 | 95.92 | 81.55 | 79.0 |
| 7D461 | 114.46 | 97.30 | 101.0 |
| 7D450 | 49.26 | 41.90 | 32.0 |
| 7D451 | 60.89 | 51.80 | 41.0 |
| 7D452 | 72.69 | 61.80 | 48.0 |
| 7D453 | 58.16 | 49.45 | 40.0 |
| 7D454 | 62.92 | 53.50 | 52.0 |
| 7D455 | 74.12 | 63.00 | 62.0 |
| 7D456 | 68.33 | 58.10 | 47.0 |
| 7D457 | 75.10 | 63.85 | 68.0 |
| 7D458 | 88.50 | 75.25 | 75.0 |
| 7D459 | 87.12 | 74.05 | 61.0 |
| 7D460 | 95.92 | 81.55 | 79.0 |
| 7D461 | 114.46 | 97.30 | 101.0 |
| 7D450 | 49.26 | 41.90 | 32.0 |
| 7D451 | 60.89 | 51.80 | 41.0 |
| 7D452 | 72.69 | 61.80 | 48.0 |
| 7D453 | 58.16 | 49.45 | 40.0 |
| 7D454 | 62.92 | 53.50 | 52.0 |
| 7D455 | 74.12 | 63.00 | 62.0 |
| 7D456 | 68.33 | 58.10 | 47.0 |
| 7D457 | 75.10 | 63.85 | 68.0 |
| 7D458 | 88.50 | 75.25 | 75.0 |
| 7D459 | 87.12 | 74.05 | 61.0 |
| 7D460 | 95.92 | 81.55 | 79.0 |
| 7D461 | 114.46 | 97.30 | 101.0 |

### Shelf Capacities*

| | |
|---|---|
| 4 ft. width | 2700 lbs. |
| 5 | 2500 |
| 6 | 1800 |
| 8 | 1400 |

(*) Based on evenly distributed loads.

### EASY INSTALLATION

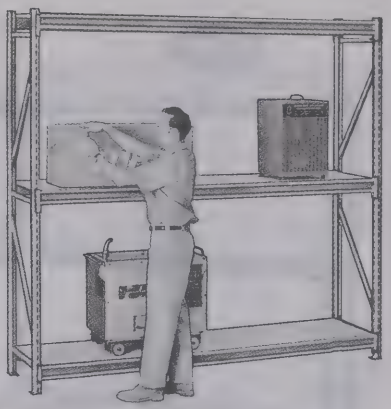
Tennsco Heavy-Duty Bulk Storage rack is literally a "snap" to put together. Because there are no bolts or tools required, these units go together in minutes. Simply snap beams onto slotted uprights at the desired height, place the decking of your choice and your finished. It really is that simple. When it's time to reconfigure, add additional levels or add to your installation, the same process makes it quick and easy.

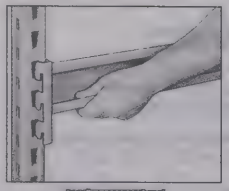
# HEAVY-DUTY BULK RACK

**tennsco**

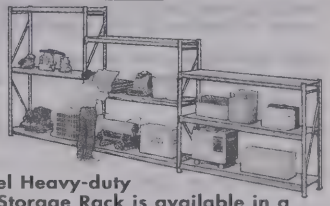
- 1400-2700 lbs capacity per shelf
- Intended for hand loading bulky items
- Box beam construction for maximum strength
- Beams are electrically welded and made of 14-gauge heavy-duty steel
- Easy installation, disassembly or expansion—no tools required
- Adjacent units share a common upright for greater economy
- Levels adjustable in 2" increments
- Medium Gray Finish
- Particleboard decking

New





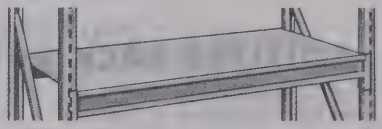
3-lug prong connector securely slides into tapered slots of uprights



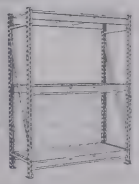
3-level Heavy-duty Bulk Storage Rack is available in a variety of sizes. Can be expanded at any time

## BULK STORAGE RACK WITH PARTICLEBOARD DECKING

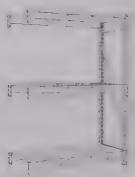
Particleboard Decking option provides sturdy 5/8" particleboard for general purpose storage use



### STARTER



### ADD-ON



### ADD'L LEVELS



Additional levels ***do not*** include particleboard. Obtain locally.

| Dimensions (Ft.) H | W | D | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4 | 2 | 7D045 | $192.65 | $163.75 | 122.0 | 7B931 | $154.59 | $131.40 | 100.0 | 4TV18 | $25.13 | $21.36 | 19.0 |
| | 4 | 3 | 7D046 | 215.88 | 183.50 | 141.0 | 7B932 | 175.94 | 149.55 | 117.0 | 4TV19 | 26.58 | 22.59 | 21.0 |
| | 4 | 4 | 7D047 | 241.77 | 205.50 | 158.0 | 7B933 | 199.12 | 169.25 | 133.0 | 4TV20 | 28.19 | 23.96 | 22.0 |
| | 5 | 2 | 7D048 | 213.53 | 181.50 | 141.5 | 7B934 | 175.47 | 149.15 | 119.5 | 4TV21 | 28.78 | 24.46 | 24.0 |
| | 5 | 3 | 7D049 | 241.18 | 205.00 | 165.0 | 7B935 | 202.35 | 172.00 | 141.0 | 4TV22 | 30.25 | 25.75 | 26.0 |
| 6 | 5 | 4 | 7D050 | 270.00 | 229.50 | 182.0 | 7B936 | 228.24 | 194.00 | 157.0 | 4TV23 | 31.85 | 27.10 | 27.0 |
| | 6 | 2 | 7D051 | 239.41 | 203.50 | 155.0 | 7B937 | 215.00 | 172.00 | 133.0 | 4TV24 | 34.05 | 28.95 | 27.0 |
| | 6 | 3 | 7D052 | 273.53 | 232.50 | 183.0 | 7B938 | 234.71 | 199.50 | 159.0 | 4TV25 | 36.26 | 30.85 | 30.0 |
| | 6 | 4 | 7D053 | 308.24 | 262.00 | 206.0 | 7B939 | 266.47 | 226.50 | 181.0 | 4TV26 | 36.68 | 32.90 | 32.0 |
| | 8 | 2 | 7D054 | 284.70 | 242.00 | 272.0 | 7B940 | 247.65 | 210.50 | 250.0 | 4TV27 | 42.92 | 36.50 | 35.0 |
| | 8 | 3 | 7D055 | 349.70 | 297.25 | 348.0 | 7B941 | 310.59 | 264.00 | 324.0 | 4TV28 | 45.84 | 39.00 | 39.0 |
| | 4 | 2 | 7D057 | 215.88 | 183.50 | 138.0 | 7B943 | 167.06 | 142.00 | 108.0 | 4TV18 | 25.13 | 21.36 | 19.0 |
| | 4 | 3 | 7D058 | 241.47 | 205.25 | 157.0 | 7B944 | 189.71 | 161.25 | 125.0 | 4TV19 | 26.58 | 22.59 | 21.0 |
| | 4 | 4 | 7D059 | 268.53 | 228.25 | 178.0 | 7B945 | 213.24 | 181.25 | 143.0 | 4TV20 | 28.19 | 23.96 | 22.0 |
| | 5 | 2 | 7D060 | 236.77 | 201.25 | 157.5 | 7B946 | 188.24 | 160.00 | 127.5 | 4TV21 | 28.78 | 24.46 | 24.0 |
| | 5 | 3 | 7B449 | 266.77 | 226.75 | 181.0 | 7B947 | 215.00 | 182.75 | 149.0 | 4TV22 | 30.25 | 25.75 | 26.0 |
| 8 | 5 | 4 | 7B450 | 296.47 | 252.00 | 202.0 | 7B948 | 241.47 | 205.25 | 167.0 | 4TV23 | 31.85 | 27.10 | 27.0 |
| | 6 | 2 | 7B451 | 262.65 | 223.25 | 171.0 | 7B949 | 214.12 | 182.00 | 141.0 | 4TV24 | 34.05 | 28.95 | 27.0 |
| | 6 | 3 | 7B452 | 299.12 | 254.25 | 199.0 | 7B950 | 247.35 | 210.25 | 167.0 | 4TV25 | 36.26 | 30.85 | 30.0 |
| | 6 | 4 | 7B453 | 992.94 | 848.50 | 178.0 | 7B951 | 279.58 | 237.75 | 191.0 | 4TV26 | 36.68 | 32.90 | 32.0 |
| | 8 | 2 | 7B454 | 307.91 | 261.75 | 288.0 | 7B952 | 259.12 | 220.25 | 258.0 | 4TV27 | 42.92 | 36.50 | 35.0 |
| | 8 | 3 | 7B455 | 375.00 | 318.75 | 364.0 | 7B953 | 323.24 | 274.75 | 332.0 | 4TV28 | 45.84 | 39.00 | 39.0 |
| | 4 | 2 | 7B457 | 231.77 | 197.00 | 152.0 | 7B955 | 175.00 | 148.75 | 115.0 | 4TV18 | 25.13 | 21.36 | 19.0 |
| | 4 | 3 | 7B458 | 261.77 | 222.50 | 171.0 | 7B956 | 199.71 | 169.75 | 132.0 | 4TV19 | 26.58 | 22.59 | 21.0 |
| | 4 | 4 | 7B459 | 288.82 | 245.50 | 192.0 | 7B957 | 223.53 | 190.00 | 150.0 | 4TV20 | 28.19 | 23.96 | 22.0 |
| | 5 | 2 | 7B460 | 252.65 | 214.75 | 171.5 | 7B958 | 196.18 | 166.75 | 131.5 | 4TV21 | 28.78 | 24.46 | 24.0 |
| | 5 | 3 | 7B461 | 287.06 | 244.00 | 195.0 | 7B959 | 225.00 | 191.25 | 156.0 | 4TV22 | 30.25 | 25.75 | 26.0 |
| 10 | 5 | 4 | 7B462 | 317.06 | 269.50 | 216.0 | 7B960 | 251.77 | 214.00 | 174.0 | 4TV23 | 31.85 | 27.10 | 27.0 |
| | 6 | 2 | 7B463 | 278.53 | 236.75 | 185.0 | 7B961 | 222.06 | 188.75 | 148.0 | 4TV24 | 34.05 | 28.95 | 27.0 |
| | 6 | 3 | 7B464 | 319.41 | 271.50 | 213.0 | 7B962 | 257.35 | 218.75 | 174.0 | 4TV25 | 36.26 | 30.85 | 30.0 |
| | 6 | 4 | 7B465 | 355.29 | 302.00 | 240.0 | 7B963 | 290.00 | 246.50 | 198.0 | 4TV26 | 36.68 | 32.90 | 32.0 |
| | 8 | 2 | 7B466 | 323.82 | 275.25 | 302.0 | 7B964 | 267.06 | 227.00 | 265.0 | 4TV27 | 42.92 | 36.50 | 35.0 |
| | 8 | 3 | 7B467 | 395.30 | 336.00 | 378.0 | 7B965 | 333.53 | 283.50 | 339.0 | 4TV28 | 45.84 | 39.00 | 39.0 |

| SHELF CAPACITIES* | |
|---|---|
| 4 ft. width | 2700 lbs. |
| 5 | 2500 |
| 6 | 1800 |
| 8 | 1400 |

(*) Based on evenly distributed loads.

### SAFETY IS A NUMBER ONE CONCERN WITH TENNSCO

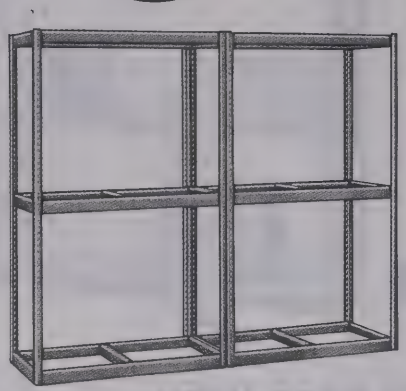
Tennsco's Bulk Storage Rack is designed with safety in mind. Beams connect to uprights with special tapered finger design attachment. This method of attachment locks beams safely on to the upright. The more weight applied to the beam the stronger it holds. You'll also find box beam bracing that keeps the entire unit rigid.

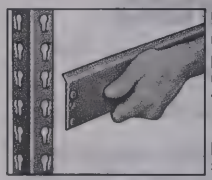
# BOLTLESS BULK RACKS

tennsco

- Exceptionally strong—stands-up to any industrial application
- Front to back deck reinforcements included: 4 ft.-1; 6 ft.-2; 8 ft.-3
- Decking levels adjust in 1½" increments to custom fit the application
- Fast assembly or reconfiguration. No bolts or clips required to attach shelf levels to uprights
- Unobstructed access from all four sides
- Medium Gray finish
- Intermediate "T" posts supplied with Add-on units

New





Double Shoulder rivets on shelf supports lock into upright without tools.

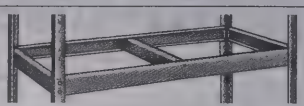
(Standard-duty post and shelf support shown.)

**DECK LEVEL OPTIONS**

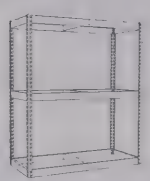
- Standard-duty style offers 14-gauge angle steel construction for typical industrial load capacities
- Heavy-duty style offers 14-gauge channel steel construction for extra heavy-duty load capacities

## BOLTLESS RACK WITH NO DECKING

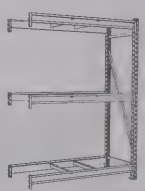
This economical option allows you the flexibility to provide your own decking for general storage use.



### STARTER



### ADD-ON



### ADD'L LEVELS



### SHELF CAPACITIES

| Width | Standard Duty | Heavy Duty |
|---|---|---|
| 4 Ft. | 2250 Lbs. | 2700 Lbs. |
| 6 | 1750 | 2000 |
| 8 | 1250 | 1600 |

Shelves handle the capacity shown. However, based on upright strength, individual units should not exceed 7500 lbs. for standard duty and 8500 lbs. for heavy duty.

### STANDARD DUTY

| Dim. (Ft.) H | W | D | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4 | 2 | 7B338 | $87.25 | $69.80 | 59.0 | 7B204 | $85.83 | $68.70 | 54.0 | 4TW11 | $24.20 | $21.46 | 13.0 |
| | 6 | 2 | 7B339 | 150.35 | 90.55 | 77.0 | 7B206 | 111.75 | 89.40 | 72.0 | 4TW14 | 33.60 | 30.05 | 19.0 |
| | 6 | 3 | 7B340 | 135.15 | 102.45 | 89.0 | 7B207 | 126.63 | 101.30 | 84.0 | 4TW15 | 38.80 | 34.95 | 23.0 |
| 5 | 6 | 4 | 7B341 | 159.55 | 121.95 | 134.0 | 7B208 | 151.03 | 120.85 | 129.0 | 4TW16 | 44.40 | 43.00 | 38.0 |
| | 8 | 2 | 7B342 | 145.43 | 110.65 | 92.0 | 7B209 | 136.90 | 109.55 | 87.0 | 4TW17 | 43.00 | 38.40 | 24.0 |
| | 8 | 3 | 7B343 | 164.03 | 125.55 | 107.0 | 7B210 | 155.50 | 124.40 | 102.0 | 4TW18 | 49.50 | 44.50 | 29.0 |
| | 8 | 4 | 7B344 | 195.28 | 150.75 | 167.0 | 7B211 | 186.75 | 149.40 | 162.0 | 4TW19 | 56.40 | 54.75 | 49.0 |
| | 4 | 2 | 7B877 | 94.35 | 75.50 | 59.0 | 7B290 | 94.05 | 75.25 | 59.0 | 4TW11 | 24.20 | 21.46 | 13.0 |
| | 4 | 3 | 7B879 | 105.50 | 84.40 | 68.0 | 7B292 | 105.20 | 84.20 | 68.0 | 4TW12 | 28.10 | 25.15 | 16.0 |
| | 4 | 4 | 7B881 | 117.58 | 94.10 | 77.0 | 7B294 | 117.28 | 93.85 | 77.0 | 4TW13 | 32.40 | 29.15 | 19.0 |
| 7 | 6 | 2 | 7B883 | 120.28 | 96.25 | 77.0 | 7B297 | 119.98 | 96.00 | 77.0 | 4TW14 | 33.60 | 30.05 | 19.0 |
| | 6 | 3 | 7B885 | 135.15 | 108.15 | 89.0 | 7B299 | 134.85 | 107.90 | 89.0 | 4TW15 | 38.80 | 34.95 | 23.0 |
| | 6 | 4 | 7B887 | 159.55 | 127.65 | 134.0 | 7B301 | 159.25 | 127.40 | 134.0 | 4TW16 | 44.40 | 43.00 | 38.0 |
| | 8 | 2 | 7B889 | 145.43 | 116.35 | 92.0 | 7B303 | 145.13 | 116.10 | 92.0 | 4TW17 | 43.00 | 38.40 | 24.0 |
| | 8 | 3 | 7B891 | 164.03 | 131.25 | 107.0 | 7B305 | 163.73 | 131.00 | 107.0 | 4TW18 | 49.50 | 44.50 | 29.0 |
| | 8 | 4 | 7B893 | 195.28 | 156.25 | 167.0 | 7B307 | 194.98 | 156.00 | 167.0 | 4TW19 | 56.40 | 54.75 | 49.0 |

### HEAVY-DUTY

| Dim. (Ft.) H | W | D | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4 | 2 | 7B878 | $120.93 | $96.75 | 76.0 | 7B291 | $111.50 | $89.20 | 67.0 | 4UZ34 | $31.00 | $27.85 | 18.0 |
| | 4 | 3 | 7B880 | 152.10 | 121.70 | 85.0 | 7B293 | 122.68 | 98.15 | 76.0 | 4UZ35 | 34.90 | 31.55 | 21.0 |
| | 4 | 4 | 7B882 | 143.88 | 115.10 | 93.0 | 7B295 | 134.45 | 107.60 | 84.0 | 4UZ36 | 39.20 | 35.80 | 25.0 |
| 7 | 6 | 2 | 7B884 | 157.58 | 126.10 | 97.0 | 7B298 | 148.15 | 118.55 | 88.0 | 4UZ37 | 44.80 | 39.45 | 23.0 |
| | 6 | 3 | 7B886 | 172.45 | 138.00 | 109.0 | 7B300 | 163.03 | 130.45 | 100.0 | 4UZ38 | 50.00 | 44.40 | 27.0 |
| | 6 | 4 | 7B888 | 187.98 | 150.50 | 120.0 | 7B302 | 178.55 | 142.85 | 111.0 | 4UZ39 | 55.60 | 49.35 | 30.0 |
| | 8 | 2 | 7B890 | 177.58 | 142.10 | 113.0 | 7B304 | 168.15 | 134.55 | 104.0 | 4TW20 | 51.80 | 46.00 | 28.0 |
| | 8 | 3 | 7B892 | 194.60 | 155.75 | 122.0 | 7B306 | 185.18 | 148.15 | 113.0 | 4TW21 | 58.30 | 51.60 | 31.0 |
| | 8 | 4 | 7B894 | 214.10 | 171.50 | 137.0 | 7B320 | 204.75 | 163.75 | 128.0 | 4TW22 | 65.20 | 58.05 | 36.0 |

### BOLTLESS RACK BENEFITS

Boltless rack is ideal for applications that involve storing and retrieving large, long or bulky items. Tennsco's Boltless rack offers up to 8-foot wide openings and adjustable height levels to maximize available space for these types of items.

You can easily reconfigure Tennsco's Boltless Rack system at any time to meet changing storage requirements. This is all accomplished simply without special tools.

# BOLTLESS BULK RACK

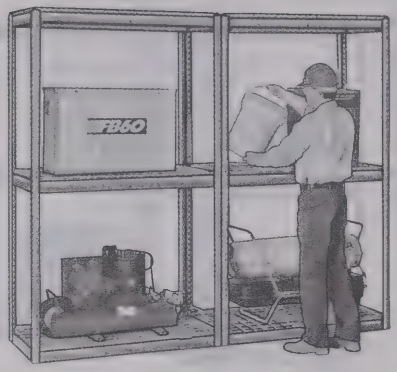
tennsco

## A WORD ABOUT WIRE DECKING OPTION

Bulk Rack wire decking provides galvanized steel wire decking that resist rust and corrosion. It allows a clear view of inventory and maximizes efficiency of sprinkler systems while conforming to the National Fire Protection Association (NFPA) rack storage requirements.

Wire decking simply drops into Boltless Rack supports. Wire decking is constructed of steel wire welded into 3 x 3" mesh.

New

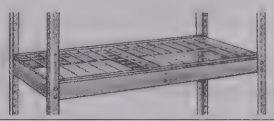


### GALVANIZED WIRE DECKING

- Pregalvanized to resist corrosion
- Open wire mesh design allows clear view of inventory
- Maximizes efficiency of overhead sprinkler system
- May help to reduce insurance costs
- Will not trap dirt, oil, or debris
- Easy to install—drop into place
- Standard-duty style offers 14-gauge angle steel construction
- Heavy-duty style offers 14-gauge channel steel construction

## BOLTLESS RACK WITH WIRE DECKING

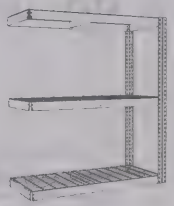
This option provides galvanized steel wire decking that resists rust and corrosion.



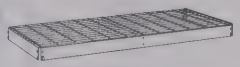
### STARTER



### ADD-ON



### ADD'L LEVELS



### SHELF CAPACITIES

| Width | Standard Duty | Heavy Duty |
|---|---|---|
| 4 Ft. | 2250 Lbs. | 2700 Lbs. |
| 6 | 1750 | 2000 |
| 8 | 1250 | 1600 |

Shelves handle the capacity shown; however, based on upright strength, individual units should not exceed 7500 lbs. for standard duty and 8500 lbs. for heavy duty.

### STANDARD-DUTY

| Dimensions (Ft.) H | W | D | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4 | 2 | 7B326 | $171.30 | $131.40 | 98.0 | 7B185 | $162.78 | $130.25 | 93.0 | 7D420 | $38.01 | $32.35 | 26.0 |
| | 6 | 2 | 7B327 | 233.73 | 181.50 | 137.0 | 7B186 | 225.20 | 180.25 | 132.0 | 7D426 | 54.72 | 46.55 | 39.0 |
| | 6 | 3 | 7B328 | 290.55 | 226.75 | 170.0 | 7B189 | 282.03 | 225.75 | 165.0 | 7D428 | 69.89 | 59.45 | 50.0 |
| 5 | 6 | 4 | 7B329 | 358.83 | 281.50 | 242.0 | 7B190 | 350.30 | 280.25 | 237.0 | 7D430 | 88.12 | 74.90 | 74.0 |
| | 8 | 2 | 7B330 | 299.35 | 233.75 | 170.0 | 7B193 | 290.83 | 232.75 | 165.0 | 7D432 | 72.28 | 61.45 | 50.0 |
| | 8 | 3 | 7B331 | 377.25 | 302.00 | 269.0 | 7B195 | 405.58 | 300.75 | 264.0 | 7D434 | 102.85 | 87.45 | 83.0 |
| | 8 | 4 | 7B332 | 458.15 | 366.75 | 311.0 | 7B196 | 449.65 | 359.75 | 306.0 | 7D436 | 114.66 | 97.50 | 97.0 |
| | 4 | 2 | 7B859 | 171.30 | 137.05 | 98.0 | 7B264 | 171.00 | 136.80 | 98.0 | 7D420 | 38.01 | 32.35 | 26.0 |
| | 4 | 3 | 7B861 | 230.55 | 184.50 | 149.0 | 7B266 | 230.25 | 184.25 | 149.0 | 7D422 | 53.80 | 45.75 | 43.0 |
| | 4 | 4 | 7B863 | 249.03 | 199.25 | 149.0 | 7B268 | 248.73 | 199.00 | 149.0 | 7D424 | 58.76 | 49.95 | 43.0 |
| 7 | 6 | 2 | 7B865 | 233.73 | 187.00 | 137.0 | 7B271 | 233.43 | 186.75 | 137.0 | 7D426 | 54.72 | 46.55 | 39.0 |
| | 6 | 3 | 7B867 | 290.55 | 232.50 | 170.0 | 7B273 | 290.25 | 232.25 | 170.0 | 7D428 | 69.89 | 59.45 | 50.0 |
| | 6 | 4 | 7B869 | 358.83 | 287.25 | 242.0 | 7B275 | 358.53 | 287.00 | 242.0 | 7D430 | 88.12 | 74.90 | 74.0 |
| | 8 | 2 | 7B871 | 299.35 | 239.50 | 170.0 | 7B277 | 299.05 | 239.25 | 170.0 | 7D432 | 72.28 | 61.45 | 50.0 |
| | 8 | 3 | 7B873 | 385.00 | 308.00 | 269.0 | 7B279 | 413.80 | 307.25 | 269.0 | 7D434 | 102.85 | 87.45 | 83.0 |
| | 8 | 4 | 7B875 | 458.18 | 366.75 | 311.0 | 7B282 | 457.88 | 366.50 | 311.0 | 7D436 | 114.66 | 97.50 | 97.0 |

### HEAVY-DUTY

| Dimensions (Ft.) H | W | D | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4 | 2 | 7B860 | $197.88 | $158.50 | 115.0 | 7B265 | $188.45 | $151.00 | 106.0 | 7D421 | $44.00 | $37.40 | 26.0 |
| | 4 | 3 | 7B862 | 257.15 | 194.00 | 166.0 | 7B267 | 247.73 | 186.25 | 157.0 | 7D423 | 56.00 | 47.60 | 43.0 |
| | 4 | 4 | 7B864 | 275.33 | 220.50 | 165.0 | 7B269 | 265.90 | 212.75 | 156.0 | 7D425 | 65.29 | 55.50 | 43.0 |
| | 6 | 2 | 7B866 | 242.85 | 194.50 | 146.0 | 7B272 | 261.60 | 186.75 | 148.0 | 7D427 | 63.49 | 54.00 | 39.0 |
| 7 | 6 | 3 | 7B868 | 299.68 | 239.75 | 179.0 | 7B274 | 299.69 | 254.75 | 100.0 | 7D429 | 78.94 | 67.10 | 50.0 |
| | 6 | 4 | 7B870 | 367.95 | 294.50 | 251.0 | 7B276 | 358.53 | 287.00 | 242.0 | 7D431 | 94.94 | 80.70 | 74.0 |
| | 8 | 2 | 7B872 | 308.48 | 247.00 | 179.0 | 7B278 | 299.05 | 239.25 | 170.0 | 7D433 | 72.28 | 61.55 | 50.0 |
| | 8 | 3 | 7B874 | 423.23 | 315.00 | 278.0 | 7B281 | 413.80 | 307.25 | 269.0 | 7D435 | 102.49 | 87.15 | 83.0 |
| | 8 | 4 | 7B876 | 467.30 | 374.00 | 320.0 | 7B283 | 457.88 | 366.50 | 311.0 | 7D437 | 119.36 | 101.50 | 97.0 |

### TENNSCO BOLTLESS BULK RACK OFFERS VALUE & PERFORMANCE

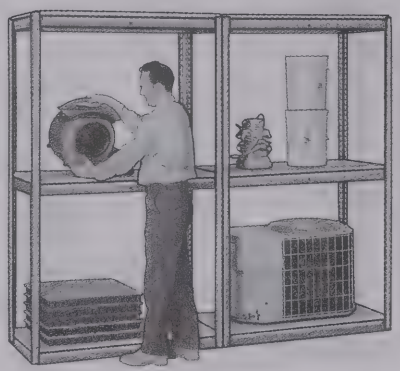
Tennsco's Boltless steel framework combined with your choice of decking provides a strong yet cost-effective storage solution. Choose from a standard-duty support for maximizing each opening or the heavy-duty channel beam support to handle heavier loads over longer spans. Because all deck supports use double shoulder rivets on each end to lock supports into place it produces an exceptionally rigid framework without the need for sway braces that obstruct access.

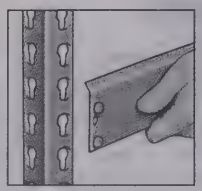
# BOLTLESS BULK RACK

tennsco

- Exceptionally strong – stands-up to any industrial application
- Choice of standard-duty supports that allow maximum spacing between levels or heavy-duty supports to handle heavier loads
- Decking levels adjust in 1½" increments to custom fit the application
- Fast assembly or reconfiguration. No bolts or clips required to attach shelf levels to uprights
- Unobstructed access from all four sides
- Medium Gray finish
- Particleboard deck option

New





Double Shoulder rivals on shelf supports lock into upright without tools.

(Standard-duty post and shelf support shown.)

**DECK LEVEL OPTIONS**

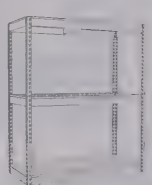
- Standard-duty style offers 14-gauge angle steel construction for typical industrial load capacities
- Heavy-duty style offers 14-gauge channel steel construction for extra heavy-duty load capacities

## BOLTLESS RACK WITH PARTICLEBOARD DECKING

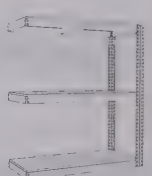
This option provides sturdy 5/8" particleboard for general storage use.



### STARTER



### ADD-ON



### ADD'L LEVELS



Does not include particleboard. Source locally

### SHELF CAPACITIES

| Width | Standard Duty | Heavy Duty |
|---|---|---|
| 4 Ft. | 2250 Lbs. | 2700 Lbs. |
| 6 | 1750 | 2000 |
| 8 | 1250 | 1600 |

Shelves handle the capacity shown. However, based on upright strength, individual units should not exceed 7500 lbs. for standard duty and 8500 lbs. for heavy duty.

### STANDARD DUTY

| Dimensions (Ft.) H | W | D | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 4 | 2 | 7B314 | $112.50 | $90.00 | 80.0 | 7B161 | $111.10 | $88.90 | 75.0 | 4TW11 | $24.20 | $21.46 | 13.0 |
| | 6 | 2 | 7B315 | 150.63 | 120.50 | 107.0 | 7B164 | 149.20 | 119.40 | 102.0 | 4TW14 | 33.60 | 30.05 | 19.0 |
| | 6 | 3 | 7B316 | 183.38 | 146.70 | 134.0 | 7B166 | 181.95 | 145.60 | 129.0 | 4TW15 | 38.80 | 34.95 | 23.0 |
| | 6 | 4 | 7B317 | 224.43 | 179.75 | 194.0 | 7B169 | 223.00 | 178.50 | 189.0 | 4TW16 | 44.40 | 43.00 | 38.0 |
| | 8 | 2 | 7B318 | 213.13 | 170.50 | 215.0 | 7B170 | 206.58 | 165.50 | 210.0 | 4TW17 | 43.00 | 38.40 | 24.0 |
| | 8 | 3 | 7B319 | 285.68 | 228.75 | 290.0 | 7B173 | 284.25 | 227.50 | 285.0 | 4TW18 | 49.50 | 44.50 | 29.0 |
| 7 | 4 | 2 | 7B351 | 119.63 | 95.70 | 80.0 | 7B224 | 136.78 | 95.50 | 80.0 | 4TW11 | 24.20 | 21.46 | 13.0 |
| | 4 | 3 | 7B353 | 141.75 | 113.40 | 98.0 | 7B227 | 141.45 | 113.20 | 98.0 | 4TW12 | 28.10 | 25.15 | 16.0 |
| | 4 | 4 | 7B845 | 166.05 | 132.85 | 119.0 | 7B232 | 165.75 | 132.60 | 119.0 | 4TW13 | 32.40 | 29.15 | 19.0 |
| | 6 | 2 | 7B846 | 157.73 | 126.20 | 107.0 | 7B239 | 157.43 | 125.95 | 107.0 | 4TW14 | 33.60 | 30.05 | 19.0 |
| | 6 | 3 | 7B849 | 190.48 | 152.50 | 134.0 | 7B243 | 190.18 | 152.25 | 134.0 | 4TW15 | 38.80 | 34.95 | 23.0 |
| | 6 | 4 | 7B851 | 231.53 | 185.25 | 194.0 | 7B245 | 231.23 | 185.00 | 194.0 | 4TW16 | 44.40 | 43.00 | 38.0 |
| | 8 | 2 | 7B853 | 215.10 | 172.25 | 215.0 | 7B254 | 214.80 | 172.00 | 215.0 | 4TW17 | 43.00 | 38.40 | 24.0 |
| | 8 | 3 | 7B855 | 292.78 | 234.25 | 290.0 | 7B256 | 292.48 | 234.00 | 290.0 | 4TW18 | 49.50 | 44.50 | 29.0 |

### HEAVY DUTY

| Dimensions (Ft.) H | W | D | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 4 | 2 | 7B352 | $146.20 | $117.00 | 97.0 | 7B226 | $136.78 | $109.45 | 88.0 | 4UZ34 | $31.00 | $27.85 | 18.0 |
| | 4 | 3 | 7B844 | 168.35 | 134.70 | 115.0 | 7B230 | 158.93 | 127.15 | 106.0 | 4UZ35 | 34.90 | 31.55 | 21.0 |
| | 4 | 4 | 7B847 | 192.35 | 154.00 | 135.0 | 7B234 | 182.93 | 146.35 | 126.0 | 4UZ36 | 39.20 | 35.80 | 25.0 |
| | 6 | 2 | 7B848 | 195.03 | 156.25 | 127.0 | 7B240 | 185.60 | 148.50 | 118.0 | 4UZ37 | 44.80 | 39.45 | 23.0 |
| | 6 | 3 | 7B850 | 227.78 | 182.25 | 154.0 | 7B244 | 218.35 | 174.75 | 145.0 | 4UZ38 | 50.00 | 44.40 | 27.0 |
| | 6 | 4 | 7B852 | 259.95 | 208.00 | 180.0 | 7B253 | 250.53 | 200.50 | 171.0 | 4UZ39 | 55.60 | 49.35 | 30.0 |
| | 8 | 2 | 7B854 | 247.25 | 198.00 | 236.0 | 7B255 | 237.83 | 190.50 | 227.0 | 4TW20 | 51.80 | 46.00 | 28.0 |
| | 8 | 3 | 7B856 | 323.35 | 258.75 | 305.0 | 7B258 | 292.48 | 234.00 | 290.0 | 4TW21 | 58.30 | 51.60 | 31.0 |

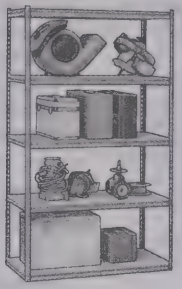
### BOLTLESS RACK APPLICATIONS

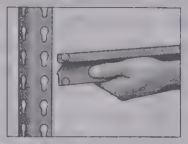
Tennsco's Boltless Rack is so versatile it can be used in hundreds of applications. Use it in warehouses for non-palletized item storage, parts centers for large or heavy component storage, maintenance supply areas, tool cribs even in backrooms within retail environments. No matter what the application, Boltless Rack's interchangeable components can be used throughout your organization for today's and tomorrow's storage needs.

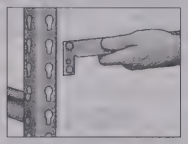
# BOLTLESS SHELVING

**tennsco** New

- 500 to 1000 LB capacity per shelf
- Choice of space saving low profile shelf supports or medium profile supports for heavier shelf capacities
- Pre-configured with five levels
- Shelves adjust in 1½" increments to custom fit the application
- Fast assembly-no bolts required
- Select either the no-decking option or 5/8" particleboard decking option
- Medium gray finish







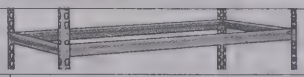
**DECK LEVEL OPTIONS**

**Medium Profile supports offer 850-1000 lbs. capacity for extra heavy loads.**

**Low Profile supports offer 500-600-lbs. capacity for typical industrial loads.**

## BOLTLESS SHELVING WITH NO DECKING

This option gives you the flexibility of installing your own decking.



### STARTER

### ADD-ON

### ADD'L LEVELS

**Does not include particleboard. Source locally.**

**SHELF CAPACITIES***

| Width | Low Profile | Medium Profile |
|---|---|---|
| 36" | 600 lbs. | 1000 lbs |
| 48 | 500 | 850 |

(*) Based on evenly distributed loads.

### LOW PROFILE

| Dimensions (In.) W | D | H | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 12 | 84 | 7B804 | $64.03 | $52.35 | 41.0 | 7B798 | $63.47 | $50.80 | 41.0 | 4TW05 | $6.80 | $6.41 | 4.0 |
| | 18 | 84 | 7B805 | 66.21 | 54.10 | 42.0 | 7B799 | 65.66 | 52.55 | 42.0 | 4TW05 | 6.80 | 6.41 | 4.0 |
| | 24 | 84 | 7B806 | 68.67 | 56.10 | 44.0 | 7B800 | 68.07 | 54.50 | 44.0 | 4TW05 | 6.80 | 6.41 | 4.0 |
| 48 | 12 | 84 | 7B807 | 72.07 | 59.00 | 47.0 | 7B801 | 69.98 | 56.00 | 47.0 | 4TW06 | 8.00 | 7.61 | 5.0 |
| | 18 | 84 | 7B808 | 73.58 | 60.25 | 48.0 | 7B802 | 72.16 | 57.75 | 48.0 | 4TW06 | 8.00 | 7.61 | 5.0 |
| | 24 | 84 | 7B809 | 76.49 | 62.70 | 50.0 | 7B803 | 74.56 | 59.65 | 50.0 | 4TW06 | 8.00 | 7.61 | 5.0 |

### MEDIUM PROFILE

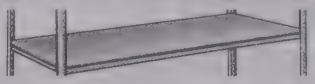
| Dimensions (In.) W | D | H | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 12 | 84 | 7B780 | $81.05 | $64.85 | 45.0 | 7B774 | $80.77 | $64.65 | 45.0 | 4UZ13 | $13.20 | $11.40 | 5.0 |
| | 18 | 84 | 7B781 | 85.37 | 68.30 | 48.0 | 7B775 | 85.09 | 68.10 | 48.0 | 4UZ14 | 14.20 | 12.30 | 5.6 |
| | 24 | 84 | 7B782 | 89.72 | 71.80 | 51.0 | 7B776 | 89.44 | 71.55 | 51.0 | 4UZ15 | 15.20 | 13.23 | 6.2 |
| 48 | 12 | 84 | 7B783 | 90.44 | 72.40 | 51.0 | 7B777 | 90.16 | 72.15 | 51.0 | 4UZ17 | 15.40 | 13.38 | 6.2 |
| | 18 | 84 | 7B784 | 94.81 | 75.85 | 54.0 | 7B778 | 94.46 | 75.60 | 54.0 | 4UZ18 | 17.16 | 14.30 | 6.8 |
| | 24 | 84 | 7B785 | 99.07 | 79.25 | 57.0 | 7B779 | 98.79 | 79.05 | 57.0 | 4UZ19 | 18.28 | 15.23 | 7.4 |

**THE PREMIER ALL-PURPOSE SHELVING THAT OFFERS MORE FOR YOUR MONEY**

Boltless Shelving is ideal for hundreds of industrial storage applications from maintenance supplies to small tools and of course, inventory items with access from all four sides. Because there are no bolts, these units setup fast and easy without tools. Perfect for fast moving industrial environments.

## BOLTLESS SHELVING WITH PARTICLEBOARD DECKING

This option provides sturdy 5/8" particleboard for general purpose storage use.



### LOW PROFILE

| Dimensions (In.) W | D | H | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 12 | 84 | 7B792 | $83.89 | $67.15 | 81.0 | 7B786 | $83.63 | $66.95 | 81.0 | 4TW05 | $6.80 | $6.41 | 4.0 |
| | 18 | 84 | 7B793 | 95.88 | 76.70 | 102.0 | 7B787 | 95.62 | 76.50 | 102.0 | 4TW05 | 6.80 | 6.41 | 4.0 |
| | 24 | 84 | 7B794 | 107.99 | 86.40 | 124.0 | 7B788 | 107.74 | 86.20 | 124.0 | 4TW05 | 6.80 | 6.41 | 4.0 |
| 48 | 12 | 84 | 7B795 | 98.01 | 78.45 | 97.0 | 7B789 | 97.76 | 78.25 | 97.0 | 4TW06 | 8.00 | 7.61 | 5.0 |
| | 18 | 84 | 7B796 | 114.76 | 92.05 | 128.0 | 7B790 | 109.90 | 91.85 | 128.0 | 4TW06 | 8.00 | 7.61 | 5.0 |
| | 24 | 84 | 7B797 | 127.07 | 101.70 | 155.0 | 7B791 | 126.82 | 101.45 | 155.0 | 4TW06 | 8.00 | 7.61 | 5.0 |

### MEDIUM PROFILE

| Dimensions (In.) W | D | H | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 12 | 84 | 7B768 | $98.00 | $83.30 | 85.0 | 7B762 | $102.22 | $81.80 | 85.0 | 4UZ13 | $13.20 | $11.40 | 5.0 |
| | 18 | 84 | 7B769 | 112.47 | 95.60 | 108.0 | 7B763 | 117.24 | 93.80 | 108.0 | 4UZ14 | 14.20 | 12.30 | 5.6 |
| | 24 | 84 | 7B770 | 127.18 | 108.10 | 131.0 | 7B764 | 132.17 | 105.75 | 131.0 | 4UZ15 | 15.20 | 13.23 | 6.2 |
| 48 | 12 | 84 | 7B771 | 113.12 | 96.15 | 101.0 | 7B765 | 119.88 | 95.95 | 101.0 | 4UZ17 | 15.40 | 13.38 | 6.2 |
| | 18 | 84 | 7B772 | 131.65 | 111.90 | 134.0 | 7B766 | 140.37 | 112.30 | 134.0 | 4UZ18 | 17.16 | 14.30 | 6.8 |
| | 24 | 84 | 7B773 | 148.77 | 126.45 | 162.0 | 7B767 | 155.23 | 124.20 | 162.0 | 4UZ19 | 18.28 | 15.23 | 7.4 |

**5/8" PARTICLEBOARD**
**Priced Each, Sold in Packages of 5**

| Dim. (In.) D | W | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 12 | 36 | 3W582 | $4.10 | $3.90 | $3.71 | 8.0 |
| 18 | 36 | 3W583 | 6.08 | 5.79 | 5.50 | 12.0 |
| 24 | 36 | 3W584 | 8.08 | 7.70 | 7.32 | 16.0 |
| 12 | 48 | 3W585 | 5.29 | 5.04 | 4.79 | 10.0 |
| 18 | 48 | 3W586 | 8.07 | 7.68 | 7.30 | 16.0 |
| 24 | 48 | 3W587 | 11.84 | 10.02 | 9.52 | 21.0 |

# SHELVING SELECTION GUIDE

**Grainger offers shelving that fits practically any need! Shelving can be used in two general applications:**

1. General storage of items that are handled manually

2. Systems storage where the area is part of a process, warehousing, distribution, centers, tool cribs, etc.

The manufacturers of steel and wire shelving within this catalog build and test their products to SMA standards. Guidelines specify steel shelving should meet or exceed a weight capacity safety factor of 1.65. References to shelf capacities are based on evenly distributed loads.

**ORDERING TIPS**

- **Always check local regulations**
- **Determine need—general or system related products**
- **Determine weight capacity per level (based on evenly distributed loads)**
- **Determine height, width, and depth of product to be stored**
- **How many products to be stored**
- **Space available for shelving**
- **Environment it will be stored in**



## INDUSTRIAL STEEL

(Page 2025-2029)

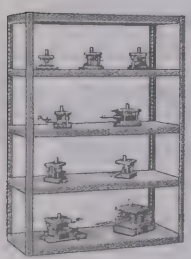
Brands: Penco, Tennsco, Schaefer

Weight Capacity: 500-800 lbs.

Sizes: 12-24" Deep, 24-48" Wide

Designed for: Strength and durability. Steel shelves attach to post with clips for easy adjustments.

Applications: Storage of cartons, boxes, and parts commonly found in manufacturing and commercial storage facilities.



## HEAVY-DUTY INDUSTRIAL STEEL

(Page 2030)

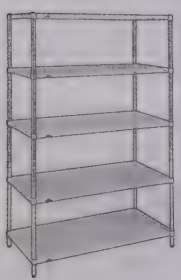
Brand: Tennsco

Weight Capacity: 800-1200 lbs.

Sizes: 18-24" Deep, 36-72" Wide

Designed for: The toughest industrial environments. Heavy-gauge shelves attach to posts without the use of tools.

Applications: Storage of tools, dies, motors, and other products commonly found in tool cribs, garages, and machine shops.



## WIRE

(Page 2033-2035)

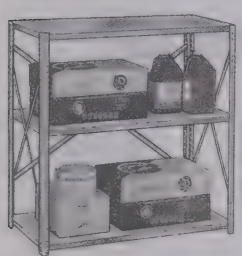
Brand: Intermetro

Weight Capacity: 600-800 lbs.

Sizes: 18-36" Deep, 36-72" Wide

Designed for: Corrosion resistance, ease of assembly and its attractive appearance. Open wire design allows flow through of light, dust, and water.

Applications: Great for the dynamic storage environment in freezers/coolers, restaurants, hospitals, and retail businesses. Its attractive appearance makes it ideal for product displays.



## COMMERCIAL STEEL

(Page 2031)

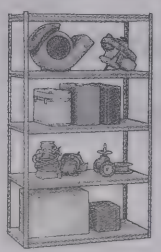
Brand: Edsal

Weight Capacity: 350-400 lbs.

Sizes: 12-24" Deep, 36" Wide

Designed for: A low cost alternative for steel shelving.

Applications: Storage of small, lightweight products commonly found in stockrooms, janitorial closets, and offices.



## BOLTLESS

(Page 2023)

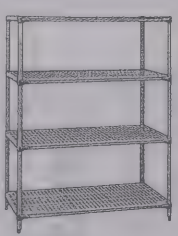
Brand: Tennsco

Weight Capacity: 500-1000 lbs.

Sizes: 12-24" Deep, 36-48" Wide

Designed for: Ease of assembly at a low cost with convenient access from all four sides.

Applications: General storage of cartons, boxes, and parts. Great for tool rooms and dry storage closets.



## POLYMER/WIRE

(Page 2032)

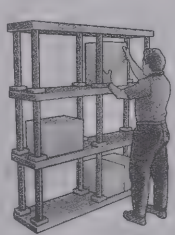
Brand: Intermetro

Weight Capacity: 600-800 lbs.

Sizes: 18-24" Deep, 36-72" Wide

Designed for: Maximum corrosion resistance in damp, humid conditions.

Applications: Cooler/freezer storage. Also ideal for dry storage in laboratories, hospitals, and restaurants where a clean and sanitary environment is required.



## STRUCTURAL FOAM

(Page 2036)

Brand: Structural Plastics

Weight Capacity: 250-700 lbs.

Sizes: 16-36" Deep, 36-96" Wide

Designed for: Ease of assembly and corrosion resistance.

Applications: Its material makes it great for storing chemicals, oils, and solvents. Its modular design makes it ideal for active environments where change in storage configurations is constant.

## IF YOU'RE IN A BIND, CALL GRAINGER

**If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide, so you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# INDUSTRIAL OPEN & CLOSED SHELVING

## RAPID TECH SHELVING

- **Assembles in minutes**
- **Requires no nuts, bolts, or tools**
- **Shelves can be tilted 6 or 12°**
- **Wide variety of accessories**
- **Gray baked on enamel finish**
- **Shelf capacity for extra heavy-duty shelves is 1,000 lbs., and 600 lbs. for heavy-duty shelves (based on evenly distributed loads)**
- **24" deep units come with extra heavy-duty shelves; all other units come with heavy-duty shelves**

**Cost effective Starter/Add-on design** allows fast, easy expansion. Starter units include fixed base and top shelf, three adjustable shelves, and four posts. Add-on units, which can be added on to either side, include fixed base and top shelf, three adjustable shelves and two posts.

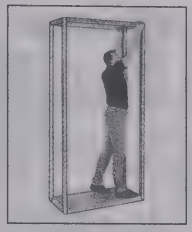
**No nuts, bolts, or tools needed** for assembly. Saves installation time and money. Does not require side braces. Add-on units include clips to "lock" units together as bays are added.

**Unique design of upright posts** permits "free" placement of shelves (in 2" increments) with no nuts, bolts, or clips maximizing bay lay out and shelf use.

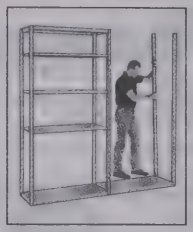
**Built-in flexibility.** Shelves may be tilted for ergonomic picking and better stock visibility. Add, remove, or rearrange shelves without disturbing adjacent units. Meet changing storage requirements quickly and easily.

**Customize units for specific storage needs.** Create small parts storage systems by adding drawers and insert boxes. Galvanized bin fronts are especially suitable for tilted shelves. Full height and free-standing dividers simply drop/insert into slots in shelves with no nuts, bolts, or grommets. Lockable, double swing, full-height doors secure stored contents when used with closed units.

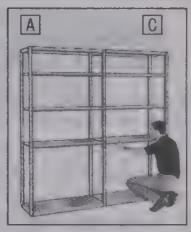
7,500 lb. bay load capacity for Starter units, 5,500 lbs. for Add-on units.



1:00 Minute

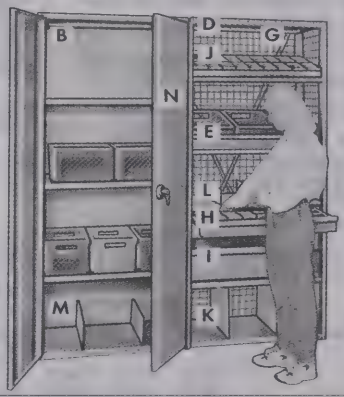


2:00 Minutes




3:00 Minutes

**Cross braces, sold separately below, are only required every third bay**




## RAPID TECH SHELVES & ACCESSORIES

| Key | Item | Dimensions (In.) W | D | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| — | Extra Shelf-600 lb. Cap. | 36 | 18 | — | **4VM19** | $16.85 | **$15.32** | 8.0 |
| | Extra Shelf - 1,000 lb. Cap. | 36 | 18 | — | **4VM20** | 20.20 | **18.37** | 8.0 |
| | Extra Shelf - 600 lb. Cap. | 48 | 18 | — | **4VM21** | 26.97 | **24.52** | 15.0 |
| | Extra Shelf - 1,000 lb. Cap. | 48 | 18 | — | **4VM22** | 29.41 | **26.75** | 15.0 |
| | Extra Shelf-600 lb. Cap. | 36 | 24 | — | **4VM23** | 21.19 | **19.27** | 12.0 |
| | Extra Shelf - 1,000 lb. Cap. | 36 | 24 | — | **4VM24** | 26.03 | **23.67** | 12.0 |
| | Extra Shelf - 1,000 lb. Cap. | 48 | 24 | — | **4VM25** | 35.97 | **32.75** | 17.0 |
| E | Bin Front | 36 | — | 1.5 | **4VL70** | 5.51 | **5.02** | 2.0 |
| | Bin Front | 48 | — | 1.5 | **4VL71** | 5.72 | **5.20** | 1.7 |
| F | Bin Front | 36 | — | 3.5 | **4VL72** | 6.60 | **6.00** | 1.3 |
| | Bin Front | 48 | — | 3.5 | **4VL73** | 7.04 | **6.40** | 2.7 |
| G | Cross Braces* | 36 | — | — | **4VL74** | 16.88 | **15.35** | 4.0 |
| | Cross Braces* | 48 | — | — | **4VL75** | 18.86 | **17.15** | 4.0 |
| H | Modular Drawer | 36 | 18 | 4 | **4VL76** | 97.43 | **88.60** | 22.0 |
| I | Modular Drawer | 36 | 18 | 8 | **4VL77** | 107.66 | **97.90** | 33.0 |
| I | Modular Drawer | 48 | 18 | 4 | **4VL78** | 115.25 | **104.80** | 26.0 |
| I | Modular Drawer | 48 | 18 | 8 | **4VL79** | 128.52 | **116.85** | 33.0 |
| J | Drawer insert Box | 3.8 | 7.1 | 2.4 | **4VL92** | 2.42 | **2.20** | 0.2 |
| | Drawer insert Box | 3.6 | 3.9 | 2.4 | **4VL93** | 2.14 | **1.95** | 0.2 |
| | Drawer insert Box | 1.9 | 3.6 | 2.4 | **4VL94** | 2.09 | **1.90** | 0.1 |
| | Drawer insert Box | 3.5 | 5.4 | 4.4 | **4VL95** | 3.88 | **3.53** | 0.3 |
| | Drawer insert Box | 3.5 | 5.4 | 3.8 | **4VL96** | 3.88 | **3.53** | 0.3 |
| K | Full Height Divider † | 18 | — | 13.5 | **4VL97** | 4.45 | **4.05** | 2.2 |
| K | Full Height Divider | 18 | — | 20 | **4VL98** | 6.06 | **5.52** | 2.9 |
| K | Full Height Divider | 24 | — | 13.5 | **4VL99** | 5.70 | **5.18** | 2.2 |
| K | Full Height Divider | 24 | — | 20 | **4VM01** | 7.79 | **7.08** | 4.4 |
| L | Free-standing Divider | 18 | — | 4 | **4VM11** | 2.66 | **2.42** | 0.5 |
| M | Free-standing Divider | 18 | — | 7 | **4VM12** | 2.97 | **2.70** | 0.8 |
| M | Free-standing Divider | 18 | — | 10.5 | **4VM13** | 5.04 | **4.58** | 1.4 |
| M | Free-standing Divider | 24 | — | 4 | **4VM14** | 2.97 | **2.70** | 1.0 |
| M | Free-standing Divider | 24 | — | 7 | **4VM15** | 3.47 | **3.15** | 1.7 |
| M | Free-standing Divider | 48 | — | 60 | **4VM16** | 5.92 | **5.38** | 3.1 |
| N | Doors - Set | 36 | — | 85.5 | **4VM02** | 213.69 | **194.50** | 66.0 |

(*) Only required every third bay. (†) Cannot be used with top or bottom shelves.

## SSI SCHAEFER

## RAPID TECH FIVE-SHELF UNITS

| Key | Item | Dimensions (In.) W* | D | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Open Starter | 36 | 18 | 85.5 | **4VL40** | $171.10 | **$155.75** | 136.0 |
| B | Closed Starter | 36 | 18 | 85.5 | **4VL41** | 315.57 | **287.00** | 199.0 |
| B | Wire Mesh Starter | 36 | 18 | 85.5 | **4VL42** | 270.55 | **246.00** | 185.0 |
| C | Open Add-on | 36 | 18 | 85.5 | **4VL43** | 133.25 | **121.15** | 121.0 |
| C | Closed Add-on | 36 | 18 | 85.5 | **4VL44** | 240.72 | **219.00** | 184.0 |
| D | Wire Mesh Add-on | 36 | 18 | 85.5 | **4VL45** | 207.70 | **189.00** | 170.0 |
| A | Open Starter | 48 | 18 | 85.5 | **4VL46** | 211.86 | **192.75** | 156.0 |
| B | Closed Starter | 48 | 18 | 85.5 | **4VL47** | 383.34 | **348.50** | 228.0 |
| B | Wire Mesh Starter | 48 | 18 | 85.5 | **4VL48** | 327.69 | **298.00** | 209.0 |
| C | Open Add-on | 48 | 18 | 85.5 | **4VL49** | 176.56 | **160.75** | 139.0 |
| C | Closed Add-on | 48 | 18 | 85.5 | **4VL50** | 311.26 | **283.00** | 211.0 |
| D | Wire Mesh Add-on | 48 | 18 | 85.5 | **4VL51** | 267.62 | **243.50** | 192.0 |
| A | Open Starter | 36 | 24 | 85.5 | **4VL52** | 242.29 | **220.50** | 158.0 |
| B | Closed Starter | 36 | 24 | 85.5 | **4VL53** | 404.24 | **367.50** | 229.0 |
| B | Wire Mesh Starter | 36 | 24 | 85.5 | **4VL54** | 354.10 | **322.25** | 213.0 |
| C | Open Add-on | 36 | 24 | 85.5 | **4VL55** | 200.02 | **182.00** | 227.0 |
| C | Closed Add-on | 36 | 24 | 85.5 | **4VL56** | 307.70 | **279.75** | 202.0 |
| D | Wire Mesh Add-on | 36 | 24 | 85.5 | **4VL57** | 283.59 | **258.00** | 184.0 |
| A | Open Starter | 48 | 24 | 85.5 | **4VL58** | 258.06 | **234.75** | 174.0 |
| B | Closed Starter | 48 | 24 | 85.5 | **4VL59** | 407.68 | **370.75** | 254.0 |
| B | Wire Mesh Starter | 48 | 24 | 85.5 | **4VL60** | 444.68 | **404.50** | 138.0 |
| C | Open Add-on | 48 | 24 | 85.5 | **4VL61** | 218.51 | **198.75** | 155.0 |
| C | Closed Add-on | 48 | 24 | 85.5 | **4VL62** | 351.20 | **319.50** | 235.0 |
| D | Wire Mesh Add-on | 48 | 24 | 85.5 | **4VL63** | 316.47 | **287.75** | 210.0 |

(*) Clear width between posts. For overall width, add 2¾" for starter units and 1⅜" for add-on units.

# INDUSTRIAL OPEN & CLOSED SHELVING

PENCO® CLIPPER® SHELVING

**Penco Clipper Industrial Shelving offers ease of assembly and adjustability.**

**Very Versatile - Choose from:**

- Open or Closed Construction
- 20 or 18 Gauge Shelves
- 5, 6, or 8 Shelf Units

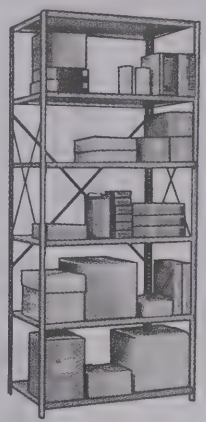
New

**14 GAUGE POSTS:**

- Front box posts specifically designed for multiple add-ons. Cut costs and assembly time for multiple units Easy, straight-in, straight-out shelf positioning—posts do not get in the way of shelf surface
- Punched on 1" centers for maximum shelf adjustment options

**HI-PERFORMANCE® SHELVES:**

- Box Beams with flanges welded on 3" centers for extra strength
- Corners lapped and welded; sides double flanged
- Gray enamel finish



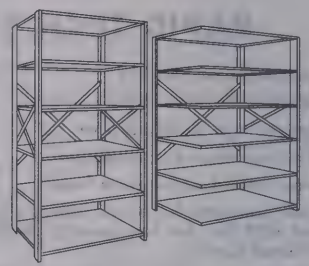
Open Starter w/6 Shelves



Closed Starter w/6 Shelves

FREE DELIVERY on orders of $900 or more

See Freight Policy



Starter Unit  Add-On Unit

Begin each row of shelving with a starter unit. Order Add-On units for additional shelving in the row.

**CLIPPER SHELVING CAPACITY CHART**

| Dimensions (In.) W | D | Capacity/Shelf - Lbs* 20 Ga. | 18Ga. |
|---|---|---|---|
| 36 | 12 | 800 | 1100 |
| 36 | 18 | 850 | 1200 |
| 36 | 24 | 800 | 1250 |
| 48 | 12 | 500 | 750 |
| 48 | 18 | 500 | 900 |
| 48 | 24 | 530 | 900 |

(*) Capacity is for evenly distributed loads

## OPEN SHELVING UNITS

| No. Of Shelves | Dimensions (In.) W | D | H | With 20 GA. SHELVES OPEN STARTER UNITS Stock No. | List | Each | Shpg. Wt. | OPEN ADD-ON UNITS Stock No. | List | Each | Shpg. Wt. | With 18 GA. SHELVES OPEN STARTER UNITS Stock No. | List | Each | Shpg. Wt. | OPEN ADD-ON UNITS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 36 | 12 | 87 | 7B136 | $133.85 | $102.10 | 76.0 | 7B143 | $116.49 | $87.75 | 66.0 | 7B063 | $141.18 | $118.35 | 86.0 | 7B069 | $124.08 | $104.00 | 76.0 |
| | 36 | 18 | 87 | 7B137 | 153.75 | 116.25 | 93.0 | 7B144 | 135.85 | 101.30 | 81.0 | 7B064 | 160.60 | 135.60 | 103.0 | 7B070 | 142.78 | 119.65 | 91.0 |
| | 36 | 24 | 87 | 7B138 | 172.15 | 130.65 | 110.0 | 7B146 | 153.29 | 115.00 | 97.0 | 7B065 | 182.87 | 153.25 | 119.0 | 7B071 | 164.01 | 137.45 | 106.0 |
| | 48 | 12 | 87 | 7B139 | 157.13 | 119.55 | 89.0 | 7B148 | 140.65 | 105.20 | 79.0 | 7B066 | 165.82 | 138.80 | 101.0 | 7B072 | 148.50 | 124.45 | 91.0 |
| | 48 | 18 | 87 | 7B140 | 184.55 | 145.45 | 109.0 | 7B150 | 166.38 | 130.85 | 99.0 | 7B067 | 196.35 | 164.75 | 121.0 | 7B073 | 179.03 | 149.95 | 111.0 |
| | 48 | 24 | 87 | 7B141 | 212.30 | 164.50 | 126.0 | 7B151 | 193.35 | 148.95 | 115.0 | 7B068 | 227.42 | 190.50 | 142.0 | 7B074 | 209.00 | 175.25 | 131.0 |
| 6 | 36 | 12 | 87 | 7B171 | 145.92 | 115.30 | 88.0 | 7B184 | 128.65 | 101.00 | 78.0 | 7B087 | 158.25 | 132.60 | 96.0 | 7B093 | 141.13 | 118.30 | 86.0 |
| | 36 | 18 | 87 | 7B172 | 169.40 | 132.40 | 106.0 | 7B187 | 151.14 | 117.45 | 94.0 | 7B088 | 181.50 | 152.25 | 116.0 | 7B094 | 163.65 | 137.15 | 104.0 |
| | 36 | 24 | 87 | 7B174 | 191.13 | 149.00 | 121.0 | 7B188 | 172.15 | 133.35 | 108.0 | 7B089 | 207.90 | 174.25 | 135.0 | 7B095 | 189.20 | 158.75 | 122.0 |
| | 48 | 12 | 87 | 7B176 | 173.25 | 138.45 | 108.0 | 7B191 | 155.21 | 124.10 | 98.0 | 7B090 | 187.85 | 157.25 | 114.0 | 7B096 | 170.50 | 142.90 | 104.0 |
| | 48 | 18 | 87 | 7B179 | 206.25 | 169.25 | 127.0 | 7B192 | 188.38 | 154.50 | 117.0 | 7B091 | 224.70 | 188.25 | 137.0 | 7B097 | 207.10 | 173.75 | 127.0 |
| | 48 | 24 | 87 | 7B182 | 238.70 | 189.75 | 140.0 | 7B194 | 220.00 | 174.50 | 129.0 | 7B092 | 261.53 | 219.25 | 162.0 | 7B098 | 243.40 | 204.00 | 151.0 |
| 8 | 36 | 12 | 87 | 7B231 | 170.50 | 134.60 | 102.0 | 7B242 | 151.58 | 120.25 | 92.0 | 7B111 | 190.30 | 159.50 | 116.0 | 7B117 | 173.25 | 145.20 | 106.0 |
| | 36 | 18 | 87 | 7B233 | 200.20 | 157.00 | 127.0 | 7B246 | 179.85 | 141.95 | 115.0 | 7B112 | 222.99 | 185.00 | 77.0 | 7B118 | 202.95 | 170.25 | 130.0 |
| | 36 | 24 | 87 | 7B235 | 227.15 | 179.00 | 151.0 | 7B247 | 205.70 | 163.50 | 138.0 | 7B113 | 255.50 | 214.00 | 167.0 | 7B119 | 236.80 | 198.50 | 154.0 |
| | 48 | 12 | 87 | 7B237 | 204.88 | 163.50 | 125.0 | 7B248 | 185.35 | 148.95 | 115.0 | 7B114 | 229.10 | 192.00 | 140.0 | 7B120 | 212.50 | 177.75 | 130.0 |
| | 48 | 18 | 87 | 7B238 | 250.25 | 204.25 | 154.0 | 7B249 | 229.35 | 189.75 | 144.0 | 7B115 | 278.05 | 233.00 | 171.0 | 7B121 | 260.45 | 218.25 | 161.0 |
| | 48 | 24 | 87 | 7B241 | 290.95 | 232.75 | 177.0 | 7B250 | 269.50 | 217.50 | 166.0 | 7B116 | 326.45 | 273.75 | 204.0 | 7B122 | 308.30 | 258.25 | 193.0 |

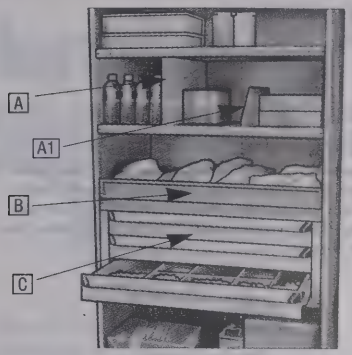
## CLOSED SHELVING UNITS

| No. Of Shelves | Dimensions (In.) W | D | H | With 20 GA. SHELVES CLOSED STARTER UNITS Stock No. | List | Each | Shpg. Wt. | CLOSED ADD-ON UNITS Stock No. | List | Each | Shpg. Wt. | With 18 GA. SHELVES CLOSED STARTER UNITS Stock No. | List | Each | Shpg. Wt. | CLOSED ADD-ON UNITS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 36 | 12 | 87 | 7B153 | $178.75 | $143.80 | 101.0 | 7B159 | $154.17 | $123.30 | 87.0 | 7B075 | $181.77 | $160.25 | 111.0 | 7B081 | $294.53 | $139.55 | 97.0 |
| | 36 | 18 | 87 | 7B154 | 204.60 | 165.50 | 123.0 | 7B160 | 174.35 | 140.25 | 106.0 | 7B076 | 208.73 | 183.75 | 133.0 | 7B082 | 181.90 | 158.75 | 116.0 |
| | 36 | 24 | 87 | 7B155 | 229.08 | 186.50 | 146.0 | 7B162 | 194.98 | 159.25 | 134.0 | 7B077 | 237.05 | 208.75 | 155.0 | 7B083 | 206.25 | 181.50 | 143.0 |
| | 48 | 12 | 87 | 7B156 | 215.35 | 174.50 | 122.0 | 7B163 | 191.95 | 155.50 | 117.0 | 7B078 | 235.05 | 193.75 | 134.0 | 7B084 | 198.28 | 174.75 | 129.0 |
| | 48 | 18 | 87 | 7B157 | 256.30 | 207.50 | 147.0 | 7B165 | 226.05 | 183.00 | 130.0 | 7B079 | 275.08 | 226.75 | 159.0 | 7B085 | 229.35 | 202.00 | 142.0 |
| | 48 | 24 | 87 | 7B158 | 287.95 | 233.25 | 170.0 | 7B167 | 252.45 | 204.50 | 149.0 | 7B080 | 314.76 | 259.25 | 186.0 | 7B086 | 261.80 | 230.50 | 165.0 |
| 6 | 36 | 12 | 87 | 7B197 | 191.40 | 157.00 | 113.0 | 7B218 | 166.38 | 136.50 | 99.0 | 7B099 | 198.00 | 174.50 | 121.0 | 7B105 | 174.90 | 154.00 | 107.0 |
| | 36 | 18 | 87 | 7B203 | 221.95 | 181.75 | 136.0 | 7B219 | 190.03 | 156.50 | 119.0 | 7B100 | 228.55 | 201.25 | 146.0 | 7B106 | 199.95 | 176.25 | 129.0 |
| | 36 | 24 | 87 | 7B205 | 250.00 | 204.75 | 157.0 | 7B221 | 212.85 | 177.50 | 145.0 | 7B101 | 261.25 | 230.00 | 171.0 | 7B107 | 230.20 | 202.75 | 159.0 |
| | 48 | 12 | 87 | 7B212 | 238.70 | 193.25 | 141.0 | 7B225 | 215.35 | 174.25 | 136.0 | 7B102 | 240.90 | 212.00 | 147.0 | 7B108 | 219.20 | 193.00 | 142.0 |
| | 48 | 18 | 87 | 7B214 | 285.45 | 231.25 | 165.0 | 7B228 | 255.20 | 206.75 | 148.0 | 7B103 | 284.10 | 250.25 | 175.0 | 7B109 | 256.30 | 225.75 | 158.0 |
| | 48 | 24 | 87 | 7B216 | 319.55 | 258.75 | 184.0 | 7B229 | 284.08 | 230.00 | 163.0 | 7B104 | 327.00 | 288.00 | 206.0 | 7B110 | 294.55 | 259.25 | 185.0 |
| 8 | 36 | 12 | 87 | 7B251 | 215.05 | 176.50 | 127.0 | 7B357 | 189.20 | 156.00 | 113.0 | 7B123 | 228.55 | 201.25 | 141.0 | 7B129 | 205.45 | 180.75 | 127.0 |
| | 36 | 18 | 87 | 7B252 | 250.25 | 206.25 | 157.0 | 7B358 | 217.80 | 181.00 | 140.0 | 7B124 | 265.95 | 234.25 | 172.0 | 7B130 | 237.60 | 209.25 | 155.0 |
| | 36 | 24 | 87 | 7B280 | 284.08 | 234.75 | 187.0 | 7B359 | 246.68 | 207.50 | 175.0 | 7B125 | 306.35 | 269.75 | 203.0 | 7B131 | 275.30 | 242.50 | 191.0 |
| | 48 | 12 | 87 | 7B354 | 269.50 | 218.25 | 158.0 | 7B360 | 245.85 | 199.25 | 153.0 | 7B126 | 280.25 | 246.75 | 173.0 | 7B132 | 258.80 | 227.75 | 168.0 |
| | 48 | 18 | 87 | 7B355 | 328.90 | 266.25 | 192.0 | 7B361 | 298.65 | 241.75 | 175.0 | 7B127 | 334.95 | 295.00 | 209.0 | 7B133 | 306.90 | 270.25 | 192.0 |
| | 48 | 24 | 87 | 7B356 | 372.65 | 301.50 | 221.0 | 7B362 | 336.88 | 272.75 | 200.0 | 7B128 | 388.85 | 342.50 | 248.0 | 7B135 | 356.15 | 313.75 | 227.0 |



*As America's leading distributor, we know a thing or two about storage.*

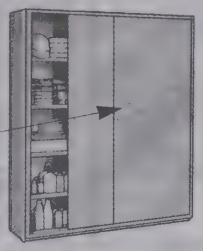
# INDUSTRIAL SHELVING ACCESSORIES AND PASS THRU SHELVING




Take your shelving to new levels with innovative accessories



Swinging Doors




Sliding Doors

New

PENCO CLIPPER SHELVING




Box beam construction adds strength to front and rear shelf flanges.

Heavy duty compression clip provides 4-point clip-to-post connection.

Box posts permit use of full width of shelf surface

## SHELVING ACCESSORIES

**A Dividers** – Full height dividers with hardware included. Sliding dividers (A1) are easily moved as needed.

| Description | Dimensions (In.) W | D | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **SHELF DIVIDERS - Gray** | | | | | | | |
| **Full Height Divider** | – | 12 | 6 | **4UG19** | $3.70 | **$3.01** | 7.0 |
| **Full Height Divider** | – | 12 | 9 | **4UG30** | 4.20 | **3.06** | 9.0 |
| **Full Height Divider** | – | 12 | 12 | **4UG41** | 4.75 | **3.47** | 11.0 |
| **Full Height Divider** | – | 18 | 6 | **4UG52** | 4.45 | **3.25** | 8.5 |
| **Full Height Divider** | – | 18 | 9 | **4TX98** | 4.60 | **3.36** | 0.1 |
| **Full Height Divider** | – | 18 | 12 | **4TZ10** | 5.25 | **3.83** | 15.0 |
| **Full Height Divider** | – | 24 | 6 | **4TZ21** | 5.40 | **3.94** | 14.0 |
| **Full Height Divider** | – | 24 | 9 | **4TZ32** | 5.80 | **4.24** | 19.0 |
| **Full Height Divider** | – | 24 | 12 | **4TZ43** | 6.55 | **4.78** | 22.0 |
| **Sliding Divider** | – | 12 | 6 | **4TZ54** | 5.05 | **3.68** | 13.0 |
| **Sliding Divider** | – | 18 | 6 | **4TZ65** | 6.15 | **4.48** | 18.0 |
| **Sliding Divider** | – | 24 | 6 | **4TZ76** | 8.00 | **5.84** | 22.0 |

**B Bin Fronts** – Keeps loose items from falling off the shelf.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SHELVING BIN FRONTS - Gray** | | | | | | | |
| **Bin Front w/Clips** | 36 | – | 3 | **4UF34** | $7.75 | **$5.66** | 2.2 |
| **Bin Front w/Clips** | 48 | – | 3 | **4UG08** | 9.10 | **6.64** | 2.8 |

**C Modular Drawers** – Efficiently stores small items. Drawers install in 36"W shelving units; available for 18" and 24"D. Available as a 3 or 4 drawer unit with 12" total Ht. Each drawer can hold up to 400 lbs., and can be fully extended. Order a Drawer Divider Kit for each drawer.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **MODULAR DRAWER KITS - FOR 36" WIDE DRAWERS - Putty** | | | | | | | |
| **Three 4" H Drawers** | 36" | 18" | 12" | **4TZ87** | $523.45 | **$402.75** | 91.0 |
| **Three 4" H Drawers** | 36 | 24 | 12 | **4TZ98** | 537.35 | **413.50** | 110.0 |
| **Four 3" H Drawers** | 36 | 18 | 12 | **4UC11** | 669.80 | **515.50** | 114.0 |
| **Four 3" H Drawers** | 36 | 24 | 12 | **4UC22** | 692.90 | **533.00** | 137.0 |
| **DRAWER DIVIDER KITS** | | | | | | | |
| **4 Compartments** | 36 | 24 | 3 | **4UC33** | $24.10 | **$18.54** | 2.8 |
| **4 Compartments** | 36 | 24 | 4 | **4UC44** | 29.80 | **22.92** | 3.8 |
| **12 Compartments** | 36 | 24 | 3 | **4UC55** | 36.05 | **27.75** | 3.8 |
| **12 Compartments** | 36 | 24 | 4 | **4UC66** | 47.55 | **36.60** | 5.4 |
| **6 Compartments** | 36 | 18 | 3 | **4UC77** | 20.20 | **15.54** | 1.6 |
| **6 Compartments** | 36 | 18 | 4 | **4UC88** | 27.00 | **20.77** | 2.4 |
| **15 Compartments** | 36 | 18 | 3 | **4UC99** | 45.00 | **34.65** | 3.2 |
| **15 Compartments** | 36 | 18 | 4 | **4UD11** | 58.40 | **44.95** | 4.9 |

**D Shelving Doors** – Secures items in closed shelving. Door set includes locking handle and two keys. Sliding door spans two units; it must be installed on a starter PLUS an add-on unit.

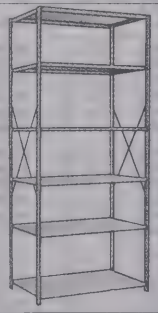
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SHELVING DOORS - Gray** | | | | | | | |
| **Swinging Door Set** | 36 | – | 85 | **4TX97** | $224.60 | **$149.05** | 65.0 |
| **Swinging Door Set** | 48 | – | 85 | **4UC10** | 275.85 | **183.75** | 89.0 |
| **Sliding Door Set** | 72 | – | 84 | **4UD22** | 490.60 | **325.75** | 123.0 |

## E EXTRA SHELVES

Comes with clips

| Description | Dimensions (In.) W | D | Shelf Cap.* (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **EXTRA SHELVES - CARTONS OF 3 - Gray** | | | | | | | |
| | 36 | 12 | 800 | **4UG33** | $46.25 | **$38.55** | 26.0 |
| | 36 | 18 | 850 | **4UG34** | 57.77 | **48.15** | 34.0 |
| | 36 | 24 | 800 | **4UG35** | 68.69 | **57.25** | 41.0 |
| **20 Gauge** | 48 | 12 | 500 | **4UG36** | 62.21 | **51.85** | 36.0 |
| | 48 | 18 | 500 | **4UG37** | 83.52 | **69.65** | 45.0 |
| | 48 | 24 | 530 | **4UG38** | 97.32 | **81.10** | 51.0 |
| | 36 | 12 | 1100 | **4UG39** | 58.56 | **48.80** | 30.0 |
| | 36 | 18 | 1200 | **4UG40** | 71.75 | **59.80** | 39.0 |
| | 36 | 24 | 1250 | **4UG42** | 86.62 | **72.20** | 48.0 |
| **18 Gauge** | 48 | 12 | 750 | **4UG43** | 75.60 | **63.00** | 39.0 |
| | 48 | 18 | 900 | **4UG44** | 97.06 | **80.90** | 50.0 |
| | 48 | 24 | 900 | **4UG45** | 118.25 | **98.55** | 62.0 |

(*) Based on evenly distributed loads.



## PASS THRU SHELVING

**Access From Front & Rear** – can be used from two separate aisles.

**Box Posts Used On All Four Corners** – insures complete access to width of shelf. 87" high.

**20 Gauge Hi-Performance Shelves** – adjust on 1" centers with clips.

Pass thru shelving units are sold as starters only. Install units back-to-back and not be encumbered by back braces. Cross braces stabilize from front to back, and special braces attach to post and shelf for lateral stability.

| No. of Shelves | Dimensions (In.) W | D | Shelf Cap.* (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **87" HIGH PASS THRU SHELVING - Gray** | | | | | | | |
| | 36 | 12 | 800 | **4UD23** | $208.65 | **$133.65** | 79.7 |
| | 36 | 18 | 850 | **4UD34** | 227.90 | **145.95** | 91.5 |
| | 36 | 24 | 800 | **4UD45** | 247.30 | **158.50** | 103.8 |
| **5** | 48 | 12 | 500 | **4UD56** | 231.65 | **148.35** | 90.2 |
| | 48 | 18 | 500 | **4UD67** | 270.90 | **173.75** | 105.0 |
| | 48 | 24 | 530 | **4UD78** | 301.30 | **193.00** | 120.8 |
| | 36 | 12 | 800 | **4UD89** | 223.80 | **143.35** | 87.0 |
| | 36 | 18 | 850 | **4UF01** | 246.70 | **158.00** | 101.0 |
| | 36 | 24 | 800 | **4UF12** | 225.00 | **144.10** | 115.4 |
| **6** | 48 | 12 | 500 | **4UF23** | 251.40 | **161.00** | 99.6 |
| | 48 | 18 | 500 | **4UF35** | 298.30 | **191.25** | 117.2 |
| | 48 | 24 | 530 | **4UF46** | 334.40 | **214.25** | 131.4 |
| | 36 | 12 | 800 | **4UF57** | 254.10 | **162.75** | 101.6 |
| | 36 | 18 | 850 | **4UF68** | 284.30 | **182.25** | 120.0 |
| | 36 | 24 | 800 | **4UF89** | 314.20 | **201.25** | 138.6 |
| **8** | 48 | 12 | 500 | **4UG01** | 290.90 | **186.50** | 117.4 |
| | 48 | 18 | 500 | **4UG04** | 353.10 | **226.25** | 141.6 |
| | 48 | 24 | 530 | **4UG05** | 400.60 | **256.75** | 165.8 |

(*) Based on evenly distributed loads.

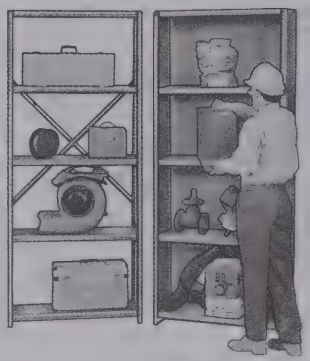
STORAGE EQUIPMENT

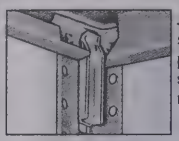
# INDUSTRIAL OPEN & CLOSED SHELVING

tennsco

- 550 to 1000 lbs. capacity per shelf to handle a wide variety of storage requirements
- Heavy-duty shelving with box beam construction; choose from 20-gauge steel, sold below, or 22-gauge steel, sold on following page
- Shelves adjust in 1" increments
- Available in open and closed styles
- Medium Gray finish

New





Just clip shelves onto posts – No special tools needed.

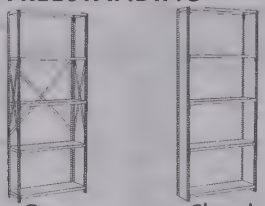
**FREESTANDING OR STARTER?** Choose a freestanding unit if you don't plan on attaching units in the future. Select a starter unit if you do plan on attaching additional units (add-ons) in the future.

FREE DELIVERY on orders of $900 or more

See Freight Policy

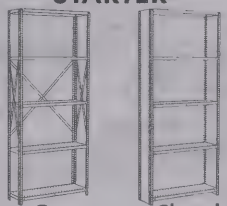
## HEAVY-DUTY 20-GAUGE SHELVING

### FREESTANDING



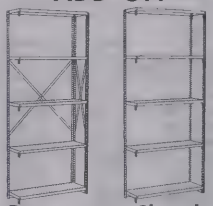
Open Style | Closed Style

### STARTER



Open Style | Closed Style

### ADD-ON



Open Style | Closed Style

### SHELF CAPACITIES†

| Shelf (In.) W | Shelf (In.) D | 20 Gauge (Lbs.) |
|---|---|---|
| 36 | 12 | 1000 |
| 36 | 18 | 850 |
| 36 | 24 | 800 |
| 48 | 12 | 650 |
| 48 | 18 | 550 |
| 48 | 24 | 550 |

(†) Based on evenly distributed loads.

### OPEN SHELVING (87" HIGH)

| No. of Shelves | Dimensions (Inches) W | D | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 36 | 12 | 7B649 | $106.88 | $85.50 | 65.0 | 7B655 | $112.57 | $90.05 | 67.0 | 7B661 | $98.48 | $78.80 | 60.0 |
| | 36 | 18 | 7B650 | 123.52 | 98.85 | 79.0 | 7B656 | 129.16 | 103.35 | 81.0 | 7B662 | 115.20 | 92.20 | 74.0 |
| | 36 | 24 | 7B651 | 138.46 | 110.80 | 90.0 | 7B657 | 144.06 | 115.25 | 92.0 | 7B663 | 130.22 | 104.20 | 85.0 |
| | 48 | 12 | 7B652 | 127.34 | 101.90 | 77.0 | 7B658 | 133.09 | 106.50 | 79.0 | 7B664 | 118.87 | 95.10 | 72.0 |
| | 48 | 18 | 7B653 | 155.27 | 124.25 | 93.0 | 7B659 | 161.07 | 128.85 | 95.0 | 7B665 | 146.73 | 117.40 | 88.0 |
| | 48 | 24 | 7B654 | 178.06 | 142.45 | 109.0 | 7B660 | 183.81 | 147.05 | 111.0 | 7B666 | 169.59 | 135.70 | 104.0 |
| 6 | 36 | 12 | 7B685 | 122.52 | 98.05 | 66.0 | 7B691 | 128.19 | 102.55 | 68.0 | 7B697 | 114.11 | 91.30 | 42.0 |
| | 36 | 18 | 7B686 | 143.65 | 114.95 | 78.0 | 7B692 | 149.27 | 119.45 | 80.0 | 7B698 | 135.31 | 108.25 | 73.0 |
| | 36 | 24 | 7B687 | 162.21 | 129.80 | 90.0 | 7B693 | 167.83 | 134.30 | 92.0 | 7B699 | 153.98 | 123.20 | 85.0 |
| | 48 | 12 | 7B688 | 140.36 | 112.30 | 76.0 | 7B694 | 146.10 | 116.90 | 78.0 | 7B700 | 131.89 | 105.55 | 71.0 |
| | 48 | 18 | 7B689 | 172.16 | 137.75 | 110.0 | 7B695 | 177.97 | 142.40 | 94.0 | 7B701 | 163.61 | 130.90 | 87.0 |
| | 48 | 24 | 7B690 | 198.72 | 159.00 | 69.0 | 7B696 | 204.44 | 163.75 | 112.0 | 7B702 | 190.23 | 152.25 | 105.0 |
| 8 | 36 | 12 | 7B721 | 146.00 | 116.80 | 104.0 | 7B727 | 151.67 | 121.35 | 86.0 | 7B733 | 137.59 | 110.10 | 79.0 |
| | 36 | 18 | 7B722 | 173.38 | 138.75 | 104.0 | 7B728 | 179.00 | 143.25 | 106.0 | 7B734 | 165.07 | 132.05 | 99.0 |
| | 36 | 24 | 7B723 | 197.83 | 158.50 | 121.0 | 7B729 | 203.42 | 162.75 | 123.0 | 7B735 | 189.58 | 151.75 | 116.0 |
| | 48 | 12 | 7B724 | 175.16 | 140.15 | 101.0 | 7B730 | 180.90 | 144.75 | 103.0 | 7B736 | 166.69 | 133.35 | 96.0 |
| | 48 | 18 | 7B725 | 218.80 | 175.25 | 125.0 | 7B731 | 224.59 | 179.75 | 127.0 | 7B737 | 210.25 | 168.25 | 120.0 |
| | 48 | 24 | 7B726 | 255.07 | 204.25 | 150.0 | 7B732 | 260.79 | 208.75 | 152.0 | 7B738 | 246.58 | 197.50 | 145.0 |

### CLOSED SHELVING (87" HIGH)

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 36 | 12 | 7B667 | $159.80 | $127.85 | 92.0 | 7B673 | $165.61 | $132.50 | 95.0 | 7B679 | $139.89 | $111.95 | 82.0 |
| | 36 | 18 | 7B668 | 183.56 | 146.85 | 113.0 | 7B674 | 189.27 | 151.50 | 116.0 | 7B680 | 158.97 | 127.20 | 98.0 |
| | 36 | 24 | 7B669 | 208.92 | 167.25 | 132.0 | 7B675 | 214.63 | 171.75 | 135.0 | 7B681 | 179.89 | 143.95 | 114.0 |
| | 48 | 12 | 7B670 | 196.93 | 157.75 | 113.0 | 7B676 | 202.54 | 162.25 | 116.0 | 7B682 | 176.34 | 141.10 | 122.0 |
| | 48 | 18 | 7B671 | 233.78 | 187.25 | 136.0 | 7B677 | 239.44 | 191.75 | 139.0 | 7B683 | 207.91 | 166.50 | 122.0 |
| | 48 | 24 | 7B672 | 264.79 | 212.00 | 160.0 | 7B678 | 270.40 | 216.50 | 163.0 | 7B684 | 234.00 | 187.25 | 142.0 |
| 6 | 36 | 12 | 7B703 | 175.15 | 140.15 | 93.0 | 7B709 | 180.96 | 144.80 | 96.0 | 7B715 | 155.24 | 124.20 | 83.0 |
| | 36 | 18 | 7B704 | 203.17 | 162.75 | 112.0 | 7B710 | 208.86 | 167.25 | 115.0 | 7B716 | 178.56 | 142.85 | 97.0 |
| | 36 | 24 | 7B705 | 232.28 | 186.00 | 132.0 | 7B711 | 237.98 | 190.50 | 135.0 | 7B717 | 203.23 | 162.75 | 114.0 |
| | 48 | 12 | 7B706 | 209.17 | 167.50 | 112.0 | 7B712 | 214.77 | 172.00 | 115.0 | 7B718 | 188.79 | 151.25 | 102.0 |
| | 48 | 18 | 7B707 | 249.68 | 199.75 | 135.0 | 7B713 | 255.32 | 204.25 | 128.0 | 7B719 | 223.78 | 179.25 | 121.0 |
| | 48 | 24 | 7B708 | 284.22 | 227.50 | 161.0 | 7B714 | 289.68 | 231.75 | 164.0 | 7B720 | 254.15 | 203.50 | 143.0 |
| 8 | 36 | 12 | 7B739 | 198.22 | 158.75 | 111.0 | 7B745 | 204.01 | 163.25 | 114.0 | 7B751 | 178.31 | 142.65 | 101.0 |
| | 36 | 18 | 7B740 | 232.13 | 185.75 | 138.0 | 7B746 | 237.84 | 190.50 | 141.0 | 7B752 | 207.54 | 166.25 | 123.0 |
| | 36 | 24 | 7B741 | 257.31 | 206.00 | 163.0 | 7B747 | 272.95 | 218.50 | 166.0 | 7B753 | 238.21 | 190.75 | 145.0 |
| | 48 | 12 | 7B742 | 241.91 | 193.75 | 137.0 | 7B748 | 247.50 | 198.00 | 140.0 | 7B754 | 221.33 | 177.25 | 127.0 |
| | 48 | 18 | 7B743 | 293.50 | 235.00 | 168.0 | 7B749 | 299.15 | 239.50 | 171.0 | 7B755 | 267.63 | 214.25 | 154.0 |
| | 48 | 24 | 7B744 | 337.22 | 270.00 | 201.0 | 7B750 | 342.82 | 274.25 | 204.0 | 7B756 | 306.42 | 245.25 | 183.0 |

### USE INDUSTRIAL SHELVING THROUGHOUT YOUR ORGANIZATION

Tennsco Industrial shelving is one of the most versatile shelving systems available. Its design allows for both open and closed style storage. The open style is great for storing packaged items, containers, tools, etc. while allowing easy access. The closed style helps prevent items from accidentally falling off shelves and is ideal for storing small or fragile loose items. The closed style can also serve as room partitions.

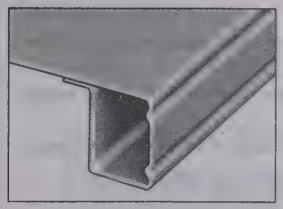
Industrial shelving units are available in a wide range of sizes and can be used stand-alone or in groups to fit room dimensions.



*As America's leading distributor, we know a thing or two about storage.*

# INDUSTRIAL OPEN & CLOSED SHELVING

tennsco



Shelves use a structural box formation on front and rear of shelf to produce a load capacity up to 1,000 pounds!

New

## 20 GAUGE ADD'L SHELVES



For load capacity, see page 2028.

| Dimensions (in.) W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 36 | 12 | 4TT54 | $38.26 | $30.60 | 22.0 |
| | 18 | 4TT55 | 47.92 | 38.35 | 31.0 |
| | 24 | 4TT56 | 71.50 | 66.05 | 37.0 |
| 48 | 12 | 4TT57 | 45.31 | 36.25 | 30.0 |
| | 18 | 4TT58 | 59.75 | 47.80 | 39.0 |
| | 24 | 4TT59 | 72.87 | 58.30 | 49.0 |

## 22 GAUGE ADD'L SHELVES



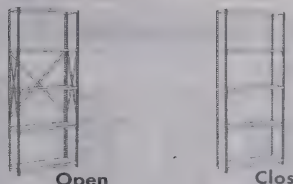
For load capacity, see below.

| Dimensions (in.) W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 36 | 12 | 4TT60 | $31.52 | $25.25 | 19.0 |
| | 18 | 4TT61 | 39.86 | 31.90 | 25.0 |
| | 24 | 4TT62 | 47.93 | 38.35 | 31.0 |
| 48 | 12 | 4TT63 | 43.65 | 34.95 | 24.0 |
| | 18 | 4TT64 | 55.26 | 44.25 | 32.0 |
| | 24 | 4TT65 | 66.82 | 53.45 | 41.0 |

Shelving available in 3-pack only.

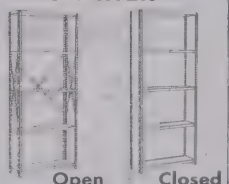
# STANDARD DUTY 22-GAUGE SHELVING

## FREESTANDING



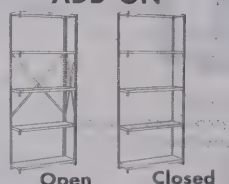
Open Style — Closed Style

## STARTER



Open Style — Closed Style

## ADD-ON



Open Style — Closed Style

### SHELF CAPACITIES*

| Shelf (in.) W | D | 22 Gauge (Lbs.) |
|---|---|---|
| 36 | 12 | 750 |
| 36 | 18 | 750 |
| 36 | 24 | 700 |
| 48 | 12 | 500 |
| 48 | 18 | 500 |
| 48 | 24 | 450 |

(*) Based on evenly distributed loads.

### OUTSTANDING CONSTRUCTION, OUTSTANDING VALUE

Tennsco Industrial Shelving boasts the structural integrity of units costing much more. For example, the shelves use a box formation on the front and rear flanges. The face of the box is ribbed and the flange is welded every three inches. The shelf ends have three bends (most competing shelves only have two) for added front to back strength.

Industrial Shelving is designed for those applications that demand strength and versatility. Its solid Box Beam construction and heavy-duty steel shelves combine to increase load-bearing capacity up to 1,000 lbs. Depending on your weight capacity requirements, choose from 20 or 22-gauge steel versions.

## OPEN SHELVING (87" HIGH)

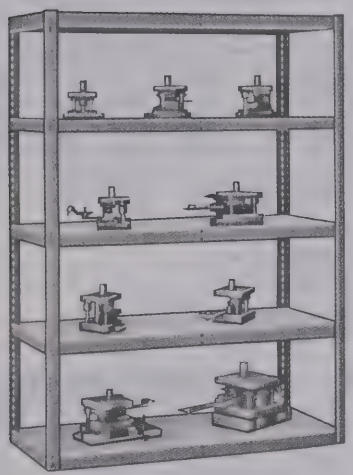
| No. of Shelves | Dimensions (In.) W | D | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 36 | 12 | 7B541 | $90.35 | $72.30 | 59.0 | 7B547 | $95.67 | $76.55 | 61.0 | 7B553 | $82.52 | $66.05 | 54.0 |
| | 36 | 18 | 7B542 | 103.54 | 82.85 | 70.0 | 7B548 | 108.85 | 87.10 | 72.0 | 7B554 | 95.71 | 76.60 | 65.0 |
| | 36 | 24 | 7B543 | 116.21 | 93.00 | 80.0 | 7B549 | 121.52 | 97.25 | 82.0 | 7B555 | 108.38 | 86.70 | 75.0 |
| | 48 | 12 | 7B544 | 109.42 | 87.55 | 69.0 | 7B550 | 114.73 | 91.80 | 71.0 | 7B556 | 101.58 | 81.30 | 64.0 |
| | 48 | 18 | 7B545 | 127.46 | 102.00 | 82.0 | 7B551 | 132.77 | 106.25 | 84.0 | 7B557 | 119.63 | 95.70 | 77.0 |
| | 48 | 24 | 7B546 | 145.71 | 116.60 | 96.0 | 7B552 | 151.02 | 120.85 | 98.0 | 7B558 | 137.88 | 110.30 | 91.0 |
| 6 | 36 | 12 | 7B577 | 102.88 | 82.30 | 66.0 | 7B583 | 108.19 | 86.55 | 68.0 | 7B589 | 95.04 | 76.05 | 61.0 |
| | 36 | 18 | 7B578 | 119.15 | 95.35 | 78.0 | 7B584 | 124.46 | 99.60 | 80.0 | 7B590 | 111.31 | 89.05 | 73.0 |
| | 36 | 24 | 7B579 | 134.88 | 107.90 | 90.0 | 7B585 | 140.19 | 112.45 | 92.0 | 7B591 | 127.04 | 101.65 | 85.0 |
| | 48 | 12 | 7B580 | 126.29 | 101.05 | 76.0 | 7B586 | 131.60 | 105.30 | 78.0 | 7B592 | 118.46 | 94.80 | 71.0 |
| | 48 | 18 | 7B581 | 148.94 | 119.15 | 92.0 | 7B587 | 154.25 | 123.40 | 94.0 | 7B593 | 141.10 | 112.90 | 87.0 |
| | 48 | 24 | 7B582 | 172.06 | 137.65 | 110.0 | 7B588 | 177.38 | 141.90 | 112.0 | 7B594 | 164.23 | 131.40 | 105.0 |
| 8 | 36 | 12 | 7B613 | 121.10 | 96.90 | 78.0 | 7B619 | 126.42 | 101.15 | 80.0 | 7B625 | 113.27 | 90.65 | 73.0 |
| | 36 | 18 | 7B614 | 142.44 | 113.95 | 95.0 | 7B620 | 147.75 | 118.20 | 97.0 | 7B626 | 134.60 | 107.70 | 90.0 |
| | 36 | 24 | 7B615 | 162.98 | 130.40 | 111.0 | 7B621 | 168.29 | 134.65 | 113.0 | 7B627 | 155.15 | 124.15 | 106.0 |
| | 48 | 12 | 7B616 | 151.90 | 121.55 | 93.0 | 7B622 | 157.21 | 125.80 | 95.0 | 7B628 | 144.06 | 115.25 | 88.0 |
| | 48 | 18 | 7B617 | 181.25 | 145.00 | 114.0 | 7B623 | 186.56 | 149.25 | 116.0 | 7B629 | 173.42 | 138.75 | 109.0 |
| | 48 | 24 | 7B618 | 211.06 | 169.00 | 137.0 | 7B624 | 216.38 | 173.25 | 139.0 | 7B630 | 203.23 | 162.75 | 132.0 |

## CLOSED SHELVING (87" HIGH)

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 36 | 12 | 7B559 | 142.42 | 113.95 | 86.0 | 7B565 | 147.94 | 118.35 | 89.0 | 7B571 | 123.50 | 98.80 | 76.0 |
| | 36 | 18 | 7B560 | 164.67 | 131.75 | 104.0 | 7B566 | 170.19 | 136.15 | 107.0 | 7B572 | 140.90 | 112.75 | 89.0 |
| | 36 | 24 | 7B561 | 186.63 | 149.30 | 122.0 | 7B567 | 192.15 | 153.75 | 125.0 | 7B573 | 158.56 | 126.85 | 104.0 |
| | 48 | 12 | 7B562 | 185.27 | 148.25 | 105.0 | 7B568 | 190.79 | 152.75 | 108.0 | 7B574 | 165.04 | 132.05 | 95.0 |
| | 48 | 18 | 7B563 | 213.06 | 170.50 | 125.0 | 7B569 | 212.20 | 169.75 | 128.0 | 7B575 | 187.83 | 150.50 | 111.0 |
| | 48 | 24 | 7B564 | 241.38 | 193.25 | 147.0 | 7B570 | 246.90 | 197.75 | 150.0 | 7B576 | 211.10 | 169.00 | 129.0 |
| 6 | 36 | 12 | 7B595 | 154.94 | 123.95 | 93.0 | 7B601 | 160.46 | 128.40 | 96.0 | 7B607 | 136.02 | 108.85 | 83.0 |
| | 36 | 18 | 7B596 | 180.27 | 144.25 | 112.0 | 7B602 | 185.79 | 148.65 | 115.0 | 7B608 | 156.50 | 125.20 | 97.0 |
| | 36 | 24 | 7B597 | 205.29 | 164.25 | 132.0 | 7B603 | 210.81 | 168.75 | 135.0 | 7B609 | 177.23 | 141.80 | 114.0 |
| | 48 | 12 | 7B598 | 202.15 | 161.75 | 112.0 | 7B604 | 207.67 | 166.25 | 115.0 | 7B610 | 181.92 | 145.55 | 102.0 |
| | 48 | 18 | 7B599 | 234.54 | 187.75 | 135.0 | 7B605 | 240.06 | 192.25 | 138.0 | 7B611 | 209.31 | 167.50 | 121.0 |
| | 48 | 24 | 7B600 | 267.73 | 267.75 | 161.0 | 7B606 | 273.25 | 219.00 | 164.0 | 7B612 | 237.46 | 190.00 | 143.0 |
| 8 | 36 | 12 | 7B631 | 173.17 | 138.55 | 105.0 | 7B637 | 163.29 | 138.80 | 108.0 | 7B643 | 154.25 | 123.40 | 95.0 |
| | 36 | 18 | 7B632 | 203.56 | 163.00 | 129.0 | 7B638 | 209.08 | 167.50 | 132.0 | 7B644 | 179.79 | 143.85 | 114.0 |
| | 36 | 24 | 7B633 | 233.40 | 186.75 | 153.0 | 7B639 | 238.92 | 191.25 | 156.0 | 7B645 | 205.33 | 164.50 | 135.0 |
| | 48 | 12 | 7B634 | 227.75 | 182.25 | 129.0 | 7B640 | 233.27 | 183.75 | 132.0 | 7B646 | 207.52 | 166.25 | 119.0 |
| | 48 | 18 | 7B635 | 280.29 | 238.25 | 188.0 | 7B641 | 272.38 | 218.00 | 160.0 | 7B647 | 241.63 | 193.50 | 143.0 |
| | 48 | 24 | 7B636 | 306.73 | 245.50 | 188.0 | 7B642 | 312.25 | 250.00 | 191.0 | 7B648 | 276.46 | 221.25 | 170.0 |

# HEAVY-DUTY REINFORCED HIGH CAPACITY SHELVING

tennsco



New

- Reinforced shelf capacity of 2,000 lbs. for extra heavy-duty storage
- Ideal for storage of dies, motors, jigs, fixtures, and other heavy materials
- Shelves constructed of 16-gauge steel to withstand extra-heavy loads
- Complete with five shelves that adjust in 1½" increments
- Boltless design requires no tools for assembly

Reinforced shelving provides storage for extra heavy loads.

**The Heavyweight Shelving** – This is no ordinary shelving unit. Tennsco High Capacity shelving is designed to hold your heaviest loads. Its unique super-reinforced shelf with cross supports prevents shelf deformity. Although this kind of strength is typically found with bolted type units, Tennsco's High Capacity boltless shelving design makes it quick and easy to attach shelves to posts or rearrange. Medium gray finish.

## *New!* HIGH CAPACITY SHELVING ORDERING DATA

| No. of Shelves | Dimensions (In.) W | D | H | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 | 36 | 18 | 84 | **7B757** | $216.88 | **$173.50** | 107.0 |
| 5 | 48 | 18 | 84 | **7B758** | 279.38 | **223.50** | 145.0 |
| 5 | 48 | 24 | 84 | **7B759** | 301.56 | **241.25** | 189.0 |
| 5 | 60 | 24 | 84 | **7B760** | 401.25 | **321.00** | 230.0 |
| 5 | 72 | 24 | 84 | **7B761** | 493.13 | **394.50** | 278.0 |

## LEDGE UNIT AND DOOR SETS

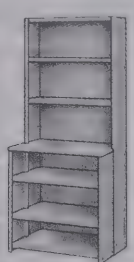
- Accessorize and meet your specific needs for your storage area
- Protect and secure shelving contents
- Attach to Tennsco brand Open and Closed Industrial shelving units
- Doors include easy opening metal handle with lock
- Medium gray finish

| Description | Dimensions (In.) W | H | Tennsco Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Ledge Unit | 36 | 39 | ILU-3639 | **4TV65** | $134.80 | **$104.35** | 49.0 |
| Door Set* | 36 | 39 | HD-3639 | **4TV63** | 123.90 | **95.30** | 26.0 |
| Door Set* | 36 | 87 | HD-3687 | **4TV64** | 158.90 | **126.70** | 56.0 |

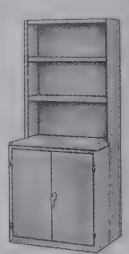
(*) Door set attaches to freestanding shelving unit only.

tennsco

New



No. 4TV65



No. 4TV63



No. 4TV64

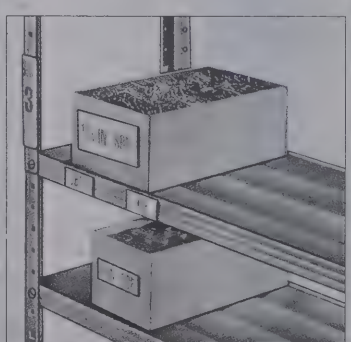
## HOL-DEX® LABEL HOLDERS

- Bar code compatible finish won't crack, chip, peel, fade, or fall off
- Adheres to any clean, dry surface
- Includes laser/ink jet compatible labels

Insertable label holders allow changing a designation by simply remarking insert. Includes labels that are laser/ink jet ready and include printing instructions. Special matte finish eliminates glare and assures accurate bar code scanning. Clear only. 25 per package. Aigner/Cel-U-Dex brand.

HOL-DEX

New



## *New!* HOL-DEX® LABEL HOLDERS

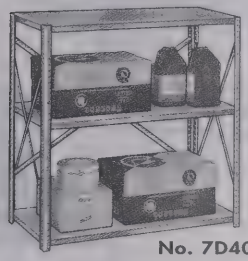
| Description | Cel-U-Dex Model | *New!* Stock No. | List | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2 x 6" Self Adhesive | L21GR | **4TR25** | $20.10 | **$20.00** | 25 | 0.3 |
| 3/4 x 6" Self Adhesive | L31GR | **4TR26** | 23.40 | **23.28** | 25 | 0.3 |
| 1 x 6" Self Adhesive | L11GR | **4TR24** | 26.85 | **26.75** | 25 | 0.5 |
| 1 x 6" Magnetic | M11GR | **4TR27** | 28.80 | **28.70** | 25 | 1.1 |

# COMMERCIAL OPEN & CLOSED SHELVING

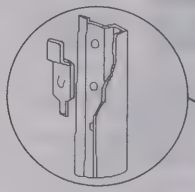
edsal

New

**Economical units can be easily configured to suit your needs.**

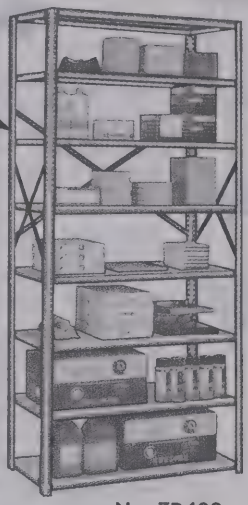


No. 7D408



**Nuts and bolts secure top and bottom shelves; in-between shelves can be repositioned on 1" centers with easy-to-use shelf clips.**

Questions? See Selection Guide on Page 2024



No. 7D402



No. 7D399

Replacement Parts Available 1-800-323-0620™

**Sturdy, free-standing shelving units** - are ideal for stockrooms, tool cages, factory or office use. Can be easily arranged in numerous configurations without dismantling. Use as free-standing shelving units or attach multiple units to fit available space to satisfy most any storage need.

**Open Units** have four corner posts, 1 pair of back and 2 pair of side braces for strength and rigidity. **Closed Units** include 2 side and 1 back panel for support and security.

**Side and back panels** on closed units protect contents; reduce dust and dirt accumulation.

**22-gauge, triple flange steel construction** holds up to 400 lbs. capacity per shelf*.

**16-gauge posts and sway braces** provide strength and rigidity.

**Attractive enamel finish** in gray or tan is durable and rust-resistant.

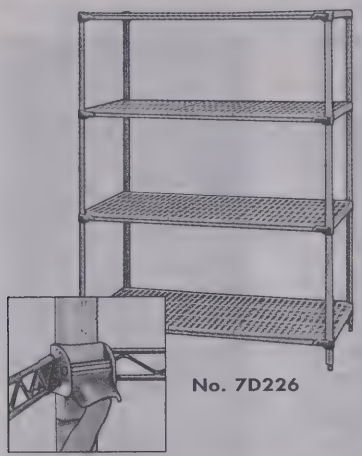
| No. of Shelves | Overall Dimensions (In.) W | D | H | Load Capacity Per Shelf* (Lbs.) | Stock No. Gray | Tan | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **COMMERCIAL DUTY OPEN SHELVING** | | | | | | | | | |
| 3 | 36 | 12 | 42 | 400 | 7D406 | 7D409 | $36.92 | **$32.10** | 34.0 |
| | 36 | 18 | 42 | 375 | 7D407 | 7D410 | 41.20 | **39.15** | 40.0 |
| | 36 | 24 | 42 | 350 | 7D408 | 7D411 | 49.95 | **47.45** | 43.0 |
| 5 | 36 | 12 | 75 | 400 | 7D370 | 7D373 | 58.15 | **50.20** | 58.0 |
| | 36 | 18 | 75 | 375 | 7D382 | 7D385 | 74.18 | **63.40** | 68.0 |
| | 36 | 24 | 75 | 350 | 7D394 | 7D397 | 93.77 | **79.65** | 73.0 |
| 6 | 36 | 12 | 75 | 400 | 7D374 | 7D377 | 65.17 | **56.15** | 64.0 |
| | 36 | 18 | 75 | 375 | 7D386 | 7D389 | 83.67 | **70.35** | 76.0 |
| | 36 | 24 | 75 | 350 | 7D398 | 7D401 | 106.83 | **89.15** | 82.0 |
| 8 | 36 | 12 | 85 | 400 | 7D378 | 7D381 | 83.33 | **71.10** | 78.0 |
| | 36 | 18 | 85 | 375 | 7D390 | 7D393 | 106.10 | **90.25** | 94.0 |
| | 36 | 24 | 85 | 350 | 7D402 | 7D405 | 135.29 | **113.55** | 102.0 |
| **COMMERCIAL DUTY CLOSED SHELVING** | | | | | | | | | |
| 5 | 36 | 12 | 75 | 400 | 7D371 | 7D372 | 103.35 | **88.25** | 95.0 |
| | 36 | 18 | 75 | 375 | 7D383 | 7D384 | 127.95 | **106.90** | 116.0 |
| | 36 | 24 | 75 | 350 | 7D395 | 7D396 | 156.45 | **129.45** | 126.0 |
| 6 | 36 | 12 | 75 | 400 | 7D375 | 7D376 | 110.36 | **94.35** | 101.0 |
| | 36 | 18 | 75 | 375 | 7D387 | 7D388 | 137.46 | **114.20** | 124.0 |
| | 36 | 24 | 75 | 350 | 7D399 | 7D400 | 170.07 | **140.20** | 135.0 |
| 8 | 36 | 12 | 85 | 400 | 7D379 | 7D380 | 140.64 | **114.60** | 120.0 |
| | 36 | 18 | 85 | 375 | 7D391 | 7D392 | 172.62 | **138.30** | 149.0 |
| | 36 | 24 | 85 | 350 | 7D403 | 7D404 | 210.63 | **167.75** | 162.0 |

## COMMERCIAL DUTY EXTRA SHELVES COME IN CARTONS OF THREE WITH SHELF CLIPS

| Fit Shelving Units | Load Capacity Per Shelf* (Lbs.) | Stock No. Gray | Tan | Price Per 3-Shelf Pack List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Fit all 12"D Units | 400 | 4TX60 | 4TX61 | $20.94 | **$19.04** | 17.0 |
| Fit all 18"D Units | 375 | 4TX64 | 4TX65 | 28.98 | **26.35** | 23.0 |
| Fit all 24"D Units | 350 | 4TX68 | 4TX69 | 35.11 | **34.95** | 26.0 |

(*) Capacity for evenly distributed loads.

# METROMAX Q™ AND METROMAX® STORAGE SYSTEMS



No. 7D226



Corner Lock Release

METRO NSF

## MetroMax Q and MetroMax Storage Systems both provide:

**Ideal Storage Solutions designed for cooler/freezer environments** as well as dry storage, in warehouses, laboratories, retail stores, restaurants, hotels, and hospitals.

**Maximum corrosion resistance** perfect for damp, humid conditions or applications requiring frequent or harsh cleaning

**Removable polypropylene mats** for easy cleaning

**Open grid style shelves** allow unobstructed airflow

**600-800 lbs. per shelf** maximizes valuable storage space

**NSF International listed** assures products meet high standards for cleanability

**Registered ISO 9001-9002**

**Shelving** may be purchased as follows:

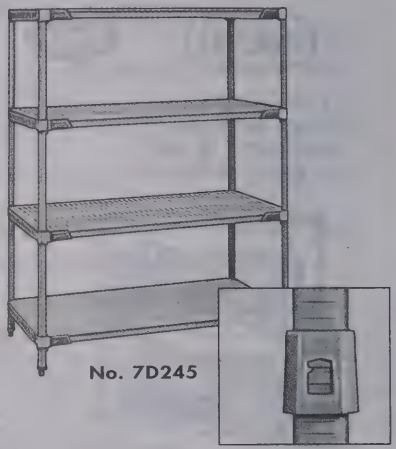
**1 Starter Unit** consists of:

(1) 4-pack of shelves and (1) 4-pack of starter posts

**OR**

**1 Add-On Unit** consists of:

(1) 4-pack of shelves and (1) 2-pack of Add-On Posts with "S" Hooks saving on the cost of two posts.



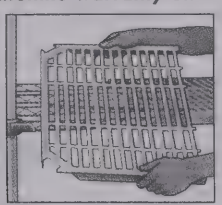
No. 7D245



Post with wedge connector

### MetroMax Q

- Quick to assemble
- Quick to adjust with the flip of a lever
- Quick to clean
- 15 year warranty against corrosion on posts and Lifetime warranty on shelf mats



Removable Mats

**Replacement Parts Available**
**1-800-323-0620**

New

### MetroMax

- Corrosion-resistant shelving system
- All polymer and stainless steel construction
- Add or remove storage levels any time as required
- Lifetime warranty against corrosion

FREE DELIVERY on orders of $900 or more
See Freight Policy

## METROMAX Q STARTER SHELVING OPEN 4-SHELF

| Overall Dim. DxWxH | Capacity Per Shelf* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 18x36x74 | 800 | 7D226 | $338.80 | $283.25 | 58.0 |
| 18x48x74 | 600 | 7D227 | 384.80 | 322.50 | 70.0 |
| 18x60x74 | 600 | 7D228 | 436.80 | 366.50 | 82.0 |
| 18x72x74 | 600 | 7D229 | 498.80 | 418.75 | 94.0 |
| 24x36x74 | 800 | 7D230 | 388.80 | 325.75 | 70.0 |
| 24x48x74 | 600 | 7D231 | 454.80 | 381.75 | 86.0 |
| 24x60x74 | 600 | 7D232 | 516.80 | 434.75 | 102.0 |
| 24x72x74 | 600 | 7D233 | 596.80 | 502.00 | 118.0 |

(*) Based on evenly distributed weight loads.

## METROMAX Q ADD-ON SHELVING OPEN 4-SHELF

| Overall Dim. D W H | Capacity Per Shelf* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 18x36x74 | 800 | 7D234 | $306.80 | $255.75 | 48.0 |
| 18x48x74 | 600 | 7D235 | 352.80 | 294.75 | 60.0 |
| 18x60x74 | 600 | 7D236 | 404.80 | 339.00 | 72.0 |
| 18x72x74 | 600 | 7D237 | 466.80 | 391.00 | 84.0 |
| 24x36x74 | 800 | 7D238 | 356.80 | 298.25 | 60.0 |
| 24x48x74 | 600 | 7D239 | 422.80 | 354.25 | 76.0 |
| 24x60x74 | 600 | 7D240 | 481.80 | 407.00 | 92.0 |
| 24x72x74 | 600 | 7D241 | 564.80 | 474.50 | 108.0 |

(*) Includes 2 posts and 8 "S" Hooks

## METROMAX STARTER SHELVING OPEN 4-SHELF

| Overall Dim. D W H | Load Cap. Per Shelf* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 18x36x74 | 800 | 7D242 | $440.00 | $351.50 | 60.0 |
| 18x48x74 | 600 | 7D243 | 518.00 | 414.75 | 76.0 |
| 18x60x74 | 600 | 7D244 | 578.00 | 464.25 | 92.0 |
| 18x72x74 | 600 | 7D245 | 670.00 | 537.50 | 104.0 |
| 24x36x74 | 800 | 7D246 | 522.00 | 417.00 | 72.0 |
| 24x48x74 | 600 | 7D247 | 594.00 | 475.75 | 88.0 |
| 24x60x74 | 600 | 7D248 | 690.00 | 556.00 | 120.0 |
| 24x72x74 | 600 | 7D249 | 806.00 | 646.50 | 124.0 |

(*) Based on evenly distributed weight loads.

## METROMAX ADD-ON SHELVING OPEN 4-SHELF

| Overall Dim. D W H | Load Cap. Per Shelf* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 18x36x74 | 800 | 7D250 | $389.40 | $311.50 | 56.0 |
| 18x48x74 | 600 | 7D251 | 467.40 | 375.00 | 72.0 |
| 18x60x74 | 600 | 7D252 | 527.40 | 424.25 | 88.0 |
| 18x72x74 | 600 | 7D253 | 619.40 | 497.75 | 100.0 |
| 24x36x74 | 800 | 7D254 | 471.40 | 377.25 | 68.0 |
| 24x48x74 | 600 | 7D255 | 543.40 | 436.00 | 84.0 |
| 24x60x74 | 600 | 7D256 | 639.40 | 516.50 | 116.0 |
| 24x72x74 | 600 | 7D257 | 755.40 | 607.00 | 120.0 |

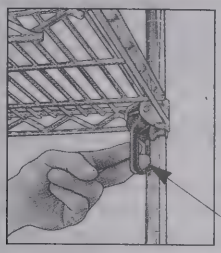
(*) Includes 2 posts and 8 "S" Hooks



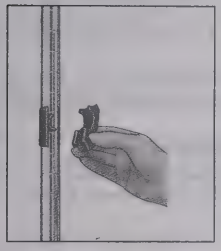
*As America's leading distributor, we know a thing or two about storage.*

# SUPER ADJUSTABLE SUPER ERECTA™ SHELVING

METRO



Just lift the release at each corner and adjust at 1" increments in seconds.



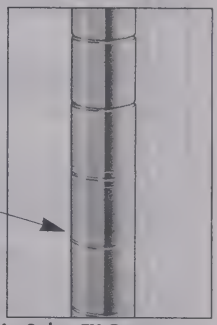
Sleeves and wedges attach easily to SiteSelect™ Posts.



600 to 800 Lbs. Capacity Per Shelf

New

NSF



SiteSelect™ Posts are grooved at 1" increments and numbered at 2" increments. Posts are triple-grooved every 8" for easy positioning of shelves.

Registered ISO 9001-9002

METRO Super Adjustable Super Erecta™

FREE DELIVERY on orders of $900 or more

See Freight Policy

**Metro's Super Adjustable Shelving** is a dynamic system offering superior flexibility perfect for dry, general storage applications in warehouses, laboratories, offices, electronic centers, retail stores, and product displays.

## SUPER ADJUSTABLE SHELVING OPEN 5-SHELF

| Overall Dim. D W H | Load Cap. Per Shelf* | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **18x36x74** | 800 | **7D258** | $336.50 | **$253.25** | 68.0 |
| **18x48x74** | 600 | **7D259** | 384.00 | **290.50** | 81.0 |
| **18x60x74** | 600 | **7D260** | 434.00 | **331.00** | 104.0 |
| **18x72x74** | 600 | **7D261** | 499.00 | **381.25** | 119.0 |
| **24x36x74** | 800 | **7D262** | 391.50 | **296.00** | 83.0 |
| **24x48x74** | 600 | **7D263** | 456.50 | **347.00** | 101.0 |
| **24x60x74** | 600 | **7D264** | 529.00 | **407.50** | 141.0 |
| **24x72x74** | 600 | **7D265** | 604.00 | **464.25** | 152.0 |
| **18x36x86** | 800 | **7D274** | 352.50 | **264.25** | 71.0 |
| **18x48x86** | 600 | **7D275** | 400.00 | **301.50** | 84.0 |
| **18x60x86** | 600 | **7D276** | 450.00 | **342.25** | 107.0 |
| **18x72x86** | 600 | **7D277** | 515.00 | **392.50** | 122.0 |
| **24x36x86** | 800 | **7D278** | 407.50 | **307.25** | 86.0 |
| **24x48x86** | 600 | **7D279** | 472.50 | **358.25** | 104.0 |
| **24x60x86** | 600 | **7D280** | 545.00 | **418.50** | 144.0 |
| **24x72x86** | 600 | **7D281** | 620.00 | **475.25** | 155.0 |

(*) Based on evenly distributed weight loads.

**Unique corner release** allows for easy, fast adjustment of shelves

**Exceptional open wire shelf** design minimizes dust collection and allows free circulation of air, greater visibility of stored items, and increased light penetration

**Fast and easy assembly** creates a complete shelving system in minutes, without tools

**Site Select posts** allow easy adjustment on 1" increments and provides a visual guide for positioning and adjusting shelves

**600-800 lbs. capacity per shelf** maximizes valuable storage space

**Chrome plated finish** provides durability and resists corrosion

**NSF International listed** assures products meet high standards for cleanability

**Shelving** may be purchased as follows:

**1 Shelving Unit** consists of: **(1)** 5-pack of shelves and **(1)** 4-pack of starter posts

## YOUR PRODUCT SOLUTION RESOURCE... CALL GRAINGER TODAY!

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

STORAGE EQUIPMENT

# SUPER ERECTA® SHELVING



No. 7D292

METRO®

New

Registered ISO 9001-9002

Replacement Parts Available 1-800-323-0620™

NSF

FREE DELIVERY on orders of $900 or more

See Freight Policy

## CHROME-PLATED UNITS

**Metro Open-Wire Shelving in Chrome** provides an attractive, durable finish ideal for product displays, general storage in factories, warehouses, laboratories, offices, electronic centers, retail stores, hospitals, nursing homes, hotels/motels, and restaurants.

**Chrome plated finish** provides durable shelf surface that resists corrosion

**Convenient 5-shelf packs** assist in maximizing space utilization

**600-800 lbs. capacity** per shelf maximizes valuable storage space

**Assembles in minutes** without the use of tools, saving time

**Tapered split sleeves** allow for ease of adjustment at 1" increments along the height of the posts

**Open wire design** minimizes dust accumulation and allows free circulation of air, greater visibility of stored items, and increased light penetration

**Steel wires run front-to-back**- items easily slide on and off the shelf

**Built-in 1/4" shelf ledge** holds items on shelf minimizing accidental "bump off" during loading

**Leveling feet in posts** allow for adjustment on uneven floors

**NSF International Listed** assures products meet high standards for cleanability

**Shelving may be purchased as follows:**

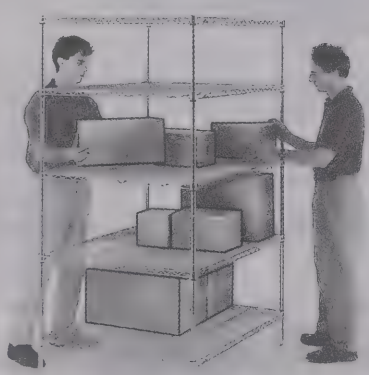
1 Starter Unit consists of: (1) 5-pack of shelves and
(1) 4-pack of starter posts

OR

1 Add-on Unit consists of:

(1) 5-pack of shelves and
(1) 2-pack of Add-on Posts with "S" Hooks saving on the cost of two posts.

**Chrome plated wire carts also available, see page 2196**



No. 7D298
Shelving Units Allow Storage and Acess from Both Sides

| SUPER ERECTA, CHROME-PLATED STARTER SHELVING OPEN 5-SHELF | | | | | | | SUPER ERECTA, CHROME-PLATED ADD-ON SHELVING | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overall Dim. H | D | W | Load Cap. Per Shelf* | *New!* Stock No. | List | Each | Shpg. Wt. | *New!* Stock No.† | List | Each | Shpg. Wt. |
| 74 | 18 | 36 | 800 | 7D290 | $318.86 | **$231.25** | 68.0 | 7D300 | $297.83 | **$214.50** | 59.0 |
| 74 | 18 | 48 | 600 | 7D291 | 366.36 | **265.75** | 81.0 | 7D301 | 345.28 | **249.25** | 72.0 |
| 74 | 18 | 60 | 600 | 7D292 | 416.28 | **304.00** | 104.0 | 7D302 | 395.12 | **287.75** | 95.0 |
| 74 | 18 | 72 | 600 | 7D293 | 481.02 | **350.25** | 119.0 | 7D303 | 459.86 | **335.00** | 110.0 |
| 74 | 24 | 36 | 800 | 7D294 | 373.87 | **271.00** | 83.0 | 7D304 | 352.74 | **255.00** | 74.0 |
| 74 | 24 | 48 | 600 | 7D295 | 438.78 | **316.75** | 101.0 | 7D305 | 417.66 | **301.75** | 92.0 |
| 74 | 24 | 60 | 600 | 7D296 | 511.03 | **371.75** | 124.0 | 7D306 | 489.88 | **356.00** | 115.0 |
| 74 | 24 | 72 | 600 | 7D297 | 583.62 | **425.75** | 143.0 | 7D307 | 562.48 | **410.25** | 134.0 |
| 74 | 36 | 48 | 600 | 7D298 | 552.00 | **430.50** | 140.0 | 7D308 | 603.00 | **430.00** | 131.0 |
| 74 | 36 | 72 | 600 | 7D299 | 722.00 | **565.50** | 200.0 | 7D309 | 813.00 | **582.50** | 191.0 |
| 86 | 18 | 36 | 800 | 7D310 | 342.50 | **243.50** | 71.0 | 7D320 | 313.50 | **222.25** | 61.0 |
| 86 | 18 | 48 | 600 | 7D311 | 390.00 | **278.00** | 84.0 | 7D321 | 361.00 | **256.75** | 74.0 |
| 86 | 18 | 60 | 600 | 7D312 | 440.00 | **315.75** | 107.0 | 7D322 | 411.00 | **294.50** | 97.0 |
| 86 | 18 | 72 | 600 | 7D313 | 505.00 | **362.25** | 122.0 | 7D323 | 476.00 | **341.00** | 112.0 |
| 86 | 24 | 36 | 800 | 7D314 | 397.50 | **283.25** | 86.0 | 7D324 | 368.50 | **262.00** | 76.0 |
| 86 | 24 | 48 | 600 | 7D315 | 462.50 | **330.50** | 104.0 | 7D325 | 433.50 | **309.00** | 94.0 |
| 86 | 24 | 60 | 600 | 7D316 | 535.00 | **383.50** | 127.0 | 7D326 | 506.00 | **362.00** | 117.0 |
| 86 | 24 | 72 | 600 | 7D317 | 610.00 | **437.25** | 146.0 | 7D327 | 581.00 | **416.00** | 136.0 |
| 86 | 36 | 48 | 600 | 7D318 | 640.00 | **457.00** | 143.0 | 7D328 | 611.00 | **435.75** | 133.0 |
| 86 | 36 | 72 | 600 | 7D319 | 850.00 | **609.50** | 203.0 | 7D329 | 821.00 | **588.00** | 193.0 |

(*) Based on evenly distributed weight loads.
(†) Includes 2 posts and 10 "S" Hooks

YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# SUPER ERECTA® SHELVING

## SUPER ERECTA BRITE™ UNITS

**Metro Open Wire Shelving in Brite Zinc** offers an environmentally friendly finish ideal for dry, general storage applications in warehouses, factories, offices, restaurants, hotels, retail stores, hospitals, or any location in need of dry storage solutions.

**Brite zinc finish** incorporates state-of-the-art brightening process and chromate bath, providing a look virtually identical to chrome at a lower price

**4 shelves per carton** offers a value packed, economical alternative to chrome

**600-800 lbs. capacity per shelf** maximizes valuable storage space

**Assembles in minutes,** without tools saving time and money

**Tapered split sleeves** allow for ease of adjustment at 1" increments along the height of the posts

**Open wire design** minimizes dust accumulation and allows free circulation of air, greater visibility of stored items, and increased light penetration

**Steel wires run front-to back** so you can easily slide items on and off the shelf

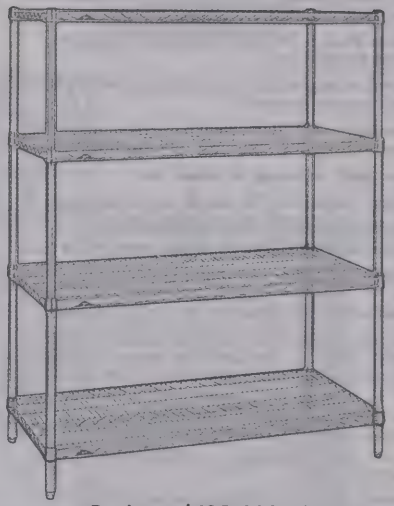
**Built in 1/4" shelf ledge** holds items on shelf minimizing accidental "bump off" during loading

**Leveling feet** in posts allow for adjustment on uneven floors

**NSF International listed** assures products meet high standards for cleanability

METRO

New



NSF

Registered ISO 9001-9002

**Shelving** may be purchased as follows:

**1 Starter Unit** consists of:

(1) 4-pack of shelves and

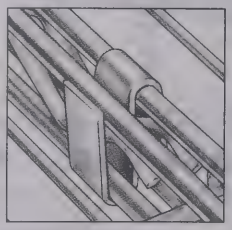
(1) 4-pack of starter posts

OR

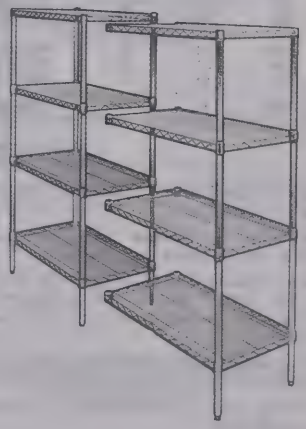
**1 Add-on Unit** consists of:

(1) 4-pack of shelves and

(1) 2-pack of Add-on Posts with "S" Hooks saving on the cost of two posts.



"S" Hooks allow add-on unit to be connected without adjacent posts.



FREE DELIVERY on orders of $900 or more

See Freight Policy

Replacement Parts Available 1-800-323-0620™

| SUPER ERECTA, BRITE PLATED STARTER SHELVING OPEN 4-SHELF | | | | | | SUPER ERECTA, BRITE PLATED ADD-ON SHELVING | | | |
|---|---|---|---|---|---|---|---|---|---|
| Overall Dim. (In.) H x W x D | Load Cap. Per Shelf* | *New!* Stock No. | List | Each | Shpg. Wt. | *New!* Stock No.† | List | Each | Shpg. Wt. |
| **63x36x18** | 800 | **7D330** | $256.00 | **$214.75** | 55.0 | **7D338** | $234.80 | **$178.50** | 48.0 |
| **63x48x18** | 600 | **7D331** | 288.00 | **221.00** | 65.0 | **7D339** | 266.80 | **203.50** | 58.0 |
| **63x60x18** | 600 | **7D332** | 321.00 | **249.00** | 84.0 | **7D340** | 302.80 | **233.25** | 77.0 |
| **63x72x18** | 600 | **7D333** | 370.00 | **285.00** | 94.0 | **7D341** | 318.80 | **254.50** | 17.0 |
| **63x36x24** | 800 | **7D334** | 292.00 | **223.00** | 67.0 | **7D342** | 270.80 | **206.75** | 60.0 |
| **63x48x24** | 600 | **7D335** | 332.00 | **280.50** | 81.9 | **7D343** | 310.80 | **238.50** | 74.0 |
| **63x60x24** | 600 | **7D336** | 392.00 | **302.25** | 100.0 | **7D344** | 370.80 | **285.25** | 93.0 |
| **63x72x24** | 600 | **7D337** | 416.00 | **344.50** | 33.0 | **7D345** | 424.80 | **314.00** | 26.0 |
| **74x36x18** | 800 | **7D346** | 262.00 | **199.75** | 58.0 | **7D354** | 241.00 | **183.25** | 49.0 |
| **74x48x18** | 600 | **7D347** | 294.00 | **225.50** | 68.0 | **7D355** | 273.00 | **208.25** | 59.0 |
| **74x60x18** | 600 | **7D348** | 330.00 | **253.75** | 87.0 | **7D356** | 309.00 | **238.00** | 78.0 |
| **74x72x18** | 600 | **7D349** | 376.00 | **289.75** | 27.0 | **7D357** | 355.00 | **259.25** | 18.0 |
| **74x36x24** | 800 | **7D350** | 298.00 | **228.00** | 70.0 | **7D358** | 277.00 | **211.50** | 61.0 |
| **74x48x24** | 600 | **7D351** | 338.00 | **260.00** | 84.0 | **7D359** | 317.00 | **243.00** | 75.0 |
| **74x60x24** | 600 | **7D352** | 398.00 | **307.00** | 103.0 | **7D360** | 377.00 | **290.00** | 94.0 |
| **74x72x24** | 600 | **7D353** | 452.00 | **349.25** | 36.0 | **7D361** | 431.00 | **318.50** | 27.0 |

(*) Based on evenly distributed weight loads.

(†) Includes 2 posts and 8 "S" Hooks

### SHELVING STARTER AND ADD-ON UNITS

Develop a custom storage installation by combining individual units in a variety of combinations utilizing "S" hooks. Starter Units consist of four posts and indicated number of Standard Super Erecta shelves. Add-On Units consist of two posts, indicated number of shelves, and two "S" hooks for each shelf.

# MODULAR PLASTIC SHELVING SYSTEMS

## DURA-SHELF™ BULK SHELVING & STORAGE

**Heavy duty plastic** - Provides load capacity up to 1500 lbs.

**Modular Design**-Permits multitudes of shelving configurations

**Adjustable height**-Add or subtract shelves to satisfy spacing needs

**Lightweight and portable**-The right choice when remodeling, moving, & expanding

**Open grid shelving is ideal for:**

- **Wet, corrosive, & harsh environments**
- **Reducing dirt & dust accumulation**
- **Increased air flow & light penetration**

**No tools required** - Snaps together in seconds

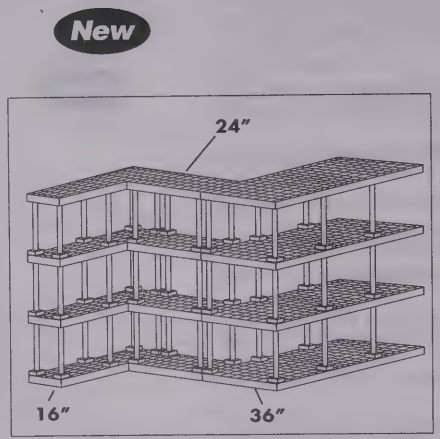
**Versatile**-Choose from 16, 24, or 36" Depths.

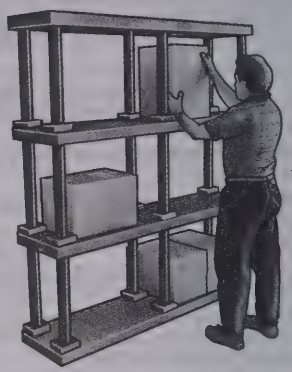
Shelving made from strong, durable, high-impact plastic; impervious to oils, gas, acids, solvents, and most industrial chemicals

**Base unit includes:** 2 shelf levels and required posts*

**Add on unit includes:** 1 shelf levels and required posts*

(*) Quantity varies based on width selected.



(1) 4UX45 Base unit,
(2) 4UX44 Add-on units

| Dimensions (In.) W | D | H | *New!* Stock No. | Load Capacity Per Shelf (Lbs.) | List | Each | Shpg. Wt. | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ***New!* 2 SHELF BASE UNITS** | | | | | ***New!* 1 SHELF ADD-ON UNITS** | | | |
| **36** | 16 | 24 | **4UX41** | 250 | $80.64 | **$76.65** | 22.0 | **4UX40** | $54.50 | **$51.80** | 14.0 |
| **66** | 16 | 24 | **4UX45** | 500 | 137.25 | **130.40** | 37.0 | **4UX44** | 100.00 | **85.00** | 23.0 |
| **96** | 16 | 24 | **4UX49** | 500 | 172.91 | **164.50** | 52.0 | **4UX48** | 127.98 | **108.80** | 32.0 |
| **36** | 24 | 24 | **4UX43** | 250 | 102.42 | **97.30** | 27.0 | **4UX42** | 74.15 | **63.05** | 27.0 |
| **66** | 24 | 24 | **4UX47** | 350 | 171.09 | **162.75** | 47.0 | **4UX46** | 121.15 | **103.00** | 23.0 |
| **96** | 24 | 24 | **4UX51** | 500 | 203.68 | **193.50** | 66.0 | **4UX50** | 148.29 | **126.05** | 39.0 |
| **96** | 36 | 24 | **4UX53** | 750 | 325.89 | **309.75** | 106.0 | **4UX52** | 250.92 | **213.50** | 65.0 |

## DUNNAGE-RACK™ PLASTIC BULK STORAGE

**Heavy Duty Plastic** - Provides load capacity up to 1500 lbs.

**Withstands extreme temperatures**-Ideal for freezers.

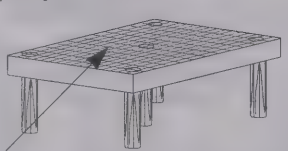
**Non-corrosive** - Impervious to oils, salts, acids and most industrial chemicals; easy to steam-clean or disinfect

**Flow through grid** - Permits scrap and liquids to fall or drain below

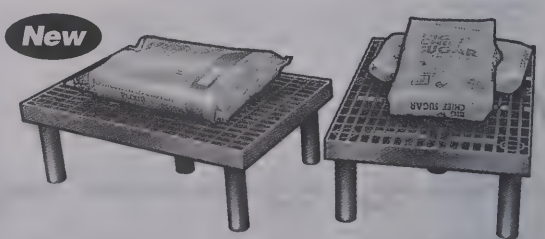
**12" leg posts** - Make it easy to clean floor underneath

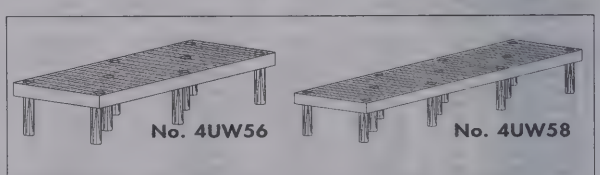
**No tools required** - Snaps together in seconds

**Lightweight** and portable for easy handling



No. 4UW54



No. 4UW56

No. 4UW58

| Description | Dimensions (In.) W | D | H | Load Capacity (Lbs.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | | | ***New!* DUNNAGE RACK SYSTEMS** | | | |
| **Dunnage Rack—1 shelf, 5 posts** | 36 | 24 | 12 | 500 | **4UW54** | $48.88 | **$46.45** | 11.0 |
| **Dunnage Rack—1 shelf, 8 posts** | 66 | 24 | 12 | 1000 | **4UW56** | 83.80 | **79.65** | 19.0 |
| **Dunnage Rack—1 shelf, 11 posts** | 96 | 24 | 12 | 1500 | **4UW58** | 100.10 | **95.10** | 27.0 |

STANLEY Vidmar

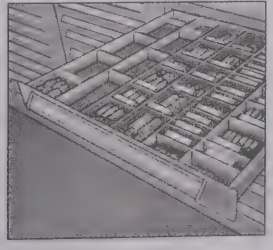


## TURN FIVE SECTIONS OF SHELVING INTO 2 ORGANIZED CABINETS

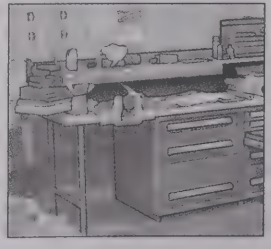
- **Vidmar storage cabinets save space; consolidate storage space by eliminating "reach room" required by shelving**
- **Stackable, modular cabinet storage conserves valuable floor space by storing vertically**
- **Two Vidmar cabinets can store inventory from 5 shelf sections; increased floor space fosters a more productive work environment**
- **Drawer storage keeps inventory clean and secure**
- **Organized drawer compartments cut retrieval time—taking inventory is as easy as opening a drawer**



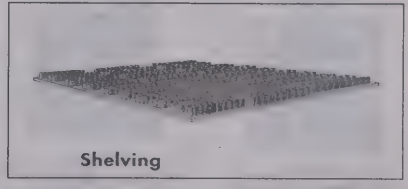
Drawers practically double your storage capacity, because they put every cubic inch to work. That's because drawers don't need the "reach room" that shelving requires.



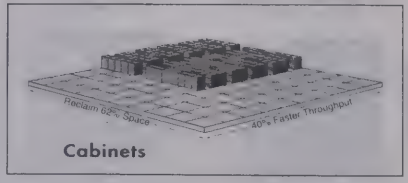
Having everything organized in a drawer makes everything easy to find and easy to reach. So you can cut retrieval time to make your business more efficient.



Vidmar cabinets from Stanley Storage Systems are totally modular, so they can be stacked to conserve floor space. Each cabinet is built to support up to 24,000 lbs.



Shelving




Cabinets

STORAGE EQUIPMENT

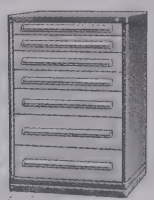
# VIDMAR PRECONFIGURED CABINETS

Preconfigured for easy selection. Examine your inventory to determine which cabinet, drawers and loading diagrams would best suit your needs. Select a cabinet and loading diagram for each drawer. Drawers are fully guaranteed against failure. Drawers hold up to 400 lbs. fully extended. Delivered with drawer interiors (loading diagrams) completely installed except the MT3189AL. All cabinets measure 30 in. W x 27¾"D. Available in Dark Blue.

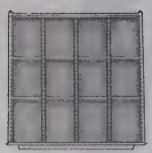
STANLEY Vidmar

New No. 4KC87

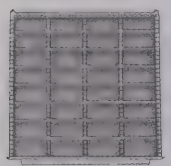




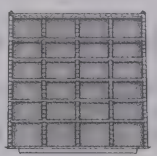
No. 4KC74



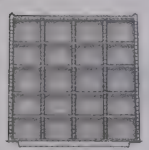
LD 810
12 Compartments
5⅞ x 7⅞"



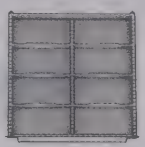
LD 84
32 Compartments
5⅞ x 2⅞"



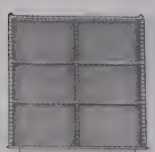
LD 85
24 Compartments
5⅞ x 3⅞"



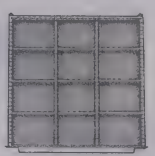
LD 86
20 Compartments
5⅞ x 4⅝"



LD 168
8 Compartments
12¼ x 6⅛"



LD 610
6 Compartments
12¼ x 7⅞"



LD 108
12 Compartments
7½ x 6⅛"

| Cabinet Ht. (In.) | No. of Drawers | Usable Drawer Ht. (In.) | Drawer Int. | No. of Compartments Per Drawer | Compartment Size | Vidmar Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **ERGONOMIC HEIGHT SERIES** | | | | | | | | | | |
| **37** | 4 | 3⅞ | LD68 | 20 | 4¼ x 6⅛ | SCU1910-AL | **4KC87** | $1013.25 | **$962.50** | 386.0 |
| | 2 | 5⅞ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | | | TOTAL | 112 | | | | | | |
| **37** | 5 | 2¼ | LD58 | 24 | 3½ x 6⅛ | SCU1904-AL | **4KC86** | 1192.00 | **1134.00** | 443.0 |
| | 2 | 3⅞ | LD68 | 20 | 4¼ x 6⅛ | | | | | |
| | | 5⅞ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | | | TOTAL | 176 | | | | | | |
| **COUNTER HEIGHT SERIES** | | | | | | | | | | |
| **44** | 1 | 2¼ | LD84 | 32 | 2⅝ x 6⅛ | RP2102-AL | **4KC74** | 1096.50 | **1041.00** | 423.0 |
| | 2 | 3⅞ | LD86 | 20 | 5⅞ x 4⅝ | | | | | |
| | 1 | 3⅞ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | 1 | 5⅜ | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | 1 | 7 | LD168 | 8 | 12¼ x 6⅛ | | | | | |
| | 1 | 7 | LD1610 | 6 | 12¼ x 7⅞ | | | | | |
| | | | TOTAL | 114 | | | | | | |
| **44** | 1 | 3⅞ | LD68 | 20 | 4¼ x 6⅛ | SCU2066-AL | **4KC88** | 1061.90 | **1008.00** | 407.0 |
| | 1 | 4⅝ | LD68 | 20 | 4¼ x 6⅛ | | | | | |
| | 2 | 5⅜ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | 2 | 7 | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | | | TOTAL | 96 | | | | | | |
| **EYE LEVEL SERIES** | | | | | | | | | | |
| **59** | 4 | 3⅞ | LD68 | 20 | 4¼ x 6⅛ | SCU3144-AL | **4KC91** | 1443.40 | **1372.00** | 546.0 |
| | 4 | 5⅜ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | 1 | 8½ | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | | | TOTAL | 156 | | | | | | |
| **59** | 1 | 5⅜ | Full | 1 | 25⅛ x 25⅛ | MT3189-AL* | **4KC72** | 1090.70 | **1032.00** | 436.0 |
| | 6 | 7 | Full | 1 | 25⅛ x 25⅛ | | | | | |
| | | | TOTAL | 7 | | | | | | |
| **59** | 6 | 3⅞ | LD68 | 20 | 4¼ x 6⅛ | SCU3110-AL | **4KC89** | 1535.50 | **1460.00** | 578.0 |
| | 4 | 5⅜ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | | | TOTAL | 184 | | | | | | |
| **59** | 2 | 2¼ | LD58 | 24 | 3½ x 6⅛ | SCU3126-AL | **4KC90** | 1532.00 | **1457.00** | 576.0 |
| | 4 | 3⅞ | LD68 | 20 | 4¼ x 6⅛ | | | | | |
| | 3 | 5⅜ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | 1 | 8½ | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | | | TOTAL | 188 | | | | | | |
| **59** | 1 | 2¼ | LD84 | 32 | 5⅞ x 2⅞ | RP3039-AL | **4KC79** | 1721.45 | **1637.00** | 649.0 |
| | 2 | 2¼ | LD85 | 24 | 5⅞ x 3⅞ | | | | | |
| | 2 | 2¼ | LD86 | 20 | 5⅞ x 4⅝ | | | | | |
| | 2 | 2¼ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | 1 | 3⅞ | LD85 | 24 | 5⅞ x 3⅞ | | | | | |
| | 2 | 3⅞ | LD86 | 20 | 5⅞ x 4⅝ | | | | | |
| | 1 | 3⅞ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | 1 | 3⅞ | LD810 | 12 | 5⅞ x 7⅞ | | | | | |
| | 1 | 7 | LD810 | 12 | 5⅞ x 7⅞ | | | | | |
| | | | TOTAL | 256 | | | | | | |
| **59** | 1 | 3⅞ | LD58 | 24 | 3½ x 6⅛ | SEP3140-AL | ***New*** **4TT09** | 1350.80 | **1329.00** | 529.0 |
| | 1 | 3⅞ | LD68 | 20 | 4¼ x 6⅛ | | | | | |
| | 1 | 4⅝ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | 1 | 4⅝ | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | 1 | 5⅜ | LD68 | 20 | 4¼ x 6⅛ | | | | | |
| | 2 | 5⅜ | LD88 | 16 | 5⅞ x 6⅛ | | | | | |
| | 1 | 6¼ | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | 1 | 6¼ | LD168 | 8 | 12¼ x 6⅛ | | | | | |
| | | | TOTAL | 144 | | | | | | |
| **59** | 1 | 5¾ | LD68 | 20 | 4¼ x 6⅛ | SEP3163-AL | ***New*** **4TT10** | 1261.28 | **1241.00** | 495.0 |
| | 2 | 5⅜ | LD88 | 16 | 2⅞ x 6⅛ | | | | | |
| | 2 | 5⅜ | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | 1 | 5⅜ | LD168 | 8 | 12¼ x 6⅛ | | | | | |
| | 1 | 7 | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | 1 | 7 | LD168 | 8 | 12¼ x 6⅛ | | | | | |
| | | | TOTAL | 104 | | | | | | |
| **59** | 1 | 6¼ | LD88 | 16 | 2⅞ x 6⅛ | SEP3203-AL | ***New*** **4TT11** | 1068.62 | **1051.00** | 452.0 |
| | 1 | 5¼ | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | 1 | 7 | LD108 | 12 | 7½ x 6⅛ | | | | | |
| | 2 | 8½ | LD168 | 8 | 12¼ x 6⅛ | | | | | |
| | 1 | 11¾ | LD168 | 8 | 12¼ x 6⅛ | | | | | |
| | | | TOTAL | 64 | | | | | | |
| **59** | 1 | 7 | LD108 | 12 | 7½ x 6⅛ | SEP3214-AL | ***New*** **4TT12** | 955.41 | **940.00** | 402.0 |
| | 1 | 8½ | LD168 | 8 | 12¼ x 6⅛ | | | | | |
| | 2 | 10⅛ | LD168 | 8 | 12¼ x 6⅛ | | | | | |
| | 1 | 13¾ | LD3232 | 1 | 25⅛ x 25⅛ | | | | | |
| | | | TOTAL | 37 | | | | | | |

(*) Loading Diagrams must be ordered separately; cabinet contains full drawer compartment only



As America's leading distributor, we know a thing or two about storage.

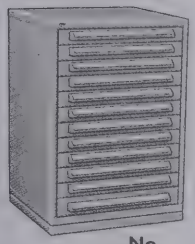
# VIDMAR TOOL & DIE STORAGE SYSTEM

STANLEY Vidmar

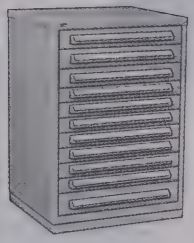
New

- Tool Storage: store drills, taps, cutters, gauges, fasteners, and miscellaneous tools
- Modular cabinets dramatically conserve space by condensing storage area
- Unique locking system keeps items secure
- Range of drawer depths 2¼" to 7" to match particular needs
- Customizable drawers partitions and dividers available to subdivide drawers into compartments

FREE DELIVERY on orders of $900 or more
See Freight Policy



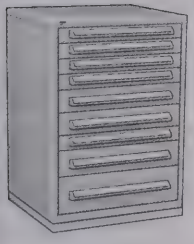
No. 4KC75



No. 4KC76



No. 4KC77



No. 4KC78

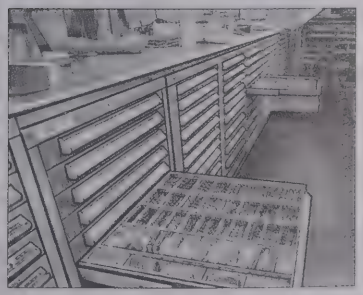
| Cabinet Height (In.) | No. of Drawers per Drawer Height (In.) | Total No. Compartments Per Cabinet | Stanley Vidmar Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 44 | 11 @ 2¼; 1 @ 3 | 396 | RP-2104AL | 4KC75 | $1561.25 | $1485.00 | 580.0 |
| | 7 @ 2¼, 3 @ 3, 1 @ 3⅞ | 448 | RP-2105AL | 4KC76 | 1626.30 | 1554.00 | 564.0 |
| | 4 @ 2¼, 1 @ 3, 2 @ 3⅜, 2 @ 5⅜ | 222 | RP-2106AL | 4KC77 | 1349.25 | 1285.00 | 491.0 |
| | 5 @ 2¼, 2 @ 3⅜, 1 @ 45/8, 1 @ 7 | 231 | RP-2107AL | 4KC78 | 1389.30 | 1324.00 | 502.0 |

**PARTITIONS - Used to customize drawer interior. Slide into slots on drawer walls and span entire length or width of drawer. 10 partitions per pkg.**

| No. of Slots | Approx. Length (In.) | Usable Width (In.) | For Drawers With Hgt. (In.) | Stanley Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 32 | 25½ | 2⅝ | 2¼ | P20/10P | 2Q212 | $39.70 | $39.30 | 9.0 |
| | | | 3⅞ | P30/10P | 2Q213 | 50.20 | 49.70 | 11.0 |
| | | | 5⅜ | P40/10P | 2Q214 | 59.60 | 59.00 | 16.0 |
| | | | 7 and up | P50/10P | 2Q215 | 68.40 | 67.70 | 19.0 |

**DIVIDERS - Slide into spaces (slots) on partitions and drawer wall to subdivide drawer into compartments. 25 dividers per pkg.**

| No. of Spaces* | Approx. Length (In.) | Usable Width (In.) | For Drawers With Hgt. (In.) | Stanley Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 2⅝ | 2¼ | D-20-04/25P | 2Q125 | $10.00 | $10.00 | 2.5 |
| | | | 3⅞ | D-30-04/25P | 2Q134 | 11.75 | 11.75 | 2.5 |
| | | | 5⅜ | D-40-04/25P | 2Q143 | 15.25 | 15.00 | 2.5 |
| 5 | 3⅞ | 3½ | 2¼ | D-20-05/25P | 2Q126 | 10.00 | 10.00 | 2.5 |
| | | | 3⅞ | D-30-05/25P | 2Q135 | 11.75 | 11.75 | 2.5 |
| | | | 5⅜ | D-40-05/25P | 2Q144 | 15.25 | 15.00 | 5.0 |
| 6 | 4⅝ | 4¼ | 2¼ | D-20-06/25P | 2Q127 | 10.75 | 10.75 | 2.5 |
| | | | 3⅞ | D-30-06/25P | 2Q136 | 13.25 | 13.00 | 2.5 |
| | | | 5⅜ | D-40-06/25P | 2Q145 | 18.25 | 18.00 | 7.5 |
| 7 | 5½ | 5⅛ | 2¼ | D-20-07/25P | 2Q128 | 10.75 | 10.75 | 2.5 |
| | | | 3⅞ | D-30-07/25P | 2Q137 | 13.25 | 13.00 | 5.0 |
| | | | 5⅜ | D-40-07/25P | 2Q146 | 18.25 | 18.00 | 1.5 |
| 8 | 6½ | 5⅞ | 2¼ | D-20-08/25P | 2Q129 | 10.75 | 10.75 | 2.5 |
| | | | 3⅞ | D-30-08/25P | 2Q138 | 13.25 | 13.00 | 5.0 |
| | | | 5⅜ | D-40-08/25P | 2Q147 | 18.25 | 18.00 | 7.5 |
| | | | 7 and up | D-50-08/25P | 2Q156 | 22.75 | 22.50 | 7.5 |
| 10 | 7⅞ | 7½ | 2¼ | D-20-10/25P | 2Q130 | 10.75 | 10.75 | 5.0 |
| | | | 3⅞ | D-30-10/25P | 2Q139 | 13.25 | 13.00 | 7.5 |
| | | | 5⅜ | D-40-10/25P | 2Q148 | 18.25 | 18.00 | 7.5 |
| | | | 7 and up | D-50-10/25P | 2Q157 | 22.75 | 22.50 | 10.0 |
| 11 | 8⅝ | 8¼ | 2¼ | D-20-11/25P | 2Q131 | 12.50 | 12.50 | 5.0 |
| | | | 3⅞ | D-30-11/25P | 2Q140 | 15.75 | 15.50 | 7.5 |
| | | | 5⅜ | D-40-11/25P | 2Q149 | 22.75 | 22.50 | 10.0 |
| | | | 7 and up | D-50-11/25P | 2Q158 | 26.75 | 26.50 | 10.0 |
| 16 | 12⅝ | 12¼ | 2¼ | D-20-16/25P | 2Q133 | 13.25 | 13.00 | 10.0 |
| | | | 3⅞ | D-30-16/25P | 2Q142 | 18.00 | 17.75 | 12.0 |
| | | | 5⅜ | D-40-16/25P | 2Q151 | 26.75 | 26.50 | 15.0 |
| | | | 7 and up | D-50-16/25P | 2Q160 | 29.25 | 29.00 | 18.0 |



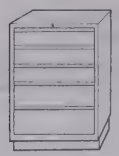
Vidmar cabinets store your tool and die materials at your fingertips for quick and easy retrieval.



Vidmar cabinet drawers include dividers and partitions that allow you to customize your drawers the way that is most functional for you. Choose from an infinite number of drawer configurations that will organize your tools and maximize the cubic storage space of the cabinet. Every cabinet that Stanley Storage Systems manufactures comes equipped with partitions and dividers fully installed.

STORAGE EQUIPMENT

# MODULAR DRAWER CABINETS



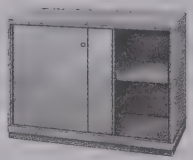
No. 4W629



No. 4W630



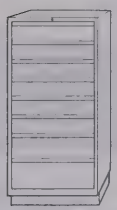
No. 4W631



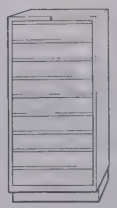
No. 4VM39

New

LISTA
MAKING WORKSPACE WORK®



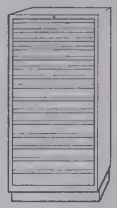
No. 3W417



No. 4W628



No. 3W416



No. 3W415



FREE DELIVERY on orders of $900 or more
See Freight Policy

Replacement Parts Available
1-800-323-0620

All cabinets come with Lista's limited lifetime warranty

Lista modular storage cabinets provide high density storage with maximum capacity, organization, and access. The ultimate customizable drawer is the core of every Lista cabinet. With all-steel, welded construction, built-in locking systems, and baked enamel gray finish, Lista cabinets provide many years of trouble-free use.

**High quality, all-steel construction** — Designed for rugged environments to withstand years of use.

**Patented PrevenTip® Locking System** — One drawer-at-a-time feature prevents accidental tipping for increased safety.

**100% full extension drawers with 440 lb. capacity** — Provide complete access to the furthest corner of the drawer.

**Customizable drawer compartments** — Provides better organization for different sized parts and tools. With 36 slots on each side of drawer, user can adjust dividers to create custom compartments.

**Locking system** — Prevents theft and improves security. Includes two keys.

**Full width handles flush with housing** — Improves safety and appearance. Paper label and plastic cover included for labeling contents.

**No. 4VM39 Shelf Cabinet with Sliding Door** — Provides easy access to shelves. Stack on top of two side-by-side cabinets to save floor space or use as a counter unit.

## DRAWER SPECIFICATIONS AND ORDERING DATA

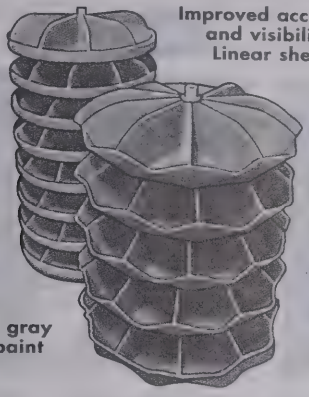
| Total No. of Drawers in Cabinet | Drawers | Inside Dimensions (In.) H | W | D | Number of Compartments per Drawer | Total No. Compartments in Cabinet | Cabinet Overall Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COUNTER HEIGHT CABINETS** | | | | | | | | | | | | | |
| 5 | 3 | 5 1/16 | 24 | 24 | 16 | 61 | 41 3/4 | 28 1/4 | 28 1/2 | **4W629** | $999.38 | **$950.00** | 407.0 |
| | 1 | 7 1/16 | 24 | 24 | 9 | | | | | | | | |
| | 1 | 9 | 24 | 24 | 4 | | | | | | | | |
| 7 | 2 | 2 1/8 | 24 | 24 | 20 | 114 | 41 3/4 | 28 1/4 | 28 1/2 | **4W630** | 1191.84 | **1133.00** | 479.0 |
| | 2 | 3 1/8 | 24 | 24 | 20 | | | | | | | | |
| | 1 | 5 1/16 | 24 | 24 | 16 | | | | | | | | |
| | 2 | 7 1/16 | 24 | 24 | 9 | | | | | | | | |
| 9 | 4 | 2 1/8 | 24 | 24 | 20/24* | 154 | 41 3/4 | 28 1/4 | 28 1/2 | **4W631** | 1360.10 | **1293.00** | 531.0 |
| | 3 | 3 1/8 | 24 | 24 | 16 | | | | | | | | |
| | 2 | 5 1/16 | 24 | 24 | 9 | | | | | | | | |
| **EYE LEVEL HEIGHT CABINETS** | | | | | | | | | | | | | |
| 8 | 6 | 5 1/16 | 24 | 24 | 12 | 88 | 59 1/2 | 28 1/4 | 28 1/2 | **3W417** | 1460.30 | **1389.00** | 611.0 |
| | 1 | 7 1/16 | 24 | 24 | 8 | | | | | | | | |
| | 1 | 9 | 24 | 24 | 8 | | | | | | | | |
| 9 | 9 | 5 1/16 | 24 | 24 | 12/16† | 124 | 59 1/2 | 28 1/4 | 28 1/2 | **4W628** | 1572.37 | **1495.00** | 614.0 |
| 11 | 4 | 2 1/8 | 24 | 24 | 20 | 172 | 59 1/2 | 28 1/4 | 28 1/2 | **3W416** | 1683.25 | **1601.00** | 644.0 |
| | 4 | 4 1/8 | 24 | 24 | 16 | | | | | | | | |
| | 2 | 5 1/16 | 24 | 24 | 12 | | | | | | | | |
| | 1 | 9 | 24 | 24 | 4 | | | | | | | | |
| 15 | 7 | 2 1/16 | 24 | 24 | 20 | 300 | 59 1/2 | 28 1/4 | 28 1/2 | **3W415** | 2070.76 | **1969.00** | 783.0 |
| | 7 | 3 1/8 | 24 | 24 | 20 | | | | | | | | |
| | 1 | 4 1/8 | 24 | 24 | 20 | | | | | | | | |
| **SLIDING DOOR SHELF CABINET** | | | | | | | | | | | | | |
| **One Adjustable Height Shelf** | | | | | | | 41 3/4 | 56 1/2 | 28 1/2 | ***New*** **4VM39** | 819.00 | **806.00** | 350.0 |

(*) 2 drawers have 20 compartments; 2 drawers have 24 compartments. (†) 5 drawers have 12 compartments; 4 drawers have 16 compartments.



*As America's leading distributor, we know a thing or two about storage.*

# ROTABIN® REVOLVING SHELF STORAGE BINS



Improved accessibility and visibility vs. Linear shelving

Shelves revolve independently on ball thrust bearings

Scooped compartments make it easier to remove bulk parts

Beaded edges for safety and rigidity

New

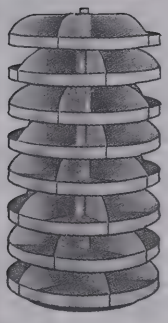
Baked-on gray enamel paint

FRICK-GALLAGHER

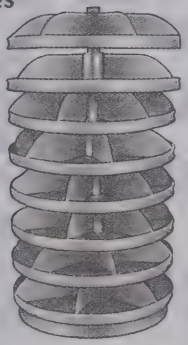
- Maximize storage space in minimum floor space
- More accessibility and visibility than standard shelving
- Ideal for use in corners and aisle ends
- Concentrate storage to cut parts picking time
- Shelves rotate easily even when fully loaded
- Easy, one-person assembly
- Works well in maintenance, assembly, and warehousing areas

FREE DELIVERY on orders of $900 or more
See Freight Policy

### 28" and 34" Dia. FLAT-BOTTOM SHELVES



28" Dia.



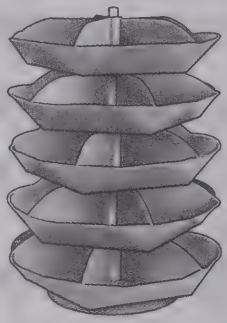
34" Dia.

Compartments divide 1" O.C. Additional bin dividers sold separately

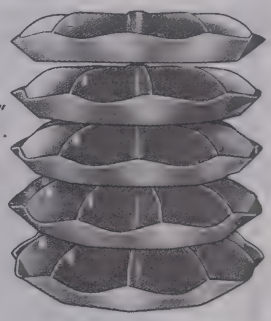
Includes 6 permanent compartments per shelf. 500 lb. shelf capacity.

Includes 5 permanent compartments per shelf. 500 lb. shelf capacity.

### 44" and 58" Dia. SCOOP-BOTTOM SHELVES



44" Dia.



58" Dia.

Shelves are available with either 5 or 10 permanent compartments. 5-compartment shelves hold up to 625 lbs. 10-compartment shelves hold up to 500 lbs.

Includes 10 permanent compartments per shelf. 2000 lbs. shelf capacity.

Space saving Rotabin units concentrate storage of items traditionally issued from storerooms, tool cribs, or warehouse issue points. Circular units also fit in space that is often wasted, like corners and aisle ends. By concentrating storage they also cut parts picking time while improving both accessibility and visibility since parts never get lost at back of shelf. Flat bottomed units have shelf compartments that can be further divided on 1" centers using dividers that must be ordered separately. Shelves rotate independently on ball thrust bearings. Industrial-duty units have one coat baked-on gray enamel finish. Edges are rolled for smoothness, and seams are welded for strength. Shipped unassembled.

**ACCESSORIES**: Adjustable bin dividers for 28 and 34" diameter shelves. Polypropylene color-coded pans for 34" diameter shelves. High impact polystyrene small parts carriers for 28" diameter shelves. Extra shelves for 44 and 58" diameter shelf units. All are available separately, call 1-800-323-0620.

| Shelf Dia. (In.) | No. of Shelves in Unit | Permanent Compartments per Shelf | Load Capacity per Shelf (Lbs.) | Compartment Maximum Dimensions (In.) W | D | H | Frick-Gallagher Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **28** | 6 | 6 | 500 | 14 | 12 | 6 | 1206 | **7W195** | $538.82 | **$529.50** | 136.0 |
| **28** | 8 | 6 | 500 | 14 | 12 | 6 | 1208 | **7W196** | 685.17 | **673.50** | 168.0 |
| **28** | 10 | 6 | 500 | 14 | 12 | 6 | 1210 | **7W197** | 831.51 | **816.00** | 200.0 |
| **28** | Extra Shelf †‡ | 6 | 500 | 14 | 12 | 6 | 13002 | **3W242** | 76.71 | **72.95** | 16.0 |
| **34** | 6 | 5 | 500 | 21 | 15 | 7 | 1306 | **7W193** | 637.84 | **632.50** | 190.0 |
| **34** | 8 | 5 | 500 | 21 | 15 | 7 | 1308 | **7W194** | 817.72 | **810.00** | 240.0 |
| **34** | Extra Shelf †‡ | 5 | 500 | 21 | 15 | 7 | 13003 | **3W240** | 94.23 | **89.55** | 25.0 |
| **44** | 6 | 5 | 625 | 26½ | 19½ | 9¾ | 1506 | ***New* 4TJ65** | 1241.78 | **1140.00** | 34.0 |
| **44** | 5 | 5 | 625 | 26½ | 19½ | 9¾ | 1520 | ***New* 4TJ66** | 1069.37 | **978.00** | 34.0 |
| **44** | 5 | 10 | 500 | 14 | 19½ | 9¾ | 1521 | ***New* 4TJ67** | 1440.27 | **1328.00** | 40.0 |
| **44** | 4/1 | 5/10 | 625/500 | 26½/14 | 19½ | 9¾ | 1522 | ***New* 4TJ68** | 1143.55 | **1048.00** | 35.0 |
| **44** | 4/2 | 5/10 | 625/500 | 26½/14 | 19½ | 9¾ | 1523 | ***New* 4TJ69** | 1390.14 | **1281.00** | 36.0 |
| **44** | 6 | 10 | 500 | 14 | 19½ | 9¾ | 1536 | ***New* 4TJ70** | 1686.86 | **1600.00** | 41.0 |
| **58** | 4 | 10 | 2000 | 18 | 25 | 11 | 1604 | ***New* 4TJ71** | 1967.93 | **1905.00** | 73.0 |
| **58** | 5 | 10 | 2000 | 18 | 25 | 11 | 1605 | ***New* 4TJ72** | 2325.25 | **2251.00** | 75.0 |

(*) For 6 or 8-shelf unit only. (†) For 6-shelf unit only. (‡)Priced each. Sold in packages of two

# INDUSTRIAL STEEL BIN UNITS AND COMPONENT PARTS STORAGE

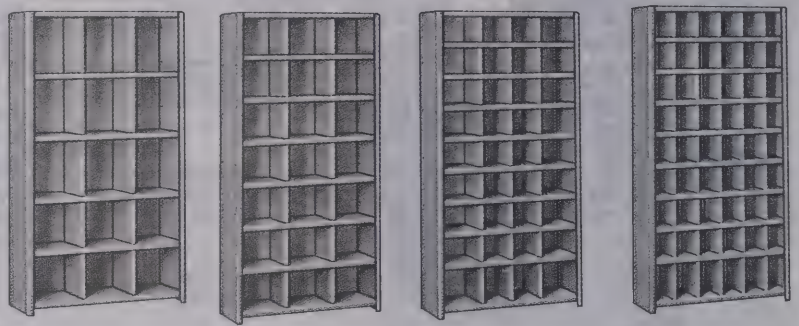
## INDUSTRIAL STEEL BIN UNITS

- Organizes inventory for better picking efficiency
- Withstands even the toughest industrial applications
- Freestanding unit can be arranged in many ways to optimize assembly layouts
- Shipped unassembled and easily set-up with common hand tools
- Medium grey finish

**Improve your operation's efficiency.** Industrial Steel bin units help organize inventories and concentrate storage for improved operations. Each self-contained unit can be positioned anywhere needed or combined with others in various arrangements to fit any shop or warehouse layout.

tennsco

New



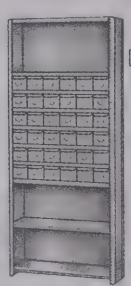
A 15 Bin Unit | B 21 Bin Unit | C 36 Bin Unit | D 54 Bin Unit

| Key | Bin Type | Overall Dimensions (In.) D | W | H | Capacity Per Shelf (lbs.) | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **15 BIN UNITS** | | | | | | | | |
| A | 9 openings 18 H x 12 W | 12 | 36 | 87 | 750 | **7B836** | $200.34 | **$140.75** | 111.0 |
| A | 6 openings 15 H x 12 W | 18 | 36 | 87 | 750 | **7B837** | 238.37 | **169.50** | 140.0 |
| | **21 BIN UNITS** | | | | | | | | |
| B | 21 openings 12 H x 12 W | 12 | 36 | 87 | 750 | **7B838** | 215.98 | **154.50** | 105.0 |
| B | | 18 | 36 | 87 | 750 | **7B839** | 271.35 | **193.75** | 129.0 |
| | **36 BIN UNITS** | | | | | | | | |
| C | 2 openings 12 H x 7.5 W<br>2 openings 12 H x 10.5 W | 12 | 36 | 87 | 750 | **7B840** | 269.30 | **192.75** | 136.0 |
| C | 16 openings 9 H x 7.5 W<br>16 openings 9 H x 10.5 W | 18 | 36 | 87 | 750 | **7B841** | 334.16 | **238.50** | 188.0 |
| | **54 BIN UNITS** | | | | | | | | |
| D | 6 openings 12 H x 6 W | 12 | 36 | 87 | 750 | **7B842** | 319.09 | **227.75** | 164.0 |
| D | 48 openings 9 H x 6 W | 18 | 36 | 87 | 750 | **7B843** | 397.28 | **285.50** | 216.0 |

tennsco

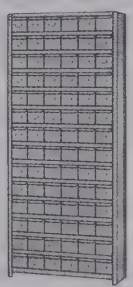


Drawers have hanglock feature to prevent spillage

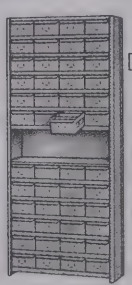


A 36 Drawers/ 3 Shelves

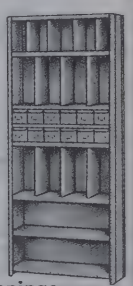
New



B 84 Drawers



C 48 Drawers 1 Shelf
D 36 Drawers 2 Shelves



E 13 Bin Openings 12 Drawers

## COMPONENT PARTS STORAGE UNITS

- Create up to 252 individualized compartments with 84-drawer unit offer maximum organization
- Freestanding unit can be arranged in any fashion
- 14 gauge steel posts for added rigidity
- Each shelf can withstand a maximum capacity of 750 lbs.
- Shelves adjust in 1" increments to maximize storage
- Complete with drawers (see page 2043 for details)

## COMPLETE SYSTEM FOR ORGANIZING SMALL PARTS

Here's a complete solution for small parts management. Five different models offer a combination of drawers and bins to make picking fast and easy. Use them in assembly areas, tool cribs, inventory locations or anywhere else organization and easy access is required. Medium gray finish.

| Key | No. of Drawers | Individual Drawer Dimensions (In.) D | W | H | Overall Dimensions (In.) D | W | H | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 36 | 11⅞ | 5⁹⁄₁₆ | 4⅝ | 12 | 36 | 87 | **7B826** | $488.42 | **$374.75** | 217.8 |
| A | 36 | 17⁹⁄₁₆ | 5⁹⁄₁₆ | 4⅝ | 18 | 36 | 87 | **7B827** | 578.04 | **446.50** | 279.2 |
| B | 84 | 11⅞ | 5⁹⁄₁₆ | 4⅝ | 12 | 36 | 87 | **7B828** | 880.10 | **688.50** | 383.2 |
| B | 84 | 17⁹⁄₁₆ | 5⁹⁄₁₆ | 4⅝ | 18 | 36 | 87 | **7B829** | 1098.42 | **820.50** | 498.8 |
| C | 48 | 11⅞ | 8¼ | 4⅝ | 12 | 36 | 87 | **7B830** | 662.65 | **506.00** | 277.4 |
| C | 48 | 17⁹⁄₁₆ | 8¼ | 4⅝ | 18 | 36 | 87 | **7B831** | 781.20 | **602.00** | 356.6 |
| D | 12<br>24 | 11⅞<br>11⅞ | 8¼<br>11¼ | 4⅝<br>4⅝ | 12 | 36 | 87 | **7B832** | 563.40 | **437.50** | 289.4 |
| D | 12<br>24 | 17⁹⁄₁₆<br>17⁹⁄₁₆ | 8¼<br>11¼ | 4⅝<br>4⅝ | 18 | 36 | 87 | **7B833** | 669.58 | **522.50** | 357.8 |
| E | 12 Drawers 13 Bins | 11⅞ | 5⁹⁄₁₆ | 4⅝ | 12 | 36 | 87 | **7B834** | 316.67 | **245.00** | 194.6 |
| E | 12 Drawers 13 Bins | 17⁹⁄₁₆ | 5⁹⁄₁₆ | 4⅝ | 18 | 36 | 87 | **7B835** | 376.50 | **313.00** | 263.4 |



*As America's leading distributor, we know a thing or two about storage.*

# SMALL PARTS STORAGE

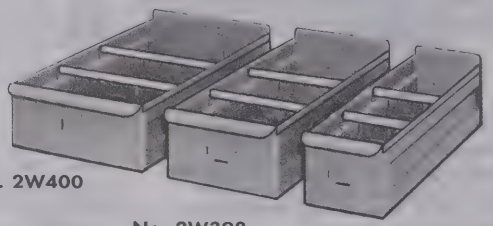
## DRAWERS FOR SHELVING AND STORAGE UNITS

- **Sturdy 22-gauge steel construction handles your toughest parts and components**
- **Fits 12" and 18" deep shelving and drawer models**
- **Label holder on drawer front and each galvanized metal divider makes identification of contents easy**
- **Hanglock feature prevents contents from spilling**
- **Medium-gray finish**

### EASY AND PRACTICAL ORGANIZATION

Handle small parts in an easy and effective way with Tennsco storage drawers. These durable all-steel drawers make organizing inventroy easy so picking is substantially faster by reducing "hunt" time.

tennsco



No. 2W400

No. 2W398

No. 1W877

### DRAWER DIMENSIONS AND ORDERING DATA

| Overall Dimensions (In.) D | W | H | Tennsco Model | Stock No. | List | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **11⅝** | 5⅜16 | 4⅝ | BX-512 | **1W877** | $8.20 | **$6.20** | 12 | 2.8 |
| **11⅝** | 8¼ | 4⅝ | BX-812 | **2W398** | 9.20 | **6.88** | 12 | 3.7 |
| **11⅝** | 11¼ | 4⅝ | BX-1112 | **2W400** | 10.60 | **7.58** | 8 | 4.7 |
| **17⅞16** | 5⅜16 | 4⅝ | BX-518 | **1W878** | 9.70 | **7.24** | 12 | 3.7 |
| **17⅞16** | 8¼ | 4⅝ | BX-818 | **2W399** | 10.80 | **7.93** | 12 | 4.7 |
| **17⅞16** | 11¼ | 4⅝ | BX-1118 | **2W401** | 12.30 | **8.80** | 8 | 5.6 |

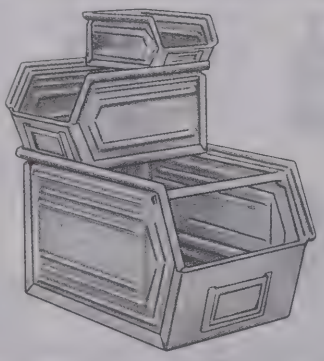
## STACKING, GALVANIZED STEEL CONTAINERS

- **Extremely strong, will not rust, break or wear out**
- **Hopper front design makes it easy to see and pick parts**
- **All sizes stack and inter-stack**

Ideal for storing disproportionately heavy or sharp parts which are unsuitable for plastic containers. Perfect for extreme temperature conditions under which polyethylene or polypropylene containers tend to crack or deform. Resistant to corrosive substances which damage plastic containers. Unlike painted or unfinished metal surfaces, hot-dipped galvanized surface will not scratch or rust.

SSI SCHAEFER

New



No. 4VL36

| Capacity Cu. Ft. | Dimensions (In.) W | L | H | Load | Stacking | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0.95** | 12½ | 20 | 8 | 88 LB. | 330 LB. | **4VL36** | $39.87 | **$36.25** | 11.0 |
| **0.39** | 8½ | 14 | 8 | 88 LB. | 220 LB. | **4VL37** | 33.22 | **30.20** | 6.0 |
| **0.12** | 6 | 9½ | 5 | 22 LB. | 110 LB. | **4VL38*** | 19.39 | **17.63** | 2.0 |
| **0.02** | 4 | 6¾ | 3 | 11 LB. | 110 LB. | **4VL39*** | 17.63 | **16.03** | 1.3 |

(*) Sold in packages of 3.

## ADJUSTABLE MULTI-PURPOSE STEEL BIN STORAGE UNIT

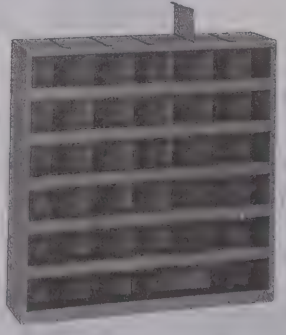
**Adjustable-opening bin** provides access and storage for a variety of small and large parts such as fasteners, electronic components, tools, plumbing, and electrical fittings.

**Five removable vertical dividers** enable the creation of multiple-width openings for larger objects. Space is provided for identifying contents of each bin. With all dividers in place, bin has (36) 4¾ x 3¾ x 3¾"H openings. Removing dividers increases opening width by multiples of 3¾".

**Scooped shelves** makes parts removal easy. Each opening has a fully hemmed lip to keep parts from spilling out.

**Interlocked and welded cold-rolled steel construction** provides rigid structural strength. Will not warp, twist, or sag. Rust and acid-resistant industrial gray baked enamel finish. Keyhole slots provided for wall mounting. Overall dim.: 4¾D x 23⅝W x 23⅝"H. Durham brand.

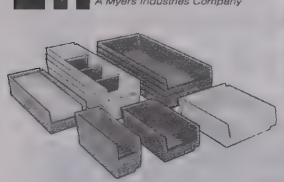
**No. 5W886.** Steel Bin Storage Unit. Shpg. wt. 21.0 lbs. List $83.30.
Each.....$62.65



DURHAM

- **Removable vertical dividers allow customized bin design**
- **Scooped shelves keep small parts within easy reach**

AKRO-MILS
A Myers Industries Company





New

- Works with 12, 18, and 24" deep shelving or vertical storage and retrieval units
- Sturdy polypropylene shelf bins outlast corrugated bins—paying for themselves in reduced replacement costs and less waste
- Neat and attractive appearance
- One-piece construction is waterproof and unaffected by grease or oil
- Choose from 13 sizes and 3 colors: red, blue and yellow
- Bin cups available only in white
- Sold in carton quantities only

## PLASTIC SHELF BINS

| Dimensions (In.) D | W | H | Stock Numbers Red | Blue | Yellow | Akro-Mills No. | Carton Qty. | List | Each | Bin Cups/Bin 4+ Carton | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11⅝ | 2¾ | 4 | 2W328 | 5W839 | 5W852 | 30-110 | 24 | $1.21 | **$1.00** | **$0.96** | 0.3 |
| 11⅝ | 4⅛ | 4 | 2W251 | 5W840 | 5W853 | 30-120 | 24 | 1.36 | **1.15** | **1.10** | 0.4 |
| 11⅝ | 6⅝ | 4 | 2W329 | 5W841 | 5W854 | 30-130 | 12 | 2.12 | **1.77** | **1.67** | 0.6 |
| 11⅝ | 8⅜ | 4 | 5W219 | 5W842 | 5W855 | 30-150 | 12 | 2.29 | **1.93** | **1.83** | 0.7 |
| 11⅝ | 11⅛ | 4 | 5W834 | 5W843 | 5W856 | 30-170 | 12 | 3.42 | **2.83** | **2.69** | 0.8 |
| 17⅞ | 4⅛ | 4 | 2W719 | 5W844 | 5W857 | 30-128 | 12 | 2.02 | **1.56** | **1.49** | 0.5 |
| 17⅞ | 6⅝ | 4 | 2W720 | 5W845 | 5W858 | 30-138 | 12 | 2.60 | **2.19** | **2.08** | 0.8 |
| 17⅞ | 8⅜ | 4 | 5W220 | 5W846 | 5W859 | 30-158 | 12 | 3.56 | **2.97** | **2.83** | 0.9 |
| 17⅞ | 11⅛ | 4 | 5W835 | 5W847 | 5W860 | 30-178 | 12 | 5.65 | **4.68** | **4.44** | 1.3 |
| 23⅝ | 4⅛ | 4 | 5W836 | 5W848 | 5W861 | 30-124 | 12 | 3.60 | **2.98** | **2.83** | 0.9 |
| 23⅝ | 6⅝ | 4 | 5W221 | 5W849 | 5W862 | 30-164 | 6 | 5.17 | **4.30** | **4.08** | 1.3 |
| 23⅝ | 8⅜ | 4 | 5W837 | 5W850 | 5W863 | 30-184 | 6 | 6.29 | **5.20** | **4.94** | 1.5 |
| 23⅝ | 11⅛ | 4 | 5W838 | 5W851 | 5W864 | 30-174 | 6 | 8.43 | **6.38** | **6.06** | 1.8 |

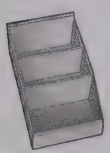
### OPTIONAL DIVIDERS FOR PLASTIC SHELF BINS

| Fits Bin Widths (In.) | Akro-Mils Model | Stock No. | Priced and Sold in Packages of 24 List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4⅛ | 40-120 | 3A563 | $6.71 | **$5.23** | 0.7 |
| 6⅛ | 40-130 | 3A564 | 7.31 | **5.79** | 1.3 |
| 8⅛ | 40-150 | 3A565 | 18.65 | **13.17** | 1.7 |
| 11⅛ | 40-170 | 6A278 | 21.08 | **16.31** | 2.1 |

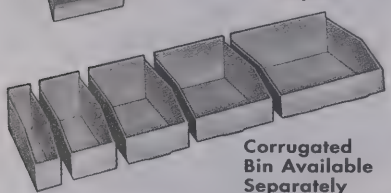
### *New!* SMALL BIN CUPS FOR PLASTIC SHELF BINS

| Dimensions (In.) L | W | H | Akro-Mils No. | Stock No. | List | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3¼ | 2 | 3 | 30-101 | 4TJ75 | $0.35 | **$0.33** | 48 | 0.1 |

## CORRUGATED SHELF BINS



Corrugated Recycles



Corrugated Bin Available Separately

- Economical 200-Lb. test B-flute corrugated board shelf bins are sturdy, durable, and easy to assemble
- Shelf bins tailored to fit 12, 18, and 24" shelving
- Hopper style front
- 4-Ply handylock lip
- Corrugated bin dividers available separately below
- White oyster finish provides neat, clean apperance which can be written on, making labels unnecessary

Sturdy, one-piece high quality 200-lb. test B-flute corrugated board shelf bins are used in warehouses, parts departments, and tool cribs to store and dispense bulk parts, assemblies, and hardware items. Fits 12, 18, 24 deep commercial and industrial shelving. Self-locking construction. Shelf bins and dividers are completely recyclable. Made using a minimum of 30% recycled materials. Bins come flat in bundles of 15 for 8½"H models, or 25 for 4¾" high models. Acorn brand.

| Dimensions (In.) D | W | H | Max No. of Bins Per 36"W Shelf | 48"W Shelf | Priced Each, Sold Only in Bundles Stock No. | List | Each | Lots 10 Bundles | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **4½" HIGH STANDARD CAPACITY BINS (BUNDLES OF 25)** | | | | | | | | | |
| 11 | 2¼ | 4¾ | 15 | 20 | 1W765 | $0.78 | **$0.65** | **$0.59** | 0.1 |
| 11 | 4¼ | 4¾ | 8 | 11 | 1W766 | 0.91 | **0.76** | **0.67** | 0.2 |
| 11 | 6¼ | 4¾ | 5 | 7 | 1W767 | 1.03 | **0.86** | **0.78** | 0.3 |
| 11 | 8¼ | 4¾ | 4 | 5 | 1W768 | 1.18 | **0.98** | **0.88** | 0.3 |
| 11 | 10¼ | 4¾ | 3 | 4 | 1W862 | 1.26 | **1.05** | **0.94** | 0.4 |
| 11 | 12¼ | 4¾ | 2 | 3 | 1W769 | 1.30 | **1.08** | **0.98** | 0.4 |
| 11 | 16¼ | 4¾ | 2 | 2 | 2W254 | 1.52 | **1.27** | **1.14** | 0.5 |
| 17 | 2¼ | 4¾ | 15 | 20 | 1W770 | 1.06 | **0.88** | **0.79** | 0.2 |
| 17 | 4¼ | 4¾ | 8 | 11 | 1W771 | 1.21 | **1.01** | **0.92** | 0.3 |
| 17 | 6¼ | 4¾ | 5 | 7 | 1W772 | 1.32 | **1.10** | **0.99** | 0.4 |
| 17 | 8¼ | 4¾ | 4 | 5 | 1W836 | 1.51 | **1.26** | **1.13** | 0.4 |
| 17 | 10¼ | 4¾ | 3 | 4 | 2W255 | 1.54 | **1.28** | **1.15** | 0.4 |
| 17 | 12¼ | 4¾ | 2 | 3 | 2W256 | 1.70 | **1.42** | **1.28** | 0.5 |
| 17 | 16¼ | 4¾ | 2 | 2 | 3W501 | 2.01 | **1.68** | **1.51** | 0.6 |
| 23 | 2¼ | 4¾ | 15 | 20 | 3W502 | 1.60 | **1.34** | **1.21** | 0.2 |
| 23 | 4¼ | 4¾ | 8 | 11 | 5W222 | 1.71 | **1.43** | **1.29** | 0.3 |
| 23 | 6¼ | 4¾ | 5 | 7 | 5W223 | 2.02 | **1.69** | **1.52** | 0.5 |
| 23 | 8¼ | 4¾ | 4 | 5 | 5W224 | 2.26 | **1.89** | **1.70** | 0.5 |
| 23 | 10¼ | 4¾ | 3 | 4 | 5W225 | 2.53 | **2.11** | **1.90** | 0.6 |
| 23 | 12¼ | 4¾ | 2 | 3 | 5W226 | 2.73 | **2.28** | **2.06** | 0.6 |
| 23 | 16¼ | 4¾ | 2 | 2 | 3W503 | 3.22 | **2.69** | **2.42** | 0.7 |
| **8½" HIGH DOUBLE CAPACITY BINS (BUNDLES OF 15)** | | | | | | | | | |
| 11 | 4¼ | 8½ | 8 | 11 | 1W955 | 1.56 | **1.30** | **1.17** | 0.3 |
| 11 | 6¼ | 8½ | 5 | 7 | 1W956 | 1.72 | **1.43** | **1.29** | 0.4 |
| 11 | 8¼ | 8½ | 4 | 5 | 1W957 | 1.93 | **1.61** | **1.44** | 0.5 |
| 11 | 10¼ | 8½ | 3 | 4 | 3W504 | 2.60 | **1.72** | **1.56** | 0.6 |
| 11 | 12¼ | 8½ | 2 | 3 | 1W959 | 2.22 | **1.85** | **1.66** | 0.7 |
| 11 | 16¼ | 8½ | 2 | 2 | 3W505 | 2.44 | **2.04** | **1.84** | 0.9 |
| 17 | 4¼ | 8½ | 8 | 11 | 3W506 | 2.18 | **1.82** | **1.63** | 0.5 |
| 17 | 6¼ | 8½ | 5 | 7 | 1W960 | 2.33 | **1.94** | **1.75** | 0.5 |
| 17 | 8¼ | 8½ | 4 | 5 | 1W961 | 2.57 | **2.14** | **1.93** | 0.7 |
| 17 | 10¼ | 8½ | 3 | 4 | 3W507 | 2.79 | **2.33** | **2.09** | 0.8 |
| 17 | 12¼ | 8½ | 2 | 3 | 3W508 | 2.97 | **2.48** | **2.23** | 0.8 |
| 17 | 16¼ | 8½ | 2 | 2 | 3W509 | 3.37 | **2.81** | **2.53** | 0.9 |
| 23 | 4¼ | 8½ | 8 | 11 | 3W510 | 2.60 | **2.17** | **1.94** | 0.7 |
| 23 | 6¼ | 8½ | 5 | 7 | 3W511 | 2.82 | **2.35** | **2.12** | 0.8 |
| 23 | 8¼ | 8½ | 4 | 5 | 3W512 | 2.97 | **2.48** | **2.23** | 0.8 |
| 23 | 10¼ | 8½ | 3 | 4 | 3W513 | 3.22 | **2.69** | **2.42** | 0.9 |
| 23 | 12¼ | 8½ | 2 | 3 | 3W514 | 3.40 | **2.84** | **2.55** | 0.9 |
| 23 | 16¼ | 8½ | 2 | 2 | 3W515 | 3.82 | **3.19** | **2.87** | 1.0 |

### OPTIONAL DIVIDERS FOR CORRUGATED SHELF BINS

| Fits Bin Widths (In.) | Stock No. | Priced Each, and Sold Only in Bundles of 100 List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2¼ and 4¼ | 1W863 | $21.73 | **$18.11** | 2.5 |
| 6¼ and 8¼ | 1W864 | 29.04 | **24.20** | 3.0 |
| 10¼ and 12¼ | 5W230 | 38.44 | **32.05** | 4.0 |

# STORE-ALL SHELVING UNITS AND PICK-RACK SMALL PARTS STORAGE

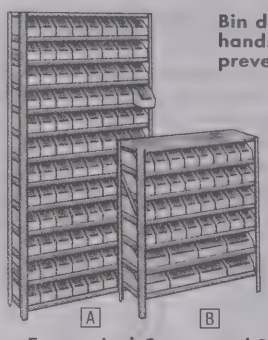
## STORE-ALL SHELVING UNITS

Sturdy Steel Shelving Units store a large number of parts and finished goods in a small area of floor space with these high-density units. Choose corrugated or molded polypropylene bins. Bin dividers and additional bins are available, see below. All units shipped unassembled. Gray enamel finish. Edsal brand.

Economical Corrugated Bins fold easily into shape; shipped flat in bundles; oyster white, one-piece, 200-lb. test, 4-ply, B-flute board, hopper style front.

Molded Polypropylene Bins - virtually indestructible and seldom need replacement. Waterproof bins unaffected by grease and oil. Front panel has molded-in label holder for cards or stick-on labels. Red color.

42" High Shelving Unit, No. 1W763, is sold without bins. 75" high units available separately, see Index under Shelving, Commercial.



Economical Corrugated Bins

Bin design frees both hands for picking and prevents spills

edsal



Rugged Polypropylene Bins

| Key | Capacity (Bins) | No. of Shelves | Load Capacity Per Shelf* (Lbs.) | Bin Type | No. of Bins | Bin Dimensions (In.) W | D | H | Shelf Unit Dimensions (In.) W | D | H | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 80 | 12 | 400 | Corrugated | 64<br>16 | 4½<br>8¼ | 11<br>11 | 4¾<br>4¾ | 36 | 12 | 75 | 7D413 | $178.35 | $170.00 | 123.0 |
| A | 80 | 12 | 375 | Corrugated | 64<br>16 | 4½<br>8¼ | 17<br>17 | 4¾<br>4¾ | 36 | 18 | 75 | 7D414 | 229.63 | 217.00 | 142.0 |
| A | 80 | 12 | 350 | Corrugated | 64<br>16 | 4½<br>8¼ | 23<br>23 | 4¾<br>4¾ | 36 | 24 | 75 | 7D415 | 283.34 | 257.00 | 174.0 |
| B | 40 | 6 | 250 | Corrugated | 32<br>8 | 4½<br>8¼ | 11<br>11 | 4¾<br>4¾ | 36 | 12 | 42 | 7D412 | 103.51 | 78.30 | 48.0 |
| C | 48 | 6 | 250 | Polypropylene | 48 | 4⅛ | 11⅝ | 4 | 36 | 12 | 42 | 7D416 | 119.50 | 106.65 | 47.2 |
| D | 96 | 12 | 400 | Polypropylene | 96 | 8⅛ | 11⅝ | 4 | 36 | 12 | 75 | 7D417 | 253.92 | 226.50 | 124.4 |
| D | 96 | 12 | 375 | Polypropylene | 96 | 4⅛ | 17⅞ | 4 | 36 | 18 | 75 | 7D418 | 340.69 | 301.25 | 177.0 |
| D | 60 | 12 | 350 | Polypropylene | 60 | 6⅝ | 23⅝ | 4 | 36 | 24 | 75 | 7D419 | 528.73 | 461.50 | 220.0 |
| – | Shelving Only | 6 | 250 | — | None | No bins furnished | | | 36 | 12 | 42 | 1W763 | 75.48 | 51.70 | 28.0 |

(*) Load Capacity for evenly distributed loads.

## PICK-RACK SMALL PARTS STORAGE

Tilted Shelf Racks constructed of rugged 22-Gauge Steel provide full visibility and easy access to contents. Gray powder coat finish. Unassembled. Edsal brand.

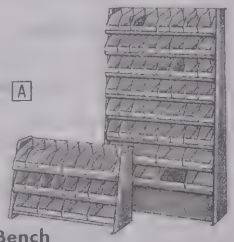
Oyster White Corrugated Bins are effective for self-service display. Every bin can be labeled for user convenience and can be changed by switching bins. For replacement bins see page 2044.

Mobile Rack has 26 x 36" Dolly with 3" Casters to bring small parts directly to the work site.

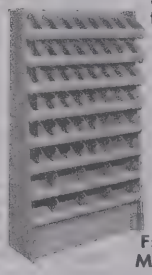
Replacement Parts Available 1-800-323-0620™

edsal

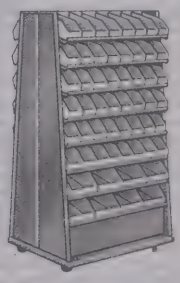
Versatile, free standing units can be bolted to bench top, floor or wall



Bench Model



Floor Model



Mobile Twin Rack

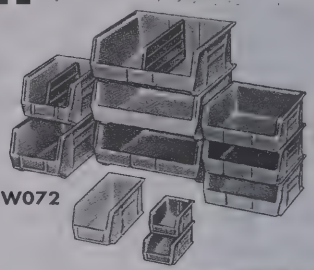
| Key | Model | Tiers | No. of Bins | Bin Width (In.) | Overall Dimensions (In.) W | D | H | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **PICK RACK STORAGE UNITS WITH 4¼ AND 84¼" WIDE BIN CARTONS** | | | | | | | | | | | |
| A | Bench | 3 | 16<br>8¼ | 4¼<br>8¼ | 35⅝ | 12¾ | 21¼ | 7W027 | $72.43 | $63.75 | 23.6 |
| B | Floor | 8 | 48<br>8 | 4¼<br>8¼ | 35⅝ | 12¾ | 61⅜ | 7W028 | 166.98 | 147.45 | 58.0 |
| C | Mobile Twin Rack | 16 | 96<br>16 | 4¼<br>8¼ | 35⅝ | 25½ | 65 | 7W029 | 408.71 | 364.50 | 146.0 |
| **PICK RACK STORAGE UNITS, LESS BINS (BINS SOLD SEPARATELY ON PAGE 2044)** | | | | | | | | | | | |
| – | Bench<br>Floor | 3<br>8 | None<br>None | —<br>— | 35⅝<br>35⅝ | 12¾<br>12¾ | 21¼<br>61⅜ | 1W784<br>1W785 | 55.09<br>127.85 | 47.40<br>110.05 | 18.0<br>43.0 |

# STORAGE BINS AND BIN HANGING SYSTEM

## AKROBINS®

- Polypropylene
- Use on shelving, louvered panels, work bench racks, carts, and most other rail and louvered systems, or stack atop each other
- Full width hanger lip supports heavy loads
- Reinforced rib design prevents sides from spreading when loaded or stacked
- Slot front panel holds inventory cards or large labels. Bin dividers available separately, call 1-800-323-0620
- Available in red, blue, and yellow

AKRO-MILS® A Myers Industries Company



No. 2W072

### BIN ORDERING DATA
(PRICED EACH, SOLD IN CARTON QTY. ONLY)

| Outside Dim. (In.) D | W | H | Akro-Mils Model | Stock No. Red | Blue | Yellow | Carton Qty. | List | Each | Lots 4+ Ctns. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5⅜ | 4⅛ | 3 | 30-210 | 2W072 | 2W776 | 5W869 | 24 | $1.00 | $0.76 | $0.72 | 0.2 |
| 7⅜ | 4⅛ | 3 | 30-220 | 2W073 | 2W777 | 5W870 | 24 | 1.82 | 1.37 | 1.30 | 0.3 |
| 10⅞ | 5½ | 5 | 30-230 | 2W074 | 2W778 | 5W871 | 12 | 4.52 | 3.44 | 3.27 | 0.8 |
| 10⅞ | 11 | 5 | 30-235 | 5W865 | 5W867 | 5W872 | 6 | 6.96 | 5.29 | 5.03 | 1.2 |
| 10¾ | 8¼ | 7 | 30-239 | 5W866 | 5W868 | 5W873 | 6 | 7.52 | 5.76 | 5.47 | 1.1 |
| 14¾ | 5½ | 5 | 30-234 | 4TJ77 | 4TJ76 | 4TJ78 | 12 | 6.67 | 6.35 | 6.03 | 1.5 |
| 14¾ | 8¼ | 7 | 30-240 | 2W075 | 2W779 | 5W874 | 12 | 8.90 | 6.88 | 6.54 | 1.9 |
| 14¾ | 16½ | 7 | 30-250 | 2W076 | 2W780 | 5W875 | 6 | 12.50 | 9.75 | 9.26 | 3.1 |

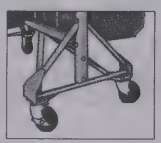
## RAIL HANGING SYSTEMS

**2-SIDED FLOOR RACK.** 16-gauge steel rack forms a stationary storage island with bins on both sides. Measures 36"L x 20"W x 53"H. Gray baked enamel finish. Accepts five sizes of bins, see table below. 500 lb. capacity. Order bins separately above. Akro-Mils brand (30-012).

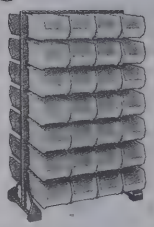
**MOBILE KIT** is sold separately below to convert this stationary rack into a mobile storage center. Adds 5½" to height. Kit comes complete with reinforcing braces, handle, and 4" polyolefin wheel casters. Rear caster locks to prevent rolling. Akro-Mils brand (30-424).

**No. 5W889.** Floor Rack. Shpg. wt. 54.0 lbs. List $151.48. Each ..... $133.95

**No. 5W876.** Mobile Kit. Shpg. wt. 10.0 lbs. List $73.60. Each ..... $61.85



No. 5W876



No. 5W889

**MOBILE BIN CART.** A dependable workstation that can be easily moved from one area to another. 16-gauge steel top provides a convenient work surface. Gray baked enamel finish. 250 lb. capacity. Dimensions: 38½L x 24W x 36½"H. Accepts eight sizes of bins, see table below. Order bins separately above. Akro-Mils brand 30-812).

**No. 5W888.** Shpg. wt. 83.0 lbs. List $381.95. Each ..... $327.00

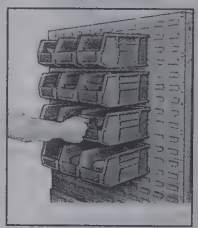


No. 5W888

## LOUVERED HANGING SYSTEMS

**LOUVERED PANEL** - 16-gauge steel panel has gray baked enamel finish. Mounting holes on 6" centers simplify fastening. Screw or bolt to shelving, workbenches, walls, or inside service vans. 160 lb. capacity. Dimensions: 35¾W x 19"H. Holds eight sizes of bins, see table below. Order bins separately above. Priced each panel, sold in carton of four only. Akro-Mils brand (30-636).

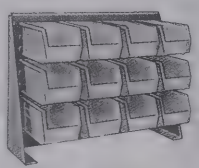
**No. 2W717.** Shpg. wt. 12.0 lbs. List $28.30. Each ..... $23.97



No. 2W717

**BENCH RACK** - 16-gauge steel. Ideal for use on workstations. Side supports bolt onto unit. Gray baked enamel finish. 120 lb. capacity. Dim: 27¾W x 21H x 8"D. Accepts four sizes of bins, see table below. Order bins separately above. Akro-Mils brand (98-600).

**No. 2W718.** Shpg. wt. 17.0 lbs. List $42.01. Each ..... $37.55



No. 2W718

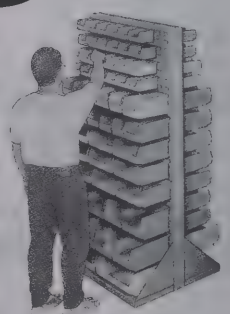
**LOUVERED FLOOR RACK** - Made of 16-gauge steel with durable gray baked enamel finish. Large two-sided rack creates a high density storage station. Easy to assemble. 2000 lb. capacity. Accepts seven sizes of bins, see table below. Dimensions: 35¾L x 32W x 75"H. Order bins separately above. Akro-Mils brand (30-653).

***New* No. 4TJ79.** 182.0 lbs. List $349.39. Each ..... $332.75

New



No. 4TJ79



### BIN CAPACITY OF RACKS, PANEL, AND CART

| Stock No. | Description | AkroBin Stock No. 2W072 2W776 5W869 | 2W073 2W777 5W870 | 2W074 2W778 5W871 | 4TJ77 4TJ76 4TJ78 | 5W865 5W867 5W872 | 5W866 5W868 5W873 | 2W075 2W779 5W874 | 2W076 2W780 5W875 |
|---|---|---|---|---|---|---|---|---|---|
| | **RAIL SYSTEMS** | | | | | | | | |
| 5W889 | 2-Sided Rail Rack | 192 | 192 | — | — | — | 48 | 48 | 24 |
| 5W888 | Mobile Bin Cart | 96 | 96 | 48 | 48 | 24 | 24 | 24 | 12 |
| 2W718 | Bench Rack | 24 | 24 | 12 | 12 | — | — | — | — |
| | **LOUVERED SYSTEMS** | | | | | | | | |
| 2W717 | Louvered Panel | 32 | 32 | 18 | 18 | 9 | 8 | 8 | 4 |
| 4TJ79 | 2-Sided Louvered Rack | 288 | 288 | 144 | 144 | 72 | 72 | 72 | 36 |



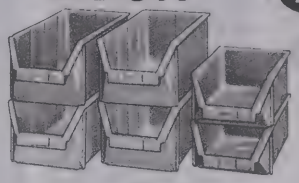
*As America's leading distributor, we know a thing or two about storage.*

# STACK BINS, CONDUCTIVE BINS, AND BIN SYSTEMS

## HEAVY-DUTY HOPPERS

- Space efficient—front loading hoppers can be stacked five units high
- Rugged hoppers replace steel units
- Tough 100% recyclable, high density polyethylene plastic
- Each bin has a 150 lb. capacity
- 1/4" ribbed wall construction won't crack or rust; resists wrapping

**KADON** New



| Inside Dimensions (In.) W | L | H | Outside Dimensions (In.) W | L | H | Kadon Model | New! Stock No. | Priced Each, Sold in Carton Qty. Only List | Each | Carton Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | 20⅛ | 8¼ | 11 | 23½ | 9 | 0028-000BK | 4TH88 | $17.38 | $17.03 | 6 | 8.3 |
| 9½ | 16½ | 6¼ | 11 | 19¼ | 6¾ | 0035-000BK | 4TH95 | 13.68 | 13.54 | 5 | 5.6 |

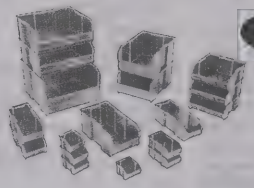
## CONDUCTIVE BINS AND DIVIDERS

- Extra thick, reinforced walls for rigidity
- Slotted label holders for easy identification
- Unaffected by humidity
- Bins are highly dissipative
- Electrostatic decay rate is tested to meet Mil Spec Mil-B81075B at less than 0.1 seconds
- Surface resistivity is less than 105 Ohms-per-square when tested per ASTM-D257

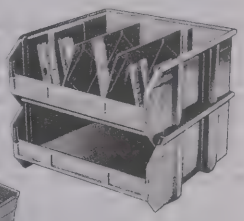
Ideal for storage and transportation of electronic components and parts, assemblies, and loaded circuit boards. Bins are molded with a carbon filled copolymer polypropylene material which protects sensitive electronic components from typical electromagnetic interference (EMI). Permanently conductive and unaffected by normal cleansers. Conductive bins can be stacked on one another, hung on No. 4RR25 Louvered Panel or No. 4RR26 Rack, or used on standard shelving. Optional conductive bin dividers are available separately. Quantum brand.

Stackable bins have a wide stacking ledge to ensure stability when stacking and anti-slide stop to prevent stacked bins from shifting forward. Molded-in hand grips for easy transportation.

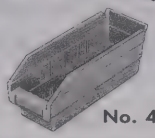
Nestable bins allow easy and space-saving storage when empty.



New



QUANTUM™ STORAGE SYSTEMS



No. 4RR27

No. 4RR38 Shown Stacked w/Dividers

### New! CONDUCTIVE BIN DIVIDERS

| For Use With Bin Nos. | Quantum Model | New! Stock No. | Priced Each, Sold in Carton Qty. Only List | Each | Carton Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 4RR37, 4RR38 | DUS 235 CON | 4RR22 | $2.73 | $2.18 | 4 | 0.5 |
| 4RR39, 4RR40 | DUS 240 CON | 4RR23 | 5.75 | 4.60 | 4 | 0.5 |
| 4RR41, 4RR42 | DUS 260 CON | 4RR24 | 7.20 | 5.76 | 4 | 0.5 |

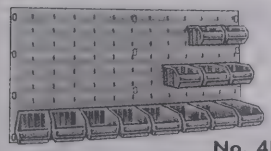
### New! CONDUCTIVE BIN SPECIFICATIONS AND ORDERING DATA

| Inside Dimensions (In.) L | W | H | Outside Dimensions (In.) L | W | H | Use Divider No. | Quantum Model | New! Stock No. | Priced Each, Sold in Carton Qty. Only List | Each | Carton Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STACKABLE BINS** | | | | | | | | | | | | |
| 4½ | 3½ | 2⅞ | 5½ | 4⅛ | 3 | — | QUS 210 CON | 4RR35 | $3.25 | $2.60 | 48 | 0.3 |
| 6½ | 3½ | 2⅞ | 7½ | 4⅛ | 3 | — | QUS 220 CON | 4RR36 | 4.13 | 3.30 | 48 | 0.3 |
| 8 11⁄16 | 4 13⁄16 | 4 13⁄16 | 11 | 5½ | 5 | 4RR22 | QUS 230 CON | 4RR37 | 13.46 | 10.77 | 12 | 1.0 |
| 9 | 10⅜ | 4 13⁄16 | 11 | 11 | 5 | 4RR22 | QUS 235 CON | 4RR38 | 14.50 | 11.60 | 8 | 1.9 |
| 12⅞ | 7½ | 6¾ | 14¾ | 8¼ | 7 | 4RR23 | QUS 240 CON | 4RR39 | 19.60 | 15.68 | 8 | 2.1 |
| 12⅞ | 15¾ | 6¾ | 14¾ | 16½ | 7 | 4RR23 | QUS 250 CON | 4RR40 | 35.15 | 28.15 | 6 | 3.7 |
| 15⅝ | 10¼ | 9¾ | 18 | 11 | 10 | 4RR24 | QUS 260 CON | 4RR41 | 47.18 | 37.75 | 4 | 4.0 |
| 15⅝ | 15¾ | 10¾ | 18 | 16½ | 11 | 4RR24 | QUS 270 CON | 4RR42 | 60.87 | 51.75 | 4 | 6.0 |
| **SHELF NESTABLE BINS** | | | | | | | | | | | | |
| 10¾ | 3¼ | 3⅞ | 11⅞ | 4⅛ | 4 | — | QSB 101 CON | 4RR27 | 8.10 | 6.48 | 36 | 0.4 |
| 16⅝ | 3¼ | 3⅞ | 18 | 4⅛ | 4 | — | QSB 103 CON | 4RR28 | 15.85 | 12.68 | 20 | 0.8 |

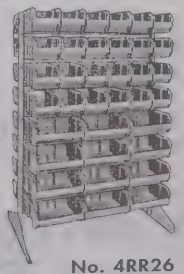
QUANTUM™ STORAGE SYSTEMS

New

Bins Sold Separately



No. 4RR25



No. 4RR26

## CONDUCTIVE HANGING SYSTEMS

- Allows a wide range of configurations
- Formed from heavy-duty gauge cold rolled steel with a dark gray baked enamel conductive coating for years of heavy-duty use

No. 4RR25 Louvered Panel accepts eight sizes of conductive bins. Wall mounted.

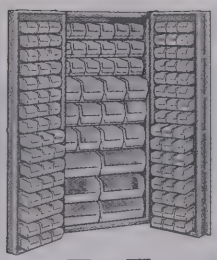
No. 4RR26 Double Sided 12-Rail Rack accepts six sizes of conductive bins. 500 lb. capacity.

### New! CONDUCTIVE HANGING SYSTEM SPECIFICATIONS AND ORDERING DATA

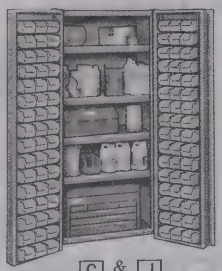
| Description | Dimensions (In.) L | W | H | Quantity of Conductive Bin No. to Fit on Hanging System 4RR35 | 4RR36 | 4RR37 | 4RR38 | 4RR39 | 4RR40 | 4RR41 | 4RR42 | Quantum Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Louvered Panel | 36 | — | 19 | 32 | 32 | 18 | 9 | 8 | 4 | 3 | 2 | QLP3619 CON | 4RR25 | $64.08 | $51.30 | 12.0 |
| 12-Rail Rack | 36 | 24 | 53 | 192 | 192 | 72 | 36 | 48 | 24 | 24 | 16 | QRU12D CON | 4RR26 | 280.40 | 224.50 | 54.0 |

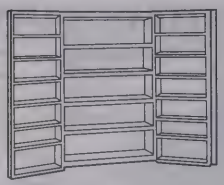
# WELDED BIN STORAGE CABINETS

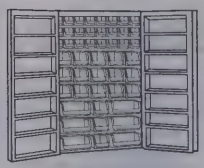
edsal
New

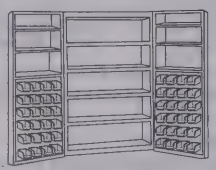

A & H

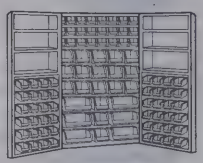

B & I


C & J


D & K


E & L


F & M


G & N

**All welded rugged storage cabinets** offer high density storage for valuable parts, precision tools and small assemblies; improves inventory control and eases parts picking. **Fully adjustable door shelves** adjust on 2" intervals. Interior full width shelves adjust on 4" intervals and have a 700 lb. capacity. **4" deep "pocket doors" with heavy duty hinges** accommodate bins and/or adjustable shelves for increased storage in a variety of configurations. **Removable, heavy-duty plastic bins suspend from steel louvered panels**, allowing quick and easy bin removal. **Cabinet includes padlock hasp** and leveling feet. (Padlock not included). Gray powder coat finish. Edsal brand.

BINS (SOLD SEPARATELY)
See page 2046

## *New!* 38" WIDE WELDED BIN CABINETS (BINS SOLD SEPARATELY, See Below)

| Key | Description: Doors | Description: Cabinet | Bin Quantity | Bin Dimensions (In.) W | D | H | Overall Dimensions (In.) W | D | H | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | All Bins* | All Bins* | 48 | 4⅛ | 5⅜ | 3 | 38 | 24 | 72 | 7D199 | $937.00 | $656.00 | 322.0 |
| | | | 48 | 4⅛ | 7⅜ | 3 | | | | | | | |
| | | | 18 | 5½ | 10⅞ | 5 | | | | | | | |
| | | | 12 | 8¼ | 14¾ | 7 | | | | | | | |
| | | | 6 | 16½ | 14¾ | 7 | | | | | | | |
| B | Half Bins*/Half Shelves | Half Bins*/Half Shelves | 48 | 4⅛ | 7⅜ | 3 | 38 | 24 | 72 | 7D203 | 960.00 | 672.00 | 322.0 |
| | | | 16 | 8¼ | 14¾ | 7 | | | | | | | |
| C | All Bins* | All Shelves | 96 | 4⅛ | 7⅜ | 3 | 38 | 24 | 72 | 7D201 | 970.00 | 679.00 | 344.0 |
| D | All Shelves | All Shelves | — | | — | | 38 | 24 | 72 | 7D200 | 961.36 | 673.00 | 322.0 |
| E | All Shelves | All Bins* | 18 | 5½ | 10⅞ | 5 | 38 | 24 | 72 | 7D202 | 949.57 | 665.00 | 300.0 |
| | | | 12 | 8¼ | 14¾ | 7 | | | | | | | |
| | | | 6 | 16½ | 14¾ | 7 | | | | | | | |
| F | Half Bins*/Half Shelves | All Shelves | 48 | 4⅛ | 7⅜ | 3 | 38 | 24 | 72 | 7D204 | 970.71 | 679.50 | 333.0 |
| G | Half Bins*/Half Shelves | All Bins* | 48 | 4⅛ | 7⅜ | 3 | 38 | 24 | 72 | 7D205 | 948.17 | 664.00 | 311.0 |
| | | | 18 | 5½ | 10⅞ | 5 | | | | | | | |
| | | | 12 | 8¼ | 14¾ | 7 | | | | | | | |
| | | | 6 | 16½ | 14¾ | 7 | | | | | | | |

## *New!* 48" WIDE WELDED BIN CABINETS (BINS SOLD SEPARATELY, See Below)

| Key | Description: Doors | Description: Cabinet | Bin Quantity | Bin Dimensions (In.) W | D | H | Overall Dimensions (In.) W | D | H | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H | All Bins* | All Bins* | 64 | 4⅛ | 5⅜ | 3 | 48 | 24 | 72 | 7D206 | 1129.31 | 791.00 | 390.0 |
| | | | 64 | 4⅛ | 7⅜ | 3 | | | | | | | |
| | | | 24 | 5½ | 10⅞ | 5 | | | | | | | |
| | | | 18 | 8¼ | 14¾ | 7 | | | | | | | |
| | | | 6 | 16½ | 14¾ | 7 | | | | | | | |
| I | Half Bins*/Half Shelves | Half Bins*/Half Shelves | 64 | 4¼ | 7¾ | 3 | 48 | 24 | 72 | 7D210 | 1162.79 | 814.00 | 361.0 |
| | | | 20 | 8¼ | 14¼ | 7 | | | | | | | |
| J | All Bins* | All Shelves | 128 | 4⅛ | 5⅜ | 3 | 48 | 24 | 72 | 7D208 | 1185.00 | 829.50 | 414.0 |
| K | All Shelves | All Shelves | — | | — | | 48 | 24 | 72 | 7D207 | 1194.97 | 836.50 | 386.0 |
| L | All Shelves | All Bins* | 24 | 5½ | 10⅞ | 5 | 48 | 24 | 72 | 7D209 | 1134.29 | 794.00 | 362.0 |
| | | | 18 | 8¼ | 14¾ | 7 | | | | | | | |
| | | | 6 | 16½ | 14¾ | 7 | | | | | | | |
| M | Half Bins*/Half Shelves | All Shelves | 64 | 4⅛ | 7⅜ | 3 | 48 | 24 | 72 | 7D211 | 1200.00 | 840.00 | 400.0 |
| N | Half Bins*/Half Shelves | All Bins* | 64 | 4⅛ | 7⅜ | 3 | 48 | 24 | 72 | 7D212 | 1130.00 | 791.00 | 376.0 |
| | | | 24 | 5½ | 10⅞ | 5 | | | | | | | |
| | | | 18 | 8¼ | 14¾ | 7 | | | | | | | |
| | | | 6 | 16½ | 14¾ | 7 | | | | | | | |

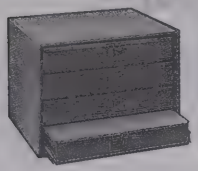
## BIN ORDERING DATA (BINS PRICED SEPARATELY, SOLD IN CARTON QTY. ONLY)†

| Outside Bin Dimensions (In.) W | D | H | Akro-Mils Model | Stock No. Red | Blue | Yellow | Carton Qty. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 4⅛ | 5⅜ | 3 | 30-210 | 2W072 | 2W776 | 5W869 | 24 | $1.00 | $0.76 | 0.2 |
| 4⅛ | 7⅜ | 3 | 30-220 | 2W073 | 2W777 | 5W870 | 24 | 1.82 | 1.37 | 0.3 |
| 5½ | 10⅞ | 5 | 30-230 | 2W074 | 2W778 | 5W871 | 12 | 4.52 | 3.44 | 0.8 |
| 8¼ | 14¾ | 7 | 30-240 | 2W075 | 2W779 | 5W872 | 12 | 8.90 | 6.88 | 1.9 |
| 16½ | 14¾ | 7 | 30-250 | 2W076 | 2W770 | 5W873 | 6 | 12.50 | 9.75 | 3.1 |

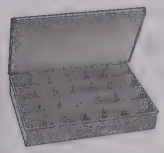
(*) Order all plastic bins separately. (†) See page 2044 for Akro-Mils Bin Description.


As America's leading distributor, we know a thing or two about storage.

# STEEL PARTS STORAGE CABINETS AND DRAWERS

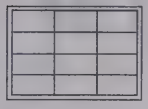


New

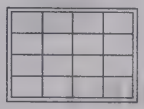


DURHAM

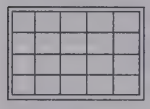
**Replacement Parts Available**
**1-800-323-0620**



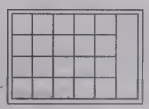
**12 Compartment Drawer**



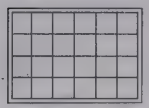
**16 Compartment Drawer**



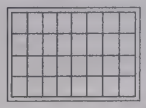
**20 Compartment Drawer**



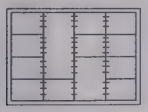
**21 Compartment Drawer**



**24 Compartment Drawer**



**32 Compartment Drawer**



**Adjustable Compartment Drawer has nine removable dividers to create custom-size compartmments**

## SLIDING DRAWER PARTS CABINETS

Sliding drawer parts cabinets provide convenient storage of electronic components, machined parts, and bolts. Cabinets come with four steel drawers, each with a hinged steel top and molded polystyrene insert parts tray. Each compartment has a scooped bottom for easy access. Extra drawers can be ordered separately.

Drawers ride on sliding full-suspension racks fixed to the cabinet, and can be easily removed and carried to the job location. Drawer stops prevent unintentional pull-out. Each drawer has steel pull handle, closure latch, and a compartment locator guide.

Cabinets can be stacked and bolted together or bolted to a bench top or other rigid surface for added stability. Steel parts are rust- and acid-resistant. Gray enamel finish. Durham brand.

### SMALL CABINETS

Small, four-drawer cabinets are available without any drawers or with 12, 16, 20, and 24-compartment scooped drawers. No. 5W883 contains one drawer each of 16, 20, 21, and 24-compartments. 21-compartment drawer is ideal for crimping tools. Overall dim.: 11¾D x 15¼W x 11¼H.

Extra drawers for small cabinets come in 12, 16, 20, 21, 24, and adjustable compartment models. No. 6A275, 21-compartment drawer has special rectangular compartment ideal for electricians' crimping tools. All drawers have 20-lb load capacity. Drawers measure 9¼D x 13$\frac{5}{16}$W x 2"H.

### LARGE CABINETS

Large four-drawer cabinets are available without any drawers or with 24 or 32-compartment scooped drawers, or with a special adjustable compartment drawer. Adjustable drawer has plastic dividers which can be removed or arranged to accomodate large or small parts†. Overall dim.: 15¾D x 20W x 15"H.

Extra drawers for large cabinets come in 12, 16, 20, 21, 24 or 32 compartments or with an adjustable compartment tray. All drawers have 40-lb. load capacity and are 12D x 18W x 3"H.

| Description | No. of Drawers | Compartments per Drawer | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **SMALL CABINETS** | | | | | | | |
| **Cabinet** | 4 | 12 | **5W880** | $136.93 | **$98.05** | **$93.14** | 38.0 |
| **Cabinet** | 4 | 16 | **5W881** | 136.93 | **98.05** | **93.14** | 38.0 |
| **Cabinet** | 4 | 20 | **5W882** | 136.93 | **98.05** | **93.14** | 38.0 |
| **Cabinet** | 4 | 24 | **2W431** | 136.93 | **98.05** | **93.14** | 38.0 |
| **Cabinet** | 4 | 16, 20, 21, 24* | **5W883** | 136.93 | **98.05** | **93.14** | 38.0 |
| **Extra Drawer** | — | 12 | **6A272** | 16.15 | **12.86** | **12.22** | 4.0 |
| **Extra Drawer** | — | 16 | **6A273** | 16.15 | **12.86** | **12.22** | 4.0 |
| **Extra Drawer** | — | 20 | **6A274** | 16.15 | **12.86** | **12.22** | 4.0 |
| **Extra Drawer** | — | 21 | **6A275** | 16.15 | **12.86** | **12.22** | 4.0 |
| **Extra Drawer** | — | 24 | **1A794** | 16.15 | **12.86** | **12.22** | 4.0 |
| **Extra Drawer** | — | Adjustable | **3KP98** | 16.90 | **12.28** | **11.67** | 4.2 |
| **Cabinet Only (Empty)** | — | — | ***New*** **4UJ36** | 71.20 | **53.25** | **50.59** | 22.0 |
| **LARGE CABINETS** | | | | | | | |
| **Cabinet** | 4 | 24 | **2W430** | 195.70 | **144.55** | **137.30** | 69.0 |
| **Cabinet** | 4 | 32 | **5W884** | 197.66 | **144.55** | **137.30** | 69.0 |
| **Cabinet** | 4 | Adjustable | **5W885** | 203.25 | **148.40** | **140.95** | 69.0 |
| **Extra Drawer** | — | 12 | **3KR03** | 25.94 | **18.80** | **17.86** | 8.0 |
| **Extra Drawer** | — | 16 | **3KR04** | 25.94 | **18.80** | **17.86** | 8.0 |
| **Extra Drawer** | — | 20 | **3KR05** | 25.94 | **18.80** | **17.86** | 8.0 |
| **Extra Drawer** | — | 21 | **3KR06** | 25.94 | **18.80** | **17.86** | 8.0 |
| **Extra Drawer** | — | 24 | **1A793** | 25.94 | **20.54** | **19.51** | 8.0 |
| **Extra Drawer** | — | 32 | **6A276** | 25.94 | **20.54** | **19.51** | 8.0 |
| **Extra Drawer** | — | Adjustable | **6A277** | 27.41 | **21.58** | **20.50** | 8.0 |
| **Cabinet Only (Empty)** | — | — | ***New*** **4UJ35** | 92.15 | **70.20** | **69.69** | 37.0 |

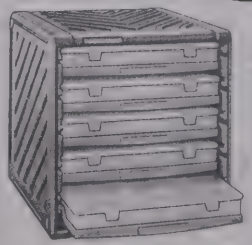
(*) Comes with one each of 16, 20, 21, and 24-compartment drawers

## SMALL PARTS CABINET

**Flambeau**

New

- **Durable polypropylene housing is rust- and scratch-proof and will not dent**
- **Interlocking cabinet**
- **Lightweight translucent, fully extending drawers**
- **Overall dimensions: 14½D x 15½W x 15¾"H**



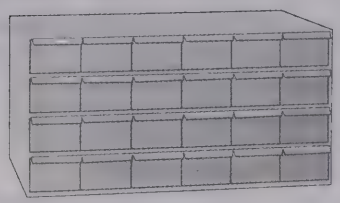
This space-saving storage cabinet is ideal for use in tool rooms, stock rooms, maintenance areas, and on workbenches. Helps you organize, store and protect your small parts, fasteners and tools. Includes adjustable compartment boxes (No. 3KN88) on sliding trays. Each transparent box comes with 16 adjustable dividers. Allows you to create 20 to 100 compartments per cabinet, depending on need. Flambeau brand (8500-ST).

***New*** **No. 4TJ28.** Small Parts Cabinet. Shpg. wt. 20.0 lbs. List $92.50. Each ..... **$76.85**

# SMALL PARTS STORAGE CABINETS

## JUMBO DRAWER PARTS CABINETS

DURHAM



Cabinets can be stacked with steel bin storage units below

Used to organize and store parts, components, or assemblies in factories, warehouses, garages, and workshops. These stackable cabinets eliminate clutter and provide a convenient storage center for small parts. Steel construction with vertical supports for added strength and rigidity. Steel drawers have formed steel runners for smooth operation. Stop feature at rear of drawer prevents accidental spilling. Drawer sides hold adjustable plastic dividers on 1" increments. Two movable dividers included per drawer. Gray enamel finish.

### EXTRA DRAWER DIVIDERS

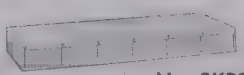
Extra drawer dividers for Durham cabinets are available at additional cost. Dividers are shipped nearest distribution point. Call 1-800-323-0620 to order.

| No. of Drawers | Cabinet Dimensions (In.) D | W | H | Drawer Dimensions D | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 11 1/16 | 33 3/4 | 12 13/16 | 11 3/16 | 5 5/16 | 3 1/2 | **2W265** | $176.97 | **$127.10** | 54.0 |
| **24** | 11 1/16 | 33 3/4 | 16 15/16 | 11 3/16 | 5 5/16 | 3 1/2 | **2W266** | 244.59 | **175.25** | 71.0 |
| **30** | 11 1/16 | 33 3/4 | 21 1/16 | 11 3/16 | 5 5/16 | 3 1/2 | **2W787** | 292.78 | **208.50** | 80.0 |
| **18** | 17 3/16 | 33 3/4 | 12 13/16 | 16 3/4 | 5 5/16 | 3 1/2 | **2W267** | 271.38 | **194.00** | 76.0 |
| **24** | 17 3/16 | 33 3/4 | 16 15/16 | 16 3/4 | 5 5/16 | 3 1/2 | **2W268** | 343.88 | **246.50** | 100.0 |
| **30** | 17 3/16 | 33 3/4 | 21 1/16 | 16 3/4 | 5 5/16 | 3 1/2 | **3W400** | 400.08 | **284.75** | 110.0 |

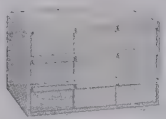
## MODULAR STEEL DRAWER CABINETS

- Sturdy, all-steel construction
- Prime cold-rolled steel material, rust and acid-resistant baked enamel finish
- Vertical supports provide strength
- Embossed mounting holes allow cabinets to be stacked
- Two easy glide runners on each drawer for a smooth pull. Positive stop prevents drawer pull-out
- Drawer has a full width handle and slotted sides in 1" intervals to hold dividers
- Two high impact plastic dividers with special snap-in features provided with each drawer
- 6, 9, 18, and 24-drawer cabinets can be used in customizing trucks and vans
- Drawer dimensions: 5 3/8W x 2 3/4H x 11 1/4"D.
- Cabinets are shipped fully assembled, ready for use

DURHAM

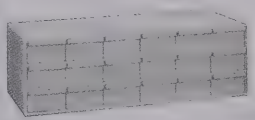


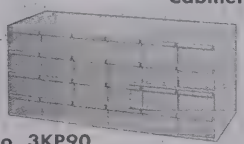
No. 3KP94
6-Drawer Cabinet



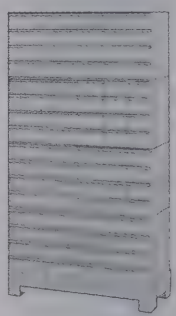
No. 3KP97
9-Drawer Cabinet

No. 3KP88
18-Drawer Cabinet





No. 3KP90
24-Drawer Cabinet



No. 3KP96
96-Drawer Cabinet

| No. of Drawers | Cabinet Size (In.) D | W | H | Durham Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **6** | 11 5/8 | 33 1/4 | 4 | 6D | **3KP94** | $72.35 | **$52.55** | 18.0 |
| **9** | 11 5/8 | 17 1/4 | 10 7/8 | 9D | **3KP97** | 93.42 | **67.75** | 28.0 |
| **18** | 11 5/8 | 33 3/4 | 10 7/8 | 18D | **3KP88** | 143.21 | **103.80** | 50.0 |
| **24** | 11 5/8 | 33 3/4 | 14 3/8 | 24D | **3KP90** | 199.35 | **143.95** | 62.0 |
| **96** | 12 1/4 | 34 1/8 | 62 1/8 | 96D | **3KP96** | 954.63 | **678.50** | 300.0 |

## STEEL BIN STORAGE UNITS

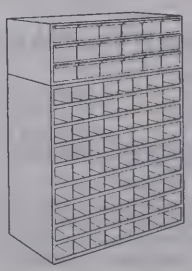
- Choose models with 24-72 bins for storing small parts
- Can be stacked with Jumbo and 6, 18, 24 modular drawer cabinets
- All-steel construction prevents twisting and warping of unit
- Hemmed lip keeps parts from spilling out—no sharp edges

### BUILT-IN ORGANIZATION AND EXPANSION

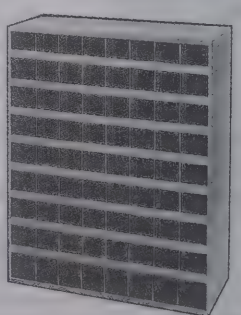
Durham Steel Bin Storage units allow organization of small parts or components. To expand,simply stack additional units to the existing units.

| No. of Bins | Dimensions (In.) Each Bin D | W | H | Cabinet–Overall D | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **24** | 11 7/8 | 5 3/8 | 5 1/2 | 12 | 33 3/4 | 23 7/8 | **3KP89** | $101.00 | **$79.00** | 44.0 |
| **40** | 11 3/4 | 4 | 4 1/2 | 12 | 33 3/4 | 24 | **3W126** | 110.00 | **86.00** | 47.0 |
| **42** | 11 7/8 | 5 3/8 | 5 1/8 | 12 | 33 3/4 | 42 | **3KP92** | 158.00 | **126.45** | 71.0 |
| **56** | 11 3/8 | 4 1/8 | 5 1/8 | 12 | 33 3/4 | 42 | **3KP93** | 166.00 | **129.65** | 75.0 |
| **72** | 11 3/4 | 4 | 4 1/2 | 12 | 33 3/4 | 42 | **3W127** | 172.00 | **133.70** | 78.0 |

DURHAM



No. 3W127 with 2W265 stacked on top.



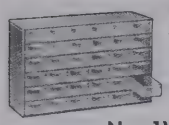
No. 3W127



*As America's leading distributor, we know a thing or two about storage.*

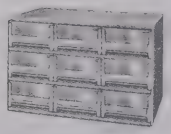
# STORAGE CABINETS AND BINS

## STEEL STORAGE CABINETS

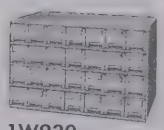


AKRO-MILS

No. 1W897
36 Drawers



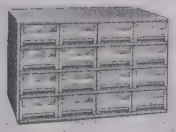
No. 1W903
9 Drawers



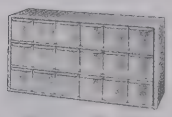
No. 1W920
28 Drawers



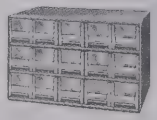
No. 1W899
20 Drawers



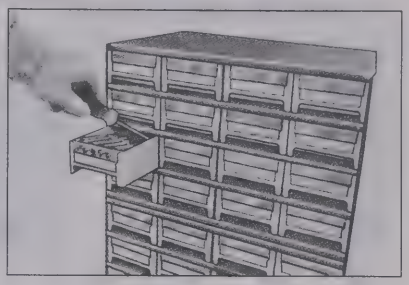
No. 1W901
16 Drawer



No. 2W057
18 Drawers



No. 1W902
15 Drawers



All cabinets have heavy-duty welded steel frames and gray, chip-proof, baked enamel finish. Same frame size cabinets stack securely for a custom storage center. Two dividers included for each drawer.

A 5¾"D styrene drawers are totally transparent for easy visibility.

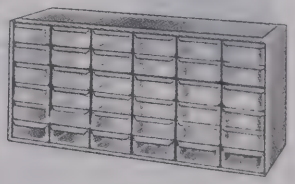
B 10½" extra-deep polystyrene drawers are virtually unbreakable. Convenient clear window allows instant content identification.

| Key | No. of Drawers | Drawer Dim. (In.) D | W | H | Cabinet Dim. (In.) D | W | H | Akro-Mils Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 36 | 5¾ | 2¾ | 1¼ | 6 | 18 | 9½ | 17-136 | **1W897** | $51.69 | **$31.55** | 16.0 |
| | 18 | 5¾ | 2¾ | 2½ | 6 | 18 | 9½ | 17-018 | **2W057** | 51.69 | **31.55** | 10.0 |
| B | 28 | 10½ | 2 3/16 | 2 1/16 | 11 | 17 | 11 | 19-228 | **1W920** | 77.13 | **55.75** | 21.0 |
| | 20 | 10½ | 3 3/16 | 1 | 11 | 17 | 11 | 19-320 | **1W899** | 77.13 | **55.75** | 21.0 |
| | 16 | 10½ | 4 | 1 | 11 | 17 | 11 | 19-416 | **1W901** | 77.13 | **55.75** | 20.0 |
| | 15 | 10½ | 3 3/16 | 1 1/16 | 11 | 17 | 11 | 19-715 | **1W902** | 77.13 | **55.75** | 18.0 |
| | 9 | 10½ | 5 1/16 | 1 1/16 | 11 | 17 | 11 | 19-909 | **1W903** | 77.13 | **55.75** | 18.0 |

## ECONOMY STORAGE CABINETS

- Strong, high-impact plastic cabinets
- Durable cabinets are designed to stack securely; can be wall mounted
- Clear styrene drawers make it easy to see what's inside
- Finger-grip drawer pulls for fast, easy access
- Rear drawer-stop tabs prevent accidental spills. No. 2W059 includes one divider per drawer
- Gray color

AKRO-MILS



No. 2W059

| Number of Drawers | Drawer Dimensions (In.) D | W | H | Cabinet Dimensions (In.) D | W | H | Akro-Mils Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **36** | 5¾ | 2¾ | 1¼ | 6⅜ | 18¼ | 8⅜ | 10-156 | **2W059** | $25.60 | **$24.05** | 8.0 |
| **60** | 5¾ | 2⅜ | 1½ | 6⅜ | 14⅜ | 13⅜ | 10-160 | **2W250** | 28.18 | **27.15** | 9.0 |

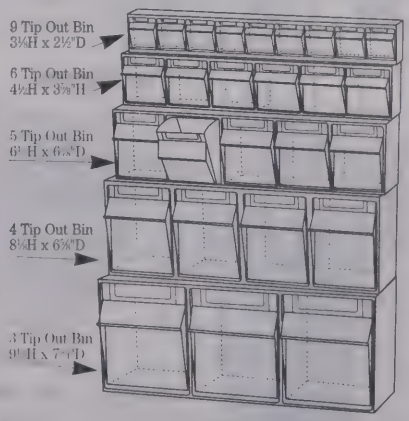
## CLEAR TIP OUT BIN SYSTEMS

- Five modular sizes designed for multiple stacking configuration
- Gray exterior housing is injection-molded from high-impact polystyrene
- Clear bins are injection-molded from a blend of Philips K Resin and Crystal Styrene for clarity and durability
- Clear Tip Out Bins can be mounted utilizing optional wall mount
- Compartments tilt open smoothly to a 45° angle and provide comfortable and complete access to stored items
- Individual bins can be completely removed for filling or cleaning with soap and water
- Clear bins have integrated label slots as well as a large flat, angled surface ideal for bar codes or individual part identification



QUANTUM™ STORAGE SYSTEMS

New




| No. of Drawers | Outside Dimensions (In.) D | W | H | Quantum Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3** | 7¾ | 23⅝ | 9½ | QTB303G | **4RR29** | $37.45 | **$35.40** | 9.0 |
| **4** | 6⅜ | 23⅝ | 8⅛ | QTB304G | **4RR30** | 34.20 | **32.05** | 7.0 |
| **5** | 5¼ | 23⅝ | 6½ | QTB305G | **4RR31** | 24.73 | **23.14** | 5.0 |
| **6** | 3⅝ | 23⅝ | 4½ | QTB306G | **4RR32** | 14.65 | **13.72** | 3.0 |
| **9** | 2½ | 23⅝ | 3 1/16 | QTB309G | **4RR33** | 12.38 | **11.70** | 3.0 |

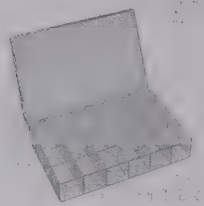
| Description | Maximum Qty. of Each Tip Out Bin to Fit Rails 4RR29 | 4RR30 | 4RR31 | 4RR32 | 4RR33 | Quantum Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Two 48"H Wall Rails** | 5 | 6 | 7 | 10 | 16 | QTR48 | **4RR34** | $26.05 | **$20.84** | 5.0 |

STORAGE EQUIPMENT

# PLASTIC PARTS STORAGE BOXES, & PORTABLE CASES

## TRANSPARENT PLASTIC PARTS BOXES

For organizing, storing, and protecting small parts. Transparent abrasion-resistant K-resin high-strength copolymer lets you see inside and find items you need quickly. Hinged top overlaps side edges to keep out dirt and protect contents. Boxes come in 6, 12, 18, and 24-compartment sizes and are stackable. (See table below for dimensions.)

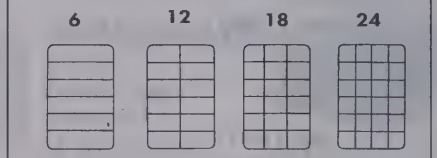


5 YEAR FLAMBEAU LIMITED WARANTY

**Flambeau**

**No. 2W467**
**24 Capartment Case**

**Compartment Arrangements**

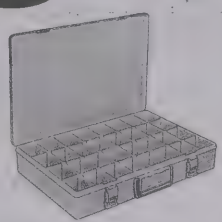



| Compartments | Overall Dimensions (In.) W | L | D | Compartment Dimensions (In.) W | L | D | Flambeau Model | Stock No. | List | Each | Lots Each | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 13⅛ | 9 | 2⅝ | 2 | 8¼ | 2 | K806 | **2W468** | $11.05 | **$9.35** | **8.42** | **5** | 2.0 |
| **12** | 13⅛ | 9 | 2⅝ | 2 | 4⅛ | 2 | K812 | **2W469** | 11.25 | **9.50** | **8.55** | **5** | 2.0 |
| **12** | 11 | 6¾ | 1¾ | 1⅝ | 3 | 1½ | K602 | **2W782** | 7.00 | **6.05** | **5.44** | **10** | 1.3 |
| **18** | 11 | 6¾ | 1¾ | 1⅝ | 1⅞ | 1½ | K618 | **2W781** | 7.00 | **6.05** | **5.44** | **10** | 1.3 |
| **24** | 13⅛ | 9 | 2⅝ | 2 | 2 | 2 | K824 | **2W467** | 12.25 | **10.35** | **9.32** | **5** | 2.2 |

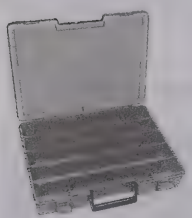
**Flambeau**

*New*

5 YEAR FLAMBEAU LIMITED WARRANTY

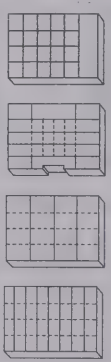


**No. 3KN85**
**24 Removeable Dividers**
**8-32 Compartments**



**No. 2W786**
**15 Removeable Dividers**
**9-24 Compartments**

**Compartment Arrangements**



**No. 4TJ27**

**No. 2W786**

**No. 3KN84**

**No. 3KN85**

## PORTABLE PLASTIC PARTS CASES

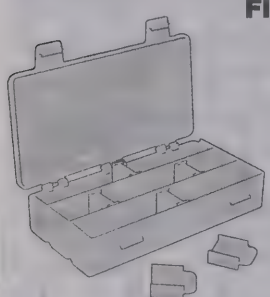
**Standard Features Include:**

- **Smoke tinted plastic cover on gray case for good visibility to help find delicate parts and small items inside**
- **Removable dividers for customizing cases for individual needs**
- **Double positive locking gray latches**
- **Pinned hinges**
- **Tongue-and-groove fitted cover**
- **Heavy-duty carry handle**

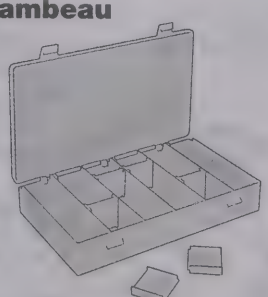
These portable plastic parts cases are designed and built for professional repair and service personnel. Strong polypro copolymer construction is rustproof and sparkproof. Resistant to dents and scratches as well as oils and common chemicals.

| Size | Overall Dimensions (In.) W | L | D | No. of Removable Dividers | Possible No. of Compartments | Flambeau Model | | Stock No | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Standard** | 15 | 11¼ | 2½ | 15 | 9 to 24 | 724-2 | | **2W786** | $19.78 | **$16.64** | 2.5 |
| **Large** | 18½ | 13 | 3 | 12 | 4 to 16 | 1016-2 | | **3KN84** | 23.47 | **19.95** | 3.7 |
| **Large** | 18½ | 13 | 3 | 24 | 8 to 32 | 1032-2 | | **3KN85** | 23.47 | **19.95** | 4.0 |
| **Large** | 18½ | 13 | 3 | — | Fixed | 1021-2 | *New* | **4TJ27** | 19.95 | **16.64** | 23.0 |

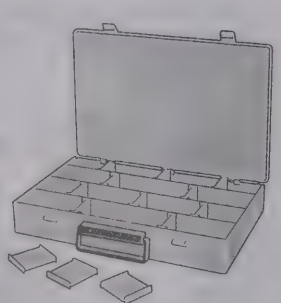
**Flambeau**



**No. 3KN90**



**No. 3KN91**



**No. 3KN88**

## ADJUSTABLE COMPARTMENT BOXES

- **Adjustable dividers allow customizing storage space to specific needs**
- **Dividers can be adjusted 1/8" at a time**
- **Heavy-duty latches and hinges**
- **Boxes are made with durable solvent-resistant transparent polypropylene**
- **No. 3KN88 has a handle for convenient carrying**

| W | Overall Dim. (In.) L | D | No. of Compartments | No. of Adj. Dividers | Flambeau Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6⅞** | 3⅝ | 1¼ | 3 to 7 | 6 | T300-2 | **3KN90** | $3.47 | **$2.95** | 0.3 |
| **10½** | 6 | 1½ | 6 to 12 | 6 | T600-2 | **3KN91** | 6.29 | **5.35** | 1.0 |
| **13** | 8¾ | 1⅞ | 4 to 20 | 16 | T999-2 | **3KN88** | 11.96 | **10.17** | 2.0 |



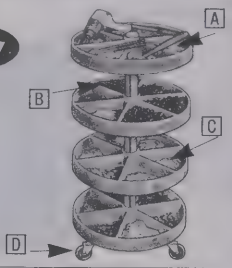
*As America's leading distributor, we know a thing or two about storage.*

# PLASTIC PARTS STORAGE CHESTS AND BOXES

## ROTO-SHELF

AKRO-MILS
A Myers Industries Company

New





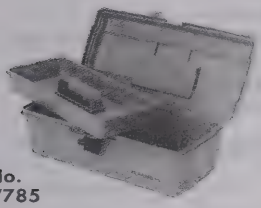

A Heavy-duty structural foam shelves.
B Shelves rotate on steel post for easy access.
C Six compartments in each shelf keep parts and tools organized.
D Industrial strength wheels provide easy movement.

Ideal for assembly components, mobile storage unit moves as you move to different work areas. Takes up very little foor space. Gray color. Akro-Mils brand (02-420).

***New!*** **No. 4TJ73.** Shpg. wt. 38.0 lbs. List $146.80. Each.....**$139.85**

## PARTS STORAGE UTILITY BOXES

**Flambeau**



No. 2W785

Large box features 7¼" saw blade holder to lid



No. 3W561

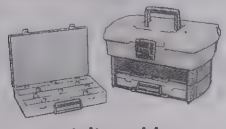
Ideal for storing and organizing repair kits, portable tools, and utensils.

- **Seamless, dent and scratch-resistant copolymer construction**
- **Positive locking latches**
- **Recessed handles for convenient carrying**
- **Removable interior tray**
- **Padlock tab for securing case (lock not included)**
- **Molded-in industrial gray color**

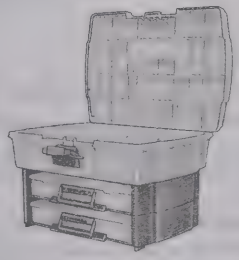
| Box Size | Overall Dimensions (In.) W | L | D | Flambeau Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Small** | 7½ | 14½ | 5¼ | 14800-2 | **2W785** | $11.25 | **$9.50** | **$8.55** | 2.0 |
| **Medium** | 8⅜ | 20¼ | 8⅜ | 19800-2 | **2W784** | 24.50 | **20.49** | **18.44** | 4.7 |
| **Large** | 10½ | 23 | 11⅜ | 23800-2 | **3W561** | 37.57 | **31.40** | **28.26** | 8.0 |

## BUILDING BOX PORTABLE STORAGE SYSTEM

**Flambeau**



Adjustable Compartment Boxes are removable and have a handle for convenient portability



**5-YEAR FLAMBEAU LIMITED WARRANTY**

The Building Box combines the utility of a large tool box with the storage capability of a parts cabinet. Unit includes two of No. 3KN88 Adjustable Compartment Boxes.

Features "no spill" latches, built-in sturdy handle, and chemically resistant polypropylene construction. Measures 18½ x 12½ x 11¾". Top is yellow, two trays are black, and two boxes are transparent with handles. Flambeau brand (13900-2).

**No. 3KN86.** Shpg. wt. 7.8 lbs. List $36.65. Each.....**$31.15**

## MOBILE BULK STORAGE BINS

- **Store, protect, and transport bulky items easily**
- **Seamless, lightweight, Trimeld® wall construction combines the strength of a structural foam core with smooth skin inner and outer walls for easy cleaning**
- **Sloped, two-piece hinged lid allows easy access even when bin is stored under a counter**
- **Lid is made of clear polycarbonate for easy usability and visibility**
- **USDA accepted for food content**
- **Two rigid front and two swivel rear, 3" extra wide casters**
- **White**

Rubbermaid

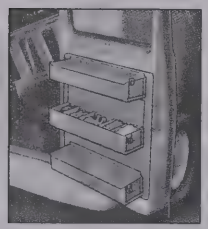


No. 5M684

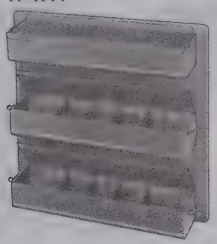
| Capacity (Gals.) | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **21** | 29¼ | 13⅛ | 28 | 3600 | **5M684** | $211.70 | **$169.75** | 27.0 |
| **26** | 29½ | 15½ | 28 | 3602 | **5M685** | 221.36 | **177.50** | 32.0 |
| **31** | 29¼ | 18 | 28 | 3603 | **5M686** | 226.86 | **182.25** | 35.0 |

# DEDICATED STORAGE

## TRUCK/VAN DOOR STORAGE TRAY



DURHAM



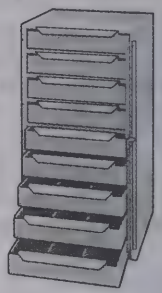
**Mounts to door of truck or van for efficient use of storage space**

- **Three trays for convenient storage in otherwise unusable space**
- **Covers keep contents in place**
- **Includes 9 adjustable dividers**
- **All steel construction**
- **Rust and acid-resistant baked enamel finish**
- **Dimensions: 4¾D x 21W x 21"H**
- **Durham brand (806)**

**No. 3KR07.** Truck/Van Door Storage. Tray Shpg. wt. 18.0
List $102.96. Each ..... **$77.80**

## TRUCK/VAN DRAWER STORAGE CABINET

DURHAM



- **Nine drawer lockable storage cabinet for easy truck and van customization**
- **Sturdy all steel construction**
- **Features 81 adjustable dividers**
- **Locking hinge holds drawers in place (padlock not included, see Index)**
- **Rust and acid-resistant baked enamel finish**
- **Dimensions: 12⅛D x 12⅝W x 24½"H**
- **Durham brand (611)**

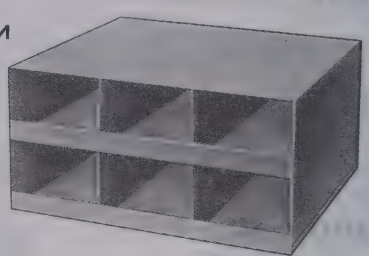
**No. 3KR10.** Truck/Van Drawer Storage Cabinet. Shpg. wt. 46.0
List $292.57. Each ..... **$212.00**

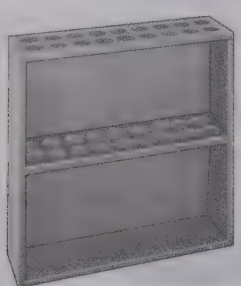
## WELDING ROD CABINET

- **Holds welding rods up to 18" long in six separate compartments**
- **All steel sturdy construction**
- **Rust and acid-resistant baked enamel finish**
- **Hemmed lip holds rods at angle for easy retrieval while providing space for identification labels**
- **Compartment dimensions: 18⅜D x 5¼W x 4"H**
- **Cabinet dimensions: 18½D x 16⅛W x 8⅛"H**
- **Durham brand (921)**

**No. 3KP95.** Welding Rod Cabinet. Shpg. wt. 17.0
List $75.03 Each ..... **$54.45**

DURHAM





DURHAM

## THREADED ROD RACK

- **Separates and protects threaded rods**
- **Sturdy all steel construction**
- **18, 2 1/16" diameter openings accommodate different rod sizes**
- **Shipped fully assembled**
- **Rust and acid-resistant baked enamel finish**
- **Cabinet dimensions: 6⅞D x 24⅛W x 24"H**
- **Durham brand (367)**

**No. 3KP91.** Threaded Rod Rack. Shpg. wt. 16.0.
List $72.36 Each ..... **$52.95**



DURHAM



## WIRE SPOOL RACK

- **Accommodates spools of wire up to 10" diameter**
- **Easily assembled**
- **Measures 26⅛W x 37⅛H x 5"D**
- **Can be counter, wall, or vehicle-mounted using lag holes and keyhole slots provided**
- **All steel construction**
- **Gray baked enamel finish**

**Wire Spool Rack** has four removable plated-steel rods for storing and dispensing spools of wire in stockroom, maintenance, or industrial settings.

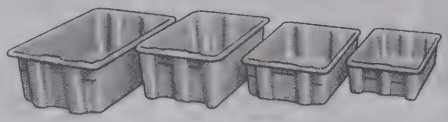
**No. 5W887.** Shpg. wt. 20.0 lbs.
List $94.95. Each ..... **$71.70**

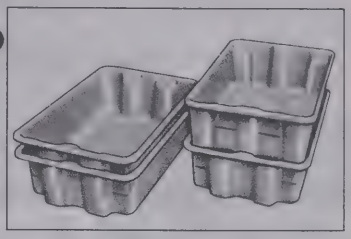
# NEST AND STACK CONTAINERS

## HEAVY-DUTY STACKING AND NESTING CONTAINERS

- **Made of reinforced thermoset composite making it ideal for conveyor and integrated system use**
- **Withstands temperatures from -60 to 250°F**
- **No creep or distortion—comfortable to lift**
- **Each container can handle up to 300 lbs.**
- **Stack capacity - bottom container can support maximum of 3500 lbs.**

**MFG** **New**





Nest when empty, stack when full

Durable and tough nesting and stacking boxes are perfect for handling hot castings, fasteners, bearings, and other dense objects. Hot or cold, this material has excellent dimensional stability and load carrying capacity without creep or distortion. Resists most solvents and chemicals. Color is grey. Sold in carton packs of 10.

| Inside Top Dimension (In.) L | W | D | Outside Top Dimension (In.) L | W | D | MFG Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 16½ | 9½ | 4⅞ | 17⅞ | 10⅝ | 5 | 780208 | **4TH02** | $14.30 | **$13.01** | 3.1 |
| 18⅜ | 11⅜ | 5⅛ | 19¾ | 12½ | 6 | 780308 | **4TH03** | 16.05 | **14.61** | 4.1 |
| 16⅜ | 11 | 7⅞ | 20½ | 12⅞ | 8 | 780408 | **4TH04** | 18.62 | **16.93** | 4.8 |
| 19¾ | 12¾ | 7⅞ | 24¼ | 12¾ | 8 | 780508 | **4TH05** | 22.37 | **20.34** | 6.1 |

## TANK TUFF TOTE BOXES

- **Stand up to tough industrial applications**
- **Replace steel boxes**
- **Choose from solid or vented styles**
- **Ergonomically designed handles**
- **Straight walls maximize cube capacity**
- **Designed for cart and conveyor use**
- **Impervious to most chemicals**
- **Available in black and blue**



**KADON** **New**

### *New!* TANK TUFF BOX SPECIFICATIONS AND ORDERING DATA

| Style | Inside Dimensions (In.) W | L | H | Outside Dimensions (In.) W | L | H | BLUE BOXES Priced Each, Sold in Carton Qty. Only: Kadon Model | *New!* Stock No. | List | Each | BLUE BOXES Priced Each, Sold in Carton Qty. Only: Kadon Model | *New!* Stock No. | List | Each | Carton Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Solid** | 12 | 19 | 5½ | 13¼ | 22 | 6 | 0017-100BK | **4TH73** | $16.00 | **$15.68** | 0017-100BL | **4TH74** | $20.50 | **$20.09** | 5 | 8.4 |
| **Vented** | 12 | 19 | 5½ | 13¼ | 22 | 6 | 0017-200BK | **4TH75** | 16.00 | **15.68** | 0017-200BL | **4TH76** | 20.50 | **20.09** | 5 | 6.8 |
| **Solid** | 9 | 12 | 5½ | 10 | 15 | 6 | 0017-300BK | **4TH77** | 12.08 | **11.84** | 0017-300BL | **4TH78** | 15.58 | **15.27** | 10 | 4.9 |
| **Vented** | 9 | 12 | 5½ | 10 | 15 | 6 | 0017-400BK | **4TH79** | 12.08 | **11.84** | 0017-400BL | **4TH80** | 15.58 | **15.27** | 10 | 3.9 |
| **Solid** | 9 | 16 | 3 | 10 | 19 | 3½ | 0017-800BK | **4TH83** | 11.66 | **11.43** | 0017-800BL | **4TH84** | 15.18 | **14.86** | 10 | 3.6 |
| **Vented** | 9 | 16 | 3 | 10 | 19 | 3½ | 0017-700BK | **4TH81** | 11.66 | **11.43** | 0017-700BL | **4TH82** | 15.16 | **14.86** | 10 | 3.6 |

## HEAVY-DUTY STACKING CONTAINERS

**Unique, highly-engineered design** ensures exceptionally high load and stacking capacities and years of useful life.

**High cube utilization.** Different sizes stack and interstack. Sized to cube out 48 x 40" pallets for maximum efficiency and cost effectiveness.

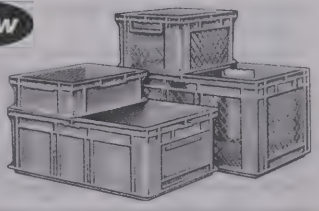
**Extremely versatile.** Returnable, reusable. Perfect for closed loop distribution systems. Solid sides and bottoms are ideal for small or loose items and most conveyor systems. Mesh sides and bottoms provide visibility and ventilation - great for refrigeration or drying.

**Injection molded, high-density polyethylene** resists stress cracks, most solvents, and chemicals. Easy to clean. Ergonomically designed hand holes on all four sides for safe, comfortable manual handling. Gray color.

**5-YEAR LIMITED WARRANTY**

**Schaefer warrants its plastic containers for five years against defects in material or workmanship. Text of warranty available on request.**

**SSI SCHAEFER** **New**



### *New!* SOLID SIDES & BOTTOM STACKING CONTAINERS

| Dimensions (In.) W | L | H | Capacity Volume (Cu. Ft.) | Load (Lbs.) | Stacking (Lbs.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **12** | 16 | 4½ | 0.38 | 55 | 1320 | **4VL80** | $6.72 | **$6.12** | 2.1 |
| **12** | 16 | 8½ | 0.71 | 55 | 1320 | **4VL82** | 11.90 | **10.82** | 3.5 |
| **16** | 24 | 4¾ | 0.82 | 55 | 1320 | **4VL84** | 14.61 | **13.28** | 3.8 |
| **16** | 24 | 8½ | 1.54 | 55 | 1320 | **4VL86** | 22.20 | **20.19** | 6.2 |
| **16** | 24 | 12½ | 2.25 | 55 | 1320 | **4VL88** | 24.73 | **22.49** | 7.5 |
| **16** | 24 | 16½ | 2.96 | 55 | 1320 | **4VL90** | 26.64 | **24.22** | 11.0 |

### *New!* MESH SIDES & BOTTOM STACKING CONTAINERS

| Dimensions (In.) W | L | H | Capacity Volume (Cu. Ft.) | Load (Lbs.) | Stacking (Lbs.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **12** | 16 | 4½ | 0.37 | 33 | 1320 | **4VL81** | $9.25 | **$8.42** | 1.9 |
| **12** | 16 | 8½ | 0.70 | 33 | 1320 | **4VL83** | 13.69 | **12.45** | 3.0 |
| **16** | 24 | 4¾ | 0.80 | 33 | 1320 | **4VL85** | 17.05 | **15.50** | 3.5 |
| **16** | 24 | 8½ | 1.51 | 33 | 1320 | **4VL87** | 24.58 | **22.35** | 5.0 |
| **16** | 24 | 12½ | 2.23 | 33 | 1320 | **4VL89** | 25.24 | **22.95** | 5.5 |
| **16** | 24 | 16½ | 2.94 | 33 | 1320 | **4VL91** | 31.17 | **28.35** | 9.0 |

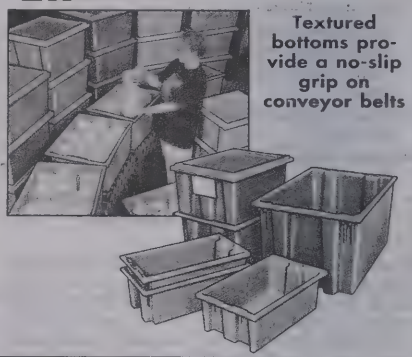
## NEST AND STACK TOTES

**Save Storage Space**

- Stack when full, turn 180° and nest when empty
- Ribs under the lip prevent jamming when nested
- Side ribs ensure stability when stacked
- Large comfort grip handles

Durable polyethylene construction absorbs impacts and retains shape for repeated use in almost any application. Won't rust or corrode; resists solvents and chemicals. USDA listed for complying with FDA Regulations for use in meat and poultry plants. Lids sold separately below. Gray color. Akro-Mils brand.

AKRO-MILS



Textured bottoms provide a no-slip grip on conveyor belts

### TOTE SPECIFICATION AND ORDERING DATA

| Size (In.) L | W | H | Capacity (Cu. Ft.) | Akro-Mils Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 18 | 11 | 6 | 0.5 | 35-180 | 5W062 | $10.19 | $7.14 | 2.0 |
| 19½ | 13½ | 8 | 0.8 | 35-200 | 5W877 | 16.73 | 11.67 | 3.2 |
| 19½ | 15½ | 10 | 1.2 | 35-190 | 5W063 | 19.00 | 13.33 | 3.8 |
| 23½ | 15½ | 12 | 1.7 | 35-240 | 5W878 | 25.92 | 18.33 | 6.0 |
| 23½ | 19½ | 13 | 2.6 | 35-230 | 4W051 | 28.53 | 20.33 | 7.2 |
| 23½ | 19½ | 15 | 3.7 | 35-300 | 5W879 | 49.01 | 34.55 | 10.0 |

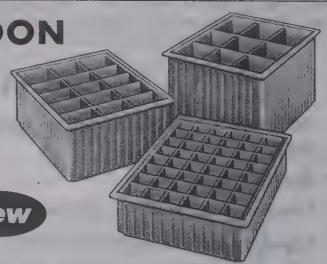
### LID ORDERING DATA

| Akro-Mils Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 35-181 | 6A266 | $6.33 | $4.42 | 1.1 |
| 35-201 | 6A267 | 9.46 | 6.59 | 1.5 |
| 35-191 | 6A268 | 8.52 | 5.94 | 1.5 |
| 35-241 | 6A269 | 13.84 | 9.37 | 2.5 |
| 35-231 | 6A270 | 12.66 | 8.97 | 2.9 |
| 35-301 | 6A271 | 19.15 | 13.55 | 4.1 |

## HEAVY-DUTY DIVIDER BOXES

KADON

- Great for in-plant process
- 200 lb. load capacity
- 1/4" thick dividers can be positioned to create various size compartments down to 1 x 1"
- Flat bottom for conveyor use
- 100% recyclable, high density polyethylene plastic
- Designed for stacking to save space
- Excellent for large or small parts storage



New

### *New!* HEAVY-DUTY DIVIDER BOXES AND DIVIDERS*

| Description | Inside Dimensions (In.) W | L | H | Outside Dimensions (In.) W | L | H | Kadon Model | *New!* Stock No. | Priced Each, Sold in Carton Qty. Only List | Each | Carton Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Divider Box | 15¼ | 20¼ | 4 | 17¼ | 22¾ | 5½ | 0022-200BK | 4TH85 | $15.68 | $15.37 | 6 | 8.8 |
| Divider Box | 15¼ | 20¼ | 7 | 17¼ | 22¾ | 8½ | 0022-300BK | 4TH86 | 17.38 | 17.03 | 4 | 11.0 |
| Divider Box | 15¼ | 20¼ | 11 | 17¼ | 22¾ | 12½ | 0022-500BK | 4TH87 | 18.92 | 18.54 | 3 | 14.0 |
| Short Divider | — | 15½ | 4½ | — | — | — | 0029-100BK | 4TH89 | 3.00 | 2.97 | 6 | 0.4 |
| Long Divider | — | 20½ | 4½ | — | — | — | 0029-200BK | 4TH90 | 3.46 | 3.43 | 6 | 0.7 |
| Short Divider | — | 15½ | 7½ | — | — | — | 0029-300BK | 4TH91 | 3.86 | 3.82 | 6 | 0.8 |
| Long Divider | — | 20½ | 7½ | — | — | — | 0029-400BK | 4TH92 | 4.40 | 4.36 | 6 | 1.2 |
| Short Divider | — | 15½ | 11½ | — | — | — | 0029-500BK | 4TH93 | 6.42 | 6.36 | 4 | 1.5 |
| Long Divider | — | 20½ | 11½ | — | — | — | 0029-600BK | 4TH94 | 7.36 | 7.29 | 4 | 1.6 |

(*) Boxes do not come with dividers. Dividers must be ordered separately.

## MODULAR TOTE BOXES

**Dividable Containers for Individualized Compartments**

- Optional dividers fit both long and short dimensions
- Strong stacking rims and external ribbing provide strength and rigidity

Store, organize, and handle small parts. Durable construction protects fragile items in storage and transfer. Molded from high-density polyethylene with reinforcing ribs for strength and shape retention. Widely used in factories, warehouses, retail stores, and hospitals. Boxes are gray; dividers are black. Akro-Mils brand.

AKRO-MILS



### MODULAR TOTE BOX SPECIFICATIONS AND ORDERING DATA

| Outside Dimensions (In.) L | W | H | Inside Dimensions (In.) L | W | H | Volume (Cu. Ft.) | Akro-Mils Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16½ | 10⅞ | 6 | 14⅞ | 9⅝ | 5⅝ | 0.44 | 33-166 | 4W026 | $9.79 | $6.83 | 1.8 |
| 16½ | 10⅞ | 8 | 14⅝ | 9⅝ | 7⅛ | 0.59 | 33-168 | 4W027 | 11.52 | 8.11 | 2.5 |
| 22⅜ | 17⅜ | 8 | 20⅛ | 15⅛ | 7⅛ | 1.30 | 33-228 | 4W028 | 18.82 | 13.58 | 5.3 |

### DIVIDERS FOR TOTE BOXES

| SHORT DIVIDERS Fits Box No. | Maximum No. Dividers | Akro-Mils Model | Stock No. | List | Each | Shpg. Wt. | LONG DIVIDERS Maximum No. Dividers | Akro-Mils Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4W026 | 11 | 41-166 | 2A576 | $1.34 | $0.97 | 0.2 | 7 | 42-166 | 2A577 | $1.61 | $1.19 | 0.3 |
| 4W027 | 11 | 41-168 | 2A578 | 1.44 | 1.04 | 0.3 | 7 | 42-168 | 2A579 | 1.93 | 1.44 | 0.5 |
| 4W028 | 15 | 41-228 | 2A580 | 2.56 | 1.85 | 0.3 | 11 | 42-228 | 2A581 | 2.88 | 2.11 | 0.5 |



*As America's leading distributor, we know a thing or two about storage.*

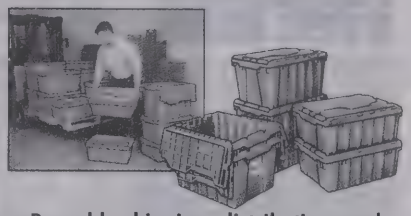
# BINS AND BOXES

## ATTACHED LID CONTAINERS

- Textured bottoms provide a sure grip on conveyor belts
- Strong molded-in handle grips are ergonomically designed for easy lifting and carrying
- Reinforced hinge pins provide years of smooth lid operation

Stack for maximized storage and nest when empty to save space. Versatile, economical in order picking, closed-loop distribution and storage. Reduces distribution costs with repeated use. Made of lightweight, reinforced polyethylene for super strength and durability. Attached lids won't get lost. Interlocking lid strengthens load capacity of container and snaps securely closed. Grey color.

AKRO-MILS



Reusable shipping, distribution, and storage containers

All three sizes have the same footprint for easy pallet loading.

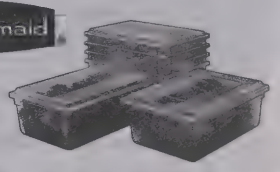
### REUSABLE SHIPPING CONTAINER SPECIFICATIONS & ORDERING DATA

| Size (Gals.) | Dimensions (In.) L | W | H | Capacity (Cu. Ft.) | Nesting Ratio | Akro-Mils Model | Stock No. | List | Each | Lot/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **8.5** | 21½ | 15 | 9 | 1.12 | 4:1 | 39-085 | **4W023** | $12.36 | **$12.18** | **$10.96 /6** | 6.2 |
| **12** | 21½ | 15 | 12½ | 1.79 | 4:1 | 39-120 | **4W024** | 14.29 | **14.03** | **12.63 /6** | 6.7 |
| **17** | 21½ | 15 | 17 | 2.28 | 4:1 | 39-170 | **1BZ16** | 18.75 | **16.79** | **15.11 /3** | 9.0 |

## TRANSPARENT STORAGE AND TRANSPORT BOXES

- Clear polycarbonate provides visibility, durability, and stain resistance
- Tight-fitting snap-on lids (available separately) keep contents secure and perishable items fresh
- USDA approved for food contact
- Date panels on boxes and lids for better inventory control
- Easy grip handles
- Dishwasher and freezer safe

Rubbermaid



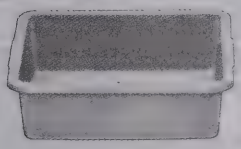
### POLYCARBONATE STORAGE/TRANSPORT BOXES

| Dimensions (In.) W | L | H | Capacity (Gals.) | Use Lid No. | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **18** | 12 | 6 | 3.5 | 5M665 | 3309 | **5M664** | $18.32 | **$14.60** | 3.0 |
| **18** | 12 | 9 | 5 | 5M665 | 3304 | **5M660** | 25.26 | **20.20** | 3.7 |
| **18** | 26 | 6 | 8.5 | 5M659 | 3308 | **5M663** | 34.58 | **27.65** | 5.3 |
| **18** | 26 | 9 | 12.5 | 5M659 | 3300 | **5M657** | 44.56 | **35.75** | 7.0 |
| **18** | 26 | 15 | 21.5 | 5M659 | 3301 | **5M658** | 66.88 | **53.50** | 11.0 |

### POLYCARBONATE LID ORDERING DATA

| For Box Size (In.) | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **18 x 12** | 3310 | **5M665** | $9.98 | **$7.98** | 1.5 |
| **18 x 26** | 3302 | **5M659** | 18.00 | **14.50** | 2.8 |

Rubbermaid®



## UTILITY TOTE BOXES

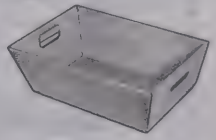
- Durable polyethylene construction offers economical storage for heavy loads
- Reinforced handles, bottom, and ribs provide greater strength for longer life
- Rounded corners prevent debris from getting trapped making cleaning a lot easier
- Made of FDA/USDA approved materials for food contact

| Size (Gals.) | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **4.6** | 20 | 15 | 5 | 3349 | **5M668** | $6.86 | **$5.45** | 1.8 |
| **7.6** | 21½ | 17⅛ | 7 | 3351 | **5M671** | 11.20 | **8.96** | 3.0 |

## COATED TOTE BINS

- Coated on both sides
- Easy-to-grab handles—ideal for order filling, sorting, and other parts-handling jobs
- Made of 200-lb. test single-wall corrugated board for multi-wall thickness on all four sides
- Resists oil, grease, water
- Priced each, sold only in bundles of 10

ACORN
CORRUGATED BOX COMPANY



Coated Tote Bin

| Capacity (Lbs.) | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **100** | 6¾ | 12¾ | 18¾ | **1W818** | $6.89 | **$5.74** | 1.2 |

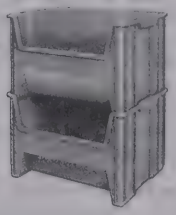
## STAK-N-STORE BIN

- Large radius corners and a curved upper lip add strength
- Wide-hopper front permits easy access to bulky items
- Side ribs ensure stability when stacked
- Comfortable grip makes handling easy

General purpose storage containers hold practically anything. Bins stack to form tall, stable storage arrangements on floors or shelving. High-density polyethylene and durable construction makes them virtually unbreakable.Grey color. Akro-Mils brand.

AKRO-MILS

New

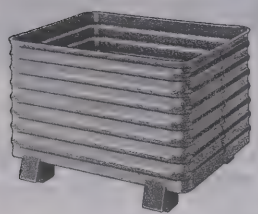


| Outside Dimensions (In.) L | W | H | Capacity Cu. Ft. | Akro-Mils Model | *New!* Stock No. | List | Each | Carton Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **15¼** | 19⅛ | 12⅞ | 1.07 | 13-017 | **4TJ74** | $10.38 | **$9.89** | 3 | 4.3 |

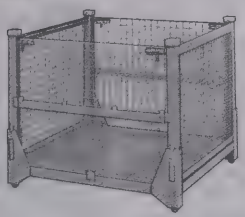
STORAGE EQUIPMENT

# CORRUGATED STORAGE CONTAINERS

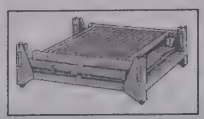
STEEL KING

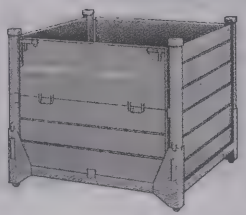


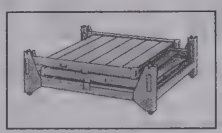
Ⓐ No. 4TJ25



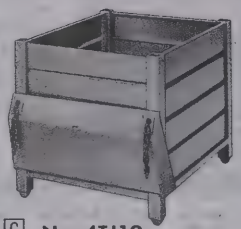
Ⓑ No. 4TJ24





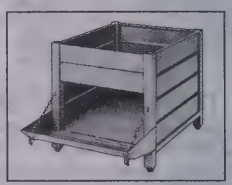


New



Ⓒ No. 4TJ19

- 4,000 pound capacity handles heavy loads
- Painted vista green inside and out for a durable, attractive finish



## Ⓐ ROUND CORNER CORRUGATED STEEL CONTAINER

- All-welded construction offers low maintainance, high strength, no assembly required
- Universal type stacking legs lets you stack up to four units high
- Fewer seams create a clean, practical design
- Rugged enough to withstand fork lift handling and interplant shipping

Heavy 11 gauge ribbed steel bottoms, 12 gauge ribbed steel sides, heavy ¼" thick gusseted stacking legs, and double thick top edges all contribute to a container designed for heavy duty industrial applications. 4½" underclearance allows handling with forklifts and other equipment. 24" usable depth.

## Ⓑ HOLD 'N FOLD CONTAINER

- Folds down 3:1 to reduce shipping costs and save space
- Tubular corner columns and base structure are more durable than other collapsibles
- Plug and socket stacking system allows stacking six units high

Combines the benefits of both standard collapsible containers and heavy-duty rigid containers. Stacks securely when empty, eliminating the need to use banding for return shipments. 33½" usable depth, 4" underclearance. Half-drop gates on both 48" sides for easy access to contents. No. 4TJ23 features solid corrugated steel sides and bottom; No. 4TJ24 features 2" x 2" wire mesh sides and bottom.

## Ⓒ WORKING STATION

- Adjustable hopper chute ergonomically dispenses small parts
- Tubular corner columns and base structure provide durability and reliability
- Plug and socket stacking system allows stacking six units high

The unique Workingtainer has a hopper door on the narrow side of container that is adjustable from fully closed to fully open, and nearly anywhere in between. Securely ship parts with the chute in the closed position, ready for assembly line, no additional movement of parts needed. 24 inch usable depth, 4½" underclearance. Chute is on narrow side.

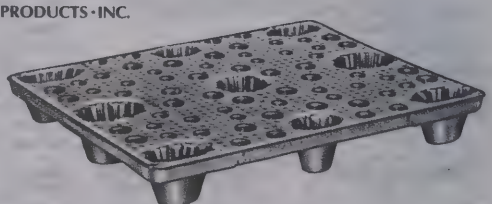
| Item | Dimensions (In.) W | L | H | Steel King Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 32 | 40 | 28½ | RCCM-324024 | 4TJ25 | $236.93 | **$206.25** | 196.0 |
| A | 40 | 48 | 28½ | RCCM-404824 | 4TJ26 | 279.62 | **243.25** | 250.0 |
| B | 40 | 48 | 42 | HF4WM-454840-2LG | 4TJ24 | 750.51 | **653.00** | 360.0 |
| B | 40 | 48 | 42 | HF4CM-454840-2LG | 4TJ23 | 703.42 | **612.00** | 420.0 |
| C | 30 | 36 | 28½ | HDWT-303624 | 4TJ19 | 293.31 | **255.25** | 160.0 |
| C | 32 | 40 | 28½ | HDWT-324024 | 4TJ20 | 299.82 | **260.75** | 160.0 |
| C | 36 | 44 | 28½ | HDWT-364424 | 4TJ21 | 312.87 | **272.25** | 190.0 |
| C | 40 | 48 | 28½ | HDWT-404824 | 4TJ22 | 338.94 | **294.75** | 213.0 |

## ALL-PLASTIC PALLET

- Nestable, saves space
- Lower cost per trip than wood
- Easy to clean, slip-resistant surface keeps product in place
- True, 4-way entry
- High density polyethylene construction provides durability and reliable load bearing performance
- Fully recyclable
- Not intended for use in pallet racks
- Dimensions: 40 x 48 x 6½"
- Cadillac brand

CADILLAC PRODUCTS·INC.

New



***New*** **No. 4TH97.** Plastic Pallet (XL-4048). Shpg. wt. 22.0 lbs. List $58.69.
Each ..... $55.90



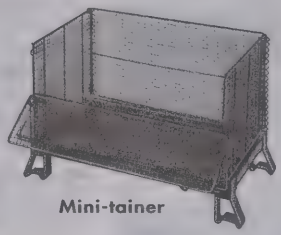
*As America's leading distributor, we know a thing or two about storage.*

# WIRE STORAGE CONTAINERS

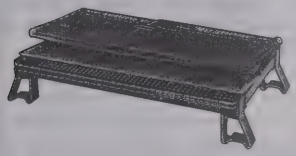
## STOR-MORE®




Front wall/gate folds down for easier accessibility



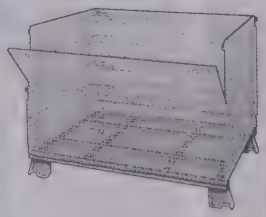
Mini-tainer



Fold down flat for easy storage

Open wire design allows full visibility for easy inventory checks, excellent ventilation, and improved cleanliness. Double wire reinforcements are found at load-bearing surfaces and along top edges of each wall. Units fold down flat for easy stacking—reduces return shipment costs and storage space. 4½" under-clearance allows for easy movement by fork or pallet trucks. 11-gauge wire. Gray-silver enamel finish. Stor-More brand.

## NW Nashville Wire Products





A heavy duty structure and welded channel base allows for 4-way entry access. Containers fold to reduce return shipping cost and storage space. Open wire construction allows visibility of inventory. Units safely stack up to four high. Baked-on gray finish. Nashville Wire brand.

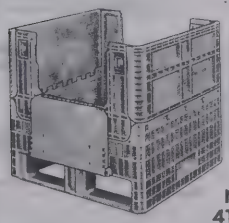
### STOR-MORE® MINI-TAINERS

| Outer Dimensions (In.) L | D | H | Inner Dimensions (In.) L | D | H | Load Capacity (Lbs.) | Wire Mesh Dimensions (In.) Floor | Walls | Gate Location | Stor-More Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **32** | 20 | 20¾ | 31 | 19 | 16 | 500 | 1¼ x 1¼ | 1¼ x 1¼ | 32" Side | L32 | **3W547** | $100.12 | **$87.70** | 56.0 |
| **32** | 20 | 20¾ | 31 | 19 | 16 | 1000 | 1/2 x 1/2 | 1/2 x 1/2 | 32" Side | H32 | **3W548** | 134.22 | **109.60** | 59.0 |

### NASHVILLE WIRE ECONOTAINER

| Capacity (Lbs.) | Inside Usable Dimensions (In.) | Set-Up Dimensions (In.) | Cubic Feet | Folded Dimensions (In.) | Cubic Feet | Nashville Wire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **2000** | 30 x 38 x 28 | 33 x 42½ x 34½ | 28 | 35 x 42½ x 9 | 7.75 | E324028S2 | **3W549** | $148.97 | **$131.20** | 115.0 |
| **4000** | 30 x 38 x 28 | 33 x 42½ x 34½ | 28 | 35 x 42½ x 9 | 7.75 | E324028S4 | **3W550** | 187.85 | **161.50** | 132.0 |
| **2000** | 38 x 46 x 30 | 41 x 50½ x 36½ | 43.74 | 43 x 50½ x 9 | 11.95 | E404830S2 | **3W551** | 198.40 | **171.50** | 150.0 |
| **4000** | 38 x 46 x 30 | 41 x 50½ x 36½ | 43.74 | 43 x 50½ x 9½ | 11.95 | E404830S4 | **3W552** | 233.79 | **198.75** | 175.0 |

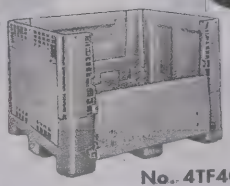
# LARGE, COLLAPSIBLE CONTAINERS



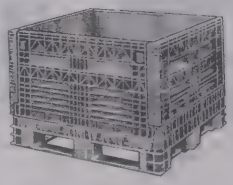
ALLIBERT CONTICO

No. 4TF32

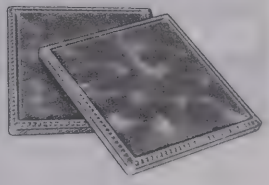
New



No. 4TF40



No. 4TF35



No. 4TF36

Whether the loads are heavy or light, these super-strong containers handle and store bulk loads while protecting the contents inside. Made of HDPE plastic. Color is blue. Optional black lids sold below. Allibert Contico brand.

### OPTIONAL LIDS FOR CONTAINERS ABOVE

| Dimensions (In.) | Color | Allibert Contico Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **30 x 32 x 2** | Black | H-3032-LID-BK | **4TF36** | $52.22 | **$47.00** | 10.0 |
| **40 x 48 x 2** | Black | L-4048-LIF-BK | **4TF39** | 72.22 | **65.00** | 23.0 |
| **45 x 48 x 2** | Black | H-4548-LID-BK | **4TF37** | 72.22 | **65.00** | 26.0 |

### COLLAPSIBLE CONTAINER SPECIFICATIONS & ORDERING DATA

| External Dimensions, (In.) | Internal Dimensions (In.) | External Height (In.) | Internal Height (In.) | Volume (Cu. Ft.) | Capacity (Lbs.) | Allibert Contico Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **32 x 30** | 29½ x 27½ | 25 | 18¼ | 9.0 | 2000 | H3025-2-BLUE | **4TF32** | $188.89 | **$170.00** | 64.0 |
| **32 x 30** | 29½ x 27½ | 30 | 23½ | 13.5 | 2000 | H3032-2-BLUE | **4TF33** | 200.00 | **180.00** | 74.0 |
| **48 x 40** | 45 x 37 | 33 | 28 | 28.4 | 1500 | L40332(48)S5RBL | **4TF40** | 250.00 | **225.00** | 122.0 |
| **48 x 40** | 45 x 37 | 46 | 41 | 41.7 | 1500 | L40462S5RBL | **4TF41** | 266.67 | **240.00** | 155.0 |
| **48 x 45** | 44½ x 41½ | 25 | 19 | 19.0 | 2500 | H4525-2-BLUE | **4TF34** | 255.56 | **230.00** | 142.0 |
| **48 x 45** | 44½ x 41½ | 34 | 28 | 29.5 | 2500 | H4534-2-BLUE | **4TF35** | 261.11 | **235.00** | 114.0 |

STORAGE EQUIPMENT

# KEE KLAMP® SLIP-ON PIPE FITTINGS

**Kee Klamp, The Original and Most Often Used** slip-on pipe fitting in the World, since 1934.

**Kee Klamp fittings are hot-dipped galvanized** to ASTM A153 for corrosion resistance that will last for decades.

**Strong, Malleable Cast-Iron** Kee Klamp slip-on pipe fittings are constructed to ASTM A47-77-32510. The fittings are comprised of materials with tensile strengths of over 32,510 pounds, making Kee Klamp fittings not only the strongest slip-on pipe fittings in the world, but the safest as well.

**Simple, Cost-Effective Construction-** No drilling, bolting, or welding required. Simply slide Kee Klamp fitting over pipe and tighten set screw to 10 ft.lbs. (Hand-tight). It's so easy!

**With Kee Klamp fittings you don't have to worry** about the Electrolitic Corrosion that can occur due to contact between dissimilar metals because Cast Iron fittings and Steel pipe are like metals.

**Build Strong, Rigid Structures** with Kee Klamp fittings and standard Schedule 40/80 pipe or corresponding tube.




**1001 Applications-** You can build railing, racks, greenhouses, awnings, fencing, cages, and much more. There are countless applications for Kee Klamp slip-on pipe fittings.

**Case-Hardened Set Screws** with the exclusive Kee Koat® finish are used to attach the fittings securely to the pipe.

**Kee Klamp fittings exceed** OSHA requirements for the construction of handrailing.

**A standard hex key** is the only tool needed to build with Kee Klamp slip-on pipe fittings. All 1" fittings use a 3/16" A.F. hex key, while all 1¼" and 1½" fittings use a 1/4" A.F. hex key.

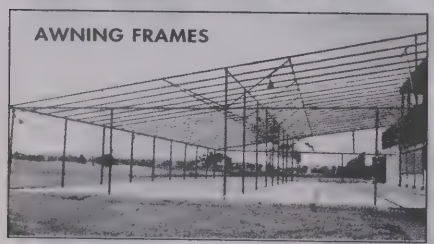
*A.F.=Across Flat.

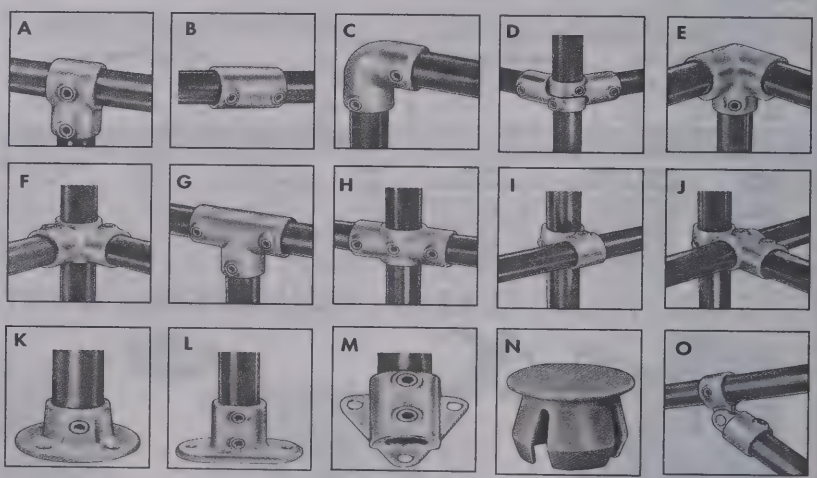
**NOTE**

Kee Klamp pipe fittings fit the following pipe inside diameters (I.D.) and outside diameters (O.D.). They also fit the following tube outside diameters (O.D.).

| Pipe ID | Pipe OD | Tube OD | Kee Klamp ID |
|---|---|---|---|
| 1" | 1.315 | 1 5/16" | 1 3/16" |
| 1¼" | 1.66 | 1 5/8" | 1.72 |
| 1½" | 1.90 | 1 7/8" | 1.94 |


SAFETY RAILS




| Key | Description | Nominal Pipe Size 1" Kee Klamp Model No. | New! Stock No. | List | Each | Shpg. Wt. | Nominal Pipe Size 1¼" Kee Klamp Model No. | Stock No. | List | Each | Shpg. Wt. | Nominal Pipe Size 1½" Kee Klamp Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Single Socket Tee | 10-6 | 4UG83 | $5.58 | $4.82 | 0.7 | 10-7 | 5A470 | $8.15 | $6.81 | 1.2 | 10-8 | 5A471 | $9.79 | $8.15 | 1.4 |
| B | Straight Coupling | 14-6 | 4UG84 | 6.68 | 5.77 | 0.7 | 14-7 | 5A494 | 9.28 | 7.69 | 1.0 | 14-8 | 5A495 | 10.59 | 8.85 | 1.5 |
| C | Elbow | 15-6 | 4UG85 | 7.01 | 6.05 | 0.9 | 15-7 | 5A474 | 10.01 | 8.33 | 1.6 | 15-8 | 5A475 | 12.68 | 10.53 | 1.7 |
| D | Adjustable Side OutletTee | 19-6 | 4UG86 | 16.93 | 14.62 | 1.4 | 19-7 | 5A480 | 22.10 | 18.39 | 1.9 | 19-8 | 5A481 | 22.85 | 19.02 | 2.3 |
| E | Side Outlet Elbow | 20-6 | 4UG87 | 9.64 | 8.33 | 1.4 | 20-7 | 5A476 | 14.64 | 12.19 | 1.9 | 20-8 | 5A477 | 18.21 | 15.16 | 2.6 |
| F | Side Outlet Tee | 21-6 | 4UG88 | 7.45 | 6.43 | 0.9 | 21-7 | 5A478 | 11.50 | 9.57 | 1.6 | 21-8 | 5A479 | 13.05 | 10.89 | 1.8 |
| G | Three Socket Tee | 25-6 | 4UG89 | 8.71 | 7.52 | 0.8 | 25-7 | 5A472 | 14.41 | 11.98 | 1.9 | 25-8 | 5A473 | 16.02 | 13.27 | 2.5 |
| H | Cross | 26-6 | 4UG90 | 8.71 | 7.52 | 0.8 | 26-7 | 5A482 | 11.09 | 9.24 | 1.5 | 26-8 | 5A483 | 14.06 | 11.75 | 2.0 |
| I | Crossover | 45-6 | 4UG91 | 5.76 | 4.97 | 1.0 | 45-7 | 5A484 | 8.32 | 6.92 | 1.1 | 45-8 | 5A485 | 10.04 | 8.40 | 1.5 |
| J | Combo Tee and Crossover | 46-6 | 4UG92 | 9.08 | 7.84 | 1.2 | 46-7 | 5A496 | 11.95 | 9.92 | 1.5 | 46-8 | 5A497 | 16.59 | 13.84 | 2.1 |
| K | Base Flange | 61-6 | 4UG93 | 6.17 | 5.33 | 0.8 | 61-7 | 5A488 | 9.06 | 7.60 | 1.5 | 61-8 | 5A489 | 11.77 | 9.85 | 1.9 |
| L | Railing Base Flange | 62-6 | 4UG94 | 10.71 | 9.25 | 2.4 | 62-7 | 5A490 | 13.13 | 10.95 | 2.3 | 62-8 | 5A491 | 16.95 | 14.11 | 3.1 |
| M | Wall Flange | 68-6 | 4UG95 | 13.32 | 11.50 | 1.4 | 68-7 | 5A492 | 18.17 | 15.12 | 1.9 | 68-8 | 5A493 | 20.09 | 16.75 | 2.2 |
| N | Plug | 77-6 | 4UG96 | 1.26 | 1.09 | 0.1 | 77-7 | 5A498 | 1.44 | 1.22 | 0.1 | 77-8 | 5A499 | 1.44 | 1.22 | 0.1 |
| O | Single Swivel Socket | C50-66 | 4UG97 | 10.90 | 9.41 | 1.1 | C50-77 | 5A486 | 13.96 | 11.64 | 1.8 | C50-88 | 5A487 | 15.64 | 13.05 | 2.2 |

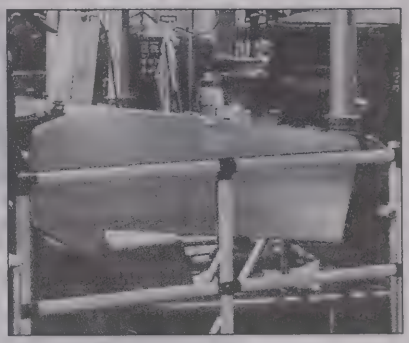


*As America's leading distributor, we know a thing or two about storage.*

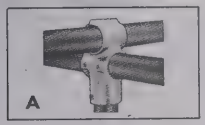
# HOLLAENDER™ SPEED-RAIL® FITTINGS

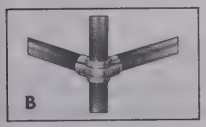
- Aluminum fittings can be used with galvanized carbon steel, stainless steel, black iron or aluminum pipe
- As strong as malleable iron at 1/3 the weight
- Corrosion-resistant
- Internal/external CamCar knurled set screws make complete contact unlike large malleable iron set screws
- Cheaper than welding or malleable iron
- Non-magnetic/Non-sparking; Can be constructed around operating machinery
- OSHA, BOCA, SBC and UBC compliant
- Can be used in corrosive applications–petroleum, chemical, wastewater and ocean areas
- Bright, attractive finish

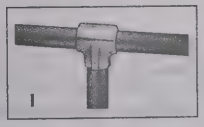


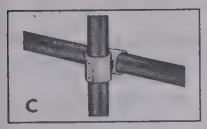


New



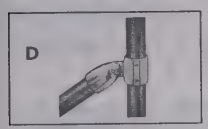





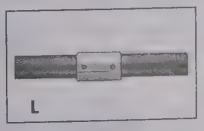


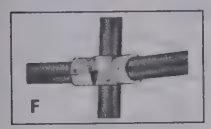


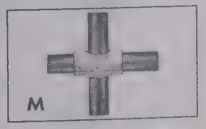


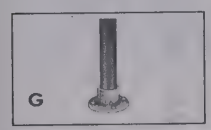








| Key | Description | Hollaender Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 1" Side Outlet Cross | 104-6 | 4UH94 | $14.83 | $12.90 | 0.7 |
| | 1¼" Side Outlet Cross | 104-7 | 4UH95 | 16.92 | 14.72 | 0.8 |
| | 1½" Side Outlet Cross | 104-8 | 4UH96 | 25.43 | 22.12 | 1.2 |
| B | 1" Side Outlet Tee-E | 11E-6 | 4UH97 | 8.00 | 6.96 | 0.3 |
| | 1¼" Side Outlet Tee-E | 11E-7 | 4UH98 | 9.82 | 8.54 | 0.4 |
| | 1½" Side Outlet Tee-E | 11E-8 | 4UH99 | 11.24 | 9.78 | 0.5 |
| C | 1" Short Barrel Cross | 12-6 | 4UJ01 | 12.78 | 11.12 | 0.4 |
| | 1¼" Short Barrel Cross | 12-7 | 4UJ02 | 14.37 | 12.50 | 0.6 |
| | 1½" Short Barrel Cross | 12-8 | 4UJ03 | 16.53 | 14.38 | 0.8 |
| D | 1" Adjustable El/Tee | 17-6 | 4UJ04 | 11.75 | 10.22 | 0.5 |
| | 1¼" Adjustable El/Tee | 17-7 | 4UJ05 | 14.67 | 12.76 | 0.8 |
| | 1½" Adjustable El/Tee | 17-8 | 4UJ06 | 16.37 | 14.24 | 1.1 |
| E | 1" Elbow | 3-6 | 4UJ07 | 8.37 | 7.28 | 0.4 |
| | 1¼" Elbow | 3-7 | 4UJ08 | 9.70 | 8.44 | 0.5 |
| | 1½" Elbow | 3-8 | 4UJ09 | 12.55 | 10.92 | 0.7 |
| F | 1" Adjustable Swivel | 30C-6 | 4UJ10 | 17.59 | 15.30 | 0.6 |
| | 1¼" Adjustable Swivel | 30C-7 | 4UJ11 | 22.93 | 19.94 | 0.9 |
| | 1½" Adjustable Swivel | 30C-8 | 4UJ12 | 24.63 | 21.42 | 1.2 |
| G | 1¼" Round Base Flange | 42-7 | 4UJ13 | 11.10 | 9.66 | 0.7 |
| | 1½" Round Base Flange | 42-8 | 4UJ14 | 12.92 | 11.24 | 0.8 |
| — | 1¼" Base Flange | 46-7 | 4UJ15 | 12.16 | 10.58 | 0.6 |
| | 1½" Base Flange | 46-8 | 4UJ16 | 13.15 | 11.44 | 0.6 |
| I | 1" Tee | 5-6 | 4UJ17 | 9.72 | 8.46 | 0.3 |
| | 1¼" Tee | 5-7 | 4UJ18 | 11.40 | 9.92 | 0.5 |
| | 1½" Tee | 5-8 | 4UJ19 | 14.60 | 12.70 | 0.6 |
| J | 1" Wall-Mount Flange | 50-6 | 4UJ20 | 15.80 | 13.74 | 0.5 |
| | 1¼" Wall-Mount Flange | 50-7 | 4UJ21 | 14.21 | 12.36 | 0.7 |
| | 1½" Wall-Mount Flange | 50-8 | 4UJ22 | 15.52 | 13.50 | 0.8 |
| K | 1" Tee-E | 5E-6 | 4UJ23 | 6.37 | 5.54 | 0.2 |
| | 1¼" Tee-E | 5E-7 | 4UJ24 | 7.54 | 6.56 | 0.3 |
| | 1½" Tee-E | 5E-8 | 4UJ25 | 10.07 | 8.76 | 0.5 |
| L | 1" External Coupling | 70-6 | 4UJ26 | 7.19 | 6.26 | 0.3 |
| | 1¼" External Coupling | 70-7 | 4UJ27 | 8.32 | 7.24 | 0.4 |
| | 1½" External Coupling | 70-8 | 4UJ28 | 10.48 | 9.12 | 0.6 |
| M | 1" Cross-E | 7E-6 | 4UJ29 | 8.69 | 7.56 | 0.3 |
| | 1¼" Cross-E | 7E-7 | 4UJ30 | 10.83 | 9.42 | 0.4 |
| | 1½" Cross-E | 7E-8 | 4UJ31 | 11.61 | 10.10 | 0.6 |
| N | 1" Side Outlet Elbow | 9-6 | 4UJ32 | 10.46 | 9.10 | 0.4 |
| | 1¼" Side Outlet Elbow | 9-7 | 4UJ33 | 13.66 | 11.88 | 0.6 |

# UNISTRUT® METAL FRAMING



Industrial Systems

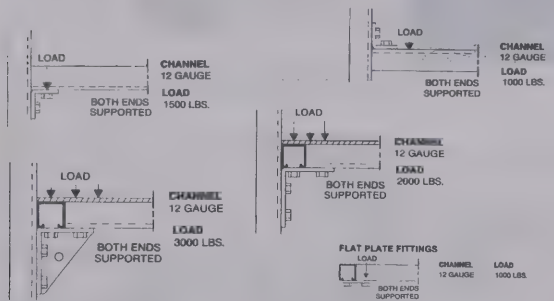


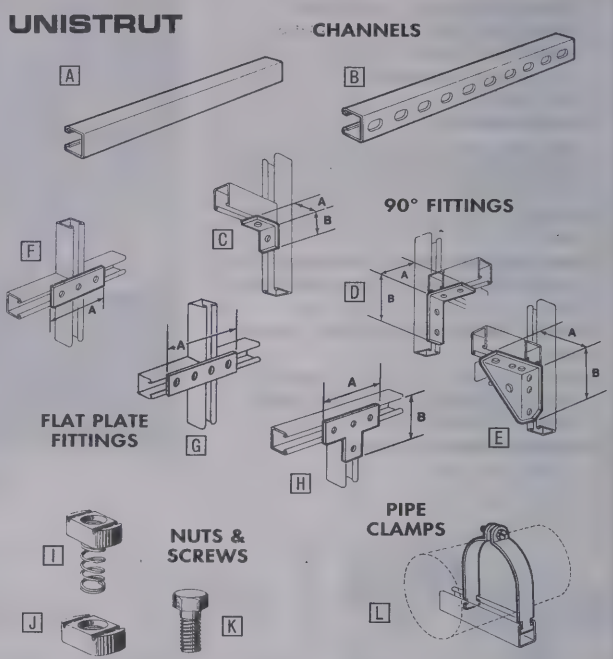
Mechanical Systems

The basic Unistrut® connection, a simple nut and bolt connecting a fitting to continuous channel, has evolved into a comprehensive engineering building system of standard components of metal framing. Systems for mechanical, industrial, and electrical supports have been developed to prove the potential of what can be built to meet your needs. Not to be used as scaffolding.

## UNISTRUT LOAD CAPACITIES

**90° Fittings (when used in position shown with both ends of 12 guage channel supported)**




**Unistrut® Finishes.** All channels and fittings are carefully cleaned and phosphatized after production, and a uniform coat of highly effective rust inhibiting acrylic enamel paint is applied and baked in. Color is Perma-Green. The finish will withstand 400 hours of exposure to salt spray in accordance with ASTM designation B117.

A, B **Channels.** Roll formed from 12-gauge low carbon strip steel. One side of channel has a continuous open slot with inturned lips. Attachments (described below) are secured to the framing member with hardened, toothed, slotted nuts which engage the lips. Channels are 1⅝" x 1⅝" x 10' long. No. 4A974 has slots on backside of channel measuring 9/16 x 1⅛" on 2" centers.

C **thru** H **Fittings.** Connect framing channels with other attachments. Fittings are punch-pressed from 1/4" thick hot rolled, pickled and oiled steel plate for a smooth surface. All fittings 1⅝" wide x 1/4" thick. Conform to ASTM specifications A575.

C, D, E **90° Angle Fittings.** No. 4A979 joins two channel members perpendicular. No. 4A980 joins three channel members perpendicular. No. 4A981 joins channel members for heavy-duty applications.

F, G, H **Flat Plate Fittings.** No. 4A976 is used to join channel members in a cross configuration. No. 4A977 is for joining channel members in a cantilever configuration. No. 4A978 is a "T" shaped fitting used to joint channels in a "T" configuration.

I **thru** K **Nuts & Screws.** Made from case-hardened steel. Nuts are 1/2". Available with or without spring which serves to hold nut in place while securing it. Screw is 1/2 x 15/16" hex head. Electro-galvanized finish. Sold in packages of 25.

L **Pipe Clamps. 1/2, 3/4, and 1"** universal clamps support both rigid steel and thin-wall (EMT) conduit. Connect to the continuous open slot of channels to support pipe. Clamps are punch pressed from strip steel and electro-galvanized (zinc) finished. Fed. Spec. No. QQ-Z-325C Type 1 class 3. Sold in packages of 10.

| Key | Description | Dimensions (in.) A | B | Unistrut Model | Stock No. | Pkg. Qty. | List | Each | Lot | Lot Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 10 ft. Channel, nonslotted | — | — | P1000-GR | **4A975** | 1 | $30.91 | **$28.15** | **$26.74** | 12 | 19.0 |
| B | 10 ft. Channel, slotted | — | — | P100T-GR | **4A974** | 1 | 35.65 | **32.45** | **30.83** | 12 | 19.0 |
| C | 90° Fitting, 2-hole | 2 | 1⅞ | P1026-GR | **4A979** | 1 | 1.39 | **1.26** | **1.20** | 30 | 0.4 |
| D | 90° Fitting, 4-hole | 3½ | 4⅛ | P1325-GR | **4A980** | 1 | 2.60 | **2.37** | **2.25** | 30 | 0.8 |
| E | 90° Fitting, 7-hole | 4 | 4 | P2484-GR | **4A981** | 1 | 4.86 | **4.42** | **4.20** | 30 | 1.3 |
| F | Flat Plate Fitting, 3-hole | 5⅜ | — | P1066-GR | **4A976** | 1 | 1.79 | **1.63** | **1.55** | 30 | 0.6 |
| G | Flat Plate Fitting, 4-hole | 7¼ | — | P1067-GR | **4A977** | 1 | 2.37 | **2.16** | **2.05** | 30 | 0.7 |
| H | Flat Plate Fitting, "T" | 5⅜ | 3½ | P1031-GR | **4A978** | 1 | 3.65 | **3.32** | **3.15** | 30 | 0.8 |
| I | Spring Nut, ½" | — | — | P1010-EG | **4A985** | 25 | 25.50 | **23.21** | **22.05** | 4 | 2.8 |
| J | Nut, ½" | — | — | P3010-EG | **4A986** | 25 | 21.00 | **19.11** | **18.15** | 4 | 2.6 |
| K | Hex Head Cap Screw, ½" | — | — | HHCS050094-EG | **4A987** | 25 | 11.75 | **10.69** | **10.16** | 4 | 2.0 |
| L | Pipe Clamp, ½" | — | — | P1211-EG | **4A982** | 10 | 8.90 | **8.10** | **7.70** | 4 | 1.1 |
| L | Pipe Clamp, ¾" | — | — | P1212-EG | **4A983** | 10 | 9.25 | **8.42** | **8.42** | 4 | 1.5 |
| L | Pipe Clamp, 1" | — | — | P1213-EG | **4A984** | 10 | 10.35 | **9.42** | **8.95** | 4 | 1.7 |

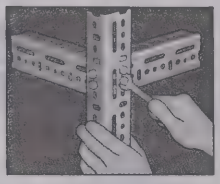


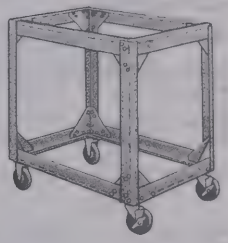
*As America's leading distributor, we know a thing or two about storage.*

# SLOTTED ANGLE STEEL POSTS KIT

tennsco

- Make custom steel structures i.e. shelving, braces, racks, platforms, carts, etc.
- Simply bolt together—no drilling holes
- Cut to size using cutter shown below
- Rust-resistant galvanized steel
- Choose from 12 or 14-gauge thickness to handle normal or heavy-duty loads





### THE INDUSTRIAL ERECTOR SET

Can't find a shelving or storage unit that exactly fits your needs? Build it yourself with Tennsco's Slotted angle steel posts kit. Simply cut posts to length, add cleats and gussets where necessary and bolt together for a super strong structure.

**Kit contains:**

**5 slotted angle posts each 12 feet long and 38 cadmium plated 5/16 x ¾" bolts and nuts.**

## LOAD CAPACITIES OF SLOTTED ANGLE POSTS

| Post Position | Overall Length in Feet and Thickness Gauge | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 Feet | | 4 Feet | | 5 Feet | | 6 Feet | | 7 Feet | | 8 Feet | |
| | 14-Gauge (Lbs.) | 12-Gauge (Lbs.) | 14-Gauge (Lbs.) | 12-Gauge (Lbs.) | 14-Gauge (Lbs.) | 12-Gauge (Lbs.) | 14-Gauge (Lbs.) | 12-Gauge (Lbs.) | 14-Gauge (Lbs.) | 12-Gauge (Lbs.) | 14-Gauge (Lbs.) | 12-Gauge (Lbs.) |
| Upright as a column | 2540 | 3470 | 2190 | 2870 | 1690 | 1970 | 1190 | 1280 | 740 | — | — | — |
| Horizontal, long leg up | 750 | 1140 | 500 | 850 | 370 | 690 | — | — | — | — | — | — |
| Horizontal, long leg down | 910 | 1250 | 600 | 850 | 400 | 600 | 230 | 400 | 170 | — | — | — |
| Horizontal, long leg down | 1690 | 2750 | 1170 | 1800 | 880 | 1000 | 670 | 790 | 530 | 610 | 380 | — |

## SLOTTED ANGLE POST KITS

| Gauge | L (Ft.) | Dimensions W (In.) | D (In.) | No. of Posts Per Kit | Tennsco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **14** | 12 | 2¼ | 1½ | 5 | SA1412 | **3W095** | $102.50 | **$75.60** | 47.0 |
| **12** | 12 | 3 | 1½ | 5 | SA1212 | **3W151** | 152.00 | **113.40** | 83.0 |

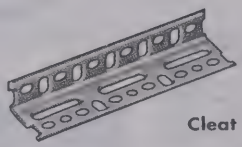
# GALVANIZED SLOTTED ANGLE CLEAT AND GUSSET KIT

- Bolt-on cleats join and reinforce slotted angle posts to create longer lengths
- Gussets reinforce corner joints
- Rust-resistant galvanized steel

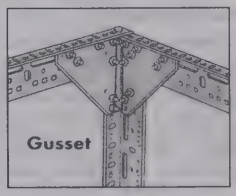
**No. 6X833.** Shpg. wt. 9.4 lbs. List $21.00.
Each ..... **$15.39**

tennsco

**Kit contains: six 12-gauge cleats 2¼" x 1½" x 9" long and six 14-gauge gussets 6" x 6" x 8⅝"**



Cleat




# SLOTTED ANGLE CUTTER

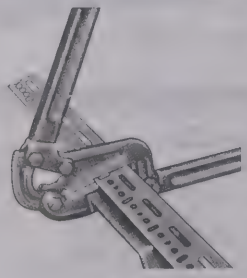
- Lightweight
- Portable
- Cuts angles up to 45°

Cuts predrilled and slotted angle posts. Use instead of hacksaw or power metal cutting saw to accurately cut slotted angle to desired lengths. Tool is positioned on floor and steadied with operator's foot. Hand action cuts through metal cleanly. Cuts slotted angle up to 3" wide, 1½ deep, maximum thickness of 1/8". Used for making braces, shelves, and tables. Length is 38". Hanging ring attached to handle. H.K. Porter brand (2790HKP).

**No. 4W296.** Shpg. wt. 14.0 lbs. List $372.06.
Each ..... **$316.50**

COOPER
CooperTools

H. K. PORTER



**Cuts without hacksaws or other power metal tools.**



**Tool is positioned on floor and steadied with operator's foot.**

# SECURITY CABINETS

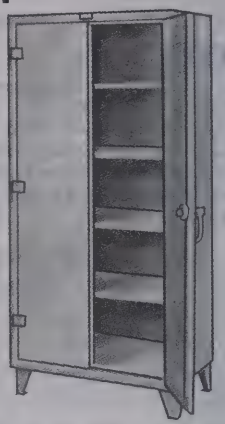
## EXTRA HEAVY-DUTY WELDED CABINET

- Super strong, all-welded 12-gauge steel construction
- Sweep access from all 4 sides
- Bronze handle is stronger than aluminum
- Shelves adjust on 2" spacers rather for more storage options
- Shipped fully assembled

Sturdy, one-piece construction eliminates seams in back of cabinet. 14 gauge shelves adjustable on 2" centers support evenly distributed loads up to 1800 lbs. Bolt holes in feet enable securing to floor to prevent toppling. Electro-statically painted dark gray enamel finish.

Strong Hold

New



FREE DELIVERY on orders of $900 or more

See Freight Policy

No. 4UZ08

### EXTRA HEAVY-DUTY CABINET SPECIFICATIONS AND ORDERING DATA

| Key | Overall Dimensions (In.) W | D | H | No. of Shelves | Shelf Capacity (Lbs.) | Strong Hold Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 36 | 24 | 72 | 4 | 1800 | 36-244 | 4UZ08 | $783.69 | $712.50 | 459.0 |
| B | 48 | 24 | 72 | 4 | 1200 | 46-244 | 4UZ09 | 914.03 | 831.00 | 557.0 |
| C | 60 | 24 | 72 | 4 | 1525 | 56-244 | 4UZ10 | 1044.38 | 949.50 | 685.0 |

## SECURITY CABINETS

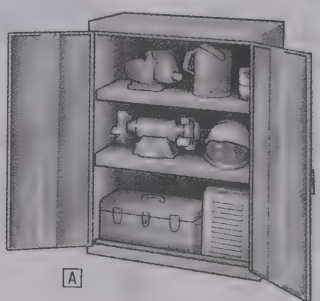
- Tough 16-gauge all welded steel construction
- Reinforced doors
- Full height piano hinges
- Locking handle
- Shelves adjust on 4" centers

Stronger than standard utility cabinets to easily store heavy items with shelf capacities up to 1,000 pounds. Security cabinets combine the heavy-duty construction all-welded cabinets with the security of a three-point door-latch system. Gray powder coat finish. Shipped assembled.

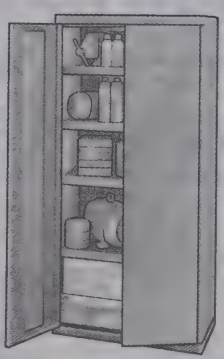
**Three-Point Door-Latch System secures door to cabinet frame, top and bottom for added security.**

edsal

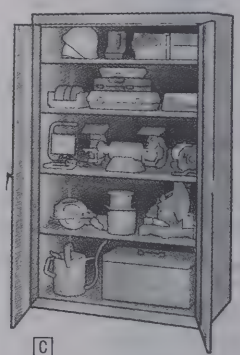
New



A



B



C

FREE DELIVERY on orders of $900 or more

See Freight Policy

### SECURITY CABINET SPECIFICATIONS AND ORDERING DATA

| Key | Overall Dim (In.) W | D | H | No. of Shelves | Shelf Capacity (in Lbs.) | Edsal Model | New! Stock No. | List | Each | Shpg. Wt. | Extra Shelf Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 36 | 18 | 48 | 2 | 1,000 | VC1500G | 4TX80 | $435.01 | $302.75 | 198.0 | VCEX136G | 4TX86 | $37.95 | $26.55 | 18.0 |
| B | 36 | 18 | 60 | 3 | 1,000 | VC1501G | 4TX81 | 522.01 | 363.50 | 240.0 | VCEX136G | 4TX86 | 37.95 | 26.55 | 18.0 |
| B | 36 | 18 | 72 | 4 | 1,000 | VC1502G | 4TX82 | 610.01 | 425.00 | 281.0 | VCEX136G | 4TX86 | 37.95 | 26.55 | 18.0 |
| B | 36 | 18 | 84 | 4 | 1,000 | VC1503G | 4TX83 | 655.01 | 457.50 | 309.0 | VCEX136G | 4TX86 | 37.95 | 26.55 | 18.0 |
| B | 36 | 24 | 84 | 4 | 900 | VC1504G | 4TX84 | 704.99 | 495.25 | 352.0 | VCEX236G | 4TX87 | 37.95 | 32.70 | 22.0 |
| C | 48 | 24 | 84 | 4 | 800 | VC1505G | 4TX85 | 908.00 | 631.00 | 409.0 | VCEX348G | 4TX88 | 61.51 | 42.65 | 27.0 |

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!



*As America's leading distributor, we know a thing or two about storage.*

# E-Z BILT™ INDUSTRIAL STORAGE CABINETS



PENCO®

Unique European design Recessed Handle with 3 Point Latching

Full Height Reinforced Door Pan On All Doors For Extra Strength



Recessed handle with built-in lock



New

- Contemporary Design
- Doors open 180°
- Recessed Handle
- Attractive Gray or Putty Finish

**Storage Cabinets** have four shelves that are adjustable independently on 2" vertical centers.

36" wide shelves hold 150 lbs. each, 48"W cabinet shelves are reinforced to carry 400 lbs. each.

Penco E-Z Bilt™ Storage Cabinets are an ideal solution to your storage needs in offices, institutional or industrial environments.

**Doors open a full 180°** - Each door has three hinges and a recessed handle with built-in lock and two keys providing three point latching for secure storage of valuable items.

Finished with durable baked enamel in Gray or Putty color to blend with any decor.

**Combination Cabinets** have four half-shelves that adjust on 6" centers, evenly spaced opening size is 16¾W x 11"H, one full shelf with a fixed opening size of 36W x 13⅜"H, and an opening for hanging garments that measures 18W x 58¾"H. A coat rod with 2 hooks is included.

## UNASSEMBLED INDUSTRIAL CABINETS

| Cabinet Size (In.) W | D | H | Type Construction | No. of Shelves | GREY Penco Model | GREY *New!* Stock No. | PUTTY Penco Model | PUTTY *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **36** | 18 | 78 | Storage Cabinet | 4 | 76218-028 | **4UF74** | 76218-723 | **4UF85** | $334.95 | **$257.75** | 131.0 |
| **36** | 24 | 78 | Storage Cabinet | 4 | 76224-028 | **4UF75** | 76224-723 | **4UF86** | 379.05 | **291.75** | 155.0 |
| **48** | 24 | 78 | Storage Cabinet | 4 | 76775-028 | **7B435** | 76775-723 | **7B436** | 774.40 | **444.25** | 203.0 |
| **36** | 18 | 78 | Combination Cabinet | 5 | 76418-028 | **4UF81** | 76418-723 | **4UF93** | 389.90 | **300.00** | 148.0 |
| **36** | 24 | 78 | Combination Cabinet | 5 | 76424-028 | **4UF82** | 76424-723 | **4UF94** | 440.60 | **339.00** | 168.0 |

## PREASSEMBLED INDUSTRIAL CABINETS

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **36** | 18 | 78 | Storage Cabinet | 4 | 76218A028 | **4UF78** | 76218A723 | **4UF90** | $452.20 | **$309.25** | 131.0 |
| **36** | 24 | 78 | Storage Cabinet | 4 | 76224A028 | **4UF79** | 76224A723 | **4UF91** | 511.70 | **350.00** | 156.0 |
| **48** | 24 | 78 | Storage Cabinet | 4 | 76775A028 | **4UF80** | 76775A723 | **4UF92** | 779.65 | **533.50** | 203.0 |
| **36** | 18 | 78 | Combination Cabinet | 5 | 76418A028 | **4UF83** | 76418A723 | **4UF95** | 526.35 | **360.00** | 148.0 |
| **36** | 24 | 78 | Combination Cabinet | 5 | 76424A028 | **4UF84** | 76424A723 | **4UF96** | 594.75 | **406.75** | 168.0 |



Jumbo Cabinet No. 4TT14

ADAPTO STORAGE PRODUCTS

New

## QUICK-VIEW CABINETS

**Ideal for all your Industrial and office storage needs.**

- **High impact resistant Lexan® see-thru doors this feature allows instant visibility of product and supplies**
- **All welded 16 gauge door frame for strength**
- **Four intermediate shelves standard - adjustable every 2 inches**
- **High quality electrostatic, rust resistant finish - in attractive putty color**
- **Built-in 3 point chrome-plated locking security handle**
- **Doors utilize a unique "pin hinge" allowing doors to open without interfering with adjoining units**

| Description | Dim. (in.) W | D | H | Shelf Cap. | Adapto Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Std. Cabinet** | 36 | 19 | 72 | 225 | ST7-18-QV | **4TT14** | $850.08 | **$606.00** | 275.0 |
| **Jumbo Cabinet** | 48 | 25 | 72 | 150 | ST7-48-QV | **4TT15** | 1025.29 | **735.00** | 370.0 |

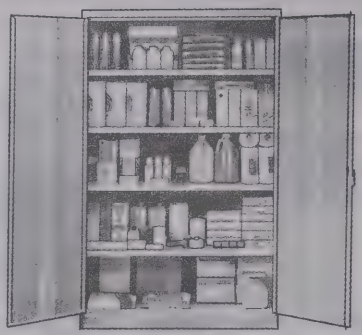
# UNASSEMBLED AND PREASSEMBLED COMMERCIAL AND INDUSTRIAL CABINETS

**tennsco**

- Dual reinforced doors ensure quiet operation.
- Built-in shelf support tabs, no bolts or clips needed
- Raised bases to protect doors from damaged by mops during cleaning
- Shelf loads 150 lbs (18" deep) to 200 lbs (24" deep)
- Nylon lock bar guide for quiet operation
- Choose from pre-assembled or unassembled cabinets
- Interior and exterior finished in baked enamel for long lasting good looks

### STORAGE CABINETS WITH A DIFFERENCE:

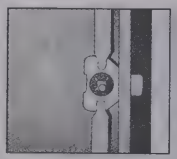
Our Industrial and Commercial cabinets utilize heavy gauge steel construction throughout for maximum rigidity and trouble-free performance. Choose from a variety of cabinet styles that blend into any environment to meet any storage requirement.



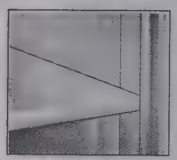
### INDUSTRIAL CABINETS FEATURES

- Double satin handle to simplify opening and closing
- 16-gauge steel frame construction to withstand use in factory environments.
- Four knuckle hinges
- Louvered backs for ventilation
- Leveling screws for easy opening doors

**New**



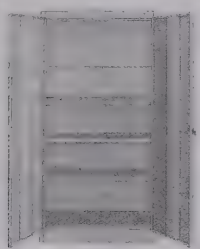
3- Point Locking System locks top, middle and bottom of door for maximum security.



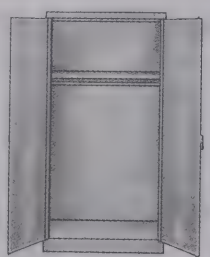
Shelves adjust in 2" increments on integrated shelf support tabs-no shelf clips to lose.

### COMMERCIAL CABINETS FEATURES

- Single chrome handle
- 24-gauge steel back and side construction
- Three leaf hinges to maintain door

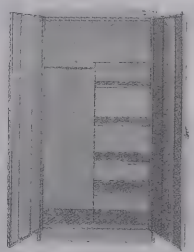


A STORAGE CABINET



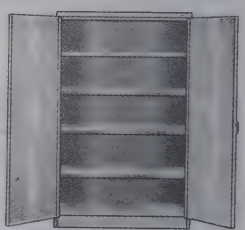
- One Shelf
- Full width hanger rod

B WARDROBE CABINET



- One full width shelf
- 17" hanger rod

C COMBINATION CABINET



D JUMBO STORAGE CABINET

| Key | Description | Cabinet Size (In.) W | D | H | No. of Shelves | Tennsco Model | Stock No. Gray | Sand | Black | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDUSTRIAL PREASSEMBLED CABINETS** | | | | | | | | | | | | |
| A | Storage Cabinet | 36 | 18 | 78 | 4 | 7818 | **4W274** | **4W275** | — | $373.80 | **$292.50** | 158.0 |
| A | Storage Cabinet | 36 | 24 | 78 | 4 | 7824 | **4W276** | **4W277** | — | 414.60 | **333.50** | 190.0 |
| C | Combination Cabinet | 36 | 18 | 78 | 5 | 7814 | **4TV05** | **4TV06** | — | 404.60 | **288.25** | 161.0 |
| C | Combination Cabinet | 36 | 24 | 78 | 5 | 7820 | **4TV08** | **4TV09** | **4TV07** | 459.80 | **328.75** | 189.0 |
| **INDUSTRIAL UNASSEMBLED CABINETS** | | | | | | | | | | | | |
| A | Storage Cabinet | 36 | 18 | 78 | 4 | 1870 | **3W043** | **3W460** | **4W033** | 305.30 | **233.00** | 154.0 |
| A | Storage Cabinet | 36 | 24 | 78 | 4 | 2470 | **3W044** | **3W461** | **4W298** | 346.10 | **265.50** | 181.0 |
| C | Combination Cabinet | 36 | 18 | 78 | 5 | 1872 | **4W539** | **4W538** | **4W540** | 333.30 | **265.75** | 159.0 |
| C | Combination Cabinet | 36 | 24 | 78 | 5 | 2472 | **4W542** | **4W541** | **4W543** | 377.20 | **295.00** | 187.0 |
| **COMMERCIAL PREASSEMBLED CABINETS** | | | | | | | | | | | | |
| A | Storage Cabinet | 36 | 18 | 72 | 4 | 7218 | **4W278** | **4W279** | — | 285.70 | **222.75** | 120.0 |
| C | Combination Cabinet | 36 | 18 | 72 | 5 | 7214 | **4TV02** | — | — | 295.30 | **233.75** | 104.0 |
| C | Combination Cabinet | 36 | 24 | 72 | 5 | 7220 | **4TV04** | — | — | 328.60 | **269.25** | 160.0 |
| **COMMERCIAL UNASSEMBLED CABINETS** | | | | | | | | | | | | |
| A | Storage Cabinet | 36 | 18 | 72 | 4 | 1470 | **1W944** | **3W287** | **4W032** | 237.20 | **175.75** | 112.0 |
| A | Storage Cabinet | 36 | 24 | 72 | 4 | 1480 | **3W292** | **3W459** | **4W537** | 275.00 | **205.50** | 140.0 |
| B | Wardrobe Cabinet | 36 | 18 | 72 | 1 | 1471 | **3W188** | **4W299** | **4W300** | 211.00 | **163.75** | 99.0 |
| C | Combination Cabinet | 36 | 18 | 72 | 5 | 1472 | **3W047** | **4W301** | **4W302** | 252.80 | **205.50** | 122.0 |
| **JUMBO STORAGE CABINETS** | | | | | | | | | | | | |
| D | Jumbo Storage Cabinet | 48 | 18 | 78 | 4 | J1878 | **4TV72** | **4TV73** | — | 396.40 | **326.00** | 200.0 |
| D | Jumbo Storage Cabinet | 48 | 24 | 78 | 4 | J2478 | **4TV75** | **4TV76** | **4TV74** | 439.10 | **361.00** | 220.0 |

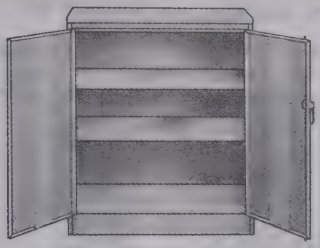


*As America's leading distributor, we know a thing or two about storage.*

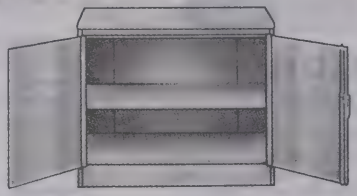
# UNASSEMBLED AND PREASSEMBLED COMMERCIAL AND INDUSTRIAL CABINETS



tennsco



E Counter height cabinet



F Desk height cabinet

| Key | Description | Cabinet Size (in.) W | D | H | No. of Shelves | Tennsco Model | Stock No. Gray | Sand | Black | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **COMMERCIAL UNASSEMBLED CABINETS** | | | | | | | | | | | |
| E | Counter Height Cabinet | 36 | 18 | 42 | 2 | 1442 | **1W978** | **3W293** | **4W031** | $172.40 | **$133.80** | 73.0 |
| | **COMMERCIAL PREASSEMBLED CABINETS** | | | | | | | | | | | |
| E | Counter Height Cabinet | 36 | 18 | 42 | 2 | 4218 | **4W280** | **4W281** | — | 198.30 | **170.00** | 78.0 |
| | **COMMERCIAL UNASSEMBLED CABINETS** | | | | | | | | | | | |
| F | Desk Height Cabinet | 36 | 18 | 30 | 1 | 1430 | **3W086** | **3W294** | **4W297** | $149.00 | **114.80** | 54.0 |

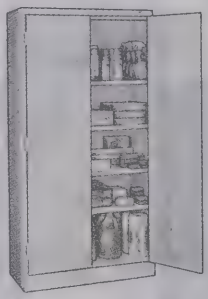
# Logic

- One easy opening chrome handle
- Single point locking system secures door at center of cabinet.
- Powder coated finish keeps its good looks for years
- Ready-to-assemble saves on shipping expense
- 60" unit has two adjustable and two fixed shelves
- 72" unit has two adjustable and 3 fixed shelves

## THE NO-NONSENSE STORAGE CABINET

If you need a basic storage cabinet for general purpose needs, this is it. The Logic cabinet is perfect for supplies storage or other medium-duty materials.
This cabinet goes together easily with simple hand tools yet is extremely sturdy.

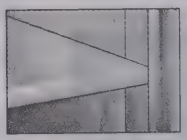
## LOGIC STORAGE CABINET



New



Single point locking System locks at middle of door for security.



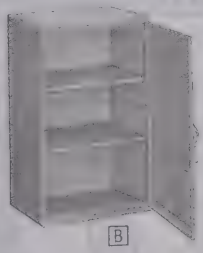
Shelves adjust in 2" increments on integrated shelf tabs - no shelf clips to lose.

| W | Cabinet Size (in.) D | H | No. of Shelves | Model | *New!* Stock No. Med. Gray | Sand | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **UNASSEMBLED CABINET** | | | | | | | | |
| **36** | 18 | 60 | 4 | LG60 | **4TV79** | **4TV80** | $169.60 | **$144.55** | 89.0 |
| **36** | 18 | 72 | 5 | LG72 | **4TV81** | **4TV82** | 230.70 | **200.25** | 111.0 |

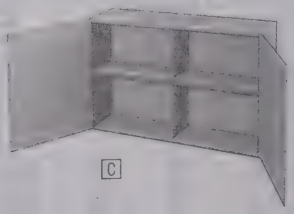
DURHAM



A



B



C

| Key | Dimensions (in.) D | W | H | No. of Shelves | Durham Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **A** | 12½ | 13¾ | 30 | 2 Adjustable | 055 | **3KR01** | $114.39 | **$66.65** | 26.0 |
| **B** | 14¼ | 19⅝ | 32¾ | 2 Adjustable | 056 | **3KR02** | 90.41 | **81.35** | 41.0 |
| **C** | 8½ | 33¾ | 22¼ | 1 Fixed | 343 | **3KP99** | 149.74 | **108.60** | 45.0 |

## STEEL STORAGE CABINETS

- Durable economical, lockable cabinets for industrial and office supplies
- Rust and acid resistant baked enamel finish
- Nos. 3KR01and 3KR02 are equipped with adjustable shelves for a wide variety of storage needs. No. 3KP99 features one fixed shelf
- Units can stand alone. 3KR01 and 3KR02 can be wall mounted using keyhole slots provided
- Nos. 3KR01 and 3KR02 feature lock attachment (padlock) not inlcuded. No. 3KP99 includes lock and two keys
- Durham brand

# HEAVY GAUGE VENTILATED LOCKERS

PENCO New

## ALL-WELDED LOCKERS

**Comes Welded Pre-Assembled** – Saves time.

**All-welded Construction** with 14-gauge doors, 16-gauge sides, tops, bottoms & shelves and 18-gauge backs to insure long life.

**Tops, bottoms and back span multiple frames** to assure lifelong rigidity.

**Continuous Door Hinges** stand up to hard use.

**Diamond Perforated Doors and Sides** provide excellent ventilation for storage of athletic or work clothes. Good for quick inspections.

**Heavy-Duty Recessed Handles w/Stainless Steel Pockets on 1 & 2 Tier** – No protrusions on front of locker.

**Multi-point latching on 1 & 2 Tier Models** – Door can lock automatically with lock in place.

**Many Sizes/Styles** – Choose from 1, 2 or 6 tier in 1 or 3 wide.

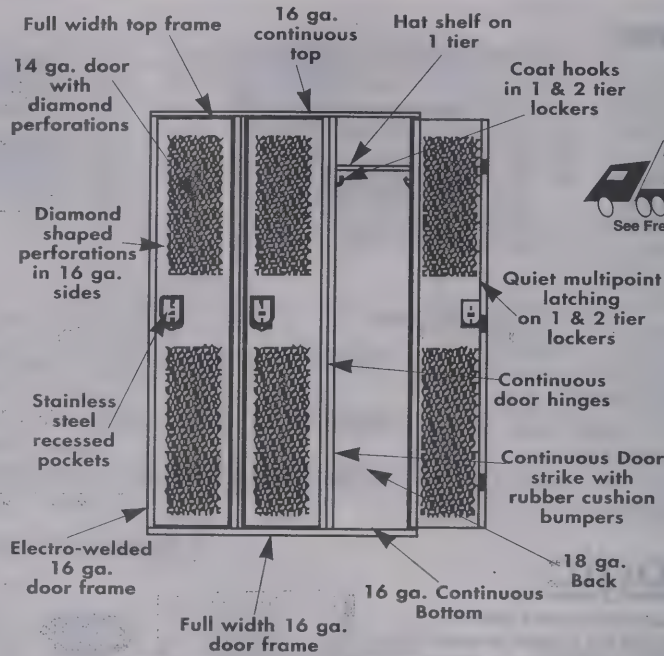
Penco All-Welded Lockers offer superior resistance to hard use and abuse. All body parts are welded into a single rigid unit to resist damage for the life of the product. Will accept padlocks or built-in locks (purchased separately). All lockers must be anchored to the floor and/or wall for safety. Attractive gray enamel finish.

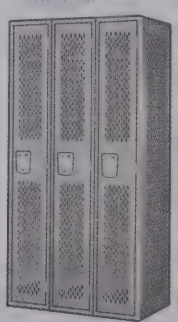


Continuous Door Hinge

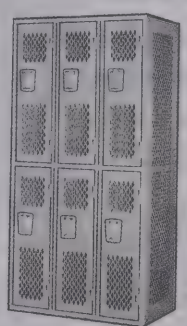


Stainless Steel Recessed Pockets On 1 & 2 Tier

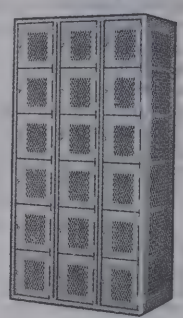


1 Tier Lockers (3 Wide Shown)



2 Tier Lockers (3 Wide Shown)



6 Tier Lockers (3 Wide Shown)

### *New!* ALL-WELDED LOCKERS - GRAY

| Locker Type Tier | Wide | Openings | Overall Dimensions (In.) Welded Lockers W | D | H | Each Opening (In.) Incl. Frame W | D | H | Gray Penco Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 12 | 12 | 72 | 12 | 12 | 72 | 6WP123-1028 | 4UF54 | $320.00 | $183.00 | 75.0 |
| 1 | 3 | 3 | 36 | 12 | 72 | 12 | 12 | 72 | 6WP123-3028 | 4UF55 | 813.00 | 489.50 | 190.0 |
| 1 | 1 | 1 | 12 | 18 | 72 | 12 | 18 | 72 | 6WP125-1028 | 4UF56 | 362.00 | 193.75 | 85.0 |
| 1 | 3 | 3 | 36 | 18 | 72 | 12 | 18 | 72 | 6WP125-3028 | 4UF58 | 894.00 | 509.50 | 230.0 |
| 1 | 1 | 1 | 15 | 18 | 72 | 15 | 18 | 72 | 6WP130-1028 | 4UF59 | 350.00 | 215.75 | 95.0 |
| 1 | 3 | 3 | 45 | 18 | 72 | 15 | 18 | 72 | 6WP130-3028 | 4UF60 | 876.00 | 549.00 | 258.0 |
| 2 | 1 | 2 | 12 | 12 | 72 | 12 | 12 | 36 | 6WP223-1028 | 4UF61 | 372.00 | 205.75 | 77.0 |
| 2 | 3 | 6 | 36 | 12 | 72 | 12 | 12 | 36 | 6WP223-3028 | 4UF62 | 942.00 | 521.50 | 211.0 |
| 2 | 1 | 2 | 12 | 18 | 72 | 12 | 18 | 36 | 6WP225-1028 | 4UF63 | 416.00 | 233.00 | 87.0 |
| 2 | 3 | 6 | 36 | 18 | 72 | 12 | 18 | 36 | 6WP225-3028 | 4UF64 | 1056.00 | 591.00 | 238.0 |
| 2 | 1 | 2 | 15 | 18 | 72 | 15 | 18 | 36 | 6WP230-1028 | 4UF65 | 416.00 | 236.00 | 98.0 |
| 2 | 3 | 6 | 45 | 18 | 72 | 15 | 18 | 36 | 6WP230-3028 | 4UF66 | 1032.00 | 635.00 | 268.0 |
| 6 | 1 | 6 | 12 | 12 | 72 | 12 | 12 | 12 | 6WP623-1028 | 4UF67 | 396.00 | 237.50 | 87.0 |
| 6 | 3 | 18 | 36 | 12 | 72 | 12 | 12 | 12 | 6WP623-3028 | 4UF69 | 1008.00 | 615.50 | 236.0 |
| 6 | 1 | 6 | 12 | 18 | 72 | 12 | 18 | 12 | 6WP625-1028 | 4UF70 | 438.00 | 260.00 | 95.0 |
| 6 | 3 | 18 | 36 | 18 | 72 | 12 | 18 | 12 | 6WP625-3028 | 4UF71 | 1116.00 | 681.00 | 259.0 |
| 6 | 1 | 6 | 15 | 18 | 72 | 15 | 18 | 12 | 6WP630-1028 | 4UF72 | 480.00 | 287.50 | 116.0 |
| 6 | 3 | 18 | 45 | 18 | 72 | 15 | 18 | 12 | 6WP630-3028 | 4UF73 | 1206.00 | 739.50 | 315.0 |



As America's leading distributor, we know a thing or two about storage.

# HEAVY GAUGE VENTILATED LOCKERS

## INVINCIBLE II LOCKERS

**Shipped Unassembled** – For shipping economy.

**Heavy Gauge Parts** – Same as All-Welded lockers.

**Diamond Perforated Doors and Sides** – Excellent for applications requiring ventilation.

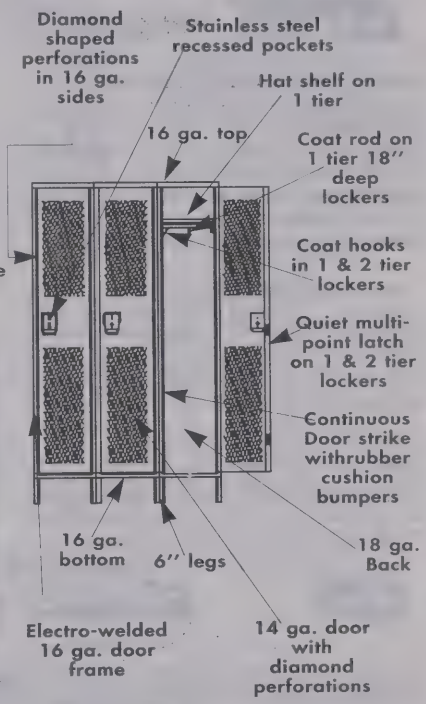
Penco Invincible II Lockers are similar to All-Welded Lockers except that they are shipped Knocked Down (KD) for on-site assembly and have 6" high legs to raise the locker off the floor. Will accept padlocks or built-in locks (purchased separately). Slope tops and closed front bases can be added as options. Attractive gray enamel finish.

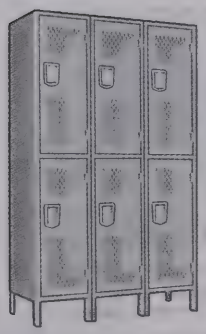
**Heavy Duty Stainless Steel Recessed Pockets on 1 & 2 Tier** – No protrusions on front of locker.

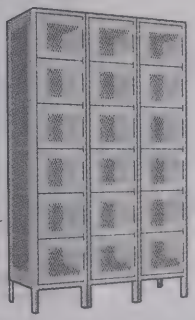
**Multi Point Latching on 1 & 2 Tier Models** – Allows latching with lock in place.

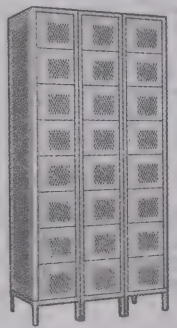
**Many Styles/Sizes** – 1, 2, 6, 8 & 9 tier in 1 & 3 wide.

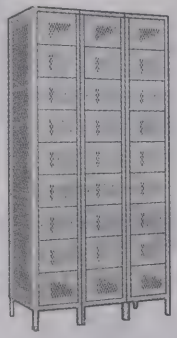
PENCO® New





2Tier (3 Wide Shown)


6 Tier (3 Wide Shown)


8 Tier (3 Wide Shown)


9 Tier (3 Wide Shown)

### *New!* INVINCIBLE II LOCKERS - GRAY

| Tier | Locker Type Wide | Openings | Overall Dimensions (In.) Including 6" Legs W | D | H | Ea. Opening (In.) Incl. Frame W | D | H | Gray Penco Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 12 | 12 | 78 | 12 | 12 | 72 | 67201E028 | **4UD94** | $198.90 | **$128.35** | 78.0 |
| 1 | 1 | 1 | 12 | 18 | 78 | 12 | 18 | 72 | 67211E028 | **4UD95** | 231.75 | **149.50** | 82.0 |
| 1 | 1 | 1 | 15 | 18 | 78 | 15 | 18 | 72 | 67221E028 | **4UD96** | 248.65 | **160.50** | 101.0 |
| 1 | 1 | 1 | 18 | 18 | 78 | 18 | 18 | 72 | 67231E028 | **4UD97** | 275.75 | **178.00** | 109.0 |
| 1 | 1 | 1 | 18 | 18 | 78 | 12 | 12 | 72 | 67203E028 | **4UD98** | 532.80 | **343.75** | 213.0 |
| 1 | 3 | 3 | 36 | 12 | 78 | 12 | 18 | 72 | 67213E028 | **4UD99** | 603.65 | **389.50** | 246.0 |
| 1 | 3 | 3 | 36 | 18 | 78 | 15 | 18 | 72 | 67223E028 | **4UF02** | 654.35 | **422.25** | 273.0 |
| 1 | 3 | 3 | 45 | 18 | 78 | 18 | 18 | 72 | 67233E028 | **4UF03** | 735.65 | **474.75** | 297.0 |
| 1 | 3 | 3 | 54 | 18 | 78 | | | | | | | | |
| 2 | 1 | 2 | 12 | 12 | 78 | 12 | 12 | 36 | 67241E028 | **4UF04** | 233.95 | **151.00** | 84.0 |
| 2 | 1 | 2 | 12 | 18 | 78 | 12 | 18 | 36 | 67251E028 | **4UF05** | 267.60 | **172.75** | 100.0 |
| 2 | 1 | 2 | 15 | 18 | 78 | 15 | 18 | 36 | 67261E028 | **4UF06** | 280.80 | **181.25** | 110.0 |
| 2 | 1 | 2 | 18 | 18 | 78 | 18 | 18 | 36 | 67271E028 | **4UF07** | 296.30 | **191.25** | 116.0 |
| 2 | 1 | 2 | 18 | 18 | 78 | 12 | 12 | 36 | 67243E028 | **4UF08** | 637.95 | **411.75** | 222.0 |
| 2 | 3 | 6 | 36 | 12 | 78 | 12 | 18 | 36 | 67253E028 | **4UF09** | 711.20 | **459.00** | 252.0 |
| 2 | 3 | 6 | 36 | 18 | 78 | 15 | 18 | 36 | 67263E028 | **4UF10** | 750.80 | **484.50** | 282.0 |
| 2 | 3 | 6 | 45 | 18 | 78 | 18 | 18 | 36 | 67273E028 | **4UF11** | 797.30 | **514.50** | 306.0 |
| 2 | 3 | 6 | 54 | 18 | 78 | | | | | | | | |
| 6 | 1 | 6 | 12 | 12 | 78 | 12 | 12 | 12 | 67321E028 | **4UF13** | 270.15 | **174.50** | 90.0 |
| 6 | 1 | 6 | 12 | 18 | 78 | 12 | 18 | 12 | 67331E028 | **4UF14** | 302.30 | **195.25** | 96.0 |
| 6 | 1 | 6 | 18 | 18 | 78 | 18 | 18 | 12 | 67341E028 | **4UF15** | 347.60 | **224.50** | 126.0 |
| 6 | 3 | 18 | 36 | 12 | 78 | 12 | 12 | 12 | 67323E028 | **4UF16** | 746.55 | **481.75** | 252.0 |
| 6 | 3 | 18 | 36 | 18 | 78 | 12 | 18 | 12 | 67333E028 | **4UF17** | 815.30 | **526.50** | 270.0 |
| 6 | 3 | 18 | 54 | 18 | 78 | 18 | 18 | 12 | 67343E028 | **4UF18** | 951.20 | **614.00** | 378.0 |
| 8 | 1 | 8 | 12 | 18 | 78 | 12 | 18 | 9 | 67351E028 | **4UF19** | 355.80 | **229.75** | 112.0 |
| 8 | 1 | 8 | 15 | 18 | 78 | 15 | 18 | 9 | 67361E028 | **4UF20** | 395.40 | **255.25** | 128.0 |
| 8 | 3 | 24 | 36 | 18 | 78 | 12 | 18 | 9 | 67353E028 | **4UF21** | 975.80 | **630.00** | 312.0 |
| 8 | 3 | 24 | 45 | 18 | 78 | 15 | 18 | 9 | 67363E028 | **4UF22** | 1094.60 | **706.50** | 360.0 |
| 9 | 1 | 9 | 12 | 18 | 78 | 12 | 18 | 8 | 67371E028 | **4UF24** | 360.35 | **232.50** | 108.0 |
| 9 | 1 | 9 | 15 | 18 | 78 | 15 | 18 | 8 | 67381E028 | **4UF25** | 403.10 | **260.25** | 126.0 |
| 9 | 3 | 27 | 36 | 18 | 78 | 12 | 18 | 8 | 67373E028 | **4UF26** | 989.45 | **638.50** | 324.0 |
| 9 | 3 | 27 | 45 | 18 | 78 | 15 | 18 | 8 | 67383E028 | **4UF27** | 1117.70 | **721.50** | 378.0 |

# PREASSEMBLED PERSONAL LOCKERS

## LOCKERS - ASSEMBLED

PENCO® Vanguard™

**Shipped Preassembled** – to save time

**Louvered Doors** – for ventilation with complete privacy

**Multi-point door latching on 1 & 2 Tier Doors** – Doors latch with lock in place

**Wide variety of styles & sizes** – for all types of applications

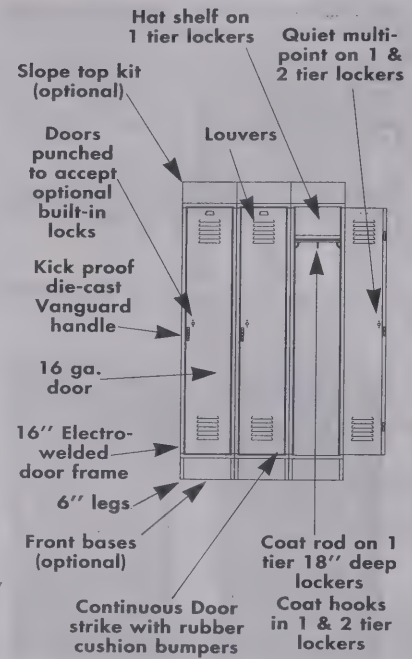
**Choice of 2 Colors** – Gray and Tawny Tan

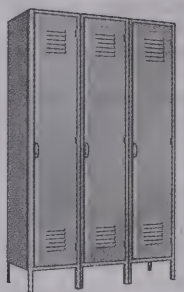
1 Tier and 2 Tier lockers have the easy opening patented diecast pull-out Vanguard Handle with automatic latching. Coat hooks are also standard with 1 & 2 tier. 1 Tier 18" deep lockers also have a coat hanger bar. All 1 Tier lockers have a hat shelf 9" from the top. 5 & 6 Tier and 16 Person doors have friction catch door pulls. All Vanguard lockers accept padlocks and built-in locks. All lockers are raised above the floor with 6" legs. Slope Top Kits and Front Bases can be ordered as options. All lockers must be anchored to the floor and/or wall for safety.

New

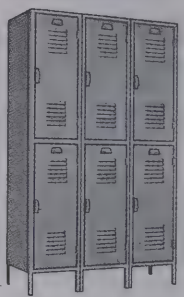
FREE DELIVERY on orders of $900 or more

See Freight Policy

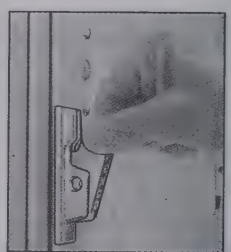


1 Tier Lockers (3 wide Shown)



2 Tier Lockers (3 wide Shown)



Vanguard Handle on 1 & 2 Tier Lockers Plus 2 Person Unassembled

### *New!* VANGUARD ASSEMBLED LOCKERS

| Tier | Locker Type Wide | Openings | Overall Dimensions (In.) Including 6" Legs W | D | H | Ea. Opening (In.) Incl. Frame W | D | H | Gray Penco Model | *New!* Stock No. | Tawny Tan Penco Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 12 | 12 | 66 | 12 | 12 | 60 | 68001E028A | **4UC73** | 68001E012A | **4UD10** | $164.50 | **$118.05** | 50.0 |
| 1 | 1 | 1 | 12 | 15 | 66 | 12 | 15 | 60 | 68011E028A | **4UC74** | 68011E012A | **4UD12** | 171.99 | **123.40** | 52.0 |
| 1 | 1 | 1 | 12 | 18 | 66 | 12 | 18 | 60 | 68021E028A | **4UC75** | 68021E012A | **4UD13** | 182.39 | **130.90** | 57.0 |
| 1 | 1 | 1 | 12 | 12 | 78 | 12 | 12 | 72 | 68051E028A | **4UC76** | 68051E012A | **4UD14** | 181.44 | **130.20** | 57.0 |
| 1 | 1 | 1 | 12 | 15 | 78 | 12 | 15 | 72 | 68061E028A | **4UC78** | 68061E012A | **4UD15** | 188.12 | **134.60** | 65.0 |
| 1 | 1 | 1 | 12 | 18 | 78 | 12 | 18 | 72 | 68071E028A | **4UC79** | 68071E012A | **4UD16** | 199.46 | **143.15** | 69.0 |
| 1 | 1 | 1 | 15 | 18 | 78 | 15 | 18 | 72 | 68091E028A | **4UC80** | 68091E012A | **4UD17** | 217.96 | **156.50** | 71.0 |
| 1 | 1 | 1 | 18 | 18 | 78 | 18 | 18 | 72 | 68101E028A | **4UC81** | 68101E012A | **4UD18** | 233.48 | **167.75** | 83.0 |
| 1 | 3 | 3 | 36 | 12 | 66 | 12 | 12 | 60 | 68003E028A | **4UC82** | 68003E012A | **4UD19** | 411.28 | **295.25** | 148.0 |
| 1 | 3 | 3 | 36 | 15 | 66 | 12 | 15 | 60 | 68013E028A | **4UC83** | 68013E012A | **4UD20** | 429.91 | **308.50** | 150.0 |
| 1 | 3 | 3 | 36 | 18 | 66 | 12 | 18 | 60 | 68023E028A | **4UC84** | 68023E012A | **4UD21** | 455.83 | **326.75** | 166.0 |
| 1 | 3 | 3 | 36 | 12 | 78 | 12 | 12 | 72 | 68053E028A | **4UC85** | 68053E012A | **4UD24** | 453.60 | **325.50** | 166.0 |
| 1 | 3 | 3 | 36 | 15 | 78 | 12 | 15 | 72 | 68063E028A | **4UC86** | 68063E012A | **4UD25** | 470.61 | **337.75** | 180.0 |
| 1 | 3 | 3 | 36 | 18 | 78 | 12 | 18 | 72 | 68073E028A | **4UC87** | 68073E012A | **4UD26** | 498.56 | **357.75** | 189.0 |
| 1 | 3 | 3 | 45 | 18 | 78 | 15 | 18 | 72 | 68093E028A | **4UC89** | 68093E012A | **4UD27** | 544.73 | **391.00** | 199.0 |
| 1 | 3 | 3 | 54 | 18 | 78 | 18 | 18 | 72 | 68103E028A | **4UC90** | 68103E012A | **4UD28** | 583.61 | **418.75** | 240.0 |
| 2 | 1 | 2 | 12 | 12 | 66 | 12 | 12 | 30 | 68111E028A | **4UC91** | 68111E012A | **4UD29** | 197.10 | **141.45** | 52.0 |
| 2 | 1 | 2 | 12 | 12 | 78 | 12 | 12 | 36 | 68121E028A | **4UC92** | 68121E012A | **4UD30** | 208.71 | **149.80** | 56.0 |
| 2 | 1 | 2 | 12 | 15 | 78 | 12 | 15 | 36 | 68131E028A | **4UC93** | 68131E012A | **4UD31** | 219.11 | **157.25** | 62.0 |
| 2 | 1 | 2 | 12 | 18 | 78 | 12 | 18 | 36 | 68141E028A | **4UC94** | 68141E012A | **4UD32** | 228.29 | **164.00** | 66.0 |
| 2 | 1 | 2 | 15 | 15 | 78 | 15 | 15 | 36 | 68151E028A | **4UC95** | 68151E012A | **4UD33** | 235.98 | **169.50** | 74.0 |
| 2 | 3 | 6 | 36 | 12 | 66 | 12 | 12 | 30 | 68113E028A | **4UC96** | 68113E012A | **4UD35** | 492.48 | **353.50** | 150.0 |
| 2 | 3 | 6 | 36 | 12 | 78 | 12 | 12 | 36 | 68123E028A | **4UC97** | 68123E012A | **4UD36** | 521.24 | **374.00** | 157.0 |
| 2 | 3 | 6 | 36 | 15 | 78 | 12 | 15 | 36 | 68133E028A | **4UD37** | 68133E012A | **4UC98** | 547.16 | **343.75** | 177.0 |
| 2 | 3 | 6 | 36 | 18 | 78 | 12 | 18 | 36 | 68143E028A | **4UD01** | 68143E012A | **4UD38** | 570.65 | **409.50** | 185.0 |
| 2 | 3 | 6 | 45 | 15 | 78 | 15 | 15 | 36 | 68153E028A | **4UD02** | 68153E012A | **4UD39** | 590.09 | **423.50** | 210.0 |
| 5 | 1 | 5 | 12 | 15 | 66 | 12 | 15 | 12 | 68171E028A | **4UD03** | 68171E012A | **4UD40** | 231.86 | **166.50** | 50.0 |
| 5 | 3 | 15 | 36 | 15 | 66 | 12 | 15 | 12 | 68173E028A | **4UD04** | 68173E012A | **4UD41** | 579.15 | **415.75** | 151.0 |
| 6 | 1 | 6 | 12 | 12 | 78 | 12 | 12 | 12 | 68191E028A | **4UD05** | 68191E012A | **4UD42** | 266.09 | **191.00** | 60.0 |
| 6 | 1 | 6 | 12 | 18 | 78 | 12 | 18 | 12 | 68211E028A | **4UD06** | 68211E012A | **4UD43** | 287.55 | **206.50** | 72.0 |
| 6 | 3 | 18 | 36 | 12 | 78 | 12 | 12 | 12 | 68193E028A | **4UD07** | 68193E012A | **4UD44** | 665.82 | **477.75** | 177.0 |
| 6 | 3 | 18 | 36 | 18 | 78 | 12 | 18 | 12 | 68213E028A | **4UD08** | 68213E012A | **4UD46** | 719.28 | **516.50** | 209.0 |
| 16 Person, 16 Openings | | | 69 | 18 | 78 | 12 | 18 | 12 | 68231E028A | **4UD09** | 68231E012A | **4UD47** | 744.19 | **534.00** | 180.0 |



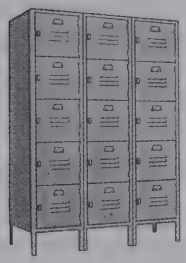
*As America's leading distributor, we know a thing or two about storage.*

# UNASSEMBLED PERSONAL LOCKERS

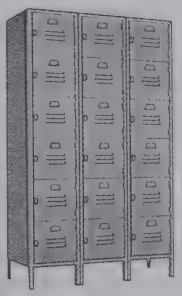
PENCO®

New

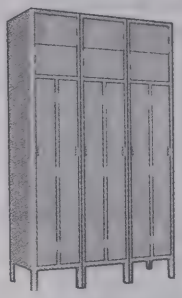
## Vanguard™ LOCKERS



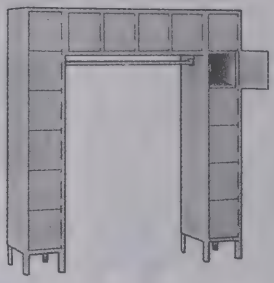
5 Tier Lockers
(3 Wide Shown)



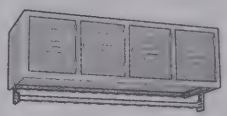
6 Tier Lockers
(3 Wide Shown)



2 Person
(3 Wide Shown)



16 Person Locker



Wall Mounted Locker
(Mounting Hardware NOT Included)

FREE DELIVERY on orders of $900 or more
See Freight Policy



Door Pull on 5 & 6 Tier & 16 Person Lockers



All Doors Have Louver Ventilation

- **Shipped Knocked Down – for Freight Economy**
- **Many Styles/Sizes – 1, 2, 5 & 6 tier. 2 & 16 Person plus Wall Hung**

Vanguard unassembled lockers are the same as preassembled with the addition of two models. The Two Person locker has coat length doors at the bottom and small storage compartment doors at the top. The Wall Mounted locker is 4 compartments wide.

## *New!* VANGUARD UNASSEMBLED LOCKERS

| Tier | Locker Type Wide | Openings | Overall Dimensions (In.) Including 6" Legs W | D | H | Ea. Opening (In.) Incl. Frame W | D | H | Gray Penco Model | Gray *New!* Stock No. | Tawny Tan Penco Model | Tawny Tan *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 12 | 12 | 66 | 12 | 12 | 60 | 68001E028 | **4TZ79** | 68001E012 | **4UC27** | $121.85 | **$82.70** | 49.0 |
| 1 | 1 | 1 | 12 | 15 | 66 | 12 | 15 | 60 | 68011E028 | **4TZ80** | 68011E012 | **4UC28** | 127.40 | **86.45** | 50.0 |
| 1 | 1 | 1 | 12 | 18 | 66 | 12 | 18 | 60 | 68021E028 | **4TZ81** | 68021E012 | **4UC29** | 135.10 | **91.70** | 53.0 |
| 1 | 1 | 1 | 12 | 12 | 78 | 12 | 12 | 72 | 68051E028 | **4TZ82** | 68051E012 | **4UC30** | 134.40 | **91.20** | 52.0 |
| 1 | 1 | 1 | 12 | 15 | 78 | 12 | 15 | 72 | 68061E028 | **4TZ83** | 68061E012 | **4UC31** | 139.35 | **94.55** | 56.0 |
| 1 | 1 | 1 | 12 | 18 | 78 | 12 | 18 | 72 | 68071E028 | **4TZ84** | 68071E012 | **4UC32** | 147.75 | **100.30** | 60.0 |
| 1 | 1 | 1 | 12 | 18 | 78 | 12 | 18 | 72 | 68091E028 | **4TZ85** | 68091E012 | **4UC34** | 161.45 | **109.55** | 65.0 |
| 1 | 1 | 1 | 15 | 18 | 78 | 15 | 18 | 72 | 68101E028 | **4TZ86** | 68101E012 | **4UC35** | 172.95 | **117.40** | 72.0 |
| 1 | 1 | 1 | 18 | 18 | 78 | 18 | 18 | 72 | 68003E028 | **4TZ88** | 68003E012 | **4UC36** | 304.65 | **206.75** | 117.0 |
| 1 | 3 | 3 | 36 | 12 | 66 | 12 | 12 | 60 | 68013E028 | **4TZ89** | 68013E012 | **4UC37** | 318.45 | **216.25** | 124.0 |
| 1 | 3 | 3 | 36 | 15 | 66 | 12 | 15 | 60 | 68023E028 | **4TZ90** | 68023E012 | **4UC38** | 337.65 | **229.25** | 131.0 |
| 1 | 3 | 3 | 36 | 18 | 66 | 12 | 18 | 60 | 68053E028 | **4TZ91** | 68053E012 | **4UC39** | 336.00 | **228.00** | 137.0 |
| 1 | 3 | 3 | 36 | 12 | 78 | 12 | 12 | 72 | 68063E028 | **4TZ92** | 68063E012 | **4UC40** | 348.60 | **236.75** | 140.0 |
| 1 | 3 | 3 | 36 | 15 | 78 | 12 | 15 | 72 | 68073E028 | **4TZ93** | 68073E012 | **4UC41** | 369.30 | **250.75** | 155.0 |
| 1 | 3 | 3 | 36 | 18 | 78 | 12 | 18 | 72 | 68093E028 | **4TZ94** | 68093E012 | **4UC42** | 403.50 | **274.00** | 167.0 |
| 1 | 3 | 3 | 45 | 18 | 78 | 15 | 18 | 72 | 68103E028 | **4TZ95** | 68103E012 | **4UC43** | 432.30 | **293.50** | 197.0 |
| 2 | 1 | 2 | 12 | 12 | 66 | 12 | 12 | 30 | 68111E028 | **4TZ96** | 68111E012 | **4UC45** | 146.00 | **99.10** | 48.0 |
| 2 | 1 | 2 | 12 | 12 | 78 | 12 | 12 | 36 | 68121E028 | **4TZ97** | 68121E012 | **4UC46** | 154.60 | **104.95** | 52.0 |
| 2 | 1 | 2 | 12 | 15 | 78 | 12 | 15 | 36 | 68131E028 | **4TZ99** | 68131E012 | **4UC47** | 162.30 | **110.15** | 58.0 |
| 2 | 1 | 2 | 12 | 18 | 78 | 12 | 18 | 36 | 68141E028 | **4UC01** | 68141E012 | **4UC48** | 169.10 | **114.75** | 60.0 |
| 2 | 1 | 2 | 12 | 18 | 78 | 12 | 18 | 36 | 68151E028 | **4UC02** | 68151E012 | **4UC49** | 174.80 | **118.65** | 62.0 |
| 2 | 1 | 2 | 15 | 15 | 78 | 15 | 15 | 36 | 68113E028 | **4UC03** | 68113E012 | **4UC50** | 364.80 | **247.75** | 118.0 |
| 2 | 3 | 6 | 36 | 12 | 66 | 12 | 12 | 30 | 68123E028 | **4UC04** | 68123E012 | **4UC51** | 386.10 | **262.00** | 138.0 |
| 2 | 3 | 6 | 36 | 12 | 78 | 12 | 12 | 36 | 68133E028 | **4UC05** | 68133E012 | **4UC52** | 405.30 | **275.25** | 147.0 |
| 2 | 3 | 6 | 36 | 15 | 78 | 12 | 15 | 36 | 68143E028 | **4UC06** | 68143E012 | **4UC53** | 422.70 | **287.00** | 155.0 |
| 2 | 3 | 6 | 36 | 18 | 78 | 12 | 18 | 36 | 68153E028 | **4UC07** | 68153E012 | **4UC54** | 437.10 | **296.75** | 163.0 |
| 5 | 1 | 5 | 12 | 12 | 66 | 12 | 12 | 12 | 68161E028 | **4UC08** | 68161E012 | **4UC56** | 168.00 | **114.00** | 48.0 |
| 5 | 1 | 5 | 12 | 15 | 66 | 12 | 15 | 12 | 68171E028 | **4UC09** | 68171E012 | **4UC57** | 171.75 | **116.55** | 51.0 |
| 5 | 1 | 5 | 15 | 15 | 66 | 15 | 15 | 12 | 68181E028 | **4UC12** | 68181E012 | **4UC58** | 194.25 | **131.85** | 59.0 |
| 5 | 1 | 5 | 36 | 12 | 66 | 12 | 12 | 12 | 68163E028 | **4UC13** | 68163E012 | **4UC59** | 422.25 | **286.75** | 118.0 |
| 5 | 3 | 15 | 36 | 12 | 66 | 12 | 12 | 12 | 68173E028 | **4UC14** | 68173E012 | **4UC60** | 429.00 | **291.25** | 130.0 |
| 5 | 3 | 15 | 36 | 15 | 66 | 12 | 15 | 12 | 68183E028 | **4UC15** | 68183E012 | **4UC61** | 485.25 | **329.50** | 154.0 |
| 5 | 3 | 15 | 45 | 15 | 66 | 15 | 15 | 12 | | | | | | | |
| 6 | 1 | 6 | 12 | 12 | 78 | 12 | 12 | 12 | 68191E028 | **4UC16** | 68191E012 | **4UC62** | 197.10 | **133.75** | 52.0 |
| 6 | 1 | 6 | 12 | 15 | 78 | 12 | 15 | 12 | 68201E028 | **4UC17** | 68201E012 | **4UC63** | 201.60 | **136.80** | 57.0 |
| 6 | 1 | 6 | 12 | 18 | 78 | 12 | 18 | 12 | 68211E028 | **4UC18** | 68211E012 | **4UC64** | 213.00 | **144.55** | 62.0 |
| 6 | 1 | 6 | 12 | 18 | 78 | 12 | 18 | 12 | 68193E028 | **4UC19** | 68193E012 | **4UC65** | 493.20 | **334.75** | 137.0 |
| 6 | 3 | 18 | 36 | 12 | 78 | 12 | 12 | 12 | 68203E028 | **4UC20** | 68203E012 | **4UC67** | 506.70 | **344.00** | 155.0 |
| 6 | 3 | 18 | 36 | 15 | 78 | 12 | 15 | 12 | 68213E028 | **4UC21** | 68213E012 | **4UC68** | 532.80 | **361.75** | 160.0 |
| 6 | 3 | 18 | 36 | 18 | 78 | 12 | 18 | 12 | | | | | | | |
| 2 Person, 1 Wide, 1 Frame<br>2 Person, 3 Wide, 3 Frames | | | 15<br>45 | 18<br>18 | 78<br>78 | 7.5<br>7.5 | 18<br>18 | 52<br>52 | 68251E028<br>68253E028 | **4UC23**<br>**4UC24** | 68251E012<br>68253E012 | **4UC69**<br>**4UC70** | 269.95<br>674.85 | **183.25**<br>**458.00** | 77.0<br>217.0 |
| 16 Person, 16 Openings | | | 69 | 18 | 78 | 12 | 18 | 12 | 68231E028 | **4UC25** | 68231E012 | **4UC71** | 551.25 | **374.25** | 180.0 |
| Wall Mount, 4 Openings | | | 45 | 18 | 13⅝ | 12 | 18 | 12 | 68242E028 | **4UC26** | 68242E012 | **4UC72** | 224.10 | **152.25** | 43.0 |

STORAGE EQUIPMENT

# UNASSEMBLED QUIET LOCKERS AND LOCKER ACCESSORIES



1 Tier Lockers (3 Wide Shown)

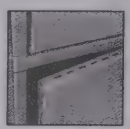


2 Tier Lockers (3 Wide Shown)

New PENCO® GUARDIAN™ LOCKERS



Classic III Recessed Handle



Door Ventilation Slots

FREE DELIVERY on orders of $900 or more

See Freight Policy

**Quiet Construction** – Solid door; unique nylon glides silence the latch channel during closing.

**Flush Front Design** – Distinctive look; stainless steel recessed handles; no protrusions on front of locker.

**Automatic Door Latching** – Door will latch with lock in place.

**Available in 1 & 2 Tier; 1 Wide & 3 Wide** – 4 basic sizes to fit any room.

**Choice of 3 Colors** – Gray, Lake Blue & Hunter Green.

Guardian lockers feature quiet doors with durable Classic III stainless steel recessed pockets. Accepts padlocks or built-in locks (purchased separately). Lockers are constructed from 16 gauge doors and frames, and 24 gauge body parts. 6" legs and coat hooks are standard. 1 Tier has a hat shelf. All lockers must be anchored to the floor and/or wall for safety.

## GUARDIAN LOCKERS

| Locker Type Tier | Wide | Openings | Overall Dimensions (In.) Including 6" Legs W | D | H | Ea. Opening (In.) Incl. Frame W | D | H | Gray Penco Model | Gray Stock No. | Lake Blue Penco Model | Lake Blue Stock No. | Hunter Green Penco Model | Hunter Green Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 12 | 12 | 78 | 12 | 12 | 72 | 67501E028 | **4UD48** | 67501E715 | **4UD63** | 67501E812 | **4UD79** | $145.86 | **$116.70** | 52.0 |
| 1 | 1 | 1 | 12 | 15 | 78 | 12 | 15 | 72 | 67511E028 | **4UD49** | 67511E715 | **4UD64** | 67511E812 | **4UD80** | 150.90 | **120.75** | 56.0 |
| 1 | 1 | 1 | 12 | 18 | 78 | 12 | 18 | 72 | 67521E028 | **4UD50** | 67521E715 | **4UD65** | 67521E812 | **4UD81** | 159.00 | **127.20** | 60.0 |
| 1 | 1 | 1 | 15 | 18 | 78 | 15 | 18 | 72 | 67551E028 | **4UD51** | 67551E715 | **4UD66** | 67551E812 | **4UD82** | 172.50 | **138.00** | 65.0 |
| 1 | 3 | 3 | 36 | 12 | 78 | 12 | 12 | 72 | 67503E028 | **4UD52** | 67503E715 | **4UD68** | 67503E812 | **4UD83** | 364.65 | **291.75** | 138.0 |
| 1 | 3 | 3 | 36 | 15 | 78 | 12 | 15 | 72 | 67513E028 | **4UD53** | 67513E715 | **4UD69** | 67513E812 | **4UD84** | 377.25 | **302.00** | 140.0 |
| 1 | 3 | 3 | 36 | 18 | 78 | 12 | 18 | 72 | 67523E028 | **4UD54** | 67523E715 | **4UD70** | 67523E812 | **4UD85** | 397.50 | **318.00** | 155.0 |
| 1 | 3 | 3 | 45 | 18 | 78 | 15 | 18 | 72 | 67553E028 | **4UD55** | 67553E715 | **4UD71** | 67553E812 | **4UD86** | 431.25 | **345.00** | 167.0 |
| 2 | 1 | 2 | 12 | 12 | 78 | 12 | 12 | 36 | 67631E028 | **4UD57** | 67631E715 | **4UD72** | 67631E812 | **4UD87** | 178.20 | **137.10** | 52.0 |
| 2 | 1 | 2 | 12 | 15 | 78 | 12 | 15 | 36 | 67641E028 | **4UD58** | 67641E715 | **4UD73** | 67641E812 | **4UD88** | 185.88 | **143.00** | 58.0 |
| 2 | 1 | 2 | 12 | 18 | 78 | 12 | 18 | 36 | 67651E028 | **4UD59** | 67651E715 | **4UD74** | 67651E812 | **4UD90** | 192.84 | **148.35** | 60.0 |
| 2 | 3 | 6 | 36 | 12 | 78 | 12 | 12 | 36 | 67633E028 | **4UD60** | 67633E715 | **4UD75** | 67633E812 | **4UD91** | 445.50 | **342.75** | 138.0 |
| 2 | 3 | 6 | 36 | 15 | 78 | 12 | 15 | 36 | 67643E028 | **4UD61** | 67643E715 | **4UD76** | 67643E812 | **4UD92** | 464.70 | **357.50** | 147.0 |
| 2 | 3 | 6 | 36 | 18 | 78 | 12 | 18 | 36 | 67653E028 | **4UD62** | 67653E715 | **4UD77** | 67653E812 | **4UD93** | 482.10 | **371.00** | 155.0 |

## PENCO LOCKER ACCESSORIES

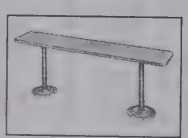
**LOCKER ROOM BENCHES AND PEDESTALS**- A natural accessory for any locker area. Made from selected hardwood and finished with clear lacquer. Order pedestals separately.

Bench Pedestals are constructed from heavy duty steel tubing welded to the top and bottom flanges. Use two pedestals per bench. Hardware for fastening to the bench is included. Pedestal MUST be anchored to the floor (floor anchors not included).

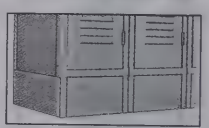
**SLOPE TOP KITS**– Discourages use of top for storage. Available for preassembled and unassembled Vanguard lockers and Gray Guardian & Invincible II Lockers. Each kit accommodates a 3-wide group.

**FRONT BASES**– Fits between the 6" legs of preassembled and unassembled Vanguard lockers and Gray Guardian & Invincible II lockers. Presents a neater appearance and prevents debris under the lockers.

PENCO®







New

## LOCKER ROOM BENCHES AND PEDESTALS

| Description | Overall Dimensions (In.) W | D | H | Penco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Hardwood Bench Top | 48 | 9½ | 1¼ | 09600 | **4UF28** | $75.75 | **$47.35** | 16.0 |
| Hardwood Bench Top | 60 | 9½ | 1¼ | 09601 | **4UF29** | 94.00 | **58.75** | 20.0 |
| Hardwood Bench Top | 72 | 9½ | 1¼ | 09602 | **4UF30** | 112.70 | **70.45** | 24.0 |
| Hardwood Bench Top | 96 | 9½ | 1¼ | 09604 | **4UF31** | 150.50 | **94.10** | 32.0 |
| Bench Pedestal - Gray | — | — | 16¼ | 60822H028 | **4UF32** | 25.30 | **24.68** | 5.0 |

## FRONT BASES AND SLOPE TOPS

| Description | Overall Dimensions (In.) W | D | H | Gray Penco Model | Gray Stock No. | Tawny Tan Penco Model | Tawny Tan Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Front Base - Pkg of 3 | 12 | – | 6 | 60217-028 | **4UF33** | 60217-012 | **4UF38** | $5.20 | **$4.95** | 1.0 |
| Front Base - Pkg of 3 | 15 | – | 6 | 60218-028 | **4UF36** | 60218-012 | **4UF39** | 5.60 | **5.33** | 1.0 |
| Front Base - Pkg of 3 | 18 | – | 6 | 60219-028 | **4UF37** | 60219-012 | **4UF40** | 6.30 | **5.98** | 1.8 |
| Slope Top Kit - 12" W Frames - 3 Wide | 36 | 12 | 4 | 60230H028 | **4UF41** | 60230H012 | **4UF48** | 27.05 | **25.70** | 7.0 |
| Slope Top Kit - 12" W Frames - 3 Wide | 36 | 15 | 5 | 60232H028 | **4UF42** | 60232H012 | **4UF49** | 30.10 | **28.60** | 8.0 |
| Slope Top Kit - 12" W Frames - 3 Wide | 36 | 18 | 6 | 60234H028 | **4UF43** | 60234H012 | **4UF50** | 34.40 | **32.70** | 9.0 |
| Slope Top Kit - 15" W Frames - 3 Wide | 45 | 15 | 5 | 60238H028 | **4UF44** | 60238H012 | **4UF51** | 37.00 | **35.15** | 9.0 |
| Slope Top Kit - 15" W Frames - 3 Wide | 45 | 18 | 6 | 60240H028 | **4UF45** | 60240H012 | **4UF52** | 41.40 | **39.35** | 11.0 |
| Slope Top Kit - 18" W Frames - 3 Wide | 54 | 18 | 6 | 60244H028 | **4UF47** | 60244H012 | **4UF53** | 46.35 | **44.05** | 14.0 |

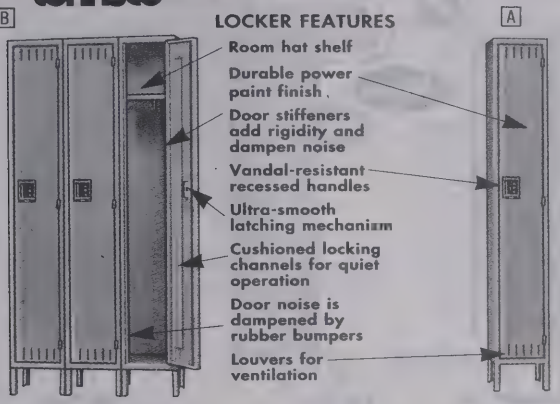


*As America's leading distributor, we know a thing or two about storage.*

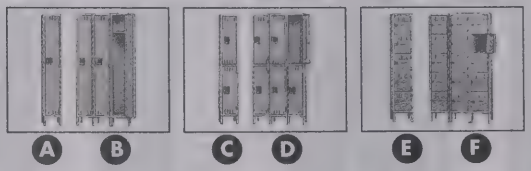
# UNASSEMBLED AND PREASSEMBLED LOCKERS

tennsco

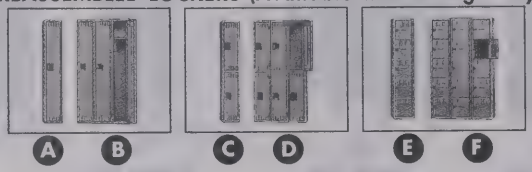
## LOCKER FEATURES




## UNASSEMBLED LOCKERS (Available with legs only)




## PREASSEMBLED LOCKERS (Available without legs only)



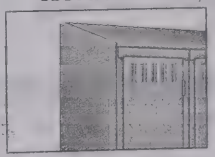

| Key | Locker Type | Overall Dimensions (In.) W | D | Each Opening Including Frame (in.) W | D | H | UNASSEMBLED LOCKERS Stock No. Med. Gray | Tan | List | Each | Shpg. Wt. | PREASSEMBLED LOCKERS Stock No. Tan | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE TIER** | | | | | | | **Overall Ht 78" (except 12" depth - 66")** | | | | | **Overall height 72"** | | | |
| A | 1 opening | 12 | 12 | 12 | 12 | 60 | **4W249** | **4W250** | $144.20 | **$107.20** | 55.0 | — | — | — | — |
| B | 3 openings | 36 | 12 | 12 | 12 | 60 | **3W065** | **4W265** | 348.00 | **249.25** | 138.0 | — | — | — | — |
| A | 1 opening | 12 | 15 | 12 | 15 | 72 | **4W251** | **4W252** | 167.90 | **124.80** | 66.0 | — | — | — | — |
| B | 3 openings | 36 | 15 | 12 | 15 | 72 | **3W066** | **4W266** | 402.60 | **300.75** | 168.0 | — | — | — | — |
| A | 1 opening | 12 | 18 | 12 | 18 | 72 | **4W253** | **4W254** | 175.00 | **128.30** | 70.0 | **3W353** | $207.60 | **$151.75** | 72.0 |
| B | 3 openings | 36 | 18 | 12 | 18 | 72 | **3W133** | **4W267** | 424.50 | **317.50** | 174.0 | **3W354** | 506.40 | **376.25** | 180.0 |
| A | 1 opening | 15 | 18 | 15 | 18 | 72 | **4W255** | **4W256** | 183.80 | **137.45** | 78.0 | **3W355** | 222.80 | **162.25** | 76.0 |
| B | 3 openings | 45 | 18 | 15 | 18 | 72 | **3W134** | **4W268** | 456.60 | **340.50** | 195.0 | **3W356** | 548.10 | **405.00** | 198.0 |
| **DOUBLE TIER** | | | | | | | **Overall height 78"** | | | | | **Overall height 72"** | | | |
| C | 2 opening | 12 | 12 | 12 | 12 | 36 | **4W257** | **4W258** | $171.20 | **$127.20** | 63.0 | — | — | — | — |
| D | 6 openings | 36 | 12 | 12 | 12 | 36 | **3W067** | **4W269** | 427.20 | **317.25** | 162.0 | — | — | — | — |
| C | 2 opening | 12 | 15 | 12 | 15 | 36 | **4W259** | **4W260** | 177.00 | **132.20** | 67.0 | — | — | — | — |
| D | 6 openings | 36 | 15 | 12 | 15 | 36 | **3W068** | **4W270** | 453.60 | **338.75** | 169.0 | — | — | — | — |
| C | 2 opening | 12 | 18 | 12 | 18 | 36 | **4W261** | **4W262** | 184.00 | **137.40** | 71.0 | **4W200** | 231.20 | **169.25** | 71.0 |
| D | 6 openings | 36 | 18 | 12 | 18 | 36 | **3W135** | **4W271** | 462.60 | **345.00** | 182.0 | **3W456** | 540.00 | **425.75** | 174.0 |
| C | 2 opening | 15 | 18 | 15 | 18 | 36 | — | — | — | — | — | **4W201** | 231.60 | **176.25** | 78.0 |
| D | 6 openings | 45 | 18 | 15 | 18 | 36 | — | — | — | — | — | **3W457** | 42.05 | **30.70** | 192.0 |
| **FIVE TIER BOX** | | | | | | | **Overall height 66"** | | | | | **Overall height 60"** | | | |
| E | 5 opening | 12 | 15 | 12 | 15 | 12 | **4W263** | **4W264** | $176.50 | **$144.30** | 59.0 | **4W202** | $236.00 | **$187.75** | 65.0 |
| F | 15 openings | 36 | 15 | 12 | 15 | 12 | **3W069** | **4W272** | 445.50 | **364.25** | 165.0 | **4W203** | 561.00 | **472.00** | 180.0 |

- **Solid steel construction for security and quiet operation**
- **Multi point automatic locking system for added security**
- **Flush mount doors and kick-proof handles prevent damage and unauthorized access**
- **Accommodates padlocks and combination locks(see page 2624)**
- **Choose from preassembled or unassembled lockers**

Tennsco lockers feature heavy-duty construction and vandal-resistant handles for secure storage of clothing and personal belongings. Rubber bumpers, cushioned locking channel and door stiffeners offer a smooth quiet operation while holding up to the toughest abuse.

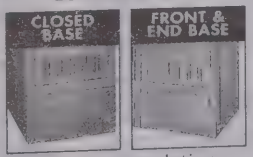
Depending on the style, lockers are equipped with handy features like coat hooks or coat rods. All offer great features and good looks at an affordable price.

## SLOPING TOP



Prevents dust accumulation & use of top for storage.

## LOCKER BASES




Prevents accumulation of dust & protection from moisture.

** Raises locker 6" off Floor

## SLOPING TOPS

| Overall Dimensions (In.) W | D | H | Stock No. Med. Gray | Tan | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 12 | 12 | 4 5/32 | **6A280** | **6A279** | $18.40 | **$12.78** | 3.0 |
| 12 | 15 | 5 3/32 | **6A282** | **6A281** | 19.00 | **14.22** | 3.5 |
| 12 | 18 | 6 | **6A284** | **6A283** | 20.40 | **15.65** | 4.0 |
| 15 | 18 | 6 | **6A286** | **6A285** | 21.20 | **16.30** | 4.5 |
| 36 | 12 | 4 5/32 | **6A288** | **6A287** | 25.80 | **19.37** | 9.0 |
| 36 | 15 | 5 3/32 | **6A290** | **6A289** | 27.50 | **21.66** | 8.8 |
| 36 | 18 | 6 | **6A292** | **6A291** | 29.90 | **23.47** | 10.0 |
| 45 | 18 | 6 | **6A294** | **6A293** | 33.30 | **27.40** | 13.0 |

## LOCKERS BASES*

| Description | Fits Tennsco Unassembled Lockers With Following Overall Dim. (In.) | Stock No. Med. Gray | Tan | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Front Base | 12 and 36 in. width | 6A296 | 6A295 | $7.30 | $6.37 | 1.5 |
| Front Base | 15 and 45 in. width | 6A298 | 6A297 | 8.10 | 6.97 | 1.8 |
| End Base | 12 in. depth | 6A300 | 6A299 | 7.80 | 6.80 | 1.5 |
| End Base | 15 in. depth | 6A302 | 6A301 | 8.20 | 7.37 | 1.8 |
| End Base | 18 in. depth | 6A304 | 6A303 | 8.60 | 7.70 | 1.5 |

(*) For 36"–45" wide units; 3 bases are required

| Description | Fits Tennsco Preassembled Locker Size (in.) W | D | Stock No. Tan | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Closed Base | 12 | 15 | **3KT73** | $26.99 | **$24.30** | 6.8 |
| * Closed Base | 12 | 18 | **3KT74** | 28.63 | **25.75** | 7.6 |
| **Closed Base | 15 | 18 | **3KT75** | 29.20 | **26.25** | 8.0 |

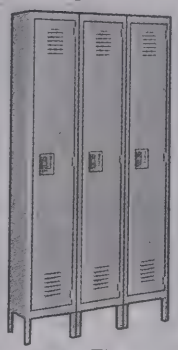
# UNASSEMBLED LOCKERS

## edsal CITADEL

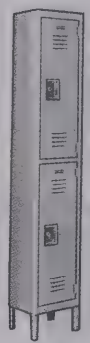
Replacement Parts Available
1-800-323-0620



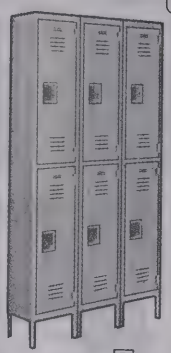
A
**Single Tier One Opening**



B
**Single Tier Three Openings**

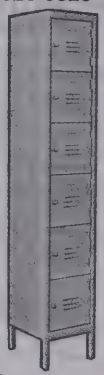


C
**Double Tier Two Openings**



D
**Double Tier Six Openings**

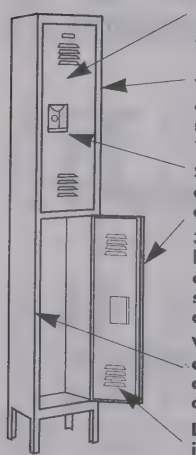
New



E
**Six Tier Six Openings**



F
**Six Tier Eighteen Openings**



- **Heavy 16-Gauge door provides durability**
- **Welded door frame construction forms a rigid, one piece "unibody" structure**
- **Steel recessed handles add safety with contemporary look**
- **3-point positive latching in enclosed channel provides security (single and double tier only)**
- **Vertical members are flanged, forming a continuous solid door strike**
- **Louvered door for improved ventilation**

### CITADEL, Edsal's Traditional Locker

- **Each part manufactured to exacting standards, assuring uniform fit and finish**
- **Lapped rear corners, formed front offset, large flanges on tops, bottoms, shelves, accurately punched holes for a strong, rigid locker unit**
- **Clean lines and an attractive finish help create the "right" environment**

**A & B Citadel Single Tier Lockers** offer maximum security, privacy and space for any personal storage need. Standard features include:

- **Ample height for hanging full length garments**
- **Conveniently located hat shelf.**
- **(3), single prong wall hooks and (1), double prong ceiling hook on 12" and 15" deep lockers**
- **Coat rod on 18" deep lockers**
- **Available in one or three wide configurations**

**C & D Citadel Double Tier Lockers** are the practical solution where space limitations do not allow for the use of a single tier locker system.

- **Extremely useful in warmer climates where short outer garments are worn and full length clothing is not required**
- **Double tier lockers have the same features, quality design and construction as our full size lockers with the exception of a hat shelf**
- **Available in one or three wide configurations**

**E & F Citadel Box Lockers** meet the storage needs of schools, industry, office and recreational facilities.

- **Available in 5 or 6 tier high configurations, one or three wide**
- **Individual compartment doors feature a strong steel hasp assembly**
- **To order number plates, built-in and combination locks, call 1-800-323-0620**

## *New!* UNASSEMBLED LOCKER ORDERING DATA

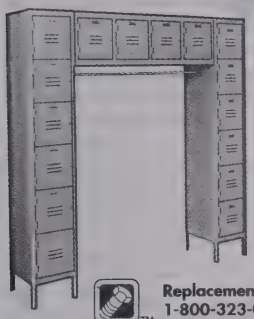
| Key | Tiers | No. of Openings | Overall Dimensions (In.) W | D | H | Opening Dimensions W | D | H | Edsal No. | *New!* Stock No. Gray | Tan | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Single | 1 | 12 | 12 | 66 | 12 | 12 | 60 | CL5001 | **4TX01** | **4TX02** | $106.76 | **$74.85** | 42.0 |
| B | Single | 3 | 36 | 12 | 66 | 12 | 12 | 60 | CL5003 | **4TX03** | **4TX04** | 267.03 | **190.75** | 114.0 |
| A | Single | 1 | 12 | 15 | 78 | 12 | 15 | 72 | CL5041 | **4TX05** | **4TX06** | 122.13 | **86.15** | 52.0 |
| B | Single | 3 | 36 | 15 | 78 | 12 | 15 | 72 | CL5043 | **4TX07** | **4TX08** | 305.66 | **220.00** | 141.0 |
| A | Single | 1 | 12 | 18 | 78 | 12 | 18 | 72 | CL5051 | **4TX09** | **4TX10** | 129.49 | **91.45** | 56.0 |
| B | Single | 3 | 36 | 18 | 78 | 12 | 18 | 72 | CL5053 | **4TX11** | **4TX12** | 323.73 | **233.50** | 149.0 |
| A | Single | 1 | 15 | 18 | 78 | 15 | 18 | 72 | CL5061 | **4TX13** | **4TX14** | 141.53 | **100.20** | 63.0 |
| B | Single | 3 | 45 | 18 | 78 | 15 | 18 | 72 | CL5063 | **4TX15** | **4TX16** | 353.69 | **254.25** | 169.0 |
| C | Double | 2 | 12 | 12 | 78 | 12 | 12 | 36 | CL5071 | **4TX17** | **4TX18** | 135.51 | **94.15** | 49.0 |
| D | Double | 6 | 36 | 12 | 78 | 12 | 12 | 36 | CL5073 | **4TX19** | **4TX20** | 338.64 | **239.50** | 134.0 |
| C | Double | 2 | 12 | 15 | 78 | 12 | 15 | 36 | CL5081 | **4TX21** | **4TX22** | 142.29 | **99.10** | 53.0 |
| D | Double | 6 | 36 | 15 | 78 | 12 | 15 | 36 | CL5083 | **4TX23** | **4TX24** | 355.34 | **252.00** | 142.0 |
| C | Double | 2 | 12 | 18 | 78 | 12 | 18 | 36 | CL5091 | **4TX25** | **4TX26** | 148.15 | **103.30** | 56.0 |
| D | Double | 6 | 36 | 18 | 78 | 12 | 18 | 36 | CL5093 | **4TX27** | **4TX28** | 370.44 | **263.00** | 151.0 |
| – | Five | 5 | 12 | 12 | 66 | 12 | 12 | 12 | CL5101 | **4TX29** | **4TX30** | 147.43 | **100.95** | 44.0 |
| – | Five | 15 | 36 | 12 | 66 | 12 | 12 | 12 | CL5103 | **4TX31** | **4TX32** | 369.73 | **256.75** | 120.0 |
| – | Five | 5 | 12 | 15 | 66 | 12 | 15 | 12 | CL5111 | **4TX33** | **4TX34** | 150.59 | **103.55** | 48.0 |
| – | Five | 15 | 36 | 15 | 66 | 12 | 15 | 12 | CL5113 | **4TX35** | **4TX36** | 376.32 | **263.00** | 130.0 |
| E | Six | 6 | 12 | 18 | 78 | 12 | 18 | 12 | CL5141 | **4TX37** | **4TX38** | 186.64 | **128.50** | 61.0 |
| F | Six | 18 | 36 | 18 | 78 | 12 | 18 | 12 | CL5143 | **4TX39** | **4TX40** | 467.91 | **327.25** | 192.0 |



*As America's leading distributor, we know a thing or two about storage.*

# UNASSEMBLED WARDROBE AND BULK STORAGE LOCKERS

## 16-PERSON WARDROBE LOCKERS



edsal

New

Replacement Parts Available
1-800-323-0620

**Citadel 16-Person Box Lockers** — provide an economical solution for personal security with hanging space for full length garments in industrial, office, recreational facilities or schools.

**Space efficient design** — is ideal for any application where a limited space must accommodate many people. Each unit contains 16 individual, easy to reach compartments.

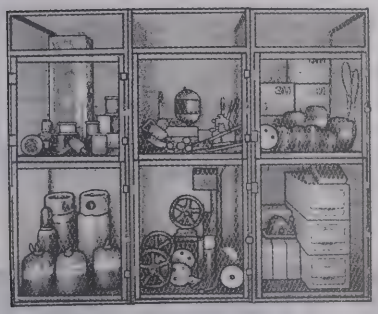
**Louvered door vents** — provides air circulation to prevent mildew.

**Locker hasp** — accommodates padlock*; knockout accommodates optional built-in cylinder keylock (order Part No. 200-3630†). Constructed of rugged 18-Gauge steel outer door, 16-Gauge steel frames and 24-Gauge steel body panels. Number plates available separately call 1-800-323-0620. Shipped unassembled. Gray or tan powder coat finish. Edsal brand.

(*) Accommodates padlock Nos. 1A446, 1A377, 1A376, 4T103, and 6X694. Refer to Index under Locks.

| Overall Dim. (In.) W | D | H | Opening Including Frame (In.) W | D | H | Edsal Model | *New!* Stock No. Gray | Tan | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 72 | 18 | 78 | 12 | 18 | 12 | CL515 | **4TX41** | **4TX42** | $483.18 | **$333.75** | 166.0 |

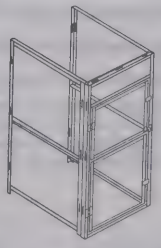
## BULK STORAGE LOCKERS



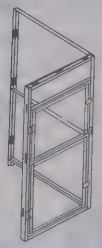



New

SINGLE TIER

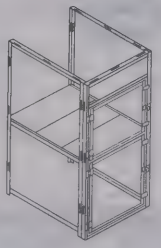


Starter

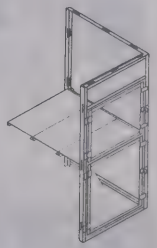


Add-on

DOUBLE TIER



Starter



Add-on

Store-More lockers - designed to make the storage system easy to plan and economical to use. Begin with a starter unit and just attach add on units.

Single or double tier units are available. All frames 90" tall. Lockers are made of 4 ga. welded wire with a galvanized finish.

Double tier door models - include a 22 ga. galvanized solid middle shelf.

| Description | Specifications W x D (Ft.) | Folding Guard Model # | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Starter Unit** | Single tier 3 x 3 | ST-133 | **4UH31** | 298.66 | **249.00** | 120.0 |
| **Add-on Unit** | Single tier 3 x 3 | AD-133 | **4UH20** | 224.00 | **186.75** | 90.0 |
| **Starter Unit** | Double tier 3 x 3 | ST-233 | **4UH32** | 360.36 | **301.00** | 130.0 |
| **Add-on Unit** | Double tier 3 x 3 | AD-233 | **4UH21** | 298.66 | **249.00** | 110.0 |
| **Starter Unit** | Double tier 4 x 3 | ST-243 | **4UH33** | 423.10 | **352.75** | 140.0 |
| **Add-on Unit** | Double tier 4 x 3 | AD-243 | **4UH22** | 335.98 | **280.25** | 120.0 |
| **Locker Top** | Locker top 3 x 3 | LKR TOP 3 x 3 | **4UH23** | 37.32 | **31.10** | 10.0 |
| **Locker Top** | Locker top 4 x 3 | LKR TOP 4 x 3 | **4UH24** | 39.32 | **32.80** | 12.0 |

## KEY OPERATED LOCKER LOCKS

Master Lock.



A



B

A **Medium Security.** For cost effective nuisance protection. Dependable lever tumbler design discourages pilfering and is ideal for applications requiring general security. Designed to fit most lockers. Rugged steel case withstands abuse. All locks supplied master keyed. Two keys supplied with each lock. Mounting hardware not included. Master Lock brand.

B **High Security.** Features 5-pin tumbler cylinders for pick resistance and increased key control. Includes manually operated deadbolt and hardened steel case to resist tampering and vandalism. Designed to fit most lockers. Two keys supplied with each lock. Mounting hardware not included. Master Lock brand.

### SPECIFICATIONS AND ORDERING DATA

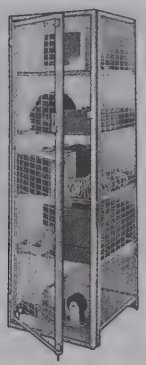
| Key | Description | Security Level | Locking Mechanism | Key Type | Required Door Thickness | Master Lock Model | Stock No. | List | Each | Lots 10 | Lots 30 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Built-In Keyed Lock | Medium | Lever Tumbler | Master Keyed | .020"-.188" | 1718 | **5T806** | $9.36 | **$8.42** | **$8.00** | **$7.58** | 0.3 |
| — | Master Key for No. 5T806 | | | | | 1718K | **6T328** | 3.70 | **3.33** | **3.16*** | **3.00†** | 0.1 |
| **B** | Built-In Keyed Lock | High | 5-Pin Tumbler | Different | .20"-.188" | 1710 | **1D571** | 10.10 | **9.09** | **8.64** | **8.18** | 0.3 |

(*) Lots 25 price. (†) Lots 50 price.

## VISIBILITY LOCKER

New



**Ideal storage for tools, test equipment and anything else of value that need to be secured.**

- **Easy visibility and access**
- **Feature five non-adjustable shelves**
- **Made of 8 gauge welded wire with 14 gauge frame**

| Description | Dimensions | Folding Guard Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Visibility Locker** | 1.5' x 1.5' x 72"H | VIS-LOKR | **4UH34** | $350.33 | **$292.00** | 175.0 |

## SAF-T-STOR™ CYLINDER STORAGE LOCKERS

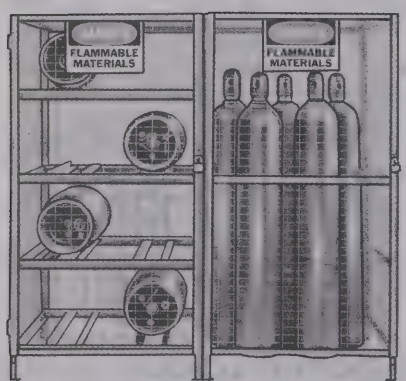



New

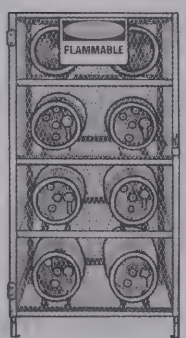
- **Prehung doors for simple, fast setup**
- **OSHA Required 1910-110**
- **Fire Dept. Approved—NFPA Standard #58-79**

Keep air cylinder and propane tanks stabilized, ordered and out of harm's way.

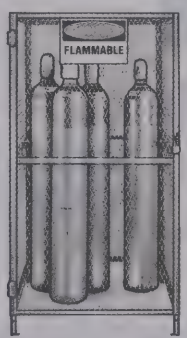
Feature 4 gauge welded wire sides and door with 3 x 3" spacing; durable 12 gauge galvanized steel roof. Prehung door includes a padlock hasp (padlock not included). Includes all hardware; assembly required. Galvanized metal finish has OSHA approved yellow and red signage. Folding Guard brand.



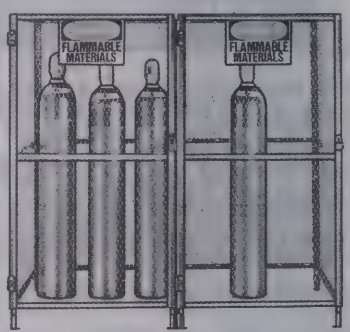

**Saf-T-Combo Combination Cylinder Storage No. 4UH29**




**Saf-T-8 Horizontal Cylinder Storage No. 4UH28**




**Saf-T-10 Vertical Cylinder Storage No. 4UH30**




**Saf-T-20 Vertical Cylinder Storage No. 4UH26**

| Description | Capacity | Folding Guard Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Vertical Cylinder Storage** | 9 Cylinders | SAF-T-10 | **4UH30** | $595.36 | **$458.00** | 118.0 |
| **Vertical Cylinder Storage** | 18 Cylinders | SAF-T-20 | **4UH26** | 822.16 | **632.50** | 236.0 |
| **Horizontal Cylinder Storage** | 4 Propane Tanks | SAF-T-4 | **4UH27** | 453.60 | **349.00** | 100.0 |
| **Horizontal Cylinder Storage** | 8 Propane Tanks | SAF-T-8 | **4UH28** | 651.10 | **501.00** | 200.0 |
| **Horizontal Cylinder Storage** | 16 Propane Tanks | SAF-T-16 | **4UH25** | 891.00 | **686.00** | 400.0 |
| **Combination Cylinder Storage** | 8 Propane Tanks and 9 Cylinders | SAF-T-COMBO | **4UH29** | 963.90 | **742.00** | 318.0 |

## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# WELDED WIRE PARTITIONS AND PREDESIGNED ROOM KITS

- More economical than woven wire
- Modular design enables fast installation and easy relocation
- Easily trimmed panels will not unravel when cut or damaged
- Galvanized finish is more durable than paint

**Welded wire partitions** provide security with an unobstructed view of operation and/or contents. Useful for quality control areas, shipping offices, tool and supply rooms.

Modular panels stack together to form 8, 10, or 12 ft. high partitions. Panels are 8-gauge (0.162) galvanized wire welded into a 1½ x 3" grid. 1" bends on the top and bottom add rigidity and provide a mounting point to bolt horizontally stacked panels together (hardware included).

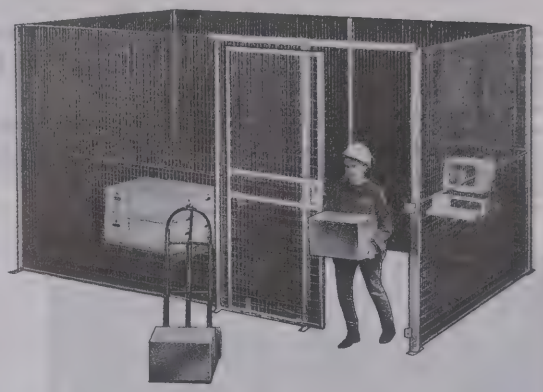
Heavy-duty 14-gauge 2 x 2" posts welded to 7 x 2 x 1/4" predrilled mounting plate. Posts are predrilled for panel attachment (hardware included). Hinged door is available with a 3 ft. clear width opening and a 94" clear height. Sliding doors are available with a 4, 6, or 8 ft. clear width opening and 96" clear height. Door track extends to prior panel post for increased strength. All doors include a cylinder lock with two keys for added security.



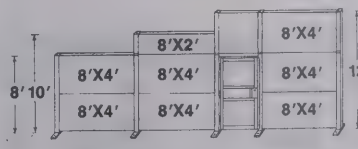

Qwik-Fence®



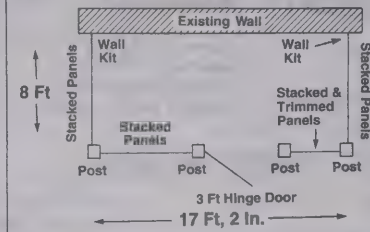

See Freight Policy



**Stack Panels as Shown to Form 8, 10, or 12 Ft. Partitions**




**8 Ft. Post** — **8 Ft. Post with 2 Ft. Post Extension** — **8 Ft. Post with 4 Ft. Post tension**




**Example of 17 Ft., 2 In. Wide x 8 Ft. Deep 3-Wall Room**

**PARTS LIST FOR EXAMPLE SHOWN**

| 8 Ft. High Partitions | | 10 Ft. High Partitions | | 12 Ft. High Partitions | |
|---|---|---|---|---|---|
| Qty. | Stock No. | Qty. | Stock No. | Qty. | Stock No. |
| 1 | 6H370 | 1 | 6H370 | 1 | 6H370 |
| 8 | 6H365 | 8 | 6H365 | 12 | 6H365 |
| 4 | 6H367 | 4 | 6H366 | 4 | 6H367 |
| 2 | 6H374 | 4 | 6H367 | 4 | 6H369 |
| | | 4 | 6H368 | 2 | 6H374 |
| | | 2 | 6H374 | 1 | 7W344 |
| | | 1 | 7W343 | | |

**HOW TO ORDER:**

1. Make a rough sketch of proposed enclosure. Mark overall dimensions on drawing.
2. Determine location, size, and type of doors and indicate on drawing. To fill space above doors on 10 and 12 ft. high partitions, order a transom kit for the appropriate height for each door. Transom kit includes the appropriate height panel and mounting hardware. Panel needs to be cut to length.
3. Panels stack on top of each other to form 8, 10, and 12 ft. high partitions. Wall kit must be ordered for each connection point to existing walls.
4. Posts must be used between each panel, on both sides of door and at corners. Standard post is 8 ft. high. Order post extensions to make 10 and 12 ft. high posts.
5. For lengths less than 8 ft. wide, panels can be trimmed to size.

| Description | Qwik-Fence Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **8' W x 2' H Panel*** | 8 x 2 | **6H366** | $39.28 | **$35.20** | 18.0 |
| **8' W x 4' H Panel*** | 8 x 4 | **6H365** | 56.28 | **50.40** | 30.0 |
| **3' W Hinge Door** | H3 | **6H370** | 211.31 | **189.75** | 80.0 |
| **4' W Slide Door** | S4 | **6H371** | 275.02 | **247.00** | 90.0 |
| **6' W Slide Door** | S6 | **6H372** | 334.49 | **300.00** | 140.0 |
| **8' W Slide Door** | S8 | **6H373** | 519.26 | **466.00** | 165.0 |

| Description | Qwik-Fence Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **8' H Post** | P8 | **6H367** | $47.78 | **$42.85** | 18.0 |
| **2' H Post Extension** | XP2 | **6H368** | 15.92 | **14.25** | 6.0 |
| **4' H Post Extension** | XP4 | **6H369** | 18.05 | **16.12** | 10.0 |
| **Wall Kit** | WK | **6H374** | 26.54 | **23.70** | 12.0 |
| **Transom Kit—10 Ft.** | — | **7W343** | 65.84 | **49.65** | 30.0 |
| **Transom Kit—12 Ft.** | — | **7W344** | 82.83 | **69.65** | 42.0 |

(*) Nominal size. Panel length is designed to fit between posts 8 ft. apart from center of post to center of post.

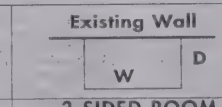
# QWIK FENCE® PREDESIGNED ROOM KITS

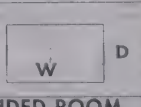
- Standard size room kits made up of components listed above
- Include all panels, door, posts, and hardware needed for a complete room
- Installation instructions included with door hardware
- Door is a 4 ft. wide x 8 ft. high slide door with cylinder lock and keys
- Door located on width side
- Rooms available in 8 and 10 ft. heights










| Room Sizes (Ft.) W D H | 2-SIDED ROOM Stock No. | List | Each | Shpg. Wt. | 3-SIDED ROOM Stock No. | List | Each | Shpg. Wt. | 4-SIDED ROOM Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 x 12 x 8 | 7A599 | $670.07 | $601.00 | 279.0 | 7A595 | $1287.05 | $725.50 | 351.0 | 7A589 | $1068.54 | $959.00 | 474.0 |
| 12 x 12 x 8 | 7A600 | 774.14 | 694.50 | 328.0 | 7A596 | 1495.18 | 912.00 | 449.0 | 7A590 | 1276.43 | 1145.00 | 572.0 |
| 12 x 16 x 8 | 7A601 | 830.42 | 744.50 | 358.0 | 7A597 | 1607.75 | 1013.00 | 509.0 | 7A591 | 1389.00 | 1245.00 | 632.0 |
| 16 x 16 x 8 | 7A602 | 943.25 | 819.00 | 400.0 | 7A598 | 1233.95 | 1106.00 | 558.0 | 7A592 | 1549.35 | 1389.00 | 711.0 |
| 8 x 12 x 10 | 7A611 | 862.27 | 773.00 | 363.0 | 7A607 | 1037.67 | 933.00 | 453.0 | 7A603 | 1426.14 | 1279.00 | 630.0 |
| 12 x 12 x 10 | 7A612 | 1021.55 | 916.00 | 436.0 | 7A608 | 1316.95 | 1183.00 | 581.0 | 7A604 | 1705.43 | 1529.00 | 758.0 |
| 12 x 16 x 10 | 7A613 | 1077.83 | 965.00 | 466.0 | 7A609 | 1468.81 | 1319.00 | 659.0 | 7A605 | 1857.28 | 1665.00 | 836.0 |
| 16 x 16 x 10 | 7A614 | 1196.95 | 1076.00 | 526.0 | 7A610 | 1628.09 | 1462.00 | 732.0 | 7A606 | 2702.85 | 1858.00 | 939.0 |

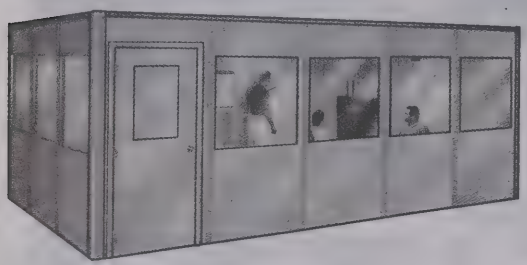
# IN-PLANT OFFICES

- Universal interchangeable components—Rearrange your wall panels and electrical for new room layouts
- Non-progressive design—Remove and swap wall panels without disturbing adjacent panels
- 3" Thick walls—offer superior stability and performance over 1¾" walls

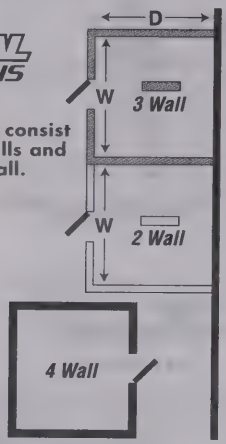
NATIONAL PARTITIONS

Three wall units consist of two short walls and one long wall.

New



Windows, additional doors and light fixtures are sold separately; To order, see page 2079




Save money by using existing walls or use multiple units for custom configurations

Relocate with 100% reusability; as your needs change, just re-create the office! Unitized wall panels are fully fabricated and ready for quick assembly. Insulated polystyrene panel core provides maximum energy efficient insulation values up to R-13.

22-Gauge corrugated steel roof seals out noist and dust. Acoustical drop ceiling allows flush lighting and conceals electrical wiring. 2' x 4' Lay-in light fixtures provide efficient 75 ft. candles of office lighting.

Flush mounted duplex outlets are conveniently located with concealed conduit and junction box. Breaker panel features a separate centralized load center for safety.

**In-Plant Offices Include:** all 8 ft. high 3" thick solid wall panels, and appropriate number of channels, posts, corners, fascia, connecting hardware, and installation instructions. One right-hand swing 30 x 70"H steel door with 3/16" tempered safety glass window, 20 x 30". Door is pre-hung, tan, with stainless steel grade II knob lock and hardware. Lay-in acoustical ceilng, white, 2 x 4 ft. grid and mineral tiles. 22-Gauge steel ribbed roof deck. Steel joists on 16 x 16 ft. units. All dimensions are nominal centerline of wall. Ceiling height is 88", overall height is 8' 2¼". Floor anchors and fasteners for existing wall connections are not included.

## EASY THREE

- 1/8" Hardboard with 4 mil tan vinyl facing
- R-11 insulation
- Sound Transmission Coefficent STC 24
- Class "C" fire rating

An economical system for warehouses and light manufacturing. National Partitions brand.

| Size D x W (Ft.) | Lights/Outlet | | COMPLETE 4 WALL New! Stock No. | List | Each | Shpg. Wt. | COMPLETE 3 WALL New! Stock No. | List | Each | Shpg. Wt. | COMPLETE 2 WALL New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 x 8 | 1 | 2 | 4UV98 | $2812.65 | $2446.00▲ | 1160.0 | 4UV90 | $2446.48 | $2128.00▲ | 882.0 | 4UV82 | $2072.28 | $1802.00▲ | 658.0 |
| 8 x 10 | 1 | 2 | 4UV99 | 3074.89 | 2674.00▲ | 1258.0 | 4UV91 | 2612.66 | 2272.00▲ | 978.0 | 4UV83 | 2240.13 | 1948.00▲ | 754.0 |
| 8 x 12 | 2 | 2 | 4UW01 | 3431.96 | 2985.00▲ | 1410.0 | 4UV92 | 2874.61 | 2500.00▲ | 1074.0 | 4UV84 | 2504.78 | 2179.00▲ | 850.0 |
| 10 x 10 | 2 | 2 | 4UV93 | 3445.95 | 2997.00▲ | 1420.0 | 4UV85 | 2987.54 | 2598.00▲ | 1140.0 | 4UV77 | 2519.04 | 2191.00▲ | 860.0 |
| 10 x 12 | 2 | 3 | 4UV94 | 3737.15 | 3250.00▲ | 1582.0 | 4UV86 | 3182.96 | 2768.00▲ | 1246.0 | 4UV78 | 2716.47 | 2363.00▲ | 966.0 |
| 12 x 12 | 3 | 4 | 4UV95 | 4137.15 | 3598.00▲ | 1754.0 | 4UV87 | 3587.08 | 3120.00▲ | 1418.0 | 4UV79 | 3024.93 | 2631.00▲ | 1082.0 |
| 12 x 16 | 3 | 4 | 4UV96 | 4717.55 | 4103.00▲ | 2098.0 | 4UV88 | 3975.90 | 3458.00▲ | 1650.0 | 4UV80 | 3417.72 | 2972.00▲ | 1314.0 |
| 16 x 16 | 6 | 5 | 4UV97 | 5531.89 | 4811.00▲ | 2482.0 | 4UV89 | 4798.65 | 4173.00▲ | 2034.0 | 4UV81 | 4049.24 | 3522.00▲ | 1586.0 |

(▲) Net prices, not subject to discounts.

## EASY THREE FS

- 4-Mil tan vinyl finish applied to 1/2" gypsum
- R-9 Insulation
- Sound Transmission Coefficient STC 32
- Class "A" fire rating

Offers superior fire protection and noise reduction at an economical price. National Partitions brand.

| Size D x W (Ft.) | Lights / Outlet | | COMPLETE 4 WALL New! Stock No. | List | Each | Shpg. Wt. | COMPLETE 3 WALL New! Stock No. | List | Each | Shpg. Wt. | COMPLETE 2 WALL New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 x 8 | 1 | 2 | 4UW23 | $3056.78 | $2659.00▲ | 1160.0 | 4UW15 | $2634.45 | $2291.00▲ | 882.0 | 4UW07 | $2202.96 | $1916.00▲ | 658.0 |
| 8 x 10 | 1 | 2 | 4UW24 | 3348.61 | 2912.00▲ | 1258.0 | 4UW16 | 2815.90 | 2449.00▲ | 978.0 | 4UW08 | 2386.25 | 2075.00▲ | 754.0 |
| 8 x 12 | 2 | 2 | 4UW25 | 3736.27 | 3249.00▲ | 1410.0 | 4UW17 | 3094.13 | 2691.00▲ | 1074.0 | 4UW09 | 2667.28 | 2320.00▲ | 850.0 |
| 10 x 10 | 2 | 2 | 4UW18 | 3750.38 | 3262.00▲ | 1420.0 | 4UW10 | 3221.75 | 2802.00▲ | 1140.0 | 4UW02 | 2681.70 | 2332.00▲ | 860.0 |
| 10 x 12 | 2 | 3 | 4UW19 | 4071.49 | 3541.00▲ | 1582.0 | 4UW11 | 3432.74 | 2985.00▲ | 1246.0 | 4UW03 | 2894.80 | 2518.00▲ | 966.0 |
| 12 x 12 | 3 | 4 | 4UW20 | 4502.50 | 3916.00▲ | 1754.0 | 4UW12 | 3868.16 | 3364.00▲ | 1418.0 | 4UW04 | 3220.11 | 2801.00▲ | 1082.0 |
| 12 x 16 | 3 | 4 | 4UW21 | 5142.67 | 4472.00▲ | 2098.0 | 4UW13 | 4288.14 | 3729.00▲ | 1650.0 | 4UW05 | 3644.31 | 3169.00▲ | 1314.0 |
| 16 x 16 | 6 | 5 | 4UW22 | 6019.19 | 5235.00▲ | 2482.0 | 4UW14 | 5173.59 | 4499.00▲ | 2034.0 | 4UW06 | 4309.67 | 3748.00▲ | 1586.0 |

(▲) Net prices, not subject to discounts.

**NOTE:** Before purchasing, consult your local building department for appropriate wall construction codes and requirements. Consult an electrician for wire, lamps, and ceiling conduit installation.

CONTINUED ON NEXT PAGE

New

## SUPER STRUCTURE

The ultimate combination of strength and beauty. National Partitions brand.

- Galvanized steel with tan baked-on acrylic enamel paint for long lasting durability and corrosion resistance
- R-13 Insulation
- Embossed steel facings conceal incidental dents and fingerprints
- Non-combustible steel facing with Class "A" fire rating

| Size D x W (Ft.) | Lights / Outlet | | COMPLETE 4 WALL New! Stock No. | List | Each | Shpg. Wt. | COMPLETE 3 WALL New! Stock No. | List | Each | Shpg. Wt. | COMPLETE 2 WALL New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 x 8 | 1 | 2 | 4UW50 | $3594.63 | $3126.00▲ | 1160.0 | 4UW42 | $3041.95 | $2646.00▲ | 882.0 | 4UW34 | $2477.37 | $2155.00▲ | 658.0 |
| 8 x 10 | 1 | 2 | 4UW51 | 3953.70 | 3438.00▲ | 1258.0 | 4UW43 | 3257.35 | 2833.00▲ | 978.0 | 4UW35 | 2694.97 | 2344.00▲ | 754.0 |
| 8 x 12 | 2 | 2 | 4UW52 | 4408.58 | 3834.00▲ | 1410.0 | 4UW44 | 3569.54 | 3104.00▲ | 1074.0 | 4UW36 | 3010.30 | 2618.00▲ | 850.0 |
| 10 x 10 | 2 | 2 | 4UW45 | 4422.67 | 3846.00▲ | 1420.0 | 4UW37 | 3731.13 | 3245.00▲ | 1140.0 | 4UW29 | 3024.71 | 2631.00▲ | 860.0 |
| 10 x 12 | 2 | 3 | 4UW46 | 4811.02 | 4184.00▲ | 1582.0 | 4UW38 | 3976.09 | 3458.00▲ | 1246.0 | 4UW30 | 3272.13 | 2846.00▲ | 966.0 |
| 12 x 12 | 3 | 4 | 4UW47 | 5309.28 | 4617.00▲ | 1754.0 | 4UW39 | 4479.42 | 3896.00▲ | 1418.0 | 4UW31 | 3631.73 | 3159.00▲ | 1082.0 |
| 12 x 16 | 3 | 4 | 4UW48 | 6083.89 | 5291.00▲ | 2098.0 | 4UW40 | 4967.31 | 4320.00▲ | 1650.0 | 4UW32 | 4124.53 | 3587.00▲ | 1314.0 |
| 16 x 16 | 6 | 5 | 4UW49 | 7094.88 | 6170.00▲ | 2482.0 | 4UW41 | 5988.60 | 5208.00▲ | 2034.0 | 4UW33 | 4858.49 | 4225.00▲ | 1586.0 |

## ACCESSORIES FOR IN-PLANT OFFICES

Optional Safety Glass enables you to custom configure window requirements. National Partitions brand.

Air Conditioner Cutout and Frame is a factory trimmed opening required for proper fit of air conditioners or heating and cooling units into modular offices. Opening size is 26W x 15⅝"H. Shipped with three plug types shown below. National Partitions brand.

Thru-the-Wall Sleeve Kit is required for proper support of air conditioners or heating and cooling units into modular offices. White-Westinghouse brand.

| BtuH | Volts | Amps | White-Westinghouse Model | Stock No. | Plug Type |
|---|---|---|---|---|---|
| **AIR CONDITIONERS*** | | | | | |
| 8000 | 115 | 8.4 | WAH086P1T | 3H316 | |
| 10,100 | 115 | 10.5 | WAH106P1T | 3H412 | |
| 8900/8800 | 230/208 | 4.6/5.0 | WAH096P2T | 3H317 | |
| 10,700/10,600 | 230/208 | 5.7/6.0 | WAH117P2T | 3H413 | |
| **HEATING AND COOLING UNITS*** | | | | | |
| 10,600/8600 heat<br>8900/8800 cool | 230/208 | 15.5/14.0<br>4.6/5.0 | WAH09EP2T | 3H301 | |
| 10,600/8600 heat<br>10,700/10,600 cool | 230/208 | 15.5/14.0<br>5.7/6.0 | WAH11EP2T | 3H367 | |

(*) Air Conditioner Cutout & Frame and Thru-the-Wall Sleeve Kit are required for proper installation of these units in in-plant offices.

| Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Safety Glass 3/16" | 4UW26 | $114.89 | $99.95▲ | 15.0 |
| Steel Door (Extra) | 4UW27 | 908.53 | 790.50▲ | 80.0 |
| Light Fixture (Extra) | 4UW28 | 111.44 | 96.90▲ | 10.0 |
| A/C Cutout & Frame 3" | 4UK29 | 145.00 | 129.95▲ | 5.0 |
| Air Conditioner | 3H316 | 837.00 | 523.50 | 95.0 |
| Air Conditioner | 3H412 | 779.00 | 606.50 | 102.0 |
| Air Conditioner | 3H317 | 813.00 | 542.00 | 84.0 |
| Air Conditioner | 3H413 | 857.00 | 587.50 | 109.0 |
| Heating & Cooling Unit | 3H301 | 848.00 | 587.50 | 96.0 |
| Heating & Cooling Unit | 3H367 | 939.00 | 632.50 | 111.0 |
| Thru-the-Wall Sleeve | 5H423 | 127.50 | 113.75 | 29.0 |
| 70 CFM Exhaust Fan | 4C376 | 46.08 | 25.20 | 4.7 |
| 160 CFM Exhaust Fan | 4C699 | 108.06 | 58.70 | 8.8 |

(▲) Net prices, not subject to discounts.

Air Conditioners and Heating and Cooling Units fit all National Partitions In-Plant Offices. Optional heating products are also available. Size heating requirements based on a calculation of length x width x height x 10 to determine total watts needed for applications. See Index for listings of electric heat options including basebaord heaters, wall heaters, ceiling heaters, etc.

Exhaust Fans with slim housing can be mounted into ceiling or wall. No. 4C376 has 70 CFM; No. 4C699 has 160 CFM. UL Listed, HVI Certified. For complete information, see page 3550. Broan brand.

Fluorescent Lamp is a four foot, 34 watt Watt-Miser® energy saving rapid start lamp, F40CW/RS/WM. For higher color rendering and greater light output, see Index under Lamps, Fluorescent.

Electronic Air Cleaners help keep offices fresh and pleasant. Wall mount models, Nos. 3C451 and 3C452, filter and remove up to 98% of tobacco smoke, dust, bacteria, polen, and other airborne particulates down to 0.01 micron size. No 3C581 is ceiling mounted. See page 3519 for additional information. Emerson brand.

Steel Guard Rails protect offices from lift turcks or other types of mobile equipment. 14" high guard rails come in lengths of 4, 6, 8, and 10 ft. with single high corner and center posts and double high corner and center posts. For complete information, see page 2315. Steel King brand.

Hydraulic Door Closer has aluminum housing. UL Listed and CSA Certified. Meets ANSI Grade 1 Standards. For complete informations, see page 2644. Norton brand.

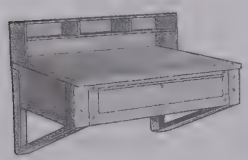
| Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Fluorescent Lamp | 3V477 | $4.14 | $1.56 | 0.7 |
| 2-Speed Electronic Air Cleaner | 3C451 | 1348.86 | 872.50 | 61.0 |
| 3-Speed Electronic Air Cleaner | 3C452 | 2197.53 | 1426.00 | 135.0 |
| Ceiling Mounted Air Cleaner | 3C581 | 1952.07 | 1212.00 | 85.0 |
| 4-Ft. Long Guard Rail | 5W804 | 124.74 | 89.50▲ | 46.0 |
| 6-Ft. Long Guard Rail | 5W805 | 148.92 | 108.75▲ | 66.0 |
| 8-Ft. Long Guard Rail | 5W806 | 175.14 | 118.95▲ | 86.0 |
| 10-Ft. Long Guard Rail | 5W807 | 199.50 | 135.15▲ | 106.0 |
| Single High Corner Post | 5W808 | 123.36 | 88.85▲ | 40.0 |
| Single High Center Post | 5W809 | 123.36 | 88.85▲ | 40.0 |
| Double High Corner Post | 5W810 | 170.16 | 119.15▲ | 64.0 |
| Double High Center Post | 5W811 | 170.16 | 119.15▲ | 64.0 |
| Hydraulic Door Closer | 6A990 | 105.95 | 74.25 | 7.5 |

NOTE: Before purchasing, consult your local building department for appropriate wall construction codes and requirements. Consult an electrician for wire, lamps, and ceiling conduit installation.

# SHOP DESKS AND SERVICE WRITERS

edsal

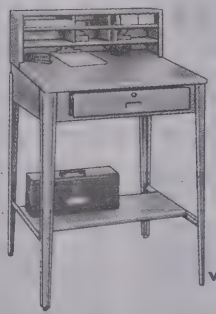
The ideal solution for busy shipping & receiving areas and service counters. Perfect for standing or stool height use.



F
Wall Mounted Shop Desk

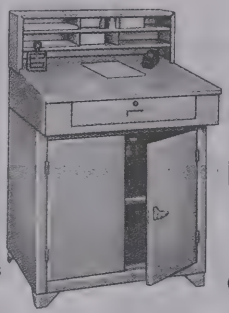
Bolts to Wall Saves Valuable Floor Space.

A & B
Open Desks



C & D
Cabinet Desks

Premier

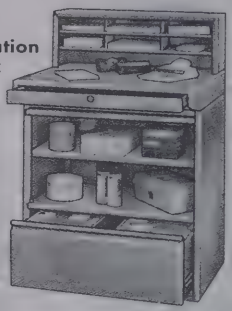


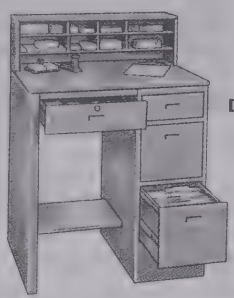
B & D
Desks vary from photos See features below

E
Combination Desk

Premier

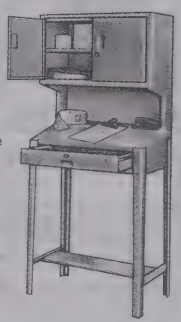
New



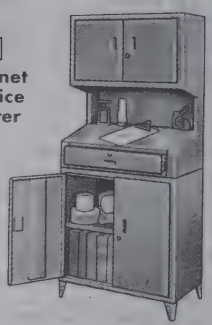


G
Deluxe Shop Desk

H
Open Service Writer



I
Cabinet Service Writer



**Versatile, Lockable Shop Desks & Service Writers** — are ideal for receiving and shipping clerks, warehouse watchmen and checkers. Feature a roomy 10° sloped writing surface, (Deluxe Desk and Combination Desks have level tops) and an expansive, smooth work surface. Roomy compartments in risers and/or cabinets for storing paper and supplies. Locking drawer with recessed pull opens on smooth slides. Drawer is 24W x 28D x 3½"H inside; furnished with lock. Durable, powder coat finish. Edsal Brand.

A **Premier Open Desk** — features a dual riser, leg levelers and legs with rolled edges for strength and ridigity. Top is constructed of rugged 18-Gauge steel. Open Desk has lower shelf for convenient footrest or extra storage space.

B **Open Shop Desk** — is the same quality construction as Premier. 20-Gauge steel sloping top is 43"H at front. Single level riser. Sturdy bottom shelf adds extra storage capacity.

C **Premier Cabinet Shop Desk** — has enclosed lower storage cabinet (30W x 23D x 26"H), adjustable lower shelf and 3 point locking door. 18-Gauge steel top.

D **Cabinet Shop Desk** — increases your secure storage capacity; the same quality construction as Premier. Cabinet door has "T" handle, built-in lock with 2 keys. Cabinet – 32W x 28"D inside. 20-Gauge steel top; single level riser.

E **Premier Combination Shop Desk** — separate locking drawers and lower compartment. Unique dual riser. Expansive, level desk top area. Lift-up retracting door secures lower compartment. Adjustable shelf in lower compartment. Lateral file drawer. Heavy duty all welded construction. Ships pre-assembled.

F **Wall Mounted Shop Desk** — adds storage and saves valuable floor space. Wall mounting bracket included.

G **Deluxe Shop Desk** — features a smooth, level writing surface and a wide array of storage options including a deluxe, bi-level 8 compartment heavy duty riser/sorter, all purpose box drawer, 2 double-deep file drawers with knockouts for cylinder locks, 1 tray drawer furnished with cylinder lock and 2 keys, 3 drawer welded pedestal and convenient lower shelf/footrest. Shipped set up.

H **Open Service Writer** — has locking upper door cabinet with one shelf. Lower shelf can be used for storage or as a convenient footrest; top section is fully welded.

I **Cabinet Service Writer** — has locking lower door compartment with one shelf – top and bottom sections are fully welded.

## *New!* PREMIER BRAND SHOP DESK SPECIFICATIONS AND ORDERING DATA

| Key | Unit Description | Overall Dimensions (In.) W | D | H | Color | Premier Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | **Open Desk** | 34 | 30¼ | 55½ | Tan | PSD7812 | **4TX91** | $223.95 | **$195.00** | 103.0 |
| C | **Cabinet Desk** | 34 | 30¼ | 55½ | Tan | PSD7813 | **4TX92** | 359.62 | **310.50** | 155.0 |
| E | **Combination Desk** | 35 | 30 | 51 | Gray | PSD6833G | **4TX90** | 687.10 | **573.00** | 178.0 |

## EDSAL BRAND SHOP DESK & SERVICE WRITER SPECIFICATIONS AND ORDERING DATA

| Key | Unit Description | Overall Dimensions (In.) W | D | H | Color | Edsal Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| B | **Open Desk** | 34½ | 30 | 45⅛† | Gray | 620 | **1W907** | $206.54 | **$158.25** | 88.0 |
| D | **Cabinet Desk** | 34½ | 30 | 45⅛† | Gray | 640 | **1W908** | 346.47 | **264.75** | 150.0 |
| F | **Wall-Hung** | 34½ | 30 | 37⅛* | Gray | 650 | **1W952** | 177.16 | **140.75** | 70.0 |
| G | **Deluxe Desk** | 39 | 28¾ | 43¾† | Gray | 660 | **4W345** | 628.99 | **489.25** | 163.0 |
| H | **Open Service Writer** | 31½ | 21 | 72½ | Gray | SW01010G | ***New*** **4TX93** | 279.87 | **235.00** | 127.0 |
| I | **Cabinet Service Writer** | 31½ | 21 | 72½ | Gray | SW02010G | ***New*** **7D223** | 352.18 | **299.50** | 171.0 |

(*) Height from bottom of bracket to top of desk. (†) Height from floor to top of work surface.

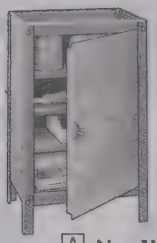


*As America's leading distributor, we know a thing or two about storage.*

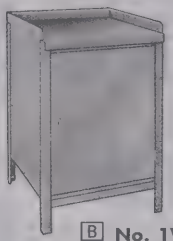
# ONE- AND TWO-DOOR WORK TABLE CABINETS

edsal

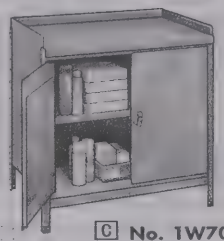
**No. 1W814 top can be mounted to form 2" deep tray shown here, or reversed to provide a smooth rimless work table**



A No. 1W814



B No. 1W909



C No. 1W703

**Work Table Cabinets**—provide safe, locked-in storage of valuable tools, merchandise, parts and serve as a work table with edge-stop on sides and back. Mount a drill press, grinder, or other bench tool or use as extra work space. Cylinder locks are built into the T-handle on the door for added security (keyed differently). All cabinets have gray powder coat finish and are shipped unassembled. Edsal brand.

A **No. 1W814** features a 2½ sq. ft. work surface which can be mounted to form a 2" deep tray or reversed to provide a smooth, rimless work table. Posts are 14-gauge steel, door 22-gauge, shelves 22-gauge, and panels 24-gauge. Three adjustable shelves inside 6.2 cu. ft. interior provide ample storage space.

B & C **Nos. 1W909, 1W703** feature 14-gauge steel cornerposts, 16-gauge steel top, 20-gauge doors. 19-gauge side and back panels provide 2" deep lip to prevent supplies from falling off top and can be inverted to obtain a flat surface. Double-door cabinet has 6 sq. ft. of work area and 18 cu. ft. of storage space. Single-door model has 4 sq. ft. work top and 12 cu. ft. of storage space. Full size center shelf adjustable on 1½" centers.

## WORK TABLE CABINET SPECIFICATIONS AND ORDERING DATA

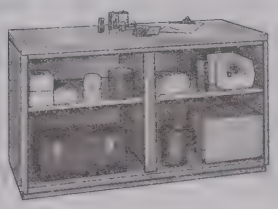
| Key | Unit Description | Dimensions (In.) W | D | H* | Top Surface (Sq. Ft.) | Storage (Cu. Ft.) | Edsal Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Single Door | 21 | 15⅛ | 32⅛ | 2.5 | 6.3 | 630 | 1W814 | $108.98 | $89.00 | 46.0 |
| B | Single Door | 24 | 24 | 35 | 4 | 12 | 59242 | 1W909 | 166.45 | 136.50 | 80.0 |
| C | Double Door | 36 | 24 | 35 | 6 | 18 | 59243 | 1W703 | 215.04 | 176.75 | 102.0 |

(*) Height from floor to top of work surface.

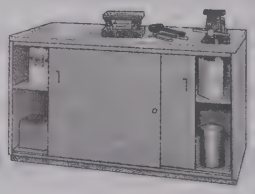
# CABINET BENCHES

edsal New

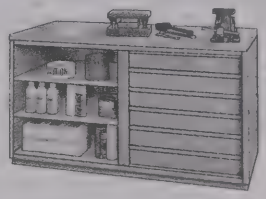
**Order as a basic bench and accessorize with locking sliding door set, 1 or 2 drawer sets (6 drawers each), or risers and back & end stops from page 2085**



Basic Bench



Bench with Sliding Door Set



Bench with 1 Drawer Set

**Cabinet Benches and Accessories** combine the benefits of versatile enclosed storage with a heavy duty working bench. Bench measures 60 or 72W x 30D x 34"H overall. Durable tan powder coat finish. Shipped unassembled.

**Choose from three different tops** for your specific application:

- **Butcher Block Maple Top**
- **Shop Top**
- **Plastic Laminate Top**

For more information regarding tops, see page 2086.

**Each basic bench cabinet** consists of a top, base, 2 end panels, a center panel, 2 shelves and a back.

**Shelves** measure 20"D x 29½ or 35½" wide and can be independently adjusted on 2⅜" centers.

**6 Drawer Inserts** add convenient, additional storage. Add to either (or both) sides of work bench cabinet. Drawers extend 75% for easy access; each drawer rated at 100 pound payload capacity.

**Sliding Door Kit** adds security and a neat, orderly appearance. Includes 2 doors and a lock; can be used with Drawer Inserts.

## BASIC CABINET BENCH

| Cabinet Bench Surface | Top Width (In.) | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Butcher Block Maple | 60 | 7D213 | $414.58 | $360.50 | 242.0 |
| Butcher Block Maple | 72 | 7D214 | 479.55 | 417.00 | 279.0 |
| Plastic Laminate | 60 | 7D215 | 350.75 | 305.00 | 246.0 |
| Plastic Laminate | 72 | 7D216 | 401.35 | 349.00 | 284.0 |
| Shop Top | 60 | 7D217 | 343.28 | 298.50 | 243.0 |
| Shop Top | 72 | 7D218 | 393.88 | 342.50 | 280.0 |

## BASIC CABINET BENCH ACCESSORIES

| Description | FitsvTop Width (In.) | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Sliding Door Kit, 2 doors | 60 | 4TW51 | $114.14 | $102.75 | 35.0 |
| Sliding Door Kit, 2 doors | 72 | 4TW52 | 118.65 | 106.80 | 42.0 |
| Drawer Set, 6 drawers | 60 | 4TW53 | 237.91 | 214.25 | 112.0 |
| Drawer Set, 6 drawers | 72 | 4TW54 | 261.44 | 235.50 | 129.0 |

# SERVICE COUNTERS, TOOL/PARTS CABINET, AND WALL HUNG QUICK-VIEW CABINETS

## COMMERCIAL AND INDUSTRIAL SERVICE COUNTERS

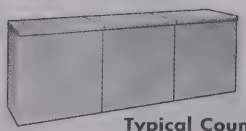
**Steel service counters** — offer convenient organization of service areas in offices, factories, and institutions, or as sales counters in hardware, supply houses and service stations. Counters stand 39" high. Gray powder coat finish. Shipped unassembled. Optional full closure door set with key lock available. Edsal brand.

**Modular design** — permits easy installation of additional counter space if required, eliminating costly alteration charges.

**Easy-to-use shelf-clips** — allow readjustment without disturbing adjoining units. Counters feature two 24 x 36" 20-Gauge storage shelves – one lower (fixed) and one adjustable on 1" centers.

**24-Gauge embossed steel counter fronts and end panels** — provide a professional appearance and rigidity; resists kicking, scuffing, wear and tear.

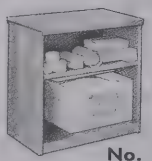
**16-Gauge steel, box-formed top** provides maximum strength and load-carrying capacity.



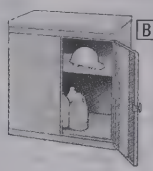
edsal

Replacement Parts Available 1-800-323-0620

**Typical Counter Installation**
**For a single counter, order one unit. For multiple requirements, order additional units as needed.**



A



B

**No. 1W887**

**No. 1W880 Door Set (shown mounted to No. 1W887)**

| Key | Description | Overall Dimensions (In.) W | D | H | Edsal Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Service Counter | 36 | 24 | 39 | 250-24-I | **1W887** | $179.24 | **$138.70** | 74.0 |
| B | Double Door Set | | | | 261 | **1W880** | 109.06 | **75.55** | 32.0 |

## WORKSHOP TOOL AND PARTS CABINET

**Versatile all steel cabinets** — hang on wall or sit on workbench; storing and securing tools and service items out of the way, adding work space to existing workbenches. Heavy 24-Gauge welded steel construction. Double doors open 60" wide. Gray powder coat finish. Edsal Brand (WC-1).

**Magnetic door catch and lock hasp** — holds doors closed; safeguards tools and miscellaneous items from pilferage or unwanted users. Hasp on door fits standard padlock (not included).

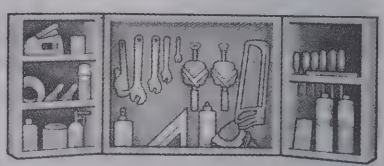
**Built-in tool rack** — in right door (13" from bottom, 9" from top) for hand and small power tools.

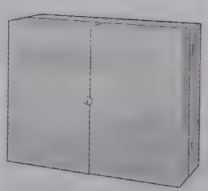
**Small parts tray** — in left door has 3 built-in shelves (7, 8¼ and 8"H) , ideal for holding small parts, lubricants, spray cans and first-aid items.

**All steel pegboard back** — accepts standard pegboard hooks (included).

**No. 2W178.** Workshop Tool and Parts Cabinet. Shpg. wt. 28.0 lbs. List $79.11. Each..... **$63.50**

edsal





- **For workshop, service area, garage, utility room, basement, office—anywhere storage and security are needed**
- **Closes to a compact 30W x 12D x 24"H outside dimensions**

Tool and supplies shown are not included with cabinet

## WALL HUNG QUICK-VIEW CABINET



ADAPTO STORAGE PRODUCTS

*New*

**No. 4TT13**

- **High impact resistant Lexan® see-thru doors allows instant identification of products and supplies**
- **One intermediate shelf standard, 225 lb. capacity, adjustable every 2"**
- **Built-in 3 point chrome-plated locking security handle**
- **High quality electrostatic, rust-resistant finish in an attractive putty color**
- **Mounts onto a wall or sits on a table or workbench top**
- **Shipped assembled except for handle**

| Description | Overall Dimensions, (In.) W | D | H | No. of Shelves | Adapto Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Wall Hung Cabinet | 30 | 12 | 26 | 1 | ST-2-WC-12-QV | **4TT13** | $331.77 | **$280.50** | 90.0 |

# ADJUSTABLE HEIGHT WORKBENCHES, BENCH DRAWER AND SHOP TABLES

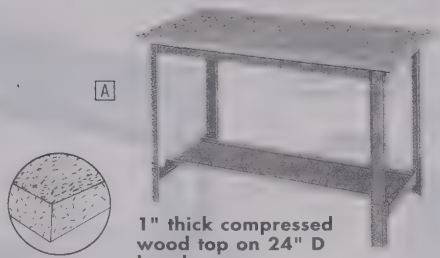


## COMMERCIAL ADJUSTABLE HEIGHT WORKBENCHES

edsal

- 29 to 33" height adjustment in 1" increments
- 24 and 30" deep x 48, 60, and 72" wide

A



1" thick compressed wood top on 24" D benches

B



1 1/8" thick hardboard/ compressed wood top on 30" D benches

**Economical, sturdy workbenches** meet strength requirements for light manufacturing, assembly operations, maintenance service, shipping and receiving, stockroom, and similar type work. Also recommended for manufacturing plants, repair shops, school industrial classes and garages. Gray powder coat finish. Shipped unassembled. Edsal brand.

**Ergonomic, adjustable-height steel legs** are suggested for reducing the risk factors of Awkward Posture, Static Posture, and Repetition. See Index.

**Double electrical knockouts,** front and back, enable electrical service to be wired without having to cut holes in frame.

**Heavy-gauge welded steel frame** supports load capacities up to 200 lbs. per sq. ft., based on evenly distributed loads.

**12" deep steel lower shelf** is full width to add lateral support and allow storage of shipping and packing supplies, tools, parts.

### COMMERCIAL BENCH DRAWERS

**Commercial grade bench drawer** stores tools, spare parts, and other items for on-the-job convenience. Measures 12W x 18D x 4"H. Gray powder coat finish.

**Support panel** attaches easily to underside of all commercial and stock carts. Mounting hardware included.

Edsal brand.

**No. 1W682.** Commercial Grade Bench Drawer (WD1218).
Shpg. wt. 10.0 lbs. List $19.50. Each ..... $16.50

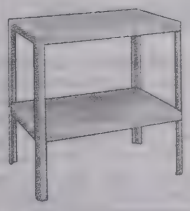
| Key | Top Dimensions (In.) W | D | Thickness | Height Adjustment* (In.) | Top Material | Edsal Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 48 | 24 | 1 | 28 to 33 | Compressed Wood | UB400 | **1W810** | $72.99 | **$64.10** | 70.0 |
| A | 60 | 24 | 1 | 28 to 33 | Compressed Wood | UB500 | **1W811** | 89.89 | **76.80** | 76.0 |
| A | 72 | 24 | 1 | 28 to 33 | Compressed Wood | UB600 | **1W888** | 109.76 | **90.15** | 82.0 |
| B | 48 | 30 | 1⅛ | 28 to 33 | Hardboard non - Compressed Wood | UBM4830 | **3W252** | 94.32 | **82.95** | 73.0 |
| B | 60 | 30 | 1⅛ | 28 to 33 | Hardboard non - Compressed Wood | UBM6030 | **1W890** | 134.31 | **106.85** | 99.0 |
| B | 72 | 30 | 1⅛ | 28 to 33 | Hardboard non - Compressed Wood | UBM7230 | **1W891** | 149.59 | **123.70** | 114.0 |

(*) Height from floor to top of work surface.



No. 1W975

edsal



No. 1W973

## ALL STEEL WORK / MACHINE STANDS

**Rugged, adjustable stands** are ideal for use as small machine stands for drill presses, arbor presses, lathes and benchtop sanders/grinders; provide additional work and storage space around production machines and other equipment.

**Leg Flange** on bottom prevents floor surface from being cut.

**16-Gauge steel top** supports evenly distributed loads up to 1500 lbs. 18 x 24" top and 24 x 36" top with 30-36" adjustable height legs. Units shipped unassembled. Gray powder coat finish.

**Sturdy top shelf** provides convenient storage and smooth work surface. Full depth lower shelf provides additional storage and added rigidity. Edsal brand.

**No. 1W973.** Shpg. wt. 31.0 lbs. List $68.75. Each ..... $55.50

**No. 1W975.** Shpg. wt. 47.0 lbs. List $92.09. Each ..... $77.85

## EXTRA HEAVY-DUTY WELDED SHOP TABLES

All-welded, super strong, 7-gauge steel top with 2 x 2 x 1/4" angle legs. For heavy industrial applications. Gray finish. Shipped fully assembled. Strong Hold brand.

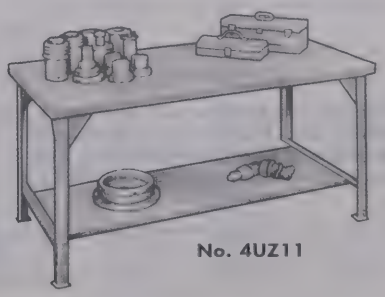
| Capacity* (Lbs.) | Dimensions (In.) H | W | D | Strong Hold Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **5500** | 34 | 48 | 30 | T4830 | **4UV11** | $445.72 | **$405.25** | 193.0 |
| **10,000** | 34 | 72 | 36 | T7236 | **4UV12** | 502.71 | **457.25** | 292.0 |

(*) Based on evenly distributed loads.

Strong Hold

New

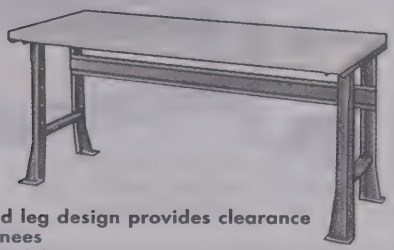
- Up to 10,000 lb. capacity



No. 4UZ11

# INDUSTRIAL WORKBENCHES

## HEAVY-DUTY FLARED LEG INDUSTRIAL WORKBENCHES



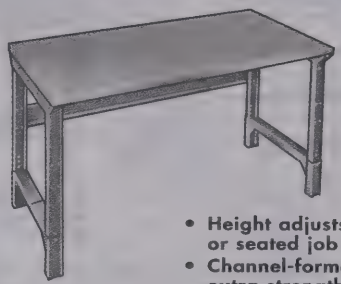
edsal

New

- Flared leg design provides clearance for knees
- Channel-formed uprights add extra strength and rigidity

Industrial Workbenches for manufacturing, service shops, and maintenance operations. Legs have double electrical knockouts front and rear, adaptable to standard 1⅞" wide electrical box. Legs have punched holes for attaching stringer, lower shelf, and top. Feet can be bolted to the floor for added stability. Available 60 and 72"W, 30 and 36"D. Top, legs and stringer unassembled, shipped in separate cartons. Gray powder coat finish. Edsal brand.

## ADJUSTABLE HEIGHT STRAIGHT LEG INDUSTRIAL WORKBENCHES



- Height adjusts for standing or seated job requirements
- Channel-formed uprights add extra strength and rigidity

Heavy-Duty Flared Legs—Extra heavy-duty 32¼ " high welded bench legs constructed of 14-Gauge steel. 6,000 lbs. load rating per pair, based on evenly distributed loads.

Adjustable Straight Legs—Height adjusts from 29-33" in 1" increments. 16-Gauge ribbed steel uprights, 14-gauge top support, foot assembly, and lower cross members. 4,000 lbs. load rating per pair, based on evenly distributed loads.

| | | | *New!* FLARED LEG WORKBENCHES | | | | | | *New!* ADJUSTABLE HEIGHT WORKBENCHES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Work Surface Description | Dim. (In.) W | D | Dim. (In.) H* | Edsal Model | Stock No. | List | Each | Shpg. Wt. | Dim. (In.) H | Edsal Model | Stock No. | List | Each | Shpg. Wt. |
| **Butcher Block Maple** | 60 | 30 | 34 | M5331 | **7D196** | $367.80 | **$199.75** | 120.0 | 30¾ x 34¾ | 1009M | **7D193** | $292.67 | **$200.00** | 116.0 |
| | 72 | 30 | 34 | M5332 | **7D197** | 422.50 | **229.50** | 137.0 | 30¾ x 34¾ | 1010M | **7D194** | 339.74 | **230.50** | 133.0 |
| | 72 | 36 | 34 | M5333 | **7D198** | 489.50 | **267.00** | 162.0 | 30¾ x 34¾ | 1011M | **7D195** | 392.35 | **268.75** | 147.0 |
| **Plastic Laminate** | 60 | 30 | 34 | L5328 | **7D184** | 238.90 | **138.95** | 124.0 | 30¾ x 34¾ | 1006L | **7D181** | 228.90 | **139.50** | 120.0 |
| | 72 | 30 | 34 | L5329 | **7D185** | 251.90 | **157.00** | 142.0 | 30¾ x 34¾ | 1007L | **7D182** | 254.43 | **157.75** | 138.0 |
| | 72 | 36 | 34 | L5330 | **7D186** | 281.90 | **187.75** | 166.0 | 30¾ x 34¾ | 1008L | **7D183** | 291.70 | **189.25** | 151.0 |
| **Shop Top** | 60 | 30 | 33¾ | W5325 | **7D190** | 211.00 | **144.25** | 121.0 | 30½ x 34½ | 1003W | **7D187** | 179.41 | **144.25** | 117.0 |
| | 72 | 30 | 33¾ | W5326 | **7D191** | 233.70 | **163.25** | 138.0 | 30½ x 34½ | 1004W | **7D188** | 211.10 | **163.25** | 134.0 |
| | 72 | 36 | 33¾ | W5327 | **7D192** | 219.45 | **184.25** | 162.0 | 30½ x 34½ | 1005W | **7D189** | 223.52 | **184.25** | 147.0 |
| **Steel** | 60 | 30 | 33¾ | 5303 | **7D178** | 186.00 | **123.30** | 110.0 | 30½ x 34½ | 1000S | **7D175** | 160.29 | **127.35** | 106.0 |
| | 72 | 30 | 33¾ | 5305 | **7D179** | 208.50 | **139.75** | 126.0 | 30½ x 34½ | 1001S | **7D176** | 181.98 | **143.15** | 106.0 |
| | 72 | 36 | 33¾ | 5306 | **7D180** | 233.30 | **154.75** | 138.0 | 30½ x 34½ | 1002S | **7D177** | 203.63 | **160.00** | 123.0 |

(*) Height from floor to top of work surface.

## 96"W 3-LEG INDUSTRIAL WORKBENCHES

### WORK SURFACES

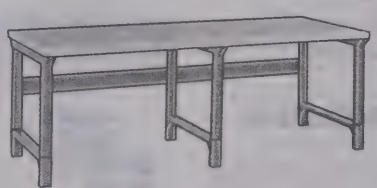
A wide selection of work surfaces is available for Edsal's Industrial workbenches. For more information regarding tops, see pages 2086 and 2088

### ACCESSORIES

Optional risers, Back and End Stops, Shelves, and Drawer Accessories are available to fit all workbenches. For more information, see pages 2085 and 2089

edsal

New



**Extra-Wide 3 Leg Workbenches** are the same quality construction as those above, but provide additional work space for shipping and receiving, warehouse, manufacturing, service shops, and maintenance operations - wherever extra space is needed.

**Legs have double electrical knockouts** front and rear, adaptable to standard 1⅞" wide electrical box. Legs have punched holes for attaching stringer, lower shelf, and top. Available in flared or adjustable leg models; 96"W, 30 and 36"D. Top, legs and stringer unassembled, shipped in separate cartons. Gray powder coat finish. Edsal brand.

| *New!* | | | FLARED LEG | | | | | ADJUSTABLE HEIGHT LEG | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Work Surface Description | Dim. (In.) W | D | H* | Stock No. | List | Each | Shpg. Wt | H* | Stock No. | List | Each | Shpg. Wt. |
| **Butcher Block Maple** | 96 | 30 | 34 | **4TW82** | $372.94 | **$326.75** | 172.0 | 30¾ to 34¾ | **4TW30** | $389.75 | **$341.50** | 170.0 |
| **Butcher Block Maple** | 96 | 36 | 34 | **4TW83** | 424.59 | **372.00** | 190.0 | 30¾ to 34¾ | **4TW32** | 445.33 | **390.25** | 188.0 |
| **Shop Top** | 96 | 30 | 33¾ | **4TW98** | 222.52 | **184.75** | 172.0 | 30½ to 34½ | **4TW31** | 239.32 | **198.75** | 170.0 |
| **Shop Top** | 96 | 36 | 33¾ | **4TW99** | 254.99 | **211.75** | 190.0 | 30½ to 34½ | **4TW33** | 275.73 | **229.00** | 188.0 |

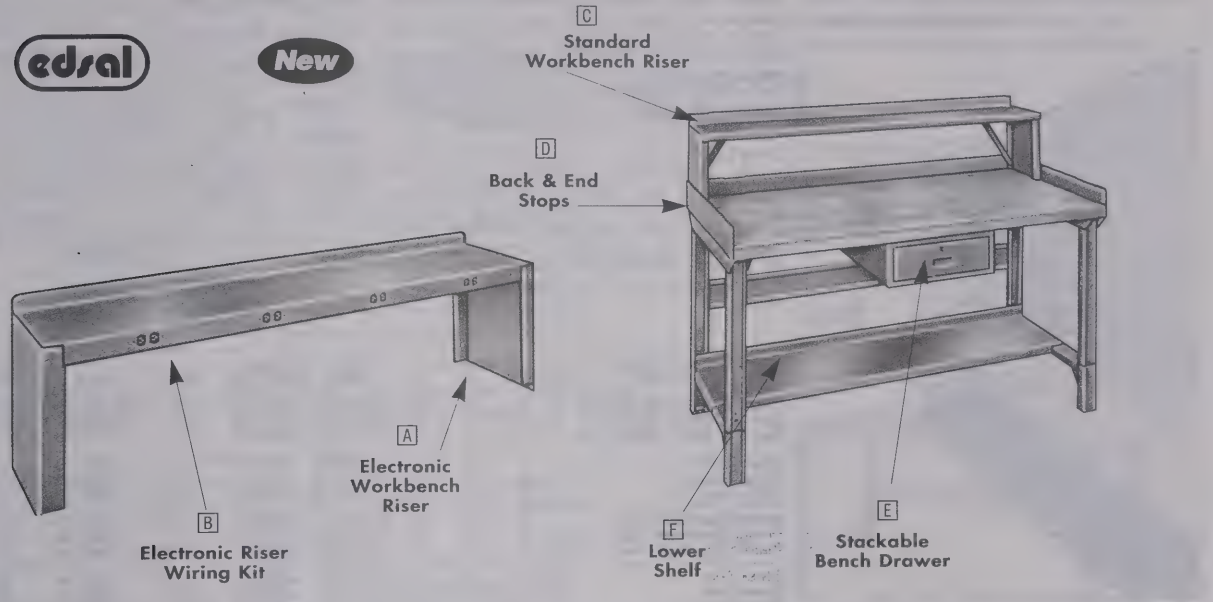
(*) Height from floor to top of work surface. (†) Based on evenly distributed loads.



*As America's leading distributor, we know a thing or two about storage.*

# INDUSTRIAL WORKBENCH ACCESSORIES

Make your workbench more useful with the addition of these optional accessories. Accessories fit ALL Edsal bench styles, adjustable or flared leg, shown on pages 2083-2084. All components gray powder coat finish. Edsal Brand.




**A Electronic Workbench Riser**—Provide extra shelf space and convenient electrical outlets for use with power tools, test equipment, fans. Knockouts provided for four duplex receptacles and switch, order wiring kit separately. 19-gauge steel construction with 1½" high back stop.

**B Electronic Riser Wiring Kit**—Includes four duplex outlets, circuit breaker switch with pilot light, and 8 ft. grounded cord and plug; 15A 115 V service.

**C Standard Workbench Riser**—Increases usable work surface and storage capacity while keeping tools and parts close at hand but out of the way. Riser stands 12" high and is 10½" deep with 2" high back stop. Constructed of 16-gauge steel.

**D Back & End Stops**—Extend 3" above the workbench surface to keep parts and tools from rolling off sides and back. Bolts to Edsal workbench tops and can be used with other bench accessories. Corners of end stops are rounded for added safety. Kit includes two end stops, one back stop, and mounting hardware. 16-gauge steel construction.

**E Stackable Bench Drawer**—Provides convenient, secure storage for tools and other work materials. Attaches to underside of all Edsal bench tops; may be double stacked for additional storage. Can also be stacked on top of any flat work surface. Ball bearing rollers for smooth operation. Drawer is 17¼W x 20D x 6⅝"H. Has knock-out for cylinder key lock and padlock hasp. 18-22 gauge steel construction. Edsal brand (SD2014).

**Keylock is available separately.** Order Part #101-1824. Call 1-800-323-0620.

**F Lower Shelf**—Increases storage capacity of workbench. Keep tools, parts, and other shop items out of the way, but close at hand. 15" deep. 16-gauge steel construction.

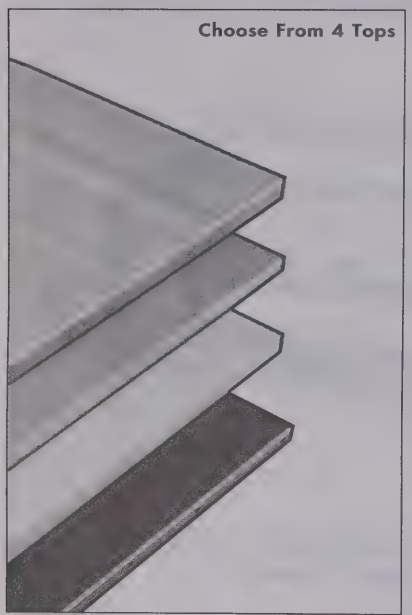
**NOTE: Accessories fit ALL Edsal bench styles, adjustable or flared leg from 2084**

## INDUSTRIAL WORKBENCH ACCESSORIES

| Key | Description | Width (In.) | Dimensions (In.) D | H | Edsal Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Electronic Risers | 60 | 15 | 18 | E704 | **5W674** | $105.79 | **$58.70** | 29.0 |
| A | Electronic Risers | 72 | 15 | 18 | E702 | **5W675** | 125.94 | **69.80** | 31.0 |
| A | Electronic Risers | 96 | 15 | 18 | E703 | ***New* 4TW58** | 179.10 | **99.40** | 40.0 |
| B | Electronic Riser Wiring Kit | — | — | — | EW1 | ***New* 4TW73** | 59.51 | **53.60** | 2.0 |
| C | Standard Workbench Risers | 60 | 10½ | 12 | 5410 | **5W672** | 49.16 | **39.40** | 18.0 |
| C | Standard Workbench Risers | 72 | 10½ | 12 | 5411 | **5W673** | 61.50 | **46.35** | 21.0 |
| D | Back & End Stops | 60 | 30 | 3 | 5503 | **5W676** | 28.39 | **23.65** | 12.0 |
| D | Back & End Stops | 72 | 30 | 3 | 5505 | **5W677** | 32.79 | **27.25** | 13.0 |
| D | Back & End Stops | 72 | 36 | 3 | 5506 | **5W678** | 34.85 | **29.00** | 14.0 |
| D | Back & End Stops | 72 | 30 | 3 | 5507 | ***New* 4TW38** | 42.32 | **35.25** | 16.0 |
| D | Back & End Stops | 96 | 30 | 3 | 5508 | ***New* 4TW67** | 30.13 | **25.10** | 8.0 |
| D | Back & End Stops | 96 | 36 | 3 | | | | | |
| E | Stackable Bench Drawer | 17⅛ | 20 | 6⅝ | SD2014 | **5W671** | 63.77 | **50.10** | 20.0 |
| F | Lower Shelf | 60 | 15 | — | 5602 | **5W679** | 37.68 | **32.15** | 22.0 |
| F | Lower Shelf | 72 | 15 | — | 5603 | **5W680** | 43.69 | **37.40** | 27.0 |

# WORK BENCH TOPS AND STEEL BENCH LEGS

## WORK BENCH TOPS




**Butcher Block Maple** — resists damage by sharp tools and solid blows; provides maximum shock absorption for precision machined parts and dies. Ideal for tool and die work, electrical wiring, fabric cutting, industrial arts. Top quality, kiln-dried, hardwood maple strips laminated together. 1¾" thick. Oil rubbed natural finish.

**Shop Top** — resists oil and moisture. A versatile surface for almost any industrial application, especially where moisture is a problem such as hydraulics and pump repair. Top and bottom are 3/8" super hard, custom board sanded and sealed. Core is 45 pound density particleboard with edge bands made from clean lumber stock. 1½" thick.

**Plastic Laminate Top** — provides a nonconductive surface ideal for electronics assembly or repair and service of component parts. 1¾" thick. Melamine laminated, gray scrim satin finish.

**Steel Top** — will not absorb oil or crack. Smooth, gouge-resistant steel top is the number one choice for heavy duty use. 12-gauge steel surface reinforced with 14-gauge channels at each end. No sharp edges or corners. 1½" thick. Tough gray powder coat finish.

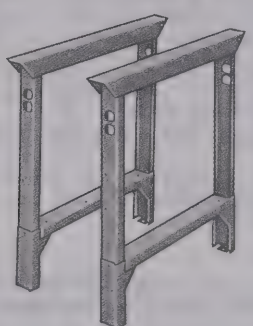
All tops ship complete with 60 or 72"W x 6"H steel stringer and fasteners.

edsal New

| Work Surface Description | Dimension (In.) W | D | H | Edsal Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Butcher Block Maple Top** | 60 | 30 | 1¾ | BB3060TA | **4TW44** | $138.49 | **$165.75** | 87.0 |
| **Butcher Block Maple Top** | 72 | 30 | 1¾ | BB3072TA | **4TW45** | 229.07 | **194.50** | 104.0 |
| **Butcher Block Maple Top** | 72 | 36 | 1¾ | BB3672TA | **4TW47** | 270.72 | **231.50** | 126.0 |
| **Shop Top** | 60 | 30 | 1½ | ST3060TA | **4TW87** | 158.89 | **144.45** | 88.0 |
| **Shop Top** | 72 | 30 | 1½ | ST3072TA | **4TW88** | 176.27 | **160.25** | 105.0 |
| **Shop Top** | 72 | 36 | 1½ | ST3672TA | **4TW90** | 205.42 | **186.75** | 126.0 |
| **Plastic Laminate Top** | 60 | 30 | 1¾ | GLT3060TA | **4TW74** | 165.82 | **150.75** | 91.0 |
| **Plastic Laminate Top** | 72 | 30 | 1¾ | GLT3072TA | **4TW75** | 179.57 | **163.25** | 109.0 |
| **Plastic Laminate Top** | 72 | 36 | 1¾ | GLT3672TA | **4TW77** | 228.80 | **208.00** | 130.0 |
| **Steel Top** | 60 | 30 | 1½ | 5303TA | **4TW34** | 104.83 | **95.30** | 72.0 |
| **Steel Top** | 72 | 30 | 1½ | 5305TA | **4TW35** | 121.82 | **110.75** | 93.0 |
| **Steel Top** | 72 | 36 | 1½ | 5306TA | **4TW36** | 138.49 | **125.90** | 102.0 |

## ADJUSTABLE HEIGHT STRAIGHT INDUSTRIAL BENCH LEGS

edsal



No. 5W681

- **Adjustable height for standing or seated job requirements**
- **4000 lbs. load rating per pair based on evenly distributed loads**

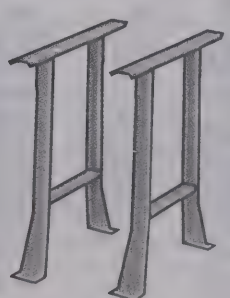
**Adjustable from 29 to 33" high in 1" increments** — Adapt to changing work requirements by adjusting work bench height to meet your needs. Use with 30 or 36"D butcher block maple, shop top, plastic laminate and steel tops. Top support foot assembly, and lower cross members are 14-gauge steel; uprights are 16-gauge ribbed steel. Feet are 2¾" wide and can be bolted to floor.

Prepunched for attachment of tops, stringer and lower shelf. Double electrical knockouts front and back adaptable to standard 1⅞" wide electrical box. Sold in pairs. Gray powder coat finish. Edsal brand.

| Top or Base Depth (In.) | Edsal Model | Stock No. | Per Pair List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **30** | ABL-30 | **5W681** | $48.79 | **$44.80** | 38.0 |
| **36** | ABL-36 | **5W682** | 51.23 | **48.85** | 38.0 |

## HEAVY-DUTY FLARED INDUSTRIAL BENCH LEGS

edsal New



No. 4TW39

- **Formed channel shape for extra strength and rigidity.**
- **6000 lbs. load rating per pair based on evenly distributed loads.**

**32¼"H flared leg design** provides clearance for knees at standing or work stool height. All welded, 14-gauge steel construction. Use with butcher block maple, shop top, plastic laminate and steel tops, 30 or 36"D.

Prepunched holes in feet for easy fastening to floor. Also, prepunched for attachment of tops, stringer and lower shelf. Double electrical knockouts front and back adaptable to 1⅞" wide electrical box. Sold in pairs. Gray powder coat finish. Edsal brand.

| Height (In.) | Top or Base Depth (In.) | Edsal Model | New! Stock No. | Per Pair List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **32¼** | 30 | 5709 | **4TW39** | $50.38 | **$45.80** | 33.0 |
| **32¼** | 36 | 5710 | **4TW40** | 55.00 | **50.00** | 33.0 |

# RETRO-FIT WORKBENCH COMPONENT KITS

Improve productivity by putting tools, parts and materials in easy reach. Work Wizard slotted upright tool supports can be retrofitted to any workbench except those with a steel top including many of the work benches found in this catalog.

### SLOTTED UPRIGHTS

Double-slotted easy to assemble steel uprights provide the framework for the Work Wizard workbench module retro-fit kits. Attach shelves, bins, overhead lighting, tool support and other add-on kits to the slotted uprights. (Not for use with steel top benches).

| Description | Dimensions (In.) Height | Width | Max. Load (Lbs.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Single Bay Upright | 53 | 30 | 400 | B102 | 4UR45 | $125.00 | $98.20 | 30.0 |
| Double-Bay Upright | 53 | 60 | 400 | B108 | 4UR46 | 160.00 | 146.40 | 35.0 |

### OVERHEAD TOOL SUPPORT

Increase productivity and protect tools by getting them off the work surface. Use overhead support to mount lighting or suspend a tool with an Aero-Motive balancer that can also be found on pages 3003 - 3003.

| Description | Width (In.) | Max. Load (Lbs.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Overhead Support w/Track | 60 | 50 | C101 | 4UR47 | $180.67 | $164.25 | 33.0 |

### SHELVING UNITS

Modular steel shelving attaches to any Work Wizard upright at any height. Small shelf mounts flat or with 15° tilt. Larger shelves tilt up to 20°.

| Description | Dimensions (In.) Depth | Width | Max. Load (Lbs.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Shelf | 12 | 30 | 100 | M201 | 4UR50 | $73.26 | $66.60 | 10.0 |
| Tilt-Adjust Shelf | 18 | 28 | 100 | M202 | 4UR51 | 120.94 | 109.95 | 8.0 |
| Tilt-Adjust Shelf | 24 | 28 | 100 | M203 | 4UR52 | 141.07 | 128.25 | 17.0 |

### POWER BARS

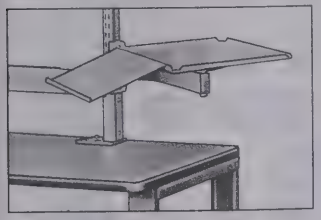
Provide 15 amps of 120VAC power to any surface. Choose between vertical or horizontal mounting with 6 outlets. UL-listed.

| Description | Dim. (In.) Height | Width | Power Rating | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Horizontal Power Bar | 3 | 30 | 15 amp | M100 | 4UR48 | $113.74 | $103.40 | 6.0 |
| Vertical Power Bar | 13 | 2 | 15 amp | M101 | 4UR49 | 103.76 | 102.45 | 6.0 |

### OTHER ACCESSORIES

Backscreen is a tackable double-sealed gray fabric suitable for use as a privacy screen or document holder. Bin rails come with 6 containers for storage of small parts. Document holder tilts from 20° to 90°. UL listed and CSA certified fluorescent light kit uses overhead support structure and T-12 lamps, sold separately. All components fit Work Wizard slotted upright structures.

| Description | Dim. (In.) H | W | Max. Load (Lbs.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Tackable Backcreen | 24 | 28 | — | M305 | 4UR54 | $140.80 | $128.00 | 12.0 |
| Bin Rail w/Bins | 4 | 30 | 50 | M205 | 4UR53 | 50.54 | 45.95 | 6.0 |
| Document Holder | 14 | 20 | 10 | M307 | 4UR57 | 156.03 | 141.85 | 9.0 |
| Light Kit | — | 50 | — | M610 | 4UR59 | 278.20 | 234.25 | 25.0 |



### ARTICULATING COMPUTER MONITOR PLATFORM WITH KEYBOARD TRAY

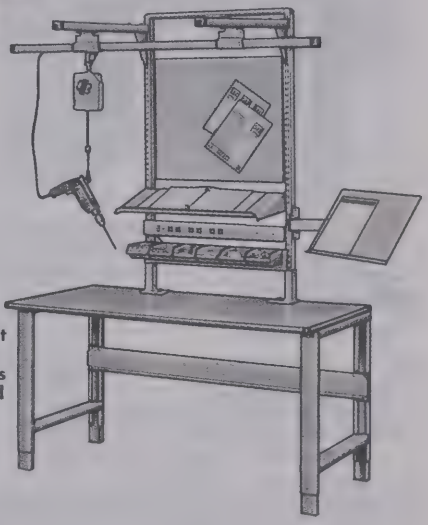
Articulating arm allows placement of a monitor in a convenient location. Optional keyboard tray creates a self-contained computer terminal.

| Description | Dimensions (In.) Depth | Width | Max. Load | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Moniter Platform | 13 | 22 | 40 lbs. | M306 | 4UR56 | $156.03 | $141.85 | 13.0 |
| Keyboard Tray | 9 | 19 | 6 lbs. | M308 | 4UR58 | 43.34 | 39.40 | 5.0 |

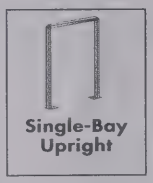
## WORK WIZARD™ ADD-ONS

- Improve workspace productivity by more than 20%
- Economically converts workbenches into workstations

AERO-MOTIVE®



Bench Not Included. See pages 2084 and 2085



Single-Bay Upright



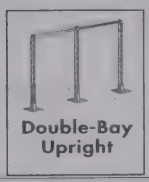
Overhead Tool Support



Other Accessories



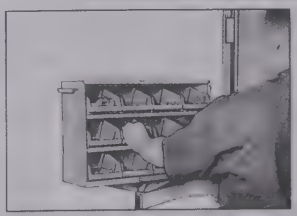
Horizontal Power Bar



Double-Bay Upright



Shelving Units



### ARTICULATING BIN CONTAINER KIT

Puts parts at operators' fingertips and pivots them out of the way when desired. Comes ready to install with 12 individual bins. Mounts to any Work Wizard upright structure.

| Description | Dimensions (In.) Height | Width | Depth | Max. Load | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Bin Container | 14 | 21 | 7 | 40 lbs. | M305 | 4UR55 | $278.20 | $245.50 | 24.0 |

# MODULAR WORKBENCHES

## PRE-CONFIGURED MODULAR WORKBENCHES

edsal

New



No. 7D094 Modular Bench with Four Drawers, One Door, and Shop Top

FREE DELIVERY on orders of $900 or more

See Freight Policy

**Select the right combination of cabinet pedestals, panel legs and top designed to suit your specific task.**

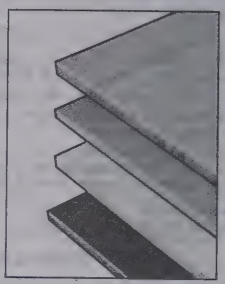
Edsal's modular steel workbenches are designed to provide efficient use of available space and are constructed for years of tough, dependable service. Gray powder coat finish.

**Pre-configured modular benches can be mixed and matched or used free standing** — to form a 34"H workbench.

**Modern design and rugged construction** — make these benches an efficient, attractive work space for use in the front office or the warehouse.

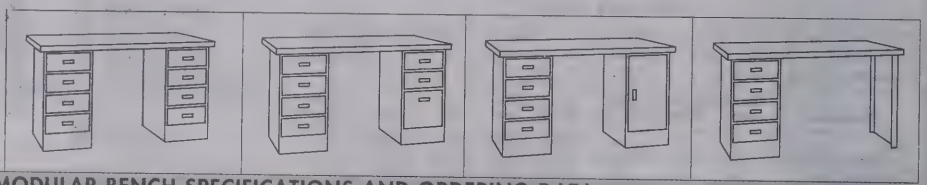
**Box-formed Panel Legs** — provide maximum stability and an attractive furniture appearance.

**Drawer and Door pedestal's one piece, all-welded construction** — saves assembly time; sturdy, secure and built to last.



Choose from four available tops to create a Modular Bench to fit your specific needs: Butcher Block Maple, Shop Top, Plastic Laminate or Steel. For more information regarding tops, please see page 2090.

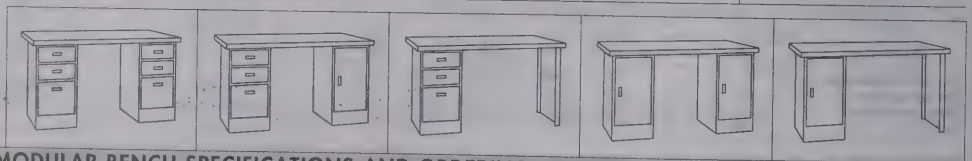
Customize your workbench with Edsal accessories shown on page 2085.



### MODULAR BENCH SPECIFICATIONS AND ORDERING DATA

| Work Surface | Dimensions (In.) W | D | H | 4 Drawer/4 Drawer Stock No. | Each | Shpg. Wt. | 4 Drawer/3 Drawer Stock No. | Each | Shpg. Wt. | 4 Drawer/1Door Stock No. | Each | Shpg. Wt. | 4 Drawer/PanelLeg Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Butcher Block Maple | 60 | 30 | 34 | 7D061 | $556.00 | 231.0 | 7D064 | $563.00 | 229.0 | 7D067 | $477.50 | 201.0 | 7D070 | $400.50 | 172.0 |
| Butcher Block Maple | 72 | 30 | 34 | 7D062 | 592.00 | 248.0 | 7D065 | 599.00 | 246.0 | 7D068 | 513.50 | 218.0 | 7D071 | 436.25 | 189.0 |
| Butcher Block Maple | 96 | 30 | 34 | 7D063 | 675.00 | 297.0 | 7D066 | 682.00 | 295.0 | 7D069 | 596.50 | 267.0 | 7D072 | 519.50 | 238.0 |
| Shop Top | 60 | 30 | 34 | 7D088 | 483.25 | 232.0 | 7D091 | 490.25 | 230.0 | 7D094 | 404.75 | 202.0 | 7D097 | 327.75 | 173.0 |
| Shop Top | 72 | 30 | 34 | 7D089 | 504.50 | 249.0 | 7D092 | 511.50 | 247.0 | 7D095 | 426.00 | 219.0 | 7D098 | 349.00 | 190.0 |
| Shop Top | 96 | 30 | 34 | 7D090 | 544.00 | 284.0 | 7D093 | 551.00 | 282.0 | 7D096 | 465.25 | 254.0 | 7D099 | 388.25 | 225.0 |
| Plastic Laminate | 60 | 30 | 34 | 7D115 | 476.75 | 235.0 | 7D118 | 483.75 | 233.0 | 7D121 | 398.00 | 205.0 | 7D124 | 321.25 | 176.0 |
| Plastic Laminate | 72 | 30 | 34 | 7D116 | 495.50 | 253.0 | 7D119 | 502.50 | 251.0 | 7D122 | 417.00 | 223.0 | 7D125 | 340.00 | 194.0 |
| Plastic Laminate | 96 | 30 | 34 | 7D117 | 554.50 | 315.0 | 7D120 | 561.50 | 313.0 | 7D123 | 475.75 | 285.0 | 7D126 | 398.75 | 256.0 |
| Steel | 60 | 30 | 34 | 7D142 | 455.25 | 221.0 | 7D145 | 462.25 | 219.0 | 7D148 | 376.75 | 191.0 | 7D151 | 299.75 | 162.0 |
| Steel | 72 | 30 | 34 | 7D143 | 472.25 | 237.0 | 7D146 | 479.25 | 235.0 | 7D149 | 393.50 | 207.0 | 7D152 | 316.75 | 178.0 |
| Steel | 96 | 30 | 34 | 7D144 | 498.75 | 257.0 | 7D147 | 506.00 | 255.0 | 7D150 | 420.00 | 227.0 | 7D153 | 343.25 | 198.0 |

Box-formed panel legs provide maximum stability and an attractive furniture appearance.



### MODULAR BENCH SPECIFICATIONS AND ORDERING DATA (cont'd.)

| Work Surface | Dimensions (In.) W | D | H | 3 Drawer/3 Drawer Stock No. | Each | Shpg. Wt. | 3 Drawer/1 Door Stock No. | Each | Shpg. Wt. | 3 Drawer/1 Panel Leg Stock No. | Each | Shpg. Wt. | 1 Door/1 Door Stock No. | Each | Shpg. Wt. | 1 Door/Panel Leg Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Butcher Block Maple | 60 | 30 | 34 | 7D073 | $570.00 | 227.0 | 7D076 | $484.50 | 199.0 | 7D079 | $407.50 | 170.0 | 7D082 | $399.00 | 171.0 | 7D085 | $322.00 | 142.0 |
| Butcher Block Maple | 72 | 30 | 34 | 7D074 | 606.00 | 244.0 | 7D077 | 520.50 | 216.0 | 7D180 | 154.75 | 138.0 | 7D083 | 434.50 | 188.0 | 7D086 | 357.75 | 159.0 |
| Butcher Block Maple | 96 | 30 | 34 | 7D075 | 689.00 | 293.0 | 7D078 | 603.50 | 265.0 | 7D181 | 139.50 | 120.0 | 7D084 | 518.00 | 237.0 | 7D087 | 441.00 | 208.0 |
| Shop Top | 60 | 30 | 34 | 7D100 | 497.25 | 228.0 | 7D103 | 411.75 | 200.0 | 7D106 | 334.75 | 223.0 | 7D109 | 326.25 | 172.0 | 7D112 | 249.25 | 143.0 |
| Shop Top | 72 | 30 | 34 | 7D101 | 518.50 | 245.0 | 7D104 | 433.00 | 217.0 | 7D107 | 356.00 | 188.0 | 7D110 | 347.25 | 189.0 | 7D113 | 270.25 | 160.0 |
| Shop Top | 96 | 30 | 34 | 7D102 | 558.00 | 280.0 | 7D105 | 472.25 | 252.0 | 7D108 | 395.25 | 223.0 | 7D111 | 386.75 | 182.0 | 7D114 | 309.75 | 195.0 |
| Plastic Laminate | 60 | 30 | 34 | 7D127 | 490.75 | 231.0 | 7D130 | 405.00 | 203.0 | 7D133 | 328.25 | 174.0 | 7D136 | 319.50 | 175.0 | 7D139 | 242.50 | 146.0 |
| Plastic Laminate | 72 | 30 | 34 | 7D128 | 509.50 | 249.0 | 7D131 | 424.00 | 221.0 | 7D134 | 347.00 | 192.0 | 7D137 | 338.50 | 193.0 | 7D140 | 261.50 | 164.0 |
| Plastic Laminate | 96 | 30 | 34 | 7D129 | 568.50 | 311.0 | 7D132 | 482.75 | 283.0 | 7D135 | 405.75 | 254.0 | 7D138 | 397.25 | 255.0 | 7D141 | 320.25 | 226.0 |
| Steel | 60 | 30 | 34 | 7D154 | 469.25 | 217.0 | 7D157 | 383.75 | 189.0 | 7D160 | 306.75 | 160.0 | 7D163 | 298.00 | 161.0 | 7D166 | 221.00 | 132.0 |
| Steel | 72 | 30 | 34 | 7D155 | 486.25 | 233.0 | 7D158 | 400.50 | 205.0 | 7D161 | 323.75 | 176.0 | 7D164 | 315.00 | 177.0 | 7D167 | 238.00 | 148.0 |
| Steel | 96 | 30 | 34 | 7D156 | 513.00 | 253.0 | 7D159 | 427.00 | 225.0 | 7D162 | 350.25 | 196.0 | 7D165 | 341.50 | 197.0 | 7D168 | 264.50 | 168.0 |



*As America's leading distributor, we know a thing or two about storage.*

# MODULAR WORKBENCH SYSTEMS

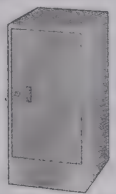
edsal New



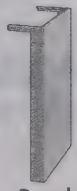
A 4-Drawer Cabinet Pedestal



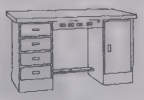
B 3-Drawer Cabinet Pedestal



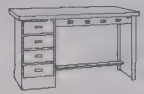
C One-Door Cabinet Pedestal



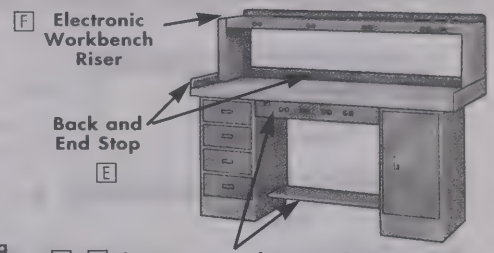
D Panel Leg



G Pedestal to Pedestal



H Pedestal to Panel Leg




G & H Electronic Panel & Foot Rest

**Wiring Kit No. 4TW73 Available. Please Order Seperately**

Make your modular bench from page 2088 into an Electronic Work Station with these optional accessories. All components gray powder coat finish. Edsal Brand.

## A B FOUR-DRAWER AND THREE-DRAWER CABINET PEDESTALS

Flush front, recessed handles and knock-outs for cylinder locks†. Drawers move smoothly and easily when fully loaded, 75 pound capacity. Box Drawers measure 13W x 23D x 5½"H inside clear. File Drawer is 11¾"H.

## C ONE-DOOR-CABINET PEDESTALS

May be used as a left or right swinging door. One adjustable shelf included.

## D PANEL LEG

Sturdy box-formed panel legs provide maximum stability and an attractive furniture appearance.

## E BACK AND END STOP

16-Gauge steel stop bolts to work bench top and extends 3" above workbench surface to keep parts and tools from rolling off sides and back. Corners of end stops are rounded for added safety. Kit includes two end stops, one back stop, and mounting hardware.

(†) Order optional Keyed Cylinder Lock #101-1824. Call 1-800-323-0620

## F ELECTRONIC RISER

Provide extra shelf space and convenient electrical outlets for use with power tools, test equipment, fans. Knockouts provided for four duplex receptacles and switch. 19-Gauge steel construction. Order Wiring Kit No. 4TW73 separately, below.

## G & H ELECTRONIC PANEL & FOOT REST

Easily convert a standard workbench to an electronic workstation by adding this convenient electronic panel and foot rest combination. Fits all available Edsal Modular Benches. Removable cover behind receptacle panels makes wiring quick and easy. Handy 9¼"D lower shelf/footrest adds support. Independent framework with provisions to accommodate 4 duplex receptacles. Order Wiring Kit No. 4TW73 separately, below.

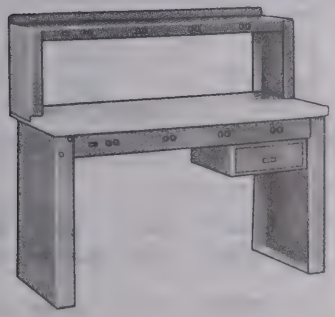
| Key | Description | Dimensions (In.) W | D | H | Edsal Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 4 Drawer Pedestal | 15¾ | 24 | 32 | 611 | New 4TW42 | $232.37 | $211.25 | 72.0 |
| B | 3 Drawer Pedestal | 15¾ | 24 | 32 | 612 | New 4TW43 | 241.45 | 219.50 | 70.0 |
| C | 1 Door Pedestal | 15¾ | 24 | 32 | 610 | New 4TW41 | 108.14 | 104.80 | 42.0 |
| D | Panel Leg | 3 | 24 | 32 | MP24 | New 4TW84 | 36.39 | 32.75 | 13.0 |
| E | Back & End Stops | 60 | 30 | 3 | 5503 | 5W676 | 28.39 | 23.65 | 12.0 |
| E | Back & End Stops | 72 | 30 | 3 | 5505 | 5W677 | 32.79 | 27.25 | 13.0 |
| E | Back & End Stops | 96 | 30 | 3 | 5507 | New 4TW38 | 42.32 | 35.25 | 16.0 |
| F | Electronic Riser | 60 | 15 | 18 | E704 | 5W674 | 105.79 | 58.70 | 29.0 |
| F | Electronic Riser | 72 | 15 | 18 | E702 | 5W675 | 125.94 | 69.80 | 31.0 |
| F | Electronic Riser | 96 | 15 | 18 | E703 | New 4TW58 | 179.10 | 99.40 | 40.0 |

### Under Bench Electronic Panel & Foot Rest Kits

| Key | Description | Fits Bench W (In.) | Edsal Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| G | Pedestal to Pedestal | 60 | EADP-5 | New 4TW59 | $61.21 | $55.10 | 14.0 |
| G | Pedestal to Pedestal | 72 | EADP-6 | New 4TW60 | 65.64 | 59.10 | 14.0 |
| G | Pedestal to Pedestal | 96 | EADP-8 | New 4TW63 | 90.17 | 81.15 | 21.0 |
| H | Pedestal to Panel Leg | 60 | EADP-60 | New 4TW61 | 75.58 | 68.05 | 23.0 |
| H | Pedestal to Panel Leg | 72 | EADP-72 | New 4TW62 | 81.08 | 73.00 | 26.0 |
| H | Pedestal to Panel Leg | 96 | EADP-96 | New 4TW64 | 107.40 | 96.70 | 37.0 |
| – | Wiring Kit* | – | EW-1 | New 4TW73 | 59.51 | 53.60 | 2.0 |

(*) Includes four duplex outlets circuit breaker switch, pilot light and 8' ground cord, (115 VAC, 15 AMPS, 60 HZ).

edsal New



# ELECTRONIC WORKBENCHES

**72 or 96W x 36"D maple or plastic laminate top** provides a spacious work surface for electronic assembly operations. Customize your bench by adding drawer, back and end stops. Gray powder coat finish.

**Bench and Riser** each have knockouts for 4 duplex receptacles, circuit breaker switch and pilot light. Please order Wiring Kit No. 4TW73 separately.

**16-Gauge Box** formed Steel legs and frame for strength and rigidity.

**19-Gauge Steel Riser** measures 18H x 15D x 72 or 96"W with 1½"H back stop.

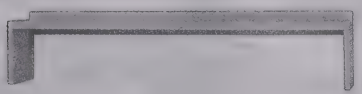
| Work Surface | Dimensions (In.) W | D | H | Edsal Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Plastic Laminate | 72 | 36 | 34 | E-7204 | New 7D219 | $400.20 | $348.00 | 240.0 |
| Plastic Laminate | 96 | 36 | 34 | E-7205 | New 7D220 | 498.81 | 433.75 | 303.0 |
| Butcher Block Maple | 72 | 36 | 34 | E-7212 | New 7D221 | 523.25 | 455.00 | 236.0 |
| Butcher Block Maple | 96 | 36 | 34 | E-7213 | New 7D222 | 654.35 | 569.00 | 297.0 |
| Back & End Stops | 72 | 36 | 3 | 5506 | 5W678 | 34.85 | 29.00 | 14.0 |
| Back & End Stops | 96 | 36 | 3 | 5508 | New 4TW67 | 30.13 | 25.10 | 8.0 |
| Stackable Bench Drawer | 17¼ | 20 | 6⅝ | SD2014 | 5W671 | 63.77 | 50.10 | 20.0 |
| Wiring Kit* | – | – | – | EW-1 | New 4TW73 | 59.51 | 53.60 | 2.0 |

(*) Includes four duplex outlets circuit breaker switch, pilot light and 8' ground cord, (115 VAC, 15 AMPS, 60 HZ).

STORAGE EQUIPMENT

# MODULAR DRAWER WORKBENCHES

Lista modular workbench systems provide an attractive and versatile workplace. This modular approach allows you to create workbenches that exactly suit your needs. Components shown can be mixed and matched to create customized workstations.

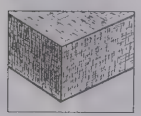


Riser

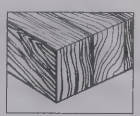


Back and End Stops

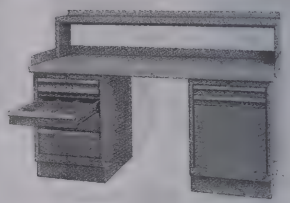
LISTA MAKING WORKSPACE WORK



Plastic Laminate Bench Top Surface



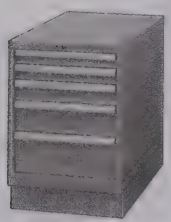
Solid Maple Bench Top Surface



No. 3W537

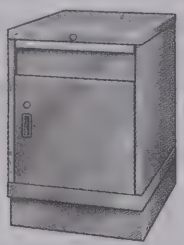
FREE DELIVERY on orders of $900 or more

See Freight Policy

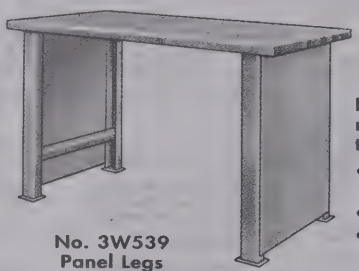


No. 3W538
5-Drawer
Cabinet Pedestal

New



No. 4VM50
1-Drawer, 1-Door
Cabinet Pedestal



No. 3W539
Panel Legs

**Lista workbench components can be mixed and matched to create customized workbenches.**

- 95% drawer extension for easier accessibility
- 150 lb. load capacity per drawer
- Pre-installed drawer partitions with dividers
- Bright blue color

## No. 4VM50
## ONE-DRAWER, ONE-DOOR CABINET PEDESTAL

Has a drawer for storage of small items and a hinged door below with one shelf to store large tools, parts, or instruments. Fixed bottom shelf. Drawer and door lock separately; four keys (keyed alike) are included.

## No. 3W538
## FIVE-DRAWER CABINET PEDESTAL

Has drawers from 2 to 7" in height for storage of tools and supplies. Cabinet is fully assembled and includes a lock and two keys. Sturdy, all-steel construction. Durable and designed to last for years. Ergonomically designed for easy and fast access of tools, parts, and supplies. Patented PrevenTip® lock one-drawer-at-a-time system prevents cabinet from tipping over.

## PANEL LEG

Each welded steel one-piece panel leg is 3⅛W x 28½D x 32½"H with welded panel on outside of leg. Feet have anchor holes for floor mounting.

**No. 3W539.** Panel Leg. Shpg. wt. 30.0 lbs. List $84.20.Each ..... **$80.05**

## WORKBENCH ACCESSORIES

### RISER SHELF

Made from heavy gauge steel. 10½W x 13½"H. Features 2" high backstop.

### BACKSTOPS AND ENDSTOPS

Extend 3" above worksurface keeping small items from falling off.

## *New!* BENCH TOP SPECIFICATIONS AND ORDERING DATA

| Top Surface | Size (In.) | Thickness (In.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Plastic Laminate** | 30 x 60 | 1½ | **4TW74** | $165.82 | **$150.75** | 91.0 |
| **Plastic Laminate** | 30 x 72 | 1½ | **4TW75** | 179.57 | **163.25** | 109.0 |
| **Solid Maple** | 30 x 60 | 1¾ | **4TW44** | 192.81 | **165.75** | 87.0 |
| **Solid Maple** | 30 x 72 | 1¾ | **4TW45** | 229.07 | **194.50** | 104.0 |

## WORKBENCH ACCESSORY ORDERING DATA

| Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **60" Riser** | **3W540** | $104.75 | **$99.60** | 35.0 |
| **72" Riser** | **3W541** | 121.88 | **115.90** | 40.0 |
| **60" Backstop & Endstops** | **3W542** | 37.60 | **35.75** | 17.0 |
| **72" Backstop & Endstops** | **3W543** | 41.76 | **39.70** | 21.0 |

## CABINET PEDESTAL SPECIFICATIONS AND ORDERING DATA

| Description | Drawers | Drawer Specifications: Inside Dimensions (In.) H | W | D | Number of Compartments per Drawer | Total Compartments in Cabinet | Cabinet Overall Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **One-Drawer, One-Door** | 1 | 5 | 18 | 24 | 4 | 4 | 32½ | 22⅛6 | 28½ | ***New* 4VM50** | $575.59 | **$523.50** | 170.0 |
| **Five-Drawer** | 2 | 2⅛ | 18 | 24 | 16 | 53 | 32½ | 22⅛6 | 28½ | **3W538** | 716.26 | **681.00** | 243.0 |
| | 1 | 3¾ | 18 | 24 | 9 | | | | | | | | |
| | 1 | 5⅜ | 18 | 24 | 8 | | | | | | | | |
| | 1 | 7⅞6 | 18 | 24 | 4 | | | | | | | | |

# VIDMAR STAND ALONE WORKBENCHES AND ACCESSORIES

**Three Cabinets, Four Ways.** Three different cabinet styles can each be purchased as a stand-alone cabinet or a workbench in either of two configurations (bench leg and 60 in. maple top, or two cabinets and 84 in. maple top).

**Select the cabinet** that meets your needs, for storing bench stock, tools, parts, general repair materials, miscellaneous personal items, manuals, files, or other items.

**Options include** stops (both back and end), a riser, and a 48" electrical strip. Simply choose the combination of items listed below to suit your application.

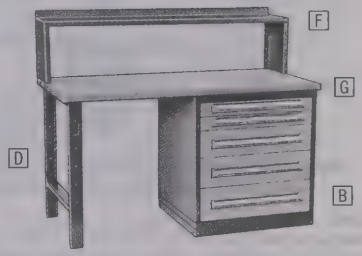
The efficiencies of Vidmar cabinet storage can be extended to workbench areas, giving you drawer organization right at your workstation.

STANLEY Vidmar

New

## CABINETS

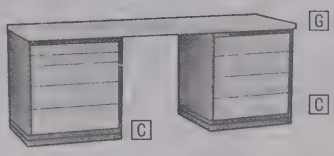
| Key | Height (In.) | No. of Drawers | No. of Compartments | For Storing | Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 33 in. | 5 | 96 | Bench stock, tools, etc. | SCU1023-AL | 4KC82 | $889.35 | $845.00 | 336.0 |
| B | 33 in. | 6 | 124 | General repair, parts, etc. | SCU1004-AL | 4KC80 | 979.50 | 932.00 | 365.0 |
| C | 33 in. | 3 | 40 | Misc. personal items, manuals, files | SCU1072-AL | 4KC84 | 683.00 | 647.00 | 269.0 |



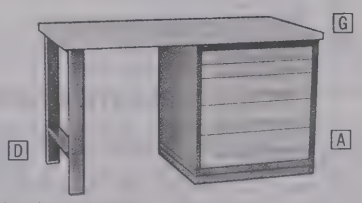

No. 4KC80

## ACCESSORIES

| Key | Item | Description | Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| D | Bench Leg | Formed steel leg units, predrilled for fastening to components. With knockouts for std. 2-outlet electrical fixture. | BL1751 | 4KC67 | $73.30 | $71.00 | 20.0 |
| E | Stops (Not Shown) | Flat steel panels, end and back, 60" back stop | BS360 | 4KC68 | 23.85 | 23.00 | 7.0 |
| | | 84" back stop. | BS384 | 4KC69 | 31.90 | 31.00 | 8.0 |
| | | End stops (2 pk) | ES330 | 4KC70 | 28.60 | 28.00 | 6.0 |
| F | Riser | Gets tools, test and other equipt. off work surface. For 60" tops | BFS60 | 4KC65 | 83.36 | 80.00 | 27.0 |
| | | For 84" tops | BFS84 | 4KC66 | 107.75 | 103.00 | 37.0 |
| — | Electrical Outlet Strip | Attaches to face or rear of bench riser or work surface shelves. 8 outlets. Prewired with plug. 48" | EOS48P | 3W211 | 58.56 | 50.95 | 3.8 |
| G | Maple Workbench Top | Solid maple 60" | MT60 | New 4TW44 | 312.10 | 165.75 | 99.0 |
| | | 84" | MT84 | 4KC73 | 328.75 | 312.00 | 126.0 |




No. 4KC84




No. 4KC82

## YOUR PRODUCT SOLUTION RESOURCE...

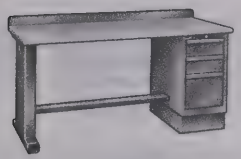
## CALL GRAINGER TODAY!

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# TECHNICAL WORKBENCHES

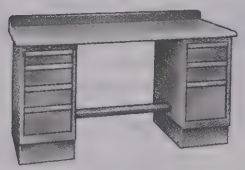
## MODULAR TECHNICAL WORKBENCHES

A



Single Pedestal Workbench

B

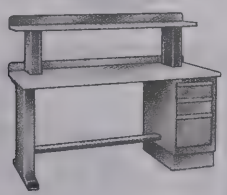


Double Pedestal Workbench

LISTA
MAKING WORKSPACE WORK®

New

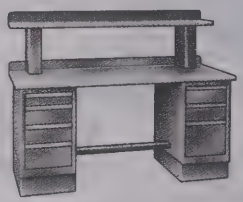
C



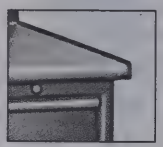
Single Pedestal Workbench with Powered Riser

FREE DELIVERY on orders of $900 or more
See Freight Policy

D



Double Pedestal Workbench with Powered Riser



Plastic Laminate Bench Top Surface

Lista Technical Workbenches provide durable, well-designed workstations for electronic testing and repair, assembly, research and development, engineering, and other technical applications. Available with or without powered riser shelves.

**Modular cabinet pedestals**—With overall dimensions of 16⅞W x 28½D x 33½"H these drawers provide organized storage for parts or tools. File cabinet accepts letter-sized hanging folders. Drawers have 95% extension, 150 lb. capacity with a lock and two keys. Bright blue color.

**Aesthetically pleasing leg design**—Clean, attractive look for office, laboratory, or other technical areas.

**Plastic laminate bench tops**—Ergonomic radius/bullnose front edge provides large, clean work area. Light gray color.

**Powered riser shelves**—Provide six outlets for electronic equipment or lighting. Power strip is rated for 15 amps, 110V, 60 Hz. UL Listed. CSA Approved.

**Single pedestal technical workbench**—Includes a modular cabinet pedestal with two dividable drawers, one file drawer, and a footrest.

**Double pedestal technical workbench**—Features a three-drawer pedestal and a four-drawer cabinet pedestal with footrest. Cabinets are keyed alike.

| Key | Description | No. of Drawers | 60" WORKBENCHES New! Stock No. | List | Each | Shpg. Wt. | 72" WORKBENCHES New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Single Pedestal Bench | 3 | 4VM40 | $828.00 | $815.00 | 350.0 | 4VM42 | $850.00 | $836.50 | 380.0 |
| B | Single Pedestal Bench w/Powered Riser | 3 | 4VM41 | 1146.00 | 1128.00 | 435.0 | 4VM43 | 1182.00 | 1163.00 | 465.0 |
| C | Double Pedestal Bench | 7 | 4VM44 | 1251.00 | 1231.00 | 550.0 | 4VM46 | 1273.00 | 1253.00 | 570.0 |
| D | Double Pedestal Bench w/Powered Riser | 7 | 4VM45 | 1569.00 | 1544.00 | 610.0 | 4VM47 | 1605.00 | 1580.00 | 640.0 |

## OPERATOR ADJUSTABLE WORKBENCHES WITH ACCESSORY SYSTEMS

The Height-Right™ operator height adjustable workbench with FlexWorks® accessory system is an extremely flexible and ergonomic workstation. The Height-Right base is powered by an electric drive system. Speed of adjustment is one foot per minute. Painted bright blue. Includes plastic radius/bullnose bench top in light gray color.

FlexWorks Accessory System is included with each Height-Right workbench. This system includes two 48" high frame sections with slotted posts for adjustable shelves, a pegboard panel, a louvered panel (for storage bins), two 12" deep adjustable shelves, a 3" backstop, and a vertical five outlet power strip. Power strip is rated for 15 amps, 110V, 60 Hz, UL Listed. Bright blue color.

**Improved productivity** — Adjustment and flexibility of workbench and accessory system provides a wide range of options designed to meet workers needs.

**Enhanced aesthetics** — Attractive design and look for technical, assembly, and laboratory environments.

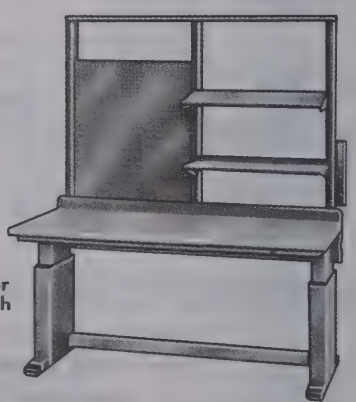
**15" adjustment range from 28 to 43"** — Unsurpassed flexibility and ergonomics to meet the need of any worker.

**Reliable operations** — Precision drive system has been tested for use under industrial conditions.

**Dynamic (moving) capacity of 600 lbs.** — Can support all products, tools, and equipment for most industrial tasks.

LISTA
MAKING WORKSPACE WORK®

New



Height-Right Operator Adjustable Workbench with FlexWorks Accessories

| Description | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 60" Long Workbench | 4VM48 | $2186.00 | $2151.00 | 580.0 |
| 72" Long Workbench | 4VM49 | 2268.00 | 2232.00 | 620.0 |



*As America's leading distributor, we know a thing or two about storage.*

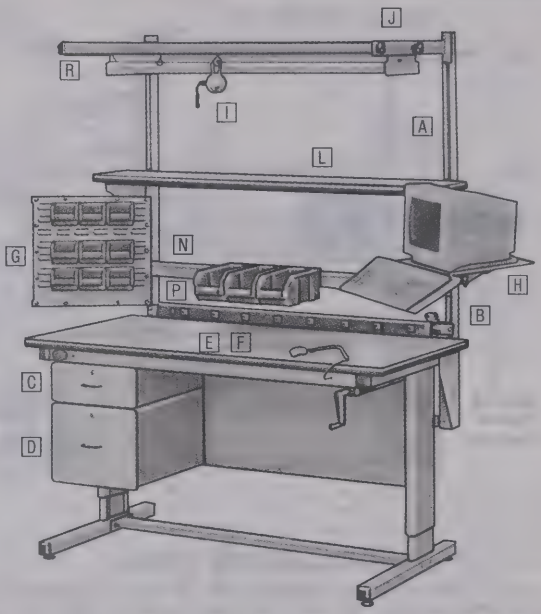
# ERGONOMIC WORK STATIONS

Pro-Line

New

- **Height Adjustable Work Surface reduces repetitive motion injury and worker fatigue, increases worker productivity**
- **Modular Design allows you to configure station for your needs**
- **Fully Welded Top Frame supports work surface on all four sides**
- **Folding Handle safely and easily folds out of the way**
- **20" Steel Modesty Panel for lateral support**
- **1.250" Thick Worksurface with durable "T" mold edges for years of use**

The Ergoline™ allows operators of all sizes and physical characteristics to change work surface height at wil. Fits multiple shifts, multiple tasks, and operations at one station. Work surface available in standard or ESD white laminate and feature durable "T" mold edges with rounded corners. Bas station price includes surface, top frame, modesty panel, legs and leveling glides, 330 lbs. capacity. Painted steel components light beige.




FREE DELIVERY on orders of $900 or more
See Freight Policy

## *New!* BASE HEIGHT ADJUSTABLE STATION

| Base Height Adjustable Station | Length (In.) | Width (In.) | Height (In.) | Pro-Line Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **60"L x 30"W Standard Laminate** | 60L | 30W | 30H to 42H | EL6030P | **4UJ51** | $1170.70 | **$1159.00** | 185.0 |
| **60"L x 30"W ESD Laminate** | 60L | 30W | 30H to 42H | EL6030C | **4UJ50** | 1292.92 | **1280.00** | 185.0 |
| **72"L x 30"W Standard Laminate** | 72L | 30W | 30H to 42H | EL7230P | **4UJ53** | 1233.33 | **1221.00** | 195.0 |
| **72"L x 30"W ESD Laminate** | 72L | 30W | 30H to 42H | EL7230C | **4UJ52** | 1374.74 | **1361.00** | 195.0 |

## OPTIONAL MODULAR ACCESSORIES

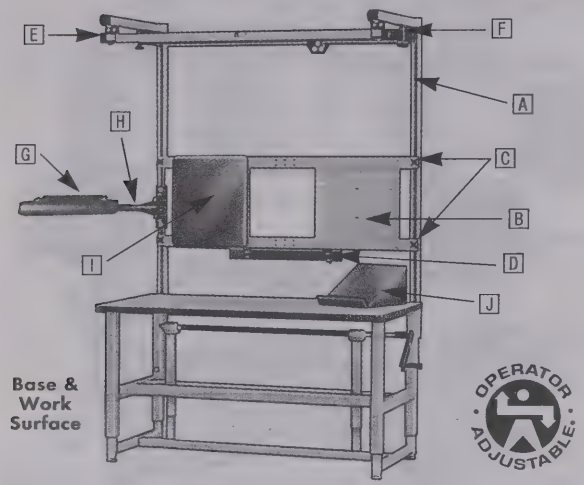
Modular accessories move vertically with adjusting work surface, making the Ergo-line a true ergonomic work station. Accessory uprights feature infinite adjustability. Air quick disconnect places shop air at surface. Modular drawers feature smooth rounded corners. ESD ground kit and wrist strap protects ESD sensitive components in a range of $10^6$ to $10^9$. Articulating bin extends up to 23½ from upright. Articulating monitor arm extends up to 27.5" from upright. Tool Balancer and trolley reduce fatigue and work surface clutter. Overhead lighting reduces eye strain.

## *New!* MODULAR ACCESSORIES SPECIFICATIONS AND ORDERING DATA

| Key | Description | Fits Work Stations (In.) | Pro-Line Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **A** | Accessory Supports 48" above surface sold in pairs | 60 and 72 | UR60 | **4UJ66** | $54.59 | **$54.05** | 21.0 |
| **B** | Air Quick Disconnect (mounts to ESMR) | 60 and 72 | AQDC | **4UJ44** | 18.92 | **18.74** | 1.0 |
| **C** | 6" Drawer 6"H x 15"W x 19.250"L | 60 and 72 | MDS6 | **4UJ60** | 140.30 | **138.90** | 27.0 |
| **D** | 12" Drawer 12"H x 15"W x 19.250"L | 60 and 72 | MDS12 | **4UJ59** | 194.94 | **193.00** | 38.0 |
| | Drawer Hanging Kit (one per bench) | 60 and 72 | HK | **4UJ55** | 20.04 | **19.84** | 2.0 |
| **E** | ESD Ground Kit (ESD station only) | 60 and 72 | SGK-J2 | **4UJ63** | 44.54 | **44.10** | 1.0 |
| **F** | ESD Wrist Strap (ESD station only) | 60 and 72 | SGS-4 | **4UJ64** | 35.65 | **35.30** | 1.0 |
| **G** | Articulating Bin Arm (17" x 18") | 60 and 72 | ABH-1 | **4UJ43** | 228.53 | **226.25** | 20.0 |
| **H** | Articulating Monitor Arm (14" x 14") | 60 and 72 | MA-1 | **4UJ58** | 132.52 | **131.20** | 20.0 |
| **I** | Tool Balancer for tools up to 2 lbs., mounts to LFT60 or LFT72 | 60 and 72 | TB-2 | **4UJ65** | 57.92 | **57.35** | 2.7 |
| **J** | 60" Light and Frame | 60 | OLF60 | **4UJ61** | 199.49 | **197.50** | 36.0 |
| **K** | 72" Light and Frame | 72 | OLF72 | **4UJ62** | 210.60 | **208.50** | 36.0 |
| **L** | 60" x 12" Laminate Shelf and supports | 60 | CSPL1260P | **4UJ47** | 114.74 | **113.60** | 34.0 |
| **M** | 72" x 12" Laminate Shelf and supports | 72 | CSPL1272P | **4UJ48** | 129.19 | **127.90** | 41.0 |
| **N** | 60" Bin Holder (bins sold separately) | 60 | BH60 | **4UJ45** | 27.87 | **27.60** | 7.0 |
| **O** | 72" Bin Holder (bins sold separately) | 72 | BH72 | **4UJ46** | 31.21 | **30.90** | 8.0 |
| **P** | 60" Power Supply (8 outlets 120V 15 amp) and mounting rail to mount to 60" station | 60 | ES48/ESMR60 | **4UJ54** | 89.09 | **88.20** | 7.0 |
| **Q** | 72" Power Supply (8 outlets 120V 15 amp) and mounting rail to mount to 72" station | 72 | ES48/ESMR72 | **4UJ49** | 98.03 | **97.05** | 8.0 |
| **R** | Tool Suspension Frame mounts in to No. 4UJ61. Includes two trolleys | 60 | LTF60 | **4UJ56** | 84.64 | **83.80** | 10.0 |
| **S** | Tool Suspension Frame mounts in to No. 4UJ62. Includes two trolleys | 72 | LTF72 | **4UJ57** | 90.20 | **89.30** | 13.0 |

STORAGE EQUIPMENT

# HEAVY-DUTY ADJUSTABLE HEIGHT WORKSTATIONS AND ACCESSORIES




New

AMD
ALL METAL DESIGNS, INC.

- **Modular Design—Complete or customize workstations as requirements change; just add uprights or other accessories (sold below) to the base and top**
- **Operator Adjustable™—Designed for multi-person use, workstations adjust to the comfort of each employee thanks to an easy-to-use mechanical lift**
- **Heavy-Duty Capacity—All steel, fully welded construction is virtually maintenance free; powder-coat finish resists scratches and flaking; 11-gauge steel frame handles a dynamic lift of 600 lbs. and static weights to 2,000 lbs.**
- **Bench is shipped fully assembled**

FREE DELIVERY on orders of $900 or more
See Freight Policy

## WORKSTATION BASES

All steel, fully welded 11-gauge base. 600 lb. lift capacity. 12" height adjustability with side-crank handle allows quick and easy adjustment by a single operator for proper positioning when standing or sitting. Beige, scratch-resistant powder coat finish. No assembly required.

## LAMINATE WORKSURFACES

High-pressure plastic laminate with particleboard core, 1¼" thick overall. Excellent general purpose surface. T-molding provides a smooth, durable edge. Beige laminate with black T-molding. Load Rating: 150 lbs. per sq. ft.*

### WORKSTATION BASES WITH LAMINATE WORKSURFACES

| Description | Top Size (In.) W x D | AMD Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Base/Worksurface** | 30 x 48 | AHT-1-2-WLM-1 | **4UH74** | $910.75 | **$884.50** | 242.0 |
| **Base/Worksurface** | 30 x 60 | AHT-1-3-WLM-1 | **4UH75** | 982.90 | **954.50** | 263.0 |
| **Base/Worksurface** | 36 x 48 | AHT-1-7-WLM-1 | **4UH76** | 940.76 | **913.50** | 260.0 |
| **Base/Worksurface** | 36 x 72 | AHT-1-9-WLM-1 | **4UH77** | 1100.06 | **1069.00** | 311.0 |

(*) Based on evenly distributed loads

## OPTIONAL ACCESSORIES†

Convert a basic AMD bench into a multifunctional workstation that improves workers' efficiency. Most accessories are factory installed to the Overhead Frame (except the Tote Holder). Tack board, Electric Bar, and Parts Bin Bar require Cross Bars. The length of cross bar, tool rail and light corresponds to the width of bench you choose. AMD workstation accessories can be added at any time.

### ACCESSORIES

| Key | Description | Dimensions (In.) | AMD Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **A** | Overhead Frame | 57" Above Top | FOH-2 | **4UH78** | $218.16 | **$212.00** | 37.0 |
| **B** | Parts Bin Board | 17" x 19" | XBB-1-1 | **4UH79** | 111.97 | **108.75** | 12.0 |
| **C** | Cross Bars (pair) | 48" L | XCB-2-2 | **4UH80** | 96.96 | **94.15** | 15.0 |
| **C** | Cross Bars (pair) | 60" L | XCB-2-3 | **4UH81** | 121.20 | **117.70** | 17.0 |
| **C** | Cross Bars (pair) | 72" L | XCB-2-4 | **4UH82** | 147.75 | **143.45** | 19.0 |
| **D** | Electric Bar | 24" L | XEB-3-1 | **4UH83** | 114.28 | **110.95** | 8.0 |
| **E** | Overhead Tool Rail | 48" L | XHT-1-2 | **4UH84** | 148.91 | **144.60** | 15.0 |
| **E** | Overhead Tool Rail | 60" L | XHT-1-3 | **4UH85** | 160.45 | **156.00** | 17.0 |
| **E** | Overhead Tool Rail | 72" L | XHT-1-4 | **4UH86** | 171.99 | **167.00** | 19.0 |
| **F** | Overhead Light | 48" L | XLT-2-2 | **4UH87** | 333.60 | **324.00** | 98.0 |
| **F** | Overhead Light | 60" L | XLT-2-3 | **4UH88** | 345.14 | **335.25** | 102.0 |
| **F** | Overhead Light | 72" | XLT-2-4 | **4UH89** | 356.68 | **346.50** | 106.0 |
| **G** | Monitor Arm Assembly ‡ | Tray 15"W x 15"D x 1/2" Lip | XMA-2 | **4UH90** | 240.10 | **233.25** | 21.0 |
| **H** | Swing Arm | 18"L | XSA-1 | **4UH91** | 114.28 | **110.95** | 12.0 |
| **I** | Tack Board | 17" x 19" | XTB-1-1 | **4UH92** | 86.57 | **84.05** | 8.0 |
| **J** | Tote Holder | 12"W x 15"D x 2" Lip | XTH-2 | **4UH93** | 98.12 | **95.30** | 14.0 |

(†) For use on AMD Base.Worksurface. (‡) Includes swing arm, flat tray and keyboard attachment

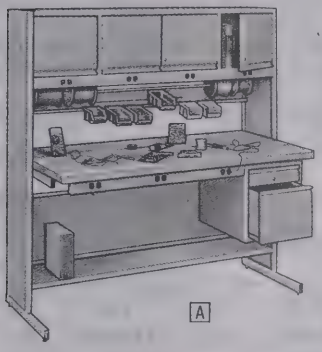
**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**



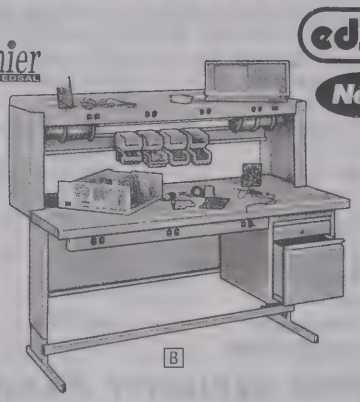
*As America's leading distributor, we know a thing or two about storage.*

# ELECTRONIC WORKSTATIONS, WORKCENTERS AND TECH BENCHES

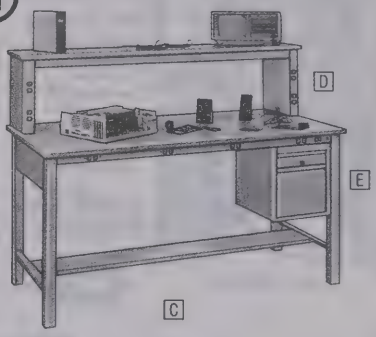
## PREMIER ELECTRONIC WORKSTATIONS




## ELECTRONIC WORKCENTERS




## ELECTRONIC TECH BENCHES




**Electronic workstations, workcenters, and Tech Benches** are available with your choice of Nonconductive plastic laminate or ESD Golden Oak Laminate Tops. Use plastic laminate tops in higher voltage applications where static electricity is not a problem. Nonconductive laminate surface prevents accidental grounding of electrified components for a safer work environment. Use ESD tops for sensitive, low voltage electronic work. ESD tops are designed to dissipate static electricity build-up to ground at a controlled rate of $10^5$-$10^9$ Ohms/square, reducing component failure. Modern design and heavy-duty steel construction provide long-lasting service and an attractive furniture appearance. Tough putty powder coat finish. Shipped unassembled. Plastic bins, wire reels, and tools not included.

A Combination Electronic Workstation has plenty of secure storage space with a built-in locking overhead cabinet, lower shelf and locking 2 Drawer Pedestal. Bin Rail, Wire Reel Holder, Under Bench Electrical Panel and Modesty Panel included. Complete with 7 duplex outlets, wiring, circuit breaker switches and pilot light.

B Electronic Workcenters are ergonomically designed to increase productivity. Adjustable work surface height from 26" to 34" in 1" increments. Complete with 18"H Electronic Riser, Bin Rail, Wire Reel Holder, locking 2 Drawer Pedestal and Under Bench Electrical Panel. Comes complete with 7 duplex outlets, wiring, circuit breaker switches and pilot light.

C The Standard Electronic Tech Bench is an economical answer to your assembly and repair needs. 60 or 72"W with lower shelf/footrest. Accessorize your bench to your specifications with a matching Tech Bench Riser, locking 2 Drawer Pedestal or Wiring Kit, (2 required; 1 for bench, 1 for riser.)

### *New!* A PREMIER ELECTRONIC WORKSTATIONS

| Key | Description | Work Surface | Overall Dimensions (In.) W | D | H | Edsal Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Premier Electronic Workstation | Non-Conductive PlasticLaminate | 62 | 30 | 66 | PEP60358 | **4TW86** | $790.21 | **$711.50** | 215.0 |
| | Premier Electronic Workstation | ESD Golden Oak Laminate | 62 | 30 | 66 | PEA60357 | **4TW85** | 790.21 | **744.50** | 215.0 |

### *New!* B ELECTRONIC WORKCENTERS

| Key | Description | Work Surface | Overall Dimensions (In.) W | D | H | Edsal Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| B | Electronic Workcenter | Non-Conductive Plastic Laminate | 60 | 30 | 52 | EWP60354 | **4TW70** | $671.82 | **$605.00** | 45.0 |
| | Electronic Workcenter | Non-Conductive Plastic Laminate | 72 | 30 | 52 | EWP72355 | **4TW71** | 722.66 | **650.50** | 50.0 |
| | Electronic Workcenter | ESD Golden Oak Laminate | 60 | 30 | 52 | EWA60357 | **4TW68** | 708.47 | **638.00** | 39.0 |
| | Electronic Workcenter | ESD Golden Oak Laminate | 72 | 30 | 52 | EWA72358 | **4TW69** | 774.12 | **697.00** | 41.0 |

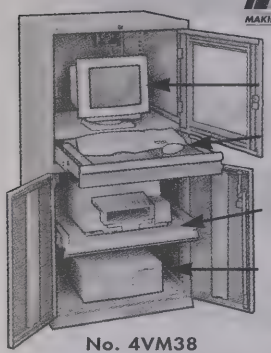
### *New!* ELECTRONIC TECH BENCHES, RISERS & ACCESSORIES

| Key | Description | Work Surface | Overall Dimensions (In.) W | D | H | Edsal Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| C | Electronic Tech Bench | Non-Conductive Plastic Laminate | 60 | 30 | 34 | TBP60304 | **7D172** | $285.88 | **$243.00** | 165.0 |
| | Electronic Tech Bench | Non-Conductive Plastic Laminate | 72 | 30 | 34 | TBP72305 | **7D173** | 323.53 | **275.00** | 189.0 |
| | Electronic Tech Bench | Non-Conductive Plastic Laminate | 72 | 36 | 34 | TBP72306 | **7D174** | 375.29 | **319.00** | 212.0 |
| | Electronic Tech Bench | ESD Golden Oak Laminate | 60 | 30 | 34 | TBA60307 | **7D169** | 391.76 | **333.00** | 164.0 |
| | Electronic Tech Bench | ESD Golden Oak Laminate | 72 | 30 | 34 | TBA72308 | **7D170** | 461.18 | **392.00** | 185.0 |
| | Electronic Tech Bench | ESD Golden Oak Laminate | 72 | 36 | 34 | TBA72309 | **7D171** | 509.41 | **433.00** | 212.0 |
| D | Tech Bench Riser | Non-Conductive Plastic Laminate | 60 | 15 | 18 | TB1273 | **4TW94** | 178.73 | **161.00** | 80.0 |
| | Tech Bench Riser | Non-Conductive Plastic Laminate | 72 | 15 | 18 | TB1274 | **4TW95** | 206.28 | **185.75** | 96.0 |
| | Tech Bench Riser | ESD Golden Oak Laminate | 60 | 15 | 18 | TB1275 | **4TW96** | 264.76 | **238.50** | 80.0 |
| | Tech Bench Riser | ESD Golden Oak Laminate | 72 | 15 | 18 | TB1276 | **4TW97** | 303.21 | **273.00** | 96.0 |
| E | 2-Drawer Pedestal w/lock | — | 15 | 17 | 19 | ES1401P | **4TW65** | 146.24 | **131.65** | 35.0 |
| - | Wiring Kit* | — | — | — | — | EW-1 | **4TW73** | 59.51 | **53.60** | 2.0 |

(*) Includes four duplex outlets circuit breaker switch, pilot light and 8' ground cord, (115 VAC, 15 AMPS, 60 HZ).

STORAGE EQUIPMENT

# INDUSTRIAL COMPUTER CABINETS




No. 4VM38

New

Lista's Computer Cabinet is an all-steel welded cabinet designed to protect personal computer equipment from debris and metal shards. Perfect for the machine shop, manufacturing area, automotive service area, or aircraft repair facilities. Bottom section features roll-out printer tray and bottom CPU shelf. Gray color.

**Large monitor door with plexiglass window** allows users to view screen while protecting monitor from damage. Fits most monitors up to 20" in size.

**Air intake fan with filter** creates positive airflow within cabinet, protecting equipment while reducing dust and contaminants. Replaceable filter can be changed from outside of cabinet.

**Pull-out tray** locks out when in use. WIll accept standard and ergonomic keyboards and mouse (free mouse pad included).

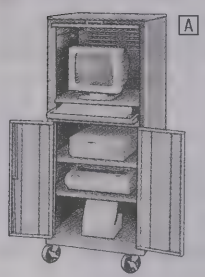
**Roll-out printer tray** improves ergonomics by allowing user to access printer without reaching into cabinet.

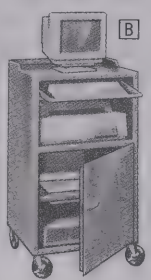
**Rear access panel** allows access to back of equipment and cabling, yet too small to remove any components.

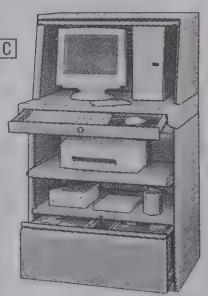
**Surge suppressor included.** Protects electronics from power surges and spikes. Six outlet power strip with 6 ft. cord.

| Description | Overall Dimensions (In.) | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Computer Cabinet | 57½H x 28¼ x 28½ | 4VM38 | $1025.00 | $1009.00 | 345.0 |

# COMPUTER SECURITY CABINETS

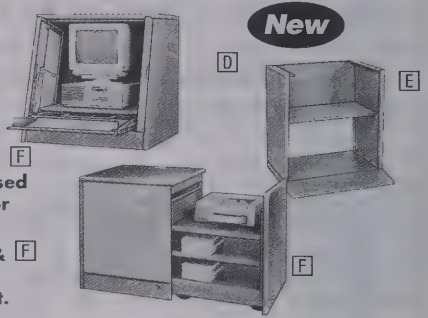



edsal

**Items D, E & F can be purchased separately, or combine D & E or D & F to form a complete unit.**




## PRODUCT FEATURES:

**Lockable steel cabinets** provide secure storage for your computer, paper and supplies. Separate locking upper and lower compartments. Accomodates desk top or tower style CPUs. Tough powder coat finish. Edsal Brand.

**Vented back** for air circulation, keeps equipment cool for longer life.

**Slide-out keyboard tray** with ergonomic wrist rest reduces fatigue; convenient storage area for office supplies.

**Mobile Units have 5" polyolefin casters** with 2 rigid, 2 swivel with brake; permits easy transport directly to your worksite.

### A MOBILE CABINET

**Lower compartment:** 22½W x 23D x 30"H with two adjustable shelves accomodates a wide range of CPU and printer sizes.

**Six-outlet power strip** with built-in surge protection for added security.

### B MOBILE STAND

**Top surface for monitor** – 47¾"H for easy viewing with 1½"H back & end stops.

**Lower cabinet with two-position shelf:** 24⅝W x 22⅞D x 22⅝"H accomodates a wide range of computer accessories and supplies.

**Fixed shelf** for sheet fed or continuous form printer. Plastic wire ties provided for cable management.

Convenient rear access holes for paper feed, cables and ventilation fan (not included).

### C PREMIER COMPUTER ENCLOSURE

**Expansive level desk top:** 35W x 8D x 41"H, area provides ample room for work in progress.

**Four postion roll-out printer shelf** is adjustable for any style or size equipment.

**Lateral file drawer** provides vast paper storage space for hanging files.

### D DESK TOP STATION

**Slide-in pocket doors** with inner compartments for storage of files or manuals.

### E OPEN PEDESTAL BASE

Includes convenient storage shelf.

**Supports desk top station** for stand up operation.

### F PRINTER CART BASE

**Roll-in/Roll-out "hideaway" printer cart** locks inside base enclosure.

**Two adjustable & one bottom shelf:** each 28W x 25"D for printers, paper, or supplies.

**Adjustable** for left or right-hand access.

**Supports desk top station** for stand up operation.

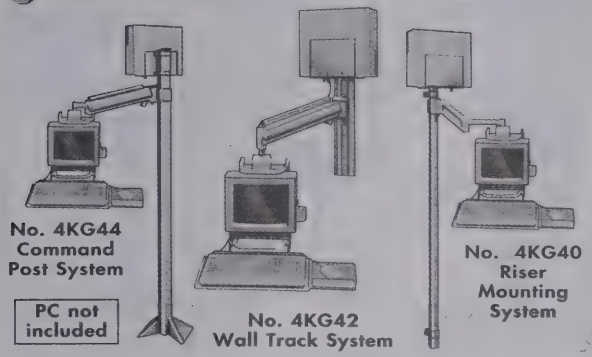
| Key | Description | Overall Dim (In.) W | D | H | Upper Cmprtmt Inside. Dim (In.) W | D | H | Powder Coat Finish | Shipped State | Edsal Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Mobile Cabinet | 26 | 24 | 64 | 22½ | 23 | 18¾ | Blue & Gray | Assembled | CSC6726 | | 4KG35 | $656.30 | $549.50 | 149.0 |
| B | Mobile Stand | 27 | 24 | 49¼ | 24⅝ | 22⅞ | 11½ | Blue | Unassembled | CSC6775B | | 4KG39 | 321.00 | 249.00 | 125.0 |
| C | Premier Enclosure | 35 | 30 | 62 | 33 | 18 | 18¼ | Gray | Assembled | CSC6820G | New | 4TX89 | 723.04 | 651.00 | 196.0 |
| D | Desk Top Station | 30 | 27¾ | 30 | 25¼ | 19 | 25 | Blue & Gray | Assembled | CSC6730 | | 4KG36 | 369.45 | 320.00 | 122.0 |
| E | Open Pedestal Base | 30 | 27¾ | 32 | | – | | Blue | Unassembled | CSC6745 | | 4KG37 | 200.95 | 169.25 | 66.0 |
| F | Printer Cart Base | 30 | 27¾ | 30 | | – | | Blue & Gray | Unassembled | CSC6760 | | 4KG38 | 457.20 | 390.00 | 142.0 |



*As America's leading distributor, we know a thing or two about storage.*

# COMPUTER MOUNT SYSTEMS AND WORKSTANDS

ERGOTRON inc




## COMPUTER MOUNTING SYSTEMS

Position computers exactly where you need them with Ergotron's ergonomic computer mounting systems. Three styles.

- **6 or 12" of vertical adjustability for ergonomic monitor suspension**
- **Mount computer equipment and components anywhere**
- **Tilt, swing, and rotate monitor for optimum positioning**
- **Minimal space required**
- **Serve multiple work areas**

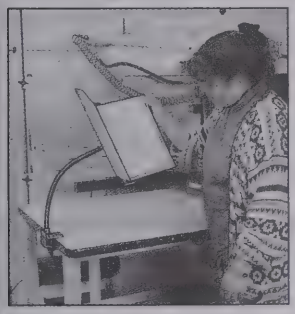
FREE DELIVERY on orders of $900 or more
See Freight Policy

MOUNTING SYSTEM FEATURES:

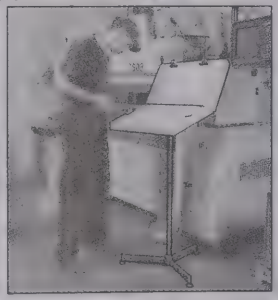
- **Vertical CPU holder for 4½ to 8" high CPU**
- **Pull-out keyboard holder with trays and wrist rests**
- **Cable management accessories included**
- **Durable steel construction**

| System Description | For Monitor Size Height (In.) | Max. Depth (In.) | Max. Wt (Lbs.) | System Description | Pole or Track Dimensions (In.) | Vertical Area Adjustability (In.) | Ergotron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Command Post** | 12 to 15½ | 16½ | 40 | Floor Mounted Pole | 80H x 3W x 3D | 12 | 27-167-100-00 | **4KG44** | $1560.00 | **$1300.00** | 93.0 |
| **Command Post** | 13½ to 18½ | 19 | 55 | Floor Mounted Pole | 80H x 3W x 3D | 12 | 27-168-100-00 | **4KG45** | 1632.00 | **1360.00** | 95.0 |
| **Wall Track** | 12 to 15½ | 16½ | 40 | Wall Mounted Track | 25L | 12 | 27-165-100-00 | **4KG42** | 1308.00 | **1090.00** | 67.0 |
| **Wall Track** | 13½ to 18½ | 19 | 55 | Wall Mounted Track | 25L | 12 | 27-166-100-00 | **4KG43** | 1320.00 | **1100.00** | 69.0 |
| **Riser Mounting** | 12 to 15½ | 16½ | 40 | Wall or Bench Mounted Pole | 74H x 2W x 2D | 6 | 27-163-100-00 | **4KG40** | 1198.80 | **999.00** | 67.0 |
| **Rise Mounting** | 13½ to 18½ | 19 | 55 | Wall or Bench Mounted Pole | 74H x 2W x 2D | 6 | 27-164-100-00 | **4KG41** | 1248.00 | **1040.00** | 69.0 |

## QUALTECH WORKSTANDS

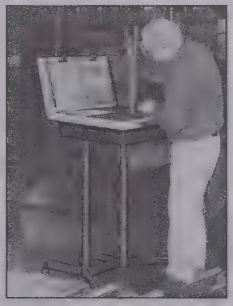


New





Optional Binder Holder atatches to No. 4TR98 to hold (3) 2½" binders



### DOCUMENT CENTER

- **Flexible 18" shaft with rugged six-way clamp mount for ideal positioning of information on machines, benches, desks, or walls**
- **Ten durable vinyl page protectors, supported by yellow wire frames, hold twenty 8½" x 11" pages flat**

Save production space and prevent clutter. Ideal for process information, quality control specifications, or set-up instructions.

### DOCUMENT STAND

- **Two 13" x 26" panels accommodate four 8½ x 11" documents which can be secured with four clips (included)**
- **Inclined writing panel discourages accumulation of debris**
- **High impact polystyrene panels and steel strand offers durability in harsh environments**
- **Clear, hinged cover on writing surface protects important paperwork**

Organize, display and protect inspection and procedure documents right where the work is happening. Protect valuable information on the production floor or the warehouse with a surface-mount document center.

### INSPECTION STAND

- **Flat, Cushioned Work Surface for easy inspection and parts protection**
- **Inclined Back Panel with clear hinged cover and security clips for display of specifications and procedures**
- **Locking Utility Drawer (20.5W x 19.5D x 3.25"H) secures tools and gauges**
- **Telescoping columns adjust 18" to provide an ideal personal work height**
- **Reading Light clearly illuminates parts and procedures**

Inspect parts, protect documents, secure tools and gauges in the shop or lab.

| Description | Dimensions (In.) L | W | H | Qualtech Part No. | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Document Center** | 12 | 20 | | 700 | **4TT03** | $115.34 | **$109.85** | 5.0 |
| **Document Stand** | 13 | 26 | 55 | 1000S | **4TR98** | 182.54 | **174.00** | 28.0 |
| **Inspection Stand** | 20¼ | 25¼ | 47 | 2700D | **4TR99** | 388.45 | **370.00** | 83.0 |
| **Adjustable Column*** | — | 1½ | 46 Max. | 3140 | **4TT02** | 41.78 | **39.80** | 5.0 |
| **Binder Holder** | 9" D | 6 | 10 | 3126 | **4TT01** | 36.12 | **34.40** | 7.0 |

(*) For use with No. 4TR98 Document Stand to provide 18" of height adjustment.

# ERGONOMIC INDUSTRIAL SEATING DRAFTING AND STEP STOOLS

## A DELUXE DESK HEIGHT UPHOLSTERED CHAIR

Independent paddle levers control 22° back tilt and 10° seat adjustment. Ergo knob controls 5" back height adjustment. Pneumatic lift provides 16 to 21" height range. Seat is 18W x 18"D. Back is 16W x 16"H. 25" 5-star nylon-reinforced base. 2" nylon carpet casters. Black industrial grade fabric. Safco brand (5106BL).

**No. 4KH78.** Shpg. wt. 28.0 lbs. List $479.00. Each ..... **$368.00**

## B UTILITY DESK HT. UPHOLSTERED CHAIR

Paddle lever controls 22° back tilt. Ergo knob controls 5" back height adjustment. Pneumatic 5" height adjustment. 16 to 21" height range. Seat is 18W x 18"D. Back is 15W x 11"H. 25" 5-star nylon-reinforced base. 2" nylon carpet casters. Black industrial grade fabric. Safco brand (5105BL).

**No. 4KH77.** Shpg. wt. 26.0 lbs. List $355.00. Each ..... **$273.25**

## C POLYURETHANE OFFICE STOOL

Height range of 16 to 21" with 5" pneumatic (140mm) lift. Seat measures 14" dia. and has a 5" height adjustment with paddle lever control. 25" dia. nylon reinforced base with 3-piece telescoping dust cover. 2" nylon carpet casters. Black microcellular self-skinning polyurethane seat. Safco brand (5100).

**No. 4KH76.** Shpg. wt. 16.0 lbs. List $157.00. Each ..... **$123.80**







## DRAFTING STOOL SERIES

Suggested for reducing the risk factors of Awkward Posture and Mechanical Stress. See page 2102.

A & B **PRECISION DRAFTING STOOLS.** Economical chairs feature one-touch single lever pneumatic height control, manual back height adjustment, and a five spur base with dual hooded casters. Seat is 18W x 16"D, back rest is 9H x 15"W.

Nos. 4KH38 and 4KH39 feature an adjustable footring. Nos. 4KH36 and 4KH37 have a chrome-plated teardrop footrest.

C **TRENTON MULTI-TASK STOOL.** Attractive chairs combine comfort, styling and economy. Feature contoured waterfall seat (18W x 17"D), spring-action adjustable back (14H x 16"W), and pneumatic lift adjustment. Five spur base with hooded casters and adjustable footring.

D **HIGHLAND DRAFTING STOOL.** High quality chair features plastic shell casting on seat and back. Articulating seat (18W x 17"D) with pneumatic height adjustment. Back rest (16H x 16"W) with height adjustment provides lower back and lumbar support. Five spur base with hooded casters ensures easy mobility. Adjustable footring included.

| Key | Height Adj. (In.) | Safco Model | Stock No. Black | Stock No. Gray | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 24-31 | 3401 | 4KH38 | 4KH39 | $210.00 | $165.75 | 31.0 |
| B | 24-31 | 3400 | 4KH36 | 4KH37 | 210.00 | 165.75 | 30.0 |
| C | 24-31 | 3420 | 4KH40 | 4KH41 | 269.00 | 215.75 | 34.0 |
| D | 24-31 | 3440 | 4KH42 | 4KH43 | 344.00 | 284.75 | 37.0 |

THE ORIGINAL!



CRAMER 10-YEAR LIMITED WARRANTY

## CRAMER KIK-STEP® STOOLS

Spring-mounted casters retract under pressure to allow grip ring on base of stool to "lock" onto floor. Nonmarking wheels roll quietly and easily.

Heavy gauge steel frame with powder epoxy finish. Ribbed treads on both platforms with all around protective rubber bumper. 11" dia. upper platform; 13Z\x" dia. lower platform; 15B\," dia. base. 14" high. 500 lb. capacity. Shipped unassembled. Meet GSA standards.

| Color | Cramer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Black | 1001-92 | 2W330 | $72.00 | $57.00 | 11.0 |
| Tan | 1001-21 | 2W362 | 72.00 | 57.00 | 11.0 |
| Yellow | 1001-10 | 4KK11 | 72.00 | 57.00 | 11.0 |

## RUBBERMAID STEP STOOLS

- 16" step stool glides easily on retractable, heavy-duty rubber casters
- Anti-skid bottom ring firmly grips floor when stool is in use
- Rugged ABS construction supports up to 300 lbs.
- Steps feature slip-resistant rubber tread
- Available in beige and black
- Rubbermaid brand

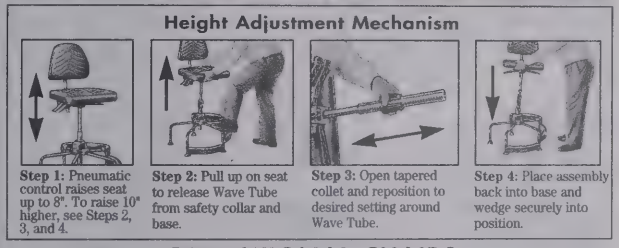



| Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Beige | 2523 | 5M655 | $50.28 | $42.75 | 7.0 |
| Black | 2523 | 5M656 | 50.28 | 42.75 | 7.0 |



*Store it, stack it, stamp it and more with these hard-working products.*




## OPERATIONAL CHAIRS

Height range adjustability of 19 to 27". Feature full 8" pneumatic height adjustment while seated. Large 25" nylon-reinforced five-star base has 2" high-impact nylon glides for safety and stability. Extra large 20" dia. chrome-plated adjustable footring. Contoured, microcellular, self-skinning polyurethane seats and backs. Black.

E **DELUXE OPERATIONAL CHAIR.** Independent paddle levers control 22° back angle and 10° seat tilt adjustment. Seat: 18½W x 17"D. Back: 15¾W x 12"H (back adjusts 5" up or down). Safco brand (5113).

**No. 4KH81.** Shpg. wt. 36.0 lbs. List $457.00. Each ..... **$347.50**

F **UTILITY OPERATIONAL CHAIR.** Paddle lever controls 22° back angle. Ergo knob controls 5" back height adjustment. Seat: 18½W x 17"D. Back: 14½W x 9"H. Safco brand (5111).

**No. 4KH80.** Shpg. wt. 33.0 lbs. List $419.00. Each ..... **$325.50**

G **ECONOMY OPERATIONAL CHAIR.** Backrest adjusts 3" up or down and front to back. Seat: 16¼W x 16¼"D. Back: 14½W x 9"H. Safco brand (5110).

**No. 4KH79.** Shpg. wt. 30.0 lbs. List $337.00. Each ..... **$239.25**

H **HARDFLOOR CASTERS.** Set of 5 casters for use with operational chairs Nos. 4KH81, 4KH80, and 4KH79. Safco brand (5132).

**No. 4KH87.** Shpg. wt. 1.0 lbs. List $42.00. Each **$37.50**

I **STAND-ALONE STOOL.** Heavy gauge triangular steel base with wrap-around steel support frame, antiskid glides, and built-in footrest. Contoured 14W x 13"H polyurethane seat mounted to adjustable spring suspension frame that tilts up to 15°. 10 elevation positions from 21 to 35" at 1¼" intervals. Safco brand (5126).

**No. 4KH86.** Shpg. wt. 23.0 lbs. List $275.00. Each ..... **$220.00**

J **ERGONOMIC INDUSTRIAL FOOTREST.** Fixed at 8° angle to help relieve muscle strain. Triangular 16-gauge tubular steel base. Removable 14-gauge platform with textured antislip covering. 5½ to 15" adjustable height range at 1¼" intervals. Powder coated black finish. Safco brand (5124).

**No. 4KH85.** Shpg. wt. 14.0 lbs. List $107.00. Each ..... **$81.70**

## INDUSTRIAL CHAIRS

Height range adjustability of 17 to 35". Full 8" pneumatic height adjustment while seated, plus exclusive wave tube provides 10" easy manual adjustment. Large 26" footprint industrial base with 2½" high-impact nylon glides for stability. Wide angled textured footrests offer secure footing and ergonomically correct leg position. Oversized seats and backs have exclusively designed microcellular, self-skinning polyurethane foam that handles tough conditions. Black. Meet or exceed ANSI/BIFMA chair standards.

A **DELUXE INDUSTRIAL CHAIR.** Three large wide angled footrests make it easy to step up into seat. Independent paddle levers control 22° back angle and 10° seat tilt adjustment. Back adjusts 5" up or down. Seat: 18½W x 17"D. Back: 15¾W x 12" H.

**No. 4KH84.** Safco brand (5120). Shpg. wt. 44.0 lbs. List $440.00. Each ..... **$337.50**

B **UTILITY INDUSTRIAL CHAIR.** Low-rung and high-rung wide angled footrests. Ergo knob adjusts back 5" in height and lever controls 22° back angle tilt. Seat: 18½W x 17"D. Back: 14½w x 9"H.

**No. 4KH83.** Safco brand (5118). Shpg. wt. 41.0 lbs. List $392.00. Each ..... **$299.75**

C **ECONOMY INDUSTRIAL CHAIR.** Backrest adjusts 3" up or down and front to back. Comes with one low-rung footrest. Seat: 16¼W x 16¼"D. Back: 14½W x 9"H.

**No. 4KH82.** Safco brand (5117). Shpg. wt. 36.0 lbs. List $302.00. Each ..... **$234.25**

D **LOOP ARM RESTS.** For use with Deluxe and Utility Industrial Chairs Nos. 4KH84, 4KH83, and 4KH80. Mounting hardware included.

**No. 4KH88.** Safco brand (5143).. Shpg. wt. 8.0 lbs. List $110.00. Each ..... **$88.60**



# STANDARD INDUSTRIAL SEATING

## BACKLESS STOOL

**Heavy gauge tubular steel stool.** Steel rimmed seat is 14" diameter with 1/8" thick tempered hardboard recessed panel. Capped non-slip plastic feet. Metallic gray enamel finish. Shipped assembled. 250 lb. load rating. KI brand.

| Height (In.) | KI Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **24** | 624 | **2W159** | $33.25 | **$28.75** | 10.0 |
| **30** | 630 | **2W249** | 35.32 | **32.75** | 10.0 |

## ROUND STOOL WITH BACKREST

**14" diameter seat** has 1/8" thick tempered hardboard seat panel and curved backrest. No. 2W959 has blue gray vinyl upholstered seat and back. Adjustable tubular steel legs raise height of seat; backrest adjusts 2" horizontally, 2" vertically. Self-leveling cushioned steel leg glides. 250 lb. load rating. Metallic gray enamel finish. Shipped partially assembled. KI brand.

| Seat Height (In.) | Seat Type | KI Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **18-27** | Hardboard | 618-BA | **2W958** | $62.19 | **$54.60** | 18.0 |
| **24-33** | Hardboard | 624-BA | **1W712** | 76.23 | **56.70** | 19.0 |
| **24-33** | Padded | 624-BAU | **2W959** | 73.01 | **71.50** | 18.0 |

## SQUARE STOOL

**Formed steel seat** is 14½ x 15" with 1/8" thick tempered hardboard seat panel. Adjustable tubular steel legs raise seat height; backrest adjusts 2" horizontally, 2" vertically. Self-leveling stainless steel capped glides. 250 lb. load rating. Metallic gray enamel finish. Shipped partially assembled. KI brand.

| Seat Height (In.) | KI Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **18 to 26** | 718-BA | **1W711** | $70.81 | **$60.45** | 19.0 |
| **24 to 32** | 724-BA | **2W960** | 73.07 | **62.85** | 20.0 |

## 360° SWIVEL ROUND STOOL

**Vinyl upholstered padded seat and backrest** rotate 360° on tubular steel legs. 14" diameter seat adjusts 24 to 28" high. Backrest adjusts 2" vertically, 2" horizontally. Self-leveling stainless steel capped nylon base glides. Heavy gauge tubular steel construction. 250 lb. load rating. Metallic gray enamel finish. Shipped assembled except backrest. KI brand (824SB).

**No. 2W175.** Swivel Stool. Shpg. wt. 22.0 lbs. List $117.84. Each ...**$99.50**

## MECHANICAL ADJUSTABLE STOOL

**Both Models Feature:** Heavy gauge tubular steel legs and footring welded into solid unit. Backrest is 13⅝W x 6¼"H, pivots, and adjusts 2" vertical and horizontal. Infinite seat height adjustment in 6" range. 250 lb. load rating. Shipped partially assembled. Metallic gray baked-on enamel frame. KI brand.

[A] **Plywood seat and backrest.** Compound-curved plywood seat with clear lacquer finish, 15⅜W x 15⅝"D. Seat height adjusts from 17¼ to 23¼". 7½" high footring.

[B] Upholstered seat and backrest. Seat height adjusts from 26¼ to 32¼". Blue gray metallic upholstered box cushion seat has 2" of foam and measures 15½H x 14"D. 13½" high footring.

**No. 2W961.** (ATPBM-1723). Shpg. wt. 23.0 lbs. List $156.62.
Each ..... **$111.45**

**No. 4KJ96.** (ATOBM/2632AG). Shpg. wt. 27.0 lbs. List $213.01.
Each ..... **$129.95**

## STEEL FOLDING-LEG TABLES

**3/4" thick solid core tops** with textured walnut grained plastic laminate finish and black vinyl bullnose edge to absorb bumps and cushion table edges. Polypropylene feet. Pedestal type 18-gauge tubular legs with positive-lock hinges for firm support. Static load capacity of 1500 lbs., evenly distributed. 29" high set up, 2½" high folded. Beige enamel finish. KI brand.

| Top Size (In.) | KI Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **30 x 60** | NH-5 | **3W453** | $121.17 | **$77.30** | 63.0 |
| **30 x 72** | NH-6 | **3W110** | 121.17 | **78.90** | 72.0 |
| **30 x 96** | NH-8 | **3W111** | 152.29 | **104.05** | 87.0 |
| **36 x 72** | WH-6 | **3W334** | 148.10 | **95.65** | 82.0 |
| **36 x 96** | WH-8 | **3W113** | 177.27 | **117.60** | 108.0 |




## STEEL FOLDING-LEG BENCHES

**3/4" solid core top** with textured walnut plastic laminate surface and black bullnose edge. Provides ample seating with folding tables. Benches 17" high. Beige enamel frame and folding legs. 72 and 96" lengths. Priced each, sold only in sets of 2. KI brand.

| Bench Size (In.) | KI Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **15 x 72** | BP-6 | **3W454** | $133.51 | **$83.25** | 51.0 |
| **15 x 96** | BP-8 | **3W455** | 159.32 | **107.70** | 51.0 |



*Store it, stack it, stamp it and more with these hard working products.*

## STEEL FOLDING CHAIRS

Curved seat is available either steel formed, padded or with extra-padding for added support. Seat height: 17½". No. 2W957 has 2" padding on seat and 1" padding in backrest for even greater comfort. All chairs have beige enamel finish. Tubular steel legs have 2 cross braces, except No. 2W957 which has three. Legs have nonmarring rubber feet. KI brand.

### ORDERING DATA

| Chair Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Unpadded** | **1W985** | $18.94 | **$11.52** | 9.6 |
| **Lt. Padded** | **2W158** | 39.43 | **21.30** | 12.0 |
| **X-Padded** | **2W957** | 97.61 | **62.80** | 18.0 |

### STEEL FOLDING CHAIR SPECIFICATIONS

| Chair Type | Set Up (In.) H | W | D | Folded (In.) H | W | D | KI Model |
|---|---|---|---|---|---|---|---|
| Unpadded | 30¼ | 18¼ | 19½ | 38¾ | 18¼ | 2 | 101 |
| Lt. Padded | 30¼ | 18¼ | 19½ | 38¾ | 18¼ | 2 | 104 |
| X-Padded | 31½ | 18¾ | 21 | 40¾ | 18¾ | 4½ | 434 |

## CONTOUR STACK CHAIRS

Molded polypropylene chairs stack out of way when not in use. Reinforced molded shell endures hard use. Chrome tubular steel legs have self-leveling glide feet. Overall size 31½H x 23W x 23"D. Seat height: 17½". Come in multiples of two only. Shipped unassembled. KI brand (1000).

| Color | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Sand** | **3W033** | $49.55 | **$36.20** | 12.0 |
| **Black** | **3W034** | 49.55 | **36.20** | 12.0 |

## MOBILE CHAIR TRUCK

Flat bed design of one-piece, heavy-gauge steel with sides channeled to 1½" height. Welded angle steel supports. Adjustable end post sockets allow end posts to be repositioned to prevent chairs from sliding down. 1½" OD tubular steel posts. Two swivel, two fixed casters, plus fifth wheel in center under bed. Truck capacity: 25 chairs of No. 2W957, 50 chairs each of Nos. 1W985 and 2W158. 107L x 20⅞W x 30"H. Beige enamel finish. Shipped unassembled. KI brand (KV-50A).

**No. 3W076.** Shpg. wt. 64.0 lbs. List $274.26. Each ..... **$180.75**

## MAESTRO HIGH DENSITY STACKABLE CHAIRS

Sturdy high density stack chair designed for training rooms, lounges, cafeterias, auditoriums, churches, and other high capacity seating environments. Chair is manufactured with contoured polypropylene seat and back. Chrome finished solid steel rod frame with notched handle for easy pick-up and stacking. 38 chairs on dolly stack to 80" high.

| Color | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Black** | **4KK08** | $95.00 | **$69.30** | 16.0 |
| **Blue** | **4KK09** | 95.00 | **69.30** | 16.0 |

## MAESTRO DOLLY

Easy to maneuver dolly accommodates up to 38 stack chairs. Two fixed, two swivel 5" caster wheels. Black powder coat finish. Overall dimensions: 14H x 22⅜W x 25⅝"D. Fully stacked: 23W x 42D x 80"H. KI brand (MSD).

**No.4KK07.** Shpg. wt. 30.0 lbs. List $262.00 Each ..... **$185.25**

## CAFETERIA TABLE

36" Round cafeteria or meeting room table. Gray matrix, high-pressure laminate surface. ¾" high-density, high-strength Novoply solid core top. Gray bullnose edging. Twin "C" frames interlock for a strong, stable platform to support top. Baked enamel finish, chromed leg-end caps and self-leveling glides.

**No. 4KK10.** Shpg. wt. 42.0 lbs. List $135.00 Each ..... **$119.00**



No. 1W985 Unpadded Steel Folding Chair



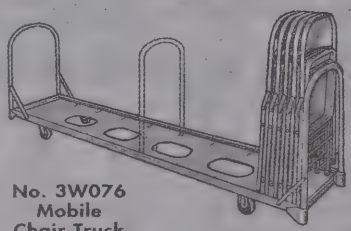
No. 2W158 Padded Steel Folding Chair



No. 2W957 Extra Padded Steel Folding Chair



No. 3W034 Contour Stack Chair

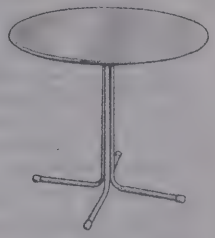


No. 3W076 Mobile Chair Truck

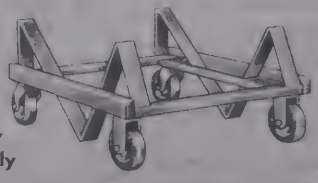
For Storage and Moving of Folding Chairs



No. 4KK08 Maestro Stackable Chair



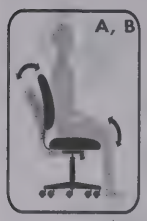
No. 4KK10 Cafeteria Table



No. 4KK07 Maestro Dolly

# OFFICE SEATING GUIDE, TERMINOLOGY, AND FEATURE COMPARISON CHART

## OFFICE SEATING GUIDE




**A. Tilt Tension-** Increase or decrease the resistance of chair tilt.
**B. Infinite Tilt Lock-** Lock chair in any tilt position for greatest comfort.




**C. Pneumatic Seat Height-** Adjust until thighs and lower legs form a 90° angle.



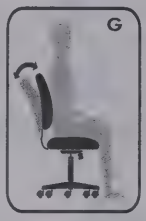

**D. Back Height-** Set the lumbar support to the most comfortable lower back support position.



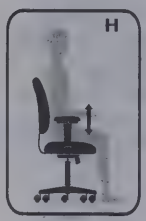

**E. Seat Back Depth -** For maximum comfort and support adjust so that front of seat is just behind the calf.




**F. Seat Angle -** Forward tilt to allow proper blood flow to lower body during intensive forward oriented tasks.




**G. Back Angle -** Adjust for optimum support, so lumbar cushion rests comfortably against lower back.




**H. Arm Height -** Adjust to maintain a proper 90° supported elbow angle.

## OFFICE SEATING TERMINOLOGY

### BASES

**Five-legged:** Pedestal base with five legs and support column rising from the center. More stable than four-legged bases of older chair designs.

**Sled:** Non-rolling chair with support members lying parallel to the floor, typically cantilevered.

### FOAM

**Fabricated:** Cut from a common blank mold, typically with square corners and simple contours. Typically less expensive than molded foam.

### ERGONOMIC DESIGN FEATURES

**Lumbar support:** Structural design of chair back provides additional support to the lumbar region of the occupant's back. Well-designed lumbar support will accommodate 95% of user population without requiring a back height adjustment.

**Waterfall seat front:** Rounded lip that relieves pressure underneath thighs.

### TEST STANDARDS

**BIFMA X5.1 (1985):** Durability, strength and stability standard for virtually all categories of office seating.

### MISCELLANEOUS

**Casters:** Wheels designed to give chair mobility. Made of a number of substances, including plastic, chrome, or steel. Casters typically have a plastic or rubber wheel. Can be covered by a full or partial hood and can have "fairing" to provide smooth edge transition with chair base.

**Glides:** For chairs intended for stationary use, available in different heights and shapes, including flat metal and plastic "bell" shaped.

## OFFICE SEATING FEATURE COMPARISON CHART

GLOBAL

| | Stock No. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 4KJ27 4KJ28 4KJ56 | 4KJ51 4KJ52 | 4KJ53 4KJ54 | 4KJ55 4KJ56 4KJ57 | 4KJ58 4KJ59 4KJ60 | 4KJ61 4KJ62 4KJ63 | 4KJ64 4KJ65 4KJ66 | 4KJ67 4KJ68 4KJ69 | 4KJ70 4KJ71 | 4KJ72 4KJ73 |
| | Global Chair Model | | | | | | | | | |
| Features | 2274 | 2934 | 2939 | 3212D | 4560 | 4565 | 4920 | 4925 | 5225 | 5228 |
| Back Height Adjustment | • | • | • | • | | | | | | |
| Back Angle Adjustment | | • | | • | | | | | | |
| Back Depth Adjustment | • | | • | • | | | | | | |
| Lumbar Support | • | | • | | | | | | | |
| Adjustable Height Armrests | | • | • | • | • | • | • | • | • | • |
| Field Installable Armrests | • | • | | • | | | | | | |
| Pneumatic Seat Height | • | | | | | | | | | |
| Seat Angle Adjustment | | • | • | • | • | | • | | | • |
| Infinite Tilt Lock | | • | | • | | | | | | |
| Tilt Tension Control | | | | | | | | | | |
| Swivel Tilt Seat | | | | • | • | | • | | | • |
| Swivel Only Seat | • | | | • | • | | • | | | • |
| Waterfall Seat Cushion | • | • | • | | | | | | | |
| Fabricated Foam | • | • | • | • | • | • | • | • | • | • |
| Five Legged Base with Casters | • | • | • | • | • | • | • | • | • | • |
| Sled Base | | | | | | • | | | | |
| Adjustable Height Footring | | | • | | | | | | | |
| Meets BIFMA X5.1 (1985) | • | • | • | • | • | • | • | • | | • |



*Store it, stack it, stamp it and more with these hard-working products.*

## SPRINT SERIES CHAIRS



No. 4KJ27

GLOBAL

Replacement Parts Available
1-800-323-0620

- Steno chair
- Pneumatic seat height adjustment
- Lumbar support back cushion
- Back height adjustment with vinyl bumper guard
- Back depth adjustment
- Five legged, injection molded fiberglass base
- Dual wheel casters
- 250 lb. weight capacity
- Fire retardant foam and fabric
- Gray, burgundy, and black fabric with black frame
- Some assembly required

Arm kits available below. Field installable kits feature upholstered arm pads.

| Description | Depth | Seat (In.) Width | Height | Back (In.) Height | Width | Global Model | Stock No. Gray | Stock No. Burgundy | Stock No. Black | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steno Chair | 20.5 | 18.0 | 16 - 21 | 18 | 18 | 2274 | 4KJ27 | 4KJ29 | 4KJ28 | $218.00 | $139.50 | 25.0 |
| Arm Kit | — | — | — | — | — | 2276R | 4KJ24 | 4KJ26 | 4KJ25 | 41.70 | 34.75 | 5.5 |

## PROMPT SERIES CHAIRS

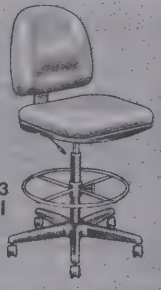


A No. 4KJ51
Operator Chair

GLOBAL

- Adjustable height injection molded arm rests
- Infinite locking seat/back angle adjustment

- Back depth adjustment



B No. 4KJ53
Drafting Stool

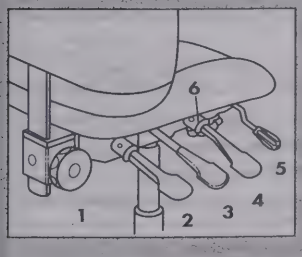
Both Models Feature:

- Pneumatic height adjustment
- Lumbar support back cushion
- Back height adjustment
- Impact resistant plastic seat and back shell
- Five legged, injection molded fiberglass base
- Dual wheel casters
- 250 lb. weight capacity
- Fire retardant fabric and foam
- Gray or burgundy fabric with black frame
- Some assembly required

Replacement Parts Available
1-800-323-0620

| Key | Description | Depth | Seat (In.) Width | Height | Back (In.) Height | Width | Global Model | Stock No. Gray | Stock No. Burgundy | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Operator Chair | 17.5 | 18 | 17½ - 22½ | 16½ | 19 | 2934 | 4KJ51 | 4KJ52 | $271.00 | $188.25 | 33.0 |
| B | Drafting Stool | 17.5 | 18 | 23 - 33 | 16½ | 19 | 2939 | 4KJ53 | 4KJ54 | 270.00 | 175.50 | 28.0 |

## GRANADA SERIES CHAIRS




GLOBAL

1-Back height adjustment
2-Back angle adjustment
3-Pneumatic seat height adjustment
4-Multi-tilt control
5-Forward tilt control
6-Tilt tension

No. 4KJ55



- Multi-function operator chair
- Pneumatic seat height adjustment
- Compound curve back cushion
- Lumbar back cushion
- Adjustable height urethane arm rests
- Infinite locking seat/back angle adjustment
- Tilt tension control
- Back height adjustment
- 250 lb. weight capacity
- Fire retardant foam and fabric
- Blue, gray, or burgundy fabric with black frame

Replacement Parts Available
1-800-323-0620

| Description | Depth | Seat (In.) Width | Height | Back (In.) Height | Width | Global Model | Stock No. Blue | Stock No. Gray | Stock No. Burgundy | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Multi-Function Operator Chair | 19 | 16½ | 17 - 22 | 21 | 18½ | 3212D | 4KJ55 | 4KJ56 | 4KJ57 | $468.00 | $329.75 | 48.0 |

## ENTERPRISE SERIES CHAIRS




| Key | Seat (In.) Depth | Width | Height | Back (In.) Height | Width | Global Model | Stock No. Blue | Stock No. Gray | Stock No. Burgundy | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 18½ | 20½ | 17½ - 22½ | 26 | 20 | 4560 | **4KJ59** | **4KJ58** | **4KJ60** | $286.00 | **$197.00** | 35.0 |
| B | 18½ | 20½ | 17½ | 21 | 20 | 4565 | **4KJ62** | **4KJ61** | **4KJ63** | 269.00 | **189.25** | 32.0 |

**Both Models Feature:**

- Lumbar back cushion
- Waterfall seat cushion
- Injection molded arms
- 250 lb. weight capacity
- Fire retardant foam and fabric
- Blue, gray, or burgundy fabric with black frame

**A HIGH BACK TITLER CHAIRS (Nos. 4KJ59, 4KJ58, and 4KJ60) Feature:**

- Pneumatic seat height adjustment
- Tilt tension control
- Five legged, injection molded fiberglass base
- Dual wheel casters

**B SLED BASE ARM CHAIRS (Nos. 4KJ62, 4KJ61, and 4KJ63)**

## TRADE SERIES CHAIRS




| Key | Seat (In.) Depth | Width | Height | Back (In.) Height | Width | Global Model | Stock No. Blue | Stock No. Gray | Stock No. Burgundy | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 20 | 20½ | 16½ - 20½ | 26½ | 20½ | 4920 | **4KJ65** | **4KJ64** | **4KJ66** | $422.00 | **$299.75** | 45.0 |
| B | 20 | 20½ | 18 | 22 | 20 | 4925 | **4KJ68** | **4KJ67** | **4KJ69** | 337.00 | **249.50** | 39.0 |

**Both Models Feature:**

- Lumbar back cushion
- Waterfall seat cushion
- Vinyl dipped arms
- 250 lb. weight capacity
- Fire retardant foam and fabric
- Blue, gray, or burgundy fabric with black frame

**A HIGH BACK TILTER CHAIRS (Nos. 4KJ65, 4KJ64, and 4KJ66) Feature:**

- Pneumatic seat height adjustment
- Tilt tension control
- Five legged, injection molded fiberglass base
- Dual wheel casters

**B SLED BASE ARM CHAIRS (Nos. 4KJ68, 4KJ67, and 4KJ69)**

## SOLO SERIES CHAIRS




| Key | Seat (In.) Depth | Width | Height | Back (In.) Height | Width | Global Model | Stock No. Gray | Stock No. Burgundy | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 18½ | 20 | 17¾ - 21¾ | 17½ | 20 | 5228 | **4KJ72** | **4KJ73** | $224.00 | **$159.50** | 32.0 |
| B | 18½ | 20 | 18 | 18 | 20 | 5225 | **4KJ70** | **4KJ71** | 159.00 | **113.30** | 21.0 |

**Both Models Feature:**

- Lumbar support
- 250 lb. weight capacity
- Gray or burgundy fabric with black frame

**A MID BACK CHAIRS (Nos. 4KJ72 and 4KJ73) Feature:**

- Pneumatic seat height adjustment
- Tilt tension control
- Waterfall seat cushion
- Five legged, injection molded fiberglass base
- Dual wheel casters

**B SLED BASE ARM CHAIRS (Nos. 4KJ70 and 4KJ71) Feature:**

- Upholstered armrests



*Store it, stack it, stamp it and more with these hard-working products.*

# INTENSIVE USE SERIES DESK CHAIRS



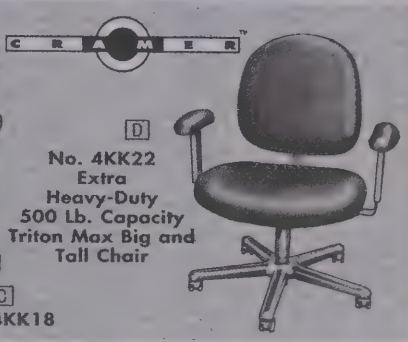
A
No. 4KK13



B
No. 4KK15



C
No. 4KK18




D
No. 4KK22
Extra Heavy-Duty 500 Lb. Capacity Triton Max Big and Tall Chair

- 15-year multi-shift warranty
- All metal construction
- Fire-retardant foam and fabric
- Active ergonomic design
- Waterfall front seat edge
- Meet ANSI/HFS-100VDT standards
- Meet ANSI/BIFMA standards
- B, C & D models have height adjustable arms

**Triton Ergonomic Task/Management Chairs** feature steel seat and back pans. High resilient foam for long life. Pneumatic seat height adjustment. Heavy-duty five leg die-cast aluminum bases. Powder epoxy finish. Adjustable lumbar support. Independent seat and back angle adjustments. 300 lb. weight capacity.

**Replacement Parts Available**
**1-800-323-0620**

**Triton Max Big & Tall Chair** has all the standard features of the Triton chair as well as a wider/deeper seat and heavier gauge steel throughout. 500 lb. weight capacity.

**CRAMER 15-YEAR MULTI-SHIFT LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

| Key | Description | Vertical Seat Adjustment Range (In.) | Dimensions (In.) Seat W x D | Dimensions (In.) Back W x D | Weight Capacity (Lbs.) | Cramer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **TRITON HEAVY-DUTY ERGONOMIC CHAIRS** | | | | | | | | | | |
| A | Blue Fabric | 16 - 20½ | 19½ x 19½ | 17¼ x 15 | 300 | AU22DOOO34592 | **4KK12** | $641.00 | **$449.25** | 51.0 |
| A | Black Fabric | 16 - 20½ | 19½ x 19½ | 17¼ x 15 | 300 | AU22DOOO39292 | **4KK13** | 641.00 | **449.25** | 51.0 |
| A | Black Vinyl | 16 - 20½ | 19½ x 19½ | 17¼ x 15 | 300 | AU22DOOOW9292 | **4KK14** | 641.00 | **449.25** | 51.0 |
| B | Blue Fabric | 16 - 20½ | 19½ x 19½ | 17¼ x 15 | 300 | AU22DOHO34592 | **4KK15** | 811.00 | **570.00** | 61.0 |
| B | Black Fabric | 16 - 20½ | 19½ x 19½ | 17¼ x 15 | 300 | AU22DOHO39292 | **4KK16** | 811.00 | **570.00** | 61.0 |
| B | Black Vinyl | 16 - 20½ | 19½ x 19½ | 17¼ x 15 | 300 | AU22DOHOW9292 | **4KK17** | 811.00 | **570.00** | 61.0 |
| C | Blue Fabric | 16 - 20½ | 19½ x 19½ | 18½ x 17½ | 300 | AU26DOHO34592 | **4KK18** | 853.00 | **599.50** | 66.0 |
| C | Black Fabric | 16 - 20½ | 19½ x 19½ | 18½ x 17½ | 300 | AU26DOHO39292 | **4KK19** | 853.00 | **599.50** | 66.0 |
| C | Black Vinyl | 16 - 20½ | 19½ x 19½ | 18½ x 17½ | 300 | AU26DOHOW9292 | **4KK20** | 853.00 | **599.50** | 66.0 |
| **TRITON MAX BIG AND TALL EXTRA HEAVY-DUTY ERGONOMIC CHAIRS** | | | | | | | | | | |
| D | Blue Fabric | 16 - 20½ | 23 x 20 | 18½ x 17½ | 500 | AU28DOHO34592 | **4KK21** | 1095.00 | **825.00** | 61.0 |
| D | Black Fabric | 16 - 20½ | 23 x 20 | 18½ x 17½ | 500 | AU28DOHO39292 | **4KK22** | 1095.00 | **825.00** | 61.0 |
| D | Black Vinyl | 16 - 20½ | 23 x 20 | 18½ x 17½ | 500 | AU28DOHOW9292 | **4KK23** | 1095.00 | **825.00** | 61.0 |

# STORAGE BOXES

## FLIP-TOP STORAGE BOX

- Double-thick white corrugated fiberboard on 3 sides and bottom, plus interlocking flaps on bottom for greater load capacity
- Keeps records clean, dry, secure and protected from dust
- Environmentally-safe 40% post-consumer recycled 200 lb. test material
- Padded hand-holes for comfortable lifting, carrying
- Stor-a-File brand (12150)

**No. 4JH76.** Shpg. wt. 1.8 lbs. List.....$5.35.
Each.....$4.55

## LIFT-OFF LID STORAGE BOX

- High-quality, unprinted kraft for heavy-duty filing, retrieving and archiving
- Double-thick corrugated fiberboard on 4 sides and bottom, plus interlocking flaps on bottom for greater load capacity
- Environmentally-safe 40% post-consumer recycled 200 lb. test material
- Tote handles with rolled edges for convenience and comfort
- Space-saving stacking strength for storage in stock rooms or warehouses
- Stor-a File brand (12153)

**No. 4JH77.** Shpg. wt. 1.8 lbs. List.....$4.95.
Each.....$4.21

STOR•A•FILE
THE FLIP-TOP BOX

SUPPLIER DIVERSITY™
Woman-Owned Business

Dimensions:
12W x 10.25H x 15"D




No. 4JH76

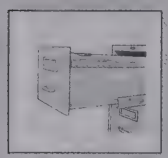


No. 4JH77

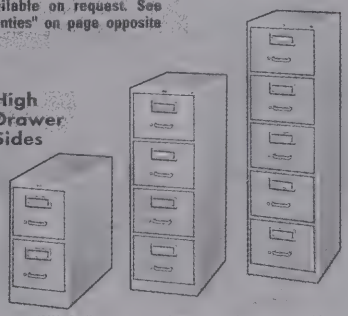
Nos. 4JH76 & 4JH77 Fit Letter and Legal Size Documents

# FILE CABINETS

**GLOBAL 20-YEAR LIMITED WARRANTY**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

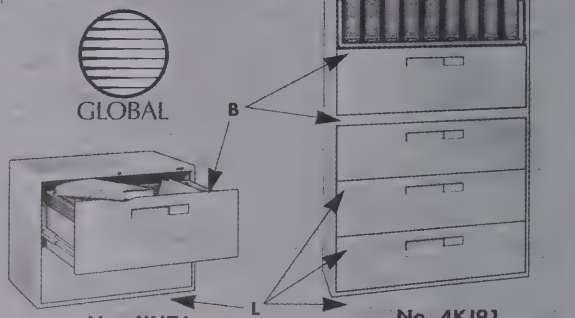


High Drawer Sides



Vertical Filing Cabinets

Replacement Parts Available
1-800-323-0620




No. 4KJ76
36" Lateral File Cabinet

No. 4KJ91
42" Lateral File Cabinet

## VERTICAL FILE CABINETS

- Feature high drawer sides to eliminate need for file frames
- 25 and 26½" deep cabinets
- Progressive triple tied cradle suspension
- Internal steel vertical channels for support
- Full extension cradle suspension with 8 nylon rollers on 25" deep cabinets and 10 nylon rollers on 26½" deep cabinets
- Oversized label holder
- Drawer pull, thumb latch, and label holder match file finish on 25" deep cabinets
- Drawer pull and thumb latch are color coordinated with file finish on 26½" deep cabinets
- Adjustable and removable follower block
- Welded corners for rigidity and strength

**No. 4KJ94. Cam Lock Kit.** Field installable lock for vertical files. (LK-26)
Shpg. wt. 1.0 lbs. List $14.25. Each ..... $9.89

## LATERAL FILE CABINETS

- "B" opening accommodates 3-ring binders, EDP (electronic data processing) printouts, letter, and legal files (4-drawer unit has 3)
- "L" opening accommodates letter and legal files (4-drawer unit has 1)
- "B" opening is 13 5/16", "L" opening is 11 15/16"
- Interlock allows only one drawer to open at a time
- Central core cam lock
- Full extension ball bearing suspensions
- File bars shipped installed in letter position
- Adjustable level glides
- Filing can be front-to-back, or side-to-side
- 2-drawer cabinet fits under 28" work surface
- 5-drawer cabinet comes standard with top drawer receding

### VERTICAL FILE CABINETS

| Size | No. of Drawers | Filing Capacity Per Drawer (In.) | Overall Dimensions (In.) W | D | H | Global Model | Stock No. Black | Stock No. Desert Putty | Stock No. Light Gray | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **25" Letter** | 2 | 24 | 15 | 25 | 29 | 25-200 | **4KJ30** | **4KJ31** | **4KJ32** | $185.00 | **$119.90** | 70.0 |
| **25" Letter** | 4 | 24 | 15 | 25 | 52 | 25-400 | **4KJ33** | **4KJ34** | **4KJ35** | 250.00 | **169.75** | 125.0 |
| **26½" Letter** | 2 | 25 | 15 | 26 9/16 | 29 | 26-200 | **4KJ36** | **4KJ37** | **4KJ38** | 205.00 | **137.25** | 70.0 |
| **26½" Letter** | 4 | 25 | 15 | 26 9/16 | 52 | 26-400 | **4KJ42** | **4KJ43** | **4KJ44** | 285.00 | **195.50** | 125.0 |
| **26½" Letter** | 5 | 25 | 15 | 26 9/16 | 64 | 26-500 | **4KJ48** | **4KJ49** | **4KJ50** | 405.00 | **294.50** | 140.0 |
| **26½" Legal** | 2 | 25 | 18 | 26 9/16 | 29 | 26-250 | **4KJ39** | **4KJ40** | **4KJ41** | 240.00 | **159.25** | 75.0 |
| **26½" Legal** | 4 | 25 | 18 | 26 9/16 | 52 | 26-450 | **4KJ45** | **4KJ46** | **4KJ47** | 325.00 | **229.25** | 125.0 |

### LATERAL FILE CABINETS

| Size | No. of Drawers | Filing Capacity Per Drawer Side-to-Side Letter | Side-to-Side Legal | Front-to-Back Letter | Front-to-Back Legal | Overall Dimensions (In.) W | D | H | Global Model | Stock No. Black | Stock No. Desert Putty | Stock No. Light Gray | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **36" Wide** | 2 | 32 9/16 | 32 9/16 | 31½ | 31½ | 36 | 18 | 27⅛ | 9336-2FIH | **4KJ74** | **4KJ75** | **4KJ76** | $459.00 | **$311.50** | 115.0 |
| **36" Wide** | 4 | 32 9/16 | 32 9/16 | 31½ | 31½ | 36 | 18 | 54 | 9336-4FIH | **4KJ77** | **4KJ78** | **4KJ79** | 749.00 | **525.50** | 207.0 |
| **36" Wide** | 5 | 32 9/16 | 32 9/16 | 31½ | 31½ | 36 | 18 | 65¼ | 9336-5FIH | **4KJ80** | **4KJ81** | **4KJ82** | 949.00 | **667.50** | 255.0 |
| **42" Wide** | 2 | 38 9/16 | 38 9/16 | 47¼ | 40 1/16 | 42 | 18 | 27⅛ | 9342-2FIH | **4KJ83** | **4KJ84** | **4KJ85** | 499.00 | **339.25** | 125.0 |
| **42" Wide** | 4 | 38 9/16 | 38 9/16 | 47¼ | 40 1/16 | 42 | 18 | 54 | 9342-4FIH | **4KJ86** | **4KJ87** | **4KJ88** | 849.00 | **589.50** | 228.0 |
| **42" Wide** | 5 | 38 9/16 | 38 9/16 | 47¼ | 40 1/16 | 42 | 18 | 65¼ | 9342-5FIH | **4KJ89** | **4KJ90** | **4KJ91** | 1079.00 | **749.50** | 283.0 |

### ACCESSORIES FOR LATERAL FILE CABINETS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Front to Back Bars — Include two bars and four clips.** | FBB | **4KJ93*** | — | — | 11.20 | **7.75** | 1.0 |
| **Plate Dividers — Three dividers per package.** | PD | **4KJ95** | — | — | 16.90 | **11.75** | 2.0 |
| **EDP Side Adapters — One pair required per drawer.** | EDPS | **4KJ92†** | — | — | 22.70 | **15.75** | 1.0 |

(*) Order 1 pair per drawer for 36" wide cabinets, 2 pairs for 42" wide cabinets. (†) Raises drawer sides to accommodate EDP printouts. (Not required for receding drawers).

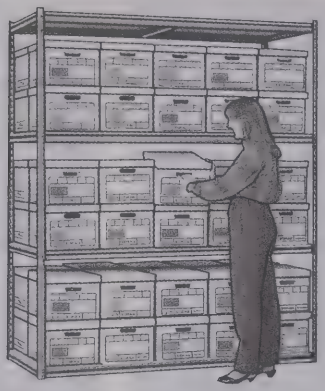


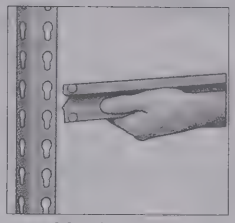
*Store it, stack it, stamp it and more with these hard-working products.*

# RECORD ARCHIVE STORAGE

tennsco **New**

- 850-1000 lb capacity per shelf
- Designed exclusively for storage boxes
- Shelves adjust in 1½" increments
- Fast assembly-no bolts required
- Particleboard recesses into shelf support for easy removal of boxes
- Select either no-decking or 5/8" particleboard decking
- Sand finish





Double shoulder rivets on shelf supports lock into upright position without tools

## RECORD ARCHIVE SHELVING WITH NO DECKING

This option gives you the flexibility of installing your own decking.

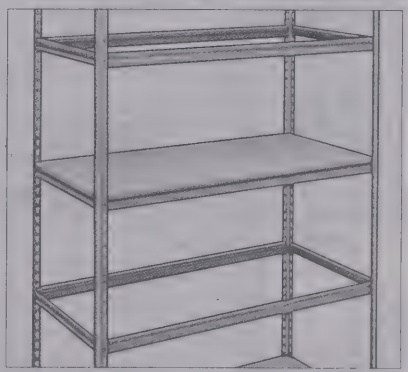
| Dimensions (In.) W | D | H | STARTER 3 LEVELS New! Stock No. | List | Each | Shpg. Wt. | ADD-ON 3 LEVELS New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 42 | 15 | 60 | 4TT78 | $68.40 | **$58.20** | 33.0 | 4TV34 | $66.60 | **$56.30** | 32.0 |
| 42 | 30 | 60 | 4TV88 | 86.40 | **67.35** | 42.0 | 4TV37 | 84.60 | **70.80** | 41.0 |
| 69 | 15 | 60 | 4TV89 | 98.40 | **77.90** | 50.0 | 4TV40 | 96.60 | **82.35** | 50.0 |
| 69 | 30 | 60 | 4UZ33 | 127.20 | **111.70** | 64.0 | 4TT51 | 125.40 | **100.65** | 64.0 |
| | | | STARTER 4 LEVELS | | | | ADD-ON 4 LEVELS | | | |
| 42 | 15 | 84 | 4TW07 | 90.80 | **69.60** | 44.0 | 4TV35 | 94.40 | **76.20** | 44.0 |
| 42 | 30 | 84 | 4TW08 | 114.80 | **88.35** | 56.0 | 4TV38 | 114.40 | **95.70** | 56.0 |
| 69 | 15 | 84 | 4TW09 | 130.80 | **101.40** | 68.0 | 4TV41 | 130.40 | **111.00** | 67.0 |
| 69 | 30 | 84 | 4TW10 | 169.20 | **131.45** | 86.0 | 4UZ16 | 168.80 | **128.45** | 86.0 |

| SHELF CAPACITY RANGE* |
|---|
| 850 - 1000 lbs. |

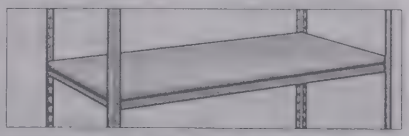
(*) Based on evenly distributed loads.

## RECORD ARCHIVE SHELVING WITH PARTICLEBOARD DECKING

This option provides sturdy 5/8" particleboard for general purpose storage use.



| Dimensions (In.) W | D | H | STARTER 3 LEVELS New! Stock No. | List | Each | Shpg. Wt. | ADD-ON 3 LEVELS New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 42 | 15 | 60 | 7B818 | $118.00 | **$85.80** | 36.7 | 7B810 | $114.47 | **$84.30** | 35.7 |
| 42 | 30 | 60 | 7B819 | 142.18 | **103.40** | 49.4 | 7B811 | 138.29 | **101.90** | 48.4 |
| 69 | 15 | 60 | 7B820 | 148.47 | **107.95** | 56.1 | 7B812 | 144.82 | **106.70** | 56.1 |
| 69 | 30 | 60 | 7B821 | 210.88 | **159.25** | 76.0 | 7B813 | 206.47 | **158.00** | 76.0 |
| | | | STARTER 4 LEVELS | | | | ADD-ON 4 LEVELS | | | |
| 42 | 15 | 84 | 7B822 | 155.71 | **113.25** | 46.8 | 7B814 | 149.47 | **112.95** | 46.8 |
| 42 | 30 | 84 | 7B823 | 189.12 | **137.50** | 61.6 | 7B815 | 181.77 | **137.25** | 61.6 |
| 69 | 15 | 84 | 7B824 | 181.77 | **133.70** | 72.6 | 7B816 | 176.29 | **133.20** | 71.6 |
| 69 | 30 | 84 | 7B825 | 250.00 | **189.00** | 95.1 | 7B817 | 243.53 | **188.75** | 95.1 |



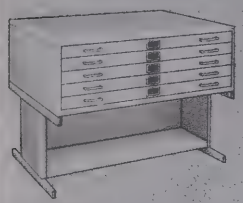
Standard sized shelving wastes a lot of space when it comes to storing record archive boxes. Not so with Tennsco Record Storage Shelving. This shelving's width and depth are designed to standard archive box dimensions. This maximizes every inch of floor space, giving you more storage in less space.

STORAGE BOXES AVAILABLE. SEE PAGE 2105

# FLAT AND VERTICAL FILING SYSTEMS

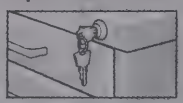
SAFCO®

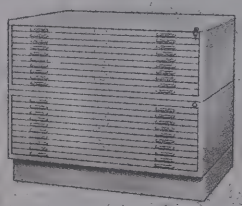
Replacement Parts Available
1-800-323-0620



No. 5W264 shown with optional high base

Optional lock kit





Two No. 4KH59 shown with optional closed base

## FLAT FILING CABINETS

**5-Drawer flat files.** Versatile unit provides a working organization of papers. Optional bases available in two styles. All models have five drawers each 2⅛" high for storage of prints, artwork, keylines, and other large paperwork.

**10-Drawer flat files.** Ideal for high traffic project storage areas. Optional bases available. Model has ten drawers each 1" high for easy retrieval of materials and to minimize material damage.

**Stack these modular files up to five high on closed base or use individually** without any additional hardware. An integrated cap makes each file completely self contained. Heavy-gauge steel frame and front supports. Case-hardened ball bearing rollers for smooth, quiet drawer operation. Sturdy drawer rails ensure no-jam drawer alignment. Safety stops prevent drawers from being accidentally pulled out. Courtesy stops keep drawers from rolling while in open position. Hinged front depressor and rear hood protect sheets and keeps papers from curling. Antislip pads allow units to stack securely without bolting. 2W x 2"H chrome label holders and drawer handles included. Baked enamel finish. Tropic sand, black & gray color.

**Closed Base.** Raises files 6" off the floor. Front is recessed 2¾" from file for toe space. Shipped unassembled.

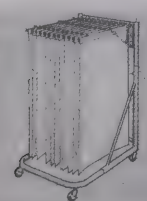
| Description | Inside Drawer (In.) H | W | D | Overall Dimensions (In.) H | W | D | Safco Model | Stock No. Tropic Sand | Stock No. Black | Stock No. Gray | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5-Drawer Steel Flat Files** | 2⅛ | 37 | 26 | 16½ | 40⅜ | 29⅜ | 4994 | **4W303** | **4KH61** | **4KH62** | $824.00 | **$624.50** | 151.0 |
| | 2⅛ | 43 | 32 | 16½ | 46⅜ | 35⅜ | 4996 | **5W264** | **4KH65** | **4KH66** | 956.00 | **724.50** | 184.0 |
| | 2⅛ | 50 | 38 | 16½ | 53⅜ | 41⅜ | 4998 | **5W265** | **4KH69** | **4KH70** | 1139.00 | **863.50** | 237.0 |
| **10-Drawer Steel Flat Files** | 1⅝ | 43 | 32 | 16½ | 46⅜ | 35⅜ | 4986 | **4KH60** | **4KH58** | **4KH59** | 1649.00 | **1096.00** | 267.0 |
| **Closed Base for 5 & 10-Drawer Flat Files Above** | | | | 6 | 40⅜ | 26⅜ | 4995 | **5W588** | **4KH63** | **4KH64** | 146.00 | **111.05** | 23.0 |
| | | | | 6 | 46⅜ | 32⅜ | 4997 | **5W266** | **4KH67** | **4KH68** | 160.00 | **120.60** | 26.0 |
| | | | | 6 | 53⅜ | 38⅜ | 4999 | **5W267** | **4KH71** | **4KH72** | 194.00 | **146.20** | 31.0 |
| **High Base for 5 & 10-Drawer Flat Files Above** | | | | 20 | 40⅜ | 29⅜ | 4975 | **5W589** | **4KH50** | **4KH51** | 320.00 | **244.00** | 40.0 |
| | | | | 20 | 46⅜ | 35⅜ | 4977 | **5W590** | **4KH52** | **4KH53** | 341.00 | **258.25** | 42.0 |
| | | | | 20 | 53⅜ | 41⅜ | 4979 | **5W591** | **4KH54** | **4KH55** | 356.00 | **269.25** | 52.0 |

**High Base.** Raises files 20" off the floor. Sturdy all-steel construction. Shipped unassembled.

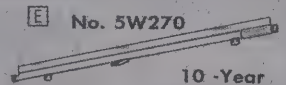
**Field installable lock kit** comes with lock and two keys.

**No. 4KH56. For 5-Drawer.** Safco brand (4981).
Shpg. wt. 1.0 lbs. List ..... $47.00.
Each ..... **$34.40**

**No. 4KH57. For 10-Drawer.** Safco brand (4983).
Shpg. wt. 1.0 lbs. List ..... $47.00.
Each ..... **$34.40**



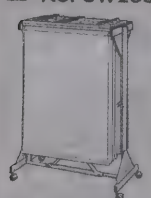
E No. 5W270

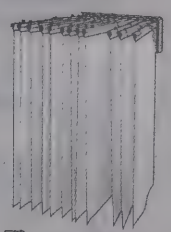


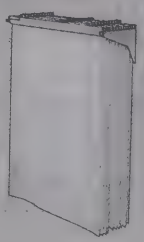
10 -Year Limited Warranty on Clamps

SAFCO

A No. 5W268







B No. 4KH75

C No. 5W269

D No. 4KH74

## VERTICAL FILING SYSTEMS

A **Mobile Stand rolls** on four ball bearing swivel casters (front two lock). Steel frame vertically adjusts from 43⅝ to 61⅝"; accommodates sheets up to 54" long. Base adjusts 27½ to 37½". Width of stand is 27". Includes pivot brackets to hold up to 12 hanging clamps. Order clamps separately. Safco brand (5026). Tropic sand color.

**No. 5W268.** Shpg. wt. 50.0 lbs. List $409.00. Each ..... **$325.50**

B **Drop/Lift Mobile Plan Center** holds up to 1800 sheets in 18 hanging clamps (sold below). Adjust to fit 24 to 42" clamps. Swivel casters, two locking. Tropic Sand. Expands from 48 x 20" to 51 x 30" wide. 20D x 51"H. Safco brand (5060).

**No. 4KH75.** Shpg. wt. 36.0 lbs. List $320.00. Each ..... **$269.50**

C **Pivot Wall Rack** holds up to 12 hanging clamps. Mounts on wall. Steel with Tropic Sand baked enamel finish. Measures 24W x 9½"H. Includes hardware and 12 pivot brackets. (Order clamps sold below separately.) Safco brand (5016).

**No. 5W269.** Shpg. wt. 19.0 lbs. List $182.00. Each ..... **$146.10**

D **Drop/Lift Wall** Rack extends less than 12" from wall, holds up to 1200 sheets in 12 hanging clamps (sold below). Includes mounting hardware. Tropic Sand. Safco brand (5030)

**No. 4KH74.** Shpg. wt. 2.0 lbs. List $39.00. Each ..... **$27.85**

E **Hanging Clamps** securely hold 100 sheets each (20 lb. maximum weight). Durable Akulon polymer knobs, control tension. Clear plastic label holders and black end caps included. Cartons of six. Lifetime guarantee. **(See table to left)**

### HANGING CLAMPS SPECIFICATIONS AND ORDERING DATA

| Holds Sheets Up To (In.) | Safco Model | Stock No. | Per Carton of 6 List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **18** | 5001-6 | **4KH73** | $168.00 | **$129.90** | 5.0 |
| **24** | 5002-6 | **5W270** | 185.00 | **142.25** | 8.0 |
| **30** | 5003-6 | **5W271** | 210.00 | **156.50** | 9.0 |
| **36** | 5004-6 | **5W272** | 222.00 | **165.00** | 10.0 |
| **42** | 5005-6 | **5W273** | 234.00 | **174.25** | 11.0 |




## ROLL FILING SYSTEMS

A **Mobile Files** "Grandstand" design holds various length rolls (2¾" tube size) at graduated heights. Sturdy woodcore construction. Putty textured vinyl laminate finish. Swivel casters.

**No. 4KH33.** 20-Tube Mobile File. 15¼W x 18⅛D x 23½"H. Safco brand (3082). Shpg. wt. 21.0 lbs. List $157.00. Each.....**$139.75**

**No. 4KH34.** 50-Tube Mobile File. 29⅝W x 16¾D x 28⅞"H. Safco brand (3063). Shpg. wt. 55.0 lbs. List $278.00. Each.....**$236.00**

B **Corrugated Roll Files** hold up to 12 and 20 rolls respectively. Square tubes with plastic molding. Corrugated fiberboard construction. Walnut woodgrain finish. Overall dim.: 15W x 12D x 22"H.

| Compartments | Compartment Diameter (In.) | Safco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 12 | 3⅞ x 3⅝ | 3079 | 4KH31 | $50.00 | $47.10 | 4.0 |
| 20 | 2¾ | 3081 | 4KH32 | 54.00 | 49.90 | 4.0 |

C **Wire Roll File** made of heavy gauge wire with white plastic coating. Grandstand design with dustguard on bottom keeps materials clean and protects edges. Four swivel casters. 24 openings, tube size 3⅛ x 3⅛". Overall dim.: 31⅜H x 20½W x 13⅞"D.

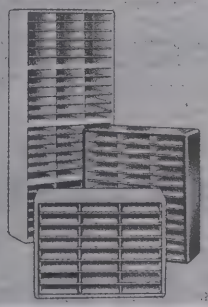
**No. 4KH35.** Safco brand (3033). Shpg. wt. 15.0 lbs. List.....$95.00. Each.....**$88.20**

## STACKABLE STEEL FILES

D Square fiberboard tubes hold rolls up to 37". Reversible door for left or right opening. Index grid inside door. Dimpled base for stacking. Tropic Sand color. Overall dim.: 15¼W x 38D x 15¼"H.

**No. 4KH48.** Holds up to 16 3¼" tubes. Safco brand (4960). Shpg. wt. 43.0 lbs. List $369.00. Each.....**$277.75**

**No. 4KH49.** Holds up to 36 2¼" tubes. Safco brand (4962). Shpg. wt. 45.0 lbs. List $379.00. Each.....**$299.00**



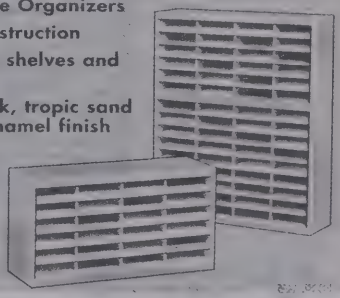
**Value Sorter Organizers**

- Quick lock assembly
- Wide shelf fronts with label holders
- Available in black, tropic sand or gray baked enamel finish

SAFCO®

Replacement Parts Available
1-800-323-0620

- E-Z Stor Literature Organizers
- Rugged steel construction
- Interlocking steel shelves and dividers
- Available in black, tropic sand or gray baked enamel finish



## VALUE SORTER® ORGANIZERS

Keeps literature accessible and organized in multi-compartment cabinets. All steel shell and shelves. Compartments made from heavy-duty 200 lb. corrugated fiberboard and measure 2½H x 9¾W x 12½"D. Easy assembly with quick locking fasteners. Available in black, sand or gray baked enamel finish.

## E-Z STOR® LITERATURE ORGANIZERS

Quick-connect uni-lock steel shell. Steel shelves and dividers give organizers strength and durability. Compartments measure 3H x 9W x 12¼"D. Solid fiberboard back is 1/8" thick. Available in black, sand or gray baked enamel finish. Easy to assemble.

| Number of Compartments | Compartments H | Compartments W | Compartments D | Overall Dimensions (In.) H | Overall Dimensions (In.) W | Overall Dimensions (In.) D | Safco Model | Stock No. Tropic Sand | Stock No. Black | Stock No. Gray | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VALUE SORTER LITERATURE ORGANIZER SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | | |
| 24 | 2½ | 9¾ | 12½ | 25¾ | 32¾ | 13½ | 7111 | 4KH91 | 4KH89 | 4KH90 | $113.00 | $87.75 | 26.0 |
| 36 | 2½ | 9¾ | 12½ | 38 | 32¾ | 13½ | 7121 | 4KH94 | 4KH92 | 4KH93 | 135.00 | 105.50 | 36.0 |
| 72 | 2½ | 9¾ | 12½ | 75 | 32¾ | 13½ | 7131 | 4KH97 | 4KH95 | 4KH96 | 225.00 | 179.75 | 61.0 |
| **EZ-STOR LITERATURE ORGANIZER SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | | |
| 24 | 3 | 9 | 12¼ | 25¾ | 37½ | 12¾ | 9211 | 4KJ11 | 4KJ09 | 4KJ10 | 234.00 | 175.75 | 50.0 |
| 36 | 3 | 9 | 12¼ | 36¾ | 37½ | 12¾ | 9221 | 5W471 | 5W472 | 4KJ12 | 287.00 | 227.50 | 64.0 |
| 60 | 3 | 9 | 12¼ | 60 | 37½ | 12¾ | 9241 | 4KJ15 | 4KJ13 | 4KJ14 | 449.00 | 319.25 | 106.0 |
| 72 | 3 | 9 | 12¼ | 71 | 37½ | 12¾ | 9241 | 4W095 | 4W127 | 4KJ16 | 505.00 | 394.75 | 124.0 |

# ADJUSTABLE SHELF BOOKCASES

## SAFCO STEEL ADJUSTABLE SHELF BOOKCASES

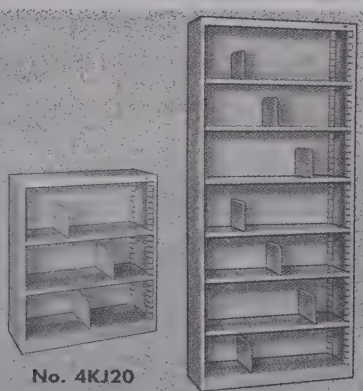



**Durable and economical Value Mate® metal bookcases** feature attractive radius corners. Strong steel exterior and shelves with a corrugated fiberboard back. Shelves can be adjusted during assembly (bottom shelf does not adjust). 12" deep shelves accommodate oversized materials. Designed to hold 3-ring binders on every shelf. Black and gray baked enamel finish on steel. Plastic snap-in radius corners for easy assembly. 31¾W x 13½"D. Patent pending.




| No. of Shelves | Height (In.) | Safco Model | Stock No. Black | Stock No. Gray | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2 | 28 | 7170 | 4KH98 | 4KH99 | $93.00 | $73.50 | 21.0 |
| 3 | 41 | 7171 | 4KJ01 | 4KJ02 | 113.00 | 89.50 | 29.0 |
| 4 | 54 | 7172 | 4KJ03 | 4KJ04 | 146.00 | 115.10 | 39.0 |
| 5 | 67 | 7173 | 4KJ05 | 4KJ06 | 177.00 | 139.50 | 44.0 |
| 6 | 80 | 7174 | 4KJ07 | 4KJ08 | 199.00 | 159.25 | 50.0 |

## TENNSCO STEEL ADJUSTABLE SHELF BOOKCASES




**All steel Tennsco bookcases are built for efficient storage in offices, schools, and institutions.** Provide easy access to books, ledgers, binders, sales literature, price lists. These are free standing units which can be moved without dismantling.

**Shelves are reinforced and slotted on 1" centers** to accept bookstops, one per shelf included. Shelves slide out to readjust height on 1½" increments, lock securely when slid back in. Constructed of 20-gauge steel; 150 lb. capacity per shelf based on evenly distributed load. Available in two, three, five or seven shelf models. Black and champagne/putty enamel finish. Comes unassembled, easily assembled with hand tools. Tennsco brand.

### EXTRA STEEL SHELF FOR TENNSCO BOOKCASES

**Increases storage capacity** of Tennsco bookcases. One bookstop included with each shelf. Black and champagne/putty enamel finish.

**No. 2W176.** Black. Tennsco brand (B-12). Shpg. wt. 8.7 lbs. List.....$16.45. Each.....**$14.95**

**No. 4KJ17.** Champagne/Putty. Tennsco brand (B-12P). Shpg. wt. 8.7 lbs. List.....$16.45. Each.....**$14.95**

### ADJUSTABLE SHELF BOOKCASE ORDERING DATA

| Number of Shelves | Overall Dim. (In.) W | D | H | Tennsco Model | Stock No. Black | Stock No. Champagne/Putty | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 38 | 12 | 30 | B-3000 | 4KJ18 | 4KJ19 | $125.10 | $99.90 | $94.95 | 57.0 |
| 3 | 38 | 12 | 42 | B4200 | 4KJ20 | 4KJ21 | 150.30 | 119.75 | 113.80 | 76.0 |
| 5 | 38 | 12 | 60 | B-6000 | 3W084 | 4KJ22 | 213.70 | 157.25 | 149.38 | 113.0 |
| 7 | 38 | 12 | 84 | B8400 | 3W085 | 4KJ23 | 276.60 | 215.25 | 204.32 | 157.0 |

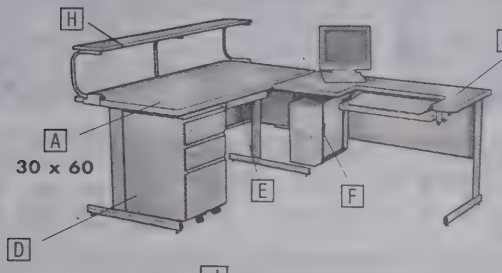
## SAFCO DOUBLE SHELF DESK TOP ORGANIZERS



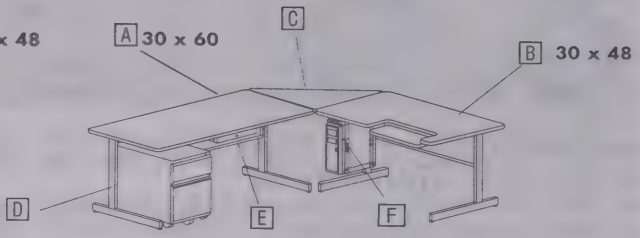

**Practical and economical Value Mate® Desk Top Organizers** will organize your desk and improve efficiency. Attractive radius corners, steel construction and a great price combine to deliver value and performance. Adjustable dividers let you customize your work area and easily organize letter and legal size documents. Units are a full 13" deep and 18" high with two shelves plus a top. Feature plastic corners and a solid fiberboard back. Choose black or gray baked enamel finish. Quick and easy assembly. Patent pending.

| Width (In.) | Color | Safco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 47 | Black | 3524 | 4KH44 | $149.00 | $113.90 | 23.0 |
| 47 | Gray | 3524 | 4KH45 | 149.00 | 113.90 | 23.0 |
| 56 | Black | 3526 | 4KH46 | 169.00 | 129.75 | 28.0 |
| 56 | Gray | 3526 | 4KH47 | 169.00 | 129.75 | 28.0 |

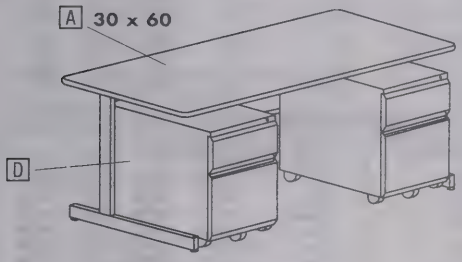
# DESK FURNITURE




J Task Workstation



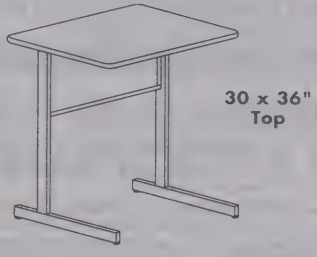

K Executive Workstation




L Basic Workstation

KI

Replacement Parts Available
1-800-323-0620




I Stand-Up Data Table

**Fully featured, budget-conscious, modular workstation systems** are comprised of ergonomically correct, interchangeable components. Frame is heavy-gauge seam-welded tubular steel. Two leg frame sections are joined by modesty panel and have adjustable glides. Table top is 1¼" thick high-density particleboard covered with high-pressure plastic laminate.

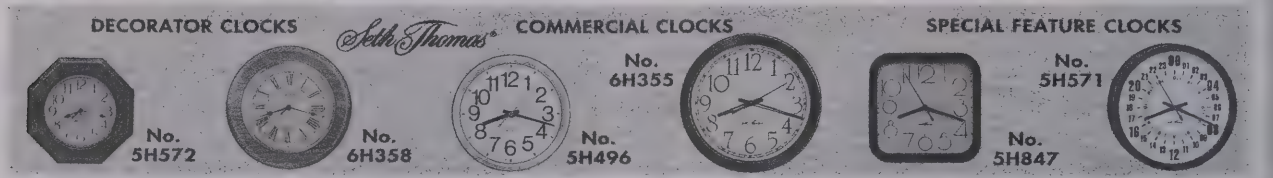
**Designed for efficient work flow and reduced operator fatigue.** Interchangeable components accommodate changing needs. Standard colors: oak laminate, sand trim, and sand enamel. CPU holder is black. KI brand.

| Key | Description | KI Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | **COMPLETE WORKSTATIONS** | | | | | |
| J | Task Workstation as Shown | Task Workstation | **7A944** | $1198.00 | **$857.00** | 297.0 |
| K | Executive Workstation as Shown | Executive Workstation | **7A943** | 924.40 | **668.50** | 290.0 |
| L | Basic Workstation as Shown | Basic Workstation | **7A942** | 857.60 | **646.00** | 227.0 |
| I | 30 x 36" Stand-Up Data Table | JSDT/SA/OKSA | **4KK04** | 250.00 | **167.50** | 71.0 |
| | **WORKSTATION COMPONENTS** | | | | | |
| A | 30 x 60" Basic Workstation | J3060/9NSA/OKSA | **4KJ99** | $230.40 | **$159.25** | 97.0 |
| B | 30 x 48" Return with Right Keyboard Pad | JK3048-R/9NSA/OKSA | **4KK02** | 264.80 | **195.25** | 92.0 |
| C | 90° Wedge | JTW90/SSA/OKSA | **4KK05** | 120.00 | **89.75** | 15.0 |
| D | Mobile Pedestal (Pencil/Box/File) | EP24M-PBF/SA | **4KJ98** | 313.60 | **243.25** | 63.0 |
| E | Center Drawer | JCD-SA | **4KK01** | 91.00 | **59.90** | 10.0 |
| F | CPU Holder (CPU not included) | CPU-Sling | **4KJ97** | 135.00 | **79.90** | 11.0 |
| G | 24 x 48" Return with Right Keyboard Pad | JWRK4-R/99CSA/OKSA | **4KK06** | 308.00 | **215.25** | 90.0 |
| H | Overhead Shelf | JS-SA/OKSA | **4KK03** | 120.00 | **99.10** | 24.0 |

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust.
More than 900 national brands are listed in the Brand Index at the back of this catalog.

# CLOCKS, TIME RECORDERS, RIBBON, CARD RACK, AND CARDS




**DECORATOR CLOCKS** feature precision quartz movement accuracy to within ± five minutes a year. Operate on one AA battery, not included. See page 1174 for battery listing.

**No. 5H572.** Solid pine case with honey pine finish. Convex lens.

**No. 6H358.** Hardwood case in natural oak finish. Clock has gold-tone rim and protective lens.

**COMMERCIAL CLOCKS** meet all local, state, and federal agency codes. Feature large black hour and minute hands, red second hand. High impact polystyrene case.

**Electric Clocks** operate on 115V/60 Hz and come with 4.5 or 5 ft. two-conductor cord. UL Listed.

**Quartz Clocks** feature precision movement accuracy to ± five minutes a year. Use one AA battery, not included. See page 1174.

**SPECIAL FEATURE CLOCKS** have precision quartz movement and accuracy to within five minutes per year. Operate on one AA battery, not included. See page 1174 for battery listing.

**Nos. 5H712, 5H713, and 5H714** feature an enclosed hanger for fabric covered walls.

**Nos. 5H847, 5H848, and 5H849** are designed for indoor or outdoor use. Feature thinline quartz clock enclosed in a shatter/weather resistant plastic case. Resist fading from sun.

**No. 5H571** 24-hr. quartz clock is ideal for business, professional and military use. Features a shatter resistant lens.

## DECORATOR CLOCKS

| Style | Dimensions (In.) H | W | D | Case Color | Seth Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Octagonal | 10 | 10 | 1⅜ | Honey Pine | 2254 | **5H572** | $32.00 | **$22.24** | 1.5 |
| Round (Dia.) | 13 | — | 1⅜ | Natural Oak | 2658 | **6H358** | 55.00 | **39.75** | 2.1 |

## COMMERCIAL CLOCKS

| Type | Overall Dia. (In.) | Face Dia. (In.) | Case Color | Seth Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Electric | 9½ | 9 | Putty | 724 | **5H352** | $25.00 | **$17.12** | 1.4 |
| Electric | 14 | 12 | Putty | 2635 | **5H351** | 27.00 | **19.60** | 3.0 |
| Electric | 14 | 12 | Brown | 709 | **5H350** | 27.00 | **19.60** | 3.7 |
| Quartz | 9½ | 9 | Putty | 725 | **5H496** | 31.00 | **22.73** | 1.7 |
| Quartz | 14 | 12 | Black | 712 | **5H495** | 37.00 | **24.65** | 3.0 |
| Quartz | 16½ | 13½ | Black | 2645 | **6H355** | 59.00 | **44.25** | 4.3 |
| Quartz | 18¼ | 16 | Silvertone | 2695 | **6H356** | 72.00 | **54.00** | 7.9 |

## SPECIAL FEATURE CLOCKS

| Style | Dimensions (In.) H | W | D | Case Color | Seth Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Round | 8½ Dia. | — | 1¼ | Gray | 2625 | **5H712** | $20.00 | **$14.14** | 1.3 |
| Round | 8½ Dia. | — | 1¼ | Black | 2628 | **5H713** | 20.00 | **14.14** | 1.3 |
| Round | 8½ Dia. | — | 1¼ | Brown | 2627 | **5H714** | 20.00 | **14.14** | 1.3 |
| Square | 10 | 10 | 1¼ | Black | 1136 | **5H847** | 26.00 | **18.76** | 1.7 |
| Round | 13½ Dia. | — | 1¼ | Ivory | 1137 | **5H848** | 37.00 | **26.90** | 2.7 |
| Round | 13½ Dia. | — | 1¼ | Black | 1138 | **5H849** | 37.00 | **26.90** | 2.7 |
| Round | 14 Dia. | — | 2⅜₁₆ | Brown | 708 | **5H571** | 41.00 | **29.00** | 3.7 |

## AUTO TIME RECORDERS

- **Automatic up-the-card consecutive spacing assures accurate alignment on all entries**
- **Accommodates flexible work schedules or part-time employees**
- **Use for either payroll records or job cost functions**

| Print Format* | Example Printout | Amano Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Day of Week, 1-12 hrs. with "A" or "P", 0-59 min.** | TH P3:30 | 6807 | **6T182** | $595.00 | **$571.00** | 24.0 |
| **Month/Date, 1-12 hrs. with "A" or "P", 0-59 min.** | JUN 7 P5:25 | 6836 | **6T183** | 595.00 | **571.00** | 24.0 |
| **Month/Date, 0-23 hrs., hundredths** | MAY 7 22:92 | 6833 | **6T184** | 595.00 | **571.00** | 24.0 |

(*) Month must be advanced manually every month

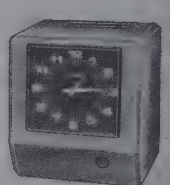
### REPLACEMENT RIBBON

Blue nylon inked ribbon for Amano Cincinnati 6800 Series recorders. Amano Cincinnati brand (GC630950).

**No. 6W972.** Replacement Ribbon. Shpg. wt. 0.1 lbs. List $15.00. Each ..... **$14.00**

**AMANO CINCINNATI INC.**

- **Tamper resistant**
- **Color: Beige with dark green dial**
- **Dimensions: 10W x 11½H x 8"D**
- **Power requirements: 115VAC, 60 Hz**



E50230

## ELECTRONIC TIME RECORDER

- **Programmable print format—standard or military time, minutes, hundredths or tenths**
- **Perpetual calendar—automatically changes month, date, year and daylight savings**
- **Manual or automatic print**
- **Quartz clock accuracy**
- **Built-in lithium battery backup—protects clock and program data in the event of power failure**
- **Uses same time cards as 3600 series, see page 2113**

**No. 3VH95.** Electronic Time Recorder. Amano Cincinnati brand (PIX-10/0832). Shpg. wt. 6.0 lbs. List $325.00. Each ..... **$288.50**

### REPLACEMENT RIBBON CARTRIDGE.

Black ribbon cartridge for use with No. 3VH95 Electronic Time Recorder. Amano Cincinnati brand (CE-315151).

**No. 3VH94.** Replacement Ribbon Cartridge. Shpg. wt. 0.1 lbs. List $18.00. Each ..... **$16.00**

**AMANO CINCINNATI INC.**

- **Desk or wall mount**
- **Easy-to-read LCD display**
- **Beige color**
- **Dimensions: 5½W x 6H x 6½"D**
- **Power required: 120VAC±10%, 60 Hz**



### WALL MOUNT TIME CARD RACK

Holds 25 cards from 7 to 9" long and up to 4½" wide. Dim.: 31⅛H x 5W x 1¾"D. Black. Amano Cincinnati brand (176B).

**No. 6T195.** Shpg. wt. 5.0 lbs. List..... $35.00. Each ..... **$29.75**

### TIME CARDS

Payroll time cards record start and finish of hourly employees and provide recorder for payroll computation. For use with Amano Cincinnati 3000 and 6800 Series time recorders. Card size is 3¹⁵⁄₃₂ x 8¼". 1000 cards per package. Amano Cincinnati brand (C3000).

**No. 6T190.** Time Cards. Shpg. wt. 12.0 lbs. List $39.50. Each..... **$33.25**

# TIME RECORDERS, CARDS & RIBBONS

## TIME RECORDER

- **Programmable for your individual business needs**
- **Regular or military time**
- **Battery back-up**

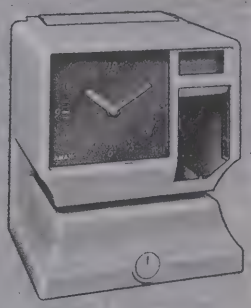
Automatically change month, date, and daylight savings time. Select print style—features side printer with analog face that automatically advances year/month/date and daylight savings. UL and C-UL Listed. Amano Cincinnati brand (TCX-11/5477).

***New*** **No. 4TH70.** Shpg. wt. 9.8 lbs. List $344.16. Each ..... **$309.75**

AMANO CINCINNATI INC.

E9919

New



## REPLACEMENT RIBBONS

For Amano Cincinnati 3600 series. Black nylon inked. Amano Cincinnati brand (JR-730250).

**No. 6B317.** Replacement Ribbon Cartridge. Shpg. wt. 0.2 lbs. List $9.00. Each ..... **$8.50**

Black ribbon cartridge for use with time recorder No. 4TH70. Amano Cincinnati brand (CE-315151).

**No. 3VH94.** Replacement Ribbon Cartridge. Shpg. wt. 0.1 lbs. List $18.00. Each ..... **$16.00**

## TIME CARDS

- **Payroll Cards record start and finish times of hourly employees and serve as a recorder for payroll computation**
- **Job Cost Cards record start and finish times of various jobs or operations**
- **1000 cards per package**

### TIME CARD SPECIFICATIONS AND ORDERING DATA

| For Time Recorder | Application | Card Size (In.) | Amano Cincinnati/ Simplex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3600/PIX-10/J/TCX-11** | Job Cost | 3⅜ x 8¼ | L-61 | **6T199** | $39.50 | **$33.25** | 12.0 |
| **3600/PIX-10/J/TCX-11** | Payroll | 3⅜ x 8¼ | NK-144505A | **6T198** | 39.50 | **33.25** | 12.0 |

## COMPUTERIZED TIME CLOCK

- **Automatically totals hours worked for up to 100 employees**
- **Eliminates manual totalling of time cards and reduces card processing time**
- **Automatically rounds and deducts for late arrival**
- **Computes daily overtime over 8 hours**
- **Computes weekly overtime over 40 hours**
- **Provides for special overtime for Sunday work**
- **Has the ability to lock out employees on the clock until the beginning of the shift/workday**
- **Features automatic daylight savings time change**
- **Features battery backup for 72 hours after power failure**
- **Prints exception characters, i.e. late arrival, overtime, etc.**
- **UL Listed (E50230)**
- **Amano Cincinnati brand**

**No. 6H362.** (MJR-7000EZ). Shpg. wt. 20.0 lbs. List $1245.00 Each..... **$1042.00**

## COMPUTER TIME CARDS

**Card features:**

- **Day or date of the month**
- **Daily hours**
- **Cumulative regular hours**
- **Cumulative overtime hours**
- **Identifies exceptions to payroll policy with exception characters**
- **Employee punches can be printed in AM and PM or 24-hour format**
- **Totals are printed in either minutes or hundredths of an hour**
- **1000 cards per package**

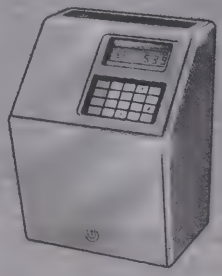
**For Amano Cincinnati MJR-7000EZ Clocks**

**No. 6H363.** (AMA09900). Shpg. wt. 7.0 lbs. List $54.40 Each..... **$49.50**

AMANO CINCINNATI INC.

New

E50230



**No. 6H362**

## REPLACEMENT RIBBONS

**For Amano Cincinnati MJR-7000EZ Clocks**

- **Black nylon inked**

**No. 6H364.** (C-872302). Shpg. wt. 0.1 lbs. List $29.22. Each..... **$26.60**

## SIGNAL OPTION

- **Allows up to 40 programmable signals per day**
- **Rings bell, sounds horn or buzzer (see page 2558 for signaling devices)**

***New*** **No. 4MC23.** (IR-632092). Shpg. wt. 0.1 lbs. List $100.00. Each..... **$98.20**

**NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY**

# PRINT & HAND-HELD CALCULATORS

**Casio offers a wide variety of calculators for office, business, home, and personal use. The following glossary will help you decide which is the best calculator for your needs.**

**SOLAR PLUS**—Calculations plus full memory protection no matter what the light conditions.

**SUPER SOLAR**—No battery needed—works even in candlelight

**DATA BANK**—Can hold private memoranda such as names, telephone numbers, addresses, dates, etc.

**CALENDAR**—A collection of calendars up to the year 2099. A set of symbols lets you know at a glance when specific days have scheduled events.

**SCHEDULE**—A complete schedule can be entered for both work and leisure by specifying the date, month, and year.

**BUSINESS CARD**—Each file programmable with company name, personal name, phone number, position, address, and department.

**WORLD TIME**—World time shows what time it is at virtually any point on the globe, including daylight savings time.

**SCHEDULED ALARM**—An alarm lets you know a scheduled time has been reached.

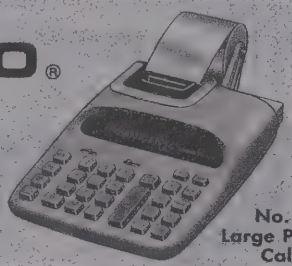
**TURBO SCIENTIFIC**—Calculates equations approximately 2½ times faster than traditional scientific calculators.

**TIME CALCULATIONS**—Eases troublesome calculations by converting hours and minutes.

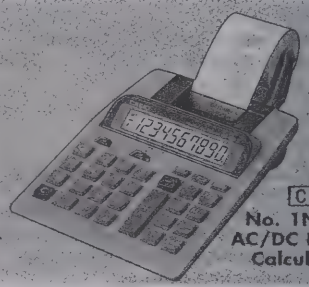
CASIO®



A
No. 1N027
Heavy Duty Printer Calculator



B
No. 1N029
Large Print Printer Calculator



C
No. 1N031
AC/DC Printer Calculator

### A Casio® Calculator No. 1N027

- Heavy-duty ink ribbon printer
- 12 digits
- Two color printing
- Prints 3.5 lines per second
- Line printing
- AC powered

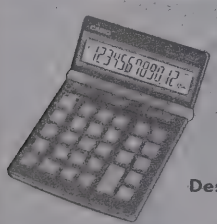
### B Casio® Calculator No. 1N029

- Desk top printer
- 12 digits
- Two color printing
- Fluorescent display
- Prints 3.0 lines per second
- AC powered

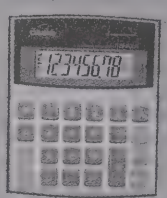
### C Casio® Calculator No. 1N031

- Portable, two color printer
- 10 large digits
- Function command signs
- Prints 1.7 lines per second
- Time calculations
- AC/DC powered (adapter included)

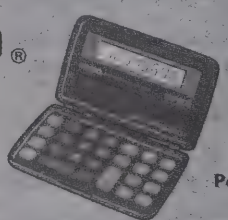
CASIO®



D
No. 1N025
Desk Top Solar Plus Calculator



E
No. 1N034
Desk Top Solar Plus Calculator



F
No. 1N038
Pocket Fold-Over Super Solar Calculator

### D Casio® Calculator No. 1N025

- Desk top calculator
- Solar Plus
- 12 large digits
- 3 digit comma markers
- Tilt display

### E Casio® Calculator No. 1N034

- Desk top calculator
- Solar Plus
- 8 large digits
- Best view display

### F Casio® Calculator No. 1N038

- Pocket fold-over calculator
- Super Solar
- 8 large digits
- 3 digit comma markers
- Function command signals

## CALCULATOR SPECIFICATIONS AND ORDERING DATA

| Key | Calculator Type | No. of Digits | Overall Dimensions (In.) L | W | D | Casio Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Heavy-Duty Printer | 12 | 9¾ | 7⅞ | 2⅞ | DL-220 | **1N027** | $145.60 | **$91.00** ▲ | 4.5 |
| B | Large Print Printer | 12 | 10⅝ | 6⅛ | 2⅜ | FR-2650 | **1N029** | 78.22 | **55.90** ▲ | 1.9 |
| C | AC/DC Printer | 10 | 8⅜ | 6⅜ | 2⅛ | HR-150LC | **1N031** | 58.98 | **39.35** ▲ | 1.7 |
| D | Desk Top Solar | 12 | 8 | 5½ | 1⅛ | D-120 | **1N025** | 39.55 | **28.25** ▲ | 0.4 |
| E | Desk Top Solar | 8 | 5¼ | 4⅜ | 1¼ | MS-70 | **1N034** | 16.31 | **10.87** ▲ | 0.2 |
| F | Fold-Over Pocket | 8 | 2⅞ | 4⅝ | ½ | SL200 | **1N038** | 16.76 | **11.97** ▲ | 0.1 |

(▲) Net prices, not subject to discounts.

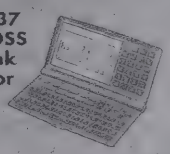


*Store it, stack it, stamp it and more with these hard-working products.*

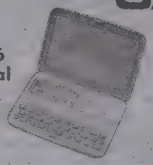
# DATA BANK AND SCIENTIFIC CALCULATORS

CASIO®

A
No. 1N037
256KB BOSS Data Bank Calculator



B
No. 1N026
32KB Digital Data Bank Calculator



C
No. 1N035
64KB Digital Data Bank Calculator



D
No. 3A539
Turbo Scientific Calculator



### A Casio® Data Bank Calculator No. 1N037

- Large double display
- 26 characters by 8 lines
- Easy-to-read illuminator back-lit display
- Large 256KB memory stores thousands of entries
- Telephone directory
- Memo function
- To-do list, expense function
- Schedule keeper reminder
- Home and world time

### B Casio® Calculator No. 1N026

- 32KB data calculator
- Back-lit display
- Telephone directory
- Schedule keeper
- To-do list, memo function
- Home and world time
- Separate 10 digit keypad

### C Casio® Calculator No. 1N035

- 64KB data calculator
- Back-lit display
- Telephone directory
- Schedule keeper
- To-do list, memo function
- Home and world time
- Separate 10 digit keypad

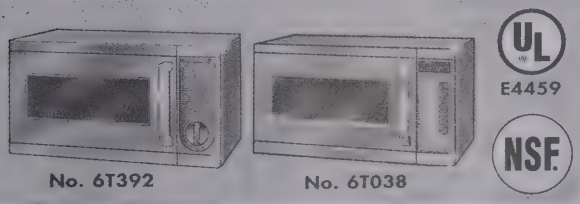
### D Casio® Scientific Calculator No. 3A539

- Solar powered for base conversions, calculations, and logical operations
- 252 functions
- Turbo scientific, retains memory in any light conditions
- Regression analysis
- 18 levels of parenthesis

| Key | Calculator Type | Overall Dimensions (In.) L | W | D | Casio Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 256KB BOSS Data Bank | 6½ | 6¾ | ¾ | SF-6700 | **1N037** | $219.95 | **$129.95▲** | 3.0 |
| B | 32KB Digital Data Bank | 5¼ | 7¼ | 1/5 | SF-3300 | **1N026** | 44.95 | **33.95▲** | 0.4 |
| C | 64KB Digital Data Bank | 5¼ | 7¼ | ½ | SF-3600 | **1N035** | 99.95 | **63.95▲** | 0.5 |
| D | Turbo Scientific | 5⅜ | 3 | ⅝ | FX115 | **3A539** | 29.32 | **20.94▲** | 0.9 |

(▲) Net prices, not subject to discounts.

# COMMERCIAL MICROWAVE OVENS



No. 6T392 No. 6T038

UL E4459 NSF

### DIAL TIMER, METALLIC CABINET No. 6T392

**1000 watts** output power.
**Stainless steel cavity** provides durability and ease of cleaning.
**6 minute lighted dial timer** is easy to set and read, clearly marked in 10 to 15 second increments.
**Sturdy door handle** for convenient access to oven interior.
**Heating time guide and instructions** located on control panel. Heating time guide charts the proper times needed to heat a variety of popular foods.
**Signal bell** for end of heating cycle.
**Rubber-sealed ceramic shelf** for ease of cleaning.
**See-through oven door** with interior light for maximum visibility inside oven cavity.
**Safety Approvals**—Commercial UL Listed (E44459), FCC, DHHS, and NSF.

### DIGITAL DISPLAY, STAINLESS STEEL CABINET No. 6T038

**1000 watts** output power.
**Stainless steel cavity and cabinet** is durable and easy to clean. Cavity has ceramic bottom shelf.
**Selectapower™** pulses microwave power to allow selection of heating speed and power level from 0 to 100 percent power. Eliminates overheating and crusting of edges.
**Digital display** shows programmed and elapsed heating times and percentage of microwave power.
**Two-way programming.** Use memory pads to lock in 10 different heating times and Selectapower™ setting—or program oven manually for up to 30 minutes.
**Express Defrost™** makes thawing frozen meats or poultry fast and easy. Automatically divides total defrost time into 3 stages using 3 power levels.
**Double Quantity Key** automatically provides best heating times for double servings with any of the memory pads.
**10 additional memory pad options.**
Memory lock prevents stored information from being erased during power interruptions or off times. No batteries required.
**Adjustable volume control** sets sound level for end of heating cycle.
**Safety Approvals**—Commercial UL Listed (E44459), FCC, DHHS, and NSF.

### SHARP LIMITED WARRANTY

**Sharp Electronics Corp. warrants magnetron tube 3 years, all other parts and labor 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Output Power Watts | Power Required VAC at 60 Hz | Dimensions (In.) Outside Depth | Cavity Depth | Cabinet Color | Sharp Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 120V | 20½W x 12¼H x 16"D | 13⅝W x 8⅛H x 11⅝" D | Metallic Gray | R-21HC | **6T392** | $420.00 | **$298.75▲** | 37.0 |
| 1000 | 120V | 20½W x 12¼H x 16"D | 13⅝W x 8⅛H x 11⅝" D | Stainless Steel | R-21HT | **6T038** | 700.00 | **498.75▲** | 41.0 |

(▲) Net prices, not subject to discounts.

# TABLE RANGES AND COFFEE BREWERS

## TABLE RANGES

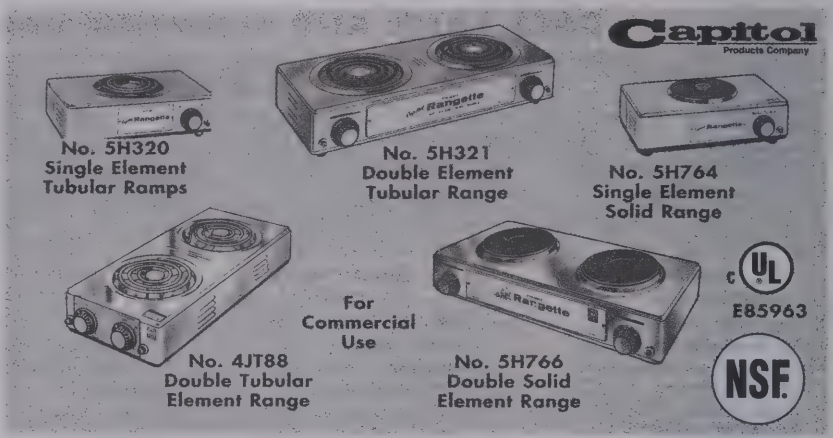
**Solid or Tubular Lift-Up Elements.** Single or double element models. Table ranges have fully chromed seamless/rivetless exteriors. Three-prong grounded plug, 120VAC. Commercial UL Listed (E85963); NSF approved. All units have safety signal lights that indicate when burner is On.

**Solid Elements features include:**

- **"Pot-Sensor" with double circuit thermostat control turns the power off automatically and maintains the precise desired temperature within 5°F**
- **Temperature range from very low "waterless cooking," melt or warm, to controlled boil and grill**
- **Tight fitting burner allows no spillage into mechanism**
- **Perfect total pan-to-element contact**
- **Infinite burners with Robertshaw controls**
- **Nos 4JT85 and 4JT86 have oversized burners**
- **20-year life solid elements**

**Tubular Elements features include:**

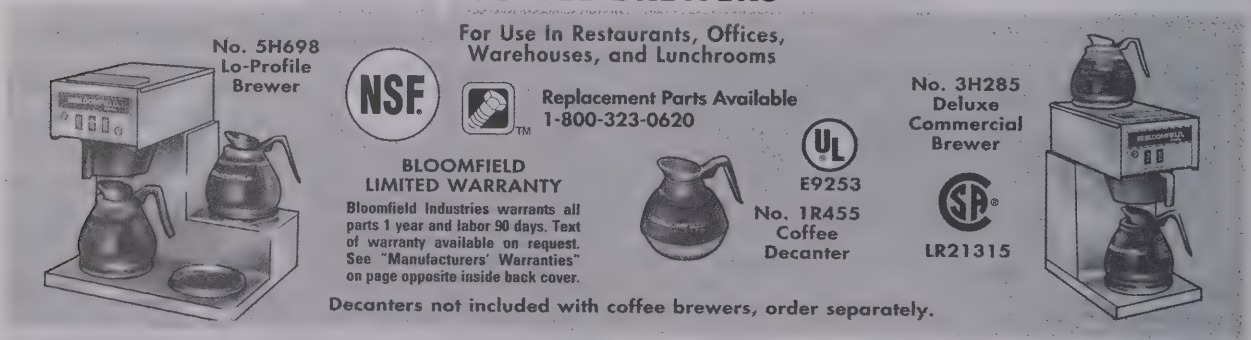
- **Robertshaw infinite controls**
- **Signal light**
- **3-ring, lift-up tubular elements**
- **Removable wells**




| No. | Elements Type | Watts Each Element | Temperature Each Element | Overall Dimensions (In.) L x W x H | Capitol Model CUL- | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tubular | 1100 | 0-1200°F | 13½ x 8¾ x 4 | 255 Pro | **5H320**‡ | $120.00 | **$108.00** | 6.0 |
| 2 | Tubular | 825-825 | 0-900/0-900°F | 20 x 8¾ x 4 | 765 Pro | **5H321**‡ | 170.00 | **153.00** | 9.3 |
| 1* | Solid | 950† | 0-1000°F | 13½ x 8¾ x 4 | 455 Pro | **5H764**‡ | 198.00 | **178.25** | 7.4 |
| 2* | Solid | 700-950† | 0-1000/0-800°F | 20 x 8¾ x 4 | 865 Pro | **5H765** | 275.00 | **247.50** | 12.0 |
| 1 | Solid | 950 | 0-1000°F | 13½ x 8¾ x 4 | 555 Pro | **4JT87** | 160.00 | **144.00** | 8.0 |
| 2 | Solid | 700-700 | 0-1000/0-800°F | 20 x 8¾ x 4 | 965 Pro | **5H766**‡ | 240.00 | **216.00** | 12.0 |
| 2 | Tubular | 825-825 | 0-900/0-900°F | 20 x 8¾ x 4 | 860 Pro | **4JT88**‡ | 170.00 | **157.50** | 9.0 |
| 1 | Tubular | 1500 | 0-1400°F | 15 x 15 x 7 | 450 Pro | **4JT85** | 210.00 | **189.00** | 12.0 |
| 1* | Solid | 1500† | 0-1400°F | 15 x 15 x 7 | 550S Pro | **4JT86** | 330.00 | **297.00** | 14.0 |

(*) One element has sensor. (†) Sensor element wattage. (‡) UL Listed for Canada (E85963).
The use of electric hot plates for HI-TEMP heat treating of metals and solids is NOT RECOMMENDED.

## COFFEE BREWERS




### KOFFEE-KING BREWERS

**Stainless steel Pour-over coffee brewers.** No plumbing required. Uses patented water delivery system for optimal coffee flavor. Makes 12 cups in minutes, up to 15 decanters per hour. One-piece drawn vertical stainless steel water tank. Porcelainized steel warming plates spin off for easy cleaning and have separate on/off switches to maintain proper serving temperature. Ready-to-brew light indicates proper water temperature to assure optimum coffee flavor. Order filter and decanters listed at right. Uses 15A @ 115VAC. UL Listed, NSF approved.

### LO-PROFILE BREWER

**Features three warming stations.** Robertshaw thermostat is preset at factory. Low watt density heating element. Heavy-duty 16 amp lighted warmer switches indicate whether warmer is On or Off. Dimensions: 16⅞H x 16¼W x 14"D. Bloomfield (8571).

**No. 5H698.** Shpg. wt. 27.0 lbs. List $416.00. Each.....**$386.00**

### DELUXE COMMERCIAL BREWER

Two warming stations, one located on top of the brewer. Controls and heater are the same as in Lo-Profile Brewer. Dimensions: 16⅞H x 8¾W x 14"D. Bloomfield brand (8543).

**No. 3H285.** Shpg. wt. 25.0 lbs. List $385.00. Each.....**$343.50**

### COFFEE DECANTERS

10-12 cup capacity. Unbreakable polysulfon top with stainless steel bottom. Regular has black handle and spout. Decaf has orange handle and spout. Bloomfield brand (8895) & (8885).

**No. 1R455.** Regular. Shpg. wt. 1.3 lbs. List $23.00. Each.....**$18.40**

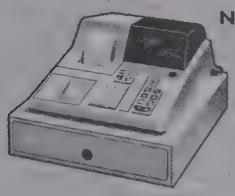
**No. 1R456.** Decaf. Shpg. wt. 1.3 lbs. List $23.00. Each.....**$18.40**

### FILTER PAPERS

Carton of 1000 filter papers, Bloomfield brand (POF-1000).

**No. 5H418.** Shpg. wt. 4.6 lbs. List.....$15.00.
Each.....**$14.93**

# ELECTRONIC CASH REGISTERS AND BULLETIN BOARDS



No. 2W416

CASIO®

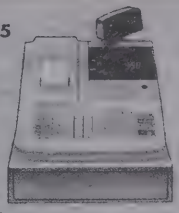
- Automatic confirmation of keyed entry reduces chance of mis-hit keys
- Buffer memory allows fast totalizing with no overlap
- Locking cash drawer for added security
- Modern, efficient operation with automatic ejection of 2½" wide paper receipts

- 10 departments
- 8 clerks
- 100 price look-ups

**CASIO LIMITED WARRANTY**

Casio warrants parts and labor 90 days, parts only 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

No. 5W235



- 40 departments
- 15 clerks
- 600 price look-ups

**Casio electronic cash registers** feature an easy-to-operate keyboard that confirms each entry. Buffer memory key entry so fast sales entries are possible with no chance of overlap. Register locks immediately and sounds an alarm whenever there is an error in key operation. Locking cash drawer with currency and coin compartments. Master and cash drawer keys are provided. Price look-up function memorizes prices allowing for quicker entry and will totalize by item on PLU report. Comprehensive management reports provide general control report and financial report, with versatile transaction totals and counters. Three payment media: cash, charge, and check. Two tax tables with tax status shift keys. Time and date stamp on receipt, with automatic advance. Received on account and paid out keys. Heavy-duty metal cash box. Removable cash drawer has four cash and five coin compartments.

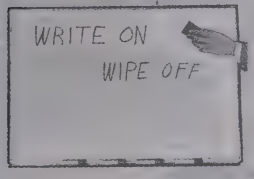
**No. 2W416 features 10 departments** that record sales in 10 product categories and totalize by category. 100 price look-up feature memorizes prices for 100 items allowing quicker entry, and will totalize by item on PLU report. Eight clerk totalizers allow tracking of sales of eight clerks using clerk number system. Rear customer display and removable coin tray. Quiet high speed printer prints 2.4 lines per second on standard 2¼" (58mm) paper.

**No. 5W235 features 40 departments** that record sales in 40 product categories and totalize by category. 600 price look-up feature memorizes prices for 600 items allowing quicker entry and will totalize by item on PLU report. 15 clerk totalizers allow tracking of sales of 15 clerks using clerk number system. Pop-up rotary customer display. Quiet high speed printer prints 3.0 lines per second on standard 2¼" (58mm) paper. 2-ply paper capability.

## ELECTRONIC CASH REGISTER SPECIFICATIONS AND ORDERING DATA

| Totals | Counters | Calender Set | Dimensions (In.) Height | Width | Depth | Casio Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **21** | **13** | Automatic | 8¾ | 14 | 14¼ | PCR255 | **2W416** | $219.00 | **$216.25** | 14.0 |
| **16** | **14** | Automatic | 13 | 15 | 12½ | PCR-460 | **5W235** | 365.00 | **351.25** | 23.0 |

# BULLETIN BOARDS

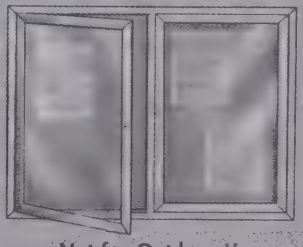



No. 3W291
36W X 24"H



No. 3W290
24W X 36"H

No. 3W289
48W X 36"H



Not for Outdoor Use

## DRY ERASE MARKER BOARD

White melamine coated surface, high density hardboard comes with colorful dry erase markers. Ink dries instantly, wipes clean with eraser or cloth. Satin anodized extruded aluminum frame and full length 1" marker storage tray. Hangers for wall mounting. Includes four non-toxic markers in red, blue, green, and black. 36" wide, 24" high. Quartet brand (W21AF).

**No. 3W291.** Shpg. wt. 8.0 lbs. List $40.50. Each.....$31.80

## DRY ERASE MARKERS

Set of four replacement markers in red, blue, green and black with duster white board cleaner. For No. 3W291 marker board. Quartet brand (7420).

**No. 1A509.** Shpg. wt. 0.1 lbs. List $11.50.Each.....$9.33

## CORK BULLETIN BOARDS

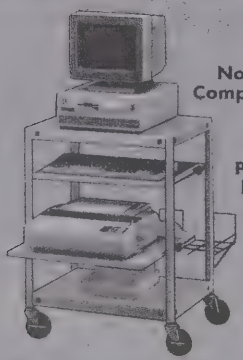
Self-sealing, acrylic enclosed cork bulletin boards come with tan cork background. Acrylic doors are mounted on full length piano hinges and come with tamper-proof lock and keys.

**Single door cork board.** Measures 24" W, 36" H, 2" deep. Has single full acrylic door.

**Two door cork board.** Measures 48" W, 36" H, 2" D. Has two full acrylic doors. Opens from the center.

| Cabinet | Doors | Quartet Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Oak** | One | 3663 | **3W290** | $210.00 | **$155.75** | 21.0 |
| **Aluminum** | One | 2363 | **4W096** | 235.00 | **210.50** | 21.0 |
| **Oak** | Two | 364 | **4W097** | 360.00 | **298.75** | 28.0 |
| **Aluminum** | Two | 2364 | **3W289** | 380.00 | **304.00** | 34.0 |

# COMPUTER CENTER, CABINET STAND, AND EQUIPMENT CART

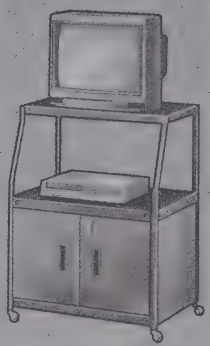


No. 5W604
Computer Center

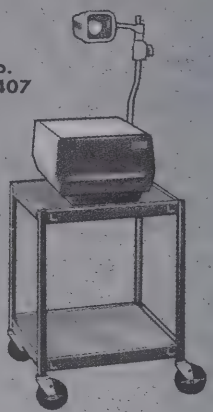
Paper catch basket not included

- Functional stands and cabinets hold necessary equipment used in offices
- Casters provide portability for easy moving to various locations
- Equipment shown on stands and cabinets not included

BRETFORD



No. 5W606
Cabinet Stand



No. 3W407

## COMPUTER CENTER

Adjustable sliding keyboard shelf may be arranged at perfect sit-down height. Three typing heights (25", 27", 29") give legs proper clearance and allow easy access to keyboard. Keyboard stays tucked away and protected while not in use or during transport. Printer shelf is adjustable from 14", 16", and 18" and has slot for bottom-feed printers. Locking knobs on both sliding shelves keep them in position. Shelves slide easily on adjustable chrome-plated steel rods. Top shelf: 33" high. Bottom shelf to floor: 6". Overall size: 24W x 33H x 18"D. Shipped unassembled. Putty finish. Bretford brand (EC4).

**No. 5W604†.** Computer Center. Shpg. wt. 48.0 lbs. List $310.00. Each ..... **$188.25**

## TV AND VCR CABINET STAND

**Rugged mobile stand holds 20" TV's, VCR's, complete video systems, and other equipment.** Easily moves between offices or training rooms on 2" swivel ball casters. Steel construction, with hinges on cabinet doors for easy access. Storage cabinet has movable shelf and locking doors with two sets of keys. 15" clearance between top and middle shelf. Top shelf: 30 wide x 16" deep. Cabinet interior: 28W x 17H x 18"D. Overall size: 30W x 40H x 20"D. Stand includes UL Listed electrical assembly with 2 grounded outlets, 20 ft. grounded extension cord with built-in winder. Black powder paint finish. Shipped disassembled. Bretford brand (MPVC40E2).

**No. 5W606.** Cabinet Stand. Shpg. wt. 85.0 lbs. List $571.00 Each ..... **$347.25**

## MOBILE EQUIPMENT CART

- **110V, UL Listed electrical unit**
- **20 ft. grounded extension cord**
- **Welded steel construction**
- **4" quiet glide casters**
- **2 locking casters**
- **Black powder paint finish**

For audio visual presentations or equipment storage. Suitable for other uses in the office, school, or laboratory. Two steel shelves, 20W x 18"D, have smooth rounded edges. Table stands 26" high. Space between bottom and top shelves is 17". UL Listed electrical outlet panel. Bretford brand (MP26-E4).

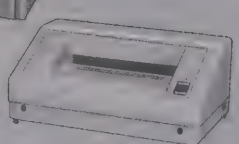
**No. 3W407.** Equipment Cart. Shpg. wt. 30.0 lbs. List $213.00. Each ..... **$127.15**

(†) Equipment used for application purposes only. Office machinery not included.



No. 2W587

Prevent leakage of confidential data by reducing documents to illegible shreds.



No. 2W588

## PAPER SHREDDERS

- **No. 2W587 simultaneously shreds 12 sheets of paper; handles sheets up to 8½" wide**
- **No. 2W588 simultaneously shreds 16 sheets of paper; handles sheets up to 10" wide**
- **Cutting mechanism never needs oiling or sharpening**
- **Both units powered by 115V, 60 Hz thermal overload protected motor**

### POWERSHRED LIMITED WARRANTY

**Fellowes Manufacturing Co. warrants Powershred units 1 year; cutting cylinders are warranted for 5 years against mfg. defects. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

Designed for deskside, department, and office applications. Throat openings prevent operator from accidentally inserting fingers into cutting mechanism.

**No. 2W587 POWERSHRED 220.** Features automatic start/stop for simple one-handed operation. Console design with separate container for easy emptying.

**No. 2W588 POWERSHRED 300.** Medium duty shredder for use on a separate stand or table (not included). Handles 15" computer form without any additional attachments. Cuts through forgotten staples and paper clips. Continuous duty motor.

| Shredding Capacity (Sheets) | Shredded Strip Size (In.) | Cutter Width (In.) | Motor HP | Motor Volts 60 Hz | Dimensions (In.) W | D | H | Powershred Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 5/32 | 9 | 1/7 | 115 | 14¾ | 9½ | 21¾ | 220 | **2W587** | $740.09 | **$623.00** | 27.0 |
| 16 | 1/4 | 10 | 1/4 | 115 | 17¾ | 11⅞ | 8 | 300 | **2W588** | 1149.00 | **971.00** | 50.0 |



*Store it, stack it, stamp it and more with these hard-working products.*

# CASTER INTERCHANGE GUIDE

## USE THE HANDY GUIDE BELOW TO QUICKLY LOCATE THE PROPER CASTER.
## SIMPLY LOOK UP THE CASTER MAKE AND MODEL TO FIND THE GRAINGER STOCK NUMBER.

SEE THE CASTER APPLICATION GUIDE ON PAGE 2123 TO FIND THE RIGHT CASTER FOR EVERY JOB

| Albion Model | Stock No. |
|---|---|
| 05XA04251R | 3G100 |
| 05XA04251S | 3G101 |
| 05XA05251R | 3G102 |
| 05XA05251S | 3G103 |
| 05XA06251R | 3G104 |
| 05XA06251S | 3G105 |
| 05XA08251R | 3G106 |
| 05XA08251S | 3G107 |
| 05XC04252R | 3G108 |
| 05XC04252S | 3G109 |
| 05XC05252R | 3G110 |
| 05XC05252S | 3G111 |
| 05XC06252R | 3G112 |
| 05XC06252S | 3G113 |
| 05XC08252R | 3G114 |
| 05XC08252S | 3G115 |
| 12SN06227R | 3G116 |
| 12SN06227S | 3G117 |
| 12SN08427R | 3G118 |
| 12SN08427S | 3G119 |
| 16CA04201R | 3G120 |
| 16CA04201S | 3G121 |
| 16MD05201R | 3G122 |
| 16MD05201S | 3G123 |
| 16MD06201R | 3G124 |
| 16MD06201S | 3G125 |
| 16MD08201R | 3G126 |
| 16MD08201S | 3G127 |
| 16MR04201R | 3G128 |
| 16MR04201S | 3G129 |
| 16MR05201R | 3G130 |
| 16MR05201S | 3G131 |
| 16MR06201R | 3G132 |
| 16MR06201S | 3G133 |
| 16MR08201R | 3G134 |
| 16MR08201S | 3G135 |
| 16PD04201R | 3G136 |
| 16PD04201S | 3G137 |
| 16PD05201R | 3G138 |
| 16PD05201S | 3G139 |
| 16PD06201R | 3G140 |
| 16PD06201S | 3G141 |
| 16PD08201R | 3G142 |
| 16PD08201S | 3G143 |
| 16SF08427R | 3G144 |
| 16SF08427S | 3G145 |
| 16SF08527R | 3G146 |
| 16SF08527S | 3G147 |
| 16SF10627R | 3G148 |
| 16SF10627S | 3G149 |
| 16SN06227R | 3G150 |
| 16SN06227S | 3G151 |
| 16TM04201R | 3G152 |
| 16TM04201S | 3G153 |
| 16TM05201R | 3G154 |
| 16TM05201S | 3G155 |
| 16TM06201R | 3G156 |
| 16TM06201S | 3G157 |
| 16TM08201R | 3G158 |
| 16TM08201S | 3G159 |
| 16VG04201R | 3G160 |
| 16VG04201S | 3G161 |
| 16VG05201R | 3G162 |
| 16VG05201S | 3G163 |
| 16VG06201R | 3G164 |

| Albion Model | Stock No. |
|---|---|
| 16VG06201S | 3G165 |
| 16XV04202R | 3G166 |
| 16XV04202S | 3G167 |
| 16XV05202R | 3G168 |
| 16XV05202S | 3G169 |
| 16XV06202R | 3G170 |
| 16XV06202S | 3G171 |
| 272SF08501R | 3G172 |
| 272SF08501S | 3G173 |
| 272SF10601R | 3G174 |
| 272SF10601S | 3G175 |
| 290SF12701R | 3G176 |
| 290SF12701S | 3G177 |
| 32TX04128R | 3G178 |
| 32TX04128S | 3G179 |
| 32TX05128R | 3G180 |
| 32TX05128S | 3G181 |
| 32TX06128R | 3G182 |
| 32TX06128S | 3G183 |
| 32TY04128R | 3G184 |
| 32TY04128S | 3G185 |
| 32TY05128R | 3G186 |
| 32TY05128S | 3G187 |
| 32TY06128R | 3G188 |
| 32TY06128S | 3G189 |
| 35TX04128R | 3G190 |
| 35TX04128S | 3G191 |
| 35TX05128R | 3G192 |
| 35TX05128S | 3G193 |
| 35TX06128R | 3G194 |
| 35TX06128S | 3G195 |
| 35TY04128R | 3G196 |
| 35TY04128S | 3G197 |
| 35TY05128R | 3G198 |
| 35TY05128S | 3G199 |
| 35TY06128R | 3G200 |
| 35TY06128S | 3G201 |
| 40MR06201R | 3G202 |
| 40MR06201S | 3G203 |
| 40MR08201R | 3G204 |
| 40MR08201S | 3G205 |
| 40PD06201R | 3G206 |
| 40PD06201S | 3G207 |
| 40PD08201R | 3G208 |
| 40PD08201S | 3G209 |
| 42MR08407R | 3G210 |
| 42MR08407S | 3G211 |
| 42MR10407R | 3G212 |
| 42MR10407S | 3G213 |
| 42PY08407R | 3G214 |
| 42PY08407S | 3G215 |
| 42PY10407R | 3G216 |
| 42PY10407S | 3G217 |
| 42SF08501R | 3G218 |
| 42SF08501S | 3G219 |
| 42SF10601R | 3G220 |
| 42SF10601S | 3G221 |
| 44MR10501R | 3G222 |
| 44MR10501S | 3G223 |
| 44MR12501R | 3G224 |
| 44MR12501S | 3G225 |
| 44PY10501R | 3G226 |
| 44PY10501S | 3G227 |
| 44PY12501R | 3G228 |
| 44PY12501S | 3G229 |

| Albion Model | Stock No. |
|---|---|
| 44SF12701R | 3G230 |
| 44SF12701S | 3G231 |
| 62VG04201R | 3G232 |
| 62VG04201S | 3G233 |
| 62VG05201R | 3G234 |
| 62VG05201S | 3G235 |
| 62VG06201R | 3G236 |
| 62VG06201S | 3G237 |
| 72SF12727R | 3G238 |
| 72SF12727S | 3G239 |
| 72SN10427R | 3G240 |
| 72SN10427S | 3G241 |
| 72SN12527R | 3G242 |
| 72SN12527S | 3G243 |
| 81VG06401R | 3G244 |
| 81VG06401S | 3G245 |
| 81VG08401R | 3G246 |
| 81VG08401S | 3G247 |
| 90VG06401R | 3G248 |
| 90VG06401S | 3G249 |
| 90VG08401R | 3G250 |
| 90VG08401S | 3G251 |
| 90VG10501R | 3G252 |
| 90VG10501S | 3G253 |
| 94VF06501R | 3G254 |
| 94VF06501SBBL | 3G255 |
| 94VF08701R | 3G256 |
| 94VF08701SBBL | 3G257 |
| 94VL08501R | 3G258 |
| 94VL08501SBBL | 3G259 |
| 94VL10501R | 3G260 |
| 94VL10501SBBL | 3G261 |

| Bassick Model | Stock No. |
|---|---|
| 10HR1-7 | 4W812 |
| 10HR3P-7 | 4W814 |
| 10HR3R-7 | 2G160 |
| 10HR8-7 | 4W813 |
| 10HS1-7 | 4W809 |
| 10HS3P-7 | 4W811 |
| 10HS3R-7 | 2G159 |
| 10HS8-7 | 4W810 |
| 25688M | 2G180 |
| 3689XTS 1/2-13X1 | 2G181 |
| 4XX1-2CW | 5X931 |
| 4YY1-2CW | 5X932 |
| 50R1-7 | 2G164 |
| 50R3P-7 | 2G170 |
| 50R8-7 | 2G176 |
| 50S1-7X400 | 2G161 |
| 50S3P-7X400 | 2G167 |
| 50S8-7X400 | 2G173 |
| 53MGGX622BLK | 3A805 |
| 53MG6X622CHR | 3A806 |
| 53MG9X622BLK | 3A803 |
| 53MG9X622CHR | 3A804 |
| 551-P6X622BLK | 3A823 |
| 551 P9X622BLK | 3A820 |
| 551-P9X622BRN | 3A826 |
| 552-P6X622BLK | 3A824 |
| 552-P9X622BLK | 3A821 |
| 552 P9X622BRN | 3A827 |
| 553-P6X622BLK | 3A825 |
| 553-P9X622BLK | 3A822 |

| Bassick Model | Stock No. |
|---|---|
| 553-P9X622BRN | 3A828 |
| 60R1-7 | 2G165 |
| 60R3P-7 | 2G171 |
| 60R8-7 | 2G177 |
| 60S1-7X400 | 2G162 |
| 60S3P-7X400 | 2G168 |
| 60S8-7X400 | 2G174 |
| 61P9X622BLK | 3A812 |
| 6ER1-2CW | 4X925 |
| 6ES1-2CW | 4X924 |
| 6HA2-2T | 4X933 |
| 6HB2-2T | 4X934 |
| 6HR1-2CW | 4X927 |
| 6HR1-7 | 6X620 |
| 6HR3P-7 | 6X624 |
| 6HR3R-7 | 3A858 |
| 6HR8-7 | 3A862 |
| 6HS1-2CW | 4X926 |
| 6HS1-7 | 6X619 |
| 6HS3P-7 | 6X623 |
| 6HS3R-7 | 3A857 |
| 6HS8-7 | 3A861 |
| 80R1-7 | 2G166 |
| 80R3P-7 | 2G172 |
| 80R8-7 | 2G179 |
| 80S1-7X400 | 2G163 |
| 80S3P-7X400 | 2G169 |
| 80S8-7X400 | 2G175 |
| 8HA2-2TX92 | 4X935 |
| 8HB2-2TX92 | 4X936 |
| 8HR1-7 | 6X622 |
| 8HR3P-7 | 6X626 |
| 8HR3R-7 | 3A860 |
| 8HR8-7 | 3A864 |
| 8HS1-7 | 6X621 |
| 8HS3P-7 | 6X625 |
| 8HS3R-7 | 3A859 |
| 8HS8-7 | 3A863 |
| B61P9X622BLK | 3A813 |
| EZ7/8"KIT | 4W822 |
| EZ1-[1/8]"KIT | 4W823 |
| EZ1-[1/2]"KIT | 4W824 |
| P80R3P-7 | 2G193 |
| P80S3P-7 | 2G192 |
| S3998-2 | 2G182 |
| WBS3998-2 | 2G183 |
| WP8114P | 4W852 |
| WP8115P | 4W853 |
| WP8125P | 4W854 |
| WP8126P | 4W855 |
| WP8128P | 4W856 |
| WS8205 | 4W806 |
| WS8206 | 4W807 |
| WS8248 | 4W808 |

| Master Mfg. Model | Stock No. |
|---|---|
| DB001 | 4JG37 |
| DB002 | 4JG38 |
| DM001 | 4JG39 |
| DM002 | 4JG40 |
| DM004 | 4JG41 |

CONTINUED ON NEXT PAGE

# CASTER INTERCHANGE GUIDE

| Revvo Model | Stock No. |
|---|---|
| DM007 | 4JG42 |
| 2FT200PTTC | 4W766 |
| 2FT250PTTC | 4W769 |
| 2FT300PTTB | 4W772 |
| 2SL050PT0L | 4W778 |
| 2SL050ST0L | 4W779 |
| 2ST200PTTC | 4W764 |
| 2ST200PTTCDW | 4W765 |
| 2ST250PTTC | 4W767 |
| 2ST250PTTCDW | 4W768 |
| 2ST300PTTB | 4W770 |
| 2ST300PTTBDW | 4W771 |
| 2SZ400PT3Z | 4W777 |
| 2SZ400PT3ZD | 4W776 |
| HSL065NY1L | 4W783 |
| HSL065NY1LT25 | 1F147 |
| LSL065NY1L | 4W782 |
| LSL065NY1LT25 | 1F146 |
| SFH150PT2HT24KG2 | 4W787 |
| SFH150PT2HT24KG3 | 4W788 |
| SFH150PT2HT24KG4 | 4W789 |
| SFH200PT2HT24KG2 | 4W794 |
| SFH200PT2HT24KG3 | 4W795 |
| SFH200PT2HT24KG5 | 4W796 |
| SFH200PT2HT24KG6 | 4W797 |
| SSH150PT2HT24KG2 | 4W784 |
| SSH150PT2HT24KG3 | 4W785 |
| SSH150PT2HT24KG4 | 4W786 |
| SSH200PT2HT24KG2 | 4W790 |
| SSH200PT2HT24KG3 | 4W791 |
| SSH200PT2HT24KG5 | 4W792 |
| SSH200PT2HT24KG6 | 4W793 |
| TFH100CI1HT24 | 4W668 |
| TFH100PT1HT24 | 4W667 |
| TFH100RU1HT24 | 4W666 |
| TFH125CI1HT24 | 4W674 |
| TFH125PT1HT24 | 4W673 |
| TFH125RU1HT24 | 4W672 |
| TFH150CI15T24 | 4W681 |
| TFH150PT15T24 | 4W680 |
| TFH150RU15T24 | 4W679 |
| TFH200CI15T24 | 4W688 |
| TFH200PT15T24 | 4W687 |
| TFH200RU15T24 | 4W686 |
| TFH250CI1HT24 | 4W695 |
| TFH250PT1HT24 | 4W694 |
| TFH250RU1HT24 | 4W693 |
| TFH300PT1HT24 | 4W700 |
| TFH300RU1HT24 | 4W699 |
| TFP150CI2HT22 | 4W707 |
| TFP150PT2HT22 | 4W706 |
| TFP150RU2HT22 | 4W705 |
| TFP200CI2HT22 | 4W715 |
| TFP200PT2HT22 | 4W714 |
| TFP200RU2HT22 | 4W713 |
| TFP250CI2HT22 | 4W724 |
| TFP250PT2HT22 | 4W723 |
| TFP250RU2HT22 | 4W722 |
| TFP300PT2HT22 | 4W730 |
| TFP300RU2HT22 | 4W729 |
| TFT150STTT | 4W747 |
| TFT200PTTT | 4W751 |
| TFT250PTTT | 4W755 |
| TFT300PTTT | 4W758 |
| TFX200PTTT | 4W735 |
| TFX250PTTT | 4W740 |
| TFX300PTTT | 4W745 |
| TFY400PT3Z | 4W775 |
| TSH100CI1HT24 | 4W665 |
| TSH100PT1HT24 | 4W664 |
| TSH100RU1HT24 | 4W663 |
| TSH125CI1HT24 | 4W671 |
| TSH125PT1HT24 | 4W670 |
| TSH125RU1HT24 | 4W669 |
| TSH150CI15T24 | 4W677 |

| Revvo Model | Stock No. |
|---|---|
| TSH150PT15T24 | 4W676 |
| TSH150PT15T24DX | 4W678 |
| TSH150RU15T24 | 4W675 |
| TSH200CI15T24 | 4W684 |
| TSH200PT15T24 | 4W683 |
| TSH200PT15T24DX | 4W685 |
| TSH200RU15T24 | 4W682 |
| TSH250CI1HT24 | 4W691 |
| TSH250PT1HT24 | 4W690 |
| TSH250PT1HT24DX | 4W692 |
| TSH250RU1HT24 | 4W689 |
| TSH300PT1HT24 | 4W697 |
| TSH300PT1HT24DX | 4W698 |
| TSH300RU1HT24 | 4W696 |
| TSP150CI2HT22 | 4W703 |
| TSP150PT2HT22 | 4W702 |
| TSP150PT2HT22BD | 4W704 |
| TSP150RU2HT22 | 4W701 |
| TSP200CI2HT22 | 4W710 |
| TSP200PT2HT22 | 4W709 |
| TSP200RU2HT22 | 4W708 |
| TSP250CI2HT22 | 4W719 |
| TSP250PT2HT22 | 4W718 |
| TSP250RU2HT22 | 4W717 |
| TSP300PT2HT22 | 4W727 |
| TSP300PT2HT22BD | 4W728 |
| TSP300RU2HT22 | 4W726 |
| TST150STTT | 4W746 |
| TST200PTTT | 4W748 |
| TST200PTTTDW | 4W750 |
| TST250PTTT | 4W753 |
| TST250PTTTDW | 4W754 |
| TST300PTTT | 4W756 |
| TST300PTTTDW | 4W757 |
| TSX200PTTT | 4W732 |
| TSX200PTTTBD | 4W733 |
| TSX250PTTT | 4W737 |
| TSX250PTTTBD | 4W738 |
| TSX300PTTT | 4W742 |
| TSX300PTTTBD | 4W743 |
| TSY400PT3Z | 4W774 |
| TSY400PT3ZD | 4W773 |
| WFP200PT2PT22 | 4W716 |
| WFP250PT2PT22 | 4W725 |
| WSP200PT2PT22 | 4W711 |
| WSP200PT2PT22BD | 4W712 |
| WSP250PT2PT22 | 4W720 |
| WSP250PT2PT22BD | 4W721 |
| XFT200ST3T | 4W752 |
| XFT400PTTT | 4W763 |
| XFT400RUTT | 4W762 |
| XFX2000DR2X | 4W734 |
| XFX250DR2X | 4W739 |
| XFX300DR2X | 4W744 |
| XSH085NY2MT24 | 4W781 |
| XSH085PT2MT24 | 4W780 |
| XST200ST3T | 4W749 |
| XST400PTTT | 4W760 |
| XST400PTTTDW | 4W761 |
| XST400RUTT | 4W759 |
| XSX200DR2X | 4W731 |
| XSX250DR2X | 4W736 |
| XSX300DR2X | 4W741 |

| Shepherd Model | Stock No. |
|---|---|
| 9040 | 6J642 |
| 9041 | 6J652 |
| 9042 | 6J643 |
| 9052 | 6J648 |
| 9053 | 6J649 |
| 9054 | 6J650 |
| 9055 | 6J651 |
| 9441 | 6J641 |

| Shepherd Model | Stock No. |
|---|---|
| 9556 | 6J644 |
| 9557 | 6J645 |
| 9558 | 6J646 |
| 9559 | 6J647 |
| 9660 | 6J631 |
| 9661 | 6J632 |
| 9662 | 6J633 |
| 9663 | 6J634 |
| 9664 | 6J635 |
| 9665 | 6J636 |
| 9666 | 6J637 |
| 9667 | 6J638 |
| 9668 | 6J639 |
| 9669 | 6J640 |

| Wagner Model 1F- | Stock No. |
|---|---|
| 1105910000299 | 4X952 |
| 1404410000210 | 5X754 |
| 1405404000210 | 4X834 |
| 1405910000210 | 4X951 |
| 2304004000197 | 3A749 |
| 2304004001197 | 5X734 |
| 2304009001197 | 1G330 |
| 2304027000197 | 4X785 |
| 2304327000199 | 4X944 |
| 2305004000197 | 3A751 |
| 2305004001197 | 5X735 |
| 2305009001197 | 1G331 |
| 2305027000197 | 4X786 |
| 2305327000199 | 4X837 |
| 2306004000197 | 3A753 |
| 2306004001197 | 5X736 |
| 2306009001197 | 1G332 |
| 2306027000197 | 4X942 |
| 2306327000199 | 4X838 |
| 2706004071173 | 3W911 |
| 2804004000197 | 3A748 |
| 2804004001197 | 5X731 |
| 2804009001197 | 1G327 |
| 2804027000197 | 4X783 |
| 2804327000199 | 4X943 |
| 2805004000197 | 3A750 |
| 2805004001197 | 5X732 |
| 2805009001197 | 1G328 |
| 2805027000197 | 4X784 |
| 2805327000199 | 4X835 |
| 2806004000197 | 3A752 |
| 2806004001197 | 5X733 |
| 2806009001197 | 1G329 |
| 2806027000197 | 4X941 |
| 2806327000199 | 4X836 |
| 2906004071173 | 3W910 |
| 40520040001AU | 3A002 |
| 40520090001AU | 3A010 |
| 40520110001AU | 5X924 |
| 40521270001AU | 2G019 |
| 4452004000180 | 1G324 |
| 4452127000180 | 1G326 |
| 4453004000180 | 1G325 |
| 4453004001101 | 2G294 |
| 4453004001173 | 2G293 |
| 4453127000180 | 2G304 |
| 4852004000B92 | 3A777 |
| 4952004000201 | 5X759 |
| 4952004000202 | 5X760 |
| 4952004000217 | 4A003 |
| 4952004000701 | 3A779 |
| 4952004000702 | 3A780 |
| 4952004000773 | 2G009 |
| 4952004000B73 | 3A776 |
| 4952004080773 | 3A778 |
| 5302704000197 | 1G296 |
| 5302704000497 | 2G309 |
| 5302709000197 | 1G302 |

| Wagner Model 1F- | Stock No. |
|---|---|
| 5302709000497 | 2G314 |
| 5303027000197 | 1G308 |
| 5303438000197 | 1G288 |
| 5303704000197 | 1G300 |
| 5303709000197 | 1G306 |
| 5307709000197 | 1G304 |
| 5803406000199 | 4X945 |
| 5803709000199 | 3A756 |
| 5802704000197 | 1G295 |
| 5802709000199 | 3A754 |
| 5802709000197 | 1G301 |
| 5802709000497 | 2G312 |
| 5802709T08197 | 2G311 |
| 5802709T08497 | 2G313 |
| 5803027000197 | 1G307 |
| 5803704000197 | 1G299 |
| 5803709000197 | 1G305 |
| 5807709000197 | 1G303 |
| 5902704000101 | 2G305 |
| 5902704T08110 | 1G291 |
| 5902709T08118 | 3A755 |
| 5902709000101 | 2G310 |
| 5902709T08110 | 1G293 |
| 5903027000106 | 1G289 |
| 5903027000173 | 1G290 |
| 5903406T08118 | 3A757 |
| 5903704000110 | 1G292 |
| 5903709000110 | 1G294 |
| 5903709T08118 | 4X946 |
| 6303004000100 | 4X622 |
| 6303009000100 | 1G032 |
| 6303027000100 | 3A720 |
| 6303P25000100 | 1G044 |
| 6303P26000100 | 1G038 |
| 6304004000100 | 4X623 |
| 6304009000100 | 1G033 |
| 6304027000100 | 3A721 |
| 6304P20000100 | 5X764 |
| 6304P25000100 | 1G045 |
| 6304P26000100 | 1G039 |
| 6305004000100 | 4X625 |
| 6305009000100 | 1G034 |
| 6305027000100 | 3A722 |
| 6305810000100 | 5X765 |
| 6305P25000100 | 1G046 |
| 6305P26000100 | 1G040 |
| 6353027081100 | 1G027 |
| 6354027081100 | 1G028 |
| 6704004000174 | 5X751 |
| 6705004000174 | 5X752 |
| 8304411000D90 | 2G148 |
| 8304438000D90 | 2G131 |
| 8304F25000D90 | 2G144 |
| 8304F26000D90 | 2G136 |
| 8305327000691 | 5X740 |
| 8305327000190 | 1G283 |
| 8305411000191 | 3A771 |
| 8305411000D90 | 5X918 |
| 8305438070190 | 3W908 |
| 8305438000191 | 3A759 |
| 8305438000D90 | 3A843 |
| 8305438001D90 | 4W956 |
| 8305514000691 | 5X746 |
| 8305514000D90 | 3A837 |
| 8305525000191 | 3A765 |
| 8305625000D90 | 5X916 |
| 8305625000D91 | 2G126 |
| 8305625001D90 | 4W962 |
| 8305C25000190 | 1G275 |
| 8305C26000190 | 1G267 |
| 8305F25000D90 | 2G145 |
| 8305F26000D90 | 2G137 |

CONTINUED ON NEXT PAGE



More ways to move and store products safely and securely.

# CASTER INTERCHANGE GUIDE

| Wagner Model 1F- | Stock No. |
|---|---|
| 8306327000691 | 5X741 |
| 8306327000190 | 1G284 |
| 8306411000191 | 3A773 |
| 8306411000D90 | 5X922 |
| 8306438000191 | 3A761 |
| 8306438000D90 | 3A845 |
| 8306438001D90 | 4W957 |
| 8306438000190 | 1G425 |
| 8306514000691 | 5X747 |
| 8306514000D90 | 3A839 |
| 8306525000191 | 3A767 |
| 8306625000D90 | 5X919 |
| 8306625000D91 | 2G127 |
| 8306625001D90 | 4W963 |
| 8306C25000190 | 1G276 |
| 8306C26000190 | 1G268 |
| 8306F25000D90 | 2G146 |
| 8306F26000D90 | 2G138 |
| 8308327000691 | 5X742 |
| 8308327000190 | 1G285 |
| 8308411000191 | 3A775 |
| 8308411000D90 | 6X618 |
| 8308438000191 | 3A763 |
| 8308438000D90 | 3A847 |
| 8308438001D90 | 4W958 |
| 8308438000190 | 1G426 |
| 8308514000691 | 5X748 |
| 8308514000D90 | 3A841 |
| 8308525000191 | 3A769 |
| 8308625000D90 | 2W461 |
| 8308625000D91 | 2G128 |
| 8308625001D90 | 4W964 |
| 8308C25000190 | 1G277 |
| 8308C26000190 | 1G269 |
| 8308F25000D90 | 2G147 |
| 8344D38200E90 | 2G101 |
| 8344G25200E90 | 2G111 |
| 8345625000D91 | 4W849 |
| 8345D38200E90 | 4W843 |
| 8345G25000D90 | 4W831 |
| 8345G25200E90 | 4W837 |
| 8346625000D91 | 4W850 |
| 8346D38200E90 | 4W844 |
| 8346G25000D90 | 4W832 |
| 8346G25200E90 | 4W838 |
| 8348625000D91 | 4W851 |
| 8348D38200E90 | 4W845 |
| 8348G25000D90 | 4W833 |
| 8348G25200E90 | 4W839 |
| 8805327000691 | 5X737 |
| 8805327000190 | 1G278 |
| 8805327002190 | 1G279 |
| 8805411000191 | 3A770 |
| 8805438070190 | 3W907 |
| 8805438000191 | 3A758 |
| 8805438082190 | 3W906 |
| 8805514000691 | 5X743 |
| 8805525000191 | 3A764 |
| 8805C25000190 | 1G270 |
| 8805C2508P190 | 1G271 |
| 8805C26000190 | 1G262 |
| 8805C26002190 | 1G263 |
| 8806327000691 | 5X738 |
| 8806327000190 | 1G280 |
| 8806327002190 | 1G281 |
| 8806411000191 | 3A772 |
| 8806438000191 | 3A760 |
| 8806438000190 | 1G423 |
| 8806439008P190 | 1G427 |
| 8806514000691 | 5X744 |
| 8806525000191 | 3A766 |
| 8806C25000190 | 1G272 |
| 8806C2508P190 | 1G273 |
| 8806C26000190 | 1G264 |
| 8806C26002190 | 1G265 |
| 8808327000691 | 5X739 |
| 8808327000190 | 1G282 |
| 8808411000191 | 3A774 |
| 8808438000191 | 3A762 |
| 8808438000190 | 1G424 |
| 8808514000691 | 5X745 |
| 8808525000191 | 3A768 |
| 8808C25000190 | 1G274 |
| 8808C26000190 | 1G266 |
| 8834D38200E90 | 2G096 |
| 8834G25200E90 | 2G106 |
| 8835625000D91 | 4W846 |
| 8835D38200E90 | 4W840 |
| 8835G25000D90 | 4W825 |
| 8835G25007D90 | 4W826 |
| 8835G25200E90 | 4W834 |
| 8836625000D91 | 4W847 |
| 8836D38200E90 | 4W841 |
| 8836G25000D90 | 4W827 |
| 8836G25007D90 | 4W828 |
| 8836G25200E90 | 4W835 |
| 8838625000D91 | 4W848 |
| 8838D38200E90 | 4W842 |
| 8838G25000D90 | 4W829 |
| 8838G25007D90 | 4W830 |
| 8838G25200E90 | 4W836 |
| 88E4411000D90 | 2G149 |
| 88E4438000D90 | 2G130 |
| 88E4F25000D90 | 2G140 |
| 88E4F26000D90 | 2G132 |
| 88E5411000D90 | 5X917 |
| 88E5438000D90 | 3A842 |
| 88E5438001D90 | 4W953 |
| 88E5438007D90 | 3A854 |
| 88E5514000D90 | 3A836 |
| 88E5514007D90 | 3A848 |
| 88E5625000D90 | 5X915 |
| 88E5625000D91 | 2G123 |
| 88E5625001D90 | 4W959 |
| 88E5625007D90 | 3A851 |
| 88E5625007D91 | 2G120 |
| 88E562500DD90 | 4W798 |
| 88E562500DD91 | 2G117 |
| 88E5F25000D90 | 2G141 |
| 88E5F26000D90 | 2G133 |
| 88E6411000D90 | 5X921 |
| 88E6438000D90 | 3A844 |
| 88E6438001D90 | 4W954 |
| 88E6438007D90 | 3A855 |
| 88E6514000D90 | 3A838 |
| 88E6514007D90 | 3A849 |
| 88E6625000D90 | 5X920 |
| 88E6625000D91 | 2G124 |
| 88E6625001D90 | 4W960 |
| 88E6625007D90 | 3A852 |
| 88E6625007D91 | 2G121 |
| 88E662500DD90 | 4W799 |
| 88E662500DD91 | 2G118 |
| 88E6F25000D90 | 2G142 |
| 88E6F26000D90 | 2G134 |
| 88E8411000D90 | 6X617 |
| 88E8438000D90 | 3A846 |
| 88E8438001D90 | 4W955 |
| 88E8438007D90 | 3A856 |
| 88E8514000D90 | 3A840 |
| 88E8514007D90 | 3A850 |
| 88E8625000D90 | 2W460 |
| 88E8625000D91 | 2G125 |
| 88E8625001D90 | 4W961 |
| 88E8625007D90 | 3A853 |
| 88E8625007D91 | 2G122 |
| 88E862500DD90 | 4W800 |
| 88E862500DD91 | 2G119 |
| 88E8F25000D90 | 2G143 |
| 88EA438080D90 | 2G129 |
| 9303004000100 | 3A745 |
| 9303004001AT | 3A004 |
| 9303009001AT | 3A012 |
| 9303009001IAM | 2G303 |
| 9303011001AT | 5X926 |
| 9303027000100 | 4X696 |
| 9303027001AT | 2G021 |
| 9303038001AT | 2G025 |
| 9303B25000100 | 1G199 |
| 9303B26000100 | 1G193 |
| 9304004000100 | 3A746 |
| 9304027000100 | 4X624 |
| 9304B25000100 | 1G200 |
| 9304B26000100 | 1G194 |
| 9305004000100 | 3A747 |
| 9305027000100 | 4X697 |
| 9305B25000100 | 1G201 |
| 9305B26000100 | 1G195 |
| 93070040001AT | 2G011 |
| 93070090001AT | 2G013 |
| 93070090011AM | 2G302 |
| 93070110001AT | 2G015 |
| 93071270001AT | 2G020 |
| 93430090001AT | 4W816 |
| 93430270001AT | 2G094 |
| 93430380001AT | 2G092 |
| A305411000D91 | 3A872 |
| A305438000D91 | 3A870 |
| A305514000D91 | 3A866 |
| A305625000D91 | 3A868 |
| A306411000D91 | 3A880 |
| A306438000D91 | 3A878 |
| A306514000D91 | 3A874 |
| A306625000D91 | 3A876 |
| A308411000D91 | 3A888 |
| A308438000D91 | 3A886 |
| A308514000D91 | 3A882 |
| A308625000D91 | 3A884 |
| A805411000D91 | 3A871 |
| A805438000D91 | 3A869 |
| A805438007D91 | 2G153 |
| A805514000D91 | 3A865 |
| A805514007D91 | 2G150 |
| A805625000D91 | 3A867 |
| A805625007D91 | 4W801 |
| A806411000D91 | 3A879 |
| A806438000D91 | 3A877 |
| A806438007D91 | 2G154 |
| A806514000D91 | 3A873 |
| A806514007D91 | 2G151 |
| A806625000D91 | 3A875 |
| A806625007D91 | 4W802 |
| A808411000D91 | 3A887 |
| A808438000D91 | 3A885 |
| A808438007D91 | 2G155 |
| A808514000D91 | 3A881 |
| A808514007D91 | 2G152 |
| A808625000D91 | 3A883 |
| A808625007D91 | 4W803 |
| P0090040011AP | 1G319 |
| P0090090011AP | 1G321 |
| PR0400900011AQ | 3G001 |
| PR040110001AQ | 5X929 |
| PR044040001AQ | 3A008 |
| PR044090001AQ | 3A016 |
| PR044110001AQ | 5X930 |
| PR044380001AQ | 2G027 |
| PR04D040001AQ | 3A006 |
| PR04D090001AQ | 3A014 |

| Wagner Model 2F- | Stock No. |
|---|---|
| 6803004000100 | 4X618 |
| 6803009000100 | 1G029 |
| 6803027000100 | 3A717 |
| 6803P25000100 | 1G041 |
| 6803P26000100 | 1G035 |
| 6804004000100 | 4X619 |
| 6804009000100 | 1G030 |
| 6804027000100 | 3A718 |
| 6804810000100 | 5X762 |
| 6804P25000100 | 1G042 |
| 6804P26000100 | 1G036 |
| 6805004000100 | 4X621 |
| 6805009000100 | 1G031 |
| 6805027000100 | 3A719 |
| 6805810000100 | 5X763 |
| 6805P25000100 | 1G043 |
| 6805P26000100 | 1G037 |
| 6853027081100 | 1G025 |
| 6854027081100 | 1G026 |
| 6903004000101 | 4X938 |
| 6903004000105 | 4X691 |
| 6903004000110 | 3A712 |
| 6903004000103 | 1G053 |
| 6903004000107 | 1G047 |
| 6903004000174 | 1G315 |
| 6903027000101 | 3A724 |
| 6903027000105 | 3A728 |
| 6903027000110 | 3A732 |
| 6903027000103 | 1G056 |
| 6903027000107 | 1G050 |
| 6903P25000101 | 1G062 |
| 6903P25000103 | 1G086 |
| 6903P25000107 | 1G080 |
| 6903P25000110 | 1G074 |
| 6903P26000103 | 1G083 |
| 6903P26000107 | 1G077 |
| 6904004000101 | 4X939 |
| 6904004000105 | 4X692 |
| 6904004000110 | 3A713 |
| 6904004000174 | 5X749 |
| 6904004000103 | 1G054 |
| 6904004000107 | 1G048 |
| 6904004000137 | 2G266 |
| 6904009000174 | 1G317 |
| 6904027000101 | 3A725 |
| 6904027000105 | 3A729 |
| 6904027000110 | 3A733 |
| 6904027000103 | 1G057 |
| 6904027000107 | 1G051 |
| 6904027000137 | 2G268 |
| 6904P25000101 | 1G063 |
| 6904P25000103 | 1G087 |
| 6904P25000107 | 1G081 |
| 6904P25000110 | 1G075 |
| 6904P26000103 | 1G084 |
| 6905004000101 | 4X940 |
| 6905004000105 | 4X693 |
| 6905004000110 | 3A714 |
| 6905004000174 | 5X750 |
| 6905004000103 | 1G055 |
| 6905004000107 | 1G049 |
| 6905004000137 | 2G267 |
| 6905009000174 | 1G318 |
| 6905027000101 | 3A726 |
| 6905027000105 | 3A730 |
| 6905027000110 | 3A734 |
| 6905027000103 | 1G058 |
| 6905027000107 | 1G052 |
| 6905027000137 | 2G269 |
| 6905P25000103 | 1G088 |
| 6905P25000107 | 1G082 |
| 6905P25000110 | 1G076 |
| 6953027081104 | 1G023 |
| 6954027081104 | 1G024 |
| 9803004000100 | 5X728 |

CONTINUED ON NEXT PAGE

# CASTER INTERCHANGE GUIDE

| Wagner Model 2F- | Stock No. |
|---|---|
| 9803004000197 | 3A003 |
| 9803009000197 | 3A011 |
| 98030090011AM | 2G301 |
| 9803011000197 | 5X925 |
| 9803027000100 | 4X694 |
| 9803027000197 | 2G018 |
| 9803038000197 | 2G022 |
| 9803B25000100 | 1G196 |
| 9803B26000100 | 1G190 |
| 9804004000100 | 5X729 |
| 9804027000100 | 4X620 |
| 9804B25000100 | 1G197 |
| 9804B26000100 | 1G191 |
| 9805004000100 | 5X730 |
| 9805027000100 | 4X695 |
| 9805B25000100 | 1G198 |
| 9805B26000100 | 1G192 |
| 98070040001AM | 2G010 |
| 98070090001AM | 2G012 |
| 98070090011AM | 2G300 |
| 98070110001AM | 2G014 |
| 98071270001AM | 2G017 |
| 9843009000197 | 4W815 |
| 9843027000197 | 2G093 |
| 9843038000197 | 2G091 |
| 9903004000010 | 1G202 |
| 9903004000104 | 1G214 |
| 9903004000105 | 3A735 |
| 9903004000106 | 1G238 |
| 9903004000110 | 3A738 |
| 9903004000161 | 1G226 |
| 9903027000105 | 4X830 |
| 9903027000110 | 3A742 |
| 9903027000101 | 1G205 |
| 9903027000104 | 1G217 |
| 903027000106 | 1G241 |
| 9903027000161 | 1G229 |
| 9903B25000101 | 1G211 |
| 9903B25000104 | 1G223 |
| 9903B25000105 | 1G253 |
| 9903B25000106 | 1G247 |
| 9903B25000110 | 1G259 |
| 9903B25000161 | 1G235 |
| 9903B26000101 | 1G208 |
| 9903B26000104 | 1G220 |
| 9903B26000105 | 1G250 |
| 9903B26000106 | 1G244 |
| 9903B26000110 | 1G256 |
| 9903B26000161 | 1G232 |
| 9904004000105 | 3A736 |
| 9904004000110 | 3A739 |
| 9904004000101 | 1G203 |
| 9904004000104 | 1G215 |
| 9904004000161 | 1G227 |
| 9904027000105 | 4X831 |
| 9904027000110 | 3A743 |
| 9904027000101 | 1G206 |
| 9904027000104 | 1G218 |
| 9904027000106 | 1G242 |
| 9904027000161 | 1G230 |
| 9904B25000101 | 1G212 |
| 9904B25000104 | 1G224 |
| 9904B25000105 | 1G254 |
| 9904B25000106 | 1G248 |
| 9904B25000110 | 1G260 |
| 9904B25000161 | 1G236 |
| 9904B26000104 | 1G221 |
| 9904B26000105 | 1G251 |
| 9904B26000110 | 1G257 |
| 9905004000105 | 3A737 |
| 9905004000110 | 3A740 |
| 9905004000101 | 1G204 |
| 9905004000104 | 1G216 |
| 9905004000161 | 1G228 |
| 9905027000105 | 3A741 |

| Wagner Model 2F- | Stock No. |
|---|---|
| 9905027000110 | 3A744 |
| 9905027000101 | 1G207 |
| 9905027000104 | 1G219 |
| 9905027000106 | 1G243 |
| 9905027000161 | 1G231 |
| 9905B25000101 | 1G213 |
| 9905B25000104 | 1G225 |
| 9905B25000105 | 1G255 |
| 9905B25000106 | 1G249 |
| 9905B25000110 | 1G261 |
| 9905B25000161 | 1G237 |
| 9905B26000104 | 1G222 |
| 9905B26000105 | 1G252 |
| 9905B26000110 | 1G258 |

| Wagner Model 3F- | Stock No. |
|---|---|
| 0343411080199 | 2G291 |
| 0343438080199 | 2G288 |
| 0344A250001AM | 1G099 |
| 0344A260001AM | 1G093 |
| 0344B250001AM | 4W927 |
| 0344B260001AM | 4W921 |
| 0344B270001AM | 4W915 |
| 0344D040001AM | 4W909 |
| 0345A250001AM | 1G100 |
| 0345A260001AM | 1G094 |
| 0345B250001AM | 4W928 |
| 0345B260001AM | 4W922 |
| 0345B270001AM | 4W916 |
| 0345D040001AM | 4W910 |
| 0349A250001AM | 1G098 |
| 0349A260001AM | 1G092 |
| 0349B250001AM | 4W926 |
| 0349B260001AM | 4W920 |
| 0349B270001AM | 4W914 |
| 0349D040001AM | 4W908 |
| 08040110801AS | 5X927 |
| 08044040801AS | 3A007 |
| 08044090801AS | 3A015 |
| 0804410801AS | 5X928 |
| 08044380801AS | 2G024 |
| 0804D040801AS | 3A005 |
| 0804D090801AS | 3A013 |
| 08090040711AP | 3W909 |
| 08090090011AO | 1G323 |
| 08B3411080199 | 2G289 |
| 08B3438080199 | 2G287 |
| 08B4A250001AM | 1G096 |
| 08B4A260001AM | 1G090 |
| 08B4B250001AM | 4W924 |
| 08B4B260001AM | 4W918 |
| 08B4B270001AM | 4W912 |
| 08B4D040001AM | 4W906 |
| 08B5A250001AM | 1G097 |
| 08B5A260001AM | 1G091 |
| 08B5B250001AM | 4W925 |
| 08B5B260001AM | 4W919 |
| 08B5B270001AM | 4W913 |
| 08B5D040001AM | 4W907 |
| 08B9A250001AM | 1G095 |
| 08B9A260001AM | 1G089 |
| 08B9B250001AM | 4W923 |
| 08B9B260001AM | 4W917 |
| 08B9B270001AM | 4W911 |
| 08B9D040001AM | 4W905 |
| 0944B250001125 | 4W818 |
| 0944B250051125 | 4W819 |
| 0944D040001125 | 2G064 |
| 0945B250001125 | 4W820 |
| 0945B250051125 | 4W821 |
| 0945D040001125 | 2G065 |
| 0949B250001125 | 2G072 |
| 0949D040001125 | 4W817 |

| Wagner Model 3F- | Stock No. |
|---|---|
| 09B4A26000173 | 1G102 |
| 09B4B25000101 | 1G167 |
| 09B4B25000103 | 1G155 |
| 09B4B25000106 | 1G119 |
| 09B4B25000110 | 1G131 |
| 09B4B26000110 | 1G128 |
| 09B4B27000101 | 1G161 |
| 09B4B27000103 | 1G149 |
| 09B4B27000106 | 1G113 |
| 09B4B27000110 | 1G125 |
| 09B4D04000101 | 1G158 |
| 09B4D04000103 | 1G146 |
| 09B4D04000110 | 1G122 |
| 09B4D04000174 | 2G276 |
| 09B4D040001ZX | 2G270 |
| 09B5A25000173 | 1G106 |
| 09B5A250001ZX | 1G108 |
| 09B5A26000173 | 1G103 |
| 09B5B25000101 | 1G168 |
| 09B5B25000103 | 1G156 |
| 09B5B25000106 | 1G120 |
| 09B5B25000110 | 1G132 |
| 09B5B25000137 | 2G286 |
| 09B5B26000110 | 1G129 |
| 09B5B27000101 | 1G162 |
| 09B5B27000103 | 1G150 |
| 09B5B27000106 | 1G114 |
| 09B5B27000110 | 1G126 |
| 09B5D04000101 | 1G159 |
| 09B5D04000103 | 1G147 |
| 09B5D04000106 | 1G111 |
| 09B5D04000110 | 1G123 |
| 09B5D04000137 | 2G274 |
| 09B5D04000174 | 2G277 |
| 09B5D040001ZX | 2G271 |
| 09B9A25000173 | 1G104 |
| 09B9B25000101 | 1G166 |
| 09B9B25000103 | 1G154 |
| 09B9B25000106 | 1G118 |
| 09B9B25000110 | 1G130 |
| 09B9B26000110 | 1G127 |
| 09B9B27000101 | 1G160 |
| 09B9B27000103 | 1G148 |
| 09B9B27000106 | 1G112 |
| 09B9B27000110 | 1G124 |
| 09B9D04000101 | 1G157 |
| 09B9D04000103 | 1G145 |
| 09B9D04000110 | 1G121 |
| 09B9D04000174 | 2G275 |
| 09C4B25000174 | 1G310 |
| 09C5A25000174 | 1G314 |
| 09C5B25000174 | 1G311 |
| 09C9B25000174 | 1G309 |
| 2344404000199 | 4W860 |
| 2344411000199 | 2G292 |
| 2344438000199 | 1G440 |
| 2344B25000797 | 4W902 |
| 2344B26000797 | 4W896 |
| 2344B27000797 | 4W890 |
| 2344C25000199 | 4W878 |
| 2344C26000199 | 4W872 |
| 2344C27000199 | 4W866 |
| 2344D04000797 | 4W884 |
| 2345404000199 | 4W861 |
| 2345438000199 | 1G441 |
| 2345B25000797 | 4W903 |
| 2345B26000797 | 4W897 |
| 2345B27000797 | 4W891 |
| 2345C25000199 | 4W879 |
| 2345C26000199 | 4W873 |
| 2345C27000199 | 4W867 |
| 2345D04000797 | 4W885 |
| 2346404000199 | 4W862 |
| 2346438000199 | 1G442 |

| Wagner Model 3F- | Stock No. |
|---|---|
| 2346B25000797 | 4W904 |
| 2346B26000797 | 4W898 |
| 2346B27000797 | 4W892 |
| 2346C25000199 | 4W880 |
| 2346C26000199 | 4W874 |
| 2346C27000199 | 4W868 |
| 2346D04000797 | 4W886 |
| 28A4B25000797 | 4W899 |
| 28A4B26000797 | 4W893 |
| 28A4B27000797 | 4W887 |
| 28A4D04000797 | 4W881 |
| 28A5B25000797 | 4W900 |
| 28A5B26000797 | 4W894 |
| 28A5B27000797 | 4W888 |
| 28A5D04000797 | 4W882 |
| 28A6B25000797 | 4W901 |
| 28A6B26000797 | 4W895 |
| 28A6B27000797 | 4W889 |
| 28A6D04000797 | 4W883 |
| 28B4404000199 | 4W857 |
| 28B4411000199 | 2G290 |
| 28B4438000199 | 1G437 |
| 28B4C25000199 | 4W875 |
| 28B4C26000199 | 4W869 |
| 28B4C27000199 | 4W863 |
| 28B5404000199 | 4W858 |
| 28B5438000199 | 1G438 |
| 28B5C25000199 | 4W876 |
| 28B5C26000199 | 4W870 |
| 28B5C27000199 | 4W864 |
| 28B4404000199 | 4W859 |
| 28B6438000199 | 1G439 |
| 28B6C25000199 | 4W877 |
| 28B6C26000199 | 4W871 |
| 28B6C27000199 | 4W865 |
| 2905040051ZZ | 3A891 |
| 29050040071ZX | 3A889 |
| 29050040071ZY | 4X937 |
| 29050040071ZZ | 3A890 |
| 5803438HD0197 | 1G286 |
| 5803438HT8197 | 1G287 |
| H845A260011AM | 1G184 |
| H845A2600C1AM | 1G185 |
| H945A26001173 | 3W802 |
| H945A2600C173 | 3W803 |
| H945A2600E173 | 1G443 |

| Wagner Model 4F- | Stock No. |
|---|---|
| 8344438001190 | 3KP76 |
| 8344C25001190 | 3KP58 |
| 8344C26001190 | 3KP49 |
| 8344C27001190 | 3KP67 |
| 8345438001190 | 3KP77 |
| 8345C25001190 | 3KP59 |
| 8345C26001190 | 3KP50 |
| 8345C27001190 | 3KP68 |
| 8346438001190 | 3KP78 |
| 8346C25001190 | 3KP60 |
| 8346C26001190 | 3KP51 |
| 8346C27001190 | 3KP69 |
| 8844438001190 | 3KP73 |
| 884443800F190 | 3KP79 |
| 8844C25001190 | 3KP55 |
| 8844C2500F190 | 3KP61 |
| 8844C26001190 | 3KP46 |
| 8844C2600F190 | 3KP52 |
| 8844C27001190 | 3KP64 |
| 8844C2700F190 | 3KP70 |

CONTINUED ON NEXT PAGE



More ways to move and store products safely and securely.

# CASTER INTERCHANGE GUIDE AND APPLICATION GUIDE



| Wagner Model 4F- | Stock No. |
|---|---|
| 8845438001190 | 3KP74 |
| 884543800F190 | 3KP80 |
| 8845C25001190 | 3KP56 |
| 8845C2500F190 | 3KP62 |
| 8845C26001190 | 3KP47 |
| 8845C2600F190 | 3KP53 |
| 8845C27001190 | 3KP65 |
| 8845C2700F190 | 3KP71 |
| 8846438001190 | 3KP75 |
| 884643800F190 | 3KP81 |
| 8846C25001190 | 3KP57 |
| 8846C2500F190 | 3KP63 |
| 8846C26001190 | 3KP48 |
| 8846C2600F190 | 3KP54 |
| 8846C27001190 | 3KP66 |
| 8846C2700F190 | 3KP72 |

| Wagner Model 8F- | Stock No. |
|---|---|
| C003H250011AV | 2G047 |
| C003H260011AV | 2G059 |
| C004H250011AV | 2G049 |
| C004H260011AV | 2G061 |
| C005H250011AV | 2G051 |
| C005H260011AV | 2G063 |
| C803H250011AV | 2G041 |
| C803H2500F1AV | 2G029 |
| C803H260011AV | 2G053 |
| C803H2600F1AV | 2G035 |
| C804H250011AV | 2G043 |
| C804H2500F1AV | 2G031 |
| C804H260011AV | 2G055 |
| C804H2600F1AV | 2G037 |
| C805H250011AV | 2G045 |
| C805H2500F1AV | 2G033 |
| C805H260011AV | 2G057 |
| C805H2600F1AV | 2G039 |

| Wagner Model 9F- | Stock No. |
|---|---|
| 4803004000193 | 5X723 |
| 4803127000193 | 3A716 |
| 4852004000193 | 3A001 |
| 4852004000193 | 5X721 |
| 4852004000292 | 3A814 |
| 4852004000C92 | 3A783 |
| 4852009000193 | 3A009 |
| 4852009000292 | 1G014 |
| 4852011000193 | 5X923 |
| 4852127000193 | 2G016 |
| 4852127000193 | 3A715 |
| 4853004001192 | 2G295 |
| 4857004000292 | 1G020 |
| 4857004000C92 | 2G007 |
| 4857009000292 | 1G022 |
| 4857127000C92 | 3A784 |
| 4952004000101 | 4X948 |
| 4952004000110 | 3A711 |
| 4952004000122 | 4X947 |
| 4952004000201 | 3A817 |
| 4952004000202 | 4X833 |
| 4952004000217 | 4A002 |
| 4952004000204 | 1G001 |
| 4952004000207 | 1G002 |
| 4952004000701 | 3A787 |
| 4952004000702 | 3A789 |
| 4952004000773 | 2G001 |
| 4952004000C73 | 3A781 |
| 4952004080773 | 3A785 |
| 4952009000201 | 1G011 |
| 4952009000202 | 1G012 |
| 4952009000204 | 1G003 |
| 4952009000207 | 1G004 |
| 4952009000217 | 1G013 |
| 4952127000101 | 3A723 |
| 4952127000110 | 3A731 |
| 4952127000122 | 3A727 |
| 4953004000201 | 1G005 |
| 4953004000202 | 1G006 |
| 4953004000204 | 1G007 |
| 4953004000207 | 1G016 |
| 4953009000201 | 1G008 |
| 4953009000202 | 1G009 |
| 4953009000204 | 1G010 |
| 4953009000207 | 1G018 |
| 4957004000201 | 1G019 |
| 4957004000207 | 1G015 |
| 4957004000701 | 2G004 |
| 4957004000702 | 2G005 |
| 4957004000773 | 2G006 |
| 4957004000C73 | 2G002 |
| 4957004080773 | 2G003 |
| 4957009000201 | 1G021 |
| 4957009000207 | 1G017 |
| 4957127000701 | 3A788 |
| 4957127000702 | 3A790 |
| 4957127000773 | 2G008 |
| 4957127000C73 | 3A782 |
| 4957127080773 | 3A786 |
| 7852004000292 | 5X758 |
| 7952004000201 | 3A816 |
| 7952004000202 | 5X757 |
| 7952004000217 | 4A001 |

## CASTER APPLICATION GUIDE

ALBION

Bassick

Revvo

shepherd

E.R. Wagner Manufacturing Co. CASTERS & WHEELS

Some considerations involved in the selection of the proper casters are:

- How much weight will each caster carry?
- What type of floor will the castered equipment be used on?
- Is overall height a consideration?
- Are there special attachment requirements, e.g. a threaded stem?

Using the table below, locate the caster application which most closely matches your needs. Then, refer to the caster section code indicated to locate the suggested casters for that application. See code explanation below.

Casters are arranged by capacity; the Section Code appears on each catalog page.

| Section Code A | Section Code B | Section Code C | Section Code D | Section Code E | Section Code F | Section Code G | Section Code H | Section Code I |
|---|---|---|---|---|---|---|---|---|
| Capacity Range 40-125 lbs. Furniture to Light Duty | Capacity Range 75-145 lbs. Light Duty | Capacity Range 75-450 lbs. Light to Medium Duty | Capacity Range 95-1200 lbs. NSF Certified | Capacity Range 220-1350 lbs. Medium and Heavy Duty | Capacity Range 200-8350 lbs. Heavy Duty | Capacity Range 330-22,000 lbs. Ultra Heavy Duty | Capacity Range Varied Specialty Casters | Wheels |

| APPLICATION | SECTION CODE |
|---|---|
| **MANUFACTURING PLANTS** | |
| Warehouse (Shipping & Receiving) | |
| Platform Trucks | E, F, G |
| Tractor Pulled Trailers | F, G |
| Tote Boxes/Dollies | B, C, D, H |
| Utility & Stock Picking Carts | B, C, D, H |
| Mobile Storage Racks | B, C, D, E |
| Distribution Cages & Carts | C, D, E, |
| Air Cargo Handling | G |
| Manufacturing In-Process Equipment | |
| Platform Trucks | E, F, G |
| Tractor Pulled Trailers | F, G |
| Assembly Line Dollies | C, D, E, F, G |
| Drum Dollies | C, D, H |
| Gantries | C, D, E, F, G |
| Manufacturing Support Equipment | |
| Die & Fixture Carts | C, D, F, G |
| Gantries | C, E, F, G |
| Mobile Tool Chests | B, C, D, E |
| Lubrication Equipment | C |
| Building Maintenance | |
| Work Platforms | C, D, E, H |
| Refuse Containers | C, D, E, H |
| Janitorial Equipment | B, C, D, E |
| Step Stools & Ladders | A, B, C, D, H |
| Aircraft Maintenance | E, F, G |
| **DEPARTMENT/GROCERY/ CHAIN STORES** | |
| Platform Trucks | E, F, G |
| Stock Trucks | C, D, E |
| Garment Racks | A, B, C, D, H |
| Furniture & Appliance Dollies | C, D |
| Office Equipment | |
| Swivel Chairs | A |
| Typewriter Stands | A, B |
| Computer, Copier, CRT Stands | A, B |

CONTINUED ON NEXT PAGE

# CASTER APPLICATION GUIDE

| APPLICATION | SECTION CODE |
|---|---|
| **Maintenance** | |
| Refuse Containers | C, D, E, H |
| Maintenance Trucks | C, D, E, H |
| Floor Cleaning Equipment | A, B, C, D, E |
| Step Stools & Ladders | A, B, C, H |
| Hampers | B, C, D, H |
| **Merchandising Equipment** | |
| Display Racks & Stands | A, B, C, D, H |
| Garment Racks | A, B, C, H |

## HOTELS/MOTELS

| | |
|---|---|
| **Guest Room Furnishings** | |
| Beds | B, C, H |
| TV Stands | A |
| Bedroom Furniture/Chairs | A |
| **Restaurant, Lounge & Room Service Equipment** | |
| Room Service Carts & Tables | A, B, C, D |
| Restaurant Equipment (See Restaurants) | |
| Lounge Chairs | A |
| Portable Bars | A, C, D |
| **Meeting & Banquet Room Facilities** | |
| Chair & Table Trucks | B, C, D, E |
| Piano Dollies | C, D |
| Banquet Tables | A, B, C |
| Audio/Visual Equipment | A, B, C |
| **Material Handling** | |
| Luggage Carts & Racks | B, C, D, E, H |
| Platform Trucks | E, F |
| **Housekeeping** | |
| Housekeeping Carts | A, B, C, E, H |
| Laundry Hampers | B, C, D, H |
| Shelf Trucks | C, D, E, H |
| **Maintenance** | |
| Floor Cleaning Equipment | A, B, C, D, E |
| Ladders | B, C, H |
| Trash & Refuse Containers | C, D, E, H |

## RESTAURANTS/CAFETERIAS/CATERERS

| | |
|---|---|
| **Dining Area** | |
| Dining Area Chairs & Tables | A, B |
| Serving Tables & Carts | A, B, C, D |
| Salad Bars | A, B, C, D |
| Steam Tables | A, B, C, D |
| Bussing Carts | A, B, C, D |
| **Kitchen** | |
| Dish Carts | A, B, C, D |
| Movable Kitchen Equipment | A, B, C, D |
| Service Carts | A, B, C, D |
| Barrel Dollies | C, D |
| **Storage** | |
| Storage Racks & Carts | A, B, C, D, E |
| Milk Case Dollies | B, C, D |
| **Maintenance** | |
| Maintenance & Tool Carts | B, C, D, E |
| Floor Cleaning Equipment | A, B, C, D, E |
| Trash & Refuse Containers | C, D, E, H |
| Step Stools & Ladders | A, B, C, H |

## OFFICES

| | |
|---|---|
| **Furniture** | |
| Swivel Chairs | A |
| Portable Files | A, B |
| Catalog Racks | A, B, C, D |
| **Support Equipment** | |
| Mail Carts | A, B, C |
| Utility Carts & Dollies | A, B, C, D |
| Audio/Visual Equipment | A, B |
| Step Stools & Ladders | A, B, C, H |

| APPLICATION | SECTION CODE |
|---|---|
| **Machinery** | |
| Typewriter Stands | A, B |
| CRT Stands | A, B |
| Computer & Copier Stands | A, B |
| Business Machines | A, B, C, H |
| Paper Shredders | A, B |
| **Housekeeping** | |
| Housekeeping Carts | A, B, C, E, H |
| Mop Buckets | A |
| Refuse Containers | C, D, E, H |
| Floor Cleaning Equipment | A, B, C, D, E |

## BAKERIES

| | |
|---|---|
| **Warehouse Equipment** | |
| Platform Trucks | E, F, G |
| Drum Dollies | C, D, H |
| **Processing Equipment** | |
| Mobile Mixers | C, D |
| Dough Troughs | C, D, E, F |
| Ingredient Bins | B, C, D, E |
| **Processing Support Equipment** | |
| Tool Carts & Chests | B, C, D, E |
| Conveyor Stands | B, C, D, E |
| **Building Maintenance Equipment** | |
| Refuse Containers | C, D, E, H |
| Ladders | B, C, H |
| **Distribution Equipment** | |
| Sweet Goods Racks | B, C, D, E |
| Bun Racks | B, C, D, E |
| Bread Racks | B, C, D, E |
| Transport Dollies | B, C, D |

## MEAT/POULTRY/SEAFOOD PROCESSING PLANTS

| | |
|---|---|
| **Warehouse Equipment** | |
| Platform Trucks | E, F, G |
| Drum Dollies | C, D, H |
| **Processing Equipment** | |
| Processing Racks & Vats | C, D, E, F |
| Tilt Trucks | C, D, E, F |
| Seafood Holding Tanks | C, D, E, F, H |
| **Processing Support Equipment** | |
| Tool Carts & Chests | B, C, D, E |
| Conveyor Stands | B, C, D, E |
| **Building Maintenance Equipment** | |
| Refuse Containers | C, D, E, H |
| Ladders | B, C, E |
| **Distribution Equipment** | |
| Meat Racks | C, D, E, F |
| Distribution Dollies | C, D, E |

## SCHOOLS/LIBRARIES/COLLEGES/CHURCHES

| | |
|---|---|
| **Furniture** | |
| Book Carts & Racks | A, B, C, D, H |
| Swivel Chairs | A |
| Portable Files | A, B |
| **Support Equipment** | |
| Audio/Visual Equipment | A, B |
| Mail Carts | A, B, C |
| Computer & Copier Stands | A, B |
| Typewriter Stands | A |
| Chair & Table Trucks | C, D, E |
| Portable Tables | A, B |
| Mobile Lab Equipment | B, C, D |
| Gymnasium Equipment | A, B, C, D |
| Pianos | G, H |
| **Maintenance** | |
| Refuse Containers | C, D, E, H |
| Floor Cleaning Equipment | A, B, C, D, E |
| Laundry Hampers | B, C, D, H |
| Step Stools & Ladders | A, B, C, H |
| Housekeeping Carts | A, B, C, E, H |

| APPLICATION | SECTION CODE |
|---|---|

## FREIGHT TERMINALS/WAREHOUSES

| | |
|---|---|
| **Platform Trucks** | E, F, G |
| Tow Line Trucks | F, G |
| Stock Picker Trucks | D, E |
| Dollies | C, D, E |
| Storage Racks | C, D, E, F |
| Conveyor Stands | B, C, D, E |
| Ladders | B, C, H |

## GARAGE/BODY SHOPS

| | |
|---|---|
| **Tool Stands & Chests** | B, C, D, E |
| Tire Racks | C, D, E |
| Display Stands | A, B, H |
| Testing Equipment | A, B, C, D, H |
| Creepers | A |
| Drum Dollies | C, D, H |
| Engine Stands & Dollies | B, C, D, G |

## LAUNDRIES/CLEANERS

| | |
|---|---|
| **Hampers** | B, C, D, H |
| Garment Racks | A, B, C |
| Shelf Trucks | C, D, E |
| Processing Equipment | B, C, D, E, F |
| Utility Carts | A, B, C, D, H |

## TEXTILE MILLS/CLOTHING MANUFACTURERS

| | |
|---|---|
| **Warehouse** | |
| Refer Manufacturing Plants | |
| **In-Process Manufacturing Equipment** | |
| Roving Cans | B, H |
| Doffing Trucks | C, D, E, H |
| Spool Trucks | B, D, E, H |
| Dye Trucks | C, D, E, F, H |
| Finishing Trucks | B, C, D, E, F, H |
| Material Carts | B, C, D, E, H |
| **Manufacturing Support Equipment** | |
| Refer Manufacturing Plants | |
| **Building Maintenance** | |
| Refer Manufacturing Plants | |

## HOSPITALS/NURSING HOMES/LABORATORIES

| | |
|---|---|
| **Patient Room Furnishings** | |
| Beds | B, C, H |
| Bedside Stands | A, B |
| Over Bed Tables | A, B |
| **Medical Equipment** | |
| Instrument Stands | A, B |
| Medicine Carts | B, C, D, H |
| Intensive Care Devices | A, B, C, D, H |
| **Laboratory Equipment** | |
| Animal Cages | A, B, C, D, H |
| Testing Devices | A, B |
| Sample Carts | A, B, C, D, H |
| **Food Facilities** | |
| Food Preparation (Refer Restaurants & Caterers) | |
| Food Service Carts | A, B, D |
| **Laundry & Housekeeping** | |
| Hampers | B, C, D, H |
| Linen Carts | A, B, C, D, E, H |
| Laundering Equipment | C, D, E, F, H |
| **Maintenance** | |
| Refuse Containers | C, D, E, H |
| Tool Boxes | B, C, D, E |
| Ladders | B, C, H |
| Housekeeping Carts | A, B, C, E, H |
| Mop Buckets | A |



*More ways to move and store products safely and securely.*

# CASTER WHEEL MATERIAL GUIDE

## SOFT TREAD WHEELS

| DESIGNATION | DESCRIPTION | MANUFACTURER/BRAND |
|---|---|---|
| ALL RUBBER | • Soft rubber tread molded to hard rubber core<br>• Provides: Maximum floor and load protection and quiet operation<br>• Application: Light to medium loads on hard floors and uneven surfaces | BASSICK/BACO<br>WAGNER/CUSHIONEX SUPREME |
| MOLD-ON RUBBER | • Soft thermoplastic rubber tread mechanically bonded and molded to polypropylene core<br>• Provides: Maximum floor and load protection, quiet operation, and aesthetically decorative appearance<br>• Application: Light to medium loads on hard floors and uneven surfaces | BASSICK/BRAVOPRENE<br>WAGNER/RADIAL DISC<br>WAGNER/POLY II RUBBER |
| | • Soft rubber tread bonded to aluminum core<br>• Provides: Maximum floor and load protection, quiet operation, and impact resistance<br>• Application: Medium to medium heavy loads on hard floors and uneven surfaces | BASSICK/ALCORE<br>WAGNER/MOLD-ON RUBBER |
| | • Natural rubber tread bonded to cast-iron core<br>• Provides: Maximum floor and load protection, quiet operation, and impact resistance<br>• Application: Medium and heavy-duty loads on hard floors and rough surfaces | ALBION/MOLD-ON RUBBER<br>REVVO/MOLD-ON RUBBER |
| MOLD-ON POLYURETHANE | • Polyurethane tread mechanically bonded to aluminum core<br>• Provides: Maximum floor and load protection, quiet operation, impact resistance, and abrasion resistance<br>• Application: Medium to heavy loads on hard or carpeted floors, and uneven surfaces | BASSICK/HONCHO/ POLYURETHANE<br>WAGNER/MOLD-ON POLYURETHANE |
| | • Polyurethane tread bonded to aluminum core<br>• Provides: Maximum floor and load protection, quiet operation, impact resistance, and abrasion resistance<br>• Application: Medium to heavy loads on hard or carpeted floors, and uneven surfaces | ALBION/ALATHANE |
| | • Polyurethane tread molded to polypropylene core<br>• Provides: Maximum floor and load protection, quiet operation, and corrosion, wash-down, and abrasion resistance<br>• Application: Light to medium loads on hard or carpeted floors, and uneven surfaces | ALBION/WASH-N-WEAR |
| | • Polyurethane tread molded to iron core<br>• Provides: Maximum load capacity and floor protection, impact and abrasion resistance, and high chemical and oil resistance<br>• Application: Heavy to ultra heavy loads on hard floors, and uneven or rough surfaces | REVVO/REVVOTHANE |
| | • Polyurethane tread mechanically bonded and molded to polypropylene core<br>• Provides: Maximum floor and load protection, quiet operation, and resistance to impact, mild chemicals, and abrasion<br>• Application: Light-medium to medium loads on hard or carpeted floors, and uneven surfaces | ALBION/WASH-N-WEAR<br>BASSICK/BRAVOTHANE<br>WAGNER/POLY II URETHANE |

# CASTER WHEEL MATERIAL GUIDE

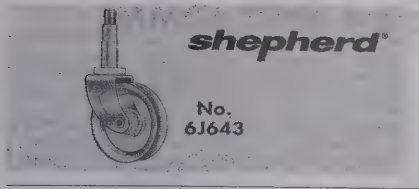
## HARD TREAD WHEELS

| DESIGNATION | DESCRIPTION | MANUFACTURER/BRAND |
|---|---|---|
| ALL RUBBER | • Hard rubber core and tread<br>• Provides: Nonmarking tread, ease of rollability, resistance to oil and water, and high load capacities<br>• Application: Light to heavy loads on hard surfaces or carpeting | BASSICK/ATLASITE<br>WAGNER/SPARTAN SUPREME |
| PHENOLIC (THERMOSET PLASTIC) | • Phenolic reinforced with macerated canvas<br>• Provides: High load capacities, ease of rollability, good impact resistance, and resistance to chemicals and debris littered floors<br>• Application: Light to heavy loads on hard or carpeted surfaces | ALBION/TEXITE<br>BASSICK/CANAPHIN<br>WAGNER/DURATEX |
| POLYOLEFIN | • Molded polypropylene<br>• Provides: Good floor protection, high load capacities, resistance to oils and greases, ease of rollability<br>• Application: Light to heavy loads on hard and carpeted surfaces | WAGNER/DURAFOAM<br>WAGNER/POLY II POLY |
| SOLID NYLON | • White, lightweight solid nylon<br>• Provides: Nonmarking, lightweight, clean operation, ease of rollability, and resistance to oils, alkalis, and detergents<br>• Application: Light to medium loads on hard or carpeted floors and uneven surfaces. Air cargo handling | REVVO/NYLON |
| METAL | • Sintered iron<br>• Provides: High load capacities, ease of rollability, impact resistance<br>• Application: Rough and chip littered floors | WAGNER/SEMI-STEEL (2 x 15/16", 2½ x 1", & 3 x 1" wheels) |
| | • Cast iron enriched with steel<br>• Provides: High load capacities, ease of rollability, impact resistance<br>• Application: Rough and chip littered floors | ALBION/SEMI-STEEL<br>BASSICK/SEMI-STEEL<br>REVVO/CAST IRON<br>WAGNER/SEMI-STEEL |
| | • Heat treated high tensile malleable iron<br>• Provides: High load capacities, ease of rollability, impact resistance<br>• Application: Rough and chip littered floors or other hard surfaces<br>• NOTE: Available in V-Groove configuration | BASSICK/MALLEABLE IRON |
| | • Forged steel<br>• Provides: High load capacities, great fatigue strength, impact resistance, and ease of rollability<br>• Application: Rough, hard surfaces and abusive conditions | BASSICK/FORGED STEEL<br>REVVO/FORGED STEEL |



*More ways to move and store products safely and securely.*

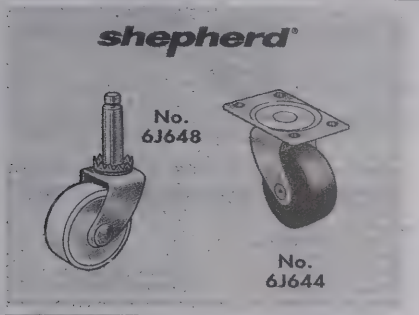
| Section Code | A | CAPACITY RANGE 40 to 125 Lbs. | Refer to Application Guide Pages 2123 and 2124 |
|---|---|---|---|




## CART CASTERS

- For lightweight serving carts, tea wagons, small TV stands
- Roll on carpeted or hard floors
- 2" Diameter clear plastic wheel with brass color finish horn
- Stem mount: 1½" long with 3/8" diameter plastic socket. Mounting height about 3"
- Load rating: 40 lbs. per caster
- 6 Casters per package

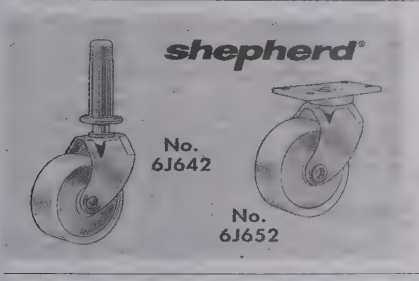
**No. 6J643.** Shpg. wt. 0.8 lbs. List $6.80. Each Pkg. ..... $5.52




## LIGHT-DUTY SWIVEL WHEEL CASTERS

- Economical plate or stem mount swivel casters for use on lightweight furniture such as small tables, cribs, playpens, and other juvenile furniture
- Roll on carpeted and hard floors
- Swivel on acetal resin bearings
- Rectangular plate mounting: 1¾ x 1¼" with four holes for wood screws
- Stem mounting: 1½" long with 3/8" diameter metal socket
- 6 Casters per package

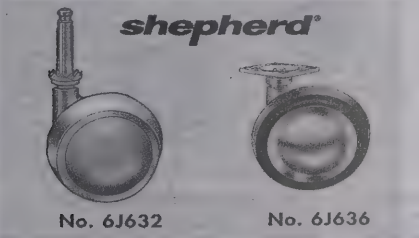
| Wheel Dia. (In.) | Mount Type | Mounting Height (In.) | Load Rating (Lbs.) | WHITE CASTERS Stock No. | List | Each | Shpg. Wt. | BLACK CASTERS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1¼ | Plate | 1⅝ | 50 | 6J648 | $7.66 | $6.00 | 0.5 | 6J644 | $7.58 | $5.96 | 0.6 |
| 1⅝ | Plate | 2 3/16 | 60 | | | | | 6J646 | 8.76 | 6.96 | 1.0 |
| | Stem | | | | | | | 6J647 | 8.93 | 7.06 | 0.8 |




## MEDIUM-DUTY WHEEL CASTERS

- Economical stem or plate mount casters for use on medium weight furniture, coffee and bedside tables, servers, TV stands, microwave carts
- Roll on carpeted and hard floors
- White plastic wheel with acetal resin bearing
- Rectangular plate mount: 1¼ x 2" with four holes for wood screws
- 6 Casters per package

| Mount Type | Wheel Dia. (In.) | Mounting Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Stem | 2 | 2½ | 70 | 6J642 | $10.33 | $8.30 | 1.3 |
| Plate | 2 | 2½ | 70 | 6J652 | 10.32 | 8.22 | 1.4 |




## METAL BALL REPLACEMENT CASTERS

- Bright chrome finished ball casters offer outstanding mobility
- Tough, long lasting die-cast metal alloy stands up to hard use
- Self-lubricating; never need oiling
- All moving parts are enclosed to keep out lint, dust and foreign matter
- For use on office and heavyweight furniture and equipment; computer work centers, upholstered chairs, large cabinets and work tables, sofas, consoles and dressers
- Casters exceed performance standards of Business and Institutional Furniture Manufacturers' Association (BIFMA)

| Swivel Mount | For Furniture | Wheel Dia. (In.) | Stem Dia. (In.) | Height (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **METAL WHEELS FOR CARPETED SURFACES** | | | | | | | | | | |
| Plate | Wood | 2½ | * | * | 3 | 100 | 6J631 | $7.33 | $5.82 | 0.7 |
| Grip Neck Stem | Wood | 2½ | 5/16 | 1½ | 3 | 100 | 6J632 | 7.17 | 5.72 | 0.7 |
| Grip Ring Stem | Wood & Metal | 2½ | 7/16 | 1⅞ | 3 | 100 | 6J635 | 7.31 | 5.80 | 0.7 |
| Grip Ring Stem | Wood & Metal | 2½ | 3/8 | 1 | 3 | 100 | 6J634 | 7.23 | 5.74 | 0.7 |
| Threaded Stem | Metal | 2½ | 5/16-18 | 7/8 | 3 | 100 | 6J633 | 6.90 | 5.46 | 0.7 |
| **RESILIENT WHEELS FOR NONCARPETED FLOORS AND CHAIR MATS** | | | | | | | | | | |
| Plate | Wood | 3 | * | * | 3¼ | 100 | 6J636 | 7.33 | 5.84 | 0.8 |
| Grip Neck Stem | Wood | 3 | 5/16 | 1½ | 3¼ | 100 | 6J637 | 9.22 | 7.30 | 0.8 |
| Friction Ring Stem | Wood & Metal | 3 | 7/16 | 1⅞ | 3¼ | 100 | 6J640 | 9.15 | 7.22 | 0.8 |
| Friction Ring Stem | Wood & Metal | 3 | 3/8 | 1 | 3¼ | 100 | 6J639 | 9.21 | 7.26 | 0.8 |
| Threaded Stem | Metal | 3 | 5/16-18 | 7/8 | 3¼ | 100 | 6J638 | 9.15 | 7.22 | 0.8 |

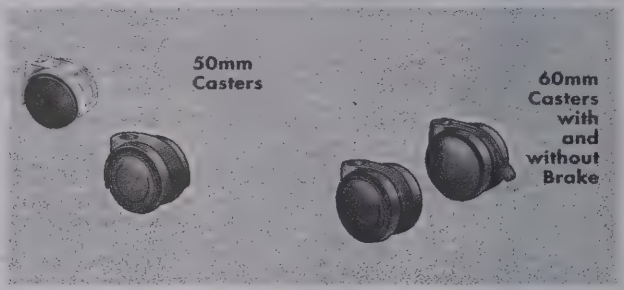
(*) Plate dimensions: 1½ x 1½".

# INSTITUTIONAL/COMMERCIAL CASTERS

| Section Code | A | CAPACITY RANGE 40 to 125 Lbs. | Refer to Application Guide Pages 2123—2124 |
|---|---|---|---|

## *Bassick* OPUS TWIN WHEEL CASTERS 50MM AND 60MM

- Designed for appearance and durability
- Constructed to resist impact and abrasion
- For furniture and light commercial use
- Black or chrome finish hoods, black wheels
- Meets performance standards of Business and Institutional Furniture Mfr's. Assn. (BIFMA)
- Mounts sold separately




| Type | Caster Color | Wheel Dia. (mm) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **50MM HARD TREAD WHEELS FOR CARPETED FLOORS WITHOUT MOUNT** | | | | | | | | |
| Swivel | Black | 50 | 2 5/16 | 75 | 3A803 | $3.03 | $2.02 | 0.2 |
| Swivel | Chrome | 50 | 2 5/16 | 75 | 3A804 | 4.00 | 3.63 | 0.2 |
| **50MM SOFT TREAD WHEELS FOR NONCARPETED FLOORS WITHOUT MOUNT** | | | | | | | | |
| Swivel | Black | 50 | 2 5/16 | 75 | 3A805 | 3.90 | 2.63 | 0.2 |
| Swivel | Chrome | 50 | 2 5/16 | 75 | 3A806 | 5.48 | 4.59 | 0.2 |
| **60MM HARD TREAD WHEELS WITHOUT MOUNT** | | | | | | | | |
| Swivel | Black | 60 | 2 5/8 | 100 | 3A812 | 5.30 | 3.56 | 0.3 |
| Brake Swivel | Black | 60 | 2 5/8 | 100 | 3A813 | 6.60 | 4.45 | 0.3 |

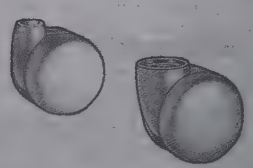
| Type | Stock No. | | List | Each* | Shpg. Wt. |
|---|---|---|---|---|---|
| **MOUNTING TYPES FOR 50MM CASTERS** | | | | | |
| Stem 8 | 3A807 | † | $5.58 | $3.71 | 0.4 |
| Stem 1 | 3A809 | † | 5.58 | 3.71 | 0.3 |
| Stem 2 | 3A810 | † | 5.58 | 3.71 | 0.3 |
| Stem 3 | 3A811 | † | 5.58 | 3.71 | 0.5 |
| Plate 10 | 3A808 | † | 5.58 | 3.71 | 0.6 |
| **MOUNTING TYPES FOR 60MM CASTERS** | | | | | |
| Stem 8 | 3A832 | | 5.60 | 3.71 | 0.3 |
| Stem 1 | 3A834 | | 5.60 | 3.71 | 0.3 |
| Stem 2 | 3A835 | | 5.60 | 3.71 | 0.4 |
| Stem 3 | 3A900 | | 5.60 | 3.77 | 0.5 |
| Stem 5A | 3A819 | | 6.60 | 4.45 | 0.3 |
| Plate 10 | 3A833 | | 5.60 | 3.71 | 0.6 |

(*)Priced per package of 5. (†) Only mounting types for 50mm casters need bottom grip ring (included) to secure caster to mount.

## *Bassick* MAGNUM OPUS 55MM

- Contoured contemporary design enhances all furniture
- Rugged construction surpasses performance standard of Business and Institutional Furniture Mfr's. Assn. (BIFMA)
- Unhooded with slim or wide stem barrel and hooded with wide stem barrel
- Made of engineering resin colored black or deep brown
- Mounts sold separately

For office chairs, furniture, and light commercial usage



| Style | Caster Color | Wheel Dia. (mm) | Overall Height (In.) | Load Rating (Lbs.) | HARD WHEEL CASTERS FOR CARPETED FLOORS WITHOUT MOUNT Stock No. | List | Each | Shpg. Wt. | SOFT TREAD CASTERS FOR NON-CARPETED FLOORS WITHOUT MOUNT Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Slim Barrel Unhooded | Brown | 55 | 2 7/16 | 100 | 3A826 | $4.20 | $2.80 | 0.3 | — | — | — | — |
| Slim Barrel Unhooded | Black | 55 | 2 7/16 | 100 | 3A820 | 4.20 | 2.80 | 0.3 | 3A823 | $5.00 | $3.41 | 0.3 |
| Wide Barrel Unhooded | Brown | 55 | 2 7/16 | 100 | 3A827 | 4.20 | 2.80 | 0.3 | — | — | — | — |
| Wide Barrel Unhooded | Black | 55 | 2 7/16 | 100 | 3A821 | 4.20 | 2.80 | 0.3 | 3A824 | 5.00 | 3.41 | 0.3 |
| Wide Barrel Hooded | Brown | 55 | 2 7/16 | 100 | 3A828 | 4.40 | 2.95 | 0.3 | — | — | — | — |
| Wide Barrel Hooded | Black | 55 | 2 7/16 | 100 | 3A822 | 4.40 | 2.95 | 0.3 | 3A825 | 5.30 | 3.57 | 0.3 |

| Type | Stock No. | List | Each* | Shpg. Wt. |
|---|---|---|---|---|
| **MOUNTING TYPES FOR 55MM CASTERS** | | | | |
| Stem 8 | 3A832 | $5.60 | $3.71 | 0.3 |
| Stem 1 | 3A834 | 5.60 | 3.71 | 0.3 |
| Stem 2 | 3A835 | 5.60 | 3.71 | 0.4 |
| Stem 3 | 3A900 | 5.60 | 3.77 | 0.5 |
| Plate 10 | 3A833 | 5.60 | 3.71 | 0.6 |

(*) Priced per package of 5.

SEE SOCKETS AND BRACKETS ON PAGE 2167

TYPE 1 Friction Ring Stem 3/8 x 1"

TYPE 2 Friction Ring Stem 7/16 x 7/8"

TYPE 3 Friction Ring Stem 7/16 x 1 3/8"

TYPE 5A Threaded Stem 3/8-16 x 1"

TYPE 8 Grip Neck Stem For Wood 5/16 x 1 1/2"

TYPE 10 Bolt Hole Spacing: 13/16 x 1 9/16" Overall Plate Size: 1 5/32 x 2.0"



More ways to move and store products safely and securely.

| Section Code | A | CAPACITY RANGE 40 to 125 Lbs. | Refer to Application Guide Pages 2123—2124 |
|---|---|---|---|

## TWINSTAR CASTERS

- For office chairs, furniture and equipment in both office and home
- 60mm diameter dual wheels rotate independently to provide excellent stability, traction, and reduce carpet fiber wear
- Body made of die-cast metal alloy for strength and long life
- Bright chrome plated hood
- No. 4JG37 has a hard (nylon) wheel tread for use on carpeting
- No. 4JG38 has a soft nylon wheel tread bonded with urethane for use on hard floors and chairmats
- Mount attachments for casters (Nos. 4JG39 - 4JG42) come in packages of 5
- Casters exceed performance standards of Business and Institutional Furniture Manufacturer's Association (BIFMA)
- Special Delrin self-lubricating bearings for quiet, effortless, and trouble-free swiveling




| Caster Type | Wheel Dia. (mm) | Dynamic Load (Lbs.) | Mounting Ht. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Dual-Hooded Swivel** | 60 | 100 | 2.80 | **4JG37** | $7.75 | **$6.75** | 0.4 |
| **Dual-Hooded Swivel** | 60 | 100 | 2.80 | **4JG38** | 8.80 | **7.75** | 0.5 |

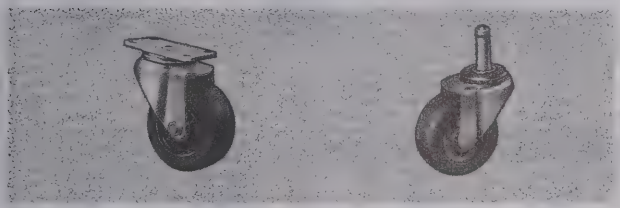
### MOUNTING BRACKETS FOR TWINSTAR CASTERS

| Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Stem 2** | **4JG39** | $6.50 | **$5.59** | 0.5 |
| **Stem 3** | **4JG40** | 6.50 | **5.59** | 0.6 |
| **Stem 1** | **4JG41** | 6.50 | **5.59** | 0.5 |
| **Stem 8** | **4JG42** | 6.50 | **5.59** | 0.5 |

## OFFICE FURNITURE CASTERS

E.R. Wagner Casters & Wheels Manufacturing Co.

**Ideal for Chairs, Stands and Cabinets**



- Hardened heat-treated swivels
- Nonstaining wheels with self-lubricating bearings
- Conform to performance standards of Business and Institutional Furniture Mfr's. Assn. (BIFMA)
- High nickel finish for metal base chairs, oxidized copper finish for wood

| Swivel Type | Caster Finish | Wheel Dia. (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **CUSHIONEX SUPREME SOFT TREAD BLACK ALL-RUBBER WHEEL** | | | | | | | | |
| **Stem 8** | Oxidized Copper | 2 | 2½ | 75 | **3A781** | $6.68 | **$4.24** | 0.4 |
| **Stem 1** | Nickel | 2 | 2½ | 75 | **3A785** | 6.46 | **4.43** | 0.4 |
| **Stem 2** | Nickel | 2 | 2½ | 75 | **2G001** | 6.46 | **4.61** | 0.4 |
| **Stem 3** | Nickel | 2 | 2½ | 75 | **3A787** | 6.46 | **4.43** | 0.4 |
| **Stem 9** | Nickel | 2 | 2½ | 75 | **3A789** | 6.46 | **4.43** | 0.4 |
| **Plate 10** | Oxidized Copper | 2 | 2⅝ | 75 | **3A783** | 6.68 | **4.25** | 0.5 |
| **Stem 8** | Oxidized Copper | 2½ | 3 1/16 | 90 | **2G002** | 7.97 | **5.46** | 0.4 |
| **Stem 1** | Nickel | 2½ | 3 1/16 | 90 | **2G003** | 7.41 | **5.46** | 0.4 |
| **Stem 3** | Nickel | 2½ | 3 1/16 | 90 | **2G004** | 7.41 | **5.46** | 0.5 |
| **Stem 9** | Nickel | 2½ | 3 1/16 | 90 | **2G005** | 7.41 | **5.46** | 0.4 |
| **Stem 2** | Nickel | 2½ | 3 1/16 | 90 | **2G006** | 7.41 | **5.46** | 0.4 |
| **Plate 10** | Oxidized Copper | 2½ | 3 3/16 | 90 | **2G007** | 7.97 | **5.46** | 0.4 |
| **DURAFOAM HARD TREAD BLACK POLYPROPLENE WHEEL** | | | | | | | | |
| **Stem 8** | Oxidized Copper | 2½ | 3 1/16 | 115 | **3A782** | 7.66 | **5.25** | 0.5 |
| **Stem 1** | Nickel | 2½ | 3 1/16 | 115 | **3A786** | 7.28 | **5.25** | 0.5 |
| **Stem 2** | Nickel | 2½ | 3 1/16 | 115 | **2G008** | 7.28 | **5.46** | 0.5 |
| **Stem 3** | Nickel | 2½ | 3 1/16 | 115 | **3A788** | 7.28 | **5.25** | 0.5 |
| **Stem 9** | Nickel | 2½ | 3 1/16 | 115 | **3A790** | 7.28 | **5.25** | 0.4 |
| **Plate 10** | Oxidized Copper | 2½ | 3 3/16 | 115 | **3A784** | 7.66 | **5.25** | 0.4 |

SEE SOCKETS AND BRACKETS ON PAGE 2167


**TYPE 1** Friction Ring Stem 3/8 x 1"


**TYPE 2** Friction Ring Stem 7/16 x 7/8"


**TYPE 3** Friction Ring Stem 7/16 x 1 3/8"


**TYPE 8** Grip Neck Stem For Wood 5/16 x 1½"


**TYPE 9** Plain Stem 7/16 x 1 29/32"


**TYPE 10** Bolt Hole Spacing: 13/16 x 1 9/16" Overall Plate Size: 1 5/32 x 2.0"

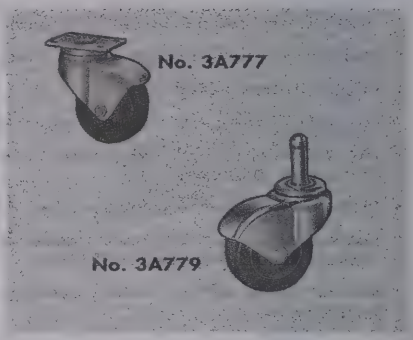

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

| Section Code | A | CAPACITY RANGE 40 to 125 Lbs. | Refer to Application Guide Pages 2123—2124 |
|---|---|---|---|

## E.R. Wagner CASTERS & WHEELS HOODED OFFICE FURNITURE CASTERS

- Constructed for performance equal to office furntiure casters
- Designer styled for visual appeal
- Equipped with same mounting types as office furntiure casters
- High nickel finish for metal chairs, decorative brass for wood chairs



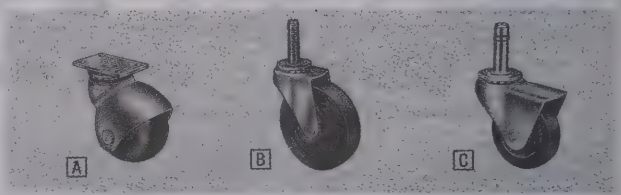

### CUSHIONEX SUPREME–Soft Tread, Black, All Rubber Wheel

| Swivel Type | Caster Finish | Wheel Dia. (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Stem 8 | Decorative Brass | 2 | 2 5/8 | 75 | 3A776 | $8.85 | $6.05 | 0.5 |
| Stem 1 | Nickel | 2 | 2 5/8 | 75 | 3A778 | 8.22 | 6.05 | 0.5 |
| Stem 2 | Nickel | 2 | 2 5/8 | 75 | 2G009 | 8.22 | 6.29 | 1.2 |
| Stem 3 | Nickel | 2 | 2 5/8 | 75 | 3A779 | 8.22 | 6.05 | 0.4 |
| Stem 9 | Nickel | 2 | 2 5/8 | 75 | 3A780 | 8.22 | 6.05 | 0.5 |
| Plate 10 | Decorative Brass | 2 | 2 11/16 | 75 | 3A777 | 8.85 | 6.05 | 0.5 |

## E.R. Wagner CASTERS & WHEELS LIGHT DUTY SWIVEL CASTERS

For office chairs, furniture, IV stands, overbed tables, display stands and racks and other light-duty applications.

- Attractive bright chrome finish
- Heat-treated hardened bearing raceway
- Self-lubricating wheel bearing
- Soft or hard tread natural rubber wheels
- Variety of mounting types
- 1/4" Diameter rivet axle




### CUSHIONEX SUPREME–Soft Tread, Black, All Rubber Wheel

| Key | Swivel Type | Wheel Dia. (In.) | Wheel Width (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Stem 3 | 2 | Ball | 2 5/8 | 75 | 3A816 | $5.88 | $4.98 | 0.6 |
| | Stem 4 | 2 | Ball | 2 5/8 | 75 | 4A001 | 5.88 | 4.99 | 0.5 |
| | Stem 9 | 2 | Ball | 2 5/8 | 75 | 5X757 | 5.88 | 5.02 | 0.7 |
| | Plate 10 | 2 | Ball | 2 11/16" | 75 | 5X758 | 5.88 | 4.99 | 0.6 |
| B | Stem 3 | 2 | 13/16 | 2 1/2 | 75 | 3A817 | 4.93 | 4.16 | 0.4 |
| | Stem 4 | 2 | 13/16 | 2 1/2 | 75 | 4A002 | 4.93 | 4.16 | 0.4 |
| | Stem 5A | 2 | 13/16 | 2 1/2 | 75 | 1G001 | 4.93 | 4.17 | 0.4 |
| | Stem 5B | 2 | 13/16 | 2 1/2 | 75 | 1G002 | 4.93 | 4.17 | 0.5 |
| | Stem 9 | 2 | 13/16 | 2 1/2 | 75 | 4X833 | 4.93 | 4.17 | 0.3 |
| | Plate 10 | 2 | 13/16 | 2 5/8 | 75 | 3A814 | 4.93 | 4.16 | 0.4 |
| B | Stem 3 | 2 1/2 | 13/16 | 3 1/16 | 90 | 1G019 | $5.37 | $4.55 | 0.5 |
| | Stem 5B | 2 1/2 | 13/16 | 3 1/16 | 90 | 1G015 | 5.37 | 4.55 | 0.5 |
| | Plate 10 | 2 1/2 | 13/16 | 3 3/16 | 90 | 1G020 | 5.37 | 4.54 | 0.4 |
| | Stem 3 | 3 | 13/16 | 3 3/16 | 100 | 1G005 | 5.81 | 4.93 | 0.7 |
| | Stem 5A | 3 | 13/16 | 3 3/16 | 100 | 1G007 | 5.81 | 4.93 | 0.6 |
| | Stem 5B | 3 | 13/16 | 3 3/16 | 100 | 1G016 | 5.81 | 4.93 | 0.6 |
| | Stem 9 | 3 | 13/16 | 3 3/16 | 100 | 1G006 | 5.81 | 4.93 | 1.7 |
| C | Stem 3 | 2 | 13/16 | 2 5/8 | 75 | 5X759 | 6.37 | 5.38 | 0.5 |
| | Stem 4 | 2 | 13/16 | 2 5/8 | 75 | 4A003 | 6.37 | 5.38 | 1.5 |
| | Stem 9 | 2 | 13/16 | 2 5/8 | 75 | 5X760 | 6.37 | 5.38 | 0.5 |

### SPARTAN SUPREME– Hard Tread, Black, All Rubber Wheel

| Key | Swivel Type | Wheel Dia. (In.) | Wheel Width (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| B | Stem 3 | 2 | 13/16 | 2 1/2 | 100 | 1G011 | 4.93 | 4.17 | 0.5 |
| | Stem 4 | 2 | 13/16 | 2 1/2 | 100 | 1G013 | 4.93 | 4.17 | 0.4 |
| | Stem 5A | 2 | 13/16 | 2 1/2 | 100 | 1G003 | 4.93 | 4.17 | 0.4 |
| | Stem 5B | 2 | 13/16 | 2 1/2 | 100 | 1G004 | 4.93 | 4.17 | 0.4 |
| | Stem 9 | 2 | 13/16 | 2 1/2 | 100 | 1G012 | 4.93 | 4.17 | 0.5 |
| | Plate 10 | 2 | 13/16 | 2 5/8 | 100 | 1G014 | 4.93 | 4.17 | 0.4 |
| B | Stem 3 | 2 1/2 | 13/16 | 3 1/16 | 115 | 1G021 | 5.37 | 4.57 | 0.6 |
| | Stem 5B | 2 1/2 | 13/16 | 3 1/16 | 115 | 1G017 | 5.37 | 4.55 | 0.5 |
| | Plate 10 | 2 1/2 | 13/16 | 3 3/16 | 115 | 1G022 | 5.37 | 4.55 | 0.5 |
| | Stem 3 | 3 | 13/16 | 3 3/16 | 125 | 1G008 | 5.81 | 4.93 | 0.7 |
| | Stem 5A | 3 | 13/16 | 3 3/16 | 125 | 1G010 | 5.81 | 4.93 | 0.6 |
| | Stem 5B | 3 | 13/16 | 3 3/16 | 125 | 1G018 | 5.81 | 4.93 | 0.6 |
| | Stem 9 | 3 | 13/16 | 3 3/16 | 125 | 1G009 | 5.81 | 4.93 | 0.7 |

SEE SOCKETS AND BRACKETS ON PAGE 2167



TYPE 1 Friction Ring Stem 3/8 x 1"

TYPE 2 Friction Ring Stem 7/16 x 7/8"

TYPE 3 Friction Ring Stem 7/16 x 1 3/8"

TYPE 4 Threaded Stem 5/16-18 x1" Lg.

TYPE 5A Threaded Stem 3/8-16 x 1"

TYPE 5B Threaded Stem 3/8"-16 x 1 1/2" Lg.

TYPE 8 Grip Neck Stem For Wood 5/16 x 1 1/2"

TYPE 9 Plain Stem 7/16 x 1 29/32"

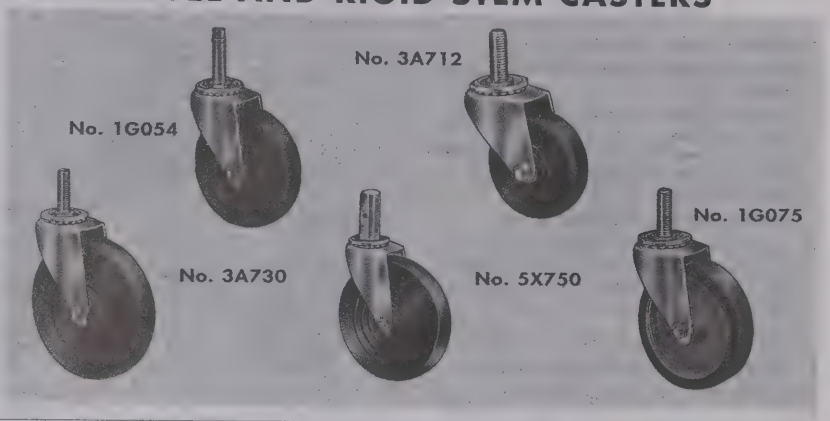
TYPE 10 Bolt Hole Spacing: 13/16 x 1 9/16 7/64"

| Section Code | B | CAPACITY RANGE 75 to 145 Lbs. | Refer to Application Guide Pages 2123-2134 |
|---|---|---|---|

E.R. Wagner CASTERS & WHEELS

# LIGHT DUTY SWIVEL AND RIGID STEM CASTERS

- Attractive zinc chromate finish
- Wide selection of stem mounts
- Heat-treated hardened bearing raceways
- Choice of soft and hard natural rubber tread, polypropylene hard tread wheels, Poly II Rubber and Poly II Urethane soft tread wheels
- Self-lubricating wheel bearings
- All 1" tread width wheels have 5/16" bolt and locknut wheel axle. 13/16" tread width wheel casters have 1/4" diameter rivet axle




### OPTIONAL BRAKE KIT No. 4X698

For most swivel stem models. Wagner brand (600/900 Brake Kit).

**No. 4X698.** Shpg. wt. 0.2 lbs. List $4.52.
Each .....$3.81

| Stem Type | Wheel Dia. (In.) | Wheel Width (In.) | Over-all Ht. (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CUSHIONEX SUPREME Soft Tread Black All Rubber Wheel | | | | | POLY II RUBBER Soft Dark Gray Thermoplastic Tread On Gray Polypropylene Core Wheel | | | | | POLY II URETHANE Soft Blue Polyurethane Tread On Gray Core Wheel | | | | | DURAFOAM Hard Tread Black Polypropylene Wheel | | | | |
| Swivel 3 | 2 | 13/16 | 2 1/2 | 75 | 4X948 | $6.24 | $5.28 | 0.4 | — | — | — | — | — | — | — | — | — | — | 100 | 3A723 | $5.62 | $4.74 | 0.3 |
| Swivel 3 | 3 | 1 | 3 5/8 | 100 | 4X938* | 7.66 | 6.54 | 0.8 | — | — | — | — | — | 125 | 1G062* | $10.48 | $8.86 | 0.9 | 125 | 3A724* | 6.82 | 5.79 | 0.7 |
| Swivel 3 | 4 | 1 | 4 11/16 | 115 | 4X939* | 8.66 | 7.43 | 1.3 | — | — | — | — | — | 140 | 1G063* | 11.17 | 9.45 | 0.9 | 140 | 3A725* | 7.73 | 6.56 | 0.8 |
| Swivel 3 | 5 | 1 | 5 11/16 | 125 | 4X940* | 9.76 | 8.42 | 1.8 | — | — | — | — | — | — | — | — | — | — | 145 | 3A726* | 8.66 | 7.36 | 1.9 |
| Swivel 3A | 3 | 1 | 3 5/8 | 100 | 1G053* | 7.88 | 6.72 | 1.0 | 100 | 1G083* | 10.39 | 8.80 | 0.9 | 125 | 1G086* | 10.70 | 9.04 | 0.8 | 125 | 1G056* | 7.03 | 5.99 | 0.8 |
| Swivel 3A | 4 | 1 | 4 11/16 | 115 | 1G054* | 8.88 | 7.63 | 1.4 | 115 | 1G084* | 11.08 | 9.37 | 0.9 | 140 | 1G087* | 11.39 | 9.65 | 1.0 | 140 | 1G057* | 7.94 | 6.75 | 0.9 |
| Swivel 3A | 5 | 1 | 5 11/16 | 125 | 1G055* | 9.98 | 8.51 | 1.2 | — | — | — | — | — | 145 | 1G088* | 12.18 | 10.30 | 1.1 | 145 | 1G058* | 8.88 | 7.58 | 1.2 |
| Swivel 5 | 2 | 13/16 | 2 1/2 | 75 | 4X947 | 5.62 | 4.74 | 0.4 | — | — | — | — | — | — | — | — | — | — | 100 | 3A727 | 5.07 | 4.28 | 0.4 |
| Swivel 5B | 3 | 1 | 3 5/8 | 100 | 1G047* | 6.93 | 5.92 | 1.0 | 100 | 1G077* | 9.45 | 7.99 | 0.8 | 125 | 1G080* | 9.76 | 8.28 | 0.9 | 125 | 1G050* | 6.15 | 5.26 | 0.8 |
| Swivel 5B | 4 | 1 | 4 11/16 | 115 | 1G048* | 7.91 | 6.80 | 1.3 | — | — | — | — | — | 140 | 1G081* | 10.42 | 8.82 | 0.9 | 140 | 1G051* | 6.97 | 5.97 | 1.0 |
| Swivel 5B | 5 | 1 | 5 11/16 | 125 | 1G049* | 9.76 | 8.43 | 1.8 | — | — | — | — | — | 145 | 1G082* | 11.96 | 10.14 | 1.1 | 145 | 1G052* | 8.66 | 7.41 | 1.2 |
| Swivel 6 | 3 | 1 | 3 5/8 | 100 | 4X691* | 6.95 | 5.94 | 1.0 | — | — | — | — | — | — | — | — | — | — | 125 | 3A728* | 6.14 | 5.22 | 0.7 |
| Swivel 6 | 4 | 1 | 4 11/16 | 115 | 4X692* | 7.92 | 6.81 | 1.2 | — | — | — | — | — | — | — | — | — | — | 140 | 3A729* | 6.98 | 5.95 | 0.8 |
| Swivel 6 | 5 | 1 | 5 11/16 | 125 | 4X693* | 9.76 | 8.42 | 1.8 | — | — | — | — | — | — | — | — | — | — | 145 | 3A730* | 8.66 | 7.36 | 0.9 |
| Swivel 7 | 2 | 13/16 | 2 1/2 | 75 | 3A711 | 5.69 | 4.81 | 0.4 | — | — | — | — | — | — | — | — | — | — | 100 | 3A731 | 5.14 | 4.33 | 0.4 |
| Swivel 7 | 3 | 1 | 3 5/8 | 100 | 3A712* | 7.01 | 5.99 | 1.0 | — | — | — | — | — | 125 | 1G074* | 9.85 | 8.35 | 0.9 | 125 | 3A732* | 6.21 | 5.29 | 0.7 |
| Swivel 7 | 4 | 1 | 4 11/16 | 115 | 3A713* | 7.98 | 6.84 | 1.4 | — | — | — | — | — | 140 | 1G075* | 10.48 | 8.87 | 0.9 | 140 | 3A733* | 7.08 | 6.03 | 0.8 |
| Swivel 7 | 5 | 1 | 5 11/16 | 125 | 3A714* | 9.83 | 8.38 | 1.2 | — | — | — | — | — | 145 | 1G076* | 12.02 | 10.20 | 1.2 | 145 | 3A734* | 8.73 | 7.41 | 0.9 |
| Swivel 21 | 4 | 1 | 4 11/16 | 115 | 2G266* | 9.54 | 8.19 | 1.5 | — | — | — | — | — | — | — | — | — | — | 140 | 2G268* | 8.60 | 7.33 | 1.1 |
| Swivel 21 | 5 | 1 | 5 11/16 | 125 | 2G267* | 10.64 | 9.16 | 1.9 | — | — | — | — | — | — | — | — | — | — | 145 | 2G269* | 9.54 | 8.16 | 1.0 |
| | | | | CUSHIONEX SUPREME Soft Tread Black All-Rubber Wheel | | | | | SPARTAN SUPREME Hard Tread Black All Rubber Wheel | | | | | | | | | | | | | | |
| Swivel 22 | 3 | 1 | 3 5/8 | 100 | 1G315* | 11.27 | 9.57 | 1.2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Swivel 22 | 4 | 1 | 4 11/16 | 115 | 5X749* | 12.28 | 10.47 | 1.5 | 140 | 1G317* | 12.27 | 10.48 | 1.6 | — | — | — | — | — | — | — | — | — | — |
| Swivel 22 | 5 | 1 | 5 11/16 | 125 | 5X750* | 14.22 | 12.16 | 2.0 | 145 | 1G318* | 14.22 | 12.18 | 2.1 | — | — | — | — | — | — | — | — | — | — |
| Rigid 22 | 4 | 1 | 4 11/16 | 115 | 5X751 | 10.89 | 9.31 | 1.5 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Rigid 22 | 5 | 1 | 5 11/16 | 125 | 5X752 | 13.06 | 11.20 | 2.0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(*) Use optional Brake Kit No. 4X698, sold above.

SEE SOCKETS AND BRACKETS ON PAGE 2167


TYPE 3 Friction Ring Stem 7/16 x 1 3/16"


TYPE 3A Friction Ring Stem 7/16 x 1 29/32"


TYPE 5 Threaded Stem 3/8"-24 x 1 1/8" Lg.


TYPE 5B Threaded Stem 3/8"-16 x 1 1/2" Lg.


TYPE 6 Threaded Stem 7/16"-14 x 1 1/2" Lg.


TYPE 7 Threaded Stem 1/2"-13 x 1 1/2" Lg.


TYPE 21 Friction Ring Stem 13/16 x 1 3/4"



TYPE 22 Octagon Stem 3/4 x 2" w/Three 0.265" Holes

| Section Code | B | CAPACITY RANGE 75 TO 145 LBS. | Refer to Application Guide Pages 2123—2124 |
|---|---|---|---|

E.R. Wagner Manufacturing Co. CASTERS & WHEELS

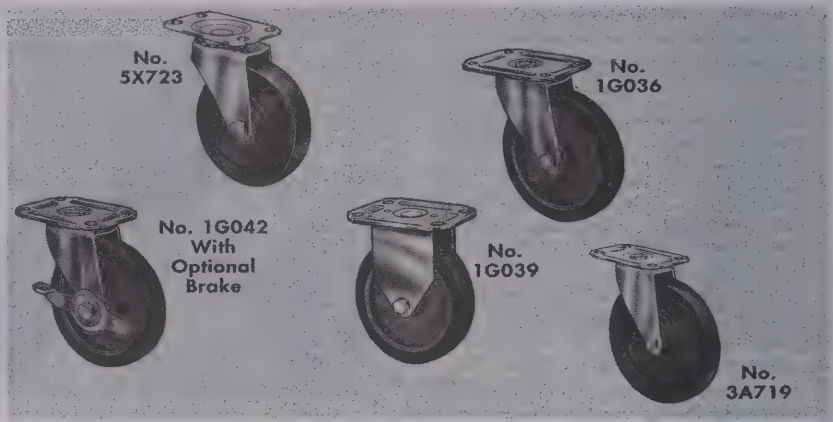
# LIGHT DUTY SWIVEL AND RIGID PLATE CASTERS

- Attractive zinc chromate finish
- Heat-treated hardened bearing raceways
- Choice of soft natural rubber tread, Poly II Rubber soft tread, Poly II Urethane soft tread, hard natural rubber tread, or polypropylene hard tread wheels
- Self-lubricating wheel bearings
- All 1" tread width wheel casters have 5/16" bolt and locknut wheel axle. 13/16" tread width wheel casters have 1/4" diameter rivet axle

**OPTIONAL BRAKE KIT No. 4X698**

Available for most swivel plate models.

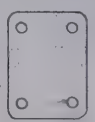
**No. 4X698.** Shpg. wt. 0.2 lbs. List $4.52.
Each ..... $3.81



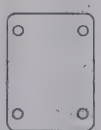

| Plate Type | Wheel Dia. (In.) | Wheel Width (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CUSHIONEX SUPREME Soft Tread, Black, All Rubber Wheel** | | | | | | | | | | | | |
| 11 | 2 | 13/16 | 2 9/16 | 75 | 5X721 | $4.23 | $3.60 | 0.5 | — | — | — | — |
| 11 | 3 | 13/16 | 3 9/16 | 100 | 5X723 | 5.14 | 4.40 | 0.6 | — | — | — | — |
| 12 | 3 | 1 | 3 3/4 | 100 | 4X618* | 7.24 | 6.23 | 1.2 | 4X622 | $5.56 | $4.80 | 1.1 |
| 12 | 4 | 1 | 4 13/16 | 115 | 4X619* | 8.37 | 7.22 | 1.4 | 4X623 | 6.88 | 5.97 | 1.4 |
| 12 | 5 | 1 | 5 13/16 | 125 | 4X621* | 9.76 | 8.45 | 2.2 | 4X625 | 8.01 | 7.01 | 2.0 |
| **POLY II RUBBER Soft, Dark Gray Thermoplastic Rubber Tread–Gray Polypropylene Core Wheel** | | | | | | | | | | | | |
| 12 | 3 | 1 | 3 3/4 | 100 | 1G035* | 9.76 | 8.28 | 1.0 | 1G038 | 8.06 | 6.87 | 0.9 |
| 12 | 4 | 1 | 4 13/16 | 115 | 1G036* | 10.58 | 9.00 | 1.1 | 1G039 | 9.07 | 7.73 | 1.1 |
| 12 | 5 | 1 | 5 13/16 | 125 | 1G037* | 11.64 | 9.93 | 1.3 | 1G040 | 9.88 | 8.44 | 1.3 |
| **POLY II URETHANE Soft Blue Polyurethane Tread on Gray Polypropylene Core Wheel** | | | | | | | | | | | | |
| 12 | 3 | 1 | 3 3/4 | 125 | 1G041* | 10.07 | 8.54 | 1.0 | 1G044 | 8.38 | 7.14 | 1.0 |
| 12 | 4 | 1 | 4 13/16 | 140 | 1G042* | 10.89 | 9.26 | 1.2 | 1G045 | 9.38 | 7.97 | 1.1 |
| 12 | 5 | 1 | 5 13/16 | 125 | 1G043* | 11.96 | 10.20 | 1.4 | 1G046 | 10.20 | 8.73 | 1.3 |
| **SPARTAN SUPREME Hard Tread, Black, All Rubber Wheel** | | | | | | | | | | | | |
| 12 | 3 | 1 | 3 3/4 | 125 | 1G029* | 7.25 | 6.19 | 1.2 | 1G032 | 5.55 | 4.80 | 1.1 |
| 12 | 4 | 1 | 4 13/16 | 140 | 1G030* | 8.38 | 7.24 | 1.6 | 1G033 | 6.87 | 5.96 | 1.5 |
| 12 | 5 | 1 | 5 13/16 | 145 | 1G031* | 9.76 | 8.45 | 2.1 | 1G034 | 8.00 | 6.98 | 2.0 |
| **DURAFOAM Hard Tread, Black, Polypropylene Wheel** | | | | | | | | | | | | |
| 11 | 2 | 13/16 | 2 9/16 | 100 | 3A715 | 3.68 | 3.11 | 0.3 | — | — | — | — |
| 11 | 3 | 13/16 | 3 9/16 | 125 | 3A716 | 4.36 | 3.72 | 0.5 | — | — | — | — |
| 12 | 3 | 1 | 3 3/4 | 125 | 3A717* | 6.43 | 5.51 | 1.0 | 3A720 | 4.78 | 4.10 | 0.7 |
| 12 | 4 | 1 | 4 13/16 | 140 | 3A718* | 7.43 | 6.35 | 1.2 | 3A721 | 5.98 | 5.11 | 0.8 |
| 12 | 5 | 1 | 5 13/16 | 145 | 3A719* | 8.66 | 7.41 | 1.4 | 3A722 | 6.98 | 6.06 | 1.5 |

(*) Use optional Brake Kit No. 4X698, sold above.

**Mounting Plate Dimensions**



**TYPE 11**
**Bolt Hole Spacing:**
**15/16 x 2 1/8" O.C.**
**1/4" Dia. Mtg. Bolt**
**Overall Plate Size:**
**1 7/8 x 2 5/8"**



**TYPE 12**
**Bolt Hole Spacing:**
**1 3/4 x 3" O.C.**
**5/16" Dia. Mtg. Bolt**
**Overall Plate Size:**
**2 3/4 x 3 3/4"**

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

| Section Code | C | CAPACITY RANGE 75 to 450 Lbs. | Refer to Application Guide Pages 2123-2124 |
|---|---|---|---|

E.R. Wagner CASTERS & WHEELS Manufacturing Co.

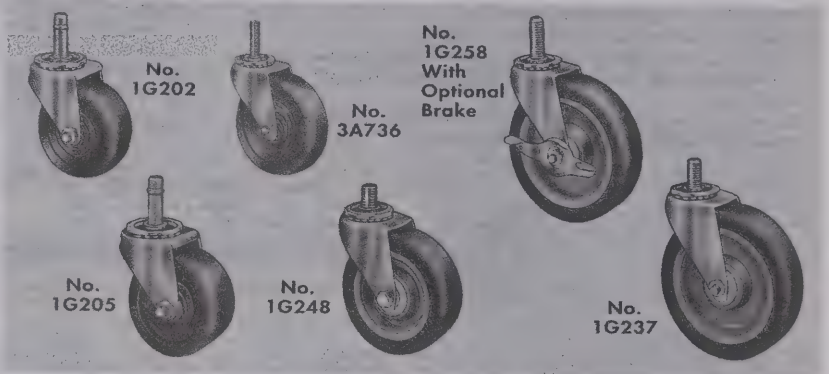
# LIGHT-MEDIUM DUTY SWIVEL STEM CASTERS FOR INDUSTRIAL AND COMMERCIAL APPLICATIONS

- Attractive zinc chromate finish
- Choice of soft natural rubber tread, Poly II Rubber and Poly II Urethane soft tread wheels and Durafoam polypropylene hard tread wheels
- Heat-treated hardened bearing raceways
- All soft tread casters have self-lubricating Delrin® wheel bearings; hard tread casters have plain bearing
- All casters have 5/16" diameter bolt and locknut wheel axle

**OPTIONAL SIDE BRAKE KIT No. 4X698**

Available for all swivel stem models. Wagner brand (600/900 Brake Kit).

**No. 4X698.** Optional Brake Kit. Shpg. wt. 0.2 lbs. List $4.52. Each.....$3.81




| Swivel Stem Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CUSHIONEX SUPREME Soft Tread, Black, All Rubber Wheel | | | | | POLY II RUBBER Soft Dark Gray Thermoplastic Rubber on Gray Polypropylene Core Wheel | | | | POLY II URETHANE Soft Blue Polypropylene Tread on Gray Polypropylene Core Wheel | | | | | DURAFOAM Hard Tread Black Polypropylene Core Wheel | | | |
| 3 | 3 | 1¼ | 3⅝ | 125 | 1G202 | $8.94 | $7.63 | 1.0 | 1G208 | $12.36 | $10.44 | 0.9 | 210 | 1G211 | $12.74 | $10.76 | 0.9 | 1G205 | $7.88 | $6.69 | 0.8 |
| 3 | 4 | 1¼ | 4½ | 165 | 1G203 | 11.23 | 9.61 | 1.5 | — | — | — | — | 255 | 1G212 | 15.06 | 12.72 | 1.2 | 1G206 | 9.63 | 8.20 | 1.1 |
| 3 | 5 | 1¼ | 5½ | 190 | 1G204 | 11.99 | 10.30 | 2.2 | — | — | — | — | 280 | 1G213 | 15.60 | 13.20 | 1.3 | 1G207 | 10.29 | 8.80 | 1.4 |
| 5A | 3 | 1¼ | 3⅝ | 125 | 1G214 | 8.22 | 7.04 | 1.0 | 1G220 | 11.64 | 9.85 | 0.8 | 210 | 1G223 | 12.02 | 10.16 | 0.8 | 1G217 | 7.15 | 6.09 | 0.8 |
| 5A | 4 | 1¼ | 4½ | 165 | 1G215 | 10.51 | 9.00 | 1.5 | 1G221 | 13.96 | 11.79 | 1.0 | 255 | 1G224 | 14.34 | 12.10 | 1.0 | 1G218 | 8.91 | 7.60 | 1.1 |
| 5A | 5 | 1¼ | 5½ | 190 | 1G216 | 11.99 | 10.32 | 2.1 | 1G222 | 15.28 | 12.92 | 1.2 | 280 | 1G225 | 15.60 | 13.18 | 1.2 | 1G219 | 10.29 | 8.79 | 1.4 |
| 6 | 3 | 1¼ | 3⅝ | 125 | 3A735 | 8.21 | 7.00 | 1.0 | 1G250 | 11.64 | 9.85 | 0.9 | 210 | 1G253 | 12.02 | 10.16 | 0.9 | 4X830 | 7.14 | 6.08 | 0.8 |
| 6 | 4 | 1¼ | 4½ | 165 | 3A736 | 10.51 | 9.00 | 1.5 | 1G251 | 13.96 | 11.79 | 1.1 | 255 | 1G254 | 14.34 | 12.10 | 1.0 | 4X831 | 8.92 | 7.61 | 1.1 |
| 6 | 5 | 1¼ | 5½ | 190 | 3A737 | 11.99 | 10.31 | 2.0 | 1G252 | 15.28 | 12.91 | 1.2 | 280 | 1G255 | 15.60 | 13.18 | 1.2 | 3A741 | 10.28 | 8.76 | 1.2 |
| 7 | 3 | 1¼ | 3⅝ | 125 | 3A738 | 8.27 | 7.05 | 1.0 | 1G256 | 11.70 | 9.91 | 1.0 | 210 | 1G259 | 12.08 | 10.22 | 0.9 | 3A742 | 7.21 | 6.11 | 0.8 |
| 7 | 4 | 1¼ | 4½ | 165 | 3A739 | 10.57 | 9.05 | 1.6 | 1G257 | 14.03 | 11.88 | 1.1 | 255 | 1G260 | 14.40 | 12.19 | 1.2 | 3A743 | 8.98 | 7.64 | 1.0 |
| 7 | 5 | 1¼ | 5½ | 190 | 3A740 | 12.06 | 10.36 | 2.2 | 1G258 | 15.34 | 13.01 | 1.5 | 280 | 1G261 | 15.66 | 13.28 | 1.4 | 3A744 | 10.34 | 8.81 | 1.4 |
| 7A | 3 | 1¼ | 3⅝ | 125 | 1G238 | 8.03 | 6.91 | 1.1 | 1G244 | 11.45 | 9.69 | 1.0 | 210 | 1G247 | 11.88 | 10.00 | 0.9 | 1G241 | 6.97 | 5.94 | 0.8 |
| 7A | 4 | 1¼ | 4½ | — | — | — | — | — | — | — | — | — | 255 | 1G248 | 14.15 | 11.95 | 1.0 | 1G242 | 8.72 | 7.44 | 1.1 |
| 7A | 5 | 1¼ | 5½ | — | — | — | — | — | — | — | — | — | 280 | 1G249 | 15.41 | 13.02 | 1.2 | 1G243 | 10.10 | 8.64 | 1.4 |
| 7B | 3 | 1¼ | 3⅝ | 125 | 1G226 | 8.03 | 6.91 | 1.0 | 1G232 | 11.45 | 9.69 | 0.8 | 210 | 1G235 | 11.83 | 10.00 | 0.9 | 1G229 | 6.97 | 5.94 | 0.8 |
| 7B | 4 | 1¼ | 4½ | 165 | 1G227 | 10.32 | 8.84 | 1.5 | — | — | — | — | 255 | 1G236 | 14.15 | 11.95 | 1.0 | 1G230 | 8.72 | 7.44 | 1.1 |
| 7B | 5 | 1¼ | 5½ | 190 | 1G228 | 11.80 | 10.18 | 2.1 | — | — | — | — | 280 | 1G237 | 15.41 | 13.02 | 1.2 | 1G231 | 10.10 | 8.64 | 1.4 |

FOR SOCKETS AND BRACKETS, SEE PAGE 2167



TYPE 3 Friction Ring Stem 7/16 x 1⅜"



TYPE 5A Threaded Stem 3/8"-16 x 1" Lg.



TYPE 6 Threaded Stem 7/16"-14 x 1½" Lg.



TYPE 7 Threaded Stem 1/2"-13 x 1½" Lg.



TYPE 7A Threaded Stem 1/2"-13 x 3/4" Lg.



TYPE 7B Threaded Stem 1/2"-13 x 1" Lg.

## ORDER DIRECT FROM GRAINGER

You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.

# MATERIAL HANDLING CASTERS

E.R. Wagner Manufacturing Co. CASTERS & WHEELS

Section Code **C** — CAPACITY RANGE 75 to 450 Lbs. — Refer to Application Guide Pages 2123-2124

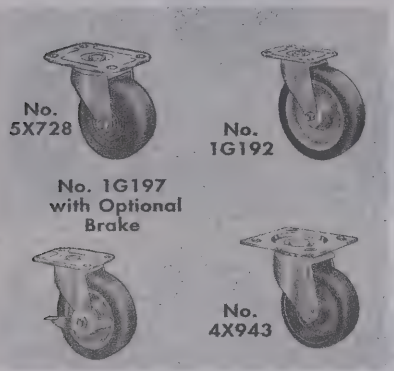
## LIGHT-MEDIUM AND MEDIUM DUTY SWIVEL AND RIGID PLATE CASTERS FOR INDUSTRIAL AND COMMERCIAL APPLICATIONS

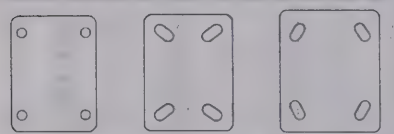
- Attractive zinc chromate finish
- Heat-treated hardened bearing raceways
- Choice of soft natural rubber tread, Poly II Rubber, or Poly II Urethane soft tread with self-lubricating Delrin® wheel bearings
- Durafoam hard tread polypropylene wheel casters available with plain bearing or roller bearing
- All 1¼" tread wheel casters have 5/16" diameter bolt and locknut wheel axle. All 1⅜" and 1½" tread wheel casters have 3/8" diameter bolt and locknut axle

Optional Brake Kits. Available for all swivel plate models.

No. 4X698*. Shpg. wt. 0.2 lbs. List $4.52. Each ..... $3.81

No. 4X825†. Shpg. wt. 0.3 lbs. List $4.56. Each ..... $3.85



TYPE 12 — Bolt Hole Spacing: 1¾ x 3" — Mtg. Bolt Size: 5/16" Dia. — Overall Size: 2¾ x 3¾"

TYPE 14 — Bolt Hole Spacing: 2⅜ x 3 7/16" Slotted to 1¾ x 3" — Mtg. Bolt Size: 3/8" Dia. — Overall Size: 3⅛ x 4⅛"

TYPE 15 — Bolt Hole Spacing: 2⅝ x 3⅝" Slotted to 3 x 3" — Mtg. Bolt Size: 3/8" Dia. — Overall Size: 3¾ x 4⅝"

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CUSHIONEX SUPREME–Soft Tread, Black, All Rubber Wheel** | | | | | | | | | | | | |
| 12 | 3 | 1¼ | 3¾ | 125 | 5X728* | $7.92 | $6.79 | 1.4 | 3A745 | $5.98 | $5.17 | 1.2 |
| 12 | 4 | 1¼ | 4⅝ | 165 | 5X729* | 9.67 | 8.30 | 2.0 | 3A746 | 7.76 | 6.74 | 1.8 |
| 12 | 5 | 1¼ | 5⅝ | 190 | 5X730* | 11.64 | 10.05 | 2.4 | 3A747 | 10.37 | 9.01 | 2.2 |
| 14 | 4 | 1⅜ | 5⅛ | 200 | 3A748† | 14.12 | 12.13 | 2.2 | 3A749 | 11.41 | 9.82 | 2.0 |
| 14 | 5 | 1⅜ | 6⅛ | 240 | 3A750† | 16.13 | 13.91 | 3.0 | 3A751 | 12.96 | 11.14 | 2.6 |
| 14 | 6 | 1⅜ | 7⅛ | 280 | 3A752† | 19.75 | 17.13 | 4.3 | 3A753 | 16.03 | 13.89 | 3.4 |
| **POLY II RUBBER Soft Dark Gray Thermoplastic Rubber Tread on Gray Polypropylene Core Wheel** | | | | | | | | | | | | |
| 12 | 3 | 1¼ | 3¾ | 125 | 1G190* | 11.33 | 9.62 | 1.0 | 1G193 | 9.41 | 8.02 | 1.0 |
| 12 | 4 | 1¼ | 4⅝ | 165 | 1G191* | 13.12 | 11.15 | 1.4 | 1G194 | 11.20 | 9.52 | 1.2 |
| 12 | 5 | 1¼ | 5⅝ | 190 | 1G192* | 14.62 | 12.43 | 1.6 | 1G195 | 13.37 | 11.38 | 1.5 |
| **POLY II URETHANE–Soft Blue Polyurethane Tread on Gray Polypropylene Core Wheel** | | | | | | | | | | | | |
| 12 | 3 | 1¼ | 3¾ | 210 | 1G196* | 11.74 | 9.95 | 1.1 | 1G199 | 9.82 | 8.36 | 1.0 |
| 12 | 4 | 1¼ | 4⅝ | 255 | 1G197* | 13.49 | 11.49 | 1.4 | 1G200 | 11.58 | 9.86 | 1.3 |
| 12 | 5 | 1¼ | 5⅝ | 280 | 1G198* | 14.94 | 12.70 | 1.6 | 1G201 | 13.68 | 11.65 | 1.6 |
| **DURAFOAM–Hard Tread Black Polypropylene Wheel with Plain Bearing** | | | | | | | | | | | | |
| 12 | 3 | 1¼ | 3¾ | 210 | 4X694* | 7.08 | 6.06 | 1.0 | 4X696 | 5.17 | 4.47 | 1.0 |
| 12 | 4 | 1¼ | 4⅝ | 255 | 4X620* | 8.27 | 7.10 | 1.2 | 4X624 | 6.40 | 5.52 | 1.2 |
| 12 | 5 | 1¼ | 5⅝ | 280 | 4X695* | 10.09 | 8.66 | 1.6 | 4X697 | 8.82 | 7.60 | 1.6 |
| 14 | 4 | 1⅜ | 5⅛ | 300 | 4X783† | 13.51 | 11.56 | 1.6 | 4X785 | 10.86 | 9.41 | 1.6 |
| 14 | 5 | 1⅜ | 6⅛ | 350 | 4X784† | 15.22 | 13.05 | 2.0 | 4X786 | 12.09 | 10.40 | 1.8 |
| 14 | 6 | 1⅜ | 7⅛ | 400 | 4X941† | 18.36 | 15.72 | 2.4 | 4X942 | 14.74 | 12.66 | 2.4 |
| **DURAFOAM–Hard Tread Black Polypropylene Wheel with Roller Bearing** | | | | | | | | | | | | |
| 15 | 4 | 1½ | 5⅛ | 300 | 4X943† | 20.11 | 17.12 | 2.0 | 4X944 | 16.87 | 14.38 | 2.0 |
| 15 | 5 | 1½ | 6⅛ | 350 | 4X835† | 21.82 | 18.58 | 2.2 | 4X837 | 18.59 | 15.83 | 2.0 |
| 15 | 6 | 1½ | 7⅛ | 400 | 4X836† | 24.73 | 21.02 | 2.6 | 4X838 | 20.88 | 17.77 | 2.3 |

(*) Use optional Brake Kit, No. 4X698, sold above. (†) Use optional Brake Kit, No. 4X825, sold above.

E.R. Wagner Manufacturing Co. CASTERS & WHEELS

## PLATE MOUNT CASTERS WITH TOTAL-LOCK BRAKE

- Attractive zinc plated finish
- Rugged, smooth rolling, easily cleaned casters for all types of food handling, health care, commercial, and industrial applications
- Foot operated Total-Lock brake available on all swivel casters. Locks wheel and swivel simultaneously to hold equipment firmly in place
- Ball bearing wheel and thread guards

### TOP PLATE DATA

Bolt hole spacing: 1.77 x 2.95"
Slotted to 2.05 x 2.84"
Mounting bolt size: 5/16"
Overall plate size: 2¾ x 3¾"



No. 2G039 with Total-Lock

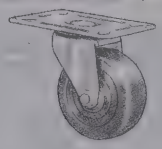
| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | SWIVEL PLATE w/TOTAL-LOCK Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLY II RUBBER–Soft Dark Gray Thermoplastic Tread on Gray Polypropylene Core Wheel** | | | | | | | | | | | | | | | |
| 3 | 1¼ | 4 3/16 | 110 | 2G053 | $30.94 | $18.92 | 1.8 | 2G035 | $46.27 | $26.30 | 2.1 | 2G059 | $26.44 | $15.01 | 1.5 |
| 4 | 1¼ | 5 5/16 | 175 | 2G055 | 34.24 | 20.80 | 1.9 | 2G037 | 49.38 | 28.20 | 2.2 | 2G061 | 29.17 | 16.53 | 2.6 |
| 5 | 1¼ | 6 5/16 | 220 | 2G057 | 37.40 | 23.07 | 2.3 | 2G039 | 52.73 | 31.50 | 2.6 | 2G063 | 31.42 | 19.12 | 1.1 |
| **POLY II URETHANE–Soft Dark Gray Polyurethane Tread on Gray Polypropylene Core Wheel** | | | | | | | | | | | | | | | |
| 3 | 1¼ | 4 3/16 | 110 | 2G041 | 31.59 | 19.23 | 1.8 | 2G029 | 46.94 | 26.60 | 2.1 | 2G047 | 27.09 | 15.32 | 0.4 |
| 4 | 1¼ | 5 5/16 | 175 | 2G043 | 34.89 | 21.16 | 1.9 | 2G031 | 50.24 | 28.50 | 2.2 | 2G049 | 29.81 | 16.89 | 1.6 |
| 5 | 1¼ | 6 5/16 | 220 | 2G045 | 38.04 | 23.46 | 2.3 | 2G033 | 53.38 | 30.80 | 2.6 | 2G051 | 32.87 | 19.22 | 1.8 |



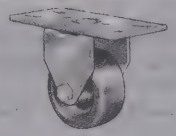
More ways to move and store products safely and securely.

| Section Code | C | CAPACITY RANGE 75 to 450 Lbs. | Refer to Application Guide Pages 2123-2124 |
|---|---|---|---|

# E.R. Wagner CASTERS & WHEELS Manufacturing Co. MEDIUM-DUTY CASTERS



No. 3A011
Swivel Plate



No. 2G020
Rigid Plate

- Heat treat hardened swivel raceways
- Zinc plated for corrosion resistance

| Plate Type | Wheel Dia. (In.) | Wheel Width (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **CUSHIONEX SUPREME–Soft Tread, Black All Rubber Wheel** | | | | | | | | |
| Swivel | 2 | 13/16 | 2 5/8 | 75 | 3A001 | $5.14 | $3.26 | 0.5 |
| Swivel | 2 1/2 | 1 1/4 | 3 7/16 | 120 | 2G010 | 11.53 | 6.99 | 1.2 |
| Swivel | 3 | 1 1/4 | 3 3/4 | 125 | 3A003 | 14.55 | 7.96 | 1.5 |
| Swivel | 4 | 1 3/8 | 5 1/8 | 200 | 3A005 | 26.28 | 15.66 | 3.3 |
| Swivel | 4 | 1 3/8 | 5 1/8 | 200 | 3A007 * | 38.27 | 21.10 | 3.5 |
| Rigid | 2 | 13/16 | 2 5/8 | 75 | 3A002 | 4.55 | 2.98 | 0.4 |
| Rigid | 2 1/2 | 1 1/4 | 3 7/16 | 120 | 2G011 | 10.00 | 5.68 | 0.7 |
| Rigid | 3 | 1 1/4 | 3 3/4 | 125 | 3A004 | 13.15 | 6.92 | 1.3 |
| Rigid | 4 | 1 5/8 | 5 | 200 | 3A006 | 21.82 | 11.72 | 2.5 |
| Rigid | 4 | 1 5/8 | 5 | 200 | 3A008 * | 33.10 | 16.95 | 2.7 |
| **SPARTAN SUPREME–Hard Tread, Black All Rubber Wheel** | | | | | | | | |
| Swivel | 2 | 13/16 | 2 5/8 | 100 | 3A009 | 5.14 | 3.26 | 0.6 |
| Swivel | 2 1/2 | 1 1/4 | 3 7/16 | 175 | 2G012 | 11.53 | 6.99 | 1.1 |
| Swivel | 3 | 1 1/4 | 3 3/4 | 210 | 3A011 | 14.55 | 7.96 | 1.4 |
| Swivel | 4 | 1 3/8 | 5 1/8 | 300 | 3A013 | 26.28 | 15.66 | 3.5 |
| Swivel | 4 | 1 3/8 | 5 1/8 | 300 | 3A015 * | 38.27 | 21.10 | 3.8 |
| Rigid | 2 | 13/16 | 2 5/8 | 100 | 3A010 | 4.55 | 2.98 | 0.4 |
| Rigid | 2 1/2 | 1 1/4 | 3 7/16 | 175 | 2G013 | 10.00 | 5.68 | 0.7 |
| Rigid | 3 | 1 1/4 | 3 3/4 | 210 | 3A012 | 13.15 | 6.92 | 1.4 |
| Rigid | 4 | 1 5/8 | 5 | 300 | 3A014 | 21.82 | 11.72 | 2.8 |
| Rigid | 4 | 1 5/8 | 5 | 300 | 3A016 * | 23.03 | 16.95 | 2.8 |
| **SEMI-STEEL–Hard Tread, All Metal Wheel** | | | | | | | | |
| Swivel | 2 | 15/16 | 2 5/8 | 125 | 5X923 | 5.88 | 3.96 | 0.8 |
| Swivel | 2 1/2 | 1 | 3 7/16 | 175 | 2G014 | 10.51 | 7.04 | 1.4 |
| Swivel | 3 | 1 5/32 | 3 3/4 | 250 | 5X925 | 15.30 | 9.52 | 3.5 |
| Swivel | 4 | 1 1/2 | 5 1/8 | 450 | 5X927 | 27.81 | 18.64 | 4.2 |
| Swivel | 4 | 1 1/2 | 5 1/8 | 450 | 5X928 * | 42.73 | 26.95 | 4.0 |
| Rigid | 2 | 15/16 | 2 5/8 | 125 | 5X924 | 5.58 | 3.62 | 0.6 |
| Rigid | 2 1/2 | 1 | 3 7/16 | 175 | 2G015 | 8.68 | 5.76 | 1.0 |
| Rigid | 3 | 1 5/32 | 3 3/4 | 250 | 5X926 | 14.95 | 8.89 | 1.6 |
| Rigid | 4 | 1 1/2 | 5 | 450 | 5X929 | 22.84 | 14.84 | 3.5 |
| Rigid | 4 | 1 1/2 | 5 | 450 | 5X930 * | 37.26 | 22.75 | 3.8 |
| **OPTIONAL WHEEL BRAKE KITS** | | | | | | | | |
| 3" Pinch Type Wheel Brake Kit | | | | | 4X698 | 4.52 | 3.81 | 0.2 |
| 4" Over-the-Wheel Strap Brake Kit | | | | | 4W930 | 4.23 | 3.60 | 0.4 |

(*) Wheels have anti-friction roller bearings.

- All swivel casters have double ball bearing swivel construction
- Self-lubricating wheel bearings
- All 4" wheel casters available with roller bearing wheel
- Optional pinch type brake kit No. 4X698 available for all 3" swivel casters
- Optional over-the-wheel strap type brake kit No. 4W930 fits all 4" swivel casters (except semi-steel wheels)

| Plate Type | Wheel Dia. (In.) | Wheel Width (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **DURAFOAM–Hard Tread Black Polypropylene Wheel** | | | | | | | | |
| Swivel | 2 | 3/4 | 2 5/8 | 125 | 2G016 | $4.63 | $3.11 | 0.4 |
| Swivel | 2 1/2 | 1 1/4 | 3 7/16 | 175 | 2G017 | 10.46 | 6.10 | 0.9 |
| Swivel | 3 | 1 1/4 | 3 3/4 | 210 | 2G018 | 13.02 | 7.37 | 1.2 |
| Rigid | 2 | 3/4 | 2 5/8 | 125 | 2G019 | 4.10 | 2.69 | 0.2 |
| Rigid | 2 1/2 | 1 1/4 | 3 7/16 | 175 | 2G020 | 8.71 | 5.02 | 0.5 |
| Rigid | 3 | 1 1/4 | 3 3/4 | 210 | 2G021 | 11.18 | 5.98 | 1.0 |
| **DURATEX Hard–Tread Black Phenolic Resin Wheel** | | | | | | | | |
| Swivel | 3 | 1 1/4 | 3 3/4 | 250 | 2G022 | 15.92 | 9.97 | 1.4 |
| Swivel | 4 | 1 1/2 | 5 1/8 | 450 | 2G024 * | 38.27 | 21.51 | 3.0 |
| Rigid | 3 | 1 1/4 | 3 3/4 | 250 | 2G025 | 13.20 | 9.43 | 1.2 |
| Rigid | 4 | 1 1/2 | 5 | 450 | 2G027 * | 32.78 | 17.02 | 2.3 |

(*) Anti-friction roller bearings.

## MOUNTING PLATE TYPES AVAILABLE

| Caster Wheel Dia. (In.) | Bolt Dia. (In.) | SWIVEL CASTERS Overall Size (In.) | SWIVEL CASTERS Bolt Hole Spacing (In.) | RIGID CASTERS Overall Size (In.) | RIGID CASTERS Bolt Hole Spacing (In.) |
|---|---|---|---|---|---|
| 2 | 1/4 | 1 29/32 x 2 5/8 | 15/16 x 2 1/8 | 1 7/8 x 2 5/8 | 31/32 x 1 7/8 |
| 2 1/2 | 5/16 | 2 3/4 x 3 3/4 | 1 3/4 x 2 3/4 slotted to 3 | 2 1/2 x 5 | 1 1/16 x 3 15/32 slotted to 1 1/16 x 4 |
| 3 | 5/16 | 3 1/8 x 4 1/8 | 1 3/4" slotted to 2 3/8 x 3 3/8 | 2 1/2 x 5 | 1 1/16 x 3 15/32" slotted to 1 1/16 x 4 |
| 4 | 3/8 | 4 x 5 | | 3 3/16 x 6 7/8 | 1 1/8 to 2 x 5 |

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# INSTITUTIONAL CASTERS

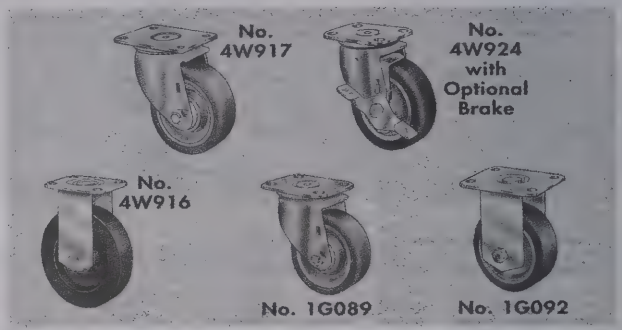
| Section Code | D | CAPACITY RANGE 95 to 1200 Lbs. | Refer to Application Guide Pages 2123-2124 |
|---|---|---|---|

E.R. Wagner CASTERS & WHEELS Manufacturing Co.

## LIGHT–MEDIUM DUTY NSF CERTIFIED WITH SWIVEL AND RIGID PLATE CASTERS

NSF

- NSF (National Sanitation Foundation) Certified
- Optional over-the-wheel positive lock wheel brake available for all swivel plate casters
- Dust cover standard on all swivel plate casters
- Bright zinc plate finish
- Swivel casters have large diameter double ball bearing heat-treated, hardened raceways for extra strength
- Heavy-duty rigid fork
- Wheels are made of soft natural rubber or Poly II materials
- 3/8" Bolt and locknut wheel axle
- Casters with Delrin® bearings are self-lubricating




### DELRIN® PLASTIC BEARING WHEEL CASTERS

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Over-all Ht. (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CUSHIONEX SUPREME Soft Tread, Black, All Rubber Wheel | | | | | POLY II RUBBER Soft Dark Gray Thermoplastic Rubber Tread on Gray Polypropylene Core Wheel | | | | POLY II URETHANE Soft Blue Polyurethane Tread on Gray Polypropylene Core Wheel | | | | | POLY II POLY Hard Tread Black Polypropylene on Black Core Wheel | | | |
| Swivel 17 | 3½ | 1¼ | 4⅝ | 155 | 4W905 | $12.77 | $11.00 | 2.2 | 4W917 | $17.13 | $14.59 | 2.0 | 250 | 4W923 | $17.48 | $14.78 | 1.3 | 4W911 | $12.41 | $10.65 | 1.8 |
| Swivel 17 | 4 | 1¼ | 5⅛ | 165 | 4W906 | 13.83 | 11.91 | 2.4 | 4W918 | 17.97 | 15.31 | 2.1 | 275 | 4W924 | 18.39 | 15.65 | 2.1 | 4W912 | 13.35 | 11.18 | 2.0 |
| Swivel 17 | 5 | 1¼ | 6¼ | 200 | 4W907 | 15.35 | 12.92 | 3.0 | 4W919 | 22.14 | 18.86 | 2.2 | 300 | 4W925 | 20.53 | 17.51 | 2.6 | 4W913 | 14.84 | 12.77 | 2.2 |
| Rigid 17 | 3½ | 1¼ | 4⅝ | 155 | 4W908 | 12.38 | 10.39 | 0.5 | 4W920 | 14.16 | 12.07 | 1.7 | 250 | 4W926 | 14.51 | 12.36 | 1.7 | 4W914 | 9.40 | 8.10 | 1.6 |
| Rigid 17 | 4 | 1¼ | 5⅛ | 165 | 4W909 | 10.83 | 9.40 | 2.4 | 4W921 | 15.00 | 12.78 | 1.8 | 275 | 4W927 | 15.35 | 12.84 | 0.3 | 4W915 | 10.34 | 8.66 | 1.8 |
| Rigid 17 | 5 | 1¼ | 6¼ | 200 | 4W910 | 12.38 | 10.75 | 2.8 | 4W922 | 16.45 | 13.93 | 1.4 | 300 | 4W928 | 17.48 | 14.98 | 2.0 | 4W916 | 11.89 | 10.31 | 2.6 |

### BALL BEARING WHEEL CASTERS

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Swivel 17 | 3½ | 1⅛ | 4⅝ | 155 | — | — | — | — | 1G089 | $18.55 | $15.83 | 2.0 | 250 | 1G095 | $18.92 | $16.02 | 2.0 | | | | |
| Swivel 17 | 4 | 1¼ | 5⅛ | 165 | — | — | — | — | 1G090 | 19.42 | 16.55 | 2.2 | 250 | 1G096 | 19.80 | 16.88 | 2.2 | | | | |
| Swivel 17 | 5 | 1¼ | 6¼ | 200 | — | — | — | — | 1G091 | 21.21 | 18.09 | 2.5 | 250 | 1G097 | 21.59 | 18.40 | 2.6 | | | | |
| Rigid 17 | 3½ | 1¼ | 4⅝ | 155 | — | — | — | — | 1G092 | 15.60 | 13.29 | 1.8 | 250 | 1G098 | 15.97 | 13.60 | 1.7 | | | | |
| Rigid 17 | 4 | 1¼ | 5⅛ | 165 | — | — | — | — | 1G093 | 16.41 | 13.97 | 1.9 | 250 | 1G099 | 16.79 | 14.31 | 2.0 | | | | |
| Rigid 17 | 5 | 1¼ | 6¼ | 200 | — | — | — | — | 1G094 | 17.86 | 15.23 | 2.2 | 250 | 1G100 | 18.23 | 15.54 | 2.2 | | | | |

### OVER-THE-WHEEL BRAKE KITS FOR SWIVEL CASTERS

| For Swivel Type | Wheel Dia. (In.) | Wagner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Plate 17 | 3½ | 1525-97 | 4W929 | $4.07 | $3.44 | 0.2 |
| Plate 17 | 4 | 1526-97 | 4W930 | $4.23 | $3.60 | 0.4 |
| Plate 17 | 5 | 1527-97 | 4W931 | $4.46 | $3.78 | 0.4 |



PLATE TYPE 17
Bolt Hole Spacing: 1¾ x 2⅝ to 3"
Mounting Bolt Size: 5/16" Dia.
Overall Plate Size: 2¾ x 3¾"

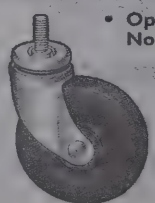
E.R. Wagner CASTERS & WHEELS Manufacturing Co.

## MEDIUM DUTY FOOD SERVICE SWIVEL STEM CASTERS

- 1/2"-13 x 1½" threaded stem
- Bright chrome plated finish
- Heat-treated hardened bearing raceways
- Nut and bolt axle (roller bearing wheel axle has lubrication hole)
- Cushionex soft rubber (donut shaped) wheel

OPTIONAL BRAKE KIT

No. 4X825 Optional Brake Kit. Shpg. wt. 0.3 lbs. List $4.56. Each.....$3.85



- Optional brake kit No. 4X825 available

NSF Certified

### CUSHIONEX SUPREME–Soft Tread Black All Rubber Wheel

| Mount Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Swivel Stem | 4 | 1½ | 4⅞ | 170 | 5X754 | $18.84 | $16.00 | 1.9 |
| Swivel Stem | 5 | 1½ | 5⅞ | 190 | 4X834 | 19.30 | 16.49 | 2.6 |



More ways to move and store products safely and securely.

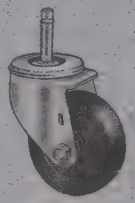
| Section Code | CAPACITY RANGE | Refer to Application Guide Pages |
|---|---|---|
| D | 95 to 1200 Lbs. | 2123 - 2124 |

## E.R. Wagner CASTERS & WHEELS Manufacturing Co. LIGHT-MEDIUM DUTY NSF CERTIFIED STEM CASTERS

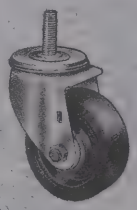
- NSF (National Sanitation Foundation) Certified
- Optional over-the-wheel positive lock wheel brake available for all swivel stem casters
- Dust cover standard
- Bright zinc plated finish (swivel stem 18 has nickel plate finish)
- Swivel casters have large diameter double ball bearing and heat-treated, hardened raceway for extra strength
- Wheels are made of soft natural rubber or Poly II materials
- All casters have self-lubricating Delrin® wheel bearing and 3/8" diameter bolt and locknut wheel axle
- Select casters have ball bearing wheel

NSF

• Caster wheel width is 1¼"



No. 1G145



No. 1G124



No. 1G120 with Optional Brake

### WITH DELRIN PLASTIC BEARING WHEELS

| Swivel Stem Type | Wheel Dia. (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CUSHIONEX SUPREME Soft Tread, Black, All Rubber Wheel | | | | | POLY II RUBBER Soft Dark Gray Thermoplastic Rubber Tread on Gray Polypropylene Core Wheel | | | | POLY II URETHANE Soft Blue Polyurethane Tread on Gray Polypropylene Core Wheel | | | | | POLY II POLY Hard Tread, Black Polypropylene on Black Core Wheel | | | |
| 3 | 3½ | 4½ | 155 | 1G157 | $13.02 | $11.17 | 1.9 | — | — | — | — | 250 | 1G166 | $17.57 | $14.80 | 1.6 | 1G160 | $12.55 | $10.70 | 1.6 |
| 3 | 4 | 5 | 165 | 1G158 | 14.06 | 12.10 | 2.2 | — | — | — | — | 275 | 1G167 | 18.61 | 15.76 | 1.6 | 1G161 | 13.59 | 11.59 | 1.7 |
| 3 | 5 | 6⅛ | 200 | 1G159 | 15.60 | 13.51 | 2.8 | — | — | — | — | 300 | 1G168 | 20.15 | 17.09 | 1.9 | 1G162 | 15.13 | 12.99 | 2.4 |
| 3A | 3½ | 4½ | 155 | 1G145 | 13.24 | 11.37 | 2.0 | — | — | — | — | 250 | 1G154 | 17.79 | 14.98 | 1.3 | 1G148 | 12.77 | 10.90 | 1.6 |
| 3A | 4 | 5 | 165 | 1G146 | 14.31 | 12.28 | 2.2 | — | — | — | — | 275 | 1G155 | 18.83 | 15.94 | 1.7 | 1G149 | 13.81 | 11.75 | 1.6 |
| 3A | 5 | 6⅛ | 200 | 1G147 | 15.82 | 13.67 | 3.1 | — | — | — | — | 300 | 1G156 | 20.37 | 17.27 | 1.9 | 1G150 | 15.34 | 13.16 | 2.3 |
| 7 | 3½ | 4½ | 155 | 1G121 | 12.58 | 10.82 | 2.0 | 1G127 | 16.66 | 14.06 | 1.6 | 250 | 1G130 | 17.13 | 14.44 | 1.6 | 1G124 | 12.11 | 10.33 | 1.6 |
| 7 | 4 | 5 | 165 | 1G122 | 13.65 | 11.75 | 2.2 | 1G128 | 17.73 | 15.03 | 1.6 | 275 | 1G131 | 18.20 | 15.42 | 1.6 | 1G125 | 13.18 | 11.25 | 1.8 |
| 7 | 5 | 6⅛ | 200 | 1G123 | 15.16 | 13.14 | 2.8 | 1G129 | 19.24 | 16.32 | 1.9 | 300 | 1G132 | 19.71 | 16.72 | 1.9 | 1G126 | 14.69 | 12.62 | 2.0 |
| 7A | 3½ | 4½ | — | — | — | — | — | — | — | — | — | 250 | 1G118 | 16.76 | 14.10 | 0.9 | 1G112 | 11.74 | 10.02 | 1.5 |
| 7A | 4 | 5 | — | — | — | — | — | — | — | — | — | 275 | 1G119 | 17.82 | 15.10 | 1.6 | 1G113 | 12.80 | 10.94 | 1.8 |
| 7A | 5 | 6⅛ | 200 | 1G111 | 14.78 | 12.83 | 2.8 | — | — | — | — | 300 | 1G120 | 19.33 | 16.41 | 1.9 | 1G114 | 14.31 | 12.31 | 2.0 |
| 20 | 4 | 5⅛ | 165 | 2G270 | 17.73 | 15.23 | 2.9 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 20 | 5 | 6¼ | 200 | 2G271 | 19.11 | 16.50 | 3.3 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 21 | 5 | 6⅛ | 200 | 2G274 | 16.47 | 14.24 | 1.0 | — | — | — | — | 300 | 2G286 | 21.02 | 17.87 | 2.2 | — | — | — | — |
| 22 | 3½ | 4½ | 155 | 2G275 | 22.69 | 19.24 | 2.1 | — | — | — | — | 250 | 1G309 | 27.24 | 22.91 | 1.3 | — | — | — | — |
| 22 | 4 | 5 | 165 | 2G276 | 23.60 | 20.05 | 2.4 | — | — | — | — | 275 | 1G310 | 28.15 | 23.77 | 2.0 | — | — | — | — |
| 22 | 5 | 6⅛ | 200 | 2G277 | 25.73 | 21.94 | 1.2 | — | — | — | — | 300 | 1G311 | 30.28 | 25.60 | 2.2 | — | — | — | — |

### WITH BALL BEARING WHEEL

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 3½ | 4½ | — | — | — | — | — | — | — | — | — | 250 | 1G104 | 21.71 | 18.36 | 2.0 | — | — | — | — |
| 19 | 4 | 5 | 165 | — | — | — | — | 1G102 | 22.19 | 18.83 | — | — | — | — | — | — | — | — | — | — |
| 19 | 5 | 6⅛ | 200 | — | — | — | — | 1G103 | 23.69 | 20.20 | 2.9 | 250 | 1G106 | 24.07 | 20.51 | 2.9 | — | — | — | — |
| 20 | 5 | 6¼ | | — | — | — | — | — | — | — | — | 250 | 1G108 | 24.07 | 20.51 | 2.9 | — | — | — | — |
| 22 | 5 | 6⅛ | | — | — | — | — | — | — | — | — | 250 | 1G314 | 31.73 | 26.85 | 2.4 | — | — | — | — |

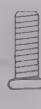
### OVER-THE-WHEEL BRAKE KITS FOR SWIVEL STEM CASTERS

| For Wheel Dia. (In.) | Wagner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3½ | 1525-97 | 4W929 | $4.07 | $3.44 | 0.2 |
| 4 | 1526-97 | 4W930 | 4.23 | 3.60 | 0.4 |
| 5 | 1527-97 | 4W931 | 4.46 | 3.78 | 0.4 |

SEE SOCKETS AND BRACKETS ON PAGE 2167



TYPE 3A Friction Ring Stem 7/16 x 1 29/32"



TYPE 7 Threaded Stem 1/2"-13 x 1½" Lg.



TYPE 7A Threaded Stem 1/2"-13 x 3/4" Lg.



TYPE 18 Friction Ring Stem 5/8" x 2 9/16"



TYPE 20 Friction Ring Stem 1.00" x 2½" with 2 Friction Rings



TYPE 21 Friction Ring Stem 13/16 x 1¾"

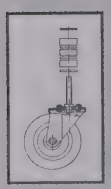


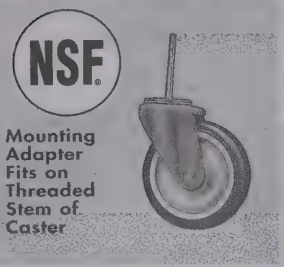

TYPE 22 Octagon/Square 3/4 x 2" with Three 0.265" Holes

# INSTITUTIONAL CASTERS

| Section Code | CAPACITY RANGE | Refer to Application Guide Pages |
|---|---|---|
| D | 95 to 1200 Lbs. | 2123-2124 |

## E.R. Wagner CASTERS & WHEELS Manufacturing Co. EXPANDING STEM CASTERS






- Use with expanding adapter kits below
- Heat-treat hardened double ball bearing swivel construction
- Quiet, easy running wheels with Delrin® bearing
- Attractive bright zinc finish
- Over-the-wheel brake kit available for all swivel casters

### EXPANDING SWIVEL STEM CASTERS (WITHOUT STEM ADAPTER)

| Wheel Dia. (In.) | W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CUSHIONEX (SOFT RUBBER) WHEEL CASTERS** | | | | | | | |
| 3½ | 1¼ | 4 9/16 | 155 | 4W817 | $19.39 | **$12.15** | 2.1 |
| 4 | 1¼ | 5 9/16 | 165 | 2G064 | 31.27 | **16.91** | 2.5 |
| 5 | 1¼ | 6 9/16 | 200 | 2G065 | 39.82 | **20.83** | 2.6 |
| **POLY II URETHANE (POLYURETHANE ON PLASTIC) WHEEL CASTERS** | | | | | | | |
| 3½ | 1¼ | 4 9/16 | 250 | 2G072 | 24.29 | **15.22** | 1.5 |
| 4 | 1¼ | 5 9/16 | 250 | 4W818 | 36.39 | **19.46** | 2.4 |
| 5 | 1¼ | 6 9/16 | 250 | 4W820 | 44.48 | **22.65** | 2.1 |
| **POLY II URETHANE CASTERS WITH FACTORY INSTALLED WHEEL BRAKE** | | | | | | | |
| 4 | 1¼ | 5 9/16 | 250 | 4W819 | 36.78 | **21.00** | 2.5 |
| 5 | 1¼ | 6 9/16 | 250 | 4W821 | 45.83 | **24.60** | 1.6 |

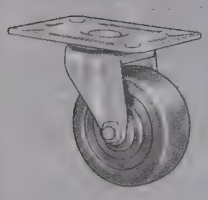
### RUBBER EXPANDING STEM ADAPTER KITS FOR TUBING AND PIPE

| Tubing ID (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 0.750-0.999 | 4W822 | $9.86 | **$5.45** | 0.2 |
| 1.000-1.250 | 4W823 | $10.28 | **$5.98** | 0.2 |
| 1.500-1.750 | 4W824 | $10.86 | **$6.38** | 0.2 |

### OVER-THE-WHEEL BRAKE KITS

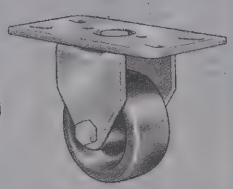
| Fits Caster Wheel Dia. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3½ | 4W929 | $4.07 | **$3.44** | 0.2 |
| 4 | 4W930 | 4.23 | **3.60** | 0.4 |
| 5 | 4W931 | 4.46 | **3.78** | 0.4 |

## E.R. Wagner CASTERS & WHEELS Manufacturing Co. FOOD HANDLING/FOOD SERVICE CASTERS FOR DOLLIES, BINS AND RACKS



No. 4W815 Swivel Plate



No. 2G094 Rigid Plate

- Heat treat hardened double ball bearing swivel raceways
- Zinc plated finish for corrosion resistance
- Self-lubricating wheel bearings
- Economical long lasting construction
- Uses optional Brake Kit No. 4X698, sold below

(*) OPTIONAL BRAKE KIT No. 4X698

**No. 4X698.** Shpg. wt. 0.2 lbs. List $4.52. Each.....$3.81

### TOP PLATE DATA

| | Overall | Bolt Hole Spacing |
|---|---|---|
| Swivel | 3 1/8 x 4 1/8" | 1 3/4 x 3" Slotted to 2 3/8 x 3 3/8" |
| Rigid | 2 1/2 x 5" | 1 1/16 x 3 15/32" Slotted to 1 3/16 x 4" |

| Plate Type | Wheel Dia. (In.) | W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **SPARTAN SUPREME Hard Tread Black All Rubber Wheel** | | | | | | | | |
| Swivel | 3 | 1¼ | 3¾ | 210 | 4W815 * | $15.99 | **$8.75** | 1.2 |
| Rigid | 3 | 1¼ | 3¾ | 210 | 4W816 | 14.44 | **8.11** | 1.5 |
| **DURATEX hard tread black phenolic resin wheel** | | | | | | | | |
| Swivel | 3 | 1¼ | 3¾ | 250 | 2G091 * | 15.99 | **10.88** | 1.5 |
| Rigid | 3 | 1¼ | 3¾ | 250 | 2G092 | 14.54 | **9.57** | 1.1 |
| **DURAFOAM hard tread black polypropylene wheel** | | | | | | | | |
| Swivel | 3 | 1¼ | 3¾ | 210 | 2G093 * | 14.40 | **7.71** | 1.2 |
| Rigid | 3 | 1¼ | 3¾ | 210 | 2G094 | 12.23 | **7.07** | 0.9 |

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

| Section Code | D | CAPACITY RANGE 95 to 1200 Lbs. | Refer to Application Guide Pages 2123—2124 |
|---|---|---|---|

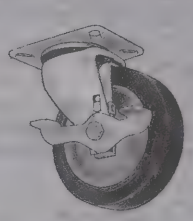
# ULTIMATE MEDIUM-DUTY NSF CERTIFIED CASTERS WITH DELRIN® PLASTIC BEARING WHEEL AND NICKLE PLATED FINISH

- NSF (National Sanitation Foundation) Certified
- Wheels made of soft natural rubber or Polly II material
- Swivel casters have grease seals and dust cover protecting heat treated, hardened raceways from a variety of contaminants and repeated washings
- Heavy-duty swivel and rigid forks
- Self-lubricating Delrin® bearing wheel
- Durable nickel plated finish
- Optional over-the-wheel positive lock wheel brake available for swivel casters (see below)

E.R. Wagner CASTERS & WHEELS Manufacturing Co.

NSF

No. 4W900 with Optional No. 4W933 Brake





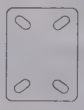
No. 4W903

| Plate Type | Wheel Dia. (In.) | Width (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CUSHIONEX (SOFT RUBBER) TREAD WHEEL CASTERS** | | | | | | | | | | | | |
| **14** | 4 | 1⅜ | 5⅛ | 200 | **4W881** | $18.13 | **$15.59** | 3.0 | **4W884** | $13.83 | **$11.97** | 2.8 |
| **14** | 5 | 1⅜ | 6⅜ | 240 | **4W882** | 19.68 | **16.95** | 3.5 | **4W885** | 15.35 | **13.29** | 3.2 |
| **14** | 6 | 1⅜ | 7⅜ | 280 | **4W883** | 22.14 | **19.16** | 4.5 | **4W886** | 17.81 | **15.37** | 3.4 |
| **POLY II RUBBER (CUSHION RUBBER) SOFT TREAD WHEEL CASTERS** | | | | | | | | | | | | |
| **14** | 4 | 1½ | 5⅛ | 200 | **4W893** | 21.66 | **18.40** | 2.3 | **4W896** | 17.81 | **15.37** | 3.4 |
| **14** | 5 | 1½ | 6⅜ | 240 | **4W894** | 23.08 | **19.63** | 2.5 | **4W897** | 18.75 | **15.99** | 2.3 |
| **14** | 6 | 1½ | 7⅜ | 280 | **4W895** | 25.53 | **21.71** | 2.8 | **4W898** | 21.20 | **18.08** | 2.6 |
| **POLY II POLY (POLYOLEFIN) HARD TREAD WHEEL CASTERS** | | | | | | | | | | | | |
| **14** | 4 | 1½ | 5⅛ | 375 | **4W887** | 17.62 | **15.08** | 2.5 | **4W890** | 13.28 | **11.37** | 1.9 |
| **14** | 5 | 1½ | 6⅜ | 400 | **4W888** | 19.10 | **16.36** | 2.8 | **4W891** | 14.80 | **12.69** | 2.3 |
| **14** | 6 | 1½ | 7⅜ | 450 | **4W889** | 21.20 | **18.14** | 3.0 | **4W892** | 16.90 | **14.53** | 2.8 |
| **POLY II URETHANE (POLYURETHANE) SOFT TREAD WHEEL CASTERS** | | | | | | | | | | | | |
| **14** | 4 | 1½ | 5⅛ | 375 | **4W899** | 21.20 | **18.14** | 3.0 | **4W902** | 18.36 | **15.52** | 1.4 |
| **14** | 5 | 1½ | 6⅜ | 400 | **4W900** | 24.89 | **21.13** | 2.5 | **4W903** | 20.56 | **17.49** | 2.3 |
| **14** | 6 | 1½ | 7⅜ | 450 | **4W901** | 27.34 | **23.27** | 3.0 | **4W904** | 23.01 | **19.61** | 2.8 |

## OVER-THE-WHEEL BRAKE KITS FOR SWIVEL CASTERS

| For Caster Type | Wheel (In.) Dia. | Wheel (In.) Width | Wagner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Swivel Plate 14** | 4 | 1½ | 1564-96 | **4W932** | **$5.20** | **$4.40** | **0.2** |
| **Swivel Plate 14** | 5 | 1½ | 1565-98 | **4W933** | **5.43** | **4.59** | **0.2** |
| **Swivel Plate 14** | 6 | 1½ | 1566-98 | **4W952** | **6.21** | **5.24** | **0.4** |

TOP PLATE DATA



**TYPE 14**

**Overall Size: 3⅛ x 4⅛"**
**Bolt Hole Spacing: 1¾ x 3"**
**Slotted to 2⅜ x 3⅜,"**
**Mounting Bolt Size: 3/8" Dia.**

# ALBION MEDIUM-DUTY STAINLESS STEEL CASTERS



NSF

- NSF (National Sanitation Foundation) Certified
- Designed for food and washdown applications; suitable for use where rust can occur
- 304 stainless steel
- Wheels have Delrin® bearings

**TOP PLATE DATA**

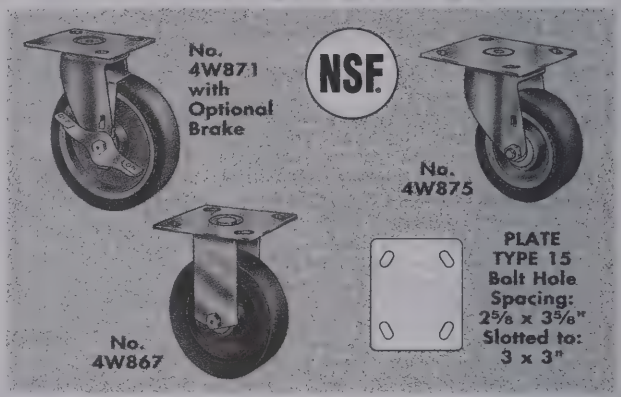
**Overall Plate Size:**
**Rigid ⅜ x 4½"**
**Swivel 4 x 4½"**
**Bolt hole spacing: 2⅝ x 3⅜"**
**Slotted to 3 x 3"**
**Mounting Bolt: 3/8" Dia.**

| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALATHANE (POLYURETHANE) WHEEL CASTERS** | | | | | | | | | | | |
| **4** | 2 | 5⅝ | 500 | **3G101** | $111.43 | **$85.00** | 4.3 | **3G100** | $68.17 | **$52.00** | 3.2 |
| **5** | 2 | 6½ | 500 | **3G103** | 113.19 | **86.35** | 4.9 | — | — | — | — |
| **6** | 2 | 7¼ | 500 | **3G105** | 115.97 | **88.45** | 5.3 | **3G104** | 82.13 | **62.65** | 4.1 |
| **8** | 2 | 9½ | 500 | **3G107** | 125.34 | **95.55** | 6.4 | — | — | — | — |
| **ALATHANE (SOLID POLY) WHEEL CASTERS** | | | | | | | | | | | |
| **4** | 2 | 5⅝ | 500 | — | — | — | — | **3G108** | 82.58 | **63.00** | 3.3 |
| **5** | 2 | 6⅜ | 500 | **3G111** | 129.28 | **101.55** | 5.0 | **3G110** | 100.34 | **74.25** | 3.9 |
| **6** | 2 | 7⅛ | 500 | **3G113** | 134.59 | **105.70** | 5.5 | **3G112** | 105.93 | **83.20** | 4.4 |
| **8** | 2 | 9½ | 500 | **3G115** | 151.73 | **119.15** | 7.1 | **3G114** | 125.92 | **98.90** | 6.5 |

| Section Code | D | CAPACITY RANGE 95 to 1200 Lbs. | Refer to Application Guide Pages 2123-2124 |
|---|---|---|---|

## E.R. Wagner Casters & Wheels Manufacturing Co. MEDIUM-DUTY NSF CERTIFIED CASTERS WITH ROLLER WHEEL BEARING

- NSF (National Sanitation Foundation) Certified
- Optional over-the-wheel positive lock wheel brake available for all plate swivel casters except phenolic and semi-steel wheels
- Swivel casters include dust cover
- Bright zinc plated finish
- Swivel casters have large diameter double ball bearing heat-treated, hardened raceways for extra strength
- Heavy-duty rigid fork
- 3/8" diameter bolt and locknut wheel axle
- Choice of soft natural rubber tread, Poly II Rubber soft tread, and Poly II Urethane soft tread; or Poly II Poly, phenolic, and semi-steel hard tread wheels
- All casters have roller wheel bearing




| Plate Type 15 | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Cushionex supreme soft tread black all rubber wheel** | | | | | | | | |
| Swivel | 4 | 1 3/8 | 5 3/8 | 200 | **4W857** | $20.91 | **$17.95** | 3.3 |
| Swivel | 5 | 1 3/8 | 6 3/8 | 240 | **4W858** | 22.56 | **19.40** | 3.8 |
| Swivel | 6 | 1 3/8 | 7 3/8 | 280 | **4W859** | 25.37 | **21.87** | 4.4 |
| Rigid | 4 | 1 3/8 | 5 3/8 | 200 | **4W860** | 18.10 | **15.47** | 2.5 |
| Rigid | 5 | 1 3/8 | 6 3/8 | 240 | **4W861** | 19.26 | **16.61** | 3.5 |
| Rigid | 6 | 1 3/8 | 7 3/8 | 280 | **4W862** | 21.69 | **18.77** | 4.5 |
| **Poly II rubber soft dark gray thermoplastic rubber tread on gray polypropylene core wheel** | | | | | | | | |
| Swivel | 4 | 1 1/2 | 5 3/8 | 200 | **4W869** | 20.04 | **17.07** | 2.3 |
| Swivel | 5 | 1 1/2 | 6 3/8 | 240 | **4W870** | 23.34 | **19.91** | 3.0 |
| Swivel | 6 | 1 1/2 | 7 3/8 | 280 | **4W871** | 26.37 | **22.58** | 3.8 |
| Rigid | 4 | 1 1/2 | 5 3/8 | 200 | **4W872** | 15.13 | **12.96** | 2.2 |
| Rigid | 5 | 1 1/2 | 6 3/8 | 240 | **4W873** | 18.13 | **15.48** | 2.4 |
| Rigid | 6 | 1 1/2 | 7 3/8 | 280 | **4W874** | 21.69 | **18.52** | 2.8 |
| **Poly II urethane soft blue polyurethane tread on gray polypropylene core wheel** | | | | | | | | |
| Swivel | 4 | 1 1/2 | 5 3/8 | 375 | **4W875** | 26.67 | **22.62** | 2.4 |
| Swivel | 5 | 1 1/2 | 6 3/8 | 400 | **4W876** | 28.35 | **24.09** | 2.6 |
| Swivel | 6 | 1 1/2 | 7 3/8 | 450 | **4W877** | 31.29 | **26.60** | 3.3 |
| Rigid | 4 | 1 1/2 | 5 3/8 | 375 | **4W878** | 21.75 | **18.49** | 2.3 |
| Rigid | 5 | 1 1/2 | 6 3/8 | 400 | **4W879** | 23.14 | **19.70** | 2.6 |
| Rigid | 6 | 1 1/2 | 7 3/8 | 450 | **4W880** | 26.57 | **22.62** | 3.1 |

| Plate Type 15 | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Poly II poly hard tread black polypropylene on black core wheel** | | | | | | | | |
| Swivel | 4 | 1 1/2 | 5 3/8 | 375 | **4W863** | $19.62 | **$16.74** | 2.5 |
| Swivel | 5 | 1 1/2 | 6 3/8 | 400 | **4W864** | 21.27 | **18.16** | 2.8 |
| Swivel | 6 | 1 1/2 | 7 3/8 | 450 | **4W865** | 24.08 | **20.24** | 2.8 |
| Rigid | 4 | 1 1/2 | 5 3/8 | 375 | **4W866** | 16.48 | **14.06** | 2.0 |
| Rigid | 5 | 1 1/2 | 6 3/8 | 400 | **4W867** | 18.13 | **15.51** | 2.4 |
| Rigid | 6 | 1 1/2 | 7 3/8 | 450 | **4W868** | 20.39 | **17.33** | 2.6 |
| **Duratex hard tread black phenolic resin wheel** | | | | | | | | |
| Swivel | 3 | 1 1/2 | 4 3/8 | 350 | **2G287** | 19.42 | **16.55** | 2.3 |
| Swivel | 4 | 1 1/2 | 5 3/8 | 450 | **1G437** | 20.55 | **17.60** | 3.0 |
| Swivel | 5 | 1 1/2 | 6 3/8 | 450 | **1G438** | 22.34 | **19.20** | 3.3 |
| Swivel | 6 | 1 1/2 | 7 3/8 | 450 | **1G439** | 23.69 | **20.47** | 3.7 |
| Rigid | 3 | 1 1/2 | 4 3/8 | 350 | **2G288** | 15.25 | **13.04** | 2.1 |
| Rigid | 4 | 1 1/2 | 5 3/8 | 450 | **1G440** | 16.38 | **14.00** | 2.2 |
| Rigid | 5 | 1 1/2 | 6 3/8 | 450 | **1G441** | 18.01 | **15.43** | 3.1 |
| Rigid | 6 | 1 1/2 | 7 3/8 | 450 | **1G442** | 19.36 | **16.71** | 3.5 |
| **Semi-steel hard tread all metal wheel** | | | | | | | | |
| Swivel | 3 | 1 1/4 | 4 3/8 | 450 | **2G289** | 28.74 | **24.39** | 3.3 |
| Swivel | 4 | 1 1/2 | 5 3/8 | 450 | **2G290** | 33.29 | **28.50** | 4.3 |
| Rigid | 3 | 1 1/4 | 4 3/8 | 450 | **2G291** | 24.54 | **20.89** | 2.8 |
| Rigid | 4 | 1 1/2 | 5 3/8 | 450 | **2G292** | 29.09 | **24.83** | 3.8 |

## OVER-THE-WHEEL BRAKE KITS FOR SWIVEL CASTERS

| For Swivel Plate Type | Wheel Dia. (In.) | Wagner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 15 | 4* | 1526-97 | **4W930** | $4.23 | **$3.60** | 0.4 |
| 15 | 5* | 1527-97 | **4W931** | 4.46 | **3.78** | 0.4 |
| 15 | 6* | 1528-97 | **4W934** | $5.24 | **$4.43** | 0.4 |

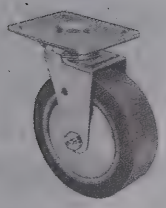
(*) Except Duratex phenolic and semi-steel.

**WE OFFER A WIDE RANGE OF ENERGY SAVING PRODUCTS**
Electric motors, controls, blowers, fans and ventilators, lighting, boilers, ballasts, pumps, furnaces, water heaters, and other products.
See Index under Energy Saving Products for complete listings.

| Section Code | D | CAPACITY RANGE 95 to 1200 Lbs. | Refer to Application Guide Pages 2123—2124 |
|---|---|---|---|

E.R. Wagner Manufacturing Co. CASTERS & WHEELS

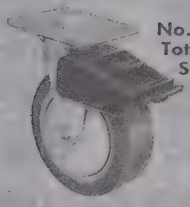
# MEDIUM-HEAVY DUTY NSF CERTIFIED CASTERS WITH ROLLER BEARING WHEEL, THREAD GUARD, TOTAL LOCK WHEEL/SWIVEL BRAKE



No. 3KP56
Swivel



No. 3KP59
Rigid



No. 3KP62
Total Lock
Swivel

NSF

- For use with food handling and processing equipment, mobile tool chests and workbenches, platform and stock trucks and carts, distribution carts and dollies, laundry and refuse hampers and trucks, mobile textile handling equipment, and many other applications
- Bright chromed zinc finish
- High strength double ball bearings, hardened swivel raceways for long caster service life
- Foot-operated Total-Lock brake (available on all swivel casters) locks wheel and swivel simultaneously to hold equipment firmly in place
- Roller bearing wheel and 1/2" nut and bolt axle with grease zerk fitting
- Wheel thread guards
- All swivel casters have a unique upper race cap which also serves as a dust cover to protect the upper swivel raceway from contaminates
- NSF Certified

## TOP PLATE DATA

Bolt hole spacing: 2⅝ x 3⅝"
Slotted to 3 x 3"

Mounting bolt size: 3/8" Dia.
Overall plate size: 4 x 4½"

| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE WITH TOTAL-LOCK BRAKE Stock No. | List | Each | Shpg. Wt. | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POLY II RUBBER soft black thermoplastic rubber tread on gray polypropylene core wheel | | | | | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 300 | 3KP52 | $47.94 | $41.25 | 4.2 | 3KP46 | $35.19 | $30.30 | 3.7 | 3KP49 | $28.38 | $24.41 | 3.3 |
| 5 | 2 | 6½ | 325 | 3KP53 | 49.08 | 42.25 | 4.7 | 3KP47 | 36.33 | 31.25 | 4.1 | 3KP50 | 29.40 | 25.30 | 3.7 |
| 6 | 2 | 7½ | 400 | 3KP54 | 52.26 | 44.95 | 5.3 | 3KP48 | 39.51 | 34.00 | 4.9 | 3KP51 | 32.40 | 27.90 | 4.3 |
| POLY II URETHANE soft red polyurethane tread on gray polypropylene core wheel | | | | | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 600 | 3KP61 | 49.47 | 42.55 | 4.1 | 3KP55 | 36.72 | 31.60 | 3.7 | 3KP58 | 29.94 | 25.75 | 3.3 |
| 5 | 2 | 6½ | 650 | 3KP62 | 50.67 | 43.60 | 4.8 | 3KP56 | 37.92 | 32.65 | 4.3 | 3KP59 | 31.02 | 26.70 | 3.7 |
| 6 | 2 | 7½ | 700 | 3KP63 | 54.33 | 46.75 | 5.4 | 3KP57 | 40.65 | 35.00 | 5.0 | 3KP60 | 34.49 | 29.70 | 4.4 |
| POLY II POLY hard tread black polypropylene on black core wheel | | | | | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 600 | 3KP70 | 45.12 | 38.85 | 4.1 | 3KP64 | 32.37 | 27.85 | 3.0 | 3KP67 | 25.77 | 22.16 | 3.2 |
| 5 | 2 | 6½ | 650 | 3KP71 | 46.38 | 39.90 | 4.5 | 3KP65 | 33.63 | 28.95 | 4.1 | 3KP68 | 26.91 | 23.14 | 3.4 |
| 6 | 2 | 7½ | 700 | 3KP72 | 48.42 | 41.65 | 5.2 | 3KP66 | 35.67 | 30.70 | 4.5 | 3KP69 | 28.77 | 24.75 | 3.9 |
| DURATEX hard tread black phenolic resin wheel | | | | | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 600 | 3KP79 | 43.62 | 37.55 | 4.6 | 3KP73 | 30.87 | 26.55 | 4.1 | 3KP76 | 24.27 | 20.88 | 3.6 |
| 5 | 2 | 6½ | 650 | 3KP80 | 44.85 | 38.60 | 5.3 | 3KP74 | 32.10 | 27.65 | 5.1 | 3KP77 | 25.41 | 21.86 | 4.2 |
| 6 | 2 | 7½ | 700 | 3KP81 | 46.92 | 40.35 | 6.1 | 3KP75 | 34.17 | 29.40 | 5.7 | 3KP78 | 27.27 | 23.45 | 4.7 |

## VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# INSTITUTIONAL CASTERS

| Section Code | D | CAPACITY RANGE 95 to 1200 Lbs. | Refer to Application Guide Pages 2123—2124 |
|---|---|---|---|

## HEAVY-DUTY SWIVEL & RIGID POWDER COAT FINISH CASTERS

E.R. Wagner Casters & Wheels Manufacturing Co.



No. 4W835 Swivel Plate



No. 2G101 Rigid Plate

- Outperforms stainless steel in capacity and impact resistance
- Unique powder coat over yellow zinc chromate finish withstands a minimum of 750 hours salt spray
- Upper and lower raceway swivel grease seal and swivel grease zerk fitting
- Stainless steel wheel axle
- Noncorrosive Delrin® wheel bearings move easily and quietly under heavy loads
- Duratex (phenolic resin) wheel is highly suitable for deep freeze or high temperature (300°F) applications and performs well in normal or highly moist environments. Caution: Excessive high temperatures may cause the upper and lower grease seals to melt
- Poly II Urethane wheel provides long life, smooth, quiet rolling, and easy cleaning

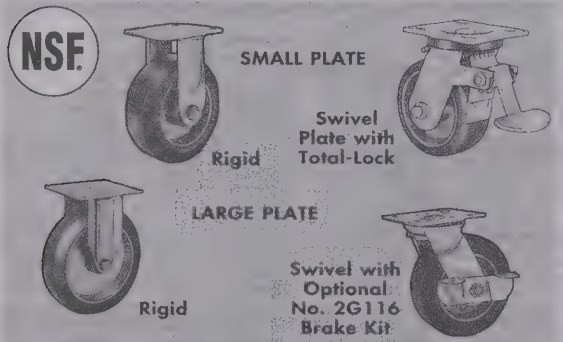
### TOP PLATE DATA

Bolt hole spacing: 2⅝ x 3⅝"
Slotted to 3 x 3"
Mounting bolt size: 3/8" Dia.
Overall plate size: 4 x 4½"
Thickness: 1/4"

| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Colors Rig | Colors Wheel | SWIVEL PLATE CASTERS Stock No. | List | Each | Shpg. Wt. | RIGID PLATE CASTERS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DURATEX hard tread black phenolic resin wheel** | | | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 800 | Blue | Black | 2G096 | $62.47 | $39.35 | 4.6 | 2G101 | $33.88 | $21.30 | 3.5 |
| 5 | 2 | 6½ | 900 | Blue | Black | 4W840 | 63.46 | 40.60 | 5.5 | 4W843 | 35.12 | 22.44 | 5.0 |
| 6 | 2 | 7½ | 900 | Blue | Black | 4W841 | 66.54 | 42.60 | 6.0 | 4W844 | 38.19 | 24.42 | 5.5 |
| 8 | 2 | 9½ | 900 | Blue | Black | 4W842 | 74.59 | 47.70 | 8.0 | 4W845 | 46.30 | 29.60 | 7.0 |
| **POLY II URETHANE soft blue polyurethane tread on white polypropylene core wheel** | | | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 600 | Blue | Blue on white | 2G106 | 86.11 | 54.25 | 4.3 | 2G111 | 59.83 | 39.00 | 3.2 |
| 5 | 2 | 6½ | 750 | Blue | Blue on white | 4W834 | 93.51 | 58.50 | 4.8 | 4W837 | 61.28 | 39.30 | 4.3 |
| 6 | 2 | 7½ | 900 | Blue | Blue on white | 4W835 | 94.48 | 59.05 | 5.8 | 4W838 | 65.79 | 41.20 | 4.8 |
| 8 | 2 | 9½ | 900 | Blue | Blue on white | 4W836 | 105.24 | 65.85 | 7.8 | 4W839 | 78.60 | 49.30 | 5.8 |

E.R. Wagner Casters & Wheels Manufacturing Co.

## HEAVY-DUTY SWIVEL & RIGID CASTERS FOR FOOD HANDLING & FOOD PROCESSING




- Designed to prevent accumulation of foreign matter
- Easily cleaned
- Small plate casters have Poly II Urethane wheel with Delrin® bearing
- Large plate casters have mold-on polyurethane on aluminum die cast wheels with roller bearing
- Yellow zinc chromate finish outlasts standard clear zinc
- Total-Lock available on all sizes of small plate swivel casters. Locks both wheel and swivel simultaneously
- All non-Total-Lock swivel casters have upper and lower raceway swivel grease seal
- Field mount side brake kit No. 2G116 (see below) locks wheel only; fits all non-Total-Lock swivel casters

### SMALL TOP PLATE DATA

Bolt hole spacing: 2⅝ x 3⅝"
Slotted to 3 x 3"
Mounting bolt size: 3/8" Dia.
Overall plate size: 4 x 4½"

### LARGE TOP PLATE DATA

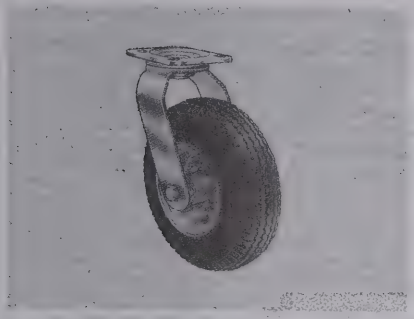
Bolt hole spacing: 4⅛ x 4½"
Mounting bolt size: 3/8" Dia.
Overall plate size: 5 x 5½"

| Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SMALL TOP PLATE POLY II URETHANE soft blue polyurethane tread on gray polypropylene core wheel Stock No. | List | Each | Shpg. Wt. | SMALL TOP PLATE w/TOTAL LOCK POLY II URETHANE soft blue polyurethane tread on gray polypropylene core wheel Stock No. | List | Each | Shpg. Wt. | LARGE TOP PLATE MOLD-ON POLYURETHANE soft blue polyurethane tread on aluminum core wheel Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Swivel Plate | 5 | 2 | 6½ | 750 | 4W825 | $60.65 | $38.75 | 4.8 | 4W826 | $75.82 | $48.45 | 5.5 | 1050 | 4W846 | $83.52 | $52.30 | 7.0 |
| Swivel Plate | 6 | 2 | 7½ | 900 | 4W827 | 64.97 | 41.60 | 5.8 | 4W828 | 80.73 | 51.65 | 6.5 | 1200 | 4W847 | 89.66 | 56.15 | 7.5 |
| Swivel Plate | 8 | 2 | 9½ | 900 | 4W829 | 75.65 | 48.35 | 67.8 | 4W830 | 93.91 | 59.80 | 7.5 | 1200 | 4W848 | 105.66 | 66.15 | 9.5 |
| Rigid Plate | 5 | 2 | 6½ | 750 | 4W831 | 40.78 | 26.10 | 4.3 | — | — | — | — | 1050 | 4W849 | 65.06 | 39.50 | 6.0 |
| Rigid Plate | 6 | 2 | 7½ | 900 | 4W832 | 44.47 | 28.45 | 4.8 | — | — | — | — | 1200 | 4W850 | 71.72 | 44.95 | 6.5 |
| Rigid Plate | 8 | 2 | 9½ | 900 | 4W833 | 56.07 | 35.90 | 5.8 | — | — | — | — | 1200 | 4W851 | 86.17 | 53.95 | 8.0 |

**No. 2G116. SIDE BRAKE KIT.** Fits on all non-Total-Lock swivel casters listed above. Shpg. wt. 0.9 lbs. List $13.47 Each.....**$8.79**

Section Code **E** | CAPACITY RANGE 220 to 1350 Lbs. | Refer to Application Guide Page 2123-2124

# ALBION FULL PNEUMATIC WHEEL CASTERS



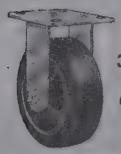
- Provide protection for both load and floor surface
- Suitable for transporting delicate loads
- Caster raceways are heat-treated for longer life
- Wheels have ball bearings

## TOP PLATE DATA

| | 16 Series | 72 & 272 Series | 290 Series |
|---|---|---|---|
| Bolt Hole Spacing | 2⅝ x 3⅝" Slotted to 3 x 3" | 3⅜ x 5¼" Slotted to 2⅞ x 4 15/16" | 3⅜ x 5¼" Slotted to 4⅛ x 6⅛" |
| Mounting Bolt Size | 3/8" | 1/2" | 1/2" |
| Overall Plate Size | 4 x 4½" | 4½ x 6¼" | Swivel: 5¼ x 7¼" Rigid: 5 x 7¼" |

| Tire Size (In.) | Nominal Dia. (In.) | Overall Ht. (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 SERIES CASTERS** | | | | | | | | | | | |
| 2.50 x 4 | 8 | 10 | 220 | 3G145 | $62.10 | $48.75 | 8.0 | 3G144 | $43.86 | $34.50 | 6.8 |
| 2.80 x 4 | 8 | 11 | 295 | 3G147 | 72.30 | 56.80 | 9.2 | 3G146 | 54.07 | 42.50 | 8.5 |
| 4.10 x 4 | 10 | 13 | 410 | 3G149 | 76.77 | 60.35 | 9.0 | 3G148 | 58.42 | 45.90 | 10.0 |
| **72 SERIES CASTERS** | | | | | | | | | | | |
| 4.10 x 6 | 12 | 15½ | 675 | 3G239 | 130.40 | 99.45 | 18.0 | 3G238 | 85.29 | 65.05 | 16.0 |
| **272 SERIES DUAL WHEEL CASTERS** | | | | | | | | | | | |
| 2.80 x 4 | 8 | 11 | 590 | 3G173 | 216.98 | 165.75 | 21.0 | 3G172 | 170.00 | 129.60 | 20.0 |
| 4.10 x 4 | 10 | 13 | 820 | 3G175 | 224.36 | 171.25 | 24.0 | 3G174 | 168.28 | 128.30 | 23.0 |
| **290 SERIES DUAL WHEEL CASTERS** | | | | | | | | | | | |
| 4.10 x 6 | 12 | 15½ | 1350 | 3G177 | 305.02 | 239.50 | 39.0 | 3G176 | 208.93 | 164.25 | 35.0 |

# ALBION 16 SERIES SWIVEL AND RIGID HEAVY-DUTY CASTERS



No. 3G128 Rigid Caster



No. 3G137 Swivel Caster



No. 3G123 Swivel Caster with Swivel Lock



No. 3G281 Swivel Lock

- Used for bakery applications and for warehouse trucks and dollies
- Heat-treated raceways for longer life
- Metal parts are clear zinc plated
- All wheel equipped with roller bearings
- Swivel casters come with notched yoke for field installed swivel lock

| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MOLD-ON RUBBER (ALUMINUM CORE) WHEEL CASTERS** | | | | | | | | | | | |
| 5 | 2 | 6½ | 400 | 3G123 | $43.34 | $34.10 | 5.6 | 3G122 | $33.10 | $26.00 | 4.9 |
| 6 | 2 | 7¼ | 410 | 3G125 | 41.97 | 33.00 | 6.2 | 3G124 | 31.66 | 24.86 | 5.5 |
| 8 | 2 | 9½ | 500 | 3G127 | 52.83 | 41.50 | 7.9 | 3G126 | 42.77 | 33.60 | 7.3 |
| **MOLD-ON RUBBER (IRON CORE) WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 350 | 3G129 | 29.35 | 23.04 | 6.5 | 3G128 | 18.99 | 14.91 | 5.7 |
| 5 | 2 | 6½ | 400 | 3G131 | 30.40 | 23.87 | 6.6 | 3G130 | 20.15 | 15.82 | 5.8 |
| 6 | 2 | 7¼ | 410 | 3G133 | 31.13 | 24.44 | 7.7 | 3G132 | 20.82 | 16.35 | 7.0 |
| 8 | 2 | 9½ | 500 | 3G135 | 36.58 | 28.80 | 10.0 | 3G134 | 26.50 | 20.80 | 9.5 |
| **ALATHANE (POLYURETHANE) WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 700 | 3G137 | 43.88 | 34.50 | 5.0 | 3G136 | 33.53 | 26.35 | 4.3 |
| 5 | 2 | 6½ | 900 | 3G139 | 47.60 | 37.40 | 5.3 | 3G138 | 37.35 | 29.35 | 4.6 |
| 6 | 2 | 7¼ | 900 | 3G141 | 52.11 | 41.00 | 6.1 | 3G140 | 41.81 | 32.85 | 5.4 |
| 8 | 2 | 9½ | 900 | 3G143 | 61.96 | 48.65 | 7.5 | 3G142 | 51.88 | 40.75 | 7.0 |
| **TEXITE (PHENOLIC) WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 700 | 3G153 | 28.22 | 22.15 | 4.8 | 3G152 | 17.87 | 14.03 | 4.1 |
| 5 | 2 | 6½ | 900 | 3G155 | 29.48 | 23.15 | 5.4 | 3G154 | 19.22 | 15.09 | 4.7 |
| 6 | 2 | 7¼ | 900 | 3G157 | 30.96 | 24.31 | 6.3 | 3G156 | 20.65 | 16.21 | 5.5 |
| 8 | 2 | 9½ | 900 | 3G159 | 36.10 | 28.40 | 7.5 | 3G158 | 26.02 | 20.42 | 7.3 |
| **CAST-IRON WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 700 | 3G121 | 29.80 | 23.39 | 6.2 | 3G120 | 19.43 | 15.26 | 5.4 |

## TOP PLATE DATA

| | |
|---|---|
| Bolt Hole Spacing | 2⅝ x 3⅝" Slotted to 3 x 3" |
| Mounting Bolt | 3/8" |
| Overall Plate Size | 4 x 4½" |

## CAM BRAKES FOR SWIVEL & RIGID CASTERS LISTED ABOVE

| Albion Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| WK405101G | 3G302 | $15.64 | $12.27 | 1.2 |

## SWIVEL LOCK FOR SWIVEL CASTERS LISTED ABOVE

| Albion Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| SL160000G | 3G281 | $14.08 | $10.74 | 0.6 |

# MANUFACTURING/WAREHOUSE CASTERS

| Section Code | CAPACITY RANGE | Refer to Application Guide Pages |
|---|---|---|
| E | 220 to 1350 Lbs. | 2123-2124 |

## E.R. Wagner Manufacturing Co. HEAVY-DUTY MATERIAL HANDLING CASTERS FOR PLATFORM TRUCKS

- Heat-treated, hardened bearing raceways with grease zerk fitting for longer bearing life
- Upper raceway has grease seal
- Yellow zinc chromate finish for corrosion resistance
- Roller bearing wheel with 1/2" diameter nut and bolt axle with grease zerk fitting
- Optional side brake kit No. 2G116 for swivel casters (to order, see below)
- Factory installed Total-Lock available for select swivel casters. Locks both wheel and swivel simultaneously
- Factory installed 4-position swivel lock available for select swivel casters

### TOP PLATE DATA

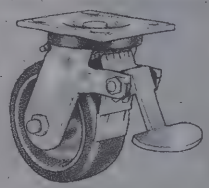
Bolt hole spacing: 2⅝ x 3⅝"
Slotted to 3 x 3"
Mounting bolt size: 3/8" Dia.
Overall plate size: 4 x 4½"
Thickness: 1/4"

No. 3A836 Swivel Plate



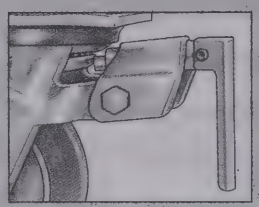
Total-Lock

- Foot operated pedal simultaneously locks wheel and swivel
- Castered equipment is held firmly in place
- Easy upward pressure on pedal releases brake



No. 3A837 Rigid Plate





Four Position Swivel Lock

Downward pressure on lever engages lock

Upward pressure releases lock

| Type | Wheel Dia. (In.) | W (In.) | Overall Height (In.) | Load Rating (Lbs) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **MOLD-ON RUBBER soft black rubber tread on aluminum core wheel** | | | | | | | | |
| Swivel Plate | 5 | 2 | 6½ | 350 | **3A836** | $61.75 | **$40.50** | 6.0 |
| Swivel Plate | 6 | 2 | 7½ | 410 | **3A838** | 64.99 | **42.30** | 7.0 |
| Swivel Plate | 8 | 2 | 9½ | 500 | **3A840** | 75.92 | **49.30** | 9.0 |
| Rigid Plate | 5 | 2 | 6½ | 350 | **3A837** | 44.13 | **28.60** | 4.5 |
| Rigid Plate | 6 | 2 | 7½ | 410 | **3A839** | 47.85 | **31.10** | 6.0 |
| Rigid Plate | 8 | 2 | 9½ | 500 | **3A841** | 56.37 | **36.50** | 7.5 |
| **DURATEX hard tread black phenolic resin wheel** | | | | | | | | |
| Swivel Plate | 3¼ | 2 | 5¼ | 700 | **2G129** | 46.00 | **27.85** | 4.2 |
| Swivel Plate | 4 | 2 | 5⅝ | 800 | **2G130** | 48.90 | **28.75** | 4.7 |
| Swivel Plate | 5 | 2 | 6½ | 900 | **3A842** | 48.22 | **30.10** | 5.5 |
| Swivel Plate | 6 | 2 | 7½ | 900 | **3A844** | 52.18 | **32.05** | 6.5 |
| Swivel Plate | 8 | 2 | 9½ | 900 | **3A846** | 63.01 | **38.05** | 8.0 |
| Rigid Plate | 4 | 2 | 5⅝ | 800 | **2G131** | 46.07 | **17.55** | 3.4 |
| Rigid Plate | 5 | 2 | 6½ | 900 | **3A843** | 30.52 | **18.62** | 5.0 |
| Rigid Plate | 6 | 2 | 7½ | 900 | **3A845** | 35.72 | **21.06** | 5.9 |
| Rigid Plate | 8 | 2 | 9½ | 900 | **3A847** | 45.17 | **26.65** | 7.0 |
| **POLY II RUBBER soft light gray thermoplastic rubber tread on white polypropylene core wheel** | | | | | | | | |
| Swivel Plate | 4 | 2 | 5⅝ | 300 | **2G132** | 63.88 | **39.50** | 4.3 |
| Swivel Plate | 5 | 2 | 6½ | 325 | **2G133** | 64.72 | **40.35** | 4.7 |
| Swivel Plate | 6 | 2 | 7½ | 400 | **2G134** | 68.88 | **43.00** | 5.0 |
| Rigid Plate | 4 | 2 | 5⅝ | 300 | **2G136** | 47.56 | **27.85** | 3.0 |
| Rigid Plate | 5 | 2 | 6½ | 325 | **2G137** | 50.06 | **29.60** | 3.6 |
| Rigid Plate | 6 | 2 | 7½ | 400 | **2G138** | 51.73 | **31.10** | 4.0 |
| **POLY II URETHANE soft blue polyurethane tread on white polypropylene core wheel** | | | | | | | | |
| Swivel Plate | 4 | 2 | 5⅝ | 600 | **2G140** | 62.90 | **39.40** | 4.4 |
| Swivel Plate | 5 | 2 | 6½ | 700 | **2G141** | 62.98 | **40.55** | 4.8 |
| Swivel Plate | 6 | 2 | 7½ | 750 | **2G142** | 70.70 | **44.35** | 5.2 |
| Swivel Plate | 8 | 2 | 9½ | 900 | **2G143** | 84.18 | **52.45** | 6.4 |
| Rigid Plate | 4 | 2 | 5⅝ | 600 | **2G144** | 48.73 | **29.75** | 3.1 |
| Rigid Plate | 5 | 2 | 6½ | 700 | **2G145** | 51.62 | **30.60** | 3.7 |
| Rigid Plate | 6 | 2 | 7½ | 750 | **2G146** | 53.55 | **32.65** | 4.1 |
| Rigid Plate | 8 | 2 | 9½ | 900 | **2G147** | 71.26 | **42.65** | 5.3 |

| Type | Wheel Dia. (In.) | W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **MOLD-ON POLYURETHANE soft blue polyurethane tread on aluminum core wheel** | | | | | | | | |
| Swivel Plate | 5 | 2 | 6½ | 900 | **5X915** | $69.40 | **$44.40** | 5.9 |
| Swivel Plate | 6 | 2 | 7½ | 900 | **5X920** | 76.80 | **48.80** | 6.2 |
| Swivel Plate | 8 | 2 | 9½ | 900 | **2W460** | 93.12 | **58.45** | 9.0 |
| Rigid Plate | 5 | 2 | 6½ | 900 | **5X916** | 54.48 | **34.45** | 4.4 |
| Rigid Plate | 6 | 2 | 7½ | 900 | **5X919** | 61.48 | **38.80** | 5.5 |
| Rigid Plate | 8 | 2 | 9½ | 900 | **2W461** | 79.08 | **49.10** | 7.5 |
| **SEMI-STEEL hard tread all metal wheel** | | | | | | | | |
| Swivel Plate | 4 | 2 | 5⅝ | 900 | **2G149** | 79.06 | **34.05** | 7.0 |
| Swivel Plate | 5 | 2 | 6½ | 900 | **5X917** | 61.38 | **36.45** | 7.4 |
| Swivel Plate | 6 | 2 | 7½ | 900 | **5X921** | 62.25 | **38.30** | 9.7 |
| Swivel Plate | 8 | 2 | 9½ | 900 | **6X617** | 91.22 | **51.05** | 13.0 |
| Rigid Plate | 4 | 2 | 5⅝ | 900 | **2G148** | 61.13 | **23.00** | 6.2 |
| Rigid Plate | 5 | 2 | 6½ | 900 | **5X918** | 39.43 | **24.96** | 6.0 |
| Rigid Plate | 6 | 2 | 7½ | 900 | **5X922** | 46.83 | **27.70** | 8.5 |
| Rigid Plate | 8 | 2 | 9½ | 900 | **6X618** | 69.91 | **38.55** | 12.0 |
| **MOLD-ON RUBBER with Total-Lock** | | | | | | | | |
| Swivel Plate | 5 | 2 | 6½ | 350 | **3A848** | 79.72 | **47.85** | 7.0 |
| Swivel Plate | 6 | 2 | 7½ | 410 | **3A849** | 70.92 | **51.30** | 8.5 |
| Swivel Plate | 8 | 2 | 9½ | 500 | **3A850** | 79.75 | **55.55** | 11.0 |
| **MOLD-ON POLYURETHANE with Total-Lock** | | | | | | | | |
| Swivel Plate | 5 | 2 | 6½ | 900 | **3A851** | 80.50 | **53.95** | 7.1 |
| Swivel Plate | 6 | 2 | 7½ | 900 | **3A852** | 87.13 | **58.30** | 7.5 |
| Swivel Plate | 8 | 2 | 9½ | 900 | **3A853** | 133.01 | **71.95** | 9.5 |
| **DURATEX with Total-Lock** | | | | | | | | |
| Swivel Plate | 5 | 2 | 6½ | 900 | **3A854** | 52.31 | **39.35** | 6.0 |
| Swivel Plate | 6 | 2 | 7½ | 900 | **3A855** | 57.79 | **40.50** | 7.0 |
| Swivel Plate | 8 | 2 | 9½ | 900 | **3A856** | 69.40 | **46.60** | 9.0 |
| **MOLD-ON POLYURETHANE with 4-Position swivel lock** | | | | | | | | |
| Swivel Plate | 5 | 2 | 6½ | 900 | **4W798** | 110.60 | **67.85** | 7.0 |
| Swivel Plate | 6 | 2 | 7½ | 900 | **4W799** | 120.83 | **73.20** | 7.5 |
| Swivel Plate | 8 | 2 | 9½ | 900 | **4W800** | 142.31 | **84.85** | 9.5 |

**No. 2G116. FIELD MOUNT SIDE BRAKE KIT.** Optional for all swivel casters without Total-Lock or 4-position lock. Locks wheel without locking swivel. Shpg. wt. 0.9 lbs. List $13.47. Each.....**$8.79**

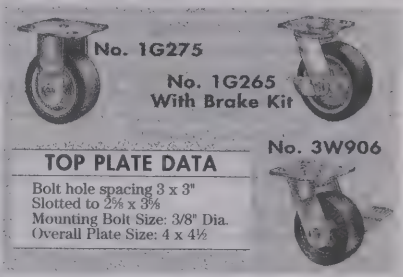
Section Code **E** CAPACITY RANGE 220 to 1350 Lbs. Refer to Application Guide Pages 2123-2124

# HIGH STRENGTH SWIVEL AND RIGID PLATE CASTERS WITH ROLLER BEARING AXLES FOR NONPOWERED APPLICATIONS

- Bright chromed zinc finish
- Large dia., high strength, double ball, hardened swivel raceways with lubrication fitting
- 1/2" bolt and locknut roller bearing axle assembly with spanner bushing and lubrication fitting
- Rugged, 1/4" thick steel plate construction
- Choice of nonmarking Poly II Rubber or Poly II Urethane soft tread, Durafoam polypropylene or Duratex phenolic hard tread wheels
- All 5 x 2" and 6 x 2" swivel plate casters available with or without side wheel brake. Stock Nos. 3W906, 1G427, 1G271, and 1G273 have large size foot lever located on right side of caster. All other wheel brake casters and Brake Kit No. 4A005 have standard foot lever located on left side of caster

**OPTIONAL BRAKE KIT No. 4A005**

No. 4A005. Shpg. wt. 0.7 lbs.
List $9.50.Each.....$8.03




**TOP PLATE DATA**

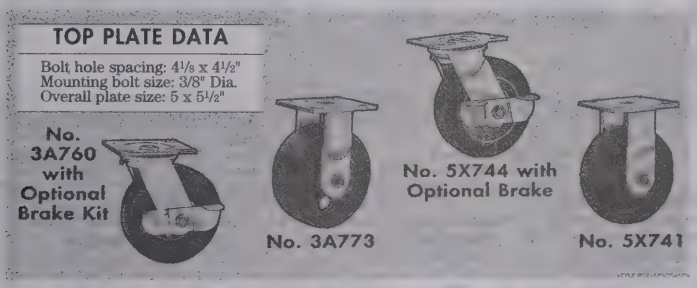
Bolt hole spacing 3 x 3"
Slotted to 2⅝ x 3⅝
Mounting Bolt Size: 3/8" Dia.
Overall Plate Size: 4 x 4½

| Type | Wheel (In.) | Wheel (In.) | Height (In.) | Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7½" | | | POLY II RUBBER soft black thermoplastic rubber tread on gray polypropylene core wheel | | | | | POLY II URETHANE soft red polyurethane tread on gray polypropylene core wheel | | | | | DURAFOAM hard tread black polypropylene wheel | | | | | DURATEX hard tread black phenolic resin wheel | | | | |
| Swivel | 5 | 2 | 6½ | 325 | 1G262 | $38.03 | $32.60 | 5.7 | 750 | 1G270 | $39.82 | $34.15 | 5.8 | 580 | 1G278* | $31.10 | $26.80 | 5.5 | 900 | 3W907* | $32.73 | $28.90 | 5.8 |
| Swivel | 5 | 2 | 6½ | 325 | 1G263† | 42.08 | 36.10 | 6.4 | 750 | 1G271† | 43.49 | 37.30 | 6.5 | 580 | 1G279† | 34.86 | 30.05 | 5.9 | 900 | 3W906† | 36.49 | 32.20 | 6.5 |
| Swivel | 6 | 2 | 7½ | 400 | 1G264* | 40.29 | 34.60 | 6.3 | 900 | 1G272* | 42.21 | 36.20 | 6.4 | 640 | 1G280* | 31.66 | 27.35 | 5.7 | 900 | 1G423* | 35.30 | 30.60 | 7.0 |
| Swivel | 6 | 2 | 7½ | 400 | 1G265† | 44.31 | 38.05 | 6.9 | 900 | 1G273† | 46.25 | 39.65 | 7.0 | 640 | 1G281† | 35.43 | 30.55 | 6.4 | 900 | 1G427† | 39.07 | 33.85 | 7.0 |
| Swivel | 8 | 2 | 9½ | 400 | 1G266 | 59.31 | 50.65 | 7.5 | 900 | 1G274* | 61.82 | 52.80 | 7.7 | 675 | 1G282* | 38.16 | 32.95 | 7.3 | 900 | 1G424* | 41.33 | 35.90 | 8.9 |
| Rigid | 5 | 2 | 6½ | 325 | 1G267 | 26.99 | 23.20 | 4.5 | 750 | 1G275 | 28.62 | 24.56 | 4.5 | 580 | 1G283 | 21.21 | 18.32 | 4.0 | 900 | 3W908 | 23.88 | 21.15 | 4.6 |
| Rigid | 6 | 2 | 7½ | 400 | 1G268 | 29.43 | 25.35 | 5.0 | 900 | 1G276 | 31.51 | 27.10 | 5.1 | 640 | 1G284 | 21.68 | 18.77 | 4.4 | 900 | 1G425 | 31.85 | 27.80 | 7.5 |
| Rigid | 8 | 2 | 9½ | 475 | 1G269 | 52.88 | 45.05 | 6.1 | 900 | 1G277 | 53.44 | 45.60 | 6.3 | 675 | 1G285 | 27.49 | 23.82 | 5.8 | 900 | 1G426 | 31.85 | 27.80 | 7.5 |

(*) Use optional Brake Kit No. 4A005, sold above. (†) Includes factory installed wheel brake.

**TOP PLATE DATA**

Bolt hole spacing: 4⅛ x 4½"
Mounting bolt size: 3/8" Dia.
Overall plate size: 5 x 5½"




- Bright chromed zinc or baked gray enamel finish
- Large diameter, high strength, double ball, hardened swivel raceways with lubrication fitting
- 1/2" bolt and locknut roller bearing axle assembly with spanner bushing and lubrication fitting
- Rugged 1/4" thick steel plate construction
- Choice of nonmarking mold-on rubber or polyurethane soft tread wheels with aluminum core or Durafoam polypropylene, Duratex phenolic, or semi-steel hard tread wheels

**OPTIONAL BRAKE KITS**

No. 4A005. Shpg. wt. 0.7 lbs. List $9.50. Each.....$8.03
No. 4A004. Shpg. wt. 1.0 lbs. List $9.50. Each.....$8.03

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Ht. (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CHROMED ZINC FINISH: | | | | MOLD-ON POLYURETHANE soft red polyurethane tread on aluminum core wheel | | | | DURATEX hard tread black phenolic resin wheel | | | | SEMI-STEEL hard tread all metal wheel | | | |
| Swivel | 5 | 2 | 6½ | 900 | 3A764* | $46.93 | $40.70 | 7.5 | 3A758* | $43.51 | $37.35 | 6.7 | 3A770* | $42.83 | $37.25 | 9.5 |
| Swivel | 6 | 2 | 7½ | 900 | 3A766† | 50.49 | 43.70 | 9.8 | 3A760* | 44.83 | 38.50 | 7.0 | 3A772* | 44.15 | 38.40 | 10.0 |
| Swivel | 8 | 2 | 9½ | 900 | 3A768† | 57.73 | 49.60 | 9.3 | 3A762* | 50.87 | 44.80 | 9.5 | 3A774* | 60.60 | 52.75 | 14.0 |
| Rigid | 5 | 2 | 6½ | 900 | 3A765 | 36.07 | 31.05 | 6.0 | 3A759 | 28.12 | 24.33 | 5.7 | 3A771 | 31.38 | 27.55 | 8.5 |
| Rigid | 6 | 2 | 7½ | 900 | 3A767 | 40.27 | 34.95 | 8.5 | 3A761 | 29.54 | 25.60 | 6.1 | 3A773 | 32.61 | 28.55 | 8.5 |
| Rigid | 8 | 2 | 9½ | 900 | 3A769 | 45.25 | 39.80 | 13.0 | 3A763 | 36.10 | 31.45 | 8.5 | 3A775 | 48.84 | 42.75 | 13.0 |

(*) Use optional Brake Kit No. 4A005, sold above.

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Ht. (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GRAY ENAMEL FINISH: | | | MOLD-ON RUBBER soft black rubber tread on aluminum core wheel | | | | | DURAFOAM hard tread black polypropylene wheel | | | | |
| Swivel | 5 | 2 | 6½ | 350 | 5X743† | $50.58 | $43.30 | 6.9 | 580 | 5X737† | $40.76 | $34.95 | 6.0 |
| Swivel | 6 | 2 | 7½ | 410 | 5X744† | 52.59 | 45.00 | 7.1 | 640 | 5X738† | 42.96 | 36.85 | 6.4 |
| Swivel | 8 | 2 | 9½ | 500 | 5X745† | 59.57 | 51.10 | 9.0 | 675 | 5X739† | 48.13 | 41.35 | 7.6 |
| Rigid | 5 | 2 | 6½ | 350 | 5X746 | 36.94 | 31.70 | 5.5 | 580 | 5X740 | 26.73 | 23.03 | 4.8 |
| Rigid | 6 | 2 | 7½ | 410 | 5X747 | 38.49 | 33.10 | 6.0 | 640 | 5X741 | 27.47 | 23.68 | 5.0 |
| Rigid | 8 | 2 | 9½ | 500 | 5X748 | 43.89 | 37.95 | 8.5 | 675 | 5X742 | 33.58 | 29.00 | 6.3 |

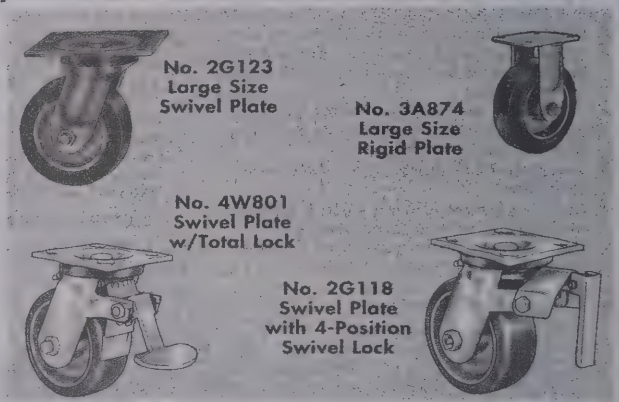
(†) Use optional Brake Kit No. 4A004, sold above.

| Section Code | E | CAPACITY RANGE 220 to 1350 Lb | Refer to Application Guide pages 2123-2124 |
|---|---|---|---|

E.R. Wagner CASTERS & WHEELS Manufacturing Co.

# LARGE TOP PLATE 88/83 SERIES AND A8/A3 SERIES CASTERS

- Large diameter heat-treated hardened swivel raceways with grease zerk fitting for longer bearing life
- Upper raceway on 88/83 Series casters has grease seal
- Roller bearing wheel on all casters
- Yellow zinc chromate finish for corrosion resistance
- Total-Lock available on swivel casters. Locks both wheel and swivel simultaneously
- Suitable for manual or power towing at 3 MPH or less at 15 minutes continuous operation followed by 45 minutes rest
- Series A8/A3 swivel casters have an extra large 3/4" diameter keyed kingpin and special high strength bottom race




## TOP PLATE DATA (In.)

| Bolt Hole Spacing | Mounting Bolt Size | Overall Plate Size | Thickness |
|---|---|---|---|
| 4⅛ x 4½ | 3/8 Dia. | 5 x 5½ | 1/4 |

## SERIES 88/83

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Mold-on polyurethane soft blue polyurethane tread on aluminum core wheel** | | | | | | | | |
| Swivel | 5 | 2 | 6½ | 900 | **2G123*** | $74.45 | **$43.70** | 6.4 |
| Swivel | 6 | 2 | 7½ | 900 | **2G124*** | 78.93 | **48.60** | 7.4 |
| Swivel | 8 | 2 | 9½ | 900 | **2G125*** | 91.17 | **57.50** | 9.8 |
| Rigid | 5 | 2 | 6½ | 900 | **2G126** | 56.48 | **34.40** | 5.0 |
| Rigid | 6 | 2 | 7½ | 900 | **2G127** | 60.08 | **39.55** | 6.3 |
| Rigid | 8 | 2 | 9½ | 900 | **2G128** | 68.03 | **51.00** | 8.2 |

## SERIES 88/83 WITH TOTAL-LOCK

| Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|
| **2G120** | $83.88 | **$52.30** | 7.7 |
| **2G121** | 90.50 | **56.10** | 8.5 |
| **2G122** | 116.44 | **68.30** | 11.0 |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |

## SERIES 88/83 WITH 4-POSITION SWIVEL LOCK

| Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|
| **2G117** | $113.90 | **$68.05** | 7.3 |
| **2G118** | 124.26 | **72.95** | 8.4 |
| **2G119** | 145.76 | **83.60** | 11.0 |
| — | — | — | — |
| — | — | — | — |
| — | — | — | — |

## SERIES A8/A3

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Mold-on rubber soft black rubber tread on aluminum core wheel** | | | | | | | | |
| Swivel | 5 | 2 | 6½ | 350 | **3A865*** | $77.45 | **$43.65** | 7.0 |
| Swivel | 6 | 2 | 7½ | 410 | **3A873*** | 86.89 | **47.55** | 8.5 |
| Swivel | 8 | 2 | 9½ | 500 | **3A881*** | 105.51 | **56.35** | 11.0 |
| Rigid | 5 | 2 | 6½ | 350 | **3A866** | 54.74 | **31.25** | 5.5 |
| Rigid | 6 | 2 | 7½ | 410 | **3A874** | 67.00 | **36.05** | 6.5 |
| Rigid | 8 | 2 | 9½ | 500 | **3A882** | 84.19 | **43.75** | 8.0 |

| Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Mold-on polyurethane soft blue polyurethane tread on aluminum core wheel** | | | | |
| 1050 | **3A867*** | $88.52 | **$46.30** | 7.5 |
| 1200 | **3A875*** | 95.05 | **49.70** | 7.5 |
| 1200 | **3A883*** | 112.00 | **57.95** | 10.0 |
| 1050 | **3A868** | 66.83 | **35.15** | 5.5 |
| 1200 | **3A876** | 76.03 | **39.70** | 6.5 |
| 1200 | **3A884** | 91.33 | **46.65** | 7.0 |

| Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Duratex hard tread black phenolic resin wheel** | | | | |
| 1000 | **3A869*** | $65.58 | **$37.20** | 7.5 |
| 1200 | **3A877*** | 73.49 | **38.75** | 8.0 |
| 1200 | **3A885*** | 85.60 | **46.55** | 9.0 |
| 1000 | **3A870** | 46.08 | **25.30** | 5.5 |
| 1200 | **3A878** | 53.96 | **28.50** | 6.0 |
| 1200 | **3A886** | 67.50 | **35.40** | 7.5 |

| Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Semi-steel hard tread all metal wheel** | | | | |
| 1200 | **3A871*** | $83.43 | **$43.15** | 10.0 |
| 1200 | **3A879*** | 86.76 | **44.75** | 11.0 |
| 1200 | **3A887*** | 110.98 | **58.60** | 14.0 |
| 1200 | **3A872** | 63.01 | **32.25** | 8.0 |
| 1200 | **3A880** | 67.50 | **34.25** | 9.0 |
| 1200 | **3A888** | 89.03 | **47.05** | 13.0 |

(*) Optional field mount side brake kit No. 2G116 available for swivel casters without Total-Lock or 4-position lock. Locks wheel without locking swivel.

**No. 2G116. FIELD MOUNT SIDE BRAKE KIT.** Shpg. wt. 0.9 lbs. List $13.47. Each ..... **$8.79**

## SERIES A8/A3 WITH TOTAL-LOCK

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Mold-on rubber soft black rubber tread on aluminum core wheel** | | | | | | | | |
| Swivel | 5 | 2 | 6½ | 350 | **2G150** | $119.41 | **$65.75** | 9.2 |
| Swivel | 6 | 2 | 7½ | 410 | **2G151** | 122.44 | **67.85** | 9.9 |
| Swivel | 8 | 2 | 9½ | 500 | **2G152** | 140.06 | **77.05** | 12.0 |

| Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Mold-on polyurethane soft blue polyurethane tread on aluminum core wheel** | | | | |
| 1050 | **4W801** | $123.74 | **$63.90** | 10.0 |
| 1200 | **4W802** | 129.36 | **67.30** | 11.0 |
| 1200 | **4W803** | 148.48 | **76.80** | 13.0 |

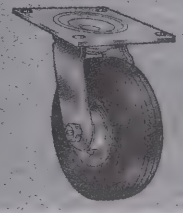
| Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Duratex hard tread black phenolic resin wheel** | | | | |
| 1000 | **2G153** | $102.18 | **$56.85** | 9.2 |
| 1200 | **2G154** | 106.52 | **59.05** | 9.9 |
| 1200 | **2G155** | 123.87 | **67.80** | 12.0 |

Section Code **F** | **CAPACITY RANGE 200 to 1350 Lbs.** | Refer to Application Guide Pages 2123—2124

# SEMI-PNEUMATIC WHEEL CASTERS

- Recommended for light and medium-duty applications
- Protect loads from shock damage while significantly reducing noise levels
- Wheels are not pressurized—no problems with inflation
- Wheels have ball bearings

**ALBION**



**TOP PLATE DATA**

| | 12 Series | 16 Series | 72 Series |
|---|---|---|---|
| Bolt Hole Spacing | 4 1/8 x 4 1/2" | 2 5/8 x 3 5/8" Slotted to 3 x 3" | 3 3/8 x 5 1/4" Slotted to 2 7/16 x 4 15/16" |
| Mounting Bolt Size | 3/8" | 3/8" | 1/2" |
| Overall Plate Size | 5 x 5 1/2" | 4 x 4 1/2" | 4 1/2 x 6 1/4" |

| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **12 SERIES WHEEL CASTERS** | | | | | | | | | | | |
| 6 | 2 | 7 3/8 | 200 | 3G117 | $55.54 | $43.65 | 7.5 | 3G116 | $45.02 | $35.40 | 6.8 |
| 8 | 2 1/2 | 10 | 350 | 3G119 | 76.69 | 60.25 | 11.0 | 3G118 | 63.34 | 49.80 | 11.0 |
| **16 SERIES WHEEL CASTERS** | | | | | | | | | | | |
| 6 | 2 | 7 3/8 | 200 | 3G151 | 50.48 | 39.70 | 7.1 | 3G150 | 40.16 | 31.60 | 6.3 |
| **72 SERIES WHEEL CASTERS** | | | | | | | | | | | |
| 12 | 3 | 14 1/2 | 540 | 3G243 | 163.70 | 124.85 | 24.0 | 3G242 | 123.70 | 94.35 | 21.0 |

# *Bassick* HONCHO 1650 SERIES EXTRA HEAVY-DUTY CASTERS

- Bearing systems heat-treated and hardened, sealed for longer life
- Alemite lubrication fittings for easy maintenance
- Rugged construction for abusive operating conditions
- Complete range of wheels
- Field mount 4-position swivel lock available for all OS swivel casters

**TOP PLATE DATA**

Bolt hole spacing: 2 7/16 x 4 15/16" Slotted to 3 3/8 x 5 1/4"

Mounting bolt size: 1/2" Dia.

Overall plate size: 4 1/2 x 6 15/16" Thickness: 1/4"



## HONCHO 1650 OS-SWIVEL, OR-RIGID EXTRA HEAVY-DUTY CASTERS (2" WIDE WHEEL)

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | HONCHO (POLYURETHANE) WHEEL CASTERS | | | | | CANAPHIN (PHENOLIC) WHEEL CASTERS | | | | | SEMI-STEEL (METAL) WHEEL CASTERS | | | | |
| Swivel | 5 | 2 | 6 1/2 | 1300 | 2G167* | $88.67 | $62.05 | 8.3 | 1500 | 2G173* | $63.70 | $44.60 | 7.7 | 1500 | 2G161* | $80.49 | $56.35 | 11.0 |
| Swivel | 6 | 2 | 7 1/2 | 1500 | 2G168* | 97.80 | 68.45 | 9.3 | 1650 | 2G174* | 67.14 | 47.00 | 8.8 | 1650 | 2G162* | 97.79 | 68.45 | 13.0 |
| Swivel | 8 | 2 | 9 1/2 | 1650 | 2G169* | 114.57 | 80.20 | 12.0 | 1650 | 2G175* | 78.06 | 54.65 | 10.0 | 1650 | 2G163* | 98.93 | 69.15 | 16.0 |
| Rigid | 5 | 2 | 6 1/2 | 1300 | 2G170 | 62.69 | 43.90 | 6.4 | 1500 | 2G176 | 36.80 | 25.75 | 5.8 | 1500 | 2G164 | 51.66 | 36.15 | 9.1 |
| Rigid | 6 | 2 | 7 1/2 | 1500 | 2G171 | 63.46 | 44.40 | 7.3 | 1650 | 2G177 | 39.87 | 27.90 | 6.8 | 1650 | 2G165 | 59.98 | 42.00 | 11.0 |
| Rigid | 8 | 2 | 9 1/2 | 1650 | 2G172 | 88.18 | 61.70 | 9.6 | 1650 | 2G179 | 49.87 | 34.90 | 8.5 | 1650 | 2G166 | 68.44 | 47.90 | 14.0 |

## HONCHO 1650 SERIES HS-SWIVEL, HR-RIGID EXTRA HEAVY DUTY CASTERS (2 1/2" WIDE WHEEL)

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ALCORE (RUBBER TREAD) WHEEL CASTERS | | | | | HONCHO (POLYURETHANE) WHEEL CASTERS | | | | | CANAPHIN (PHENOLIC) WHEEL CASTERS | | | | | SEMI-STEEL (METAL) WHEEL CASTERS | | | | |
| Swivel | 6 | 2 1/2 | 7 1/2 | 550 | 3A857 | $105.23 | $70.80 | 9.5 | 1650 | 6X623 | $109.66 | $73.90 | 12.0 | 1650 | 3A861 | $74.99 | $50.45 | 10.0 | 1650 | 6X619 | $92.53 | $62.25 | 14.0 |
| Swivel | 8 | 2 1/2 | 9 1/2 | 670 | 3A859 | 129.20 | 86.95 | 13.0 | 1650 | 6X625 | 136.36 | 91.95 | 13.0 | 1650 | 3A863 | 79.62 | 53.50 | 13.0 | 1650 | 6X621 | 106.78 | 71.85 | 18.0 |
| Swivel | 10 | 2 1/2 | 11 1/2 | 800 | 2G159 | 169.44 | 118.55 | 16.0 | 1650 | 4W811 | 181.77 | 122.30 | 17.0 | 1650 | 4W810 | 100.23 | 67.45 | 14.0 | 1650 | 4W809 | 129.33 | 87.05 | 21.0 |
| Rigid | 6 | 2 1/2 | 7 1/2 | 550 | 3A858 | 77.28 | 52.00 | 8.0 | 1650 | 6X624 | 82.29 | 55.40 | 8.5 | 1650 | 3A862 | 49.87 | 33.55 | 8.0 | 1650 | 6X620 | 66.14 | 44.50 | 13.0 |
| Rigid | 8 | 2 1/2 | 9 1/2 | 670 | 3A860 | 104.09 | 70.05 | 11.0 | 1650 | 6X626 | 110.61 | 74.45 | 11.0 | 1650 | 3A864 | 55.62 | 37.45 | 11.0 | 1650 | 6X622 | 82.03 | 55.20 | 16.0 |
| Rigid | 10 | 2 1/2 | 11 1/2 | 800 | 2G160 | 142.68 | 99.85 | 16.0 | 1650 | 4W814 | 152.14 | 102.35 | 15.0 | 1650 | 4W813 | 74.35 | 50.05 | 12.0 | 1650 | 4W812 | 103.71 | 69.80 | 19.0 |

(*) 4-position swivel lock available for all OS swivel casters listed.

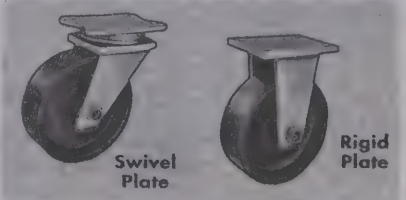
**No. 2G178. FIELD MOUNT SWIVEL LOCK.** For use with all OS swivel casters. Bassick (DSL-3). Each.....$15.41

# *Bassick* SPECIAL DUTY SERIES HA/HB SUPER-DUTY CASTERS

- Designed for production line and machinery moving applications
- Forged steel wheels, tapered roller bearings
- Precision-type swivel bearings
- High fatigue strength
- Suitable for continuous operation

**TOP PLATE DATA**

Bolt hole spacing: 3 3/8 x 5 1/4"
Mounting bolt size: 9/16"
Overall plate size: Swivel 5 1/4 x 7 1/8"; Rigid 4 3/4 x 6 5/8"
Thickness: Swivel 3/8"; Rigid 1/2"

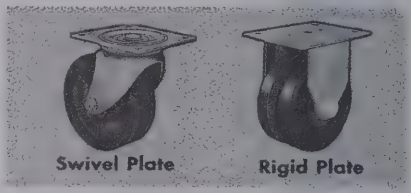



| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE CASTERS Stock No. | List | Each | Shpg. Wt. | RIGID PLATE CASTERS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 2 1/2 | 8 1/8 | 3000 | 4X933 | $424.73 | $285.75 | 25.0 | 4X934 | $298.26 | $200.75 | 20.0 |
| 8 | 2 1/2 | 10 5/16 | 3000 | 4X935 | 495.59 | 333.50 | 31.0 | 4X936 | 313.94 | 211.25 | 24.0 |

Section Code **F** | CAPACITY RANGE 200 to 8350 Lbs. | Refer to Application Guide Pages 2123-2124

# Bassick SPECIAL DUTY CASTERS WITH V-GROOVE METAL WHEELS SERIES XX/YY, ES/ER, HS/HR

- Designed for production line and machinery moving applications
- For controlled path movement on angle iron track



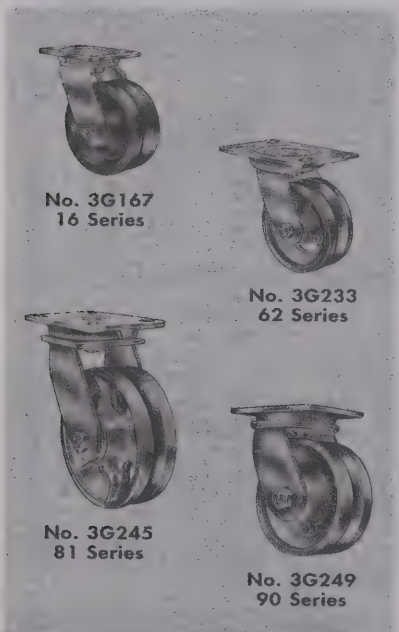

## TOP PLATE DATA

| Stock No. | 5X931 & 5X932 | 4X924 & 4X925 | 4X926 & 4X927 |
|---|---|---|---|
| Bolt Hole Spacing | 2⅝ x 3⅝" Slotted to 3 x 3" | 4⅛ x 4½" | 2⁷⁄₁₆ x 4¹⁵⁄₁₆" Slotted to 3⅜ x 5¼" |
| Mounting Bolt Size | 3/8" | 3/8" | 1/2" |
| Overall Plate Size | 3¾ x 4⅝" | 5 x 5½" | 4½ x 6⁹⁄₁₆" |
| Thickness | 13/64" | 7/32" | 1/4" |

| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE CASTERS Stock No. | List | Each | Shpg. Wt. | RIGID PLATE CASTERS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 1½ | 5⅝ | 600 | **5X931** | $70.30 | **$46.70** | 6.0 | **5X932** | $57.10 | **$37.95** | 5.5 |
| 6 | 2 | 7⅜ | 1200 | **4X924** | 147.46 | **99.20** | 14.0 | **4X925** | 125.27 | **84.30** | 13.0 |
| 6 | 2½ | 7½ | 1500 | **4X926** | 290.00 | **193.25** | 21.0 | **4X927** | 240.00 | **159.50** | 20.0 |

# ALBION HEAVY-DUTY V-GROOVED CASTERS

- For use on either floor or track
- Zinc plated metal parts
- Heat-treated raceways for longer life
- Wheels have roller bearings




## TOP PLATE DATA

| | 16 Series | 62 Series | 81 Series | 90 Series | 94 Series |
|---|---|---|---|---|---|
| Bolt Hole Spacing (In.) | 2⅝ x 3⅝ | 3⅜ x 5¼ | 3⅜ x 5¼ | 3⅜ x 5¼ | 4½ x 6 |
| Slotted to (In.) | 3 x 3 | 2⁷⁄₁₆ x 4¹⁵⁄₁₆ | 2⁷⁄₁₆ x 4¹⁵⁄₁₆ | 4⅛ x 6⅛ | — |
| Mounting Bolt Size (In.) | 3/8 | 1/2 | 1/2 | 1/2 | 1/2 |
| Overall Plate Size (In.) | 4 x 4½ | 4 x 6¼ | Swivel: 4½ x 6¼ Rigid: 5 x 6¼ | Swivel: 5¼ x 7¼ Rigid: 5 x 7¼ | Swivel: 6½ x 7½ Rigid: 6 x 7½ |

| Wheel Dia. (In.) | W (In.) | Overall Height (In.) | Load Rating (Lbs.) | V-Groove Width (In.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16 SERIES POLYURETHANE V-GROOVED CASTERS** | | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 300 | 7/8 | **3G167** | $47.84 | **$37.60** | 5.0 | **3G166** | $37.72 | **$29.70** | 3.8 |
| **16 SERIES HEAVY-DUTY V-GROOVED CASTERS** | | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 800 | 7/8 | **3G161** | 36.07 | **28.35** | 8.0 | **3G160** | 25.71 | **20.19** | 7.4 |
| 5 | 2 | 6⅓ | 800 | 7/8 | **3G163** | 46.89 | **36.85** | 8.5 | **3G162** | 36.64 | **28.85** | 8.0 |
| 6 | 2 | 7¼ | 900 | 7/8 | **3G165** | 55.25 | **43.40** | 10.0 | **3G164** | 44.95 | **35.35** | 9.6 |
| **62 SERIES HEAVY-DUTY V-GROOVED CASTERS** | | | | | | | | | | | | |
| 4 | 2 | 5⅝ | 800 | 7/8 | **3G233** | 58.04 | **45.60** | 9.8 | **3G232** | 30.02 | **23.56** | 7.9 |
| 5 | 2 | 6½ | 800 | 7/8 | **3G235** | 59.75 | **46.95** | 11.0 | **3G234** | 39.84 | **31.30** | 8.4 |
| 6 | 2 | 7¼ | 1000 | 7/8 | **3G237** | 67.66 | **53.20** | 12.0 | **3G236** | 47.79 | **37.60** | 11.0 |
| **81 SERIES HEAVY-DUTY V-GROOVED CASTERS** | | | | | | | | | | | | |
| 6 | 2½ | 7⅝ | 2000 | 7/8 | **3G245** | 125.53 | **95.70** | 20.0 | **3G244** | 85.16 | **64.95** | 19.0 |
| 8 | 2½ | 10⅛ | 2000 | 7/8 | **3G247** | 147.53 | **112.50** | 26.0 | **3G246** | 106.97 | **81.55** | 25.0 |
| **90 SERIES HEAVY-DUTY V-GROOVED CASTERS** | | | | | | | | | | | | |
| 6 | 2½ | 8 | 2500 | 7/8 | **3G249** | 161.98 | **123.50** | 25.0 | **3G248** | 84.86 | **64.75** | 20.0 |
| 8 | 2½ | 10½ | 2500 | 7/8 | **3G251** | 178.68 | **136.25** | 31.0 | **3G250** | 107.84 | **82.25** | 27.0 |
| 10 | 3 | 12½ | 3000 | 1⅜ | **3G253** | 233.33 | **167.75** | 45.0 | **3G252** | 156.40 | **112.40** | 40.0 |
| **94 SERIES HEAVY-DUTY V-GROOVED CASTERS** | | | | | | | | | | | | |
| 6 | 3 | 8½ | 6000 | 1⅜ | **3G255** | 402.43 | **307.00** | 41.0 | **3G254** | 269.28 | **205.50** | 33.0 |
| 8 | 3 | 10½ | 4000 | 1⅜ | **3G259** | 341.70 | **260.50** | 44.0 | **3G258** | 211.22 | **161.00** | 36.0 |
| 8 | 4 | 10½ | 8350 | 1⅜ | **3G257** | 487.53 | **372.00** | 54.0 | **3G256** | 356.06 | **271.75** | 46.0 |

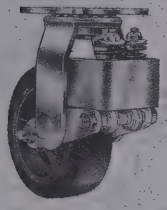
## OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!

In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

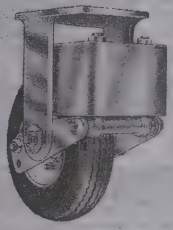
| Section Code | CAPACITY RANGE | Refer to Application Guide Pages |
|---|---|---|
| F | 200 to 8350 Lbs. | 2123 - 2124 |

# ALBION SHOCK ABSORBING CASTERS

- Protect loads from shock damage and unwanted vibration and movement
- Dampening effect of casters reduces noise levels
- Keep loads secure on uneven surfaces
- Wheels have roller bearings



No. 3G207 Swivel Plate



No. 3G218 Rigid Plate

## TOP PLATE DATA

| Stock Nos. | 3G202 to 3G209 | 3G210 to 3G221 | 3G222 to 3G231 |
|---|---|---|---|
| Bolt Hole Spacing (In.) | 2⅝ x 3⅝ | 3⅜ x 5¼ | 3⅜ x 5¼ |
| Mounting Bolt Size (In.) | Slotted to 3 x 3<br>3/8 | Slotted to 2 7/16 x 4 15/16<br>1/2 | Slotted to 4⅛ x 6⅛<br>1/2 |
| Overall Plate Size (In.) | 4 x 4½ | 4½ x 6¼ | Swivel 5¼ x 7¼<br>Rigid 5 x 7¼ |

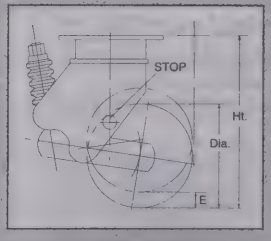
| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Total Spring Deflection (In.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYURETHANE SINGLE WHEEL CASTERS** | | | | | | | | | | | | |
| 6 | 2 | 8½ | 500 | ⅞ | 3G207 | $175.14 | **$133.55** | 9.7 | 3G206 | $161.61 | **$123.25** | 9.0 |
| 8 | 2 | 10½ | 500 | ⅞ | 3G209 | 184.24 | **140.50** | 11.0 | 3G208 | 171.31 | **130.60** | 11.0 |
| 8 | 2½ | 11½ | 800 | 1¼ | 3G215 | 291.55 | **220.25** | 25.0 | 3G214 | 261.67 | **197.75** | 23.0 |
| 10 | 3 | 13½ | 1500 | 1½ | 3G227 | 449.76 | **343.00** | 46.0 | 3G226 | 367.10 | **280.00** | 42.0 |
| 12 | 3 | 15½ | 1500 | 1½ | 3G229 | 486.02 | **370.75** | 56.0 | — | — | — | — |
| **MOLD-ON RUBBER SINGLE WHEEL CASTERS** | | | | | | | | | | | | |
| 6 | 2 | 8½ | 410 | ⅞ | 3G203 | 153.35 | **116.95** | 11.0 | 3G202 | 139.82 | **106.65** | 11.0 |
| 8 | 2 | 10½ | 500 | ⅞ | 3G205 | 157.88 | **120.40** | 14.0 | 3G204 | 144.96 | **110.50** | 13.0 |
| 8 | 2½ | 11½ | 670 | 1¼ | — | — | — | — | 3G210 | 212.05 | **160.25** | 22.0 |
| 12 | 3 | 15½ | 1140 | 1½ | 3G225 | 414.36 | **316.00** | 51.0 | 3G224 | 328.81 | **250.75** | 44.0 |
| **PNEUMATIC SINGLE WHEEL CASTERS** | | | | | | | | | | | | |
| 8 | 280/4 | 11½ | 295 | 1¼ | 3G219 | 285.65 | **215.75** | 21.0 | 3G218 | 341.21 | **182.25** | 20.0 |
| 10 | 410/4 | 13½ | 530 | 1¼ | 3G221 | 286.45 | **216.50** | 24.0 | — | — | — | — |
| 12 | 410/6 | 17½ | 675 | 1½ | — | — | — | — | 3G230 | 348.80 | **266.25** | 36.0 |

# Revo SHOCK ABSORBING CASTERS

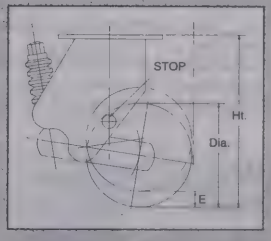
- Protect load over uneven surfaces
- Suitable for power towing
- Kingpinless sealed swivel bearing
- Ball journal bearings in wheels
- Casters use one or more stacks of disc springs assembled in various combinations to give a wide range of load ratings
- Manufactured to ISO (International Standards Organization) specifications. Millimeters and kilograms have been converted to nominal inches and pounds

Registered to ISO 9001



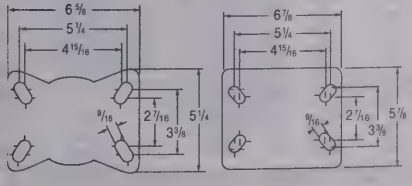



Swivel




Rigid

## TOP PLATE DATA




Top Plate Thickness: Swivel 9/32" Rigid 17/64"

| Wheel Dia. (In.) | Wheel W (in.) | Overall Height (In.) | Load Rating (Lbs.) | E Movement* (In.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYURETHANE SINGLE WHEEL CASTERS** | | | | | | | | | | | | |
| 6 | 1½ | 9¾ | 660 | 7/8 | 4W784 | $371.90 | **$318.75** | 20.0 | 4W787 | $304.41 | **$260.75** | 17.0 |
| 6 | 1½ | 9¾ | 815 | 7/8 | 4W785 | 371.90 | **318.50** | 19.0 | 4W788 | 304.41 | **260.75** | 17.0 |
| 6 | 1½ | 9¾ | 1080 | 1 | 4W786 | 428.62 | **367.00** | 20.0 | 4W789 | 362.59 | **309.75** | 18.0 |
| 8 | 1¾ | 10¾ | 660 | 7/8 | 4W790 | 397.05 | **340.00** | 22.0 | 4W794 | 352.53 | **302.00** | 20.0 |
| 8 | 1¾ | 10¾ | 815 | 7/8 | 4W791 | 397.05 | **340.00** | 22.0 | 4W795 | 352.73 | **302.25** | 21.0 |
| 8 | 1¾ | 10¾ | 1320 | 7/8 | 4W792 | 465.65 | **399.00** | 23.0 | 4W796 | 319.44 | **273.75** | 21.0 |
| 8 | 1¾ | 10¾ | 1630 | 7/8 | 4W793 | 469.24 | **402.00** | 24.0 | 4W797 | 422.95 | **362.50** | 21.0 |

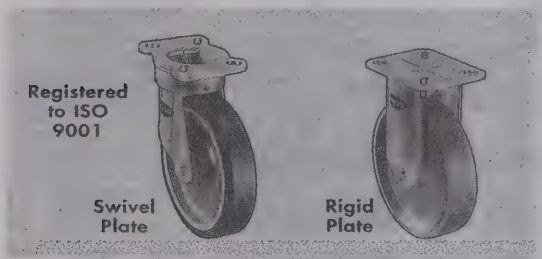
(*) E Movement is the distance the wheel travels when fully deflected.

# ULTRA HEAVY-DUTY CASTERS

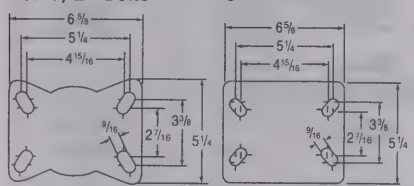
| Section Code | G | CAPACITY RANGE 330 to 22,000 Lbs. | Refer to Application Guide Pages 2123-2124 |
|---|---|---|---|

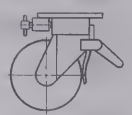
## SERIES G FOR LOADS UP TO 2400 LBS. PER CASTER

- Applications include power towing, aircraft maintenance, automotive manufacturing, ship building, warehousing
- Rugged kingpinless swivel construction is sealed against contamination
- Manufactured to ISO (International Standards Organization) specifications. Millimeters and kilograms converted to nominal inches and pounds
- Rubber or polyurethane wheel tread permanently molded to cast-iron core • Tow heavy loads at 4 MPH
- Independently operating directional lock and foot brake for 6, 8, 10, & 12" polyurethane wheel swivel models




Top Plate Thickness: Swivel 9/32" Rigid 17/64"
For 1/2" Bolts



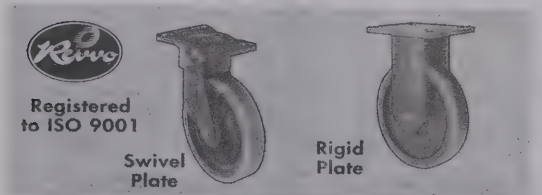



Directional Lock & Foot Brake

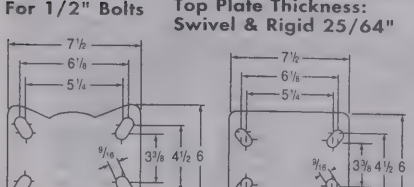
| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RUBBER WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 1½ | 6 | 330 | 4W663 | $93.69 | $80.25 | 11.0 | 4W666 | $52.41 | $44.90 | 8.5 |
| 5 | 1⅝ | 7 | 380 | 4W669 | 90.71 | 77.65 | 11.0 | 4W672 | 56.70 | 47.25 | 9.0 |
| 6 | 1¾ | 8 | 815 | 4W675 | 98.55 | 84.40 | 12.0 | 4W679 | 63.84 | 54.65 | 11.0 |
| 8 | 2 | 10 | 1200 | 4W682 | 112.82 | 96.55 | 16.0 | 4W686 | 74.92 | 64.10 | 14.0 |
| 10 | 2⅛ | 12 | 1350 | 4W689 | 187.44 | 159.75 | 25.0 | 4W693 | 150.26 | 128.60 | 23.0 |
| 12 | 2⅛ | 14 | 1500 | 4W696 | 196.46 | 168.25 | 30.0 | 4W699 | 157.09 | 134.40 | 29.0 |
| **POLYURETHANE WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 1½ | 6 | 500 | 4W664 | 100.12 | 85.70 | 11.0 | 4W667 | 59.64 | 51.10 | 8.5 |
| 5 | 1½ | 7 | 700 | 4W670 | 111.05 | 95.05 | 11.0 | — | — | — | — |
| 6 | 1½ | 8 | 1500 | 4W676 | 113.47 | 97.15 | 12.0 | 4W680 | 75.08 | 64.25 | 11.0 |
| 8 | 1¾ | 10 | 2200 | 4W683 | 145.45 | 124.50 | 16.0 | 4W687 | 107.56 | 92.05 | 14.0 |
| 10 | 1¾ | 12 | 2250 | 4W690 | 198.88 | 170.50 | 24.0 | 4W694 | 161.29 | 138.00 | 23.0 |
| 12 | 1¾ | 14 | 2400 | 4W697 | 248.00 | 212.25 | 28.0 | 4W700 | 208.13 | 178.25 | 26.0 |
| **CAST-IRON WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 1⅓ | 6 | 700 | 4W665 | 80.18 | 68.65 | 11.0 | 4W668 | 40.58 | 34.70 | 9.0 |
| 5 | 1¾ | 7 | 1400 | 4W671 | 85.95 | 73.55 | 12.0 | 4W674 | 48.06 | 41.15 | 9.5 |
| 6 | 1¾ | 8 | 2000 | 4W677 | 104.17 | 89.15 | 13.0 | 4W681 | 57.27 | 49.05 | 11.0 |
| 8 | 1¾ | 10 | 2250 | 4W684 | 102.34 | 87.55 | 17.0 | 4W688 | 64.50 | 55.20 | 15.0 |
| 10 | 2⅛ | 12 | 2250 | 4W691 | 143.48 | 122.75 | 25.0 | 4W695 | 107.25 | 91.80 | 23.0 |
| **POLYURETHANE WHEEL CASTERS WITH DIRECTIONAL LOCK AND FOOT BRAKE** | | | | | | | | | | | |
| 6 | 1½ | 8 | 1500 | 4W678 | 204.14 | 175.00 | 13.0 | — | — | — | — |
| 8 | 1¾ | 10 | 2200 | 4W685 | 229.69 | 196.75 | 17.0 | — | — | — | — |
| 10 | 1¾ | 12 | 2250 | 4W692 | 238.19 | 204.00 | 28.0 | — | — | — | — |
| 12 | 1¾ | 14 | 2400 | 4W698 | 292.62 | 250.75 | 30.0 | — | — | — | — |

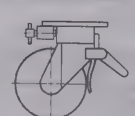
## SERIES P FOR TOW TRAIL LOADS UP TO 2640 LBS. PER CASTER

- Applications include heavy-duty power towing, air cargo handling, aircraft maintenance and manufacturing, paper and pulp mills, textile dye trucks, automotive manufacturing, steel warehousing, foundries, boat dollies, and gantries
- Manufactured to ISO (International Standards Organization) specifications. Millimeters and kilograms converted to nominal inches and pounds
- Feature swivel head incorporating two large diameter hardened ball races within a rugged kingpinless design
- Load ratings based on maximum towing speed of 10 MPH
- Independently operating directional lock and foot brake for 6, 8, 10, & 12" polyurethane wheel swivel models




For 1/2" Bolts
Top Plate Thickness: Swivel & Rigid 25/64"



Directional Lock & Foot Brake

| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RUBBER WHEEL CASTERS** | | | | | | | | | | | |
| 6 | 1⅜ | 8⅜ | 800 | 4W701 | $174.19 | $149.10 | 17.0 | 4W705 | $106.64 | $91.30 | 14.0 |
| 8 | 2 | 10⅜ | 1170 | 4W708 | 188.35 | 161.50 | 21.0 | 4W713 | 122.13 | 104.50 | 18.0 |
| 10 | 2⅛ | 12⅜ | 1350 | 4W717 | 244.66 | 209.50 | 30.0 | 4W722 | 171.61 | 146.85 | 25.0 |
| 12 | 2⅛ | 14⅜ | 1450 | 4W726 | 264.80 | 226.75 | 34.0 | 4W729 | 201.35 | 172.50 | 30.0 |
| **POLYURETHANE WHEEL CASTERS** | | | | | | | | | | | |
| 6 | 1½ | 8⅜ | 1600 | 4W702 | 186.28 | 159.75 | 17.0 | 4W706 | 118.94 | 101.85 | 14.0 |
| 8 | 1¾ | 10⅜ | 2200 | 4W709 | 214.41 | 183.75 | 21.0 | 4W714 | 147.98 | 126.65 | 17.0 |
| 8 | 3 | 10⅜ | 2400 | 4W711 | 310.74 | 266.25 | 30.0 | 4W716 | 240.72 | 206.00 | 26.0 |
| 10 | 1¾ | 12⅜ | 2300 | 4W718 | 265.46 | 227.50 | 27.0 | 4W723 | 202.62 | 173.50 | 24.0 |
| 10 | 3 | 12⅜ | 2640 | 4W720 | 361.53 | 309.50 | 39.0 | 4W725 | 242.54 | 207.50 | 34.0 |
| 12 | 1½ | 14⅜ | 2400 | 4W727 | 321.31 | 275.25 | 32.0 | 4W730 | 257.82 | 221.00 | 28.0 |
| **CAST-IRON WHEEL CASTERS** | | | | | | | | | | | |
| 6 | 1⅓ | 8⅜ | 2000 | 4W703 | 167.66 | 143.50 | 18.0 | 4W707 | 100.22 | 85.75 | 14.0 |
| 8 | 1⅓ | 10⅜ | 2240 | 4W710 | 176.26 | 151.00 | 22.0 | 4W715 | 117.78 | 100.75 | 18.0 |
| 10 | 2⅛ | 12⅜ | 2400 | 4W719 | 215.57 | 184.75 | 30.0 | 4W724 | 149.12 | 127.60 | 25.0 |
| **POLYURETHANE WHEEL W/DIRECTIONAL LOCK & FOOT BRAKE** | | | | | | | | | | | |
| 6 | 1½ | 8⅜ | 1600 | 4W704 | 255.16 | 218.75 | 17.0 | — | — | — | — |
| 8 | 3 | 10⅜ | 2400 | 4W712 | 380.30 | 325.75 | 32.0 | — | — | — | — |
| 10 | 3 | 12⅜ | 2640 | 4W721 | 482.80 | 413.50 | 41.0 | — | — | — | — |
| 12 | 1¾ | 14⅜ | 2400 | 4W728 | 385.16 | 329.75 | 33.0 | — | — | — | — |

Section Code **G** | CAPACITY RANGE 330 to 22,000 Lbs. | Refer to Application Guide Pages 2123-2124

## SERIES X FOR TOW TRAIL LOADS UP TO 4000 LBS. PER CASTER



Registered to ISO 9001

Swivel Plate



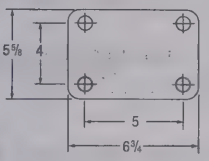
Rigid Plate

Applications include extra heavy-duty power towing, air cargo handling, aircraft maintenance and manufacturing, paper and pulp mills, textile dye trucks, automotive manufacturing, ship building, steel warehousing, foundries, luxury boat dollies, and gantries.

- **Heavy-duty, high speed trailer casters allow towing of heavy loads up to 12½ MPH**
- **Manufactured to ISO (International Standards Organization) specifications. Millimeters, kilograms converted to nominal inches, pounds**

**TOP PLATE DATA FOR 5/8" BOLTS**

**Top Plate Thickness: Swivel 35/64"; Rigid 1/2"**




| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) 4 MPH | 6 MPH | 10 MPH | 12 MPH | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RUBBER WHEEL CASTERS** | | | | | | | | | | | | | | |
| 8 | 3 | 10 15/16 | 1100 | 880 | 662 | 550 | 4W731 | $460.29 | $394.25 | 37.0 | 4W734 | $316.66 | $271.25 | 28.0 |
| 10 | 3 3/16 | 12 15/16 | 1480 | 1200 | 904 | 750 | 4W736 | 501.42 | 429.25 | 41.0 | 4W739 | 357.00 | 305.75 | 36.0 |
| 12 | 3 3/8 | 14 15/16 | 1760 | 1400 | 1058 | 880 | 4W741 | 592.28 | 507.50 | 64.0 | 4W744 | 434.89 | 372.50 | 42.0 |
| **POLYURETHANE CASTERS** | | | | | | | | | | | | | | |
| 8 | 3 | 10 15/16 | — | — | 3000 | — | 4W732 | 437.12 | 374.25 | 37.0 | 4W735 | 275.93 | 236.50 | 30.0 |
| 10 | 3 | 12 15/16 | — | — | 4000 | — | 4W737 | 490.80 | 420.25 | 45.0 | 4W740 | 328.14 | 281.25 | 39.0 |
| 12 | 3 | 14 15/16 | — | — | 4000 | — | 4W742 | 579.33 | 496.00 | 55.0 | 4W745 | 405.75 | 347.50 | 40.0 |
| **POLYURETHANE CASTERS WITH DIRECTIONAL LOCK & SIDE BRAKE** | | | | | | | | | | | | | | |
| 8 | 3 | 10 15/16 | — | — | 3000 | — | 4W733 | 934.95 | 717.00 | 38.0 | — | — | — | — |
| 10 | 3 | 12 15/16 | — | — | 4000 | — | 4W738 | 858.55 | 735.50 | 72.0 | — | — | — | — |
| 12 | 3 | 14 15/16 | — | — | 4000 | — | 4W743 | 1035.12 | 794.00 | 56.0 | — | — | — | — |

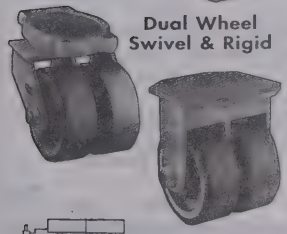
## SERIES T FOR LOADS UP TO 11,000 LBS. PER CASTER

- **Applications include air cargo handling, air-craft maintenance and manufacturing, paper and pulp mills, automotive manufacturing, steel warehousing, foundries, luxury boat dollies, and ship building**
- **For adverse conditions, poor floor surfaces, shock loading**
- **Dual wheel casters carry greater loads without increasing height**
- **Rugged kingpinless swivel affords low height**
- **Rubber or polyurethane wheel treads permanently molded to cast-iron core**
- **Independently operating directional lock and thumb screw brake for all polyurethane wheel swivel models (note changes in height)**
- **Manufactured to ISO (International Standards Organization) specifications. Millimeters and kilograms have been converted to nominal inches and pounds**

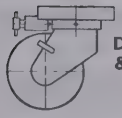
**Registered to ISO 9001**



Single Wheel Swivel & Rigid



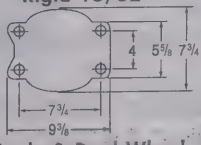
Dual Wheel Swivel & Rigid



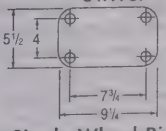
Directional Lock & Thumb Screw Brake

**TOP PLATE DATA FOR 5/8" BOLTS**

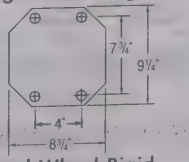
**Top Plate Thickness: Swivel 1¼"; Rigid 13/32"**




Single & Dual Wheel Swivel




Single Wheel Rigid




Dual Wheel Rigid

| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RUBBER SINGLE WHEEL CASTERS** | | | | | | | | | | | |
| 16 | 4 | 18 5/8 | 3700 | 4W759 | $893.31 | $765.00 | 108.0 | 4W762* | $772.55 | $661.50 | 98.0 |
| **POLYURETHANE SINGLE WHEEL CASTERS** | | | | | | | | | | | |
| 8 | 3 | 9 15/16 | 3500 | 4W748 | 506.53 | 433.75 | 30.0 | 4W751 | 293.79 | 251.50 | 30.0 |
| 10 | 3 | 11 15/16 | 4600 | 4W753 | 582.77 | 499.00 | 58.0 | 4W755 | 366.29 | 313.75 | 38.0 |
| 12 | 3 | 13 15/16 | 4600 | — | — | — | — | 4W758 | 461.76 | 395.50 | 47.0 |
| 16 | 4 | 18 5/8 | 7000 | 4W760 | 1140.25 | 976.50 | 123.0 | 4W763* | 965.81 | 827.00 | 103.0 |
| **STEEL SINGLE WHEEL CASTERS** | | | | | | | | | | | |
| 6 | 2½ | 7 1/16 | 5000 | 4W746 | 536.13 | 459.50 | 48.0 | 4W747 | 334.16 | 286.25 | 30.0 |
| 8 | 3⅜ | 10 1/16 | 11000 | 4W749 | 1151.18 | 986.00 | 93.0 | 4W752* | 880.46 | 754.00 | 74.0 |
| **POLYURETHANE SINGLE WHEEL WITH DIRECTIONAL LOCK AND THUMB SCREW BRAKE** | | | | | | | | | | | |
| 8 | 3 | 11 3/8 | 3500 | 4W750 | 691.90 | 592.50 | 51.0 | — | — | — | — |
| 10 | 3 | 13 3/8 | 4600 | 4W754 | 772.55 | 662.00 | 59.0 | — | — | — | — |
| 12 | 3 | 15 3/8 | 4600 | 4W757 | 865.79 | 742.00 | 65.0 | — | — | — | — |
| 16 | 4 | 19 7/16 | 7000 | 4W761 | 1305.49 | 1119.00 | 125.0 | — | — | — | — |
| **POLYURETHANE DUAL WHEEL CASTERS** | | | | | | | | | | | |
| 8 | 3 | 10 9/16 | 6000 | 4W764 | 966.42 | 828.00 | 37.0 | 4W766 | 733.24 | 628.00 | 56.0 |
| 10 | 3 | 12 9/16 | 8000 | 4W767 | 1041.95 | 892.50 | 89.0 | 4W769 | 801.18 | 686.00 | 79.0 |
| 12 | 3 | 14½ | 8000 | 4W770 | 1226.57 | 1051.00 | 110.0 | 4W772 | 984.23 | 843.00 | 90.0 |
| **POLYURETHANE DUAL WHEEL WITH DIRECTIONAL LOCK AND THUMB SCREW BRAKE** | | | | | | | | | | | |
| 8 | 3 | 11 9/16 | 6000 | 4W765 | 1153.81 | 988.00 | 74.0 | — | — | — | — |
| 10 | 3 | 13 9/16 | 8000 | 4W768 | 1222.42 | 1047.00 | 90.0 | — | — | — | — |
| 12 | 3 | 15 9/16 | 8000 | 4W771 | 1407.23 | 1205.00 | 111.0 | — | — | — | — |

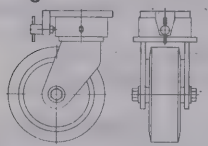
(*) Have dual wheel rigid top plate not single wheel rigid top plate due to their size/load rating.

# ULTRA HEAVY-DUTY CASTERS

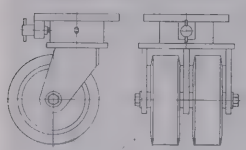
| Section Code | G | CAPACITY RANGE 330 to 22,000 Lbs. | Refer to Application Guide Pages 2123-2124 |
|---|---|---|---|

## SERIES Y AND Z FOR LOADS UP TO 22,000 LBS. PER CASTER

Single Wheel Casters

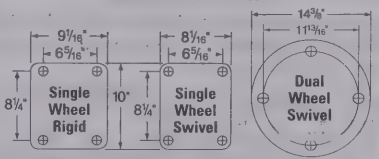


Dual Wheel Casters



Registered to ISO 9001

TOP PLATE DATA




For 3/4" Bolts

For 15/16" Bolts

Top Plate Thickness:
Single Wheel Rigid 63/64"
Single Wheel Swivel 1 7/64"
Dual Wheel Swivel 1 19/64"

- Highest capacity single and dual wheel casters
- Manufactured to ISO (International Standards Organization) specifications. Millimeters and kilograms have been converted to nominal inches and pounds

| Plate Type | Wheel Dia. | Wheel (In.) W | Overall Ht. (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **POLYURETHANE SINGLE WHEEL CASTERS** | | | | | | | | |
| Swivel | 16 | 5 | 21 5/8 | 13,200 | **4W774** | $2735.49 | **$2340.00** | 348.0 |
| Rigid | 16 | 5 | 21 5/8 | 13,200 | **4W775** | 1951.15 | **1669.00** | 320.0 |
| **POLYURETHANE SINGLE WHEEL CASTER WITH DIRECTIONAL LOCK** | | | | | | | | |
| Swivel | 16 | 5 | 21 5/8 | 13,200 | **4W773** | 3387.28 | **2899.00** | 350.0 |
| **POLYURETHANE DUAL WHEEL CASTER** | | | | | | | | |
| Swivel | 16 | 5 | 22 7/16 | 22,000 | **4W777** | 6297.62 | **5391.00** | 443.0 |
| **POLYURETHANE DUAL WHEEL CASTER WITH DIRECTIONAL LOCK** | | | | | | | | |
| Swivel | 16 | 5 | 22 7/16 | 22,000 | **4W776** | 6298.23 | **5393.00** | 445.0 |

## HEAVY-DUTY LOW LEVEL CASTERS

Ideal for grand pianos, fireproof filing cabinets, and other heavy equipment



Twin Wheel Swivel Plate

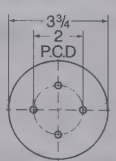
New



Single Wheel Swivel Plate

TOP PLATE DATA

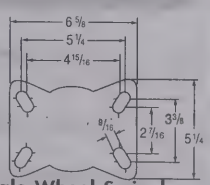
For 1/4" Countersunk Head Screws




Twin Wheel Swivel

For 1/2" Bolts

Top Plate Thickness: 9/32"




Single Wheel Swivel

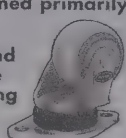
- Only 2½" overall height with twin 2" diameter wheels
- Carry up to 590 lbs. per caster on any smooth, hard floor
- Offered with polyurethane, nylon, and steel wheels Manufactured to ISO (International Standards Organization) specifications. Millimeters and kilograms have been converted to nominal inches and pounds

| Plate Type | Wheel Dia. | Wheel (In.) W | Overall Ht. (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **POLYURETHANE TWIN WHEEL LOW LEVEL CASTER** | | | | | | | | |
| Swivel | 2 | 9/16 | 2½ | 350 | **4W778** | $45.63 | **$39.10** | 1.7 |
| **STEEL TWIN WHEEL LOW LEVEL CASTER** | | | | | | | | |
| Swivel | 2 | 5/8 | 2½ | 590 | **4W779** | 29.64 | **25.40** | 1.7 |
| **NYLON TWIN STEEL LOW LEVEL CASTER** | | | | | | | | |
| Swivel | 2 | 9/16 | 5 21/32 | 250 | ***New* 4RF58** | 24.05 | **20.22** | 1.2 |
| **POLYURETHANE SINGLE WHEEL LOW LEVEL CASTER** | | | | | | | | |
| Swivel | 3½ | 3 | 2½ | 750 | **4W780** | 139.58 | **119.50** | 8.5 |
| **NYLON SINGLE WHEEL LOW LEVEL CASTER** | | | | | | | | |
| Swivel | 3½ | 3 | 5 21/32 | 900 | **4W781** | 128.50 | **110.10** | 8.0 |

## INVERTED CASTERS FOR CARGO HANDLING LOADS UP TO 460 LBS. PER CASTER

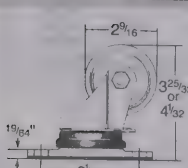
Designed primarily for airport roller conveyors

Diamond Shape Mounting Plate

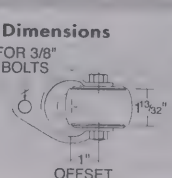


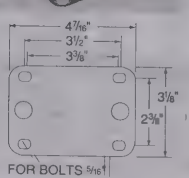
Rectangular Shape Mounting Plate






Dimensions




- Sealed wheel and swivel bearings prevent contamination
- Thread guards prevent grit from entering wheel bearing
- Wide radius nylon wheel eases loading shock
- Forged steel base plate withstands shock
- Manufactured to ISO (International Standards Organization) specifications. Millimeters and kilograms have been converted to nominal inches and pounds

| Plate Type | Wheel Dia. | Wheel (In.) W | Overall Ht. (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **CASTERS WITH DIAMOND SHAPE MOUNTING PLATE** | | | | | | | | |
| Swivel | 2 9/16 | 1 13/32 | 3 25/32 | 460 | **4W782** | $34.09 | **$17.10** | 1.8 |
| Swivel | 2 9/16 | 1 13/32 | 4 1/32 | 460 | **4W783** | 34.09 | **17.10** | 1.8 |
| **CASTERS WITH RECTANGULAR SHAPE MOUNTING PLATE** | | | | | | | | |
| Swivel | 2 9/16 | 1 13/32 | 3 25/32 | 460 | **1F146** | 34.09 | **17.10** | 2.3 |
| Swivel | 2 9/16 | 1 13/32 | 4 1/32 | 460 | **1F147** | 34.09 | **17.10** | 2.2 |

# SPECIALTY THREAD GUARD AND TEXTILE CASTERS

E.R. Wagner CASTERS & WHEELS

| Section Code | CAPACITY RANGE | Refer to Application Guide Pages |
|---|---|---|
| H | Varied | 2123-2124 |

Durable, easy to maintain casters for applications where contaminates can reduce caster wheel performance, such as apparel handling equipment, laundry hampers, and bakery racks.

### LIGHT DUTY WITH KOTZIN THREAD GUARDS

- Attractive zinc chromate finish
- Polyolefin hard tread wheels with plain bearing and 5/16" rivet axle assembly

### LIGHT AND LIGHT-MEDIUM DUTY WITH THREAD GUARDS

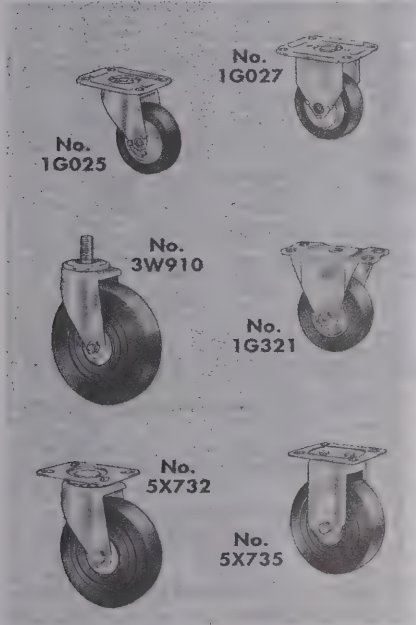
- Attractive zinc chromate finish
- Heat-treated hardened bearing surface
- Self-lubricating wheel bearings
- All 1⅛ and 1¼" tread width wheel casters have 5/16" bolt and locknut wheel axle. 13/16" tread width wheel casters have 1/4" diameter rivet axle

### LIGHT-MEDIUM AND MEDIUM DUTY WITH THREAD GUARDS

- For use on U.S. Postal Service hampers and utility carts
- Attractive zinc chromate finish
- Heat-treated hardened bearing raceways
- 3/8" diameter bolt and locknut wheel axle
- Soft or hard rubber wheels with self-lubricating bearing
- Swivel stem caster No. 3W910 has 5/8"-11 x 1¼" long threaded stem
- Rigid stem caster No. 3W911 has 3/4" diameter x 2½" long round stem with two 0.260" diameter holes located 3/8" and 1⅞" from top of stem

### MEDIUM DUTY WITH THREAD GUARDS

- Attractive zinc chromate finish
- Heat-treated hardened bearing raceways
- Soft or hard rubber wheels with self-lubricating bearing




| Mount Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL Stock No. | SWIVEL List | SWIVEL Each | SWIVEL Shpg. Wt. | RIGID Stock No. | RIGID List | RIGID Each | RIGID Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT DUTY CASTERS WITH KOTZIN THREAD GUARDS** | | | | | | | | | | | | |
| **DURAFOAM hard tread black polypropylene wheel** | | | | | | | | | | | | |
| Plate 12 | 3 | 1 | 3 3/4 | 125 | 1G025 | $8.97 | $7.65 | 1.0 | 1G027 | $6.65 | $5.68 | 0.9 |
| Plate 12 | 4 | 1 | 4 13/16 | 140 | 1G026 | 10.32 | 8.81 | 1.3 | 1G028 | 8.00 | 6.85 | 1.2 |
| Stem 5A | 3 | 1 | 3 5/8 | 125 | 1G023 | 8.69 | 7.37 | 1.8 | — | — | — | — |
| Stem 5A | 4 | 1 | 4 11/16 | 140 | 1G024 | 10.04 | 8.53 | 1.0 | — | — | — | — |
| **LIGHT & LIGHT-MEDIUM DUTY CASTERS WITH THREAD GUARDS** | | | | | | | | | | | | |
| **CUSHIONEX SUPREME soft tread black all rubber wheel** | | | | | | | | | | | | |
| Stem 5C | 3 | 13/16 | 3 1/2 | 100 | 2G293 | 7.91 | 6.70 | 1.7 | — | — | — | — |
| Stem 3 | 3 | 13/16 | 3 1/2 | 100 | 2G294 | 7.91 | 6.70 | 0.7 | — | — | — | — |
| Plate 10 | 3 | 13/16 | 3 9/16 | 100 | 2G295 | 7.00 | 5.96 | 0.7 | — | — | — | — |
| **SPARTAN SUPREME hard tread black all rubber wheel** | | | | | | | | | | | | |
| Plate 17 | 2 1/2 | 1 1/8 | 3 3/8 | 175 | 2G300 | 9.88 | 8.42 | 1.2 | 2G302 | 7.97 | 6.81 | 1.1 |
| Plate 17 | 3 | 1 1/4 | 3 3/4 | 210 | 2G301 | 10.32 | 8.81 | 1.4 | 2G303 | 8.41 | 7.20 | 1.2 |
| **LIGHT-MEDIUM & MEDIUM DUTY CASTERS WITH THREAD GUARDS** | | | | | | | | | | | | |
| **CUSHIONEX SUPREME soft tread black all rubber wheel** | | | | | | | | | | | | |
| Plate | 3 1/2 | 1 1/4 | 4 5/8 | 155 | 3W909 | 13.05 | 11.49 | 1.8 | 1G319 | 11.17 | 9.62 | 2.0 |
| Stem | 6 | 1 5/8 | 6 7/8 | 280 | 3W910 | 16.73 | 14.93 | 4.3 | 3W911 | 17.29 | 15.43 | 4.3 |
| **SPARTAN SUPREME hard tread black all rubber wheel** | | | | | | | | | | | | |
| Plate | 3 1/2 | 1 1/4 | 4 5/8 | 250 | 1G323 | 13.05 | 11.17 | 2.7 | 1G321 | 11.17 | 9.62 | 1.7 |
| Plate | 4 | 1 5/8 | 5 | 400 | — | — | — | — | 3G001 | 14.81 | 12.53 | 0.7 |
| **MEDIUM DUTY CASTERS WITH THREAD GUARDS** | | | | | | | | | | | | |
| **CUSHIONEX SUPREME soft tread black all rubber wheel** | | | | | | | | | | | | |
| Plate 14 | 4 | 1 3/8 | 5 1/16 | 200 | 5X731 | 14.87 | 12.79 | 2.4 | 5X734 | 11.80 | 10.19 | 2.4 |
| Plate 14 | 5 | 1 1/8 | 6 1/16 | 240 | 5X732 | 17.48 | 15.09 | 3.0 | 5X735 | 13.96 | 12.09 | 2.8 |
| Plate 14 | 6 | 1 1/8 | 7 1/16 | 280 | 5X733 | 20.53 | 17.73 | 3.8 | 5X736 | 16.81 | 14.59 | 3.7 |
| **SPARTAN SUPREME hard tread black all rubber wheel** | | | | | | | | | | | | |
| Plate 14 | 4 | 1 3/8 | 5 1/16 | 300 | 1G327 | 14.87 | 12.87 | 2.5 | 1G330 | 11.80 | 10.18 | 2.4 |
| Plate 14 | 5 | 1 3/8 | 6 1/16 | 350 | 1G328 | 17.48 | 15.19 | 3.1 | 1G331 | 13.96 | 12.09 | 2.9 |
| Plate 14 | 6 | 1 1/8 | 7 1/16 | 400 | 1G329 | 20.52 | 17.73 | 3.8 | 1G332 | 16.85 | 14.52 | 3.0 |

### LIGHT-MED. & MED. DUTY TOP PLATE DATA

| | Swivel Nos. 3W909 & 1G323 | Rigid Nos. 1G319 & 1G321 | Rigid No. 3G001 |
|---|---|---|---|
| Bolt Hole Spacing | 2 7/16 x 3 5/16 Slotted to 3 x 3" | 13/16 x 4" | 1 3/4 to 2 x 5" |
| Mounting Bolt Size | 5/16" Dia. | 5/16" Dia. | 3/8" Dia. |
| Overall Plate Size | 3 3/4 x 4 5/8" | 2 1/2 x 4 15/16" | 3 9/16 x 6 5/32" |

FOR SOCKETS AND BRACKETS, SEE PAGE 2167



TYPE 3
7/16" Dia. x 1 3/8"

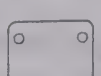
TYPE 5A
Threaded Stem
3/8"-16 x 1"



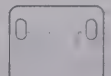
TYPE 5C
Threaded Stem
3/8"-24 x 1 1/2"



TYPE 10
Bolt Hole Spacing: 13/16 x 1 9/16"
Mtg. Bolt Dia: 3/16"
Overall Plate Size: 1 5/32 x 2"



TYPE 12
Bolt Hole Spacing: 1 3/4 x 3"
Mtg. Bolt Dia: 5/16"
Overall Plate Size: 2 3/4 x 3 3/4"



TYPE 17
Bolt Hole Spacing: 1 3/4 x 2 5/8 to 3"
Mtg. Bolt Dia: 5/16"
Overall Plate Size: 2 3/4 x 3 3/4"



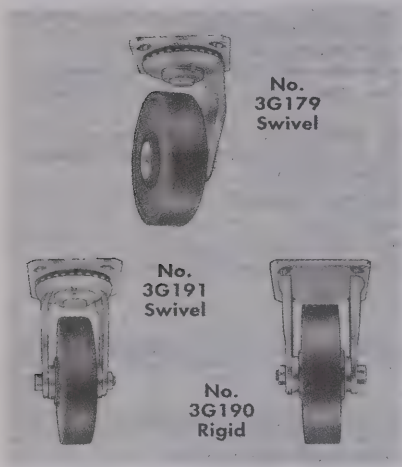
TYPE 14
Bolt Hole Spacing: 1 3/4 x 3" Slotted to 2 3/8 x 3 3/8"
Mtg. Bolt Dia: 3/8"
Overall Plate Size: 3 1/8 x 4 1/8"

# SPECIALTY THREAD GUARD AND TEXTILE CASTERS

| Section Code | CAPACITY RANGE | Refer to Application Guide Pages |
|---|---|---|
| H | Varied | 2123 - 2124 |

## ALBION

## SERIES 32 SINGLE-LEG AND SERIES 35 STANDARD TWO-LEG MEDIUM-DUTY TEXTILE CASTERS




- Patented design reduces maintenance cost and increases periods of efficient service
- Flat sided wheels eliminate the need for thread guards
- Large diameter spacer between leg and wheel reduces thread build-up for longer periods of operation
- Constructed with a minimum number of parts to reduce maintenance time and complexity
- Wheels have sealed ball bearings—need no lubrication
- Plated with clear zinc for corrosion resistance and extended life

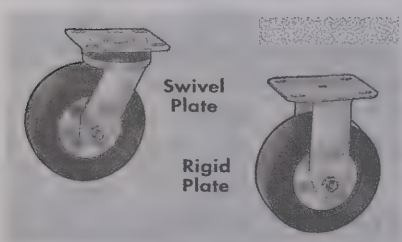
| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | SWIVEL PLATE Stock No. | List | Each | Shpg. Wt. | RIGID PLATE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **32 SERIES SINGLE-LEG TEXITE (PHENOLIC) WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 1½ | 5⅝ | 400 | **3G179** | $97.20 | **$76.35** | 4.8 | **3G178** | $82.17 | **$64.60** | 3.7 |
| 5 | 1½ | 6⅛ | 500 | **3G181** | 98.55 | **77.40** | 5.3 | **3G180** | 83.53 | **65.65** | 4.4 |
| 6 | 1½ | 7¼ | 500 | **3G183** | 99.20 | **77.95** | 6.3 | **3G182** | 85.46 | **67.15** | 5.2 |
| **32 SERIES SINGLE-LEG POLYURETHANE TREAD WHEELS** | | | | | | | | | | | |
| 4 | 1½ | 5⅝ | 400 | **3G185** | 111.54 | **87.60** | 4.5 | **3G184** | 96.51 | **75.85** | 3.8 |
| 5 | 1½ | 6½ | 500 | **3G187** | 113.90 | **89.45** | 5.2 | **3G186** | 98.86 | **77.70** | 4.4 |
| 6 | 1½ | 7¼ | 500 | **3G189** | 116.50 | **91.55** | 5.5 | **3G188** | 101.80 | **79.95** | 5.1 |
| **35 SERIES 2-LEG TEXITE (PHENOLIC) WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 1½ | 5⅝ | 400 | **3G191** | 89.48 | **67.60** | 5.0 | **3G190** | 78.86 | **59.60** | 4.3 |
| 5 | 1½ | 6½ | 500 | **3G193** | 90.30 | **68.20** | 5.8 | **3G192** | 80.51 | **60.80** | 4.9 |
| 6 | 1½ | 7¼ | 500 | **3G195** | 92.30 | **69.75** | 6.3 | **3G194** | 82.53 | **62.40** | 5.8 |
| **35 SERIES 2-LEG POLYURETHANE TREAD WHEEL CASTERS** | | | | | | | | | | | |
| 4 | 1½ | 5⅝ | 400 | **3G197** | 105.55 | **79.70** | 4.9 | **3G196** | 94.94 | **71.70** | 4.1 |
| 5 | 1½ | 6½ | 500 | **3G199** | 107.49 | **81.20** | 5.8 | **3G198** | 97.70 | **73.80** | 5.1 |
| 6 | 1½ | 7¼ | 500 | **3G201** | 110.60 | **83.50** | 6.5 | **3G200** | 100.90 | **76.20** | 5.7 |

### TOP PLATE DATA

Bolt Hole Spacing: 2⅝ x 3⅝"
Slotted to 3 x 3"
Mounting Bolt Size: 3/8"
Overall Plate Size: 4 x 4½"

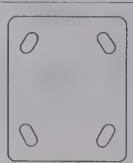
## E.R. Wagner CASTERS & WHEELS Manufacturing Co.

## HEAVY DUTY SWIVEL AND RIGID ROLLER BEARING WHEEL TEXTILE CASTERS WITH THREAD GUARDS




- Designed for heavy cloth handling trucks, and pin, cone, and bobbin trucks operating in textile plants
- Full thread guard prevents thread buildup around wheel and bearing
- Highly suitable for any textile plant application
- Roller bearing wheel with 1/2" diameter nut and bolt axle with grease zerk fitting
- Heat-treated, hardened bearing raceways
- Upper raceway swivel seal and swivel lubrication fitting for longer bearing life
- Available in both mold-on polyurethane tread with aluminum core and Duratex (phenolic) tread wheels
- Yellow zinc chromate finish for corrosion resistance

### TOP PLATE DATA



TYPE 15
Bolt Hole Spacing: 2⅝ x 3⅝"
Slotted to 3 x 3"
Mounting Bolt Size: 3/8" Dia.
Overall Plate Size: 4 x 4½"
Thickness: 1/4"

| Plate Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | MOLD-ON POLYURETHANE soft blue polyurethane tread on aluminum core wheel Stock No. | List | Each | Shpg. Wt. | DURATEX hard tread black phenolic resin wheel Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Swivel** | 5 | 2 | 6½ | 900 | **4W959** | $76.42 | **$48.25** | 6.1 | **4W953** | $55.24 | **$33.95** | 5.8 |
| **Swivel** | 6 | 2 | 7½ | 900 | **4W960** | 83.76 | **52.90** | 7.2 | **4W954** | 59.09 | **36.20** | 6.8 |
| **Swivel** | 8 | 2 | 9½ | 900 | **4W961** | 100.13 | **63.15** | 9.8 | **4W955** | 70.04 | **42.70** | 8.3 |
| **Rigid** | 5 | 2 | 6½ | 900 | **4W962** | 61.50 | **38.35** | 5.4 | **4W956** | 37.43 | **22.45** | 5.3 |
| **Rigid** | 6 | 2 | 7½ | 900 | **4W963** | 68.48 | **42.90** | 5.5 | **4W957** | 42.72 | **25.25** | 5.5 |
| **Rigid** | 8 | 2 | 9½ | 900 | **4W964** | 86.05 | **53.75** | 7.8 | **4W958** | 52.11 | **31.25** | 7.3 |

SEE PAGE 2141 FOR ADDITIONAL THREAD GUARD CASTERS

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

| Section Code | H | CAPACITY RANGE Varied | Refer to Application Guide Pages 2123 - 2124 |
|---|---|---|---|

E.R. Wagner CASTERS & WHEELS Manufacturing Co.

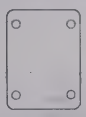
## LIGHT-MEDIUM & MEDIUM DUTY RADIAL DISC CASTERS

- Chrome or zinc chromate finish
- Heat-treated hardened bearing raceways
- Nut and bolt axle (roller bearing wheel axles have lubrication hole)
- Soft rubber tread bonded to radial disc polyolefin core wheels
- Optional brake kits available

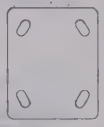
MOUNTING TYPES AVAILABLE



TYPE 7
Threaded Stem
1/2-13 x 1½" Lg.



TYPE 12
Bolt Hole Spacing: 1¾ x 3"
Mounting Bolt Size: 5/16" Dia.
Overall Plate Size: 2¾ x 3¾"



TYPE 15
Bolt Hole Spacing: 2⅝ x 3⅝"
Slotted to 3 x 3"
Mounting Bolt Size: 3/8" Dia.
Overall Plate Size: 3¾ x 4⅝"



Cross section shows spoke construction of polyolefin radial disc. Roller bearing acle supplied with No. 4X951 and 4X952 casters only.

### CUSHIONEX SUPREME Soft Black Rubber Tread on Silver Gray Polypropylene Core Wheel

| Mount Type | Finish | Bearing | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Swivel Stem 7** | Chrome | Roller | 5 | 1½ | 5⅞ | 210 | **4X951*** | $17.84 | **$15.05** | 1.1 |
| **Swivel Plate 15** | Chrome | Roller | 5 | 1½ | 6 | 210 | **4X952*** | 19.84 | **16.95** | 2.6 |
| **Swivel Plate 12** | Zinc Chromate | Self-Lube | 4 | 1 | 4¾ | 120 | **5X762†** | 8.95 | **7.63** | 1.2 |
| **Swivel Plate 12** | Zinc Chromate | Self-Lube | 5 | 1 | 5¾ | 130 | **5X763†** | 10.02 | **8.61** | 1.6 |
| **Rigid Plate 12** | Zinc Chromate | Self-Lube | 4 | 1 | 4¾ | 120 | **5X764** | 7.85 | **6.74** | 1.2 |
| **Rigid Plate 12** | Zinc Chromate | Self-Lube | 5 | 1 | 5¾ | 130 | **5X765** | 8.76 | **7.52** | 1.4 |

(†) Use Optional Side Brake Kit. **No. 4X698.** Shpg. wt. 0.2 lbs. List $4.52. Each ..... $3.81

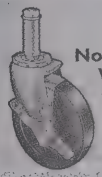
(*) Use Optional Side Brake Kit. **No. 4X825.** Shpg. wt. 0.3 lbs. List $4.56. Each ..... $3.85

E.R. Wagner CASTERS & WHEELS Manufacturing Co.

## SPECIALTY BRAKE DUAL-LOK SWIVEL STEM CASTERS



No. 4X937 Dual-Lok Brake



No. 3A891 Wheel Brake

- Special brake casters for platforms, carts, and similar equipment
- Two types of brakes: Nos. 3A889, 3A890, and 4X937 feature a foot-operated Dual-Lok brake which locks both caster wheel and swivel. No. 3A891 features a foot-operated brake which locks wheel only
- Attractive zinc chromate finish
- Heat-treated hardened bearing raceways
- Nut and bolt axle assembly
- Soft black rubber wheel

MOUNTING STEM DATA




No. 3A889
1.0" Dia.
2½" L




No. 3A890
1.047" Dia.
2¾" L




No. 4X937
1.25" Dia.
2½" L
7/16" Dia. hole located 1" up

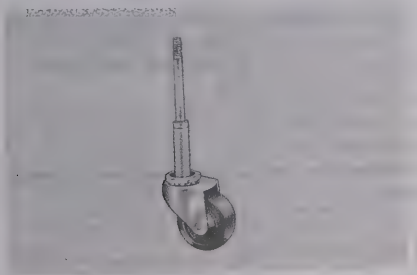



No. 3A891
1.0475" Dia.
2¾" L

| Swivel Stem with Brake Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Ht. (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Dual-Lok** | 5 | 1⅜ | 6¼ | 240 | **3A889** | $39.41 | **$33.80** | 3.8 |
| **Dual-Lok** | 5 | 1⅜ | 6¼ | 240 | **3A890** | 40.70 | **34.90** | 3.8 |
| **Dual-Lok** | 5 | 1⅜ | 6¼ | 240 | **4X937** | 38.57 | **33.30** | 3.8 |
| **Wheel Brake** | 5 | 1⅜ | 6¼ | 240 | **3A891** | 33.76 | **29.30** | 3.7 |

E.R. Wagner CASTERS & WHEELS Manufacturing Co.

## LIGHT DUTY LADDER CASTERS WITH SWIVEL STEM



- For use with rolling ladders
- Attractive zinc chromate finish
- Soft rubber or polypropylene wheels
- 1/4" diameter rivet axle
- 5/16-18 x 5.301" threaded ladder stem

| Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CUSHIONEX SUPREME Soft Tread Black All Rubber Wheel | | | | | DURAFOAM Hard Tread Black Polypropylene Wheel | | | | |
| **2** | 13/16 | 2½ | 75 | **1G324** | $6.09 | **$5.15** | 1.8 | 100 | **1G326** | $5.87 | **$4.95** | 0.5 |
| **3** | 13/16 | 3½ | 100 | **1G325** | 6.72 | **5.70** | 0.8 | 125 | **2G304** | 6.50 | **5.49** | 0.4 |

# SPECIALTY CASTERS

| Section Code | H | CAPACITY RANGE | Varied | Refer to Application Guide Pages 2123-2124 |
|---|---|---|---|---|

## E.R. Wagner CASTERS & WHEELS — LIGHT MEDIUM-DUTY SWIVEL AND TOTAL-LOCK SWIVEL HEALTH CARE CASTERS

- **For hospital beds, dispensing carts, and defibrillator carts**
- **Bright zinc plated finish, and covered and protected double ball bearing swivel raceways**

**5" Expanding Stem Standard Bed Caster** available in swivel, total lock swivel, and direction/steer lock swivel. Total lock swivel locks both the caster swivel and wheel. Stem length is 2⅞" for use with 1.00" to 1.20" I.D. tubular frames. Wheel has a gray nonmarking soft rubber tread, ball bearing, and thread guard. Order expanding adapter separately.

**5" Plate Caster** available in swivel, total lock swivel, and direction/steer lock swivel. Choice of gray nonmarking soft rubber tread or dark blue polyurethane tread wheel with ball bearing and thread guard.



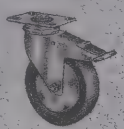
No. 3W802 Swivel Caster with Round Adapter



No. 3W803 Swivel Caster with Total Lock and Square Adapter

**TOP PLATE DATA**

Bolt hole spacing: 1¾ x 3"
Mounting bolt size: 5/16" Dia.
Overall plate size: 2¾ x 3¾"



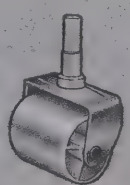
No. 1G185 Swivel Caster with Total Lock

| Mount Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **SWIVEL SOLID EXPANDING STEM GRAY SOFT TREAD BED CASTERS** | | | | | | | | |
| Swivel | 5 | 1¼ | 6⅜ | 220 | **3W802** | $35.02 | **$29.75** | 2.3 |
| Total Lock | 5 | 1¼ | 6⅜ | 220 | **3W803** | 52.66 | **44.50** | 2.5 |
| Direction Lock | 5 | 1¼ | 6⅜ | 220 | **1G443** | 58.56 | **49.20** | 2.3 |
| **SWIVEL PLATE GRAY SOFT RUBBER TREAD CASTERS** | | | | | | | | |
| Swivel | 5 | 1¼ | 6⅜ | 220 | **1G184** | 35.15 | **29.70** | 2.3 |
| Total Lock | 5 | 1¼ | 6⅜ | 220 | **1G185** | 52.40 | **44.10** | 2.3 |

**PLASTIC EXPANDING ADAPTERS FOR BED CASTERS**

| Description | For Tubing I.D. (In.) | Wagner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Square Adapter for use w/square tubing | 1.00 to 1.20 | 3F1718-97 | **3W806** | $4.77 | **$4.00** | 0.2 |
| Round Adapter for use w/round tubing | 1.00 to 1.20 | 3F1720-97 | **3W807** | 4.49 | **3.76** | 0.1 |

## E.R. Wagner CASTERS & WHEELS — DECORATIVE BED CASTERS

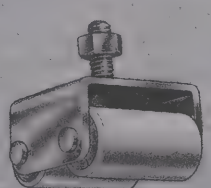


No. 4A771

- **Bright brass finish**
- **Large wheel allows easy movement of heavy loads**
- **Available with brown or white wheels**
- **5/16" x 1½" grip neck stem for wood & socket included**

| Wheel Color | Wheel Dia. (In.) | Wheel W (In.) | Overall Ht. (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| White | 2 | 2¼ | 2⅝ | 125 | **4A771** | $2.13 | **$1.84** | 1.4 |
| Brown | 2 | 2¼ | 2⅝ | 125 | **4A772** | 2.23 | **1.92** | 1.4 |

shepherd®



## APPLIANCE CASTER

- **Now it's easy to move and clean under infrequently moved appliances such as refrigerators, freezers, washers, and dryers—simply remove old glides or levelers, and screw appliance caster into threaded sockets**
- **Stem mount: 5/16"-18 thread, 7/8" long**
- **Caster dim.: 1⅝W x 1¾D x 1⅜"H**
- **Load rating: 250 lbs. per caster**
- **NOTE: Not recommended for use on cushioned vinyl floors**
- **6 casters per package**
- **Shepherd brand**

**No. 6J641.** Shpg. wt. 1.7 lbs. List $15.13. Each ..... **$12.04**

| Section Code | CAPACITY RANGE | Refer to Application Guide Pages |
|---|---|---|
| H | Varied | 2123—2124 |

E.R. Wagner Manufacturing Co. CASTERS & WHEELS

## MEDIUM-DUTY, LOW PROFILE SWIVEL AND RIGID PLATE AND SWIVEL STEM CASTERS FOR BUSINESS EQUIPMENT

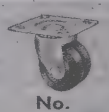
- Zinc chromate finish (Nos. 2G309, 2G312, 2G313, and 2G314 have black finish)
- For use with electronic and business equipment, display stands and racks, and other applications requiring a high load capacity and low overall height caster
- Heat-treated hardened bearing raceways
- 1/2"-13 x 2½" leveling type threaded stem on three swivel stem caster wheel sizes
- 3/8" diameter bolt and locknut wheel axle
- Factory installed thumbscrew brake on plate and stem casters indicated (†), optional side mount brake kits available for swivel stem and plate casters indicated (*)

**OPTIONAL BRAKE KIT**

No. 1G322. Shpg. wt. 0.2 lbs. List $4.55. Each ..... $3.84

| Mount Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **CUSHIONEX SUPREME–Soft tread All Rubber Tandem Wheel** | | | | | | | | |
| **Swivel Stem 3** | 2 | 13/16 | 2 3/4 | 150 | **2G305** | $14.18 | **$12.09** | 1.7 |
| **Swivel Stem 7** | 2 | 13/16 | 2 3/4 | 150 | **1G291†** | 15.34 | **13.05** | 1.7 |
| **Swivel Stem 7** | 3 | 13/16 | 3 3/4 | 250 | **1G292*** | 15.82 | **13.51** | 1.6 |
| **Swivel Plate 14** | 2 | 13/16 | 2 7/8 | 150 | **1G295** | 13.24 | **11.32** | 1.4 |
| **Swivel Plate 14** | 3 | 13/16 | 3 7/8 | 250 | **1G299*** | 15.22 | **13.05** | 1.8 |
| **Rigid Plate 14** | 2 | 13/16 | 2 7/8 | 150 | **1G296** | 7.72 | **6.60** | 1.1 |
| **Rigid Plate 14** | 2 | 13/16 | 2 7/8 | 150 | **2G309** | 8.69 | **7.42** | 1.1 |
| **Rigid Plate 14** | 3 | 13/16 | 3 7/8 | 250 | **1G300** | 8.19 | **7.08** | 1.6 |
| **SPARTAN SUPREME–Hard Tread All Rubber Tandem Wheel** | | | | | | | | |
| **Swivel Stem 3** | 2 | 13/16 | 2 3/4 | 200 | **2G310** | 14.18 | **12.09** | 1.7 |
| **Swivel Stem 7** | 2 | 13/16 | 2 3/4 | 200 | **1G293†** | 15.34 | **13.05** | 1.7 |
| **Swivel Stem 7** | 3 | 13/16 | 3 3/4 | 350 | **1G294*** | 15.82 | **13.46** | 1.6 |
| **Swivel Plate 15** | 2 | 13/16 | 2 7/8 | 200 | **3A754** | 16.42 | **13.98** | 1.6 |
| **Swivel Plate 15** | 3 | 13/16 | 3 7/8 | 350 | **3A756** | 16.84 | **14.43** | 2.2 |
| **Swivel Plate 14** | 2 | 13/16 | 2 7/8 | 200 | **1G301** | 13.24 | **11.32** | 1.4 |
| **Swivel Plate 14** | 2 | 13/16 | 2 7/8 | 200 | **2G311†** | 15.03 | **12.79** | 1.7 |
| **Swivel Plate 14** | 2 | 13/16 | 2 7/8 | 200 | **2G312** | 14.22 | **12.13** | 1.4 |
| **Swivel Plate 14** | 2 | 13/16 | 2 7/8 | 200 | **2G313†** | 16.00 | **13.61** | 1.8 |
| **Swivel Plate 14** | 2½ | 13/16 | 3 7/16 | 300 | **1G303** | 14.94 | **12.73** | 1.7 |
| **Swivel Plate 14** | 3 | 13/16 | 3 7/8 | 350 | **1G305*** | 15.22 | **13.05** | 1.8 |
| **Rigid Plate 14** | 2 | 13/16 | 2 7/8 | 200 | **1G302** | 7.72 | **6.62** | 1.2 |
| **Rigid Plate 14** | 2 | 13/16 | 2 7/8 | 200 | **2G314** | 8.69 | **7.43** | 1.2 |
| **Rigid Plate 14** | 2½ | 13/16 | 3 7/16 | 300 | **1G304** | 7.94 | **6.79** | 1.1 |
| **Rigid Plate 14** | 3 | 13/16 | 3 7/8 | 350 | **1G306** | 8.19 | **7.08** | 1.6 |

(†) With thumbscrew brake. (*) Brake Kit No. 1G322 available, see above.



No. 3A756



No. 3A757



No. 1G305



No. 1G287

| Mount Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **SPARTAN SUPREME Hard Tread All Rubber Tandem Wheel w/Leveling Stem** | | | | | | | | |
| **Swivel Stem** | 2 | 13/16 | 2 7/8 | 200 | **3A755†** | $15.90 | **$13.47** | 1.4 |
| **Swivel Stem** | 3 | 13/16 | 3 7/8 | 350 | **4X946†** | 16.39 | **13.92** | 1.7 |
| **DURATEX Hard Tread Black Phelnolic Roller Bearing Single Wheel w/Leveling Stem** | | | | | | | | |
| **Swivel Stem** | 3 | 1 1/4 | 3 7/8 | 350 | **3A757†** | 20.23 | **17.28** | 1.7 |
| **DURAFOAM–Hard Tread Black Polypropylene Single Wheel** | | | | | | | | |
| **Swivel Stem 7A** | 3 | 1 3/4 | 3 3/4 | 350 | **1G289*** | 15.16 | **12.93** | 1.4 |
| **Swivel Stem 23** | 3 | 1 3/4 | 3 3/4 | 350 | **1G290*** | 15.60 | **13.30** | 1.5 |
| **Swivel Plate 14** | 3 | 1 3/4 | 3 7/8 | 350 | **1G307*** | 14.75 | **12.59** | 1.6 |
| **Rigid Plate 14** | 3 | 1 3/4 | 3 7/8 | 350 | **1G308** | 9.79 | **8.38** | 1.5 |
| **DURATEX–Hard Tread Black Phenolic Roller Bearing Single Wheel** | | | | | | | | |
| **Swivel Plate 14** | 3 | 1 3/4 | 3 7/8 | 500 | **1G286** | 18.95 | **16.18** | 2.4 |
| **Swivel Plate 14** | 3 | 1 3/4 | 3 7/8 | 500 | **1G287†** | 20.27 | **17.25** | 2.2 |
| **Rigid Plate 14** | 3 | 1 3/4 | 3 7/8 | 500 | **1G288** | 12.36 | **10.57** | 1.7 |
| **Swivel Plate 15** | 3 | 1 3/4 | 3 7/8 | 350 | **4X945*** | 20.72 | **17.63** | 2.0 |

## *Bassick* CASTERS FOR OFFICE EQUIPMENT



No. 2G180

No. 2G193



Ideal for use on computers, copiers, and other types of office equipment including mail handling carts

| TOP PLATE DATA | Nos. 2G182 & 2G183 | No. 2G193 |
|---|---|---|
| Bolt Holes Bolt Size | 2 3/8 x 3 3/8" 5/16" dia. | 4 1/2 x 5 1/4" 7/16" dia. |

| Type | Wheel Dia. (In.) | Wheel W (In.) | Overall Height (In.) | Load Rating (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ALL HARD RUBBER WHEEL CASTERS** | | | | | | | | |
| **Swivel Stem 7** | 3 | 1 1/4 | 3 5/8 | 210 | **2G181** | $21.07 | **$14.75** | 1.1 |
| **HARD TREAD POLYPROPYLENE WHEEL CASTERS** | | | | | | | | |
| **Swivel Plate 17A** | 2 5/8 | 1 1/2 | 3 5/8 | 250 | **2G180** | 19.28 | **13.49** | 1.0 |
| **CANAPHIN (PHENOLIC) WHEEL CASTERS** | | | | | | | | |
| **Swivel Plate** | 3 | 1 13/16 | 4 5/16 | 900 | **2G182** | 72.95 | **51.05** | 3.1 |
| **Swivel Plate*** | 3 | 1 13/16 | 4 5/16 | 900 | **2G183** | 76.35 | **53.65** | 3.1 |
| **POLYURETHANE WHEEL FOR MAIL/PARCEL HANDLING CARTS** | | | | | | | | |
| **Rigid Plate** | 8 | 2 | 9 3/8 | 1400 | **2G193** | 88.65 | **61.95** | 12.0 |

(*) Comes with thumbscrew brake.

SOCKETS AND BRACKETS ON PAGE 2167



TYPE 3 Friction Ring Stem 7/16 x 1 3/8"



TYPE 7A Threaded Stem 1/2"-13 x 3/4"



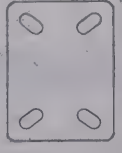
TYPE 7 Threaded Stem 1/2"-13 x 1 1/2"



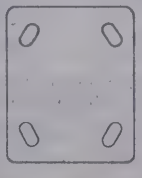
TYPE 23 Threaded Stem 3/4"-10 x 1"



TYPE 17A Bolt Hole Spacing: 1 3/4 x 2 7/8 Slotted to 1 3/4 x 3" Mtg. Bolt Dia.: 5/16" Overall Plate Size: 2 3/4 x 3 3/4"



TYPE 14 Bolt Hole Spacing: 1 3/4 x 3" Slotted to 2 3/8 x 3 3/8" Mtg. Bolt Dia.: 3/8" Overall Plate Size: 3 1/8 x 4 1/8"



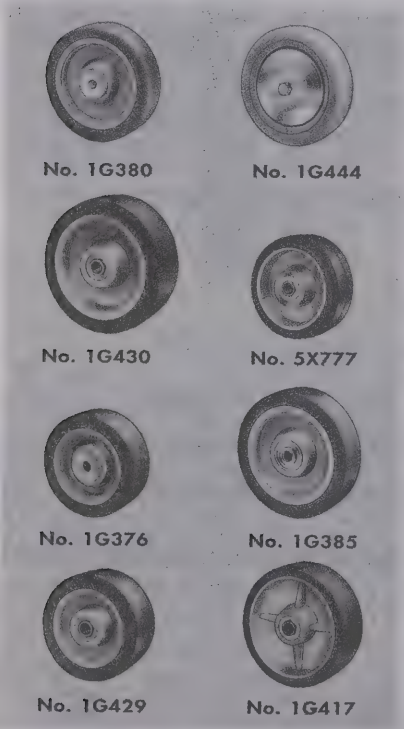
TYPE 15 Bolt Hole Spacing: 2 5/8 x 3 5/8" Slotted to 3 x 3" Mtg. Bolt Dia.: 3/8" Overall Plate Size: 3 3/4 x 4 5/8"

E.R. Wagner CASTERS & WHEELS Manufacturing Co.

## SOFT TREAD WHEELS

**POLY II RUBBER MOLD-ON THERMOPLASTIC RUBBER TREAD WHEELS**—Thermoplastic cushion rubber tread molded and mechanically locked to polypropylene core. Provides maximum floor and load protection, quiet operation, and nonmarking tread. Fit light to medium-duty commercial, industrial, and institutional rated casters. For light to medium loads on hard floors or uneven surfaces. Choice of self-lubricating plastic insert, ball, or roller bearings.

**ALUMINUM CORE MOLD-ON SOFT NATURAL RUBBER TREAD WHEELS**—Soft black natural rubber tread molded on cast aluminum wheel core for noiseless operation in heavy-duty use. Long life roller bearing withstands exceptionally heavy loads. Provides maximum floor protection and impact resistance in industrial applications.




**CAUTION:** Caster housing dimensions vary slightly between different caster manufacturers. Confirm that replacement wheel selected functions properly in your existing housing. For wheel brake casters, check for proper brake engagement with replacement wheel.

**POLY II URETHANE MOLD-ON POLYURETHANE TREAD WHEELS**—Nonmarking polyurethane tread molded and mechanically locked to polypropylene core. Maximum floor and load protection, high load capacity, and quiet operation. Resist impact, mild chemicals, and abrasions. Fit light to heavy-duty commercial, industrial, and institutional casters. For light to heavy loads on hard or carpeted floors and uneven surfaces. Choose self-lubricating plastic insert, ball, or roller bearings.

**ALUMINUM CORE MOLD-ON POLYURETHANE TREAD WHEELS**—Red polyurethane tread molded on cast aluminum wheel core. For medium to heavy loads on hard or carpeted floors and uneven surfaces. Excellent floor and load protection, impact and abrasion resistance, and quiet operation in industrial applications. Long life roller bearings.

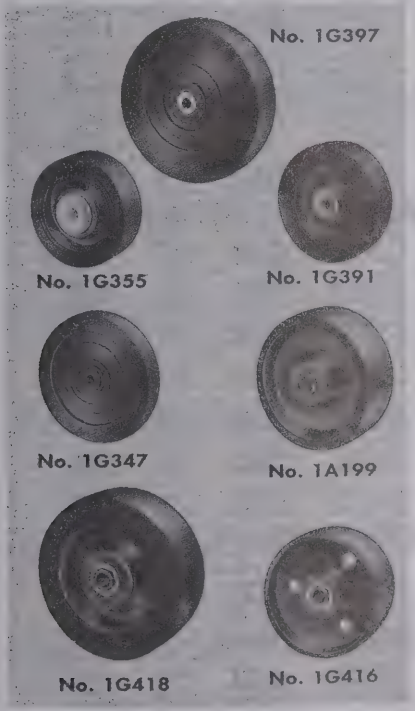
| Wheel Dia. (In.) | Wheel Width (In.) | Color Tread | Color Core | Capacity (Lbs.) | Hub Width (In.) | Fits Axle (In.) | Wheel Bearing | Wagner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLY II RUBBER MOLD-ON THERMOPLASTIC RUBBER TREAD WHEELS** | | | | | | | | | | | | |
| 3 | 1 | Gray | Gray | 100 | 1 1/8 | 5/16 | Plastic | 1G3188694 | **1G336** | $4.74 | **$3.99** | 0.2 |
| 3 | 1 1/4 | Gray | Gray | 125 | 1 1/2 | 3/8 | Plastic | 1G3191394 | **1G434** | 5.65 | **4.77** | 0.3 |
| 3 1/2 | 1 1/4 | Gray | Gray | 155 | 1 1/2 | 3/8 | Plastic | 1G3182894 | **1G353** | 5.24 | **4.43** | 0.4 |
| 3 1/2 | 1 1/4 | Gray | Gray | 155 | 1 1/2 | 3/8 | Ball | 1J3182994 | **1G354** | 7.59 | **6.39** | 0.5 |
| 4 | 1 | Gray | Gray | 115 | 1 1/8 | 5/16 | Plastic | 1G3189594 | **1G342** | 5.43 | **4.59** | 0.3 |
| 4 | 1 1/4 | Gray | Gray | 165 | 1 1/2 | 3/8 | Plastic | 1G3184194 | **1G362** | 6.12 | **5.17** | 0.5 |
| 4 | 1 1/4 | Gray | Gray | 165 | 1 1/2 | 3/8 | Ball | 1J3184294 | **1G363** | 8.44 | **7.15** | 1.6 |
| 4 | 1 1/2 | Gray | Gray | 200 | 1 1/2 | 3/8 | Plastic | 1G3179894 | **1G368** | 6.53 | **5.52** | 0.6 |
| 4 | 1 1/2 | Gray | Gray | 200 | 1 1/2 | 3/8 | Roller | 1J3180094 | **1G370** | 9.13 | **7.71** | 0.6 |
| 5 | 1 | Gray | Gray | 125 | 1 1/8 | 5/16 | Plastic | 1G3190494 | **1G348** | 6.18 | **5.23** | 0.4 |
| 5 | 1 1/4 | Gray | Gray | 200 | 1 1/2 | 3/8 | Plastic | 1G3178394 | **1G380** | 7.12 | **6.05** | 0.8 |
| 5 | 1 1/4 | Gray | Gray | 200 | 1 1/2 | 3/8 | Ball | 1J3178494 | **1G381** | 9.48 | **8.03** | 0.8 |
| 5 | 1 1/4 | Gray | Gray | 220 | 1 3/8 | 5/16 | Ball | 1J31870-94 | **1G444*** | 17.61 | **14.82** | 0.9 |
| 5 | 1 1/2 | Gray | Gray | 240 | 1 1/2 | 3/8 | Plastic | 1G3177194 | **1G386** | 7.34 | **6.25** | 0.8 |
| 5 | 1 1/2 | Gray | Gray | 240 | 1 1/2 | 3/8 | Roller | 1J3177394 | **1G388** | 10.10 | **8.55** | 0.8 |
| 5 | 2 | Black | Gray | 325 | 2 9/16 | 1/2 | Roller | 1F43427-94 | **1G428†** | 16.98 | **14.36** | 1.3 |
| 6 | 1 1/2 | Gray | Gray | 280 | 1 1/2 | 3/8 | Plastic | 1G3181094 | **1G401** | 10.48 | **8.87** | 0.9 |
| 6 | 1 1/2 | Gray | Gray | 280 | 1 1/2 | 3/8 | Roller | 1J3181294 | **1G403** | 13.05 | **11.02** | 0.9 |
| 6 | 2 | Black | Gray | 400 | 2 3/16 | 1/2 | Roller | 1F4342994 | **1G430†** | 19.44 | **16.45** | 1.6 |
| 8 | 2 | Black | Gray | 475 | 2 3/16 | 1/2 | Roller | 1F4343194 | **1G432†‡** | 41.08 | **34.70** | 2.5 |
| **ALUMINUM CORE MOLD-ON SOFT RUBBER TREAD WHEELS** | | | | | | | | | | | | |
| 5 | 2 | Black | Aluminum | 350 | 2 1/4 | 1/2 | Roller | 11F-3840-94 | **5X777†** | 27.44 | **23.19** | 2.0 |
| 6 | 2 | Black | Aluminum | 410 | 2 1/4 | 1/2 | Roller | 11F-3841-94 | **5X778†** | 27.99 | **23.74** | 2.6 |
| 8 | 2 | Black | Aluminum | 500 | 2 1/4 | 1/2 | Roller | 11F-3842-94 | **5X779†** | 34.16 | **29.15** | 3.8 |
| **POLY II URETHANE MOLD-ON POLYURETHANE TREAD WHEELS** | | | | | | | | | | | | |
| 3 | 1 | Blue | Gray | 125 | 1 1/8 | 5/16 | Plastic | 1G3188394 | **1G338** | 5.02 | **4.24** | 0.2 |
| 3 | 1 1/4 | Blue | Gray | 210 | 1 1/2 | 3/8 | Plastic | 1G3191094 | **1G435** | 5.96 | **5.02** | 0.3 |
| 3 1/2 | 1 1/4 | Blue | Gray | 250 | 1 1/2 | 3/8 | Plastic | 1G3182494 | **1G357** | 5.71 | **4.82** | 0.4 |
| 3 1/2 | 1 1/4 | Blue | Gray | 250 | 1 1/2 | 3/8 | Ball | 1J3182594 | **1G358** | 8.06 | **6.82** | 0.5 |
| 4 | 1 | Blue | Gray | 140 | 1 1/8 | 5/16 | Plastic | 1G3189294 | **1G344** | 5.71 | **4.82** | 0.4 |
| 4 | 1 1/4 | Blue | Gray | 275 | 1 1/2 | 3/8 | Plastic | 1G3183794 | **1G366** | 6.68 | **5.64** | 0.6 |
| 4 | 1 1/4 | Blue | Gray | 250 | 1 1/2 | 3/8 | Ball | 1J3183894 | **1G367** | 9.04 | **7.62** | 0.6 |
| 4 | 1 1/2 | Blue | Gray | 375 | 1 1/2 | 3/8 | Plastic | 1G3179494 | **1G374** | 7.09 | **6.00** | 0.6 |
| 4 | 1 1/2 | Blue | Gray | 375 | 1 1/2 | 3/8 | Roller | 1J3179694 | **1G376** | 9.70 | **8.18** | 1.5 |
| 5 | 1 | Blue | Gray | 145 | 1 1/8 | 5/16 | Plastic | 1G3190194 | **1G350** | 6.50 | **5.51** | 0.6 |
| 5 | 1 1/4 | Blue | Gray | 300 | 1 1/2 | 3/8 | Plastic | 1G3177994 | **1G384** | 7.15 | **6.09** | 0.8 |
| 5 | 1 1/4 | Blue | Gray | 250 | 1 1/2 | 3/8 | Ball | 1J3178094 | **1G385** | 9.51 | **8.05** | 0.8 |
| 5 | 1 1/4 | Blue | Gray | 220 | 1 3/8 | 5/16 | Ball | 1J31932-94 | **1G445*** | 18.36 | **15.45** | 0.9 |
| 5 | 1 1/2 | Blue | Gray | 450 | 1 1/2 | 3/8 | Plastic | 1G3176794 | **1G392** | 7.94 | **6.74** | 0.8 |
| 5 | 1 1/2 | Blue | Gray | 450 | 1 1/2 | 3/8 | Roller | 1J3176994 | **1G394** | 10.54 | **8.93** | 0.9 |
| 5 | 2 | Red | Gray | 750 | 2 9/16 | 1/2 | Roller | 1F4342894 | **1G429†** | 18.69 | **15.79** | 1.4 |
| 6 | 1 1/2 | Blue | Gray | 450 | 1 1/2 | 3/8 | Plastic | 1G3180694 | **1G407** | 10.79 | **9.16** | 1.1 |
| 6 | 1 1/2 | Blue | Gray | 450 | 1 1/2 | 3/8 | Roller | 1J3180894 | **1G409** | 13.40 | **11.34** | 1.2 |
| 6 | 2 | Red | Gray | 900 | 2 9/16 | 1/2 | Roller | 1F4343094 | **1G431†** | 21.54 | **18.22** | 1.7 |
| 8 | 2 | Red | Gray | 1000 | 2 9/16 | 1/2 | Roller | 1F4343294 | **1G433†‡** | 43.87 | **37.05** | 2.6 |
| **ALUMINUM CORE MOLD-ON POLYURETHANE TREAD WHEELS** | | | | | | | | | | | | |
| 5 | 2 | Red | Aluminum | 850 | 2 9/16 | 1/2 | Roller | 1F4341394 | **1G414*†‡** | 41.61 | **35.05** | 2.2 |
| 6 | 2 | Red | Aluminum | 900 | 2 9/16 | 1/2 | Roller | 1F4341694 | **1G417†‡** | 48.23 | **40.65** | 2.6 |
| 8 | 2 | Red | Aluminum | 1350 | 2 9/16 | 1/2 | Roller | 1F4341994 | **1G420†‡** | 68.85 | **58.00** | 3.8 |

(*) Metric wheel with thread guard included. Metric dimensions are 125 mm wheel diameter x 32 mm tread width.
(†) Wheel includes bearing spanner bushing.
(‡) Wheel has a grease fitting.

# E.R. Wagner Manufacturing Co. HARD TREAD WHEELS

**SPARTAN SUPREME SOLID HARD NATURAL RUBBER TREAD WHEELS**—Black hard rubber stain-resistant, tread molded to a hard rubber core. Fit light to medium-duty commercial, industrial, and institutional rated casters. Hard rubber wheels roll easily, resist oil and water, and handle high load capacities on hard surfaces or carpeting. Available in 3, 3½, 4, 5, and 6" dia. sizes and fit 5/16 or 3/8" dia. axles. All hard rubber wheels feature a self-lubricating plastic insert wheel bearing.

**POLY II POLY WHEELS**—Polypropylene hard tread molded and mechanically locked to a polypropylene core. Nonmarking, easy rolling, oil and grease resistant wheels offer good floor protection and high load capacity. For light to medium-duty commercial, industrial, and institutional rated casters. Can be used for light to heavy loads on hard and carpeted surfaces. Available in 3½, 4, 5, and 6" dia. sizes. Fit 3/8" dia. axles. Self-lubricating plastic insert, ball, or roller wheel bearings.




**CAUTION:** Caster housing dimensions vary slightly between different caster manufacturers. Confirm that replacement wheel selected functions properly in your existing housing. For wheel brake casters, check for proper brake engagement with replacement wheel.

**DURAFOAM POLYPROPYLENE HARD TREAD WHEELS**—Resist impact, chemicals, and moisture. Used on platform trucks and heavy-duty carts and dollies. Fit light to medium heavy-duty industrial rated casters with hard tread wheels. Available in 3, 4, 5, 6, or 8" dia. sizes and fit 5/16, 3/8, or 1/2" dia. axles. Durafoam wheels feature plain bore or long life roller bearings on larger diameter wheels.

**PHENOLIC HARD TREAD WHEELS**—Phenolic reinforced with macerated canvas. Roll easily over debris littered floors and offer long service life, high load capacity, good impact resistance, and high and low temperature resistance. For light to heavy loads on hard or carpeted surfaces. 4, 5, 6, and 8" dia. sizes. Fit 3/8 or 1/2" axles. Long life roller bearings.

**SEMI-STEEL HARD TREAD WHEELS**—Cast iron enriched with steel. Long service life, high load capacities, good impact resistance, easy rolling, and superior performance and durability in high and low temperature applications. Offer good performance on rough and chip littered floors and where floor protection and noise are not critical. Fit heavy-duty industrial rated casters. Available in 5, 6, and 8" dia. sizes and fit 1/2" dia. axles. Long life roller bearings.

| Wheel Dia. (In.) | Wheel W (In.) | Capacity (Lbs.) | Hub Width (In.) | Fits Axle (In.) | Wheel Bearing | Wagner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SPARTAN SUPREME HARD TREAD BLACK ALL NATURAL RUBBER WHEELS** | | | | | | | | | | |
| 3 | 1 | 125 | 1 1/8 | 5/16 | Plastic | 1G3146794 | **1G334** | $1.57 | **$1.37** | 0.4 |
| 3 1/2 | 1 1/4 | 250 | 1 1/2 | 3/8 | Plastic | 1G3192194 | **1G352** | 2.48 | **2.19** | 0.7 |
| 4 | 1 | 140 | 1 1/8 | 5/16 | Plastic | 1G3101094 | **1G340** | 2.64 | **2.33** | 0.8 |
| 4 | 1 1/4 | 255 | 1 7/16 | 3/8 | Plastic | 1G3192294 | **1G447** | 3.26 | **2.88** | 1.0 |
| 4 | 1 3/8 | 300 | 1 1/2 | 3/8 | Plastic | 1G3124294 | **1G360** | 3.17 | **2.82** | 1.1 |
| 5 | 1 | 145 | 1 1/8 | 5/16 | Plastic | 1G3102294 | **1G346** | 3.83 | **3.38** | 1.2 |
| 5 | 1 1/4 | 280 | 1 1/2 | 3/8 | Plastic | 1G3192394 | **1G449** | 4.24 | **3.77** | 1.5 |
| 5 | 1 3/8 | 350 | 1 1/2 | 3/8 | Plastic | 1G3124694 | **1G378** | 4.55 | **4.06** | 1.7 |
| 6 | 1 3/8 | 400 | 1 1/2 | 3/8 | Plastic | 1G3126794 | **1G397** | 7.00 | **6.14** | 0.8 |
| **POLY II POLY HARD TREAD BLACK POLYPROPYLENE ON BLACK CORE WHEELS** | | | | | | | | | | |
| 3 1/2 | 1 1/4 | 250 | 1 1/2 | 3/8 | Plastic | 1G3183294 | **1G355** | 4.14 | **3.51** | 0.4 |
| 3 1/2 | 1 1/4 | 250 | 1 1/2 | 3/8 | Ball | 1J3183394 | **1G356** | 6.50 | **5.49** | 0.5 |
| 4 | 1 1/4 | 275 | 1 1/2 | 3/8 | Plastic | 1G3184594 | **1G364** | 4.49 | **3.81** | 0.5 |
| 4 | 1 1/4 | 250 | 1 1/2 | 3/8 | Ball | 1J3184694 | **1G365** | 6.84 | **5.79** | 0.6 |
| 4 | 1 1/2 | 375 | 1 1/2 | 3/8 | Plastic | 1G3180294 | **1G371** | 4.68 | **3.97** | 0.5 |
| 4 | 1 1/2 | 375 | 1 1/2 | 3/8 | Roller | 1J3180494 | **1G373** | 7.28 | **6.16** | 0.6 |
| 5 | 1 1/4 | 300 | 1 1/2 | 3/8 | Plastic | 1G3178794 | **1G382** | 5.15 | **4.40** | 0.7 |
| 5 | 1 1/4 | 250 | 1 1/2 | 3/8 | Ball | 1J3178894 | **1G383** | 7.50 | **6.37** | 1.2 |
| 5 | 1 1/2 | 450 | 1 1/2 | 3/8 | Plastic | 1G3177594 | **1G389** | 5.71 | **4.87** | 0.8 |
| 5 | 1 1/2 | 450 | 1 1/2 | 3/8 | Roller | 1J3177794 | **1G391** | 8.32 | **7.05** | 0.8 |
| 6 | 1 1/2 | 450 | 1 1/2 | 3/8 | Plastic | 1G3181494 | **1G404** | 7.66 | **6.54** | 0.9 |
| 6 | 1 1/2 | 450 | 1 1/2 | 3/8 | Roller | 1J3181694 | **1G406** | 10.26 | **8.73** | 1.1 |
| **DURAFOAM HARD TREAD BLACK POLYPROPYLENE WHEELS** | | | | | | | | | | |
| 3 | 1 | 125 | 1 1/8 | 5/16 | Plain | 1G3159394 | **1G335** | 1.07 | **0.92** | 0.2 |
| 4 | 1 | 140 | 1 1/8 | 5/16 | Plain | 1G3144694 | **1G341** | 2.20 | **1.89** | 0.4 |
| 4 | 1 3/8 | 300 | 1 1/2 | 3/8 | Plain | 1G3147094 | **1G361** | 2.42 | **2.11** | 0.6 |
| 5 | 1 | 145 | 1 1/8 | 5/16 | Plain | 1G3170794 | **1G347** | 2.92 | **2.53** | 0.6 |
| 5 | 1 3/8 | 350 | 1 1/2 | 3/8 | Plain | 1G3147194 | **1G379** | 2.82 | **2.48** | 0.8 |
| 5 | 2 | 580 | 2 3/16 | 1/2 | Roller | 1F-5786-94 | **1A199*** | 17.58 | **14.80** | 1.0 |
| 6 | 1 3/8 | 400 | 1 1/2 | 3/8 | Plain | 1G3147294 | **1G399** | 4.83 | **4.22** | 1.2 |
| 6 | 1 3/8 | 400 | 1 1/2 | 3/8 | Roller | 1J3148194 | **1G400** | 8.76 | **7.52** | 1.4 |
| 6 | 2 | 640 | 2 3/16 | 1/2 | Roller | 1F-5787-94 | **1A200*** | 18.97 | **16.02** | 1.2 |
| 8 | 2 | 675 | 2 3/16 | 1/2 | Roller | 1F-5788-94 | **1A201*** | 23.92 | **20.27** | 2.2 |
| **DURATEX HARD TREAD BLACK PHENOLIC RESIN WHEELS** | | | | | | | | | | |
| 4 | 1 1/2 | 600 | 1 5/8 | 3/8 | Roller | 1J3127294 | **1G450** | 8.16 | **6.94** | 0.9 |
| 5 | 1 1/2 | 600 | 1 5/8 | 3/8 | Roller | 1J3127394 | **1G451** | 9.35 | **8.00** | 1.3 |
| 5 | 2 | 1000 | 2 3/16 | 1/2 | Roller | 1J3174394 | **1G415*** | 12.21 | **10.46** | 2.0 |
| 6 | 1 1/2 | 800 | 1 5/8 | 3/8 | Roller | 1J3185394 | **1G452** | 10.48 | **9.05** | 1.7 |
| 6 | 2 | 1200 | 2 3/16 | 1/2 | Roller | 1J3167994 | **1G418*** | 13.24 | **11.44** | 2.7 |
| 8 | 2 | 1200 | 2 3/16 | 1/2 | Roller | 1J3171994 | **1G421*** | 17.38 | **15.10** | 4.1 |
| **SEMI-STEEL HARD TREAD ALL METAL WHEELS** | | | | | | | | | | |
| 5 | 2 | 1000 | 2 1/4 | 1/2 | Roller | 1J3157290 | **1G416*** | 24.76 | **21.37** | 5.0 |
| 6 | 2 | 1200 | 2 1/4 | 1/2 | Roller | 1J3157390 | **1G419*** | 25.61 | **22.20** | 5.7 |
| 8 | 2 | 1400 | 2 1/4 | 1/2 | Roller | 1J3157494 | **1G422*** | 34.11 | **29.75** | 8.6 |

(*) Wheel includes wheel spanner bushing.

# *Bassick* SOFT AND HARD TREAD WHEELS

**BACO WHEEL**—Top quality soft cushion rubber tread carefully molded to hard rubber core to provide a uniformly thick tread with excellent abrasion resistance and long performance life. Recommended for hand pushed use on hard surfaced floors. Provides maximum floor protection and quiet operation. Operating temperature range is -20°F to 160°F.

**ATLASITE WHEELS**—A hard rubber wheel that is solid molded. Special compound of hard rubber provides these wheels with load capacity and ease of rolling close to that of a metal wheel, but they are more floor protective and quiet running. Atlasite wheels are nonmarking and nonsparking. Resistant to water, oil, and most acids. For hand pushed use on carpets, smooth concrete, and wood floors. Operating temperature is -20° to 160°F.

**BRAVOPRENE WHEELS**—Soft rubber tread mechanically bonded to high impact polypropylene core. Easily cleaned. Corrosion resistant. Quiet operation. Meet National Sanitation Foundation requirements.

**BRAVOTHANE WHEELS**—Polyurethane tread is bonded to high impact polypropylene core. Specially compounded material has low friction for easy rolling under load. Sheds dirt and foreign matter. Easily cleaned. Corrosion resistant. Temperature range is -20°F to 180°F. Meet National Sanitation Foundation requirements.

**All white wheels** consist of white polyurethane tread bonded to white polypropylene core. Used where appearance of cleanliness is important.

**HEAVY LOAD POLYURETHANE WHEELS**—Abrasion resistant polyurethane tread mechanically interlocked on heavy aluminum core gives high load capacity, quiet operation, and floor protection. For stock trucks and similar hand pushed trucks on all floors. Unaffected by water, oil, and most chemicals. Fit Bassick heavy-duty industrial casters. Sealed roller bearings.

**ALCORE RUBBER WHEELS**—Soft rubber tread bonded to aluminum core provides maximum floor and load protection and quiet operation with impact strength. Suitable for hand pushed or conveyor towed application on hard floors. Sealed roller wheel bearings.



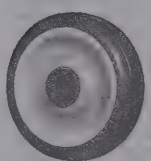
No. 2G204



No. 2G218



No. 2G205



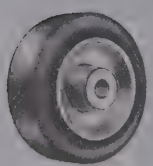
No. 4W852



No. 2G240



No. 1A202



No. 2G215

| Dia. (In.) | Tread Width (In.) | Capacity (Lbs.) | Bearing | Hub Length (In.) | Fits Axle (In.) | Bassick Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **BACO WHEEL** | | | | | | | | | | |
| 4 | 1 5/8 | 200 | Roller | 1 7/8 | 3/8 | WR6516040 | **2G204** | $22.90 | **$16.03** | 1.4 |
| **ATLASITE (HARD RUBBER SOLID MOLDED) WHEELS** | | | | | | | | | | |
| 4 | 1 5/8 | 300 | Delrin® | 1 7/8 | 3/8 | WD9016040 | **2G218** | 13.02 | **9.11** | 1.3 |
| 4 | 1 5/8 | 300 | Roller | 1 7/8 | 3/8 | WR9016040 | **2G219** | 22.90 | **16.03** | 1.5 |
| **BRAVOPRENE WHEELS** | | | | | | | | | | |
| 3 1/2 | 1 1/4 | 225 | Ball | 1 1/2 | 3/8 | WB8R14035 | **2G205** | 21.69 | **15.18** | 0.6 |
| 3 1/2 | 1 1/4 | 225 | Delrin® | 1 1/2 | 3/8 | WD8R14035 | **2G206** | 15.24 | **10.66** | 0.4 |
| 4 | 1 1/4 | 250 | Ball | 1 9/16 | 3/8 | WB8R14040 | **2G207** | 22.47 | **15.71** | 0.6 |
| 4 | 1 1/4 | 250 | Delrin® | 1 9/16 | 3/8 | WD8R14040 | **2G208** | 16.00 | **11.19** | 0.5 |
| 4 | 2 | 700 | Roller | 2 3/8 | 1/2 | WS8R20040 | **2G211** | 27.89 | **20.65** | 1.1 |
| 5 | 1 1/4 | 250 | Ball | 1 9/16 | 3/8 | WB8R14050 | **2G209** | 27.47 | **19.20** | 0.8 |
| 5 | 1 1/4 | 250 | Delrin® | 1 9/16 | 3/8 | WD8R14050 | **2G210** | 21.00 | **14.67** | 0.7 |
| 5 | 2 | 700 | Roller | 2 3/8 | 1/2 | WS8R20050 | **2G212** | 31.19 | **24.01** | 1.2 |
| 6 | 2 | 750 | Roller | 2 3/8 | 1/2 | WS8R20060 | **2G213** | 34.59 | **26.65** | 1.5 |
| 8 | 2 | 750 | Roller | 2 3/8 | 1/2 | WS8R20080 | **2G214** | 46.09 | **35.50** | 2.2 |
| **BRAVOTHANE WHEELS** | | | | | | | | | | |
| 3 1/2 | 1 1/4 | 225 | Ball | 1 1/2 | 3/8 | WB8P14035 | **2G231** | 22.18 | **15.50** | 0.6 |
| 3 1/2 | 1 1/4 | 225 | Delrin® | 1 1/2 | 3/8 | WD8P14035 | **2G232** | 15.69 | **10.97** | 0.4 |
| 4 | 1 1/4 | 250 | Ball | 1 9/16 | 3/8 | WB8P12040 | **2G233** | 23.41 | **16.38** | 0.6 |
| 4 | 1 1/4 | 250 | Delrin® | 1 9/16 | 5/16 | WD3214040 | **4W852** | 15.00 | **9.98** | 0.1 |
| 5 | 1 1/4 | 250 | Ball | 1 9/16 | 3/8 | WB8P12050 | **2G234** | 27.00 | **18.86** | 0.8 |
| 5 | 1 1/4 | 250 | Delrin® | 1 9/16 | 5/16 | WD3214050 | **4W853** | 21.74 | **20.81** | 0.1 |
| 4 | 2 | 700 | Roller | 2 3/8 | 1/2 | WS8P20040 | **2G235** | 30.70 | **21.46** | 1.1 |
| 4 | 2 | 700 | Delrin® | 2 3/8 | 1/2 | WD8P20040 | **2G236** | 26.48 | **19.98** | 0.9 |
| 5 | 2 | 700 | Roller | 2 3/8 | 1/2 | WS8P20050 | **2G237** | 35.80 | **25.10** | 2.7 |
| 5 | 2 | 700 | Delrin® | 2 3/8 | 1/2 | WD3220050 | **4W854** | 35.90 | **25.10** | 2.0 |
| 6 | 2 | 750 | Roller | 2 3/8 | 1/2 | WS8P20060 | **2G238** | 39.90 | **27.90** | 1.7 |
| 6 | 2 | 750 | Delrin® | 2 3/8 | 1/2 | WD3220060 | **4W855** | 39.90 | **28.00** | 2.5 |
| 8 | 2 | 750 | Roller | 2 3/8 | 1/2 | WS8P20080 | **2G239** | 53.00 | **37.05** | 2.3 |
| 8 | 2 | 750 | Delrin® | 2 3/8 | 1/2 | WD3220080 | **4W856** | 53.00 | **37.05** | 2.5 |
| **BRAVOTHANE ALL WHITE WHEELS** | | | | | | | | | | |
| 4 | 2 | 700 | Delrin® | 2 3/8 | 1/2 | WD8P20040W | **2G240** | 30.70 | **21.46** | 0.9 |
| 5 | 2 | 750 | Delrin® | 2 3/8 | 1/2 | WD8P20050W | **2G241** | 35.90 | **25.10** | 1.1 |
| 6 | 2 | 750 | Delrin® | 2 3/8 | 1/2 | WD8P20060W | **2G242** | 39.90 | **27.90** | 1.4 |
| 8 | 2 | 750 | Delrin® | 2 3/8 | 1/2 | WD8P20080W | **2G243** | 53.00 | **37.05** | 2.1 |
| **HEAVY LOAD POLYURETHANE WHEELS** | | | | | | | | | | |
| 5 | 2 | 1300 | Roller | 2 3/8 | 1/2 | WS3120050 | **1A202** | 46.34 | **31.20** | 2.5 |
| 6 | 2 | 1500 | Roller | 2 3/8 | 1/2 | WS3120060 | **2W535** | 51.91 | **34.95** | 3.3 |
| 6 | 2 1/2 | 1650 | Roller | 2 15/16 | 1/2 | WS3P25060 | **2G244** | 65.42 | **45.80** | 4.1 |
| 8 | 2 | 1650 | Roller | 2 3/8 | 1/2 | WS3120080 | **2W536** | 66.69 | **44.90** | 5.0 |
| 8 | 2 1/2 | 1650 | Roller | 2 15/16 | 1/2 | WS3P25080 | **2G245** | 91.94 | **64.35** | 6.4 |
| 10 | 2 1/2 | 1650 | Roller | 2 15/16 | 1/2 | WS3P25100 | **2G246** | 131.36 | **92.00** | 10.0 |
| **ALCORE RUBBER WHEELS** | | | | | | | | | | |
| 6 | 2 1/2 | 550 | Roller | 2 15/16 | 1/2 | WS3R25060 | **2G215** | 61.70 | **43.20** | 4.1 |
| 8 | 2 1/2 | 670 | Roller | 2 15/16 | 1/2 | WS3R25080 | **2G216** | 86.27 | **60.40** | 6.3 |
| 10 | 2 1/2 | 800 | Roller | 2 15/16 | 1/2 | WS3R25100 | **2G217** | 121.70 | **85.15** | 10.0 |

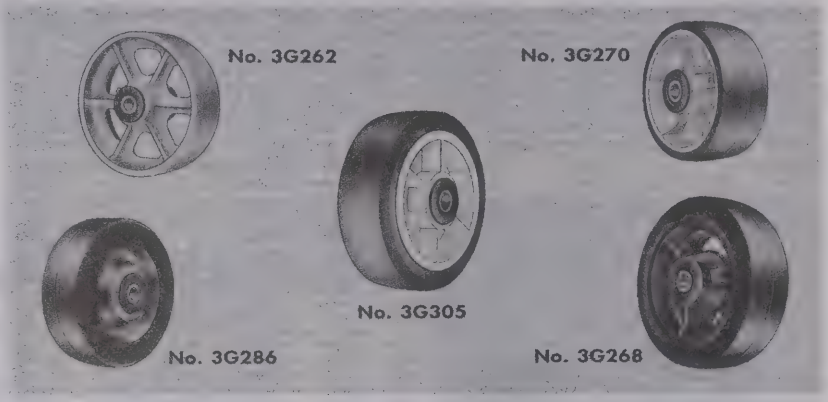
# ALBION CAST-IRON, POLYURETHANE, PHENOLIC, RUBBER WHEELS

**CAST-IRON WHEELS**—Made from a high grade iron for high capacity, abrasion resistance, and long wear. Recommended for high temperature and abusive applications.

**ALATHANE WHEELS**—Composed of a polyurethane elastomer, open cast or injection molded on clean, close tolerance cores. High capacity polyurethane resists wear. Nonmarking to protect floors.

**TEXITE WHEELS**—Molded of heavy macerated or chopped cotton denim, impregnated with a phenolic resin. Offer high load capacity and some floor protection. Temperature range: -65° to 250°F.

**MOLD-ON RUBBER WHEELS**—Cushion rubber treads are vulcanized to cast-iron or aluminum cores to cushion loads. Wheel has a straight roller bearing and nylon seal retaining/thrust washer.




| Wheel Size | Diameter (In.) | Capacity (Lbs.) | Hub Width (In.) | Fits Axle (In.) | Albion Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **CAST-IRON TREAD WHEELS** | | | | | | | | | |
| 4 x 2 | 4 | 700 | 2 7/16 | 1/2 | CA0420112 | **3G262** | $10.46 | **$8.21** | 2.9 |
| 5 x 2 | 5 | 1000 | 2 7/16 | 1/2 | CA0520112 | **3G263** | 12.67 | **9.38** | 4.2 |
| 6 x 2 | 6 | 1200 | 2 7/16 | 1/2 | CA0620112 | **3G264** | 15.63 | **11.92** | 5.5 |
| 8 x 2 | 8 | 1400 | 2 7/16 | 1/2 | CA0820112 | **3G265** | 21.00 | **16.01** | 7.9 |
| **ALATHANE (POLYURETHANE) TREAD WHEELS** | | | | | | | | | |
| 4 x 2 | 4 | 700 | 2 7/16 | 1/2 | PD0420112 | **3G270** | 24.36 | **18.57** | 1.6 |
| 5 x 2 | 5 | 1050 | 2 7/16 | 1/2 | PD0520112 | **3G271** | 28.01 | **21.35** | 1.9 |
| 6 x 2 | 6 | 1230 | 2 7/16 | 1/2 | PD0620112 | **3G272** | 32.44 | **24.73** | 2.5 |
| 8 x 2 | 8 | 1500 | 2 7/16 | 1/2 | PD0820112 | **3G273** | 42.14 | **32.15** | 3.9 |
| **WASH 'N WEAR (POLYURETHANE) TPU TREAD WHEELS** | | | | | | | | | |
| 4 x 2 | 4 | 600 | 2 7/16 | 1/2 | XA0420112 | **3G303** | 21.91 | **16.21** | 1.2 |
| 5 x 2 | 5 | 750 | 2 7/16 | 1/2 | XA0520112 | **3G304** | 24.21 | **17.91** | 1.5 |
| 6 x 2 | 6 | 900 | 2 7/16 | 1/2 | XA0620112 | **3G305** | 26.73 | **19.78** | 1.8 |
| 8 x 2 | 8 | 1000 | 2 7/16 | 1/2 | XA0820112 | **3G306** | 33.56 | **24.83** | 2.8 |
| **TEXITE (PHENOLIC) WHEELS** | | | | | | | | | |
| 4 x 2 | 4 | 800 | 2 7/16 | 1/2 | TM0420112 | **3G286** | 8.84 | **6.74** | 1.4 |
| 5 x 2 | 5 | 1000 | 2 7/16 | 1/2 | TM0520112 | **3G287** | 10.03 | **7.64** | 1.9 |
| 6 x 2 | 6 | 1200 | 2 7/16 | 1/2 | TM0620112 | **3G288** | 11.47 | **8.74** | 2.7 |
| 8 x 2 | 8 | 1400 | 2 7/16 | 1/2 | TM0820112 | **3G289** | 16.55 | **12.62** | 4.3 |
| **MOLD-ON RUBBER TREAD WHEELS** | | | | | | | | | |
| 4 x 2 | 4 | 350 | 2 7/16 | 1/2 | MR0420112 | **3G266** | 10.20 | **7.78** | 3.1 |
| 5 x 2 | 5 | 400 | 2 7/16 | 1/2 | MR0520112 | **3G267** | 11.20 | **8.54** | 3.2 |
| 6 x 2 | 6 | 410 | 2 7/16 | 1/2 | MR0620112 | **3G268** | 11.85 | **9.03** | 4.1 |
| 8 x 2 | 8 | 500 | 2 7/16 | 1/2 | MR0820112 | **3G269** | 17.38 | **13.25** | 6.6 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

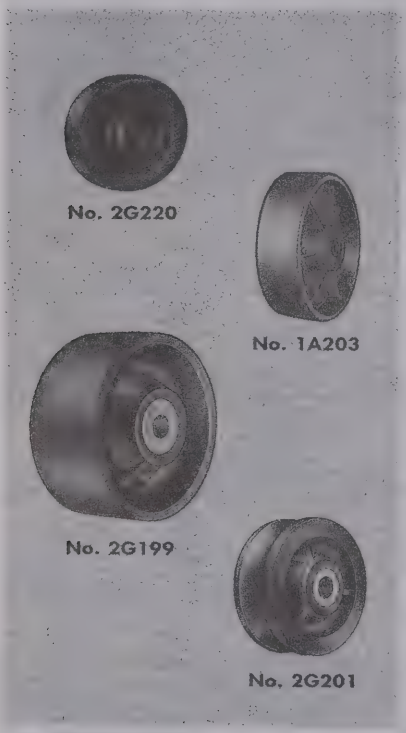
Bassick

# HARD TREAD WHEELS

**CANAPHIN (PHENOLIC) WHEELS**—Phenolic resin impregnated with macerated canvas for a hard tread type wheel that offers high load capacity yet protects floor and rolls quietly. Resistant to many solvents and acids. Operating temperature range is -50°F to 260°F constant service, and up to 300°F intermittent service. Sealed roller bearing.

**HEAVY LOAD SEMI-STEEL CAST METAL WHEELS**—Semi-steel wheels blended from high grade cast-iron for toughness and high capacity. Tread machined smooth for easy rolling. Suitable for rough or chip littered floors and high temperature conditions. Used on chip buggies in machine shops and on fixture trucks. Roller axle bearings. Fit Bassick 5 and 6" heavy-duty semi-steel casters.

**V-GROOVED WHEELS**—Metal wheels with machined groove in tread. A high load capacity wheel for running on inverted angle iron tracks for easy rolling and a controlled path. 90° angle V-groove is machined smooth and concentric. Flat surfaces of tread allow rolling on floors when off angle iron track.




| Dia. (In.) | Tread Width (In.) | Capacity (Lbs.) | Bearing | Hub Length (In.) | Fits Axle (In.) | Bassick Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CANAPHIN (PHENOLIC) WHEELS** | | | | | | | | | | |
| 3 | 1 13/16 | 900 | Roller | 1 15/16 | 3/8 | WR8015026 | **2G220** | $28.31 | **$19.81** | 0.9 |
| 3 1/4 | 2 | 700 | Roller | 2 3/8 | 1/2 | WS8020030 | **2G221** | 18.19 | **16.47** | 1.1 |
| 4 | 1 1/2 | 400 | Roller | 1 7/8 | 3/8 | WR8025032 | **2G222** | 25.75 | **18.02** | 1.0 |
| 4 | 2 | 800 | Roller | 2 3/8 | 1/2 | WS8020040 | **2G223** | 23.33 | **16.76** | 1.4 |
| 4 | 2 | 800 | Delrin® | 2 3/8 | 1/2 | WD8020040 | **2G224** | 22.10 | **16.02** | 1.2 |
| 5 | 2 | 1000 | Roller | 2 3/8 | 1/2 | WS8020050 | **4W806** | 26.07 | **17.54** | 1.6 |
| 5 | 2 | 1000 | Delrin® | 2 3/8 | 1/2 | WD8020050 | **2G225** | 25.11 | **17.50** | 1.7 |
| 6 | 2 | 1200 | Roller | 2 3/8 | 1/2 | WS8020060 | **4W807** | 28.64 | **19.27** | 2.8 |
| 6 | 2 | 1200 | Delrin® | 2 3/8 | 1/2 | WD8020060 | **2G226** | 30.28 | **19.67** | 2.5 |
| 6 | 2 1/2 | 1650 | Roller | 2 15/16 | 1/2 | WS8025060 | **2G227** | 31.49 | **22.04** | 3.8 |
| 8 | 2 | 1200 | Roller | 2 3/8 | 1/2 | WS8020080 | **4W808** | 33.69 | **22.67** | 4.3 |
| 8 | 2 | 1200 | Delrin® | 2 3/8 | 1/2 | WD8020080 | **2G228** | 33.01 | **23.10** | 3.7 |
| 8 | 2 1/2 | 1650 | Roller | 2 3/4 | 1/2 | WS8025080 | **2G229** | 36.10 | **25.30** | 5.7 |
| 10 | 2 1/2 | 1650 | Roller | 2 15/16 | 1/2 | WS8025100 | **2G230** | 54.96 | **38.45** | 7.7 |
| **HEAVY LOAD SEMI-STEEL CAST METAL WHEELS** | | | | | | | | | | |
| 4 | 1 1/2 | 425 | Roller | 1 7/8 | 3/8 | WR1015040 | **2G194** | 27.81 | **19.45** | 2.5 |
| 4 | 2 | 1000 | Roller | 2 3/8 | 1/2 | WR1020040 | **2G195** | 31.10 | **16.01** | 4.3 |
| 5 | 2 | 1500 | Roller | 2 3/8 | 1/2 | WS1020050 | **1A203** | 32.50 | **27.05** | 2.5 |
| 6 | 2 | 1650 | Roller | 2 3/8 | 1/2 | WS1020060 | **2W537** | 45.03 | **30.30** | 5.5 |
| 6 | 2 1/2 | 1650 | Roller | 2 15/16 | 1/2 | WS1025060 | **2G196** | 49.08 | **34.35** | 8.0 |
| 8 | 2 1/2 | 1650 | Roller | 2 3/4 | 1/2 | WS1025080 | **2G197** | 63.76 | **44.65** | 11.0 |
| 10 | 2 1/2 | 1650 | Roller | 2 15/16 | 1/2 | WS1025100 | **2G198** | 81.59 | **57.05** | 15.0 |
| **FORGED STEEL WHEELS** | | | | | | | | | | |
| 6 | 2 1/2 | 3000 | Taper | 2 3/4 | 3/4 | WT7025060 | **2G199** | 178.56 | **124.80** | 11.0 |
| 8 | 2 1/2 | 3000 | Taper | 2 3/4 | 3/4 | WT7025080 | **2G200** | 202.26 | **141.40** | 15.0 |
| **SEMI-STEEL V-GROOVED WHEELS** | | | | | | | | | | |
| 4 | 1 1/2 | 1000 | Roller | 1 3/4 | 3/8 | WR1V15040 | **2G201** | 48.05 | **33.65** | 3.6 |
| 4 | 1 1/2 | 1000 | Roller | 1 3/4 | 1/2 | WS1V15040 | **2G202** | 58.93 | **45.35** | 3.7 |
| **HIGH TENSILE MALLEABLE IRON V-GROOVED WHEEL** | | | | | | | | | | |
| 6 | 2 3/4 | 3000 | Roller | 2 7/8 | 3/4 | WR1V27060 | **2G203** | 198.57 | **138.95** | 5.0 |

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

## ALBION V-GROOVED, FULL PNEUMATIC, SEMI-PNEUMATIC, AND TEXTILE WHEELS

**V-GROOVED WHEELS**—Light, medium, and heavy-duty wheels can be used on floor or angular or round rod guidance tracks. Solid poly offers noncorrosive quiet operation.

**FULL PNEUMATIC WHEELS**—Recommended for most protection for load and floor surface. Tires are mounted on wide rims for maximum cushioning and stability.

**SEMI-PNEUMATIC WHEELS**—High profile, solid center or (zero pressure) hollow center. Cushion rubber tire mounted on a stamped center with a lug base rim.

**TEXTILE WHEELS**—Made of both phenolic and polyurethane treads. Sealed ball bearings. Flat faced wheels reduce string build-up.




| Wheel Size | Type | Capacity (Lbs.) | Hub Width (In.) | Fits Axle (In.) | Groove Width (In.) | Albion Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **V-GROOVED REPLACEMENT WHEELS** | | | | | | | | | | |
| 4 x 2 | Cast Iron | 800 | 2 3/16 | 1/2 | 7/8 | VG0420112G | **3G298** * | $17.31 | **$13.19** | 4.8 |
| 5 x 2 | Cast Iron | 800 | 2 3/16 | 1/2 | 7/8 | VG0520112G | **3G299** * | 28.65 | **21.84** | 4.9 |
| 6 x 2 | Cast Iron | 1000 | 2 3/16 | 1/2 | 7/8 | VG0620112G | **3G300** * | 37.38 | **28.55** | 6.8 |
| 8 x 2 1/2 | Cast Iron | 2500 | 3 1/4 | 3/4 | 7/8 | VG0840116G | **3G301** * | 68.04 | **51.90** | 17.0 |
| 6 x 3 | Drop Forged | 6000 | 3 1/4 | 1 1/4 | 1 3/8 | VF0650120G | **3G296** * | 150.36 | **114.65** | 20.0 |
| 8 x 4 | Drop Forged | 8360 | 4 1/4 | 1 1/4 | 1 3/4 | VF0870120G | **3G297** * | 225.92 | **172.50** | 31.0 |
| 4 x 2 | Solid Poly | 300 | 2 3/16 | 1/2 | 7/8 | XV04202123G | **3G307** | 27.53 | **20.37** | 1.0 |
| 5 x 2 | Solid Poly | 300 | 2 3/16 | 1/2 | 7/8 | XV05202123G | **3G308** | 33.87 | **25.10** | 1.3 |
| 6 x 2 | Solid Poly | 300 | 2 3/16 | 1/2 | 7/8 | XV06202123G | **3G309** | 39.11 | **28.95** | 1.8 |
| 8 x 2 | Solid Poly | 300 | 2 3/16 | 1/2 | 7/8 | XV08202123G | **3G310** | 52.05 | **38.55** | 3.2 |

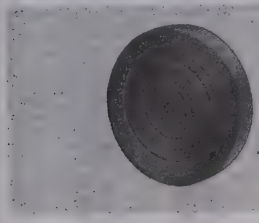
| Tire Size | Dia. (In.) | Capacity (Lbs.) | Hub Width (In.) | Fits Axle (In.) | Albion Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **FULL PNEUMATIC REPLACEMENT WHEELS** | | | | | | | | | |
| 8 x 2.50/4 | 8.6 | 220 | 3 | 1/2 | SF0842708G | **3G274** * | $25.15 | **$19.17** | 3.5 |
| 8 x 2.80/4 | 9.0 | 295 | 3 1/2 | 1/2 | SF0852708G | **3G275** * | 35.43 | **27.05** | 4.3 |
| 10 x 4.10/4 | 10.9 | 530 | 3 1/2 | 1/2 | SF1062708G | **3G276** * | 38.93 | **29.75** | 6.1 |
| 12 x 4.10/6 | 13.0 | 675 | 4 1/2 | 3/4 | SF1272712G | **3G277** * | 53.04 | **40.45** | 8.6 |
| 14 x 5.30/6 | 15.1 | 565 | 4 1/2 | 3/4 | SF1482712G | **3G278** * | 61.34 | **46.80** | 12.0 |
| 16 x 4.80/8 | 16.3 | 1000 | 4 1/2 | 1 1/4 | SF1680120G | **3G279** * | 116.38 | **88.75** | 15.0 |
| 18 x 5.70/8 | 18.4 | 1170 | 4 1/2 | 1 1/4 | SF1890120G | **3G280** * | 112.97 | **86.15** | 17.0 |
| **SEMI-PNEUMATIC REPLACEMENT WHEELS** | | | | | | | | | |
| 6 x 2.00 | 6.2 | 200 | 2 1/2 | 1/2 | SN0622708G | **3G282** * | 30.80 | **23.47** | 3.1 |
| 8 x 2.50 | 8.6 | 350 | 3 | 1/2 | SN0842708G | **3G283** * | 45.17 | **34.50** | 6.7 |
| 10 x 2.75 | 10.0 | 350 | 3 1/2 | 1/2 | SN1042708G | **3G284** * | 84.00 | **64.10** | 9.1 |
| 12 x 3.00 | 12.1 | 540 | 3 1/2 | 1/2 | SN1252708G | **3G285** * | 89.79 | **68.45** | 15.0 |
| **TEXTILE REPLACEMENT WHEELS (POLYURETHANE)** | | | | | | | | | |
| 4 x 1 1/2 | 4 | 400 | 1 1/2 | 1/2 | TY0412808G | **3G293** | 47.32 | **36.15** | 0.9 |
| 5 x 1 1/2 | 5 | 500 | 1 1/2 | 1/2 | TY0512808G | **3G294** | 50.11 | **38.25** | 1.4 |
| 6 x 1 1/2 | 6 | 500 | 1 1/2 | 1/2 | TY0612808G | **3G295** | 53.39 | **40.75** | 2.0 |
| **TEXTILE REPLACEMENT WHEELS (PHENOLIC)** | | | | | | | | | |
| 4 x 1 1/2 | 4 | 400 | 1 1/2 | 1/2 | TX0412808G | **3G290** | 30.85 | **23.51** | 1.0 |
| 5 x 1 1/2 | 5 | 500 | 1 1/2 | 1/2 | TX0512808G | **3G291** | 34.12 | **26.05** | 1.5 |
| 6 x 1 1/2 | 6 | 500 | 1 1/2 | 1/2 | TX0612808G | **3G292** | 38.53 | **29.45** | 2.1 |

(*) Wheel has a grease fitting.

## E.R. Wagner CASTERS & WHEELS Manufacturing Co. CUSHIONEX SUPREME SOFT TREAD WHEELS

**Black soft natural rubber** with stain resistant tread molded to a black hard rubber core. Wheels fit light-medium and medium-duty commercial, industrial, and institutional casters.

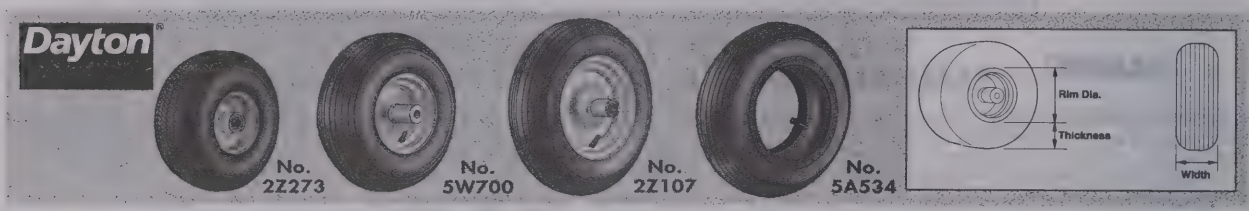
Soft rubber wheels provide maximum floor, load protection, and quiet operation on hard floors and uneven surfaces. Wheels are available in 3, 3½, 4, 5, and 6" diameter sizes and fit either 5/16 or 3/8" diameter axles. All soft rubber wheels feature a self-lubricating plastic insert wheel bearing. Wagner brand.




| Wheel Dia. (In.) | Wheel W (In.) | Capacity (Lbs.) | Hub Width (In.) | Fits Axle (In.) | Wheel Bearing | Wagner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 100 | 1 1/8 | 5/16 | Plastic | 1G3146194 | **1G333** | $1.57 | **$1.37** | 0.4 |
| 3 1/2 | 1 1/4 | 155 | 1 1/2 | 3/8 | Plastic | 1G3182194 | **1G351** | 2.48 | **2.19** | 0.7 |
| 4 | 1 | 115 | 1 3/8 | 5/16 | Plastic | 1G3100294 | **1G339** | 2.64 | **2.31** | 0.7 |
| 4 | 1 1/4 | 165 | 1 7/16 | 3/8 | Plastic | 1G3182294 | **1G446** | 3.26 | **2.86** | 0.9 |
| 4 | 1 3/8 | 200 | 1 1/2 | 3/8 | Plastic | 1G3124094 | **1G359** | 3.17 | **2.82** | 1.0 |
| 5 | 1 | 125 | 1 1/8 | 5/16 | Plastic | 1G3101494 | **1G345** | 3.83 | **3.36** | 1.1 |
| 5 | 1 1/4 | 200 | 1 1/2 | 3/8 | Plastic | 1G3182394 | **1G448** | 4.24 | **3.77** | 1.5 |
| 5 | 1 3/8 | 240 | 1 1/2 | 3/8 | Plastic | 1G3124494 | **1G377** | 4.55 | **4.05** | 1.6 |
| 6 | 1 3/8 | 280 | 1 1/2 | 3/8 | Plastic | 1G3126594 | **1G395** | 7.00 | **6.23** | 2.4 |

# 4 TO 16" DIAMETER COMMERCIAL AND INDUSTRIAL WHEELS

## HEAVY-DUTY PNEUMATIC TIRE WHEELS




- **Cushion load and handle rough terrain**
- **Pregreased ball bearings with fittings for relubrication**
- **Mounted on steel drop center rims**
- **Bright aluminum finish on hub**

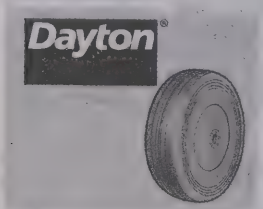
For heavy-duty low speed (less than 15 MPH) applications. For use as new or replacement tires on wheelbarrows, carts, compressors, mowers, and similar equipment. No. 2G329 has knobby tread for added protection against punctures. Replacement tires, tubes, and tire/tube combinations fit pneumatic wheels of similar size. See chart below for description and ordering data. Dayton brand.

| Tire Size (In.) Width | Thickness | Rim Dia. | Tread | Hub | Ply | O.D. (In.) | Capacity (Lbs.) | Hub Width (In.) | Fits Axle (In.) | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.8** | 2.50 | 4 | Sawtooth | Offset | 4 | 8 | 300 | 2⅞ | 3/4 | **2G332** | $30.68 | **$25.85** | **$24.59** | 3.6 |
| **4.1** | 3.50 | 4 | Sawtooth | Offset | 2 | 10 | 300 | 2¼ | 5/8 | **2G331*** | 22.96 | **21.85** | **20.82** | 3.8 |
| **4.1** | 3.50 | 4 | Sawtooth | Sym. | 2 | 10 | 330 | 3¼ | 5/8 | **2Z273** | 32.65 | **26.00** | **24.75** | 4.4 |
| **4.1** | 3.50 | 6 | Rib | Sym. | 2 | 12 | 345 | 3¼ | 5/8 | **2G326** | 42.13 | **32.20** | **30.64** | 6.1 |
| **4.1** | 3.50 | 6 | Rib | Sym. | 2 | 12 | 345 | 3¼ | 3/4 | **2G325** | 41.92 | **32.00** | **30.46** | 6.0 |
| **4.0** | 3.50 | 6 | Rib | Sym. | 2 | 13 | 450 | 4 | 5/8 | **2G333*** | 27.58 | **24.56** | **23.40** | 6.0 |
| **4.0** | 3.50 | 6 | Rib | Sym. | 2 | 13 | 450 | 6 | 5/8 | **5W700** | 34.55 | **27.80** | **26.47** | 6.0 |
| **4.0** | 4.00 | 8 | Rib | Sym. | 2 | 16 | 550 | 4 | 5/8 | **2G330*** | 27.33 | **26.35** | **25.07** | 7.0 |
| **4.0** | 4.00 | 8 | Rib | Sym. | 2 | 16 | 550 | 6 | 5/8 | **2G327*** | 27.95 | **26.40** | **25.14** | 7.1 |
| **4.0** | 4.00 | 8 | Knobby | Sym. | 4 | 16 | 550 | 6 | 5/8 | **2G329*** | 42.92 | **41.30** | **39.35** | 9.3 |
| **4.0** | 4.00 | 8 | Rib | Sym. | 4 | 16 | 550 | 6 | 5/8 | **2G328*** | 33.11 | **30.85** | **29.36** | 7.5 |
| **4.8** | 4.00 | 8 | Rib | Sym. | 2 | 16 | 575 | 6 | 3/4, 5/8 | **2Z107†** | 42.46 | **34.50** | **32.84** | 8.5 |
| **4.8** | 4.00 | 8 | Rib | Sym. | 4 | 16 | 800 | 6 | 3/4, 5/8 | **2Z108†** | 46.66 | **37.65** | **35.84** | 8.3 |

(*) Tubeless tires. All others have inner tubes. (†) Equipped with reducer bushing to fit 5/8" axles.

### REPLACEMENT TIRES, TUBES, AND TIRE/TUBE COMBINATIONS

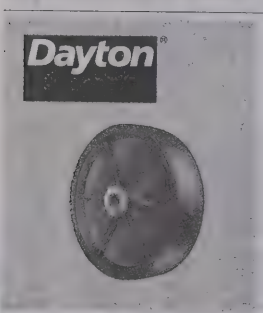
| Description | Replacement For: | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **8" Tire/Tube, 4 Ply** | 2G332 | **2G315** | $13.50 | **$11.85** | **$11.29** | 1.4 |
| **10" Tire/Tube** | 2Z273 | **5A534** | 17.89 | **14.26** | **13.59** | 2.5 |
| **10" Tire, 2 Ply** | 2Z273, 2G331 | **2G320** | 11.50 | **10.54** | **10.05** | 2.4 |
| **Tube** | 2Z273 | **5A535** | 6.68 | **5.23** | **4.98** | 0.6 |
| **12" Tire** | 2G325, 2G326 | **2G319** | 14.15 | **13.21** | **12.59** | 3.3 |
| **13" Tire** | 5W700 | **5A529** | 13.74 | **11.09** | **10.56** | 2.6 |
| **Tube** | 5W700, 2G325, 2G326 | **5A530** | 7.32 | **5.72** | **5.45** | 0.6 |
| **16" Tire/Tube, 2 Ply** | 2Z107 | **5A531** | 19.11 | **15.25** | **14.54** | 3.0 |
| **16" Tire, 2 Ply** | 2Z107, 2G330 | **2G318** | 14.41 | **10.01** | **9.53** | 2.8 |
| **16" Tire/Tube, 4 Ply** | 2Z108 | **5A532** | 23.54 | **18.74** | **17.86** | 3.2 |
| **16" Tire, 4 Ply** | 2G329 | **2G317** | 28.84 | **24.53** | **23.38** | 5.8 |
| **16" Tire, 4 Ply** | 2Z108, 2G328 | **2G316** | 16.78 | **13.31** | **12.68** | 3.5 |
| **Tube** | 2Z107, 2Z108 | **5A533** | 8.14 | **6.46** | **6.15** | 1.0 |




## HEAVY-DUTY SOLID RUBBER WHEELS

**Solid rubber wheels** used as original or replacement gauge wheels on riding mowers, food carts, refuse containers, shop equipment, automotive jacks, and other medium load applications. Smooth tread rolls quietly. 5/8" diameter oilite axle bearings furnished with reducer bushing to also accommodate 1/2" diameter axles. 5 and 6" diameter wheels available. Dayton Brand.

| Tire Size (In.) | Dia. (In.) | Capacity (Lbs.) | Hub Width (In.) | Fits Axle (In.) | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5 x 1.50** | 5 | 300 | 1⅝ | 1/2, 5/8 | **1A195** | $7.38 | **$6.11** | **$5.83** | 1.6 |
| **6 x 2.00** | 6 | 350 | 2⅛ | 1/2, 5/8 | **1A196** | 9.42 | **7.91** | **7.54** | 2.9 |




## HEAVY-DUTY SOLID BLENDED POLYOLEFIN WHEELS

**Extra strong stain and oil resistant** blended polyolefin plastic is hard, nonmarking and easy to clean. Will not flat spot under load. For gauge wheels on riding mowers, shop and garage equipment, institutional carts, and castered equipment. No. 1A197 has 1/2" oilite bearing; No. 1A198 has 5/8" plain bore with reducer bushing to fit 1/2" axle. Nos. 2G324, 2G323, 2G322, and 2G321 have 3/4" roller bearings with reducer bushing to fit 5/8" axle. Dayton brand.

| Tire Size (In.) | Hub Type | Dia. (In.) | Capacity (Lbs.) | Hub Width (In.) | Fits Axle (In.) | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **4 x 2** | Sym. | 4 | 350 | 2⁷/₁₆ | 5/8, 3/4 | **2G324** | $8.89 | **$8.13** | **$7.74** | 0.9 |
| **5 x 1.375** | Sym. | 5 | 400 | 1½ | 1/2, 5/8 | **1A197** | 3.58 | **2.92** | **2.79** | 0.6 |
| **5 x 2** | Sym. | 5 | 300 | 2⁷/₁₆ | 5/8, 3/4 | **2G323** | 9.07 | **8.32** | **7.93** | 1.3 |
| **6 x 2** | Sym. | 6 | 300 | 2⁷/₁₆ | 5/8, 3/4 | **2G322** | 10.24 | **9.43** | **8.99** | 1.8 |
| **6 x 2** | Sym. | 6 | 500 | 2¼ | 1/2, 5/8 | **1A198** | 6.42 | **5.23** | **4.99** | 0.9 |
| **8 x 2** | Sym. | 8 | 1000 | 2⁷/₁₆ | 5/8, 3/4 | **2G321** | 15.73 | **13.95** | **13.29** | 2.0 |

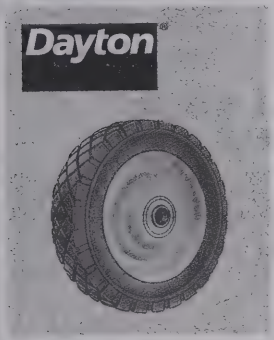
## LIGHT-DUTY PLASTIC HUB LAWN MOWER WHEELS



**Wheels are used on walk-behind rotary lawn mowers,** garden carts, and other portable lawn and garden equipment. Offset plastic wheel hub for flush trimming. All wheels have semi-pneumatic tires. Nos. 2G334 and 2G335 have gear tread for use on self-propelled walk-behind mowers. Nos. 2G337, 2G338, and 2G339 have diamond tread. No. 2G336 has rib tread. Hubs are white color. Dayton brand.

| Tire Size (In.) | Dia. (In.) | Tread | Hub Type | Hub Width (In.) | Fits Axle (In.) | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **6 x 1.50** | 6 | Diamond | Offset | 1 3/8 | 1/2 | **2G339** | $3.00 | **$2.72** | **$2.59** | 1.1 |
| **7 x 1.50** | 7 | Diamond | Offset | 1 3/8 | 1/2 | **2G338** | 3.66 | **3.19** | **3.04** | 1.2 |
| **8 x 1.75** | 8 | Diamond | Offset | 1 3/8 | 1/2 | **2G337** | 5.47 | **4.71** | **4.48** | 2.2 |
| **10 x 1.75** | 10 | Rib | Sym. | 1 1/2 | 1/2 | **2G336** | 7.14 | **6.60** | **6.29** | 3.0 |
| **7 x 1.75** | 7 | Gear | Offset | 1 3/8 | 1/2 | **2G335** | 4.21 | **4.06** | **3.87** | 1.4 |
| **8 x 1.75** | 8 | Gear | Offset | 1 3/8 | 1/2 | **2G334** | 5.38 | **4.61** | **4.39** | 2.1 |

## LIGHT-DUTY STEEL HUB LAWN MOWER WHEELS

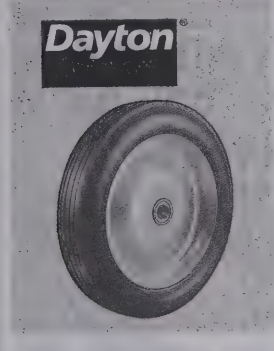


**Wheels are used on walk-behind rotary lawn mowers,** garden carts, and other portable lawn and garden equipment. Offset welded steel wheel hub fits snugly against lawn mower for flush trimming. Semi-pneumatic tires with diamond tread. Durable baked-on aluminum color powder coated finish on hub. Dayton brand.

| Tire Size (In.) | Dia. (In.) | Bearings | Hub Type | Hub Width (In.) | Capacity (Lbs.) | Fits Axle (In.) | Stock No. | List | Each† | Lots 2† | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6 x 1.50** | 6 | Oilite | Offset | 1 3/8 | 50 | 1/2 | **2Z102** | $4.36 | **$3.64** | **$3.46** | 1.2 |
| **6 x 1.50** | 6 | Ball | Offset | 1 3/8 | 50 | 1/2 | **2G347** | 5.08 | **4.74** | **4.52** | 1.3 |
| **7 x 1.50** | 7 | Oilite | Offset | 1 3/8 | 55 | 1/2 | **2Z103** | 5.54 | **4.63** | **4.41** | 1.4 |
| **7 x 1.50** | 7 | Ball | Offset | 1 3/8 | 55 | 1/2 | **2G346** | 5.93 | **5.81** | **5.53** | 1.7 |
| **8 x 1.75** | 8 | Oilite | Offset | 1 3/8 | 60 | 1/2 | **2Z104** | 6.45 | **5.48** | **5.22** | 2.2 |
| **8 x 1.75** | 8 | Ball | Offset | 1 3/8 | 60 | 1/2 | **2G345** | 8.32 | **7.13** | **6.80** | 2.5 |

(†) Priced each, sold in lots of two.

## LIGHT-DUTY BALL BEARING WHEELS

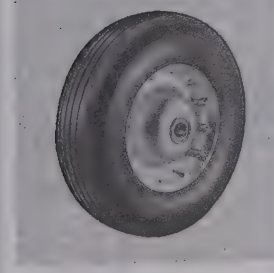


**Widely used on light industrial vehicles,** farm equipment, garden carts, golf carts, coaster wagons, trucks, lawn mowers, portable air compressors, and similar units that move up to 5 MPH. Symmetrical welded steel disc hub construction. Semi-pneumatic tires with rugged rib tread. Ball axle bearing. Durable baked-on aluminum color powder coated finish. Dayton brand.

| Tire Size (In.) | Dia. (In.) | Hub Type | Hub Width (In.) | Capacity (Lbs.) | Fits Axle (In.) | Stock No. | List | Each | Lots 2 | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6 x 1.50** | 6 | Sym. | 1 3/8 | 50 | 1/2 | **1Z850** | $5.38 | **$4.41†** | **$4.20†** | — | 1.2 |
| **8 x 1.75** | 8 | Sym. | 1 3/8 | 50 | 1/2 | **4Z568** | 7.01 | **5.86†** | **5.58†** | — | 2.2 |
| **8 x 1.75** | 8 | Sym. | 2 5/32 | 150 | 1/2 | **1Z849** | 8.99 | **7.58** | — | **$7.22** | 2.6 |
| **10 x 1.75** | 10 | Sym. | 1 9/16 | 100 | 1/2 | **1Z848** | 9.92 | **8.44** | — | **8.04** | 3.4 |
| **12 x 1.75** | 12 | Sym. | 1 9/16 | 100 | 1/2 | **2Z101** | 14.83 | **11.76** | — | **11.17** | 4.4 |
| **14 x 1.75** | 14 | Sym. | 2 1/8 | 100 | 1/2 | **2G344** | 19.09 | **18.37** | — | **17.51** | 6.5 |
| **14 x 1.75** | 14 | Sym. | 2 1/8 | 150 | 5/8 | **2G343** | 19.51 | **18.95** | — | **18.05** | 7.3 |

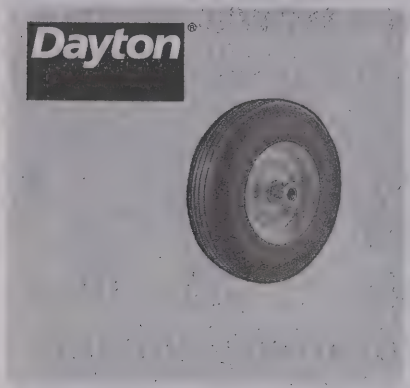
(†) Priced each, sold in lots of two.

## MEDIUM-DUTY INDUSTRIAL BALL BEARING WHEELS



**For new and replacement use** on heavy industrial and farm vehicles at speeds up to 8 MPH. Also used by service stations, garages, shops, and factories. Welded steel, standard lug hub construction. Semi-pneumatic tires with rib-type tread. Ball axle bearing. Durable baked-on aluminum color powder coated finish on hub. Dayton brand.

| Tire Size (In.) | Dia. (In.) | Hub Type | Hub Width (In.) | Capacity (Lbs.) | Fits Axle (In.) | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **6 x 2.00** | 6 | Sym. | 2 1/4 | 200 | 5/8 | **2Z105** | $12.87 | **$10.57** | **$10.07** | 2.9 |
| **6 x 2.00** | 6 | Offset | 2 1/4 | 200 | 5/8 | **2G341** | 13.57 | **11.96** | **11.40** | 3.2 |
| **6 x 2.00** | 6 | Sym. | 2 1/4 | 250 | 3/4 | **2G342** | 14.18 | **12.48** | **11.89** | 3.2 |
| **6 x 2.00** | 6 | Offset | 2 1/4 | 250 | 3/4 | **2G340** | 14.95 | **13.19** | **12.57** | 3.2 |
| **8 x 2.50** | 8 | Sym. | 2 3/4 | 250 | 5/8 | **2Z106** | 16.94 | **14.02** | **13.36** | 4.6 |
| **8 x 2.50** | 8 | Sym. | 2 3/4 | 250 | 3/4 | **2G355** | 17.32 | **15.77** | **15.03** | 4.9 |
| **10 x 2.75** | 10 | Sym. | 2 5/16 | 185 | 5/8 | **1Z847** | 16.78 | **14.15** | **13.48** | 5.5 |
| **10 x 2.75** | 10 | Sym. | 2 15/16 | 200 | 3/4 | **2G354** | 18.86 | **15.17** | **14.45** | 5.8 |
| **12 x 3.00** | 12 | Sym. | 3 1/4 | 150 | 5/8 | **2Z145** | 28.36 | **23.96** | **22.83** | 9.5 |
| **12 x 3.00** | 12 | Sym. | 3 1/4 | 200 | 3/4 | **2G353** | 26.02 | **25.15** | **23.95** | 9.6 |




## HEAVY-DUTY INDUSTRIAL ROLLER BEARING WHEELS

**For new and replacement heavy-duty industrial applications.** Used on automotive jacks, industrial mowers, steam cleaners, and industrial vacuums. Welded steel, tube through hub construction. Lug base rim to prevent slippage. Roller axle bearings and grease fittings. Semi-pneumatic tires; rib-type tread. Durable baked on aluminum color powder coated finish on hub. Dayton brand.

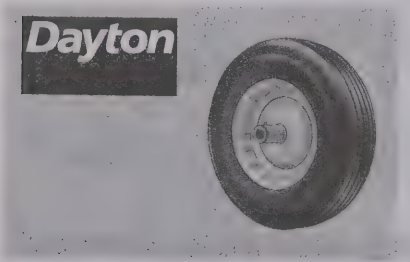
| Tire Size (In.) | Dia. (In.) | Hub Type | Hub Width (In.) | Capacity (Lbs.) | Fits Axle (In.) | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **6 x 2.00** | 6 | Sym. | 2¼ | 300 | 5/8 | **4Z569** | $16.23 | **$13.14** | **$12.52** | 2.9 |
| **8 x 2.50** | 8 | Sym. | 2¾ | 350 | 5/8 | **4Z570** | 21.09 | **17.49** | **16.67** | 5.2 |
| **8 x 2.50** | 8 | Sym. | 2¾ | 350 | 3/4 | **2G350** | 24.81 | **18.95** | **18.06** | 5.5 |
| **10 x 2.75** | 10 | Sym. | 3¼ | 300 | 5/8 | **4Z571** | 23.02 | **19.44** | **18.53** | 7.2 |
| **10 x 2.75** | 10 | Sym. | 3 | 300 | 3/4 | **2G349** | 22.76 | **19.98** | **19.04** | 6.8 |
| **12 x 3.00** | 12 | Sym. | 3¼ | 300 | 3/4 | **2G348** | 35.71 | **35.65** | **33.94** | 11.0 |




## HEAVY-DUTY INDUSTRIAL SOLID RUBBER TIRED WHEELS

**For heavy-duty industrial applications** such as platform trucks, handcarts, snow throwers, mowers, and similar products. Heavy-duty solid tires eliminate punctures and flat spots. Tires are made from powdered rubber, blended with chemical accelerators, and cured in ovens under pressure to crosslink the molecules. Withstand heavier loads than semi-pneumatic tires. High impact polyolefin centers are lightweight and retain shape even after impact. Centers will not rust or corrode. Offset or symmetrical hubs with ball bearings. Dayton brand.

| Tire Size (In.) | Dia. (In.) | Hub Type | Hub Width (In.) | Capacity (Lbs.) | Fits Axle (In.) | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **8 x 2.50** | 8 | Sym. | 2½ | 400 | 5/8 | **2G357** | $16.44 | **$14.62** | **$13.94** | 3.5 |
| **8 x 2.50** | 8 | Offset | 2¼ | 400 | 5/8 | **2G356** | 16.44 | **14.62** | **13.94** | 3.5 |
| **10 x 2.75** | 10 | Offset | 2¼ | 450 | 5/8 | **5W699** | 20.51 | **16.98** | **16.18** | 5.7 |
| **10 x 2.75** | 10 | Sym. | 3¼ | 450 | 5/8 | **2G358** | 18.57 | **17.97** | **17.13** | 6.4 |




## HEAVY-DUTY CONTRACTORS WHEELBARROW WHEELS

**Heavy-duty semi-pneumatic puncture proof tires** reduce downtime due to flats. For use at construction sites or wherever debris is present. No. 2G351 comes with reducer bushing for installation on 5/8" axle. Oilite axle bearings. Dayton brand.

| Tire Size (In.) | Dia. (In.) | Hub Type | Hub Width (In.) | Capacity (Lbs.) | Fits Axle (In.) | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **16 x 4.00** | 16 | Sym. | 4 | 450 | 1 | **2G352** | $53.99 | **$47.40** | **$45.16** | 21.0 |
| **16 x 4.00** | 16 | Sym. | 6 | 450 | 5/8, 3/4 | **2G351** | 55.70 | **50.05** | **47.67** | 21.0 |

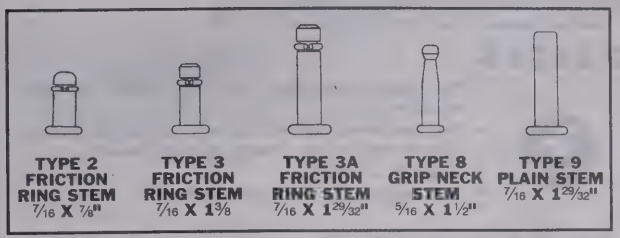
**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# SOCKET, BRACKETS, AND FLOOR LOCKS



## STEM TYPES



**TYPE 2 FRICTION RING STEM** 7/16 X 7/8"

**TYPE 3 FRICTION RING STEM** 7/16 X 1 3/8

**TYPE 3A FRICTION RING STEM** 7/16 X 1 29/32"

**TYPE 8 GRIP NECK STEM** 5/16 X 1 1/2"

**TYPE 9 PLAIN STEM** 7/16 X 1 29/32"

## SOCKET TYPES

**METAL SOCKETS FOR ROUND TUBING**



Nos. 2G247, 4X823, 2G248

**METAL SOCKETS FOR HOLE IN WOOD**



No. 3A894 | No. 4X950 | No. 2G249

**METAL SOCKETS FOR HOLE IN METAL OR TUBING**



No. 3A895 No. 3A896

(Nos. 3A895 & 3A896 can also be used for round tubing)

## SOCKETS FOR HOLE IN WOOD OR METAL

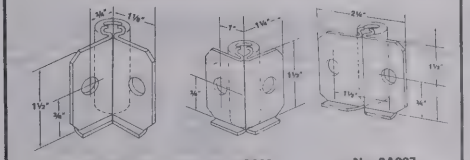
| Fits Hole Size Dia. (In.) | Depth (In.) | Fits Hole Type | For Stem Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8 | 1 5/8 | Wood | 8 | 3A894 | $2.40 | $1.66 | 0.1 |
| 1/2 | 2 | Wood | 2, 3, & 3A | 4X950 | 10.34 | 8.68 | 0.4 |
| 9/16 | 1 1/2 | Wood | 2 & 3 | 2G249 | 1.74 | 1.22 | 0.1 |
| 9/16 | 1 7/16 | Metal | 2 & 3 | 3A895 | 5.57 | 3.74 | 0.3 |
| 5/8 | 1 7/16 | Metal | 2 & 3 | 3A896 | 6.07 | 4.06 | 0.3 |

## SOCKETS FOR ROUND TUBING

| Fits Tubing Size O.D. (In.) | Gauge | LD (In.) | For Stem Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5/8 | 22 | 0.569 | 2 & 3 | 3A895 | $5.57 | $3.74 | 0.3 |
| 3/4 | 16 | 0.620 | 2 & 3 | 3A896 | 6.07 | 4.06 | 0.3 |
| 7/8 | 18 | 0.777 | 3A & 9* | 2G247 | 1.74 | 1.22 | 0.1 |
| 1 | 16 | 0.870 | 3A & 9* | 4X823 | 9.54 | 8.03 | 0.5 |
| 1 | 18 | 0.902 | 3A & 9* | 2G248 | 1.74 | 1.22 | 0.1 |

(*) The type 3A friction ring stem will fit this socket but will have an initial resistance to be inserted until the stem's friction ring moves past the socket's friction ring

## BRACKET TYPES



No. 3A898 Outside Corner Bracket 2 Holes 11/32" Dia.

No. 3A899 Inside Corner Bracket 2 Holes 11/32" Dia.

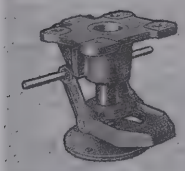
No. 3A897 180° Side Bracket 2 Holes 11/32" Dia.

## METAL BRACKETS FOR ATTACHMENT TO FLAT SURFACES

### BRACKET ORDERING DATA

| For Stem Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2 & 3 | 3A897 | $12.14 | $8.11 | 0.8 |
| 2 & 3 | 3A898 | 12.14 | 8.11 | 0.8 |
| 2 & 3 | 3A899 | 12.14 | 8.11 | 0.8 |

## POSITION FLOOR LOCKS



- 1000 lbs. maximum load capacity
- Used on platform trucks, fixture dollies or other castered equipment
- Simple foot pressure immobilizes equipment
- Locks when large friction face is pressed against floor
- Brake is independent of casters and can be installed in any convenient location on truck
- Ductile iron construction

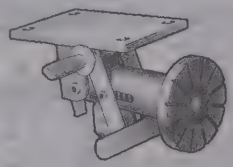
### TOP PLATE DATA

| Stock No. | 2G156 & 5X933 | 5X934 & 2G157 | 4X932 |
|---|---|---|---|
| Bolt Hole Spacing | 2 5/8 x 3 5/8" | 2 7/16 x 4 15/16" | 3 3/8 x 5 1/4" |
| Mounting Bolt Size | 3/8" | 1/2" | 1/2" |
| Overall Plate Size | 3 11/16 x 5 3/8" | 4 1/2 x 6" | 5 3/8 x 7 1/4" |
| Thickness | 3/8" | 7/16" | 3/8" |

### POSITION FLOOR LOCK ORDERING DATA

| Mounting Height (In.) | Retracted Height (In.) | Used with Caster Size (In.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 5/8 | 4 11/16 | 4 | FL-LK-5G | 2G156 | $109.19 | $70.25 | 8.0 |
| 5 13/32 | 4 11/16 | 4 | FL-LK-5X | 5X933 | 109.26 | 70.30 | 8.0 |
| 7 1/4 | 6 1/4 | 6 | FL-LK-7X | 5X934 | 120.43 | 77.45 | 10.0 |
| 7 3/4 | 6 3/4 | 6 | FL-LK-7G | 2G157 | 120.43 | 77.45 | 10.0 |
| 9 15/16 | 8 7/8 | 8 | FL-LK-10 | 4X932 | 188.51 | 112.95 | 16.0 |

## RETRACTABLE POSITION FLOOR LOCK



### TOP PLATE DATA

Bolt hole spacing: 2 7/16 x 4 15/16"
Mounting bolt size: 1/2" Dia.
Overall plate size: 3 7/8 x 6 1/4"
Thickness: 7/16"

- Used on platform trucks, fixture dollies, or other castered equipment
- Retractable floor lock swings out of the way when not in use with a ground clearance of 3 1/4"
- Swings into position and engages with simple foot pressure to immobilize equipment
- Locks when large friction face is pressed against floor
- Mount on outer edge of truck, independent of casters
- Rust-resistant aluminum lacquer finish

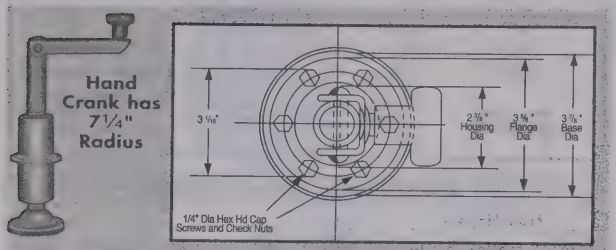
### RETRACTABLE POSITION FLOOR LOCK ORDERING DATA

| Mounting Height (In.) | Retracted Height (In.) | Used with Caster Size (In.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 7 3/8 | 4 1/8 | 6 | FL-LK-S | 4W805 | $122.99 | $69.75 | 10.0 |

# LEVELING JACKS AND MOUNTS

Section Code **I** — Sockets, Brackets, Floor Jacks, Leveling Jacks and Mounts, Wheels

## LEVELING JACKS




- For raising, leveling, and stabilizing portable equipment
- Divided housing with flange plates for bolting above and below frame of equipment
- 5000 lb. capacity
- Zinc plated for rust prevention

| Overall Ht. (In.) | Min. Ht. Below Frame of Equip. (In.) | Max. Extended Ht. Below Frame of Equip. (In.) | Length of Screw Travel (In.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **18** | 4 1/2 | 13 1/2 | 9 | LJ-9 | **3A892** | $146.42 | **$93.60** | 11.0 |
| **26** | 4 1/2 | 21 1/2 | 17 | LJ-17 | **3A893** | 166.51 | **107.80** | 13.0 |

## LEVELING MOUNTS




**Leveling mounts** swivel 10° in all directions to keep machine tools, racks, assembly lines, and other equipment level, even when on uneven surfaces. All leveling mounts with studs are furnished with jam nuts. Steel mounts are available with yellow zinc or nickel finish. S & W Mfg.

**NOTE: To insure proper leveling mount size for your application, divide the weight of the machine by the number of machine feet. This will equal the pounds or load per foot.**

### STEEL MOUNTS WITH BOLTS

| Thread Size | Base Dia. (In.) | Finish | Load (Lbs.) | Height (In.) | Bolt Lgth. (In.) | S & W Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **10-32** | 3/4 | Yellow Zinc | 700 | 1 17/32 | 1 | BSW-00Z | **2G359** | $5.17 | **$3.95** | 0.1 |
| **10-32** | 3/4 | Nickel | 700 | 1 17/32 | 1 | BSW-00N | **2G360** | 5.17 | **3.95** | 0.1 |
| **1/4-20** | 1 | Yellow Zinc | 1,000 | 1 61/64 | 1 1/4 | BSW-0Z | **2G361** | 6.88 | **4.57** | 0.1 |
| **1/4-20** | 1 | Nickel | 1,000 | 1 61/64 | 1 1/4 | BSW-0N | **2G362** | 6.88 | **4.56** | 0.1 |
| **3/8-16** | 1 1/4 | Yellow Zinc | 3,750 | 2 5/8 | 2 | BSW-1Z | **2G363** | 8.15 | **5.92** | 0.2 |
| **3/8-16** | 1 1/4 | Nickel | 3,750 | 2 5/8 | 2 | BSW-1N | **2G364** | 8.15 | **5.92** | 0.2 |
| **1/2-13** | 1 7/8 | Yellow Zinc | 5,000 | 3 1/8 | 2 | BSW-2Z | **2G365** | 11.15 | **8.49** | 0.6 |
| **1/2-13** | 1 7/8 | Nickel | 5,000 | 3 1/8 | 2 | BSW-2N | **2G366** | 11.15 | **8.49** | 0.6 |
| **5/8-11** | 2 1/2 | Yellow Zinc | 6,000 | 3 1/4 | 2 | BSW-3Z | **2G367** | 17.91 | **13.64** | 1.1 |
| **5/8-11** | 2 1/2 | Nickel | 6,000 | 3 1/4 | 2 | BSW-3N | **2G368** | 17.91 | **13.64** | 0.8 |
| **3/4-10** | 3 | Yellow Zinc | 7,400 | 3 1/2 | 2 | BSW-4Z | **2G369** | 22.91 | **18.84** | 1.8 |
| **3/4-10** | 3 | Nickel | 7,400 | 3 1/2 | 2 | BSW-4N | **2G370** | 22.91 | **18.84** | 1.8 |
| **1-8** | 4 | Yellow Zinc | 20,000 | 5 3/8 | 3 1/2 | BSW-5Z | **2G371** | 29.02 | **23.00** | 3.4 |
| **1-8** | 4 | Nickel | 20,000 | 5 3/8 | 3 1/2 | BSW-5N | **2G372** | 29.02 | **23.00** | 3.4 |

### STEEL MOUNTS WITHOUT BOLTS

| Height (In.) | Hex Dia. (In.) | S & W Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 17/32 | 3/8 | TSW-00Z | **2G373** | $4.80 | **$2.64** | 0.1 |
| 17/32 | 3/8 | TSW-00N | **2G374** | 4.80 | **2.61** | 0.1 |
| 45/64 | 1/2 | TSW-0Z | **2G375** | 6.29 | **3.24** | 0.1 |
| 45/64 | 1/2 | TSW-0N | **2G376** | 6.29 | **3.24** | 0.1 |
| 7/8 | 5/8 | TSW-1Z | **2G377** | 7.22 | **5.15** | 0.2 |
| 7/8 | 5/8 | TSW-1N | **2G378** | 7.22 | **5.15** | 0.2 |
| 1 1/8 | 3/4 | TSW-2Z | **2G379** | 9.27 | **6.58** | 0.4 |
| 1 1/8 | 3/4 | TSW-2N | **2G380** | 9.27 | **6.58** | 0.4 |
| 1 1/4 | 7/8 | TSW-3Z | **2G381** | 15.26 | **11.41** | 0.8 |
| 1 1/4 | 7/8 | TSW-3N | **2G382** | 15.26 | **11.41** | 0.8 |
| 1 1/2 | 1 1/16 | TSW-4Z | **2G383** | 19.66 | **15.08** | 1.4 |
| 1 1/2 | 1 1/16 | TSW-4N | **2G384** | 19.66 | **15.08** | 1.4 |
| 1 7/8 | 1 3/8 | TSW-5Z | **2G385** | 25.83 | **17.61** | 2.5 |
| 1 7/8 | 1 3/8 | TSW-5N | **2G386** | 25.83 | **17.61** | 2.5 |

### MOUNTS WITH BOLT / MOUNTS WITHOUT BOLT

#### NON-SKID STEEL LEVELING MOUNTS

| Thread Size | Base Dia. (In.) | Load (Lbs.) | Height (In.) | Bolt Lgth. (In.) | S & W Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **10-32** | 3/4 | 150 | 1 17/32 | 1 | NSW-00 | **2G401** | $5.40 | **$4.59** | 0.1 |
| **1/4-20** | 1 | 200 | 1 61/64 | 1 1/4 | NSW-0 | **2G402** | 7.20 | **5.38** | 0.1 |
| **3/8-16** | 1 1/4 | 300 | 2 5/8 | 2 | NSW-1 | **2G403** | 8.53 | **6.56** | 0.3 |
| **1/2-13** | 1 7/8 | 700 | 3 1/8 | 2 | NSW-2 | **2G404** | 11.90 | **9.92** | 0.6 |
| **5/8-11** | 2 1/2 | 1,200 | 3 1/4 | 2 | NSW-3 | **2G405** | 19.67 | **14.46** | 1.1 |
| **3/4-10** | 3 | 1,800 | 3 1/2 | 2 | NSW-4 | **2G406** | 26.33 | **19.89** | 1.9 |
| **1-8** | 4 | 2,000 | 5 3/8 | 3 1/2 | NSW-5 | **2G407** | 33.37 | **24.67** | 3.5 |

| Height (In.) | Hex Dia. (In.) | S & W Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 17/32 | 3/8 | NTS-00 | **2G408** | $5.02 | **$3.63** | 0.1 |
| 45/64 | 1/2 | NTS-0 | **2G409** | 6.56 | **4.56** | 0.1 |
| 7/8 | 5/8 | NTS-1 | **2G410** | 7.56 | **6.02** | 0.2 |
| 1 1/8 | 3/4 | NTS-2 | **2G411** | 9.71 | **7.32** | 0.5 |
| 1 1/4 | 7/8 | NTS-3 | **2G412** | 17.14 | **12.54** | 0.8 |
| 1 1/2 | 1 1/16 | NTS-4 | **2G413** | 22.09 | **16.09** | 1.5 |
| 1 7/8 | 1 3/8 | NTS-5 | **2G414** | 28.53 | **19.12** | 2.6 |

#### STAINLESS STEEL LEVELING MOUNTS

| Thread Size | Base Dia. (In.) | Load (Lbs.) | Height (In.) | Bolt Lgth. (In.) | S & W Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **10-32** | 3/4 | 700 | 1 17/32 | 1 | SSW-00 | **2G387** | 10.24 | **9.72** | 0.1 |
| **1/4-20** | 1 | 1,000 | 1 61/64 | 1 1/4 | SSW-0 | **2G388** | 13.63 | **12.95** | 0.1 |
| **3/8-16** | 1 1/4 | 3,750 | 2 5/8 | 2 | SSW-1 | **2G389** | 16.40 | **15.58** | 0.2 |
| **1/2-13** | 1 7/8 | 5,000 | 3 1/8 | 2 | SSW-2 | **2G390** | 25.87 | **22.81** | 0.6 |
| **5/8-11** | 2 1/2 | 6,000 | 3 1/4 | 2 | SSW-3 | **2G391** | 38.13 | **36.25** | 1.1 |
| **3/4-10** | 3 | 7,400 | 3 1/2 | 2 | SSW-4 | **2G392** | 56.63 | **53.80** | 1.8 |
| **1-8** | 4 | 20,000 | 5 3/8 | 3 1/2 | SSW-5 | **2G393** | 59.90 | **56.95** | 3.4 |

| Height (In.) | Hex Dia. (In.) | S & W Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 17/32 | 3/8 | STS-00 | **2G394** | 5.36 | **5.09** | 0.1 |
| 45/64 | 1/2 | STS-0 | **2G395** | 12.30 | **10.25** | 0.1 |
| 7/8 | 5/8 | STS-1 | **2G396** | 14.10 | **10.76** | 0.2 |
| 1 1/8 | 3/4 | STS-2 | **2G397** | 24.03 | **15.04** | 0.4 |
| 1 1/4 | 7/8 | STS-3 | **2G398** | 35.78 | **27.15** | 0.8 |
| 1 1/2 | 1 1/16 | STS-4 | **2G399** | 49.29 | **41.75** | 1.4 |
| 1 7/8 | 1 3/8 | STS-5 | **2G400** | 54.85 | **45.75** | 4.8 |

#### DELRIN® LEVELING MOUNTS

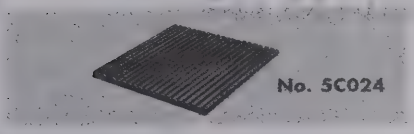
| Thread Size | Base Dia. (In.) | Load (Lbs.) | Height (In.) | Bolt Lgth. (In.) | S & W Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **10-32** | 3/4 | 150 | 1 17/32 | 1 | SWD-00 | **2G415** | 5.17 | **3.63** | 0.1 |
| **1/4-20** | 1 | 200 | 1 61/64 | 1 1/4 | SWD-0 | **2G416** | 6.88 | **4.25** | 0.1 |
| **3/8-16** | 1 1/4 | 300 | 2 5/8 | 2 | SWD-1 | **2G417** | 6.76 | **5.40** | 0.2 |
| **1/2-13** | 1 7/8 | 700 | 3 1/8 | 2 | SWD-2 | **2G418** | 9.14 | **7.77** | 0.3 |
| **5/8-11** | 2 1/2 | 1,200 | 3 1/4 | 2 | SWD-3 | **2G419** | 15.81 | **13.44** | 0.5 |
| **3/4-10** | 3 | 1,800 | 3 1/2 | 2 | SWD-4 | **2G420** | 19.24 | **16.35** | 0.8 |
| **1-8** | 4 | 2,000 | 5 3/8 | 3 1/2 | SWD-5 | **2G421** | 38.44 | **30.10** | 1.7 |

| Height (In.) | Hex Dia. (In.) | S & W Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 17/32 | 3/8 | DTS-00 | **2G422** | 4.78 | **2.91** | 0.1 |
| 45/64 | 1/2 | DTS-0 | **2G423** | 5.60 | **3.73** | 0.1 |
| 7/8 | 5/8 | DTS-1 | **2G424** | 5.92 | **4.76** | 0.1 |
| 1 1/8 | 3/4 | DTS-2 | **2G425** | 7.29 | **6.00** | 0.1 |
| 1 1/4 | 7/8 | DTS-3 | **2G426** | 11.85 | **10.07** | 0.2 |
| 1 1/2 | 1 1/16 | DTS-4 | **2G427** | 16.70 | **14.20** | 0.4 |
| 1 7/8 | 1 3/8 | DTS-5 | **2G428** | 33.13 | **27.50** | 0.8 |



More ways to move and store products safely and securely.

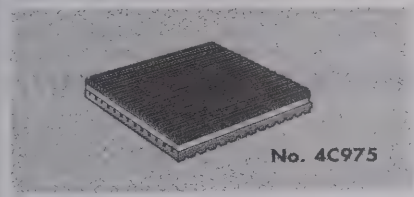
## NEOPRENE MOUNTING PADS




**Resilient cross-ribbed pad** of oil resistant neoprene. Alternating raised ribs provide effective vibration isolation over entire load range. Deflection at 40 PSI is 0.06 in. Most installations do not require bolting or cementing. 3/8" thick sheets can be cut with shears or knife to fit leg or bearing plate of machine. May be used in multiple layers to increase deflection. Vibration Mounting and Controls brand.

| Size (In.) | Thickness (In.) | Load Range | VM&C Model Shear-Flex- | Stock No. | List | Each | Lot 4 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **2 x 2** | 3/8 | 10 to 50 PSI | Black 2 x 2 | **5C024** | $1.54 | **$0.92** | **$0.83** | 0.1 |
| **3 x 3** | 3/8 | 10 to 50 | 3 x 3 | **5C023** | 2.87 | **1.72** | **1.55** | 0.1 |
| **4 x 4** | 3/8 | 10 to 50 | 4 x 4 | **4C973** | 5.26 | **3.15** | **2.84** | 0.2 |
| **6 x 6** | 3/8 | 10 to 50 | 6 x 6 | **5C022** | 11.30 | **6.77** | **6.10** | 0.5 |
| **18 x18** | 3/8 | 10 to 50 | 18 x 18 | **4C972** | 73.24 | **43.90** | **39.47** | 4.5 |
| **18 x 36** | 3/8 | 10 to 50 | 18 x 36 | **5C021** | 144.28 | **86.45** | **77.75** | 2.5 |

## NEOPRENE AND STEEL VIBRATION PADS




For use under concentrated loads where machine leg has a small area or sharp edges which can cut into the floor.

**Type A** has steel plate bonded between ribbed neoprene pads.

**Type B** has an isolation washer with a 3/4" diameter hole in the center of its steel plate and ribbed neoprene pad. Vibration Mounting and Controls brand.

| Type | Maximum Load Steady | Maximum Load Impact | Dimensions (In.) Length | Width | Thickness | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1680 lbs. | 1200 lbs. | 6 | 4 | 7/8 | A-24 | **4C975** | $39.23 | **$23.50** | **$21.15** | 2.1 |
| B | 1680 | 1200 | 6 | 4 | 5/8 | B-24 | **4C974** | 39.23 | **23.50** | **21.15** | 2.0 |

## NEOPRENE AND CORK VIBRATION PADS

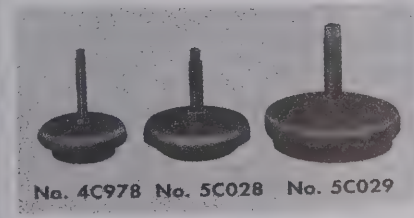



Laminated pad consists of 1/2" thick close-grain cork core bonded between two 1/4" thick layers of cross-ribbed neoprene. Pad is 1" thick overall. Combines resiliency of neoprene with acoustal efficiency of cork.

Criss-crossed skid resistant ribs on top and bottom. No bolting or cementing required. Pad can be cut to size with knife or saw. Vibration Mounting and Controls brand.

| Size (In.) | Thickness (In.) | Load Range | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2 x 2** | 1 | 10 to 60 PSI | Cork-Rib Pad 2 x 2 | **5C027** | $2.48 | **$1.49** | **$1.34** | 0.1 |
| **3 x 3** | 1 | 10 to 60 | Cork-Rib Pad 3 x 3 | **4C976** | 5.94 | **3.56** | **3.20** | 0.2 |
| **4 x 4** | 1 | 10 to 60 | Cork-Rib Pad 4 x 4 | **4C977** | 9.94 | **5.95** | **5.36** | 0.5 |
| **12 x 12** | 1 | 10 to 60 | Cork-Rib Pad 12 x 12 | **5C026** | 74.68 | **44.75** | **40.25** | 4.0 |
| **18 x 18** | 1 | 10 to 60 | Cork-Rib Pad 18 x 18 | **5C025** | 154.72 | **92.70** | **83.39** | 7.7 |

## LEVELING MOUNTS




Built-in leveling feature provides height adjustment to compensate for unequal mounting deflection or floor irregularities. Utilizes oil resistant neoprene to provide effective shock and vibration control.

Non-skid ribbed surface. No bolting required. Neoprene pad is bonded to a corrosion resistant housing. Zinc plated hardware. Vibration Mounting and Controls brand.

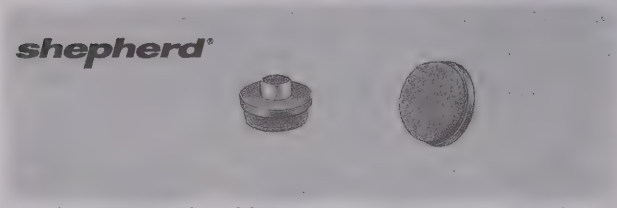
| Load Capacity in Pounds | Size (In.) | Width Dia. (In.) | Base Ht. (In) | Leveling Bolt (In.) | Bolt Lgth. (In.) | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **100-500** | 3 | 3½ | 1⅛ | ½-13 | 3½ | VLM-3 | **4C978** | $37.61 | **$22.52** | **$20.28** | 1.3 |
| **500-1,000** | 5 | 5 | 1¾ | ½-13 | 5 | VLM-5 | **5C028** | 66.91 | **40.15** | **36.06** | 3.0 |
| **1,000-4,000** | 6 | 6¼ | 1¾ | ¾-10 | 5 | VLM-6 | **5C029** | 96.21 | **57.65** | **51.85** | 6.0 |
| **4,000-12,000** | 8 | 8 | 2 | 1-14 | 8 | VLM-8 | **5C030** | 202.88 | **121.50** | **109.34** | 10.0 |

### ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# FLOOR PROTECTION AND FELT GARD™

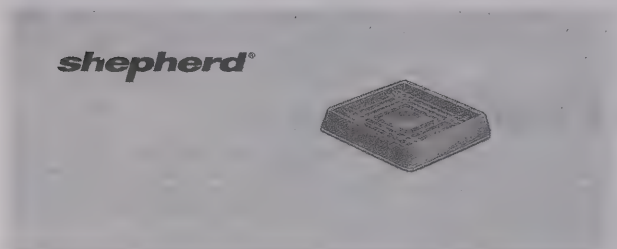
## FELT FLOOR PROTECTORS




**Scratch-resistant, resilient felt tips** for wood legs protect hard surface and slide easily over linoleum, hardwood, asphalt, tile, terrazzo, any hard floor surface. These glides are suitable for use on soft cushion vinyl floors. Simply install with the tap of a hammer. 24 per package.

| Size (In.) | Shepherd Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 7/8 | 9585 | 6J613 | $15.52 | $11.98 | 0.1 |
| 1 | 9586 | 6J614 | 19.48 | 15.06 | 0.2 |

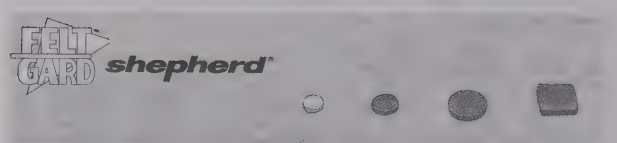
## FLOOR PROTECTION CUPS




**CUSHIONED RUBBER CUPS**—Large solid rubber cups cushion furniture legs, preventing dents and depressions in floor surfaces. Nonskid to keep furniture in place. Recommended for hard floor surfaces only.

| Style | Size (In.) | Shepherd Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Square | 2⅛ | 9076 | 6J618 | $10.31 | $8.52 | 2.8 |

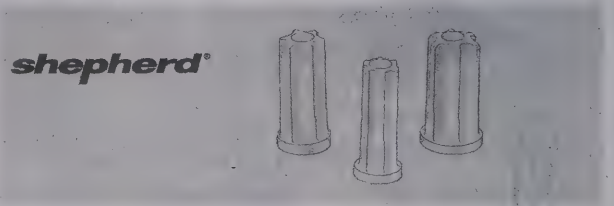
## ADHESIVE-BACKED FELT GARD™ PROTECTIVE PADDING




**Felt products,** made of resilient 100% polyester/latex, prevent scratches to countertops, glass and acrylic table tops, desks, and walls as well as cabinet drawers and doors. Use on furniture accessories and small table top objects. Self-stick backing adheres to almost anything. Simply wipe the object's under-surface clean, remove Felt Gard's backing and firmly press on object. Available in pads and blankets.

| Size (In.) | Color | Shepherd Model | Stock No. | List | Each Pkg. | Qty. per Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PADS** | | | | | | | |
| 3/8 Dia. | Brown | 9949 | 6J658 | $2.20 | $2.06 | 100 | 0.1 |
| 1/2 Dia. | Brown | 9958 | 6J655 | 3.37 | 2.62 | 108 | 0.1 |
| 3/4 Dia. | Brown | 9959 | 6J656 | 6.79 | 5.24 | 108 | 0.1 |

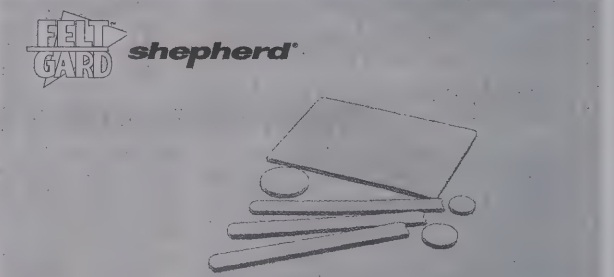
## PLASTIC SOCKETS FOR TUBULAR LEGS




**Tough plastic sockets** permit installation of casters and glides with standard stem fastenings into round tubular furniture legs. Use with Type 8 Gripneck Stem 5/16 x 1½". 24 sockets per package.

| Tubing I.D. (In.) | Shepherd Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|
| 5/8 | 9066 | 6J659 | $7.59 | $5.94 | 0.2 |

## ADHESIVE-BACKED FELT GARD™




**Extra thick felt,** made of resilient 100% polyester/latex protects hardwood, linoleum, terrazzo, marble, vinyl, and no-wax floors. Any number of uses: place under small appliances, table, chairs, and office equipment to name a few. Self-adhesive backing sticks to almost anything. Merely clean the object's under-surface, peel off the backing and press on Felt Gard™.

| Size (In.) | Shepherd Model | Stock No. | List | Each | Qty. per Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **CIRCLE PADS** | | | | | | |
| 1 Dia. | 9952 | 6J628 | $8.08 | $6.24 | 100 | 0.1 |

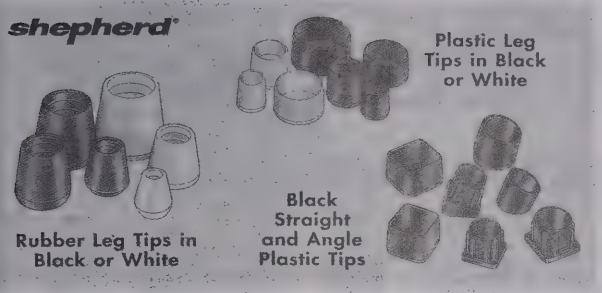
**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**



*More ways to move and store products safely and securely.*

# PROTECTIVE LEG TIPS




**RUBBER LEG TIPS**—Nonskid cushioned rubber tips fit over round tubular metal and wood furniture legs. Protect bare floors and other hard surfaces from scratches, mars, and scars. Can be used on straight or angled legs.

**PLASTIC LEG TIPS**—Protective plastic tips prevent furniture damage to carpets and hard floors. They slip easily onto round tubular metal or wood legs, and permit furniture to move smoothly over a variety of floor surfaces.

**STRAIGHT AND ANGLE PLASTIC TIPS**—Nonmarking, easy gliding black tips fit over or inside round or square tubular metal or wood furniture legs. Protective tips will not mark carpets and hard wood surfaces.

**Square Tips** fit over straight square tubular metal or wood furniture legs. **Angle Tips** fit over angled round tubular metal or wood furniture legs. **Angle Inside Tips** and **Straight Inside Tips** with square base fit inside round tubular legs.

| Cap Type | For Legs OD (In.) | Black Shepherd Model | Black Stock No. | White Shepherd Model | White Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **RUBBER LEG TIPS—24 Tips per Package** | | | | | | | | |
| Round | 3/8 | 9757 | — | — | **6J559** | $7.04 | **$5.48** | 0.3 |
| | 1/2 | 9758 | **6J568** | 9751 | **6J560** | 7.08 | **5.59** | 0.6 |
| | 5/8 | 9759 | **6J569** | 9752 | **6J561** | 6.38 | **5.07** | 0.7 |
| | 3/4 | 9760 | **6J570** | 9753 | **6J562** | 7.86 | **6.29** | 1.1 |
| Round | 7/8 | 9761 | **6J571** | 9754 | **6J563** | 7.70 | **6.15** | 1.0 |
| | 1 | 9762 | **6J572** | 9755 | **6J564** | 9.02 | **7.19** | 1.2 |
| | 1 1/8 | 9763 | **6J573** | 9756 | **6J565** | 10.80 | **8.67** | 1.7 |
| | 1 1/4 | 9746 | **6J574** | 9743 | **6J566** | 13.56 | **11.02** | 2.8 |
| **PLASTIC LEG TIPS—24 Tips per Package** | | | | | | | | |
| Round | 1/4 | 9767 | **6J593** | — | — | 4.22 | **3.32** | 0.1 |
| | 3/8 | 9110 | **6J594** | 9104 | **6J585** | 3.82 | **2.96** | 0.1 |
| | 1/2 | 9111 | — | — | **6J586** | 3.84 | **2.98** | 0.1 |
| | 5/8 | 9112 | — | — | **6J587** | 3.91 | **3.04** | 0.1 |
| | 3/4 | 9113 | — | — | **6J588** | 3.96 | **3.08** | 0.1 |
| Round | 7/8 | 9114 | **6J598** | 9108 | **6J589** | 4.03 | **3.14** | 0.1 |
| | 1 | 9115 | **6J599** | 9109 | **6J590** | 4.07 | **3.20** | 0.2 |
| | 1 1/8 | 9768 | **6J600** | 9744 | **6J591** | 5.26 | **4.08** | 0.3 |
| | 1 1/4 | 9769 | **6J601** | 9745 | **6J592** | 5.18 | **4.04** | 0.2 |
| **STRAIGHT & ANGLE PLASTIC LEG TIPS—24 Tips per Package** | | | | | | | | |
| Square | 7/8 | 9233 | **6J575** | — | — | 8.29 | **6.42** | 0.2 |
| | 1 | 9234 | **6J576** | — | — | 8.66 | **6.74** | 0.2 |
| Angle Inside | 3/4 | 9238 | **6J580** | — | — | 5.66 | **4.40** | 0.2 |
| | 7/8 | 9239 | **6J581** | — | — | 5.88 | **4.60** | 0.3 |
| Straight Inside | 3/4 | 9235 | **6J582** | — | — | 5.69 | **4.42** | 0.2 |
| | 7/8 | 9236 | **6J583** | — | — | 5.69 | **4.44** | 0.3 |
| | 1 | 9237 | **6J584** | — | — | 5.75 | **4.48** | 0.2 |

# NAIL-ON CUSHION GLIDES

**For Wood Furniture**




**Nylon Base Cushion Glides** slide easily and harmlessly over carpets and hard floors. Rubber pad is bonded to nonrust nylon base. 24 per pkg.

**Metal Heavy-Duty Rubber Cushion Glides** are made of floor-friendly, corrosion-resistant nickel. Protect carpets and hard floors from furniture damage. 24 glides per pkg.

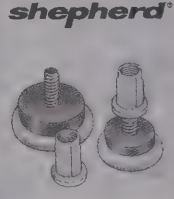
**To install nylon or metal glides:** mark exact center of each wood leg. At mark, drill pilot hole slightly smaller than glide nail. Tap glide into predrilled hole with a hammer until it seats firmly.

**NOTE:** Not recommended for soft vinyl floors.

| Size (In.) | Shepherd Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **NYLON CUSHION GLIDES** | | | | | |
| 5/8 | 9445 | **6J605** | $6.45 | **$5.00** | 0.2 |
| 3/4 | 9466 | **6J606** | 6.54 | **5.10** | 0.3 |
| 7/8 | 9447 | **6J607** | 7.14 | **5.56** | 0.3 |
| 1 1/8 | 9448 | **6J608** | 7.16 | **5.58** | 0.3 |
| 1 1/2 | 9513 | **6J609** | 16.54 | **12.84** | 0.5 |
| **METAL CUSHION GLIDES** | | | | | |
| 7/8 | 9099 | **6J602** | $8.39 | **$6.58** | 0.6 |
| 1 1/16 | 9100 | **6J603** | 9.65 | **7.64** | 0.6 |
| 1 1/4 | 9101 | **6J604** | 10.53 | **8.34** | 1.0 |
| — | — | — | — | — | — |
| — | — | — | — | — | — |

# ADJUSTABLE LEVELING GLIDES

**Versatile glides level office/household furniture and some appliances on uneven and irregular floor surfaces.**




Non-rusting nickel base is kind to carpets and hard floors. Can be used on pieces with existing sockets 1/4"-20 thread, 1/2" long. 24 glides per package.

For wood furniture without sockets, plastic sockets are furnished. Simply drill 3/8" diameter hole 1" deep into the center of the leg base. Tap plastic socket into the hole with a hammer. Thread glide into the socket in the leg, and adjust until furniture is level.

**NOTE:** Not recommended for soft vinyl floors.

| Size (In.) | Shepherd Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **7/8** | 9449 | **6J610** | $13.49 | **$10.52** | 0.7 |
| **1 1/16** | 9450 | **6J611** | 15.22 | **11.88** | 0.8 |
| **1 1/4** | 9451 | **6J612** | 17.26 | **13.50** | 1.0 |

MASTER MANUFACTURING COMPANY

SUPPLIER DIVERSITY

Woman-Owned Business




# NO-SLIP DOORSTOPS

## A Big Foot® Doorstops

- **Wide flange holds doors securely in any position**
- **Tough, durable, vulcanized rubber for extra-long life**
- **Will not collapse; will not mar floors or carpeting** • **Gray color**

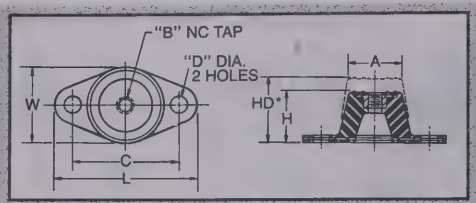
## B Giant Foot® Doorstops

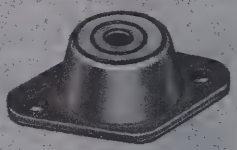
- **Extra-large size holds doors with clearances up to 2", also holds heavy industrial doors and doors with spring closures**
- **Impact-resistant rubberized material**
- **Highly visible, bright fluorescent yellow helps prevent tripping and accidents**
- **Will not collapse; will not mar floors or carpeting**

| Key | Dimensions (In.) L | W | H | Master Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 4 3/4 | 2 1/4 | 1 1/4 | GD002 | **4JG43** | $9.90 | **$8.61** | 0.3 |
| B | 6 3/4 | 3 1/2 | 2 | GD005 | **4JG44** | 15.90 | **13.96** | 0.4 |

# FLOOR MOUNTED VIBRATION ISOLATORS

Install between equipment and stationary support. For top load applications only. Absorb shock, noise, and limit transmission of vibration. Single and double deflection isolators have steel top plate, and threaded insert and steel base both totally imbedded in oil resistant neoprene. Mounting bolts serve as leveling devices. Used on air handling units, air conditioners, machine tools, motor generators, transformers, business machines, pumps. Vibration Mounting & Controls brand.



No. 4C950

(*) HD dimension applies to height of the RD prefixed models.

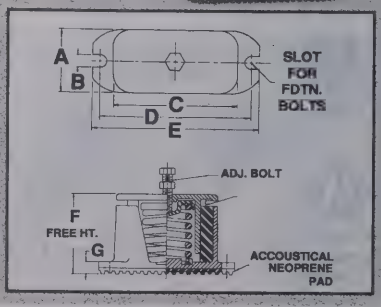
| Max. Load Each (Lbs.) | Deflection (In.) | Dimensions (In.) L | W | H | HD | A | B | C | D | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **35** | 0.20 | | | 1 | — | | | | | R-1 Blue | **4C950** | $11.09 | **$6.65** | **$5.99** | 0.2 |
| **35** | 0.40 | 3 1/8 | 1 3/4 | — | 1 1/4 | 1 1/4 | 5/16 | 2 3/8 | 11/32 | RD-1 Blue | **4C954** | 16.09 | **9.64** | **8.67** | 0.2 |
| **45** | 0.20 | | | 1 | — | | | | | R-1 Black | **4C951** | 11.09 | **6.65** | **5.99** | 0.2 |
| **45** | 0.40 | | | — | 1 1/4 | | | | | RD-1 Black | **4C875** | 16.09 | **9.64** | **8.67** | 0.2 |
| **70** | 0.20 | | | 1 | — | | | | | R-1 Red | **4C952** | 11.09 | **6.65** | **5.99** | 0.2 |
| **70** | 0.40 | 3 1/8 | 1 3/4 | — | 1 1/4 | 1 1/4 | 5/16 | 2 3/8 | 11/32 | RD-1 Red | **4C955** | 16.09 | **9.64** | **8.67** | 0.2 |
| **120** | 0.20 | | | 1 | — | | | | | R-1 Green | **4C953** | 11.09 | **6.65** | **5.99** | 0.2 |
| **120** | 0.40 | | | — | 1 1/4 | | | | | RD-1 Green | **4C876** | 16.09 | **9.64** | **8.67** | 0.3 |
| **135** | 0.25 | | | 1 1/4 | — | | | | | R-2 Blue | **4C956** | 13.97 | **8.37** | **7.53** | 0.5 |
| **135** | 0.50 | 3 7/8 | 2 3/8 | — | 1 3/4 | 1 3/4 | 3/8 | 3 | 11/32 | RD-2 Blue | **4C960** | 17.81 | **10.67** | **9.60** | 0.4 |
| **170** | 0.25 | | | 1 1/4 | — | | | | | R-2 Black | **4C957** | 13.97 | **8.37** | **7.53** | 0.4 |
| **170** | 0.50 | | | — | 1 3/4 | | | | | RD-2 Black | **4C961** | 17.81 | **10.67** | **9.60** | 0.4 |
| **240** | 0.25 | | | 1 1/4 | — | | | | | R-2 | **4C958** | 13.97 | **8.37** | **7.53** | 0.5 |
| **240** | 0.50 | | | — | 1 3/4 | | | | | RD-2 Red | **4C877** | 17.81 | **10.67** | **9.60** | 0.5 |
| **380** | 0.25 | 3 7/8 | 2 3/8 | 1 1/4 | — | 1 3/4 | 3/8 | 3 | 11/32 | R-2 Green | **4C959** | 13.97 | **8.37** | **7.53** | 0.4 |
| **380** | 0.50 | | | — | 1 3/4 | | | | | RD-2 Green | **4C988** | 17.81 | **10.67** | **9.60** | 0.3 |
| **550** | 0.25 | | | 1 1/4 | — | | | | | R-2 Gray | **4C979** | 13.97 | **8.37** | **7.53** | 0.3 |
| **550** | 0.50 | | | — | 1 3/4 | | | | | RD-2 Gray | **4C989** | 17.81 | **10.67** | **9.60** | 1.0 |
| **250** | 0.25 | | | 1 3/4 | — | | | | | R-3 Black | **4C980** | 33.42 | **20.01** | **18.01** | 0.5 |
| **250** | 0.50 | 5 1/2 | 3 3/8 | — | 2 7/8 | 2 1/2 | 1/2 | 4 1/8 | 9/16 | RD-3 Black | **4C990** | 41.84 | **25.05** | **22.54** | 0.7 |
| **525** | 0.25 | | | 1 3/4 | — | | | | | R-3 Red | **4C981** | 33.42 | **20.01** | **18.01** | 0.5 |
| **525** | 0.50 | | | — | 2 7/8 | | | | | RD-3 Red | **4C991** | 41.84 | **25.05** | **22.54** | 0.6 |
| **750** | 0.25 | | | 1 3/4 | — | | | | | R-3 Green | **4C982** | 33.42 | **20.01** | **18.01** | 0.5 |
| **750** | 0.50 | 5 1/2 | 3 3/8 | — | 2 7/8 | 2 1/2 | 1/2 | 4 1/8 | 9/16 | RD-3 Green | **4C992** | 41.84 | **25.05** | **22.54** | 0.8 |
| **1100** | 0.25 | | | 1 3/4 | — | | | | | R-3 Gray | **4C983** | 33.42 | **20.01** | **18.01** | 0.5 |
| **1100** | 0.50 | | | — | 2 7/8 | | | | | RD-3 Gray | **4C993** | 41.84 | **25.05** | **22.54** | 1.5 |
| **1500** | 0.25 | | | 1 5/8 | — | | | | | R-4 Black | **4C984** | 75.26 | **45.10** | **40.56** | 1.3 |
| **1500** | 0.50 | 6 1/4 | 4 5/8 | — | 2 3/4 | 3 | 1/2 | 5 | 9/16 | RD-4 Black | **4C994** | 94.02 | **56.35** | **50.67** | 3.5 |
| **2250** | 0.25 | | | 1 5/8 | — | | | | | R-4 Red | **4C985** | 75.26 | **45.10** | **40.56** | 1.3 |
| **2250** | 0.50 | | | — | 2 3/4 | | | | | RD-4 Red | **4C995** | 94.02 | **56.35** | **50.67** | 3.5 |
| **3000** | 0.25 | | | 1 5/8 | — | | | | | R-4 Green | **4C986** | 75.26 | **45.10** | **40.56** | 1.3 |
| **3000** | 0.50 | 6 1/4 | 4 5/8 | — | 2 3/4 | 3 | 1/2 | 5 | 9/16 | RD-4 Green | **4C996** | 94.02 | **56.35** | **50.67** | 3.5 |
| **4000** | 0.25 | | | 1 5/8 | — | | | | | R-4 Gray | **4C987** | 75.26 | **45.10** | **40.56** | 1.3 |
| **4000** | 0.50 | | | — | 2 3/4 | | | | | RD-4 Gray | **4C997** | 94.02 | **56.35** | **50.67** | 3.5 |

# FLOOR MOUNT SPRING VIBRATION ISOLATORS

Absorb vibration from air handling units, air conditioners, chillers, compressors, fans, pumps, and heating and ventilating equipment. For critical applications and when required static deflections exceed 0.40". Cast telescoping housing contains color-coded steel spring designed for static deflections up to 1.3". Available with load ranges from 50 to 2600 pounds. Non-skid neoprene acoustical pad attached to base plate. Built-in leveling bolt. Vibration Mounting and Controls brand.



No. 5C126

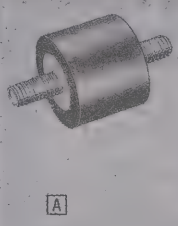



| Max. Load Ea. (Lbs.) | Deflection (In.) | Dimensions (In.) A | B | C | D | E | F | G | Bolt Dia. (In.) | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 1.3 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-11 Blue | **5C126** | $56.50 | **$33.90** | **$30.45** | 2.9 |
| **100** | 1.3 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-12 Orange | **5C127** | 56.50 | **33.90** | **30.45** | 2.9 |
| **165** | 1.2 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-13 Brown | **5C128** | 56.50 | **33.90** | **30.45** | 3.1 |
| **260** | 1.0 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-14 Black | **5C129** | 56.50 | **33.90** | **30.45** | 3.0 |
| **370** | 0.8 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-16 Yellow | **5C130** | 56.50 | **33.90** | **30.45** | 3.3 |
| **450** | 1.2 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-25 Red | **5C131** | 74.66 | **44.75** | **40.24** | 6.0 |
| **600** | 1.2 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-26 Purple | **5C132** | 74.66 | **44.75** | **40.24** | 7.5 |
| **750** | 1.1 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-27 Orange | **5C133** | 74.66 | **44.75** | **40.24** | 6.0 |
| **900** | 1.0 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-28 Green | **5C134** | 74.66 | **44.75** | **40.24** | 6.0 |
| **1100** | 0.8 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-31 Gray | **5C135** | 82.36 | **49.35** | **44.38** | 7.0 |
| **1300** | 0.7 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-32 White | **5C136** | 82.36 | **49.35** | **44.38** | 7.0 |
| **1500** | 1.1 | 3 | 5/8 | 7 3/4 | 9 1/4 | 10 1/2 | 5 5/8 | 9/16 | 5/8 | CE-2-27 Orange | **5C137** | 120.65 | **72.30** | **65.03** | 12.0 |
| **1800** | 1.0 | 3 | 5/8 | 7 3/4 | 9 1/4 | 10 1/2 | 5 5/8 | 9/16 | 5/8 | CE-2-28 Green | **5C138** | 120.65 | **72.30** | **65.03** | 12.0 |
| **2200** | 0.8 | 3 | 5/8 | 7 3/4 | 9 1/4 | 10 1/2 | 5 5/8 | 9/16 | 5/8 | CE-2-31 Gray | **5C139** | 134.03 | **80.30** | **72.24** | 12.0 |
| **2600** | 0.7 | 3 | 5/8 | 7 3/4 | 9 1/4 | 10 1/2 | 5 5/8 | 9/16 | 5/8 | CE-2-32 White | **5C140** | 134.03 | **80.30** | **72.24** | 12.0 |

# CYLINDRICAL VIBRATION ISOLATORS

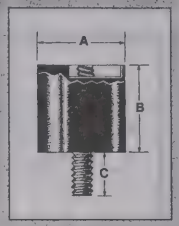


- Absorb transmission of noise, shock, and vibration for general industrial applications
- Use for fans, blowers, air conditioning and refrigeration systems, pumps, compressors, business machines, motors, generators, appliances, and machinery
- Natural rubber isolators are chemically bonded to steel
- All isolators are compression mount with 50 durometer hardness
- Zinc-plated threaded studs
- Not suitable for excess exposure to oil, grease, and solvents or temperatures over 150°F
- Not designed for wall or ceiling suspended installations
- Nos. 3CC15 and 3CC17 are cone-shaped foot mount




A

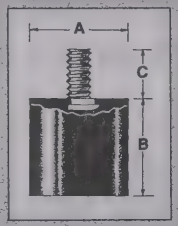
No. 3CC00

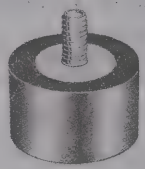





B

No. 3CC12



C

No. 3CC16

KARMAN RUBBER

## CYLINDRICAL VIBRATION ISOLATOR SPECIFICATIONS AND ORDERING DATA

| Key | Maximum Load (Lbs.) Downward Compression | Maximum Load (Lbs.) Sideways Shear | Dimensions (In.) A Dia. | B | C | Thread Size | Karman Rubber Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 7 | 1 | 3/8 | 1/2 | 1/2 | 8-32 | K80 | **3CC00** | $2.39 | **$1.43** | **$1.32** | 0.1 |
| | 20 | 3 | 5/8 | 1/2 | 1/2 | 8-32 | K82 | **3CC01** | 2.53 | **1.51** | **1.39** | 0.1 |
| | 40 | 6 | 3/4 | 3/4 | 1/2 | 1/4-20 | K46 | **3CC02** | 2.68 | **1.61** | **1.48** | 0.1 |
| | 50 | 9 | 1 | 3/4 | 1/2 | 1/4-20 | K47 | **3CC03** | 2.72 | **1.63** | **1.50** | 0.1 |
| | 45 | 8 | 1 | 1 | 5/8 | 5/16-18 | K44 | **3CC04** | 3.02 | **1.81** | **1.66** | 0.1 |
| | 80 | 15 | 1 3/8 | 1 | 5/8 | 5/16-18 | K43 | **3CC05** | 3.41 | **2.04** | **1.88** | 0.1 |
| | 125 | 20 | 1 9/16 | 1 | 5/8 | 3/8-16 | K37 | **3CC06** | 4.54 | **2.72** | **2.50** | 0.2 |
| | 370 | 90 | 2 | 3/4 | 1 1/8 | 3/8-16 | K75 | **3CC07** | 6.74 | **4.04** | **3.71** | 0.3 |
| | 165 | 55 | 2 | 1 5/8 | 5/8 | 3/8-16 | K65 | **3CC08** | 6.70 | **4.01** | **3.69** | 0.4 |
| B | 55 | 8 | 1 | 1 | ‡ | 5/16-18 | K40 | **3CC09** | 3.63 | **2.17** | **2.00** | 0.1 |
| | 7 | 1 | 3/8 | 1/2 | 1/2 | 8-32 | K81 | **3CC10** | 3.04 | **1.82** | **1.68** | 0.1 |
| | 20 | 3 | 5/8 | 1/2 | 1/2 | 8-32 | K83 | **3CC11** | 3.11 | **1.86** | **1.72** | 0.1 |
| | 55 | 8 | 1 | 1 | 5/8 | 5/16-18 | K41 | **3CC12** | 3.22 | **1.93** | **1.77** | 0.1 |
| | 80 | 15 | 1 3/8 | 1 | 5/8 | 5/16-18 | K434 | **3CC13** | 4.30 | **2.58** | **2.37** | 0.2 |
| | 165 | 55 | 2 | 1 5/8 | 5/8 | 3/8-16 | K66 | **3CC14** | 6.69 | **4.01** | **3.69** | 0.4 |
| C | 20 | — | 15/16 | 5/8* | 1/2 | 1/4-20 | K171 | **3CC15** | 2.10 | **1.26** | **1.16** | 0.1 |
| | 60 | — | 1 | 5/8 | 5/8 | 5/16-18 | K248 | **3CC16** | 2.68 | **1.61** | **1.48** | 0.1 |
| | 80 | — | 1 5/8 | 1* | 5/8 | 5/16-18 | K133 | **3CC17** | 3.31 | **1.98** | **1.82** | 0.1 |
| | 125 | — | 1 1/2 | 1 | 5/8 | 5/16-18 | K136 | **3CC18** | 5.14 | **3.08** | **2.83** | 0.1 |
| | 310 | — | 2 | 3/4 | 1 1/8 | 3/8-16 | K175 | **3CC19** | 6.66 | **3.39** | **3.12** | 0.2 |

(*) Nos. 3CC15 and 3CC17 are cone-shaped foot mount. (‡) No. 3CC09 has threads at each end.

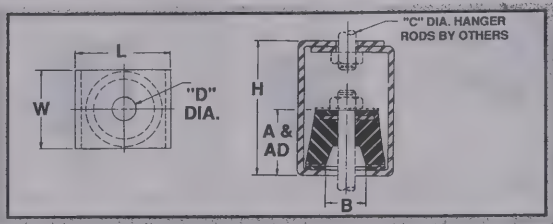

## LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.

# HANGER MOUNTED VIBRATION ISOLATORS



No. 4C962



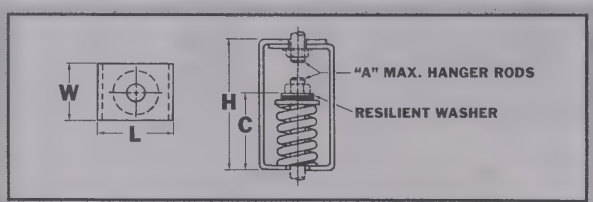

Mount between ceiling and vibrating equipment to limit transmission of vibration. Isolators consist of a rectangular steel frame with permanently attached oil-resistant single or double deflection neoprene element. Mounting holes provided for hanger rod for ceiling installation. Used for in-line or tubeaxial fans and blowers, lighting fixtures, duct work, piping, sprinkler systems, unit heaters, and suspended ceilings. Vibration Mounting and Controls brand.

| Max. Load Each, Lbs. | Deflection (In.) | Dimensions (In.) L | W | H | A | AD | B | C | D | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **35** | 0.20 | 2¼ | 2 | 3 | 1 | — | 3/4 | 3/8 | 13/32 | RH-1 Blue | **4C962** | $16.74 | **$10.03** | **$9.03** | 0.5 |
| **35** | 0.40 | | | | — | 1¼ | | | | RHD-1 Blue | **4C966** | 20.86 | **12.50** | **11.25** | 0.5 |
| **45** | 0.20 | | | | 1 | — | | | | RH-1 Black | **4C963** | 16.74 | **10.03** | **9.03** | 0.5 |
| **45** | 0.40 | | | | — | 1¼ | | | | RHD-1 Black | **4C878** | 20.86 | **12.50** | **11.25** | 0.5 |
| **75** | 0.20 | 2¼ | 2 | 3 | 1 | — | 3/4 | 3/8 | 13/32 | RH-1 Red | **4C964** | 16.74 | **10.03** | **9.03** | 0.5 |
| **75** | 0.40 | | | | — | 1¼ | | | | RHD-1 Red | **4C967** | 20.86 | **12.50** | **11.25** | 0.6 |
| **120** | 0.20 | | | | 1 | — | | | | RH-1 Green | **4C965** | 16.74 | **10.03** | **9.03** | 0.5 |
| **120** | 0.40 | | | | — | 1¼ | | | | RHD-1 Green | **4C879** | 20.86 | **12.50** | **11.25** | 0.5 |
| **170** | 0.25 | 3 | 2¼ | 4½ | 1 3/8 | — | 1 3/16 | 5/8 | 11/16 | RH-2 Black | **4C968** | 25.07 | **15.02** | **13.51** | 0.9 |
| **170** | 0.50 | | | | — | 1 7/8 | | | | RHD-2 Black | **4C970** | 27.19 | **16.29** | **14.66** | 1.3 |
| **240** | 0.25 | | | | 1 3/8 | — | | | | RH-2 Red | **4C969** | 25.07 | **15.02** | **13.51** | 2.0 |
| **240** | 0.50 | | | | — | 1 7/8 | | | | RHD-2 Red | **4C971** | 27.19 | **16.29** | **14.66** | 0.9 |
| **380** | 0.25 | 3 | 2¼ | 4½ | 1 3/8 | — | 1 3/16 | 5/8 | 11/16 | RH-2 Green | **5C001** | 25.07 | **15.02** | **13.51** | 1.1 |
| **380** | 0.50 | | | | — | 1 7/8 | | | | RHD-2 Green | **5C011** | 27.19 | **16.29** | **14.66** | 1.3 |
| **550** | 0.25 | | | | 1 3/8 | — | | | | RH-2 Gray | **5C002** | 25.07 | **15.02** | **13.51** | 0.2 |
| **550** | 0.50 | | | | — | 1 7/8 | | | | RHD-2 Gray | **5C012** | 27.19 | **16.29** | **14.66** | 1.4 |
| **250** | 0.25 | 3¾ | 3¼ | 6¼ | 2 | — | 1½ | 3/4 | 7/8 | RH-3 Black | **5C003** | 45.95 | **28.95** | **24.77** | 3.0 |
| **250** | 0.50 | | | | — | 3 1/8 | | | | RHD-3 Black | **5C013** | 54.39 | **34.25** | **29.32** | 3.5 |
| **525** | 0.25 | | | | 2 | — | | | | RH-3 Red | **5C004** | 45.95 | **28.95** | **24.77** | 3.0 |
| **525** | 0.50 | | | | — | 3 1/8 | | | | RHD-3 Red | **5C014** | 54.39 | **34.25** | **29.32** | 3.2 |
| **750** | 0.25 | 3¾ | 3¼ | 6¼ | 2 | — | 1½ | 3/4 | 7/8 | RH-3 Green | **5C005** | 45.95 | **28.95** | **24.77** | 3.0 |
| **750** | 0.50 | | | | — | 3 1/8 | | | | RHD-3 Green | **5C015** | 54.39 | **34.25** | **29.32** | 3.0 |
| **1250** | 0.25 | | | | 2 | — | | | | RH-3 Gray | **5C006** | 45.95 | **28.95** | **24.77** | 2.8 |
| **1250** | 0.50 | | | | — | 3 1/8 | | | | RHD-3 Gray | **5C016** | 54.39 | **34.25** | **29.32** | 3.5 |
| **1500** | 0.25 | 4½ | 4 | 8 3/16 | 2 | — | 1 3/16 | 1 | 1 3/16 | RH-4 Black | **5C007** | 104.08 | **65.50** | **56.09** | 9.0 |
| **1500** | 0.50 | | | | — | 3 1/8 | | | | RHD-4 Black | **5C017** | 128.11 | **80.60** | **69.04** | 8.0 |
| **2250** | 0.25 | | | | 2 | — | | | | RH-4 Red | **5C008** | 104.08 | **65.50** | **56.09** | 8.0 |
| **2250** | 0.50 | | | | — | 3 1/8 | | | | RHD-4 Red | **5C018** | 128.11 | **80.60** | **69.04** | 8.0 |
| **3000** | 0.25 | 4½ | 4 | 8 3/16 | 2 | — | 1 3/16 | 1 | 1 3/16 | RH-4 Green | **5C009** | 104.08 | **65.50** | **56.09** | 7.5 |
| **3000** | 0.50 | | | | — | 3 1/8 | | | | RHD-4 Green | **5C019** | 128.11 | **80.60** | **69.04** | 8.5 |
| **4000** | 0.25 | | | | 2 | — | | | | RH-4 Gray | **5C010** | 104.08 | **65.50** | **56.09** | 7.5 |
| **4000** | 0.50 | | | | — | 3 1/8 | | | | RHD-4 Gray | **5C020** | 128.11 | **80.60** | **69.04** | 8.0 |

# HANGER MOUNTED SPRING ISOLATORS



No. 5C141




For isolating vibrations, absorbing shock, and reducing noise in critical locations. Hangers mount between ceiling and vibrating equipment. Consist of rectangular steel housing with color coded steel spring in series with a neoprene isolation washer. For critical applications and when required static deflection exceed 0.40". Isolators available with load ranges from 60 to 1300 pounds and static deflections up to 1.3". Vibration Mounting and Controls brand.

| Max. Load Each in Lbs. | Deflection (In.) | Dimensions (In.) A | C | H | L | W | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **60** | 1.3 | 5/8 | 3 1/8 | 5½ | 3 | 2¼ | SHS-11 Blue | **5C141** | $29.30 | **$17.55** | **$15.79** | 1.3 |
| **100** | 1.3 | 5/8 | 3 1/8 | 5½ | 3 | 2¼ | SHS-12 Orange | **5C142** | 29.30 | **17.55** | **15.79** | 1.3 |
| **165** | 1.2 | 5/8 | 3 1/8 | 5½ | 3 | 2¼ | SHS-13 Brown | **5C143** | 29.30 | **17.55** | **15.79** | 1.4 |
| **260** | 1.0 | 5/8 | 3 1/8 | 5½ | 3 | 2¼ | SHS-14 Black | **5C144** | 29.30 | **17.55** | **15.79** | 1.6 |
| **370** | 0.8 | 5/8 | 3 1/8 | 5½ | 3 | 2¼ | SHS-16 Yellow | **5C145** | 29.30 | **17.55** | **15.79** | 1.5 |
| **450** | 1.2 | 3/4 | 4 3/4 | 7 | 3 1/4 | 3 | SH-25 Red | **5C146** | 41.84 | **25.05** | **22.54** | 3.3 |
| **600** | 1.2 | 3/4 | 4 3/4 | 7 | 3 1/4 | 3 | SH-26 Purple | **5C147** | 41.84 | **25.05** | **22.54** | 4.0 |
| **750** | 1.1 | 3/4 | 4 3/4 | 7 | 3 1/4 | 3 | SH-27 Orange | **5C148** | 41.84 | **25.05** | **22.54** | 4.0 |
| **900** | 1.0 | 3/4 | 4 3/4 | 7 | 3 1/4 | 3 | SH-28 Green | **5C149** | 41.84 | **25.05** | **22.54** | 4.0 |
| **1100** | 0.8 | 3/4 | 4 3/4 | 7 | 3 1/4 | 3 | SH-31 Gray | **5C150** | 47.89 | **28.75** | **25.81** | 4.0 |
| **1300** | 0.8 | 3/4 | 4 3/4 | 7 | 3 1/4 | 3 | SH-32 White | **5C151** | 47.89 | **28.75** | **25.81** | 4.0 |

# 3 STEPS TO PROPER LADDER SELECTION

## 1. SELECT LADDER MATERIAL

**FIBERGLASS**—Nonconductive, use when working around electricity. Corrosion resistant, ideal for outdoor use.

**ALUMINUM**—Lightweight, easy to maneuver where frequent handling is required. Not for use when contact with electricity is possible.*

**WOOD**—Nonconductive, use when working around electricity. Economical choice for heavy maintenance, construction.

(*) CAUTION: Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on use of these products could result in serious personal injury or death.

## 2. SELECT LADDER TYPE & CAPACITY

| Type | Capacity† (Lbs.) | Use |
|---|---|---|
| 1A | 300 | Extra Heavy-Duty Industrial/Contractor |
| I | 250 | Heavy-Duty Industrial/Contractor |
| II‡ | 225 | Medium-Duty Commercial |
| III‡ | 200 | Light-Duty Household |

(†) Total load capacity including combined weight of user, tools, and any materials on ladder.
(‡) Not available. Predominantly for homeowner use. Not recommended for industrial/contractor use.

## 3. SELECT LADDER SIZE REQUIRED

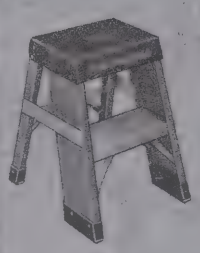
| Stepladders | | | Extension Ladders | | | | |
|---|---|---|---|---|---|---|---|
| Rated Ladder Height (Ft.) | Highest* Standing Level (Ft.) | (In.) | Ladder Height (Ft.) | Section Length (Ft.) | Maximum Extended Ladder Length (Ft.) | Highest* Standing Level (Ft.) | (In.) |
| 4 | 1 | 11 | 16 | 8 | 13 | 9 | 6 |
| 6 | 3 | 9 | 20 | 10 | 17 | 13 | 5 |
| 8 | 5 | 8 | 24 | 12 | 21 | 17 | 3 |
| 10 | 7 | 7 | 28 | 14 | 25 | 21 | 2 |
| 12 | 9 | 6 | 32 | 16 | 29 | 25 | 0 |
| | | | 40 | 20 | 35 | 30 | 10 |

(*) Recommended maximum height user should ascend.

**WARNING: Heed all warning labels placed on ladders.**

# HEAVY-DUTY FIBERGLASS MULTI-PURPOSE STEP STANDS

- **Large structural molded top has diamond tread for a slip-resistant platform—conforms safely to step**
- **Large aluminum steps are twice the area of a standard step and feature heavy-duty side connections**
- **Each step is secured with six, large-headed semi-tubular steel rivets with 30% greater shear strength than solid aluminum rivets**
- **Extra wide rubber boots with thick tread provide sure footing, excellent for use on gratings**
- **Heavy-duty steel gusset bracing supports bottom frame**
- **Fixed braces are made of heavy-duty aluminum**
- **Louisville Ladder brand**



Louisville

**Constructed with nonconductive materials for use when risk of contact with electricity exists**

**No. 3LW39**
**300 Lb. Load Rating**

## FIBERGLASS STEP STAND ORDERING DATA

| Rated Ladder Height | Highest Standing Level (Ft.) | (In.) | Top Size W x D (In.) | Step Size (In.) | Bottom Width (In.) | Approx. Spread (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1 | 7 | 14 x 9¼ | 6 | 15⅝ | 15¾ | FY8001 | **3LW38** | $214.00 | **$145.65** | 9.0 |
| **2** | 1 | 11 | 14 x 9¼ | 6 | 21 | 21 | FY8002 | **3LW39** | 255.00 | **176.75** | 12.0 |
| **3** | 2 | 10 | 14 x 9¼ | 6 | 27 | 27 | FY8003 | **3LW40** | 309.00 | **214.00** | 17.0 |
| **4** | 3 | 10 | 14 x 9¼ | 6 | 33 | 33 | FY8004 | **3LW41** | 366.00 | **254.50** | 22.0 |

# ALUMINUM STEP STANDS



Louisville

**Molded top provides slip-resistant work platform**

Sturdy aluminum* step stands constructed for industrial use. Also suitable for the work shop, office, or store. Aluminum construction will support a working load of 300 lbs. Lightweight stands can be carried for use anywhere. Molded top provides a slip-resistant work surface. Each leg is double braced and forms a rigid nonfolding unit. Legs come with heavy corrugated rubber feet which resist slipping and marring floor surface. Louisville Ladder brand.

| Rated Ladder Height | Highest Standing Level (Ft.) | (In.) | Step Size (In.) | Bottom Width (In.) | Approx. Spread (In.) | Louisville Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1 | 0 | 6 | 15⅝ | 14¼ | AY8001 | **6W704** | $132.70 | **$75.55** | **$71.72** | 5.0 |
| **2** | 1 | 11 | 6 | 18 | 20¼ | AY8002 | **5W216** | 171.19 | **119.00** | **113.05** | 9.3 |
| **3** | 2 | 10 | 6 | 20 | 26¼ | AY8003 | **6W705** | 209.69 | **149.30** | **141.80** | 12.0 |

(*) CAUTION: Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on the use of these products could result in serious personal injury or death.

## DON'T FORGET THE BACK OF THE BOOK!
## MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# TYPE 1A FIBERGLASS STEPLADDERS

Louisville
LOUISVILLE LADDER CORP.

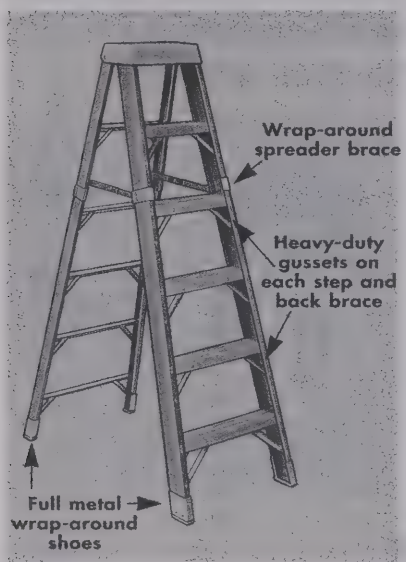
TYPE 1A 300 LBS DUTY RATING

See Ladder Selection Guide on Page 2175.

## EACH LADDER IS TYPE 1A, RATED EXTRA HEAVY DUTY FOR 300 LB. CAPACITY AND OFFERS THESE QUALITY FEATURES:

- Non-conductive fiberglass for work around electricity
- 3" Wide serrated Great Grip™ aluminum steps
- Louisville's 6-rivet Step Design™ adds durability
- Molded rubber feet make ladders resist skidding
- Durable molded polyethelene top with tool tray
- Louisville Ladder's design for durability

## MONARCH FIBER-GLASS STEP LADDER



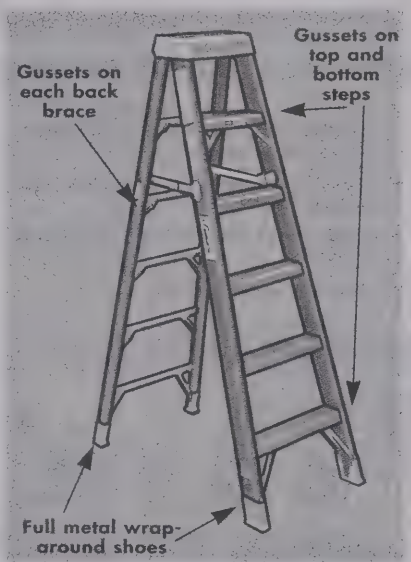

### For the toughest industrial/contractor applications

**Gussets for each step and back brace**—provide more stability

**Exclusive full metal wrap-around shoe**—protects the base from wear

**Exclusive full metal wrap-around spreader brace**—combats stress where the spreader meets the channel.

## CLASSIC FIBERGLASS STEP LADDER




### Built for the frequent user in industrial/contractor applications

**Heavy-duty gussets on top and bottom step and each back brace**—provide stability where it is needed most.

**Exclusive full metal wrap-around shoe**—protects base from wear.

## ADVENT FIBERGLASS STEP LADDER




### Entry Level

**Suited for extra heavy duty use in industrial/contractor applications**

**U-shaped back brace every 12"**—provides stability. Spreader brace mounted inside of channel for protection.

**All ladders meet the strict guidelines of:**

MEETS OSHA REQUIREMENTS

CSA

Meets or exceeds requirements of American National Standards Institute ANSI A14.5

Replacement Parts Available
1-800-323-0620

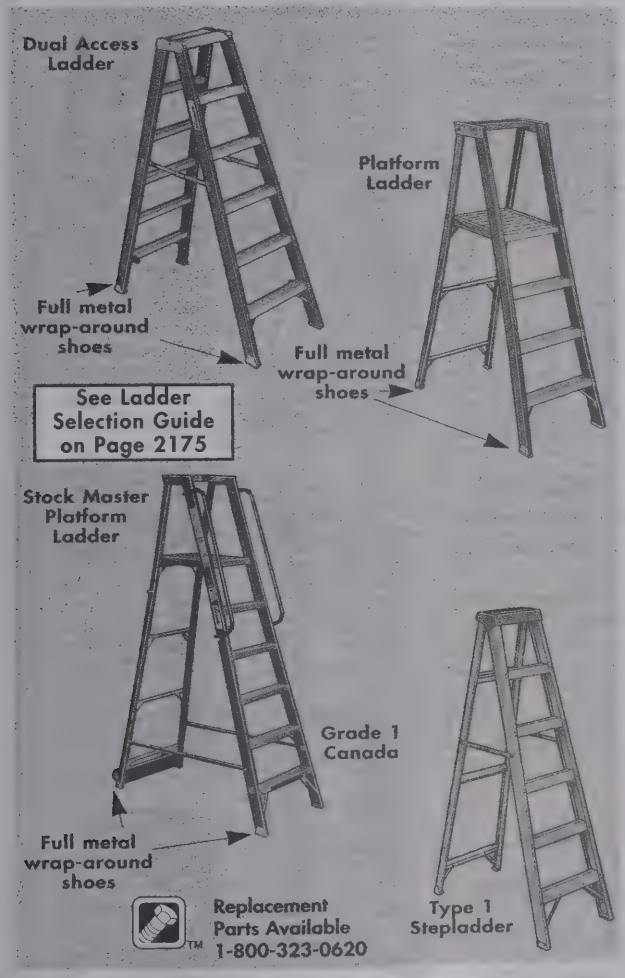
| Model | Rated Ladder Height (Ft.) | Highest Standing Level | | Bottom Width (In.) | Base Spread (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Monarch | 4 | 1' | 11" | 20½ | 29 | FS1104 | **6W671** | $188.41 | **$121.05** | 19.0 |
| | 6 | 3 | 9 | 24 | 41 | FS1106 | **6W672** | 249.19 | **160.75** | 27.0 |
| | 8 | 5 | 8 | 27½ | 54 | FS1108 | **6W673** | 333.27 | **215.50** | 37.0 |
| | 10 | 7 | 7 | 31 | 66 | FS1110 | **6W674** | 421.40 | **271.75** | 47.0 |
| | 12 | 9 | 6 | 34½ | 78 | FS1112 | **6W675** | 516.63 | **333.75** | 59.0 |
| Classic | 4 | 1 | 11 | 19⅞ | 29 | FS1004 | **3W421** | 152.96 | **102.25** | 15.0 |
| | 6 | 3 | 9 | 22⅞ | 41 | FS1006 | **3W141** | 191.45 | **130.20** | 22.0 |
| | 8 | 5 | 8 | 25⅞ | 54 | FS1008 | **3W142** | 264.39 | **176.75** | 29.0 |
| | 10 | 7 | 7 | 28⅞ | 66 | FS1010 | **3W183** | 350.49 | **247.50** | 40.0 |
| | 12 | 9 | 6 | 31⅞ | 78 | FS1012 | **3W422** | 429.51 | **303.25** | 51.0 |
| Advent | 4 | 1 | 11 | 18⅞ | 28 | FS1504 | **6W676** | 121.56 | **80.55** | 15.0 |
| | 6 | 3 | 9 | 21⅞ | 40 | FS1506 | **6W677** | 158.02 | **105.20** | 19.0 |
| | 8 | 5 | 8 | 24⅞ | 52 | FS1508 | **6W678** | 213.74 | **139.60** | 25.0 |
| Pail Shelf | For use with all ladders | | | | | S51 | **6X726** | 18.28 | **17.72** | 1.7 |



*More ways to move and store products safely and securely.*

# FIBERGLASS DUAL ACCESS, PLATFORM, AND STEPLADDERS

**Fiberglass ladders will not absorb moisture;** are resistant to corrosion, dry rot, and warpage; and are nonconductive, having a dielectric strength of 25,000 volts per inch. Fiberglass side rails are made to prevent splintering and provide years of service. 3" wide aluminum steps provide a comfortable work area. Structural molded top with recessed tool tray. Skid-resistant rubber feet. Meet OSHA and ANSI A14.5 Requirements. Louisville Ladder brand.




See Ladder Selection Guide on Page 2175

Replacement Parts Available 1-800-323-0620™

## TYPE 1A 300 LB. CAPACITY EXTRA HEAVY-DUTY STEPLADDERS

Rated for 300 lbs. total working load including combined weight of user, tools, and any material on ladder. Bright orange color.

### DUAL ACCESS LADDERS

- **Designed for entry from either side**
- **Approved for two man use; one per side**
- **Exclusive metal wrap-around shoe**
- **Heavy gauge plated steel hinge**
- **Inside spreader braces secure ladder in open position**
- **Aluminum reinforcing back plates prolong life at key pivot points**
- **Aluminum angle feet have thick replaceable rubber tread on all four legs to provide sure footing**

### PLATFORM LADDERS

- **Designed for prolonged work at one height**
- **Solid fiberglass channel side rails at front and back**
- **15⅞W x 20¼"D slip-resistant aluminum platform**
- **Platform and steps are reinforced with aluminum**
- **Folding platform locks ladder open**
- **Rails extend 21¾" above platform**
- **Exclusive metal wrap-around shoe**

### STOCK MASTER PLATFORM LADDERS

Enhance the qualities of the standard platform ladders with warehouse ladder capabilities. Lightweight mobile platform makes it ideal for restocking shelves. Include all the features of platform ladders above as well as some additional features:

- **Handrails with durable bonded nonconductive coating**
- **4" wheels mounted to back assembly and step cushion handle on bottom step allow comfortable tilt and transport**
- **Bottom brace bar for extra rigidity (pivots for storage)**

## TYPE 1 250 LB. CAPACITY HEAVY-DUTY STEPLADDERS

Rated for 250 lbs. total working load including combined weight of user, tools, and any materials on ladder. Bright yellow color.

- **Designed for lightweight and general industrial use**
- **Heavy molded top has mold-in slots to store tools while working**
- **Full channel back rails and double riveted steps**
- **Heavy-duty plated steel spreader braces are pinch resistant to protect fingers**
- **Thick rubber tread on all four large aluminum angle feet provides improved footing**
- **Reinforcement plates at critical stress areas improve durability**

| Type & Model | Rated Ladder Height (Ft.) | Highest Standing Level | | Platform Height (Ft.) | Bottom Width (In.) | Base Spread (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1A Dual Access** | 4 | 1' | 11" | — | 19⅞ | 36 | FM1004 | **4W175** | $205.63 | **$137.25** | 18.0 |
| | 6 | 3 | 9 | — | 22⅞ | 52 | FM1006 | **4W176** | 276.54 | **186.50** | 24.0 |
| | 8 | 5 | 8 | — | 25⅞ | 67 | FM1008 | **4W177** | 369.74 | **249.50** | 39.0 |
| **1A Platform** | 6 | 3 | 9 | 4 | 24¼ | 44 | FP1004 | **6W679** | 273.51 | **186.00** | 23.0 |
| | 8 | 5 | 8 | 6 | 27¼ | 56 | FP1006 | **3W186** | 357.58 | **241.25** | 34.0 |
| | 10 | 7 | 7 | 8 | 30¼ | 68 | FP1008 | **6W680** | 453.82 | **306.50** | 46.0 |
| **1A Stock Master** | 8 | 5 | 8 | 6 | 27¼ | 55 | FP1006-800121 | **3LW24** | 533.00 | **379.00** | 52.0 |
| | 10 | 7 | 7 | 8 | 30¼ | 66 | FP1008-800121 | **3LW25** | 630.00 | **452.00** | 67.0 |
| | 12 | 9 | 6 | 10 | 33¼ | 80 | FP1010-800121 | **3LW26** | 710.00 | **538.00** | 83.0 |
| **1 Stepladder** | 4 | 1 | 11 | — | 18⅞ | 28 | FS2004 | **4W077** | 110.41 | **71.20** | 11.0 |
| | 6 | 3 | 9 | — | 21⅞ | 40 | FS2006 | **4W078** | 139.79 | **84.75** | 16.0 |
| | 8 | 5 | 8 | — | 24⅞ | 52 | FS2008 | **4W079** | 193.48 | **119.00** | 22.0 |

## PAIL SHELF

For use with standard stepladders above. Folding structural molded shelf with retaining edge provides 8 x 10" platform for hand tools or up to one gallon size paint pail. Not for use as a step. Louisville Ladder brand (S51).

**No. 6X726.** Pail Shelf.
Shpg. wt. 1.7 lbs. List $18.28.
Each.....$17.72

# ALUMINUM STEP, AIRCRAFT INSPECTION, AND AIRCRAFT MECHANIC LADDERS

## TYPES 1A AND 1 ALUMINUM STEPLADDERS

### TYPE 1A 300 LB. CAPACITY EXTRA HEAVY-DUTY PLATFORM LADDERS

Rated for 300 lbs. total working load including combined weight of user, tools, an any material on ladder.

- Designed for prolonged standing at one height
- Aluminum side rails with fully serrated aluminum steps and platform
- Platform is 15⅞W x 20¼"D
- Nearly vertical back legs allow ladder to get close to work surfaces
- Two pair of steel gussets under bottom step for extra support
- Heavy-duty steel gussets on each angle back brace
- Aluminum feet, rubber tread

### TYPE 1 250 LB. CAPACITY HEAVY-DUTY STEPLADDERS

Rated for 250 lbs. total working load including combined weight of user, tools, and any material on ladder.

- Lightweight, easy to maneuver
- Full channel front and back rails
- 3" deep corrugated aluminum steps riveted to railing in 6 places for stability and strength; bottom step has additional 4 gusset brackets
- Pinch-resistant plated steel spreader braces between front and back rails
- Impact-resistant structural molded top
- Aluminum shoes, rubber treads
- Pail shelf No. 6X726 available; see page 2176,2177

| Type | Ladder Height (Ft.) | Highest Standing Level | Platform Height (Ft.) | Bottom Width (In.) | Base Spread (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 Stepladder | 4 | 1' 11" | — | 19½ | 29 | AS2004 | 4W074 | $107.37 | $80.10 | 11.0 |
| | 6 | 3' 9" | — | 22½ | 41 | AS2006 | 3W423 | 149.92 | 111.70 | 15.0 |
| | 8 | 5' 8" | — | 25½ | 54 | AS2008 | 3W424 | 202.60 | 151.00 | 21.0 |
| | 10 | 7' 7" | — | 28½ | 66 | AS2010 | 4W172 | 312.00 | 233.00 | 26.0 |
| 1A Platform | 6 | 3' 9" | 4 | 24¼ | 44 | AP1004 | 6W686 | 224.88 | 158.25 | 21.0 |
| | 8 | 5' 7" | 6 | 27¼ | 56 | AP1006 | 6W687 | 288.71 | 203.00 | 28.0 |
| | 10 | 7' 7" | 8 | 30¼ | 68 | AP1008 | 6W688 | 390.00 | 274.50 | 38.0 |

Meets or exceeds requirements of American National Standards Institute ANSI A14.2

MEETS OSHA REQUIREMENTS



No. 4W074



No. 6W686

See Ladder Selection Guide on Page 2175

Replacement Parts Available 1-800-323-0620

## AIRCRAFT DE-ICING INSPECTION LADDER

**Type 1A 300 Lb. Capacity, Extra Heavy-Duty Aluminum Ladder for Industrial Use**

- Protects the aircraft from scratches and damage
- Top caps protect aircraft and user from sharp edges. Specially designed rubber wing pads cover all corners and edges, will not mar surfaces; all fasteners are recessed, no protrusions or sharp edges.
- Four gussets per step provide maximum strength and stability
- Tool holder securely stores inspection wand
- Dual carry handles are positioned for balanced carrying.
- Fixed rubber utility shoe makes setup easy and resists slipping

Designed in cooperation with airline industry professionals for ease of use and maximum protection of the aircraft. Convenience features such as the carry handles and tool holder allow for fast setup and proper inspection techniques. Louisville Ladder brand.

| Rated Ladder Height (Ft.) | Highest Standing Level | Step Size (In.) | Bottom Width (In.) | Fits Wing Heights | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 5' 9" | 3 | 25¾ | 6'4" - 7'9" | AH8008 | 3LW22 | $538.00 | $442.25 | 36.0 |

Louisville LOUISVILLE LADDER CORP.

MEETS OSHA REQUIREMENTS



No. 3LW22 Aircraft De-Icing Inspection Ladder

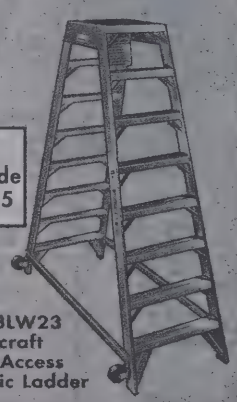
See Ladder Selection Guide on Page 2175

## ALUMINUM AIRCRAFT MECHANIC LADDER

**Type 1A 300 Lb. Capacity for Each Side**
**Extra Heavy-Duty Aluminum Ladder for Industrial Use**

- Dual access ladder is specially designed for aircraft maintenance
- Durable, nonfolding design is extremely rigid, with no hinges or joints to loosen
- Tilt and roll ladder with fixed direction casters that roll easily without wobbling
- Extra large 20 x 21" top platform allows for a stable working area
- Solid rubber, skid-resistant foot pads are a full 3/4" thick for long life in abrasive and oily conditions
- Louisville Ladder brand

| Rated Height (Ft.) | Highest Standing Level | Step Size (In.) | Bottom Width (In.) | Approx. Spread (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 5'9" | 3⅝ | 38 | 81½ | AM8008 | 3LW23 | $904.00 | $680.00 | 85.0 |



No. 3LW23 Aircraft Dual Access Mechanic Ladder

**CAUTION: Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on use of these products could result in serious personal injury or death.**

# TYPES 1A AND 1 WOOD LADDERS

**Type 1A 300 lbs. capacity and Type 1 250 lbs. capacity wood ladders** are constructed of nonconductive select wood to attain high quality, engineering, and design. Built for heavy maintenance and construction jobs. All hardware is extra heavy-duty zinc-plated to resist rust. These ladders meet OSHA Standards and ANSI wood ladder code. Blue Ribbon brand.

### TYPES 1A & 1 STEPLADDERS

- Non-skid rubber treads for added safety
- Heavy-duty, wrap-around zinc-plated top and hardware reduce rust and corrosion
- Blind-bored side rails for moisture resistance
- Rods with rung blocks for added strength and support
- Non-pinch, heavy-duty side locks
- Large 1" thick safety grooved steps

### TYPE 1 PLATFORM LADDERS

- Spring loaded casters (optional)
- Large 14⅝ x 20" platform area
- Steel guard rails

See Ladder Selection Guide on Page 2175

MEETS OSHA REQUIREMENTS

**Meet OSHA Standard and ANSI Code A14.1 for Wood Ladders**



No. 5W473 Stepladder

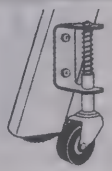


No. 3W332 Stepladder



No. 3W100 Platform Ladder

## CASTER SET FOR PLATFORM LADDERS



Set of four 2" heavy-duty spring loaded casters. Ladder climber's weight compresses the caster springs and keeps ladder stationary while in use. Order one set per ladder. Blue Ribbon brand (29012).

**No. 4X740.** Shpg. wt. 4.5 lbs. List $32.50. Each.....**$25.70**

## STEPLADDERS

2, 4, 6, 8, and 10 foot sizes. Steps have 16-gauge steel braces and ZINC-plated hardware to inhibit rust. 1" thick grooved steps. Sturdy hickory rungs braced with 16-gauge steel for extra strength. Nonskid rubber treads on each leg provide an extra measure of security. Ladders fold easily for carrying and storage.

## PLATFORM LADDERS

14⅝ X 20" work platform has protective side and front guard rails. Overall height of 3'9" ladder is 6'7", 5'7" ladder is 8'7", and 7'9" ladder is 10'7½". Double steel rodded beam bracing on back legs. Steel guard rails. Ladders can be converted easily to mobile use by attaching caster set No. 4X740, sold separately.

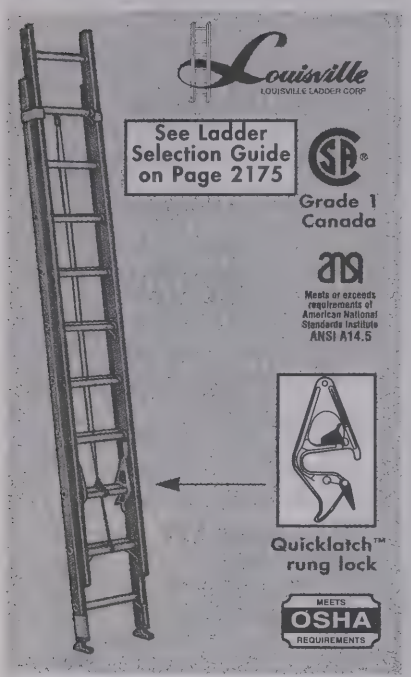
## LADDER SPECIFICATIONS AND ORDERING DATA

| Ladder Type & Model | Rated Ladder Height (Ft.) | Highest Standing Level | Blue Ribbon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1A Stepladder** | 4 | 1' 11" | 19004 | **6W757** | $80.00 | **$61.00** | 19.0 |
| **1A Stepladder** | 6 | 3 9 | 19006 | **6W758** | 118.00 | **89.55** | 32.0 |
| **1A Stepladder** | 8 | 5 8 | 19008 | **6W759** | 167.00 | **124.70** | 43.0 |
| **1A Stepladder** | 10 | 7 7 | 19010 | **6W760** | 208.00 | **155.50** | 58.0 |
| **1 Stepladder** | 2 | 1 | 11170 | **5W473** | 28.00 | **23.18** | 10.0 |
| **1 Stepladder** | 4 | 1 11 | 10104 | **4W073** | 61.00 | **44.10** | 18.0 |
| **1 Stepladder** | 6 | 3 9 | 10106 | **3W332** | 96.00 | **66.95** | 27.0 |
| **1 Stepladder** | 8 | 5 8 | 10108 | **3W333** | 130.00 | **88.40** | 35.0 |
| **1 Stepladder** | 10 | 7 7 | 10110 | **5W710** | 166.00 | **121.70** | 47.0 |
| **1 Platform** | 6 | 3 9 | 11227 | **5W711** | 145.00 | **104.80** | 40.0 |
| **1 Platform** | 8 | 5 7 | 11228 | **3W100** | 193.00 | **142.95** | 49.0 |
| **1 Platform** | 10 | 7 9 | 11229 | **3W101** | 235.00 | **169.50** | 59.0 |

(*) Height to platform only.

# TYPE 1A FIBERGLASS & ALUMINUM EXTENSION LADDERS

## TYPES 1A FIBERGLASS EXTENSION LADDER




- Fully serrated D-shape rungs provide both slip resistance and comfort
- Patented Quicklatch™ rung lock secures both sections of the ladder, unlocks with one finger

### FE2200 SERIES

Louisville's best extra heavy-duty channel extension ladder for all your industrial needs.

- Heat treated rung washers minimize stress and increase longevity of the rung/rail connection
- Extra heavy-duty cast aluminum swivel shoe allows use in tread down or spike position while offering corrosion resistance.
- Mar-resistant rail end caps protect your work surface from marring while providing longer life to rails
- Rope and pulley system feature on 20' or longer ladders include a 5/16" polypropylene rope and pulley for easier expanding

### FE3200 SERIES

Heavy-duty extension ladder made with the general industrial user and contractor in mind.

- Heavy-duty plated steel swivel safety shoes can be used in tread down or spiked position

**Refer to the 3 Steps to Proper Ladder Selection on page 2175 for assistance.**

| Type | Rated Ladder Height (Ft.) | Section Length (Ft.) | Maximum Extended Length (Ft.) | Highest Standing Level (Ft.) | (In.) | Bottom Width (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FE2200 Series | 16 | 8 | 13 | 9 | 6 | 17 1/16 | FE2216 | **3W620** | $354.55 | **$204.00▲** | 35.0 |
| | 20 | 10 | 17 | 13 | 5 | 17 1/16 | FE2220 | **3W184** | 422.42 | **239.00▲** | 44.0 |
| | 24 | 12 | 21 | 17 | 3 | 17 1/16 | FE2224 | **3W139** | 519.00 | **299.00▲** | 52.0 |
| | 28 | 14 | 25 | 21 | 2 | 17 1/16 | FE2228 | **3W140** | 570.31 | **339.00▲** | 59.0 |
| | 32 | 16 | 29 | 25 | 0 | 17 11/16 | FE2232 | **3W185** | 677.69 | **399.00▲** | 70.0 |
| | 40 | 20 | 35 | 30 | 10 | 19 1/16 | FE2240 | **3W621** | 1021.10 | **589.00▲** | 108.0 |
| FE3200 Series | 16 | 8 | 13 | 9 | 6 | 17 1/16 | FE3216 | **6W681** | 291.74 | **179.00▲** | 35.0 |
| | 20 | 10 | 17 | 13 | 5 | 17 1/16 | FE3220 | **6W682** | 340.36 | **199.00▲** | 43.0 |
| | 24 | 12 | 21 | 17 | 3 | 17 1/16 | FE3224 | **6W683** | 424.44 | **234.00▲** | 50.0 |
| | 28 | 14 | 25 | 21 | 2 | 17 1/16 | FE3228 | **6W684** | 483.20 | **259.00▲** | 57.0 |
| | 32 | 16 | 29 | 25 | 0 | 17 11/16 | FE3232 | **6W685** | 568.29 | **329.00▲** | 68.0 |

(▲) Net prices, not subject to discounts.

## TYPE 1A 300 LB. CAPACITY ALUMINUM* LADDERS

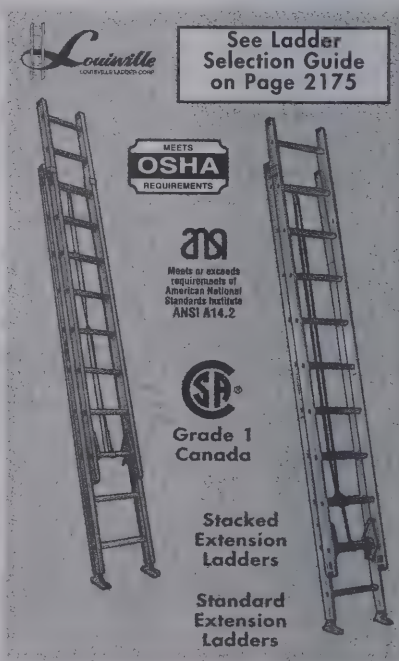
Extra heavy-duty ladders are rated Type 1A for 300 lbs. total working load including combined weight of user and tools.

### STANDARD EXTENSION LADDER

- 3" wide I-beam side rails are joined by 1⅝" serrated aluminum "D" rungs hydraulically double crimped in place for strength and solid footing
- Two outside slide guides at top and two traveling interlocking guides at bottom enable smooth operation
- 5/16" 3-strand polypropylene rope & 1¼" pulley easily raise extension
- Spring assisted rung locks of die-cast aluminum are gravity operated
- Top and bottom caps protect side rail ends
- Cast-aluminum swivel safety shoes with thick rubber tread can be used with tread down or in spike position

### STACKED EXTENSION LADDER

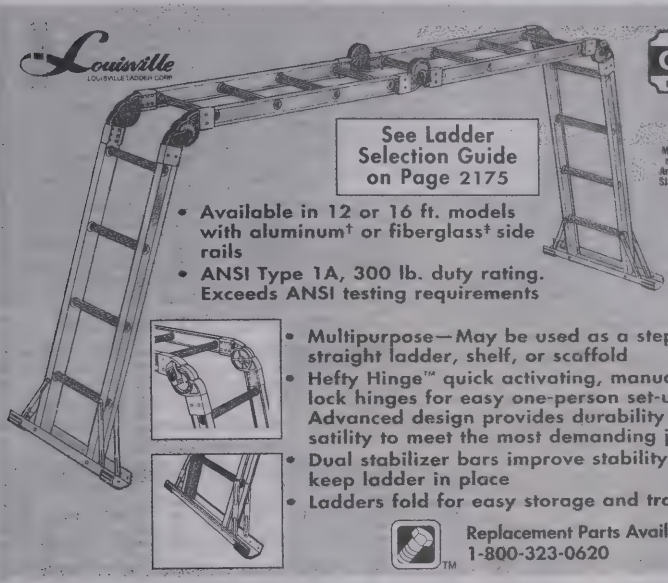
- Double duty ladder can be used as extension ladder or as two single straight ladders when separated
- Extending (fly) section has solid rubber end cap shoes enabling it to be used separately as a straight ladder
- Stacked aluminum I-beam rail have extra heavy-duty outside slide guides secured to top of base section with four rivets per guide
- Quicklatch™ runglock provides easier method of securing fly and base sections with one-finger operation
- D-shaped tempered aluminum rungs are hydraulically double crimped to side rails and serrated on top for a slip-resistant surface
- Cast-aluminum swivel safety shoes with thick rubber tread can be used with tread down or in spike position




| Type | Rated Ladder Height (Ft.) | Section Length (Ft.) | Maximum Extended Length (Ft.) | Highest Standing Level (Ft.) | (In.) | Bottom Width (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1A Extension | 20 | 10 | 17 | 13 | 0 | 17 13/16 | AE2220 | **4W173** | $275.53 | **$205.75** | 34.0 |
| | 24 | 12 | 21 | 17 | 3 | 17 13/16 | AE2224 | **3W425** | 332.26 | **247.50** | 40.0 |
| | 28 | 14 | 25 | 21 | 2 | 18 | AE2228 | **3W426** | 401.14 | **299.00** | 48.0 |
| | 32 | 16 | 29 | 25 | 0 | 18 | AE2232 | **3W427** | 469.01 | **349.25** | 59.0 |
| 1A Stacked | 20 | 10 | 17 | 13 | 0 | 18 | AE2820 | **3LW20** | 301.00 | **219.00** | 37.0 |
| | 24 | 12 | 21 | 17 | 3 | 18 | AE2824 | **3LW21** | 360.00 | **260.75** | 43.0 |

(*) CAUTION: Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on use of these products could result in serious personal injury/death.

## BIG LOUIE™ 4-SECTION ALUMINUM† & FIBERGLASS MULTIPURPOSE LADDERS



See Ladder Selection Guide on Page 2175

MEETS OSHA REQUIREMENTS

Meets or exceeds requirements of American National Standards Institute

Grade 1 Canada

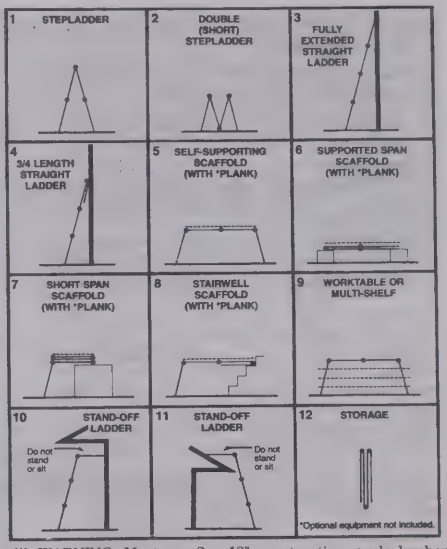
- Available in 12 or 16 ft. models with aluminum† or fiberglass‡ side rails
- ANSI Type 1A, 300 lb. duty rating. Exceeds ANSI testing requirements





- Multipurpose—May be used as a stepladder, straight ladder, shelf, or scaffold
- Hefty Hinge™ quick activating, manual snap lock hinges for easy one-person set-up. Advanced design provides durability and versatility to meet the most demanding jobs
- Dual stabilizer bars improve stability and help keep ladder in place
- Ladders fold for easy storage and transporting

Replacement Parts Available 1-800-323-0620™




(*) WARNING: Must use 2 x 12" construction grade lumber plank for these positions.

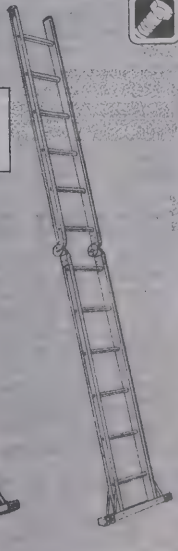
| Construction | Section Length (Ft.) | As Ext. Ladder Rated Height | As Ext. Ladder Highest Standing Level | As Stepladder Rated Height | As Stepladder Highest Standing Level | Folded Dim. (In.) L x W x D | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fiberglass | 3 | 12 | 9' 2" | 6 | 3' 9" | 42 x 18 x 12½ | FA1012 | **6W689** | $426.47 | **$286.25** | 48.0 |
| Fiberglass | 4 | 16 | 13' 2" | 8 | 5' 8" | 54 x 18 x 12½ | FA1016 | **3W623** | 476.11 | **315.75** | 51.0 |
| Aluminum | 3 | 12 | 9' 2" | 6 | 3' 9" | 42 x 18 x 12½ | AA1012 | **6W690** | 382.91 | **274.25** | 43.0 |
| Aluminum | 4 | 16 | 13' 2" | 8 | 5' 8" | 54 x 18 x 12½ | AA1016 | **3W622** | 415.33 | **298.25** | 50.0 |

(‡) Nonconductive fiberglass having a dielectric strength of 25,000 volts per inch. (†) CAUTION: Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on use of these products could result in serious personal injury or death.

## LITTLE LOUIE™ ALUMINUM† DUAL PURPOSE LADDERS

See Ladder Selection Guide on Page 2175





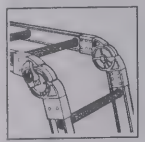
Replacement Parts Available 1-800-323-0620™

MEETS OSHA REQUIREMENTS

Meets or exceeds requirements of American National Standards Institute

Grade 1 Canada

**Two ladders in one: folds to a step or extends to a straight ladder with just a flip of the snap lock Hefty Hinge™**



- Hefty Hinge™ reliable heavy-duty snap lock hinges permit easy one-person set-up with just a flip of the handle. Features specially designed interlocking teeth for a secure connection and stability
- Easy to attach stabilizer bar with slip-resistant rubber feet gives extra width at base to help keep ladder in place during use
- Nonmarring utility shoes have slip-resistant rubber feet with rounded, ribbed profile for greater stability on various surfaces
- "D" rungs, made of serrated heavy-duty extruded flat sided aluminum, provide superior strength and slip-resistance and help minimize foot fatigue
- Extra heavy-duty aluminum construction Type 1A, 300 lb. duty rating. Exceeds ANSI and OSHA requirements

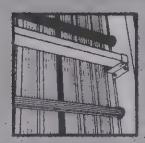
| Section Length (Ft.) | As Ext. Ladder Rated Height (Ft.) | As Ext. Ladder Highest Standing Level | As Stepladder Rated Height (Ft.) | As Stepladder Highest Standing Level | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6** | 12 | 9' 2" | 6 | 3' 9" | AA1112 | **6W691** | $284.65 | **$198.75** | 27.0 |
| **8** | 16 | 13' 2" | 8 | 5' 8" | AA1116 | **6W692** | 328.21 | **224.25** | 33.0 |

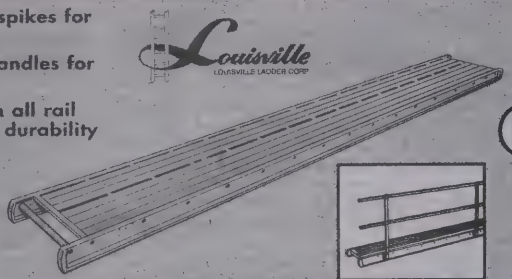
(†) CAUTION: Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on use of these products could result in serious personal injury or death.

# ALUMINUM STAGES

- "Sure-Foot" aluminum* decking has raised tread spikes for slip-resistance
- Rungs on each end provide wide, easy to grip handles for pulling or carrying stages
- Extra heavy-duty cast aluminum rail end caps on all rail ends for maximum rail protection, long life, and durability
- Reinforced aluminum decking with easily replaceable support braces

Replacement Parts Available 1-800-323-0620






MEETS OSHA REQUIREMENTS

Meets or exceeds requirements of American National Standards Institute



Rail & Toeboard Kits include sockets, posts, guard rail, midrail, and toeboard complete for one side

Two-man load, 500 lb. duty rating. Typically used as suspended stages or scaffold planks. 12" wide stages Nos. 6W706, 6W707, and 6W708 can be used in conjunction with ladder jacks sold separately; see listing below. Rail and toeboard kits are required by OSHA on all stages erected 10 ft. or higher above the ground. Stages are predrilled for easy installation. User should check and conform with local codes. Meet OSHA and ANSI requirements. Louisville Ladder brand.

(*) CAUTION: Metal stages conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on use of these products could result in serious personal injury or death.

## ALUMINUM STAGE ORDERING DATA

| Width (In.) | Length (Ft.) | Side Rail Depth (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **12** | 16 | 5 | P21216 | **6W706** | $396.08 | **$256.50** | 52.0 |
| **12** | 20 | 6 | P21220 | **6W707** | 585.51 | **379.75** | 81.0 |
| **12** | 24 | 6 | P21224 | **6W708** | 751.64 | **510.50** | 96.0 |
| **24** | 20 | 6 | P22420 | **6W709** | 992.74 | **638.50** | 103.0 |
| **24** | 24 | 6 | P22424 | **6W710** | 1188.24 | **763.50** | 122.0 |

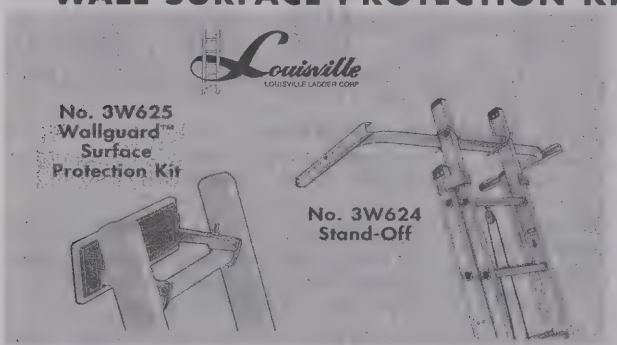
## RAIL AND TOEBOARD KITS

Aluminum guardrail, midrail, and toeboard kits are required on stages erected 10 ft. or higher. Check and conform with local codes. Meet OSHA and ANSI requirements. Louisville Ladder brand.

## RAIL AND TOEBOARD KITS

| Length (Ft.) | Use for Stages | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **16** | 6W706 | PT0116-001 | **6W711** | $429.51 | **$314.00** | 52.0 |
| **20** | 6W707, 6W709 | PT0120 | **6W712** | 526.76 | **383.25** | 52.0 |
| **24** | 6W708, 6W710 | PT0124 | **6W713** | 612.86 | **445.50** | 60.0 |

# WALL SURFACE PROTECTION KIT AND ADJUSTABLE STAND-OFF




**Wallguard™ Surface Protection Kit.** Large 80 sq. in. replaceable thermoplastic rubber pad increases work surface contact over 100 times more than standard ladder rail ends, reducing damaging pressure and providing greater stability. Fits all fiberglass and aluminum "D" rung straight and extension ladders. Attaches easily to rungs with hinged clamps provided. Made of durable, high impact polypropylene co-polymer. Wallguard™ must not be installed on wood ladders. Louisville Ladder brand.

**Adjustable Stand-Off.** Aluminum bracket adjusts ladder away from vertical surface 13 to 25". 48" span clears most windows, works equally well on any single or extension ladder. Attaches easily with two U-bolts provided. Extra heavy-duty rubber tips protect work surface from damage. Louisville Ladder brand.

| Description | Louisville Ladder Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Surface Protection Kit | 606500 | 3W625 | $35.46 | $30.15 | $28.62 | 3.0 |
| Adjustable Stand-Off | 096521A | 3W624 | 80.02 | 67.10 | 63.73 | 6.0 |

# LADDER LEVELERS AND JACKS




**Ladder Levelers.** Simple one-hand adjustment to level most ladders. 11" max. differential. Attach over rung ends with four bolts per side rail. Shoe swivels 45° in all directions. Heavy-duty plated steel construction. Louisville Ladder brand.

**Ladder Jacks.** Short body jack spans 2 rungs on either D-shaped or round rung ladders. Massive hooks of 3/16" thick aluminum are fully welded and riveted for superior load bearing strength. Six adjustable pitch positions: three inside, three outside. Wing nut and locking plate prevent jack from slipping out of pitch position slots. Intended for fabricated planks 12 to 20" wide, including aluminum stages Nos. 6W706, 6W707, and 6W708 listed above, or wood planks 18 to 20" wide. OSHA and ANSI specify ladder jacks should be used only with 300 lb. (Type 1A) or 250 lb. (Type 1) duty rated ladders. User should comply with local codes.

| Description | Dimensions (In.) W | H | L | Louisville Model | Stock No. | Priced and Sold in Pairs List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Ladder Levelers | 5¾ | 4¼ | 25 | 396028 | **4A774** | $58.75 | **$46.90** | **$44.54** | 7.0 |
| Ladder Jacks | 13¾ | 6½ | 40¼ | PA1015 | **4A775** | 166.43 | **103.20** | **98.02** | 15.0 |

# STEP-BY-STEP LADDER SAFETY TRAINING KIT




Provides employees an on-site orientation on the safe use, inspection, and handling of ladders. Offers employers an easy way to comply with OSHA requirements for ladder safety training.

Video package comes complete with an 18-minute instruction video, facilitator's training manual, employee handbook, one "damaged ladder" tag, ladder inspection log sheet, ladder evaluation form, and recommended inspection record instructions. Additional copies of employee handbook, facilitator's training manual, and damaged ladder tags are available separately. Program developed by Louisville Ladder Corp.

## LADDER SAFETY TRAINING KIT ORDERING DATA

| Description | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Safety Training Kit** | VDOKIT | **1D888** | $70.85 | **$68.60** | 2.2 |
| **Employee Handbook** | 993081 | **1D889** | 2.02 | **1.96** | 0.1 |
| **Facilitator's Manual** | 993080 | **1D890** | 3.03 | **2.94** | 0.1 |
| **Ladder Tags (Pkg. of 25)** | 621000 | **1D891** | 10.13 | **9.80** | 0.2 |

# LADDER RACKS AND ROOFTOP CARRIERS

## LOCKING LADDER RACK

- **Zinc-plated with a polyester-epoxy powder coated finish for maximum outdoor protection**

Ladders are loaded & unloaded from side of van. Convenient operating handle located on side for safe, efficient operation. May be padlocked to secure ladders from theft. Use padlocks with 9/16 to 1" shackle height and 1/2 to 2/3" shackle width; see page 2624. Fits most full-size vans. Available as single or double-sided rack. Includes all hardware, assembly instructions. Padlock required; order separately. Load capacity: 500 lbs.

## UTILITY CARRIER

- **Constructed of heavy-gauge steel, zinc-plated and finished with a durable polyester-epoxy powder coat**

Flat 14-gauge steel crossbows with tall outer stops provide versatility for carrying almost any load securely. Fits all full-size vans. Hardware, instructions included. Load capacity: 250 lbs. Secure ladder to rack with optional Tie-Down Kit No. 6C713. Kit includes one plastic-coated front stop and two plastic-coated chain tie-downs with snap hook. Order one kit for each ladder carried.

## PICKUP TRUCK LADDER RACK

- **Constructed of heavy-gauge welded steel, zinc-plated and finished with a baked-on polyester-epoxy powder coat for maximum outdoor protection**

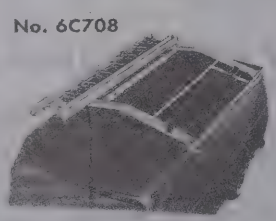
Adjustable to fit full-size pickup trucks. Designed for heavy loads, large carrying capacity—up to five feet wide. Hardware, complete instructions provided. Load capacity: 1000 lbs.

| Description | Masterack Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Full Single Ladder Rack** | 9041 | **6C707** | **$285.00** | 74.0 |
| **Full Double Ladder Rack** | 9042 | **6C708** | **479.00** | 108.0 |
| **Utility Carrier** | 8460 | **6C709** | **165.00** | 49.0 |
| **Pickup Truck Ladder Rack** | 9990 | **6C710** | **479.00** | 162.0 |
| **Tie-Down Kit for use with No. 6C709** | 8462 | **6C713** | **24.00** | 5.0 |

**masterack®**

Made in U.S.A.

No. 6C708



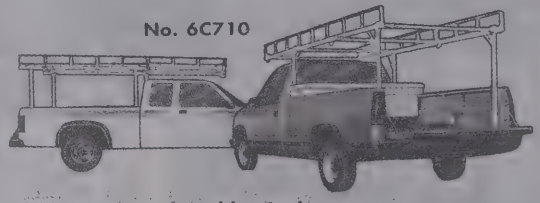
Locking Ladder Rack

No. 6C709



Utility Carrier

No. 6C710



Pickup Truck Ladder Rack

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations at the front of the Catalog. We have more than 350 locations, ready to serve you in all 50 states.**

# STEEL ROLLING WAREHOUSE LADDERS AND OUTRIGGERS

## STEEL ROLLING WAREHOUSE LADDERS



Louisville LOUISVILLE LADDER CORP.

4 to 10 Step Models have Hand and Guard Rails; 24"W Steps

- 7"D steps with 10"D top step
- Rugged steel construction
- Support 300 lb. working load
- Flared legs with rubber tipped feet for maximum stability
- Outriggers available separately; see listing below



2 and 3 Step Models have 16"W Steps; No Railing

Replacement Parts Available 1-800-323-0620

MEETS OSHA REQUIREMENTS

No. 2W458

No. 3W231

Meets or exceeds requirements of American National Standards Institute

Ladders with two, three, four, and five steps are equipped with spring-loaded casters which lift ladder when empty for easy mobility and retract to solid footing when ladder is weighted. All others have a device which locks in place upon your first step and remains locked until released by stepping on unlocking pedal.

Steel steps have a formed perforated pattern that reduces slipping and provides self-cleaning features. Durable blue powder coated finish. Ladders shipped unassembled. All models meet OSHA Requirements and requirements of ANSI Code A14.7. Louisville Ladder brand.

**NOTE:** Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on the use of these products could result in serious personal injury or death.

| Steps | Height to Top Step | Max. Width (In.) | Max. Length | Handrail Height (In.) | Max. Ht. w / Rails | Caster Dia. (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1' 7" | 18¼ | 1' 10½" | — | — | 2 | SW1602 | **5W217** | $117.50 | **$86.20** | 22.0 |
| 3 | 2' 4½" | 20½ | 2' 5" | — | — | 2 | SW1603 | **2W458** | 149.92 | **110.55** | 29.0 |
| 4 | 3' 2" | 28½ | 3' | 30 | 6' 3/4" | 3 | SW2404-W03 | **3W229** | 266.41 | **197.25** | 59.0 |
| 5 | 3' 11½" | 28½ | 3' 6½" | 30 | 6' 10¼" | 3 | SW2405 | **3W230** | 313.01 | **231.00** | 64.0 |
| 6 | 4' 9" | 31½ | 3' 11" | 30 | 8' 1¾" | 4 | SW2406 | **3W231** | 406.21 | **297.00** | 87.0 |
| 7 | 5' 6½" | 31½ | 4' 6" | 30 | 8' 11¼" | 4 | SW2407 | **4W174** | 433.56 | **319.75** | 113.0 |
| 8 | 6' 4" | 31½ | 5' 1⅛" | 30 | 9' 8¾" | 4 | SW2408 | **4W075** | 533.85 | **392.25** | 115.0 |
| 10 | 7' 11" | 31½ | 6' 2" | 30 | 11' 3¾" | 4 | SW2410 | **4W076** | 633.12 | **466.25** | 147.0 |

## HEAVY-DUTY SAFETY ANGLE STEEL WAREHOUSE LADDERS



Louisville LOUISVILLE LADDER CORP.

MEETS OSHA REQUIREMENTS



- Large 8½"D steps with 17" top step and 50° climbing angle permit easier ascent and descent
- Steel angle iron reinforced base and rear legs help reduce abusive damage; add stability
- 300 lb. load capacity
- Outriggers available separately; see listing below

Replacement Parts Available 1-800-323-0620

No. 6W693

Meets or exceeds requirements of American National Standards Institute

Extra heavy-duty steel angle warehouse ladders designed for the most demanding requirements. Angle iron reinforcements are five times stronger than tubular steel.

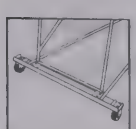
Large ball bearing casters offer easy maneuvering. All models come equipped with a large swivel caster in front and rigid casters in the rear. Stepping on bottom step activates trip bar, locking rubber tipped feet in down position. To move the ladder, just step on the unlocking pedal.

Coated with resilient baked-on electrostatic high visibility orange powder paint for attractive, durable finish. Shipped unassembled. Meet OSHA and ANSI Code A14.7. Louisville Ladder brand.

**NOTE:** Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on the use of these products could result in serious personal injury or death.

| Steps | Height to Top Step | Max. Width (In.) | Max. Length | Handrail Height (In.) | Max. Ht. w / Rails | Caster Dia. (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 4' 9" | 32⅜ | 5' 3⅝" | 30 | 8' 1¾" | 4 | SX2406 | **6W693** | $678.71 | **$456.25** | 160.0 |
| 7 | 5' 6½" | 32⅝ | 5' 11 13/16" | 30 | 8' 11¼" | 4 | SX2407 | **6W694** | 711.12 | **526.00** | 178.0 |
| 8 | 6' 4" | 32⅝ | 6' 8¼" | 30 | 9' 8¾" | 5 | SX2408 | **6W695** | 748.60 | **557.00** | 209.0 |
| 10 | 7' 11" | 32⅝ | 8' 1⅛" | 30 | 11' 3¾" | 5 | SX2410 | **6W696** | 836.73 | **625.50** | 252.0 |
| 11 | 8' 8½" | 32⅝ | 8' 9 11/16" | 30 | 12' 1¼" | 5 | SX2411 | **6W697** | 888.40 | **664.00** | 268.0 |
| 12 | 9' 6" | 32⅝ | 9' 5⅛" | 30 | 12' 10¾" | 5 | SX2412 | **6W698** | 946.14 | **707.50** | 290.0 |
| 13 | 10' 3½" | 38¾ | 10' 2⅝" | 30 | 13' 9¼" | 5 | SX2413 | **6W699** | 1227.75 | **910.50** | 273.0 |
| 14 | 11' 1" | 38¾ | 10' 11 1/16 | 30 | 14' 6¾" | 5 | SX2414 | **6W700** | 1521.52 | **1122.00** | 288.0 |
| 15 | 11' 10½" | 38¾ | 11' 7 9/16" | 30 | 15' 4¼" | 5 | SX2415 | **6W701** | 1630.93 | **1201.00** | 307.0 |

## OUTRIGGERS FOR STEEL WAREHOUSE LADDERS



Louisville LOUISVILLE LADDER CORP.

Steel angle iron bars attach easily to any of the steel warehouse ladders listed above.

Used to increase base width for added stability. Required on ten step or higher ladders when local codes require a 3:1 height to base ratio. Required in California. Meet OSHA and ANSI requirements. Louisville Ladder brand.

| Fits Warehouse Ladders | Dimensions (In.) W | L | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **6 to 12 Step** | 4 | 42 | 328000A | **6W702** | $48.62 | **$37.25** | 13.0 |
| **13 to 15 Step** | 4 | 49 | 328000B | **6W703** | 54.70 | **42.45** | 15.0 |

# NARROW STEEL WAREHOUSE LADDERS

**Steel rolling warehouse ladders** are ideal for narrow-spaced applications. 17" top step and large 8½" deep steps make climbing and working easier.

**1¼ x 1¼" Angle Iron Base**—Designed to reduce abusive damage. Angle iron is more than 5 times stronger than 16-gauge, 1" steel tube.

**Reinforced Front Leg Assembly**—Fortified by steel angle braces to reduce potential of bending. Oversized 2" dia. steel supported rubber feet.

**Rugged, Reinforced 1¼ x 1¼" Angle Iron Rear Legs**—For strength and rigidity.

**Meet ANSI Requirements For Forward Descent.**—Feature a gentle 50° climbing angle for easier climbing.

**Baked-On Powder Paint Finish**—For durability, scratch, and scuff-resistance. Blue color.

**300 lb. Load Rating.**




## WAREHOUSE LADDER ORDERING DATA

| No. of Steps | Height to Top Step | Max. (In.) Length | Max. (In.) Width | Handrail Ht. (In.) | Max. Ht. w/ Rails | Caster Dia. (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1' 7" | 31⅛ | 19¼ | — | — | 4 | SX1602 | **3LW43*** | $400.00 | **$309.00** | 48.0 |
| 3 | 2' 4½" | 39⁹⁄₁₆ | 21¼ | 30 | 5' 3" | 4 | SX1603 | **3LW44** | 520.00 | **376.00** | 71.0 |
| 4 | 3' 2" | 48 | 21¼ | 30 | 6' ½" | 4 | SX1604 | **3LW45** | 540.00 | **392.00** | 82.0 |
| 5 | 3' 11½" | 56⁷⁄₁₆ | 21¼ | 30 | 6' 10" | 4 | SX1605 | **3LW46** | 600.00 | **434.00** | 94.0 |
| 6 | 4' 9" | 64⅞ | 21¼ | 30 | 8' 1¾" | 4 | SX1606 | **3LW47** | 625.00 | **443.00** | 107.0 |
| 7 | 5' 6½" | 73⁹⁄₁₆ | 21¼ | 30 | 8' 11¼" | 4 | SX1607 | **3LW48** | 650.00 | **473.00** | 121.0 |

(*) Handrails not available.

# NONCONDUCTIVE MOBILE WORK PLATFORMS

- **Fiberglass stringers**
- **300 lb. duty rating**
- **50° step slope allows forward descent**

### ASSEMBLY

**Step**—8½ x 24" aluminum steps with traction holes and heavy-duty fiberglass stringer.

**Nonconductive Platform**—1-man: 24 x 17". 4" toeboard on all sizes.

**Back**—Heavy-duty fiberglass side rail, rigid channel diagonal bracing, and tapered sides.

**Bottom Step**—Dual swivel caster and thick rubber foot.

**Handrail & Guardrail**—Plastic coated steel tubing attaches directly to stringer.

**Brace Bars**—Constructed of steel tubing.

**Six Wheel Design**—Provides a tight turning radius; handle-operated linkage system.




## NONCONDUCTIVE MOBILE WORK PLATFORM ORDERING DATA

| No. of Steps | Height to Platform | Guardrail Height (In.) | Length (In.) | Bottom Width (In.) | Caster Dia. (In.) | Louisville Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 4' | 42 | 64 | 32⅝ | 5 | FW2405 | **3LW27** | $1982.72 | **$1661.00** | 270.0 |
| 6 | 4' 9½" | 42 | 72 | 32⅝ | 5 | FW2406 | **3LW28** | 2106.00 | **1763.00** | 189.0 |
| 7 | 5' 7" | 42 | 81 | 32⅝ | 5 | FW2407 | **3LW29** | 2338.00 | **1957.00** | 233.0 |
| 8 | 6' 4½" | 42 | 89 | 32⅝ | 5 | FW2408 | **3LW30** | 2570.00 | **2153.00** | 258.0 |
| 9 | 7' 2" | 42 | 98 | 32⅝ | 5 | FW2409 | **3LW31** | 2716.65 | **2276.00** | 280.0 |
| 10 | 7' 11½" | 42 | 107 | 32⅝ | 5 | FW2410 | **3LW32** | 2814.00 | **2369.00** | 404.0 |
| 11 | 8' 9" | 42 | 115 | 32⅝ | 5 | FW2411 | **3LW33** | 3022.22 | **2542.00** | 425.0 |
| 12 | 9' 6½" | 42 | 124 | 32⅝ | 5 | FW2412 | **3LW34** | 3130.00 | **2632.00** | 440.0 |
| 13 | 10' 4" | 42 | 132 | 39½ | 5 | FW2413 | **3LW35** | 3244.44 | **2728.00** | 512.0 |
| 14 | 11' 1½" | 42 | 141 | 39½ | 5 | FW2414 | **3LW36** | 3382.72 | **2844.00** | 530.0 |
| 15 | 11' 11" | 42 | 149 | 39½ | 5 | FW2415 | **3LW37** | 3799.00 | **2941.00** | 545.0 |

### ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# STEEL MAINTENANCE PLATFORMS

Fortruss™ platforms are constructed of high strength steel.* Easily assembled, adjusted, and disassembled by one man. Dust-pin, "pistol-grip" adjustment mechanism offers maximum shear strength and quick, easy platform height adjustment.

Unique caster and "L" locking knob increase platform stability when used. Caster Dual-Lock mechanism stops wheels from swiveling and rolling. Expanded end-frame tubes for easy insertion of casters and stacking of two end-frames.

Two-piece guardrail system has midrail and 4¾" steel toeboard welded in place. Plywood platform measures 65⅜L x 29W x 5/8" thick. Meet OSHA and ANSI A10.8 Requirements. Louisville Ladder brand.

**Standard 6 Ft. High Platform**—Adjusts from 2' 5¾" to 6' 3¼" in approximately 4" increments. Includes two 68" end-frames with steel rungs, two 6' platform truss assemblies, one 29W x 65⅜L x 5/8" thick exterior grade plywood platform with steel edge protection, one set of four 5" diameter casters with dual-lock mechanism, guardrail and toeboard system.

**12 Ft. High Platform**—Includes all components of 6 ft. platform with two additional 68" end-frames, two 6' long platform trusses, one additional plywood platform, four outriggers for added stability, and four additional casters. Maximum platform height with casters is 11'8".

**15 Ft. High Platform**—Includes all components of 12 ft. platform plus two 42" end-frames, two 6 ft. trusses, and one additional plywood platform. Maximum platform height with casters is 14'10". **Never stack higher than 15 ft.**



No. 7Z376

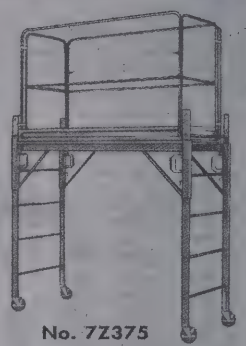
Louisville LOUISVILLE LADDER CORP.

**Superior quality, strength, stability, ease of use**

MEETS OSHA REQUIREMENTS

ANSI

Meets or exceeds requirements of American National Standards Institute



No. 7Z375

**Replacement Parts Available 1-800-323-0620**

| Platform Height with Casters (Ft.) | Overall Dimensions H | W | L | Load Capacity (Lbs. / Sq. Ft.) | Louisville Ladder Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 9' 9¼" | 2' 7½" | 6' 2½" | 50 | SS0606 | **7Z375** | $886.76 | **$633.50** | 214.0 |
| 12 | 15' 3½" | 5' 6" | 6' 2½" | 25 | SS1206 | **7Z376** | 1718.15 | **1228.00** | 418.0 |
| 15 | 18' 9½" | 5' 6" | 6' 2½" | 25 | SS1506 | **7W338** | 2160.12 | **1543.00** | 544.0 |

(*) CAUTION: Metal ladders conduct electricity. Do not use where contact may be made with live electrical circuits. Failure to read and follow instructions on the use of these products could result in serious personal injury or death.

# MINI-FORTRUSS® MOBILE WORK STAND

**Compact, easily portable, mobile work stand allows a variety of working heights for in-plant and on-site use.**

**Features:**

**Center-Locking Hinge** — A spring-loaded, locking pin automatically locks center hinge tubes in place for stable setup.

**Two-Way Casters** — Four positive-locking, ball bearing casters provide a stable base. Nonmarring casters have a quick release feature and are lock-threaded into steel inserts in the scaffold's legs to reduce unit wobble.

**Exclusive Steel Wrap Weld Connection** — Increases strength and durability.

**Premium Powder Paint** — Baked-on finish is durable and provides excellent scratch and scuff resistance. Attractive, even coverage with no drips or runs.

**Compact Storage** — Folds easily to 6¼" wide for storage and transport.

**Specifications:**

**Adjustable Working Height** — Height can be adjusted to 12, 24, 36, and 48".

**Ample Work Capacity** — Provides a stable 17 x 43" work surface, along with 500 lbs. distributed load work capacity.

**End Frame Stops** — Nonpinching stops limit rotation of end frame to 90°.



Louisville LOUISVILLE LADDER CORP.

MEETS OSHA REQUIREMENTS

**Replacement Parts Available 1-800-323-0620**

| Adjustable Height | Plank Dimensions (In.) Width | Length | Overall Dimensions (In.) Height w/ Casters | Width | Length w/ Casters | Folded Unit Width (In.) | Load Rating (Lbs.) | Louisville Ladder Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12, 24, 36, 48** | 2 planks, 8½" ea. | 46 5/16 | 50¾ | 22½ | 47½ | 6¼ | 500 | SM1404 | **3LW42** | $309.00 | **$229.00** | 60.0 |

# TILT TRUCKS



Rubbermaid®

Seamless polyethylene construction will not rust, pit, or corrode

1½ & 2 Cu. Yd. Tilt Trucks



1/2 & 1 Cu. Yd. Tilt Trucks

Replacement Parts Available 1-800-323-0620™

- Utility, standard, or heavy-duty frame
- Vulcanized rubber wheels
- Recycling tilt truck also available

Lightweight and dynamically balanced for easy maneuverability and dumping. Use for any type of refuse collection, industrial, and food product handling. USDA and FDA acceptable materials. Seamless body is easy to clean with high pressure water or use steam to prevent bacterial growth. Heavy-duty models come with side rails for added strength. Single operator can roll truck from collector station to compactor, bailer, or dock containers and easily dump waste. Gray color. Rubbermaid brand.

1/2 and 1 cubic yard models feature inset wheel and axle design to help prevent damage to interior surfaces and equipment. Accommodate domed lid to conceal mounded contents without reducing capacity. No. 5M653 is blue with "We Recycle" imprinted on the side.

2 and 2½ cubic yard models feature double metal handles positioned to give additional control when dumping.

## TILT TRUCK LIDS

| Fits Truck Size (Cu. Yd.) | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2 | Gray | 1307 | **1D654** | $102.64 | **$80.20** | 26.0 |
| 1 | Gray | 1317 | **1D651** | 139.56 | **109.05** | 31.0 |
| 1½ | Gray | 1027 | **5Z196** | 317.96 | **246.25** | 38.0 |

| Truck Size (Cu. Yd.) | Construction | Maximum Load (Lbs.) | No. of Casters | Wheel Size (In.) | Overall Dimensions (In.) L | W | H | Optional Lid | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | Utility | 300 | 2 | 10 | 56¾ | 28 | 38⅝ | 1D654 | 1304 | **1D657** | $419.00 | **$292.25** | 59.0 |
| 1/2 | Standard | 750 | 2 | 10 | 62½ | 28 | 38⅝ | 1D654 | 1305 | **1D656** | 604.54 | **421.75** | 59.0 |
| 1/2* | Standard | 750 | 2 | 10 | 62½ | 28 | 38⅝ | 1D654 | 1305-06 | **5M653** | 604.54 | **443.75** | 77.0 |
| 1/2 | Heavy-Duty | 1200 | 2 | 10 | 62½ | 28 | 38⅝ | 1D654 | 1306 | **1D655** | 704.22 | **491.25** | 83.0 |
| 1 | Utility | 750 | 2 | 12 | 73¼ | 33 7/16 | 43 55/64 | 1D651 | 1314 | **5M654** | 568.60 | **394.25** | 95.0 |
| 1 | Standard | 1000 | 2 | 12 | 73¼ | 33 7/16 | 43 55/64 | 1D651 | 1315 | **1D653** | 778.04 | **543.00** | 91.0 |
| 1 | Heavy-Duty | 2000 | 2 | 12 | 73¼ | 33 7/16 | 43 55/64 | 1D651 | 1316 | **1D652** | 897.86 | **626.50** | 99.0 |
| 1½ | Standard | 1000 | 2 | 12 | 84 | 42½ | 50 | 5Z196 | 1025 | **5Z192** | 1519.76 | **1031.00** | 224.0 |
| 1½ | Heavy-Duty | 2000 | 2 | 12 | 84 | 42½ | 50 | 5Z196 | 1026 | **5M641** | 1664.98 | **1153.00** | 235.0 |
| 2 | Standard | 1800 | 2 | 12 | 84 | 46 | 50½ | — | 1035 | **5Z193** | 1792.66 | **1283.00** | 228.0 |
| 2 | Heavy-Duty | 2300 | 2 | 12 | 84 | 46 | 50 | — | 1036 | **5M643** | 1940.40 | **1458.00** | 239.0 |
| 2½ | Standard | 1800 | 2 | 12 | 81½ | 55½ | 50 | — | 1045 | **5M644** | 1985.44 | **1491.00** | 231.0 |
| 2½ | Heavy-Duty | 2300 | 2 | 12 | 81½ | 55½ | 50 | — | 1046 | **5M645** | 2115.66 | **1590.00** | 232.0 |

(*) Blue color with "We Recycle" imprint.

# STRUCTURAL FOAM TILT TRUCKS



Rubbermaid®

No. 5M639

- Inset wheel design allows easy movement through standard commercial doorways and elevators.
- 1 Cu. Yd. Tilt Truck is available with Towable Option



No. 5M642 domed, hinged lid is compatible with both models. Lid design allows for full heaping capacity with lid in place.

- "Constant force" dumping design and upper/lower handles provide greater dumping control with less effort
- Smooth, structural foam construction cleans off easily and eliminates need for metal framing that can rust

**Rugged but lightweight contoured structural foam body** meets the aesthetic needs of interior applications like office buildings, healthcare, and retail. Designed for general refuse collection and light to medium material handling. Requires only a small push to go from resting position into "constant force" dumping motion which permits smoother, more controlled dumping.

**Spacious 3/4 cubic yard size** fits through standard doorways and elevators. Ergonomic "steering handle", two 4" rear swivel casters, and two 12" front wheels provide easy maneuverability. Secondary handle between rear casters helps control truck in final dumping position USDA approved for use in food processing. Gray color. Rubbermaid brand.

## TILT TRUCK DOMED LID

| Fits Truck Size (Cu. Yd.) | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/4 | Gray | 1028 | **5M642** | $161.96 | **$130.85** | 25.0 |

| Truck Size (Cu. Yd.) | Construction | Maximum Load (Lbs.) | Overall Dimensions (In.) L | W | H | Optional Lid | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | Utility | 400 | 64 | 30 | 38 | 5M642 | 1011 | **5M639** | $629.86 | **$472.75** | 99.0 |
| 3/4 | Standard | 800 | 64½ | 30 | 38 | 5M642 | 1013 | **5M640** | 742.36 | **566.50** | 99.0 |

# SELF-DUMPING HOPPERS

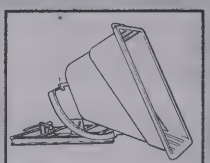
## SELF-DUMPING HOPPERS



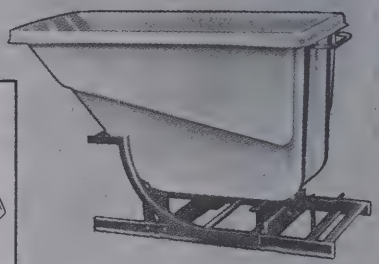
No. 5Z211
1/2 Cu. Yd. Hopper
with Casters

- Forklift capabilities for elevated dumping and mobility
- Pull release safety latch for easy operation
- Well suited for indoor and outdoor use
- Optional lid available for 1½ cu. yd. models

Replacement Parts Available 1-800-323-0620



Tilt a full 30° below horizontal



No. 5M646
1/2 Cu. Yd. Hopper
without Casters

Self-dumping hoppers tilt a full 30° below horizontal. Easy-to-clean seamless body resists rusting, denting, and pitting. Rotationally molded polyetheylene with steel frame. Available with 6" polyolefin casters or without. Optional lid is also available for Nos. 5M649 and 5M648. Gray color. Rubbermaid brand.

### HOPPER LID

| Fits Truck Size (Cu. Yd.) | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1½ | Gray | 1027 | **5Z196** | $317.96 | **$246.25** | 38.0 |

| Hopper Size (Cu. Yd.) | Maximum Load (Lbs.) | Overall Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **HOPPERS WITH 6" POLYOLEFIN CASTERS** | | | | | | | | | |
| 1/2 | 750 | 56 3/8 | 27 | 40 3/4 | 1054-43 | **5Z211** | $1349.26 | **$1025.00** | 207.0 |
| 1 | 1000 | 70 3/4 | 31 1/8 | 45 1/4 | 1059-43 | **5Z212** | 1548.84 | **1178.00** | 252.0 |
| 1½ | 1000 | 84 | 42 7/8 | 56 1/4 | 1064-43 | **5M649** | 2203.26 | **1668.00** | 361.0 |
| 2 | 1000 | 84 | 46 | 49 3/4 | 1069-43 | **5Z213** | 2357.36 | **1790.00** | 366.0 |
| 2½ | 1000 | 84 | 55 | 56 5/8 | 1074-43 | **5M652** | 2516.52 | **1902.00** | 368.0 |
| **HOPPERS WITHOUT CASTERS** | | | | | | | | | |
| 1/2 | 500 | 56 1/8 | 27 | 40 | 1054 | **5M646** | 1116.80 | **819.00** | 174.0 |
| 1 | 1000 | 70 3/4 | 31 1/8 | 45 | 1059 | **5M647** | 1298.72 | **955.50** | 224.0 |
| 1½ | 1000 | 84 | 42 7/8 | 49 1/8 | 1064 | **5M648** | 1874.78 | **1380.00** | 307.0 |
| 2 | 1000 | 84 | 46 | 49 1/2 | 1069 | **5M650** | 2001.10 | **1472.00** | 304.0 |
| 2½ | 1000 | 84 | 55 | 49 1/2 | 1074 | **5M651** | 2157.78 | **1588.00** | 305.0 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

### DON'T DELAY... ORDER FROM GRAINGER NOW!

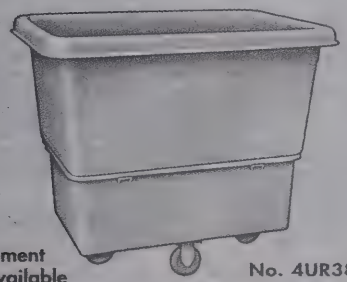
Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

# UTILITY TRUCKS AND BIG WHEEL CART

Rubbermaid®

Convenient domed, hinged lids available for all sizes.

New



Replacement Parts Available 1-800-323-0620™

No. 4UR38

## HEAVY-DUTY UTILITY TRUCKS

Ideal for use in industrial and heavy-duty commercial applications such as waste management, work in process, food processing, and laundry.

Constructed of tough polyethylene plastic for exceptional durability and crack resistance. Single step sidewall design with steel support ring increases wall strength to prevent bowing and allows for nesting with other trucks for compact storage. Heavy-duty all metal frame with two rigid casters and two swivel casters mounted in a diamond pattern, provide easy maneuverability for positioning and steering. One-piece seamless construction is easy to clean with spray washer or steam. USDA and FDA acceptable material. Molded in gray color. Optional domed, hinged lids conceal loads and allow extra bulk capacity. Order separately. Rubbermaid brand.

### DOMED, HINGED LIDS

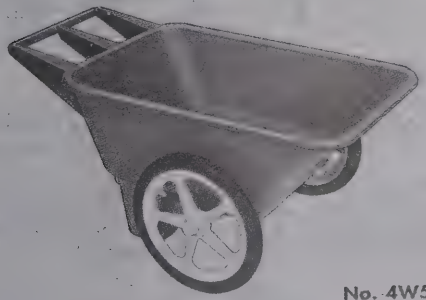
| Fits Truck Size (Cu. Ft.) | Color | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | Gray | 38⅜ | 25¾ | 8½ | 4609 | **5M728** | $114.40 | **$91.50** | 8.0 |
| 12 | Gray | 43⅛ | 27½ | 8½ | 4613 | **5Z208** | 124.80 | **105.50** | 8.0 |
| 16 | Gray | 44⅛ | 31 | 8½ | 4615 | **5Z209** | 135.20 | **114.05** | 12.0 |
| 20 | Gray | 48½ | 34 | 8½ | 4617 | **5Z210** | 145.60 | **123.80** | 12.0 |

### *New!* UTILITY TRUCK SPECIFICATIONS AND ORDERING DATA

| Truck Size (Cu. Ft.) | Construction | Maximum Load (Lbs.) | Overall Dimensions (In.) L | W | H | Caster Size (In.) | Optional Lid | Rubbermaid Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | Heavy-Duty | 700 | 38¼ | 25⅝ | 28¾ | 4 | 5M728 | 4708 | **4UR37** | $375.56 | **$296.25** | 40.0 |
| 12 | Heavy-Duty | 800 | 43 | 27 | 34⅛ | 4 | 5Z208 | 4712 | **4UR38** | 448.18 | **353.50** | 47.0 |
| 16 | Heavy-Duty | 900 | 44⅛ | 30½ | 38¼ | 5 | 5Z209 | 4716 | **4UR39** | 528.28 | **405.50** | 66.0 |
| 20 | Heavy-Duty | 1200 | 48⅛ | 33⅞ | 43 | 5 | 5Z210 | 4720 | **4UR40** | 605.90 | **480.75** | 77.0 |

Rubbermaid®

Replacement Parts Available 1-800-323-0620™



No. 4W504

## BIG WHEEL CART

- **Smooth, seamless body for easy use and cleaning**
- **Reinforcement ribs add impact resistance**
- **Large 20" diameter pneumatic wheels for mobility**
- **Optional 5" rear caster provides greater flexibility**

Versatile, two-wheel cart has strong, durable one-piece construction that prevents leaks and cleans easily. For commercial, industrial, food service, and many light hauling applications, including general clean-up and maintenance, transportation, trash collection, material storage, and food processing. USDA acceptable materials.

Made of structural foam that will not rust, dent, bend, or peel. Material is easy to clean, resistant to mild chemicals, and durable in temperature extremes. Cart is lighter than wood or metal carts. 7½ cu.-ft. with 300 lbs. capacity. Overall dimensions: 58L x 32¾W x 28¼"H.

Molded-in one-piece handle provides a comfortable hand grip. Large 20 x 2.125" pneumatic wheels for easy mobility over rough surfaces. Optional 5" rear caster available; order No. 4X835 separately (hardware not included) for greater maneuverability. Brown color with tan wheels. Rubbermaid brand (5642).

**No. 4W504.** Big Wheel® Cart. Shpg. wt. 49.0 lbs. List $259.58.
Each ..... $210.25

**No. 4X835.** 5" Caster. Shpg. wt. 2.2 lbs. List $21.82.
Each $18.58; Lots 4 ..... $16.51

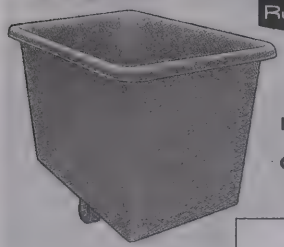
DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG
TO REVIEW THOUSANDS OF PRODUCTS!

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# CUBE TRUCKS AND BASKET TRUCKS

## CUBE TRUCKS

- **5 sizes available with load capacities from 300 to 600 lbs.**
- **Tough all-plastic body resists rusting, denting, and splintering**
- **Diamond pattern caster placement for greater maneuverability**




No. 5Z204 Standard Cube Truck



Domed Hinged Lid Available for All Models

Typically used in mail rooms, laundry rooms, and food service applications. Smooth interior sidewalls can be pressure washed for easy cleaning. Molded in ergonomic handles improve ability to control truck. USDA approved for use in meat, poultry, and food processing. Gray color.

**Recycling cube truck** is an ideal transport container for moving recycled product easily from work area to dock recycling collection stations and bailers. "We Recycle" is printed directly on side of truck. Blue color.

**Spring Platform Truck Kit** allows you to convert 14 and 20 cu. ft. Rubbermaid Cube trucks. Kit contains all necessary hardware, platform, and springs to complete the conversion. Fitted spring assisted platform brings truck's contents to a convenient working level, allowing for safer and less fatiguing handling of material. Designed for handling laundry and other lighter materials.

**Optional domed hinged lid** provides easy access for either hand while keeping contents from public view. Rubbermaid brand.

Replacement Parts Available TM 1-800-323-0620

New



Spring Platform Truck conversion kits Nos. 4UR35 and 4UR36 are available.

| Truck Size (Cu. Ft.) | Max. Load (Lbs.) | Overall Dimensions (In.) L | W | H | Caster Size (In.) | Optional Lid | Rubbermaid Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CUBE TRUCKS** | | | | | | | | | | | | |
| 8 | 300 | 38 1/3 | 25 1/3 | 28 1/3 | 4 | 5M728 | 4608 | | **5M726** | $227.76 | **$182.00** | 33.0 |
| 12 | 400 | 43 | 27 | 33 19/64 | 4 | 5Z208 | 4612 | | **5Z204** | 298.48 | **234.00** | 44.0 |
| 14 | 500 | 44 7/64 | 30 1/2 | 33 | 5 | 5Z209 | 4614 | | **5Z205** | 330.72 | **261.25** | 60.0 |
| 16 | 500 | 44 7/64 | 30 1/2 | 37 19/64 | 5 | 5Z209 | 4616 | | **5Z206** | 362.96 | **286.75** | 66.0 |
| 20 | 600 | 48 7/64 | 33 13/16 | 37 | 5 | 5Z210 | 4619 | | **5Z207** | 426.40 | **335.75** | 73.0 |
| **BLUE RECYCLING CUBE TRUCK** | | | | | | | | | | | | |
| 16 | 500 | 44 7/64 | 30 1/2 | 37 19/64 | 5 | 5Z209 | 4616-06 | | **5M733** | 362.96 | **290.75** | 49.0 |
| ***New!* SPRING PLATFORM KITS** | | | | | | | | | | | | |
| 14 | 120 | 48 7/64 | 30 1/2 | 33 | 5 | 5Z209 | 4611L1 | ***New*** | **4UR35** | 180.00 | **144.00** | 10.0 |
| 20 | 180 | 48 7/64 | 33 13/16 | 37 | 5 | 5Z210 | 4618L1 | ***New*** | **4UR36** | 188.82 | **151.25** | 11.0 |

### CUBE TRUCK LID ORDERING DATA

| Fits Truck Size (Cu. Ft.) | Color | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | Gray | 38 3/8 | 25 3/4 | 8 1/2 | 4609 | **5M728** | $114.40 | **$91.50** | 8.0 |
| 12 | Gray | 43 3/8 | 27 1/2 | 8 1/2 | 4613 | **5Z208** | 124.80 | **105.50** | 8.0 |
| 14 and 16 | Gray | 44 1/8 | 31 | 8 1/2 | 4615 | **5Z209** | 135.20 | **114.05** | 12.0 |
| 20 | Gray | 48 1/2 | 34 | 8 1/2 | 4617 | **5Z210** | 145.60 | **123.80** | 12.0 |

## BASKET TRUCKS

ROYAL

**90-DAY LIMITED WARRANTY**

Text of warranty is available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

For warehouse, mailroom, laundry, packing line, housekeeping, shipping and receiving docks, and recycling areas. Permanent liners are sewn and riveted to high strength welded steel rod frames. 3" swivel casters with durable polyolefin wheels are corner mounted. 500 lbs. capacity.

Heavyweight white canvas or red or blue reinforced vinyl. Easy-to-clean vinyl is chemical, fire, tear, mildew and fade resistant. Trucks nest for storage. Heavy-duty black vinyl top rim is dirt and grease-resistant. Vinyl reinforced handles. Webbing reinforced wear points. Large work order pocket is standard. Royal Basket Trucks brand.



Replacement liners & other parts are available. Call 1-800-323-0620.

| Truck Size (Bushel) | Liner Fabric | Basket Dimensions (In.) L | W | H* | Royal Basket Trucks Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6 | Red Vinyl | 30 | 20 | 20 1/2 | 206RD-A | **4W327** | $121.40 | **$119.90** | 25.0 |
| 6 | White Canvas | 30 | 20 | 20 1/2 | 106-A | **4W282** | 128.35 | **126.70** | 26.0 |
| 10 | White Canvas | 36 | 24 | 25 | 110-A | **4W328** | 155.10 | **153.75** | 34.0 |
| 12 | Red Vinyl | 36 | 26 | 27 1/2 | 212RD-A | **4W285** | 160.20 | **158.75** | 36.0 |
| 12 | Blue Vinyl | 36 | 26 | 27 1/2 | 212BL-A | **4W329** | 160.20 | **158.75** | 36.0 |
| 12 | White Canvas | 36 | 26 | 27 1/2 | 112-A | **4W283** | 169.50 | **168.25** | 38.0 |
| 16 | White Canvas | 40 | 28 | 30 | 116-A | **4W330** | 209.95 | **209.25** | 50.0 |
| 20 | Red Vinyl | 48 | 32 | 30 | 220RD-A | **4W286** | 227.06 | **225.00** | 60.0 |
| 20 | Blue Vinyl | 48 | 32 | 30 | 220BL-A | **4W331** | 227.06 | **225.00** | 60.0 |
| 20 | White Canvas | 48 | 32 | 30 | 120-A | **4W284** | 236.95 | **234.75** | 64.0 |

(*) Add 6" for overall height of truck including base and casters.

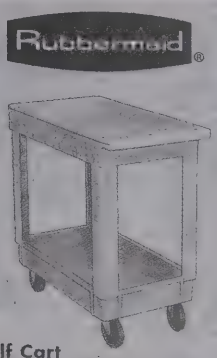
# COMMERCIAL SERVICE CARTS

## HEAVY-DUTY SERVICE CARTS



Flat Shelf Cart
No. 5M715

Replacement Parts Available
1-800-323-0620




Lipped Shelf Cart
No. 5Z088

**Heavy-duty structural foam construction** offers a 400 lb. capacity in a lightweight cart. Practically maintenance-free, these carts have no sharp edges to damage walls or furniture. Resists rust and corrosion unlike metal carts. Rugged enough to handle tough manufacturing, warehouse, and maintenance jobs. Features 5" non-marring casters (two swivel and two rigid) for easy maneuverability. Rubbermaid brand.

**Flat Shelf Service Carts**—Top shelf provides smooth work surface with a convenient, built-in storage bin. Ergonomically designed handle allows a more comfortable, natural grip. Front mounting bracket can accommodate a wastebasket or a power strip. Moat detail around top edge keeps small parts from falling off. Flat bottom shelf makes moving packages on and off safe and easy.

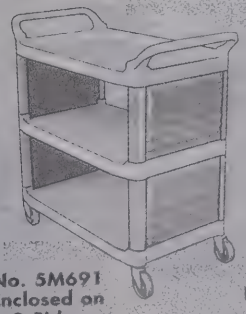
**Lipped Shelf Service Carts**—Feature a 4" lip on top and bottom shelves to help contain parts and keep packages from sliding off. All shelves are seamless and leakproof to contain any spills.

| Description | Color | Load Capacity (Lbs.) | Caster Size (In.) | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **FLAT SHELF CARTS** | | | | | | | | | | | |
| **19 x 30" Heavy-Duty Service Cart** | Beige | 400 | 5 | 38 | 19 | 33 | 4505 | **5M715** | $160.88 | **$119.00** | 35.0 |
| **19 x 30" Middle Shelf** | Beige | — | — | 38 | 19 | — | 4594 | **5M720** | 50.26 | **40.15** | 11.0 |
| **19 x 30" Heavy-Duty Service Cart** | Gray | 400 | 5 | 38 | 19 | 33 | 4505 | **5M716** | 160.88 | **119.00** | 35.0 |
| **19 x 30" Middle Shelf** | Gray | — | — | 38 | 19 | — | 4594 | **5M721** | 50.26 | **40.15** | 11.0 |
| **26 x 36" Heavy-Duty Service Cart** | Beige | 400 | 5 | 44 | 26 | 33 | 4525 | **5M718** | 182.40 | **131.00** | 45.0 |
| **26 x 36" Middle Shelf** | Beige | — | — | 44 | 26 | — | 4595 | **5M722** | 59.34 | **47.40** | 15.0 |
| **26 x 36" Heavy-Duty Service Cart** | Gray | 400 | 5 | 44 | 26 | 33 | 4525 | **5M719** | 182.40 | **131.00** | 45.0 |
| **26 x 36" Middle Shelf** | Gray | — | — | 44 | 26 | — | 4595 | **5M723** | 59.34 | **47.40** | 15.0 |
| **LIPPED SHELF CARTS** | | | | | | | | | | | |
| **16 x 30" Heavy-Duty Service Cart** | Beige | 400 | 5 | 30 | 16 | 32½ | 4500 | **5Z088** | 160.88 | **112.00** | 36.0 |
| **16 x 30" Middle Shelf** | Beige | — | — | 30 | 16 | — | 4597 | **4A439** | 50.26 | **40.15** | 11.0 |
| **16 x 30" Heavy-Duty Service Cart** | Gray | 400 | 5 | 30 | 16 | 32½ | 4500 | **5M714** | 160.88 | **112.00** | 35.0 |
| **16 x 30" Middle Shelf** | Gray | — | — | 30 | 16 | — | 4592 | **5M724** | 50.26 | **40.15** | 11.0 |
| **24 x 36" Heavy-Duty Service Cart** | Beige | 400 | 5 | 36 | 24 | 32½ | 4520 | **5Z089** | 182.40 | **125.00** | 47.0 |
| **24 x 36" Middle Shelf** | Beige | — | — | 36 | 24 | — | 4598 | **4A440** | 59.34 | **47.40** | 16.0 |
| **24 x 36" Heavy-Duty Service Cart** | Gray | 400 | 5 | 36 | 24 | 32½ | 4520 | **5M717** | 182.40 | **125.00** | 45.0 |
| **24 x 36" Middle Shelf** | Gray | — | — | 36 | 24 | — | 4598 | **5M725** | 59.34 | **47.40** | 15.0 |

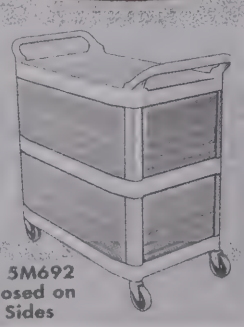
Replacement Parts Available
1-800-323-0620




Nos. 5M690 & 4MC25
Open Cart



No. 5M691
Enclosed on
2 Sides




No. 5M692
Enclosed on
3 Sides

## X-TRA UTILITY CARTS

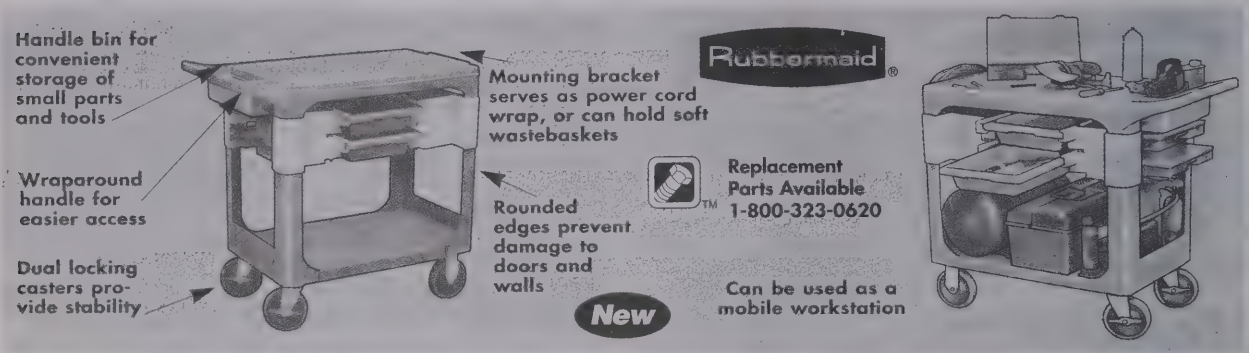
**Tough structural web construction** provides durability and resistance to dents, chips, and rust. Quiet, non-marking casters make an important difference in areas where silence is essential. Textured surface on all three shelves resists scratches and keeps items from sliding around or off the shelf. Large 20 x 40" shelves provide ample work area. Total load capacity—300 lbs.

**Ideal for** food service, conference rooms, laboratories, and healthcare. Available in three styles: open, enclosed ends, and enclosed on three sides. Rubbermaid brand.

| Description | Dimensions (In.) L | W | H | Color | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Open Cart** | 40⅜ | 20 | 37¾ | Gray | 4091 | **New 4MC25** | $199.00 | **$159.25** | 44.0 |
| **Open Cart** | 40⅜ | 20 | 37⅝ | Off white | 4091 | **5M690** | 199.00 | **159.25** | 44.0 |
| **Open Cart** | 40⅜ | 20 | 37⅝ | Black | 4091 | **New 4UR32** | 199.00 | **159.50** | 44.0 |
| **Open Cart** | 40⅜ | 20 | 37⅝ | Off white | 4092 | **5M691** | 281.00 | **225.00** | 38.0 |
| **Enclosed—2 Sides** | 40⅜ | 20 | 37⅝ | Off white | 4093 | **5M692** | 320.00 | **256.00** | 39.0 |
| **Enclosed—3 Sides** | 40⅜ | 20 | 37⅝ | | | | | | |

# SERVICE CARTS

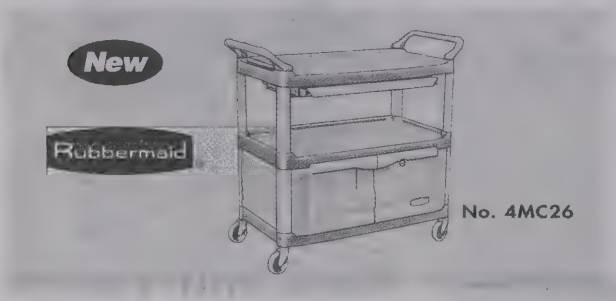
## HEAVY-DUTY TRADES CART




**Trades Cart features** heavy-duty structural foam construction offering 400 lb. capacity in a lightweight, quiet cart. No sharp edges, resist rust and corrosion often found with metal carts. No. 4UR43 has locking bottom cabinet that will help secure tools and equipment. Rugged performance handles tough manufacturing, warehouse, and maintenance applications. Easy to assemble.

**19 x 38" flat shelf cart** has four parts storage drawers, two openings to each cart end, and two 18 x 12 x 3½" drawers that can be opened to either side of the cart. 6" locking casters provide a higher, stable work surface. Designed for the varied needs of facility and maintenance managers.

| Description | Dimensions (In.) L | W | H | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Trades Cart w/o Cabinet** | 38 | 19 | 34 | 6180-00 | **5M738** | $264.06 | **$211.25** | 44.0 |
| **Tradescart 2000 with Cabinet** | 38 | 19 | 34 | 6180-88 | ***New* 4UR43** | 360.00 | **300.00** | 68.0 |




No. 4MC26

## INSTRUMENT CART

- **Lockable bottom door secures contents from theft**
- **Quiet, non-marking casters for use in noise-sensitive areas**
- **Smooth, easy-to-clean shelves**

Organize small items within the sliding top drawer. Tough structural web construction provides durability and resistance to chips, dents, scratches, and rust. Attractive styling with ergonomically designed handles for easy maneuverability. Ideal for laboratories, healthcare, lodging, conference rooms, food service and retail facilities. 300 lbs. total weightload capacity—100 lbs. per shelf. Dark gray shelves and cabinet. Made in USA. Rubbermaid brand.

***New* No. 4MC26.** Shpg. wt. 52.0 lbs. List $320.00. Each.....**$256.00**

## WORK CENTER UTILITY CART

Work Center features heavy-duty surface that holds up to 250 lbs. and has five molded-in storage trays/drawers (of varying depths) for organizing and storing small parts and tools. Drawers are pad lockable for security (lock not included). Perf board sides and tool slots are ideal for hanging tools, electrical tape, and more. Plus, the built in cord wrap keeps plug-in items handy when needed but out of way when not in use. Molded-in handle allows for easy mobility and two lockable 4" casters permit work center stability and safety. Made of durable metal/plastic combination; black with red drawers. Dimensions: 32⅜W x 33½L x 19⅛"H. Rubbermaid brand (7734).

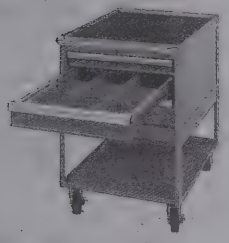
***New* No. 4UR44.** Shpg. wt. 83.0 lbs. List $282.62. Each.....**$189.00▲**

(▲) Net prices, not subject to discounts.




No. 4UR44

# MOBILE MODULAR DRAWER CABINETS



No. 3W544
3-Drawer, One Shelf
Mobile Cabinet



No. 3W545
5-Drawer
Mobile Cabinet



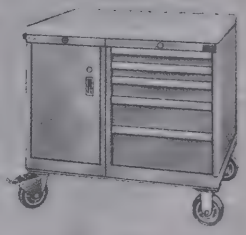
No. 3W546
6-Drawer
Mobile Cabinet

LISTA
MAKING WORKSPACE WORK




See Freight Policy

New



No. 4VM51
5-Drawer, One Door
Mobile Cabinet

When you need storage plus mobility, Lista mobile cabinets provide safe and secure storage and transportation for parts and tools. Use as tool cart or mobile repair station. High quality, smooth extension drawers extend 95% and have 150 lb. load capacity per drawer. Each mobile cabinet includes two swivel casters with wheel locks and two rigid casters. Casters come fully assembled and premounted. Handles come unassembled. Classic blue color.

**No. 4VM51 Mobile Workcenter** provides a large worksurface with a 1¾" solid maple butcher block top. Includes five dividable drawers and a hinged door cabinet with one shelf.

**Individual drawer latches** — Keep drawers shut when moving. Automatically latch shut when drawers close.

**Patented PrevenTip® lock system** — One-drawer-at-a-time system prevents cabinet from tipping over.

**Prepartitioned drawers** — Save time setting up and organizing drawers. User can adjust aluminum dividers and partitions as needed.

**Heavy-duty casters** — Nonmarking polyurethane rubber casters move smoothly even over rough surfaces.

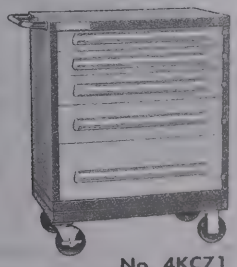
**Locking system** — Prevents theft and improves security. Includes two keys.

## MOBILE MODULAR DRAWER CABINET SPECIFICATIONS AND ORDERING DATA

| Description | Drawers | Drawer Specifications: Inside Dimensions (In.) H | W | D | No. of Compartments Per Drawer | Total Compartments in Cabinet | Caster Diameter (In.) | Cabinet Overall Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3-Drawer plus One 18 x 24" Shelf** | 1 | 2⅜ | 18 | 24 | 16 | 33 | 4 | 32½ | 22⅛ | 28½ | **3W544** | $763.52 | **$726.00** | 135.0 |
| | 1 | 3¼ | 18 | 24 | 9 | | | | | | | | | |
| | 1 | 4⅛ | 18 | 24 | 8 | | | | | | | | | |
| **5-Drawer** | 2 | 2⅜ | 18 | 24 | 16 | 53 | 6 | 35½ | 22⅛ | 28½ | **3W545** | 974.67 | **926.50** | 292.0 |
| | 1 | 3⅜ | 18 | 24 | 9 | | | | | | | | | |
| | 1 | 5⅛ | 18 | 24 | 8 | | | | | | | | | |
| | 1 | 7⅛ | 18 | 24 | 4 | | | | | | | | | |
| **5-Drawer, One Door** | 2 | 2⅜ | 18 | 24 | 16 | 63 | 6 | 35½ | 44¾ | 28½ | ***New* 4VM51** | 1430.30 | **1408.00** | 315.0 |
| | 1 | 3⅜ | 18 | 24 | 9 | | | | | | | | | |
| | 1 | 5¼ | 18 | 24 | 8 | | | | | | | | | |
| | 1 | 7⅛ | 18 | 24 | 4 | | | | | | | | | |
| **6-Drawer** | 2 | 2⅜ | 18 | 24 | 16 | 61 | 6 | 41½ | 22⅛ | 28½ | **3W546** | 1090.78 | **1037.00** | 332.0 |
| | 1 | 3⅜ | 18 | 24 | 9 | | | | | | | | | |
| | 2 | 5⅛ | 18 | 24 | 8 | | | | | | | | | |
| | 1 | 7⅛ | 18 | 24 | 4 | | | | | | | | | |

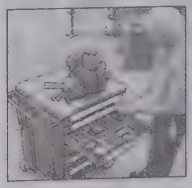
STANLEY
Vidmar

New



No. 4KC71

## VIDMAR MOBILE STORAGE CABINETS



A mobile unit can keep both parts and tools handy in maintenance and repair applications

- **Vidmar mobile cabinets put your tools and parts right where the work is**
- **Equipped with heavy-duty casters and a handle for easy mobility**
- **Single Drawer Release safety feature allows only one drawer to open at a time. Use for storing general repair parts, personal items, manuals or files**

## MOBILE STORAGE CABINETS

| Height (In.) | No. of Drawers | No. of Compartments | Stanley Vidmar Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **33** | 5 | 79 | RP117-AL | **4KC71** | $1133.25 | **$1100.00** | 302.0 |
| **33** | 5 | 96 | RP1135-AL | **4KC83** | 1201.45 | **1175.00** | 372.0 |
| **33** | 6 | 124 | RP1134-AL | **4KC81** | 1291.65 | **1243.00** | 401.0 |
| **33** | 3 | 40 | RP1136-AL | **4KC85** | 995.00 | **958.00** | 304.0 |
| **33** | 4 | 100 | RP1420-AL | ***New* 4TT08** | 1081.48 | **1064.00** | 359.0 |

# STEEL AND PLASTIC SERVICE CARTS

## INDUSTRIAL DUTY 30 AND 36" SERVICE CARTS



Shown with Extra Tray

edsal

Replacement Parts Available 1-800-323-0620

**Designed for efficient handling** of evenly distributed loads weighing up to 1000 lbs. Built for durability by using 16-gauge ribbed steel angle posts, 18-gauge steel trays with mitered edges for extra rigidity, locknuts and bolts which secure all parts, and 5 x 1¼" ball bearing casters with non-marring, smooth rolling poly wheels.

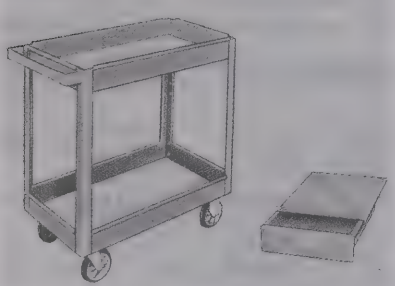
**Both models are 32" high** for convenience in loading or unloading. Two 3" deep trays keep loose parts or packages from falling out; top tray can be inverted to provide a flat top work surface.

**Two rigid casters plus two swivel casters** provide control needed in confined areas and narrow aisles. Extra trays in both sizes are available. Both carts accommodate optional drawer, No. 1W682 (order separately) listed below. Gray powder coat finish. Shipped unassembled. Edsal brand.

| Description | Overall Dimensions (In.) Width | Length | Height | Edsal Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30" Cart** | 16 | 32¾ | 32 | SC5000 | **2W423** | $100.58 | **$80.00** | **$75.96** | 44.0 |
| **Extra 30" Tray** | 16 | 30 | 3 | SC5000T | **2W424** | 19.01 | **16.51** | **15.68** | 12.0 |
| **36" Cart** | 24 | 38¾ | 32 | SC6000 | **2W425** | 122.79 | **98.05** | **93.12** | 56.0 |
| **Extra 36" Tray** | 24 | 36 | 3 | SC6000T | **2W426** | 28.47 | **25.25** | **23.98** | 19.0 |

## COMMERCIAL STEEL SERVICE CARTS

edsal



**Add efficiency and convenience** to everyday jobs. A material handling step saver for stockroom, shipping and receiving departments, storerooms and assembly lines. Carts are built to handle evenly distributed loads up to 500 lbs.

Service carts come with 3½" deep 20-gauge pan type trays with rolled edges. Top shelf can be inverted to provide a flat working surface. 14-gauge steel posts. Distance between shelves is 20".

Cart Nos. 5W127 and 2W273 accommodate one No. 1W682 optional drawer front mounted; cart No. 3W137 accommodates two drawers side mounted.

Two one-piece rigid plate casters and two one-piece swivel plate casters with a 5 x 1¼" molded polyolefin wheel. Casters provide good floor protection, high load capacity, oil and grease resistance, ease of rollability, and quiet operation. Ideal for use on both hard and carpeted surfaces. Handle mounts on either end. Carts have gray powder coat finish. Shipped unassembled for easier handling and lower shipping costs. Edsal brand.

| Description | Overall Dimensions (In.) Width | Length | Height | Edsal Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30" Cart** | 16 | 32¾ | 32 | SC2016 | **2W273** | $83.95 | **$55.90** | **$53.07** | 34.0 |
| **28" Cart** | 20 | 30¾ | 32 | SC2020 | **5W127** | 85.91 | **60.85** | **57.81** | 36.0 |
| **36" Cart** | 24 | 38¾ | 32 | SC2024 | **3W137** | 99.29 | **68.70** | **65.24** | 44.0 |
| **Drawer** | 12 | 18 | 4 | WD1218 | **1W682** | 19.50 | **16.50** | **15.67** | 10.0 |

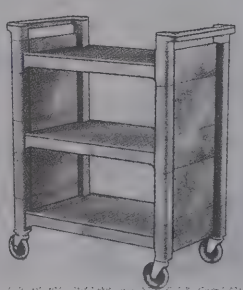
## DURAMOLD™ PLASTIC UTILITY CARTS



No. 5W563

Rubbermaid®

Replacement Parts Available 1-800-323-0620



No. 5M674

- **Durable, rustproof, corrosion resistant**
- **Low maintenance**
- **Easy to clean**

**Made of honeycombed Duramold™,** a rugged structural foam plastic that resists rust and corrosion. Fights cracks and splinters sometimes experienced with wooden carts. Quieter than metal carts. Never needs painting.

**Utility carts** offer flexibility in shelf space and easy mobility. 3 shelves have 11" clearance each. 4" swivel casters. Smooth finish and brushed aluminum uprights. Beige color. Rubbermaid brand.

| Description | Load Capacity (Lbs.) | Casters | Dimensions (In.) L | H | W | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Utility Cart with Open Ends** | 200 | 4 | 31½ | 36 | 16¼ | 3424 | **5W563** | $173.44 | **$144.50** | 28.0 |
| **Utility Cart with Closed Ends** | 300 | 4 | 31 | 37½ | 18 | 3355 | **5M674** | 272.38 | **218.00** | 39.0 |

## SHOP AND FACTORY MOBILE TOOL TOTERS




Replacement Parts Available 1-800-323-0620

- All steel construction
- Gray powder coat finish
- Choice of 24" stand, 2 drawer, 4 drawer, or 2 drawer/cabinet model
- Can be converted to provide flat working surface
- Shipped unassembled for easy handling

**All steel mobile toters** carry tools and can add work space or storage space near large machines. Top can be easily inverted to provide a smooth flat work surface.

**Tool stand No. 1W910** is 24D x 18"W and comes with two trays spaced 25" apart. Tool stand has 400 lb. load capacity.

**Drawer dimensions** of Nos. 7W066, 7W067 and 7W068 are 4⅝H x 15W x 23"D. Cabinet is 14H x 14W x 24"D.

**Mobile tool toters shipped** unassembled for convenient handling. No. 7W068 furnished with "T" style handle lock. Assemble easily with screwdriver or nutdriver with hardware provided. Gray powder coat finish. Edsal brand.

| Description | Overall Dimensions (In.) W | L | H | Drawer Dimensions (In.) W | L | H | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **24" Stand** | 18 | 24 | 34½ | — | — | — | **1W910** | $71.67 | **$45.60** | **$43.32** | 25.0 |
| **Two Drawer Toter** | 18 | 24 | 34½ | 15 | 23 | 4⅝ | **7W066** | 138.95 | **102.95** | **97.80** | 55.0 |
| **Four Drawer Toter** | 18 | 24 | 34½ | 15 | 23 | 4⅝ | **7W067** | 206.23 | **160.25** | **152.24** | 85.0 |
| **Two Drawer/Cabinet** | 18 | 24 | 34½ | 15 | 23 | 4⅝ | **7W068** | 212.05 | **164.75** | **156.51** | 76.0 |

## 60" HIGH INDUSTRIAL STOCK TRUCKS

**Convert to five trays with optional tray available**




Replacement Parts Available 1-800-323-0620

**Provide large capacity** for efficiently restocking merchandise shelves, supplying assembly line stations, moving bulky stock, and numerous other material handling jobs in plant or warehouse.

**Trucks are rated for loads up to 800 lbs.** Both 30 and 36" models come with four adjustable 18-ga. steel trays and will accommodate an optional fifth tray for added convenience. Equal distant clearance between trays on 4-tray unit—14"; on a 5-tray unit—10". Each tray is 3" deep and secured with bolts and nuts to 16-ga. ribbed steel angle posts. Angle posts have predrilled holes at 6" intervals to accommodate trays at any desired height arrangement. All trays except bottom one can be inverted to provide a flat surface.

**Two rigid and two swivel ball bearing rubber tired casters** are 5" dia. x 1¼"W. Full width tubular steel handle steers cart. Gray powder coat finish. Stock trucks come unassembled for lower handling costs. Either model assembles easily with screwdriver or nutdriver; hardware provided. Edsal brand.

| Description | No. of Trays | Tray Dimen. (In.) W | L | H | Overall Height (In.) | Edsal Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **30" Cart** | 4 | 16 | 30 | 3 | 60 | ST8000 | **3W243** | $145.86 | **$119.85** | **$113.85** | 73.0 |
| **Extra 30" Tray** | — | 16 | 30 | 3 | — | SC5000T | **2W424** | 19.01 | **16.51** | **15.68** | 12.0 |
| **36" Cart** | 4 | 24 | 36 | 3 | 60 | ST9000 | **3W244** | 184.96 | **152.25** | **144.60** | 106.0 |
| **Extra 36" Tray** | — | 24 | 36 | 3 | — | SC6000T | **2W426** | 28.47 | **25.25** | **23.98** | 19.0 |

## MOBILE WORKBENCHES




Move heavy parts and tools to job sites and provide a flat, clean 42W x 25"D work surface. Dimensions include casters and guard rail, 42W x 25D x 32¾"H; with casters, 38"H. Cabinet excluding top is 36W x 24"D. Bench top is 16-gauge steel with 1/8" thick hardboard laminated to the top. Guard rail with 1½" overlap hem keeps parts from rolling off. Supports are 16-gauge steel; cabinet, door and shelves are 20-gauge steel; drawers are 22-24 gauge steel. Drawer dimensions: 12W x 22D x 6½"H.; outside: 13½W x 22½D x 6¾"H. Drawer load rating: 50 lbs. Shelf load rating: 75 lbs. (evenly distributed). Recessed handle pulls and nylon rollers. Removable flat bottom drawers lay flush on bench top surface. Each drawer has adjustable divider with a card holder. Benches have two rigid and two locking swivel 5" dia. x 1¼" hard rubber casters.

- Fully assembled, simply mount casters
- All welded construction; fully lockable for safe storage
- Height from floor to top of work surface is 38", including casters
- Gray enamel finish, brown hardboard top

**No. 1W827 One-Drawer, One-Door Model.** Storage space below drawer is 14¾W x 23¾D x 20½"H, and has one shelf adjustable on 3" centers. Inside dimensions of enclosed cabinet are 20¾W x 23D x 28"H. Cabinet has one shelf adjustable on 3" centers, door lock, 2 keys. Keylock for drawer available separately. Order Part No. CL-1; call 1-800-323-0620. Tennsco brand.

**No. 4W052 Four-Drawer, One-Door Model.** Inside dimensions of enclosed cabinet are 20¾W x 23D x 28"H. Cabinet has one steel shelf adjustable on 3" centers. Lockable door and drawers come with keylock and two keys. All drawers lock simultaneously. Tennsco brand.

**No. 1W827.** One-Drawer, One-Door Model Workbench (MB-2-2542). Shpg. wt. 155.0 lbs. List $497.00. Each.....**$350.75**

**No. 4W052.** Four-Drawer, One-Door Model Workbench (MB-1-2542). Shpg. wt. 183.0 lbs. List $595.50. Each.....**$432.75**

# WIRE AND ADVANCED POLYMER HEAVY-DUTY CARTS

## HEAVY-DUTY WIRE CARTS

- Assembles in minutes, without tools
- Shelves can be adjusted and installed at 1" increments along the height of the posts
- Long lasting nickel chrome finish
- Open wire construction provides air circulation, light penetration, reduces buildup of dirt and moisture, and assures effectiveness of sprinkler system
- 1/4" shelf ledge prevents items from falling off shelf
- 1000 lb. capacity per cart (evenly distributed loads)
- 5" resilient, solid rubber casters have bumper guards to prevent damage to walls
- Two swivel and two swivel-with-brake casters on 69"H carts; four swivel casters on 39"H carts

**Metro Carts are designed** for general storage and transport in factories, warehouses, laboratories, cleanrooms, restaurants, hospitals, nursing homes, retail stores, and offices.

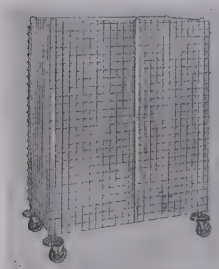



### 39" HIGH CARTS–2 SHELF

| Shelf Size (In.) D | W | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 18 | 36 | 4W648 | $231.06 | $187.00 | $177.44 | 39.0 |
| 18 | 48 | 4W649 | 250.03 | 203.00 | 192.64 | 46.0 |
| 24 | 36 | 4W650 | 256.24 | 208.50 | 197.89 | 49.0 |
| 24 | 48 | 4W651 | 282.17 | 229.75 | 218.08 | 55.0 |

### 69" HIGH CARTS—4 SHELF

| Shelf Size (In.) D | W | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 18 | 36 | 4W652 | $353.24 | $286.50 | $272.12 | 65.0 |
| 18 | 48 | 4W653 | 391.26 | 317.00 | 301.11 | 70.0 |
| 18 | 60 | 4W654 | 431.18 | 351.75 | 334.11 | 90.0 |
| 24 | 36 | 4W655 | 397.21 | 322.50 | 306.31 | 74.0 |
| 24 | 48 | 4W656 | 449.12 | 365.00 | 346.74 | 86.0 |
| 24 | 60 | 4W657 | 506.97 | 413.75 | 392.86 | 106.0 |



## WIRE SECURITY TRUCKS

- Double doors open 250° for easy access to contents
- Open-wire construction allows complete visibility for quick inventory checks
- Optional shelves adjust on 1" increments along posts
- Bright, long-wearing nickel chrome finish provides extra corrosion resistance

Provide safe storage of expensive materials and sensitive items, as well as quick and protective transportation. Highly suitable for use in tool rooms, warehouses, laboratories, electronic centers, hospitals, hotel/motels, and restaurants. Trucks have full length latch bars on doors with padlock provision for additional security. Padlock not included, see Index. 5" polyurethane swivel casters include bumper guards to prevent damaging walls. Load capacity of security trucks is 1200 lbs*. Shipped unassembled. Easy assembly. Metro brand.

### SECURITY TRUCKS

| Overall Dimensions (In.) D | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 40 | 27¼ | 68½ | 3W570 | $853.00 | $656.50 | 142.0 |
| 50½ | 27¼ | 68½ | 3W571 | 1104.30 | 791.50 | 165.0 |

### OPTIONAL INTERMEDIATE SHELVES

| For Use With: | Dimensions (In.) W | D | Load Capacity Per Shelf* (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3W570 | 36 | 24 | 800 | 3W572 | $60.36 | $45.25 | 13.0 |
| 3W571 | 48 | 24 | 600 | 3W573 | 73.36 | 55.05 | 16.0 |

(*) Based on evenly distributed loads.

## HEAVY-DUTY POLYMER CARTS



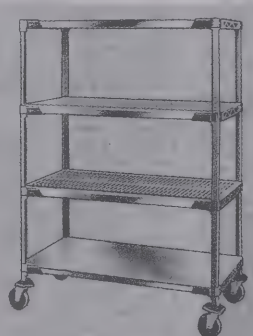
- Add or remove a shelf at any time, without disturbing other shelves
- 5" polymer stem casters offer total corrosion resistance and enhanced durability; two swivel and two swivel-with-brake casters
- Bumper guards prevent cart from damaging walls
- Load capacity is 800 lbs. per cart (evenly distributed load)

**Rustproof:** Polymer shelf mats (polypropylene) and polymer composite shelf frames and posts are extra strong and warranted against rust for a lifetime. Any metal parts are stainless steel.

**Quick to clean:** Open grid shelf mats lift off shelf for easy cleaning and are divided into 12 and 18" modules for easy handling. Shelf frames and posts are smooth and rounded with no sharp edges.

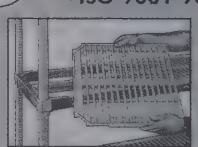
**Fast, easy assembly:** Assembles in minutes, without tools. Attach "wedge connectors" at desired post height and lower shelf into place. Shelves can be adjusted and installed in ½" increments.

Replacement Parts Available
1-800-323-0620



MetroMAX® METRO NSF

Registered to ISO 9001-9002



**Vented, open-grid shelf mat style ensures air circulation and light penetration.**

### 69" HIGH CARTS — 4 SHELF

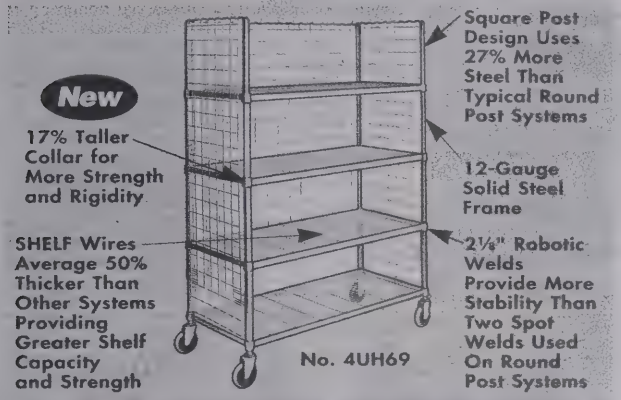
| Shelf Size (In.) D | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 24 | 36 | 69 | 3TJ71 | $633.00 | $535.50 | 92.0 |
| 24 | 60 | 69 | 3TJ72 | 797.00 | 677.50 | 132.0 |



*More ways to move and store products safely and securely.*

# WIRE CARTS, TROLLEYS AND DOLLIES

## GILLIS AMCO



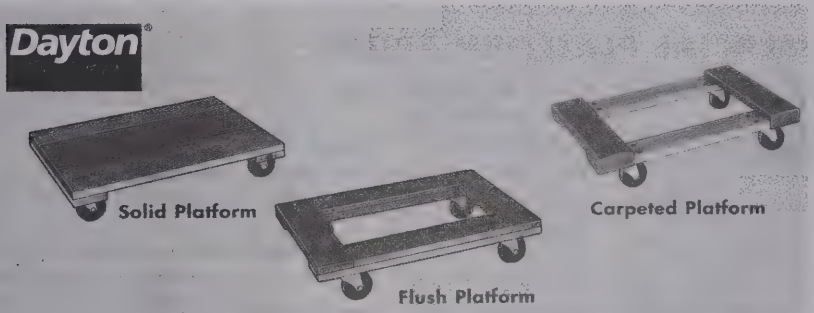

## 70" HIGH, 3-SIDED WIRE CARTS

Post mounted panels eliminate top shelf and attach securely to minimize noise during transport. Open wire design and 3x3" mesh allows easy visibility of contents, cleanliness, and sprinkler system efficiency. Four 5" diameter polyurethane swivel casters allow ease of rollability and 1200 lb. cart capacity. Made in USA. Gillis/Amco brand.

| Shelf Size (In.) D | W | Gillis/Amco Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 18 | 36 | A1836ZP64TS-4 | **4UH68** | $602.12 | **$414.00** | 153.0 |
| 18 | 48 | A1848ZP64TS-4 | **4UH69** | 686.36 | **471.25** | 192.0 |
| 18 | 60 | A1860ZP64TS-4 | **4UH70** | 744.64 | **512.00** | 202.0 |
| 24 | 36 | A2436ZP64TS-4 | **4UH71** | 662.48 | **455.50** | 166.0 |
| 24 | 48 | A2448ZP64TS-4 | **4UH72** | 745.68 | **513.00** | 190.0 |
| 24 | 60 | A2460ZP64TS-4 | **4UH73** | 838.24 | **576.50** | 226.0 |

## HARDWOOD DOLLIES

Dayton®




- **7/8" thick kiln dried maple hardwood**
- **Varnished finish**
- **Polyolefin casters**

Hardwood dollies are inexpensive castered platforms that save time and manpower in moving bulky loads. Made of durable 7/8" thick kiln dried northern maple hardwood in three styles: solid platform, flush, and carpeted, in three sizes. Recessed bolt holes and varnish finish provide a flat surface for loading. Four polyolefin swivel casters with zinc coated metal parts protect against rust and corrosion. Load capacities up to 1200 lbs. Replacement parts available; call 1-800-323-0620.

| Load Capacity (Lbs.) | Platform Style | Dolly Size (In.) Length | Width | Wheel Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **900** | Solid | 30 | 18 | 3 x 1¼ | **2W451** | $46.50 | **$46.50** | 20.0 |
| **1200** | Solid | 36 | 24 | 4 x 1¼ | **3W218** | 66.80 | **66.80** | 30.0 |
| **900** | Flush | 24 | 16 | 3 x 1¼ | **5W125** | 37.05 | **37.05** | 15.0 |
| **900** | Flush | 30 | 18 | 3 x 1¼ | **5W126** | 40.40 | **40.40** | 18.0 |
| **1200** | Flush | 36 | 24 | 4 x 1¼ | **2W450** | 59.10 | **59.10** | 24.0 |
| **900** | Carpeted | 30 | 18 | 3 x 1¼ | **3W217** | 41.50 | **41.50** | 15.0 |




## PLASTIC TROLLEY AND MOVING DOLLY

Rubbermaid®
Rubbermaid Commercial Products LLC

New

- **Enables workers to move loads up to 200 lbs. efficiently**
- **All plastic swivel casters provide stability and maneuverability**
- **Reduces lifting and hand carrying heavy, bulky loads**
- **Push/pull handle allows loads to be moved easily**

Durable plastic construction resists dents and corrosion; reduces damage to interior surfaces such as walls and doorways. No. 4UR33, Trolley/Dolly, comes with handle that lets users push or pull loads with comfort—just remove handle to convert unit to dolly. Rubbermaid brand.

| Load (Lbs.) | Platform Style | Dolly Size (In.) | Wheel Size (In.) | Rubbermaid Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **200** | Trolly w/Handle | 23 x 18 | 3¼ x 2 | 4404 | **4UR33** | $56.00 | **$43.00** | 11.0 |
| **200** | Solid Moving Dolly | 23 x 18 | 3¼ x 2 | 4411 | **4UR34** | 50.00 | **38.35** | 9.8 |

## HARDWOOD PLATFORM TRUCKS

- Three kiln dried hardwood deck sizes
- Up to 2800 lb. load capacity rating
- All wood or steel framed deck

Replacement Parts Available
TM 1-800-323-0620



All Wood Platform

Dayton®

6-MONTH DAYTON LIMITED WARRANTY

Text of warranty is available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



Steel Frame Platform

**Dayton wood platform trucks** are designed to handle medium-heavy materials. These trucks are built for loads up to 2800 lbs. Countersunk bolts and natural varnish finish provide a flat smooth surface. The steel framed truck deck is surrounded by 2 x 2 x 1/8" angles for greater capacity and protection from rough handling and abuse.

**Two rigid and two swivel casters** allow for easy maneuverability and long life. Roller bearing wheels are either 5 x 2" or 6 x 2" polyolefin for smooth rolling. Removable smooth U-curved tubular steel handle fits into pockets at the steering end of the deck. Metal parts painted with red enamel. Dayton brand.

| Load Cap.* (Lbs.) | Platform Style | Deck Size (In.) L | W | H | Wheels Size (In.) | Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **2000** | All Wood | 48 | 24 | 8¾ | 5 x 2 | Polyolefin | **4W622** | $195.90 | **$163.25** | 68.0 |
| **2000** | All Wood | 54 | 27 | 8¾ | 5 x 2 | Polyolefin | **4W623** | 211.80 | **176.50** | 75.0 |
| **2200** | All Wood | 60 | 30 | 9¾ | 6 x 2 | Polyolefin | **4W624** | 234.60 | **195.50** | 90.0 |
| **2600** | Steel Frame | 48 | 24 | 8¾ | 5 x 2 | Polyolefin | **3W214** | 211.75 | **211.75** | 88.0 |
| **2600** | Steel Frame | 54 | 27 | 8¾ | 5 x 2 | Polyolefin | **3W215** | 264.30 | **220.25** | 95.0 |
| **2800** | Steel Frame | 60 | 30 | 9¾ | 6 x 2 | Polyolefin | **3W216** | 260.00 | **245.00** | 120.0 |

(*) Based on evenly distributed loads.

## COMMERCIAL PLATFORM TRUCK



Dayton®

- 24 x 42" platform deck
- 750 lb. capacity*
- 5" diameter x 1¼" casters

**Sized right for shipping and receiving departments** of shops and stores, production line, etc. Welded steel construction holds 750 lbs. Platform deck is 24" wide, 42" long, made of box formed 16-gauge steel sheet with two 14-gauge formed steel reinforcing channels on underside. 1" steel pipe handle is 36" high.

**Truck rides easily** on 5" diameter x 1¼" wide rubber casters; two rigid, two swivel. Ball bearing race casters bolted on (not welded) for easy service. Nonmarring rubber bumpers on front corners. 44L x 36"H overall; platform 6¼"H. Shipped unassembled; easy to assemble, all hardware included. Red baked powder coated finish. Dayton brand.

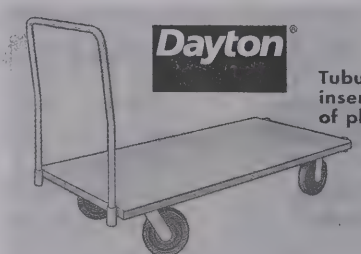
(*) Based on evenly distributed loads.

**No. 1W819.** Shpg. wt. 69.0 lbs. List $148.81. Each.....**$112.50**

## STEEL PLATFORM TRUCKS

**Highly maneuverable trucks have extra heavy-duty welded steel deck construction.** Used in shipping and receiving rooms, warehouses, stockrooms, shops, laboratories, stores. 14-gauge extra heavy-duty formed steel deck has all welded construction with additional 3/16" angle frame reinforcements welded underneath for additional strength.

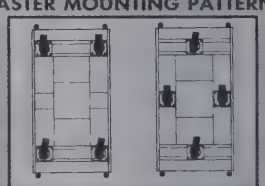
**Casters meet specified load capacity requirements** and facilitate handling in confined areas. See index for pages describing specific caster models. Two ball bearing swivel and two rigid mounting plate casters are packed in carton in matched sets. Bolt on in standard corner pattern, or diamond (tilt type) pattern. Diamond-tilt pattern permits truck to tilt-balance slightly on center side casters, allowing truck to turn in its own radius. Red baked powder coated finish. Shipped assembled except for casters which bolt to undercarriage. Dayton brand.



Dayton®

Tubular steel handle inserts at either end of platform

CASTER MOUNTING PATTERN



STANDARD CORNER

DIAMOND (TILTING)

| Load Capacity* (Lbs.) | Deck Size (In.) L | W | Caster Wheels Size (In.) | Type | Axle Bearings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1600** | 48 | 24 | 6 x 1⅜ | Hard Tread Plastic | Sleeve | **3W077** | $209.64 | **$172.75** | 81.0 |
| **1600** | 54 | 27 | 6 x 1⅜ | Hard Tread Plastic | Sleeve | **3W078** | 223.70 | **184.00** | 96.0 |
| **2500** | 60 | 30 | 8 x 2 | Polyolefin | Roller | **3W079** | 317.62 | **268.00** | 144.0 |

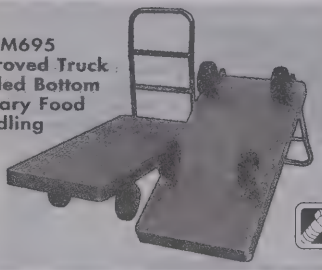
(*) Based on evenly distributed loads.

# PLATFORM TRUCKS

## DURAMOLD® PLASTIC PLATFORM TRUCKS



No. 5Z090
Standard
Platform Truck



No. 5M695
USDA Approved Truck
has a Sealed Bottom
for Sanitary Food
Handling

Rubbermaid®



No. 5M711
Platform Truck
with 2 Handles

Replacement
Parts Available
1-800-323-0620

- **Easy to handle, maneuver in aisles**
- **500, 1000, and 2000 lb. capacities based on evenly distributed loads**

**Tough honeycombed** Duramold is virtually maintenance-free. Will not rust or dent like steel trucks, nor crack, splinter, warp or discolor as wooden trucks. Available in three sizes with 500, 1000, and 2000 lb. capacities. Used primarily in industrial, sanitary maintenance, and food service applications.

**All units have two rigid and two swivel casters.** Modular caster design provides several optional caster placements for in-the-field changing. Round deck corners guard against damage to furniture, walls, and equipment. USDA approved models have a sealed bottom for sanitary food handling. Gray color. Rubbermaid brand.

| Load Capacity (Lbs.) | Deck Size (In.) L | W | Overall Dimensions (In.) L | W | H | Casters Size (In.) | Material | Rubbermaid Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD PLATFORM TRUCK** | | | | | | | | | | | | |
| **500** | 36 | 24 | 39⅛ | 24 | 9¾ | 5 x 1¼ | Rubber | 4403 | **5Z090** | $332.22 | **$262.00** | 58.0 |
| **1000** | 48 | 24 | 51⅜ | 24 | 11 | 6 x 2 | Rubber | 4436 | **5Z091** | 426.12 | **339.25** | 76.0 |
| **2000** | 48 | 24 | 51⅜ | 24 | 13 | 8 x 2 | Polyolefin | 4441 | **5M703** | 483.88 | **372.75** | 81.0 |
| **1000** | 60 | 30 | 63⅜ | 30 | 11¾ | 6 x 2 | Rubber | 4466 | **5M708** | 515.20 | **396.75** | 95.0 |
| **2000** | 60 | 30 | 63⅜ | 30 | 13¼ | 8 x 2 | Polyolefin | 4471 | **5Z092** | 652.40 | **516.00** | 107.0 |
| **USDA APPROVED PLATFORM TRUCKS** | | | | | | | | | | | | |
| **1000** | 36 | 24 | 39⅛ | 24 | 11⅛ | 6 x 2 | Rubber | 4406-04 | **5M695** | 633.16 | **487.50** | 63.0 |
| **2000** | 48 | 24 | 51⅜ | 24 | 13 | 8 x 2 | Polyolefin | 4441-04 | **5M704** | 715.00 | **550.50** | 81.0 |
| **2000** | 60 | 30 | 63⅜ | 30 | 13¼ | 8 x 2 | Polyolefin | 4471-04 | **5M712** | 835.38 | **643.50** | 101.0 |
| **PLATFORM TRUCKS WITH PNEUMATIC TIRES** | | | | | | | | | | | | |
| **1000** | 48 | 24 | 51⅜ | 24 | 11 | 6 x 2 | Pneumatic | 4436-10 | **5M701** | 652.40 | **502.50** | 76.0 |
| **1000** | 60 | 30 | 63⅜ | 30 | 11¼ | 6 x 2 | Pneumatic | 4466-10 | **5M710** | 690.92 | **532.00** | 88.0 |
| **PLATFORM TRUCK WITH TWO HANDLES** | | | | | | | | | | | | |
| **1000** | 60 | 30 | 63⅜ | 30 | 11¼ | 6 x 2 | Rubber | 4466-86 | **5M711** | 640.38 | **493.25** | 88.0 |

## ALUMINUM PLATFORM TRUCKS

- **Ideally suited for hot, wet applications**
- **Natural finish**
- **2000 and 2400 lb. capacities based on evenly distributed load**

Lightweight, corrosion-resistant, aluminum platform trucks have a clean, handsome appearance and are built for heavy-duty use. Use in front office, stock room, warehouse, dock area, or laboratory.

Interlocking extruded sections reinforce and support the smooth deck. Fully bolted weld-free assembly of the complete deck assures a long, maintenance-free life. Removable reinforced push handle can be used at either end of truck. Two rigid and two swivel roller bearing casters. Casters are shipped unmounted. Wesco Mfg. brand.

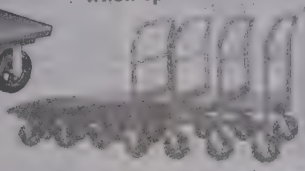



Replacement
Parts Available
1-800-323-0620

| Load Capacity (Lbs.) | Deck Size (In.) L | W | H | Caster Size (In.) | Material | Wesco Mfg. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **2000** | 36 | 24 | 9¼ | 5 x 2 | Polyolefin | EDPT-2436-SR5 | **4W480** | $456.60 | **$343.00** | 58.0 |
| **2000** | 48 | 24 | 9¼ | 5 x 2 | Polyolefin | EDPT-2448-SR5 | **4W481** | 553.90 | **424.00** | 54.0 |
| **2000** | 48 | 30 | 9¼ | 5 x 2 | Polyolefin | EDPT-3048-SR5 | **4W482** | 631.90 | **483.50** | 72.0 |
| **2400** | 60 | 30 | 12 | 8 x 2 | Moldon | EDPT-3060-MR8 | **4W483** | 793.60 | **608.00** | 103.0 |
| **2400** | 72 | 36 | 12 | 8 x 2 | Moldon | EDPT-3672-MR8 | **4W484** | 910.70 | **697.00** | 116.0 |

## STEEL NESTING PLATFORM TRUCKS





Platform trucks can be nested for storage when space is limited

- **First nested truck requires 48" of space; each additional truck adds only 12" of length**
- **Hinged platform allows nesting**
- **Rugged powder coated steel platform resists scratches and rust**
- **6" mold-on rubber wheels, two rigid and two swivel**
- **2000 lb. capacity based on evenly distributed loads**

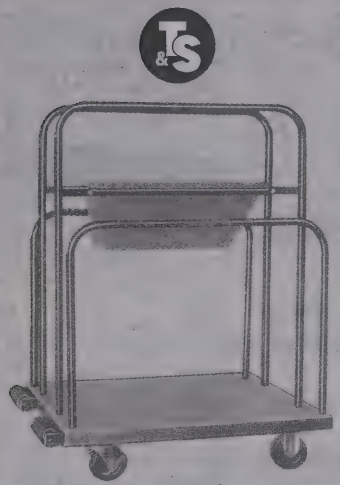
**Steel platform truck** is nestable to save warehouse storage space. For use in warehouses, shipping and receiving areas, mail rooms, and other places where multiple platform trucks are needed.

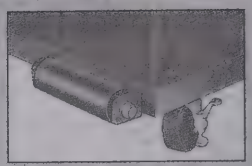
**Platform dimensions** are 48L x 24W x 10½"H. Handle is 38½"H. Shipped unassembled. Silver enamel handle. Blue enamel frame. Platform is powder coated silver. T & S brand (NPCT).

No. 6W015. Shpg. wt. 150.0 lbs. List $289.68. Each ..... $269.25

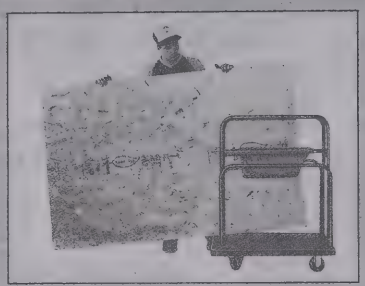
# PANEL CARTS

## PANEL RACK CART





Two rollers on base platform facilitate loading and unloading



- **1000 lb. capacity**
- **4" dia. x 2" wide phenolic wheels**
- **Two rigid and two swivel casters with brakes**
- **Removable plastic basket included for carrying tools and accessories**
- **Center bar detaches for moving tables, partitions, and other bulky items**

Panel rack carts are designed to move large, hard to handle items such as sheets of plywood, drywall, paneling, doors, and lumber. For use around lumber yards, hardware stores, home centers, and job sites within a plant. Also used for moving doors, tables, and partitions around schools, hospitals, office complexes, and other institutional buildings.

Heavy gauge steel construction. 32L x 26W x 41"H. Shipped unassembled. Painted blue enamel finish. T & S brand (PRCT).

**No. 6W014.** Shpg. wt. 100.0 lbs. List $276.42.
Each.....**$273.25**

## HEAVY-DUTY PANEL CART



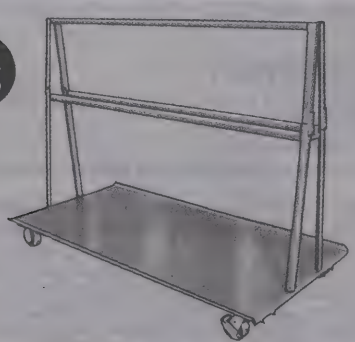
- **4000 lb. capacity**
- **Removable vertical supports**
- **5 x 2" Polyurethane casters; two rigid and two swivel with brakes**

Extra heavy-duty steel panel cart has three vertical supports 35" above platform to provide support for sheets of metal, drywall, etc. 12⅛" spacing between vertical supports accommodates wide pipe or multiple sheets.

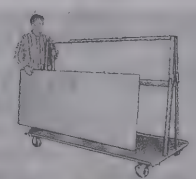
Cart has four 5 x 2" polyurethane casters; two swivel casters, and two rigid casters. Dimensions: 36L x 29½W x 42"H. 4000 pound capacity. Painted blue. T & S brand (PRCT-HD).

**No. 3KR85.** Shpg. wt. 200.0 lbs. List $555.00.
Each.....**$472.50**

## A-FRAME PLATFORM CART



Easy to assemble

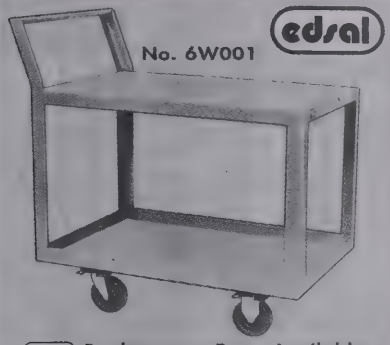




- **2000 lb. capacity**
- **Easily moved with two rigid and two swivel 5" polyurethane casters with brakes**
- **Overall dimensions: 36W x 72L x 56"H**

Ideal for use when moving large, bulky sheets of materials. Convenient tool tray located in-between A-frame uprights. Foot-operated caster lock used for securing unit during loading/unloading operations. All welded steel construction. Painted blue. T & S brand (A-3672).

**No. 3KR37.** Shpg. wt. 200.0 lbs. List $444.70.
Each.....**$378.00**




Replacement Parts Available
1-800-323-0620™

## HEAVY-DUTY ALL-WELDED STOCK TRUCKS

Edsal premium grade all welded stock trucks serve a variety of uses. Rugged, extra heavy-duty trucks are well suited for maintenance, toolroom, production applications, and shipping and receiving departments. 14-gauge steel trays with 3/16 x 1½ x 1½" angle iron uprights. Electronically arc welded members form one strong, complete unit. Casters are mounted to cross channel bolster plate for added support. Offset handle allows room for fingers even when truck is fully loaded. Smooth finish, no rough edges.

**800 lb. capacity models** feature 5 x 1¼" casters, two swivel and two rigid. Overall height is 30" with casters to top shelf, 39¾" to handle.

**2000 lb. capacity models** have 8 x 2" casters, two swivel and two rigid. 33" overall height with casters to top shelf, 42" to handle.

Two tray sizes available. Shipped fully assembled, ready for immediate use. Gray powder coat finish. Edsal brand.

| Load Capacity (Lbs.) | Tray Size (In.) L | W | Caster Size (In.) | Edsal Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **800** | 36 | 24 | 5 x 1¼ | TW9500 | **6W001** | $210.96 | **$169.50** | 89.0 |
| **800** | 48 | 24 | 5 x 1¼ | TW9501 | **6W002** | 238.13 | **191.00** | 103.0 |
| **2000** | 36 | 24 | 8 x 2 | TW9506 | **6W003** | 314.07 | **252.00** | 101.0 |
| **2000** | 48 | 24 | 8 x 2 | TW9507 | **6W004** | 339.57 | **272.50** | 104.0 |

## BELLMAN'S BAGGAGE TRUCK

- **Handles baggage and garment bags**
- **600 lb. capacity**
- **Heavy-duty magnesium frame**

Heavy-duty magnesium frame and 30" fold-down extension are bolted and riveted with extra reinforcement at all critical points. Luggage extension is hinged on 14 x 7⅝" aluminum nose plate. Both frame and extension are covered with red indoor/outdoor carpeting to protect luggage. Garment bags hang securely on a bolted hook. Truck rolls easily and quietly on 8 x 2" polyolefin hub and red polyurethane tread wheels. Aluminum wheel guards. Red vinyl covered handle. Overall dimensions: 52H x 18W x 17"D. Shipped partially assembled. Wesco Manufacturing brand (BELLMAN MAX-8).

**No. 5Z095.** Bellman's Truck. Shpg. wt. 34.0 lbs. List $449.40. Each ..... **$337.00**



WESCO® Industrial Products, Inc.

No. 5Z095
Baggage Truck

Replacement Parts Available
1-800-323-0620™

## CARPETED VALET TRUCK

- **Handles heavy baggage with care**
- **750 lb. capacity**
- **All aluminum construction**
- **21½W x 45¼L x 69½"H**

For porters and bellmen at hotels, motels, resorts, airports, and train stations. Bolted construction and heavy-duty interlocking extruded aluminum sections reinforce and support the platform to give years of maintenance-free service. Large 20 x 40" platform is covered with red indoor/outdoor carpet to protect luggage. Nonmarking corner bumpers. Hanger bar, with 500 lb. evenly distributed load capacity or 350 lb. single point capacity, is 60" above platform. Has two rigid and two swivel long wearing 5 x 1¼" polyolefin casters. Shipped partially assembled. Wesco Manufacturing brand (GVT-C2042-CB).

**No. 5Z094.** Shpg. wt. 66.0 lbs. List $697.00. Each ..... **$530.00**

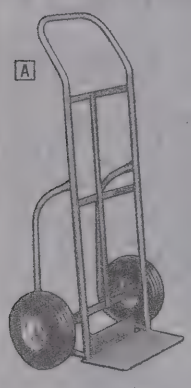
WESCO® Industrial Products, Inc.



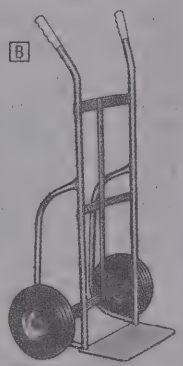

No. 5Z094
Valet Truck

Replacement Parts Available
1-800-323-0620™

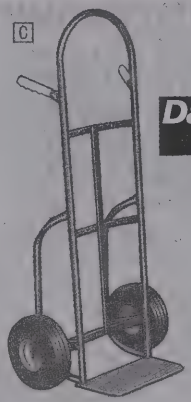
# GENERAL PURPOSE WELDED STEEL 300 TO 800 LB. CAPACITY HAND TRUCKS



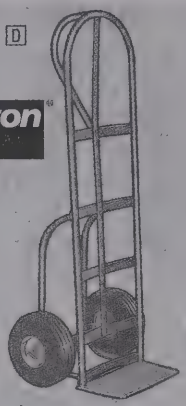
Flow back handle serves as push-pull bar & hanger



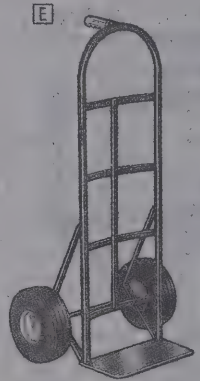
Conventional dual handle for balanced two hand control maneuverability



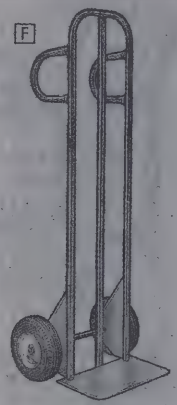
Dual handle with high stack capability & maneuverability



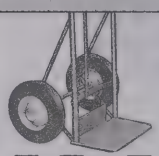
Loop handle for use in narrow aisles & high stack case or carton capability



Single pin handle for one hand control maneuverability & additional stack capacity



Dual loop handle for narrow aisles & high stack case or carton capability



A, B, & D also available without stair climber

Replacement Parts Available 1-800-323-0620

- Designed for load capacities of 300 to 800 lbs.
- 1" diameter 15-gauge tubular steel frames
- Welded cross members and toe plates for maximum strength
- 7-gauge 8"D x 14"W steel toe plates with rounded corners
- Ball bearing or roller bearing semi-pneumatic or pneumatic tired wheels
- Tubular steel stair climbers on higher capacity trucks for ease in stair and curb handling
- Rust-resistant red baked powder coat finish

| Load Cap. (Lbs.) | Overall Dim. (In.) H | W | Stack Height (In.) | Wheels Type | Dia. x W (In.) | Drop Forged Beveled Toe Plate | Tubular Stair Climber | Roller Bearing | Ball Bearing | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A CONTINUOUS FRAME FLOW BACK HANDLE STYLE** | | | | | | | | | | | | | |
| **800** | 46 | 22 | 42 | Solid | 10 x 2¾ | Yes | Yes | No | Yes | **6W856** | $119.01 | **$94.90** | 38.0 |
| **650** | 46 | 23 | 42 | Pneumatic | 10 x 4 | Yes | Yes | No | Yes | **2W179** | 122.28 | **90.30** | 33.0 |
| **500** | 46 | 22 | 42 | Semi-Pneu. | 10 x 2¾ | Yes | Yes | Yes | No | **3W481** | 115.22 | **85.00** | 38.0 |
| **400** | 46 | 21 | 42 | Semi-Pneu. | 10 x 2¾ | No | No | No | Yes | **2W063** | 90.69 | **68.30** | 34.0 |
| **300** | 46 | 19 | 42 | Semi-Pneu. | 8 x 1¾ | No | No | No | Yes | **1W617** | 57.44 | **44.10** | 27.0 |
| **B DUAL HANDLE WITH VINYL GRIPS** | | | | | | | | | | | | | |
| **800** | 47 | 22 | 42 | Solid | 10 x 2¾ | Yes | Yes | No | Yes | **6W857** | 119.00 | **94.20** | 37.0 |
| **650** | 47 | 23 | 42 | Pneumatic | 10 x 4 | Yes | Yes | No | Yes | **3W087** | 122.28 | **90.30** | 33.0 |
| **500** | 47 | 22 | 42 | Semi-Pneu. | 10 x 2¾ | Yes | Yes | Yes | No | **3W483** | 115.22 | **85.00** | 39.0 |
| **400** | 47 | 21 | 42 | Semi-Pneu. | 10 x 2¾ | No | No | No | Yes | **3W482** | 90.52 | **67.20** | 34.0 |
| **C CONTINUOUS FRAME DUAL HANDLE WITH HIGH STACK CAPABILITY** | | | | | | | | | | | | | |
| **800** | 51 | 22 | 51 | Solid | 10 x 2¾ | Yes | Yes | No | Yes | **6W858** | 119.01 | **91.70** | 38.0 |
| **650** | 51 | 23 | 51 | Pneumatic | 10 x 4 | Yes | Yes | No | Yes | **3W485** | 122.28 | **90.30** | 32.0 |
| **500** | 51 | 22 | 51 | Semi-Pneu. | 10 x 2¾ | Yes | Yes | Yes | No | **3W484** | 115.22 | **85.00** | 38.0 |
| **400** | 51 | 21 | 51 | Semi-Pneu. | 10 x 2¾ | No | Yes | No | Yes | **3W041** | 90.06 | **69.90** | 36.0 |
| **D CONTINUOUS FRAME LOOP HANDLE STYLE** | | | | | | | | | | | | | |
| **650** | 51 | 19 | 51 | Pneumatic | 10 x 4 | Yes | Yes | No | Yes | **3W486** | 122.54 | **90.45** | 38.0 |
| **500** | 51 | 19 | 51 | Pneumatic | 10 x 4 | Yes | No | No | Yes | **3W089** | 111.33 | **87.35** | 32.0 |
| **400** | 51 | 19 | 51 | Semi-Pneu. | 10 x 2¾ | Yes | No | No | Yes | **3W088** | 98.19 | **71.75** | 36.0 |
| **E CONTINUOUS FRAME SINGLE PIN HANDLE WITH VINYL GRIPS** | | | | | | | | | | | | | |
| **650** | 46 | 23 | 46 | Pneumatic | 10 x 4 | No | No | No | Yes | **5Z079** | 122.28 | **91.85** | 31.0 |
| **400** | 46 | 21 | 46 | Semi-Pneu. | 10 x 2¾ | No | No | No | Yes | **5Z078** | 89.79 | **66.95** | 33.0 |
| **F CONTINUOUS FRAME DUAL LOOP HANDLE STYLES** | | | | | | | | | | | | | |
| **650** | 57 | 17½ | 56 | Pneumatic | 8 x 2½ | Yes | No | No | Yes | **5Z081** | 124.39 | **95.70** | 31.0 |
| **500** | 57 | 17½ | 56 | Semi-Pneu. | 8 x 2½ | Yes | No | No | Yes | **5Z080** | 115.53 | **86.75** | 39.0 |



*More ways to move and store products safely and securely.*

# HAND TRUCK ACCESSORIES

Dayton

Hand truck accessories give standard trucks more versatility. All accessory kits fit Dayton hand truck styles A, B, C, and E found on page 2202. Mounting hardware included in all kits. Dayton brand.

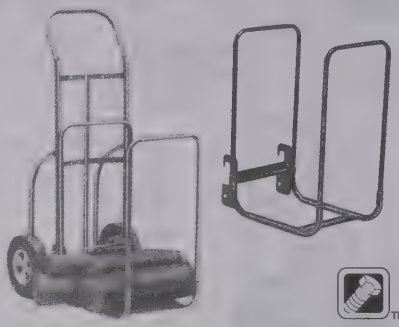
## No. 6B474 CHAIR MOVING KIT



- Converts truck into stack or folding chair mover
- Handles stack chairs and both plain or padded steel folding chairs — up to 12 plain folding chairs
- Tubular steel construction
- Easily detachable when not needed
- Red baked powder coat finish

Replacement Parts Available 1-800-323-0620

## No. 6B471 TUBING AND LOG CARRIER KIT



- Welded tubular steel frame 13½W x 16D x 18½"H
- Easily detachable with or without load
- Red baked powder coat finish

Replacement Parts Available 1-800-323-0620

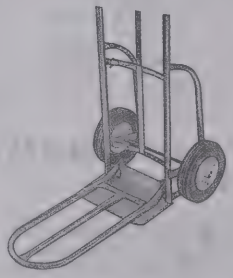
## No. 6B473 HIGH STACK FRAME AND NOSEPLATE EXPANDER KIT



- Gives truck 65" extra high stacking ability
- 14D x 19"W noseplate for light bulky loads
- Tubular steel construction
- Easily detachable when not needed
- Red baked powder coat finish

Replacement Parts Available 1-800-323-0620

## No. 6W851 NOSEPLATE EXTENSION

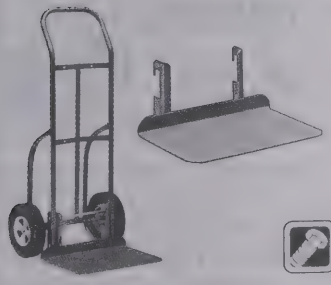


- Increases noseplate to 11W x 22½"L
- Tubular steel construction
- Extension folds back when not needed
- Truck has 200 lb. load capacity when extension is in use
- Red baked powder coat finish

Replacement Parts Available 1-800-323-0620

NOTE: Older model Dayton hand trucks, having U-shaped noseplate back bracket, require No. 2W064 noseplate extension. Call 1-800-323-0620 to order.

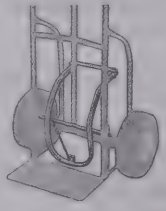
## No. 6B472 NOSEPLATE EXPANDER KIT



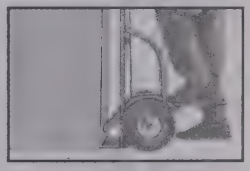
- Increases noseplate size to 12D x 19"W for bulky loads
- 7-gauge steel nose plate
- Easily detachable when not needed
- Red baked powder coat finish

Replacement Parts Available 1-800-323-0620

## No. 6W852 LOAD REMOVER KIT



Foot pressure extracts hand truck from under load



- Simple foot pressure pushes hand truck from load
- Ideal for flush load stacking
- Tubular steel construction
- Red baked powder coat finish

Replacement Parts Available 1-800-323-0620

## HAND TRUCK ACCESSORIES ORDERING DATA

| Description | Fits Dayton Hand Truck Styles | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Stack and Folding Chair Moving Kit | A, B, C & E | 6B474 | $32.22 | $25.95 | 12.0 |
| High Stack Frame & Noseplate Expander Kit | A, B, C & E | 6B473 | 48.53 | 38.70 | 30.0 |
| Noseplate Expander Kit | A, B, C & E | 6B472 | 30.93 | 26.45 | 19.0 |
| Tubing & Log Carrier Kit | A, B, C & E | 6B471 | 33.89 | 27.25 | 13.0 |
| Noseplate Extension | A, B, C & E | 6W851 | 24.85 | 20.61 | 8.0 |
| Load Remover Kit | A, B, C & E | 6W852 | 29.10 | 23.93 | 7.0 |

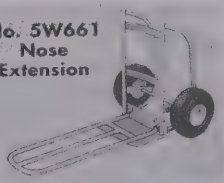
# WELDED ALUMINUM GENERAL PURPOSE, APPLIANCE, AND KEG HAND TRUCKS

## 400 LB. CAPACITY LIGHTWEIGHT ALUMINUM TRUCKS

Dayton®

Replacement Parts Available ™ 1-800-323-0620




Lightweight, highly maneuverable hand trucks for loads up to 400 lbs. These are designed for indoor and outdoor use where loads are normally moved on stairways, ramps, over curbings and through narrow passageways. Highly suitable for use on delivery trucks and in restaurants, warehouses, and stores where lightweight trucks are desirable for handling heavy loads. 1" tubular aluminum construction. Frame, cross bars and noseplate welded for strength and durability. Both models feature stairclimber bars, beveled noseplate and steel wheels with rubber tires. Bright aluminum finish. Standard and high-stack models. Dayton brand.

**No. 3W154. Standard Frame with Flow Back Handle.** For regular material handling jobs: loading, unloading, moving stock in warehouses and between buildings. 10" semi-pneumatic wheels with ball bearings.

**No. 3W153. High Stacking Beverage Case Frame with Loop Handle.** Handles a variety of loads over all surfaces, including beverage cases on delivery trucks, in bottling plants, restaurants, cafeterias, and other service areas. 10 x 4" pneumatic wheels. Lightweight construction is easy to lift, hang, store and transport on delivery trucks.

### NOSE EXTENSION FOR Nos. 3W153 & 3W154

Extends 31½L x 11W. Folds up when not needed. Capacity of truck is 200 lbs. when nose extension is down. Bright tubular aluminum construction. Fits Nos. 3W153 and 3W154 aluminum trucks. Bolts to frame. Hardware included.

**No. 5W661.** Shpg. wt. 7.0 lbs. List $45.47.
Each ..... **$36.25**

| Handle Description | Overall Dimensions (In.) Height | Width | Wheels Size (In.) | Type | Noseplate Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Flow Back Handle | 46 | 22 | 10 x 2.75 | Semi-pneumatic | 8 x 14 x 1/4 | **3W154** | $137.05 | **$101.70** | 26.0 |
| Loop Handle | 48 | 23 | 10 x 4 | Pneumatic | 8 x 14 x 1/4 | **3W153** | 164.10 | **120.85** | 24.0 |

## 700 LB. CAPACITY ALUMINUM APPLIANCE TRUCK

Dayton®

Replacement Parts Available ™ 1-800-323-0620

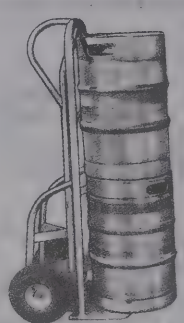


- 60" high frame for ample leverage
- Ratchet take-up belts to secure around appliances and prevent slipping or shifting
- 4½" deep x 24" wide noseplate
- Roll back 1" diameter tubular frame handle
- Continuous belted stair crawlers for climbing or descending stairways
- Steel toe plate withstands hard use
- 16" wide at top cross bar
- 6" solid rubber wheels

Built for moving refrigerators, stoves, water heaters, washers, dryers, and similar residential sized appliances. Convenient and necessary for most appliance dealers, delivery services, movers, institution laboratories, and maintenance departments. 60" high frame provides ample leverage for easier mobility and guiding through doorways, halls, and passageways. Maximum load capacity is 700 lbs. Overall dimensions are 60H x 24"W. Bright aluminum finish. Dayton brand.

**No. 3W311.** Appliance Truck. Shpg. wt. 42.0 lbs. List $269.43.
Each ..... **$221.00**

## 500 LB. CAPACITY ALUMINUM KEG/CASE TRUCKS

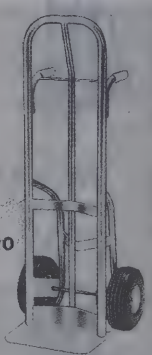


Dayton®

No. 4W324 Loop Handle Style

Replacement Parts Available ™ 1-800-323-0620

No. 4W325 Dual Handle Style



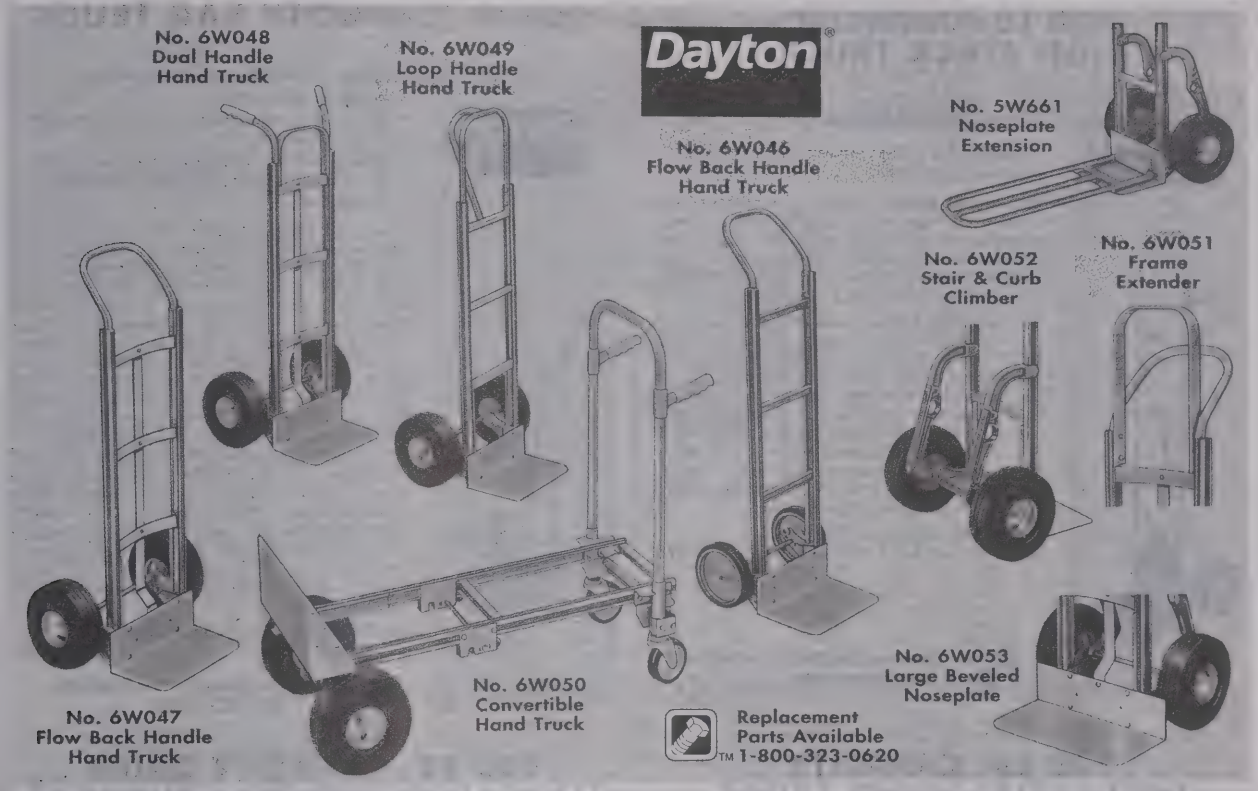
Heavy-duty 1⅝" tubular aluminum keg/case trucks stand up to day-in day-out use. Lightweight construction. Beverage distributors, restaurant operators, and tavern operators will find trucks handle cask or sankey kegs with ease. Tubular stair climbers with steel rub straps to reduce wear and negotiate curbs and stairs. Equipped with 1/2" thick reinforced, tapered and beveled toe plates to facilitate keg and case handling. 10 x 4" full pneumatic wheels provide load cushioning and high flotation. Bright aluminum finish. Overall dimensions are 50½H x 19"W. Dayton brand.

**No. 4W324** has single loop handle for one hand maneuverability.

**No. 4W325** has dual pin handles with grips for comfort and control when transporting loads over a long distance.

| Handle | Stack Height (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Loop | 50½ | **4W324** | $274.37 | **$191.00** | 27.0 |
| Dual | 50½ | **4W325** | 285.50 | **198.50** | 27.0 |

# EXTRUDED ALUMINUM CHANNEL FRAME HAND TRUCKS AND CONVERTIBLE TRUCK




These durable lightweight hand trucks are built to handle 500 lb. loads. Four handle styles to choose from. All hand trucks have extruded aluminum channel uprights with cross bars riveted in place. Vinyl inserts on front of uprights act as load protectors. Toe plates have a beveled leading edge to slide easily under loads. All other structural members are bolted in place to make repairs and accessory modification easy.

No. 6W050 convertible truck is easily adjustable for either vertical or horizontal use. 500 lb. capacity when vertical, 650 lb. capacity when horizontal. Has twin pin handles for easy handling in either position. Large 8½ x 18" beveled noseplate handles bulky loads and acts as a guard to protect loads from unwanted braking or wheel damage. Convertible truck also has 5" rubber tired swivel casters for easy maneuvering on both flat and irregular surfaces. All hand trucks can easily be customized with add-on accessories sold separately. Come completely assembled for immediate use. Dayton brand.

## HAND TRUCK ACCESSORIES

**No. 5W661 NOSEPLATE EXTENSION.** Fits all hand trucks shown here. Extends 31½" long and 11" wide. When in down position, capacity of truck is 200 lbs. Folds up when not in use. Welded aluminum tubular construction bolts to frame. Mounting hardware included.

**No. 6W052 CAST ALUMINUM STAIR & CURB CLIMBER.** Has replaceable steel skid bars. Mounts easily to all hand trucks shown here except No. 6W050. Mounting hardware included.

**No. 6W051 FRAME EXTENDER.** Gives hand truck Nos. 6W046, 6W047, and 6W048 additional load stacking height. Made of 1½" strap aluminum. 15H x 9¼"W. Easily adaptable. Mounting hardware included.

**No. 6W053 LARGE BEVELED ALUMINUM NOSEPLATE.** Measures 18W x 8½"D. Replaces standard noseplate on Nos. 6W046 through 6W049 for moving bulky loads. Mounting hardware included.

## GENERAL PURPOSE LIGHTWEIGHT ALUMINUM HAND TRUCKS

| Handle Style | Overall Dimensions (In.) Height | Width | Stack Height (In.) | Noseplate Size (In.) | Wheels Size (In.) | Wheels Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Flow Back | 48 | 18 | 44 | 8½ x 14 | 8 | Aluminum Mold-on | 6W046 | $143.14 | $110.25 | 21.0 |
| Flow Back | 48 | 21¼ | 46 | 8½ x 14 | 10 x 4 | Pneumatic | 6W047 | 195.46 | 145.90 | 29.0 |
| Dual | 48 | 21¼ | 46 | 8½ x 14 | 10 x 4 | Pneumatic | 6W048 | 202.69 | 151.25 | 30.0 |
| Loop | 51½ | 21¼ | 51 | 8½ x 14 | 10 x 4 | Pneumatic | 6W049 | 204.95 | 149.05 | 29.0 |
| Convertible | 51¼ | 21¼ | 51 | 8½ x 18 | 10 x 4 | Pneumatic | 6W050 | 389.48 | 291.00 | 40.0 |

## HAND TRUCK ACCESSORIES

| Description | Fits Stock Nos. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Noseplate Extension | 6W046, 6W047, 6W048, 6W049, 6W050 | 5W661 | $45.47 | $36.25 | 7.0 |
| Stair & Curb Climber | 6W046, 6W047, 6W048, 6W049 | 6W052 | 37.10 | 28.60 | 5.4 |
| Frame Extender | 6W046, 6W047, 6W048 | 6W051 | 13.22 | 10.44 | 1.7 |
| Large Beveled Noseplate | 6W046, 6W047, 6W048, 6W049 | 6W053 | 36.39 | 27.15 | 5.8 |

# WELDED STEEL SPECIALTY HAND TRUCKS

## 400 LB. CAPACITY HIGH STACK TRUCK

Dayton®



- **Holds stacked loads up to 65" high**
- **Large 14 x 20" noseplate provides sturdy platform**

**Extra-long frame** enables stockmen and dock workers to handle bulky loads stacked on the truck up to 65" high. Used for loading/unloading, moving, and stocking operations in storerooms, warehouses, shipping and receiving docks.

**1" diameter tubular steel construction** with curved steel inner frame straps to cradle bulky loads. All frame members are welded for strength and durability. Flow back handle provides leverage for tilting, steering and maneuvering. Large noseplate provides a sturdy platform under the load. 10 x 2.75" semi-pneumatic wheels roll easily over indoor or outdoor surfaces. Overall dimensions: 65H x 20"W. Red baked powder coated finish. Dayton brand.

**No. 1W680.** High Stack Truck.
Shpg. wt. 45.0 lbs. List $86.27. Each.....**$70.65**

**Replacement Parts Available**
**1-800-323-0620**

## 500 LB. CAPACITY BAG TRUCK

Dayton®



- **Ideal for hauling and handling bagged products**
- **Welded frame members for strength and durability**
- **Designed for handling bags of seed, fertilizers, sand and other bagged products**

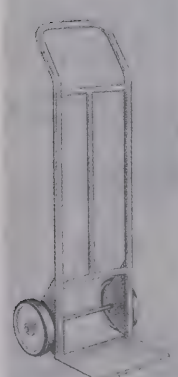
A special purpose hand truck for hauling and handling bagged products. Highly suitable for feed and grain distributors, lawn and garden centers, cement and sand distributors, hardware and home centers, farm stores, nurseries. 1" diameter tubular steel construction. All frame members welded for strength and durability. Extra large 12¼D x 19"W steel noseplate with 1¼" angled riser in back provides a sturdy platform for heavy, bulky loads. Beveled leading edge slips under bags easily. 8 x 2½" semi-pneumatic wheels with 5/8" ball bearings roll smoothly over floors and gravel driveways. Tubular steel stair climbers ease truck up or down stairs. Wide-spread twin-handle with vinyl grips provide leverage for steering and maneuverability. Overall dimensions: 54½H x 21½"W. Red baked powder coated finish. Dayton brand.

**No. 3W487.** Bag Truck. Shpg. wt. 43.0 lbs.
List $109.21 . Each.....**$82.40**

**Replacement Parts Available**
**1-800-323-0620**

## 700 LB. CAPACITY INDUSTRIAL HAND TRUCK

Dayton®



- **700 lb. capacity**
- **Tubular steel construction**
- **10 x 14" beveled steel toe plate**
- **Flow back one-piece handle**
- **Stacks up to 42" high**
- **8 x 1⅝" cast aluminum wheels with mold-on rubber tires**

**Heavy-duty industrial hand truck** constructed of 1¼" diameter tubular steel. All frame members are welded to assure strength and durability. Flow back handle provides leverage and control for maneuvering through aisles, loading docks, around machinery. Heavy steel toe plate 10D x 14"W has beveled noseplate to slip under loads; rounded corners. Tires resist cuts and scrapes from metal chips, cuttings, glass. Overall truck dimensions: 47H x 19"W. Red baked powder coated finish. Dayton brand.

**No. 2W157.** Industrial Truck.
Shpg. wt. 38.0 lbs. List $126.52. Each.....**$97.95**

**Replacement Parts Available**
**1-800-323-0620**

## 800 LB. CAPACITY DRUM HANDLING/GENERAL PURPOSE HAND TRUCKS

Dayton®





Heavy-duty, all welded 1" tubular steel frames designed to handle 17 to 32 gallon drums as well as general items. Stack up to 42" high. Spring loaded chime hook adjusts up and down on center tubular support to hold different size drums. Ideal for use on delivery trucks. Weigh 35 to 45% less than standard drum handling trucks. 8D x 14"W noseplate. Trucks feature tubular stair climbers.

Available with pneumatic tires with steel wheel centers or solid tires with plastic wheel centers; both have ball bearings. Replacement for solid wheel No. 5W699 is available; see page 2166. Overall dimensions: 48H x 22"W. Red baked powder coated finish. Dayton brand.

**Replacement Parts Available**
**1-800-323-0620**

| Wheels Size (In.) | Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **10 x 2.75** | Solid | **6W853** | $120.96 | **$93.50** | 44.0 |
| **10 x 4** | Pneu. | **6W854** | 130.84 | **103.65** | 40.0 |

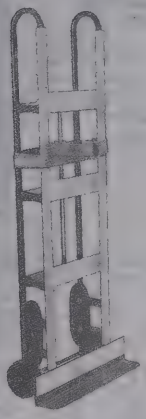


*More ways to move and store products safely and securely.*

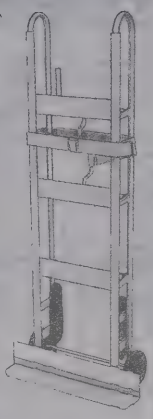
# 700 LB. CAPACITY APPLIANCE TRUCKS



No. 3W311
Aluminum
Construction

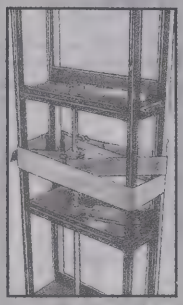


No. 3W042
Steel
Construction



No. 4W326
Steel
Construction

- Tubular steel or lightweight tubular aluminum construction



Dayton

Replacement Parts Available
1-800-323-0620

Built for moving refrigerators, stoves, water heaters, washers, dryers, and similar residential-sized appliances. 60" high frame provides ample leverage for easier mobility and guiding through doorways, halls, and passageways. Nos. 3W311 and 3W042 feature ratchet take-up belts to secure around appliances and prevent slipping or shifting. No. 4W326 has an economical manual belt tightener.

Width at top cross bar is 16". No. 3W311 has steel toe plate that withstands hard use. Roll back 1" diameter tubular frame handle and continuous belted stair crawlers for climbing or descending stairways.

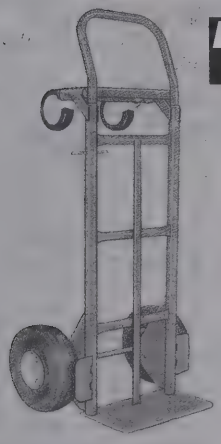
6" solid rubber wheels. Aluminum truck weighs approximately 30% less than steel models. Dayton brand.

| Truck Construction | Overall Dim. (In.) Height | Width | Noseplate Size (In.) | Finish | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 60 | 24 | 4½ x 24 | Aluminum | 3W311 | $269.43 | $221.00 | 42.0 |
| Steel | 60 | 24 | 4½ x 24 | Red | 3W042 | 211.98 | 169.00 | 58.0 |
| Steel | 60 | 24 | 4½ x 24 | Red | 4W326 | 169.78 | 136.00 | 56.0 |

# 400 TO 800 LB. CAPACITY CONVERTIBLE TRUCKS

Dayton

Convertible hand trucks allow vertical or horizontal application for use by maintenance departments, institutional janitors, caretakers of apartments or condominiums, and delivery men. Dayton brand.



No. 4W323
Steel Convertible Hand Truck
in Vertical Position

Can Be Used Horizontally and Vertically

Replacement Parts Available
Call 1-800-323-0620



No. 6W050
Aluminum
Convertible Hand Truck
in Horizontal Position

Height of handle when truck is in horizontal position is 39½" for all models.

**No. 6W050 folding aluminum truck** has extruded aluminum channel uprights with cross bars riveted in place. Vinyl inserts on front of uprights act as load protectors. Toe plate has a beveled leading edge to slide easily under loads. Twin pin handles for easy handling. Large 8½ x 18" beveled noseplate handles bulky loads and acts as a guard to protect loads. 5" rubber tired swivel casters.

**Nos. 2W065 & 4W323 heavy-duty steel trucks** have guards welded to front of frame in front of wheels to prevent unwanted braking and protect loads from tire marks. Frames are 1 5/16" dia. welded tubular steel. Removable, 1" dia. flow back handle can be used vertically or horizontally. No. 2W065 has 5" swivel casters with solid rubber wheels. One caster has a foot activated brake to control roll when truck is horizontal. No. 4W323 has heavy steel centered 5" caster wheels with solid tires. Both have red baked powder coated finish.

**No. 6W855 extra capacity folding steel truck** converts from vertical to horizontal position without removing the handle. Toe plate has beveled leading edge. Twin pin handles for load control. 5" rubber tired swivel casters. Red baked powder coated finish.

| Truck Construction | Load Capacity (Lbs.) Vertical | Horizontal | Overall Dim. (In.) Height | Width | Stack Height (In.) | Noseplate Size (In.) | Wheels Size (In.) | Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 500 | 650 | 51¾ | 21¼ | 51 | 8½ x 18 | 10 x 4 | Pneumatic | 6W050 | $399.48 | $291.00 | 40.0 |
| Steel | 400 | 500 | 46 | 20 | 42 | 8 x 14 | 10 x 2¾ | Semi-pneumatic | 2W065 | 141.24 | 110.50 | 47.0 |
| Steel | 650 | 750 | 46 | 20 | 42 | 8 x 14 | 10 x 4 | Pneumatic | 4W323 | 184.43 | 142.55 | 47.0 |
| Steel | 700 | 800 | 51¾ | 21¼ | 51 | 8 x 14 | 10 x 2¾ | Solid | 6W855 | 215.18 | 176.25 | 73.0 |

# TOUCH-N-TILT™ AND TOUCH-N-TILT LITE ERGONOMIC HAND TRUCKS



Suggested for reducing the risk factors of Awkward Posture, Force, and Repetition.
See page 2493.

**TOUCH-N-TILT™ Steel and TOUCH-N-TILT™ Lite** magnesium frame hand trucks keep strain of load on truck and off your back reducing fatigue and potential back injuries. Simple, fast activated pivot latch is connected to axle and moves load center off noseplate. This simple weight transfer helps reduce potential back injury and fatigue by reducing the effort needed to break-over a loaded hand truck by up to 66%. Frame design and raised wheel location provide excellent balance in transporting position. Wesco Mfg. brand.

**TOUCH-N-TILT™ Steel Trucks** have 1", 14-gauge double welded tubular steel frame; 8 x 14", 7-gauge beveled noseplate; stair glides; and orange enamel finish. Not recommended for use on stairs with more than three steps. Fully assembled.

**TOUCH-N-TILT™ Lite Truck** frames are made from extra thick magnesium extrusions with riveted full box cross members. Bolt-on handle. Extra strong 14W x 7⅝"D bolt-on noseplate, 1/2" thick at critical points with a beveled front edge and built-in wheel guards. All Lite trucks can be customized with add-on accessories sold separately. Fully assembled.

## TOUCH-N-TILT™ LITE ACCESSORIES

**Stair Glides.** Aluminum stair glides are specially designed for TOUCH-N-TILT™ Lite trucks with 8 or 10" wheels. Easily attach to axle and have special frame connection to allow it to move with TOUCH-N-TILT™ mechanism. Mounting hardware included.

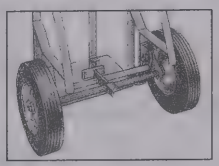
**Folding Nose Extension.** Tubular magnesium nose extension fits all TOUCH-N-TILT™ Lite trucks. 30L x 12"W extension bolts through vertical noseplate's flange and frame, and folds up when not in use. Truck capacity is 500 lbs. when extension is used. Mounting hardware included.

**Frame Extension.** Increases load stack height from 42½ to 52" on TOUCH-N-TILT™ Lite continuous and dual handle hand trucks. Magnesium extrusion is 10W x 16"H. No additional mounting hardware required.

## HAND TRUCK ACCESSORIES

| Description | Wesco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Stair Glides | CBSCF | 6W772 | $70.00 | $55.95 | 4.0 |
| Folding Nose Ext. | FN-30 | 6W771 | 56.90 | 45.60 | 4.0 |
| Frame Extension | 52U1 | 6W770 | 15.90 | 12.85 | 2.0 |

Replacement Parts Available 1-800-323-0620™



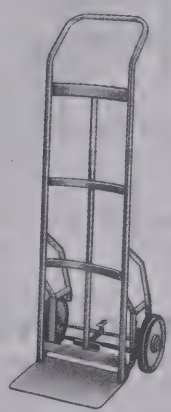
**Simple foot activation of pivot latch moves load center off noseplate and allows easier tilting of hand truck, reducing back strain.**

WESCO® Industrial Products, Inc.

**Steel or magnesium frame TOUCH-N-TILT™ hand trucks require up to 66% less effort to tilt loaded truck for transporting.**



### TOUCH-N-TILT™ STEEL HAND TRUCKS

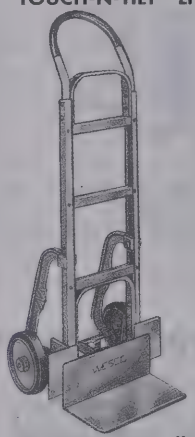


Dual Handle

Loop Handle

Continuous Handle

### TOUCH-N-TILT™ LITE HAND TRUCKS

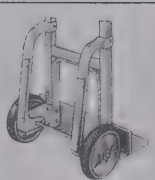


Dual Handle

Loop Handle

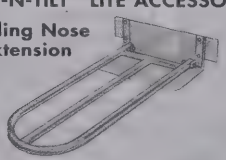
Continuous Handle

### TOUCH-N-TILT™ LITE ACCESSORIES



Stair Glides

Folding Nose Extension





Frame Extension

| Handle Type | Load Cap. (Lbs.) | Overall Dim. (In.) L | W | H | Wheels Type | Size (In.) | Wesco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOUCH-N-TILT™ STEEL HAND TRUCKS** | | | | | | | | | | | |
| Continuous | 600 | 18½ | 19½ | 48 | Poly Ctr Mold-on | 8 x 1⅝ | TNT56R2 | 6W773 | $182.30 | $150.75 | 34.0 |
| Continuous | 500 | 19½ | 19½ | 48 | Semi-Pneumatic | 10 x 2¾ | TNT56Z | 6W774 | 197.10 | 164.75 | 44.0 |
| Continuous | 600 | 19½ | 22 | 48 | Pneumatic | 10 x 3½ | TNT56P | 6W775 | 207.40 | 172.75 | 41.0 |
| Twin | 600 | 18½ | 19½ | 50 | Poly Ctr Mold-on | 8 x 1⅝ | TNT36R2 | 6W776 | 164.00 | 136.45 | 34.0 |
| Twin | 500 | 19½ | 19½ | 50 | Semi-Pneumatic | 10 x 2¾ | TNT36Z | 6W777 | 181.70 | 152.50 | 44.0 |
| Twin | 600 | 19½ | 22 | 50 | Pneumatic | 10 x 3½ | TNT36P | 6W778 | 222.60 | 184.25 | 40.0 |
| Loop | 600 | 18½ | 19½ | 48 | Poly Ctr Mold-on | 8 x 1⅝ | TNT26R2D | 6W779 | 181.60 | 150.50 | 35.0 |
| Loop | 500 | 19½ | 19½ | 48 | Semi-Pneumatic | 10 x 2¾ | TNT26ZD | 6W780 | 190.30 | 159.75 | 45.0 |
| Loop | 600 | 19½ | 22 | 48 | Pneumatic | 10 x 3½ | TNT26PD | 6W781 | 216.70 | 180.25 | 42.0 |
| **TOUCH-N-TILT™ LITE MAGNESIUM FRAME HAND TRUCKS** | | | | | | | | | | | |
| Continuous | 600 | 18¾ | 18 | 51 | Poly Ctr Mold-on | 8 x 1⅝ | TNT-510-S14-R2 | 6W761 | 243.30 | 197.75 | 26.0 |
| Continuous | 500 | 20¼ | 18 | 51 | Semi-Pneumatic | 10 x 2¾ | TNT-510-S14-Z | 6W762 | 286.70 | 233.75 | 37.0 |
| Continuous | 600 | 20¼ | 20½ | 51 | Pneumatic | 10 x 3½ | TNT-510-S14-P | 6W763 | 276.10 | 224.50 | 33.0 |
| Dual | 600 | 18¾ | 18 | 49 | Poly Ctr Mold-on | 8 x 1⅝ | TNT-550-S14-R2 | 6W764 | 239.70 | 194.75 | 26.0 |
| Dual | 500 | 20¼ | 18 | 49 | Semi-Pneumatic | 10 x 2¾ | TNT-550-S14-Z | 6W765 | 262.40 | 214.75 | 37.0 |
| Dual | 600 | 20¼ | 20½ | 49 | Pneumatic | 10 x 3½ | TNT-550-S14-P | 6W766 | 276.60 | 225.00 | 33.0 |
| Loop | 600 | 18¾ | 18 | 52 | Poly Ctr Mold-on | 8 x 1⅝ | TNT-570-S14-R2 | 6W767 | 265.10 | 213.25 | 26.0 |
| Loop | 500 | 20¼ | 18 | 52 | Semi-Pneumatic | 10 x 2¾ | TNT-570-S14-Z | 6W768 | 287.50 | 232.75 | 37.0 |
| Loop | 600 | 20¼ | 20½ | 52 | Pneumatic | 10 x 3½ | TNT-570-S14-P | 6W769 | 291.70 | 232.25 | 33.0 |

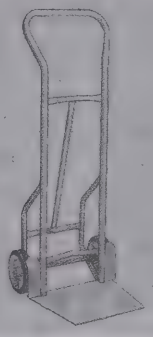


*More ways to move and store products safely and securely.*

## SHOVEL NOSE WAREHOUSE TRUCK

WESCO Industrial Products, Inc.

- 900 lb. capacity
- Structural pipe sized tube
- 13 x 17" tapered nose
- Wesco Mfg. 5-year frame warranty



Replacement Parts Available 1-800-323-0620

**Extra heavy-duty industrial warehouse truck** is constructed of 1" structural pipe sized tube. Double welded frame has a wide flaring continuous handle for best control. Wheel guards keep load from rubbing on wheels. Oversized, 1/4" thick beveled noseplate is 13" deep and widens to a 17½" width at the rear. Noseplate is designed to slide under almost any load and pick it up without tipping the load forward. Truck comes equipped with 8 x 2" mold-on rubber roller bearing wheels on 3/4" axle. Overall dimensions: 53H x 20½"W. Safety orange color. Wesco Mfg. brand (ST-2HB).

**No. 4W469.** Shpg. wt. 60.0 lbs. List $206.70. Each ..... **$180.50**

## HEAVY-DUTY VENDING MACHINE TRUCK

WESCO Industrial Products, Inc.

- 1200 lb. capacity
- 4-wheel design supports load

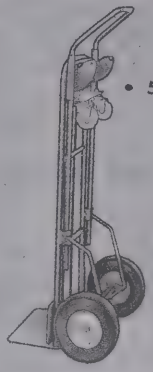


Replacement Parts Available 1-800-323-0620

**Heavy-duty all-welded 66" high truck** easily transports large, bulky, hard to handle vending machines and other appliances. Rear swivel castered support assembly extends easily from stored position. When extended, the load rides on two 3½" diameter mold-on rubber swivel casters and two 8 x 2" mold-on rubber roller bearing wheels. Operator can steer the truck without having to support the load. Heavy-duty noseplate is 24W x 5D x 3/16" thick. Two-piece, 2W x 14-ft. long, heavy-duty nylon belt with front clasp easily secures large loads. Ratchet belt tightener with auto-rewind tightens load to prevent slipping. Caterpillar crawler stair climber aids in going up and down stairs and curbs. Nonmarking, long lasting vinyl on all contact surfaces. Overall dimensions: 66H x 24W x 14½"D. Red enamel finish. Wesco Mfg. brand (WRV-66).

**No. 4W471.** Shpg. wt. 86.0 lbs. List $427.10. Each ..... **$330.50**

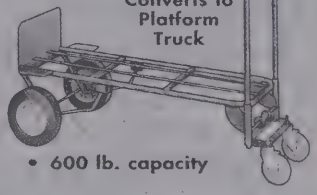
## HEAVY-DUTY CONVERTIBLE HAND TRUCK



WESCO Industrial Products, Inc.

- 500 lb. capacity

Converts to Platform Truck



- 600 lb. capacity

Replacement Parts Available 1-800-323-0620

**Strong, durable, versatile truck** for office, warehouse, maintenance department, and delivery vehicles. Two-wheel hand truck has 500 lb. capacity with 8 x 14" beveled noseplate. Converts in seconds to a 600 lb. capacity, 4-wheel platform truck with an extra large 44½L x 14"W bed of 3/4" structural pipe sized tube. Squeeze the spring loaded locks at the back top of the frame to release the hinged handle and out of the way casters. Pivot and extend handle; casters with handle will relock automatically in platform position.

**Truck has 1" 14-gauge tubular steel handle** for best control and maneuverability in either 2 or 4-wheel configuration. Handle can be locked into higher positions for use with taller loads when truck is in 2-wheel configuration. Other features include 10 x 2.75" semi-pneumatic wheels, 3½ x 1¼" bolted on swivel rubber casters, wheel guards and center straps to prevent packages from falling through. Overall height 53". Blue color. Wesco Mfg. brand (156-S23-Z).

**No. 4W470.** Shpg. wt. 52.0 lbs. List $278.20. Each ..... **$237.50**

## DESK DOLLY



WESCO Industrial Products, Inc.

- 400 lb. capacity
- 32W x 16"D vinyl coated steel platform
- 3" rubber swivel casters
- Safety latch

Replacement Parts Available 1-800-323-0620

**Move fully loaded desks without removing drawers and files.** Truck allows one person to move a 400 lb. double pedestal desk for relocating or cleaning and polishing floors. Position the 32W x 16"D platform under desk pedestals, depress handle to raise desk and engage latch. Steel lift platform and removable handle have a mar and skid resistant vinyl coating to protect the desk. Elevated desk moves easily with or without handle on four 3" swivel rubber casters. Lowered height 4¾", raised height 10¼". Overall dimensions 32W x 22"D. Natural aluminum and red vinyl finish. Shipped partially assembled. Wesco International brand (272156).

**No. 4W485.** Shpg. wt. 45.0 lbs. List $242.40. Each ..... **$205.50**

# FOLDABLE PLATFORM AND HAND TRUCKS

## A SUPER FOLDAWAY PLATFORM TRUCK

Used by salesmen, delivery and repair people, and frequent travelers. 350 lbs. capacity. Telescoping aluminum frame has a dual length platform; 20L x 16"W retracted or 28L x 16"W extended. 32" high handle. Vinyl corner bumpers. Transports computers, copiers, tools, samples, and luggage completely supported. Easy steering with 4" rubber casters, two rigid and two swivel. Folded dimensions of 20L x 16W x 9½"H allow the truck to fit into any vehicle. Shipped partially assembled. Wesco International brand (272020).

**No. 5W684.** Super Foldaway Platform Truck. Shpg. wt. 19.0 lbs. List $168.80. Each ..... **$131.30**

## B FOLDING HANDLE PLATFORM TRUCK

Move supplies, forms, files, office equipment or almost anything around the office or shop. Compact size is also ideal for use on delivery vehicles. All steel platform truck has vinyl perimeter bumper to protect walls and furniture. Vinyl covered platform keeps load from sliding. Easy locking 33½" high handle folds flat against platform for compact storage or transporting. Equipped with easy rolling rubber casters; two rigid, two swivel. Shipped partially assembled. Sand color enamel with blue vinyl. Wesco International brand.

| Load Capacity (Lbs.) | Deck Size (In.) W | Deck Size (In.) L | Caster Size (In.) | Wesco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **400** | 19 | 29 | 4 | 272019 | **5W687** | $109.80 | **$89.75** | 25.0 |
| **600** | 23 | 35 | 5 | 272035 | **5W688** | 185.30 | **151.25** | 41.0 |

## C SUPER COLLAPSIBLE HAND TRUCK

For salesmen, traveling stockers, and servicemen who carry material from vehicle to building. Strong, yet lightweight and easy to load inside any vehicle. 200 lbs. capacity. Welded tubular steel construction. Truck folds from 43¾ to 23¾". Foldable nose plate is 6" deep x 14" wide. Folding nose extension increases nose length from 6 to 12" to accommodate larger packages and improve stability under load. Equipped with long wearing 5" diameter x 1¼" wide polyolefin wheels and channel stairclimbers. Bicycle type plastic hand grip. Folded dimensions: 23¾H x 18W x 7"D; fully extended overall dimensions: 43¾H x 18W x 21"D. Shipped partially assembled. Blue enamel. Wesco Mfg. brand (CT-401).

**No. 2W669.** Super Collapsible Hand Truck. Shpg. wt. 20.0 lbs. List $106.00. Each ..... **$90.00**

## D BAGGAGE CADDY AND CASE TRUCK

Designed for travelers, flight attendants, salesmen, or anyone who needs to transport luggage, cartons, and cases between the office, airports, hotels, customers. This rugged, lightweight truck has 110 lbs. capacity and is made of durable aluminum and high impact plastic. Compact truck is only 20 x 10¼x 3"D when folded. Fits in any car trunk, under airline seats, or in passenger's overhead compartment. Telescopic handle locks open at 37¼" high. Nonskid nose is 10⅜W x 8¼"D. 2¾" diameter wheels are covered on top and front to prevent bags from rubbing, and have an open back for easy stair climbing. Special "Y" design nylon strap holds load better than an elastic cord and is permanently attached to truck nose. Posi-lock strap adjusts easily to any load size and quickly secures load to truck. Gray/silver color. Wesco International brand (272129).

**No. 6W013.** Baggage Caddy and Case Truck. Shpg. wt. 4.5 lbs.List $72.80. Each ..... **$57.25**

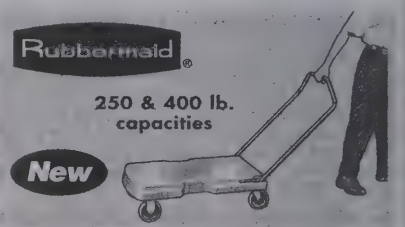



## E TRIPLE TROLLEYS

Tough, honeycomb Duramold maintenance-free construction. Three handle positions to efficiently move loads. Non-skid surface to prevent load shifting, rounded corners, and mark-resistant casters. Won't rust or dent, crack, splinter, warp, or discolor. For offices, restaurants, tool rooms, any confined area where space is limited. When not is use, handle collapses for storage and trolley can be easily carried. Rubbermaid brand.

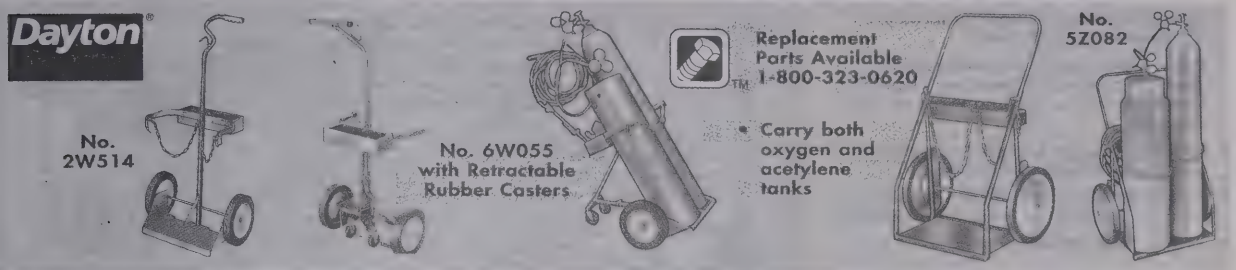
***New*** **No. 4MC27.** Deck size 32½ x 20½. 250 lb. Cap. Utility Trolley (440000GRAY). Shpg. wt. 23.0 lbs. List $102.40. Each ..... **$78.50**

***New*** **No. 4MC28.** Deck size 32½ x 20½. 400 lb. Cap. Standard Trolley (440100GRAY).. Shpg. wt. 24.0 lbs. List $132.00. Each ..... **$99.90**



# WELDED STEEL CYLINDER TRUCKS, CARRIER, DOLLY, AND CADDY

## WELDING CYLINDER TRUCKS




Equipped to carry both oxygen and acetylene tanks plus hose and tools for welding and cutting jobs. Constructed of 1" diameter tubular steel. Link chain secures tanks to truck. Steel tool tray stores welding and cutting tips, goggles, gloves. Semi-pneumatic wheels. Red baked powder coat finish. Dayton brand.

**No. 2W514 and 6W055** trucks accommodate 7 to 8½" diameter and 35 to 51" high tanks which include oxygen tank styles D, Q, and S; acetylene tank styles WS and WF. Steel noseplate has divider bar to separate tanks. No. 6W055 also has solid rubber retractable casters for added load handling safety and greater maneuverability. Well suited for laboratories and hospitals or anywhere more mobility is needed. Can be used in upright or tilt position.

**No. 5Z082** truck accommodates 8½ to 12½" diameter and 23½ to 60" high tanks which include oxygen tank styles T, K, KL, LK; acetylene tank styles WTL, WK, WSL.

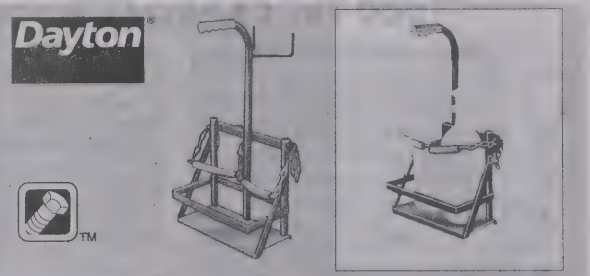
| Overall Width (In.) | Accommodates Tank Sizes (In.) Diameter | Height | Noseplate Dim. (In.) W | D | Tool Tray Dim. (In.) L | W | D | Wheels Size (In.) | Type | Load Capacity (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 7 to 8½ | 35 to 51 | 17 | 9⅝ | 18 | 6 | 4 | 10 x 1.75 | Semi-pneumatic | 225 | **2W514** | $78.46 | **$59.80** | 28.0 |
| 22 | 7 to 8½ | 35 to 51 | 17 | 9⅝ | 18 | 6 | 4 | 10 x 1.75 | Semi-pneumatic | 225 | **6W055** | 109.96 | **84.40** | 37.0 |
| 32¾ | 8½ to 12½ | 23½ to 60 | 24 | 12¾ | 22 | 5 | 3 | 16 x 1.75 | Semi-pneumatic | 500 | **5Z082** | 148.99 | **116.95** | 70.0 |

## CYLINDER CARRIER

- **Handles tanks 4 to 6¼" in diameter, 14 to 23" high**
- **1" dia. tubular steel construction**
- **13W x 9"D steel noseplate**

Accommodates 4 to 6¼" diameter and 14 to 23" high tanks which include oxygen style R; acetylene styles B and MC. Suitable for heating, ventilating, and air conditioning installations or where brazing must be done in basements, attics, or other confined spaces. Made of 1" diameter tubular steel with 13W x 9"D steel noseplate. Overall width is 15". Red baked powder coat finish. Dayton brand.

**No. 6W054.** Cylinder Carrier. Shpg wt. 12.0 lbs. List $46.50.
Each ..... $36.10






**Two hard plastic wheels on stand allow moving gas cylinder without lifting it**



## GAS CYLINDER DOLLY

**Simple, two-piece design** facilitates use without lifting gas cylinder. Locking knobs are included to secure the dolly to the gas cylinder. **Not to be used as a stand.**

**Designed for use with** 8" through 9½" diameter gas cylinders. Two hard plastic wheels are used to move the dolly. Cast-aluminum construction. T&S brand (CYL-DS-AL).

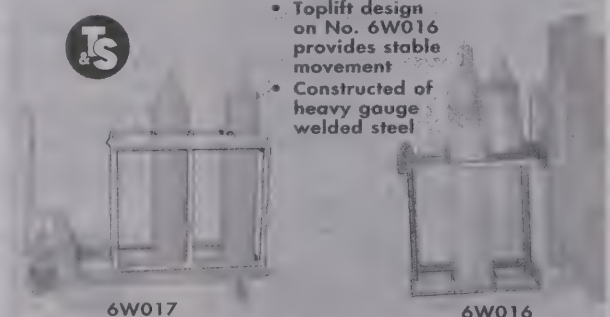
**No. 3KR48.** Shpg. wt. 35.0 lbs. List $242.81. Each ..... $194.25

## CYLINDER CADDIES

Designed for moving and storing gas cylinders. Both units accept cylinders up to 9½" in diameter and 60" in height which include oxygen tank styles O, Q, S, and acetylene tank styles WS and WF. Chain fasteners secure each cylinder in place. Painted blue enamel finish. T & S brand.

**No. 6W016 Fork Lift Cylinder Caddy** holds up to six cylinders. Supports for fork lift are located at center of tanks for greater stability. Cylinders roll in and out individually for convenient access without moving other cylinders.

**No. 6W017 Pallet Truck Cylinder Caddy** holds up to four cylinders. Single row carrying design allows access to areas too small for fork lift.



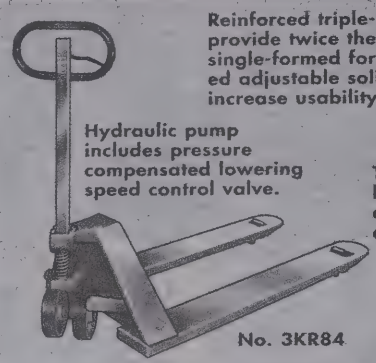

| Cylinder Capacity | Tank Dia. (In.) | Caddy Dimensions (In.) L | W | H | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 7½ to 9½ | 33½ | 38 | 36 | CYL-190 | **6W016** | $281.52 | **$277.00** | 100.0 |
| 4 | 7½ to 9½ | 39½ | 20 | 38 | PJCYL-4 | **6W017** | 305.48 | **302.00** | 90.0 |

# HYDRAULIC HAND PALLET TRUCKS

## 5500 LB. CAPACITY HYDRAULIC HAND PALLET TRUCK

- Quick lift pump design requires only 12 strokes for full travel
- Ultra-urethane wheels and sealed dual-precision ball bearings require less than 75 lbs. pulling force at full capacity
- Hydraulic pump includes overload and upper limit relief valve
- Fingertip lever control for selecting raising, neutral, or lowering positions
- Articulating steering wheels

**Pallet truck includes** two steering wheels and two front load rollers. Steering wheels include bearing dust covers, providing longer life. Spring-loaded loop handle automatically returns to vertical position when not in use. Hydraulic pump design facilitates easy-access seal replacement. Chrome-plated hydraulic pump piston for long seal life. Red powder-coated finish. Dayton brand.




Dayton®

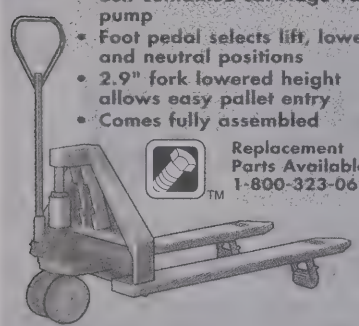
Replacement Parts Available 1-800-323-0620

### DAYTON LIMITED WARRANTY

**Dayton Electric Mfg. Co. warrants hydraulic unit, frame, and mechanical components for 2 years. Wheels, bearings, and bushings are warranted for 90 days. Warranty does not cover usage in cold storage, brine corrosive, or similar application. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Load Cap. (Lbs.) | Height of Fork (In.) Lowered | Raised | Width Across Forks (In.) | Between Forks (In.) | Fork (In.) Width | Length | Roller Dia. (In.) | Main Wheel Size (In.) | Pivot Angle | Overall Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5500 | 2⅞ | 7¾ | 27 | 13 | 7 | 48 | 2⅞ | 7¾ x 2 | 210° | 62 | 3KR84 | $594.38 | $529.00 | 204.0 |

## 5000 LB. CAPACITY HYDRAULIC HAND PALLET TRUCK



- Self-contained cartridge valve pump
- Foot pedal selects lift, lower, and neutral positions
- 2.9" fork lowered height allows easy pallet entry
- Comes fully assembled

Replacement Parts Available 1-800-323-0620

Heavy-duty pallet truck rolls smoothly, handles solidly, and maneuvers in cramped areas. All-steel frame has dual C-channel formed steel forks with tapered tips. Rugged welded pallet entry slides eliminate roller replacement.

Self-contained cartridge valve pump design minimizes maintenance. Ergonomic, spring-loaded handle automatically returns to vertical position for added safety. Lifetime lubricated bearings eliminate need for grease. Articulating steer axle provides stability on uneven floors. Polyurethane wheels. Red enamel finish. Dayton brand.

### DAYTON LIMITED WARRANTY

**Dayton Electric Mfg. Co. warrants hydraulic unit, frame, and mechanical components for 2 years. Wheels, bearings, and bushings are warranted for 90 days. Warranty does not cover usage in cold storage, brine corrosive, or similar application. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

Dayton®

| Roller Dia. (In.) | Main Wheel Size (In.) | Pivot Angle | Overall Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2⁹⁄₁₀ | 7½ x 2 | 260° | 62 | 3W094 | $659.05 | $559.00 | 208.0 |

| Load Cap. (Lbs.) | Height of Fork (In.) Lowered | Raised | Width Across Forks (In.) | Between Forks (In.) | Fork (In.) Width | Length |
|---|---|---|---|---|---|---|
| 5000 | 2⁹⁄₁₀ | 7⅘ | 27 | 15 | 6 | 48 |

## 5000 LB. CAPACITY HYDRAULIC HAND PALLET TRUCK



- 2⁹⁄₁₀" lowered height of forks for easy pallet entry
- Handle mounted control lever
- Comes fully assembled

Replacement Parts Available 1-800-323-0620

Built for rugged use. Durable pressed steel fork frame and easy rolling poly wheels. Features nylon entry and steel exit rollers for easy pallet placement, and comfortable ergonomic handle with lower and neutral control lever for fingertip lift and greater security since both feet are always on the ground.

Only minimum maintenance required due to solid steel push rods which need no adjusting. Ten grease fittings prolong truck life. Hydraulic system incorporates the seal in the cylinder not the piston for more reliable operation. Pallet truck is light enough to reduce operator fatigue, yet strong enough to handle loads up to 5000 lbs. Polyurethane wheels. Powder painted safety orange finish. BT brand (BTL2300U).

### BT LIMITED WARRANTY

**BT warrants hydraulic unit and fork frame against defective components or workmanship for 2 years. Wheels, axles, bearings and seals are warranted for 90 days. Warranty does not cover usage in cold store, brine, corrosive, or similar applications. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

BT

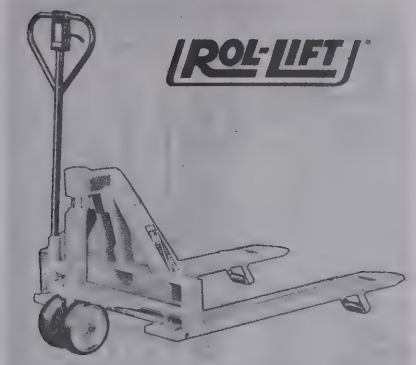
| Roller Dia. (In.) | Main Wheel Size (In.) | Pivot Angle | Overall Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2⅞ | 6⅞ x 2¼ | 180° | 60 | 6W060 | $725.00 | $599.00 | 163.0 |

| Load Cap. (Lbs.) | Height of Fork (In.) Lowered | Raised | Width Across Forks (In.) | Between Forks (In.) | Fork (In.) Width | Length |
|---|---|---|---|---|---|---|
| 5000 | 2⁹⁄₁₀ | 7¾ | 27 | 14⅝ | 6¼ | 48 |



*More ways to move and store products safely and securely.*

## 5000 LB. CAPACITY FOUR-WAY ENTRY PALLET TRUCK




- **1¾" lowered height and 33" width allow entry to pallets from all four sides**
- **3-position hand control**
- **Comes fully assembled**

**Low profile pallet truck** enters 48 x 40" pallets from all four sides. Allows entry into cut-outs on the 48" side as well as the 40" side. All-steel frame is reinforced to handle 5000 lb. capacity loads. Rugged welded pallet entry slides eliminate roller replacement. Wide loop control handle with lift, neutral, and lower functions allows finger-tip control. Lifetime lubricated bearings eliminate need for grease.

Rebuildable hydraulic system has hard chrome-plated pump piston and lift ram with polyurethane seals. Suspension system has heavy-duty thrust bearings. Complete with adjustable push rods, polyurethane wheels, steel load rollers, and a safety yellow finish. Rol-Lift brand.

### ROL-LIFT LIMITED WARRANTY

**Rol-Lift Corporation warrants hydraulic unit, frame and mechanical components for 2 years. Wheels, bearings, and bushings are warranted for 90 days. Warranty does not cover usage in cold storage, brine, corrosive, or similar applications. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

**Replacement Parts Available**
**1-800-323-0620**

| Load Capacity (Lbs.) | Height of Fork (In.) Lowered | Raised | Widths Across Forks (In.) | Widths Between Forks (In.) | Fork (In.) Width | Length | Roller Dia. (In.) | Main Wheel Size (In.) | Pivot Angle | Overall Length (In.) | Rol-Lift Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5000** | 1¾ | 6¼ | 33 | 19 | 7 | 48 | 1¾ | 7½ x 2 | 220° | 68 | F50-3348H | **3KT39** | $824.00 | **$695.00** | 222.0 |

## ERGONOMIC BATTERY POWERED HIGH RISE LIFT TRUCK





Suggested for reducing the risk factors of Awkward Posture, Force, and Repetition. See page 2493.

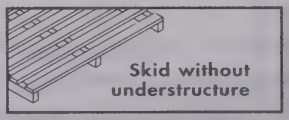
- **2500 lb. capacity**
- **31" raised height; 3½ lowered height**
- **Pendant hand control on coil cord**
- **12 volt deep cycle battery**
- **Two 8 x 2" swivel casters on rear; four 3" load rollers on front**
- **Each fork is 6½"W; overall fork width is 27"; usable fork length is 48"**

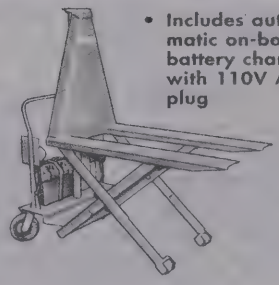
Ergonomic lift truck increases worker and machine efficiency and productivity. Reduces muscle fatigue and body injuries by bringing material closer to actual work height. Almost elminates bending, twisting, and lifting motions often associated with cumulative trauma injuries.

Battery-powered high rise lift truck for loading and unloading at worker-friendly height and lowers load for safe transporting. Heavy loads can be lifted by electric hydraulic power and manually moved without use of fork truck. Lift truck simply rolls under load to be moved. Foot brake may be set while loading and unloading for added safety. Use with wire baskets, tote boxes, and wooden skids having no understructure. Painted blue. T&S brand (HIPM-2748/DC).

**No. 6W805.❷** High Rise Lift Truck. Shpg. wt. 741.0 lbs. List $2161.01. Each.....**$2135.00**

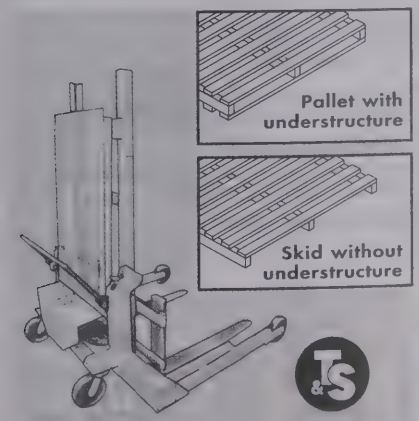
❷ Product is covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.



- **Includes automatic on-board battery charger with 110V AC plug**

## POWER LIFT PALLET MOVER




- **Service range is 2" lowered to 60" raised**
- **Maximum capacity is 4000 lbs. at a load center of 18"**
- **Adjustable overall fork width is 8-37"**
- **Each fork is 4W x 36"L**
- **Moves easily with two rigid & two total-locking swivel 8" phenolic casters**
- **Heavy-duty 12V DC electric motor**
- **Deep-cycle marine style 12V DC battery**
- **Includes automatic on-board battery charger with 110V AC plug**
- **Overall size: 58W x 60L x 83⅛"H**
- **Straddle I.D. 49" clear**

Enables one person to easily move fully-loaded pallets without use of a fork-lift truck. Unique straddle design works well with pallets and skids with and without an understructure. Ideal for loading and unloading semi-trailers.

Lift is raised and lowered with a pendant hand control on coil cord. Telescopic hydraulic cylinder includes an internally-mounted brass velocity fuse with a stainless steel spring. This feature prevents forks from falling in the event of hydraulic system failure. All welded-steel construction. Painted blue. T&S brand (PM/PS-60-DC).

**No. 3KR83.** Shpg. wt. 1000.0 lbs. List $3498.00. Each.....**$3322.00**

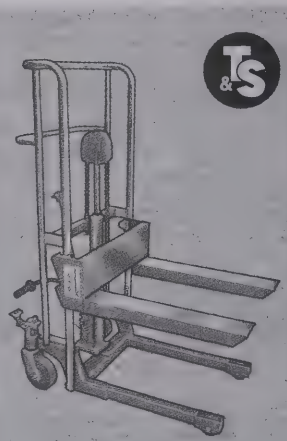
# PORTABLE HYDRAULIC LIFT AND ROLLER KITS

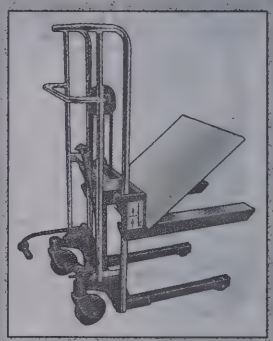
## PORTABLE HYDRAULIC LIFT

- **Lift, lower, move, and position loads**
- **880 lb. Capacity**
- **Service range is 3½" lowered to 44" raised**
- **Each fork is 4½W x 24"L**
- **Overall fork width is 22"**
- **Removable chrome platform is 23W x 24"L**
- **Manual hydraulic foot pump for raising and lowering platform**
- **Caster lock for securing unit during loading and unloading operations**
- **Chrome plated handle is 42" high**

User-friendly portable hydraulic lift provides reliable, powerful lifting for miscellaneous material handling jobs. This economical and attractive lift is ideal for commercial or industrial use. Platform may be removed when forks are needed. Hydraulic pump mechanism yields 3/4" of platform travel per stroke. Non-slip chain is used to raise and lower platform. Unit rolls easily on two rigid 3" and two swivel 6" polyurethane casters. All welded-steel construction. T & S brand (HYD-5).

**No. 3KR71.** Shpg. wt. 175.0 lbs. List $715.45 Each.....**$573.00**





**Removable chrome platform for added versatility**

## ROLLER KITS

- **Low height for low clearance moves**
- **Superior load bearing distribution with recirculating chain design**
- **15, 40, and 60-ton kits have smooth chrome ball bearings**

Move heavy equipment easily, safely, and economically. Chain action rollers permit continuous movement over imperfect floor surfaces. Require little or no maintenance. Quality steel construction. Padded swivel tops provide nonslip surface and equalize load bearing on uneven surfaces. Pads on 15, 40, and 60-ton rollers are 1/2" thick neoprene; rubber belting on 3 and 8-ton rollers. All kits include four swivel rollers and two steering handles in a lockable steel carrying case. Hilman brand.

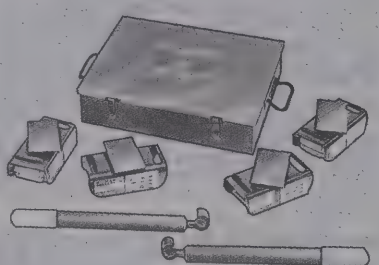
**No. 6W041 3-Ton Capacity Roller Kit.** 14" steering handles.

**No. 6W042 8-Ton Capacity Roller Kit.** 30" two part steering handles can be stored in portable case included. Can handle most light contractor and industrial duty jobs.

**No. 3VH82 15-Ton Capacity Roller Kit.** Four 3¾-ton capacity rollers.

**No. 6W043 40-Ton Capacity Roller Kit.** 48" two part steering handles. Swivel-Lock on rollers can engage every 45° for choice of swivel for turns or rigid for straight moves.

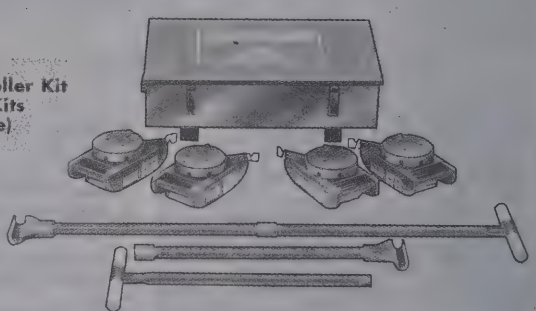
**No. 3VH83 60-Ton Capacity Roller Kit.** Four 15-ton capacity rollers.



**HILMAN ROLLERS**

**No. 6W041**
**3-Ton Capacity Roller Kit**
**(8-Ton Kit Also Available)**

**No. 6W043**
**40-Ton Capacity Roller Kit**
**(15 & 60-Ton Kits Also Available)**



| Load Capacity (Tons) | Capacity Per Roller (Tons) | Roller Dimensions (In.) L | W | H | Hilman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 3/4 | 6½ | 3⅝ | 3 5/16 | KRS-3-4S | **6W041** | $669.00 | **$627.50** | 56.0 |
| 8 | 2 | 6½ | 4⅛ | 3 15/16 | KRS-8-4S | **6W042** | 877.00 | **858.00** | 86.0 |
| 15 | 3¾ | 10½ | 5¾ | 5 | KRS-15-SLP | **3VH82** | 1387.00 | **1317.00** | 196.0 |
| 40 | 10 | 10½ | 5¾ | 5¼ | KRS-40-SLP | **6W043** | 1542.00 | **1503.00** | 219.0 |
| 60 | 15 | 12¾ | 6½ | 5⅛ | KRS-60-SLP | **3VH83** | 1799.00 | **1706.00** | 248.0 |



*More ways to move and store products safely and securely.*

# HYDRAULIC HAND TRUCKS



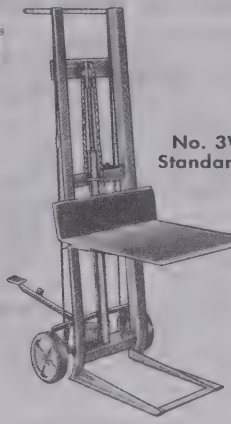
Suggested for reducing the risk factors of Awkward Posture, Force, and Repetition. See Page 2493.

WESCO Industrial Products, Inc.

Replacement Parts Available 1-800-323-0620



No. 4W474 Superlight Lifter



No. 3W219 Standard Lifter



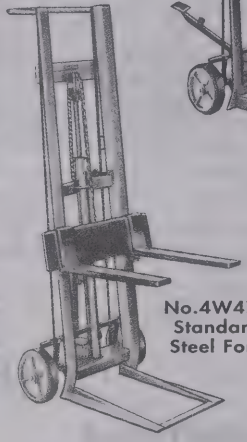
No. 3W220 Deluxe Lifter



No. 3W235 Heavy-Load Platform

**WESCO LIMITED WARRANTY**

Wesco Mfg. Co. warrants steel welds two years, hydraulics one year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



No.4W476 Standard Steel Fork



400 & 750 lb. Capacity Models Feature a Wheel Lock (Shown); Floor Lock Comes Standard on 1000 lb. Capacity Models

**Enable one person to handle many difficult lifting and moving jobs.** Save time and manpower in the shop, warehouse, stockroom, receiving department and throughout the plant, wherever aisles and congested areas prevent use of larger equipment.

Loads up to 1000 lbs. can be moved with platform in lowered position. Platform can be hydraulically lifted up to 80" above floor. Footpedal downstroke raises platform up to 1¼"; foot operated release valve controls lowering. Provide stability, mobility, and load balance.

To help keep trucks from moving when loading and unloading, the 400 and 750 lb. capacity models are equipped with a positive action wheel lock; the 1000 lb. capacity models have a foot operated floor lock.

Welded steel construction. Orange enamel finish on all frames except No. 4W474. Black platforms and forks. Push handles. Wesco Mfg.

**No. 4W474 Superlight Lifter** has platform which lowers to floor. Magnesium frame and heavy gauge aluminum platform construction. 8 x 2" wheels.

**Nos. 3W219 and 4W472 Standard Lifters** have platform which lowers to floor. 8 x 2" ball bearing molded-on rubber wheels.

**Nos. 3W220 and 4W473 Deluxe Lifters** have two 3½" swivel casters in front, two 8 x 2" ball bearing molded-on wheels in back. Loads can be pushed horizontally on a level plane or tipped back; platform can be lowered within 5¾" from floor.

**Nos. 3W235 and 4W475 Heavy-Load Platform** models have 5" ball bearing phenolic wheels in front and two 4" swivel casters in back. Designed to roll horizontally at all times, platform and load cannot be tipped back. Platform is 24" and can be lowered within 5¾" from floor.

**No. 4W476 Standard Steel Fork** model has 3/4" thick x 3" wide x 18" long adjustable span forks. Maximum outside fork span is 22". Tips of forks will touch the ground with the back of forks 2¾" from ground.

**No. 4W477 Heavy-Load Fork** model has 1" thick x 3" wide x 30" long adjustable span forks with 25" maximum span. Base leg span is 25½" inside and 32" outside.

| Description | Load Capacity (Lbs.) | Maximum Lift (In.) | Platform (In.) L | Platform (In.) W | Dimensions (In.) H | Dimensions (In.) W | Dimensions (In.) D | Wesco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Superlight Standard** | 400 | 54 | 20 | 22 | 63 | 22 | 39 | MPL-54-2022 | **4W474** | $1448.40 | **$1103.00** | 67.0 |
| **Steel Standard** | 750 | 54 | 22 | 22 | 60½ | 22½ | 35 | PL-54-2222 | **3W219** | 1130.10 | **849.00** | 157.0 |
| | 750 | 54 | 22 | 30 | 60½ | 30 | 35 | PL-54-2230 | **4W472** | 1234.00 | **937.00** | 166.0 |
| **Steel Deluxe** | 750 | 54 | 22 | 22 | 60½ | 22½ | 37 | DPL-54-2222 | **3W220** | 1226.70 | **922.50** | 160.0 |
| | 750 | 54 | 22 | 30 | 60½ | 30 | 37 | DPL-54-2230 | **4W473** | 1325.90 | **1013.00** | 172.0 |
| **Heavy-Load Platform** | 1000 | 60 | 24 | 24 | 72 | 25½ | 36 | ESPL-60-2424 | **3W235** | 1341.00 | **1042.00** | 226.0 |
| | 1000 | 80 | 24 | 24 | 92 | 25½ | 36 | ESPL-80-2424 | **4W475** | 1794.50 | **1371.00** | 263.0 |
| **Standard Steel Fork** | 750 | 54 | Fork | | 60½ | 22½ | 32 | PL-54-F | **4W476** | 1167.10 | **906.00** | 166.0 |
| **Heavy-Load Fork** | 1000 | 76 | Fork | | 92 | 32 | 48 | ESFL-76-30S | **4W477** | 2130.80 | **1626.00** | 322.0 |

# ERGONOMIC LIFTING AND TILTING EQUIPMENT

**ERGONOMIC LIFTING EQUIPMENT is designed to increase worker and machine efficiency and productivity. It reduces worker fatigue and injuries by bringing material closer to actual work height. It also decreases bending, twisting, and lifting motions frequently associated with cumulative trauma injuries. The following products are specifically designed to provide these ergonomic features for a safer and more productive work environment.**

## HYDRAULIC ELEVATING CARTS



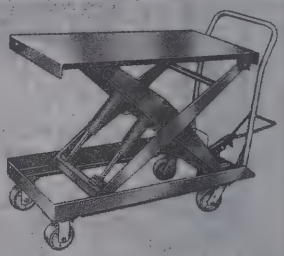
**No. 3KR46**
**400 Lb. Capacity**
**Single Speed Foot Pump**
**1" Lift Per Foot Stroke**



**No. 3KR47**
**800 Lb. Capacity**
**Single Speed Foot Pump**
**Over 1/2" Lift Per Foot Stroke**



**No. 6W803**
**1000 Lb. Capacity**
**Single Speed Foot Pump**
**1" Lift Per Foot Stroke**



**No. 6W804**
**2000 Lb. Capacity**
**2-Speed Foot Pump**
**3/4 or 1½" Lift Per Foot Stroke**

Portable ergonomic elevating carts minimize worker bending and lifting. Materials can be easily loaded onto cart from table, lowered to safe transporting height, and raised to unload at destination. Move easily on four polyurethane casters; two locking swivel and two rigid. All steel construction. Nos. 3KR46, 3KR47, and 6W803 have chrome platforms. T&S brand.

No. 3KR47 features a double scissor design that allows compact table to achieve a raised height of 51" with 800 lb. load.

No. 6W804 features a 2-speed foot pump. Pressure-compensated control valve allows controlled lowering. Includes two hydraulic cylinders with built-in velocity fuse in each cylinder.

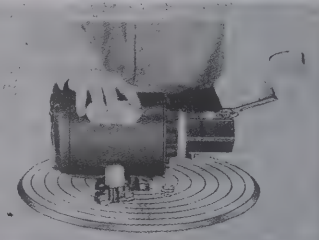
| Load Capacity (Lbs.) | Platform Size (In.) W x L | Height Lowered (In.) | Height Raised (In.) | Caster Size (In.) | Color | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **400** | 18 x 27½ | 8½ | 28¾ | 4 | Blue | Cart400 | **3KR46** | $428.65 | **$364.50** | 103.0 |
| **800** | 20 x 35½ | 13½ | 51 | 5 x 1½ | Blue | Cart800-D | **3KR47** | 880.83 | **793.00** | 250.0 |
| **1000** | 20 x 32 | 11½ | 35 | 5 x 1½ | Orange | Cart1000 | **6W803** | 679.00 | **644.50** | 200.0 |
| **2000** | 20 x 40 | 15 | 39½ | 5 x 2 | Blue | Cart2000 | **6W804** | 1327.29 | **1301.00** | 357.0 |

## BENCH TOP TURNTABLE

Suggested for reducing the risk factors of Awkward Posture, Force, and Repetition. See page 2493.

Designed for positioning and rotating loads up to 1000 lbs. Ideal for spray painting, assembly for access to different sides, repairs, and displays. 1/2" rugged steel plate rotates on ball bearings for smooth operation. 18" diameter, 3/4" high. Painted black. Includes serrated rubber top surface. T&S brand (TT-18).

**No. 6W802.** Bench Top Turntable. Shpg. wt. 40.0 lbs. List $139.00. Each.....$136.05



**DESK SPACE AT A PREMIUM?**
**USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

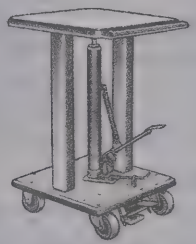
# HYDRAULIC LIFT TABLES

WESCO Industrial Products, Inc.

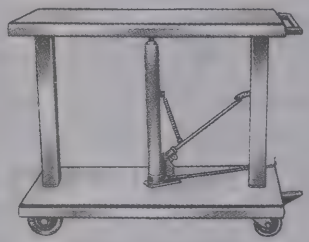
- Foot operated hydraulic jack raises platform 3/8" with each downstroke of the pedal
- Hand operated lever releases jack and controls rate of descent



No. 3W488



No. 3W489



No. 3W490



No. 4W478

**Foot-operated hydraulic lift tables** for heavy-duty shop use such as lifting dies and castings, moving machine parts, positioning welder's work, leveling feed material for punch presses, conveyors and press brakes, and similar material handling jobs.

**200, 500, and 1000 lb. capacity models** have table and base constructed of 7-gauge steel; 6000 lb. capacity models have 1/4" thick steel table and base construction. All models reinforced at critical points for maximum strength. Casters, included, match load capacity and provide good mobility for moving heavy loads. Gray enamel finish. Wesco Mfg. brand.

**Ergonomic table tilt tops** Nos. 6W783, 6W784, and 6W785, sold separately, can be mounted to lift tables of matching dimensions to enable placing work at most convenient angle.

**No. 3W488 200 Lb. Capacity Table.** Table top revolves 360° allowing loads to be positioned easily and accurately. Includes four 3" polyolefin chemical-resistant swivel casters. Shipped unassembled.

**Nos. 3W489 and 3W490, 500 and 1000 Lb. Capacity Tables,** have two telescoping posts which help stabilize and support loads during operation. Includes bar handle and four 4" phenolic resin roller bearing casters, two rigid and two swivel. Foot operated floor lock holds table in position. Shipped fully assembled.

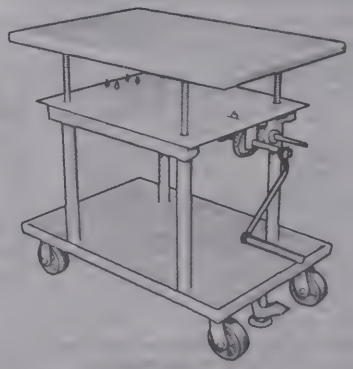
**Nos. 4W478 and 4W479, 6000 Lb. Capacity Tables,** have four telescoping posts which help stabilize and support heavier loads. Includes bar handle and four 6" phenolic resin roller bearing casters, two rigid and two swivel. Foot operated floor lock holds table in position. Shipped fully assembled.

Replacement Parts Available 1-800-323-0620

| Load Capacity (Lbs.) | Height Range (In.) Lowered | Raised | Table Top (In.) L | W | Wesco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 200 | 28½ | 46 | 16 | 16 | LT-02-1616 | 3W488 | $398.90 | $312.25 | 54.0 |
| 500 | 30½ | 47 | 18 | 18 | LT-05-1818 | 3W489 | 675.20 | 515.00 | 122.0 |
| 1000 | 30½ | 47 | 36 | 18 | LT-10-1836 | 3W490 | 918.70 | 705.50 | 168.0 |
| 6000 | 37 | 59 | 36 | 24 | LT-60-2436 | 4W478 | 1524.20 | 1173.00 | 330.0 |
| 6000 | 37 | 59 | 48 | 32 | LT-60-3248 | 4W479 | 1720.20 | 1305.00 | 495.0 |

# MECHANICAL LIFT TABLE

- Heavy-duty design provides 2000 lb. capacity
- Provides easy and safe moving and lifting of products
- Two-speed hand crank design
- 24" wide x 36" long platform
- Travel range is 24" lowered to 42" raised
- Moves easily with two rigid and two swivel 5" polyurethane casters
- Foot-operated floor lock minimizes movement during loading and unloading operations



**Adjustable-height portable table** is well suited for a wide variety of material handling applications. Mechanical crank mechanism provides positive height adjustment without downward drift. Two-speed gear mechanism moves loads at 1/8" per crank rotation and light loads at 5/16" per crank rotation. All welded steel construction. T&S brand (MT-2436-LP).

**No. 3KR80.** Shpg. wt. 350.0 lbs. List $875.00. Each.....$787.50

## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# ERGONOMIC HYDRAULIC LIFT TABLES

## ECONOMICS OF ERGONOMICS

Ergonomic equipment has a payback from at least three different sources:

**1) Increase in efficiency**—If a worker gets tired after six hours of labor instead of four hours, efficiency is increased by over 30% and an added benefit of higher productivity for an additional two hours is earned.

**2) Decrease in lost time and medical expenses which consequently lowers worker compensation costs**—According to the National Safety Council, lost time accidents cost billions of dollars a year. The average lost time injury costs $18,000.

**3) Minimize OSHA fines for ergonomic violations**—OSHA fines can range from shutting down operations at a single work station to shutting down an entire plant; from $5,000 to millions of dollars.

**Example of Equipment Cost/Efficiency Relationship:** What percentage of savings in labor is needed to pay for a $2,000 piece of equipment in one year? Assume cost of labor and burden at $20 per hour:

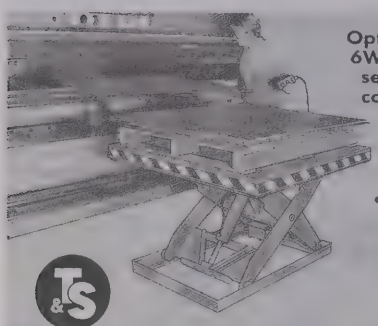
No. of Hrs. to Pay for Equipment: $\frac{\$2{,}000 \text{ (Equipment Cost)}}{\$20 \text{ (Labor per Hour)}} = 100 \text{ Hrs.}$

Percent Increase in Efficiency to Pay for Equipment in One Year: $\frac{100 \text{ Hrs.}}{2{,}080 \text{ Hrs. per Year}} = 4.8\%$

If efficiency can be increased by only 4.8%, the $2,000 purchase can be paid for in one year. This 4.8% equates to saving 23 minutes out of every 8 hour day on a job. Additional savings are realized by reducing lost time and medical expenses.

## SCISSOR LIFT TABLES

Suggested for reducing the risk factors of Awkward Posture, Force, and Repetition. See page 2493.



**Optional foot control No. 6W796 is also available separately when hand control is undesirable; see page 2221.**

- **Full stroke travel time is 8 seconds**

### ELECTRIC HYDRAULIC SCISSOR LIFT TABLES

All-steel electric hydraulic scissor lift tables are typically used by all types of manufacturing and warehouse facilities. Safety features include: electric pinch point guard to protect from pinch points during lowering of table (OSHA Pinch Point Provisions); velocity fuse to stop falling due to loss of hydraulic pressure; fused 24V AC pushbutton control which meets OSHA requirements; maintenance prop; and upper travel limit switch to stop table at maximum height, reducing motor wear. 2 HP, 208-230/460V, 3-phase, 60 Hz totally enclosed motor, (prewired for 230V). No. 6W791 lift table can be used with Nos. 4W505 and 4W506 carousel pallet turns, sold separately, which mount in prepunched holes in tables. To order pallet turns, see page 2312.

| Platform Size (In.) | Load Capacity (Lbs.) | Height Lowered (In.) | Height Raised (In.) | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **48 x 48** | 3000 | 7 | 43 | EHLT-4848-3-43 | **6W791** | $3570.00 | **$3453.00** | 770.0 |
| **30 x 60** | 3000 | 7 | 43 | EHLT-3060-3-43 | **6W792** | 3680.46 | **3555.00** | 728.0 |

### HYDRAULIC SCISSOR LIFT TABLES

**Foot pump activated lift tables.** Used by all types of manufacturing and warehouse facilities. Standard features include torsion tubes for side to side stability; velocity safety fuse to stop falling due to loss of hydraulic pressure; flow control valve for uniform lowering speed; 3 x 5 x 1/4" thick angle iron base; and dual speed foot pump. 10-gauge steel deck pivots up for easy maintenance.

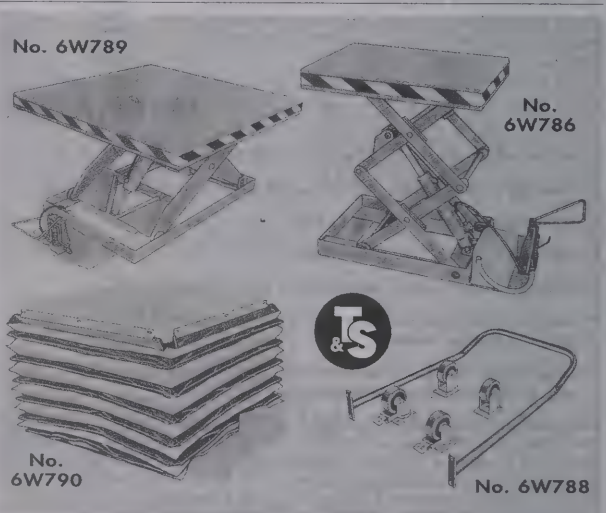
Carousel pallet turns, Nos. 4W505 and 4W506, can be mounted in prepunched holes in No. 6W789 lift table only. See page 2312.

#### ORDERING DATA

| Load Cap. (Lbs.) | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **750** | SCTAB750D | **6W786** | $1318.74 | **$1223.00** | 248.0 |
| **1000** | SCTAB1000 | **6W787** | 1229.73 | **1139.00** | 340.0 |
| **2000** | SCTAB2000 | **6W789** | 2094.60 | **1918.00** | 373.0 |

#### LIFT TABLE SPECIFICATIONS

| Description | Load Cap. (Lbs.) | Platform Size (In.) | Travel Per Stroke (In.) Low | Travel Per Stroke (In.) High | Height (In.) Lowered | Height (In.) Raised |
|---|---|---|---|---|---|---|
| Double Scissor Table | 750 | 20 x 40 | 1¾ | 3½ | 7 | 35 |
| Single Scissor Table | 1000 | 20 x 40 | 1 | 2 | 7 | 31 |
| Single Scissor Table | 2000 | 42 x 42 | 3/4 | 1½ | 8 | 32 |




**OPTIONAL ACCORDION SKIRT KIT.** For use with scissor lift table No. 6W789. Shields workers from putting foreign objects including hands, feet, legs, and arms in or around pinch points during raising and lowering of scissor table. Steel frame is covered with 23 oz. vinyl coated polyester fabric with 3" convolutions. Yellow and black alternating color venting for expulsion of air during lowering. Steel rods for uniform raising and lowering. Mounting hardware included. T&S brand (SKK-1).

**No. 6W790.** Shpg. wt. 30.0 lbs. List $342.04. Each ..... **$324.25**

**OPTIONAL HANDLE AND CASTER KIT.** Makes foot pump scissor tables Nos. 6W786 and 6W787 easy to move. Tables are ready to accept handle and locking casters with all hardware included in the kit. Kit includes handle made of tubular steel 18W x 32"H and four 3½ x 1⅜" polyurethane casters; two are double locking swivel and two are rigid. T&S brand (CHK-1).

**No. 6W788.** Shpg. wt. 22.0 lbs. List $90.82. Each ..... **$88.00**

# ERGONOMIC LIFTING AND TILTING EQUIPMENT

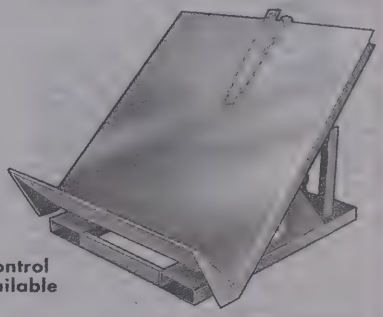
**ERGONOMIC LIFTING EQUIPMENT** is designed to increase worker and machine efficiency and productivity. It reduces worker fatigue and injuries by bringing material closer to actual work height. It also decreases bending, twisting, and lifting motions frequently associated with cumulative trauma injuries. The following products are specifically designed to provide these ergonomic features for a safer and more productive work environment.

## EFFICIENCY MASTER TILT TABLE

- **Electric hydraulic tilting**
- **Hardened pins and bushings at all pivot points**
- **2 HP, 208-230/460V, 3-phase, 60 Hz motor (prewired for 230V)**
- **Fused 24V AC hand control for added safety**
- **4000 lb. capacity**
- **48" front to back**

Tilts pallets, crates, boxes, and baskets to 45° in 7 seconds to facilitate loading and unloading operations. Restraining chain secures containers during tilting. Table has all welded steel construction for long life. Unique design minimizes pinch points which meets OSHA requirements. 48 x 48" platform. Painted blue. T&S brand (EM200-4848-4).

**No. 6W798.** Shpg. wt. 974.0 lbs. List $2725.53. Each.....**$2687.00**



- **Optional foot control No. 6W796 available separately.**
**See page 2179**

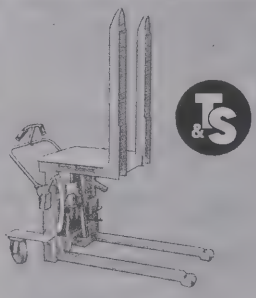
## PORTABLE TILTER

- **Pendant hand control on coil cord**
- **Reliable 2.5 HP DC electric motor**
- **Heavy-duty 12V DC battery yields over 250 complete cycles before charging is required**
- **Internal 10 amp battery charger with 110V AC plug**
- **Battery charge level indicator gauge**
- **Displacement-style cylinder for maximum longevity; increases seal life and minimizes system contamination**
- **Emergency hydraulic system lock-up is provided with internal brass velocity fuse**
- **Special precious metal DC motor contactor for increased reliability and safety**
- **4000 lb. capacity at a 20" load center**
- **8 x 2" phenolic swivel casters**
- **Welded-steel hydraulic reservoir with 1/4" thick walls**
- **Flexible-plastic dust and debris guard is 16 mil thick**

**For moving loads from warehouse to factory floor** or from one work station to another at which point load can be tilted into worker-friendly position. Allows workers to unload deep crates or baskets with minimum bending and lifting. Tilts from horizontal to 90° angle. Not for use with pallets with undercarriage. Steel construction. Lowered height of forks is 3½". Painted blue. T & S brand (TM-40-DC).

**No. 6W797.** ❷ Shpg. wt. 845.0 lbs. List $3313.00. Each.....**$3293.00**

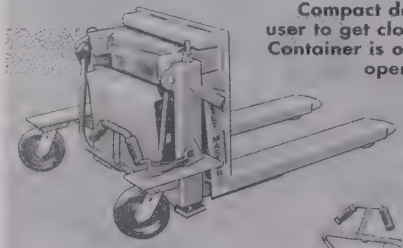
❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

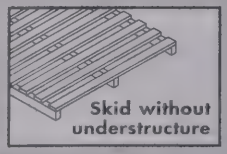




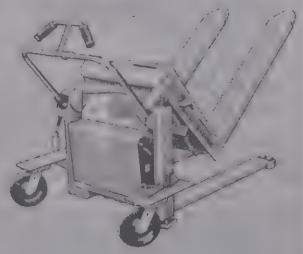
**Ergonomic-style handle for maximum maneuverability and operator comfort**

**Compact design allows user to get closer to material. Container is only 12½" from operator.**





**Skid without understructure**



**Adjustable automatic floor lock engages as forks tilt up**

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# ERGONOMIC LIFTING AND TILTING EQUIPMENT AND WORKER PLATFORM AND STEP



Suggested for reducing the risk factors of Awkward Posture, Force, and Repetition. See page 2493.

## ADJUSTABLE PALLET STAND



- **4000 lb. capacity**
- **Three height adjustments: 20¼, 30½, and 35"**
- **Adjust height, then load pallet**
- **42 x 40" platform**

Economical way to hold pallet at worker-friendly height. Counterbalance design allows one person height adjustment when unloaded. Three height adjustments. Height is adjusted, then pallet is loaded. Load must be removed prior to readjusting height. Nos. 4W505 and 4W506 carousel pallet turns, available separately, can be mounted on prepunched holes in stand. Painted blue. T&S brand (PS-4045).

**No. 6W800.** Shpg. wt. 244.0 lbs.
List $343.18. Each ..... **$329.50**

## SELF-ELEVATING TABLE



- **460 lb. capacity**
- **Welded steel frame; 20 x 20" platform**
- **Overall dimensions (including casters): 28L x 21¼W x 36"H**
- **Service range 11-33"**

Automatically adjusts height of table top as work material is loaded and unloaded. As weight is removed, springs allow table to rise. Springs can be disconnected as needed for lighter loads to achieve desired results. Included chart gives approximate number of springs needed for weight ranges up to 460 lbs. 3½ x 1¼" polyurethane casters; two double locking swivel, two rigid. Blue enamel finish. T&S brand (ETS-460).

**No. 6W799.** Shpg. wt. 158.0 lbs.
List $893.62. Each ..... **$850.50**



Suggested for reducing the risk factors of Awkward Posture, Static Posture, and Repetition. See page 2493.

## TILTING WORK STAND



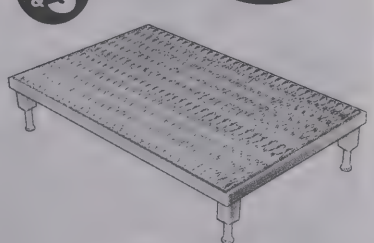
- **300 lb. capacity**
- **Raises platform from 31½ to 42"H**
- **Tilts platform work stand to 30°**
- **Four polyurethane swivel casters, two double locking**
- **24 x 24" platform**

Positions load at worker-friendly height and angle to facilitate production and reduce injuries. Four 3½ x 1¼" polyurethane swivel casters (two double locking) allow unit to be transported from one work area to another while loaded. All steel construction frame, powder-coated silver platform. T&S brand (WT-2424).

**No. 6W801.** Shpg. wt. 85.0 lbs.
List $544.19. Each ..... **$522.00**

## ADJUSTABLE HEIGHT WORKER PLATFORM

New



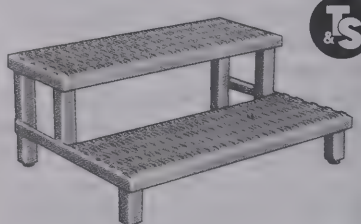
- **Height of each leg can be individually adjusted**
- **500 lb. maximum capacity**
- **Minimizes worker fatigue and potential for cumulative trauma injury**
- **Choose between serrated and ergo-matting style platforms**

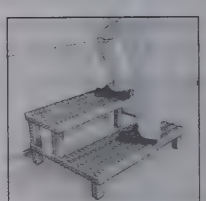
Sturdy adjustable platform elevates worker to a more ergonomically-correct position such as in shop applications with multiple-shift employees operating the same piece of machinery. Serrated style platform surface ensures safe footing in most wet environments. Ergo-matting style platform surface is ideal for dry environments where operators will be standing for long periods of time. All welded-steel construction. T&S brand.

| Platform Surface | Platform Size (In.) | Service Range (In.) | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Serrated | 24 x 24 | 9 to 14 | AHW-H-2424 | ***New*** **4UP76** | $227.51 | **$182.25** | 35.0 |
| Serrated | 24 x 36 | 5 to 8 | AHW-L-2436 | **3KR38** | 224.44 | **179.75** | 35.0 |
| Ergo-matting | 24 x 48 | 9 to 14 | AHT-H-2448 | ***New*** **4UP75** | 264.22 | **211.50** | 75.0 |

## ADJUSTABLE HEIGHT WORKER STEP

New





- **500 lbs. maximum capacity**
- **Heavy-duty construction for long life**
- **Individual step size is 12" wide**
- **Lower step height is adjustable from 7 to 11" high**
- **Non-adjustable upper step is fixed 7" higher than lower step**

Ideal for use as a semi-permanent step or an adjustable height working platform. Serrated-style surface ensures safe footing in most environments. Height is adjustable by simply screwing legs into or out of leg base. Height of each leg may be adjusted individually. All welded-steel construction. T&S brand.

| Overall Size (In.) | Step Size (Ea.) (In.) | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **24W x 24L** | 12W x 24L | ASP-24 | ***New*** **4UP77** | $236.33 | **$189.25** | 28.0 |
| **24W x 36L** | 12W x 36L | ASP-36 | **3KR39** | 250.69 | **200.75** | 40.0 |

# ERGONOMIC LIFTING AND TILTING EQUIPMENT

**ERGONOMIC LIFTING EQUIPMENT is designed to increase worker and machine efficiency and productivity. It reduces worker fatigue and injuries by bringing material closer to actual work height. It also decreases bending, twisting, and lifting motions frequently associated with cumulative trauma injuries. The following products are specifically designed to provide these ergonomic features for a safer and more productive work environment.**

## GROUND LIFT ELECTRIC HYDRAULIC SCISSOR TABLE

- **Achieves 36" raised platform height in 16 seconds**
- **Pallet truck accessible**
- **2 HP, 208-230/460V, 3-phase, 60 Hz motor (prewired for 230V)**
- **4000 lb. capacity**
- **Fused 24V AC pushbutton hand control, NEMA 4**
- **50L x 52W" platform**

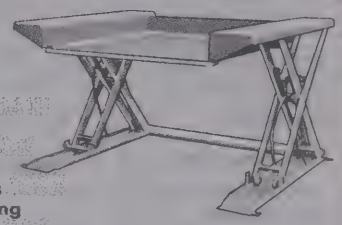
Utilized by all types of manufacturing and warehouse facilities. Designed specifically for use when powered fork trucks are not available. Pallets can be loaded onto table with pallet trucks and raised to appropriate work height. Well suited for smaller companies without access to fork truck.

Safety features include: electric toe guard to shield worker from platform edge pinch points during lowering of table (OSHA Pinch Points Provision); velocity fuses to stop free fall due to loss of hydraulic pressure; fused 24V AC pushbutton hand control; and maintenance prop. Overall size: 74W x 56L x 8"H. T&S brand (EHLTG-5250-4-36).

**No. 6W794.** Shpg. wt. 1674.0 lbs. List $4745.99. Each.....**$4697.00**

**OPTIONAL ACCORDION SKIRT KIT.** Shields workers from contacting pinch points during raising and lowering of scissor table. Helps keep debris away from moving parts. Constructed of steel reinforced 23 oz. vinyl coated polyester fabric with 3" convolutions. Yellow/black alternating color. Steel rods allow uniform raising and lowering. Mounting hardware included. T&S brand (SKK-3).

**No. 6W795.** Shpg. wt. 51.0 lbs. List $642.16. Each.....**$608.00**



**Optional foot control No. 6W796 is also available separately when hand control is undesirable; see listing below.**



**No. 6W795 Accordion Skirt Kit**

## ELECTRIC HYDRAULIC LIFT AND TILT SCISSOR TABLE

- **Lifts from 11" lowered height to 47" raised height in 8 seconds**
- **Tilts load to 45° angle in 12 seconds**
- **2 HP 208-230/460V, 3-phase, 60 Hz motor (prewired for 230V)**
- **3000 lb. capacity**
- **Fused 24V AC hand control**
- **48 x 48" usable platform**

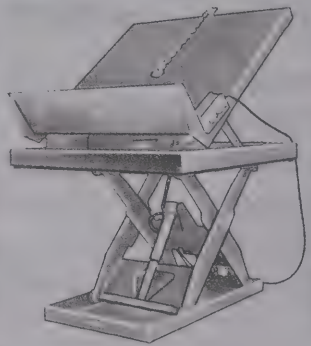
Typically used by all types of manufacturing and warehouse facilities. Performs both lifting and tilting operations. Restraining chain and lip keep load in place during tilting.

Safety features include: electric toe guard to shield worker from pinch points during lowering of table (OSHA Pinch Points Provision); velocity fuses to stop travel due to loss of hydraulic pressure; fused 24V AC hand control; upper limit travel switch to stop travel at maximum height reducing motor wear; and maintenance prop. Hand control used for raising, lowering, and tilting meets OSHA requirements. T&S brand (EHLTT-4848-3).

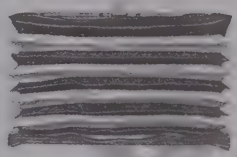
**No. 6W806.** Shpg. wt. 1203.0 lbs. List $5449.95. Each.....**$5270.00**

**OPTIONAL ACCORDION SKIRT KIT.** Shields workers from contacting pinch points during tilting and leveling of table platform. Helps keep debris away from moving parts. Constructed of steel frame and 23 oz. vinyl coated polyester fabric with 3" convolutions. Yellow/black alternating color. Steel rods enable uniform raising and lowering. Mounting hardware included. T&S brand (SKK-2).

**No. 6W807.** Shpg. wt. 133.0 lbs. List $513.37. Each.....**$486.75**



**No. 6W806**

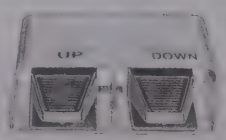


**No. 6W807 Accordion Skirt Kit**

## FOOT CONTROL

For use with electric hydraulic lifts Nos. 6W791, 6W792, 6W793, 6W794, and 6W798. Ideal when operation of On/Off switches by hand is either undesirable or unsafe. Plugs in when hand control is removed. Switch contacts are SPDT and UL Listed. Double pedal design. Includes OSHA required steel foot shield. T&S (FC-1).

**No. 6W796.** Shpg. wt. 13.0 lbs. List $175.00. Each.....**$165.25**



# HOIST SELECTION GUIDE

## HOIST SELECTION GUIDE

| In order to properly select a hoist, consider the following: | | Example:** | |
|---|---|---|---|
| **1. WEIGHT CAPACITY** | Determine the maximum gross weight you will apply to it. (Remember to add for Lifting, Supporting, and Positioning devices.) | **1. 2400 lbs.** | This weight includes all the components of the load (pallet, drum, sling, etc.) |
| **2. INPUT VOLTAGE** | Nominal Voltage*: Single Phase 115 or 230 volt Three Phase 208, 230, or 460 volt | **2. 230V, 3-Phase** | Nominal voltage available. |
| **3. LIFT SPEED** | The speed you want to lift the load. Industry standard for 1/8 - 1 ton is 16 ft./min. (FPM). 2 ton is 8 FPM. | **3. 8 FPM** | Common lift speed for a 2-ton hoist. |
| **4. CHAIN LENGTH (Lift)** | Measure from the point of mount to the floor. | **4. 12 Feet** | Height from I-beam to floor. |
| **5. LOAD MOVEMENT** | Determine actual distance the load must be lifted and lowered. | **5. 7 Feet** | Actual lift height |
| **6. NUMBER OF LIFTS** | Determine the number of lifts per hour. | **6. 15 Lifts** | Amount of lifts per hour for job |
| **7. START/STOPS** | The number of times the operator activates the pushbutton control. Rule of thumb: 8 start/stops per cycle (load lift and lower). | **7. 120 Start/Stops** | 15 x 8 = 120 |
| **8. OPERATING TIME** | All hoists are rated with a "Service Classification". To determine this classification for your job, use the following calculation: | **8. Calculation:** | |
| **Minutes Run Time = Then calculate:** | Feet of Load Lift x Lifts per Hour x 2 ÷ Hoist Speed | 7 ft. x 15 lifts x 2 ÷ 8 FPM =26.25 Min. Run Time/Hr. | |
| **% On Time =** | Minutes Run Time ÷ 60 | 26.25 ÷ 60 = 44% On Time/Hr. | |
| Once a percent On Time is determined, see "Hoist Service Classification" to determine the hoist needed. | | **Selected Hoist:** With the above known, the selected hoist should offer: 2-ton capacity, 230V, 3-phase operation, 15 ft. lift, 8 FPM, and have a 44% or "H4" Service Classification. | |

(*) Nominal voltage is ±10% of rated voltage. (**) Example is based on having Nominal Voltage and 80°F ambient still air. Higher temperatures and/or voltages outside of nominal range will result in reduced duty cycles.

## HOIST SERVICE CLASSIFICATIONS

| Service Classification | Typical Areas of Application |
|---|---|
| **H2** | Light machine shop and fabricating industries and service and maintenance work, where loads and use are randomly distributed with capacity loads infrequently handled, and where total running time of equipment does not exceed 15% of the work period and 75 start/stops per hour. |
| **H3** | General machine shop, fabricating, assembly, storage, and warehousing use, where loads and operation are randomly distributed, with total running time of equipment not exceeding 25% of the work period and 150 start/stops per hour. |
| **H4** | High volume handling in steel warehousing, machine shops, fabricating plants, mills, and foundries. Manual or automatic cycling operations in heat-treating and plating operations. Total running time of equipment normally approaches 50% of the work period and 300 start/stops per hour. |
| **H5** | Bulk handling of material in combination with buckets, magnets, or other heavy attachments. Equipment is often cab operated. Duty cycles approaching continuous opertion are frequently necessary. |

## HOIST CROSS REFERENCE GUIDE

| | Capacity | 300 lbs. | 1/4-Ton | | | | 1/2-Ton | | | | | 1-Ton | | | | | 2-Ton | | | | 3-Ton |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Brand | Dayton | Dayton | Dayton | CM Valu-star | CM Lode-star | Dayton | CM Valu-star | CM Lode-star | Coffing | I/R | Dayton | CM Valu-star | CM Lode-star | Coffing | I/R | Dayton | CM Valu-star | CM Lode-star | Coffing | CM Lode-Star |
| | Page No. | 2224 | 2224 | 2225 | 2226 | 687 | 2225 | 2226 | 2227 | 2228 | 2229 | 2225 | 2226 | 2227 | 2228 | 2229 | 2225 | 2226 | 2227 | 2228 | 2227 |
| Lift (Ft.) | 10 | • | • | • | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | |
| | 15 | | | | • | | • | • | • | • | • | • | • | • | • | • | • | • | • | | • |
| | 20 | | | | | | • | | | | | • | • | | | | • | • | | | |
| Lift Speed (FPM) | 5.5 | | | | | | | | | | | | | | | | | | | | • |
| | 8 | | • | | | | | | | | | | | | | | • | • | • | • | |
| | 16 | • | | • | • | • | • | • | • | • | | • | • | • | • | | | | | | |
| | 32 | | | | | | • | | | | | | | | | | | | | | |
| | 16/3 | | | | | | | | | | • | | | | | | | | | | |
| | 18/3 | | | | | | | | | | | | | | | • | | | | | |
| Input Volts | 115 | • | • | | • | • | | • | • | | | | • | • | | | | • | • | | • |
| | 115/230 | | | • | | | • | | | • | | • | | | • | | • | | | | |
| | 208-230/440-480 | | | | | | | | • | | | | • | • | | | | • | • | | |
| | 230/460 | | | | • | | • | • | | • | | • | | | • | | • | | | • | |
| | 460 | | | | | | | | | | • | | | | | • | | | | | |
| Classification | | H2 | H2 | H4 | H3, H4 | H4 | H4 | H3, H4 | H4 | H4 | H4 | H4 | H3, H4 | H4 | H4 | H4 | H4 | H3, H4 | H4 | H4 | H4 |
| Control Volts | 24 | | | • | | | • | | | • | | • | | | • | | • | | | • | |
| | 42 | | | | | | | | | | • | | | | | • | | | | | |
| | 115 | • | • | | • | • | | • | • | | | | • | • | | | | • | • | | • |
| Limit Switch | Upper & Lower | • | • | | | | | | | | • | | | | | • | | | | | |
| | Adj. Upper & Lower | | | • | | • | • | | • | • | | • | | • | • | | • | | • | • | • |
| Lubrication | Oil | • | | • | | | • | | | • | | • | | | • | | • | | | • | |
| | Greases | | • | | • | • | | • | • | | • | | • | • | | • | | • | • | | • |
| Lift Medium | Chain | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Wire | | • | | | | | | | • | | | | | • | | | | | | |
| Brakes | Elec. Disc | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Mechanical | | | | | | | | | • | | | | | • | | | | | • | |

# CM SHOPSTAR® 300 AND 600 LB. ELECTRIC CHAIN HOIST

- **Compact, lightweight, powerful**

**STANDARD OVERLOAD DEVICE**—Protects hoist and operator from dangerous overloads.

**THERMALLY PROTECTED HOIST DUTY MOTOR**—provides greater efficiency with less heat build-up for higher duty cycles.

**DUAL BRAKE SYSTEM**—Electro-mechanical motor brake and regenerative braking.

**LIFETIME GEAR TRAIN LUBRICATION**—No oil changes, dripping, product contamination, or disposal concerns. Ideally suited for food, paper, texile, pharmaceutical, and other clean environment applications.

**PRECISION BEARINGS**—For longer gear-train life and smoother oepration.

**TOTALLY ENCLOSED NON-VENTILATED HOIST FRAME**—Protects motor from environmental contamination.

**NEMA 12 INDUSTRIAL RATED CONTROL STATION**—Uses low current 115V control.

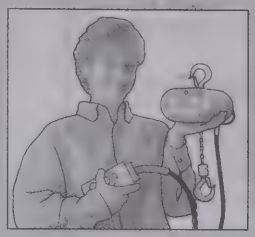
**5:1 DESIGN FACTOR**—Meets or exceeds ASME/ANSI B30. 16 standards.

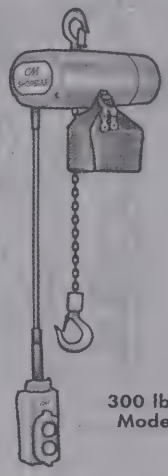
**Ruggedly built for standard industrial applications.** Made in U.S.A.

**H4 service classification**-- See page 2222

CM

New





300 lbs. Model

**Impact Resistant Chain Contaniner not included, order separately. See below**

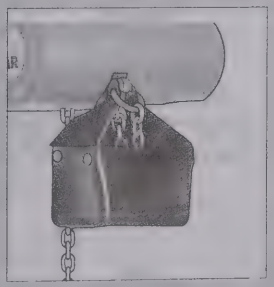
Replacement Parts Available
1-800-323-0620

| Lift Capacity (Lbs.) | Chain Lift (Ft.) | Lift Speed (Ft./Mins.) | Control Cord (Ft.) | HP | Motor Volts 60Hz | Phase | Min. Dist. Between Hooks (In.) | Dimensions (In.) L | W | D | CM Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **300** | 10 | 16 | 6 | 1/6 | 115 | 1 | 10⅞ | 9 27/32 | 5 15/16 | 4 1/16 | 2000 | **4UV26** | $759.15 | **$721.50** | 27.0 |
| **300** | 15 | 16 | 6 | 1/6 | 115 | 1 | 10⅞ | 9 27/32 | 5 15/16 | 4 1/16 | 2002 | **4UV28** | 791.70 | **752.50** | 30.0 |
| **300** | 20 | 16 | 6 | 1/6 | 115 | 1 | 11 15/16 | 9 27/32 | 5 15/16 | 4 1/16 | 2004 | **4UV30** | 824.25 | **783.50** | 31.0 |
| **600** | 10 | 8 | 6 | 1/6 | 115 | 1 | 11 15/16 | 9 27/32 | 5 15/16 | 4 1/16 | 2001 | **4UV27** | 890.40 | **846.00** | 30.0 |
| **600** | 15 | 8 | 6 | 1/6 | 115 | 1 | 11 15/16 | 9 27/32 | 5 15/16 | 4 1/16 | 2003 | **4UV29** | 955.50 | **908.00** | 33.0 |
| **600** | 20 | 8 | 6 | 1/6 | 115 | 1 | 11 15/16 | 9 27/32 | 5 15/16 | 4 1/16 | 2005 | **4UV31** | 1020.60 | **969.50** | 37.0 |

**WARNING! Hoists are industrial duty units and are not designed for lifting, supporting or transporting people.**

CM

New



## CHAIN CONTAINERS

Stores surplus load chain overhead to keep from interfering with operations. Attaches to side of hoist.

| For use with CM Hoists No.: | CM Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **4UV26** | 2010 | **4UV32** | $30.45 | **$28.95** | 0.8 |
| **4UV27, 4UV28, 4UV30** | 2011 | **4UV33** | 34.65 | **32.95** | 1.2 |
| **4UV29** | 2013 | **4UV34** | 38.85 | **36.90** | 1.0 |
| **4UV31** | 2014 | **4UV35** | 42.00 | **39.90** | 1.4 |

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

# 300 AND 500 LB. ELECTRIC HOISTS AND CHAIN CONTAINERS

## 300 AND 500 LB. ELECTRIC CHAIN HOISTS




**Safety Latch Swivel Hooks** — Provide positive load engagement.

**115 Volt Pushbutton Control** — Rocker switch pushbutton design gives "up", "off" and "down" positions while meeting NEMA 1 requirements.

**12" Power Cord with Three Prong Plug** — Offers simple installation to 115V, 60 Hz outlets.

**Light Commercial, Intermittent Duty** — Offers 10 minutes "ON" time per hour and thermal protection.

**Upper and Lower Limit Switches** — Protect the load and hoist by preventing chain overtravel.

**Reliable Electric Disc Motor Brake** — Stops and holds the load, even with loss of power.

**Grease Gear Case Lubrication** — Provides extended gear life.

**7/32" Steel Chain** — Provides extended chain wear.

**H2 Service Classification** — See page 2222

Dayton compact multipurpose electric chain hoists are economically suitable for light-duty use. The 500 lb. model is double chained. UL Listed (SA5495). Dayton brand.

**Replacement Parts Available**
**1-800-323-0620**

| Maximum Capacity (Lbs.) | Chain Lift (Ft.) | Lift Speed (Ft./Min.) | Volts 60 Hz | Motor HP | Motor Phase | Amps at Low Voltage | Control Cord (Ft.) | Min. Dist. Between Hooks (In.) | Housing Dimensions (In.) L | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **300** | 10 | 16 | 115 | 1/6 | 1 | 3.0 | 6 | 14½ | 14¼ | 6 | 4⅝ | **4Z358** | $668.00 | **$565.00** | 24.0 |
| **500** | 10 | 8 | 115 | 1/6 | 1 | 3.0 | 6 | 16 | 14¼ | 6 | 4⅝ | **4Z811** | 727.00 | **672.00** | 30.0 |

## 500 LB. ELECTRIC WIRE ROPE HOIST

**Safety Latch Swivel Hooks** — Provide positive load engagement.

**115 Volt Pushbutton Control** — Rocker switch pushbutton design gives "up", "off" and "down" positions while meeting NEMA 1 requirements.

**12" Power Cord with Three Prong Plug** — Offers simple installation to 115V, 60 Hz outlets.

**Light Commercial, Intermittent Duty** — Offers 10 minutes "ON" time per hour and thermal protection.

**Paddle Limit Switch** — Provides positive protection in the "up" direction.

**Reliable Electric Disc Motor Brake** — Stops and holds the load, even with loss of power.

**Grease Gear Case Lubrication** — Provides extended gear life.

**H2 Service Classification** — See page 2222

Dayton compact electric wire rope hoists are economically suitable for light-duty use. UL Listed (SA5495). Dayton brand.

**Replacement Parts Available**
**1-800-323-0620**




| Maximum Capacity (Lbs.) | Chain Lift (Ft.) | Lift Speed (Ft./Min.) | Volts 60 Hz | Motor HP | Motor Phase | Amps at Low Voltage | Control Cord (Ft.) | Min. Dist. Between Hooks (In.) | Housing Dimensions (In.) L | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **500** | 10 | 10 | 115 | 1/6 | 1 | 3.0 | 6 | 13¾ | 14¼ | 6 | 4⅝ | **2Z668** | $715.00 | **$665.50** | 22.0 |

**WARNING:** Hoists listed above are not to be used for lifting, supporting or transporting people, or lifting loads over people.



Dayton

Keeps surplus chain away from work area.

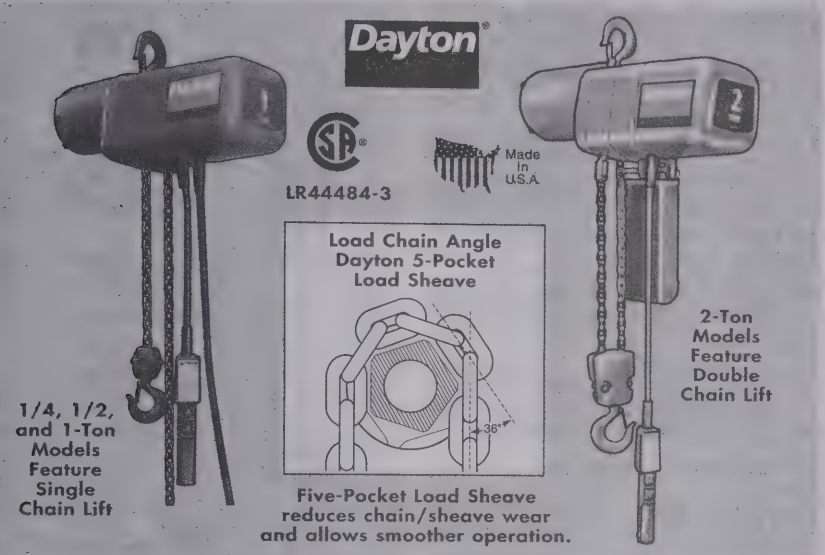
Suspended from bottom of hoist.

## COIL CHAIN CONTAINER

**For use with Dayton 300 and 500 lb. capacity electric chain hoists listed above.**

| Height (In.) | Width (In.) | For Use with Hoist Models: | Chain Lift (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **10** | 3½ | 4Z358 (300 lb. cap.)<br>4Z811 (500 lb. cap.) | 10 | **3KR20** | $40.16 | **$34.50** | 2.0 |

# 1/4, 1/2, 1, AND 2-TON ELECTRIC CHAIN HOISTS




**24 Volt Pushbutton Control with Strain Relief** — Ergonomic design meets NEMA 3R requirements with low voltage for safer operation.

**Adjustable Limit Switches** — Protect the load and hoist by preventing overtravel in varying hoist applications.

**Overload Limiting Clutch** — Prevents hoist damage from heavier-than-rated loads.

**Multiple Disc Motor Brake** — Stops and holds the load, even with loss of power.

**Oil Bath Gear Case Lubrication** — Provides cooler operation and longer gear life through positive lubrication.

**Safety Latch Hooks** — Rigid top and swivel load hooks provide positive load engagement.

**15-Foot Power Cord** — Provides convenient connection to the power source.

**H4 Service Classification** — Refer to page 2222

Designed and built for most industrial lifting applications. Meets or exceeds all industry standards, including ASME/ANSI B30.16 and CSA LR 44484-3 requirements. Dayton brand.

**Replacement Parts Available**
**1-800-323-0620**

| Maximum Capacity (Tons) | Chain Lift (Ft.) | Lift Speed (Ft. / Min.) | Volts* 60 Hz | Motor HP | Motor Phase | Amps at Low Voltage | Control Cord (Ft.) | Min. Dist. Between Hooks (In.) | Housing Dimensions (In.) L | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 10 | 16 | 115/230 | 1/4 | 1 | 5.0 | 6 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3KR14 | $1214.00 | $996.50 | 65.0 |
| 1/2 | 10 | 16 | 115/230 | 1/2 | 1 | 9.8 | 6 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3Z370 | 1292.00 | 1187.00 | 77.0 |
| 1/2 | 15 | 16 | 115/230 | 1/2 | 1 | 9.8 | 11 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3Z923 | 1343.00 | 1267.00 | 80.0 |
| 1/2 | 20 | 16 | 115/230 | 1/2 | 1 | 9.8 | 16 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3Z924 | 1394.00 | 1314.00 | 83.0 |
| 1/2 | 10 | 32 | 115/230 | 1 | 1 | 16.0 | 6 | 18 | 23 1/8 | 7 13/16 | 8 3/8 | 4Z579 | 1389.00 | 1332.00 | 88.0 |
| 1/2 | 10 | 16 | 230/460 | 1/2 | 3 | 2.0 | 6 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3KR15 | 1292.00 | 1187.00 | 79.0 |
| 1/2 | 15 | 16 | 230/460 | 1/2 | 3 | 2.0 | 11 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3KR16 | 1343.00 | 1267.00 | 83.0 |
| 1/2 | 20 | 16 | 230/460 | 1/2 | 3 | 2.0 | 16 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3KR17 | 1394.00 | 1314.00 | 87.0 |
| 1 | 10 | 16 | 115/230 | 1 | 1 | 16.0 | 6 | 18 | 23 1/8 | 7 13/16 | 8 3/8 | 3Z372 | 1433.00 | 1363.00 | 91.0 |
| 1 | 15 | 16 | 115/230 | 1 | 1 | 16.0 | 11 | 18 | 23 1/8 | 7 13/16 | 8 3/8 | 4Z580 | 1578.18 | 1422.00 | 96.0 |
| 1 | 20 | 16 | 115/230 | 1 | 1 | 16.0 | 16 | 18 | 23 1/8 | 7 13/16 | 8 3/8 | 3Z874 | 1565.00 | 1469.00 | 101.0 |
| 1 | 10 | 16 | 230/460 | 1 | 3 | 3.3 | 6 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3Z373 | 1433.00 | 1363.00 | 80.0 |
| 1 | 15 | 16 | 230/460 | 1 | 3 | 3.3 | 11 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3Z925 | 1504.00 | 1422.00 | 84.0 |
| 1 | 20 | 16 | 230/460 | 1 | 3 | 3.3 | 16 | 18 | 21 3/4 | 7 13/16 | 8 3/8 | 3KR18 | 1565.00 | 1469.00 | 102.0 |
| 2 | 10 | 8 | 115/230 | 1 | 1 | 16.0 | 6 | 21 3/4 | 23 1/8 | 7 13/16 | 8 3/8 | 3Z374 | 1717.00 | 1610.00 | 100.0 |
| 2 | 15 | 8 | 115/230 | 1 | 1 | 16.0 | 11 | 21 3/4 | 23 1/8 | 7 13/16 | 8 3/8 | 3Z926 | 1823.00 | 1790.00 | 108.0 |
| 2 | 20 | 8 | 115/230 | 1 | 1 | 16.0 | 16 | 21 3/4 | 23 1/8 | 7 13/16 | 8 3/8 | 3Z927 | 1929.00 | 1897.00 | 116.0 |
| 2 | 10 | 8 | 230/460 | 1 | 3 | 3.3 | 6 | 21 3/4 | 21 3/4 | 7 13/16 | 8 3/8 | 3Z375 | 1717.00 | 1610.00 | 90.0 |
| 2 | 15 | 8 | 230/460 | 1 | 3 | 3.3 | 11 | 21 3/4 | 21 3/4 | 7 13/16 | 8 3/8 | 3Z928 | 1823.00 | 1790.00 | 98.0 |
| 2 | 20 | 8 | 230/460 | 1 | 3 | 3.3 | 16 | 21 3/4 | 21 3/4 | 7 13/16 | 8 3/8 | 3KR19 | 1929.00 | 1897.00 | 120.0 |

*) Single phase hoists are wired for 115V, 60 Hz operation; three phase hoists for 460V, 60 Hz operation. Hoist easily reconnects for use at 230VAC.

**WARNING:** Hoists are industrial duty units and are not designed for lifting, supporting, or transporting people or lifting loads above people.

# COIL CHAIN CONTAINERS



Dayton

Keeps Surplus Chain Away from Work Area

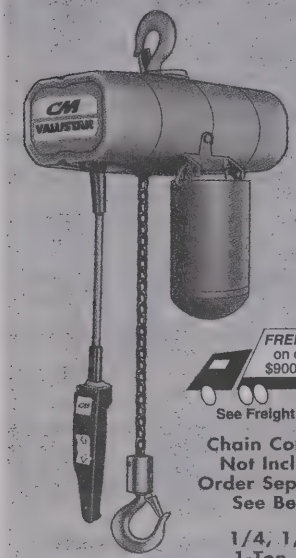
Suspended from Bottom of Hoist

**For Use with Dayton 1/4, 1/2, 1, & 2-Ton Electric Chain Hoists Listed Above**

| Bucket Height (In.) | Recommended For Use With: Hoist Capacity (Tons) | Chain Lift (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 11 1/2 | 1/4 | 10-15-20 | 2Z618 | $42.43 | $33.95 | 2.9 |
| | 1/2 | 10-15-20 | | | | |
| | 1 | 10-15-20 | | | | |
| | 2 | 10 | | | | |
| 18 1/2 | 1 | 25 | 2Z619 | 46.81 | 38.20 | 4.1 |
| | 2 | 15 | | | | |
| 27 | 2 | 20-25 | 2Z620 | 85.00 | 81.30 | 6.1 |

# ELECTRIC CHAIN HOISTS AND CHAIN CONTAINERS

## CM VALUSTAR® 1/4, 1/2, 1, AND 2-TON ELECTRIC CHAIN HOISTS




FREE DELIVERY on orders of $900 or more
See Freight Policy

Chain Container Not Included. Order Separately, See Below.

1/4, 1/2, and 1-Ton Models Have Single Chain Lift

Replacement Parts Available
1-800-323-0620

**Ruggedly Built for Standard Industrial Applications** — Produces more motor starts and run time with less maintenance.

**Life Lubricated Gears** — No oil changes, dripping, product contamination, or disposal worries. Ideal in food, paper, textile, and pharmaceutical applications.

**Ergonomically Designed Snap-Action Control Station** — NEMA 4 station is designed to reduce operator fatigue and uses low current 115V control voltage for added operator protection.

**Machined Liftwheel with Calibrated CM Hoistalloy Chain** — Precision fit assures long chain life and smooth operation.

**Solid-State Starting** — Increased reliability and reduced maintenance on single phase hoists. No contacts to arc, burn, or corrode.

**Protector Overload Limiter** — Protects hoist and operator from dangerous overloads.

**Ease of Maintenance** — Complete OSHA inspection in minutes and no special tools required.

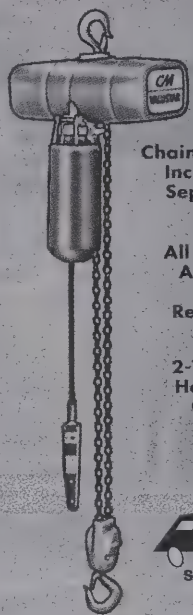
**Low Headroom** — Allows use in restrictive areas.

**Powder Paint Finish** — Keeps your hoist looking new for years, even in corrosive environments.

**Operates On** — 110-120 VAC, 60 Hz,1-Phase or 208-240 VAC/440-480 VAC, 50/60 Hz, 3-Phase

**H3 Service Classification on Single Phase Hoists**

**H4 Service Classification on 3-Phase Hoists** — Refer to page 2222.




Chain Container Not Included. Order Separately, See Below.

All Hoists Meet ASME/ANSI B30.16 Requirements

2-Ton Models Have Double Chain Lift

FREE DELIVERY on orders of $900 or more
See Freight Policy

Replacement Parts Available
1-800-323-0620

| Lift Capacity (Tons) | Chain Lift (Ft.) | Control Cord (Ft.) | HP | Motor Volts, 60 Hz | Ph | Lift Speed (Ft./Min.) | Min. Dist. Between Hooks (In.) | Housing Dimensions (In.) L | W | D | CM Code | CM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 15 | 11 | 1/4 | 115 | 1 | 16 | 16½ | 16 1/16 | 8¾ | 6⅛ | 2401B | WB | **3KP84** | $1189.76 | **$1143.00** | 59.0 |
| 1/4 | 15 | 11 | 1/4 | 230/460 | 3 | 16 | 16½ | 16 1/16 | 8¾ | 6⅛ | 2402B | WB | **3KP85** | 1189.76 | **1143.00** | 60.0 |
| 1/2 | 10 | 6 | 1/2 | 115 | 1 | 16 | 16½ | 16 1/16 | 8¾ | 6⅛ | 2403 | WF | **4Z399** | 1365.52 | **1311.00** | 60.0 |
| 1/2 | 15 | 11 | 1/2 | 115 | 1 | 16 | 16½ | 16 1/16 | 8¾ | 6⅛ | 2403B | WF | **5Z137** | 1412.32 | **1356.00** | 63.0 |
| 1/2 | 15 | 11 | 1/2 | 230/460 | 3 | 16 | 16½ | 16 1/16 | 8¾ | 6⅛ | 2404B | WF | **3KP86** | 1412.32 | **1356.00** | 60.0 |
| 1 | 10 | 6 | 1 | 115 | 1 | 16 | 17⅝ | 20 3/16 | 12 11/16 | 7⅝ | 2407 | WL | **4Z400** | 1569.36 | **1507.00** | 96.0 |
| 1 | 15 | 11 | 1 | 115 | 1 | 16 | 17⅝ | 20 3/16 | 12 11/16 | 7⅝ | 2407B | WL | **5Z138** | 1619.28 | **1555.00** | 114.0 |
| 1 | 20 | 16 | 1 | 115 | 1 | 16 | 17⅝ | 20 3/16 | 12 11/16 | 7⅝ | 2407C | WL | **5Z139** | 1701.44 | **1634.00** | 120.0 |
| 1 | 10 | 6 | 1 | 230/460 | 3 | 16 | 17⅝ | 20 3/16 | 12 11/16 | 7⅝ | 2408 | WL | **4Z401** | 1569.36 | **1507.00** | 105.0 |
| 1 | 15 | 11 | 1 | 230/460 | 3 | 16 | 17⅝ | 20 3/16 | 12 11/16 | 7⅝ | 2408B | WL | **5Z140** | 1619.28 | **1555.00** | 112.0 |
| 2 | 10 | 6 | 1 | 115 | 1 | 8 | 24½ | 20 3/16 | 12 11/16 | 7⅝ | 2409 | WR | **3Z844** | 1912.56 | **1837.00** | 130.0 |
| 2 | 15 | 11 | 1 | 115 | 1 | 8 | 24½ | 20 3/16 | 12 11/16 | 7⅝ | 2409B | WR | **5Z141** | 1976.00 | **1897.00** | 137.0 |
| 2 | 20 | 16 | 1 | 115 | 1 | 8 | 24½ | 20 3/16 | 12 11/16 | 7⅝ | 2409C | WR | **5Z142** | 2121.60 | **2037.00** | 146.0 |
| 2 | 10 | 6 | 1 | 230/460 | 3 | 8 | 24½ | 20 3/16 | 12 11/16 | 7⅝ | 2410 | WR | **3Z845** | 1912.56 | **1837.00** | 124.0 |
| 2 | 15 | 11 | 1 | 230/460 | 3 | 8 | 24½ | 20 3/16 | 12 11/16 | 7⅝ | 2410B | WR | **5Z143** | 1976.00 | **1897.00** | 135.0 |

**WARNING:** Hoists listed above are not to be used for lifting, supporting, or transporting people, or lifting loads over people.

CM **New**

Stores Surplus Load Chain Overhead to Keep from Interfering with Operation

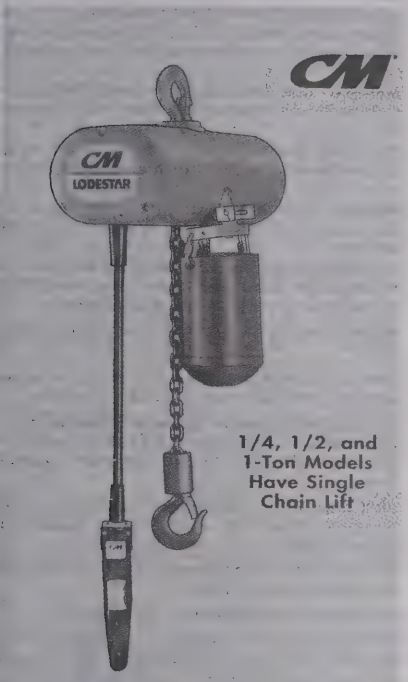
Attaches to Side of Hoist



## CHAIN CONTAINERS

| For Use With CM Hoists:* | Dimensions (In.) Dia. | L | CM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3KP84, 3KP85, 3KP86, 4Z399, 4Z400, 4Z410, 5Z137, 5Z382, 5Z383, 5Z384, 5Z385, 5Z386, 5Z389, 5Z390** | 5 | 11 | 2451 | **4Z466** | $36.40 | **$34.95** | 5.0 |
| **3Z844, 3Z845, 5Z138, 5Z139, 5Z140 5Z185, 5Z187, 5Z188, 5Z191, 5Z192,** | 5 | 17 | 2453 | **4Z467** | 39.52 | **37.95** | 5.5 |
| **5Z143, 5Z193, 5Z194,** | 5 | 23 | 2455 | **5W833** | 53.04 | **50.95** | 8.0 |
| **5Z142** | 5 | 31 | 2456 | **4Z468** | 56.16 | **53.95** | 8.0 |
| **3KP87** | 5 | 36 | 2457 | ***New*** **4UV25** | 102.90 | **97.75** | 10.0 |

# CM LODESTAR® 1/4 TO 3-TON ELECTRIC CHAIN HOISTS




1/4, 1/2, and 1-Ton Models Have Single Chain Lift

All Hoists Meet ASME/ANSI B30.16 Requirements

Replacement Parts Available
1-800-323-0620™

**High Duty Cycle** — Provides more motor starts and run time.

**Life Lubricated Gears** — No oil changes, dripping, product contamination, or disposal worries. Ideal in food, paper, textile, and pharmaceutical applications.

**Exceeds ANSI Requirements and meets B-10 Bearing Life** — Assures long service.

**Ergonomically Designed Snap-Action Control Station** — NEMA 4 station is designed to reduce operator fatigue and uses low current 115V control voltage for added operator protection.

**Machined Liftwheel with Calibrated CM Hoistalloy Chain** — Precision fit assures long chain life and smooth operation.

**Solid-State Starting** — Increased reliability and reduced maintenance on single phase hoists. No contacts to arc, burn, or corrode.

**Exclusive Lodestar Protector** — Protects hoist and operator from dangerous overloads.

**Ease of Maintenance** — Complete OSHA inspection in minutes and no special tools required.

**Dual Braking System** — Equipped with an Electro-mechanical hoist brake designed to automatically lock load in place in the event of a power failure. Also uses energy efficient regenerative braking comparable to system used in large capacity cranes.

**True 30-Minute Rated Motor** — Designed for maximum efficiency with minimum heat. Heavy-duty winding arc design is very tolerant of voltage fluctuations.

**Adjustable Screw Limit Switches** — Preset at the factory, but are field adjustable to stop hook travel at any desired location.

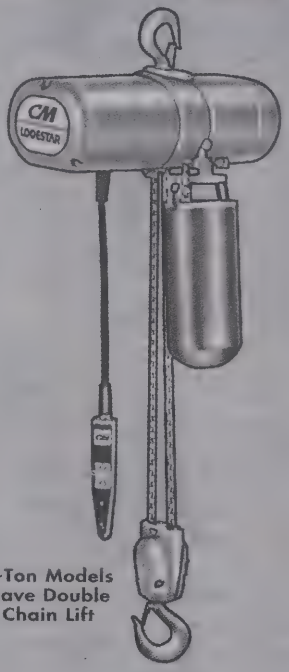
**Low Headroom** — Allows use in restrictive areas.

**Powder Paint Finish** — Keeps your hoist looking new for years, even in corrosive environments.

**Operates On** — 110-120 VAC, 60 Hz, 1-Phase or 208-240 VAC/440-480 VAC, 50/60 Hz, 3-Phase.

**H4 Service Classification** — See page 2222.

Industry Workhorse




2-Ton Models Have Double Chain Lift

**CM QUALITY ASSURANCE PROGRAM**

- ISO 9001
- Vendor Certification
- International FEM rating L4-1AM ISO M4
- Gears and hooks forged and chain manufactured by CM in ISO 9002 factory

**Chain Container Not Included, Order Separately.**
**See Previous Page for Listing.**

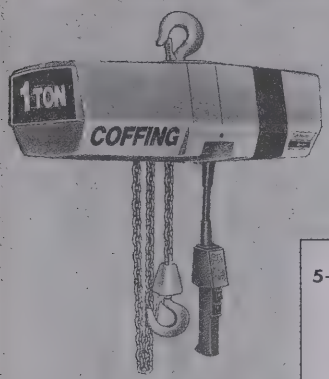
| Lift Capacity (Tons) | Chain Lift (Ft.) | Control Cord (Ft.) | Motor Volts, 60 Hz HP | Motor Volts, 60 Hz Volts | Motor Volts, 60 Hz Ph | Lift Speed (Ft. / Min.) | Min. Dist. Between Hooks (In.) | Housing Dimensions (In.) L | Housing Dimensions (In.) W | Housing Dimensions (In.) D | CM Code* | CM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 10 | 6 | 1/4 | 115 | 1 | 16 | 16 1/4 | 18 3/4 | 8 3/4 | 6 1/8 | 2722/2788 | B | 5Z382 | $1459.12 | $1416.00 | 56.0 |
| 1/2 | 10 | 6 | 1/2 | 115 | 1 | 16 | 16 1/4 | 18 3/4 | 8 3/4 | 6 1/8 | 2752/2788 | F | 5Z383 | 1673.36 | 1624.00 | 62.0 |
| 1/2 | 15 | 11 | 1/2 | 115 | 1 | 16 | 16 1/4 | 18 3/4 | 8 3/4 | 6 1/8 | 3151/2788 | F | 5Z389 | 1720.16 | 1669.00 | 70.0 |
| 1/2 | 10 | 6 | 1/2 | 230/460 | 3 | 16 | 16 1/4 | 18 3/4 | 8 3/4 | 6 1/8 | 2755/2788 | F | 5Z384 | 1673.36 | 1624.00 | 68.0 |
| 1/2 | 15 | 11 | 1/2 | 230/460 | 3 | 16 | 16 1/4 | 18 3/4 | 8 3/4 | 6 1/8 | 3153/2788 | F | 5Z390 | 1720.16 | 1669.00 | 79.0 |
| 1 | 10 | 6 | 1 | 115 | 1 | 16 | 18 9/16 | 20 9/16 | 12 11/16 | 7 5/8 | 3522/3651 | L | 5Z385 | 1875.12 | 1819.00 | 116.0 |
| 1 | 15 | 11 | 1 | 115 | 1 | 16 | 18 9/16 | 20 9/16 | 12 11/16 | 7 5/8 | 4222/3651 | L | 5Z391 | 1925.04 | 1868.00 | 125.0 |
| 1 | 10 | 6 | 1 | 230/460 | 3 | 16 | 18 9/16 | 20 9/16 | 12 11/16 | 7 5/8 | 3525/3651 | L | 5Z386 | 1875.12 | 1819.00 | 114.0 |
| 1 | 15 | 11 | 1 | 230/460 | 3 | 16 | 18 9/16 | 20 9/16 | 12 11/16 | 7 5/8 | 4224/3651 | L | 5Z392 | 1925.04 | 1868.00 | 122.0 |
| 2 | 10 | 6 | 1 | 115 | 1 | 8 | 24 3/8 | 24 9/16 | 12 11/16 | 7 5/8 | 3532/3658 | R | 5Z387 | 2308.80 | 2240.00 | 141.0 |
| 2 | 15 | 11 | 1 | 115 | 1 | 8 | 24 3/8 | 24 9/16 | 12 11/16 | 7 5/8 | 4232/3658 | R | 5Z393 | 2370.16 | 2300.00 | 153.0 |
| 2 | 10 | 6 | 1 | 230/460 | 3 | 8 | 24 3/8 | 24 9/16 | 12 11/16 | 7 5/8 | 3535/3658 | R | 5Z388 | 2308.80 | 2240.00 | 139.0 |
| 2 | 15 | 11 | 1 | 230/460 | 3 | 8 | 24 3/8 | 24 9/16 | 12 11/16 | 7 5/8 | 4234/3658 | R | 5Z394 | 2370.16 | 2300.00 | 151.0 |
| 3 | 15 | 11 | 1 | 115 | 1 | 5.5 | 29 9/16 | 20 9/16 | 12 11/16 | 7 5/8 | 9502/9559 | RT | 3KP87 | 2901.60 | 2815.00 | 182.0 |

*) First number represents hoist code number. Second number represents suspension hook code number.

**WARNING:** Hoists are industrial duty units and are not designed for lifting, supporting, or transporting people.

# ELECTRIC CHAIN AND WIRE ROPE HOISTS

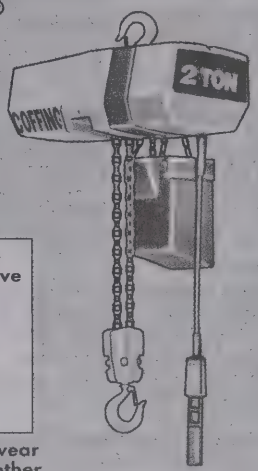
## COFFING®




1-Ton Electric Chain Hoist

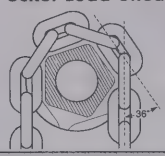
LR44484-2

Made in U.S.A.




2-Ton Electric Chain Hoist

**Load Chain Angle 5-Pocket Load Sheave**




Reduces load chain wear while providing smoother lifting than conventional 4-pocket sheaves.




Wire Rope Hoist

- Plain trolleys included with wire rope hoists for ease of mounting on 6 to 18" American Standard "I" Beams
- Wire rope hoists have a machined drum with precise grooving for smoother drum winding

**Replacement Parts Available**
**1-800-323-0620**

**Solid-State Starting Switch on Single Phase Motors** — Offers greater reliability than conventional centrifugal switches.

**Safety Latch Hooks** — Rigid top and swivel load hooks provide positive load engagement.

**Multiple Disc Mechanical Load Brake** — Controls lowering speed even with power off.

**Oil Filled Transmission** — Provides cooler operation and better lubrication for longer gear life.

**Multiple Disc Direct Acting Motor Brake** — Stops and holds the load, even with loss of power.

**Adjustable Upper and Lower Limit Switches** — Protect the load and hoist by preventing overtravel in varying hoist applications.

**Helical Gearing** — For quiet, smooth operation.

**Overload Limiting Clutch** — Prevents hoist damage from heavier-than-rated loads.

**24 Volt Pushbutton Control with Strain Relief** — Ergonomic design meets NEMA 3R requirements, with low voltage for safer operation.

**Aluminum Alloy Housing** — Provides lightweight durability and meets NEMA 1 requirements.

**Electrical Panel** — Allows easy access to all electrical connections.

**H4 Service Classification** — See page 2222.

Coffing Electric Hoists are designed for industrial lifting, load spotting, and material handling, making them suitable for textile and paper mills, fabrication, processing, assembly, and general maintenance applications. Meet or exceed all industry standards, including ASME/ANSI B30.16 and CSA LR44484-2 requirements. Coffing brand.

| Maximum Capacity (Tons) | Chain/ Wire Rope Lift (Ft.) | Lift Speed (Ft. / Min.) | Volts* 60 Hz | Motor HP | Motor Phase | Amps at Low Voltage | Control Cord (Ft.) | Min. Dist. Between Hooks (In.) | Housing Dimensions (In.) L | W | D | Coffing Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CHAIN HOIST SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | | | | | |
| 1/2 | 10 | 16 | 115/230 | 1/2 | 1 | 8.4 | 6 | 16 7/8 | 23 1/8 | 11 5/8 | 8 | EC1016-1-10 | **3Z953** | $1632.65 | **$1600.00** | 117.0 |
| 1/2 | 10 | 16 | 230/460 | 1/2 | 3 | 2.2 | 6 | 16 7/8 | 23 1/8 | 11 5/8 | 8 | EC1016-3-10 | **3Z952** | 1632.65 | **1600.00** | 110.0 |
| 1 | 10 | 16 | 115/230 | 1 | 1 | 17 | 6 | 16 7/8 | 23 1/8 | 11 5/8 | 8 | EC2016-1-10 | **3Z954** | 1817.35 | **1781.00** | 130.0 |
| 1 | 10 | 16 | 230/460 | 1 | 3 | 3.2 | 6 | 16 7/8 | 23 1/8 | 11 5/8 | 8 | EC2016-3-10 | **3Z955** | 1817.35 | **1781.00** | 120.0 |
| 2 | 10 | 8 | 230/460 | 1 | 3 | 3.2 | 6 | 18 15/16 | 23 1/8 | 11 5/8 | 8 | EC4008-3-10 | **3Z956** | 2138.00 | **2108.00** | 132.0 |
| **WIRE ROPE HOIST SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | | | | | |
| 1/2 | 15 | 16 | 115/230 | 1/2 | 1 | 8.4 | 11 | 21 13/16** | 31 9/16 | 12 1/8 | 8 3/16 | WRT-1016-1-15 | **3Z957** | 2455.20 | **2105.00** | 225.0 |
| 1/2 | 15 | 16 | 230/460 | 1/2 | 3 | 2.2 | 11 | 21 13/16** | 31 9/16 | 12 1/8 | 8 3/16 | WRT-1016-3-15 | **3Z958** | 2455.20 | **2105.00** | 238.0 |
| 1 | 15 | 16 | 230/460 | 1 | 3 | 3.2 | 11 | 21 13/16** | 31 9/16 | 12 1/8 | 8 3/16 | WRT-2016-3-15 | **3Z959** | 2567.05 | **2234.00** | 246.0 |

(*) Single phase hoists are wired for 115V, 60 Hz operation; 3-phase hoists for 460V, 60 Hz opertion. Hoists easily reconnect for use at 230VAC.
(**) Minimum distance from underside of beam to saddle of lower hook based on standard 6 x 12.5# I beam.

**WARNING:** Hoists listed above are not to be used for lifting, supporting, or transporting people, or lifting loads over people.

## COFFING®

Suspended from bottom of hoist



## CHAIN CONTAINER

**For Use with Coffing Electric Chain Hoists Listed Above. Polyethylene container keeps surplus chain away from work area**

| For Hoist Capacity (Ton) | Chain Lift (Ft.) | Bucket Ht. (In.) | Coffing Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2, 1, & 2 | 20 | 10 7/16 | 927JG17 | **4Z812** | $54.02 | **$48.90** | 2.2 |

## QUANTUM 3-PHASE, DUAL SPEED ELECTRIC CHAIN HOISTS

**Dual Speeds with 5:1 or 6:1 Ratio** — Fast transferring (16 or 18 FPM) and precise (3 FPM) positioning/spotting gives operators superb load control. Comparable dual speed hoists have only 3:1 ratios.

**UL and C-UL (Canadian) Listed (5D48)** — The only hoist with complete UL and C-UL Listing. The entire hoist (including it's components) has passed UL's stringent tests.

**Lifetime Guaranteed, All Steel Brake Discs** — Part of Quantum's state-of-the-art AC motor brake. Secondary regenerative braking action provides controlled descent.

**Emergency Stop System** — A standard safety feature on Quantum hoists.

**Zinc-Plated Grade 80 Load Chain** — Incorporates a special two layer infusion process for increased corrosion resistance.

**NEMA 4X Pendant Enclosure, NEMA 3R Hoist Enclosure** — Allows use outdoors.

**Factory Set Clutch** — Protects against overloading.

**Low Voltage (42 Volt) Pendent Control Circuit** — Minimizes electrical shock hazard.

**Five-Pocket Load Sheaves** — Precisely matched to Quantum load chain, providing smooth operation and maximum chain life.

Helical/Spur Gear Set — Provides quiet, reliable operation. Grease lubrication adheres better and is less likely to leak than oil bath systems.

**Fail Safe Mechanical Limit Switches** — Recessed to prevent accidental activation.

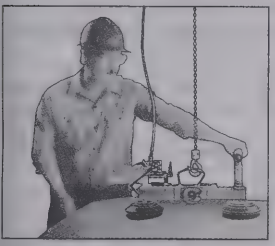
**H4 Service Classification** — see page 2222

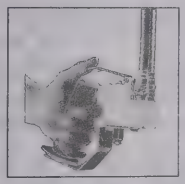


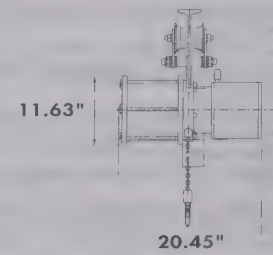

| Maximum Capacity (Tons) | Chain Lift (Ft.) | Lift Speed (Ft./Min.) | Motor 460V, 3-Ph., 60 Hz HP | Motor 460V, 3-Ph., 60 Hz Amps | Control Cord (Ft.) | Min. Dist. Between Hooks (In.) | Housing Dimensions (In.) L | Housing Dimensions (In.) W | Housing Dimensions (In.) D | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 10 | 16/3 | 0.6 | 1.8 | 6 | 17 1/3 | 10 29/32 | 10 | 7 13/64 | Q25-2ND50H10-6-4C | **3TP88** | $1874.00 | **$1760.00** | 63.0 |
| **1/2** | 15 | 16/3 | 0.6 | 1.8 | 11 | 17 1/3 | 10 29/32 | 10 | 7 13/64 | Q25-2ND50H15-11-4C | **3TP89** | 1895.00 | **1854.00** | 65.0 |
| **1** | 10 | 18/3 | 1.3 | 2.2 | 6 | 18 13/32 | 10 29/32 | 10 | 7 13/64 | Q50-2ND100H10-6-4C | **3TP91** | 2056.00 | **1929.00** | 69.0 |
| **1** | 15 | 18/3 | 1.3 | 2.2 | 11 | 18 13/32 | 10 29/32 | 10 | 7 13/64 | Q50-2ND100H15-11-4C | **3TP90** | 2155.00 | **2025.00** | 71.0 |

WARNING: These hoists are not for lifting or transporting people or loads over people.

## CM MAX POSITIONERS




CM

Flange Adjustment: 2⅝ - 5⅝"

Minimum Radius Curve: 24"




**Lift, maneuver,and position loads from 3 to 360 lbs, with continuous operation.**

The CM Max air positioner offers precise positioning, ergonomics, and safety for operations that require repetitive lifting of lighter loads. Handles up to 300 lbs. with virtually no operator effort. Ideal for fabricating, machining, and assembly applications.

**OPERATOR NEGATES GRAVITY**—Enables positioning a 100 lb. load with a force of only 5 lbs. Fingertip movement within a float window of ±8".

**OPERATES ON 90 PSI (6 BAR)**—Lowest required pressure for rated capacity in the industry. Allows capacity use with slight fluctuations in volume.

**PATENTED PRESSURE COMPENSATED FLOW CONTROL**—Maintains constant hook speed for each load. Also prevents unattended loads from creeping upward.

**PATENTED LOST LOAD PROTECTOR**—Prevents uncontrolled upward movement of hook and attachments if load is lost.

**LIMITLESS CYCLES**—Provides reliable performance and productivity.

**ERGONOMICALLY DESIGNED PENDANT**—Minimizes operator fatigue and risk of cumulative trauma disorder.

**INTEGRAL TOOL PORT**—Pneumatic tooling can be supplied without supply line modifications.

**CHAIN LIFT MEDIUM**—Delivers long life with no undesired load rotation.

**EXCLUSIVE LOCK OUT/TAG OUT DEVICE**—Prevents undesired operation.

**FORGED LOWER SWIVEL HOOK**—Allows 360° rotation of load.

**100% PRESHIPMENT INSPECTION AND LOAD TESTING**—Ensures trouble-free operation with factory maintained test records.

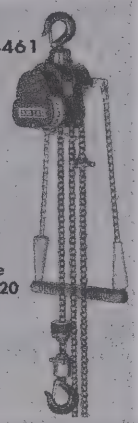
| Control Type | Load Capacity (Lbs.) | Working Range* (In.) | Reach† (In.) | CM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Pendant** | 120 | 80 | 144 | 0950GR | **3TJ89** | $2359.76 | **$2221.00** ▲ | 84.0 |
| **Pendant** | 200 | 80 | 144 | 0951GR | **3TJ90** | 2619.76 | **2465.00** ▲ | 92.0 |
| **Pendant** | 300 | 80 | 144 | 0952GR | **3TJ91** | 2874.56 | **2702.00** ▲ | 108.0 |
| **Balance Control** | 120 | 80 | 144 | 0953GR | **3TJ92** | 2359.76 | **2221.00** ▲ | 84.0 |
| **Balance Control** | 200 | 80 | 144 | 0954GR | **3TJ93** | 2619.76 | **2465.00** ▲ | 92.0 |
| **Balance Control** | 300 | 80 | 144 | 0955GR | **3TJ94** | 2874.56 | **2702.00** ▲ | 108.0 |

(*) Working range. Vertical lift from hook in lowest position to hook in highest position.
(†) Reach. Vertical distance from bottom of balancer to hook in lowest position. Actual reach may be adjusted at installation and under no circumstances should it be less than 84".
(▲) Net prices, not subject to discounts.

# AIR CHAIN HOISTS & CHAIN CONTAINERS

## 300 LB. CAPACITY LIGHT-DUTY AIR CHAIN HOIST

ARO®



No. 6B461

- Extremely lightweight, only 15¼ lbs
- Versatile and portable for quickly and easily moving from one work station to another

Replacement Parts Available 1-800-323-0620™



No. 6B462 Fabric Chain Container

- Variable speed operator control with pull chain for inching loads into place
- Standard 10 ft. lift
- Recommended air supply hose is ⅜" I.D. with 90 PSIG (air line lubricator required, see Index under Lubricators, Air Line for listings)
- Consumes 22 CFM running continuously, only 8 CFM for an average lift
- Self-adjusting mechanical brake is automatically applied if air supply is cut off or lost

An economical, convenient way to lift loads too heavy to be done safely by hand. Rotary vane air motor runs cool. Overloads simply cause motor to run slow and stall without damage unlike with electric hoists. Hoist is equipped with 360° rotating safety-latch top hook. Hook throat opening is 29/32". Fits most trolleys. Air inlet is 1/4" NPT. Fabric chain container is available, order separately. ARO brand.

### FABRIC CHAIN CONTAINER

For use with No. 6B461 Light-Duty Air Chain Hoist. Safely stores excess chain and keeps it away from the work area. ARO brand (44120).

**No. 6B462.** Fabric Chain Container. Shpg. wt. 2.0 lbs. List $83.93. Each .....**$76.30**

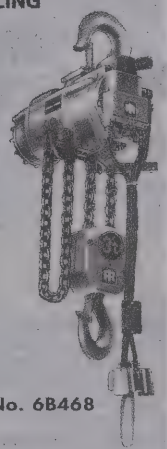
| Rated Load Capacity (Lbs) | Min.-Max. Lift Speed with Rated Load (FPM) | Min. Dist. Between Hooks (In.) | Dimensions (In.) L | W | D | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **300** | 0-16 | 15½ | 7 | 6 | 15½ | 7740B-1C10-C6 | **6B461** | $1195.70 | **$1087.00** | 17.0 |

## SEVERE-DUTY HIGH PRODUCTION AIR CHAIN HOISTS

INGERSOLL-RAND MATERIAL HANDLING



No. 6B463



No. 6B468

- Pendent handle has cast-in guards for protection against accidental operation
- Top and bottom latch hooks swivel 360° and meet OSHA Standards

- Severe-duty rated—full load at full speed 24 hrs/day for greater durability than electric hoists
- Closed air system operates in dusty, corrosive, humid environments. No electrical contactors to wear out or corrode
- Upper and lower limit switches prevent overtravel of hook and load
- 10 ft. lift
- Only 70 CFM at 90 PSI needed to operate any model (air line lubricator required, see Index under Lubricators, Air Line for listings)
- Variable speed from inching crawl to full speed
- Self-adjusting disc brake comes on automatically if air power is lost. Tested to over a million cycles
- Anti-friction ball and roller bearings maximize hoist performance
- Seven motor vanes with stainless steel springs provide positive, instant motor starts with excellent low speed control
- Fast 1/4 ton hoist reaches 101 FPM with 550 lbs
- Meet ANSI B30.16 Requirements

Ingersoll Rand's MLK and HLK severe-duty air chain hoists operate with less maintenance and down time than similar hoists. Their air motors pack more HP in a smaller size than electric motors and are inherently spark resistant. Will not overheat or burn out if stalled.

Units are lightweight for portability and handling. Internal muffler reduces sound to 85 dBA. Come standard with a top hook ready for installation. Chain container is available, order separately from listing below. Ingersoll-Rand brand.

**WARNING:** These hoists are not for lifting or transporting people or lifting loads over people.

### AIR CHAIN HOIST SPECIFICATIONS AND ORDERING DATA

| Rated Capacity (Lbs) | Lift Speed with Rated Load (FPM) | Min. Dist. Between Hooks (In.) | No. Parts of Chain | Housing Dimensions (In.) L | W | D | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **550** | 101 | 18 | 1 | 13½ | 9¾ | 18 | ML250K-2C10-C6 | **6B463** | $2712.00 | **$2622.00** | 60.0 |
| **1100** | 55 | 18 | 1 | 13½ | 9¾ | 18 | ML500K-2C10-C6 | **6B464** | 2712.00 | **2622.00** | 60.0 |
| **2200** | 28 | 18 | 2 | 13½ | 9¾ | 18 | ML1000K-2C10-C6 | **6B465** | 3256.00 | **3138.00** | 70.0 |
| **2200** | 26 | 18½ | 1 | 16¼ | 14½ | 18½ | HL1000K-2C10-C6 | **6B466** | 3929.00 | **3789.00** | 100.0 |
| **4400** | 13 | 23 | 2 | 16¼ | 14½ | 23 | HL2000K-2C10-C6 | **6B467** | 4628.00 | **4457.00** | 140.0 |
| **6600** | 8 | 25 | 3 | 16¼ | 14½ | 25 | HL3000K-2C10-C6 | **6B468** | 5333.00 | **5132.00** | 150.0 |



Mounts to Side of Hoist

INGERSOLL-RAND MATERIAL HANDLING

## CHAIN CONTAINERS

- For Use with Ingersoll-Rand High Production Air Chain Hoists
- Holds Surplus Chain Out of the Way of Work Area

| For Use With Ingersoll-Rand Hoists | Dimensions (In.) W | H | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **6B463, 6B464, 6B465** | 6 | 10 | ML50K-749-17 | **6B469** | $78.00 | **$73.10** | 2.0 |
| **6B466, 6B467, 6B468** | 6 | 10 | HLK-K749-20 | **6B470** | 163.00 | **152.75** | 4.0 |

# MANUALLY OPERATED CHAIN HOISTS

## CM SERIES 622 MANUAL CHAIN HOISTS

**High Quality Steel Construction**—Ideal for construction applications.

**Lightweight**—Easy to relocate. Up to 40% lighter than comparable hoists.

**Low Headroom**—allows use in tight areas.

**Heat-Treated Gears**—for long life.

**High Efficiency**—accomplishes more work with less effort

**Self-Adjusting Brake**—assures maximum load control.

**Load Chain Reeving**—½-2 ton models are single reeved, 3 ton model is double reeved.

**Meet ASME/ANSI B30.16 Requirements.**

**Rugged chain hoists** are engineered to be fully portable and constructed of high quality steel for greater durability. Compact design and low headroom allow installation even in confined areas. Two-stage gear reduction system utilizes hardened gears and operates in grease lubrication for long life. Friction reducing roller and ball bearings allow easy operation. Forged swivel style upper and lower hooks have latches. CM Hoist brand.



CM

1 TON CAPACITY HOIST

360° Swivel Hooks

Ball Bearing Swivel

Jamproof Guide

Replacement Parts Available 1-800-323-0620

### MANUAL CHAIN HOIST SPECIFICATIONS AND ORDERING DATA

| Capacity (Tons) | Lift* (Ft.) | Hook Opening† (In.) | Min. Distance Between Hooks (In.) | Dimensions (In.) L | W | D | Manual Pull Req'd.‡ | CM Hoist Code | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 8 | 11/16 | 11 5/8 | 11 5/8 | 4 5/16 | 4 15/16 | 53 | 2202 | 5W556 | $143.52 | $136.35 | 15.0 |
| 1/2 | 12 | 11/16 | 11 5/8 | 11 5/8 | 4 5/16 | 4 15/16 | 53 | 2216 | 2Z895 | 185.95 | 182.25 | 20.0 |
| 1 | 8 | 1 1/32 | 13 | 13 | 5 1/16 | 5 19/32 | 77 | 2204 | 5W557 | 168.48 | 160.25 | 22.0 |
| 1 | 12 | 1 1/32 | 13 | 13 | 5 1/16 | 5 19/32 | 77 | 2217 | 2Z896 | 214.45 | 210.25 | 27.0 |
| 1 | 20 | 1 1/32 | 13 | 13 | 5 1/16 | 5 19/32 | 77 | 2262 | 5W558 | 306.38 | 291.25 | 36.0 |
| 2 | 8 | 1 1/4 | 18 1/8 | 18 1/8 | 6 5/8 | 8 5/16 | 82 | 2206 | 5W559 | 262.08 | 249.00 | 53.0 |
| 2 | 12 | 1 1/4 | 18 1/8 | 18 1/8 | 6 5/8 | 8 5/16 | 82 | 2218 | 2Z897 | 324.06 | 317.75 | 62.0 |
| 2 | 20 | 1 1/4 | 18 1/8 | 18 1/8 | 6 5/8 | 8 5/16 | 82 | 2233 | 5W560 | 448.03 | 439.25 | 86.0 |
| 3 | 8 | 1 1/4 | 21 29/32 | 21 29/32 | 6 5/8 | 8 5/16 | 65 | 2207 | 5W561 | 366.08 | 359.00 | 85.0 |

(*) Hand chain hangs 2 ft. shorter than lift. (†) Maximum throat opening with hook latch.
(‡) Pulling force in pounds required to lift rated load.

**WARNING:** Do not use for lifting, supporting or transporting people, or lifting loads over people.

## COFFING® MANUAL CHAIN HOISTS

**Heat-Treated, Grease Lubricated Spur Gearing**—Provides highest efficiency with minimal pulling on chain.

**Lubricated Bushings, Bearings, and Gears**—Insure smooth, efficient ease of operation.

**Compact, Rugged Steel Housing**—Preserves overhead space while protecting gears and bearings for indoor and outdoor service.

**Ratchet and Pawl Mechanical Load Brake**—Provides protective control for lifting, holding, and spotting load.

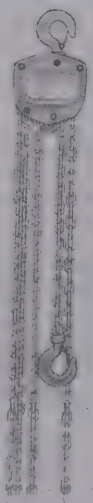
**Through Hardened Load Chain**—Provides greater chain life with added strength and wear resistance.

**Safety Latch Swivel Hooks**—Provide positive load engagement.

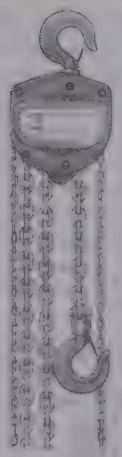
**Load Chain Reeving**—All models are single reeved.

**Designed to handle most industrial lifting applications.** Meets or exceeds all industry standards including ASME/ANSI B30.16 requirements. Coffing brand.

COFFING®



1/2 TON CAPACITY



3 TON CAPACITY

Replacement Parts Available 1-800-323-0620

### MANUAL CHAIN HOIST SPECIFICATIONS AND ORDERING DATA

| Capacity (Tons) | Lift* (Ft.) | Hook Opening† (In.) | Min. Distance Between Hooks (In.) | Dimensions (In.) L | W | D | Manual Pull Req'd.‡ | Coffing Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 8 | 15/16 | 10 1/4 | 5 7/16 | 5 7/16 | 5 1/4 | 55 | LHH-1/2B8 | 4Z805 | $124.20 | $124.20 | 25.0 |
| 1/2 | 10 | 15/16 | 10 1/4 | 5 7/16 | 5 7/16 | 5 1/4 | 55 | LHH-1/2B10 | 2Z633 | 141.65 | 141.65 | 19.0 |
| 1/2 | 20 | 15/16 | 10 1/4 | 5 7/16 | 5 7/16 | 5 1/4 | 55 | LHH-1/2B20 | 3KR21 | 197.00 | 195.00 | 30.0 |
| 1 | 10 | 1 1/8 | 11 13/16 | 5 15/16 | 6 1/4 | 6 | 53 | LHH-1B10 | 2Z554 | 163.50 | 163.50 | 26.0 |
| 1 | 15 | 1 1/8 | 11 13/16 | 5 15/16 | 6 1/4 | 6 | 53 | LHH-1B15 | 4Z806 | 201.00 | 201.00 | 32.0 |
| 1 | 20 | 1 1/8 | 11 13/16 | 5 15/16 | 6 1/4 | 6 | 53 | LHH-1B20 | 4Z807 | 237.50 | 237.50 | 37.0 |
| 2 | 10 | 1 3/8 | 15 | 7 1/4 | 8 7/16 | 8 1/2 | 74 | LHH-2B10 | 2Z555 | 274.75 | 274.75 | 48.0 |
| 2 | 15 | 1 3/8 | 15 | 7 1/4 | 8 7/16 | 8 1/2 | 74 | LHH-2B15 | 4Z808 | 342.00 | 335.25 | 54.0 |
| 2 | 20 | 1 3/8 | 15 | 7 1/4 | 8 7/16 | 8 1/2 | 74 | LHH-2B20 | 4Z809 | 378.15 | 370.75 | 62.0 |
| 3 | 10 | 1 9/16 | 22 5/8 | 7 13/16 | 10 | 10 | 84 | LHH-3B10 | 2Z634 | 465.59 | 456.50 | 68.0 |
| 3 | 15 | 1 9/16 | 22 5/8 | 7 13/16 | 10 | 10 | 84 | LHH-3B15 | 3KR22 | 479.53 | 470.00 | 80.0 |
| 3 | 20 | 1 9/16 | 22 5/8 | 7 13/16 | 10 | 10 | 84 | LHH-3B20 | 3KR23 | 549.40 | 538.50 | 90.0 |

(*) Hand chain hangs 2 ft. shorter than lift. (†) Maximum throat opening with hook latch.
(‡) Pulling force in pounds required to lift rated load.

**WARNING:** Do not use for lifting, supporting or transporting people, or lifting loads over people

# LEVER CHAIN HOISTS AND RATCHET CHAIN HOIST/PULLERS

## LEVER CHAIN HOISTS

**Metric Rated**—Metric rating (2200 lbs/ton) gives 10% more lifting and pulling capacity. All units are single chain fall.

**"Arrow Notch" Free Chain System**—Align arrows with notches and flip the selector to neutral for easy free chaining. Fail-safe system automatically engages if a load is applied.

**Zinc/Nickel/Chrome-Plated Finish**—More durable and corrosion resistant than paint.

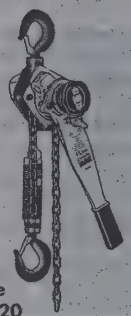
**All-Steel Construction**—Provides maximum strength at minimum weight.

**Operator Friendly**—Rubber grip on the handle for a sure, comfortable hold; short handle stroke and 360° rotation for tight spots; an audible "click" double disc brake for exact load positioning and tensioning; hardened swivel hooks with safety latches secure and align loads; capacity-adjusted handle force minimizes overloading.

**Alloy Chain**—Alloy steel wire is precision formed and induction-welded. Heat-treated and quenched for extra surface hardness. Grade 100 chain.

**Meets or Exceeds ANSI/ASME B30.21**—All units are load tested to 150% of rated load.

Dayton®



No. 3TP95
3300 Lb. Capacity

Replacement Parts Available
1-800-323-0620

| Load Capacity (Lbs.) | (Metric Tons) | Reach (Ft.) | (Meter) | Hook Throat Opening (In.) | (mm) | Pull to Lift Rated Load (Lbs.) | (Kg.) | Headroom (In.) | (mm) | Handle Length (In.) | (mm) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1650** | 3/4 | 5 | 1½ | 1 1/8 | 27 | 68 | 31 | 12 5/8 | 320 | 10 5/8 | 270 | **3TP94** | $244.00 | **$203.00** | 17.0 |
| **1650** | 3/4 | 10 | 3 | 1 1/8 | 27 | 68 | 31 | 12 5/8 | 320 | 10 5/8 | 270 | **3TP92** | 275.00 | **233.00** | 19.0 |
| **1650** | 3/4 | 20 | 6 | 1 1/8 | 27 | 68 | 31 | 12 5/8 | 320 | 10 5/8 | 270 | **3TP93** | 337.00 | **286.00** | 23.0 |
| **3300** | 1½ | 5 | 1½ | 1 5/16 | 34 | 73 | 33 | 14 13/16 | 375 | 15 7/16 | 390 | **3TP97** | 324.00 | **277.25** | 27.0 |
| **3300** | 1½ | 10 | 3 | 1 5/16 | 34 | 73 | 33 | 14 13/16 | 375 | 15 7/16 | 390 | **3TP95** | 360.00 | **317.50** | 30.0 |
| **3300** | 1½ | 20 | 6 | 1 5/16 | 34 | 73 | 33 | 14 13/16 | 375 | 15 7/16 | 390 | **3TP96** | 432.00 | **382.50** | 36.0 |
| **6600** | 3 | 5 | 1½ | 1 11/16 | 42 | 75 | 34 | 18 11/16 | 475 | 15 7/16 | 390 | **3TR01** | 488.00 | **393.50** | 47.0 |
| **6600** | 3 | 10 | 3 | 1 11/16 | 42 | 75 | 34 | 18 11/16 | 475 | 15 7/16 | 390 | **3TP98** | 540.00 | **462.25** | 52.0 |
| **6600** | 3 | 20 | 6 | 1 11/16 | 42 | 75 | 34 | 18 11/16 | 475 | 15 7/16 | 390 | **3TP99** | 643.00 | **543.00** | 62.0 |

**WARNING**: Hoists listed above are not to be used for lifting, supporting, or transporting people, or lifting loads above people.

## 3/4 TO 3-TON RATCHET CHAIN HOISTS/PULLERS

**State-of-the-Art Free Wheel Control**—Allows quick and easy "free chaining" to take up slack chain.

**Cushioned Grip Short Handle**—Rotates 360° to provide operator comfort and ease of operation in tight places.

**Double Gear Reduction**—Reduces operator's effort.

**Compact and Lightweight Rugged Steel Housing**—Protects gears and bearings for both indoor and outdoor service.

**Ratchet and Pawl Mechanical Load Brake**—provides positive load control for precise positive positioning of the load.

**Through-Hardened Load Chain**—Provides greater chain life through added strength and wear resistance.

**Safety Latch Swivel Hooks**—Provide positive load engagement.

Designed and built for most industrial lifting, pulling applications. Meets or exceeds all industry standards including ASME/ANSI B30.21 requirements. Coffing brand.

COFFING®



No. 2Z782
1500 Lb. Capacity



No. 2Z783
3000 Lb. Capacity



No. 4Z999
6000 Lb. Capacity

Replacement Parts Available
1-800-323-0620

### HOIST/PULLER SPECIFICATIONS AND ORDERING DATA

| Load Capacity (Lbs.) | Chain Length (Ft.) | Handle Length (In.) | Hook Opening (In.)** | Between Hooks (In.) | Maximum Pull Required (Lbs.)* | Coffing Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1500** | 5 | 9 1/4 | 15/16 | 11 5/8 | 46 | LSB-1500A-5 | **2Z782** | $252.35 | **$214.50** | 13.0 |
| **1500** | 10 | 9 1/4 | 15/16 | 11 5/8 | 46 | LSB-1500A-10 | **6W005** | 293.53 | **249.50** | 16.0 |
| **1500** | 20 | 9 1/4 | 15/16 | 11 5/8 | 46 | LSB-1500A-20 | **6W006** | 367.06 | **312.00** | 20.0 |
| **3000** | 5 | 13 3/4 | 1 1/4 | 14 31/32 | 55 | LSB-3000A-5 | **2Z783** | 352.35 | **299.50** | 23.0 |
| **3000** | 10 | 13 3/4 | 1 1/4 | 14 31/32 | 55 | LSB-3000A-10 | **6W007** | 404.70 | **344.00** | 27.0 |
| **3000** | 20 | 13 3/4 | 1 1/4 | 14 31/32 | 55 | LSB-3000A-20 | **6W008** | 489.71 | **416.25** | 34.0 |
| **6000** | 5 | 13 3/4 | 1 3/8 | 16 9/16 | 77 | LSB-6000A-5 | **4Z999** | 499.41 | **424.50** | 36.0 |
| **6000** | 10 | 13 3/4 | 1 3/8 | 16 9/16 | 77 | LSB-6000A-10 | **6W009** | 584.11 | **496.50** | 43.0 |
| **6000** | 20 | 13 3/4 | 1 3/8 | 16 9/16 | 77 | LSB-6000A-20 | **6W010** | 690.29 | **586.50** | 54.0 |

(*) Pulling force in pounds required to lift rated load. (**) Maximum throat opening with hook latch.

**WARNING:** Hoists listed above are not to be used for lifting, supporting, or transporting people, or lifting loads above people.

# CABLE PULLERS AND ADJUSTABLE STEEL GANTRY CRANES

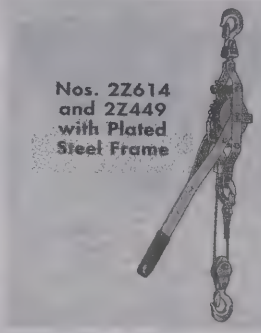
## RATCHET CABLE PULLERS

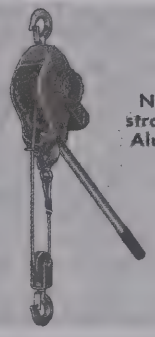
- **Durable solid steel ratchet pawl and holding dog; no laminated plates**
- **Two and three hook models**
- **Heat-treated, drop-forged alloy steel latch hooks**
- **Preformed galvanized aircraft cable**
- **One-piece solid construction**

**Dayton ratchet pullers** have positive locking ratchet teeth with greater metal surface engaging holding mechanism. Large ratchet diameter with high tooth count permits accurate positioning of loads. Heat-treated, drop-forged steel latch hooks are zinc plated to resist corrosion. All models come with preformed galvanized aircraft cable and self-aligning cable guide which minimizes cable wear.

**No. 2Z449**, 2000 lb. capacity model has 3 hooks and single or double line operation. Pulley hook assembly removes easily for single line use on lighter loads.

**No. 4Z312**, 3400 lb. capacity model has 3 hooks, heavier construction and stronger cable for handling heavy loads with double line rigging. Snap-on, quick reversing handle bends when load exceeds recommended capacity.




### RATCHET PULLER SPECIFICAITONS AND ORDERING DATA

| Rated Load Capacity (Lbs.)* | Maximum Pull Distance (In.) | Min. Dist. Between Hooks (In.) | Cable Dia. (In.) | Cable Length (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Single-line, 1000** | 48 | 18 | 3/16 | 6 | **2Z614** | $80.00 | **$49.00▲** | 8.0 |
| **Single-line, 1000 Double-line, 2000** | 150 75 | 18 24 | 3/16 3/16 | 15 15 | **2Z449** | 95.00 | **69.00▲** | 9.6 |
| **Single-line, 1700 Double-line, 3400** | 240 120 | 17 22 | 1/4 1/4 | 20 20 | **4Z312** | 228.00 | **172.50▲** | 15.0 |

(*) Complies with ASME B30.21 Requirements for pulling, lifting and tensioning. Not to be used for lifting people or loads over people.
(▲) Net prices, not subject to discounts.

## PORTABLE ADJUSTABLE-HEIGHT STEEL GANTRY CRANES

Gantry cranes include two uprights and one crossbar I-beam. Move easily with four swivel casters. Accepts most manual and electric hoists (not included). All models shipped unassembled. T&S brand.

**Nos. 3KR60, 3KR61, 3KR62:** Adjustable-height* steel gantry crane is ideal for heavy-duty lifting applications. Uprights include ratchet puller/"come along" attachment points for height-adjustment operations ("come along" not included). Each phenolic caster includes a four-position swivel lock in 90° intervals. Welded-steel construction. Blue color.

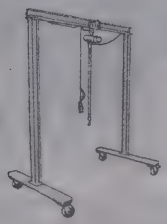
**Nos. 4UP86, 4UP87, 4UP88:** Adjustable-height* aluminum gantry crane is designed for use in outdoor lifting applications. Aluminum material will not rust. Lightweight design is ideal for two-person assembly in field. Great for use in applications where constant assembly and knockdown is required. Non-scuff polyurethane-on-steel casters include four-position swivel locks in 90° intervals. Welded-aluminum construction.

**Nos. 4UP90, 4UP91, 4UP92:** Fixed-height work-area portable gantry crane is designed to maximize material handling requirements in light-duty lifting applications. Lightweight design allows for easy mobility. Includes four polyurethane-on-steel swivel casters. Welded-steel construction. Blue color.

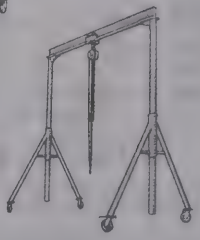
(*) Height may be adjusted by using come-along, fork truck or overhead crane in 6" incremmts.




No. 4UP86



No. 4UP90




No. 3KR60
2000 Lb. Capacity

| Type | Capacity (lbs.) | I-Beam Height (Ft.) Min. | I-Beam Height (Ft.) Max. | I-Beam Span (Ft.) Min. | I-Beam Span (Ft.) Max. | Base W (In.) | I-Beam H (In.) | I-Beam Flange W (In.) | Caster Size Dia. x W (In.) | For Use With Trolley Stock No. | T&S Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Steel, adjustable-height** | 2,000 | 7' 5"† | 12' | 4 | 10 | 78 | 8 | 4.000 | 8 x 2 | 2Z616 | FHS-75-2 | | **3KR60** | $1479.00 | **$1406.00** | 898.0 |
| **Steel, adjustable-height** | 4,000 | 7' 9"† | 12' | 6 | 10 | 78 | 8 | 4.000 | 8 x 2 | 2Z617 | FHS-79-4 | | **3KR61** | 1649.00 | **1566.00** | 940.0 |
| **Steel, adjustable-height** | 6,000 | 8' 11"† | 14' | 8 | 10 | 90 | 10 | 4.600 | 8 x 2 | 3TP86 | FHS-811-6 | | **3KR62** | 2255.00 | **2139.00** | 1053.0 |
| **Aluminum, adjustable-height** | 2,000 | 7' 8" | 10' 2" | 4 | 6' 11" | 54 | 6 | 3.375 | 5 x 2 | 4Z464 | FHA-78-8-2 | ***New*** | **4UP87** | 2801.82 | **2662.00** | 200.0 |
| **Aluminum, adjustable-height** | 2,000 | 7' 8" | 10' 2" | 4 | 10' 11" | 54 | 8 | 4.500 | 5 x 2 | 4Z464 | FHA-78-12-2 | ***New*** | **4UP86** | 3230.66 | **3070.00** | 238.0 |
| **Aluminum, adjustable-height** | 1,000 | 7' 8" | 10' 2" | 4 | 6' 11" | 54 | 8 | 4.000 | 5 x 2 | 4Z465 | FHA-78-8-4 | ***New*** | **4UP88** | 3911.68 | **3717.00** | 263.0 |
| **Steel, fixed-height** | 300 | n/a | 7' 6" | n/a | 5' 8" | 48 | 4 | 2.625 | 5 x 2 | 4Z463 | FPG-3 | ***New*** | **4UP91** | 531.61 | **505.50** | 260.0 |
| **Steel, fixed-height** | 600 | n/a | 7' 6" | n/a | 5' 8" | 48 | 4 | 2.625 | 5 x 2 | 4Z463 | FPG-6 | ***New*** | **4UP92** | 550.38 | **523.50** | 270.0 |
| **Steel, fixed-height** | 1,000 | n/a | 7' 6" | n/a | 5' 8" | 48 | 4 | 2.625 | 5 x 2 | 4Z463 | FPG-10 | ***New*** | **4UP90** | 726.10 | **690.00** | 300.0 |

(†) Adjustable in 6" height increments. Note: Trolley and hoist not included.

# FREE-WHEELING HOIST TROLLEYS

## INGERSOLL-RAND PT SERIES UNIVERSAL BEAM TROLLEYS

**Maximum Versatility** — Single trolley fits broadest possible range of tapered and flat beams. Compatible with all hoist brands.

**Wide Range of Flange Widths** — A single, extra long hanger shaft adjusts from minimum suggested beam flange widths out to 8.06".

**Strength and Durability** — All steel trolley is metric rated (2200 lbs/ton) and designed at 5:1 to hold either manual or powered hoists. Axles are "rivet locked" in place, and perfectly aligned to ensure optimum load distribution and smooth rolling.

**Less Effort, Maintenance-Free** — Solid caster wheels are supported by sealed "lubed-for-life" bearings that never need greasing.

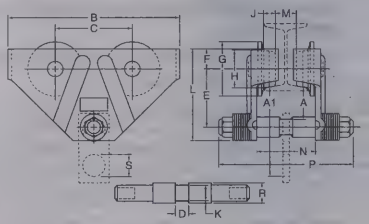
**Safety Enhanced** — Rail sweeps/drop stops remove debris from the beam and prevent a load from dropping should an axle or wheel break.




**Low Headroom**— Connect directly to hanger shaft. Use the convenient suspension bail for quick hoist changeout or oversized hooks.

| Stock No. | Headroom to Shaft (In.) | Headroom to Bail (In.) |
|---|---|---|
| 3TP83 | 2.50 | 6.125 |
| 3TP84 | 2.50 | 6.125 |
| 3TP85 | 2.47 | 6.06 |
| 3TP86 | 2.56 | 8.50 |
| 3TP87 | 2.56 | 8.50 |

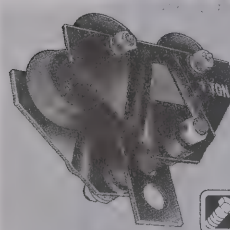
**INGERSOLL-RAND**
**MATERIAL HANDLING**



**Replacement Parts Available**
**1-800-323-0620**

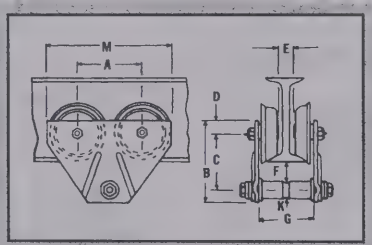
| Cap. (Metric Tons) | Fits Beam Ht. (In.) | Fits Beam Flange W (In.) | Dimensions (In.) A | A1 | B | C | D | E | F | G | H | J | K | L | M | N | P | R | S | Min. Radius (In.) | Wheel Tread Dia. (In.) | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 4-24 | 2.66-8.06 | 2.50 | 6.13 | 10.00 | 4.50 | 1.00 | 4.00 | 1.12 | 3.43 | 2.25 | 0.88 | 0.75 | 6.00 | 1.06 | 3.94 | 12.25 | 1.25 | 1.63 | 36 | 2.25 | PT005-8 | 3TP83 | $152.00 | $115.60 | 21.0 |
| 1 | 5-24 | 3.00-8.06 | 2.50 | 6.13 | 12.63 | 5.56 | 1.12 | 4.38 | 1.62 | 4.06 | 2.75 | 0.88 | 1.00 | 6.88 | 1.45 | 4.20 | 12.87 | 1.50 | 1.63 | 36 | 2.75 | PT010-8 | 3TP84 | 188.00 | 151.75 | 31.0 |
| 2 | 6-24 | 3.33-8.06 | 2.47 | 6.06 | 14.88 | 6.50 | 1.18 | 5.18 | 1.31 | 5.75 | 4.25 | 1.25 | 1.18 | 7.50 | 0.94 | 4.31 | 13.80 | 1.50 | 1.63 | 48 | 4.25 | PT020-8 | 3TP85 | 286.00 | 231.50 | 56.0 |
| 3 | 8-24 | 4.00-8.06 | 2.59 | 8.50 | 14.12 | 6.50 | 1.62 | 5.43 | 1.62 | 5.75 | 4.25 | 1.25 | 1.43 | 8.50 | 1.62 | 5.38 | 14.12 | 2.00 | 2.56 | 60 | 4.25 | PT030-8 | 3TP86 | 432.00 | 349.00 | 67.0 |
| 5 | 10-24 | 4.66-8.06 | 2.56 | 8.50 | 15.44 | 6.75 | 1.31 | 5.75 | 2.25 | 6.18 | 4.38 | 1.62 | 1.43 | 9.75 | 1.62 | 6.62 | 15.63 | 2.50 | 2.56 | 60 | 4.38 | PT050-8 | 3TP87 | 687.00 | 545.00 | 104.0 |

## FREE-WHEELING TROLLEYS



**Dayton**

**Replacement Parts Available**
**1-800-323-0620**




- **Adjustable to fit standard dimension I-beams; will NOT work on H-beams**
- **Wheels are smooth running and resist wear**

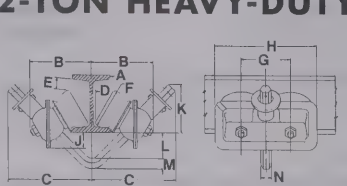
Dayton low headroom trolleys are designed for use with electric, air, and manual overhead hoists. Hardened pressed steel wheels have carburized treads to resist wear. Wheels run on ball bearings for smooth operation. Side plates extend beyond wheels to act as bumpers. Adjustable to fit standard dimension I-beams, refer to dimensions below.

| Capacity (Tons) | Fits I-Beam* (In.) Vert. H | Fits I-Beam* (In.) Horiz. W | Clearance Dimensions (In.)* A | B | C | D | E | F | G | K Dia. | M | Min. Radius (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 4-10 | 2.66-4.66 | 4 1/2 | 6 | 4 1/8 | 3/4 | 3/8 | 1 7/8 | 3 5/16 | 7/8 | 9 1/4 | 24 | 2Z615 | $110.50 | $103.85 | 20.0 |
| 1 | 5-12 | 3.00-5.25 | 5 7/8 | 6 7/8 | 5 | 7/8 | 1 3/16 | 2 9/16 | 4 1/8 | 1 1/8 | 11 3/4 | 36 | 2Z616 | 154.31 | 140.30 | 30.0 |
| 2 | 6-18 | 3.33-6.00 | 6 1/2 | 7 1/2 | 5 5/8 | 7/8 | 1 3/16 | 2 1/4 | 4 7/16 | 1 1/4 | 13 1/2 | 48 | 2Z617 | 216.33 | 203.25 | 44.0 |

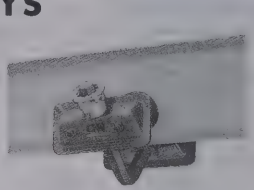
(*) Dimensions given are for minimum I-beam and will vary with larger beams.
**Caution:** Obtain professional structural engineering assistance to determine load carrying capability of new and existing structural steel beamwork.

## 1/2, 1, & 2-TON HEAVY-DUTY TROLLEYS

Heavy-duty design allows up to five times longer wheel life than conventional trolleys. For low headroom applications. Exclusive DIAL FIT collars for simple one man installation; no space washers needed. Operate on flat and tapered flange structural steel beams. Accept all types of hand and electric hoists. High quality steel construction and double row ball bearing wheels.




**CM**

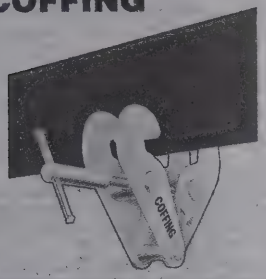


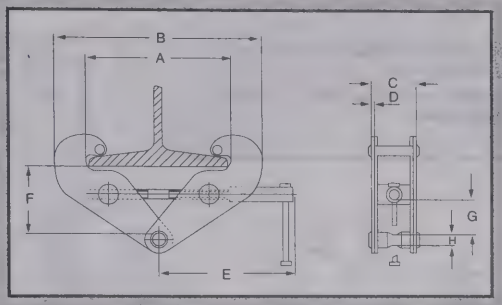
| Cap. (Tons) | Fits Beams† (In.) Vertical Height | Fits Beams† (In.) Flange Width | Dimensions (In.) B* | C* | D* | E* | F | G | H | J* | K* | L* | M | N | Min. Radius (In.) | Wheel Tread Dia. (In.) | CM Code | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 4–12 | 2 5/8–5 1/16 | 4 1/4 | 5 7/8 | 3/16 | 13/16 | 2 1/4 | 3 3/8 | 7 | 1 1/8 | 3 3/8 | 1 11/16 | 11/16 | 7/8 | 7 | 2 3/4 | 3222 | 4Z463 | $101.92 | $99.90 | 12.0 |
| 1 | 4–12 | 2 5/8–5 1/16 | 4 1/8 | 6 | 3/16 | 13/16 | 2 1/4 | 3 3/8 | 7 | 1 1/8 | 3 1/2 | 1 5/8 | 7/8 | 1 | 7 | 2 3/4 | 3224 | 4Z464 | 122.72 | 120.30 | 13.0 |
| 2 | 6–15 | 3 5/8–5 5/8 | 5 5/8 | 7 1/2 | 3/8 | 2 9/16 | 3 1/2 | 4 1/2 | 9 | 1 1/2 | 4 5/8 | 2 | 1 1/8 | 1 1/4 | 10 | 3 1/2 | 3226 | 4Z465 | 199.68 | 195.75 | 24.0 |

(†) Flat or tapered flange structural steel beams. (*) Dimensions given are for minimum I-beam and will vary with larger beams. **Caution:** Obtain professional structural engineering assistance to determine load carrying capability of new and existing structural steel beamwork.

# BEAM CLAMPS

## COFFING®




**Reliable and Rugged**—All steel construction is durable yet lightweight.

**Adjustable**—Fits securely on a wide range of flange widths and beam sizes.

**Low Headroom**—Built-in suspension bar provides close mounting.

**Special Design**—Clamp jaw design reduces flange stress by distributing load away from flange edge.

### BEAM CLAMP SPECIFICATIONS AND ORDERING DATA

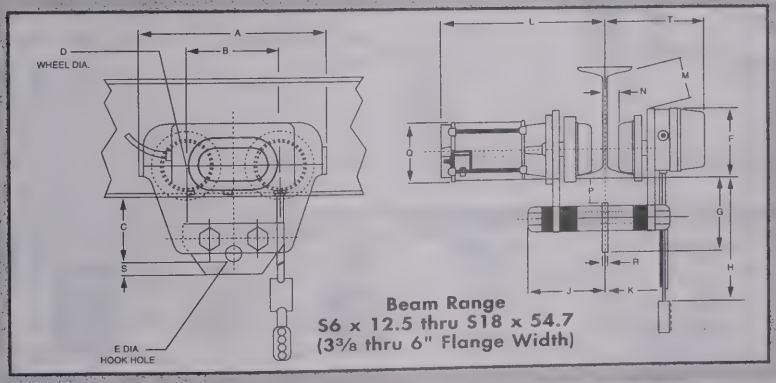
| Capacity (Tons) | Flange Width (In.) | A Max. (In.) | B Min. (In.) | B Max. (In.) | C (In.) | D (In.) | E (In.) | F Min. (In.) | F Max. (In.) | G (In.) | H (In.) | Coffing Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 - 9 | 9.7 | 7.3 | 13.8 | 2.6 | 0.2 | 8.5 | 3.6 | 5.2 | 1.7 | 0.80 | BC-1 | **3KR11** | $63.50 | **$56.85** | 8.8 |
| 2 | 3 - 9 | 9.7 | 7.3 | 13.8 | 2.9 | 0.2 | 8.5 | 3.6 | 5.2 | 1.7 | 0.80 | BC-2 | **3KR12** | 71.78 | **64.70** | 11.0 |
| 3 | 3.2 - 12.6 | 12.6 | 9.1 | 17.9 | 4.0 | 0.3 | 10.0 | 5.6 | 7.7 | 3.0 | 0.87 | BC-3 | **3KR13** | 115.62 | **104.90** | 20.0 |

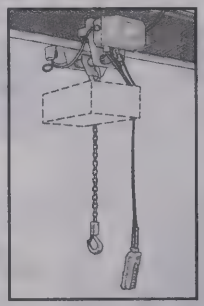
# UNIVERSAL MOTOR-DRIVEN TROLLEYS

## CM®

Replacement Parts Available
1-800-323-0620™





**Accepts any hook mounted hoist up to 2 tons**

**Universal Mounting Plate**—For use with all hook mounted hoists.

**Hardened Cast Iron Wheels**—Provide long wheel life. Operate on tapered or flat flange beams and patented track.

**16 Ft. Drop to 4-Button Single Speed Control Station**—Comes ready for applications of up to 20 ft. of lift.

**Lifetime Lubricated Double Row Ball Bearings**—Assure long maintenance-free operation.

**115V Control Circuit**—Has lower current draw.

**78 FPM Travel**—Moves at average walking speed.

**Junction Box**—Provides universal connection for any hoist.

**Trolley Guards**—Protect wheels from end stop or other trolley collision damage.

### UNIVERSAL MOTOR-DRIVEN TROLLEY DIMENSIONS (In.)

| A | B | C* | D | E | F* | G* | H* | J | K | Single Phase L | Three Phase L | M* | N* | P* | Q* | R | S | T* | Min. Radius Curve |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12¾ | 6⅜ | 4 13/16 | 3/16 | 2/16 | 4¾ | 6 | 17 ft. | 7½ | 4⅛ | 12¾ | 11 5/16 | 1½ | ⅜ | 1 7/16 | 5⅛ | ½ | 1 1/16 | 8⅞ | 52 |

### UNIVERSAL MOTOR-DRIVEN TROLLEY SPECIFICATIONS AND ORDERING DATA

| Capacity (Tons) | Operating Voltage 60 Hz | Phase | Travel Speed (Ft./Min.) | CM Code | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/8 to 2 | 220-240/440-480 | 3 | 78 | 0300 | **3KP82** | $1298.96 | **$1209.00** | 112.0 |
| 1/8 to 2 | 110-120 | 1 | 78 | 0301 | **3KP83** | 1298.96 | **1209.00** | 112.0 |

(*) Based on minimum beam size and will vary with larger beams. (†) 3-phase unit is reconnectable for lower range voltage.

# ROUND CABLE/HOSE CARRIER AND CABLE REELS

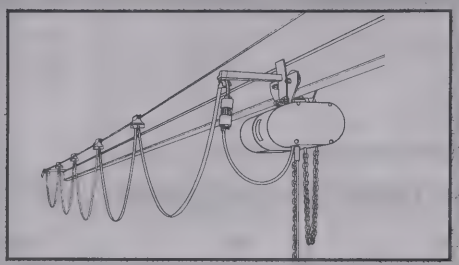
## ROUND CABLE/HOSE CARRIER

**AERO-MOTIVE**

Registered to ISO 9001



- Handles electrical cables or hoses for moving equipment
- Holds cables or hoses with 0.49 to 0.91" diameters



This festoon type carrier is an economical method of handling electrical cables or hoses and is ideal for powering moving hoists, cranes, and other mobile equipment. Carrier can be supported by 1/4" O.D. nylon or vinyl covered wire rope (refer to Index) and handles round cables or hoses with diameters ranging from 0.49 to 0.91".

Carrier body is molded from nylon with concave nylon wheels, stainless steel shafts, and galvanized steel fasteners and axles. Recommended travel distance between carriers is 15 to 50 feet; total weight per carrier should not exceed nine pounds. Aero-motive brand (5121).

**No. 4V078.** Shpg. wt. 0.4. lbs. List $19.93.
Each ..... **$18.84**

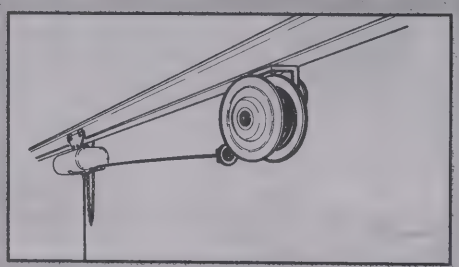
## SPRING DRIVEN CABLE REELS

**AERO-MOTIVE**

Registered to ISO 9001



- Provide power to moving equipment in industrial applications
- Weathertight, dusttight aluminum construction with long life mainspring



Provide power to hoists, cranes, machine tools, and other moving equipment in industrial applications. Weathertight, dusttight aluminum construction with long life mainspring, declutching drive hub, NEMA 4 enclosure and permanent lubrication.

Also feature type SO cable with four roller guide, prewiring to junction box, removable ratchet lock, and 600V, 30 amp slip ring. Adjustable guide arm. Polymer, oven-cured yellow finish. Constructed to NEC and UL standards. UL Listed. Aero-motive brand.

### SPECIFICATIONS AND ORDERING DATA

| Cable AWG | Capacity* (Ft.) | Rated Amps | Dimensions (In.) H | W | D | Aero-motive Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **16/4 Cond.** | 50 | 7 | 15 | 9 3/4 | 13 1/4 | 238B | **4V066** | $567.64 | **$516.50** | 39.0 |
| **14/3 Cond.** | 50 | 13 | 15 | 9 3/4 | 13 1/4 | 358C | **4V067** | 549.54 | **499.75** | 41.0 |
| **14/4 Cond.** | 45 | 11 | 15 | 9 3/4 | 13 1/4 | 367C | **4V068** | 569.05 | **517.50** | 41.0 |
| **12/3 Cond.** | 50 | 18 | 15 | 9 3/4 | 13 1/4 | 435D | **4V069** | 570.77 | **519.00** | 50.0 |

(*) Type SO cable installed

### HOIST/CABLE REEL MATCHING GUIDE

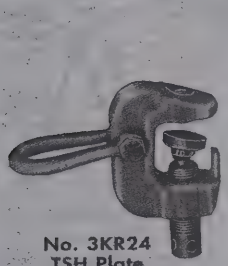
| Hoist Model | Cable Reel Model* | Hoist Model | Cable Reel Model* | Hoist Model | Cable Reel Model* |
|---|---|---|---|---|---|
| 2Z668 | 4V066 | 3Z874 | 4V069(115V), 4V067(230V) | 3Z955 | 4V066, 4V068 |
| 3Z370 | 4V066, 4V067 | 3Z923 | 4V066, 4V067 | 3Z956 | 4V066, 4V068 |
| 3Z372 | 4V069(115V), 4V067(230V) | 3Z924 | 4V066, 4V067 | 3Z957 | 4V066, 4V067 |
| 3Z373 | 4V066 | 3Z925 | 4V066 | 3Z958 | 4V066, 4V068 |
| 3Z374 | 4V069(115V), 4V067(230V) | 3Z926 | 4V069(115V), 4V067(230V) | 3Z959 | 4V066, 4V068 |
| 3Z375 | 4V066 | 3Z927 | 4V069(115V), 4V067(230V) | 4Z358 | 4V066 |
| 4Z579 | 4V069(115V), 4V067(230V) | 3Z928 | 4V066 | 4Z399 | 4V066, 4V068 |
| 4Z580 | 4V069(115V), 4V067(230V) | 3Z952 | 4V066, 4V068 | 4Z400 | 4V069 |
| 3Z844 | 4V069 | 3Z953 | 4V066, 4V067 | 4Z401 | 4V066, 4V068 |
| 3Z845 | 4V066, 4V068 | 3Z954 | 4V069(115V), 4V067(230V) | 4Z811 | 4V066 |

(*) Based on short-time rated AC hoist motors.

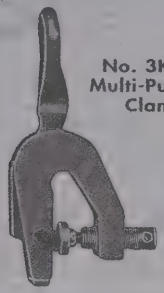


More ways to move and store products safely and securely.

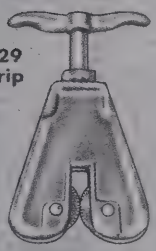
# CLAMPS AND HANDGRIPS



No. 3KR24 TSH Plate Clamp



No. 3KR27 Multi-Purpose Clamp



No. 3KR29 Hand Grip Clamp



No. 3KR32 CZ92 Universal Clamp

## CZ UNIVERSAL

Can be used for both vertical and horizontal-to-vertical lifting. When any of the cam's straight line, convex teeth are flattened between unique wear indicator grooves, it is time to change the cam. 100% proof tested with certificate of test attached to each clamp.

## TSH SCREWCAM PLATE CLAMPS

For turning plates from horizontal to vertical as well as through a 180° arc. The convex, serrated cam swivels on a ball joint so that the area of cam engagement increases as load increases. Drop forged body and shackle. 100% proof tested with certificate of test attached to each clamp.

## MULTI-PURPOSE TSGU CLAMPS

Offer the same superior gripping features as TSH clamps with the added benefit of a swiveling pad. Can be used for a variety of lifting applications. Both gripping surfaces of swivel pad are smooth and and non-marring. 100% proof tested with certificate of test attached to each clamp.

## HAND GRIP

Designed to carry or pull any object that will fit into its jaws. Grips and releases automatically.

## CZ92 UNIVERSAL CLAMPS

Available in 1/2, 1 and 2-ton capacities. Drop forged and heat treated components, with gripping surfaces of case hardened alloy steel. When any of the cam's straight line, convex teeth are flattened between unique wear indicator grooves, it is time to change the cam. Specially designed "Cam Engaging Lever" keeps the cam in contact with the plate. Tension arm and spring mechanism facilitate attaching and removing the clamp. Clamps will not lift plate when in "lever open" position.

**WARNING:** Never tamper with a clamp's tension arm and spring mechanism during a lift.

## CLAMP AND GRIP SPECIFICATIONS AND ORDERING DATA

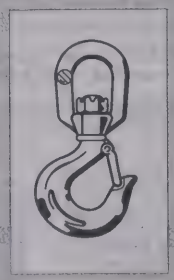
| Description | Max. Grip (In.) | Load Capacity | CM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CZ Universal** | 5/16 | 1/2 Ton | 695232 | **3KR33** | $254.98 | **$205.25** | 4.0 |
| **CZ Universal** | 3/4 | 1 Ton | 695233 | **3KR34** | 362.16 | **292.25** | 8.0 |
| **CZ Universal** | 1¼ | 3 Ton | 695235 | **3KR35** | 630.62 | **509.00** | 19.0 |
| **TSH Screwcam Plate Clamp** | 1¼ | 1 Ton | 694948 | **3KR24** | 344.16 | **277.25** | 6.2 |
| **TSH Screwcam Plate Clamp** | 2 | 3 Ton | 694949 | **3KR25** | 678.02 | **546.50** | 17.0 |
| **TSH Screwcam Plate Clamp** | 3⅛ | 6 Ton | 694950 | **3KR26** | 1237.72 | **999.00** | 41.0 |
| **Multi-purpose TSGU Clamp** | 1¾ | 1 Ton | 694945 | **3KR27** | 505.38 | **407.50** | 13.0 |
| **Multi-purpose TSGU Clamp** | 2 | 3 Ton | 694946 | **3KR28** | 963.86 | **777.50** | 35.0 |
| **Hand Grip Clamp** | 2" Handle | 500 lb. | 694947 | **3KR29** | 148.28 | **118.50** | 2.0 |
| **CZ92 Univesal Clamp** | 5/8 | 1/2 Ton | 694232 | **3KR32** | 416.16 | **335.50** | 7.0 |
| **CZ92 Univesal Clamp** | 3/4 | 1 Ton | 694233 | **3KR30** | 417.74 | **336.00** | 10.0 |
| **CZ92 Univesal Clamp** | 1¼ | 2 Ton | 694234 | **3KR31** | 549.62 | **442.75** | 13.0 |

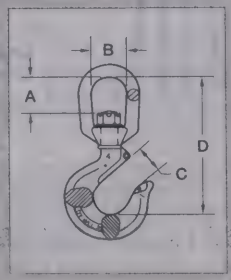
## CM ALLOY SWIVEL HOOKS WITH LATCH

- **Alloy steel**
- **Heated treated, quenched & tempered**
- **Design factor 5-1**
- **Built in distortion detectors**

Alloy Swivel hooks are primarily used in rigging applications where the swivel feature allows other rigging elements such as wire rope and chain to remain straight without twists.

| Working Load Limit (Tons) | Dim. (In.) A | B | C | D | CM Product Code | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1** | 1.11 | 1.25 | 1.00 | 4.63 | M3502A | **4UV36** | $15.86 | **$15.07** | 1.3 |
| **1½** | 1.38 | 1.50 | 1.08 | 5.44 | M3503A | **4UV37** | 20.90 | **19.86** | 1.9 |
| **2** | 1.65 | 1.75 | 1.13 | 6.25 | M3504A | **4UV38** | 24.75 | **23.48** | 2.8 |
| **3** | 1.65 | 1.75 | 1.25 | 6.49 | M3505A | **4UV39** | 30.66 | **29.15** | 3.3 |
| **5** | 1.77 | 2.00 | 1.53 | 7.53 | M3507A | **4UV40** | 45.72 | **43.45** | 7.8 |
| **7** | 2.39 | 2.75 | 1.97 | 9.60 | M3509A | **4UV41** | 80.15 | **76.15** | 11.0 |





# LIFTING SLINGS

## GRADE 80 ALLOY STEEL CHAIN SLINGS




High strength Herc-Alloy Grade 80 steel chain and attachments are specifically recommended for overhead lifting. Chain and components are heat-treated and chain slings are proof tested for high working load limits. Chain is electrically welded and elongates in excess of the 15% minimum requirement. Tensile strength of chain slings meets or exceeds all existing OSHA, government, and ASTM specifications. Chain is hallmarked "HA-800" for positive identification. Chain slings are provided with drop forged identification tags and certificate of test. Tags show grade, type, size, reach and working load limit.

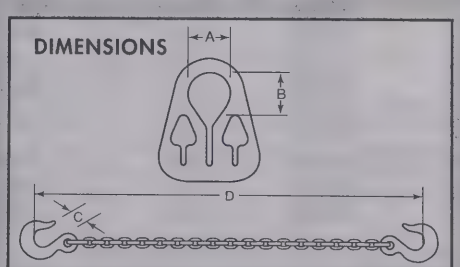
| TYPE | DESCRIPTION |
|---|---|
| SGG | Single, grab hook each end |
| SPG | Single, pear master link with grab hook |
| SOG | Single, oblong master link and grab hook |
| DOG | Double, oblong master link and grab hook each end |
| SSS | Single, sling hook each end |
| SOS | Single, oblong master link and sling hook |
| DOS | Double, oblong master link and sling hook each end |

| Chain Size (In.) | Overall Reach (Ft.) | Type of Sling | Working Load Limit† (Lbs.) | CM Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 9/32 | 5 | SGG | 3500 | 604081R5 | 1A626 | $212.72 | $139.40 | $132.39 | 6.0 |
| 9/32 | 10 | SGG | 3500 | 604081R10 | 1A627 | 285.32 | 170.25 | 161.43 | 9.3 |
| 3/8 | 10 | SGG | 7100 | 604082R10 | 1A629 | 263.04 | 187.00 | 177.23 | 18.0 |
| 9/32 | 10 | SPG | 3500 | 604271R10 | 5A557 | 285.34 | 213.50 | 202.42 | 10.0 |
| 3/8 | 5 | SOG | 7100 | 604052R5 | 5A558 | 285.34 | 213.50 | 202.42 | 11.0 |
| 3/8 | 5 | DOG | 12,300* | 604442R5 | 5A559 | 494.51 | 326.75 | 310.27 | 18.0 |
| 9/32 | 5 | SSS | 3500 | 604091R5 | 1A628 | 199.41 | 139.60 | 132.55 | 7.5 |
| 3/8 | 5 | SOS | 7100 | 604022R5 | 5A560 | 285.33 | 213.75 | 202.67 | 13.0 |
| 9/32 | 5 | DOS | 6100* | 604411R5 | 5A561 | 403.74 | 299.50 | 284.18 | 10.0 |
| 3/8 | 5 | DOS | 12,300* | 604412R5 | 1A630 | 494.50 | 327.25 | 310.75 | 21.0 |
| 1/2 | 5 | DOS | 20,800* | 604413R5 | 5A562 | 698.62 | 520.50 | 494.03 | 36.0 |

(*) @ 60° angle. (†) WARNING: Do not exceed working load limit.

## ADJUST-A-LINK SLINGS

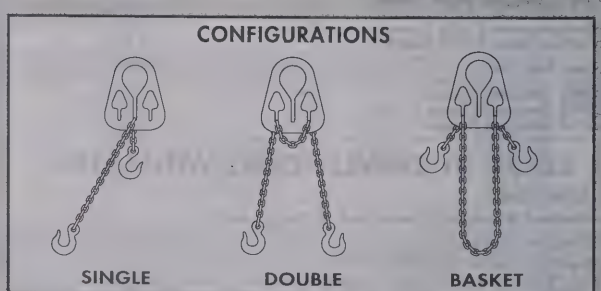





**IMPORTANT: Read Warning Sheet Supplied With Each Sling.**

- Constructed of Grade 80 alloy chain and hooks
- Proof tested; supplied with certificate of test

LiftAll®



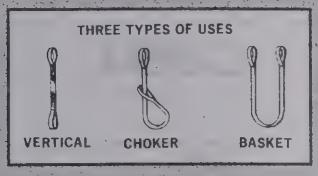

Adjust-A-Link slings handle odd-shaped, hard to position loads. Can be used in either 1 or 2 point lifts. For use in machine shops and maintenance areas where headroom is limited, and for portable hydraulic cranes. Adjust-A-Link brand by Lift-All.

| Chain Size (In.) | Length (D) (Ft.) | Capacity (Lbs.) Single Capacity | Capacity (Lbs.) Double at 60° | Dimensions (In.) A | B | C | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/32 | 6 | 2100 | 3600 | 2 | 2 | 15/16 | 30001 | 6A260 | $97.04 | $81.95 | 5.0 |
| 7/32 | 10 | 2100 | 3600 | 2 | 2 | 15/16 | 30002 | 6A261 | 123.56 | 104.30 | 7.6 |
| 9/32 | 6 | 3500 | 6100 | 3 | 3 1/2 | 1 1/16 | 30003 | 6A262 | 146.22 | 123.25 | 8.1 |
| 9/32 | 10 | 3500 | 6100 | 3 | 3 1/2 | 1 1/16 | 30004 | 6A263 | 198.91 | 168.00 | 11.0 |
| 3/8 | 10 | 7100 | 12,300 | 3 1/4 | 4 | 1 9/16 | 30005 | 3KN64 | 338.82 | 298.25 | 19.0 |
| 3/8 | 14 | 7100 | 12,300 | 3 1/4 | 4 | 1 9/16 | 30006 | 3KN65 | 394.12 | 346.75 | 25.0 |



*More ways to move and store products safely and securely.*

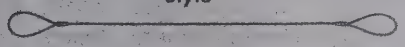
# PERMALOC® WIRE ROPE SLINGS




LiftAll®

IMPORTANT: Read Warning Sheet Supplied With Each Sling.




For use with overhead hoists, winches, and cranes in lifting and lowering applications where heat, abrasion, sharp edges, or low head room are present. Permaloc® wire rope slings are fabricated using a Flemish Eye mechanical splice. Constructed of 6 x 19 IWRC (Independent Wire Rope Core) class rope which is the most widely used for general material handling.

Recommended temperature range is -60°F to 400°F. Each sling is tagged. Eye and Eye style is marked with Vertical, Choker, and Basket capacities. Bridle sling style is tagged for two leg capacity in degrees of angles. Lift-All brand.

## EYE & EYE STYLE SLINGS

| Stock No. | Capacities in Tons | | |
|---|---|---|---|
| | Vertical | Choker | Basket |
| 1A591 | .65 | .48 | 1.3 |
| 1A592 | 1.4 | 1.1 | 2.9 |
| 1A593 | 2.5 | 1.9 | 5.1 |
| 1A594 | 2.5 | 1.9 | 5.1 |

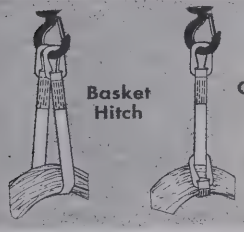
## BRIDLE STYLE SLINGS

| Stock No. | Capacities in Tons Angle of Legs From Horizontal | | |
|---|---|---|---|
| | 60° | 45° | 30° |
| 6A254 | 2.5 | 2.0 | 1.4 |
| 6A255 | 2.5 | 2.0 | 1.4 |
| 6A256 | 4.4 | 3.6 | 2.5 |

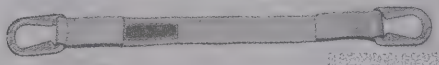
## ORDERING DATA

| Dia. (In.) | Length (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | 4 | 1A591 | $12.96 | $11.20 | 0.8 |
| 3/8 | 6 | 1A592 | 17.81 | 15.35 | 2.3 |
| 1/2 | 6 | 1A593 | 25.86 | 22.30 | 4.5 |
| 1/2 | 8 | 1A594 | 29.09 | 25.10 | 5.5 |
| 3/8 | 6 | 6A254 | 82.32 | 71.00 | 8.0 |
| 3/8 | 8 | 6A255 | 86.88 | 74.95 | 9.0 |
| 1/2 | 10 | 6A256 | 146.58 | 126.40 | 20.0 |

# HARDWARE WEB SLINGS




LiftAll®



IMPORTANT: Read Warning Sheet Supplied With Each Sling.

- **Large hook openings**
- **Smooth plated forged alloy steel**
- **Abrasion-resistant**

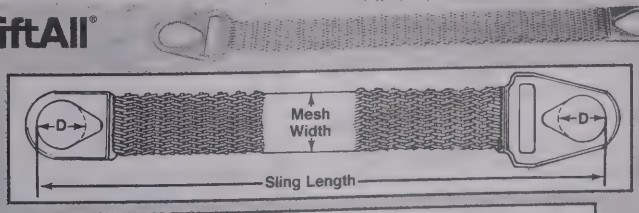
Hardware web slings have patented Unilink hardware which provides positive web entrapment in the bearing slot; eliminates the chance of webbing sliding around side to side as on conventional triangles, or out of the shallow groove on the cross bar of chokers. Either end acts like a choker fitting. Slings feature larger hook openings than triangles or chokers, and smoothed forged alloy steel that is plated to resist rusting. Use where abrasion may cut nylon eyes or where crane hooks are rough or jagged. Slings are made of Tuff-Edge™ webbing. Lift-All brand.

## SPECIFICATIONS AND ORDERING DATA

| Width (In.) | Length (Ft.) | Capacities (Lbs.) Vertical | Choker | Basket | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 6 | 3200 | 2500 | 6400 | UU1-802Tx6 | 6A251 | $65.48 | $55.25 | 4.5 |
| 4 | 6 | 6400 | 5000 | 12800 | UU1-804Tx6 | 6A252 | 129.89 | 109.65 | 11.0 |
| 4 | 8 | 6400 | 5000 | 12800 | UU1-804Tx8 | 6A253 | 140.73 | 118.75 | 12.0 |

# WIRE MESH SLINGS

LiftAll®




IMPORTANT: Read Warning Sheet Supplied With Each Sling.

- **Galvanized high tensile steel mesh**
- **For use in basket or choker hitch configuration only**

Roughneck wire mesh slings are made from 10-gauge mesh for use in metalworking or other industries where loads are abrasive, hot or tend to cut web slings. Mesh slings grip loads firmly without stretching; easily maintaining balanced loads. These have alloy steel fittings with galvanized high tensile steel mesh which withstands temperatures up to 550°F. Fittings are plated for protection and have large openings so even smallest sling will fit most crane hooks. Use in either basket or choker hitch configuration only. Lift-All brand.

## SPECIFICATIONS AND ORDERING DATA

| Width (In.) | Length (Ft.) | Terminal (In.) Thickness | Diameter | Capacities (Lbs.) Choker | Basket | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 6 | 1/2 | 3 | 4800 | 9600 | T-1 4 x 6 | 6A257 | $222.00 | $191.50 | 18.0 |
| 4 | 8 | 1/2 | 3 | 4800 | 9600 | T-1 4 x 8 | 6A258 | 260.70 | 225.00 | 23.0 |

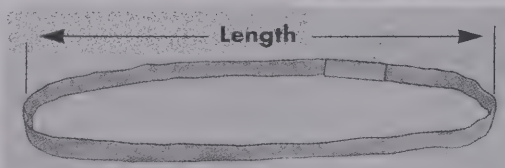
# LIFTING SLINGS

**Slings meet or exceed all OSHA and ASME B30.9 standard**

Tuflex slings have a Tuff-Tag™ to provide permanent identification. Roundslings are unaffected by sunlight (UV) or grease. Polyester core resists most acids. Temperature range is -50°F to +200°F. Lift-All brand.

- Color coded capacities for quick identification
- Easy, positive sling inspection procedure
- Wear points shift with each new use to give maximum sling life
- All load fibers protected by 2-wall cover
- Sling flattens against load to grip tightly
- Low stretch of only 3% for better load control

## TUFLEX™ ROUNDSLINGS



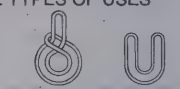

LiftAll®

**IMPORTANT: Read Warning Sheet Supplied With Each Sling.**

**CAUTION: Remove roundsling from service if damage to the cover exposes red striped white core yarns.**

**Highly Maneuverable Configuration:**

THREE TYPES OF USES



VERTICAL CHOKER BASKET

### ROUNDSLING SPECIFICATIONS AND ORDERING DATA

| Length (Ft.) | Capacities (Lbs.) Vertical | Choker | Basket | Color Code | Body Dia. Relaxed (In.) | Width Under Load (In.) | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3** | 2600 | 2100 | 5200 | Purple | 5/8 | 1 1/8 | EN30X3 | **4A767** | $17.50 | **$13.30** | 0.6 |
| **4** | 2600 | 2100 | 5200 | Purple | 5/8 | 1 1/8 | EN30X4 | **3KN75** | 20.33 | **15.80** | 0.8 |
| **6** | 2600 | 2100 | 5200 | Purple | 5/8 | 1 1/8 | EN30X6 | **3KN76** | 28.07 | **21.80** | 1.2 |
| **8** | 2600 | 2100 | 5200 | Purple | 5/8 | 1 1/8 | EN30X8 | **3KN77** | 35.73 | **27.75** | 1.6 |
| **3** | 5300 | 4200 | 10,600 | Green | 7/8 | 1 1/2 | EN60X3 | **3KN79** | 19.67 | **15.25** | 0.9 |
| **4** | 5300 | 4200 | 10,600 | Green | 7/8 | 1 1/2 | EN60X4 | **3KN80** | 24.67 | **19.15** | 1.2 |
| **6** | 5300 | 4200 | 10,600 | Green | 7/8 | 1 1/2 | EN60X6 | **4A768** | 34.67 | **26.40** | 2.0 |
| **8** | 5300 | 4200 | 10,600 | Green | 7/8 | 1 1/2 | EN60X8 | **4A769** | 40.12 | **30.55** | 2.6 |
| **10** | 5300 | 4200 | 10,600 | Green | 7/8 | 1 1/2 | EN60X10 | **3KN78** | 54.73 | **42.50** | 3.0 |
| **4** | 8400 | 6700 | 16,800 | Yellow | 1 1/8 | 1 7/8 | EN90X4 | **3KN81** | 32.67 | **25.35** | 1.6 |
| **6** | 8400 | 6700 | 16,800 | Yellow | 1 1/8 | 1 7/8 | EN90X6 | **3KN82** | 46.07 | **35.75** | 2.4 |
| **8** | 8400 | 6700 | 16,800 | Yellow | 1 1/8 | 1 7/8 | EN90X8 | **3KN83** | 59.47 | **46.15** | 3.2 |
| **10** | 8400 | 6700 | 16,800 | Yellow | 1 1/8 | 1 7/8 | EN90X10 | **4A770** | 76.26 | **58.05** | 4.5 |
| **8** | 13,200 | 10,600 | 26,400 | Red | 1 3/8 | 2 1/4 | EN150X8 | **3KN73** | 89.00 | **69.10** | 5.6 |
| **10** | 13,200 | 10,600 | 26,400 | Red | 1 3/8 | 2 1/4 | EN150X10 | **3KN72** | 108.27 | **84.05** | 7.0 |
| **10** | 21,200 | 17,000 | 42,400 | Blue | 1 3/4 | 3 | EN240X10 | **3KN74** | 181.18 | **159.50** | 11.0 |

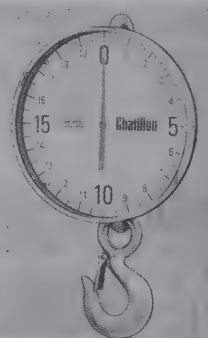
## 12" CRANE SCALE

- 12" dial with widely spaced graduations for maximum readability
- Wide angle viewing due to special bezel design and dial position
- Accurate to 1/2 of 1% of capacity
- Integral zero adjustment to tare loads up to 20% of capacity
- Lightweight design for ease of movement between work stations
- Zero is directly below top shackle with field adjustment to 180° position

WT12 series dynamometer with factory installed safety hook for specific use as a crane scale. Calibration certifiable and traceable to NBS. Chatllion brand (WT12-5000H).

**No. 5A359.** 5000 Lb.Crane Scale. Shpg. wt. 20.0 lbs. List $808.11. Each ..... **$735.00▲**

(▲) Net prices, not subject to discounts.




**CAPACITY: 5000 lbs. x 20 lbs.**

### OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# SAFE-LINE NYLON SLINGS

**Safe-Line Endless Loop Slings are strong**, efficient, and economical. They can be used in a vertical, choker, or basket hitch style. Load contact points change with every lift, increasing sling life and safety.

**Available in single and double strength**, slings have permanently woven "black line" rated capacity identification. One black line identifies slings with 1000 lbs. rated capacity per inch width for each sling leg. Two black lines identify slings with 2000 lbs. rated capacity per inch width for each sling leg.

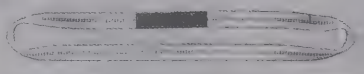
**Safe-Line slings have Cordura® nylon** "armor jacket" protection which protects the internal load carrying yarns. Cordura® yarns have more than 100% better wear resistance than standard lifting yarns. Red "safety alert" inner warning yarns show when the tough Cordura® jacket is damaged or cut indicating when the sling should be removed from service.

Nylon slings are adversely affected by acids, sharp abrasive loads, and temperatures above 180°F. Meet or exceed all OSHA and ASME/ANSI B30.9A standards. Wear-Flex® brand.

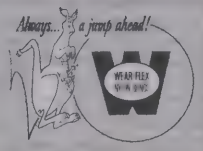
Cordura is a Dupont registered trademark.



No. 3JN72



No. 3JN73

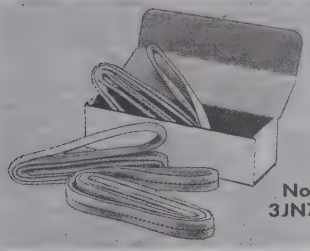



WEAR-FLEX®

SUPPLIER DIVERSITY™
Women-Owned Business

| Strength | Width (In.) | Length (Ft.) | Rated Capacity in Pounds Vertical | Choker | Basket | Wear-Flex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Single | 2 | 4 | 4000 | 3200 | 8000 | EN-1002X4' | **3JN72** | $19.85 | **$15.68** | 1.0 |
| Double | 2 | 4 | 8000 | 6400 | 16000 | EN-2002X4' | **3JN73** | 32.90 | **25.90** | 1.7 |

# COMBO SAFE-TOTE SLINGS



No. 3JN71

SUPPLIER DIVERSITY™
Women-Owned Business




WEAR-FLEX®

**Set of three 1" wide Safe-Line Endless Loop Slings** (see listing above) in 30", 40", and 50" lengths. Ideal for use on hoists or as a handy carrying tool.

**Endless loop configuration** allows for rotating wear points extending sling life. Packaged in a convenient flip-top box. Meet or exceed all OSHA and ASME/ANSI B30.9A standards. Wear-Flex® brand.

## COMBO SAFE-TOTE SLING SPECIFICATIONS AND ORDERING DATA

| Width (In.) | Length (In.) (1 of each) | Rated Capacity in Pounds Vertical | Choker | Basket | Wear-Flex Model | Stock No. | List | Each Pkg. of 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 30, 40, 50 | 2000 | 1600 | 4000 | COMBO B | **3JN71** | $33.55 | **$28.00** | 1.4 |

# REVERSE EYE NYLON SLINGS

**Wear-Flex® Reverse Eye Nylon Slings** have a reverse eye at both ends with eye widths equal to 1/2 the body width. These slings have both eyes standing open at 90° to the sling body, allowing perfect choker or basket hitching without any twisting of the eyes or sling body.

**Tough, durable, heavy-duty slings** have a double service life. Reversing the eyes allows the other side of the eyes and sling body to be used as a second wearing surface.

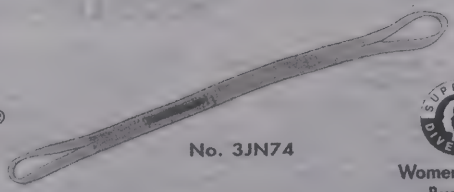
**Both sides of the sling body and eyes are reinforced** with gray Cordura® wear pads. Cordura® yarns have more than 100% better wear resistance than standard lifting yarns.

**Meet or exceed all** OSHA and ASME/ANSI B30.9A standards.

Cordura is a Dupont registered trademark.




WEAR-FLEX®



No. 3JN74

SUPPLIER DIVERSITY™
Women-Owned Business

## REVERSE EYE NYLON SLINGS AND ORDERING DATA

| Sling W (In.) | Sling L (Ft.) | Eye W (In.) | Eye L (In.) | Rated Capacity in Pounds Vertical | Choker | Basket | Wear-Flex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 4 | 1 | 10 | 4800 | 3820 | 9600 | RE1-0902X4' | **3JN74** | $38.50 | **$31.35** | 1.1 |
| 2 | 6 | 1 | 10 | 8400 | 6720 | 16,800 | RE2-0902X6' | **3JN75** | 66.95 | **48.90** | 2.1 |

# NYLON WEB SLINGS

Slings meet or exceed all OSHA and ASME B30.9 standards

Web slings protects loads from being scratched or marred as may occur with chain or cable slings. Red core yarn indicates wear for easy inspection and replacement. Tuff-Tag™ provides permanent identification for the life of the sling. Eyes of 3" and 4" wide slings are tapered and twisted to fit better on hooks.

**Light-Duty**

- **Wider bearing surface per capacity for added load protection**
- **1/8" thick, yellow finish, sling webbing, one ply**

**Heavy-Duty**

- **Tuff-Edge sling web for longer life than other webs**
- **3/16" thick, silver finish, black polymer coated edge yarns, one ply**
- **30% more resistant to edge cutting, 67% more resistant to edge abrasion**

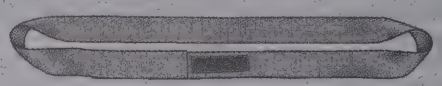
**Extra Heavy-Duty**

- **Uses two plies of Tuff-Edge sling webbing for long life**
- **Higher capacities per width**

Nylon web slings resist alkalies, but are damaged by acids. Always use pads to protect slings from cuts. Recommended temperature range: -50°F to +200°F. Lift-All brand.

**IMPORTANT: Read Warning Sheet Supplied With Each Sling.**

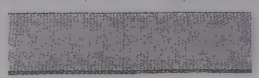
LiftAll®



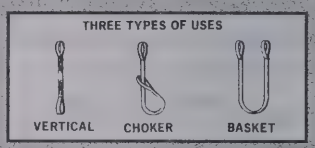
Endless Loop



Eye-and-Eye



Heavy-Duty & Extra Heavy-Duty Tuff-Edge™ Webbing



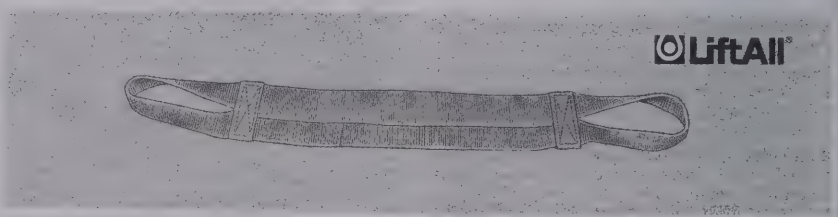

## NYLON SLING SPECIFICATIONS AND ORDERING DATA

| Sling Type | Width (In.) | Length (Ft.) | Rated Capacities (Lbs.) Vertical | Choker | Basket | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY WEBMASTER® SLINGS** | | | | | | | | | |
| Eye and Eye | 1¾ | 24 | 2100 | 1600 | 4200 | **2Z097** | $44.76 | **$34.95** | 2.5 |
| Eye and Eye | 2 | 6 | 2400 | 1900 | 4800 | **6X801** | 21.30 | **16.60** | 0.9 |
| Eye and Eye | 2 | 8 | 2400 | 1900 | 4800 | **6X802** | 24.28 | **18.95** | 1.0 |
| Eye and Eye | 3 | 6 | 3600 | 2900 | 7200 | **6X803** | 34.74 | **27.05** | 1.4 |
| Eye and Eye | 4 | 8 | 4800 | 3800 | 9600 | **6X804** | 51.42 | **38.00** | 2.8 |
| **HEAVY-DUTY TUFF-EDGE™ SLINGS** | | | | | | | | | |
| Endless Loop | 1 | 6 | 3200 | 2500 | 6400 | **1A595** | 20.94 | **16.30** | 0.8 |
| Endless Loop | 2 | 6 | 6400 | 5000 | 12,800 | **1A596** | 34.35 | **26.80** | 1.5 |
| Eye and Eye | 2 | 6 | 3200 | 2500 | 6400 | **1A597** | 27.75 | **21.60** | 1.2 |
| Eye and Eye | 2 | 8 | 3200 | 2500 | 6400 | **1A598** | 31.63 | **24.65** | 1.4 |
| Eye and Eye | 3 | 6 | 4800 | 3800 | 9600 | **1A599** | 44.30 | **34.55** | 1.9 |
| Eye and Eye | 4 | 8 | 6400 | 5000 | 12,800 | **1A600** | 66.08 | **51.50** | 2.9 |
| Eye and Eye | 4 | 10 | 6400 | 5000 | 12,800 | **6A259** | 78.74 | **61.40** | 3.2 |
| **EXTRA HEAVY-DUTY TUFF-EDGE™ SLINGS** | | | | | | | | | |
| Eye and Eye | 2 | 8 | 6400 | 5000 | 12,800 | **6A241** | 48.40 | **35.65** | 2.3 |
| Eye and Eye | 2 | 10 | 6400 | 5000 | 12,800 | **6A242** | 57.21 | **44.60** | 2.8 |
| Eye and Eye | 3 | 6 | 8600 | 6900 | 17,200 | **6A243** | 62.54 | **48.85** | 2.5 |
| Eye and Eye | 3 | 8 | 8600 | 6900 | 17,200 | **6A244** | 76.24 | **59.45** | 3.2 |
| Eye and Eye | 3 | 10 | 8600 | 6900 | 17,200 | **6A245** | 89.93 | **70.05** | 4.0 |
| Eye and Eye | 4 | 8 | 11,500 | 9200 | 23,000 | **6A246** | 102.96 | **80.35** | 4.0 |
| Eye and Eye | 4 | 10 | 11,500 | 9200 | 23,000 | **6A247** | 121.05 | **94.35** | 5.5 |
| Eye and Eye | 4 | 12 | 11,500 | 9200 | 23,000 | **6A248** | 139.04 | **108.35** | 6.5 |

# WIDE LIFT NYLON SLINGS

- **Slings meet or exceed all OSHA and ASME B30.9 standards**

Wide lift slings are basket hitch type. These slings distribute the load over a wide area, and give good balance to extra wide, large, and heavy loads. Can be used in paper mills, construction sites, and for lifting pipe. Eyes are tapered to fit snugly on crane hooks. Lift-All brand.




**IMPORTANT: Read Warning Sheet Supplied With Each Sling.**

## WIDE LIFT NYLON SLING SPECIFICATIONS AND ORDERING DATA

| Body Width (In.) | Length (Ft.) | Capacities Basket Hitch (Lbs.) | Eye Width (In.) | Eye Length (In.) | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **8** | 10 | 20,400 | 2 | 12 | WL1-808x10 | **6A249** | $163.68 | **$141.15** | 7.0 |
| **10** | 12 | 25,600 | 2½ | 15 | WL1-810x12 | **6A250** | 244.20 | **210.75** | 10.0 |

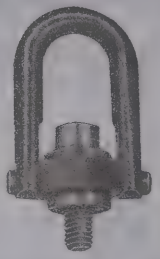
## SWIVEL HOIST RINGS

- 100% magnetic particle inpection
- Easy disassembly for periodic non-destructive inspection
- Heat-treated alloy with black oxide finish
- Rings and bodiess are magnafluxed per ASTMEI444-94A

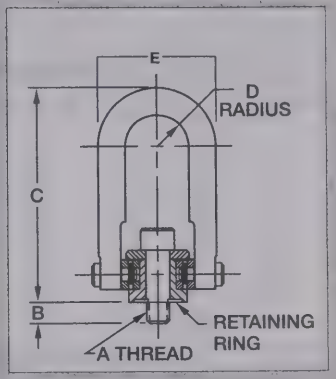
Hoist rings pivot 180°, rotate 360° simultaneously to allow lifting from any direction. Preferable to eyebolts.

| Stock. No. | Dimensions (In.) A | B | C | D | E |
|---|---|---|---|---|---|
| 4R992 | 5/16" - 18 | 0.54 | 3.23 | 0.65 | 2.29 |
| 4R994 | 5/16 - 18 | 0.56 | 3.23 | 0.65 | 2.29 |
| 4R968 | 3/8 - 16 | 0.56 | 3.23 | 0.65 | 2.29 |
| 4R980 | 1/2 - 13 | 0.78 | 5.31 | 1.00 | 3.50 |
| 4R982 | 1/2 - 13 | 1.00 | 5.31 | 1.00 | 3.50 |
| 4R984 | 1/2 - 13 | 1.25 | 5.31 | 1.00 | 3.50 |
| 4R986 | 5/8 - 11 | 1.00 | 5.31 | 1.00 | 3.50 |
| 4R990 | 3/4 -10 | 1.00 | 5.31 | 1.00 | 3.50 |
| 4R970 | 1 - 8 | 1.10 | 7.00 | 1.40 | 5.10 |

| Load Rating (Lbs.) | Installation Torque (Ft. / Lb.) | CM Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **800** | 7 | 423052 | **4R992** | **$67.60** | 0.5 |
| **800** | 7 | 433212 | **4R994** | **67.60** | 0.5 |
| **1000** | 12 | 433312 | **4R968** | **67.60** | 0.3 |
| **2500** | 28 | 423322 | **4R980** | **83.50** | 2.5 |
| **2500** | 28 | 435515 | **4R982** | **83.50** | 2.5 |
| **2500** | 28 | 433516 | **4R984** | **83.50** | 2.5 |
| **4000** | 60 | 433614 | **4R986** | **83.50** | 3.0 |
| **5000** | 100 | 433714 | **4R990** | **83.50** | 3.0 |
| **10000** | 230 | 433106 | **4R970** | **186.25** | 7.5 |



No. 4R992




## HOIST RINGS

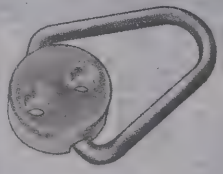
Low profile. Ring pivots a full 180°, but does not rotate. Base: black oxide finish. Ring: heat treated, magnafluxed per MIL-STD-1949, black oxide finish.

### SPECIFICATIONS

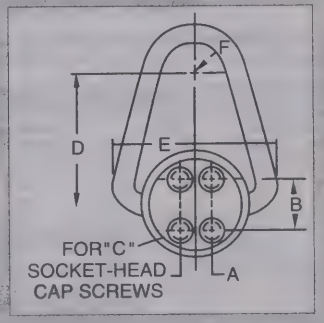
| Stock No. | Dimensions (In.) A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 4R974 | 2 | 1 | 5/16" or M8 | 2 | 21/2 | 1/2 |
| 4R978 | 2 | 1⅛ | 3/8 or M10 | 21/2 | 31/16 | 5/8 |
| 4R988 | 2 | 1½ | 1/2 or M12 | 3 | 37/8 | 3/4 |
| 4R972 | 1¼ | 1⅝ | 1/2 or M12 | 4 | 5¼ | 7/8 |
| 4R976 | 1¼ | 2⅛ | 5/8 or M16 | 5 | 6⅝ | 1 |

### ORDERING DATA

| Load Rating (Lbs.) | Installation Torque (Ft.-Lbs.) | CM Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **2000** | 7 | 434030 | **4R974** | **$18.15** | 0.8 |
| **2500** | 10 | 434035 | **4R978** | **19.20** | 1.0 |
| **5000** | 25 | 434050 | **4R988** | **27.40** | 2.0 |
| **12000** | 25 | 434045 | **4R972** | **54.00** | 3.7 |
| **20000** | 50 | 434050 | **4R976** | **71.90** | 7.5 |



No. 4R974




IF YOU'RE IN A BIND, CALL GRAINGER

If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# MACHINERY EYEBOLT OR HOIST EYES

**Drop forged steel.** Heat treated after forging. Plain or shoulder type. Vertical loads are based on safety factor of 5 to 1.Angular lifts will significantly lower working load limits and should be avoided. Manufactured from C-1035 steel.



## STANDARD LENGTH PLAIN PATTERN

| Shank (In.) Dia. | Shank (In.) Length | Eye (In.) I.D. | Eye (In.) O.D. | Working Load Limits (Lbs.) | Stock No. | List | Each | Lot/ Qty. | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1 | 3/4 | 1 1/4 | 500 | 2G666 | $2.71 | $2.31 | $2.08/25 | 0.1 |
| 5/16 | 1 1/8 | 7/8 | 1 1/2 | 900 | 2G668 | 2.84 | 2.41 | 2.17/25 | 0.1 |
| 3/8 | 1 1/4 | 1 | 1 21/32 | 1400 | 2G670 | 3.30 | 2.81 | 2.53/25 | 0.1 |
| 7/16 | 1 3/8 | 1 3/32 | 1 27/32 | 2000 | 2G672 | 3.67 | 3.12 | 2.81/25 | 0.2 |
| 1/2 | 1 1/2 | 1 3/16 | 2 1/16 | 2600 | 2G674 | 4.12 | 3.50 | 3.16/25 | 0.3 |
| 9/16 | 1 5/8 | 1 9/32 | 2 9/32 | 3000 | 2G676 | 5.42 | 4.62 | 4.15/10 | 0.5 |
| 5/8 | 1 3/4 | 1 3/8 | 2 1/2 | 4000 | 2G678 | 6.52 | 5.54 | 4.99/10 | 0.5 |
| 3/4 | 2 | 1 1/2 | 2 13/16 | 6000 | 2G680 | 9.02 | 7.45 | 6.71/10 | 0.9 |
| 7/8 | 2 1/4 | 1 11/16 | 3 1/4 | 7000 | 2G682 | 11.26 | 9.57 | 8.62/10 | 1.3 |
| 1 | 2 1/2 | 1 13/16 | 3 9/16 | 9000 | 2G684 | 15.41 | 13.10 | 11.79/10 | 2.0 |
| 1 1/8 | 2 3/4 | 2 | 4 | 10,000 | 2G686 | 24.63 | 20.94 | 18.84/ 2 | 2.8 |
| 1 1/4 | 3 | 2 3/16 | 4 7/16 | 15,000 | 2G688 | 29.88 | 25.40 | 22.86/ 2 | 3.0 |
| 1 1/2 | 3 1/2 | 2 1/2 | 5 9/16 | 19,600 | 2G690 | 51.39 | 43.75 | 39.32/ 2 | 6.8 |

## STANDARD LENGTH SHOULDER PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1 | 3/4 | 1 1/4 | 500 | 2G692 | 2.71 | 2.31 | 2.08/25 | 0.1 |
| 5/16 | 1 1/8 | 7/8 | 1 1/2 | 900 | 2G694 | 2.84 | 2.41 | 2.17/25 | 0.1 |
| 3/8 | 1 1/4 | 1 | 1 21/32 | 1400 | 2G696 | 3.32 | 2.82 | 2.54/25 | 0.2 |
| 7/16 | 1 3/8 | 1 3/32 | 1 27/32 | 2000 | 2G698 | 3.67 | 3.12 | 2.81/25 | 0.2 |
| 1/2 | 1 1/2 | 1 3/16 | 2 1/16 | 2600 | 2G700 | 4.13 | 3.51 | 3.17/10 | 0.4 |
| 9/16 | 1 5/8 | 1 9/32 | 2 9/32 | 3000 | 2G702 | 5.42 | 4.62 | 4.15/10 | 0.5 |
| 5/8 | 1 3/4 | 1 3/8 | 2 1/2 | 4000 | 2G704 | 6.53 | 5.56 | 5.00/10 | 0.6 |
| 3/4 | 2 | 1 1/2 | 2 13/16 | 6000 | 2G706 | 9.02 | 7.46 | 6.71/10 | 0.9 |
| 7/8 | 2 1/4 | 1 11/16 | 3 1/4 | 7000 | 2G708 | 11.28 | 9.59 | 8.64/10 | 1.5 |
| 1 | 2 1/2 | 1 13/16 | 3 9/16 | 9000 | 2G710 | 15.45 | 13.13 | 11.82/10 | 2.3 |
| 1 1/8 | 2 3/4 | 2 | 4 | 10,000 | 2G712 | 24.69 | 20.99 | 18.89/ 2 | 3.3 |
| 1 1/4 | 3 | 2 3/16 | 4 7/16 | 15,000 | 2G714 | 29.92 | 25.45 | 22.89/ 2 | 4.3 |
| 1 1/2 | 3 1/2 | 2 1/2 | 5 9/16 | 19,600 | 2G716 | 51.41 | 43.75 | 39.33/ 2 | 7.0 |

# MACHINERY OR HOIST EYES

**Drop forged stainless steel.** Shoulder type. Vertical loads are based on safety factor of 5-to-1. Manufactured from Type 316 stainless steel.



## STANDARD LENGTHS - BLANK OR THREADED

| Shank (In.) Dia. | Shank (In.) Length | Eye (In.) I.D. | Eye (In.) O.D. | Working Load Limits (lbs) | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1 | 3/4 | 1 1/4 | 500 | 2G718 | $13.32 | $11.33 | $10.19 | 0.2 |
| 5/16 | 1 1/8 | 7/8 | 1 1/2 | 900 | 2G720 | 16.78 | 14.27 | 12.84 | 0.4 |
| 3/8 | 1 1/4 | 1 | 1 21/32 | 1400 | 2G722 | 19.04 | 16.18 | 14.57 | 0.3 |
| 1/2 | 1 1/2 | 1 3/16 | 2 1/16 | 2600 | 2G724 | 24.01 | 20.41 | 18.38 | 0.5 |
| 5/8 | 1 3/4 | 1 3/8 | 1 1/2 | 4000 | 2G726 | 38.84 | 33.05 | 29.72 | 1.0 |
| 3/4 | 2 | 1 1/2 | 2 13/16 | 6000 | 2G728 | 52.66 | 44.80 | 40.28 | 1.5 |

# MACHINERY OR HOIST EYES METRIC THREAD

**Drop forged steel.** Heat treated after forging. Shoulder type. Vertical loads are based on safety factor of 5 to 1. Manufactured from C-1035 steel.



## STANDARD LENGTH—BLANK OR THREADED

| Thread Size | Approx. Shank (In.) Dia. | Shank (In.) Length | Eye (In.) I.D. | Eye (In.) O.D. | Working Load Limits (Kg) | Stock No. | List | Each | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| M6 x 1.0 | 1/4 | 1 | 3/4 | 1 1/4 | 210 | 2G730 | $6.01 | $5.11 | $4.61 /5 | 0.1 |
| M7 x 1.0 | 5/18 | 1 1/8 | 7/8 | 1 1/2 | 370 | 2G732 | 6.87 | 5.85 | 5.26 /5 | 0.1 |
| M8 x 1.25 | 3/8 | 1 1/4 | 1 | 1 21/32 | 450 | 2G734 | 7.33 | 6.23 | 5.62 /5 | 0.2 |
| M10 x 1.5 | 7/16 | 1 3/8 | 1 3/32 | 1 27/32 | 740 | 2G736 | 8.04 | 6.84 | 6.16 /5 | 0.3 |
| M12 x 1.75 | 1/2 | 1 1/2 | 1 3/16 | 2 1/16 | 1030 | 2G738 | 8.22 | 6.99 | 6.29 /5 | 0.4 |
| M14 x 2.0 | 9/14 | 1 5/8 | 1 9/32 | 2 9/32 | 1600 | 2G740 | 10.36 | 8.80 | 7.92 /3 | 0.5 |
| M16 x 2.0 | 5/8 | 1 3/4 | 1 3/8 | 2 1/2 | 1600 | 2G742 | 11.67 | 9.93 | 8.93 /3 | 0.6 |
| M18 x 2.5 | 3/4 | 2 | 1 1/2 | 2 13/16 | 2140 | 2G744 | 13.73 | 11.68 | 10.50 /3 | 1.0 |
| M20 x 2.5 | 7/8 | 2 1/4 | 1 11/16 | 3 1/4 | 2860 | 2G746 | 19.80 | 16.83 | 15.15 /3 | 1.5 |
| M24 x 3.0 | 1 | 2 1/2 | 1 13/16 | 3 9/16 | 3850 | 2G748 | 25.85 | 21.97 | 19.78 /3 | 2.3 |
| M27 x 3.0 | 1 1/16 | 2 3/4 | 2 | 4 | 5200 | 2G750 | 36.62 | 31.15 | 24.90 /5 | 3.3 |
| M30 x 3.5 | 1 1/4 | 3 | 2 3/16 | 4 7/16 | 6400 | 2G752 | 48.35 | 41.10 | 32.87 /5 | 4.3 |
| M36 x 4.0 | 1 1/2 | 3 1/2 | 2 1/2 | 5 9/16 | 8970 | 2G754 | 73.26 | 62.30 | 49.81 /5 | 7.1 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

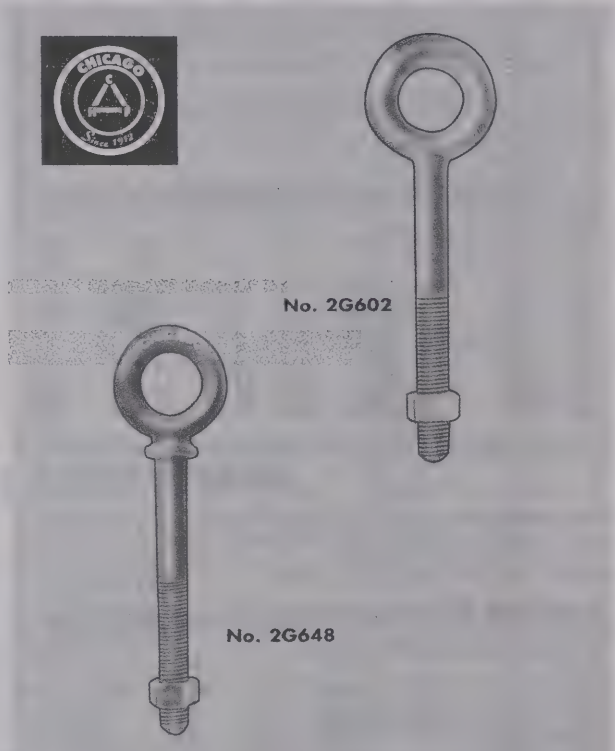
Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# FORGED EYE BOLTS AND EYE NUTS

## HOT GALVANIZED FORGED EYE BOLTS

**Eye bolts are N-C threaded** before galvanizing and assembled with hex nuts tapped oversize. Loads are based on a safety factor of 5 to 1. When tested all eye bolts are pulled at a uniform rate of speed in a direct tension. Any deviations as angular lifts, shock loads, modification of the basic forging, etc., will result in drastically reduced maximum loads. C-1035 steel.

| Working Load Limits (Lbs) | Bolt Dia. (In.) | Shank Length (In.) | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PLAIN PATTERN** | | | | | | | |
| **500** | 1/4 | 2 | **2G602** | $3.41 | **$2.91** | **$2.61/10** | 0.1 |
| **500** | 1/4 | 3 | **2G604** | 3.45 | **2.94** | **2.65/10** | 0.1 |
| **500** | 1/4 | 4 | **2G606** | 3.95 | **3.36** | **3.02/10** | 0.1 |
| **500** | 1/4 | 5 | **2G608** | 5.33 | **4.54** | **4.08/10** | 0.1 |
| **500** | 1/4 | 6 | **2G610** | 5.46 | **4.64** | **4.18/10** | 0.1 |
| **800** | 5/16 | 2 1/4 | **2G612** | 4.08 | **3.46** | **3.12/10** | 0.1 |
| **800** | 5/16 | 3 1/4 | **2G614** | 4.29 | **3.64** | **3.29/10** | 0.1 |
| **800** | 5/16 | 4 1/4 | **2G616** | 4.38 | **3.72** | **3.35/10** | 0.2 |
| **800** | 5/16 | 5 | **2G618** | 5.47 | **4.66** | **4.19/10** | 0.2 |
| **800** | 5/16 | 6 | **2G620** | 6.41 | **5.46** | **4.91/10** | 0.2 |
| **1200** | 3/8 | 2 1/2 | **2G622** | 4.46 | **3.79** | **3.41/10** | 0.2 |
| **1200** | 3/8 | 3 | **2G624** | 4.95 | **4.21** | **3.79/10** | 0.2 |
| **1200** | 3/8 | 4 1/4 | **2G626** | 5.52 | **4.70** | **4.23/10** | 0.2 |
| **1200** | 3/8 | 5 | **2G628** | 6.01 | **5.11** | **4.60/10** | 0.3 |
| **1200** | 3/8 | 6 | **2G630** | 6.19 | **5.27** | **4.74/10** | 0.3 |
| **1200** | 3/8 | 8 | **2G632** | 8.86 | **7.54** | **6.78/10** | 0.4 |
| **2200** | 1/2 | 2 | **2G634** | 5.84 | **4.96** | **4.47/10** | 0.4 |
| **2200** | 1/2 | 3 1/4 | **2G636** | 5.84 | **4.96** | **4.47/10** | 0.4 |
| **2200** | 1/2 | 4 1/2 | **2G638** | 7.68 | **6.53** | **5.88/10** | 0.5 |
| **2200** | 1/2 | 6 | **2G640** | 7.69 | **6.54** | **5.88/10** | 0.6 |
| **2200** | 1/2 | 8 | **2G642** | 10.94 | **9.30** | **8.37/10** | 0.7 |
| **2200** | 1/2 | 10 | **2G644** | 13.40 | **11.39** | **10.25/10** | 0.8 |
| **2200** | 1/2 | 12 | **2G646** | 14.09 | **11.98** | **10.79/10** | 0.7 |
| **SHOULDER PATTERN** | | | | | | | |
| **500** | 1/4 | 2 | **2G648** | 3.61 | **3.07** | **2.76/10** | 0.1 |
| **500** | 1/4 | 4 | **2G650** | 4.41 | **3.76** | **3.38/10** | 0.1 |
| **800** | 5/16 | 2 1/4 | **2G652** | 4.18 | **3.56** | **3.20/10** | 0.1 |
| **800** | 5/16 | 4 1/4 | **2G654** | 4.69 | **3.99** | **3.59/10** | 0.2 |
| **1200** | 3/8 | 2 1/2 | **2G656** | 4.61 | **3.93** | **3.53/10** | 0.2 |
| **1200** | 3/8 | 4 1/2 | **2G658** | 5.39 | **4.59** | **4.12/10** | 0.3 |
| **2200** | 1/2 | 2 | **2G660** | 5.84 | **4.96** | **4.47/10** | 0.4 |
| **2200** | 1/2 | 3 1/4 | **2G662** | 6.20 | **5.28** | **4.75/10** | 0.4 |
| **2200** | 1/2 | 6 | **2G664** | 8.08 | **6.87** | **6.19/10** | 0.6 |

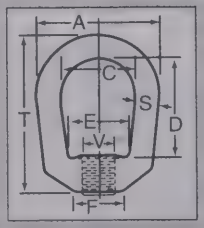



## FORGED EYE NUTS

Eye Nuts are drilled and tapped UNC-2B. Hot dipped galvanized. Loads are based on a safety factor of 5 to 1.

| Working Load Limits (Tons) | Tap Sizes Std. *M* | Dimensions (In.) A | C | D | E | F | S | T | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STEEL EYE NUTS** | | | | | | | | | | | | | |
| .26 | 1/4-20 | 1 1/4 | 3/4 | 1 1/16 | 19/32 | 1/2 | 1/4 | 1 11/16 | 2G768 | $5.70 | $4.85 | $4.37/5 | 0.1 |
| .42 | 5/16-18 | 1 1/4 | 3/4 | 1 1/16 | 19/32 | 1/2 | 1/4 | 1 11/16 | 2G770 | 5.70 | 4.85 | 4.37/5 | 0.1 |
| .62 | 3/8-16 | 1 5/8 | 1 | 1 1/4 | 3/4 | 9/16 | 5/16 | 2 1/16 | 2G772 | 5.77 | 4.91 | 4.42/5 | 0.2 |
| .85 | 7/16-14 | 2 | 1 1/4 | 1 1/2 | 1 | 13/16 | 3/8 | 2 1/2 | 2G774 | 5.87 | 4.99 | 4.49/3 | 0.3 |
| 1.12 | 1/2-13 | 2 | 1 1/4 | 1 1/2 | 1 | 13/16 | 3/8 | 2 1/2 | 2G776 | 5.87 | 4.99 | 4.49/5 | 0.3 |
| 1.8 | 5/8-11 | 2 1/2 | 1 1/2 | 2 | 1 3/16 | 1 | 1/2 | 3 3/16 | 2G778 | 7.18 | 6.11 | 5.50/3 | 0.5 |
| 2.6 | 3/4-10 | 3 | 1 3/4 | 2 3/8 | 1 3/8 | 1 1/8 | 5/8 | 3 7/8 | 2G780 | 13.40 | 11.39 | 10.25/3 | 1.0 |
| 3.6 | 7/8-9 | 3 1/2 | 2 | 2 5/8 | 1 5/8 | 1 5/16 | 3/4 | 4 5/16 | 2G782 | 16.38 | 13.93 | 12.53/3 | 1.5 |
| 3.6 | 1-8 | 3 1/2 | 2 | 2 5/8 | 1 5/8 | 1 5/16 | 3/4 | 4 5/16 | 2G784 | 16.38 | 13.93 | 12.53/3 | 1.5 |
| **STAINLESS STEEL EYE NUTS—TYPE 316** | | | | | | | | | | | | | |
| .26 | 1/4-20 | 1 1/4 | 3/4 | 1 1/16 | 19/32 | 1/2 | 1/4 | 1 11/16 | 2G756 | 23.12 | 19.65 | 17.69/2 | 0.2 |
| .42 | 5/16-18 | 1 1/4 | 3/4 | 1 1/16 | 19/32 | 1/2 | 1/4 | 1 11/16 | 2G758 | 23.12 | 19.65 | 17.69/2 | 0.2 |
| .62 | 3/8-16 | 1 5/8 | 1 | 1 1/4 | 3/4 | 9/16 | 5/16 | 2 1/16 | 2G760 | 28.90 | 24.57 | 22.11/2 | 0.3 |
| 1.12 | 1/2-13 | 2 | 1 1/4 | 1 1/2 | 1 | 13/16 | 3/8 | 2 1/2 | 2G762 | 28.91 | 24.57 | 22.12/2 | 0.6 |
| 1.8 | 5/8-11 | 2 1/2 | 1 1/2 | 2 | 1 3/16 | 1 | 1/2 | 3 3/16 | 2G764 | 38.23 | 32.55 | 29.24/2 | 1.0 |
| 2.6 | 3/4-10 | 3 | 1 3/4 | 2 3/8 | 1 3/8 | 1 1/8 | 3/8 | 3 7/8 | 2G766 | 56.25 | 47.90 | 43.03/2 | 2.0 |




**LIBRARY OF TECHNICAL MANUALS**

Helpful reference books for the tradesman, student, and homeowner. Topics cover electricity, electric motors, welding, plumbing, refrigeration, air conditioning, pneumatics, hydraulics, and much more. See Index under Books, Technical.

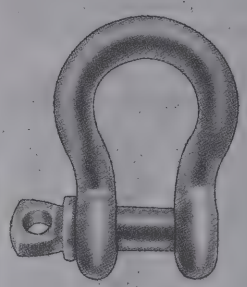
# FORGED SHACKLES

**Size, work load, and trademark** are permanently marked on all galvanized shackles. Loads are based on a safety factor of 5 to 1. When tested, all shackles are pulled at a uniformed rate of speed in a direct tension. Meets Federal Specification RRC-271d Type IV Class 2.

ANY DEVIATIONS AS ANGULAR LIFTS, SHOCK LOADS, MODIFICATION OF THE BASIC FORGING, ETC., WILL RESULT IN DRASTICALLY REDUCED MAXIMUM LOADS.

## FORGED SHACKLE ORDERING DATA

| Max. Load Tons | Inside Size Dia. (In.) | Inside Width @ Eyes (In.) | Stock No. | List | Each | Lot/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/3 | 3/16 | 3/8 | 2G786 | $2.99 | $2.55 | $2.29/10 | 0.1 |
| 1/2 | 1/4 | 15/32 | 2G788 | 3.04 | 2.58 | 2.33/10 | 0.1 |
| 3/4 | 5/16 | 17/32 | 2G790 | 3.77 | 3.21 | 2.89/10 | 0.2 |
| 1 | 3/8 | 21/32 | 2G792 | 4.34 | 3.69 | 3.33/10 | 0.3 |
| 2 | 1/2 | 13/16 | 2G794 | 5.86 | 4.99 | 4.49/10 | 0.7 |
| 3¼ | 5/8 | 1 1/16 | 2G796 | 10.88 | 9.25 | 8.33/5 | 1.4 |
| 4¾ | 3/4 | 1¼ | 2G798 | 15.95 | 13.57 | 12.20/5 | 2.4 |
| 6½ | 7/8 | 1 7/16 | 2G800 | 22.13 | 18.82 | 16.94/5 | 3.5 |
| 8½ | 1 | 1 11/16 | 2G802 | 29.42 | 25.05 | 22.51/5 | 5.3 |



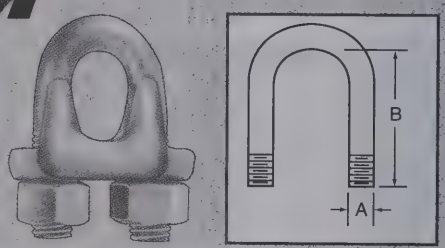
No. 2G798

# DROP FORGED WIRE ROPE CLIPS

**These wire rope fittings have forged steel clip bases** and are manufactured to rigid specifications. Component parts are hot-dipped galvanized to ASTM-A-153 as standard. Meets Federal Specification FF-C-450 Type 1 Class 1.

## WIRE ROPE CLIP SPECIFICATIONS AND ORDERING DATA

| For Rope Size (In.) | U-Bolt Dimensions (In.) A | B | Stock No. | List | Each | Lots 20 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/8 | 12-24 | 3/4 | 2G804 | 1.58 | $1.35 | $1.22 | 0.1 |
| 3/16 | 1/4-20 | 15/16 | 2G806 | 1.69 | 1.44 | 1.30 | 0.1 |
| 1/4 | 5/16-18 | 1 5/32 | 2G808 | 2.38 | 2.03 | 1.83 | 0.2 |
| 5/16 | 3/8-16 | 1¼ | 2G810 | 2.50 | 2.13 | 1.92 | 0.3 |
| 3/8 | 7/16-14 | 1½ | 2G812 | 2.76 | 2.36 | 2.12 | 0.5 |
| 7/16 | 1/2-13 | 1⅞ | 2G814 | 4.30 | 3.66 | 3.29 | 0.7 |
| 1/2 | 1/2-13 | 1⅞ | 2G816 | 4.31 | 3.67 | 3.30 | 0.8 |
| 9/16 | 9/16-12 | 2⅜ | 2G818 | 5.49 | 4.67 | 4.20 | 1.0 |
| 5/8 | 9/16-12 | 2⅜ | 2G820 | 5.49 | 4.67 | 4.20 | 1.0 |
| 3/4 | 5/8-11 | 2¾ | 2G822 | 7.10 | 6.03 | 5.44 | 1.5 |
| 7/8 | 3/4-10 | 3¼ | 2G824 | 10.29 | 8.75 | 7.87 | 2.5 |
| 1 | 3/4-10 | 3⅝ | 2G826 | 11.88 | 10.10 | 9.09 | 2.8 |

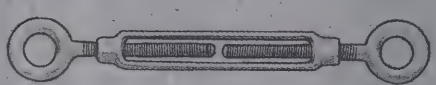



No. 2G804

# EYE-EYE TURNBUCKLES

- Galvanized, drop-forged carbon steel
- Meets Federal Spec. FF-T-791B, Type 1, Form 1, Class 4
- ASTM F1145-92, Type 1, Grade 1

| Dia. (In.) | TakeUp (In.) | Closed Length (In.) | Stock No. | List | Each Pkg. | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 | 4 | 8¼ | 2G596 | $13.48 | $11.46 | $10.31/10 | 0.3 |
| 5/16 | 4½ | 9 9/16 | 2G598 | 16.77 | 14.25 | 12.83/10 | 0.5 |
| 3/8 | 6 | 11⅞ | 2G600 | 18.63 | 15.85 | 14.26/10 | 0.8 |
| 1/2 | 6 | 13 3/16 | 4P814 | 21.56 | 18.32 | 16.49/5 | 2.4 |
| 5/8 | 6 | 15½ | 4P815 | 26.79 | 22.76 | 20.50/5 | 2.4 |
| 3/4 | 6 | 17 | 4P816 | 49.11 | 41.80 | 37.57/5 | 3.5 |



No. 4P814

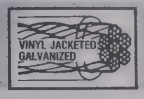
DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

## GALVANIZED STEEL CABLE

Galvanized aircraft type cable is commonly used for winching, hoisting, barriers, garage and cargo doors, farm and marine applications. Available in 7 x 7 or more flexible 7 x 19 construction. 3/16" also available vinyl jacketed for improved cable life. Comes in convenient self-dispensing carton. Exceeds US Federal Spec. RR-W-410D, ASTM Spec. A-90, SAE Spec. J-684C and ANSI Spec. B30-10.







No. 4KH25

| Cable Size (In.) | Length (Ft.) | Working Load Limit* (Lbs.) | Spool Width (In.) | Champ Cable Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **7 x 7 GALVANIZED CABLE SPOOL** | | | | | | | | |
| 1/16 | 500 | 96 | 3 | 51411 | **4KH25** | $70.00 | **$51.25** | 7.0 |
| 1/8 | 500 | 340 | 3 | 51471 | **4KH26** | 104.67 | **76.60** | 17.0 |
| **7 x 19 GALVANIZED CABLE SPOOL** | | | | | | | | |
| 3/16 | 250 | 840 | 3 | 51556 | **6W018** | 91.68 | **75.75** | 18.0 |
| 1/4 | 250 | 1400 | 6 | 51601 | **6W019** | 120.17 | **99.30** | 29.0 |
| 5/16 | 200 | 1960 | 6 | 51631 | **6W020** | 144.82 | **119.65** | 36.0 |
| 3/8 | 150 | 3000 | 6 | 51671 | **6W021** | 139.61 | **115.35** | 38.0 |
| **VINYL JACKETED GALVANIZED CABLE SPOOL** | | | | | | | | |
| 3/16† | 250 | 840 | 6 | 52041 | **6W022** | 113.14 | **93.50** | 21.0 |

## 50 AND 100 FOOT LENGTHS PRECUT CABLE

Precut lengths of galvanized aircraft type steel cable packaged in a reusable carton. Up to 3000 lb. capacity. Cable lengths made of 7 x 19 construction for greater strength and flexibility. Precut Champ cables have permanent loop with thimble eye on one end, safety-fused on the other. Choice of galvanized steel cable with or without vinyl jacket.



No. 6W025

| Cable Size (In.) | Length (Ft.) | Working Load Limit* (Lbs.) | Champ Cable Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PRECUT GALVANIZED CABLE COILS** | | | | | | | |
| 3/16 | 100 | 840 | 50075 | **6W025** | $47.44 | **$36.35** | 6.8 |
| 1/4 | 100 | 1400 | 50095 | **6W026** | 64.77 | **49.60** | 12.0 |
| 5/16 | 100 | 1960 | 50115 | **6W027** | 98.70 | **75.50** | 18.0 |
| 3/8 | 100 | 3000 | 50135 | **6W028** | 121.13 | **92.70** | 25.0 |
| **PRECUT VINYL JACKETED GALVANIZED CABLE COILS** | | | | | | | |
| 3/16† | 50 | 840 | 50230 | **6W029** | 29.95 | **22.90** | 3.8 |
| 3/16† | 100 | 840 | 50235 | **6W030** | 57.89 | **44.30** | 8.5 |

(*) WARNING: Do not exceed working load limit. (†) Cable size only; 1/4" with vinyl jacketing.

## SPOOL CARTON CRADLES

For use with Champ Cable spools in convenient self-dispensing cartons. Formed and welded heavy-duty 1/4" steel for pegboard or shelf mounting. Comes with suction feet for portable convenience, and hardware for stationary mounting. Black.



champ cable™ products

Spool Carton Cradle

No. 6W023

| Cradle Size (In.) | Champ Cable Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 | 55605 | **6W023** | $11.00 | **$9.09** | 1.2 |
| 6 | 55610 | **6W024** | 13.00 | **10.74** | 1.8 |

## SWAGE-IT-TOOLS

For use with Sleeve N' Thimble™ kits for making loops and splicing cable of a wide range of sizes. Precision made, professional quality. Swaging pressure applied by using a wrench to tighten bolts on tool.



No. 4KH08 Swage-It-Tool

| For Cable Sizes (In.) | Champ Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/16, 3/32, 1/8 | 43001 | 4KH08 | $51.29 | $39.50 | 0.8 |
| 1/8, 5/32, 3/16, 1/4 | 43002 | 4KH09 | 97.27 | 74.90 | 3.1 |

## CLIP N' THIMBLE™ KITS

Ideal for repairing, joining or making loops in end of cables. Also suitable for making winch, barrier, handrail cables and guy wires. Heavy-duty galvanized for corrosion protection. Includes two U-bolt type clips with thimble. Warning: Clips develop only 75% of cable strength. Not for use on slings or tow cables.



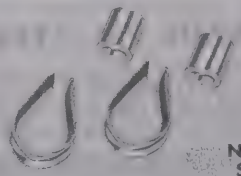
No. 6W031

### KIT ORDERING DATA

| For Cable Size (In.) | Champ Cable Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/8 | 50700 | **4KH30** | $2.25 | **$1.87** | 0.3 |
| 3/16 | 50705 | **6W031** | 2.45 | **2.03** | 0.2 |
| 1/4 | 50710 | **6W032** | 2.66 | **2.20** | 0.3 |
| 5/16 | 50715 | **6W033** | 3.00 | **2.48** | 0.3 |
| 3/8 | 50720 | **6W034** | 3.62 | **2.99** | 0.6 |

## SLEEVE N' THIMBLE™ KITS

For fabrication of professional quality loops and splices in galvanized aircraft type cable. Provides cleaner appearance and can produce 100% of cable strength when properly applied with swage-it-tool. Includes two zinc plated thimbles and two aluminum alloy sleeves.



No. 4KH27 Sleeve N' Thimble Kit

### KIT ORDERING DATA

| For Cable Size (In.) | Champ Cable Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/16 | 53500 | **4KH27** | $3.57 | **$2.75** | 0.1 |
| 1/8 | 53520 | **4KH28** | 3.70 | **2.85** | 0.2 |
| 3/16 | 53530 | **4KH29** | 4.28 | **3.39** | 0.4 |

## WINCHLINE REPLACEMENT HOOKS

- For replacement of lost or worn hooks on hand or power winch cables
- Heavy-duty forged steel hooks



No. 4KH22 Replacement Hook

| Working Load (Lbs.) | Champ Cable Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1500 | 50805 | **4KH22** | $6.16 | **$4.75** | 0.5 |
| 3000 | 50808 | **4KH23** | 11.36 | **8.75** | 0.8 |

# WELDED STEEL CHAIN

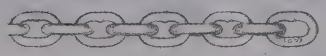
CM



**GRADE 30:** General Purpose Chain. Low Carbon Steel Construction. High Degree of Uniformity. 3/16, 1/4, 5/16, and 3/8" Sizes.



**GRADE 43:** Higher Strength-to-Weight Ratio Than Grade 30. Carbon Steel Construction. 1/4 and 3/8" Sizes.



**GRADE 70:** Higher Strength-to-Weight Ratio Than Grade 43. High-Harden Ability Steel. 5/16 and 3/8" Sizes.



Chain Lengths Over 20 Ft. Come in Plastic Pail

## PROOF COIL, GRADE 30, STEEL CHAIN

Proof coil chain is excellent general purpose chain of standard quality for all ordinary applications. Frequently used for fabricating tow chains, light-duty binding chain and logging chains. **Do not use for overhead lifting.** Links are low carbon steel electrically welded to produce a high degree of uniformity.Electroplated zinc finish. Proof tested. Chain fittings and accessories listed on page 2249.

### GRADE 30 PROOF COIL CHAIN—PAILS AND 20 FT. LENGTHS

| Trade Size (In.) | Working Load Limit* (Lbs.) | Feet per Pail† | Material Diameter (In.) | Inside Length (In.) | Inside Width (In.) | Links per Foot | CM Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/16** | 750 | 250 | 0.218 | 0.950 | 0.315 | 12½ | 671411 | **3Z938** | $336.86 | **$193.50** | **$183.60** | 99.0 |
| **1/4** | 1250 | 141 | 0.276 | 1.200 | 0.435 | 10 | 671410 | **3Z839** | 304.55 | **178.00** | **168.59** | 90.0 |
| **5/16** | 1900 | 92 | 0.315 | 1.270 | 0.473 | 9½ | 671412 | **3Z939** | 283.35 | **163.00** | **154.62** | 79.0 |
| **3/8** | 2650 | 63 | 0.394 | 1.357 | 0.570 | 8¾ | 671413 | **3Z840** | 280.22 | **162.50** | **154.01** | 92.0 |
| **3/16** | 750 | 20 | 0.218 | 0.950 | 0.315 | 12½ | 601821C20 | **4Z757** | 30.01 | **17.32** | **16.45** | 8.0 |
| **1/4** | 1250 | 20 | 0.276 | 1.200 | 0.435 | 10 | 601828C20 | **4Z758** | 47.23 | **26.60** | **25.15** | 13.0 |
| **5/16** | 1900 | 20 | 0.315 | 1.270 | 0.473 | 9½ | 601834C20 | **4Z759** | 67.81 | **37.90** | **35.96** | 17.0 |
| **3/8** | 2650 | 20 | 0.394 | 1.357 | 0.570 | 8¾ | 601840C20 | **4Z760** | 96.85 | **55.05** | **52.26** | 29.0 |

## HIGH TEST, GRADE 43, STEEL CHAIN

High Test Grade 43 chain is an electrically welded carbon steel chain often used for load binding, towing, logging and other applications requiring higher strength-to-weight ratios than Proof Coil chain. See tables below for working load limitations. **Do not use for overhead lifting.** Proof tested.

### GRADE 43 HIGH TEST CHAIN—PAILS AND 20 FT. LENGTHS

| Trade Size (In.) | Working Load Limit* (Lbs.) | Feet per Pail† | Material Diameter (In.) | Inside Length (In.) | Inside Width (In.) | Links per Foot | CM Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 2600 | 150 | 0.276 | 1.20 | 0.45 | 10 | 678811 | **6Z999** | $536.07 | **$308.25** | **$292.53** | 98.0 |
| **3/8** | 5400 | 75 | 0.394 | 1.15 | 0.58 | 10½ | 678813 | **3Z940** | 367.30 | **224.00** | **212.59** | 108.0 |
| **1/4** | 2600 | 20 | 0.276 | 1.20 | 0.45 | 10 | 608829C20 | **5A719** | 79.77 | **37.10** | **35.15** | 12.0 |
| **3/8** | 5400 | 20 | 0.394 | 1.15 | 0.58 | 10½ | 608841C210 | **4Z761** | 109.74 | **66.70** | **63.25** | 29.0 |

## TRANSPORT, GRADE 70, STEEL CHAIN

Grade 70 chain is made from a high-harden ability steel for higher strength-to-weight ratio than Proof Coil and High Test chain. Specifically developed for use on load binding and towing applications and meets stringent Dept. of Transportation regulations with a chain that is smaller, lighter in weight, and easier to handle. **Do not use for overhead lifting.** Electrically welded and heat treated. Proof tested.

### GRADE 70 TRANSPORT CHAIN—PAILS AND 20 FT. LENGTHS

| Trade Size (In.) | Working Load Limit* (Lbs.) | Feet per Pail† | Material Diameter (In.) | Inside Length (In.) | Inside Width (In.) | Links per Foot | CM Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5/16** | 4700 | 100 | 0.343 | 1.02 | 0.48 | 11¾ | 678212 | **3Z941** | $519.95 | **$302.75** | **$287.21** | 104.0 |
| **3/8** | 6600 | 75 | 0.394 | 1.36 | 0.57 | 9½ | 678213 | **5Z266** | 508.70 | **309.75** | **293.96** | 105.0 |
| **5/16** | 4700 | 20 | 0.343 | 1.02 | 0.48 | 11¾ | 608932C20 | **5A563** | 111.80 | **68.60** | **65.09** | 20.0 |
| **3/8** | 6600 | 20 | 0.394 | 1.36 | 0.57 | 9½ | 608942C20 | **5A564** | 147.49 | **89.80** | **85.24** | 27.0 |

(*) WARNING: Do not exceed working load limit. Do not use for overhead lifting.
(†) 20 foot lengths come packaged in a carton.

CM



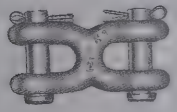
Slip Hook



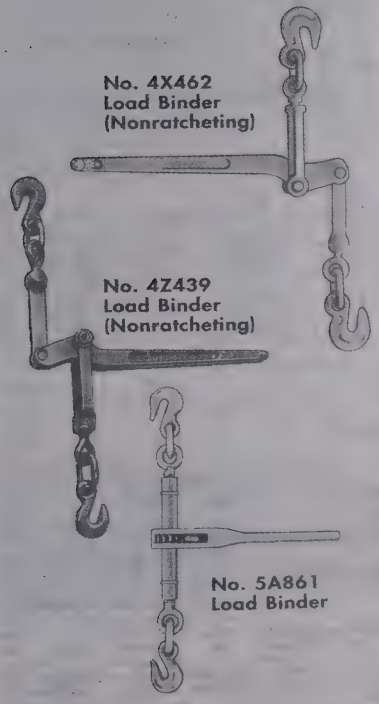
Grab Hook



Connecting Link



Double Clevis



No. 4X462 Load Binder (Nonratcheting)

No. 4Z439 Load Binder (Nonratcheting)

No. 5A861 Load Binder

## CLEVIS SLIP HOOK

Chain passes through hook to make a slip-loop around the load. Clevis pin attaches hook to chain. Nos. 3X693, 1A622, and 3X694 are forged carbon steel with electroplated zinc finish. Nos. 5A565 and 5A566 are forged steel painted orange. All are heat treated for use with chain as specified in the table below. Not for use in overhead lifting. CM brand.

| Trade Size (In.) | Use Only with Chain | Clevis Opening (In.) | Throat Opening (In.) | Working Load Limit* (Lbs.) | CM Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 3/16", 1/4" Gr. 30 & 43 | 3/8 | 15/16 | 2600 | M904ZL | **3X693** | $5.09 | **$4.17** | **$3.95** | 0.5 |
| **5/16** | 5/16" Grade 30 | 7/16 | 1 1/16 | 3900 | M9052L | **1A622** | 6.25 | **5.18** | **4.92** | 0.9 |
| **5/16** | 5/16" Grade 70 | 7/16 | 1 1/16 | 5100 | M905L | **5A565** | 8.79 | **7.49** | **7.12** | 0.9 |
| **3/8** | 3/8" Gr. 30 & 43; 5/16" Gr. | 1/2 | 1 1/4 | 5400 | M906ZL | **3X694** | 8.07 | **6.64** | **6.30** | 0.5 |
| **3/8** | 3/8" Grade 70 | 1/2 | 1 1/4 | 5500 | M906A | **5A566** | 9.75 | **8.29** | **7.88** | 1.4 |

## CLEVIS GRAB HOOK

Prevents chain from passing through the hook. Use to secure chain. Clevis pin attaches hook to end of chain. Nos. 3X691, 1A623, and 3X692 are forged carbon steel with electroplated zinc finish. Nos. 2A091 and 5A720 are forged steel painted orange. All are heat treated for use with chain as specified in the table below. Not for use in overhead lifting. CM brand.

| Trade Size (In.) | Use Only with Chain | Clevis Opening (In.) | Throat Opening (In.) | Working Load Limit* (Lbs.) | CM Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 3/16, 1/4" Grade 30 & 43 | 3/8 | 3/8 | 2600 | M804L | **3X691** | $4.07 | **$3.59** | **$3.41** | 0.4 |
| **5/16** | 5/16" Grade 30 | 7/16 | 7/16 | 3900 | M805ZL | **1A623** | 5.17 | **4.91** | **4.67** | 0.7 |
| **5/16** | 5/16" Grade 70 | 7/16 | 7/16 | 5100 | M905A | **2A091** | 5.21 | **4.48** | **4.25** | 0.7 |
| **3/8** | 3/8" Gr. 30 & 43; 5/16" Gr. 70 | 1/2 | 1/2 | 5400 | M906ZL | **3X692** | 6.84 | **6.23** | **5.92** | 1.0 |
| **3/8** | 3/8" Grade 70 | 1/2 | 1/2 | 5500 | M806T | **5A720** | 6.73 | **6.00** | **5.70** | 1.0 |

## CONNECTING AND CLEVIS LINKS

For temporary chain repair and coupling of attachments to low carbon chain only. Drop forged, weldless carbon steel, heat treated. Forged pins join the halves of the links together, and interlocking lugs distribute the load. Self-colored finish.

For use with chain as specified in the table below. Clevis pin on each end joins two chain links to form a continuous chain. Double clevis is forged, heat-treated and tempered. Zinc-plated finish. Do not use in overhead lifting applications. CM brand.

| Trade Size (In.) | Use Only with Chain | Inside Width (In.) | Inside Length (In.) | Working Load Limit* (Lbs.) | CM Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3/16** | 3/16" Grade 30 | 5/16 | 5/8 | 800 | M613 | **1A624** | $3.00 | **$2.43** | **$2.30** | 0.1 |
| **1/4** | 1/4" Grade 30 | 7/16 | 7/8 | 1400 | M614 | **3X695** | 3.06 | **2.43** | **2.30** | 0.1 |
| **1/4** | 1/4-5/16" Grade 43 | .385/.400 opening | | 3900 | M605 | **5A721** † | 4.70 | **4.39** | **4.18** | 0.3 |
| **5/16** | 5/16" Grade 30 | 1/2 | 1 | 2000 | M615 | **1A625** | 3.18 | **2.57** | **2.42** | 0.1 |
| **3/8** | 3/8" Grade 30 | 9/16 | 1 1/8 | 2800 | M616 | **2A090** | 3.28 | **2.66** | **2.51** | 0.2 |
| **3/8** | 3/8" Gr. 43; 5/16" Gr. 70 | .540/.545 opening | | 5400 | 82380 | **3X696** † | 5.68 | **5.36** | **5.09** | 0.5 |
| **1/2** | 7/16-1/2" Gr. 43; 3/8" Gr. 70 | .590/.605 opening | | 9200 | 82480 | **5A722** † | 9.83 | **9.53** | **9.05** | 1.1 |

(†) Double clevis.

## LOAD BINDERS

Load binders take up slack and secure chain around loads in one operation. They are used in steel, lumber, and machine hauling jobs as well as logging and oil field rigging. Orange paint finish resists rusting. CM brand.

No. 4X462. Drop forged construction including grab hooks.

No. 4Z439. Drop forged construction with swivel links and alloy grab hooks.

No. 5A861. Ratchet type binder. Drop forged construction with alloy grab hooks.

| Chain Size (In.) | Use Only with Chain | Take-Up (In.) | Working Load Limit* (Lbs.) | CM Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1/4" Grade 30 | 2 3/4 | 2600 | 320104 | **4X462**† | $25.87 | **$20.66** | **$19.63** | 3.0 |
| **5/16-3/8** | 5/16" Gr. 70; 3/8" Gr. 43 | 4 3/4 | 5400 | 320105 | **4Z439** | 39.47 | **31.30** | **29.67** | 8.0 |
| **3/8** | 3/8" Gr. 70; 1/2" Gr. 43 | 8 | 9200 | D183666 | **5A861** | 89.48 | **73.40** | **69.65** | 14.0 |

(*) WARNING: Do not exceed working load limit. Do not use for overhead lifting. (†) Non-ratchet type binder.

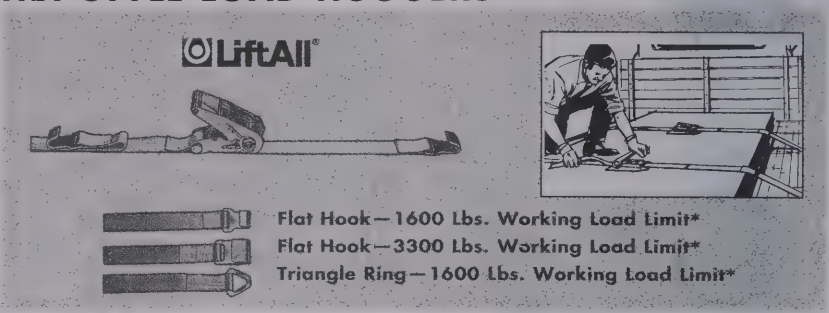
# LOAD HUGGERS

## RATCHET STYLE LOAD HUGGERS

**Load huggers secure bulky loads** and shipments in place to guard against damage from slipping or shifting. These ratchet style huggers are used by rail, truck, trailer, ship, and other freight handlers, including moving and storage haulers to protect their loads from damage.

**1600 lb. huggers** come with a choice of flat hook or triangle ring terminations at each end; 3300 lb. hugger comes with flat hook terminations only. Hook engages in appropriate fixed keepers on the truck, feed-thru end slips through the ratchet reel. Pumping action on the ratchet draws strap tight over the load. Hugger is 27 ft. long x 2" wide, and comes in two pieces. Strapping fabric is of bright yellow polyester webbing. Ratchet is heavy-duty steel. Lift-All brand.

**IMPORTANT: Read Warning Sheet Supplied With Each Strap or Tiedown.**




| Working Load Limit* (Lbs.) | Breaking Strength (Lbs.) | Fitting Style | Web Strap W (In.) | Web Strap L (Ft.) | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1600** | 5,000 | Flat Hook | 2 | 27 | 60501 | **2W726** | $43.30 | **$36.80** | 4.8 |
| **3300** | 10,000 | Flat Hook | 2 | 27 | 61001 | **2A468** | 52.83 | **40.55** | 6.0 |
| **1600** | 5,000 | Triangle Ring | 2 | 27 | 60503 | **2A467** | 40.66 | **34.50** | 4.8 |

(*) WARNING: Do not exceed working load limit. This is the maximum load which may be applied per the Commercial Vehicle Safety Alliance.

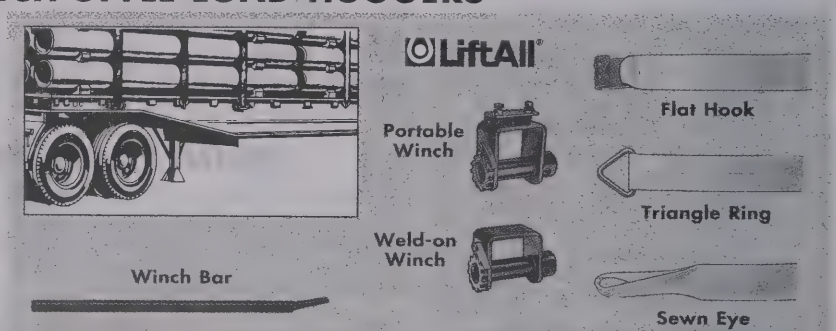
## WINCH STYLE LOAD HUGGERS

- **5,000 lbs. working load limit***
- **15,000 lbs. breaking strength**
- **12,000 lbs. California Highway Patrol rating†**
- **4" wide x 27 ft. long**
- **Straps, winch, bar sold separately**

**Heavy-duty 4" wide polyester straps** meet or exceed California Highway Patrol specifications. One end of strap termination comes with choice of 3" flat hook, 4" forged triangle, or sewn eye; other end is unsewn and fits into winch roller wheel. Winch, sold separately, tightens strapping over the load and the ratchet pawl locks strapping in place. Standard winches must be welded to the carrier body.

**Portable winches** bolt on to carrier body and can be repositioned as needed any time. 11/16" space between mounting clamp and winch housing. Winch bar, sold separately, is 33" long with knurled handle for better grip. Bar provides leverage to crank winch tight; can be used with either model. Lift-All brand.

**IMPORTANT: Read Warning Sheet Supplied With Each Strap or Tiedown.**




| Description | Fitting Style | Strap W (In.) | Strap L (Ft.) | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Web Strap** | Flat Hook | 4 | 27 | 61201 | **2A461** | $43.74 | **$33.00** | 5.6 |
| **Web Strap** | Triangle Ring | 4 | 27 | 61205 | **2A462** | 47.40 | **36.00** | 6.1 |
| **Web Strap** | Sewn Eye | 4 | 27 | 61217 | **2A463** | 40.98 | **31.00** | 5.0 |
| **Weld-On Winch** | — | 4 max. | — | 61222 | **2A464** | 29.77 | **25.65** | 8.0 |
| **Portable Winch** | — | 4 max. | — | 61221 | **2A465** | 35.52 | **30.65** | 9.0 |
| **Winch Bar** | — | — | — | 61223 | **2A466** | 25.22 | **21.75** | 6.5 |

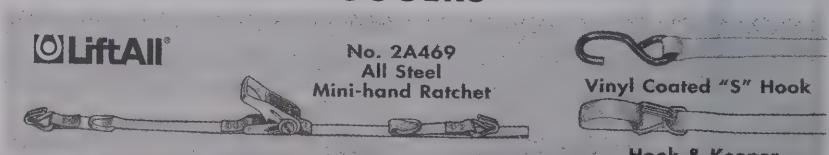
(*) WARNING: Do not exceed working load limit. This is the maximum load which may be applied per the Commercial Vehicle Safety Alliance. (†) This rating is determined and accepted by the state of California.

## MINI-RATCHET LOAD HUGGERS

- **Vinyl coated "S" and hook & keeper styles available**

**For securing farm, commercial, and recreational loads.** Attach to hand trucks, dollies, appliance movers, boats, etc. and can also secure tarpaulin covers on small trailers. 1" wide nylon web strap is 10 feet long. All steel mini-hand ratchet. Blue color webbing. Lift-All brand.

**IMPORTANT: Read Warning Sheet Supplied With Each Strap or Tiedown.**




| Working Load Limit* (Lbs.) | Breaking Strength (Lbs.) | Fitting Style | Nylon Web Strap W (In.) | Nylon Web Strap L (Ft.) | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **700** | 2100 | Vinyl Coated "S" | 1 | 10 | 60103 | **6A265** | $19.10 | **$16.20** | 1.9 |
| **700** | 2100 | Hook & Keeper | 1 | 10 | 60105 | **2A469** | 22.20 | **18.85** | 1.0 |

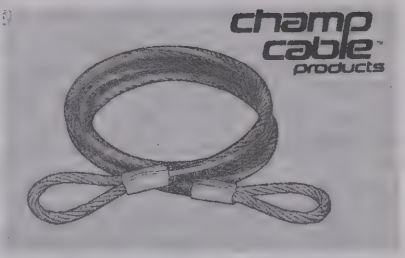
(*) WARNING: Do not exceed working load limit. This is the maximum load which may be applied per the Commercial Vehicle Safety Alliance.

# LOCK-M-UP™ VINYL JACKETED CABLES

### CHAMP CABLE PRODUCTS LIFETIME LIMITED WARRANTY

**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

Galvanized cable has heavy-duty, clear vinyl jacketing that prevents scratching and abrasion when winching machinery, tools, and other equipment. Not to be used for lifting operations. Comes with pull-proof loops. Champ Cable products brand.




| Cable Size (In.)* | Length (Ft.) | Working Load Limit† (Lbs.) | Champ Cable Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/4** | 6 | 1400 | 50570 | **6W037** | $14.58 | **$12.05** | 1.2 |
| **3/8** | 9 | 3000 | 50580 | **6W038** | 25.79 | **21.30** | 3.2 |

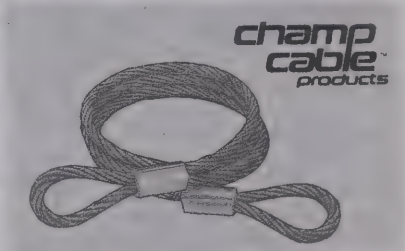
(*) Size of cable only; 3/8 and 1/2" respectively including vinyl jacketing.
(†) WARNING: Do not exceed working load limit.

# LOCK-M-UP™ SECURITY CABLES

### CHAMP CABLE PRODUCTS LIFETIME LIMITED WARRANTY

**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

Galvanized security cables with pull-proof loops secure motors, tools, machinery, almost anything that needs to be locked up. Not to be used for lifting. Multiple wire strands resist regular wire cutters and hacksaws. More difficult to cut than chain. Champ Cable products brand.




| Cable Size (In.) | Length (Ft.) | Working Load Limit* (Lbs.) | Champ Cable Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/16** | 6 | 1900 | 50590 | **6W039** | $6.92 | **$5.72** | 0.5 |
| **5/16** | 6 | 5000 | 50600 | **6W040** | 12.84 | **10.62** | 1.4 |

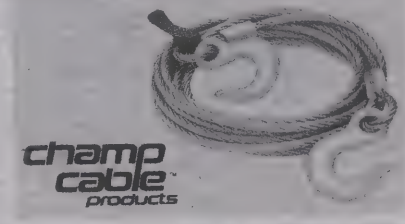
(*) WARNING: Do not exceed working load limit.

# EMERGENCY TOW CABLES

### CHAMP CABLE PRODUCTS LIFETIME LIMITED WARRANTY

**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

Champ flexible galvanized cables with forged hooks and pull-proof loops are 9 times lighter than chains. Corrosion-resistant. Can be coiled for easy handling. Come complete with Velcro cable straps for storage. Champ Cable products brand.




| Cable Size (In.) | Length (Ft.) | Working Load Limit* (Lbs.) Towing | Lifting | Champ Cable Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **5/16** | 20 | 10,000 | 2000 | 50335 | **6W035** | $34.21 | **$28.30** | 4.8 |
| **3/8** | 50 | 15,000 | 3000 | 50355 | **6W036** | 81.33 | **67.25** | 14.0 |

(*) WARNING: Do not exceed working load limit.

# VEHICLE RECOVERY STRAPS

Strong, lightweight weather-resistant Tuff Edge™ nylon web straps with Polymer coated edge yarns that help protect against cutting and abrasion. Eyes at each end are lined with a wear pad for added durability and resistance to slippage. Straps have red inner warning markers which become visible when surface area is cut or worn, indicating a hazardous condition exists and the strap must be replaced. Silver color with black edges. Lift-All brand.




| Length (Ft.) | Width (In.) | Web Tensile Strength (Lbs.) | Assembly Break Strength (Lbs.) | Rated Capacity (Lbs.) | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **20** | 2 | 20,000 | 16,000 | 5,300 | TS1-80220T | **2A182** | $48.08 | **$37.75** | 3.0 |
| **30** | 2 | 40,000 | 32,000 | 10,700 | TS2-80230T | **6A264** | 121.23 | **95.30** | 7.5 |

# 20 FOOT TOW/BINDER CHAINS

3/8" x 20 ft. high test (Grade 43) and transport (Grade 70) steel tow chain assemblies with grab hook at each end. Use for towing, pulling, hauling, and load binding operations. Assembly meets latest Dept. of Transportation regulations. No. 4X461 has bright finish. No. 5A723 has yellow chromate finished chain witf steel hooks. CM brand.




| Type | Working Load Limit (Lbs.) | CM Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Grade 43** | 5400 | 638241 | **4X461** | $62.69 | **$59.60** | **$56.55** | 30.0 |
| **Grade 70** | 6600 | 638558 | **5A723** | 78.32 | **74.40** | **70.60** | 29.0 |

# ELECTRIC AND HYDRAULIC WINCH SELECTION GUIDE

**WINCH RATING**—Vertical lift rating given for industry reference only. It is a measure of actual maximum force to which the winch system may be subjected. Nos. 4Z326, 5W660, 4Z327, and 5W474 are rated for 10 ft. pull with drum 1/3 full (3-5 layers of cable). Capacity decreases approximately 50% with full drum. All other winches are rated on first layer of cable, the capacity will decrease 10-15% for each additional layer of cable, because the hub's working diameter is increasing. For double line operation, use only the pulley block provided with the unit.

**WINCHING VS. HOISTING**—Electric winches are designed for intermittent duty pulling operations and **are not to be used for lifting, supporting, or transporting people, or lifting loads over areas where people could be present.** Winches do not have the features necessary for overhead hoisting. For hoists, refer to the "Hoist" section of this catalog.

POWER — All Dayton electric and hydraulic winches have power "in" and "out". Some also have a clutch and/or free-wheel feature. See chart below.

DUTY CYCLE—Unless specified otherwise, most electric DC and AC powered winches **cannot be operated continuously.** To do this will overheat and damage the motor. The maximum normal duty cycle is 1-3 minutes ON, followed by a 20-minute cool-down period. For more frequent operation needs, refer to long cycle or longer duty rated electric units, and continuous duty rated hydraulic winches.

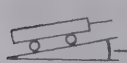
## DAYTON ELECTRIC AND HYDRAULIC WINCH FEATURES

| Stock No. | Vertical Line Lift Capacity (Lbs.) Single Line | Winch Speed Ft./Min. Single Line | | | | 1 | 2 | 3 | 4 | 5 | 6 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No Load | | Full Load | | | | | | | | | | |
| | | Full Reel | Empty Reel | Full Reel | Empty Reel | Clutch Release | Free Wheel | Pulley Block | Circuit Breaker | Mechanical Brake | Power Source | Switch Location | Type Gearing | Gear Ratio |
| 3VJ64 | 1500 | 27.7 | 16.5 | 6.1 | 3.6 | | ● | ● | ● | | 12VDC | Remote | Planetary | 153:1 |
| 6X190 | 1500 | 36 | 20 | 19.8 | 11 | | | | ● | | 12VDC | Removable on Winch | Planetary | 123:1 |
| 6X191 | 2500 | 31.5 | 17.5 | 21.6 | 8 | | | | ● | | 12VDC | Removable on Winch | Planetary | 148:1 |
| 5W660 | 1500 | 33 | 12 | 8.0 | 4.0 | ● | ● | ● | ● | ● | 12VDC | Removable on Winch | Spur | 194:1 |
| 4Z326 | 3000 | 11 | 5 | 4.0 | 2.5 | ● | ● | ● | ● | ● | 12VDC | Removable on Winch | Spur | 584:1 |
| 6Z002 | 3500 | 39.8 | 18 | 15.5 | 7.0 | | | ● | ● | | 12VDC | 12' Cord | Planetary | 148:1 |
| 3VJ65 | 2500 | 37.9 | 19.4 | 7.9 | 3.7 | | ● | ● | ● | ● | 12VDC | Removable on Winch | Planetary | 159:1 |
| 3VJ67 | 3500 | 37.9 | 19.5 | 7.9 | 3.6 | | ● | ● | ● | ● | 12VDC | Removable on Winch | Planetary | 159:1 |
| 3VJ68 | 3500 | 37.9 | 19.5 | 7.9 | 3.6 | | ● | ● | ● | ● | 12VDC | 12' Cord | Planetary | 159:1 |
| 3VJ69 | 4500 | 45.1 | 19.3 | 7 | 3 | | ● | ● | ● | ● | 12VDC | 12' Cord | Planetary | 159:1 |
| 3VJ70 | 4500 | 45.1 | 19.3 | 7 | 3 | | ● | ● | ● | ● | 12VDC | 12' Cord | Planetary | 159:1 |
| 5W786 | 6000 | 25 | 17 | 4.5 | 2.0 | | ● | ● | ● | | 12VDC | 12' Cord | Planetary | 251:1 |
| 3VJ71 | 6000 | 29.2 | 17.5 | 4.2 | 2.5 | | ● | ● | ● | ● | 12VDC | 12' Cord | Planetary | 253:1 |
| 3VJ74 | 9000 | 42.5 | 25.5 | 3.3 | 2 | | ● | | ● | ● | 12VDC | 12' Cord | Planetary | 253:1 |
| 5W658 | 10,000 | 39 | 20 | 3.9 | 2 | | ● | | | | 12VDC | 12' Cord | Worm | 229:1 |
| 3VJ66 | 1000 | 37.9 | 19.5 | 7.9 | 3.6 | | | | ● | ● | 12VDC | 12' Cord | Planetary | 159:1 |
| 5W659 | 1000 | 38.9 | 21 | 24.0 | 13.0 | | | ● | ● | | 115VAC | 6' Cord | Planetary | 148:1 |
| 3VJ63 | 1000 | 26.8 | 13.8 | 20.0 | 9.2 | | | ● | ● | ● | 115VAC | 6' Cord | Planetary | 159:1 |
| 5W474 | 1200 | 35 | 16 | 16 | 9 | ● | ● | ● | | ● | 115VAC | On Winch | Spur | 194:1 |
| 4Z327 | 2700 | 18 | 6 | 7 | 3.5 | ● | ● | ● | | ● | 115VAC | On Winch | Spur | 584:1 |
| 3VJ72 | 2000 | 18.8 | 10 | 18.8 | 10 | | ● | ● | ● | ● | 115/230VAC | Station | Planetary | 114:1 |
| 3VJ73 | 8000 | 96 | 60 | 96 | 60 | | ● | | ● | ● | Hydraulic | | Planetary | 6.5:1 |
| 3VJ75 | 15,000 | 47 | 27 | 47 | 27 | | ● | | | ● | Hydraulic | | Planetary | 16:1 |

## FEATURE EXPLANATION FOR CHART ABOVE

1. **Clutch Release**—Ability to control lowering a load with a clutch instead of winch motor.
2. **Free Wheel**—Ability to pull cable freely from the winch drum by hand under no load conditions.
3. **Pulley Block**—For double line winch operation. Increases pulling capacity of winch, but results in lower load speed and longer run time.
4. **Circuit Breaker**—Electrical overload protection for motor. Note: Will not protect against motor overheating due to excessive run time.
5. **Mechanical Brake**— Friction within the winch gears or a separate friction brake device which automatically holds the load in position when the power switch is released.
6. **Power Source**— Operating power needed. For 12 volt DC models, it is important to keep vehicle running while using winch.

## ROLLING LOAD CAPACITY




To calculate the rolling load capacity of a winch (the amount of load which can be pulled up an incline) multiply the vertical lift capacity, single or double line, by the factor shown in the chart at the right. Multiplication Factor shown includes a 10% rolling friction factor.

**Maximum Pull Capacities For Rolling Type Loads at Various Angles of Inclines**

| Percent Incline | Multiply by: | Percent Incline | Multiply by: |
|---|---|---|---|
| Level Surface | 10.00 | 30 (17°) | 2.61 |
| 5 (3°) | 6.67 | 50 (26°) | 1.86 |
| 10 (6°) | 5.02 | 70 (35°) | 1.53 |
| 20 (11°) | 3.40 | 100 (45°) | 1.29 |



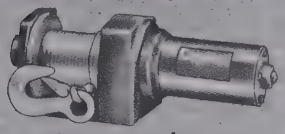
More ways to move and store products safely and securely.

# MULTI-PURPOSE ELECTRIC WINCHES

## Dayton® 12VDC ELECTRIC WINCHES

### 1500 to 3000 Lb. Capacity Models:

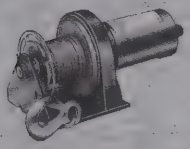
**Typical Applications: light vehicle recovery, bail loading and other agricultural jobs. Lawn and garden trailer loading, and raising and lowering basketball backboards.**



A

No. 3VJ64

- Cable tension plate
- Remote station
- High speed planetary gears

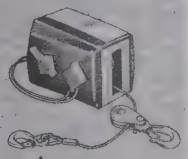


B Nos. 6X190 & 6X191

- High speed planetary gears
- Winch mounted switch

C Nos. 5W660 & 4Z326

- High efficiency spur gears
- Includes quick mounting kit
- Stainless steel front plate
- Emergency hand crank



### 2500 to 4500 Lb. Capacity Models

**Typical Applications: Vehicle recovery, skid pulling and truck & trailer loading. Opening and closing gates, moving dumpsters, and other miscellaneous pulling.**

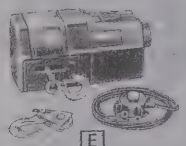
- Cable tension plate
- Protective motor covor
- High speed planetary gear train
- Integrated solenoids with handheld switch on 12 ft. lead (except Nos. 3VJ65 & 3VJ67)



D

No. 6Z002

- Hawse fairlead



E

Nos. 3VJ65 & 3VJ67

- Prewired switch
- Hawse fairlead



F Nos. 3VJ68 & 3VJ69

- Hawse fairlead



G No. 3VJ70

- Roller fairlead

### 6000 to 10,000 Lb. Capacity Models:

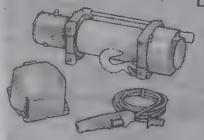
**Typical Applications: Heavy vehicle recovery, tow trucks and trailers, machine pulling and other heavy pulling jobs.**

- All Units include integrated solenoids with handheld switch on 12 ft. lead

H No. 5W786

- Protective motor cover
- High speed planetary gears

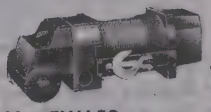




I Nos. 3VJ71 & 3VJ74

- Prewired switch
- High speed planetary gears
- Automatic brake

- Protective motor cover
- Worm gear drive



J No. 5W658

**All Winches on this Page Have Power "In" and "Out." For Winch Features Comparison Table, See Page 2252.**

| Key | Vertical Lift Capacity (Lbs.)* Single Line | Double Line | Full Load Amps | Winch Dimensions (In.) L | W | H | Wire Rope Dimensions (Ft. x In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1500 | 3000 | 90 | 12 1/2 | 4 | 4 | 25 x 5/32 | 3VJ64 | $328.75 | $182.25 | 12.0 |
| B | 1500 | — | 100 | 13 | 6 | 6 | 25 x 3/16 | 6X190 | 328.75 | 221.00 | 18.0 |
| B | 2500 | — | 175 | 13 | 6 | 6 | 40 x 7/32 | 6X191 | 430.65 | 272.50 | 26.0 |
| C | 1500 | 2200 | 70 | 10 | 8 1/4 | 7 7/8 | 50 x 3/16 | 5W660 | 450.11 | 292.00 | 28.0 |
| C | 3000 | 4500 | 70 | 11 5/16 | 8 1/4 | 8 | 50 x 7/32 | 4Z326 | 541.02 | 351.50 | 38.0 |
| D | 3500 | 7000 | 290 | 14 | 8 | 6 | 50 x 7/32 | 6Z002 | 575.00 | 383.75 | 39.0 |
| E | 2500 | 5000 | 165 | 15 | 6 | 6 | 50 x 3/16 | 3VJ65 | 388.25 | 292.75 | 25.0 |
| E | 3500 | 7000 | 267 | 13 1/2 | 6 | 6 | 50 x 7/32 | 3VJ67 | 438.25 | 326.75 | 30.0 |
| F | 3500 | 7000 | 267 | 15 7/64 | 6 | 6 | 50 x 7/32 | 3VJ68 | 538.20 | 409.00 | 40.0 |
| F | 4500 | 9000 | 350 | 15 7/64 | 6 | 6 | 50 x 1/4 | 3VJ69 | 579.55 | 440.00 | 40.0 |
| G | 4500 | 9000 | 350 | 15 7/64 | 8 29/64 | 6 | 50 x 1/4 | 3VJ70 | 614.55 | 466.75 | 40.0 |
| H | 6000 | 12,000 | 340 | 25 1/2 | 6 1/2 | 6 3/4 | 100 x 5/16 | 5W786 | 798.99 | 597.00 | 60.0 |
| I | 6000 | — | 400 | 22 7/8 | 6 1/4 | 6 5/8 | 100 x 5/16 | 3VJ71 | 760.75 | 685.00 | 69.0 |
| I | 9000 | — | 435 | 22 7/8 | 6 1/4 | 6 5/8 | 100 x 5/16 | 3VJ74 | 799.95 | 729.50 | 79.0 |
| J | 10,000 | — | 450 | 24 | 10 | 9 | 90 x 3/8 | 5W658 | 1292.96 | 1149.00 | 95.0 |

(*) Vertical Lift Rating given for industry reference only. It is a measure of actual maximum force to which the winch system may be subjected.

**WARNING: NOT to be used as a hoist for lifting, supporting or transporting people or loads over areas where people could be present.**

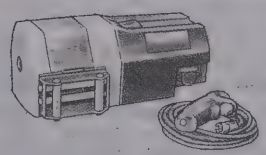
**Example of the effect of each layer of cable drum wind on Rated Line Pull (RLP) and rolling loads for 3VJ70.**

**RLP—The weight the winch can pull perpendicular to the ground with a single line on the first layer of wire rope on drum.**

| No. 3VJ70 | RLP (Lbs.) | Grade 10% | 20% | 40% | 60% | 80% | 100% |
|---|---|---|---|---|---|---|---|
| 1st Layer | 4500 | 22613 | 15306 | 9698 | 7488 | 6401 | 5784 |
| 2nd Layer | 3808 | 19134 | 12951 | 8206 | 6336 | 5416 | 4894 |
| 3rd Layer | 3300 | 16583 | 11224 | 7112 | 5491 | 4694 | 4242 |
| 4th Layer | 2912 | 14632 | 9904 | 6275 | 4845 | 4142 | 3743 |
| 5th Layer | 2605 | 13092 | 8861 | 5615 | 4335 | 3706 | 3349 |

# ELECTRIC AND HYDRAULIC WINCHES AND WINCH ACCESSORIES

## 12VDC SMALL CRANE WINCH



Dayton® For Winch Features Comparison Table, See Page 2252

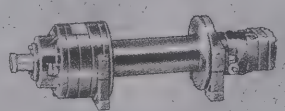
Designed for lifting and holding. Features include 5:1 safety factor and full load mechanical brake.

- Integrated solenoids with handheld switch on 12 ft. lead
- Holds up to 50 ft. of 1/4" wire rope (optional)
- Roller fairlead
- All steel high speed planetary gear train

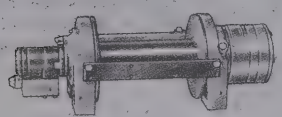
| Vertical Lift Capacity (Lbs.) Single Line | Full Load Amps | Winch Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1,000 | 80 | 15 7/64 | 8 3/64 | 6 | 3VJ66 | $483.85 | $368.75 | 30.0 |

## HYDRAULIC PLANETARY WINCHES

Dayton®



No. 3VJ73



No. 3VJ75

- Power "In" and "Out"
- Continuous duty rated
- Require open center control valve
- Can be rail or foot mounted
- High torque SAE 2 bolt flange motors
- High speed all steel planetary gear train
- Full rating at 2000 PSI and 15 GPM
- Meet SAE J-706

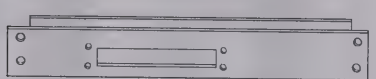
### HYDRAULIC WINCH SPECIFICATIONS *

| | | No. 3JV73 | No. 3VJ75 |
|---|---|---|---|
| Required Flow 1.2 GPM ‡ Min/Max | | 3/15 | 4/15 |
| Required Pressure 1.2 | | 1800 | 2000 |
| Input Torque (lb.-in.) | | 2504 | 2460 |
| Input Speed (RPM) | | 353 | 469 |
| Wire Rope (dia./in.) | | 3/8 | 1/2 |
| 1st Layer | Line Pull (lbs.) | 8000 | 15000 |
| | Line Speed/(FPM †) | 60 | 27 |
| | Rope Cap./(FT.) | 22/30 | 21/25 |
| 2nd Layer | Line Pull (lbs.) | 6702 | 12270 |
| | Line Speed/(FPM †) | 76 | 33 |
| | Rope Cap./(FT.) | 48/65 | 47/56 |
| 3rd Layer | Line Pull (lbs.) | 5767 | 10380 |
| | Line Speed/(FPM †) | 87 | 37 |
| | Rope Cap./(FT.) | 79/107 | 78/93 |
| 4th Layer | Line Pull (lbs.) | 5061 | 9000 |
| | Line Speed/(FPM †) | 96 | 42 |
| | Rope Cap./(FT.) | 113/154 | 113/136 |
| 5th Layer | Line Pull (lbs.) | | 7935 |
| | Line Speed/(FPM †) | | 47 |
| | Rope Cap./(FT.) | | 153/184 |

(†) FPM = Feet Per Minutes. (‡) GPM = Gallons Per Minutes

| Vertical Lift Capacity (Lbs.) Single Line | 1st Layer Line Speed (FPM) | Winch Dimensions (In.) L | W | H | Recommended Wire Rope Dia. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 8,000 | 60 | 25 11/32 | 7 7/16 | 7 7/16 | 3/8 | 3VJ73 | $1016.95 | $889.00 | 59.0 |
| 15,000 | 27 | 27 29/32 | 10 13/64 | 11 51/64 | 1/2 | 3VJ75 | 1595.00 | 1514.00 | 112.0 |

## VEHICLE FRONT MOUNTING PLATE FOR No. 5W786 WINCH



One-piece steel mounting plate for mounting No. 5W786 winch to secure surfaces. No cutting, welding, or drilling required. Painted black. Dayton brand.

**No. 5W787.** Vehicle Front Mounting Plate. Shpg. wt. 25.0 lbs. List $75.50. Each.....$50.75

## DAYTON REMOTE CONTROL SWITCH KITS

**Remote Kit for Winches Nos. 6X190 and 6X191.** Operates winch from vehicle dash or other permanent location up to 10 ft. away. Kit includes remote switchplate, one pair 10-ft. 8-gauge winch motor wires, and hardware. Switchplate attaches to standard switch supplied with winch. Not for hand held use. Dayton brand.

**No. 6X192.** Shpg. wt. 1.6 lbs. List $28.18. Each.....$18.85

**Remote Switch for Nos. 4Z326 and 5W660 12V DC Winches.** Operates winch from vehicle dash or other permanent location up to 10 ft. away. Uses switch supplied with winch. No wiring required.

**No. 5X500.** Shpg. wt. 2.0 lbs. List $43.14. Each.....$32.10

**Remote Switch for Nos. 4Z327 and 5W474 115V AC Winches.** 10 ft. cord with hand-held pendant with "OUT-OFF-IN" rocker switch.

**No. 4X088.** Shpg. wt. 1.2 lbs. Each.....$40.20



No. 6X192



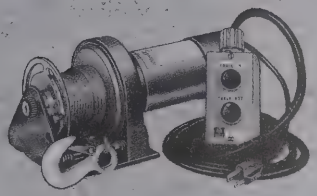
No. 5X500

# 115/230VAC ELECTRIC WINCHES

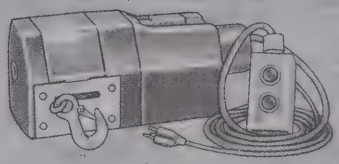
Replacement Parts Available
1-800-323-0620

All Winches Have Power" In" and "Out"

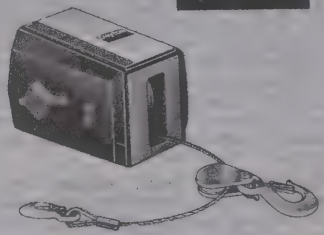
Dayton



A No. 5W659



B No. 3VJ63



C Nos. 5W474 & 4Z327

### A No. 5W659

- Cable tension plate
- All steel high speed planetary gear train
- Prewired switch
- 40 Ft. wire rope

### B No. 3VJ63

- 5:1 Safety factor
- Cable tension plate
- High speed planetary gear train
- Prewired switch
- Automatic full load mechanical brake
- Protective motor cover and wire rope shield

### C Nos. 5W474 & 4Z327

- Stainless steel front plate
- High efficiency spur gears
- Includes quick mounting kit
- Emergency crank handle

**A ground fault circuit interrupter is recommended for all outdoor applications of 115V, 60 Hz winches.**

For Winch Features Comparison Table, See Page 2252.

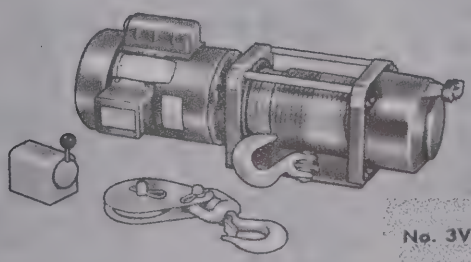
| Key | Vertical Lift Capacity (Lbs.)* Single Line | Vertical Lift Capacity (Lbs.)* Double Line | Full Load Amps | Winch Dimensions (In.) L | W | H | Wire Rope (Included) Dimensions (Ft. x In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1000 | 2000 | 10 | 13½ | 5⅛ | 5¼ | 45 x 5/32 | 5W659 | $561.75 | $367.25 | 20.0 |
| B | 1000 | 2000 | 10 | 16 | 6 | 6 | 50 x 3/16 | 3VJ63 | 624.55 | 464.50 | 33.0 |
| C | 1200 | 1800 | 6 | 10 | 8¼ | 7⅞ | 50 x 3/16 | 5W474 | 491.97 | 320.00 | 26.0 |
| C | 2700 | 4000 | 6 | 11 5/16 | 8¾ | 8 | 50 x 7/32 | 4Z327 | 582.94 | 378.75 | 36.0 |

(*) Vertical Lift Rating given for industry reference only. It is a measure of actual maximum force to which the winch system may be subjected.
WARNING: NOT to be used as a hoist for lifting, supporting or transporting people or loads over area where people could be present.

# 115/208-230VAC ELECTRIC WINCH

Dayton

New



No. 3VJ72

- 15 Minutes continuous ON time at full load
- Motors: 1.0 HP TEFC NEMA 56C 115/208-230 60Hz
- All steel planetaary gear box
- 11FPM
- 100 wire rope
- 3 position switch
- Pully block

### PERFORMANCE CHART

| Layer | Max. Load (Lbs.) | Line Speed (FPM) |
|---|---|---|
| 1 | 2000 | 11.0 |
| 2 | 1675 | 13.1 |
| 3 | 1450 | 15.2 |
| 4 | 1275 | 17.4 |
| 5 | 1125 | 19.5 |

NOTE: Actual loads and speeds may vary depending on winding conditions.

| Vertical Lift Capacity (Lbs.)* Single Line | Vertical Lift Capacity (Lbs.)* Double Line | Full Load Amps | Winch Dimensions (In.) L | W | H | Wire Rope Dimensions (Ft. x In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2000 | 4000 | 13.8 @ 115V<br>7.6 @ 208V<br>7.0 @ 230V | 25 11/16 | 8⅛ | 9⅛ | 100 x 1/4 | 3VJ72 | $1301.00 | $1122.00 | 72.0 |

(*) Vertical Lift Rating given for industry reference only. It is a measure of actual maximum force to which the winch system may be subjected.
WARNING: NOT to be used as a hoist for lifting, supporting or transporting people or loads over area where people could be present.

# MANUAL WINCHES AND ACCESSORIES

## MANUAL WINCHES

**Applications include**—ratchet winches for pulling, skidding. or rolling. Brake and worm winches for the above plus lifting and lowering.

**A, B & C Zinc Plated Ratchet Winches.** Zinc plating provides superior corrosion resistance, even in salt water applications. All feature comfort grip which provides a secure hold while cranking. A & B have "grabber" one-way ratchet that locks load in "on" position and freewheels in "off" position. C has two-way ratchet that allows you to bring cable in the bottom or over the top of the drum.

**D & E Zinc Plated Brake Winches.** Zinc plating provides superior corrosion resistance, even in salt water applications. Self-activating, double disc brake system provides a positive load hold when handle is released. Oversized drum hub improves cable life.

**D 4KG30. Dual Handle, 2-Speed Brake Winch.** Does the same job with less effort than a single handle winch. Shifts on the fly, lets you change speeds without releasing handles, giving you better load control. Commonly used in steep incline and lifting applications.

**F & G Worm Gear Winches.** Holds load in place when handle is released. Provide a quieter operation than standard ratchet winches. Gear design and ratio require little effort to move loads over 1 ton. Gear shaft has oil impregnated bushing for reduced friction.

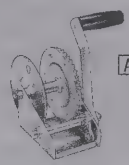
**F Worm Gear "Poultry" Winch.** Split drum design allows movement of two independent cables, common in the poultry industry. Applications include raising and lowering food and water feeders, opening and closing of ventilation curtains. Loop drive for ceiling applications operated by a shepherd hook with 1/2" drill.

**FULTON** *Performance Products*

Made in U.S.A.

Replacement Parts Available 1-800-323-0620™

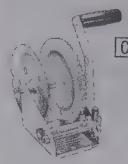
Winches not supplied with cable, order separately.



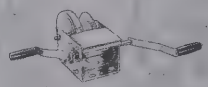
A No. 4KG33



B No. 4KG31

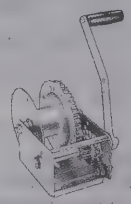


C No. 4KG34

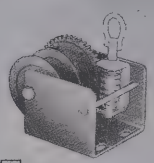


D No. 4KG30

6 Winches offered with zinc plating for superior corrosion resistance.



E No. 4KG27



F No. 4KG32



G No. 4KG29

**WARNING: Winches are not to be used as a hoist for lifting, supporting or transporting people or loads over areas where people could be present.**

| Key | Winch Type | Vertical Lift Capacity* (Lbs.) | Gear Ratio | Winch Drum Capacity (Ft.) 3/16" | 7/32" | 5/16" | Overall Dimensions (In.) L | W | H | Fulton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Ratchet | 1000 | 4.1:1 | 80 | 60 | 30 | 7.25 | 5.09 | 5.63 | T1000 | 4KG33 | $32.00 | $25.20 | 6.3 |
| B | Ratchet | 1200 | 4.1:1 | 75 | 55 | 29 | 7.25 | 5.09 | 5.63 | P1200 | 4KG31† | 38.50 | 30.30 | 7.0 |
| C | Ratchet | 1800 | 5.1:1 | 105 | 77 | 36 | 8.25 | 5.34 | 7.03 | T1802 | 4KG34 | 52.25 | 48.25 | 10.0 |
| D | 2 Speed Brake | 1000/500 | 2.55:1/10.2:1 | 68 | 49 | 22 | 9.59 | 9.29 | 7.06 | KX1575 | 4KG30 | 200.25 | 189.00 | 21.0 |
| E | Brake | 1500 | 5.1:1 | — | 50 | — | 9.25 | 7.63 | 7.06 | K1550 | 4KG27 | 89.00 | 79.95 | 15.0 |
| E | Brake | 2500 | 15.8:1 | — | — | 75 | 11.13 | 10 | 7.12 | K2550 | 4KG28 | 178.25 | 158.75 | 24.0 |
| F | Split Drum Worm | 2000 | 41:1 | 50 | — | — | 7.75 | 6.62 | 9.5 | PW2002 | 4KG32 | 74.00 | 66.35 | 11.0 |
| G | Worm Gear | 3000 | 51:1 | — | — | 60 | 10.19 | 7.75 | 8.44 | KW3000 | 4KG29 | 188.00 | 168.75 | 30.0 |

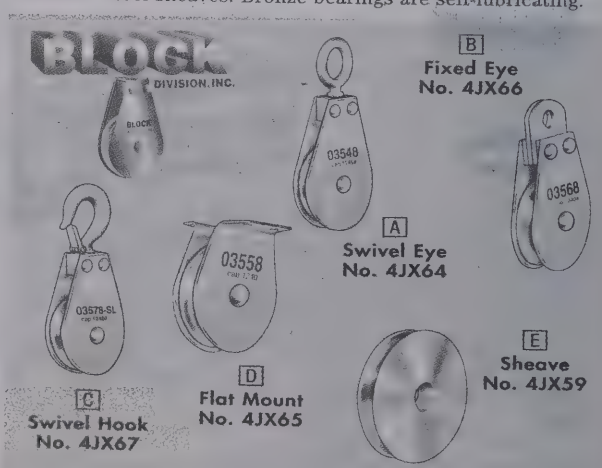
(*) Rated capacity of winches are on the first layer of recommended cable.

| Key | Max. Cable Size (In.) | Safe Work Load* (Lbs.) | Sheave O.D. (In.) | Eye Hook I.D. (In.) | Block Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 3/16 | 525 | 1½ | 5/8 | 01548 | 4JX64 | $9.10 | $7.39 | 0.5 |
| | | 600 | 2 | 5/8 | 02048 | 4JX68 | 10.30 | 8.39 | 0.7 |
| | 1/4 | 685 | 2½ | 7/8 | 02548 | 4JX72 | 13.70 | 11.17 | 1.0 |
| | | 800 | 3 | 7/8 | 03048 | 4JX76 | 16.00 | 13.25 | 1.4 |
| | 5/16 | 1550 | 3½ | 1 3/16 | 03548 | 4JX80 | 27.30 | 22.49 | 3.1 |
| B | 3/16 | 525 | 1½ | 3/8 | 01568 | 4JX66 | 6.90 | 5.63 | 0.5 |
| | | 600 | 2 | 3/8 | 02068 | 4JX70 | 8.15 | 6.68 | 0.7 |
| | 1/4 | 685 | 2½ | 3/8 | 02568 | 4JX74 | 10.30 | 8.45 | 1.0 |
| | | 800 | 3 | 3/8 | 03068 | 4JX78 | 13.75 | 11.31 | 1.4 |
| | 5/16 | 1550 | 3½ | 9/16 | 03568 | 4JX82 | 22.75 | 18.87 | 3.1 |
| C | 3/16 | 525 | 1½ | 1/2 | 01578-SL | 4JX67 | 15.70 | 12.67 | 0.5 |
| | | 600 | 2 | 1/2 | 02078-SL | 4JX71 | 16.85 | 13.63 | 0.7 |
| | 1/4 | 685 | 2½ | 11/16 | 02578-SL | 4JX75 | 20.55 | 16.67 | 1.0 |
| | | 800 | 3 | 11/16 | 03078-SL | 4JX79 | 23.75 | 19.31 | 1.4 |
| | 5/16 | 1550 | 3½ | 15/16 | 03578-SL | 4JX83 | 34.05 | 27.90 | 3.5 |
| D | 3/16 | 525 | 1½ | 3/16‡ | 01558 | 4JX65 | 5.80 | 4.71 | 0.3 |
| | | 600 | 2 | 3/16‡ | 02058 | 4JX69 | 6.80 | 5.55 | 0.5 |
| | 1/4 | 685 | 2½ | 3/16‡ | 02558 | 4JX73 | 9.20 | 7.53 | 0.8 |
| | | 800 | 3 | 3/16‡ | 03058 | 4JX77 | 11.50 | 9.60 | 1.0 |
| | 5/16 | 1550 | 3½ | 1/4‡ | 03558 | 4JX81 | 19.20 | 15.99 | 2.3 |
| E | 3/16 | 525 | 1½ x ½ x 7/16 † | | 00158 | 4JX59 | 3.40 | 3.03 | 0.2 |
| | | 600 | 2 x ½ x 7/16 † | | 00208 | 4JX60 | 4.60 | 4.10 | 0.3 |
| | 1/4 | 685 | 2½ x ½ x 7/16 † | | 00258 | 4JX61 | 6.80 | 6.07 | 0.5 |
| | | 800 | 3 x ½ x 7/16 † | | 00308 | 4JX62 | 9.10 | 8.11 | 0.8 |
| | 5/16 | 1550 | 3½ x ¾ x ⅝ † | | 00358 | 4JX63 | $9.10 | $7.39 | 0.5 |

(*) Do not exceed recommended work load limit of cable/block. (†) OD x Bore x Sheave Width
(‡) Mounting hole diameter

## BLOCKS AND SHEAVES

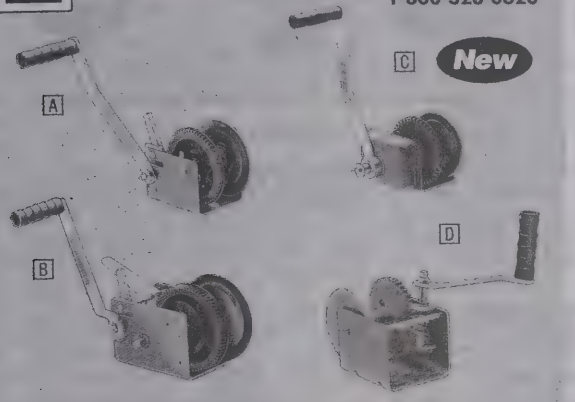
For high load and medium speed applications. Heavy-duty wire rope and aircraft cable. Forged fittings, zinc finish is weather resistant. Steel sheaves. Bronze bearings are self-lubricating.



# MANUAL WINCHES AND ACCESSORIES

Registered to ISO 9001

Replacement Parts Available 1-800-323-0620™




**3-YEAR DUTTON-LAINSON LIMITED WARRANTY**

Text of warranty available on request.
See "Manufacturers' Warranties" on page opposite inside back cover

- **Useful for a wide variety of applications including moving heavy wheeled equipment, machinery, vehicles, boats and farm implements**
- **Choose from standard ratchet winches, two-speed deluxe ratchet winches, brake winches or worm gear winches**
- **Ratchet winches A & B recommended for hauling and pulling applications where the ability to pull line freely from the winch is necessary. Manually operated ratchet locks load in position and will freewheel with ratchet released. Not recommended for lifting applications**
- **Brake and worm gear winches, C & D, are self-locking, and recommended for hauling, pulling and lifting applications when freewheeling is not a requirement. Recommended for unskilled users, especially on rental equipment, etc**
- **Brake and worm gear winches (both self-locking) can be used for vertical lifting, but should not be used for overhead hoisting or moving people**
- **All winches feature: heavy-duty construction, hardened steel drive gears, large diameter molded hand grip, permanently lubricated bearings, copper-brazed gears and reinforced arc-welded reel assemblies**
- **Metallic copper bronze powder-coated finish TUFFPLATE™ finish on all plated parts for additional rust resistance**

**A Standard Ratchet Winches Nos. 6Z001 and 2Z601** are single speed models.

**B Deluxe Ratchet Winches Nos. 2Z602 and 2Z603** are two-speed with quick attach handle for easily changing from one gear ratio to the other. No. 2Z603 has a manually operated hand brake to help control freewheel out mode.

**C Brake winches Nos. 6W045 and 4PD85** have self-activating brake to hold load whenever hand crank is released. Minimum load required for proper operation is 50 lbs. No. 4PD85 has a brake lock-out lever to allow free wheeling under no-load conditions.

**D Worm Gear Winch No. 4Z183** has worm gear drive which holds load whenever crank handle is released. Vertical drive shaft includes both a handle for normal hand cranking and loop drive ring for remote operation with shepherd's hook.

| Key | Winch Type | Vertical Lift Capacity* (Lbs.) | Gear Ratio | Winch Drum Capacity† (Ft.) 3/16" Cable | 7/32" Cable | Overall Dimensions (In.) L | W | H | Dutton-Lainson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Ratchet | 900 | 3.2:1 | 39 | 29 | 5 | 5 3/8 | 4 | DL900 | 6Z001 | $34.23 | $21.95 | 4.3 |
| A | Ratchet | 1400 | 4.5:1 | 74 | 55 | 6 3/8 | 5 11/16 | 5 7/16 | DL1402 | 2Z601 | 50.50 | 32.90 | 7.3 |
| B | Ratchet | 1800 | 10.5:1/5.5:1 | 134 | 100 | 8 1/8 | 6 1/2 | 6 5/8 | DL1800 | 2Z602 | 97.76 | 62.50 | 12.0 |
| B | Ratchet | 2500 | 17:1/5.5:1 | — | 100 | 9 1/2 | 6 7/8 | 6 5/8 | DL2500B | 2Z603 | 139.11 | 87.50 | 13.0 |
| C | Brake | 800 | 4.5:1 | 65 | 48 | 6 3/8 | 6 1/8 | 5 7/16 | DLB800 | 6W045 | 98.50 | 51.15 | 7.7 |
| C | Brake | 1200 | 5.5:1 | 95 | 70 | 7 1/2 | 6 1/8 | 6 3/4 | DLB1205 | New 4PD85 | 107.71 | 60.20 | 9.5 |
| D | Worm Gear | 2000 | 40:1 | — | 81 | 7 1/2 | 6 | 6 1/4 | WG2000 | 4Z183 | 98.89 | 66.95 | 11.0 |

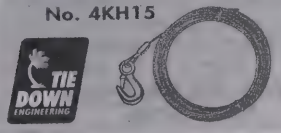
(*) Vertical lift rating for industry reference only; a measure of actual maximum force to which the system may be subjected. (†) Winch drum capacity given as a reference only.
Winches are not supplied with cable, order separately. All models except 4Z183 are designed to accept web strap in addition to rope or cable.

**WARNING: Winches are not to be used as a hoist for lifting, supporting or transporting people or loads over areas where people could be present.**

# WINCH CABLE AND STRAP ASSEMBLIES

For use on manual and electric winches. Heavy-duty thimble eye and professionally swaged loop. Zinc plated hook with safety latch. Flexible 7 x 19 galvanized cable.

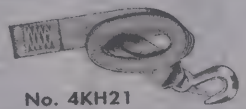
No. 4KH15



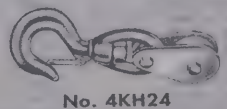


No. 4KH17

| Size (In.) x Length (Ft.) | Safe Work Load (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 5/32 x 50 | 560 | 4KH10 | $34.20 | $26.35 | 3.3 |
| 3/16 x 25 | 840 | 4KH11 | 25.90 | 19.95 | 2.3 |
| 3/16 x 50 | 840 | 4KH12 | 38.28 | 29.50 | 4.3 |
| 3/16 x 75 | 840 | 4KH13 | 48.88 | 37.65 | 6.3 |
| 7/32 x 25 | 1120 | 4KH14 | 30.32 | 23.35 | 3.2 |
| 7/32 x 50 | 1120 | 4KH15 | 46.68 | 35.95 | 5.3 |
| 7/32 x 75 | 1120 | 4KH16 | 59.71 | 46.00 | 7.4 |
| 1/4 x 25 | 1400 | 4KH17 | 35.48 | 27.35 | 3.5 |
| 1/4 x 50 | 1400 | 4KH18 | 51.10 | 39.35 | 4.2 |
| 5/16 x 25 | 1960 | 4KH19 | 43.50 | 33.50 | 5.1 |
| 5/16 x 50 | 1960 | 4KH20 | 77.03 | 59.35 | 9.2 |



No. 4KH21



No. 4KH24

## POLYESTER WINCH STRAPS

For use with hand winches. 2" x 20 ft. 5,000 lbs. break strength. Heavy-duty forged latch hook.

**No. 4KH21.** Shpg. wt. 1.3. List $21.48 Each ..... $16.54

## PULLEY BLOCK WITH SWIVEL HOOK

Increases the pulling capacity of your winch with double line operation. 2,400 lbs. safe working load. For use with winchlines up to 1/4".

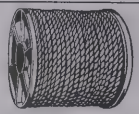
**No. 4KH24.** Shpg. wt. 3.2. List $25.87 Each ..... $19.92

# ALL-PURPOSE AND WIRE-PULLING ROPE

CROWE ROPE INDUSTRIES LLC



Hank


Reel



Ball



Coilette

**ALL-PURPOSE NYLON and POLYPROPYLENE ROPES** are for general use in construction, electrical, marine, transportation, safety, scaffolding, industrial, and home maintenance applications. These synthetic ropes are stronger, lighter in weight, less expensive, and easier to handle than natural fiber ropes. Excellent resistance to rot and mildew and will not deteriorate when exposed to oil, grease, and most chemicals. Rope fibers are treated with ultraviolet stabilizers to reduce deterioration from the sun. Duraline® brand by Crowe Rope Industries LLC.

**NYLON:** The strongest rope available for general purpose use. Its physical properties provide excellent resistance to abrasion and high elasticity absorbs sudden shock loads. Handles easily and holds knots well. White color.

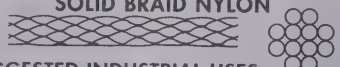
## TWISTED NYLON



**SUGGESTED INDUSTRIAL USES:**
• tow rope • tie downs • dock and anchor lines • towing hawsers • farm ropes • slings • hand and block lines • utility stringing lines • textile drive ropes

Strong general purpose rope is easy to splice (use minimum of four tucks).

## SOLID BRAID NYLON



**SUGGESTED INDUSTRIAL USES:**
• tie downs • mason line dies • utility ropes • sash cords • rigging • pulleys • winches • blocks • flagpole cords • awning cords

Braided-in lock stitch. Retains round shape under heavy loads. Will not splice. Resists abrasion better than twisted ropes.

| Rope Size Diameter x Length (In. x Ft.) | Packaging Configuration | Tensile Strength (Lbs.)* | Safe Working Load (Lbs.)† | Crowe Rope Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **THREE STRAND TWISTED NYLON ROPE** | | | | | | | | |
| **1/4 x 100** | Coilette | 1485 | 124 | 00121 | **2W736** | $13.15 | **$10.52** | 1.8 |
| **1/4 x 600** | Reel | 1485 | 124 | 05320 | **3W516** | 70.70 | **56.60** | 9.0 |
| **3/8 x 100** | Coilette | 3240 | 270 | 03037 | **2W737** | 31.64 | **25.35** | 4.0 |
| **3/8 x 600** | Reel | 3240 | 270 | 05123 | **3W517** | 172.93 | **138.40** | 21.0 |
| **1/2 x 50** | Coilette | 5670 | 473 | 03038 | **2W738** | 26.79 | **21.43** | 3.6 |
| **1/2 x 100** | Coilette | 5670 | 473 | 03039 | **5W462** | 55.83 | **44.70** | 6.8 |
| **1/2 x 600** | Reel | 5670 | 473 | 05127 | **3W518** | 308.28 | **246.75** | 39.0 |
| **SOLID BRAID NYLON ROPE** | | | | | | | | |
| **3/16 (#6) x 100** | Hank | 792 | 79 | 00111 | **2W739** | 10.56 | **8.45** | 0.6 |
| **1/4 (#8) x 100** | Hank | 1233 | 123 | 00115 | **2W740** | 14.53 | **11.63** | 1.5 |
| **1/4 (#8) x 500** | Reel | 1233 | 123 | 05327 | **5W455** | 75.28 | **60.30** | 8.1 |
| **5/16 (#10) x 100** | Hank | 1931 | 193 | 00117 | **2W741** | 24.04 | **19.23** | 2.2 |
| **5/16 (#10) x 300** | Reel | 1931 | 193 | 05257 | **5W457** | 71.51 | **57.25** | 6.0 |
| **3/8 (#12) x 200** | Reel | 2475 | 247 | 05258 | **5W456** | 65.53 | **52.45** | 6.0 |
| **1/2 (#16) x 250** | Reel | 3900 | 390 | 05264 | **5W458** | 136.54 | **109.25** | 20.0 |
| **TWISTED NYLON TWINE** | | | | | | | | |
| **#18 x 550** | Ball | 165 | 16.5 | 00090 | **5W454** | 4.04 | **3.22** | 0.5 |
| **TWISTED POLYPROPYLENE ROPE** | | | | | | | | |
| **3/16 x 1000** | Reel | 780 | 78 | 05025 | **2W734** | 31.03 | **25.30** | 10.0 |
| **3/16 x 3000** | Reel | 780 | 78 | R6254 | **5W461** | 87.54 | **71.05** | 26.0 |
| **1/4 x 100** | Coilette | 1125 | 112 | 03021 | **2W728** | 6.25 | **5.00** | 1.2 |
| **1/4 x 600** | Reel | 1125 | 112 | 05103 | **2W731** | 28.51 | **23.31** | 10.0 |
| **3/8 x 100** | Coilette | 2430 | 243 | 03027 | **2W729** | 13.40 | **10.73** | 3.0 |
| **3/8 x 600** | Reel | 2430 | 243 | 05107 | **2W732** | 64.46 | **52.40** | 20.0 |
| **1/2 x 100** | Coilette | 3780 | 420 | 03033 | **2W730** | 20.23 | **16.26** | 4.8 |
| **1/2 x 600** | Reel | 3780 | 420 | 05111 | **2W733** | 106.99 | **86.95** | 33.0 |
| **5/8 x 600** | Reel | 5580 | 697 | 05113 | **5W460** | 166.76 | **135.40** | 50.0 |
| **3/4 x 600** | Reel | 7650 | 1093 | 05115 | **5W459** | 237.15 | **193.00** | 74.0 |
| **HOLLOW BRAID POLYPROPYLENE ROPE** | | | | | | | | |
| **1/4 x 500** | Reel | 990 | 99 | 05810 | **2W658** | 24.02 | **19.36** | 6.0 |
| **1/4 x 1000** | Reel | 990 | 99 | 05811 | **2W659** | 48.01 | **38.60** | 11.0 |
| **TWISTED POLYPROPYLENE TRUCK ROPE** | | | | | | | | |
| **3/8 x 100** | Coilette | 2430 | 243 | 15002 | **5W466** | 13.79 | **11.06** | 3.0 |
| **3/8 x 600** | Reel | 2430 | 243 | 05614 | **5W464** | 65.11 | **52.85** | 19.0 |
| **1/2 x 100** | Coilette | 3780 | 378 | 15003 | **5W465** | 21.31 | **17.10** | 4.6 |
| **1/2 x 600** | Reel | 3780 | 378 | 05618 | **5W463** | 102.70 | **83.65** | 33.0 |

(*) Approximate load of which new, unused rope breaks. Minimum is 10% less.
(†) Maximum safe working load is the maximum load a rope should carry in situations where danger exists to life, bodily injury or valuable property. Dynamic loading occurs when rope is subjected to sudden and extreme stress or shock loads; dynamic loading of a rope voids the figure given as a working load.

## TWISTED NYLON TWINE



**SUGGESTED INDUSTRIAL USES:**
• general tying • mason and chalk line • conduit fish line • trap line • plumb line

Constructed from 100% filament nylon. Used extensively by building and sporting goods trades.

**POLYPROPYLENE:** High strength with light weight. Physical properties provide low elasticity, low water absorption, good electrical resistance, and good buoyancy.

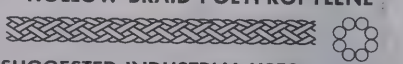
## TWISTED POLYPROPYLENE



**SUGGESTED INDUSTRIAL USES:**
• wire pulling ropes • barrier ropes • truck ropes • hand lines • drive ropes • guide lines • pulling and sagging lines • tie downs • mooring lines • lariats and lead ropes • pool and safety float lines • catenary lines • rigging • hoisting • rope falls

A good general purpose rope. Suitable for wire pulling applications. Slick surface pulls through conduit pipe and obstructions with little friction and may be used with standard pulling machines. Tight lay produces a hockle resistant rope which is excellent for use in scaffolding. Yellow color.

## HOLLOW BRAID POLYPROPYLENE



**SUGGESTED INDUSTRIAL USES:**
• well rope • safety lines • tie downs • dock and anchor lines • trucking tie downs • hand lines • general purpose cords

The most versatile rope available and the easiest to splice. Lightweight and resistant to rotation, this rope floats and will not rot. Resistant to marine growth. Can remain in water for years with little or no effect on rope fibers. Black color improves resistance to deterioration from sunlight.

## TWISTED POLYPROPYLENE TRUCK ROPE



**SUGGESTED INDUSTRIAL USES:**

• general purpose tie down rope • well rope • golf course barriers • tarp tie downs • temporary storage tents and canopies

Black with distinctive orange marker yarn and internal manufacturer's identification tape. Approved and made to specifications of the trucking industry for all states. Black color with orange marker yarn, resists sunlight deterioration.

# POLY-CORD AND POLY-STRAP TIE DOWNS

Designed for a wide variety of applications including automotive, hardware, marine, recreation, farm, home, and garden. Made with Proflex 1253®, a unique blend of elastomers developed and tested in conjunction with Uniroyal Chemical. Salt water, sunlight, and ozone have little or no effect on performance and life expectancy. Will not crack, break, or leave ugly scuff marks. Return to original length regardless of frequency or duration of stretching. Polyflex brand.

**Poly-Cord®** features hooks made from nylon and fiberglass molded right into cord. Hooks will not scratch, gouge, or spark like metal hooks. Primarily used as a tensioning device for lighter duty applications. For use up to twice its length.

**Poly-Strap®** uses two galvanized steel hooks. Primarily used as a securing device for heavier duty applications.

| Length (In.) | Color | Polyflex Model | Stock No. | List | Each | Lots 12 | Case Lots 48 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | **POLY-CORD** | | | | | |
| **12** | Black | PC12-BK | **6A972** | $2.26 | **$2.21** | **$2.10** | **$1.99** | 0.1 |
| **12** | Blue | PC12-BL | **6A973** | 2.26 | **2.21** | **2.10** | **1.99** | 0.1 |
| **12** | Red | PC12-R | **6A974** | 2.26 | **2.21** | **2.10** | **1.99** | 0.1 |
| **12** | Yellow | PC12-Y | **6A975** | 2.26 | **2.21** | **2.10** | **1.99** | 0.1 |
| **18** | Black | PC18-BK | **6A976** | 2.26 | **2.21** | **2.10** | **1.99** | 0.1 |
| **18** | Blue | PC18-BL | **6A977** | 2.47 | **2.43** | **2.31** | **2.19** | 0.1 |
| **18** | Red | PC18-R | **6A978** | 2.47 | **2.43** | **2.31** | **2.19** | 0.1 |
| **18** | Yellow | PC18-Y | **6A979** | 2.47 | **2.43** | **2.31** | **2.19** | 0.1 |
| **24** | Black | PC24-BK | **6A980** | 2.47 | **2.43** | **2.31** | **2.19** | 0.2 |
| **24** | Blue | PC24-BL | **6A981** | 2.75 | **2.71** | **2.58** | **2.44** | 0.2 |
| **24** | Red | PC24-R | **6A982** | 2.75 | **2.71** | **2.58** | **2.44** | 0.1 |
| **24** | Yellow | PC24-Y | **6A983** | 2.75 | **2.72** | **2.58** | **2.44** | 0.1 |
| | | | **POLY-STRAP** | | | | | |
| **12** | Black | B12-BK | **6A960** | 2.64 | **2.60** | **2.47** | **2.34** | 0.2 |
| **12** | Blue | B12-BL | **6A961** | 2.64 | **2.60** | **2.47** | **2.34** | 0.2 |
| **12** | Red | B12-R | **6A962** | 2.64 | **2.60** | **2.47** | **2.34** | 0.2 |
| **12** | Yellow | B12-Y | **6A963** | 2.64 | **2.60** | **2.47** | **2.34** | 0.2 |
| **18** | Black | B18-BK | **6A964** | 3.20 | **3.16** | **3.00** | **2.84** | 0.2 |
| **18** | Blue | B18-BL | **6A965** | 3.20 | **3.16** | **3.00** | **2.84** | 0.2 |
| **18** | Red | B18-R | **6A966** | 3.21 | **3.16** | **3.00** | **2.84** | 0.1 |
| **18** | Yellow | B18-Y | **6A967** | 3.20 | **3.16** | **3.00** | **2.84** | 0.2 |
| **24** | Black | B24-BK | **6A968** | 3.79 | **3.73** | **3.54** | **3.36** | 0.3 |
| **24** | Blue | B24-BL | **6A969** | 3.79 | **3.73** | **3.55** | **3.36** | 0.2 |
| **24** | Red | B24-R | **6A970** | 3.79 | **3.73** | **3.55** | **3.36** | 0.2 |
| **24** | Yellow | B24-Y | **6A971** | 3.79 | **3.74** | **3.55** | **3.36** | 0.1 |
| **31** | Black | B31-BK | **3VH90** | 5.26 | **5.16** | **4.90** | **4.64** | 0.4 |
| **31** | Blue | B31-BL | **3VH91** | 5.26 | **5.16** | **4.90** | **4.64** | 0.4 |
| **31** | Red | B31-R | **3VH92** | 5.26 | **5.16** | **4.90** | **4.64** | 0.4 |
| **31** | Yellow | B31-Y | **3VH93** | 5.26 | **5.16** | **4.90** | **4.64** | 0.4 |

**POLYFLEX LIFETIME REPLACEMENT WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.




# VACUUM CUPS

**For moving nonporous objects without marring or scratching surface**

Designed for manually moving hard-surface materials and objects such as glass, marble, sheet metal, and appliances. Rubber gripping pad attaches firmly to almost all nonporous surfaces by simply pumping plunger until vacuum is created.

All cups have spring-balanced pumps with red-line vacuum indicators that provide a visual warning if cup should lose holding power. 8" dia. model is available with either metal or ABS polymer handle.

Come complete with plastic carrying case, except No. 6A984 which has heavy plastic pad protector. Wood's Powr-Grip brand.




**No. 6A984 Vertical Metal Handle**

**No. 6A986 Horizontal Metal Handle**

| Cup Dia. (In.) | Handle Type | Maximum Lift Load Cap.* (Lbs.) | Powr-Grip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **6** | Metal, Vertical | 70 | LJ6VH | **6A984** | $80.51 | **$79.75** | 3.0 |
| **8** | ABS, Horizontal | 125 | N4000 | **6A985** | 78.76 | **78.00** | 3.3 |
| **8** | Metal, Horizontal | 125 | N4950 | **6A986** | 118.04 | **116.90** | 5.0 |
| **8** | Metal, Horizontal | 150 | N5450 | **6A987** | 131.01 | **129.75** | 6.0 |
| **9** | Metal, Horizontal | 175 | N6450 | **6A988** | 136.93 | **135.60** | 6.0 |

(*) Load capacity is rated per each vacuum cup used.

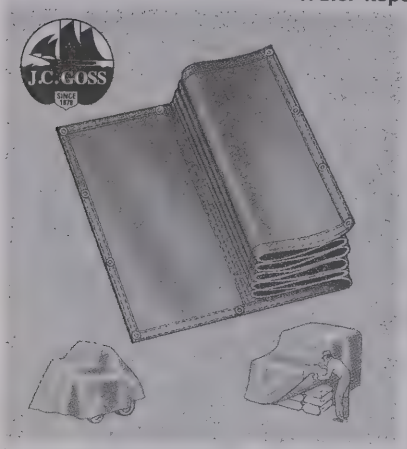
**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**

# TARPAULINS AND POLY FISH LINES

## CANVAS TARPAULINS

**Water-Repellent. Mildew-Resistant. Prevents Condensation Build-up**




- **Dependable weather protection for permanent and temporary storage and coverage of equipment used outdoors**
- **Tarps "breathe" to prevent build-up of damaging condensation**
- **Special wax treatment increases resistance to moisture and mildew**
- **Rust-resistant brass grommets simplify tying down**

All purpose 10 oz. canvas tarpaulins provide dependable weather protection for all permanent or temporary storage and coverage needs. Durable canvas tarps breathe to prevent condensation build-up underneath. These are especially practical in covering equipment used outdoors by contractors, farmers, industrial plants, and recreational facilities. Fabric has special wax treatment to resist water and mildew. Rust-resistant 1/2" ID brass grommets spaced approximately 3½ ft. apart simplify tie-down. 1½" seams double lock-stitched with mildew-resistant thread. Finished size is slightly smaller than cut size. Canvas is subject to shrinkage due to variable climate conditions. Tarps are tan color. J. C. Goss brand.

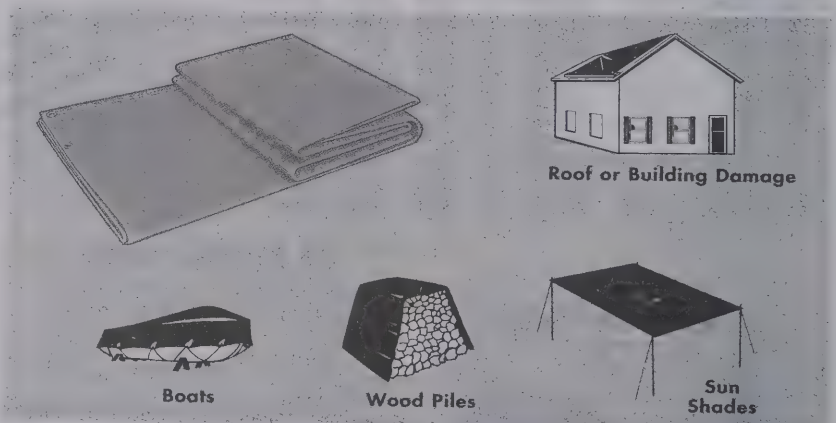
| Cut Size (Ft.) | Finished Size | J.C. Goss Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **8 x 10** | 7' 6" x 9' 6" | 10-0810 | **1A585** | $48.80 | **$36.90** | 9.6 |
| **10 x 12** | 9' 6" x 11' 6" | 10-1012 | **1A586** | 73.20 | **55.20** | 14.0 |
| **12 x 16** | 11' 6" x 15' 6" | 10-1216 | **2W689** | 117.12 | **88.40** | 23.0 |
| **15 x 20** | 14' 6" x 19' 4" | 10-1520 | **2W690** | 183.00 | **138.15** | 36.0 |

## POLYETHYLENE TARPAULINS

- **Lightweight and low cost**
- **Waterproof, rotproof, chemical-resistant, and virtually rip-proof**
- **Treated to resist ultraviolet rays**
- **Weighs the same wet or dry**

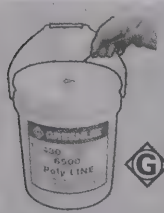
High density 8 x 10 weave (1,000 Denier) of polyethylene fibers is coated on both sides with polyethylene sheets 1.8 mils thick and is specially treated with an absorber to resist ultraviolet rays from the sun. Used for covering and protecting equipment and materials on construction sites, farms, around the home, as sunshades, for covering sports equipment, and boats. Larger size tarps are well suited for roofing applications and also may assist in covering damage caused by natural disasters.

Fabric weighs only 3.4 oz. per square yard, wet or dry, and handle easily at high or low temperatures. Seams are heat-sealed with polyethylene rope lined hems. Aluminum grommets approximately every three feet. Facilitate tie-downs with Crowe Rope brand three-strand twisted polypropylene rope Nos. 2W728 and 2W729. For ordering information, see page 2258. Tarps are blue color.




| Cut Size (Ft.) | Finished Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **8 x 10** | 7' 6" x 9' 8" | **2W693** | $11.76 | **$5.60▲** | 2.0 |
| **10 x 12** | 9' 6" x 11' 6" | **2W694** | 17.65 | **8.40▲** | 3.0 |
| **12 x 16** | 11' 6" x 15' 8" | **2W695** | 28.24 | **13.50▲** | 5.0 |
| **15 x 20** | 14' 4" x 19' 8" | **2W696** | 44.12 | **21.00▲** | 7.0 |
| **20 x 30** | 19' 2" x 29' 6" | **5W119** | 88.25 | **42.40▲** | 14.0 |
| **25 x 40** | 23' 10" x 39' 6" | **3W559** | 147.90 | **69.00▲** | 24.0 |
| **30 x 50** | 28' 9" x 49' 6" | **3W560** | 220.62 | **106.00▲** | 33.0 |

(▲) Net prices, not subject to discounts.




GREENLEE®

## POLY FISH LINE

- **Resists tangling when dispensing**
- **Will not rot or mildew**
- **Use to pull rope through conduit**
- **Use with power fish tape systems**
- **Not for pulling wire or cable**

| Length (Ft.) | Tensile Strength (Lbs.) | Greenlee Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6500** | 210 | 430 | **4A762** | $52.01 | **$46.85** | 11.0 |
| **5200** | 240 | 431 | **4A763** | 62.83 | **56.55** | 12.0 |

# ZIPPERS, CONSTRUCTION FILM, AND MASKING TAPE

## STIK'N ZIP® PEEL AND STICK ZIPPERS

Pack of 2, seven foot, self-adhesive zippers permanently stick on plastic and are designed to create access and entryways through plastic. Easy to install, the zippers can be used to create any width doorway, open from both sides, and are ideal for controlling dust or exposure to weather. Ideal for use in remodeling projects, asbestos removal, lead abatement, greenhouses, shelters, boats, barns and more. Strom Inc. brand (8302).

**No. 4KN02.** Shpg. wt. 0.6 lbs. List $20.00. Each Pkg. of 2 .....$16.00

Strom

No. 4KN02



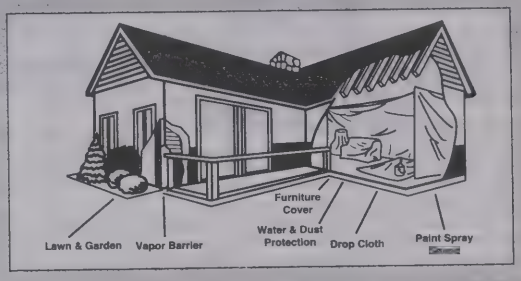
## PLASTIC CONSTRUCTION FILM

POLAR PLASTICS INC.

Made from high strength polyethylene resin, film protects against dust, water, and chemicals. Choose from a variety of sizes and thicknesses, in clear or black. Manufacturer guarantees plastic to be of full weight and size. Polar Plastic brand.

**Low density polyethylene film offers unlimited uses, including:**

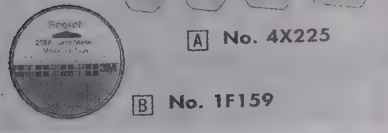
- **Vapor Barrier: For walls, floors and ceilings. 6 mil is twice the barrier of 4 mil.**
- **Drop Cloth: For paint and spraying applications**
- **Concrete Curing: For use under and over slabs or sidewalks**
- **Outdoor Protection: Use for covering windows and doors to keep outside elements out**
- **Equipment Protection: Provides protection from dust, water, and chemicals. Use black for outdoor use because of its greater resistance to UV rays**
- **Liner: For containers or pits of non-toxic materials**




| Size | Thickness (Mil) | Color | Polar Plastics Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 8'4" x 100' | 4 | Clear | C844 | 4JX92 | $25.00 | $20.99 | 18.0 |
| 8'4" x 200' | 1.5 | Clear | C8415 | 4JX91 | 18.75 | 15.99 | 14.0 |
| 10' x 100' | 6 | Black | B106 | 4JX84 | 51.85 | 43.65 | 30.0 |
| 10' x 100' | 4 | Clear | C104 | 4JX87 | 34.60 | 29.10 | 21.0 |
| 10' x 100' | 6 | Clear | C106 | 4JX88 | 51.85 | 43.65 | 31.0 |
| 20' x 100' | 4 | Black | B204 | 4JX85 | 69.15 | 58.80 | 40.0 |
| 20' x 100' | 6 | Black | B206 | 4JX86 | 103.70 | 87.85 | 60.0 |
| 20' x 100' | 4 | Clear | C204 | 4JX89 | 69.15 | 58.80 | 40.0 |
| 20' x 100' | 6 | Clear | C206 | 4JX90 | 103.70 | 87.85 | 60.0 |

## MASKING TAPE

Scotch™



A No. 4X225

B No. 1F159

### A SCOTCH™ MASKING TAPE

Use for general paint masking applications. Crepe paper backed tape with rubber-based adhesive which easily conforms to irregular shapes. Adheres well to many different surfaces. 60 yards/roll.

### B LONG MASK

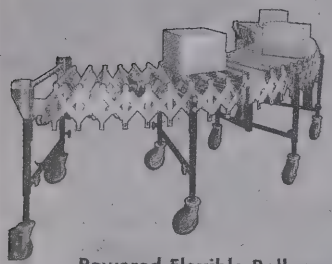
Use for industrial applications where exposure to sunlight is expected and clean removal required. Ideal for outdoor painting applications. Specialty masking tape. Should be applied to clean and dry surfaces. Crepe paper backing. 60 yards/roll.

| Key | Width (In.) | Color | Adhesion (Oz./In.) | Tensile Strength (Lbs./In.) | Temp. (°F) | Thickness (Mil.) | 3M Model | Stock No. | List | Each | Rolls/ Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3/4 | Natural | 31 | 26 | 250 (Up to 1 Hr.) | 5.9 | 2308 | 4X225 | $2.65 | $2.26 | 48 | 0.3 |
| | 1 | | | | | | | 2A234 | 3.55 | 3.02 | 36 | 0.4 |
| | 1½ | | | | | | | 4X958 | 5.36 | 4.56 | 24 | 0.6 |
| | 2 | | | | | | | 2A235 | 7.09 | 6.03 | 24 | 0.7 |
| B | 3/4 | Blue | 20 | 24 | 200 | 5.0 | 2090 | 1F159 | 4.42 | 3.77 | 48 | 0.3 |
| | 1 | | | | | | | 1F160 | 5.99 | 5.10 | 36 | 0.3 |
| | 2 | | | | | | | 1F161 | 11.95 | 10.17 | 24 | 0.7 |

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# FLEXIBLE/EXPANDABLE POWER ROLLER AND GRAVITY SKATEWHEEL CONVEYORS



Powered Flexible Roller Conveyor in Curved Position

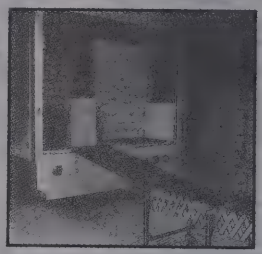


Best/Flex Skatewheel Conveyor in Folded Position

Replacement Parts Available 1-800-323-0620



Flexible/Expandable Conveyors are also portable so they can be positioned almost anywhere.



Extend-A-Stick Conveyor connects expandable conveyor to truck for easier unloading.

**Flexible/Expandable Conveyors** store folded to save valuable floor space when conveyor is not in use, and quickly expand to go to work. Both flexible and portable, they can be positioned in a straight line or a curve wherever they are needed. A great solution for loading and unloading trailers, temporary conveyor lines in warehouse operations, shipping department, packaging applications, temporary manufacturing lines, assembly areas, and a wide variety of other material handling applications. Best brand.

**Standard Features Include:**

**Self-Tracking** — Packages follow conveyor path without side rails or engineered curves.

**Unique Design** — Side plates feature high tensile strength with ribbed construction for greater durability. Assembled with shoulder bolts and locknuts. No flimsy clips or rivets.

**Lock in Place** — Locking device on heavy-duty, easy rolling swivel casters locks both wheel and swivel simultaneously for greater rigidity while conveyor is in use.

**Adjustable Height** — Telescoping legs made from heavy-duty square tubing adjust conveyor height.

Shipped assembled in folded position. Multiple sets may be connected for additional lengths or for connecting to existing conveyor system by using optional leg connect brackets No. 6A203, available separately. Optional package stops are also available.

## POWERED FLEXIBLE ROLLER CONVEYORS

- **3:1 expansion ratio**
- **Height adjustment from 31½ to 44½"**
- **6" swivel casters**
- **100 lb. load capacity per lineal ft.**
- **Roller axle centers extended: 5"**
- **1½" zinc-plated rollers constructed with 1/2" solid steel axle and precision bearings for maximum performance and extended life**
- **Operate on 120VAC**

**Drive Motor Specifications:**

- **Multiple drive motors**
- **Approximately 3 amps per 12 ft. of conveyor**
- **DC drive motors with AC-DC converter**
- **Motor rated for continuous duty cycle**
- **Stop/Start cycle: 300 times per hour**

Powered rollers eliminate dead spots. Power is transmitted to every roller by a durable polyurethane belt similar to line shaft conveyors. Control box located in the middle of conveyor allows adjustment of line speed from 0 to 120 ft. per min. On/Off switch is located at both ends of conveyor for easy access. Conveyors are reversible at the flip of a switch; no special wiring required.

## BEST/FLEX GRAVITY SKATEWHEEL CONVEYORS

- **4:1 expansion ratio**
- **Height adjustment from 28½ to 41½"**
- **5" swivel casters**
- **Come in two load capacities: 200 lb. capacity per lineal ft. with nylon skatewheels and 300 lb. capacity per lineal ft. with steel skatewheels**
- **Patented structural steel bridge support spans the entire conveyor width for additional strength**

## CONVEYOR ACCESSORIES

**PACKAGE STOPS** create a barrier for packages traveling on conveyor for rerouting or further processing.

**EXTEND-A-STICK CONVEYORS** offer easy transition from truck beds to expandable conveyors for unloading, or for use as a gate in aisles or walkways for personnel and equipment to pass through. Units are 5 ft. long with a load capacity of 250 lbs. per lineal ft.

**LEG CONNECT BRACKETS** connect two or more roller or skatewheel conveyors to provide any length needed. Come in sets of two.

| Width (In.) | Adjustable Length (Ft.) Min. | Max. | Leg Sets Per Unit | Wheels Per Axle | Best Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SKATEWHEEL 200 LB. CAPACITY PER FT. CONVEYORS** | | | | | | | | | |
| 18 | 2 | 8 | 3 | 7 | B/F 200-18-8-BP | 4W583 | $470.69 | **$406.25** | 129.0 |
| 18 | 3 | 12 | 4 | 7 | B/F 200-18-12-BP | 4W584 | 817.92 | **705.00** | 184.0 |
| 18 | 6 | 24 | 7 | 7 | B/F 200-18-24-BP | 4W585 | 1536.81 | **1324.00** | 342.0 |
| 24 | 2 | 8 | 3 | 9 | B/F 200-24-8-BP | 4W586 | 565.24 | **486.75** | 156.0 |
| 24 | 3 | 12 | 4 | 9 | B/F 200-24-12-BP | 4W587 | 969.60 | **849.50** | 192.0 |
| 24 | 6 | 24 | 7 | 9 | B/F 200-24-24-BP | 4W588 | 1892.79 | **1631.00** | 412.0 |
| 30 | 2 | 8 | 3 | 10 | B/F 200-30 8-BP | 4W589 | 888.60 | **766.50** | 149.0 |
| 30 | 3 | 12 | 4 | 10 | B/F 200-30-12-BP | 4W590 | 1195.39 | **1031.00** | 197.0 |
| 30 | 6 | 24 | 7 | 10 | B/F 200-30-24-BP | 4W591 | 2302.22 | **1985.00** | 378.0 |
| **SKATEWHEEL 300 LB. CAPACITY PER FT. CONVEYORS** | | | | | | | | | |
| 24 | 2 | 8 | 3 | 9 | B/F 300-24-8-ST | 4W592 | 907.45 | **781.50** | 220.0 |
| 24 | 4 | 12 | 4 | 9 | B/F 300-24-12-ST | 4W593 | 1253.51 | **1080.00** | 305.0 |
| 24 | 8 | 24 | 7 | 9 | B/F 300-24-24-ST | 4W594 | 2403.40 | **2071.00** | 523.0 |
| **POWER ROLLER 100 LB. CAPACITY PER FT. CONVEYORS** | | | | | | | | | |
| 18 | 8 | 24 | 8 | — | BFP1.5-18-24-5 | 3VJ56 | 8845.00 | **8424.00** | 635.0 |
| 24 | 8 | 24 | 8 | — | BFP1.5-24-24-5 | 3VJ57 | 8979.00 | **8551.00** | 745.0 |
| 30 | 8 | 24 | 8 | — | BFP1.5-30-24-5 | 3VJ58 | 9348.00 | **8903.00** | 860.0 |

## ACCESSORIES

| Description | Width (In.) | Best Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Package Stops** | 18 | 06375-18 | **6A204** | $26.01 | **$22.40** | 5.0 |
| **Package Stops** | 24 | 06375-24 | **6A205** | 26.01 | **22.40** | 5.5 |
| **Package Stops** | 30 | 06375-30 | **6A206** | 25.99 | **22.37** | 6.0 |
| **Extend-A-Stick** | 18 | EXT-STK-18 | **5W820** | 254.08 | **219.25** | 35.0 |
| **Extend-A-Stick** | 24 | EXT-STK-24 | **5W821** | 313.97 | **270.75** | 54.0 |
| **Extend-A-Stick** | 30 | EXT-STK-30 | **5W822** | 366.15 | **315.50** | 73.0 |
| **Leg Connect Brackets** | — | 60277 | **6A203** | 24.33 | **20.46** | 1.0 |

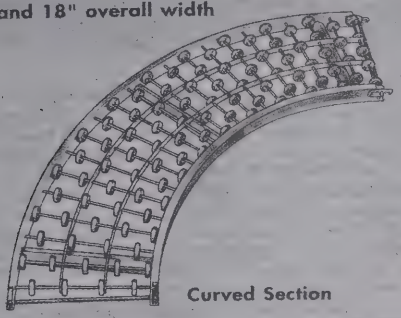
# GRAVITY SKATE WHEELED CONVEYORS AND TRIPOD STANDS

**SKATE WHEELED CONVEYOR FEATURES**

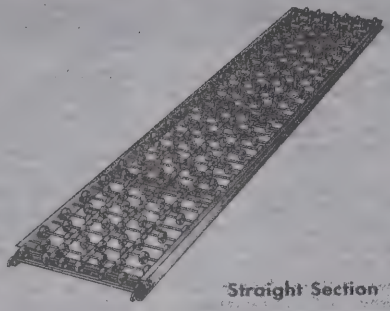
- Galvanized steel or aluminum construction
- Straight sections 10 feet long
- Curved sections 90° arc, 36" uniform inside radius
- 12 and 18" overall width

MTD CONVEYOR PRODUCTS

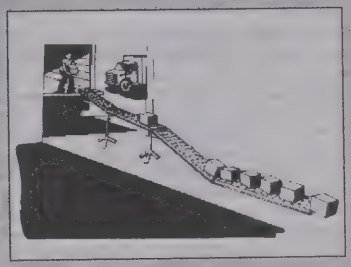
Replacement Parts Available 1-800-323-0620



Curved Section



Straight Section



Gravity skate wheeled conveyors are commonly used in two general applications: temporary set-ups to reduce hand carrying boxes and packages in truck loading-unloading; and in permanent systems that require moving packages and loads over long distances through a building. A gravity wheeled system consists of straight and curved conveyor sections having free-spinning wheels fixed within a framework and supported by stands or other supports of appropriate height. These conveyors are intended for handling lightweight cartons and packages.

Choice of construction is galvanized steel or aluminum. Aluminum conveyors are lightweight, highly portable, ideal for short term set-ups. Steel conveyors are generally chosen for more permanent systems because of their greater load capacity. Frame side rails are 2½ x 1 x 0.125" extruded heat-treated aluminum or 12-gauge galvanized steel. The wheel assemblies rotate independently and feature long life design with seven precision-hardened and ground ball bearings and hardened ball raceways and cones. MTD brand.

**10-Foot Straight Conveyor Sections.** Choice of galvanized steel or aluminum. Available in 12 and 18" width. 12" wide sections have 10 wheels per foot of length; 18" wide sections have 16 wheels per foot. Both sizes are 10 feet long with hooks and rods fixed to the frame ends for joining sections together.

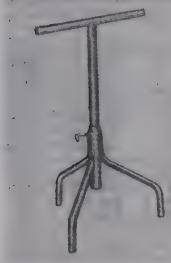
**90° Curved Conveyor Sections.** Choice of galvanized steel or aluminum. Available in 12 and 18" widths. Uniform inside radius is 36". 12" wide sections have 10 wheels per foot of length. 18" wide sections have 16 wheels per foot. 22 separate axles in each section maximize load distribution. Curved and straight sections of the same width join together easily with two hooks and rod attached to ends of the frame.

## CONVEYOR SPECIFICATIONS AND ORDERING DATA

| Section Description | Overall Width (In.) | Overall Length/Curve | Wheels Dia. x Bore (In.) | Frame Capacity* (Lbs.) Level | Sloped | MTD Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **GALVANIZED STEEL CONVEYORS** | | | | | | | | | | |
| **Straight** | 12 | 10 feet | $1^{15}/_{16}$ x 1/4 | 350 | 260 | GSW-1210-10 | **2W849** | $154.00 | **$135.95** | 54.0 |
| **Straight** | 18 | 10 feet | $1^{15}/_{16}$ x 1/4 | 350 | 260 | GSW-1816-10 | **2W850** | 204.85 | **181.00** | 71.0 |
| **Curved** | 12 | 90° arc, 36" radius | $1^{15}/_{16}$ x 1/4 | 350 | 260 | GSWC-1210-90 | **3W428** | 144.05 | **127.15** | 32.0 |
| **Curved** | 18 | 90° arc, 36" radius | $1^{15}/_{16}$ x 1/4 | 350 | 260 | GSWC-1816-90 | **3W429** | 180.80 | **159.75** | 42.0 |
| **ALUMINUM CONVEYORS** | | | | | | | | | | |
| **Straight** | 12 | 10 feet | $1^{15}/_{16}$ x 1/4 | 150 | 110 | ASW-1210-10 | **2W851** | 183.15 | **161.75** | 37.0 |
| **Straight** | 18 | 10 feet | $1^{15}/_{16}$ x 1/4 | 150 | 110 | ASW-1816-10 | **2W852** | 249.65 | **220.50** | 50.0 |
| **Curved** | 12 | 90° arc, 36" radius | $1^{15}/_{16}$ x 1/4 | 150 | 110 | ASWC-1210-90 | **3W430** | 173.00 | **153.00** | 19.0 |
| **Curved** | 18 | 90° arc, 36" radius | $1^{15}/_{16}$ x 1/4 | 150 | 110 | ASWC-1816-90 | **3W431** | 199.65 | **176.25** | 27.0 |

(*) Deduct conveyor weight from frame capacity to determine load capacity. Tripod supports are spaced every 10 feet.

## CONVEYOR TRIPOD STANDS



MTD CONVEYOR PRODUCTS

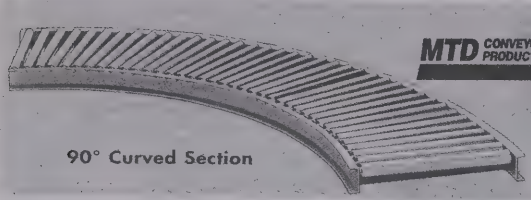
Adjusts 25 to 43" High

Stands support straight or curved conveyor sections in position and provide the appropriate slope for loads to move along by gravity. May be used with gravity skate wheeled or roller conveyors. Jig welded steel construction. Adjustable height range from 25 to 43". Maximum vertical load capacity is 400 lbs., but recommended for light-duty applications only. MTD brand.

### TRIPOD STAND SPECIFICATIONS AND ORDERING DATA

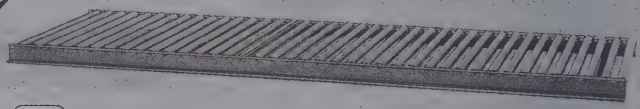
| T-Bar Width (In.) | Range of Height Adjustment (In.) | Capacity (Lbs.) | MTD Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| $10^5/_8$ | 25 to 43 | 400 | TS-12-2543 | **3W432** | $31.90 | **$28.20** | 11.0 |
| $16^5/_8$ | 25 to 43 | 400 | TS-18-2543 | **3W433** | 32.65 | **28.80** | 12.0 |

# GRAVITY ROLLER CONVEYORS AND H-STANDS




90° Curved Section

Replacement Parts Available 1-800-323-0620



10 Ft. Straight Section

Gravity roller conveyors are used for conveying heavier products than may be carried on skate wheel conveyors or that have an uneven conveying surface. Consist of steel rollers having high load capacity bearings, solid steel hex axles, and galvanized steel roller tubes. Rollers are set within a welded frame supported by tripod or H-stands available separately.

Frames are painted with durable epoxy powder paint in green color. To ensure smooth product transfer, a minimum of three rollers must be underneath conveyed product at all times. All conveyors are supplied with buttplates on both ends for joining conveyor sections when they are used directly on the floor. Width of conveyor is designated by the between frame (BF) dimension. This differs from outside frame (OF) dimension of skate wheel conveyors which includes frame width. MTD brand.

**Light-Duty Steel Conveyors.** Frames have either welded or bolted construction with 1 x 2½ x 1" 12-gauge formed steel channels, complete with buttplates. Punched on 1½" centers. Frame capacity is 350 lbs. with supports on 10 ft. centers and 1300 lbs. with supports on 5 ft. centers.

1⅜" OD rollers are made from 18-gauge galvanized steel with a 5/16" hex shaft. Each roller has 90 lb. capacity. 10 ft. conveyor sections consist of 80 rollers, 90° curved sections consist of 38 rollers. Rollers are set high on 1½" centers, and roll easily, making these conveyors suitable for small, light packages.

**Medium-Duty Steel Conveyors.** For use in heavier duty applications because of their heavier gauge steel construction. Frames are either welded or bolted 1⅜ x 3½ x 1⅜" 11-gauge formed steel channels, complete with buttplates. Punched on 3" centers. Frame capacity is 1200 lbs. with supports on 10 ft. centers and 3000 lbs. with supports on 5 ft. centers.

1.9" OD rollers are made from 16-gauge galvanized steel with a spring retained 7/16" hex shaft. Each roller has a load capacity of 260 lbs. 10 ft. conveyor section consists of 40 rollers, 90° curved sections consist of 16 rollers, set high on 3" centers. Thicker walls and larger diameter roller make it suitable for rough duty applications.

| Section Description | Betw. Frame (BF) Dimension (In.) | Outside Radius (In.) | Roller Capacity (Lbs.) | Frame Capacity* (Lbs.) 10 Ft. Centers | 5 Ft. Centers | MTD Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY STEEL CONVEYORS** | | | | | | | | | | | |
| **10 Ft. Straight** | 10 | — | 90 | 350 | 1300 | 9F10EFG15B10 | **4W569** | $357.55 | **$317.75** | **$301.86** | 129.0 |
| **10 Ft. Straight** | 16 | — | 90 | 350 | 1300 | 9F10EFG15B16 | **4W570** | 405.15 | **365.75** | **347.46** | 170.0 |
| **10 Ft. Straight** | 22 | — | 90 | 350 | 1300 | 9F10EFG15B22 | **4W571** | 452.70 | **426.75** | **405.41** | 211.0 |
| **90° Curved †** | 10 | 48 | 90 | 350 | 1300 | 1F90EFG15B10 | **4W572** | 293.70 | **258.00** | **245.10** | 55.0 |
| **90° Curved †** | 16 | 54 | 90 | 350 | 1300 | 1F90EFG15B16 | **4W573** | 316.55 | **283.50** | **269.33** | 87.0 |
| **90° Curved †** | 22 | 60 | 90 | 350 | 1300 | 1F90EFG15B22 | **4W574** | 339.45 | **307.25** | **291.89** | 109.0 |
| **MEDIUM-DUTY STEEL CONVEYORS** | | | | | | | | | | | |
| **10 Ft. Straight** | 10 | — | 260 | 1200 | 3000 | 10F10KG03B10 | **4W575** | 274.00 | **243.00** | **230.85** | 145.0 |
| **10 Ft. Straight** | 16 | — | 260 | 1200 | 3000 | 10F10KG03B16 | **4W576** | 314.60 | **282.50** | **268.38** | 185.0 |
| **10 Ft. Straight** | 22 | — | 260 | 1200 | 3000 | 10F10KG03B22 | **4W577** | 353.70 | **321.25** | **305.19** | 224.0 |
| **10 Ft. Straight** | 36 | — | 260 | 1200 | 3000 | 10F10KG03B36 | **4W578** | 433.20 | **411.00** | **390.45** | 302.0 |
| **90° Curved ‡** | 10 | 42¾ | 260 | 1200 | 3000 | 3F90KG03B10 | **4W579** | 226.85 | **198.75** | **188.81** | 57.0 |
| **90° Curved ‡** | 16 | 48¾ | 260 | 1200 | 3000 | 3F90KG03B16 | **4W580** | 245.90 | **218.00** | **207.10** | 84.0 |
| **90° Curved ‡** | 22 | 54¾ | 260 | 1200 | 3000 | 3F90KG03B22 | **4W581** | 265.00 | **235.75** | **223.96** | 103.0 |
| **90° Curved ‡** | 36 | 66¾ | 260 | 1200 | 3000 | 3F90KG03B36 | **4W582** | 303.30 | **282.00** | **267.90** | 142.0 |

(*) For actual ratings, subtract weight of each conveyor section from capacity shown. (†) 36" inner radius. (‡) 30" inner radius.




Choose H-stand that is 2" wider than conveyor between frame (BF) dimension.

# CONVEYOR H-STANDS

H-stands are used for permanent conveyor setups or for heavy-duty applications. May be used with either gravity skate wheeled, roller, or ball transfer conveyors. Constructed of two 2-piece adjustable supports and two cross ties. H-stands are painted with durable epoxy powder paint in green color. H-stands bolt directly to conveyor side-rail lower flange for a more stable support. This allows stand to remain attached to conveyor when moved.

Lower leg of H-stand has a welded footpad which can be anchored to the floor for permanent installations. Pivoting mounting bracket allows sloped installations.

A minimum of two H-stands are required for a single stand alone conveyor. Only three H-stands may be necessary for two sections of conveyor, since the H-stand is used to bridge the two sections. A stand is always recommended in the middle of a 90° curve. MTD brand.

| Stand Width (In.) | Range of Height Adjustment (In.)* | Capacity (Lbs.) | MTD Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **12** | 19 to 31 | 1500 | HB15M25B10 | **5W812** | $42.15 | **$37.25** | **$35.39** | 15.0 |
| **12** | 31 to 43 | 1500 | HB15M37B10 | **5W813** | 43.35 | **38.25** | **36.34** | 19.0 |
| **18** | 19 to 31 | 1500 | HB15M25B16 | **5W814** | 42.15 | **37.25** | **35.39** | 17.0 |
| **18** | 31 to 43 | 1500 | HB15M37B16 | **5W815** | 43.35 | **38.25** | **36.34** | 20.0 |
| **24** | 19 to 31 | 1500 | HB15M25B22 | **5W816** | 45.80 | **40.45** | **38.43** | 18.0 |
| **24** | 31 to 43 | 1500 | HB15M37B22 | **5W817** | 47.00 | **41.50** | **39.43** | 21.0 |
| **38** | 19 to 31 | 1500 | HB15M25B36 | **5W818** | 45.80 | **40.45** | **38.43** | 21.0 |
| **38** | 31 to 43 | 1500 | HB15M37B36 | **5W819** | 47.00 | **41.50** | **39.43** | 24.0 |

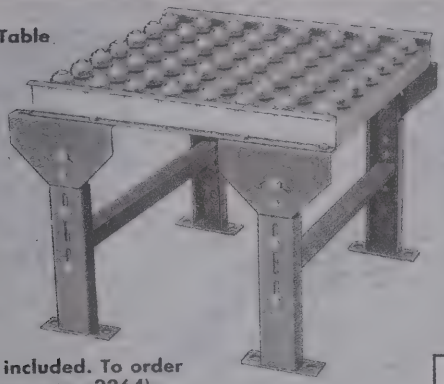
(*) Height is to top of H-stand. Aluminum conveyors must be drilled to mount H-stands.



*More ways to move and store products safely and securely.*

# BALL TRANSFER CONVEYORS

Ball Transfer Table

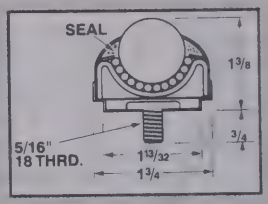


(H-stands not included. To order H-stands, see page 2264)



Ball Transfer Drop-in Plate

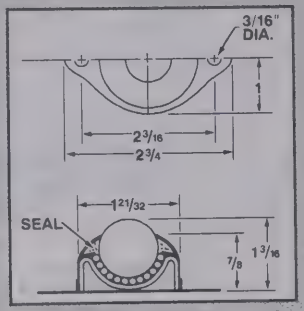




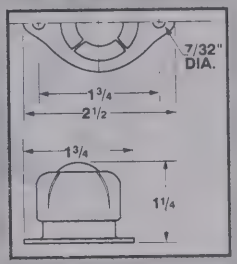

No. 6A211 Steel Ball Transfer








No. 6A212 Steel Ball Transfer




No. 6A213 Nylo® Ball Transfer Prevents Marring of Product

Multi-directional feature of ball transfer conveyors provides a low cost means of changing direction of a load almost instantly. Applications include free movement of tools, dies, assemblies, and production line components. Metzgar brand.

**Transfer Tables** are made of 12-gauge, 3½ x 1¼" galvanized steel frame with 12-gauge galvanized bed. Balls are 1" diameter carbon steel that rotate on 80 support ball bearings. Balls are mounted on 3" centers in a straight line pattern. Each ball is contained in a zinc plated hardened cup. Table has 16 balls per square foot with 65 lbs capacity per ball. Table sizes available from 24 x 24" to 36 x 48". For use at end of conveyors to transfer load to another conveyor or as a workstation. H-stands (available separately) may be used as supports.

**Transfer Drop-In Plates** allow addition of ball transfer units to existing conveyor systems. Sizes are determined by between frame (BF) dimension to correspond with sizes needed to fit gravity skate wheel or gravity roller conveyor. Drop-in plates provide the ability to position work or change direction of work within gravity system. Units fit within frame of gravity conveyor and feature a straight line pattern.

## BALL TRANSFERS

**Individual Steel Ball Transfers** are available in stud mount or two hole flange mount for creating custom designed systems. Individual units can be mounted to any surface such as plywood or plate steel. Steel ball transfers are sealed and lubricated. Seal prevents dirt and debris from entering ball bearing area. Units contain 80 ball bearings for long life and durability. Capacity of ball transfers is 65 lbs. per individual ball. Box of 25.

**Nylo® Ball Transfers** prevent marring of products such as polished stainless steel and glass. Unaffected by food acids, steam cleaning, detergents, sand, oil, and dirt. Nonclogging, self-cleaning, and require no lubrication. Nylo balls can be removed from cup for easy cleaning without tools. Conform to all food sanitation laws. Capacity of each Nylo ball is 20 lbs. Box of 25.

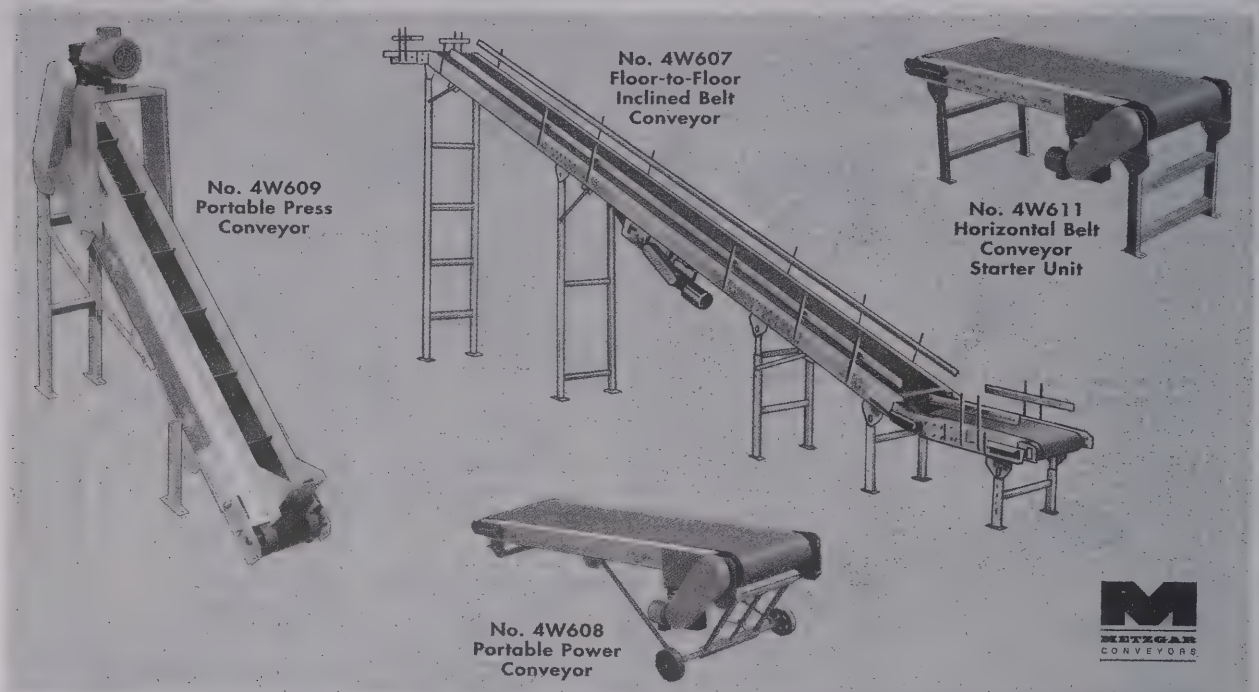
## BALL TRANSFER CONVEYOR ORDERING DATA

| Description | Dimensions (In.) Betw. Frame (BF) | Dimensions (In.) Length | Metzgar Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Transfer Table | 22 | 24 | BTT1900-24X24-3 | 4W613 | $451.34 | $295.00 | 85.0 |
| Transfer Table | 22 | 36 | BTT1900-24X36-3 | 4W614 | 511.24 | 426.25 | 120.0 |
| Transfer Table | 22 | 48 | BTT1900-24X48-3 | 4W615 | 668.90 | 558.50 | 150.0 |
| Transfer Table | 36 | 48 | BTT1900-36X48-3 | 4W616 | 1000.21 | 834.00 | 215.0 |
| Drop-In Plate | 10 | 6 | BTS1900-126-3 | 4W617 | 50.72 | 42.30 | 5.9 |
| Drop-In Plate | 16 | 6 | BTS1900-186-3 | 4W618 | 74.47 | 62.65 | 9.0 |
| Drop-In Plate | 22 | 6 | BTS1900-246-3 | 4W619 | 95.40 | 79.50 | 12.0 |

## BALL TRANSFER ORDERING DATA

| Description | Dimensions (In.) L | W | H | Quantity Per Box | Metzgar Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Stud Mount Steel Ball | 1⅛ | 1¾ | 1⅜ | 25 | M1900 | 6A211 | $139.05 | $115.90 | 10.0 |
| 2-Hole Flange Mount Steel Ball | 2⅜ | 2 | 1⅛ | 25 | M2200 | 6A212 | 101.51 | 84.60 | 8.0 |
| 2-Hole Flange Mount Nylo® Ball | 2¾ | 2 | 1¼ | 25 | M2711 | 6A213 | 233.81 | 195.00 | 2.9 |

# POWERED BELT CONVEYORS




**Floor-to-Floor Inclined Belt Conveyor** offers efficiency in assembling, shipping, and receiving operations. Bulky boxes and bundled items as well as furniture, crates, and bagged goods can be accommodated. Floor-to-floor conveyor increases usable space by utilizing areas such as basements. Allows uninterrupted flow of goods. Unit includes reversing controls, two sets of pushbuttons for easy start/stop operation, guard rail, and floor supports. Run length is 27½ ft. with a maximum lift height of 10 ft. Infeed and discharge height is 30". Center drive unit has a belt take up for easy tension adjustment. Steep grade belt for nonslip surface and ease of product movement. Pre-engineered with a nose-over and power feeder. Shipped complete, ready for assembly and installation. Simplified bolt together construction. 12-gauge frame, 6" galvanized material. Metzgar brand.

**Portable Power Conveyor** is easily relocated for temporary conveyor setups. Versatile conveyor transports cartons, bales or bags, and other similar items. Fast and powerful, it can be used horizontally or inclined to 30°. Unit comes equipped with heavy-duty undercarriage that features durable 8" wheels for easy one man maneuvering. Switch prewired to motor gives forward, stop, and reverse control. 6 ft. power cord included. Belt is constructed of 3-ply rubber with Roughtop nonslip surface. 1/8" aluminum frame. 15 ft. long. Metzgar brand.

**Portable Press Conveyors** allow easy movement of parts or scrap material from press area to storage or parts bin. Helps keep press area clean and efficient. Unit features side guard angles with lower flipper plate. Flipper plate keeps items from falling to floor and holds them until belt cleat picks them up. Belt is made of PVC with a friction surface and molded PVC cleats 1½" high on 12" centers. Conveyors come complete with drive motor and start/stop switch. 12-gauge frame, 6" galvanized material. Adjustable heavy-duty support legs. Metzgar brand.

**No. 4W609** has a 7 ft. overall length. Discharge height range is 4'4½" to 4'10½". Maximum parts bin height is 3'8".

**Horizontal Belt Conveyors** can be used as worktables for assembly line operations, inspections, sorting, and packing, as well as in loading dock operations. Suitable for small manufacturing facilities or warehouses. Allow future expansion. Frame is heavy-duty 12-gauge galvanized 6" deep box channel. Heavy-duty supports (included) are adjustable for a height range of 31 to 45" from floor to top of belt. Belt is constructed of PVC 120 material with smooth surface. Units are shipped with belt installed. Metzgar brand.

**No. 4W611 Starter Unit** is 12 ft. long and comes complete with motor and nonreversing switch.

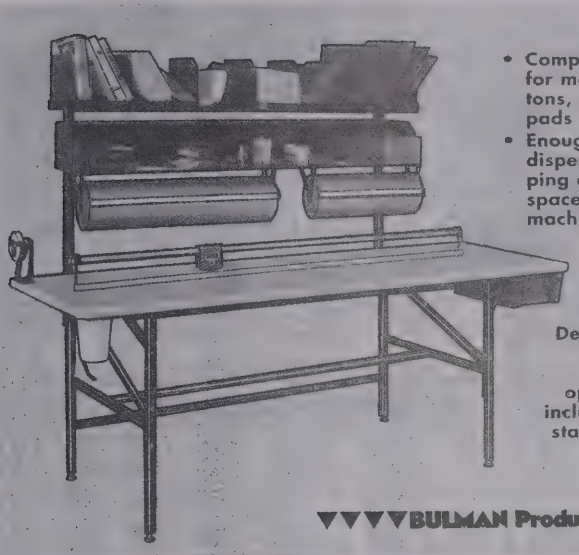
**No. 4W612 Add-On Unit** is 10 ft. long and comes complete with supports and additional belting. Multiple add-on units can be connected to extend conveyor up to 52 ft. long without changing motors.

| Description | Capacity (Lbs.) | Bed Width (In.) | Belt Width (In.) | Drive Pulley (In.) | Operation (FPM) | HP | Motor Rating | Phase | Metzgar Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Floor-to-Floor Inclined Belt | 600 | 24½ | 18 | 9 | 60 | 1 | 230/460V, 60 Hz | 3 | 701C2418271PT | 4W607 | $8755.05 | $7296.00 | 1260.0 |
| Portable | 600* | 24½ | 18 | 9 | 60 | 3/4 | 115/230V, 60 Hz | 1 | 725PPH241815 | 4W608 | 5020.21 | 4184.00 | 598.0 |
| Portable Press | 185 | 12½ | 6 | 6 | 50 | 1/3 | 115V, 60 Hz | 1 | 750PC1267.33 | 4W609 | 2667.22 | 2223.00 | 455.0 |
| Horizontal Belt Starter | 800 | 24½ | 18 | 6 | 60 | 3/4 | 115V, 60 Hz | 1 | M701E24181034 | 4W611 | 2593.99 | 2161.00 | 612.0 |
| Horizontal Belt Add-On | 800 | 24½ | 18 | 6 | 60 | — | — | — | M701E241810A | 4W612 | 566.29 | 472.00 | 348.0 |

(*) 600 lb. capacity in horizontal position, 300 lb. capacity in 30° inclined position.

Electric and pneumatic vibrators for unjamming parts in conveyor lines available. See pages 255 thru 256.

## DELUXE PACKING TABLE



- Compact, accessible storage for mailers, envelopes, cartons, plastic bags, tapes, pads
- Enough countertop space for dispensing materials, wrapping and packing as well as space for scales, tape machines, dispensers

Deluxe packing table accommodates wide range of optional equipment including paper cutters, staplers, sealing tape, and scales

▼▼▼▼BULMAN Products, Inc.

**Convenient, efficient workstation** for packing, wrapping, packaging, mailing, and shipping operations. Compact, functional layout provides fast, easy access for storage and retrieval of work supplies and for dispensing equipment. Requires minimum floor space.

**Unit features heavy-duty hold-down device** and dowel for dispensing control of large rolls of packing material stored beneath countertop. Materials such as kraft paper, air bubble cushioning, urethane, polyethylene foams, single face corrugated and cellulose wadding up to 1/2" thick can be efficiently dispensed. Varying roll widths can be unrolled simultaneously. Holds 9 to 32" dia. rolls. Table includes rotary shear cutter mounted to countertop for cutting all types of thick packing materials as well as films and paper. Comes with plastic parts storage drawer.

**Packing table has strong, tubular steel frame construction.** Countertop is made of 1¼" edge finished high-pressure laminate particleboard, and is adjustable from 34 to 36" high. Table is 96W x 36D x 76"H. Frame has gray powder coat finish. Easily assembled; unit shipped unassembled in two cartons. Bulman brand (A-670).

**No. 7Z374.** Packing Table. Shpg. wt. 300.0 lbs. List $1099.00. Each.....**$1043.00**

### [A] BULMAN PAPER CUTTER

Roll paper cutter dispenses light to heavy kraft and other papers. Cuts evenly, using either side of spring-loaded blade. Constructed of 18-gauge cold rolled steel. Mounts on wall, countertop, or under counter. Includes rubber grommets for counter protection. Equipped with dowel holders and knife arms which lock in open position for easy roll changing. Holds up to 9" diameter paper. Office gray powder coat finish. Shipped unassembled, and flat. Pull legs apart to complete assembly. Bulman brand.

| Width (In.) | Bulman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 24 | A500-24 | 5A128 | $42.96 | $34.40 | 4.0 |
| 36 | A500-36 | 5A129 | 53.98 | 43.20 | 5.8 |

### [B] JUMBO ROLL PAPER CUTTER

Heavy-duty cutter cuts cleanly. Uses gravity cutting blade mounted on extendable arms for safe, easy loading. Holds up to 18" diameter and up to 36" wide rolls of kraft paper. Rugged, 11-gauge steel construction for strength and durability. Gray powder coat finish. Cutter shipped unassembled. Must be permanently mounted to surface. Counter mount only. (Mounting hardware not included.) Bulman brand (A45-36).

**No. 5A130.** Shpg. wt. 25.0 lbs. List $233.33. Each.....**$194.75**

### [C] 40-LB. KRAFT WRAPPING PAPER

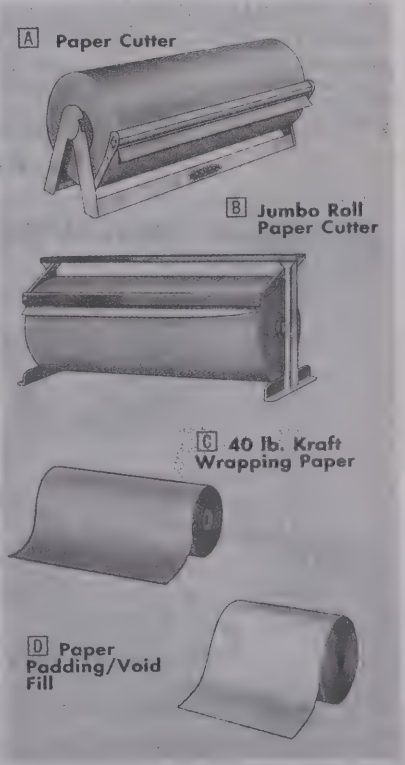
High quality virgin kraft paper for wrapping packages for shipment. 9" dia. roll approximately 1,225 ft. long. Also used for floor and wall protection by painters and contractors; eliminates bulky tarps and drop cloths. Recyclable. Tan color. >

| Width (In.) | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|
| 24 | 4X874 | $47.77 | $39.85 | $37.86 | 31.0 |
| 36 | 5W582 | 86.00 | 71.75 | 68.16 | 49.0 |

### [D] PAPER PADDING/VOID FILL

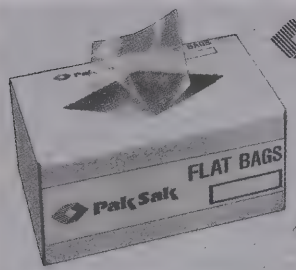
Bogus kraft padding paper for packing fragile items. 15" dia. roll, 24"W, approximately 1,175 ft. long may be placed near packing bench. Padding tears off easily, provides excellent cushioning to protect parts, instruments, glass, and similar fragile items. Made from recycled material and is recyclable. Light tan color.

**No. 4X875.** Shpg. wt. 60.0 lbs. List $57.31. Each $47.80; Lots 5.....**$45.41**



# POLYETHYLENE BAGS AND IMPULSE SEALERS

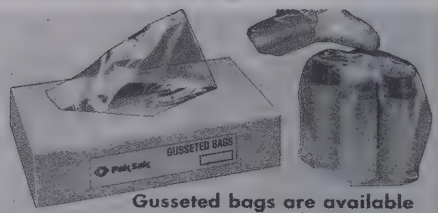
## POLYETHYLENE BAGS




Flat bags are available in 11 different sizes, in dispenser boxes of 500 or 1000 bags




No. 5A528 flat bag assortment contains 500 bags, in 5 different sizes




Gusseted bags are available in 2 sizes, in dispenser boxes of 500 or 1000 bags




No. 6A225 Paper Twist Ties

Clear 2 mil. (0.002 in.) bags are made from virgin resin. Clean and clear for visual inspection, and stronger than many paper products. Bags are tough, reusable, and will seal out dust and moisture. Available in small quantities. Bags come in dispenser boxes of 500 or 1000 bags. Eliminates ordering more bags than necessary. Pak Sak brand.

Flat polyethylene bags, having full-width top opening, are easy to fill. To seal, use twist ties, staples, tape, or heat sealers.

Gusseted bags have accordion folds on both sides to accommodate bulky items. Features are otherwise identical to flat polyethylene bags above.

**No. 5A528.** FLAT POLYETHYLENE BAG ASSORTMENT. Contains 100 each: 3 x 5", 4 x 6", 5 x 7", 6 x 10", and 10 x 12" bags. Shpg. wt. 3.8 lbs. List $61.23. Each.....$57.05

**No. 6A225.** PAPER TWIST TIES. Economical, convenient, fast and easy way to seal polyethylene bags. Reusable.1/4W x 6"L. 2000 ties per box. Shpg. wt. 1.7 lbs. List $5.89. Each .....$4.81▲

| Bag Size (In.) | Qty./Pkg. | Stock No. ❸ | List | Each | Lots 4 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **FLAT POLYETHYLENE BAGS** | | | | | | | |
| 2 x 4 | 1000 | 5A381 | $11.60 | $10.58 | $10.05 | $9.52 | 1.1 |
| 3 x 5 | 1000 | 5A382 | 14.52 | 13.20 | 12.54 | 11.88 | 2.1 |
| 4 x 6 | 1000 | 5A383 | 16.90 | 15.33 | 14.56 | 13.80 | 3.4 |
| 5 x 7 | 1000 | 5A384 | 19.40 | 17.59 | 16.71 | 15.83 | 5.0 |
| 6 x 8 | 1000 | 5A385 | 23.21 | 21.01 | 19.96 | 18.91 | 6.4 |
| 8 x 10 | 1000 | 5A386 | 34.81 | 31.45 | 29.88 | 28.31 | 11.0 |
| 9 x 12 | 1000 | 5A387 | 43.20 | 39.05 | 37.10 | 35.15 | 15.0 |
| 10 x 14 | 1000 | 5A388 | 57.89 | 52.20 | 49.59 | 46.98 | 19.0 |
| 12 x 15 | 500 | 5A389 | 35.76 | 32.35 | 30.73 | 29.12 | 12.0 |
| 12 x 18 | 500 | 5A390 | 43.50 | 39.30 | 37.34 | 35.37 | 14.0 |
| 15 x 20 | 500 | 5A391 | 56.70 | 50.35 | 47.83 | 45.32 | 20.0 |
| **GUSSETED POLYETHYLENE BAGS** | | | | | | | |
| 6 x 3 x 15 | 1000 | 5A393 | 57.89 | 52.45 | 49.83 | 47.21 | 19.0 |
| 8 x 4 x 18 | 500 | 5A394 | 44.68 | 39.95 | 37.95 | 35.96 | 15.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## POLYBAG IMPULSE SEALERS




- **Rugged construction and solid-state timer for dependable service**
- **Long life element without "hot" spots or "cold" spots**
- **Consistent 1/16" wide (5/64" on No. 4LT32) seals on all gusseted and flat polybags**
- **No warm-up required, sealer only draws power when sealing**
- **Ideal anywhere a secure, airtight, waterproof seal is needed**
- **Seal time can be adjusted from 0.2-1.3 seconds (0.2-3 seconds on No. 4LT32) for different thickness bags**
- **Nos. 4LT36 and 4LT28 come with spare heating element and upper fabric cover. No. 4LT32 comes with two spare heating elements**

Maintenance kits of consumable items are also available and include: for Nos. 4LT36 (Kit # 488-9697) and 4LT28 )Kit #485-7785), two heating elements and two fabric upper covers. For No. 4LT32 (Kit # 488-9747), kit consists of two heating elements and an 18" wide x 9¼" roll of Teflon Fabric. Kits and all other parts are available by calling toll-free 1-800-323-0620. Midwest Pacific brand.

**Nos. 4LT36 and 4LT28 Light to Medium-Duty Hand Operated Sealers.** No. 4LT36 will seal up to an 8" width bag. No. 4LT28 has 12" sealing capacity. Both are hand operated, tabletop, and are UL listed. (MP8 and MP12)

**No. 4LT32 Medium to Heavy-Duty Foot Operated, Jaw Type Sealer.** Seals bags up to 18" wide and leaves both hands free to pack and insert larger bags. (MP18F).

| Description | Sealing Capacity (In.) | Watts | MP Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Hand Operated, Tabletop | 8 | 260 | MP8 | 4LT36 | $146.94 | $98.00 | 5.5 |
| Hand Operated, Tabletop | 12 | 380 | MP12 | 4LT28 | 178.08 | 128.00 | 9.0 |
| Foot Activated, Jaw Type | 18 | 600 | MP18F | 4LT32 | 533.40 | 390.00 | 48.0 |

(▲) Net prices, not subject to discounts.

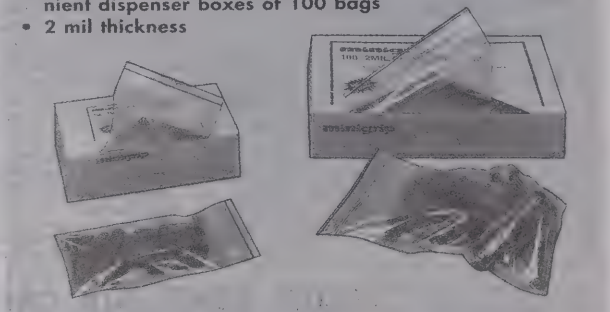
# MINIGRIP RECLOSABLE POLYETHYLENE BAGS

**Available With and Without Write-On Identification Strip**

**Minigrip Bags** have "zippered" opening for easy sealing, opening, and resealing. Just press closure together and run finger along zipper to close. Reclosable, reusable bags are manufactured with wide easy-close profile. Come in dispenser boxes of 100 bags. Millhiser brand.

**Minigrip White Block Bags** have a large white write-on block for description, quantity, pricing, or other information. Use felt tip pen and write directly on label. Bags are otherwise identical to regular Minigrip bags. Come in dispenser boxes of 100 bags. Millhiser brand.

- Regular bags come in five sizes
- White block identification bags come in three sizes
- Both types are packaged in convenient dispenser boxes of 100 bags
- 2 mil thickness

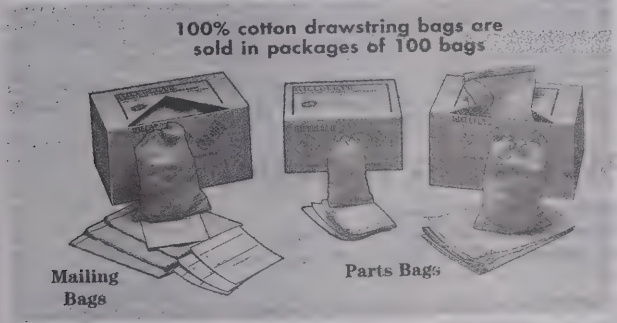


| Bag Size (In.) | Stock No. ❸ | List | Each | Lots 10 | Lots 50 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **MINIGRIP BAGS** | | | | | | |
| 3 x 4 | 5A520 | $4.84 | $4.23 | $4.02 | $3.81 | 0.3 |
| 3 x 5 | 5A521 | 4.89 | 4.55 | 4.33 | 4.10 | 0.4 |
| 4 x 6 | 5A522 | 6.03 | 5.37 | 5.10 | 4.83 | 0.5 |
| 6 x 9 | 5A523 | 8.85 | 8.01 | 7.61 | 7.21 | 1.1 |
| 9 x 12 | 5A524 | 13.17 | 11.98 | 11.38 | 10.78 | 1.9 |
| **MINIGRIP WHITE BLOCK BAGS** | | | | | | |
| 3 x 5 | 5A525 | 5.77 | 5.15 | 4.89 | 4.63 | 0.4 |
| 4 x 6 | 5A526 | 6.89 | 6.31 | 5.99 | 5.67 | 0.5 |
| 6 x 9 | 5A527 | 11.29 | 9.74 | 9.25 | 8.77 | 1.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# CLOTH PARTS BAGS AND MAILING BAGS

**100% cotton drawstring bags are sold in packages of 100 bags**



Mailing Bags

Parts Bags

**100% Cotton Drawstring Parts Bags** are more flexible than paper bags, conform to the shape of their contents, and require no glue, staples, or tape to close. Use for storing and separating small parts such as screws, nuts, and washers. Drawstring not only closes bag, but also provides a means of attaching enclosed parts to a larger member of an assembly. Come in dispenser packages of 100 bags. Millhiser brand.

**100% Cotton Drawstring Mailing Bags** have a white cardboard mailing tag overstitched to the bottom of bag. Tags are ruled for name and address, typed or handwritten, and have room for postage. Tags can also be used for content identification and other pertinent information. Drawstring closes bag and provides means of attaching bag to larger pieces of an assembly. Come in dispenser packages of 100 bags. Millhiser brand.

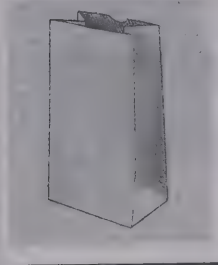
## CLOTH PARTS BAG ORDERING DATA

| Size (In.) | Stock No. | List | Each | Lots 5 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | 5A509 | $15.22 | $14.24 | $13.53 | $12.81 | 0.7 |
| 4 x 6 | 5A510 | 17.65 | 16.27 | 15.46 | 14.64 | 0.9 |
| 5 x 8 | 5A511 | 25.23 | 23.26 | 22.10 | 20.94 | 1.2 |
| 6 x 10 | 5A512 | 38.53 | 36.30 | 34.49 | 32.67 | 1.7 |
| 8 x 10 | 5A513 | 41.30 | 38.20 | 36.26 | 34.35 | 2.2 |
| 8 x 12 | 5A514 | 44.21 | 40.90 | 38.86 | 36.81 | 2.6 |

## CLOTH MAILING BAG ORDERING DATA

| Size (In.) | Stock No. | List | Each | Lots 5 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 x 5 | 5A515 | $24.18 | $22.09 | $20.98 | $19.89 | 1.2 |
| 4 x 6 | 5A516 | 27.63 | 25.05 | 23.78 | 22.53 | 1.3 |
| 5 x 8 | 5A517 | 35.14 | 32.85 | 31.18 | 29.54 | 1.7 |
| 6 x 10 | 5A518 | 53.68 | 40.65 | 38.62 | 36.59 | 2.3 |
| 8 x 12 | 5A519 | 57.47 | 53.10 | 50.45 | 47.79 | 3.1 |

# EXTRA HEAVY-DUTY PAPER BAGS



Heavyweight paper bags provide low cost packaging for customer pick-ups. Use for picking orders, packaging, and self-service orders. Recyclable.

## SPECIFICATIONS AND ORDERING DATA

| Size Open (In.) L | W | D | Load Rating (Lbs.) | Stock No. | Bundles of 250 Bags List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 8 | 2 | 4X881 | $10.40 | $8.67 | $8.24 | 3.7 |
| 6 | 3½ | 11 | 6 | 4X882 | 17.29 | 14.41 | 13.69 | 8.8 |
| 7 | 4½ | 14 | 12 | 4X883 | 27.27 | 22.72 | 21.59 | 15.0 |
| 8 | 5 | 18 | 25 | 4X884 | 36.77 | 30.70 | 29.17 | 22.0 |

# LABELING TAGS

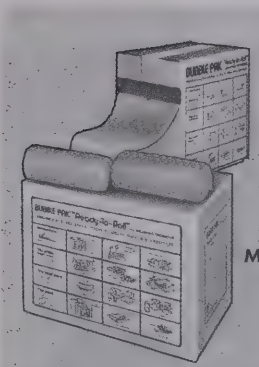


3 x 6" wired tags for attaching shipping label or other identification. Tag is heavy-duty natural kraft paper with wire through reinforced hole. Come in cartons of 1000.

**No. 4X886.** Shpg. wt. 7.8 lbs.
List ..... $46.43.
Each ..... **$38.70**

# BUBBLE AND POLYETHYLENE FOAM PACKAGING MATERIAL

## AIR CAP® BUBBLE PACKAGING MATERIAL



No. 2W670 Lightweight Single Roll

No. 3W368 Mediumweight Double Roll

- **Comes in easy dispensing Ready-to-Roll cartons**
- **Perforated every 12" for easy tearing**

The original air-bubble packaging material. Air bubbles are formed between two layers of transparent polyethylene and nylon cushion and protect fragile items from damage in handling and shipping. Saves time, labor, and packaging costs. Lightweight, clean and easy to use. Dispenses quickly from self-dispensing Ready-to-Roll carton. Two densities available, each comes in 12" wide rolls cross perforated every 12" for easier tearing. Air Cap brand by Sealed Air Corp.

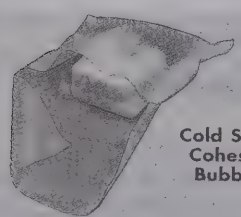
**No. 2W670—Lightweight Cushioning/Intimate Wrap:** ideal for small parts, electronic components, timers, controls, gauges, meters. One roll 12" wide x 175 ft. long.

**No. 3W368—Mediumweight Cushioning/Void Fill:** recommended for mid-sized items, calculators, test equipment, motors, pumps, carton lining, and filling empty areas in cartons. Two rolls 12" wide x 85 ft. long per Ready-to-Roll carton.

| Material Description | Bubble Height (In.) | Carton Size (In.) L | W | H | Air Cap Model | Stock No. ❸ | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lightweight | 3/16 | 19¼ | 12⅛ | 19½ | SC-120 | 2W670 | $52.51 | $43.80 | $41.61 | 5.0 |
| Mediumweight | 5/16 | 25 | 18 | 18 | ST-120 | 3W368 | 63.00 | 52.50 | 49.88 | 6.0 |

❸ These products are covered by OSHA Hazard Communication Standard and Material Safety Data Sheets (MSDS) are available. See page opposite back cover.

## COLD SEAL® AIR CAP® COHESIVE BUBBLES



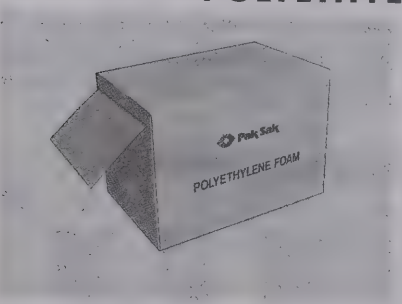
Cold Seal® Cohesive Bubbles

- **Provides airtight, long lasting, tamper evident seal**
- **Easily dispenses from Ready-to-Roll carton**

Bonds instantly to itself and not to the packaged product. Barrier sealed bubbles prevent air loss in the bubbles, giving reliable, long lasting product protection. Forms air tight pouch resisting water, dirt, grease, and abrasion. Tamper evident, once opened, it cannot be resealed. Labor-saving, no waste or extra sealing materials needed. Self-dispensing Ready-to-Roll carton allows quick application. 12" wide x 175 ft. long roll perforated every 12" for easy tearing. Packaged products should not be exposed to direct sunlight for extended period of time. Cold Seal brand by Sealed Air Corp.

**No. 5W581.** Cohesive Bubbles. Shpg. wt. 5.0 lbs. List $73.40. Each ..... **$61.20**

## POLYETHYLENE FOAM PACKAGING MATERIAL



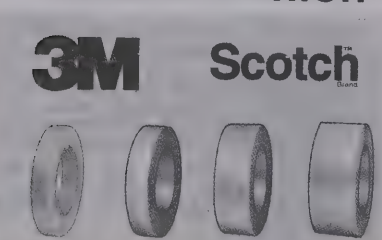

- **Gives product protection without bulkiness**
- **Applications include interleaving and light cushioning**
- **Ready-to-Roll carton dispenser allows quick and easy use**
- **1/8" thick foam**

A low cost, lightweight, all purpose packaging material. For use in a variety of applications including surface protection, interleaving, and light cushioning. Nonabrasive, waterproof, flexible, and an efficient alternative to corrugated inserts, polypropylene foam, kraft paper, or bogus paper.

Polyethylene foam material is clean, non-dusting, and enhances appearance of the product. Comes in self-dispensing Ready-to-Roll carton for quick and easy use. 1/8" grade foam is perforated every 12" for ease in tearing off from dispensing carton. Carton dimensions are 12L x 48W x 40"H. Roll is 12" wide x 175 ft. long. Pak Sak brand.

**No. 6A226.** Polyethylene Foam Packaging Material. Shpg. wt. 5.0 lbs. List ..... $46.95. Each ..... **$33.90**

## HIGH PERFORMANCE MASKING TAPE

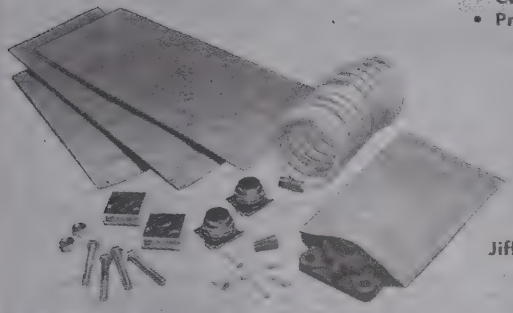



A tough and extremely smooth high performance crepe paper tape. Excellent for paint masking as well as general purpose holding, bundling, protecting and miscellaneous industrial applications. Tape will generally function during bake cycles of up to 200°F for periods up to 1 hour; should not be subjected to outdoor exposure. Can be qualified to meet Fed. Spec. PPP-T-42C Type 1 and MIL-T-21595D Type 1. Available in 60 yard rolls. Natural color. Scotch brand (232).

| Tape Size Width (In.) | Length (Yds.) | Stock No. | List | Each | Case Lot, Each | Rolls per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/4 | 60 | 2A674 | $5.79 | $4.93 | $3.45 | 48 | 0.4 |
| 1 | 60 | 2A675 | 8.18 | 6.55 | 4.59 | 36 | 0.4 |
| 1½ | 60 | 2A676 | 11.58 | 9.85 | 6.90 | 24 | 0.6 |
| 2 | 60 | 2A677 | 15.56 | 13.24 | 9.27 | 24 | 0.8 |
| 2 | 120 | 3KT40 | 23.09 | 19.61 | 14.71 | 6 | 1.3 |

# MAILING ENVELOPES

- Cushioned protection
- Product security



Jiffy® Padded Mailers

Jiffylite® Bubble Mailers



## JIFFY® PADDED MAILERS

Rugged, all purpose product protection. Double folds protect corners. Consistent cushioning is created by interior fibers that expand as the package is handled. Double glued bottom flap and seamless side construction provide extra product security. Can be taped or stapled closed. Made with 60% recycled material and are recyclable. Come in package of 25. Jiffy brand.

## JIFFYLITE® BUBBLE CUSHIONED MAILERS

Cushioned protection. Nylon barrier bubble lining and fully laminated outside surface provides stiffness, puncture resistance, and durability. Light weight lowers postage costs. Heat sealable closure reduces labor costs and creates a water-resistant, tamper-evident package. Come in package of 25. Jiffylite brand.

### JIFFY® PADDED MAILERS

| Size (In.) W | L | Industry Model No. | Stock No. | Package of 25 List | Package of 25 Each | Lots 4 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **4** | 8 | 000 | **5A360** | $6.00 | **$5.00** | **$4.75** | **$4.50** | 1.5 |
| **5** | 10 | 00 | **5A361** | 6.59 | **5.49** | **5.22** | **4.94** | 2.5 |
| **6** | 10 | 0 | **5A362** | 8.08 | **6.73** | **6.39** | **6.06** | 2.3 |
| **7¼** | 12 | 1 | **5A363** | 9.74 | **8.12** | **7.71** | **7.31** | 3.8 |
| **8½** | 12 | 2 | **5A364** | 10.96 | **9.13** | **8.67** | **8.22** | 4.3 |
| **8½** | 14½ | 3 | **5A365** | 12.89 | **10.74** | **10.20** | **9.67** | 3.8 |
| **9½** | 14½ | 4 | **5A366** | 13.66 | **11.38** | **10.81** | **10.24** | 6.9 |
| **10½** | 16 | 5 | **5A367** | 17.33 | **14.44** | **13.72** | **13.00** | 6.7 |
| **12½** | 19 | 6 | **5A368** | 23.45 | **19.54** | **18.56** | **17.59** | 10.0 |
| **14½** | 20 | 7 | **5A369** | 27.55 | **22.96** | **21.81** | **20.66** | 14.0 |

### JIFFYLITE® BUBBLE MAILERS

| Size (In.) W | L | Industry Model No. | Stock No. | Package of 25 List | Package of 25 Each | Lots 4 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **4** | 8 | 000 | **5A370** | $6.58 | **$5.48** | **$5.21** | **$4.93** | 0.5 |
| **5** | 10 | 00 | **5A371** | 7.49 | **6.24** | **5.93** | **5.62** | 0.8 |
| **6** | 10 | 0 | **5A372** | 8.46 | **7.05** | **6.70** | **6.35** | 0.9 |
| **7¼** | 12 | 1 | **5A373** | 10.40 | **8.67** | **8.24** | **7.80** | 1.3 |
| **8½** | 12 | 2 | **5A374** | 11.82 | **9.85** | **9.36** | **8.87** | 1.5 |
| **8½** | 14½ | 3 | **5A375** | 13.69 | **11.41** | **10.84** | **10.27** | 1.7 |
| **9½** | 14½ | 4 | **5A376** | 14.69 | **12.24** | **11.63** | **11.02** | 2.0 |
| **10½** | 16 | 5 | **5A377** | 18.05 | **15.04** | **14.29** | **13.54** | 2.7 |
| **12½** | 19 | 6 | **5A378** | 25.24 | **21.03** | **19.98** | **18.93** | 3.3 |
| **14½** | 20 | 7 | **5A379** | 29.92 | **24.93** | **23.68** | **22.44** | 3.1 |

# ELECTRIC STAPLERS AND STAPLES

Staplex®



No. 6A227 Little Giant Automatic Electric Stapler

No. 6A228 Thick Wire Automatic Electric Stapler

## LITTLE GIANT AUTOMATIC ELECTRIC STAPLER

Staples automatically when work is inserted. Staples 2 to 20 sheets of 20 lb. paper or equivalent. Recommended for stapling paper, cardboard, reports, header cards, packages, or cloth. Stapler has fully adjustable depth to 3" (7.6 cm) and quick front loading that holds a full track of standard size 1/4" staples, No. 6A229 Staplex Type DS. Power-packed to do full day workloads. Heavy-duty design features rugged cast duraluminum housing. Movable contact assembly and direct-drive solenoid mechanism assure a neat, uniform, tight clinch. Completely portable. 4" wide x 7½" deep x 7" high. 110-125V, 50-60 Hz. Staplex brand (SJM-1).

**No. 6A227.** Little Giant Stapler. Shpg. wt. 9.8 lbs. List $219.50. Each.....**$197.50**

**High Speed Staples.** 1/4" leg staples. Uniformly manufactured from high carbon steel and properly glued for top performance in electric staplers. Prevents jamming. Packed 5000 per box. Staplex brand (DS).

**No. 6A229.** High Speed Staples. Shpg. wt. 0.4 lbs. List $3.75. Each.....**$2.23**

## THICK WIRE AUTOMATIC ELECTRIC STAPLER

Automatically staples padded shipping bags, corrugated mailing envelopes, and bubble packs. Powerful direct-drive solenoid system and thick wire long leg staples assure a positive and tight clinch. Packages stay closed during tough handling, preventing loss and pilferage. Great for heavy chipboard, kraft stock, "clamshell" blister packages. Adjustable contact assembly allows depth to 4¼"; assures neat, uniform stapling. Reduces packaging and shipping costs considerably; eliminates fatigued hands. 110-125V, 50-60 Hz. Staplex brand (S-RD).

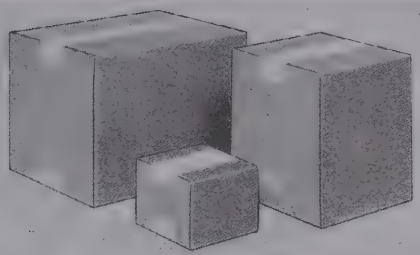
**No. 6A228.** Thick Wire Stapler. Shpg. wt. 12.0 lbs. List $367.90. Each.....**$349.50**

**Thick Wire Staples.** Thick gauge and extra long leg wire staples hold firmly in material. Packed 5000 per box. Staplex brand (RLD).

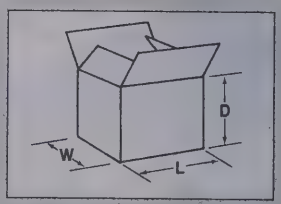
**No. 6A230** Thick Wire Staples. Shpg. wt. 0.8 lbs. List $8.40. Each.....**$8.29**

# STOCK AND SHIPPING CARTONS

## STOCK AND SHIPPING CARTONS



ACORN
CORRUGATED BOX COMPANY



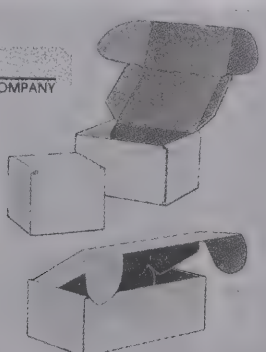

**200-pound test corrugated stock cartons** are widely used by manufacturers, wholesalers, retail stores, parts departments, and mail order houses to ship and store products. Meet Federal specifications for domestic shipments and are approved for express, rail and truck carriers. All set-up cartons meet Parcel Post and UPS shipping requirements.

21 sizes available for normal shipping and stock needs. Maximum weight of box and contents permitted is 65 lbs. Completely recyclable and made using a minimum of 30% recycled materials. Brown kraft surface. Shipped flat in bundle quantities. Easy to assemble and seal using reinforced or plain gummed tape. Quality Container brand.

| Inside Dimensions (In.) L | W | D | Cubic Inches Per Box | Stock No. | List | Priced Each. Sold in Bundle Quantities Only Each | Lots 250 | Lots 500 | Bundle Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 6 | 4 | 144 | **1W987** | $0.73 | **$0.49** | **$0.47** | **$0.44** | 25 | 0.2 |
| **6** | 6 | 6 | 216 | **5W701** | 0.79 | **0.53** | **0.50** | **0.48** | 25 | 0.3 |
| **8** | 6 | 6 | 288 | **1W988** | 0.85 | **0.57** | **0.54** | **0.51** | 25 | 0.3 |
| **8** | 8 | 4 | 256 | **5W702** | 0.82 | **0.60** | **0.57** | **0.54** | 25 | 0.4 |
| **8** | 8 | 6 | 384 | **5W703** | 0.87 | **0.63** | **0.60** | **0.57** | 25 | 0.5 |
| **8** | 8 | 8 | 512 | **2W432** | 0.98 | **0.66** | **0.63** | **0.59** | 25 | 0.5 |
| **10** | 8 | 6 | 480 | **1W989** | 0.92 | **0.62** | **0.59** | **0.56** | 25 | 0.5 |
| **10** | 10 | 10 | 1000 | **2W433** | 1.34 | **0.90** | **0.86** | **0.81** | 25 | 0.7 |
| **12** | 8 | 6 | 576 | **5W704** | 1.08 | **0.72** | **0.68** | **0.65** | 25 | 0.6 |
| **12** | 10 | 8 | 960 | **1W990** | 1.36 | **0.91** | **0.86** | **0.82** | 25 | 0.7 |
| **12** | 12 | 12 | 1728 | **2W434** | 1.91 | **1.28** | **1.22** | **1.15** | 25 | 1.0 |
| **14** | 10 | 10 | 1400 | **1W991** | 1.58 | **1.06** | **1.01** | **0.95** | 25 | 0.9 |
| **14** | 14 | 14 | 2744 | **3W205** | 2.47 | **1.65** | **1.57** | **1.49** | 25 | 1.5 |
| **16** | 12 | 10 | 1920 | **1W992** | 2.04 | **1.36** | **1.29** | **1.22** | 25 | 1.1 |
| **16** | 16 | 16 | 4096 | **3W206** | 3.21 | **2.15** | **2.04** | **1.94** | 20 | 1.9 |
| **18** | 14 | 12 | 3024 | **4W090** | 2.70 | **1.80** | **1.71** | **1.62** | 25 | 1.6 |
| **18** | 18 | 18 | 5832 | **3W207** | 3.98 | **2.66** | **2.53** | **2.39** | 10 | 2.4 |
| **20** | 14 | 12 | 3360 | **4W091** | 2.92 | **2.05** | **1.95** | **1.85** | 20 | 1.7 |
| **20** | 20 | 20 | 8000 | **4W092** | 4.92 | **3.49** | **3.32** | **3.14** | 10 | 2.8 |
| **24** | 16 | 12 | 4608 | **4W093** | 3.58 | **2.60** | **2.47** | **2.34** | 10 | 2.0 |
| **24** | 24 | 24 | 13,824 | **4W094** | 5.97 | **4.10** | **3.90** | **3.69** | 10 | 4.2 |

## DOUBLE-LOCK MAILERS

ACORN
CORRUGATED BOX COMPANY



**200-pound test corrugated fiberboard mailers** have double-lock design for protection and safety. Triple strength sides and double strength front provide rigidity and resistance to crushing. Widely used for shipping industrial, automotive and electrical parts and a wide range of small accessories.

All mailers are completely recyclable and are made using a minimum of 30% recycled materials. Oyster white finish provides clean contrast for reading labels or stencil identification. Shipped flat. Assemble and seal using gummed tape. Quality Container brand.

| Inside Dimensions (In.) L | W | D | Cubic Inches Per Box | Stock No. | List | Priced Each. Sold in Bundle Quantities of 25 Only Each | Lots 100 | Lots 200 | Lots 500 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3** | 3 | 2 | 18 | **5W705** | $0.62 | **$0.52** | **$0.50** | **$0.47** | **$0.44** | 0.1 |
| **4** | 3 | 2 | 24 | **5W706** | 0.66 | **0.55** | **0.53** | **0.49** | **0.47** | 0.2 |
| **4** | 4 | 4 | 64 | **5W227** | 0.69 | **0.58** | **0.56** | **0.52** | **0.50** | 0.3 |
| **5** | 3 | 2 | 30 | **5W707** | 0.75 | **0.63** | **0.60** | **0.57** | **0.54** | 0.2 |
| **6** | 4 | 2 | 48 | **5W708** | 0.82 | **0.69** | **0.66** | **0.62** | **0.59** | 0.2 |
| **6** | 4 | 3 | 72 | **5W709** | 0.92 | **0.77** | **0.73** | **0.70** | **0.65** | 0.2 |
| **6** | 6 | 4 | 144 | **5W228** | 0.97 | **0.81** | **0.78** | **0.73** | **0.70** | 0.5 |
| **10** | 6 | 4 | 240 | **5W229** | 1.18 | **0.99** | **0.94** | **0.89** | **0.84** | 0.6 |

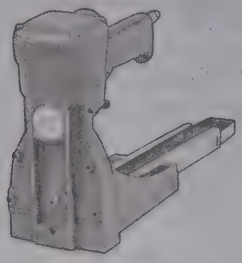
**IF YOU'RE IN A BIND, CALL GRAINGER**

**If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

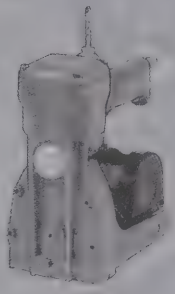
# AIR AND MANUAL STAPLERS AND STAPLES



No. 6Z161
1¼" Hand Clincher



No. 6Z163
1¼" Air Clincher



No. 6Z165
1¼" Roll Air Clincher

- **Staple penetration is controlled easily with minor manual adjustments. Provides either full or blind depth penetration and either loose or tight clinch**
- **Readily removable magazine permits easy clearance without use of tools**
- **Efficient design of units ensures minimum air consumption**

Reliability, versatility and economy describe this line of pneumatic and manual packaging staplers. The Roll Air Clincher, with its staple capacity ten times that of ordinary staplers, is preferred by packaging professionals in high volume packaging applications. The Air Clincher is a practical choice because of its reduced size and weight; the Hand Clincher is a dependable, no-maintenance stapler. Carton Closing Corp. brand.

**Hand Clinchers** are manual staplers capable of closing thousands of cartons without maintenance. The new two-handle design permits a more accurate positioning of stapler on carton surface and minimizes the effort required to clinch staple. 1¼" stapler No. 6Z161 uses "C" staples; 1⅜" stapler No. 6Z162 uses "A" staples.

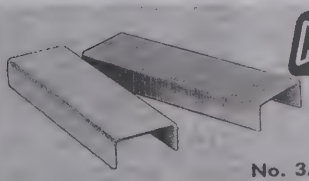
**Air Clincher** is the workhorse of the packaging industry. Its pneumatic system speeds carton closing operations. Air pressure: 80 PSI; air consumption: 0.08 cu ft. 1¼" stapler No. 6Z163 uses "C" (1¼" crown) staples; 1⅜" stapler No. 6Z164 uses "A" (1⅜" crown) staples.

**Roll Air Clincher** is a high production roll stapler with a capacity of 1000 staples. Performs up to 250 carton closings without needing to be reloaded yet, is the lightest roll stapler on the market. Air pressure: 80 PSI; air consumption: 0.08 cu. ft.

## STAPLER SPECIFICATIONS AND ORDERING DATA

| Type | Staple Capacity | Dimensions (In.) H | W | L | Carton Closing Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1¼" Hand Clincher** | 150"C" | 11¾ | 3⅞ | 19½ | HC150C-5/8 | **6Z161** | $224.19 | **$189.00** | 5.5 |
| **1⅜" Hand Clincher** | 100"A" | 11¾ | 3⅞ | 19½ | HC100A-5/8 | **6Z162** | 224.18 | **189.00** | 7.0 |
| **1¼" Air Clincher** | 150"C" | 8¼ | 3⅞ | 16 | AC150C-5/8 | **6Z163** | 413.23 | **360.25** | 8.5 |
| **1⅜" Air Clincher** | 100"A" | 8¼ | 3⅞ | 16 | AC100A-5/8 | **6Z164** | 413.23 | **360.25** | 8.5 |
| **1¼" Roll Air Clincher** | 1000 | 8¼ | 3⅞ | 8¼ | RC1000-5/8 | **6Z165** | 470.18 | **405.25** | 6.2 |

# REPLACEMENT STAPLES



No. 3A528
Type "C" Staples



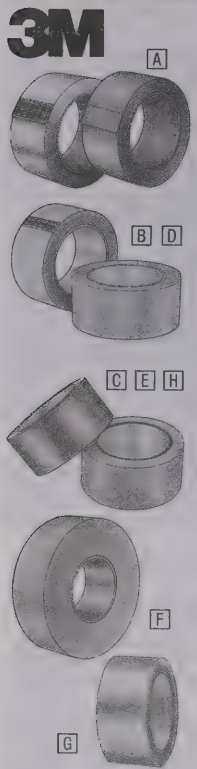
No. 3A530
Roll Staples

"C" staples have a crown width of 1¼" and wire size of 0.035 x 0.076"; "A" staples have a crown width of 1⅜" and wire size of 0.035 x 0.090". Both come in 5/8" leg lengths, and are interchangeable with other brand staples such as International Staple and Machine, Container Corp and Salco. "A" and "C" staples come in sticks of 50. Roll staples have a crown width of 1¼" and wire size of 0.035 x 0.076". They are 5/8" long and come 1000 per roll.

## REPLACEMENT STAPLE SPECIFICATIONS AND ORDERING DATA

| Type | Crown Width (In.) | Crown Depth (In.) | Carton Closing Model | Qty. per Carton | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **"C"** | 1¼ | 5/8 | 6029097C-5/8 | 25,000 | **3A528** | $75.95 | **$67.95** | 40.0 |
| **"A"** | 1⅜ | 5/8 | 6029098Husky-5/8 | 25,000 | **3A529** | 77.56 | **73.25** | 51.0 |
| **Roll** | 1¼ | 5/8 | 6019099RRI-5/8 | 21,000 | **3A530** | 84.02 | **81.40** | 39.0 |

# 3M PACKAGING TAPE




## A SCOTCH™ BRAND HIGH PERFORMANCE BOX SEALING TAPE

A packaging tape featuring high performance "Scotchpro" film backing and adhesive system highly resistant to edge tear and end splitting. Meets U.S. Postal Regulations.

## B SCOTCH™ BRAND SUPERIOR PERFORMANCE BOX SEALING TAPE

Strong "Scotchpro" film backing and adhesive has high holding power providing excellent adhesion to many types of surfaces. Excellent resistance to edge tear and splitting from impact shock. Backing also provides excellent water chemical and abrasion resistance as well as good thermal properties. For single strip closure of regular slotted containers. Can also be used for single strip closure of treated box surfaces. Appendix of Fed. Spec. PPP-B-636J covers use of No. 355 under Method I for single strip closure. Applicable Fed. Spec. MIL-T-43036B. Amend 2 Type II (transparent only). Meet Commercial Item Description.

## C SCOTCH™ BRAND HIGH PERFORMANCE BOX SEALING TAPE

A general purpose packaging tape developed primarily for single strip closure of regular slotted containers. Features a strong, yet conformable "Scotchpro" film backing which provides resistance to edge tear and splitting often caused by shock from impact. Adhesive sticks at a touch. Applicable Fed. Spec. PPP-T-70A with waiver for length and CID A-A-1684A.

## D SCOTCH™ BRAND HIGH PERFORMANCE COLD TEMPERATURE BOX SEALING TAPE

Strong "Scotchpro" film packaging tape with backing and adhesive system especially suited for use in cooler areas as in the food processing industry. Once applied, it adheres very well to boxboard surfaces subject to temperatures below 0°F. Used primarily to seal regular slotted containers. Abrasion, tear, moisture, and chemical resistant. Chemically acceptable by the USDA for use on packaging materials in minimal contact with meat or poultry food products prepared under federal inspection.

## E SCOTCH™ BRAND HIGH PERFORMANCE PRINTED BOX SEALING TAPE

3M manufactured Scotchpro™ biaxially oriented polypropylene backing. Pressure-sensitive hot melt rubber resin. Tan with red printed message, "Fragile Handle With Care". Heavy-duty, conformable backing with high resistance to edge tear and splitting. Adheres instantly to a wide variety of surfaces. Complies with the environmental considerations of ASTM D1974-92.

## F SCOTCH™ BRAND PREMIUM INDUSTRIAL GRADE PAPER BOX SEALING TAPE

Tough backing remains strong under moist conditions. Good cross directional tensile makes it suitable as a splicing tape. Meets Federal Specifications and Commercial Item Description.

## G HIGHLAND™ BRAND INDUSTRIAL BOX SEALING TAPE

All purpose tape for single strip sealing of regualr slotted containers. Has strong, yet conformable "Scotchpro" transparent film backing. Provides very good resistance to edge tear and splitting.

## H HIGHLAND™ BRAND BOX SEALING TAPE

Pressure sensitive acrylic adhesive with biaxially oriented, conformable polypropylene backing. Resistant to edge tear and splitting. Adheres instantly to a variety of surfaces. Good adhesion to recycled fiberboard. Good aging in sunlight or fluorescent lighting. Provides reliable closures and long aging.

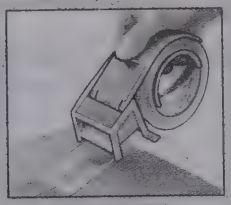
| Key | Width | Color | Length Per Roll | Oz./In. Adhesion | Applications | Tensile Strength Lbs./In. | Mil Thickness | 3M Model | Stock No. | List | Each | Case Lot Each | Rolls Per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 48mm | Transparent | 50m | 55 | Box sealing, splicing, recooperage, and other demanding packaging applications | 35 | 3.1 | 375 | **2A660** | $5.28 | **$4.49** | **$3.37** | 36 | 0.5 |
| | 48 | Tan | 50 | | | | | | **3W653** | 5.05 | **4.24** | **3.18** | 36 | 0.6 |
| | 72 | Transparent | 50 | | | | | | **3W652** | 7.05 | **5.98** | **4.49** | 24 | 0.6 |
| | 72 | Tan | 50 | | | | | | **3W654** | 6.97 | **5.79** | **4.34** | 24 | 0.6 |
| | 48 | Transparent | 914 | | | | | | **5A145** | 76.76 | **65.25** | **48.94** | 24 | 8.2 |
| B | 48 | Transparent | 50 | 55 | Box sealing, recooperage, fiber drum sealing, and other heavy-duty packaging applications | 45 | 3.5 | 355 | **1F188** | 7.83 | **6.65** | **4.99** | 36 | 0.6 |
| | 48 | Tan | 50 | | | | | | **1F189** | 7.83 | **6.65** | **4.99** | 36 | 0.7 |
| C | 48 | Transparent | 50 | 50 | Box sealing, color coding, package enhancements, splicing, and many other packaging applications | 30 | 2.5 | 373 | **3W655** | 3.85 | **3.25** | **2.44** | 36 | 0.4 |
| | 48 | Tan | 50 | | | | | | **3W656** | 3.85 | **3.25** | **2.44** | 36 | 0.4 |
| | 48 | Blue | 50 | | | | | | **1F181** | 3.95 | **3.33** | **2.50** | 36 | 0.4 |
| | 48 | Green | 50 | | | | | | **1F182** | 3.95 | **3.33** | **2.50** | 36 | 0.4 |
| | 48 | Orange | 50 | | | | | | **1F183** | 3.95 | **3.33** | **2.50** | 36 | 0.5 |
| | 48 | Red | 50 | | | | | | **1F184** | 3.95 | **3.33** | **2.50** | 36 | 0.5 |
| | 48 | Yellow | 50 | | | | | | **1F185** | 3.95 | **3.33** | **2.50** | 36 | 0.5 |
| | 48 | White | 50 | | | | | | **1F186** | 3.95 | **3.33** | **2.50** | 36 | 0.5 |
| | 48 | Transparent | 411 | | | | | | **3KT61** | 22.83 | **19.41** | **14.56** | 12 | 1.5 |
| | 72 | Transparent | 50 | | | | | | **1F179** | 5.75 | **4.89** | **3.67** | 24 | 0.5 |
| | 72 | Tan | 50 | | | | | | **1F180** | 5.75 | **4.89** | **3.67** | 24 | 0.3 |
| | 72 | Transparent | 411 | | | | | | **3KT63** | 34.59 | **29.40** | **22.05** | 8 | 5.6 |
| D | 48 | Transparent | 50 | 45 | Cold temperature box sealing (use in cooler areas, 30-40°F), food processing industry | 30 | 3 | 3723 | **1F190** | 4.97 | **4.23** | **3.17** | 36 | 0.5 |
| | 72 | Transparent | 50 | | | | | | **1F191** | 7.50 | **6.38** | **4.79** | 24 | 0.4 |
| E | 48 | Tan with red printed message | 50 | 50 | Box sealing and other packaging applications where communicating message is desirable | 30 | 2.6 | 3734 | **3KT64** | 4.50 | **3.74** | **2.81** | 36 | 0.5 |
| F | 2" | Ivory | 120 yds. | 50 | Fiberboard box sealing | 50 | 7 | 266 | **1F187** | 33.50 | **28.40** | **21.30** | 12 | 2.0 |
| G | 48mm | Transparent | 50m | 40 | Box sealing and miscellaneous closure and holding applications | 22 | 1.9 | 371 | **2A659** | 2.59 | **1.79** | **1.07** | 36 | 0.3 |
| | 72 | Transparent | 50 | | | | | | **3W649** | 2.88 | **1.93** | **1.16** | 24 | 0.5 |
| | 48 | Tan | 50 | | | | | | **3W650** | 2.61 | **1.75** | **1.05** | 36 | 0.3 |
| | 72 | Tan | 50 | | | | | | **3W651** | 2.88 | **1.93** | **1.16** | 24 | 0.5 |
| | 48 | Transparent | 914 | | | | | | **5A144** | 21.00 | **15.95** | **9.57** | 24 | 4.8 |
| H | 48 | Transparent | 50 | 25 | Utility type applications on light to medium weight boxes at temperatures 40-50°F | 40 | 2 | 311 | **3KT47** | 2.01 | **1.71** | **1.03** | 36 | 0.4 |
| | 48 | Transparent | 100 | | | | | | **3KT45** | 3.75 | **3.19** | **1.91** | 36 | 0.7 |
| | 72 | Transparent | 100 | | | | | | **3KT48** | 3.87 | **3.29** | **1.97** | 24 | 0.8 |

SEE FOLLOWING PAGE FOR TAPE DISPENSERS

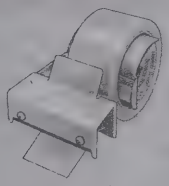
CONTINUED ON NEXT PAGE

# 3M PACKAGING TAPE DISPENSERS

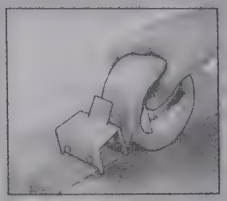




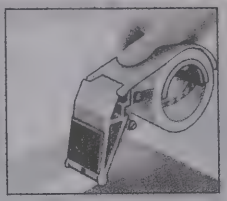
No. 3KT70
Hand-Held Tape Dispenser



No. 3KT67
Hand-Held Tape Dispenser

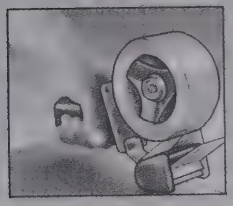


No. 3KT68
Hand-Held Tape Dispenser for Applying "C" Clips of Tape

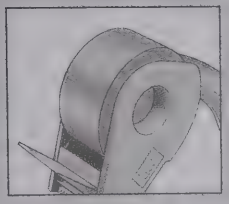


No. 3KT66
Hand-Held Tape Dispenser

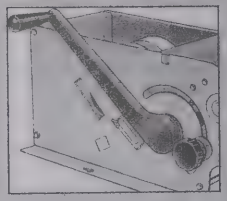
3M



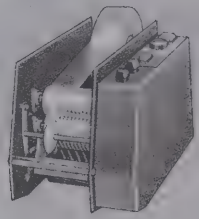
Nos. 2A670 (Shown) and 3W659 Pistol Grip Tape Dispensers



No. 1F193
Ergonomic Pistol Grip Tape Dispenser



No. 1F192
Definite Length Manual Tape Dispenser



No. 3KT72
Definite Length Electric Tape Dispenser

## HAND-HELD BOX SEALING TAPE DISPENSERS

Scotch™ brand hand-held tape dispensers provide a quick, easy method of dispensing box sealing tape directly from the roll. Portable units are ideal for on-the-spot applications.

### No. 3KT70

- Lightweight, compact
- Plastic construction
- Built-in braking device allows tighter, more precise seals
- Accommodates tapes on 3" core

### No. 3KT67

- Lightweight, compact
- Metal construction
- Accommodates tapes on 3" core

### No. 3KT66

- Lightweight, compact
- Steel construction
- Accommodates tapes on 3" core

### No. 3KT68

- Primarily used for applying "C" clips of Scotch brand film tapes to regular slotted containers
- One-hand method to apply, cut, and buff tape clips with 2"min. leg lengths
- Accommodates tapes on 3" core

### Nos. 2A670 & 3W659

- For center seam sealing of regular slotted containers
- Adjustable tape brake allows operator to choose comfortable tape tension and unwind
- Plastic and metal construction
- No. 2A670 dispenses tape up to 2"W (48mm)
- No. 3W659 dispenses tape up to 3"W (72mm)
- Accommodate tapes on 3" core

### No. 1F193

- Ergonomically designed pistol grip
- Features unique pull-apart design
- Lightweight, durable plastic
- Accommodates tapes on 3" core

## DEFINITE LENGTH BOX SEALING TAPE DISPENSERS

### No. 1F192 Manual Dispenser

- Accommodates multiple tape rolls up to 3" (72mm) max. width and up to 9" max. roll diameter on 3" diameter core
- Delivers standard tape lengths from 1½ to 16" max. with one lever stroke
- Longer lengths may be obtained by repeating lever stroke
- 16¾L x 11½W x 10¼"H

### No. 3KT72 Electric Dispenser

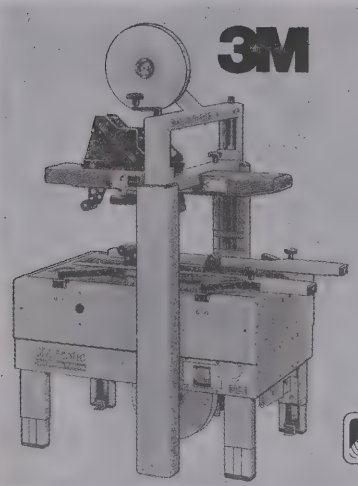
- Dispenses tape widths 1½ to 3" (36mm to 72mm) with up to 9" max. roll diameter
- Tape lengths from 4 to 52" (100 to 1320mm) max. are delivered with touch of a button or automatically after a length of tape is removed
- Random lengths of tape can also be dispensed by pressing another button
- Tape is fed at 57 ft./min.
- Black metal cover protects tape feed rollers

| Description | Accommodates Maximum Tape Widths | Construction | 3M Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Hand-Held | 48mm (2") | Plastic | H-122 | 3KT70 | $33.17 | $28.20 | | 2.4 |
| Hand-Held | 72mm (3") | Metal | H-123 | 3KT67 | 85.75 | 72.90 | | 4.6 |
| Hand-Held | 48mm (2") | Steel | H-128 | 3KT66 | 53.97 | 45.90 | | 4.7 |
| Hand-Held | 48mm (2") | Plastic | H-192 | 3KT68 | 40.47 | 34.40 | | 4.1 |
| Hand-Held Unit for Applying "C" Clips of Tape | | | | | | | | |
| Pistol Grip Design | 48mm (2") | Plastic & Metal | HB903 | 2A670 | 18.75 | 16.90 | | 1.0 |
| Pistol Grip Design | 72mm (3") | Plastic & Metal | H-183 | 3W659 | 36.29 | 30.85 | | 1.5 |
| Ergonomic Pistol Grip Design | 48mm (2") | Plastic | H-190 | 1F193 | 11.28 | 9.59 | | 0.8 |
| Definite Length Manual Unit | 72mm (3") | Metal | M900 | 1F192 | 785.00 | 667.00 | ▲ | 23.0 |
| Definite Length Electric Unit | 72mm (3") | Metal | M910 | 3KT72 | 1550.00 | 1395.00 | ▲ | 28.0 |

(▲) Net prices, not subject to discounts.

# ADJUSTABLE CASE SEALER, BOX SEALING TAPE, TOP SHEETING AND BRACKETS

## 3M-MATIC™ ADJUSTABLE CASE SEALER



- Puts tight, consistent seals on regular slotted containers in one operation
- Seals up to 30 cases per minute
- Handles wide range of box sizes

Uses No. 5A144 Utility Purpose or No. 5A145 High Performance Box Sealing Tape

Replacement Parts Available 1-800-323-0620

**200a Adjustable Case Sealer** features the AccuGlide II™ taping head for more positive tape starting and precise, low force tape application. Floating taping heads adjust smoothly for underpacked or overpacked boxes, ensuring accurate sealing; need no adjustment for tape roll sizes. Top and bottom taping heads are removable for easy cleaning and maintenance. Quick box height/width adjustment allows greater versatility. Built-in blade oiler helps prevent adhesive buildup. Dual masts with twin lead screws provide extra stability and allow for uniform height adjustment.

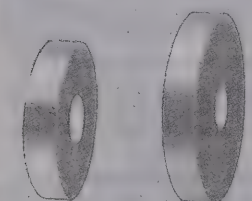
Standard features include compression rollers that position each box for precise tape sealing; upper tape roll bracket attached to the machine for easier tape mounting; friction brake drums to prevent tape overrun and provide more consistent tape application; easy-to-reach outboard tape roll mount for the bottom head; and easy-to-install laced replacement belts. Also included is a hardened tool steel cutting blade and safety blade guard.

Case sealer offers consistent seals on top and bottom of regular slotted containers from 6L x 6W x 4¾"H to unlimited length x 21½W x 24½"H. Seals up to 30 cases per minute. Graduated leg adjustments allow easy adaptation to a variety of conveyor bed heights. Overall dimensions: 36½L x 31W x 53"H. Operates on 115V, 60 Hz, 1.9 amps. 3M-Matic brand (200a).

**No. 5Z131.** Shpg. wt. 322.0 lbs. List $4285.00. Each ....**$4220.00▲**

(▲) Net prices, not subject to discounts.

## BOX SEALING TAPE



No. 5A144 No. 5A145

### HIGHLAND No. 371 UTILITY PURPOSE BOX SEALING TAPE

All purpose tape for single strip sealing of regular slotted containers. Has strong, yet conformable "Scotchpro" transparent film backing. Provides very good resistance to edge tear and splitting. 48mm (1.9") wide. 2 mil thickness.

**No. 5A144.** 914m. long. Shpg. wt. 4.8 lbs. List $21.00. Each.....**$15.95***
Lots 24.....**$9.57***

(*) Priced each. Sold only in case of 6.

### SCOTCH No. 375 HIGH PERFORMANCE BOX SEALING TAPE

Features high performance "Scotchpro" film backing and adhesive system highly resistant to edge tear and end splitting. Meets US Postal Regulations. Other common applications are general sealing, recooperage, and fibre drum sealing. Transparent. 48mm wide. 3.2 mils thick.

**No. 5A145.** 914m. long. Shpg. wt. 4.8 lbs. List $21.00. Each.....**$15.95***
Lots 24.....**$9.57***

## TOP SHEETING

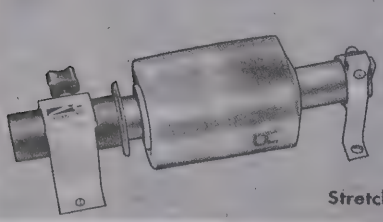
GOODWRAPPERS HANDWRAPPERS®



Lightweight, convenient way to apply pallet top protection. Prevents costly damage to tops of shipments caused by dust, dirt, and debris during shipping or storage. Made of 125-gauge polyethylene film. Each roll contains 75 centerfolded sheets, perforated every 60". Simply pull a sheet off roll, tear at perforation, and unfold to a 60 x 60" sheet. Can be secured to load using stretch film handwrappers. Top sheeting is easily dispensed by mounting to walls, racks, or stretch wrap machines with brackets (sold separately) in listing below. Goodwrappers brand (TS60X75).

**No. 6A223.** Shpg. wt. 13.0 lbs. List $44.60. Each.....**$37.20**

## MOUNTING BRACKETS



GOODWRAPPERS HANDWRAPPERS®

Stretch Film Not Included

For conveniently dispensing Goodwrappers® top sheeting and Identi-Wrap™ stretch film. Brackets mount to walls, racks, or stretch wrap machinery. Eliminate time consuming bottlenecks in warehouses or shipping rooms by putting brackets at various locations. Identi-Wrap can be dispensed with semi-automatic stretch wrap machines by mounting brackets to either stretch wrap machine control tower or to film roll carriage. Set comes with one bracket that has adjustable tension control to adjust back tension and one bracket with a support that holds both top sheeting and Identi-Wrap rolls in place. Mounting instructions included. Goodwrappers brand (TSBR).

**No. 6A224.** . Shpg. wt. 1.0 lbs. List $43.25. Each.....**$38.65**

# MARSH HAND AND ELECTRIC TAPE MACHINES

- **Accurate tape length selection**
- **Sturdy construction**
- **Provide quick, strong seal and neat uniform packages**

### MARSH No. 5-HT HAND TAPER

**For sealing all size cartons.** Easy pull handle delivers exact tape length selected. Scissor-action cutter blades slice tape cleanly. Fast, drop-in tape loading reduces operating costs. Flow-thru nylon bristle brush, water level regulator, and adjustable pressure pad assembly assure uniform moistening of tape for secure bonding.

**Casing is lightweight structural styrene.** Can be used in harsh environments. Choice of tape widths include 1, 1½, 2, 2½, and 3". Tape delivery lengths are 4 to 42" with single pull.

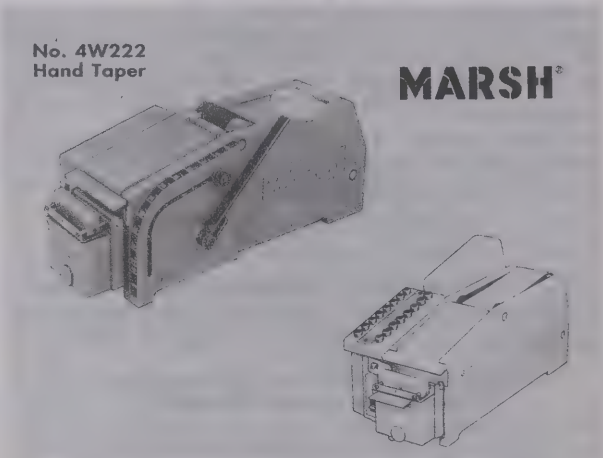
### MARSH No. GPLT13567 ULTRA-TAPER

**Measures, moistens, dispenses, and cuts** gummed tape for sealing cartons of all sizes quickly and reliably. Electrically operated, microprocessor controlled. Offers the fastest closure for various sized cartons. Top touch buttons speed operation, reduce fatigue. Includes slip-on colored caps for frequently used cap lengths. Equipped with a heater for use in cold environments. Low maintenance electronic components give dependable performance under high-use conditions. Easy to service. Tape delivery lengths of 4 to 60".

**Dispenses 35, 60, and 90 lb.** paper and reinforced tapes in widths of 1, 1½, 2, 2½, and 3". 120 volts, 60 Hz.

**No. 4W222.** Hand Taper. Shpg. wt. 23.0 lbs. List $439.38. Each ..**$366.25**

**No. 4JX93.** Ultra Taper. Shpg. wt. 26.0 lbs. List $1149.00. Each...**$982.50**




# WATER-ACTIVATED REINFORCED CARTON SEALING TAPE



- **Tan color**
- **3" wide x 450 ft. roll or 72mm wide x 450 ft. roll**
- **3-way reinforced**
- **Immediate tack**

**Provides great strength while retaining flexibility** to conform to most packaging situations. Three way reinforced tape constructed of hot melt laminate between two layers of high quality kraft paper. Offers immediate tack to packages either over or underpacked and gives security of permanent bonding to cartons, envelopes, mailers.

**Available in 3" wide x 450 ft. rolls** which fit in all standard tape dispensers, and also in more economical 72mm wide x 450 ft. roll which is 3/16" narrower while having the same strength and sealing capabilities. Tan color. Priced per roll. Holland brand.

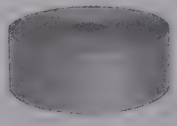
| Tape Size | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|
| 3"W x 450 ft. | 2A239 | $10.26 | $6.84 | $6.50 | 3.9 |
| 72mm W x 450 ft. | 4X877 | 9.16 | 6.11 | 5.80 | 3.3 |

# KRAFT WATER-ACTIVATED GUMMED SEALING TAPE

- **Fits manual and electric tape dispensers**
- **3" wide x 600 ft. roll**

**Kraft paper gummed sealing tape is a nonreinforced tape** for economical carton sealing. This low-cost tape makes it a popular choice for shipping rooms, repackaging and wrapping departments, mail rooms, and wherever sealing tape is needed. Kraft tan color. Holland brand.

**No. 2A238.** Kraft Gummed Sealing Tape. Shpg. wt. 3.8 lbs. List $7.28. Each $4.85; Lots 10 .....**$4.61**



THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.

**It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are as close as a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.**

# PACKAGING AND LABEL PROTECTION TAPE, DISPENSER AND TAPE PADS

### A SCOTCH™ POUCH TAPE ROLL No. 824 & PAD No. 830

Used to attach and protect packing lists, shipping papers and other documents. Imprinted "Documents Enclosed" on top and bottom borders. Pouch inner dim.: 3⅝W x 5"L.

**No. 2A668 Pouch Tape Roll** is quick, inexpensive, and easy to use on No. 2A672 Pouch Tape Dispenser sold separately below. 500 pouches per roll.

**No. 5A146 ScotchPad™ Pouch Tape Pad** is precut, no dispenser needed. Liner strip along top edge allows removal and reinsertion of documents as needed before attaching all edges permanently. Comes 1000 pouches per box.

**SCOTCH M-727 POUCH TAPE DISPENSER**

Rugged metal dispenser; can be mounted on wall or bench.

### B SCOTCHPAD™ BRAND PREMIUM POUCH TAPE PADS

Offers portable convenience. Tape has an aggressive adhesive border on all four sides which adheres to a wide range of surfaces. Center portion will not stick to contents.

### C SCOTCHPAD™ No. 822 PREMIUM INDUSTRIAL GRADE TAPE PADS

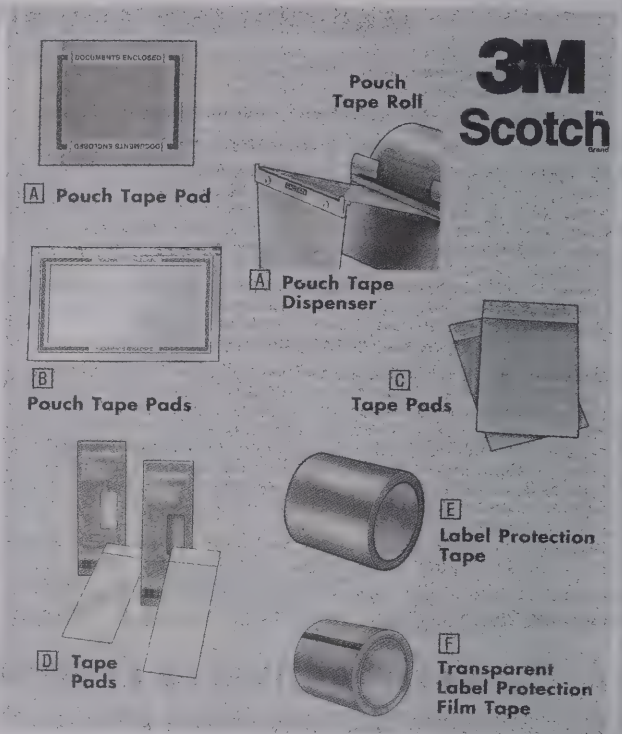
Transparent tape is mounted in an easy-to-use self-sticking pad form. Dispenser not needed. 1000 sheets per box.

### D SCOTCHPAD No. 3750-P PREMIUM INDUSTRIAL GRADE PACKAGING TAPE PADS

Heavy-duty packing tape. Space-saving portable design for convenient use and storage. Precut lengths easy to apply, reduce waste, and need no dispenser. Tough ScotchPro™ backing provides good resistance to edge tear and splitting. Sold in carton quantity of 1000 applications.

### E SCOTCH No. 821 PREMIUM INDUSTRIAL GRADE "LABELGARD" FILM TAPE

Highly transparent film tape. Low static, easy handling and dispensing backing. Allows electronic scanning through the low glare surface. Correction may be made directly onto backing with No. 2 pencils, ball point, many marking pens, and some stamp pad inks. Acceptable for label covering by U.S. Postal Service. Adheres to a variety of surfaces. Offers abrasion and moisture protection. Lightly tinted for easy roll identification. Meets Federal Specifications and Commercial Item Description.




### F SCOTCHPAR™ No. 356 LABEL PROTECTION TAPE

A film tape made with rugged Scotchpar backing and long aging adhesive. Recommended for protection of packing lists or shipping papers in harsh environments. Stability up to 300°F (149°C) for continuous periods of time. Backing provides excellent water, abrasion, and chemical resistance. Holds tight to boxes and will not discolor even with outdoor exposure.

| Key | Width (In.) | Pouch Length (In.) | Color | Yards per Roll | Oz./In. Adhesion | Applications | Tensile Strength (Lb./In.) | Mil Thickness | 3M Model | Stock No. | List | Each | Case Lot Each | Case Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 6 | 6 | Transparent | — | 50 | Used for attaching and protecting documents on boxes and shipping containers | 30 | 2.5 | 824 | **2A668** | $22.90 | **$20.20** | **$15.15** | 8 | 1.4 |
| | 6 | 6 | Transparent | — | 50 | Attach shipping bills or weatherproof notes, keep small parts from getting lost. Imprinted with "Document Enclosed" | 30 | 2.6 | 830 | **5A146** | 50.93 | **45.00** | **33.75** | 5 | 3.5 |
| | | Pouch Tape Dispenser | | | | Fits up to 6" label protection and pouch tapes | — | — | M727 | **2A672** | 52.23 | **44.40** | — | — | 2.6 |
| B | 6 | 10 | Transparent | — | 50 | Attach larger shipping documents. Imprinted with "Document Enclosed" | 30 | 2.6 | 832 | **3KT65** | 136.47 | **129.65** | — | — | 6.3 |
| C | 4 | 6 | Transparent | — | 55 | Precut sheets to protect to protect labels, sealing envelopes, sealingtears in bags, covering stitches and laminating. | 35 | 3.2 | 822 | **1F201** | 65.29 | **55.50** | **41.63** | 5 | 3.0 |
| D | 2 | 6 | Transparent | — | 55 | Heavy-duty, for bag repair, box recooperage, sealing envelopes, and closing small packages | 35 | 3.2 | 3750-P | **1F197** | 39.40 | **33.50** | **25.13** | 5 | 1.6 |
| E | 6<br>4 | — | Pink | 72 | 25 | Designed for label protection | 12 | 2.5 | 821 | **1F194**<br>**1F195** | 27.51<br>18.31 | **23.93**<br>**15.93** | **17.95**<br>**11.95** | 8<br>8 | 1.9<br>1.2 |
| F | 4<br>6 | — | Transparent | 72 | 20 | Address label attachment and protection, excellent bar code protection for consistent scannability. | 25 | 2.5 | 356 | **3W657**<br>**3W658** | 19.45<br>29.16 | **16.53**<br>**24.79** | —<br>— | —<br>— | 0.9<br>1.4 |

**ORDER DIRECT FROM GRAINGER**

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, heck the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**

# TAPE KITS AND DISPENSERS

## SCOTCH DISPENSER/TAPE KITS

**Kits are specially packaged** to include both tape and handy tape dispenser.

**Scotch No. 375 premium grade box sealing tape** is used for heavy-duty packaging applications. Seals instantly and seals out moisture. Tape is split and burst-resistant and meets US Postal Regulations for width and strength. Two dispenser types available. No. 3W662 refillable dispenser is hand-contoured and compact for ease in use. Special braking device allows operator to tension tape for tighter box reinforcement and bundling applications. Scotch disposable dispenser has a metal cutting blade and can be used for most packaging needs. This dispenser comes built-in on roll of tape. When roll is empty, simply discard dispenser.

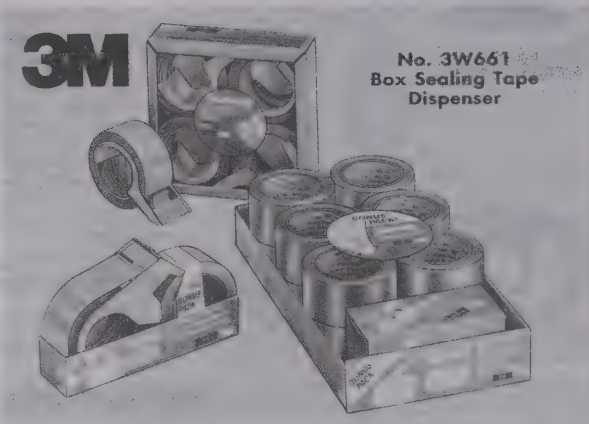
**No. 3W660 Two Roll Kit.** Comes with two 48mm x 50m rolls of No. 375 tape and one H-122 refillable dispenser.

**No. 3W661 Four Roll Kit.** Comes with four 48mm x 50m rolls of No. 375 tape and four built-in disposable hand dispensers.

**No. 3W662 Twelve Roll Kit.** Comes with twelve 48mm x 50m rolls of No. 375 tape and one H-122 refillable dispenser.

### DISPENSER/TAPE KIT ORDERING DATA

| Description | Tape Size (mm x m) | Tape Color | Dispenser Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Two Roll Kit** | 48 x 50 | Transp. | H-122 | **3W660** | $33.51 | **$28.00** | 1.3 |
| **Four Roll Kit** | 48 x 50 | Transp. | DD | **3W661** | 27.16 | **21.79** | 2.5 |
| **Twelve Roll Kit** | 48 x 50 | Transp. | H-122 | **3W662** | 68.69 | **66.00** | 7.0 |




No. 3W661 Box Sealing Tape Dispenser

No. 3W660 Two Pack with Refillable Dispenser

No. 3W662 Definite Length Tape Dispenser

## MENDING TAPE AND DISPENSER

### SCOTCH No. 810 MAGIC MENDING TAPE

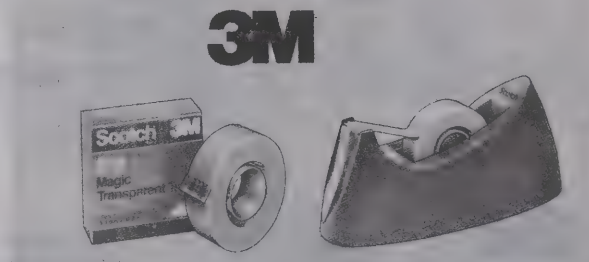
**A translucent matte finish acetate film tape** that becomes clear as glass upon application. Extremely long aging adhesive. Resists degradation due to exposure to sunlight and extended periods of storage. Moisture-resistant. Excellent for permanent mending, holding and splicing applications. Can be qualified to meet Fed. Spec. L-T-900 Type II Class A. 3/4" wide x 36 yard roll. Can be dispensed from No. 2A685 C-15 dispenser sold separately.

**No. 2A684.** Magic Mending Tape. Shpg. wt. 0.1 lbs. List $3.58.
Each **$3.02**; Lots 36 ..... **$2.27**

### SCOTCH C-15 DECOR DISPENSER

**For use with Scotch brand tapes up to** 3/4" wide x 36 yards long on 1" core. Heavyweight plastic dispenser has rubberized pad on bottom to resist slippage on desk or work station surface. Black color.

**No. 2A685.** Decor Dispenser. Shpg. wt. 1.8 lbs. List $8.85.
Each **$7.69**; Lots 6 ..... **$5.77**




No. 2A684

No. 2A685

## DISPENSERS

### [A] HEAVY-DUTY DISPENSER

Dispenses 72 yd. rolls of cellophane, acetate fibre, acetate film tapes; or paper tapes up to 1"W on a 3" core. For mailing, shipping, or wrapping stations. Rubber base prevents slipping, won't scratch finished surfaces. Made of high impact-resistant plastic. Replacement blades available, call 1-800-323-0620.

### [B] SCOTCH™ BRAND HANDY MASKER APRON TAPER

Designed for faster, convenient masking. Strong, compact, portable, and lightweight. 12" wide. More efficient, reducing masking time. Step-stool for reaching higher and it protects paper and tape. Dispenses 3, 6, 9, or 12" Scotch™ brand masking paper and tape. Replacement blades available—1-800-323-0620.

| Key | Width | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **A** | Up to 1" | C25 | **2A673** | $32.96 | **$28.05** | 4.0 |
| **B** | Up to 12" | 6814 | **3KT69** | 222.00 | **189.00** | 12.0 |






# PACKAGING AND CLOTH TAPE

### A SCOTCH™ No. 681 PREMIUM INDUSTRIAL GRADE TRANSPARENT FILM TAPE

Film tape is relatively unaffected by moisture, dryness, and changing atmospheric conditions. Good edge tear and breakage resistance. Easy release treated for low unwind; roll stability excellent after a year of natural aging. Resistant to many acids, alkalies, and solvents. Meets Federal Specifications and Commercial Item Description.

### B SCOTCH™ No. 600 PREMIUM GRADE TRANSPARENT FILM TAPE

Long aging, highly transparent adhesive provides excellent holding power. Instant adhesion; stain- and sunlight-resistant. Transparent backing offers superior moisture resistance. Surface treatment allows controlled unwind, resists splitting. Meets Commercial Item Description.

### C LITHOGRAPHER'S TAPE

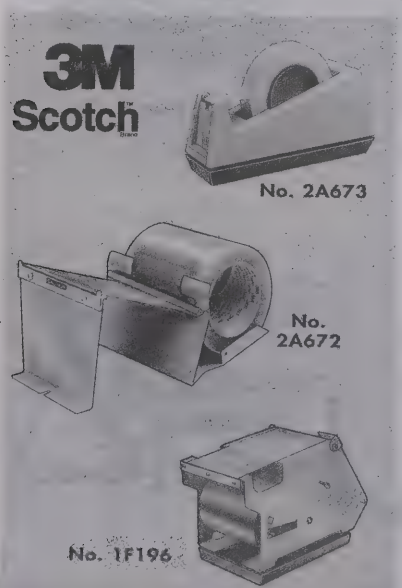
A print industry standard. UPVC tape specially formulated to block out light from photo-sensitive films and plates while allowing optimum visual transparency for accurate positioning. Resists moisture, dryness, slippage, and oozing.

### D HIGHLAND™ BRAND COLORED DUCT TAPE

Polyethylene coated cloth tape, rubber resin adhesive, general purpose use.

## SPECIFICATIONS AND ORDERING DATA

| Key | Width (In.) | Color | Length/ Roll (Yds.) | Adhesion (Oz./In.) | Applications | Tensile Strength Temp. | Thickness (Mil.) | 3M Model | Stock No. | List | Each | Case Lot Each | Rolls per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FILM TAPE** | | | | | | | | | | | | | | |
| **A** | 1/2 | Clear | 72 | 30 | Various packaging applications | 25 | 2.4 | 681 | **1F198** | $5.45 | **$4.64** | **$3.48** | 72 | 0.1 |
| | 1 | | | | | | | | **1F199** | 10.49 | **8.92** | **6.69** | 36 | 0.3 |
| | 4 | | | | | | | | **1F200** | 41.76 | **35.50** | **26.63** | 8 | 0.6 |
| **B** | 1/2 | Clear | 72 | 40 | Carton sealing, holding, combining and attaching | 28 | 2.3 | 600 | **1F212** | 3.23 | **2.75** | **2.06** | 12 | 0.2 |
| | 3/4 | | | | | | | | **1F213** | 4.55 | **3.87** | **2.90** | 12 | 0.3 |
| | 1 | | | | | | | | **1F214** | 6.02 | **5.12** | **3.84** | 12 | 0.3 |
| **C** | 3/8 | Ruby Red Trans-parent | 72 | 36 | Opaquing, stripping, and edging during print process | 29 | 2.4 | 616 | **1F162** | 6.14 | **5.50** | **4.13** | 96 | 0.2 |
| | 1/2 | | | | | | | | **1F163** | 8.42 | **7.15** | **5.36** | 72 | 0.2 |
| | 1 | | | | | | | | **1F164** | 15.33 | **12.64** | **9.48** | 36 | 0.4 |
| **CLOTH TAPE** | | | | | | | | | | | | | | |
| **D** | 2 | Black | 60 | 73 | Convention, abatement industry, hold down carpeting, put up drapes, when removing asbestos, repair flexible hoses. | 25 | 10.8 | 6969 | **3KT49** | 14.56 | **12.39** | **9.29** | 24 | 1.8 |
| | 2 | Silver | | | | | | | **3KT53** | 14.56 | **12.39** | **9.29** | 24 | 1.8 |




# DISPENSERS

### SCOTCH™ No. C-25 HEAVY-DUTY DISPENSER

Dispenses 72 yd. rolls of cellophane, acetate fiber, acetate film tapes; or paper tapes and filament tapes up to 1" wide on 3" core. For mailing, shipping, or wrapping stations. Rubber base prevents slipping, won't scratch finished surfaces. Made of high impact-resistant plastic.

### SCOTCH™ No. M-727 POUCH TAPE DISPENSER AND No. M-797 ADJUSTABLE TAPE DISPENSER

Manual tape dispensers facilitate secure attachment of shipping documents such as packing lists and labels on packages. Also dispenses pouch tape which allows easy, undamaged removal of document upon arrival at its destination.

## TAPE DISPENSER SPECIFICATIONS AND ORDERING DATA

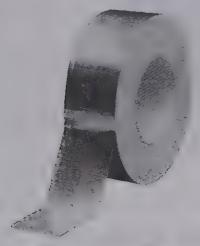
| Description | For Use with Tape Widths: | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Heavy-Duty Dispenser** | Up to 1" | C25 | **2A673** | $32.96 | **$28.05** | 4.0 |
| **Pouch Tape Dispenser** | Up to 4" label protection and pouch tape | M727 | **2A672** | 52.23 | **44.40** | 2.6 |
| **Adjustable Tape Dispenser** | Up to 6" label protection and pouch tape | M797 | **1F196** | 146.80 | **125.85** | 5.0 |

### SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# DUCT TAPE AND CLOTH TAPE

Nashua



A An excellent general purpose tape for light duty applications. Conforms well to irregular surfaces.

B Easy to apply tape used in heating, ventilating, and air conditioning applications to seal aluminum backed insulated ducts and thermal insulation to maintain a vapor barrier. Ideal for permanently flexible seals. Conforms to pattern of any duct board when squeegeed down. 7.4 mils thick overall with 2-mil dead soft aluminum foil and permanent high tack adhesive. UL Std. 723 classified.

C High strength printed aluminum foil duct board tape has an acrylic adhesive system that meets UL 181A-P requirement. Approved for bonding joints and seems on fiberglass ductwork. Ideal for permanently flexible seals.

D Economical polyethylene film-backed cloth tape for a wide variety of industrial grade applications. Highly conformable. Gauge 11 mils.

E Highly durable professional grade duct tape recommended for sealing both metal and fibrous air handling system connections. Als suitable for general contractor use. Gauge 12 mils.

F High-strength premium grade duct tape seals seams airtight at joints and overlaps in air handling systems for durable, consistent closures. Extremely high tack adhesive makes it suitable for use as a waterproof packaging tape and for holding and tabbing applications. Clean release, will not delaminate. Gauge 13 mils.

G Foil, fiberglass scrim, and Kraft laminate in a diamond pattern with high tack adhesive. Conforms readily to irregular surfaces. Used as fiberglass duct wrap where high tensile strength is required. Ideal for patching scrim-reinforced duct insulation. 10.5 mils thick. Backing is UL Std. 723 classified.

H Scrim reinforced all service jacket (ASJ) tape for pipe insulation closure. High tack, acrylic based adhesive provides immediate bonding. Flame resistant, vapor barrier jacketing is ideal where ASJ facings are used and for sealing seams. Thickness 14.5 mils. Backing material is white Kraft-laminated fiberglass scrim foil and UL Std. 723 classified.

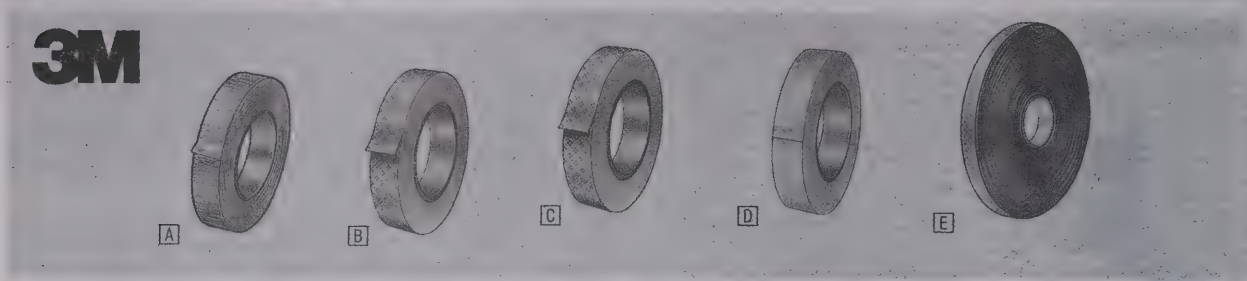
I Metallic duct tape applies easily as a cloth tape. High tack rubber adhesive seals flexible duct work and insulation board. 11 mils thick.

J Water-resistant tape of high thread count, vinyl-impregnated cloth to resist ultraviolet rays and severe weather conditions. For use outdoors to seal exterior duct and insulated pipe systems; in film industry as gaffer's tape; and in packaging. 13 mils thick.

## TAPE ORDERING DATA

| Key | Item | Width, (In.) | Color | Yards Per Roll | Adhesion Oz. / In. | Tensile Strength, Lbs. / In. | Performance Temp. (°F) | Nashua Model | Stock No. | List | Each | Case Lot, Each | Rolls per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | General Purpose Duct Tape | 2 | Silver | 60 | 49 | 21 | 200 | 396 | **5AD15** | $9.12 | **$6.95** | **$4.25** | 24 | 1.8 |
| | | 3 | Silver | 60 | 49 | 21 | 200 | 396 | **1P087** | 13.48 | **10.79** | **8.16** | 16 | 2.6 |
| B | Aluminum Foil Duct Tape | 2 | Aluminum | 50 | 126 | 23 | 200 | 322 | **2W500** | 12.38 | **9.91** | **7.51** | 24 | 1.6 |
| | | 2½ | Aluminum | 50 | 126 | 23 | 200 | 322 | **6A062** | 15.77 | **12.62** | **9.57** | 16 | 2.0 |
| | | 3 | Aluminum | 50 | 126 | 23 | 200 | 322 | **6A063** | 18.65 | **14.92** | **11.22** | 16 | 3.8 |
| C | Aluminum Foil Duct Tape | 2½ | Aluminum | 60 | 60 | 25 | 275 | 324 | **6A068** | 26.54 | **21.24** | **16.09** | 16 | 1.3 |
| | | 3 | Aluminum | 60 | 60 | 25 | 275 | 324 | **1P118** | 31.74 | **25.40** | **19.16** | 16 | 1.8 |
| D | Industrial Grade Duct Tape | 1½ | Silver | 60 | 49 | 26 | 200 | 398 | **2W503** | 7.17 | **5.75** | **4.47** | 32 | 1.9 |
| | | 2 | Silver | 60 | 49 | 26 | 200 | 398 | **2W504** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Black | 60 | 49 | 26 | 200 | 398 | **1P073** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Red | 60 | 49 | 26 | 200 | 398 | **1P083** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | White | 60 | 49 | 26 | 200 | 398 | **1P085** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Yellow | 60 | 49 | 26 | 200 | 398 | **4BC15** | 10.26 | **8.21** | **5.75** | 24 | 1.9 |
| | | 2 | Blue | 60 | 49 | 26 | 200 | 398 | **1P079** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Olive Drab | 60 | 49 | 26 | 200 | 398 | **1P075** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Green | 60 | 49 | 26 | 200 | 398 | **1P081** | 9.46 | **7.57** | **5.75** | 24 | 2.6 |
| | | 2 | Brown | 60 | 49 | 26 | 200 | 398 | **1P077** | 9.46 | **7.57** | **5.75** | 24 | 3.6 |
| | | 3 | Silver | 60 | 49 | 26 | 200 | 398 | **2A240** | 14.27 | **11.41** | **8.64** | 16 | 1.9 |
| | | 4 | Silver | 60 | 49 | 26 | 200 | 398 | **6A060** | 18.81 | **15.05** | **11.41** | 12 | 3.0 |
| E | Professional Grade Duct Tape | 2 | Silver | 54 | 50 | 29 | 200 | 345 | **2W502** | 13.20 | **10.57** | **8.05** | 24 | 2.4 |
| | | 3 | Silver | 54 | 50 | 29 | 200 | 345 | **1P116** | 19.74 | **15.80** | **11.97** | 16 | 2.5 |
| F | Premium Grade Duct Tape | 2 | Silver | 60 | 55 | 45 | 200 | 357 | **6A061** | 17.08 | **13.67** | **10.35** | 24 | 2.5 |
| | | 2 | Olive Drab | 60 | 55 | 45 | 200 | 357 | **1P105** | 17.08 | **13.67** | **10.35** | 24 | 2.5 |
| | | 2 | White | 60 | 55 | 45 | 200 | 357 | **1P112** | 17.08 | **13.67** | **10.35** | 24 | 3.8 |
| | | 2 | Black | 60 | 55 | 45 | 200 | 357 | **1P099** | 17.08 | **13.67** | **10.35** | 16 | 3.8 |
| | | 3 | Olive Drab | 60 | 55 | 45 | 200 | 357 | **1P103** | 25.36 | **20.30** | **15.35** | 16 | 3.8 |
| | | 3 | Silver | 60 | 55 | 45 | 200 | 357 | **1P114** | 25.36 | **20.30** | **15.35** | 16 | 3.8 |
| | | 3 | Black | 60 | 55 | 45 | 200 | 357 | **1P097** | 25.36 | **20.30** | **15.35** | 16 | 5.0 |
| | | 3 | White | 60 | 55 | 45 | 200 | 357 | **1P107** | 25.36 | **20.30** | **15.35** | 16 | 1.3 |
| | | 4 | Olive Drab | 60 | 55 | 45 | 200 | 357 | **1P101** | 34.12 | **27.35** | **20.64** | 12 | 2.0 |
| G | Foil Scrim Kraft Tape | 2 | Aluminum | 50 | 100 | 50 | 120 | FSK | **1P122** | 14.00 | **11.21** | **8.51** | 24 | 2.7 |
| | | 3 | Aluminum | 50 | 100 | 50 | 120 | FSK | **6A064** | 21.93 | **17.55** | **13.30** | 16 | 3.8 |
| | | 4 | Aluminum | 50 | 100 | 50 | 120 | FSK | **1P120** | 29.16 | **23.33** | **17.63** | 12 | 2.0 |
| H | All Service Jacket Tape | 3 | White | 50 | 85 | 63 | 200 | ASJ | **6A065** | 37.06 | **29.70** | **21.24** | 16 | 2.5 |
| I | Metallized Cloth Tape | 2 | Aluminum | 60 | 48 | 26 | 200 | 365 | **6A067** | 14.13 | **11.31** | **8.53** | 24 | 3.8 |
| J | All Weather Cloth Tape | 2 | Silver | 60 | 55 | 35 | 200 | 510 | **6A066** | 26.66 | **21.33** | **16.13** | 24 | 2.5 |
| | | 3 | Silver | 60 | 55 | 35 | 200 | 510 | **1P095** | 34.80 | **27.90** | **22.63** | 16 | 2.5 |
| | | 2 | Black | 60 | 55 | 35 | 200 | 510 | **1P089** | 26.33 | **21.07** | **15.93** | 24 | 2.5 |

# 3M DOUBLE-COATED AND FOAM TAPE




## A SCOTCH™ No. 400 DOUBLE-COATED PAPER TAPE

A paper tissue coated with a high shear adhesive on both sides. Paper release liner. Bonds well to almost any surface.

## B SCOTCH No. 410 DOUBLE-COATED PAPER TAPE

Paper tissue coated with a high shear adhesive on both sides. Treated, easy-release

smooth green plaid paper release liner. Mirror smooth, adhesive coat gives high level of adhesion to most clean, smooth surfaces.

## C SCOTCH No. 9589 DOUBLE-COATED FILM TAPE

3 mil HDPE carrier coating on both sides with 3 mils synthetic rubber adhesive. Easy-release green plaid liner. Aggressive adhesive permits adhesion to irregular or porous surfaces where high immediate adhesion is desired.

## D SCOTCH No. 444 DOUBLE-COATED FILM TAPE

Polyester film coated on both sides with a transparent acrylic adhesive. Easy-release flatback, off-white paper liner. Offers the bond characteristics of rubber adhesives while maintaining most of the performance characteristics of the acrylics. Well suited for attaching similar and dissimilar materials where an aggressive adhesive with high initial adhesion is desired. Excellent general purpose, good aging.

## E SCOTCH DOUBLE-COATED FOAM TAPE

High density, polyurethane foam with a long-aging acrylic adhesive on both sides, and treated, green plaid paper liner. Foams are soft, conformable, high in internal strength. Applies to most clean, dry, unified surfaces. Ideal for mounting and holding jobs, joining rough, mismatched surfaces. Provides thermal insulation, reduces vibration transmission, high solvent resistance. Nos. 1F228 and 1F229 meet MIL-T-60394A, Amend. 1(MU), Type I and II.

**No. 1F232 is double-coated vinyl foam tape** with same properties as foam tape above, but functional for extended periods at 150°F. Closed-cell foam makes excellent water and air seals; resists weathering.

## F SCOTCH PRE-CUT DOUBLE-COATED FOAM TAPE PADS (Not Shown)

1 x 1" die-cut fasteners consist of the same type of polyurethane foam tape listed above. Protected with paper liners which are extended for easy removal.

## DOUBLE-COATED AND FOAM TAPE SPECIFICATIONS AND ORDERING DATA

| Key | Width (In.) | Color | Yds/ Roll | Oz./In. Adhesion | Applications | Tensile Strength (Lb./In.) | Short Term/ Long Term Performance Temp. (°F) | Thickness | 3M Model | Stock No. | List | Each | Case Lot, Each | Rolls Per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3/4 | Crepe Paper | 36 | | Core starting, splicing paper, foils, films, and fabrics temporary bonding | — | 200/150 | .005 mil | 400 | **1F224** | $10.78 | **$9.43** | **$7.07** | 48 | 0.2 |
| | 1 | Carrier | 36 | 50 | | | | | | **1F252** | 14.46 | **12.65** | **9.49** | 36 | 0.4 |
| | 2 | Off-White | 36 | | | | | | | **1F253** | 29.30 | **25.65** | **19.24** | 24 | 1.0 |
| B | 1/2 | | | | Grip attachment, printing industry | 18 | 200/150 | .005 | 410 | **1F254** | 8.53 | **7.47** | **5.60** | 72 | 0.2 |
| | 1 | Off-White | 36 | 50 | | | | | | **1F225** | 13.84 | **12.11** | **9.08** | 36 | 0.5 |
| | 2 | | | | | | | | | **1F255** | 27.90 | **23.98** | **17.99** | 24 | 0.9 |
| C | 1 | White Polyethylene | 36 | 100 | Carpet edges, general mounting and splicing | — | 120/150 | .009 | 9589 | **1F256** | 13.26 | **11.60** | **8.70** | 36 | 0.6 |
| | 2 | Film Carrier | | | | | | | | **1F226** | 26.55 | **23.24** | **17.43** | 24 | 1.2 |
| D | 1/2 | Clear Polyester | 36 | 60 | Splicing, laminating, bonding lightweight materials | — | 150/150 | .004 | 444 | **1F227** | 8.77 | **7.67** | **5.75** | 72 | 0.8 |
| | 1 | Carrier | | | | | | | | **1F257** | 14.56 | **12.74** | **9.56** | 36 | 0.4 |
| E | 3/4 | | 72 | | Bonding/mounting mirrors, indoor signs, acoustic panels to walls, wire clips, name plates, plastic parts, P.O.P displays, air fresheners, and soap dispensers | 60 | | 1/32" | 4032 | **1F228** | 49.59 | **43.45** | **32.59** | 12 | 1.5 |
| | 1 | | 72 | | | 60 | | 1/32 | 4032 | **1F229** | 62.01 | **54.30** | **40.72** | 9 | 2.0 |
| | 3/4 | Off-White | 36 | 60 | | 50 | 380/220 | 1/16 | 4016 | **1F230** | 29.18 | **25.55** | **19.16** | 12 | 0.8 |
| | 1 | | 36 | | | 50 | | 1/16 | 4016 | **1F231** | 35.36 | **31.00** | **23.25** | 9 | 1.0 |
| | 3/4 | | 36 | | | 25 | | 1/8 | 4008 | **1F233** | 43.50 | **38.10** | **28.58** | 12 | 1.5 |
| | 1 | | 36 | | | 25 | | 1/8 | 4008 | **1F234** | 54.39 | **47.65** | **35.74** | 9 | 2.0 |
| | 1 | Black | 72 | 50 | Mount/bond indoor signs. High strength foam gives good one piece removability. Sealing around windows in boats, RV's, fiberglass trim panels in trailers | 60 | 200/150 | 1/32 | 4432 | **1F232** | 102.44 | **89.65** | **67.24** | 9 | 3.1 |
| F | 1 x 1 Squares | Off-White | 1000 pcs/ case | 60 | Mounting, joining, holding. variety of items, household convenience products, P.O.P. displays, burglar alarms novelty items, advertising and promotion products | 40 | 180 | 1/16 | 4026 | **1F236** | 58.10 | **50.85** | — | — | 1.5 |



More ways to move and store products safely and securely.

# ADHESIVE TRANSFER TAPE AND DISPENSER AND HOOK AND LOOP FASTENERS

## ADHESIVE TRANSFER TAPE

### [A] SCOTCH™ ATG-924 ADHESIVE TRANSFER TAPE

All-purpose clear acrylic adhesive. Reverse wound on 1" core for use with ATG hand dispenser No. 1F238 listed below. Excellent bond strength, high tack, long aging adhesive. For bonding a wide variety of similar and dissimilar materials such as metals, glass, wood, papers, paints and many plastics. Uses include splicing of foils, films, and fabrics. High solvent resistance.

### [B] SCOTCH™ ATG-969 ADHESIVE TRANSFER TAPE

High tack modified acrylic adhesive. Reverse wound tape comes in small diameter rolls for use with No. 1F238. Features high initial adhesion to most plastics. Thick clear adhesive mass permits bonding to many irregular surfaces. Good solvent resistance.

### [C] 3M 465 ADHESIVE TRANSFER TAPE

Acrylic adhesive easily transfers from liner to most smooth surfaces. Same properties as Nos. 1F239 and 1F240, except that it comes wound on silicone-coated, paper liner for manual application. **Not for use with hand held tape dispenser No. 1F238.**

### [D] SCOTCH™ ATG-700 ADHESIVE TAPE APPLICATOR

Designed to apply adhesive transfer tape while simultaneously removing/rewinding liner. Applies adhesive precisely and quickly with no mess or clean-up. Built of durable ABS plastic. Extended roller "nose" provides excellent sight line for precise application. Use with Nos. 1F239 and 1F240 adhesive tapes.




| Key | Item / Description | Width (In.) | Color | Length (Yds.) | Adhesion (Oz./In.) | Short Term/Long Term Performance Temperature (°F) | Thickness (Mil) | 3M Model | Stock No. | List | Each | Case Lot, Each | Rolls/ Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | | 1/2 | | 36 | 25 | | .002 | 924 | **1F239** | $5.91 | **$5.17** | **$3.88** | 12 | 0.2 |
| B | Adhesive Transfer Tape | 3/4 | Transparent | 36 | 25 | 250/180 | .002 | 924 | **1F240** | 7.93 | **6.94** | **5.21** | 12 | 0.2 |
| B | for No. 1F238 | 1/2 | | 18 | 75 | | .005 | 969 | **1F241** | 5.29 | **4.64** | **3.48** | 24 | 0.2 |
| B | | 3/4 | | 18 | 75 | | .005 | 969 | **1F242** | 7.18 | **6.29** | **4.72** | 24 | 0.3 |
| C | Adhesive Transfer Tape | 1/2 | Transparent | 60 | 25 | 250/180 | .002 | 465 | **1F243** | 7.30 | **6.37** | **4.78** | 18 | 0.2 |
| C | | 3/4 | | | | | | | **1F244** | 9.48 | **8.31** | **6.23** | 12 | 0.4 |
| C | | 1 | | | | | | | **1F245** | 12.21 | **10.72** | **8.04** | 9 | 0.5 |

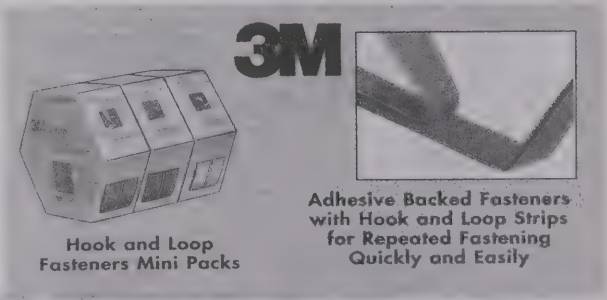
| Key | Item / Description | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| D | Applicator for Adhesive Transfer Tape | ATG-700 | **1F238** | $49.44 | **$43.00** | 1.0 |

## SCOTCHMATE™ HOOK AND LOOP FASTENERS

Advanced closure alternatives to zippers, screws, snaps, hooks, bolts, and more for greater flexibility, faster product assembly, and a smoother and cleaner exterior surface. Consist of two woven strips; one is covered with tiny, stiff hooks and the other with pliable loops. Press together to fasten; simply pull apart to open. Widely used in the apparel, furniture, packaging, printing, safety equipment, and sporting goods industries.

Adhesive backed fasteners are designed for dynamic and static load applications on most dry, clean surfaces. Offer a high adhesive bond to a wide variety of materials including wood, glass, metal, fabric, polyethylene, polypropylene, and most rigid plastics. Just peel off protective liner and press firmly for a clean, dependable bond. Superior moisture resistance.

**Mini Packs of hook and loop fasteners are also available.** Offer simplified storage and dispensing. Well suited for design development and small volume production requirements. Convenient, compact packaging contains 4.9 yards each of both hooks and loops in choice of black or white. Mini packs come in two varieties: plain backed, sew-on fasteners and adhesive backed fasteners. Pressure-sensitive adhesive backed type is available in both general purpose adhesive and clear Dual Lock™ very high bond VHB™ adhesive.




| Description | Width (In.) | Color | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **INDUSTRIAL 50 YD. ROLLS** | | | | | | | |
| **Hooks** | 1 | White | SJ3526 | **1F220** | $101.75 | **$89.05** | 2.0 |
| **Loops** | 1 | White | SJ3527 | **1F221** | 101.75 | **89.05** | 2.2 |
| **Hooks** | 1 | Black | SJ3526 | **1F222** | 101.75 | **89.05** | 2.1 |
| **Loops** | 1 | Black | SJ3527 | **1F223** | 101.75 | **89.05** | 2.5 |
| **4.9 YD. ROLL MINI PACKS (HOOKS AND LOOPS)** | | | | | | | |
| **Pressure Sensitive** | 1 | White | MP3526/27 | **1F215** | 37.36 | **31.15** | 1.3 |
| **Pressure Sensitive** | 1 | Black | MP3526/27 | **1F216** | 37.36 | **31.15** | 1.3 |
| **Sew-On** | 1 | White | MP3401/02 | **1F217** | 20.42 | **17.02** | 1.3 |
| **Sew-On** | 1 | Black | MP3401/02 | **1F218** | 20.42 | **17.02** | 1.3 |
| **Dual Lock™** | 1 | Clear | MP3560 | **1F219** | 87.81 | **74.65** | 1.4 |

# MASKING TAPE

### A SCOTCH™ BRAND HIGH PERFORMANCE MASKING TAPE

Tough, extremely smooth high performance crepe paper tape. Should not be subject to outdoor exposure. Can be qualified to meet Federal Specifications PPP-T-42C Type I and MIL-T-21595D Type 1.

### B SCOTCH™ BRAND POLYETHYLENE MASKING TAPE

Reinforced with saturated crepe paper. Excellent holding, weathering, and stain resistant characteristics. Backing resistant to many solvents, solutions, and strippers. Good conformability and easy tear; die-cuts easily for custom masking. Ideal for outdoor protection of metal and painted surfaces for periods up to a maximum of 3 months, sealing seams or access holes. Can be qualified to meet MIL-T-23397B Type L.

### C SCOTCH™ MASKING TAPE

Crepe paper backed tape with rubber-based adhesive which easily conforms to irregular shapes. Adheres well to many different surfaces.

### D LONG MASK

Specialty masking tape. Should be applied to clean and dry surfaces. Crepe paper backing.

### E TARTAN™ BRAND MASKING TAPE

Can be qualified to meet Federal Specifications PPP-T-42C Type I and Commercial Item Description CID-A-A-883B.




## MASKING TAPE ORDERING DATA

| Key | Width (In.) | Color | Length/ Roll (Yds.) | Adhesion (Oz./In.) | Applications | Tensile Strength (Lbs./In.) | Temp. (°F) | Thickness (Mil.) | 3M Model | Stock No. | List | Each | Case Lot Each | Rolls/ Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3/4 | Natural | 60 | 36 | Critical paint masking and many industrial applications. General purpose holding, bundling, protecting, and miscellaneous industrial applications. | 23 | 200 | 5.7 | 232 | **2A674** | $5.79 | **$4.93** | **$3.45** | 48 | 0.4 |
| | 1 | | 60 | | | | | | | **2A675** | 8.18 | **6.55** | **4.59** | 36 | 0.4 |
| | 1½ | | 60 | | | | | | | **2A676** | 11.58 | **9.85** | **6.90** | 24 | 0.6 |
| | 2 | | 60 | | | | | | | **2A677** | 15.56 | **13.24** | **9.27** | 24 | 0.8 |
| | 3 | | 60 | | | | | | | **3KT41** | 16.80 | **14.31** | **10.73** | 12 | 1.3 |
| | 2 | | 120 | | | | | | | **3KT40** | 23.09 | **19.61** | **14.71** | 6 | 1.3 |
| B | 1 | Black | 60 | 36 | Outdoor masking, hot air leveling of printed circuit boards. | 30 | 160 | 10.0 | 226 | **3KT60** | 32.78 | **26.95** | **20.21** | 36 | 0.9 |
| C | 3/4 | Natural | 60 | 31 | General paint masking. | 26 | 250 (Up to 1 Hr.) | 5.9 | 2308 | **4X225** | 2.65 | **2.26** | **1.58** | 48 | 0.3 |
| | 1 | | | | | | | | | **2A234** | 3.55 | **3.02** | **2.11** | 36 | 0.4 |
| | 1½ | | | | | | | | | **4X958** | 5.36 | **4.56** | **3.19** | 24 | 0.6 |
| | 2 | | | | | | | | | **2A235** | 7.09 | **6.03** | **4.22** | 24 | 0.7 |
| D | 3/4 | Blue | 60 | 20 | Industrial applications where exposure to sunlight is expected and clean removal required. Ideal for outdoor painting applications. | 24 | 200 | 5.0 | 2090 | **1F159** | 4.42 | **3.77** | **2.64** | 48 | 0.3 |
| | 1 | | | | | | | | | **1F160** | 5.99 | **5.10** | **3.57** | 36 | 0.3 |
| | 2 | | | | | | | | | **1F161** | 11.95 | **10.17** | **7.12** | 24 | 0.7 |
| E | 1/2 | Natural | 60 | 53 | Holding, bundling, stacking, non-critical masking. For applications where pressure-sensitive tape is needed. | 22 | 200 | 5.5 | 200 | **1F154** | 1.32 | **0.79** | **0.55** | 72 | 0.2 |
| | 3/4 | | | | | | | | | **1F155** | 1.77 | **1.24** | **0.87** | 48 | 0.4 |
| | 1 | | | | | | | | | **1F156** | 2.13 | **1.60** | **1.12** | 36 | 0.4 |
| | 1½ | | | | | | | | | **1F157** | 2.73 | **2.31** | **1.62** | 24 | 0.5 |
| | 2 | | | | | | | | | **1F158** | 3.53 | **3.16** | **2.21** | 24 | 0.7 |


## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# 3M FILAMENT TAPE AND DISPENSERS

## 3M FILAMENT TAPE

### A SCOTCH™ BRAND SUPERIOR PERFORMANCE FILAMENT TAPE

A high-performance "Scotchpar" film backed tape reinforced with continuous glass yarn filaments. Stain-resistant "mirror finish" aggressive high shear adhesive. Applicable Fed. Spec. PPP-T-0097E (DSA-FSS0, Type II, Class B); also Rule 41 of the Uniform Freight Classification for certain box styles. Meets Commercial Item Description CID A-A-1687. Provides excellent abrasion, moisture, and scuff resistance. Meets US Postal Regulations.

### B SCOTCH™ BRAND PERFORMANCE GRADE FILAMENT TAPE

Transparent "Scotchpar" film-backed tape, reinforced with continuous polyester filaments, provides excellent impact and cut resistance. Applicable Fed. Spec. PPP-T-00973, Type I, and Commercial Item Description CID A-A-1686B.

### C SCOTCH™ BRAND SUPERIOR PERFORMANCE FILAMENT TAPE

"Scotchpar" film-backed tape reinforced with continuous glass yard filaments. High tensile strength to hold lift flap on modified regular slotted containers. Features stain-resistant "mirror finish" and high shear adhesive. Provides excellent abrasion, moisture, and scuff resistance; resists curing even when dispensed under conditions of high humidity. Printable by "Print Seal" process. Transparent and black are applicable Fed. Spec. PPP-T-0097E, Type III and Type IV, respectively; also Commercial Item Description CID-A-A-1685A (black) and CID A-A-1687B (transparent).

### D SCOTCH™ BRAND STRETCHABLE TAPE

When optimally stretched, adhesive won't tear labels or graphics upon removal.




Good tensile strength and excellent elastic memory to keep wrapped products tightly bundled, or pallets securely unitized during shipment.

### E HIGHLAND™ BRAND INDUSTRIAL FILAMENT TAPE

Clear ScotchPro™ film backing, glass filament reinforced, pressure-sensitive, hot melt rubber resin adhesive. Clear, moisture-resistant conformable film backing, reinforced with continuous glass yarn filaments. Long aging, clear rubber resin adhesive with good shear strength on fiberboard surfaces.

| Key | Width (In.) | Color | Yards per Roll | Oz./In. Adhesion | Applications | Tensile Strength (Lb./In.) | Thickness (mil.) | 3M Model | Stock No. | List | Each | Case Lot Each | Rolls Per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/2 | Transparent | 60 | 50 | Closure reinforcement of many corrugated fiberboard box styles—use in holding, reinforcing, combining, bundling, and unitizing applications. | 380 | 6 | 898 | **2A664** | $6.19 | **$5.26** | **$3.95** | 72 | 0.3 |
| | 3/4 | | | | | | | | **2A665** | 8.69 | **7.39** | **5.54** | 48 | 0.4 |
| | 1 | | | | | | | | **2A666** | 10.00 | **9.59** | **7.19** | 36 | 0.5 |
| | 1½ | | | | | | | | **1F202** | 18.10 | **15.38** | **11.54** | 24 | 1.0 |
| | 2 | | | | | | | | **1F203** | 24.12 | **20.50** | **15.38** | 24 | 1.3 |
| B | 1/2 | Clear | 60 | 60 | Bundling of heavy or sharp edged objects such as tubing, rods, lumber, and tabbing end of large metal coils; various combining, closing, reinforcing applications. | 250 | 8 | 880 | **1F204** | 8.79 | **7.47** | **5.60** | 72 | 0.3 |
| | 3/4 | | | | | | | | **1F205** | 11.65 | **9.91** | **7.43** | 48 | 0.2 |
| | 1 | | | | | | | | **1F206** | 15.20 | **12.92** | **9.69** | 36 | 0.6 |
| C | 3/4 | Black | 60 | 45 | Heavy-duty reinforcing, bundling, and unitizing applications. | 600 | 8 | 890 | **1F207** | 15.20 | **12.92** | **9.69** | 48 | 0.6 |
| | 3/4 | Transparent | | | | | | | **1F208** | 12.94 | **11.00** | **8.25** | 48 | 0.6 |
| | 1 | Black | | | | | | | **1F209** | 19.75 | **16.79** | **12.59** | 36 | 0.8 |
| | 1 | Transparent | | | | | | | **1F210** | 16.80 | **14.28** | **10.71** | 36 | 0.8 |
| D | 36mm | Clear | 55M | 59 | Bundling or unitizing goods for intra-company transfer from production site to distribution centers or warehouses. | 211 | 5 | 8884 | **3KT46** | 9.17 | **7.80** | **5.85** | 4 | 5.0 |
| E | 12mm | Clear | 55M | 60 | Bundling, reinforcing, strapping applications. | 170 | 6 | 897 | **3KT42** | 2.31 | **1.97** | **1.48** | 72 | 0.2 |
| | 18 | | | | | | | | **3KT43** | 3.50 | **2.98** | **2.24** | 48 | 0.4 |
| | 24 | | | | | | | | **3KT44** | 4.62 | **3.93** | **2.95** | 36 | 0.5 |

## 3M FILAMENT TAPE DISPENSERS

### HIGHLAND™ No. HB-901 FILAMENT TAPE DISPENSER

- **Hand-held model for filament tapes up to 1"W x 60 yds.**
- **For tighter box reinforcement and bundling applications**

### SCOTCH™ No. H-120 FILAMENT TAPE DISPENSER

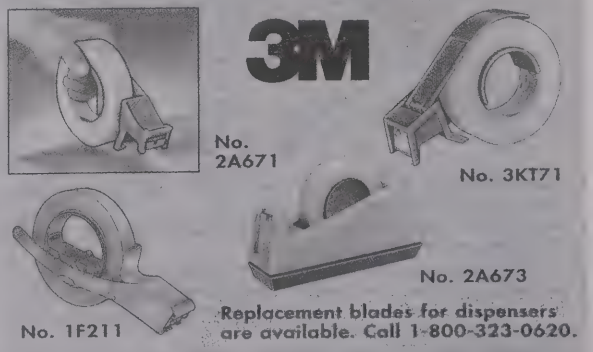
- **Durable metal dispenser for carton taping**
- **Portable, easily refillable**
- **Applicable Federal Specification GG-D-459B, Type I; Meets CID A-A-343A**

### SCOTCH™ No. H-36 STRETCHABLE TAPE HAND DISPENSER

- **Designed specifically for use with Scotch brand stretchable tape (No. 3KT46 sold above)**
- **Tape roll brake allows tape tension to be varied during use**
- **Made from high-impact durable plastic**

### SCOTCH™ No. C-25 HEAVY-DUTY DISPENSER

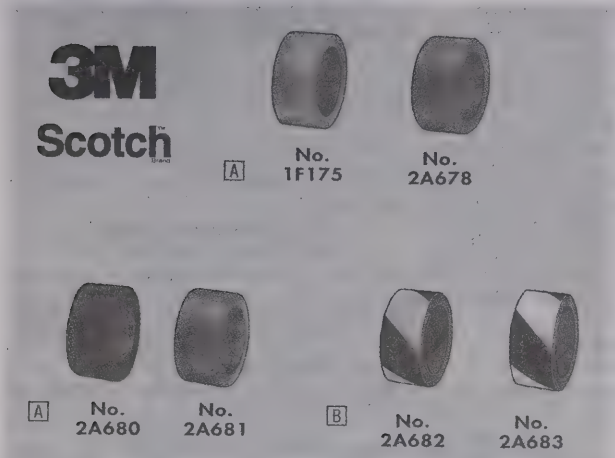
- **Dispenses 72 yd. rolls of cellophane, acetate fibre, acetate film tapes, or paper tapes and filament tapes up to 1" width on 3" core**
- **For mailing, shipping, wrapping stations**
- **Rubber base prevents slipping, won't scratch surfaces**
- **Made of high impact-resistant plastic**




| Description | Width | 3M Model | Stock No. | List | Each | Case Lot Each | Rolls Per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Filament Tape Dispenser | Fits up to 1" W | HB-901 | **2A671** | $7.67 | **$6.52** | **$4.89** | 12 | 0.4 |
| | Fits up to 1" W | H120 | **1F211** | 60.30 | **51.25** | **38.44** | 6 | 0.8 |
| Stretchable Tape Hand Dispenser | Use with No. 3KT46 | H36 | **3KT71** | 37.58 | **34.80** | **26.10** | 6 | 0.3 |
| Heavy-Duty Dispenser | Fits up to 1" W | C25 | **2A673** | 32.96 | **28.05** | **21.04** | 6 | 4.0 |

# VINYL TAPE AND LANE MARKER/TAPE APPLICATOR

## LANE MARKING TAPE




### A SCOTCH™ No. 471 COLORED VINYL LANE MARKING TAPE

Vinyl plastic tape has a synthetic rubber adhesive. Used for color coding, abrasion protection, decorations, sealing, patching, splicing, and general purpose marking applications. Vivid colors. Highly conformable. Resistant to most common solvents—avoid ketones, chlorinated hydrocarbons, and esters. Comply with OSHA standards to allow identification of hazardous areas, fire lanes, and safety equipment. Can be qualified to meet Fed. Spec. PPP-T-66E Type I Class 2 (colored, except red/orange). Meets Commercial Item Description CID A-A-1689 (colors only).

### B SCOTCH™ No. 5702/5700 VINYL LANE MARKING SAFETY STRIPE TAPE

Vinyl plastic tape with alternating colored stripes. Has same adhesive as Scotch No. 471 (above). Printed stripes covered by 4 mil of vinyl. Black and white are basic colors for lane marking. Yellow and black tape is used for marking physical hazards which can cause stumbling, falling, or tripping.

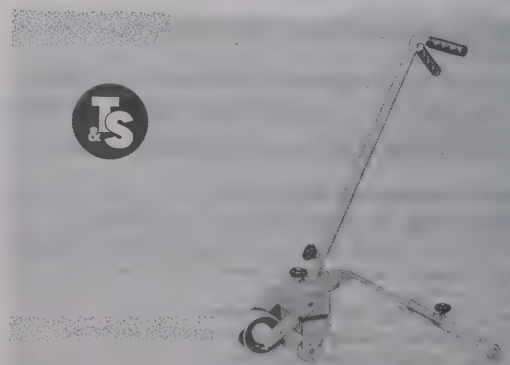
| Key | Width (In.) | Color | Yds./ Roll | Application | Oz./In. Adhesion | Tensile Strength (Lb./In.) | ST/LT Performance Temp. (°F) | Thick-ness (mil) | 3M Model | Stock No. | List | Each | Case Lot, Each | Rolls Per Case | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3/4 | Red | 36 | Use around fire extinguishers, electrical equipment, wherever "Danger" applies | 23 | 16 | 40/170 | 5.2 | 471 | **1F171** | $11.41 | **$8.72** | **$6.98** | 48 | 0.2 |
| | 1 | | | | | | | | | **1F172** | 14.30 | **10.73** | **8.58** | 36 | 0.4 |
| | 2 | | | | | | | | | **1F165** | 27.87 | **22.65** | **18.12** | 24 | 0.6 |
| | 3/4 | Blue | 36 | Suggested for paint marking areas | 23 | 16 | 40/170 | 5.2 | 471 | **1F173** | 11.41 | **8.72** | **6.98** | 48 | 0.2 |
| | 1 | | | | | | | | | **1F174** | 14.30 | **10.73** | **8.58** | 36 | 0.4 |
| | 2 | | | | | | | | | **1F170** | 27.87 | **22.65** | **18.12** | 24 | 0.8 |
| | 3/4 | White | 36 | Color coding or marking systems | 23 | 16 | 40/170 | 5.2 | 471 | **1F175** | 11.41 | **8.72** | **6.98** | 48 | 0.2 |
| | 1 | | | | | | | | | **1F176** | 14.30 | **10.73** | **8.58** | 36 | 0.4 |
| | 2 | | | | | | | | | **2A679** | 27.87 | **22.65** | **18.12** | 12 | 0.8 |
| | 3/4 | Transparent | 36 | Lid sealing | 26 | 16 | 40/170 | 5.4 | 471 | **1F177** | 11.41 | **8.72** | **6.54** | 48 | 0.2 |
| | 1 | | | | | | | | | **1F178** | 14.30 | **10.73** | **8.05** | 36 | 0.4 |
| | 2 | Yellow | 36 | Electroplating, "Caution" areas | 23 | 16 | 40/170 | 5.2 | 471 | **2A678** | 27.87 | **22.65** | **18.12** | 24 | 0.6 |
| | 2 | Black | 36 | Color coding | 23 | 16 | 40/170 | 5.2 | 471 | **2A680** | 27.87 | **22.65** | **18.12** | 12 | 0.4 |
| | 2 | Red/Orange | 36 | "Biological Hazard" areas | 19 | 20 | 40/170 | 4.3 | 471 | **2A681** | 27.87 | **22.65** | **18.12** | 12 | 0.6 |
| | 2 | Orange | 36 | "Warning" areas | 23 | 16 | 40/170 | 5.2 | 471 | **1F166** | 27.87 | **22.65** | **18.12** | 12 | 0.8 |
| | 2 | Purple | 36 | Color coding, marking systems | 22 | 17 | 40/170 | 7.0 | 471 | **1F167** | 27.87 | **22.65** | **18.12** | 12 | 0.8 |
| | 2 | Green | 36 | Color coding, marking systems | 23 | 16 | 40/170 | 5.2 | 471 | **1F168** | 27.87 | **22.65** | **18.12** | 12 | 0.6 |
| | 2 | Brown | 36 | Color coding, marking systems | 23 | 16 | 40/170 | 5.2 | 471 | **1F169** | 27.87 | **22.65** | **18.12** | 12 | 0.8 |
| B | 2 | Black/Yellow | 36 | Mark floors, objects to identify safety areas, physical hazards | 19 | 15 | 40/170 | 5.4 | 5702 | **2A682** | 37.96 | **31.15** | **24.92** | 24 | 0.7 |
| | 2 | Black/White | 36 | Lane Marking | 19 | 15 | 40/170 | 5.5 | 5700 | **2A683** | 37.96 | **31.15** | **24.92** | 12 | 0.8 |

## T & S LANE MARKER/TAPE APPLICATOR

- **For use with 2, 3, and 4" wide rolls of vinyl lane marking and safety stripe tapes**
- **Removable tape can be used in place of paint for rapidly changing plant needs**
- **Dual handle grips for stability and guidance**
- **Radius adjustment for circles and curves**
- **Adjustable stabilizer guide for applying tape equal distances from any object**
- **Self-adjusting roller for uniform pressure on uneven floor surface**

Designed for indoor and outdoor use for applications such as marking aisles in factories, caution areas, temporary road markings during construction, basketball and tennis courts. Unit is constructed with tubular steel frame welded with heavy gauge steel on all other parts. Red color. T & S brand (TPA-20).

**No. 6W059.** Shpg. wt. 20.0 lbs. List $189.00. Each .....**$187.25**






*More ways to move and store products safely and securely.*

## REFLECTIVE WARNING TAPE

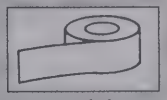
- Outdoor rated 5 to 8 years
- Engineer grade
- 7.0 mils thickness
- Service temperature –40°F to 200°F
- Applies to most clean dry surfaces
- Rated as Reflectivity 1 according to Federal Specification L-S-300C

Provides maximum safety identification in dark and low lighting conditions with high visibility reflective tape. Stripes and checks provide best contrast for low lighting situations. Meets OSHA specifications [1910.144(a)].

Use black and yellow for physical hazards, red and white for fire protection, and black and white for traffic and housekeeping. Minimum application temperature, 50°F. Brady brand.


Striped Pattern

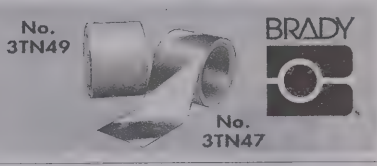

Checked Pattern


Solid

| Tape Size W (In.) | Tape Size L (Yds.) | Pattern | Color | Brady Model | Stock No. | Color | Brady Model | Stock No. | Color | Brady Model | Stock No. | List | Each | Case Lot, Each | Rolls Per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 10 | Striped | Black/Yellow | 78130 | **1F012** | Black/White | 78132 | **1F013** | Red/White | 78131 | **1F014** | $38.42 | **$33.45** | **$25.81** | 18 | 0.6 |
| | | Checked | Black/Yellow | 78137 | **1F015** | Black/White | 78136 | **1F016** | — | — | **—** | 38.42 | **33.45** | **25.81** | 18 | 0.7 |
| | | Solid | White | 78140 | **1F017** | Yellow | 78141 | **1F018** | Orange | 78142 | **1F019** | 30.14 | **26.25** | **20.30** | 18 | 0.6 |
| 3 | 10 | Striped | Black/Yellow | 78133 | **1F020** | Black/White | 78135 | **1F021** | Red/White | 78134 | **1F022** | 49.86 | **43.40** | **33.58** | 12 | 1.0 |
| | | Checked | Black/Yellow | 78139 | **1F023** | Black/White | 78138 | **1F024** | — | — | **—** | 49.86 | **43.40** | **33.58** | 12 | 1.0 |
| | | Solid | White | 78143 | **1F025** | Yellow | 78144 | **1F026** | Orange | 78145 | **1F027** | 41.16 | **35.80** | **27.72** | 12 | 0.8 |

## GLOW-IN-THE-DARK STRIPED AND SOLID MARKING TAPE

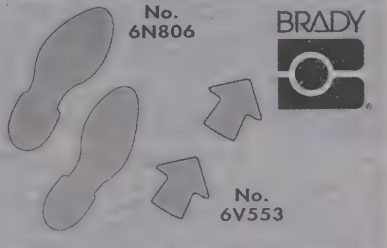
Provide an extra margin of safety during blackouts, at night, or in low light conditions. Phosphorescent tape. Brady brand.




| Tape Size W (In.) | Tape Size L (Yds.) | Pattern | Brady Model | Stock No. | List | Each | Case Lot, Each | Rolls Per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 5 | Striped | 76430 | **3TN47** | $43.89 | **$39.90** | **$35.91** | 3 | 0.3 |
| 2 | 5 | Solid | 76432 | **3TN49** | 38.77 | **35.25** | **31.73** | 3 | 0.3 |
| 3 | 5 | Striped | 76431 | **3TN48** | 57.86 | **52.60** | **47.34** | 3 | 0.6 |
| 3 | 5 | Solid | 76433 | **3TN50** | 50.93 | **46.30** | **41.67** | 3 | 0.6 |

## FOOTPRINTS AND DIRECTION ARROWS

Follow the footprints or point the way with arrows. A quick, easy way to mark "the way to go". Made of vinyl tape. Also available in glow-in-the-dark phosphorescent vinyl film. Useful in power outages to find doors and exits. Footprints are 12" long. Arrows are 3 to 5" long. **Standard package: footprint, 1 per package; arrows, 100 per package.** Brady brand.




### FOOTPRINTS

| Foot | Brady Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Left | 55356 | **6N804** | $1.54 | **$1.40** | **$1.26** | 0.1 |
| Right | 55357 | **6N805** | 1.54 | **1.40** | **1.26** | 0.1 |
| Left* | 55358 | **6N806** | 8.66 | **7.88** | **7.09** | 0.1 |
| Right* | 55359 | **6N807** | 8.66 | **7.88** | **7.09** | 0.1 |

### DIRECTION ARROWS

| Size (In.) | Brady Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2 | 55352 | **6N800** | $13.62 | **$12.39** | **$11.15** | 0.2 |
| 3 | 55353 | **6N801** | 24.12 | **21.93** | **19.74** | 0.4 |
| 4 | 55354 | **6N802** | 40.92 | **37.20** | **33.48** | 0.7 |
| 5 | 55355 | **6N803** | 56.15 | **51.05** | **45.95** | 1.0 |
| 3* | 93275 | **6V553** | 78.98 | **71.80** | **64.62** | 0.4 |

(*) Glow-in-the-dark phosphorescent vinyl film.

## DETECTABLE UNDERGROUND TAPE

Detectable underground tape provides location and identification of buried utility lines. Durable plastic encased aluminum. American Public Works association color coded for specific use. Services & Materials brand.




| Color | Description Type | Roll Size W (In.) x L (Ft.) | Services & Materials Model | Stock No. | Per Roll List | Per Roll Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Red | Electric | 2 x 1000 | 0110738 | **1N966** | $40.35 | **$34.30** | **$32.59** | 4.0 |
| Green | Sewer | 2 x 1000 | 0110714 | **1N970** | 40.35 | **34.30** | **32.59** | 4.0 |
| Yellow | Gas | 2 x 1000 | 0110740 | **1N964** | 40.35 | **34.30** | **32.59** | 4.0 |
| Orange | Phone, CATV, Fiber optics | 2 x 1000 | 0110726 | **1N968** | 40.35 | **34.30** | **32.59** | 4.0 |
| Red | Electric | 6 x 1000 | 2087989 | **1N930** | 112.06 | **95.25** | **90.49** | 8.0 |
| Green | Sewer | 6 x 1000 | 2088002 | **1N928** | 112.06 | **95.25** | **90.49** | 8.0 |
| Yellow | Gas | 6 x 1000 | 2088028 | **1N926** | 112.06 | **95.25** | **90.49** | 8.0 |
| Orange | Phone, CATV, Fiber optics | 6 x 1000 | 2088041 | **1N924** | 112.06 | **95.25** | **90.49** | 8.0 |

## FLAGGING TAPE

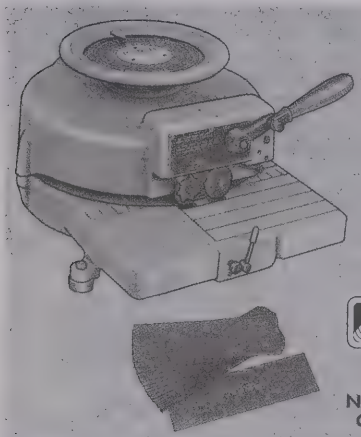
Highly visible rugged dayglow poly-vinyl plastic tape for flagging boundary stakes, trees, hazardous areas and right of way. **Standard package of 12 rolls per carton.**




| Dayglow Color | Roll Size W (In.) x L (Ft.) | Model | Stock No. | Per Carton List | Per Carton Each | Lots 5 Cartons | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Orange | 1¼ x 150 | ST-100DG | **3T995** | $17.27 | **$14.69** | **$13.95** | 4.6 |
| Pink | 1¼ x 150 | ST-100DG | **3T996** | 17.27 | **14.69** | **13.95** | 4.6 |
| Lime | 1¼ x 150 | ST-100DG | **3T997** | 17.27 | **14.69** | **13.95** | 4.6 |
| Red | 1¼ x 150 | ST-100DG | **3T994** | 17.27 | **14.69** | **13.95** | 4.6 |
| Blue | 1¼ x 150 | ST-100DG | **3T995** | 17.27 | **14.69** | **13.95** | 4.6 |
| Yellow | 1¼ x 300 | ST-100 | **1N940** | 17.27 | **14.69** | **13.95** | 4.3 |
| Red | 1¼ x 300 | ST-100 | **1N942** | 17.27 | **14.69** | **13.95** | 4.1 |

# STENCIL MACHINES AND SUPPLIES

## STENCIL MACHINE AND OIL BOARD



MARSH®

No. 4W224
Stencil Machine

Replacement Parts Available 1-800-323-0620™

No. 4W225
Oil Board

- Easy operation
- Accurate cutting ability
- Rugged construction
- Portable

**Hand Operated Stencil Machine.** Portable, no bolting to work surface. Positive cutting action cuts oil board cleanly with no tearing or pulling. Case-hardened dies have wearproof cutting edges and bronze alloy punches that last longer than steel. Aluminum parts and sealed-in lubrication for smooth operation. Rugged construction. Large, easy to read dial. Cam and ratchet spacing centers letters automatically. Overall dimensions: 10H x 18W x 24"D. Marsh brand.

| Character Size (In.) | Marsh Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | S | 1F150 | $1548.00 | $1290.00 | 53.0 |
| 1 | R | 4W224 | 1682.40 | 1402.00 | 73.0 |

### OIL BOARD

Oil-treated paper board cuts cleanly for sharper stenciling. No bleed-through. Size: 7 x 24". 0.015" thick. Natural color. Sold in 50 pound box. Marsh brand (OB15-7X24-50).

**No. 4W225.** Shpg. wt. 52.0 lbs. List $111.17. Each ..... $92.10

## STENCIL SUPPLIES



MARSH®

No. 5A131
Fountain Roller with Cover



No. 5A132
Roller Stencil Ink



No. 5A135
Fountain Roller with Cover




No. 5A136
K-1 Stencil Ink

### ROLMARK ROLLER STENCIL

For stenciling on porous and nonporous surfaces. Pump action button releases ink uniformly for clear marking. Unique open cell, skinless foam roller gives full ink coverage. Roller size: 3". Comes with protective cover and quart of No. 5A132 black stencil ink. Marsh brand (RFR-200-30).

**No. 5A131.** Shpg. wt. 3.6 lbs. List $84.96. Each ..... $70.80

**No. 5A141.** Replacement Roller. Shpg. wt. 0.2 lbs. List $13.31. Each ..... $11.09

### ROLMARK ROLLER STENCIL INKS

For marking on cartons, wood boxes, metal drums, pipe, and other porous and nonporous surfaces. Use with Rolmark fountain roller No. 5A131. Waterproof, permanent, fast-drying inks. Comply with performance requirements of Federal Ink Specifications TT-I-1795, Type IV; and Commercial Item Description A-A-208, Type IV. Quart can. Marsh brand.

| Color | Marsh Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Black | 20903 | 5A132 | $24.10 | $20.08 | 2.5 |
| White | 20923 | 1F151 | 24.41 | 20.34 | 3.1 |
| Red | 20909 | 1F152 | 24.43 | 20.36 | 2.5 |
| Yellow | 20926 | 1F153 | 24.43 | 20.36 | 2.5 |

### No. 5A133 ROLMARK SOLVENT CLEANER

For general cleanup and equipment cleaning after using Rolmark stencil inks above. Quart can. Marsh brand (RM-S-Q).

**No. 5A133.** ❸. Shpg. wt. 2.5 lbs. List $15.88. Each ..... $13.23

### No. 5A135 FOUNTAIN ROLLER WITH COVER

Pumping button dispenses ink quickly and evenly. Marks on vertical or horizontal surfaces. Open cell, skinless design foam pad produces complete coverage. Lightweight. Roller size: 3". For use with No. 5A136 stencil ink on porous surfaces only. Comes with cover to protect foam roller and quart of No. 5A136 black stencil ink. Marsh brand (FR-100-30).

**No. 5A135.** ❸. Shpg. wt. 3.2 lbs. List $80.76. Each ..... $67.35

**No. 5A143.** Replacement Roller . Shpg. wt. 0.2 lbs. List $13.31. Each ..... $11.09

### No. 5A136 K-1 STENCIL INK

For stenciling on corrugated cartons, wood crates, and most other porous surfaces. Permanent, waterproof, fast-drying. For No. 5A135 fountain roller use. Complies with performance requirements of Federal Ink Specifications TT-I-1795, Type II; and Commercial Item Description A-A-208, Type II. Quart can. Black. Marsh brand (K-BK-Q).

**No. 5A136.** Shpg. wt. 2.5 lbs. List $19.98. Each ..... $16.65

### No. 5A137 K SOLVENT

For general cleanup and equipment cleaning after application of K-1 stencil ink No. 5A136 listed above. Quart can. Marsh brand (K-SOL-Q).

**No. 5A137.** ❸ Shpg. wt. 2.5 lbs. List $15.79. Each ..... $13.16

❸ These Products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.



*More ways to move and store products safely and securely.*

# STENCIL SUPPLIES




## STENCIL FOUNTAIN BRUSH

Valve action fountain brush designed for fast, uniform ink dispensing. Polypropylene bristles for durability. Use with No. 5A136 K-1 stencil ink on porous surfaces. Comes with cover. Marsh brand.

**No. 5A134.** Stencil Fountain Brush (20139). Shpg. wt. 0.5 lbs. List $38.57. Each ..... $32.15

**No. 5A142.** Replacement Brush Tip (15227). Shpg. wt. 0.1 lbs. List $16.13. Each ..... $13.45

## INDUSTRIAL MARKERS AND INK

Durable, long lasting fiber tip won't feather or soften after repeated use. Valve action allows fast write-out and smooth ink flow.

**Marsh 88HF Industrial Marker.** For general marking on wood, corrugated and chipboard, metal, plastic, and other porous and nonporous surfaces. Black. Marsh brand (M88-HF-BK).

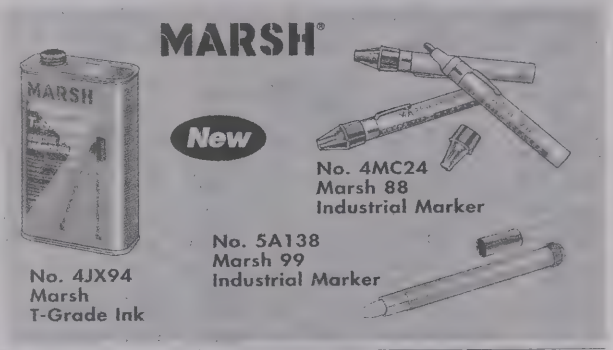
***New* No. 4MC24.** Shpg. wt. 0.1 lbs. List $2.23. Each **$1.86;** Lots 12 .. **$1.77**

**Marsh 99 Industrial Marker.** Heavy-duty, industrial-grade felt tip marker provides reliable service for large, bold marks for shipping and sign making. Easily refillable barrel holds large quantity of Marsh T-grade ink No. 4JX94. Black. Marsh Brand (M99).

**No. 5A138.** Shpg. wt. 0.2 lbs. List $15.56. Each ..... $12.97

**Marsh T-Grade Ink.** Dye-type ink for use with refillable markers. Marks on paper, wood, cartons, metal, glass, and other porous and nonporous surfaces. Fast drying, waterproof, semi-transparent. Good flow-through in felt tip pens. 16 ounce can. Black. Marsh brand (T-BK-P).

**No. 4JX94.** ❸ Shpg. wt. 1.4 lbs. List $16.00. Each ..... $10.80




## MARSH® FAST SPRAY ADHESIVE

Translucent spray is fast-drying. Provides permanent bond. Allows time for repositioning of objects being attached to surfaces. Won't soak in or bleed through; does not wrinkle paper or other thin materials. Use on cloth, cardboard, felt, rubber, upholstery, Styrofoam, canvas, leather and balsa wood. Net wt. 14 oz. Marsh brand (26036).

**No. 3U571.** ❸ Shpg. wt. 1.1 lbs. List $9.31. Each ..... $7.76

## MARSH® SPRAY STENCIL INKS

Waterproof, weather-resistant aerosol inks dry instantly on all surfaces; won't smear, ripple, or smudge on stencils. Use on wood, cardboard, steel, metals, paper, fabrics, plastics, stone, glass, concrete, and other porous or nonporous surfaces. Net wt. 11 oz. Marsh brand.

| Color | Marsh Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| Black | 27004 | 3U573❸ | $6.47 | $5.39 | 1.1 |
| White | 27009 | 3U574❸ | 5.40 | 4.50 | 1.1 |

## TAN SPRAY MARK OVER

Covers and hides old print, markings, labels with an even, fast-drying color that matches the carton. Steady, uniform spray with minimum mist and running. Net wt. 11 oz. Marsh brand (27012).

MARSH®



**No. 3U572.** ❸ Shpg. wt. 1.1 lbs. List $5.83. Each ..... $4.86

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

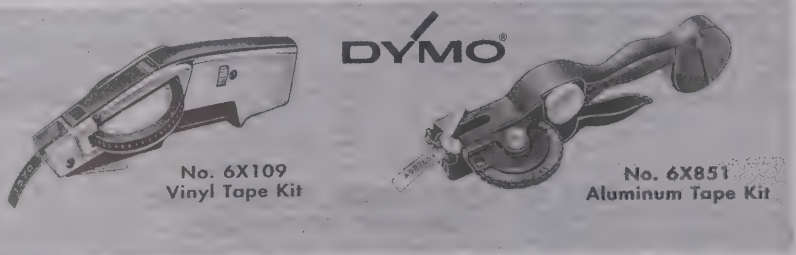
## TAPE LABEL-MAKING KITS

**Vinyl tapewriter kit includes 9½" chrome plated zinc embossing tool** with black plastic handle, three interchangeable embossing wheels, one roll each of red and black adhesive backed vinyl tape, and molded plastic carrying case. Embosses both 3/8" and 1/2" tape and horizontal and vertical letters using interchangeable embossing wheels. Not for use with metal tape. Dymo brand (1570-01).

**No. 6X109.** Shpg. wt. 2.2 lbs. List $84.14. Each ..... $64.00

**Heavy-duty tapewriter kit embosses both 1/2" metal and vinyl tape.** Kit includes one roll of 1/2" x 16 ft. aluminum tape without adhesive, and one roll 1/2" black vinyl tape with one 0.188 character horizontal wheel. Use to label underground wires, products outdoors, or in industrial plants for tagging. Can punch holes in tape when permanent pinning is needed. Dymo brand (1011-05).

**No. 6X851.** Shpg. wt. 2.2 lbs. List $263.03. Each ..... $179.25




### TAPE SPECIFICATIONS AND ORDERING DATA

| Tape Color | Tape Type | Size (In. x Ft.) | Adhesive | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Black | Matte Finish Vinyl | 1/2 x 12 | Yes | 6X112 | $3.68 | $3.13 | 0.1 |
| Red | | | | 6X113 | 3.68 | 3.13 | 0.1 |
| Blue | | | | 3A551 | 3.68 | 3.13 | 0.1 |
| Green | | | | 3A552 | 3.68 | 3.13 | 0.1 |
| Metallic Silver | Aluminum | 1/2 x 12 | Yes | 6X852 | 5.46 | 4.26 | 0.1 |
| | Aluminum | 1/2 x 16 | No | 3A549 | 2.99 | 2.33 | 0.1 |
| | Stainless Steel | 1/2 x 21 | No | 3A550 | 4.55 | 3.74 | 0.2 |

## APEX PLUS AND MAGNUS STEEL STRAPPING

A cold-rolled, medium carbon steel strapping. Both types are painted and waxed for improved tension transmission around corners of a load. Specially formulated to meet different demands. Order dispenser separately. Mill or ribbon wound* coils.

**Apex Plus** is manufactured with superior edge conditioning and coating.

**Magnus** strapping is heat-treated with a Signode process that combines fine surface and controlled physical properties with high strength and excellent shock resistance.

(*) Mill wound (MW) strapping is oscillated uniformly and tightly across the 2½" width of the coil. Approximate coil weight is 105 lbs.
Ribbon wound (RW) strapping is wound with each layer directly over the one below so that the width of the coil is the same as the strap width. Approximate coil weight is 120 lbs.

| Strapping Type | Size (In.) | Wind | Average Strength (Lbs.) | Approx. Ft. Per Coil | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Apex Plus** | 3/8 x 0.017 | MW | 980 | 4945 | **3XG66** | $137.50 | **$114.60** | 105.0 |
| **Apex Plus** | 1/2 x 0.017 | MW | 1305 | 3664 | **3XG67** | 127.15 | **105.95** | 105.0 |
| **Apex Plus** | 5/8 x 0.017 | MW | 1630 | 2971 | **3XG68** | 127.15 | **105.95** | 105.0 |
| **Apex Plus** | 3/4 x 0.017 | MW | 1960 | 2478 | **3XG69** | 125.40 | **104.50** | 105.0 |
| **Apex Plus** | 1/2 x 0.017 | RW | 1305 | 300 | **5A419** | 18.92 | **15.77** | 8.8 |
| **Apex Plus** | 5/8 x 0.017 | RW | 1630 | 300 | **5A422** | 21.43 | **17.86** | 9.8 |
| **Apex Plus** | 3/4 x 0.017 | RW | 1960 | 300 | **5A425** | 22.87 | **19.06** | 12.0 |
| **Magnus** | 1/2 x 0.020 | MW | 1450 | 3087 | **3XG70** | 141.30 | **117.75** | 105.0 |
| **Magnus** | 5/8 x 0.020 | MW | 1830 | 2478 | **3XG71** | 136.25 | **113.55** | 105.0 |
| **Magnus** | 3/4 x 0.025 | MW | 2690 | 1648 | **3XG72** | 125.00 | **104.10** | 105.0 |
| **Magnus** | 3/4 x 0.031 | MW | 3250 | 1333 | **3XG73** | 125.40 | **104.50** | 105.0 |
| **Magnus** | 1¼ x 0.029 | RW | 5450 | 972 | **3XG74** | 134.70 | **112.25** | 120.0 |




## APEX PLUS ANCHOR STRAPPING

3/4W x 0.017" thick strapping has average strength of 1465 lbs. Strap is punched with 3.5mm holes on 19mm centers to allow securing with nails. Apex anchor strapping is used to secure objects to flat surfaces such as suspending pipes from floor joists or securing strapping to crates. For use in home, plant, and warehouse. 300 ft. long roll. No scales or tensioner tools required. Signode brand.

**No. 5A432.** Shpg. wt. 15.0 lbs. List $32.88. Each .....**$27.40**

## STATIONARY FLOOR STEEL STRAPPING DISPENSER

Steel dispenser holds coil of steel strapping that pays off from the inside of the coil. Dispenses steel strapping up to 3/4" wide: Nos. 3XG66, 3XG67, 3XG68, 3XG69, 3XG70, 3XG71. Strapping is not included, order separately. Signode brand (DF-23).

**No. 3XG81.** Shpg. wt. 34.0 lbs. List $261.85. Each .....**$218.25**

## STEEL STRAPPING SEALS

Push-type seals are used where the steel strapping is tensioned by butting the nose of the tensioner against the seal. Overlapping flanges withstand greater stress. Snap-on seals are placed over the overlapping strap ends either during or after tensioning the strapping. Eliminates pre-threading and speeds strapping operation. For use with Apex Plus and Magnus steel strapping.

| Size (In.) | For Use With Steel Strapping Nos. | Joint Type | Signode Model | Stock No. | List | Each Pkg. | Seals Per Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **PUSH-TYPE SEALS** | | | | | | | | |
| **3/8** | 3XG66 | Single Notch | 000453-38SPC | **3XG75** | $48.50 | **$42.90** | 2500 | 20.0 |
| **1/2** | 3XG67, 3XG70, 5A419 | Single Notch | 000503-12SPC | **3XG76** | 74.65 | **60.70** | 3000 | 15.0 |
| **5/8** | 3XG68, 3XG71, 5A422 | Single Notch | 000553-58SPC | **3XG77** | 67.00 | **58.70** | 2500 | 29.0 |
| **3/4** | 3XG69, 3XG72, 3XG73, 5A425 | Single Notch | 000572-34PNSC | **3XG78** | 68.50 | **54.25** | 2250 | 31.0 |
| **3/4** | 3XG69, 3XG72, 3XG73 | Double Notch | 005271-34HOC | **3XH10** | 31.45 | **27.75** | 350 | 17.0 |
| **1¼** | 3XG74, 3XG72, 3XG73 | Double Notch | 005269-114P | **3XH11** | 35.90 | **32.20** | 350 | 25.0 |
| **SNAP-ON SEALS** | | | | | | | | |
| **1/2** | 3XG67, 3XG70, 5A419 | Double Notch | 12C | **5A420** | 5.66 | **4.72** | 200 | 1.0 |
| **5/8** | 3XG68, 3XG71, 5A422 | Double Notch | 58C | **5A423** | 6.06 | **5.05** | 200 | 1.8 |
| **3/4** | 3XG69, 3XG72, 3XG73, 5A425 | Double Notch | 34C | **5A426** | 6.60 | **5.50** | 200 | 2.0 |

## MOBILE FLOOR MODEL PLASTIC AND STEEL STRAPPING DISPENSERS

Portable floor model dispensers are used for typical shipping room applications. Constructed on tubular steel frame. Feature strap troller, tool tray, and rubber tread tires for easy mobility. Coil of strap is mounted on center axle of dispenser and feeds through rollers for smooth pay out. Strapping not included, order separately.

| For Use With Strapping Nos. | Signode Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Magnus Steel 3XG74, 3XG72, 3XG73** | 020420-DF-10RW | **3XG79** | $479.40 | **$399.50** | 74.0 |
| **Tenax Plastic 5W148 Contrax Plastic 3XG62, 5W149 Apex Plus Steel 3XG66, 3XG67, 3XG68, 3XG69 Magnus Steel 3XG70, 3XG71, 3XG72, 3XG73** | 273725-DF-15 | **3XG80** | 319.00 | **266.00** | 59.0 |



# STEEL SEALERS, TENSIONERS AND TOOLS

## MANUAL SEALERS

Used with steel strapping seals to secure tensioned strapping. Notch sealers cut into outer edges of strapping and seal, turning tabs down (regular) or up (reverse).

**Front-action sealer** handles are positioned perpendicular to the strapping for use in front of the operator by pushing handles together close to the chest. Generally used for lighter duty applications. **Side-action sealer's** lower handle can be rested on a flat surface of the unit being strapped. Operators can then apply much of their weight with both hands on upper handle. Generally used for heavier strapping applications. Seals are not included, order separately.

| Description | For Use With Steel Strapping Seals | Notch Type | Signode Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Front Action Sealers** | 3XG75 | Single Reverse | 008620-SRC-3820 | **3XG95** | $172.86 | **$144.10** | 2.1 |
| | 3XG76 | Single Reverse | 008625-SRC-1223 | **3XG96** | 172.86 | **144.10** | 2.1 |
| | 3XG77 | Single Reverse | 008630-SRC-5823 | **3XG97** | 172.86 | **144.10** | 2.1 |
| | 5A420 | Double | C1223 | **5A421** | 154.92 | **129.10** | 3.0 |
| | 5A423 | Double | C5823 | **5A424** | 154.92 | **129.10** | 2.3 |
| | 5A426 | Double | C3423 | **5A427** | 154.92 | **129.10** | 2.3 |
| **Side-Action Sealers** | 3XH10 | Double Reverse | 020560-RCD-3431 | **3XG98** | 601.70 | **501.50** | 7.5 |
| | 3XH11 | Double Reverse | 020350-RCD-1431 | **3XG99** | 621.35 | **518.00** | 7.5 |
| | 3XH11 | Single | 003970-C-1435 | **3XH01** | 580.00 | **483.50** | 8.0 |

## PNEUMATIC TENSIONER

Pneumatic tensioner takes most of the effort out of strapping large or compressible packages. It also makes tensioning uniform and precise through adjustment of the air pressure. A quick-disconnect plug is included. A filter-regulator-lubricator is required.

| Steel Strapping No. | For Use With: Manual Sealer Nos. | Strapping Seals No. | Signode Model 008860-... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3XG74** | 3XG99, 3XH01 | 3XH11 | PN-114 | **3XH07** | $1989.90 | **$1659.00** | 9.8 |

## SIDE-ACTION PNEUMATIC SEALER

Pneumatic sealer lets compressed air do most of the work. Increases production on heavy strapping jobs, especially where seals are in awkward positions. A quick-disconnect plug is included. Air filter and regulator are required. Seals are not included, order separately.

| For Use With Steel Strapping Nos. | For Use With Strapping Seals No. | Notch Type | Signode Model 012550... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3XG72, 3XG73** | 3XH10 | Single Reverse | RCNS-3435 | **3XH08** | $1372.20 | **$1144.0** | 8.6 |

## MANUAL FEEDWHEEL TENSIONER

Serrated feedwheel engages strapping firmly to remove any slack for maximum tension and secure bundling. Fast and easy one-handed operation.

| For Use With Steel Strapping | Signode Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **5/8 to 3/4"W** | 003450-T | **3XG89** | $334.20 | **$278.50** | 4.9 |
| **3/8 to 3/4"W** | 003480-ST | **3XG90** | 261.40 | **218.00** | 3.4 |
| **3/4 to 1¼"W** | 020500-TH | **3XG93** | 533.22 | **444.50** | 7.0 |
| **1/4 to 3/4"W** | LT | **5A429** | 153.18 | **127.65** | 2.8 |

## MANUAL FEEDWHEEL PUSH-TYPE TENSIONER

For use with steel strapping on smaller or irregular shaped bundles. Push-type tensioner has no base to fit under the strap which allows greater tensioning.

| For Use With Steel Strapping | Signode Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/8 to 3/4"W** | 017900-PF | **3XG91** | $493.40 | **$411.25** | 4.3 |
| **3/4 to 1¼"W** | 017930-PFH | **3XG92** | 537.50 | **448.00** | 7.5 |

## STRAP CUTTING TOOLS

No. 5A248 is a lightweight cutting tool which allows user to cut strapping with one hand. Works with steel strapping up to 1/2W x 0.020" thick, and all sizes of plastic strapping.

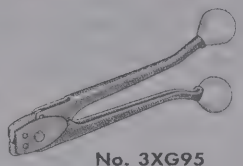
**No. 3XG84** is used for steel strap removal or cutting steel strap to length. Replaceable blades.

**No. 3XG85** is lightweight and allows one-handed operation.

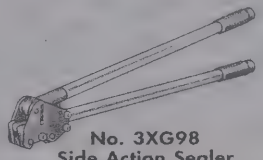
**No. 3XH09** cuts tightly embedded strap. One-handed operation.

| Description | Signode Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Strap Cutting Tools** | 1C | **5A428** | $24.71 | **$20.59** | 0.5 |
| | 005740-CU25 | **3XG84** | 245.35 | **204.50** | 7.1 |
| | 005899-CU30 | **3XG85** | 102.96 | **85.80** | 1.9 |
| | 006630-2 | **3XH09** | 89.80 | **74.85** | 1.5 |

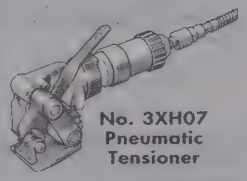
SIGNODE



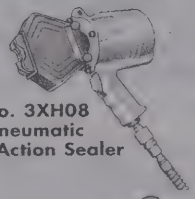
No. 3XG95
Front-Action Manual Sealer



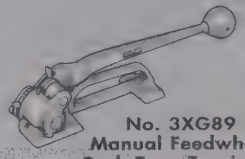
No. 3XG98
Side Action Sealer



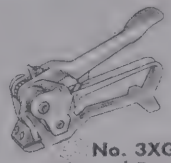
No. 3XH07
Pneumatic
Tensioner



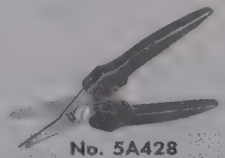
No. 3XH08
Pneumatic
Side Action Sealer



No. 3XG89
Manual Feedwheel
Push-Type Tensioner



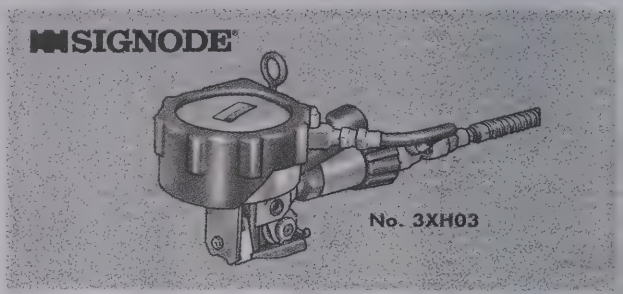
No. 3XG91
Manual Feedwheel
Push-Type Tensioner



No. 5A428
Strap Cutting Tool

## COMBINATION PNEUMATIC PUSH-TYPE SEALING TOOLS

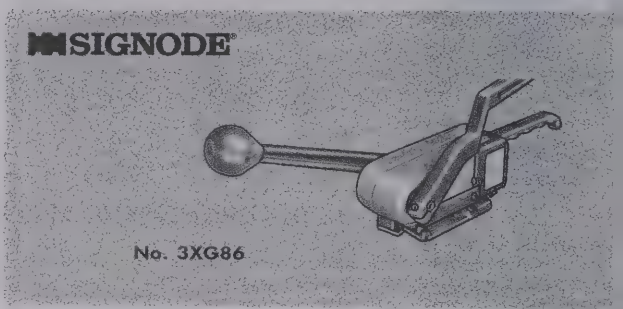
Push-type sealing tools are used for irregularly shaped packages. Air power tensions, seals, and cuts the steel strapping. Supplied with a quick-disconnect plug and socket, these tools require a filter-regulator-lubricator. Seals are not included, order separately.




| For Use With Steel Strapping Nos. | Steel Strapping Seals No. | Signode Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3XG67, 3XG70 | 3XG76 | 422495-PNSC2-12 | 3XH03 | $2814.60 | $2346.00 | 10.0 |
| 3XG68, 3XG71 | 3XG77 | 422496-PNSC2-58 | 3XH04 | 2814.60 | 2346.00 | 10.0 |
| 3XG69, 3XG72 | 3XG78 | 422497-PNSC2-34 | 3XH05 | 2814.60 | 2346.00 | 10.0 |
| 3XG72, 3XG73 | 3XH10 | 306700-PRHM-34 | 3XH06 | 4560.00 | 3800.00 | 25.0 |

## COMBINATION MANUAL SEALLESS TOOLS

Tension, seal, and cut strapping with one tool. These tools require no metal seals, saving time and money. Production interruptions for reloading are eliminated, as well as purchasing and storage of seals.




| For Use With Steel Strapping Nos. | Signode Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3XG67 Apex Plus & 3XG70 Magnus | 422125-SHC-12 | 3XG86 | $1640.50 | $1368.00 | 8.8 |
| 3XG68 Apex Plus & 3XG71 Magnus | 422126-SHC-58 | 3XG87 | 1640.50 | 1368.00 | 8.8 |
| 3XG69 Apex Plus | 422127-SHC-34 | 3XG88 | 1640.50 | 1368.00 | 8.8 |

## STEEL STRAPPING SYSTEMS GUIDE

| Size | Strap | Tensioner | Sealer | Combo Tool | Seal | Cutter | Dispenser† |
|---|---|---|---|---|---|---|---|
| 3/8 | 3XG66 | 3XG90 | 3XG95 | | 3XG75 | 5A428 | 3XG80 & 3XG81 |
| 1/2 | 3XG67<br>3XG70<br>5A419* | 3XG90<br>5A429 | 5A421 | | 5A420 | 3XG85<br>3XH09<br>5A428 | 3XG80<br>3XG81 |
| | | 3XG91 | 3XG96 | | 3XG76 | | |
| | | | | 3XH03 | 3XG76 | | |
| | | | | 3XG86 | N/A | | |
| 5/8 | 3XG68<br>3XG71<br>5A422* | 3XG89<br>3XG90<br>5A429 | 5A424 | | 5A423 | 3XG84<br>3XG85<br>3XH09 | 3XG80<br>3XG81 |
| | | 3XG91 | 3XG97 | | 3XG77 | | |
| | | | | 3XH04 | 3XG77 | | |
| | | | | 3XG87 | N/A | | |
| 3/4 | 3XG69<br>5A425* | 3XG89<br>3XG90<br>5A429 | 5A427 | | 5A426 | | 3XG80<br>3XG81 |
| | | | | 3XH05 | 3XG78 | | |
| | 3XG72 | | | 3XG88 | N/A | 3XG84 | |
| | | | | 3XH05 | 3XG78 | 3XG85 | |
| | 3XG72<br>3XG73 | 3XG89<br>3XG93 | 3XG98 | | 3XH10 | 3XH09 | 3XG79 |
| | | 3XG92 | 3XG98 | | 3XH10 | | |
| | | | | 3XH06 | 3XH10 | | |
| | | 3XH07 | 3XH08 | | 3XH10 | | |
| 1¼ | 3XG74 | 3XG92<br>3XH07 | 3XG99<br>3XH01 | | 3XH11 | 3XG84<br>3XG85 | 3XG79 |

(*) Demo coil. (†) Not needed for demo coil.

# STEEL STRAPPING CUTTERS, PLASTIC EDGE PROTECTORS AND STRAPPING ACCESSORIES

## STEEL STRAPPING CUTTERS

**9" Strapping Cutter.** For cutting flat strap. Lower jaw slides under the tightest strapping or staple. Blades pass each other giving clean, smooth easy cuts. Spring action opens jaws automatically before and after each cut. Capacity 3/4 x 0.035". H.K. Porter brand (0990T).

**No. 6A217.** Shpg. wt. 1.3 lbs. List $91.61. Each ..... $77.90

**12" Strapping Cutter.** A lightweight, rugged cutter that can be used with one hand. It features sharp, clean, fast cuts. Special design eliminates need for spring. Capacity 1¼ x 0.050". H.K. Porter brand (1290G).

**No. 6A218.** Shpg. wt. 1.9 lbs. List $99.35. Each ..... $84.50

**Heavy-Duty 24" Strapping Cutter.** Long-handled two handed cutter that will make light work of the heaviest strapping. Long handles keep worker at a safe distance from cut. Excellent for pallets, loading, and unloading freight cars, trucks, ships, etc. Capacity 2 x 0.050". H.K. Porter brand (2690GP).

**No. 6A219.** Shpg. wt. 6.5 lbs. List $226.15. Each ..... $192.25

## HANDY STRAPPER

Lightweight kit has everything needed to strap packages, cartons and bundles. Includes 12mm wide x 2,500 ft. of Contrax® plastic strapping and 425 self-sealing metal buckles packaged in a convenient carry carton. Perfect for light to medium-duty strapping jobs at home or work. Does not require tool, but for greater tension, use with DLT Tensioner, No. 3A083. Signode brand (010426).

**No. 3A082.** Handy Strapper. Shpg. wt. 20.0 lbs. List $67.22. Each ..... $60.05

## DISPENSI-PAK

Portable self-dispensing polypropylene strapping system designed for light bundling applications. Easy to use system is self-contained; no tools required. Contains 250 feet of 1/2" wide Contrax® strapping and 40 steel buckles. Signode brand.

**No. 5A430.** Shpg. wt. 1.6 lbs. List $22.44. Each ..... $18.70

## PLASTIC EDGE PROTECTORS

1¼L x 2"W plastic edge protectors spread strapping tension across a 2" surface, protecting packages from surface damage. For use with steel strapping or plastic strapping up to 3/4" wide. 2,000 per package. Signode brand (PL-1).

**No. 5A431.** Shpg. wt. 20.0 lbs. List $89.46. Each ..... $74.55

## METAL BUCKLES

1/2" Steelock® metal buckles join plastic strap ends together without tools. Ideal for low volume, low tension strapping of lightweight packages or bundles. Box of 500 self-sealing buckles. Signode brand (50 SL).

**No. 3A127.** Shpg. wt. 12.0 lbs. List $35.46. Each ..... $29.55

## AVISTRAP® POLYESTER STRAPPING

Strong polyester fiber strapping is used for securing shipments to pallets, binding boxes during shipping, or securing goods for storage. Releases without recoil when cut loose. White polyester fiber is 3/8"W x 1,125'L, 500 lb. tensile strength. Packed in self-dispenser carton. Can be knotted or secured with buckles No. 4X888. Cooper Tools brand (P30V).

**No. 4X887.** Strapping. Shpg. wt. 4.2 lbs. List $30.37. Each ..... $25.35

## STRAPPING BUCKLES

Used for securing polyester (Avistrap®) or plastic strapping. Spring steel wire construction, 3/8" wide. 1000 buckles per case. (AVB-3).

**No. 4X888.** Buckles. Shpg. wt. 10.0 lbs. List $27.06. Each ..... $22.55




## PLASTIC STRAPPING SYSTEMS GUIDE

| Size | Strap | Tensioner | Sealer | Combo Tool | Machine | Seal | Cutter | Dispenser |
|---|---|---|---|---|---|---|---|---|
| 3/8 | 4A444 | — | — | | 5Z093 | NA | NA | NA |
| 7/16 | 3XG62 | — | — | 3XH02 | — | NA | 5A428 | 3XG80<br>3XG82<br>5W150 |
| 1/2 | 3A082<br>5A430 | 3A083 | NA | — | — | w/ Strap | 5A428 | N/A |
| 1/2 | 5W148<br>5W149 | 3A084<br>3XG94 | — | | — | 3A133 | 5A428 | 3XG80<br>3XG82 |
| | | — | — | 3XH02 | — | NA | — | 5W150 |

(*) Optional

# PLASTIC STRAPPING AND ACCESSORIES

## CONTRAX PLASTIC STRAPPING

Contrax polypropylene strapping is used for light to medium-duty applications such as palletizing, unitizing, bundling, carton closure, and reinforcement. It resists splitting and has a smooth, uniform surface for reliable performance. Contrax strapping has "elastic memory" which absorbs shock and keeps strap tight during handling and shipping. Controlled surface properties minimize tensioning effort, increase tension transmission around corners, and improve operating efficiency. Dispenser is sold separately.

### CONTRAX STRAPPING SPECIFICATIONS

| Size (In.) | Length (Ft.) | Core Size (In.) | For Use With: | Stock No. |
|---|---|---|---|---|
| 1/4 | 16,500 | 4 x 6 | Power Strapping Machines | 3XG61 |
| 7/16 | 9,000 | 16 x 6 | 3XG82 Mobile Floor Dispenser & 3XH02 Pneumatic Tension Weld Tool | 3XG62 |
| 1/2 | 8000 | 16 x16 | 3XG80 AND 3XG82 Dispenser | 5W149 |
| 1/4 | 18,000 | 7/8 x 7½ | Power Strapping Machines | 3XG63 |
| 3/8 | 12,000 | 7/8 x 7½ | 3XG83 Power Strapping Machine | 3XG64 |
| 7/16 | 7,500 | 7/8 x 7½ | Power Strapping Machines | 3XG65 |

### CONTRAX STRAPPING ORDERING DATA

| Size (In.) | Signode Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/4** | LD2164 | **3XG61** | $72.89 | **$60.75** | 25.0 |
| **7/16** | HD723B | **3XG62** | 101.62 | **84.70** | 35.0 |
| **1/2** | 816B | **5W149** | 121.08 | **100.90** | 36.0 |
| **1/4** | SP2164 | **3XG63** | 90.80 | **75.70** | 34.0 |
| **3/8** | SP616B | **3XG64** | 83.58 | **69.65** | 34.0 |
| **7/16** | SP723B | **3XG65** | 91.52 | **76.30** | 34.0 |

## TENAX® POLYESTER STRAPPING

For rigid loads requiring highly retained tension for longer periods of shipping or storage time. Recommended tools: WTD-2 Tensioner, No. 3A084; D-504 Sealer, No. 3A124; and 50DYS Seals, No. 3A133. Coil is 1/2"W x 10,500 ft. long with 500 lb. average strength. Dispenser not included. Signode (1816).

**No. 5W148.** Polyester Strapping. Shpg. wt. 58.0 lbs.
List $175.05. Each.....$134.65

## STRAPPING SEALS

Snap-on seals speed sealing operations on all types of 1/2" wide plastic strapping. Seal can be placed on overlapping ends of strapping either during or after tensioning. Requires tool No. 3A124 to crimp seal ends together. Box of 500 seals. Signode brand (50 DYS).

**No. 3A133.** Strapping Seals. Shpg. wt. 6.0 lbs.
List $24.69. Each.....$18.99

## FLOOR MODEL DISPENSERS

Portable floor model dispensers are constructed on tubular steel frame features straptroller, tool tray and rubber tread tires for easy mobility. Can be used with all general duty Contrax® and Tenax® plastic strapping. Coil of strapping mounts on center axle of dispenser and feeds through rollers for smooth play out. Dispenser can be suspended if required. Order strapping separately. Signode brand.

| Description | Signode Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Strapping Dispensers** | DD-1A | **5W150** | $272.40 | **$227.00** | 50.0 |
| | DF-15 | **3XG80** | 319.00 | **266.00** | 59.0 |
| | DF-16A | **3XG82** | 322.50 | **268.75** | 60.0 |

### ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

SIGNODE®

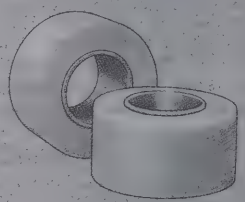
Replacement Parts Available
1-800-323-0620



Nos. 5W149 and 5W148
Contrax Plastic Strapping



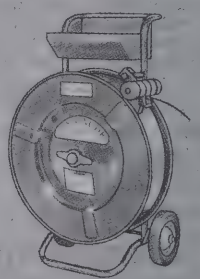
No. #A133
Strapping Seals



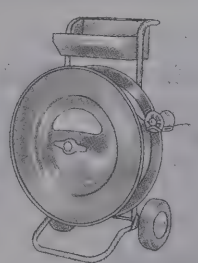
No. 3XG61
Contrax Plus Plastic Strapping



No. 5W150
Strapping Dispenser



No. 3XG80
Mobile Floor Dispenser



No. 3XG82
Mobile Floor Dispenser

# PLASTIC STRAPPING TENSIONERS AND PLASTIC STRAPPING MACHINE

## HAND TENSIONER

Lightweight gripper-type tensioner/cutter triples the pull on plastic strapping in a simple one-hand operation, providing maximum tension. Easily tensions strapping around cartons, pallets and bundles. Can be used with No. 3A082 Handy Strapper. Also with No. 3A127 or 3A133 buckles. Signode brand (DLT).

**No. 3A083.** Shpg. wt. 0.7 lbs. List $69.02. Each ..... $60.05

## MANUAL FEEDWHEEL STRAPPING TENSIONER

Serrated feedwheel engages strapping firmly to remove any slack for maximum tension and secure bundling. Fast and easy one-handed operation. For use with plastic strapping Nos. 5W148 and 5W149. (Requires use of sealer tool No. 3A124 and seal No. 3A133).

**No. 3XG94.** Shpg. wt. 3.6 lbs. List $282.20. Each ..... $235.25

## WINDLASS TOOL

A strapping tensioner for use only with Signode plastic strapping. Adds great tension with less effort on flat packages. Tool grips one end of strap with lever action, and winds the other around a slotted shaft. Applies greater tension than feedwheel tools, and also cuts strapping. Signode brand (WTD-2).

**No. 3A084.** Shpg. wt. 2.8 lbs. List $117.66. Each ..... $98.05

## SEALER TOOL

Lightweight front action sealer crimps seal around overlapping ends of plastic strapping. Place the seal on tensioned strapping, place sealer over seal and push handles together to close seal. For general strapping purposes. Signode brand (D-504).

**No. 3A124.** Shpg. wt. 3.0 lbs. List $180.60. Each ..... $150.50

## COMBINATION PNEUMATIC TENSION WELD TOOL

Supplied with a quick-disconnect plug and socket, this tool requires a filter-regulator-lubricator. This tension weld tool applies Tenax, Contrax, and Contrax Plus plastic strapping Nos. 5W148, 5W149 and 3XG62. Strap ends are joined with Signode's patented tension weld process, eliminating the need for metal seals. Signode brand (VXM-2000E).

**No. 3XH02.** Shpg. wt. 9.6 lbs. List $3301.20. Each ..... $2751.00

## EMPAX® PLASTIC STRAPPING

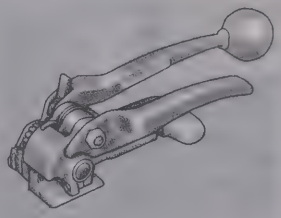
12,900 ft. coil of 3/8" Empax® polypropylene plastic strapping. Break strength of 300 lbs. Signode brand (2X1112).

**No. 4A444.** Shpg. wt. 28.0 lbs. List $85.14. Each ..... $70.95

SIGNODE®



No. 3A083
Hand Tensioner



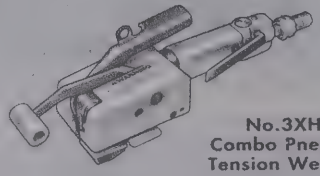
No. 3XG94
Manual Feedwheel
Strapping Tensioner



No. 3A084
Windlass Tool



No. 3A124
Sealer Tool



No.3XH02
Combo Pneumatic
Tension Weld Tool

## SIGNODE MST PLASTIC STRAPPING MACHINE

Dispenses, tightens, and seals economical polypropylene strapping around any package or bundle greater than 3". Operation is simple and fast: user selects strap tension and length from front panel buttons, guides loose end of strap around the package, and reinserts the end into the machine. Unit automatically tensions strap and joins the ends with a secure heat weld. Tension is adjustable up to 80 pounds. Machine requires 3/8" wide Empax® plastic strapping, No. 4A444, listed separately above. 115V, 60 Hz. 31H x 39W x 24½"D. Signode brand (MST).

**No. 5Z093.** Shpg. wt. 241.0 lbs. List $2719.20. Each ..... $2266.00▲

(▲) Net prices, not subject to discounts.

SIGNODE®

Replacement Parts Available 1-800-323-0620™

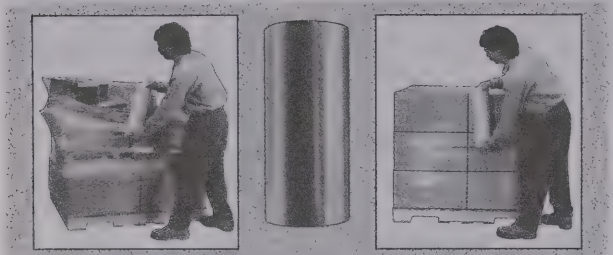


## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# STRETCH FILM HANDWRAPPERS AND STRETCH BAND-IT™ STAND

## TENNECO PALLETECH™ HAND WRAP



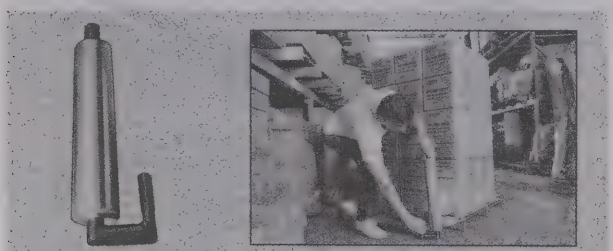
**Extra Strong 79-Gauge Film:**
- For heavy, odd shaped, hard to wrap pallet loads
- Withstands severe puncturing

**Strong 59-Gauge Film:**
- Holds shipments securely
- For general wrapping of most pallet loads

Tightly secures and protects pallet loads efficiently and economically for transportation. Strong, tear-resistant stretch wrap holds up against puncturing. Outstanding stretchability and cling prevents load from vibrating loose. Highly versatile stretch wrap unitizes most any type, size, and weight load. Easy to apply by hand or with No. 5A414 Highlight Hi Tech Handwrapper listed below. Tenneco PalleTech brand.

| Roll Size Width (In.) | Roll Size Length (Ft.) | Tenneco Model | Stock No. ❸ | List | Each | Lots 16 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **X-79, 79-GAUGE HAND WRAP** | | | | | | | |
| **12** | 1500 | HWX-1220 | **5A408** | $15.33 | **$9.24** | **$8.78** | 7.1 |
| **14** | 1500 | HWX-1420 | **5A409** | 19.24 | **10.51** | **9.98** | 7.8 |
| **18** | 1500 | HWX-1820 | **5A410** | 23.22 | **13.53** | **12.85** | 9.8 |
| **X-59, 59-GAUGE HAND WRAP** | | | | | | | |
| **12** | 2000 | HWX-1215 | **3VH79** | 15.33 | **9.47** | **8.99** | 6.8 |
| **14** | 2000 | HWX-1415 | **3VH80** | 19.24 | **10.81** | **10.27** | 7.9 |
| **18** | 2000 | HWX-1815 | **3VH81** | 23.22 | **13.86** | **13.17** | 10.0 |

## LOADWRAPPER™ HAND WRAP

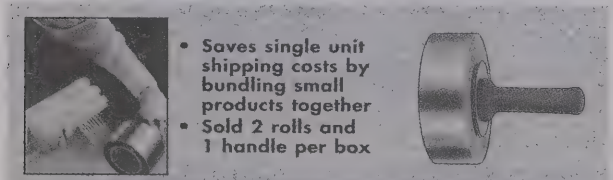


- **Extra wide 80-gauge stretch film wrap**
- **Secures and protects pallet loads of all configurations.**

Disposable hand wrap system is extra tough, 80-gauge stretch film wrap. Unitizes, secures, and protects pallet loads of all configurations and weights. Puncture-resistant to withstand irregular protrusions. Excellent cling power holds up in all temperatures. Comes with convenient handle designed for easier and more comfortable wrapping. Transferring to next roll of Loadwrapper is done with little interruption. Extra wide 20" x 1000 ft. rolls. Tenneco Loadwrapper brand (QH1-2080).

**No. 5A413.** ❸ Loadwrapper Hand Wrap. Shpg. wt. 6.3 lbs.
List $27.33. Each $18.22; Lots 4.....**$17.31**

## TENNECO MASTER WRAP®



- Saves single unit shipping costs by bundling small products together
- Sold 2 rolls and 1 handle per box

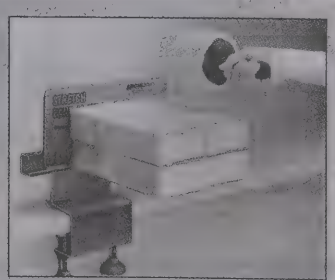
Bundles small, odd shaped products for shipment. Each layer of stretch film sticks to the next for tight, secure ganging of small packages that won't damage or deface products. Saves unit shipping charges. Tenneco brand.

| Roll Size Width (In.) | Roll Size Length (Ft.) | Tenneco Model | Stock No. ❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3** | 600 | QA10312 | **5A411** | $12.21 | **$8.53** | **$8.10** | 2.6 |
| **5** | 1000 | QA10590 | **5A412** | 30.98 | **17.15** | **16.30** | 4.0 |

## HIGHLIGHT HI-TECH HANDWRAPPER & STRETCH BAND-IT® STAND



No. 5A414 Handwrapper



No. 5A415 Band-It® Stand

**Hi-Tech Handwrapper** is a precision hand held stretch wrap dispenser. Lightweight and easy to use. Comfortable foam handle with 33° angle makes it easy to wrap any load. Sturdy zinc die-cast construction. Patented Stretch Set film control feature delivers higher stretch levels for tight, secure, and economical loads. Use with PalleTech® X-79 and X-59 Hand Wrap listed above. Adjusts to accept 12, 14, and 18" wide film. Highlight brand.

**Highlight Stretch Band-It® Stand** supports packages for stretch bundling in shipping room operations. Mounts easily and securely to any table. Adjustable zinc-plated steel forks hold packages up to 35 lbs. Bundled products are easily removed from forks after wrapping. Sturdy backplate offers package alignment and rear support. For use with Tenneco Master Wrap handwrappers. Band-it brand (HBS-100).

**No. 5A414.** Hand Wrapper. Shpg. wt. 4.0 lbs. List $89.95. Each .....**$80.40**

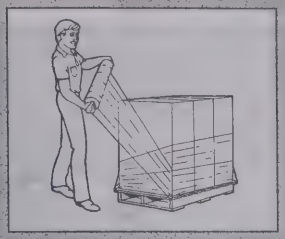
**No. 5A415.** Band-It Stand. Shpg. wt. 14.0 lbs. List $69.95.Each .....**$64.25**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# STRETCH FILM HANDWRAPPERS AND SEMI-AUTOMATIC STRETCH WRAP MACHINE

GOODWRAPPERS HANDWRAPPERS.

One Person Can Fully Wrap Any Size or Shape Load





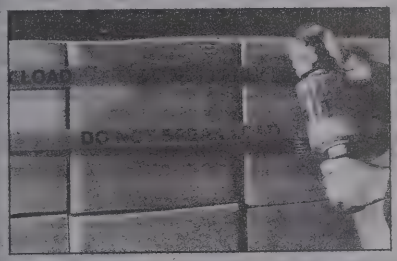
## STRETCH WRAP

- **Tear and puncture-resistant, 0.8 mil thick film**
- **Exceptional clarity**
- **20" wide x 1000 ft. long roll**
- **Disposable hand-held dispenser**

Goodwrappers® completely self-contained handwrapping system uses stretch film to protect shipments and pallet loads from damage and theft when in transit, sitting on a dock, or stored in a warehouse. Each roll is ready to use out of the box, complete with built-in dispenser. Eliminates inconvenience of losing or breaking extra parts. Operator gets maximum film stretch by squeezing patented hand braking system. Hand brakes protect operator's hands from friction heat. Two hand brakes allow operator to stretch 100% of stretch film width. Each roll is loaded with 1000 ft. x 20" wide Bemis "80" stretch film which has exceptional clarity, tear and puncture resistance; retains stretch from –20 to 120°F. Goodwrappers brand (4G-20-4M)

**No. 2A096**. Shpg. wt. 8.0 lbs. List $24.45. Each ..... **$20.40**

## GOODWRAPPERS PRINTED STRETCH FILM



Three messages available:

- "FRAGILE"
- "RED HOT RUSH"
- "DO NOT BREAK LOAD"

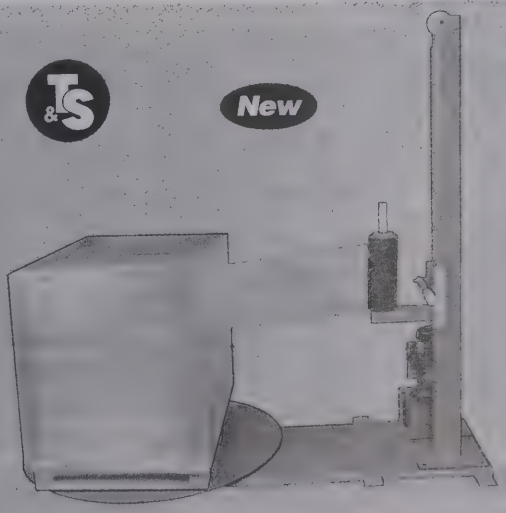
Alerts shippers to shipments that need special attention. Adding printed messages to stretch film allows identification of load at the same time it is being stabilized. Eliminates need for extra labor and shipping room supplies. Three messages available: "FRAGILE," "RED HOT RUSH," and "DO NOT BREAK LOAD." Bold black lettering is 1" high with a red background band. Comes in 5" x 500 ft. roll, complete with dispenser and patented hand braking system for hand application. Can also be applied by stretch wrap machine when using brackets (sold separately on page 2276). Goodwrappers brand.

| Message | Goodwrappers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **FRAGILE** | 6R53MFRG | **6A220** | $13.15 | **$10.95** | 2.0 |
| **RED HOT RUSH** | 6R53MRHR | **6A221** | 13.15 | **10.95** | 2.0 |
| **DO NOT BREAK LOAD** | 6R53MDBL | **6A222** | 13.15 | **10.95** | 2.0 |

## SEMI-AUTOMATIC STRETCH WRAP MACHINE

T&S

New



Wraps pallets up to 78" high and weighing up to 4000 lbs.

Facilitates efficient palletizing at the end of a production line or in a shipping department by automatically rotating pallet while operator remains stationary. Powered by 115V, 1/2 HP motor with soft start and stop variable speed control. Unit is easily operated by actuating the foot pedal and manually moving film up or down with handle.

Stretch wrap machine can wrap pallets up to 78" high with a maximum weight of 4000 lbs. Maximum load diameter is 76". Round platform is 48" in diameter x 2" high. Mast is 75" high. Uses stretch wrap film rolls up to 11" in diameter. Comes equipped with bars to handle 10 and 20" wide rolls of stretch wrap film. T & S brand.

| Description | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Semi-automatic Stretch Wrap Machine** | SWA-48 | **4W943** | $3791.27 | **$3294.00▲** | 480.0 |
| **Pallet Truck Access Ramp** | SWA-R-4836 | **4UP96** | 351.57 | **330.50** | 165.0 |

### PALLETECH™ "T" FILM

**For use with T & S semi-automatic stretch wrap machine as well as other brands of stretch wrap equipment**

PalleTech™ "T" film is a higher load force machine film which provides greater force-on-load to protect and secure all types of loads. This film has excellent clarity, silent unwind, and consistent cling that reduces chances of film slippage. Outstanding restretch memory for greater load retention. PalleTech™ "T" will stretch up to 225%. 80-gauge clear film in 20" wide x 6000 ft. long roll. Tenneco® brand (TT1-2080).

**No. 4W935**. PalleTech Film. Shpg. wt. 40.0 lbs. List $81.46. Each **$67.90**; Case Lots 4 ..... **$64.46**

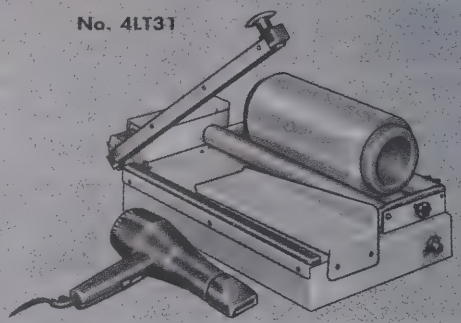
# SHRINK WRAPPING SYSTEMS AND FILM

## SHRINK WRAP SYSTEMS

Midwest Pacific™

Replacement Parts Available 1-800-323-0620

- Easy to use, professionally shrink wraps products in seconds
- Compact size, can be used almost anywhere
- Heavy-duty construction for continuous use
- Used by manufacturers, wholesalers, distributors, parts departments, shipping rooms, printers, and retailers
- Dual in-line safety fuses protect both the operator and the machine
- Includes 500 foot roll of shrink film




Midwest Pacific shrink wrap systems provide a simple, economical way to protect your product from soil and contamination while clearly displaying the product or package. The system makes your product tamper-resistant and tamper-evident.

The dispenser film cradle features self-lubricating bearings and a rugged film separator for smooth film flow and easy product insertion. Solid-state timer control and special alloy heating element provide consistently strong seals. Lightweight, sturdy 900 watt heat gun with baffle diffuser plugs into a fused standard outlet in the back of the unit. Each unit comes with spare element and teflon. Maintenance kit (Part# 488-9762 for 16" and Part# 488-9788 for 27" model) and all other parts available: to order, call toll free 1-800-323-0620

Easy to use. Just insert the product into the centerfold film. The sealing arm both seals the open sides and removes any excess film. Hot air from the heat gun makes the film shrink tightly around the product.

**No. 4LT31 16" Shrink Wrap System** includes 16" bar impulse sealer/dispenser, 500 ft. long x 15" wide roll of centerfold shrink film, and maintenance kit (heating element, upper and lower teflon). Can be used with centerfold film 6 to 16" wide.

**No. 4LT35 27" Shrink Wrap System** is similar to 16" system, but will accommodate film up to 27" wide. Midwest Pacific brand.

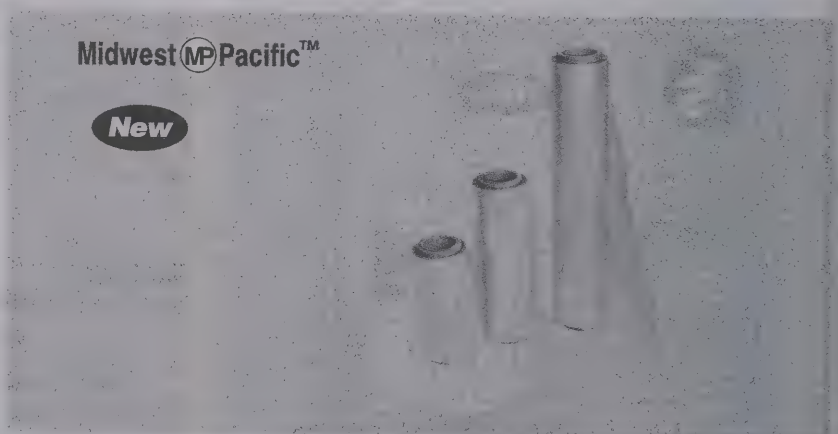
| Description | Maximum Film Width (In.) | Bar Sealer Dimensions (In.) L | W | H | Midwest Pacific Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **16" Shrink Wrap System** | 16 | 19 | 11 | 5 | MP16SW | **4LT31** | $482.70 | **$375.00** | 23.0 |
| **27" Shrink Wrap System** | 27 | 30 | 11 | 5 | MP27SW | **4LT35** | 711.00 | **475.00** | 34.0 |

## CLEAR PVC SHRINK FILM

- Shrinks to conform to shape of product when heat is applied
- Less "cling" for easy product insertion
- Offers tamper resistant and tamper evident seal on products of any shape
- Protects products from moisture and contamination
- Maximum shrink: TD (width) 42%, MD (length) 38%
- Free of "fisheyes" and other defects that cause flaws in packaging
- Can be used on food containers but is not approved for direct food contact
- Available in 10 and 15" (75 gauge) and 26" (100 gauge) center folded width films

Midwest Pacific™

*New*



Clear, general purpose centerfolded shrink film is made of PVC. Film shrinks when heat is applied to produce clear, skin-tight, overwraps or re-shrinkwrapping of damaged retail packages. Heat can be applied by heat guns or shrink tunnels. Designed for use by retailers, manufacturers, wholesale distributors, and printers. Midwest Pacific brand.

### SHRINK FILM ORDERING DATA

| Width (In.) | Thickness (Mil.) | Length (Ft.) | Midwest Pacific Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **10** | 3/4 | 500 | MP105W | **4LT27** | $49.92 | **$38.00** | 4.6 |
| **15** | 3/4 | 500 | MP155W | **4LT30** | 73.02 | **55.00** | 7.0 |
| **26** | 1 | 500 | MP265W | **4LT34** | 145.26 | **104.00** | 16.0 |
| **10** | 3/4 | 2000 | MP1020W | **4LT26** | 118.80 | **99.00** | 18.0 |
| **15** | 3/4 | 2000 | MP1520W | **4LT29** | 158.40 | **132.00** | 27.0 |
| **26** | 3/4 | 1500 | MP261500W | **4LT33** | 276.00 | **230.00** | 48.0 |

# UTILITY, POSTAL AND RECEIVING SCALES

## UTILITY SCALE

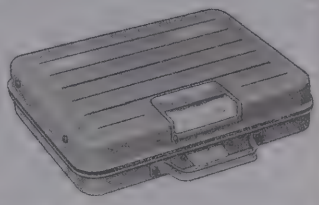
**Utility scale has rugged construction** for general and industrial weighing, 18-gauge steel platform and chassis with convenient carrying handle.

**Memory Lock™ retains reading** when dial is obscured. Clear shatterproof lens. Large numerals and bright red pointer ensure accurate readings. Comes with rubber feet.

250 lb. capacity model comes with 1 lb. graduations. Measures 13½W x 2¾H x 11"D. Pelouze brand.

Memory Lock™ switch allows user to lock in reading if view is obscured by oversized objects

pelouze



| Capacity (Lb. x Lb.) | UPC No. | Pelouze Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **250 x 1** | 06850 | P250S | **5W587** | $119.00 | **$74.35** | 7.0 |

## MECHANICAL POSTAL SCALES

**Rugged, heavy-duty spring scale** is built for the rigors of everyday use in homes, offices, and small mail rooms. All numerals and increments are large, clearly printed, and easy to read. Pelouze brand.

**No. 5W585** has rustless chassis, made of stainless steel and aluminum. Steel platform and rust-resistant, cold-rolled steel interior parts. Shatterproof plastic lens protects pointer and analog dial. Easy to read numerals. Made in USA.

**Replacement dials are available for all scales when postal rates change.***

pelouze



No. 5W585

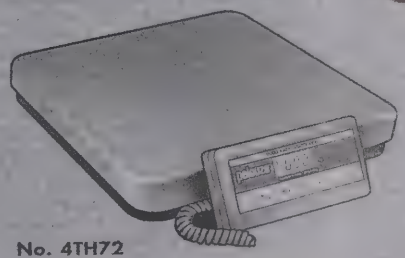
| Capacity (Lbs. x Oz.) | Overall Dimensions (In.) H | W | D | Platform Size (In.) W | D | UPC No. | Rate Capabilities 1st Class | 3rd Class | Int'l Air | Pri-ority | Parcel Post | Pelouze Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50 x 2** | 8½ | 6½ | 6½ | 6 | 4¾ | 03050 | N | N | N | N | Y | Y50 | **5W585** | $70.95 | **$52.60** | 3.8 |

(*) Replacement scale dials for all scales are available when postal rates change. For fastest service call 1-800-323-0620.

## RECEIVING SCALES

pelouze

New



No. 4TH72

**Capacity:**

- **No. 4TH71—up to150 lbs. (60 kg.)**
- **No. 4TH72—up to 400 lbs. (180 kg.)**

Ideal for UPS, Parcel Post, and warehouse shipping applications. Platform is all-steel construction with heavy-duty "no-slip" platform, LCD display and control panel on 9 foot cord, can be wall mounted for easy viewing so large packages won't block LCD display. Tare functions. Automatic shut-off feature.

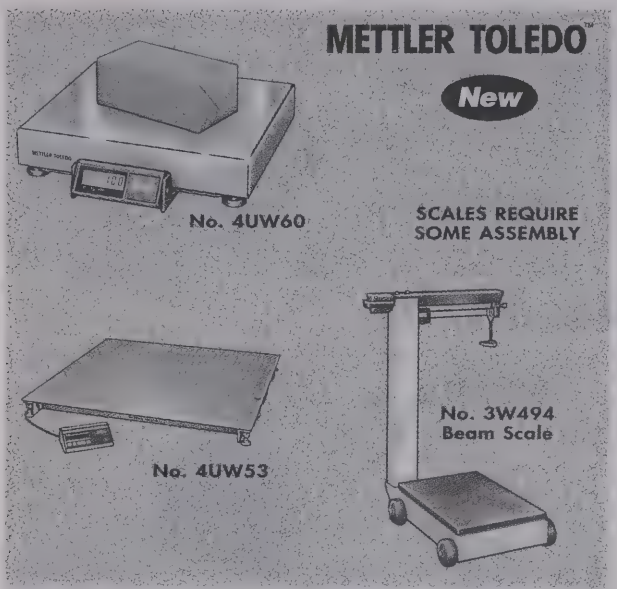
Both models have an RS232 port so scale can connect to a PC. Operates on AC (adapter included) or 9V battery (not included). Pelouze brand.

| Description | Capacity | Dimensions (In.) Body Size | Control Panel | Pelouze Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Straight Weigh Digital Shipping/Receiving Scale** | 150 lbs x 0.2 lbs (60 kg x .01 kg.) | 12 x 12½ x 2¼ | 5 x 3 x 1¼ | 4010 | **4TH71** | $179.00 | **$133.35** | 11.0 |
| | 400 lbs x 0.5 lbs (180 kg x .02 kg.) | 12 x 12½ x 2¼ | 5 x 3 x 1¼ | 4040 | **4TH72** | 199.00 | **157.50** | 11.0 |

**IF YOU'RE IN A BIND, CALL GRAINGER**

**If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

## INDUSTRIAL SCALES




**No. 4UW60 Parcel Scale.** For gross weighing of parcels; including manifesting, receiving, shipping, and checking weights. Rugged, reliable die-cast aluminum construction with stainless steel platter. Switch readings from lb to kg and back. Legal for trade. Easy-to-read LCD display. RS-232 serial interface. Operates on 120VAC.

**No. 4UW61 Portable Parcel Scale.** Battery operated version of No. 4UW60. Uses six "D" alkaline batteries to power scale continuously for a minimum of 40 hours. Sleep mode extends battery life.

**No. 4UW53 Floor Scale.** Mettler Toledo 5000-lb. capacity fully electronic low-profile floor scale with 4 x 4 ft. tread plate deck. Electronic indicator with easy-to-read LCD display, and On-Off, zero, tare, print, and function keys. Delivered precalibrated 5000 lb. x 1 lb. Can be legal for trade when recalibrated by 5 lb. Operates on 120VAC.

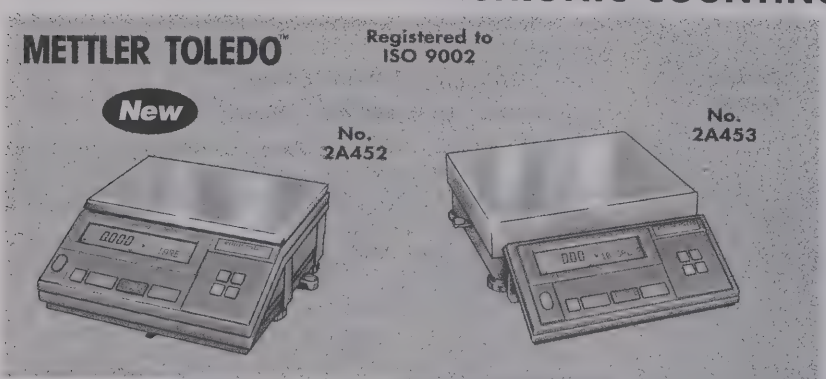
**No. 4UW55 Scale Ramp.** Optional ramp for No. 4UW53 Floor Scale. Scale accommodates one ramp, or two ramps on opposing sides to make loads easier to move on or off. Priced per one ramp.

**No. 3W494 Portable Heavy-Duty Beam Scale.** 1000-lb. capacity beam scale. Reliable, low cost, and portable. Standard beam is calibrated to 100 pounds in 8-ounce graduations. Total capacity is increased to 1000 pounds using additional counterpoise weights which are provided. Lever operated lock secures beam indicator when scale is not in use. Phenolic wheels. Rugged fabricated steel construction. Legal for trade.

**METTLER TOLEDO LIMITED WARRANTY**
**Mettler Toledo warrants industrial scales from defects in workmanship and materials for 1 year from date of installation. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Scale Type | Load Capacity (Lbs.) | Graduation Size | Maximum Tare (Lbs.) | Dimensions (In.) H | W | D | Mettler Toledo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Bench, Parcel** | 150 | 0.05 lb. | NA | 3.5 | 13.8 | 14.2 | PS60-1101 | ***New* 4UW60** | $605.00 | **$593.00** | 15.0 |
| **Bench, Parcel** | 150 | 0.05 lb. | NA | 3.5 | 13.8 | 14.2 | PS60-1111 | ***New* 4UW61** | 660.00 | **647.00** | 22.0 |
| **Floor, Digital** | 5000 | 1 lb. | 5000 lbs. | 3⅝ | 48 | 48 | 2254305023 | ***New* 4UW53** | 2695.00 | **2642.00** | 204.0 |
| **Ramp** | - | - | - | 3⅝ | 48 | 36 | 54-100023 | ***New* 4UW55** | 325.00 | **318.50** | 150.0 |
| **Floor, Beam** | 1000 | 8 oz. | — | 48¾ | 19¼ | 34½ | 4182-1011 | **3W494** | 539.19 | **537.50** | 140.0 |

## DIGITAL ELECTRONIC COUNTING SCALES




User-friendly scales for basic weighing and counting. Features a simple keyboard and liquid crystal display. High resolution digital load cell provides maximum sensitivity and accuracy for either parts counting or straight weighing operations. Up to 999,999 pieces may be counted during a single transaction. Scales resolve weight to ± one part in one million. Proprietary overload system assures long dependable service. Available in 30 and 60-pound weight capacities. Nos. 2A453 and 4UW59 have a remote display. Nos 2A452 and 2A453 are 110V AC, 60Hz. Nos. 4UW57 and 4UW58 are battery operated and provide up to 6.5 hours of continuous operation. NiCad battery pack and charger included. UL Listed. Mettler Toledo® brand.

| Weighing Capacity (Lbs.) | Capacity / Display Configuration (Lb. x Lb.) | Platter Size (In.) | Dimensions (In.) H | W | D | Mettler Toledo Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **30** | 30 x .005 | 12 x 8.5 | 5.3 | 14.8 | 12.2 | BC15 | | **2A452** | $1322.55 | **$1245.00** | 30.0 |
| **30** | 30 x .005 | 12 x 8.5 | 5.3 | 14.8 | 12.2 | BC15B | *New* | **4UW57** | 1300.00 | **1274.00** | 23.0 |
| **60** | 60 x .01 | 13.8 x 11.8 | 5.3 | 13.8 | 11.8 | BC30 | | **2A453** | 1498.38 | **1406.00** | 29.0 |
| **60** | 60 x .01 | 13.8 x 11.8 | 5.3 | 13.8 | 11.8 | BC30B | *New* | **4UW59** | 1475.00 | **1446.00** | 36.0 |

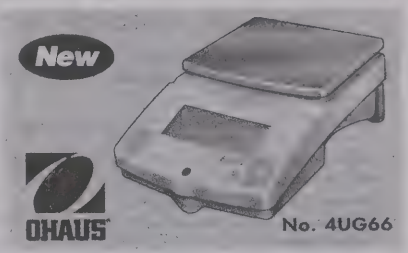
**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# SCALES

## EXPLORER® ELECTRONIC SCALE

- Ergonomically engineered leveling system
- Custom LCD display with seven alphanumeric characters
- Unique, removable display model
- Four user-friendly applications
- Contoured for easy cleaning



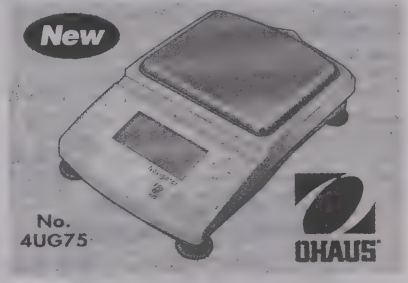

Perfect for users who demand high performance in a dependable, easy-to-use workhorse balance. Applications include GLP protocol, parts counting, animal weighing and percent weighing. Ohaus brand.

| Capacity (Grams) | Readability (Grams) | Repeatability (Std. Dev.) (g) | Linearity (Grams) | Pan Size (cm) | Ohaus Item # | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 410 | 0.001 | 0.0005 | ±0.002 | 12 dia. | E04130 | 4UG66 | $1974.50 | $1939.00 | 15.0 |
| 100/410* | 0.001/0.01 | 0.0005/0.005 | ±0.002/0.005 | 12 dia. | E0RV70 | 4UG72 | 1925.00 | 1890.00 | 15.0 |
| 1000/4100* | 0.01/0.1 | 0.01/0.05 | ±0.02/0.05 | 17.2 x 17.2† | E0RV60 | 4UG73 | 1842.50 | 1809.00 | 15.0 |
| 4100 | 0.1 | 0.05 | ±0.1 | 20.3 x 20.3 | E0D110 | 4UG67 | 1314.50 | 1291.00 | 15.0 |
| 8100 | | | | | E0H110 | 4UG68 | 1644.50 | 1615.00 | 15.0 |
| 12,000 | 0.1 | 0.1 | ±0.4 | 28 x 35.6 | E0K210 | 4UG69 | 2524.50 | 2479.00 | 26.0 |
| 22,000 | | | | | E0L210 | 4UG70 | 2964.50 | 2911.00 | 27.0 |
| 32,000 | | | | | E0M210 | 4UG71 | 4064.50 | 3991.00 | 27.0 |

(*) Moveable FineRange®. (†) With windshield.

## NAVIGATOR® BALANCES

The power of laboratory balance functions in a portable unit. Applications include animal weighing, parts counting, and checkweighing. Features RS232 bidirectional interface with cursor keys to navigate menus and functions. High contrast LCD displays weight and text messages for guidance. Contoured design cleans easily. Sealed front panels and spill rings direct liquids off the balance. Large stainless steel weighing pan. AC powered (adapter included) or battery operated (8 "AA" alkaline batteries, not included) for mobile use. Ohaus brand.




| Capacity (Grams) | Readability (Grams) | Repeatability (Grams) | Linearity (Grams) | Ohaus Item # | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 210 | 0.01 | 0.01 | .0.01 | N02120 | 4UG75 | $654.50 | $643.00 | 4.5 |
| 810 | 0.1 | 0.1 | ±0.1 | N08110 | 4UG76 | 544.50 | 535.00 | 4.8 |
| 2100 | 0.1 | 0.1 | ±0.1 | N0B110 | 4UG77 | 654.50 | 643.00 | 4.8 |
| 8100 | 0.5 | 0.5 | .0.5 | N0H110 | 4UG79 | 709.50 | 697.00 | 4.8 |

## SCOUT® BALANCES

- Large, high-contrast LCD display
- Large weighing pan and simple, two button operation
- Multiple weighing units and parts counting
- Battery operation or AC adapter operation
- Easy span and linearity calibration
- Integral security bracket
- Weigh below hook

Durable ergonomic construction and simple, two-button operation add versatility for laboratory and industrial environments. Easy-to-use features like high-contrast display, large stainless steel weighing surface and auto shut-off. Ohaus brand.




| Capacity (g) | Readability (g) | Repeatability (Std. Dev.) (g) | Linearity (Grams) | Pan Size (cm) | Ohaus Item # | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 200 | 0.01 | 0.01 | ±0.1 | 10.2 dia. | SC2020 | 4UG80 | $328.90 | $323.00 | 3.0 |
| 400 | 0.1 | 0.1 | ±0.1 | 12.7 x 14.6 | SC4010 | 4UG81 | 159.50 | 156.75 | 4.0 |
| 600 | 0.1 | 0.1 | ±0.1 | 12.7 x 14.6 | SC6010 | 4UG82 | 258.50 | 254.00 | 4.0 |

## PORTABLE STANDARD SCALE

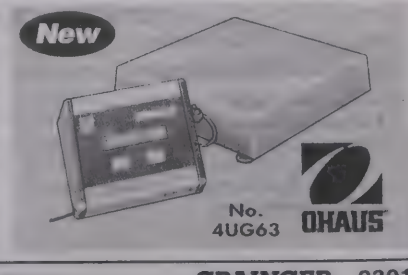
Offers total portability in a compact and durable balance. Features one-button operation, full capacity tare and a high contrast display reading in grams or pounds: ounces. Operates on AC adapter or with one 9-volt battery (not included). Ohaus brand.




| Capacity (g) | Readability (g) | Platform Size (cm) | Dimensions (cm) W | H | D | Ohaus Item # | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5000 | 2 | 13.3 x 13.3 | 14 | 4.1 | 19.1 | LS5000P | 4UG74 | $127.60 | $125.30 | 2.0 |

## GENERAL PURPOSE BENCH SCALES

For shipping and other general weighing applications such as commercial legal-for-trade weighing, warehousing, or incoming goods. Delivers NTEP Certified performance in a simple, easy-to-use, battery operated unit. Select from 4 weighing modes: lb, kg, oz, g. LCD display. Operating temperature range of 0° to 40°C. Stainless steel platform with painted steel frame (except No. 4UG65 has painted aluminum frame). Requires 6 alkaline "C" batteries. Ohaus brand.




| Capacity (kg) | Scale Base Size (cm) W | D | H | UPC No. | Ohaus Item # | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 25 | 30 | 30 | 8.6 | | B25S05 | 4UG65 | $770.00 | $756.00 | 78.0 |
| 100 | 45 | 45 | 9.1 | | B100S05 | 4UG63 | 808.50 | 794.00 | 45.0 |
| 250 | 60 | 60 | 14.8 | | B250S05 | 4UG64 | 1320.00 | 1296.00 | 82.0 |

# CHATILLON SCALES

## PUSH-PULL GAUGES

**No. 4VG64**
**CAP.: 10 Lbs. x 2 Oz. (4.5kg x 0.05kg)**

**No. 4VG65**
**CAP.: 40 Lbs. x 8 Oz. (18kg x 0.2kg)**

- **Sturdy construction with easy-to-read avoirdupois and metric graduations**
- **Accurate to ±1 graduation**
- **Knurled knob for tare and zero adjustment**

Push-Pull gauges have a satin chrome finish with black embossed avoirdupois and metric graduations for fast, error-free readings. Built with Chatillon springs, each is individually calibrated using certified weights to ensure absolute accuracy. Scales work at any angle, with tare and zero easily adjustable. Includes maximum reading pointer. Chatillon brand.

***New*** **No. 4VG64.** 10 Lb. Push-Pull Gauge (719-10MRP). Shpg. wt. 1.1 lbs. List $204.49.
Each.....**$186.00**

***New*** **No. 4VG65.** 40 Lb. Push-Pull Gauge (719-40MRP). Shpg. wt. 1.1 lbs. List $204.49.
Each.....**$186.00**

## 7" LEGAL TRADE COMMERCIAL SCALES

**No. 5A355**
**CAPACITY: 20 lbs. x 1/2 oz.**

**No. 4VG63**
**CAPACITY: 40 lbs. x 1 oz.**

- **Inner steel frame construction**
- **Large, easy-to-read dial wtih red band and contrasting black bezel**
- **TEMPRUF™ temperature compensated springs**

General purpose H44 Class III "Legal for Trade" hanging scales reaches full capacity in two pointer revolutions. Temperature compensated spring ensures accuracy and reliability. Corrosion-proof, chip- and impact-resistant requiring minimal maintenance. Chatillon brand.

**No. 5A355.** 20 Lb. 7" Commercial Scale (0723TGDD). Shpg. wt. 3.8 lbs. List $208.75.
Each.....**$190.00**

**No. 4VG63.** 40 Lb. 7" Commercial Scale (0724TGDD). Shpg. wt. 7.0 lbs. List $239.00.
Each.....**$198.50**

## STRAIGHT SCALES

**No. 5A354**
**CAPACITY: 50 lbs. x 8 oz.**

**No. 4VG68**
**CAPACITY: 100 lbs. x 1 lb.**

- **Precision springs calibrated by certified weights for accuracy to ±1 graduation**
- **Knurled knob for tare and zero adjustment**
- **Dual graduations—avoirdupois and metric**
- **Rugged, all-metal design**

Compact, general-purpose weight and force measurement instruments. Non-corrosive brass with numeral and graduations deeply embossed in black. Rugged construction includes industrial class cadmium-plated spring for long life and reliability under all conditions. For unlimited applications in sport fishing, laboratory, automotive, and repair service operations. Can be used vertically or horizontally. Chatillon brand.

**No. 5A354.** 50 Lb. Straight Scale (IN-50). Shpg. wt. 0.9 lbs. List $63.00. Each.....**$50.00**

***New*** **No. 4VG68.** 100 Lb. Straight Scale (IN-100). Shpg. wt. 2.0 lbs. List $145.00.
Each.....**$124.00**

## 12" CRANE SCALES

**No. 5A359**
**CAPACITY: 5000 lbs. x 20 lbs.**

**No. 4VG69**
**CAPACITY: 20000 lbs. x 100 lbs.**

- **12" dial with widely spaced graduations for maximum readability**
- **Wide angle viewing due to special bezel design and dial position**
- **Accurate to 1/2 of 1% of capacity**
- **Integral zero adjustment to tare loads up to 20% of capacity**
- **Lightweight design for ease of movement between work stations**

Rugged crane scales handle full range of weighing tensiometer and crane scale applications. 12" dial has large visible numerals and a wide-angle bezel design. Complete with factory-installed safety hook. Calibration certifiable to NIST. Chatillon brand.

**No. 5A359.** 5000 Lb. Crane Scale (WT12-5000H). Shpg. wt. 20.0 lbs. List $808.11. Each..**$735.00▲**

***New*** **No. 4VG69.** 20,000 Lb. Crane Scale (WT12-20000H). Shpg. wt. 40.0 lbs. List $1223.64.
Each.....**$1113.00**

## DIGITAL CRANE SCALES

**No. 4VG67-CAP: 5000 Lb. x 2 lbs.**

**No. 4VG66-CAP: 20,000 Lb. x 10 lbs.**

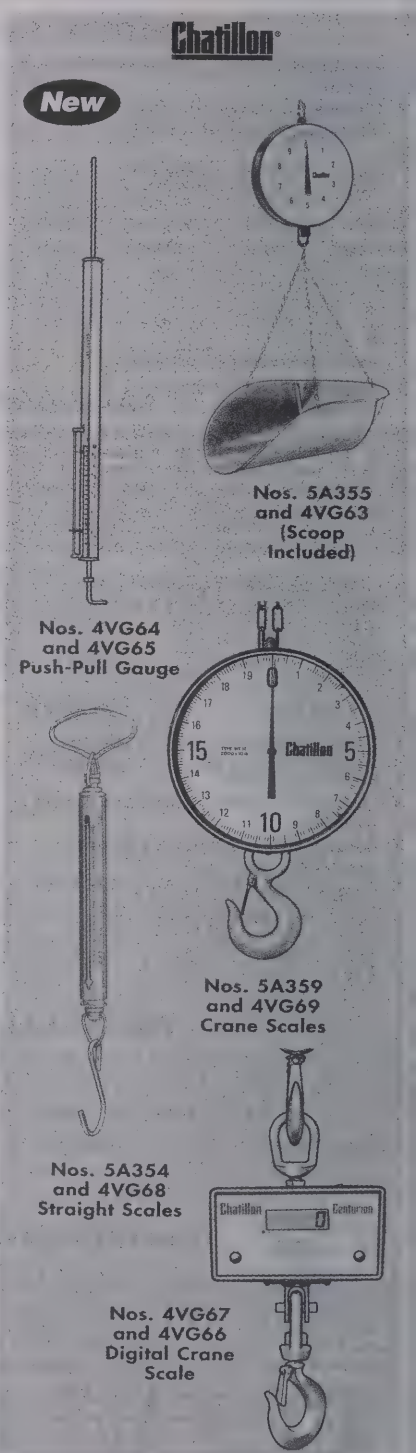
- **Accurate to 0.25% of full capacity**
- **Tare adjustment 10% of capacity**
- **Safety factor at least four times full capacity**
- **Includes fixed lifting eye and bottom safety swivel hook**

Advanced digital scales are ideal for industrial applications. Large LCD readout on scale. Scale features automatic zero tracking. Chatillon brand.

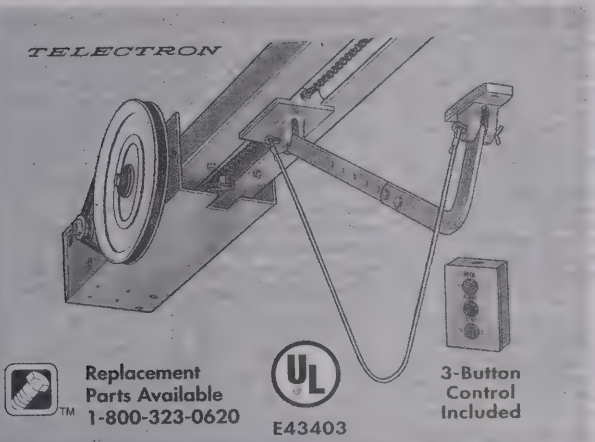
***New*** **No. 4VG67.** 5000 Lb. Crane Scale (DWT5000). Shpg. wt. 21.0 lbs. List $1100.00.
Each.....**$1005.00▲**

***New*** **No. 4VG66.** 20,000 Lb. Crane Scale (DTW20000). Shpg. wt. 44.0 lbs. List $1300.00.
Each.....**$1189.00▲**

(▲) Net prices, not subject to discounts.



# INDUSTRIAL OVERHEAD DOOR OPENERS




Replacement Parts Available 1-800-323-0620

E43403

3-Button Control Included

**Telectron operator systems are chain driven,** drawbar type, designed to operate 20 ft. wide sectional overhead doors up to 280 sq. ft. in size. Drawbar power: 300 lbs. Requires only 3" of headroom. 3/4" drive shafts have permanently prelubricated ball bearings. Powered by 1/2 HP, 115V, single phase permanent split capacitor start motor with automatic reset overload protection. Motor, switch gear, control system, power and control wiring connections are contained in a dust and dripproof enclosure.

**Three-button (Open-Close-Stop) 24V control station** (included) allows lowering and raising door to any desired position. Positive limit switching in both directions will not permit the door or operator to over travel in either direction. Adjustable double friction clutch stops door if obstruction is hit. Full roller chain drive with heavy-duty carriage. Quick release door arm. UL Listed. Telectron brand. Telectron Radio Controls available for remote operation, see below.

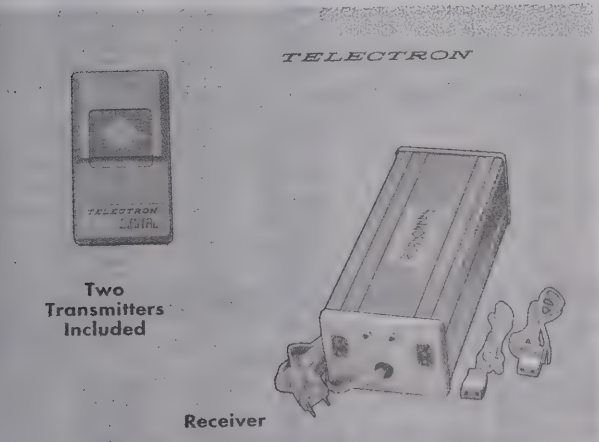
## EXTRA THREE-BUTTON CONTROL STATION

**Control Station** operates door opener from multiple locations; one control required for each location. UL Listed (E91951). Telectron brand (330220).

**No. 6X891.** Shpg. wt. 1.0 lbs. List $40.00. Each ..... **$34.65**

| Use with Door Size | Operator Overall Length | Motor HP | Volts 60 Hz | Telectron Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **8 Ft. H,** 160 Sq. ft. or **10 Ft. H,** 200 Sq. ft. | 14' 1" | 1/2 | 115 | RD10-6 | **3Z262** | $504.01 | **$401.00** | 105.0 |
| **12 Ft. H,** 240 Sq. ft. or **14 Ft. H,** 280 Sq. ft. | 18' 1" | 1/2 | 115 | RD14-6 | **3Z263** | 529.48 | **420.75** | 108.0 |

# RADIO OPERATED CONTROL SYSTEM FOR INDUSTRIAL DOOR OPENERS




Two Transmitters Included

Receiver

**Radio Operated Control System.** A complete digitalized system with receiver and two 2-button transmitters. Permits remote radio control of commercial/industrial door opener systems from a vehicle or adjacent office. System includes one receiver and two transmitters tuned to 225 MHz frequency and code. Operates on 115V, 60 Hz power supply (line cord included). Telectron brand (R204AD-T80G).

**Receiver.** Unit receives coded radio signal to open-close door. Size: 7½ x 3¼ x 2". Telectron brand (R204AD).

**Transmitter.** Operates from vehicle or adjacent office to control door operation. Two button (open-close) transmitter will open door on activation of one button, closes door with activation of second button. Operates on 9V battery (included). Size: 4 x 2¼ x 1". Telectron brand (T80G).

**No. 6X892.** Radio Control System. Shpg. wt. 3.0 lbs. List $180.46. Each ..... **$144.45**

## EXTRA TRANSMITTER

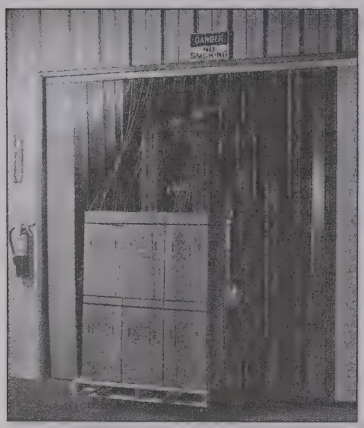
Extra transmitter operates on 225 MHz. Check receiver code number and set transmitter code to match receiver code. Telectron brand (T80G).

**No. 6X893.** Shpg. wt. 1.0 lbs. List $39.10. Each ..... **$36.40**

IF YOU'RE IN A BIND, CALL GRAINGER

If it's an emergency, chances are Grainger's got the items you need today.
Grainger has more than 350 well-stocked branches nationwide.
So you can replace, build, or repair it right away. And we're conveniently located.
To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

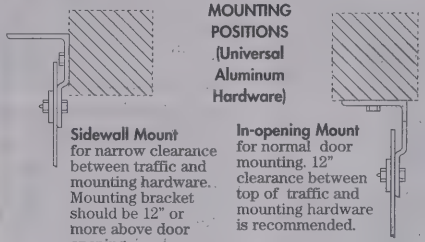
# CLEAR VINYL STRIP DOORS




Replacement Parts Available 1-800-323-0620

ALECO

MOUNTING POSITIONS (Universal Aluminum Hardware)



**Sidewall Mount** for narrow clearance between traffic and mounting hardware. Mounting bracket should be 12" or more above door opening.

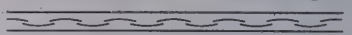
**In-opening Mount** for normal door mounting. 12" clearance between top of traffic and mounting hardware is recommended.

**PARTIAL OVERLAP—CONVEX/CONCAVE**



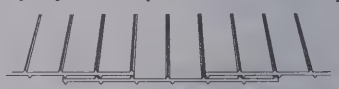
### SMOOTH CLEAR-FLEX II® STRIPS

- Provide unobstructed vision in all directions
- Convex/concave overlap design creates effective seal for easy opening with immediate closing and resealing action



### RIBBED SCRATCH-GUARD™ STRIPS

- Double-sided ribs greatly reduce scratching and abrasion to strips for longer retention of clarity
- Provide better seal than conventional strips, yet still open and close easily



### ALECO 90-DAY LIMITED WARRANTY

**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

**Strip doors lower energy costs** by preventing heated or cooled air from escaping through open doorways. Eliminate wear on automatic door opening systems, and lower sound transmission from parking lots and busy loading docks. Control dust, dirt, snow, and other contaminants moving through doors in high traffic areas.

**Made of fire retardant clear polyvinyl chloride (PVC) strips** having a flexibility temperature range of 0° to +150°F. Should not be installed in constant low temperature areas (32°F or less). Rounded edges prevent cutting. Overlaps provide weather resistant seal. Specially treated additive keeps strips from sticking. Strip door hangs straight down from mounting hardware to part easily and close immediately as traffic passes through. Bright orange safety strips at each end identify open area.

**Ten sizes available.** When ordering for "in opening" mounting (see drawing above), strip door should be same size as opening or slightly larger; larger door can be trimmed easily to fit smaller opening. Wall mount installations require strip door with a greater height and width than the opening for proper wall overlap. Mounting hardware and fastener supplied (see drawing above) except anchor to hang door.

**REPLACEMENT STRIPS.** Same high quality as supplied with complete strip doors. Each strip has 3/8" diameter holes on 2" centers. Can be used on most other strip doors. Come in packages of 5.

### BULK STRIPS

Bulk rolls of same clear vinyl stripping as used with complete strip doors for custom size strip door or for cutting and punching individual replacement strips. Material is clear, fire resistant PVC; recommended for use within 0° to 150°F temperature. Also available in either smooth Clear-Flex II® or ribbed Scratch-Guard™ design. Bulk strips not intended for constant low temperature or USDA applications.

## CLEAR VINYL STRIP DOOR ORDERING DATA

| Dimensions (Ft.) Width | Height | Vinyl Strip (In.) Width | Gauge | No. of Strips | % of Overlap | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SMOOTH CLEAR-FLEX II® VINYL STRIP DOORS** | | | | | | | | | |
| **4** | 7 | 8 | 0.080 | 8 | 50 | **2W700** | $130.00 | **$103.25** | 25.0 |
| **4** | 8 | 8 | 0.080 | 8 | 50 | **4W289** | 148.00 | **119.00** | 30.0 |
| **5** | 8 | 8 | 0.080 | 10 | 50 | **2W963** | 185.00 | **140.00** | 39.0 |
| **6** | 8 | 8 | 0.080 | 12 | 50 | **2W964** | 222.00 | **175.50** | 45.0 |
| **7** | 10 | 12 | 0.120 | 10 | 66 | **4W290** | 406.00 | **329.00** | 88.0 |
| **8** | 8 | 12 | 0.120 | 12 | 66 | **2W701** | 371.00 | **308.00** | 89.0 |
| **8** | 10 | 12 | 0.120 | 12 | 66 | **2W702** | 464.00 | **384.25** | 106.0 |
| **10** | 10 | 12 | 0.120 | 15 | 66 | **3W377** | 579.00 | **479.75** | 130.0 |
| **10** | 12 | 12 | 0.120 | 15 | 66 | **4W291** | 695.00 | **614.50** | 165.0 |
| **12** | 12 | 12 | 0.120 | 18 | 66 | **3W458** | 834.00 | **660.00** | 180.0 |
| **RIBBED SCRATCH-GUARD™ VINYL STRIP DOORS** | | | | | | | | | |
| **4** | 7 | 8 | 0.080 | 8 | 50 | **5W791** | 158.60 | **119.20** | 33.0 |
| **4** | 8 | 8 | 0.080 | 8 | 50 | **5W792** | 180.56 | **142.00** | 36.0 |
| **5** | 8 | 8 | 0.080 | 10 | 50 | **5W793** | 225.70 | **173.75** | 39.0 |
| **6** | 8 | 8 | 0.080 | 12 | 50 | **5W794** | 270.84 | **211.50** | 45.0 |
| **7** | 10 | 12 | 0.120 | 10 | 66 | **5W795** | 495.32 | **389.00** | 88.0 |
| **8** | 8 | 12 | 0.120 | 12 | 66 | **5W796** | 452.62 | **359.00** | 79.0 |
| **8** | 10 | 12 | 0.120 | 12 | 66 | **5W797** | 566.08 | **448.00** | 99.0 |
| **10** | 10 | 12 | 0.120 | 15 | 66 | **4W561** | 706.38 | **559.00** | 120.0 |
| **10** | 12 | 12 | 0.120 | 15 | 66 | **4W562** | 847.90 | **686.00** | 165.0 |
| **12** | 12 | 12 | 0.120 | 18 | 66 | **4W563** | 1017.48 | **809.00** | 180.0 |

## REPLACEMENT STRIP ORDERING DATA—BOX OF 5

| Strip Ht. (Ft.) | Width (In.) | Gauge (In.) | Fits Strip Door | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **SMOOTH CLEAR-FLEX II® STRIPS** | | | | | | | |
| **7** | 8 | 0.080 | 2W700 | **2W703** | $44.45 | **$41.65** | 12.0 |
| **8** | 8 | 0.080 | 2W963, 2W964, 4W289 | **2W965** | 50.80 | **47.85** | 15.0 |
| **8** | 12 | 0.120 | 2W701 | **2W704** | 115.20 | **108.95** | 35.0 |
| **10** | 12 | 0.120 | 2W702, 3W377, 4W290 | **2W705** | 144.00 | **134.95** | 38.0 |
| **12** | 12 | 0.120 | 3W458, 4W291 | **2W966** | 172.80 | **162.00** | 46.0 |
| **RIBBED SCRATCH-GUARD™ STRIPS** | | | | | | | |
| **7** | 8 | 0.080 | 5W791 | **5W798** | 63.00 | **58.40** | 14.0 |
| **8** | 8 | 0.080 | 5W792, 5W793, 5W794 | **5W799** | 72.00 | **66.75** | 16.0 |
| **8** | 12 | 0.120 | 5W796 | **5W800** | 160.00 | **142.40** | 31.0 |
| **10** | 12 | 0.120 | 5W795, 5W797, 4W561 | **5W801** | 200.00 | **184.75** | 38.0 |
| **12** | 12 | 0.120 | 4W562, 4W563 | **5W802** | 240.00 | **221.75** | 46.0 |

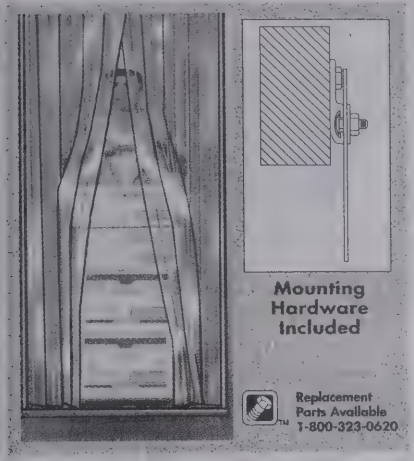
## BULK STRIP ORDERING DATA

| Width (In.) | Gauge (In.) | Roll Length (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **SMOOTH CLEAR-FLEX II®** | | | | | | |
| **8** | 0.080 | 300 | **4W294*** | $339.25 | **$236.25** | 105.0 |
| **12** | 0.120 | 150 | **4W295*** | 352.50 | **265.00** | 110.0 |
| **RIBBED SCRATCH-GUARD™** | | | | | | |
| **8** | 0.080 | 150 | **5W803*** | 232.47 | **162.50** | 53.0 |
| **12** | 0.120 | 150 | **4W568*** | 490.75 | **364.50** | 110.0 |

(*) Half roll lengths of Nos. 4W294, 4W295, and 4W568 are also available. Call 1-800-323-0620.

# VINYL STRIP DOORS, FLEXIBLE TRAFFIC DOORS, AND STEEL FOLDING GATES

## ALECO CLEAR-FLEX II® COOLER/FREEZER STRIP DOOR




**Keeps cold air in, and warm moist air out of walk-in coolers and freezers** found in restaurants, institutions, meat markets, and produce departments.

**Clear-Flex II® strip door lowers compressor load and coil ice buildup** caused by wide open doors during deliveries and restocking. This extends compressor life; saves energy; maintains a more constant temperature; helps prevent spoilage; and reduces maintenance and frequent defrosting. Mounts on inside wall of the cooler/freezer and covers the entire opening. Strips separate and allow easy entry and exit, resealing automatically.

**Overall dimensions: 3' 4" wide x 7' high.** Door consists of smooth, clear, curved overlapping strips with rounded edges. Easily installed. Fire-resistant strips are 8" wide x 0.080 thick and withstand temperatures down to -40F. Formulated entirely of USDA approved materials.

**Comes complete with aluminum mounting hardware,** individually cut and punched strips, and installation instructions. Anchoring fasteners also included.

**REPLACEMENT STRIPS**—Same high quality as supplied with cooler/freezer door. Each strip has 3/8" diameter holes on 2" centers and can be used on most other doors. Come in packages of 5.

**BULK STRIPS**—Bulk rolls of same clear USDA approved material are also available in 150 and 300 ft. lengths. To order, call 1-800-323-0620.

**No. 4W292.** Strip Door. Shpg. wt. 26.0 lbs. List $131.76. Each ..... **$103.65**

**No. 4W293.** Replacement Strips. Shpg. wt. 14.0 lbs. List $52.50. Each ..... **$49.15**

**ALECO 90-DAY LIMITED WARRANTY**
**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

## ALECO FLEXIBLE IMPACT TRAFFIC DOORS

- **Tear and abrasion-resistant HTP™ polymer panels**
- **Fast acting clear zinc-coated gravity hinge system**

**ALECO 90-DAY LIMITED WARRANTY**
**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

ImpacDor® is designed for retail, commercial, institutional, and industrial environments. For use in traffic areas where there is a need for a sight divider, heat retention, or cooled air retention from 0° to 150°F. Traffic doors reduce noise and help keep out dirt and insects. Maintenance-free doors mount easily in any opening and can be trimmed up to 1/2" on top and bottom, and 1½" in the center.

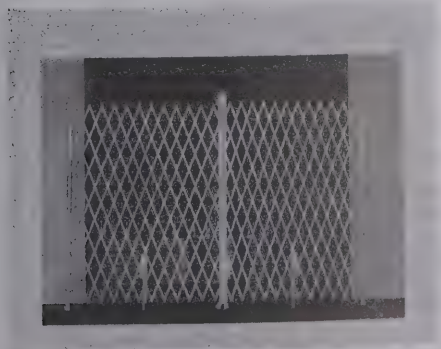
**Flexible traffic doors open easily** in both directions for pedestrians, hand carts, and motorized traffic, and close automatically behind them. Heavy-duty, 3-ply door panels are 5/16" thick. Center panel is made of clear PVC and outside panels of impact, tear and abrasion-resistant HTP™ polymer.

**Extra heavy, clear zinc-coated gravity hinges** are top mounted, fast acting, and have bronze bushings for years of dependable service. Plated steel hinge assembly slides into a hinge pocket in each door panel and is fastened with plated hardware through matching holes. Anchoring fasteners not included. Green color. Panels are shipped preassembled.




| Door Type | Door Size (Ft.) W | Door Size (Ft.) H | Window Size (In.) W | Window Size (In.) H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Bi-Parting | 5 | 8 | 24 | 17 | 4W565 | $1125.00 | $926.00 | 92.0 |
| Bi-Parting | 6 | 8 | 24 | 17 | 4W566 | 1266.67 | 1057.00 | 104.0 |
| Bi-Parting | 8 | 8 | 24 | 17 | 4W567 | 1633.33 | 1340.00 | 127.0 |

## STEEL FOLDING GATES





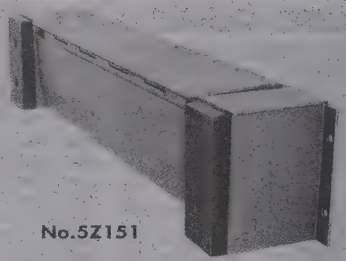

Gates secure receiving doors, lift-up doors, hallways, and entranceways while allowing light and air to circulate through opening. Constructed of 3/4 x 3/8" 15-gauge U-channels riveted back to back. Vertical gate rails are 1" 15-gauge steel posts which mount and pivot gate completely out of opening. Equipped with self-securing center drop pin. No. 4W950 has a lockable drop pin in the center bottom of each web. Come with brackets, bearing washers, casters, and lock lugs. Screws and locks not included. Gates have universal mounting on face or in casing. Galvanized finish. Folding Guard® brand.

| Opening Width (Ft.) | Folded Height (Ft.) | In Use Height (Ft.) | Folded Width (In.) Left Side | Folded Width (In.) Right Side | Folding Guard Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6 - 8 | 6½ | 6 | 9 | 12 | PFG865 | 4W946 | $215.48 | $186.25 | 117.0 |
| 8 - 10 | 6½ | 6 | 10 | 13 | PFG1065 | 4W947 | 266.19 | 230.25 | 130.0 |
| 8 - 10 | 7½ | 7 | 10 | 13 | PFG1075 | 4W949 | 297.55 | 257.00 | 151.0 |
| 10 - 12 | 6½ | 6 | 11 | 13 | PFG1265 | 4W948 | 307.75 | 266.50 | 140.0 |
| 12 - 14 | 7½ | 7 | 12 | 15 | PFG1475 | 4W951 | 420.50 | 363.75 | 171.0 |
| 14 - 16 | 6½ | 6 | 13 | 15 | PFG1665 | 4W950 | 417.43 | 361.25 | 167.0 |

## EDGE-O-DOCK DOCK LEVELERS

**Permanently attaches to face of dock,** ready for instant use. This saves valuable floor space and avoids slipping out of position. Leveler never gets lost or stolen and helps protect against pinched fingers and toes. Mechanical spring counterbalanced dock leveler operates by hooking the lip with lift hook and lifting until tip of lip clears bed of trailer. With an outward lifting motion lip extends and dock leveler is lowered to trailer. When trailer departs, lip automatically retracts behind bumper face. Concrete recess is not required. Bumpers project 15" from dock face. Recommended for docks at least 48" high. High tensile steel ramp extends 27" with service range of 5" up, 5" down. Comes complete with 2 x 8 x 18" bumpers, lift hook, and installation instructions. Both leveler models may be used with No. 3KR49 Dock Seal or No. 3KR50 Dock Shelter listed below.

| Ramp Width (In.) | Overall Width (In.) | Load Capacity (Lbs.) | T & S Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **66** | 92 | 20,000 | FM-20-66 | **5Z151** | $773.16 | **$645.00** | 495.0 |
| **72** | 98 | 20,000 | FM-20-72 | **3KR66** | 839.84 | **756.50** | 520.0 |



No.5Z151

**20,000 Lb. Capacity High Strength Steel Construction**

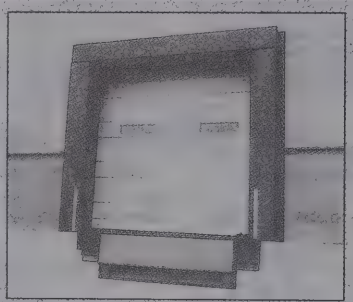
**Steel dock edge required for correct installation.**

## DOCK SEALS

- **Designed for doors 8 ft. wide x 8 ft. high (maximum)**
- **Recommended trailer compression of 5"**

Conserve energy, provide significant heat cost savings, and offer employee comfort by maintaining temperature level. Three-piece construction of 36 oz. nylon reinforced vinyl facing mounted and bonded on wolmanized wood. The seal fastens directly to the surface of the building wall. Fit 8 x 8 ft. doors, but can be adapted to fit smaller door sizes. Sides measure 12W x 96"H. Header measures 120W x 12"H. Includes installation hardware that fits most applications. Usable opening is 90W x 96"H. No. 3KR49 designed for use with Nos. 5Z151 and 3KR66 Edge-O-Dock dock levelers. T & S brand.

| Extension from Building (In.) | T & S Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| **10** | D150-10 | **5Z152** | $636.08 | **$531.00** | 200.0 |
| **20** | D150-20 | **3KR49** | 724.53 | **652.50** | 300.0 |



No.5Z152

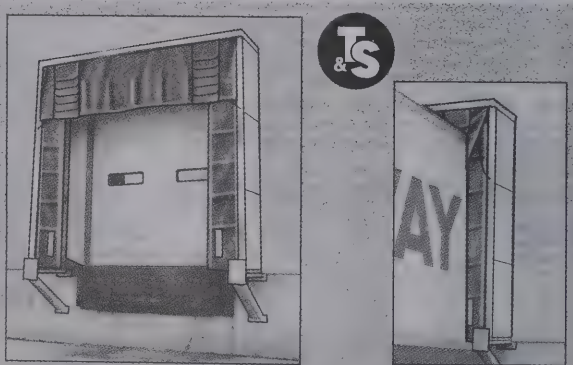
- **Offer security and help prevent product spoilage**

## DOCK SHELTER

- **Built for a maximum door size of 10 ft. wide x 10 ft. high; provides full height and full width access to door and trailer**
- **Projection is 24" (recommended minimum trailer penetration of 10"); semi-trailer penetrates into dock shelter for tight seal**

**Cost-effective dock shelter seals off** warehouse from outside elements while servicing a semi-trailer. Two vertical side frames are 126" high. Top header frame is 132" wide. All three frames include heavy-duty flaps that close the sealed opening down to 90W x 90"H. Flaps are 54oz. black polyester reinforced vinyl. Internally-mounted rubber cords are included to keep flaps in place. Wooden frames are covered with white translucent nylon reinforced vinyl; allows light to penetrate shelter while semi-trailer is backed into dock. Protective aluminum angle covers the external edges of the dock shelter. Includes safety yellow steel guide protectors and corner filler pads. Installation instructions are included. T & S Brand (D-750-24).

**No. 3KR50.** Shpg. wt. 315.0 lbs. List $1113.00. Each.....**$1058.00**

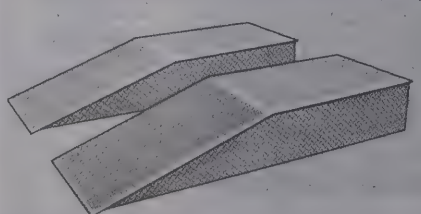


## ALUMINUM TRUCK WHEEL RISERS

- **24,000 lbs. capacity per pair**
- **Welded aluminum construction**
- **Lightweight design for easy portability**

Elevate semi-trailers at loading docks for maximum serviceability during loading and unloading operations. Manufactured from heavy-duty aluminum treadplate for positive traction. Priced each. T&S brand.

| Overall Size | Level Length | Ramping Length | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **18W x 6H x 48"L** | 30" | 18" | ATWR-18-6-48 | **4UP78** | $377.95 | **$321.50** | 60.0 |
| **24W x 6H x 48"L** | 30" | 18" | ATWR-24-6-48 | **3KR40** | 453.13 | **385.50** | 75.0 |



**New**

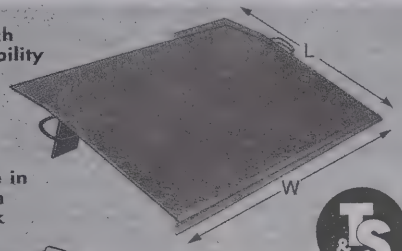
# DOCKPLATES AND DOCKBOARDS

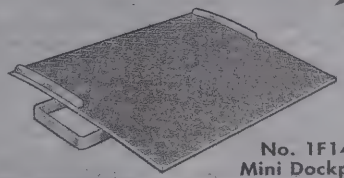
## ALUMINUM DOCKPLATES–Not Recommended for Fork Truck Use

Economical way to speed up loading and unloading. Span open space between dock and trailer. Allow equipment and people to safely move in and out, and automatically compensate for height difference between dock and truck bed. 3/8" or 1/2" thick high strength, lightweight aluminum alloy nonskid tread plate.

- Handle on each side for portability
- Meet OSHA requirements
- T & S brand

Two rugged legs secure dockplate in position between barrier and dock





No. 1F145 Mini Dockplate

**Mini dockplate No. 1F145** is a lighter duty 500 lb. capacity dockplate designed specifically for use as a curb or threshold jumper. Used on delivery trucks when repeated trips are necessary or by a store to facilitate deliveries and increase safety.

### ALUMINUM DOCKPLATE ORDERING DATA

| Width (In.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 36 | AMD-3618 | 1F145 | $131.72 | $105.60▲ | 16.0 |
| 36 | E-3624 | 4W936 | 226.83 | 176.00▲ | 49.0 |
| 36 | E-3636 | 4W937 | 307.61 | 239.00▲ | 68.0 |
| 48 | E-4836 | 2W875 | 384.38 | 299.00▲ | 80.0 |
| 48 | E-4860 | 2W876 | 611.15 | 476.00▲ | 130.0 |
| 48 | EH-4848 | 3KR55 | 636.63 | 499.00▲ | 137.0 |
| 60 | E-6048 | 3KR54 | 599.81 | 475.00▲ | 129.0 |
| 60 | EH-6036 | 4W288 | 597.13 | 465.00▲ | 122.0 |

### ALUMINUM DOCKPLATE SPECIFICATIONS

| Width | Dimensions (In.) Length | Thickness | Load Capacity (Lbs.) | Maximum Height Differential (In.) |
|---|---|---|---|---|
| 36 | 18 | 1/8 | 500 | 9 |
| 36 | 24 | 3/8 | 3600 | 3 |
| 36 | 36 | 3/8 | 2500 | 5 |
| 48 | 36 | 3/8 | 3500 | 5 |
| 48 | 60 | 3/8 | 1800 | 9 |
| 48 | 48 | 1/2 | 3800 | 7 |
| 60 | 48 | 3/8 | 2900 | 7 |
| 60 | 36 | 1/2 | 6600 | 5 |

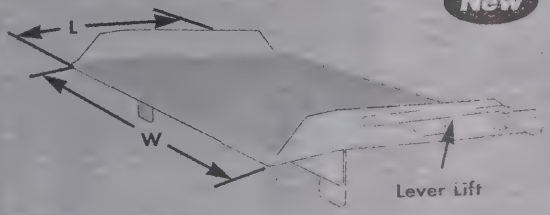
## ALUMINUM AND STEEL DOCKBOARDS–Recommended for Fork Truck Use

Aluminum Dockboard




Steel Dockboard

New




Recommended for fork truck usage. For safer, easier truck loading and unloading. Designed for higher capacity use than dockplates. Dockboards have safety curbs to help prevent run-offs and provide a visible driving lane. Positive traction treadplate. Beveled entrance and exit lip. Locking legs are included for OSHA compliance. One leg is slightly longer than the other to facilitate easy fork truck positioning. T&S brand.

Aluminum dockboards have yellow safety curbs for greater visibility of driving lane. Rugged welded-aluminum construction.

Steel dockboards come standard with patented lever lift mechanism that raises front edge of dockboard off ground to allow fork truck to lift and move to new location. One-person operation. Lever automatically falls to rest position as dockboard is lifted. Heavy-duty welded-steel construction.

Aluminum dockboard with steel curbs includes a painted yellow structural steel safety curb bolted to each side of the dockboard. Plate is made of tough aluminum alloys with treadplate surface.

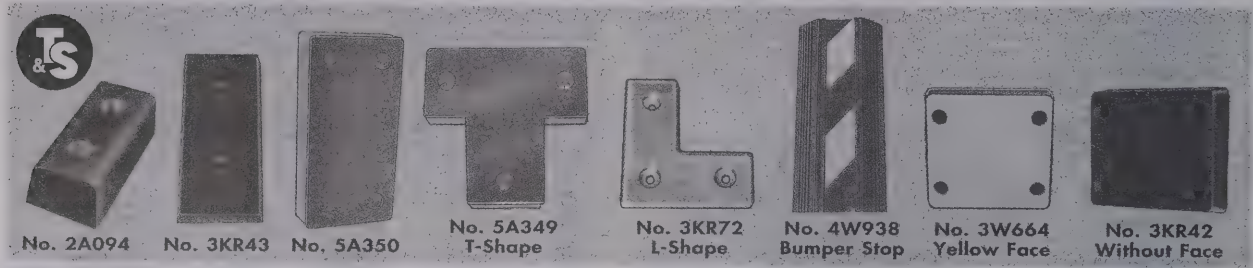
| Load Cap. (Lbs.) | Max. Ht. Differ. (In.) | Dimen. (In.) L | W | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ALUMINUM DOCKBOARDS** | | | | | | | | |
| 5000 | 5 | 36 | 60 | BTA-0500-6036 | 4W595 * | $685.92 | $475.00 ▲ | 103.0 |
| 5000 | 7 | 48 | 60 | BTA-0500-6048 | 4W596 * | 935.76 | 659.00 ▲ | 150.0 |
| 8000 | 7 | 48 | 60 | BTA-0800-6048 | 4W597 | 1047.13 | 740.00 ▲ | 164.0 |
| 8000 | 7 | 48 | 72 | BTA-0800-7248 | 4W598 | 1248.24 | 873.00 ▲ | 207.0 |
| 15,000 | 7 | 48 | 60 | BTA-1500-6048 | 1F142 | 1210.30 | 950.00 ▲ | 230.0 |
| **STEEL DOCKBOARDS** | | | | | | | | |
| 10,000 | 5 | 36 | 60 | TS-10-6036 | 4W599 | 619.17 | 440.00 ▲ | 383.0 |
| 10,000 | 7 | 48 | 72 | TS-10-7248 | 4W600 | 979.52 | 675.00 ▲ | 657.0 |
| 15,000 | 5 | 36 | 72 | TS-15-7236 | 4W601 | 864.72 | 579.00 ▲ | 558.0 |
| 15,000 | 7 | 48 | 60 | TS-15-6048 | 3KR73 | 838.07 | 609.00 ▲ | 563.0 |
| 15,000 | 8½ | 54 | 72 | TS-15-7254 | 4W602 | 1221.98 | 815.00 ▲ | 774.0 |
| 20,000 | 10 | 60 | 72 | TS-20-7260 | 1F143 | 1616.20 | 1090.00 ▲ | 735.0 |
| ***New!* ALUMINUM DOCKBOARDS WITH STEEL CURBS** | | | | | | | | |
| 10,000 | 5 | 36 | 60 | TAS-10-6036 | 4UP97 | 580.89 | 449.00 ▲ | 110.0 |
| 10,000 | 7 | 48 | 60 | TAS-10-6048 | 4UP98 | 734.18 | 579.00 ▲ | 145.0 |
| 10,000 | 10 | 60 | 60 | TAS-10-6060 | 4UP99 | 904.77 | 850.50 ▲ | 205.0 |
| 15,000 | 5 | 36 | 60 | TAS-15-6036 | 4UR01 | 626.99 | 589.50 ▲ | 125.0 |
| 15,000 | 10 | 60 | 60 | TAS-15-6060 | 4UR02 | 1120.29 | 1054.00 ▲ | 220.0 |
| 15,000 | 7 | 48 | 72 | TAS-15-7248 | 4UR03 | 979.68 | 921.00 ▲ | 190.0 |

(▲) Net prices, not subject to discounts.
(*) Not compatible with sliding span locks.

NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY

# DOCK AND TRAILER/CRANE BUMPERS

## MOLDED RUBBER DOCK BUMPERS




T & S weather and abrasion-resistant molded rubber bumpers protect docks, dock levelers, and shelters from impact damage caused by trucks and semi-trailers. Nos. 4W938 and 3W664 also draw attention to high traffic areas inside and outside of buildings. Individual sections can be replaced if severely damaged. Installation kits available; see listing below.

**Nos. 2A094 and 2W879** include a 2" wide x 3/16" thick steel bar which is molded-in running the length of each bumper and anchors the rubber to the dock. Mounting fasteners not included.

**No. 5A350** has two 1½" dia. reflectors.

**No. 5A349** has one 1½" dia. reflector.

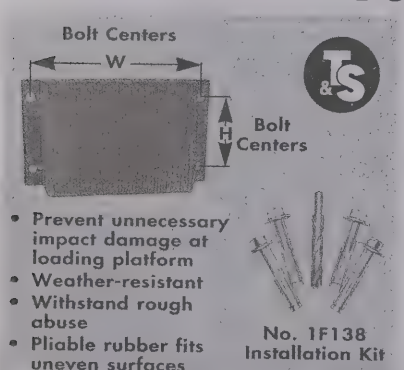
**No. 4W938 Bumper Stop** features a yellow and black caution stripe down its center to protect as well as draw attention to docks, buildings, or high traffic corners within a factory. Caution stripe is recessed to protect it from damage by impact.

**No. 3W664 Plastic Face Molded Bumper.** Bright yellow plastic face improves visibility and draws attention to dock area. Plastic face is replaceable, adding longer life to the bumper.

| Bumper Style | Overall Dimensions (In.) W | H | Thick | Qty. | 11/16" Mounting Holes Access Hole Dia. (In.) | On Center (In.) | From Each End (In.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Rectangular** | 4½ | 10 | 3 | 2 | 1½ | 5 | 2½ | DBE-10 | **2A094** | $64.40 | **$56.10*** | 25.0 |
| **Rectangular** | 4½ | 30 | 3 | 6 | 1½ | 5 | 2½ | DBE-30 | **2W879** | 88.95 | **80.85†** | 46.0 |
| **Rectangular** | 8 | 18 | 2 | 2 | 2 | 8 | 5 | B-818 | **3KR43** | 40.95 | **32.80** | 12.0 |
| **Rectangular** | 12 | 24 | 3 | 4 | 1⅞ | 6, 18 | 3 | B-1224-3 | **5A350** | 43.95 | **39.85** | 32.0 |
| **T-Shape** | 22‡ | 22 | 3 | 3 | 1⅞ | 14 | 3 | T-22 | **5A349** | 51.65 | **44.80** | 44.0 |
| **L-Shape** | 18** | 18 | 4 | 3 | 2⅜ | 10¼ | 3¾ | L-1818-4 | **3KR72** | 58.75 | **46.60** | 35.0 |
| **Bumper Stop** | 5¼ | 18 | 1⅜ | 2 | ½ | 12 | 3 | BS-18 | **4W938** | 39.63 | **34.55** | 5.0 |
| **Yellow Face** | 12 | 13 | 4½ | 4 | 1½ | 7, 9¼ | 2½, 1⅞ | B-1213-4PF | **3W664** | 78.80 | **75.10** | 27.0 |
| **Without Face** | 12 | 13 | 4½ | 4 | 1½ | 7, 9¼ | 2½, 1⅞ | B-1213-4 | **3KR42** | 51.58 | **41.50** | 22.0 |

(*) Priced and sold in sets of 4 only. (†) Priced and sold in sets of 2 only. (‡) 10" legs. (**) 8" legs.

## LAMINATED DOCK BUMPERS AND INSTALLATION KITS



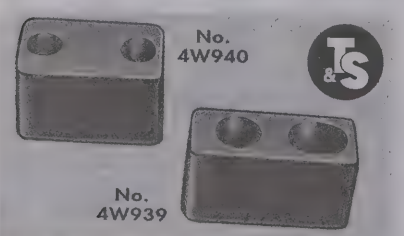

Constructed from same material used in manufacture of heavy-duty tire cord. Mount anywhere by bolting or welding. Weld to channel or to curb angle with one preset bolt. Mount with anchor bolts in new concrete construction or with lag bolts and shields for existing concrete. Wood dock mount requires lagging. Flush mounted. T & S brand.

**INSTALLATION KITS.** No. 1F138 contains four concrete anchor bolts, 3/4 x 4⅞L and one 3/4" masonry bit for installing one laminated dock bumper. For mounting additional bumpers, order kit No. 1F139 which includes all of the above except for the masonry bit which is reusable. Can also be used with molded dock bumpers listed above. T & S brand.

**No. 1F138.** (DBK-1). Shpg. wt. 3.0 lbs.
List $23.26. Each.....**$22.58**

**No. 1F139.** (DBK-2). Shpg. wt. 3.6 lbs.
List $11.65. Each.....**$11.12**

| Dimensions (In.) (Actual Rubber Bumper) W | H | D | Mounting Holes On Center (In.) W | H | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **8½** | 10 | 4½ | 12 | 6 | 1012-4½ | **3KR36** | $46.00 | **$36.85** | 28.0 |
| **10¾** | 10 | 4½ | 14 | 6 | 1014-4½ | **5W823** | 45.94 | **40.00** | 29.0 |
| **14¾** | 10 | 4½ | 18 | 6 | 1018-4½ | **5W824** | 54.31 | **47.25** | 38.0 |
| **14¾** | 10 | 6 | 18 | 6 | 1018-6 | **4W942** | 72.00 | **62.65** | 42.0 |
| **20¾** | 10 | 4½ | 24 | 6 | 1024-4½ | **5W825** | 66.32 | **57.75** | 49.0 |
| **32¾** | 12 | 4½ | 36 | 8 | 1236-4½ | **5W827** | 102.65 | **88.25** | 89.0 |
| **32¾** | 6 | 4½ | 36 | 3 | 636-4½ | **5W826** | 68.07 | **59.20** | 47.0 |




## TRAILER/CRANE BUMPERS

### Weather and Abrasion-Resistant Molded Rubber Bumpers

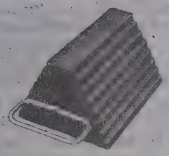
Trailer/crane bumpers are designed to mount directly onto truck trailers and cranes to protect them from contact with docks, buildings, or other trailers and cranes. Such protection is necessary when truck trailer does not align with dock bumper. Mounting hardware not included. T & S brand.

| Dimensions (In.) W | H | D | Qty. | Mounting Holes Dia. (In.) | On Center (In.) | T & S Model | Stock No. | Priced & Sold in Sets of 2 List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 3½ | 2¾ | 2 | 1/2 | 2½* | TB-10 | **4W939** | $37.00 | **$32.55** | 4.0 |
| **6** | 3½ | 3½ | 2 | 1/2 | 3½ | TB-20 | **4W940** | 38.20 | **33.85** | 5.5 |

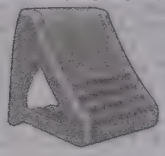
(*) Slotted to 3".

# WHEEL CHOCKS AND ACCESSORIES

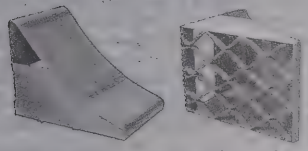
## WHEEL CHOCKS



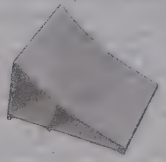
No. 2A092
Molded Rubber



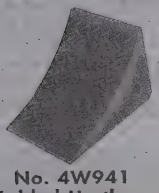
No. 2W874
Heavy-Duty Steel



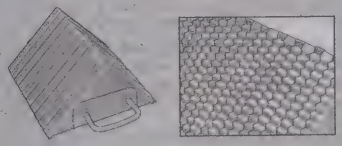
No. 3KR56 Formed Steel



No. 5A347
Extruded Aluminum



No. 4W941
Molded Urethane



No. 3KR79 Laminated Chock, Serrated Bottom Surface for Maximum Grip

Wheel chocks are used for wedging and blocking tires to restrict movement of the wheel while vehicle is being loaded or unloaded at the dock. All chocks meet OSHA Specification 1910.178(k). T & S brand.

**Rubber Chock** of nylon reinforced molded rubber provides maximum grip traction. Rubber resists tearing, abrasion, and ozone weathering. Safety engineered to minimize sliding. Complete with cadmium plated eyebolt to which a security chain (sold separately below) may be attached for permanent installation. Includes a handle for convenient retrieval from truck when chocks are not supplied at dock.

**Heavy-Duty Steel Chock** of high strength annealed ductile cast iron. Maximum traction on any surface. Bottom teeth grip securely, resist slipping. Grip slot for easy pickup and positioning.

**Formed Steel Chock.** Long life, all-weather use. Sawtooth bottom for maximum traction on almost any surface. Open back for easy pickup. Hole for attaching security chain and hanger (sold separately below).

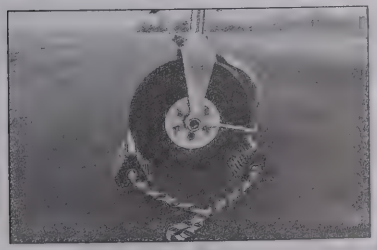
**Lightweight Extruded Aluminum Chock** allows easy handling with high tensile strength. Serrated surface grips tire, and triple-edged bottom grips ground.

**Lightweight Molded Urethane Chock** is bright orange for greater visibility. Incoming and outgoing drivers can easily see chock for added safety. Safety tread on chock face provides better grip and reduces slippage. Molded-in hole through width of chock for attaching security chain and hanger (sold separately below).

**Durable Laminated Wheel Chock** is made of cord reinforced serrated rubber on steel rods to provide a sure grip on concrete or paved surfaces. Large handle allows easy transport and placement of chock.

| Chock Type | Dimensions (In.) W | H | D | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Molded Rubber | 10 | 6 | 8 | RWC-8-HDL | **2A092** | $26.98 | **$21.33** | 10.0 |
| Heavy-Duty Steel | 9 | 8½ | 7½ | MS-15 | **2W874** | 46.96 | **39.20** | 14.0 |
| Formed Steel | 8 | 9 | 11 | FAB-11 | **3KR56** | 37.19 | **29.75** | 5.5 |
| Extruded Aluminum | 7 | 8 | 12 | EALUM-7 | **5A347** | 47.01 | **39.20** | 7.0 |
| Molded Urethane | 8 | 8 | 11 | URWC-15 | **4W941** | 34.10 | **29.85** | 4.5 |
| Laminated | 10 | 5½ | 10½ | LWC-14 | **3KR79** | 33.13 | **26.50** | 18.0 |

## AIRPLANE AND LIGHT-DUTY TRUCK WHEEL CHOCK

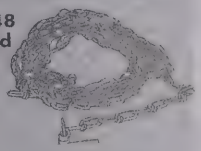


- **Can be used for both commercial and private aircraft, and smaller trucks**
- **Molded rubber construction with rope handle**

Use Wheel Chock to wedge and block both sides of an aircraft's wheel to restrict rolling in wind or heavy turbulence from other aircraft. Unit consists of two molded rubber chocks attached by a rope handle for ease in removal and handling. Designed for commercial and private aircraft, and small sized trucks. Reflective stripes add to visibility at night and in inclement weather. 10W x 4½H x 5"D. Order one unit for one wheel on each side of airplane or truck. T & S brand (AC-13).

**No. 3W666.** Airplane Wheel Chock. Shpg. wt. 13.0 lbs. List $75.00. Each.....**$71.80**

## WHEEL CHOCK ACCESSORIES



No. 5A348
Chain and Hanger




No. 4W945
Warning Sign

### SECURITY CHAIN AND HANGER

15 ft. chain attaches any of these wheel chocks to the hanger which bolts directly to the dock, securing chock permanently to the dock. This discourages theft and misplacement which facilitates safety in dock area and efficiency in trailer activity. T & S brand.

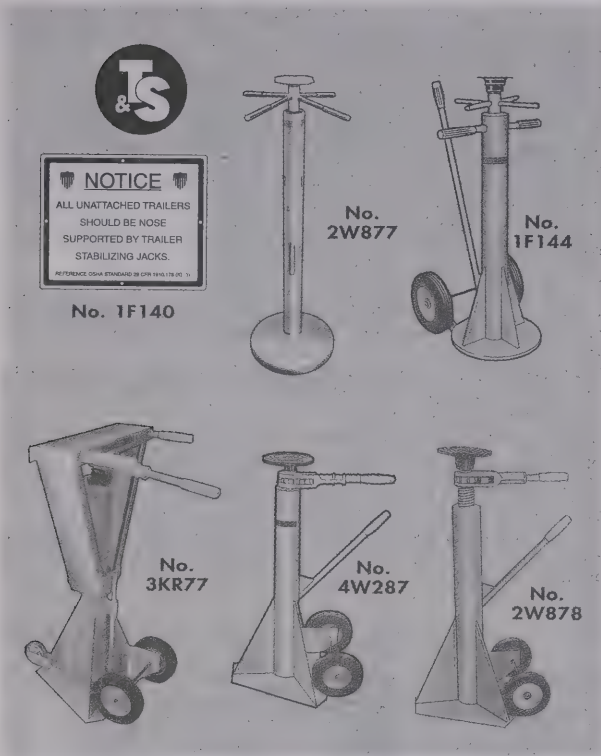
### WHEEL CHOCK WARNING SIGN

Aluminum sign warns truck drivers and dock workers to chock their wheels as required by law. Weather resistant. Bright red lettering provides high visibility. Sign has four mounting holes and is shipped with protective coating which should be removed after mounting. Dimensions: 12L x 10"W. T & S brand.

| Description | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Security Chain and Hanger | OH-15 | **5A348** | $17.05 | **$14.22** | 3.0 |
| Wheel Chock Warning Sign | SA1012 | **4W945** | 16.50 | **15.09** | 0.5 |

# TRAILER STABILIZER JACKS, PARKING CURB/ CAR STOP, SPEED BUMP AND CAUTION SIGN

## TRAILER STABILIZER JACKS AND NOTICE SIGN




Jacks prevent up-ending semi-trailers when not connected to a tractor during loading and unloading with heavy equipment. Also used to level trailers parked on sloping ground and prevent landing gear from sinking into a soft surface. High strength steel construction. Flush-type zerk fitting for relubricating Acme screw. Meet OSHA regulations when used with wheel chocks. Safety yellow. Includes reflective collar for visibility at night. T & S brand.

**Nos. 2W877 and 1F144 Spin Top Jacks** have a manually turned Acme thread screw which raises and lowers jack allowing fast installation and removal of jack.

**No. 2W877** has a 10" long lift screw allowing a 7" adjustment range. 14" dia. heavy-duty dome shaped base provides maximum leveling stability.

No. 1F144 has a lifting capacity of 40,000 lbs. 12" adjustment range. 8" dia. swivel head and 8" dia. semi-pneumatic wheels.

**No. 3KR77 Medium-Duty Jack** has an extra-wide 6W x 24"L lifting beam for greater trailer support. Two handles assist positioning jack under trailer. Two-way reversible ratchet for adjusting height. 40,000 lb. lifting capacity.

**No. 4W287 Medium-Duty Jack** has a lifting capacity of 40,000 lbs. Triangular base has 18" sides. Two-way reversible ratchet with a 2" dia. thread screw allows a 12" adjustment range. Forged 8" dia. swivel head and 8" dia. wheels.

**No. 2W878 Heavy-Duty Jack** with easily reversible two-way ratchet and 2½" dia. thread screw provides 12" adjustment range. 8" dia. swivel head, 8" semi-pneumatic wheels. 50,000 lb. lifting capacity.

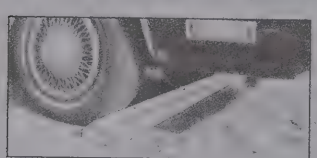
### NOTICE SIGN

Notifies truck drivers that OSHA requires use of trailer stabilizer jacks during loading and unloading. 10 x 12" highly visible aluminum sign. Four 1/4" dia. mounting holes. OSHA regulation 1910.178K (3). T & S brand (SJS-1012).

**No. 1F140.** Sign. Shpg. wt. 0.4 lbs. List $17.05. Each.....**$16.25**

| Static Capacity (Lbs.) | Adjustment Range (In.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 50,000 | 44 to 51 | SJ-35 | 2W877 | $102.35 | **$89.00** | 35.0 |
| 100,000 | 39 to 51 | SP-TOP | 1F144 | 245.00 | **233.50** | 110.0 |
| 80,000 | 39½ to 51 | LO-J-BEAM | 3KR77 | 425.00 | **361.25** | 180.0 |
| 80,000 | 39 to 51 | LO-J | 4W287 | 360.00 | **266.25** | 115.0 |
| 100,000 | 39 to 51 | LO-J-100 | 2W878 | 382.95 | **333.00** | 140.0 |

## PARKING CURB/CAR STOP



New

For permanent or temporary parking areas. Constructed of recycled high-density polyethylene and polypropylene. Strong, lightweight construction reduces breakage during handling. Weather resistant. Dimensions: 6 ft. long x 6" wide x 3¾" high. Three 3½" dia. mounting holes. T&S brand.

| Description | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Yellow parking curb | CS-33-YELLOW | *New* 4UP83 | $50.42 | **$47.40** | 35.0 |
| Gray parking curb | CS-33-GRAY | 3W668 | 46.70 | **44.50** | 40.0 |
| Asphalt installation kit | CS-AK | *New* 4UP84 | 22.20 | **21.56** | 4.0 |
| Concrete installation kit | CS-33-KIT-3 | *New* 4UP82 | 15.11 | **14.68** | 2.0 |

## SPEED BUMPS AND CAUTION SIGN




New

Speed Bumps. Designed to slow traffic in parking lots, driveways, construction sites, special events and similar areas where high speeds can be dangerous to pedestrians and drivers alike. Bright yellow color improves visibility. Use for temporary or permanent installations. Concrete mounting hardware included (1/2 x 6" long concrete anchors). Constructed of recycled polyethylene and polypropylene. T&S brand.

Asphalt Installation Kit. Designed for installing speed bumps on asphalt or blacktop surfaces. Includes 12" long steel spikes, two pieces of butyl tape and installation instructions.

Caution Sign. Warns drivers of speed bumps. Sign is made of light-reflecting aluminum material with black lettering. Four 1/4" diameter mounting holes. T&S brand.

| Description | Size (In.) L x W x H | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Speed bump | 72 x 10 x 2 | SB-36 | 3W700 | $85.00 | **$79.80** | 36.0 |
| Speed bump | 108 x 10 x 2 | SB-108 | *New* 4UP94 | 138.32 | **130.05** | 50.0 |
| Asphalt installation kit | NA | SB-36-AK | *New* 4UP95 | 37.10 | **36.05** | 7.0 |
| Caution sign | 12 x 10 | SBS-1012 | 3W669 | 17.05 | **16.25** | 0.5 |

# CARGO STRAPS, BARS, AND HOOPS

## LOGISTIC STRAPS

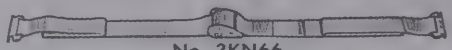
- Spring loaded E-Track fittings provide quick one-handed connection to anchor point
- Both Ratchet and Cam Buckle models tighten and release quickly
- Color of webbing indicates assembly length for easy identification
- Adjustable end is sewn to prevent removal - keeps assembly ready for use at all times
- 4 ft. long fixed end places ratchet/cam buckle at optimum location for easy operation
- Tightens securely around cargo to help prevent damage due to load shifting
- 2" wide polyester webbing conforms to load to avoid restraining marks

**IMPORTANT: Read Warning Sheet Supplied With Each Strap.**

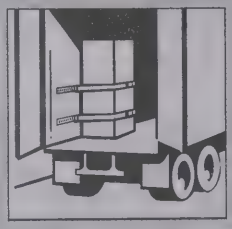
LiftAll®



No. 3KN69



No. 3KN66

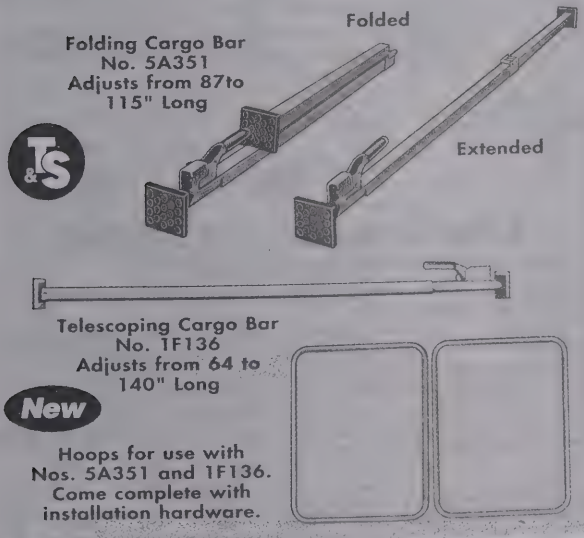


Logistic straps secure cargo inside trailers to prevent load shifting

### LOGISTIC STRAP ORDERING DATA

| Buckle | Length (Ft.) | Color | Ultimate Assembly Strength (Lbs.) | Working Load Limit (Lbs.) | Lift-All Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Ratchet | 12 | Yellow | 3000 | 1000 | 60808 | **3KN69** | $29.65 | **$23.72** | 2.5 |
| Ratchet | 16 | Gray | 3000 | 1000 | 60809 | **3KN70** | 32.18 | **25.75** | 2.6 |
| Ratchet | 20 | Blue | 3000 | 1000 | 60810 | **3KN71** | 34.75 | **27.80** | 2.9 |
| Cam | 12 | Yellow | 2500 | 800 | 60805 | **3KN66** | 19.23 | **15.38** | 1.8 |
| Cam | 16 | Gray | 2500 | 800 | 60806 | **3KN67** | 21.78 | **17.42** | 2.0 |
| Cam | 20 | Blue | 2500 | 800 | 60807 | **3KN68** | 24.30 | **19.44** | 2.1 |

## CARGO BARS AND HOOPS




Restrict cargo from shifting and minimize damage. No permanent installation or adaptation required. Quick installation and removal. T & S brand.

**One-Piece Aluminum Cargo Bar No. 4UP81** is constructed of lightweight extruded aluminum tubing that will not rust. Service range is 87 to 103". Articulating footpads are located at each end. Easy to operate locking handle secures bar into position.

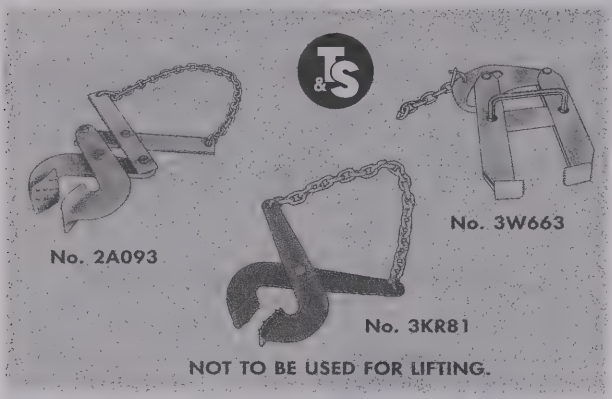
**Folding Steel Cargo Bar No. 5A351** consists of 1½" square 14-gauge tubing for substantial strength. Easy-to-operate mechanical ratchet will not slip or vibrate loose and works well in freezing and wet conditions. 4" square, rubber protected, articulating end pads keep bar in place. Adjusts from 87 to 115". Two-piece hinged bar can be folded and stored in trailer cab to minimize pilferage.

**Two-Piece Galvanized Steel Telescoping Cargo Bar No. 1F136** adjusts from 64 to 140". Made of 1½" square 14-gauge tubing. Galvanized steel construction is ideal for refrigeration trucks. 4" square rubber pads are vulcanized to metal ends for a more secure fit and longer life. Articulating pads allow angled mounting.

**Cargo Hoops** are constructed from galvanized steel and each measures 24"W x 36"L. Expand the retention area to secure a large area of smaller boxes or cartons. Installation hardware is included. Sold in pairs. (Not for use with No. 4UP81.)

| Model | Service Range | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Aluminum Folding Bar | 87 to 103" | CB-7 | *New* **4UP81** | $82.86 | **$68.85** | 10.0 |
| | 86 to 115" | CB-17 | **5A351** | 76.34 | **63.65** | 17.0 |
| Telescoping Bar | 64 to 140" | CB-18 | **1F136** | 96.38 | **91.35** | 27.0 |
| Hoops | N/A | CH-3 | **5A352** | 64.49 | **53.75** | 15.0 |

# PALLET PULLERS, PALLET DOLLY, PRY BARS AND PALLET TURNS




## PALLET PULLERS

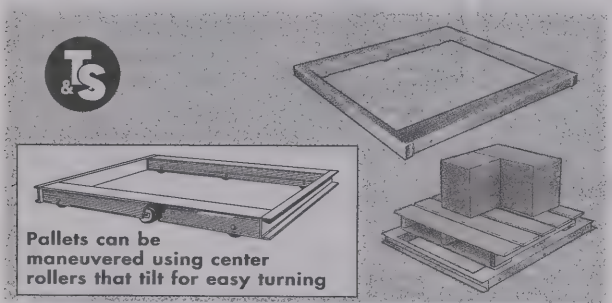
**Pallet pullers** are used to pull pallets to rear of trailers for easy fork lift access. Rugged steel construction. 2¾" high heads are self-cleaning and unaffected by wood particles, paint or grease. 1/4" proof coil chain included for attaching pull chain. T&S.

**No. 2A093.** One-piece curved heads have integral spurs for gripping pallet stringers. Scissor action 30" long. 30" chain.

**No. 3KR81.** Single scissor action allows for wider jaw opening. Opens to 5½". Overall closed length: 19½". 30" long chain.

**No. 3W663.** Cammed closing action provides maximum gripping strength and reduced pinch points. Safety handle enables easier positioning and removal of separated heads. Grip both metal and wood pallets with biting action. 15½" long. 7½" long chain.

| Description | Max. Pallet Wt. (Lbs.) | For Stringers (In.) | Length (In.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Scissor Action | 5000 | Up to 3 | 30 | PAL-21 | **2A093** | $70.00 | **$53.65** | 21.0 |
| Scissor Action | 5000 | Up to 5½ | 19½ | PAL-12 | **3KR81** | 73.50 | **58.80** | 12.0 |
| Cammed Action | 5000 | Up to 3½ | 15½ | PAL-14 | **3W663** | 55.00 | **52.40** | 14.0 |

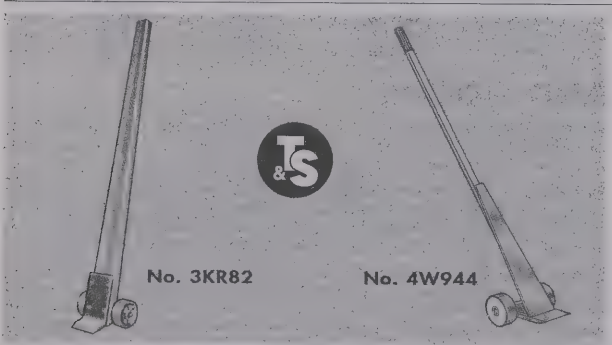



## ALUMINUM PALLET DOLLY

- **Welded aluminum construction with flush platform**
- **4000 lb. capacity**
- **Six 3½" rollers with sealed bearings**
- **Center rollers allow dolly to tilt for easy turning**

Used in shipping, production, and office areas where pallet sized loads need to be moved and fork truck or pallet truck is not available or not practical. Move pallets easily from one work station to another. Simply push loaded pallet manually or tilt center rollers to turn. 4000 lb. capacity. 48L x 40W x 4¼"H. T&S brand (DOL-4048-6T).

**No. 1F137.** Aluminum Pallet Dolly. Shpg. wt. 36.0 lbs.
List $215.27. Each ..... **$209.25**



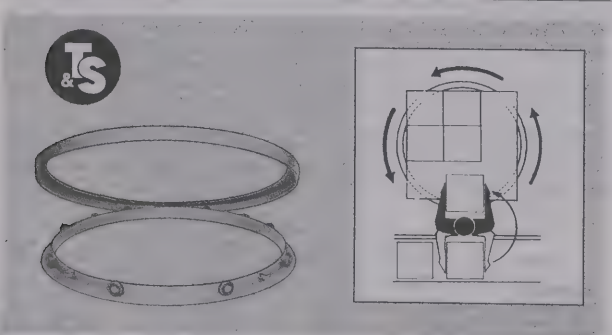

## PRY BARS

**Provide dock workers, riggers, and freight handlers** with the leverage to get underneath heavy objects for lifting with fork lift, hand truck, or other types of trucks.

**No. 4W944.** 6W x 8L x 1/2" thick welded steel noseplate with reverse beveled edge is welded to a 72" long steel handle. 5000 lb. capacity. Two 5 x 2" polyurethane wheels. T & S brand.

**No. 3KR82.** 6W x 8L x 1/2" thick steel noseplate with beveled edge is bolted to a 60" long wood handle. 4250 lb. capacity. Two 5 x 2" polyurethane wheels. T & S brand.

| Handle Type | Capacity (Lbs.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Steel** | 5000 | PLB/S-6 | **4W944** | $130.30 | **$108.60** | 34.0 |
| **Wood** | 4250 | PLB-5 | **3KR82** | 114.18 | **91.35** | 30.0 |



## CAROUSEL PALLET TURNS

- **Decreases amount of worker movement**
- **Reduces fatigue, muscle strain, and cumulative trauma**
- **Increases productivity**

Pallet turns use the "Lazy Susan" concept to rotate heavy pallets with ease. Help increase productivity by reducing number of reaching movements required to load or unload pallets. Carousel can also facilitate stretch wrapping operations.

Constructed of heavy gauge steel. Rotating ring floats on low friction roller bearings with guide rollers to ensure smooth operation. Blue color. T&S brand.

| Load Cap. (Lbs.) | Diameter (In.) Interior | Exterior | Height (In.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2000** | 36 | 40 | 2⅛ | CA-40-2 | **4W505** | $278.46 | **$275.25** | 40.0 |
| **4000** | 36 | 40 | 2⅛ | CA-40-4 | **4W506** | 311.10 | **307.50** | 44.0 |



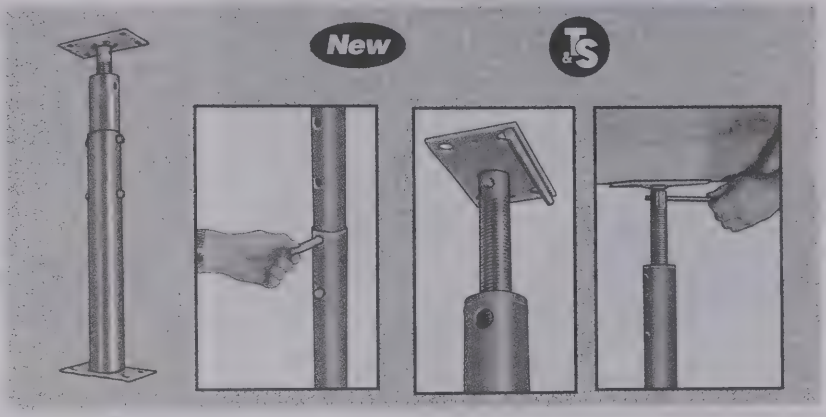
*More ways to move and store products safely and securely.*

# BRACES AND BARRIERS

## TELESCOPIC SUPPORT BRACES

- Red oxide finish
- Rugged all welded steel construction for maximum strength and support
- Telescopic style with removable pins enables proper positioning and leveling
- End pad includes screw and turning bar for easy height adjustment
- Excellent for use as an extra support brace for leveling and stabilizing floor beams and joists
- T & S brand

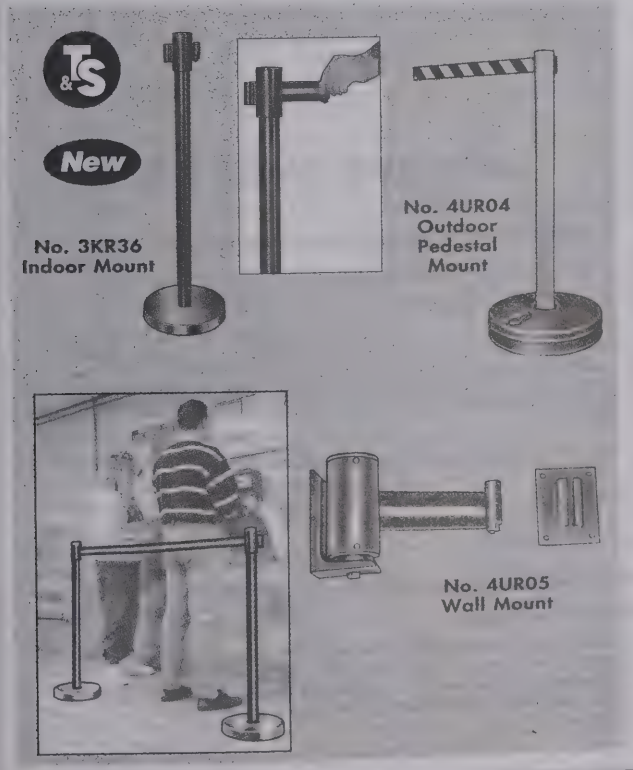
Excellent for use as an extra support brace for leveling and stabilizing floor beams and joists. Telescopic-style with removable pins. End pad includes screw and turning bar for easy height adjustment. Rugged welded-steel construction with red-oxide finish.




### TELESCOPIC SUPPORT BRACE ORDERING DATA

| Service Height (In.) Minimum | Maximum | Capacity (Lbs.) Minimum Ht. | Maximum Ht. | T & S Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **12** | 16 | 19,475 | 19,475 | FJB-16 | *New* | **4UP89** | $23.99 | **$22.79** | 8.0 |
| **19** | 36 | 19,475 | 13,725 | FJB-36 | | **3KR64** | 48.56 | **38.85** | 15.0 |
| **54** | 100 | 16,875 | 11,200 | FJB-100 | | **3KR65** | 55.13 | **44.10** | 30.0 |
| **54** | 150 | 22,400 | 5,175 | FJB-150 | | **3KR63** | 84.00 | **67.20** | 40.0 |

## WEB BELT BARRIERS




- Ideal for use as crowd guidance barrier
- Portable post includes a retractable web belting mechanism
- Maximum belt extension is 66"
- Belt end piece can be quickly and easily attached to another post
- Web belting is black with white stripe; post is black with chrome base
- 40" overall post height

Indoor pedestal-mounted web belt barrier is ideal for use as a crowd guidance barrier. Portable post has retractable web belting mechanism. Belt end piece can be quickly attached to another post. Web belting is black with white stripe; post is black with chrome base. Heavy-duty steel construction. T&S brand.

Indoor wall-mounted web belt barrier is designed for use with indoor pedestal-mounted web belt barrier or for use as a standalone guidance barrier. Retractable web belting mechanism includes bracket for mounting unit to wall. Also includes wall-mounted receiver unit. Web belting is black with white stripe; wall-mounted head and receiver units are black. T&S brand.

Outdoor pedestal-mounted web belt barrier is ideal for use as a warning barrier in street maintenance operations and construction areas. Lightweight plastic post has retractable web belting mechanism. Belt end piece can be quickly attached to another post. Web belting is black and yellow striped; post is yellow with black base. Post may be quickly connected to base using twist-lock design. Plastic base may be filled with anti-freeze or sand for weight. Base design facilitates stacking when not in use. T&S brand.

| Description | Belt Ext. | Overall Height | T&S Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Indoor pedestal-mount | 66" | 40" | WEB-P | | 3KR86 | $223.13 | $178.50 | 35.0 |
| Indoor wall-mount | 66" | 5½ | WEB-W-BW | *New* | 4UR05 | 95.02 | 76.05 | 2.0 |
| Outdoor pedestal-mount | 15' | 38 | WEB-P-BY | *New* | 4UR04 | 172.15 | 137.75 | 30.0 |

# WALK, WHEELCHAIR, AND HOSE AND CABLE RAMPS




## ALUMINUM WALK RAMPS

**Lightweight Walk Ramp Allows Safer Loading and Unloading of Truck to Ground Surface**

Enables deliverymen, shippers, and receivers to load and unload trucks when docks are unavailable. Ramps feature a 1½" high safety curb on each side. Heavy-duty steel chain with steel grab hook is permanently attached to each side of ramp for safely securing ramp to truck. Constructed of strong aluminum alloy with non-skid tread surface. Lightweight and easy to handle. T&S brand.

| Overall Ramp Size W(In.)* | L(Ft.) | Service Height Range | Capacity (Lbs.) | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 28 | 8 | 6-29" | 1,650 | AWR-28-8A | 3KR41 | $749.27 | $637.50 | 83.0 |
| 38 | 8 | 6-29" | 1,650 | AWR-38-8A | New 4UP80 | 626.81 | 520.50 | 105.0 |
| 28 | 12 | 6-46" | 1,400 | AWR-28-12A | New 4UP79 | 751.26 | 624.00 | 125.0 |
| 38 | 14 | 6-54" | 1,200 | AWR-38-14A | 3W665 | 985.49 | 864.50 | 181.0 |

(*) Subtract 2" for usable width



88" long; retracts to 44" long for easy storage
550 lb. capacity

No. 1F133
Telescoping Ramp

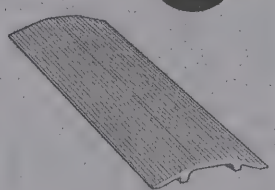
## WHEEL CHAIR RAMP

- Meets ADA requirements
- Allows businesses to comply without new construction
- Corrosion-resistant aluminum construction
- Sold only in pairs

**No. 1F133 Telescoping Ramp.** Meets ADA requirements and wheel chair manufacturers' specifications for ramping curbs, single steps, and thresholds. Consists of two separate ramps for easy adjustment of any width required. 88" long when fully extended; 44" long when retracted for easy storage. 7⅞" usable width per ramp. 2¾" curb height. 550 lb. capacity total. Lightweight aluminum construction. T&S brand (D-TR-88).

**No. 1F133.** Shpg. wt. 46.0 lbs. List $304.70. Each ..... **$272.25**





## HOSE AND CABLE RAMP

- 48L x 7W x 1 13/16"H
- 2½" wide x 3/4" high usable channel space
- Extruded aluminum
- 12,000 lb. capacity

Ramp protects hoses and cables from damage when they must be stretched across pedestrian and equipment traffic areas. Also protects workers and equipment from hazardous falls. Extruded aluminum construction with serrated surface for better traction. Suitable for factories, warehouses, and office areas. T & S brand (HCR-48).

**No. 1F141.** Shpg. wt. 12.0 lbs. List $139.22. Each ..... **$137.15**

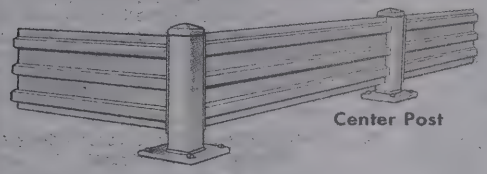
### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

## GUARD RAILS

**Rails are constructed from 11-gauge steel with unique corrugated design for additional impact resistance.**

**Rails present a visual and physical barrier between traffic and equipment**






STEEL KING

Also available in double high system for additional safet



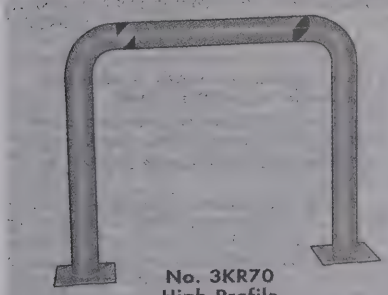
Steel guard rails provide a visual and physical barrier between traffic and work areas. For protection against accidents due to lift trucks or other mobile equipment in dock areas, aisles, around special equipment, or offices. Reduce costly damage to equipment and inventory. Modular system is easily expanded or moved as needed. For indoor or outdoor use.

Bolted assembly for easy installation by maintenance people. Bolts and anchors included with posts. Triple ridge provides more strength and rigidity than conventional dual ribbed highway type rail. Rolled top and bottom edges eliminate sharp edges. Posts are made of 4" square steel tube 1/4" thick and are welded to 10" square floor plates. Four rail lengths and two post heights allow customized assemblies for individual plant needs. Painted industrial yellow for high visibility. Steel King brand.

| Description | Height (In.) | Steel King Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4 Ft. Guard Rail*** | 14 | GR4 | **5W804** | $124.74 | **$89.50▲** | 46.0 |
| **6 Ft. Guard Rail*** | 14 | GR6 | **5W805** | 148.92 | **108.75▲** | 66.0 |
| **8 Ft. Guard Rail*** | 14 | GR8 | **5W806** | 175.14 | **118.95▲** | 86.0 |
| **10 Ft. Guard Rail*** | 14 | GR10 | **5W807** | 199.50 | **135.15▲** | 106.0 |
| **Single High Corner Post** | 17 | SCO | **5W808** | 123.36 | **88.85▲** | 40.0 |
| **Single High Center Post** | 17 | SCL | **5W809** | 123.36 | **88.85▲** | 40.0 |
| **Double High Corner Post** | 43 | DCO | **5W810** | 170.16 | **119.15▲** | 64.0 |
| **Double High Center Post** | 43 | DCL | **5W811** | 170.16 | **119.15▲** | 64.0 |

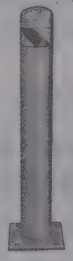
(▲) Subtract 4" from guard rail length for post connection.

## MACHINE GUARDS AND SAFETY BOLLARD










- **Constructed of heavy-duty, all welded steel pipe**
- **Mounting plate is pre-drilled with four 1" diameter holes**
- **Painted safety yellow for high visibility**
- **Order installation kits Nos. 1F138 or 1F139 on page 2308**

High-profile machine guard is ideal for in-plant use to protect expensive equipment such as drill presses, lathes, and saws from possible fork truck damage. Low-profile machine guards may be used indoors to protect valuable pallet racking or outdoors to guide semi-trailers when backing into loading docks. Safety bollard can also be used both indoors and outdoors to protect work areas. T & S brand.

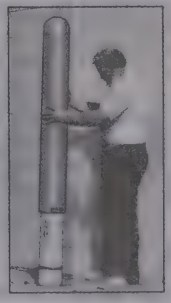
| Description | Overall Height (In.) | Overall Length (In.) | Mounting Plate Dim. (In.) | Pipe Dia. (In.) | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **High-Profile Guard** | 42 | 48 | 8 x 8 x 3/8 | 4½ | HPRO-48-42-4 | **3KR70** | $217.80 | **$174.50** | 120.0 |
| **Low-Profile Guard** | 9 | 48 | 8 x 8 x 3/8 | 4½ | LPRO-48-8-4 | **3KR78** | 172.36 | **138.00** | 62.0 |
| **Safety Bollard** | 36 | — | 8 x 8 x 3/8 | 4½ | BOL-36-4.5 | **3KR45** | 109.21 | **87.40** | 58.0 |

## IDEAL SLEEVE®



SUPPLIER DIVERSITY™

Minority Owned Business



Easy to Install

- **Does not conduct electricity**
- **Ultra-violet additive maintains color intensity and high visibility**

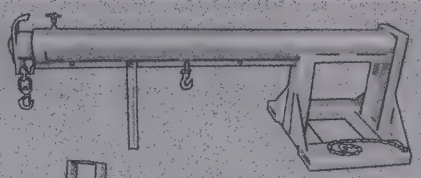
Bumper post sleeve reduces high maintenance costs for OSHA required guard posts. Low density polyethylene thermoplastic tube easily slides over existing or new bumper posts. Eliminates rusting, chipping, pitting, discoloration, scraping, sanding, priming, and painting. Sleeve is chemical resistant, durable, and withstands temperature extremes. Easily cleaned with environmentally friendly industrial cleaners.

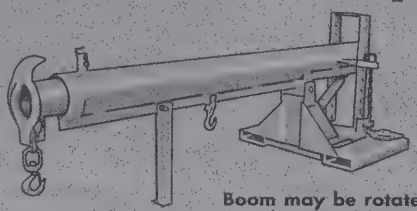
Sleeve wall is approximately 1/4" thick. 52" high. Fits 6 to 7" dia. posts. OSHA yellow color. Ideal Sleeve® brand by Ideal Steel® L.L.C.

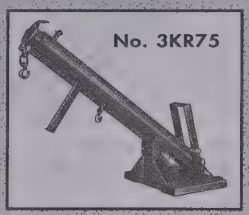
**No. 3JK19.** Shpg. wt. 10.0 lbs. List $56.95.
Each ..... $55.50

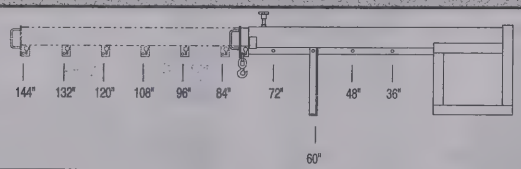
# TELESCOPING FORK TRUCK BOOMS

## TELESCOPING FORK TRUCK BOOMS




### MAXIMUM SINGLE HOOK BOOM CAPACITIES* (Lbs.)

| Stock No. | HOOK POSITION 144" | 132" | 120" | 108" | 96" | 84" | 72" | 60" | 48" | 36" |
|---|---|---|---|---|---|---|---|---|---|---|
| 3KR74 | 1800 | 2000 | 2300 | 2600 | 3000 | 3500 | 4000 | 4500 | 5000 | 6000 |
| 3KR75 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 |

(*) Attaining maximum capacities depends on the size and fork capacity of the lift truck used.

- **Usable fork pockets are 7¼ W x 2¼ H on 24" centers**
- **Safety latch lifting hooks, one rigid and one swivel**

Easily attach to almost any fork truck. Safety chain secures boom to carriage of fork truck for safe operation. Other features include a self-storing design, infinitely adjustable locking screw, cast handle end cap, and a telescopic limiting stop. All welded-steel construction. Blue color. T&S brand.

### No. 3KR74 HEAVY-DUTY TELESCOPING FORK TRUCK BOOM

- **Telescoping boom length is infinitely adjustable from 80 to 144"**
- **Heavy-duty 6000 lb. boom capacity**
- **Economical boom offers maximum capacity to handle the heaviest loads**

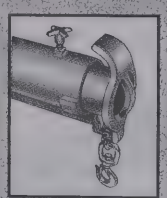
**No. 3KR74.** (LM-IT-6). Shpg. wt. 585.0 lbs. List $1109.30. Each.....**$998.50**

### No. 3KR75 TELESCOPING ORBIT FORK TRUCK BOOM.

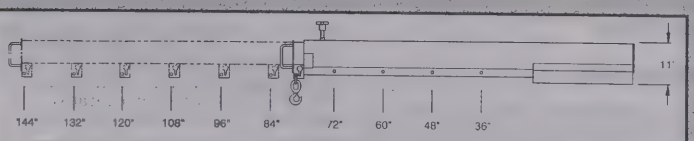
- **Telescoping boom length adjustable in increments of 7½" from 80 to 144"**
- **Industrial 4000 lb. boom capacity**
- **Ideal for handling high and awkward balance loads**
- **Unique manual counter-balance system and safety drop-lock pin configuration allow quick and easy one-man height adjustments**

**No. 3KR75.** Shpg. wt. 510.0 lbs. List $1157.30. Each.....**$1042.00**



New




### MAXIMUM SINGLE HOOK BOOM CAPACITIES* (Lbs.)

| Stock No. | HOOK POSITION 144" | 132" | 120" | 108" | 96" | 84" | 72" | 60" | 48" | 36" |
|---|---|---|---|---|---|---|---|---|---|---|
| 5Z153 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 |
| 4UP93 | 1800 | 2000 | 2300 | 2600 | 3000 | 3500 | 4000 | 4500 | 5000 | 6000 |

(*) Attaining maximum capacities depends on the size and fork capacity of the lift truck used.

- **Telescopic boom length is infinitely adjustable from 80 to 144"**
- **Travel-limiting device prevents overextension or unexpected disassembly**
- **Fork pockets are located on 24" fork centers**

Fork truck attachment expands versatility of fork lift's carrying ability to move long and awkward loads or rounded and odd-shaped loads, working in narrow aisles, or reaching over immovable barriers. Unscrew top knob to move extension in or out. Includes one swivel and one rigid clevis hook. Blue color. T&S brand.

### LIFTING CAPACITY GUIDELINES IN LBS.

| Fork Truck Capacity† | Distance from Mast Face to Load Center 6 Ft. | 8 Ft. | 10 Ft. | 12 Ft. |
|---|---|---|---|---|
| 2000 | 590 | 500 | 410 | 325 |
| 3000 | 925 | 800 | 675 | 550 |
| 4000 | 1400 | 1200 | 1000 | 800 |
| 5000 | 1725 | 1500 | 1275 | 1050 |
| 6000 | 2125 | 1850 | 1575 | 1300 |
| 7000 | 2565 | 2225 | 1885 | 1550 |
| 8000 | 3000 | 2600 | 2200 | 1800 |
| 9000 | 3350 | 2900 | 2450 | 2000 |
| 10,000 | 3900 | 3400 | 2900 | 2400 |

(†) Consult your fork truck owner's manual to verify that truck meets or exceeds capacity listed.

| Maximum Capacity (lbs.) | Usable Fork Pockets (In.) | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 4,000 | 7½W x 2¼H | LM-EBT | 5Z153 | $738.45 | **$615.50** | 375.0 |
| 6,000 | 7¼W x 2¼H | LM-EBT-6 | 4UP93 | 799.83 | **720.00** | 405.0 |

# WORK PLATFORMS AND FORK TRUCK LIFTING HOOK AND EXTENSIONS

## WORK PLATFORMS

- **Manufactured per OSHA specifications**
- **1000 lbs. platform capacity**
- **4" toeboard on all four sides**
- **Quicker and safer means of lifting and moving personnel for maintenance work**
- **Double safety lock/latch and chain**
- **Mesh guard protects personnel from fork truck**
- **Includes tine lock for added safety**
- **Safety instruction sign**

Convenient fork truck work platform quickly and safely transports maintenance personnel where they are needed. Attaches to fork truck by inserting forks into fork pockets and chaining platform to fork truck. Tine lock must be engaged to secure platform to forks.

42" high handrail with 21" high mid-rail on three sides. 60" high expanded metal backing on fourth side. Capacity is 1000 lbs. Includes checker floor plate platform and 36" long chain with hook to attach platform to fork truck. Fork pockets are 7½W x 2½"H on 24" centers. Welded steel constraction. T&S brand.

### WORK PLATFORM SPECIFICATIONS AND ORDERING DATA

| Overall Dimensions (In.) W | L | T & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **36** | 48 | WP-3648-TL | **5Z154** | $785.50 | **$655.00** | 340.0 |
| **48** | 48 | WP-4848-TL | **3KR87** | 847.25 | **762.50** | 250.0 |




No. 3KR87

### OPTIONAL EMERGENCY STOP BUTTON

Allows person in work platform to shut-off fork truck power in the event of an emergency. For use with gas and electric fork trucks. Includes installation instructions. T&S brand (WP-ES).

***New*** **No. 4UR06.** Shpg. wt. 6.0 lbs. List $317.32. Each .....**$285.75**

## FORK TRUCK LIFTING HOOK

- **Double-fork design**
- **Welded-steel construction**
- **Includes swivel clevis hook w/ safety latch**

Transform any fork truck into an overhead-lifting hoist. Solid-steel construction for years of durability. Fork openings are located on 13" centers. Safety chain with snap hook is included for securing unit to carriage of fork truck. T-handle lock screws are included for securing unit to forks. Includes heavy-duty swivel clevis hook with safety latch. T&S brand.

| Hook Capacity | Fork Opening Size (W x H) | T&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4,000 lbs.** | 8" x 2-¾" | D-FORK-4 | **3KR51** | $190.31 | **$152.25** | 35.0 |
| **10,000 lbs.** | 8" x 3-¾" | D-FORK-10 | ***New*** **4UP85** | 352.32 | **282.00** | 33.0 |




Consult fork truck owner's manual for maximum allowable also capacity

No. 3KR51

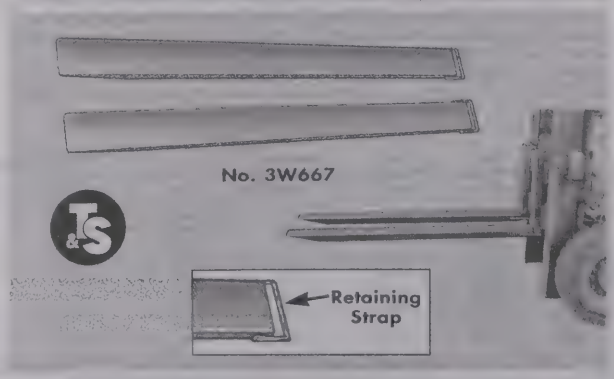
## FORK TRUCK FORK EXTENSIONS

**Designed to be used when long objects or large pallets** must be lifted and moved with a fork truck. OSHA requires that extensions do not exceed length of forks on which they are installed by more than 50%.

**To determine added length to fork truck,** subtract length of forks from length of extension. Welded steel construction. Fit onto forks up to 2" thick. Steel retaining strap prevents fork extensions from sliding off forks during use. Priced and sold in pairs. T&S brand.

### FORK EXTENSION SPECIFICATIONS AND ORDERING DATA

| Fork Ext. Length (In.) | Fit Fork Width (In.) | T & S Model | Stock No. | List | Each Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **60** | 4 | FE-4-60 | **3KR57** | $233.47 | **$198.50** | 97.0 |
| **60** | 5 | FE-5-60 | **3W667** | 197.10 | **191.75** | 99.0 |
| **72** | 5 | FE-5-72 | **3KR58** | 279.56 | **223.75** | 121.0 |
| **72** | 6 | FE-6-72 | **3KR59** | 320.25 | **256.25** | 133.0 |




No. 3W667

# INDUSTRIAL BATTERY CHARGERS AND CABLE CONNECTORS

**LTD Battery Chargers** are used in a wide variety of light industrial motive power applications including powerworkers, walkie trucks, sweepers, scrubbers, transporters, man lifters, and other single shift equipment. Designed primarily for overnight charging, these quality engineered chargers are reliable and easy to use. Compact, lightweight units save floor space.

**Automatic start/stop control** protects battery from overcharging. To operate, plug charger into 120V AC outlet and connect battery to charger (connectors not included, order separately). After a 5-second delay, charger automatically turns on. Built-in electronic voltage/time control runs battery through charging cycle selected, then automatically turns charger off to prevent overcharging.

**Rocker switch allows either normal or equalize charge.** Dual status LED indicates charging function chosen; red for Normal, green for Equalize. At 80% of full charge, amber LED turns on, indicating final phase of charging. In Normal mode, final charging phase lasts for 3 hours. In Equalize mode, charger continues to run at low output for 6 hours. This ensures that all cells are equally charged. Equalize function is typically used once a week, such as over a weekend.

**Ferroresonant transformer circuit** provides a taper type output profile similar to full rated industrial motive power battery chargers. This self-regulating circuit provides the proper DC output regardless of AC input voltage fluctuations of ±10%.

**Chargers applied to batteries** within the ampere hour range specified in the table below require 12 to 16 hours to fully charge an 80% discharged battery.

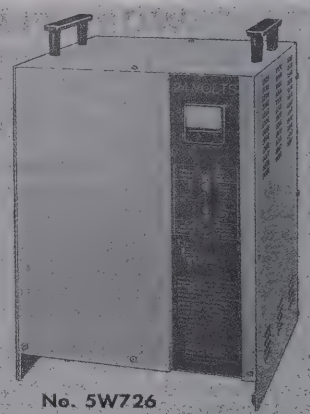
**7-foot AC cord with molded plug** and 8-foot color coded heavy-duty DC output cables included. Sturdy steel cabinets finished with durable, long lasting powdered epoxy baked finish. LTD Products brand. LTD Products is an affiliate of Prestolite Power Corp.

- Ferroresonant transformer
- Automatic start/stop control
- LED status indicators
- 16-hour backup timer
- Rocker switch for equalize and manual stop
- All models 16½H x 12½W x 12"D

**TYPICAL APPLICATIONS**

Walkie Pallet Trucks
Rider Pallet Trucks
Walkie Lift Trucks
Tow Tractors
Burden Carriers
Boom Lifts
Scissor Lifts
Personnel Carriers
Floor Sweepers
Floor Scrubbers

**Connectors Not Included See Listing Below**



No. 5W726

**LTD PRODUCTS LIMITED WARRANTY**

LTD Products warrants transformer and diodes for 3 years, and all other parts for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

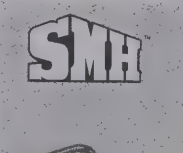
| No. of Battery Cells | DC Output Volts | DC Output Amps | Recommended Battery Amp. Hr. Range | AC Input Volts | AC Input Amps | LTD Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 12 | 50 | 300-600 | 120 | 8 | 510-6 | 5W725 | $690.00 | $682.00 | 61.0 |
| 12 | 24 | 50 | 300-600 | 120 | 15 | 510-12 | 5W726 | 773.00 | 762.50 | 83.0 |
| 18 | 36 | 30 | 180-380 | 120 | 13 | 300-18 | 5W728 | 697.00 | 687.50 | 83.0 |

## BATTERY AND CABLE CONNECTORS

Used in all electric forklift truck applications in addition to batteries, battery chargers, sweepers, personnel carriers, golf carts, construction equipment, and marinas. One-piece polycarbonate Lexan connector housings are impact-resistant for physical and dielectric strength.

Silver-plated electrolytic copper contacts offer low resistance and high conductivity with annealed barrel to ensure even crimping. Solid barrel contacts are flared for easy insertion of stripped wire or cable. Contacts are supported by tempered stainless steel leaf springs to maintain constant pressure and vibration resistance. Systems Material Handling brand.

**BATTERY AND CABLE CONNECTOR HANDLE**Heavy gauge insulated steel assist handle easily installs on any of the 175 amp or 350 amp rated connectors listed below. Covered with red plasticsol for excellent resistance to corrosion and insulation from electrical shock. Comes complete with hardware. Systems Material Handling brand (SY175-350H). **No. 6W058.** Shpg. wt. 0.5 lbs. List $13.00. Each ..... $12.20



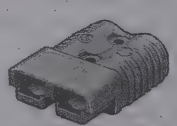
No. 6A071

ASMH Connectors are male/female. Rotate one connector 180° to connect to the other.

E81817



No. 6W058 Battery & Cable Connector Handle



No. 6A070

LAB2704

| Wire Size AWG | Max. Wire Dia. (In.) | Cable Well Depth (In.) | Nominal Rated Amp | Color | Cross-Reference* Anderson | Cross-Reference* Brad Harrison | Systems Material Handling Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 0.221 | 0.44 | 50 | Gray | 6319 | 49010 | SY6319 | 6A069 | $7.50 | $6.18 | 0.1 |
| 6 | 0.221 | 0.44 | 50 | Red | 6331G1 | 49050 | SY6331G1 | 6W056 | 7.50 | 6.18 | 0.1 |
| 4 | 0.298 | 0.75 | 120 | Gray | — | — | SY6330G4 | 6W057 | 13.50 | 9.55 | 0.2 |
| 1/0 | 0.437 | 0.75 | 175 | Gray | 6325G1 | 49110 | SY6325G1 | 6A070† | 16.50 | 11.67 | 0.5 |
| 1/0 | 0.437 | 0.75 | 175 | Blue | 6326G1 | 49120 | SY6326G1 | 6A072† | 16.50 | 11.67 | 0.5 |
| 1/0 | 0.437 | 0.75 | 175 | Red | 6329G1 | 49150 | SY6329G1 | 6A073† | 16.50 | 11.67 | 0.5 |
| 2/0 | 0.484 | 1.10 | 350 | Gray | 6320G1 | 49210 | SY6320G1 | 6A071† | 21.60 | 18.85 | 0.7 |
| 2/0 | 0.484 | 1.10 | 350 | Blue | 6321G1 | 49220 | SY6321G1 | 6A074† | 21.60 | 18.85 | 0.7 |
| 2/0 | 0.484 | 1.10 | 350 | Red | 6322G1 | 49250 | SY6322G1 | 6A075† | 21.60 | 18.85 | 0.7 |

(*) Systems Material Handling connectors are interconnectable with SB® connectors (Anderson Power Products brand) and S® connectors (Brad Harrison Co. brand).
(†) Battery and cable connector handle can be installed. See Cross-Reference Information on page opposite inside back cover.



More ways to move and store products safely and securely.

## WESCO MANUFACTURING COMPANY FORK MOUNTED DRUM LIFTER/DISPENSER




- **800 lb. full, 500 lb. half-full drum capacity**
- **Fiber drum adapter No. 4W966 available; see page 2323**

Turns your fork truck into a simple, easy drum lifter/dispenser. Geared design and 10 ft.chain drop allow operator to remotely-control dispensing and dumping of open and closed head drums without leaving fork truck. Simple operation: mount to lift truck by sliding forks into 6.625" x 2.625" fork pocket and tightening screw locks; cinch saddle around drum. Minimum inside width between forks 24" center to center overall. 20½H x 38W x 32½D". Orange. Wesco brand (DGF-55)

**No. 4W464.** Shpg. wt. 180.0 lbs. List $825.60. Each.....**$696.00**

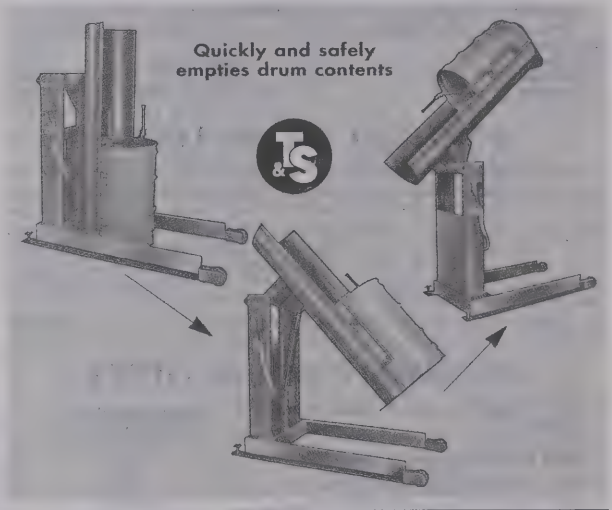
## PORTABLE ELECTRIC HYDRAULIC DRUM DUMPER

- **For use with 30- and 55-gallon steel, plastic, or fiber drums**
- **Raise time is only 25 seconds**
- **1000 lb. capacity**
- **60" dispensing height**
- **Controlled dumping angle up to 135°**
- **Manual turn-in-place floor screws stabilize unit during dumping operations**

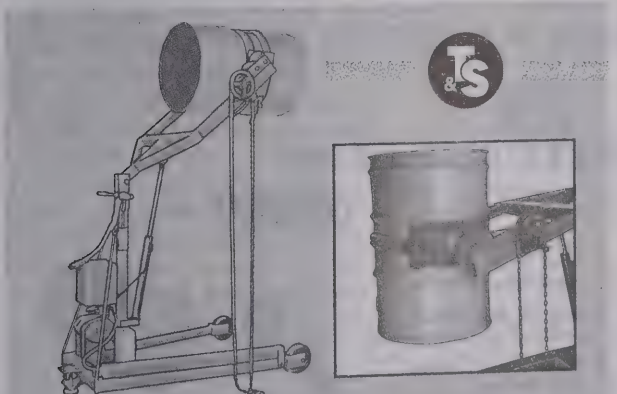
Overall height in fully rotated position is 135". One person can easily load, transport, and dump 30- and 55-gallon drums. Unit can be stopped at any angle during dumping cycle by simply removing finger from button. Electric limit switch safely stops unit when maximum dumping angle has been reached. Adjustable restraints secure drum to chute for maximum safety. Reliable displacement-style hydraulic cylinder enables dumping of drums weighing up to 1000 lbs. Hydraulic cylinder has an internally-mounted brass velocity fuse with stainless-steel spring which prevents chute from falling in the event of hydraulic system failure.

Heavy-duty 1½ HP, 110/208-230V, single-phase electric motor, pre-wired to 110V AC. Pushbutton hand control mounted on coil cord, 24V AC. Includes two rigid and two swivel casters. All welded steel construction. T & S brand (HDD-60-10-P).

**No. 3KR69.** Shpg. wt. 950.0 lbs. List $2953.47. Each.....**$2807.00**




## PORTABLE ELECTRIC HYDRAULIC DRUM CARRIER/ROTATOR/BOOM




**800 lb. capacity boom, which includes a lifting swivel hook, can be used in various factory lifting applications. When not in use, the removable boom can be conveniently stored on lower support leg.**

- **Quick-change feature converts drum carrier into a boom**
- **Heavy-duty 12V DC electric motor powered by a deep-cycle marine-style battery (battery charger included)**
- **For use with 55-gallon steel drums only**
- **800 lb. capacity**
- **72" dispensing height (with drum in horizontal position)**
- **Foot-operated floor lock minimizes movement during dumping operations**

Portable, multifunctional unit can be used for a variety of factory/warehouse drum handling operations including lifting, transporting, and dumping. Drum is secured into the cradle assembly with a ratchet mechanism. Once unit is secured with the floor lock, drum can be rotated 360° with the use of a chain-rotation system that incorporates a gear-reduction mechanism for easy one-person drum rotation.

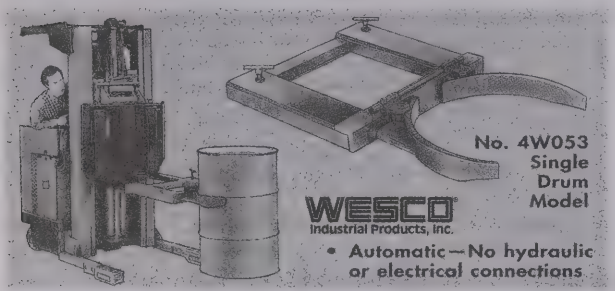
A displacement-style hydraulic cylinder is used in the lifting cycle. Hydraulic cylinder includes an internally-mounted brass velocity fuse with stainless-steel spring that prevents drum from falling in the event of hydraulic system failure.

Comes with 12V DC pushbutton hand control mounted on coil cord. Two rigid 8 x 2" and two 5 x 2" swivel casters. All welded steel construction. Overall size: 38W x 60L x 54"H. Inside clearence between support legs: 32". T & S brand (HDC-305-72-DC).

**No. 3KR67.** Shpg. wt. 480.0 lbs. List $2145.00. Each.....**$2036.00**

# DRUM EQUIPMENT

## FORK MOUNTED DRUM GRABS




Enable forklift operator to singlehandedly lift, transport, and deposit closed head steel drums. Drum grabs may also be used for open head steel drums that are not out of round or damaged, or that do not contain materials that can spill.

Driver simply approaches drum, lifts, transports, sets down, and backs truck away. Weight of drum holds grab jaws, preventing slippage. Choose from single or double drum styles. Both are secured to forks with hand-tightened lock screws mounted to each fork pocket. Fork pockets are 22" center to center.

Adjustable 30/55-gallon drum grabs adjust easily without tools to handle 30 or 55-gallon steel open or closed head drums. Two drum model should only be used with two same size drums.

All welded construction. Jaws are formed from steel bar. Orange enamel finish. Wesco Mfg. brand.

| Drum Grab Type | Drum Capacity No. of Drums | Gallons | Pounds | Diameter (In.) | Fork Pocket Size (In.) | Wesco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Standard** | 1 | 55 | 1500 | 22½ | 5½ x 2 | DJ-55 | **4W053** | $444.70 | **$336.25** | 145.0 |
| **Standard** | 2 | 55 | 1500 per drum | 22½ | 7 x 2¼ | DJ-255 | **4W466** | 596.10 | **504.50** | 230.0 |
| **Adjustable** | 1 | 30/55 | 1500 | 18/22½ | 5½ x 2 | ADJ-53 | **4W467** | 511.40 | **434.75** | 135.0 |
| **Adjustable** | 2 | 30/55 | 1500 per drum | 18/22½ | 7 x 2¼ | ADJ-253 | **4W468** | 624.40 | **529.00** | 215.0 |

## VERTICAL DRUM LIFTER

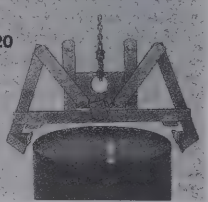
52.0Automatic drum lifter can be maneuvered over stacked drums and around obstacles to a selected drum, grab it, pick it up, and carry it to another location with the operator safely out of the way. Lift hook from crane engages lifter; grab hooks grab and hold drum securely until drum is set down in place. Grip pads help align on drum chime for secure operation. Comes fully assembled. Overall dim.: 18½H x 33W x 8"D. Orange enamel finish. Wesco Mfg. brand (DL-1).

**No. 3W391.** Shpg. wt. 52.0 lbs. List $198.60. Each .....**$155.75**

WESCO Industrial Products, Inc.

Replacement Parts Available 1-800-323-0620

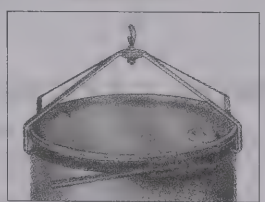
- **Handles 55-gallon closed steel drums weighing up to 1000 lbs.**
- **Use with overhead hoist or crane**



## ECONOMY DRUM LIFTER

- **For 55-gallon closed head steel drums**
- **700 lb. lifting capacity**

WESCO Industrial Products, Inc.



Vertical drum lifter is simple to use. Attach hook of any overhead crane or hoist through 1½" dia. lifting eye mounted on top of four 1/4 x 1" hot rolled steel supports. Safety lock pin prevents accidental opening while transporting drums. Overall dim.: 13½H x 23W x 28¼"D. Wesco Mfg. brand (EDL-5).

**No. 5W683.** Shpg. wt. 15.0 lbs. List $133.50. Each .....**$106.20**

## SALVAGE DRUM LIFTER

- **For 55 and 85-gallon closed steel drums**
- **1000 lb. lifting capacity**

Replacement Parts Available 1-800-323-0620

WESCO Industrial Products, Inc.



Easy-to-use, all-steel drum lifter has one moving part. Easily grabs drum just below chime. Special design enables lifter to place damaged 55-gallon steel drum into tight clearance 85-gallon steel or poly salvage/overpack drum. Shipped unassembled. Orange enamel finish. Wesco Mfg. brand (SDL-85).

**No 6W672.** Shpg. wt. 27.0 lbs. List $249.19. Each .....**$160.75**

## VERTICAL DRUM LIFTERS/DISPENSERS

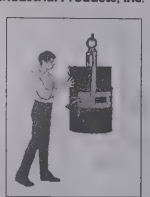
One-man operation saves time, reduces spilling waste, and improves productivity. Simply attach or hang lifter on hook from an overhead hoist or crane, cinch saddle around drum, and raise to desired height and position. Come fully assembled. 39H x 28½W x 8"D. Orange color. Wesco Mfg. brand.

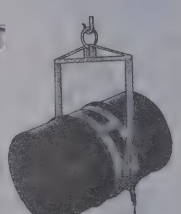
**No. 3W390 Manual Lifter/Dispenser** for low level pouring and dumping operations. Positive tilt locks on either side of drum saddle to hold drum upright in transit: when released operator can manually tilt drum to control pouring. Locks also hold drum in horizontal position. When released, drum can be rotated 360° in either direction.

**No. 4W462 Geared Lifter/Dispenser** for remote pouring operations. Geared chain control, low effort feature make this model usable at any height, and ideal for remote controlled dispensing and dumping. 10 foot control chain can be locked to secure drum in any position during transit and dispensing.

- **For 55-gallon steel drums**
- **Lift, transport, and pour from open and closed head drums**
- **800 lb. full, 500 lb. half-full drum capacity**
- **Fiber drum adapter No. 4W966 is available; see page 2323**

WESCO Industrial Products, Inc.





No. 3W390

| Lifter Type | Wesco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Manual** | DL-55 | **3W390** | $224.90 | **$168.25** | 45.0 |
| **Geared** | DGL-55 | **4W462** | 555.00 | **452.25** | 70.0 |

# DRUM DOLLIES AND CADDIE

Add mobility to heavy industrial drums and enable reusable drums to serve as convenient containers for scrap metal, liquids, parts, and refuse.




A No. 5W562 Structural Foam Dolly

B Nos. 2W269 (30-Gal.), 3W039 (45, 55-Gal.), & 3W040 (45, 55-Gal.) Welded Steel Dollies

C No. 3KR53 Round Steel Dolly with Nonprotruding Steel Casters

D No. 3KR76 Lo-Profile Welded Steel Caddie

### A STRUCTURAL FOAM DOLLY

- Structural foam construction will not rust or bend
- Solid bottom
- Five heavy-duty casters
- Rubbermaid brand

### B WELDED STEEL DOLLIES WITH CROSS-BRACING

- Circular frame of welded steel
- Cross-bracing on bottom of dolly
- Four heavy-duty double row ball bearing swivel casters
- Wagner brand

### C ROUND WELDED STEEL DOLLY WITH NONPROTRUDING STEEL CASTERS

- Four steel swivel casters are located completely underneath dolly for facilitating use in tight areas or limited floor space
- Steel casters resist wear and provide protection against potentially harmful solvents
- Drum platform is 3¾" high
- T & S brand

### D LO-PROFILE WELDED STEEL CADDIE WITH HANDLE

- Drum platform is only 1½" high to facilitate easy loading and unloading
- Hinged handle transfers pulling force to bottom of drum to maximize stability when moving
- Handle height is 38" from floor
- Two hard rubber wheels, one hard rubber swivel caster
- Overall size is 34" wide x 24" long
- Drum Saddle is 26" wide x 16½" deep for 55 gal. drums
- T & S brand

| Key | Dolly Capacity (Lbs.) | For Drum Size (Gal.) | Dolly Size (In.) Dia. | Inner Dia. | Ht. | Caster Size (In.) | Type | Mfr. | Mfrs. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 500 | Up to 55 | 24⅛ | 23½ | 7⅛ | 3 x 1¼ | Rubber/Steel Plate | Rubbermaid | 2650 | 5W562 | $84.38 | $70.05 | 17.0 |
| B | 840 | 30 | 20⅝ | 19⅛ | 6½ | 3 x 1¼ | Molded Plastic | Wagner | 2F2499 | 2W269 | 53.54 | 48.15 | 14.0 |
| B | 840 | 45, 55 | 23½ | 23¼ | 6½ | 3 x 1¼ | Molded Plastic | Wagner | 2F2498 | 3W039 | 59.67 | 53.70 | 19.0 |
| B | 1400 | 45, 55 | 23½ | 23⅛ | 6½ | 3 x 1¾ | Phenolic Resin | Wagner | 1F2497 | 3W040 | 96.41 | 86.80 | 20.0 |
| C | 1200 | 30, 55 | 23¾ | 23⅜ | 5½ | 3 x 1¼ | Steel Swivel | T & S | DRUM-DR-55-12C | 3KR53 | 90.56 | 72.45 | 15.0 |
| D | 1000 | 55 | — | — | — | 3 x 1¼* | Hard Rubber | T & S | LO-DC-MR | 3KR76 | 106.13 | 85.05 | 38.0 |

(*) Caddie also has two 6 x 2" hard rubber wheels

# ELECTRIC HYDRAULIC DRUM CRUSHER/COMPACTOR

- Dual-speed power unit for quick cycle-time
- Crushing force of 38,000 lbs.
- Pushbutton controls with key lockout
- Mushroom-head emergency stop button
- Hydraulic system overload relief valve
- Safety door-interlock system
- Built-in fork pockets for portability
- Protective plastic power unit cover
- Meets OSHA and JIC Specifications

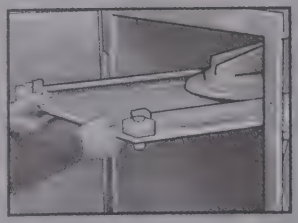
T&S

Reduces drum storage and disposal costs

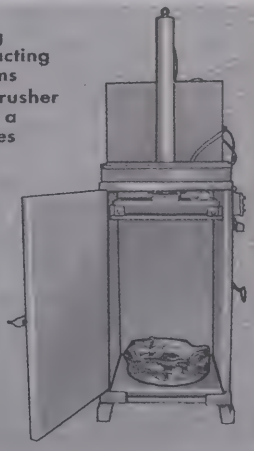
Hydraulic drum crusher/compactor will crush an empty 55-gallon steel drum from full size down to approximately 6" high and automatically reset itself in less than 20 seconds. Crushing platen has a spike to pierce the lid for pressure release of closed-head drums. Crushing feature may also be used with smaller drums. Compacting feature may be used for compacting contents of 55-gallon drums only. Compacting platen is 21" in diameter. Overall size: 36W x 44L x 95"H. Usable chamber size: 25W x 24L x 38"H. Electric 6.5 HP motor, 208-230/460V, 3-phase, pre-wired to 460V AC. T & S brand (HDC-900-IDC).

**No. 3KR68.** Shpg. wt. 1675.0 lbs. List $7590.00. Each.....$7210.00

- Use for crushing drums or compacting contents of drums
- Converts from crusher to compactor in a matter of minutes

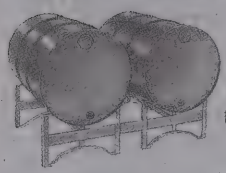


Drum crusher is converted to a compactor by simply removing crushing platen.

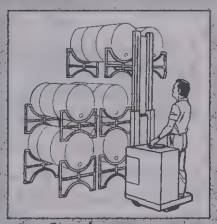


# DRUM STORAGE RACKS AND MIXERS

WESCO Industrial Products, Inc.

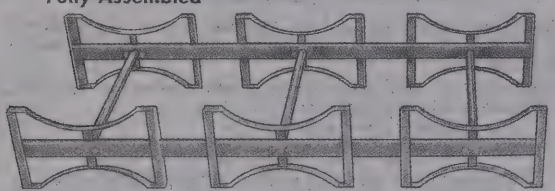


No. 2W582 Cradles Two Drums Horizontally



Stacks up to Four Units High

No. 4W459 Shown Fully Assembled



## HORIZONTAL DRUM STORAGE RACKS

- **Can be stacked and moved even when fully loaded**
- **Stacks up to four units high**

Uses space efficiently and reduces drum handling operations. Drums are stored horizontally to enable stacking and convenient dispensing of liquids. Water and dirt drain off naturally and will not collect around openings. Heavy gauge steel parts bolt together to form a rigid rack and later can be dismantled and stored in a small space if storage availability changes. Each unit will support 1600 lbs. and can be stacked four-high providing drums can support the combined load. Fork lift access from all sides. Orange enamel finish. Wesco Mfg. brand.

**No. 2W582** holds 2 drums. Dimensions assembled: 45½W x 30D x 12½"H. Disassembled boxed unit: 46L x 13D x 5"H.

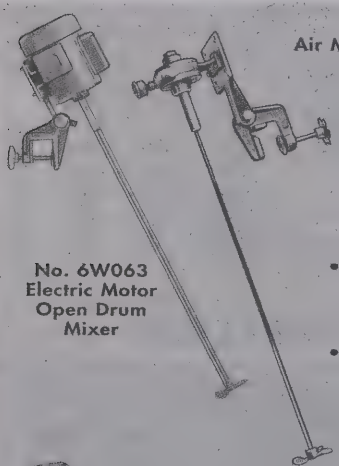
**No. 4W459** holds 3 drums. Dimensions assembled: 71½W x 30D x 12½"H. Disassembled boxed unit: 72L x 13D x 5"H.

| Drum Capacity | Wesco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 | DR-2 | **2W582** | $108.00 | **$94.00** | 47.0 |
| 3 | DR-3 | **4W459** | 160.40 | **139.50** | 75.0 |

## DRUM MIXERS

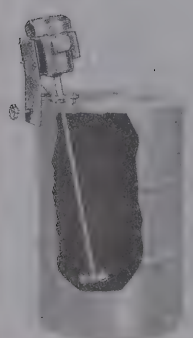
No. 6W065 Air Motor Open Drum Mixer

Replacement Parts Available 1-800-323-0620



No. 6W063 Electric Motor Open Drum Mixer

- **Economy open drum mixers have 3-blade fixed propeller; mount to open head drums**
- **Bung entering mixers have 2-blade folding propeller for easy entry into 2" bung opening on closed head drums**



No. 6W066 Electric Motor Bung Entering Drum Mixer



No. 6W068 Air Motor Bung Entering Drum Mixer

Well suited for mixing/blending low viscosity fluids and suspending or dissolving low concentrations of solids in water or water-like liquids including light oils and syrups. Mixing is done directly in drums or tanks. Direct-drive mixers have a 32" long x 5/8" diameter, 316 stainless steel shaft and propeller; No. 6W063 has a 1/2" diameter shaft. Come standard with 1725 RPM, TEFC electric motor or variable speed air motor. Choose electric or air motor models in either economy open drum or bung entering styles. Shipped unassembled. Neptune Mixer brand.

**Economy Open Drum Mixers** have a 4" diameter, 3-blade fixed propeller and mount easily to open head drums. Can also be mounted directly to tanks or on rails with 1⅞" opening adjustable clamp. Mounting bracket adjusts for unlimited mixing angles. Electric motor models include junction box.

**Bung Entering Mixers** have a unique 2-blade folding propeller for quick, easy entry into the 2" bung opening on 55-gallon or smaller closed head drums. Propeller opens to 3¾" diameter when mixer is in operation. Special mounting bracket is designed to clamp to lip of standard steel drum. Electric motor models come complete with 8 ft. cord and 3-prong plug.

### VARIABLE HP FOR AIR MOTORS

| | HP | RPM | Requirement |
|---|---|---|---|
| Applies to Stock Nos. 6W065 & 6W068 | 1/4 | 1725 | 10CFM at 45PSI |
| | 1/3 | 1725 | 14CFM at 60PSI |
| | 1/2 | 1725 | 19CFM at 80PSI |

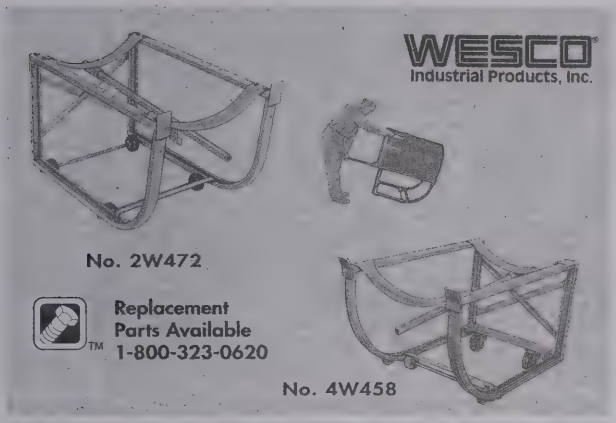
| HP | Motor | Neptune Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ECONOMY OPEN DRUM MIXERS** | | | | | | |
| **1/4** | 1/115-230V | B-1.0 | **6W063** | $418.37 | **$380.75** | 35.0 |
| **1/2** | 1/115-230V | B-3.0 | **6W064** | 501.89 | **456.50** | 35.0 |
| **Variable*** | Air | B-4.0 | **6W065** | 428.73 | **390.00** | 20.0 |
| **BUNG ENTERING MIXERS** | | | | | | |
| **1/4** | 1/115-230V | F-1.0 | **6W066** | 515.33 | **468.50** | 35.0 |
| **1/2** | 1/115-230V | F-3.0 | **6W067** | 614.05 | **558.50** | 45.0 |
| **Variable*** | Air | F-4.0 | **6W068** | 514.79 | **468.25** | 25.0 |

(*) See Variable HP for Air Motors Table above.



*More ways to move and store products safely and securely.*

## 55-GALLON DRUM CRADLES




- **Simplifies storage, loading and unloading, and on-the-job dispensing of 55-gallon steel drums**
- **600 lb. load capacity with 15" drain height**

Four easy steps enable one operator to handle fully loaded drums: (1) Position cradle next to drum (2) Hook tipping lever on drum chime (3) Tip load on the curved rails (4) Move loaded cradle on its wheels to new location.

Cradle frame is box channeled steel, cross-braced for rigidity. Nonsparking oil and chemical-resistant wheels standard on both models. 32½L x 19½"W. Orange color. Shipped unassembled. Wesco Mfg. brand.

**No. 2W472** has four 2½" rigid polyolefin wheels mounted inside the frame.

**No. 4W458** has two 2½" rigid polyolefin wheels and two 3" polyolefin swivel casters for easy steering.

| Wheels | Casters | Wesco Mfg. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 4 | — | CW-10 | **2W472** | $102.58 | **$85.35** | 29.0 |
| 2 | 2 | CWS-10 | **4W458** | 134.10 | **104.05** | 37.0 |




## 30- AND 55-GALLON INDUSTRIAL DRUM CRADLE

- **Accommodates either 30- or 55-gallon metal industrial drums with ease**
- **Handles drums weighing up to 1000 lbs.**

Polyolefin rollers enable drum to be rotated for positioning. Horizontal position is 20" above floor surface. Drum hook and tapered toes are made of long wearing carbon steel. Cradle moves on four 4" polyolefin wheels that resist reaction with fats, oil, and chemicals. Unit comes partially assembled. Top section has welded steel construction that bolts to the uprights. 25½H x 19"W. Orange. Wesco Mfg. brand (CW-20).

**No. 3W399.** Shpg. wt. 50.0 lbs. List $187.00. Each.....**$144.30**




## INDUSTRIAL DRUM CARRIER

- **Allows single operator to lift, transport, tilt, rotate, and drain 55-gallon steel drums**
- **Can be used with 800 lbs. full or 500 lbs. half-filled drums**
- **Fiber drum adapter No. 4W966 is available; see listing below**

Easy to maneuver and operate. Operator secures saddle around drum, lowers handle to lift drum, then rolls load to new location or tilts drum for dispensing. Two sets of locks provided for easy operation: lift locks hold drum securely in raised position; tilt lock holds drum in horizontal or vertical position.

Carrier rolls on two 8" polyolefin load wheels and one 4" polyolefin swivel caster. Transporting and dispensing heights are adjustable to a maximum drum-to-floor clearance of 11½" vertical and 18" horizontal drain height. All steel welded construction. Shipped partially assembled. 41½H x 35W x 37"D. Orange. Wesco Mfg. brand (ML-55).

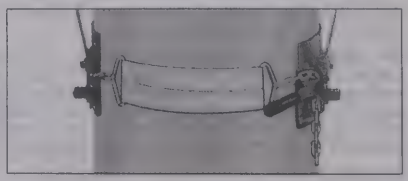
**No. 3W398.** Shpg. wt. 105.0 lbs. List $533.80. Each .....**$412.25**

## WESCO FIBER DRUM ADAPTER

Industrial Products, Inc.

Adapts 55-gallon steel drum lifters/dispensers Nos. 3W390, 4W462, and 4W464, and drum carrier No. 3W398 for use with fiber drums. Strap protects fiber drum from damage by chain. Handles drums from 21 to 23" diameter. Adapter consists of nylon webbing, rings, and chain. Yellow color. Wesco Mfg. brand (FBA).

**No. 4W966.** Fiber Drum Adapter. Shpg. wt. 1.7 lbs. List $35.10. Each ..... **$34.85**



# DRUM EQUIPMENT

## 55-GALLON STEEL DRUM HAND TRUCKS




**No. 3W393 55-GALLON DRUM TRUCK/DISPENSER.** Four wheel barrel truck can transport steel industrial drums weighing up to 1000 lbs. Specially designed undercarriage allows one operator to tilt and lower a full drum to its horizontal position for dispensing or storage. 16½" drain height. Four polyolefin rollers simplify rotating drum for positioning faucet over a container (not included). Long wearing beveled steel nose prongs and an adjustable slide hook hold drum in place by its top rim. Wheels are made of oil and chemical-resistant polyolefin; 10 x 2¼" front and 6 x 1½" rear. Frame is structural pipe size tube 56½"H, 24"W at the handles, and 16¼"W at the nose. Orange enamel finish. Wesco Mfg. brand (30BTW).

**No. 3W393.** Shpg. wt. 66.0 lbs. List $230.50. Each.....**$197.75**

**No. 3W071 DRUM HAND TRUCK.** For manually transporting upright 55-gallon steel barrels and drums up to 1000 lbs. Saves time and manpower, plus maneuvers easily in space too small for power driven forklifts. Especially useful on loading and receiving docks, industrial storerooms, warehouses, and distribution centers. Specially designed steel frame has double forks, adjustable chime hook, and wide spread handle bars for leverage and handling ease. Steel kickstand holds truck upright. 10 x 2½" molded rubber tires on cast iron wheels. 16¼"W nose. Overall dimensions: 62"H x 24½"W. Orange color. Wesco Mfg. brand (5BT).

**No. 3W071.** Shpg. wt. 68.0 lbs. List $248.40. Each.....**$205.75**

**No. 3W392 EASY HANDLING DRUM TRUCK.** One of the best designed, easiest handling 55-gallon steel drum trucks available. Heavy-duty industrial design and construction is suitable for the shop, warehouse or on the dock. Spring loaded floating replaceable axle helps absorb heavy loads. Provides excellent balance enabling one man to handle 55-gallon steel drums weighing up to 1000 lbs. Adjustable self-storing chime hook. Replaceable hard faced nose prongs machined from a steel bar. Heavy-duty mold-on rubber wheels are 10 x 2½" with 1" roller bearings. Upright truck can stand alone without kickstand. Frame is structural pipe size tube 61"H, 23¾"W at handles, 16¼"W at the nose. Orange enamel finish. Wesco Mfg. brand (20BT).

**No. 3W392.** Shpg. wt. 74.0 lbs. List $336.10. Each.....**$275.00**

**No. 4W332 FOUR-WHEEL DRUM TRUCK** allows one man to handle 55-gallon steel drums weighing up to 1000 lbs. easily. Rear wheels also simplify moving drums to and from pallets. Heavy-duty steel frame has adjustable self-storing chime hook, replaceable hardened nose prongs machined from a steel bar, kickstand for upright storage, and combination handle for easy operator control. Truck is equipped with two 10 x 2½" mold-on rubber front wheels and two 6 x 1½" mold-on rubber rear wheels. Overall dimensions: 60H x 24"W at handle; 16¼"W at nose. Orange. Wesco Mfg. brand (15BT).

**No. 4W332.** Shpg. wt. 79.0 lbs. List $355.70. Each.....**$296.50**

## 55-GALLON POLY DRUM TRUCKS AND DISPENSER

Enable one man to handle 55-gallon poly/plastic drums weighing up to 1000 lbs. or 21 to 23" diameter fiber drum with minimum height of 30". Nose pads pick up drums reducing danger of punctures and provide a large support area to fit any drum configuration. Drum is secured to truck with easy to use, one-way belt system. Belt is placed around drum and tightened by an easy pull on oversized handle. Belt slides easily through one-way belt lock securing drum to truck. Drum is released by depressing release side of belt lock. Belt is stored on hooks behind handles. Orange enamel finish. Wesco Mfg. brand.

**No. 6W011 Poly Drum Truck.** Heavy-duty structural pipe truck is 59½H x 23½W x 23½"D. Spring loaded floating replaceable axle helps absorb load and provides excellent balance. Oversized nose pads are replaceable. Heavy-duty mold-on rubber wheels are 10 x 2½" with 1" roller bearings. Upright truck can stand alone without kickstand.

**No. 6W012 Poly Drum Truck/Dispenser.** Four wheel barrel truck has large, welded nose pads. Specially designed undercarriage allows one operator to tilt and lower a full drum for dispensing or storage. Wheels are mold-on rubber with 1" roller bearings, 10 x 2½" front and 6 x 1½" rear. Frame is structural pipe 58H x 23¾"W at handles x 24⅝"D. Comes with kickstand for easy upright storage.




| Description | Wesco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Drum Truck | 40BT | 6W011 | $379.80 | $318.00 | 82.0 |
| Drum Truck/Dispenser | 50BT | 6W012 | 328.10 | 274.50 | 86.0 |

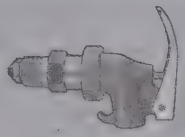


*More ways to move and store products safely and securely.*

# DRUM ACCESSORIES



No. 5A505
Adjustable Stainless Steel Safety Faucet



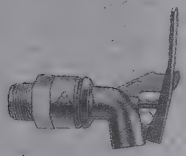
No. 5A504
Adjustable Brass Safety Faucet



No. 1A244
Rigid Brass Safety Faucet



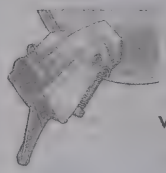
No. 5A503
Rigid Brass Safety Faucet



No. 5A501
Economy Faucet



No. 5A502
Economy Faucet



No. 2A106
Viscous Liquid Valve for Flammables



No. 5W685
Gate Valve for Viscous Liquids

## ADJUSTABLE STAINLESS STEEL SAFETY FAUCET

Self-closing (316) stainless steel faucet can be used with up to and including 30W oils and other flammables, as well as nonflammables compatible with SS construction. Faucet fits 3/4" NPT (19mm) bung in steel or plastic drums. Features include internal flame arrestor, Teflon seal. Adjustable feature allows nozzle to be positioned after faucet is threaded into drum without thread damage or leaking. For use with drum in horizontal position. FM approved. Wesco International brand (272038).

**No. 5A505.** Adjustable Stainless Safety Faucet. Shpg. wt. 2.0 lbs.
List $156.10 Each.....$116.05

## ADJUSTABLE BRASS SAFETY FAUCET

Self-closing brass faucet can be tightly threaded into drum so nozzle can be adjusted to dispensing position without thread damage or leaking. Features include Teflon seal, internal flame arrestor. Use with oils up to 30W, noncorrosive flammables and nonflammables. Shank will fit 3/4" NPT (19mm) bung in steel or plastic drums. For use with drum in horizontal position. FM approved. Wesco International brand (272037).

**No. 5A504.** Adjustable Brass Safety Faucet. Shpg. wt. 2.0 lbs.
List $63.19 Each.....$54.80

## ECONOMY FAUCETS

Brass plated zinc die-cast faucets are self-closing. Designed with nylon seal and padlock hole. Cannot be used with chlorinated solvents. Rigid shank fits 3/4" NPT (19mm) drum bung in steel or plastic drums. No. 5A501 is FM approved for viscous liquids only. No. 5A502 is supplied with flame arrestor and is FM approved; can be used with flammable or nonflammable liquids. Wesco International brand.

**No. 5A501** (272080). Shpg. wt. 0.4. lbs. List $11.78 Each.....$10.23

**No. 5A502** (272083). Shpg. wt. 0.4. lbs.List $26.70 Each.....$26.25

**Note: See Chemical Resistance Chart in Terminology and Technical Data Section In back of Catalog.**

## RIGID BRASS SAFETY FAUCET

Heavy-duty rigid self-closing faucet can be used with oils up to 30W, noncorrosive flammables and nonflammables. Features external flame arrestor, Teflon O-ring seal rigid shank will fit 3/4" NPT (19mm) bung. For use with drum in horizontal position. FM approved. Wesco International brand (272081). NPT (19mm) bung. For use with drum in horizontal position. FM approved. Wesco International brand (272081).

**No. 5A503.** Adjustable Stainless Safety Faucet. Shpg. wt. 1.4. lbs.
List $43.00 Each.....$42.85

## RIGID BRASS SAFETY FAUCET

Industrial duty 3/4" self-closing rigid faucet designed for safely dispensing flammable liquids from 30 and 55-gallon drums. Hand pressure on spring-loaded lever opens valve, releasing hand pressure closes valve liquid-tight. Teflon O-ring valve seal. Perforated metal flash arrestor. Cast brass body. Fits 3/4" NPT drum bung opening. Drum must be stored horizontally for gravity flow dispensing. Factory Mutual System approved. Protectoseal brand (531G).

**No. 1A244.** Rigid Brass Safety Faucet. Shpg. wt. 1.1. lbs.
List $49.70 Each.....$45.20

## GATE VALVE FOR VISCOUS LIQUIDS

Self-closing brass safety gate valve is designed for use with viscous noncorrosive liquids heavier than 30W motor oil (2000 SSU). Wide mouth opening permits maximum flow. Knife style spring activated Teflon blade has fast positive shut off when handle is released. 4½" wide handle provides easier opening and more precise control . Fits 2" NPT (51mm) bung in steel or plastic drums. For use with drum in horizontal position. FM approved. Wesco International brand (272034).

**No. 5W685.** Gate Valve. Shpg. wt. 6.9. lbs. List $139.96 Each.....$121.40

## VISCOUS LIQUID VALVE FOR FLAMMABLES

**Covers Opening and Seals Out Contaminants**

Self-closing valve specifically designed for handling viscous flammables such as rubber cement, oils, oven-dry paints, etc. Full-floating metal shoe covers the 1¾" diameter opening and provides a reliable seal. Self-closing feature cuts off flow to prevent spillage. Wire safety guard. Built-in lock tab. Valve body is gray iron, shoe is red brass. 2" NPT. Factory Mutual approved. Protectoseal brand (545A).

**No. 2A106.** Viscous Liquid Valve. Shpg. wt. 4.9. lbs.
List $139.58 Each.....$131.65

# DRUM ACCESSORIES

## DRUM DEHEADER

Cuts top off standard 30 to 55-gallon industrial steel drums. Can be operated by one man. Leaves clean edge around drum so container can be reused. Deheader is not sparkproof. Removing top with cutter reduces fire hazard cased by torch-cutting. Forged steel construction. Replaceable alloy steel blade. Wesco International brand.

**No. 1A122.** (272018). Shpg. wt. 6.05 lbs. List $65.48. Each.....**$57.70**

**No. 4A443.** Replacement Blade. (272012). Shpg. wt 0.5 lbs. List $11.77. Each.....**$11.77**

## UNIVERSAL DRUM PLUG WRENCH

Long lasting iron alloy universal drum wrench fits all types of industrial drum plugs and bung nuts; male or female, metal or plastic. Heavy-duty construction will not bend or chip in normal use. Angled handle protects knuckles in most positions. Wesco International brand (272017).

**No. 5A500.** Shpg. wt. 3.8 lbs. List $34.07. Each .....**$29.55**

## DRUM PLUG WRENCH

Removes or tightens plug on most industrial drums, including those with hexagonal or square plugs, male or female type bungs, fittings and plugs with lugs or crossbars. Wrench is made of strong nonsparking bronze alloy, stronger than aluminum, more corrosion-resistant than steel. 9" long offset handle clears drum chime. Wesco International brand (272016).

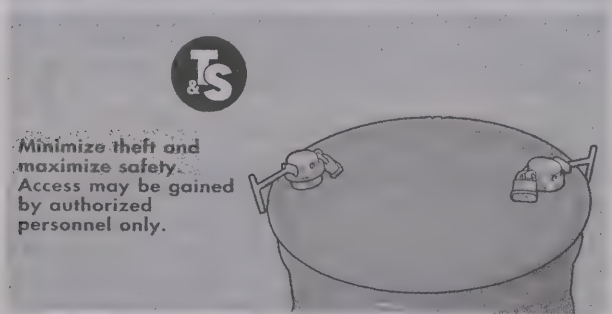
**No. 1A121.** Shpg. wt. 1.8 lbs. List $29.25. Each .....**$25.35**

## DELUXE DRUM PLUG WRENCH

Nonsparking bronze alloy wrench opens and closes most industrial drums as does the No. 1A121, but it will also tighten and remove faucets from drums. Extra-purpose wrench eliminates the need for extra tools with the 1¼" open wrench feature for tightening most faucets into drums. Can be used on faucet Nos. 5A501, 5A502, 5A504, and 5A505. Wesco International brand (272086).

**No. 6A240.** Shpg. wt. 2.0 lbs. List $32.70. Each .....**$28.90**




## DRUM LOCK

- **Well suited for meeting lock-out and tag-out requirements**
- **Solid brass construction for security and durability**
- **Heavy-duty 1/2" zinc-plated steel rod prevents drum lock from turning**
- **Fits both 2¼" and 1" standard diameter drum threads**
- **Two drum locks are required for most drums**

Prevent unauthorized access to drum contents. Simply screw drum lock into place, insert zinc-plated steel rod, and secure with padlock (padlock not included). Steel rod is pre-drilled with a 5/16" diameter padlock hole. Drum lock seals are replaceable. T&S brand (BLD-80).

**No. 3KR44.** Shpg. wt. 5.0 lbs. List $42.00. Each.....**$33.60**

## PLASTIC DRUM PALLET

- **Lightweight, yet durable—can handle 4 full 55-gallon steel or plastic drums**
- **Chemical-resistant HDPE**
- **Nestable design allows them to be easily stacked for storage**
- **Stacking feature locks tops of drums in place to create stable, unified load**
- **True 4-way entry for easy transportation from any side**
- **Constructed of 100% recyclable plastic materials; 12-gallon spill retention**
- **2800 lb. dynamic load capacity; 8400 static load capacity**
- **Measures 48 x 48"**

Designed for safe and easy transportation of environmentally hazardous liquids. Pallets themselves are constructed of 100% recyclable materials approved by FDA/USDA. Made in the USA. Priced each, sold only in quantities of 5.

***New*** **No. 4TH96.** Plastic Drum Pallet. Shpg. wt. 27.0 lbs. List $94.21. Each .....**$89.75**





No. 2W906
Viscous Liquid
Drum Funnel

PROTECTOSEAL

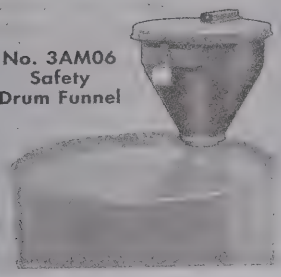
Factory Mutual System Approved



No. 5AW54
21" Diameter
Drum Funnel

JUSTRITE®

No. 3AM06
Safety
Drum Funnel



Factory Mutual System Approved

## 2" VISCOUS LIQUID FUNNEL

Permits safe, rapid filling of viscous liquids into 55-gallon drums without clogging. For use in collecting sludge, waste paint, and other viscous flammable materials. 9½" dia. brass funnel guides flow of liquids into the drum and prevents overflow. 2" male NPS threaded unit fits supplier's original 2" bung flange. Only for 55-gallon drums. Liquid flow tube inside discharge tube guides liquids past vapor venting slots of discharge tube flame arrestor and prevents slots from clogging. Hinged cover with fusible link closes automatically at 160°F to extinguish flames in the event of a fire. Brass and steel construction. Factory Mutual Approved. Protectoseal brand (5510).

**No. 2W906.** Shpg. wt. 13.0. List $365.87. Each ..... **$349.00**

## DRUM FUNNEL

Large 21" diameter drum funnel allows drainage of large quantities of fluids. Filled containers and buckets can be easily placed on the funnel to allow for extended drainage. Virtually indestructible, heavy-duty polyethylene funnel has excellent chemical resistance. Sloped, scalloped design and large 1¾" inside diameter spout allows fast, nonclogging flow of viscous and nonviscous liquids. Top edge splash guard helps hold in 2½ gallons of draining fluid with no overflow. Fits over top of 30 or 55 gallon steel or plastic drums. Funnel features a molded-in side hook for convenience in hanging optional funnel cover No. 5AK75 listed below. Cleans easily. Gray color. Justrite brand (28210).

**No. 5AW54.** Shpg. wt. 5.0. List $28.63. Each..... **$27.80**

## DRUM FUNNEL COVER

All polyethylene funnel cover for use with drum funnel No. 5AW54 listed above. Prevents contamination of drum funnel surface and keeps rainwater from drum contents if left outside. Cover conveniently hangs on funnel side hook when funnel is being used. Gray color. Dimensions: 19" O.D. x 1¾"H. Justrite brand (28215).

**No. 5AK75.** Shpg. wt. 5.0. List $21.99. Each ..... **$21.35**

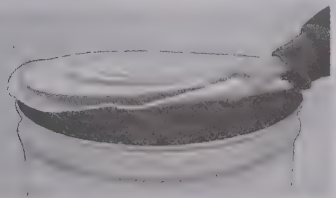
## SAFETY DRUM FUNNEL

Wide mouth funnel is ideal for transferring hazardous liquids into drums. Fits into 2" drum bung to allow fast dumping while minimizing spills. 6" flame arresting brass tube protects contents from exterior ignition source. Hinged cover reduces spread of vapors. In case of fire, fusible link on cover melts and snaps cover closed. Made of durable steel with red powder paint finish to resist chemicals, corrosion, and humidity. Accommodates a padlock to prevent unauthorized access to contents. 10¾" diameter x 10" high. Factory Mutual Approved. Justrite brand (08207).

**No. 3AM06.** Shpg. wt. 9.2. List $174.00. Each..... **$165.50**

## POLYETHYLENE DRUM COVER

T&S



For use with 55-gallon closed-head steel drums. Drum cover fits easily over top of drum. Flexible clear 60 mil thick polyethylene construction for easy installation and years of reliable use. Ultraviolet screener. Temperature range: -50 to 212°F. Come in packages of 5 drum covers. T&S brand (DC-TP).

**No. 3KR52** .Shpg. wt. 10.0lbs.. List $72.85.
Each Pkg. of 5..... **$58.30**

WESCO Industrial Products, Inc.



## DRUM LEVEL GAUGE

Visually gauges drum contents when drum is in horizontal position. Sight tube is constructed of heavy gauge glass, mounted in a plated steel body with Buna-N seals. Special plated fitting threads into 3/4" NPT (19mm) drum bung and has female 3/4" NPT (19mm) provision to fit faucet of your choice. Fitting also permits uninterrupted flow of contents with level gauge in place. Drum gauge cannot be used with chlorinated solvents, high concentrated acids, or alkalies. Wesco International brand (272005).

**No. 5A507.** Shpg. wt. 2.7lbs.. List $79.10.
Each ..... **$75.50**

# DRUM ACCESSORIES

## GROUND AND BOND WIRES

Prevents static electricity buildup and sparking during movement flow and transfer of hazardous liquids. Both ground and bond wires are 3 ft. long and made of heavy-duty wire rope. Bonding and grounding of containers with hazardous liquid (flash point less than 140°F) and flammable liquid (flash point less than 100°F) during movement flow and transfer is required by OSHA. Wesco International brand.

**No. 4A442 Ground Wire** is insulated and has a "C" clamp on one end which attaches to ground stake and an alligator clip on the other end to attach to drum.

**No. 4A441 Bond Wire** has an alligator clip on each end to attach between drums or dispensing drum and receiving container.

### GROUND AND BOND WIRE ORDERING DATA

| Wire Type | Wesco International Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Ground | 272032 | **4A442** | $24.06 | **$24.06** | 0.6 |
| Bond | 272033 | **4A441** | 24.01 | **20.76** | 0.4 |

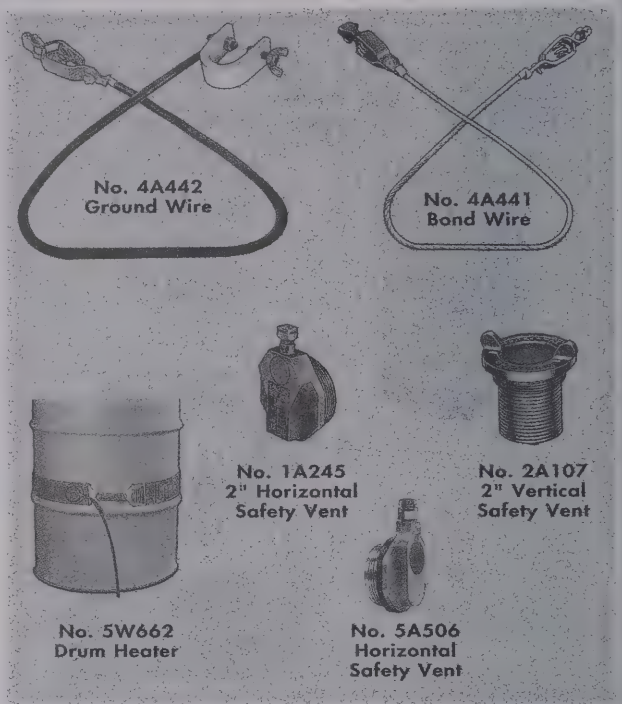
## ELECTRO-FLEX METAL DRUM HEATERS

- **Provide even heat for standard 5, 15, 30, and 55-gallon metal drums**
- **Suitable for freeze protection, viscosity control, melting, or maintaining materials at elevated temperatures**
- **Thin, flexible design with a nickel alloy heating element and built-in electrically grounded screen covered with fiberglass reinforced vulcanized silicone rubber insulation**
- **High potential dielectric tested at 1250V for safety**
- **6 ft. cord set with 3-prong molded plug on 115V models, 230V models do not have plugs**
- **3" wide heater wraps around drum and is retained with a simple spring and hook device**
- **Nos. 5W662, 5W664, 5W666, 5W668, and 5W669 have a built-in thermostat with a control range of 60° to 425°F, and temperature control stem with 305° rotation**
- **Components used in construction of these heaters are UL Recognized and CSA Certified**
- **FOR USE ON METAL DRUMS ONLY. Many non-metal drums can be easily damaged by overheating**
- **Actual temperature is affected by thermostat setting, heater wattage, type of drum and contents, ambient temperature, and other system characteristics. Multiple heaters may be required for some applications**

### ELECTRO-FLEX DRUM HEATER ORDERING DATA

| Drum Capacity (Gal.) | Drum Dia.* (In.) | Watts | Amps | Volts | Electro-Flex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 55 | 22½ | 1000 | 8.7 | 115 | DH-55-115-TS | **5W662** | $151.12 | **$141.7** | 2.8 |
| 55 | 22½ | 1000 | 8.7 | 115 | DH-55-115 | **5W663** | 114.26 | **107.05** | 2.8 |
| 55 | 22½ | 1000 | 4.35 | 230 | DH-55-230-TS | **5W664** | 151.12 | **141.70** | 2.8 |
| 55 | 22½ | 1000 | 4.35 | 230 | DH-55-230 | **5W665** | 114.26 | **107.15** | 4.3 |
| 30 | 18¼ | 750 | 6.6 | 115 | DH-30-115-TS | **5W666** | 144.93 | **135.90** | 4.2 |
| 30 | 18¼ | 750 | 6.6 | 115 | DH-30-115 | **5W667** | 108.20 | **101.35** | 3.9 |
| 15 | 14 | 500 | 4.4 | 115 | DH-15-115-TS | **5W668** | 138.68 | **130.00** | 3.6 |
| 5 | 11¼ | 300 | 2.7 | 115 | DH-5-115-TS | **5W669** | 122.53 | **114.90** | 2.0 |
| 5 | 11¼ | 300 | 2.7 | 115 | DH-5-115 | **5W670** | 86.18 | **80.80** | 3.1 |

(*) Plus or minus one inch.




## 2" HORIZONTAL SAFETY VENT

Especially suited for 30 and 55-gallon horizontal storage drums with 2" bung opening at end. Automatic pressure relief at approximately 5 PSI. Vacuum relief is obtained by lifting and rotating valve stem. Fusible emergency relief plug melts at 135°F (57°C) venting pressure and preventing drum rupture in case of fire. Perforated metal flash arrestor prevents accidental ignition of vapor within drum. Brass construction 2" male NPS threads. Factory Mutual Approved. Protectoseal brand (5522).

**No. 1A245.** 2" Horizontal Safety Vent. Shpg. wt. 1.0 lbs. List $64.94
Each **$61.00;** Lots 6 ..... **$57.95**

## HORIZONTAL SAFETY VENT

FM Approved brass drum bung vent for use with drums in horizontal (pouring) position. Automatically relieves pressure buildup at 5 PSI. Equipped with flame arresting baffel, to prevent sparks and flames from igniting the contents and fusable plug that melts at 135°F, to provide emergency relief in case of fire. Manual vacuum relief by lifting and rotating valve stem. Maximum content flow of 220 CFM at 20 PSI. Vent fits steel or plastic drum with 2" NPS (51mm) bung. Wesco International brand (272030).

**No. 5A506.** Horizontal Safety Vent. Shpg. wt. 1.0 lbs. List $52.05.
Each ..... **$52.05**

## 2" VERTICAL SAFETY VENT

Especially suited for 30 and 55-gallon drums in vertical position. Provides automatic pressure relief and manual vacuum relief. Pressure valve opens between 5 to 8 PSI. Vacuum relief is obtained by manually loosening valve one half turn to permit air to enter drum as liquid is drawn out. Plate type flash arrestor. Brass and aluminum construction. 2" male NPS thread. Factory Mutual Approved. Protectoseal brand (522).

**No. 2A107.** 2" Vertical Safety Vent . Shpg. wt. 2.0 lbs. List $73.62.
Each **$69.45;** Lots 6 ..... **$65.98**

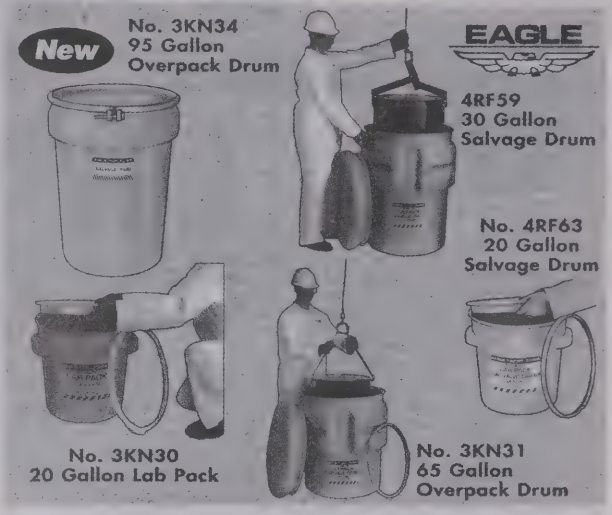
# SPILL CONTAINMENT

## POLY OVERPACKS, SALVAGE DRUMS AND LAB PACKS

**20 Gallon Lab Pack.** United Nations certified. Can be used with packing groups I, II and III of hazardous materials. Meets performance requirements of DOT 49CFR173.12(b) [1992]. Chemical resistant to most materials, 100% high-density polyethylene with UV inhibitors. Handles suitable for forklift use. Lightweight, nestable for easy storage of 5 gallon pails or smaller containers. Eagle brand.

**30 Gallon Lab Pack.** United Nations certified. All plastic construction. Open-head drums can be stored outside with no rusting. Blow-molded plastic won't dent, rust, crack or corrode. Provides superior strength, impact resistance and environmental stress crack resistance. Incinerates completely and clearly. Stackable to save storage space. Can be used as a shipping container, lab pack or spill kit container. Eagle brand.

**20, 30, 65 and 95 Gallon Poly Overpack Salvage Drum Containers.** Meet 3 PSI Pressure Test. United Nations certified.Can be used with packing groups I, II and III of hazardous materials. Meets performance requirements of DOT 49CFR173.3(c) [1992]. Chemical-resistant to most materials. Blow-molded high density polyethylene with UV inhibitors. Suitable for forklift use and nestable for easy storage. Suitable for 55 gallon drums or smaller containers. Overpack good for secondary containment storage, transportation and cleanup. **Safety yellow color with removable head and metal band.** Eagle brand.



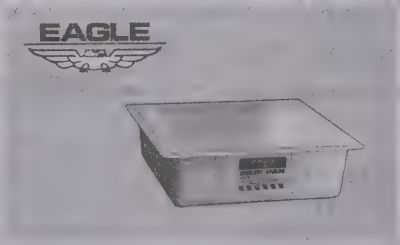

### POLY OVERPACK, SALVAGE DRUM AND LAB PACK SPECIFICATIONS AND ORDERING DATA

| Description | UN Certification | Capacity (Gals.) | Dimensions (In.) H | O.D. | I.D. | Eagle Model | Stock No. | | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Pack** | 1H2/X75/S | 20 | 20½ | 22 | 18 | 1652 | **3KN30** | | $52.84 | **$38.15** | **$36.20** | 13.0 |
| **Lab Pack** | 1H2/X100/S | 30 | 28½ | 21 | 18 | 1601 | **3KN22** | | 51.76 | **37.35** | **35.47** | 14.0 |
| **Salvage Drum** | 1H2/X75/S | 20 | 20½ | 22 | 21½ | 1654 | **4RF63** | *New* | 50.00 | **41.60** | **39.52** | 15.0 |
| **Salvage Drum** | 1H2/X100/S | 30 | 28½ | 21½ | 20½ | 1602 | **4RF59** | *New* | 54.00 | **44.95** | **42.70** | 16.0 |
| **Overpack** | 1H2/X200/S | 65 | 39 | 31 | 27 | 1665 | **3KN31** | | 204.92 | **148.10** | **140.69** | 53.0 |
| **Overpack** | 1H2/X340/S | 95 | 44 | 31 | 27 | 1695 | **3KN34** | | 214.62 | **165.25** | **156.89** | 58.0 |

### DRIP PAN

**Drip Pan** absorbs problem leaks and helps keep work area floors clean and safe. Holds up to one gallon of liquid. Safety yellow polyethylene pan is filled with polypropylene sorbent for oils, water-based and other non-aggressive liquids. Rigid, sturdy construction helps prevent spillage during handling. 10½" square, 3" deep. Packed 12 drip pans per box. Eagle brand (1670).

**No. 5U734.** Shpg. wt. 10.0 lbs. List .....$84.00.
Each **$56.60**. Lots 4.....**$53.73**




### SINGLE DRUM CONTAINMENT UNIT

**Single Drum Containment Unit.** All polyethylene construction for excellent chemical resistance. Meets EPA requirements for secondary spill containment of hazardous materials. Suitable for forklift use. 33 H x 31 O.D. x 27" I.D. Eagle brand (1612).

**No. 3KN23.** Shpg. wt. 25.0 lbs. List $160.00.
Each **$96.00**; Lots 2.....**$91.20**

**Heavy duty dolly** holds up to 1,000 pounds. Welded construction with rubber wheels. 27½" I.D. Eagle brand (1698).

**No. 3KN35.** Shpg. wt. 30.0 lbs. List .....$106.82.
Each **$82.20**; Lots 2.....**$78.07**




### DRUM TRAY

Ideal under 5-gallon to 55-gallon containers during dispensing or filling. All polyethylene construction provides excellent chemical resistance. Inexpensive, practical tray features reservoir with raised supports to keep container away from spills. Meets EPA requirements for secondary spill containment of hazardous materials. 6H x 31W x 31 L. Eagle brand (1614).

***New* No. 4RF60.** Drum Tray.
Shpg. wt. 32.0 lbs. List.....$70.00.
Each **$52.50**; Lots 2.....**$49.88**

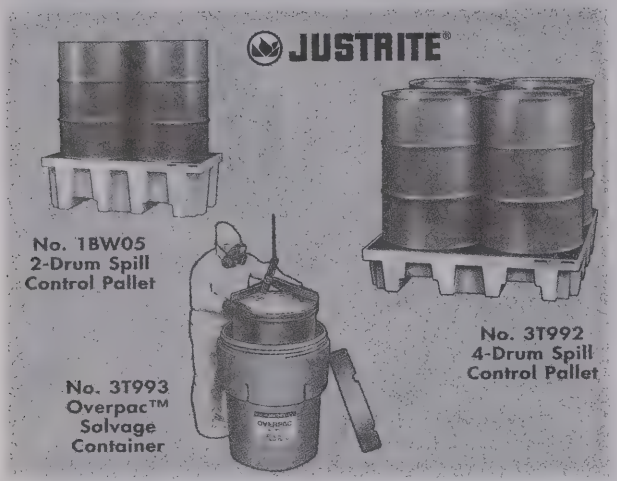
Metal drum tray dolly for use with No. 4RF60 drum tray (listed above). Welded construction with rubber wheels. 7H x 31W x 31L. Eagle brand(1618).

***New* No. 4RF61.** Dolly. Shpg. wt. 24.0 lbs.
List $116.00. Each **$104.50**; Lots 2.....**$99.28**



# SPILL CONTAINMENT

## SPILL CONTROL PALLETS AND POLY SALVAGE CONTAINERS




**Justrite Spill Control Pallets** provide an economical solution to the need for secondary containment of hazardous liquids. Designed for use indoors or in a weather-protected environment, pallets allow safe transport and temporary storage of environmentally hazardous liquids and can accommodate up to four 55-gallon drums. Low profile, broad base of 4-drum pallet makes it ideal for satellite waste accumulation, convenient dispensing, and easy drum loading.

Sturdy polyethylene base with removable grating resists chemicals and stands up to abuse. Translucent natural color sidewalls for ease in detecting leaks. Sump capacity exceeds EPA requirements. Transportable by fork lift. Static load rating of 4-drum pallet is 5000 lbs., 2-drum pallet is 2500 lbs.

**Overpac™ Salvage Drums** provide a safe, economical means for transport and temporary storage of damaged or leaking containers of hazardous liquids, including PCB. Drums are designed to safely contain a broad range of hazardous chemicals including acids, caustics and other corrosives. Designed to meet HM-181 performance oriented packaging regulations. Meet UN requirements for use in overpac applications and DOT 49 CFR 173.3. UN Marking 1H2/X295/S/95/USA/M4339.

Constructed of high-density polyethylene and can accommodate conventional 55-gallon drum. Twist-on lid spins on, turns down tight and seals with hand pressure only. No tools needed.

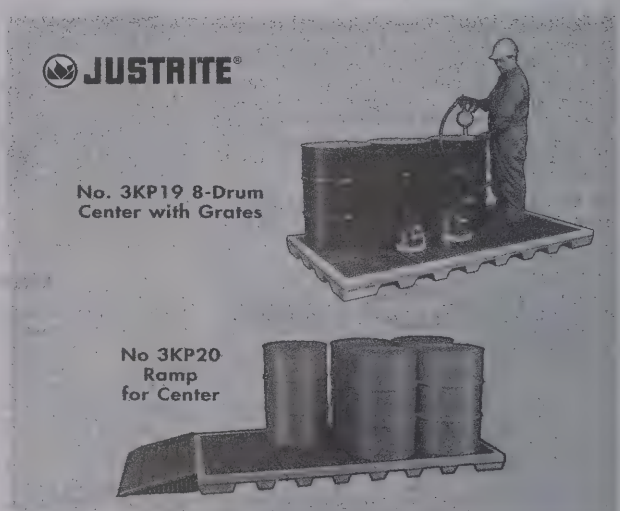
### SPECIFICATIONS AND ORDERING DATA

| Description | Capacity (Gals.) | Dimensions (In.) H | Dia. | W | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Spill Control Pallet, 2-Drum** | 66 | 15½ | 25 | 49 | 28234 | **1BW05** | $216.32 | **$196.00** | **$176.53** | 76.0 |
| **Spill Control Pallet, 4-Drum** | 66 | 10¼ | 49 | 49 | 28254 | **3T992** | 294.40 | **267.00** | **240.05** | 105.0 |
| **Overpac™ Salvage Container** | 95* | 40¾ | 31 | — | 28001 | **3T993** | 206.08 | **176.25** | **158.65** | 47.0 |

(*) Will accept all steel drums up to 55 gallons.

## HAZMAT ACCUMULATION CENTER

- **Serves as a waste accumulation area or spill control base for pumping stations**
- **Use as a satellite area for dry or liquid organization and storage for recyclables**
- **Staging zone for projects**
- **Holds drums awaiting transfer**
- **Excellent accumulation center for lead acid batteries, motors, or equipment for parts washing**




**Work center has 8,000 lb. load bearing capacity** to cover a wide range of applications. Organizes materials in different types of containers ranging from bags and boxes to 5 gallon pails and 55 gallon drums. A single center accommodates up to eight 55-gallon drums creating an instant spill protection zone. Generous 60 gallon capacity meets EPA requirements. All polyethylene construction is impervious to attack from most solvents, acids and caustics. Four removable polyethylene non-skid grates make sump clean-up quick and easy. Molded-in positive grate positioners assure grates stay in place and don't ride up. Gray color.

**For capacities of 16 drums or more,** multiple centers could be locked together with optional Accumulation Center Links, No. 3KP21, sold in pairs. Optional ramp No. 3KP20 simplifies drum handling and can be located in any of six positions on base. Justrite brand.

### SPECIFICATIONS AND ORDERING DATA

| Description | Dimensions (In.) L | W | H | Containment Capacity (Gals.) | Holding Capacity (Lbs.) | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **8 Drum Center with 4 Grates** | 99¾ | 53 | 6¼ | 60 | 8000 | 28905 | **3KP19** | $767.25 | **$635.00** | **$571.45** | 183.0 |
| **Ramp for Center** | 48 | 25½ | 7¼ | 2 | 1000 | 28906 | **3KP20** | 171.00 | **166.00** | **149.40** | 35.0 |
| **Center Links (Pair)** | 10 | 7⅜ | 3¾ | — | — | 28907 | **3KP21** | 62.00 | **60.15** | **54.14** | 1.5 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# SPILL CONTAINMENT

## SPILL CONTAINMENT PALLETS AND PLATFORMS




**Eagle Drum Containment Units** provide containment of hazardous chemicals as a storage area, dispensing area, transfer station or a waste collection station. Help eliminate costly clean ups. Feature 100% polyethylene construction for excellent chemical resistance.

Safety yellow tub with black patented blow molded high density polyethylene grating. Translucent tub and open grating permit quick inspection. Grating has 1¾" square openings and removes easily for cleaning.

All containment units have built-in internal and perimeter structural supports to ensure strong stability for drum storage.

6 and 8 drum platform units are designed for larger storage quantities in factories and warehouses.

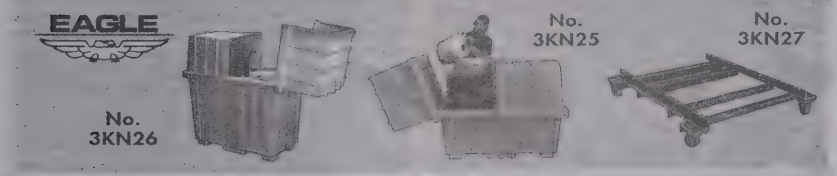
Polyethylene Ramp for use with Nos. 4RF62, 3KN32, and 3KN33 only.

**All units meet EPA requirements for secondary spill containment of hazardous materials. 40CFR264.175.**

| Description | Spill Capacity (Gals.) | Dimensions (In.) H | D | L | Eagle Model | | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2-Drum Pallet** | 68 | 19 | 26¼ | 51 | 1620 | | **3KN24** | $326.74 | **$196.50** | **$186.40** | 54.0 |
| **3-Drum Pallet** | 78 | 15 | 26¼ | 76¾ | 1630 | | **3KN28** | 421.06 | **283.50** | **269.24** | 67.0 |
| **4-Drum Pallet** | 62 | 10 | 51½ | 51½ | 1645 | | **3KN29** | 388.63 | **261.75** | **248.50** | 65.0 |
| **4-Drum In-Line Pallet** | 63 | 6½ | 30½ | 106 | 1647 | *New* | **4RF62** | 480.00 | **280.00** | **266.00** | 74.0 |
| **6-Drum Platform** | 61 | 6½ | 51½ | 77 | 1686 | | **3KN32** | 691.25 | **465.50** | **442.00** | 88.0 |
| **8-Drum Platform** | 82 | 6½ | 51½ | 102 | 1688 | | **3KN33** | 842.35 | **567.00** | **538.62** | 116.0 |
| **Spill Pallet Ramp*** | — | 6½ | 32 | 45.5 | 1689 | *New* | **4RF65** | 200.00 | **150.00** | **142.50** | 32.0 |

(*) Polyethylene ramp for use with Nos. 4RF62, 3KN32 and 3KN33 only.

## TWO-DRUM WORK STATIONS




**Two-Drum Secondary Containment Work Station.** For inside or outside drum storage as well as security. Safety yellow color, yet translucent for inspections for leaks. Heavy-duty polyethylene unit provides secondary containment to store/dispense most hazardous chemicals. Use as a collection center or dispensing center. Features large secondary spill capacity. Transport with fork lift truck. Holds two 55-gallon drums. No. 3KN26 permits lids to close while pump is in place. Both models include locks.

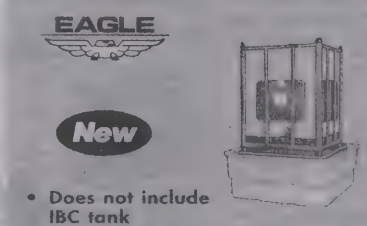
**Meets EPA Requirements for Secondary Spill Containment of Hazardous Materials. 40CFR264.175.**

**Optional Work Station Dolly** to make work station mobile. Welded construction with 4 swivel wheels. Fits both models. Holds 1200 lbs.

### TWO-DRUM WORK STATION SPECIFICATIONS AND ORDERING DATA

| Description | Spill Capacity (Gal.) | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Low Profile** | 160 | 46 | 60 | 34 | 1626 | **3KN25** | $700.79 | **$607.00** | **$576.53** | 130.0 |
| **Standard Profile** | 230 | 64 | 60 | 34 | 1628 | **3KN26** | 808.78 | **700.50** | **665.31** | 150.0 |
| **Work Station Dolly** | — | 6 | 60 | 34 | 1629 | **3KN27** | 645.93 | **435.00** | **413.17** | 65.0 |

## IBC SPILL UNIT



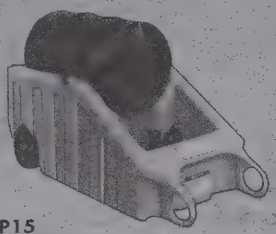

- **Does not include IBC tank**

IBC Spill Containment Unit is constructed of high density polyethylene with a reinforced heavy metal IBC platform. Unit has a 400 gallon secondary spill capacity and the platform has a 10,000 lb. static load capacity. Width of containment unit helps contain side puncture-type leaks. Large shelf on platform unit accepts a variety of IBC tanks, from 38-50"W by 38-50"L. Dimensions: 67W x 67D x 26"H. Meets EPA 40CFR264.175. Eagle brand (1680).

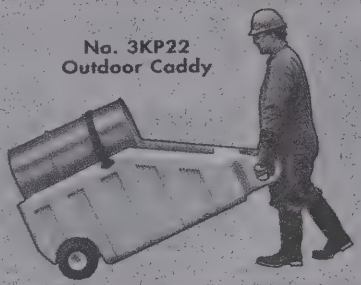
***New* No. 4RF64.** Shpg. wt. 250.0 lbs.
List $1600.00. Each...**$1280.00**; Lots 2 **$1216.00**

# SPILL CONTAINMENT

## SPILL CONTAINMENT CADDY



No. 3KP15
Indoor Caddy



No. 3KP22
Outdoor Caddy

JUSTRITE®

- Move a 600 lb. drum, reduce back injuries and muscle strains
- Provides spill control as required in 40CFR 264.175, reduces the risk of high clean up and liability costs

**Provides a single solution** for drum handling safety, mobile dispensing capability, and built-in spill containment. Ergonomically designed polyethylene caddy makes it easy to load and move heavy 55-gallon drums. Double loop strap safely holds drums in place. Unit is forkliftable to speed moving great distances within a facility.

When tilted to the horizontal position, caddy can be used to safely and easily dispense drum contents. Deep dispensing well is wide enough to hold safety cans, bench cans, plunger cans, and five-gallon pails. Well catches incidental spills and can be cleaned quickly with sorbents. Main sump area holds liquids from a major spill or drum failure. 80 gallon containment capacity exceeds EPA requirements. Polyethylene construction for durability and exceptional chemical compatibility. Gray color. Justrite brand.

**Indoor Caddy No. 3KP15** features 10" wheels to roll smoothly over shop floors, facilitating hand portability.

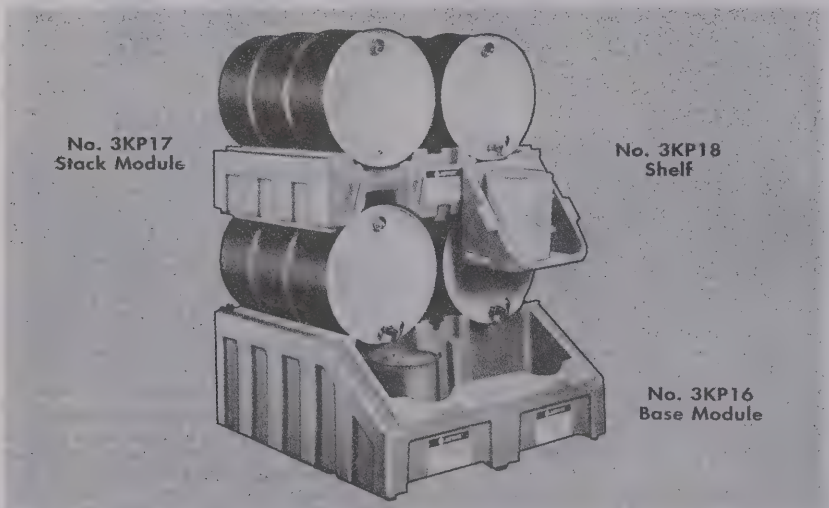
**Outdoor Caddy No. 3KP22** features 10" pneumatic wheels to absorb bumps to roll easily over rough, irregular terrain.

**Optional Caddy Well Liner No. 3KP23** is removable for easy cleaning.

### CADDY SPECIFICATIONS AND ORDERING DATA

| Description | Sump Capacity (Gals.) | Load Bearing Capacity (Lbs.) | Dimensions (In.) W | L | H | Justrite Model | Stock No. | List | Each | Lot 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Indoor Caddy** | 80 | 600 | 32 | 27 | 69 | 28901 | **3KP15** | $469.00 | **$455.00** | **$409.50** | 97.0 |
| **Outdoor Caddy** | 80 | 600 | 34 | 27 | 69 | 28908 | **3KP22** | 556.50 | **540.00** | **486.00** | 97.0 |
| **Caddy Well Liner** | 1 | — | 19¼ | 16⅝ | 3 | 28909 | **3KP23** | 30.00 | **29.10** | **26.19** | 1.0 |

## DRUM MANAGEMENT SYSTEM



No. 3KP17
Stack Module

No. 3KP18
Shelf

No. 3KP16
Base Module

JUSTRITE®

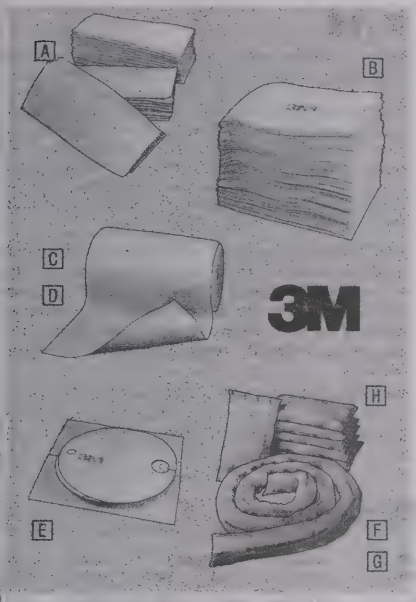
**Drum Management System** meets environmental protection requirements while organizing drum storage for maximum safety, efficiency, and productivity. Unit provides racking, dispensing, and spill containment for 55 gallon drums. Stacking capability saves valuable factory floor space. System consists of three components: Base Module, Stack Module, and Dispensing Shelf. Base Module can be used alone or in combination with Stack Module. Double dispensing well accommodates a variety of containers including safety cans and five gallon pails. Incidental leaks are contained in dispensing well while major drum spills are safely held in oversized, 100 gallon containment sump which exceeds EPA requirements. All polyethylene construction for maximum chemical compatibility and protection against rust or corrosion. Forkliftable when empty. Gray color. Justrite brand.

### DRUM MANAGEMENT SYSTEM SPECIFICATIONS AND ORDERING DATA

| Description | Containment Capacity (Gals.) | Handling Capacity (Lbs.) | Dimensions (In.) L | W | H | Justrite Model | Stock No. | List | Each | Lot 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Base Module** | 100 | 3000 | 55½ | 48½ | 23 | 28902 | **3KP16** | $478.25 | **$464.00** | **$417.60** | 132.0 |
| **Stack Module** | — | 1200 | 41 | 48½ | 13 | 28903 | **3KP17** | 205.50 | **199.50** | **179.55** | 70.0 |
| **Shelf** | — | 60 | 17 | 21½ | 17½ | 28904 | **3KP18** | 73.00 | **70.85** | **63.77** | 10.0 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*




## MAINTENANCE SORBENTS

**3M brand maintenance sorbents** for use in production facilities and maintenance shops to handle routine leaks, drips, sprays and splashes of fluids. Sorbents are non-granular and may be used on equipment and machinery. Pads, rolls, booms, pillows and rugs allow use at the source of a leak, preventing leak from spreading onto and across floor. Sorbent material allows rapid absorption of most industrial fluids and may be wrung out to recover valuable liquids, reducing the amount of material which would be disposed.

A, B **Pads.** Fit neatly around equipment and can be cut or folded to use for wiping and final clean-up. Available in two sizes.

C, D **Rolls.** For covering larger surfaces or can be cut to custom fit a smaller area. For lining drawers, covering workbenches, or protecting areas from overspray. Available in two sizes.

E **Drum Cover.** Two-piece design includes die-cut drum cover to absorb fluids from top of leaking drums. Remaining skirt is placed around base of drum to catch any drips that spill onto floor. Pre-cut for standard bung and vent openings. Fits 55 gallon drums.

F, G **Mini-Booms.** For placing around base of equipment. Helps contain leaks and prevents liquid from spreading to adjacent work areas.

H **Pillows.** Used to absorb larger volumes of liquids such as production areas where chronic leaks are a problem. Also for confined areas such as sump or spillway.

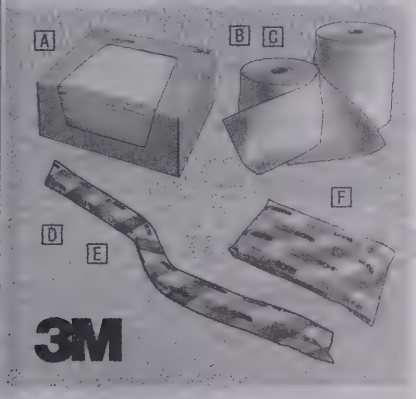
I, J **Rugs.** Sorbent rug provides absorbent surface around equipment with leaks, drips, or sprays. Prevents tracking of oils and fluids away from equipment and helps maintain cleanliness and safety. Available with or without coating on back of rug. (Not illustrated.)

**WARNING: Failure to properly handle and dispose of sorbents contaminated by hazardous materials can result in serious physical injury or death and/or environmental harm. 3M maintenance sorbents must not be used with aggressive liquids including caustics, acids, oxidizers and reactive chemicals.**

FOR MORE INFORMATION on the applications of these products, call 3M OH&ESD Technical Service toll free, 1-800-243-4630.

| Key | Description | Dimensions W | Dimensions L | Qty. per Pkg. | Gallons Sorbed per Pkg. | 3M Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Pads | 7½" | 20½" | 100 | 31.5 | M-PD720GG | **6T297** | $106.42 | **$96.75** | **$91.91** | 14.0 |
| B | Pads | 15½ | 20½ | 100 | 37.5 | M-PD1520DD | **6T298** | 98.56 | **89.60** | **85.12** | 14.0 |
| C | Roll | 15½ | 150 ft. | 1 | 31 | M-RL15150DD | **6T299** | 85.14 | **77.40** | **73.53** | 13.0 |
| D | Roll | 38 | 150 ft. | 1 | 76 | M-RL38150DD | **6T300** | 183.15 | **166.50** | **158.18** | 30.0 |
| E | Drum Cover w/Skirt (55 gal. drum) | 22" Dia. | — | 25 | 19 | M-DC22DD | **6T301** | 102.74 | **93.40** | **88.73** | 8.0 |
| F | Mini-Boom | 3 | 4' | 12 | 12 | M-MB304 | **3T924** | 71.66 | **65.15** | **61.89** | 12.0 |
| G | Mini-Boom | 3 | 8' | 6 | 12 | M-MB308 | **3T925** | 71.66 | **65.15** | **61.89** | 12.0 |
| H | Pillow | 7 | 15" | 16 | 8 | M-PL715 | **3T926** | 55.38 | **50.35** | **47.83** | 7.0 |
| I | Rug | 36 | 300 ft. | 1 | 32 | M-RG36300E | **6T302**† | 344.85 | **313.50** | **297.83** | 55.0 |
| J | Rug (coated) | 36 | 100 ft. | 1 | 10.5 | M-RGC36100E | **6T303**† | 232.92 | **211.75** | **201.16** | 23.0 |

(†) Not pictured.




## CHEMICAL SORBENTS

**3M brand chemical sorbents** for absorbing acids, bases, and most other hazardous liquids. Sorbents are chemically inert and will not react with most harsh chemicals. Applications for emergency response include laboratories, plants, loading docks, anywhere chemical spills may occur.

A **Pads.** Used for absorbing small spills, wiping equipment and final clean-up.

B, C **Rolls.** For covering larger areas such as shelves and bench tops, or can be rolled out for maximum coverage of a major spill. Can be cut to fit drawers or around equipment. Available in two sizes.

D, E **Mini-Booms.** Helps contain and control a spill from spreading. Available in two lengths.

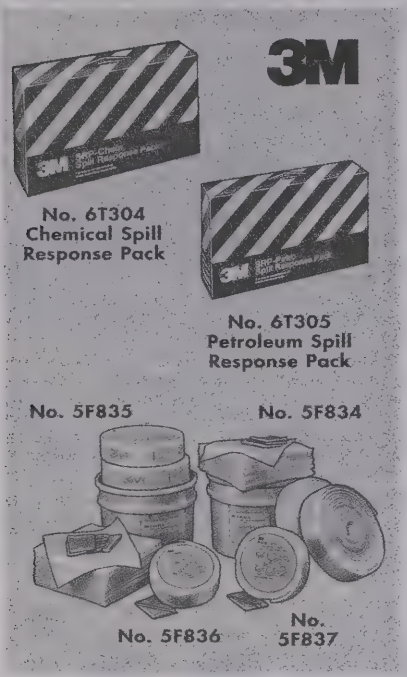
F **Pillows.** For absorbing larger volumes of liquids or in areas where a need for control of steady leaks or drips exists. Each pillow absorbs 1/2 gallon.

**WARNING: Always exercise extreme care when handling, storing or disposing of any sorbent material containing oil or any other hazardous liquid. Dispose of only in accordance with local, state and federal regulations.**

FOR MORE INFORMATION on the applications of these products, call 3M OH&ESD Technical Service toll free, 1-800-243-4630.

| Key | Description | Dimensions W | Dimensions L | Qty. per Pkg. | Gallons Sorbed per Pkg. | 3M Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Pads | 9¼" | 14½" | 25 | 4 | C-PD914DD | **1CD44** | $14.96 | **$13.61** | **$12.93** | 1.8 |
| B | Roll | 15¼ | 150' | 1 | 31 | C-RL15150DD | **1CD43** | 106.42 | **96.75** | **91.91** | 13.0 |
| C | Roll | 38 | 150' | 1 | 76 | C-RL38150DD | **1CD42** | 229.90 | **209.00** | **198.55** | 14.0 |
| D | Mini-Boom | 3 | 4' | 12 | 12 | P-206 | **4T893** | 201.02 | **182.75** | **173.61** | 12.0 |
| E | Mini-Boom | 3 | 8 | 6 | 12 | P-208 | **5T571** | 201.02 | **182.75** | **173.61** | 12.0 |
| F | Pillow | 7 | 15" | 16 | 8 | P-300 | **4T894** | 161.04 | **146.40** | **139.08** | 7.0 |

# SPILL CONTROL AND BATTERY SAFETY KIT




## SPILL KITS

**Spill Response Packs.** Designed for use in containing small spills. Available in Chemical Sorbent and Petroleum Sorbent kits. Both kits include carrying case which can be used as a visual warning device at the spill site. 3M brand.

**Chemical Spill Response Pack.** For use in laboratories, shipping docks or other areas where hazardous chemicals are shipped, stored or transferred. Includes three No. 4T893 booms, ten No. 4T890 pads, poly bag and carrying case.

**Petroleum Spill Response Pack.** For use in loading docks, manufacturing facilities, fuel carriers or trucking companies which require a sorbent that will not pick up water. Includes three No. 5T573 booms, five No. 4T896 pads, poly bag and carrying case.

**Folded Sorbent Roll Spill Kits.** Available in 5 gallon and 31 gallon sizes, Chemical or Petroleum versions. 5 Gallon Spill Kits store easily and are ideal for rapid response. 5 Gallon Kits include folded sorbent roll, temporary disposal bag and tie. 31 Gallon Spill Kits are packed in a 20 gallon drum for easy identification. 31 Gallon Kits include two folded sorbent rolls, 30 pads, three temporary disposal bags and ties, and yellow drum for No. 5F835 Chemical Kit or white drum for No. 5F834 Petroleum Kit. 3M brand.

**WARNING: Failure to properly handle and dispose of sorbents contaminated by hazardous material can result in serious physical injury or death and/or environmental harm. Dispose of only in accordance with local, state and federal regulations.**

FOR MORE INFORMATION on the applications of these products, call 3M OH&ESD Technical Service toll free, 1-800-243-4630.

### SPILL KIT ORDERING DATA

| Description | Gallons Sorbed Per Kit | 3M Model | Stock No. | Per Kit List | Per Kit Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Chemical Spill Response Pack** | 3.5 | SRP-Chem | **6T304** | $99.88 | **$90.80** | **$86.26** | 4.5 |
| **Petroleum Spill Response Pack** | 4 | SRP-Petro | **6T305** | 84.04 | **76.40** | **72.58** | 5.3 |
| **Chemroll Chemical Folded-Sorbent Kit** | 5 | C-SKFL5 | **5F836** | 35.75 | **32.50** | **30.88** | 7.5 |
| **Petroll Petroleum Folded-Sorbent Kit** | 5 | P-SKFL5 | **5F837** | 28.60 | **26.00** | **24.70** | 7.5 |
| **Chemical Spill Kit w/Yellow Drum** | 31 | C-SKFL31 | **5F835** | 191.67 | **174.25** | **165.54** | 20.0 |
| **Petroleum Spill Kit w/White Drum** | 31 | P-SKFL31 | **5F834** | 155.32 | **141.20** | **134.14** | 20.0 |

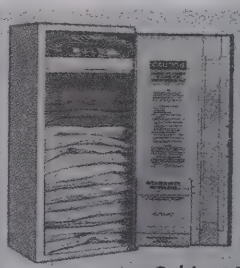
## SPILL CONTROL STATION

For industrial, hospital, school and laboratories requiring fast easy cleanup of emergency chemical spills. Station provides a convenient source for everything needed to soak up hazardous liquids. Cabinet includes 10 standard and 2 hydrofluoric acid pillows, each with absorbing capacity of 1 quart; 2 pairs of chemical splash goggles; 15 sorbent pads for small spills; 15 hazardous waste bags with labels and ties, 2 pairs of gloves; and 2 total body Saranex®-laminated Tyvek® coveralls for head-to-toe protection of personnel.

Standard pillows absorb and hold most liquids, except hydrofluoric acid. Hydrofluoric pillows can be used for absorbing hydrofluoric acid. Sellstrom brand.

**CAUTION: Dispose of only in accordance with local, state, and federal regulations.**

**Instructions Included Inside Cabinet Door**




**Cabinet Dimensions: 15W x 9½D x 30¾"H**

**Replacement Parts Available 1-800-323-0620**

| Description | Sellstrom Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Spill Control Station** | 68000 | **4T534** | $382.44 | **$344.25** | **$309.83** | 30.0 |

Saranex®: Registered trademark of Dow Chemical Co. Tyvek®: Registered trademark of E.I. DuPont de Nemours & Co.

## BATTERY CLEANING AND CHARGING SAFETY KIT

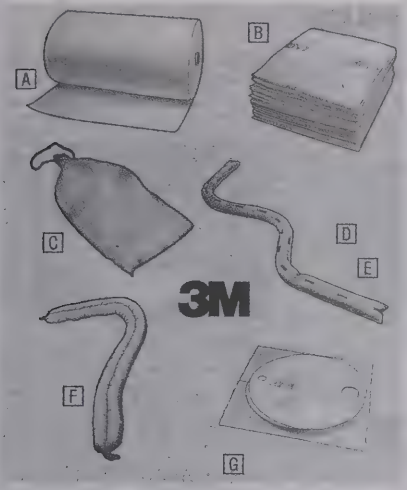
**Protect employees when charging batteries** with fully equipped portable kit. Includes necessary safety items needed to minimize the risk of acid burns or shocks. Rugged polyethylene carrying case includes the following: one pair size large unsupported neoprene over natural rubber gloves; one pair clear chemical goggles with indirect ventilation; one black SBR rubber apron, 45" x 35"; one 8" maroon synthetic brush for heavy duty scrubbing; two 9¼" x 14½" chemical sorbent pads for small spills, wiping and clean up; one quart neutralizing and cleaning agent with trigger sprayer; one laminated instruction card to remind employees of safe practices and procedures. Prinzing brand.




**Replacement Parts Available 1-800-323-0620**

| Description | Dimensions (In.) H | L | D | Prinzing Model | Stock No.❸ | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Cleaning Kit** | 7 | 14.3 | 7.5 | BCK | **3ZM54** | $97.49 | **$82.35** | **$78.20** | 6.7 |

❸ These products are covered by OSHA Hazard Communications Standard, and Material Safety and Data Sheets (MSDS) are available. See page opposite inside back cover.




## PETROLEUM SORBENTS

**3M brand petroleum sorbents** "selectively" remove floating oil from water, and are used for both marine and on-land oil recovery. For use in recovering oils and petroleum-based liquids from effluent discharge, streams, ponds, lakes, rivers and other bodies of water. Also for use on in-plant spills under leaking equipment and machinery.

A **Rolls.** For use on all size spills and discharges. Can be cut to cover smaller areas or can be laid on open waters, shorelines, or discharge streams.

B **Pads.** Versatile product used to cover the greatest surface area for the least amount of material. Can be cut or folded to place around equipment or for final wiping and clean-up.

C **Pillows.** For use in absorbing larger, concentrated volumes of petroleum based liquids. Also for use in confined areas where fluid build-up is anticipated.

D **thru** F **Booms.** Mini, single and double booms available depending on application. Use on water to contain/absorb floating oils, or on land, to form an absorbent barrier to prevent the spread of spills.

G **Drum Covers.** Two-piece design includes die-cut drum cover to absorb fluids from top of leaking drums. Remaining skirt is placed around base of drum to catch any drips that spill onto floor. Precut for standard bung and vent openings. Fits 55 gallon drums.

**WARNING: Always exercise extreme care when handling, storing, or disposing of any sorbent material containing oil or any hazardous liquid. Dispose of only in accordance with local, state, and federal regulations.**

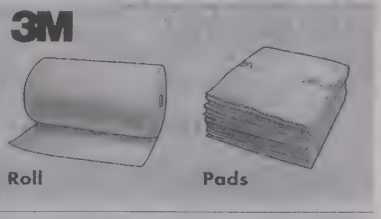
FOR MORE INFORMATION on the applications of these products, call 3M OH&ESD Technical Service toll free,1-800-243-4630.

| Key | Description | Dimensions W | Dimensions L | Qty. Per Pkg. | Gallons Sorbed Per Pkg. | 3M Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Roll | 38" | 144' | 1 | 73 | HP-100 | **4T895** | $129.96 | **$118.15** | **$112.24** | 24.0 |
| B | Pads | 17 | 19" | 100 | 37.5 | HP-156 | **4T896** | 67.76 | **61.60** | **58.52** | 16.0 |
| B | Pads | 34 | 38" | 50 | 75 | HP-157 | **5F776** | 135.08 | **122.80** | **116.66** | 26.0 |
| B | Pads | 17 | 19" | 50 | 33 | HP-255 | **5AZ56** | 63.69 | **57.90** | **55.01** | 16.0 |
| B | Pads | 17 | 19" | 100 | 66 | HP-256 | **6T296** | 122.76 | **111.60** | **106.02** | 20.0 |
| B | Pads | 34 | 38" | 50 | 81 | T-157 | **4T897** | 188.37 | **171.25** | **162.69** | 45.0 |
| C | Pillow | 14 | 25" | 10 | 35 | T-240 | **4T898** | 123.47 | **112.25** | **106.64** | 32.0 |
| D | Mini-Boom | 3 | 4' | 12 | 12 | T-4 | **5T573** | 97.51 | **88.65** | **84.22** | 12.0 |
| D | Mini-Boom | 3 | 8' | 6 | 12 | T-8 | **5T574** | 97.51 | **88.65** | **84.22** | 12.0 |
| D | Mini-Boom | 3 | 12' | 4 | 12 | T-12 | **5T575** | 97.51 | **88.65** | **84.22** | 12.0 |
| E | Single Boom | 8 | 10' | 4 | 80 | T-270 | **4T899** | 223.85 | **203.50** | **193.33** | 53.0 |
| F | Double Boom | 5 | 10' | 4 | 40 | T-280 | **4T900** | 231.00 | **210.00** | **199.50** | 35.0 |
| G | Drum Cover w/skirt (55 gal. drum) | 22" Dia. | — | 25 | 19 | P-DC22DD | **5F798** | 102.68 | **93.35** | **88.68** | 8.0 |

## HIGH PERFORMANCE STATIC RESISTANT PETROLEUM SORBENTS

3M High Performance Static Resistant Petroleum Sorbents are designed to be used for the safe clean up of highly flammable petroleum-based liquids because they resist static charge build-up. Can be used effectively and efficiently in low humidity conditions or when temperatures fall below freezing.

| Type | Dimensions W | Dimensions L | Qty. Per Pkg. | Gallons Sorbed Per Pkg. | 3M Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Roll** | 38" | 144' | 1 | 73 | HP-500 | **5F770** | $156.91 | **$142.65** | **$135.52** | 24.0 |
| **Pads** | 17" | 19" | 100 | 37.5 | HP 556 | **5F771** | 81.51 | **74.10** | **70.40** | 16.0 |
| **Pads** | 34" | 38" | 50 | 75 | HP-557 | **5F772** | 144.76 | **131.60** | **125.02** | 26.0 |




## FOLDED PETROLEUM, MAINTENANCE AND CHEMICAL SORBENTS

**For cleaning** spills, drips and fluid leaks. Four sorbents in one box: Use as a boom, pillow, pad or roll. Folded sorbents can be left closed to use as boom, unfolded once to use as pillow, or unfolded all the way for use as pad or roll. Perforations every 16 inches allow selection of required length, reducing sorbent waste. High water repellency in petroleum sorbents recovers oil, repels water. Allows reclamation of valuable liquids for recycling. 10.5 gallons sorbed per dispenser box.

**No. 1CD40.** Folded Petroleum Sorbent.
Shpg. wt. 6.0 lbs. List.....$34.92.
Each. **$31.75** Lots 3.....**$30.16**

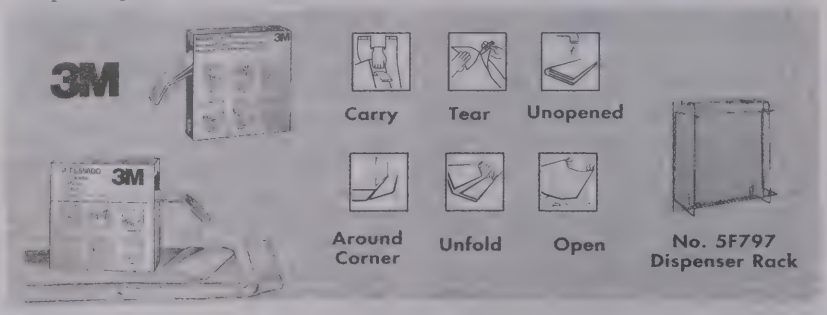
**No. 3AJ34.** Folded Maintenance Sorbent.
Shpg. wt. 6.0 lbs. List.....$39.32.
Each. **$35.75;** Lots 3.....**$33.96**

**No. 5F804.** Folded Chemical Sorbent (C-FL550DD). Shpg. wt. 18.0 lbs.List.....$43.01.
Each. **$39.10;** Lots 3.....**$37.15**

### 3M FOLDED SORBENT DISPENSER RACK

**Durable metal rack** that can be mounted anywhere. Use for hanging 3M folded sorbents in convenient locations, allowing quick response to drips and spills.

**No. 5F797.** Folded Dispenser Rack.
Shpg. wt. 8.9 lbs. List.....$105.76.
Each...**$96.15;** Lots 3.....**$91.34**



# PETROLEUM LIQUID CLEANUP PADS

SPC sorbents quickly handle the cleanup and removal of oil where alternative cleanup methods are not economically useful. Convenient, lightweight and cost effective, sorbents can absorb 25 times their weight. Absorbs solvents, solvent based paints, vegetable oils and many more non-water soluble chemicals.

## PADS

Can be used in applications varying from major spills to routine drips, leaks and splashes. Available in various weights for maximum efficiency. Flame resistant, but will incinerate to less than 0.02% ash. Unaffected by temperature changes and will not rot or mildew.

- **Wringable for reuse, cuts disposal cost**
- **Dustless, does not pose a health hazard**

## HALF PACKS

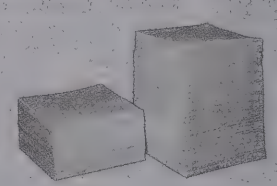
Economize with half pack pads. Save space and cost with same size pad at a lower cost. Provides same quality characteristics of full size pads.

## BLANKETS

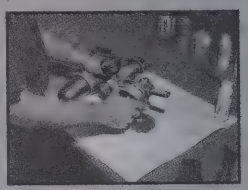
Ideal for wide area coverage on land, water or in industrial environments. Easily cut to size to fit anywhere. Available in full weight or lightweight, economy roll. Rolls out quickly for ease of handling.

## BOOMS

For use on water to soak up and contain floating spills. Booms can be linked together to form any length. Lint free and easy to handle even when saturated.

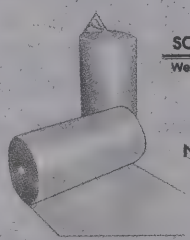


No. 2AG56

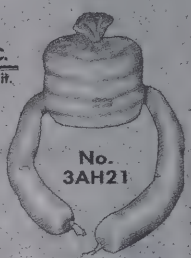


No. 5FZ69

SPC SORBENT PRODUCTS CO., INC.
We make it. We sell it. We guarantee it.



No. 2AJ14



No. 3AH21

| Description | Dimensions | No. per Bale | SPC Model | Stock No. | List | Each | Lots 3 | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Full Weight Pad** | 16" x 20" | 100 | SPC100 | **2AG56** | $78.00 | **$70.20** | **$66.69** | **$63.18** | 19.0 |
| **Double Coverage Pad** | 16" x 20" | 200 | SPC200 | **3AL34** | 82.75 | **74.45** | **70.73** | **67.01** | 19.0 |
| **Lightweight Economy Pad** | 16" x 20" | 100 | SPC300 | **5FZ72** | 61.00 | **54.90** | **52.15** | **49.41** | 14.0 |
| **Half Pack Full Weight Pad** | 16" x 20" | 50 | SPC100-2 | **5FZ69** | 44.45 | **40.00** | **38.00** | **36.00** | 10.0 |
| **Half Pack Double Coverage Pad** | 16" x 20" | 100 | SPC200-2 | **5FZ71** | 45.65 | **41.05** | **39.00** | **36.95** | 10.0 |
| **Half Pack Lightweight Pad** | 16" x 20" | 50 | SPC300-2 | **5FZ73** | 36.50 | **32.85** | **31.21** | **29.57** | 7.0 |
| **Blanket—Full Weight Roll** | 38" x 144 ft. | 1 | SPC150 | **2AJ14** | 141.45 | **127.30** | **120.94** | **114.57** | 39.0 |
| **Blanket—Lightweight Economy Roll** | 38" x 144 ft. | 1 | SPC153 | **5FZ70** | 111.10 | **99.95** | **94.95** | **89.96** | 32.0 |
| **Boom** | 5" x 10 ft. | 4 | SPC510 | **6AJ11** | 115.45 | **103.90** | **98.71** | **93.51** | 20.0 |
| **Boom** | 8" x 10 ft. | 4 | SPC810 | **3AH21** | 210.00 | **189.00** | **179.55** | **170.10** | 40.0 |

## SXT INDUSTRIAL SORBENT




Sorbents are perforated to ensure use of only what is needed. SXT has three times the tensile strength of ordinary polypropylene products and is fifteen times more absorbent than clay. Sorbents are chemically inert, they will not absorb water. Low linting and abrasion resistant, they can withstand demanding industrial environments. Wringable for repeated use. Blue and white color. 16 x 20". 100 sorbents per case. SPC brand (SXT600).

**No. 5FZ74.** Shpg. wt. 16.0 lbs. List .....$98.95.
Each **$89.05**; Lots 3.....**$84.60**

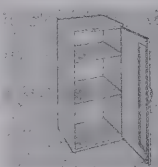
## EMERGENCY SPILL KIT




Absorbs oil, water, or chemical spills on land. Each Attack Pac™ contains: (15) UXT 500 sorbent pads, (3) Cobra Coils™, (1) pair of safety goggles, (1) pair of nitrile gloves, (1) large refuse bag, and (1) set of instructions. Packaged in a puncture-resistant 18 x 18 x 4" foil bag. SPC brand (SKA-ATK).

**No. 3AP01.** Shpg. wt. 2.5 lbs. List .....$58.55.
Each **$52.70**; Lots 4 .....**$50.07**

## SPILL CONTROL CABINET



DURHAM

- **Provides convenient storage for spill pillows, absorbent pads, hazardous waste bags, neoprene gloves and other safety equipment**
- **Features two adjustable shelves**
- **Full length plexiglass window allows easy inventory of contents**
- **Unit can stand alone or be wall mounted using keyhole slots**
- **All steel construction for maximum strength**
- **White baked enamel finish**
- **Dimensions: 12¾D x 13¹³⁄₁₆W x 30¹⁄₁₆"H**
- **Durham brand (052-43)**

**No. 3KR09.** Shpg. wt. 31.0 lbs. List.....$130.04.
Each .....**$94.25**

## UNIVERSAL SORBENTS

UXT "Xtra Tough" sorbents for chemical, hazmat and maintenance use. High performance sorbent with unique bonding process that makes it ten times stronger than other universal sorbents. Designed for use with both oil-based and water-based fluids. Chemically inert to handle solvents, acids, coolants, bases, chemicals and antifreeze. Twelve to fifteen times more absorbent than clay and other cleaners. Wringable for reuse. Gray texture and fiber design hides stains longer.
SPC brand.

### FULL SIZE PADS

Perforated full size, use only what is needed. Convenient big count dispenser box.

### SMALLER PADS

Perforated smaller size. Convenient dispenser box.

### BLANKET

For wide area coverage.

### SOCKS

Mini-booms for a variety of uses and configurations. Wrap around machines to contain leaks.




### SPECIFICATIONS AND ORDERING DATA

| Description | Dimensions | Quantity | SPC Model | Stock No. | List | Each | Lots 3 | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Perforated Pad, Big Count Dispenser** | 16" x 20" | 100 per case | UXT500 | **5FZ76** | $98.95 | **$89.05** | **$84.60** | **$80.15** | 16.0 |
| **Perforated Pad, Small Dispenser** | 14" x 15" | 50 per case | UXT514 | **5FZ80** | 48.05 | **43.25** | **41.09** | **38.93** | 6.0 |
| **Blanket** | 30" x 150 ft. | 1 per bale | UXT538 | **5FZ84** | 176.40 | **158.75** | **150.81** | **142.88** | 32.0 |
| **Sock** | 3" x 4 ft. | 12 per case | AW412 | **5FZ77** | 95.15 | **85.60** | **81.32** | **77.04** | 12.0 |
| **Sock** | 3" x 8 ft. | 6 per case | AW806 | **5FZ78** | 95.15 | **85.60** | **81.32** | **77.04** | 12.0 |
| **Sock** | 3" x 12 ft. | 4 per case | AW124 | **5FZ79** | 95.15 | **85.60** | **81.32** | **77.04** | 12.0 |

## UNIVERSAL SORBENT INDUSTRIAL RUG

**Static resistant, dust-free rug** comprised of 100% non-woven polypropylene fibers to absorb 10-12 times its weight in oil, water and chemicals. For use on plant floors, lining truck beds, under assembly lines and wrapping around machinery. Provides sure footing in workplace and reduces the tracking of oil and dirt between plant and office areas. Superior alternative to clay, saves time on clean-up. Wringable and reusable. 36" x 300 ft. SPC brand (SIR36).

**No. 1AD80.** Shpg. wt. 42.0 lbs. List .....$283.35.
Each **$255.00;** Lots 3.....**$242.25**
Lots 6.....**$229.50**




## DRUM TOP COVERS




Eliminate messy drips and overflow discharges when mixing or pumping fluids into drums. Easy to install, pre-cut holes to fit standard 55 gallon drum. Drum Top Cover 22" dia., **25 per case.** SPC brand (DTA25).

**No. 5FZ83.** Shpg. wt. 8.0 lbs. List .....$86.55.
Each box **$77.90;** Lots 3.....**$74.01**
Lots 6.....**$70.11**

## UNIVERSAL SORBENT

- **Passes environmental protection guidelines for waste disposal in landfills**
- **Nonbiodegradeable—will not release liquids under 50 PSI**
- **Absorbs oil, water, and coolants**

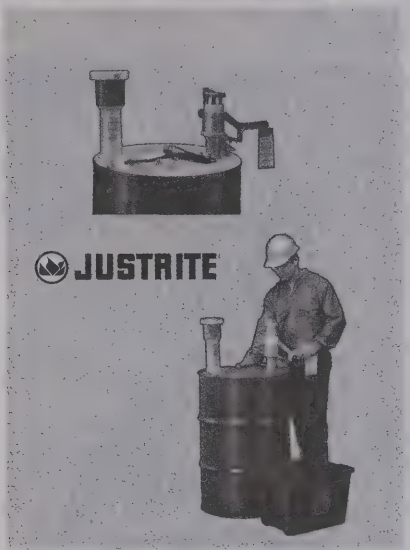
**Cobra Coil™ universal sorbent** bends around corners and conforms to any shape. Consists of diatomaceous earth encased in a dust-free 3" x 4 ft. casing. **12 coils per box.** SPC brand (CC400).

**No. 5AZ81.** Shpg. wt. 26.0 lbs. List $45.10.
Each **$40.55;** Lots 3.....**$38.52**
Lots 6.....**$36.50**



# HAZARDOUS WASTE RECYCLING AND SPILL CONTROL

## AEROSOLV™ AEROSOL CAN DISPOSAL SYSTEM




- **System includes puncturing unit, coalescing/carbon filter, anti-static wire, goggles**

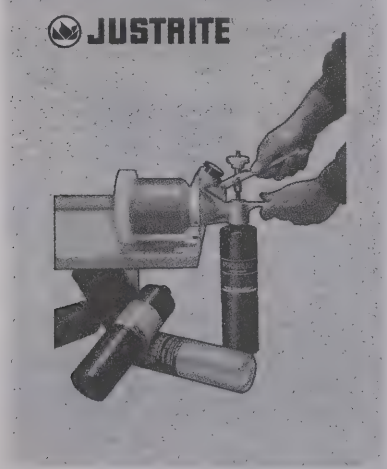
Aerosol can disposal system provides a safe, highly cost-effective means of relieving pressure from spent aerosol cans. System takes spent aerosol cans from a hazardous state to non-hazardous state resulting in decreased waste streams and increased recycling opportunities. One 55-gallon drum can collect the residuals of over 4,000 spent aerosols.

Made of aircraft aluminum, all moving parts of 308 stainless steel. Puncture pin is carbide-tipped to withstand repeated, long term use. Unit is hand operated and can accommodate a wide variety of industrial aerosol can sizes and shapes including 200 series, 300 series, and 6 oz. cans. Threads directly into the 2" bung of any standard drum. Combination filter threads into 3/4" bung. Coalescing lower portion removes liquid particulate while activated carbon upper portion adsorbs odor. Complies with EPA regulations 40CFR261.23(a)(6). Justrite brand.

### SPECIFICATIONS AND ORDERING DATA

| Description | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Aerosolv Recycling System** | 28202 | **3KP13** | $576.90 | **$560.00** | **$504.00** | 9.0 |
| **Combination Coalescing/Carbon Filter** | 28197 | **3KP11** | 122.10 | **118.45** | **106.61** | 2.3 |
| **Activated Carbon Filter Only (2 Pk.)** | 28198 | **3KP12** | 138.45 | **134.30** | **120.87** | 3.5 |

## PROSOLV™ PROPANE CYLINDER RECYCLING SYSTEM




- **System includes fuel canister venting device, activated carbon filter to adsorb odors, 40 recycling certification tags, anti-static wire, safety goggles, sleeve removal tool**

Propane cylinder recycling system reduces solid waste disposal expenses while increasing recycling opportunities. Hand operated unit removes the sealing sleeve and internal valve stem from propane, propylene, mapp and calibration gas cylinders. It empties and filters the propellant, taking the cylinder from a hazardous to non-hazardous state. Complies with EPA regulations 40CFR261.23(a)(6).

Built-in pressure gauge reads green when the valve stem should be removed. A red level reading indicates useable levels of remaining fuel at which time the canister must be put back into normal service until a green reading is obtained. Once the valve stem is removed, recyclable certification tag is attached and cylinder can be recylced as scrap steel. Justrite brand.

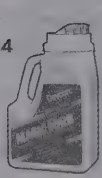
### SPECIFICATIONS AND ORDERING DATA

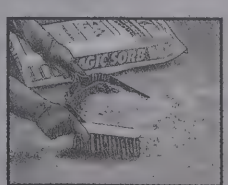
| Description | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Propane Recycling System** | 28190 | **3KP07** | $716.10 | **$695.00** | **$625.50** | 7.5 |
| **Replacement Filter with 40 Tags** | 28191 | **3KP08** | 99.30 | **96.35** | **86.72** | 2.5 |
| **Replacement Sleeve Removal Tool** | 28192 | **3KP09** | 62.90 | **61.05** | **54.95** | 8.0 |

## MAGIC SORB® SORBENTS

Devcon.

No. 2AW44





No. 6AZ31



No. 3AT23

**For fast and easy clean-up of highly viscous and aggressive liquids.** Special blend of inert, inorganic, and geologically unique minerals will absorb mineral acids (except for hydrofluoric acid), caustics, alcohols, oils, solvents, and toxics. Does not contain hazardous ingredients as defined by the U.S. Environmental Protection Agency or OSHA. Devcon brand.

| Description | Devcon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **7 Lb. Particulate Shaker Dispenser** | 48050 | **2AW44** | $10.10 | **$10.03** | 7.0 |
| **25 Lb. Particulate Bag** | 48000 | **6AZ31** | 15.50 | **15.11** | 25.0 |
| **3" Dia. x 42"L Sock** | 48100 | **3AT23** | 9.20 | **9.06** | 4.0 |

# SAFETY CANS

## TYPE I AND II SAFETY CANS

EAGLE

Factory Mutual System Approved

### METAL AND POLYETHYLENE SAFETY CANS

**Eagle Flammable Liquid Safety Cans.** For use in handling, dispensing and storing liquids such as gasoline, benzene, naphtha, and oil. Type I Safety Cans feature a single opening and are designed for carrying and storing of flammable liquids. Type II Safety Cans feature a double opening to dispense flammable liquids through a flexible metal spout. Faucet Safety Cans dispense flammable liquids into smaller capacity containers. Eagle brand.

**TYPE I AND TYPE II STEEL CANS** have galvanized steel bodies to resist corrosion, dents and punctures. Reinforced bottom on both series. Type II safety cans allow venting of fill spout and easy release of liquid flammables through 12" pour spout. Enamel finish.

**Type I Steel Safety Cans.** Galvanized steel cans have reinforced bottom, carrying handle, brass pour spout and flame arrestor. Squeeze handles are featured on Nos. 2W429, 2W313, 4RF73, 4RF74, and 4T031. No. 2W428 has trigger grip handle. UL and ULC (Canada) Listed (MH5018, CMH1168), FM Approved and meet OSHA requirements 29CFR1910.106. 5 gallon can available in red, blue (for kerosene), and yellow (for diesel).

**Type II Steel Safety Cans.** Feature a carrying handle on top. Body is seamless drawn dome shape top with double lock bottom seam which serves as a heavy-duty shock rim protecting the can bottom. Squeeze handles are featured on Nos. 2W314 and 2W683. Brass flame arrestor and brass nonsparking pour spout end tip. Cans are equipped with an air vent to eliminate back pressure, 1" O.D., flexible metal pour spout to permit convenient nonspill pouring and an easy working valve for positive control. Made from 24-gauge steel. Red enamel finish. UL and ULC (Canada) Listed (MH5018, CMH1168), FM Approved and meet OSHA requirements 29CFR1910.106

**TYPE I POLYETHYLENE SAFETY CANS.** High density polyethylene safety cans are impact resistant, won't rust, and are non-corrosive. Impervious to many liquid chemicals, solvents, and corrosives. Metal fittings and flame arrestor are stainless steel. FM Approved and meet OSHA requirements 29CFR1910.106.

**FAUCET SAFETY CAN.** Dispenses flammable liquids into smaller capacity containers for laboratory or shop use. Normally kept in a safety cabinet, on a workbench, or on an elevated shelf. Self-closing faucet near bottom of can. Galvanized steel with brass faucet. FM Approved.

**FUNNEL SPOUTS.** For use with Type I safety cans. Self-ventilating, self-locking, made of high density polyethylene. 9" long overall; small end is 7/8" I.D., 1⅛" O.D. No. 6X853 is yellow for use with steel cans. No. 3KN48 is white for use with polyethylene cans. FM Approved.

## TYPE I SAFETY CANS

Replacement Parts Available 1-800-323-0620



No. 2W428 1 Gallon Steel Safety Can

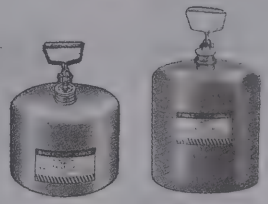


No. 2W429 2 Gallon Steel Safety Can shown with optional No. 6X853 Funnel Spout

New



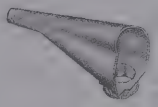
No. 2W313 5 Gallon Steel Safety Can



No. 6AP27 (3 Gallon) and No. 6AK65 (5 Gallon) Polyethylene Safety Cans



No. 4T031 5 Gallon Faucet Safety Can

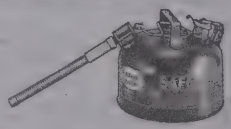


No. 6X853 Spout for Metal Safety Cans



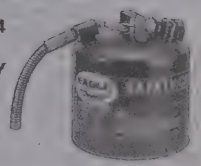
No. 3KN48 Spout for Polyethylene Safety Cans

## TYPE II SAFETY CANS



No. 2W683 2 Gallon Steel Safety Can

No. 2W314 5 Gallon Steel Safety Can



### SAFETY CAN SPECIFICATIONS AND ORDERING DATA

| Type | Capacity in Gallons | Color | Body Material | Bottom Dia. | Height | Spout Length | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 1 | Red | Steel | 9" | 10" | 1¼" | U1-10-S | **2W428** | $39.16 | **$26.50** | **$25.18** | 3.3 |
| I | 2 | Red | Steel | 11¼ | 9½ | 1¼ | U1-20-S | **2W429** | 41.74 | **28.25** | **26.84** | 5.0 |
| I | 5 | Red | Steel | 12½ | 13½ | 1¼ | U1-50-S | **2W313** | 46.40 | **31.35** | **29.78** | 6.8 |
| I | 5 | Blue | Steel | 12½ | 13½ | 1¼ | UI-50-SB | *New* **4RF73** | 46.40 | **31.35** | **29.78** | 6.8 |
| I | 5 | Yellow | Steel | 12½ | 13½ | 1¼ | UI-50-SY | *New* **4RF74** | 46.40 | **31.35** | **29.78** | 6.8 |
| I | 3 | Red | Polyethylene | 12½ | 13½ | 1¼ | 1537 | **6AP27** | 95.56 | **68.30** | **64.89** | 6.0 |
| I | 5 | Red | Polyethylene | 12½ | 17 | 1¼ | 1543 | **6AK65** | 117.64 | **84.05** | **79.84** | 7.0 |
| II | 2 | Red | Steel | 11¼ | 9½ | 12 | U2-26-S | **2W683** | 92.18 | **69.15** | **65.69** | 8.0 |
| II | 5 | Red | Steel | 12¼ | 13½ | 12 | U2-51-S | **2W314** | 94.18 | **70.65** | **67.12** | 10.0 |
| Faucet | 5 | Red | Galvanized | 12½ | 13½ | 1¼ | 1417 | **4T031** | 170.84 | **128.15** | **121.74** | 9.0 |

### TYPE I SAFETY CAN FUNNEL SPECIFICATIONS AND ORDERING DATA

| Fits Cans | Color | Dimensions (In.) L | I.D. | O.D. | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2W428, 2W429, 2W313,4RF73, 4RF74 | Yellow | 9 | 7/8 | 1⅛ | F-15 | **6X853** | $4.82 | **$4.58** | **$4.35** | 0.3 |
| 6AP27, 6AK65 | White | 9 | 7/8 | 1⅛ | F-16 | **3KN48** | 4.82 | **4.58** | **4.35** | 0.3 |

# SAFETY CANS

## JUSTRITE® TYPE I AND II SAFETY CANS

Factory Mutual System Approved

### TYPE I SAFETY CANS



No. 6AV78
1 Gallon Can

Replacement Parts Available 1-800-323-0620



No. 5AC08
2 Gallon Can

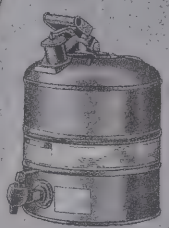


No. 3AK71
3 Gallon Can

NEW FINISH



No. 6AW03
5 Gallon Can

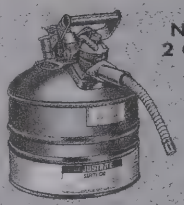


No. 3AP88
5 Gallon
Lab Faucet Can



No. 3AG33
Type I
Can Funnel

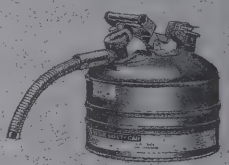
### TYPE II SAFETY CANS

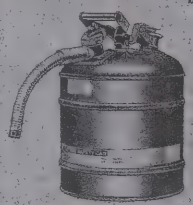


No. 2AG34
2 Gallon Can

Replacement Parts Available 1-800-323-0620

No. 4AV19
3 Gallon Can





No. 3AF98
5 Gallon Can

### TYPE I AND TYPE II SAFETY CANS

Safety cans are required for the safe transfer and temporary storage of flammable liquids such as gasoline, kerosene, lacquer thinner and diesel oil.

All Justrite Type I and Type II cans feature heavy-duty terne plate and double-lock seams to prevent leaks. Ergonomic handle design makes pouring easy. High-gloss powder coat red paint finish provides excellent chemical resistance and minimizes effects of scuffs, impact, corrosion and heat.

Free-flow, double mesh flame arrestors protect contents from sparks and other external sources of ignition. Cans feature leak-tight, self-closing spouts and automatically vent when internal pressure builds up to protect against rupture or explosion. FM Approved, UL and C-UL Listed. Meet OSHA and NFPA regulations.

**Type I Safety Cans.** Economical design with single spout for filling and pouring. Allows transfer of flammable liquids that will be poured into containers with wider openings. No. 6AV78 1-gallon can features fixed handle design with trigger release cap. Remaining Type I cans have swinging handle design for easy handling. Available in 1, 2, 3 and 5-gallon capacities. FM Approved, UL and C-UL Listed.

**Laboratory Faucet Safety Can.** 5-gallon can features brass faucet that provides convenience and controlled dispensing from shelf level for lab or workbench use. Fill spout has self-closing pressure relief cap with built-in vacuum breaker and double mesh flame arrestor. FM Approved.

**Type II Safety Cans.** Feature one opening for pouring and one for filling. Flexible metal hose for smooth, accurate, spill-free pouring into small bottle, plunger can or engine openings. Rear opening permits filling. Available in 2, 3 and 5-gallon capacities. FM Approved, UL and C-UL Listed.

### SPECIFICATIONS AND ORDERING DATA

| Type | Capacity In Gallons | Approval Listings | Can Dimensions (In.) OD | Can Dimensions (In.) Height | Hose Dimensions (In.) OD | Hose Dimensions (In.) Length | Justrite Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type I** | 1 | FM, UL, ULC | 7 1/4 | 11 1/2 | — | — | 10301 | **6AV78** | $30.00 | **$28.50** | **$27.08** | 3.5 |
| **Type I** | 2 | FM, UL, ULC | 9 3/8 | 12 5/8 | — | — | 10501 | **5AC08** | 31.95 | **30.35** | **28.83** | 4.2 |
| **Type I** | 3 | FM, UL, ULC | 9 3/8 | 16 1/8 | — | — | 10701 | **3AK71** | 36.00 | **34.20** | **32.49** | 5.9 |
| **Type I** | 5 | FM, UL, ULC | 11 1/2 | 17 | — | — | 10801 | **6AW03** | 37.00 | **35.15** | **33.39** | 7.2 |
| **Lab Faucet Can** | 5 | FM | 11 1/2 | 17 | — | — | 10807 | **3AP88** | 100.00 | **95.00** | **90.25** | 8.5 |
| **Type II** | 2 | FM, UL, ULC | 9 3/8 | 9 3/4 | 5/8 | 9 | 10527 | **2AG34** | 70.50 | **67.00** | **63.65** | 6.5 |
| **Type II** | 3 | FM, UL, ULC | 11 1/2 | 13 1/2 | 1 | 12 | 10721 | **4AV19** | 71.60 | **68.05** | **64.65** | 7.2 |
| **Type II** | 5 | FM, UL, ULC | 11 1/2 | 17 | 1 | 12 | 10821 | **3AF98** | 72.10 | **68.50** | **65.08** | 9.2 |

### TYPE I SAFETY CAN FUNNEL SPOUT

Funnel spout for more accurate pouring with Type I safety cans. Slip-on design, polyethylene construction, 3/4"OD x 11"L. Justrite brand (11200).

**No. 3AG33.** Type 1 Safety Can Funnel Spout.. Shpg. wt. 0.2 lbs. List $4.80. Each **$4.56;** Lots 4 ..... **$4.33**



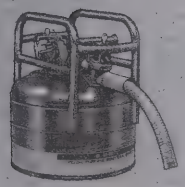
*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# TYPE II TRANSPORT/DISPENSING CANS

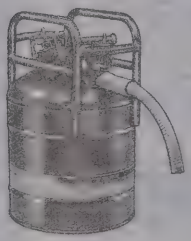
JUSTRITE®

Factory Mutual System Approved

Replacement Parts Available 1-800-323-0620



No. 1BX14
2½ Gallon Can



No. 6AN94
5 Gallon Can

**Type II Transport/Dispensing Cans.** Feature same construction of the standard red Type II cans with added features to provide safe transport of hazardous liquids. For use when remote usage of flammables is necessary or any situation where gas fired equipment is used. Heavy-duty roll bar construction protects the fill and pour mechanisms from damage in a fall, while providing additional heavy-duty handholds to standard handle. Dual, fusible-linked bracket with easy to operate hand mechanism provides protection against spillage while providing explosion-proof protection in major fire situations. A second hand-actuated mechanism secures pour spout valve against content spillage in shock load conditions. Durable powder paint finish provides maximum chemical and abrasion resistance. Meets D.O.T. and HM-181 requirements. UN Approved (Marking 1A1/Y1.2/100), FM Approved. Justrite brand.

## SPECIFICATIONS AND ORDERING DATA

| Capacity Gallons | Can Dim. (In.) OD | H | Hose Dim. (In.) OD | L | Justrite Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½ | 11½ | 13½ | 1 | 12 | 10540 | **1BX14** | $182.50 | **$173.50** | **$164.83** | 13.0 |
| 5 | 11½ | 18 | 1 | 12 | 10840 | **6AN94** | 188.90 | **179.50** | **170.53** | 14.0 |

# PLUNGER AND BENCH CANS

Replacement Parts Available 1-800-323-0620



No. 5AV31
Terne Plate
Plunger Can



No. 6AR07
Polyethylene
Plunger Can

JUSTRITE®

Factory Mutual System Approved



No. 5AP05
Terne Plate
Bench Can

**Plunger Cans** permit fast, easy moistening of cleaning cloths when applying solvents to parts. Pushing down on plunger fills upper pan with an adjustable amount of flammable liquid. Surplus liquid drains back into reservoir. Brass pump assembly. Perforated pan screen serves as flame arrestor. Top rims have molded edge protectors for trouble-free moistening. Available in terne plate with red powder paint finish or polyethylene construction. Polyethylene for use with more corrosive liquids or alcohol. FM Approved and meet OSHA requirements. Justrite brand.

**Bench Cans** permit easy cleaning of small parts in solvents. Feature spring-loaded, perforated dasher plate that also serves as flame arrestor. Hinged cover minimizes evaporation loss. Protected rim reduces possibility of hand injury. Terne plate cans feature red powder paint finish for added durability and chemical resistance. FM Approved and meets OSHA requirements. Justrite brand.

## SPECIFICATIONS AND ORDERING DATA

| Description | Capacity | Can Dim. (In.) OD | H | Dasher Diameter (In.) | Parts Basket Dimensions | Approvals | Justrite Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Plunger Can, Terne** | 1 quart | 7¼ | 6½ | 5 | Not Included | FM | 10108 | **6AN42** | $37.90 | **$36.05** | **$34.25** | 2.5 |
| **Plunger Can, Terne** | 1/2 gallon | 7¼ | 8 | 5 | Not Included | FM | 10208 | **6AV89** | 39.00 | **37.05** | **35.20** | 2.8 |
| **Plunger Can, Terne** | 1 gallon | 7¼ | 11 | 5 | Not Included | FM | 10308 | **5AV31** | 45.00 | **42.75** | **40.61** | 3.9 |
| **Plunger Can, Polyethylene** | 1 quart | 5½ | 9 | 5 | Not Included | FM | 14018 | **6AR07** | 52.00 | **49.40** | **46.93** | 1.2 |
| **Bench Can** | 1 quart | 4⅞ | 5½ | 4½ | Not Included | FM | 10175 | **5AF65** | 30.50 | **29.00** | **27.55** | 2.4 |
| **Bench Can** | 2 quart | 9⅛ | 3¼ | 7½ | Not Included | FM | 10295 | **3AD27** | 38.00 | **36.10** | **34.30** | 4.4 |
| **Bench Can** | 1 gallon | 9⅛ | 4½ | 7½ | Not Included | FM | 10375 | **3AL30** | 37.80 | **35.95** | **34.15** | 4.8 |
| **Bench Can** | 1 gallon | 9⅛ | 4½ | 7½ | 1/2"H x 6¼" Dia. | FM | 10370 | **5AP05** | 46.95 | **44.60** | **42.37** | 4.2 |

# DISPENSER CANS

JUSTRITE®

Factory Mutual System Approved



No. 2AG42 1/2 Pint
Dispenser Can



No. 2AF92 1 Quart
Dispenser Can

Dispenser cans for use when small amounts of hazardous liquids are required directly on work. For production line use or anywhere quick dispensing is needed. One-hand action makes liquid transfer safe, fast, and accurate. Polyethylene body provides excellent chemical resistance. Brass valves are leakproof and self-closing to minimize spills and control excess liquid. FM Approved. Justrite brand.

## SPECIFICATIONS AND ORDERING DATA

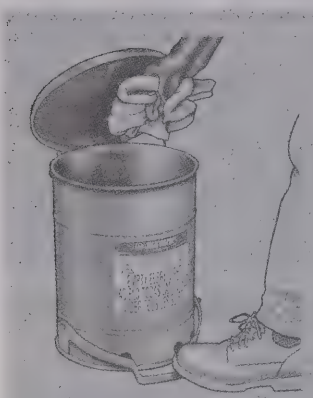
| Capacity | Dim. (In.) OD | H | Approval | Justrite Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/2 Pint | 3⅛ | 5½ | FM | 14004 | **2AG42** | $26.20 | **$24.89** | **$23.65** | 0.7 |
| 1 Quart | 4 | 10½ | FM | 14010 | **2AF92** | 30.60 | **29.10** | **27.65** | 0.8 |

OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# SAFETY CANS

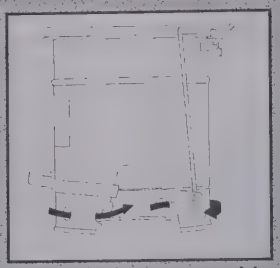
## OILY WASTE CANS



No. 2AX55 6-Gallon Oily Waste Can

JUSTRITE®

Factory Mutual System Approved



Elevated bottom required by both FM and UL allows for circulation of air around can

For use wherever waste solvent cloths and wiping rags are used. Cans feature self-closing lids; containers stay closed when not in use, isolating contents from stray sparks or careless smokers. One-piece lid cover opens to approximately 60° angle by using foot treadle. Red powder paint finish provides added durability and chemical resistance.

Unique round construction and elevated bottom encourages circulation of air around can to disperse heat, preventing spontaneous combustion and ignition of combustibles beneath can.

Meets OSHA 29 CFR 1910.108 (f)(2) which requires use of approved metal waste cans for disposal of waste rags. FM Approved, UL Listed. Justrite brand.

| Capacity (Gal.) | Can Dimensions (In.) OD | H | Approval / Listing | Justrite Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 11 7/8 | 15 7/8 | FM, UL | 09100 | **2AX55** | $49.00 | **$46.55** | **$44.22** | 9.0 |
| 10 | 13 15/16 | 18 1/4 | FM, UL | 09300 | **3AD94** | 58.00 | **55.10** | **52.35** | 13.0 |
| 14 | 16 1/16 | 20 1/4 | FM, UL | 09500 | **3AL71** | 62.30 | **59.20** | **56.24** | 15.0 |
| 21 | 18 3/8 | 23 7/16 | FM, UL | 09700 | **5AT31** | 105.30 | **100.05** | **95.05** | 21.0 |

## DISPOSAL CANS



No. 3AH67

JUSTRITE®

Factory Mutual System Approved



No. 3AH01

For safe, efficient disposal of flammable and corrosive wastes. Impact resistant, high density polyethylene construction with stainless steel fittings stands up to chemicals, tough acids, and corrosives. Large 4" diameter mouth opening helps control filling or pouring operations. Fixed position on handle allows lid to stay open for easier pouring. Inside flame arrester guards against outside ignition sources. When closed, cap automatically vents at five PSIG. Justrite brand.

| Capacity (Gal.) | Dims. (In.) OD | H | Approval/ Listing | Justrite Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 12 | 14 3/4 | FM | 14762 | **3AH67** | $132.80 | **$126.20** | **$119.89** | 7.0 |
| 5 | 12 | 20 | FM | 14765 | **3AH01** | 123.00 | **116.85** | **111.01** | 11.0 |

## CLEANING/DIP TANKS

JUSTRITE®

Factory Mutual System Approved



No. 6AV70 2 Gallon Dip Tank

Replacement Parts Available 1-800-323-0620

**Dip Tanks** for use in cleaning parts and subassemblies. Feature manually operated covers which stay open for convenient access. Equipped with fusible link which melts at 165° and closes cover in case of fire. Terne plate construction with red powder paint finish provides chemical and abrasion resistance. Movable to accommodate changing production requirements. FM Approved, UL Listed. Justrite brand.

| Capacity (Gal.) | Can Dims. (In.) OD | H | Approval / Listing | Justrite Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 9 3/8 | 5 1/2 | FM, UL | 27601 | **6AN35** | $56.40 | **$53.60** | **$50.92** | 4.3 |
| 2 | 9 3/8 | 10 | FM, UL | 27602 | **6AV70** | 58.00 | **55.10** | **52.35** | 5.9 |
| 3 1/2 | 11 3/8 | 11 1/2 | FM, UL | 27603 | **5AM93** | 72.00 | **68.40** | **64.98** | 7.8 |
| 5 | 13 3/4 | 13 | FM, UL | 27605 | **3AV53** | 74.20 | **70.50** | **66.98** | 9.9 |
| 8 | 15 5/8 | 14 1/4 | FM, UL | 27608 | **6AL11** | 85.60 | **81.35** | **77.28** | 13.0 |

EAGLE

- 5 gallon capacity
- Seamless drawn construction




## GALVANIZED STEEL KEROSENE CAN

Dome-shaped galvanized steel can holds five gallons of kerosene. One-piece drawn steel body double-seamed to bottom. Detachable 7" flexible pour spout with screen filter for convenient dispensing. Flip-vent on top of can equalizes pressure for pouring. Baked on blue enamel finish clearly indicates can is for kerosene only. 12½" diameter bottom. 12⅞" high. Eagle brand (KES-5)

**No. 3W341.** Shpg. wt. 5.2 lbs. List .....$21.27. Each **$15.34**; Lots 4.....**$14.57**

YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# SAFETY CANS

Replacement Parts Available 1-800-323-0620

EAGLE

New



No. 5U737
6 Gallon
Oily Waste Can



No. 5U738
14 Gallon
Oily Waste Can



No. 3KN43
10 Gallon
Oily Waste Can

## POLYETHYLENE OILY WASTE AND BIOHAZARDOUS WASTE CANS

Impact resistant cans will not rust, are non-corroding, and impervious to many liquid chemicals, solvents, and corrosives. Step-on foot lever raises lid, which closes automatically after use. Red heavy-duty polyethylene. FM approved. Eagle brand.

Oily Waste Cans. For safe disposal of solvent and oily waste, rags, and other material subject to spontaneous combustion. Designed and engineered to prevent fires. Labeled "Empty Every Night."

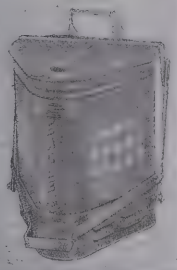
Biohazardous Waste Cans. Bright orange "BIOHAZARD" label advises workers of potential biohazards. Meets OSHA requirements for exposure to bloodborne pathogens. 29CFR1910.1030.

| Capacity (Gals.) | Height (In.) | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **OILY WASTE CANS** | | | | | | | |
| 6 | 16 | 933-FL | **5U737** | $60.03 | **$43.30** | **$41.13** | 9.0 |
| 10 | 18 | 935-FL | **3KN43** | 71.22 | **51.40** | **48.80** | 14.0 |
| 14 | 21 | 937-FL | **5U738** | 76.82 | **55.45** | **52.63** | 16.0 |
| ***New!* BIOHAZARDOUS WASTE CANS** | | | | | | | |
| 6 | 16 | 943-BIO | ***New*4RF67** | 55.60 | **41.60** | **39.52** | 9.0 |
| 10 | 18 | 945-BIO | ***New*4RF68** | 66.00 | **49.45** | **46.95** | 14.0 |
| 14 | 21 | 947-BIO | ***New*4RF69** | 71.20 | **53.30** | **50.64** | 16.0 |

Replacement Parts Available 1-800-323-0620

EAGLE

- UL Listed
- FM Approved



No. 2W560
6 Gallon
Oily Waste
Can

## METAL OILY WASTE CANS

For safe disposal of oily waste and rags. Eagle oily waste cans are designed and engineered to prevent fires from solvent and oily waste, rags, swabs and other materials subject to spontaneous combustion. Eagle brand.

**Heavy steel cans** feature a triangular shape that is very sturdy and resists tipping over. Nos. 2W560, 4T080 and 2W274 remain stable even when foot lever is used to open lid. Lid is of one-piece construction with a hand lift and carry handle. Ventilated bottom lets air circulate under can so that heat from a fire inside the can will not ignite a wooden floor or combustibles under it. UL Listed (MH7500). FM Approved. Red enamel finish.

### SPECIFICATIONS AND ORDERING DATA

| Capacity (Gals.) | Lever Type Lid Lift | Height (In.) | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 6 | Foot | 18¾ | 906-FL | **2W560** | $73.91 | **$52.85** | **$50.17** | 15.0 |
| 10 | Foot | 21¾ | 910-FL | **4T080** | 83.25 | **59.50** | **56.53** | 18.0 |
| 14 | Foot | 23¾ | 914-FL | **2W274** | 93.42 | **66.80** | **63.43** | 21.0 |
| 21 | Hand | 26¾ | 921 | **4T081** | 144.91 | **103.55** | **98.35** | 21.0 |

Replacement Parts Available 1-800-323-0620

Factory Mutual System Approved

EAGLE

No. 4T042
5 Gallon
Disposal Can





No. 3AW63
5 Gallon
Disposal Can



No. 2AJ03
3 Gallon
Disposal Can

## METAL AND POLYETHYLENE SAFETY DISPOSAL CANS

**Safety Disposal Cans.** Used to collect and dispose of contaminated or dirty flammable liquid wastes at the work station or in the laboratory. Constructed of 24-gauge galvanized steel for economy and practical everyday use with ordinary flammables. Wide 4" diameter opening fills easily and empties completely. Spout cap can be locked open for conveniently emptying many types of containers without use of a funnel. Flame arrestor reduces possibility of ignition of vapors from external sparks. Cap assembly opens automatically to relieve excessive vapor pressure. Free-swinging handle balances the can when carried full or empty. Red enamel finish. Eagle brand.

**Polyethylene Disposal Cans.** High density cans are impact resistant, won't rust and are non-corrosive. Impervious to many liquid chemicals, solvents, and corrosives. Stainless steel metal fittings and flame arrestor give superior performance over containers with cadmium plated fittings. Red heavy-duty polyethylene. Eagle brand.

### SPECIFICATIONS AND ORDERING DATA

| Capacity (Gals.) | Body Material | Dimensions (In.) Body | Height | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 5 | Galvanized Steel | 11¼ Dia. | 18 | 1425 | **4T042** | $144.80 | **$103.50** | **$98.30** | 10.0 |
| 3 | Polyethylene | 12½ | 14½ | 1519 | **2AJ03** | 147.07 | **105.10** | **99.84** | 7.0 |
| 5 | Polyethylene | 12½ | 18½ | 1525 | **3AW63** | 159.32 | **113.85** | **108.15** | 8.0 |

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

## LAB SAFETY CANS

**Stainless Steel Lab Can.** For industrial, scientific, and hospital use to reduce danger of explosion from flammable liquids. Use with alcohols, acetone, ethers, toluene, exylene, and other liquids that do not attack stainless steel. **Do not use with strong acids, hydroxides or solvents which are known to corrode stainless steel.** 316 stainless steel body has electrically welded seams. Rolled edge pour spout has squeeze grip controlled cap for easier pouring. Teflon gasket. Stainless steel flame arrestor. Eagle brand.

**Terne Coated Steel Lab Can.** Similar to stainless steel can 2W905 except made from terne coated steel for use with ordinary flammable liquids and for lower cost. Baked on red enamel finish. Eagle brand.

**Red High Density Polyethylene Lab Can.** Used in scientific, industrial and hospital laboratories to reduce the danger of explosion resulting from ignition of vapors of flammable liquids. FM approved and meet OSHA requirements. Oblong shape conserves space. Eagle brand.




### LAB SAFETY CAN SPECIFICATIONS AND ORDERING DATA

| Body Material | Capacity (Gals.) | Height (In.) | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Stainless Steel** | 1 | 13 | 1301 | **2W905** | $135.43 | **$97.70** | **$92.79** | 3.6 |
| **Terne Steel** | 1 | 13 | 1401 | **4T035** | 64.71 | **46.30** | **43.94** | 3.8 |
| **Polyethylene** | 1/2 | 9¼ | 1510 | **2AZ11** | 61.28 | **46.75** | **44.37** | 2.5 |
| **Polyethylene** | 1 | 12½ | 1511 | **2AZ90** | 63.73 | **48.60** | **46.16** | 2.8 |

## SAFETY PLUNGER CANS

**Galvanized Steel Plunger Cans.** For use when cleaning with flammables. Cans are equipped with pump assembly. A high degree of control over safety is provided by the spring-mounted dasher which forces a measured amount of fluid to rise and dampen a cleaning rag, swab, brush or sponge. Dasher screen acts as fire baffle. Plunger assembly easily removable for cleaning. Red enamel finish. Eagle brand.

**Polyethylene Plunger Cans.** High density cans are impact resistant, won't rust and are non-corrosive. Ideal for cleaning with flammable or volatile fluids. Red heavy-duty polyethylene. Eagle brand.




### SAFETY PLUNGER CAN SPECIFICATIONS AND ORDERING DATA

| Body Material | Capacity (Gals.) | Dimensions (In.) Body | Height | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Galvanized Steel** | 1/4 | 6¼ | 8 | P-701 | **4T038** | $53.46 | **$38.60** | **$36.64** | 2.3 |
| **Galvanized Steel** | 1/2 | 8 | 8½ | P-702 | **4T039** | 55.12 | **39.80** | **37.77** | 3.0 |
| **Galvanized Steel** | 1 | 8 | 10¾ | P-704 | **4T040** | 63.53 | **45.85** | **43.55** | 3.7 |
| **Polyethylene** | 1/4 | 5¼ | 9¾ | P-711 | **1N760** | 41.68 | **32.10** | **30.47** | 2.0 |
| **Polyethylene** | 1/2 | 6½ | 11 | P-712 | **1N759** | 44.10 | **31.85** | **30.26** | 4.0 |
| **Polyethylene** | 1 | 7¾ | 13 | P-714 | **1N758** | 50.39 | **36.40** | **34.56** | 3.0 |

## SAFETY BENCH CANS

**Safety Bench Cans.** For cleaning small parts and swabbing larger ones. Seamless galvanized steel construction. Spring-actuated dasher screen reduces evaporation losses, minimizes explosive vapors. Dasher acts as fire baffle. Hinged lid closes over cap opening and is held in place by a retainer clip. Dasher, rim and spring are easily removable for cleaning. Meet OSHA requirements for handling flammable solvents. FM approved. Red enamel finish. Eagle brand.

- **FM Approved**
- **Meet OSHA Requirements**
- **Galvanized Steel**



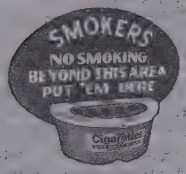

### SAFETY BENCH CAN SPECIFICATIONS AND ORDERING DATA

| Capacity (Qts.) | Dimensions (In.) Body | H | Eagle Model | | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1** | 6¼ Dia. | 3⅝ | B-601 | | **3KN44** | $35.08 | **$27.05** | **$25.67** | 2.2 |
| **2** | 8 | 4¼ | B-602 | | **4T036** | 43.05 | **31.10** | **29.52** | 3.0 |
| **4** | 8 | 6½ | B-604 | | **3KN45** | 47.99 | **36.95** | **35.10** | 3.5 |
| **6** | 7.8 | 9½ | B-606 | **New** | **4RF70** | 48.98 | **45.85** | **43.55** | 4.5 |
| **8** | 11¼ | 11⅛ | B-608 | | **4T037** | 79.42 | **57.30** | **54.42** | 8.3 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

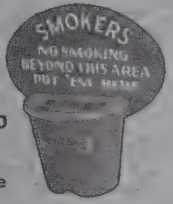
Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# SMOKING RECEPTACLES




No. 5T448 Standard Smoking Receptacle

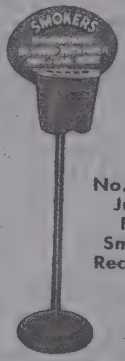
SIPCO® Products, Inc.




No. 5T450 Jumbo Smoking Receptacle

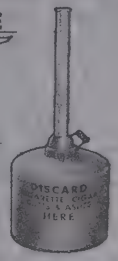



No. 5T451 Economy Smoking Receptacle




No. 5T453 Jumbo Floor Smoking Receptacle

EAGLE




No. 4T045 Butt Can

**Attention-getting ash receptacles help eliminate potential fire hazards and encourage cleanliness and thoughtful disposal of cigarette butts.** May be partially filled with water to immediately extinguish all smoking materials. All units except economy model (Stock No. 5T451) include 9¾H x 13½" W oval sign. Duracron enamel finish makes sign resistant to corrosive effects of the sun, salt, air , industrial gases, and many chemicals. White lettering on red background. SIPCO brand.

**Standard Wall-Mounted Sign Receptacles.** Leave floor areas clear. Lift-off bracket for easy cleaning. Gray crinkle-finish canister with bright polished lid. Mounting hardware supplied. 3½H x 8W x 5"L.

**Jumbo Wall-Mounted Sign Receptacles.** Large size for less frequent emptying. Come with removable fiberglass inner lining for quick cleaning. Gray crinkle-finish canister with bright polished lid. Hardware supplied. 7½H x 8W x 5"L.

**Economy Wall-Mounted Receptacle.** Wide mouth receptacle permits quick disposal of cigarettes. Economically installed in locations where workers need a safe, handy smoking receptable at their finger tips. Keyhole slots in canister allow easy lift-off for cleaning. Red fiberglass canister. Hardware supplied. 6H x 7W x 3½"L.

**Jumbo floor Model Sign Receptacles.** Completely self-contained floor units are easily moved wherever needed. Removable fiberglass inner liner for easy cleaning. Gray crinkle-finish canister with bright polished lid. Upright 15-lb. cast iron base and hardware included. Canister: 7½H x 8W x 5"L. Overall height: 44".

## BUTT CAN

Portable, lightweight waste can snuffs out lighted cigarettes, cigars, and matches. Helps plant housekeeping, reduces fire hazards. Made from 26-ga. steel. Unit is self-contained, self-standing, and well balanced. Funnel top unscrews to empty can of ashes and discarded butts. 5-gallon capacity. Can body is 12½" dia. x 14" high. 32" high overall top of funnel. Bright yellow enamel finish. Eagle brand (1205).

**No. 4T045.** Shpg. wt. 7.0 lbs. List $72.23.
Each **$52.15**; Lots 4 ..... **$49.50**

## SMOKING RECEPTACLE SPECIFICATIONS AND ORDERING DATA

| Style | Sign Legend | SIPCO Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Standard** | Smokers—No Smoking Beyond This Area—Put 'Em Here | 2-S-F(DUO) | **5T448** | $76.27 | **$62.25** | **$59.11** | 4.3 |
| **Jumbo** | Smokers—No Smoking Beyond This Area—Put 'Em Here | 4-J-O-F(DUO) | **5T450** | 103.76 | **84.15** | **79.92** | 7.0 |
| **Economy** | Smokers—Please Put 'Em Here | EC(RED) | **5T451** | 17.25 | **14.05** | **13.35** | 0.5 |
| **Jumbo Floor** | Smokers—No Smoking Beyond This Area—Put 'Em Here | 1-J-F(DUO) | **5T453** | 175.87 | **144.35** | **137.13** | 24.0 |

# CEASE FIRE® CANS

JUSTRITE®

Factory Mutual System Approved



UL



No. 5T262 55 Gallon Receptacle with No. 4T217 Head

**Specially contoured head directs smoke and gas from fire back into combustion area, cutting off air supply and extinguishing flames in seconds.**

For safe accumulation of waste paper and other solvent-free combustibles. Self-extinguishing head snuffs out flames in seconds. Provides protection against trash fires in plants, hospitals, schools, offices and stores. Receptacle body is heavy gauge steel with baked phenolic coating inside and baked gray enamel outside. Head is brushed aluminum. Available in 30-gallon and 55-gallon sizes. 30-gallon head has 7" opening, 55-gallon head has 7⅞" opening. FM Approved and UL Listed when receptacle and head are combined. Order receptacle and head separately. Justrite brand.

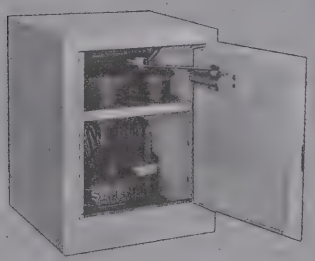
## SPECIFICATIONS AND ORDERING DATA

| Description | Capacity (Gal.) | Dimensions (In.) Ht. | Dia. | Justrite Model | Stock No. | List | Each | Lot 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Receptacle Only | 30 | 31¾ | 19¼ | 26014 | **1BW41** | $64.00 | **$60.80** | **$54.72** | 21.0 |
| Head Only for 30-Gal. Receptacle | — | — | 19⅞ | 26530 | **1BW40** | 45.30 | **43.05** | **38.75** | 2.2 |
| Receptacle Only | 55* | 38½ | 24 | 26054 | **5T262** | 76.00 | **72.20** | **64.98** | 30.0 |
| Head Only for 55-Gal. Receptacle | — | — | 24 | 26555 | **4T217** | 60.20 | **57.20** | **51.48** | 4.7 |

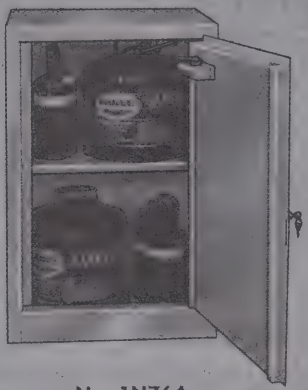
(*) Drums should be filled 3/4 full only.

# COMPACT AND STAK-ABLE FLAMMABLE LIQUID SAFETY STORAGE CABINETS

Replacement Parts Available
1-800-323-0620



No. 5U735
Self-Closing 1-Door
4 Gallon Safety Cabinet



No. 1N764
Self-Closing 1-Door
12 Gallon Safety Cabinet

EAGLE

**Compact Safety Storage Cabinets.** Eliminate steps with these handy smaller size cabinets that can be closer to work area.

**STAK-ABLE Safety Storage Cabinets.** Stack these units to add space where needed or add capacity by putting them on top of larger cabinets.

Constructed of 18-gauge steel. Sides, top, bottom and doors are double-walled with 1½" air space between walls. Both vents, with 2" threaded fittings, have fire baffle and cap. Cabinets come in yellow high gloss powder finish with red warning. Cabinets also feature grounding attachment, 3-point key lock, and 2" raised leakproof door sill. Eagle brand.

**Additional shelves** are available. See extra shelf ordering data below. Shelf No. 2W427 fits cabinet Nos. 1N761 and 1N762. Shelf No. 3KN38 fits cabinet Nos. 3KN36, 3KN37, 1N763 and 1N764. Eagle brand.

- Comply with OSHA 29CFR 1910.106d
- Meet NFPA Code 30 Requirements




No. 3KN37
Manual Closing 1-Door
16 Gallon Safety Cabinet

No. 1N762
Self-Closing 2-Door
15 Gallon STAK-ABLE
Safety Cabinet




No. 1N761
Manual Closing 2-Door
15 Gallon STAK-ABLE Safety
Cabinet

## COMPACT SAFETY STORAGE CABINET SPECIFICATIONS AND ORDERING DATA

| Capacity (Gals.) | Door Type | No. of Shelves | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | Self-Closing, 1-Door | 1 | 22¼ | 17½ | 18 | 1903 | **5U735** | $533.76 | **$359.25** | **$323.16** | 70.0 |
| 4 | Manual, 1-Door | 1 | 22¼ | 17½ | 18 | 1904 | **5U736** | 448.73 | **302.25** | **271.92** | 69.0 |
| 12 | Self-Closing, 1-Door | 1 | 35 | 23 | 18 | 1924 | **1N764** | 613.56 | **413.25** | **371.87** | 135.0 |
| 12 | Manual, 1-Door | 1 | 35 | 23 | 18 | 1925 | **1N763** | 561.07 | **378.00** | **340.06** | 133.0 |
| 16 | Self-Closing, 1-Door | 1 | 44 | 23 | 18 | 1905 | **3KN36** | 707.88 | **476.75** | **452.73** | 150.0 |
| 16 | Manual, 1-Door | 1 | 44 | 23 | 18 | 1906 | **3KN37** | 666.59 | **448.75** | **426.31** | 150.0 |

## STAK-ABLE SAFETY STORAGE CABINET SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | Self-Closing, 2-Door | 1 | 22¼ | 43 | 18 | ADD-14 | **1N762** | 992.09 | **668.50** | **601.31** | 145.0 |
| 15 | Manual, 2-Door | 1 | 22¼ | 43 | 18 | ADD-15 | **1N761** | 737.00 | **496.50** | **446.67** | 135.0 |

## EXTRA SHELF SPECIFICATIONS AND ORDERING DATA

| Fits Cabinets | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lot 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1N761 & 1N762 | 1 | 40 | 14¾ | 1915 | **2W427** | $42.12 | **$30.45** | **$27.39** | 12.0 |
| 3KN36, 3KN37, 1N763 & 1N764 | 1 | 20 | 15 | 1919 | **3KN38** | 43.18 | **33.25** | **31.56** | 8.0 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

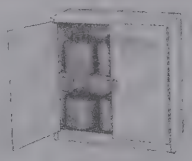
# FLAMMABLE LIQUID SAFETY STORAGE CABINETS

## SAFETY CABINETS

- Meet OSHA Requirements
- Meet NFPA Code 30 Requirements
- Constructed of 18-Gauge Steel
- Sides, Top, Bottom and Doors are Double-Walled
- 1½" of Air Space Between Walls
- Yellow High-Gloss Powder Finish with Red Warning
- 2 Vents with Fire Baffle and Cap
- 4 Leveling Legs
- Shelves are Adjustable
- Each Shelf Can Support Over 500 pounds
- Each Shelf Supported by 4 Brackets

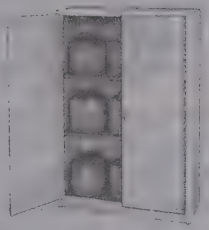
**Eagle Flammable Liquid Safety Storage Cabinets** comply with OSHA 29CFR1910.106d and NFPA Code 30 requirements.

**A wide selection** of safety storage cabinets to choose from for storing flammable liquids, acids and corrosives, paints and inks, and 55-gallon drums. Double wall panel construction of 18-gauge welded steel all around with 1½" air space between panels. 2" raised leakproof sill at bottom. 2" diameter pipe fitting with fire baffle and cap for outdoor venting if desired. All models listed below have adjustable shelves which support 500 lbs. each. Four adjustable feet level cabinet on uneven floors to help door open easier. Door handle has three-point key lock. All cabinets except paint/ink and acid/corrosive models are painted in caution yellow high gloss powder finish with red warnings. Eagle brand.



No. 3W208
Manual Closing 2-Door
30 Gallon Safety Cabinet

EAGLE



No. 3W209
Manual Closing 2-Door
45 Gallon Safety Cabinet

- FM Approved
- Meet OSHA Requirements
- Meet NFPA Code 30 Requirements




No. 3W373
Manual Closing 2-Door
60 Gallon Safety Cabinet

Replacement Parts Available
1-800-323-0620



No. 3W313
Self-Closing Sliding Door
45 Gallon Safety Cabinet

Factory Mutual System Approved



No. 5T586
Self-Closing 2-Door
45 Gallon Safety Cabinet

**Manual-Closing 2-Door Safety Storage Cabinets** open from the center on full length piano hinges. 30 gallon model, No. 3W208, has 1 shelf. 45 and 60 gallon models, Nos. 3W209 and 3W373, come with 2 shelves.

**Self-Closing Sliding Door Safety Storage Cabinets** open right to left on spring loaded piano hinges. Door is self-closing and may be locked open with a fusible link. During a fire, the fusible link will melt and allow the door to close automatically. 30 gallon model, No. 4T024, has 1 shelf. 45 and 60 gallon models, Nos. 3W313 and 4T025, come with 2 shelves.

**Self-Closing 2-Door Cabinets** open from the center on full length piano hinges. Doors are self-closing and may be locked open with a fusible link. During a fire, the fusible link will melt and allow the doors to close automatically in proper sequence. 30 gallon model, No. 3KN41, has 1 shelf. 45 and 60 gallon models, Nos. 5T586 and 3KN42, have 2 shelves.

**Additional shelves** are available for all cabinets. Shelf No. 2W427 fits cabinet Nos. 3W208, 4T024, 3KN41, 3W209, 5T586 and 3W313. Shelf No. 2W684 fits cabinet Nos. 3W373, 4T025 and 3KN42.

### FLAMMABLE LIQUID SAFETY STORAGE CABINET SPECIFICATIONS AND ORDERING DATA

| Capacity (Gals.) | Approval Listings | Door Type | No. of Shelves | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | FM | Manual, 2-Door | 1 | 44 | 43 | 18 | 1932 | **3W208** | $792.66 | **$528.50** | **$475.59** | 247.0 |
| 30 | FM | Self-Closing, Sliding | 1 | 44 | 43 | 18 | 1930 | **4T024** | 871.63 | **581.50** | **523.30** | 253.0 |
| 30 | FM | Self-Closing, 2-Door | 1 | 44 | 43 | 18 | 3010 | **3KN41** | 1030.22 | **687.50** | **652.87** | 257.0 |
| 45 | FM | Manual, 2-Door | 2 | 65 | 43 | 18 | 1947 | **3W209** | 988.86 | **659.50** | **593.40** | 342.0 |
| 45 | FM | Self-Closing, 2-Door | 2 | 65 | 43 | 18 | 4510 | **5T586** | 1264.07 | **851.00** | **765.89** | 353.0 |
| 45 | FM | Self-Closing, Sliding | 2 | 65 | 43 | 18 | 1945 | **3W313** | 1101.24 | **734.50** | **660.94** | 340.0 |
| 60 | FM | Manual, 2-Door | 2 | 65 | 31¾ | 31¼ | 1962 | **3W373** | 1179.98 | **787.00** | **708.02** | 354.0 |
| 60 | FM | Self-Closing, Sliding | 2 | 65 | 31¾ | 31¼ | 1960 | **4T025** | 1289.43 | **860.00** | **773.73** | 358.0 |
| 60 | FM | Self-Closing, 2-Door | 2 | 65 | 31¾ | 31¼ | 6010 | **3KN42** | 1356.55 | **913.50** | **867.82** | 364.0 |

### EXTRA SHELF SPECIFICATIONS AND ORDERING DATA

| Fits Cabinets | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 3W208, 4T024, 3W209, 5T586, 3W313 & 3KN41 | 1 | 40 | 14¾ | 1915 | **2W427** | $42.12 | **$30.45** | **$27.39** | 12.0 |
| 3W373, 4T025 & 3KN42 | 1¼ | 28¾ | 28¾ | 1911 | **2W684** | 80.33 | **54.10** | **48.65** | 16.0 |

# SPECIALTY SAFETY STORAGE CABINETS

### SPECIALTY STORAGE CABINETS

Complies with OSHA CFR1910.106d and NFPA 30. Special color finishes help quickly identify contents and segregate liquids. Justrite brand.

### FLAMMABLES CABINETS
**Yellow Finish**

**Countertop cabinets** store up to 4 gallon and are ideal for laboratories or anywhere where space is at a premium.

**Piggyback cabinets** stack or mount on top of standard 30-gallon cabinets to provide expanded or segregated storage. Can also be wall or bench-mounted.

**Wall/Bench cabinets** are ideal for storing small containers without taking up extra floor space. Features five adjustable shelves.

**Undercounter cabinets** mount flush with other cabinetry. Vent openings in back wall for increased air flow. Stores 22 gallons.

### PAINT/INK CABINETS
**Red Finish**

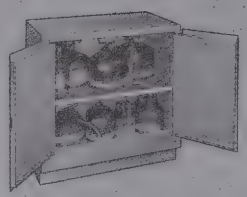
Cabinets offer three shelves and are the best utilization of space for storage of 1 gallon paint cans. Ideal for printing/painting operations.

### ACID/CORROSIVE CABINETS
**Blue Finish**

Ideal for laboratories and other facilities using acids and bases. **Steel Cabinets** include removable polyetyhlene spill catcher trays fitted to shelves and bottom for easy cleaning of incidental spills. **Nonmetallic Laminated Cabinet** is ideal for storage of phenol, nitric acid or sulfuric acid. **Lockable Polyethylene Cabinets** provide maximum protection against corrosion and leaks. Poly undercounter style has compartmentalized storage and removable sumps for easy cleaning of incidental spills.

JUSTRITE®

LOOKS GREAT Powder Paint Finish Self-Latching Doors WORKS GREAT



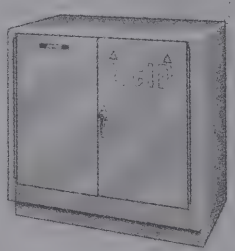
No. 3T990



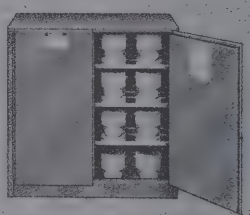
No. 6AZ32



No. 3T989



No. 6AN12



No. 4T200

## FLAMMABLE CABINET SPECIFICATIONS AND ORDERING DATA

| Type of Storage | Capacity (Gals.) | Approval Listings | Cabinet Type | Door Type | No. of Shelves | Dimensions (In.) H | W | D | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Flammable Liquids** | 4 | — | Countertop | Manual, 1-Door | 1 | 22 | 17 | 17 | 25040 | **6AW19** | $318.10 | **$302.25** | **$272.03** | 66.0 |
| **Flammable Liquids** | 4 | — | Countertop | Self-Closing, 1-Door | 1 | 22 | 17 | 17 | 25042 | **6AZ32** | 386.10 | **367.00** | **330.30** | 67.0 |
| **Flammable Liquids** | 12 | — | Piggy-Back | Manual, 2-Door | — | 18 | 43 | 18 | 25801 | **3T991** | 436.00 | **423.00** | **380.70** | 144.0 |
| **Flammable Liquids** | 20 | — | Wall / Bench | Manual, 2-Door | 5 | 44 | 43 | 12 | 25720 | **3T989** | 589.00 | **571.50** | **514.35** | 221.0 |
| **Flammable Liquids** | 22 | FM | Undercounter | Manual, 2-Door | 1 | 35 | 35 | 22 | 25730 | **3T990** | 565.00 | **548.50** | **493.65** | 204.0 |
| **Flammable Liquids** | 22 | FM | Undercounter | Self-Closing, 2-Door | 1 | 35 | 35 | 22 | 25732 | **6AL54** | 690.00 | **655.50** | **589.95** | 190.0 |

## PAINT/INK CABINET SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Paint (Class III)** | 40 | FM, UL | | Manual, 2-Door | 3 | 44 | 43 | 18 | 25400 | **4T200** | 633.00 | **614.50** | **553.05** | 249.0 |
| **Paint (Class III)** | 40 | FM | | Self-Closing, 2-Door | 3 | 44 | 43 | 18 | 25402 | **6AL20** | 736.50 | **700.00** | **630.00** | 240.0 |

## ACID/CORROSIVE CABINET SPECIFICATIONS AND ORDERING DATA

| Cabinet Type | Capacity | Door Type | No. of Shelves | Dimensions (In.) H | W | D | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Steel, Countertop** | 4 gallon | Manual, 1-Door | 1 | 22 | 17 | 22 | 25040B | **3KN97** | $341.45 | **$324.50** | **$292.05** | 66.0 |
| **Steel, Undercounter** | 22 gallon | Manual, 2-Door | 1 | 35 | 35 | 22 | 25702 | **6AN12** | 629.70 | **598.50** | **538.65** | 190.0 |
| **Nonmetallic Laminate, Countertop** | 15 liter | Sliding, 2-Door | — | 18⅜ | 24 | 15⅞ | 24120 | **3AJ15** | 455.10 | **432.50** | **389.25** | 49.0 |
| **Polyethylene, Undercounter** | 30 liter bottles | Manual, 2-Door | 1 | 35 | 36 | 23½ | 24160 | **3KN96** | 1139.40 | **1025.00** | **920.94** | 110.0 |

## EXTRA SHELF SPECIFICATIONS AND ORDERING DATA

| Fits Cabinets | Dimensions (In.) H | W | D | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **4T201, 3T988 & 6AL20** | 1 | 19½ | 14 | 25935 | **4T204** | $26.20 | **$25.45** | **$22.91** | 5.0 |
| **4T198, 4T199, 4T200, 4T196 & 4T197** | 1 | 40 | 15 | 25901 | **4T202** | 29.90 | **29.00** | **26.10** | 7.5 |



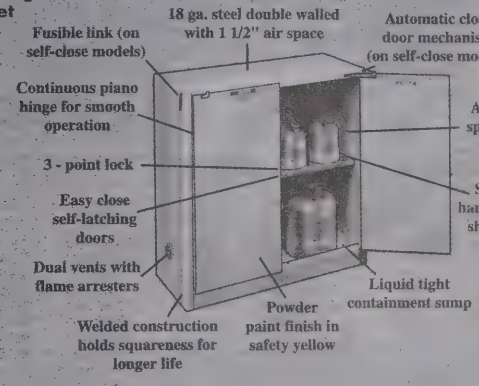
*Close it, lock it, keep it safe — You'll find the right stuff right here.*

JUSTRITE®

Replacement Parts Available
1-800-323-0620

No. 4T199
30 Gallon
Self-Closing
Cabinet

Factory Mutual System Approved






LOOKS GREAT
Powder Paint Finish
Self-Latching Doors
WORKS GREAT

No. 4T196 45 Gallon
Manual Closing



No. 4T201 12 Gallon
Manual Closing Cabinet

## SAFETY STORAGE CABINETS

**Fully compliant: All cabinets meet or exceed OSHA requirements and NFPA Code 30. Most have undergone rigorous independent 3rd party fire testing. Self-closing cabinets also meet the Uniform Fire Code.**

Safety storage cabinets are designed to provide segregated and expanded storage of flammable and hazardous materials. Organize liquids and keep them near point-of-use for efficiency. Built-in safety features minimize employee exposure, provide smooth operation and prohibit unauthorized access. No drip, high gloss yellow powder paint finish maximizes chemical resistance. Doors on self-closing units shut when temperature reaches 165°F.

**Value Features standard on all Justrite steel cabinets:**

- **Double walled 18 guage steel with 1 1/2" air space**
- **Unitized, welded construction**
- **Safety yellow powder paint finish**
- **High Visibility, trilingual warning label**
- **3-point lock with double key set**
- **Self-latching—easy close doors**
- **Spill catcher shelves adjust at 2 1/4" increments and interlock onto welded hagers to prevent "shelf slippage"**
- **2" Liquid tight sump**
- **Dual vents with built-in flame arresters**
- **4 Adjustable leveling feet**
- **Outside grounding connector**
- **Fusible link actuation and concealed automatic close mechanism on self-closing models only**

## SAFETY CAN STORAGE CABINET SPECIFICATIONS AND ORDERING DATA

| Type of Storage | Capacity (Gals.) | Approval Listings | Door Type | No. of Shelves | Dimensions (In.) H | W | D | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flammable Liquids | 12 | FM | Manual, 1-Door | 1 | 35 | 23¼ | 18 | 25710 | **4T201** | $398.00 | **$386.25** | **$347.63** | 114.0 |
| Flammable Liquids | 12 | FM | Self-Closing, 1-Door | 1 | 35 | 23¼ | 18 | 25712 | **3T988** | 435.20 | **422.25** | **380.03** | 118.0 |
| Flammable Liquids | 30 | FM, UL | Manual, 2-Door | 1 | 44 | 43 | 18 | 25300 | **4T198** | 579.00 | **562.00** | **505.80** | 237.0 |
| Flammable Liquids | 30 | FM | Self-Closing, 2-Door | 1 | 44 | 43 | 18 | 25302 | **4T199** | 718.60 | **697.50** | **627.75** | 238.0 |
| Flammable Liquids | 45 | FM, UL | Manual, 2-Door | 2 | 65 | 43 | 18 | 25450 | **4T196** | 694.00 | **673.50** | **606.15** | 311.0 |
| Flammable Liquids | 45 | FM | Self-Closing, 2-Door | 2 | 65 | 43 | 18 | 25452 | **4T197** | 853.00 | **827.50** | **744.75** | 315.0 |
| Flammable Liquids | 60 | FM | Manual, 2-Door | 2 | 65 | 34 | 34 | 25600 | **4T194** | 881.00 | **855.00** | **769.50** | 391.0 |
| Flammable Liquids | 60 | FM | Self-Closing, 2-Door | 2 | 65 | 34 | 34 | 25602 | **4T195** | 963.00 | **934.50** | **841.05** | 395.0 |
| Flammable Liquids | 90* | FM | Manual, 2-Door | 2 | 65 | 43 | 34 | 25860 | **3KN98** | 1051.70 | **999.50** | **899.55** | 480.0 |
| Flammable Liquids | 90* | FM | Self-Closing, 2-Door | 2 | 65 | 43 | 34 | 25862 | **3KP01** | 1215.50 | **1155.00** | **1039.50** | 480.0 |

(*) Code states that not more than 60 gallons may be Class I and Class II liquids.

## EXTRA SHELF SPECIFICATIONS AND ORDERING DATA

| Fits Cabinets | Dimensions (In.) H | W | D | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 4T201, 3T988 & 6AL20 | 1 | 19½ | 14 | 25935 | **4T204** | $26.20 | **$25.45** | **$22.91** | 5.0 |
| 4T198, 4T199, 4T200, 4T196, 4T197 & 3T991 | 1 | 40 | 15 | 25901 | **4T202** | 29.90 | **29.00** | **26.10** | 7.5 |
| 4T194 & 4T195 | 1 | 31 | 31 | 25909 | **4T203** | 68.00 | **66.00** | **59.40** | 13.0 |
| 3KN98 & 3KP01 | 1 | 31¼ | 30 | 25927 | **3KP04** | 80.00 | **67.75** | **60.98** | 14.0 |

# PAINT/INK AND ACID/CORROSIVE SAFETY STORAGE CABINETS

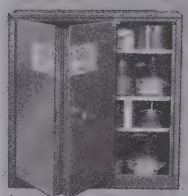
## PAINT/INK SAFETY STORAGE CABINETS

**Paint/Ink Safety Storage Cabinets** are recommended for use in print shops for safely storing ink cans, cleanup solvents, and paint cans. Available in either Red or Yellow baked-on high gloss epoxy powder finish with flammable warning labels. Available in 40, 60 and 120 gallon sizes with manual or self-closing doors. Eagle brand.

**Eagle Paint/Ink Safety Storage Cabinets** are constructed of 18-gauge welded steel. Cabinets feature double wall panel construction with 1½" air space between panels and 2" raised leakproof sill at bottom. 2" diameter pipe fitting with fire baffle and cap for outdoor venting. Adjustable shelves support 500 lbs. each. Shelving provided to store 1 gallon size cans. Four adjustable leveling feet. Three-point key lock.

**For additional shelves see ordering data below.**

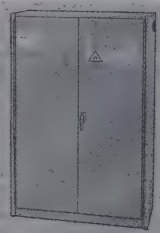
- Meet NFPA Code 30 Requirements
- Meet OSHA Requirements



EAGLE

Factory Mutual System Approved

New



No. 3KN52 Self-Closing 1-Door 40 Gallon Safety Cabinet

No. 4T028 Manual Closing 2-Door 60 Gallon Safety Cabinet

Replacement Parts Available 1-800-323-0620

### PAINT/INK CABINET SPECIFICATIONS AND ORDERING DATA

| Capacity (Gal.) | Approval Listings | Color | Door Type | No. of Shelves | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **40** | FM | Red | Manual, 2-Door | 3 | 44 | 43 | 18 | PI-32 | **5T422** | $853.18 | **$569.50** | **$512.29** | 272.0 |
| **40** | FM | Yellow | Manual, 2-Door | 3 | 44 | 43 | 18 | YPI-32 | ***New* 4RF75** | 877.28 | **580.00** | **522.00** | 272.0 |
| **40** | FM | Red | Self-Closing, Sliding | 3 | 44 | 43 | 18 | PI-30 | **3KN52** | 915.27 | **616.50** | **585.49** | 278.0 |
| **60** | FM | Red | Manual, 2-Door | 5 | 65 | 43 | 18 | PI-47 | **4T028** | 1082.69 | **722.50** | **649.87** | 380.0 |
| **60** | FM | Yellow | Manual, 2-Door | 5 | 65 | 43 | 18 | YPI-47 | ***New* 4RF76** | 1086.76 | **736.00** | **662.40** | 380.0 |
| **60** | FM | Red | Self-Closing, Sliding | 5 | 65 | 43 | 18 | PI-45 | **3KN53** | 1173.60 | **790.50** | **750.81** | 378.0 |
| **120** | FM | Red | Manual, 2-Door | 5 | 65 | 31.3 | 31.3 | PI-62 | ***New* 4RF72** | 1237.64 | **926.00** | **833.40** | 402.0 |
| **120** | FM | Yellow | Manual, 2-Door | 5 | 65 | 31.3 | 31.3 | YPI-62 | ***New* 4RF77** | 1237.64 | **926.00** | **833.40** | 402.0 |

### EXTRA SHELF SPECIFICATIONS AND ORDERING DATA

| Fits Cabinets | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5T422,4RF75, 4T028, 3KN52,4RF76 & 3KN53** | 1 | 40 | 14¾ | 1915 | **2W427** | $42.12 | **$30.45** | **$27.39** | 12.0 |

## ACID/CORROSIVE & PESTICIDE SAFETY STORAGE CABINETS

**Acid/Corrosive & Pesticide Storage Cabinets** feature high density polyethylene shelf trays and bottom platforms for additional protection against spills. Acid/Corrosive cabinets and shelves are finished with blue epoxy powder coating which is superior to epoxy painted or enamel painted surfaces. The pesticide storage cabinet (No. 4RF71) has a green high gloss powder finish and white labeling providing quick designation of product storage. Acid/Corrosive cabinets are available in 30, 45 and 60 gallon sizes. The pesticide cabinet has a 45 gallon capacity. **Not recommended for storage of phenol, nitric or sulphuric acid. Prolonged exposure to these vapors or spills could cause the cabinet finish to deteriorate.**

**Eagle Acid/Corrosive Safety Storage Cabinets** are constructed of 18-gauge welded steel. Feature double wall panel construction with 1½" air space between panels and 2" raised leakproof sill at bottom. 2" diameter pipe fitting with fire baffle and cap for outdoor venting. Adjustable shelves support 500 lbs. each. Four adjustable leveling feet. Three-point key lock.

**For additional shelves see ordering data below.**

- Meet NFPA Code 30 Requirements
- Meet OSHA Requirements

New

Replacement Parts Available 1-800-323-0620



EAGLE

Factory Mutual System Approved



No. 4T027 Manual Closing 45 Gallon Safety Cabinet

No. 5T419 Self-Closing Sliding Door 45 Gallon Safety Cabinet

### ACID/CORROSIVE AND PESTICIDE CABINET SPECIFICATIONS AND ORDERING

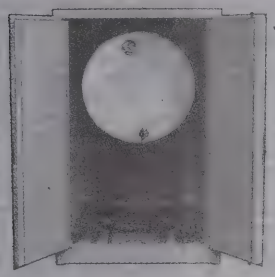
| Capacity (Gal.) | Cabonet Type | Approval Listings | Door Type | No. of Shelves | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30** | **Acid/Corr.** | FM | Manual, 2-Door | 1 | 44 | 43 | 18 | CRA-32 | **4T026** | $889.88 | **$594.00** | **$534.17** | 253.0 |
| **30** | **Acid/Corr.** | FM | Self-Closing, Sliding | 1 | 44 | 43 | 18 | CRA-30 | **5T418** | 968.81 | **646.00** | **581.35** | 259.0 |
| **45** | **Acid/Corr.** | FM | Manual, 2-Door | 2 | 65 | 43 | 18 | CRA-47 | **4T027** | 1089.09 | **727.00** | **653.86** | 351.0 |
| **45** | **Acid/Corr.** | FM | Self-Closing, Sliding | 2 | 65 | 43 | 18 | CRA-45 | **5T419** | 1198.51 | **799.50** | **719.53** | 349.0 |
| **60** | **Acid/Corr.** | FM | Manual, 2-Door | 2 | 65 | 31¼ | 31¼ | CRA-62 | **3KN47** | 1299.49 | **875.00** | **830.94** | 363.0 |
| **45** | **Pesticide** | FM | Manual, 2-Door | 2 | 65 | 43 | 18 | PEST47 | ***New* 4RF71** | 940.00 | **704.00** | **633.60** | 351.0 |

### EXTRA SHELF SPECIFICATIONS AND ORDERING DATA

| Fits Cabinets | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **4T026, 5T418, 4T027 & 5T419** | 1 | 40 | 14¾ | CRA-1914 | **5T423** | $57.59 | **$38.85** | **$34.92** | 12.0 |
| **3KN47** | 1 | 28 | 28 | CRA-1918 | **3KN46** | 97.66 | **75.15** | **71.37** | 16.0 |
| **4RF71** | 1 | 40 | 14¾ | 1915 | **2W427** | 42.12 | **30.45** | **27.39** | 12.0 |

# DRUM AND HAZARDOUS WASTE SAFETY STORAGE CABINETS

## DRUM SAFETY STORAGE CABINETS



No. 3KN39 1 Drum
Manual Closing Horizontal Cabinet

Factory Mutual System Approved

New

EAGLE

- Meet NFPA Code 30 Requirements
- Meet OSHA Requirements

**Drum Storage Cabinets** comply with NFPA Code 30 and meet OSHA's requirement 29CFR1910.106(d)3. Double wall 18 gauge steel construction with 1½" air space. Cabinets have upper and lower vents which provide connections for 2" threaded fittings. Equipped with built-in ground connectors. Eagle brand.

**Vertical 1 and 2-Drum Safety Storage Cabinets** come complete with drum supports inside bottom. Yellow high gloss powder finish with red warning label "Flammable—Keep Fire Away".

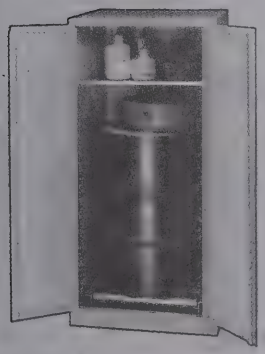
**Horizontal Drum Safety Storage Cabinet** is equipped with drum cradle guide rails. Yellow high gloss powder finish with red warnings. Not Factory Mutual System approved.

**Optional drum cradle No. 2W472 available, see Index.**

### DRUM SAFETY STORAGE CABINET SPECIFICATIONS AND ORDERING DATA

| Description | Capacity (Gals.) | Door Type | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vertical 1-Drum Cabinet** | 55 | Manual, 2-Door | 65 | 31¼ | 31¼ | 1926 | **3W372** | $1137.71 | **$759.00** | **$682.69** | 334.0 |
| **Vertical 2-Drum Cabinet** | 110 | Manual, 2-Door | 65 | 58 | 31½ | 1955 | *New* **4RF66** | 2000.00 | **1400.00** | **1260.00** | 575.0 |
| **Horizontal Drum Cabinet** | 55 | Manual, 2-Door | 50 | 31¼ | 48¼ | 1928 | **3KN39** | 1155.69 | **778.50** | **739.45** | 385.0 |

## HAZARDOUS WASTE SAFETY STORAGE CABINETS



No. 3KN49 1 Drum
Manual Closing
Vertical Cabinet

Factory Mutual System Approved




No. 3KN51 1 Drum
Self-Closing Vertical Cabinet



No. 3KN50
2 Drum
Manual Closing
Vertical Cabinet

EAGLE

- Meet NFPA Code 30 Requirements
- Meet OSHA Requirements

**Hazardous Waste Safety Storage Cabinets** comply with NFPA Code 30 and meet OSHA's requirements 29CFR1910.106(d)3. Double wall 18 gauge steel construction with 1½" air space. Cabinets have upper and lower vents which provide connections for 2" threaded fittings. Equipped with built-in ground connectors. Self-closing model also available.

All models come complete with one half-width shelf and rollers inside bottom to assist in loading and unloading. For storage of hazardous waste and/or flammable liquids. Yellow high gloss powder finish with red "Flammable—Keep Fire Away" and "Hazardous Waste" labels. Eagle brand.

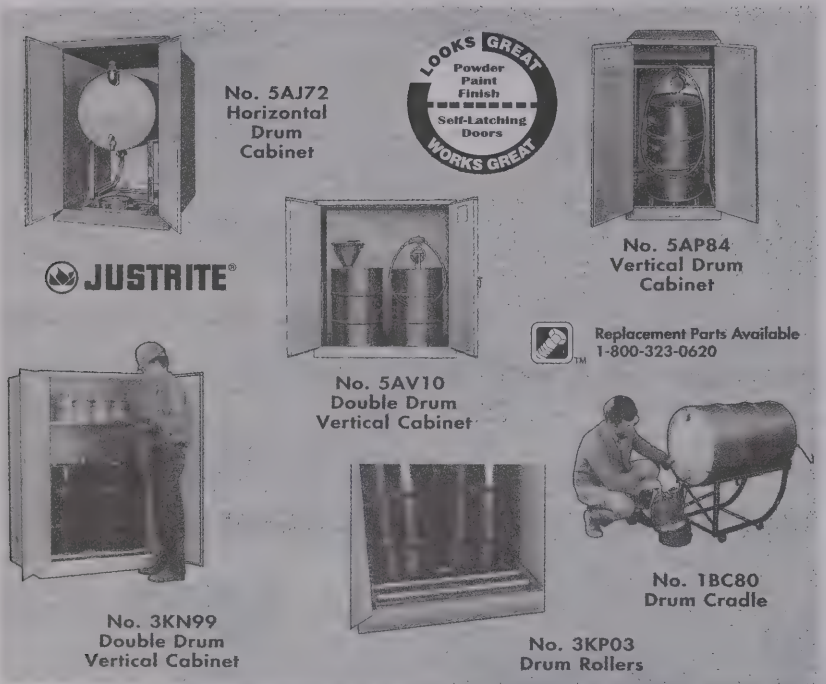
**Not more than 60 gallons of Class I & II Liquids may be stored in a single-drum cabinet.**

### HAZARDOUS WASTE SAFETY STORAGE CABINET SPECIFICATIONS AND ORDERING DATA

| Description | Capacity | Door Type | Dimensions (In.) H | W | D | Eagle Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vertical Hazardous Waste Cabinet** | 1 Drum | Manual, 2-Door | 65 | 31¼ | 31¼ | HAZ1926 | **3KN49** | $1233.51 | **$830.50** | **$788.94** | 350.0 |
| **Vertical Hazardous Waste Cabinet** | 1 Drum | Self-Closing, 2-Door | 65 | 31¼ | 31¼ | HAZ2610 | **3KN51** | 1337.22 | **900.50** | **855.05** | 360.0 |
| **Vertical Hazardous Waste Cabinet** | 2 Drum | Manual, 2-Door | 65 | 58 | 31½ | HAZ1955 | **3KN50** | 2264.12 | **1524.00** | **1447.73** | 575.0 |

# FLAMMABLE LIQUID DRUM STORAGE CABINETS

## INDOOR DRUM STORAGE CABINETS




Drum safety cabinets allow for storage and dispensing of bulk liquids. Cabinets are designed in accordance with NFPA Code 30 and comply with OSHA regulations. Manual closing cabinets have sturdy 18 gauge steel walls with 1½" insulating air barrier, 2" leakproof sill, three-point lock, capped vents, ground connection, and adjustable leveling feet. Labeled "Flammable—Keep Fire Away". Durable yellow powder paint finish is chemical and abrasion resistant. Quality welded construction. Justrite brand.

**Horizontal Drum Cabinet.** Designed to house drums used for gravity flow dispensing of liquids. Includes tracks to guide drum into cradle position.

**Vertical Drum Cabinet.** Accommodates 55-gallon drum equipped with drum pump. Includes heavy gauge galvanized steel spill catcher shelf. FM approved.

**Double Drum (30 Gallon) Vertical Cabinet.** Accommodates two 30-gallon drums side by side. Includes spill catcher shelf and drum rollers on bottom of cabinet for ease in maneuvering heavy drums. FM approved.

**Double Drum (55 Gallon) Vertical Cabinet.** Accommodates two 55-gallon drums side by side. Includes spill catcher shelf.

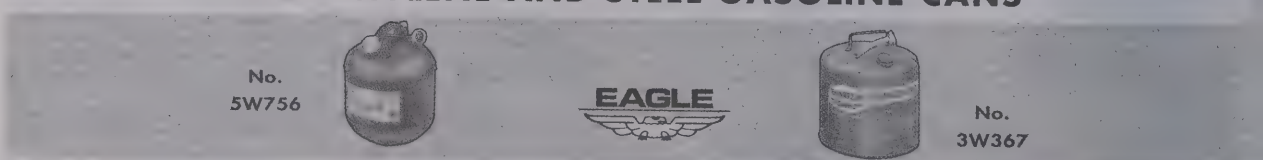
**Drum Cradle.** Fits inside No. 5AJ72 Horizontal Drum Cabinet or use free standing. Loading bar grips drum chime, permitting smooth shifting of drum into horizontal position.

### SPECIFICATIONS AND ORDERING DATA

| Description | Door Type | Capacity (Gal.) | Dimensions (In.) H | W | D | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Horizontal Drum Cabinet** | 2-door, manual | 55 | 50 | 30 | 48 | 25661 | **5AJ72** | $820.70 | **$780.00** | **$702.00** | 369.0 |
| **Vertical Drum Cabinet** | 2-door, manual | 55 | 65 | 34 | 34 | 25700 | **5AP84** | 795.00 | **755.50** | **679.95** | 397.0 |
| **Double Drum (30 gallon) Vertical Cabinet** | 2-door, manual | 60 | 65 | 43 | 34 | 25861 | **3KN99** | 1172.60 | **1114.00** | **1002.60** | 505.0 |
| **Double Drum (30 gallon) Vertical Cabinet** | 2-door, self-close | 60 | 65 | 43 | 34 | 25863 | **3KP02** | 1244.10 | **1182.00** | **1063.80** | 509.0 |
| **Extra Shelf for 30 gallon Double Drum Cabinet** | — | — | 1 | 34½ | 30 | 25927 | **3KP04** | 80.00 | **67.75** | **60.98** | 14.0 |
| **Rollers for 30 gallon Double Drum Cabinet** | — | — | 3½ | 37 | 30 | 25923 | **3KP03** | 178.50 | **169.75** | **152.78** | 72.0 |
| **Double Drum (55 gallon) Vertical Cabinet** | 2-door, manual | 110* | 65 | 59 | 34 | 25760 | **5AV10** | 1650.00 | **1568.00** | **1411.20** | 610.0 |
| **Drum Cradle for No. 5AJ72** | — | 800 lbs. | — | — | — | 08800 | **1BC80** | 150.00 | **142.50** | **135.38** | 33.0 |

(*) Code states that not more than 60 gallons may be Class I and Class II liquids.

## POLYETHYLENE AND STEEL GASOLINE CANS




### POLYETHYLENE GAS CANS

High-density polyethylene cans are impact-resistant, non-rusting, and non-corrosive. Dome-shaped rounded body. Finger groove in bottom for easier pouring. Vent cap and flexible spout with built-in screen store inside can. **Not for diesel fuel. Note: These cans do not meet shipping or safety can requirements.**

| Can Capacity (Gal.) | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2½** | PG-3 | **5W755** | $7.18 | **$4.67** | **$4.32** | 2.0 |
| **5** | PG-5 | **5W756** | 11.68 | **7.59** | **7.02** | 3.0 |

### GALVANIZED STEEL GAS CANS

Strong, durable galvanized steel cans with double-seamed bottom resist leakage and withstand rough use. No seams on top or sides. Flip vent equalizes pressure for pouring. Detachable 7" long flexible pour spout with filter screen. Approved by Massachusetts State Fire Marshal. Red cans with white lettering. **Not for diesel fuel. Note: These cans do not meet shipping or safety can requirements.**

| Can Capacity (Gal.) | Bottom Dia. (In.) | Height (In.) | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2¼** | 11¼ | 8⅝ | SP-2½ | **2W677** | $15.19 | **$9.49** | **$8.78** | 2.5 |
| **5** | 12½ | 12⅞ | SP-5 | **3W367** | 21.26 | **13.29** | **12.30** | 5.0 |



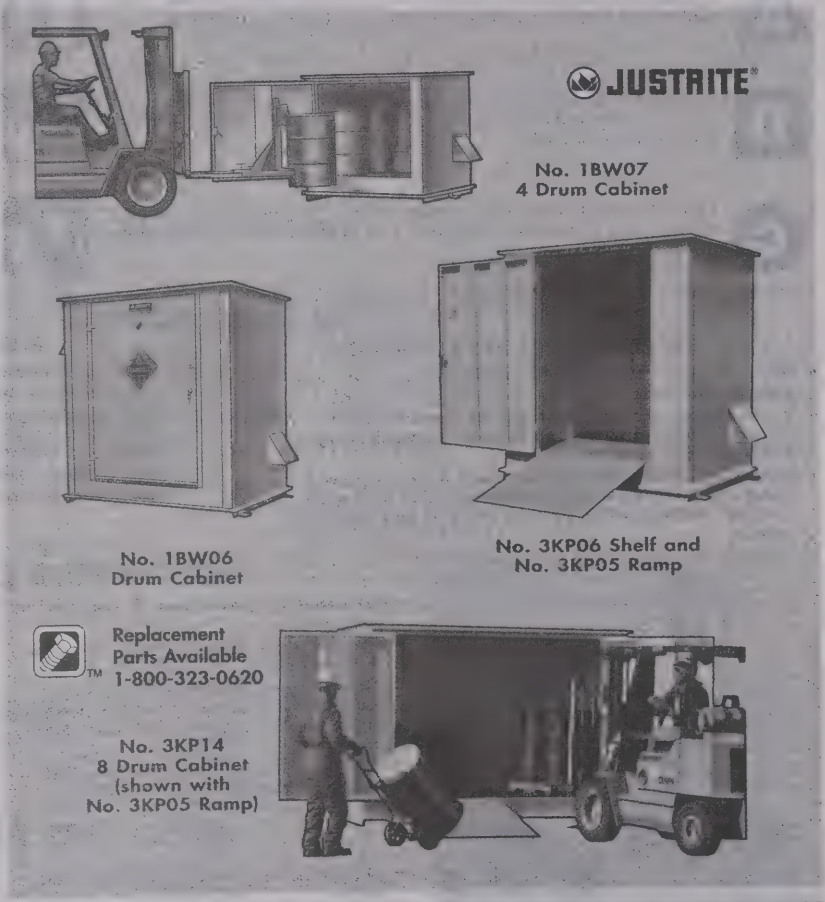
*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# OUTDOOR DRUM STORAGE CABINETS

**Rugged, weatherproof cabinets** provide safety, security, segregation, and secondary containment storage for hazardous materials, chemicals, and waste. 55-gallon drum storage capacity ranges from two to eight drums. For outdoor use to keep contents safe from rain, wind, and snow. Outside storage frees up valuable inside space and creates a safer environment. Weather resistant exterior finish and chemically resistant interior. Large 54" single door opening facilitates loading and removal of 55-gallon drums, whether full skids or single drums. 8-Drum Cabinet features double doors for full access via ramp or forklift. Portable cabinets are relocatable with standard fork lift truck.

**Accessories include** Diamond Plate Steel Ramp No. 3KP05 which makes drum loading easy. For organization of smaller containers, optional Shelving Kit No. 3KP06 is available for use on 6 or 8-drum cabinets. For added protection, Fire Suppression System No. 3KP10 is offered on 8-Drum cabinet.

**Constructed of unitized-welded, heavy-gauge steel** for strength. Fully factory assembled. Large spill containment sump conforms to NFPA standards and surpasses EPA 40 CFR requirements. Hydrostatically tested to be liquid tight. Removable sectional flooring allows for easy sump inspection and cleaning. 250 PSF floor load, steel grate floor on 2 and 4 drum units; plywood floor with steel grate at threshold on 6 and 8 drum units. Gravity ventilation provided with 2 and 4 drum units with one vent on back wall; 6 and 8 drum units include 2 vents, one on each side of cabinet. Three point key latch for security. Seismic hold-down plates included for improved stability in areas prone to earthquakes. Meets EPA requirements, FM approved except for storage of Class 1A or dispensing of Class 1B flammable liquids as defined by NFPA 30. Justrite brand.




## SPECIFICATIONS AND ORDERING DATA

| Drum Capacity* | Exterior Dimensions (In.) H | W | D | Door Opening Dimensions (In.) W | H | Sump Capacity (Gal.) | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2 Drum** | 64 | 68 | 36 | 54 | 48 | 60 | 28120 | **1BW08** | $2350.00 | **$2280.00** | **$2052.00** | 950.0 |
| **4 Drum** | 64 | 68 | 66 | 54 | 48 | 120 | 28140 | **1BW07** | 3000.00 | **2910.00** | **2619.00** | 1375.0 |
| **6 Drum** | 96 | 90 | 66 | 54 | 80 | 160 | 28160 | **1BW06** | 3750.00 | **3638.00** | **3274.20** | 1700.0 |
| **8 Drum** | 96 | 138 | 66 | 54 | 80 | 250 | 28380 | **3KP14** | 5625.00 | **5457.00** | **4911.30** | 2275.0 |

(*) 55 gallon drums.

## ACCESSORY ORDERING DATA

| Description | Dimensions (In.) H | W | L | Justrite Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Yellow Steel Ramp for all cabinet sizes** | — | 52 | 72 | 28132 | **3KP05** | $494.05 | **$479.25** | **$431.33** | 180.0 |
| **Shelving Kit for 6 and 8-drum cabinets only** | 1 | 77 | 13⅝ | 28170 | **3KP06** | 133.90 | **129.90** | **116.91** | 29.0 |
| **Fire Supression System for 8-drum cabinet only** | — | — | — | 28196 | **3KP10** | 1367.00 | **1326.00** | **1193.40** | 29.0 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# FIRE EXTINGUISHERS

### UL FIRE CLASSIFICATIONS

**A** Common combustibles, such as wood, paper, cloth, rubber, trash and most plastics. May occur in homes, offices or business.



**B** Flammable Liquids, gasoline, kerosene, oil grease, solvents and gases. Commonly strike in kitchens, garages, manufacturing plants or warehouses.



**C** Live electrical equipment. Often occurs in computers, motors, wiring, and appliances. Requires a non-conductive extinguishing agent.



### EXPLANATION OF RATINGS

An extinguisher's rating, rather than its size, is the measure of fire fighting capability. This rating is assigned after testing by Underwriters Laboratories, Inc., and is shown on the label as a number followed by a letter, e.g., 1A

The number indicates the extinguisher's relative power against that specific class of fire. For example, an extinguisher rated 2A is twice as powerful against ordinary combustible fires as one rated 1A.

The same holds true for Class B ratings. No numerical rating is assigned to Class C, since these fires are basically Class A or Class B plus live electrical equipment.

## DRY CHEMICAL DEFINITIONS

### TRI-CLASS "ABC" DRY CHEMICALS

- **The only agent capable of handling class A, B, and C fires and is non-toxic**
- **It is a Mono-ammonium phosphate based material which is yellow in color and treated to insure free flowing and water-repellency characteristics**
- **Unique in its performance on class A fires by not only smothering the material, but the powder also melts to form a sticky coating which secures the fire and prevents reflash.**

### REGULAR "BC" DRY CHEMICAL

- **Capable of handling class B fires and has a C rating as well due to its non-conductivity.**
- **High percentage sodium bicarbonate material, white in color is treated for free flowing and water-repellency characteristics which is non toxic.**
- **Large heavier particles enhance range capabilities, while small particles absorb heat and smother the fire.**




## WATER FIRE EXTINGUISHER

- **UL rated 2A protection, 5 year limited warranty**
- **Excellent fire fighting agent for class A fires only**
- **Use in areas where ordinary combustibles are present, such as wood, paper, cloth, rubber, and most plastics**
- **Lightweight stainless steel construction cylinder (corrosion resistant)**
- **Chrome plated brass valve**
- **Rechargeable-easily filled with standard air chuck**
- **Tanks are shipped empty (certain local ordinances may require certification after filling with water)**
- **UL listed chemical engine hose**
- **Kidde Brand (PRO2.5 WM)**

**No. 4T305.** Shpg. wt. 8.0 lbs. List $89.00. Each **$74.95**; Lots 3 ..... **$71.20**




## AUTO FIRE EXTINGUISHER

- **UL rated 5-BC, Two year limited warranty**
- **Features the no-drill car mount bracket - installs in seconds**
- **For uncarpeted trucks, two velcro adhesive strips are provided**
- **Fights grease, gasoline, oil and electrical fires**
- **Protective fire extinguisher hood**
- **Push button pressure check**
- **Kidde Brand (Auto 5X)**

**No. 1M794.** Shpg. wt. 3.1 lbs. List $19.00. Each **$14.95**; Lots 6 ..... **$14.20**

## HEAVY DUTY BRACKETS

**Required for U.S. Coast Guard Approval on Certain Models**




No. 4T307



No. 5T909

- **Strap brackets are required for U.S. Coast Guard approval on all units not identified as U.S. Coast Guard approval**
- **Used with Kidde fire extinguishers to allow mounting on walls, vehicles and boats**
- **For heavy traffic and rough usage locations**
- **Steel bracket with enamel finish**

| Fits Models | Capacity (Lbs.) | Bracket Type | Kidde Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 5T904<br>4T300<br>2W091 | 2.6 Dry Chemical<br>2.5 Dry Chemical<br>2.75 Dry Chemical | Strap | VB-2 | **4T307** | $6.80 | **$5.95** | **$5.65** | 0.5 |
| 5T899<br>4T301 | 5 Dry Chemical<br>5 Dry Chemical | Strap | VB-5 | **4T308** | 6.80 | **5.95** | **5.65** | 0.5 |
| 5T900 | 5 Carbon Dioxide | Running Board | RB-1 | **5T906** | 36.00 | **34.95** | **33.20** | 4.5 |
| 5T905<br>1M792<br>4T889 | 10 Dry Chemical<br>10 Dry Chemical<br>10 Dry Chemical | Running Board | RB-18 | **5T909** | 36.00 | **34.95** | **33.20** | 0.8 |
| 5T903<br>5T901<br>6T547<br>6T548<br>4T305 | 20 Dry Chemical<br>10 Carbon Dioxide<br>15 Carbon Dioxide<br>20 Carbon Dioxide<br>2.5 Gal. Water | Running Board | RB-16 | **5T908** | 36.00 | **34.95** | **33.20** | 2.8 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# FIRE EXTINGUISHERS

## PRO AND EXCEL LINE DRY CHEMICAL EXTINGUISHERS

- Easy to read pressure gauge allows instant, accurate pressure checks
- Squeeze grip provides ease of operation
- Lever locks to valve to prevent accidental discharge
- Seamless aluminum or steel cylinders have chip resistant epoxy finish
- Mar-resistant pictogram mylar label
- Fits all standard cabinets
- All extinguishers are rechargeable (Except No. 5X662)
- Rechargeable extinguishers are easy to service
- Hose comes standard on 5, 10 and 20 pound units

## VALVE COMPARISON



### PRO LINE

- Strong, machined aluminum valve
- Two rivets used in handle/lever system for added strength

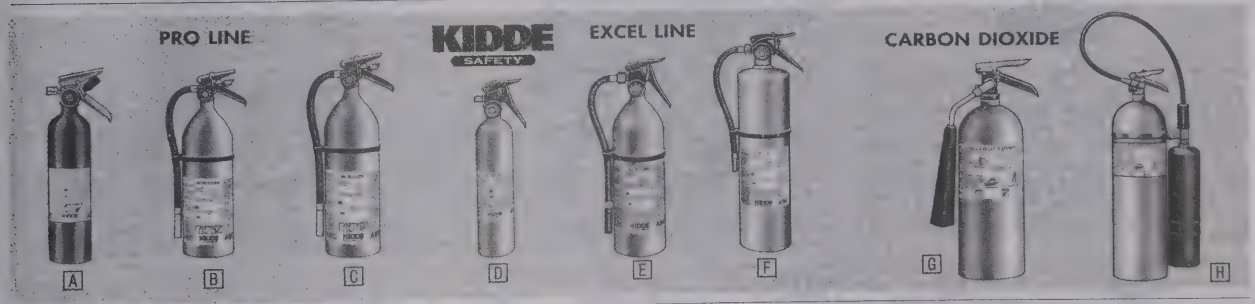


### EXCEL LINE

- Nylon valve (Du Pont Zytel® St) provides superior strength and toughness for hostile environments
- Will never corrode
- Will not bend or break under extreme pressures or temperatures
- Ideal for coastal applications and other extreme conditions

## CARBON DIOXIDE FIRE EXTINGISHERS

- UL rated 5B:C and 10B:C,
- 5 year limited warranty
- Likely replacement agent for Halon 1211 applications
- Seamless aluminum cylinder with chip resistant epoxy paint
- Meeting many non-magnetic applications
- Forged aluminum chrome plated brass valve
- Fully rechargeable
- Hose and horn standard
- Recommended for data processing centers, laboratories and chemical manufacturing plants
- Clean agent will not contaminate food, valuable materials or electronics-considered environmentally safe
- Non-conductive agent for electrical equipment without risk to operator




| Key | UL (lbs.) | Dimensions Size (Lbs.) | H (In.) | W (In.) | Cylinder Material | Bracket Type Included | USCG Bracket* | PSI Operat. Pressure | Discharge Time (Sec.) | Range (Ft. Max) | Kidde Model | Stock No.❸ | | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PRO LINE DRY CHEMICAL EXTINGUISHERS** | | | | | | | | | | | | | | | | | |
| A | 1-A: 10-B:C | 2.6 | 15.0 | 3.3 | Alum | Wall Hanger | 4T307 | 100 | 8.5-10.5 | 12 | PRO2.5TCM | **5T904** | | $28.80 | **$19.95** | **$18.95 /4** | 4.0 |
| B | 3-A: 40-B:C | 5 | 16.0 | 4.5 | Alum | Wall Hanger | 4T308 | 195 | 13-15 | 12 | PRO5TCM | **5T899** | † | 43.20 | **27.00** | **25.65 /4** | 8.0 |
| C | 4-A:60-B:C | 10 | 21.2 | 5.1 | Steel | Wall Hook | 5T909 | 195 | 17-21 | 20 | PRO10TCM | **4T889** | † | 68.70 | **45.00** | **42.75 /4** | 17.0 |
| C | 10-A:80-B:C | 20 | 21.6 | 7.0 | Steel | Wall Hook | 5T908 | 195 | 20-24 | 20 | PRO20TCM | **5T903** | † | 112.70 | **89.95** | **85.45 /4** | 33.0 |
| **EXCEL LINE DRY CHEMICAL EXTINGUISHERS** | | | | | | | | | | | | | | | | | |
| D | 1-A: 10-B:C | 2.5 | 15.0 | 3.3 | Alum | Nylon Strap | Included | 100 | 8.5-10.5 | 12 | XL2.5TCZ | **4T300** | | 23.30 | **17.06** | **16.21 /4** | 4.0 |
| E | 3-A: 40-B:C | 5 | 16.0 | 4.5 | Alum | Wall Hanger | 4T308 | 195 | 13-15 | 12 | XL5TCZ | **4T301** | † | 38.40 | **28.95** | **27.50 /4** | 8.0 |
| F | 4-A: 60-B:C | 10 | 21.2 | 5.1 | Steel | Wall Hook | 5T909 | 195 | 17-21 | 20 | XL10TCZ | **5T905** | † | 61.20 | **48.95** | **46.50 /4** | 16.0 |
| D | 5-B:C | 2 | 11.0 | 3.2 | Alum | Nylon Strap | Included | 100 | 8.5-10.5 | 12 | FIREWAY5 | **5X662** | | 15.00 | **11.91** | **11.31 /4** | 3.0 |
| D | 10-B:C | 2.75 | 15.0 | 3.3 | Alum | Nylon Strap | Included | 100 | 8.5-10.5 | 12 | XL2.75RZ | **2W091** | | 22.00 | **17.95** | **17.05 /4** | 4.2 |
| F | 60-B:C | 10 | 21.2 | 5.1 | Steel | Wall Hook | 5T909 | 195 | 17-21 | 20 | XL10RZ | **1M792** | | 71.00 | **54.95** | **52.20 /4** | 18.0 |
| **PRO LINE CARBON DIOXIDE FIRE EXTINGUISHERS** | | | | | | | | | | | | | | | | | |
| G | 5-B:C | 5 | 17.3 | 5.3 | Alum | Wall Hook | 5T906 | 850 | 8.5-10.5 | 8 | PRO5CDM | **5T900** | | 159.50 | **119.95** | **113.95 /3** | 13.0 |
| H | 10-B:C | 10 | 19.3 | 7.0 | Alum | Wall Hook | 5T908 | 850 | 8.5-10.5 | 8 | PRO10CDM | **5T901** | | 238.00 | **180.00** | **171.00 /3** | 28.0 |
| H | 10-B:C | 15 | 26.0 | 7.0 | Alum | Wall Hook | 5T908 | 850 | 11-15 | 8 | PRO15CDM | **6T547** | | 269.30 | **200.00** | **190.00 /3** | 37.0 |
| H | 10-B:C | 20 | 26.0 | 8.0 | Alum | Wall Hook | 5T908 | 850 | 11-15 | 8 | PRO20CDM | **6T548** | | 336.00 | **250.00** | **237.50 /3** | 49.0 |

(†) These models exceed Compliance Requirements for 2A10BC fire extinguishers.

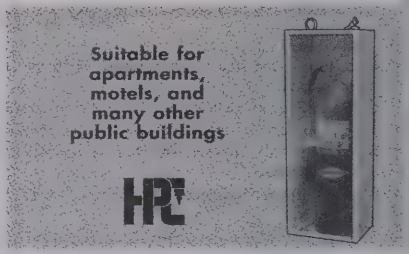
(*) Bracket necessary for USCG approval, see facing page.

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

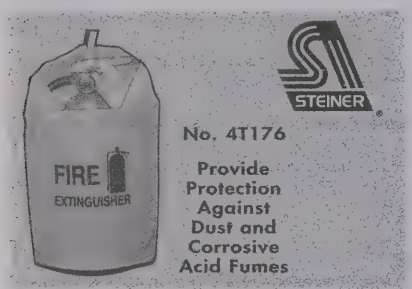
# FIRE EXTINGUISHER CABINETS AND FIRE EQUIPMENT SIGNS

## FIRE EXTINGUISHER CABINETS

**Protect your fire extinguisher** with a surface mount break-plexi glass cabinet. These cabinets are attractive and well constructed. Includes hammer (attached to top of unit), cam lock keyed alike, and "break glass" decal. White baked enamel finish. Safer clean plexiglass pane breaks easier and with fewer small pieces. Four mounting holes. White finish. HPC brand.




| Outside Dimensions (In.) H | W | D | HPC Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **18"** | 8" | 6" | FXC-18 | **3ZV09** | $40.60 | **$35.85** | **$34.05** | 18.0 |
| **22** | 8 | 6 | FXC-22 | **3ZV10** | 43.63 | **38.55** | **36.59** | 20.0 |
| **24** | 10 | 6 | FXC-24 | **3ZV11** | 49.67 | **43.85** | **41.65** | 23.0 |
| **30** | 12 | 9 | FXC-30 | **3ZV12** | 66.43 | **58.65** | **55.71** | 32.0 |




## FIRE EXTINGUISHER COVERS

**Can be used with most types of fire extinguishers.** Heavy-duty clear plastic window with securely stitched vinyl-coated binding on all seams and edges. Flame resistant vinyl-coated fabric is impenetrable by oil and grease. Won't crack, chip or peel. Easily wipes clean with sponge or cloth.

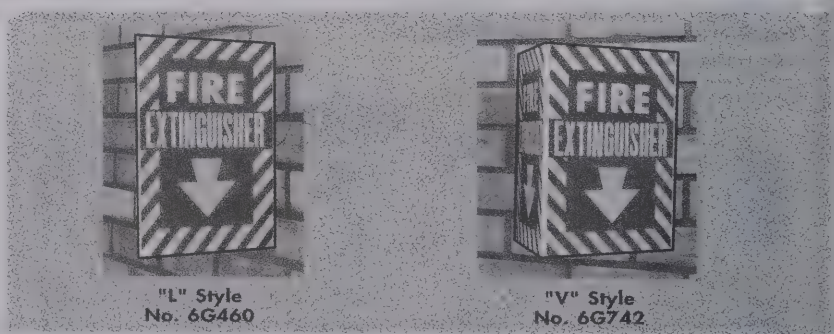
Covers protect valves, fittings and gauges from dust and corrosive acid fumes. Keep extinguishers clean and ready for use. Bright red color provides high visibility and complies with OSHA requirements. Velcro self-adhering nylon fasteners, which overlap in back permit quick and easy removal with a quick jerk of pull handle. Steiner brand.

| Tank Size (Lbs.) | Steiner Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5-10** | XT5WG | **4T176** | $9.20 | **$8.28** | **$7.87** | 0.1 |
| **15-30** | XT8WG | **4T177** | 10.65 | **9.59** | **9.11** | 0.1 |

## HIGH VISIBILITY FIRE EQUIPMENT SIGNS

BRADY

**Create extra awareness** of fire alarm, fire extinguisher and fire hose locations. Signs are printed on both sides so they can be seen by traffic from all directions. Choose from two styles. Signs come predrilled with holes for mounting to walls, columns, etc. "L" style mounts perpendicular to wall. "V" style has V-shape. White on red. 12"x9" size. Polyethylene material. Brady USA brand.




"L" Style
No. 6G460

"V" Style
No. 6G742

| Legend | Style | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Fire Alarm** | L | 70997 | **6G459** | $11.07 | **$10.07** | **$9.06** | 0.2 |
| **Fire Extinguisher** | L | 70998 | **6G460** | 11.07 | **10.07** | **9.06** | 0.2 |
| **Fire Hose** | L | 70999 | **6G461** | 11.07 | **10.07** | **9.06** | 0.2 |
| **Fire Alarm** | V | 96907 | **6G741** | 15.84 | **14.40** | **12.96** | 0.5 |
| **Fire Extinguisher** | V | 96908 | **6G742** | 15.84 | **14.40** | **12.96** | 0.5 |
| **Fire Hose** | V | 96909 | **6G743** | 15.84 | **14.40** | **12.96** | 0.5 |

## SMOKE DETECTOR TESTER

CRC Smoke Test™ Brand Smoke Detector Tester is a smokeless aerosol spray that provides a true functional test for both commercial and residential smoke detectors. Smoke Test does not contaminate or discolor detectors or ceilings, will not damage plastics and won't leave a smoky residue. It increases user safety by extending reach over 4 feet, eliminating use of ladders, stools, or chairs. UL Listed. 6 oz. can, .30 net wt., CRC brand (02105).

***New* No. 3VG75.** Shpg. wt. 0.3 lbs. List.....$6.00.
Each **$5.35**; Lots 12.....**$4.82**



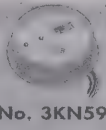
# SMOKE ALARMS

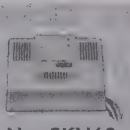
FYRNETICS INC.


No. 3KN54


No. 3KN56


No. 3KN58


No. 3KN59


No. 3KN60


No. 3KN61

New


No. 3KN63

KIDDE SAFETY


No. 3KN55

**Continuous duration piercing 85 decibel horn** alerts the presence of smoke or fire. All models except No. 3KN54 feature single or multiple station capability up to 24 devices (when one alarm sounds, all interconnected alarms sound), quick-disconnect AC-type connector, and separate trim ring to fit all standard electrical box configurations.

All models feature tamper-proof locking pin to deter theft and a bi-lingual owner's manual (English/Spanish). Ionization type detection method with MOS integrated circuit provides maximum stability and minimum power consumption. Complies with UL, Federal Housing Authority, Housing and Urban Development, National Fire Protection Association, and California State Fire Marshal. Fyrnetics brand.

**No. 3KN54. Battery Powered Smoke Alarm.** Test button tests circuitry and horn, red LED light flashes every 30-40 seconds to indicate that smoke alarm is receiving power. Low battery indicator chirps at 30-40 second intervals continuously in the event of a low battery. Features twist-off mounting bracket for easy installation and battery replacement. 9-volt battery included.

**No. 4RR03. Battery Powered Smoke Alarm.** Long life lithium battery (included) provides worry-free protection for up to ten years. Features Hush button to temporarily silence false alarms caused by nuisance smoke from cooking, fireplace or cigarettes. Alarm resets automatically after approximately 7 minutes.

**No. 3KN56. AC 120 Volt Smoke Alarm.** Features 120VAC Wire-In. Test button tests circuitry and horn, red LED alarm light flashes rapidly indicating which unit in multi-station installation is the originating alarm. Green AC power light indicates when 120VAC power is being delivered to alarm.

**No. 3KN57. Double Protection Smoke Alarm.** Features 120VAC wire-in and 9-volt battery back-up. Test button tests circuitry and horn, red LED alarm light flashes rapidly indicating which unit in multi-station installation is the originating alarm. Green AC power light indicates when 120VAC power is being delivered to alarm. In the event of low or absence of alarm battery, low battery indicator chirps at 30-40 second intervals continuously. 9-volt battery included.

**No. 3KN58. Double Protection Smoke Alarm.** Features 120VAC wire-in and 9-volt battery back-up. Test button tests circuitry and horn, red LED alarm light flashes rapidly indicating which unit in multi-station installation is the originating alarm. Green AC power light indicates when 120VAC power is being delivered to alarm. **Features Hush Button** to temporarily silence false alarms caused by nuisance smoke from cooking, fireplace or cigarettes. Alarm resets automatically after approximately 7 minutes. In the event of low or absence of alarm battery, low battery indicator chirps at 30-40 second intervals continuously. 9-volt battery included.

**No. 3KN59. Triple Protection Smoke Alarm.** Features 120VAC wire-in, 9-volt battery back-up and safety light. Safety light automatically turns on when alarm sounds as a guide to safety. Test button tests circuitry and horn, red LED alarm light flashes rapidly indicating which unit in multi-station installation is the originating alarm. Green AC power light indicates when 120VAC power is being delivered to alarm. In the event of low or absence of alarm battery, low battery indicator chirps at 30-40 second intervals continuously. Two 9-volt batteries are included.

**No. 3KN60. Carbon Monoxide Detector.** Features 120VAC wire-in. Test/Reset button to test circuitry, horn and reset detector after alarm is triggered, red alarm light and green "power on" light. Detector monitors CO levels every 2.5 minutes. Low level warning feature emits a low level "beep" at levels less than 60 ppm. Single or multiple station capability up to 24 devices; when one alarm sounds, all interconnected alarms sound. Features originating alarm indicator. No batteries required. UL listed. Fyrnetics brand.

**No. 3KN61. Heat Detector.** Features 120VAC wire-in with 9-volt battery back-up. Piercing 85 decibel horn alerts quickly when room temperature rises above "normal" range (135° fixed temperature). Test button tests circuitry and horn. Green AC power light indicates when 120VAC power is being delivered to heat detector. Single or multiple station capability up to 24 devices; when one alarm sounds, all interconnected alarms sound. Red LED alarm flashes rapidly indicating which unit in multi-station installation is the originating alarm. Low battery indicator chirps when battery is low or absent. Features quick-disconnect 120VAC connector, separate trim ring to fit all standard electrical box configurations and tamper resistant locking pin to deter theft. 9-volt battery included.

Specifications: AC 120VAC, 60 Hz, 80mA, 9V battery back-up. UL Maximum Ambient Temperature at Detector: 100°F; UL Recommended Coverage: 2500 sq. ft.; UL Recommended Spacing: 50 feet; Maximum Distance from Wall: 25 feet. Complies with UL 539, National Fire Protection Association 72.2, and California State Fire Marshal 7254. Fyrnetics brand.

**Hearing Impaired Strobe Lights.** Provides visual alarm to the hearing impaired. Bright 177 candela light is activated when any interconnected smoke, heat, or carbon monoxide alarm is triggered. 60 flashes per minute. Features quick disconnect 120VAC connector, separate trim ring to fit all standard electrical box configurations and tamper proof pin to deter theft. Wall or ceiling mounting. Temperature limits of 32°F to 120°F. Complies with UL 1971, ADA, ANSI 117.1, and National Fire Protection Association 72. Available in 2-Wire Direct Connect model and 3-Wire Interconnect model. Fyrnetics brand.

**No. 3KN62. 2-Wire Direct Connect** unit will connect with any approved interconnectable alarm provided alarm has an approved relay module. Requires relay compatible with brand of alarm to which strobe will be connected. Electrical rating is 120VAC, 60 Hz, 500mA when operating.

**No. 3KN63. 3-Wire Interconnect** unit will interface directly with Nos. 3KN56, 3KN57, 3KN58, and 3KN59 Smoke Alarms, No. 3KN60 CO Detector, and No. 3KN61 Heat Detector. Electrical rating is 120VAC, 60 Hz, 80mA standby-580mA when operating.

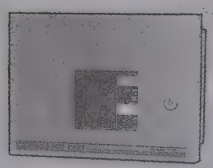
**No. 3KN55. Relay Module.** For use in conjunction with Fyrnetics 120VAC Multiple Station Smoke Alarms, CO Detectors, Heat Detectors, and Hearing Impaired Strobe Lights to activate auxiliary warning devices such as external sirens and bells, or to activate hallway and stairwell lighting. Fyrnetics brand.

Specifications: 120VAC, 60 Hz, 0.08 amp. Relay contacts: 1 isolated form "C" set (SP DT, No. Com. & Nc). 10 amps at 120VAC, 5 amps at 30 volts DC. Connection means: 10" 18 ga. pigtail leads (6 pieces). Dimensions: 3"L x 1.7"W x 0.7" thick.

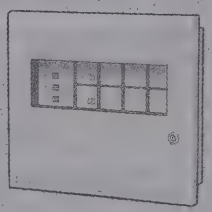
| Description | Power | Battery Backup | Humidity Range | Oper. Temperature Range | Model No. | | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Battery Powered Smoke Alarm | 9-volt Battery | — | 5-95% R.H. | 40° to 100°F | 0915E | | 3KN54 | $15.95 | $9.83 | $9.34 | 1.0 |
| Battery Powered Smoke Alarm | Long Life-Lithium | — | 5-95% R.H. | 40° to 100°F | 0916LLE | New | 4RR03 | 24.95 | 19.95 | 18.95 | 1.0 |
| Relay Module | 120VAC Wire-In | — | — | — | 120X | | 3KN55 | 37.15 | 24.89 | 23.65 | 0.2 |
| 120VAC Smoke Alarm | 120VAC Wire-In | No | 5-95% R.H. | 40° to 100°F | 1235E | | 3KN56 | 20.95 | 12.63 | 12.00 | 0.5 |
| Double Protection Smoke Alarm | 120VAC Wire-In | Yes (9-volt) | 5-95% R.H. | 40° to 100°F | 1275E | | 3KN57 | 33.45 | 20.17 | 19.16 | 1.0 |
| Double Protection Smoke Alarm | 120VAC Wire-In | Yes (9-volt) | 5-95% R.H. | 40° to 100°F | 1275EH | | 3KN58 | 34.25 | 22.95 | 21.80 | 1.0 |
| Triple Protection Smoke Alarm | 120VAC Wire-In | Yes (9-volt) | 5-95% R.H. | 40° to 100°F | 1285 | | 3KN59 | 39.45 | 26.45 | 25.13 | 1.0 |
| Carbon Monoxide Detector | 120VAC Wire-In | No | — | — | FYCO-3INE | | 3KN60 | 59.95 | 40.20 | 38.19 | 1.2 |
| Heat Detector | 120VAC Wire-In | Yes (9-volt) | — | — | HD135F | | 3KN61 | 34.95 | 23.42 | 22.25 | 1.0 |
| Hearing Impaired Strobe Light, 2-Wire Direct Connect | 120VAC Wire-In | No | — | 32° to 120°F | SL177 | | 3KN62 | 90.95 | 68.25 | 64.84 | 1.0 |
| Hearing Impaired Strobe Light, 3-Wire Interconnect | 120VAC Wire-In | No | — | 32° to 120°F | SL177I | | 3KN63 | 92.95 | 69.75 | 66.26 | 1.0 |

# FIRE ALARM CONTROL PANELS

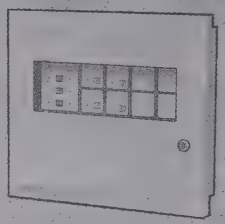
California State Fire Marshal (CFM) Approved



No. 1P013
One Zone
Control Panel



No. 1P011
Two Zone
Control Panel



No. 1P009
Four Zone
Control Panel



No. 1P007
Eight Zone
Control Panel

- Separate alarm & trouble indicators
- Form C alarm and trouble contacts
- Built-in high voltage transient protection
- Lightning protection
- Ground fault detection
- 24V regulated DC auxiliary power for two to eight zones
- Filtered power source is resettable for use with 4-wire smoke detectors
- Field programmable signal circuits
- Low/no AC power and battery detection
- Built-in battery charger
- Separate indicators for power ON, trouble signal silenced and alarm signal silenced
- Signal silencing is field programmable
- Power limited Class B alarm initiating and signaling circuits, convertible to Class A in two, four and eight zone panels
- Surface mounted
- City-Tie Module optional for all control panels

**Fire Alarm Control Panels** are designed for use in buildings that require a supervised fire alarm system for up to eight zones. Meets all performance and operational requirements of UL standard 864 and National Fire Protection Association Standard 72. Complete with back box, control switches and indicator LED's. Standby battery must be added to operate the control panel and in case of power failure—order separately, see "Accessories" below. Red finish. Edwards brand.

## ORDERING REFERENCE

1. Determine number of zones in area to be monitored (i.e.,one per floor).
   a. Select appropriate Control Panel.
2. Choose type and number of Initiating (Input) Devices.
   a. Add total electrical *standby current* requirements for all input devices. (Total *input standby current* must not exceed Control Panel's maximum of 1500 microamps).
3. Choose type and number of Signaling (Output) Devices.
   a. Add total electrical *alarm current* requirements for all output devices. (Total *alarm current* must not exceed Control Panel's maximum of 2.5A per zone or 4.0A for panel, 1.5A for No. 1P013).
4. Determine if City Tie Module is required to signal remote location (i.e., fire dept., police dept., security service,etc.).

**NOTE:** Although the installation and wiring procedures for these components may be similar to other electrical products, certain jurisdictions require Fire Alarm Systems, or components used therein, be installed, tested, certified, serviced or repaired by licensed personnel. Prior to Fire Alarm installation, it is strongly recommended you contact the local Fire Marshal with jurisdictional responsibility to determine all applicable code requirements.

## CONTROL PANELS SPECIFICATIONS AND ORDERING DATA

| Number of 2-Wire (Class B) Circuits Initiating (Input) | Signaling (Output) | Dimensions (In.) H | W | L | Edwards Model | Stock No.* | List | Each | Lot 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 13.5 | 3.5 | 12.3 | 2411-R | **1P013** | $428.40 | **$300.00** | **$284.89** | 13.0 |
| 2 | 2 | 13.5 | 2.75 | 15.5 | 2412-R | **1P011** | 530.00 | **371.00** | **352.45** | 15.0 |
| 4 | 2 | 13.5 | 2.75 | 15.5 | 2414-R | **1P009** | 702.50 | **491.75** | **467.16** | 15.0 |
| 8 | 2 | 14.5 | 2.75 | 22.0 | 2418-R | **1P007** | 1004.00 | **703.00** | **667.66** | 20.0 |

(*) All units operating with a supply voltage of 120VAC @ 3.5A.

## ACCESSORIES FOR CONTROL PANELS

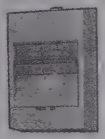
| Description | Dimensions (In.) W | H | D | For Use With Control Panel | No. Required | Edwards Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 Volt, 4 Amp HR Battery | 5.9 | 3.7 | 2.6 | 1P013 | 2 | 12V4A | **1P029** | $65.35 | **$45.75** | **$43.46** | 4.5 |
| 12 Volt, 6.5 Amp HR Battery | 5.9 | 3.7 | 2.6 | 1P011, 1P009 | 2 | 12V6A5 | **1P027** | 74.25 | **52.00** | **49.38** | 6.0 |
| 6 Volt, 8 Amp HR Battery | 3.9 | 4.7 | 2.2 | 1P007 | 4 | 6V8A | **1N972** | 54.00 | **37.80** | **35.91** | 3.5 |
| City-Tie Module | — | — | — | 1P011, 1P009, 1P007 | 1 | 2400-RCT | **1P015** † | 92.40 | **64.70** | **61.45** | 0.3 |

(†) Configurable relay which may be field configured with the use of jumpers to act as a shunt connection, local energy master box or reverse polarity.

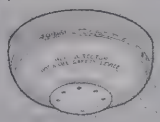
# FIRE ALARM SYSTEM COMPONENTS



No. 1N982



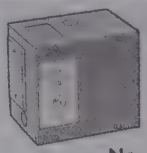
No. 1N980



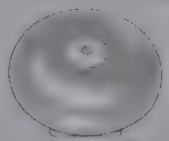
No. 1N978



No. 1P005



No. 1N966



No. 1N974

## INITIATING (INPUT) DEVICES

### FIRE ALARM STATIONS Nos. 1N982 and 1N980

- STANDBY CURRENT: 0 micro amps
- Output Rating: 3A/120 VAC (No. 1N982), 3A/30 VAC (No. 1N980), SPST-N.O. (No. 1N982), 2 SPST-N.O. (No. 1N980)
- No. 1N982 is die cast with red and silver finish. Mounts on a 4" square single gang electrical box
- No. 1N980 is molded lexan plastic with red finish. Mounts on a 4" square single gang electrical box
- No. 1N982 is Break Glass Type
- No. 1N980 is Pull Handle Type

### HEAT DETECTORS Nos. 1N978 and 1N976

- STANDBY CURRENT: 0 micro amps
- Output Rating: SPST-N.O. 3A @ 125 VAC
- Coverage: 2500 sq. ft., 50 ft. spacing
- Surface mount • Factory Mutual (FM) Approved
- No. 1N978 has combination fixed temperature and rate-of-rise. Activates at 135°F or with a temperature rise exceeding 15° per minute
- No. 1N976 has fixed temperature and activates at 194°F

### SMOKE DETECTORS Nos. 1P005, 1P003 and 1P001

No. 1P005 Ionization Type:

- STANDBY CURRENT: 30 micro amps
- Senses airborne combustion particles
- For use where smoke or flames may be minimal
- Coverage: 900 sq. ft., 30 ft. spacing

No. 1P003 Photoelectric Type:

- STANDBY CURRENT: 50 micro amps
- Senses dark, thick smoke or larger flames
- Coverage: 900 sq. ft., 30 ft. spacing

No. 1P001 Photoelectric Type with Heat Detector:

- STANDBY CURRENT: 50 micro amps
- Heat detector operates at 135°F
- Coverage: 900 sq. ft., 30 ft. spacing

### DUCT SMOKE DETECTOR No. 1N996

- STANDBY CURRENT: 100 micro amps
- Activates when combustion particles exceed 2.3% per ft.
- Air Velocity Range: 300 to 4000 FPM
- Includes housing, detector, and test switch

### SMOKE SAMPLING TUBE No. 1N998

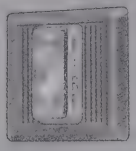
- 6½ ft. sampling tube for shorter distances, trim to size

| Description | Edwards Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Fire Alarm Station | 270-SPO | 1N982 | $58.00 | $40.60 | $38.57 | 0.5 |
| Fire Alarm Station | 278B-1110 | 1N980 | 53.50 | 37.45 | 35.58 | 0.8 |
| Heat Detector | 281B-PL | 1N978 | 28.15 | 19.71 | 18.72 | 0.6 |
| Heat Detector | 284B-PL | 1N976 | 28.15 | 19.71 | 18.72 | 0.6 |
| Smoke Detector | 2420 | 1P005 | 99.95 | 70.00 | 66.47 | 1.0 |
| Smoke Detector | 2430 | 1P003 | 102.75 | 71.95 | 68.33 | 1.0 |
| Smoke Detector | 2432B | 1P001 | 104.15 | 72.95 | 69.26 | 1.0 |
| Duct Smoke Detector | 2435P | 1N996 | 214.00 | 149.80 | 142.31 | 5.5 |
| Smoke Sampling Tube | 2435-006 | 1N998 | 20.25 | 14.18 | 13.47 | 2.0 |

EDWARDS



No. 1N992



Nos. 1N986 & 1N988



Nos. 1N984 & 1N990

## SIGNALING (OUTPUT) DEVICES

### FIRE ALARM BELL No. 1N974

- ALARM CURRENT: 0.085A at 24VDC
- 6" vibrating bell, red finish
- Mounting plate included

### FIRE ALARM STROBES Nos. 1N992 and 1N994

- ALARM CURRENT: 0.185A (No. 1N992), 0.34A (No. 1N994) at 24VDC
- Indoor/outdoor use, red finish
- Flashes once per second
- 15/75 candela flash for No. 1N992
- 110 candela flash for No. 1N994

### FIRE ALARM HORN No. 1N990

- ALARM CURRENT: 0.040A max at 24VDC
- High Energy, 104 peak dBA output
- Choice of continuous or temporal (On-Off) Mode

### FIRE ALARM HORNS & STROBES Nos. 1N986 and 1N988

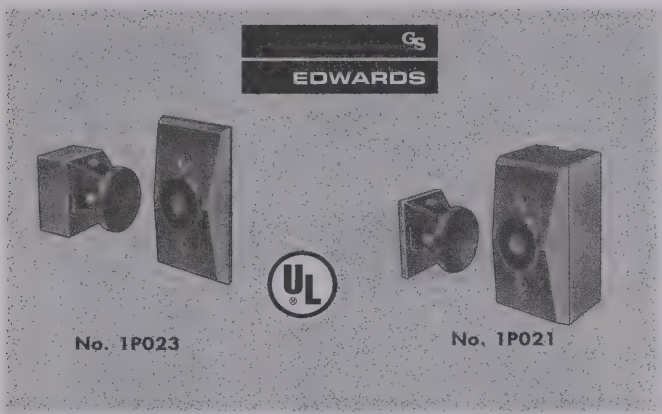
- ALARM CURRENT: 0.225A (No. 1N986), 0.380A (No. 1N988) at 24VDC
- Combination 102 peak dBA horn and 15 (No. 1N986) or 110 (No. 1N988) candela strobe
- Choice of continuous or temporal (On-Off) Mode for horn

### FIRE ALARM CHIME No. 1N984

- ALARM CURRENT: 0.012A at 24VDC
- 70 dBA output

| Description | Edwards Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Fire Alarm Bell | 439-6AW-R | 1N974 | $68.25 | $47.80 | $45.39 | 3.0 |
| Fire Alarm Strobe | 2440S-15/75-R | 1N992 | 72.25 | 50.60 | 48.05 | 0.5 |
| Fire Alarm Strobe | 2440S-110-R | 1N994 | 74.25 | 52.00 | 49.38 | 0.5 |
| Fire Alarm Horn | 2447TH-R | 1N990 | 60.25 | 42.20 | 40.07 | 1.0 |
| Fire Alarm Horn & Strobe | 2452THS-15/75-R | 1N986 | 103.95 | 72.80 | 69.13 | 1.0 |
| Fire Alarm Horn & Strobe | 2452THS-110-R | 1N988 | 103.95 | 72.80 | 69.13 | 1.0 |
| Fire Alarm Chime | 2455C-R | 1N984 | 84.50 | 59.15 | 56.19 | 1.0 |

# FIRE ALARM DOOR SUPERVISORS

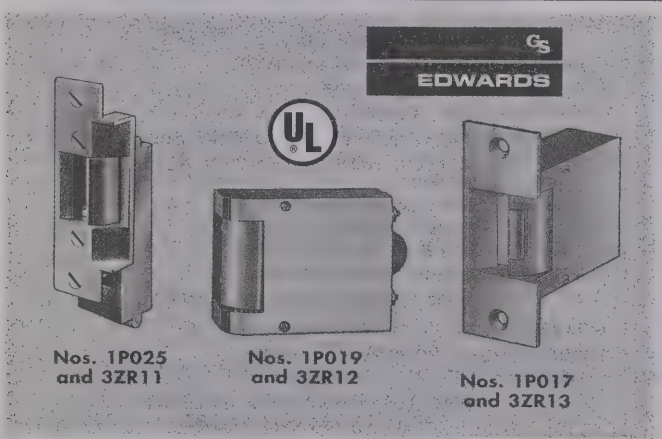



## ELECTROMAGNETIC DOOR HOLDERS

- Holds door open until deactivated, then releases
- Can be operated by fire alarm control panels on page 2358
- 25 lbs. minimum holding force
- Swiveled contact plate adjusts to any door angle
- Brushed zinc housing
- Factory Mutual (FM) Approved
- UL Listed

### DOOR HOLDERS SPECIFICATIONS AND ORDERING DATA

| Type | Volts | Amps | Edwards Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Flush Mounted** | 120 AC | 0.2A | 1504-N5 | **1P023** | $142.00 | **$99.40** | **$94.43** | 2.5 |
| **Surface Mounted** | 120 AC | 0.2A | 1508-N5 | **1P021** | 148.75 | **104.15** | **98.92** | 3.0 |




## ELECTRIC DOOR OPENERS

- Keeps door locked until actuated, then releases lock so door can open
- Mortise units are installed in place of the regular door strike plate
- Nos. 1P017 and 3ZR13 mortise units have roller nosing for smooth operation, withstand 35 lbs. nosing pressure
- Nos. 1P019 and 3ZR12 rim units install on door facing, operate with 5 lb. nosing pressure
- Recommended transformer if needed is No. 4X744, see General Catalog Index
- UL Listed

### DOOR OPENERS SPECIFICATIONS AND ORDERING DATA

| Type | Input Volts | Amps | Finish | Max. Dimensions (In.) H | W | D | Edwards Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mortise** | 24 VDC<br>24 VAC | 0.20<br>0.12 | Painted Brass Face Plate, Chrome Nosing | 4 7/8* | 1 5/8* | 1 9/16 | 150-G1<br>150-G5 | **1P025**<br>**3ZR11** | $113.00<br>113.00 | **$79.10**<br>**79.10** | **$75.15**<br>**75.15** | 0.9<br>1.0 |
| **Mortise** | 24 VDC<br>24 VAC | 0.30<br>0.40 | Painted Brass Face Plate, and Nosing | 3 3/8* | 1 1/4* | 2 11/16 | 154-G1<br>154-G5 | **1P017**<br>**3ZR13** | 76.50<br>76.50 | **53.55**<br>**53.55** | **50.87**<br>**50.87** | 0.8<br>1.0 |
| **Rim** | 24 VDC<br>24 VAC | 0.30<br>0.40 | Brass Nosing | 2 | 1 3/16 | 3 1/16 | 152-G1<br>152-G5 | **1P019**<br>**3ZR12** | 73.10<br>73.10 | **51.20**<br>**51.20** | **48.61**<br>**48.61** | 0.7<br>0.8 |

(*) Face plate.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# CARBON MONOXIDE (CO) DETECTORS AND CARBON DIOXIDE($CO_2$) DETECTOR

## CARBON MONOXIDE DETECTOR

- **Digital Readout: Continuous digital display of all CO levels from 0-999 ppm.**
- **Test/Reset Button: Depress to test unit's electronics. Depress to silence sounder alarm.**
- **Peak Level Button: Depress to recall highest CO level detector has recorded since unit was last reset.**
- **9V Battery Back-up: In the event of a power outage, the battery back-up will operate the unit for up to twelve (12) hours.**
- **Sensor: Highly sensitive and accurate metal dioxide sensor. Samples air every 2.5 minutes and updates digital reading. Never needs replacing.**
- **85db Sounder Alarm: Unit sounds a loud alarm if it senses high CO levels.**
- **Pullout Adapter: Exclusive pullout adapter allows user multiple installation possibilities as follows: direct plug, mounted on a wall, or on a tabletop by pulling out stand on back of unit.**
- **Temperature operating Range: 10°C (14°F) to 40°C (140°F).**
- **Power: 120 VAC units.**
- **UL 2034 Listed. 5 year limited warranty.**
- **NightHawk brand (900-0071).**

**No. 5U747.** Shpg. wt. 1.2 lbs. List $92.00. Each.....$49.95▲

## HARDWIRE CARBON MONOXIDE DETECTOR

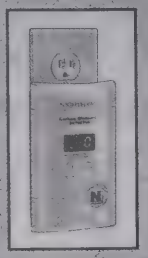
- **Designed for hardwire installation instead of plug-in. Suitable for new construction or remodeling.**
- **Features digital readout, test/reset and peak level buttons.**
- **Easily mounts to standard junction box.**
- **Mounting plate and hardware included.**
- **UL 2034 Listed. 5 year limited warranty.**
- **NightHawk brand (900-0026).**

**No. 5U748.** Shpg. wt. 1.2 lbs. List $84.00. Each.....$49.50▲

(▲) Net prices, not subject to discounts.

NIGHTHAWK by KIDDE

No. 5U747 NightHawk™ CO Detector



Direct Plug



Wall Mount

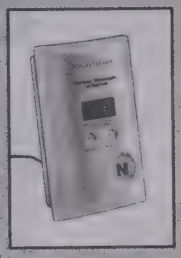
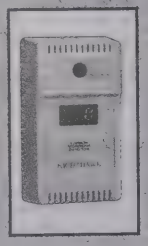
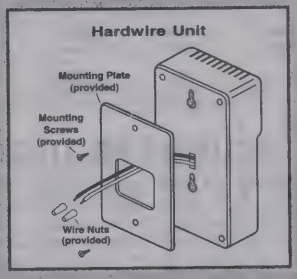


Table Top



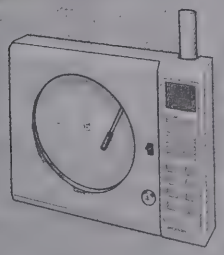
No. 5U748 Hardwire Carbon Monoxide Detector




No. 5U748

## CARBON DIOXIDE DETECTOR

**DICKSON**
*The Leader In Recorders*



No. 4B369

Measures carbon dioxide in PPM and documents the readings on a circular chart. Ideal for checking building ventilation levels to monitor indoor air quality. Keypad and dip switches set recording parameters, changeable as often as needed. Portable and easy-to-use.

- **Sensor: Non-dispersive infrared**
- **Accuracy (type.): 5% of full scale (0-2000)**
- **Allows choice of rotation time (1 or 7-day) and carbon dioxide range 0-1100 PPM or 0-2200 PPM**
- **User calibration**
- **15-min. warm-up time, average**
- **Power supply: 120V AC**
- **Features high/low audio-visual alarm**
- **Includes pen and one box of 100 charts (0-2200/7 day)**
- **Dickson brand ($CO_2$X)**
- **Dimensions: 10.5H x 13.2W x 2.8"D**

**No. 4B369.** Shpg. wt. 7.0 lbs.
Each.....$979.00

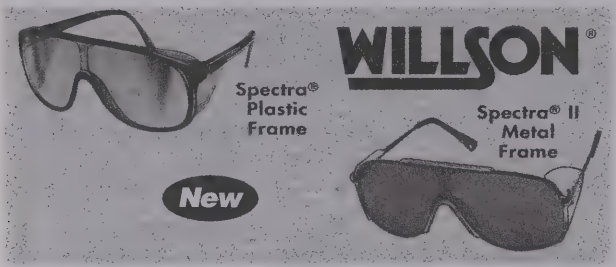
### CHART REPLACEMENT PAPER FOR No. 4B369 DETECTOR

| Range | Size (In.) | Time | Dickson Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 0-2200 | 8 | 7 day | C419 | 4B370 | $17.00 ▲ | 1.0 |
| 0-2200 | 8 | 1 day | C404 | 4B372 | 17.00 ▲ | 1.0 |
| 0-2200 | 8 | 7 day | C418 | 4B371 | 17.00 ▲ | 1.0 |
| 0-1100 | 8 | 1 day | C402 | 4B373 | 17.00 ▲ | 1.0 |

VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

## SPECTRA® AND SPECTRA® II PROTECTIVE EYEWEAR




**Comfortable, good looking, protective eyewear.** Replaceable polycarbonate unitary lenses protect against 100% UV rays as defined by ANSI. Special frame design and antiscratch coating protect lens. Lightweight with adjustable temples. Wide angle lens for improved field of vision. Meets ANSI Z87.1-1989 and CSA Z94.3-1992 standards. TSR® gray and double gradient mirror lenses meet color traffic signal recognition requirements of ANSI Z80.3. Fogban anti-fog coating resists humidity, heat and cold. Fog resistant properties maintained after cleanings. Willson brand.

**Spectra and Spectra Small**—Caramel plastic frames with close-fitting permanent sideshields.

**Spectra II**—Black metal frames with removable sideshields.

### SPECIFICATIONS AND ORDERING DATA

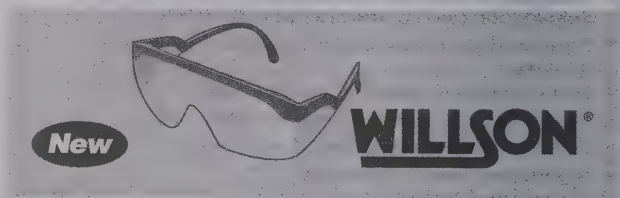
| SPECTRA (134 mm) EYEWEAR | | | | | | | SPECTRA II (134 mm) EYEWEAR | | | | | | 134 mm REPLACEMENT LENSES† | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lens Color | Willson Model | | Stock No. | List | Each | Lots 12 | Shpg. Wt. | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
| Clear | SP001 | | 4T390 | $6.93 | $5.81 | $5.52 | 0.1 | SM001 | 5T370 | $17.09 | $16.23 | $15.42 | 0.1 | SR001 | 4T395 | $3.97 | $3.77 | $3.59 | 0.1 |
| TSR® Gray | SP002 | | 4T391 | 7.90 | 7.51 | 7.14 | 0.1 | SM002 | 5T371 | 18.09 | 17.19 | 16.33 | 0.1 | SR002 | 4T396 | 4.45 | 4.23 | 4.02 | 0.1 |
| Clear Fogban | 6320G | *New* | 4RF04 | 7.32 | 6.96 | 6.61 | 0.1 | — | — | — | — | — | — | — | — | — | — | — | — |
| TSR® Gray Fogban | 6321G | *New* | 4RF05 | 8.51 | 8.08 | 7.67 | 0.1 | — | — | — | — | — | — | — | — | — | — | — | — |
| Mirrored | — | | — | — | — | — | — | SM006 | 5T372 | 20.18 | 19.17 | 18.21 | 0.1 | — | — | — | — | — | — |

(†) Will fit either Spectra or Spectra II frames.

| SPECTRA SMALL (125 mm) EYEWEAR | | | | | | | 125 mm REPLACEMENT LENSES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lens Color | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
| Clear | SP011 | 5AN97 | $6.93 | $6.60 | $6.26 | 0.1 | SR011 | 5AG41 | $3.97 | $3.77 | $3.59 | 0.1 |
| TSR™ Gray | SP012 | 6AC64 | 7.90 | 7.51 | 7.14 | 0.1 | SR012 | 3AF50 | 4.45 | 4.23 | 4.02 | 0.1 |

## ECLIPSE® PROTECTIVE EYEWEAR

Lightweight, tough nylon frame comes in two sizes for a comfortable fit. Replaceable polycarbonate lens has scratch-resistant coating. Contoured design and sideshields offer wide field of vision. Meets ANSI Z87.1-1989 and CSA Z94.3-1992 standards. TSR™ gray and silver double gradient mirror lenses meet color traffic signal recognition requirements of ANSI Z80.3. Indoor/outdoor coated lens for changing light conditions. Reduces glare from artifical and natural light. Willson brand.




### SPECIFICATIONS AND ORDERING DATA

| ECLIPSE EYEWEAR | | LARGE SIZE—138 mm | | | | | | REGULAR/SMALL SIZE—131 mm | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lens Color | Frame Color | Willson Model | | Stock No. | List | Each | Lots 12 | Shpg. Wt. | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
| Clear | Black | SP037 | | 3AD13 | $6.18 | $5.87 | $5.58 | 0.1 | SP057 | 2AM21 | $6.18 | $5.87 | $5.58 | 0.1 |
| | Blue | SP047 | | 6AX37 | 6.18 | 5.87 | 5.58 | 0.1 | SP067 | 5AH59 | 6.18 | 5.87 | 5.58 | 0.1 |
| | Burgundy | SP042 | | 6AD92 | 6.18 | 5.87 | 5.58 | 0.2 | SP062 | 5AC88 | 6.18 | 5.87 | 5.58 | 0.1 |
| TSR™ Gray | Black | SP038 | | 2AC69 | 6.84 | 6.51 | 6.18 | 0.1 | SP058 | 1BZ96 | 6.84 | 6.51 | 6.18 | 0.1 |
| | Blue | SP048 | | 2AM54 | 6.84 | 6.51 | 6.18 | 0.1 | SP068 | 1BZ90 | 6.84 | 6.51 | 6.18 | 0.1 |
| | Burgundy | SP043 | | 3AC83 | 6.84 | 6.51 | 6.18 | 0.1 | SP063 | 1BZ93 | 6.84 | 6.51 | 6.18 | 0.1 |
| Silver Mirror | Black | SP039 | | 6AK77 | 10.02 | 9.52 | 9.05 | 0.1 | SP059 | 1BZ95 | 10.02 | 9.52 | 9.05 | 0.1 |
| | Blue | SP049 | | 6AW74 | 10.02 | 9.52 | 9.05 | 0.1 | SP069 | 1BZ89 | 10.02 | 9.52 | 9.05 | 0.1 |
| | Burgundy | SP044 | | 3AL26 | 10.02 | 9.52 | 9.05 | 0.1 | SP064 | 1BZ92 | 10.02 | 9.52 | 9.05 | 0.1 |
| Silver Mirror Indoor/Outdoor | Black | SP110G | *New* | 4RF06 | 9.39 | 8.93 | 8.48 | 0.1 | SP111G | *New* 4RF07 | 9.39 | 8.93 | 8.48 | 0.1 |

| REPLACEMENT LENSES | LARGE SIZE—138 mm | | | | | | REGULAR/SMALL SIZE—131 mm | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lens Color | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
| Clear | SR021 | 5AX90 | $2.74 | $2.60 | $2.47 | 0.1 | SR029 | 5AZ40 | $2.74 | $2.60 | $2.47 | 0.1 |
| TSR™ Gray | SR022 | 2AZ10 | 3.08 | 2.93 | 2.77 | 0.1 | SR030 | 1BZ47 | 3.08 | 2.93 | 2.77 | 0.1 |
| Silver Mirror | SR023 | 2AF72 | 6.84 | 6.51 | 6.18 | 0.1 | SR031 | 1BZ46 | 6.84 | 6.51 | 6.18 | 0.1 |

**WARNING: All tinted lenses decribed on this page are not designed for burning, cutting, welding, furnace or molten metal operations, or any other operation which exposes the eyes to harmful levels of ultraviolet and infrared radiation. Tinted lense should not be worn indoors unless called for by nature of application.**

# UVEX ASTROSPEC 3000® PROTECTIVE EYEWEAR

- **Eyewear meets ANSI Z87.1-1989 and CSA Z94.3-1992 Requirements**
- **Gray lens also meets Z80.3 Sunglass Requirements**
- **Feature nylon frames with adjustable temple length**

Protective eyewear for most industrial and construction needs. Polycarbonate, unitary lens absorbs more than 99% of ultraviolet light. Feature universal nosebridge, adjustable lens angle and lens replacement. Also available in slim size. Meet ANSI Z87.1-1989 and CSA Z94.3-1992. Gray lens also meets Z80.3 sunglass requirements. Uvex brand.

**Uvextreme® AF Coating**—Permanently bonded coating that is anti-fog, anti-scratch and anti-static. Provides more than 99% protection from ultraviolet radiation.

**Ultradura® Scratch-Resistant Coating (UD)**—Permanently bonded silicate-based coating with scratch-resistance is also resistant to a wide range of chemicals.

**SCT® Gray Lens**—Absorbs more than 99.9% of ultraviolet light and depresses blue light transmission from 400-500 nm for long-term outdoor exposure or shortburst arc radiation. Maintains optimal color recognition.

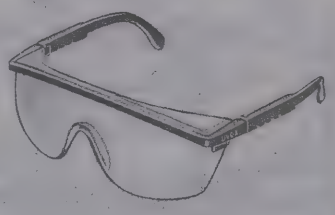
**SCT® Vermilion Lens**—Absorbs blue portion of spectrum to enhance detail and contrast. Aids in inspection and reduces eye fatigue.

**Infradura® Welding Lens (ID)**—For protection against ultraviolet and infrared radiation. Provides filtration requirements outlined in ANSI Z87.1-1989. Available in 3.0 and 5.0 welding shades.

**UVEX LIFETIME ASTROSPEC FRAME WARRANTY**

Text of warranty available upon request, see page opposite inside back cover.

**Replacement Parts Available 1-800-323-0620**



- **Registered to ISO 9001**

## UVEX ASTROSPEC 3000® PROTECTIVE EYEWEAR

| Frame Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **CLEAR UVEXTREME® AF LENS** | | | | | | **CLEAR UD LENS** | | | | | | **GRAY UD LENS** | | | | | |
| **Black** | S1359C | **6T270†** | $8.88 | **$6.39** | **$6.07** | 0.2 | S135 | **3KJ41** | $8.15 | **$6.52** | **$6.19** | 0.2 | S1369 | **6T274†** | $9.38 | **$6.75** | **$6.41** | 0.2 |
| **Blue** | S1299C | **6T271†** | 8.88 | **6.39** | **6.07** | 0.2 | S129 | **3KJ40** | 8.15 | **6.52** | **6.19** | 0.2 | S1309 | **6T275†** | 9.38 | **6.75** | **6.41** | 0.2 |
| **Red** | S1435C | **5AK31** | 8.65 | **6.35** | **6.03** | 0.2 | S1435 | **3KM89** | 8.15 | **6.52** | **6.19** | 0.2 | S1436 | **4AV78** | 9.15 | **6.70** | **6.37** | 0.2 |
| **Yellow/Black** | S1419C | **6T272†** | 8.88 | **6.39** | **6.07** | 0.2 | S141 | **3KL97** | 8.15 | **6.52** | **6.19** | 0.2 | S1429 | **6T276†** | 9.38 | **6.75** | **6.41** | 0.2 |
| **Purple/Green** | S138C | **5AF41** | 8.65 | **6.35** | **6.03** | 0.2 | S138 | **3KJ42** | 8.15 | **6.52** | **6.19** | 0.2 | S139 | **5AZ79** | 9.15 | **6.70** | **6.37** | 0.2 |
| **Patriot** | S1169C | **6T273†*** | 8.88 | **6.39** | **6.07** | 0.2 | S1169 | **3KJ39†*** | 8.40 | **6.72** | **6.38** | 0.2 | S1179 | **6T277†*** | 9.38 | **6.75** | **6.41** | 0.2 |
| **Camouflage** | S14900C | **3KM90** | 13.00 | **10.40** | **9.88** | 0.2 | S14900 | **3KM91** | 12.50 | **10.00** | **9.50** | 0.2 | S14901 | **3KM92** | 13.50 | **10.80** | **10.26** | 0.2 |
| **Replacement Lens** | S535C | **6T278** | 4.65 | **3.33** | **3.16** | 0.1 | S535 | **3KN11** | 4.15 | **3.32** | **3.15** | 0.1 | S536 | **6T279** | 4.90 | **3.51** | **3.33** | 0.1 |
| | **MIRROR UD LENS** | | | | | | **AMBER UD LENS** | | | | | | | | | | | |
| **Black** | S1379 | **3AV11†** | 13.38 | **10.70** | **10.17** | 0.2 | S145 | **6AV99** | 9.15 | **7.30** | **6.94** | 0.2 | — | — | — | — | — | — |
| **Blue** | S1319 | **6AZ38†** | 13.38 | **10.70** | **10.17** | 0.1 | — | — | — | — | — | — | — | — | — | — | — | — |
| **Red** | S1437 | **2AX87** | 13.15 | **10.50** | **9.98** | 0.2 | — | — | — | — | — | — | — | — | — | — | — | — |
| **Yellow/Black** | S1439 | **6AL73†** | 13.38 | **10.70** | **10.17** | 0.1 | — | — | — | — | — | — | — | — | — | — | — | — |
| **Purple/Green** | S140 | **2AX63** | 13.15 | **10.50** | **9.98** | 0.1 | — | — | — | — | — | — | — | — | — | — | — | — |
| **Patriot** | S1149 | **5AR76†*** | 13.38 | **10.70** | **10.17** | 0.2 | — | — | — | — | — | — | — | — | — | — | — | — |
| **Camouflage** | S14903 | **3KM93** | 17.50 | **14.00** | **13.30** | 0.1 | — | — | — | — | — | — | — | — | — | — | — | — |
| **Replacement Lens** | S538 | **6T544** | 9.15 | **7.30** | **6.94** | 0.1 | S537 | **3AD90** | 4.90 | **3.90** | **3.71** | 0.1 | — | — | — | — | — | — |
| | **SCT® GRAY UD LENS** | | | | | | **3.0 ID UD LENS** | | | | | | | | | | | |
| **Black** | S1361 | **5AH17** | 9.65 | **7.70** | **7.32** | 0.2 | S1111C | **3AX39** | 13.15 | **10.50** | **9.98** | 0.2 | — | — | — | — | — | — |
| **Replacement Lens** | S541 | **5AV09** | 5.65 | **4.50** | **4.28** | 0.1 | S542C | **5AW94** | 9.15 | **7.30** | **6.94** | 0.1 | — | — | — | — | — | — |
| | **SCT® VERMILION UVEXTREME® AF LENS** | | | | | | **5.0 ID UD LENS** | | | | | | | | | | | |
| **Black** | S1362C | **2BC78** | 9.65 | **7.70** | **7.32** | 0.2 | S1112C | **3AF26** | 14.40 | **11.50** | **10.93** | 0.2 | — | — | — | — | — | — |
| **Replacement Lens** | S539 | **3AW33** | 5.65 | **4.50** | **4.28** | 0.1 | S543C | **6AG16** | 10.40 | **8.30** | **7.89** | 0.1 | — | — | — | — | — | — |

## UVEX ASTROSPEC 3000® (SLIM) PROTECTIVE EYEWEAR

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **CLEAR UVEXTREME® AF LENS** | | | | | | **CLEAR UD LENS** | | | | | | **GRAY UD LENS** | | | | | |
| **Black** | S2700C | **1D557** | 8.65 | **6.90** | **6.56** | 0.1 | S2700 | **3KN03** | 8.15 | **6.52** | **6.19** | 0.2 | S2701 | **1D556** | 9.15 | **7.30** | **6.94** | 0.2 |
| **Blue** | S2710C | **1D555** | 8.65 | **6.90** | **6.56** | 0.2 | S2710 | **3KN04** | 8.15 | **6.52** | **6.19** | 0.2 | S2711 | **1D554** | 9.15 | **7.30** | **6.94** | 0.2 |
| **Yellow/Black** | S2720C | **1D553** | 8.65 | **6.90** | **6.56** | 0.2 | S2720 | **3KN05** | 8.15 | **6.52** | **6.19** | 0.2 | S2721 | **1D552** | 9.15 | **7.30** | **6.94** | 0.2 |
| **Purple/Green** | S2740C | **1D547** | 8.65 | **6.90** | **6.56** | 0.1 | S2740 | **3KN07** | 8.15 | **6.52** | **6.19** | 0.2 | S2741 | **1D546** | 9.15 | **7.30** | **6.94** | 0.2 |
| **Patriot** | S2730C | **1D551*** | 8.90 | **7.10** | **6.75** | 0.2 | S2730 | **3KN06*** | 8.40 | **6.72** | **6.38** | 0.2 | S2731 | **1D550*** | 9.40 | **7.50** | **7.13** | 0.2 |
| **Replacement Lens** | S570C | **1D545** | 4.65 | **3.70** | **3.52** | 0.1 | S570 | **3KN12** | 4.15 | **3.32** | **3.15** | 0.1 | S571 | **1D058** | 4.90 | **3.90** | **3.71** | 0.1 |

(*) Red/White/Blue color. (†) Features DuoFlex® temples.

## FECTOIDS™ PROTECTIVE EYEWEAR

Lens design closely follows contours of the face for complete coverage, allowing wearer to see entire work area without the distraction, distortion or obstruction caused by parting lines and sideshields. DX™ lens coating is anti-fog, anti-scratch, anti-static, and anti-chemical attack. Lightweight, frameless, comfortable safety glasses are available in two lens sizes, medium and large. Duralite® polycarbonate lens is easily replaceable. Angle of the lens can be adjusted to one of three different positions, even while on the wearer's face—optimizes coverage, fit, and comfort. Length of temples can be adjusted to four different settings to minimize pressure on the temples while helping to prevent sliding on the nose. Meets ANSI Z87.1-1989 requirements. Gray lens also meets Z80.3 sunglass requirements. Maximum UV and impact protection. AOSafety brand.

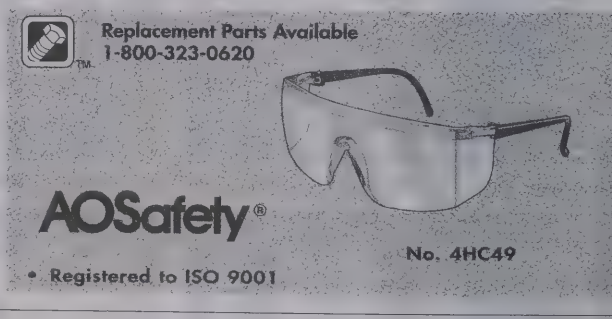
| Lens Color | Temple Color | AOSafety Model | | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **MEDIUM SIZE** | | | | | | | | |
| **Clear** | Black | 16200 | | **4HC59** | $8.25 | **$7.50** | **$7.13** | 0.1 |
| **Clear** | Dark Blue | 16201 | | **4HC60** | 8.25 | **7.50** | **7.13** | 0.1 |
| **Gray** | Red, White, Blue | 16203 | | **4HC61** | 8.25 | **7.50** | **7.13** | 0.1 |
| **Gray** | Black | 16204 | | **4HC62** | 9.13 | **8.30** | **7.89** | 0.1 |
| **Gray** | Dark Blue | 16205 | | **4HC63** | 9.13 | **8.30** | **7.89** | 0.1 |
| **Gray** | Red, White, Blue | 16207 | | **4HC64** | 9.13 | **8.30** | **7.89** | 0.1 |
| **Shade 3.0** | Black | 16211 | *New* | **4RC33** | 11.43 | **10.40** | **9.88** | 0.1 |
| **Chrome Mirror** | Black | 16214 | *New* | **4RC32** | 11.43 | **10.40** | **9.88** | 0.1 |
| **LARGE SIZE** | | | | | | | | |
| **Clear** | Black | 16100 | | **4HC53** | $8.25 | **$7.50** | **$7.13** | 0.1 |
| **Clear** | Dark Blue | 16101 | | **4HC54** | 8.25 | **7.50** | **7.13** | 0.1 |
| **Clear** | Red, White, Blue | 16103 | | **4HC55** | 8.25 | **7.50** | **7.13** | 0.1 |
| **Gray** | Black | 16104 | | **4HC56** | 9.13 | **8.30** | **7.89** | 0.1 |
| **Gray** | Dark Blue | 16105 | | **4HC57** | 9.13 | **8.30** | **7.89** | 0.1 |
| **Gray** | Red, White, Blue | 16107 | | **4HC58** | 9.13 | **8.30** | **7.89** | 0.1 |
| **Shade 3.0** | Black | 16111 | *New* | **4RC31** | 11.43 | **10.40** | **9.88** | 0.1 |
| **Chrome Mirror** | Black | 16114 | *New* | **4RC30** | 11.43 | **10.40** | **9.88** | 0.1 |




## SEEPRO™ PROTECTIVE EYEWEAR

Meets ANSI Z87.1-1989 requirements, gray lens also meets Z80.3 sunglass requirements. DX™ lens coating is anti-fog, anti-scratch, and anti-chemical attack. Ultra-lightweight construction and contoured temples provide snug, comfortable fit. Tough, wraparound polycarbonate lens has integral sideshields, brow and nose bridge. One-piece construction for excellent strength and stability. Impact resistant lens absorbs 99.9% of UV radiation. Exclusive DX™ coating helps keep vision consistently clear and extends the useful life of eyewear. Nylon frame. AOSafety brand.

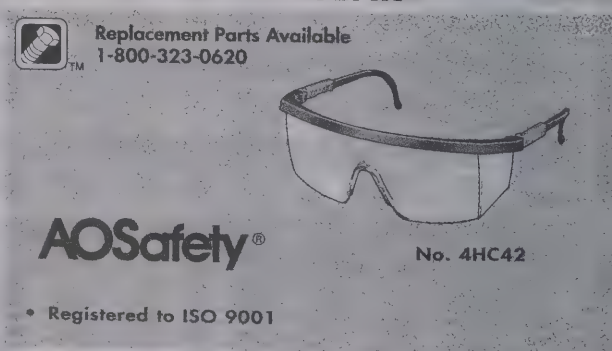
| Lens Color | Temple Color | AOSafety Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Clear** | Black | 15910 | **4HC49** | $4.18 | **$3.80** | **$3.61** | 0.1 |
| **Clear** | Dark Blue | 15911 | **4HC50** | 4.18 | **3.80** | **3.61** | 0.1 |
| **Gray** | Black | 15914 | **4HC51** | 4.95 | **4.50** | **4.28** | 0.1 |
| **Gray** | Dark Blue | 15915 | **4HC52** | 4.95 | **4.50** | **4.28** | 0.1 |




## NASSAU® PLUS F6700 PROTECTIVE EYEWEAR

Meets ANSI Z87.1-1989 requirements, gray lens also meets Z80.3 sunglass requirements. DX™ lens coating is anti-fog, anti-scratch, and anti-chemical attack. Four-position temple length adjustment for a comfortable custom fit. Lightweight, wraparound design provides excellent side protection without obstructing vision. Tough optical grade polycarbonate lens absorbs 99.9% of UV radiation. Frame is molded from durable, high-impact nylon. Eyewear rests on the bridge, not the lens, when placed front down to help protect the lens. Replaceable lens. AOSafety brand.

| Lens Color | Temple Color | AOSafety Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Clear** | Black | 14300 | **4HC42** | $6.05 | **$5.50** | **$5.23** | 0.1 |
| **Clear** | Dark Blue | 14308 | **4HC45** | 6.05 | **5.50** | **5.23** | 0.1 |
| **Clear** | Red, White, Blue | 14327 | **4HC47** | 6.05 | **5.50** | **5.23** | 0.1 |
| **Gray** | Black | 14301 | **4HC43** | 6.93 | **6.30** | **5.99** | 0.1 |
| **Gray** | Dark Blue | 14309 | **4HC46** | 6.93 | **6.30** | **5.99** | 0.1 |
| **Gray** | Red, White, Blue | 14328 | **4HC48** | 6.93 | **6.30** | **5.99** | 0.1 |
| **IR 2.5** | Black | 14305 | **4HC44** | 9.24 | **8.40** | **7.98** | 0.1 |




**Warning: All tinted lenses described on this page are not designed for burning, cutting, welding, furnace or molten metal operations, or any other operation which exposes the eyes to harmful levels of ultraviolet and infared radiation. Tinted lenses should not be worn indoors unless called for by nature of application.**

## EXCELSIOR™ PROTECTIVE EYEWEAR

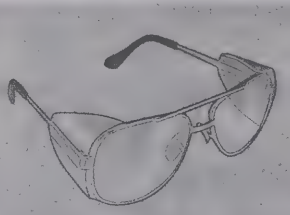
**Classic, lightweight, aviator-style metal frame** for greater worker acceptance. Comfortable, adjustable, saddle bridge design helps prevent slipping. Hardcoated polycarbonate lenses. Flat folding sideshields. Meets ANSI Z87.1-1989 and CSA Z94.3-1992. Gray lenses also meet ANSI Z80.3 sunglass requirements. Uvex brand.




| Lens Color | Frame Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Clear | Gold | 9159 | 6T355 | $6.75 | $4.97 | $4.72 | 0.1 |
| Clear | Black | 9159 | 6T356 | 6.75 | 4.97 | 4.72 | 0.1 |
| Gray | Gold | 9159 | 6T357 | 7.75 | 6.20 | 5.89 | 0.1 |
| Gray | Black | 9159 | 6T358 | 7.75 | 6.20 | 5.89 | 0.1 |

## METAL AVIATOR EYEWEAR

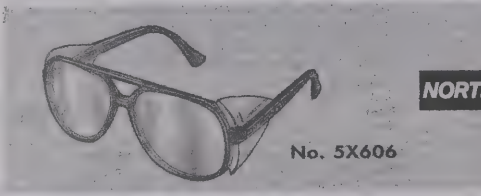
**Features dual lensed metal frame** for use in industrial environments where fumes and chemicals may damage plastic frames. Goldtone or black frames available in 58mm eyesize. Features permanently attached sideshields and comfort fit universal nosebridge. Hardcoated polycarbonate lenses available in clear or gray block 100% of harmful UV radiation below 385 nanometers. Meets ANSI Z87.1-1989 and CSA Z94.3-1992. Bouton brand.




| Lens Color | Frame Color | Bouton Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Clear | Gold | 2200 | 2BC77 | $5.57 | $4.60 | $4.37 | 0.2 |
| Clear | Black | 2200 | 1BC42 | 5.57 | 4.60 | 4.37 | 0.2 |
| Gray | Gold | 2200 | 1BC66 | 6.24 | 5.60 | 5.32 | 0.2 |
| Gray | Black | 2200 | 6AG72 | 6.24 | 5.60 | 5.32 | 0.2 |

## AVIATOR-STYLE PROTECTIVE EYEWEAR

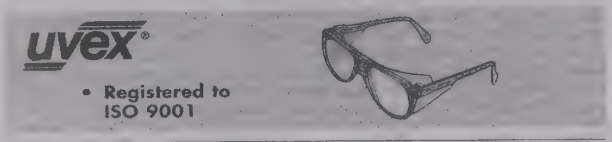
**Meet most industrial needs** while offering rugged construction and comfortable fit. 58mm polycarbonate lenses protect entire eye area and give impact protection far greater than tempered glasses. Adjustable cable core temples enable custom fitting to any face size. Blue-gray frame with metal hinges. Meet ANSI Z87.1-1989. North brand.




| Type | Lens Color | North Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| With Solid Sideshields | Clear | 2959 | 5X606 | $7.84 | $7.46 | $7.09 | 0.1 |
| With Perforated Sideshields | Clear | 2960 | 6X575 | 7.84 | 7.46 | 7.09 | 0.1 |

## HIGHFLYER® PROTECTIVE EYEWEAR

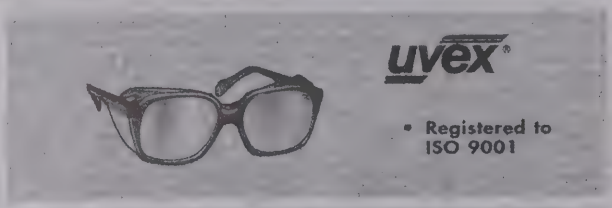
**Traditional aviator styling** for industrial applications. Polycarbonate lenses provide greater impact resistance than glass. 58 mm lenses feature ultradura® scratch resistant coating. Large molded-in flat folding sideshields and browguards for excellent coverage. Light translucent frame colors. Meet ANSI Z87.1-1989. Gray lenses also meet ANSI Z80.3 sunglass requirements. Uvex brand.




| CLEAR LENS | | | | | | GRAY LENS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frame Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
| Gray | 9177 | 6T347 | $4.15 | $2.97 | $2.82 | 0.1 | 9177 | 6T351 | $5.15 | $4.10 | $3.90 | 0.1 |
| Brown | 9177 | 6T348 | 4.15 | 2.97 | 2.82 | 0.1 | 9177 | 6T352 | 5.15 | 4.10 | 3.90 | 0.1 |

## TOPSIDER® PROTECTIVE EYEWEAR

**Feature lightweight brown frame,** transparent integrated top and sideshields for increased eye safety. Flat folding temples and sideshields for easy case/pocket insertion. 52mm polycarbonate lenses feature ultradura® scratch resistant coating. Meet ANSI Z87.1-1989. Gray lens also meets ANSI Z80.3 sunglass requirements. Uvex brand.




| Lens Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Clear | 9142 | 4T520 | $4.34 | $3.04 | $2.89 | 0.1 |
| Gray | 9142 | 4T522 | 5.36 | 4.27 | 4.06 | 0.2 |

**WARNING: All tinted lenses decribed on this page are not designed for burning, cutting, welding, furnace or molten metal operations, or any other operation which exposes the eyes to harmful levels of ultraviolet and infrared radiation. Tinted lense should not be worn indoors unless called for by nature of application.**

## ECONOLITE I, II AND III PROTECTIVE EYEWEAR

**Offers protection for most common industrial purposes.** Econolites I and II feature: black nylon frame available with clear, gray or mirror lenses that block 100% of harmful UV radiation below 385 nanometers. Meets ANSI Z87.1-1989 and CSA Z94.3-1992. Econolite III features resilium and nylon frame with single clear or gray polycarbonate lens that blocks 99.9% of harmful radiation. Meets Z87.1 standards. Bouton brand.

**Econolite I**—Features single lens nylon frame.

**Econolite II**—Features dual lensed nylon frame.

**Econolite III**—Features resilium and nylon frame and polycarbonate lens.




| Lens Color | Bouton Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ECONOLITE I** | | | | | | |
| **Clear** | 4100 | **1DN40** | $4.22 | **$3.50** | **$3.33** | 0.1 |
| **Gray** | | **1DN39** | 4.93 | **4.40** | **4.18** | 0.1 |
| **Mirror** | | **1DN38** | 6.04 | **5.40** | **5.13** | 0.1 |
| **ECONOLITE II** | | | | | | |
| **Clear** | 4200 | **1DN37** | 3.77 | **3.13** | **2.97** | 0.1 |
| **Gray** | | **1DN36** | 4.37 | **3.90** | **3.71** | 0.1 |
| **Mirror** | | **1DN35** | 5.77 | **5.20** | **4.94** | 0.1 |
| **ECONOLITE III** | | | | | | |
| **Clear** | 4300 | **4HC34** | 3.30 | **2.76** | **2.62** | 0.2 |
| **Gray** | | **4HC35** | 3.85 | **3.50** | **3.33** | 0.2 |

## UFO MERCURY PROTECTIVE EYEWEAR

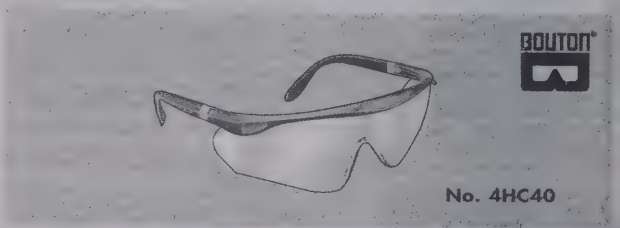
**Features a three-way adjustable temple** for a customized, comfortable fit. Replaceable, polycarbonate, wraparound lens for a large panoramic view for unobstructed vision. U-Fit™ temple features an adjustable temple tip that can be bent. Multiple Click-To-Fit comfort settings facilitate temple length adjustments. Meets ANSI Z87.1 standards. Bouton brand.




| Lens Color | Bouton Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Clear** | 7000 | **4HC36** | $7.70 | **$7.00** | **$6.65** | 0.2 |
| **Gray** | 7000 | **4HC37** | 8.25 | **7.50** | **7.13** | 0.2 |

## UFO SATURN PROTECTIVE EYEWEAR

**Features a stylish sculpted, ultralight frame** with a wraparound lens for superior frontal and peripheral protection. Six-base curve lens and contoured black frame embrace face, protecting eyes from potential hazards. Ergonomically designed temples with mastoid bend for superior comfort and fit. Temple screws are hidden to give the Saturn a streamlined, aerodynamic appearance. Meets ANSI Z87.1 standards. Bouton brand.




| Lens Color | Bouton Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Clear** | 7200 | **4HC40** | $7.48 | **$6.80** | **$6.46** | 0.2 |
| **Gray** | 7200 | **4HC41** | 8.03 | **7.30** | **6.94** | 0.2 |

## UFO APOLLO PROTECTIVE EYEWEAR

**Features black nylon ultra-lightweight frame** and a 6-base curve, replaceable slimline lens made of durable polycarbonate. Frames and lens fit close to the face to protect the eyes from on-the-job hazards. Click-To-Fit comfort settings are hidden on temples for a streamline appearance. Click-To-Fit features allow the temples to be adjusted for a more customized fit. Meets ANSI Z87.1 standards. Bouton brand.

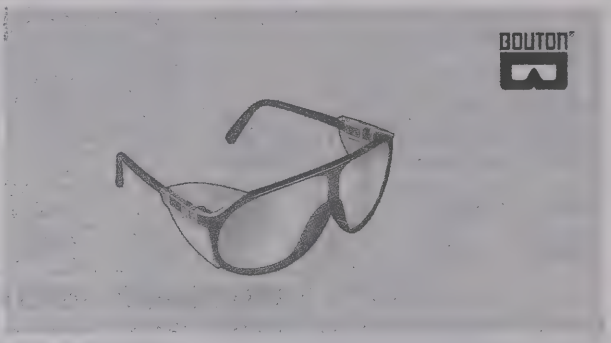



| Lens Color | Bouton Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Clear** | 7100 | **4HC38** | $7.48 | **$6.80** | **$6.46** | 0.2 |
| **Gray** | 7100 | **4HC39** | 8.03 | **7.30** | **6.94** | 0.2 |

**WARNING: All tinted lenses, described on this page, are not designed for burning, cutting, welding, furnace or molten metal operations, or any other operation which exposes the eyes to harmful levels of ultraviolet and infrared radiation. Tinted lenses should not be worn indoors unless called for by nature of application.**

## PANALITE PROTECTIVE EYEWEAR

**Single lens wraparound design** features lightweight nylon frame for use in industrial environments. Frame available in black or black with orange temples. Polycarbonate lens available in clear, gray or mirror and blocks 100% of harmful UV radiation under 385 nanometers. Meets ANSI Z87.1-1989 and CSA Z94.3-1992. Bouton brand.




| Lens Color | Frame Color | Bouton Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Clear | Black | 8300 | 2AT12 | $7.23 | $5.85 | $5.56 | 0.1 |
| | Black/Orange | 8300 | 3AC47 | 7.23 | 5.85 | 5.56 | 0.1 |
| Gray | Black | 8300 | 4AZ90 | 7.79 | 7.00 | 6.65 | 0.1 |
| | Black/Orange | 8300 | 5AL38 | 7.79 | 7.00 | 6.65 | 0.1 |
| Mirror | Black | 8300 | 3AT47 | 8.34 | 7.50 | 7.13 | 0.1 |
| | Black/Orange | 8300 | 5AJ56 | 8.34 | 7.50 | 7.13 | 0.1 |
| Clear Replacement Lens | | 99537 | 5AV18 | 3.36 | 3.00 | 2.85 | 0.1 |
| Gray Replacement Lens | | 99538 | 3AJ70 | 4.02 | 3.60 | 3.42 | 0.1 |
| Mirror Replacement Lens | | 99539 | 2AN82 | 4.57 | 4.10 | 3.90 | 0.1 |

## PANAVIEW PROTECTIVE EYEWEAR

**Single lens wraparound metal frame** for use in industrial environments where fumes or chemicals may damage plastic frames. Available in goldtone or black frames. Offers top and side protection and features comfortable universal nose bridge. Polycarbonate lenses available in clear or gray to block 100% of harmful UV radiations under 385 nanometers. Meets ANSI Z87.1-1989 and CSA Z94.3-1992. Bouton brand.




| Lens Color | Frame Color | Bouton Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Clear | Gold | 2500 | 6AV08 | $9.14 | $8.20 | $7.79 | 0.1 |
| | Black | 2500 | 2AW54 | 9.14 | 8.20 | 7.79 | 0.1 |
| Gray | Gold | 2500 | 2AX39 | 9.69 | 8.70 | 8.27 | 0.1 |
| | Black | 2500 | 5AD40 | 9.69 | 8.70 | 8.27 | 0.1 |

## COOLSPEC® PROTECTIVE EYEWEAR

**One-piece wrap-around design** offers excellent impact resistance. Lightweight metal frame styling available in gold or black. Ultraviolet protection molded into lens absorbs more than 99.9% of harmful UV light. Meets ANSI Z87.1-1989 and CSA Z94.3-1992. Uvex brand.

uvex®

- Registered to ISO 9001



| Lens Color | Frame Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Clear | Gold | 3500 | 1D378 | $5.88 | $4.22 | $4.01 | 0.1 |
| | Black | 3500 | 1D380 | 5.88 | 4.22 | 4.01 | 0.1 |
| Gray | Gold | 3500 | 1D377 | 6.92 | 4.97 | 4.72 | 0.1 |
| | Black | 3500 | 1D379 | 6.92 | 4.97 | 4.72 | 0.1 |

## RETROSPEC™ PROTECTIVE EYEWEAR

**Lightweight, comfortable metal frames** have high-fashion look of prescription eyewear. Frames available in gold, tortoise and gunmetal with clear or TSR™ gray lenses. Can be used to fit prescription lenses. Wraparound polycarbonate sideshields provide top and side protection. Features adjustable temples and optical nosepads for custom fit. Meets ANSI Z87.1-1989, OSHA standards for bloodborne pathogen protection, and CSA Z94.3-1992. TSR™ gray lenses meet color traffic signal recognition requirements of ANSI Z80.3. Willson brand.



WILLSON®

| | | 52 mm | | | | | | 55 mm | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lens Color | Frame Color | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
| Clear | Gold | 11130335 | 2AG76 | $7.90 | $7.51 | $7.14 | 0.1 | 11130326 | 6AX86 | $7.90 | $7.51 | $7.14 | 0.1 |
| | Tortoise | 11130338 | 2AF38 | 9.13 | 8.68 | 8.24 | 0.2 | 11130329 | 5AG98 | 9.13 | 8.68 | 8.24 | 0.1 |
| | Gunmetal | 11130341 | 4BC08 | 7.90 | 7.51 | 7.14 | 0.1 | 11130332 | 1AJ04 | 7.90 | 7.51 | 7.14 | 0.1 |
| TSR™ Gray | Gold | 11130336 | 3AZ60 | 8.46 | 8.04 | 7.64 | 0.1 | 11130327 | 4AZ72 | 8.46 | 8.04 | 7.64 | 0.1 |
| | Tortoise | 11130339 | 5AT64 | 9.57 | 9.09 | 8.64 | 0.1 | 11130330 | 6AW83 | 9.56 | 9.09 | 8.64 | 0.1 |
| | Gunmetal | 11130342 | 6AW06 | 8.46 | 8.04 | 7.64 | 0.3 | 11130333 | 2AH90 | 8.46 | 8.04 | 7.64 | 0.1 |

**WARNING: All tinted lenses decribed on this page are not designed for burning, cutting, welding, furnace or molten metal operations, or any other operation which exposes the eyes to harmful levels of ultraviolet and infrared radiation. Tinted lense should not be worn indoors unless called for by nature of application.**

## CRICKET® PROTECTIVE EYEWEAR

- Antiscratch
- Antifog
- Antistatic
- Anti-UV rays

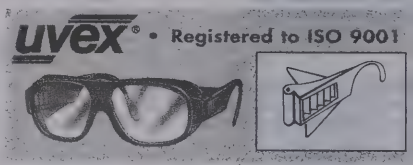
**Rugged, sleek, light brown frame** provides strength and comfort. 66mm polycarbonate lenses provide wide field of peripheral vision. The uvextreme® AF coating protects lenses from scratches, fogging, static dust, and UV rays. Ratchet adjustable temples offer a goggle-like protective fit. Meet ANSI Z87.1-1989 and CSA Z94.3-1992. Gray lenses also meet ANSI Z80.3 sunglass requirements. Uvex brand.




| Lens Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Clear | 9180 | 4T517 | $8.15 | $6.50 | $6.18 | 0.2 |
| Gray | 9180 | 4T519 | 9.15 | 7.30 | 6.94 | 0.2 |

## PROSPEC® PROTECTIVE EYEWEAR

**Ideal for numerous indoor/outdoor activities.** 62mm polycarbonate lenses feature ultradura® scratch resistant coating. Temple has unique cross-flow ventilation system for worker comfort. Meet ANSI Z87.1-1989 AND CSA Z94.3-1992. Gray lenses also meet ANSI Z80.3 sunglass requirements. Uvex brand.




| Lens Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Clear | 9185 | 4T824 | $5.33 | $3.84 | $3.65 | 0.2 |
| Gray | 9185 | 4T825 | 6.19 | 4.96 | 4.71 | 0.2 |

## FLASHBACK® PROTECTIVE EYEWEAR

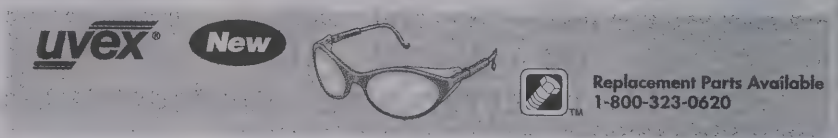
**Flashback offers the look of dual-lens eyewear,** but is actually an exclusive single-lens design, allowing quick and easy replacement of impact-resistant polycarbonate lens. Achieve custom fit with temple length and lens inclination adjustments. Patented duoflex® comfort cushions minimize pressure behind ear and reduce slippage. Molded-in sideshields and browguards protect eyes. Frames available in black or gunmetal gray, with clear or gray lenses. Features ultradura® anti-scratch hardcoat. Blocks greater than 99.9% of harmful ultraviolet rays. Meets ANSI Z87.1-1989 and CSA Z94.3-1992. Made in U.S.A. Uvex brand.




| Frame Color | Lens | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Black | Clear UD | S4000 | 3ZL21 | $8.15 | $6.52 | $6.19 | 0.1 |
| Black | Gray UD | S4001 | 3ZL22 | 9.15 | 7.32 | 6.95 | 0.1 |
| Gunmetal Gray | Clear UD | S4020 | 3ZL23 | 8.15 | 6.52 | 6.19 | 0.1 |
| Gunmetal Gray | Gray UD | S4021 | 3ZL24 | 9.15 | 7.32 | 6.95 | 0.1 |

## BANDIT™ PROTECTIVE EYEWEAR

Protective Eyewear that offers a sleek sporty design with a great fit. Bandit™ eyewear features superior protection with unilens design and adjustable temples. Exclusive lens replacement system, and molded-in side shields. Blocks out 99.9% of UV light.




| | BLACK FRAME COLOR | | | | | | COPPER FRAME COLOR | | | | | | REPLACEMENT LENSES | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lens Color | Uvex Model | *New!* Stock No. | List | Each | Lots 10 | Shpg. Wt. | Uvex Model | *New!* Stock No. | List | Each | Lots 10 | Shpg. Wt. | Uvex Model | *New!* Stock No. | List | Each | Lots 10 | Shpg. Wt. |
| Clear XTR | S1600X | 4R985 | $6.80 | $5.44 | $5.17 | 0.1 | S1610X | 4R991 | $6.80 | $5.44 | $5.17 | 0.1 | S6310X | 4RC02 | $4.65 | $3.72 | $3.53 | 0.1 |
| Espresso (Brown) UD | S1603 | 4R987 | 7.25 | 5.80 | 5.51 | 0.1 | S1613 | 4R993 | 7.25 | 5.80 | 5.51 | 0.1 | S6312 | 4RC03 | 4.90 | 3.92 | 3.72 | 0.1 |
| Mirror UD | S1604 | 4R989 | 10.05 | 8.04 | 7.64 | 0.1 | S1614 | 4R995 | 10.05 | 8.04 | 7.64 | 0.1 | S6313 | 4RC04 | 7.90 | 6.32 | 6.00 | 0.1 |

## BANDIDO™ PROTECTIVE EYEWEAR

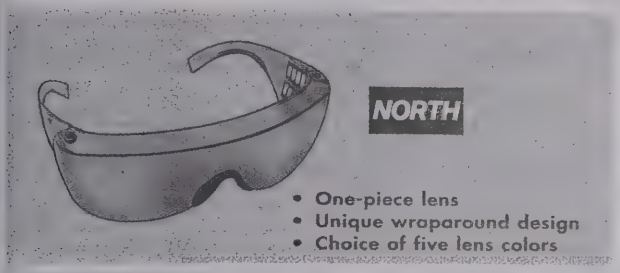
Uvex Bandido™ protective eyewear offers a sleek, sporty design with a great fit. Features a dual lens look in a single lens design. Bandido™ provides superior protection with a unilens design with molded-in sideshields. Blocks out 99.9% of UV light.




| Lens Color | Temple Color | Uvex Model | *New!* Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Clear UD | Black | S1730 | 4R997 | $4.90 | $3.92 | $3.72 | 0.1 |
| Espresso (Brown) UD | Black | S1731 | 4RC01 | 5.90 | 4.72 | 4.48 | 0.1 |

# EYE PROTECTION

## NORTON 180® PROTECTIVE EYEWEAR



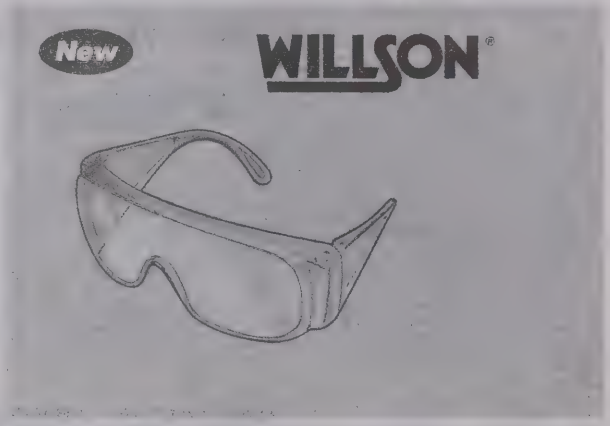

**One-piece lens** with precision optics is fitted into unique wraparound design which provides maximum protection with preferred styling and on-the-job comfort. 100% polycarbonate material is high impact resistant. Coated, scratch-resistant lens absorbs ultraviolet radiation. Frosted brow reduces glare. Vented temples reduce heat build up and fogging. Clear lens color. Meet ANSI Z87.1-1989 and CSA Z94.3-1992. North brand.

| Lens Color | North Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Clear** | 18000 | **5W194** | $4.09 | **$3.27** | **$3.11** | 0.1 |
| **Gray** | 18040 | **5W195** | 5.65 | **4.53** | **4.30** | 0.2 |
| **Amber** | 18010 | **4T551** | 5.65 | **4.53** | **4.30** | 0.2 |
| **Lt. Grn.** | 18020 | **4T552** | 5.65 | **4.53** | **4.30** | 0.1 |
| **Med. Grn.** | 18030 | **4T553** | 5.65 | **4.53** | **4.30** | 0.2 |

## POLYSAFE® AND POLYSAFE® PLUS PROTECTIVE EYEWEAR

**Polysafe®**—Single polycarbonate lens offers wide, distortion-free field of vision. Wraparound style features matching sideshields, contoured nosebridge, adjustable temples and indirect ventilation to help prevent fogging. Fits over most prescription lenses. Available in clear or TSR gray lens colors. Provides 100% UV protection as defined by ANSI Z87.1-1989. Meet ANSI Z87.1-1989 and CSA Z94.3-1992. Meet OSHA standards for bloodborne pathogen eye protection. Willson brand.

**Polysafe® Plus**—Includes all features of Polysafe® eyewear listed above, plus a scratch-resistant coating on both sides of lens for longer life and reduced glare. Willson brand.



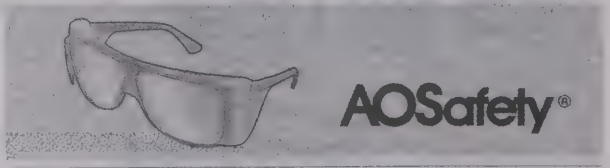

| Lens Color | Frame/Temple Color | Willson Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **POLYSAFE® EYEWEAR** | | | | | | | |
| **Clear** | Clear | 11180031 | **4AV76** | $2.10 | **$1.80** | **$1.71** | 0.1 |
| **Clear** | Blue | 11180115 | *New!* **4RF23** | 2.25 | **2.14** | **2.04** | 0.1 |
| **TSR Gray*** | Clear | 11180032 | **4AG77** | 2.43 | **2.31** | **2.19** | 0.1 |
| **POLYSAFE® PLUS EYEWEAR** | | | | | | | |
| **Clear** | Clear | 11180037 | **1BC07** | 3.85 | **3.65** | **3.47** | 0.1 |

(*) Meet traffic signal recognition requirements of ANSI Z80.3.

## TOURGUARD® III PROTECTIVE EYEWEAR

**For use as visitor eyewear.** Traditional styling fits over prescription glasses. Contoured nasal design for lightweight, universal fit. Clear polycarbonate construction offers superior impact protection. Spatula temples have end slots for lanyard attachments. Integral side shields for wraparound protection. Meets ANSI Z87.1-1989 Standard. Aearo brand (958).

**No. 3AN09.** Shpg. wt. 0.1 lbs. List ..... $1.78.
Each **$1.49**; Lots 20 ..... **$1.42**




## VISI-WEAR® VISITOR SPECTACLES




**Lightweight, economical eyewear** keeps dust and foreign particles away from eyes. Features good quality optics and indirect ventilation to reduce fogging. Clear plastic material. **For use where ANSI Z87.1 protection is not required.** Meets OSHA standards for bloodborne pathogen eye protection. Willson brand (11180020).

**No. 6AJ09.** Shpg. wt. 0.1 lbs. List ..... $1.99.
Each **$1.80**; Lots 10 ..... **$1.71**

## VISITOR SPECTACLES

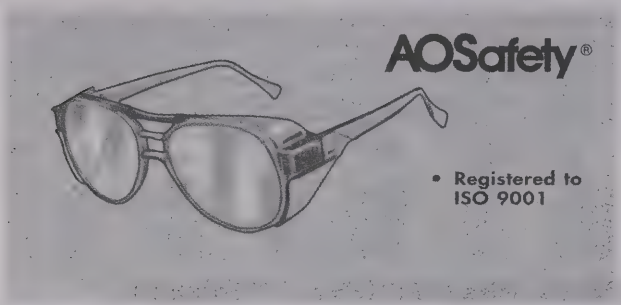
**Wide field of vision** enables unobstructive viewing for plant visitors. Lightweight molded plastic. Meets ANSI Z87.1-1989.

**No. 5X605.** Shpg. wt. 0.1 lbs. List ..... $1.72.
Each **$1.62**; Lots 12 ..... **$1.54**




**WARNING: All tinted lenses decribed on this page are not designed for burning, cutting, welding, furnace or molten metal operations, or any other operation which exposes the eyes to harmful levels of ultraviolet and infrared radiation. Tinted lense should not be worn indoors unless called for by nature of application.**

## AEROSITE® F8500 PROTECTIVE EYEWEAR




Features aviator styling with rugged polycarbonate lens for maximum impact and UV protection. Lock-A-Lens™ design helps prevent lens "push through". Molded-in sideshields and browguard. Patented, reinforced hinge design and easy-fitting universal bridge for durability and comfort. Available in mocha or slate colored frames, 54 or 58 mm lens sizes. Meets ANSI Z87.1-1989 requirements. AOSafety brand.

### SPECIFICATIONS AND ORDERING DATA

| Lens | Frame Color | AOSafety Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 54mm Clear | Mocha | 13640-87000 | **3AL70** | $3.96 | **$3.60** | **$3.42** | 0.1 |
| | Slate | 13640-97000 | **2AW71** | 3.96 | **3.60** | **3.42** | 0.1 |
| 58mm Clear | Mocha | 13640-80000 | **6AZ44** | 3.96 | **3.60** | **3.42** | 0.1 |
| | Slate | 13640-90000 | **2AM64** | 3.96 | **3.60** | **3.42** | 0.1 |

## MALIBU™ F6400 PROTECTIVE EYEWEAR




Stylish, rimless metal frames are ultralight for day-long comfort. Wraparound polycarbonate lens with integral sideshields is impact-resistant and absorbs 99.9% UV. Lens has a scratch-resistant coating and wide field of vision. Extended bridge provides comfortable fit while protecting lens by preventing it from resting directly on surfaces. Available with gold or black frame, clear or gray lens. Meets ANSI Z87.1-1989. Gray lens also meets Z80.3 Sunglass Requirements. AOSafety brand.

### SPECIFICATIONS AND ORDERING DATA

| Lens Color | Frame Color | AOSafety Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Clear | Gold | 13330 | **6AL70** | $5.25 | **$4.80** | **$4.56** | 0.1 |
| | Black | 13333 | **2AF47** | 5.25 | **4.80** | **4.56** | 0.1 |
| Gray | Gold | 13331 | **5AN83** | 6.18 | **5.60** | **5.32** | 0.1 |
| | Black | 13334 | **1BC44** | 6.18 | **5.60** | **5.32** | 0.1 |

## PREVAIL™ PROTECTIVE EYEWEAR




Virtually indestructible nylon frames have contemporary wraparound sport design. Lightweight design provides comfort and the frame incorporates built-in side shields. Safety eyewear meets all ANSI standards without traditional looking side shields. Willson brand.

| Lens Color | Frame Color | Willson Model | *New!* Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Clear | Black | 11150300 | **4RF10** | $6.92 | **$6.58** | **$6.25** | 0.1 |
| Clear | Blue | 11150301 | **4RF11** | 6.92 | **6.58** | **6.25** | 0.1 |
| TSR® Gray | Black | 11150303 | **4RF12** | 7.68 | **7.29** | **6.93** | 0.1 |
| Silver Mirror | Black | 11150309 | **4RF14** | 12.71 | **12.09** | **11.49** | 0.1 |
| Silver Indoor/Outdoor | Black | 11150326 | **4RF16** | 9.60 | **9.13** | **8.67** | 0.1 |
| TSR® Gray Fogban | Black | 11150336 | **4RF18** | 8.57 | **8.15** | **7.74** | 0.1 |
| TSR® Gray | Blue | 11150304 | **4RF13** | 7.68 | **7.29** | **6.93** | 0.1 |
| Blue Mirror | Blue | 11150310 | **4RF15** | 12.71 | **12.09** | **11.49** | 0.1 |
| Blue Indoor/Outdoor | Blue | 11150327 | **4RF17** | 9.60 | **9.13** | **8.67** | 0.1 |
| TSR® Gray Fogban | Blue | 11150337 | **4RF19** | 8.57 | **8.15** | **7.74** | 0.1 |

## WILLSON GLENEAGLE PROTECTIVE EYEWEAR




Lightweight, hi-tech aviator design features indestructible nylon black frames with dual clear or TCG gray lens. Heavy-duty durability is provided from deep, wraparound side shields. Universal nose bridge with adjustable temples ensures comfort for long periods of time. Frames are heat and chemical resistant. TCG gray lens provide premium protection from UV radiation and blue light from short duration electric arcs and sunlight. Also protects against near-infrared component of sunlight.

### SPECIFICATIONS AND ORDERING DATA

| Lens Color | Frame Color | Willson Model | *New!* Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Clear | Black | 11150073 | **4RF08** | $7.41 | **$7.05** | **$6.69** | 0.1 |
| TCG Gray | Black | 11150098 | **4RF09** | 9.79 | **9.30** | **8.83** | 0.1 |

## ASTRO OTG® PROTECTIVE EYEWEAR




**Designed to fit over prescription glasses.** Economical alternative to safety prescription glasses or bulky goggles. Contemporary design. Features adjustable lens inclination and adjustable temple length for close-to-the-face fit while covering prescription eyewear. Duoflex® temples feature soft comfort cushions for sensitive area behind ears. Black frame with replaceable lenses. Meet ANSI Z87.1-1989 and CSA Z94.3-1992. Uvex brand.

**Uvextreme®** AF Coating—Permanently bonded coating that is anti-fog, anti-scratch, anti-static and anti-UV. Provides more than 99.9% protection from ultraviolet radiation.

**Ultradura®** Scratch-Resistant Coating (UD)—Permanently bonded silicate-based coating resistant to a wide range of chemicals.

**SCT®** Gray Lens—Absorbs more than 99.9% of ultraviolet light and depresses blue light transmission from 400-500 nm for long-term outdoor exposure or short-burst arc radiation. Maintains optimal color recognition.

**Infradura®** Welding Lens (ID)—For protection against ultraviolet and infrared radiation. Provides filtration requirements outlined in ANSI Z87.1-1989. Available in 3.0 and 5.0 welding shades.

| | BLACK FRAME EYEWEAR | | | | | | REPLACEMENT LENSES ONLY | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lens Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. | Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
| **Clear Uvextreme® AF** | 3001 | **4AG93** | $10.65 | **$8.50** | **$8.08** | 0.2 | S561 | **5AL08** | $4.88 | **$3.90** | **$3.71** | 0.1 |
| **Gray UD** | 3001 | **4BC01** | 11.15 | **8.90** | **8.46** | 0.2 | S562 | **2AR45** | 5.38 | **4.30** | **4.09** | 0.1 |
| **SCT Gray UD** | 3001 | **2AH42** | 11.65 | **9.30** | **8.84** | 0.2 | S563 | **3AN72** | 5.88 | **4.70** | **4.47** | 0.1 |
| **3.0 ID UD** | 3001 | **5AD84** | 15.15 | **12.10** | **11.50** | 0.2 | S568 | **3AL92** | 9.38 | **7.50** | **7.13** | 0.1 |
| **5.0 ID UD** | 3001 | **2AD38** | 16.40 | **13.10** | **12.45** | 0.2 | S569 | **1AZ45** | 10.63 | **8.50** | **8.08** | 0.1 |

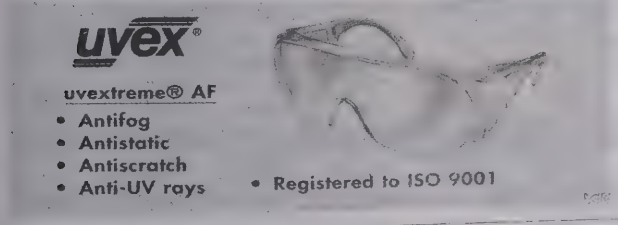
## ULTRASPEC® OTG 2001 PROTECTIVE EYEWEAR




**Over-the-glass style** designed to be worn over prescription glasses. Impact resistant, 100% polycarbonate spectacle features Ultradura® scratch resistant lens coating, molded-in sideshields, browguard, and universal nosebridge. Meets ANSI Z87.1-1989 and CSA Z94.3-1992 high impact protector standards. Gray lens also meets Z80.3 sunglass requirements. Uvex brand.

| Lens Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Clear** | 2001 | **6T359** | $5.90 | **$4.69** | **$4.46** | 0.2 |
| **Gray** | 2001 | **6T360** | 6.90 | **5.50** | **5.23** | 0.2 |

## ULTRASPEC® 2000 PROTECTIVE EYEWEAR



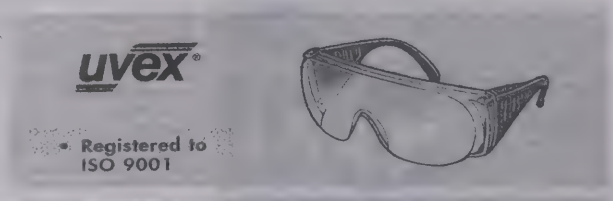

**Exclusive Uvextreme® AF lens coating** protects against fogging, static dust, scratching, and UV rays. Unobstructed, unrestricted panoramic vision. 100% polycarbonate material. Meets ANSI Z87.1-1989 and CSA Z94.3-1992 high impact protector standards. Gray lens also meets ANSI Z80.3 sunglass requirements. Uvex brand.

| Lens Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Clear** | 2000 | **4T513** | $5.00 | **$3.68** | **$3.50** | 0.2 |
| **Gray** | 2000 | **4T514** | 6.00 | **4.32** | **4.10** | 0.2 |
| **Amber** | 2000 | **4T515** | 6.00 | **4.32** | **4.10** | 0.2 |

## ULTRASPEC™ PROTECTIVE EYEWEAR

**Economical, uncoated polycarbonate eyewear.** Wraparound design for comfort with molded-in sideshields, browguard, and universal nosebridge. An alternative for employees and visitors who should wear ANSI approved spectacles in short term exposure situations. Meets ANSI Z87.1-1989 and CSA Z94.3-1992 high impact protector standards. Clear lens with black temples. Uvex brand (1000).

**No. 6T361.** Shpg. wt. 0.1 lbs. List.....$2.25
Each **$1.78**; Lots 10.....**$1.69**




**WARNING: All tinted lenses described on this page are not designed for burning, cutting, welding, furnace or molten metal operations, or any other operation which exposes the eyes to harmful levels of ultraviolet and infrared radiation. Tinted lens should not be worn indoors unless called for by nature of application.**

# SAFETY GOGGLES

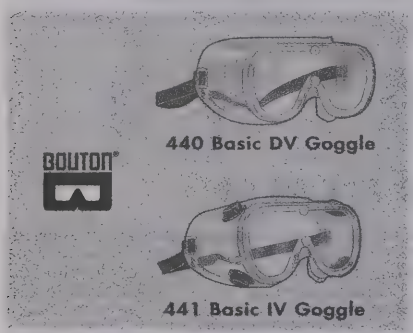



## STEALTH™ GOGGLE

**Offers lightweight comfort, low profile and contemporary style.** Features durable polypropylene frame with soft, flexible elastomer that seals comfortably and conforms gently to most facial contours. Impact-resistant polycarbonate lens can be easily replaced or exchanged. Toric lens design offers close fit, superior optics and improved peripheral vision. Quick-adjust headband clips permit fast and easy fitting, even on hardhats. Indirect ventilation system channels and directs air flow over the lens, minimizing fogging and improving vision while still providing superior splash and impact protection.

Light gray frame color with clear or gray lens. Features Uvextreme®AF lens coating to provide anti-fog, anti-scratch, anti-static, and anti-UV protection. Meets ANSI Z87.1-1989 and CSA Z94.3-1992 high impact protection standard. Made in USA. Uvex brand.

| Frame Color | Lens | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Gray** | Clear | S3960C | **3ZL19** | $13.15 | **$10.52** | **$9.99** | 0.4 |
| **Gray** | Gray | S3961C | **3ZL20** | 14.15 | **11.32** | **10.75** | 0.4 |




## ECONOMY GOGGLES

**Clear vinyl body features** 0.064" polycarbonate lens which blocks 100% of harmful UV radiation below 385 nanometers. Available with clear or clear anti-fog lens. Meets ANSI Z87.1-1989 and CSA Z94.3-1992. Made in USA. Bouton brand.

440 Basic DV Goggle—Perforated ventilation for protection against flying chips and particles.

441 Basic IV Goggle—Indirect ventilation for protection against chemical and liquid splash.

| Lens Description | Bouton Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **440 BASIC DV GOGGLES** | | | | | | |
| **Clear** | 4400-300 | **1DN34** | $1.98 | **$1.58** | **$1.50** | 0.2 |
| **Clear Anti-Fog** | 4400-400 | **1DN33** | 3.44 | **2.75** | **2.61** | 0.2 |
| **441 BASIC IV GOGGLES** | | | | | | |
| **Clear** | 4401-300 | **1DN32** | 2.51 | **2.01** | **1.91** | 0.2 |
| **Clear Anti-Fog** | 4401-400 | **1CV85** | 3.66 | **3.03** | **2.88** | 0.2 |




## GPT LASER-GARD YAG GOGGLE

**Broad Spectrum lens provides protection** against neodymium-gallium, double frequency neodymium and triple frequency neodymium, argon, ultraviolet and neon-nitrogen lasers. Narrow Spectrum lens absorbs neodymium-gallium arsenide while allowing other visible light through.

Polycarbonate lens can withstand 25 joules/cm² for over one minute exposure. Laser protection cannot be scratched off, absorbers and dyes are homogeneously integrated into lens. Scratch-resistant goggle-type eyewear can be worn over prescription glasses. Four capped air vents for air ventilation. Meets ANSI Z136.1, 2 and 3 and CSA Z386. Willson brand.

### GPT LASER LINE SPECTACLE

Wrap around style protects against low power argon lasers. Willson brand.

| Description | Willson Model | *New!* Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **LASER-GARD GOGGLES** | | | | | | |
| **Broad Spectrum Goggle** | 11160004 | **4RF20** | $440.58 | **$418.75** | **$397.60** | 0.8 |
| **Narrow Spectrum Goggle** | 11160008 | **4RF21** | 220.16 | **209.25** | **198.65** | 0.8 |
| **LASER LINE SPECTACLE** | | | | | | |
| **Spectacle** | 11160127 | **4RF22** | 220.16 | **209.25** | **198.65** | 0.8 |




## FECTOGGLE™ PROTECTIVE EYEWEAR

One piece, clear Duralite polycarbonate lens protects eyes from dust, grit, wood shavings and other particulates. Features soft foam flange, which lines the entire perimeter of the lens, and Fectoid™ lens for wide, distortion-free view. DX™ lens coating resists fogging, scratches, static and many chemicals (not intended for use in chemical splash environments).

Provides maximum UV protection, meets ANSI Z87.1-1989 impact standard for goggles. Elastic band models feature fire retardant, braided elastic band for snug, comfortable fit. Temple models offer three temple length settings and REAX® HOOKZ eyewear retainers to minimize adjustments. AOSafety brand.

| Type | Size | AOSafety Model | *New!* Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Elastic Headband** | Medium | 16400 | **4RC34** | $13.08 | **$11.90** | **$11.31** | 0.1 |
| **Adjustable Temple** | Medium | 16408 | **4RC35** | 13.08 | **11.90** | **11.31** | 0.1 |
| **Elastic Headband** | Large | 16412 | **4RC36** | 13.08 | **11.90** | **11.31** | 0.1 |
| **Adjustable Temple** | Large | 16420 | **4RC37** | 13.08 | **11.90** | **11.31** | 0.1 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

## ULTRAGUARD™ 9400 GOGGLES

**Impact Goggles.** Top and bottom venting provides optimum air flow. Strong elastic headband attached to soft pliable frame for maximum comfort. Meet ANSI Z87.1-1989 and CSA Z94.3-1992 high impact protector standards. Uvex brand (S372).

**No. 4T524.** Impact Goggles. Shpg. wt. 0.3 lbs.
List .....$5.13.
Each **$4.08;** Lots 10 ..... **$3.88**

**Chemical Goggles.** First adjustable venting system in safety goggles; vents can be opened or closed. Soft PVC frame. Exclusive Uvextreme® AF coated polycarbonate lens provides protection against fogging, static dust, scratchin, and UV rays. Meet ANSI Z87.1-1989 and CSA Z94.3-1992 high impact protector standards. Uvex brand (S375).

**No. 4T523.** Chemical Goggles. Shpg. wt. 0.4lbs.
List .....$10.17.
Each **$8.12;** Lots 10 ..... **$7.72**

• Registered to ISO 9001

uvex®



No. 4T524 Impact Goggle

No. 4T523 Chemical Goggle

## MINI GOGGLES

Fits comfortably on children or adults with small faces. Ideal for school use. Light, flexible, well ventilated. Fits over eyeglasses. Nonglare frame. Meet ANSI Z87.1-1989 standard.

**Mini Shop Impact Goggles.** Provide direct ventilation and impact protection during grinding, chipping, and cutting operations. Sellstrom brand (89001).

**No. 4T525.** Shpg. wt. 0.1 lbs. List .....$5.27.
Each **$4.75;** Lots 12 ..... **$4.51**

**Mini Lab Chemical-Goggles.** Indirect ventilation. Protect from school laboratory liquids and dust. Sellstrom brand (89201).

**No. 4T526.** Shpg. wt. 0.1 lbs. List $5.78.
Each..... **$5.20**

sellstrom safeguards®



No.4T525 Impact Goggle

No.4T526 Chemical Goggle

## UVEX CLASSIC™ GOGGLE

**Rugged design** and durable construction for heavy industrial work areas. Fit over most prescription glasses. Chemical and impact resistant polycarbonate lens. Hooded indirect venting provides optimum ventilation with increased splash protection. Exclusive Uvextreme®AF coating minimizes fogging, scratching, static dust, and UV rays. Neoprene headband. Meet ANSI Z87.1-1989 and CSA Z94.3-1992 high impact protector standards. Uvex brand (9305).

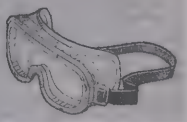
**No. 6T362.** Shpg. wt. 0.4 lbs. List .....$8.15.
Each**$6.50;** Lots 10 ..... **$6.18**

uvex®

Uvextreme®AF

- Antiscratch
- Antifog
- Antistatic
- Anti-UV Rays

• Registered to ISO 9001



## FUTURA™ GOGGLE

**Sports-styling** for 180 degree unobstructed vision and worker acceptance. Polycarbonate lens is resistant to chemicals and impact. Indirect venting at top and bottom. Exclusive Uvextreme®AF coating minimizes fogging, scratching, static dust, and UV rays. Neoprene headband. Meet ANSI Z87.1-1989 and CSA Z94.3-1992 high impact protector standards. Uvex brand (9301).

**No. 6T363.** Shpg. wt. 0.4 lbs. List .....$9.90.
Each **$7.90;** Lots 10 ..... **$7.51**

• Registered to ISO 9001

uvex®



Uvextreme®AF

- Antiscratch
- Antifog
- Antistatic
- Anti-UV Rays

## UVEX SPOGGLE®

**For use in heavy-duty industrial applications** where close to the face fit is a must. Combines fit of a goggle with the comfortable feeling of a spectacle. Applications include foundry work, pulp and paper, cement and gravel, and grain elevators. Adjustable length headband for improved fit. Soft flame resistant face-foam medium makes Uvex Spoggle® comfortable over long periods of time. Large 66mm polycarbonate lenses provides good visibility of work area. Uvextreme®AF coating minimizes fogging, scratching, static dust and UV rays. Available with clear or gray lenses. **Not for chemical splash protection.** Meets ANSI Z87.1-1989. Uvex brand.

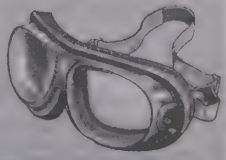
| Lens Color | Frame Color | Uvex Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Clear** | Brown | S400C | **3KN08** | $13.75 | **$11.00** | **$10.45** | 0.3 |
| **Gray** | Brown | S405C | **3KN09** | 14.75 | **11.80** | **11.21** | 0.3 |

uvex®

• Registered to ISO 9001

Uvextreme®AF

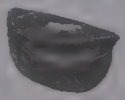
- Antiscratch
- Antifog
- Antistatic
- Anti-UV Rays



## GOGGLE CASE

Uvex goggle case protects goggles and keeps them clean. Goggle pack accommodates all uvex standard goggles. Features heavy-duty nylon material construction with a zipper closure and two belt loops. Black color. Uvex brand (S493).

**No. 3ZL25.** Shpg. wt. 0.1 lbs. List .....$8.15.
Each **$6.52;** Lots 10 ..... **$6.19**



uvex®

# EYEWEAR, EARPLUG AND GLOVE HOLDERS AND DISPENSERS

## SUGGESTION BOX

**Ideal way** for employees or customers to forward comments. Features security hasp and lock. For use on countertops or wall mounting. Pocket on front of box measures 6W x 1½"D for pad and pens (not included). Overall measurements: 12H x 10½W x 6½"D. Made of 3/16" black acrylic. AK Ltd. brand (AK-1702SH)

**No. 3JP51.** Suggestion Box. Shpg. wt. 5.9 lbs. List $87.54. Each.....**$78.80**

## SAFETY EYEWEAR DISPENSER

**Features flip-up access door** to allow quick removal of eye protection when needed. Ideal for visitor specs. Houses both boxed and loose safety eyewear and goggles. Clear acrylic material. Mounts easily on wall. Overall dimensions: 8W x 19H x 4"D. AK Ltd. brand (AK229-11)

**No. 3JP52.** Safety Eyewear Dispenser. Shpg. wt. 4.2 lbs. List $59.94. Each.....**$53.95**

## SAFETY EYEWEAR HOLDER

**Offers quick, convenient access** to eye protection. Keeps safety eyewear and goggles clean and handy. Features dust lid to keep eyewear clean. Wall mountable or free-standing. Clear acrylic material. Overall dimensions: 3¼H x 9W x 6¾"D with 4½"H backplate. AK Ltd. brand (AK230-1).

**No. 3JP53.** Safety Eyewear Holder. Shpg. wt. 2.4 lbs. List $35.94. Each.....**$32.35**

## EARPLUG DISPENSERS

**Put earplugs in plain view** to encourage use. Dispenses disposable and reusable earplugs. Slanted interior allows plugs to drop into opening, allowing one-at-a-time accessibility. Hinged lid keeps dust out and lifts easily for restocking. Predrilled for wall mounting or may be used free-standing. Small size holds 100 sets of earplugs with overall dimensions of 6W x 13H x 8"D. Large size holds 200 sets of earplugs with overall dimensions of 12W x 13H x 8"D. Made of 3/16" clear acrylic. AK Ltd. brand.

**No. 3JP55.** Small Dispenser (AK301). Shpg. wt. 3.8 lbs. List $63.30. Each .....**$57.00**

**No. 3JP54.** Large Dispenser. Shpg. wt. 7.0 lbs. List $76.50. Each .....**$68.85**

## SINGLE GLOVE DISPENSER

**Makes protection convenient** while reducing waste and contamination. For use in medical, dental, industrial and food service applications. Accommodates all manufacturer's sizes. Holds boxed, loose or packaged gloves. Allows for single glove retrieval. Wall mountable or may be used free standing. Clear acrylic material. Overall dimensions: 6⅝W x 11⅛H x 4"D. AK Ltd. brand (AK777C).

**No. 3JP57.** Single Glove Dispenser. Shpg. wt. 1.8 lbs. List $23.94. Each.....**$21.55**

## THREE COMPARTMENT GLOVE DISPENSER

**One-size-fits-all dispenser** accommodates all manufacturer's sizes. Holds boxed, loose or packaged gloves. Great for size separation: small, medium and large. Clear acrylic material. Overall dimensions: 19⅞W x 11⅛H x 4"D. AK Ltd. brand (AK777-3C).

**No. 3JP56.** Triple Glove Dispenser. Shpg. wt. 4.3 lbs. List $69.54. Each.....**$62.60**

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

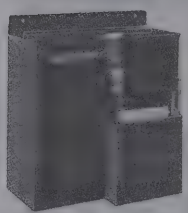
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

**AK LIMITED**

Women-Owned Business



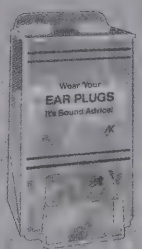

No. 3JP52 Safety Eyewear Dispenser



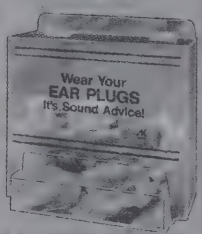
No. 3JP51 Suggestion Box



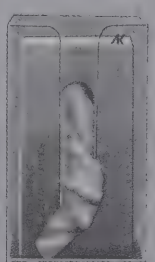

No. 3JP53 Safety Eyewear Holder



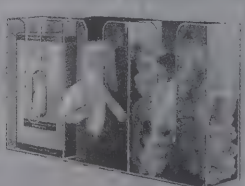

No. 3JP55 Small Earplug Dispenser




No. 3JP54 Large Earplug Dispenser



No. 3JP57 Single Glove Dispenser



No. 3JP56 Three Compartment Glove Dispenser

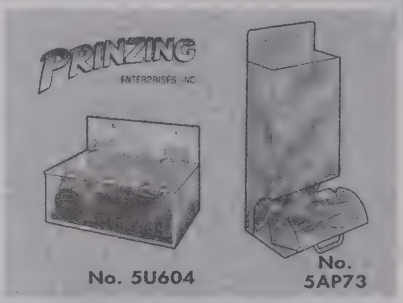
# EYEWEAR DISPENSERS, CASES AND SAFETY CORDS

## EYEWEAR DISPENSERS

Keep eyewear handy to encourage usage. Durable, clear acrylic models have predrilled holes for wall or tabletop mount. Prinzing brand.

**Horizontal unit** features double hinged lid to keep out dust. Holds four to six pairs of safety eyewear (not included). 3¼ H x 9 W x 6" D with 6¼" H backplate.

**Vertical unit** holds a sleeve of visitor specs or loose safety glasses. Door pulls down to remove eyewear. 16⅛H x 8¼W x 4"D with 19"H backplate.




### ORDERING DATA

| Description | Prinzing Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Horizontal Holder** | 2011L | **5U604** | $42.00 | **$35.70** | **$33.92** | 2.5 |
| **Vertical Dispenser** | MVSD | **5AP73** | 70.14 | **57.40** | **54.51** | 4.0 |

## EYEWEAR CASES

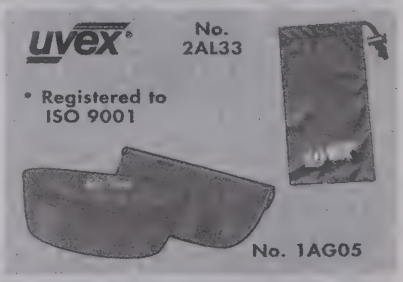
**Protects eyewear and keeps it clean.** Case is rip-stop, black nylon with nylon drawstring cord and barrel lock. Fits all Uvex models. Uvex brand (S487).

**No. 2AL33.** Shpg. wt. 0.1 lbs. List .....$4.40. Each **$3.50**; Lots 10 .....**$3.33**

**Astropack® protects and prolongs the life of eyewear.** Case holds uvex astrospec 3000™ eyewear, a replacement lens and other small items. A fabric separator keeps eyewear apart from its replacement lens. Made of heavy-duty nylon material with a zipper closure and two belt loops. Available in black or camouflage. Uvex brand.

**No. 1AG05.** Black color (S491). Shpg. wt. 0.1 lbs. List $6.90. Each .....**$5.50**; Lots 10.....**$5.23**

**No. 3KN10.** Camoflage design (S492). Shpg. wt. 0.1 lbs. List $7.00. Each .....**$6.85**; Lots 10.....**$6.51**




## SAFETY CORDS

**Help prevent damage to and loss of protective eyewear.** Adjustable polyester rope cords available in two styles: universal slip-on and snap-fit for locking into temple spatula of uvex astrospec 3000™, astrometal®, cricket® and other Uvex eyewear. Uvex brand.




### ORDERING DATA

| | SLIP-ON CORDS | | | | | | SNAP-FIT CORDS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Color | Uvex Model | Stock No. | List | Each | Lots 25 | Shpg. Wt. | Uvex Model | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
| **Blue** | S497 | **4T826** | $2.50 | **$1.98** | **$1.88** | 0.1 | S502 | **6AG71** | $2.50 | **$1.98** | **$1.88** | 0.1 |
| **Red** | S498 | **4T827** | 2.50 | **1.98** | **1.88** | 0.1 | S503 | **5AX61** | 2.50 | **1.98** | **1.88** | 0.1 |
| **Black** | S501 | **3AW51** | 2.50 | **1.98** | **1.88** | 0.1 | S505 | **4AJ26** | 2.50 | **1.98** | **1.88** | 0.1 |

## EYEWEAR CORDS

**Nylon cords** affix most spectacle styles at temple area to allow spectacles to hang around neck. Help prevent spectacle loss and dust and dirt accumulation when not in use. Available in black, orange, red and white. Bouton brand.

| Cord Color | Bouton Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Black** | 99540 | **2AV49** | $0.78 | **$0.71** | **$0.67** | 0.1 |
| **Orange** | 99541 | **5AF85** | 0.78 | **0.71** | **0.67** | 0.1 |
| **Red** | 99543 | **5AL41** | 0.78 | **0.71** | **0.67** | 0.1 |
| **White** | 99544 | **6AK80** | 0.78 | **0.71** | **0.67** | 0.1 |

## SLIP-ON SIDESHIELD

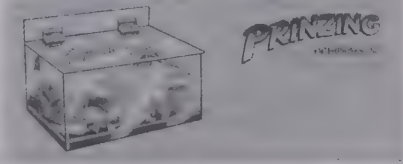
**Acetate sideshields** affix to most styles of plano prescription spectacles. Provide protection in industrial areas where required. Removable for areas where protection is not needed. Clear acetate material. **These removable sideshields do not meet the side impact performance requirements of ANSI Z87.1-1989. Do not use where approved protection is required. 10 pairs per package.** Bouton brand. (99700).

**No. 5AL29.** Shpg. wt. 0.1 lbs. List .....$5.77. Each Pkg. **$5.20**; Lots 10 .....**$4.94**

## PERSONAL PROTECTIVE EQUIPMENT DISPENSER

Clear acrylic versatile dispenser can be used anywhere you need quick access to personal protective equipment. Large 6¼ H x 12 W x 9" D capacity can hold safety glasses, ear plugs, dust masks, bouffant caps, hairnets, etc. Hinged lid keeps items clean. Foam bottom. Wall or table top mount for convenience. Prinzing brand (MPPE).

**No. 3ZM58.** Shpg. wt. 4.1 lbs. List $61.09. Each $51.55; Lots 4 .....**$48.95**

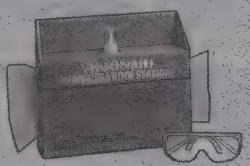


# LENS CLEANING STATIONS

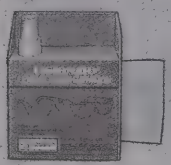


No. 5AJ09
Permanent Lens Cleaning Station

BOUTON®



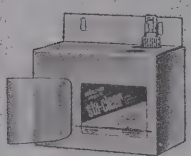
No. 5AX19
Large Disposable Dispenser



No. 6AT62
Small Disposable Dispenser



No. 4T532
Lens Cleaning Station

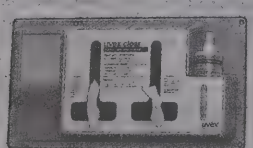


No. 1N789
Disposable Lens Cleaning Station

sellstrom safeguards®



No. 4T533
Replacement Tissues



No. 4AG33
Lens Cleaning Station

uvex®

•Registered to ISO 9001



No. 2AP01
Towelettes

## PERMANENT METAL LENS CLEANING STATION

Heavy-duty permanent metal lens cleaning station for use in manufacturing areas where high humidity is encountered or in areas where excessive dirt, grit or oily grime exists. Dispenser holds 16 oz. spray bottle or 13.5 oz. aerosol can of anti-fog, anti-static, silicone-free lens cleaner. Dispenses 760 7½" x 5" high wet-strength tissues (order components separately). Unit can be permanently affixed to wall. Lensclean brand by Bouton.

| Description | Bouton Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Empty Dispenser | 1LC1776D | 5AJ09 | $27.14 | $24.39 | $23.17/4 | 6.0 |
| Tissues, 7½" x 5", 760 per Pkg. | 1LC1760 | 3AD43 | 2.15 | 1.94 | 1.84/12 | 0.8 |
| 16 oz. Anti-Fog Solution (without pump) | 1LCL211B | 3AT01● | 2.03 | 1.81 | 1.72/6 | 1.2 |
| Spray Pump for No. 3AT01 | 1LCL211BSP | 5AH40 | 1.75 | 1.57 | 1.49/6 | 0.2 |
| 13.5 oz. Aerosol Anti-Fog Solution | 1LCL216 | 3AR06● | 3.03 | 2.71 | 2.57/6 | 1.2 |
| 1 Gallon Anti-Fog Solution Refill | 1LCL211C | 1AG98● | 14.00 | 12.56 | 11.93/4 | 9.0 |

## DISPOSABLE LENS CLEANING STATIONS

Heavy-duty disposable stations for use on plastic and glass lenses in manufacturing, light production, mobile unit, construction site or office applications. Maintenance-free unit contains anti-fog, anti-static, silicone-free cleaning solution and high wet-strength tissues that will not scratch lenses. Available in small size (3.5 oz. cleaner, 760 tissues), or large size (16 oz. cleaner, 1,520 tissues). Lensclean brand by Bouton.

| Description | Bouton Model | Stock No. ● | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Large Dispenser | 1LC5000D | 5AX19 | $13.49 | $12.13 | $11.52 | 2.8 |
| Small Dispenser | 1LC382D | 6AT62 | 4.62 | 4.15 | 3.94 | 1.0 |

## LENS CLEANING STATION

Clean, remove static, and defog protective eyewear, goggles, and lenses. Metal box with lock. Includes one box of 1000 tissues, plastic water bottle, and pump.

**See No. 4T533 below for replacement tissues.**

Sellstrom brand (23470).

**No. 4T532.** Lens Cleaning Station. Shpg. wt. 4.1 lbs. List ..... $53.58.
Each **$48.30**; Lots 3 ..... **$45.84**

## DISPOSABLE LENS CLEANING STATION

For cleaning and polishing protective glasses and goggles. Add water to Sta-Clear® tissues to activate anti-static, anti-fog cleaning solution in each tissue. Contains no silica to scratch lenses.

Constructed of durable corrugated board. For use in temporary locations, high use areas and areas where permanent units are not practical. Table top or wall mount.

Station includes box of 1000 tissues and pump spray bottle. **See No. 4T533 below for replacement tissues.** Self-contained unit has opening for disposing of used tissues. Dimensions: 8⅝" x 6½" x 5⅜". Sellstrom brand (23469).

**No. 1N789.** Shpg. wt. 1.8 lbs. List ..... $19.22.
Each **$17.30**; Lots 3 ..... **$16.44**

## REPLACEMENT TISSUES

Chemically treated. Add a few drops of water to lens, rub with tissue until foam appears, then wipe dry. No antifog solutions needed. Contains no silica. 1000 per box. Sellstrom brand (23480).

**No. 4T533.** Replacement Tissues. Shpg. wt. 1.0 lbs. List ..... $17.71
Each **$15.94**; Lots 6 ..... **$15.15**

## UVEX CLEAR® LENS CLEANING STATION AND TOWELETTES

For use with 4C+® and Uvextreme® AF coating, anti-fog coatings, and scratch-resistant hard coatings. Comes with 16 oz. of Uvex clear® lens cleaning solution, 4 boxes of 500 high-absorbancy non-abrasive tissues, and 3.5" x 4.5" mirror. Directions on front in English, French, and Spanish. Installs easily with wall screws or adhesive foam (included). Overall dimensions: 22.5"W x 12.5"H. Uvex brand.

| Description | Uvex Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Complete Station | S461 | 4AG33● | $41.89 | $33.50 | $31.83/4 | 6.0 |
| 4¼" x 8" Refill Tissue (500 per box) | S462 | 6AP81 | 3.40 | 2.70 | 2.57/10 | 0.5 |
| 16 oz. Solution | S463 | 6AJ81● | 4.50 | 3.60 | 3.42/12 | 1.5 |
| 1 Gal. Solution Refill | S464 | 5AR46● | 19.25 | 15.40 | 14.63/4 | 8.5 |
| Pre-Moistened Towelettes (100 per box) | S468 | 2AP01● | 12.15 | 9.70 | 9.22/10 | 0.8 |

● These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.



Close it, lock it, keep it safe — You'll find the right stuff right here.

# LENS CLEANING STATIONS

## SIGHT SAVERS® PERMANENT METAL LENS CLEANING STATION

For cleaning plastic and glass eyewear. Heavy-gauge metal cabinet with full drop front for easy refilling. Features key lock and low-maintenance enamel finish. Holds 1,520 absorbent, low-lint tissues and 16 oz. anti-fog silicone solution (order components separately below). Tissue waste department helps reduce litter. Fasteners included for easy mounting. Bausch & Lomb brand.

| Description | Bausch & Lomb Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Empty Dispenser | 8568 | 4AD44 | $33.60 | $29.55 | $28.06/2 | 5.5 |
| Tissues, 4¾" x 6½", 760 per pkg. | 8571 | 4AG49 | 3.15 | 2.79 | 2.65/18 | 1.0 |
| 16 oz. Anti-Fog Silicone Solution (without pump) | 8569 | 1AV39 ❸ | 3.34 | 2.96 | 2.82/12 | 1.3 |
| Spray Pump for No. 1AV39 | 8572 | 6AX56 | 1.82 | 1.64 | 1.56/12 | 0.1 |
| 1 Gallon Anit-Fog Silicone Solution Refill | 69 | 4T933 ❸ | 19.99 | 17.74 | 16.85/4 | 9.2 |

## SIGHT SAVERS® PERMANENT PLASTIC LENS CLEANING STATION

For cleaning plastic or glass safety eyewear. Tough plastic housing won't break or rust. Smooth surface is easy to keep clean. Installs easily with screws or adhesive strips. Unit holds 16 oz. spray bottle of Sight Savers® anti-fog liquid and 280-sheet box of Sight Savers® all purpose tissues (order components separately below). Bausch and Lomb brand.

| Description | Bausch & Lomb Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Empty Dispenser | 8563 | 4T931 | $27.83 | $24.59 | $23.36/4 | 2.0 |
| Tissues, 5" x 8", 280 per box | 8566 | 4T934 | 2.16 | 1.95 | 1.85/10 | 0.5 |
| 16 oz. Anti-Fog Silicone Solution (with pump) | 68 | 4T932 ❸ | 4.58 | 4.02 | 3.81/10 | 1.2 |
| 1 Gallon Anti-Fog Silicone Solution Refill | 69 | 4T933 ❸ | 19.99 | 17.74 | 16.85/4 | 9.2 |

## SIGHT SAVERS® DISPOSABLE LENS CLEANING STATION

For cleaning plastic or glass safety eyewear. Heavy-duty construction withstands harsh conditions over extended periods of time. Disposable to reduce maintenance for convenience and economy. Includes No. 4T932 16 oz. silicone anti-fog lens cleaning fluid and 1,520 sheets of all purpose tissues. 10"H x 7½"W x 5½"D. Bausch & Lomb brand (8565).

**No. 4T937.** 3 Shpg. wt. 3.5 lbs. List.....$17.41. Each **$15.29**; Lots 4.....**$14.52**

## SIGHT SAVERS® DISPOSABLE PLASTIC LENS CLEANING STATION

Maintenance-free design for use in factory, lab and office applications. Dispenses 760 4¾" x 5" tissues. Includes 8 oz. non-silicone, anti-fog lens cleaning fluid. Mount by screws and/or adhesive fastener (included). 11½"H x 5⅜"W x 3"D. Bausch & Lomb brand (143060GM).

**No. 6AG66.** ● Shpg. wt. 1.7 lbs. List.....$11.02. Each **$9.74**; Lots 10.....**$9.25**

## SIGHT SAVERS® TISSUE/CLOTH DISPENSERS

For use in light industrial applications or where liquid cleaner is unacceptable. Durable plastic case features full drop front access for easy refilling. Screw mount or self-adhesive strip installation included. Horizontal dispenser is 4⅝"H x 8¼"W x 4⅜"D. Vertical dispenser is 8¾"H x 3¾"W x 1½"D. Order tissues/cloths separately. Bausch & Lomb brand.

| Description | Bausch & Lomb Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Empty Horizontal Dispenser | 8562 | 3AP17 | $16.11 | $14.53 | $13.81/5 | 1.5 |
| Silicone-Treated Interfold Cloths, 5 x 6", 400 per pkg. | 74 | 5AX23 | 8.09 | 7.28 | 6.92/12 | 0.5 |
| Empty Vertical Dispenser | 8564 | 2AG37 | 14.56 | 12.85 | 12.21/5 | 0.8 |
| Silicone-Treated Cloths, 3 x 6½", 375 per pkg. | 73 | 3AZ65 | 4.78 | 4.22 | 4.01/10 | 0.3 |

## SIGHT SAVERS® PRE-MOISTENED LENS CLEANING TOWELETTES

For light industrial, office, toolbox, car or truck use. Non-silicone based, anti-fog, anti-static, individually packed tissues treated with special surfactants clean all glass and plastic lenses. Also for use on computer screens. Dispenses 100 each 5" x 8" folded, pre-moistened towelettes. Dispenser box is 9"H x 5½"W x 2⅜"D. Bausch & Lomb brand (8574GM).

**No. 2AR69.** ● Shpg. wt. 1.0 lbs. List.....$13.72. Each **$12.20**; Lots 10.....**$11.60**

No. 4AD44 Permanent Metal Lens Cleaning Station



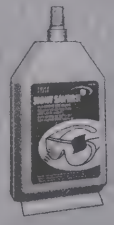
BAUSCH & LOMB



No. 4T931 Permanent Plastic Lens Cleaning Station

No. 4T937 Disposable Lens Cleaning Station





No. 6AG66 Disposable Plastic Lens Cleaning Station



No. 2AG37 Vertical Tissue/Cloth Dispenser



No. 3AP17 Horizontal Tissue/Cloth Dispenser



No. 2AR69 Pre-Moistened Towelettes



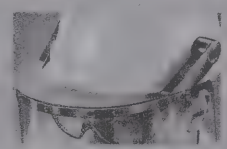
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

MSA

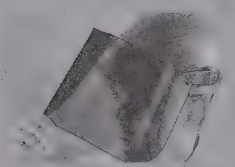
New



No. 4LN56 Fold Back Frame



No. 4LN58 Chemguard



No. 4LN65 Universal Visor

## FACESHIELDS

**Foldback Faceshield Frame.** Easily mounts to any MSA protective hat. Use with MSA visor listed below to adapt to your application (visor not included). No loose parts. Offers no dielectric protection. MSA brand.

**Chemguard®** EC Faceshield Frame. Protects against flying, abrasive particles and chemical splash. Faceshield with brackets, less visor. Visors sold separately below. No. 4LN58 for use with V-Gard®, Topgard® and Thermalgard® caps, not equipped with lockdown device on frame. No. 4LN58 for slotted V-Gard cap features non-friction joints with lockdown device. No. 4LN59 for slotted Topgard cap features non-friction joints with lockdown device. Easy-Lock™ visor attachments for easy mounting. No metal parts for dielectric protection. MSA brand.

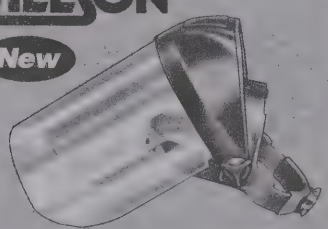
**Tempgard®** Faceshield Frame. Specially designed for elevated temperature applications. Mounts into slots of Thermalgard slotted cap. For use in industries with exposure to heat where face protection is needed from flying, abrasive particles and chemical splash. No metal parts helps maintain dielectric properties. MSA brand.

**Universal Visors.** Protects from flying, abrasive particles and chemical splash. Three types of materials to fit your application, acetate, polycarbonate or wire screen. Easily attaches to MSA faceshield frames with Easy-Lock visor attachment. MSA brand.

| Description | Color | Dimmensions (In.) | MSA Model | New Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Foldback Frame** | – | – | 488159 | **4LN56** | $24.71 | **$22.47** | 0.9 |
| **Chemgard** | – | – | 804579 | **4LN57** | 10.25 | **9.32** | 0.2 |
| **Chemgard** | – | – | 804639 | **4LN58** | 10.25 | **9.32** | 0.1 |
| **Chemgard** | – | – | 804640 | **4LN59** | 10.25 | **9.32** | 0.2 |
| **Tempgard** | – | – | 488105 | **4LN55** | 17.28 | **15.71** | 0.2 |
| **Polycarbonate Visor** | Clear | 8 x 16 x 0.40 | 488131 | **4LN60** | 5.55 | **5.05** | 0.3 |
| **Polycarbonate Visor** | Clear | 8 x 16 x 0.60 | 488132 | **4LN61** | 5.67 | **5.16** | 0.2 |
| **Acetate Visor** | Clear | 8 x 16 x 0.40 | 488133 | **4LN62** | 5.02 | **4.57** | 0.3 |
| **Acetate Visor** | Clear | 8 x 16 x 0.60 | 488134 | **4LN63** | 8.94 | **8.13** | 0.4 |
| **Acetate Visor** | Med. Green Tint | 8 x 16 x 0.40 | 488135 | **4LN65** | 5.26 | **4.79** | 0.3 |
| **Wire Screen Visor** | Al. Edge, 20 Mesh | 8 x 17½ | 457409 | **4LN64** | 29.07 | **26.45** | 0.5 |

WILLSON®

New



No. 4RF24

## FACESHIELDS

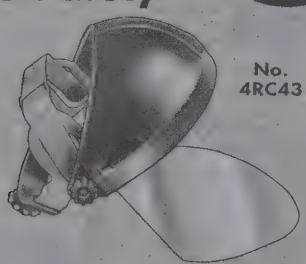
**Protecto-Shield Headgear with Universal Visor.** Complete headgear and faceshield visor. Features Pro-Lok™ system to securely keep visor from open exposures and holes. Visor protects against chemical splash, spray and flying particles. Reinforced edge help prevent cracks and scratches. Ratchet adjustment assures perfect fit for all head sizes. Clear window provides good visibility of work area. Willson brand.

**Protecto-Shield Replacement Visor** is made of lightweight molded plastic. Universal hole mouting fits most competitor brackets and headgear. Visor provides superior optics. Willson Brand

| Description | Color | Dim. (In.) | Willson Model | New! Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Headgear/visor polypropionate** | Clear | 8½ x 15 | V5NM86G | **4RF24** | $18.61 | **$17.65** | **$16.77/6** | 0.9 |
| **Replacement polypropionate visor** | Clear | 8½ x 15 | M86CLUIG | **4RF26** | 5.69 | **5.41** | **5.14/10** | 0.6 |
| **Headgear/visor polycarbonate** | Clear | 8½ x 15 | V5NM86PCG | **4RF25** | 20.61 | **19.58** | **18.60/6** | 0.9 |
| **Replacement polycarbonate visor** | Clear | 8½ x 15 | M86PCU5G | **4RF27** | 7.78 | **7.40** | **7.03/10** | 0.6 |

AOSafety®

New



No. 4RC43

## FACESHIELDS

**AOTUFFMASTER® Headgear** used to hold faceshield visor No. 4RC44 (sold separately below) offers full face protection. Easy-Change™ window system eliminates snaps, cams and bands when changing visors. High density polyethylene suspension has an adjustable pinlock and five-position comfort crown support. Fits head sizes 6½" to 8". Crown strap conforms to shape of head. Soft vinyl headband cushions forehead. When used with visor No. 4RC44, meets the requirements of ANSI Z87.1-1989 standard. AOSafety brand.

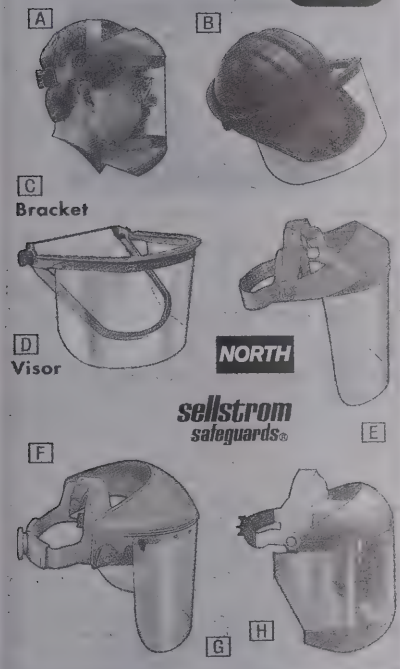
**AOTUFFMASTER® Window.** Clear window for heavy duty impact protection from splash, spray and flying particles generally encountered in light machine work. Clear polycarbonate window provides good heat resistance and excellent optics. Features the Easy-Change™ window system. Meets the requirements of ANSI Z87.1-1989 standard when used with No. 4RC44. AOSafety brand.

| Description | Color | Dim. (In.) | AO Safety Model | New! Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Headgear** | Blue | 6½ x 8 x 1/8 | 82500-00000 | **4RC43** | $12.53 | **$11.40** | **$10.83** | 0.7 |
| **Polycarbonate Visor** | Clear | 9 x 14½ x 0.080 | 82701-00000 | **4RC44** | 6.04 | **5.35** | **5.08** | 0.5 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

**Faceshield must always be used with basic protective eyewear such as goggles or spectacles.**

- **Registered to ISO 9001 (Bullard)**




# FACESHIELDS

A **Sentinel™ Ratchet Headgear.** Lightweight headgear is equipped with Sure-Lock® ratchet and absorbent Sportek® browpad. Crown strap conforms to shape of head. Multi-position feature for visor. Available with black crown protector or black crown and chin protector. Meets ANSI Z87.1-1989 when used in conjunction with Bullard visors **(sold separately below). No. 1F442 will only accept visor No. 1F430.** Bullard brand.

B **Gold Line® Bracket.** Anodized aluminum bracket allows attachment of various visors directly to hard hat. Features locking mechanism to securely keep visor in down, up or in-between positions. For applications not involving electrical hazards. Fits Bullard series 3000, 5100 and 4100. Meets ANSI Z87.1-1989 when used in conjunction with Bullard visors (sold separately below). Bullard brand.

C **Dielectric Faceshield Bracket.** Made of lightweight molded plastic. Use with Bullard series 3000, 5100, 4100 and Advent® hard hats. Meets ANSI Z87.1-1989 when used in combination with Bullard visors (sold separately below). Also available with slotted cap blades. Bullard brand.

D **Faceshield Visors.** Fit all Bullard headgear and brackets previously listed. Acetate, polycarbonate and polyester visors protect against splash, spray or light impact. Acetate visors provide good scratch and chemical resistance, while polycarbonate visors provide a higher degree of heat and impact resistance. Mesh screen visor provides increased ventilation for high heat work applications. Visors are available flat or formed. Formed visors provide superior optics. Multifit visors fit most competitor brackets. Visors meet ANSI Z87.1-1989 when used in conjunction with proper Bullard brackets. Bullard brand.

E **Flat Fold Faceshield.** Complete headgear and faceshield visor. Folds flat and assembles quickly. Use for protection from splash, spray and flying particles generally encountered in light machine work, chipping, grinding and sanding. Size adjustment uses pin-lock system. Meets the requirements of ANSI Z87.1-1989 standard. North brand.

F **Ratchet Headgear.** Used to hold faceshield visor No. 5X609 **(sold separately).** Ratchet adjustment assures perfect fit for all head sizes. When used in combination with visor No. 5X609, meets the requirements of ANSI Z87.1-1989 standard. North brand.

G **Clear Faceshield Visor.** Fits Nos. 5X373 ratchet headgear and 5X799 flat fold faceshield. When used with one of the above, wearer is protected from splash, spray, and flying particles generally encountered in light machine work, chopping, grinding and sanding. 8 x 15.5 x 0.055". North brand.

H **Full Faceshield with Drop Down Ratchet Headgear.** Top and bottom molded plastic caps and lightweight high impact spark guard give extra protection. Antiwarp construction with good internal window clearance. Includes 7 x 19 x .040" replaceable clear window No. 4T540 with keyhole mounting. Free-floating ratchet headgear with full tension adjustment for comfortable fit. Meets ANSI Z87.1-1989 standard. Sellstrom brand.

## SPECIFICATIONS AND ORDERING DATA

| Key | Description | Mfr. | Mfr. Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| — | Sentinel™ Headgear w/Black Crown Protector | Bullard | Sentinel 1 | **1F444** | $8.60 | **$7.74** | **$7.35/10** | 0.6 |
| A | Sentinel™ Headgear w/Black Crown and Chin Protector | Bullard | Sentinel 2 | **1F442** | 11.74 | **10.55** | **10.02/10** | 0.6 |
| B | Gold Line® Bracket | Bullard | 100G | **1F438** | 7.20 | **6.45** | **6.13/25** | 0.3 |
| C | Dielectric Front Mount Bracket | Bullard | 300B | **4T171** | 7.43 | **6.66** | **6.33/25** | 0.2 |
| — | Dielectric Front Mount Bracket w/Slotted Cap Blades | Bullard | 400 | **3AW28** | 7.70 | **6.90** | **6.56/25** | 0.2 |
| D | Flat Acetate Visor, Multifit, Clear, 8 x 15 x .040" | Bullard | 840M | **4T172** | 2.58 | **2.32** | **2.20/25** | 0.3 |
| — | Acetate Visor for Sentinel 2 Headgear, Clear, 8 x 15 x .040 | Bullard | 840MX2 | **1F430** | 3.05 | **2.75** | **2.61/25** | 0.3 |
| — | Formed Acetate Visor, Multifit, Clear, 8 x 15 x .040" | Bullard | 840MH | **1F436** | 3.76 | **3.35** | **3.18/25** | 0.4 |
| — | Formed Acetate Visor, Clear, 8 x 15 x .060" | Bullard | 860H | **1F432** | 6.60 | **5.95** | **5.65/25** | 0.4 |
| — | Formed Polycarbonate Visor, Clear, 8 x 15 x .040" | Bullard | 840P | **6AT06** | 4.46 | **4.00** | **3.80/25** | 0.4 |
| — | Formed Polycarbonate Visor, Clear, 8 x 15 x .060" | Bullard | 860P | **1F426** | 6.55 | **5.90** | **5.61/25** | 0.4 |
| — | Flat Polyester Visor, Multifit, Clear, 8 x 15 x .040" | Bullard | 840ME | **1F428** | 1.70 | **1.50** | **1.43/25** | 0.5 |
| — | Mesh Screen Visor, Black, 8 x 15 x 24 Mesh | Bullard | SS24 | **1F424** | 13.50 | **12.15** | **11.54/25** | 0.4 |
| E | Flat Fold Faceshield with Headgear | North | 6648 | **5X799** | 12.09 | **10.90** | **10.35/12** | 0.8 |
| F | Ratchet Headgear | North | 67200 | **5X373** | 16.35 | **14.71** | **13.97/6** | 0.6 |
| G | Replacement Faceshield Visor, Clear | North | 66007 | **5X609** | 6.46 | **5.81** | **5.52/25** | 0.3 |
| H | Full Faceshield w/Drop Down Ratchet Headgear | Sellstrom | S8110 | **4T539** | 24.83 | **22.35** | **21.23/4** | 1.5 |
| H | Replacement Window for No. 4T539, Clear | Sellstrom | 36000 | **4T540** | 7.20 | **6.48** | **6.15/12** | 0.3 |

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

## SIPCO® Products, Inc. HARD HAT RACKS

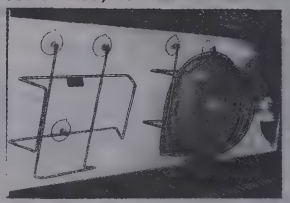
No. 5T444, Seat Model



No. 5T445, Wall Model



No. 5T445, Wall Model with No. 5T446, Window Mount Kit



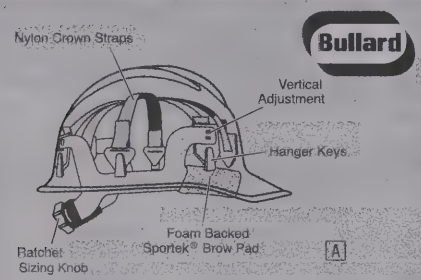
Safe and economical way to carry and store safety hard hats and caps in cars, work vehicles or storage facilities. Complies with recommendations contained in ANSI Z89.1-1997. Hard hats should not be stored or carried on the rear window shelf of an automobile since sunlight and extreme heat may cause degradation that will adversely affect the degree of protection they provide. Also, in case of emergency stop or accident hard hats may become hazardous missiles. Rack is made from high grade nickel-plated, heavy-duty wire with spot welds at cross points. Can be shaped to fit any shape of hard hat. Seat model No. 5T444 fits snugly over seat top and will not damage seat material. Wall model No. 5T445 may be permanently mounted in passenger compartments of work vehicles or as storage racks in offices. Window mount kit No. 5T446 consists of three suction cups and hardware. Attaches to wall model No, 5T445 to permit direct mounting of unit to window. Order No. 5T445 and 5T446 Separately to create window model. Sipco brand (STR-1SM, STR-2VM, WMK).

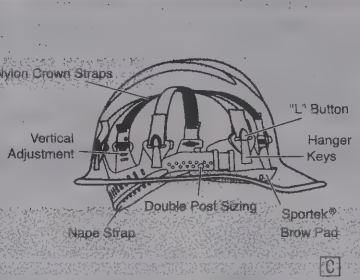
**No. 5T444.** Seat Model. Shpg. wt. 0.8 lbs. List..... $10.67.
Each.....**$8.48**

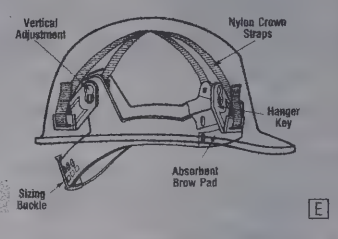
**No. 5T445.** Wall Model. Shpg. wt. 0.5 lbs. List.... $10.68.
Each.....**$8.49**

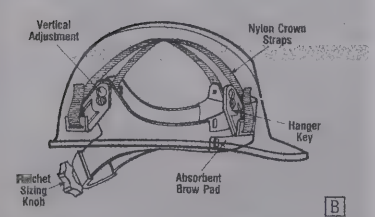
**No. 5T446.** Window Mount Kit. Shpg. wt. 0.1 lbs. List.....$5.62.
Each.....**$4.36**

## REPLACEMENT SUSPENSION SYSTEMS




**Suspension systems offer a high degree of comfort and dependable shock absorbtion. Breathable brow pad adds ventilation and perspiration absorbtion. Fits sizes 6½ to 8. Bullard brand.**

**Two types of suspension systems are available. Sure-Lock® rachet 6- and 4 point system, and self-sizing 6- and 4 point systems, fully adjustable with nap strap that can be raised or lowered for comfortable fit. 6-point suspension equipped with Sportek® brow pad.**

**Nos. 4T159 AND 4T160 are used with Bullard classic and full brim hard hats only. Nos. 4T167 and 4T168 are used with Bullard economy hard hats only, listed on page 2381**

| Key | Description | Bullard Model | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 6-point Ratchet | ESRTSL | **4T160** | $8.96 | **$8.15** | **$7.74** | 0.4 |
| B | 4-point Ratchet | TGRT600 | **4T168** | 8.55 | **7.70** | **7.32** | 0.3 |
| C | 6-point Self-sizing | ES-ULTRA | **4T159** | 5.17 | **4.65** | **4.42** | 0.3 |
| D | 4-point Self-sizing | TG600 | **4T167** | 4.50 | **4.05** | **3.85** | 0.4 |

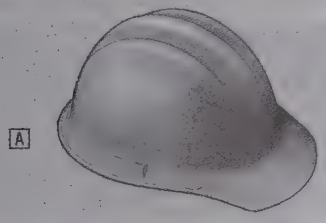
**HARD HAT EMBLEMS AVAILABLE.**
**See Index for Complete Listing.**

# HARD HATS

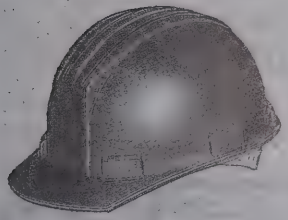
- High-density polyethylene hard hats meet ANSI Z89.1-1997 Class E and G requirements, including impact, penetration, and electrical insulation
- Certified by Safety Equipment Institute
- Registered to ISO 9001

Bullard

**Hardhats come complete with Suspensions. No need to order separate suspension.**



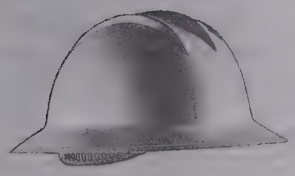
A



B



C



D

**A Classic-Style Hard Hats** are versatile for most industrial applications and government agency uses. Wide profile and brim provide ventilation and protection from sun.

Available with 6-point self-sizing suspension or 6-point Sure-Lock® ratchet suspension and Sportek® brow pad. Equipped with accessory slots that accept many attachments including welding helmets, earmuffs, communication devices, and faceshields.

**B Economy-Style Hard Hats** have one of the lightest designs available. Trim profile with rain trough for protection against snow, rain, and dirt.

Available with 4-point self-sizing suspension or 4-point Sure-Lock® ratchet suspension. Equipped with accessory slots that accept many attachments including welding helmets, earmuffs, communication devices, and faceshields. Microporite brow pad.

**C Traditional-Style Hard Hats** feature anatomically designed, rounded-front shell that allows increased air circulation. Available with 4-point self-sizing or 4-point Sure Lock® ratchet suspension. Accessory slots accept most commonly used attachments. Microporite brow pad.

**D Full-Brim Classic-Style Hard Hats** offer traditional hard hat protection plus extra coverage at sides and back of neck. Available with 6-point self-sizing suspension or 6-point Sure-Lock® ratchet suspension and Sportek® brow pad.

| Key | Style | Color | Bullard Model | Stock No. | List | Each | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Classic with 6-pt. Self-sizing Suspension | White | 3000 | 4T153 | $9.18 | $7.81 | $7.42/10 | 0.8 |
| | | Yellow | | 4T154 | 9.18 | 7.81 | 7.42/10 | 0.8 |
| | | Orange | | 4T155 | 9.18 | 7.81 | 7.42/10 | 0.8 |
| | | Red | | 4T156 | 9.18 | 7.81 | 7.42/10 | 0.8 |
| | | Blue | | 4T157 | 9.18 | 7.81 | 7.42/10 | 0.8 |
| | | Green | | 4T158 | 9.18 | 7.81 | 7.42/10 | 0.8 |
| A | Classic with 6-pt. Sure-Lock® Ratchet Suspension | White | 3000R | 4T925 | 12.57 | 11.32 | 10.75/10 | 0.9 |
| | | Yellow | | 4T926 | 12.57 | 11.32 | 10.75/10 | 0.9 |
| | | Orange | | 4T927 | 12.57 | 11.32 | 10.75/10 | 0.9 |
| | | Red | | 4T928 | 12.57 | 11.32 | 10.75/10 | 0.9 |
| | | Blue | | 4T929 | 12.57 | 11.32 | 10.75/10 | 0.9 |
| | | Green | | 4T930 | 12.57 | 11.32 | 10.75/10 | 0.9 |
| B | Economy with 4-pt. Self-sizing Suspension | White | 5100 | 4T161 | 6.72 | 5.26 | 5.00/10 | 0.7 |
| | | Yellow | | 4T162 | 6.72 | 5.26 | 5.00/10 | 0.9 |
| | | Orange | | 4T163 | 6.72 | 5.26 | 5.00/10 | 0.7 |
| | | Red | | 4T164 | 6.72 | 5.26 | 5.00/10 | 0.7 |
| | | Blue | | 4T165 | 6.72 | 5.26 | 5.00/10 | 0.7 |
| | | Green | | 4T166 | 6.72 | 5.26 | 5.00/10 | 0.7 |
| B | Economy with 4-pt. Sure-Lock® Ratchet Suspension | White | 5100R | 4T913 | 9.72 | 8.75 | 8.31/10 | 0.8 |
| | | Yellow | | 4T914 | 9.72 | 8.75 | 8.31/10 | 0.8 |
| | | Orange | | 4T915 | 9.72 | 8.75 | 8.31/10 | 0.8 |
| | | Red | | 4T916 | 9.72 | 8.75 | 8.31/10 | 0.8 |
| | | Blue | | 4T917 | 9.72 | 8.75 | 8.31/10 | 0.8 |
| | | Green | | 4T918 | 9.72 | 8.75 | 8.31/10 | 0.8 |
| C | Traditional with 4-pt. Self-sizing Suspension | White | 4100 | 2AK12 | 6.97 | 5.93 | 5.63/10 | 0.9 |
| | | Yellow | | 1BC39 | 6.97 | 5.93 | 5.63/10 | 0.9 |
| | | Orange | | 6AD37 | 6.97 | 5.93 | 5.63/10 | 0.9 |
| | | Red | | 2AG94 | 6.97 | 5.93 | 5.63/10 | 0.9 |
| | | Blue | | 6AL79 | 6.97 | 5.93 | 5.63/10 | 0.9 |
| | | Green | | 5AD13 | 6.97 | 5.93 | 5.63/10 | 0.9 |
| C | Traditional with 4-pt. Sure-Lock® Ratchet Suspension | White | 4100R | 1AJ24 | 9.72 | 8.75 | 8.31/10 | 0.9 |
| | | Yellow | | 6AH52 | 9.72 | 8.75 | 8.31/10 | 0.9 |
| | | Orange | | 6AP61 | 9.72 | 8.75 | 8.31/10 | 0.9 |
| | | Red | | 3AN57 | 9.72 | 8.75 | 8.31/10 | 0.9 |
| | | Blue | | 1AV21 | 9.72 | 8.75 | 8.31/10 | 0.9 |
| | | Green | | 3AV15 | 9.72 | 8.75 | 8.31/10 | 0.9 |
| D | Full Brim with 6-pt. Self-Sizing Suspension | White | 303 | 4T919 | 10.15 | 9.15 | 8.69/10 | 0.8 |
| | | Yellow | | 4T920 | 10.15 | 9.15 | 8.69/10 | 0.8 |
| | | Orange | | 4T921 | 10.15 | 9.15 | 8.69/10 | 0.8 |
| | | Red | | 4T922 | 10.15 | 9.15 | 8.69/10 | 0.8 |
| | | Blue | | 4T923 | 10.15 | 9.15 | 8.69/10 | 0.8 |
| | | Green | | 4T924 | 10.15 | 9.15 | 8.69/10 | 0.8 |
| D | Full Brim with 6-pt. Sure-Lock® Ratchet Suspension | White | 303R | 6AH18 | 13.42 | 12.11 | 11.50/10 | 1.2 |
| | | Yellow | | 3AH23 | 13.42 | 12.11 | 11.50/10 | 1.2 |
| | | Orange | | 2AX33 | 13.42 | 12.11 | 11.50/10 | 1.2 |
| | | Red | | 2AF08 | 13.42 | 12.11 | 11.50/10 | 1.2 |
| | | Blue | | 2AW37 | 13.42 | 12.11 | 11.50/10 | 1.2 |
| | | Green | | 3AW32 | 13.42 | 12.11 | 11.50/10 | 1.2 |
| — | Elastic Chin Strap | ← | ES42 | 6AJ29 | 2.75 | 2.45 | 2.33/25 | 0.1 |

For Cap-Mounted Faceshields, see page 2379.
For Replacement Suspensions, see page 2380.
For Cap-Mounted Earmuffs, see page 2392.

## SKULLGARD® PROTECTIVE HEADWEAR

For use in steel and other industries where metal splash and high temperatures are common. Shell and suspension construction offers comfortable fit and limited resistance to top impact and penetration. Layers of resin-impregnated textiles, laminated under pressure, offer heavy-duty protection. Available in two sizes to fit almost any wearer. Meets or exceeds applicable requirements for a Type I helmet (top impact) as outlined in ANSI Z89.1 1997 Class G (formerly Class A). MSA brand.




| Description | Color | Suspension Type | Size | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Skullgard Hats** | White | Staz-On® | Standard (61/2-8 in.) | 454665 | **4LN91** | $58.52 | **$53.20** | 0.9 |
| | Natural Tan | Staz-On® | Standard (61/2-8 in.) | 454664 | **4LN80** | 55.93 | **50.85** | 0.9 |
| | Natural Tan | Fas-Trac® Ratchet | Standard (61/2-8 in.) | 475395 | **4LN81** | 54.27 | **49.35** | 0.8 |
| | Gray | Staz-On® | Standard (61/2-8 in.) | 454622 | **4LN78** | 50.91 | **46.30** | 0.8 |
| **Skullgard Caps** | White | Staz-On® | Standard (61/2-8 in.) | 454618 | **4LN90** | 50.91 | **46.30** | 0.8 |
| | Natural Tan | Staz-On® | Standard (61/2-8 in.) | 454617 | **4LN79** | 48.32 | **43.95** | 0.8 |
| | Natural Tan | Staz-On® | Large (71/2-81/2 in.) | 82018 | **4LN82** | 51.70 | **47.00** | 0.8 |

## FAS-TRAC® AND STAZ-ON® SUSPENSION SYSTEMS

Replacement systems for MSA protective headwear. Easily adjustable to fit most wearers, offers excellent fit and comfort. Works together with hard hat shell, ensuring wearer confidence. Provides essential crown clearance to absorb impact of a blow to the top of head. MSA brand.




| Description | Size | For use on MSA Models: | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Staz-On® Suspension** | Standard (61/2-8 in.) | V-Gard Caps and Hats | 454230 | **4LN50** | $4.34 | **$3.95** | 0.1 |
| | | Topgard and Thermalgard | 454232 | **4LN51** | 4.34 | **3.95** | 0.1 |
| **Fas-Trac® Ratchet** | Standard (61/2-8 in.) | V-Gard Caps and Hats | 473332 | **4LN52** | 7.21 | **6.56** | 0.2 |
| | | Topgard and Thermalgard | 473333 | **4LN53** | 8.06 | **7.33** | 0.3 |
| | | Skullgard | 473334 | **4LN54** | 9.38 | **8.53** | 0.2 |

## HELMET LIGHTS

VersaLite® Helmet Light. 6,000 candlepower Xenon lamp module mounts to helmet. Multi-position swivel head allows worker to aim light where most needed. Water resistant, high impact polycarbonate case can be mounted to helmet or clipped to brim, no special tools needed. Requires 2 AA alkaline batteries (included). FM and CSA approved, non-incentive. MSA brand (697259).

***New*No. 4LN44.** Shpg. wt. 0.3 lbs. List $20.64. Each ..... **$18.77**

VersaBrite II® Helmet Light. 8,000 candlepower Xenon wide-beam lamp module mounts to protective headwear. Multi-position swivel head allows wearer to aim beam. Includes additional red lens for night vision. Water-resistant, high-impact polycarbonate case fits any MSA protective hat or cap with adapters that mount to headwear. Requires 2 AA alkaline batteries (included). FM and CSA approved, non-incentive. MSA brand (697417).

***New*No. 4LN46.** Shpg. wt. 3.0 lbs. List $23.87. Each ..... **$21.70**

Stealthlite® Helmet Light. 10,000 candlepower Xenon lamp mounts to headwear. One hand safety switch operation makes light easy to turn on and off. Watertight, high-impact polycarbonate lens fits any protective cap or hat with adapters that mount to headwear. Requires 4 AA alkaline batteries (not included). FM and CSA approved, non-incentive. MSA brand (697261).

***New*No. 4LN45.** Shpg. wt. 0.3 lbs. List $31.44. Each ..... **$28.60**




## LIGHT HOLDER

Holds MSA helmet lights, freeing up worker's hands. Fits into MSA slotted headwear. MSA brand (814322).

***New*No. 4LN47.** Shpg. wt. 0.1 lbs. List .....$11.60. Each ..... **$10.55**

## LIGHT STRAP

Holds helmet light securely in place. No metal parts, headwear maintains dielectric properties. Fastens into position with easy to use Velcro. MSA brand (697424).

***New*No. 4LN48.** Shpg. wt. 0.5 lbs. List .....$9.71. Each ..... **$8.83**

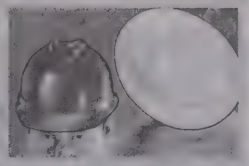
## GOGGLE RETAINER

Holds goggles securely on cap, conveniently placed. No metal parts, helmet maintains dielectric properties. MSA brand (459458).

***New*No. 4LP06.** Shpg. wt. 0.2 lbs. List .....$8.71. Each ..... **$7.92**

## V-GARD® HATS AND CAPS

Dielectric hats and caps provide limited resistance to top impact and penetration. Shell and suspension construction offers comfortable, lightweight protection. Non-slotted hats and slotted caps offer attractive styling to increase worker acceptance. Available with either Staz-On or Fas-Trac ratchet suspensions. Meets or exceeds applicable requirements for a Type I helmet (top impact) as outlined in ANSI Z89.1 1997 Class E and G (formerly Class A and B). MSA brand.




| Description | Color | Suspension Type | MSA Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Non-Slotted Hat | Blue | Staz-On® | 454732 | 4LN67 | $9.74 | $8.86 | 0.9 |
| | Blue | Fas-Trac® | 475368 | 4LN70 | 14.43 | 13.12 | 0.9 |
| | White | Staz-On® | 454733 | 4LN93 | 9.74 | 8.86 | 0.9 |
| | White | Fas-Trac® | 475369 | 4LN96 | 14.43 | 13.12 | 0.9 |
| Slotted Cap | Blue | Staz-On® | 463943 | 4LN68 | 6.47 | 5.89 | 0.8 |
| | Blue | Fas-Trac® | 475359 | 4LN69 | 10.83 | 9.85 | 0.8 |
| | Hi-Viz Orange | Fas-Trac® | 488146 | 4LN75 | 10.83 | 9.85 | 0.8 |
| | Green | Staz-On® | 463946 | 4LN76 | 6.47 | 5.89 | 0.8 |
| | Green | Fas-Trac® | 475362 | 4LN77 | 10.83 | 9.85 | 0.8 |
| | Orange | Staz-On® | 463945 | 4LN83 | 6.47 | 5.89 | 0.8 |
| | Orange | Fas-Trac® | 475361 | 4LN84 | 10.83 | 9.85 | 0.8 |
| | Red | Staz-On® | 463947 | 4LN85 | 6.47 | 5.89 | 0.8 |
| | Red | Fas-Trac® | 475363 | 4LN86 | 10.83 | 9.85 | 0.8 |
| | Robin's Egg Blue | Staz-On® | 463111 | 4LN87 | 6.47 | 5.89 | 0.8 |
| | Silver | Staz-On® | 484340 | 4LN88 | 6.47 | 5.89 | 0.8 |
| | Tan | Staz-On® | 461180 | 4LN89 | 6.47 | 5.89 | 0.8 |
| | White | Staz-On® | 463942 | 4LN94 | 6.47 | 5.89 | 0.8 |
| | White | Fas-Trac® | 475358 | 4LN95 | 10.83 | 9.85 | 0.8 |
| | Yellow | Staz-On® | 463944 | 4LP02 | 6.47 | 5.89 | 0.8 |
| | Yellow | Fas-Trac® | 475360 | 4LP03 | 10.83 | 9.85 | 0.8 |

## THERMALGARD® SLOTTED CAP

Lightweight protection for use in elevated temperatures. Shell and suspension construction offers comfortable fit while providing limited resistance to top impact and penetration. Slotted so accessories can be mounted on cap. High-strength helmet increases wearer acceptance and level of confidence by offering impact and low voltage protection. Injection-molded, rivetless shell of glass reinforced nylon features Staz-On suspension. Meets or exceeds applicable requirements for a Type I helmet (top impact) as outlined in ANSI Z89.1-1997 Class G (formerly Class A). White color. MSA brand (486965).




***New!* No. 4LN98.** Shpg. wt. 0.8 lbs. List $18.92. Each.....**$17.20**

## TOPGARD® CAPS

Shell and suspension construction provide comfortable fit and limited resistance to top impact and penetration. Uni-ridge styling promotes employee acceptance. Slotted so accessories can be mounted on cap. High dielectric strength helps protect workers from electrical shock. Injection-molded, impact resistant polycarbonate shell available with either Staz-On or Fas-Trac ratchet suspension. Meets or exceeds applicable requirements for a Type I helmet (top impact) as outlined in ANSI Z89.1-1 1997 Class E and G (formerly Class A and B). MSA brand.




| Description | Color | Suspension Type | MSA Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Topgard Slotted Caps | White | Fas-Trac® | 475385 | 4LN97 | $18.30 | $16.64 | 0.8 |
| | Yellow | Fas-Trac® | 475378 | 4LP04 | 18.30 | 16.64 | 0.8 |
| | White | Staz-On® | 454728 | 4LN92 | 14.64 | 13.31 | 0.8 |
| | Blue | Staz-On® | 454723 | 4LN66 | 14.64 | 13.31 | 0.8 |
| | Yellow | Staz-On® | 454721 | 4LP01 | 14.64 | 13.31 | 0.8 |

## INSERTS FOR SLOTTED CAPS AND HATS

Fits into headwear slots when slots are not in use, blocking rain and moisture. All plastic construction so headwear maintains dielectric properties. 50 inserts per pack. MSA brand (466295).

***New!* No. 4LN49.** Shpg. wt. 0.2 lbs. List....$40.90. Each (Pack of 50).....**$37.20**



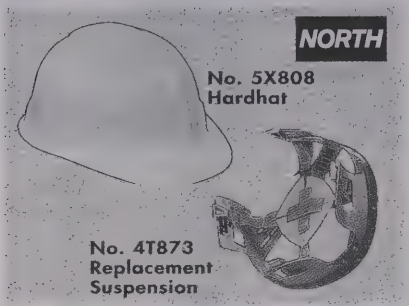

## CUSTOM TERRI-BAND SWEATBAND

Excellent absorbtion keeps perspiration out of eyes. Fits easily into protective headwear. Washable material for easy maintenance. No metal parts, helmet maintains dielectric properties. 10 sweatbands per pack. MSA brand (696688).

***New!* No. 4LP07.** Shpg. wt. 0.4 lbs. List.....$49.24. Each (Pack of 10).....**$44.80**

# HEAD PROTECTION

## HARD HATS




Good looking head protection of injection molded high density polyethylene construction. Provide protection against falling or flying objects.

Hats feature built-in rain trough and universal slot system for attaching a variety of accessory items. Inside headband can be adjusted to fit head sizes 6½ to 8. Meet Z89.1-1997 Type 1, Class E. Permanent molded-in colors. North brand (410).

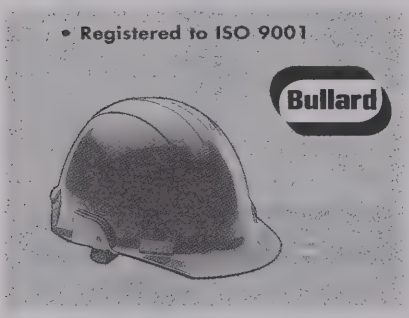
| Color | Stock No. | List | Each | Lots 20 | Shpg. Wt. |
|---|---|---|---|---|---|
| White | 5X808 | $5.82 | $5.31 | $5.05 | 1.0 |
| Yellow | 4X637 | 5.82 | 5.31 | 5.05 | 1.0 |
| Orange | 4T886 | 5.82 | 5.31 | 5.05 | 1.0 |
| Red | 4T885 | 5.82 | 5.31 | 5.05 | 1.0 |
| Sky Blue | 4T887 | 5.82 | 5.31 | 5.05 | 1.0 |
| Royal Blue | 4AD06 | 5.82 | 5.31 | 5.05 | 1.0 |
| Green | 4T888 | 5.82 | 5.31 | 5.05 | 1.0 |

**Replacement Suspension.** 4-point energy absorbing suspension system allows for fast, simple adjustment and conforms to the head for maximum comfort. Deep nape strap provides user with more secure fit.

**For use with North hard hats listed above only.** North brand (410S).

**No. 4T873** Shpg. wt. 0.3 lbs. List.....$5.58.
Each **$5.10;** Lots 25 .....**$4.84**

## ADVENT® ADVANCED INDUSTRIAL HELMET




Design and construction include polycarbonate alloy outer shell, expanded polystyrene inner foam core, and ABS inner liner. Plus an expanded polyethylene molded crown cushion and an 8-point Sure-Lock® ratchet suspension system.

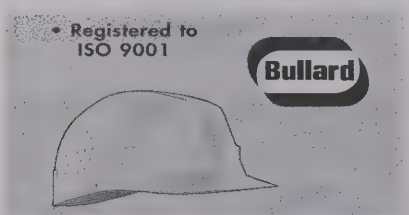
In addition to the top impact and penetration protection offered by conventional hard hats, Advent helmets also protect side, front, and the back of head. Construction designed to minimize the rate and level at which forces of impact are transmitted to the brain, neck, and spine. Helmet's outer shell provides superior impact and penetration protection. Permanently attached 2-point chin strap helps provide secure fit.

Meets or exceeds ANSI Z89.1-1997, Type II, Class E and G, and CSA Z94.1-1992 Class G. Bullard brand (A1).

Replacement 8-point Sure-Lock® ratchet suspension available. Bullard brand (ADRTSL).

| Color | Stock No. | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| White | 5T162 | $62.42 | $56.20 | $53.39/5 | 1.4 |
| Yellow | 5T163 | 62.42 | 56.20 | 53.39/5 | 1.4 |
| Orange | 5T165 | 62.42 | 56.20 | 53.39/5 | 1.4 |
| Red | 5T164 | 62.42 | 56.20 | 53.39/5 | 1.4 |
| Blue | 5T166 | 62.42 | 56.20 | 53.39/5 | 1.4 |
| Suspension | 3AF24 | 14.45 | 13.00 | 12.35/25 | 0.4 |

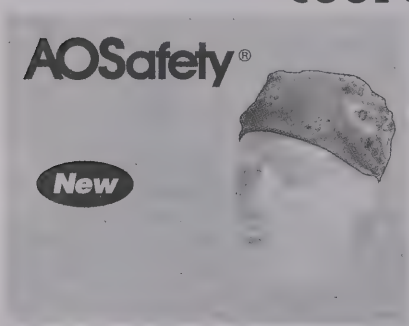
## BUMP CAPS




**Bump Caps** are made of lightweight and durable high-density polyethylene to provide protection against minor bumps and abrasions. **Ideal for work areas not requiring ANSI hard hat protection.** One size fits all. Bullard brand (MK2V).

| Color | Stock No. | List | Each | Lots 15 | Shpg. Wt. |
|---|---|---|---|---|---|
| White | 4T169 | $4.49 | $4.04 | $3.84 | 0.4 |
| Yellow | 4T170 | 4.49 | 4.04 | 3.84 | 0.5 |
| Orange | 2AH91 | 4.49 | 4.04 | 3.84 | 0.4 |
| Red | 2AK10 | 4.49 | 4.04 | 3.84 | 0.4 |
| Blue | 3AK79 | 4.49 | 4.04 | 3.84 | 0.4 |
| Green | 5AT51 | 4.49 | 4.04 | 3.84 | 0.4 |

## COOL STUFF™ HEAT RELIEF PRODUCTS

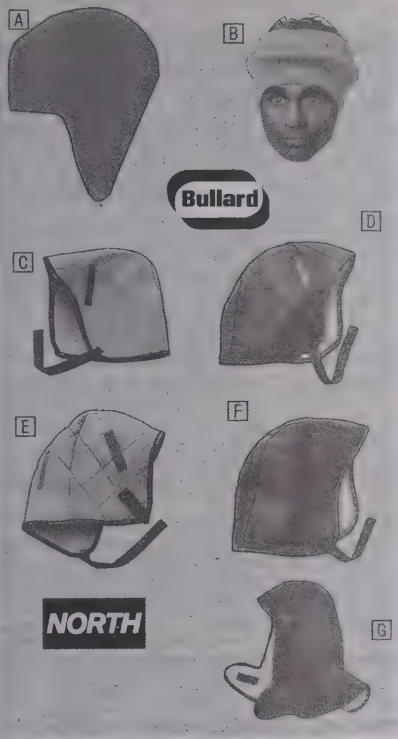



Cool Stuff™ products utilize the evaporation principle to provide a cooling sensation without refrigeration or freezing and without the bulkiness and inconvenience of ice, freezer gels, or spongy material. All items contain two unique types of crystal polymers that absorb over 250 times their weight in water. These polymers absorb water and evaporate at difference rates which enhances the product's ability to stay cool throughout the day. All items are activated by soaking in ice cold water for 20-30 minutes to provide cooling benefits all day long. Items are made of lightweight, breathable cotton and feature a channeled design that eliminates rolling. Neck wrap features a quick release velcro attachment. Bandanas feature a unique full head design. AO Safety Brand.

| Type | Color | AO Safety Model | *New!* Stock No. | List | Each | Lots of 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Bandanna | Red Pattern | 46711-00000 | 4RC39 | $9.12 | $8.30 | $7.89 | 0.1 |
| Bandanna | Blue Pattern | 46712-00000 | 4RC40 | 9.12 | 8.30 | 7.89 | 0.1 |
| Neck Wrap | Red | 46716-00000 | 4RC41 | 9.12 | 8.30 | 7.89 | 0.1 |
| Neck Wrap | Blue | 46717-00000 | 4RC42 | 9.12 | 8.30 | 7.89 | 0.1 |

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# WINTER LINERS AND SWEATBANDS




## WINTER LINERS

A **Orion acrylic knit winter liner** slips onto hat suspension, permitting air to circulate through material. This creates a warm air barrier between head and shell without bulky weight. Protects forehead, ears, part of cheeks and nape of neck. Easy to install and remove. Available for 4-point and 6-point suspension systems. One size fits all. Washable, resists fading, flame-retardant†, and dielectric (will not conduct electricity). Bullard brand.

B **Cap-Style Liner** fits all styles of hard caps. Snug fitting style keeps wind out. Flame resistant spun polyester and spandex. Knitted style traps warmth while allowing moisture to evaporate. Available in navy or orange. North brand.

C **Lightweight Liner** provides protection in moderate temperatures. 100% cotton shell with black fastener straps for easy attachment to safety cap suspensions. Napped flannel interior for warmth and comfort. North brand.

D **Fleece Liner** features red heavyweight lining for extra warmth. 100% cotton, 8 oz. blue twill outer shell with black fastener straps. North brand.

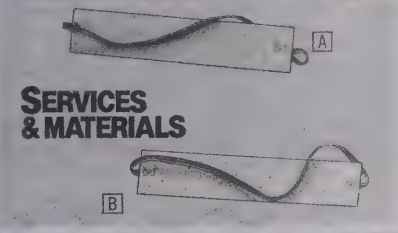
E **Thermal Quilted Liner** features quilted blue nylon outer shell with black trim and fastener straps and heather red fleece lining. Standard sizing. North brand.

F **Thermal Long Nape Liner** is styled to provide warmth in sub-freezing temperatures and against wind chill. Longer nape covers neck. 100% cotton, 8 oz. blue twill outer shell and red heavyweight fleece lining. North brand.

G **Thermal Extra-Long Nape Liner** for use in coldest climates. Full head and neck coverage with extra-long nape and wrap-around cape. 100% cotton, 8 oz. blue twill exterior with black trim and fastener straps. Thick 16 oz. sherpa lining for maximum warmth. North brand.

| Key | Type | Mfr. Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Knit 4-pt. Suspension | FP4 | **4T173†** | $5.31 | **$4.78** | **$4.54/25** | 0.2 |
| A | Knit 6-pt. Suspension | FP6 | **4T912†** | 5.66 | **5.09** | **4.84/25** | 0.2 |
| B | Cap-Style Navy | WL-01 | **1AJ01** | 3.74 | **3.40** | **3.23/12** | 0.2 |
| B | Cap-Style Orange | WL-02 | **5AC98** | 3.74 | **3.40** | **3.23/12** | 0.2 |
| C | Lightweight | WL-03 | **5AL96†** | 2.61 | **2.37** | **2.25/12** | 0.1 |
| D | Fleece | WL-04 | **3AR53†** | 3.93 | **3.57** | **3.40/12** | 0.1 |
| E | Thermal Quilted | WL-05 | **2AG54†** | 4.01 | **3.65** | **3.47/12** | 0.1 |
| F | Thermal Long Nape | WL-06 | **2BC02†** | 4.62 | **4.20** | **3.99/12** | 0.1 |
| G | Thermal Extra-Long Nape | WL-07 | **5AJ79†** | 10.54 | **9.58** | **9.10/6** | 0.6 |

(†) Flame-retarding ability will decrease after washing or dry cleaning.




## SWEATBANDS

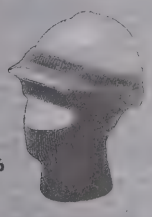
**Sweatbands** feature soft, reinforced sponge to absorb perspiration before it trickles into the eyes or spectacles. Keeps workers cool and comfortable, indoors and out. Waffled sponge provides added durability with gauze scrim-reinforced design (economy sweatband not reinforced). Stays in place with industrial grade elastic band stitched into sponge. 8⅝ x 1¾". Service & Materials brand.

| Key | Description | Qty. Per Bag | S & M Model | Stock No. | List | Each Bag | Lots of 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Deluxe Sweatbands | 100 | SB-02 | **2AF07** | $42.22 | **$38.00** | **$36.10** | 1.5 |
| B | Economy Sweatbands | 100 | SB-01 | **2AP87** | 35.88 | **32.30** | **30.69** | 1.5 |

MSA

New

No. 4LP16



## MSA WINTER LINERS

For use with MSA helmets. Contoured design fits head shapes and cheek curves, fitting most wearers. Available in a variety of materials to fit your application. Washable suede inner material is easy to keep clean. MSA brand.

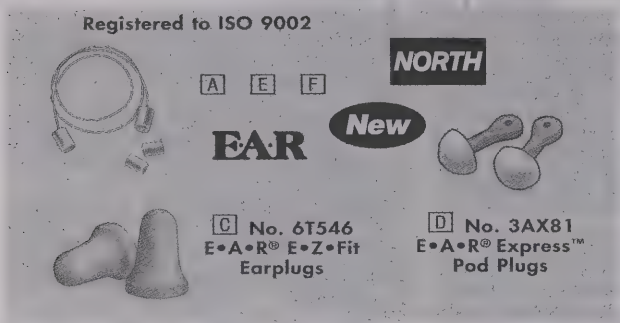
| Description | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Zipper-Type** | 455930 | **4LP10** | $12.80 | **$11.64** | 0.2 |
| **Flame Resistant** | 696473 | **4LP11** | 20.61 | **18.74** | 0.5 |
| **Standard** | 697117 | **4LP12** | 5.63 | **5.12** | 0.2 |
| **Extended Neck** | 697118 | **4LP13** | 6.28 | **5.71** | 0.2 |
| **Knit Cap** | 34929 | **4LP14** | 4.95 | **4.50** | 0.1 |
| **Quilted Fleece** | 697119 | **4LP15** | 5.19 | **4.72** | 0.5 |
| **Stretch** | 695350 | **4LP16** | 5.67 | **5.16** | 0.2 |
| **Economy** | 697116 | **4LP17** | 3.75 | **3.41** | 1.3 |

GRAINGER...YOUR ONE STOP SHOPPING SOURCE!

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**

# HEARING PROTECTION

## DISPOSABLE EARPLUGS




C No. 6T546
E•A•R® E•Z•Fit Earplugs

D No. 3AX81
E•A•R® Express™ Pod Plugs

**A E•A•R® Disposable Earplugs** are made of soft, energy-absorbing polymer foam. Foam design allows plug to gradually expand and conform to size and shape of ear canal. Demonstrate consistently high attenuation values and low variability. Plugs are washable and can be comfortably worn for extended periods of time. Corded models feature bright blue cord welded to plug to provide emergency break-away. Dermatologically safe and non-irritating. Attenuation tested in accordance with ANSI S3.19-1974. Yellow color. Also available with bright blue cord. **200 pair per box.** E•A•R brand.

**CLASSIC™**—Noise Reduction Rating (NRR): 29 dB.

**GRANDE™**—Offers highest available Noise Reduction Rating (NRR): 33dB.

**AMIGO™**—Noise Reduction Rating (NRR): 29dB. For medium to smaller ear canals.

| Earplug Description | E•A•R Model | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **CLASSIC™ EAR PLUGS** | | | | | | |
| **Without Cord** | 310-1001 | **4T147** | $35.88 | **$30.70** | **$29.17** | 2.0 |
| **With Cord** | 311-1101 | **5T277** | 70.80 | **56.50** | **53.68** | 2.0 |
| **GRANDE™ EAR PLUGS** | | | | | | |
| **Without Cord** | 310-1101 | **4HC65** | 35.88 | **30.70** | **29.17** | 1.6 |
| **With Cord** | 311-1105 | **4HC67** | 70.80 | **56.50** | **53.68** | 2.1 |
| **AMIGO™ EAR PLUGS** | | | | | | |
| **Without Cord** | 310-1103 | **4HC66** | 35.88 | **30.70** | **29.17** | 1.4 |
| **With Cord** | 311-1106 | **4HC68** | 70.80 | **56.50** | **53.68** | 2.1 |

**B E•A•R® TaperFit2™ Earplugs** are regular sized for normal ear canals and provide optimum comfort and protection. Tapered shape aids insertions and removals. Soft, self-adjusting foam creates effective move-resistant barrier against noise. Earplugs tested in accordance with ANSI-S3.19-1974. Noise Reduction Rating (NRR): 32 dB. Dermatologically safe and non-irritating. Yellow color. Also available with bright blue cord. **200 pair per box.** E•A•R brand.

| Earplug Description | E•A•R Model | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Without Cord** | 312-1219 | **6T545** | $47.00 | **$28.85** | **$27.41** | 1.1 |
| **With Cord** | 312-1223 | **3AC62** | 66.00 | **47.55** | **45.17** | 1.1 |

**C E•A•R® E•Z•Fit™ Earplugs** provide comfort and protection for regular and small ear canals. Self-adjusting, bell-shaped foam produces a soft, comfortable seal against noise without pressure in ear canal. Earplugs tested in accordance with ANSI S3.19-1974. Dermatologically safe and non-irritating. Noise Reduction Rating (NRR): 28 dB. Yellow color. Also available with bright blue cord. **200 pair per box.** E•A•R brand.

| Earplug Description | E•A•R Model | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Without Cord** | 312-1208 | **6T546** | $47.00 | **$28.85** | **$27.41** | 1.0 |
| **With Cord** | 312-1222 | **1AV18** | 66.00 | **52.80** | **50.16** | 1.1 |

**D E•A•R® Express™ Pod Plugs** incorporate the InstaSeal™ system which provides quick and proper fit. Combines attenuating benefits of slow recovery foam with push-in convenience of premolded plugs for a custom, secure, comfortable fit. Eliminates excess foam and excess pressure often experienced by standard polyurethane earplug wearers. Reusable or disposable design provides for less distortion of desired sounds (speech), no rolling or touching of foam, easy cleaning, and instant protection. For dirty work environments and noisy areas where vocal communication is essential. Earplugs tested in accordance with ANSI S3.19-1974. Dermatologically safe and non-irritating. Noise Reduction Rating (NRR): 25dB. Blue grips with yellow foam. Also available with bright blue cord. **100 pair per box.** E•A•R brand.

| Earplug Description | E•A•R Model | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Without Cord** | 321-2100 | **3AX81** | $53.25 | **$48.40** | **$45.98** | 1.0 |
| **With Cord** | 311-1114 | **2AJ13** | 83.60 | **76.00** | **72.20** | 1.0 |

**E DeciDamp2™ Disposable Earplugs.** Re-engineered for excellent protection, quicker recovery and increased comfort. Lightweight, washable, non-toxic and non-irritating. Provide consistent attenuation performance and improved voice communications. One pair per pouch packaging eliminates exposure to dust and dirt. Corded model offers higher visibility for safety checks and reduces incidents of lost plugs.

Attenuation tested in accordance with ANSI S3.19-1974. White color. Corded and uncorded models provide a Noise Reduction Rating (NRR) of 29dB. **Uncorded plugs are 200 pair per box,** in cellophane or paper packaging. **Corded plugs with bright blue cord are 100 pair per box,** in cellophane packaging. North brand.

| Earplug Description | North Model | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **CELLOPHANE POUCH PACKAGING** | | | | | | |
| **Without Cord** | 28-00-05 | **4T507** | $42.06 | **$21.03** | **$18.93** | 1.0 |
| **With Cord** | 28-00-06 | **4T508** | 34.34 | **24.90** | **22.41** | 1.0 |
| **PAPER POUCH PACKAGING** | | | | | | |
| **Without Cord** | 28-25-05 | **3AF90** | 42.06 | **21.03** | **18.93** | 1.0 |

**F DeciGuard™ AB Earplugs with Microban Antimicrobial Protection.** Effectively reduces noise and protects against growth of bacteria, molds, and fungi. Microban protection is incorporated into the earplug molecular structure and will not wash or wear off. Earplugs attenuation tested in accordance with ANSI S3.19-1974. White color with blue spec's. Corded and uncorded models provide a Noise Reduction Rating (NRR) of 29dB. Uncorded plugs are 200 per pair box in cellophane or paper packaging. Corded plugs with bright blue cord are 100 pair per box, in cellophane packaging. North brand.

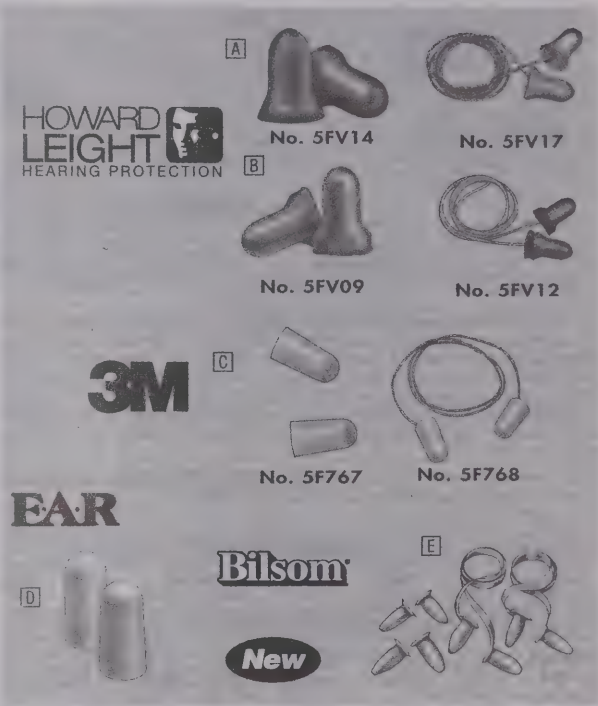
| Earplug Description | North Model | | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CELLOPHANE POUCH PACKAGING** | | | | | | | |
| **Without Cord** | 28-02-05 | ***New*** | **4RL96** | $45.73 | **$24.81** | **$23.56** | 8.0 |
| **With Cord** | 28-02-50 | ***New*** | **4RL98** | 37.86 | **28.85** | **27.40** | 13.0 |
| **PAPER POUCH PACKAGING** | | | | | | | |
| **Without Cord** | 28-02-10 | ***New*** | **4RL97** | 45.73 | **24.81** | **23.56** | 10.0 |

**G Deci 4200 Disposable Earplugs.** Tapered design and polyurethane foam construction optimize wearer comfort and protection even during extended periods of use. Non-toxic, non-irritating plugs automatically conform to almost all ear canal sizes. Demonstrate consistently high attenuation performance. One pair per cellophane pouch packaging eliminates exposure to dust and dirt. Blue corded model offers high visibility for safety checks and reduces incidence of lost plugs. **Uncorded models: 200 pair per box. Corded models: 100 pair per box.**

Attenuation tested in accordance with ANSI S3.19-1974. Purple color. Noise Reduction Rating (NRR): 31 dB on uncorded model. 27 dB on corded model. North brand.

| Earplug Description | North Model | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Without Cord** | 28-42-00 | **1N632** | $40.54 | **$24.07** | **$21.66** | 1.0 |
| **With Cord** | 28-42-40 | **1N631** | 39.18 | **28.45** | **25.60** | 1.0 |

# DISPOSABLE EARPLUGS




**A MAX Disposable Earplugs.** Pre-shaped foam earplugs feature a smooth outer skin for maximum user comfort. Noise Reduction Rating (NRR): 33dB. Smooth, soil-resistant skin helps prevent foreign material from impregnating the surface while rolling prior to insertion. Attenuation tested in accordance with ANSI S3.19-1974. **200 uncorded pair per box, 100 corded pair per box.** Orange color. Howard Leight brand.

| Earplug Description | H-L Model | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Without Cord** | MAX-1 | **5FV14** | $32.49 | **$29.95** | **$28.45** | 1.0 |
| **With Cord** | MAX-30 | **5FV17** | 32.17 | **28.95** | **27.50** | 1.1 |

**B MAX-LITE Disposable Earplugs.** Low pressure foam earplugs are ideal for long term users and for individuals with smaller ear canals. Pre-shaped, non-irritating, non-allergenic foam recovers to fit virtually any ear canal. Attenuation tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 30 dB. **200 uncorded pair per box, 100 corded pair per box.** Green color. Howard Leight brand.

| Earplug Description | H-L Model | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Without Cord** | LPF-1 | **5FV09** | $28.95 | **$25.95** | **$24.65** | 1.0 |
| **With Cord** | LPF-30 | **5FV12** | 27.95 | **25.20** | **23.94** | 1.1 |

**C 3M Disposable Earplugs.** Tapered design offers smooth, soft surface for comfort. A longer length coupled with expandable foam material conforms to the shape of the ear canal. Hypo-allergenic. Bright orange color for visibility. Tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 29 dB. Packaged in easy opening bag. Available corded or uncorded. No. 5F768 features soft braided cord to reduce noise transmission through cord and helps prevent ear plug loss. **Uncorded models: 200 pair per box. Corded models: 100 pair per box.** 3M brand.

| Earplug Description | 3M Model | Stock No. | Per Box List | Per Box Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Without Cord** | 1100 | **5F767** | $24.67 | **$22.43** | **$21.31** | 1.3 |
| **With Cord** | 1110 | **5F768** | 26.74 | **24.32** | **23.10** | 1.1 |

**D Supersoft™ Earplugs.** Softer formulation offers greater comfort. Regular-sized for normal ear canals with enhanced level of attenuation. Expandable, soft, self-adjusting low-pressure foam has a smooth, silky finish. Non-irritating and non-toxic. Tested in accordance with ANSI-S3.19-1974. Noise Reduction Rating (NRR): 30 dB. Available with or without smooth, vinyl connection cord. One pair per polybag. **200 pair per box.** Yellow color. E•A•R brand.

| Earplug Description | EAR Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Without Cord** | 312-1265 | **4HC70** | $40.40 | **$30.30** | **$28.79** | 1.0 |
| **With Cord** | 312-1264 | **4HC69** | 69.20 | **55.40** | **52.63** | 2.2 |

**E Bilsom Eardown® Disposable Earplugs** Soft Eardown® material allows easy insertion without rolling, which reduces the risk of transferring dirt or chemicals into the ear canal. Minimal pressure in the ear canal means a more comfortable fit and better wearer acceptance. Permits clear worker communication uncommon to foam plugs. Flanged base provides a grip for quick, easy insertion and removal. Color coded by size: green indicates small, blue indicates large. (NRR): 22 dB. Uncorded models: 400 pair per box; Corded models: 100 pair per box. Bilsom® brand.

| Earplug Description | Bilsom Model | *New!* Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Uncorded, large** | 202L-10 | **4RF30** | $55.72 | **$52.95** | **$50.30** | 2.0 |
| **Uncorded, small** | 202S-10 | **4RF31** | 55.72 | **52.95** | **50.30** | 2.0 |
| **Corded, large** | 203L-10 | **4RF32** | 31.24 | **29.70** | **28.20** | 2.0 |
| **Corded, small** | 203S-10 | **4RF33** | 31.24 | **29.70** | **28.20** | 2.0 |

# EARPLUG HOLDER-DISPENSER

**Clear acrylic dispenser** easily holds 200 pair (one box) of disposable or reusable earplugs (not included). Can be wall mounted or used free standing. Provides convenient access in work areas. Front tray measures 2¾ deep. 13¼H x 12W x 8D. Prinzing brand (04439).

**No. 5U603.** Shpg. wt. 6.6 lbs. List.....$81.92. Each **$67.10**; Lots 3.....**$63.70**

• Earplugs Not Included

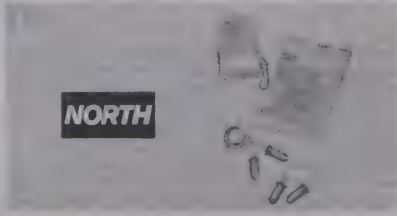



# SILENT PARTNER REUSABLE EARPLUGS

**Silicone rubber sheath** filled with silicone putty provides lightweight comfort for wearer. Silicone putty expands to fit virtually any size ear canal, eliminating the need for insertion. Nontoxic and nonirritating. Washable with soap and water for repeated use. Corded model offers high visibility for safety checks and reduces incidence of lost plugs.

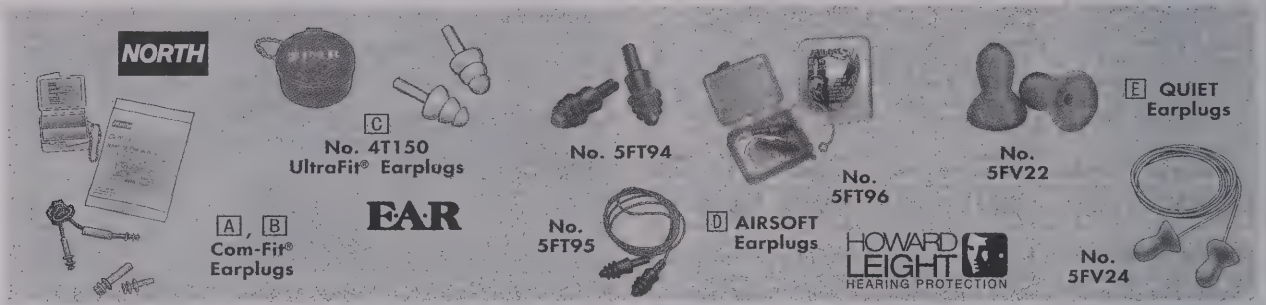
Attenuation tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 25 dB. North brand.

| Earplug Description | North Model | Stock No. | List | Each | Lots 20 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Without Cord** | 28-11-20 | **5AM49** | $3.66 | **$3.12** | **$2.97** | 0.1 |
| **With Cord** | 28-11-25 | **6AT48** | 4.14 | **3.52** | **3.17** | 0.1 |



# HEARING PROTECTION

## REUSABLE EARPLUGS




**A, B Com-Fit® Reusable Earplugs** provide comfort and protection from a silicone rubber material that can be cleaned and worn repeatedly. The soft, triple flange design with inserter provides multi-surface sealing within the ear canal simplifying insertion and reducing attenuation variability. Corded models offer high visibility for safety checks and reduce incidence of lost plugs. Each size color coded for easy identification. Clean with boiling water or alcohol.

Attenuation tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 26 dB. North brand.

### ORDERING DATA

| Earplug Description | Size & Color | North Model | Stock No. | Per Pair List | Per Pair Each | Lots 20 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **PLASTIC CASE** | | | | | | | |
| **Without Cord** | S-Grn | 28-14-01 | **4T509** | $1.24 | **$0.93** | **$0.88** | 0.1 |
| | M-Orng | 28-14-03 | **3A167** | 1.24 | **0.93** | **0.88** | 0.1 |
| | L-Blue | 28-14-05 | **4T510** | 1.24 | **0.93** | **0.88** | 0.1 |
| **With Cord** | S-Grn | 28-14-11 | **4T511** | 1.75 | **1.32** | **1.25** | 0.1 |
| | M-Orng | 28-14-13 | **3A168** | 1.75 | **1.32** | **1.25** | 0.1 |
| | L-Blue | 28-14-15 | **4T512** | 1.75 | **1.32** | **1.25** | 0.1 |
| **POLY BAG** | | | | | | | |
| **With Cord** | S-Grn | 28-14-12 | **2AP89** | 1.35 | **0.92** | **0.87** | 0.1 |
| | M-Orng | 28-14-14 | **1AD78** | 1.35 | **0.92** | **0.87** | 0.1 |
| | L-Blue | 28-14-16 | **3BC17** | 1.35 | **0.92** | **0.87** | 0.1 |

**C UltraFit® Reusable Earplugs** provide protection, comfort, and economical advantage of repeat wearings. Made of advanced polymer material in high visibility yellow. One size fits most ear canals. Soft, flexible plugs are nontoxic and nonallergenic. Unique, triple flange "hugs" sides of ear canal to form triple seal against harmful noise. Routine washings with mild detergent extend plug life. Flanges fold back for thorough cleaning. Attenuation tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 21 dB. E•A•R brand.

| Earplug Description | E•A•R Model | Stock No. | Per Pair List | Per Pair Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Earplugs Only** | 340-4003 | **4T149** | $1.25 | **$1.12** | **$1.01** | 0.1 |
| **With Case** | 340-4001 | **4T150** | 1.58 | **1.31** | **1.24** | 0.1 |
| **With Cord** | 340-4004 | **4T151** | 1.73 | **1.40** | **1.33** | 0.1 |
| **With Cord and Case** | 340-4002 | **4T152** | 2.05 | **1.70** | **1.62** | 0.1 |

**D AIRSOFT Reusable Earplugs.** Features a cushion of air for superior comfort. Soft shell of attenuating material surrounds a pocket of air that is comfortable enough for extended wear. Noise Reduction Rating (NRR) of 27 dB. Washes with soap and water for months of protection. Attenuation tested in accordance with ANSI S3.19-1974. Available uncorded or with red vinyl or white nylon cords. **Packaged 100 pair in clear flip top boxes or 50 pair in clear plastic cases, packed in a dispenser box.** Blue ear plug color. Howard Leight brand.

### ORDERING DATA

| Earplug Description | H-L Model | Box Qty. | Stock No. | Per Box List | Per Box Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CLEAR PLASTIC CASE** | | | | | | | |
| **Without Cord** | AS-1 | 50 | **5FT94** | $75.25 | **$54.45** | **$51.73** | 1.4 |
| **Red Vinyl Cord** | AS-30R | 50 | **5FT95** | 96.75 | **70.20** | **66.69** | 1.6 |
| **White Nylon Cord** | AS-30W | 50 | **5FT96** | 96.75 | **70.20** | **66.69** | 1.6 |
| **FLIP-TOP BOX** | | | | | | | |
| **Without Cord** | DPAS-1 | 100 | **5FT97** | 101.50 | **81.25** | **77.19** | 1.1 |
| **Red Vinyl Cord** | DPAS-30R | 100 | **5FT98** | 120.40 | **108.40** | **102.98** | 1.4 |
| **White Nylon Cord** | DPAS-30W | 100 | **5FT99** | 120.40 | **108.40** | **102.98** | 1.4 |

**E QUIET Reusable Earplugs.** Requires no rolling prior to insertion. Insert using the built-in flexible foam stem. Washes with soap and water for extended protection. Attenuation tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 26 dB. Available corded and uncorded. **Packaged 100 pair in clear flip top boxes or 50 pair in clear safety impact cases, packed in a dispenser box.** Orange color. Howard Leight brand.

### ORDERING DATA

| Earplug Description | H-L Model | Box Qty. | Stock No. | Per Box List | Per Box Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CLEAR PLASTIC CASE** | | | | | | | |
| **Without Cord** | QD-1-RC | 50 | **5FV23** | $31.20 | **$28.10** | **$26.70** | 1.2 |
| **With Cord** | QD-30-RC | 50 | **5FV25** | 48.85 | **43.95** | **41.75** | 1.6 |
| **FLIP-TOP BOX** | | | | | | | |
| **Without Cord** | QD-1 | 100 | **5FV22** | 40.75 | **36.75** | **34.91** | 1.0 |
| **With Cord** | QD-30 | 100 | **5FV24** | 64.15 | **57.75** | **54.86** | 1.3 |

## METAL DETECTABLE EARPLUGS

**E•A•R Tracers Metal Detectable Reusable Earplugs** incorporate all the specifications of the E•A•R. UltraFit Plugs (No. 4T149) with additional advantages/differences. Molded in bright blue non-food color, they feature an attached cord and contain a surgical-grade stainless steel ball-bearing securely positioned in the stem. This allows them to be "traced" by most standard metal detectors. This combination of, color cord and detectability combined with the UltraFit design makes them ideal for the food processing industry. Earplugs tested in accordance with ANSI S3.19-1974. Noise reduction Rating (NRR): 21 dB. E•A•R brand. (340-4007)

**No. 2AC59.** Shpg. wt. 0.1 lbs. List .....$2.10. Each **$1.76;** Lots 25 .....**$1.67**

EAR



No. 2AC59
E•A•R Tracers®



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

## SILENT BAND-IT® HEARING PROTECTOR

**Adjustable stainless steel band** can be worn in three positions: over the head, behind the head, and under the chin. Made from soft silicone rubber for comfort. Nontoxic and nonirritating. Silicone can be washed with soap and water. Day-Glo orange band for high visibility. Attenuation tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 25 dB. North brand (28-11-33)

**No. 4T864.** Shpg. wt. 0.4 lbs. List .....$9.47.
Each **$8.52;** Lots 12 .....**$7.67**

**Hygiene Pack.** Contains 2 replacement plugs, 2 plug holders, 2 screws and instructions for No. 4T864 above. North brand (28-11-35).

**No. 5AF56.** Shpg. wt. 0.1 lbs. List.....$6.97.
Each **$5.93;** Lots 12 .....**$5.34**

NORTH



## SOUND BAN® HEARING PROTECTOR

**Soft, elliptical, air-cushioned pods** provide an acoustic seal at the ear canal entrance. Pods "blossom out" to seal ear canal without insertion. Prevents irritation that can result from insert-type ear plugs. Hearing protectors are lightweight, cool, and comfortable and the pods can be easily cleaned. Tough, nonadjustable thermoplastic yellow band can be worn under chin or behind head, or around the neck when not in use. Packaged in reusable ziplock polybag. Attenuation tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 19 dB when worn behind head and 22 dB when worn under chin. Willson brand (13400003).

**No. 4T389.** Shpg. wt. 0.1 lbs. List .....$9.52.
Each **$8.82;** Lots 12 .....**$8.38**

Replacement Pods. Sold in pairs. Willson brand (13900076).

**No. 3AL43.** Shpg. wt. 0.1 lbs. List.....$4.99.
Each **$4.62;** Lots 12 .....**$4.39**

WILLSON®



## CABOFLEX® 600 HEARING PROTECTOR

**Semi-aural blue-banded device** features soft, flexible, conical-shaped pods that swivel to align with and enter ear canals. Silicone pods contain energy-absorbing-polymer foam. Lightweight band can be worn under the chin without interfering with hard hats or glasses. Storable around neck for intermittent use. Dielectric, non-irritating, non-toxic. Yellow color pods for high visibility and compliance checks. Meets U.S. Dept. of Defense NSN 6515-01-149-4133. Tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 20 dB. E•A•R brand (320-2001).

**No. 6AP94.** Shpg. wt. 0.1 lbs. List.....$5.75.
Each **$5.18;** Lots 10 .....**$4.92**

E·A·R



## QUIET BAND HEARING PROTECTORS

**No. 5FV18 QB2 QUIET BAND** is a lightweight, comfortable alternative to ear plugs or ear muffs. Compact design allows for shirt pocket storage when not in use. Noise Reduction Rating (NRR) of 25dB. Reusable flexible foam pads when washed with soap and water will give months of use. Includes one extra pair of replacement pads. Attenuation tested in accordance with ANSI 3.19-1974. Orange color pads with silver/blue band. **Packed in individual zipper bags. 10 bands per box.**

**No. 5FV19 replacement pads available, 50 pair per box, order separately.**

**No. 5FV20 QB3 QUIET BAND** offers same features as No. 5FV18 Quiet Band, but ear pads are designed to seal off the ear canal entrance without insertion into the ear canal. Offers a Noise Reduction Rating (NRR) of 21 when worn under chin. Attenuation tested in accordance with ANSI S3.19-1974. Orange pads with an orange band. **Packed in individual zipper bags. 10 bags per box.**

**No. 5FV21 replacement pads available, 50 pair per box, order separately.** Howard Leight brand.

| Description | Qty./ Box | H-L Model | Stock No. | Per Box List | Per Box Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **QB2 Quiet Band** | 10 | QB2 | **5FV18** | $55.50 | **$49.95** | **$47.45/5** | 0.8 |
| **Replacement Pods** | 50 | QB200 | **5FV19** | 117.01 | **105.35** | **100.08/4** | 0.5 |
| **QB3 Quiet Band** | 10 | QB3 | **5FV20** | 44.38 | **39.95** | **37.95/5** | 0.8 |
| **Replacement Pods** | 50 | QB300 | **5FV21** | 101.43 | **91.30** | **86.74/4** | 0.5 |



No. 5FV18 with No. 5FV19 Replacement Pods

HOWARD LEIGHT HEARING PROTECTION



No. 5FV20 with No. 5FV21 Replacement Pods

## REFLEX™ SEMI-INSERT HEARING PROTECTOR

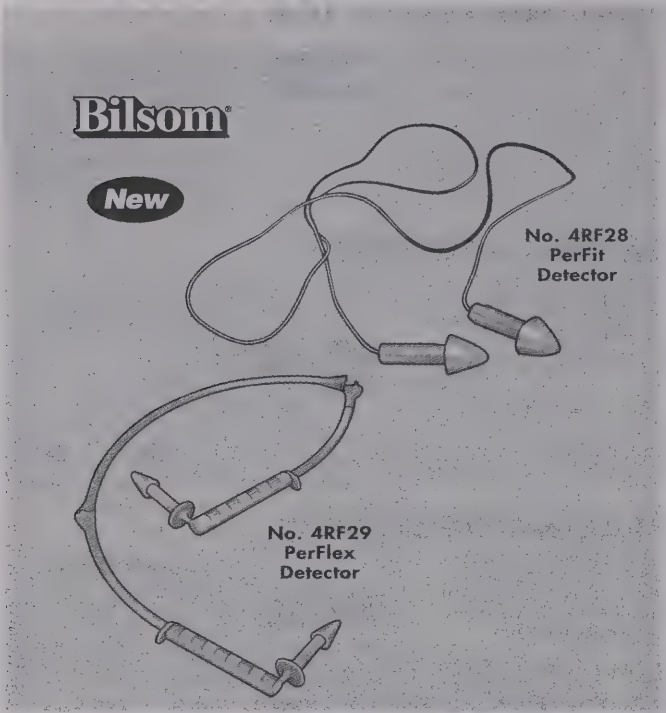
**Offers protection similar to earmuffs, without the weight.** Features E•A•R Form™ foam for softness and excellent attenuation. Hinged headband allows for a variety of wearing positions even when wearing other forms of personal protection. Flexible hinged band is adjustable for maximum comfort in multiple positions, over-the-head, under-the-chin, or behind-the-neck. Headband can be adjusted to reduce or eliminate noise transmission through the band. Lightweight and dielectric with washable band and pods. Replacement pods, No. 4HC72, sold separately below. Tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR): 25dB in all three positions. E•A•R brand.

| Description | EAR Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ReFlex™ Protector** | 350-1001 | **4HC71** | $8.69 | **$7.90** | **$7.51** | 0.1 |
| **Replacement Pods (5 Pair)** | 350-1002 | **4HC72** | 14.00 | **12.60** | **11.97** | 0.8 |



E·A·R

# HEARING PROTECTION




## BILSOM PERFIT DETECTORS

Bilsom Perfit reusable ear plugs have all metal detectable parts, even when cut into pieces. These corded earplugs have soft silicone construction with an extremely comfortable cone shape. Excellent for food and paper industries. Available in medium/large size. (NRR): 26. Bilsom brand (5609-02).

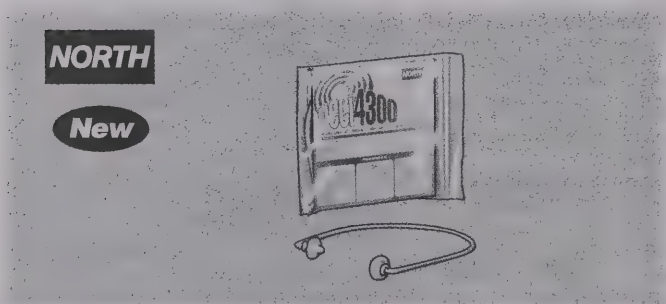
*New!* **No. 4RF28.** Shpg. wt. 0.1 List ..... $1.83.
Each **$1.73;** Lots 20 ..... **$1.65**

## BILSOM PERFLEX DETECTOR

Bilsom PerFlex Detector reusable earplugs feature an adjustable band for an accurate and comfortable fit. Soft, silicone construction banded earplugs fold to easily fit into a shirt or coat pocket. The all metal detectable parts are easy to detect even when cut into pieces. Comfortable, cone-shaped plugs are available in medium/large size. Ideal for food and paper industries. (NRR): 22. Bilsom brand (5703-00).

*New!* **No. 4RF29.** Shpg. wt. 0.1 List ..... $5.52.
Each **$5.25;** Lots 12 ..... **$4.99**

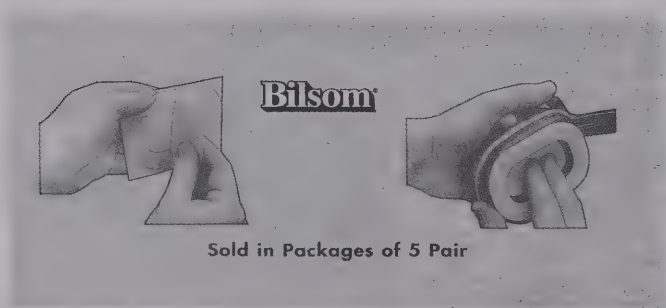
## DECI 4300® SEMI-AURAL CANAL CAP




The Deci 4300® is a lightweight, reusable hearing protector designed to be worn under the chin. Thermoplastic pods provide good canal sealing and distinctive color aids in determining whether the product is being worn properly. Ideal for workers who are in and out of harmful noise level areas and for plant tours. (NRR): 16. North brand (28-43-00).

*New!* **No. 4RL99.** Shpg. wt. 4.0 List ..... $4.07.
Each **$3.04;** Lots 12 ..... **$2.89**

## BILSOM COOL II™ EAR MUFF PADS



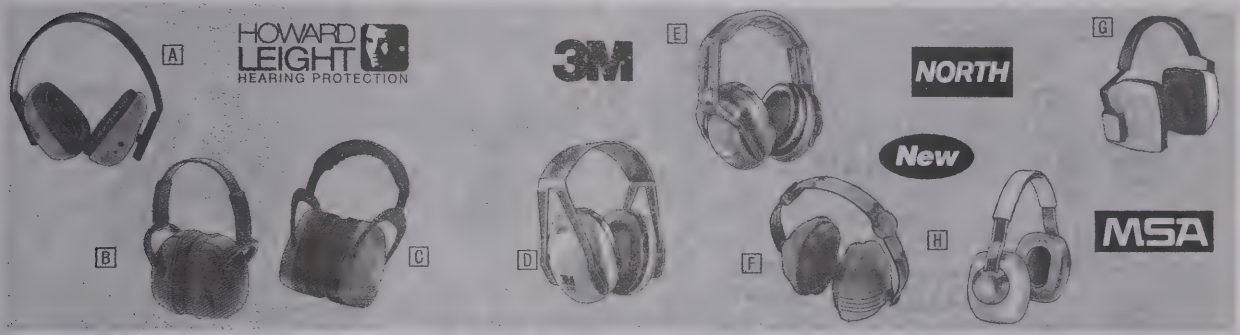

**Bilsom Cool II™ Absorbent Ear Muff Pads** fit all Bilsom ear muffs and most other competitive muffs on the market. For hot environments to absorb moisture and in cold environments to keep vinyl cushions away from skin surface. Use when muffs are shared by groups of visitors.

Holds 15 times its own weight in moisture. Inner cellulose layer features super-absorbent fibers to pull moisture away from skin. Reusable after overnight drying. Surface layers are dermatologically tested polypropylene non-woven material for maximum comfort and hygiene. Acrylic adhesive for positioning and easy removal. No affect on attenuation characteristics. Bilsom brand (3456).

**No. 6AV10.** Shpg. wt. 0.1 lbs. List ..... $2.51.
Each **$2.28;** Lots 20 ..... **$2.17**

# HEARING PROTECTION

## EAR MUFFS




A **Multiposition Ear Muff** features unique swivel action. Fully dielectric. Built-in detents secure cups in place, giving wearer a positive fit in any position, over the head, under the chin or behind the head. Soft foam cushions for long term use, and washable for months of hygienic use. Cushions pop off for easy replacement. Attenuation tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR) is 26 dB. Glo-Orange color. Howard Leight brand.

B **Folding Ear Muff** has a compact design for easy storage when not in use. Fully dielectric construction and high noise rating make it suitable for virtually any noise environment. Replaceable and washable soft foam-filled cushions for extended use. Attenuation tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR) is 28 dB. Red color. Howard Leight brand.

C **Thunder 29 Ear Muff** has a Noise Reduction Rating (NRR) of 29 dB. Fully dielectric with extra long padded headband for a comfortable fit. Oversized vinyl cushions help distribute pressure evenly around the outer ear for maximum user comfort. Can be worn comfortably with eye protection or spectacles. Replaceable and washable soft foam ear cushions ideal for extended use. Attenuation tested in accordance with ANSI S3.19-1974. Gray/black color. Howard Leight brand.

D **Multiposition Ear Muff** features large ear cup and soft sealing cushions for greater comfort and fit. Wide, forked headband creates a comfortable and consistent ear-cup seal. Tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR) is 23 dB. Black/orange color. 3M brand.

E **Contoured Ear Muff** offers multiple positions and sliding headband tension adjustment system for greater comfort and fit. Contoured ear-cushion seal provides improved sound insulation and fit. Wide, padded headband adds comfort and creates consistent ear-cup seal. Tested in accordance with ANSI S3.19-1974. Noise Reduction Rating (NRR) is 24 dB. Black/blue color. 3M brand.

F **Dielectric Ear Muff** has no metal parts making it completely safe for use in electrical atmosphere by construction and electrical contract workers. Lightweight 8 oz. construction and 360° headband provide comfort and convenience, enabling muff to be worn over the head, under the chin or behind the head. Two-piece ratchet headband for custom fit without pulling of snagging hair. Noise Reduction Rating (NRR) is 23/23/22** dB. North brand.

G **Industrial Ear Muff** is lightweight with minimum headband pressure and foam-filled ear cushions for added comfort. 360° rotatable headband has ratchet mechanism to lock-in chosen position. For use in plants, shops, mills, airports and construction sites where high frequency noise can be hazardous. Frequency protection range allows wearer to hear fellow workers and warning signals without sacrificing protection. Noise Reduction Rating (NRR) is 25/24/23** dB. North brand.

H **Sound Blocker™ Ear Muff** is lightweight and easily adjustable. Can be worn alone or with other protective accessories. Tested in accordance with ANSI and EPA requirements. Noise Reduction Rationg (NRR): 26 dB. MSA brand.

### SPECIFICATIONS AND ORDERING DATA

| Key | Description | NRR* | Dielectric† | Brand | Mfr's. Model | Stock No. | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Multiposition Ear Muff | 26 | Yes | Howard Leight | LM-7-OR | 5FV03 | $10.93 | $10.38 | $9.86/6 | 0.7 |
| B | Compact Folding Ear Muff | 28 | Yes | Howard Leight | LM 77-F-RD | 5FV06 | 17.48 | 16.99 | 16.14/6 | 0.6 |
| C | Thunder 29 Ear Muff | 29 | Yes | Howard Leight | QM-29 | 5FV26 | 20.99 | 19.95 | 18.95/6 | 0.8 |
| D | Multiposition Ear Muff | 23 | No | 3M | 1435 | 5F824 | 13.78 | 12.54 | 11.91/5 | 0.6 |
| E | Contoured Ear Muff | 24 | No | 3M | 1440 | 5F825 | 22.53 | 20.49 | 19.46/5 | 0.6 |
| F | Dielectric Ear Muff | 23/23/22** | Yes | North | 28-55-00 | 3A165 | 9.62 | 8.65 | 7.79/6 | 0.7 |
| G | Industrial Ear Muff | 25/24/23** | No | North | 28-45-40 | 1A053 | 14.36 | 12.93 | 11.64/6 | 0.9 |
| H | Sound Blocker™ Ear Muff | 26 | Yes | MSA | 10003445 | New 4LR08 | 20.55 | 18.69 | 17.76/6 | 0.7 |

(*) Noise Reduction Rating. (†) Nonconductor of direct electric current; no metal parts. (**) Over the head/under the chin/behind the head.

GRAINGER...YOUR ONE STOP SHOPPING SOURCE!

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

# HEARING PROTECTION

## EAR MUFFS




A **Cap Mounted Ear Muff** fits most slotted hard hats. Designed to give a secure fit, can be easily snapped into rest position when not in use. Suitable for a wide variety of noise environments with a Noise Reduction Rating (NRR) of 25 dB. Soft foam cushions are washable for months of hygienic use. Cushions pop off for easy replacement. Attenuation tested in accordance with ANSI S3.19-1974. Packaged in poly-bag with header card. Glo-Orange color. Howard Leight brand.

B **Cap Mounted Ear Muff** fits a variety of hard hats with no additional adaptors required. Ear muff flips up and locks in place when not in use. Beveled ear cups fit comfortably under hard hats. Multiposition ear cup for fit and comfort. Black/blue color. 3M brand.

C **Cap Mounted Ear Muff** is designed to fit virtually all slotted hardhats. Eliminates necessity of purchasing separate adapters. When muffs are not in use they swing up and seal against hardhat preventing dirt and debris from entering dome. Peltor brand.

D **Cap Mounted Ear Muff** is economical, lightweight, and designed to be worn with Nos. 4X637, 5X808, and 4T885 thru 4T888 hard hats (order hats separately). Ear cups, contoured with large seal areas, are individually adjustable for greatest comfort. North brand.

E **Bilsom 718™ Cap Mounted Ear Muff** features dielectric protection with lightweight construction. Locking height adjustment for custom fit. Extra wide cups and replaceable soft cushions for wearer comfort. Black cups with blue trim. Bilsom brand.

F **Cap Mounted Ear Muff** fits virtually all slotted hardhats. Can be used in rest, usage and storage positions. Dual shell design allows cup to minimize resonance and achieve maximum high frequency attenuation. Black cups with red trim. Peltor brand.

G **Sound Blocker®** Cap Mounted Ear Muffs mounts directly to MSA slotted caps to become working part of helmet. For use where air compressors, turbines and jack hammers are used. Arms can be rotated upward so that the muff can rest on the hard hat when not in use. Tested in accordance with EPA and ANSI requirements. MSA brand.

H **EAR 2000H Cap Mounted Ear Muff.** Mounts to most hard hats without adapter. Lightweight, durable plastic dielectric construction. Muffs swing up and out of the way quickly, special "at rest" position eliminates contact with dirty hard hats and reduces contamination and risk of cushion distortion. Disassembles quickly for easy cleaning and replacement. EAR brand.

I **Backband Ear Muff** is a lightweight, low profile hearing protector that fits under a welding helmet, safety cap, sandblast helmet, or industrial hard hat. Patented liquid/foam ear cushion allows wearer total comfort. Peltor brand.

J **Stow-Away Ear Muff** for metal workers, carpenters, construction workers, and competitive shooting teams. Folds up for easy storage; fits easily into tool boxes and gun cases. Stays hygienically clean because dirt cannot enter ear cup chamber when muff is folded. Peltor brand.

K **LumberJack™ Combination Unit** is a trifunction unit which offers head, face and hearing protection. Especially designed for logging and tree trimming industry, it is now extremely popular with homeowner chain saw users. Exclusive patented front visor sealing eliminates saw dust and debris from falling between mesh screen and hardcap. Mesh screen and muffs can be placed in either up or down position. International orange color for high visibility. Peltor brand.

### SPECIFICATIONS AND ORDERING DATA

| Key | Description | NRR* | Dielectric | Brand | Mfr's. Model | | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Cap Mounted Ear Muff | 25 | No | Howard Leight | LM-7H-OR | | 5FV07 | $19.84 | $18.95 | $18.00/6 | 0.6 |
| B | Cap Mounted Ear Muff | 23 | Yes | 3M | 1450 | | 5F826 | 26.64 | 24.22 | 23.01/5 | 0.6 |
| C | Cap Mounted Ear Muff | 20 | No | Peltor | H9P3e | | 4T019 | 20.02 | 19.55 | 18.57/6 | 0.5 |
| D | Cap Mounted Ear Muff | 22 | No | North | 28-45-10 | | 3A166 | 19.25 | 17.33 | 15.59/6 | 0.7 |
| E | Cap Mounted Ear Muff | 23 | Yes | Bilsom | 2718-18 | | 2AX17 | 26.98 | 24.53 | 23.31/6 | 1.0 |
| F | Cap Mounted Ear Muff | 26 | No | Peltor | H10P3e | | 1C137 | 28.46 | 25.90 | 24.61/5 | 0.8 |
| G | Cap Mounted Ear Muff | 26 | Yes | MSA | 10003346 | New | 4LP05 | 28.66 | 26.10 | $24.80/6 | 0.8 |
| H | Cap Mounted Ear Muff | 21 | Yes | E-A-R | 330-3031 | New | 4RC38 | 22.67 | 20.40 | 19.38/6 | 1.0 |
| I | Backband Ear Muff | 19 | No | Peltor | H6B/V | | 4T018 | 16.32 | 15.85 | 15.06/6 | 0.5 |
| J | Stow-Away Ear Muff | 21 | No | Peltor | H6F/V | | 4T023 | 19.43 | 18.73 | 17.79/6 | 0.5 |
| K | Lumberjack Safety Unit | 22 | No | Peltor | G413b | | 4T022 | 50.16 | 47.65 | 45.27/5 | 2.3 |

(*) Noise Reduction Rating.



Close it, lock it, keep it safe — You'll find the right stuff right here.

# HEARING PROTECTION

## EAR MUFFS




A **E•A•R Ultra 9000® Noise Activated Ear Muff** offers protection along with natural sound quality and the ability to hear normal communications and other low and moderate level sounds. Ideally suited for those who have a critical need to hear machinery sounds and verbal communications. Patented valve system consists of precision orifices in a tuned acoustical duct allowing muff to react to high-level impulses (greater than 120dB) with increased attenuation. No electronics, batteries, microphones, or moving parts are required. Features soft, foam-filled cushions and a no-snag, adjustable headband. Black cup color. Included crown strap should be worn when muff is used behind-the-head or under-the-chin. Attenuation tested in accordance with ANSI S3.19-1974. E•A•R brand.

B **E•A•R 1000 Ear Muff** is constructed of lightweight, dielectric rugged plastic. Features soft-foam filled cushions, pivoting earcup connections for comfortable seal and large earcup openings to fit more users. Reinforced headband automatically adjusts in all three positions. Attenuation tested in accordance with ANSI S3.19-1974. Dark red cup color. E•A•R brand.

C **E•A•R 820 Ear Muff** provides economical dielectric protection for many applications. All plastic construction with soft, foam-filled cushions. Universal headband provides secure fit in three positions while providing effective attenuation for most environments. Adjustable large volume earcups. Attenuation tested in accordance with ANSI S3.19-1974. Dark red cup color. E•A•R brand.

D **E•A•R 3000 Ear Muff** is constructed of lightweight, non-conductive (dielectric) rugged plastic. Features soft foam-filled cushions, pivoting earcup connections for comfortable seal, and larger earcup openings to fit more users with greater ease. Reinforced plastic headband automatically adjusts for a snug, comfortable fit in all three positions. Crown strap included and should be worn when muff is used behind-the-head or under-the-chin. Dark red cup color. Attenuation tested in accordance with ANSI S3.19-1974. E•A•R brand.

E **Bilsom Warrior™ Ear Muff** offers economical dielectric protection for extreme noise levels. Three wearing positions for over the head, under the chin and behind the head applications. Lightweight 6.5 oz. unit for added comfort. Teal cup color. Bilsom brand.

F **Bilsom 717 Low Protector Ear Muff** comes in black with a royal blue trim. Lightweight (weighs only 6 oz.). Durable dielectric protection for a variety of applications. Broad ear cushions increase comfort and fits over the entire ear lobe. Replaceable ear cushions. Bilsom brand.

G **Bilsom 727™ Ear Muff** offers dielectric protection for applications with high noise levels. Lightweight design enables prolonged wearing times without discomfort. Flexibly mounted cups ensure a close, leak-free fit and provide generous space for ears. Quick-Click locking adjustment for customized fit. Wide replaceable cushions. Bilsom brand.

H **Bilsom Viking 29™ Ear Muff** offers di- electric protection for many applications. Excellent low frequency protection. Lightweight 8.8 oz. construction and low pressure for user comfort. Three wearing positions allows muff to be worn over the head, under the chin or behind the head. Black cup color. Bilsom brand.

I **Peltor Universal Ear Muff** features lightweight stainless steel headband. Each dome has two-point suspension to provide even, comfortable alignment to head. Bright yellow color for easy visibility. Peltor brand.

J **Peltor High Noise Ear Muff** for use in extreme high noise areas such as airports, mills, and various industrial applications. Provides excellent protection at both extreme high and low frequency levels. Muff has stainless steel headband with wide padded head cushion. Patented liquid/foam ear cushions allow low head pressure and lightweight comfort. Dark green cup color. Peltor brand.

K **Peltor Deluxe High Noise Ear Muff** features wide softly padded headband with individual stainless spring steel wires for comfortable fit. Wide foam-filled ear cushions are replaceable and provide excellent sealing properties, good fit and low surface pressure. Hygenically textured plastic outer layer allows for ventilation and durability. Black/red cup color. Peltor brand.

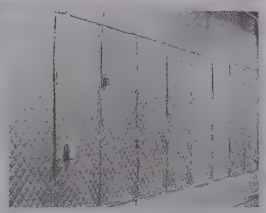
### SPECIFICATIONS AND ORDERING DATA

| Key | Description | NRR | Dielectric# | Brand | Mfr's. Model | | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | E•A•R Ultra 9000® Ear Muff | 16/17/16 | No | E•A•R | 330-3028 | | 5AH53 | $55.55 | $50.00 | $47.50/3 | 0.7 |
| B | E•A•R 1000 Ear Muff | 20/22/22 | Yes | E•A•R | 330-2001 | | 5AM41 | 12.75 | 10.12 | 9.61/5 | 0.7 |
| C | E•A•R 820 Ear Muff | 22/24/23 | Yes | E•A•R | 330-3034 | | 5AR98 | 9.38 | 8.44 | 8.02/5 | 0.6 |
| D | E•A•R 3000 Ear Muff | 25/26/26 | Yes | E•A•R | 330-3002 | | 2AM98 | 18.15 | 16.50 | 15.68/5 | 0.6 |
| E | Warrior™ Ear Muff | 23 | Yes | Bilsom | 2424 | | 6AX17 | 10.40 | 9.46 | 8.99/5 | 1.0 |
| F | Bilsom 717 Low Profile Ear Muff | 23 | Yes | Bilsom | 2717-00 | New | 4RF34 | 16.62 | 15.12 | 14.36/5 | 1.0 |
| G | Bilsom 727™ Ear Muff | 27 | Yes | Bilsom | 2727 | | 5AN27 | 24.60 | 22.37 | 21.25/5 | 1.0 |
| H | Viking 29™ Ear Muff | 29 | Yes | Bilsom | 2318 | | 6AJ15 | 26.06 | 23.69 | 22.50/5 | 1.0 |
| I | Universal Ear Muff | 22 | No | Peltor | H9A | | 4T016 | 14.83 | 12.42 | 11.80/5 | 0.4 |
| J | High Noise Ear Muff | 27 | No | Peltor | H7A | | 4T017 | 23.26 | 19.04 | 18.09/5 | 0.8 |
| K | Deluxe High Noise Ear Muff | 29 | No | Peltor | H10A | | 1C139 | 25.15 | 22.90 | 21.76/5 | 0.7 |

(*) Noise Reduction Rating. (†) Over the head/under the chin/behind the head. (#) Nonconductor of direct electric current; no metal parts.

# NOISE CONTROL PRODUCTS

## SORBA-GLAS® NOISE-ABSORBING WALL BLANKETS



Multiple Blankets Shown

- **For use on walls or ceilings**
- **Abrasion resistant silver facing is impervious to water, dust, oil, grease, and most solvents**

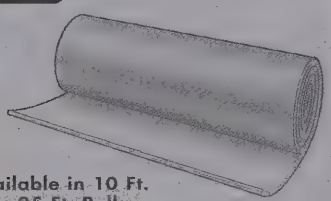
Noise-absorbing ceiling or wall coverings used in areas with excessive noise and echoing. Fiberglass center is quilted between a tough silver facing that is highly resistant to abrasion and is impervious to water, dust, oil, grease, and most solvents. Blanket is 4'W x 8'H and 1" thick. Four grommets along the 4 ft. side of each blanket accept standard hardware for installation.

Sorba-Glas® meets ASTM E-84 Class I Fire Rating. NRC*: 0.75. Industrial Noise Control Brand (110).

**No. 5T498.** Shpg. wt. 14.0 lbs. List.....$158.91. Each...**$143.10**; Lots 2.....**$135.95**

(*) Noise Reduction Coefficient (NRC) values are reported per ASTM C 423-84a to the nearest 0.05 Sabins/ft².

## ALUMINIZED MYLAR ACOUSTICAL FOAM



Available in 10 Ft. or 25 Ft. Rolls

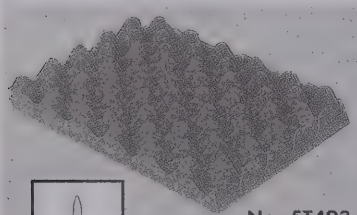
- **Maximum sound absorption**
- **Reflects light and heat**
- **Wipe-clean aluminized film surface resists moisture, lubricants, and fuels**
- **Flame-retardant finish**

Provides maximum sound absorption while reflecting heat and light. Combines the advantages of flexible, strong foam with a wipe-clean, light reflective 1 mil aluminized film facing. Recommended for use in dirty environments, as aluminized film protects against moisture, lubricants, and fuels. Meets or exceeds Flame Retardant Tests UL-94 and ASTM D1692-74. Temperature limits are -20°F to 120°F continuous. Sold in 1" thick rolls. NRC*: 0.55. Industrial Noise Control brand.

| Roll Size W | Roll Size L | INC. Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **54"** | **10 ft.** | K10-M10 | **5T510** | $126.63 | **$107.60** | **$102.21** | 10.0 |
| **54** | **25** | K10-M25 | **5T511** | 257.78 | **219.50** | **208.35** | 21.0 |

(*) Noise Reduction Coefficient (NRC) values are reported per ASTM C 423-84a to the nearest 0.05 Sabins/ft².

## ACOUSTICAL CONVOLUTED FOAM



No. 5T493 Acoustical Convoluted Foam



No. 5T495 Foam Adhesive

**Convoluted foam sheets** are scientifically developed to absorb low frequency sound when nailed or glued on walls, machine enclosures, ducting systems, privacy panels in offices, sound traps, and computer rooms.

**Cone shape** deflects sound waves striking at an angle and allows them to be reflected and reabsorbed by other cones, thus effectively "entrapping" sound.

**Excellent chemical resistance** to most oils, alkali, and mild acids. Temperature resistance is -45°F to 250°F. Foam meets UL-94 Rating (self-extinguishing). Gray color. Sold four 54 x 27" sheets per box. Industrial Noise Control brand.

| Thickness (In.) | NRC* | Stock No. | List | Each Box | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1** | 0.70 | **5T492** | $84.79 | **$76.35** | **$72.53** | 13.0 |
| **2** | 0.80 | **5T493** | 163.13 | **146.90** | **139.56** | 18.0 |
| **3** | 0.85 | **5T494** | 232.63 | **209.75** | **199.26** | 23.0 |

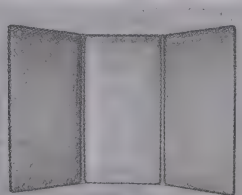
(*) Noise Reduction Coefficient (NRC) values are reported per ASTM C 423-84a to the nearest 0.05 Sabins/ft².

**Foam Adhesive.** Simply spread adhesive on back of foam and allow to set for one minute. Packaged in 11 oz. cartridge for use with any standard caulking gun. Industrial Noise Control brand (PA-02).

**No. 5T495❸.** Shpg. wt. 1.1 lbs.. List $8.10. Each **$7.30**; Lots 12.....**$6.94**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## MODULAR ACOUSTICAL SCREEN



Three Screens Shown

Free-standing, portable units can be used individually or in groups to enclose or divide noisy areas. Completely modular design accommodates changing production layouts. Great around cut-off saws, grinders, small compressors, and fans.

Each unit includes a snap-lock tubular steel frame with no loose connections, reinforced loaded vinyl barrier curtain, and quilted fiberglass noise absorber panel. Mechanical fasteners along each curtain edge seal screens to one another.

Metallic gray curtain measures 54"W x 8'H. Tubular steel black epoxy coated frame. Frame measures 4'W x 8'H. Curtain is flame retardant and weighs 1 lb. per sq. ft. Random Noise Reduction Coefficient (NRC): 0.75. Industrial Noise Control brand (NS-117PKD).

**No. 5T512.** Shpg. wt. 52.0 lbs. List .....$322.92. Each **$274.25**; Lots 2.....**$260.40**

# NOISE CONTROL PRODUCTS

## BAFL-SORB OVERHEAD SOUND BAFFLES



- **Reduce overall noise levels**
- **Eliminate totally enclosing machinery or employees**

Baffles are hung vertically from the ceiling, therefore, not interfering with existing ventilation, lighting, or sprinklers. They act as noise absorbers designed to dissipate reflected noise. Improve acoustical comfort and ease of communication by reducing noise levels and echoing over large areas.

Baffles are a viable and economical noise control solution; specifically around noise areas that will not allow for the placement of a screen, curtain, or total enclosure. White color.

**Acoustical Absorption:** 9.0 sabins per baffle. Entire baffle meets ASTM E-84 Class I fire rating. Flame spread 5. Smoke density 5.

**Installation:** 2' x 4' x 1.5" baffles are suspended from cable and should be hung at ceiling level. If sprinklers are present, the top of the baffles should be a minimum of 18" below the sprinkler heads. Coverage should be approximately one baffle per every 10 sq. ft. of ceiling area. **Each box contains 10 baffles** and provides approximately 100 sq. ft. coverage. Industrial Noise Control brand (24G).

**No. 5T496.** Shpg. wt. 26.0 lbs. List ..... $147.97.
Each(Box of 10 baffles)**$133.00;** Lots 2 ..... **$126.32**

**Baffle Hanging Kit.** Support System used to hang baffles. Includes 50 ft. of stranded cable, 5 turnbuckles, and 10 cable sleeves. Industrial Noise Control brand.

**No. 5T497.** Shpg. wt. 1.0 lbs. List ..... $32.82.
Each**$29.60;** Lots 6 ..... **$28.12**

## STEEL ENCASED ACOUSTIC PANELS



No. 4RC07

Easily mounted on walls, ceilings or partitions, panels offer superior acoustical performance with a Noise Reduction Rating of 1.05. Bright white finish over durable steel construction, suitable for production facilities, warehouses or office areas.

Panels feature 22 gauge zinc-coated steel top and bottom mounting rails and 3 lb./cu. ft. density fiberglass noise absorbing core encased in steel. Components meet flammability ASTM E-84 Class I (A).

Panels mount directly to walls, ceilings, or any flat surface via bottom mounting channel and top header (mounting fasteners not included). For best results, 40-50% wall coverage is recommeneded, 3-6" space between adjacent units maximizes performance. Packaged one 2D x 30W x 60"H or 96"H* panel per box. Industrial Noise Control brand.

***New*** **No. 4RC07.** 60" White Acoustic Steel Panel. Shpg. wt. 34.0 lbs. List ..... $207.74.
Each $176.50; Lots 2 ..... **$167.47**

***New*** **No. 4RC08.** 96" White Acoustic Steel Panel. Shpg. wt. 54.0 lbs. List ..... $289.82.
Each **$246.00**, Lots 2 ..... **$233.57**

(*)Mounting channel adds 2" to overall panel length.

## DECORATIVE FABRIC ACOUSTIC PANELS



No. 4RC06

Neutrally-colored blue or gray panels blend with many office decors. Panels provide Noise Reduction Coefficient of 0.70. Feature 6-lb./cu. ft. density fiberglass noise absorbing core, completely covered with fabric. Both components meet flammability ASTM E-84 Class I (A).

Panels mount easily to walls, partitions or any flat surface using adhesive or standard hardware, not included. One 1D x 24H x 48"W panel per box. Industrial Noise Control brand.

***New*** **No. 4RC05.** Blue Acoustic Panel. Shpg. wt. 9.0 lbs. List ..... $107.01.
Each $90.90; Lots 2 ..... **$86.32**

***New*** **No. 4RC06.** Gray Acoustic Panel. Shpg. wt. 9.0 lbs. List ..... $107.01.
Each $90.90; Lots 2 ..... **$86.32**

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# GUIDE TO RESPIRATOR SELECTION

## TYPES OF RESPIRATORS

Respirators may be grouped into three major categories, air-purifying, supplied air (or airline) and self-contained breathing apparatus (SCBA). These major categories are defined by how the respirators work to protect the wearer from airborne contaminates. These categories can also be used as a basic guide in understanding the level of protection provided by the respirator. Air-purifying respirators provide lower levels of protection. If greater protection is required, a supplied air respirator may be used. An SCBA or a pressure demand airline respirator with an emergency escape bottle provide the highest level of protection. Instances when this protection factor is required include when an atmosphere is immediately dangerous to life or health (IDLH), or the contaminants and/or their concentrations are unknown. (An IDLH atmosphere is an atmosphere concentration of any toxic, corrosive or asphyxiant substance that possess an immediate threat to life, would cause irreversible effects on health, or would interfere with the ability to escape from a dangerous atmosphere.)

The following are very brief descriptions of the three categories. These definitions should be used for general information only, and do not replace the thorough understanding of respiratory protection required before selecting the appropriate respirator.

### AIR PURIFYING RESPIRATORS

These respirators are used only in environments that contain enough oxygen to sustain life (at least 19.5% oxygen). These units make use of special filters and cartridges that remove specific gases, vapors and/or particulates from the air. In order to be effective, the level of contaminants must be within the concentration limitations of that respirator. Also, the respirator chosen must be appropriate for the specific contaminant(s) of the environment in which it will be used. The useful life of these respirators depends upon the concentration of the contaminants, the breathing volume of the user, the capacity of the air-purifying filter medium, relative humidity and room ventilation. NIOSH Certified air-purifying respirators do not protect against all air contaminants in the various approval categories. Air purifying respirators should be used for protection against only the types of contaminants listed on the filters and cartridges, and on the NIOSH approval label which is affixed to each respirator carton and replacement filter/cartridge carton. Types of air purifying respirators include: No maintenance, Low maintenance, Reusable, and Powered Air-Purifying Respirators.


No Maintenance


Low Maintenance


Reusable

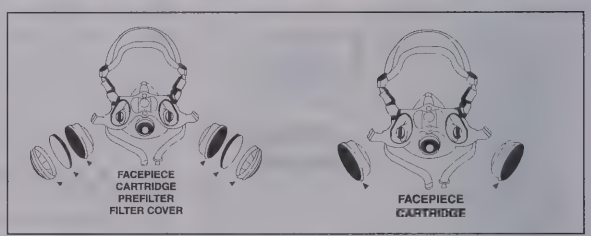

PAPR

### CARTRIDGES AND FILTERS

Cartridges contain carbon which absorbs certain toxic vapors and gases. When the wearer detects any taste or smell that indicates the charcoal's absorption capacity has been reached, this means the cartridge can no longer remove the contaminant.

Filters remove particulates such as dusts, mists, and metal fumes by trapping them within the filter material. Filters should be changed when it becomes difficult to breathe.

Depending on the contaminants, cartridges can be used alone or in combination with a filter/pre-filter and filter cover. Cartridges are also available with a P100 filter permanently attached.

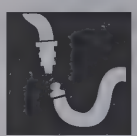



### SUPPLIED AIR RESPIRATORS

These respirators are used in toxic environments. Some supplied air respirators can also be used in environments that are immediately dangerous to life and health (IDLH) as long as they're equipped with an air cylinder for emergency escape. These respirators provide a supply of air, for extended periods of time, via a high pressure hose that is connected to an external source of air such as a compressor, compressed air cylinder, or portable breathing pump. Supplied Air Respirators offer a higher level of protection in atmospheres where air purifying respirators are not sufficient. Types of supplied air respirators are: continuous flow and pressure demand.

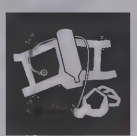

Continuous Flow


Pressure Demand


Couplers & Hoses

### SELF CONTAINED BREATHING APPARATUS (SCBA)

SCBA's provide the highest level of respiratory protection available. They protect workers in oxygen deficient atmospheres (below 19.5% oxygen), in poorly ventilated or confined space areas, and in atmospheres that are immediately dangerous to life and health (IDLH). These respirators provide a supply of air (30 or 60 minutes in duration) from a compressed air cylinder worn on the user's back. SCBA's allow free movement making them particularly suitable for emergency response situations. Emergency Escape Breathing Apparatus' are a smaller version of a SCBA cylinder to be used only for escape from hazardous environments as described above. These units generally provide a supply of air that is 5 or 10 minutes in duration.


SCBA


EEBA

### AIR SOURCES

Provide a source of Grade 'D' or better breathing air to supplied air respirator users. There are four main types of air sources: filtration systems, portable systems, pumps, and compressors.


Air Sources

### TRAINING/ACCESSORIES

Video tapes provide an effective supplement to personal respirator training. Respirator detergent and wipes provide a means for maintaining and cleaning respirators. Fit test and seal check kits provide necessary materials for qualitative fit tests.


Training

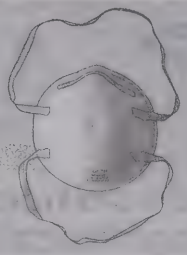


Close it, lock it, keep it safe — You'll find the right stuff right here.

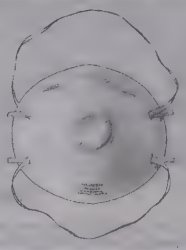
# RESPIRATORY PROTECTION



**NO MAINTENANCE RESPIRATORS**



No. 3A181



New

No. 4RM10

NORTH Registered to ISO 9001

## N95 PARTICULATE RESPIRATOR

**No. 3A181. Lightweight, low profile design** provides worker comfort, minimizes interference with eye protection. Collapse resistant outer shell and low breathing resistance increase life of respirator. Maintenance free. **20 respirators per package.** NIOSH approval TC-84A-160 for protection against non-oil particulates. North brand (7175N95).

**No. 3A181.** Shpg. wt. 0.4 lbs. List $25.62. Each **$19.20; Lots 6.....$18.24**

## N95 PARTICULATE RESPIRATOR WITH EXHALATION VALVE

All the features of the N95 respirator above plus a built-in exhalation valve to provide easier breathing. Also reduces moisture build-up and facilitates positive pressure fit check. NIOSH approval TC-84A-160 for protection against non-oil particulates. **10 per package.** North Brand. (7176N95).

***New* No. 4RM10.** Shpg. wt. 1.0 List $23.08. Each **$21.98; Lots 6 .....$20.89**

## WELDING RESPIRATOR FOR NON-OIL PARTICULATES

Low-profile design provides excellent field of vision and fits under most welding helmets. Large filter surface area provides low breathing resistance and features a patented inhalation/exhalation system that keeps the worker dry and cool. Replaceable filters available. NIOSH approval TC84A-2460. North Brand. (7190N99).

**No. 4RM12.** Shpg. wt. 0.2 lbs. List.....$11.55.
Each **$11.00; Lots 12**.....**$10.45**

**Replacement Filters for 4RM12. Two filters per package.**

**No. 4RM11.** Shpg. wt. 0.2 lbs. List.....$6.11.
Each **$5.50; Lots 12**.....**$5.23**

**COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS**

- **Minimal Acceptable Respiratory Program according the 29 CFR 1910.134(b). OSHA has set fourth four requirements for a Respiratory Protection Program.**

1. The employer shall establish a written program with worksite specific procedures that are updated as necessary.
2. Certain procedures must be followed for voluntary use of respirators in non-hazardous atmospheres.
3. The program must be administered by a trained program administrator.
4. Respirators, training and medical evaluators must be provided at no cost to the employee.

- **There are nine specific elements that are required to be in the written program.**

(I)Procedures for selecting respirators for use in the workplace

### OSHA REQUIREMENTS

(II) Medical evaluations of employee required to wear respirators

(III) Fit testing procedures for for tight fitting respirators.

(IV) Procedures for proper use of respirators in routine and reasonably foreseable emergency situations.

(V) Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators.

(VI) Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators.

(VII) Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations.

(VIII) Training of employees in the proper use of respirators, including putting on and removing them, any limitation on their use, and their maintenance.

(IX) Proceduers for regularly evaluating the effectiveness of the program.

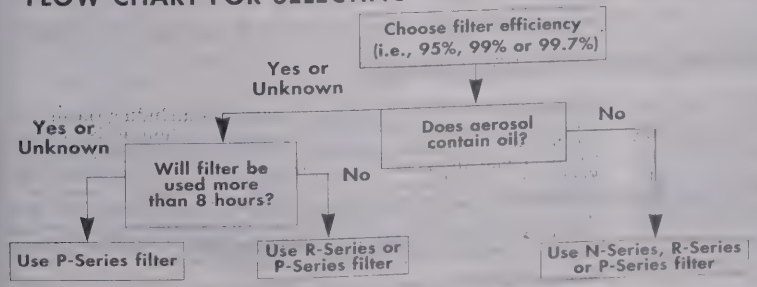
- **If a respirator is used voluntarily, the employer must:**

(I) Make a determination that the respirator will not create a hazard to the wearer.

(II) Have a written respiratory program that includesthe elementslisted above that are necessary to ensure that the user is medically fit to wear the respirator, and that the respirator is clean, stored and maintained in such a manner that it does not create a hazard to the user.

- **If the respirator used voluntarily is of the filtering facepiece type, then no written program is needed.**

## FLOW CHART FOR SELECTING PART 84 PARTICULATE FILTERS




## NIOSH 42 CFR84 NINE FILTER CLASSIFICATIONS

**N For solid particulates and non-oil aerosols that do not degrade filter performance.**

**R For solid particulates and degrading oil-based aerosols. R filters have "Use Limitations."**

**P For solid particulates and degrading oil based aerosols. P filters have no "Use Limitations" other than those normally associated with particulate filters.**

Three Efficiency Levels:
95% 99% 99.97%

# RESPIRATORY PROTECTION




## WELDING RESPIRATORS

**N95** approved for solid and liquid aerosols that do not contain oil. For use when welding, torch cutting, soldering, brazing, and working with molten metals. Helps provide protection when welding on galvanized and stainless steel. Easily fits under a welding hood. Features adjustable straps, faceseal, Cool Flow™ exhalation valve, and cake resistant filter media for added comfort and durability. May replace 4T109, 3M Brand (9920) for certain applications. **Sold in boxes of 10 respirators each.** NIOSH 42 CFR 84 Approval TC-84A-0454. 3M brand (8212).

**No. 4JG36.** Shpg. wt. 0.9 lbs. List $56.54. Each box ..... **$51.40**

**N95** approved for solid and liquid aerosols that do not contain oil. Provides all the features of No. 4JG36 with a chemical adsorbent for relief from nuisance-level welding odors. Cool Flow™ exhalation valve improves worker comfort. May replace 3T963, 3M Brand (9925) for certain applications. **Sold in boxes of 10 respirators each.** NIOSH 42 CFR 84 Approval TC-84A-0454. 3M Brand (8214).

***New*No. 4MH63.** Shpg. wt. 1.0 lbs. List $69.75. Each box ..... **$62.80**

**N95** approved for solid and liquid aerosols that do not contain oil. Provides all the features of No. 4JG36 without a faceseal. May replace No. 4T109, 3M Brand (9920) for certain applications. **Sold in boxes of 10 respirators each.** NIOSH 42 CFR 84 Approval TC-84A-0454. 3M brand (8512).

***New*No. 4MH65.** Shpg. wt. 0.6 lbs. List $52.25. Each ..... **$47.05**

**N95** approved for solid and liquid aerosols that do not contain oil. Provides all the features of the No. 4MH63 wihtout a faceseal. May replace No. 3T963, 3M Brand (9925) for certain applications. **Sold in boxes of 10 respirators each.** NIOSH 42 CFR 84 Approval TC-84A-0454. 3M brand (8514).

***New*No. 4MH66.** Shpg. wt. 0.6 lbs. List $65.60. Each box ..... **$59.10**

## ODOR-REMOVING RESPIRATORS

**R95** approved for solid aerosols including oils. 3M recommended nuisance level chlorine, hydrogen fluoride, and sulfur dioxide relief. Time restriction of eight hours of continuous or intermittent use may apply when oil aerosols are present. For use in primary aluminum reduction, chemical processing, glass etching, paper mills, and petrochemical industries. Do not use in situations where the chlorine, hydrogen fluoride, and sulfur dioxide exposure exceeds the OSHA PEL. May replace 3T937, 3M Brand (9906) and 3T940, 3M Brand (9915).**Sold in boxes of 20** respirators each. NIOSH Approval TC-84A-1350. 3M brand (8246).

**No. 4JG01.** Shpg. wt. 0.7 lbs. List $58.41. Each box ..... **$53.10**

**R95** approved for solid and liquid aerosols including oils. 3M recommended nuisance level organic vapor relief. Time use restriction of eight hours of continuous or intermittent use may apply when oil aerosols are present. For use in applications such as foundries, undercoating, petroleum operations, and agricultural situations where particles are present with concentrations of organic vapors below the OSHA PEL. May replace 3T939, 3M Brand (9913). **Sold in boxes of 20** respirators each. NIOSH Approval TC-84A-1350. 3M brand (8247).

**No. 4JG02.** Shpg. wt. 0.7 lbs. List $64.95. Each ..... **$59.05**

**P95** approved for solid and liquid aerosols including oils. 3M recommended nuisance level chlorine, hydrogen fluoride and sulfur dioxide relief. 3M time use restriction applies when oil aerosols are present. Features conformable "M" nose clip to help provide a good fit and Cool Flow™ exhalation valve to reduce heat and moisture build up inside the respirator. For use in primary aluminum reduction, chemical processing, glass etching, paper mills, and petrochemical industries whn adverse conditions and prolonged use are a concern. Do not use in situations where chlorine, hydrogen fluoride or sulfur dioxide exposures exceed the OSHA PEL. May replace 5F762, 3M brand (9916). **Sold in boxes of 10 respirators each.** NIOSH Approval TC-84A-1166. 3M brand (8576).

***New*No. 4MH58.** Shpg. wt. 0.6 lbs. List $37.50. Each ..... **$33.95**

**P95** approved for solid and liquid particles including those containing oil. 3M recommended nuisance level organic vapor relief. 3M time use restriction applies when oil aerosols are present. Features conformable "M" nose clip to help provide a good fit and Cool Flow™ exhalation valve to reduce heat and moisture build up inside the respirator. For use in applications such as foundries, undercoating, petroleum operations and agricultural situations where adverse conditions and prolonged use are a concern. Do not use in situations where organic vapors exceed the OSHA PEL. May replace 3T939, 3M Brand (9913). **Sold in boxes of 10 respirators each.** NIOSH Approval TC-84A-1166. 3M brand (8577).

***New*No. 4MH59.** Shpg. wt. 0.6 lbs. List $40.50. Each box ..... **$36.55**

## OSHA SUBSTANCE SPECIFIC RESPIRATORS

**N100** approved for solid and liquid aerosols that do not contain oil. For use when grinding, welding, working with lead, or situations where arsenic or cadmium are present up to 10X the OSHA PEL. Features adjustable straps, Cool Flow™ exhalation valve and a conformable faceseal for added comfort and durability. May replace 4T909 & 4T910, 3M Brands (9970M, 9970L) in certain applications. **Sold in bags of 1 respirator each.** NIOSH 42 CFR 84 Approval TC-84A-1298. 3M brand (8233).

**No. 4JG03.** Shpg. wt. 0.1 lbs. List $7.44. Each ..... **$6.76**

**P100** approved for solid and liquid particles including those containing oil. 3M time use restriction applies when oil is present. For use when grinding, welding, working with lead or situations where arsenic or cadmium are present up to 10X the OSHA PEL. Features adjustable straps, Cool Flow™ exhalation valve and a conformable faceseal for added comfort, durability and fit. May replace 4T909 & 4T910, 3M Brands (9970M, 9970IL) in certain applications. **Sold in bags of 1 respirator each.** NIOSH 42 CFR 84 Approval TC-84A-2561. 3M brand (8293).

***New*No. 4MH54.** Shpg. wt. 0.1 lbs. List $8.15. Each ..... **$7.35**

## 3M™ PARTICULATE RESPIRATORS 42 CFR 84 RESPIRATORS

42CFR84 RESOURCE TEAM

All 3M half facepiece particulate respirators are NIOSH approved and recommended for up to 10 x PEL, or the appropriate OSHA standard, whichever is lower. For more information on respirators or specific questions regarding your application, call 3M Technical Assistance at 1-800-243-4630.




No. 3KP43 N95 Respirator | No. 4JF99 P95 Respirator | No. 4MH64 R95 Respirator | No. 4JG30 P95 Respirator

## GENERAL INDUSTRIAL RESPIRATORS

**N95** approved for solid and liquid **aerosols that do not contain oil.** For use in sanding, grinding, processing of minerals and grains handling when few or no adverse conditions (high heat, humidity, sparks, etc.) are present and/or the respirator is used for short periods of time. May replace 4T106, 3M Brand (8710) for certain applications. **Standard size sold in boxes of 20** respirators each. NIOSH 42 CFR 84 Approval TC-84A-007. 3M Brand (8210).

**No. 3KP43.** Shpg. wt. 0.7 lbs. List $20.24. Each box.....**$18.40;**
Lots 8 .....**$17.48**

**N95** approved for solid and liquid **aerosols that do not contain oil.** For use in sanding, grinding, processing of minerals and grains handling when few or no adverse conditions (high heat, humidity, sparks, etc.) are present and/or the respirator is used for short periods of time. May replace 3KP33, 3M Brand (8110) for certain applications. **Small size sold in boxes of 20** respirators each. NIOSH 42 CFR 84 Approval TC-84A-007. 3M Brand (8110S).

**No. 4MH52.** Shpg. wt. 0.5 lbs. List $18.95. Each box.....**$17.10;**
Lots 8 .....**$16.25**

**N95** approved for solid and liquid **aerosols that do not contain oil.** Features innovative "M" nose clip to help provide a good fit and Cool Flow™ exhalation valve to reduce heat and moisture build up inside the respirator. Worker will appreciate the added comfort and durability when bagging, grinding, sanding and sawing. May replace 4T107, 3M Brand (8715) AND 4T106 3M Brand (8710) for certain applications. **Sold in boxes of 10** respirators each. NIOSH 42 CFR 84 Approval TC-42A-1299. 3M Brand (8511).

**No. 4JF99.** Shpg. wt. 0.5 lbs. List $19.51. Each box.....**$17.74;**
Lots 8 .....**$16.85**

**R95** approved for solid and liquid aerosols including oils. Time use restriction of eight hours continuous or intermittent use may apply when oil aerosols are present. Features innovative "M" nose clip to help provide a good fit and a collapse resistant shell to withstand use in hot and humid conditions. Workers will appreciate the added comfort and durability when bagging, grinding, machining, sanding and sawing. May replace 4T107, 3M Brand (8715) AND 4T106 3M Brand (8710) for certain applications. **Sold in boxes of 20** respirators each. NIOSH 42 CFR 84 Approval TC-84A-1350. 3M Brand (8240).

***New* No. 4MH64.** Shpg. wt. 0.7 lbs. List $24.95. Each box.....**$22.50;**
Lots 8 .....**$21.38**

**P95** approved for solid and liquid aerosols including oils. 3M time use restriction applies when apply when oil aerosols are present. Features comfortable "M" nose clip to help provide a good fit and Cool Flow™ exhalation valve to reduce heat and moisture build up inside the respirator and faceseal ring to promote comfort and fit over a broad range of face sizes. For use when bagging, drilling, grinding, sanding and sawing. May replace 4T111, 3M Brand (9900) AND 4T107 3M Brand (8715). **Sold in boxes of 10** respirators each. NIOSH 42 CFR 84 Approval TC-84A-1166. 3M Brand (8271).

**No. 4JG30.** Shpg. wt. 0.6 lbs. List $25.66. Each box.....**$23.34;**
Lots 8 .....**$22.17**

## HEALTH CARE RESPIRATORS/SURGICAL MASKS

**N95** approved for solid and liquid aerosols that do not contain oil. For use in hospitals/clinical setting including surgery. Minimizes wearer exposure to airborne particles generated by electrocautery, laser surgery and other powered medical instruments. Meet CDC guidelines for TB exposure control and is registered as a FDA Medical Device. Features soft inner shell for greater comfort to the fluid-resistant outer shell. Complies with OSHA Bloodborne Pathogens Standard when worn properly and in combination with protective eyewear. **Standard size sold in boxes of 20** respirators each. NIOSH 42 CFR 84 Approval TC-84A-0006. 3M Brand (1860).

***New* No. 4MH50.** Shpg. wt. 0.5 lbs. List $20.95. Each .....**$18.95;**
Lots 6 .....**$18.00**

**N95** approved for solid and liquid **aerosols that do not contain oil.** For use in hospitals/clinical setting including surgery. Provides all the features and uses of 4MH50. **Small size sold in boxes of 20** respirators each. NIOSH 42 CFR 84 Approval TC-42A-0006. 3M Brand (1860S).

***New* No. 4MH51.** Shpg. wt. List $20.95. Each .....**$18.95;**
Lots 6.....**$18.00**

## N9500C™ PARTICULATE RESPIRATOR

**• Meets NIOSH 42 CFR 84 Regulations for N95 particulate respirators**

Shell does not absorb as much moisture from exhaled breath as other masks—maintains shape and low breathing resistance all day long. **N95** approved. Offers protection from exposure to non-oil based dusts, mists, metal fumes, and microorganisms. Adjustable nosepiece and foam inner seal. Soft inner facepiece layer.

Moisture resistant double-shell construction with welded center. Heavy-duty head straps are ultrasonically welded to the respirator for less breakage. **20 respirators per box.** AO Safety brand (50240).

**No. 4HC73.** Shpg. wt. 0.7 lbs. List .....$22.95.
Each **$20.66;** Lots 12.....**$19.62**

AOSafety®



No. 4HC73

**• Registered to ISO 9001**

## LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

## AFFINITY® PLUS MAINTENANCE FREE RESPIRATORS



NO MAINTENANCE RESPIRATORS

New



No. 4LR91

MSA

N95.- For use in steel and construction industries, utilities, textile manufacturing and poultry processing plants. Respirators provide basic protection of up to 95% efficiency for 0.3 micron particles of dry, non-oil aerosols. Meet new NIOSH certification standard 42 CFR Part 84. Features AnthroCurve™ face-sealing surface with latex-free fixed head straps and pre-shaped metal nose band. Available with or without exhalation valve, two sizes. MSA brand.

| Description | Size | With Exhalation Valve | With Nose Clip | MSA Model | *New!* Stock No. | Quantity per Package | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/4" Strap with Fixed Attachment | Small/Medium | Yes | Yes | 816438 | **4LR90** | 10 | $16.26 | **$14.79** | 0.7 |
| | Small/Medium | No | Yes | 816452 | **4LR91** | 20 | 15.90 | **14.46** | 0.8 |
| 1/4" Strap with Fixed Attachment | Medium/Large | Yes | Yes | 816525 | **4LT21** | 10 | 16.26 | **14.79** | 0.6 |
| | Medium/Large | No | Yes | 816521 | **4LR92** | 20 | 15.90 | **14.46** | 0.8 |

## AFFINITY® ULTRA MAINTENANCE FREE RESPIRATORS

MSA

New

No. 4LR93



Respirators provide basic protection of up to 95% efficiency for 0.3 micron particles and dry, non-oil aerosols. Meets NIOSH certification standard 42 CFR Part 84. "N" Series protects against non-oil based particulate aerosols, "R" Series filters protect against oil based particulate aerosols. AnthroCurve™ face sealing surface with additional soft, compliant foam face seal. Features wide adjustable latex-free head straps. Exhalation valve removes exhaled breath, making respirator cooler and more comfortable to wear. Available in three sizes. MSA brand.

| Description | Filter Style | Size | With Exhalation Valve | With Comfort Seal | MSA Model | *New!* Stock No. | Qty. per Package | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2" Strap with Adjustable Attachment | "N" Series | Small | Yes | Yes | 816462 | **4LR93** | 5 | $24.47 | **$22.25** | 0.6 |
| | | Medium | Yes | Yes | 816463 | **4LR94** | 5 | 24.47 | **22.25** | 0.6 |
| | | Large | Yes | Yes | 816464 | **4LR95** | 5 | 24.47 | **22.25** | 0.6 |
| 1/2" Strap with Adjustable Attachment | "R" Series | Small | Yes | Yes | 816471 | **4LR96** | 5 | 31.74 | **28.90** | 0.6 |
| | | Medium | Yes | Yes | 816472 | **4LR97** | 5 | 31.74 | **28.90** | 0.6 |
| | | Large | Yes | Yes | 816473 | **4LT20** | 5 | 31.74 | **28.90** | 0.6 |

## AFFINITY® PRO MAINTENANCE FREE RESPIRATORS

MSA

No. 4LR98

New



For use in healthcare industries, steel and construction, utilities, textile manufacturing or poultry processing plants. Nuisance level odor removal (organic vapor-OV) or acid gas and hydrogen fluoride (AG/HF) available. Meets NIOSH certification standard 42 CFR Part 84. Optional exhalation valve keeps respirator cooler and more comfortable to wear. AnthroCurve™ face-sealing surface with additional soft, compliant foam face seal. Latex-free head straps in two widths, 1/4" or 1/2". 1/2" straps are adjustable. Available in three sizes. MSA brand.

| Nuisance Odor Removal* | Size | Strap Size (In.) | With Exhalation Valve | With Nose Clip | MSA Model | *New!* Stock No. | Qty. per Package | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Basic** | Small | 1/4 | No | No | 816606 | **4LT18** | 5 | $7.16 | **$6.51** | 0.6 |
| **Basic** | Medium | 1/4 | No | No | 816522 | **4LR98** | 5 | 7.16 | **6.51** | 0.6 |
| **Basic** | Large | 1/4 | No | No | 816523 | **4LR99** | 5 | 7.16 | **6.51** | 0.6 |
| **OV** | Small | 1/4 | No | No | 816531 | **4LT01** | 5 | 11.84 | **10.77** | 0.6 |
| **OV** | Medium | 1/4 | No | No | 816532 | **4LT02** | 5 | 11.84 | **10.77** | 0.6 |
| **OV** | Large | 1/4 | No | No | 816533 | **4LT03** | 5 | 11.84 | **10.77** | 0.6 |
| **AG/HF** | Small | 1/4 | No | No | 816555 | **4LT07** | 5 | 12.22 | **11.11** | 0.6 |
| **AG/HF** | Medium | 1/4 | No | No | 816556 | **4LT08** | 5 | 12.22 | **11.11** | 0.6 |
| **AG/HF** | Large | 1/4 | No | No | 816557 | **4LT09** | 5 | 12.22 | **11.11** | 0.6 |
| **AG/HF** | Small | 1/4 | Yes | No | 816561 | **4LT10** | 5 | 20.80 | **18.91** | 0.6 |
| **AG/HF** | Medium | 1/4 | Yes | No | 816562 | **4LT11** | 5 | 20.80 | **18.91** | 0.6 |
| **AG/HF** | Large | 1/4 | Yes | No | 816563 | **4LT12** | 5 | 20.80 | **18.91** | 0.6 |
| **OV** | Small | 1/4 | Yes | No | 816537 | **4LT04** | 5 | 15.96 | **14.51** | 0.6 |
| **OV** | Medium | 1/4 | Yes | No | 816538 | **4LT05** | 5 | 15.96 | **14.51** | 0.6 |
| **OV** | Large | 1/4 | Yes | No | 816539 | **4LT06** | 5 | 15.96 | **14.51** | 0.6 |
| **Basic** | Small | 1/2 | Yes | No | 816609 | **4LT19** | 5 | 14.22 | **12.93** | 0.6 |
| **Basic** | Medium | 1/2 | Yes | No | 816575 | **4LT13** | 5 | 14.22 | **12.93** | 0.6 |
| **Basic** | Large | 1/2 | Yes | No | 816576 | **4LT14** | 5 | 14.22 | **12.93** | 0.6 |
| **OV** | Small | 1/2 | Yes | No | 816580 | **4LT15** | 5 | 18.90 | **17.19** | 0.6 |
| **OV** | Medium | 1/2 | Yes | No | 816581 | **4LT16** | 5 | 18.90 | **17.19** | 0.6 |
| **OV** | Large | 1/2 | Yes | No | 816582 | **4LT17** | 5 | 18.90 | **17.19** | 0.6 |

(*) All respirators provide basic protection of up to 95% efficiency for 0.3 micron particles and dry, non-oil aerosols.

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# RESPIRATORY PROTECTION



NO MAINTENANCE RESPIRATORS

## NORTH 3000 SERIES RESPIRATORS

Facepiece features a lightweight, face-conforming design for maximum worker acceptance and comfort. Cradle suspension and contoured, low profile design provide a secure, balanced fit and wide field of vision. Re-breathing of exhaled air is virtually eliminated because of low dead air space within the respirator, improving worker productivity. Maintenance free. NIOSH approved.

**Each respirator includes permanently attached cartridges, filters, or P100 filter/cartridges combinations. N95 prefilters are replaceable.**

**CAUTION: AIR PURIFYING RESPIRATORS SHOULD ONLY BE USED FOR PROTECTION AGAINST THE CONTAMINANTS LISTED ON THE FILTERS AND CARTRIDGES AND ON THE NIOSH/MSHA APPROVAL LABEL WHICH IS INCLUDED WITH EACH RESPIRATOR AND ON EACH REPLACEMENT FILTER CARTON.**

**NIOSH/MSHA certified respirators do not protect against all air contaminants in the various approval categories.**




No. 5T982 Respirator

No. 5T973 Respirator

**Respirator includes permanently attached cartridges, filters, or P100 filter/cartridges combinations.**

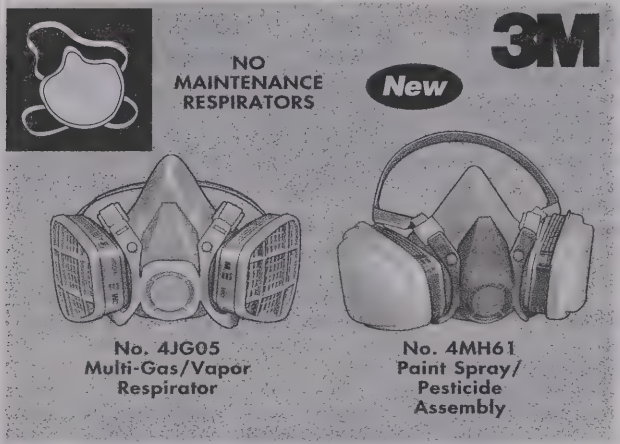
| Respirator Description | Cartridge Color | Size | NIOSH/MSHA Approval No. | North Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Organic Vapor Respirator, Complete | Black | Small | TC-23C-1095 | 3001 | 5T954 | $18.50 | $17.73 | $16.84 | 0.6 |
| | | Medium | | | 5T955 | 18.50 | 17.73 | 16.84 | 0.6 |
| | | Large | | | 5T956 | 18.50 | 17.73 | 16.84 | 0.6 |
| Organic Vapor & any particulates Respirator, Complete | Black/ Magenta | Small | TC-84A-0618 | 3081P100 | 5T969 | 25.89 | 24.84 | 23.57 | 0.8 |
| | | Medium | | | 5T970 | 25.89 | 24.84 | 23.57 | 0.8 |
| | | Large | | | 5T971 | 25.89 | 24.84 | 23.57 | 0.8 |
| Chlorine, Hydrogen Chloride, Sulphur Dioxide, Hydrogen Fluoride, Chlorine Dioxide, Formaldehyde Respirator, Complete | White | Small | TC-23C-1096 | 3002 | 5T957 | 20.39 | 19.54 | 18.56 | 0.6 |
| | | Medium | | | 5T958 | 20.39 | 19.54 | 18.56 | 0.6 |
| | | Large | | | 5T959 | 20.39 | 19.54 | 18.56 | 0.6 |
| Chlorine, Hydrogen Chloride, Sulphur Dioxide, Hydrogen Fluoride, Chlorine Dioxide, Formaldehyde & any particulates Respirator, Complete | White/ Magenta | Small | TC-84A-0619 | 3082P100 | 5T972 | 27.43 | 26.35 | 24.97 | 0.8 |
| | | Medium | | | 5T973 | 27.43 | 26.35 | 24.97 | 0.8 |
| | | Large | | | 5T974 | 27.43 | 26.35 | 24.97 | 0.8 |
| Organic Vapor , Chlorine, Hydrogen Chloride, Sulphur Dioxide, Hydrogen Fluoride, Chlorine Dioxide, Respirator, Complete | Yellow | Small | TC-23C-1097 | 3003 | 5T960 | 19.94 | 17.95 | 17.05 | 0.6 |
| | | Medium | | | 5T961 | 19.94 | 17.95 | 17.05 | 0.6 |
| | | Large | | | 5T962 | 19.94 | 17.95 | 17.05 | 0.6 |
| Organic Vapor, Chlorine, Hydrogen Chloride, Sulphur Dioxide, Hydrogen Fluoride, Chlorine Dioxide & any particulates Respirator, Complete | Yellow/ Magenta | Small | TC-84A-0620 | 3083P100 | 5T975 | 26.24 | 25.20 | 23.90 | 0.8 |
| | | Medium | | | 5T976 | 26.24 | 25.20 | 23.90 | 0.8 |
| | | Large | | | 5T977 | 26.24 | 25.20 | 23.90 | 0.8 |
| Ammonia, Methylamine Respirator, Complete | Green | Small | TC-23C-1098 | 3004 | 5T963 | 26.57 | 25.50 | 24.18 | 0.6 |
| | | Medium | | | 5T964 | 26.57 | 25.50 | 24.18 | 0.6 |
| | | Large | | | 5T965 | 26.57 | 25.50 | 24.18 | 0.6 |
| Ammonia, Methylamine & any particulates Respirator, Complete | Green/ Magenta | Small | TC-84A-0621 | 3084P100 | 5T978 | 33.58 | 32.25 | 30.60 | 0.8 |
| | | Medium | | | 5T979 | 33.58 | 32.25 | 30.60 | 0.8 |
| | | Large | | | 5T980 | 33.58 | 32.25 | 30.60 | 0.8 |
| Organic Vapor, Formaldehyde & any particulates Respirator, Complete | Olive/ Magenta | Small | TC-84A-0622 | 3085P100 | 1D920 | 27.78 | 26.70 | 25.34 | 1.0 |
| | | Medium | | | 1D921 | 27.78 | 26.70 | 25.34 | 1.0 |
| | | Large | | | 1D922 | 27.78 | 26.70 | 25.34 | 1.0 |
| Mercury Vapor, Chlorine Respirator, Complete, with ELSI** | Olive | Small | TC-23C-1677 | 3052 | 4GL87 | 42.53 | 37.00 | 35.14 | 0.6 |
| | | Medium | | | 4GL86 | 42.53 | 37.00 | 35.14 | 0.6 |
| | | Large | | | 4GL85 | 42.53 | 37.00 | 35.14 | 0.6 |
| Mercury Vapor, Chlorine & any particulates Respirator, Complete, with ELSI** | Olive/ Magenta | Small | TC-84A-0623 | 30852P100 | 4GL90 | 51.95 | 45.25 | 42.92 | 0.8 |
| | | Medium | | | 4GL89 | 51.95 | 45.25 | 42.92 | 0.8 |
| | | Large | | | 4GL88 | 51.95 | 45.25 | 42.92 | 0.8 |
| Ammonia, Methylamine, Organic Vapor, Chlorine, Hydrogen Chloride, Sulphur Dioxide, Hydrogen Fluoride, Chlorine Dioxide, and Formaldehyde Respirator, Complete | Grey | Small | TC-23C-1790 | 30SC | New 4RM06 | 19.91 | 18.96 | 18.01 | 1.0 |
| | | Medium | | | New 4RM02 | 19.91 | 18.96 | 18.01 | 0.9 |
| | | Large | | | New 4RM01 | 19.91 | 18.96 | 18.01 | 0.9 |
| Ammonia, Methylamine, Organic Vapor, Chlorine, Hydrogen Chloride, Sulphur Dioxide, Hydrogen Fluoride, Chlorine Dioxide, and Formaldehyde & any Particulates Respirator, Complete | Grey/ Magenta | Small | TC-84A-0928 | 30SCP100 | New 4RM05 | 28.06 | 26.80 | 25.41 | 1.0 |
| | | Medium | | | New 4RM04 | 28.06 | 26.80 | 25.41 | 1.0 |
| | | Large | | | New 4RM03 | 28.06 | 26.80 | 25.41 | 1.0 |
| Any Particulates Respirator | Magenta | Small | TC-84A-0617 | 3080P100 | 5T966 | 22.95 | 22.00 | 20.90 | 0.5 |
| | | Medium | | | 5T967 | 22.95 | 22.00 | 20.90 | 0.5 |
| | | Large | | | 5T968 | 22.95 | 22.00 | 20.90 | 0.5 |
| Organic Vapor & non-oil particulates | Black | Small | TC-84A-1122 | 3001N95 | 5T981 | 21.05 | 18.95 | 18.00 | 0.8 |
| | | Medium | | | 5T982 | 21.05 | 18.95 | 18.00 | 0.8 |
| | | Large | | | 5T983 | 21.05 | 18.95 | 18.00 | 0.8 |

## RESPIRATOR FILTERS

| Description | Pack Qty. | North Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| N95 Particulate Filter | 10 | N7506N95 | New 4RM31 | $13.38 | $12.75 | $12.11/6 | 0.1 |
| N95 Particulate Filter, Bulk | 100 | N7506N95B | New 4RM32 | 86.09 | 82.00 | 77.89/6 | 0.5 |
| Filter Cover | 1 | N7500-27 | 3A180 | 1.98 | 1.88 | 1.79/24 | 0.1 |
| Filter Cover, Bulk | 1000 | N7500-27D | 4GL98 | 1071.38 | 1071.00 | 1017.39/2 | 30.0 |

(**) Features end of service life indicator.

# RESPIRATORY PROTECTION




## 3M MAINTENANCE FREE 5000 SERIES RESPIRATORS

Cradle suspension comfortably holds respirator in place for less pressure on bridge of nose and back of neck. Uniform weight distribution provides greater comfort and maximizes worker acceptance and use. Low profile on face facilitates wider line of vision. Comfortable to wear with glasses or goggles. Facepieces are color coded and marked by size for easy identification by supervisor and worker. NIOSH approved.

**Caution: Respirators must be properly selected, based on the contaminant present and its concentration level; be properly fitted and used in accordance with all of the manufacturer's instructions and use limitations. The respirator must be worn during all times of exposure. Respirator misuse may result in sickness or death.**

The following information is designed to be a starting point for selecting the proper respirator. For information on respirators or specific questions regarding your application, call 3M Technical Assistance at 1-800-243-4630.

## SPECIFICATIONS AND ORDERING DATA

| Respirator Description | Color Coding | Size | NIOSH Approval No. | 3M Model | | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Organic Vapor (OV)** | Black | Small | TC-23C-859 | 5101 | | **5T564** | $17.12 | **$15.57** | **$14.79** | 0.9 |
| **Organic Vapor (OV)** | Black | Medium | TC-23C-859 | 5201 | | **5T565** | 17.12 | **15.57** | **14.79** | 0.9 |
| **Organic Vapor (OV)** | Black | Large | TC-23C-859 | 5301 | | **5T566** | 17.12 | **15.57** | **14.79** | 0.9 |
| **Acid Gas (AG)*** | White | Small | TC-23C-886 | 5102 | | **5T576** | 17.12 | **15.57** | **14.79** | 0.9 |
| **Acid Gas (AG)*** | White | Medium | TC-23C-886 | 5202 | | **5T577** | 17.12 | **15.57** | **14.79** | 0.9 |
| **Acid Gas (AG)*** | White | Large | TC-23C-886 | 5302 | | **5T578** | 17.12 | **15.57** | **14.79** | 0.9 |
| **OV/AG†** | Yellow | Small | TC-23C-865 | 5103 | | **5T567** | 17.12 | **15.57** | **14.79** | 0.9 |
| **OV/AG†** | Yellow | Medium | TC-23C-865 | 5203 | | **5T568** | 17.12 | **15.57** | **14.79** | 0.9 |
| **OV/AG†** | Yellow | Large | TC-23C-865 | 5303 | | **5T569** | 17.12 | **15.57** | **14.79** | 0.9 |
| **Ammonia/ Methylamine** | Green | Small | TC-23C-861 | 5104 | | **5T579** | 21.35 | **19.42** | **18.45** | 0.9 |
| **Ammonia/ Methylamine** | Green | Medium | TC-23C-861 | 5204 | | **5T580** | 21.35 | **19.42** | **18.45** | 0.9 |
| **Ammonia/ Methylamine** | Green | Large | TC-23C-861 | 5304 | | **5T581** | 21.35 | **19.42** | **18.45** | 0.9 |
| **Formaldehyde** | Olive | Small | TC-23C-864 | 5105 | | **5T617** | 21.35 | **19.42** | **18.45** | 0.9 |
| **Formaldehyde** | Olive | Medium | TC-23C-864 | 5205 | | **5T618** | 21.35 | **19.42** | **18.45** | 0.9 |
| **Formaldehyde** | Olive | Large | TC-23C-864 | 5305 | | **5T619** | 21.35 | **19.42** | **18.45** | 0.5 |
| **Multi-Gas/Vapor**** | Olive | Small | TC-23C-1768 | 5106 | | **4JG04** | 22.11 | **20.11** | **19.10** | 0.7 |
| **Multi-Gas/Vapor**** | Olive | Medium | TC-23C-1768 | 5206 | | **4JG05** | 22.11 | **20.11** | **19.10** | 0.7 |
| **Multi-Gas/Vapor**** | Olive | Large | TC-23C-1768 | 5306 | | **4JG06** | 22.11 | **20.11** | **19.10** | 0.7 |
| **Paint Spray/Pesticide Assy.** | Black | Small | TC-84A-1351 | 51P71 | ***New*** | **4MH60** | 22.50 | **20.25** | **19.24** | 1.2 |
| **Paint Spray/Pesticide Assy.** | Black | Medium | TC-84A-1351 | 52P71 | ***New*** | **4MH61** | 22.50 | **20.25** | **19.24** | 1.2 |
| **Paint Spray/Pesticide Assy.** | Black | Large | TC-84A-1351 | 53P71 | ***New*** | **4MH62** | 22.50 | **20.25** | **19.24** | 1.2 |

(*) Approved for chlorine/hydrogen chloride/sulfur dioxide/chlorine dioxide/hydrogen sulfide (escape only).
(†) Approved for organic vapors/chlorine/hydrogen chloride/hydrogen fluoride/sulfur dioxide.
(**) Same as (*) above plus organic vapors/hydrogen fluoride/ammonia/methylamine/formaldehyde.

**Replacement N95 prefilter** approved for solid and liquid aerosols that do not contain oil. May replace 5T463, 3M brand (5010) for certain applications. **Sold in packages of 10 prefilters each.** 3M brand (5N11). To be used with 2 each No. 5T464 Retainer, listed below. 3M brand (501).

**No. 4JG21.** Shpg. wt. 0.1 lbs. List $13.14. Each box ..... **$11.95**

**Replacement P95 prefilter** for solid and liquid aerosols, including oils. 3M time use restriction applies when aerosols are present. May replace No. 5T463, 3M brand (5010) for certain applications. 3M time use restrictions apply when oil is present. **Sold in packages of 10 prefilters each.** 3M brand (5P71). To be used with 2 each No. 5T464 Retainer, 3M brand (501).

***New* No. 4MH53.** Shpg. wt. 0.2 lbs. List $15.95. Each box ..... **$14.50**

**No. 5T464.** Replacement Prefilter Retainer. Package of 20. 3M brand (501). Shpg. wt. 0.1 lbs. List $30.14. Each box ..... **$27.40**

**Replacement P100 prefilter** approved for solid and liquid aerosols including oil. 3M time use restriction applies when oil aerosols are present. **Sold in bags of 2 prefilters each.** To be used with 2 each No. 3AK17, 3M brand (502) Adapter listed below. 3M time use restrictions may apply. 3M brand (2091).

**No. 4JG27.** Shpg. wt. 0.1 lbs. List $6.59. Each pkg of 2 ..... **$5.99**

**Replacement P100 filter cartridge** approved for solid and liquid aerosols including oil. 3M time use restriction applies when oil aerosols are present. **Sold in boxes of 10 filters each.** To be used with 2 each No. 3AK17, 3M brand (502) Adapter listed below. 3M brand (7093).

**No. 4JG25.** Shpg. wt. 0.5 lbs. List $37.35. Each box ..... **$33.95**

**No. 3AK17.** Replacement Prefilter Adapter. Sold in Packages of 20. 3M brand (502). Shpg. wt. 0.8 lbs. List ..... $36.30. Each ..... **$33.00**

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**

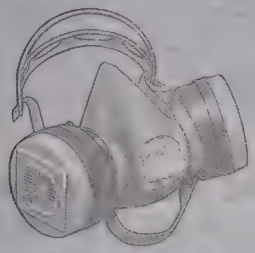


## NO MAINTENANCE RESPIRATORS

May be a cup shaped filter or a half mask with cartridges or filters permanently attached. The entire respirator is discarded when the cartridges or filters are spent. These respirators do not require a complete maintenance program and require a minimal inventory investment.

# FREEDOM® 2000 DISPOSABLE HALF MASK RESPIRATORS

WILLSON® New



Willson Freedom 2000 disposable half mask respirator-OV/P95 combination is a 100% disposable half mask with Organic Vapor Cartridge and P95 prefilter. Features a perspiration port to reduce facepiece slippage and face irritation, a soft pliable facepiece sealing flange with rolled edges for added comfort, and a sliding suspension system for easy donning. Provides very low breathing resistance and is up to 30% lighter than reusable half mask respirators. Preassembled to eliminate assembly time and errors.

Willson Freedom 2000 disposable half mask respirator with unisorb cartridge or unisorb P100 stacked cartridge. Features a perspiration port to reduce facepiece slippage and face irritation, a soft pliable facepiece sealing flange with rolled edges for added comfort, and a sliding suspension system for easy donning. Up to 30% lighter than reusable half mask respirators, and provides up to 51% lower breathing resistance than other multi-use contaminant-specific cartridges. Approved for up to 16 specific contaminants.

| Description | Size | NIOSH/MSHA Approval | Willson Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **FREEDOM® 2000 RESPIRATOR ORDERING DATA** | | | | | | | | |
| **Organic Vapor/P95 Combination** | Small | 84A-896 | 211P95G | *New* **4RF38** | $27.11 | **$23.72** | **$22.53** | 1.0 |
| **Organic Vapor/P95 Combination** | Medium | 84A-896 | 221P95G | *New* **4RF39** | 27.11 | **23.72** | **22.53** | 1.0 |
| **Organic Vapor/P95 Combination** | Large | 84A-896 | 231P95G | *New* **4RF40** | 27.11 | **23.72** | **22.53** | 1.0 |
| **Unisorb Cartridge** | Small | 23C-1733 | 2108G | *New* **4RF46** | 19.27 | **18.31** | **17.39** | 1.0 |
| **Unisorb Cartridge** | Medium | 23C 1733 | 2208G | *New* **4RF47** | 19.27 | **18.31** | **17.39** | 1.0 |
| **Unisorb Cartridge** | Large | 23C 1733 | 2308G | *New* **4RF48** | 19.27 | **18.31** | **17.39** | 1.0 |
| **Unisorb Cartridge/P100** | Small | 84A-253 | 2118P100G | *New* **4RF49** | 30.09 | **28.55** | **27.08** | 1.0 |
| **Unisorb Cartridge/P100** | Medium | 84A-253 | 2218P100G | *New* **4RF50** | 30.09 | **28.55** | **27.08** | 1.0 |
| **Unisorb Cartridge/P100** | Large | 84A-253 | 2318P100G | *New* **4RF51** | 30.09 | **28.55** | **27.08** | 1.0 |
| **P100 Oil Mist Particulate Filter** | Small | 84A-248 | 2110P100 | **1AJ03** | 19.70 | **18.23** | **16.40** | 0.5 |
| **P100 Oil Mist Particulate Filter** | Medium | 84A 248 | 2210P100 | **3AX72** | 19.70 | **18.23** | **16.40** | 0.6 |
| **P100 Oil Mist Particulate Filter** | Large | 84A 248 | 2310P100 | **3AK06** | 19.70 | **18.23** | **16.40** | 0.6 |
| **PREFILTER AND RETAINER ORDERING DATA** | | | | | | | | |
| **P95 Oil-Mist Particulate Filter (20 Per Pkg.)** | | | P95G | *New* **4RF55** | 36.77 | **34.95** | **33.19†** | 1.0 |
| **Retainer** | | | RP78R | **5AL21** | 2.04 | **1.90** | **1.70** | 0.1 |

(†) Lots of 5.

3M



No. 4T823

PRINZING ENTERPRISES INC.




No. 3ZM57

## COMFORT MASK

Comfort mask offers relief from irritating effects of common nuisance dusts such as alfalfa, pollen, and animal dander. Not government approved therefore not for hazardous or toxic particles, or for use while spray painting; offers no respiratory protection. **Not a respirator. Do not use for lung protection. Box of 50 masks.** 3M brand(8500)

**No. 4T823.** Shpg. wt. 0.6 lbs. List $9.24. Each box ..... **$8.41**
Lots 12 ..... **$7.99**

## DUST MASK DISPENSER

Compact design easily holds over 30 dust masks (not included). Unique cutout design allows easy access to the masks. Keeps them clean and sanitary until ready to use. Clear view acrylic dispenser can be either wall or countertop mounted for maximum convenience. 12⅜H x 6W x 6"D. Prinzing brand (M420).

**No. 3ZM57.** Shpg. wt. 3.1 lbs. List $53.00. Each ..... **$44.80**

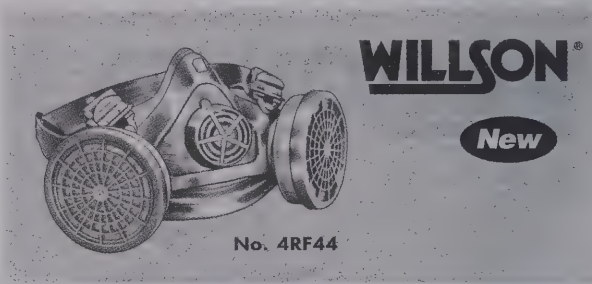


## LOW MAINTENANCE RESPIRATORS

These respirators use cartridges and filters which can be replaced. They are made from less durable materials and are not designed as reusable respirators. For applications that do not call for constant and heavy respirator usage.

## PREMIER PLUS HALF MASK RESPIRATOR

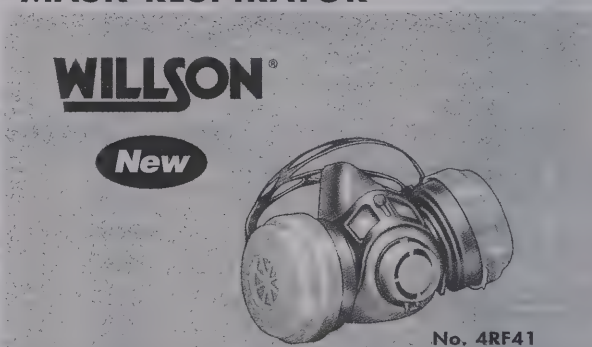
100% silicone half mask respirator features wide wrap around facepiece design with strategic lateral positioning of cartridges for unequaled field of vision. Triple sealing flange provides excellent seal. High quality cradle suspension with four-point floating yoke eliminates pressure points, adjusts easily. Pleated chin area ensures easier communication while maintaining strong seal. Extremely low breathing resistance. Large face piece allows air to circulate and help cool inside of mask. Willson brand (6800). For use with Unisorb cartridges sold below or cartridges/filters on page 2413.




| Size | Willson Model | *New!* Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | 6800SG | **4RF44** | $29.37 | **$27.90** | **$26.50** | 1.0 |
| **Med/Large** | 6800MLG | **4RF45** | 29.37 | **27.90** | **26.50** | 1.0 |

## VALUAIR® PLUS HALF MASK RESPIRATOR

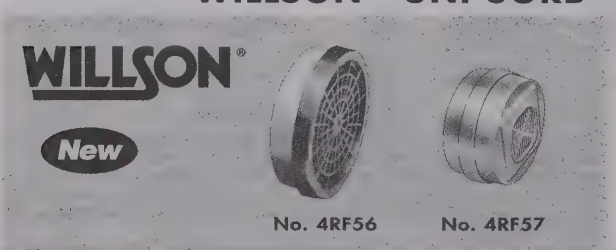
Economical, reusable half mask respirator has extremely low breathing resistance and uses the same cartridges and filters as the Premier respirator. It has an improved 3-piece sliding suspension system for quick and easy donning with no hooks, loops, or extra parts to break or lose. The 2-point headband suspension adjustment means no loose straps on facepiece to block vision. Perspiration port reduces facepiece slippage and face irritation. A soft sealing flange with rolled edges means best comfort and fit and a forward angled nose piece is compatible with eye wear. Audible locking cartridges confirms cartridge attachment—no more cross threading or tightening problems. For use with unisorb cartridges sold below or cartridges/filters on page 2413.




### VALUAIR® PLUS HALF-MASK RESPIRATOR

| Description | Willson Model | *New!* Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | 6100V-SG | **4RF41** | $12.34 | **$11.73** | **$11.15** | 1.0 |
| **Medium** | 6100V-MG | **4RF42** | 12.34 | **11.73** | **11.15** | 1.0 |
| **Large** | 6100V-LG | **4RF43** | 12.34 | **11.73** | **11.15** | 1.0 |

## WILLSON® UNI-SORB™ MULTI-USE CARTRIDGES




Willson Uni-Sorb multi-use cartridges are engineered to meet standards for multiple contaminant exposures. These cartridges are approved for up to 16 specific contaminants.

All Uni-Sorb cartridges feature the audible "locking" bayonet connection for confirmed attachment and are usable with other Willson air-purifying respirators. All cartridges are designed to offer low inhalation resistance for easier breathing and less fatigue, and a low profile that won't interfere with vision.

Multi-contaminant cartridge reduces the variety of different cartridges necessary at a location, eliminating the potential for a worker to accidentally grab the wrong contaminant specific cartridge.

| Description | Color | Willson Model | *New!* Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Uni-Sorb Cartridge** | Olive | T08 | **4RF56** | $53.65 | **$50.95** | **48.40** | 1.7 |
| **Uni-Sorb/P100 Stacked Cartridge** | Olive/Magenta | T08P100 | **4RF57** | 60.63 | **57.60** | **54.70** | 2.2 |

VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

http://www.grainger.com

Link up with Grainger's Web site and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

## ADVANTAGE® 200 HALF-MASK RESPIRATORS

For use in construction, steel, utilities, chemical, marine, pulp and paper industries. NIOSH approved for use against a wide variety of respiratory hazards. MultiFlex® system uses a combination of rubber and plastic to provide customized fit. AnthroCurve® face sealing surface adds comfort. Available in three sizes. MSA brand.

| Size | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Small** | 815448 | **4LR46** | $9.09 | **$8.27** | 0.3 |
| **Medium** | 815444 | **4LR40** | 9.09 | **8.27** | 0.3 |
| **Large** | 815452 | **4LR32** | 9.09 | **8.27** | 0.3 |

## ADVANTAGE® 1000 FULL FACEPIECE RESPIRATORS

For use in construction, steel, utilities, chemical, marine, pulp and paper industries. Features wrap-around flexible lens, speaking diaphragm and nosecup. Offers comfortable fit while providing increased vision. NIOSH approved for use against a wide variety of respiratory hazards. Weighs 40% less than a conventional full facepiece respirator. MSA brand.

| Size | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Standard** | 805408 | **4LN16** | $91.38 | **$83.10** | 0.9 |
| **Large** | 805420 | **4LN17** | 91.38 | **83.10** | 1.0 |



MSA

New



No. 4LN16

Replacement Parts Available 1-800-323-0620

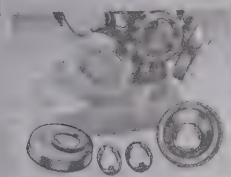
## CARTRIDGES FOR ADVANTAGE® 200 AND 1000 RESPIRATORS

| Description | Pkg. Qty. | Protection Code | MSA Model | New! Stock No. | List | Each Package | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **GMA Chemical Cartridge** | 2 | OV | 815355 | **4LM93** | $8.26 | **$7.51** | 0.3 |
| **GMB Chemical Cartridge** | 2 | CL,SD,CD,HC,HS* | 815356 | **4LM94** | 8.40 | **7.64** | 0.3 |
| **GMC Chemical Cartridge** | 2 | OV,CL,SD,CD,HC, HS* | 815357 | **4LM95** | 8.40 | **7.64** | 0.4 |
| **GMD Chemical Cartridge** | 2 | AM, MA | 815358 | **4LM96** | 9.08 | **8.26** | 0.4 |
| **GME Chemical Cartridge** | 2 | OV, CL, SD, CD, HC, HS*, AM, MA, FM, HF | 815359 | **4LM97** | 8.98 | **8.17** | 0.4 |
| **GMF Chemical Cartridge** | 2 | OV, CL, SD, HC | 815360 | **4LM98** | 11.51 | **10.47** | 0.4 |
| **GMA/P100 Combination Cartridge** | 2 | OV, P100 | 815362 | **4LN01** | 14.48 | **13.17** | 0.8 |
| **GMB/P100 Combination Cartridge** | 2 | CL, SD, CD, HC, HS*, P100 | 815363 | **4LN02** | 14.58 | **13.26** | 0.8 |
| **GMC/P100 Combination Cartridge** | 2 | OV, CL, SD, CD, HC, HS*, P100 | 815364 | **4LN03** | 14.58 | **13.26** | 0.9 |
| **GMD/P100 Combination Cartridge** | 2 | AM, MA, P100 | 815365 | **4LN04** | 15.32 | **13.93** | 0.9 |
| **GME/P100 Combination Cartridge** | 2 | OV, CL, SD, CD, HC, HS*, AM, MA, FM, HF, P100 | 815366 | **4LN05** | 14.92 | **13.57** | 0.8 |
| **GMF/P100 Combination Cartridge** | 2 | OV, CL, SD, HC, FM, P100 | 815367 | **4LN06** | 15.32 | **13.93** | 0.9 |
| **GMI/P100 Combination Cartridge** | 2 | OV, P100 | 815641 | **4LN09** | 15.47 | **14.07** | 0.5 |
| **Low Profile P100 Particulate Cartridge** | 2 | P100 | 815369 | **4LN08** | 5.88 | **5.35** | 0.3 |
| **Mersorb Chemical Cartridge** | 2 | CL, MV | 815361 | **4LM99** | 16.66 | **15.15** | 0.4 |
| **Mersorb/P100 Chemical Cartridge** | 2 | CL, MV, P100 | 815368 | **4LN07** | 23.08 | **20.99** | 0.8 |

(*) Escape only.
OV=Organic vapor CL=Chloride SD=Sulfur dioxide CD=Chlorine dioxide HC=Hydrogen choloride HS=Hydrogen sulfide, escape only AM=Ammonia MA=Methylamine FM=Formaldehyde HF=Hydrogen fluoride
MV=Mercury vapor P100=99.97% filter efficiency against all particulate aerosols N95=95% filter efficiency level, effective against particulate aerosols free of oil; time use restrictions may apply
R95=95% filter efficiency level against all particulate aerosols; oil-resistant; time use restrictions apply

MSA

New



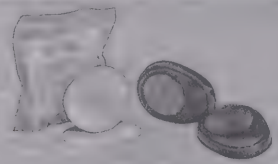
### COMFO® CARTRIDGE ADAPTER FOR ADVANTAGE® RESPIRATORS

For use with Advantage® 200 Half-Mask and 1000 Full facepiece respirators. Two adapters per pack. MSA brand (809999).

**New No. 4LR47.** Shpg. wt. 0.1 lbs. List $1.38. Each Pkg. of 2.....$3.99

MSA

New



No. 4LR53

### FILTER COVERS AND PREFILTERS FOR ADVANTAGE® STYLE FACEPIECES

R95 and N95 covers and prefilters snap directly onto cartridge holder or cartridge with audible snap to ensure filters are secure. Easy to install, holds filters in place. MSA brand.

| Description | Pkg. Qty. | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **R95 Reusable Snap-On Cover** | 2 | 815392 | **4LR53** | $2.98 | **$2.71** | 0.1 |
| **N95 Reusable Snap-On Cover** | 2 | 815401 | **4LR54** | 2.98 | **2.71** | 0.1 |
| **N95 Prefilters** | 10 | 815394 | **4LR66** | 11.99 | **10.90** | 0.8 |
| **N95 Prefilters** | 50 | 816957 | **4LR71** | 54.05 | **49.15** | 0.5 |
| **R95 Prefilters** | 20 | 815397 | **4LR68** | 29.05 | **26.45** | 0.8 |

# RESPIRATORY PROTECTION

## REUSABLE RESPIRATORS

Offer the frequent user of respirators a more economical choice over the long term. Available in both half mask and full facepiece styles. The full facepiece offers greater eye and face protection. These respirators require the replacement of cartridges, filters and respirator parts as well as a complete respirator maintenance program. In most cases, both styles of respirators use the same cartridges and filters so only one inventory is required.

## DUAL CARTRIDGE HALF MASK RESPIRATOR



NORTH

Replacement Parts Available 1-800-323-0620

Hypoallergenic silicone facepiece offers the worker superior fit and comfort even after repeated cleanings. Cradle suspension system reduces respirator slippage and provides easy adjustment of headstraps. Low profile design increases field of vision and allows for use of eye protection. Exhalation valve offers exceptionally low breathing resistance, low dead air space limits the re-breathing of exhaled air thereby increasing worker efficiency and comfort. Maintenance program required. **NIOSH Approved. These facepieces must be worn only with North cartridges and/or filters. North cartridges and filters approved for use with these facepieces are listed on page 2407.**

| Size | North Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | 7700-30 | **4T549** | $21.79 | **$20.72** | **$19.69** | 0.5 |
| **Medium** | 7700-30 | **3A182** | 21.79 | **20.73** | **19.69** | 0.6 |
| **Large** | 7700-30 | **4T550** | 21.79 | **20.73** | **19.69** | 0.6 |

## BACKPACK HALF MASK RESPIRATOR

NORTH



Replacement Parts Available 1-800-323-0620

Offers the same features as the North half mask respirators above; however, the cartridges and/or filters are suspended on the worker's back by flexible breathing tubes. Suited for use under welding helmets and faceshields because of the low profile design. Cartridges and/or filters are held away from the work area where there are higher concentrations of contaminants. Maintenance program required.

**NIOSH Approved. These facepieces must be worn only with North cartridges and/or filters. North cartridges and filters approved for use with these facepieces are listed on page 2407.**

| Size | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | 77 BP-30 | **4GM23** | $148.02 | **$128.80** | **$122.33** | 2.2 |
| **Medium** | 77 BP-30 | **4GM22** | 148.02 | **128.80** | **122.33** | 2.2 |
| **Large** | 77 BP-30 | **4GM21** | 148.02 | **128.80** | **122.33** | 2.2 |

## FULL FACEPIECE RESPIRATOR



NORTH

Replacement Parts Available 1-800-323-0620

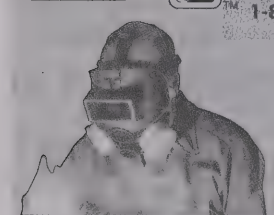
Provides respiratory protection plus protects the user's eyes and face against irritating gases, vapors, and flying particles. Scratch resistant, polycarbonate lens provides a 200° field of vision. Lens fogging is kept to a minimum with the oral/nasal cup. Hypoallergenic silicone facepiece provides worker with superior fit and comfort while the five strap head harness helps maintain facepiece-to-face seal. Speaking diaphragm allows for clear communication. Neck strap allows the user to rest the lightweight unit on chest when not in use. Maintenance program required. **NIOSH Approved. These facepieces must be worn only with North cartridges and/or filters. North cartridges and filters approved for use with these facepieces are listed on page 2407.**

| Size | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | 7600-8AS | **5AC56** | $192.66 | **$183.50** | **$174.29** | 2.1 |
| **Medium/Large** | 7600-8A | **3A183** | 192.66 | **183.50** | **174.29** | 2.1 |

## WELDING FULL FACEPIECE RESPIRATOR

NORTH

Replacement Parts Available 1-800-323-0620



Offers the same features and benefits of the full facepiece respirator above and is specialized for welding applications. Clear 2" x 4¼" polycarbonate lens offers 200 degree field of vision and has a specially darkened section on the bottom of the lens. Welding attachment is made from fire resistant thermoplastic material and is designed to be flipped up or removed for a wider field of vision when not welding. Low profile design closely conforms to shape of respirator lens allowing the user to work in tight spaces. A welding conversion kit is also available to convert your current North respirator to a welding respirator. Maintenance program required. Shade plates not included, see Index under Welding Helmets.

**NIOSH Approved. These facepieces must be worn only with North cartridges and/or filters. North cartridges and filters approved for use with these facepieces are listed on page 2407.**

| Size | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | 7600-8ASW | **4GM18** | $286.24 | **$249.00** | **$236.46** | 2.2 |
| **Medium/Large** | 7600-8AW | **4GM19** | 286.24 | **249.00** | **236.46** | 2.2 |

For more information on the selection of North Respirators, call 1-800-581-0444

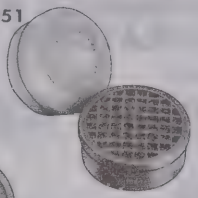
# CARTRIDGES AND FILTERS FOR DUAL CARTRIDGE RESPIRATORS



LOW MAINTENANCE RESPIRATORS



REUSABLE RESPIRATORS



No. 6T451



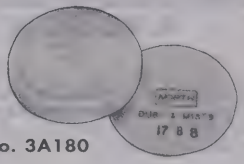
No. 4GL94



No. 4RM24

NORTH

No. 6T454



No. 3A180

No. 4RM31

New

| Description | Color | Qty/ Pkg | North Model | Stock No. | List | Each Pkg. | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **CARTRIDGES, FILTERS & COMBINATIONS** | | | | | | | | |
| Organic Vapor Cartridge | Black | 2 /Std | N7500-1A | New 4RM24 | $9.82 | $9.36 | $8.89 /6 | 0.7 |
| | | 144 /Bulk | N7500-1D | 4GL95 | 554.67 | 482.50 | 458.21 /2 | 28.0 |
| Organic Vapor & any Particulates* Cartidge/Filter Combination | Black/ Magenta | 2 /Std | N7581P100 | 6T452 | 19.59 | 18.66 | 17.73 /6 | 0.7 |
| | | 72 /Bulk | N7581P100D | 4GM09 | 532.58 | 463.25 | 439.96 /2 | 19.0 |
| Chlorine, Hydrogen Chloride, Sulfur Dioxide, Hydrogen Fluoride, Chlorine Dioxide, Formaldehyde Cartridge | White | 2 /Std | N7500-2A | New 4RM25 | 10.16 | 9.68 | 9.20 /6 | 0.7 |
| | | 144 /Bulk | N7500-2D | 4GL99 | 589.29 | 512.50 | 486.81 /2 | 33.0 |
| Chlorine, Hydrogen Chloride, Sulfur Dioxide, Hydrogen Fluoride, Chlorine Dioxide, Formaldehyde & any Particulates* Cartidge/Filter Combination | White/ Magenta | 2 /Std | N7582P100 | 6T453 | 20.10 | 19.16 | 18.20 /6 | 0.7 |
| | | 72 /Bulk | N7582P100D | 4GM10 | 562.62 | 489.25 | 464.78 /2 | 19.0 |
| Organic Vapor, Chlorine, Hydrogen Chloride, Sulfur Dioxide, Hydrogen Fluoride, Chlorine Dioxide Cartridge | Yellow | 2 /Std | N7500-3A | New 4RM27 | 9.72 | 9.26 | 8.80 /6 | 0.7 |
| | | 144 /Bulk | N7500-3D | 4GM01 | 554.67 | 482.50 | 458.21 /2 | 30.0 |
| Organic Vapor, Chlorine, Hydrogen Chloride, Sulfur Dioxide, Hydrogen Fluoride, Chlorine Dioxide & any Particulates* Cartridge/Filter Combination | Yellow/ Magenta | 2 /Std | N7583P100 | 6T454 | 19.59 | 17.17 | 16.31 /6 | 0.7 |
| | | 72 /Bulk | N7583P100D | 4GM11 | 532.58 | 463.25 | 439.96 /2 | 20.0 |
| Ammonia, Methylamine Cartridge | Green | 2 /Std | N7500-4A | New 4RM28 | 10.95 | 10.44 | 9.92 /6 | 0.7 |
| | | 144 /Bulk | N7500-4D | 4GM02 | 616.00 | 536.00 | 508.87 /2 | 37.0 |
| Ammonia, Methylamine & any Particulates* Cartridge/Filter Combination | Green/ Magenta | 2 /Std | N7584P100 | 6T455 | 21.86 | 20.83 | 19.79 /6 | 0.7 |
| | | 72 /Bulk | N7584P100D | 4GM12 | 590.90 | 514.00 | 488.14 /2 | 25.0 |
| Organic Vapor, Formaldehyde Cartridge | Olive | 2 /Std | N7500-5A | New 4RM30 | 10.95 | 10.44 | 9.92 /6 | 0.7 |
| | | 144 /Bulk | N7500-5D | 4GM06 | 603.75 | 525.00 | 498.75 /2 | 32.0 |
| Organic Vapor, Formaldehyde, & any Particulates* Cartridge/Filter Combination | Olive/ Magenta | 2 /Std | N7585P100 | 1AD07 | 22.31 | 21.26 | 20.20 /6 | 0.6 |
| | | 72 /Bulk | N7585P100D | 4GM15 | 590.89 | 514.00 | 488.13 /2 | 22.0 |
| Mercury Vapor, Chlorine Cartridge with ELSI† | Brown | 2 /Std | N7500-52A | New 4RM29 | 22.65 | 21.58 | 20.50 /6 | 0.7 |
| | | 144 /Bulk | N7500-52D | 4GM05 | 1511.52 | 1315.00 | 1248.84 /2 | 33.0 |
| Mercury Vapor, Chlorine, & any Particulates* Cartridge/Filter Combination with ELSI† | Brown/ Magenta | 2 /Std | N7585P100 | 4GM13 | 32.68 | 28.50 | 27.03 /6 | 0.6 |
| | | 72 /Bulk | N7585P100D | 4GM14 | 936.75 | 815.00 | 774.16 /2 | 22.0 |
| Organic Vapor, Chlorine, Hydrogen Chloride, Sulfur Dioxide, Hydrogen Fluoride, Chlorine Dioxide, Formaldehyde, Ammonia, and Methylamine Cartridge | Grey | 2 /Std | 75SCA | New 4RM18 | 9.64 | 9.18 | 8.72 /6 | 0.7 |
| | | 144 /Bulk | 75SCB | New 4RM19 | 597.67 | 569.50 | 540.97 /2 | 0.1 |
| Organic Vapor, Chlorine, Hydrogen Chloride, Sulfur Dioxide, Hydrogen Fluoride, Chlorine Dioxide, Formaldehyde, Ammonia, Methylamine & any Particulates* Cartridge | Grey/ Magenta | 2 /Std | 75SCP100A | New 4RM20 | 18.88 | 17.98 | 17.08 /6 | 0.7 |
| | | 144 /Bulk | 75SCP100B | New 4RM21 | 604.69 | 575.50 | 546.73 /2 | 55.0 |
| P100 Particulate Filter | Magenta | 4 /Std | N7580P100 | 6T451 | 22.04 | 19.84 | 18.85 /6 | 0.4 |
| | | 144 /Bulk | N7580P100D | 4GM16 | 467.55 | 407.00 | 386.46 /2 | 13.0 |
| Any Particulates* Pancake Filter | | 2 /Std | 75FFP100 | New 4RM17 | 4.70 | 4.48 | 4.26 /6 | 0.2 |
| **N95 PARTICULATE FILTERS** | | | | | | | | |
| N95 Particulate Filter | — | 10 /Std | N7506N95 | New 4RM31 | 13.38 | 12.75 | 12.11 /6 | 0.1 |
| | — | 100 /Bulk | N7506N95B | New 4RM32 | 86.09 | 82.00 | 77.89 /6 | 0.5 |
| **N95 PARTICULATE FILTER ASSEMBLIES** | | | | | | | | |
| N95 Particulate Filter Assembly** | — | 2 /Std | 7581N95 | 6T456 | 8.83 | 7.95 | 7.55 /6 | 0.2 |
| **FILTER ACCESSORIES** | | | | | | | | |
| Pancake Filter Adapter (attaches filter to chemical cartridge) | — | 1 /Std | N7500-35 | New 4RM26 | 1.97 | 1.88 | 1.79 /6 | 1.0 |
| Filter Cover for 4RM31 | — | 1 /Std | N7500-27 | 3A180 | 1.98 | 1.88 | 1.79 /24 | 0.1 |
| | — | 1000 /Bulk | N7500-27D | 4GL98 | 1231.58 | 1071.00 | 1017.39 /2 | 30.0 |
| Filter Holder for 4RM31 | — | 1 /Std | N7500-15 | 4GL94 | 2.70 | 2.36 | 2.24 /24 | 0.1 |

(*) Indicates the cartridge or cartridge/filter combination contains a P100 filter. (**) Each Assembly Kit includes: 2 Filters, 2 Filter Holders, 2 Covers.
(†) Features an end-of-service life indicator which tells the user when the cartridge is spent

# 3M™ 6000 SERIES LOW-MAINTENANCE HALF AND FULL FACEPIECE RESPIRATORS*



LOW MAINTENANCE RESPIRATORS

## HALF FACEPIECE RESPIRATORS

Reusable half facepiece respirators can be cleaned and reworn. Soft, lightweight facepiece features adjustable headstraps to increase worker comfort. Low profile design permits better visibility and allows safety glasses to be worn comfortably. Storage bag included. 3M brand.

## FULL FACEPIECE RESPIRATORS

Lightweight, well balanced full facepiece respirator. Soft, lightweight facepiece material, three facepiece sizes and easy-to-adjust headstraps allow maximum comfort. Large lens provides excellent visibility and is hard-coated to reduce scratches that impair vision. Requires only limited maintenance time, clean as directed between uses. 3M brand.

## ACCESSORIES

**No. 4JG35 Spectacle Kit.** Special frame for prescription lenses, to be worn with full facepiece respirator.

**No. 4JG07 Lens Covers.** Protect lens from getting soiled or damaged. **Package of 100.**

| Description | Size | 3M Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Half Facepiece Respirator** | Small | 6100 | **5AM53** | $11.07 | **$10.07** | **$9.56/6** | 0.3 |
| **Half Facepiece Respirator** | Medium | 6200 | **6AD97** | 11.07 | **10.07** | **9.56/6** | 0.3 |
| **Half Facepiece Respirator** | Large | 6300 | **6AP71** | 11.07 | **10.07** | **9.56/6** | 0.3 |
| **Full Facepiece Respirator** | Small | 6700 | **4JG17** | 113.08 | **102.80** | **97.66/4** | 1.7 |
| **Full Facepiece Respirator** | Medium | 6800 | **4JG18** | 113.08 | **102.80** | **97.66/4** | 1.7 |
| **Full Facepiece Respirator** | Large | 6900 | **4JG19** | 113.08 | **102.80** | **97.66/4** | 1.7 |
| **Spectacle Kit** | — | 6878 | **4JG35** | 61.60 | **56.00** | **53.20/4** | 0.3 |
| **Lens Covers (Pkg. of 100)** | — | 6885 | **4JG07** | 108.24 | **98.40** | **93.48/4** | 1.0 |



No. 5AM53 Half Facepiece Respirator



No. 4JG17 Full Facepiece Respirator

Replacement Parts Available 1-800-323-0620

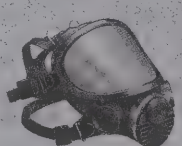


REUSABLE RESPIRATORS

# 3M™ 7000 SERIES CONVENTIONAL HALF AND FULL FACEPIECE† RESPIRATORS*



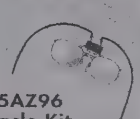
No. 5F822 Half Facepiece Respirator



No. 5AJ92 Full Facepiece Respirator



Filter/ Cartridge Adapter included



No. 5AZ96 Spectacle Kit

Replacement Parts Available 1-800-323-0620

## HALF FACEPIECE RESPIRATORS

Half facepiece with bayonet attachments is a soft silicone with a matte finish designed to reduce slippage. Lightweight construction reduces pressure points and neck strain. Adjustable heavy-duty headstraps for long life. Maintenance is easy with fewer pieces to disassemble. 3M brand.

## FULL FACEPIECE RESPIRATORS

Soft, pliable facepiece features standard nosecup to prevent fogging, scratch resistant polycarbonate lens for greater durability and speaking diaphragm for excellent communication. Double flap face seal and six adjustable straps help ensure proper fit and protection. Easy to clean silicone material. 3M brand.

## ACCESSORIES

**No. 5AZ96 Spectacle Kit.** Special frame for prescription lenses, to be worn with full facepiece respirator.

**No. 4AV26 Welding Kit.** Shroud converts respirator facepiece into welder's faceshield.

**No. 4JG08 Lens Covers.** Protects lens from getting soiled or damaged. **Pack of 25.**

| Description | Size | 3M Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Half Facepiece Respirator** | Small | 7001 | **5F821** | $27.09 | **$24.63** | **$23.40/5** | 0.6 |
| **Half Facepiece Respirator** | Medium | 7002 | **5F822** | 27.09 | **24.63** | **23.40/5** | 0.6 |
| **Half Facepiece Respirator** | Large | 7003 | **5F823** | 27.09 | **24.63** | **23.40/5** | 0.6 |
| **Full Facepiece Respirator** | Small | 7800S(Sm) | **5AJ92** | 232.37 | **211.25** | **200.69/2** | 2.0 |
| **Full Facepiece Respirator** | Medium | 7800S(M) | **5AR14** | 232.37 | **211.25** | **200.69/2** | 2.0 |
| **Full Facepiece Respirator** | Large | 7800S(L) | **2AD49** | 232.37 | **211.25** | **200.69/2** | 2.0 |
| **Spectacle Kit** | — | 7925 | **5AZ96** | 95.64 | **86.95** | **82.60/3** | 0.2 |
| **Welding Kit** | — | 7998 | **4AV26** | 108.35 | **98.50** | **93.57/3** | 0.8 |
| **Lens Covers (Pkg. of 25)** | — | 7899-25 | **4JG08** | 39.65 | **36.05** | **34.25/4** | 0.4 |

(*) To form a complete respirator assembly, add one pair each of the appropriate cartridge, filter or cartridge and prefilter/filter with necessary retainer/adapter.
(†) Filter/cartridge adapters, 3M brand (701) are installed in each facepiece.

# RESPIRATORY PROTECTION

## 3M™ 6000 & 7000 SERIES HALF AND FULL FACEPIECE RESPIRATORS*



LOW MAINTENANCE RESPIRATORS

3M New

Replacement Parts Available 1-800-323-0620



REUSABLE RESPIRATORS



SUPPLIED AIR CONTINUOUS FLOW

### RESPIRATOR ASSEMBLY ORDERING DATA

### CARTRIDGES AND COMBINATION CARTRIDGE/P100 FILTERS

| Description | Color Coding | 3M Model | Stock No. | Qty./ Pkg. | List | Each Pkg. | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Organic Vapor (OV)** | Black | 6001 | **6AM37** | 2 | $10.02 | **$8.38** | **$7.96 / 6** | 0.4 |
| **Acid Gas (AG)†** | White | 6002 | **3AG78** | 2 | 10.03 | **8.38** | **7.96 / 6** | 0.5 |
| **OV/AG**** | Yellow | 6003 | **4AD98** | 2 | 10.02 | **8.38** | **7.96 / 6** | 0.4 |
| **Ammonia/Methylamine (A/MA)** | Green | 6004 | **1AZ78** | 2 | 10.86 | **9.87** | **9.38 / 6** | 0.8 |
| **Formaldehyde/Organic Vapor** | Olive | 6005 | **5AJ48** | 2 | 10.86 | **9.87** | **9.38 / 6** | 0.8 |
| **Multi-Gas/Vapor‡** | Olive | 6006 | **4JG24** | 2 | 10.98 | **9.98** | **9.48 / 6** | 0.2 |
| **Mercury Vapor/Chlorine** | Orange | 6009 | **5F778** | 2 | 19.78 | **17.99** | **17.09 / 6** | 0.4 |
| **Organic Vapor/P100** | Black/Magenta | 60921 | **4JG10** | 2 | 21.07 | **19.15** | **18.20 / 6** | 0.5 |
| **Acid Gas†/P100** | White/Magenta | 60922 | **4JG11** | 2 | 21.08 | **19.15** | **18.20 / 6** | 0.6 |
| **OV/AG**/P100** | Yellow/Magenta | 60923 | **4JG12** | 2 | 21.07 | **19.15** | **18.20 / 6** | 0.5 |
| **A/MA/P100** | Green/Magenta | 60924 | **4JG13** | 2 | 22.85 | **20.78** | **19.74 / 6** | 0.7 |
| **Formaldehyde/Organic Vapor/P100** | Olive/Magenta | 60925 | **4JG14** | 2 | 22.83 | **20.76** | **19.72 / 6** | 0.5 |
| **Multi-Gas/Vapor‡/P100** | Olive/Magenta | 60926 | **4JG16** | 2 | 23.17 | **21.06** | **20.01 / 6** | 0.6 |
| **Mercury Vapor/Chlorine/P100** | Orange/Magenta | 60929 | **4JG15** | 2 | 31.40 | **28.55** | **27.12 / 6** | 0.6 |

### FILTERS AND RETAINERS

| Description | Color Coding | 3M Model | Stock No. | Qty./ Pkg. | List | Each Pkg. | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **N95 Prefilter - solid & liquid particles excluding oil** | — | 5N11 | **4JG21** | 10 | $13.14 | **$11.95** | **$11.35 /10** | 0.1 |
| **P95 Prefilter ††, ‡‡** | — | 5P71 | **New 4MH53** | 10 | 15.95 | **14.50** | **13.78 /10** | 0.2 |
| **Prefilter Retainer for 5T463 and 4JG21 only** | — | 501 | **5T464** | 20 | 30.14 | **27.40** | **26.03 / 5** | 0.1 |
| **Bayonet Mount Filter Adapter** | — | 502 | **3AK17** | 20 | 36.30 | **33.00** | **31.35 / 5** | 0.8 |
| **P95 Particulate ††, ‡‡** | — | 2071 | **New 4MH55** | 2 | 3.75 | **3.50** | **3.33 /10** | 0.1 |
| **P95 Particulate/HF/Nuisance AG Filter ††, ‡‡** | — | 2076HF | **New 4MH57** | 2 | 7.75 | **6.99** | **6.64 /10** | 0.1 |
| **P95 Particulate/Nuisance OV/AG Filter ††, ‡‡** | — | 2078 | **New 4MH56** | 2 | 6.75 | **6.15** | **5.84 /10** | 0.1 |
| **P100 Filter - all solid & liquid particles††** | Magenta | 2091 | **4JG27** | 2 | 6.59 | **5.99** | **5.69 /10** | 0.1 |
| **P100/Nuisance AG Filter - all solid & liquid particles#, ††** | Magenta | 2096 | **4JG28** | 2 | 8.09 | **7.36** | **6.99 /10** | 0.1 |
| **P100/Nuisance OV Filter - all solid & liquid particles#, ††** | Magenta | 2097 | **4JG29** | 2 | 8.09 | **7.36** | **6.99 /10** | 0.1 |
| **P100 Filter Cartridge - all solid & liquid particles††** | Magenta | 7093 | **4JG25** | 10 | 37.35 | **33.95** | **32.25 / 6** | 0.5 |

### DUAL AIRLINE KITS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Dual Airline Adapter Kit** | — | SA-1000 | **3KP34** | — | 212.02 | **192.75** | **183.11 / 3** | 2.8 |
| **Dual Airline Low-Pressure Adapter Kit** | — | SA-1000LP | **3KP35** | — | 212.02 | **192.75** | **183.11 / 3** | 2.6 |
| **Dual Airline Back-Mounted Adapter Kit** | — | SA-2000 | **3KP41** | — | 211.75 | **192.50** | **182.88 / 3** | 2.0 |
| **Dual Airline Back-Mounted Low Pressure Adapter Kit** | — | SA-2000LP | **3KP42** | — | 212.02 | **192.75** | **183.11 / 3** | 2.6 |

(*) All 3M half and full facepiece respirator assemblies are NIOSH approved. For more information on respirators or specific questions, call 3M Technical Assistance at 1-800-243-4630. Only 42 CFR 84 Filters 3M Brand (5N11, 2091, 2096, & 7093) can be used with 3M Brand 6000 Full Facepiece and/or 3M Brand 6006 Multi-Gas/Vapor Cartridges

(†) Approved for chlorine/hydrogen chloride/sulfur dioxide/chlorine dioxide/hydrogen sulfide (escape only).

(**) Same as (†), plus organic vapors and hydrogen flouride, minus chlorine dioxide.

(‡) Same as (**), plus ammonia/methlamine and formaldehyde.

(#) 3M recommended nuisance levels refer to concentrations not exceeding the OSHA PEL.

(††) 3M time restrictions will apply when oils are present.

(‡‡) For protection against solid and liquid aerosols including oils.

**UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY**

**Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.**

## COMFO CLASSIC® HALF-MASK RESPIRATORS

For use in construction, steel, utilities, chemical, marine, pulp and paper industries. SoftFeel™ seal design allows for a more exacting fit. Available in two facepiece materials, silicone or Hycar. Comes in three sizes. Protects against a number of contaminants when used with proper filter, chemical, or combination filter. Replacement headband available. For use with Comfo cartridges and filters (sold separately). MSA brand.

| Description | Size | Color | Headband Style | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Silicone** | Small | Black | Cradle | 808072 | **4LR43** | $24.95 | **$22.69** | 0.7 |
| **Silicone** | Medium | Black | Cradle | 808071 | **4LR36** | 24.95 | **22.69** | 0.7 |
| **Silicone** | Large | Black | Cradle | 808073 | **4LR10** | 24.95 | **22.69** | 0.7 |
| **Silicone** | Large | Black | Elastic | 808070 | **4LR29** | 24.34 | **22.13** | 0.7 |
| **Hycar** | Small | Black | Cradle | 808075 | **4LR44** | 24.34 | **22.13** | 0.7 |
| **Hycar** | Medium | Black | Cradle | 808074 | **4LR37** | 24.34 | **22.13** | 0.7 |
| **Hycar** | Large | Black | Cradle | 808076 | **4LR30** | 24.34 | **22.13** | 0.7 |

## COMFO ELITE® HALF-MASK RESPIRATORS

Comfortable black silicone sealing surface matches facial contours to distribute pressure evenly over face. Provides protection against numerous contaminants when used with proper filter, chemical, or combination cartridge. Cradle headband for easy donning. Two sizes to fit a variety of wearers. For use with Comfo cartridges and filters (sold separately). MSA brand.

| Description | Size | Color | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Silicone** | Medium | Black | 490491 | **4LR55** | $29.44 | **$26.80** | 0.8 |
| **Silicone** | Large | Black | 490493 | **4LR56** | 29.44 | **26.80** | 0.8 |

## ULTRA ELITE® TWIN CARTRIDGE FULL FACEPIECE RESPIRATORS

Provides protection against numerous contaminants while allowing a high level of peripheral downward vision. Improved communication through speaking diaphragm located in front of wearer's mouth. Constructed of SoftFeel® Hycar rubber which enhances wearer comfort. Large adjustment tabs makes donning and doffing easy. For use with Comfo cartridges and filters (sold separately), order No. 4LN41 adapter from page 2411. MSA brand.

| Description | Size | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Hycar Rubber** | Medium | 493020 | **4LN14** | $226.80 | **$206.25** | 1.8 |
| **Hycar Rubber** | Large | 493108 | **4LN15** | 226.80 | **206.25** | 1.8 |

## ULTRA-TWIN® FULL FACEPIECE RESPIRATORS

In-turned lip around sealing edge ensures tight seal against face. Features five suspension head straps, roller buckles, and coated polycarbonate lens which resists scratching and chemical attack. Lens ring is color-coded to indicate size of facepiece. For use with Comfo cartridges and filters (sold separately). MSA brand.

| Description | Size | Color | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Silicone** | Small | Black | 480263 | **4LR42** | $204.50 | **$186.00** | 2.8 |
| **Silicone** | Medium | Black | 480259 | **4LR35** | 204.50 | **186.00** | 1.7 |
| **Silicone** | Large | Black | 480267 | **4LR28** | 204.50 | **186.00** | 1.8 |
| **Hycar** | Small | Black | 471298 | **4LR41** | 189.80 | **172.75** | 1.7 |
| **Hycar** | Medium | Green | 471287 | **4LR34** | 189.80 | **172.75** | 1.8 |
| **Hycar** | Medium | Black | 471286 | **4LR33** | 189.80 | **172.75** | 1.7 |
| **Hycar** | Large | Black | 471310 | **4LR09** | 189.80 | **172.75** | 1.7 |

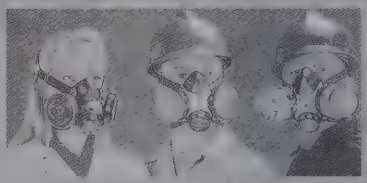
## ESP® COMMUNICATIONS SYSTEM CONVERSION KITS

Provides clear voice amplification for local, short-range communications. For use where communication between workers is essential. Operates in a Push-To-Talk* or Continuous ON mode. Waterproof for use in wet environments. Requires one 9-Volt battery. Injection-molded, high-strength polymer withstands rough treatment.

(*) Push-To-Talk available with No. 4LN38 only.

| Description | ESP Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Kit for Ultra-Twin Respirators** | 804011 | **4LN36** | $167.14 | **$152.00** | 0.4 |
| **Kit for Advantage 1000 Respirators** | 805074 | **4LN37** | 205.64 | **187.00** | 0.4 |
| **Kit for Ultravue Respirators** | 811737 | **4LN38** | 255.04 | **232.00** | 0.4 |

MSA New



No. 4LR30



No. 4LR56



No. 4LN14



No. 4LR09



No. 4LN38

Replacement Parts Available 1-800-323-0620

## FILTERS AND CARTRIDGES FOR COMFO®, COMFO ELITE®, ULTRA TWIN® AND ULTRA ELITE® RESPIRATORS

Approved by NIOSH for a variety of respiratory hazards. Low profile units are easy to install and secure. Thread-on mounting design locks cartridge or filter securely in place. Color-coded for easy identification. MSA brand.

| Description | Each Package | MSA Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| GMA Chemical Cartridge | 10 | 464031 | **4LR57** | $43.69 | **$39.75** | 1.8 |
| GMB Chemical Cartridge | 10 | 464032 | **4LR58** | 47.94 | **43.60** | 2.2 |
| GMC Chemical Cartridge | 10 | 464046 | **4LR60** | 43.69 | **39.75** | 2.0 |
| GMD Chemical Cartridge | 10 | 464033 | **4LR59** | 49.36 | **44.90** | 2.2 |
| GME Chemical Cartridge | 10 | 492790 | **4LR63** | 49.17 | **44.70** | 2.5 |
| GMF Chemical Cartridge | 10 | 490173 | **4LR62** | 45.83 | **41.70** | 2.5 |
| GMA Chemical Cartridge | 100 | 807015 | **4LR84** | 406.07 | **369.25** | 20.0 |
| GMC Chemical Cartridge | 100 | 807014 | **4LR83** | 406.07 | **369.25** | 17.0 |
| GMB/P100 Shortstack Combination Cartridge | 6 | 815187 | **4LR77** | 61.12 | **55.60** | 1.5 |
| GMC/P100 Shortstack Combination Cartridge | 6 | 815188 | **4LR78** | 59.86 | **54.45** | 1.5 |
| GMD/P100 Shortstack Combination Cartridge | 6 | 815189 | **4LR79** | 62.66 | **57.00** | 1.5 |
| GMA/P100 Shortstack Combination Cartridge | 6 | 815186 | **4LR76** | 59.86 | **54.45** | 1.7 |
| GME/P100 Shortstack Combination Cartridge | 6 | 815182 | **4LR75** | 59.15 | **53.80** | 1.7 |
| GMF/P100 Shortstack Combination Cartridge | 6 | 815191 | **4LR80** | 62.66 | **57.00** | 1.5 |
| GMI/P100 Shortstack Combination Cartridge | 6 | 815192 | **4LR81** | 64.49 | **58.65** | 1.5 |
| Mersorb Chemical | 10 | 466204 | **4LR61** | 103.42 | **94.05** | 1.7 |
| Mersorb/P100 Shortstack Combination Cartridge | 6 | 815193 | **4LR62** | 112.56 | **102.35** | 1.5 |
| P100 Particulate Filter Cartridge | 10 | 815175 | **4LR64** | 56.54 | **51.40** | 1.7 |
| Sparkfoe P100 Particulate Filter Cartridge | 10 | 815176 | **4LR65** | 56.54 | **51.40** | 1.7 |
| Low Profile P100 Particulate Filter Cartridge | 6 | 815177 | **4LR74** | 56.54 | **51.40** | 1.7 |

## CARTRIDGE SELECTION

### SELECTION GUIDE

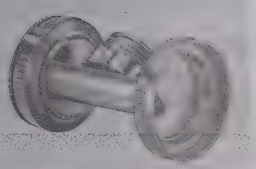
| Hazard | 4LR57 (2,3) | 4LR58 (2) | 4LR59 (2,3) | 4LR63 (2,3) | 4LR62 (2,3) | 4LR84 (2,3) | 4LR83 (2,3) | 4LR77 (2,4) | 4LR78 (2,3,4) | 4LR79 (2,3,4) | 4LR76 (2,3,4) | 4LR75 (2,3,4) | 4LR80 (2,3,4) | 4LR81† (2,4) | 4LR61 (2,4) | 4LR82 (2,4) | 4LR64 (1,4) | 4LR65 (1,4) | 4LR74 (1,4) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Organic Vapor | X | | | X | X | X | X | | X | | X | X | X | X | | | | | |
| Chlorine | | X | | X | X | X | | X | X | | | X | X | | X | X | | | |
| Sulfur Dioxide | | X | | X | X | X | | X | X | | | X | X | | | | | | |
| Chlorine Dioxide | | X | | X | | X | | X | X | | | X | | | | | | | |
| Hydrogen Chloride | | X | | X | X | X | | X | X | | | X | X | | | | | | |
| Hydrogen Sulfide* | | X | | X | | X | | X | X | | | X | | | | | | | |
| Ammonia | | | X | X | | | | | | X | | X | | | | | | | |
| Methylamine | | | X | X | | | | | | X | | X | | | | | | | |
| Formaldehyde | | | | X | X | | | | | | | X | X | | | | | | |
| Hydrogen Fluoride | | | | X | | | | | | | | X | | | | | | | |
| Mercury Vapor | | | | | | | | | | | | | | | X | X | | | |
| P100 | | | | | | | | X | X | X | X | X | X | X | | X | X | X | X |
| R95 | X | X | X | X | X | X | X | | | | | | | | X** | | | | |
| N95 | X | X | X | X | X | X | X | | | | | | | | X** | | | | |

(*) Escape only. (†) Effective against, but not NIOSH approved for Iodine Vapor. (**) With Advantage only.
1. Do not use in atmospheres containing less than 19.5% oxygen, in atmospheres containing gases or vapors or in atmospheres immediately dangerous to life and health.
2. Do not use in atmospheres containing less than 19.5% oxygen, or in atmospheres immediately dangerous to life and health.
3. Do not wear for protection against organic vapors with poor warning properties or those which generate high heats of reation with the sorbent material in cartridge.
4. 99.97% efficient against 0.3 micron particulates MMAD (Mass Median Aerodynamic Diameter).
P100–Particulate filter (99.97% efficiency level) effective against all particulate aerosols.
R95–Particulate filter (95% efficiency level) effective against all particulate aerosols; time use restrictions may apply.
N95–Particulate fitler (95% filter efficiency level) effective against particulate aerosols free of oil; time use restrictions may apply.

## TWIN CARTRIDGE ADAPTER

MSA

New



Converts Ultra Elite and UltraVue facepieces to twin cartridge respirator. Versatile adapter helps reduce inventory. For use in construction, steel, utility, chemical, marine, pulp and paper industries. Cartridges sold separately. MSA brand (803622).

***New* No. 4LN41.** Shpg. wt. 0.4 lbs. List .....$22.55. Each .....**$20.50**

## FILTER COVERS AND PREFILTERS

MSA

New

For use with Comfo, Comfo Elite, Ultra Twin and Ultra Elite facepieces. Connects directly onto cartridge holders or cartridges with an audible snap to ensure secure fit. Reusable snap-on covers Nos. 4LR51 and 4LF52 have package quantities of 1 but require 2 covers for facepieces. MSA brand.

| Description | MSA Model | *New!* Stock No. | Pkg. Qty. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Snap-On Cover | 489219 | **4LR51** | **1** | $1.47 | **$1.34** | 0.1 |
| Snap-On Cover | 489353 | **4LR52** | **1** | 1.91 | **1.74** | 0.1 |
| Prefilter | 816662 | **4LR67** | **10** | 11.99 | **10.90** | 0.5 |
| Prefilter | 816287 | **4LR69** | **20** | 29.05 | **26.45** | 1.0 |
| Prefilter | 816661 | **4LR72** | **50** | 54.05 | **49.15** | 2.0 |

YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# DUAL CARTRIDGE AIR PURIFYING RESPIRATORS

REUSABLE RESPIRATORS

**WILLSON®**
**Premier® 6000 Series**

Cartridges and Filters Must Be Ordered Separately Using Selection Guide Below

Replacement Parts Available 1-800-323-0620



**No. 5T374 Half Mask Facepiece (shown with cartridges/filters)**

- Nonslip adjustable cradle suspension

**No. 5T376 Full Mask Facepiece (shown with cartridges/filters)**

- Quick-adjusting ratchet Tite-Seal® headgear



**Silicone half mask facepiece,** dual cartridge respirators are designed for low breathing resistance and maximum comfort. Bayonet-style cartridge connection system allows cartridges to seal directly on facepiece eliminating gaskets. Audible "click" assures proper cartridge attachment. Nonslip adjustable cradle suspension for wide range of fit. Retainer doubles as fit check cover. Certified by NIOSH/MSHA when used with cartridges and/or filters listed below. **These facepieces must be worn with cartridges and/or filters listed below.** Willson brand (6100).

| Size | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|
| **Small** | **5T373** | $27.67 | **$25.65** | **$23.09** | 0.7 |
| **Medium** | **5T374** | 27.67 | **25.65** | **23.09** | 0.7 |
| **Large** | **5T375** | 27.67 | **25.65** | **23.09** | 0.7 |

**Silicone full mask facepiece,** dual cartridge respirator has a durable, wide-vision, polycarbonate lens that has a dual coating; scratch-resistant on the outside, antifog on the inside. Wide sealing flange coupled with low resistance filters and cartridges provide security and comfort. Cartridges seal directly on facepiece, eliminating gaskets. Audible "click" assures proper cartridge attachment. Tissot tubes inside facepiece channel inhaled air up over lens to help prevent fogging. Certified by NIOSH/MSHA when used with cartridges and or filters listed below. **This facepiece must be worn with cartridges and/or filters listed below.** Willson brand.

**No. 5T376.** Tite-Seal® Rachet Headgear (W6400). Shpg. wt. 2.3 lbs. List $233.60. Each **$216.50**; Lots 2 ..... **$194.85**

**No. 3AC35.** Six-Strap Headgear (W6500). Shpg. wt. 1.5 lbs. List $233.60. Each **$216.50**; Lots 2..... **$194.85**

## DUAL CARTRIDGE AND FILTER SELECTION GUIDE

| Hazard | Cartridge 5T377 | 5T378 | 5T379 | 5T380 | 5AZ18 | 4RF56 | Filter/ Cartridge 5T383 | Stacked Cartridge 5T384 | 5T385 | 6AP10 | 6AJ75 | 4RF57 | Filter Retainer 5T387** | Filter Base 5T386* | Filter 4RF52 | 4RF53 | 4RF55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N95* | | | | | | | | | | | | | 2 ea. | 2 ea. | 2 ea. | | |
| N99* | | | | | | | | | | | | | 2 ea. | 2 ea. | | 2 ea. | |
| P95* | | | | | | | | | | | | | 2 ea. | 2 ea. | | | 2 ea. |
| P100 | | | | | | | 2 ea. | | | | | | | | | | |
| Organic Vapor | 2 ea. | | | | | | | | | | | | | | | | |
| Organic Vapor/P100 | | | | | | | | 2 ea. | | | | | | | | | |
| Mercury/Chlorine | | | | | 2 ea. | | | | | | | | | | | | |
| Ammonia/Methylamine | | 2 ea. | | | | | | | | | | | | | | | |
| Ammonia/Methylamine/P100 | | | | | | | | | | 2 ea. | | | | | | | |
| Organic Vapor/Acid Gas | | | 2 ea. | | | | | | | | | | | | | | |
| Organic Vapor/Acid Gas/P100 | | | | | | | | | 2 ea. | | | | | | | | |
| Acid Gas/Formaldehyde | | | | 2 ea. | | | | | | | | | | | | | |
| Acid Gas/Formaldehyde/P100 | | | | | | | | | | | 2 ea. | | | | | | |
| Unisorb Multi-Contaminant | | | | | | 2 ea. | | | | | | | | | | | |
| Unisorb Multi-Contaminant/P100 | | | | | | | | | | | | 2 ea. | | | | | |

(*) When using filters N95 (No. 4RF52), N99 (No. 4RF53), and P95 (No. 4RF55) as prefilters, in conjunction with cartridges, no filter base (No. 5T386) is required.
(**) Two each filter retainers (No. 5T387) must be used when combined with a cartridge for aerosol, mist and particulate protection.
**Note:** Filter retainers should be used for all configurations for user seal check.
**Caution:** These respirators are not to be used in atmospheres immediately dangerous to life or health, or in atmospheres containg less than 19.5% oxygen.
Chemcial cartridge respirators should not be used against materials that lack sufficient warning properties, and must be used in accordance with the appropriate regulatory standards.

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

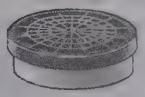
**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# DUAL CARTRIDGE AND FILTER ORDERING DATA



REUSABLE RESPIRATORS

WILLSON® New



A



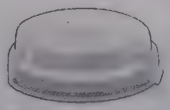
B



C



D



E

| Key | Description | Color Coding | Willson Model | | Stock No. | Qty/ Pkg. | List | Each Pkg. | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Organic Vapor Cartridge | Black | T01 | | 5T377 | 10 | $55.49 | $51.40 | $46.23 | 2.4 |
| | Acid Gas/Formaldehyde Cartridge | White | T06 | | 5T380 | 10 | 59.20 | 54.85 | 49.35 | 1.0 |
| | Organic Vapor/Acid Gas Cartridge | Yellow | T05 | | 5T379 | 10 | 59.20 | 54.85 | 49.35 | 2.5 |
| | Mercury/Chlorine Cartridge | Orange | T07 | | 5AZ18 | 10 | 120.68 | 111.65 | 100.48 | 2.0 |
| | Ammonia/Methylamine Cartridge | Green | T04 | | 5T378 | 10 | 59.20 | 54.85 | 49.35 | 1.0 |
| | Unisorb Multicontaminant Cartridge | Olive | T08G | New | 4RF56 | 10 | 53.65 | 50.95 | 48.40 | 1.7 |
| | P100–Oil or Non-Oil Based Particulates (HEPA) Filter Cartridge | Magenta | P100 | | 5T383 | 10 | 61.56 | 57.05 | 51.32 | 1.0 |
| B | Organic Vapor/P100 (HEPA) Filter Cartridge | Black/Magenta | T01P100 | | 5T384 | 6 | 69.57 | 64.45 | 57.98 | 1.5 |
| | Organic Vapor/Acid Gas/P100 (HEPA) Filter Cartridge | Yellow/Magenta | T05P100 | | 5T385 | 6 | 69.57 | 64.45 | 57.98 | 1.9 |
| | Ammonia/Methylamine/P100 (HEPA) Filter Cartridge | Green/Magenta | T04P100 | | 6AP10 | 6 | 73.07 | 67.65 | 60.86 | 1.5 |
| | Acid Gas/Formaldehyde/P100 (HEPA) Filter Cartridge | White/Magenta | T06P100 | | 6AJ75 | 6 | 73.07 | 67.65 | 60.86 | 1.5 |
| | Unisorb Multicontaminant Cartridge/P100 | Olive/Magenta | T08P100 | New | 4RF57 | 6 | 60.63 | 57.60 | 54.70 | 2.2 |
| C | N95 Filter | — | N95G | New | 4RF52 | 20 | 24.10 | 22.90 | 21.76 | 0.9 |
| | N99 Filter | — | N99G | New | 4RF53 | 20 | 28.96 | 27.50 | 26.11 | 0.8 |
| | P95 Filter | — | P95G | New | 4RF55 | 20 | 36.77 | 34.95 | 33.19 | 1.0 |
| D | Filter Base | — | RP21 | | 5T386 | 10 | 30.65 | 28.45 | 25.57 | 0.5 |
| E | Filter Retainer/Fit Check Cover | — | RP22R | | 5T387 | 10 | 20.98 | 19.41 | 17.47 | 1.8 |

## GAS MASKS

Full facepiece respiratory protection against a variety of gases, vapors, or particulate matter. For use in chemical or construction industries and processing plants. Features comfortable UltraVue full facepiece for excellent vision and canister. Size Medium. MSA brand.

MSA New



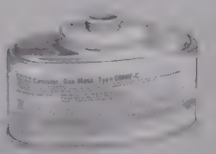
No. 4LN18

| Description | Case | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Chin-style GMA-C-N95 Organic Vapor Canister | Yes | 817057 | 4LN25 | $276.76 | $251.75 | 5.3 |
| Chin-style GMC-C-N95 Organic Vapor/Acid Gas Canister | Yes | 817059 | 4LN26 | 276.76 | 251.75 | 5.7 |
| Chin-style GMC-C-N95 Organic Vapor/Acid Gas Canister | No | 817060 | 4LN27 | 224.26 | 204.00 | 3.4 |
| Chin-style GMD-C-N95 Ammonia Canister | Yes | 817063 | 4LN28 | 276.76 | 251.75 | 5.5 |
| Chin-style GML-C-N95 Chlorine Canister | Yes | 817065 | 4LN29 | 276.76 | 251.75 | 6.5 |
| Front Mounted, Type N-P100 2% Acid Gas/Organic Vapor/CO 3% AM Canister | Yes | 817080 | 4LN30 | 548.65 | 499.00 | 14.0 |

## GAS MASK CANISTERS

Canisters easily attach to MSA gas masks with threaded connector. Sealing tape on bottom air take assures fresh chemical sorbents by preventing moisture from entering canister before use. Prevents potential leakage or channeling of gases and vapors past the chemical sorbents. Labeled for easy, accurate recognition. MSA brand.

MSA New



No. 4LN26

| Description | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| GMHF-C Hydrogen Fluoride Canister for Chin-Type Mask | 816000 | 4LN18 | $44.84 | $40.80 | 1.0 |
| GMD-D-N95 Ammonia Canister for Chin-Type Mask | 815993 | 4LN19 | 29.88 | 27.20 | 1.1 |
| GMA-C-N95 Organic Vapor Canister for Chin-Type Mask | 815994 | 4LN20 | 29.88 | 27.20 | 1.0 |
| GML-C-95 Chlorine Canister for Chin-Type Mask | 815995 | 4LN21 | 29.88 | 27.20 | 2.5 |
| GMC-C-N95 Organic Vapor/Acid Gas Canister for Chin-Type Mask | 815996 | 4LN22 | 32.59 | 29.65 | 1.3 |
| GMD-N95 Ammonia Canister for Industrial Size Mask | 816002 | 4LN23 | 49.63 | 45.15 | 2.5 |

# RESPIRATORY PROTECTION



## REUSABLE RESPIRATORS

Offer the frequent user of respirators a more economical choice over the long term. Available in both half mask and full facepiece styles. The full facepiece offers greater eye and face protection. These respirators require the replacement of cartridges, filters and respirator parts as well as a complete respirator maintenance program. In most cases, both styles of respirators use the same cartridges and filters so only one inventory is required.

## PAINT SPRAY/PESTICIDE RESPIRATOR KIT




Kit offers protection from paint sprays and mists, lacquer, enamel, organic vapors and many commonly used pesticides. Features the North reusable half mask respirator which offers the worker superior fit and comfort even after repeated cleanings. Cradle suspension system reduces respirator slippage and provides easy adjustment of headstraps. Headband yoke helps position cartridges in such a way that field of vision is increased and allows for use of eye protection. Exhalation valve offers exceptionally low breathing resistance, low dead air space limits the re-breathing of exhaled air thereby increasing worker efficiency and comfort. Kit provides two organic vapor cartridges, two prefilters and two filter covers. Maintenance program required. NIOSH approval TC-84A-1099. **Not for use with paints containing isocyanates, fumigants, or atmospheres containing oil.** For replacement cartridges order No. 4RM24, for replacement prefilters order Nos. 4RM31 or 4RM32, all listed on page 2407. North brand.

### SPECIFICATIONS AND ORDERING DATA

| Size | North Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | 7701N95S | **4T870** | $38.34 | **$36.55** | **$34.71** | 1.0 |
| **Medium** | 7701N95M | **4T871** | 38.34 | **36.55** | **34.71** | 1.0 |
| **Large** | 7701N95L | **4T872** | 38.34 | **36.55** | **34.71** | 1.0 |

**For more information on the selection of North Respirators, call 1-800-581-0444**

## ACCESSORIES FOR NORTH AIR PURIFYING RESPIRATORS

### SPECTACLE ASSEMBLY

Contains a spectacle frame which is inserted into holes inside the full facepiece respirator. Fits both Nos. 5AC56 and 3A183 (on page 2406). North brand (7600-22).

**No. 1D918.** Shpg. wt. 0.1 lbs. List.....$65.49. Each **$63.40;** Lots 4.....**$60.17**

### PEEL AWAY WINDOWS

For use with full facepiece respirator in applications where the respirator lens is easily soiled, such as painting. Windows attach directly to the facepiece and can be peeled off when soiled. 3 peelable layers per window, 5 windows per package. North brand (80836).

**No. 1D913.** Shpg. wt. 0.2 lbs. List .....$15.27. Each Pack **$14.71;** Lots 4 .....**$13.98**

### WELDING CONVERSION KIT

For those who want to convert their current North full facepiece Nos. 5AC56 or 3A183 (listed on page 2406) to a welding facepiece. This is easily accomplished by replacing the standard lens and fastening the welding attachment onto the full facepiece respirator. Shade plates not included, see Index under Welding Helmets. North brand (8404).

**No. 4GM35.** Shpg. wt. 1.3 lbs. List.....$152.17. Each **$136.95;** Lots 2.....**$130.10**

### VIDEO TRAINING TAPE

Reviews the proper selection, fit, use, cleaning and storage of North Air Purifying Respirators. 12 minutes. 1/2" VHS. North Brand (80812).

**No. 4GM30.** Shpg. wt. 0.5 lbs. List $53.86. Each **$46.90;** Lots 2 .....**$44.55**




**No. 4GM35 Welding Conversion Kit**

**No. 4GM30 Training Tape**

## NATIONWIDE BRANCH NETWORK
## WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away.**

**Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# RESPIRATORY PROTECTION

## New TRIMWELD® RESPIRATOR

This small size, half mask respirator is designed to fit underneath welding helmets. A perspiration port helps reduce facepiece slippage and face irritation. Soft pliable facepiece sealing falange with rolled edges provides comfort and wearer acceptance.

**TRIMWELD® RESPIRATOR**

| Description | Willson Model | New! Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | TW51G | **4RF35** | $19.27 | **$18.31** | **$17.39** | 1.0 |
| **Medium** | TW52G | **4RF36** | 19.27 | **18.31** | **17.39** | 1.0 |
| **Large** | TW53G | **4RF37** | 19.27 | **18.31** | **17.39** | 1.0 |

## TRIMWELD™ FILTERS



Low Maintenance Respirators

New

WILLSON®



A No. 4RF54

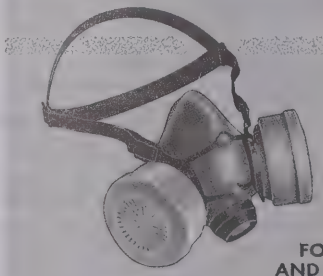


B No. 1AV97

| Key | Description | Willson Model | | Stock No. | Qty./ Pkg. | List | Each / Pkg. | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **A** | N95 Filter for Willson Trimweld respirators | GN95G | *New* | **4RF54** | 10 Pair | $22.79 | **$21.62** | **$20.54/6** | 1.0 |
| **B** | Retainer for Trimweld™ Assembly | RP127 | | **1AV97** | 1 | 1.95 | **1.83** | **1.64/10** | 0.1 |

## 5500 SERIES RESPIRATORS

Facepiece made from soft material that offers excellent conformity and fit to the worker while resisting distortion that can occur after use. Exhalation valve assembly provides low breathing resistance; low dead air space limits the rebreathing of exhaled air, both of which improve worker comfort and efficiency. Cradle suspension adjusts easily and cartridges located lower and further back provide an increased field of vision. Offers easily replaceable parts. Minimal maintenance required. NIOSH/MSHA Approved. North brand.



NORTH

No. 4GL93

FOR USE WITH CARTRIDGE AND FILTERS SOLD SEPARATELY ON PAGE 2407

| Size | North Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | 5500-30S | **4GL93** | $10.24 | **$8.89** | **$8.45** | 0.3 |
| **Medium** | 5500-30M | **4GL92** | 10.24 | **8.89** | **8.45** | 0.3 |
| **Large** | 5500-30L | **4GL91** | 10.24 | **8.89** | **8.45** | 0.3 |

**ORDER DIRECT FROM GRAINGER**

You can order directly from Grainger,
call your local branch and place an order.

To find the branch nearest you,
check the Branch Locations listed in the front of this catalog.

You can pick your order up or we'll ship it today.



REUSABLE RESPIRATORS



WILLSON®

- Soft molded silicone rubber
- Ratchet style headgear
- Sturdy carrying case
- Canister sold separately below

Replacement Parts Available
1-800-323-0620

## CANISTER AIR PURIFYING RESPIRATOR

Chin-style gas mask provides longer service life and is NIOSH approved for emergency escape from IDLH atmospheres that contain more than 19.5% oxygen. Molded in soft silicone rubber; comes with ratchet-style headgear for easy donning and adjustment. Supplied with sturdy carrying case with space to hold an additional replacement canister. Canisters are sold separately (See Canister Selection Guide below). Willson brand (W6600GM).

**No. 4T137.** Shpg. wt. 8.0 lbs. List.....$293.60. Each **$272.00;** Lots 2.....**$244.65**

## CAUTIONARY INFORMATION

Respirators are not to be worn in atmospheres immediately dangerous to life or health, or in atmospheres containing less than 19.5% oxygen.

Gas masks or cartridge respirators should not be used for respiratory protection against materials which lack sufficient warning properties.

The user should be aware of applicable OSHA standards as well as information related to the materials the user is handling. Maximum use concentrations are determined by applicable regulatory agency. If there are any doubts concerning the respirator or applications, contact a qualified safety or industrial hygiene professional.

The respirator selected must properly fit the wearer. Carefully follow the fitting instructions, fit tests and fit checks contained in the instruction booklet accompanying each respirator.

### CANISTER SELECTION GUIDE

| Contaminant | Color Coding | NIOSH Approval No. | Willson Model | Stock No. | Limitations |
|---|---|---|---|---|---|
| Organic vapors and N95 | Black | TC-14G-0240 | 61N | 4T138 | Protection against organic vapors; and dusts, fumes and mists as those encountered during field spraying of pesticides having a TWA not less than 0.05 milligrams per cubic meter or 2 million particles per cubic ft. |
| Organic vapors / acid gases and N95 | Yellow | TC-14G-0243 | 65N | 4T139 | Protection against organic vapors/acid gases, and dusts and mists having a TWA not less than 0.05 milligrams per cubic meter or 2 million particles per cubic foot. |
| Chlorine and N95 | White | TC-14G-0241 | 62N | 4T386 | Protection against chlorine; and dusts, fumes and mists having a TWA not less than 0.05 milligrams per cubic meter or 2 million particles per cubic foot. |
| Ammonia, methylamine and N95 | Green | TC-14G-0242 | 64N | 4T387 | Protection against ammonia and methylamine; and dusts, fumes and mists having a TWA not less than 0.05 milligrams per cubic meter or 2 million particles per cubic ft. |
| P100 | Magenta | TC-84A-2716 | 73P | 4T388 | Protection against dusts, mists and fumes having a TWA less than 0.05 milligrams per cubic meter including radionuclides and asbestos containing dusts and mists. |

### CANISTER ORDERING DATA

| Description | Color Coding | Willson Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Organic Vapor Canister | Black | 61N | **4T138** | $39.43 | **$36.65** | **$32.96/6** | 1.0 |
| Organic Vapor/Acid Gas Canister | Yellow | 65N | **4T139** | 39.43 | **36.65** | **32.96/6** | 1.0 |
| Chlorine Canister | White | 62N | **4T386** | 42.29 | **39.25** | **35.30/6** | 1.0 |
| Ammonia Canister | Green | 64N | **4T387** | 39.43 | **36.65** | **32.96/6** | 1.0 |
| P100 Filters (Box/6) | Magenta | 73P | **4T388**† | 99.28 | **92.00** | **82.80/2** | 1.5 |

(†) Priced and sold in quantities of 6 per box.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

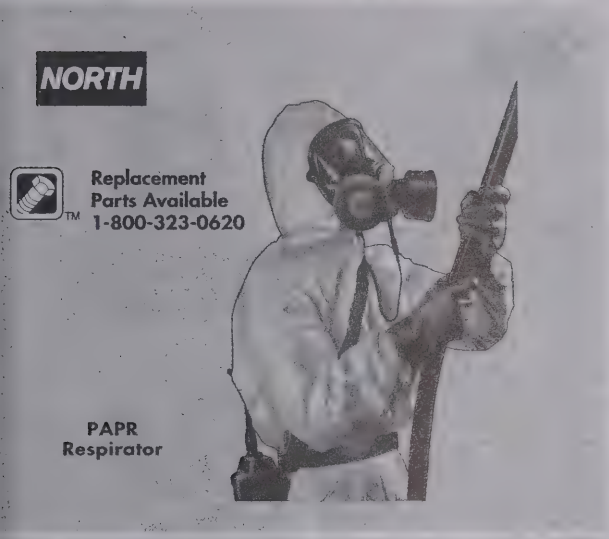
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**



## POWERED AIR PURIFYING RESPIRATORS (PAPR)

Use battery operated blowers to pull outside air through the cartridges and filters attached to the respirator assembly. Air blowers can either be mask or belt mounted. Designed to filter particulates, dusts, fumes and mists from the air and/or certain gases and vapors depending upon the cartridges selected. PAPR's provide enhanced comfort under working conditions because the constant flow of air over the worker's face provides a cooling effect.

# POWERED AIR PURIFYING RESPIRATOR




Provides user with comfort, protection and vision. Protects the user's eyes and face in addition to providing respiratory protection. Scratch resistant, polycarbonate lens provides a 200 degree field of vision, lens fogging is kept to a minimum with the oral/nasal cup. Hypoallergenic silicone facepiece provides worker with superior fit and comfort while the five strap head harness helps maintain facepiece-to-face seal. Speaking diaphragm allows for clear communication.

High performance twin mask mounted blowers provide quiet, easy breathing without a breathing tube. Lightweight lead acid gel battery offers eight hours of continuous use when fully charged and can be replaced in the field. The battery comes in a water resistant case and LED battery life indicator lets the user know when the battery needs to be replaced. Durable, urethane harness assembly is comfortable and easy to decontaminate.

Complete PAPR unit includes facepiece with blowers and cable assembly, urethane harness assembly, battery pack, flow measuring device and battery charger. HEPA filters sold separately. Approved for respiratory protection against dusts, fumes and mists having time-weighted average less than 0.05 mg per cubic meter, asbestos containing dusts and mists and is not to be used at contaminant concentration levels in excess of those allowed by applicable OSHA or EPA regulations. NIOSH/MSHA approval TC-21C-481. Maintenance program required. North brand.

**HEPA FILTERS.** PAPR Filters for highly toxic particulates including asbestos and radon daughters. **Sold in packages of four.** North brand.

**WELDING CONVERSION KIT.** For those who want to convert their current North PAPR full facepiece to a welding facepiece. This is easily accomplished by replacing the standard lens and fastening the welding attachment onto the full facepiece respirator. When the worker is not welding, it can be lifted upward for wide angle viewing. North brand.

| Description | North Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Respirator | 9800-70C | 5T279 | $733.39 | $708.50 | $672.74/2 | 10.0 |
| HEPA Filters (Pkg. 4) | 9800-8 | 5T280 | 30.33 | 29.35 | 27.88/4 | 1.3 |
| Welding Conversion Kit | 8403 | 4GM34 | 155.66 | 135.40 | 128.59/2 | 1.3 |

# POWERED AIR PURIFYING RESPIRATOR




**Incorporates a low-profile, water-resistant, belt-mounted blower and battery** for comfortable weight distribution behind and out of worker's way. Constant flow of filtered air creates a positive pressure inside facepiece and eliminates "work" of breathing through a negative pressure respirator. Equipped with economical HEPA filter. Utilizes a reliable, low-maintenance lead-acid gel battery and a battery charger (order separately from chart below, not included with PAPR) with automatic shut-off to prevent overcharging. Lightweight battery and blower provide up to 6 hours of continuous use. NIOSH/MSHA TC-21C-452.

**Silicone, six-strap full facepiece** has an antifog/antiscratch coated lens. Specially designed tissot tubes channel inhaled air across facepiece to help prevent fogging.

**For particulate protection** in asbestos abatement, as well as nuclear, pharmaceutical, and lead industries. HEPA filter, battery, flow indicator, and comprehensive instruction booklet included. **Battery charger purchased separately.** Willson brand.

| Description | Willson Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Respirator | W6783/6HR | 5T264 | $430.82 | $399.00 | $358.94 | 9.0 |
| Battery Charger | RP42 | 5T265 | 105.00 | 97.30 | 87.54 | 2.6 |
| Replacement Battery | RP40 | 5T266 | 87.86 | 81.40 | 73.26 | 3.0 |
| HEPA Filters (Box/6) | R73 | 4T388† | 99.28 | 92.00 | 82.80 | 1.5 |

(†) Priced and sold in quantities of 6 per box.

**CAUTION: Do not use if air flow falls below 4 cubic feet per minute. Recharge battery and/or replace filter. Respirators are not to be worn in atmospheres immediately dangerous to life and health, or in atmospheres containing less than 19.5% oxygen. The user should be aware of applicable OSHA standards as well as information related to materials the user is handling.**



## POWERED AIR PURIFYING RESPIRATORS (PAPR)

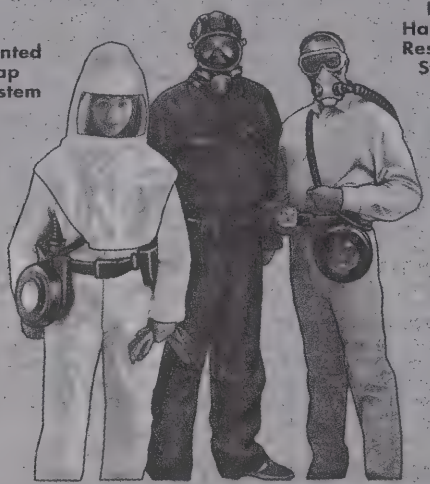
Use battery operated blowers to pull outside air through the cartridges and filters attached to the respirator assembly. Air blowers can either be mask or belt mounted. Designed to filter particulates, dusts, fumes and mists from the air and/or certain gases and vapors depending upon the cartridges selected. PAPR's provide enhanced comfort under working conditions because the constant flow of air over the worker's face provides a cooling effect.

3M

PAPR Full Facepiece Respirator System

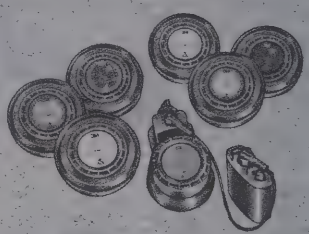
PAPR Half Mask Respirator System

Belt-Mounted Snapcap Hood System



No. 7A477 General Purpose Helmet System





PAPR Cartridges and Filters

Replacement Parts Available 1-800-323-0620

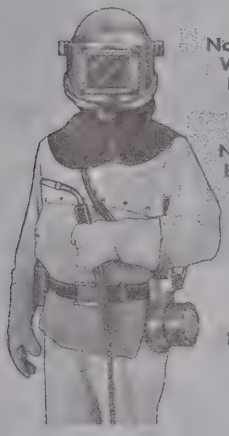
| Description | 3M Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **COMPLETE BELT-MOUNTED PAPR SYSTEMS ORDERING DATA** | | | | | | |
| **PAPR Snapcap Hood System with Hardcap** | GVP-2 | **7A472** | $914.98 | **$832.00** | **$790.40** | 10.1 |
| **PAPR Snapcap Hood System with Headband** | GVP-3 | **7A473** | 897.71 | **817.50** | **776.63** | 9.5 |
| **PAPR Full Facepiece System, Small** | GVP-4S | **7A474** | 1061.27 | **965.00** | **916.75** | 9.6 |
| **PAPR Full Facepiece System, Medium** | GVP-4M | **7A475** | 1061.27 | **965.00** | **916.75** | 9.6 |
| **PAPR Full Facepiece System, Large** | GVP-4L | **7A476** | 1061.27 | **965.00** | **916.75** | 9.6 |
| **PAPR General Purpose Helmet System** | GVP-5 | **7A477** | 1172.32 | **1066.00** | **1012.70** | 10.1 |
| **PAPR Half Mask System, Small** | GVP-7S | **7A441** | 914.64 | **832.00** | **790.40** | 8.5 |
| **PAPR Half Mask System, Medium** | GVP-7M | **7A442** | 914.64 | **832.00** | **790.40** | 8.5 |
| **PAPR Half Mask System, Large** | GVP-7L | **7A443** | 914.64 | **832.00** | **790.40** | 8.5 |
| **PAPR FILTERS AND CARTRIDGES** | | | | | | |
| **Organic Vapor Cartridge (pack of 6)** | GVP-401 | **5F789** | 289.57 | **263.25** | **250.09** | 12.0 |
| **Acid Gas Cartridge (pack of 6)** | GVP-402 | **5F790** | 289.57 | **263.25** | **250.09** | 12.0 |
| **Organic Vapor/Acid Gas Cartridge (pack of 6)** | GVP-403 | **5F791** | 289.57 | **263.25** | **250.09** | 12.0 |
| **Ammonia Cartridge (pack of 6)** | GVP-404 | **3KP28** | 367.95 | **334.50** | **317.78** | 13.0 |
| **Formaldehyde Cartridge (pack of 6)** | GVP-405 | **3KP29** | 367.95 | **334.50** | **317.78** | 12.0 |
| **High Efficiency Filter (HEPA) (pack of 8)** | GVP-440 | **5F792** | 260.42 | **236.75** | **224.91** | 4.9 |
| **Organic Vapor/HEPA Cartridge (pack of 6)** | GVP-441 | **5F793** | 444.95 | **404.50** | **384.28** | 15.0 |
| **Acid Gas/HEPA Cartridge (pack of 6)** | GVP-442 | **5F794** | 444.95 | **404.50** | **384.28** | 15.0 |
| **Organic Vapor/Acid Gas/HEPA Cartridge (pack of 6)** | GVP-443 | **5F795** | 444.95 | **404.50** | **384.28** | 15.0 |
| **Ammonia/HEPA Cartridge (pack of 6)** | GVP-444 | **3KP30** | 531.30 | **483.00** | **458.85** | 16.0 |
| **Formaldehyde/HEPA Cartridge (pack of 6)** | GVP-445 | **3KP31** | 531.02 | **482.75** | **458.61** | 13.0 |

# 3M™ BELT-MOUNTED POWERED AIR PURIFYING RESPIRATORS



POWERED AIR PURIFYING RESPIRATORS

3M




Replacement Parts Available 1-800-323-0620

**Belt-Mounted Powered Air Respirator (PAPR)** combines a high level of protection along with great performance, versatility and mobility. Design is compatible with six different helmets, hoods and facepieces: Whitecap General Purpose Helmet, Whitecap Welding Helmet, Snapcap Hood and Snapcap Hood with Hardhat, 7800S Full Face Respirators and 7000 Series Half Mask Respirators.

**BELT-MOUNTED PAPR ASSEMBLY INCLUDES:** belt, motor blower, battery, charger, flow meter, power cord and plugs.

**COMPLETE PAPR SYSTEMS INCLUDE:** breathing tube, motor blower, battery, charger, web belt, shoulder strap, flow meter, power cords and plugs as well as corresponding hood, helmet or respirator described below.

No. 7A472 features Standard Snapcap Hood assembly with hardcap, No. 7A473 features Standard Snapcap Hood assembly with headband. Nos. 7A474, 7A475 and 7A476 PAPR Full Facepiece Systems include 7800S Full Face Respirator. No. 7A477 PAPR General Purpose Helmet System includes W-8000 General Purpose Helmet. Nos. 7A441, 7A442 and 7A443 PAPR Half Mask Respirator Systems include 7000 Series Half Mask Respirator.

**Offers a complete line** of filters and cartridges, allowing wearer the flexibility to work within a variety of environments and applications. A single cartridge system allows for reduced changeout costs. Battery provides up to eight hours of continuous use with overcharge protection. PAPR provides levels of airflow that surpass NIOSH requirements.

## PAPR SPECIFICATIONS AND ORDERING DATA

| Description | 3M Model | Stock No. | List | Each | Lots /Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **WHITECAP HELMET ORDERING DATA** | | | | | | |
| General Purpose Helmet, White | W-8000 | 3AL74 | $374.27 | $340.25 | $323.24/3 | 2.5 |
| General Purpose Helmet, Black | W-8000B | 5AF31 | 374.27 | 340.25 | 323.24/3 | 2.5 |
| Welding Helmet, Black | W-8200B | 2AX57 | 683.65 | 621.50 | 590.43/3 | 6.0 |
| **SNAPCAP HOOD ORDERING DATA** | | | | | | |
| Hood Assembly with Headband | W-3250 | 3AD56 | 99.66 | 90.60 | 86.07/3 | 1.9 |
| Hood Assembly with Hardcap | W-3260 | 3AH35 | 116.93 | 106.30 | 100.99/3 | 2.5 |
| Shrouds (10 per pkg.) | W-3256-10 | 6AW50 | 327.25 | 297.50 | 282.63/3 | 3.2 |
| Faceshield Cover Lens (10 per pkg.) | W-9410-2 | 3AZ76 | 16.74 | 15.22 | 14.46/3 | 0.1 |
| Faceshield Cover Lens (200 per pkg.) | W-9410-3 | 5AZ65 | 216.97 | 197.25 | 187.39/3 | 3.0 |
| **FULL FACEPIECE RESPIRATOR ORDERING DATA** | | | | | | |
| Full Facepiece Respirator, Small | 7800S | 5AJ92 | 232.37 | 211.25 | 200.69/2 | 2.0 |
| Full Facepiece Respirator, Medium | 7800S | 5AR14 | 232.37 | 211.25 | 200.69/2 | 2.0 |
| Full Facepiece Respirator, Large | 7800S | 2AD49 | 232.37 | 211.25 | 200.69/2 | 2.0 |
| **HALF MASK FACEPIECE ORDERING DATA** | | | | | | |
| Half Mask Respirator, Small | 7001S | 5F821 | 27.09 | 24.63 | 23.40/5 | 0.6 |
| Half Mask Respirator, Medium | 7002S | 5F822 | 27.09 | 24.63 | 23.40/5 | 0.6 |
| Half Mask Respirator, Large | 7003S | 5F823 | 27.09 | 24.63 | 23.40/5 | 0.6 |
| Half Mask Conversion Kit (required for above facepieces when used with PAPR Systems) | W3241 | 3KP44 | 57.91 | 52.65 | 50.02/2 | 0.3 |
| **PAPR BREATHING TUBES ORDERING DATA** | | | | | | |
| Breathing Tube for Snapcap and Whitecap Assemblies | GVP-122 | 5F787 | 47.85 | 43.50 | 41.33/2 | 0.6 |
| Breathing Tube for Full and Half Mask Facepieces | GVP-123 | 5F788 | 78.70 | 71.55 | 67.97/2 | 0.6 |
| **BELT-MOUNTED PAPR ORDERING DATA** | | | | | | |
| Belt-Mounted PAPR Assembly | GVP-1 | 5F779 | 750.20 | 682.00 | 647.90/2 | 7.0 |

SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust.

More than 900 national brands are listed in the Brand Index at the back of this catalog.

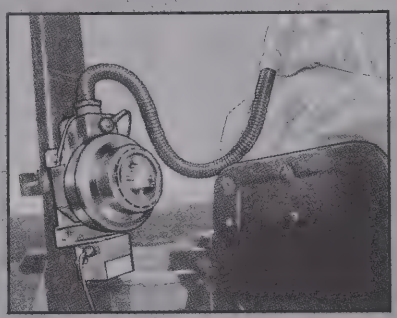


POWERED AIR PURIFYING RESPIRATORS

# 3M™ VEHICLE-MOUNTED POWERED AIR PURIFYING RESPIRATOR (PAPR)

3M

Replacement Parts Available 1-800-323-0620



The Vehicle-Mounted PAPR combines the simplicity and utility of the 3M Belt-Mounted PAPR with the ability to use a vehicle's power source (tractors, bulldozers, cranes, etc.). Easy to install bracket allows the PAPR to be mounted on the vehicle rather than worn on the worker's waist, allowing for greater comfort, freedom and reduced fatigue. May be used with either 12 or 24 volt DC energy source. NIOSH approved with several choices of facepieces/headgear and eleven cartridges/filters. High levels of airflow surpass NIOSH requirements. 3M brand (GVP-VM).

Note: To complete a PAPR System for vehicle operation, it is necessary to have the No. 4JG20 assembly and the appropriate facepiece/headgear, breathing tube and cartridges/filters.

**No. 4JG20.** Shpg. wt. 6.1 lbs. List.....$830.50. Each **$755.00**; Lots 2.....**$717.25**

# 3M™ POWERED AIR PURIFYING RESPIRATOR (PAPR)

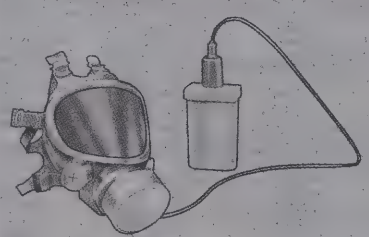
**Face-mounted powered air purifying respirator's** weight is evenly distributed for a comfortable and secure fit. Compact system is balanced by having motor blower inside the facepiece. Low profile design provides a good field of vision and makes working in tight spots easier. Face-mounted PAPR uses a single HEPA filter for dusts, fumes, mists, and radionuclides, making it ideal for asbestos, lead, and other hazardous particulate environments. NOTE: For use up to 1000 x PEL, or applicable OSHA or other government limits, whichever is lower. NIOSH/MSHA approval TC-21C-530.

Filter cover can be worn during use and in decontamination showers. Easy-to-use silicone facepiece can be used in many modes of operation, including negative pressure, low and high pressure supplied air, belt-mounted powered air and pressure demand escape systems.

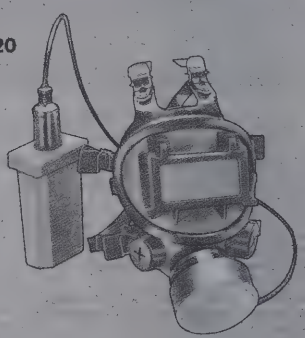
Complete PAPR includes silicone facepiece with a six strap head harness in medium or large sizes, two facepiece plugs, battery charger, NiCad battery, and motor blower unit which provide up to eight hours of continuous use, vinyl belt, flow meter, and filter cover. HEPA filters sold separately below. Maintenance program required. 3M brand.

3M

Replacement Parts Available 1-800-323-0620



No. 2AH78 Face-Mounted PAPR System



No. 5F766 Welder's Face-Mounted PAPR System

**Welder's PAPR** combines the benefits of the standard face-mounted PAPR with the ability to use a welder's face shield or an autodarkening welding lens. Suited for welding in areas where the extra protection and comfort of a positive pressure respirator is needed or desired. Includes the same items as No. 2AH78 standard large face-mounted PAPR with the welder's face shield.

**HEPA Filter.** PAPR filter for dusts, fumes, mists, and radionuclides. **Sold in packs of 36 only.**

## SPECIFICATIONS AND ORDERING DATA

| Description | 3M Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Face-Mounted PAPR System, Large** | W-3265S-L | **2AH78** | $831.05 | **$755.50** | **$717.73/2** | 7.3 |
| **Face-Mounted PAPR System, Medium** | W-3265S-M | **5F801** | 831.05 | **755.50** | **717.73/2** | 7.4 |
| **HEPA Filter (Pack of 36)** | W-3267 | **5AG65** | 684.75 | **622.50** | **591.38/3** | 7.4 |
| **Filter Cover for HEPA Filter (Pack of 5)** | W-3271-5 | **1AZ35** | 38.22 | **34.75** | **33.01/6** | 0.2 |
| **Welder's Face-Mounted PAPR System, Large** | W-3275-L | **5F766** | 950.95 | **864.50** | **821.28/2** | 7.6 |

MSA New



No. 4LR24

## OPTIMAIR® 6A PAPR RESPIRATORS

Belt-mounted motor/blower requires only two filters. Operates on rechargeable, water-resistant Ni-cad battery pack, making it easy to decontaminate. Ideal for construction, asbestos, HazMat clean-up situations, chemical processing, foundry work, and nuclear facilities. Can be used with filters, chemical cartridges and combination cartridges to help protect against particulate matter, toxic gases and vapors. High air flow increases worker comfort. Available in half-mask, full facepiece style, or with Tyvek® hood. Facepiece and HEPA filters are interchangeable with other MSA respirators, reducing inventory. Nos. 4LR25, 4LR24, and 4LR23 facepieces include 1500-hour brush-type motor/blower module. MSA brand.

| Description | Size | MSA Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Black Silicone Comfo Half Mask** | Small | 480130 | **4LM75** | $59.76 | **$54.35** | 0.5 |
| | Medium | 480125 | **4LM74** | 59.76 | **54.35** | 0.4 |
| | Large | 480135 | **4LM73** | 59.76 | **54.35** | 0.6 |
| **Black Hycar Comfo Half Mask** | Medium | 800749 | **4LR25** | 678.55 | **617.00** | 7.6 |
| **Black Hycar UltraVue Full Facepiece** | Medium | 494236 | **4LR24** | 707.85 | **643.50** | 8.5 |
| **Tyvek Hood, Type H Cartridge** | — | 491301 | **4LR23** | 634.42 | **577.00** | 8.2 |

## REPLACEMENT TYVEK HOODS

For use with OptimAir 6A PAPR respirators. Loose fitting face seal permits wearing of beards or other facial hair while maintaining respiratory protection. For use in construction, asbestos, lead, HazMat clean-up, chemical processing, foundry work and nuclear facilities. MSA brand.

***New*No. 4LR14.** Replacement Hood Assembly. Shpg. wt. 0.5 lbs. List.....$67.12.
Each .....**$61.05**

***New*No. 4LR15.** Replacement Hood Shell. Shpg. wt. 0.4 lbs. List .....$35.69.
Each .....**$32.45**

MSA New



No. 4LR17

## BREATHING TUBES

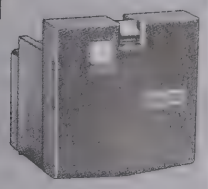
For use with OptimAir 6A PAPR Respirators. Corrugated and flexible, tubes are difficult to crush or pinch off. Coupling nut easily detaches for decontamination procedures and cleaning. Offer freedom of movement without fear of dislodging facepiece or hood. 30" in length. No. 4LR17 is for tight-fitting facepieces, No. 4LR18 is for Tyvek hoods. MSA brand.

***New* No. 4LR17.** Shpg. wt. 3.1 lbs.. List ...$70.81.
Each .....**$64.40**

***New* No. 4LR18.** Shpg. wt. 0.1 lbs.. List ...$79.66.
Each .....**$72.45**

## BATTERY PACK AND CHARGER

MSA New



No. 4LR12

For use with OptimAir 6A PAPR respirators. Ni-Cad battery pack is rechargeable, and designed hold a charge for 8-10 hours under most operating conditions. Completely sealed unit makes for easy decontamination and cleaning. Water-resistant ON-OFF switch, equipped with circuit breaker. Recharge pack with Standard Single Unit Battery Charger No. 4LR16 (sold separately). Battery Charger completely charges battery pack in about 16 hours. MSA brand.

***New*No. 4LR12.** Battery Pack (491120). Shpg. wt. 2.5 lbs. List.....$247.56.
Each .....**$225.25**

***New*No. 4LR16.** Battery Charger (463471). Shpg. wt. 0.9 lbs. List.....$52.85.
Each .....**$48.05**

## OPTIMAIR® MM PAPR RESPIRATOR

MSA New

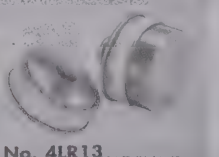


No. 4LR21

Features Type H OptiFilter XL Cartridge. Compact unit includes Ultravue full facepiece to provide maximum comfort and excellent peripheral vision. No breathing tube allows workers to move about unencumbered. Easy to clean and decontaminate. Facepiece and OptiFilter cartridges (sold separately) are interchangeable with other MSA respirators. Available in two sizes with choice of facepiece material, Hycar or silicone. Black color. MSA brand.

| Description | Size | MSA Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Hycar Ultravue Facepiece** | Medium | 487843 | **4LR19** | $786.98 | **$715.50** | 7.0 |
| **Hycar Ultravue Facepiece** | Large | 487844 | **4LR20** | 786.98 | **715.50** | 7.1 |
| **Silicone Ultravue Facepiece** | Medium | 487846 | **4LR21** | 800.25 | **727.50** | 7.1 |
| **Silicone Ultravue Facepiece** | Large | 487847 | **4LR22** | 800.25 | **727.50** | 7.0 |

MSA New



No. 4LR13

## OPTIFILTER® CARTRIDGES

Offers a wide range of protection from a variety of respiratory hazards. Threads easily onto motor/blower assembly, mounts either onto facepiece or worn on hip. MSA brand.

| Cartridge Description | MSA Model | *New!* Stock No. | Qty./ Pkg. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **GMA-H Chemical** * | 800376 | **4LR13** | 6 | $151.59 | **$137.85** | 4.3 |
| **Type H Optifilter** † **XL Cartridge** | 496080 | **4LR70** | 50 | 667.15 | **606.50** | 10.0 |
| | 496081 | **4LR73** | 6 | 87.29 | **79.40** | 2.0 |

(*) For use with OptimAir 6A PAPR equipped w/ tight fitting facepiece. (†) For use with OptimAir MM PAPR/OptimAir 6A PAPR



SUPPLIED AIR CONTINUOUS FLOW RESPIRATORS

# CC20 SERIES AIRLINE RESPIRATORS




CC20 Series hood-style airline respirators consist of five components: respirator hood, headband or hard hat, breathing tube, flow control device or climate control device, and air supply hose. Bullard brand.

**Lightweight Respirator Hood** covers the worker's entire head, face and neck, providing overspray protection and making cleanup quick and easy. Unique air delivery system includes inflatable air trough, which provides a snug, comfortable fit around the neck and delivers a continuous flow of air to the worker's breathing zone. New wide angle lens is 30% larger than previous models. Provides excellent peripheral vision through 6 x 17" viewing window.

**Headband or Hard Hat.** A standard suspension No. 5AC89 or Sure-Lock® ratchet suspension No. 6AG89 keeps the hood stable on a worker's head. With a Bullard hard hat, No. 3AJ96 meets ANSI Z89.1-1986 Class A and B head protection impact and penetration requirements. Hard hat not included, sold separately, see Index.

**Crush-Proof Breathing Tube** is coil-reinforced for strength. Anchorplate secures breathing tube to hood to prevent airflow cut-off.

**Flow Control Options:** CC20 respirators are approved with 8 quick-disconnect fittings, for compatibility with most workplace breathing air systems. Optional climate control devices allow workers to cool or warm incoming air to meet their own comfort requirements.

**Breathing Air Supply Hose** is a NIOSH-approved component of all Bullard respirators. V10 straight hoses are available for use with high pressure air sources, and V20 hoses are available for use with low pressure air sources. Both can be used in combinations up to 300 feet.

| Key | Item | Bullard Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | **[A] RESPIRATOR HOODS AND ACCESSORY** | | | | | | |
| A | Basic Tyvek Hood | 20TJN | **6AT82** | $17.91 | **$16.12** | **$15.31/10** | 0.4 |
| A | Inner Bib Style Hood | 20TICN | **6AG91** | 27.97 | **25.20** | **23.94/5** | 0.5 |
| A | Inner Bib Style Hood for use with Hard Hat | 20TICH | **3AJ96** | 33.87 | **30.50** | **28.98/5** | 1.0 |
| A | Clear Mylar Lens Covers—For all hoods. Adhesive backed. Pkg. of 25. | 20LC | **6AW48** | 20.23 | **18.19** | **17.28/5** | 3.0 |
| | **[B] HEADBANDS** | | | | | | |
| B | Standard Headband | 20TG | **5AC89** | 4.26 | **3.84** | **3.65/10** | 0.3 |
| B | Sure-Lock Ratchet Headband | 20RT | **6AG89** | 10.81 | **9.71** | **9.22/10** | 0.4 |
| | **[C] BREATHING TUBE ASSEMBLY—FOR USE WITH AIR COMPRESSORS** | | | | | | |
| C | Constant Airflow | V30 | **2AK34** | 43.61 | **39.25** | **37.29/5** | 0.8 |
| C | Adjustable Airflow | V40 | **6AL49** | 79.80 | **71.85** | **68.26/5** | 1.0 |
| C | Adjustable Airflow—Cool Tube | AC1000 | **6AC11** | 104.67 | **94.20** | **89.49/3** | 20.0 |
| C | Adjustable Airflow—Hot/Cold Tube | HC2400 | **6AX08** | 147.43 | **132.65** | **126.02/2** | 2.0 |
| | **[C] BREATHING TUBE ASSEMBLY—FOR FREE AIR PUMPS** | | | | | | |
| C | Constant Airflow | V35 | **5AK99** | 43.61 | **39.25** | **37.29/5** | 1.0 |
| | **[D] AIR SUPPLY HOSES—FOR USE WITH AIR COMPRESSORS** | | | | | | |
| D | V10 Series Starter Hose Kit—25-Ft. | 4696 | **2AR91** | 62.60 | **56.35** | **53.53/2** | 6.0 |
| D | V10 Series Extension Hose Kit—25-Ft. | 5454 | **6AC21** | 57.72 | **51.95** | **49.35/2** | 7.0 |
| D | V10 Series Extension Hose Kit—50-Ft. | 5457 | **5AF06** | 95.78 | **86.20** | **81.89/2** | 9.0 |
| | **[D] AIR SUPPLY HOSES—FOR FREE-AIR PUMPS** | | | | | | |
| D | V20 Series Hose—50-Ft. | V2050ST | **6AV02** | 104.45 | **94.00** | **89.30/2** | 10.0 |
| D | V20 Series Hose—100-Ft. | V20100ST | **2AV17** | 179.31 | **161.50** | **153.43/2** | 22.0 |

SUPPLIED AIR CONTINUOUS FLOW RESPIRATORS

# BULLARD 88 SERIES AIRLINE RESPIRATORS

**88 Series Airline Respirators** provide comfortable, reliable respiratory protection for abrasive blasters and painters. NIOSH/MSHA Approved as a Type C or CE Continuous Flow Class Respirator (TC-19C-293). Features durable helmet and cape that covers head, neck, face, and torso. **Helmet** meets ANSI Z89.1-1997 Class A (except weight) requirements for top impact and penetration. Features a lightweight inner-shell with an adjustable headband that holds the respirator firmly and comfortably on the wearer's head. The wide-angle window contains both an inner and outer lens positioned for optimum visibility. The inner lens meets ANSI Z87.1-1989 impact and penetration protection. The outer lens protects the main inner lens from abrasion. **Capes** help protect the worker's body from rebound. Designed for easy head movement. Sewn-in neck cuff provides a physical barrier to airborne contaminants and helps maintain positive pressure within the helmet. **Breathing Tube Assembly** controls the flow of air into the respirator. Configured for use with either compressed breathing air or ambient air pumps. Each assembly includes a coil-spring reinforced breathing tube, airflow control, and belt. **Cool Climate Control Assembly sold separately below. Breathing Air Supply Hose also sold separately below.** Bullard brand.

**Airline Repirators for use with Breathing Air Compressors.** Include E30 breathing tube assembly, 1/4" Industrial Interchange fitting and belt, respirator helmet with inner and outer lenses, and cape.

**Airline Respirators for use with Bullard Free-Air® Pumps.** Include E35 breathing tube assembly, 1/2" Industrial Interchange fitting and belt, respirator helmet with inner and outer lenses, and cape.

**Bullard 88 Series Airline Respirators include helmet, cape and breathing tube assembly. Air supply hose is sold separately below.**

**MSHA/NIOSH-Approved respirators consist of a properly assembled Helmet, Cape, Breathing Tube Assembly and Breathing Air Supply Hose.**



Golden Gate Cape Style 38" Length No. 6AK68



Traditional Cape Style 28"Length No. 5AW39

Portable Breathing Air Compressors and Ambient Pumps available See page 2437.

• Registered to ISO 9001

## 88 SERIES RESPIRATOR ORDERING DATA

| For Use With | Cape Style | Cape Length (In.) | Cape Color | Bullard Model | Stock No. | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Breathing Air Compressors** | Golden Gate medium-weight nylon | 38 | Tan | 883330 | **6AK68** | $483.09 | **$434.75** | **$413.01/2** | 6.0 |
| **Ambient Pumps** | Traditional medium-weight nylon | 28 | Tan | 883235 | **5AW39** | 430.71 | **387.75** | **368.36/2** | 6.0 |

**Air Supply Hoses** are NIOSH Approved components of all Bullard respirators. The V10 Series hoses have a 3/8" I.D. and are made of rubber, reinforced with synthetic fabric to help prevent crushing or kinking. Starter hose has 1/4" female coupler and 3/8" hose-to-hose pipe adapter. The V5 Series hoses have a 3/8" I.D. and are nylon coiled. V20 hose with 1/2" I.D. for use with Bullard free-air pump. Designed for stationary work sites requiring limited mobility. Bullard brand.

## BREATHING AIR SUPPLY HOSE

| Item | Bullard Model | Stock No. | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **V10 25-Ft. Starter Hose** | 4696 | **2AR91** | $62.60 | **$56.35** | **$53.53/2** | 6.0 |
| **V10 25-Ft. Extension Hose Kit** | 5464 | **6AC21** | 57.72 | **51.95** | **49.35/2** | 7.0 |
| **V10 50-Ft. Extension Hose Kit** | 5457 | **5AF06** | 95.78 | **86.20** | **81.89/2** | 9.0 |
| **V5 25-Ft. Hose** | V52530 | **5AW31** | 104.35 | **93.95** | **89.25/2** | 2.0 |
| **V5 50-Ft. Hose** | V55030 | **6AW41** | 143.57 | **129.25** | **122.79/2** | 3.0 |
| **V20 50-Ft. Hose** | V2050ST | **6AV02** | 104.45 | **94.00** | **89.30/2** | 10.0 |
| **V20 100-Ft. Hose** | V20100ST | **2AV17** | 179.31 | **161.50** | **153.43/2** | 22.0 |

## 88 SERIES RESPIRATOR ACCESSORY ORDERING DATA

| Item | Bullard Model | Stock No. | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Medium-weight tan nylon cape, 28" length** | 1611 | **5AF35** | $86.70 | **$78.00** | **$74.10/3** | 1.0 |
| **Golden Gate, medium-weight tan nylon cape, 38" length** | 21821 | **6AV30** | 102.15 | **92.20** | **87.59/3** | 1.3 |
| **Cool Breathing Tube Assembly for use with Breathing Air Compressor** | AC1000 | **6AC11** | 104.67 | **94.20** | **89.49/3** | 20.0 |
| **Inner Lens** | 771B | **3AX94** | 51.38 | **46.25** | **43.94/5** | 4.0 |
| **Outer Lens** | 771L020) | **3AH46** | 53.20 | **47.90** | **45.51/5** | 5.0 |
| **Airline Filter Kit for use with Breathing Air Compressor** | 41P2 | **6AM36** | 215.70 | **194.25** | **184.54/2** | 30.0 |
| **Filter Cartridge** | 41AF | **2AL06** | 36.94 | **33.25** | **31.59/5** | 5.0 |

# RESPIRATORY PROTECTION

## SUPPLIED AIR CONTINUOUS FLOW RESPIRATORS

These respirators supply the air to the user in a constant stream. Because these types of respirators would drain a fixed source of air quickly, a pump or compressor is used to supply ambient air. A hose or series of hoses is used to deliver the air from the air source to the facepiece. Unless the pump or compressor is especially designed to filter the air, the unit must be located where there is breathable air (Grade D or better). Continuous flow respirators are available with tight fitting facepieces (half mask and full facepiece) and hoods (for applications such as paint spraying and in laboratories). The flow of air being supplied to the user may be adjusted either at the air source or on the respirator itself. The respirator which controls air flow at the air source is called Fixed Flow. The respirator that controls air flow on the respirator is called Adjustable Flow.

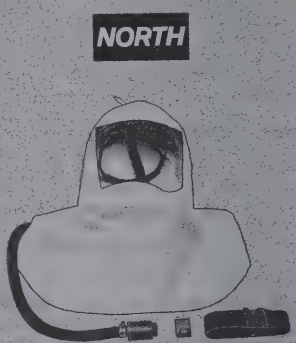
**CAUTION: All breathing air system couplers must be incompatible with non-breathing air/gas system couplers.**

## DISPOSABLE AIRLINE HOODS

Provides protection against airborne contaminants in a variety of applications including spray painting, abatement, pharmaceutical manufacturing and chemical handling. Offers an alternative for those users with mustache, beard, sideburns, long hair and glasses since there is no face-to-facepiece seal. Lightweight, comfortable headgear with ratchet and elastic collar provide a personal fit. Disposable hood and non-fogging lens reduce cleaning and maintenance costs. Non-kinking breathing tube reduces chances of collapse and air restriction. Available in two materials. Tyvek® is used for protection against particulates such as in clean rooms or labs.

Saranex® coated Tyvek®, is used for protection against chemical splashes.

NIOSH/MSHA approval TC-19C-196. Hoods are available in regular or extended (bib) length and can be easily replaced. These facepieces must be used with the couplers and air hoses listed on page 2438. Air hoses are available in 25, 50 and 100 foot sections for selected combinations up to 300 feet. Maintenance program required. North brand.




No. 4GM48

### RESPIRATOR ORDERING DATA

| Size/ Description | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Tyvek® Hood System-regular length** | 85301T | **4GM48** | $71.51 | **$62.20** | **$59.08** | 3.5 |
| **Replacement Hood for 4GM48 (PK./10)** | 85302T | **4GM52** | 182.91 | **159.25** | **151.10** | 1.5 |
| **Tyvek® Hood System-bib length** | 85301TB | **4GM49** | 87.67 | **76.25** | **72.43** | 3.5 |
| **Replacement Hood for 4GM49 (PK./10)** | 85302TB | **4GM53** | 265.48 | **231.00** | **219.31** | 1.5 |
| **Saranex® Hood System-regular length** | 85301S | **4GM46** | 87.15 | **75.80** | **72.00** | 3.5 |
| **Replacement Hood for 4GM46 (PK./10)** | 85302S | **4GM50** | 210.03 | **182.75** | **173.51** | 1.5 |
| **Saranex® Hood System-bib length** | 85301SB | **4GM47** | 98.05 | **85.30** | **81.00** | 3.5 |
| **Replacement for 4GM47 (PK./10)** | 85302SB | **4GM51** | 298.42 | **259.75** | **246.53** | 1.5 |

Saranex® is a registered trademark of Dow Chemical Co.
Tyvek® is a registered trademark of E.I. duPont de Nemours & Co.

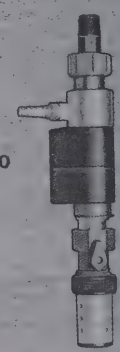


## AIRLINE HOOD ACCESSORIES

**Vortex** allows worker to warm or cool the breathing air by plus or minus 30°F. The tube is color coded, red for warm air and blue for cool air. Simply determine which temperature option is preferred and locate that color closest to the respirator muffler assembly. The tube is equipped with either Hansen, Schrader or Snap-Tite couplers and may be used with a 3/8" or 1/2" hose in length combinations up to 300 feet.

**Use only with North brand hoods, hoses and couplers.** North brand.

**Peel Away Windows for North Airline Hoods-** For use with hooded respirator in applications where the hood lens is easily soiled, such as painting. Windows attach directly to the hood and can be peeled off when soiled. **3 peelable layers per window, 5 windows per package.** North brand.



No. 4GM90

### RESPIRATOR ACCESSORY ORDERING DATA

| Size/ Description | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **VORTEX TUBES & COUPLERS FOR 3/8" HOSE** | | | | | | |
| **Vortex Tube with Hansen fittings** | 88600HV | **4GM90** | $254.05 | **$221.25** | **$210.12** | 1.3 |
| **Vortex Tube with Schrader fittings** | 88600SV | **4GM94** | 250.00 | **225.00** | **213.75** | 1.3 |
| **Vortex Tube with Snap Tite fittings** | 88600STV | **4GM93** | 261.11 | **235.00** | **223.25** | 1.3 |
| **VORTEX TUBES & COUPLERS FOR 1/2" HOSE** | | | | | | |
| **Vortex Tube with Hansen fittings** | 88800HV | **4GN03** | 254.31 | **221.25** | **210.12** | 1.3 |
| **Vortex Tube with Schrader fittings** | 88800SV | **4GN07** | 251.11 | **226.00** | **214.70** | 1.3 |
| **Vortex Tube with SnapTite fittings** | 88600STV | **4GN06** | 266.67 | **240.00** | **228.00** | 1.3 |
| **PEEL AWAY WINDOWS** | | | | | | |
| **Peel Away Windows** | 86168 | ***New* 4RM23** | 16.82 | **16.02** | **15.22*** | 0.7 |

(*) Lots of 4.

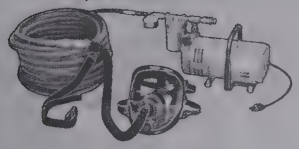
New



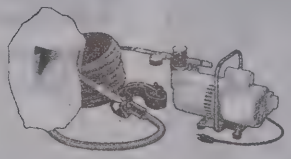
SUPPLIED AIR CONTINUOUS FLOW RESPIRATORS

NORTH

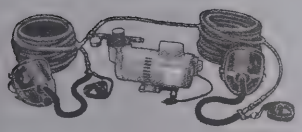
Replacement Parts Available 1-800-323-0620



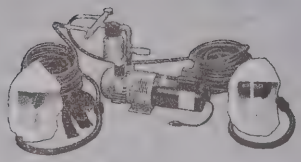
No. 4GM67
One Man Pump Package with Full Facepiece Respirator



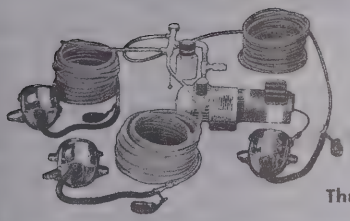
No. 4GM62
One Man Pump Package with Tyvek Hood Respirator



No. 4GM61
Two Man Pump Package with Full Facepiece Respirators



No. 4GM65
Two Man Pump Package with Tyvek Hood Respirators



No. 4GM64
Three Man Pump Package with Full Facepiece Respirators

## PUMP PACKAGES

**Provide user with all components necessary** in setting up a continuous flow supplied air system. Packages that contain a full facepiece offer protection for the user's eyes and face against irritating gases, vapors and flying particles in addition to providing respiratory protection. Scratch resistant, polycarbonate lens provides a 200 degree field of vision, lens fogging is kept to a minimum with the oral/nasal cup. Hypoallergenic silicone facepiece provides worker with superior fit and comfort while the five strap head harness helps maintain facepiece-to-face seal. Speaking diaphragm allows for clear communication.

**Packages that contain Tyvek® hoods** offer an alternative for those users with mustache, beard, sideburns, long hair or glasses since there is no face-to-facepiece seal. Lightweight, comfortable headgear with ratchet and self-adjusting collar provide a personal fit. Disposable hood and non-fogging lens reduce cleaning and maintenance costs. Non-kinking breathing tube reduces chances of collapse and air restriction. Hoods provide protection against airborne contaminants in a variety of applications including spray painting, abatement, pharmaceutical manufacturing and chemical handling. North brand.

**No. 4GM67 One Man Pump Package with Full Facepiece Respirator** includes one full facepiece, 1/3 HP pump, 50 ft.-3/8" hose and Schrader coupler.

**No. 4GM62 One Man Pump Package with Tyvek® Hood Respirator** includes one Tyvek® hood, 3/4 HP pump, 50 ft-1/2" hose and Snap-Tite coupler.

**No. 4GM61 Two Man Pump Package with Full Facepiece Respirators** includes two full facepieces, 3/4 HP pump, two 50 ft.-1/2" hoses and two Snap-Tite couplers.

**No. 4GM65 Two Man Pump Package with Tyvek Hood Respirators** includes two Tyvek® hoods, 1½ HP pump, two 50 ft.-1/2" hoses and two Snap-Tite couplers.

**No. 4GM64 Three Man Pump Package with Full Facepiece Respirators** includes three full facepieces, 1½ HP pump, three 50 ft.-1/2" hoses and three Snap-Tite couplers.

| Description | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| One Man Pump Package with Full Facepiece Respirator | 86191F1 | 4GM67 | $1224.85 | $1066.00 | $1012.15 | 53.0 |
| One Man Pump Package with Tyvek Hood Respirator | 86116H1 | 4GM62 | 1430.77 | 1245.00 | 1182.35 | 76.0 |
| Two Man Pump Package with Full Facepiece Respirators | 86116P2 | 4GM61 | 1774.53 | 1544.00 | 1466.33 | 91.0 |
| Two Man Pump Package with Tyvek Hood Respirators | 86141H2 | 4GM65 | 2404.73 | 2092.00 | 1986.52 | 135.0 |
| Three Man Pump Package with Full Facepiece Respirators | 86141P3 | 4GM64 | 2245.60 | 2191.00 | 2081.29 | 151.0 |

CAUTION: All breathing air system couplers must be incompatible with non-breathing air/gas system couplers.

For more information on the selection of North Respirators, call 1-800-581-0444

FOR REPLACEMENT HOODS SEE PAGE 2424

# RESPIRATORY PROTECTION



## PRESSURE DEMAND RESPIRATORS (PDAR)

These respirators maintain a positive pressure and supply the air to the wearer "on demand" as the wearer inhales and fresh air is required. Air is supplied from a fixed source (cylinder or compressor) which is delivered by a hose or series of hoses. Pressure demand is also available with emergency escape cylinder. These respirators can be used in atmospheres that are immediately dangerous to life and health when used with approved auxiliary air cylinders. Available with full facepieces only.

## PRESSURE-DEMAND AIR-LINE RESPIRATOR

MSA

New

Replacement Parts Available 1-800-323-0620



Pressure demand design allows slight positive pressure to be maintained inside facepiece at all times, helping to stop contaminated air from invading the facepiece, even when small breaks in face-to-facepiece seal occur. Comfortable fit allows user to wear for longer work periods. Features UltraVue® facepiece for excellent peripheral vision. Flexible breathing tube lets user move head without breaking face-to-facepiece seal. Web belt provides comfortable support of regulator and air-line hose. Quick-disconnect assembly attached to regulator inlet for easy hook up and retrieval. MSA brand (475218).

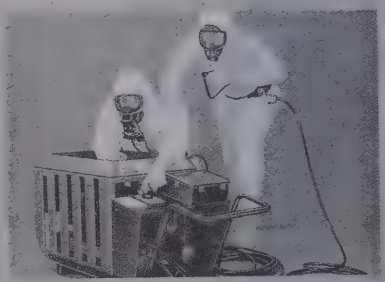
***New*** **No. 4LM63.** Shpg. wt. 4.5 lbs. List ..... $646.25.
Each ..... **$587.50**

## QUADAIR™ 4-PERSON PRESSURE DEMAND COMPRESSOR

MSA

New

Replacement Parts Available 1-800-323-0620



Continuous air supply for up to four people eliminates need for compressed air cylinders and cylinder refilling. Wheelbarrow design allows one person to move unit. Compressor design is oil-free, no oil to contaminate air supply. Low-pressure alarm alerts users when receiver tank pressure drops below specified limit. Power for unit can be obtained from any 110V 20A power source. Includes hoisting eyelet that attaches to crane for use when moving unit. Compatible with MSA pressure-demand respirators. Power requirements: 110 volts, 60 hz, 20 amps. 27½H x 51½L x 22½"W. MSA brand (487688).

***New*** **No. 4LM55.** Shpg. wt. 315.0 lbs. List ..... $7410.62.
Each ..... **$6737.00**



## EMERGENCY ESCAPE BREATHING APPARATUS

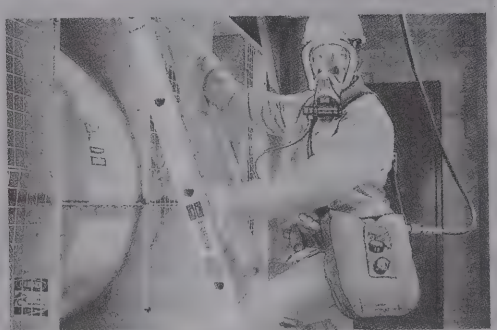
Emergency Escape Breathing Apparatuses are approved for escape only from hazardous atmospheres. Units are available in 5 or 10 minute durations.

## PREMAIRE® XV SUPPLIED AIR RESPIRATOR

MSA

New

Replacement Parts Available 1-800-323-0620



No. 4LM65

Versatile respirator can be used as SCBA or air-line respirator with emergency escape capability. Lightweight, high-performance mask-mounted regulator provides high air flow and responds quickly to changing breathing requirements. Twin cylinders provide a rated service time of 15 minutes, well suited for confined space applications. Includes PremAire System manifold that allows choice of four options: escape cylinder, dual-supply, Duo-Twin or vortex tube. Self-contained air supply is approved for entry into and escape from IDLH environments. Carrying case available, order separately. MSA brand (813760).

***New*** **No. 4LM65.** Shpg. wt. 24.0 lbs.
List $2266.29. Each ..... **$2061.00**



No. 4LM67

Carrying Case for PremAire XV Respirator. Fits complete unit while not in use. MSA brand (813805).

***New*** **No. 4LM67.** Shpg. wt. 9.0 lbs. List .$130.61.
Each ..... **$118.75**

# RESPIRATORY PROTECTION

## PREMAIRE® SUPPLIED-AIR RESPIRATOR SYSTEM

MSA New



Create four different respirator configurations from one unit. Lightweight mask-mounted regulator provides regulated high pressure air flow and responds quickly to changing breathing requirements. PremAire® System allows four options: 1) Escape cylinder for immediately dangerous to life and health (IDLH) atmospheres, 2) Dual-supply option allows connection from one pressurized continuous air source to another without losing continuity of airflow, 3) Vortex tube option delivers whole-body temperature control for added worker comfort, 4) Duo-Twin option converts respirator into combination supplied air/air purifying device (allows workers in non-IDLH atmospheres to move from station-to-station without being tethered to air hose). When equipped with escape cylinder, system can be used for IDLH atmospheres. For use in construction, steel, chemical, nuclear and pulp and paper industries. MSA brand (496896).

***New*** **No. 4LM64.** Premaire® Supplied-Air Respirator System. Shpg. wt. 18.0 lbs. List .....$1546.45. Each .....$1406.00

## VERSA-HOOD™ AIR SUPPLIED HOOD

MSA New



No. 4LM80

For use in shipbuilding, utilities, chemical, petrochemical, pharmaceutical, welding and chemical handling industries. Features twin lens system, knit collar and easy, stable adjustment for hood suspension. Choice of shoulder- or waist-length hood. Disposable outer cover eliminates need for cleaning. Can be used with V-Gard® cap for extra head protection. Three-point Velcro system is easy to install and secures hood to cap. Hood has no facepiece seal, allowing worker to have a beard or other facial hair. Use with outside air source or Compress-Aire™ portable air compressor No. 4LM44 (sold separately). Draws air from air distribution system to keep lens fog-free.

Nos. 4LM80 thru 4LM82 are for use with plant air systems. No. 4LM83 is for use with Compress-Aire™ personal air compressor. MSA brand.

***New*** **No. 4LM80.** Shoulder length hood, adjustable valve connector with Snap-Tite quick-disconnect. Shpg. wt. 2.0 lbs. List $222.81. Each .....$202.75

***New*** **No. 4LM81.** Shoulder length hood, Snap-Tite aluminum quick-disconnect plug. Shpg. wt. 1.6 lbs. List $80.05. Each .....$72.80

***New*** **No. 4LM82.** Waist length hood, Snap-Tite aluminum quick-disconnect plug. Shpg. wt. 3.0 lbs. List $89.05. Each .....$81.00

***New*** **No. 4LM83.** Shoulder length hood, Snap-Tite connector. Shpg. wt. 1.5 lbs. List $88.93. Each .....$80.85

## VERSA-HOOD ACCESSORIES

### SHOULDER LENGTH TYVEK HOOD

Fits around shoulders to completely cover head for extra safety. Three-point system secures hood to cap. No facepiece seal, wearer can have beard or other facial hair. Features knit collar, twin lens system, disposable outer cover that eliminates cleaning. Easy-adjust hood suspension eliminates need for chin strap. Can be used with V-Gard®cap for added head protection. MSA brand (482612).

***New*** **No. 4LM79.** Shpg. wt. 0.3 lbs. List $28.14. Each .....$25.60

### VERSA-HOOD HOSE

Easy connection and disconnection of air-supply hose. Flexible hose will not restrict head movement. MSA brand.

***New*** **No. 4LM66.** 3/8" NPT hood hose for use with Versa-Hood® and personal compressor. MSA brand (483606). Shpg. wt. 0.7 lbs. List $22.58. Each .....$20.53

***New*** **No. 4LM70.** Hood hose with coupling nut for use with Versa-Hood® with adjustable valve (482703). Shpg. wt. 0.1 lbs. List $17.89. Each .....$16.27

### BASIC HOOD SUSPENSION

Velcro adjustments for easy sizing to many head sizes. MSA brand (482614).

***New*** **No. 4LM77.** Shpg. wt. 0.3 lbs. List $11.18. Each .....$10.17

### COVER LENS

Protects Versa-Hood® lens from scratches and abrasions so user can maintain clearer vision longer. Easy to mount, secures over lens. 10 lenses per pack. MSA brand (491600).

***New*** **No. 4LM71.** Shpg. wt. 0.5 lbs. List $69.23. Each .....$62.95

MSA New



No. 4LM79



No. 4LM66

No. 4LM70



No. 4LM77



No. 4LM71

## AIR-SUPPLY HOSE

Available in lightweight PVC or durable, chemical resistant Neoprene. MSA brand.

| Hose I.D. (in.) | Length (Ft.) | MSA Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **PVC AIR SUPPLY HOSE** | | | | | | |
| 3/8 | 50 | 471513 | **4LM52** | $159.98 | **$145.45** | 5.3 |
| 3/8 | 100 | 484225 | **4LM58** | 216.11 | **196.50** | 10.0 |
| **NEOPRENE AIR SUPPLY HOSE** | | | | | | |
| 3/8 | 25 | 455021 | **4LM50** | 126.09 | **114.65** | 5.5 |
| 3/8 | 50 | 455022 | **4LM51** | 191.46 | **174.25** | 6.0 |
| 1/2* | 50 | 483810 | **4LM59** | 184.15 | **167.50** | 12.0 |

(*) 1/2" Hose for use with Versa-Hood® with Compress-Aire™ portable compressor only.


No. 4LM50


No. 4LM52

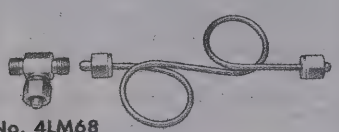
## CONNECTION ACCESSORIES

### TEE BLOCK AND PIGTAIL

Use to connect a bank of cylinders together to extend respirator users' air supply. Can be used anywhere pressure demand air-line respirators are connected to a large cylinder air source. MSA brand.

***New!* No. 4LM68.** Tee Block (68850). Shpg. wt. 0.8 lbs.
List $80.89. Each ..... **$73.55**

***New!* No. 4LM76.** Pigtail (68851). Shpg. wt. 1.1 lbs. List $108.05. Each ..... **$98.25**

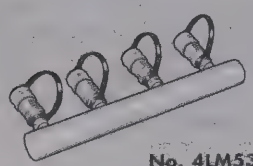

No. 4LM68

No. 4LM76

### FEMALE SOCKET QUICK-DISCONNECT ASSEMBLY

Connects air-supply hose to male plug on respirator. Female socket and union adapter are a complete assembly. Easy hook-up and disconnect. MSA brand (467044).

***New!* No. 4LM60.** Shpg. wt. 0.4 lbs. List ..$42.84.
Each ..... **$38.95**


No. 4LM53

### FEMALE SOCKET

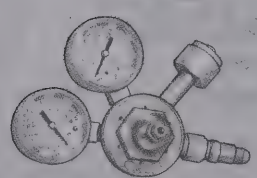
Attaches air-supply hose to air-supply system. MSA brand (628770).

***New!* No. 4LM61.** Shpg. wt. 0.1 lbs. List ..$24.04.
Each ..... **$21.86**

### MALE PLUG WITH FEMALE 1/4" NPT

Connects female socket from air-supply manifold to union adapter attached to air-supply hose. MSA brand (55716).

***New!* No. 4LM46.** Shpg. wt. 0.1 lbs. List ....$5.14.
Each ..... **$4.68**


No. 4LM78

### MALE PLUG WITH MALE 1/4" NPT

Connects inlet pressure gauge to female socket from air-supply. MSA brand (56549).

***New!* No. 4LM47.** Shpg. wt. 0.1 lbs. List ....$3.63.
Each ..... **$3.30**

### UNION ADAPTER 1/4" NPT BY 3/4" UNF

Reducing adapter needed to attach air-supply hose to male plug or inlet pressure gauge leading to air supply. MSA brand (69542).

***New!* No. 4LM48.** Shpg. wt. 0.1 lbs. List ..$10.03.
Each ..... **$9.12**

### AIR-SUPPLY MANIFOLD

Connects up to four respirators to a single air source. Supplied with quick-disconnect sockets already attached. Features automatic air flow shutoff. MSA brand (47370).

***New!* No. 4LM53.** Shpg. wt. 4.1 lbs. List $330.29.
Each ..... **$300.50**

### AIR-CYLINDER PRESSURE REGULATOR

Regulates cylinder air. Necessary for pressure-demand air-line respirators operating from a cylinder. Dual gauge receives outlet pressure, reduces it and regulates it to help maintain breathable pressure. Works with most common pressurized cylinders or cylinder banks. Handles up to 3000 psig range. MSA brand (68858).

***New!* No. 4LM78.** Shpg. wt. 2.3 lbs. List $414.28.
Each ..... **$376.75**

## AUDI-LARM™ LOW-PRESSURE WARNING DEVICE



Alarm warns users of low air pressure in air-supply containers. Loud alarm is easily heard, even in noise environments. Rings briefly every time tanks are pressurized as a quick-check that alarm is working. Use alarm where pressure-demand air-line respirators are connected to large cylinder air sources. MSA brand (85078).

***New!* No. 4LM72.** Shpg. wt. 1.1 lbs. List $358.60. Each..... **$326.00**

## REPLACEMENT AIR-LINE FILTER KIT



Purifies air stream of dusts, mists, fumes, smoke and petroleum vapors. Can be used with BRAD systems (listed on page 2437) or plant air sources. MSA brand (484923).

***New!* No. 4LM56.** Shpg. wt. 0.7 lbs. List $80.30. Each..... **$73.00**

# RESPIRATORY PROTECTION

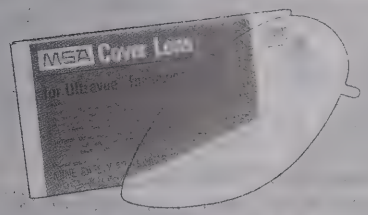
TRAINING AND ACCESSORIES

New

MSA



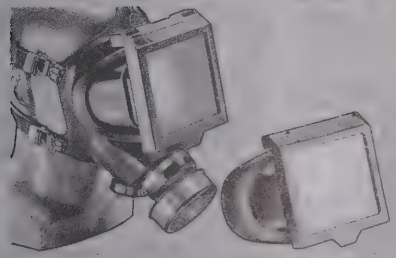
No. 4LN35




No. 4LN31



No. 4LN10



No. 4LN39

## SPECTACLE KITS

**For use with MSA full facepiece respirators.** Offers clear, unobstructed vision for eyeglass wearers. No temple bars to interfere with facial seal. Easy to install and use, adjusts horizontally and vertically to proper eye alignment. Kit includes wire support, rubber guide, and pair of metal frame spectacles. MSA brand.

***New* No. 4LN34.** Spectacle Kit for Ultravue®/Ultra-Twin® facepieces (454819). Shpg. wt. 0.1 lbs. List $50.33. Each ..... **$45.80**

***New* No. 4LN35.** Spectacle Kit for Advantage 1000 facepieces (816137). Shpg. wt. 0.3 lbs. List $49.32. Each ..... **$44.85**

## COVER LENS FOR FULL FACEPIECE RESPIRATORS

Resists scratches that can occur during storage, handling, and everyday use. Clear lens does not obstruct vision, attaches to facepiece lens easily with adhesive backing. Ideal for chemical and nuclear industries. **25 per pack.**

***New* No. 4LN31.** Lens for Ultravue Facepiece (456975). Shpg. wt. 0.3 lbs. List $38.92. Each ..... **$35.40**

***New* No. 4LN32.** Lens for Advantage 1000 Facepiece (813832). Shpg. wt. 0.8 lbs. List $40.86. Each ..... **$37.15**

## ULTRAVUE® FULL FACEPIECES

**Facepieces are designed to fit many different MSA respirators.** Speaking diaphragm allows voice communication through facepiece. Five point adjustable suspension provides good face-to-facepiece seal. Available in three sizes to fit most users. Constructed of either silicone or Hycar rubber, facepieces feature a tough polycarbonate lens that resists damage and offers excellent peripheral vision. For use in construction, steel, chemical, nuclear, pulp and paper industries. Does not include nosecup. Black color.

***New* No. 4LN12.** Silicone, size Small (480251). Shpg. wt. 1.6 lbs. List $207.81. Each ..... **$189.00**

***New* No. 4LN11.** Silicone, size Medium (480247). Shpg. wt. 1.6 lbs. List $207.81. Each ..... **$189.00**

***New* No. 4LN13.** Silicone, size Large (480255) Shpg. wt. 1.6 lbs. List $207.81. Each ..... **$189.00**

***New* No. 4LN10.** Hycar, size Medium (457126). Shpg. wt. 1.4 lbs. List $193.12. Each ..... **$175.75**

## WELDER'S ADAPTER

**For use with MSA full facepiece respirators.** Protects eyes from welding splatter. Molded of polycarbonate plastic for high resistance to heat, impact and welding splatter. Features integrated eye and respiratory protection to protect vision of user. Large vision area provides unobstructed view. Choice of integral or clip-on styles. Fits either Ultravue® or Ultra-Twin® facepieces. Includes cover lens. 4½" x 5¼" filter plate not included. MSA brand.

***New* No. 4LN39.** Integral adapter (470786). Shpg. wt. 0.7 lbs. List $127.13. Each ..... **$115.60**

***New* No. 4LN40.** Clip-On adapter(472859). Shpg. wt. 0.9 lbs. List $127.13. Each ..... **$115.60**

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# RESPIRATORY PROTECTION



## SUPPLIED AIR CONTINUOUS FLOW RESPIRATORS

These respirators supply the air to the user in a constant stream. Because these types of respirators would drain a fixed source of air quickly, a pump or compressor is used to supply ambient air. A hose or series of hoses is used to deliver the air from the air source to the facepiece. Unless the pump or compressor is especially designed to filter the air, the unit must be located where there is breathable air (Grade D or better). Continuous flow respirators are available with tight fitting facepieces (half mask and full facepiece) and hoods (for applications such as paint spraying and in laboratories). The flow of air being supplied to the user may be adjusted either at the air source or on the respirator itself. The respirator which controls air flow at the air source is called Fixed Flow. The respirator that controls air flow on the respirator is called Adjustable Flow.

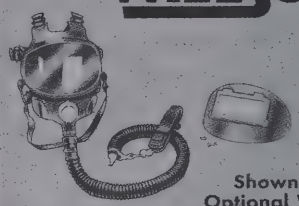
## WILLSON FULL-FACEPIECE CONTINUOUS-FLOW RESPIRATORS

**Full-facepiece Respirator** features an improved air distribution channel that directs the airflow against the lens to reduce fogging and increase wearer comfort. Each respirator is supplied with a Schrader quick-connect fitting. Blue silicone facepiece with a six-strap harness. NIOSH/MSHA Approval TC-19C-209. Willson brand.

**Welding Shield Attachment** snaps onto full facepiece. Can be attached and removed while wearing respirator. Shield includes flip-up Shade 10 replaceable welding plate. Willson brand.

**Air Hoses** have a 3/8" ID Sold below in 50- and 100-ft. lengths and up to 3 sections can be used in combinations up to 300 ft. Willson brand.

WILLSON®



Shown with Optional Welding Attachment

Replacement Parts Available 1-800-323-0620™

### RESPIRATOR AND ACCESSORY ORDERING DATA

| Description | Willson Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Full Facepiece Respirator** | W6770AL-B | **5AX72** | $288.10 | **$275.00** | **$247.40/ 2** | 3.3 |
| **Welding Attachment** | RP108 | **3AF20** | 93.75 | **86.85** | **78.17/ 2** | 0.8 |
| **50-Ft. Air Hose** | R714B-50 | **3AL48** | 135.80 | **129.35** | **116.40/ 2** | 8.4 |
| **100-Ft. Air Hose** | R714B-100 | **1AG61** | 269.26 | **257.00** | **231.11/ 2** | 14.0 |



## PRESSURE DEMAND RESPIRATORS (PDAR)

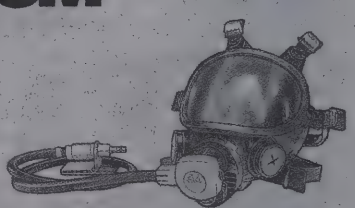
These respirators supply the air to the facepiece "on demand" as the worker inhales and fresh air is required. Air is supplied from a fixed source (cylinder or compressor) which is delivered by a hose or series of hoses. Pressure demand is also available with emergency escape cylinder. These respirators can be used in atmospheres that are immediately dangerous to life and health when used with approved auxiliary air cylinders. Available with full facepieces only.

## 3M™ 7000 SERIES FULL-FACEPIECE AIR-SUPPLIED RESPIRATORS

Respirators feature a soft, silicone facepiece designed for absolute comfort. A double flap face seal and six adjustable straps ensure proper fit and comfort.

**Air-regulating Valve Kit** enables use in positive pressure airline mode. **Pressure demand conversion kit** allows use in a pressure demand airline mode. The 3/8" ID hose has Hansen fittings and is certified for use in combinations up to 300 ft. Facepiece, airline conversion kits and hoses are sold separately below. NIOSH/MSHA Approved as a Type C respirator. Continuous flow NIOSH/MSHA Approval TC-19C-199. Pressure demand approval TC-19C-254. 3M brand.

3M



Replacement Parts Available 1-800-323-0620™

### RESPIRATOR AND ACCESSORY ORDERING DATA

| Description | 3M Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Full-Facepiece Respirator—Small** | 7800S (Sm) | **5AJ92** | $232.37 | **$211.25** | **$200.69/ 2** | 2.0 |
| **Full-Facepiece Respirator—Medium** | 7800S | **5AR14** | 232.37 | **211.25** | **200.69/ 2** | 2.0 |
| **Full-Facepiece Respirator—Large** | 7800S (L) | **2AD49** | 232.37 | **211.25** | **200.69/ 2** | 2.0 |
| **Air Regulating Valve Assembly*** | W-3061 | **5AP52** | 296.17 | **269.25** | **255.79/ 3** | 2.3 |
| **Pressure Demand Conversion Kit** | W-3237 | **3AF13** | 688.05 | **625.50** | **594.23/ 3** | 2.5 |
| **Full Face Welding Kit** | 7998 | **4AV26** | 108.35 | **98.50** | **93.57/ 3** | 0.8 |
| **25-Ft. Compressed Air Hose (3/8" ID)** | W-9435-25 | **6AJ02** | 117.81 | **107.10** | **101.75/ 3** | 4.2 |
| **50-Ft. Compressed Air Hose (3/8" ID)** | W-9435-50 | **3AH20** | 200.75 | **182.50** | **173.38/ 3** | 8.7 |
| **100-Ft. Compressed Air Hose (3/8" ID)** | W-9435-100 | **6AT77** | 346.22 | **314.75** | **299.01/ 3** | 17.0 |

(*) For conversion to Continuous Flow Respirator.

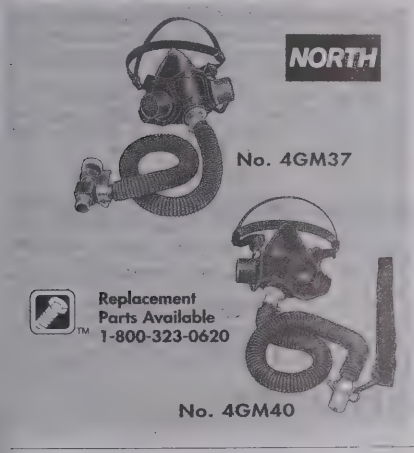
**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

## SUPPLIED AIR CONTINUOUS FLOW RESPIRATORS

These respirators supply the air to the user in a constant stream. Because these types of respirators would drain a fixed source of air quickly, a pump or compressor is used to supply ambient air. A hose or series of hoses is used to deliver the air from the air source to the facepiece. Unless the pump or compressor is especially designed to filter the air, the unit must be located where there is breathable air (Grade D or better). Continuous flow respirators are available with tight fitting facepieces (half mask and full facepiece) and hoods (for applications such as paint spraying and in laboratories). The flow of air being supplied to the user may be adjusted either at the air source or on the respirator itself. The respirator which controls air flow at the air source is called Fixed Flow. The respirator that controls air flow on the respirator is called Adjustable Flow.

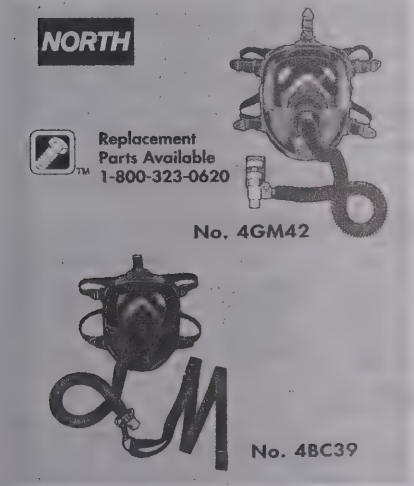
**CAUTION: All breathing air systems couplers must be incompatible with non-breathing air/gas system couplers.**




## HALF MASK RESPIRATOR

Suitable for applications in which eye and face protection can be supplied by using protective spectacles, goggles or a faceshield. Hypoallergenic silicone facepiece offers the worker superior fit and comfort even after repeated cleanings. Cradle suspension system reduces respirator slippage and provides easy adjustment of headstraps. Nos. 4GM38, 4GM37, and 4GM36 include a durable, belt mounted control valve which allows worker to adjust air flow. NIOSH approved. Nos. 4GM41, 4GM40, and 4GM39 have a fixed control valve which allows air flow adjustment only at the air source. NIOSH approved. These facepieces are NIOSH approved with the couplers and air hoses listed on page 2438. Air hoses are available in 25, 50 and 100 foot sections for selected combinations up to 300 feet. Maintenance program required. North brand.

| Size/ Description | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small, Adjustable Control Valve** | 85101S | **4GM38** | $193.74 | **$168.50** | **$160.07** | 2.1 |
| **Medium, Adjustable Control Valve** | 85101M | **4GM37** | 193.74 | **168.50** | **160.07** | 2.1 |
| **Large, Adjustable Control Valve** | 85101L | **4GM36** | 193.74 | **168.50** | **160.07** | 2.1 |
| **Small, Fixed Flow** | 85111S | **4GM41** | 102.06 | **88.80** | **84.33** | 2.1 |
| **Medium, Fixed Flow** | 85111M | **4GM40** | 102.06 | **88.80** | **84.33** | 2.1 |
| **Large, Fixed Flow** | 85111L | **4GM39** | 102.06 | **88.80** | **84.33** | 2.1 |




## FULL FACEPIECE RESPIRATOR

Protects the user's eyes and face against irritating gases, vapors and flying particles in addition to providing respiratory protection. Scratch resistant, polycarbonate lens provides a 200 degree field of vision, lens fogging is kept to a minimum with the oral/nasal cup. Hypoallergenic silicone facepiece provides worker with superior fit and comfort while the five strap head harness helps maintain facepiece-to-face seal. Speaking diaphragm allows for clear communication. Nos. 4GM43, 4GM42, and 4GM44 include a durable, belt mounted control valve which allows worker to adjust air flow. Nos. 2AN36, 4BC39, and 4GM45 have a fixed control valve which allows air flow adjustment only at the air source.

Respirators are also available with the necessary attachments for welding applications. These facepieces must be used with the couplers and air hoses listed on page 2382. Air hoses are available in 25, 50 and 100 foot sections for selected combinations up to 300 feet. Maintenance program required. North brand.

| Size/ Description | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small, Adjustable Control Valve** | 85201S | **4GM43** | $360.08 | **$313.50** | **$297.61** | 3.5 |
| **Med/Lg, Adjustable Control Valve** | 85201 | **4GM42** | 360.08 | **313.50** | **297.61** | 3.5 |
| **Med/Lg, Welding Resp. w/Adj. Control Valve** | 85201W | **4GM44** | 459.41 | **399.50** | **379.51** | 3.7 |
| **Small, Fixed Flow** | 85211S | **2AN36** | 254.85 | **247.50** | **235.13** | 3.0 |
| **Med/Lg, Fixed Flow** | 85211 | **4BC39** | 254.85 | **247.50** | **235.13** | 3.0 |
| **Med/Lg, Welding Resp. w/Fixed Flow** | 85211W | **4GM45** | 369.16 | **321.25** | **304.96** | 3.4 |

## ACCESSORIES FOR CONTINUOUS FLOW RESPIRATORS

### WELDING CONVERSION KIT

Enables conversion of current North continuous flow full facepiece to a welding facepiece. This is easily accomplished by replacing the standard lens and fastening the welding attachment onto the full facepiece respirator. When worker is not welding, it can be lifted upward for wide angle viewing. North brand (8401).

**No. 4GM32.** Shpg. wt. 1.3 lbs. List.....$155.66.
Each **$135.40**; Lots 2.....**$128.59**

### TRAINING VIDEO TAPE

Describes the features and maintenance of continuous flow and pressure demand supplied air respirators. Reviews fit checking, fit testing, respirator use and limitations. 20 minutes. 1/2" VHS. North brand (80789).

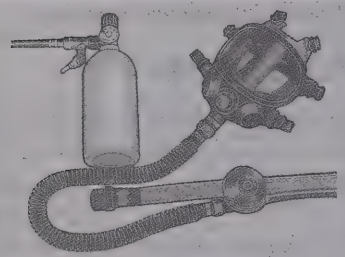
**No. 4GM29.** Shpg. wt. 0.5 lbs. List $53.86. Each .....**$46.90**
Lots 2 .....**$44.55**

# RESPIRATORY PROTECTION

## PRESSURE DEMAND RESPIRATORS (PDAR)

These respirators supply the air to the facepiece "on demand" as the worker inhales and fresh air is required. Air is supplied from a fixed source (cylinder or compressor) which is delivered by a hose or series of hoses. Pressure demand is also available with emergency escape cylinder. These respirators can be used in atmospheres that are immediately dangerous to life and health when used with approved auxiliary air cylinders. Available with full facepieces only.

## WILLSON AIRMASTER® PRESSURE-DEMAND RESPIRATORS



No. 6AG36 WILLSON®

Replacement Parts Available 1-800-323-0620

**Airline Respirator** is field serviceable for increased productivity. It provides positive pressure air on demand with a simple-to-use regulator that does not require calibration. A patented modular regulator valve can be cleaned or replaced in minutes. Unit features a wide operating range of 60-100 PSI and a large regulator diaphragm for quick response time. Features a Willson Series 6000 Silicone facemask with six-strap suspension headgear. Includes breathing tube assembly, waist belt and Schrader fittings. NIOSH/MSHA Approval TC-19C-256. Willson brand.

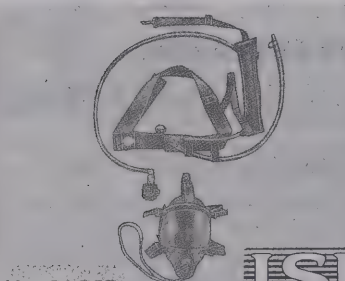
**The 5-Minute Escape Cylinder Assembly,** sold separately below, allows the airline respirators to be used in IDLH or oxygen deficient atmospheres.

**Air Hoses** have a 3/8" I.D. and Shrader fittings. Available in 50- and 100-ft. lengths. Fully certified for combinations up to 300 ft., maximum 3 sections.

### RESPIRATOR AND ACCESSORY ORDERING DATA

| Description | Willson Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Respirator w/Six-Strap Headgear** | W6760HB | **6AG36** | $609.66 | **$582.00** | **$523.72** | 2.2 |
| **5-Minute Escape Air Cylinder Assembly** | RP91B | **4AV13** | 621.31 | **593.00** | **533.36** | 9.0 |
| **50 Ft. Air Hose** | R714B-50 | **3AL48** | 135.80 | **129.35** | **116.40** | 8.4 |
| **100 Ft. Air Hose** | R714B-100 | **1AG61** | 269.26 | **257.00** | **231.11** | 14.0 |

## ISI PRESSURE-DEMAND AIRLINE RESPIRATOR



No. 2AG57 ISI

Replacement Parts Available 1-800-323-0620

**Respirators are designed** to provide breathing air where ambient air may be irritating. They offer mobility, low profile, positive pressure, high air flow, ease of use and a comfortable fit. ISI brand.

**The ARAP/C** is a type "C" airline respirator. Includes full facemask, harness, pneumatics with quick fit demand valve, and airline pigtail with Hansen fittings. Air supplied to the regulator between 80 and 130 PSIG is then supplied to the user in a positive pressure facemask. NIOSH/MSHA Approved TC-19C-189 for use up to 300 t. from a remote air supply.

**The ARAP/10** provides the maximum respiratory protection possible in hazardous atmospheres. Features same components as the ARAP/C plus a 10-minute cylinder for emergency egress. Approved for use by workers who must enter an IDLH environment. NIOSH Approved TC-13-F-296 Type C respirator.

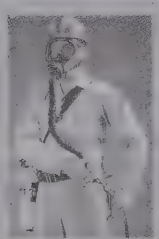
**Air Hoses** with Hansen fittings are available in 25-, 50-, and 100-ft. lengths.

### RESPIRATOR AND AIR HOSE ORDERING DATA

| Description | ISI Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ARAP/C** | E1010102A | **2AG57** | $551.14 | **$501.50** | **$476.43** | 5.0 |
| **ARAP/10** | E3010102A | **6AP01** | 1458.60 | **1326.00** | **1259.70** | 14.0 |
| **25-Ft. Air Hose** | 039.092.12 | **3AN08** | 171.60 | **120.15** | **114.14** | 7.2 |
| **50-Ft. Air Hose** | 039.092.13 | **3AH34** | 223.60 | **156.75** | **148.91** | 11.0 |
| **100-Ft. Air Hose** | 039.092.14 | **6AJ50** | 400.40 | **280.50** | **266.48** | 18.0 |

## HIP-AIR™ BREATHING APPARATUS

New



MSA

Replacement Parts Available 1-800-323-0620

NIOSH/MSHA approved for use in IDLH environments. Provides respiratory protection for entry into, extended work periods in, and escape from IDLH atmospheres. Lightweight (11.5 lbs.) unit is designed for good weight balance to maintain worker's center of balance. Airline inlet features quick-disconnect device for easy hook-up and disengagement from main air source. Includes 8.7 cubic foot cylinder with rated service time of 5 minutes. MSA brand (474954).

***New!* No. 4LM62.** Shpg. wt. 18.0 lbs. List $1326.90. Each ..... **$1207.00**

**Replacement 5-Minute Air Cylinder** for Hip-Air™ Breathing Apparatus. Fully wound composite cylinder is wound both laterally and longitudinally for added strength. 3000 psig contains more air than standard 2216 psig cylinders. MSA brand (485565).

***New!* No. 4LM49.** Shpg. wt. 4.3 lbs. List $446.22. Each ..... **$405.75**

# 3M™ AIRLINE RESPIRATORY SYSTEM ORDERING DATA

### WHITECAP™ GENERAL PURPOSE HELMET

- Rugged polyethylene outer shell
- Removable inner shell
- Cotton inner shroud

### WHITECAP™ ABRASIVE BLASTING HELMET

- Unique double faceshield
- Removable inner shell
- Protective outer shroud
- Cotton inner shroud

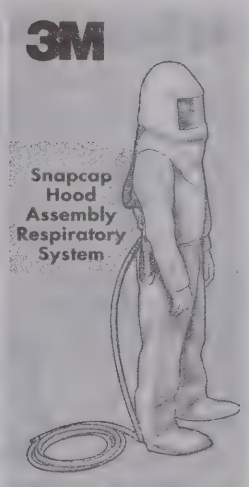
### WHITECAP™ WELDING HELMET

- Designed for production welding
- Nomex inner shroud
- Welding outer shroud

### SNAPCAP HOOD ASSEMBLY

- Lightweight hood can be converted to a hood with a hard hat
- Extended length outer shroud

**Five components create a complete respiratory system. Select one from each of the following groups: Whitecap helmet or Snapcap hood assembly, breathing tube, air control devices, air hose, and filter and regulator panel. Systems listed on this page are for use with Breathing Air compressors only.**




[A] **Whitecap™ Series Helmets** offer three types of protection in one system: respiratory, faceshield and hard hat. Faceshields are liftable.

[A] **Snapcap Series Hood** assembly has a flexible design which allows the soft hood to be converted with a hard hat when head protection is required. Available in Tyvek™ (QC).

**Both styles** supply positive-pressure air and are NIOSH/MSHA Approved as supplied air respirators, continuous-flow class.

### WHITECAP AND SNAPCAP ACCESSORIES

[C] **High Pressure Vortex Cooling and Vortemp™ Heating Assemblies** are used to regulate the flow and temperature of compressed air to hoods and helmets. NIOSH/MSHA approved assemblies create comfortable positive pressure in hood or helmet. Requires 60-100 PSI. Assemblies include cooler or heater with quick disconnect, waist belt and assembly holder.

[C] **High and Low Pressure Air Regulating Valves** regulate the flow of compressed air to helmets and hoods. NIOSH/MSHA approved. High pressure valve requires 25-75 PSI, Low pressure valve requires 4-15 PSI. Low pressure valves for use with one length of hose only.

[D] **Compressed Air Hose with Hansen fittings.** Available in High Pressure, High Pressure Coiled or Low Pressure hoses, in 25-, 50- and 100-ft. lengths. Can be used in combinations up to 300 ft.

[E] **Compressed Air Filter and Regulator Panel** removes water, oil, particulates, odors and vapors from compressed air.

| Description | 3M Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **[A] WHITECAP HELMETS AND HEAD PIECES** | | | | | | |
| General Purpose Helmet—White | W-8000 | 3AL74 | $374.27 | $340.25 | $323.24 | 2.5 |
| General Purpose Helmet—Black | W-8000B | 5AF31 | 374.27 | 340.25 | 323.24 | 2.5 |
| Abrasive Blasting Helmet—White | W-8100 | 5AF80 | 656.70 | 597.00 | 567.15 | 5.0 |
| Abrasive Blasting Helmet—Black | W-8100B | 2AP76 | 656.70 | 597.00 | 567.15 | 5.0 |
| Welding Helmet—Black | W-8200B | 2AX57 | 683.65 | 621.50 | 590.43 | 6.0 |
| Faceshield Cover Lens (25 per Pkg.)—for use with general purpose helemets above | W-8045-25 | 4JG09 | 30.91 | 28.10 | 26.70 | 1.0 |
| Faceshield Cover Lens (25 per Pkg.)—for use with abrasive blasting helmets above | W-8102-25 | 3AX66 | 35.86 | 32.60 | 30.97 | 0.6 |
| Faceshield Cover Lens (250 per Pkg.)—for use with abrasive blasting helmets above | W-8102-250 | 3AN74 | 319.55 | 290.50 | 275.98 | 4.5 |
| **[A] SNAPCAP HOODS AND HEAD PIECES** | | | | | | |
| Hood Assembly w/Headband | W-3259 | 3AD56 | 99.66 | 90.60 | 86.07 | 1.9 |
| Hood Assembly w/ Hardcap | W-3260 | 3AH35 | 116.93 | 106.30 | 100.99 | 2.5 |
| Shrouds (10 per Pkg.) | W-3256-10 | 6AW50 | 327.25 | 297.50 | 282.63 | 3.2 |
| Faceshield Cover Lens (10 per Pkg.) | W-9410-2 | 3AZ76 | 16.74 | 15.22 | 14.46 | 0.1 |
| Faceshield Cover Lens (200 per Pkg.) | W-9410-3 | 5AZ65 | 216.97 | 197.25 | 187.39 | 3.0 |
| **[B] BREATHING TUBES** | | | | | | |
| Breathing Tube For Whitecap Assemblies Only | W-8003 | 5AP12 | 65.01 | 59.10 | 56.15 | 0.8 |
| Breathing Tube For Snapcap Assemblies Only | W-5114 | 6AT05 | 62.09 | 56.45 | 53.63 | 0.7 |
| **[C] AIR CONTROL DEVICES** | | | | | | |
| Low Pressure Air Regulating Valve | W-3018 | 5F855 | 95.42 | 86.75 | 82.41 | 1.0 |
| High Pressure Air Regulating Valve | W-2907 | 3BC28 | 146.96 | 133.60 | 126.92 | 0.4 |
| High Pressure Vortex Cooling Assembly | W-2862 | 2AN04 | 355.57 | 323.25 | 307.09 | 1.6 |
| High Pressure Vortemp Heating Assembly | W-2863 | 5F846 | 467.77 | 425.25 | 403.99 | 1.8 |
| **[D] AIR HOSE** | | | | | | |
| 25-Ft. 3/8" ID Compressed High Pressure Air Hose | W-9435-25 | 6AJ02 | 117.81 | 107.10 | 101.75 | 4.2 |
| 50-Ft. 3/8" ID Compressed High Pressure Air Hose | W-9435-50 | 3AH20 | 200.75 | 182.50 | 173.38 | 8.7 |
| 100-Ft. 3/8" ID Compressed High Pressure Air Hose | W-9435-100 | 6AT77 | 346.22 | 314.75 | 299.01 | 17.0 |
| 25-Ft. 3/8" ID Coiled Compressed High Pressure Air Hose | W-2929-25 | 5F879 | 172.42 | 156.75 | 148.91 | 2.3 |
| 50-Ft. 3/8" ID Coiled Compressed High Pressure Air Hose | W-2929-50 | 5F880 | 266.17 | 242.25 | 230.14 | 3.5 |
| 100-Ft. 3/8" ID Coiled Compressed High Pressure Air Hose | W-2929-100 | 5F881 | 451.27 | 410.25 | 389.74 | 5.8 |
| 25-Ft.1/2" ID Low Pressure Air Hose | W-3020-25 | 5F862 | 144.48 | 131.35 | 124.78 | 5.0 |
| 50-Ft. 1/2" ID Low Pressure Air Hose | W-3020-50 | 5F863 | 224.95 | 204.50 | 194.28 | 11.0 |
| 100-Ft. 1/2" ID Low Pressure Air Hose | W-3020-100 | 5F856 | 376.20 | 342.00 | 324.90 | 22.0 |
| **[E] COMPRESSED AIR FILTER AND REGULATING PANEL** | | | | | | |
| Compressed Air Filter and Regulating Panel | W-2806 | 1BC35 | 677.60 | 616.00 | 585.20 | 11.0 |

# RESPIRATORY PROTECTION



## PRESSURE DEMAND RESPIRATORS (PDAR)

**These respirators supply the air to the facepiece "on demand" as the worker inhales and fresh air is required. Air is supplied from a fixed source (cylinder or compressor) which is delivered by a hose or series of hoses. Pressure demand is also available with emergency escape cylinder. These respirators can be used in atmospheres that are immediately dangerous to life and health when used with approved auxiliary air cylinders. Available with full facepieces only.**

## PRESSURE DEMAND RESPIRATORS

85400 and 85500 Series are full facepiece pressure demand airline respirators. Scratch resistant, polycarbonate lens provides a 200° field of vision, and protects user's eyes and face against irritating gases, vapors, and flying particles. Hypoallergenic silicone facepiece, equipped with an oral/nasal cup to reduce fogging, provides worker with superior fit and comfort. Five strap head harness helps maintain facepiece-to-face seal. Speaking diaphragm allows for clear communication.

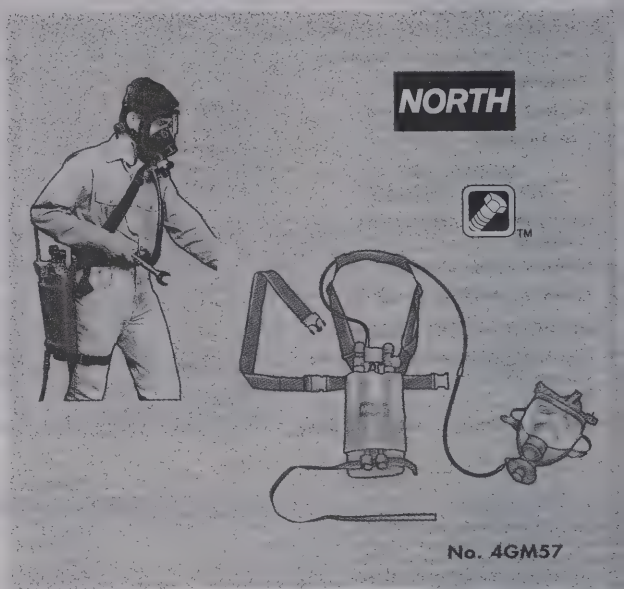
Facepiece mounted demand valve is first breath activated, which eliminiates loss of air while putting on or taking off the facepiece and eases donning. Manifold assembly on both series features two inlet ports, allowing worker to connect to a second air source before disconnecting from the first.

Nos. 4GM54 and 4GM55 may be used in atmospheres which are not immediately dangerous to life and health (Non-IDLH). Nos. 4GM57 and 4GM58 are suitable for us in IDLH atmospheres because units are equipped with an emergency escape air cylinder.

Low profile cylinders are for use in tight and confined spaces. Assembly offers a holster to carry cylinders either by worker's side, or in front when worker is entering or exiting a tight space. Assembly holds either one cylinder for a 5 minute escape or two 5 minute cylinders for a 10 minute escape. Replacement cylinders available below. North brand.

Air Hoses have a 3/8" ID and Hansen fittings. Available in 50 and 100 ft. lengths. Fully NIOSH certified for combinations up to 300 feet.

All North air hoses and respirators listed are compatible. North brand.




### RESPIRATOR ORDERING DATA

| Description | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small Respirator** | 85401S | **4GM55** | $827.60 | **$720.00** | **$683.69** | 20.0 |
| **Med./Lg. Respirator** | 85401 | **4GM54** | 827.60 | **720.00** | **683.69** | 20.0 |
| **Small Respirator with 5 Minute Escape Cylinder** | 85505S | **4GM58** | 1504.01 | **1309.00** | **1243.38** | 2.1 |
| **Med./Lg. Respirator with 5 Minute Escape Cylinder** | 85505 | **4GM57** | 1504.01 | **1309.00** | **1243.38** | 2.1 |
| **5 Minute Replacement Cylinder and Valve** | 85525 | **4GM59** | 453.54 | **395.25** | **375.25** | 19.0 |
| **50 Ft. Air Hose** | 886050H | **3AG77** | 128.26 | **124.65** | **118.39** | 7.2 |
| **100 Ft. Air Hose** | 886100H | **4AZ35** | 214.14 | **208.25** | **197.79** | 13.0 |

**CAUTION: All breathing air system couplers must be incompatible with non-breathing air/gas system couplers.**

## ACCESSORIES FOR PRESSURE DEMAND RESPIRATORS

NORTH

### WELDING CONVERSION KIT

For those who want to convert their current North pressure demand full facepiece respirator to a welding facepiece. This is easily accomplished by replacing the standard lens and fastening the welding attachment onto the full facepiece respirator. When the worker is not welding, it can be lifted upward for wide angle viewing. North brand (8402).

**No. 4GM33.** Shpg. wt. 1.3 lbs. List $155.66. Each ..... **$135.40**
Lots 2 ..... **$128.59**

### TRAINING VIDEO TAPE

Describes the features and maintenance of continuous flow and pressure demand supplied air respirators. Reviews fit checking, fit testing, respirator use and limitations. 20 minutes. 1/2" VHS. North brand (80789).

**No. 4GM29.** Shpg. wt. 0.5 lbs. List $53.86. Each ..... **$46.90**
Lots 2 ..... **$44.55**

# RESPIRATORY PROTECTION

## AIR SOURCES

**There are four main types of air sources for supplied air respirators:**

**Filtration Systems:** Supplies Grade "D" or better breathing air through a connection to plant air or a mobile compressor.

**Portable Systems:** Provide a mobile source of breathing air for users of pressure demand respirators.

**Pumps:** Air flows from the pump to the user. Mainly used with continuous flow respirators.

**Compressors:** Compresses air into sealed containers and then delivers air when required. Mainly used with pressure demand respirators.

## PUMPS

Wearing continuous flow airline supplies breathable air to workers using respirators in contaminated environments. For use with hoods and tight fitting facepieces. All pumps are oil-less with rotary vane. North brand.

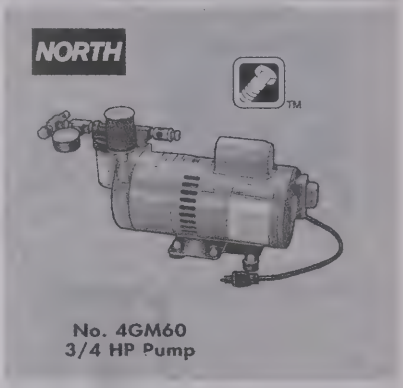
**No. 4GM66 1/3 HP Pump** supplies air to one worker wearing a continuous flow full facepiece or half mask respirator.

**No. 4GM60 3/4 HP Pump** supplies air to one worker wearing a continuous flow hood or two workers wearing continuous flow full facepiece or half mask respirators.

**No. 4GM63 1½ HP Pump** supplies air to two workers wearing continuous flow hoods or three workers wearing continuous flow full facepiece or half mask respirators.

See page 2425 for pumps sold as part of a complete package including facepiece or hood and hoses.

| Description | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/3 HP Pump** | 86191 | **4GM66** | $1388.80 | **$1209.00** | **$1148.06** | 40.0 |
| **3/4 HP Pump** | 86116 | **4GM60** | 1371.85 | **1194.00** | **1133.72** | 60.0 |
| **1½ HP Pump** | 86141 | **4GM63** | 2206.47 | **1920.00** | **1823.17** | 102.0 |




No. 4GM60
3/4 HP Pump

**For more information on the selection of North respirators, call 1-800-581-0444**

## PORTAIRE™ PORTABLE AIR-SUPPLY SYSTEM

Provides uninterrupted air flow when empty cylinders are changed. Lightweight and portable, can be moved to job site whenever an air-line device is needed. Workers can quickly and safely relocate without disconnecting their air-supply. Features quick-disconnect assemblies and integral check valve that allows air supply to be safely switched between air sources for steady air flow. Unit holds two standard SCBA cylinders (not included). Storage area for air-supply hose (not included). Compatible with MSA cylinders. MSA brand (807052).

***New!* No. 4LM54.** Shpg. wt. 40.0 lbs. List $1845.87. Each.....**$1679.00**

## TRANSPORTAIRE HIGH-PRESSURE PORTABLE AIR-SUPPLY SYSTEM™

System provides convenient air source that can be transported within a work site and holds standard MSA high-pressure SCBA air cylinder. Designed for firefighters, industrial personnel, confined-space workers and other wearers of pressure-demand air-line devices. Features large, impact-resistant handle with urethane-coated nylon straps that fit around cylinder to hold it securely. When used with an MSA respirator equipped with dual-supply option, cylinder can be used to enter, leave and move from station to station in IDLH areas. Hook up to plant air source while IDLH atmosphere and wearer's air supply is never interrupted. Compatible with MSA high-pressure cylinders. MSA brand (812217).

***New!* No. 4LM69.** Shpg. wt. 3.6 lbs. List $596.12. Each.....**$542.00**

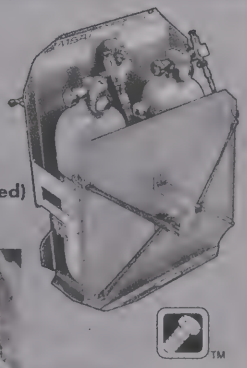
## COMPRESS-AIRE™ PORTABLE COMPRESSOR

Lightweight and portable, compressor supplies a minimum of 7 cubic feet per minute (cfm) to an operating pressure of 10 psig. For use with Versa-Hood™ air supplied hoods only. MSA brand (484828).

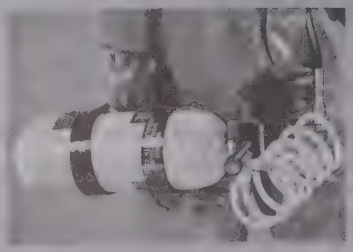
***New!* No. 4LM44.** Shpg. wt. 76.0 lbs. List $1466.35. Each.....**$1334.00**

MSA

New



No. 4LM54
(Cylinders not included)



No. 4LM69

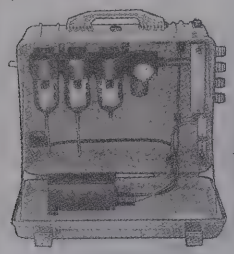


No. 4LM44

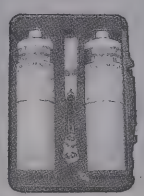
# RESPIRATORY PROTECTION

## AIR SOURCES

Provide a source of Grade "D" or better breathing air to supplied air respirator users. There are four main types of air sources: Filtration Systems, Portable Systems, Pumps, and Compressors.



Breather Box Filtration System



Calibration Kit

## BREATHER BOX™ FILTRATION SYSTEM

This portable Grade-D breathing air filtration system is designed to provide air for up to 4 workers. The first stage filters bulk water and particulate, second stage coalescing filter eliminates oil and ultra-fine particulate, third stage removes organic vapors and odors. Filter change indicators are standard on all three levels of filtration. Filtration efficiency is 99.99% @ .01 microns.

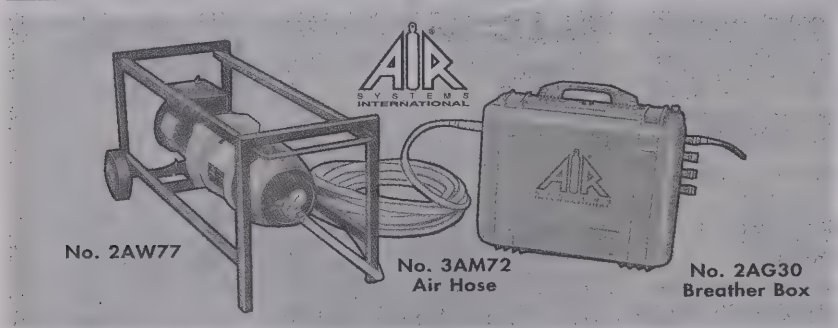
Filtration system can be connected to either a plant, air or mobile compressor to filter out water, oil, particulate, organic vapors, odors and tastes. A built-in carbon monoxide monitor operates on 9-volt or 115VAC for continuous detection. An external alarm and light signals workers of high CO content.

Standard features include: solid aluminum block manifold, 125 PSI safety relief valve, 0-160 PSI pressure gauge, adjustable locking pressure regulator, visual flow meter to monitor, easy-to-service filters and polycarbonate case. Designed to be used in closed position to prevent contamination and damage to internal components. Optional 4-Man Point-of-Attachment Box, No. 2AN80 sold below, extends respirator usage beyond 300 ft. from filtration system.

**No. 2AG30.** Breather Box. 50 cfm Hansen fittings. Air Systems brand (BB50-COH). Shpg. wt. 32.0 lbs. List $2085.00. Each **$1895.00;** Lots 2 ..... **$1800.25**

**No. 1C107.** Breather Box Replacement Filter Kit. Contains one each of Stage 1, 2, and 3 filters. Air Systems brand (BB50-FK). Shpg. wt. 1.0 lbs. List $150.00. Each .... **$135.00;** Lots 2 ..... **$128.25**

**No. 2AM39.** Breather Box Calibration Kit. Contains one each: 17 liter air gas, 50 ppm CO gas, gas regulator, tubing and case. Air Systems brand (BBK-50). Shpg. wt. 7.0 lbs. List $215.00. Each .... **$195.00;** Lots 2 ..... **$185.25**



No. 2AW77

No. 3AM72 Air Hose

No. 2AG30 Breather Box

## PORTABLE BREATHING AIR COMPRESSOR

This high pressure three man breathing air compressor system is cart-mounted for easy transport to the job site—only weighs 120 pounds. NOTE: For use with pressure demand respirators only. Patented rotary vane delivers smooth, even compressed air at pressures up to 110 PSI. System pressures are controlled with a built-in adjustable pressure switch and monitored by built-in pressure gauge. Operates on standard 115 Volt/60 Hz/20 Amp electrical service. Steel frame features dual rear wheels and built-in retractable handle. The compact design measures 36L x 16W x 16¾"H. Air Systems brand (HP-4).

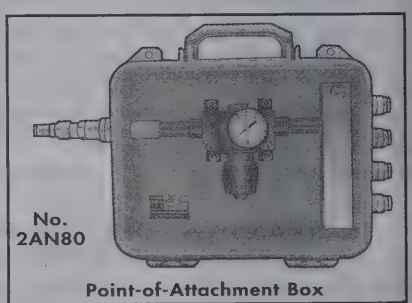
**No. 2AW77.** Shpg. wt. 140.0 lbs. List $3295.00. Each **$2995.00;** Lots 2 ..... **$2845.25**

## AIR HOSE

Air hose is manufactured to meet stringent breathing air requirements. 1/2" ID, 50-ft. long. Hansen 5000 series male/female couplings. Order with proper quick connect couplings installed. Hose is yellow. Air Systems brand (H-50-5).

**No. 3AM72.** Shpg. wt. 11.0 lbs. List .....$130.00. Each **$115.00;** Lots 2 ..... **$109.25**





No. 2AN80 Point-of-Attachment Box

## FOUR-MAN POINT-OF-ATTACHMENT BOX

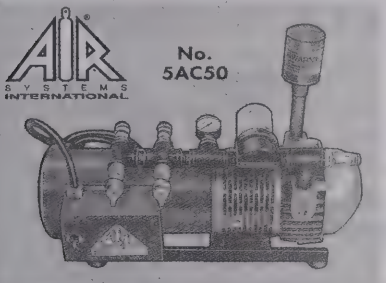
The point-of-attachment box provides a remote attachment for airline respirators. Attachment point can be an unlimited distance from air source as long as the required gauge pressure for the respirator can be maintained. Attachment box contains adjustable regulator, pressure gauge, safety relief valve, and outlet manifold block with respirator couplings. The entire assembly is contained in an unbreakable polycarbonate case. Includes 4 Hansen 3000 series couplings and dust caps. Air Systems brand (POA-4H).

**No. 2AN80.** Shpg. wt. 13.0 lbs. List .....$325.00. Each **$295.00;** Lots 2 ..... **$280.25**

# RESPIRATORY PROTECTION

## AIR SOURCES

Provide a source of Grade "D" or better breathing air to supplied air respirator users. There are four main types of air sources: Filtration Systems, Portable Systems, Pumps and Compressors.




## PORTABLE BREATHING AIR COMPRESSORS

For use with constant flow respirators. Compressors are also called ambient air pumps. Applications include painting with Isocyanates, asbestos removal, spray paint booths, and confined space applications. Deliver a maximum of 15 PSI. Intake and compressor filters have a 95% DOP efficiency at 0.3-0.6 microns; 100% efficiency at 0.7 micron size. (Replacement filters, No. 1C103, sold below.) Adjustable pressure output and relief valves installed. Hansen fittings.

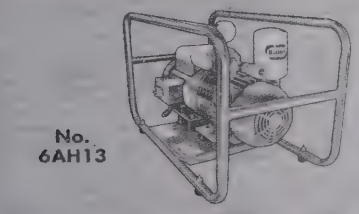
INTAKE/COMPRESSOR FILTERS. Box of 10. Air Systems brand (BAC-393).

**No. 1C103.** Shpg. wt. 0.7 lbs. List $100.00.
Each **$90.00**; Lots 2 ..... **$85.50**

| Operates | HP | VAC | Amps | CFM | Air Systems Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 Tight-fitting masks or 1 hood | 3/4 | 115/230 | 10 | 9 | BAC-10H | **2BC08** | $875.00 | **$795.00** | **$755.25** | 63.0 |
| 3 Tight-fitting masks or 2 hoods | 1½ | 115/230 | 14 | 17 | BAC-17H | **5AG10** | 1535.00 | **1395.00** | **1325.25** | 107.0 |
| 4 Tight-fitting masks or 3 hoods | 2 | 115/230 | 20 | 21 | BAC-20H | **5AC50** | 1755.00 | **1595.00** | **1515.25** | 112.0 |




Replacement Parts Available 1-800-323-0620




## ELECTRIC-DRIVEN FREE-AIR® PUMPS

Electric driven, portable pumps can be moved quickly and easily and are a low cost way to supply breathable air to workers in contaminated environments. Transfer ambient air from a clean air location to a supplied air respirator. Features an exclusive Carbofine outlet filter. Medium efficiency inlet filter with activated carbon keeps particulates larger than 25 microns out of the air supply. Airline respirators used with pumps must be MSHA/NIOSH approved to operate at 15 PSIG or less. Pumps are oil-less and do not produce carbon monoxide, oil vapor or oil mist so monitors, calibrators or airline filters are not required.

**2-Man Pump** supplies air to 2 workers wearing continuous-flow airline half- or full-face mask respirators, or 1 worker wearing a continuous-flow airline hood or helmet respirator. Open drip-proof motor for use in clean dry areas. Air flow is 10 cfm at 5 PSIG. Bullard brand (EDP10).

**No. 3AM92.** Shpg. wt. 53.0 lbs. List ..... $775.01.
Each **$698.00**; Lots 2 ..... **$663.10**

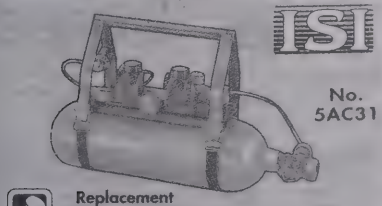
**3-Man Pump** supplies air to 3 workers wearing continuous-flow airline half- or full-face mask respirators, or 2 workers wearing continuous-flow airline hood or helmet respirators. Totally enclosed fan cooled motor. For use in applications with oily, moist, or dusty conditions. Air flow is 16 cfm at 5 psig. Bullard brand (EDP16TE).

**No. 6AH13.** Shpg. wt. 111.0 lbs.
List $1552.46. Each ..... $1395.00
Lots 2 ..... $1325.25

**Splitter Adaptor** converts single pump quick disconnect coupler to double 1/2" Industrial Interchange coupler (one flow-through, one shut-off). Bullard brand (V24).

**No. 1AZ57.** Shpg. wt. 2.0 lbs. List ..... $47.67.
Each **$42.95**; Lots 5 ..... **$40.80**

**No. 6AL41. Carbofine Outlet Filter.** Bullard brand (S17101). Shpg. wt. 1.0 lbs. List $16.28.
Each **$14.63**; Lots 5 ..... **$13.90**




Replacement Parts Available 1-800-323-0620

## AS 1 PORTABLE AIR SUPPLY SYSTEM

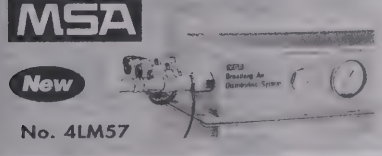
### AS 1 SINGLE

For confined space entry. Uses up to 3000 PSI cylinders (not included). When combined with Type C respirators with escape, it provides IDLH (Immediately Dangerous to Life and Health) protection. Dual cylinder capacity doubles as a rescue unit. With airline equipped SCBA, the AS1 Single becomes an extra cylinder of air. Cylinders can be replaced on the go, without interrupting the air supply.

Includes universal pressure reducer, coupled with 2 Hansen airline connections, and carrying frame with adjustable straps that fit any air supply cylinder with a standard CGA346 connector. International Safety Instruments brand (701.204.00L30).

**No. 5AC31.** Shpg. wt. 9.8 lbs. List $1167.50
Each ..... $1025.00▲

(▲) Net prices, not subject to discounts.




## BREATHING AIR DISTRIBUTION SYSTEM (BRAD)

Controls air supply to up to four air-line respirator users. Purifies, regulates and distributes air for multiple users. Features external controls and sealed stainless steel case to prevent contamination of interior component. For use in chemical and other industries using constant flow air-line systems. MSA brand (488113).

***New!* No. 4LM57.** Shpg. wt. 47.0 lbs. List $1407.38.
Each ..... $1280.00

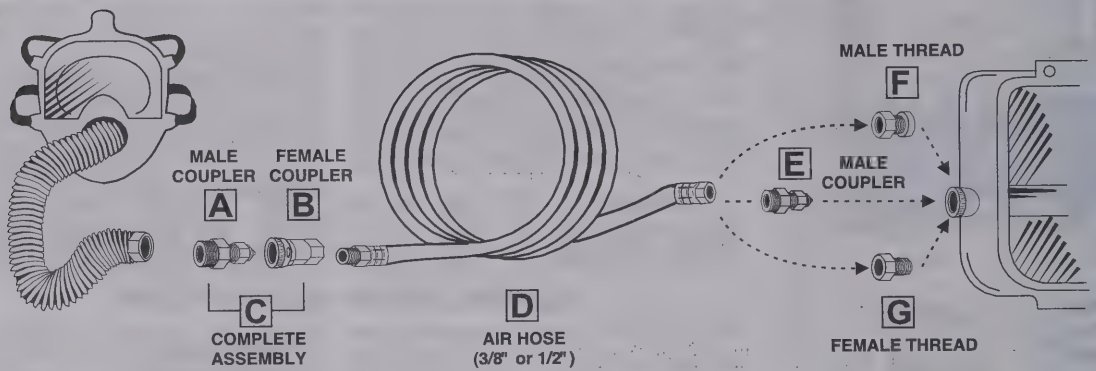
# COUPLERS AND HOSES / RESPIRATORY PROTECTION



## COUPLERS AND HOSES

NORTH

- Using quick connect couplers between lengths of hoses is prohibited




**HOSES AND COUPLERS LISTED ON THIS PAGE ARE TO BE USED ON NORTH AIRLINE RESPIRATORS ONLY**

## PROVIDE CONNECTION BETWEEN THE HOSE AND FACEPIECE

| Description | North Model | Stock No. | List | Each | Shpg. Wt. | North Model | Stock No. | List | Each | Shpg. Wt. | North Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HANSEN | | | | | SNAP-TITE | | | | | SCHRADER | | | | |
| **A MALE COUPLER - ATTACHES TO THE FACEPIECE** | | | | | | | | | | | | | | | |
| | 880161H | **4GM86** | $11.73 | **$10.18** | 0.1 | 880161ST | **4GM88** | $12.52 | **$10.86** | 0.1 | 880161S | **4GM87** | $11.93 | **$10.35** | 0.1 |
| **B FEMALE COUPLER - ATTACHES TO THE HOSE** | | | | | | | | | | | | | | | |
| **3/8" Hose** | 880040H | **4GM71** | 31.47 | **27.40** | 0.3 | 880040ST | **4GM73** | 33.46 | **29.15** | 0.3 | 880040S | **4GM72** | 31.66 | **27.55** | 0.3 |
| **1/2" Hose** | 880060H | **4GM77** | 31.32 | **27.25** | 0.4 | 880060ST | **4GM79** | 33.31 | **29.00** | 0.4 | 880060S | **4GM78** | 31.53 | **27.45** | 0.4 |
| **C COMPLETE ASSEMBLIES - CONNECTS FACEPIECE TO THE HOSE** | | | | | | | | | | | | | | | |
| **3/8" Hose** | 88600H | **4GM89** | 60.34 | **52.55** | 0.5 | 88600ST | **4GM92** | 62.35 | **54.30** | 0.5 | 88600S | **4GM91** | 61.35 | **53.45** | 0.5 |
| **1/2" Hose** | 88800H | **4GN02** | 60.34 | **52.55** | 0.5 | 88800ST | **4GN05** | 62.35 | **54.30** | 0.5 | 88800S | **4GN04** | 61.35 | **53.45** | 0.5 |

### D HOSES

| Description | North Model | Stock No. | List | Each | Shpg. Wt. | North Model | Stock No. | List | Each | Shpg. Wt. | North Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25 FT. | | | | | 50 FT. | | | | | 100 FT. | | | | |
| **3/8" Hose** | 886025 | **4GM98** | $73.45 | **$63.90** | 4.1 | 886050 | **4GM99** | $111.89 | **$97.35** | 4.6 | 886100 | **4GN01** | $229.85 | **$200.25** | 12.0 |
| **1/2" Hose** | 888025 | **4GN11** | 95.44 | **83.05** | 4.3 | 888050 | **4GN12** | 140.56 | **122.25** | 8.5 | 888100 | **4GN13** | 255.34 | **222.25** | 17.0 |
| **C AND D COMPLETE HANSEN HOSE AND COUPLER ASSEMBLY** | | | | | | | | | | | | | | | |
| **3/8" Hose w/ Hansen Couplers** | 886025H | **3AZ13** | 96.58 | **93.85** | 4.5 | 886050H | **3AG77** | 128.26 | **124.65** | 7.2 | 886100H | **4AZ35** | 214.14 | **208.25** | 13.0 |

## PROVIDE CONNECTION BETWEEN THE HOSE AND AIR SOURCE

| Description | North Model | Stock No. | List | Each | Shpg. Wt. | North Model | Stock No. | List | Each | Shpg. Wt. | North Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HANSEN | | | | | SNAP-TITE | | | | | SCHRADER | | | | |
| **E MALE COUPLER - ATTACHES TO THE HOSE** | | | | | | | | | | | | | | | |
| **3/8"** | 880141H | **4GM83** | $11.73 | **$10.18** | 0.1 | 880141ST | **4GM85** | $12.52 | **$10.86** | 0.1 | 880141S | **4GM84** | $11.93 | **$10.35** | 0.1 |
| **1/2"** | 880161H | **4GM86** | 11.73 | **10.18** | 0.1 | 880161ST | **4GM88** | 12.52 | **10.86** | 0.1 | 880161S | **4GM87** | 11.93 | **10.35** | 0.1 |
| **F MALE THREAD ON AIR SOURCE - ATTACHES TO AIR SOURCE** | | | | | | | | | | | | | | | |
| **1/4" NPT** | 880040H | **4GM71** | 31.47 | **27.40** | 0.3 | 880040ST | **4GM73** | 33.46 | **29.15** | 0.3 | 880040S | **4GM72** | 31.66 | **27.55** | 0.3 |
| **3/8"** | 880060H | **4GM77** | 31.32 | **27.25** | 0.4 | 880060ST | **4GM79** | 33.31 | **29.00** | 0.4 | 880060S | **4GM78** | 31.53 | **27.45** | 0.4 |
| **G FEMALE THREAD ON AIR SOURCE - ATTACHES TO AIR SOURCE** | | | | | | | | | | | | | | | |
| **1/4" NPT** | 880041H | **4GM74** | 31.47 | **27.40** | 0.4 | 880041ST | **4GM76** | 33.45 | **29.15** | 0.4 | 880041S | **4GM75** | 31.66 | **27.55** | 0.4 |
| **3/8"** | 880061H | **4GM80** | 31.32 | **27.25** | 0.3 | 880061ST | **4GM82** | 33.31 | **29.00** | 0.3 | 880061S | **4GM81** | 31.53 | **27.45** | 0.3 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# RESPIRATORY PROTECTION



## EMERGENCY ESCAPE BREATHING APPARATUS

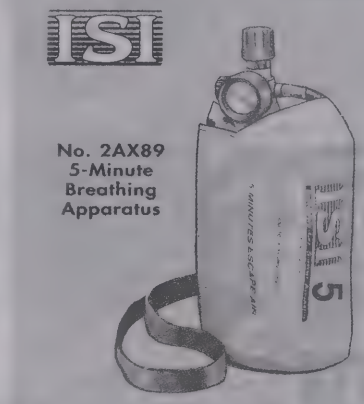
Emergency Escape Breathing Apparatuses are approved for escape only from hazardous atmospheres. Units are available in 5 or 10 minute durations.

## ISI EMERGENCY ESCAPE BREATHING APPARATUS

The ISI Escape unit provides fast emergency respiratory protection for escape from atmospheres that suddenly become Immediately Dangerous to Life and Health (IDLH). The clear polyurethane hood allows full 360° viewing capabilities. Unit has standard valve fittings of nickel-plated brass for reliability with separate refilling port for quick access to standard air sources without valve removal. Rated for use down to 20°F. Available in 5-minute and 10-minute models, with or without high density polyethylene storage case. ISI brand.

Nos. 2AX89 & 5AL31 feature 2216 PSIG air, with 5-minute minimum duration at NIOSH approved flow rates, carrying pouch and harness. No. 5AL31 includes storage case. NIOSH Approval TC-13F-111.

Nos. 3AG61 & 3AH84 feature 3000 PSIG air with 10-minute minimum duration at NIOSH approved flow rates, carrying pouch and harness. No. 3AH84 includes storage case. NIOSH Approval TC-13F-145.



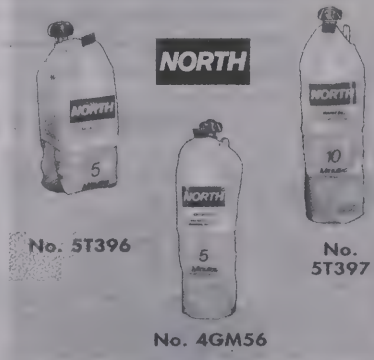

### EEBA ORDERING DATA

| Apparatus Type | ISI Model | Stock No. ❸ | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5-Minute** | 707117.00 | **2AX89** | $390.52 | **$355.00** | **$337.25** | 7.1 |
| **5** | 707117.05 | **5AL31** | 426.45 | **387.75** | **368.36** | 9.3 |
| **10** | 707117.14 | **3AG61** | 467.48 | **425.00** | **403.75** | 11.0 |
| **10** | 707117.15 | **3AH84** | 503.10 | **457.50** | **434.63** | 13.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## NORTH EMERGENCY ESCAPE BREATHING APPARATUS

Appropriate for use in any situation or industry where there may be a need for emergency escape. Transparent, durable polyurethane hood provides excellent visibility and minimizes fogging with a deflector that blows air onto the viewing area. High visibility carrying bag enhances the worker's ability to find the apparatus in an emergency situation. Versatile harness assembly can be worn around the neck or shoulder allowing the worker to move freely and carry other items. No. 5T396 provides air at a low flow for five minutes of escape. NIOSH/MSHA approval TC-13F-172. No. 5T397 has same features as No. 5T396 except for 10 minute duration. NIOSH/MSHA approval TC-13F-195. No. 4GM56 provides a five minute escape at a high flow supply of air for escapes requiring greater exertion. NIOSH/MSHA approval TC-13F-198. North brand.




### EEBA ORDERING DATA

| Description | NIOSH Approval | North Model | Stock No. ❸ | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Five Minutes, Low Flow** | TC-13F-172 | 845 | **5T396** | $386.00 | **$372.75** | **$353.93** | 8.0 |
| **Five Minutes, High Flow** | TC-13F-198 | 855 | **4GM56** | 482.99 | **420.25** | **399.05** | 19.0 |
| **Ten Minutes, High Flow** | TC-13F-195 | 850 | **5T397** | 437.10 | **422.00** | **400.82** | 12.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## CUSTOM AIR V® ESCAPE RESPIRATOR

For chemical, pulp and paper, steel, and other industries where areas may suddenly become IDLH. No fit testing needed, can be donned in seconds. May be worn over beards. Breathable air stored in cylinder, which can be carried or wall-mounted for easy accessibility. Features high flow rate of 72 lpm. NIOSH/MSHA certified for safety. MSA brand (484353).

**New** **No. 4LM45.** ❸ Shpg. wt. 2.7 lbs.
List $631.77. Each.....**$574.50**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.




## VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

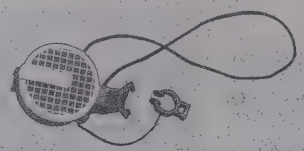
**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our online catalog allows you to search and display products as well as place orders online. . . day or night.**

# RESPIRATORY PROTECTION

## EMERGENCY ESCAPE BREATHING APPARATUS

**Emergency Escape Breathing Apparatuses are approved for escape only from hazardous atmospheres. Units are available in 5 or 10 minute durations.**

NORTH



### MOUTH BIT ESCAPE RESPIRATOR

For emergency escape from atmospheres containing chlorine, chlorine dioxide, sulfur dioxide and hydrogen sulfide. Lightweight unit attaches to belt or pants for easy access. North brand (7902).

**No. 4GM24.** Shpg. wt. 2.1 lbs. List $14.51. Each ..... **$12.59;**
Lots 10..... **$11.96**

New

MSA



### MOUTHPIECE RESPIRATOR

For use in areas that may become suddenly contaminated by chlorine, hydrogen chloride, sulfur dioxide or hydrogen sulfide. Belt clip keeps respirator close by in case of emergency. Lightweight for easy carrying. NIOSH/MSHA approved for safety. Respirator features soft, natural rubber mouthpiece for positive lip seal. Includes nose clip to ensure positive enclosure of nasal passages. Replaceable chemical cartridge. MSA brand (476338)

***New*No. 4LR11** Shpg. wt. 0.9 List $31.72. Each ..... **$28.85**

### SELF-CONTAINED BREATHING APPARATUS (SCBA)

SCBAs provide the wearer with the highest level of respiratory protection available. These units utilize either a thirty or sixty minute cylinder containing pressurized Grade D breathing air which is delivered "on demand" to the facepiece. Because the cylinders are worn on the back of the worker, SCBA's are completely portable, enabling the worker the maximum mobility for special applications such as emergency response and rescue. There are three different types of cylinders and two air flow supply options as follows.

**Full wrap (high pressure only)** Generally lightest in weight. Must be hydrostatically tested every three years.

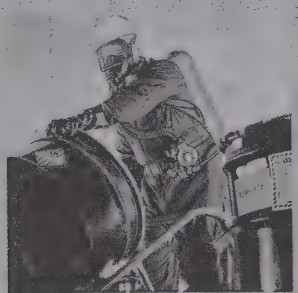
**Hoop wrap (high and low pressure)** Must be hydrostatically tested every three years.

**Aluminum (low pressure only).** Generally heaviest in weight. Must be hydrostatically tested every five years.

## WORKMASK™ II SELF CONTAINED BREATHING APPARATUS (SCBA)

New

MSA



Designed for comfort, users can wear for longer work periods. NIOSH certified for use in environments that do not require compliance with NFPA-1981. For use in industrial facilities, agricultural grain fumigation, water and wastewater treatment plants, HazMat work and HVAC jobs. Features independent by-pass system, rugged, lightweight nylon harness and formed carrier. Available with either dual-purpose or standard regulator. Dual-purpose regulator has Foster fitting. MSA brand.

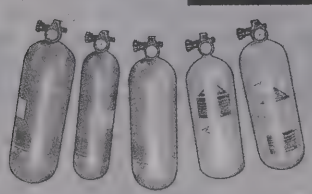
No. 4LM89 is Medium Size with black Hycar Ultravue® facepiece, dual purpose regulator with Foster fitting and aluminum cylinder. No. 4LM90 is Medium Size with black Hycar Ultravue® facepiece, standard regulator and aluminum cylinder.

***New*No. 4LM89.** WorkMask II with standard regulator (C-WB-311-1M01). Shpg. wt. 45.0. List $1704.71 Each ..... **$1550.00**

***New*No. 4LM90.** WorkMask II with dual purpose regulator (C-WB-341-1M01-1). Shpg. wt. 45.0. List $1959.33 Each ..... **$1782.00**

New

MSA



## CYLINDERS

For use with all MSA SCBAs. Choice of aluminum, Kevlar fully-wound or fiberglass fully-wound composite cylinders. Lightweight, versatile cylinders available with rated service times of either 30 or 60 minutes. MSA brand.

| Description | Rated Service Time (Min.) | Pressure (PSIG) | MSA Model | *New!* Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Fiberglass Fully-Wound** | 30 | 2216 | 801279 | **4LM84** | $778.33 | **$708.00** | 15.0 |
| **Fiberglass Fully-Wound** | 30 | 4500 | 801287 | **4LM85** | 835.92 | **760.00** | 16.0 |
| **Aluminum** | 30 | 2216 | 809872 | **4LM86** | 476.78 | **433.50** | 23.0 |
| **Fiberglass Fully-Wound** | 60 | 4500 | 801285 | **4LM87** | 1357.30 | **1234.00** | 28.0 |
| **Kevlar Fully-Wound** | 60 | 4500 | 807002 | **4LM88** | 1357.30 | **1234.00** | 24.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.



*Close it, lock it, keep it safe — You'll find the right stuff right here.*



## SELF-CONTAINED BREATHING APPARATUS (SCBA)

SCBAs provide the wearer with the highest level of respiratory protection available. These units utilize either a thirty or sixty minute cylinder containing pressurized Grade D breathing air which is delivered "on demand" to the facepiece. Because the cylinders are worn on the back of the worker, SCBAs are completely portable, enabling the worker the maximum mobility for special applications such as emergency response and rescue. There are three different types of cylinders and two air flow supply options as follows.

**Full wrap (high pressure only).** Generally lightest in weight. Must be hydrostatically tested every three years.

**Hoop wrap (high and low pressure).** Must be hydrostatically tested every three years.

**Aluminum (low pressure only).** Generally heaviest in weight. Must be hydrostatically tested every five years.

# NORTH SELF-CONTAINED BREATHING APPARATUS

For use in general industry, fire service, utilities, petrochemical and with hazardous materials. These National Fire Protection Association compliant units include full facepiece, cylinder, back plate with Kevlar/Nomex/PBI harness, donning procedure wall chart, training videotape (16 minutes), and polyethylene storage case. North brand.

### SCBA COMPONENTS:

**Full Facepiece.** Scratch resistant, polycarbonate lens provides a 200 degree field of vision, lens fogging is kept to a minimum with the oral/nasal cup. Hypoallergenic silicone facepiece provides worker with superior fit and comfort while the five strap head harness helps maintain facepiece-to-face seal. Speaking diaphragm allows for clear and safe communication.

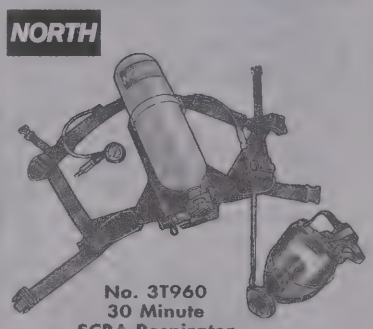
**Reducer/Regulator.** Fail-open design assures user a supply of air as long as there is air in the cylinder. Protected design eliminates dirt and moisture from entering, resulting in trouble-free operation. Contains only three moving parts reducing the chance of malfunction.

**First Breath Demand Valve.** Allows the user to don facepiece in "standby position" before attaching demand valve, eliminating the waste of air. Features a quick connect facepiece mounting which keeps the demand valve from interfering with user's activity.

**Chest Mounted Warning Whistle and Pressure Gauge.** Whistle letting user know when only 1/4 of air remains in cylinder is positioned close to user's hearing range. Pressure gauge indicates cylinder pressure at all times, positioned in an easy-to-read location.

**Harness and Backplate System.** Durable and lightweight, the harness has fully padded shoulder straps providing exceptional user comfort and easy adjustment. Fully padded lower back support and backplate system evenly distribute weight over a large area for user comfort.

**Cylinders.** Contain Grade D breathing air and can be refilled at local compressed gas distributors, some dive shops, and fire stations. Air refills must meet the Compressed Gas Association Specification G-7.1 for Grade D quality air or better.




No. 3T960
30 Minute
SCBA Respirator

Replacement Parts Available
1-800-323-0620



No. 4GM26
Pass Through
with Hansen
Fittings

## SELF-CONTAINED BREATHING APPARATUS SPECIFICATIONS AND ORDERING DATA

| Description | PSI | Cylinder | Cu.-Ft. Cap. | NIOSH/MSHA Approval | Replacement Cylinders | North Model | Stock No. ❸ | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **30 Minute/High Pressure** | 4500 | Full Wrap | 45 | TC-13F-316 | 2AM14 | 820K | **6AV36** | $2442.00 | **$2372.00** | **$2252.86** | 35.0 |
| **30 Minute/High Pressure** | 4500 | Hoop Wrap | 45 | TC-13F-316 | 4GM25 | 824K | **4GM31** | 2609.42 | **2270.00** | **2155.80** | 35.0 |
| **30 Minute/Low Pressure** | 2216 | Hoop Wrap | 45 | TC-13F-314 | 5AC02 | 823K | **2AJ16** | 2148.76 | **2088.00** | **1983.37** | 36.0 |
| **30 Minute/Low Pressure** | 2216 | Aluminum | 45 | TC-13F-314 | 3T961 | 822K | **3T960** | 2465.58 | **2011.00** | **1910.24** | 40.0 |
| **60 Minute/High Pressure** | 4500 | Full Wrap | 88 | TC-13F-315 | 2AX32 | 821K | **5AX09** | 2902.20 | **2818.00** | **2676.38** | 46.0 |

## REPLACEMENT CYLINDERS

| Description | Cylinder | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **30 Minute/High Pressure** | Full Wrap | 80031 | **2AM14❸** | $702.36 | **$683.50** | **$648.90** | 17.0 |
| **30 Minute/High Pressure** | Hoop Wrap | 80030 | **4GM25❸** | 580.63 | **505.00** | **479.70** | 19.0 |
| **30 Minute/Low Pressure** | Hoop Wrap | 80022 | **5AC02❸** | 493.25 | **479.25** | **455.11** | 19.0 |
| **30 Minute/Low Pressure** | Aluminum | 80021 | **3T961❸** | 503.06 | **410.00** | **389.33** | 25.0 |
| **60 Minute/High Pressure** | Full Wrap | 80032 | **2AX32❸** | 1156.83 | **1124.00** | **1066.87** | 29.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# ACCESSORIES FOR SCBA RESPIRATORS

### TRAINING VIDEO TAPE

Describes the proper use, maintenance, cleaning and storage of North SCBAs. 16 minutes. 1/2" VHS tape. North Brand (80781).

**No. 3T962.** Shpg. wt. 0.7 lbs. List $49.39.
Each **$48.10**; Lots 2.....**$45.69**

### PASS-THROUGH FITTING

For use with North SCBAs or North Pressure Demand Airline Respirator Nos. 4GM57 and 4GM58. When installed in Level A protective suits, provides an air hose connection from an external source of air to the facepiece. No. 4GM26 comes with Hansen fittings, No. 4GM28 comes with Snap-Tite fittings, and No. 4GM27 comes with Schrader fittings. Must be used with air supply hoses; see page 2438. North Brand.

| Fitting Type | North Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Hansen** | 80070H | **4GM26** | $408.77 | **$355.50** | **$337.68** | 2.2 |
| **Snap-Tite** | 80080ST | **4GM28** | 424.94 | **369.75** | **351.04** | 2.2 |
| **Schrader** | 80080S | **4GM27** | 410.79 | **357.25** | **339.35** | 2.2 |

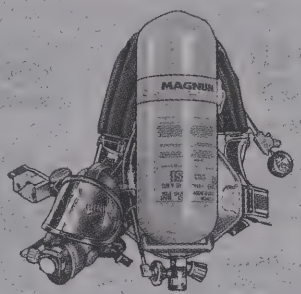
SELF-CONTAINED BREATHING APPARATUS

# ISI MAGNUM PLUS SELF-CONTAINED BREATHING APPARATUS

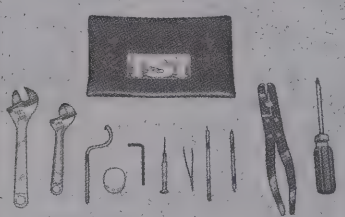
**The National Fire Protection Association** compliant Magnum Plus self-contained breathing apparatus (SCBA) is total respiratory protection for hazardous environments, including those deemed Immediately Dangerous to Life and Health (IDLH).

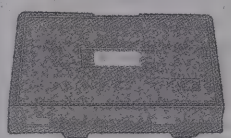
ISI

Replacement Parts Available 1-800-323-0620



No. 3AM33
Magnum Plus SCBA





Includes Carrying Case

No. 5AP22 Tool Kit
Sold Separately Below

**Available in two configurations:** 2216 PSI and 4500 PSI. Features a low-profile facemask mounted regulator with a minimum of moving parts. Unit is tested in a 2000°F open flame for 10 seconds simulating flashover conditions. First stage pressure reducer is a fail-safe piston type requiring no adjustment or calibration. Pneumatics system tested continuously over 1,200,000 breathing cycles. PBI/Kevlar shoulder straps are padded for comfort. Close-fitting stainless steel backframe with side arms distributes weight evenly. Waterproof pressure gauge and a loud audible alarm are mounted on right shoulder strap. Cylinder is held close to the body, increasing maneuverability and reducing fatigue. ISI Panaseal facemask features reverted edge seal which uses the facemask pressure to hold a seal against the face, while an inner mask helps breathing efficiency and eliminates visor fogging.

**Includes** full facemask, cylinder, pneumatics, stainless steel backframe. Kevlar harness, and carrying case.

### MAGNUM PLUS SCBA ACCESSORIES

**Pigtail airline adapter kit** allows user to switch between SCBA bottled air and an airline repirator. Hansen fittings. For Magnum Plus SCBA only. ISI brand.

**Tool Kit** for maintenance on the Magnum Plus SCBA. Includes bag, tri-wing screwdriver, 6" and 8" adjustable wrenches, 1/4 oz. Krytox grease, Oetiker clamp tool and O-ring tool, cuticle tool, jeweler screwdriver, 4mm allen wrench, S wrench, and tweezers. ISI brand.

| Item | PSI | Duration, Minutes | NIOSH Approval | ISI Model | Stock No. ● | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Magnum Plus SCBA w/Aluminum Cylinder** | 2216 | 30 | TC-13F-238 | A1010101B | **4AJ77** | $2678.10 | **$2435.00** | **$2313.25** | 43.0 |
| **Magnum Plus SCBA w/Hoop Cylinder** | 2216 | 30 | TC-13F-238 | A1020101B | **5AX87** | 2750.28 | **2501.00** | **2375.95** | 38.0 |
| **Magnum Plus SCBA w/FullWrap Cylinder** | 4500 | 30 | TC-13F-236 | A3050101B | **3AM33** | 3122.02 | **2839.00** | **2697.05** | 36.0 |
| **Magnum Plus SCBA w/FullWrap Cylinder** | 4500 | 60 | TC-13F-235 | A3090101B | **3AV54** | 3543.02 | **3221.00** | **3059.95** | 47.0 |
| **Aluminum Cylinder** | 2216 | 30 | — | 024.037.00 | **2AV26** | 433.62 | **394.25** | **374.54** | 24.0 |
| **Hoop Wrap Cylinder** | 2216 | 30 | — | 024.035.00 | **6AK60** | 515.32 | **468.75** | **445.31** | 18.0 |
| **FullWrap Cylinder** | 4500 | 30 | — | 024.066.00 | **3AR45** | 863.14 | **785.00** | **745.75** | 16.0 |
| **FullWrap Cylinder** | 4500 | 60 | — | 024.065.00 | **6AW18** | 1291.57 | **1175.00** | **1116.25** | 28.0 |
| **Pigtail Airline Adapter Kit** | — | — | — | 039.166.00 | **6AM19** | 310.90 | **282.75** | **268.61** | 1.2 |
| **Tool Kit** | — | — | — | 074.083.02 | **5AP22** | 198.12 | **180.25** | **171.24** | 2.0 |

# ISI VANGUARD SELF-CONTAINED BREATHING APPARATUS



Replacement Parts Available 1-800-323-0620

ISI

Vanguard SCBA No. 2AF70

**The Vanguard** is an open-circuit, compressed air, self-contained breathing apparatus (SCBA) that provides an economical alternative when fire fighting capability is not a consideration. NIOSH/MSHA Approval TC-13F-321. Offers total respiratory protection for hazardous environments, including those deemed Immediately Dangerous to Life and Health (IDLH).

**Includes** full facemask, 2216 PSI 30 minute aluminum cylinder, pneumatics, backframe, and harness. For replacement cylinder, order No. 2AV26 listed above. ISI brand (707.182.02G).

**No. 2AF70.●** Shpg. wt. 35.0 lbs.
List $1160.50. Each.....**$1055.00▲**

**Carry Case,** made of durable molded plastic, fits the unit securely to prevent bouncing. Hinges and latches have a lifetime warranty. ISI brand (010.083.00).

**No. 6AZ24.** Shpg. wt. 12.0 lbs.
List $174.20. Each.....**$158.50;**
Lots 2 .....**$150.58**

● These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets are available. See page opposite inside back cover.
(▲) Net prices, not subject to discounts.

# RESPIRATORY PROTECTION

## 3M™ RESPIRATOR CLEANING WIPES

OSHA recommends that respirators be cleaned and disinfected regularly, with those used by more than one worker being cleaned after every use. Cleaning wipes feature alcohol free formula that cleans respirators without negative effect on facepiece materials. Packaged individually in convenient dispenser box, wipes remain free of debris. 8½ x 11" size. 100 wipes per box. 3M brand (504).

**No. 1CD51.** Shpg. wt. 1.9 lbs. List $37.01. Each **$33.65**; Lots 5 ..... **$31.97**

## RESPIRATOR REFRESHER WIPE PADS

Supplement regularly scheduled respirator cleaning programs. Easy-to-use pads remove perspiration and body oils from respirator facepiece between cleanings. Packaged in dispensers of 100 individual foil packets. North brand (7003).

**No. 4T555.** Shpg. wt. 1.0 lbs. List $18.04. Each **$17.15**; Lots 5 ..... **$16.30**

## GERMICIDAL DETERGENT

Mix detergent with one gallon of water to create EPA-approved germicidal solution for routine cleaning and disinfecting of respirator facepiece. Each jar contains six individual packets of detergent. North brand (80992).

**No. 4T556**●. Shpg. wt. 0.2 lbs. List $25.24. Each **$24.02**; Lots 5 ..... **$22.82**



Training/ Accessories

NORTH

3M



No 1CD51



No 4T555

## SANITIZING CONCENTRATE

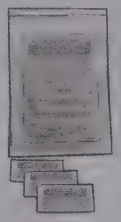
**Biodegradable all purpose sanitizing solution** for cleaning floors, walls and counters. Can be used to prevent cross-contamination from telephones, oxygen masks, respirators, goggles, and other personal protective equipment. Dilute one part concentrate with 30 parts water. 1 gallon container. Lensclean brand by Bouton (1LCS128).

**No. 1CP81**●. Shpg. wt. 9.0 lbs. List $11.00. Each **$9.86**; Lots 4 ..... **$9.37**

## DISINFECTANT WIPES

**Large 8 x 5" nonwoven wiping cloths** for cleaning, disinfecting and controlling cross contamination of oxygen masks, respirators, goggles, and telephones. Available in convenient individual packets for portability or storage in pocket or tool box. **Package of 15.** Lensclean brand by Bouton (1LCDW).

**No. 1CP83**●. Shpg. wt. 0.2 lbs. List $4.25. Each **$3.83**; Lots 10 ..... **$3.64**



BOUTON®



No 1CP83

No 1CP81

## TRAINING VIDEOS

**Self-Contained Breathing Apparatus**—Describes the proper use, maintenance, cleaning, and storage of North SCBAs. 16 minute, VHS video. North brand (80781).

**No. 3T962.** Shpg. wt. 0.7 lbs. List $49.39. Each **$48.10**; Lots 2 ..... **$45.69**

**Supplied Air**—Describes features and maintenance of North continuous flow and pressure demand supplied air respirators. Reviews fit checking and testing, respirator use, and limitations. 20 minute, VHS video. North brand (80789).

**No. 4GM29.** Shpg. wt. 0.5 lbs. List $53.86. Each **$46.90**; Lots 2 ..... **$44.55**

**Air Purifying**—Reviews the proper selection, fit, use, cleaning, and storage of North air purifying respirators. 12 minute, VHS video. North brand (80812).

**No. 4GM30.** Shpg. wt. 0.5 lbs. List $53.86. Each **$46.90**; Lots 2 ..... **$44.55**

NORTH



## RESPIRATOR TRAINING PROGRAMS ON VHS VIDEOTAPE

### MANAGEMENT TRAINING PROGRAMS

**Minimum Acceptable Program—OSHA 1910.134.** Intended for managers and personnel responsible for administering a respirator program. Discusses the elements of a proper respirator program as required by OSHA. 11 minute, VHS video. Willson brand (15290023).

**No. 5T390**●. Shpg. wt. 0.5 lbs. List $76.51. Each **$70.85**; Lots 2 ..... **$63.76**

WILLSON®



No.5T390

## FOGPRUF™ LENS CLEANER

Cleans lens without leaving streaks. Coats lens with thin fog-resistant coating to prevent fogging up. MSA brand (13016).

**New No. 4LM91**●. Shpg. wt. 0.3 lbs. List $5.42. Each ..... **$4.93**

MSA

New



● These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# RESPIRATORY PROTECTION

## QUALITATIVE FIT TEST APPARATUS

Apparatus offers simple and direct way to meet OSHA qualitative fit testing requirements. Can be used with any particulate or gas/vapor respirator with particulate prefilters to test face-to-respirator seal. Apparatus helps satisfy respiratory program requirements and can be used during respiratory training. Contents: one English/Spanish/French/Portugese laminated instruction booklet, one hood, one collar assembly, nebulizer #1 (sensitivity), nebulizer #2 (fit test), two sets replacement nebulizer inserts, fit test solution, and sensitivity solution. 3M brand.

**No. 1CD80❸.** Sweet Taste Solution (FT-10). Shpg. wt. 2.8 lbs.
List $161.37. Each.....**$146.70▲**

**No. 4JG31❸.** Bitter Taste Solution (FT-30). Shpg. wt. 2.8 lbs.
List $161.37. Each.....**$146.70▲**

(▲) Net prices, not subject to discounts.

## TRAINING AND FIT TESTING CASE

Combines training and fit testing materials needed to help satisfy OSHA requirements for respiratory protection programs. Contains all items in No. 1CD80 Qualitative Fit Test Apparatus listed above plus Universal Fitting Instruction VHS video, Animated Guide to Respiratory Protection VHS video, respirator fitting poster, Administrative Respiratory Protection Guide and molded black plastic case with inside hinge straps and pocket for extra literature. 3M brand (FT-20).

**No. 1CD47❸.** Shpg. wt. 12.0 lbs. List.....$573.10.
Each **$521.00;** Lots 2.....**$494.95**

## QUALITATIVE FIT TEST KITS

Provides an easy-to-use, portable package for testing wearers of air purifying respirators. When properly used, this kit will keep employers in compliance with OSHA regulations for qualitative fit testing.

### IRRITANT SMOKE KIT

Use with No. 6T454. Kit contains: Box of 10 banana oil fit-check ampules (2); Box of 6 fit test irritant smoke tubes (1); Smoke tube bulb (1); Smoke tube breaker (1); Respirator refresher wipe pads (20); Training video (1); Respirator fitting guide wall chart (1); Certificates of training and fit testing (20); Wallet versions of training and fit testing certificates (20); Requests for fit testing (4); Requests for respirator use training (4). North brand (7700-40).

**No. 4GM20❸.** Shpg. wt. 6.7 lbs. List.....$248.67.
Each**$216.50;** Lots 2.....**$205.46**

### BITREX SOLUTION KIT

Use with P100 filters. Kit contains: Fit test hood (1); Fit test solution and nebulizer (1 each); Sensitivity solution and nebulizer (1 each); Respirator wipe pads (20); Training video (1); Respirator fitting guide wall chart (1); Certificates of training and fit testing (20); Wallet versions of training and fit testing certificates (20); Requests for fit testing (4); Requests for respirator use training (4). North brand (86168).

***New*No. 4RM22❸.** Shpg. wt. 7.0 lbs. List.....$272.22.
Each **$245.00;** Lots 2.....**$232.75**

## RESPIRATORY PROTECTION COMPLIANCE SOFTWARE

Helps safety professionals generate necessary forms, procedures and workplace records to comply with OSHA/CSA regulations. Easy-to-learn, menu-driven for developing, documenting, and maintaining a respiratory protection program. Stores workplace records for easy retrieval, continuous monitoring. Software runs on IBM/IBM compatible PC (486 minimum), with Windows 3.1 or higher, Windows 95, Windows NT or Windows for Workgroups. Minimum requirements: 16MB RAM memory, additional 16MB virtual memory, 15MB free hard disk space for each module, VGA graphics adapter or compatible, Windows compatible printer and CD-ROM drive for installation. Available only on CD-ROM. 3M brand.

**No. 3KP32.** Shpg. wt. 1.0 lbs. List $185.35. Each.....**$168.50;**
Lots 3.....**$160.08**

## RESPIRATOR SEAL CHECKS AND FIT TESTS

### ISOAMYL ACETATE (BANANA OIL) SEAL CHECK AMPULES

Provide quick, easy method of checking facepiece to face seal of respirator. Ampules are filled with "banana oil" (amyl acetate) which produces a distinctive banana-like odor easily detected by respirator wearers if they do not have a proper seal. Ampules must be used with organic vapor cartridges. **10 ampules per package.** North brand (7002).

**No. 4T554.** Shpg. wt. 0.1 lbs. List.....$7.20.
Each **$6.86;** Lots 10.....**$6.52**

### ISOAMYL ACETATE (BANANA OIL) FIT TEST KIT

Provides instructions and technical supplies to perform OSHA accepted fit tests. Such testing is required for all employees wearing respirators. Kit is a simple, inexpensive method of determining respirator fit. Tests up to 40 employees. Use respirators with organic vapor cartridges when conducting fit test. Willson brand (14900601).

**No. 5T388.** Shpg. wt. 1.0 lbs. List.....$53.47.
Each **$49.60;** Lots 2.....**$44.61**

## SACCHARIN QUALITATIVE FIT TEST

Ensures that employees are getting a safe respirator seal. Testing hood eliminates need for special fit test chamber. Kit contains test hood, two nebulizer bulbs, fit test solution, sensitivity solution and two sets of replacement nebulizer inserts. Also included a 10-minute videotape detailing requirements for performing OSHA's Saccharin Qualitative Fit Test protocol. MSA brand (697287)

***New*No. 4LR26.** Shpg. wt. 1.7 lbs.
List $218.62.Each.....**$198.75**

## QUICKCHEK® I AND II ADAPTERS

For use with MSA respirators. Small, easy-to-use fit quantitative testing adapter ensures employees are achieving proper respirator seal. QuickChek I for use with MSA respirators equipped with demand-style Ultravue® facepieces. QuickChek® II for use with Comfo II, Comfo Classic, Comfo Elite, Duo-Twin or Ultra-Twin respirator. MSA brand.

***New*No. 4LR48.** Shpg. wt. 0.1 lbs.
List $45.52. Each.....**$41.40**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# HAND PROTECTION

**A Cotton Flannel Gloves.** 8 oz., 100% cotton flannel (canvas) glove for general purpose wear. Provides basic protection. Knit wrist. Clute style. Natural color. Made in USA. North brand.

**B Canvas Work Glove.** Cotton flannel glove with matching knit wrist. Straight thumb. Available in 7, 8 and 12 oz. weights. Clute style. Natural color. Wells Lamont brand.

**C "Big Dog" Cotton Flannel Gloves.** Heavy-duty 12 oz. woven cotton flannel (canvas) fabric offers 50% more wear than conventional 8 oz. styles. Provides extra durability and comfort. Clute style. White color with blue knit wrist. Made in USA. North brand.

**D Canvas Plastic Dot Glove.** 10 oz. white cotton flannel with plastic grip dots on palm, thumb and forefinger. Matching knit wrist. Wells Lamont brand.

**E White Jersey Glove.** 7oz. 2-piece reversible polycotton knit glove with matching knit wrist. Natural color. Wells Lamont brand.

**F Brown Jersey Gloves.** Brown cotton jersey glove with matching knit wrist (Nos. 1AV08 and 5AX38 are 9 oz. polycotton). Stretches for comfort. Clute style. Wells Lamont brand.

**G Brown Jersey Gloves.** 9 oz. plush brown jersey glove hides dirt and factory grime. For routing work in plants, warehouses, or maintenance departments. Knit wrist. Clute style. Made in USA. North brand.

**H Brown Jersey Gloves with Dots.** 9 oz. brown polycotton jersey glove with plastic dots on palm and forefinger for good grip. Matching knit wrist. Clute style. Wells Lamont brand.

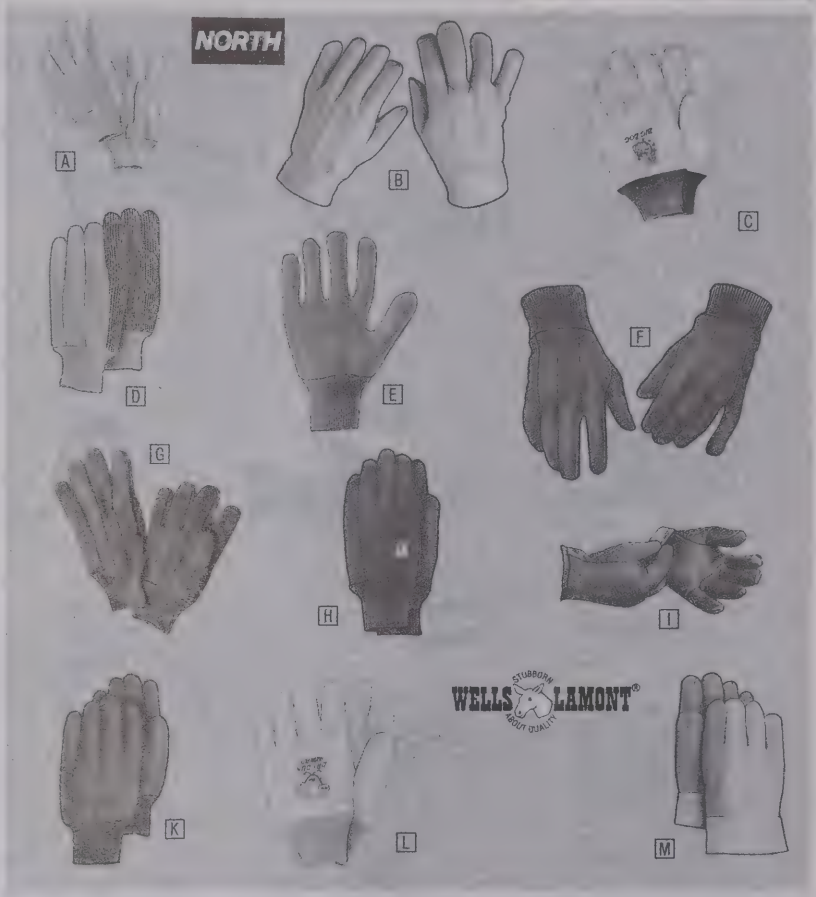
**I Fleece Lined Brown Jersey Gloves.** Polycotton jersey outer fabric bonded to red fleece cotton lining. Slip on gunn style. Wells Lamont brand.

**J Poly/Cotton Blended Jersey Gloves.** Feature Vellux lining, semi-wing thumb, slip-on styling. Gunn cut. Wells Lamont brand.

**K Chore Gloves.** 14 oz. golden brown double palm fleece glove with knit wrist. Nap out. Clute style. Wells Lamont brand.

**L "Dri-Duk" Rubberized Nap Out Gloves.** Double layered chore glove of 100% cotton "Dri-Duk" flannel. Excellent cushioning in double palm provides more comfort. For planting, stamping and similar applications. Water repellent (not liquidproof). 2½" knit wrist. Washable. Clute style. Golden color. Made in USA. North brand.

**M Double Palm Band-Top Gloves.** 18 oz. double palm glove with golden brown fleece palm, nap out, and white canvas back. 2½" band top. Wells Lamont brand.




| Key | Description | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Cotton Flannel, USA made | Mens L | 89L | 5T939 | $2.26 | $2.04 | $1.94 | $1.83 | 0.1 |
| | Cotton Flannel, USA made | Ladies L | 89S | 4JD32 | 2.26 | 2.04 | 1.94 | 1.83 | 0.1 |
| B | Canvas, 8 oz., USA made | Mens L | Y6502L | 6AJ33 | 2.37 | 2.14 | 2.04 | 1.92 | 0.2 |
| | Canvas, 8 oz. | Mens L | Y6503L | 3AD76 | 1.24 | 1.03 | 0.98 | 0.93 | 0.2 |
| | Canvas, 8 oz., USA made | Ladies L | Y6503W | 2AH13 | 1.24 | 1.03 | 0.98 | 0.93 | 0.2 |
| | Canvas, 12 oz. | Mens L | Y6509L | 5AX85 | 1.73 | 1.44 | 1.37 | 1.30 | 0.2 |
| | Canvas, 7 oz., Economy | Mens L | Y6513L | 3ZL56 | 1.07 | 0.97 | 0.93 | 0.87 | 0.1 |
| C | Big Dog, USA made | Mens L | 120E | 4A276 | 3.54 | 2.93 | 2.78 | 2.64 | 0.2 |
| | | Mens XL | 120J | 6T523 | 3.92 | 3.54 | 3.36 | 3.19 | 0.2 |
| D | Canvas Plastic Dot | Mens L | Y6501L | 6AF50 | 1.69 | 1.40 | 1.33 | 1.26 | 0.2 |
| E | White Jersey | Mens L | Y7401L | 2AM49 | 1.04 | 0.86 | 0.82 | 0.77 | 0.1 |
| | | Ladies | Y7401W | 3AR55 | 1.04 | 0.86 | 0.82 | 0.77 | 0.1 |
| F | Brown Jersey, 100% Cotton 8 oz, USA made | Mens L | Y7206L | 3AF22 | 2.50 | 2.25 | 2.14 | 2.03 | 0.1 |
| | Brown Jersey, 100% Cotton 8 oz, USA made | Ladies L | Y7206S | 2AL65 | 2.50 | 2.25 | 2.14 | 2.03 | 0.1 |
| | Brown Jersey, 9 oz. Polycotton | Mens L | Y720IL | 1AV08 | 1.38 | 1.14 | 1.08 | 1.03 | 0.1 |
| | Brown Jersey, 9 oz. Polycotton | Ladies L | Y7201W | 5AX38 | 1.38 | 1.14 | 1.08 | 1.03 | 0.1 |
| | Brown Jersey, 100% Cotton 8 oz, Economy | Mens L | Y7201L-A | 3ZL57 | 1.46 | 1.32 | 1.25 | 1.19 | 0.1 |
| G | Brown Jersey, USA made | Mens L | 93L | 4A275 | 2.83 | 2.56 | 2.43 | 2.30 | 0.1 |
| H | Brown Jersey w/Dots | Mens L | Y7101L | 5AX05 | 1.76 | 1.46 | 1.39 | 1.31 | 0.2 |
| I | Fleece Lined Brown Jersey | Mens L | Y7301L | 1AD87 | 2.40 | 2.16 | 2.05 | 1.94 | 0.2 |
| J | Poly/Cotton Jersey, Vellux Lining | Mens L | 2150L *Now* | 4LT48 | 5.49 | 4.99 | 4.74 | 4.49 | 0.2 |
| | | Mens XL | 2150XL *Now* | 4LT49 | 5.49 | 4.99 | 4.74 | 4.49 | 0.2 |
| K | Chore | Mens L | Y6429L | 6AF65 | 1.97 | 1.64 | 1.56 | 1.48 | 0.3 |
| L | Dri-Duk, USA made | Mens L | 2812 | 1A139 | 3.69 | 3.32 | 3.16 | 2.99 | 0.2 |
| M | Double Palm-Band Top | Mens L | Y6431L | 5AF86 | 2.48 | 2.24 | 2.13 | 2.02 | 0.2 |

# HAND PROTECTION/ LEATHER PALM GLOVES




**A Knitwrist Leather Palm Gloves.** Feature standard shoulder split leather palm with striped cotton back and wing thumb. Available in Men's and Ladies' sizes. Wells Lamont brand.

**B, C Leather Palm Gloves.** Split leather palm with striped cotton back and wing thumb. Safety cuff or gauntlet style cuff. Wells Lamont brand.

**D** Same as **A** listed above, but Economy.

**E** Same as **B** listed above, but Economy.

**F Grain Leather Palm Gloves.** Feature grain leather palm, straight thumb, index finger, fingertips, knuckle strap and pull. Striped cotton back and safety cuff. Elastic strap. Wells Lamont brand.

**G Pecan Suede Cowhide Palm Gloves.** Brown 10 oz. poly/cotton back, foam insulation and 8 mm acrylic pile lining. Wing thumb, self hemmed, Gunn cut. Wells Lamont brand.

**H Heatloc® Thermal Insulated Gloves.** Tough grained pigskin work glove with four layers of dense fiber polyester beneath a soft brushed nylon inner lining offers superior thermal protection. Leather palm style with knuckle strap and cotton band cuff. Steiner brand.

**I Puncture Resistant Gloves.** Use in waste handling, metal and wire work, or where puncture cuts cause down time and medical expenditures. Top quality pearl split cowhide leather gloves constructed with non-woven Kevlar® blend liner which exceeds NFPA Standard for puncture resistance. Features patented GRIPS™ precurved design. Launderable with canvas safety cuff. Made in USA. Wells Lamont brand.

**J Suede Fingerless Gloves.** Pearl gray cowhide with thumbshield. Ball and tape wrist closure, straight thumb and bound hem. Gunn cut. Wells Lamont brand.

**K Polar™ Leather Palm Thermal Lined Safety Cuff Gloves.** Winter insulated glove with extra long knit wrist sewn into safety cuff. 3M Thinsulate liner provides waterproof barrier to snow and ice. Blue split cowhide leather with yellow canvas back. Gunn cut with wing thumb for long wear and greater comfort. North brand.

| Key | Description | Size | Model | Stock No. | List | Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Leather Palm, Knitwrist | Mens L | Y3204L | **1AD97** | $1.80 | **$1.50** | **$1.43** | **$1.35** | 0.3 |
| | Leather Palm, Knitwrist | Ladies | Y3205L | **6AX51** | 1.68 | **1.50** | **1.43** | **1.35** | 0.2 |
| B | Leather Palm, Safety Cuff | Mens | Y3201L | **6AJ36** | 2.33 | **1.94** | **1.84** | **1.75** | 0.4 |
| C | Leather Palm, Gauntlet | Mens | Y3202L | **5AD08** | 2.58 | **2.14** | **2.03** | **1.93** | 0.4 |
| D | Economy Leather Palm, Knitwrist | Mens | Y3314L | **3ZL54** | 1.50 | **1.36** | **1.29** | **1.22** | 0.3 |
| E | Economy Leather Palm, Safety Cuff | Mens L | Y3308L | **3LZ53** | 1.62 | **1.34** | **1.27** | **1.21** | 0.3 |
| F | Grain Leather Palm, Safety Cuff | Mens S | Y2008S | **1H030** | 7.38 | **6.12** | **5.81** | **5.51** | 0.4 |
| | | Mens M | Y2008M | **4AJ82** | 7.38 | **6.12** | **5.81** | **5.51** | 0.4 |
| | | Mens L | Y2008L | **3AT60** | 7.38 | **6.12** | **5.81** | **5.51** | 0.4 |
| | | Mens XL | Y2008LX | **3AT34** | 7.38 | **6.12** | **5.81** | **5.51** | 0.5 |
| G | Leather Palm, Gunn Cut | Mens L | 5128L | ***New*4LT52** | 9.30 | **8.45** | **8.03** | **7.61** | 0.6 |
| | | Mens XL | 5128XL | ***New*4LT53** | 9.30 | **8.45** | **8.03** | **7.61** | 0.6 |
| H | Heatloc® Thermal | Mens M | P2459 | **5T926** | 9.72 | **8.76** | **8.32** | **7.88** | 0.3 |
| I | Puncture Resistant, USA made | Mens L | Y35501 | **3AK61** | 18.87 | **17.01** | **16.15** | **15.30** | 1.2 |
| J | Suede Fingerless Gloves | Mens M | 1094M | **4JF85** | 8.82 | **7.95** | **7.55** | **7.16** | 0.3 |
| | | Mens L | 1094L | **4JF84** | 8.82 | **7.95** | **7.55** | **7.16** | 0.3 |
| K | Leather Palm, Thermal Liined, Safety Cuff | Mens S | 70-6465NS/S | ***New*4RM09** | 16.50 | **14.87** | **14.13** | **13.38** | 0.3 |
| | | Mens L | 70-6465NK | **4JC96** | 16.50 | **14.87** | **14.13** | **13.38** | 0.5 |

A **Leather Palm Gloves.** Feature side split leather. Full leather index finger, fingertips, knuckle strap and pull. Cotton back, rubberized safety cuff, elastic strap. Made in USA. Wells Lamont brand.

B, C **Leather Palm Gloves.** Made of premium leather for long wear. Fully lined with seams sewn out of the work area for comfort and maximum wear. Available with 2½" safety or 4½" gauntlet style cuff. Cotton back, gray leather palm. Gunn cut. North brand.

D **Double Leather Palm Gloves.** Heavy side split double palm, wing thumb, fully wrapped index finger, fingertips, knuckle strap and pull. Heavy-duty launderable safety cuff sewn with Kevlar thread. Wells Lamont brand.

E, F **Leather Palm Gloves.** Feature heavyweight side split leather wing thumb, fully wrapped index finger, fingertips, knuckle strap and pull. Cotton back. Heavy-duty launderable safety or gauntlet style cuff. Sewn with Kevlar® thread. Wells Lamont brand.

G **Select Shoulder Knitwrist Gloves.** Feature select shoulder leather palm. Knit wrist with striped canvas back. Gunn cut. Wells Lamont brand.

H **Leather Palm Knitwrist Gloves.** Made of premium leather for long wear. Fully lined with seams sewn out of the work area for comfort and maximum wear. Cotton back, gray leather palm. Knit wrist. Clute style. North brand.

I, J **Select Shoulder Leather Palm Gloves.** Feature select shoulder split cowhide leather index finger, fingertips, knuckle strap and pull. Striped cotton back with launderable canvas safety or gauntlet style cuff. Wing thumb, Gunn cut. Wells Lamont brand.

K **Double Leather Palm Gloves.** Feature select shoulder leather wing thumb, fully wrapped index finger, fingertips, knuckle strap and pull. Safety cuff. Cotton back. Wells Lamont brand.

L **Full Split Leather Back Gloves.** Feature select shoulder split leather palm, wing thumb, full split leather back, and launderable gauntlet cuff. Wells Lamont brand.




| Key | Description | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Leather Palm, USA made | Mens XS | 224XS | 4AG85 | $12.74 | $11.48 | $10.91 | $10.33 | 0.8 |
| | | Mens M | 224M | 2BC74 | 12.74 | 11.48 | 10.91 | 10.33 | 0.5 |
| | | Mens L | 224L | 2AL54 | 12.74 | 11.48 | 10.91 | 10.33 | 1.3 |
| | | Mens XL | 224G | 5AT01 | 12.74 | 11.48 | 10.91 | 10.33 | 1.3 |
| B | Leather Palm, 2½" Safety Cuff | Mens M | 4365AM | 6T526 | 12.85 | 9.84 | 9.35 | 8.86 | 0.4 |
| | | Mens L | 4365AL | 5X904 | 12.85 | 9.84 | 9.35 | 8.86 | 0.4 |
| | | Mens XL | 4365AXL | 6T527 | 12.85 | 9.84 | 9.35 | 8.86 | 0.5 |
| C | Leather Palm, 4½" Gauntlet | Mens M | 4375AM | 6T528 | 13.18 | 11.88 | 11.28 | 10.69 | 0.3 |
| | | Mens L | 4375AL | 4A278 | 13.18 | 11.88 | 11.28 | 10.69 | 0.6 |
| | | Mens XL | 4375AXL | 6T529 | 13.18 | 11.88 | 11.28 | 10.69 | 0.6 |
| D | Premium Double Leather Palm | Mens L | Y3016L | 4JF93 | 7.52 | 6.78 | 6.44 | 6.10 | 0.5 |
| E | Leather Palm, Safety Cuff | Mens M | Y3014M | 3BC06 | 5.18 | 4.30 | 4.09 | 3.87 | 0.4 |
| | | Mens L | Y3014L | 2AP24 | 5.18 | 4.30 | 4.09 | 3.87 | 0.5 |
| | | Mens XL | Y3014G | 3AD39 | 5.18 | 4.30 | 4.09 | 3.87 | 0.6 |
| F | Leather Palm, Gauntlet | Mens L | Y3015L | 3AR94 | 5.46 | 4.93 | 4.68 | 4.43 | 0.3 |
| G | Select Shoulder, Knitwrist | Mens L | Y3113L | 4AZ97 | 2.37 | 1.97 | 1.87 | 1.77 | 0.3 |
| H | Leather Palm, Knitwrist | Mens M | 2203M | 6T524 | 9.94 | 7.61 | 7.23 | 6.85 | 0.3 |
| | | Mens L | 2203L | 5X903 | 9.94 | 7.61 | 7.23 | 6.85 | 0.3 |
| | | Mens XL | 2203XL | 6T525 | 9.94 | 7.61 | 7.23 | 6.85 | 0.3 |
| I | Select Shoulder, Safety Cuff | Mens L | Y3106L | 6AC96 | 3.20 | 2.65 | 2.52 | 2.39 | 0.4 |
| J | Select Shoulder, Gauntlet | Mens L | Y3107L | 2AW10 | 3.67 | 3.05 | 2.90 | 2.75 | 0.5 |
| K | Double Leather Palm | Mens L | Y3101L | 2AH54 | 4.20 | 3.49 | 3.32 | 3.14 | 0.5 |
| L | Full Split Leather Back | Mens L | Y3103L | 5AR16 | 4.38 | 3.63 | 3.45 | 3.27 | 0.5 |

# HAND PROTECTION/DRIVER'S GLOVES




WELLS LAMONT® STUBBORN ABOUT QUALITY

NORTH

| Key | Description | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Ball & Tape Grain, USA made | Mens S | 1178S | **1AD47** | $17.36 | **$15.64** | **$14.86** | **$14.08** | 0.3 |
| | | Mens M | 1178M | **5AM58** | 17.36 | **15.64** | **14.86** | **14.08** | 0.3 |
| | | Mens L | 1178L | **3AZ52** | 17.36 | **15.64** | **14.86** | **14.08** | 0.3 |
| | | Mens XL | 1178G | **6AP51** | 17.36 | **15.64** | **14.86** | **14.08** | 0.7 |
| B | Cowhide, USA made | Mens S | 95487S | **4JD36** | 20.69 | **18.64** | **17.71** | **16.79** | 0.2 |
| | | Mens M | 95487M | **6T535** | 20.69 | **18.64** | **17.71** | **16.78** | 0.3 |
| | | Mens L | 95487L | **1A140** | 20.69 | **18.64** | **17.71** | **16.78** | 0.3 |
| | | Mens XL | 95487XL | **6T536** | 20.69 | **18.64** | **17.71** | **16.78** | 0.4 |
| C | Grain Leather, USA made | Mens S | Y0122S | **1AJ91** | 10.71 | **9.65** | **9.17** | **8.69** | 0.3 |
| | | Mens M | Y0122M | **5AM01** | 10.71 | **9.65** | **9.17** | **8.69** | 0.3 |
| | | Mens L | Y0122L | **3AN26** | 10.71 | **9.65** | **9.17** | **8.69** | 0.3 |
| | | Mens XL | Y0122G | **5AN88** | 10.71 | **9.65** | **9.17** | **8.69** | 0.3 |
| D | Goatskin, USA made | Mens XS | Y0769C | **3AW17** | 9.42 | **8.18** | **7.77** | **7.36** | 0.2 |
| | | Mens S | Y0769S | **4AD77** | 9.42 | **8.18** | **7.77** | **7.36** | 0.2 |
| | | Mens M | Y0769M | **5AL09** | 9.42 | **8.18** | **7.77** | **7.36** | 0.2 |
| | | Mens L | Y0769L | **6AF07** | 9.42 | **8.18** | **7.77** | **7.36** | 0.3 |
| | | Mens XL | Y0769G | **5AT20** | 9.42 | **8.18** | **7.77** | **7.36** | 0.3 |
| E | Grain Leather | Mens S | Y0123S | **3AC90** | 8.75 | **7.88** | **7.49** | **7.09** | 0.3 |
| | | Mens M | Y0123M | **6AW35** | 8.75 | **7.88** | **7.49** | **7.09** | 0.3 |
| | | Mens L | Y0123L | **1AJ23** | 8.75 | **7.88** | **7.49** | **7.09** | 0.3 |
| | | Mens XL | Y0123G | **5AV28** | 8.75 | **7.88** | **7.49** | **7.09** | 0.3 |
| F | Leather Keystone | Mens S | Y0121S | **4JF89** | 8.27 | **7.45** | **7.08** | **6.71** | 0.2 |
| | | Mens M | Y0121M | **4JF88** | 8.27 | **7.45** | **7.08** | **6.71** | 0.3 |
| | | Mens L | Y0121L | **4JF87** | 8.27 | **7.45** | **7.08** | **6.71** | 0.3 |
| | | Mens XL | Y0121G | **4JF86** | 8.27 | **7.45** | **7.08** | **6.71** | 0.2 |
| G | Pigskin | Mens S | Y0322S | **1AD40** | 6.21 | **5.41** | **5.14** | **4.87** | 0.2 |
| | | Mens M | Y0322M | **3AW80** | 6.21 | **5.41** | **5.14** | **4.87** | 0.2 |
| | | Mens L | Y0322L | **5AC74** | 6.21 | **5.41** | **5.14** | **4.87** | 0.2 |
| | | Mens XL | Y0322G | **1AD52** | 6.21 | **5.41** | **5.14** | **4.87** | 0.2 |
| H | Economy Leather | Mens S | Y0133S | **3ZL52** | 7.41 | **6.68** | **6.35** | **6.01** | 0.3 |
| | | Mens M | Y0133M | **3ZL51** | 7.41 | **6.68** | **6.35** | **6.01** | 0.3 |
| | | Mens L | Y0133L | **3ZL50** | 7.41 | **6.68** | **6.35** | **6.01** | 0.3 |
| | | Mens XL | Y0133G | **3ZL49** | 7.41 | **6.68** | **6.35** | **6.01** | 0.3 |
| I | Napped Goatskin, Lined, USA made | Mens M | T95/7974M | **6T537** | 22.61 | **20.37** | **19.35** | **18.34** | 0.1 |
| | | Mens L | T95/7974L | **4A280** | 22.61 | **20.37** | **19.35** | **18.34** | 0.1 |
| | | Mens XL | T95/7974XL | **6T538** | 22.61 | **20.37** | **19.35** | **18.34** | 0.4 |
| J | Red Jersey Lining | Mens S | Y0032S | **1D999** | 10.50 | **9.45** | **8.98** | **8.51** | 0.4 |
| | | Mens M | Y0032M | **5AR48** | 10.50 | **9.45** | **8.98** | **8.51** | 0.4 |
| | | Mens L | Y0032L | **3AJ48** | 10.50 | **9.45** | **8.98** | **8.51** | 0.5 |
| | | Mens XL | Y0032G | **5AW69** | 10.50 | **9.45** | **8.98** | **8.51** | 0.5 |
| K | Suede Cowhide | Mens M | 1084M | ***New*4LT51** | 8.79 | **7.99** | **7.59** | **7.19** | 0.6 |
| | | Mens L | 1084L | ***New*4LT50** | 8.79 | **7.99** | **7.59** | **7.19** | 0.6 |

**A Ball & Tape Grain Driver's Gloves.** Made of prime tan grain cowhide with adjustable ball and tape wrist fastener. Thumb shield. Gunn style. Made in the USA. Wells Lamont brand.

**B Cowhide Driver's Gloves.** Made of top grain cowhide. Soft and supple for sensitivity and flexibility. Shirred elastic wrist. Tightly stitched seams. For drivers and operators of trucks, fork lifts, trailers, and heavy equipment. Gunn style. Tan color. Made in USA. North brand.

**C Grain Leather Driver's Gloves.** Made of top grain cowhide with straight thumb. Gunn style with shirred elastic wrist. Made in USA. Wells Lamont brand.

**D Goatskin Driver's Gloves.** Made of white napa goatskin with lanolin to smooth and condition hands. Double shirred wrist. Gunn style. Made in USA. Wells Lamont brand.

**E Grain Leather Driver's Gloves.** Made of grain cowhide. Feature straight thumb and index finger. Unlined with shirred elastic wrist. Gunn style. Wells Lamont brand.

**F Grain Leather Driver's Gloves.** Full grain cowhide with keystone thumb. Gunn cut with shirred elastic wrist. Wells Lamont brand.

**G Pigskin Driver's Gloves.** Made of grain pigskin, tanned to resist moisture. Feature straight thumb, thumb shield, and double shirred wrist. Self hemmed. Gunn style. Wells Lamont brand.

**H Economy Driver's Gloves.** Economy grain cowhide. Gunn cut with straight thumb and shirred elastic back. Wells Lamont brand.

**I Napped Goatskin Jersey Lined Driver's Gloves.** Napped grain goatskin outside with red Jersey lining inside for warmth in cold weather. Constructed for safety and comfort. Has the appearance of a dress glove. Gunn style. Tan color. Made in USA. North brand.

**J Red Lined Driver's Gloves.** Made of grain cowhide with red jersey lining for added warmth. Feature straight thumb and index finger and shirred elastic wrist. Gunn style. Wells Lamont brand.

**K Suede Cowhide Driver's Gloves.** Pecan color with full fourchette 8-mm acrylic pile lining. Wing thumb, shirred wrist, self-hemmed, Gunn cut. Wells Lamont brand.

STEEL GRIP



## STEEL REINFORCED WORK GLOVES

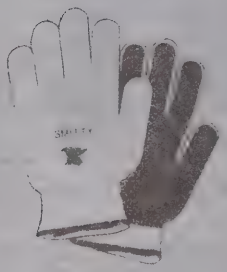
Split leather five-fingered gloves. Palm and fingers are reinforced with steel staples over vertical strips of leather to keep abrasion wear above surface and prolong glove life. 4" long gauntlet. Excellent for handling heavy, sharp objects. **Sold in pairs.** Made in USA. Steel Grip brand (644-4).

**No. 5T395.** Work Gloves. Shpg. wt. 1.3 lbs. List $36.20. Each **$29.95**; Lots 6 ..... **$28.43**
Lots 12 ..... **$26.93**

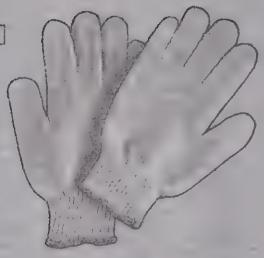
# STRING KNIT GLOVES











Ansell Golden Needles

A **Grip N® Gloves.** Polyvinyl chloride (PVC) "N" tread coating gives outstanding abrasion resistance and grip. Outwear ordinary cotton gloves 4 to 1. Shell fabric is a blend of cotton which absorbs perspiration and acrylic which can be washed with little shrinkage or shape loss. Reversible and coated on both sides to extend wear. Seamless construction for comfort. White/blue color. Made in USA. North brand.

B **Grip N® Nitrile Gloves.** Nitrile "N" tread coating improves grip and provides abrasion resistance and longer life. Seamless construction offers superior comfort and lessens hand fatigue. Precision blended cotton/acrylic knit shell absorbs perspiration and can be laundered or dry cleaned with minimal shrinkage. Ambidextrous design gives four wear sides per pair for maximum economy. Ideal for material handling, assembly and other general purpose applications. White/rust color. Made in USA. North brand.

C **Clean Grip® Gloves.** Replaces many cotton, fabric, and dot-coated gloves. Black PVC dot coating applied both sides of ten cut (closely knitted) shell keeps out more dirt than Grip N® gloves. Positive gripping, washable, reversible, and durable. Seamless construction for comfort. Popular in oil, food, and furniture industries. White/black color. Made in USA. North brand.

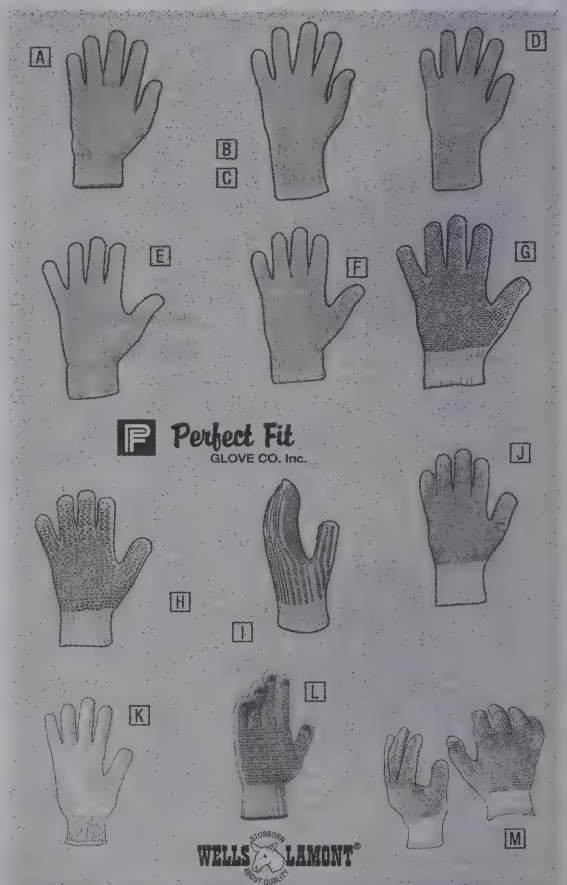
D **Smitty® Gloves.** Nitrile coated palm gives maximum abrasion resistance to this durable yet lightweight work glove and helps keep dirt off the palm. Seamless construction for greater comfort. Ten cut shell. Glove is strong enough for use in bottling plants and light metal fabricating industries. Nitrile coating allows glove to be dry cleaned or machine washed. White/rust color. Made in USA. North brand.

E **Kriss-Cross Coated Gloves.** Seamless, non-slip poly/cotton blend glove for comfortable, non-binding fit. PVC coating applied in Kriss-Cross pattern to front and back of glove, with smooth coating at thumb crotch, forefinger and fingertips for added protection. Coating won't become stiff or lose grip-enhancing properties. Hand-to-hand reversible. Shrink-resistant, machine washable. Made in USA. Ansell Golden Needles brand.

## SPECIFICATIONS AND ORDERING DATA

| Key | Description | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Grip N®, USA made | Mens | K511M | 1A138 | $1.50 | $1.36 | $1.29 | $1.22 | 0.1 |
| | | Ladies | K511S | 6T519 | 1.50 | 1.36 | 1.29 | 1.22 | 0.1 |
| B | Grip N® Nitrile, USA made | Mens | 79/1191M | 5T937 | 1.72 | 1.44 | 1.37 | 1.30 | 0.1 |
| | | Ladies | 79/1191S | 6T520 | 1.72 | 1.44 | 1.37 | 1.30 | 0.1 |
| C | Clean Grip®, USA made | Mens | 82/6112M | 4A273 | 1.83 | 1.52 | 1.44 | 1.37 | 0.3 |
| | | Ladies | 82/6112S | 6T521 | 1.83 | 1.52 | 1.44 | 1.37 | 0.2 |
| D | Smitty®, USA made | Mens | 81/1162M | 4A274 | 1.74 | 1.41 | 1.34 | 1.27 | 0.1 |
| | | Ladies | 81/1162S | 6T522 | 1.74 | 1.41 | 1.34 | 1.27 | 0.1 |
| E | Kriss-Cross, USA made | S | GDS-KC | 6AH28 | 1.86 | 1.68 | 1.60 | 1.51 | 0.2 |
| | | M | GDM-KC | 4AV89 | 1.86 | 1.68 | 1.60 | 1.51 | 0.3 |
| | | L | GDL-KC | 6AM62 | 1.86 | 1.68 | 1.60 | 1.51 | 0.3 |

# STRING KNIT GLOVES




**A thru C Polyester/Cotton Seamless String Knit Gloves.** For use in general maintenance, fabrication, parts assembly or food handling, or as a liner glove. Seamless knit construction eliminates weak points at seams. Allows for worker comfort while lessening hand fatigue. Glove stretches to provide good fit and ventilation to keep hands dry. Hand-to-hand reversible to provide four wear surfaces. Made in USA. Perfect Fit brand.

A Lightweight 13-cut glove.

B Standard weight glove.

C Heavyweight glove.

**D 100% Cotton Seamless String Knit Gloves.** For general maintenance applications or for plant work as a liner glove. Absorbs perspiration and moisture and prevents chafing. Ambidextrous to provide four wear surfaces. Washable standard weight material. Natural color. Made in USA. Perfect Fit brand.

**E, F Lint Free Nylon Gloves.** For use in electronics industry, painting, clean room applications, and delicate parts handling. Seamless knit, lint free nylon construction. Made in USA. Perfect Fit brand.

E Lightweight 13-cut glove.

F Standard weight.

**G thru J PVC Coated String Knit Gloves.** For general maintenance, assembly, construction and material handling applications. Palm patterned coated gloves provide added grip and abrasion resistance. For use with slippery, greasy or hard to handle objects. PVC coating provides additional wear surface and extends glove life. Seamless construction. Standard weight launderable material. Made in USA. Perfect Fit brand.

G Reversible, PVC dotted glove.

H Reversible, blue block glove.

I Reversible, straight line PVC coated glove. PVC reinforced thumb crotch.

J Brown PVC coating on one side.

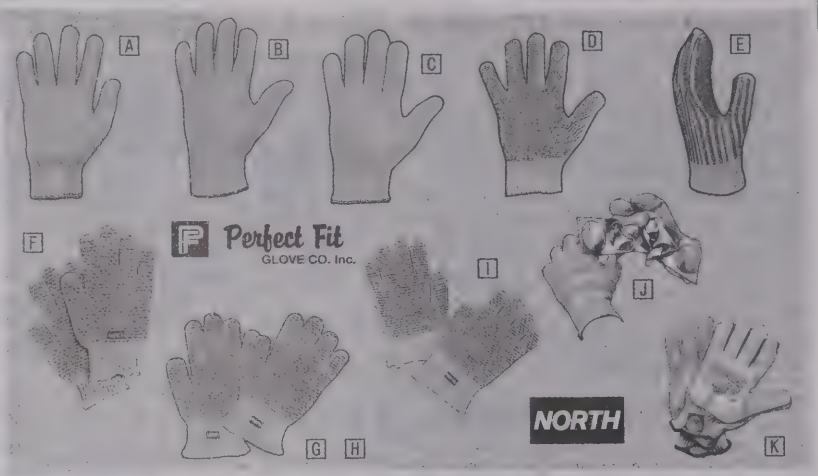
**K Performers™ Economy Cotton/Polyester Blend String Knit Gloves.** For use in assembly, parts handling, general maintenance and material handling. Ergonomically correct design for increased ventilation and greater comfort. Ambidextrous and easily launderable. Perfect Fit brand.

**L Dotted String Knit Gloves.** Natural white 100% cotton machine knit gloves with plastic dot coating on palm. Medium weight. Wells Lamont brand.

**M Performers™ Extra PVC Dotted Seamless Cotton/Polyester Blend String Knit Gloves.** Offer same features as Performers™ listed above, with additional PVC dotted coating to provide sure gripping ability and excellent abrasion resistance. Pliable to reduce hand, arm and back fatigue. Perfect Fit brand.

| Key | Description | Coated | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Poly/Cotton, Lightweight, USA made | No | Mens | K13A-1 | **6AG17** | $0.78 | **$0.71** | **$0.67** | **$0.64** | 0.1 |
| | | No | Ladies | K13AL-1 | **3AN23** | 0.78 | **0.71** | **0.67** | **0.64** | 0.1 |
| B | Poly/Cotton, Standard weight, USA made | No | Mens | SK17A-PC | **5AX07** | 0.56 | **0.46** | **0.44** | **0.41** | 0.1 |
| | | No | Ladies | SK17AL-PC | **2AV88** | 0.56 | **0.46** | **0.44** | **0.41** | 0.1 |
| C | Poly/Cotton, Heavyweight, USA made | No | Mens | SK19A | **6AX22** | 0.76 | **0.62** | **0.59** | **0.56** | 0.2 |
| | | No | Ladies | SK19AL | **2AW80** | 0.76 | **0.62** | **0.59** | **0.56** | 0.1 |
| D | Cotton, Standard weight, USA made | No | Mens | K17A-1 | **2AJ81** | 0.63 | **0.48** | **0.46** | **0.43** | 0.1 |
| | | No | Ladies | K17AL | **5AR39** | 0.63 | **0.48** | **0.46** | **0.43** | 0.1 |
| E | Lint-Free Nylon, Lightweight, USA made | No | Mens | LFN13A | **6AL50** | 1.44 | **1.30** | **1.24** | **1.17** | 0.1 |
| | | No | Ladies | LFN13AL | **3AJ97** | 1.44 | **1.30** | **1.24** | **1.17** | 0.1 |
| F | Lint-Free Nylon, Standard weight, USA made | No | Mens | LFN7A | **6AH35** | 0.81 | **0.73** | **0.69** | **0.66** | 0.1 |
| | | No | Ladies | LFN7AL | **3BC95** | 0.81 | **0.73** | **0.69** | **0.66** | 0.1 |
| G | PVC Dotted, USA made | Yes | Mens | CD5AR | **6AT44** | 1.02 | **0.83** | **0.79** | **0.75** | 0.2 |
| | | Yes | Ladies | CD5ALR | **6AM81** | 1.02 | **0.83** | **0.79** | **0.75** | 0.1 |
| H | PVC Blue Block, USA made | Yes | Mens | CB17AR | **5AM23** | 1.02 | **0.83** | **0.79** | **0.75** | 0.2 |
| | | Yes | Ladies | CB17ALR | **2AK99** | 1.02 | **0.83** | **0.79** | **0.75** | 0.1 |
| I | PVC Coated, USA made | Yes | Mens | CL17AR-RTC | **3AD77** | 1.34 | **1.21** | **1.15** | **1.09** | 0.2 |
| | | Yes | Ladies | CL17ALR-RTC | **5AH18** | 1.34 | **1.21** | **1.15** | **1.09** | 0.2 |
| J | Brown PVC Coated, USA made | Yes | Mens | SVC18A-BR | **2AJ97** | 0.98 | **0.89** | **0.85** | **0.80** | 0.1 |
| | | Yes | Ladies | SVC18AL-BR | **6AF23** | 0.98 | **0.89** | **0.85** | **0.80** | 0.1 |
| K | Economy Poly/Cotton, Standard weight | No | Mens | TSK17A-PC | **4JF62** | 0.52 | **0.47** | **0.45** | **0.42** | 0.1 |
| | | No | Ladies | TSK17AL-PC | **4JF63** | 0.52 | **0.47** | **0.45** | **0.42** | 0.1 |
| L | Dotted String Knit | Yes | Mens L | Y5707L | **3ZL55** | 1.04 | **0.94** | **0.90** | **0.85** | 0.2 |
| M | Cotton/Poly Dotted, Reversible | Yes | Mens | D2-09 | **4JF61** | 0.96 | **0.87** | **0.83** | **0.78** | 0.2 |
| | | Yes | Ladies | D2-07 | **4JF60** | 0.96 | **0.87** | **0.83** | **0.78** | 0.2 |

# HAND PROTECTION/CUT RESISTANT GLOVES AND SLEEVES




**A thru C Kevlar® Seamless Knit Gloves.** Cut, slash and abrasion resistance for sheet metal, glass handling, welding and steel manufacturing applications. Use alone or with another glove as a liner. Outlast cotton gloves and reduces down time and injuries. Launderable. Made in USA. **Sold by the pair.** Perfect Fit brand.

A Lightweight 13-cut glove for tactile sensitivity.

B Standard weight glove.

C Heavyweight glove with reinforced stitched thumb crotch.

**D, E PVC Coated Kevlar® Gloves.** Palm coated gloves feature added grip, slash and abrasion resistance. For slippery, greasy or hard to handle objects and applications with a high risk of cuts and lacerations. PVC coating provides additional wear surface and prevents grease and oil from penetrating glove, increasing life. Reversible to provide four wear surfaces. Made in USA. **Sold by the pair.** Perfect Fit brand.

D Standard weight glove with brown PVC dots.

E Standard weight glove with blue PVC straight line coating and PVC reinforced thumb crotch.

**F Nitrile Coated Kevlar® Plated Gloves.** Lightweight glove with plated design puts Kevlar® on outside for better cut/slash protection and cotton/acrylic on inside for worker comfort. Yellow/rust color. Made in USA. **Sold by the pair.** North brand.

**G, H Nitrile Coated 100% Kevlar® Gloves.** 100% Kevlar® to provide protection from cuts. Also provides cushioning and heat protection. White/yellow/rust color. Made in USA. **Sold by the pair.** North brand.

G Lightweight glove. H Mediumweight glove.

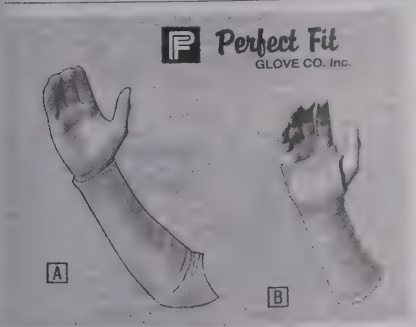
**I Kevlar®/Cotton Blend Gloves.** Mediumweight glove with knit shell of blended Kevlar® and cotton for good cut/slash protection. Extra cushioning for increased comfort and heat resistance. White/yellow/rust color. Made in USA. **Sold by the pair.** North brand.

**J Tuff-Coat II™ 100% Kevlar® Gloves.** Cut and puncture resistance for use in glass handling, recycling, canning applications. Textured natural rubber palm provides safe sure grip and abrasion resistance. Coated fingertips and thumb crotch minimize wear to critical areas while open back offers superior ventilation. Conforms to natural contour of hand for comfortable fit and less hand fatigue. Fully launderable. **Sold by the pair.** Perfect Fit brand.

**K Junkyard Dog™ Leather Reinforced Kevlar® Gloves.** Cut, slash and heat resistance for use in metal stamping and fabricating, automotive assembly, sheet metal, glass handling, recycling and canning. 100% Kevlar®fiber shell. Treated 3.5 oz. select leather for abrasion and puncture resistance. Reinforced thumb crotch. Double locked stitched prevents unraveling. Seamless knit construction and ergonomically correct design for better fit, increased ventilation, and greater comfort. Made in USA. **Sold by the pair.** Perfect Fit brand.

| Key | Description | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Kevlar®, Knit Lightweight* | Mens | KV13A | 1AJ44 | $2.94 | $2.65 | $2.52 | $2.39 | 0.1 |
| | | Ladies | KV13AL | 6AL25 | 2.94 | 2.65 | 2.52 | 2.39 | 0.1 |
| B | Kevlar®, Knit Standard weight* | Mens | KV18A-100 | 6AZ96 | 5.46 | 4.92 | 4.67 | 4.43 | 0.1 |
| | | Ladies | KV18AL-100 | 3AL22 | 5.46 | 4.92 | 4.67 | 4.43 | 0.1 |
| C | Kevlar®, Knit Heavyweight* | Mens | KV20A-100-RT | 5AF91 | 8.45 | 7.62 | 7.24 | 6.86 | 0.2 |
| | | Ladies | KV20AL-100-RT | 5AP24 | 8.45 | 7.62 | 7.24 | 6.86 | 0.1 |
| D | PVC Coated Kevlar® Standard weight w/Dots* | Mens | KVD18AR-100 | 6AC97 | 6.10 | 5.50 | 5.23 | 4.95 | 0.2 |
| | | Ladies | KVD18ALR-100 | 5AL18 | 6.10 | 5.50 | 5.23 | 4.95 | 0.2 |
| E | PVC Coated Kevlar® Standard weight w/Line Coating* | Mens | KVL18AR-RTC-100 | 5AP85 | 6.05 | 5.45 | 5.18 | 4.91 | 0.3 |
| F | Kevlar® Plated* | Ladies | 52/6647S | 6T534 | 5.68 | 5.12 | 4.86 | 4.61 | 0.1 |
| | | Mens | 52/6647M | 5T940 | 5.68 | 5.12 | 4.86 | 4.61 | 0.1 |
| G | 100% Kevlar®, Lightweight* | Mens | 52/6747 | 6T533 | 8.23 | 7.42 | 7.05 | 6.68 | 0.1 |
| H | 100% Kevlar®, Mediumweight* | Mens | 52/6745 | 6T532 | 15.49 | 13.96 | 13.26 | 12.56 | 0.3 |
| I | Kevlar®/Cotton Blend* | Mens | 52/6455 | 4A279 | 9.08 | 8.18 | 7.77 | 7.36 | 0.2 |
| J | Kevlar®, Knitw w/Latex Palm | Large | KV300-L | 4JF39 | 10.87 | 9.80 | 9.31 | 8.82 | 0.3 |
| | | Medium | KV300-M | 4JF40 | 10.87 | 9.80 | 9.31 | 8.82 | 0.2 |
| K | Kevlar®, Knit w/Leather Palm* | Mens L | KV18A-100-50 | 4JF38 | 16.26 | 14.65 | 13.92 | 13.19 | 0.3 |
| | | Ladies | KV18AL-100-50 | 4JF37 | 16.26 | 14.65 | 13.92 | 13.19 | 0.3 |

(*) USA made.



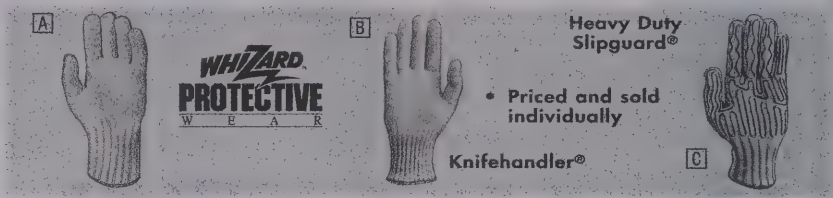

## KEVLAR® CUT RESISTANT SLEEVES

Kevlar® Arm Guards for use in applications where there is a high risk for cuts and lacerations such as sheet metal, glass handling, welding, precision assembly, and packaging. Provides excellent arm and wrist protection from burns, cuts, slashes and abrasions. Can be worn on either arm. Available in 10, 14, 18 and 24 inch lengths. 100% Kevlar® double weight knitted. Available with or without thumb hole. Made in USA. **Priced and sold individually.** Perfect Fit brand.

| Key | Description | Length (In.) | Mfr. Model | Stock No. | List | Each | Lots 12 | Lots 72 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Without Thumbhole, USA made | 10 | KVS-2-10 | 4BC20 | $2.24 | $2.07 | $1.92 | $1.82 | 0.1 |
| | | 14 | KVS-2-14 | 3AM12 | 3.06 | 2.85 | 2.61 | 2.48 | 0.1 |
| | | 18 | KVS-2-18 | 6AH87 | 3.98 | 3.70 | 3.40 | 3.22 | 0.1 |
| | | 24 | KVS-2-24 | 5AH26 | 5.28 | 4.90 | 4.51 | 4.28 | 0.1 |
| B | With Thumbhole, USA made | 10 | KVS-2-10TH | 5AJ47 | 2.45 | 2.28 | 2.10 | 1.99 | 0.1 |
| | | 14 | KVS-2-14TH | 2AF37 | 3.46 | 3.21 | 2.95 | 2.80 | 0.1 |
| | | 18 | KVS-2-18TH | 2AG29 | 4.46 | 4.15 | 3.81 | 3.61 | 0.1 |
| | | 24 | KVS-2-24TH | 3BC99 | 5.48 | 5.03 | 4.68 | 4.44 | 0.1 |

# HAND PROTECTION/CUT RESISTANT GLOVES

## CUT RESISTANT GLOVES




A **Handguard II®.** Patented combination of Kevlar®, Spectra® and stainless steel provides exceptional protection against cuts. Pre-shrunk. 3" cuff for additional wrist protection. Ambidextrous to provide comfort and dexterity. For use in material handling, meat, poultry and seafood processing and deli slicer cleaning. **Priced and sold individually.** Made in USA. Whizard brand.

B **Knifehandler®.** Patented combination of Kevlar®, Spectra® and stainless steel provides exceptional protection against cuts. Lightweight ambidextrous gloves are breathable and form fitting for greater comfort. Pre-shrunk and machine washable. 3" cuff for additional wrist protection. For use in plastic trimming, metal fabrication and food service work. **Priced and sold individually.** Made in USA. Whizard brand.

C **Heavy Duty Slipguard®.** Patented combination of Kevlar®, Spectra® and stainless steel provides exceptional protection against cuts. Increases flexibility and slip resistance while offering comfort and excellent cut resistance. For use handling slippery sharp surfaces including glass, metals and knives. **Priced and sold individually.** Made in USA. Whizard brand.

| Key | Glove Description | Hand | Size | Bettcher Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Handguard II®, USA made | — | XS | 333019 | **6AR17** | $22.08 | **$19.89** | **$18.90** | **$17.90** | 0.3 |
| | | — | S | 333021 | **2AZ17** | 22.08 | **19.89** | **18.90** | **17.90** | 0.3 |
| | | — | M | 333023 | **6AF55** | 22.08 | **19.89** | **18.90** | **17.90** | 0.3 |
| | | — | L | 333025 | **3BC65** | 22.08 | **19.89** | **18.90** | **17.90** | 0.3 |
| | | — | XL | 333027 | **5AC26** | 22.08 | **19.89** | **18.90** | **17.90** | 0.3 |
| B | Knifehandler®, USA made | — | XS | 333368 | **3BC13** | 18.88 | **17.01** | **16.16** | **15.31** | 0.1 |
| | | — | S | 333370 | **6AR22** | 18.88 | **17.01** | **16.16** | **15.31** | 0.1 |
| | | — | M | 333372 | **2AD96** | 18.88 | **17.01** | **16.16** | **15.31** | 0.3 |
| | | — | L | 333374 | **2AF65** | 18.88 | **17.01** | **16.16** | **15.31** | 0.3 |
| | | — | XL | 333376 | **3AG32** | 18.88 | **17.01** | **16.16** | **15.31** | 0.2 |
| C | Heavy-Duty Slipguard®, USA made | Left | S | 133791 | **2AD22** | 26.77 | **24.12** | **22.91** | **21.71** | 0.3 |
| | | Right | S | 133792 | **5AX17** | 26.77 | **24.12** | **22.91** | **21.71** | 0.3 |
| | | Left | M | 133795 | **5AM65** | 26.77 | **24.12** | **22.91** | **21.71** | 0.3 |
| | | Right | M | 133796 | **5AC77** | 26.77 | **24.12** | **22.91** | **21.71** | 0.3 |
| | | Left | L | 133799 | **3AN76** | 26.77 | **24.12** | **22.91** | **21.71** | 0.3 |
| | | Right | L | 133800 | **1AG64** | 26.77 | **24.12** | **22.91** | **21.71** | 0.3 |

## CUT RESISTANT GLOVES

A **CUT-TEC® Ambidextrous, mediumweight Spectra®/fiberglass composite glove** provides high cut and abrasion resistance while allowing good hand dexterity. Ideal for food processing and material handling. Chemically inert materials are USDA accepted and repel liquids. **Priced and sold individually.** Made in USA. Wells Lamont brand.

B **CUT-TEC® Ambidextrous, mediumweight Spectra®/polyester high performance composite glove** combines unmatched tactile sensitivity with high cut and abrasion resistance. USDA approved dark blue, solution dyed high density polyester and other components. **Priced and sold individually.** Made in USA. Wells Lamont brand.

C **CUT-TEC® Ambidextrous, heavyweight Spectra®/fiberglass composite glove** provides excellent protection in high risk cut applications. Rugged glove provides high Spectra® hand protection and is USDA accepted. Can withstand most harsh chemical environments. **Priced and sold individually.** Made in USA. Wells Lamont brand.

D **CRF cut resistant fiber glove** is a comfortable heavyweight knit that provides ergonomic performance. CRF is bleachable and provides excellent cut and abrasion resistance for material handling and medium to light duty industrial applications. Made in USA. **Priced and sold by the pair.** Wells Lamont brand.

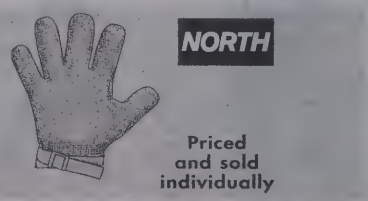



| Key | Description | Size | Wells Model | Stock No. | List | Each | Lots/ Qty. | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | CUT-TEC® Mediumweight Spectra®/fiberglass, USA made | Mens S | Y5859S | **4JF75*** | $13.82 | **$12.45** | **$11.83/6** | **$11.21/12** | 0.1 |
| | | Mens M | Y5859M | **4JF74*** | 13.82 | **12.45** | **11.83/6** | **11.21/12** | 0.1 |
| | | Mens L | Y5859L | **4JF73*** | 13.82 | **12.45** | **11.83/6** | **11.21/12** | 0.1 |
| B | CUT-TEC® Mediumweight Spectra®/polyester, USA made | Mens S | Y5871S | **4JF78*** | 14.54 | **13.10** | **12.45/6** | **11.79/12** | 0.1 |
| | | Mens M | Y5871M | **4JF77*** | 14.54 | **13.10** | **12.45/6** | **11.79/12** | 0.1 |
| | | Mens L | Y5871L | **4JF76*** | 14.54 | **13.10** | **12.45/6** | **11.79/12** | 0.1 |
| C | CUT-TEC® Heavyweight Spectra®/fiberglass, USA made | Mens S | Y5877S | **4JF81*** | 18.09 | **16.30** | **15.49/6** | **14.67/12** | 0.1 |
| | | Mens M | Y5877M | **4JF80*** | 18.09 | **16.30** | **15.49/6** | **14.67/12** | 0.1 |
| | | Mens L | Y5877L | **4JF79*** | 18.09 | **16.30** | **15.49/6** | **14.67/12** | 0.1 |
| D | CFR Gloves, USA made | Mens M | Y5732M | **4JF83†** | 7.59 | **6.84** | **6.50/12** | **6.16/72** | 0.2 |
| | | Mens L | Y5732L | **4JF82†** | 7.59 | **6.84** | **6.50/12** | **6.16/72** | 0.2 |

(*) Priced and sold individually. (†) Priced and sold by the pair.

## STAINLESS STEEL MESH GLOVES

**Offer excellent cut/slash protection.** Glove is constructed from individually welded stainless steel links. Ambidextrous style with adjustable snap closure. Provides up to the wrist protection. USDA accepted for food and meat handling. Packed in zip lock style polybag. **Priced and sold individually.** North brand.




| Size | North Model | Stock No. | List | Each | Lots 3 | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Small** | 74/SRC616S | **4JD96** | $100.64 | **$90.70** | **$86.13** | **$81.61** | 0.7 |
| **Medium** | 74/SRC616M | **4JD95** | 100.64 | **90.70** | **86.13** | **81.61** | 0.7 |
| **Large** | 74/SRC616L | **4JD94** | 100.64 | **90.70** | **86.13** | **81.61** | 0.7 |

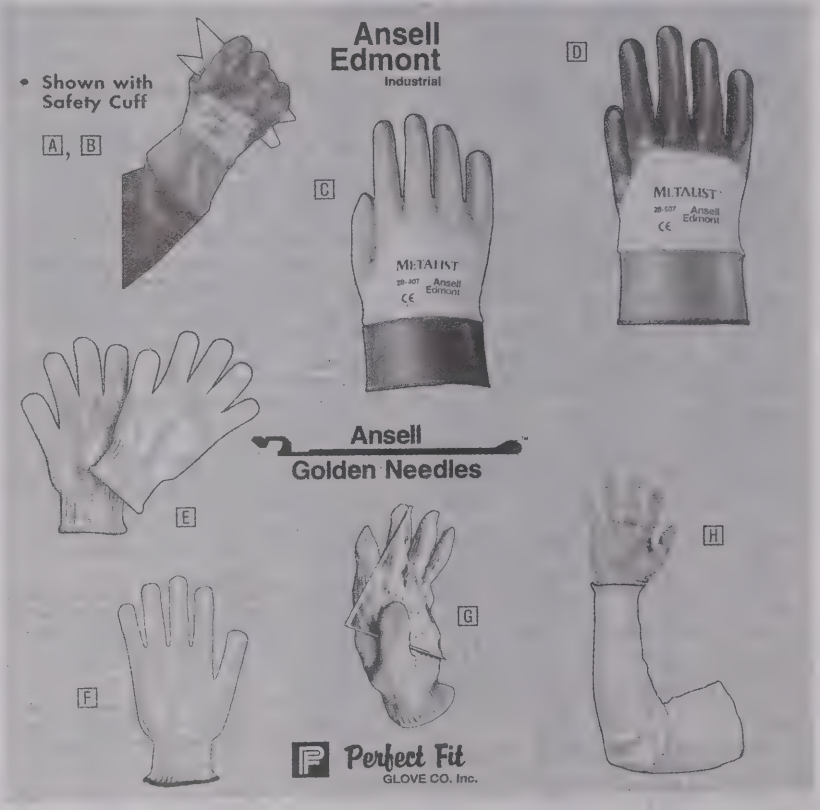
# CUT RESISTANT GLOVES AND SLEEVES

A , B **NitraSafe™ Cut Resistant Gloves** combine nitrile and Kevlar® for use in handling sharp, oily, puncturing and abrasive objects such as castings, cores, metal fabrications, glass and lumber. Provides excellent cut, puncture and abrasion resistance. Ergonomic design provides increased flexibility and comfort. Superior dry grip improves material handling and reduces hand injuries. Palm coated gloves available with knitwrist or safety cuff. **Priced and sold by the pair.** Made in USA. Ansell Edmont brand.

C , D **Metalist™ Cut Resistant Gloves** are ergonomically molded for a natural, relaxed fit. Flexible nitrile coating resists cuts and provides sure grip on dry or oily surfaces. Soft cotton liner with Kevlar® woven into high stress areas. Lightweight nitrile safety cuff for extra wrist and forearm protection. Launderable, 9" length. C For use with dry surfaces. D Metalist Foam also features porous nitrile coating to channel oil away from glove surface for firm grip on light oil surfaces. **Priced and sold by the pair.** Ansell Edmont brand.

E **Polar Bear Supreme Gloves** combine cut-stopping strength of steel with superior flexibility. Lightweight, comfortable glove features three strands of steel. Easy to clean material for applications where launderability is critical. Hand-to-hand reversible. White color with color coded wrist trim to identify size. **Priced and sold individually.** Made in USA. Ansell Golden Needles brand.

F , H **Tuff Knit Steel™ Double Strand White Stainless Steel Cord Gloves and Sleeves.** For use in food handling, food processing, meat and poultry packing, paper, pulp, commercial fishing and canning applications. Flexible steel strands offer excellent cut and slash resistance while seamless construction provides comfort, fit and manual dexterity. Two strands of steel wound together and wrapped in white synthetic fiber for sanitary applications. Fully launderable and ambidextrous. **Priced and sold individually.** Made in USA. Perfect Fit brand.




G **Tuff Knit Steel™ Triple Strand Gold Stainless Steel Cord Gloves.** For use in glass handling, sheet metal, textile, food processing, meat and poultry packing, paper and pulp and commercial fishing applications. Triple strand stainless steel offers excellent cut resistance while seamless construction provides comfort, fit and manual dexterity. Blue Block PVC coating adds abrasion resistance and grip. Three strands of steel wound together and wrapped in synthetic fiber to insure comfort and dexterity. Fully launderable and ambidextrous. **Priced and sold individually.** Made in USA. Perfect Fit brand.

| Key | Description | Style No. | Size | Mfr. Model | Stock No. | List | Each | Lots 12 | Lots 72 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | NitraSafe, Knit Wrist, USA made | 28-346 | 9 | 216131 | 4AD99* | $10.10 | $9.10 | $8.65 | $8.19 | 0.2 |
| | | 28-346 | 10 | 216132 | 3AD35* | 10.10 | 9.10 | 8.65 | 8.19 | 0.2 |
| B | NitraSafe, Safety Cuff, USA made | 28-349 | 9 | 216137 | 6AT30* | 10.71 | 9.65 | 9.17 | 8.69 | 0.2 |
| | | 28-349 | 10 | 216138 | 6AC98* | 10.71 | 9.65 | 9.17 | 8.69 | 0.2 |
| C | Metalist | 28-407 | 10 | 285790 | 4JF68* | 7.93 | 7.15 | 6.79 | 6.44 | 0.2 |
| D | Metalist with Foam | 28-507 | 10 | 285816 | 4JF69* | 7.93 | 7.15 | 6.79 | 6.44 | 0.3 |
| E | Polar Bear Supreme, USA made | — | S | PBS301 S | 2AV54† | 18.62 | 16.78 | 15.94 | 15.10 | 0.1 |
| | | — | M | PBS301-M | 6AW20† | 18.62 | 16.78 | 15.94 | 15.10 | 0.1 |
| | | — | L | PBS301-L | 2AM79† | 18.62 | 16.78 | 15.94 | 15.10 | 0.1 |
| F | Double Strand Steel Knit, USA made | — | S | PF2SS S | 4JF53† | 15.92 | 14.35 | 13.63 | 12.92 | 0.1 |
| | | — | M | PF2SS-M | 4JF52† | 15.92 | 14.35 | 13.63 | 12.92 | 0.2 |
| | | — | L | PF2SS-L | 4JF51† | 15.92 | 14.35 | 13.63 | 12.92 | 0.2 |
| G | Triple Strand Steel Knit, USA made | — | S | KVB3SSR-S | 4JF50† | 21.64 | 19.50 | 18.53 | 17.55 | 0.2 |
| | | — | M | KVB3SSR-M | 4JF49† | 21.64 | 19.50 | 18.53 | 17.55 | 0.2 |
| | | — | L | KVB3SSR-L | 4JF48† | 21.64 | 19.50 | 18.53 | 17.55 | 0.2 |
| H | Double Strand Knit Sleeve, USA made | — | 11" | PF2SL-11 | 4JF54† | 22.03 | 19.85 | 18.86 | 17.87 | 0.5 |
| | | — | 21" | PF2SL-21 | 4JF55† | 32.46 | 29.25 | 27.79 | 26.33 | 1.0 |

(*) Priced and sold by the pair. (†) Priced and sold individually

# NITRILE COATED GLOVES

**A Easy Flex™ Nitrile Coated Gloves.** Provides excellent dry grip and resistance to snags, punctures, abrasions and cuts. Ergonomic design molds to shape of hand for relaxed, comfortable fit. Soft knit liner with knit wrist. Launderable. Ansell Edmont brand.

**B, C Hylite™ Nitrile Coated Cotton Gloves.** Coated 100% cotton interlock lining offers excellent cut, puncture and abrasion resistance. Textured surface provides excellent dry grip. Outwears cotton, light leather and PVC-coated gloves. For use in assembly, inspection, light fabrication, material handling and maintenance applications. Machine washable. Ansell Edmont brand. Made in USA.

B Palm Coated, Knit Wrist.

C Fully Coated, Knit Wrist

**D thru F Hycron® Nitrile Coated Abrasion Resistant Gloves.** Protects hands from rough, abrasive materials, cuts, snags, punctures, grease, and oil. Soft jersey lining prevents hand irritation. Superior dry grip. Curved, preflexed fingers and wing thumb provide working ease. Use in handling castings, cores, fabricated metal, and building materials such as concrete block, brick, tile, and lumber. Knit wrist or safety cuff style. Component materials of gloves comply with 21 CFR177.2600 for food contact. Blue color. Made in USA. Ansell Edmont brand.

D Palm Coated, Knit Wrist. Made in USA.

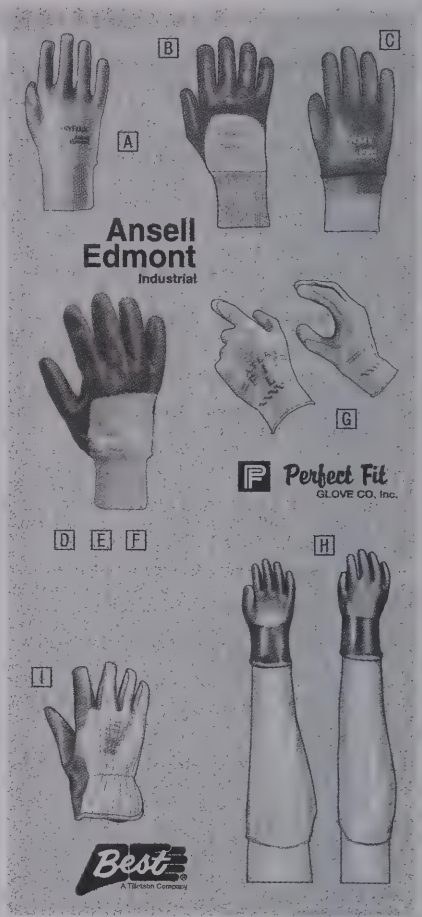
E Fully Coated, Knit Wrist. Made in USA.

F Palm Coated, 2½" Safety Cuff. Made in USA.

**G Atlas Fit™ Rubber Coated Seamless Knit Gloves.** For use in general maintenance, warehousing and assembly applications. Palm coating provides abrasion resistance and safe, sure grip while cotton/polyester shell provides excellent comfort and fit. Gray color won't show dirt or grime. Coated fingertips and thumb crotch minimize wear to critical areas. Conform to natural contour of hand for comfortable fit. Launderable. Perfect Fit brand.

**H Powercoat™ Seamless Double Dipped PVC Gloves with Vinyl Sleeve.** For use in petrochemical, general maintenance, commercial fishing and machining applications. Vinyl sleeve extension for applications requiring splash resistance. Double dipped PVC coating repels liquids and protects hand from chemicals. Anti-germ treated seamless knit liner reduces bacteria and fungus. PVC coating provides excellent grip while remaining flexible. Perfect Fit brand.

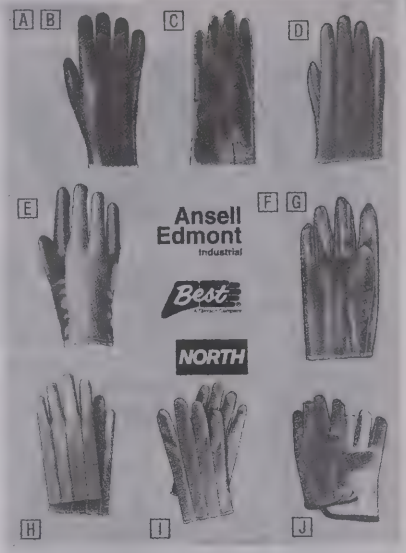
**I Strapper™ Nitrile Coated Gloves.** For general warehousing and maintenance applications, forklift operations, metal fabricating and material handling. Palm-laminated driver's style glove with textured finish. Gives excellent grip, wear and comfort while resisting punctures and snags. Features gunn cut, wing thumb to keep out particulate matter. Best brand.




| Key | Description | Style No. | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Easy Flex™, Palm Coated with Knit Wrist | 47-200 | 8 | 205911 | 4JF64 | $3.21 | $2.90 | $2.76 | $2.61 | 0.2 |
| | | 47-200 | 9 | 205913 | 4JF65 | 3.21 | 2.90 | 2.76 | 2.61 | 0.2 |
| | | 47-200 | 10 | 205914 | 4JF66 | 3.21 | 2.90 | 2.76 | 2.61 | 0.2 |
| B | Hylite® Knit Wrist, Palm Coated | 47-400 | 7 | 205930 | 3AN56 | 4.05 | 3.65 | 3.47 | 3.29 | 0.2 |
| | | 47-400 | 8 | 205931 | 2AF96 | 4.05 | 3.65 | 3.47 | 3.29 | 0.2 |
| | | 47-400 | 8½ | 205932 | 2AD87 | 4.05 | 3.65 | 3.47 | 3.29 | 0.2 |
| | | 47-400 | 9 | 205933 | 3AG19 | 4.05 | 3.65 | 3.47 | 3.29 | 0.2 |
| | | 47-400 | 10 | 205934 | 2AF97 | 4.05 | 3.65 | 3.47 | 3.29 | 0.2 |
| C | Hylite® Knit Wrist, Fully Coated | 47-402 | 7 | 205940 | 3AX31 | 4.09 | 3.69 | 3.51 | 3.32 | 0.2 |
| | | 47-402 | 8 | 205941 | 3AR51 | 4.09 | 3.69 | 3.51 | 3.32 | 0.2 |
| | | 47-402 | 8½ | 205942 | 2AJ25 | 4.09 | 3.69 | 3.51 | 3.32 | 0.2 |
| | | 47-402 | 9 | 205943 | 5AJ31 | 4.09 | 3.69 | 3.51 | 3.32 | 0.2 |
| | | 47-402 | 10 | 205944 | 3AX10 | 4.09 | 3.69 | 3.51 | 3.32 | 0.2 |
| D | Hycron®, Knit Wrist, Palm Coated | 27-600 | 8 | 205889 | 4T408 | 4.42 | 3.99 | 3.79 | 3.59 | 0.2 |
| | | 27-600 | 9 | 207300 | 1AZ73 | 4.42 | 3.99 | 3.79 | 3.59 | 0.3 |
| | | 27-600 | 10 | 205809 | 4T407 | 4.42 | 3.99 | 3.79 | 3.59 | 0.3 |
| E | Hycron®, Knit Wrist, Fully Coated | 27-602 | 10 | 205959 | 1BC97 | 4.55 | 4.10 | 3.90 | 3.69 | 0.3 |
| F | Hycron®, 2½" Safety Cuff, Palm Coated | 27-607 | 10 | 206099 | 4T409 | 5.30 | 4.78 | 4.54 | 4.30 | 0.3 |
| G | Atlas Fit™, Palm Coated | — | Small | 300S | 4JF58 | 3.30 | 2.98 | 2.83 | 2.68 | 0.2 |
| | | — | Medium | 300M | 4JF57 | 3.30 | 2.98 | 2.83 | 2.68 | 0.2 |
| | | — | Large | 300L | 4JF56 | 3.30 | 2.98 | 2.83 | 2.68 | 0.3 |
| | | — | X-Large | 300XL | 4JF59 | 3.68 | 3.32 | 3.15 | 2.99 | 0.3 |
| H | Powercoat™ with Vinyl Sleeve | — | Mens L | 640L | 4JF41 | 19.95 | 17.98 | 17.08 | 16.18 | 0.5 |
| | | — | Mens XL | 640XL | 4JF42 | 20.53 | 18.50 | 17.58 | 16.65 | 0.6 |
| I | Strapper™, Palm Coated | — | 10 | 2790-10 | 4JF15 | 5.59 | 5.04 | 4.79 | 4.54 | 0.2 |

## COATED GLOVES

A, B **Edge® Nitrile Coated, Knit Lined Gloves.** Porous nitrile coating is tough enough to protect hands against abrasions, cuts, and snags, but is soft and flexible. Molds to the hand for greater dexterity. Provides superior dry grip. Channels oil away from glove surface. Use in fabrication, assembly, maintenance, and shipping and receiving. Machine washable. Gray color. Made in USA. Ansell Edmont brand.
A Palm Coated, Slip-On Cuff. Made in USA.
B Palm Coated, Safety Cuff. Made in USA.
C, D, E **Hynit® Nitrile Impregnated Gloves.** Nitrile coating protects hands from abrasions and cuts. Superior dry grip. Interlock knit lining and flexible coating stretch for excellent dexterity. Machine washable. Ventilated style features perforated back panel for cooling comfort. Liquid (not chemical) repellent. Use in assembly, inspection, receiving, light fabrication, and material handling. Component materials comply with 21 CFR177.2600 for food contact. Blue color. Clute style. Ansell Edmont brand.
C Slip-On.
D Perforated.
E Ultra Cool Ventilated Mesh-Back.
F, G **Answer™ Gloves.** Five-piece construction for comfort, fit, stretch and dexterity. Offers cut, puncture and abrasion resistance. For use where silica contamination is a concern in material handling, manufacturing, assembly and general plant applications. Nitrile compound fused to polycotton base fabric. Launderable, and while not liquid proof, minimizes absorption of water, oils and greases. Best brand.
F Fully Laminated, Slip-On Cuff.
G Perforated Back, Slip-On Cuff.
H, I, J **Worknit® Gloves.** Nitrile coating on comfortable knit fabric. Tough and flexible for handling anything from abrasives to sheet metal. Can be dry cleaned for extended service life. North brand.
H Worknit® gloves with plain back.
I Worknit® with Perforated Back for extra coolness.
J Worknit® HD with heavy cotton back and cotton lining to absorb perspiration.




| Key | Description | Style No. | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Edge®, Slip-On | 40-105 | 7 | 218903 | 5AW36 | $4.15 | $3.74 | $3.55 | $3.37 | 0.2 |
| | | 40-105 | 8 | 218904 | 3AF58 | 4.15 | 3.74 | 3.55 | 3.37 | 0.2 |
| | | 40-105 | 8½ | 218900 | 4AJ20 | 4.15 | 3.74 | 3.55 | 3.37 | 0.2 |
| | | 40-105 | 9 | 218901 | 4T410 | 4.15 | 3.74 | 3.55 | 3.37 | 0.2 |
| | | 40-105 | 10 | 218902 | 4JF67 | 4.15 | 3.74 | 3.55 | 3.37 | 0.3 |
| B | Edge®, Safety Cuff | 40-607 | 10 | 218867 | 2AG79 | 5.38 | 4.85 | 4.61 | 4.37 | 0.2 |
| C | Hynit® | 32-105 | 6½ | 208004 | 2AP34 | 2.95 | 2.66 | 2.53 | 2.39 | 0.1 |
| | | 32-105 | 7 | 208000 | 4T402 | 2.95 | 2.66 | 2.53 | 2.39 | 0.1 |
| | | 32-105 | 7½ | 208001 | 4T403 | 2.95 | 2.66 | 2.53 | 2.39 | 0.1 |
| | | 32-105 | 8 | 208002 | 3AV34 | 2.95 | 2.66 | 2.53 | 2.39 | 0.1 |
| | | 32-105 | 9 | 208003 | 4T400 | 2.95 | 2.66 | 2.53 | 2.39 | 0.1 |
| | | 32-105 | 10 | 208006 | 4T401 | 2.95 | 2.66 | 2.53 | 2.39 | 0.1 |
| D | Hynit® Perforated | 32-125 | 6½ | 208024 | 1AJ92 | 3.29 | 2.97 | 2.82 | 2.67 | 0.1 |
| | | 32-125 | 7 | 208025 | 4T405 | 3.29 | 2.97 | 2.82 | 2.67 | 0.1 |
| | | 32-125 | 7½ | 208028 | 4T406 | 3.29 | 2.97 | 2.82 | 2.67 | 0.1 |
| | | 32-125 | 8 | 208021 | 6AG27 | 3.29 | 2.97 | 2.82 | 2.67 | 0.1 |
| | | 32-125 | 9 | 208030 | 4T404 | 3.29 | 2.97 | 2.82 | 2.67 | 0.1 |
| | | 32-125 | 10 | 208035 | 3AJ73 | 3.29 | 2.97 | 2.82 | 2.67 | 0.1 |
| E | Hynit® Ultra Cool Ventilated Mesh-Back | 32-135 | 7 | 208402 | 2AW83 | 3.49 | 3.15 | 2.99 | 2.84 | 0.1 |
| | | 32-135 | 7½ | 208403 | 6AG92 | 3.49 | 3.15 | 2.99 | 2.84 | 0.1 |
| | | 32-135 | 8 | 208400 | 5AK86 | 3.49 | 3.15 | 2.99 | 2.84 | 0.1 |
| | | 32-135 | 9 | 208401 | 5AF15 | 3.49 | 3.15 | 2.99 | 2.84 | 0.1 |
| | | 32-135 | 10 | 208405 | 3AP85 | 3.49 | 3.15 | 2.99 | 2.84 | 0.1 |
| F | Answer™, Fully Laminated | — | Ladies M | 2735-06 | 5AK91 | 2.73 | 2.46 | 2.34 | 2.21 | 0.2 |
| | | — | Ladies L | 2735-07 | 6AT18 | 2.73 | 2.46 | 2.34 | 2.21 | 0.2 |
| | | — | Mens M | 2735-08 | 5AV06 | 2.73 | 2.46 | 2.34 | 2.21 | 0.2 |
| | | — | Mens L | 2735-09 | 3AX59 | 2.73 | 2.46 | 2.34 | 2.21 | 0.2 |
| | | — | Mens XL | 2735-10 | 6AG46 | 2.73 | 2.46 | 2.34 | 2.21 | 0.2 |
| G | Answer™, Perforated Back | — | Ladies M | P2735-06 | 3AH63 | 2.97 | 2.68 | 2.55 | 2.41 | 0.2 |
| | | — | Ladies L | P2735-07 | 6AT75 | 2.97 | 2.68 | 2.55 | 2.41 | 0.2 |
| | | — | Mens M | P2735-08 | 3BC78 | 2.97 | 2.68 | 2.55 | 2.41 | 0.2 |
| | | — | Mens L | P2735-09 | 2AT77 | 2.97 | 2.68 | 2.55 | 2.41 | 0.2 |
| H | Worknit® | — | Ladies L | 86-3512-L | 4JD22 | 3.03 | 2.74 | 2.60 | 2.47 | 0.1 |
| | | — | Ladies XL | 86-3512-XL | 4JD23 | 3.23 | 2.91 | 2.76 | 2.63 | 0.1 |
| | | — | Mens M | 86-3522-M | 4JD27 | 3.06 | 2.76 | 2.62 | 2.49 | 0.1 |
| | | — | Mens L | 86-3522-L | 4JD26 | 3.06 | 2.76 | 2.62 | 2.49 | 0.1 |
| | | — | Mens XL | 86-3522-XL | 4JD28 | 3.25 | 2.93 | 2.78 | 2.64 | 0.1 |
| I | Worknit® Perforated | — | Ladies L | 86-3516-L | 4JD24 | 3.17 | 2.86 | 2.71 | 2.57 | 0.1 |
| | | — | Ladies XL | 86-3516-XL | 4JD25 | 3.39 | 3.06 | 2.91 | 2.75 | 0.1 |
| | | — | Mens M | 86-3526-M | 4JD30 | 3.19 | 2.88 | 2.73 | 2.59 | 0.1 |
| | | — | Mens L | 86-3526-L | 4JD29 | 3.19 | 2.88 | 2.73 | 2.59 | 0.1 |
| | | — | Mens XL | 86-3526-XL | 4JD31 | 3.42 | 3.08 | 2.93 | 2.77 | 0.1 |
| J | Worknit® HD | — | Ladies | 85-3719 | 4AD50 | 7.25 | 5.89 | 5.60 | 5.30 | 0.2 |
| | | — | Mens M | 85-3729-M | 6T530 | 7.51 | 6.09 | 5.79 | 5.48 | 0.2 |
| | | — | Mens L | 85-3729-L | 1A137 | 7.51 | 6.09 | 5.79 | 5.48 | 0.2 |
| | | — | Mens XL | 85-3729-XL | 6T531 | 7.51 | 6.09 | 5.79 | 5.48 | 0.2 |

# NATURAL RUBBER COATED GLOVES







A **Golden Grab-It® Rubber Coated Crinkle Finish Gloves.** Natural rubber provides excellent cut resistance and long service life. Crinkle finish provides for safe handling of sharp-edged materials like glass, scrap and sheet metal, and abrasive building materials. Jersey lining for comfort and flexibility. Made in USA. Ansell Edmont brand.

B **Golden Grab-It II® Premium Rubber Coated Crinkle Finish Gloves.** Natural rubber, premium grade coating provides excellent cut resistance and long service life. Crinkle finish for safer handling. Soft knit jersey lining provides comfort and flexibility. Use in handling sharp edged materials such as glass, scrap and sheet metals, and abrasive materials such as concrete block, tile, and lumber. Yellow color. Ansell Edmont brand.

C , D **Nitty Gritty® Natural Rubber Coated Glove.** Cut-resistant, comfortable glove is recyclable and features soft, five-piece flannel liner for greater comfort and flexibility. Multidipped natural rubber coating for superior cut, abrasion, snag and puncture resistance and extended wear. Self-wrinkle finish for excellent wet and dry grip and ease of handling. For use in handling sharp-edged objects like glass, sheet metal, scrap metal or slippery and abrasive materials like lumber, tile, concrete block and brick. Made in USA. Best brand.

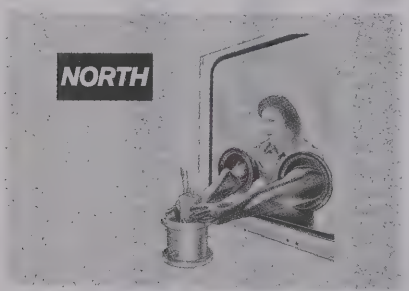
C Fully Coated, Wrinkle Finish.

D Palm Coated, Wrinkle Finish.

E **Cutlass™ Gloves Natural Rubber Coated Gloves** with nitrile overdip for excellent flexibility and cut resistance. Wrinkle-finish provides excellent wet or dry grip. Nitrile overgrip gives added resistance to oils, greases and chemicals. For handling sharp-edged objects like glass, sheet metal, scrap metal, tin plate, lumber, maintenance, concrete blocks and general building materials. Palm dipped with 2.5" rubberized safety cuff. Made in USA. Best brand.

| Key | Description | Style No. | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| | **GOLDEN GRAB-IT** | | | | | | | | | |
| A | Knit Wrist, Palm Coated | 16-300 | 10 | 203145 | **5AT73** | $5.12 | **$4.62** | **$4.39** | **$4.16** | 0.4 |
| | Safety Cuff, Palm Coated | 16-307 | 10 | 203285 | **3AR65** | 5.98 | **5.39** | **5.12** | **4.85** | 0.3 |
| | **GOLDEN GRAB-IT II** | | | | | | | | | |
| B | Safety Cuff, Palm Coated | 16-347 | 10 | 216584 | **4T415** | 4.19 | **3.78** | **3.59** | **3.40** | 0.5 |
| | Knit Wrist, Palm Coated | 16-340 | 10 | 216580 | **2AX51** | 4.19 | **3.78** | **3.59** | **3.40** | 0.4 |
| | 12" Gauntlet, Fully Coated | 16-312 | 10 | 216585 | **2AD12** | 6.26 | **5.64** | **5.36** | **5.08** | 0.6 |
| | **NITTY GRITTY®** | | | | | | | | | |
| C | Knit Wrist, Fully Coated | — | Mens | 63NFW-10 | **3AZ05** | 5.41 | **4.88** | **4.64** | **4.39** | 0.6 |
| | 14" Gauntlet, Fully Coated | — | Mens | 67NFW-10 | **6AP30** | 7.74 | **6.98** | **6.63** | **6.28** | 0.7 |
| D | Knit Wrist, Palm Coated | — | Mens | 63PNFW-10 | **4AJ60** | 5.41 | **4.88** | **4.64** | **4.39** | 0.5 |
| | Safety Cuff, Palm Coated | — | Mens | 66NFW-10 | **1BC52** | 5.79 | **5.22** | **4.96** | **4.70** | 0.5 |
| | **CUTLASS®** | | | | | | | | | |
| E | Safety Cuff, Palm Coated | — | 10 | 3910-10 | **4JF16** | 4.19 | **3.78** | **3.59** | **3.40** | 0.5 |

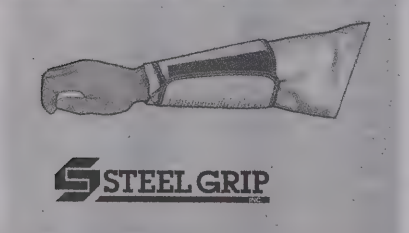
# DRY BOX GLOVES




Available in three different materials. Neoprene for high tensile strength and flexibility; butyl for best impermeability to water, vapor, gases, many toxic chemicals, and resistance to oxygenated solvents and most oxidizing chemicals; hypalon for resistance to ozone and abrasion. 8" cuff diameter. Seamless one-piece construction. Used in laboratories and research on isolation boxes. Also for bead and sand blasting boxes. Cement dipped. Black color except hypalon, which is white. Made in USA. North brand.

| Glove Description | Thickness | Length (In.) | Size | North Model | Stock No. | Per Pair List | Per Pair Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Neoprene** | 15 Mil | 32 | 9¾ | 8N1532 | **4T479** | $105.77 | **$95.30** | **$90.52** | 2.4 |
| **Neoprene** | 30 | 32 | 9¾ | 8N3032 | **4T480** | 125.94 | **113.50** | **107.79** | 3.5 |
| **Butyl** | 15 | 32 | 9¾ | 8B1532 | **4T481** | 160.30 | **144.45** | **137.20** | 2.0 |
| **Hypalon** | 15 | 32 | 9¾ | 8Y1532 | **4JD33** | 150.27 | **135.40** | **128.61** | 0.4 |

# CANE NYLON ARM GUARDS




**Velcro®closure arm guards** provide a comfortable fit. Lightweight, yet sturdy to help prevent cuts and scratches from sharp objects, such as sheet and scrap metal or glass. Made from 100% 2-ply mesh nylon with a Velcro® closure. White color. Kelvar® sewn and washable. **Priced and sold by the pair.** Sold in 9" lengths. Made in USA. Steel Grip brand.

| Size | Wrist (In.) | Forearm Dia. (In.) | Steel Grip Model | Stock No. | Per Pair List | Per Pair Each | Lots 6 Pair | Lots 12 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | | | **ARM GUARD—9" LENGTH** | | | | | | |
| **S** | 6½ | 11½ | CN820-9-S | **5AD68** | $12.46 | **$11.22** | **$10.66** | **$10.10** | 0.2 |
| **M** | 7½ | 12½ | CN820-9-M | **6AR71** | 12.46 | **11.22** | **10.66** | **10.10** | 0.3 |
| **L** | 8½ | 13½ | CN820-9-L | **6AN33** | 12.46 | **11.22** | **10.66** | **10.10** | 0.3 |
| **XL** | 9½ | 14½ | CN820-9-XL | **6AW51** | 12.46 | **11.22** | **10.66** | **10.10** | 0.3 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

## COATED GLOVES




A **Raised Finish Winter Monkey Grip™ Gloves.** Raised surface provides excellent wet and dry grip. Vinyl coating resists chemicals and abrasion, protects the nonwoven lining from wetness, and keeps warmth and dryness inside. Use in construction, cold storage, wintertime transportation and handling applications. Tan color. Knit wrist style. Ansell Edmont brand.

B **Foam Insulated Winter Monkey Grip™ Gloves.** Same features as A above, except for raised finish, plus foam insulation to lock out cold, seal in warmth. Available with knit wrist, fluorescent knit wrist, and gauntlet style. Ansell Edmont brand.

C **Powercoat™ Seamless Double Dipped PVC Gloves with fleece lining.** For use in contracting, petrochemical, and general maintenance applications. Double dipped PVC coating repels liquids and protects hands from chemicals and offers pliable grip even in cold temperatures. Fleece lining offers thermal protection. Fully launderable. Perfect Fit brand.

D **Snorkel® PVC Coated Gloves.** PVC/nitrile blend provides excellent chemical resistance. Rough finish with nylon particles increases cut and abrasion resistance. Curved, preflexed fingers and wing thumb for working flexibility. Jersey lining for cushioning and insulation. Fully coated 12" and 14" gauntlets. For petrochemical and refining applications, handling equipment and abrasive materials coated with acids, caustics, solvents, grease and oil. Dark green color. Made in USA. Ansell Edmont brand.

E **Petroflex® Economy PVC Coated Gloves.** For tough applications with excessive contamination by oils, grease, and chemicals. Rough nylon particle finish provides cut and abrasion resistance. Jersey lining for cushion and moderate insulation. Excellent wet grip. 2-piece lining eliminates seams from the working areas to prevent irritation and premature wearthrough. Curved, preflexed fingers and wing thumb give working ease and flexibility. Use in refining, petrochemicals, machinery, construction, forestry, mining, utilities, handling equipment and abrasive materials coated with oil, grease, acids, and solvents. Available in knit wrist and gauntlet styles. Black color. Ansell Edmont brand.

F **Black Knight™ Gloves.** PVC-coated, abrasion resistant glove for handling chemicals, oil and grease. Applications include use in petrochemical, refining, mining, automotive subassembly or construction industries. Fully coated with jersey liner. Available with rough or smooth finish. Black color. Made in USA. Best brand.

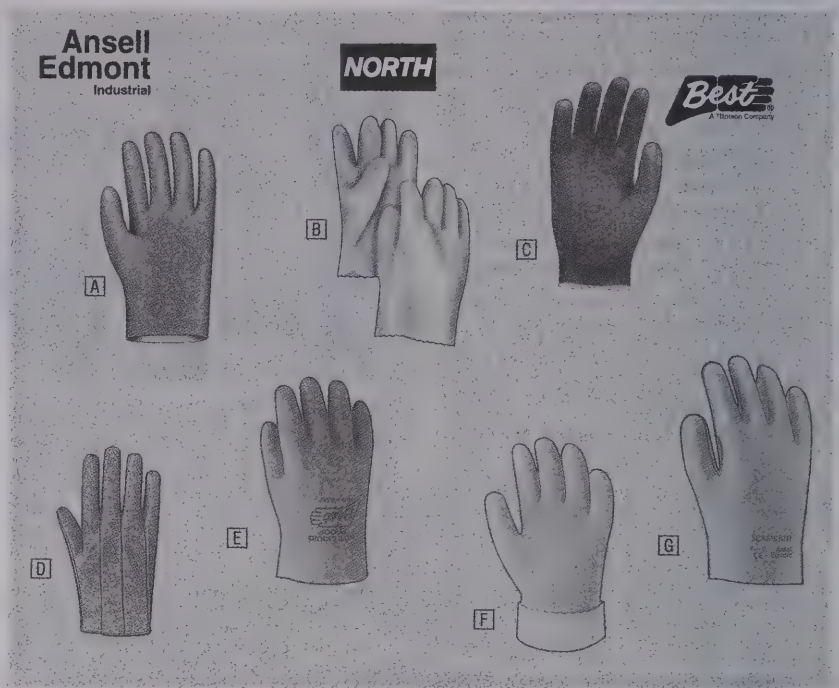
G **Hustler™ Gloves.** PVC coated and nitrile reinforced glove offers excellent abrasion resistance and protection against solvents and acids. Two-piece interlock liner enhances flexibility and comfort. Sanded-on rough finish provides non-slip wet grip. For use with petrochemicals, refining, and handling acids, oil, grease caustics and many solvents. Red color, elbow length gauntlet. Made in USA. Best brand.

H, I **PVC Gloves.** For use in safely handling materials coated or immersed in grease, oil film, mild acids, and caustics. Gloves are tough enough for abrasive tasks while remaining flexible, assuring comfort and dexterity. 12" or 14" length or knit wrist style. Smooth or rough finish. Black color. North brand.

J **Economy Black PVC Gloves.** For use in petrochemical, refining, automotive assembly, mining and construction applications that involve oils, grease and mild chemicals. Rugged coating resists abrasion while lining insures comfort and flexibility. Black color, smooth finish. Gauntlet and knit wrist styles. Perfect Fit brand.

| Key | Description | Style No. | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Winter Monkey Grip™, Knit Wrist, Raised Finish | 23-171 | 10 | 204880 | **4T416** | $9.87 | **$8.90** | **$8.46** | **$8.01** | 0.5 |
| B | Winter Monkey Grip™ | 23-152 | 10 | 204827 | **2AD56** | 13.04 | **11.75** | **11.16** | **10.58** | 0.6 |
| | Winter Monkey Grip™, Fluorescent | 23-491 | 10 | 205309 | **6AJ76** | 11.28 | **10.17** | **9.66** | **9.15** | 0.4 |
| C | Powercoat™, 12" gauntlet | — | Large | 460-L | **4JF43** | 15.51 | **13.98** | **13.28** | **12.58** | 0.6 |
| | | — | X-Large | 460 XL | **4JF44** | 15.51 | **13.98** | **13.28** | **12.58** | 0.6 |
| D | Snorkel®, 10" gauntlet | 4-460 | 9 | 211577 | **6AJ42** | 3.69 | **3.33** | **3.16** | **3.00** | 0.4 |
| | Snorkel®, 10" gauntlet | 4-460 | 10 | 211578 | **2AL26** | 3.69 | **3.33** | **3.16** | **3.00** | 0.4 |
| | Snorkel®, 12" gauntlet | 4-412 | 10 | 211135 | **2AT52** | 4.40 | **3.97** | **3.77** | **3.57** | 0.4 |
| | Snorkel®, 14" gauntlet | 4-414 | 10 | 211230 | **5AH71** | 4.99 | **4.50** | **4.28** | **4.05** | 0.5 |
| E | Petroflex®, Knit Wrist | 12-202 | 10 | 204858 | **1AV05** | 2.27 | **2.05** | **1.95** | **1.85** | 0.4 |
| | Petroflex®, 10" gauntlet | 12-210 | 10 | 204859 | **3AL45** | 2.45 | **2.21** | **2.10** | **1.99** | 0.4 |
| | Petroflex®, 12" gauntlet | 12-212 | 10 | 204854 | **4T429** | 2.75 | **2.48** | **2.36** | **2.23** | 0.5 |
| | Petroflex®, 14" gauntlet | 12-211 | 10 | 204860 | **4T430** | 3.10 | **2.80** | **2.66** | **2.52** | 0.6 |
| F | Black Knight™, 10" gauntlet, smooth | — | Mens L | 7710-10 | **1K789** | 2.75 | **2.48** | **2.36** | **2.23** | 0.4 |
| | Black Knight™, 14" gauntlet, smooth | — | Mens L | 7714-10 | **1K787** | 3.30 | **2.98** | **2.83** | **2.68** | 0.5 |
| | Black Knight™, 10" gauntlet, rough | — | Mens L | 7710R-10 | **2AD35** | 2.75 | **2.48** | **2.36** | **2.23** | 0.4 |
| | Black Knight™, 12" gauntlet, rough | — | Mens L | 7712R-10 | **5AH33** | 2.99 | **2.70** | **2.57** | **2.43** | 0.5 |
| | Black Knight™, 14" gauntlet, rough | — | Mens L | 7714R-10 | **6AZ55** | 3.30 | **2.98** | **2.83** | **2.68** | 0.5 |
| G | Hustler™, Elbow Length gauntlet | — | Mens L | 728R-10 | **1K791** | 9.93 | **8.95** | **8.50** | **8.06** | 1.0 |
| H | PVC, 12" gauntlet, smooth | — | Mens L | G3112 | **2W070** | 2.96 | **2.67** | **2.54** | **2.40** | 0.5 |
| | PVC, 12" gauntlet, rough | — | Mens L | G3112R | **4JD56** | 2.85 | **2.57** | **2.45** | **2.31** | 0.2 |
| | PVC, 14" gauntlet, smooth | — | Mens L | G3114 | **4JD57** | 3.28 | **2.96** | **2.81** | **2.67** | 0.2 |
| | PVC, 14" gauntlet, rough | — | Mens L | G3114R | **4JD58** | 3.28 | **2.96** | **2.81** | **2.67** | 0.2 |
| I | PVC, Knit Wrist, smooth | — | Mens L | K3118 | **2W068** | 2.81 | **2.53** | **2.41** | **2.29** | 0.5 |
| | PVC, Knit Wrist, rough | — | Mens L | K3118R | **4JD66** | 2.72 | **2.45** | **2.33** | **2.21** | 0.2 |
| J | Economy Black PVC dipped, 12" gauntlet | — | Large | BKPVC-12 | **4JF45** | 2.19 | **1.98** | **1.88** | **1.78** | 0.4 |
| | Economy Black PVC dipped, 14" gauntlet | — | Large | BKPVC-14 | **4JF46** | 2.64 | **2.38** | **2.26** | **2.14** | 0.4 |
| | Economy Black PVC dipped, Knit Wrist | — | Large | BKPVC KW | **4JF47** | 1.88 | **1.70** | **1.62** | **1.53** | 0.3 |

# VINYL AND PVC COATED GLOVES




**A KSR® Vinyl Coated, Knit Lined Gloves.** Comfortable, flexible, long wearing. Excellent dexterity and grip. Liquid (not chemical) repellent. Machine washable. Use in receiving, assembly, inspection, packaging, and maintenance. Tan color. Made in USA. Ansell Edmont brand.

**B Comfort-Knit™ Gloves.** Cool, lightweight interlock knit liner coated with PVC for extra grip and long wear. Slip-on style cuff. Machine washable. Ideal for small parts handling, assembly operations, shipping and receiving. North brand.

**C Knit-Rite™ Plus Vinyl Coated, Air Conditioned Gloves.** Knitted lining and porous coating provide ventilation. Excellent hand dexterity and dry grip. Use in shipping, receiving, assembly, inspection, packaging, light fabrication and general maintenance. Machine washable. Tan color. Ansell Edmont brand.

**D STD® Vinyl Impregnated Super-Flexible Gloves.** Interlock knit lining and flexible coating stretch to provide snug fit. 100% cotton lining and formed fingers for comfortable fit. Longwearing and machine washable. For general plant applications, assembling small or delicate parts. Brown color. Ansell Edmont brand.

**E KPG™ Gloves.** PVC coating on comfortable, continuous-knit, 100% cotton liner provides abrasion resistance and flexibility. Seam free liner for greater comfort. Textured coating assures strong grip. Minimizes absorption of water, oil and grease. Recyclable. Both hands printed for easy size identification and pairing after washing. For furniture manufacturing, automotive subassembly and general maintenance applications. Made in USA. Best brand.

**F Fuzzy Duck™ Gloves.** PVC coating on soft, comfortable two piece jersey liner provides abrasion resistance and comfort. Textured coating provides excellent grip and minimizes absorption of water, oil and grease. Recyclable. Both hands printed for easy size identification and pairing after washing. For small parts handling, general maintenance and assembly applications. Made in USA. Best brand.

**G Seams-Rite® Gloves** feature soft jersey lining with seams on outside of glove. Vinyl coating offers excellent grip. Also available with reinforced thumb crotch for extended life. Machine washable. For general plant use, assembly, and maintenance applications. Made in USA. Ansell Edmont brand.

| Key | Description | Style No. | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | KSR® | 22-515 | 7 | 204000 | **2AM28** | $2.97 | **$2.68** | **$2.55** | **$2.41** | 0.2 |
| | | 22-515 | 7½ | 204001 | **4T413** | 2.97 | **2.68** | **2.55** | **2.41** | 0.2 |
| | | 22-515 | 8 | 203938 | **5AV99** | 2.97 | **2.68** | **2.55** | **2.41** | 0.2 |
| | | 22-515 | 9 | 203939 | **4T411** | 2.97 | **2.68** | **2.55** | **2.41** | 0.2 |
| | | 22-515 | 10 | 203940 | **4T412** | 2.97 | **2.68** | **2.55** | **2.41** | 0.2 |
| B | Comfort-Knit™ | — | 8 | 74-5120-8 | **4JD17** | 2.94 | **2.66** | **2.52** | **2.40** | 0.2 |
| | | — | 9 | 74-5120-9 | **4JD18** | 2.94 | **2.66** | **2.52** | **2.40** | 0.2 |
| | | — | 10 | 74-5120-10 | **4JD16** | 2.94 | **2.66** | **2.52** | **2.40** | 0.2 |
| C | Knit-Rite™ Plus | 33-105 | 9 | 209005 | **4T414** | 2.94 | **2.65** | **2.52** | **2.39** | 0.2 |
| D | STD® | 1-114 | 6½ | 201126 | **5AG42** | 3.17 | **2.86** | **2.72** | **2.57** | 0.1 |
| | | 1-114 | 7 | 201127 | **3AJ60** | 3.17 | **2.86** | **2.72** | **2.57** | 0.1 |
| | | 1-114 | 7½ | 201128 | **3AN58** | 3.17 | **2.86** | **2.72** | **2.57** | 0.1 |
| | | 1-114 | 8 | 201000 | **6AW22** | 3.17 | **2.86** | **2.72** | **2.57** | 0.1 |
| | | 1-114 | 9 | 201001 | **2AM78** | 3.17 | **2.86** | **2.72** | **2.57** | 0.1 |
| | | 1-114 | 10 | 201002 | **1BC83** | 3.17 | **2.86** | **2.72** | **2.57** | 0.1 |
| E | KPG™ | — | Small | 960S-08 | **6AW24** | 2.64 | **2.38** | **2.26** | **2.14** | 0.3 |
| | | — | Medium | 960M-09 | **3AR63** | 2.64 | **2.38** | **2.26** | **2.14** | 0.3 |
| | | — | Large | 960L-10 | **5AL51** | 2.64 | **2.38** | **2.26** | **2.14** | 0.3 |
| F | Fuzzy Duck™ | — | Small | 962S-08 | **5AX43** | 3.00 | **2.71** | **2.57** | **2.44** | 0.3 |
| | | — | Medium | 962M-09 | **4AV87** | 3.00 | **2.71** | **2.57** | **2.44** | 0.3 |
| | | — | Large | 962L-10 | **4AZ50** | 3.00 | **2.71** | **2.57** | **2.44** | 0.3 |
| G | Seams-Rite®, Jersey Lined | 20-105 | 9 | 203550 | **4AD04** | 3.31 | **2.99** | **2.84** | **2.69** | 0.2 |
| G | Seams-Rite®, Reinforced Jersey | 20-115 | 9 | 203725 | **1AJ30** | 3.74 | **3.37** | **3.20** | **3.03** | 0.2 |

NORTH Ansell Edmont Industrial

A **Viton® Gloves.** For handling chlorinated, aromatic and aliphatic solvents which deteriorate natural rubber, neoprene, nitrile, and vinyl gloves. Superior resistance to PCB's. Used in aircraft maintenance, printing industry, synthetic fiber manufacturing, degreasing operations, and dry cleaning. Cement dipped. Black color. Made in USA. North brand.

B **Butyl Rubber Gloves.** Highest permeation resistance to gas and water vapor of any glove compound. Lasting protection, flexibility, and dexterity. Used with ketones (MEK, MIBK, acetone) found in machine shops, semi-conductor industry, propellant manufacturing and fuels. Also for use with esters (ethyl acetate and amyl acetate) found in laboratories and the manufacture of man-made fibers. Cement dipped. Black color. Made in USA. North brand.

C **Silver Shield® Gloves.** New lightweight formula offers unmatched flexibility. Made from Norfoil®, a lightweight, flexible laminate that resists permeation and degradation by more toxic/hazardous chemicals than any other type of glove. Excellent for chemical and petrochemical laboratories, photo finishing, and medical labs. Ideal for spill cleanup and hazardous material control operations. Silver color. Made in USA. North brand. **Priced and sold ten pair per package.**

D **PVA™ Polyvinyl Alcohol Coated Organic Solvent Resistant Gloves.** Resist strong solvents such as aromatics and chlorinates—the types that quickly deteriorate rubber, neoprene, and polyvinyl chloride coated gloves. Knit lined for added flexibility. Little absorption to cause swelling and little extraction to cause shrinking. Weighs half as much as a neoprene coated gauntlet. Use in electronics, laboratories, and handling strong organic solvents. **PVA is water soluble. Do not use in water or water based solutions.** Red color. Made in USA. Ansell Edmont brand.

E **Rubber Industrial Gloves.** For industrial applications that require liquidproof gloves. Heavyweights excellent for sand and bead blasting. Cement dipped. **Color of gloves may vary.** Made in USA. North brand.

**UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY**

**Grainger has over 350 branches nationwide, so we're close by.**

**To find the location nearest you, check the Branch Locations listed in the front of this catalog.**




| Key | Description | Style No. | Size | Thickness / Finish / Length | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots/ Qty. | Lots 72 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Viton® | — | 9 | 10 Mil, 11"L | F101 | 4A281 | $53.82 | $48.50 | $46.07/6 | — | 0.5 |
| | | — | 10 | 10 Mil, 11"L | F101 | 4T448 | 61.75 | 55.65 | 52.85/6 | — | 0.5 |
| | | — | 9 | 12 Mil, 14"L | F124 | 4T450 | 88.49 | 79.75 | 75.74/6 | — | 0.7 |
| | | — | 10 | 12 Mil, 14"L | F124 | 4T451 | 94.48 | 85.15 | 80.86/6 | — | 0.8 |
| B | Butyl | — | 8 | 13 Mil, Smooth, 11"L | B131 | 4T452 | 13.96 | 12.58 | 11.95/12 | $11.33 | 0.1 |
| | | — | 9 | 13 Mil, Smooth, 11"L | B131 | 4A282 | 13.96 | 12.58 | 11.95/12 | 11.33 | 0.1 |
| | | — | 10 | 13 Mil, Smooth, 11"L | B131 | 4T453 | 15.36 | 13.84 | 13.15/12 | 12.46 | 0.1 |
| | | — | 8 | 16 Mil, Smooth, 11"L | B161 | 4T457 | 17.58 | 15.84 | 15.05/12 | 14.25 | 0.2 |
| | | — | 9 | 16 Mil, Smooth, 11"L | B161 | 4T458 | 17.58 | 15.84 | 15.05/12 | 14.25 | 0.2 |
| | | — | 10 | 16 Mil, Smooth, 11"L | B161 | 4T459 | 19.00 | 17.12 | 16.27/12 | 15.41 | 0.2 |
| | | — | 8 | 16 Mil, Rough, 11"L | B161R | 4T460 | 22.35 | 20.14 | 19.13/12 | 18.12 | 0.2 |
| | | — | 9 | 16 Mil, Rough, 11"L | B161R | 4T461 | 22.35 | 20.14 | 19.13/12 | 18.12 | 0.2 |
| | | — | 10 | 16 Mil, Rough, 11"L | B161R | 4T462 | 24.45 | 22.03 | 20.93/12 | 19.82 | 0.2 |
| | | — | 8 | 17 Mil, Smooth, 11"L | B11748 | 4JD47 | 26.73 | 24.08 | 22.88/12 | 21.68 | 0.4 |
| | | — | 9 | 17 Mil, Smooth, 11"L | B1749 | 4JD48 | 26.73 | 24.08 | 22.88/12 | 21.68 | 0.4 |
| | | — | 10 | 17 Mil, Smooth, 11"L | B17410 | 4JD46 | 26.73 | 24.08 | 22.88/12 | 21.68 | 0.4 |
| | | — | 8 | 17 Mil, Rough, 11"L | B174R8 | 4JD50 | 31.04 | 28.00 | 26.57/12 | 25.17 | 0.4 |
| | | — | 9 | 17 Mil, Rough, 11"L | B174R9 | 4JD51 | 31.04 | 28.00 | 26.57/12 | 25.17 | 0.4 |
| | | — | 10 | 17 Mil, Rough, 11"L | B174R10 | 4JD49 | 31.04 | 28.00 | 26.57/12 | 25.17 | 0.4 |
| | | — | 8 | 35 Mil, Smooth, 14"L | B324 | 4T463 | 33.40 | 30.10 | 28.59/12 | 27.09 | 0.2 |
| | | — | 9 | 35 Mil, Smooth, 14"L | B324 | 4T464 | 33.40 | 30.10 | 28.59/12 | 27.09 | 0.2 |
| | | — | 10 | 35 Mil, Smooth, 14"L | B324 | 4T465 | 33.40 | 30.10 | 28.59/12 | 27.09 | 0.2 |
| | | — | 8 | 35 Mil, Rough, 14"L | B324R | 4T466 | 41.59 | 37.50 | 35.60/12 | 33.72 | 0.2 |
| | | — | 9 | 35 Mil, Rough, 14"L | B324R | 4T467 | 41.59 | 37.50 | 35.60/12 | 33.72 | 0.2 |
| | | — | 10 | 35 Mil, Rough, 14"L | B324R | 4T468 | 41.59 | 37.50 | 35.60/12 | 33.72 | 0.2 |
| C | Silver Shield® Iate | — | Small | 3 Mil, 14"L | SSL104S | *New* 4RM35 | 47.78 | 43.00 | 40.85/5 | — | 0.6 |
| | | — | Medium | 3 Mil, 14"L | SSL104M | *New* 4RM34 | 47.78 | 43.00 | 40.85/5 | — | 0.6 |
| | | — | Large | 3 Mil, 14"L | SSL104L | *New* 4RM33 | 47.78 | 43.00 | 40.85/5 | — | 0.6 |
| D | PVA™ | 15-552 | 9 | 12" gauntlet | 214246 | 4T901 | 26.86 | 23.75 | 22.56/12 | 21.38 | 0.2 |
| | | 15-554 | 9 | 14" gauntlet | 214306 | 4T902 | 26.86 | 24.20 | 22.99/12 | 21.78 | 0.2 |
| E | Rubber Industrial | — | 9-9½ | 50 Mils, 14"L | RI604 | 4T485 | 13.12 | 11.83 | 11.24/12 | 10.65 | 1.4 |
| | | — | 10-10½ | 50 Mils, 14"L | RI604 | 4T486 | 13.12 | 11.83 | 11.24/12 | 10.65 | 1.5 |
| | | — | 11-11½ | 50 Mils, 14"L | RI604 | 4T487 | 13.12 | 11.83 | 11.24/12 | 10.65 | 1.6 |

# LATEX AND LATEX BLEND GLOVES

A **Unsupported Natural Rubber Gloves.** For use in food processing, manufacturing applications and handling acids. Flock lining absorbs perspiration and makes glove easier to put on and remove. 12" length, 18 mil thickness for strength to resist punctures and snags. Yellow color. North brand.

B **Latex Rubber Industrial Gloves.** For general industrial and janitorial applications that require chemical resistance to acids, salts, caustics and detergents. Natural color. Unlined. North brand.

C **100% Natural Latex Gloves.** Offer excellent sensitivity plus high resistance to punctures and tears. Cotton flock lining absorbs perspiration, increases comfort. Pattern embossing gives a good grip, wet or dry. Resists acids, detergents, caustics, animal fats, and alcohol. A comfortable, general purpose style for restaurant and food processing work, light cleanup, and maintenance. **Priced and sold by the dozen.** Yellow color. Ansell Edmont brand.

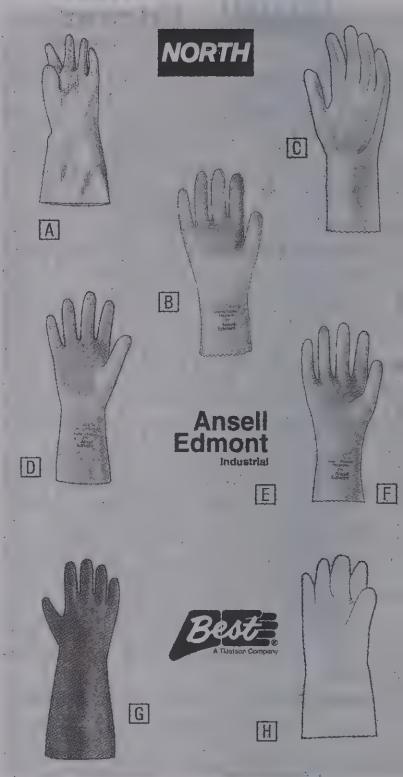
D **Orange Heavyweight Unsupported Natural Latex Gloves.** Offer excellent abrasion, puncture and tear resistance while allowing tensile strength and sensitivity. Resists acids, ketones, salts, detergents, alcohols, alkalies and fats. 100% cotton flock lining increases worker comfort. Component materials comply with 21 CFR177.2600 for food contact. For chemical processing, petroleum refineries, plant maintenance, and clean up. Ansell Edmont brand.

E **Technicians™ Unsupported Neoprene®/ Natural Latex Blend Gloves.** Dexterity and sensitivity with good chemical protection. Pebble embossed design for added grip on wet and dry surfaces. Component materials comply with 21 CFR177.2600 for food contact. Resists animal fats, acids, alcohols, vegetable and mineral oils. For poultry/food processing and parts assembly. Ansell Edmont brand.

F **Omni® Unsupported Neoprene®/Natural Latex Blend Gloves.** Offers excellent chemical, tear, puncture and abrasion resistance. Pebble embossed for added grip on wet or dry surfaces. 100% cotton flock lined. Component materials comply with 21 CFR177.2600 for food contact. Resists caustics, animal fats, alcohols, acids, salts, detergents and petroleum-based solvents. For use in food processing, manufacturing, and chemical plants. Ansell Edmont brand.

G **Chem Master™ Gloves.** Unsupported neoprene over natural rubber glove has good resistance to a broad range of chemicals, and excellent abrasion, tear and puncture resistance. Self-flushing tractor-tread grip encourages run-off of fluids. 100% cotton flock lining for comfort. For use with acids, alcohols, grease, oils, caustics, salts, ketones, detergents, petroleum-based solvents, and animal fats. Black over blue color. Best brand.

H **Value Master™ Gloves.** Unsupported natural rubber glove for tactile sensitivity, comfort and flexibility. Embossed, self-flushing tractor-tread pattern encourages fluid run-off. Excellent wet or dry grip. Resists wide range of chemicals including animal fats, caustics, acids, oils, salts, alcohols and detergents. Air tested. Available unlined (amber color) or flock-lined (yellow color). Best brand.




| Key | Description | Style No. | Size | Thickness / Length | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots/ Qty. | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Natural Rubber Latex | — | 8 | 18 Mil, 12"L | NRF182-8 | 4JD79 | $0.92 | $0.83 | $0.79/12 | $0.75/72 | 0.1 |
| | | — | 9 | 18 Mil, 12"L | NRF182-9 | 4JD80 | 0.92 | 0.83 | 0.79/12 | 0.75/72 | 0.1 |
| | | — | 10 | 18 Mil, 12"L | NRF182-10 | 4JD78 | 0.92 | 0.83 | 0.79/12 | 0.75/72 | 0.1 |
| B | Latex Rubber Industrial | — | 8 | 18 Mil, 12"L | UNLS 1812 | 6T540 | 0.87 | 0.79 | 0.75/12 | 0.71/72 | 0.2 |
| | | — | 9 | 18 Mil, 12"L | UNLS 1812 | 6T541 | 0.87 | 0.79 | 0.75/12 | 0.71/72 | 0.2 |
| | | — | 10 | 18 Mil, 12"L | UNLS 1812 | 6T542 | 0.87 | 0.79 | 0.75/12 | 0.71/72 | 0.2 |
| | | — | 11 | 18 Mil, 12"L | UNLS 1812 | 6T543 | 0.87 | 0.79 | 0.75/12 | 0.71/72 | 0.2 |
| C | Natural Latex | 298 | 8 | 20 Mil, 12"L | 192983 | 3F841* | 9.83 | 8.86 | 8.42/6 | 7.97/12 | 2.1 |
| | | 298 | 9 | 20 Mil, 12"L | 192985 | 3F843* | 9.83 | 8.86 | 8.42/6 | 7.97/12 | 2.1 |
| D | Orange Latex | 208 | 8 | 30 Mil, 13"L | 192083 | 6AJ16 | 1.70 | 1.54 | 1.46/12 | 1.39/72 | 0.2 |
| | | 208 | 9 | 30 Mil, 13"L | 192085 | 5AX89 | 1.70 | 1.54 | 1.46/12 | 1.39/72 | 0.2 |
| | | 208 | 10 | 30 Mil, 13"L | 192087 | 6AF21 | 1.70 | 1.54 | 1.46/12 | 1.39/72 | 0.3 |
| E | Technicians | 390 | 7 | 17 Mil, 12"L | 193901 | 6AW78 | 0.74 | 0.67 | 0.64/12 | 0.60/72 | 0.1 |
| | | 390 | 8 | 17 Mil, 12"L | 193903 | 3AG97 | 0.74 | 0.67 | 0.64/12 | 0.60/72 | 0.1 |
| | | 390 | 9 | 17 Mil, 12"L | 193905 | 2AD31 | 0.74 | 0.67 | 0.64/12 | 0.60/72 | 0.1 |
| | | 390 | 10 | 17 Mil, 12"L | 193907 | 2AX85 | 0.74 | 0.67 | 0.64/12 | 0.60/72 | 0.2 |
| F | Omni® | 276 | 8 | 22 Mil, 12"L | 192763 | 4AD78 | 1.26 | 1.14 | 1.08/12 | 1.03/72 | 0.2 |
| | | 276 | 9 | 22 Mil, 12"L | 192765 | 2AF28 | 1.26 | 1.14 | 1.08/12 | 1.03/72 | 0.2 |
| | | 276 | 10 | 22 Mil, 12"L | 192767 | 4AZ57 | 1.26 | 1.14 | 1.08/12 | 1.03/72 | 0.2 |
| G | Chem Master™ | — | M | 26 Mil, 13"L | CHMM-08 | 1K783 | 1.51 | 1.36 | 1.29/12 | 1.22/72 | 0.3 |
| | | — | L | 26 Mil, 13"L | CHML-09 | 1K785 | 1.51 | 1.36 | 1.29/12 | 1.22/72 | 0.3 |
| | | — | XL | 26 Mil, 13"L | CHMXL-10 | 1K779 | 1.51 | 1.36 | 1.29/12 | 1.22/72 | 0.3 |
| H | Value Master™ | — | S | 18 Mil, 12"L | VMUS-07 | 3AF37 | 0.76 | 0.69 | 0.66/12 | 0.62/72 | 0.2 |
| | | — | M | 18 Mil, 12"L | VMUM-08 | 3AZ43 | 0.76 | 0.69 | 0.66/12 | 0.62/72 | 0.2 |
| | | — | L | 18 Mil, 12"L | VMUL-09 | 2AV82 | 0.76 | 0.69 | 0.66/12 | 0.62/72 | 0.2 |
| | | — | XL | 18 Mil, 12"L | VMUXL-10 | 5AH46 | 0.76 | 0.69 | 0.66/12 | 0.62/72 | 0.2 |
| | | — | S | 18 Mil, 12"L, Flock Lined | VMS-07 | 5AM80 | 0.74 | 0.67 | 0.64/12 | 0.60/72 | 0.2 |
| | | — | M | 18 Mil, 12"L, Flock Lined | VMM-08 | 3AH15 | 0.74 | 0.67 | 0.64/12 | 0.60/72 | 0.2 |
| | | — | L | 18 Mil, 12"L, Flock Lined | VML-09 | 4AV20 | 0.74 | 0.67 | 0.64/12 | 0.60/72 | 0.2 |
| | | — | XL | 18 Mil, 12"L, Flock Lined | VMXL-10 | 1AJ66 | 0.74 | 0.67 | 0.64/12 | 0.60/72 | 0.2 |

(*) Priced and sold by the dozen.

# NITRILE AND NITRILE COATED GLOVES

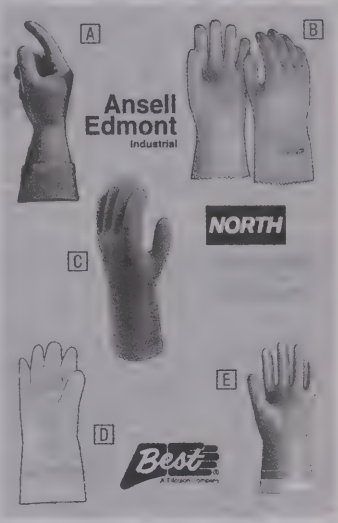
**A Sol-Vex® Unsupported Solvent Resistant Nitrile Gloves.** Nitrile coating provides longer wear, protection from chemicals, abrasions, cuts, snags, and punctures. Degradation and animal fat resistant. Does not promote contact dermatitis. Curved finger design and contoured palm reduce fatigue. Good wet grip. Available unlined and soft lined. Soft lined models have comfortable cotton flock lining to absorb perspiration. Use in chemical processing, oil refining, petrochemicals, food processing, degreasing, cutting operations requiring oil, battery manufacturing, and electronics. Green color. Ansell Edmont brand.

**B Sol-Knit™ Reinforced Nitrile Gloves.** Resists fuels, lubricants, acids, solvents, detergents, caustics, alcohols, fats and oils. Resistant to sharp edges and abrasive surfaces. Curved, preflexed fingers and wing thumb reduce hand fatigue. Textured palm and fingers for wet or dry grip. For use in automotive assembly, painting, petrochemical refining, degreasing and general maintenance work. Component materials comply with 21 CFR177.2600 for food contact. Ansell Edmont brand.

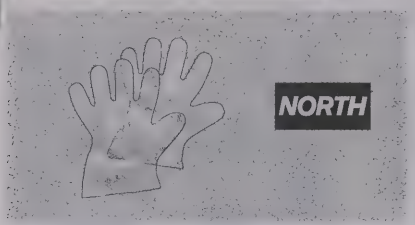
**C Nitrile Latex Gloves.** Superior resistance to abrasion, cuts, punctures. Effective replacement for neoprene, natural rubber, and vinyl gloves. Durable, but flexible for delicate work. Case-hardened. Flock lining for extra comfort, absorbs perspiration. FDA accepted material for food handling. 4TD77 and 4JD76 feature interlock knit liner. North brand.

**D NitriMaster™ Gloves.** Unsupported nitrile/latex offers good chemical resistance in flexible, low-modulus glove. Embossed tractor-tread finish for excellent grip in wet or dry applications. Two-tone configuration provides contrasting color of green when glove begins to wear. For use in food and chemical processing, general construction and laboratory applications. Best brand.

**E NitriSolve™ Gloves.** Unsupported nitrile provides excellent resistance to abrasions, punctures, cuts and snags, solvents, animal fats and chemicals. Non-slip grip for wet applications For use in food and chemical processing, refining, petrochemical and pesticide handling. Unlined and flocklined styles. Flocklined style made in USA. Best brand.




| Key | Description | Style No. | Size | Thickness / Length | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 37-145 | 7-7½ | 11 Mil, 13"L | 117073 | 3BC24 | $1.82 | $1.64 | $1.56 | $1.48 | 0.1 |
| | | 37-145 | 8-8½ | 11 Mil, 13"L | 117074 | 4T417 | 1.82 | 1.64 | 1.56 | 1.48 | 0.1 |
| | | 37-145 | 9-9½ | 11 Mil, 13"L | 117075 | 4T418 | 1.82 | 1.64 | 1.56 | 1.48 | 0.2 |
| | | 37-145 | 10 | 11 Mil, 13"L | 117076 | 4T419 | 1.82 | 1.64 | 1.56 | 1.48 | 0.2 |
| | | 37-145 | 11 | 11 Mil, 13"L | 117077 | 3AP82 | 1.82 | 1.64 | 1.56 | 1.48 | 0.2 |
| | | 37-155 | 8-8½ | 15 Mil, 13"L | 117142 | 4T420 | 2.07 | 1.87 | 1.78 | 1.68 | 0.2 |
| | | 37-155 | 9-9½ | 15 Mil, 13"L | 117143 | 4T421 | 2.07 | 1.87 | 1.78 | 1.68 | 0.2 |
| | | 37-155 | 10 | 15 Mil, 13"L | 117144 | 4T422 | 2.07 | 1.87 | 1.78 | 1.68 | 0.2 |
| | | 37-155 | 11 | 15 Mil, 13"L | 117145 | 5AW52 | 2.07 | 1.87 | 1.78 | 1.68 | 0.2 |
| | | 37-165 | 8-8½ | 22 Mil, 15"L | 117208 | 3AP97 | 7.10 | 6.40 | 6.08 | 5.76 | 0.2 |
| | | 37-165 | 9-9½ | 22 Mil, 15"L | 117209 | 3AP19 | 7.10 | 6.40 | 6.08 | 5.76 | 0.2 |
| A | Sol-Vex® | 37-165 | 10 | 22 Mil, 15"L | 117210 | 1AV51 | 7.10 | 6.40 | 6.08 | 5.76 | 0.2 |
| | | 37-165 | 11 | 22 Mil, 15"L | 117211 | 5AG52 | 7.10 | 6.40 | 6.08 | 5.76 | 0.2 |
| | | 37-185 | 8-8½ | 22 Mil, 18"L | 117299 | 4T426 | 9.97 | 8.99 | 8.54 | 8.09 | 0.4 |
| | | 37-185 | 9-9½ | 22 Mil, 18"L | 117300 | 4T427 | 9.97 | 8.99 | 8.54 | 8.09 | 0.5 |
| | | 37-185 | 10 | 22 Mil, 18"L | 117301 | 4T428 | 9.97 | 8.99 | 8.54 | 8.09 | 0.5 |
| | | 37-185 | 11 | 22 Mil, 18"L | 117302 | 6AZ29 | 9.97 | 8.99 | 8.54 | 8.09 | 0.5 |
| | | 37-175 | 7-7½ | 15 Mil, 13"L, Soft-Lined | 117273 | 4AJ84 | 2.04 | 1.84 | 1.75 | 1.66 | 0.1 |
| | | 37-175 | 8-8½ | 15 Mil, 13"L, Soft-Lined | 117274 | 4T423 | 2.04 | 1.84 | 1.75 | 1.66 | 0.1 |
| | | 37-175 | 9 | 15 Mil, 13"L, Soft-Lined | 117275 | 4T424 | 2.04 | 1.84 | 1.75 | 1.66 | 0.2 |
| | | 37-175 | 10 | 15 Mil, 13"L, Soft-Lined | 117276 | 4T425 | 2.04 | 1.84 | 1.75 | 1.66 | 0.2 |
| | | 37-175 | 11 | 15 Mil, 13"L, Soft-Lined | 117277 | 4AD34 | 2.04 | 1.84 | 1.75 | 1.66 | 0.2 |
| | | 39-122 | 8 | 12" gauntlet | 217801 | 6AT79 | 5.97 | 5.38 | 5.11 | 4.84 | 0.2 |
| | | 39-122 | 9 | 12" gauntlet | 217802 | 5AL07 | 5.97 | 5.38 | 5.11 | 4.84 | 0.2 |
| B | Sol-Knit™ | 39-122 | 10 | 12" gauntlet | 217803 | 5AN21 | 5.97 | 5.38 | 5.11 | 4.84 | 0.2 |
| | | 39-124 | 9 | 14" gauntlet | 217806 | 6AL89 | 6.92 | 6.24 | 5.93 | 5.62 | 0.2 |
| | | 39-124 | 10 | 14" gauntlet | 217807 | 5AZ80 | 6.92 | 6.24 | 5.93 | 5.62 | 0.2 |
| | | — | 9 | 10 Mil, 13"L | LA102G | 5T087 | 1.94 | 1.75 | 1.66 | 1.57 | 0.2 |
| | | — | 10 | 10 Mil, 13"L | LA102G | 5T088 | 1.94 | 1.75 | 1.66 | 1.57 | 0.2 |
| | | — | 8 | 13 Mil, Flocklined, 13"L | LA132G | 4T469 | 1.89 | 1.56 | 1.48 | 1.40 | 0.2 |
| | | — | 9 | 13 Mil, Flocklined, 13"L | LA132G | 4A283 | 1.89 | 1.56 | 1.48 | 1.40 | 0.2 |
| | | — | 10 | 13 Mil, Flocklined, 13"L | LA132G | 4T470 | 1.89 | 1.56 | 1.48 | 1.40 | 0.2 |
| | | — | 9 | 14 Mil, 13"L | LA142G | 5T090 | 2.24 | 2.02 | 1.93 | 1.82 | 0.2 |
| C | Nitrile | — | 10 | 14 Mil, 13"L | LA142G | 5T091 | 2.24 | 2.02 | 1.93 | 1.82 | 0.2 |
| | | — | 9 | 17 Mil, Flocklined, 13"L | LA172G | 4T472 | 2.21 | 2.00 | 1.89 | 1.80 | 0.2 |
| | | — | 10 | 17 Mil, Flocklined, 13"L | LA172G | 4T473 | 2.21 | 2.00 | 1.89 | 1.80 | 0.2 |
| | | — | 9 | 22 Mil, 12" L | LA22G-9 | 4JD69 | 3.67 | 3.31 | 3.14 | 2.98 | 0.2 |
| | | — | 10 | 22 Mil, 12" L | LA22G-10 | 4JD68 | 3.67 | 3.31 | 3.14 | 2.98 | 0.2 |
| | | — | 9 | 22 Mil, Nitri-Knit™ with Interlock Knit Liner, 12" L | NK803-9 | 4JD77 | 6.16 | 5.56 | 5.28 | 5.00 | 0.2 |
| | | — | 10 | 22 Mil, Nitri-Knit™ with Interlock Knit Liner, 12" L | NK803-10 | 4JD76 | 6.16 | 5.56 | 5.28 | 5.00 | 0.2 |
| | | — | 7 | 18 Mil, 12"L | NM-07 | 4JF23 | 1.87 | 1.69 | 1.61 | 1.52 | 0.1 |
| | | — | 8 | 18 Mil, 12"L | NM-08 | 4JF24 | 1.87 | 1.69 | 1.61 | 1.52 | 0.1 |
| D | NitriMaster™ | — | 9 | 18 Mil, 12"L | NM-09 | 4JF25 | 1.87 | 1.69 | 1.61 | 1.52 | 0.2 |
| | | — | 10 | 18 Mil, 12"L | NM-10 | 4JF26 | 1.87 | 1.69 | 1.61 | 1.52 | 0.2 |
| | | — | 7 | 15 Mil, 13", Flocklined | 730-07 | 4JF17 | 1.90 | 1.72 | 1.63 | 1.55 | 0.2 |
| | | — | 8 | 15 Mil, 13", Flocklined | 730-08 | 4JF18 | 1.90 | 1.72 | 1.63 | 1.55 | 0.2 |
| | | — | 9 | 15 Mil, 13", Flocklined | 730-09 | 4JF19 | 1.90 | 1.72 | 1.63 | 1.55 | 0.2 |
| E | NitriSolve™ | — | 10 | 15 Mil, 13", Flocklined | 730-10 | 4JF20 | 1.90 | 1.72 | 1.63 | 1.55 | 0.2 |
| | | — | 9 | 22 Mil, 19" | 747-09 | 4JF21 | 8.65 | 7.80 | 7.41 | 7.02 | 0.8 |
| | | — | 10 | 22 Mil, 19" | 747-10 | 4JF22 | 8.65 | 7.80 | 7.41 | 7.02 | 0.9 |




## POLYETHYLENE DISPOSABLE GLOVES

Powderless, sulfur free, ambidextrous gloves. USDA accepted for food handling. 1.25 mil thickness, 9" length. **Packed 100 gloves per box.** Priced and sold by dispenser box. Clear color. North brand.

### SPECIFICATIONS AND ORDERING DATA

| Size | Thickness (Mil) | Length (In.) | North Model | Stock No. | Per Package List | Per Package Each | Lots 10 Packs | Lots 20 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Small** | 1.25 | 9 | PD100/S | **4JD83** | $4.44 | **$4.01** | **$3.81** | **$3.60** | 1.0 |
| **Medium** | 1.25 | 9 | PD100/M | **4JD82** | 4.44 | **4.01** | **3.81** | **3.60** | 1.0 |
| **Large** | 1.25 | 9 | PD100/L | **4JD81** | 4.44 | **4.01** | **3.81** | **3.60** | 1.0 |




## NATURAL LATEX GLOVES

Special latex formulation and design that enhances sensitivity and comfort. Nos. 5T105 and 5T106 are for use where particulate contamination is not of concern. Nos. 4T505 and 4T506 are cleaned by multiple wash process for use in electronics industry or any application where particulate contamination is of concern. White color. Ambidextrous. **100 gloves per package.** North brand.

### SPECIFICATIONS AND ORDERING DATA

| Glove Description | Thickness | Length | Size | North Model | Stock No. | Per Package List | Per Package Each | Lots 10 Packs | Lots 20 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Powdered** | 5 Mil. | 9½" | Med | L5VN9BMD | **5T105** | $15.97 | **$14.39** | **$13.67** | **$12.95** | 2.0 |
| **Powdered** | 5 | 9½ | Large | L5VN9BLG | **5T106** | 15.97 | **14.39** | **13.67** | **12.95** | 2.3 |
| **Washed** | 5 | 9½ | Med | L1VN9BMD | **4T505** | 39.27 | **35.40** | **33.61** | **31.84** | 1.3 |
| **Washed** | 5 | 9½ | Large | L1VN9BLG | **4T506** | 39.27 | **35.40** | **33.61** | **31.84** | 1.9 |




## CONFORM® LATEX GLOVES

100% 5 mil natural latex gloves for food processing and handling, assembly applications and light duty maintenance. Flexible and comfortable with good finger dexterity and grip. Available powdered with biologically absorbable cornstarch or powder-free. Chemical resistant to acids, bases, alcohols and dilute water solutions of most chemicals. **100 gloves per package.** Ansell Edmont brand.

### SPECIFICATIONS AND ORDERING DATA

| Description | Color | Length (In.) | Size | Style No. | Ansell Model | Stock No. | Per Package List | Per Package Each | Lots 10 Packs | Lots 20 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Conform** | Green | 9½ | S/M | 69-207 | 517506 | **3AC97** | $9.21 | **$8.30** | **$7.89** | **$7.47** | 1.8 |
| | Green | 9½ | M/L | 69-207 | 517507 | **5AR94** | 9.21 | **8.30** | **7.89** | **7.47** | 1.8 |
| | Green | 9½ | XL | 69-207 | 517508 | **5AM78** | 9.21 | **8.30** | **7.89** | **7.47** | 1.8 |
| | White | 9½ | S/M | 69-205 | 594205 | **2AN66** | 6.20 | **5.15** | **4.89** | **4.64** | 1.5 |
| | White | 9½ | M/L | 69-205 | 595204 | **3AD71** | 6.20 | **5.15** | **4.89** | **4.64** | 1.5 |
| | White | 9½ | XL | 69-205 | 596203 | **5AD65** | 6.20 | **5.15** | **4.89** | **4.64** | 1.5 |
| **Conform Powder Free** | White | 9½ | S | 69-105 | 517501 | **4JF70** | 12.87 | **11.60** | **11.02** | **10.44** | 1.6 |
| | White | 9½ | M | 69-105 | 517502 | **4JF71** | 12.87 | **11.60** | **11.02** | **10.44** | 1.6 |
| | White | 9½ | L | 69-105 | 517503 | **4JF72** | 12.87 | **11.60** | **11.02** | **10.44** | 1.6 |




## TOUCH N TUFF™ GLOVES

**Disposable synthetic nitrile gloves** contain no protein allergens. 100% thin mil nitrile for superior toughness and flexibility. No waxes, silicone or plasticizers. Materials comply with Federal regulations for food contact. Computer designed form provides a relaxed, comfortable fit. Beaded cuff provides snug fit and helps donning. Available lightly powdered or powder free. **100 gloves per dispenser box.** Teal color. Ansell Edmont brand.

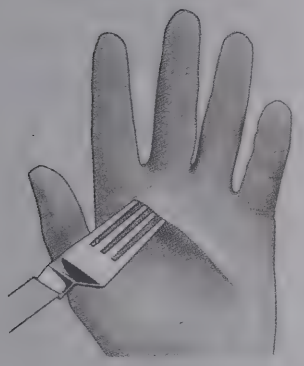
| Description | Size | Thickness (Mil) | Length (In.) | Style No. | Ansell Model | Stock No. | Per Package List | Per Package Each | Lots 10 Packs | Lots 20 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lightly Powdered** | S | 4 | 9½ | 92-500 | 585188 | **4GC44** | $14.37 | **$12.95** | **$12.30** | **$11.66** | 1.9 |
| | M | | | | 585189 | **4GC45** | 14.37 | **12.95** | **12.30** | **11.66** | 1.9 |
| | L | | | | 585190 | **4GC46** | 14.37 | **12.95** | **12.30** | **11.66** | 1.9 |
| | XL | | | | 585715 | **4GC47** | 14.37 | **12.95** | **12.30** | **11.66** | 1.9 |
| **Powder Free** | S | 4 | 9½ | 92-600 | 585834 | **4GC48** | 18.26 | **16.45** | **15.63** | **14.81** | 1.9 |
| | M | | | | 585835 | **4GC49** | 18.26 | **16.45** | **15.63** | **14.81** | 1.9 |
| | L | | | | 585836 | **4GC50** | 18.26 | **16.45** | **15.63** | **14.81** | 1.9 |
| | XL | | | | 585837 | **4GC51** | 18.26 | **16.45** | **15.63** | **14.81** | 1.9 |

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the branch listing index for the location closest to you.**

## N-DEX® NITRILE GLOVES

Best
A Tillotson Company



100% nitrile gloves contain no natural rubber proteins that cause allergic reactions. Hypoallergenic. Meet US Government CFR Specifications and are acceptable for use in food and pharmaceutical applications. Conform to hand, reducing hand pressure and fatigue, and giving cooler, drier feeling than with natural rubber or vinyl gloves. Resists wide range of chemicals. Ambidextrous. Blue color. Made in USA. Best brand.

**N-DEX® Gloves.** 4-mil, low-powder, low-modulus glove. 9 ½" long, disposable. **100 gloves per dispenser.**

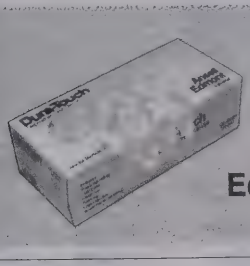
**N-DEX® Powder-Free Gloves.** 4-mil, powder-free, low-modulus glove. 9 ½" long, rolled cuff, disposable. Meet government regulations for Class 1 Medical Device and made in an ISO 9002 facility. **100 gloves per dispenser.**

**Ultimate N-DEX® Gloves.** 6-mil, low-powder and powder-free, low-modulus glove. 11" long, disposable. **50 gloves per dispenser box.**

**N-DEX® Plus Gloves.** 8-mil, low-powder, low-modulus glove. 9 ½" long, disposable. **50 gloves per dispenser.**

| Description | Size | Thickness (Mil) | Best Model | Stock No. | Per Package List | Per Package Each | Lots 10 Packs | Lots 20 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| N-DEX® | Small. | 4 | 7005S | 3AJ71 | $16.09 | $14.50 | $13.78 | $13.05 | 2.0 |
| | Medium | 4 | 7005M | 6AH24 | 16.09 | 14.50 | 13.78 | 13.05 | 2.0 |
| | Large | 4 | 7005L | 3AH09 | 16.09 | 14.50 | 13.78 | 13.05 | 2.0 |
| | X-Large | 4 | 7005XL | 3AZ16 | 16.09 | 14.50 | 13.78 | 13.05 | 2.0 |
| N-DEX® Powder-Free | Small | 4 | 6005PFS | 2AT79 | 26.19 | 23.60 | 22.42 | 21.24 | 2.0 |
| | Medium | 4 | 6005PFM | 2AM61 | 26.19 | 23.60 | 22.42 | 21.24 | 2.0 |
| | Large | 4 | 6005PFL | 2AJ59 | 26.19 | 23.60 | 22.42 | 21.24 | 2.0 |
| | X-Large | 4 | 6005PFXL | 3AV58 | 26.19 | 23.60 | 22.42 | 21.24 | 2.0 |
| Ultimate N-DEX® | Small | 6 | 9905S | 4JF27 | 16.96 | 15.28 | 14.52 | 13.75 | 1.2 |
| | Medium | 6 | 9905M | 4JF28 | 16.96 | 15.28 | 14.52 | 13.75 | 1.3 |
| | Large | 6 | 9905L | 4JF29 | 16.96 | 15.28 | 14.52 | 13.75 | 1.5 |
| | X-Large | 6 | 9905XL | 4JF30 | 16.96 | 15.28 | 14.52 | 13.75 | 1.7 |
| Ultimate N-DEX® Powder-Free | Small | 6 | 9905PFS | 4JF31 | 20.35 | 18.34 | 17.42 | 16.51 | 1.2 |
| | Medium | 6 | 9905PSM | 4JF32 | 20.35 | 18.34 | 17.42 | 16.51 | 1.3 |
| | Large | 6 | 9905PFL | 4JF33 | 20.35 | 18.34 | 17.42 | 16.51 | 1.5 |
| | X-Large | 6 | 9905PFXL | 4JF34 | 20.35 | 18.34 | 17.42 | 16.51 | 1.7 |
| N-DEX® Plus | Small | 8 | 8005S | 1AG43 | 22.42 | 20.20 | 19.19 | 18.18 | 2.0 |
| | Medium | 8 | 8005M | 5AL66 | 22.42 | 20.20 | 19.19 | 18.18 | 2.0 |
| | Large | 8 | 8005L | 2AD93 | 22.42 | 20.20 | 19.19 | 18.18 | 2.0 |
| | X-Large | 8 | 8005XL | 1AV58 | 22.42 | 20.20 | 19.19 | 18.18 | 2.0 |

## DURA-TOUCH™ SEAMLESS VINYL DISPOSABLE/REUSABLE GLOVES




Economical replacement for rubber gloves. Strong enough to reuse. Chemical resistant. Thin vinyl provides excellent sensitivity. Use in food processing, assembly maintenance, inspection, and scientific research environments. Clear color. Ambidextrous. **100 powdered gloves per package.** Component materials comply with 21 CFR177.2600 for food contact. Ansell Edmont brand (Style No. 34-500).

| Size | Thickness | Length | Ansell Edmont Model | Stock No. | Per Package List | Per Package Each | Lots 10 Packs | Lots 20 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Small | 5 Mil | 9¼" | 525125 | 4T437 | $9.79 | $8.90 | $8.46 | $8.01 | 1.8 |
| Med. | 5 | 9¼ | 525126 | 4T438 | 9.79 | 8.90 | 8.46 | 8.01 | 1.7 |
| Large | 5 | 9¼ | 525127 | 4T439 | 9.79 | 8.90 | 8.46 | 8.01 | 1.7 |
| X-Large | 5 | 9¼ | 525128 | 5T585 | 9.79 | 8.90 | 8.46 | 8.01 | 2.6 |

Thin chemical resistant vinyl provides excellent dexterity. For use in food processing, assembly maintenance, inspection and research environments. Gloves fit either hand and are lightly powdered with USP Grade Starch. Made with USDA/FDA accepted materials, these gloves comply with 21 CFR177.2600 for food contact. **100 powdered gloves per box.** North brand (VD5100).

NORTH

## SEAMLESS VINYL DISPOSABLE GLOVES

New

| Description | Size | North Model | New! Stock No. | Package Each List | Package Each Each | Lots 10 packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Vinyl Disposable Gloves | Small | VD-5100-S | 4RM38 | $9.44 | $8.50 | $8.08 | 2.0 |
| | Medium | VD5100-M | 4RM37 | 9.44 | 8.50 | 8.08 | 2.0 |
| | Large | VD5100-L | 4RM36 | 9.44 | 8.50 | 8.08 | 2.0 |
| | X-Large | VD-5100-XL | 4RM39 | 9.44 | 8.50 | 8.08 | 2.0 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

## CLEAN ROOM GLOVES

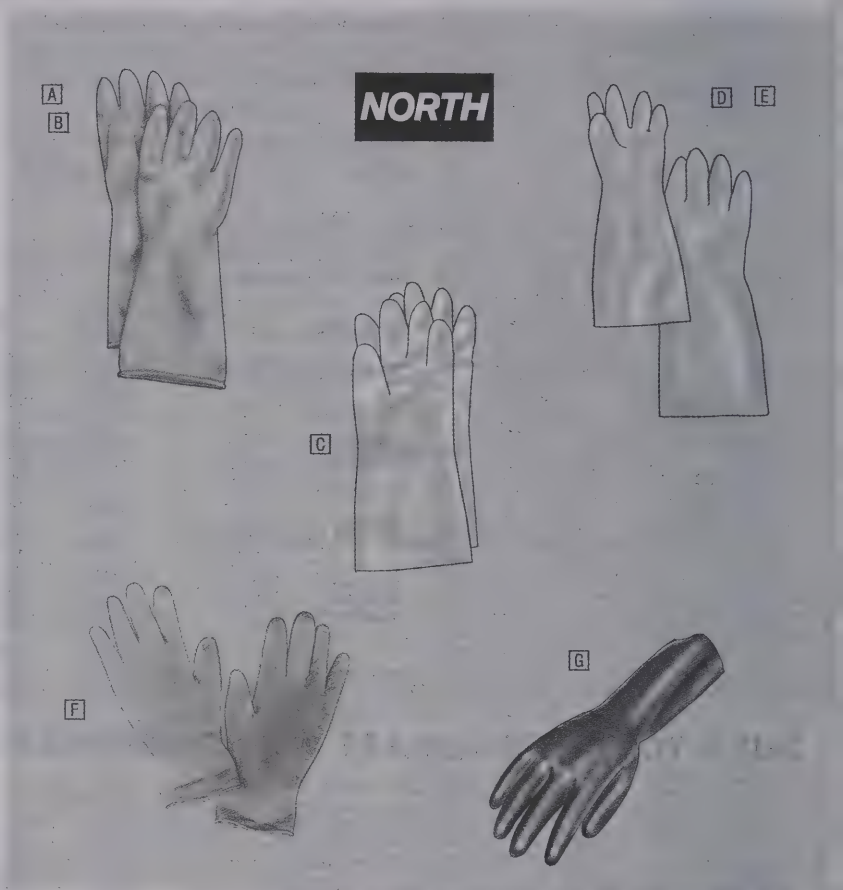
A, B **AK Clean Room Gloves.** 100% natural rubber latex, 20 mil thickness, 12" in white color, or 15" length in orange color. Superior cleanliness with excellent acid, puncture and tear resistance. Low extractables. For use in acid baths or in the semiconductor industry. Each pair individually packaged in a cleanroom. **Priced and sold per pair.** North brand.

C **SK Clean Room Nitrile Gloves.** 100% powder free, case hardened nitrile for excellent solvent, puncture and abrasion resistance. 9 mil thickness, 13" length. Bisque finish provides a positive grip in wet and dry applications. Sizes are embossed in gloves for permanent size marking. Packed in convenient snap tear package. White color. **Priced and sold per pair.** North brand.

D, E **HP100 Clean Room Gloves.** Specially formulated natural latex to control contamination in a clean room. 7 mil thickness for excellent tactile sensitivity. 12" or 15" lengths. Individually bagged in a clean room to protect against airborne contaminants. Natural color. **Priced and sold 10 pair per package.** North brand.

F **Washed Ambidextrous Natural Latex Gloves.** Special latex formulation enhances sensitivity and comfort. 5 mil thickness, 9½" length. Cleaned by multiple wash process for use in electronics industry or any application where particulate contamination is of concern. White color. Ambidextrous. **100 gloves per package.** North brand.

G **Static Dissipative Gloves.** 7 mil thickness, 12" length. Inherently static dissipative so gloves won't weaken with age, degenerate with rubbing. Do not depend on humidity for effectiveness. Powder free and washed for very low particulate count. $2X10^6$ ohms per square surface resistivity. Packaged in conductive bags so gloves can be taken into workplace. Black color. **Priced and sold per pair.** North brand.




| Key | Description | Size | North Model | Stock No. | List | Each | Lots/ Qty. | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | AK Gloves, 20 Mil, 12" Length | 8 | AK1812/W-8 | **4JD38** | $2.69 | **$2.43** | **$2.31/10** | **$2.18/20** | 0.2 |
| | | 9 | AK1812/W-9 | **4JD39** | 2.69 | **2.43** | **2.31/10** | **2.18/20** | 0.2 |
| | | 10 | AK1812/W-10 | **4JD37** | 2.69 | **2.43** | **2.31/10** | **2.18/20** | 0.2 |
| B | AK Gloves, 20 Mil, 15" Length | 8 | AK1815/O-8 | **4JD40** | 2.85 | **2.57** | **2.44/10** | **2.31/20** | 0.2 |
| | | 9 | AK1815/O-9 | **4JD42** | 2.85 | **2.57** | **2.44/10** | **2.31/20** | 0.3 |
| | | 10 | AK1815/O-10 | **4JD41** | 2.85 | **2.57** | **2.44/10** | **2.31/20** | 0.3 |
| C | SK Gloves, 9 Mil, 13" Length | 8 | SK102W-8 | **4JD92** | 2.97 | **2.68** | **2.55/10** | **2.41/20** | 0.1 |
| | | 9 | SK102W-9 | **4JD93** | 2.97 | **2.68** | **2.55/10** | **2.41/20** | 0.1 |
| | | 10 | SK102W-10 | **4JD91** | 2.97 | **2.68** | **2.55/10** | **2.41/20** | 0.1 |
| D | HP100 Gloves, 7 Mil, 12" Length | 7 | HPG-12I-7 | **4JD60*** | 19.20 | **17.30** | **16.43/5** | **15.57/10** | 0.9 |
| | | 8 | HPG-12I-8 | **4JD61*** | 19.20 | **17.30** | **16.43/5** | **15.57/10** | 0.9 |
| | | 9 | HPG-12I-9 | **4JD62*** | 19.20 | **17.30** | **16.43/5** | **15.57/10** | 0.9 |
| E | HP100 Gloves, 7 Mil, 15" Length | 7 | HP-15I-7 | **4JD63*** | 19.40 | **17.48** | **16.60/5** | **15.73/10** | 2.0 |
| | | 8 | HP-15I-8 | **4JD64*** | 19.40 | **17.48** | **16.60/5** | **15.73/10** | 2.0 |
| | | 9 | HP-15I-9 | **4JD65*** | 19.40 | **17.48** | **16.60/5** | **15.73/10** | 2.0 |
| F | Washed Ambidextrous Gloves, 5 Mil, 9½" Length | Medium | L1VN9BMD | **4T505†** | 39.27 | **35.40** | **33.61/10** | **31.84/20** | 1.3 |
| | | Large | L1VN9BLG | **4T506†** | 39.27 | **35.40** | **33.61/10** | **31.84/20** | 1.9 |
| | | XL | L1NV9BXL | **4JD67†** | 39.27 | **35.40** | **33.61/10** | **31.84/20** | 1.7 |
| G | Static Dissipative Gloves, 7 Mil, 12" Length | 7 | SD127-7 | **4JD88** | 6.29 | **5.67** | **5.39/10** | **5.10/20** | 0.8 |
| | | 8 | SD127-8 | **4JD89** | 6.29 | **5.67** | **5.39/10** | **5.10/20** | 0.8 |
| | | 9 | SD127-9 | **4JD90** | 6.29 | **5.67** | **5.39/10** | **5.10/20** | 0.9 |

(*) Priced and sold per pack of 10 pair.
(†) Priced and sold per pack of 100 gloves.

## COTTON INSPECTION GLOVES

**Economical 100% cotton** inspection gloves have consistent size and quality. Two-piece ambidextrous pattern. Unhemmed. Available in light, medium and heavy weight fabrics. Bleached white fabric. **Priced and sold in packages of 24 individual gloves.** North brand.



Cotton Inspection Gloves

### SPECIFICATIONS AND ORDERING DATA

| Description | Size | North Model | Stock No. | Per Package List | Per Package Each | Lots 12 Packs | Lots 24 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Lightweight Fabric** | Womens | 74/2101FAS | **4JC98** | $4.59 | **$4.14** | **$3.93** | **$3.73** | 0.2 |
| | Mens | 74/2101FAM | **4JC97** | 4.68 | **4.22** | **4.01** | **3.80** | 0.2 |
| **Mediumweight Fabric** | Womens | 74/2101GAS | **4JD01** | 5.71 | **5.15** | **4.89** | **4.63** | 0.3 |
| | Mens | 74/2101GAM | **4JC99** | 5.72 | **5.16** | **4.90** | **4.65** | 0.3 |
| **Heavyweight Fabric** | Womens | 74/2101HAS | **4JD03** | 7.82 | **7.05** | **6.69** | **6.34** | 0.4 |
| | Mens | 74/2101HAM | **4JD02** | 7.89 | **7.11** | **6.76** | **6.41** | 0.4 |

## NYLON INSPECTION GLOVES

Thin, durable 40 denier nylon tricot glove for use as a lint free inspection glove or liner. Moisture absorbent nylon keeps hands cool and dry. Two-piece ambidextrous pattern. White color with color-coded hems to denote sizing for easy identification. **Priced and sold in packages of 24 individual gloves.** North brand.

**NORTH**



Nylon Inspection Gloves

### SPECIFICATIONS AND ORDERING DATA

| Description | Size | North Model | Stock No. | Per Package List | Per Package Each | Lots 12 Packs | Lots 24 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Womens** | S | 74/2202FAS | **4JD10** | $9.25 | **$8.33** | **$7.91** | **$7.51** | 0.2 |
| | M | 74/2202FAM | **4JD09** | 9.25 | **8.33** | **7.91** | **7.51** | 0.2 |
| | L | 74/2202FAL | **4JD08** | 9.25 | **8.33** | **7.91** | **7.51** | 0.2 |
| **Mens** | S | 74/2202FBS | **4JD13** | 9.87 | **8.89** | **8.45** | **8.00** | 0.2 |
| | M | 74/2202FBM | **4JD12** | 9.87 | **8.89** | **8.45** | **8.00** | 0.2 |
| | L | 74/2202FBL | **4JD11** | 9.87 | **8.89** | **8.45** | **8.00** | 0.2 |

## HEAVYWEIGHT NYLON INSPECTION GLOVES

**Stretch nylon fabric** and forchetted pattern for comfort and excellent fit. Gloves absorb perspiration, keeping hands cool and dry. Ambidextrous. White color. **Priced and sold in packages of 24 individual gloves.** North brand.



Heavyweight Nylon Inspection Gloves

### SPECIFICATIONS AND ORDERING DATA

| Description | Size | North Model | Stock No. | Per Package List | Per Package Each | Lots 12 Packs | Lots 24 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Womens** | One Size | 74/2205A | **4JD14** | $15.13 | **$13.64** | **$12.96** | **$12.28** | 0.4 |
| **Mens** | One Size | 74/2205B | **4JD15** | 15.78 | **14.22** | **13.51** | **12.80** | 0.6 |

## VINYL COATED GLOVES

**For use in material handling** operations where low particulate transmission is a concern. Gloves feature vinyl laminated to cotton lining on palm. Clute style with band top. Two nylon finger vents on back of glove for comfort. White color. **Priced and sold in packages of 12 pair.** North brand.



Vinyl Coated Gloves

### SPECIFICATIONS AND ORDERING DATA

| Description | Size | North Model | Stock No. | Per Package List | Per Package Each | Lots 12 Packs | Lots 24 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Womens** | M | 74/2160CAM | **4JD05** | $17.08 | **$15.39** | **$14.62** | **$13.85** | 0.7 |
| | L | 74/2160CAL | **4JD04** | 17.08 | **15.39** | **14.62** | **13.85** | 0.7 |
| **Mens** | M | 74/2160CBM | **4JD07** | 17.71 | **15.95** | **15.15** | **14.36** | 0.9 |
| | L | 74/2160CBL | **4JD06** | 17.71 | **15.95** | **15.15** | **14.36** | 1.0 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# NEOPRENE® GLOVES




**A, B Scorpio® Neoprene® Coated Knit Lined Super-Flexible Gloves.** Interlock knit lining and flexible coating stretch to provide snug fit. 2-piece lining eliminates seams from working area to prevent hand irritation and premature wear. Curved, preflexed fingers and wing thumb for working ease. Excellent wet grip. Use in petrochemicals, refining, cleaning, utility and material handling, wet or dry. Available with 12" or 14" gauntlet. Green color. Ansell Edmont brand.

**C Neox® Neoprene® Coated Standard Gloves.** Reinforced neoprene coating protects from abrasion, cutting, and chemicals. Fabric lining aids in resisting punctures and snags. Curved fingers and wing thumb for a natural fit. 2-piece lining eliminates seams from working areas to prevent hand irritation. Use in refining, petrochemicals, degreasing, plating, metal fabrication, handling oils, acids, caustics, alcohols, and solvents. Hi-Lo Temperature Style is insulated to protect against heat and cold. Made in USA. Ansell Edmont brand.

**D Neoprene® Unsupported Soft-Lined Gloves.** Same as gloves above except with a soft, cotton flock lining which absorbs perspiration. Also includes embossed palm and fingers for gripping when wet. Straight cuff. Ansell Edmont brand.

**E, F, G Neoprene® Flannel Lined Gloves.** Provides protection against acids, caustics, oils, greases and many solvents. Good abrasion and cut resistance. Heavyweight styles feature five-piece flannel liner. Available in smooth or rough finish. Black color. Made in USA. Best brand.

## SPECIFICATIONS AND ORDERING DATA

| Key | Description | Style No. | Size | Thickness / Length | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Scorpio® | 8-352 | 9 | 12" gauntlet | 212512 | **4T431** | $6.39 | **$5.76** | **$5.47** | **$5.18** | 0.4 |
| | | 8-352 | 10 | 12" gauntlet | 212513 | **4T432** | 6.39 | **5.76** | **5.47** | **5.18** | 0.4 |
| B | Scorpio® | 8-354 | 9 | 14" gauntlet | 212516 | **5AF50** | 7.53 | **6.79** | **6.45** | **6.11** | 0.4 |
| | | 8-354 | 10 | 14" gauntlet | 212517 | **3BC92** | 7.53 | **6.79** | **6.45** | **6.11** | 0.4 |
| C | Neox® | 9-908 | 10 | Knitwrist, Lt. Wt. | 212803 | **4T433** | 4.75 | **4.28** | **4.07** | **3.85** | 0.4 |
| | | 9-909 | 10 | Knitwrist, Standard Wt. | 212895 | **5AN95** | 5.09 | **4.59** | **4.36** | **4.13** | 0.4 |
| | | 9-912 | 10 | 12" gauntlet, Lt. Wt. | 212986 | **4T434** | 6.64 | **5.99** | **5.69** | **5.39** | 0.5 |
| | | 9-924 | 10 | 14" gauntlet, Stand. | 213290 | **2AF71** | 8.12 | **7.32** | **6.95** | **6.59** | 0.5 |
| | | 9-928 | 10 | 18" gauntlet, Stand. | 213321 | **4T435** | 13.18 | **11.88** | **11.29** | **10.69** | 0.6 |
| | | 9-430 | 10 | 31" gauntlet, Stand. | 212471 | **4T436** | 52.33 | **47.15** | **44.79** | **42.44** | 1.0 |
| C | Neox® Hi-Lo | 9-022 | 10 | 12" gauntlet | 212340 | **5AC18** | 19.34 | **17.43** | **16.56** | **15.69** | 0.7 |
| D | Neoprene® | 29-865 | 8-8½ | 18 Mil, 13"L, Soft-Lined | 116312 | **5T312** | 4.02 | **3.63** | **3.45** | **3.27** | 0.2 |
| | | 29-865 | 9-9½ | 18 Mil, 13"L, Soft-Lined | 116313 | **5T313** | 4.02 | **3.63** | **3.45** | **3.27** | 0.2 |
| | | 29-865 | 10 | 18 Mil, 13"L, Soft-Lined | 116314 | **5T314** | 4.02 | **3.63** | **3.45** | **3.27** | 0.2 |
| | | 29-865 | 11 | 18 Mil, 13"L, Soft-Lined | 116315 | **1AZ32** | 4.02 | **3.63** | **3.45** | **3.27** | 0.2 |
| E | Neoprene®, Smooth Finish | — | Mens L | 12" gauntlet, Heavy Wt. | 6780-10 | **2AF29** | 6.81 | **6.14** | **5.83** | **5.53** | 0.5 |
| F | | — | Mens L | 14" gauntlet, Heavy Wt. | 6784-10 | **1AZ03** | 7.52 | **6.78** | **6.44** | **6.10** | 0.6 |
| F | | — | Mens L | Elbow Length gauntlet, Heavy Wt. | 6797-10 | **2AN06** | 11.48 | **10.35** | **9.83** | **9.32** | 0.7 |
| G | Neoprene®, Rough Finish | — | Mens L | 12" gauntlet, Heavy Wt. | 6780R-10 | **5AT56** | 6.81 | **6.14** | **5.83** | **5.53** | 0.6 |
| | | — | Mens L | 14" gauntlet, Heavy Wt. | 6784R-10 | **3AC75** | 7.52 | **6.78** | **6.44** | **6.10** | 0.7 |
| | | — | Mens L | Elbow length gauntlet, Heavy Wt. | 6797R-10 | **4AD10** | 11.48 | **10.35** | **9.83** | **9.32** | 0.8 |

# LINEMAN'S GLOVES



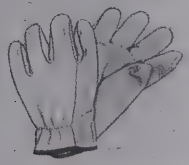
11" Class 00 Rubber Gloves



11" Class 0 Rubber Insulating Gloves



14" Class 2 Rubber Insulating Gloves



9" Leather Protectors

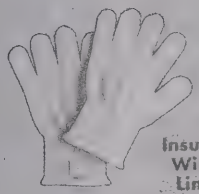
NORTH



Summer Liners



12" Leather Protectors



Insulator Winter Liners



Winter Liners

**Lineman's Rubber Insulating Gloves.** Natural rubber gloves are cement dipped to protect wearer against electrical shock while working around energized systems and appliances. Rubber gloves meet requirements of ASTM D 120, "Standard Specifications for Rubber Insulating Gloves." Class 1, 2, and 3 gloves have red interior which shows through black outer layer when larger snags or cuts occur. Class 00 gloves are red. Class 0 gloves are solid black. **Gloves should be tested every 6 months in accordance with ASTM F496, "Standard Specifications for Testing Rubber Insulating Gloves" at a local authorized safety equipment testing facility.** Made in USA. North brand.

**Cowhide Leather Protectors.** These protectors are designed to be worn over rubber insulating gloves to protect the rubber against physical damage. Top grain cowhide. Made in USA. North brand.

**Summer and Winter Knit Glove Liners.** Cotton summer liners absorb perspiration from hands. Acrylic/wool blend winter liners keep hands warm in cold weather. Made in USA. North brand.

**Insulator Winter Liner.** Use in cold and/or damp environments. Lycra/Thermax construction with hollow fibers to remove perspiration. Keeps a layer of warm dry air next to skin. Wear alone or as a liner. Shrink and mildew resistant. Machine wash and dry. Fits either hand. White color. Made in USA. Ansell Golden Needles brand.

**Canvas Glove Bags.** Use for temporary storage of lineman's gloves and protectors while not being used on the job. Comes with clip for hanging bag on belt. Made in USA. North brand.

Ansell Golden Needles




Glove Bag

## Voltage Use Chart

| Glove Class No. | Test Voltage | AC Max Use Voltage† |
|---|---|---|
| 00 | 2,500V | 500 |
| 0 | 5,000V | 1,000 |
| 1 | 10,000V | 7,500 |
| 2 | 20,000V | 17,000 |
| 3 | 30,000V | 26,500 |

(†) AC maximum use voltage in accordance with ASTM specifications D120-87.

| Description | Size | North Model | Stock No. | Per Pair List | Per Pair Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 11" Class 00 Rubber Gloves | 9 | E0011R-9 | 4JD54 | $33.29 | $30.00 | $28.49 /6 | 1.0 |
| 11" Class 00 Rubber Gloves | 10 | E0011R-10 | 4JD52 | 33.29 | 30.00 | 28.49 /6 | 1.0 |
| 11" Class 00 Rubber Gloves | 11 | E0011R-11 | 4JD53 | 33.29 | 30.00 | 28.49 /6 | 1.0 |
| 11" Class 0 Rubber Gloves | 9 | E010B | 4T488 | 42.26 | 38.10 | 36.17 /6 | 0.7 |
| 11" Class 0 Rubber Gloves | 10 | E010B | 4T489 | 42.26 | 38.10 | 36.17 /6 | 0.7 |
| 11" Class 0 Rubber Gloves | 11 | E010B | 4T490 | 42.26 | 38.10 | 36.17 /6 | 0.8 |
| 14" Class 1 Rubber Gloves | 9 | E114RB | 5T945 | 71.34 | 64.30 | 61.06 /3 | 1.5 |
| 14" Class 1 Rubber Gloves | 10 | E114RB | 5T946 | 71.34 | 64.30 | 61.06 /3 | 1.5 |
| 14" Class 1 Rubber Gloves | 11 | E114RB | 5T947 | 71.34 | 64.30 | 61.06 /3 | 1.5 |
| 14" Class 2 Rubber Gloves | 9 | E214RB | 4T492 | 95.51 | 86.10 | 81.75 /3 | 1.4 |
| 14" Class 2 Rubber Gloves | 10 | E214RB | 4T493 | 95.51 | 86.10 | 81.75 /3 | 1.5 |
| 14" Class 2 Rubber Gloves | 11 | E214RB | 4T494 | 95.51 | 86.10 | 81.75 /3 | 1.6 |
| 18" Class 3 Rubber Gloves | 9 | E318RB | 5T095 | 137.38 | 123.80 | 117.58 /3 | 2.3 |
| 18" Class 3 Rubber Gloves | 10 | E318RB | 5T096 | 137.38 | 123.80 | 117.58 /3 | 2.5 |
| 18" Class 3 Rubber Gloves | 11 | E318RB | 5T097 | 137.38 | 123.80 | 117.58 /3 | 2.8 |
| 9" Leather Protectors | 9 | LP10 | 4T491 | 32.22 | 29.05 | 27.59 /6 | 0.2 |
| 9" Leather Protectors | 10 | LP10 | 4T557 | 32.22 | 29.05 | 27.59 /6 | 0.3 |
| 9" Leather Protectors | 11 | LP10 | 4T558 | 32.22 | 29.05 | 27.59 /6 | 0.3 |
| 12" Leather Protectors | 9 | LP3S | 4T495 | 36.08 | 32.55 | 30.89 /6 | 0.4 |
| 12" Leather Protectors | 10 | LP3S | 4T559 | 36.08 | 32.55 | 30.89 /6 | 0.5 |
| 12" Leather Protectors | 11 | LP3S | 4T560 | 36.08 | 32.55 | 30.89 /6 | 0.5 |
| 15" Leather Protectors | 9 | LP6S-9 | 4JD72 | 38.95 | 35.10 | 33.34 /6 | 0.7 |
| 15" Leather Protectors | 10 | LP6S-10 | 4JD70 | 38.95 | 35.10 | 33.34 /6 | 0.8 |
| 15" Leather Protectors | 11 | LP6S-11 | 4JD71 | 38.95 | 35.10 | 33.34 /6 | 0.8 |
| Summer Liners | — | 89/1402 | 4T497 | 2.08 | 1.88 | 1.79 /12 | 0.1 |
| Winter Liners | — | 89/4702 | 4T496 | 2.63 | 2.38 | 2.26 /12 | 0.1 |
| Insulator Winter Liner | — | INSUL | 2AZ35 | 3.68 | 3.32 | 3.15 /12 | 0.1 |
| 12" Glove Bag | — | GB112 | 4AJ28 | 24.93 | 22.46 | 21.33 /6 | 0.6 |
| 14" Glove Bag | — | GB114 | 4T498 | 28.30 | 25.55 | 24.23 /6 | 0.4 |
| 18" Glove Bag | — | GB118 | 5T101 | 31.05 | 28.00 | 26.58 /6 | 0.4 |

## HEAT RESISTANT GLOVES




A, B **Green Hot Mill Gloves.** 30 oz. nap out gloves with burlap inner layer to improve heat resistance. Available with band top or gauntlet cuff. Clute cut. Wells Lamont brand.

C **Quilted Nap Out Double Palm Gloves.** 18 oz. nap out double palm increases insulation and abrasion resistance. Outside nap has soft comfortable feel. For use in cold glass handling, construction, light heat, and general industrial applications. Safety cuff. Brown color hides dirt and grime. Made in USA. North brand.

D, E **Hot Mill Gloves.** Traditional 24 oz. 100% cotton nap out glove with band top provides good insulation. Oversized style allows air circulation around hand during use. Available with band top or gauntlet cuff. White color. Made in USA. North brand.

F, G **Hot Mill Gloves.** 22 oz. 100% cotton nap out glove. Available with band top or gauntlet cuff. Natural white color. Clute cut. Wells Lamont brand.

H **thru** J **Seamless Terry Cloth Gloves.** For use in glass handling, injection molding, steel manufacturing, refining and hot mill applications that require heat, abrasion and cut resistance. Seamless knit construction eliminates weak points at seams. Allows worker comfort while lessening hand fatigue. Knit terry cloth stretches to provide good fit and ventilation to keep hands dry. Hand-to-hand reversible to provide four wear surfaces. Can be laundered to extend glove life. Ambidextrous. Loops offer cushion of air that insulates against elevated temperatures. Made in USA. Perfect Fit brand.

H Seamless Terry Cloth, Loop Out, 24 oz. 100% cotton.

I Seamless Terry Cloth, Loop In, 24 oz. 100% cotton.

J Seamless Terry Cloth, Loop In, 14 oz. Polyester/Cotton.

K **Terry Knit Hot Mill Gloves.** Terry knit provides good heat protection. Rugged design is more abrasion resistant than quilted or traditional hot mill styles. Comfortable, large glove with knit wrist. White color. Made in USA. North brand.

L **Kevlar® Blend Terry Cloth Gloves.** Seamless terry cloth, loop out. 24 oz. Kevlar®/cotton blend. Feature 100% Kevlar® loops for jobs that require added protection against cuts, slashes and abrasions as well as extreme heat. For use in glass handling, steel manufacturing and hot mill applications. Cotton interior absorbs perspiration and moisture. Ambidextrous for easy laundering. Made in USA. Perfect Fit brand.

M **Seamless Terry Cloth/Kevlar® Blend Gloves.** Heavyweight 24 oz. Terry Cloth/Kevlar blend fabric with knitwrist cuff. Reversible for longer wear. 200°F maximum temperature. Made in USA. Jomac brand.

N **Grip N® Hot Mill Gloves.** Outwears traditional 24 oz. hot mill gloves 4 to 1 and can be used in applications up to 400°F. "N" nitrile coating improves grip, extends wearability and is dry cleanable. Machine knit inner layer bonded to waffle design outer layer for maximum heat resistance and cushioning. Outer layer is 100% cotton for safety; inner layer is cotton/acrylic blend which absorbs perspiration. Seamless construction for additional comfort and long life. Ambidextrous design for added wear. For use in foundries, bottle manufacturing, sheet metal working, heat treat operations, castings and metal forming. White/rust color. Made in USA. North brand.

O **Grip N® Double Gloves.** Heavy duty string knit with nitrile "N-Tread" coating for outstanding grip and abrasion resistance. Seamless construction offers superior comfort. Can be dry cleaned. Made in USA. North brand.

P **Kevlar® Grip N® Hot Mill Gloves.** Same features as Grip N™ Hot Mill gloves except outer shell is Kevlar®/cotton blend for cut/slash protection. White/yellow/rust color. Made in USA. North brand.

Q, R **Thermoshield™ Seamless Thermal Gloves.** For use in glass handling, injection molding, plastic processing and refining. Glove within glove design offers thermal protection. Rust nitrile V coating for added thermal protection, grip and abrasion resistance. Seamless knit construction resists job stresses. Ergonomically correct design for better fit, increased ventilation and greater comfort. Ambidextrous and easily launderable. Cotton or Cotton/Kevlar knit available. Made in USA. Perfect Fit brand.

| Key | Description | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 72 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Green Hot Mill-Band Top | Mens L | Y6301L | 4AV52 | $3.10 | $2.80 | $2.65 | $2.52 | 0.4 |
| B | Green Hot Mill-Gauntlet | Mens L | Y6302L | 2AF24 | 3.21 | 2.90 | 2.75 | 2.61 | 0.4 |
| C | Nap Out Double Palm | Mens L | 18329VH | 5T941 | 3.61 | 3.26 | 3.10 | 2.93 | 0.2 |
| D | Hot Mill-Band Top | Mens L | 24311H | 5T943 | 4.09 | 3.69 | 3.51 | 3.32 | 0.3 |
| E | Hot Mill-Gauntlet | Mens L | 24315H | 4JC87 | 4.43 | 3.79 | 3.60 | 3.41 | 0.3 |
| F | Hot Mill-Band Top | Mens L | Y6221L | 2AP57 | 2.51 | 2.27 | 2.15 | 2.04 | 0.3 |
| G | Hot Mill-Gauntlet | Mens L | Y6222L | 6AJ18 | 2.68 | 2.41 | 2.29 | 2.18 | 0.3 |
| H | Seamless Terry, Loop Out, Cotton | Mens | 24A-C | 3AT17 | 1.51 | 1.36 | 1.29 | 1.22 | 0.3 |
| | | Ladies | 24AL-C | 3AP36 | 1.51 | 1.36 | 1.29 | 1.22 | 0.2 |
| I | Seamless Terry, Loop In, Cotton | Mens | TK24A | 2AP49 | 1.31 | 1.18 | 1.12 | 1.06 | 0.3 |
| | | Ladies | TK24AL | 6AF64 | 1.31 | 1.18 | 1.12 | 1.06 | 0.2 |
| J | Seamless Terry, Loop In, Poly/Cotton | Mens | TK14A | 5AV90 | 0.98 | 0.89 | 0.85 | 0.80 | 0.2 |
| | | Ladies | TK14AL | 5AP60 | 0.98 | 0.89 | 0.85 | 0.80 | 0.2 |
| K | Terry Knit Hot Mill | Mens L | 74/1409 | 5T944 | 3.16 | 2.85 | 2.71 | 2.57 | 0.3 |
| L | Kevlar® Blend, | Mens | KVT24A-CKC | 2AK66 | 7.70 | 6.94 | 6.59 | 6.25 | 0.2 |
| M | Seamless Terry, Kevlar® Blend | Ladies | 9001 | 4JD35 | 5.44 | 4.90 | 4.65 | 4.42 | 0.2 |
| | | Mens | 9000 | 4JD34 | 5.68 | 5.12 | 4.86 | 4.61 | 0.2 |
| N | Grip N® Hot Mill | Mens L | 51/7146 | 4A277 | 4.38 | 3.56 | 3.38 | 3.20 | 0.4 |
| O | Grip N® Double | Mens L | 23/6145 | 4JC86 | 3.19 | 2.88 | 2.74 | 2.59 | 0.3 |
| P | Kevlar Grip N® Hot Mill | Mens L | 52/7456 | 5T942 | 10.93 | 9.85 | 9.36 | 8.87 | 0.4 |
| Q | Thermoshield™ Cotton Knit | Mens | SKNV737R | 4JF36 | 3.79 | 3.42 | 3.25 | 3.08 | 0.4 |
| R | Thermoshield™ Cotton/Kevlar | Mens | KVNV737R | 4JF35 | 7.28 | 6.56 | 6.23 | 5.90 | 0.4 |

# HAND PROTECTION/ HEAT- AND CUT-RESISTANT GLOVES




**A Crusader® Flex Hot Mill Gloves.** For intermittent handling of medium hot objects up to 400°. Helps protect against abrasion, cuts and snags. Two piece construction eliminates outseams for improved comfort, dexterity, flexibility and grip. Nonwoven felt insulation on inner front for superior heat protection, comfort and breathability. Full length heat barrier extends length of glove. Launderable. Made in USA. Ansell Edmont brand.

**B, C Heat Resistant Terry Cloth Gloves.** Extra heavyweight material with 350°F maximum temperature. Reversible. Brown and white color. B has 5½" gauntlet cuff, C has safety cuff. Made in USA. Jomac brand.

**D, E Heat Resistant Terry Cloth Lined Gloves.** Extra heavyweight material with 450°F maximum temperature. Reversible. Brown and white color. D has 5½" duck gauntlet cuff, E has safety cuff. Made in USA. Jomac brand.

**F thru H Heavyweight Cut and Sew Terry Cloth Gloves.** 24 oz. terry cloth glove with 250°F maximum temperature. Reversible. Cut and sew design adds bulk for cut resistance. White color. F has knit wrist, mens standard size. G has knit wrist, mens jumbo size, H has band top cuff. Made in USA. Jomac brand.

**I Heat Resistant and Flame Retardant Terry Cloth Lined Gloves.** Extra heavyweight material with 450°F maximum temperature. 5½" gauntlet cuff. Reversible. Red color. Made in USA. Jomac brand.

**J thru M Terry Cloth Gloves** enhance wearer comfort by cushioning and protecting hand. Can be laundered without excessive shrinkage. Made in USA. Ansell Golden Needles brand.

J 24 oz. Reversible, knit wrist. K model is Jumbo. White color.

L Extra heavyweight, reversible, gauntlet style. White color.

M Jumbo 100% Kevlar, heavyweight, wool lined gauntlet style. Gold color.

**N Heavyweight Cut and Sew Terry Cloth Gloves.** 250°F maximum temperature. Rubberized 5½" gauntlet cuff. Cut and sew design adds bulk for cut resistance. White color. Made in USA. Jomac brand.

**O Heavyweight 100% Kevlar Outer Shell Flame Retardant Gloves.** Fully wool lined for high temperature protection. 900°F maximum temperature. 5½" flame retardant duck gauntlet cuff. Reversible. Made in USA. Jomac brand.

**P, Q Heat Resistant Leather Gloves.** Specially tanned to resist higher heat levels. Wool lined, Kevlar thread sewn. One size. Sold in pairs. Made in USA. Steel Grip brand.

P Leather cuff gloves feature long-wearing thumb strap and pull patch. Clute style with 4" cuff.

Q Duck cuff gloves are same as P above, with unlined duck cuff.

**R thru U Heat and Cut Resistant Terry Cloth Sleeves.** White color. Made in USA. **Priced and sold individually.** Jomac brand.

R Mediumweight with elastic top and knit wrist. 200°F maximum temperature. 15" length.

S Extra Heavyweight with open top and knit wrist. 350°F maximum temperature. 10" length.

T Extra Heavyweight with elastic top and hemmed bottom. 350°F maximum temperature. 12" length.

U Extra heavyweight with elastic top and hemmed bottom. 350°F maximum temperature. 19" length.

| Key | Description | Style No. | Size | Mfr. Model | Stock No. | Per Pair List | Per Pair Each | Lots / Qty. | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Crusader® Flex, 10" | 42-325 | 9 | 209307 | 3AL06 | $7.68 | $6.92 | $6.57/12 | 6.23/72 | 0.1 |
| | Crusader® Flex, 14" | 42-474 | 9 | 209327 | 6AH79 | 12.47 | 11.24 | 10.68/12 | 10.12/72 | 0.2 |
| | Crusader® Flex, 14" | 42-174 | 10 | 209328 | 3AR54 | 12.47 | 11.24 | 10.68/12 | 10.12/72 | 0.2 |
| B | Reversible, Gauntlet | — | XL | 636HR | 4JC90 | 8.82 | 7.95 | 7.55/12 | 7.16/72 | 0.5 |
| C | Reversible, Safety cuff | — | XL | 644HR | 4JC93 | 7.17 | 6.46 | 6.14/12 | 5.81/72 | 0.4 |
| D | Reversible, Gauntlet | — | XL | 636HR | 4JC91 | 13.63 | 12.29 | 11.67/12 | 11.06/72 | 0.7 |
| E | Reversible, Safety cuff | — | XL | 644HR | 4JC94 | 11.11 | 10.01 | 9.51/12 | 9.01/72 | 0.6 |
| F | Reversible, Knit Wrist | — | Mens | 765 | 4JD19 | 3.03 | 2.73 | 2.60/12 | 2.46/72 | 0.3 |
| G | Jumbo Reversible, Knit Wrist | — | Jumbo | 766 | 4JD20 | 3.13 | 2.83 | 2.68/12 | 2.55/72 | 0.3 |
| H | Reversible, Band Top cuff | — | Mens | 725 | 4JD21 | 3.54 | 3.19 | 3.04/12 | 2.88/72 | 1.0 |
| I | Reversible, Gauntlet | — | XL | 636HRLFR | 4JC92 | 15.91 | 14.33 | 13.62/12 | 12.90/72 | 0.7 |
| J | Reversible, Knit Wrist | — | Mens L | T21R | 3AR93 | 2.86 | 2.57 | 2.44/12 | 2.31/72 | 0.3 |
| K | Jumbo Reversible, Knit Wrist | — | Mens Jumbo | T21RJ | 6AX60 | 2.83 | 2.55 | 2.42/12 | 2.30/72 | 0.3 |
| L | Reversible, Gauntlet | — | Mens L | T30RTG | 2AK81 | 4.64 | 4.18 | 3.97/12 | 3.76/72 | 0.5 |
| M | 100% Kevlar, Gauntlet | — | Mens L | 9000KWL | 4AG99 | 46.28 | 41.70 | 39.62/12 | 37.53/72 | 0.9 |
| N | Reversible, Rubberized Gauntlet | — | Mens L | 682 | 4JC95 | 5.14 | 4.63 | 4.39/12 | 4.17/72 | 0.4 |
| O | Reversible Kevlar Shell, Gauntlet | — | XL | 625 | 4JC88 | 35.93 | 32.40 | 30.75/12 | 29.13/72 | 0.6 |
| P | Leather Cuff Gloves | — | Mens | S(*)10-1 | 2AH63 | 30.77 | 29.05 | 27.53/6 | 26.08/12 | 0.9 |
| Q | Duck Cuff Gloves | — | Mens | S(*)10-4A | 6AD51 | 35.30 | 27.55 | 26.13/6 | 24.76/12 | 0.3 |
| R | Sleeve, Elastic Top, Knit Wrist, 15" | — | — | S-25HR | 4JD86* | 3.05 | 2.75 | 2.61/12 | 2.48/72 | 0.2 |
| S | Sleeve, Open Top, Knit Wrist, 10" | — | — | S-13HR | 4JD87* | 2.01 | 1.81 | 1.72/12 | 1.64/72 | 0.2 |
| T | Sleeve, Elastic Top, Knit Wrist, 12" | — | — | S-17HR | 4JD85 | 3.03 | 2.74 | 2.60/12 | 2.47/72 | 0.3 |
| U | Sleeve, Elastic Top, Hemmed Bottom, 19" | — | — | S-11HR | 4JD84* | 4.16 | 3.75 | 3.57/12 | 3.38/72 | 0.4 |

(*) Priced and sold individually

## HEAT RESISTANT MITTS AND PADS

A **Extra Heavyweight Terry Cloth Lined Mitt.** 12" length with safety cuff, reversible for longer wear. 450°F maximum temperature. Brown and white color. **Priced and sold individually.** Made in USA. Jomac brand.

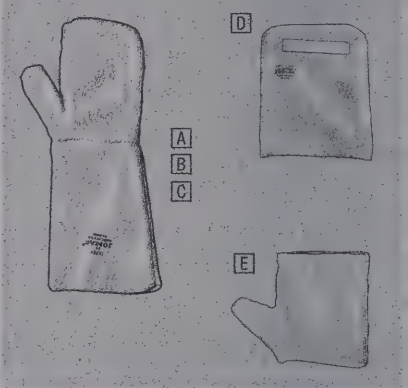
B **Extra Heavyweight Terry Cloth Lined Mitt.** 17" length with gauntlet cuff, reversible for longer wear. 450°F maximum temperature. White color. **Priced and sold individually.** Made in USA. Jomac brand.

C **Extra Heavyweight Terry Cloth Lined Mitt.** 17" length with gauntlet cuff, reversible for longer wear. Features steam and grease barrier in palm of glove. 450°F maximum temperature. White color. **Priced and sold individually.** Made in USA. Jomac brand.

D **Baker's Pad.** Double thickness with elastic strap on each side. 100% cotton, sewn loop out. 450°F maximum temperature. 11"L x 9"W. **Priced and sold individually.** Made in USA. Jomac brand.

E **Extra Heavyweight Terry Cloth Hand Guard.** Reversible guard with open thumb. Open top, 6½" length. White color. **Priced and sold individually.** Made in USA. Jomac brand.

JOMAC PRODUCTS INC.




### SPECIFICATIONS AND ORDERING DATA

| Key | Description | Size | Mfr. Model | Stock No. | List | Each | Lots 12 | Lots 72 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Terry Mitt, Lined, Safety Cuff | Mens | M144HRL | 4JD73 | $9.71 | $8.75 | $8.32 | $7.87 | 0.5 |
| B | Terry Mitt, Lined, Gauntlet | Mens | M937HRL | 4JD74 | 13.76 | 12.40 | 11.79 | 11.16 | 0.7 |
| C | Terry Mitt, Lined with Steam/Grease barrier | Mens | M938HRL | 4JD75 | 17.54 | 15.81 | 15.02 | 14.23 | 1.1 |
| D | Baker's Pad w/Elastic Strap | 11"Lx9"W | G-PAD | 4JD55 | 2.65 | 2.39 | 2.27 | 2.15 | 0.2 |
| E | Hand Guard w/Open Thumb | 6½" L | H-160 | 4JD59 | 1.60 | 1.45 | 1.38 | 1.30 | 0.2 |

## THERMONOL HEAT PROTECTIVE GLOVES, MITTENS, AND COVERS

Made with 22 oz. thermonol, a combination of DuPont's "Kevlar® 29" yarn and other nonasbestos fibers. This cloth provides excellent protection against high heat, offers superior abrasion resistance, has excellent tensile strength, and resists mildew. Recommended as a suitable substitute for asbestos in many applications. Made in USA. Steel Grip brand.

A **Heat Protective Gloves.** Five fingered, wool-lined and Kevlar thread sewn. **Priced and sold per pair.**

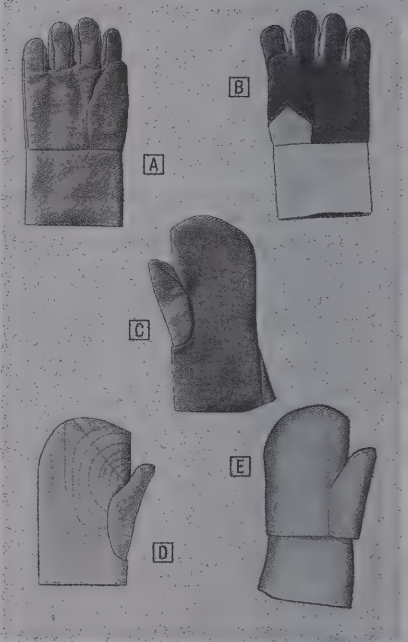
B **Leather Reinforced Heat Protective Gloves.** Five fingered glove with fingers, palm, and thumb reinforced with special heat-resistant leather. Wool lined and Kevlar thread sewn. For use where more abrasion resistance is required in a high heat application. **Priced and sold per pair.**

C **Heat Protective Mittens.** Wool lined and Kevlar thread sewn. **Priced and sold per pair.**

D **Multi-Layered Reversible Mittens.** Double lined and quilted on wear surface, heavy wool lining, and Kevlar thread sewn. Mitten is reversible which doubles its life. Excellent for hot foundry jobs. **Priced and sold per pair.**

E **Reversible Mitten** Cover fits over most mitts. Closed-end style. **Priced and sold per pair.**

STEEL GRIP



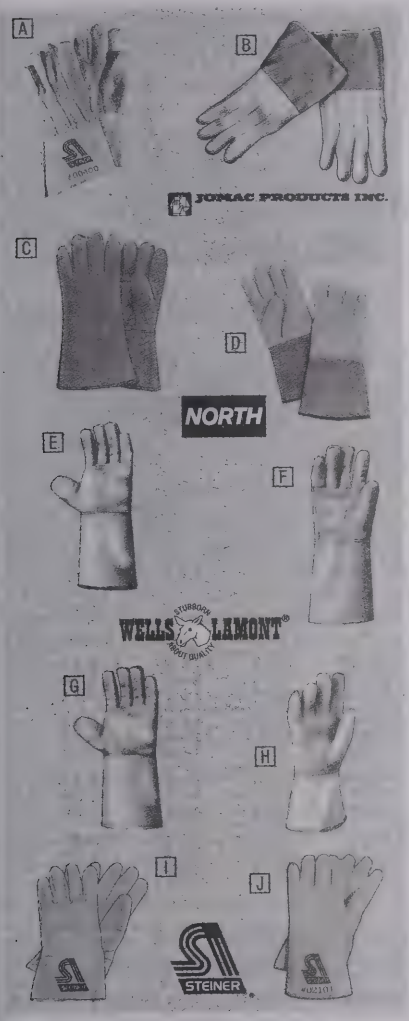

### SPECIFICATIONS AND ORDERING DATA

| Key | Description | Length | Steel Grip Model | Stock No. | Per Pair List | Per Pair Each | Lots 6 Pair | Lots 12 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Gloves | 11" | TH210-11F | 5T354 | $30.48 | $27.50 | $26.09 | $24.71 | 0.7 |
| | | 14 | TH210-13ZF | 5T355 | 32.41 | 29.20 | 27.74 | 26.28 | 0.8 |
| | | 18 | TH210-18F | 5T356 | 42.04 | 37.90 | 35.99 | 34.09 | 1.0 |
| B | Leather Reinforced Gloves | 11 | TH225-11F | 5T357 | 39.05 | 35.20 | 33.42 | 31.66 | 1.0 |
| | | 14 | TH225-14F | 5T358 | 42.90 | 38.65 | 36.72 | 34.79 | 1.2 |
| | | 18 | TH225-18F | 5T359 | 51.37 | 46.30 | 43.97 | 41.65 | 1.3 |
| C | Mittens | 14 | TH250-14F | 5T360 | 29.69 | 26.75 | 25.41 | 24.08 | 0.7 |
| D | Multi-Layered Reversible Mittens | 12 | TH252R-12 | 5T361 | 31.94 | 28.80 | 27.34 | 25.90 | 0.8 |
| | | 14 | TH252R-14 | 5T362 | 35.34 | 31.85 | 30.25 | 28.66 | 1.0 |
| | | 18 | TH252R-18 | 5T363 | 46.38 | 41.80 | 39.70 | 37.61 | 1.2 |
| E | Mitt Cover | 9 | TH13169R-9 | 1C296 | 16.93 | 15.26 | 14.50 | 13.73 | 0.4 |

Kevlar® is a registered trademark of E.I. DuPont de Nemours & Co.

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**




## WELDING GLOVES

A **Terry Cloth Welding Gloves.** 24 oz. terry cloth glove protects up to 300°F and is intended for light welding operations. A cooler lightweight alternative to leather. 4" gauntlet cuff is made from flame retardant canvas and is sewn inseam to the glove. Deep terry pile also provides protection from cuts and abrasions when handling metals. Made in USA. Steiner brand.

B **Heavyweight Terry Cloth Welding Gloves.** Heat and flame retardant with duck gauntlet cuff. 250°F maximum temperature. Made in USA. Jomac brand.

C **Lined Leather Welding Gloves.** 14" brown cowhide welding glove. One-piece back construction with a full cotton lining. Continuous welting on thumb and forefinger and the tips of the other fingers to provide extra protection against burn-out of seams. Gunn cut pattern with a wing thumb for greater comfort and flexibility. Reinforced thumb strap. Steiner brand.

D **Lined Leather Welding Gloves.** Two-piece glove of special tanned split cowhide leather. Provides protection from welding slag. Full size and full lining for extra protection from heat. All critical seams welted for maximum life. Tough pigskin cuff. Gunn cut. North brand.

E **Economy Leather Welding Gloves.** Pearl gray standard shoulder split cowhide construction. One piece back with wing thumb. Reinforced welting and full sock lining. Wells Lamont brand.

F **Lined Leather Welding Gloves.** Premium select side split leather construction. 100% Kevlar sewn with double stitched reinforced wing thumb and palm. Full flame retardant sock and thermal foam lining, with welting on all seams. Wells Lamont brand.

G **Leather Welding Gloves.** Double tanned, heavy select side split cowhide construction. Full flame retardant hand sock lining. Reinforced wing thumb, full welting, sewn with Kevlar thread. Wells Lamont brand.

H **Grain Pigskin Tig Gloves.** Soft premium grain pigskin construction. 4" split leather cuff, gunn cut, straight thumb. Wells Lamont brand.

I **Grain Goatskin Tig Gloves.** Extra soft, unlined goatskin gloves for added protection with a sensitive touch. 3" pigskin cuff protects wrists. Goatskin contains natural oils that keep the glove soft and comfortable. Steiner brand.

J **Grain Sheepskin Tig Gloves.** Extra soft unlined sheepskin glove. Sewn inseam to a 4" cowhide cuff. Can also be used in other operations where the need for protection weighs equally with the need for a sensitive touch. Made in USA. Steiner brand.

### SPECIFICATIONS AND ORDERING DATA

| Key | Glove Description | Mfr.'s Model | Stock No. | Per Pair List | Per Pair Each | Lots 12 Pair | Lots 36 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Terry Cloth Welding | 00400 | **5T181** | $10.49 | **$9.45** | **$8.98** | **$8.51** | 0.5 |
| B | Terry Cloth Welding | 628FR | **4JC89** | 9.23 | **8.32** | **7.90** | **7.49** | 0.4 |
| C | 1-Piece Lined Leather Welding | 2119Y | **5T184** | 8.34 | **7.52** | **7.14** | **6.77** | 0.9 |
| D | 2-Piece Lined Leather Welding | 1897D | **2W526** | 17.29 | **15.58** | **14.80** | **14.02** | 0.7 |
| E | Economy Leather Welding | Y1901L | **4JF96** | 6.21 | **5.60** | **5.32** | **5.04** | 0.8 |
| F | Lined Leather Welding | Y1930L | **4JF98** | 11.04 | **9.95** | **9.45** | **8.96** | 0.4 |
| G | Leather Welding | Y1903L | **4JF97** | 11.48 | **10.35** | **9.83** | **9.32** | 0.8 |
| H | Grain Pigskin Tig (Medium) | Y1954M | **4JF95** | 12.67 | **11.42** | **10.85** | **10.28** | 0.3 |
| | Grain Pigskin Tig (Large) | Y1954L | **4JF94** | 12.67 | **11.42** | **10.85** | **10.28** | 0.3 |
| I | Leather Tig (Medium) | 02291 | **2AJ91** | 11.44 | **10.31** | **9.79** | **9.28** | 0.4 |
| | Leather Tig (Large) | 02292 | **1AD18** | 11.44 | **10.31** | **9.79** | **9.28** | 0.4 |
| J | Leather Tig (Medium) | 02101 | **5T182** | 19.70 | **17.75** | **16.86** | **15.98** | 0.4 |
| | Leather Tig (Large) | 02102 | **5T183** | 19.70 | **17.75** | **16.86** | **15.98** | 0.4 |

## BACKDRAFT FIREFIGHTING GLOVES

**100% DuPont Kevlar** is flame, heat, cut and puncture resistant. Bloodborne pathogen liner and Thermogrip coated palm provide superior protection and grip. Fully launderable. NFPA Approved. Made in USA. Wells Lamont brand.



No. 4JF90

### SPECIFICATIONS AND ORDERING DATA

| Size | Wells Lamont Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Small** | Y4900S | **4JF92** | $65.49 | **$59.00** | **$56.05** | **$53.10** | 0.7 |
| **Medium** | Y4900M | **4JF91** | 65.49 | **59.00** | **56.05** | **53.10** | 0.7 |
| **Large** | Y4900L | **4JF90** | 65.49 | **59.00** | **56.05** | **53.10** | 0.7 |

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# HAND GUARDS, FINGER COTS AND FINGER GUARDS

## LEATHER HAND GUARDS

**For handling cable and glass** where palm and back of hand require protection from cuts and abrasions. Grain leather cowhide is sewn with Kevlar® thread. Features 5/8" wide leather strap and adjustable slide snap closure at wrist. **Priced and sold individually.** Made in USA. Steel Grip brand.




| Size | Hand | Steel Grip Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| S | Right | 14486 | 3AZ40 | $7.64 | $6.89 | $6.55 | $6.20 | 0.1 |
| | Left | 14486 | 6AL94 | 7.64 | 6.89 | 6.55 | 6.20 | 0.1 |
| M | Right | 14486 | 2AF59 | 7.64 | 6.89 | 6.55 | 6.20 | 0.1 |
| | Left | 14486 | 5AK85 | 7.64 | 6.89 | 6.55 | 6.20 | 0.1 |
| L | Right | 14486 | 2AG47 | 7.64 | 6.89 | 6.55 | 6.20 | 0.1 |
| | Left | 14486 | 6AF84 | 7.64 | 6.89 | 6.55 | 6.20 | 0.1 |

## FINGER COTS

**Powdered White Finger Cots.** 3 mil thick cots for maximum sensitivity. Highest quality domestic natural latex of uniform thickness and tensile strength assures protection with confidence. For use where particulate is not a factor. 2¾" long. White color. **1440 per package.** Made in USA. North brand.

**Washed White Finger Cots.** For use when handling delicate components, especially electronic and other subminiature parts. Minimizes corrosive effects of perspiration, body salts, and soap residue on semiconductors, internal parts, transistors, high purity metal products, and optical devices in clean room environment. Cleaned by multiple water wash process. Comfortable, does not restrict circulation. For use where particulate contamination is a concern. Meets requirements of ASTM D3772 and IES-RP-CC-005-87-T. 2¾" long. White color. **720 per package.** Made in USA. North brand.

**Washed Anti-Static Finger Cots.** Suitable for use with static discharge-sensitive devices. Surface resistivity of 2X10 11 power ohms per square. 2¾" long. Packaged in electro-static-free polybag. **720 per package.** Made in USA. North brand.

**Washed Static Dissipative Finger Cots.** Same high quality as washed white finger cots plus they provide inherent static dissipation feature which is not affected by humidity and cannot be rubbed off. Cots bleed off 5000 volt charge in 0.01 seconds. Have a surface conductivity of $2 \times 10^6$ ohms per square, will not build up static, and will not smudge product being handled. Meets requirements of ASTM D3772 and MIL-P-82646A. 2¾" long. Black color. **720 per package.** Made in USA. North brand.




| Finger Cot Description | Size | Qty. Per Pkg. | North Model | Stock No. | Per Package List | Per Package Each | Lots 6 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Powdered, Rolled** | Small | 1440 | 314LWR | 5T102 | $17.73 | $15.97 | $15.18 | 1.2 |
| **Powdered, Rolled** | Med. | 1440 | 324LWR | 5T103 | 17.73 | 15.97 | 15.18 | 1.3 |
| **Powdered, Rolled** | Large | 1440 | 334LWR | 5T104 | 17.73 | 15.97 | 15.18 | 1.7 |
| **Washed, Rolled** | Small | 720 | 115LWR | 4T499 | 20.73 | 18.68 | 17.74 | 0.6 |
| **Washed, Rolled** | Med. | 720 | 125LWR | 4T500 | 20.73 | 18.68 | 17.74 | 0.7 |
| **Washed, Rolled** | Large | 720 | 135LWR | 4T501 | 20.73 | 18.68 | 17.74 | 1.2 |
| **Washed, Anti-Static** | Small | 720 | AS1512S | 4JD45 | 27.53 | 24.61 | 23.38 | 0.5 |
| **Washed, Anti-Static** | Med. | 720 | AS1512M | 4JD44 | 27.53 | 24.61 | 23.38 | 0.5 |
| **Washed, Anti-Static** | Large | 720 | AS1512L | 4JD43 | 27.53 | 24.61 | 23.38 | 0.5 |
| **Static Dissipative, Rolled** | Small | 720 | 115LBR | 4T502 | 33.75 | 30.45 | 28.89 | 0.6 |
| **Static Dissipative, Rolled** | Med. | 720 | 125LBR | 4T503 | 33.75 | 30.45 | 28.89 | 0.7 |
| **Static Dissipative, Rolled** | Large | 720 | 135LBR | 4T504 | 33.75 | 30.45 | 28.89 | 0.9 |

## INDUSTRIAL SAF-T-TAPE®

Perfect skin protector for industry. Large 30 yard roll of Saf-T-Tape® sticks to itself, not to skin or hair. Protects hands and fingers from heat, cuts, or abrasions without loss of finger sensitivity. Allows skin to breathe. Prevents bruises and skin burns. Lessens harmful effects of friction. Facilitates positive grip during assembly operations. Prevents contamination of polished parts by skin oils. Works well in both water and oil. Use in assembly line work, motor assembly, handling hot molds, grasping cut metals, and other general finger protection applications where gloves cannot be used. Safety green color. Modern Aids brand.



| Tape Size | Rolls Per Pkg. | Modern Aids Model | Stock No. | Per Package List | Per Package Each | Lots 10 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/4" x 30 yds. per roll** | 16 | 110-075 | 4T828 | $20.34 | $18.31 | $17.39 | 0.9 |
| **1" x 30 yds. per roll** | 12 | 110-100 | 4T829 | 20.34 | 18.31 | 17.39 | 0.9 |

## FINGER GUARDS

Protects fingers against bruises, skin burns, and cuts. Used for assembly, buffing, grinding, wire pulling, and sanding operations. Available in two styles: split leather for longer wear and grain leather for enhanced flexibility and touch. **Priced and sold individually.** Made in USA. Steel Grip brand.




| Description | Size | Steel Grip Model | Stock No. | List | Each | Lots 100 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Split Leather** | S | 14314 | 5T367 | $0.61 | $0.50 | $0.48 | 0.1 |
| **Split Leather** | M | 14314 | 5T368 | 0.61 | 0.50 | 0.48 | 0.1 |
| **Split Leather** | L | 14314 | 5T369 | 0.61 | 0.50 | 0.48 | 0.1 |
| **Grain Leather** | S | 14169 | 5T364 | 0.72 | 0.65 | 0.62 | 0.1 |
| **Grain Leather** | M | 14169 | 5T365 | 0.72 | 0.65 | 0.62 | 0.1 |
| **Grain Leather** | L | 14169 | 5T366 | 0.72 | 0.65 | 0.62 | 0.1 |

## KLEENGUARD® GENERAL PROTECTION COVERALLS

**General Protection In An All-Purpose Garment**

- Filters out many particles, resists water-based liquids
- Disposable, eliminates laundry/rental costs
- Breathable fabric allows air to pass through to evaporate perspiration and cool the skin
- Ideal for general industrial applications, asbestos abatement, manufacturing, assembly operations, pharmaceutical and food processing
- Nos. 5FW65, 5FW66, 5FW67, 5FW68 and 5FW69 feature a zipper front
- Nos. 5FW70, 5FW71, 5FW72, 5FW73, and 5FW74 feature hoods, boots, elastic backs, wrists and ankles



General Protection Zipper Front Coveralls



General Protection Hooded Coveralls

## KLEENGUARD® EXTRA PROTECTION COVERALLS

**Extra Protection Against Oils, Resins And Low Surface Tension Liquids**

- Repels light liquid splash and spray of low surface tension liquids
- Low linting and antistatic
- Breathable fabric reduces the risk of heat stress
- Designed for total wearer comfort
- Ideal for paint manufacturing and spraying, electronics and aerospace, pharmaceutics and research laboratories
- Antistatic material with hip pocket, elastic back and wrists

Kimberly-Clark



Extra Protection Coveralls



Heavy-Duty Protection Coveralls

## KLEENGUARD® HEAVY-DUTY COVERALLS

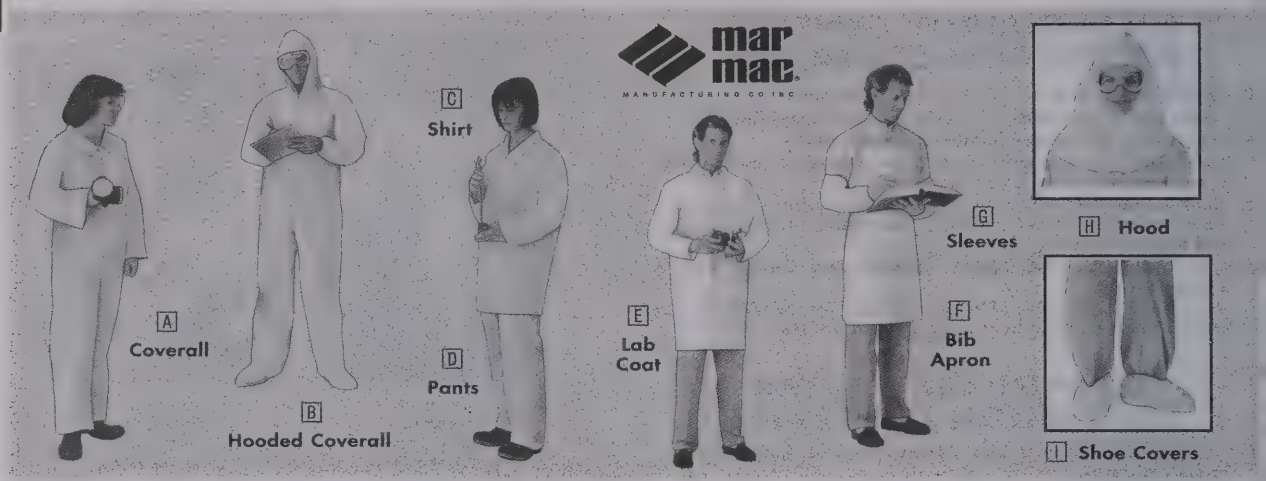
**Proven Protection Against Fine Dusts, Fibers And Liquid Splash**

- Heavy-duty fabric is an effective particle barrier
- Durable enough for long duration tasks
- Repels liquid splash and spray of many water-based liquids
- Breathable fabric for worker comfort and productivity
- Ideal for dusty environments with grinding, filing or sanding
- Features hip and chest pockets, elastic back and wrists

### DISPOSABLE COVERALLS SPECIFICATIONS AND ORDERING DATA

| Description | Size | Color | Per Case | Kimberly-Clark Model | Stock No. | List | Each Case | Lots 4 Cases | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **KLEENGUARD General Protection, Zipper Front** | M | White | 24 | 49002 | **5FW65** | $106.26 | **$88.55** | **$79.69** | 8.0 |
| | L | White | 24 | 49003 | **5FW66** | 106.26 | **88.55** | **79.69** | 8.5 |
| | XL | White | 24 | 49004 | **5FW67** | 106.26 | **88.55** | **79.69** | 8.8 |
| | XXL | White | 24 | 49005 | **5FW68** | 106.26 | **88.55** | **79.69** | 9.0 |
| | XXXL | White | 20 | 49006 | **5FW69** | 106.26 | **88.55** | **79.69** | 8.5 |
| **KLEENGUARD General Protection, Hooded, Booted, Elastic Back, Wrists, Ankles** | M | White | 24 | 49122 | **5FW70** | 165.60 | **138.00** | **124.20** | 11.0 |
| | L | White | 24 | 49123 | **5FW71** | 165.60 | **138.00** | **124.20** | 11.0 |
| | XL | White | 24 | 49124 | **5FW72** | 165.60 | **138.00** | **124.20** | 12.0 |
| | XXL | White | 24 | 49125 | **5FW73** | 165.60 | **138.00** | **124.20** | 13.0 |
| | XXXL | White | 20 | 49126 | **5FW74** | 165.60 | **138.00** | **124.20** | 11.0 |
| **KLEENGUARD Extra Protection, Antistatic, Hip Pocket, Elastic Back and Wrists** | M | Grey | 12 | 58112 | **5FW75** | 86.40 | **72.00** | **64.80** | 5.3 |
| | L | Grey | 12 | 58113 | **5FW76** | 86.40 | **72.00** | **64.80** | 5.5 |
| | XL | Grey | 12 | 58114 | **5FW77** | 86.40 | **72.00** | **64.80** | 5.7 |
| | XXL | Grey | 12 | 58115 | **5FW78** | 86.40 | **72.00** | **64.80** | 5.9 |
| | XXXL | Grey | 10 | 58116 | **5FW79** | 86.40 | **72.00** | **64.80** | 5.5 |
| **KLEENGUARD Heavy-Duty, Hip and Chest Pockets, Elastic Back and Wrists** | M | Denim Blue | 24 | 60191 | **5FW80** | 139.80 | **116.50** | **104.85** | 11.0 |
| | L | Denim Blue | 24 | 60192 | **5FW81** | 139.80 | **116.50** | **104.85** | 11.0 |
| | XL | Denim Blue | 24 | 60193 | **5FW82** | 139.80 | **116.50** | **104.85** | 12.0 |
| | XXL | Denim Blue | 24 | 60194 | **5FW83** | 139.80 | **116.50** | **104.85** | 13.0 |
| | XXXL | Denim Blue | 20 | 60195 | **5FW84** | 139.80 | **116.50** | **104.85** | 11.0 |

# TYVEK® PROTECTIVE WEAR™ CLOTHING




**TYVEK® Protective Wear™ is a nonwoven material** by duPont, made by spinning together polyethylene fibers then bonding them under heat and pressure. Lightweight and soft, yet strong whether wet or dry, and resistant to abrasion, puncturing, and tearing.

**Provides excellent protective shield,** holding out 99.9% of all dry particulate down to 0.5 microns in size. Offers splash protection against many liquids. Being 100% polyethylene, Tyvek's physical properties are virtually unaffected by most organic and inorganic chemicals, including acids, bases, and salts. Clothing is comfortable, flexible and economical to wear.

**Typical applications include** general maintenance work, asbestos removal, fiberglass handling, paint spraying, sandblasting, drug and pharmaceutical manufacturing, nuclear, medical and research work, food handling and processing. FDA and USDA approved. White color. MarMac brand.

**DuPont's Tyvek® Protective Wear™ Material** meets OSHA requirements. Flammability: Rated Class 1 in tests by CS-101-153 for general wearing apparel. USDA and FDA approved for food handling use.

A **Zip-Front Coveralls.** Set-in sleeves allow wide range of shoulder motion without binding. Serged seams offer protection against many dry particulates and light sprays. Full-length, nonsparking, nylon teeth zipper. **Available in packs of 6 or 25 garments.** White color. MarMac brand (14120).

B **Hooded Coveralls.** Zipper-front coveralls have elastic wrists and ankles, attached hood with elastic face opening and nonskid boot covers. Garment has serged seams and set-in sleeves. Nonsparking nylon teeth zipper. **Available in packs of 6 or 25 garments.** White color. MarMac brand (14261).

C **Snap-Front Shirt.** Long sleeves with collar. **12 shirts per box.** White color. MarMac brand (14303).

D **Elastic Waistband Pants. 12 pants per box.** White color. MarMac brand (14350).

E **Lab Coats.** Low-lint and anti-static properties. Coats have 4-snap front, two pockets, serged seams and set-in sleeves that allow greater freedom of movement. **8 lab coats per box.** White color. MarMac brand (14301).

F **Bib-Style Apron.** Measures 28 x 36" to provide full front coverage. Bound neck with long ties. **100 aprons per box.** White color. MarMac brand (14470).

G **18" Long Sleeves. 100 pair of sleeves per box.** White color. MarMac brand (14500).

H **Elastic Opening Hood.** Shoulder length for greater coverage. One size fits all. **100 hoods per box.** White color. MarMac brand (14386).

I **Elastic Top Shoe Covers.** One size fits all. **100 pair of shoe covers per box.** White color. MarMac brand (14440).

| Key | Garment Style | Size | Qty. Per Box | Stock No. | Price Per Box List | Price Per Box Each | Lots/ Qty. Boxes | Lots/ Qty. Boxes | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Coveralls, 6 per box | Medium | 6 | 4T046 | $29.50 | $23.60 | $21.24/4 | $20.06/8 | 2.0 |
| | | Large | 6 | 4T047 | 29.50 | 23.60 | 21.24/4 | 20.06/8 | 2.0 |
| | | X-Large | 6 | 4T048 | 29.50 | 23.60 | 21.24/4 | 20.06/8 | 2.5 |
| | | XX-Large | 6 | 4T831 | 31.72 | 25.40 | 22.85/4 | 21.58/8 | 2.5 |
| A | Coveralls, 25 per box | Small | 25 | 5AM79 | 113.83 | 91.15 | 81.99/3 | 77.44/6 | 8.5 |
| | | Medium | 25 | 5AJ20 | 113.83 | 91.15 | 81.99/3 | 77.44/6 | 8.5 |
| | | Large | 25 | 2AH38 | 113.83 | 91.15 | 81.99/3 | 77.44/6 | 8.5 |
| | | X-Large | 25 | 6AH03 | 113.83 | 91.15 | 81.99/3 | 77.44/6 | 8.5 |
| | | XX-Large | 25 | 3AG59 | 122.38 | 98.00 | 88.17/3 | 83.27/6 | 8.5 |
| | | XXX-Large | 25 | 3AT83 | 131.57 | 105.40 | 94.82/3 | 89.55/6 | 8.5 |
| B | Hooded Coveralls, 6 per box | Large | 6 | 4T049 | 38.98 | 31.30 | 28.13/4 | 26.56/8 | 2.5 |
| | | X-Large | 6 | 4T050 | 38.98 | 31.30 | 28.13/4 | 26.56/8 | 2.5 |
| | | XX-Large | 6 | 4T832 | 41.96 | 33.60 | 30.23/4 | 28.56/8 | 2.5 |
| B | Hooded Coveralls, 25 per box | Small | 25 | 3AV28 | 142.62 | 114.15 | 102.73/3 | 97.02/6 | 8.5 |
| | | Medium | 25 | 1AJ95 | 142.62 | 114.15 | 102.73/3 | 97.02/6 | 8.5 |
| | | Large | 25 | 5AF44 | 142.62 | 114.15 | 102.73/3 | 97.02/6 | 8.5 |
| | | X-Large | 25 | 5AN66 | 142.62 | 114.15 | 102.73/3 | 97.02/6 | 8.5 |
| | | XX-Large | 25 | 5AK79 | 153.34 | 122.80 | 110.50/3 | 104.35/6 | 8.5 |
| | | XXX-Large | 25 | 4AG52 | 164.87 | 131.95 | 118.74/3 | 112.13/6 | 8.5 |
| C | Shirts | Medium | 12 | 4T055 | 39.73 | 37.85 | 34.03/4 | 32.14/8 | 2.5 |
| | | Large | 12 | 4T056 | 39.73 | 37.85 | 34.03/4 | 32.14/8 | 2.5 |
| | | X-Large | 12 | 4T057 | 39.73 | 37.85 | 34.03/4 | 32.14/8 | 2.5 |
| D | Pants | S/M | 12 | 4T058 | 34.68 | 33.05 | 29.72/4 | 28.07/8 | 2.0 |
| | | L/X-Lg. | 12 | 4T059 | 34.68 | 33.05 | 29.72/4 | 28.07/8 | 2.5 |
| E | Lab Coats | Small | 8 | 4T051 | 31.02 | 29.50 | 26.54/4 | 25.06/8 | 2.0 |
| | | Medium | 8 | 4T052 | 31.02 | 29.50 | 26.54/4 | 25.06/8 | 2.0 |
| | | Large | 8 | 4T053 | 31.02 | 29.50 | 26.54/4 | 25.06/8 | 2.0 |
| | | X-Large | 8 | 4T054 | 31.02 | 29.50 | 26.54/4 | 25.06/8 | 2.0 |
| | | XX-Large | 8 | 4T833 | 33.35 | 31.80 | 28.60/4 | 27.01/8 | 2.0 |
| F | Bib Aprons | 28 x 36" | 100 | 4T061 | 107.19 | 101.90 | 91.69/4 | 86.59/8 | 6.0 |
| G | Sleeves | 18" Length | 100 Pr. | 4T062 | 80.67 | 76.70 | 69.04/4 | 65.20/8 | 5.7 |
| H | Pullover Hoods | — | 100 | 4T063 | 91.18 | 86.70 | 78.02/4 | 73.68/8 | 3.5 |
| I | Shoe Covers | 8½" Length | 100 Pr. | 4T060 | 79.89 | 76.00 | 68.38/4 | 64.57/8 | 4.0 |

Tyvek® Protective Wear™ Registered trademark of E.I. duPont de Nemours and Co.



Close it, lock it, keep it safe — You'll find the right stuff right here.

# TYVEK® QC AND POLYPROPYLENE PROTECTIVE CLOTHING

## POLYPROPYLENE CLOTHING

**Polypropylene fabric** is soft, durable material made from spunbonded, extruded polypropylene filaments. Durable lightweight garments offer excellent inexpensive protection to wearers. Use when performing nonhazardous duties including general maintenance work, dirty and dusty jobs. **NOT RECOMMENDED FOR ABSESTOS.**

**Coveralls** have set in sleeves and full zipper front. Bouffant has full elastic headband; fits all sizes. White color. Kappler brand.

### POLYPROPYLENE CLOTHING

| Key | Garment Style | Size | Box Qty. | Kappler Model | Stock No. | List | Each | Lots 4 | Lots 8 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Coverall | Medium | 6 | 6412 | **4T064** | $28.61 | **$27.25** | **$25.87** | **$24.51** | 2.0 |
| | | Large | 6 | 6412 | **4T065** | 28.61 | **27.25** | **25.86** | **24.51** | 2.5 |
| | | X-Large | 6 | 6412 | **4T066** | 28.61 | **27.25** | **25.86** | **24.51** | 2.3 |
| | | XX-Large | 6 | 6412 | **4T834** | 31.26 | **29.80** | **28.29** | **26.79** | 2.0 |
| | | XXX-Large | 6 | 6412 | **1BW09** | 33.47 | **31.90** | **30.28** | **28.69** | 3.5 |
| B | Bouffant | — | 500 | 921 | **4T069** | 111.78 | **106.25** | **100.61** | **95.02** | 5.0 |

## POLYETHYLENE COATED TYVEK® QC CLOTHING

**Tyvek QC fabric has an additional coating** of liquid polyethylene applied to one side. Provides excellent splash protection for a midrange of chemicals and particulates. Garments made from Tyvek QC serve applications where hold-out is important: battery manufacturing, acid handling, tank cleaning, mixing concentrated agri-chemicals, oil refining, certain hazardous materials and waste cleanup.

More economical than rubber or PVC suits. Virtually unaffected by most organic and inorganic chemicals. 3 coveralls per box. Yellow color. Kappler brand.

**Coverall** has set in sleeves, full zipper front and serged seams.

**Coverall with Attached Hood** has same features as coverall, plus elastic wrists and ankles and attached hood with self-adjusting elastic face opening.

### POLYETHYLENE (PE)-COATED TYVEK CLOTHING

| Key | Garment Style | Size | Box Qty. | Kappler Model | Stock No. | List | Each | Lots 4 | Lots 8 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| — | Coverall | Medium | 3 | 5412 | **4T070** | $25.96 | **$24.67** | **$23.37** | **$22.07** | 1.7 |
| | | Large | 3 | 5412 | **4T071** | 25.96 | **24.67** | **23.37** | **22.07** | 1.8 |
| | | X-Large | 3 | 5412 | **4T072** | 25.96 | **24.67** | **23.37** | **22.07** | 1.9 |
| | | XX-Large | 3 | 5412 | **4T835** | 28.36 | **27.00** | **25.53** | **24.12** | 1.9 |
| | | XXX-Large | 3 | 5412 | **1BW21** | 30.29 | **28.85** | **27.26** | **25.75** | 3.0 |
| C | Hooded Coverall | Medium | 3 | 5428 | **1BW17** | 29.80 | **28.35** | **26.83** | **25.34** | 2.0 |
| | | Large | 3 | 5428 | **1BW18** | 29.80 | **28.35** | **26.83** | **25.34** | 2.0 |
| | | X-Large | 3 | 5428 | **1BW16** | 29.80 | **28.35** | **26.83** | **25.34** | 2.0 |
| | | XX-Large | 3 | 5428 | **1BW20** | 32.20 | **30.65** | **28.99** | **27.38** | 2.0 |
| | | XXX-Large | 3 | 5428 | **1BW19** | 33.18 | **31.60** | **29.87** | **28.21** | 2.0 |

## SARANEX® 23P FILM-LAMINATED TYVEK® CLOTHING

**A layer of** chemical resistant Saranex 23P is film laminated to Tyvek fabric. This virtually impenetrable coated fabric offers the optimum barrier protection available in a range of limited-use protective clothing. Use Saranex-laminated Tyvek when encountering hazardous materials: PCB, nitric acid 70%, sulfuric acid 90%. Used where regular or PE-coated Tyvek does not offer sufficient hold-out protection.

Costs less than butyl/viton rubber suits. **3 coveralls per box.**

**Hooded Coveralls and Hooded Coveralls with Sock Boots** feature bound seam construction for better protection from liquid splash. Storm flap over zipper, elastic wrists and set in sleeve pattern provide additional comfort. White color. Kappler brand.

### SARANEX 23P FILM-LAMINATED TYVEK CLOTHING SPECIFICATIONS AND ORDERING DATA

| Key | Garment Style | Size | Box Qty. | Kappler Model | Stock No. | List | Each | Lots 4 | Lots 8 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| — | Hooded Coverall | Medium | 3 | 77428 | **1BW12** | $54.81 | **$52.10** | **$49.33** | **$46.59** | 3.5 |
| | | Large | 3 | 77428 | **1BW13** | 54.81 | **52.10** | **49.33** | **46.59** | 3.5 |
| | | X-Large | 3 | 77428 | **1BW11** | 54.81 | **52.10** | **49.33** | **46.59** | 3.5 |
| | | XX-Large | 3 | 77428 | **1BW15** | 58.17 | **55.30** | **52.36** | **49.45** | 3.5 |
| | | XXX-Large | 3 | 77428 | **1BW14** | 60.53 | **57.60** | **54.53** | **51.50** | 3.5 |
| D | Hooded Coverall with Sock Boots | Medium | 3 | 77424 | **4T073** | 58.17 | **55.30** | **52.36** | **49.45** | 3.7 |
| | | Large | 3 | 77424 | **4T074** | 58.17 | **55.30** | **52.36** | **49.45** | 3.9 |
| | | X-Large | 3 | 77424 | **4T075** | 58.17 | **55.30** | **52.36** | **49.45** | 3.9 |
| | | XX-Large | 3 | 77424 | **4T836** | 61.55 | **58.50** | **55.40** | **52.32** | 3.9 |
| | | XXX-Large | 3 | 77424 | **1BW10** | 63.01 | **59.90** | **56.71** | **53.57** | 3.9 |

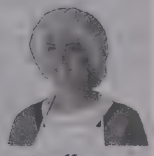
Kappler

A

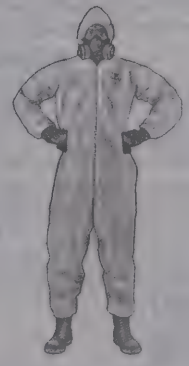


Coveralls Zipper Front No. 4T065

B



Bouffant, Nonflammable Polypropylene No. 4T069



C Hooded Coverall No. 1BW17



D Hooded Coverall with Sock Boots No. 4T074

Saranex® is a registered trademark of Dow Chemical Co. Tyvek® Protective Wear™ is a registered trademark of E.I. duPont de Nemours & Co.

# PROTECTIVE CLOTHING AND DISPENSERS

CELLUCAP FRANKLIN DISPOSABLES

## SANITARY HAIRNETS

Soft, nylon hairnets protect both the wearer and equipment from injury and damage. Falling hair and dandruff are contained preventing product contamination and airborne particles are kept out of hair. These nets are fire-retardant and meet local, state and federal requirements. Lightweight hairnets are available in white, light brown or dark brown. Heavyweight hairnets are available in white or dark brown. **144 hairnets per box.** Cellucap brand.

## NYLON HONEYCOMB HAIRNETS

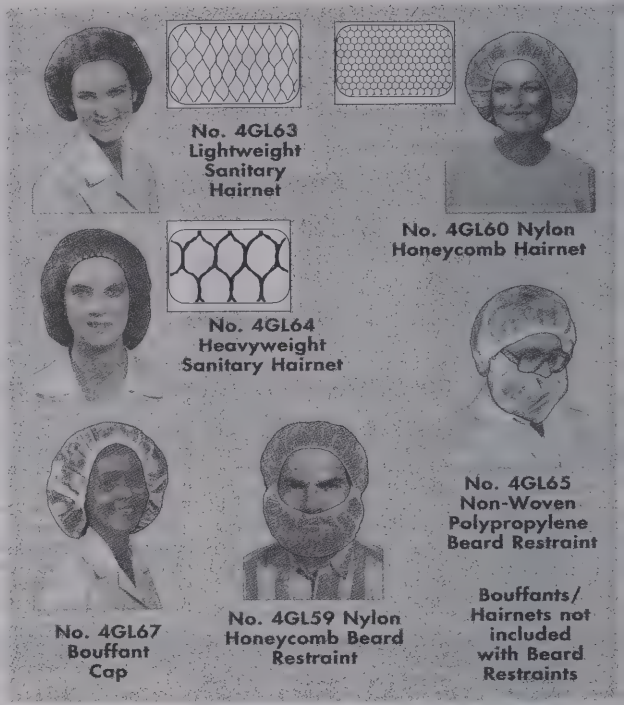
**Soft, flame-retardant,** 1/8" aperture nets provide high visibility and ensure maximum sanitation. Honeycomb nets have elastic band for easy fit and comfort. White color. **100 hairnets per box.** Cellucap brand.

## BOUFFANT CAPS

**Headcovers** made from breathable, non-woven polypropylene material which prevents contamination by keeping bacteria, falling hair, dandruff and dust completely contained within head covering. These caps are flame-retardant, lint-free and are for use when extra particulate protection is required. White color. **100 bouffant caps per box.** Cellucap brand.

## BEARD RESTRAINTS

**Choose from** breathable, lint-free non-woven polypropylene fabric or heavyweight nylon honeycomb mesh. For use when absolute sanitation is required. Both beard restraints are flame-retardant and cover facial area to help eliminate product contamination. **100 beard restraints per box.** Cellucap brand.




## SPECIFICATIONS AND ORDERING DATA

| Description | Color | Qty./ Box | Cellucap Model | Stock No. | Price per Box List | Price per Box Each | Lots 4 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SANITARY HAIRNETS** | | | | | | | | | |
| **Lightweight** | White | 144 | HN-500 | **4GL63** | $23.75 | **$20.19** | **$19.18** | **$18.17** | 0.3 |
| **Lightweight** | Light Brown | 144 | HN-500 | **4GL66** | 23.75 | **20.19** | **19.18** | **18.17** | 0.3 |
| **Lightweight** | Dark Brown | 144 | HN-500 | **4GL70** | 23.75 | **20.19** | **19.18** | **18.17** | 0.3 |
| **Heavyweight** | White | 144 | HN-600 | **4GL64** | 49.71 | **42.25** | **40.14** | **38.03** | 0.8 |
| **Heavyweight** | Dark Brown | 144 | HN-600 | **4GL69** | 49.71 | **42.25** | **40.14** | **38.03** | 0.8 |
| **NYLON HONEYCOMB HAIRNETS** | | | | | | | | | |
| **18" Regular** | White | 100 | K-1018 | **4GL60** | 29.35 | **24.95** | **23.70** | **22.46** | 0.5 |
| **20" Large** | White | 100 | K-1020 | **4GL61** | 35.39 | **30.10** | **28.60** | **27.09** | 0.6 |
| **24" XLarge** | White | 100 | K-1024 | **4GL62** | 44.86 | **38.15** | **36.24** | **34.34** | 0.7 |
| **BOUFFANT CAPS** | | | | | | | | | |
| **21" Cap** | White | 100 | BI-400D | **4GL67** | 13.19 | **11.21** | **10.65** | **10.09** | 1.0 |
| **24" Cap** | White | 100 | BIX-400D | **4GL68** | 14.47 | **12.30** | **11.69** | **11.07** | 1.2 |
| **BEARD RESTRAINTS** | | | | | | | | | |
| **Non-Woven Polypropylene Fabric** | — | 100 | BP-400 | **4GL65** | 19.47 | **16.55** | **15.72** | **14.90** | 0.7 |
| **Nylon Honeycomb Mesh** | — | 100 | BN-100 | **4GL59** | 26.88 | **22.85** | **21.71** | **20.57** | 0.4 |

# DISPENSERS

**Acrylic wall-mounted** dispensers available for the convenience of workers. Dispenses hairnets or bouffant caps. Cellucap brand.

**No. 4GL73.** Small size dispenses lightweight sanitary hairnets.

**No. 4GL72.** Regular size dispenses nylon honeycomb hairnets, heavyweight sanitary hairnets or 75 bouffant caps.

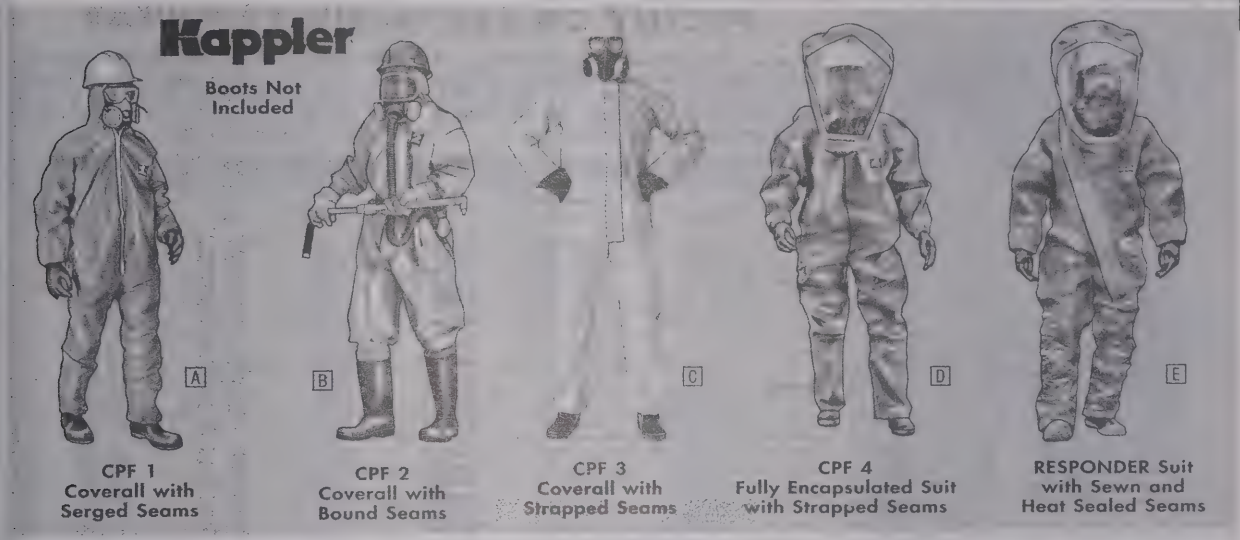
**No. 4GL71.** Large size dispenses nylon honeycomb hairnets or 100 bouffant caps.

CELLUCAP FRANKLIN DISPOSABLES

## DISPENSER SPECIFICATIONS AND ORDERING DATA

| Description | Cellucap Model | Stock No. | List | Each | Lots 4 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Small Size Acrylic Dispenser** | D903 | **4GL73** | $14.00 | **$11.90** | **$10.71** | **$10.12** | 1.3 |
| **Regular Size Acrylic Dispenser** | D904 | **4GL72** | 32.00 | **27.20** | **24.48** | **23.12** | 2.3 |
| **Large Size Acrylic Dispenser** | D902 | **4GL71** | 62.30 | **52.95** | **50.30** | **47.66** | 4.8 |

# CHEMICAL PROTECTIVE CLOTHING




CPF 1 Coverall with Serged Seams

CPF 2 Coverall with Bound Seams

CPF 3 Coverall with Strapped Seams

CPF 4 Fully Encapsulated Suit with Strapped Seams

RESPONDER Suit with Sewn and Heat Sealed Seams

## A CPF® 1 COVERALLS

Features increased physical strength and splash resistance over other competing fabrics by laminating a multilayered barrier film to a durable 1.2 oz. polypropylene substrate. This lamination process eliminates pin holes, which can sometimes be a problem with coated polypropylene products. Use for protection from dry particulates and light splash. Full zip front, elasticized hood, wrists and ankles. Set-in sleeves provide ease of motion. **Priced and sold in packs of 12.**

## B CPF® 2 COVERALLS

Coveralls offer greater tear resistance and hold-out by laminating a layer of co-extruded barrier film to a 1.5 oz. polypropylene substrate. For use against a wide variety of chemicals and where rip-out is a concern. Applications include remediation, chemical handling and clean-up operations. Features set in sleeves for ease of motion. Full zip front. Attached hood has self-adjusting elastic face opening, and attached boots feature elastic ankles for proper boot positioning. **Priced and sold in packs of 12.**

## C CPF® 3 COVERALLS

Constructed from a multilayer barrier film laminated to a durable 2.0 oz. polypropylene substrate to provide greater physical strength and chemical hold-out. For use in rigorous activities and where there is potential for chemical splash. Features include set-in sleeves for ease of motion, elasticized hood, wrists and ankles and full zip front. **Priced and sold in packs of 6.**

## D CPF® 4 FULLY ENCAPSULATED SUIT

Constructed of a multifilm composite laminated to a strong 2.3 oz. polypropylene substrate for one of the broadest ranges of chemical protection available for level B suits. Features 20 mil PVC faceshield, expanded back, exhaust ports and rear entry. Includes attached hood, attached sock boots, set-in sleeves for ease of motion, full zip front, elastic wrists and ankles. **Priced and sold individually.**

## E RESPONDER®

Limited use material designed to offer high degree of permeation resistance to a broad range of chemicals. Made of a multiple film and tough substrate composite material joined by durable sewn and heat sealed seams. Shows no permeation breakthrough for 8 hours against the ASTM F1001 chemical battery. **Priced and sold individually.** Kappler brand.

**LIMITED WARRANTY**
**Responder Suits listed on this page are warranted against defect in materials and workmanship for a period of 90 days after delivery of garment. See page opposite inside back cover.**

## SPECIFICATIONS AND ORDERING DATA

| Key | Garment Style | Size | Seam Style | No. Per Pack | Color | Kappler Model | Stock No. | List | Each | Lots 3 | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | CPF 1 | Large | Serged | 12 | Blue | 1S428 | 5AK82 | $102.97 | $97.85 | $92.68 | $87.53 | 8.0 |
| | | X-Large | Serged | 12 | Blue | 1S428 | 2AW89 | 102.97 | 97.85 | 92.68 | 87.53 | 8.0 |
| | | XX-Large | Serged | 12 | Blue | 1S428 | 2AH96 | 113.27 | 107.65 | 101.95 | 96.28 | 8.0 |
| | | XXX-Large | Serged | 12 | Blue | 1S428 | 1BW24 | 115.33 | 109.60 | 103.80 | 98.03 | 9.0 |
| B | CPF 2 | Large | Bound | 12 | Gray | 2B414 | 4AJ40 | 240.97 | 229.25 | 216.88 | 204.83 | 14.0 |
| | | X-Large | Bound | 12 | Gray | 2B414 | 6AN55 | 240.97 | 229.25 | 216.88 | 204.83 | 14.0 |
| | | XX-Large | Bound | 12 | Gray | 2B414 | 3AG47 | 255.39 | 243.00 | 229.86 | 217.09 | 14.0 |
| | | XXX-Large | Bound | 12 | Gray | 2B414 | 1BW23 | 259.51 | 246.75 | 233.56 | 220.59 | 15.0 |
| C | CPF 3 | Large | Strapped | 6 | Beige | 3T428 | 4AG24 | 267.76 | 254.50 | 240.99 | 227.60 | 12.0 |
| | | X-Large | Strapped | 6 | Beige | 3T428 | 3AC48 | 267.76 | 254.50 | 240.99 | 227.60 | 12.0 |
| | | XX-Large | Strapped | 6 | Beige | 3T428 | 2AR22 | 282.18 | 268.50 | 253.96 | 239.86 | 12.0 |
| | | XXX-Large | Strapped | 6 | Beige | 3T428 | 1BW22 | 288.35 | 274.00 | 259.52 | 245.10 | 15.0 |
| D | CPF 4 | Large | Strapped | 1 | Green | 4T571 | 3AC98 | 146.18 | 138.90 | 131.57 | 124.26 | 4.0 |
| | | X-Large | Strapped | 1 | Green | 4T571 | 6AV63 | 146.18 | 138.90 | 131.57 | 124.26 | 4.0 |
| E | Responder® | Large | Heat Sealed | 1 | Blue | 41550 | 6AD56 | 741.97 | 705.00 | 667.78 | 630.68 | 8.0 |
| | | X-Large | Heat Sealed | 1 | Blue | 41550 | 2AH09 | 741.97 | 705.00 | 667.78 | 630.68 | 8.0 |

# RAINWEAR AND PROTECTIVE CLOTHING




## PVC/NYLON CK3® SCRIM RAINWEAR

**Rainwear** features strong stitching and taped seam construction. Resists damaging exposure from contact with salts, alkalis, alcohols plus many acids. Coated inside and out for soil resistance.

**Jacket** has raglan shoulders and storm fly front. Overall has bib, elasticized suspenders and plain front. Coat has 2 pockets. Flame retardant. Yellow color. LaCrosse Rainfair brand.

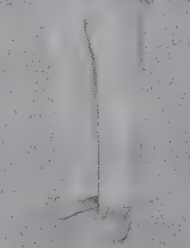
### SPECIFICATIONS AND ORDERING DATA

| Garment Style | Size† | LaCrosse Rainfair Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Jacket | Small | 1100–4401 | 6AP12 | $21.00 | $16.78 | $15.94 | 1.5 |
| | Medium | 1100–4401 | 2AZ46 | 21.00 | 16.78 | 15.94 | 1.5 |
| | Large | 1100–4401 | 5AR22 | 21.00 | 16.78 | 15.94 | 1.5 |
| | X-Large | 1100–4401 | 6AK09 | 21.00 | 16.78 | 15.94 | 1.5 |
| | XX-Large | 1102–4401 | 5AP11 | 23.10 | 18.46 | 17.54 | 1.5 |
| | XXX-Large | 1103–4401 | 5AF45 | 25.20 | 20.14 | 19.13 | 1.5 |
| Overall | Small | 1600–4402 | 2AN78 | 16.46 | 13.16 | 12.50 | 1.0 |
| | Medium | 1600–4402 | 2AW68 | 16.46 | 13.16 | 12.50 | 1.0 |
| | Large | 1600–4402 | 6AJ93 | 16.46 | 13.16 | 12.50 | 1.0 |
| | X-Large | 1600–4402 | 4AG05 | 16.46 | 13.16 | 12.50 | 1.0 |
| | XX-Large | 1602–4402 | 1AD92 | 18.11 | 14.47 | 13.75 | 1.5 |
| | XXX-Large | 1603–4402 | 2AL23 | 19.75 | 15.78 | 14.99 | 1.5 |
| Coat | Small | 2100–4400 | 6AM35 | 28.95 | 23.14 | 21.98 | 2.0 |
| | Medium | 2100–4400 | 5AH67 | 28.95 | 23.14 | 21.98 | 2.0 |
| | Large | 2100–4400 | 5AD19 | 28.95 | 23.14 | 21.98 | 2.0 |
| | X-Large | 2100–4400 | 2AR53 | 28.95 | 23.14 | 21.98 | 2.0 |
| | XX–Large | 2102–4400 | 6AL97 | 32.14 | 25.70 | 24.42 | 2.0 |
| | XXX–Large | 2103–4400 | 6AD45 | 34.75 | 27.85 | 26.46 | 2.0 |

(†) Refer to size chart below.

LaCrosse Rainfair SAFETY PRODUCTS®




Available in Sizes Small through XXX–Large

## COOL-AIR® RAINWEAR

**Cool–Air® fabric lets air circulate** inside garment while sealing out rain and water. Enables wearer to stay dry and comfortable even in wet, warm weather conditions. 200 denier oxford weave nylon fabric has its polyurethane moisture barrier inside where heavy work and abrasion cannot get to it.

**Garments are flexible and comfortable** even in cold weather. Flame retardant: meet Federal Standard 191b., Method 5903.2 with a flameout and afterglow of 2 seconds or less. Double-needle stiching with tape sealed seams. Yellow color. LaCrosse Rainfair brand.

**Jacket** has one–piece fly front with raglan sleeves and detachable hood. Storm fly front closure has four snaps.

**Jacket with Hood**—One–piece fly front jacket with raglan sleeves and attached hood. Storm fly front closure has four–snaps. 40" drawcord adjusts hood for facial comfort.

**Bib Overall**—Full cut overall with one snap storm fly front closure. Full elasticized adjustable suspenders.

### SPECIFICATIONS AND ORDERING DATA

| Garment Style | Size | Length (In.) | LaCrosse Rainfair Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Jacket with Detachable Hood | Small | 30 | 1100–8197 | 5AN20 | $33.08 | $26.50 | $25.18 | 1.0 |
| | Medium | | 1100–8197 | 3BC63 | 33.08 | 26.50 | 25.18 | 1.0 |
| | Large | | 1100–8197 | 2AH65 | 33.08 | 26.50 | 25.18 | 1.0 |
| | X–Large | | 1100–8197 | 2AD04 | 33.08 | 26.50 | 25.18 | 1.0 |
| | XX–Large | | 1102–8197 | 6AC45 | 36.35 | 29.15 | 27.69 | 1.0 |
| | XXX–Large | | 1103–8197 | 2BC51 | 39.70 | 31.80 | 30.21 | 1.0 |
| Jacket with Attached Hood | Small | 30 | 1300–8397 | 5T916 | 26.45 | 23.42 | 22.25 | 0.6 |
| | Medium | | 1300–8397 | 5T917 | 26.45 | 23.42 | 22.25 | 0.7 |
| | Large | | 1300–8397 | 5T918 | 26.45 | 23.42 | 22.25 | 1.0 |
| | X–Large | | 1300–8397 | 5T919 | 26.45 | 23.42 | 22.25 | 1.0 |
| | XX–Large | | 1302–8397 | 5T920 | 29.04 | 25.80 | 24.51 | 1.0 |
| Bib Overall | Small | 29 Inseam | 1700–8297 | 5T921 | 22.66 | 20.09 | 19.09 | 0.6 |
| | Medium | | 1700–8297 | 5T922 | 22.66 | 20.09 | 19.09 | 0.7 |
| | Large | | 1700–8297 | 5T923 | 22.66 | 20.09 | 19.09 | 0.8 |
| | X–Large | | 1700–8297 | 5T924 | 22.66 | 20.09 | 19.09 | 0.8 |
| | XX–Large | | 1702–8297 | 5T925 | 24.94 | 22.08 | 20.98 | 1.0 |
| | XXX–Large | | 1703–8297 | 1AD84 | 32.98 | 26.40 | 25.08 | 1.0 |

### RAINFAIR SIZING CHART

| Garment | Measurement | S | M | L | XL | XXL | XXXL |
|---|---|---|---|---|---|---|---|
| Jacket/Raincoat/Parka | Chest | 36–38 | 40–42 | 44–46 | 48–50 | 52–54 | 56–58 |
| Overalls/Pants | Waist | 32–34 | 36–38 | 40–42 | 44–46 | 48–50 | 52–54 |
| Coveralls | Chest | 36–38 | 40–42 | 44–46 | 48–50 | 52–54 | 56–58 |
| | Waist | 30–32 | 34–36 | 38–40 | 42–44 | 46–48 | 50–52 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

## PVC/POLYESTER SUIT

**Provides excellent protection** against oils, acids, and other industrial compounds that destroy rubber. PVC coated, tough polyester fabric resists abrasions. 0.35 mm thick suits are 100% waterproof with double heat welded seams.

**Three-piece suit** consists of jacket, detachable hood, and bib overall. Jacket has stormfly front with snap closure, cape back ventilation, raglan shoulder, two flap pockets with snap closure, and corduroy lined collar. Bib overall has snap-fly front. Yellow color. LaCrosse/Rainfair brand.

| Garment Style | Size† | LaCrosse Rainfair Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3-Piece Suit | Small | 0000-8005 | 5T911 | $13.85 | $12.43 | $11.81 | 2.5 |
| | Medium | 0000-8005 | 5T912 | 13.85 | 12.43 | 11.81 | 3.0 |
| | Large | 0000-8005 | 5T913 | 13.85 | 12.43 | 11.81 | 3.0 |
| | X-Large | 0000-8005 | 5T914 | 13.85 | 12.43 | 11.81 | 3.0 |
| | XX-Large | 0002-8005 | 5T915 | 15.41 | 13.82 | 13.13 | 4.0 |
| | XXX-Large | 0003-8005 | 6AL66 | 16.42 | 14.73 | 13.99 | 4.0 |

## DOUBLE-COATED PVC/NYLON SUIT

**Resists damaging exposure** from contact with salts, alkalies, alcohols, plus many acids. 0.35 mm thick, double-coated nylon has the tear and tensile strength to absorb abuse on the job. The PVC coating resists dirt and soil inside and out. 100% waterproof with lapped and locked seams. More durable than PVC/polyester suit.

**Three-piece suit** consists of jacket, detachable hood, and bib overall. Jacket has stormfly front with snap closure, cape back ventilation, take up snaps at wrist, two flap pockets with snap closure, and corduroy lined collar. Bib overall features fly front snap closure and take up snaps at ankles. Elastic inserts on adjustable suspenders provide for comfortable fit. Large PVC snaps. Yellow color. LaCrosse/Rainfair brand.

| Garment Style | Size† | LaCrosse Rainfair Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3-Piece Suit | Small | 0000-7020 | 4T224 | $27.64 | $24.54 | $23.31 | 3.4 |
| | Medium | 0000-7020 | 4T225 | 27.64 | 24.54 | 23.31 | 3.4 |
| | Large | 0000-7020 | 4T226 | 27.64 | 24.54 | 23.31 | 3.4 |
| | X-Large | 0000-7020 | 4T227 | 27.64 | 24.54 | 23.31 | 3.4 |
| | XX-Large | 0002-7020 | 5T209 | 30.39 | 27.00 | 25.65 | 3.5 |

## PVC RAINWEAR

**Rainsuits and raincoats** are 100% waterproof with heat-sealed seams. Jackets have storm fly front. Overalls have bib front and elasticized suspenders. Yellow color. LaCrosse Rainfair brand.

**0.25mm rainsuit:** Three-piece with cape back ventilation jacket and raglan shoulders, 2 flapped pockets and detached hood. Snap-fly front overalls.

**0.25mm raincoat:** Cape back ventilation, detachable hood, 2 pockets.

| Garment Style | Size† | LaCrosse Rainfair Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3-Piece Rainsuit | Small | 0000-8301 | 5AG45 | $14.25 | $9.96 | $9.46 | 2.5 |
| | Medium | 0000-8301 | 1BC75 | 14.25 | 9.96 | 9.46 | 2.5 |
| | Large | 0000-8301 | 5AM96 | 14.25 | 9.96 | 9.46 | 3.0 |
| | X-Large | 0000-8301 | 3AK84 | 14.25 | 9.96 | 9.46 | 3.0 |
| | XX-Large | 0002-8301 | 3AT35 | 15.98 | 10.95 | 10.40 | 3.0 |
| Raincoat | Small | 2100-8300 | 6AP02 | 10.08 | 8.04 | 7.64 | 2.0 |
| | Medium | 2100-8300 | 3AK92 | 10.08 | 8.04 | 7.64 | 2.0 |
| | Large | 2100-8300 | 5AZ31 | 10.08 | 8.04 | 7.64 | 2.0 |
| | X-Large | 2100-8300 | 5AD49 | 10.08 | 8.04 | 7.64 | 2.5 |
| | XX-Large | 2102-8300 | 6AT78 | 11.07 | 8.83 | 8.39 | 2.5 |

## POLYURETHANE/NYLON RAINWEAR

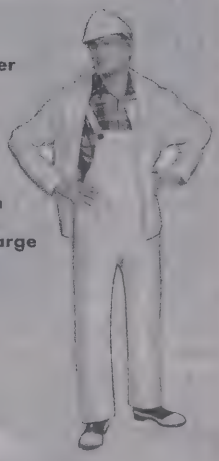
Flame retardant 200 denier nylon oxford base fabric provides excellent durability. Coated on exterior side with polyurethane for optimum protection from harsh elements. Batwing sleeve construction allows for freedom of movement.

Dielectrically sealed seams provide waterproof integrity. Industrial grade hardware resists rust and corrosion. Yellow color. Made in the USA. LaCrosse Rainfair brand.

| Description | Size† | LaCrosse Rainfair Model | *New!* Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Jacket | Medium | 1100-1937 | 4MK96 | $38.23 | $34.75 | $33.01 | 10.0 |
| | Large | 1100-1937 | 4MK95 | $38.23 | $34.75 | 33.01 | 10.0 |
| | X-Large | 1100-1937 | 4MK97 | $38.23 | $34.75 | 33.01 | 10.0 |
| | XX-large | 1102-1937 | 4ML02 | $41.53 | $37.75 | 35.86 | 10.0 |
| Overalls | Medium | 1600-1937 | 4ML13 | $34.16 | $31.05 | 29.50 | 10.0 |
| | Large | 1600-1937 | 4ML12 | $34.16 | $31.05 | 29.50 | 10.0 |
| | X-Large | 1600-1937 | 4ML14 | $34.16 | $31.05 | 29.50 | 10.0 |
| | XX-large | 1602-1937 | 4ML18 | $37.62 | $34.20 | 32.49 | 10.0 |

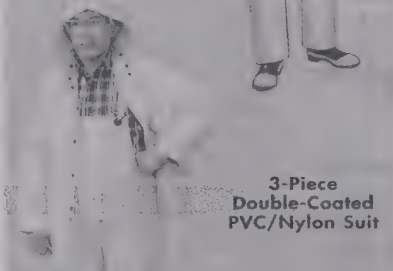
(†) Refer to size chart on page 2478

LaCrosse Rainfair SAFETY PRODUCTS



3-Piece PVC/Polyester Suit

Available in Sizes Small through XXX-Large



3-Piece Double-Coated PVC/Nylon Suit

Available in Sizes Small through XX-Large





Jacket and Overalls

New

Available in Sizes Small through XX-Large

# RAINWEAR AND PROTECTIVE CLOTHING

## VULTEX® HEAVY-DUTY RAINWEAR

Tough, long wearing Vultex® garments are made from SBR/rubber coating on cotton/poly. Chemical resistant to keytones and organic esters. Guards against heavy abrasion, sheds heavy soil, and is acid and mildew resistant. Garments are 100% waterproof in heavy industrial use. Yellow color. LaCrosse Rainfair brand.

**Jacket**—Plain front styling with exclusive batwing construction that gives extra room to work, stretch and reach, and keeps cuffs from hiking up. Nickel plated brass hardware. Stand-up collar with corduroy lining.

**Jacket with Hood**—Same construction as jacket above except with attached parka type hood. Drawstring snugs hood up for greater protection to head and face.

**Bib Overall**—Full cut bib overall with one snap fly front protects legs and lower chest from water and wind. Generously cut for easy on and off over workclothes. Adjustable suspenders have nickel plated brass buttons and hooks.

**Raincoat**—Full length plain front raincoat with nickel plated snaps and two flapped pockets at the sides. Same durable, waterproof construction as garments listed above. Lined corduroy collar.

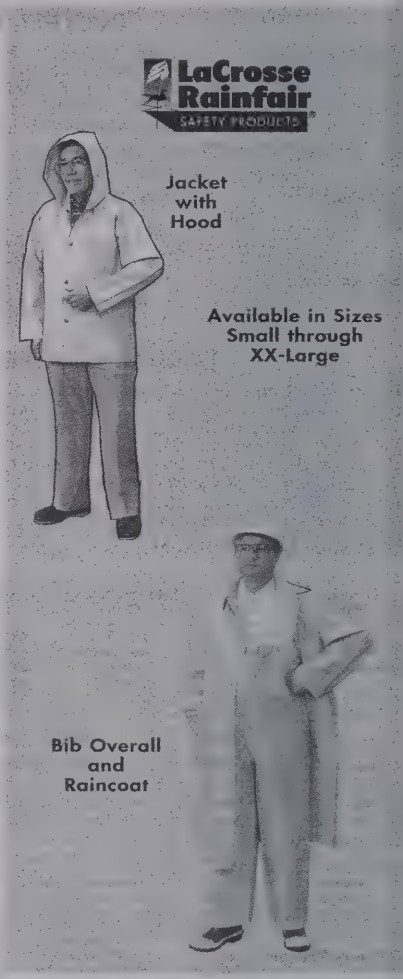
**Rain Hood**—For use with jackets and raincoats.

### SPECIFICATIONS AND ORDERING DATA

| Garment Style | Size | Length (In.) | LaCrosse Rainfair Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Jacket** | Small | 30 | 1000-1401 | **4T228** | $28.20 | **$25.35** | **$24.08/6** | 1.2 |
| | Medium | | 1000-1401 | **4T229** | 28.20 | **25.35** | **24.08/6** | 2.3 |
| | Large | | 1000-1401 | **4T230** | 28.20 | **25.35** | **24.08/6** | 2.5 |
| | X-Large | | 1000-1401 | **4T231** | 28.20 | **25.35** | **24.08/6** | 2.5 |
| | XX-Large | | 1002-1401 | **5T210** | 31.01 | **27.95** | **26.55/6** | 2.6 |
| **Jacket with Hood** | Small | 30 | 1300-1401 | **4T232** | 34.37 | **30.95** | **29.40/6** | 2.1 |
| | Medium | | 1300-1401 | **4T233** | 34.37 | **30.95** | **29.40/6** | 2.2 |
| | Large | | 1300-1401 | **4T234** | 34.37 | **30.95** | **29.40/6** | 2.3 |
| | X-Large | | 1300-1401 | **4T235** | 34.37 | **30.95** | **29.40/6** | 2.4 |
| | XX-Large | | 1302-1401 | **5T211** | 37.81 | **34.10** | **32.40/6** | 2.5 |
| **Bib Overall** | Small | 29 | 1700-1402 | **4T236** | 30.10 | **27.10** | **25.75/6** | 1.4 |
| | Medium | | 1700-1402 | **4T237** | 30.10 | **27.10** | **25.75/6** | 2.2 |
| | Large | | 1700-1402 | **4T238** | 30.10 | **27.10** | **25.75/6** | 2.2 |
| | X-Large | | 1700-1402 | **4T239** | 30.10 | **27.10** | **25.75/6** | 2.3 |
| | XX-Large | | 1702-1402 | **5T212** | 33.09 | **29.85** | **28.36/6** | 2.4 |
| **Raincoat** | Small | 48 | 2100-1400 | **4T240** | 56.95 | **51.30** | **48.74/4** | 3.6 |
| | Medium | | 2100-1400 | **4T241** | 56.95 | **51.30** | **48.74/4** | 3.7 |
| | Large | | 2100-1400 | **4T242** | 56.95 | **51.30** | **48.74/4** | 3.8 |
| | X-Large | | 2100-1400 | **4T243** | 56.95 | **51.30** | **48.74/4** | 3.9 |
| | XX-Large | | 2102-1400 | **5T263** | 62.66 | **56.40** | **53.58/4** | 4.0 |
| **Rain Hood** | — | — | 28001172U | ***New*4ML31** | 7.98 | **7.25** | **6.89/6** | 0.3 |

### LaCROSSE RAINFAIR CLOTHING SIZE CHART

| Garment | Measurement | S | M | L | XL | XXL |
|---|---|---|---|---|---|---|
| Jacket/Raincoat/Parka | Chest | 36-38 | 40-42 | 44-46 | 48-50 | 52-54 |
| Overall/Pants | Waist | 32-34 | 36-38 | 40-42 | 44-46 | 48-50 |
| Coverall | Chest | 36-38 | 40-42 | 44-46 | 48-50 | 52-54 |
| | Waist | 30-32 | 34-36 | 38-40 | 42-44 | 46-48 |

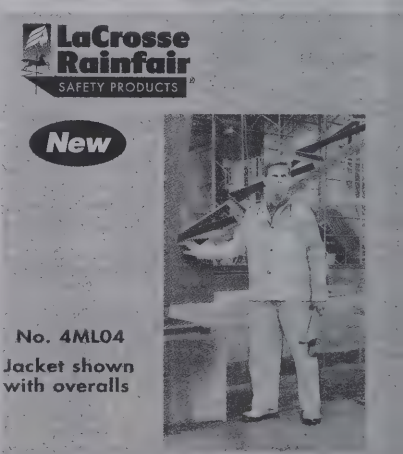



## VIS GARD® RAINWEAR

High visibility rainwear keeps workers safe and dry. Flame retardant 200 denier nylon oxford exterior is coated on the inside with polyurethane. Resists abrasions and tears. Waterproof double needle stitching and taped seam, hems are sewn for neat, professional appearance. Raglan sleeve construction. Industrial grade hardware resists rust and corrosion. Exceeds Federal Standard 191b test method 5903.2. Fluorescent Lime Green color. Made in USA. LaCrosse Rainfair brand.

### VIS-GARD® RAINWEAR SIZE CHART

| Description | Size | LaCrosse Rainfair Model | *New!* Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Jacket** | Medium | 1300-4194 | **4ML05** | $33.72 | **$30.65** | **$29.12** | 10.0 |
| | Large | 1300-4194 | **4ML04** | 33.72 | **30.65** | **29.12** | 10.0 |
| | X-Large | 1300-4194 | **4ML06** | 33.72 | **30.65** | **29.12** | 10.0 |
| | XX-Large | 1302-4194 | **4ML07** | 36.85 | **33.50** | **31.83** | 10.0 |
| **Overalls** | Medium | 1700-4194 | **4ML16** | 32.78 | **29.80** | **28.31** | 10.0 |
| | Large | 1700-4191 | **4ML15** | 32.78 | **29.80** | **28.31** | 10.0 |
| | X-Large | 1700-4194 | **4ML17** | 32.78 | **29.80** | **28.31** | 19.0 |
| | XX-Large | 1702-4194 | **4ML19** | 35.37 | **32.15** | **30.54** | 10.0 |



## CHEM-TECH RAINWEAR

Safe, flame retardant fabric excellent for use in chemical processing, oil refining, food processing and canning applications. Tapered collar is larger than standard collars and features Velcro closure for protection from overhead leaks and spills. Reinforced crotch and underarms and double heat welded seams for longer life. Industrial grade hardware resists rust and corrosion. Exceeds Federal Standard 191b, test method 5903.2. LaCrosse Rainfair brand.

LaCrosse Rainfair SAFETY PRODUCTS

New



No. 4MK98



No. 4ML20

### SPECIFICATIONS AND ORDERING DATA

| Description | Size | LaCrosse Rainfair Model | New! Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Jacket | Medium | 1100-8112 | 4MK99 | $21.89 | $19.90 | $18.91/6 | 2.8 |
| | Large | 1100-8112 | 4MK98 | 21.89 | 19.90 | 18.91/6 | 2.8 |
| | X-Large | 1100-8112 | 4ML01 | 21.89 | 19.90 | 18.91/6 | 2.8 |
| | XX-Large | 1102-8112 | 4ML03 | 23.65 | 21.50 | 20.43/6 | 2.8 |
| Overalls | Medium | 1600-8113 | 4ML09 | 17.89 | 16.26 | 15.45/6 | 2.3 |
| | Large | 1600-8113 | 4ML08 | 17.89 | 16.26 | 15.45/6 | 2.3 |
| | X-Large | 1600-8113 | 4ML10 | 17.89 | 16.26 | 15.45/6 | 2.3 |
| | XX-Large | 1602-8113 | 4ML11 | 19.68 | 17.89 | 17.00/6 | 2.3 |
| Coveralls | Medium | 1800-8116 | 4ML21 | 41.28 | 37.55 | 35.65/3 | 4.0 |
| | Large | 1800-8116 | 4ML20 | 41.28 | 37.55 | 35.65/3 | 4.0 |
| | X-Large | 1800-8116 | 4ML22 | 41.28 | 37.55 | 35.65/3 | 4.0 |
| | XX-Large | 1802-8116 | 4ML23 | 45.42 | 41.30 | 39.23/3 | 4.2 |

## CHAIN BRAKERS CHAIN SAW CHAPS

Nylon chain braking material offers great braking power with almost half the layers required of other braking materials resulting in a lighter, less bulky pad. Outer layer is 1000 denier DuPont Cordura® Nylon specially treated with a Teflon® coating to repel oil, water and dirt, plus defend against rips and tears from underbrush. Bindings and belting are double stitched and bartacked. Heavy-gauge belting with "quick clip" buckles for easy on and off. Exceed APA Class A minimum requirements for leg length and flare width. Measure from waist to top of foot. UL Classified in accordance with the American Pulpwood Association Standard 92-A-12 for Class A Leg Protection. Includes utility pouch made from 1000 denier Cordura® Nylon to keep tools and sharpeners close at hand. Orange color. Mar Mac brand.

mar mac.



### SPECIFICATIONS AND ORDERING DATA

| Size | Length (In.) | Mar Mac Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Medium/Large | 34 | 114160 | 6AJ60 | $75.15 | $71.45 | $64.30 | 2.7 |
| X-Large | 38 | 114161 | 5AN17 | 79.31 | 75.40 | 67.86 | 3.0 |
| XX-Large | 42 | 114162 | 5AD18 | 83.46 | 79.40 | 71.42 | 4.0 |

DESK SPACE AT A PREMIUM?

USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

## SUBZERO CLOTHING

**KodOfill® fiber** provides 20% more loft than solid fill and excellent compression resistance. Made of 430-denier pack-cloth nylon, garments resist rips and abrasion. Heavy-duty brass rivets protect all stress points. Navy blue color. Rainfair brand.

**34" Long Jacket** is designed with snap-over storm front with Velcro® throat guard. Quilt lining, two insulated flapped pockets, insulated breast pocket, knit elastic cuffs and elastic back band.

**38" Long Parka** has elastic back band, adjustable front belt and raglan shoulders. Design fits sizes small through extra large with equal comfort. Quilted lining, attached hood with drawstring and stretch knit liner. Knit nylon cuffs, snap-over storm front with two-head zipper, Velcro® chin patch and throat guard keep out drafts. Two front pockets and breast pocket are insulated.

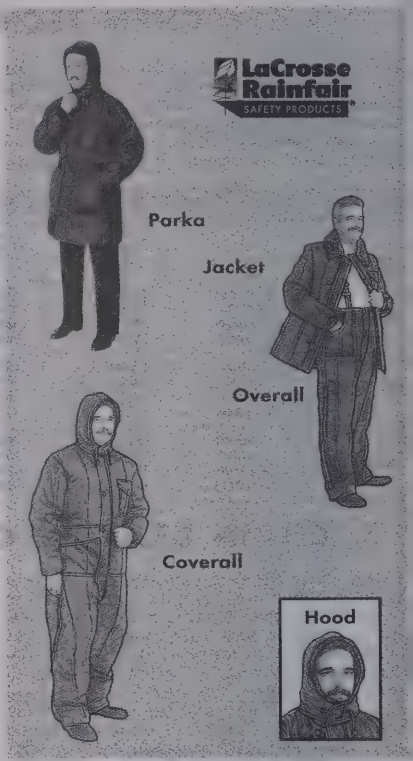
**Overall** has snap-over fly front, high back with H-harness suspenders, two insulated front pockets, wallet pocket, zip legs and ankle take-ups.

**Head-to-Toe Coverall** features adjustable back belt that conforms to body, quilted lining, attached hood with stretch-knit liner, snap-over storm front with two-head zipper, two double-sized insulated pockets, insulated breast pocket and take up snaps at the ankles. Long front opening with zippered leg enables easy on and off. **Hood** is lined with deep acrylic pile.

### SPECIFICATIONS AND ORDERING DATA

| Garment Style | Size† | LaCrosse Rainfair Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Parka** | Universal | 1500-5201 | **5T231** | $157.42 | **$141.75** | **$134.66** | 3.1 |
| **Jacket** | Medium | 1200-5201 | **4B318** | 169.90 | **135.95** | **129.15** | 3.0 |
| | Large | 1200-5201 | **4B319** | 169.90 | **135.95** | **129.15** | 3.0 |
| | X-Large | 1200-5201 | **4B317** | 169.90 | **135.95** | **129.15** | 3.0 |
| | XX-Large | 1202-5201 | **4B320** | 186.90 | **149.55** | **142.07** | 3.5 |
| **Overall** | Medium | 2000-5203 | **4B286** | 144.55 | **115.70** | **109.92** | 3.0 |
| | Large | 2000-5203 | **4B287** | 144.55 | **115.70** | **109.92** | 3.0 |
| | X-Large | 2000-5203 | **4B285** | 144.55 | **115.70** | **109.92** | 3.0 |
| | XX-Large | 2002-5203 | **4B288** | 159.02 | **127.25** | **120.89** | 3.0 |
| **Coverall** | Medium | 1800-5208 | **4B292** | 269.22 | **215.50** | **204.73** | 5.0 |
| | Large | 1800-5208 | **4B293** | 269.22 | **215.50** | **204.73** | 5.0 |
| | X-Large | 1800-5208 | **4B291** | 269.22 | **215.50** | **204.73** | 5.5 |
| | XX-Large | 1802-5208 | **4B294** | 296.18 | **237.25** | **225.39** | 6.0 |
| **Hood** | Universal | 2800-5209 | **4B264** | 28.93 | **23.15** | **21.99** | 1.0 |

(†) Refer to size chart on page 2478.




## THERMAL-TUFF OUTERWEAR

**Thermal-Tuff protective clothing** is made from a heavy duty 12-oz. duck material. Wind and abrasion resistant and snag proof. Treated with a durable water repellent finish. Main seams are triple stitched for extra strength. Thread bar tacked at all stress points. Insulated with 8 oz. nylon quilted polyester fiberfill. Desert sand brown color. Steiner brand.

**Quilt-lined coveralls** feature 2-way heavy-duty brass zipper front with snap closures on wind flap for extra protection. 2-Way heavy-duty brass leg zipper to waist for easy on and off. 2 zippered front chest pockets. Hammer loop and leg tool pockets. Recessed knit storm cuffs on inner sleeves. Action back for easy movements. Corduroy collar. Free "floating" lining.

**Bib overalls** are quilt lined from waist to bottom hem. Heavy duty brass leg zipper to the knee for easy on and off. High back with elastic suspenders for ease of movement. 3 Compartment chest pocket. 2 Waist and 2 back pockets. Hammer loop and leg tool pockets. Reinforced double knees.

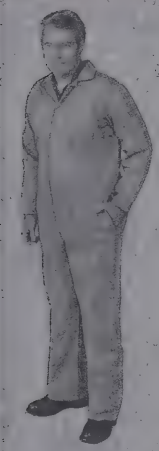
**30" Chore coat** is blanket lined with a corduroy collar. Sleeves are quilt lined for easy on and off. Recessed knit storm cuffs on inner sleeves. Inside safety pockets. 4 outside patch pockets, one with metal button flap. Free-floating lining.

### SPECIFICATIONS AND ORDERING DATA

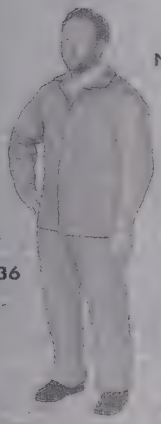
| Garment Style | Size | Steiner Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Coveralls** | Medium | 10157 | **1H188** | $113.82 | **$102.50** | **$97.32** | 5.2 |
| | Large | 10158 | **1H187** | 113.82 | **102.50** | **97.32** | 5.4 |
| | X-Large | 10159 | **1H186** | 113.82 | **102.50** | **97.32** | 5.6 |
| | XX-Large | 10155 | **1H189** | 124.94 | **112.45** | **106.82** | 5.8 |
| **Bib Overalls** | Medium | 10191 | **1H181** | 79.13 | **71.25** | **67.66** | 3.4 |
| | Large | 10192 | **1H180** | 79.13 | **71.25** | **67.66** | 3.5 |
| | X-Large | 10193 | **1H179** | 79.13 | **71.25** | **67.66** | 3.5 |
| | XX-Large | 10194 | **1H178** | 86.54 | **77.95** | **74.01** | 3.7 |
| **30" Chore Coat** | Medium | 10171 | **1H185** | 58.29 | **52.55** | **49.85** | 2.8 |
| | Large | 10172 | **1H184** | 58.29 | **52.55** | **49.85** | 2.9 |
| | X-Large | 10173 | **1H183** | 58.29 | **52.55** | **49.85** | 3.2 |
| | XX-Large | 10174 | **1H182** | 63.85 | **57.50** | **54.59** | 3.4 |



# FLAME RETARDANT CLOTHING

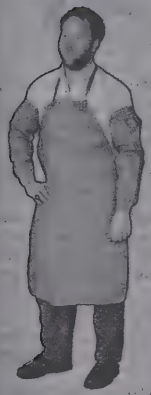


No. 5T346 Coveralls



No. 5T342 Jacket

No. 5T436 Pants

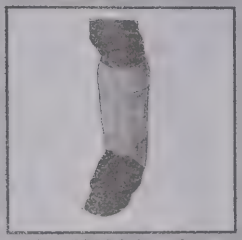


No. 5T348 Sleeves

No. 5T349 Apron

STEEL GRIP

- "Wrap-around" design eliminates needs for snaps or buckles
- Special tempered spring for snug fit



No. 5T393 Leggings

- 9" High chrome leather design
- Features two overshoe buckles and instep strap for fit adjustment



No. 5T394 Spats

## TREATED 100% COTTON PROTECTIVE CLOTHING

Designed for long wear and comfort, these garments are made with 100% 9 oz. cotton treated with Proban FR-7A®. Garments retain flame retardancy after repeated laundering and resist minor sparks. Green color. Steel Grip brand.

**Jackets.** 30" long with snap front and wrist closures. Set-in sleeves, inside left breast pocket, and laydown style collar.

**Pants.** 32" inseam trousers include two front slash pockets and two rear patch pockets. Oversize cut, double stitched and inseamed for added durability.

**Coveralls.** Designed to be worn over work clothing. Snap front and wrist closures, two rear patch pockets, two front reach-in pockets, one left inside breast pocket, and opening slits at each hip. Provide excellent flame retardancy over work garments.

**Sleeves.** 18" long Kevlar® thread sewn sleeves with 2¼" elastic at top and wrists. **Sold in pairs.**

**Aprons.** Durable flame retardant 9 oz. cotton aprons.

## CHROME LEATHER PROTECTIVE CLOTHING

**Split Leather Leggings.** Heavy chrome leather 14" duo-wrap design. Tempered steel spring overlaps around calf of leg for safe, comfortable fit. Features a tucked tailored top, thread and steel sewn heavy rubber flare and metal instep clamp. Provides superior protection from heat, sparks, and light metal splash. **Sold in pairs.** Steel Grip brand.

**Split Leather Spats.** 9" high chrome leather spats with two overshoe buckles for fastening and adjustment. 2" elastic top with snap fastener. 6" flexo split leather flare with adjustable instep strap. Protects against molten metal splash. **Sold in pairs.** Steel Grip brand.

## CLOTHING SPECIFICATIONS AND ORDERING DATA

| Garment Style | Size (In.) | Steel Grip Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Jacket | S (34-36) | GS16750 | 5T340 | $25.28 | $22.76 | $21.62/6 | 1.1 |
| | M (38-40) | GS16751 | 5T341 | 25.28 | 22.76 | 21.62/6 | 1.2 |
| | L (42-44) | GS16752 | 5T342 | 25.28 | 22.76 | 21.62/6 | 1.2 |
| | XL (46-48) | GS16753 | 5T343 | 25.28 | 22.76 | 21.62/6 | 1.1 |
| | XXL (50-52) | GS16754 | 2AK43 | 27.29 | 24.56 | 23.33/6 | 1.4 |
| | XXXL (54-56) | GS16755 | 3AC99 | 29.77 | 26.80 | 25.46/6 | 1.4 |
| Pants | S (30 Waist) | GS16760 | 5T337 | 28.73 | 25.20 | 23.92/6 | 1.2 |
| | M (34 Waist) | GS16760 | 5T352 | 28.73 | 25.20 | 23.92/6 | 1.2 |
| | L (38 Waist) | GS16760 | 5T436 | 28.73 | 25.20 | 23.92/6 | 1.4 |
| | XL (42 Waist) | GS16760 | 5T437 | 28.73 | 25.20 | 23.92/6 | 1.5 |
| Coverall | S (34-36) | GS16700 | 5T344 | 51.83 | 46.65 | 44.32/4 | 2.1 |
| | M (38-40) | GS16701 | 5T345 | 51.83 | 46.65 | 44.32/4 | 2.4 |
| | L (42-44) | GS16702 | 5T346 | 51.83 | 46.65 | 44.32/4 | 2.4 |
| | XL (46-48) | GS16703 | 5T347 | 51.83 | 46.65 | 44.32/4 | 2.6 |
| | XXL (50-52) | GS16704 | 2AR85 | 54.88 | 49.40 | 46.93/4 | 2.6 |
| | XXXL (54-56) | GS16705 | 2AN25 | 56.19 | 50.60 | 48.07/4 | 2.6 |
| Sleeves (Pair) | 18L | WC571-18A | 5T348 | 10.90 | 9.81 | 9.32/6 | 0.5 |
| Apron | 24 x 36 | GS125-36 | 5T349 | 16.33 | 14.70 | 13.97/6 | 0.5 |
| | 24 x 40 | GS125-40 | 5T350 | 16.77 | 15.09 | 14.34/6 | 0.6 |
| Leather Leggings (Pair) | 14H | [illegible] | 5T393 | 69.79 | 62.85 | 59.71/4 | 1.8 |
| Leather Spats (Pair) | 9H | CL574H | 5T394 | 24.53 | 22.08 | 20.98/4 | 0.5 |

Kevlar® Registered trademark of E.I. DuPont de Nemours & Co.

# PROTECTIVE CLOTHING

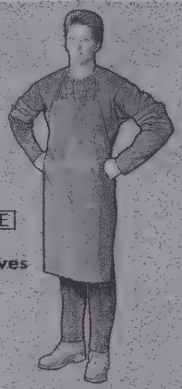
## PROTECTIVE WELD-RITE® LEATHER CLOTHING



A & B Cape Sleeves with Bib



C Jacket



D & E Apron and Sleeves



F Heat Protective Apron

### CAPE SLEEVE AND JACKET SIZE CHART

| Size | Chest Measurement |
|---|---|
| Small | 36-38 |
| Medium | 40-42 |
| Large | 44-46 |
| X-Large | 48-50 |

Welding Gloves Available See Index Under Gloves

STEEL GRIP INC.

A **Cape Sleeve.** Side-split cowhide down arms, shoulders, and upper torso. Back is left partially open for ventilation and comfort. Cape sleeve features roll up collar with snaps and welted shoulder and arm seams. Sewn with Kevlar® thread and steel riveted at end seams. Optional bibs available (No. 5T178 or 5AC71). Steiner brand.

| Size | Steiner Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Small** | 92100 | **5T174** | $41.61 | **$37.50** | **$35.58** | 2.3 |
| **Medium** | 92101 | **5T175** | 41.61 | **37.50** | **35.58** | 2.5 |
| **Large** | 92102 | **5T176** | 41.61 | **37.50** | **35.58** | 2.5 |
| **X-Large** | 92103 | **5T177** | 41.61 | **37.50** | **35.58** | 2.5 |
| **XX-Large** | 92104 | **1H166** | 45.38 | **40.90** | **38.80** | 3.1 |

B **Detachable Bibs.** Extend cape sleeve protection down past the waist. One-piece side-split cowhide 14" long by 20" wide. Attaches to cape sleeve with four snaps. Secured around the waist with webbing and snap buckle. Steiner brand (92110).

**No. 5T178.** Shpg. wt. 0.5 lbs. List ..... $9.63.
Each **$8.68;** Lots 6 ..... **$8.25**

**No. 5AC71.** Shpg. wt. 0.9 lbs. List ..... $10.67.
Each **$9.60;** Lots 6 ..... **$9.12**

C **26 and 30" Jackets.** Full leather protection in a waist length jacket. Made with side-split cowhide, snaps at collar and wrists. Includes a hang tab and inside pocket. Sewn inseam with Kevlar® thread and steel riveted to reinforce critical areas. Steiner brand.

| Size | Steiner Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | | | **26" JACKET** | | | |
| **Small** | 92140 | **5T170** | $63.81 | **$57.50** | **$54.58** | 4.0 |
| **Medium** | 92141 | **5T171** | 63.81 | **57.50** | **54.58** | 4.0 |
| **Large** | 92142 | **5T172** | 63.81 | **57.50** | **54.58** | 4.8 |
| **X-Large** | 92143 | **5T173** | 63.81 | **57.50** | **54.58** | 4.8 |
| **XX-Large** | 92144 | **1H164** | 68.89 | **62.05** | **58.90** | 4.8 |
| | | | **30" JACKET** | | | |
| **Small** | 92150 | **4AJ43** | 66.20 | **59.65** | **56.61** | 4.5 |
| **Medium** | 92151 | **2AZ36** | 66.20 | **59.65** | **56.61** | 4.5 |
| **Large** | 92152 | **2AJ40** | 66.20 | **59.65** | **56.61** | 5.2 |
| **X-Large** | 92153 | **2AG83** | 66.20 | **59.65** | **56.61** | 5.4 |
| **XX-Large** | 92154 | **6AF88** | 74.25 | **65.40** | **62.09** | 5.5 |

D **Bib Apron.** Economical chest-to-knee protection. 24" wide by 36" long side-split apron. Double sewn with Kevlar® thread and riveted at ending seams. Secured around the neck and at the waist with webbing and snap buckle. Steiner brand (92165).

**No. 5T179.** Shpg. wt. 1.7 lbs. List ..... $22.40.
Each **$20.15;** Lots 6 ..... **$19.14**

E **18" Sleeves.** Protect from the wrist to the upper bicep. Secure at wrist with snaps and at upper arm with an adjustable strap. Top grade side-split cowhide sewn inseam with Kevlar® thread and riveted at end seams. **Sold and priced per pair.** Steiner brand (92180).

**No. 5T180.** Shpg. wt. 1.1 lbs. List ..... $17.80.
Each **$16.00;** Lots 6 ..... **$15.20**

F **Heat Protective Aprons.** Bib style aprons made of nonasbestos 22 oz. Kevlar® blend. Provide protection from sparks, hot metal fragments, and minor metal splash. Steel Grip brand.

### HEAT APRON ORDERING DATA

| Size (In.) | Steel Grip Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **24 x 36** | TH125-36 | **5T351** | $45.66 | **$41.10** | **$39.05** | 1.0 |
| **24 x 48** | TH125-48 | **5T353** | 53.60 | **48.25** | **45.84** | 1.3 |

Kevlar®. Registered trademark of E.I. DuPont de Nemours & Co.

## WELDING CAP

"Krazy Kap" welding cap. Two layers of 100% cotton with elastic sewn on sides. Completely reversible with wild pattern on one side and solid matching color on the other side. 3 x 8" soft bill. Washable. One size fits all. Steiner brand (KK001).

**No. 1H158.** Shpg. wt. 0.2 lbs. List $6.62. Each **$5.96;** Lots 6 ..... **$5.66**



No. 1H158

# HEAT AND FLAME PROTECTION CLOTHING




These garments are used for protection against radiant heat, sparks, and molten metal splash. For use in foundries, steel mills, casting shops, heat treating operations, and specialized welding shops. The duo-mirror aluminization reflects 90% of the radiant heat away from workers. Available in two aluminized materials. Steel Grip brand.

### MATERIALS

**Aluminized 15 Oz. Rayon (ARL).** This material offers economical radiant heat protection and long lasting wear.

**Aluminized 19 Oz. Thermonol (ATH).** Thermonol is a combination of "Kevlar® 29" yarn and other nonasbestos fibers. Offers radiant heat protection, excellent thermal protection, and is metal splash resistant. Excellent replacement for aluminized asbestos.

### STYLES

**Jackets.** 35" length, semi-raglan sleeve for maximum comfort, covered snap front in 5" spacing to minimize gaps, leather pull tabs, F/R cotton lined collar and front facing, snap adjustment at wrist, all Kevlar sewn.

**Pants.** Features leather belt loops, suspender buttons, covered snap fly, and reinforced waist band. All Kevlar sewn with 32" inseam.

**Boot Covers.** 12" high aluminized cover lined with flame retardant duck. Grip top sole, steel stitched, and Kevlar thread sewn with 9" zipper closing. One size fits all. Sold in pairs.

**Hoods.** Protective hood with swing open faceshield. Fits over face mask or glasses. Aluminized drape covers neck and head. Comes with ratchet headgear and has heavy-gauge replaceable 7 x 11" transparent plastic window. See No. 5T327 for replacement faceshields.

**Aluminized Back High-Temp Gloves.** Both styles are 14" long and wool lined. Aluminized on back of hands and thumbs top reflect radiant heat while offering high heat protection for palm. One size fits all. Sold in pairs. Steel Grip brand

**15 oz. Rayon Gloves** have tanned leather palms for longer pliability.

**22 oz. Thermonol Gloves** are sewn with Kevlar thread.

**Aprons.** Bib-style aluminized aprons reflect 90% of radiant heat while providing spark and metal splash resistance.

| Garment Style | Size | Steel Grip Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ALUMINIZED 15 OZ. RAYON GARMENTS** | | | | | | | |
| **Jacket** | M (38-40) | ARL1136-35 | **6AF48** | $151.28 | **$136.20** | **$129.39 / 3** | 2.3 |
| | L (42-44) | ARL1136-35 | **6AL71** | 151.28 | **136.20** | **129.39 / 3** | 2.5 |
| | XL (46-48) | ARL1136-35 | **3AK82** | 158.82 | **142.95** | **135.80 / 3** | 2.6 |
| | XXL (50-52) | ARL1136-35 | **2AP13** | 166.33 | **149.75** | **142.26 / 3** | 2.7 |
| **Pants** | M (32" Waist) | ARL410 | **5T322** | 154.06 | **138.70** | **131.77 / 3** | 2.0 |
| | L (36" Waist) | ARL410 | **5T323** | 154.06 | **138.70** | **131.77 / 3** | 2.1 |
| | XL (40" Waist) | ARL410 | **5T324** | 161.77 | **145.60** | **138.32 / 3** | 2.2 |
| **Boot Covers (Pair)** | — | ARL454B | **5T325** | 117.12 | **105.45** | **100.18 / 3** | 1.5 |
| **Hood w/Ratchet Headgear** | — | ARL451A | **5T326** | 172.82 | **155.75** | **147.96 / 3** | 2.8 |
| **Gloves (Pair)** | — | ARL-SC-13902-14F | **6AD64** | 30.74 | **27.70** | **26.32 / 6** | 0.7 |
| **Apron** | 24 x 39" | ARL125-39 | **5T338** | 41.92 | **37.75** | **35.86 / 6** | 0.8 |
| **ALUMINIZED 19 OZ. THERMONOL GARMENTS** | | | | | | | |
| **Jacket** | M (38-40) | ATH1136-35 | **1C790** | 200.31 | **180.50** | **171.48 / 3** | 2.9 |
| | L (42-44) | ATH1136-35 | **1E006** | 200.31 | **180.50** | **171.48 / 3** | 3.1 |
| | XL (46-48) | ATH1136-35 | **1C674** | 210.21 | **189.25** | **179.79 / 3** | 3.2 |
| | XXL (50-52) | ATH1136-35 | **1E069** | 216.11 | **194.50** | **184.78 / 3** | 3.4 |
| **Pants** | M (32" Waist) | ATH410 | **5T332** | 204.56 | **184.25** | **175.04 / 3** | 2.5 |
| | L (36" Waist) | ATH410 | **5T333** | 204.56 | **184.25** | **175.04 / 3** | 2.7 |
| | XL (40" Waist) | ATH410 | **5T334** | 214.75 | **193.50** | **183.83 / 3** | 2.8 |
| **Boot Covers (Pair)** | — | ATH454B | **5T335** | 135.02 | **121.55** | **115.47 / 3** | 1.8 |
| **Hood w/Ratchet Headgear** | — | ATH451A | **5T336** | 198.89 | **179.25** | **170.29 / 3** | 3.1 |
| **Gloves (Pair)** | — | ARL-TH210-14F | **5T328** | 39.57 | **35.65** | **33.87 / 6** | 0.7 |
| **Apron** | 24 x 39" | ATH125-39 | **5T339** | 54.10 | **48.70** | **46.27 / 6** | 0.9 |

**No. 5T327. REPLACEMENT FACESHIELD** for use with Nos. 5T326 and 5T336 hoods. Shpg. wt. 0.4 lbs. List ..... $19.50.
Each **$17.55**; Lots 12 ..... **$16.67**

**No. 2AV46. ALUMINIZED HEAT COVER.** For use with Nos. 6AD64 and 5T328 gloves. Fabric outer shell and felt lining. Chrome leather straps secure cover to protect back of glove. **Sold in pairs.** Steel Grip brand (792). Shpg. wt. 0.3 lbs. List ..... $9.65.
Each **$8.70**; Lots 6 ..... **$8.27**

Kevlar® Registered trademark of E.I. DuPont de Nemours & Co.




## NOMEX SWITCH PULLERS CLOTHING

**Switch Pullers Apparel** is utilized by workers in contact with high voltage operations, electrical circuits or switch panels. Coats and hood are made of 10 oz. Nomex®, a flame-resistant material which resists momentary high temperature flash exposure. Clothing is sewn with Kevlar® thread and launderable. Forest green color. Steel Grip brand.

**Coats** are 50" long with Velcro® closures on front and at the wrist. 2-Ply Nomex® front for added upper body protection.

**Hood** features an amber tint polypropinate lens for ultraviolet ray protection and a 2-ply Nomex front. Hard caps sold separately. See Index under Hard Hats.

### CLOTHING SPECIFICATIONS AND ORDERING DATA

| Garment Style | Size | Steel Grip Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Coat** | Large | FGNX8572-50L | **1C654** | $265.75 | **$239.25** | **$227.29** | 2.2 |
| | X-Large | FGNX8572-50XL | **1C550** | 265.75 | **239.25** | **227.29** | 2.3 |
| **Hood** | — | FGNX8723 | **1C336** | 282.53 | **190.25** | **180.58** | 0.8 |

## SILVER SHIELD® APRONS AND SLEEVES

**Silver Shield® Bib-Style Apron.** Made from Norfoil®, a lightweight, flexible laminate. Resists degradation and permeation by a wide range of aromatic, chlorinated, aliphatic solvents, ketones, esters, and water-based systems including most acids and bases. Ideal for chemical protection in laboratories or any environment where workers are exposed to above chemicals. Rust-resistant metal grommets, neck and side ties. Available with hemmed or economical unhemmed edges. 45L x 35"W. North brand.

**Silver Shield® Sleeves.** Made from Norfoil® which protects forearms from chemical splash exposure. Elastic top and bottom. 18" length. North brand. **Sold in pairs.**

### APRON AND SLEEVE SPECIFICATIONS AND ORDERING DATA

| Garment Description | North Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Hemmed Apron** | SS35 | **5T474** | $15.76 | **$14.20** | **$13.49** | 0.5 |
| **Unhemmed Apron** | SS35UN | **5T475** | 9.77 | **8.80** | **8.37** | 0.5 |
| **Sleeves (Pair)** | SS18 | **5T476** | 10.78 | **9.71** | **9.22** | 0.2 |

## VINYL AND POLYETHYLENE APRONS

**7½ Mil Vinyl Apron.** Strong virgin material (not processed) provides flexibility and resistance to abrasion, oils, fats, chemicals, and punctures. Semi-opaque blue color.

Nylon neck and waist ties are extra long and preattached for immediate use. Plastic tips prevent fraying. Reinforced plastic grommets resist rusting. Edges are hemmed with continuous-filament nylon thread. 45L x 36"W. Ansell Edmont brand.

**Polyethylene Disposable Aprons.** Low cost protection for light-duty food processing and laboratory work. Can be reused or worn once and thrown away. One piece design eliminates folds, hems, and seams that trap bacteria, dirt, or liquids. Extra long ties and large opening for head. White color.

Chemical resistant. Resists many chemicals, fats, grease, and oils. Most liquids and stains wipe off easily with damp cloth. Compact dispenser box keeps them handy at work station. USDA accepted. Ansell Edmont brand. **100 per box.**

### APRON SPECIFICATIONS AND ORDERING DATA

| Apron Description | Ansell Edmont Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **7½ Mil Vinyl** | 54-431 | **5T317** | $3.74 | **$3.37** | **$3.20/12** | 0.5 |
| **Embossed Polyethylene (Box/100) 1¼ mil, 28 x 46"** | 54-293 | **5T315** | 27.16 | **24.44** | **23.22/6** | 0.9 |
| **Smooth Polyethylene (Box/100) 1 mil, 24 x 42"** | 54-295 | **5T316** | 16.30 | **14.67** | **13.94/10** | 3.6 |




**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 70,000 products to meet your maintenance, repair, or operation supply needs.**

## APRONS

LaCrosse Rainfair aprons provide splash and spill protection for almost every need. These are constructed to meet the demands of industrial and commercial applications and to provide comfort for the wearer. LaCrosse Rainfair brand.

A **Acid Apron.** The ultimate in heavy-duty protection. Fabric is acid, caustic, and puncture resistant. Fabric meets Federal Standard 5903.2-191 for flame resistance. Adjustable neck loop. Ties attach to brass grommets for securing around waist.

A **Black and SBR Rubber Cotton Aprons.** Resist normal abrasion and are comfortable to wear all day long. Black rubber model is heavyweight with vulcanized hem; SBR is lightweight with stitched hem. Fabric resists acids, caustics, and chemicals for a wide choice of use. Ties sewn at neck and waist.

A **Nitrile-Coated Apron.** Popular choice for food industry, offers excellent protection for many food handling and commercial kitchen applications. Oil resistant. Black apron has ties sewn at neck and waist; white apron has ties that attach to brass grommets for securing around neck and waist.

A **Belly Patch Apron.** Reinforced full belly patch. Neoprene coating provides the ultimate protection for exposure to animal fats and oils. A durable apron that offers extra protection for the professional. Ties attach to brass grommets for securing to neck and waist.

A **Double coated PVC on nylon apron.** Lightweight yet durable. Provides resistance to acids, various chemicals and caustics. Uses 4 PVC grommets and three twill ties for fastening.




A **SBR/Cotton Apron.** Durable, double coated apron withstands heavy abrasion and soil. Consists of cotton/poly coated with Styrene Butadeine Rubber (SBR) on the outside. Withstands heavy abrasion and soil. Apron has four metal grommets and three twill ties.

B **PVC Apron.** Made from the highest grade virgin vinyl. Grommets are electronically heat sealed for strength. Vinyl is reinforced at bib and waist grommets. Nylon ties secure apron. 6- and 8-mil vinyl resists acids, alkalis, various chemicals, solvents, oils, salts, fats and greases. Edges available raw or nylon serged. **Sold in dozens.**

## C VINYL COAT APRONS

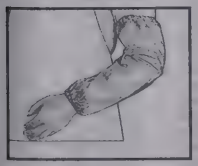
Vinyl coat aprons feature sleeves with elastic wrists. The wraparound design has convenient open back and ties attached to the rear of the apron. Provide economical protection from various chemicals, solvents, oils, fats, greases and acids. Material is 8 mil thick. LaCrosse Rainfair brand.

## D DENIM APRONS

**Denim Apron.** The economical and perfect choice for any workshop application. Fastens with grommets and ties. One-pocket style features bib patch pocket with pencil stall; Two-pocket style has bib & waist pocket; Three-pocket style has bib and 2 waist pockets. Serged edges provide better durability and longer wear. Material is 12 oz. denim. LaCrosse Rainfair brand.

| Key | Description | Size (In.) L x W | Apron Color | LaCrosse Rainfair Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Acid Apron | 45 x 35 | Green | 2700-4209 | 4T294 | $17.24 | $15.51 | $14.73/ 6 | 1.1 |
| | Black Rubber Apron | 45 x 35 | Black | 2700-5000 | 4T295 | 15.31 | 13.75 | 13.06/ 6 | 2.5 |
| | SBR Rubber Apron | 45 x 35 | Black | 2700-6350 | 4T299 | 9.18 | 8.26 | 7.85/ 6 | 1.1 |
| | Black Nitrile Apron | 45 x 35 | Black | 2700-2000 | 4T296 | 12.93 | 11.62 | 11.04/ 6 | 1.2 |
| | White Nitrile Apron | 45 x 35 | White | 2700-2006 | 4T297 | 13.82 | 12.41 | 11.79/ 6 | 2.1 |
| | Belly Patch Apron | 48 x 37 | Yellow | 2700-1364 | 4T298 | 19.29 | 17.34 | 16.47/ 6 | 2.1 |
| | Double Coated PVC/Nylon Apron | 45 x 35 | Yellow | 2700-7000 | 1N872 | 7.57 | 6.88 | 6.54/12 | 0.6 |
| | SBR/Cotton/Poly Apron | 45 x 35 | Yellow | 2700-1400 | 1N882 | 12.85 | 11.69 | 11.11/12 | 1.1 |
| B | 6 Mil PVC Apron, Raw Edge | 45 x 35 | Blue | 27V6-BR45 | 1N870* | 21.20 | 19.23 | 18.27/ 6 | 3.0 |
| | 8 Mil PVC Apron, Sewn Edge | 45 x 35 | Blue | 27V8-BS45 | 1N866* | 33.44 | 30.45 | 28.93/ 6 | 4.7 |
| | 8 Mil PVC Apron, Sewn Edge | 45 x 35 | Clear | 27V8-CS45 | 1N864* | 33.44 | 30.45 | 28.93/ 6 | 4.7 |
| | 8 Mil PVC Apron, Sewn Edge | 55 x 35 | Clear | 27V8-CS55 | 1N862* | 34.89 | 31.75 | 30.16/ 6 | 5.7 |
| C | Vinyl Coat Apron–Medium | 55 x 50 | Blue | 2900-8000 | 1N858 | 13.87 | 12.60 | 11.97/ 6 | 0.5 |
| | Vinyl Coat Apron–Large | 55 x 54 | Blue | 2900-8000 | 1N860 | 13.87 | 12.60 | 11.97/ 6 | 0.5 |
| | Vinyl Coat Apron–X-Large | 55 x 58 | Blue | 2900-8000 | 1N856 | 13.87 | 12.60 | 11.97/ 6 | 0.5 |
| | Vinyl Coat Apron–XX-Large | 55 x 62 | Blue | 2902-8000 | 1N854 | 15.27 | 13.87 | 13.18/ 6 | 0.5 |
| D | Denim Apron, No Pockets | 36 x 27 | Blue | 2700-3100 | 1N880 | 4.56 | 4.13 | 3.92/12 | 0.7 |
| | Denim Apron, One Pocket | 36 x 27 | Blue | 2700-3101 | 1N878 | 4.99 | 4.54 | 4.31/12 | 0.7 |
| | Denim Apron, Two Pockets | 36 x 27 | Blue | 2700-3102 | 1N876 | 5.27 | 4.79 | 4.55/12 | 0.7 |
| | Denim Apron, Three Pockets | 36 x 27 | Blue | 2700-3103 | 1N874 | 5.55 | 5.04 | 4.79/12 | 0.7 |

(*) Priced and sold in dozens.



Sleeves offer splash protection to forearms. Elastic at both cuff and bicep ensures a snug fit. LaCrosse Rainfair brand.

### SLEEVES

| Description | Length (In.) | Sleeve Color | LaCrosse Rainfair Model | Stock No. | List | Each Pair | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Acid Sleeves | 15 | Green | 2300-4203 | 1N890 | $9.12 | $8.30 | $7.89/12 | 0.4 |
| Denim Sleeves | 18 | Blue | 2300-3100 | 1N892 | 4.34 | 3.95 | 3.75/12 | 0.5 |
| SBR Rubber Sleeves | 13 | Black | 2300-1070 | 5T225 | 7.62 | 6.84 | 6.50/12 | 0.3 |
| 8 Mil Vinyl Sleeves | 18 | Blue | 23V8-BS18 | 1N888* | 24.67 | 22.39 | 21.27/ 6 | 2.9 |
| 8 Mil Vinyl Sleeves | 18 | Clear | 23V8-CS18 | 1N886* | 24.67 | 22.39 | 21.27/ 6 | 2.9 |

(*) 8 Mil Vinyl Sleeves priced and sold by the dozen pair.




**12" Haz-Mat Over-The-Shoe Boot** offers excellent chemical resistance, as well as specially designed sole for extra traction on slippery surfaces. Manufactured from a special 35 gauge stretch rubber compound. LaCrosse Rainfair brand.

**12" SuperTuff® Rubber Buckle Boots** slip easily over work shoes for extra protection. Cleated outsoles for traction. Flexible for easy on and off. Four-buckle boot features a net lining and self-draining gusset. LaCrosse Rainfair brand.

**17" SuperTuff® Heavy Gauge Rubber Over-The-Shoe Boot** has an adjustable top strap for snug fit and a black cleated outsole for longer wear. LaCrosse Rainfair brand.

**Deep 22-ounce Pile 18" Boot Socks** slip inside any full-fit boots to provide warmth, comfort, and cushioning. Tough polyester knit. Machine washable. LaCrosse Rainfair brand.

**Hand Piled 16" SuperTuff® Knee Boots** with ANSI approved steel toe; meets ANSI Z41.1 standard. Steel shank for extra arch support. Boot features a full knit lining and sponge insole for extra comfort. LaCrosse Rainfair brand.

**16" SuperTuff® Steel Toe Neoprene Boots** for use in industrial applications with heavy exposure to oils, fats, and acids. Designed for comfort, chemical resistance, and slip resistance. Comfortable fitting with long lasting abrasion resistant outsole. Net lining. Steel toe meets ANSI Z41.1 standard. Cushioned insole. LaCrosse Rainfair brand.

**32" SuperTuff® Steel Toe Hip Boots** are leakproof, abrasion resistant, and adhesion tested to provide long wear under rugged working conditions. Flex-tested for comfort at ankle, heel, and across foot. Outsole configurations for sure-footed traction. Knit lining, cushion insole, easy-flex top skirt, steel shank, and black cleated outsole. Steel toe meets ANSI Z41.1 standard. LaCrosse Rainfair brand.

## SPECIFICATION AND ORDERING DATA

| Type | Size | Color | LaCrosse Rainfair Model | Stock No. | Price per Pair List | Price per Pair Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **12" Haz-Mat Boots** | S (6-7)<br>M (8-9)<br>L (10-11)<br>XL (12-13) | Yellow | 2400-9002 | **4T264**<br>**4T265**<br>**4T266**<br>**4T267** | $3.80<br>3.80<br>3.80<br>3.80 | **$3.42**<br>**3.42**<br>**3.42**<br>**3.42** | **$3.25/12**<br>**3.25/12**<br>**3.25/12**<br>**3.25/12** | 0.1<br>0.1<br>0.1<br>0.1 |
| **12" SuperTuff Four-Buckle Boots** | 6<br>7<br>8<br>9<br>10<br>11<br>12<br>13<br>14 | Black | 2400-9011 | **3AL23**<br>**3AD69**<br>**5AF81**<br>**2AT58**<br>**6AJ72**<br>**2AG21**<br>**6AJ13**<br>**1AJ37**<br>**5AW97** | 26.65<br>26.65<br>26.65<br>26.65<br>26.65<br>26.65<br>26.65<br>26.65<br>26.65 | **22.65**<br>**22.65**<br>**22.65**<br>**22.65**<br>**22.65**<br>**22.65**<br>**22.65**<br>**22.65**<br>**22.65** | **21.52/4**<br>**21.52/4**<br>**21.52/4**<br>**21.52/4**<br>**21.52/4**<br>**21.52/4**<br>**21.52/4**<br>**21.52/4**<br>**21.52/4** | 3.5<br>4.4<br>4.5<br>4.5<br>5.5<br>5.0<br>5.0<br>5.5<br>6.0 |
| **17" SuperTuff® Pullover Boots** | 7<br>8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>16 | Yellow | 2400-9085 | **4T268**<br>**4T269**<br>**4T270**<br>**4T271**<br>**4T272**<br>**4T273**<br>**4T274**<br>**4T275**<br>**4T276**<br>**4T277** | 20.85<br>20.85<br>20.85<br>20.85<br>20.85<br>20.85<br>20.85<br>20.85<br>20.85<br>20.85 | **18.76**<br>**18.76**<br>**18.76**<br>**18.76**<br>**18.76**<br>**18.76**<br>**18.76**<br>**18.76**<br>**18.76**<br>**18.76** | **17.82/4**<br>**17.82/4**<br>**17.82/4**<br>**17.82/4**<br>**17.82/4**<br>**17.82/4**<br>**17.82/4**<br>**17.82/4**<br>**17.82/4**<br>**17.82/4** | 4.8<br>4.8<br>4.8<br>5.0<br>5.3<br>5.3<br>5.5<br>5.5<br>5.8<br>5.8 |
| **18" Boot Socks** | S (6-7)<br>M (8-9)<br>L (10-11)<br>XL (12-13) | Beige | 2400-9009 | **5T232**<br>**5T233**<br>**5T234**<br>**5T235** | 13.27<br>13.27<br>13.27<br>13.27 | **11.79**<br>**11.79**<br>**11.79**<br>**11.79** | **11.20/6**<br>**11.20/6**<br>**11.20/6**<br>**11.20/6** | 0.4<br>0.4<br>0.4<br>0.5 |
| **16" SuperTuff® Steel Toe Knee Boots** | 6<br>7<br>8<br>9<br>10<br>11<br>12<br>13 | Black | 2400-9043 | **4T278**<br>**4T279**<br>**4T280**<br>**4T281**<br>**4T282**<br>**4T283**<br>**4T284**<br>**4T285** | 25.62<br>25.62<br>25.62<br>25.62<br>25.62<br>25.62<br>25.62<br>25.62 | **23.06**<br>**23.06**<br>**23.06**<br>**23.06**<br>**23.06**<br>**23.06**<br>**23.06**<br>**23.06** | **21.91/4**<br>**21.91/4**<br>**21.91/4**<br>**21.91/4**<br>**21.91/4**<br>**21.91/4**<br>**21.91/4**<br>**21.91/4** | 4.8<br>4.8<br>5.0<br>5.0<br>5.3<br>5.3<br>5.5<br>5.5 |
| **16" SuperTuff® Steel Toe Neoprene Boots** | 6<br>7<br>8<br>9<br>10<br>11<br>12<br>13 | Maroon | 2400-9060 | **4T286**<br>**4T287**<br>**4T288**<br>**4T289**<br>**4T290**<br>**4T291**<br>**4T292**<br>**4T293** | 56.88<br>56.88<br>56.88<br>56.88<br>56.88<br>56.88<br>56.88<br>56.88 | **51.20**<br>**51.20**<br>**51.20**<br>**51.20**<br>**51.20**<br>**51.20**<br>**51.20**<br>**51.20** | **48.64/3**<br>**48.64/3**<br>**48.64/3**<br>**48.64/3**<br>**48.64/3**<br>**48.64/3**<br>**48.64/3**<br>**48.64/3** | 5.8<br>5.8<br>5.8<br>6.0<br>6.0<br>6.0<br>6.2<br>6.2 |
| **32" SuperTuff® Steel Toe Hip Boots** | 6<br>7<br>8<br>9<br>10<br>11<br>12<br>13 | Black | 2400-9091 | **5T252**<br>**5T253**<br>**5T254**<br>**5T255**<br>**5T256**<br>**5T257**<br>**5T258**<br>**5T259** | 62.26<br>62.26<br>62.26<br>62.26<br>62.26<br>62.26<br>62.26<br>62.26 | **55.90**<br>**55.90**<br>**55.90**<br>**55.90**<br>**55.90**<br>**55.90**<br>**55.90**<br>**55.90** | **53.07/3**<br>**53.07/3**<br>**53.07/3**<br>**53.07/3**<br>**53.07/3**<br>**53.07/3**<br>**53.07/3**<br>**53.07/3** | 6.9<br>6.1<br>6.1<br>7.3<br>7.4<br>7.6<br>7.8<br>7.9 |

## GOLIATH PVC WORKSHOES AND KNEE BOOTS

Provide excellent resistance to animal fats (especially poultry), acids, oils, greases, and chemicals. Special urethane/PVC compound with Elvaloy and polymeric plasticizers for long life. Features removable insoles and steel shank for firm arch support. Net lined for easy on and off. Available in 6" steel toe workshoe with gray bar cleat outsole, or 16" steel toe PVC knee boot with gray Power-Trac outside models. Steel toe on workshoe meets or exceeds ANSI M I/75 C/75 specifications. Black color. Made in the USA. LaCrosse Rainfair brand.

| Size | LaCrosse Rainfair Model | *New!* Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6" STEEL TOE GOLIATH PVC WORKSHOE** | | | | | | |
| **6** | 86151 | **4ML51** | $24.20 | **$22.00** | **$20.90** | 3.9 |
| **7** | 86151 | **4ML52** | 24.20 | **22.00** | **20.90** | 3.9 |
| **8** | 86151 | **4ML53** | 24.20 | **22.00** | **20.90** | 3.9 |
| **9** | 86151 | **4ML54** | 24.20 | **22.00** | **20.90** | 3.9 |
| **10** | 86151 | **4ML47** | 24.20 | **22.00** | **20.90** | 3.9 |
| **11** | 86151 | **4ML48** | 24.20 | **22.00** | **20.90** | 3.9 |
| **12** | 86151 | **4ML49** | 24.20 | **22.00** | **20.90** | 3.9 |
| **13** | 86151 | **4ML50** | 24.20 | **22.00** | **20.90** | 3.9 |
| **16" STEEL TOE PVC KNEE BOOT** | | | | | | |
| **6** | 89682 | **4MM19** | 23.45 | **21.32** | **20.25** | 5.3 |
| **7** | 89682 | **4MM20** | 23.45 | **21.32** | **20.25** | 5.3 |
| **8** | 89682 | **4MM21** | 23.45 | **21.32** | **20.25** | 5.3 |
| **9** | 89682 | **4MM22** | 23.45 | **21.32** | **20.25** | 5.3 |
| **10** | 89682 | **4MM14** | 23.45 | **21.32** | **20.25** | 5.3 |
| **11** | 89682 | **4MM15** | 23.45 | **21.32** | **20.25** | 5.3 |
| **12** | 89682 | **4MM16** | 23.45 | **21.32** | **20.25** | 5.3 |
| **13** | 89682 | **4MM17** | 23.45 | **21.32** | **20.25** | 5.3 |
| **14** | 89682 | **4MM18** | 23.45 | **21.32** | **20.25** | 5.3 |

## MONARCH PVC KNEE BOOTS

For use in wet, muddy conditions where chemical resistance is not a priority. Constructed of lightweight, high molecular weight black PVC compound. Feature removable insole and are net lined for easy on and off. Steel shank provides firm arch support. Available in Women's 14" (no steel shank) and Men's 16" Steel Toe, Men's 16" Plain Toe, and Men's 16" Steel Toe/Steel Midsole models. Steel Toe models meet or exceed ANSI M 1/75 C75 PR specifications. Men's Steel Toe/Steel Midsole models meet or exceed CSA Grade 1 to protection and optional sole protection. Black color. Made in USA. LaCrosse Rainfair brand.

| Size | LaCrosse Rainfair Model | *New!* Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **WOMEN'S 14" STEEL TOE** | | | | | | |
| **5** | 875275 | **4ML66** | $14.74 | **$13.40** | **$12.73** | 4.8 |
| **6** | 875276 | **4ML67** | 14.74 | **13.40** | **12.73** | 4.8 |
| **7** | 875277 | **4ML68** | 14.74 | **13.40** | **12.73** | 4.8 |
| **8** | 875278 | **4ML69** | 14.74 | **13.40** | **12.73** | 4.8 |
| **9** | 875279 | **4ML70** | 14.74 | **13.40** | **12.73** | 4.8 |
| **10** | 8752710 | **4ML65** | 14.74 | **13.40** | **12.73** | 4.8 |
| **MEN'S 16" PLAIN TOE** | | | | | | |
| **5** | 875125 | **4ML60** | 12.54 | **11.40** | **10.83** | 5.0 |
| **6** | 875126 | **4ML61** | 12.54 | **11.40** | **10.83** | 5.0 |
| **7** | 875127 | **4ML62** | 12.54 | **11.40** | **10.83** | 5.0 |
| **8** | 875128 | **4ML63** | 12.54 | **11.40** | **10.83** | 5.0 |
| **9** | 875129 | **4ML64** | 12.54 | **11.40** | **10.83** | 5.0 |
| **10** | 8751210 | **4ML55** | 12.54 | **11.40** | **10.83** | 5.0 |
| **11** | 8751211 | **4ML56** | 12.54 | **11.40** | **10.83** | 5.0 |
| **12** | 8751212 | **4ML57** | 12.54 | **11.40** | **10.83** | 5.0 |
| **13** | 8751213 | **4ML58** | 12.54 | **11.40** | **10.83** | 5.0 |
| **14** | 8751214 | **4ML59** | 12.54 | **11.40** | **10.83** | 5.0 |
| **MEN'S 16" STEEL TOE** | | | | | | |
| **6** | 875666 | **4ML76** | 14.74 | **13.40** | **12.73** | 5.0 |
| **7** | 875667 | **4ML77** | 14.74 | **13.40** | **12.73** | 5.0 |
| **8** | 875668 | **4ML78** | 14.74 | **13.40** | **12.73** | 5.0 |
| **9** | 875669 | **4ML79** | 14.74 | **13.40** | **12.73** | 5.0 |
| **10** | 8756610 | **4ML71** | 14.74 | **13.40** | **12.73** | 5.0 |
| **11** | 8756611 | **4ML72** | 14.74 | **13.40** | **12.73** | 5.0 |
| **12** | 8756612 | **4ML73** | 14.74 | **13.40** | **12.73** | 5.0 |
| **13** | 8756613 | **4ML74** | 14.74 | **13.40** | **12.73** | 5.0 |
| **14** | 8756614 | **4ML75** | 14.74 | **13.40** | **12.73** | 5.0 |
| **MEN'S 16" STEEL TOE/STEEL MIDSOLE** | | | | | | |
| **7** | 875687 | **4ML85** | 31.68 | **28.80** | **27.36** | 5.5 |
| **8** | 875688 | **4ML86** | 31.68 | **28.80** | **27.36** | 5.5 |
| **9** | 875689 | **4ML87** | 31.68 | **28.80** | **27.36** | 5.5 |
| **10** | 8756810 | **4ML80** | 31.68 | **28.80** | **27.36** | 5.5 |
| **11** | 8756811 | **4ML81** | 31.68 | **28.80** | **27.36** | 5.5 |
| **12** | 8756812 | **4ML82** | 31.68 | **28.80** | **27.36** | 5.5 |
| **13** | 8756813 | **4ML83** | 31.68 | **28.80** | **27.36** | 5.5 |
| **14** | 8756814 | **4ML84** | 31.68 | **28.80** | **27.36** | 5.5 |

LaCrosse Rainfair SAFETY PRODUCTS

Made in U.S.A.

New



No. 4ML47
6" Steel Toe



No. 4MM14
16" Steel Toe



No. 4ML65
Women's 14"
Steel Toe



No. 4ML55
Men's16"
Plain Toe



No. 4ML76
Men's16"
Steel Toe



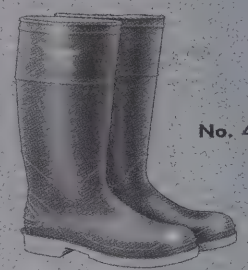
No. 4ML80
Men's16"
Steel Toe/Midsole

## MEN'S 16" STEEL TOE SUREFLEX™ PVC KNEE BOOTS

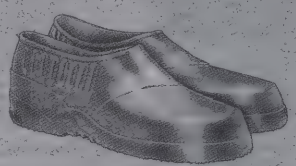
Lightweight knee boots resist animal fats, petroleum, oils, greases, and chemicals. Feature steel shank for firm arch support, net lining for easy on and off, and removable cushion insole. Orange Safety-Loc™ outsole offers excellent slip resistance in wet, slippery conditions. Constructed of high molecular weight, gray PVC compound for long life. Steel toe meets or exceeds ANSI M I/75 C75 specifications. Made in USA. LaCrosse Rainfair Brand.

| Size | LaCrosse Rainfair Model | *New!* Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 7 | 87982 | 4ML93 | $45.98 | $41.80 | $39.71 | 5.3 |
| 8 | 87982 | 4ML94 | 45.98 | 41.80 | 39.71 | 5.3 |
| 9 | 87982 | 4ML95 | 45.98 | 41.80 | 39.71 | 5.3 |
| 10 | 87982 | 4ML88 | 45.98 | 41.80 | 39.71 | 5.3 |
| 11 | 87982 | 4ML89 | 45.98 | 41.80 | 39.71 | 5.3 |
| 12 | 87982 | 4ML90 | 45.98 | 41.80 | 39.71 | 5.3 |
| 13 | 87982 | 4ML91 | 45.98 | 41.80 | 39.71 | 5.3 |
| 14 | 87982 | 4ML92 | 45.98 | 41.80 | 39.71 | 5.3 |

LaCrosse Rainfair SAFETY PRODUCTS — New



No. 4ML88



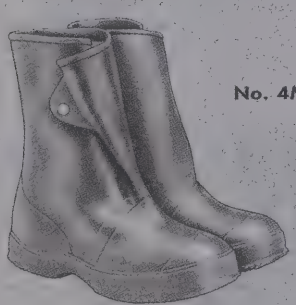
No. 4ML96

## MEN'S PACKER VINYL OVERSHOES

Overshoe fits quickly over plain toe or safety toe work shoes. Stretchable, unlined vinyl protects shoes from animal fats, petroleum, oils, greases, and barnyard acids. Slip resistant outsole, low cut design. Black color. Made in USA. Lacrosse Rainfair brand.

| Size | LaCrosse Rainfair Model | *New!* Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Extra Small | 88121 | 4MM01 | $11.55 | $10.50 | $9.98 | 1.3 |
| Small | 88121 | 4ML98 | 11.55 | 10.50 | 9.98 | 1.3 |
| Medium | 88121 | 4ML97 | 11.55 | 10.50 | 9.98 | 1.3 |
| Large | 88121 | 4ML96 | 11.55 | 10.50 | 9.98 | 1.3 |
| X-Large | 88121 | 4ML99 | 11.55 | 10.50 | 9.98 | 1.3 |
| XX-Large | 88121 | 4MM02 | 11.55 | 10.50 | 9.98 | 1.3 |

LaCrosse Rainfair SAFETY PRODUCTS — New



No. 4MM05

SPIKY



No. 3AF80

## MEN'S PACK-LITE VINYL OVERSHOES

Overshoe fits quickly over plain toe or safety toe work shoes. Full-opening gusset for easy on and off. Stretchable, unlined vinyl protects shoes from animal fats, petroleum, oils, greases, and barnyard acids. Slip resistant outsole. Available in 11" or 16" lengths. Black color. Made in USA. LaCrosse Rainfair brand.

| Size | LaCrosse Rainfair Model | *New!* Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **11" PACK-LITE VINYL OVERSHOES** | | | | | | |
| 8 | 89321 | 4MM07 | $14.08 | $12.80 | $12.16 | 2.5 |
| 9 | 89321 | 4MM05 | 14.08 | 12.80 | 12.16 | 2.5 |
| 10 | 89321 | 4MM04 | 14.08 | 12.80 | 12.16 | 2.5 |
| 11 | 89321 | 4MM03 | 14.08 | 12.80 | 12.16 | 2.5 |
| 12 | 89321 | 4MM06 | 14.08 | 12.80 | 12.16 | 2.5 |
| 13 | 89321 | 4MM08 | 14.08 | 12.80 | 12.16 | 2.5 |
| 14 | 89321 | 4RX32 | 14.08 | 12.80 | 12.16 | 2.5 |
| **16" PACK-LITE VINYL OVERSHOES** | | | | | | |
| 8 | 89421 | 4MM12 | 16.96 | 15.42 | 14.65 | 3.0 |
| 9 | 89421 | 4MM10 | 16.96 | 15.42 | 14.65 | 3.0 |
| 10 | 89421 | 4ML24 | 16.96 | 15.42 | 14.65 | 3.0 |
| 11 | 89421 | 4MM09 | 16.96 | 15.42 | 14.65 | 3.0 |
| 12 | 89421 | 4MM11 | 16.96 | 15.42 | 14.65 | 3.0 |
| 13 | 89421 | 4MM13 | 16.96 | 15.42 | 14.65 | 3.0 |
| 14 | 89421 | 4RX33 | 16.96 | 15.42 | 14.65 | 3.0 |

## SHOE SPIKES

Provide slip protection for all shoe styles and sizes. Studded pullover is constructed of rubber and steel. Uses small steel spikes to penetrate ice and snow. Pullovers fit any work or dress shoe, boots or overshoes- even women's high heels, without buckles or ties. Comfortable and lightweight, they don't interfere with driving, rubber heel tab makes pullovers easy to put on and remove. Fits men and women. Order next shoe size to fit large-size work shoes, boots, and insulated footwear. G.W. Russell brand.

| Size | G.W. Russell Model | Stock No. | List | Each Pair | Lots 5 Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Small (up to 7) | 103 | 3AF80 | $27.00 | $24.30 | $21.87 | 0.3 |
| Medium (8-10) | | 3AL88 | 27.00 | 24.30 | 21.87 | 0.3 |
| Large (11) | | 3AD33 | 27.00 | 24.30 | 21.87 | 0.3 |
| X-Large (12 and up) | | 5AV75 | 33.00 | 29.70 | 26.73 | 0.4 |


*Close it, lock it, keep it safe — You'll find the right stuff right here.*

## PROTECTA BOOTS

Specially designed boots feature steel midsole, steel toe, and full metatarsal guard. Boots have fiberglass shank for firm arch support, reinforced ankle for durability, and firm heel counter to rpevent slipage for walking comfort. Full cushion insole. Ankle fit design delivers comfort and support with a top strap and buckle adjustment for good fit. Trac-Lite outsole firmly grips to prevent slips. Nylon lined boots pull on easily and are excellent for mining, refining and heavy manufacturing and processing. Ozone resistant rust-colored red rubber construction. Safety toe, steel midsold and full metatarsal guard meet or exceed ANSI M I/75 C/75 PR MT 75 specifications. Made in USA. Lacrosse Rainfair brand.




| Type | Size | LaCrosse Rainfair Model | New! Stock No. | Price per Pair List | Price per Pair Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Protecta Boot | 8 | 22705 | 4ML29 | $85.69 | $77.90 | $74.01 | 7.7 |
| | 9 | 22705 | 4ML30 | 85.69 | 77.90 | 74.01 | 7.7 |
| | 10 | 22705 | 4ML25 | 85.69 | 77.90 | 74.01 | 7.7 |
| | 11 | 22705 | 4ML26 | 85.69 | 77.90 | 74.01 | 7.7 |
| | 12 | 22705 | 4ML27 | 85.69 | 77.90 | 74.01 | 7.7 |
| | 13 | 22705 | 4ML28 | 85.69 | 77.90 | 74.01 | 7.7 |

## MEN'S DE-ICER BOOTS WITH STEEL TOE

Safety boots feature leather upper for durability and removable, recycled 9mm wool felt liner for easy on and off. Eyelet lacing provides custom fit. Comfort rated between +40°F and -40°F. Feature Trac-Lite outsole with natural, hand-crafted ozone resistant rubber bottom for good grip. Steel shank provides firm arch support and firm heel counter prevents slippage for extra walking comfort. Safety toe meets or exceeds ANSI M I/75 C/75 specifications. Black color. Made in USA. LaCrosse Rainfair brand.




| Type | Size | LaCrosse Rainfair Model | New! Stock No. | Price per Pair List | Price per Pair Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| De-Icer Boots with Steel Toe | 7 | 29412 | 4ML36 | $97.90 | $89.00 | $84.55 | 7.2 |
| | 8 | 29412 | 4ML37 | 97.90 | 89.00 | 84.55 | 7.2 |
| | 9 | 29412 | 4ML38 | 97.90 | 89.00 | 84.55 | 7.2 |
| | 10 | 29412 | 4ML32 | 97.90 | 89.00 | 84.55 | 7.2 |
| | 11 | 29412 | 4ML33 | 97.90 | 89.00 | 84.55 | 7.2 |
| | 12 | 29412 | 4ML34 | 97.90 | 89.00 | 84.55 | 7.2 |
| | 13 | 29412 | 4ML35 | 97.90 | 89.00 | 84.55 | 7.2 |

## GRIT-LOC OVERSHOES

Long-lasting, ozone-resistant black rubber overshoes feature calendered waffle pattern outsole containing grit mineral that covers entire forepart and heel of outsole for excellent traction in icy and slippery situations. Added 1/8" rung guard on heel prevents slide through on ladders. Available in two styles. 3M™ brand retro-reflective material applied to heel counter increases visibility in low light conditions. ANSI Z41 PT91 EH rating. Grit is a slip reduction material. Manufacturer assumes no liability for accidents due to slips or falls. Can cause damage to some floor surfaces. Made in USA. LaCrosse Rainfair brand.

**2-Buckle Overshoes.** Feature nylon net lining for easy on and off. Includes heavy gauge toe guard.

**Fleecefoot Overshoes.** Feature wool fleece fabric lining for extra warmth. 1/8"needled felt midsole and calender coating on one side to block cold penetration. Feature heavy-duty YKK zipper.




| Type | Size | LaCrosse Rainfair Model | New! Stock No. | Price per Pair List | Price per Pair Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Grit Loc 2-Buckle Overshoes | X-Small (Size 8) | 55455 | 4RX31 | $48.75 | $44.30 | $42.09 | 2.0 |
| | Small (Size 9) | 55455 | 4ML45 | 48.75 | 44.30 | 42.09 | 3.1 |
| | Medium (Size 10) | 55455 | 4ML44 | 48.75 | 44.30 | 42.09 | 3.1 |
| | Large (Size 11) | 55455 | 4ML43 | 48.75 | 44.30 | 42.09 | 3.1 |
| | X-Large (Size 12) | 55455 | 4ML46 | 48.75 | 44.30 | 42.09 | 3.1 |
| | XX-Large (Size 13) | 55455 | 4RX30 | 48.75 | 44.30 | 42.09 | 2.0 |
| Grit Loc Fleecefoot Overshoes | X-Small (Size 8) | 37655 | 4RX29 | 64.55 | 58.65 | 55.72 | 4.6 |
| | Small (Size 9) | 37655 | 4ML41 | 64.55 | 58.65 | 55.72 | 4.6 |
| | Medium (Size 10) | 37655 | 4ML40 | 64.55 | 58.65 | 55.72 | 4.6 |
| | Large (Size 11) | 37655 | 4ML39 | 64.55 | 58.65 | 55.72 | 4.6 |
| | X-Large (Size 12) | 37655 | 4ML42 | 64.55 | 58.65 | 55.72 | 4.6 |
| | XX-Large (Size 13) | 37655 | 4RX28 | 64.55 | 58.65 | 55.72 | 4.6 |

GRAINGER...YOUR ONE STOP SHOPPING SOURCE!

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

# FOOT PROTECTION AND KNEE PADS

## FOOT AND TOE GUARDS

### FOOT GUARDS

**Aluminum Alloy Foot Guards** provide maximum protection to instep as well as toe. Light enough to be worn comfortably all day and designed to protect foot against falling, rolling and flying objects, as well as accidental tool blows. Will withstand a load of 75 lbs. dropped from a height of one foot.

To keep it properly positioned, foot guard features rubber toe clip, crossbar, and rubber strap. **Sold in pairs.**

**No. 2AZ83.** 5" Foot Guards. Ellwood Safety brand (200). Shpg. wt. 1.8 lbs.List..... $41.45. Each Pair **$37.35;** Lots 6 .....**$35.46**

**No. 5T454.** 51/2" Foot Guards. Ellwood Safety brand (200). Shpg. wt. 1.8 lbs.List..... $41.45. Each Pair **$37.35;** Lots 6 .....**$35.46**

**No. 3AK76.** 6" Foot Guards. Ellwood Safety brand (200X). Shpg. wt. 1.8 lbs.List..... $53.25. Each Pair **$47.95;** Lots 6 .....**$45.54**

**Aluminum Alloy Metatarsal Guards.** Provide comfortable metatarsal protection. To be worn with steel toe shoes only. **Sold in pairs.**

**No. 5T456.** Lace-on style. Ellwood Safety brand (800). Shpg. wt. 0.5 lbs. List .....$28.63. Each Pair **$25.80;** Lots 6 .....**$24.49**

**No. 1AG91.** Strap-on style. Ellwood Safety brand (801). Shpg. wt. 0.4 lbs. List .....$29.93. Each Pair **$27.00;** Lots 6 .....**$25.64**

**Steel Toe Guards.** Fit any shoe and provide maximum toe protection. Weighing just 12 oz., toe guards can withstand an impact of 75 lbs. dropped from a height of one foot. **Sold in pairs.** Ellwood Safety brand (702).

**No. 5T455.** Shpg. wt. 1.3 lbs. List $25.78. Each Pair **$23.45;** Lots 6 .....**$22.27**

**Plastic Foot Guards.** Lightweight, rugged thermofoam plastic foot guards are designed for protection where impact may be less severe. Withstands an impact of 35 lbs. dropped from a height of one foot. Rubber straps on sole and heel slip on and off easily. **Sold in pairs.** Ellwood Safety brand (500).

**No. 5T457.** Shpg. wt. 0.5 lbs. List .....$20.73. Each Pair **$18.86;** Lots 6 .....**$17.91**




### KNEE, SHIN, AND INSTEP GUARDS

**Plastic Shin/Instep Guards.** Made from polypropylene plastic. Provide maximum protection to both shin and instep. Shin guard is attached to 6" instep guard with web, sponge rubber hinge. Full guards measure 20" long. **Not intended to replace safety shoes. Sold in pairs.** Ellwood Safety brand (324).

**No. 5T458.** Shpg. wt. 1.0 lbs. List $93.04. Each Pair **$83.75;** Lots 3 .....**$79.55**

**Plastic Knee/Shin/Instep Guards.** Same features as No. 5T458 plus knee protection. Full guards measure 27" long. **Not intended to replace safety shoes. Sold in pairs.** Ellwood Safety brand (334).

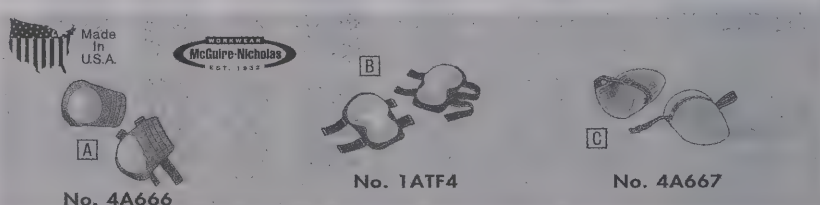
**No. 5T459.** Shpg. wt. 1.5 lbs. List $136.09. Each Pair **$122.50;** Lots 3 .....**$116.36**

## KNEE PADS

[A] **Poly Shield™ Knee Pads.** Hard shell polypropylene cap and tough, durable fabric. Thick foam rubber padding. Quick release elastic closures.

[B] **Non-Marring Knee Pads.** Designed for use on all interior floors such as wood, marble, and tile surfaces. Will not mar, scratch, or scuff floors. Ergonomically designed cap flexes with knee. Extended cap covers entire knee joint area. Slip-resistant ridges on cap.

[C] **Foam Rubber Knee Pads.** Made of contoured foam rubber. Single strap. Soft water repellent.




| Key | Description | Nicholas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Poly Shield™ Knee Pads | 343 | **4A666** | $15.95 | **$12.75** | 1.0 |
| B | Non-Marring Knee Pads | 353 | **1ATF4** | 19.95 | **15.95** | 1.0 |
| C | Foam Rubber Knee Pads | 313 | **4A667** | 7.45 | **5.95** | 1.0 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*



## ERGONOMICS: GENERAL INFORMATION

Ergonomics is the science of adapting workstations, tools, equipment and job techniques to be compatible with human bodies. Ergonomics fits the job to the worker rather than fitting the worker to the job. Ergonomic products and programs are designed to reduce the risk of injury and maximize productivity in situations where the physical requirements stress a person's body.

The types of injuries that ergonomic products and programs aim to reduce are called Cumulative Trauma Disorders or CTDs. These injuries occur over a period of time as a result of repeated trauma or exposure to a specific body part such as the back, hand, wrist or forearm. CTDs differ from simple muscle fatigue in that they don't go away after a short period of rest. CTDs are also referred to as Repetitive Strain Injuries (RSIs), Repetitive Motion Disorders, Overuse Syndrome, Musculoskeletal Disorders and Work-Related Disorders.

## RISK FACTORS

Some of the risk factors directly linked to the occurrence of CTDs include:



**Repetition:** Is the same motion performed every few seconds for more than two hours a day?



**Awkward Posture:** Is the body bent or twisted for more than two hours a day?



**Force:** Do body parts generate excessive contact for more than a total of two hours a day?



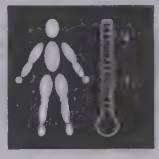
**Static Posture:** Is the body held in the same position for more than two hours a day?



**Mechanical Stress:** Is the body part in contact or resting on a hard surface for more than two hours a day?



**Vibration:** Is the body part in contact with a vibrating surface for more than two hours a day?



**Temperature:** Is the body part exposed to excessive temperature for more than two hours a day?

## INCURRED COSTS TO BUSINESS AND INDUSTRY

U.S. industry and business currently loses over $50 billion each year due to ergonomics-related problems. These costs in combination with an incident rate of CTDs that has increased at an annual rate of about 26% since 1983 provide cause for concern in the following areas:

**Worker Health:** 62% of all recordable occupational illnesses are due to repetitive stress or CTDs, affecting more than 700,000 workers each year. (Source: U.S. Dept. of Labor)

**Worker's Compensation Costs:** OSHA estimates that by the year 2000, 50 cents of every dollar spent on worker's compensation will be for CTDs.

**Injury Costs:** The average cost per upper extremity CTD worker's compensation claim was $8,070-nearly twice the cost of the average claim for other injuries. (Source: Journal of Occupational Medicine). The average back injury cost $9,000 without surgery and $30,000 to $40,000 with surgery. (Source: Occupational Health & Safety).

## RECOMMENDED ERGONOMIC PROGRAM

Almost everyone is at risk of being exposed to a CTD. A person's occupation, lifestyle and personal characteristics can increase that risk. Unfortunately, CTD injuries cannot be completely prevented; however, the risk factors contributing to such injuries can be reduced through ergonomic programs and products.

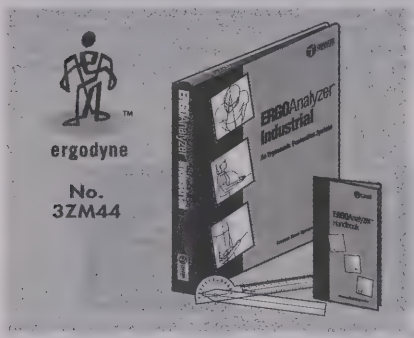
An effective ergonomic program should include the following:

- **Worksite analysis to determine ergonomic hazards and job functions that are high risk**
- **Engineering controls, such as the design or redesign of the job environment and procedures**
- **Administrative controls, including job rotation, rest periods and decreasing the number of repetitions per worker**
- **Medical management, including taking past work illness and injury histories, monitoring work situations and providing education materials and seminars on leading a healthy lifestyle, such as proper nutrition, adequate rest, regular exercise and stress relief, and the role these have in reducing injuries**
- **Training and education on job procedures; causes, risk factors and symptoms of CTDs, and the health effect of exposure; and reporting procedures at all levels**
- **Personal Protective Equipment is used as a supplement to engineering and administrative controls**

# ERGONOMIC WEARABLES

## ERGONOMIC EVALUATION TOOLS

An effective ergonomic program should include a process to perform worksite analysis to determine ergonomic hazards and job functions in the workplace.




### ERGODYNE® ERGOANALYZER® JOB EVALUATION SYSTEM

An integral part of any ergonomics program is the worksite analysis and re-evaluation follow-up analysis. The Ergoanalyzer provides an easy-to-use, structured approach to the application of ergonomic principles, which, when put into action, helps reduce the costs of workers compensation and improves the ergonomics of a plant or warehouse. This all-inclusive compact tool uses a simple scoring system to quantify ergonomic risk factors, prioritize items to be corrected, and identify cost-effective solutions.

The Ergoanalyzer industrial evaluation system includes instruction manual, quick start guide, pack of 25 Ergoanalyzer forms, notebook to prioritize items, handbook with engineering solutions, and a goniometer to measure body angles. Additional evaluation forms sold separately; 25 per pack.

**No. 3ZM44.** ErgoAnalyzer Evaluation System (PAS). Shpg. wt. 2.5 lbs. List.....$349.00; Each **$299.00;** Lots 3.....**$284.05**

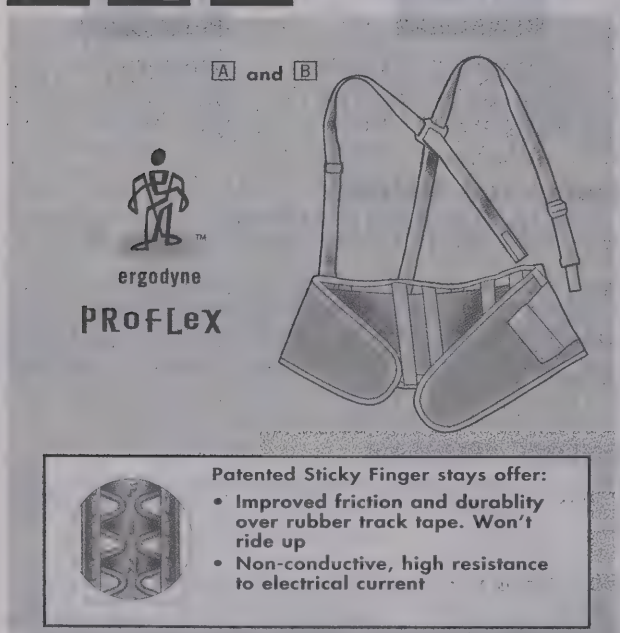
**No. 3ZM45.** ErgoAnalyzer Evaluation Forms (35555). Shpg. wt. 0.8 lbs. List.....$24.00; Each Pkg. of 25 **$19.95;** Lots 3.....**$18.95**

## WEARABLE SUPPORT TOOLS

Can be effective when used as part of a program approach to reducing workplace injuries. Can also be effective in situations where other abatement strategies are not feasible or practical, such as patient care, construction, or delivery settings.

### ERGODYNE® PROFLEX® BACK SUPPORTS

Suggested for reducing fatigue and the risk factors of Awkward Posture, Force, and Mechanical Stress.






**Patented Sticky Finger stays offer:**

- **Improved friction and durablity over rubber track tape. Won't ride up**
- **Non-conductive, high resistance to electrical current**

A **ProFlex 2000SF Ultra Deluxe Back Support.** The combination of the patented V-shaped design with the revolutionary Sticky Fingers® high friction stays make the support hug the body and reduce back support ride up for a comfortable, secure fit.

- **Patented Sticky Finger stays**
- **Detachable woven suspenders with adjustment guide**
- **Patented V-shape design**
- **Lightweight, flexible, breathable Spandex**
- **Machine washable**
- **Black color**

B **ProFlex 2006SF Ultra Deluxe High Visibility Back Support.** One of the most highly visible back supports on the market. The combination of a safety orange outer shell paired with new fluorescent lime green power panels and highlighted with silver reflective tape provides maximum visibility. Meets DOT Guidelines for high visibility clothing.

- **Patented Sticky Finger stays**
- **Woven suspenders with reflective tape**
- **Patented V-shape design**
- **Lightweight, breathable Spandex**
- **Machine washable**
- **High-visibility orange color**

| Key | Size | Ergodyne Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ULTRA DELUXE BACK SUPPORT** | | | | | | | |
| **A** | XS | 2000SF | **5T538** | $41.06 | **$34.00** | **$32.30** | 0.6 |
| **A** | S | | **5T539** | 41.06 | **34.00** | **32.30** | 0.6 |
| **A** | M | | **5T540** | 41.06 | **34.00** | **32.30** | 0.6 |
| **A** | L | | **5T541** | 41.06 | **34.00** | **32.30** | 0.8 |
| **A** | XL | | **5T542** | 41.06 | **34.00** | **32.30** | 0.4 |
| **A** | XXL | | **5T543** | 41.06 | **34.00** | **32.30** | 0.6 |
| **ULTRA DELUXE HIGH VISIBILITY BACK SUPPORT** | | | | | | | |
| **B** | S | 2006SF | **3ZM12** | 44.43 | **39.95** | **37.95** | 0.6 |
| **B** | M | | **3ZM13** | 44.43 | **39.95** | **37.95** | 0.7 |
| **B** | L | | **3ZM14** | 44.43 | **39.95** | **37.95** | 0.7 |
| **B** | XL | | **3ZM15** | 44.43 | **39.95** | **37.95** | 0.8 |

**BACK SUPPORT SIZE CHART**

| Size | Fits WAIST: | | Size | Fits WAIST: | |
|---|---|---|---|---|---|
| **XS** | 22"-25" | 54-64cm | **L** | 34"-38" | 86-97cm |
| **S** | 25"-30" | 64-76cm | **XL** | 38"-42" | 97-107cm |
| **M** | 30"-34" | 76-86cm | **XXL** | 42"-46" | 107-117cm |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

## WEARABLE SUPPORT TOOLS

Can be effective when used as part of a program approach to reducing workplace injuries. Can also be effective in situations where other abatement strategies are not feasible or practical, such as patient care, construction, or delivery settings.





## ERGODYNE® PROFLEX® BACK SUPPORTS

Suggested for reducing fatigue and the risk factors of Akward Posture, Force, and Mechancial Stress

[A] **ProFlex® 1100SF Deluxe Back Support.** Durable, high quality materials and Sticky Fingers® stays make this the standard for the traditional back support design. Black, navy, and white colors.

- **Patented Sticky Fingers stays**
- **Adjustable/detachable 1¼" knit elastic suspenders**
- **Breathable Spandex**
- **Two-stage closure**
- **Lightweight, flexible**
- **Machine washable**

[B] **ProFlex 1051 Lumbar Pad Deluxe Back Support.** The coolest back support with mesh outer shell and ventilated lumbar pad provides strong and comfortable back and abdominal support.

- **Breathable mesh body**
- **Contoured lumbar pad fills gap in back's natural curve**
- **Two-stage closure**
- **Black color**

[C] **ProFlex 1000RT Performance Back Support.** Quality materials and workmanship make this support able to withstand tough work environments.

- **Rubber-tracked webbing**
- **Breathable Spandex body cloth**
- **Adjustable/detachable 1¼" knit elastic suspenders**
- **Machine washable**
- **Black color**

[D] **ProFlex 100 Economy Performance Back Support.** Most affordable back support provides basic essential lower back and abdominal support.

- **Rubber-tracked webbing**
- **Breathable Spandex body cloth**
- **Adjustable/detachable 1¼" knit elastic suspenders**
- **Machine washable**
- **Black color**

[E] **ProFlex 1500 Weight Lifter Style Back Belt.** Durable Ansotex® outer shell resists stains while Evalite® foam offers firm support while hugging body contours.

- **Adjustable closure**
- **Contoured design**
- **Lumbar pad**
- **Black color**

### BACK SUPPORT SIZE CHART

| Size | Fits WAIST: | | Size | Fits WAIST: | |
|---|---|---|---|---|---|
| XS | 22"-25" | 56-64 cm | L | 34"-38" | 86-97 cm |
| S | 25"-30" | 64-76 cm | XL | 38"-42" | 97-107 cm |
| M | 30"-34" | 76-86 cm | XXL | 42"-46" | 107-117 cm |

TERMINOLOGY AND TECHNICAL DATA
See Pages at back of Catalog




| Key | Size | Ergodyne Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | S/ Black | 1100SF | 6T554 | $27.77 | $24.99 | $23.74 | 0.5 |
| A | M/ Black | 1100SF | 6T555 | 27.77 | 24.99 | 23.74 | 0.6 |
| A | L/ Black | 1100SF | 6T556 | 27.77 | 24.99 | 23.74 | 0.6 |
| A | XL/ Black | 1100SF | 6T557 | 27.77 | 24.99 | 23.74 | 0.6 |
| A | S/ Navy | 1100SF | 3ZM04 | 27.77 | 24.99 | 23.74 | 0.6 |
| A | M/ Navy | 1100SF | 3ZM05 | 27.77 | 24.99 | 23.74 | 0.6 |
| A | L/ Navy | 1100SF | 3ZM06 | 27.77 | 24.99 | 23.74 | 0.7 |
| A | XL/ Navy | 1100SF | 3ZM07 | 27.77 | 24.99 | 23.74 | 0.7 |
| A | S/ White | 1100SF | 3ZM08 | 27.77 | 24.99 | 23.74 | 0.6 |
| A | M/ White | 1100SF | 3ZM09 | 27.77 | 24.99 | 23.74 | 0.6 |
| A | L/ White | 1100SF | 3ZM10 | 27.77 | 24.99 | 23.74 | 0.7 |
| A | XL/ White | 1100SF | 3ZM11 | 27.77 | 24.99 | 23.74 | 0.7 |
| B | S/Black | 1051 | 1M702 | 24.43 | 21.99 | 20.89 | 0.2 |
| B | M/Black | 1051 | 1M704 | 24.43 | 21.99 | 20.89 | 0.5 |
| B | L/Black | 1051 | 1M706 | 24.43 | 21.99 | 20.89 | 0.5 |
| B | XL/Black | 1051 | 1M708 | 24.43 | 21.99 | 20.89 | 0.6 |
| C | S | 1000RT | 6AL15 | 24.43 | 21.99 | 20.89 | 0.3 |
| C | M | 1000RT | 5AV92 | 24.43 | 21.99 | 20.89 | 0.9 |
| C | L | 1000RT | 6AJ08 | 24.43 | 21.99 | 20.89 | 0.9 |
| C | XL | 1000RT | 2AC54 | 24.43 | 21.99 | 20.89 | 0.9 |
| D | S | 100 | 6T562 | 16.66 | 14.99 | 14.24 | 0.4 |
| D | M | 100 | 6T563 | 16.66 | 14.99 | 14.24 | 0.5 |
| D | L | 100 | 6T564 | 16.66 | 14.99 | 14.24 | 0.7 |
| D | XL | 100 | 6T565 | 16.66 | 14.99 | 14.24 | 0.5 |
| E | S | 1500 | 6T558 | 31.10 | 27.95 | 26.55 | 0.5 |
| E | M | 1500 | 6T559 | 31.10 | 27.95 | 26.55 | 0.6 |
| E | L | 1500 | 6T560 | 31.10 | 27.95 | 26.55 | 0.6 |
| E | XL | 1500 | 6T561 | 31.10 | 27.95 | 26.55 | 0.6 |
| E | XXL | 1500 | 3AR75 | 31.10 | 27.95 | 26.55 | 0.7 |

# BACK SUPPORT BELTS

**Valeo® back support belts** provide effective, comfortable support. Suggested for reducing back fatigue, back strain and insuring proper musculo-skeletal alignment. Valeo® brand.

### CLASSIC FOAM CORE BACK SUPPORT BELT

The Classic back support belt is the most innovative industrial back support available. The patented cam buckle and torque ring locking system allows for universal adjustment. Hand washable and hypoallergenic. Black color. Available in 4 and 6" widths.

### HEAVY DUTY ELASTIC BACK SUPPORT BELT WITH SUSPENDERS

Heavy duty, breathable knit elastic belt features five support stays. Velcro® tab quick-release, detachable suspenders for safety and convenience. Hand washable. Black color. 9" Width.

| Description | Size | Valeo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **CLASSIC FOAM CORE BACK SUPPORT BELTS** | | | | | | |
| **4" Back Support Belt** | S | VCL | **3JK62** | $34.95 | **$28.00** | 9.0 |
| **4" Back Support Belt** | M | VCL | **3KH76** | 34.95 | **28.00** | 9.5 |
| **4" Back Support Belt** | L | VCL | **3JN80** | 34.95 | **28.00** | 0.8 |
| **4" Back Support Belt** | XL | VCL | **3JN81** | 34.95 | **28.00** | 11.0 |
| **6" Back Support Belt** | M | VCL | **3JN82** | 39.95 | **32.00** | 10.0 |
| **6" Back Support Belt** | L | VCL | **3JN83** | 39.95 | **32.00** | 0.5 |
| **6" Back Support Belt** | XL | VCL | **3JN84** | 39.95 | **32.00** | 11.0 |
| **6" Back Support Belt** | XXL | VCL | **3JN85** | 39.95 | **32.00** | 12.0 |
| **HEAVY-DUTY ELASTIC BACK SUPPORT BELT WITH SUSPENDERS** | | | | | | |
| **9" Back Support Belt** | S | VEH | **3JN86** | 19.95 | **17.96** | 0.8 |
| **9" Back Support Belt** | M | VEH | **3JN87** | 19.95 | **17.96** | 1.0 |
| **9" Back Support Belt** | L | VEH | **3JN88** | 19.95 | **17.96** | 1.0 |
| **9" Back Support Belt** | XL | VEH | **3JN89** | 19.95 | **17.96** | 0.8 |

# AMBIDEXTROUS WRIST SUPPORTS

Valeo® ambidextrous wrist supports are constructed of vented neoprene with terry lining for long-lasting comfort. Premium ribbed, non-metallic support stays located on the top and bottom of the wrist to stabilize the wrist in an ergonomically neutral position. Can be worn comfortably on either hand. **Priced and sold individually.** Valeo brand.

### SINGLE STRAP WRIST SUPPORT

Features a single elastic wrap stabilizing the wrist.

### DOUBLE STRAP WRIST SUPPORT

Features two elastic wraps for extra wrist stability.

| Description | Size | Valeo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Single Strap** | S | WHD1 | **3JP19** | $14.95 | **$11.96** | 2.0 |
| **Single Strap** | M | WHD1 | **3JP20** | 14.95 | **11.96** | 0.3 |
| **Single Strap** | L | WHD1 | **3JP21** | 14.95 | **11.96** | 2.5 |
| **Single Strap** | XL | WHD1 | **3JP22** | 14.95 | **11.96** | 2.5 |
| **Double Strap** | S | WHD2 | **3JP23** | 17.95 | **14.36** | 3.0 |
| **Double Strap** | M | WHD2 | **3JP24** | 17.95 | **14.36** | 3.5 |
| **Double Strap** | L | WHD2 | **3JP25** | 17.95 | **14.36** | 4.0 |
| **Double Strap** | XL | WHD2 | **3JP26** | 17.95 | **14.36** | 4.0 |

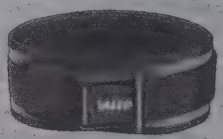
**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

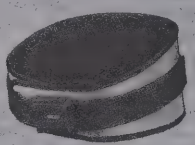
**In addition to our new product listings from the leading brand names, Grainger now offers you more than 70,000 products to meet your maintenance, repair, or operation supply needs.**

VALEO®

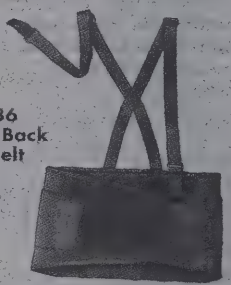
Women-Owned Business

No. 3JK62
4" Back Support Belt



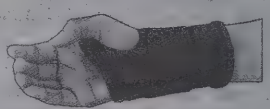


No. 3JN82
6" Back Support Belt

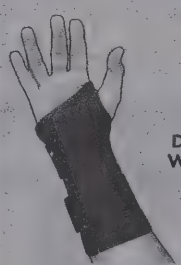


No. 3JN86
Heavy Duty Back Support Belt

- **Support and stabilize lower back and abdominal muscles**
- **Reminds user to utilize proper lifting techniques**



No. 3JP19
Single Strap Wrist Support



No. 3JP23
Double Strap Wrist Support

- **Reduces wrist fatigue from repetitive motion**
- **Reduces wrist strain from heavy lifting**

- **Dampens jarring vibrations without generating heat**
- **Half-finger styles permit complete finger manipulation**

**Half-fingered anti-vibration gloves** are designed for a supple, natural fit with Viscolas® pads in the palm, thumb and index finger for vibration protection. Drivers style anti-vibration gloves feature Viscolas in all fingers. Valeo® brand.

### LEATHER ANTI-VIBRATION GLOVE WITH WRIST WRAP

Half-fingered anti-vibration glove is made of full grain leather featuring an elastic wrist wrap with a non-conductive support pad. Superior quality and value. Black color. **Priced and sold individually.**

### STANDARD LEATHER ANTI-VIBRATION GLOVE

Half-fingered anti-vibration glove is made of durable pigskin. Adjustable Velcro® closure for a non-restrictive fit. Black color. **Priced and sold individually.**

### ALL-PURPOSE LEATHER ANTI-VIBRATION GLOVE

Half-fingered anti-vibration gloves are made of split cowhide. Adjustable Velcro closure. Black color. **Priced and sold in pairs.**

### COWHIDE ANTI-VIBRATION DRIVERS GLOVE

Full-fingered driver style anti-vibration gloves are made of cowhide leather for comfort and endurance. Tan color. **Priced and sold in pairs.**

### PIGSKIN ANTI-VIBRATION DRIVERS GLOVE

Full-fingered driver style anti-vibration gloves are made of pigskin for durable performance. Tan color. **Priced and sold in pairs.**

| Description | Description | Size | Valeo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Leather Anti-Vibration Gloves** | Wrist Wrap, Right Hand | M | GLAW | **3JN90** | $19.95 | **$15.96** | 0.8 |
| | Wrist Wrap, Right Hand | L | GLAW | **3JN91** | 19.95 | **15.96** | 0.3 |
| | Wrist Wrap, Right Hand | XL | GLAW | **3JN92** | 19.95 | **15.96** | 0.8 |
| | Wrist Wrap, Right Hand | XXL | GLAW | **3JN93** | 19.95 | **15.96** | 1.0 |
| | Wrist Wrap, Left Hand | M | GLAW | **3JN94** | 19.95 | **15.96** | 0.8 |
| | Wrist Wrap, Left Hand | L | GLAW | **3JN95** | 19.95 | **15.96** | 0.3 |
| | Wrist Wrap, Left Hand | XL | GLAW | **3JN96** | 19.95 | **15.96** | 1.0 |
| | Wrist Wrap, Left Hand | XXL | GLAW | **3JN97** | 19.95 | **15.96** | 6.5 |
| | Standard, Right Hand | S | GLAS | **3JN98** | 15.95 | **12.76** | 3.0 |
| | Standard, Right Hand | M | GLAS | **3JN99** | 15.95 | **12.76** | 3.5 |
| | Standard, Right Hand | L | GLAS | **3JP01** | 15.95 | **12.76** | 3.5 |
| | Standard, Right Hand | XL | GLAS | **3JP02** | 15.95 | **12.76** | 3.5 |
| | Standard, Left Hand | S | GLAS | **3JP03** | 15.95 | **12.76** | 3.0 |
| | Standard, Left Hand | M | GLAS | **3JP04** | 15.95 | **12.76** | 3.5 |
| | Standard, Left Hand | L | GLAS | **3JP05** | 15.95 | **12.76** | 3.5 |
| | Standard, Left Hand | XL | GLAS | **3JP06** | 15.95 | **12.76** | 3.5 |
| | All Purpose Split Leather, Pair | S | GLAX | **3JP07** | 12.98 | **10.38** | 4.0 |
| | All Purpose Split Leather, Pair | M | GLAX | **3JP08** | 12.98 | **10.38** | 4.5 |
| | All Purpose Split Leather, Pair | L | GLAX | **3JP09** | 12.98 | **10.38** | 4.5 |
| | All Purpose Split Leather, Pair | XL | GLAX | **3JP10** | 12.98 | **10.38** | 5.0 |
| **Driver Style Leather Anti-Vibration Gloves** | Cowhide Full-Finger, Pair | S | GLAF | **3JP15** | 21.95 | **17.56** | 6.0 |
| | Cowhide Full-Finger, Pair | M | GLAF | **3JP16** | 21.95 | **17.56** | 1.0 |
| | Cowhide Full-Finger, Pair | L | GLAF | **3JP17** | 21.95 | **17.56** | 0.1 |
| | Cowhide Full-Finger, Pair | XL | GLAF | **3JP18** | 21.95 | **17.56** | 7.5 |
| | Pigskin Full-Finger, Pair | S | GLAP | **3JP11** | 17.95 | **14.36** | 6.0 |
| | Pigskin Full-Finger, Pair | M | GLAP | **3JP12** | 17.95 | **14.36** | 6.0 |
| | Pigskin Full-Finger, Pair | L | GLAP | **3JP13** | 17.95 | **14.36** | 6.5 |
| | Pigskin Full-Finger, Pair | XL | GLAP | **3JP14** | 17.95 | **14.36** | 7.0 |

VALEO® Women-Owned Business



Nos. 3JN90 and 3JN94 Gloves with Wrist Strap

Priced and Sold Individually

Nos. 3JN98 and 3JP03 Standard Gloves

Priced and Sold Individually



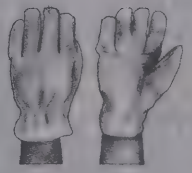


No. 3JP07 All-Purpose Leather Gloves

Priced and Sold By the Pair

No. 3JP15 Cowhide Driver Gloves

Priced and Sold By the Pair





No. 3JP11 Pigskin Driver Gloves

Priced and Sold By the Pair

## FULL-FINGER ANTI-VIBRATION GLOVES

- **Feature heavy-duty Viscolas® padding in the palm**
- **Supple gel-foam in thumb and fingers provide greater dexterity; reduces shock**

**GAFW:** Made of top grain leather; feature elastic wrist wrap with a non-conductive support pad. Black color.

**GAFS:** Standard anti-vibration glove is made of pigskin; has adjustable Velcro® closure for non-restrictive fit.

VALEO®



Priced and sold individually.

No. 4JD98



No. 4JF07

| Description | Size | Valeo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Pigskin, Right Hand** | S | GAFS | **4JD98** | $19.95 | **$15.96** | 2.5 |
| **Pigskin, Right Hand** | M | GAFS | **4JD99** | 19.95 | **15.96** | 3.0 |
| **Pigskin, Right Hand** | L | GAFS | **4JF01** | 19.95 | **15.96** | 3.5 |
| **Pigskin, Right Hand** | XL | GAFS | **4JF02** | 19.95 | **15.96** | 2.5 |
| **Pigskin, Left Hand** | S | GAFS | **4JF03** | 19.95 | **15.96** | 3.0 |
| **Pigskin, Left Hand** | M | GAFS | **4JF04** | 19.95 | **15.96** | 3.0 |
| **Pigskin, Left Hand** | L | GAFS | **4JF05** | 19.95 | **15.96** | 3.0 |
| **Pigskin, Left Hand** | XL | GAFS | **4JF06** | 19.95 | **15.96** | 2.5 |

| Description | Size | Valeo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Leather, Right Hand** | M | GAFW | **4JF07** | $23.95 | **$19.96** | 5.5 |
| **Leather, Right Hand** | L | GAFW | **4JF08** | 23.95 | **19.96** | 5.5 |
| **Leather, Right Hand** | XL | GAFW | **4JF09** | 23.95 | **19.96** | 6.0 |
| **Leather, Right Hand** | XXL | GAFW | **4JF10** | 23.95 | **19.96** | 6.5 |
| **Leather, Left Hand** | M | GAFW | **4JF11** | 23.95 | **19.96** | 5.5 |
| **Leather, Left Hand** | L | GAFW | **4JF12** | 23.95 | **19.96** | 5.5 |
| **Leather, Left Hand** | XL | GAFW | **4JF13** | 23.95 | **19.96** | 6.0 |
| **Leather, Left Hand** | XXL | GAFW | **4JF14** | 23.95 | **19.96** | 6.5 |

# WEARABLE SUPPORT TOOLS

Can be effective when used as a part of a program approach to reducing workplace injuries. Can also be effective in situations where other abatement strategies are not feasible or practical, such as patient care, construction, or delivery settings.





## ERGODYNE® PROFLEX® FULL-FINGER ANTI-VIBRATION GLOVES AND LINERS

Suggested for reducing the risk factors of Vibration, Force and Temperature due to **externally created vibration** by the use of power-supplied tools and objects. Full-fingered gloves also help shield entire hand from minor cuts, abrasions, and cold temperatures.

The hands, one of the most valuable tools, need protection from impact and vibration. Hand-arm vibration syndrome (HAVS) is a chronic disorder that can develop when the hand is subjected to repeated and prolonged exposure to vibration and impact, resulting in irreversible damage to the blood vessels, nerves and muscles. The use of Anti-Vibration Gloves can help reduce the risk of injury from prolonged exposure to vibration and impact forces.

ProFlex® Anti-Vibration gloves and liners use Akton, a visco elastic polymer insert, to absorb the injury causing shock and vibration. Akton® consistently retains its original shape without restricting grip.

**A ProFlex 902 Full-Finger Anti-Vibration Glove.** Suggested when using vibration tools such as grinders, power hammers, drills, deburrers or the objects which create vibration.

- **Durable cowskin leather**
- **Akton built into palm, thumb, and all fingers**
- **Anti-bacterial lining keeps hands dry**
- **Washable, black color**
- **Priced and sold individually**

**B ProFlex 912 Full-Finger Anti-Vibration Glove With Wrist Support.** Built-in patented open center stay for additional wrist support encourages neutral wrist posture.

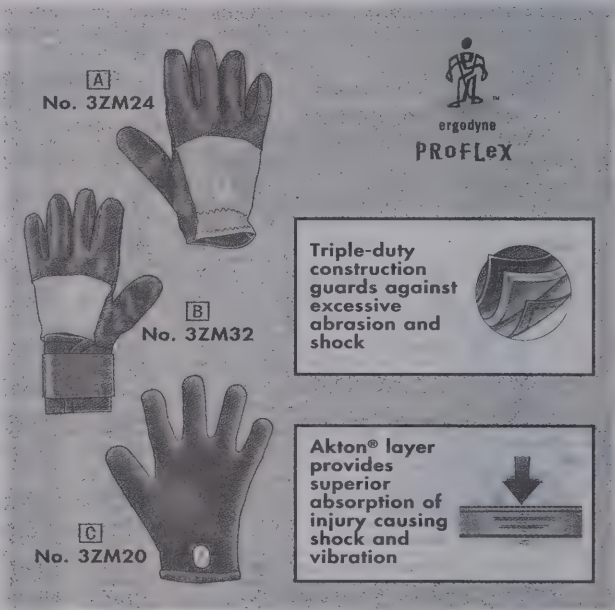
- **Durable cowskin leather**
- **Akton built into palm, thumb, and all fingers**
- **Anti-bacterial lining keeps hands dry**
- **Washable, black color**
- **Priced and sold individually**

**C ProFlex 802 Anti-Vibration Glove Liners.** Turn traditional and specialty gloves into anti-vibration gloves. Liners can be re-used even when outer glove needs to be replaced.

- **Akton impact and vibration absorbing material**
- **Lightweight and breathable cotton/Spandex body cloth**
- **Akton built into palm, thumb and all fingers**
- **Washable, black color**
- **Priced and sold individually**

**FOR ACCURATE SIZING MEASURE AROUND PALM**

| S | M | L | XL |
|---|---|---|---|
| Up to 8" Up to 20 cm | 8-9" 20-23 cm | 9-10" 23-25 cm | 10-11" 25-28 cm |




| Size | Wrist | Ergodyne Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | | | **A 902 IMPACT & ANTI-VIBRATION GLOVE** | | | | |
| S | Right | 902 | **3ZM24** | $21.10 | **$18.95** | **$18.00** | 0.2 |
| S | Left | 902 | **3ZM25** | 21.10 | **18.95** | **18.00** | 0.2 |
| M | Right | 902 | **3ZM26** | 21.10 | **18.95** | **18.00** | 0.2 |
| M | Left | 902 | **3ZM27** | 21.10 | **18.95** | **18.00** | 0.2 |
| L | Right | 902 | **3ZM28** | 21.10 | **18.95** | **18.00** | 0.3 |
| L | Left | 902 | **3ZM29** | 21.10 | **18.95** | **18.00** | 0.3 |
| XL | Right | 902 | **3ZM30** | 21.10 | **18.95** | **18.00** | 0.3 |
| XL | Left | 902 | **3ZM31** | 21.10 | **18.95** | **18.00** | 0.3 |
| | | | **B 912 IMPACT & ANTI-VIBRATION GLOVE W/WRIST SUPPORT** | | | | |
| S | Light | 912 | **3ZM32** | 36.25 | **32.95** | **31.30** | 0.3 |
| S | Left | 912 | **3ZM33** | 36.25 | **32.95** | **31.30** | 0.3 |
| M | Right | 912 | **3ZM34** | 36.25 | **32.95** | **31.30** | 0.3 |
| M | Left | 912 | **3ZM35** | 36.25 | **32.95** | **31.30** | 0.3 |
| L | Right | 912 | **3ZM36** | 36.25 | **32.95** | **31.30** | 0.3 |
| L | Left | 912 | **3ZM37** | 36.25 | **32.95** | **31.30** | 0.3 |
| XL | Right | 912 | **3ZM38** | 36.25 | **32.95** | **31.30** | 0.3 |
| XL | Left | 912 | **3ZM39** | 36.25 | **32.95** | **31.30** | 0.3 |
| | | | **C 802 FULL FINGER GLOVE LINER** | | | | |
| S/M | Right | 802 | **3ZM20** | 14.43 | **12.95** | **12.30** | 0.2 |
| S/M | Left | 802 | **3ZM21** | 14.43 | **12.95** | **12.30** | 0.2 |
| L | Right | 802 | **3ZM22** | 14.43 | **12.95** | **12.30** | 0.2 |
| L | Left | 802 | **3ZM23** | 14.43 | **12.95** | **12.30** | 0.2 |

## WEARABLE SUPPORT TOOLS

Can be effective when used as part of a program approach to reducing workplace injuries. Can also be effective in situations where other abatement strategies are not feasible or practical, such as patient care, construction, or delivery settings.



### ERGODYNE® PROFLEX® HALF-FINGER IMPACT GLOVES AND LINERS

Suggested for reducing the risk factors of Vibration, Impact, Force, and Temperature due to **internally created vibration** by the use of non-mechanical tools.

The hands, one of the most valuable tools, need protection from exposure to impact forces. Hand-arm vibration syndrome (HAVS) is a chronic disorder that can develop when the hand is subjected to repeated and prolonged exposure to forces from impact, resulting in irreversible damage to the blood vessels, nerves and muscles. The use of Impact Gloves can help reduce the risk of injury from prolonged exposure to impact forces.

ProFlex® Impact gloves and liners feature Akton®, a visco elastic polymer insert, to absorb injury causing shock and vibration. Akton consistently retains its original shape without restricting grip.

**A ProFlex 900 Half Finger Impact Glove.** Suggested when using non-mechanical tools such as hammers, chisels, striking tools and/or when repeatedly coming into contact with hard surfaces.

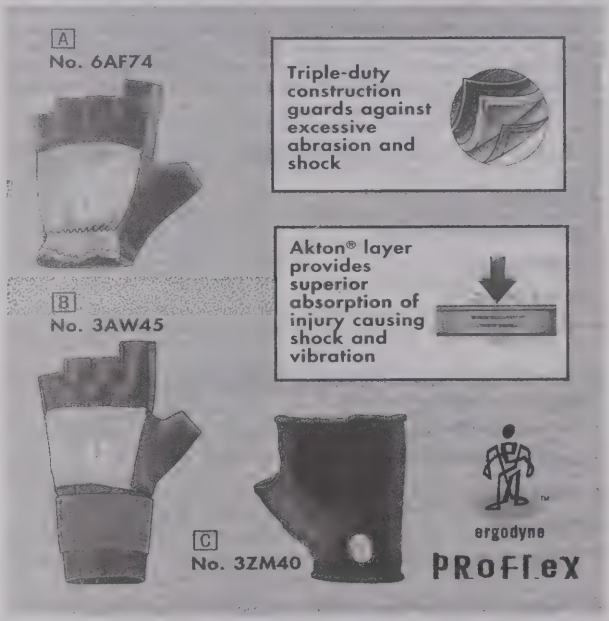
- **Durable cowskin leather**
- **Akton built into key contact points - palm, thumb, and forefinger**
- **Anti-bacterial lining keeps hands dry**
- **Washable, black color**
- **Priced and sold individually**

**B ProFlex 910 Half-Finger Impact Glove With Wrist Support.** Built-in patented open center stay for additional wrist support encourages neutral wrist posture.

- **Durable cowskin leather**
- **Akton built into key contact points - palm, thumb, and forefinger**
- **Anti-bacterial lining keeps hands dry**
- **Washable, black color**
- **Priced and sold individually**

**C ProFlex 800 Impact Glove Liners.** Turn traditional and specialty gloves into impact gloves. The liners can be re-used even when outer glove needs to be replaced.

- **Akton impact and vibration absorbing material**
- **Lightweight and breathable cotton/Spandex body cloth**
- **Akton built in palm and outside of hand**
- **Washable, black color**
- **Priced and sold individually**




| Size | Wrist | Ergodyne Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | | | **A 900 IMPACT GLOVE** | | | | |
| S | Right | 900 | **6AF74** | $17.77 | **$15.99** | **$15.19** | 0.2 |
| S | Left | 900 | **5AG25** | 17.77 | **15.99** | **15.19** | 0.1 |
| M | Right | 900 | **5T611** | 17.77 | **15.99** | **15.19** | 0.2 |
| M | Left | 900 | **5T612** | 17.77 | **15.99** | **15.19** | 0.2 |
| L | Right | 900 | **5T613** | 17.77 | **15.99** | **15.19** | 0.2 |
| L | Left | 900 | **5T614** | 17.77 | **15.99** | **15.19** | 0.2 |
| XL | Right | 900 | **5T615** | 17.77 | **15.99** | **15.19** | 0.2 |
| XL | Left | 900 | **5T616** | 17.77 | **15.99** | **15.19** | 0.2 |
| | | | **B 910 IMPACT GLOVE w/WRIST SUPPORT** | | | | |
| S | Right | 910 | **3AW45** | 31.05 | **27.95** | **26.55** | 0.2 |
| S | Left | 910 | **2AL11** | 31.05 | **27.95** | **26.55** | 0.2 |
| M | Right | 910 | **2AW47** | 31.05 | **27.95** | **26.55** | 0.2 |
| M | Left | 910 | **2AF67** | 31.05 | **27.95** | **26.55** | 0.2 |
| L | Right | 910 | **6AN34** | 31.05 | **27.95** | **26.55** | 0.3 |
| L | Left | 910 | **5AZ91** | 31.05 | **27.95** | **26.55** | 0.3 |
| XL | Right | 910 | **6AT53** | 31.05 | **27.95** | **26.55** | 0.2 |
| XL | Left | 910 | **2AN19** | 31.05 | **27.95** | **26.55** | 0.2 |
| | | | **C 800 HALF-FINGER GLOVE LINER** | | | | |
| S/M | Right | 800 | **3ZM42** | 8.32 | **7.50** | **7.13** | 0.1 |
| S/M | Left | 800 | **3ZM43** | 8.32 | **7.50** | **7.13** | 0.1 |
| L | Right | 800 | **3ZM40** | 8.32 | **7.50** | **7.13** | 0.1 |
| L | Left | 800 | **3ZM41** | 8.32 | **7.50** | **7.13** | 0.1 |

**FOR ACCURATE SIZING MEASURE AROUND PALM**

| S | M | L | XL |
|---|---|---|---|
| Up to 8" Up to 20 cm | 8-9" 20-23 cm | 9-10" 23-25 cm | 10-11" 25-28 cm |

# WEARABLE SUPPORT TOOLS

Can be effective when used as a part of a program approach to reducing workplace injuries. Can also be effective in situations where other abatement strategies are not feasible or practical, such as patient care, construction, or delivery settings.

## ERGODYNE® PROFLEX® WRIST SUPPORTS

Suggested for reducing the risk factors of Awkward Posture, Force and Mechanical Stress.



ProFlex® wrist supports help reduce the risk of Carpal Tunnel Syndrome and other wrist injuries by encouraging a neutral wrist position. Limits extreme movements of the hand and wrist while maintaining dexterity and comfort. In addition all wrist supports have the new patented **open-center stay** which places less pressure on the median nerve than traditional stay configurations. Anti-bacterial lining wicks moisture away which keeps wrist and hand dry and comfortable.

**A ProFlex 4000 Flexion Limitation Support.** Limits downward movement.

- **Single strap**
- **Anti-bacterial lining**
- **Lightweight**
- **Washable**
- **Black color**

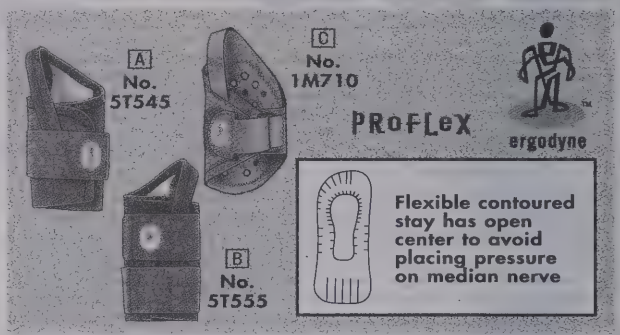
**B ProFlex 4010 Flexion/Extension Limitation Support.** Limits downward and upward movement.

- **Two-strap design**
- **Anti-bacterial lining**
- **Lightweight**
- **Washable**
- **Black color**

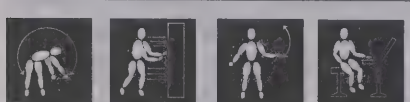
**C ProFlex 4020 Light-Duty Flexion Limitation Support.** Limits downward movement.

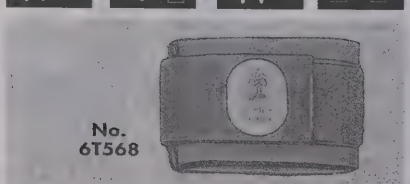
- **Neoprene material**
- **Lightweight, cool design**
- **Washable**
- **Gray color**

| FOR ACCURATE SIZING MEASURE SMALLEST PART OF WRIST | | | |
|---|---|---|---|
| S | M | L | XL |
| Up to 6" Up to 15 cm | 6 to 7" 15 to 17 cm | 7 to 8 " 17 to 20 cm | Over 8" over 20 cm |




| Size | Wrist | Ergodyne Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **A FLEXION LIMITATION MODEL** | | | | | | | |
| S | Right | 4000 | 5T545 | $13.32 | $11.99 | $11.39 | 0.1 |
| S | Left | 4000 | 5T550 | 13.32 | 11.99 | 11.39 | 0.1 |
| M | Right | 4000 | 5T546 | 13.32 | 11.99 | 11.39 | 0.1 |
| M | Left | 4000 | 5T551 | 13.32 | 11.99 | 11.39 | 0.1 |
| L | Right | 4000 | 5T547 | 13.32 | 11.99 | 11.39 | 0.1 |
| L | Left | 4000 | 5T552 | 13.32 | 11.99 | 11.39 | 0.1 |
| XL | Right | 4000 | 3ZM16 | 13.32 | 11.99 | 11.39 | 0.1 |
| XL | Left | 4000 | 3ZM17 | 13.32 | 11.99 | 11.39 | 0.1 |
| **B FLEXION/EXTENSION LIMITATION MODEL** | | | | | | | |
| S | Right | 4010 | 5T555 | 17.99 | 15.99 | 15.19 | 0.2 |
| S | Left | 4010 | 5T560 | 17.99 | 15.99 | 15.19 | 0.1 |
| M | Right | 4010 | 5T556 | 17.99 | 15.99 | 15.19 | 0.2 |
| M | Left | 4010 | 5T561 | 17.99 | 15.99 | 15.19 | 0.2 |
| L | Right | 4010 | 5T557 | 17.99 | 15.99 | 15.19 | 0.3 |
| L | Left | 4010 | 5T562 | 17.99 | 15.99 | 15.19 | 0.2 |
| XL | Right | 4010 | 3ZM18 | 17.99 | 15.99 | 15.19 | 0.1 |
| XL | Left | 4010 | 3ZM19 | 17.99 | 15.99 | 15.19 | 0.1 |
| **C LIGHT-DUTY FLEXION LIMITATION MODEL** | | | | | | | |
| XS/S | Right | 4020 | 1M710 | 12.21 | 10.99 | 10.44 | 0.2 |
| XS/S | Left | 4020 | 1M716 | 12.21 | 10.99 | 10.44 | 0.3 |
| M | Right | 4020 | 1M712 | 12.21 | 10.99 | 10.44 | 0.3 |
| M | Left | 4020 | 1M718 | 12.21 | 10.99 | 10.44 | 0.2 |
| L/XL | Right | 4020 | 1M714 | 12.21 | 10.99 | 10.44 | 0.3 |
| L/XL | Left | 4020 | 1M720 | 12.21 | 10.99 | 10.44 | 0.1 |






## PROFLEX® ELBOW SUPPORTS

Suggested for reducing the risk factors of Awkward Posture, Repetition, Force, and Mechanical Stress.

**ProFlex® 500 elbow support** provides relief from muscle stress and pressure caused by repetitive motion in the elbow area. Laminated neoprene material won't bind or chafe. Easy slip on and adjustment for secure fit. Machine washable. Gray color.

| Size | Forearm Measure Inches | Forearm Measure CM | Ergodyne Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| S | Up to 10 | Up to 25 | 500 | 6T568 | $11.10 | $9.99 | $9.49 | 0.2 |
| M | 10-11 | 25-28 | | 6T569 | 11.10 | 9.99 | 9.49 | 0.5 |
| L | 11-12 | 28-30 | | 6T570 | 11.10 | 9.99 | 9.49 | 0.1 |
| XL | 12-13 | 30-32 | | 6T571 | 11.10 | 9.99 | 9.49 | 0.1 |

# COMPUTER SUPPORT TOOLS

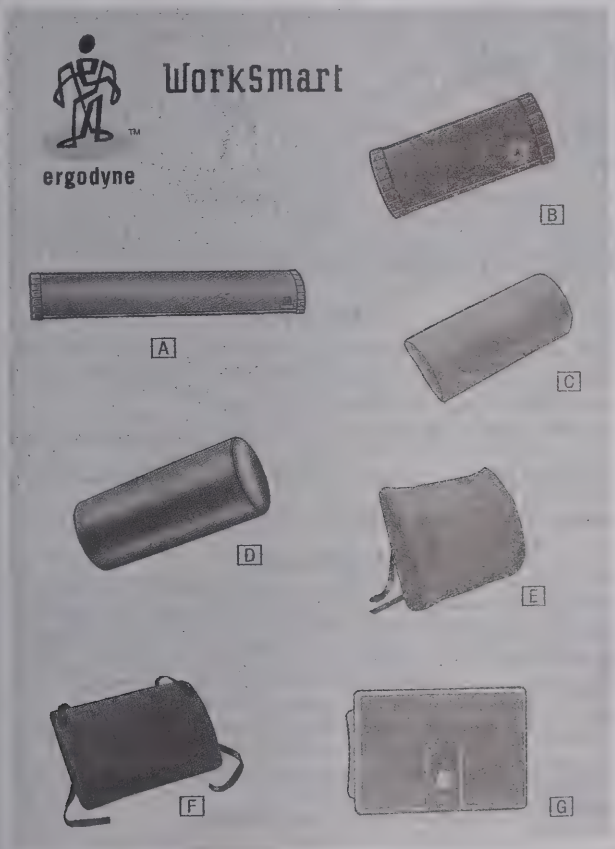
Effective as an interim approach until other intermediate and long-term strategies, such as engineering and administrative controls, can be implemented.





## ERGODYNE® WORKSMART® OFFICE PRODUCTS

**Back rests/cushions and palm rests** suggested for reducing the risk factors of Awkward Posture, Force, and Mechanical Stress. **Foot rests** suggested for reducing the risk factors of Awkward Posture and Mechanical Stress.




### A, B WRIST RESTS

Curvilinear design and cushioned surface encourages neutral wrist posture while minimizing pressure points for maximum comfort throughout the day. Helps reduce the risk of carpal tunnel syndrome and ease the strain associated with prolonged computer use in the neck, shoulders, wrists, and back. Ultrifure covering keeps hands dry and comfortable.

A **No. 6T572.** 19" Keyboard Wrist Rest (5000). Shpg. wt. 1.0 lbs.
List $27.72. Each **$24.95;** Lots 6 ..... **$23.70**

B **No. 5AK35.** 10" Keyboard/Mouse Wrist Rest (5500). Shpg. wt. 0.9 lbs.
List $19.99. Each **$17.99;** Lots 6 ..... **$17.09**

### C, D, E, F BACK RESTS

Contour design supports lower back and conforms to any body type. Adjustable strap provides secure placement in preferred location. Gray color.

C **No. 6T574.** Half Lumbo Roll with horizontal strap, soft brushed exterior fabric (8414). Shpg. wt. 0.5 lbs.
List $18.88. Each **$16.99;** Lots 6 ..... **$16.14**

D **No. 6AG58.** Full Lumbo Roll with horizontal strap, soft brushed exterior fabric (8411). Shpg. wt. 0.5 lbs. List $19.99. Each **$17.99;** Lots 6 ..... **$17.09**

E **No. 6T573.** 14" High Profile Back Rest with horizontal strap, extra durable exterior fabric (8887). Shpg. wt. 1.0 lbs.
List $37.17. Each **$33.45;** Lots 6 ..... **$31.78**

F **No. 4AJ38.** 18" Low Profile Back Rest with vertical strap, extra durable exterior fabric (8889). Shpg. wt. 1.4 lbs.
List $35.83. Each **$32.25;** Lots 6 ..... **$30.64**

### G FOOT REST

Designed to encourage proper posture, while supporting the back and increasing circulation to the legs. Allows for height adjustments up to 5" and up to a 35 degree tilt angle for personalized comfort. Convenient foot lever allows for easy adjustment. Large, carpeted surface cushions feet. WorkSmart Foot Rest (7000).

**No. 6T575.** Shpg. wt. 4.2 lbs. List ..... $49.94.
Each **$44.95;** Lots 4 ..... **$42.70**

**NEED ASSISTANCE WITH PRODUCT SELECTION?**
**WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY**

# MILLER® TOTAL SYSTEMS APPROACH TO FALL PROTECTION

Miller® fall protection products are designed to address specific fall protection hazards, but are based upon a more comprehensive total systems approach. Miller® products listed in this catalog meet applicable OSHA, ANSI, and CSA standards. To be most effective, the components should be applied as part of a complete safety system according to the worksite requirements.

MILLER®

## FOUR ASPECTS OF FALL PROTECTION

**Fall protection equipment generally addresses four different types of fall-related situations.**



Fall Arrest



Positioning



Retrieval



Suspension

• Miller products meet applicable OSHA, ANSI, and CSA standards.

## FALL ARREST

A fall arrest system is required if the risk of falling from an elevated level exists. Designed to be passive, equipment is activated only if a fall occurs. The following equipment should be used in a fall arrest system.

**Personal Protective Equipment**—Full body harness distributes forces throughout the body should a fall occur. The chance of internal injuries is reduced.

**Connecting Devices**—A shock absorbing lanyard softens the impact on the worker, dramatically decreasing the total fall arresting forces.

**Anchorage Point**—An eye bolt/beam ultimately supports the worker.

## POSITIONING

A personal positioning system allows workers to hold themselves in place, keeping their hands free to accomplish a task. Whenever worker leans back, system is activated. While a positioning system is not specifically designed for fall arrest, a fall arrest system should also be used. An effective positioning system includes the following components.

**Personal Protective Equipment**—A full body harness to distribute forces throughout the body should a fall occur.

**Connecting Device**—A rebar chain assembly attaches to worker's protective gear.

**Positioning Anchorage Point**—An attachment point such as a vertical rod supports the worker.

## RETRIEVAL

Retrieval systems are used mostly in confined spaces. Primarily used where workers enter tanks, manholes, etc. and may require retrieval from above if emergency occurs. An effective retrieval system includes the following components.

**Personal Protective Equipment**—A full body harness to distribute forces throughout the body.

**Connecting Device**—A retractable lifeline or rescue unit to attach to fallen worker.

**Anchorage Point**—Tripod eye bolt supports worker.

## SUSPENSION

A personal suspension system is used widely in the window washing and painting industry. Designed to lower and support a worker while allowing a hands-free work environment. This system is not designed to arrest a free fall, so a back-up fall arrest system should also be used to protect worker in the event of a fall. A typical suspension system includes the following components.

**Personal Protective Equipment**—Bos'n chair or harness to hold worker.

**Connecting Device**—Workline attaches to worker's personal protective gear.

**Anchorage Point**—An anchor bolt or carabiner.

## KEY COMPONENTS

Miller® Total Systems Approach involves three key components that must be in place if a worker is to receive maximum protection from a fall.

### BODY WEAR

Personal protective equipment worn by workers performing the job. It is recommended to use harnesses versus body belts whenever possible. Harnesses distribute fall forces throughout the worker's body, among shoulders, legs, torso and buttocks. This distribution of forces decreases the likelihood that worker will be injured. Miller® harnesses incorporate a sliding back D-ring to assist with force distribution as well as keeping worker upright and comfortable while awaiting rescue. Body belts concentrate all forces in the abdomen area and worker remains in uncomfortable and potentially dangerous position while awaiting rescue.

### CONNECTING DEVICES

Lanyards, rope grabs, retractable lifelines and rebar chain assemblies attach to worker's protective equipment.

### ANCHORING DEVICES

This area supports the entire weight of the system. Commonly called the tie-off point, the anchorage must be capable of supporting 5,000 lbs. per attached worker. Eye bolts, overhead beams and integral parts of building structures are all forms of anchorage points.

# FALL PROTECTION/POSITIONING BELTS



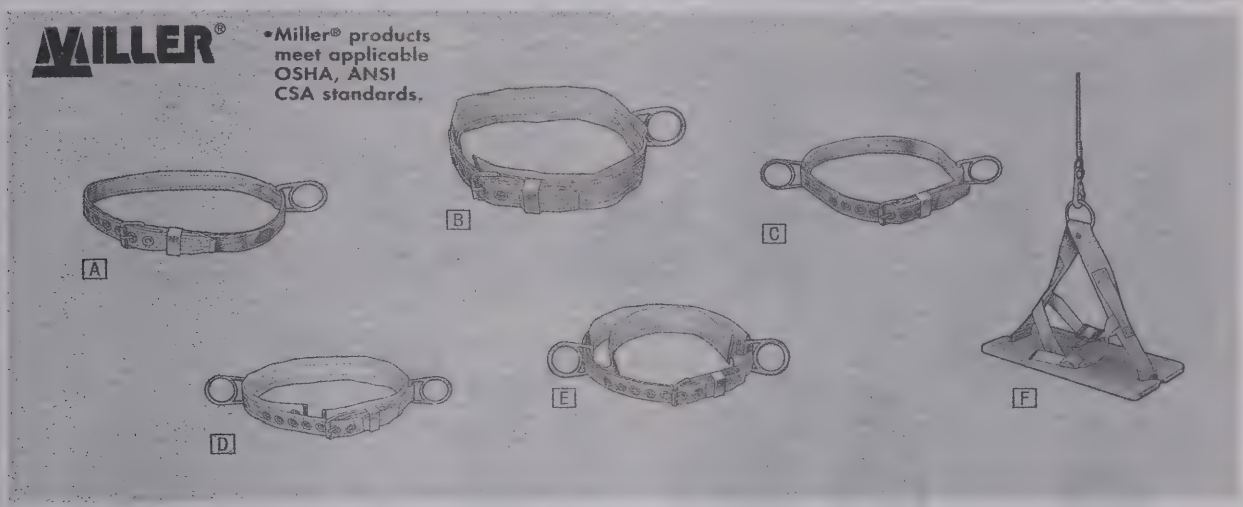
Miller® body belts restrain worker in a hazardous position and reduce possibility of falls. Use for positioning only. All body belts feature tongue buckles that attach to one of seven brass grommets for easily adjustable fit. Belts feature heavy-duty nylon webbing and drop-forged D-rings. Can be worn over layers of clothing.

**BODY BELT SIZING CHART**

| Waist Measurement (In.) | Belt Size |
|---|---|
| 32-40 | Small |
| 36-44 | Medium |
| 40-48 | Large |
| 44-52 | X-Large |

MILLER®

•Miller® products meet applicable OSHA, ANSI CSA standards.




### A, B SINGLE D-RING BODY BELTS

A Lightweight, economical belt provides positioning. Features tongue buckle connection and a back D-ring for the attachment of lanyards. 1¾" nylon webbing construction resists abrasion and environmental elements. Can be worn with layers of clothing.

B Single D-ring body belt. Same as above but including a 3" non-abrasive nylon comfort pad to distribute pressure over a greater area. Pad overlaps buckle assembly to eliminate discomfort during prolonged use. Miller® brand.

### C, D DOUBLE D-RING BODY BELTS

C Lightweight, economical belt that provides worker with positioning alternatives. Features tongue buckle connection and two-sided D-rings for positioning. 1¾" nylon webbing construction resists abrasion and environmental elements. Can be worn with layers of clothing.

D Double D-ring body belt. Same as above but including a 3" non-abrasive nylon comfort pad to distribute pressure over a greater area. Pad overlaps buckle assembly to eliminate discomfort during prolonged use. Miller® brand.

### E DUO PURPOSE BODY BELT WITH COMFORT PAD

For positioning applications. May be worn using waist strap alone or waist strap with 3" nylon sub-pelvic saddle that allows worker to "sit" in belt. 3" non-abrasive nylon comfort pad to distribute pressure over a greater area and overlaps buckle assembly to eliminate discomfort during prolonged use. Features tongue buckle connection, two side D-rings for positioning, and back D-ring for fall restraint. 1¾" nylon webbing construction resists abrasion and environmental elements.

### F BOS'N CHAIR

Provides compatible suspended work station with built-in belt. Slings and belt are nylon webbing construction. Forged steel hardware. Seat is 3/4" thick Marine Grade waterproof plywood. Safety belt must be attached to independent life-line. Miller® brand.

| Key | Description | Size | Miller® Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Single D-Ring Belt | Small | 123N | 1D859 | $37.90 | $35.40 | $33.59 | 1.3 |
| | | Medium | 123N | 1D860 | 37.90 | 35.40 | 33.59 | 1.3 |
| | | Large | 123N | 1D861 | 37.90 | 35.40 | 33.59 | 1.3 |
| | | X-Large | 123N | 1D858 | 39.80 | 37.15 | 35.25 | 1.5 |
| B | Single D-Ring Belt w/pad | Small | 3NA | 1D837 | 43.65 | 40.70 | 38.60 | 1.5 |
| | | Medium | 3NA | 1D838 | 43.65 | 40.70 | 38.60 | 1.5 |
| | | Large | 3NA | 1D839 | 43.65 | 40.70 | 38.60 | 1.5 |
| | | X-Large | 3NA | 1D836 | 45.83 | 42.70 | 40.53 | 1.5 |
| C | Double D-Ring Belt | Small | 124N | 1D855 | 44.95 | 43.05 | 40.87 | 1.8 |
| | | Medium | 124N | 1D856 | 44.95 | 43.05 | 40.87 | 1.8 |
| | | Large | 124N | 1D857 | 44.95 | 43.05 | 40.87 | 1.8 |
| | | X-Large | 124N | 1D854 | 49.45 | 45.20 | 42.91 | 1.8 |
| D | Double D-Ring Belt w/pad | Small | 2NA | 4AG32 | 47.05 | 44.00 | 41.78 | 2.0 |
| | | Medium | 2NA | 4AX80 | 47.05 | 44.00 | 41.78 | 2.0 |
| | | Large | 2NA | 4AZ86 | 47.05 | 44.00 | 41.78 | 2.0 |
| | | X-Large | 2NA | 1D840 | 49.40 | 46.20 | 43.86 | 2.0 |
| E | Duo Purpose Belt w/pad | Small | 6670-2 | 1D832 | 62.42 | 61.70 | 58.62 | 2.4 |
| | | Medium | 6670-2 | 1D833 | 62.42 | 61.70 | 58.62 | 2.6 |
| | | Large | 6670-2 | 1D834 | 62.42 | 61.70 | 58.62 | 2.7 |
| F | Bos'n Chair | | 6004NS | 1D835 | 114.00 | 106.10 | 100.78 | 7.9 |

# FALL PROTECTION/HARNESSES

Miller® harnesses provide fall protection while allowing for maximum worker mobility on jobsite. Durable nylon webbing construction resists abrasions and environmental elements and provides some shock absorption during fall. All harnesses below feature adjustable leg and shoulder straps, color-coded leg straps, forged hardware for optimum strength, and sliding back D-ring which keeps worker upright should fall occur.

## HARNESS SIZING CHART

| Waist Measurement | Harness Size |
|---|---|
| 32–40" | Small |
| 36–44 | Medium |
| 42–48 | Large |
| 44–52 | X-Large |

UNIVERSAL SIZE FITS MEDIUM THROUGH EXTRA LARGE.




### A UNIVERSAL-FIT HARNESS

Fits a variety of wearers with one harness size. Features friction buckle shoulder straps, chest strap, tongue buckle leg straps and sub-pelvic strap for optimum force distribution. Can be worn with standard safety belt or tool belt. For use in installation, renovation and maintenance. Miller® brand.

### B, C, D DURALITE HARNESSES

Lightweight, economical protection for light construction, general industry, painting and maintenance applications. Feature friction buckle shoulder straps, chest strap, mating buckle leg straps, and sub-pelvic strap to provide optimum force distribution. Nylon tri-glide keepers on shoulder and leg straps provide secure adjustment. Miller® brand.

B **No. 1D815 Low Weight Harness** can be worn with standard safety or tool belt. Universal size.

C **No. 1D814 Positioning Harness** provides positioning alternatives with two side D-rings. Universal size.

D **No. 3AZ61 Harness** with chest and side positioning D-rings for attachment to climbing system or postioning devices.

### E SUB-PELVIC HARNESSES

For use when workers must be suspended, raised or lowered to perform job. Sub-pelvic straps provide support in buttocks area while relieving pressure from shoulders and legs. For confined spaces such as manholes, tanks and pipes. Feature friction buckle shoulder and leg straps, chest strap, tongue buckle waist strap for attachment of tool pouches, and sub-pelvic strap. Miller® brand.

### F ADJUSTABLE-FIT HARNESSES

For workers who must wear fall protection constantly throughout day. Features friction buckle shoulder, leg, and waist straps to allow for full adjustment depending on work, clothing, and mobility needed. Miller® brand.

### G HEAVY-DUTY HARNESS

For use in rugged environments such as pipeline construction, oil derrick work and confined space applications. Features tongue buckle shoulder and leg and waist straps to provide optimum force distribution. Miller® brand.

### H CONFINED SPACE HEAVY-DUTY HARNESS

Same features as Heavy-Duty Harness listed above, with additional shoulder D-rings to provide attachment points when using spreader bar and rope yokes. Permits quick, easy rescue of worker. Miller® brand.

| Key | Description | Size | Miller® Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Universal-Fit Harness | Universal | 8759 | 6AR84 | $70.25 | $69.25 | $65.77 | 3.1 |
| B | DuraLite Harness | Universal | 850 | 1D815 | 66.10 | 62.50 | 59.34 | 2.6 |
| C | DuraLite Harness w/Side D-Rings | Universal | 851 | 1D814 | 70.90 | 69.00 | 65.55 | 3.3 |
| D | DuraLite Harness w/Chest and Side D-Rings | Universal | 552 | 3AZ61 | 76.90 | 74.85 | 71.08 | 3.4 |
| E | Sub-Pelvic Harness | Small | 8095 | 2AR36 | 110.60 | 105.05 | 99.83 | 3.8 |
| | | Medium | 8095 | 2AV64 | 110.60 | 105.05 | 99.83 | 3.8 |
| | | Large | 8095 | 5T927 | 110.60 | 105.05 | 99.83 | 4.0 |
| | | X-Large | 8095 | 3AT58 | 116.15 | 110.35 | 99.24 | 4.0 |
| F | Adjustable-Fit Harness | Small | 8428 | 5AR47 | 85.55 | 79.00 | 75.03 | 2.6 |
| | | Medium | 8428 | 2AG12 | 85.55 | 79.00 | 75.03 | 2.9 |
| | | Large | 8428 | 6AK46 | 85.55 | 79.00 | 75.03 | 2.9 |
| | | X-Large | 8428 | 6AF80 | 89.85 | 82.90 | 78.77 | 2.9 |
| G | Heavy-Duty Harness | Medium | 8714-9 | 1D809 | 141.55 | 134.50 | 127.77 | 3.6 |
| H | Confined Space Heavy-Duty Harness | Medium | 8714-8 | 1D810 | 158.15 | 150.50 | 142.81 | 4.1 |



Close it, lock it, keep it safe — You'll find the right stuff right here.

# STRETCHABLE MILLER® DURAFLEX™ HARNESSES

**Miller DuraFlex® harnesses** are easy to wear because the webbing is a blend of nylon, polyester and a specially formulated elastomer designed to stretch. Flexible, lightweight and soft, harnesses feature solid colored leg straps to help user orient the harness for quicker and easier donning. All DuraFlex® harnesses meet or exceed all applicable OSHA, ANSI, and CSA requirements. All models available in orange or lime green. Miller® brand.

- **Totally integrated design has an increased effect on comfort, safety and productivity**
- **Synthetic webbing material stretches with worker for greater mobility and comfort with less fatigue**
- **Bright, stylish design is readily visible from a distance**
- **1¾" back strap on non-belted models keeps shoulder straps in place and prevents back D-ring from slipping**
- **Injection molded Santoprene® D-ring pad is soft and flexible**
- **Labeling includes inspection tag and space for personal identification**




A **Nos. 3ZL78 and 3ZL79** feature elastic webbing in leg, shoulder, and body straps. Feature friction buckle shoulder straps, mating buckle leg, and chest straps. Adjustable lanyard clip keeps lanyard out of way when not in use. One Universal size. Forged steel sliding back D-ring keeps worker upright after arresting a fall.

B **Nos. 3ZL80 and 3ZL81** offer same features as A above with additional forged side D-rings that provide positioning alternatives.

C **Nos. 3ZL72 and 3ZL73** feature elastic webing in shoulder and body straps, and friction buckle shoulder straps. Type 19 standard nylon webbing in grommeted leg straps with tongue buckles provide sizing alternatives. One universal size. Adjustable lanyard clip keeps lanyard out of the way when not in use. Can be worn with standard safety belt or tool belt.

D **Nos. 3ZL74 and 3ZL75** offer same features as C above with additional forged side D-rings that provide positioning alternatives.

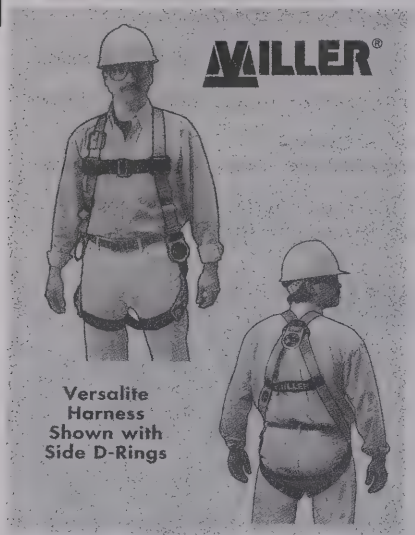
E **Nos. 3ZL76 and 3ZL77** feature elastic webbing in shoulder and body straps. Feature friction buckle shoulder straps, chest strap, tongue buckle leg straps, and sub-pelvic strap for optimum force distribution. Can be worn with standard safety belt or tool belt. One universal size.

F **Nos. 3ZL82 and 3ZL83** feature elastic webbing in leg, shoulder, and body straps. Feature friction buckle shoulder straps, chest strap, mating buckle leg straps, and sub-pelvic strap to provide optimum force distribution. One universal size.

G **Nos. 3ZL84 and 3ZL85** offers same features as F above with additional forged side D-rings that provide positioning alternatives.

H **Nos. 3ZL86 thru 3ZL93** feature elastic webbing in leg and shoulder straps, and friction buckle leg and shoulder straps. Type 19 standard nylon webbing in grommeted waist belt with tongue buckles. Features built-in waist belt. For use when workers must be suspended, raised or lowered to perform job. For use in spaces such as manholes, tanks, and pipes.

| Key | Description | Size | Color | Miller® Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Harness w/mating buckle leg and chest strap | Universal | Orange | E650 | **3ZL78** | $90.60 | **$86.10** | **$81.82** | 3.3 |
| A | Harness w/mating buckle leg and chest strap | Universal | Green | E650 | **3ZL79** | 90.60 | **86.10** | **81.82** | 3.3 |
| B | Harness w/side D-Rings | Universal | Orange | E650-7 | **3ZL80** | 100.05 | **97.05** | **92.19** | 3.9 |
| B | Harness w/side D-Rings | Universal | Green | E650-7 | **3ZL81** | 100.05 | **97.05** | **92.19** | 3.9 |
| C | Harness w/tongue buckles and grommeted leg straps | Universal | Orange | E650-4 | **3ZL72** | 101.10 | **92.25** | **87.64** | 3.6 |
| C | Harness w/tongue buckles and grommeted leg straps | Universal | Green | E650-4 | **3ZL73** | 101.10 | **92.25** | **87.64** | 3.6 |
| D | Harness w/side D-Rings | Universal | Orange | E650-58 | **3ZL74** | 108.15 | **102.75** | **97.63** | 4.8 |
| D | Harness w/side D-Rings | Universal | Green | E650-58 | **3ZL75** | 108.15 | **102.75** | **97.63** | 4.8 |
| E | Harness w/tongue buckles and grommeted leg straps | Universal | Orange | E8759 | **3ZL76** | 82.75 | **78.65** | **74.67** | 3.2 |
| E | Harness w/tongue buckles and grommeted leg straps | Universal | Green | E8759 | **3ZL77** | 82.75 | **78.65** | **74.67** | 3.2 |
| F | Harness w/mating buckle leg straps | Universal | Orange | E850 | **3ZL82** | 76.45 | **72.65** | **69.01** | 3.2 |
| F | Harness w/mating buckle leg straps | Universal | Green | E850 | **3ZL83** | 76.45 | **72.65** | **69.01** | 3.2 |
| G | Harness w/side D-Rings | Universal | Orange | E851 | **3ZL84** | 83.30 | **79.05** | **75.10** | 3.8 |
| G | Harness w/side D-Rings | Universal | Green | E851 | **3ZL85** | 83.30 | **79.05** | **75.10** | 3.8 |
| H | Harness w/grommeted built-in waist belt | Small | Orange | E8095 | **3ZL90** | 119.85 | **113.75** | **108.10** | 4.5 |
| H | Harness w/grommeted built-in waist belt | Small | Green | E8095 | **3ZL91** | 119.85 | **113.75** | **108.10** | 4.5 |
| H | Harness w/grommeted built-in waist belt | Medium | Orange | E8095 | **3ZL88** | 119.85 | **113.75** | **108.10** | 4.5 |
| H | Harness w/grommeted built-in waist belt | Medium | Green | E8095 | **3ZL89** | 119.85 | **113.75** | **108.10** | 4.5 |
| H | Harness w/grommeted built-in waist belt | Large | Orange | E8095 | **3ZL86** | 119.85 | **113.75** | **108.10** | 4.5 |
| H | Harness w/grommeted built-in waist belt | Large | Green | E8095 | **3ZL87** | 119.85 | **113.75** | **108.10** | 4.5 |
| H | Harness w/grommeted built-in waist belt | X-Large | Orange | E8095 | **3ZL92** | 125.84 | **119.50** | **113.51** | 4.5 |
| H | Harness w/grommeted built-in waist belt | X-Large | Green | E8095 | **3ZL93** | 125.84 | **119.50** | **113.51** | 4.5 |




# VERSALITE HARNESSES

Universal sizing fits a wide range of individuals, eliminating the need to stock multiple sizes. Meet all applicable OSHA and ANSI standards and are designed for workers in general construction and other industries. Miller® brand.

### 650 VERSALITE HARNESS

Made of type 7 Duralite nylon webbing. Features friction buckle shoulder straps and easy-to-use mating buckles at chest and leg straps to hold webbing securely in place. Forged steel sliding back D-ring keeps worker upright after arresting a fall.

### 650-7 VERSALITE HARNESS

Offers same features as the 650 above, with additional forged steel side D-rings that provide positioning alternatives.

### 650-4 VERSALITE HARNESS

Made of nylon webbing. Features easy-to-use mating buckles at chest and friction buckle shoulder straps to hold webbing securely in place. Tongue buckle straps provide sizing alternatives and may be preferred by some workers. Easily adjustable lanyard clip keeps lanyard out of the way when not in use. Forged steel sliding back D-ring keeps worker upright after fall occurs.

### 650-58 VERSALITE HARNESS

Offers same features as the 650-4 above, with additional side D-rings for positioning alternatives.

| Description | Webbing Type | Miller® Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Versalite Harness** | Type 7 | 650 | **5M544** | $80.50 | **$76.45** | **$72.61** | 3.1 |
| **Versalite Harness w/Side D-Rings** | Type 7 | 650-7 | **5M547** | 90.15 | **85.70** | **81.41** | 3.1 |
| **Versalite Harness** | Type 19 | 650-4 | **5M545** | 87.15 | **82.80** | **78.65** | 3.2 |
| **Versalite Harness w/Side D-Rings** | Type 19 | 650-58 | **5M546** | 98.45 | **93.50** | **88.87** | 3.9 |

# VERSALITE HARNESS ACCESSORIES

MILLER®

### BACK PADS

Coolmax™ back pads provide comfortable support in a breathable pad. Field retrofittable and treated to resist stains. Six and eight-inch styles. Miller® brand.

### SHOULDER PADS

Coolmax™ shoulder pads provide comfortable support in a breathable pad. Anti-slip bars keep pads in place. Field retrofittable and treated to resist stains. Miller® brand.

### SADDLE SEAT

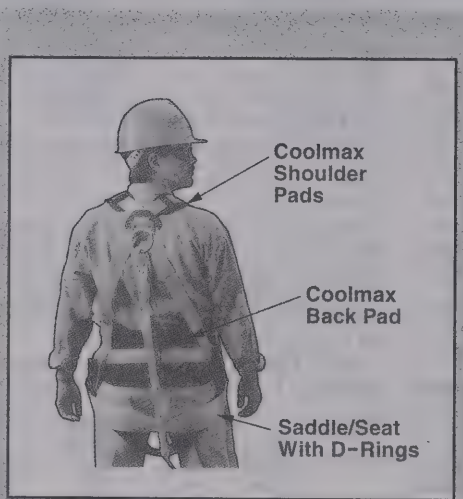
When used with Versalite harnesses, seat provides additional support while positioning. Features nylon webbing and forged steel D-rings. Miller® brand.

### LANYARD CLIP

Provides convenient place for worker to keep lanyard out of the way when not in use. For use with Versalite and Duraflex™ harnesses. Miller® brand.

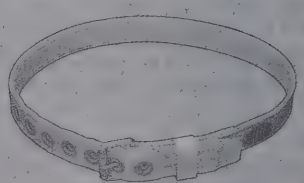
### BODY BELTS

Add belt to harnesses to carry tools. Nylon webbing construction secures with a tongue buckle. In situations where employees share equipment, the universal size fits medium through extra large. Also available in XXS through XXL for other applications. Meets all applicable OSHA and ANSI standards. Miller® brand.





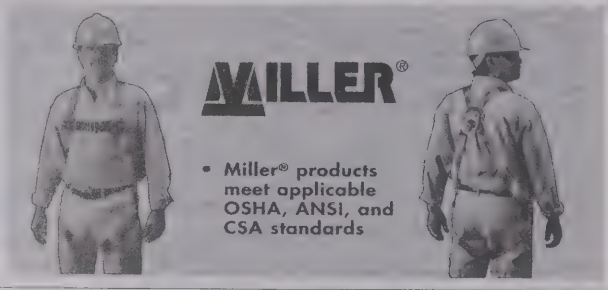





| Key | Description | Size | Miller® Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A** | Back Pad | 6" | 9014 | **5M550** | $18.25 | **$18.09** | **$17.20** | 0.3 |
| **A** | Back Pad | 8" | 9016 | **5M551** | 38.10 | **36.20** | **34.39** | 0.4 |
| **B** | Shoulder Pads | — | 9017 | **5M552** | 12.40 | **12.22** | **11.61** | 0.2 |
| **C** | Saddle Seat | — | 9003 | **5M549** | 21.30 | **20.25** | **19.24** | 1.2 |
| **D** | Lanyard Clip | — | 9018 | **5M553** | 3.15 | **1.68** | **1.60** | 0.1 |
| **E** | Body Belt | XXS | 6414N | **5M543** | 33.94 | **27.85** | **26.46** | 1.0 |
| | | XS | | **5M541** | 32.39 | **26.60** | **25.27** | 1.0 |
| | | S | | **5M538** | 30.85 | **25.35** | **24.02** | 1.0 |
| | | M | | **5M537** | 30.85 | **25.35** | **24.02** | 1.0 |
| | | L | | **5M536** | 30.85 | **25.35** | **24.02** | 1.0 |
| | | XL | | **5M540** | 32.39 | **26.60** | **25.27** | 1.0 |
| | | XXL | | **5M542** | 33.94 | **27.85** | **26.46** | 1.0 |
| | | Universal | | **5M539** | 34.95 | **28.40** | **26.96** | 1.0 |

## QUICK-CONNECT HARNESS

Make fall protection easy with only one set of buckles to connect. Worker dons harness by placing it over the shoulders and connecting the mating buckle leg straps. Chest strap is fed through a pass-through buckle. Lightweight model is comfortable enough to be worn all day. Meets all applicable ANSI, OSHA, and CSA standards. Miller® brand.




### SPECIFICATIONS AND ORDERING DATA

| Description | Size* | Miller® Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Quick-Connect Harness | Small/Medium | 751 | 3KN16 | $50.65 | $47.95 | $45.55 | 2.0 |
| | Large/X-Large | 751 | 3KN15 | 50.65 | 47.95 | 45.55 | 2.0 |

(*) Refer to sizing chart on page 2504

## STEP-IN HARNESS

Lightweight harness features looped leg straps that allow worker to step into harness to put it on. Once worker steps into harness, it is pulled up over the shoulders and the chest strap is connected. Tightening the shoulder straps adjusts webbing throughout harness. Meets all applicable ANSI, OSHA, and CSA standards. Miller® brand.




### SPECIFICATIONS AND ORDERING DATA

| Description | Size* | Miller® Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Step-In Harness | Small/Medium | 750 | 3KN14 | $52.90 | $51.60 | $48.98 | 2.1 |
| | Large/X-Large | 750 | 3KN13 | 52.90 | 51.60 | 48.98 | 2.2 |

(*) Refer to sizing chart on page 2504

## TEMPORARY HORIZONTAL LIFELINE SYSTEM

Simple, effective, and economical means for achieving complete fall protection and worker mobility in a variety of elevated work sites. Suspended between two approved anchor points, lifeline system permits worker to freely traverse horizontal distances to perform an array of construction, maintenance, or inspection duties.

Designed for use by one worker and available in 30 and 60 foot lengths. Approved components comprising system are a 5/8" polyester lifeline, anchorage lanyard, and lifeline tensioner. Workers using the system should be equipped with full body harness and lanyard (sold separately).

May be installed or disassembled in a matter of minutes. Snap hook at one end of the lifeline and anchorage lanyard snap hook at other are attached to approved anchor points. The tensioner, easily adjusted with a wrench, takes slack out of lifeline and holds it taut.

For use in such applications as construction, roofs, catwalks, elevated platforms, unguarded piperacks, and many other industrial or warehouse structures. System meets applicable OSHA and ANSI standards. Miller® brand.




### LIFELINE SPECIFICATIONS AND ORDERING DATA

| Description | Length (Ft.) | Miller® Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Temporary Horizontal Lifeline | 30 | RHL30 | 3ZM02 | $448.25 | $405.50 | $364.69 | 11.0 |
| | 60 | RHL60 | 3ZM03 | 498.15 | 450.25 | 405.09 | 14.0 |

## ROOF ANCHOR KIT

Includes 12 single-use roof anchors, 72 16d cement-coated nails, shock-absorbing rope grab, lifeline, carrying case, harness, carabiner and instructional video. 25 ft. nylon lifeline allows a large range of protection while working. Rope grab with 24" SofStop™ shock-absorbing lanyard reduces fall arresting forces by as much as 50-80%. System installs easily with hammer at roof peak or on a flat roof surface. Replacement roof anchor brackets with nails and replacement rope available. Miller® brand.



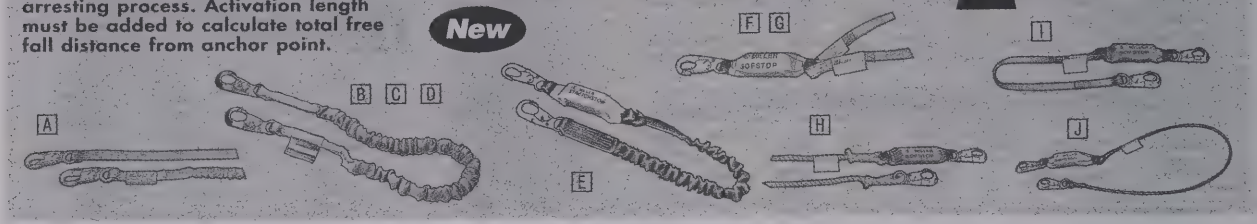

### SPECIFICATIONS AND ORDERING DATA

| Description | Miller® Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Roof Anchor/Lifeline System | RA10 | 1D799 | $357.35 | $336.25 | $302.42 | 19.0 |
| Replacement Roof Anchors (Pack of 12) | RA10-1 | 1D800 | 53.15 | 49.80 | 47.30 | 8.1 |
| Replacement 25 ft. Rope | 195R-9-25 | 1D853 | 40.55 | 37.15 | 35.29 | 2.7 |

# FALL PROTECTION/LANYARDS

**NOTE: Shock absorbers elongate up to 3½ feet during activation and fall arresting process. Activation length must be added to calculate total free fall distance from anchor point.**

• **Miller® products meet applicable OSHA, ANSI, and CSA standards.**




### A MANYARD® SHOCK-ABSORBING LANYARD

Reduces fall arresting forces by as much as 80%. Contains shock-absorbing inner core that elongates and reduces force when subjected to a fall. Releases warning flag when lanyard has been exposed to an arresting force. Two locking snaps reduce possibility of accidental disengagement or rollout. 1" nylon webbing jacket resists abrasions. 6 foot length. Miller® brand.

### B MANYARD™ SHOCK-ABSORBING LANYARD WITH REBAR SNAP HOOK

Shock absorber/lanyard combination contains a special shock-absorbing inner core material surrounded by a heavy-duty outer jacket that doubles as a back-up web lanyard. One plated locking snap hook with 3/4" throat opening and one plated locking snap hook with 2½" throat opening reduce chance of accidental disengagement. Releases a warning flag to indicate the unit has been involved in a fall and should be removed from service. Maximum working load is 310 lbs. 6 foot length. Miller® brand.

### C MANYARD II™ SHOCK-ABSORBING LANYARD

Lanyard with two plated locking snap hooks with 3/4" throat opening stretches from 4 to 6 feet, offering greater worker maneuverability. When contracted to 4 feet, it reduces the chances of tripping, snagging, or dragging. Shock-absorbing inner core material is surrounded by a heavy-duty outer jacket that doubles as a back-up web lanyard. Releases a warning flag to indicate the unit has been involved in a fall and should be removed from service. Miller® brand.

### D MANYARD II™ SHOCK-ABSORBING LANYARD WITH REBAR SNAP HOOK

Lanyard with one plated locking snap hook with a 3/4" throat opening and one plated locking snap hook with a 2½" throat opening stretches from 4 to 6 feet, offering greater worker maneuverability. When contracted to 4 feet, it greatly reduces the chances of tripping, snagging, or dragging. Shock-absorbing inner core material is surrounded by a heavy-duty outer jacket that doubles as a back-up web lanyard. Releases a warning flag to indicate the unit has been involved in a fall and should be removed from service. Miller® brand.

### E STRETCHSTOP™ LANYARD

Miller® StretchStop™ lanyard with SofStop™ Shock Absorber with two plated locking snap hooks with 3/4" throat openings stretches from 4 to 6 feet, offering greater worker maneuverability. When contracted to 4 feet, it greatly reduces the chances of tripping, snagging, or dragging. Includes the field-proven SofStop™ shock absorber with its unique back-up safety strap.

### F TWO-LEGGED STRETCHSTOP™ LANYARD

Miller® Two-Legged StretchStop™ Lanyard with SofStop™ Shock Absorber with three plated locking snap hooks with 3/4" throat openings stretches from 4 to 6 feet, offering greater worker maneuverability. When contracted to 4 feet, it greatly reduces the chances of tripping, snagging, or dragging. Includes the field-proven SofStop™ shock absorber with its unique back-up safety strap.

### G TWO-LEGGED MILLER® SOFSTOP™ PACK SHOCK-ABSORBING LANYARD

Two 1" nylon webbing legs provide 100% tie-off at all times. Reduces chance of worker injury during fall by decreasing fall forces throughout specially woven, tear-away material within shock-absorbing pack. Independent back-up strap that withstands 5000 lbs. of force also in pack. Three locking snaps reduce possibility of accidental disengagement or rollout. **CAUTION: If one leg is not in use, it should not be connected back into the harness as it may restrict the deployment of the SofStop™ shock absorber.** 6 foot per leg length. Miller® brand.

### H MILLER® SOFSTOP™ PACK SHOCK-ABSORBING ROPE LANYARD

Reduces chance of worker injury during fall by decreasing fall forces throughout specially woven, tear-away material within shock-absorbing pack. Independent back-up strap that withstands 5000 lbs. of force also in pack. Attached to harness and to a fall-arresting anchor point. 1/2" nylon filament rope. Two locking snaps reduce possibility of accidental disengagement or rollout. **CAUTION: If one leg is not in use, it should not be connected back into the harness as it may restrict the deployment of the SofStop™ shock absorber.** Available in 5 and 6 ft. lengths. Miller® brand.

### I MILLER® SOFSTOP™ PACK WEBBING LANYARD

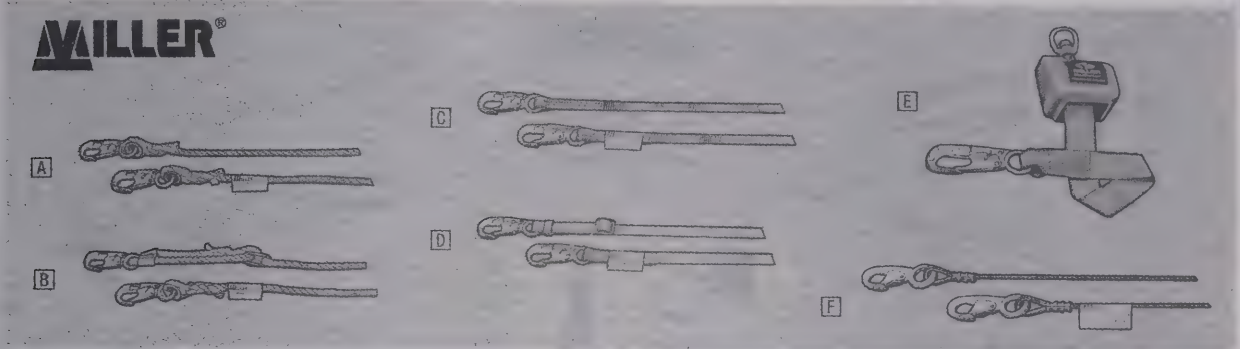
Reduces chance of worker injury during fall by decreasing fall forces throughout specially woven, tear-away material within shock-absorbing pack. Independent back-up strap that withstands 5000 lbs. of force also in pack. Attach to harness and to fall-arresting anchor point. 1" nylon webbing. Two locking snaps reduce possibility of accidental disengagement or rollout. 6 foot length. Miller® brand.

### J MILLER® SOFSTOP™ PACK STEEL LANYARD

Reduces chance of worker injury during fall by decreasing fall forces throughout specially woven, tear-away material within shock-absorbing pack. Independent back-up strap that withstands 5000 lbs. of force also in pack. Attach to harness and to a fall-arresting anchor point. 7/32" steel cable provides maximum abrasion resistance and resists high temperatures. Vinyl covering protects steel cable from environment. Two locking snaps reduce possibility of accidental disengagement or rollout. 6 foot length. Miller® brand.

| Key | Description | Length (Ft.) | Miller® Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Manyard® Lanyard | 6 | 216WLS | **2AF86** | $64.05 | **$55.85** | **$53.00** | 1.8 |
| B | Manyard® Lanyard with Rebar Snap Hook | 6 | 219WRS | ***New*4RC54** | 90.72 | **88.65** | **84.20** | 2.7 |
| C | Manyard® II Lanyard | 4-6 | 216M | ***New*4RC52** | 68.72 | **67.75** | **64.34** | 2.2 |
| D | Manyard® II Lanyard with Rebar Snap Hook | 4-6 | 219M | ***New*4RC53** | 100.96 | **99.55** | **94.52** | 3.0 |
| E | StretchStop™ Lanyard | 4-6 | 913SS | ***New*4RC64** | 69.20 | **68.20** | **64.78** | 2.2 |
| F | 2-Legged StretchStop™ Lanyard | 4-6 | 8798SS | ***New*4RC62** | 95.97 | **94.60** | **89.84** | 4.2 |
| G | 2-Legged SofStop™ Pack Lanyard | 6 | 8798 | **1D807** | 85.65 | **81.75** | **77.69** | 2.9 |
| H | SofStop™ Pack Lanyard | 5 | 901RLS-8 | **1D806** | 61.20 | **58.15** | **55.24** | 2.2 |
| H | SofStop™ Pack Lanyard | 6 | 901RLS-8 | **3KN21** | 61.20 | **58.15** | **55.24** | 2.3 |
| I | SofStop™ Pack Webbing Lanyard | 6 | 913WLS | **5AW67** | 64.35 | **61.10** | **58.05** | 2.1 |
| J | SofStop™ Pack Steel Lanyard | 6 | 907NLS | **1D805** | 68.30 | **61.80** | **58.71** | 2.6 |

MILLER®




### A ROPE LANYARD

Securely attaches a body belt or harness to a fall-arresting anchor point. 1/2" filament rope provides some shock absorption that reduces force while arresting a fall. Available in 4, 5 and 6 foot lengths. Two locking snaps reduce possibility of accidental disengagement or rollout. Miller® brand.

### B ADJUSTABLE ROPE LANYARD

Economically provides fall protection for workers who must work at different heights. Adjusts up to 6 feet. 1/2" filament nylon rope lanyard attaches body belt or harness to a fall-arresting anchor point and provides some shock absorption while arresting a fall. Two locking snaps reduce possibility of accidental disengagement or rollout. Miller® brand.

### C WEBBING LANYARD

Provides worker with strong, durable connecting device. 1" nylon webbing attaches body belt or harness to a fall-arresting anchor point. Two locking snaps reduce possibility of accidental disengagement or rollout. 6 foot length. Miller® brand.

### D ADJUSTABLE WEBBING LANYARD

Economically provides fall protection for workers who must work at different heights. Provides worker with strong, durable connecting device. Adjusts from 6 to 10 feet. 1" nylon webbing attaches body belt or harness to a fall-arresting anchor point. Two locking snaps reduce possibility of accidental disengagement or rollout. Miller® brand.

### E RETRACTABLE WEBBING LANYARD

Lanyard automatically extends and retracts with worker while allowing for full range of movement. 10 foot lightweight nylon webbing. Brakes instantly to limit free fall to 2 feet or less. Limits forces in the event of fall. Swivel shackle prevents twisting. Carabiner included for attachment to anchor point. Vinyl boot protects components from environment. For warehouse, cherry picker or aerial basket applications. Locking snap reduces possibility of accidental disengagement or rollout. Miller® brand.

### F STEEL LANYARD

For use in positioning only. Vinyl-covered lanyard with 7/32" steel cable. 6 foot length. Two locking snaps reduce possibility of accidental disengagement or rollout. Miller® brand.

| Key | Description | Length (Ft.) | Miller® Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Rope Lanyard | 4 | 201RLS-8 | 1D852 | $42.30 | $40.75 | $38.73 | 1.7 |
| A | Rope Lanyard | 5 | 201RLS-8 | 1D851 | 42.30 | 40.75 | 38.73 | 1.7 |
| A | Rope Lanyard | 6 | 201RLS-8 | 4AJ80 | 42.30 | 40.75 | 38.73 | 2.0 |
| B | Adjustable Rope Lanyard | 6 | 203RLS-8 | 1D849 | 42.30 | 40.75 | 38.73 | 2.2 |
| C | Webbing Lanyard | 6 | 213WLS | 1D845 | 39.65 | 38.60 | 36.65 | 1.6 |
| D | Adjustable Webbing Lanyard | 10 | 210WLS | 1D846 | 43.90 | 42.80 | 40.62 | 2.1 |
| E | Retractable Webbing Lanyard | 10 | 8327 | 5AT15 | 223.05 | 221.00 | 209.90 | 3.4 |
| F | Steel Lanyard | 6 | 207NLS | 1D847 | 47.45 | 44.45 | 42.18 | 2.2 |

WIDE SELECTION OF GAS DETECTION PRODUCTS

biosystems inc.

MSA

Dräger

BACHARACH

See Index for Complete Listings

# FALL PROTECTION/CONNECTING DEVICES




### A TWO-LEGGED ROPE LANYARD

For retrieval and suspension purposes only. Can snap into shoulder D-rings of retrieval harness. Rope thimble with steel eye centers worker for balanced raising and lowering. 1/2" filament nylon rope. 5 ft. length. Locking snaps reduce possibility of accidental disengagement or rollout. Miller® brand.

### B REBAR CHAIN ASSEMBLY

For use in conjunction with harness or belt with side D-rings as a positioning device for workers. Locking snap that has a 2" throat opening allows for broad range of tie-off points. Large locking snap attaches to rebar forms that hold wearer in place, allowing hands-free working environment. Swivel attachment reduces chain twisting. Drop forged fittings, steel chains. WARNING: Rebar chain assemblies are for fall restraint and fall positioning only. Independent lifeline must be used when fall arrest protection is required. Miller® brand.

### C ROPE GRAB

Adjustable connection point to rope or lifeline when used as a fall-arresting anchor point. Locks instantly in event of a fall. D-ring is compatible attachment to lanyards with locking snaps. Cam lever release allows for easy repositioning up and down rope to minimize free fall distance. For use with 5/8" or 3/4" nylon or polyester rope. Must be used with an independent lifeline for fall arrest on bos'n chair and suspended scaffolding applications. Miller® brand.

### D SHOCK-ABSORBING ROPE GRAB

Rope grab connects to lifeline/anchor point and lanyard reduces forces on body during a fall. Locks instantly in event of a fall. Cam lever release allows for easy repositioning up and down rope to minimize free fall distance. For use with 5/8" or 3/4" nylon or polyester rope. Must be used with an independent lifeline for fall arrest on bos'n chair and suspended scaffolding applications. Miller® brand.

### E TRAILING ROPE GRAB

Allows workers to climb quickly with both hands free. Trailing rope grabs automatically move up and down the lifeline with worker. No need for manual adjustment. In the event of a fall, rope grab locks onto lifeline. Designed for any vertical lifeline application including ladder climbing, window washing and painting. Stainless steel construction ensures dependable service. Available alone or with 3 ft. rope or web lanyard to reduce need of matching or stocking accessories. Also available with 3 ft. SofStop™ lanyard that provides a 50 to 80% reduction in shock force should a fall occur. Accommodates 5/8" diameter rope. Meet all applicable ANSI, OSHA and CSA standards. Miller® brand.

### F MICROLOC COMPACT TRAILING WIRE AND ROPE GRABS

Compact designs, easy to use and durable. Provides hands-free operation. Attaches anywhere on lifeline offering increased versatility. Easy to install—no weaving necessary. Meet all OSHA, ANSI, CSA, and CE standards. No. 4RC60 Wire Rope Grab accommodates 5/16" cable. No. 4RC61 Rope Grab accommodates 5/8" synthetic rope. A 3 ft. shock-absorbing lanyard is recommended for use with rope grab. Miller® brand.

### G LIFELINES

Made of durable nylon to withstand effects of ultraviolet rays and other environmental conditions. Can be used with Miller® rope grabs or Miller® roof anchor kit, see page 2507. 5/8" diameter available in 30, 50 or 100 ft. length. Meet all applicable ANSI, OSHA, and CSA standards. Miller® brand.

### H CARABINER

Connects retractable lifelines to overhead anchor points. Screw-type locking device is user-friendly and has a tensile strength of more than 5,000 pounds. Meets all applicable OSHA, ANSI, and CSA standards. Miller® brand.

### I AUTO LOCK CARABINER

Self-closing and locking. Durable formed steel construction provides assured safety, versatility and long service life. May be used as a connecting link between self-retracting lifelines, rope grab lanyards and an anchorage point. Meets all applicable OSHA, ANSI and CSA requirements.

## SPECIFICATIONS AND ORDERING DATA

| Key | Description | Length (Ft.) | Miller® Model | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Rope Lanyard | 5 | 205RLS-8 | 1D848 | $64.20 | $51.50 | $48.93/6 | 2.1 |
| B | Rebar Chain Assembly | — | 6756RS | 1D831 | 108.45 | 104.05 | 98.84/3 | 3.6 |
| C | Rope Grab | — | 8174X | 5AJ17 | 121.55 | 115.50 | 109.73/3 | 2.1 |
| D | Shock-Absorbing Rope Grab | — | 8174MLS-4' | 1D825 | 151.45 | 143.90 | 136.71/3 | 2.8 |
| E | Trailing Rope Grab | — | 8175 | 3KN17 | 142.75 | 134.50 | 127.82/3 | 1.7 |
| E | Trailing Rope Grab w/Rope Lanyard | 3 | 8175RLS | 3KN18 | 157.30 | 149.45 | 142.01/3 | 2.7 |
| E | Trailing Rope Grab w/Web Lanyard | 3 | 8175WLS | 3KN20 | 152.50 | 144.90 | 137.66/3 | 2.5 |
| E | Trailing Rope Grab w/SofStop™ Lanyard | 3 | 8175SLS | 3KN19 | 160.75 | 152.75 | 145.11/3 | 2.9 |
| F | Compact Trailing Rope Grab | — | 8173 | *New* 4RC61 | 74.20 | 70.50 | 66.98/3 | 0.8 |
| F | Compact Trailing Wire Rope Grab | — | 8172 | *New* 4RC60 | 118.85 | 112.95 | 107.30/3 | 1.0 |
| G | Lifeline | 30 | 194R-2-30 | 5M534 | 101.20 | 72.70 | 65.41/6 | 2.8 |
| G | Lifeline | 50 | 194R-2-50 | 5M535 | 121.20 | 109.10 | 98.19/6 | 5.7 |
| G | Lifeline | 100 | 194R-2-100 | 5M533 | 169.38 | 161.00 | 144.86/6 | 11.0 |
| H | Carabiner | — | 16D1 | 5M532 | 31.70 | 31.05 | 29.48/6 | 0.5 |
| I | Auto Lock Carabiner | — | 17D1 | *New* 4RC51 | 39.85 | 39.10 | 37.12/6 | 0.5 |


*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# FALL PROTECTION/CONNECTING DEVICES




### A CROSS-ARM STRAP

The Miller® cross-arm strap is designed to wrap around I-beams and other structures forming a secure attachment point for lanyards and other connecting devices. Manufactured from 2" nylon webbing for maximum strength, the strap features a 2" forged D-ring which slips through a 3" D-ring.

### B CHAIN CROSS-ARM

Provides a single user with an easy-to-install, temporary anchorage connector. Six-foot cross-arm chain easily wraps around I-beams or other structures. Safely wraps around corners and sharp edges and is for use in environments where chemical, heat or welding splatter may occur.

### C WEBBING/HOOK ANCHOR

Compact, lightweight connector is designed to facilitate anchoring to scaffolding, pipe or angle iron. Features a large snap hook with a 2½" throat opening for easy, one-hand installation and a D-Ring to accomodate the connecting device. No tools required.

### D MOUNTED D-RING

Mounted D-ring provides a compatible anchor point for connecting devices such as lanyards or retractable lifelines. Steel D-ring and plate can be attached to an approved structure with bolts, lock washers, nuts and drilling template provided. Designed to provide a variety of positioning alternatives.

### E D-BOLT ANCHORAGE CONNECTOR

D-Bolt Anchorage Connector with 5 inch connector bolt is designed specifically to prevent roll-out. Forged steel D-bolt attaches to suitable anchorage up to 4 inches thick. Bored hole at the base of the D-bolt anchor accepts 5/8 inch grade 8 bolts of various lengths which increases versatility.

### F PUSH-THRU EYE BOLT WITH SHOCK ABSORBER

Simple one-hand installation with no tools. Miller SofStop™ shock absorber included to complete anchorage system. Fits 3/4" diameter hole.

### G WIRE HOOK

Stainless steel wire hook provides safe anchorage point for applications including railings, small I-beams, angle iron and scaffolding. One hand installation, squeeze spring-loaded hook and slip the large opening (13" maximum) over approved structure.

### H EXTENSION POLE/HOOK

20 foot pole and hook designed for climbing ladders, towers or applications where quick temporary overhead anchorage is needed. Pole extends up to 20 feet and spring-loaded hook (9" maximum opening) securely attaches lifelines to beams, etc. No tools required.

### I ANCHORAGE BRACKET

Heavy-duty anchorage connector that comes with hex bolts, washers, lock nuts, drilling template, and 3/4" eye bolt for attachment to a structure capable of supporting 5,000 lbs. Designed to provide a variety of positioning alternatives.

### J SHADOW™ BEAM ANCHOR

Connects to a wide range of flanged beam sizes from 4 inches to 12 inches wide and up to 1¼" inches thick. It installs horizontally on the top flange of the beam (when an overhead anchorage does not exist) or overhead on the bottom flange of a compatible I-beam. Once locked in, the Shadow™ Beam Anchor grips the beam and moves with the worker providing increased mobility. The integral D-ring provides a compatible connection point for lanyards. Features the integrated positive-lock engagement system, which assures proper installation by locking the anchor jaws firmly into the cross bar with a durable spring-loaded engagement pin. No tools required. Can be used in corrosive environments.

### K RETRACTABLE LIFELINE

Provides fall arrest protection for workers performing various climbing and descending tasks or working on multiple levels. Continuous cable payout/retraction allows maximum freedom of movement. 50 ft. galvanized steel cable. Centrifugal braking mechanism engages to limit free-fall distance to 2 feet or less. Can be anchored to I-beams, top of permanent ladders or used in confined spaces. Must be used in conjunction with retrieval device in confined space applications. Maximum working load of 310 lbs. Aluminum alloy housing. Includes a carabiner for mounting.

### L M N MIGHTYLITE 20 FT. LIGHT-WEIGHT SELF-RETRACTING LIFELINE

Easy-to-use, dependable, and economical fall protection in a variety of applications. Designed to facilitate worker mobility and comfort. Lifeline automatically pays out with the worker up to its maximum length of 20 ft. Retraction forces are controlled to prevent pull on the worker. As the worker moves, MightyLite automatically takes up the slack in the lifeline, keeping it out of the way.

Easy to carry and install overhead and can be permanently mounted for repeated use. For use in construction, warehouse, utility, mining, and confined space applications.

In the event of a slip or a fall, the force on the lifeline activates a centrifugal braking mechanism which limits the free-fall to less than 24". Three models available. No. 3ZL99 features 1" polyester webbing, No. 3ZL98 features 3/16" galvanized steel, and No. 3ZM01 features 3/16" stainless steel cable for applications such as welding and working in harsh environments. Maximum working load is 310 lbs.

A swivel locking snap hook at the end of the lifeline directly attaches to the D-ring on a full body harness for quick hookup.

- **Miller® products meet all applicable OSHA, ANSI, and CSA standards**

| Key | Description | Length (Ft.) | Miller® Model | | Stock No. | List | Each | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Cross-Arm Strap | 6 | 8183 | | 1AG81 | $41.15 | $40.65 | $38.61/6 | 1.6 |
| B | Chain Cross-Arm | 6 | 440 | | 3ZL96 | 237.20 | 234.50 | 222.70/3 | 5.9 |
| C | Webbing/Hook Anchor | — | 480 | New | 4RC59 | 77.86 | 77.10 | 73.23/3 | 2.0 |
| D | Mounted D-Ring | — | 410 | | 3ZL94 | 24.50 | 23.25 | 22.11/6 | 1.1 |
| E | D-Bolt Anchorage Connector | — | 416 | New | 4RC55 | 43.00 | 42.60 | 40.44/3 | 1.7 |
| F | Push-Thru Eye Bolt with Shock Absorber | — | 420 | New | 4RC56 | 189.53 | 187.75 | 178.32/3 | 2.6 |
| G | Wire Hook | — | 470 | New | 4RC57 | 90.67 | 89.85 | 85.31/3 | 0.9 |
| H | Extension Pole/Hook | — | 475 | New | 4RC58 | 764.93 | 758.00 | 719.68/3 | 12.0 |
| I | Anchorage Bracket | — | 460 | | 3ZL97 | 229.70 | 218.50 | 207.46/3 | 33.0 |
| J | Shadow™ Beam Anchor | — | 8811 | New | 4RC63 | 257.78 | 248.00 | 235.55/3 | 8.4 |
| K | Retractable Lifeline | 50 | M55-50G | | 1D801 | 1249.95 | 1188.00 | 1068.55/2 | 27.0 |
| L | 1" Polyester Webbing Self-Retracting Lifeline | 20 | RL20P | | 3ZL99 | 518.60 | 451.25 | 406.13/3 | 10.0 |
| M | 3/16" Galvanized Cable Self-Retracting Lifeline | 20 | RL20G | | 3ZL98 | 534.55 | 455.50 | 418.95/3 | 12.0 |
| N | 3/16" Stainless Steel Cable Self-Retracting Lifeline | 20 | RL20SS | | 3ZM01 | 571.40 | 496.75 | 462.41/3 | 12.0 |

# CONFINED SPACE PRODUCTS

OSHA's Permit Required Confined Space regulation requires employers to establish written programs and permit systems to protect workers from asphyxiation, drowning, and other hazards when entering confined spaces. This program must provide safety procedures and training information including the following:

**WRITTEN PROGRAM:** A written program must be established to prevent unauthorized entry. The written program should be designed to provide employees and supervisors a reference for guidance and direction for confined space entry.

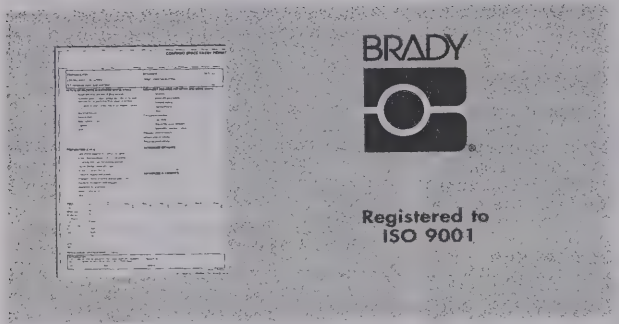
**EMPLOYEE TRAINING:** Authorized entrants, attendants, and individuals who authorize entry shall be trained on the hazards and proper procedures for working safely in confined spaces.

**DEVELOPING A PERMIT SYSTEM:** Employers must establish a system for preparing, issuing, and implementing confined space entry permits.

**EMPLOYEE INFORMATION:** Employers must inform employees of the existence, location, and dangers of permit required confined spaces. See selection of safety signes and tag below.

**LOCKOUT/TAGOUT:** Confined spaces must be isolated from service and completely protected against the release of energy and material into the space before entry. See Index for our full line of lockout/tagout products.

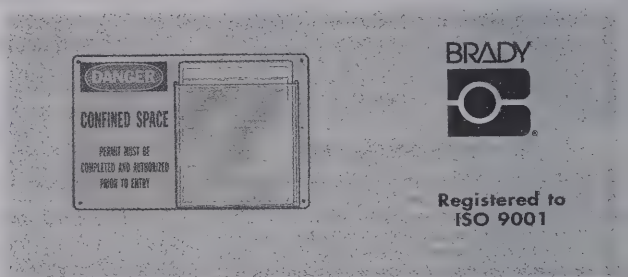
## CONFINED SPACE ENTRY PERMIT




Confined Space Entry Permit includes all information required by confined space regulation. OSHA requires that a permit be completed and authorized to enter a confined space. Available in 2-ply carbonless pads of 25 permits. 8½" x 11". Brady USA brand (65937).

**No. 5AC22.** Shpg. wt. 0.8 lbs. List .....$21.64.
Each Pack of 25 **$19.68;** Lots 5 .....**$17.71**

## CONFINED SPACE SIGN/PERMIT HOLDER



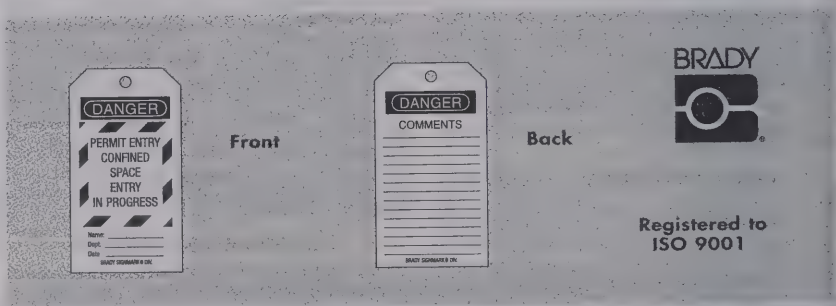

Sign/Permit holder provides a confined space warning with easy access to permits. Durable polycarbonate construction. Holds No. 5AC22 8½ x 11" permits sold separately at left. Black and red printing on white background. 12H x 19"W. Brady USA brand (65903).

**No. 5AL12.** Shpg. wt. 2.3 lbs. List .....$73.64.
Each **$66.95;** Lots 5 .....**$60.26**

## CONFINED SPACE TAG

Tag is designed for repeated use. Brass grommet for added strength. Accepts locks up to 7/16" diameter shackle. Polyester laminate protects graphics against water, grease, and extreme temperatures. Wipes clean. Write-on matte finish allows workers to personalize tags with pen, pencil, or marker. Heavy-duty construction prevents accidental removal. Withstands over 80 lbs. of pulling pressure. Standard package includes 25 identical 5½" x 3" tags. Brady USA brand (65299).

**No. 1D710.** Shpg. wt. 0.5 lbs. List $52.14.
Each Pack of 25 .....**$47.40**
Lots 5 .....**$42.66**










**CONFINED SPACE SAFETY SIGNS AVAILABLE. See Index Under Signs.**






## OSHA REQUIREMENTS

OSHA requires that any worker entering a confined space be equipped with retrieval systems enabling "non-entry rescue", or equipment that allows worker to be removed without another worker entering the confined space. OSHA guidelines require use of a mechanical device (rescue unit or rope/pulley system) if space is more than 5 feet deep; a mounting device (tripod) to which retrieval line is attached; and full body harness with sliding back D-ring for attachment of retrieval line. Miller® products meet applicable OSHA and ANSI standards.

## THREE-WAY CONFINED SPACE RESCUE UNIT

**Three-Way System with Recovery** acts as a retractable lifeline, retrieval unit, and lowering unit. As a retractable lifeline, unit protects workers from falls while climbing into or out of confined spaces. Unit can be used to raise and retrieve worker trapped in a confined space. Lowering capabilities for use if individual becomes caught while being raised or needs to be lowered once he has cleared confined space entry. Retrieval speed of 20 feet per minute. Durable brake mechanism stops fall within 24 inches and automatically holds individual in place when raising or lowering is stopped or when crank is released.

**Unit is equipped with** 3/16" galvanized steel cable with maximum workload of 310 lbs. Casing constructed of lightweight strong aluminum for severe working conditions. Internal parts of stainless steel and bronze. Sealed ball bearings for smooth cable extension and retraction. Available in 25, 50 and 100 foot lengths. Includes mounting bracket and hardware for mounting on leg of No. 5T536 Aluminum Tripod sold separately below. Miller® brand.

| Cable Length (Ft.) | Miller® Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **25** | M52-25G | **6T394** | $2158.55 | **$2030.00** | **$1826.42** | 40.0 |
| **50** | M52-50G | **6T395** | 2267.50 | **2154.00** | **1937.84** | 45.0 |
| **100** | 52-100G | **6T396** | 2698.10 | **2653.00** | **2386.32** | 70.0 |

## CONFINED SPACE RESCUE SYSTEM

Complete, compatible system for vertical confined space unaided entry and emergency retrieval. Includes No. 6T395 50 ft. three-way rescue unit (sold above) and carrying bag, No. 5T536 tripod (sold below) and carrying bag, carabiner, pulley, and confined space training video. Provides OSHA compliance on unaided confined space entry and emergency retrieval. Miller® brand.

| Cable Length (Ft.) | Miller® Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **50** | M52-50GC | **3AG17** | $3177.95 | **$2858.00** | **$2571.86** | 115.0 |

## MANHANDLER™ HOIST

**Cost-effective, OSHA compliant choice** for worker protection in confined spaces. Winch not only acts as two distinct confined space units for both rescue and positioning, but can also be used for material handling. A red indicator on the Manhandler™ snap hook warns of overloading. In emergencies, unit can be used to raise workers. Cable length of 60 ft. Meets all applicable ANSI and OSHA standards. Miller® brand (8442).

**No. 5M548.** Shpg. wt. 40.0 lbs. List $1153.60. Each $1039.00; Lots 2.....**$987.05**

## MATERIAL WORK WINCH

**For raising and lowering materials or workers if used with independent fall protection rescue device.** Automatic brake holds load in place when crank handle is released. 1500 lbs. max. line pull, 51:1 max. mechanical advantages ratio, 5.1:1 direct drive gear ratio. Zinc plated. 3/16" galvanized steel cable. Includes mounting bracket and pulley. Miller® brand.

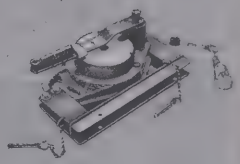
| Cable Length (Ft.) | Miller® Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **88** | 8441 | **5T530** | $363.55 | **$361.25** | **$343.01** | 34.0 |

## TRIPOD

All aluminum lightweight tripod is capable of withstanding a momentary 5000 lb. vertical pull (max. workload 300 lbs.). Independent locking feature holds legs securely in outward position. Adjustable from 52" to 89" in 5½" increments. Base has radius from 38" to 66" depending on height of tripod. Safety chain between legs for stability on slippery surfaces. Rubber skid pads on feet control slippage. Three perimeter holes for attaching accessories. Yellow reflective tape for visibility in dark or inclement weather. Miller® brand.

**No. 5T536.** Shpg. wt. 37.0 lbs. List $639.30. Each.....$591.00; Lots 2.....$561.25

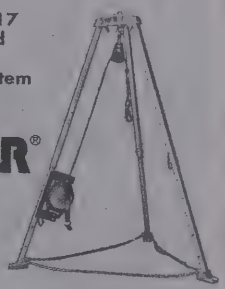
- **To ensure integrity, it is recommended rescue units be inspected yearly. Contact Miller® directly for more details. 1-800-873-5242.**

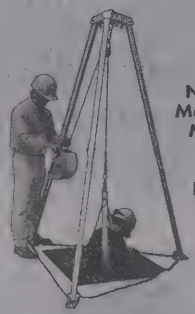


No. 6T394 Three-Way Confined Space Rescue Unit

No. 3AG17 Confined Space Rescue System

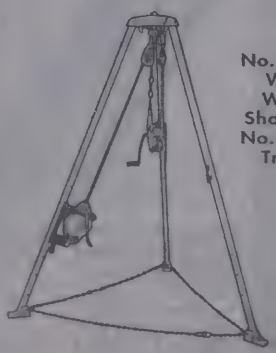
MILLER®





No. 5M548 Manhandler™ Man-Rated Winch shown on No. 5T536 Tripod

Order Tripod and Winch separately

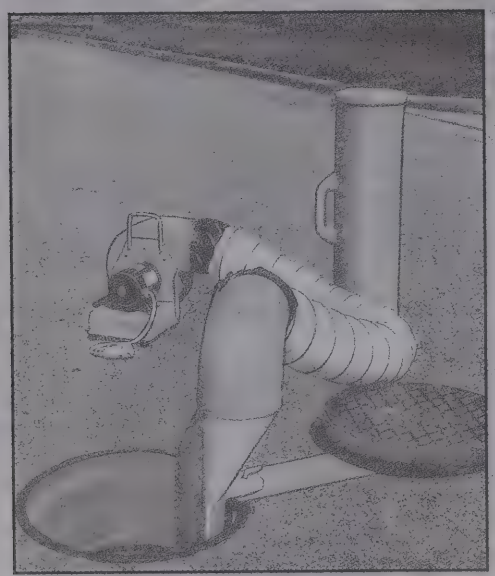


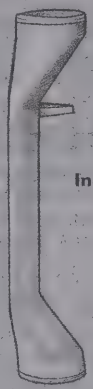
No. 5T530 Work Winch Shown on No. 5T536 Tripod

# CONFINED SPACE VENTILATION

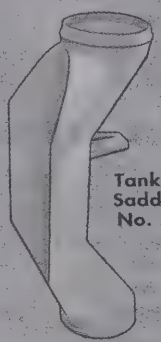
## INDUSTRIAL AND TANK MODEL SADDLE VENT® KITS

AIR SYSTEMS INTERNATIONAL





Industrial Model Saddle Vent No. 2AM94



Tank Model Saddle Vent No. 5AZ95

Individual Components Available. See Page 2515.

Industrial and tank model Saddle Vents® provide easy, continuous entrances and exits to confined spaces. Unique air flow design ensures proper air flow reaches workers.

Industrial Mount Saddle Vent® System is designed for manhole work. The entire system can be completely set up in less than five minutes. 8" vinyl air duct is installed on the bottom of the Saddle Vent® and runs to the bottom of the manhole to provide fresh air and displace harmful gases—no need to remove when entering or leaving. Polyethylene duct carrier holds 50 ft. of duct. 90° Elbow removes any air duct kinks and allows for rotation of the intake duct to any position at street level.

"The Kit System" includes an industrial Saddle Vent®, universal mount, 1/2-HP electric blower, 6-ft. vinyl ventilation duct with 2 cuffs, 15-ft. vinyl ventilation duct with 2 cuffs, polyethylene duct carrier, and 90° elbow. Air Systems brand (SVB-E8CUP).

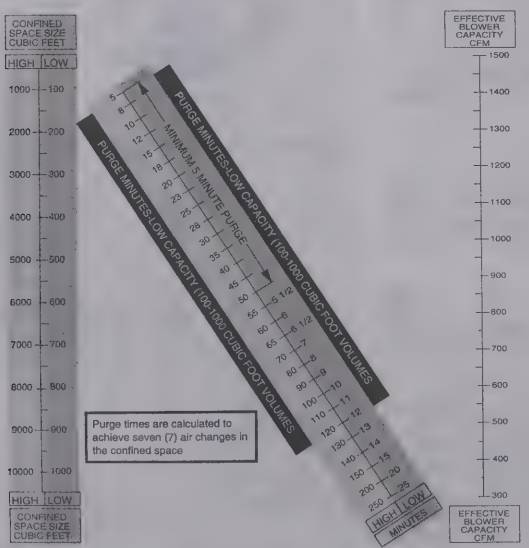
**No. 1C133.** Shpg. wt. 91.0 lbs. List $1073.00.
Each **$975.00**; Lots 2.....**$926.25**

**Industrial Model Saddle Vent®.** 43½L x 14½"W with 8" outside diameter. Orange color. Air Systems brand (SV-189).

**No. 2AM94.** Shpg. wt. 11.0 lbs. List $215.00.
Each **$195.00**; Lots 2.....**$185.25**

**Tank Model Saddle Vent®** is specially designed to fit oval or small round tank openings less than 20" in diameter. Installed in the void entry area to provide easy access to the ladder. Measures 32¾L x 13¼"W with 8" outside diameter. Gray color. Constructed of fire retardant polyethylene to meet U.S. Navy requirements. Air Systems brand (SV-189T).

**No. 5AZ95.** Shpg. wt. 7.3 lbs. List $270.00.
Each **$245.00**; Lots 2.....**$232.75**




## ESTIMATING APPROXIMATE PURGE TIMES

### HOW TO USE CHART

1. **Select the proper size scale at left, high or low depending on size of confined space**
2. **Place one end of a straight edge on the proper size scale at left.**
3. **Place other end of straight edge on blower capacity scale at right.**
4. **Read required purge time from the diagonal scale, gray or white, that corresponds to the high or low volume scale selected.**

### SPECIAL NOTES:

1. **Air quality of the confined space should be tested prior to ventilation.**
2. **Ventilate confined space for the minimum times as determined in the above chart and then retest air quality.**
3. **If toxic (combustible) gases or low oxygen is encountered, increase purge times by 50%.**
4. **If 2 blowers are used, add the two capacities, then proceed with the "How To Use Chart" directions above.**
5. **Effective blower capacity is measured with one or two 90° bends in an 8" diameter, 25 ft. blower hose.**




## SADDLE VENT®
## CONFINED SPACE ENTRY COMPONENTS

Saddle Vent® individual components provide continuous access to confined spaces. Components are a safety orange color. Air Systems brand.

### SADDLE VENT COMPONENT ORDERING DATA

| Individual Items | Air Systems Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **6-Ft. Ventilation Duct w/2 Cuffs** | SVH-6 | **2BC85** | $90.00 | **$80.00** | **$76.00** | 4.6 |
| **15-Ft. Ventilation Duct w/2 Cuffs** | SVH-15 | **2AW22** | 155.00 | **140.00** | **133.00** | 10.0 |
| **Universal Mount** | SV-UM | **2AT72** | 50.00 | **45.00** | **42.75** | 4.2 |
| **Polyethylene Duct Carrier —Holds 50-Ft. of Duct** | SVH-DC25 | **5AH48** | 105.00 | **95.00** | **90.25** | 9.0 |
| **90° Elbow** | SV-90 | **3AM63** | 50.00 | **45.00** | **42.75** | 3.2 |
| **8" Duct to Duct Connector** | SVH-88C | **2AR79** | 40.00 | **35.00** | **33.25** | 3.2 |
| **25-Ft. Ventilation Duct w/2Cuffs** | SVH-25 | **3AT30** | 215.00 | **195.00** | **185.25** | 15.0 |

## CONFINED SPACE BLOWERS

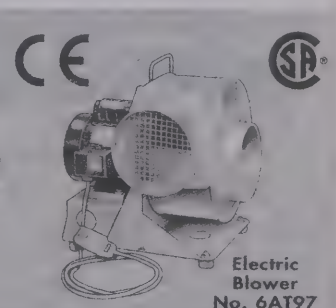
Gas and electric air blowers are designed for use in severe conditions. 8" intake and exhaust flanges accommodate standard 8" ducting. All steel housing, frame, and welded safety guards on intake and exhaust. Blower wheels are dynamically balanced to 3000 rpm. Air Systems brand.

**Gas blower** has a Briggs & Stratton engine. Includes 5 ft. remote steel exhaust hose and custom gas-tight muffler.

**Electric blowers** are 115VAC and 12 amp. Explosion-proof blower includes 25-ft. cord and is supplied with a UL Listed electric motor and On/Off switch.




Gas Blower
No. 3AF79



Electric Blower
No. 6AT97

### BLOWER SPECIFICATIONS AND ORDERING DATA

| Blower Style | HP | CFM Free Air | Certification | Air Systems Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Gasoline** | 3½ | Min. 2095, Max. 3000 | CE | SVB-G8 | **3AF79** | $825.00 | **$750.00** | **$712.50** | 65.0 |
| **1-Speed Electric with GFI** | 1/2 | 1390 | CE, CSA | SVB-E8EC | **1C135** | 635.00 | **575.00** | **546.25** | 44.0 |
| **1-Speed Electric with GFI** | 3/4 | 1570 | CE, CSA | SVB-E8 | **6AT97** | 825.00 | **750.00** | **712.50** | 63.0 |
| **2-Speed Electric with GFI** | 3/4 | 750 Low, 1570 High | CE, CSA | SVB-E8-2 | **6AG20** | 985.00 | **895.00** | **850.25** | 76.0 |
| **Explosion-Proof, Electric** | 3/4 | 1570 | CE, CSA | SVB-E8EXP | **2AV60** | 1645.00 | **1495.00** | **1420.25** | 78.0 |

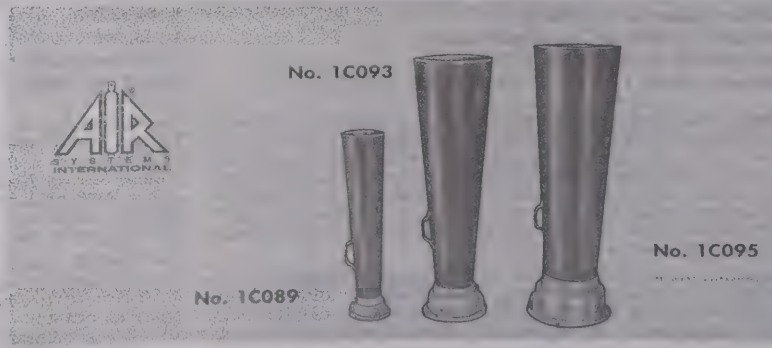
## VENTURI-STYLE PNEUMATIC AIR BLOWERS

Also called air horns, these air blowers are used to ventilate explosive and hazardous vapors safely. No moving parts. Operate on compressed air or steam. Galvanized steel horn with lightweight cast aluminum base. Operating pressures up to 140 PSI. Air Systems brand.

**Petro-Vent Adapter**

This flange adapter threads directly onto 4-inch vent pipe found on most storage tanks. Bolts directly onto No. 1C089 venturi blower sold below. Air Systems brand (ASI-12ADPT).

**No. 1C091.** Shpg. wt. 7.0 lbs. List.....$105.00. Each $95.00; Lots 2.....$90.25




### VENTURI BLOWER SPECIFICATIONS AND ORDERING DATA

| NPT Size (In.) | Inlet Pressure: Total Air Flow, CFM 40 PSIG | 60 PSIG | 80 PSIG | Air Consumed, SCFM 40 PSIG | 60 PSIG | 80 PSIG | Base Diameter (In.) | Overall Length (In.) | Air Systems Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 1017 | 1231 | 1462 | 35 | 45 | 62 | | 30 | ASI-1200 | **1C089** | $350.00 | **$315.00** | **$299.25** | 11.0 |
| **1** | 2385 | 2885 | 3347 | 73 | 98 | 124 | 11 | 44 | ASI-2000 | **1C093** | 170.00 | **425.00** | **403.75** | 26.0 |
| **1** | 3152 | 4152 | 4929 | 114 | 152 | 196 | 14 | 46 | ASI-4100 | **1C095** | 655.00 | **595.00** | **565.25** | 43.0 |

# PHOTO IONIZATION DETECTORS

Photo ionization detectors (PIDs) monitor low level, total volatile vapor exposure or total volatile organic compound (VOC) concentrations in PPM. VOCs include aromatics such as benzene, chlorinated hydrocarbons such as methylene chloride, ketones like MEK, aldehydes, alcohols, organic acids, heter-cyclics and olefins.

Minority-Owned Business

RAE SYSTEMS




No. 1K831
ToxiRAE

**ENVIRONMENTAL APPLICATIONS:**

- Leaking underground storage tanks
- Air pollution, trace toxic gases
- Monitoring drums
- Personnel monitoring at hazardous waste sites
- Head space analysis of soil, well and water
- Vapor recovery breakthrough

**INDUSTRIAL APPLICATIONS:**

- Confined space for real time broad band monitoring
- Emergency response to hazardous spills
- Leak detection, fugitive emissions (EPA Method 21)
- Perimeter monitoring for permit compliance
- Personnel monitoring
- Workspace monitoring
- Survey instrument
- Indoor air quality




No. 1K833
MiniRAE Plus

## TOXIRAE™ KIT

**SPECIFICATIONS:**

- Range: 0 to 99.9 PPM, 0.1 PPM resolution
  100 to 1999 PPM, 1 PPM resolution
- Accuracy: ± 2 PPM or 10% of reading
- Response Time: <20 sec.
- Continuous Operation: 12 hr.
- Temperature: 14° to 104°F
- Humidity: 0-95% RH, non-condensing
- Dimensions: 6.0 x 1.75 x 1.0"
- Intrinsic Safety: Class I, Div. 1, Groups A, B, C, D

**ToxiRAE** is the first pocket PID available. Provides continuous direct read-out of total VOCs in PPM. Ventilator under sensor draws in the air sample for accurate measurement and fast response. It has password protection, separate STEL, TWA and Peak visual, audio and optional vibration alarms. Unit has two programming keys and one operation key. Compact & light-weight, it can be worn comfortably on the belt or in the breath-ing zone for hands-free operation.

**Kit** includes pocket PID unit with 10.6eV lamp, rechargeable 2.4V 900 mAh battery (installed), single-unit charging station, battery charger 100V AC to 9V DC, 0.5A, alkaline battery adapter, cali-bration adapter with tubing, and operation/maintenance manual.

**No. 1K831.** ❸ ToxiRAE Kit (0007-0001-001). Shpg. wt. 14.0 lbs.
Each ..... $1450.00▲

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(▲) Net prices, not subject to discounts.

## MINIRAE™ PLUS KIT

**SPECIFICATIONS:**

- Range: 0-999.9 PPM, 0.1 PPM resolution
  1000-1999 PPM, 1 PPM resolution
- Accuracy: ± 2 PPM or 10% or reading
- Response Time: <3 sec.
- Continuous Operation: 10 hr.
- Temperature: 14° to 104°F
- Humidity: 0-95% RH, non-condensing
- Dimensions: 7.1 x 2.7 x 1.8"
- Intrinsic Safety: Class I, Div. 1, Groups A, B, C, D

**The MiniRAE Monitor** is a lightweight, hand-held PID which incor-porates a built in pump with flow >400 m1/Min. and downloading capabilities to a PC. The instrument may be operated in two modes: *Survey Mode* for continuous monitoring and storage of either Peak or Average over a programmable time period, and *Hygiene Mode* for continuous monitoring and storage of STEL, TWA and Peak over the work period.

**The MiniRAE Plus Kit** includes professional PID unit with an installed 10.6eV lamp, ProRAE-76 software package for Windows 3.1 & Dos 5.0, two installed 6V 500 mAh batteries (rechargeable), charging adapter (110V AC), power converter (110V AC to 12V DC, 0.8A) calibration adapter with flow controller, 100 PPM isobutylene cal gas bottle, organic vapor zeroing kit, gas outlet port adapter with 2" tubing, computer interface adapter, video, leather case, tool kit, wrist strap attachment, water trap car-tridge, replacement filters (5-pack), heavy-duty transport case, Operation and Maintenance Manual, Video, and a Quick Reference Guide.

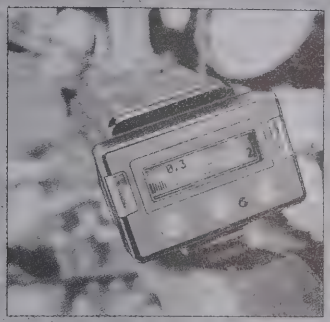
**No. 1K833.** ❸ MiniRAE PLUS KIT (002-0002-000). Shpg. wt. 14.0 lbs.
Each ..... $3450.00▲

# GAS DETECTORS

## PASSPORT® PID II ORGANIC VAPOR MONITOR

MSA

New



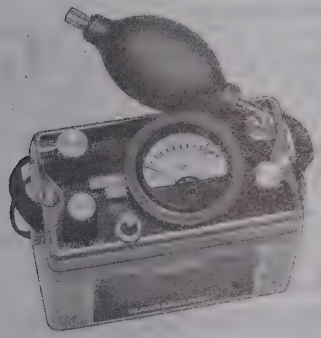
Detects low concentrations of volatile organic compounds. For soil remediation in connection with hazardous material spills, underground tank leakage, emissions monitoring, general leak detection, HazMat sites, arson scenes, and IH applications involving VOCs. Graphic and numeric data display helps quantify VOC levels. Operating range from 0.1 to 10,000 ppm isobutylene. Ideal for method 21 analysis without dilution tube. Auto-ranging capability allows unit to switch modes automatically as concentrations rise or fall. Operates as personal and survey monitor.

69 Pre-programmed and 10 user-defined response factors eliminate need to calculate response factors. 3 push-buttons for easy operation. Micro-processor, menu-driven monitor. Peak, short-term exposure (STEL), and time-weighted average (TWA) measurements offer a range of measurement options. Labeling feature identifies sampling locations to electronically label concentration data from different areas for easy identification. Records readings from up to 4,000 locations. Bagged sample can be collected at instrument exhaust port. Download information into a personal computer to establish a large database. MSA brand (710901).

**New No. 4LR87.** Shpg. wt. 3.0 lbs. Each.....**$4020.00▲**

(▲) Net prices, not subject to discounts.

BACHARACH



No. 6T220

## GAS DETECTOR

### TEST FOR COMBUSTIBLE GASES AND VAPORS

These gas detectors detect combustible gases before they reach ignitable levels (LEL). Always consult user manual and applicable local electrical and safety codes prior to use. Typical applications include:

**G SNIFFER® (No. 6T220) is Portable and Designed for Fast, Accurate Measurement** of combustible gases in confined or hard-to-access areas. Differentiates between natural gas and petroleum vapors.

**Easy To Operate, Simple To Maintain, and Rugged.** Hand aspirator bulb draws air sample and passes to a hot-wire, platinum filament. Illuminated, analog readout indicates visual warning of potentially dangerous combustible levels; combustibles displayed over a range of 0 to 100% LEL.

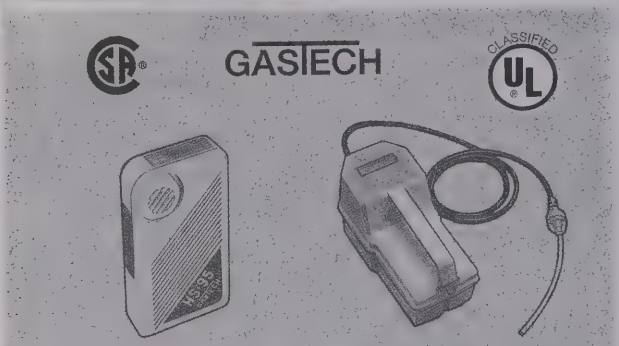
**Lightweight Case** is reinforced fiberglass with coated die-cast aluminum top panel. Unit runs approximately 1000 tests on intermittent duty or 4 hours on continuous duty. Unit includes shoulder strap. Eight, D cell batteries required (not included). Bacharach brand (5000-0500).

**No. 6T220.** Shpg. wt. 3.0 lbs. List $594.33. Each.....**$575.50**

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# CONFINED SPACE GAS DETECTORS




No. 3BC62 No. 2AW07

**LIMITED WARRANTY**

GasTech warrants materials and workmanship for one year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover

## GASTECH SINGLE GAS MONITORS

**Single gas, diffusion style monitors** are ideal for personal protection from hazardous gases. Monitors are enclosed in a durable, lightweight case. Compact, economic, and easy-to-use. Available in models that detect carbon monoxide, hydrogen sulfide, or oxygen.

- Microprocessor controlled
- Integrated pocket/belt clip provides hands-free monitoring
- Audible alarm sounds if preset gas levels are exceeded, if battery power is low, or if the sensor circuitry malfunctions
- No. 2AP61 Oxygen Monitor has a dual level audible alarm that activates in oxygen enriched or oxygen deficient environments
- Easy field replacement of sensor & batteries
- One "9V" battery included for 2500 hours or more of non-alarm operation
- High-impact, chemical-resistant polycarbonate-polyester plastic case is gasketed and water-resistant
- LCD display
- UL Classified and CSA Certified

SPECIFICATIONS:

- Range of Gases Detected:
  No. 2AP61 ($O_2$): 0 to 30.0% Vol in 0.1% increments
  No. 3BC62 ($H_2S$): 0 to 100 PPM in 1 PPM increments
  No. 5AJ01 (CO): 0 to 500 PPM in 1 PPM increments
- Accuracy (typ.): ±10% of reading
- Operating Temp.: –4°F to 113°F (–20° to 45°C)
- Humidity Range: 0 to 95% RH, non-condensing
- Dimensions: 4.5H x 2.5W x 1"D • Wt.: 6.5 oz.
- UL Classified
- Safety Rating: UL approved for Class I, Div. 1, Groups A, B, C, & D. CSA Certified for Class I, Div. I, Groups A, B, C, & D

### SINGLE GAS MONITORS ORDERING DATA

| Monitor Type | Gastech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Oxygen | OX-95 | 2AP61 | $577.50 | $525.00 | 2.0 |
| Hydrogen Sulfide | HS-95 | 3BC62 | 577.50 | 525.00 | 2.0 |
| Carbon Monoxide | CO-95 | 5AJ01 | 577.50 | 525.00 | 2.0 |

## GASTECH PORTABLE GAS MONITORS

**GT series portable gas monitors** are designed to protect workers from hazardous gases in confined spaces and other industrial work sites. Monitors are enclosed in a durable, lightweight case. Available in models that detect combustibles, oxygen, carbon monoxide, and other toxic gases.

- Hydrophobic filter attachment prevents damage to the sample system by automatically shutting the unit OFF
- Built-in pump meets federal regulation compliance for pretesting of confined spaces and other remote areas
- LCD backlit display shows real-time gas concentrations, date, time, battery capacity, alarm set points, and log remaining hours
- TWA, STEL, minimum, and maximum readings can be displayed
- Monitoring of hydrocarbons in the LEL/PPM range is standard on all units
- Built-in datalogger
- Microprocessor electronics and adjustments; top-mounted switches for easy calibration
- High-impact, chemical-resistant polycarbonate-polyester plastic case
- Easy field replacement of sensor & batteries
- Alarm points: user defined, programmable alarm levels, two alarm levels with audible and visual warnings of unsafe gas levels, latching or self-resetting modes, trigger for low battery, low flow, or sensor failure
- Batteries supplied
- UL Classified and CSA Certified

SPECIFICATIONS:

- Range of Gases Detected:
  Combustibles: 0 to 100% LEL in 1% increments
  Combustibles: 0 to 10,000 PPM in 20 PPM increments
  Carbon Monoxide (CO): 0 to 300 PPM in 1 PPM increments
  Hydrogen Sulfide ($H_2S$): 0 to 200 PPM in 1 PPM increments
  Oxygen ($O_2$): 0 to 30.0% Vol in 0.1% increments
- Accuracy (typ.): (LEL) ±5% of reading, ($O_2$) 0.5% Vol PPM, (CO, $H_2S$) ±10% of reading
- Operating Temp.: –4°F to 113°F (–20° to 45°C)
- Humidity Range: 0 to 95% RH, non-condensing
- Dimensions: 10L x 6H x 5"W • Wt.: 5 lbs.
- Safety Rating: Designed to meet the requirements of Class I, Div. 1, Groups A, B, C, & D
- UL Classified and CSA Certified

### PORTABLE GAS MONITORS

| Monitor Gas Type | No. / Type Batteries Req. | Gastech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Combustibles | 4-D, Alkaline | GT105 | 3AV09 | $2172.50 | $1975.00 | 8.0 |
| Combustibles, $O_2$ | 4-D, Alkaline | GT201 | 4AV97 | 2365.00 | 2150.00 | 8.0 |
| Combustibles, $O_2$ | 4-Ni-Cad* | GT202 | 2AT95 | 2832.50 | 2575.00 | 8.0 |
| Combustibles, $O_2$, CO | 4-D, Alkaline | GT303 | 2AW07 | 2618.00 | 2380.00 | 8.0 |

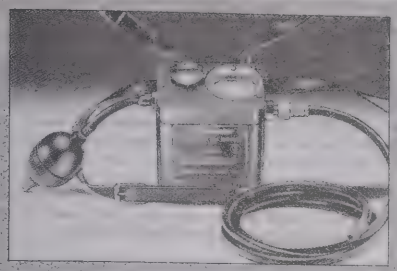
(*) Charger not included.

### CALIBRATION KITS AND ACCESSORIES

| Description | Gastech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Cal Kit for No. 2AT95 | 81-6202 | 1M914 ❸ | $148.50 | $135.00 | 5.0 |
| Cal Kit for No. 3BC62 | 81-0251 | 2AW69 ❸ | 485.10 | 441.00 | 5.0 |
| Cal Kit for No. 5AJ01 | 81-0250 | 3AC88 ❸ | 152.90 | 139.00 | 5.0 |
| Cal Kit for No. 2AW07 | 81-6303 | 3AJ26 ❸ | 229.90 | 209.00 | 5.0 |
| Cal Kit for No. 3AV09 | 81-6105 | 4AG14 ❸ | 148.50 | 135.00 | 5.0 |
| Cal Kit for No. 2AP61 | 81-0249 | 6AC72 ❸ | 152.90 | 139.00 | 5.0 |
| Sample Draw Adapter | 81-1186 | 6AD34 | 116.60 | 106.00 | 1.0 |
| Adapter Earphone | 52-7515 | 6AL88 | 16.50 | 15.00 | 1.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

MSA
New



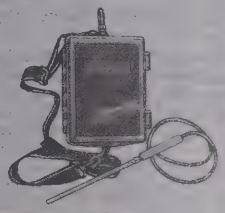
## EXPLOSIMETER® COMBUSTIBLE GAS INDICATOR

Measures from either immediate environment or by using sampling line and probes to draw from remote areas (sold separately through Grainger Parts Operation. To order, call 1-800-323-0620). For use in utilities, confined spaces, oil refineries, pulp and paper mills, and water and waste treatment facilities. UL Listed for use in hazardous locations. MSA brand (89220).

**New No. 4LP99.** Shpg. wt. 4.7 lbs. Each.....$500.00▲

biosystems inc.

CLASSIFIED UL



Replacement Parts Available
1-800-323-0620

## CANNONBALL² PORTABLE GAS DETECTOR

**All features of the PhD2** plus a built-in continuous sample draw pump and alkaline "D Cell" backup power supply. The motorized sample draw pump can operate with up to 100' of hose. Low flow alarms and automatic pump shut-down prevent liquids from being accidentally drawn into the pump and sensor compartment. Rechargeable lead acid battery provides up to 10 hours of continuous operation. Four disposable "D Cell" alkaline batteries supply up to 16 hours of additional operation. Housed in a heavy-duty, waterproof ABS case for rough environments. Detector measures 9¼"x 6½ x 6"H. UL Classified for intrinsic safety and use in Hazardous Locations Class I, Groups C & D.

| Description | Gas Detected | Biosystems Model | Stock No. | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3-Gas Monitor** | Combustible, $O_2$, $H_2S$ | 54-1702A | **1H117** | **$2445.00** | ▲ | 8.8 |
| **3-Gas Monitor** | Combustible, $O_2$, CO | 54-1703A | **1H116** | **2445.00** | ▲ | 8.8 |
| **4-Gas Monitor** | Combustible, $O_2$, CO, $H_2S$ | 54-1705A | **3AF56** | **2695.00** | ▲ | 8.8 |

MSA
New



Replacement Parts Available
1-800-323-0620

## ESCORT ELF® SAMPLING PUMP

**Versatile pump for both personal and area sampling.** For industrial hygiene, HazMat and coal mining applications. Provides a constant flow (volume) control with +/-2.5% regulation of flow range from 1-3 lpm and automatically compensates for any changes in battery voltage, temperature, altitude, and sample lead. Easy to calculate time-weighted averages (TWA's). Internal secondary standard calibrates pump continuously, flow-fault indicator shows if sample outlet is blocked. Withstands exposure to dusty or wet environments, inlet filter traps moisture and particulate matter. Users are alerted to any flow blockages by an LED, pump shuts off but the cumulative elapsed time remains on display.

Designed to meet IP66 Standard for water and dust tightness. Features electric laminar flow sensor. Elapsed time readout accumulates pump sample time which can be viewed on display. Stainless steel-filled plastic case provides EMI/RFI protection, can be clipped to belt for easy access. MSA brand (PMP-1-ELF-1-11-0).

**New No. 4LP77.** Shpg. wt. 3.1 lbs. Each.....$665.00▲

MSA
New



Replacement Parts Available
1-800-323-0620

## ESCORT® LC SAMPLING PUMP

**For industrial hygiene, HazMat and coal mining applications.** Two controls, ON/OFF key and flow rate potentiometer are easily set. Once set, controls cannot be tampered with, assuring accurate readings.

**Port for charging jack** is located directly on battery, may be charged while still attached to unit. LEDs indicate if pump is running or if battery is low. Inlet filter traps particulate matter. Stainless steel-impregnated ABS plastic case provides EMI/RFI protection and is watertight for easy cleaning. Can be clipped to belt for easy access. Compact, lightweight and quiet. MSA brand (PMP-1-ESLC-11-0).

**New No. 4LP78.** Shpg. wt. 3.1 lbs. Each.....$420.00▲

(▲) Net prices, not subject to discounts.

# CONFINED SPACE GAS DETECTORS




**SENTINEL® 44 can be used as a Personal Monitor or Converted to a Sample-Draw Instrument** by attaching the sample pump. Draws samples up to 100 feet away (with appropriate hose assembly) to detect hazardous levels of gas before entering confined spaces.

**Features Built-In Data Logger.** Information is transferred to printer in two output formats: time weighted averages (TWA) and gas peak values, or TWA and peak gas values with a histogram of TWA exposure in 15 minute intervals.

**Backlit, LCD Display** shows the concentration of up to four gases simultaneously. Display also shows operating mode and alarm conditions. Adjustable visual and audible alarms. Rugged ABS plastic enclosure. RFI protection. Detachable lead acid battery for reliable performance. FM Approved and CSA Certified. Intrinsically safe for use in Class I, Division 1, Groups A, B, C, and D areas.

**No. 6T512 Features** oxygen deficiency and combustible gas monitoring. Additional sensors can be added as applications change (see accessory chart for additional sensors).

**No. 6T511 Features** oxygen deficiency, combustible gas, carbon monoxide (CO), and hydrogen sulfide ($H_2S$) monitoring.

**Gas Ranges:** 0 to 25% (oxygen), 0 to 100% LEL (combustibles), 0 to 200 PPM ($H_2S$), 0 to 999 PPM (CO). Visual indication when sensors need to be replaced: See Index.

**Both Models Include:** Battery charger, carrying strap, calibration sensor cover, calibration sampling cup, sensor extraction and calibration adjustment tool, carrying case, sampling pump with probe and filters, earphone, and confined space guideline booklet.

**No. 6T512.** Two-Gas Monitor. Bacharach brand. (51-8152).
Shpg. wt. 9.4 lbs. List $2165.00. Each.....$2065.00

**No. 6T511.** Four-Gas Monitor. Bacharach brand. (51-8205).
Shpg. wt. 10.0 lbs.List $2695.00. Each.....$2225.00

**SNIFFER® 301 (No. 6T229).** Internal sampling pump draws sample and passes it to a catalytic bead type sensor. Illuminated, 3-digit LCD digital display indicates visual warning of potentially dangerous combustible gas levels; latching internationally accepted alarm (user adjustable) flashes repeatedly. Combustibles displayed over a range of 0 to 100% LEL.

**Rugged, Rain-Resistant, Thermoplastic Case** has built-in handle and trigger switch. Integral battery test circuit (4, D alkaline or carbon-zinc batteries required, not included). Includes shoulder strap. Easily replaceable sensor elements. Order accessories and replacement items on page 2463. Intrinsically safe for Class I, Divisions 1 and 2, Groups A, B, C, and D hazardous areas. CSA Certified. Bacharach brand (51-7190).

**No. 6T229.** Shpg. wt. 4.0 lbs. List $1018.35. Each.....$965.50

**SNIFFER® 302 Indicates the Presence of Combustible Gases and Oxygen in the Air.** Illuminated LCD digital display. Internal, motor driven sampling pump draws sample to a catalytic bead type sensor. Combustibles are displayed over a range 0 to 100% LEL (Lower Explosive Limit); oxygen concentration ranges from 0 to 25% by volume.

**Two Adjustable Alarms:** latching combustible and non-latching oxygen deficiency. Thermoplastic case with adjustable shoulder strap. Includes NiCad, rechargeable battery pack with up to 14 hours of intermittent duty or 3½ hours of continuous operation when fully charged. Battery check upon activation. Intrinsically safe for Class I, Divisions 1 and 2, Groups A, B, C, and D. CSA Certified. Bacharach brand (51-8002).

**No. 6T230.** Shpg. wt. 5.4 lbs. List $1278.94. Each.....$1276.00

**No. 6T241** is to be used for continuous monitoring in confined spaces to alert personnel to the hazards of oxygen deficiency and the presence of dangerous concentrations of combustible gases.

Applications include continuous monitoring for the hazard of combustible gases in confined spaces such as: fuel storage tanks, boilers, manholes, wells, silos, bins, sewers, etc. Always consult user manual and applicable local electrical and safety codes prior to use.

**SNIFFER® 503A Provides up to 10 Hours of Continuous Monitoring** for oxygen deficiency (0 to 25% range) and combustible gases (0 to 100% LEL). Also offers two survey ranges for combustibles, 0 to 2000 PPM and 0 to 10,000 PPM.

**Two Illuminated Analog Meters** display combustibles and oxygen. Integral pump draws sample and passes it to a catalytic bead type sensor. Audible and visual red LED alarms. Audible alarm system features 100 dB output at 1 ft. Steady tone indicates oxygen deficiency; alternating tone high combustible gas concentration. Non-latching, slow chirping tone for low flow and low battery conditions.

**Sealed, Lead Acid Battery Pack** provides reliable power. Rugged, heavy-gauge aluminum housing. Hinged top lid with tempered glass window. Factory Mutual Approved (FM) as intrinsically safe for use in Class I, Division 1, Groups A, B, C, and D areas. Can be used in accordance with EPA Method 21. Bacharach brand (51-8066).

**DON'T FORGET THE BACK OF THE BOOK!**

**MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this Catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# ACCESSORIES FOR BACHARACH GAS DETECTORS AND CONFINED SPACE GAS DETECTORS



| Accessory Stock No. | Description | No. 6T220 Model G | No. 6T229 Model 301 | No. 6T230 Model 302 | No. 6T241 Model 503A | Nos. 6T511 & 6T512 Model Sentinel 44 | Bacharach Model | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **HOSES AND PROBES** | | | | | | | | | | |
| 6T222 | 30" Fiberglass Probe & 42" Hose Assembly. Probe is electrically non-conductive; extends the reach when sampling. | • | — | — | — | — | 5500-1300 | $67.79 | **$63.05** | 0.7 |
| 6T223 | 10" Aluminum Probe & 30" Hose Assembly. Allows sampling from remote locations & through small openings. | 1 | — | — | — | — | 5500-1500 | 64.57 | **60.05** | 0.6 |
| 6T236 | 10" Aluminum Probe with Filter Chamber. Standard probe. Sampling hose required. | • | 1 | 1 | 1 | 0 | 3474-1350 | 30.00 | **25.00** | 0.3 |
| 6T237 | 30" Aluminum Probe with Filter Chamber. Extends operator reach. Probe is perforated at tip to prevent liquid from entering sampling line. Sampling hose required. | • | • | • | • | • | 3474-1210 | 40.37 | **38.05** | 1.0 |
| 6T243 | 30" Fiberglass Probe with Filter Chamber. Used where electrically non-conductive probe is desired. Sampling hose required. | • | • | • | • | • | 3474-1110 | 33.82 | **31.05** | 1.0 |
| 6T234 | 42" Daylon Hose with Fittings. Used with filter/probe assembly for standard sampling applications. | — | 1 | 1 | 1 | — | 51-0606 | 38.68 | **35.05** | 0.4 |
| 6T235 | 5 ft. Daylon Hose with Fittings. Used with filter/probe assembly where longer hose is required. | — | • | • | • | — | 23-4690 | 55.00 | **50.00** | 1.0 |
| 6T242 | 5 ft. Teflon Hose with Fittings. Used with filter/probe assembly when PPM gas or vapor levels are measured to prevent contamination. | — | • | • | 1 | — | 23-4770 | 85.00 | **77.00** | 1.0 |
| 6T244* | 5 ft. Extension Hose with Fittings. Used to extend sampling probe reach. | — | • | • | • | — | 51-1819 | 54.55 | **50.05** | 1.0 |
| 6T245* | 10 ft. Extension Hose with Fittings. Used to extend sampling probe reach. | — | • | • | • | — | 51-1820 | 65.91 | **63.05** | 1.5 |
| **FILTERS** | | | | | | | | | | |
| 6T224 | Foam Filters (10/Pack). Used in filter/probe chamber to prevent dust particles from entering instrument. | 1 | 1 | 1 | 1 | 0 | 5500-7100 | 6.95 | **6.50** | 0.3 |
| 6T225 | Charcoal Filters (10/Pack). Used in filter/probe chamber to distinguish between petroleum or solvent vapors & methane. | • | • | • | • | • | 5500-7400 | 29.76 | **28.05** | 0.3 |
| 6T238 | Filter/Water Trap. Use when excessive dust or moisture are encountered. | — | 1 | 1 | 1 | — | 23-7341 | 105.00 | **98.00** | 0.3 |
| 6T255 | Hydrophobic Filter. Use with hose and probe assembly when excessive dust & moisture are encountered. | — | • | • | • | 1 | 51-8095 | 108.00 | **98.00** | 0.5 |
| 6T256 | Filter Refills (25/Pack). Replacement filters for No. 6T255 hydrophobic filter assembly. | — | • | • | • | 1 | 51-2483 | 37.40 | **32.00** | 0.1 |
| **CALIBRATION KITS & TEST INDICATORS** | | | | | | | | | | |
| 6T226③ | Gas Indicator Test Kit. Provides convenient field test for portable gas indicator. | 1 | • | • | • | • | 5500-7500 | 62.78 | **58.05** | 1.0 |
| 6T231 | Calibration Kit. Case contains hoses, regulator, & flowmeter required for instrument calibration. Gas cylinders not included. | — | 1 | 1 | 1 | — | 51-7324 | 273.25 | **260.25** | 5.0 |
| 6T250 | Calibration Kit. Case containing hose & regulator required for instrument calibration. | — | — | — | — | 1 | 51-7339 | 140.49 | **135.15** | 4.5 |
| 6T232③ | Cylinder 2.5% Methane. Calibration gas for combustible sensor. | — | 1 | 1 | • | 1 | 51-1121 | 125.00 | **115.00** | 3.0 |
| 6T233③ | Cylinder 20.9% Oxygen in $N_2$. Calibration gas for use when normal ambient air is not available. | — | • | • | • | • | 51-7131 | 125.00 | **115.00** | 3.8 |
| 6T247③ | Cylinder 500 PPM Methane. Calibration gas for combustible PPM scale on Model 503A. | — | — | — | 1 | — | 51-1816 | 124.22 | **115.05** | 3.8 |
| 6T251③ | Cylinder 1% Methane. Calibration gas for combustible sensor. Used when hexane calibration is preferred. | — | • | • | 1 | — | 51-1818 | 124.21 | **115.05** | 3.0 |
| 6T252③ | Cylinder 40 PPM $H_2S$. Calibration gas for Sentinel 44 model with hydrogen sulfide sensor. | — | — | — | — | 1 | 51-1672 | 124.21 | **115.05** | 2.5 |
| 6T136③ | Cylinder 500 PPM CO. Calibration gas for Sentinel 44 models with carbon monoxide sensor. | — | — | — | — | 1 | 51-3035 | 165.00 | **145.00** | 1.0 |
| **MISCELLANEOUS** | | | | | | | | | | |
| 6T257 | Carrying Pouch for Sentinel 44. Holds Sentinel 44 & sampling accessories when user requires hand mobility. | — | — | — | — | 1 | 51-8090 | 49.00 | **45.00** | 0.5 |
| 6T246 | Remote Audible Alarm (25 ft. cord). Used when sampling remote atmospheres e.g. confined spaces. | — | — | — | • | — | 51-7279 | 105.00 | **99.00** | 1.0 |
| **REPLACEMENT PARTS AND SENSORS** | | | | | | | | | | |
| 6T221 | Aspirator Bulb. Replacement sample draw device—includes bulb and check valves. | 0 | — | — | — | — | 3470-1200 | 12.50 | **12.00** | 0.1 |
| 6T254 | Battery Pack Sentinel 44. Charge on or off instrument. | — | — | — | — | 0 | 51-2322 | 159.00 | **150.00** | 2.0 |
| 6T227 | Filament Active Red G. Repl. gas sensing wire element. | 0 | — | — | — | — | 8000-1100 | 48.50 | **46.00** | 0.3 |
| 6T228 | Reference Filament G. Repl. compensating wire element. | 0 | — | — | — | — | 8000-2200 | 37.50 | **35.00** | 0.3 |
| 6T239 | Combustible Sensor. Repl. catalytic bead sensor. Built-in comp. | — | 0 | 0 | 0 | — | 51-1057 | 118.25 | **110.05** | 0.3 |
| 6T240 | Oxygen Sensor. Repl. electrochemical sensor. | — | — | 0 | 0 | — | 51-7331 | 135.00 | **125.00** | 0.3 |
| 6T258 | Combustible Sensor. Repl. catalytic bead sensor. Built-in comp. | — | — | — | — | 0 | 51-2422 | 119.00 | **115.00** | 0.1 |
| 6T259 | Oxygen Cell. Replacement electrochemical sensor. | — | — | — | — | 0 | 51-8072 | 150.00 | **150.00** | 0.5 |
| 6T260† | Hydrogen Sulfide Sensor. Replacement electrochemical device. Also used when upgrading 2 gas Sentinel 44. | — | — | — | — | 0 | 51-8071 | 265.00 | **250.00** | 0.2 |
| 6T261† | Carbon Monoxide Sensor. Replacement electrochemical sensor. Also used when upgrading 2 gas Sentinel 44. | — | — | — | — | 0 | 51-8068 | 265.00 | **250.00** | 0.2 |

**Key: (1) Highly Recommended. (•) Compatible. (—) Not Compatible. (0) Included with instrument; may be purchased for replacement or spare.**

(*) Must have Nos. 6T242, 6T234, or 6T235 to use an extension. (†) Included with detector No. 6T511. ③ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover

# CONFINED SPACE GAS DETECTORS

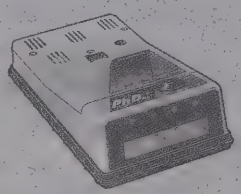
## BIOSYSTEMS PhD PLUS AND PhD ULTRA GAS DETECTORS

PhD Plus is designed as an economical configuration which does not include datalogging. PhD Ultra offers a wider selection of toxic sensors, standard datalogging, optional Datalink Kit (with computer interface cradle, software, and fast charger), and the ability to generate printed reports (via direct connection with a printer). Both monitor up to four atmospheric hazards simultaneously; oxygen deficiency or enrichment, combustible gas, and up to two additional toxic gases. Housed in a rugged, compact case designed to stand up to the most demanding environments. Easy-to-use, durable, and economical.

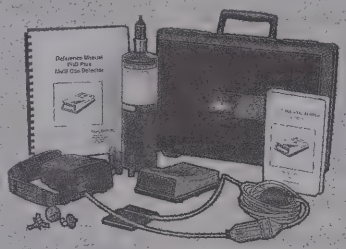
Day-to-day operating procedures, including automatic calibration adjustment, are controlled by the single On/Off Mode button. Verification of accuracy is achieved by attaching the gas and pushing a single button. All of the adjustments are made automatically. Feature "Smart Sensors" memory chip for improved performance and simpler maintenance. Both models are equipped with standard accessories and available as a confined space kit.

biosystems inc.

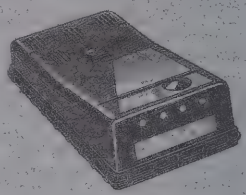
Replacement Parts Available 1-800-323-0620



No. 1N826
PhD Plus Detectors



No. 1N808
PhD Plus Value Pack



No. 1N733
PhD Ultra Detector

**FEATURES:**

- **All procedures performed with "One-Button" operation through the On/Off/Mode button**
- **Multi-sensor capability ($O_2$, LEL, CO, and $H_2S$)**
- **"Smart Sensors" equipped with EEPROM memory chip which stores serial number, calibration and other information**
- **Automatic set-up by plugging in sensor—the sensor identifies itself to the instrument, automatically displays the correct readings, and assigns the proper alarm settings**
- **Compact size—1/3 smaller than the PhD²**
- **Rugged steel-filled polycarbonate case designed to minimize RFI**
- **Fully automatic zero and span calibration**

**SPECIFICATIONS:**

- **Dimensions: 6.75 x 3.75 x 2"**
- **Wt.: NiCad 22 oz., Alkaline: 19.5 oz.**
- **Intrinsic Safety: UL Classified Class 1, Groups A, B, C, D**
- **LCD Display: Simultaneous readings for all gases**
- **Audible Alarms: Gas, low battery, electronic fault, missing/bad/changed sensor**
- **Visual Alarms: Bright red LED for each gas**
- **Backlight: Automatic activation in low light**
- **Operating Modes: Technician/Basic/Text Only**

### STANDARD ACCESSORIES

Standard accessories include leather case, carrying strap, hand aspirated sample draw kit with 10 ft. of tubing, Quick Reference Card, Reference Manual, and comprehensive training video. The sample draw kit includes sample draw/calibration adapter, squeeze bulb, tubing, sample probe, and spare sample probe filters. (Motorized sample draw pump available, see Index.)

"Alkaline" detectors include a snap-in alkaline battery pack and a set of three AA disposable batteries. "NiCad" detectors include a snap-in rechargeable NiCad battery pack, slip-in "fast charger" (2-hour recharge). Each pack provides up to 12 hours of continuous operation. **"Professional"** detectors include both Alkaline and NiCad battery packs, DataLink software and combination fast charger/computer interface "Datadock" cradle.

### CONFINED SPACE KITS

Confined Space Kits include the detector, all standard accessories, cylinder (58 or 103 liter) of all-in-one calibration gas, regulator, and a gasketed, waterproof, foam-lined carrying case.

### PhD PLUS VALUE PACK

The Value Pack is a low cost configuration which includes a two ($O_2$/LEL) or three ($O_2$/LEL/CO Plus) sensor Alkaline PhD Plus, all standard accessories, 34 liter cylinder of all-in-one calibration gas, and compact, foam-lined carrying case.

### PhD ULTRA DATALINK KIT

Datalink Kit includes a slip-in fast charger/"Datadock" computer interface cradle, connector cable, software and Reference Manual. Datalink software allows for two way communication between the PhD Ultra and a personal computer. The menu driven software is easy-to-use for gas detection record keeping. The software may be used to generate reports, graphs and tables of recorded information, or simply to store recorded information for future reference. Includes full graphics and both search and export database capabilities.

CONTINUED ON NEXT PAGE

# PhD PLUS GAS DETECTORS

## PhD PLUS PORTABLE GAS DETECTOR SELECTION GUIDE

| Description | BATTERY AND ACCESSORY CONFIGURATION | | | | |
|---|---|---|---|---|---|
| | Alkaline Battery Standard Accs. | Alkaline Battery Confined Space❸ | NiCad Battery Standard Accs. | NiCad Battery Confined Space❸ | Alkaline Battery Value Pack❸ |
| **LEL/$O_2$** | 1N842 | — | 1N838 | 1N836 | 1N840 |
| **LEL/$O_2$/CO** | 1N834 | 1N832 | 1N830 | 1N828 | — |
| **LEL/$O_2$/$H_2S$** | 1N818 | 1N816 | 1N814 | 1N812 | — |
| **LEL/$O_2$/CO Plus** | 1N810 | — | 1N806 | 1N804 | 1N808 |
| **LEL/$O_2$/CO/$H_2S$** | 1N826 | 1N824 | 1N822 | 1N820 | — |

## PhD PLUS PORTABLE GAS DETECTORS ORDERING DATA

| Biosystems Model (54-01-. . .) | Stock No. | Each | Shpg. Wt. | Biosystems Model (54-01-. . .) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 30500NC | **1N804** | **$1945.00▲** | 12.0 | 30102AC | **1N824** | **$2115.00▲** | 19.0 |
| 30500N | **1N806** | **1445.00▲** | 7.2 | 30102A | **1N826** | **1495.00▲** | 4.8 |
| 30500AV | **1N808** | **1395.00▲** | 9.1 | 30100NC | **1N828** | **1945.00▲** | 12.0 |
| 30500A | **1N810** | **1245.00▲** | 4.8 | 30100N | **1N830** | **1445.00▲** | 7.2 |
| 30200NC | **1N812** | **2065.00▲** | 12.0 | 30100AC | **1N832** | **1745.00▲** | 19.0 |
| 30200N | **1N814** | **1445.00▲** | 7.2 | 30100A | **1N834** | **1245.00▲** | 4.8 |
| 30200AC | **1N816** | **1865.00▲** | 19.0 | 30000NC | **1N836** | **1635.00▲** | 12.0 |
| 30200A | **1N818** | **1245.00▲** | 4.8 | 30000N | **1N838** | **1195.00▲** | 7.2 |
| 30102NC | **1N820** | **2315.00▲** | 12.0 | 30000AV | **1N840** | **1145.00▲** | 9.1 |
| 30102N | **1N822** | **1695.00▲** | 7.2 | 30000A | **1N842** | **995.00▲** | 4.8 |

# PhD ULTRA GAS DETECTORS

## PhD ULTRA PORTABLE GAS DETECTOR SELECTION GUIDE

| Description | BATTERY AND ACCESSORY CONFIGURATION | | | | | |
|---|---|---|---|---|---|---|
| | Alkaline Battery Standard Accs. | Alkaline Battery Confined Space❸ | NiCad Battery Standard Accs. | NiCad Battery Confined Space❸ | Professional Standard Accs. | Professional Confined Space❸ |
| **LEL/$O_2$** | 1N802 | 1N800 | 1N798 | 1N796 | 1N780 | 1N778 |
| **LEL/$O_2$/CO** | 1N776 | 1N774 | 1N772 | 1N770 | 1N768 | 1N766 |
| **LEL/$O_2$/$H_2S$** | 1N711 | 1N709 | 1N707 | 1N705 | 1N703 | 1N700 |
| **LEL/$O_2$/NHc** | 3LV81 | 3LV82 | 3MK19 | 3MK20 | 3MK21 | 3MK22 |
| **LEL/$O_2$/CO Plus** | 1N698 | 1N696 | 1N694 | 1N692 | 1N690 | 1N686 |
| **LEL/$O_2$/CO/$H_2S$** | 1N738 | 1N736 | 1N733 | 1N731 | 1N728 | 1N726 |
| **LEL/$O_2$/CO/$SO_2$** | 1N723 | 1N721 | 1N719 | 1N717 | 1N715 | 1N713 |

## PhD ULTRA PORTABLE GAS DETECTORS ORDERING DATA

| Biosystems Model (54-02-. . .) | Stock No. | Each | Shpg. Wt. | Biosystems Model (54-02-. . .) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 30500PC | **1N686** | **$2345.00▲** | 22.0 | 30102N | **1N733** | **$1895.00▲** | 7.2 |
| 30500P | **1N690** | **1845.00▲** | 7.7 | 30102AC | **1N736** | **2315.00▲** | 19.0 |
| 30500NC | **1N692** | **2145.00▲** | 12.0 | 30102A | **1N738** | **1695.00▲** | 4.8 |
| 30500N | **1N694** | **1645.00▲** | 7.2 | 30100PC | **1N766** | **2345.00▲** | 22.0 |
| 30500AC | **1N696** | **1945.00▲** | 19.0 | 30100P | **1N768** | **1845.00▲** | 7.7 |
| 30500A | **1N698** | **1445.00▲** | 4.8 | 30100NC | **1N770** | **2145.00▲** | 12.0 |
| 30200PC | **1N700** | **2465.00▲** | 22.0 | 30100N | **1N772** | **1645.00▲** | 7.2 |
| 30200P | **1N703** | **1845.00▲** | 7.7 | 30100AC | **1N774** | **1945.00▲** | 19.0 |
| 30200NC | **1N705** | **2265.00▲** | 12.0 | 30100A | **1N776** | **1445.00▲** | 4.8 |
| 30200N | **1N707** | **1645.00▲** | 7.2 | 30000PC | **1N778** | **2035.00▲** | 22.0 |
| 30200AC | **1N709** | **2065.00▲** | 19.0 | 30000P | **1N780** | **1595.00▲** | 7.7 |
| 30200A | **1N711** | **1445.00▲** | 4.8 | 30000NC | **1N796** | **1835.00▲** | 12.0 |
| 30103PC | **1N713** | **2505.00▲** | 30.0 | 30000N | **1N798** | **1395.00▲** | 7.2 |
| 30103P | **1N715** | **2145.00▲** | 7.7 | 30000AC | **1N800** | **1635.00▲** | 19.0 |
| 30103NC | **1N717** | **2705.00▲** | 30.0 | 30000A | **1N802** | **1195.00▲** | 4.8 |
| 30103N | **1N719** | **1945.00▲** | 7.2 | 30400A | **3LV81** | **1560.00▲** | 4.8 |
| 30103AC | **1N721** | **2505.00▲** | 27.0 | 30400AC | **3LV82** | **2840.00▲** | 27.0 |
| 30103A | **1N723** | **1745.00▲** | 4.8 | 30400N | **3MK19** | **1760.00▲** | 7.2 |
| 30102PC | **1N726** | **2715.00▲** | 22.0 | 30400NC | **3MK20** | **3040.00▲** | 30.0 |
| 30102P | **1N728** | **2095.00▲** | 7.7 | 30400P | **3MK21** | **1960.00▲** | 7.7 |
| 30102NC | **1N731** | **2515.00▲** | 12.0 | 30400PC | **3MK22** | **3240.00▲** | 30.0 |

❸These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(▲) Net prices, not subject to discounts.

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# ACCESSORIES FOR BIOSYSTEMS CONFINED SPACE GAS DETECTORS

## PhD PLUS AND PhD ULTRA ACCESSORIES

### MOTORIZED SAMPLE DRAW PUMP

Motorized Sample Draw Pump is both powered and directly monitored for proper performance by the detector. The pump automatically operates whenever the instrument is turned on. Flow blockage, disconnection or other mechanical faults trigger audible and visual alarms with display of the proper alarm message. The same pump is used for the PhD Plus and the PhD Ultra.

### CALIBRATION MATERIALS

In most cases, materials used to calibrate the CannonBall² detectors may also be used to calibrate the PhD Plus and PhD Ultra. Cylinders of calibration gas may also be interchanged, except for the PhD Plus Value Pack which uses a reduced size 34 liter cylinder of calibration gas and a different fixed flow rate calibration gas regulator.

### SMART SENSORS

Each Smart Sensor is equipped with its own EEPROM memory storage chip. Information stored with each sensor includes type of sensor, alarm settings, serial number, warranty expiration date, calibration dates (PhD Ultra only) and settings, custom temperature compensation curves, and a programmable "service required" interval (PhD Ultra only). Whenever the instrument is turned on, it reads and updates all the information contained on the sensor chips. The custom temperature compensation curves are updated with each calibration, and accuracy is improved continuously.

### FIVE-UNIT MULTI-CHARGER

Five-Unit Slip-In Multi-Charger is designed to recharge several instruments simultaneously.

### PhD PLUS AND PhD SMART SENSORS

| Description | Gas Type | For Use With | Biosystems Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Smart Sensor** | Oxygen ($O_2$) | PhD Plus/PhD Ultra | 54-04-90 | **1N663** | **$150.00▲** | 1.0 |
| **Smart Sensor** | LEL Combustible Gas | PhD Plus/PhD Ultra | 54-04-80 | **1N665** | **150.00▲** | 1.0 |
| **Smart Sensor** | Carbon Monoxide (CO) | PhD Plus/PhD Ultra | 54-04-01 | **1N683** | **250.00▲** | 1.0 |
| **Smart Sensor** | Hydrogen Sulfide ($H_2S$) | PhD Plus/PhD Ultra | 54-04-02 | **1N681** | **250.00▲** | 1.0 |
| **Smart Sensor** | Sulfur Dioxide ($SO_2$) | PhD Plus/PhD Ultra | 54-04-03 | **1N679** | **300.00▲** | 1.0 |
| **Smart Sensor** | Ammonia (NHc) | PhD Ultra | 54-04-04 | **1N677** | **350.00▲** | 1.0 |
| **Smart Sensor** | CO Plus (CO/$H_2S$) | PhD Plus/PhD Ultra | 54-04-05 | **1N675** | **250.00▲** | 1.0 |
| **Smart Sensor** | Nitric Oxide (NO) | PhD Ultra | 54-04-06 | **1N673** | **350.00▲** | 1.0 |
| **Smart Sensor** | Chlorine (Cl) | PhD Ultra | 54-04-08 | **1N671** | **300.00▲** | 1.0 |
| **Smart Sensor** | Nitrogen Dioxide ($NO_2$) | PhD Ultra | 54-04-09 | **1N669** | **300.00▲** | 1.0 |
| **Smart Sensor** | Hydrogen Cyanide (HCN) | PhD Ultra | 54-04-10 | **1N667** | **350.00▲** | 1.0 |

### PhD PLUS AND PhD ACCESSORIES AND REPLACEMENTS PARTS

| Description | For Use With | Biosystems Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Replacement Alkaline Battery Pack** | PhD Plus | 35-908 | **1N848** | **$50.00▲** | 1.0 |
| **Replacement NiCad Battery Pack** | PhD Plus | 35-907 | **1N850** | **75.00▲** | 1.0 |
| **Replacement Alkaline Battery Pack** | PhD Ultra | 35-921 | **1N846** | **50.00▲** | 1.0 |
| **Replacement NiCad Battery Pack** | PhD Ultra | 35-922 | **1N844** | **75.00▲** | 1.0 |
| **Slip-in Fast Charger** | PhD Plus/PhD Ultra | 54-05-A0201 | **1N659** | **125.00▲** | 2.7 |
| **Motorized Sample Draw Pump** | PhD Plus/PhD Ultra | 54-05-A0101 | **1N661** | **395.00▲** | 0.9 |
| **Fast Charger Wall Mount Bracket** | PhD Plus/PhD Ultra | 54-05-A0301 | **1N655** | **25.00▲** | 1.3 |
| **Slip-in Multicharger** | PhD Plus/PhD Ultra | 54-05-A0202 | **1N657** | **595.00▲** | 9.5 |
| **Datalink Kit** | PhD Ultra | 54-05-K0203 | **1N653** | **400.00▲** | 3.0 |
| **Fixed Flow Rate Regulator** | PhD Plus Value Packs | 12-022 | **1N852** | **75.00▲** | 1.0 |

(▲) Net prices, Not subject to discounts.

THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.

It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.

# GAS DETECTORS

## PASSPORT® PERSONAL ALARM

MSA New

Monitors and displays multiple gas readings simultaneously. Measures peak exposure, STEL and TWAs. 3 push-buttons for easy operation. Fresh air setup allows user to reset sensor zeroes, but provides protection against zeroing out potentially harmful levels of background gases. Easily calibrated. Includes Ni-Cad battery and charging systems. Microprocessor based, alarm is menu-driven for easy operation. User can page through various menu activities for calibration and display options. Features visible and audible alarms. Lockalarm™ circuit ensures a safe reading whenever the alarm is exposed to more than 100% LEL. Cannot display ambiguous low LEL reading at high gas concentrates. Information can be downloaded into personal computer to establish database. Small, lightweight and water-resistant.

**New No. 4LP82.** 3-Gas Alarm measures LEL, Oxygen and Carbon Monoxide.. Shpg. wt. 7.1 lbs.
Each ..... $2155.00▲

**New No. 4LP83.** 3-Gas alarm measures LEL, Oxygen and $H_2S$. Shpg. wt. 7.1 lbs.
Each ..... $2155.00▲

**New No. 4LP81.** 4-Gas Alarm measures LEL, Oxygen, Carbon Monoxide and $H_2S$. Shpg. wt. 7.2 lbs.
Each ..... $2350.00▲




No. 4LP81

## PASSPORT FIVE STAR® PERSONAL ALARM

MSA New

Multi-gas personal alarm can be customized for many tasks. Monitors and displays multiple gas readings simultaneously. "Smart Sensor" technology allows selection of best combination of sensors to match task. Seven sensors are available, up to five can be used at one time. Easily accessible sensor bay, plug-in sensor design for easy changes.

Unique, easy to use datalogging retains information about average and peak instrument gas readings for a minimum of 15 hours. An additional, session datalog maintains records of instrument usage, alarms and operator actions such as fresh air setups and calibrations.

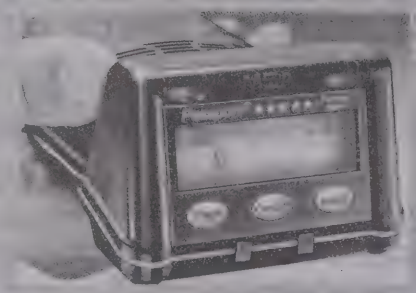
Fresh air setup allows user to reset sensor zeroes, but provides protection against zeroing out potentially harmful levels of background gases. Provides dependable protection with changes in atmosphere pressure. Battery gas gauge displays actual run time remaining, eliminates guessing. Various displays show peak readings, time-weighted averages (TWA) and short-term exposure limits (STEL). Lightweight unit can be hand-held, clipped to belt or left unattended for continuous monitoring.

Lockalarm™ circuit ensures a safe reading whenever the alarm is exposed to more than 100% LEL. Cannot display ambiguous low LEL reading at high gas concentrates. MSA brand.

**New No. 4LP88.** 3-Gas alarm measures LEL, Oxygen and Carbon Monoxide. Shpg. wt. 2.9 lbs. Each ..... $2095.00▲

**New No. 4LP89.** 3-Gas alarm measures LEL, Oxygen and $H_2S$. Shpg. wt. 2.9 lbs. Each ..... $2095.00▲

**New No. 4LP87.** 4-Gas alarm measures LEL, Oxygen, Carbon Monoxide and $H_2S$. Shpg. wt. 3.0 lbs. Each ..... $2245.00▲



No. 4LP87

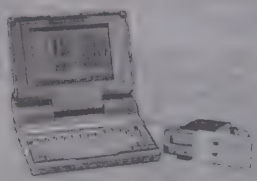
## DATA DOCKING MODULE

MSA New

Docking module allows user to download information from Passport® Personal Alarm or Passport® PID II Organic Vapor monitor into a personal computer. Uses 9-Volt battery or MSA Omega battery chargers (sold separately). Connects to PC by nine-pin serial communication port (PC not included). MSA brand (804679).

**New No. 4LP39.** Shpg. wt. 0.4 lbs. Each ..... $425.00▲

(▲) Net prices, not subject to discounts.



## CRICKET® TEST GAS STATION

Test gas station checks for CO and $H_2S$ sensitivity on Cricket Personal Alarm Nos. 4LP97 and 4LP98 (sold on page 2527). Appropriate calibration gas attaches directly to station. MSA brand (804626).

**New No. 4LP95.** Shpg. wt. 0.5 lbs. Each ..... $35.35▲

## SQUIRT® GAS BUMP TESTER

Convenient, inexpensive way to check sensor response on MSA instruments. Tester gives reading in 15 seconds, works without regulator. Uses disposable cylinders (sold separately below). MSA brand (813411).

**New No. 4LP37.** Shpg. wt. 0.5 lbs. Each ..... $42.75▲

### SQUIRT GAS BUMP TESTER CYLINDERS

| Cylinder Contents | MSA Model | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **2.5 $CH_4$, 13-17% $O_2$, 300 PPM CO, 35 PPM $H_2S$, balance nitrogen** | 814349 | **4LP29** | **$48.00** ▲ | 3.1 |
| **2.5 $CH_4$, 13-17% $O_2$, 60 PPM CO, balance nitrogen** | 814350 | **4LP30** | **31.50** ▲ | 3.0 |
| **1.3% $CH_4$, 13-17% $O_2$, 60 PPM CO, balance nitrogen** | 814497 | **4LP31** | **31.50** ▲ | 0.5 |
| **1.3% $CH_4$, 13-17% $O_2$, 300 PPM CO, 35 PPM $H_2S$, balance nitrogen** | 814559 | **4LP32** | **48.00** ▲ | 0.5 |
| **60 PPM CO, balance air** | 814978 | **4LP35** | **31.50** ▲ | 0.5 |
| **100 PPM isobutylene** | 815704 | **4LR86** | **34.00** ▲ | 3.0 |

## GAS MISER™ DEMAND REGULATOR

For use with MSA RP Calibration Cylinders (sold separately). Automatic On/Off valve delivers the correct amount of gas needed to calibrate instrument. Auto shutoff when calibration is complete. Regulator can stay connected to RP cylinder in a steady state. Supplies any gas flow from 0.10 lpm to 3.00 lpm. For fixed installations such as work benches, calibration stations and bump test stations. Nickel-plated polished aluminum. MSA brand (710288).

**New No. 4LP38.** Shpg. wt. 1.0 lbs. Each ..... $240.00▲

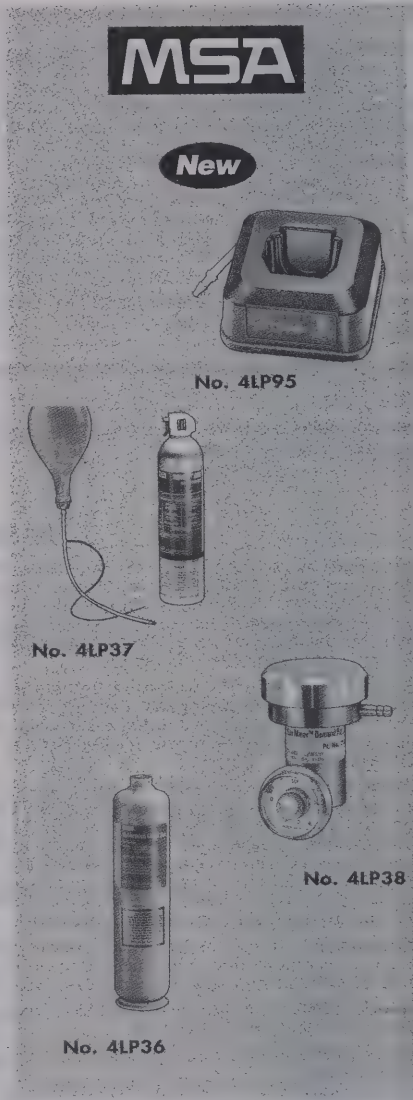
## CALIBRATION CHECK GAS CYLINDERS

For use when calibrating MSA instruments. Sufficient gas for multiple calibrations. MSA brand.

### CALIBRATION CHECK GAS CYLINDERS

| Cylinder Contents | Liters of Gas | MSA Model | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **60 PPM CO, 1.45% Methane, 15% $O_2$, balance nitrogen** | 100 | 487191 | **4LP25** | **$140.00**▲ | 3.5 |
| **100 PPM Isobutylene** | 100 | 494450 | **4LP26** | **140.00**▲ | 3.5 |
| **1.45% Methane, 15% $O_2$, 10 PPM Hydrogen Sulfide, balance nitrogen** | 58 | 804769 | **4LP27** | **260.00**▲ | 2.0 |
| **60 PPM CO, 1.45% Methane, 15% $O_2$, 10 PPM Hydrogen Sulfide, balance nitrogen** | 58 | 804770 | **4LP28** | **260.00**▲ | 2.0 |
| **50 PPM CO in air** | 100 | 809241 | **4LP34** | **140.00**▲ | 3.5 |
| **10 PPM $H_2S$ in nitrogen** | 58 | 467898 | **4LP36** | **140.00**▲ | 2.0 |

(▲) Net prices, not subject to discounts.




DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# SINGLE-SENSOR GAS DETECTORS

## TOXI FAMILY OF SINGLE SENSOR GAS DETECTORS

The "Toxi/Oxy Family" of compact, rugged and affordable single sensor gas detectors offers a wide range of features and capabilities designed to provide users with exactly the amount of information they require. Toxi Family detectors are housed in rugged, compact, metal plated ABS cases which are completely sealed against the elements. All procedures necessary for day-to-day operation (including fully automatic calibration adjustment) are controlled through the use of a single On/Off "Mode" button. An easy-to-read top-mounted liquid crystal display (LCD) is used to show readings as well as other messages. A manually activated back-light insures that you can see the readings even in dim light conditions. The top-mounted sensor location insures that readings are accurate even when the detector is worn in a shirt pocket. An audible alarm and bright LED alarm light warn users of dangerous conditions, while an optional vibrator alarm is available for use in high noise environments. Each set of 3 easily changed AAA alkaline batteries provides months of continuous operation. Datalogging instruments automatically remember (log) gas readings as well as other important information.

Ordering information: All Toxi, Toxi Plus, Oxy Plus, Toxi Ultra and Oxy Ultra detectors come complete with sensor, belt clip, weather cover, set of 3 AAA alkaline batteries, calibration adapter, quick reference card, and Reference Manual. Toxi Ultra includes a comprehensive training video.

Toxi/Oxy "Family" detectors may also be equipped with an optional internal vibrating alarm for high noise areas.

### TOXI

The low cost Toxi single sensor gas detector is designed to continuously monitor for CO and/or $H_2S$. The Toxi functions as a simple "Go/No Go" gas detector. The top-mounted LCD shows an "OK" message as long as conditions are safe. If an alarm condition occurs the audible and visual alarms are activated and readings are given in numbers.

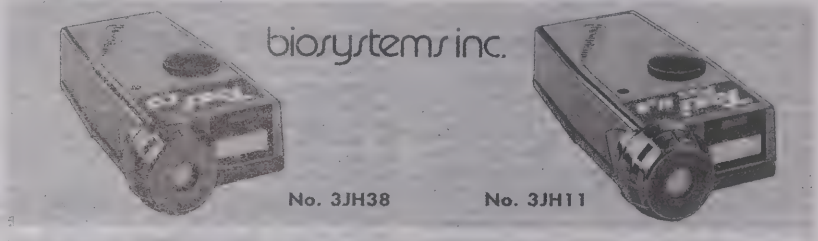
### TOXI PLUS

Besides all the features included in the basic Toxi design, Toxi/Oxy Plus detectors additionally offer numeric readings as well as industrial hygiene calculations such as "Peak", STEL and TWA. The Toxi Plus is available for a variety of atmospheric hazards including CO, $H_2S$ and $SO_2$, or may be equipped with Biosystems' dual purpose "CO+" sensor for the simultaneous measurement of both CO and $H_2S$. Three modes of information provide the right amount of information for users with different skill levels; Text Only ("OK"), Basic (numeric readings) and Technician (peak, STEL and TWA as well as numeric readings).

### OXY PLUS

The economical Oxy Plus offers the same capabilities as the Toxi Plus, but is dedicated to the continuous measurement of oxygen. The Oxy Plus offers two easily adjusted alarm settings, one for low concentrations associated with dangerous oxygen deficiencies as well as one for high concentrations associated with oxygen enrichment.

(▲) Net prices not subject to discounts.




### TOXI SINGLE-SENSOR GAS DETECTORS

| Description | Biosystems Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Toxi w/carbon monoxide (CO) sensor | 54-11-01 | 3JH38 | $395.00▲ | 1.5 |
| Toxi w/hydrogen sulfide ($H_2S$) sensor | 54-11-02 | 3JH39 | 395.00▲ | 1.5 |
| Toxi w/"CO Plus" sensor | 54-11-05 | 3JH40* | 395.00▲ | 1.5 |

### TOXI SINGLE-SENSOR GAS DETECTOR WITH VIBRATING ALARM

| | | | | |
|---|---|---|---|---|
| Toxi w/Carbon monoxide (CO) Sensor and Vibrator | 54-11-01V | 3MK37 | 495.00▲ | 1.5 |
| Toxi w/Hydrogen Sulfide ($H_2S$) Sensor and Vibrator | 54-11-02V | 3MK38 | 495.00▲ | 1.5 |
| Toxi w/"CO Plus" Sensor and Internal Vibrator | 54-11-05V | 3MK39* | 495.00▲ | 1.5 |

(*) "CO Plus" sensor detects both Carbon Monoxide (CO) and Hydrogen Sulfide (H2S).

### TOXI/OXY PLUS SINGLE-SENSOR GAS DETECTORS

| Description | Biosystems Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Toxi Plus w/Carbon Monoxide (CO) Sensor | 54-06-01 | 3JH10 | $495.00▲ | 1.5 |
| Toxi Plus w/Hydrogen Sulfide ($H_2S$) Sensor | 54-06-02 | 3JH11 | 495.00▲ | 1.5 |
| Toxi Plus w/Sulfur Dioxide ($SO_2$) Sensor | 54-06-03 | 3JH12 | 595.00▲ | 1.5 |
| Toxi Plus w/"CO Plus" Sensor | 54-06-05 | 3JH13* | 495.00▲ | 1.5 |
| Oxy Plus w/Oxygen ($O_2$) Sensor | 54-06-90 | 3JH14 | 395.00▲ | 1.5 |

### TOXI/OXY PLUS SINGLE SENSOR WITH VIBRATING ALARM

| | | | | |
|---|---|---|---|---|
| Toxi Plus w/Carbon Monoxide (CO) Sensor and Vibrator | 54-06-01V | 3MK23 | 595.00▲ | 1.5 |
| Toxi Plus w/Hydrogen Sulfid ($H_2S$) Sensor and Vibrator | 54-06-02V | 3MK24 | 595.00▲ | 1.5 |
| Toxi Plus w/Sulfur Dioxide ($SO_2$) Sensor and Vibrator | 54-06-03V | 3MK25 | 695.00▲ | 1.5 |
| Toxi Plus w/"CO Plus" Sensor and Vibrator | 54-06-05V | 3MK26* | 595.00▲ | 1.5 |
| Toxi Plus w/Oxygen ($O_2$) Sensor and Vibrator | 54-06-90V | 3MK27 | 495.00▲ | 1.5 |

(*) "CO Plus" sensor detects both Carbon Monoxide (CO) and Hydrogen Sulfide ($H_2S$).

## CRICKET® PERSONAL ALARMS

Compact personal alarms detect dangerous levels of carbon monoxide, oxygen or hydrogen sulfide. For use in confined spaces, oil refineries, pulp and paper mills, water and waste treatment facilities, steel mills and other industries that monitor for CO or $H_2S$. Visual and audible alarms for two distinct warnings of hazardous conditions. Pocket, lapel or hard hat attachments. High performance sensor and lithium battery lasts for life of instrument. Impact-resistant case withstands harsh treatment. MSA brand.

**New No. 4LP97.** Carbon Monoxide Detector (804746). Shpg. wt. 0.5 lbs.
Each ..... $310.00▲

**New No. 4LP98.** Hydrogen Sulfide Detector (804745). Shpg. wt. 0.5 lbs.
Each ..... $310.00▲

**New No. 4LR01.** Oxygen Detector (804625). Shpg. wt. 0.5 lbs.
Each ..... $265.00▲

(▲) Net prices not subject to discounts



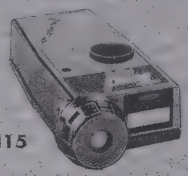
# SINGLE-SENSOR GAS DETECTORS

## BIOSYSTEMS PORTABLE GAS DETECTION SYSTEMS

biosystems inc.

Replacement Parts Available
1-800-323-0620

Calibration gas available on nearby pages



No. 3JH15

### TOXI ULTRA

Besides all the advantages shared by every member of the family, the datalogging Toxi Ultra is designed to easily communicate with your personal computer. Biosystems' Datalink Software lets you download monitoring information or generate detailed reports with the push of a button. The instrument automatically logs gas readings, calibration dates and other important information. Since datalogging is completely "transparent" (all you do is turn the instrument on to begin recording information) the Toxi Ultra is every bit as easy to use as the other members of the family.

### OXY ULTRA

The Oxy Ultra offers the same capabilities as the Toxi Ultra, but is dedicated to the continuous measurement of oxygen.

### TOXI ULTRA ACCESSORIES

**Datalink Kit for Toxi Ultra/Oxy Ultra** includes software, interface cable, reference manual and slip-in download cradle. Biosystems brand.

**No. 3JH34.** Datalink Kit. Shpg. wt. 2.5 lbs. Each ..... $295.00▲

**HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG**

### TOXI/OXY ULTRA SINGLE-SENSOR GAS DETECTORS

| Description | Biosystems Model | Stock No. | Each | | Shpg. Wt. |
|---|---|---|---|---|---|
| Toxi Ultra w/Carbon Monoxide (CO) Sensor | 54-07-01 | 3JH15 | $695.00 | ▲ | 1.5 |
| Toxi Ultra w/Hydrogen Sufide ($H_2S$) Sensor | 54-07-02 | 3JH16 | 695.00 | ▲ | 1.5 |
| Toxi Ultra w/Sulfur Dioxide ($SO_2$) Sensor | 54-07-03 | 3JH17 | 795.00 | ▲ | 1.5 |
| Toxi Ultra w/Ammonia ($NH_3$) Sensor | 54-07-04 | 3JH18 | 795.00 | ▲ | 1.5 |
| Toxi Ultra w/"CO Plus" Sensor | 54-07-05 | 3JH19* | 695.00 | ▲ | 1.5 |
| Toxi Ultra w/Nitric Oxide (NO) Sensor | 54-07-06 | 3JH20 | 795.00 | ▲ | 1.5 |
| Toxi Ultra w/Chlorine (Cl) Sensor | 54-07-08 | 3JH21 | 795.00 | ▲ | 1.5 |
| Toxi Ultra w/Nitrogen Dioxide ($NO_2$) Sensor | 54-07-09 | 3JH22 | 795.00 | ▲ | 1.5 |
| Toxi Ultra w/Oxygen ($O_2$) Sensor | 54-07-90 | 3JH23 | 595.00 | ▲ | 1.5 |

### TOXI/OXY ULTRA SINGLE SENSOR WITH VIBRATING ALARM

| | | | | | |
|---|---|---|---|---|---|
| Toxi Ultra w/Carbon Monoxide (CO) Sensor and Vibrator | 54-07-01V | 3MK28 | $795.00 | ▲ | 1.5 |
| Toxi Ultra w/Hydrogen Sufide ($H_2S$) Sensor and Vibrator | 54-07-02V | 3MK29 | 795.00 | ▲ | 1.5 |
| Toxi Ultra w/Sulfur Dioxide ($SO_2$) Sensor And Vibrator | 54-07-03V | 3MK30 | 895.00 | ▲ | 1.5 |
| Toxi Ultra w/Ammonia ($NH_3$) Sensor and Vibrator | 54-07-04V | 3MK31 | 895.00 | ▲ | 1.5 |
| Toxi Ultra w/"CO Plus" Sensor and Vibrator | 54-07-05V | 3MK32* | 795.00 | ▲ | 1.5 |
| Toxi Ultra w/Nitric Oxide (NO) Sensor and Vibrator | 54-07-06V | 3MK33 | 895.00 | ▲ | 1.5 |
| Toxi Ultra w/Chlorine (Cl) Sensor and Vibrator | 54-07-08V | 3MK34 | 895.00 | ▲ | 1.5 |
| Toxi Ultra w/Nitrogen Dioxide ($NO_2$) Sensor and Vibrator | 54-07-09V | 3MK35 | 895.00 | ▲ | 1.5 |
| Toxi Ultra w/Oxygen ($O_2$) Sensor and Vibrator | 54-07-90V | 3MK36 | 695.00 | ▲ | 1.5 |

### TOXI REPLACEMENT SENSORS

| Description | Biosystems Model | Stock No. | Each | | Shpg. Wt. |
|---|---|---|---|---|---|
| Carbon Monoxide (CO) Sensor | 54-10-01 | 3JH35 | $100.00 | ▲ | 0.7 |
| Hydrogen Sulfide ($H_2S$) Sensor | 54-10-02 | 3JH36 | 100.00 | ▲ | 0.7 |
| "CO Plus" Dual Purpose CO/$H_2S$ Sensor | 54-10-05 | 3JH37* | 100.00 | ▲ | 0.7 |

### TOXI/OXY PLUS—TOXI/OXY ULTRA REPLACEMENT SENSORS

| Description | Toxi/Oxy Plus | Toxi/Oxy Ultra | Biosystems Model | Stock No. | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Carbon Monoxide (CO) Sensor | X | X | 54-08-01 | 3JH24 | $200.00 | ▲ | 0.7 |
| Hydrogen Sulfide ($H_2S$) Sensor | X | X | 54-08-02 | 3JH25 | 200.00 | ▲ | 0.7 |
| Sufur Dioxide ($SO_2$) Sensor | X | X | 54-08-03 | 3JH26 | 300.00 | ▲ | 0.7 |
| Ammonia ($NH_3$) Sensor | | X | 54-08-04 | 3JH27 | 300.00 | ▲ | 0.7 |
| "CO Plus" Dual Purpose CO/$H_2S$ Sensor | X | X | 54-08-05 | 3JH28 | 200.00 | ▲ | 0.7 |
| Nitric oxide ($NO_2$) Sensor | | X | 54-08-06 | 3JH29 | 300.00 | ▲ | 0.7 |
| Chlorine (Cl) Sensor | | X | 54-08-08 | 3JH30 | 300.00 | ▲ | 0.7 |
| Nitrogen dioxide ($NO_2$) Sensor | | X | 54-08-09 | 3JH31 | 300.00 | ▲ | 0.7 |
| Hydrogen cyanide (HCN) Sensor | | X | 54-08-10 | 3JH32 | 300.00 | ▲ | 0.7 |
| Oxygen ($O_2$) Sensor | X | X | 54-08-90 | 3JH33 | 100.00 | ▲ | 0.7 |

(*) "CO Plus" sensor detects Carbon Monoxide (CO) and Hydrogen Sulfide ($H_2S$). (▲) Net prices, not subject to discount.

### FIRST TEAM™ MINICO® RESPONDER KIT

Kit includes MiniCO® Responder, case, squirt gas bump tester, tube card and instructions. MiniCO® Responder features a simple design to greatly reduce training time. 3-Button controls for easy operation, back-lit display enables reading in dark places. Plastic case is reinforced with stainless steel fibers to protect unit from impact and shield radio frequency interference. Rubber seal around case and Goretex filter over intake provide excellent water resistance. Field replacement and maintenance is simple with easily accessible sensor and battery. Squirt bump gas detector allows for easy calibration checks while in field in about 15 seconds. MiniCO® Detector tube card has easy to follow instructions. ETL Listed; Class I; Division 1, Groups A, B, C and D. MSA brand.

***New* No. 4LP90.** First TeamR MiniCOR Responder Kit (710551). Shpg. wt. 5.9 lbs. Each ..... $510.00▲

***New* No. 4LP96.** MiniCOR Responder only (710424). Shpg. wt. 5.9 lbs. Each ..... $395.00▲



## CANNONBALL² ACCESSORIES

### CALIBRATION KIT (WITHOUT GAS)

Includes foam-lined case, regulator and 2 ft. of tubing.

**No. 1H113.** For Cannonball2 Detectors. Biosystems brand (54-1753) Shpg. wt. 6.5. Each ..... $215.00▲

(▲) Net prices, not subject to discounts.

## PORTABLE GAS DETECTOR SENSORS

Sensors used to monitor highly reactive gases may not be installed in or used with sample draw pump equipped instruments. Toxic sensors which may be installed in Cannonball² instruments are limited to those indicated below.

| Gas Detected | For Use With | Biosystems Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Combustible** | Cannonball² | 54-1738 | **1H114** | **$250.00** ▲ | 0.7 |
| **Oxygen ($O_2$)** | Cannonball² | 54-1630 | **1H130** | **150.00** ▲ | 0.7 |
| **Carbon Monoxide (CO)** | Cannonball² | 54-1634 | **1H127** | **250.00** ▲ | 0.7 |
| **Hydrogen Sulfide ($H_2S$)** | Cannonball² | 54-1632 | **1H129** | **250.00** ▲ | 0.7 |
| **Sulfur Dioxide ($SO_2$)** | Cannonball² | 54-1636 | **1H125** | **400.00** ▲ | 0.7 |
| **Hydrogen Cyanide (HCN)** | Cannonball² | 54-1643 | **1H122** | **400.00** ▲ | 0.7 |
| **Nitrogen Dioxide ($NO_2$)** | Cannonball² | 54-1637 | **1H124** | **400.00** ▲ | 0.7 |
| **Nitric Oxide (NO)** | Cannonball² | 54-1641 | **1H123** | **400.00** ▲ | 0.7 |

## CALIBRATION GASES AND REGULATORS

### CALIBRATION GASES

EZ Cal™ multiple component calibration gas mixtures are available for use with many common Cannonball² detector configurations. Order the Cannonball² and calibration materials separately.

**No. 1H099.** Methane calibration gas. 50% LEL in air, 103 liters. Biosystems brand (54-9031). Shpg. wt. 3.7 lbs. Each ..... $120.00▲

**No. 1H098.** Methane equivalent calibration gas. 50% LEL. Shpg. wt. 3.9 lbs. Each ..... $120.00▲

**No. 1H097.** Carbon monoxide calibration gas.50 PPM in air, 103 liters. Biosystems brand (54-9032E). Shpg. wt. 3.9 lbs. Each ..... $150.00▲

**No. 1H096.** Hydrogen sulfide calibration gas. 25 PPM in nitrogen, 58 liters. Biosystems brand (54-9034). Shpg. wt. 2.5 lbs. Each ..... $180.00▲

**No. 1H095.** Sulfur dioxide calibration gas. 10 PPM in nitrogen, 58 liters Biosystems brand (54-9037). Shpg.wt. 2.5 lbs. Each ..... $180.00▲

**No. 1H094.** EZ Cal™ multiple component calibration gas with carbon monoxide (50 PPM) and methane (50% LEL) in air, 103 liters. Biosystems brand (54-9041). Shpg. wt. 3.9 lbs. Each ..... $180.00▲

**No. 1H093.** EZ Cal™ multiple component calibration gas with carbon monoxide (50 PPM) and methane (50% LEL) in air, 103 liters. Biosystems brand (54-9042E). Shpg. wt. 3.8 lbs. Each ..... $180.00▲

**No. 1H092.** EZ Cal™ multiple component calibration gas with carbon monoxide (50 PPM), H2S(25 PPM) and methane (50%) LEL) in air, 58 liters. Biosystems brand (54-9043). Shpg. wt. 2.5 lbs. Each ..... $300.00▲

**No. 1H091.** EZ Cal™ multiple component calibration gas with carbon monoxide (50 PPM), H2S (25 PPM) and methane (50%) LEL) in air, 58 liters. Biosystems brand (54-9044E). Shpg. wt. 2.5 lbs. Each ..... $300.00▲

**No. 1H090.** Ammonia calibration gas, 50 PPM in nitrogen, 58 liters requires No.1H139 regulator, sold below. Biosystems brand (54-9051). Shpg. wt. 2.5 lbs. Each ..... $400.00▲

**No. 1H089.** Chlorine calibration gas. 5 PPM in nitrogen, 58 liters. Biosystems brand.(54-9054). Shpg. wt. 2.5 lbs. Each ..... $350.00▲

**No. 1H088.** Hydrogen cyanide calibration gas. 10 PPM in nitrogen, 58 liters. Biosystems brand (54-99054). Shpg. wt. 2.5 lbs. Each ..... $400.00▲

**No. 1H087.** Nitric oxide calibration gas. 30 ppm in nitrogen, 58 liters. Biosystems brand (54-9055). Shpg. wt. 2.5 lbs. Each ..... $400.00

**No. 1H086.** Nitrogen dioxide calibration gas. 5 PPM in nitrogen, 58 liters. Biosystems brand (54-9056). Shpg. wt. 2.5 lbs. Each ..... $400.00▲

**No. 1N649.** EZ Cal™ multiple component calibration gas with carbon monoxide (50 PPM) and methane equivalent (50% LEL) in air. 34 liters. Biosystems brand (54-9045E). Shpg. wt. 2.3 lbs. Each ..... $75.00▲

### REGULATORS

Regulator, calibration gs, standard service, 1.0 LPM fixed flow rate. Biosystems brand (12-023).

**No. 1H140.** Shpg. wt. 0.5 lbs. Each ..... $150.00▲

Regulator for use with ammonia calibration gas. Corrosive service, 1.0 LPM fixed flow rate. Biosystems brand (12-025).

**No. 1H139.** Shpg. wt. 1.1 lbs. Each ..... $360.00▲

(▲) Net prices, not subject to discounts.

## UL LISTING AND CSA CERTIFICATION

**When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.**

# GAS DETECTION SYSTEMS

## BIOSYSTEMS FIXED GAS DETECTION SYSTEMS

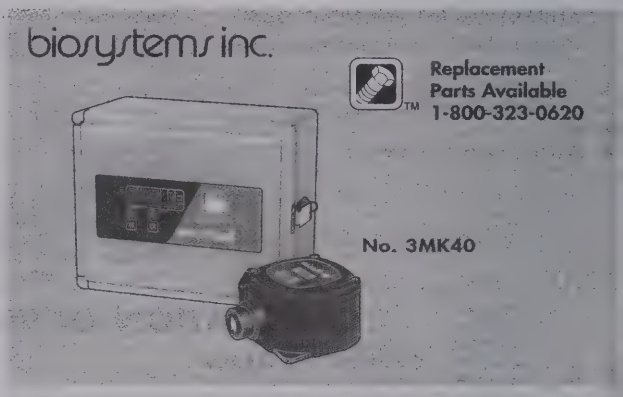
GasChek 1 and GasChek 4 fixed gas detection systems are designed to provide continuous round-the-clock monitoring for a variety of common atmospheric hazards. Remote detector assemblies are available in non-explosive proof or explosive proof housings for installation in hazardous locations. Both types of detector housing include digital readouts and switches which allow for single person, non-intrusive calibration adjustment. Microprocessor based GasChek electronics provide maximum flexibility in selecting alarm logic and specifying alarm levels, making these systems ideal for a wide variety of industrial monitoring applications.

- **Easy to install and operate**
- **Weatherproof NEMA 4X controller housing**
- **Digital readouts at both controller and detector**
- **2 alarm levels per channel • 1 to 5 V or 4-20mA outputs**
- **Comprehensive output DPDT relays for remote signaling and control (5A at 240V non-inductive loads)**
- **Built-in audible alarm, bright LED alarm lights and backup power supply**
- **Ambient temp. range 14°F to 104°F; 0 to 95% relative humidity**

### GASCHEK 1

The GasChek 1 is a microprocessor based fixed gas detection system designed to accept the input from a single remotely located oxygen, combustible or toxic detector assembly. Remote detector assemblies are available in non-explosive proof or explosion proof versions. The unit is designed for operation with 110/220 VAC 50-60 Hz or 12 or 24 VDC power, and includes an internal 12V sealed lead acid battery backup power supply. Each GasChek 1 system includes the controller with all standard alarms, relays and electronics installed in a NEMA 4X fiberglass housing, the appropriate input module for the sensor specifies (installed in the controller housing), sensor housing, and sensor.

(▲) Net prices, not subject to discounts..




**GASCHEK 1 SINGLE DETECTOR SYSTEMS**

| Gas Monitored | Biosystems Model | Stock No. | Each | | Shpg. Wt. |
|---|---|---|---|---|---|
| **CONTROL WITH EXPLOSIVE PROOF SENSOR HOUSING** | | | | | |
| **Oxygen ($O_2$)** | 54-12-901 | **3MK52** | **$2195.00** | ▲ | 9.5 |
| **LEL Combustibles** | 54-12-801 | **3MK50** | **2195.00** | ▲ | 9.5 |
| **Carbon Monoxide (CO)** | 54-12-011 | **3MK41** | **2295.00** | ▲ | 9.5 |
| **Hydrogen Sulfide ($H_2S$)** | 54-12-021 | **3MK43** | **2295.00** | ▲ | 9.5 |
| **Sufur Dioxide ($SO_2$)** | 54-12-031 | **3MK45** | **2395.00** | ▲ | 9.5 |
| **Chlorine (Cl)** | 54-12-081 | **3MK47** | **2495.00** | ▲ | 9.5 |
| **Nitrogen Dioxide ($NO_2$)** | 54-12-091 | **3MK49** | **2495.00** | ▲ | 9.5 |
| **CONTROL WITH NON-EXPLOSIVE PROOF SENSOR HOUSING** | | | | | |
| **Oxygen ($O_2$)** | 54-12-900 | **3MK51** | **1795.00** | ▲ | 9.4 |
| **Carbon Monoxide (CO)** | 54-12-010 | **3MK40** | **1895.00** | ▲ | 9.4 |
| **Hydrogen Sulfide ($H_2S$)** | 54-12-020 | **3MK42** | **1895.00** | ▲ | 9.4 |
| **Sufur Dioxide ($SO_2$)** | 54-12-030 | **3MK44** | **1995.00** | ▲ | 9.4 |
| **Chlorine (Cl)** | 54-12-080 | **3MK46** | **2095.00** | ▲ | 9.4 |
| **Nitrogen Dioxide ($NO_2$)** | 54-12-090 | **3MK48** | **2095.00** | ▲ | 9.4 |

## WATCHMAN® MULTIGAS MONITOR

Monitor multiple gases continuously and simultaneously, oxygen, combustible and toxic gases. For use in fire service, utilities, and other industries where personnel must enter confined spaces such as manholes, storage tanks, vaults, mines and sewers. Built-in pump allows remote sampling. Measures peak exposure, STEL and TWA. 3 Push-buttons for easy operation and calibration. Visible and audible alarms warn user of potentially dangerous situations. Microprocessor-based, menu-driven for easy operation. Fully charged Ni-Cad battery provides 10+ hours of use. Rugged, portable aluminum case withstands harsh treatment.

No. 4LP85 3-Gas Alarm measures LEL, Oxygen ($O_2$) and Carbon Monoxide (CO). No. 4LP86 3-Gas Alarm measures LEL, Oxygen ($O_2$) and $H_2S$. No. 4LP84 4-Gas Alarm measures LEL, Oxygen ($O_2$), Carbon Monoxide (CO) and $H_2S$. MSA brand.

***New!* No. 4LP85.** 3-Gas Alarm (710896). Shpg. wt. 9.1 lbs.
Each.....**$2130.00▲**

***New!* No. 4LP86.** 3-Gas Alarm (710897). Shpg. wt. 9.1 lbs.
Each.....**$2130.00▲**

***New!* No. 4LP84.** 4-Gas Alarm (710895). Shpg. wt. 9.1 lbs.
Each.....**$2325.00▲**

(▲) Net prices, not subject to discounts.




**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# GASCHEK 4

biosystems inc.

Replacement Parts Available 1-800-323-0620



No. 3MK53

No. 3MK54

No. 3MK64

The GasChek 4 is a microprocessor based fixed gas detection system designed to accept the input from up to four remotely located oxygen, combustible or toxic detector assemblies. The system is designed for easy expansion by means of plug-in alarm modules. Remote detector assemblies are available in non-explosion proof or explosion proof versions.

GasChek 4 systems include the controller itself with all standard relays and electronics installed in a NEMA 4X housing. Each remote detector assembly includes sensor specific input and alarm modules (installed in the controller housing), remote sensor housing, and sensor.

**Complete GasChek 4 System**

1. Order one each of the controller (No. 3MK53).
2. Select one to four sensors that are to be used with the controller. Any combination of sensors can be used. When the system is ordered in this way the alarm modules for the selected sensors will be installed in the controller.

**Sensor/Alarm Modules for Existing GasChek Systems**

1. Order the sensor from the list. The sensor will be supplied with an alarm module to be installed in the existing controller and instructions for the installation.
2. Select the appropriate wire from the list to connect the sensor to the controller.

## GASCHEK 4 MULTIPLE DETECTOR SYSTEMS

| Gas Monitored | Biosystems Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **CONTROLLER** | | | | |
| Gas Chek 4 Controller | 54-13-00 | **3MK53** | **$1195.00▲** | 15.0 |
| **EXPLOSION PROOF SENSOR HOUSINGS** | | | | |
| Oxygen ($O_2$) | 54-13-901 | **3MK66** | **1295.00▲** | 1.8 |
| LEL Combustibles | 54-13-801 | **3MK64** | **1295.00▲** | 1.8 |
| Carbon Monoxide ($CO_2$) | 54-13-011 | **3MK55** | **1395.00▲** | 1.8 |
| Hydrogen Sulfide ($H_2S$) | 54-13-021 | **3MK57** | **1395.00▲** | 1.8 |
| Sulfur Dioxide ($SO_2$) | 54-13-031 | **3MK59** | **1495.00▲** | 1.8 |
| Chlorine (Cl) | 54-13-081 | **3MK61** | **1595.00▲** | 1.8 |
| Nitrogen Dioxide ($NO_2$) | 54-13-091 | **3MK63** | **1595.00▲** | 1.8 |
| **NON-EXPLOSION PROOF SENSOR HOUSINGS** | | | | |
| Oxygen ($O_2$) | 54-13-900 | **3MK65** | **895.00▲** | 1.8 |
| Carbon Monoxide (CO) | 54-13-010 | **3MK54** | **995.00▲** | 1.8 |
| Hydrogen Sulfide ($H_2S$) | 54-13-020 | **3MK56** | **995.00▲** | 1.8 |
| Sulfur Dioxide ($SO_2$) | 54-13-030 | **3MK58** | **1095.00▲** | 1.8 |
| Chlorine (Cl) | 54-13-080 | **3MK60** | **1195.00▲** | 1.8 |
| Nitrogen Dioxide ($NO_2$) | 54-13-090 | **3MK62** | **1195.00▲** | 1.8 |

## CALIBRATION ADAPTER FOR FIXED GAS DETECTION SYSTEMS

- **Allows a single person to calibrate the system**
- **Use appropriate calibration gas found on adjacent pages**

No. 3MK67. Biosystems brand (54-14-A04). Shpg. wt. 6.2 lbs.
Each ..... $215.00▲

## WIRE RECOMMENDATIONS*

Use the following wire to connect GasChek remote detector assemblies. For oxygen and toxic detector assemblies up to 2000' use 18GA two conductor twisted pair shielded with drain (such as 4A630**). For combustible detector assemblies up to 600' away use 18GA four conductor twisted pair shielded with drain (such as 4A631**).

(*) Comply with local and national electric codes before installing system. (**) See Grainger General Catalog for description of wire.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# GAS DETECTION PUMP AND ACCESSORIES

## accuro® GAS DETECTION PUMP

The Drager accuro® is a bellows type pump which provides one-hand operation when necessary, such as on ladders or difficult to reach areas. Designed for one or two hand operation, the accuro® 's shape is ergonomically contoured for comfort when making a pump stroke. Rubber grips on the pump body make it easier to hold and squeeze. Easy to maintain (no special tools required) and never needs to be lubricated. Constructed of corrosion-resistant materials, the accuro is designed tp provide years of reliable service. A unique internal scissors mechanism ensures a uniform, even pump stroke-delivering 100 cubic centimeters of sample air. The Drager accuro®, used with short-term Drager tubes, forms an intergral sampling system.

**No. 3MN34.** Drager brand (6400000). Shpg. wt. 1.0 lbs. Each.....$306.00▲

## accuro® DELUXE KIT

The accuro® Deluxe Kit contains space for several boxes of tubes. Kit includes accuro® pump (No. 3MN34), deluxe tube opener (No. 3MN35), extension tube adapter, spare parts kit, package of 10 rubber caps (No. 3MN70), deluxe case, one black permanent marker, screwdriver, and instructions.

**No. 3MN30.** Drager brand (4053474). Shpg. wt. 3.5 lbs. Each.....$394.00▲

## accuro® SOFT SIDE KIT

The accuro® Soft Side Kit includes the Drager accuro® pump (No. 3MN34), accuro® spare parts kit, screwdriver, and permanent marker—all packed in a nylon pouch. This kit is ideal for air investigations where only one or two boxes of tubes are needed.

**No. 3MN29.** Drager brand (4053473). Shpg. wt. 1.0 lbs. Each.....$344.00▲

## EXTENSION HOSES

3, 10 and 15 meter extension hoses are available for use with the Drager accuro® pump. These hoses are a useful accessory for conducting gas testing at otherwise inaccessible areas.

**No. 3MN36.** Drager brand (6400077). Shpg. wt. 1.3 lbs. Each.....$107.00▲

**No. 3MN37.** Drager brand (6400078). Shpg. wt. 1.6 lbs. Each.....$131.00▲

**No. 3MN38.** Drager brand (6400079). Shpg. wt. 2.3 lbs. Each.....$148.00▲

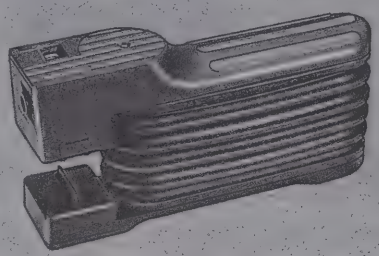
## ADAPTER

The Simultaneous Test Set Adapter is a manifold that enables the 5 tube test set to be connected to the inlet of the Drager accuro® pump (No. 3MN34). A ceramic element for opening the tube set is included.

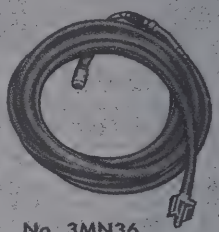
**No. 3MN39.** Drager brand (6400090). Shpg. wt. 0.1 lbs. Each.....$42.00▲

(▲) Net prices, not subject to discounts.

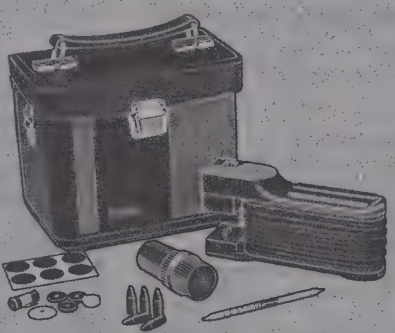
Dräger



No. 3MN34



No. 3MN36



No. 3MN30



No. 3MN39




No. 3MN29

CONTINUED ON NEXT PAGE

# GAS DETECTION ACCESSORIES AND TUBES

## MOTOR VEHICLE EXHAUST PROBE

Cools the exhaust gas from a combustion engine before using Dräger tubes for emission measurements..

**No. 3MN69.** Drager Brand (6400010). Shpg. wt. 1.6 lbs. Each.....$453.00▲

## HOT AIR PROBE

The Hot Air Probe is employed to cool hot gas samples, such as those from a hot fire, so that the gas sample can be tested using Dräger tubes.

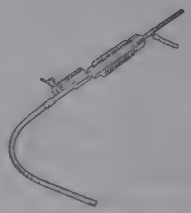
**No. 3MN68.** Drager Brand (CH00213) .Shpg. wt. 0.1 lbs.. Each.....$39.00▲

## DELUXE TUBE OPENER

The Deluxe Tube Opener scores the tips of Dräger tubes to facilitate a clean break each and every time. It provides a convenient storage area for the broken tips. Simple to use, the Deluxe Tube Opener is an accessory you should not be without.

**No. 3MN35.** Drager Brand (6400010). Shpg. wt. 0.1 lbs. Each.....$15.00▲

Dräger



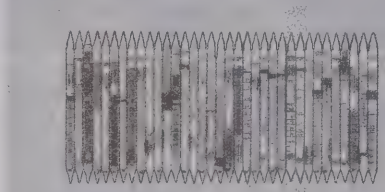
No. 3MN69



No. 3MN35

## DRÄGER SHORT-TERM TUBES

Dräger Tubes are available for measuring gases, vapors, and aerosols. The majority of the short-term Dräger tubes are scaled tubes, operating on a defined sample volume drawn through the tube by performing a specified number of pump strokes. The concentration of the contaminant is read directly from the calibrated scale by assessing the length of the discoloration. Short-term Dräger tubes are calibrated to be used with the Dräger accuro® gas detector pump.



Short Term Tubes

## GAS AND VAPOR SHORT-TERM TUBES SPECIFICATIONS AND ORDERING DATA

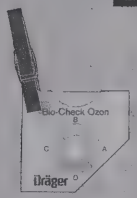
| Gases & Vapors | Drager Tube Type | Measuring Range | TLV 95-96 | Drager Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Acetic Acid ($CH_3CHO$)** | Acetic Acid 5/a | 5-80 PPM | 10 PPM | 6722101 | **3MN42** | **$53.00** ▲ | 0.2 |
| **Acrylonitrile ($CH_3CN$)** | Acrylonitrile 0.5/a | 0.5-20 | 2 | 6728591 | **3MN51** | **47.00** ▲ | 0.2 |
| **Air Current** | Smoke Tube | — | — | CH25301 | **3MN74** | **42.00** ▲ | 0.2 |
| **Ammonia ($NH_3$)** | Ammonia 2/a | 2-30 | 25 | 6733231 | **3MN56** | **47.00** ▲ | 0.2 |
| | Ammonia 5/a | 5-70 | 25 | CH20501 | **3MN71** | **44.00** ▲ | 0.2 |
| **Benzene ($C_6H_6$)** | Benzene 0.5/c (specific) | 0.5-10 | 10 | 8101841 | **3MN67** | **53.00** ▲ | 0.2 |
| | Benzene 5/b | 5-50 | 10 | 6728071 | **3MN44** | **47.00** ▲ | 0.2 |
| **Carbon Dioxide ($CO_2$)** | Carbon Dioxide 100/a | 100-3,000 | 5,000 | 8101811 | **3MN65** | **44.00** ▲ | 0.2 |
| | Carbon Dioxide 0.1%/a | 0.1-6 Vol.% | 5,000 | CH23501 | **3MN72** | **44.00** ▲ | 0.2 |
| **Carbon Monoxide (CO)** | Carbon Monoxide 2/a | 2-60 | 25 | 6733051 | **3MN53** | **47.00** ▲ | 0.2 |
| | Carbon Monoxide 5/c | 5-700 | 25 | CH25601 | **3MN75** | **44.00** ▲ | 0.2 |
| **Chlorine ($Cl_2$)** | Chlorine 0.2/a | 0.2-30 | 0.5 | CH24301 | **3MN73** | **44.00** ▲ | 0.2 |
| **Formaldehyde (HCHO)** | Formaldehyde 0.2/a | 0.2-5 | C 0.3 | 6733081 | **3MN54** | **57.00** ▲ | 0.2 |
| **Hydrogen Chloride (HCl)** | Hydrochloric Acid 1/a | 0.5-25 | C 5 | CH29501 | **3MN80** | **58.00** ▲ | 0.2 |
| | Hydrochloric Acid 50/a | 50-5,000 | C 5 | 6728181 | **3MN46** | **53.00** ▲ | 0.2 |
| **Hydrogen Cyanide (HCN)** | Hydrocyanic Acid 2/a | 2-150 | C 5 mg/m³ | CH25701 | **3MN76** | **47.00** ▲ | 0.2 |
| **Hydrogen Peroxide ($H_2O_2$)** | Hydrogen Peroxide 0.1/a | 0.1-3 | 1 | 8101041 | **3MN57** | **69.00** ▲ | 0.2 |
| **Hydrogen Sulfide ($H_2S$)** | Hydrogen Sulfide 0.5a | 0.5-15 | 10 | 6728041 | **3MN43** | **47.00** ▲ | 0.2 |
| | Hydrogen Sulfide 1/d | 1-200 | 10 | 8101831 | **3MN66** | **44.00** ▲ | 0.2 |
| | Hydrogen Sulfide 5/b | 5-600 | 10 | CH29801 | **3MN81** | **44.00** ▲ | 0.2 |
| | Hydrogen Sulfide 100/a | 100-2,000 | 10 | CH29101 | **3MN78** | **44.00** ▲ | 0.2 |
| | Hydrogen Sulfide 0.2%/A | 0.2 7 Vol.% | 10 | CH28101 | **3MN77** | **58.00** ▲ | 0.4 |
| **Methyl Bromide ($CH_3Br$)** | Methyl Bromide 0.5/a | 0.5-30 | 5 | 8101671 | **3MN59** | **92.00** ▲ | 0.4 |
| **Nitrogen Dioxide ($NO_2$)** | Nitrogen Dioxide 0.5/c | 0.5-25 | 3 | CH30001 | **3MN82** | **44.00** ▲ | 0.2 |
| **Nitrous Fumes ($NO + NO_2$)** | Nitrous Fumes 0.5/a | 0.5-10 | 3 PPM $NO_2$ | CH29401 | **3MN79** | **44.00** ▲ | 0.2 |
| | Nitrous Fumes 2/a | 2-150 | 3 PPM $NO_2$ | CH31001 | **3MN83** | **44.00** ▲ | 0.2 |
| **n-Octane ($C_8H_8$)** | Petroleum Hydrocarbons 10/a | 10-300 | 300 | 8101691 | **3MN60** | **64.00** ▲ | 0.2 |
| | Petroleum Hydrocarbons 100/a | 10-2,500 | 300 | 6730201 | **3MN52** | **47.00** ▲ | 0.2 |
| **Oxygen ($O_2$)** | Oxygen 5%/B | 5-23 Vol.% | — | 6728081 | **3MN45** | **77.00** ▲ | 0.4 |
| **Ozone ($O_3$)** | Ozone 0.05/b | 0.05-7 | C 0.1 | 6733181 | **3MN55** | **53.00** ▲ | 0.2 |
| **Phosphine ($PH_3$)** | Phosphine 0.1/a | 0.1-40 | 0.3 | CH31101 | **3MN84** | **47.00** ▲ | 0.2 |
| **Sulfur Dioxide ($SO_2$)** | Sulfur Dioxide 1/a | 1-25 | 2 | CH31701 | **3MN85** | **44.00** ▲ | 0.2 |
| **Toulene ($CH_2$)** | Toulene 50/a | 50-400 | 50 | 8101701 | **3MN61** | **44.00** ▲ | 0.2 |
| **Water Vapor ($H_2O$)** | Water Vapor 1/a | 0.5-18mg/l | — | 8101081 | **3MN58** | **66.00** ▲ | 0.2 |

(▲) Net prices, not subject to discounts.

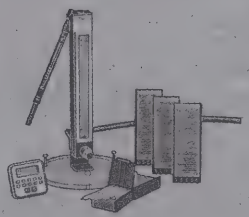
Dräger



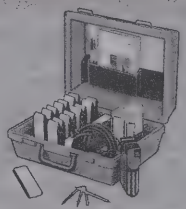
No. 3MN62




No. 3MN41



No. 3MN31



No. 3MN32



No. 3MN70

## SIMULTANEOUS TEST SETS

The Simultaneous Test system offers three different sets which are used with an adapter (No. 3MN39) and a Dräger gas detector pump (No. 3MN34) for the semi-quantitative determination of inorganic gases and organic vapors. Each test set is able to test for five different gases simultaneously in less than one minute.

## TEST SET I (INORGANIC FUMES)

Includes one tube each of the following: Acid Gas (e.g.Hydochloric Acid-HCl), Basic Gas (e.g.Ammonia $NH_3$), Carbon Monoxide (CO), Hydrocyanic Acid (HCN), and Nitrous Gas (e.g. Nitrogen Dioxide-$NO_2$).

**No. 3MN62.** Shpg. wt. 0.2 lbs. Each..... **$53.00▲**

## TEST SET II (INORGANIC VAPORS)

Includes one tube each of the following: Carbon Dioxide ($CO_2$), Chlorine ($Cl_2$), Hydrogen Sulfide ($H_2S$), Phosgene ($COCl_2$), and Sulfur Dioxide ($SO_2$).

**No. 3MN63.** Shpg. wt. 0.2 lbs. Each.....**$53.00▲**

## TEST SET III (ORGANIC VAPORS)

Includes one tube each of the following: Alcohols (e.g. Methanol), Alphatic Hydrocarbons (e.g. N-Hexane), Aromatics (e.g. Toulene), Chlorinated Hydrocarbons (e.g. Perchloroethylene), and Ketones (e.g. Acetone).

**No. 3MN64.** Shpg. wt. 0.2 lbs. Each.....**$53.00▲**

## BIO-CHECK OZONE

The Drager Bio-Check OZone is a lightweight badge that changes color to indicate the ozone concentration at the immediate location. Ozone levels are determined by comparing a color change against the color standard provided with the kit. For personal exposure monitoring, the Bio-Check Ozone can be clipped easily onto clothing or, for area monitoring, it can be placed on a flat surface.

**No. 3MN41.** Shpg. wt. 0.1 lbs. Each.....**$36.00▲**

(▲) Net prices, not subject to discounts.

## HAZMAT KIT

This kit is designed to aid in the initial assessment of potentially hazardous situations (e.g.: chemical leaks, fires, and accidents involving toxic gases.) The HazMat Kit enables you to systematically identify chemical groups, as well as determine concentration levels of gases and vapors utilizing 17 types of short-term Drager tubes. Evaluation of the test results can be performed on-site without delay.

Hazmat Kit includes: accuro® pump (N0. 3MN34), spare parts kit (No. 3MN40), air current kit (No. 3MN35), 3-meter extension hose (No. 3MN36), tube handbook, matrix card, marker, ball point pen, screwdriver, deluxe carrying case, and instructions.

Also includes one box of 10 tubes for each of the following: Acetone, Alcohol, Ammonia, Benzene, Carbon Dioxide, Carbon Monoxide, Chlorine, Ethyl Acetate, Formic Acid, Hydrocarbons, Hydrocyanic Acid, Hydrogen Sulfide, Methyl Bromide, Nitrous Fumes, Oxygen, Polytest, and Trichloroethylene.

**No. 3MN32.** Shpg. wt. 10.0 lbs. Each**$1393.00▲**

## AEROTEST TYPE A

The Aerotest Type A is used for low pressure testing (up to 150 PSI) of air supplied by compressors or compressed air cylinders. The concentrations of carbon monoxide, carbon dioxide, water content, and oil can be determined readily on the spot in 60 minutes or less. The Aerotest check air purity according to ANSI specifications.

Includes deluxe tube opener (No. 3MN35), tube holder, timer, flowmeter, quick-disconnect hoses, deluxe carrying case and instructions. Also includes one box of 10 tubes for each of the following: Carbon Dioxide (No.3MN49), Carbon Monoxide (No, 3MN48), Oil (No. 3MN47), and Water Vapor (No. 3MN50).

**No. 3MN31.** Shpg. wt. 7.0 lbs. Each....**$815.00▲**



No. 3MN33

## REPLACEMENT TUBES FOR AEROTEST TYPE A

**No. 3MN50.** Shpg. wt. 0.2 lbs. Each.....**$53.00▲**

**No. 3MN49.** Shpg. wt. 0.2 lbs. Each.....**$64.00▲**

**No. 3MN48.** Shpg. wt. 0.2 lbs. Each.....**$53.00▲**

**No. 3MN47.** Shpg. wt. 0.2 lbs. Each.....**$64.00▲**

## CAPS

Package of 10 rubber caps; ideal for sealing your Drager air current tubes between ventilation checks.

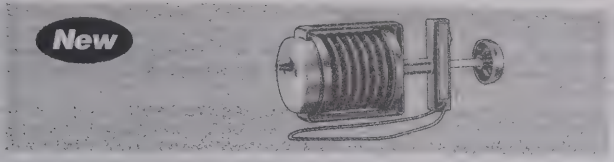
**No. 3MN70.** Shpg. wt. 0.2 lbs. Each.....**$7.00▲**

## AIR CURRENT KIT

The Drager Air Current Kit determines airflow patterns and the direction of air movement. Even weak air currents are made visible with the Air Current Tester. An understanding of the airflow pattern helps with the selection of the right measuring points for any air analysis procedure. Kit includes 1 box of smoke tubes (No. 3MN74), deluxe tube opener (No. 3MN35), rubber caps (No. 3MN70), aspirator bulb, and instructions.

**No. 3MN33.** Shpg. wt. 1.0 lbs. Each.....**$54.00▲**

# GAS DETECTION



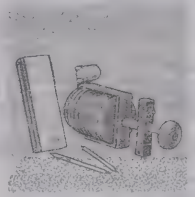
## KWIK-DRAW® DETECTOR TUBE PUMPS

Spot-test atmosphere for wide variety of toxic gases and vapors. For use with large assortment of MSA detector tubes (sold separately below). One-hand operation and integral stroke counter. Shaft-guided compression system provides consistent, replicable flow rate and volume per stroke. Deluxe Detector Tube Pump features end-of-stroke indicator that tells user when enough air has been sampled for successful reading. MSA brand.

***New*** **No. 4LP40.** Kwik-Draw® Detector Tube Pump (488543). Shpg. wt. 1.5 lbs. Each.....$215.00▲

***New*** **No. 4LP41.** Kwik-Draw® Deluxe Detector Tube Pump (487500). Shpg. wt. 1.6 lbs. Each.....$260.00▲

## INDOOR AIR QUALITY TESTER KIT



Features Kwik-Draw® pump and detector tubes. For use in testing indoor air quality only. For use in chemical, oil drilling, utilities, petrochemical, HazMat and HVAC applications. MSA brand (710891).

***New*** **No. 4LR04.** Shpg. wt. 1.8 lbs. Each.....$300.00▲

## DETECTOR TUBES

Available for measuring over 170 gases and vapors. Made of glass with scale printed on side. Break-off tips. Sold in packages of 10. MSA brand.

| Detector Tube Description | MSA Model | *New!* Stock No.* | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|
| Phosphine, $PH_3$-0.1% | 485680 | 4LP43 | $38.00▲ | 0.7 |
| Carbon Dioxide, $CO_2$-0.1% | 487338 | 4LP44 | 38.00▲ | 0.7 |
| Nitrous Fumes, Nitro-0.5 | 487336 | 4LP45 | 45.00▲ | 0.7 |
| Sulfur-Dioxide, $SO_2$-1 | 487338 | 4LP46 | 45.00▲ | 0.7 |
| Hydrogen Sulfide, $H_2S$-1 | 487339 | 4LP47 | 38.00▲ | 0.7 |
| Hydrogen Sulfide, $H_2S$-100 | 487340 | 4LP48 | 38.00▲ | 0.7 |
| Nitorgen Dioxide, $NO_2$-05 | 487341 | 4LP49 | 45.00▲ | 0.7 |
| Trichloroethylene, Tri-5 | 487342 | 4LP50 | 45.00▲ | 0.7 |
| Trichlorethane-5 | 487343 | 4LP51 | 38.00▲ | 0.7 |
| Phosphine, $PH_3$-50 | 489119 | 4LP52 | 38.00▲ | 0.7 |
| Emergency Response, Gasoline | 492870 | 4LP53 | 38.00▲ | 0.7 |
| Phosphine | 497101 | 4LP54 | 45.00▲ | 0.7 |
| Emergency Response, $CO_2$ | 497606 | 4LP55 | 38.00▲ | 0.7 |
| Emergency Response, Formaldehyde | 497649 | 4LP56 | 45.00▲ | 0.7 |
| Hexan-20 | 497664 | 4LP57 | 45.00▲ | 0.7 |
| Ammonia, $NH_3$-20 | 800300 | 4LP58 | 38.00▲ | 0.7 |
| Carbon Monoxide, CO-5 | 803943 | 4LP59 | 38.00▲ | 0.7 |
| Chlorine, $Cl_2$-0.2 | 803944 | 4LP60 | 45.00▲ | 0.7 |
| Hydrogen Cyanide, HCN-2 | 803945 | 4LP61 | 55.00▲ | 0.7 |
| Toluene, TOL-5 | 803947 | 4LP62 | 38.00▲ | 0.7 |
| Hydrogen Chloride, HCl-1 | 803948 | 4LP63 | 55.00▲ | 0.7 |
| Aromatic Hydrocarbons | 804132 | 4LP64 | 38.00▲ | 0.7 |
| Chlorine Dioxide | 804133 | 4LP65 | 38.00▲ | 0.7 |
| Organic Amines | 804134 | 4LP66 | 38.00▲ | 0.7 |
| Styrene-20 | 804135 | 4LP67 | 38.00▲ | 0.7 |
| Ethanol-200 | 804136 | 4LP68 | 45.00▲ | 0.7 |
| Acetic Acid-3 | 804138 | 4LP69 | 45.00▲ | 0.7 |
| Ozone-0.05 | 804140 | 4LP70 | 38.00▲ | 0.7 |
| Acetone-125 | 804141 | 4LP71 | 45.00▲ | 0.7 |
| $NH_3$-2 | 804405 | 4LP72 | 45.00▲ | 0.7 |
| $C_6H_6$-5 | 804111 | 4LP73 | 38.00▲ | 0.7 |
| Ethyl Mercap-0.5 | 804589 | 4LP74 | 45.00▲ | 0.7 |
| Benzene-1 | 807024 | 4LP75 | 38.00▲ | 0.7 |
| Indoor Air Set | 710918 | 4LP76 | 55.00▲ | 0.7 |
| CO | 487334 | 4LP42 | 38.00▲ | 0.5 |

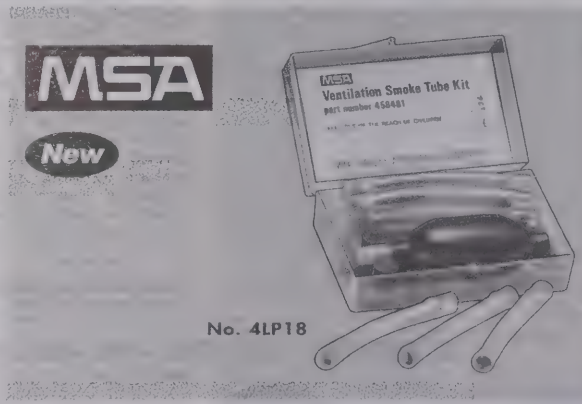
(*) Sold in packs of 10 only.
(▲) Net prices; not subject to discounts.



## GEMINI® TWIN-PORT SAMPLER

Draw samples at independently controlled flow rates. Ideal where two or more airborne contaminants must be collected at the same time. Efficient sampling with sorbent tubes; collect two samples simultaneously from single sampling pump. Unit is compatible with MSA line of Escort pumps for added versatility. Low-flow control when sorbent tubes are used allows user to adjust flow down to one mlpm (0.001 lpm to 500 mlpm total between two tubes). Permits simultaneous sampling from tubes, helps protect against invalid samples caused by breakthrough. For industrial hygiene, HazMat and coal mining applications. MSA brand (497697).

***New*** **No. 4LR07.** Shpg. wt. 1.7 lbs. Each.....$180.00▲




No. 4LP18

## VENTILATION SMOKE TUBES AND SMOKE TUBE KIT

Helps determine velocity, direction and flow of slow-moving air currents. User can see direction of controlled smoke. No specialized training needed, includes easy-to-follow instructions. Kit contains aspirator bulb, 2 rubber plugs and 6 smoke producing tubes. Additional smoke tubes available in packages of 12 (order separately). For use by workers in mine shafts and tunnels, commercial buildings and industrial processing plants. MSA brand.

***New*** **No. 4LP18.** Ventilation Smoke Tube Kit (458481). Shpg. wt. 0.4 lbs. Each.....$78.50▲

***New*** **No. 4LP19.** Ventilation Smoke Tubes, Pkg. of 12 (458480). Shpg. wt. 0.5 lbs. Each.....$85.00▲

# EMERGENCY EYEWASH STATIONS

## EMERGENCY EYE AND BODY WASH STATIONS

- Isotonic saline wash
- For use wherever immediate eye and body flushing may be needed
- Bottles have tamper-evident seals



NORTH

No. 5T062
32 oz. Eyewash Station



No. 5T997 Dual Eyewash Station

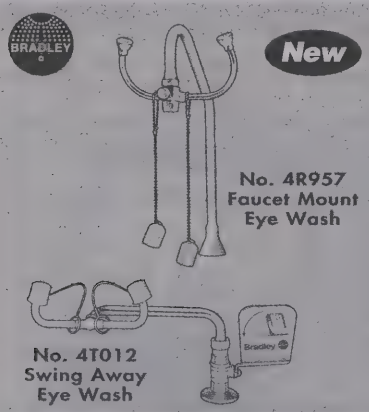
Eye and body wash stations provide a soothing, sterile, isotonic wash for immediate flushing of eyes or body in the event of a chemical splash accident. Because bottles are sterile and sealed, they do not contain Acanthamoeba or other pathogens. Stations are equipped with both double-back tape and screw holes for easy mounting. Use near storage batteries, on flight lines, in plating facilities, or any potentially hazardous area where immediate eye and body flushing may be needed. Green (eyewash) and red (body flush) colors identify units as emergency safety stations.

Bottle caps are covered with tamper-evident seals. Once bottle is opened, discard any unused solution and replace with sterile, buffered refill listed in chart below. Eye-Lert stations supplement plumbed or self-contained drenching facilities. They do not take the place of a 15-minute flushing facility. North brand.

| Description | North Model | Stock No. ❸ | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **EYEWASH STATIONS** | | | | | | |
| 16-oz. Eyewash Station | 12-60-33 | 5T061 | $18.91 | $17.02 | $15.32/4 | 1.8 |
| 32-oz. Eyewash Station | 12-60-32 | 5T062 | 25.04 | 22.54 | 20.29/4 | 3.5 |
| Dual Eyewash Station (Two 32-oz. Bottles) | 12-60-42 | 5T997 | 43.62 | 39.30 | 35.37/4 | 7.0 |
| **REFILLS FOR EYEWASH STATIONS** | | | | | | |
| 16-oz. Eyewash for use with No. 5T061 | 12-60-34 | 5T063 | 7.58 | 6.82 | 6.14/12 | 1.3 |
| 32-oz. Eyewash for use with Nos. 5T062 & 5T997 | 12-60-37 | 5T064 | 10.04 | 9.04 | 8.14/12 | 2.6 |
| **BODY FLUSH STATION** | | | | | | |
| Dual Body Flush Station | 12-60-38 | 6AK90 | 45.23 | 40.75 | 36.68/4 | 7.0 |
| 32 oz. Body Flush Replacement Bottle | 12-60-39 | 4AX42 | 9.87 | 8.88 | 7.99/12 | 2.4 |

❸ These products are covered by OSHA Hazard Communication Standard and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## FAUCET MOUNT AND SWING AWAY EYE WASHES



New

No. 4R957
Faucet Mount Eye Wash

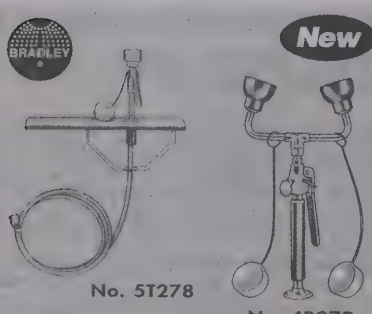
No. 4T012
Swing Away Eye Wash

Faucet Mount Personal Eye Wash easily mounts to existing gooseneck or standard faucets, and is activated by turning on water supply and pulling actuator pin on eye wash. When not in use, normal operation of faucet can be used. Features chrome-plating with twin soft flow sprayheads and pop-off dust covers. Integral flow control provides a safe rinse under varying water supply conditions. Included adapters: 55/64" x 27 thread (female), 13/16" x 27 thread (male), 15/16" x 27 thread (male). Adapters designed to replace existing faucet aerator to mount eye wash. Faucet mount eye wash is considered a personal eye wash only and is intended to provide first aid relief prior to reaching an approved eye wash station.

Swing Away Eye Wash mounts on counter near sink. Eye wash stows neatly to side of sink when not in use and can be pivoted over sink when in use to drain spent water. Eye wash sprayheads and yoke assembly are chrome-plated with flow control to provide a safe, steady water flow. 1/2" IPS stay-open ball valve and highly visible push handle activate unit. Pop-off dust covers keep eye wash heads clean while not in use. All units include a high-visibility identification sign and inspection tag. Swing Away Eye Wash meets ANSI Compliance. Bradley brand.

| Description | Bradley Model | | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Faucet Mount Eye Wash | S19-200 | New | 4R957 | $60.25 | $46.30 | $43.98/4 | 1.0 |
| Swing Away Eye Wash | S19-270B | | 4T012 | 291.49 | 247.50 | 235.09/2 | 10.0 |

## EMERGENCY COUNTER AND WALL MOUNT HAND-HELD DRENCH HOSES



New

No. 5T278

No. 4R979

Emergency hand-held drench hoses are available with single spray head or twin spray head assemblies. Spray heads are ABS plastic with wider spray pattern to rinse both eyes, face, and body. Flow control in spray heads provide a safe, steady water flow. Valve is chrome-plated and stays open when handle is squeezed. High visibility yellow 8' hose is reinforced thermoplastic rated at 250 psi burst strength.

Counter mount drench hoses include under-the-counter hose guide and counter mounting hardware. Wall mount drench hoses include a wall hanging bracket. Note: Drench hoses are intended to supplement emergency eye wash and shower equipment. Drench hoses with twin sprayhead assembly may be used as an ANSI approved eye wash station if installed so both hands are free after activation to simultaneously flush both eyes. All units include a high visibility identification sign and inspection tag. Bradley brand.

| Description | Mount Type | Bradley Model | | Stock No. | List | Each | Lot 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Single Head | Countertop | S19-460 | | 5T278 | $247.20 | $210.25 | $199.61 | 10.0 |
| Single Head | Wall | S19-430A | | 4T014 | 168.92 | 118.25 | 112.33 | 5.0 |
| Twin Head | Countertop | S19-460EFW | New | 4R979 | 303.85 | 236.75 | 224.81 | 6.0 |
| Twin Head | Wall | S19-430EFW | New | 4R977 | 280.16 | 195.50 | 185.67 | 5.0 |

# EMERGENCY EYE WASH STATIONS

Portable Emergency Eye Wash Stations are ideal for use anywhere a plumed water supply is not available. Commonly used in hazardous areas including chemical, petroleum, and agricultural operations or warehouse and construction sites. Portable Self-Contained Eye Wash Stations Meet ANSI Standard Z358.1-1998 which requires a minimum 15 minute water flow at .4 GPM. All products are third party certified by the Safety Equipment Institute.

## KLEERSIGHT™ SELF-CONTAINED EMERGENCY EYE WASH STATION

Constructed of strong FDA grade PVC, 14 gallon container is transparent so you can easily see when solution needs to be cleansed or re-filled. Eye Wash activates in one quick motion when hinged eye wash tray is pulled down. Smooth ball valve operation of tray allows water to flow through eye wash sprayheads for minimum of 15 minutes at .4 GPM. Unit design features built-in carry handles and heavy duty wheels for quick and easy portability. Two large covers on top of eye wash permit convenient cleaning or re-filling of unit. Unit fills with potable water and one 5 quart container of KleerSight Concentrate to create a buffered isotonic saline solution that inhibits bacteria, fungus, algae, and acanthamoeba growth in tank for up to six months. Eye Wash can be placed on shelves, tables, or wall mounted. A wall mounting bracket is included with the eye wash. Eye wash also includes one 5 quart (180 fluid oz.) container of KleerSight Concentrate water preservative, inspection tag and highly visible eye wash sign. KleerSight Concentrate is also sold separately and can be used in any self-contained eye wash (plastic or stainless steel). Concentrate mixes in a ratio of one part concentrate to 13 gallons of potable water. Eye wash measures 25H" x 16W" x 11 ½"D and weighs 28 lbs. empty and 140 lbs. filled. Meets ANSI compliance.




| Description | Bradley No. | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Kleersight Eye Wash** | S19-650A | **2P331** | $348.14 | **$296.25** | **$281.32 /3** | 40.0 |
| **Kleersight Concentrate** | S19-350 | **5T910**[3] | 47.38 | **43.25** | **41.05 /4** | 10.0 |

## GRAVITY-FED EMERGENCY EYEWASH STATION

Durable molded polyethylene tank holds 14 gallons of portable water. Hinged eye wash tray pulls down to activate water supply and is recessed when in the closed position to protect sprayheads from contaminants. 5¼" removable fill cap allows for easy filling and cleaning of unit. Twin carry handles on side of tank provide easy mobility of unit from one location to another. Highly visable yellow sign on tank outlines proper maintenance and usage of eye wash. Eye Wash can be mounted on a wall or counter-top. Unit includes a wall mounting bracket, inspection tag and one 8 oz. bottle of water preservation. Water preserves mixes with portable water at a minimum level of five gallons and maximum level of 20 gallons. Prevents bacteria, fungi and algae growth in tank for up to six months. For replacement water preserve solution, please refer to KleerSight concentrate (5T910) sold separately above. Unit weighs 18 lbs. empty and 122 lbs. filled. 25" H x 19" W x 95 ½" D. Meets ANSI Compliance.




| Description | Bradley No. | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Gravity-Fed Eye Wash** | S19-655 | ***New* 4R981** | $231.75 | **$205.75** | **$195.45** | 20.0 |

## PRESSURIZED PORTABLE EMERGENCY EYE WASH STATIONS

Stainless steel pressure tanks include tire filler valve with 0-100 PSI air gauge, pressure relief valve to prevent over pressurization and built in carry handles for easy transportation. Eye wash assembly has twin chrome-plated brass, soft flow, eye wash heads with flow control and pop-off dust covers. Eye wash activates by large stainless steel push handle with stay-open ball valve. Supplemental hose spray for face and body rinse has 8 ft. yellow hose with hand-held squeeze type valve. 5-gallon eye wash maintains approximate water flow for 7½ minutes from eye wash and 2½ minutes from hose spray. 25H x 8½"D. Weighs 8.5 lbs. empty, 51 lbs. full. 5-gallon complies with ANSI Standards as a Personal Eye Wash only and supplements but does not replace a permanent eye wash station. 10 and15 gallon eye washes maintain approximate water flow for 15 minutes from eye wash and 3½ minutes from hose spray. 10 gal. tank measures 25¼ H x 12¼"D. 15 gal. tank measures 35⅝H x 12¼"D. Weight range is 23 lbs. empty, 150 lbs. full. 10 and 15 gal. units meet ANSI Compliance.



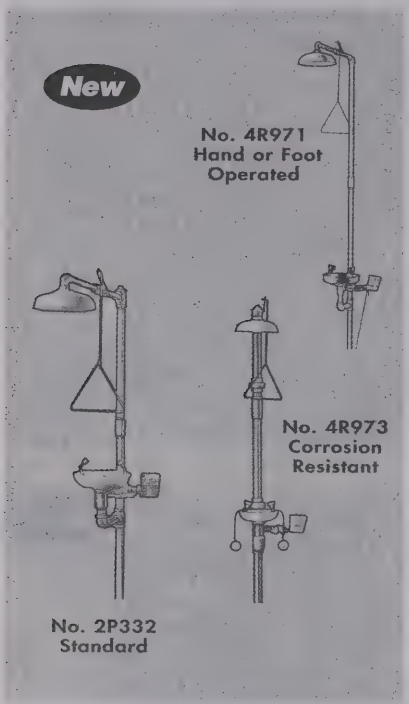

| Description | Bradley No. | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5-Gallon Tank** | S19-672 | **4T003** | $633.63 | **$575.50** | **$546.50** | 15.0 |
| **10-Gallon Tank** | S19-690 | **4T004** | 1096.95 | **713.50** | **677.62** | 30.0 |
| **15-Gallon Tank** | S19-788 | ***New* 4R983** | 1256.60 | **1015.00** | **963.34** | 35.0 |

[3] These products are covered by OSHA Hazard Communications Standard and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

SAFETY EQUIPMENT

# EMERGENCY WASH STATIONS

Emergency Drench Showers and Eye Washes are ideal for hazardous areas where a plumbed water supply is available. Commonly used in laboratories, hospitals, schools, shops and other areas where chemical or other hazardous material exposure is possible. Drench Showers, Combination Drench Showers and Eye Washes meet ANSI Standard Z358.1-1998 which requires a minimum 15 minute water flow at 20 GPM at 30 PSI for Shower Deluge, .4 GPM at 30 PSI for Eye Washes and 3 GPM at 30 PSI for Eye/Face Washes. All products are third party certified by the Safety Equipment Institute.




## COMBINATION DRENCH SHOWER/EYE WASH STATIONS

Drench Showers provide a deluge of water to entire body to rinse off hazardous materials while eye and eye/face washes provide a gentle rinse to eyes and/or face only. Joined together, Combination Drench Shower/Eye Wash Stations provide greater protection then either unit alone and in less space. Drench shower sprayheads measure 10" diameter and are available in either impact resistant plastic or corrosion resistant stainless steel. Shower head activates by a 1" NPT chrome-plated brass stay-open ball valve and stainless steel triangular pull handle. Eye Wash bowls measure 10" diameter and are available in either impact resistant plastic or corrosion resistant stainless steel. Eye Wash includes twin chrome-plated brass eye wash sprayheads with flow control to assure a safe steady water flow. Eye/Face wash sprayheads are ABS plastic with a wider spray pattern to rinse eyes and face. Eye Wash activates by a 1/2" NPT chrome-plated brass stay-open ball valve with highly visible push handle. Some models include foot treadle attachment to provide hand or foot operation of unit. Pipe and fittings are 1¼" galvanized steel protected with a yellow polyurethane coating to resist corrosion. Some models available in all stainless steel and PVC construction to withstand highly corrosive environments. Barrier Free Model (6T549) accommodates people with physical disabilities. Shower pull handle is longer and eye wash bowl is lower and extends out for wheelchair users. Water supply and waste requirements for all showers is 1¼" IPS or 2" IPS for PVC Shower Only. All showers include a 9" diameter floor flange and measure 7'7"H x 32"W. Drench showers will deliver 73 GPM at 40 PSI. All units include a highly visible identification sign and inspection tag.

| Description | Shower Head | Eye Wash Bowl | Bradley No. | | Stock No. | List | Each | Lot 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Shower w/Eye Wash | Plastic | Plastic | S19-310 | | 2P332 | $621.09 | $531.00 | $504.45 | 60.0 |
| Shower w/Eye Wash* | Stainless | Stainless | S19-310UU | | 4T008 | 864.17 | 735.00 | 698.15 | 65.0 |
| Shower w/Eye/Face Wash* | Plastic | Stainless | S19-310AC | New | 4R971 | 785.89 | 695.00 | 660.00 | 42.0 |
| Shower w/Eye/Face Wash* (All stainless steel) | Stainless | Stainless | S19-310SS | New | 4R975 | 2356.64 | 1937.00 | 1839.58 | 50.0 |
| Shower w/Eye/Face Wash (PVC construction with stainless steel fittings) | Plastic | Plastic | S19-310PVC | New | 4R973 | 1172.14 | 906.00 | 860.60 | 35.0 |
| Shower w/Eye/Face Wash (Barrier Free) | Plastic | Stainless | S19-310BF | | 6T549 | 947.60 | 805.50 | 765.19 | 60.0 |

* Denotes foot treadle




## HEAT TRACE COMBINATION SHOWER & EYE/FACE WASH

Heat Trace Shower and Eye/Face Wash unit is intended for use in areas where temperatures fall below freezing. Heat Trace cable wraps around 1¼" galvanized steel shower to protect unit from freezing temperatures to -50 Degrees F. Shower is encased with pipe insulation and high visible yellow ABS plastic removable outer shell. Shower head is 10" diameter impact resistant plastic and operates by a 1" IPS stay-open ball valve and stainless steel triangular pull handle. Eye/Face wash includes twin-perforated disc ABS sprayheads with flow control and operates by a large, highly visible push handle. Electric heat trace cable operates at 5 watts/foot, 120 VAC service voltage, .7 amp/80 watts at 50°F unit water temperature. The shower temperature control thermostat opens at 64°F and closes at 54°F. Junction box is 4-hub aluminum and accepts 3/4" IPS conduit. A freeze protection valve is provided installed to the unit to ensure continual flow of water when internal temperatures drop below 35°F. Valve closes at 45°F. Heat Trace Shower also includes an indicator light which indicates power to the unit is on. Heat trace shower available with optional shower alarm systems to notify others that shower is in use. Shower Alarm (No. 4T013) may be mounted on any drench shower that has 1¼" inlet piping and minimum 30 GPM water flow. Shower alarm (sold separately). Heat trace shower accepts 1¼" IPS water supply at top of unit or at bottom of unit. Shower is rated class 1, division 2, Groups B,C,D, Explosion Proof. Electrical components are UL Listed. Heat Trace Shower ships already assembled. Unit measures 7'7"H x 40"W.

| Description | Rating | Bradley No. | | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Top Supply | Class 1, Div. 2, B,C,D | S19-300T | New | 4R969 | $3496.85 | $2472.00 | $2348.40 | 115.0 |
| Bottom Supply | Class 1, Div. 2, B,C,D | S19-300B | New | 4R967 | 3496.85 | 2472.00 | 2348.40 | 115.0 |
| Optional Shower Alarm | NEMA 3, Weather Proof | S19-320 | | 4T013 | 912.68 | 776.50 | 737.29 | 12.0 |

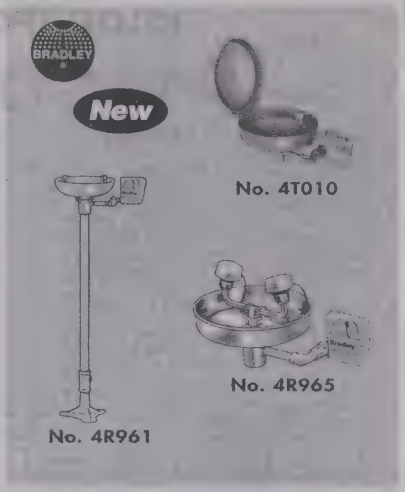
**NEED ASSISTANCE WITH PRODUCT SELECTION? WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY.**

# EMERGENCY WASH STATIONS

## PEDESTAL & WALL MOUNT EYE WASH STATIONS

Pedestal Mount Eye Washes provide emergency eye wash relief in locations where wall mount options are not possible. Pedestal pipe with floor flange measures 36" from floor and is 1¼" galvanized steel protected with a yellow polyurethane coating to prevent corrosion. Pedestal Mount and Wall Mount Eye Wash bowls measure 10" diameter and are available in either impact resistant plastic or corrosion resistant stainless steel. Hinged Dust cover keeps dust and other contaminants out of bowl. Dust Cover springs open when eye wash push handle is activated. Eye Wash includes twin chrome-plated brass sprayheads with flow control. (Eye/face sprayhead is ABS plastic.) 1/2" NTP stay-open ball valve is operated by a highly visible push handle. Wall Mount Eye Wash includes heavy-gauge aluminum wall mounting bracket with three clearance holes. Water supply for pedestal and wall mount units is 1/2" IPS. Waste tee for pedestal mount eye washes is 1¼". Eye Washes deliver 2.5 GPM at 40 PSI. All units include a highly visible identification sign and inspection tag.

| Description | Eye Wash Bowl | Bradley No. | Stock No. | List | Each | Lot 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Pedestal Mount Eye Wash** | Plastic | S19-210 | ***New*4R961** | $276.04 | **$221.25** | **$210.13** | 15.0 |
| **Pedestal Mount Eye Wash** | Stainless | S19-210B | ***New*4R959** | 393.46 | **257.25** | **244.38** | 16.0 |
| **Wall Mount Eye Wash** | Plastic | S19-220 | **2P267** | 199.82 | **153.00** | **145.35** | 12.0 |
| **Wall Mount Eye Wash** | Stainless | S19-220B | **4T009** | 257.50 | **206.00** | **195.70** | 12.0 |
| **Wall Mount Eye Wash with hinged Dust Cover** | Stainless | S19-220DC | **4T010** | 416.12 | **312.25** | **296.49** | 17.0 |
| **Wall Mount Eye/Face Wash** | Plastic | S19-220FW | ***New*4R963** | 244.11 | **216.25** | **205.24** | 7.0 |
| **Wall Mount Eye/Face Wash** | Stainless | S19-220T | ***New*4R965** | 295.61 | **257.25** | **244.38** | 7.0 |




## EMERGENCY DRENCH SHOWERS

Designed for wall (horizontal supply) or ceiling (vertical supply) mounting, drench showers provide a deluge of water to entire face and body to rinse off chemicals or other contaminants. Shower head measures 10" diameter and is available in impact resistant plastic or corrosion resistant stainless steel. Flush Mount shower head measures 12⅞" and includes integral flange to mount even with ceiling, concealing pipe and fittings. Showers activate with 1" chrome-plated brass stay-open ball valve and stainless steel triangular pull handle. Pipe and fittings are 1" galvanized steel protected with a yellow polyurethane coating to prevent corrosion. Water supply is 1" IPS vertical or horizontal. Showers deliver 80 GPM at 40 PSI. All units include a highly visible identification sign and inspection tag.

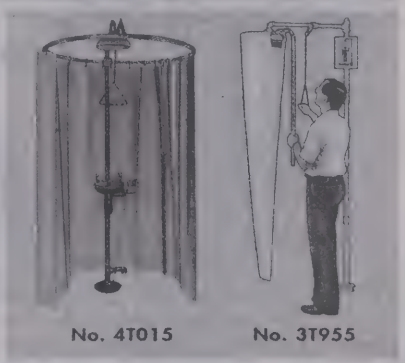
| Description | Shower Head | Bradley No. | Stock No. | List | Each | Lot 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Horizontal Supply** | Plastic | S19-120 | **2P268** | $180.25 | **$135.20** | **$128.43** | 10.0 |
| **Horizontal Supply** | Stainless | S19-120A | ***New*4R951** | 231.75 | **149.30** | **141.83** | 8.0 |
| **Horizontal Supply (flush mount with ceiling)** | Stainless | S19-120FM | ***New*4R953** | 327.54 | **262.50** | **249.27** | 8.0 |
| **Vertical Supply** | Plastic | S19-130 | **4T007** | 180.25 | **108.15** | **102.74** | 8.0 |
| **Vertical Supply** | Stainless | S19-130A | ***New*4R955** | 214.21 | **144.15** | **136.94** | 7.0 |




## DRENCH SHOWER ACCESSORIES

Emergency Drench Shower Privacy Curtain provides enclosure around drench shower stations during treatment. Industrial strength Tyvek curtain is designed in high visible yellow to mark location of shower. Curtain measures 70"L x 145"W with reinforcements at top and bottom for longer durability. 1½" x 42 diameter curtain rail and mounting brackets are all stainless steel to prevent corrosion. Mounts on any free standing drench shower unit. Emergency Drench Shower Tester keeps your showers in compliance with ANSI Standards which requires a weekly testing procedure to ensure proper operation of equipment. Tester includes 84" long watertight Tyvek funnel with weighted bottom to prevent splashing around the surrounding area. Funnel directs water to a drain or bucket (not provided) for disposal. Telescoping aluminum handle extends funnel 8' for easier reaching to shower head location.

| Description | Bradley No. | Stock No. | List | Each | Lot/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Privacy Shower Curtain** | S19-330 | **4T015** | $416.12 | **$354.00** | **$336.12/2** | 7.0 |
| **Drench Shower Tester** | S19-330ST | **3T955** | 100.94 | **76.05** | **72.21/3** | 5.0 |




**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**

# PORTABLE WATER COOLERS

## IGLOO® PORTABLE PLASTIC WATER COOLERS




A
No. 3ZC45




B
No. 3ZC46 & No. 3ZC47

Replacement Parts Available 1-800-323-0620

IGLOO® FIVE-YEAR WARRANTY

igloo



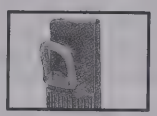
| OSHA REQUIREMENTS GALLONS PER PERSON | |
|---|---|
| Cooler | Work Crew Size |
| 3 Gal.<br>5 Gal.<br>10 Gal. | Fewer than 4<br>4 person<br>More than 4 persons |

Union (Longshoremen, etc.) 1 Gallon per 3 People.

NOTE: Many trade unions require 1 gal. of water per person, and also require cups at job site.

Cups, Dispensers and Cooler Rack sold Separately on page 2541







- Pressure fit lid with no grooves for mold or mildew
- Wide Mouth Opening makes filling simple and easy
- Lid-keeper cord reduces lid loss
- UV inhibitors block sun, prevent fading and cracking
- Large grip handles for ease of carrying even with gloves
- Ultratherm® foam insulation for maximum cold retention
- FDA-grade inner liner allows for easy cleaning, and is stain/odor resistant
- Recessed spigot to reduce breakage
- Large button for easy access even with gloves
- Dripproof spigot is easy to clean
- Replaceable parts

**Igloo® Commercial-Duty Coolers** keep water cold and clean. Rugged and durable, they stand up to the abuse of the roughest job sites and can handle day-to-day use. Lids and cooler bodies are high visibility safety red and yellow. Rugged exterior won't chip, peel, buckle, or rust.

| Key | Cap. (Gal.) | Ht. (In.) | Dia. (In.) | Top Opening (In.) | Igloo® Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 3* | 14 | 13 | 10¼ | 431 | 3ZC45 | $42.99 | $26.95 | $24.26 | 6.6 |
| B | 5 | 21 | 13 | 10¼ | 451 | 3ZC46 | 58.49 | 29.95 | 26.96 | 7.6 |
| B | 10 | 23 | 16 | 13¼ | 4101 | 3ZC47 | 83.99 | 49.95 | 44.96 | 12.0 |

(*) 3-Gallon cooler is designed with reinforced bail handle.
"Drinking Water" label stamped on each cooler to comply with OSHA regulations.

## IGLOO® PORTABLE METAL WATER COOLERS

igloo



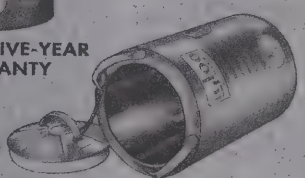

A No.5H535




B No. 4GL77

Replacement Parts Available 1-800-323-0620

IGLOO® FIVE-YEAR WARRANTY



C No. 4GL78

• Stainless Steel Liner

- Pressure fit lid and reinforced top handle makes opening simple
- Corrugated galvanized steel exterior
- Ultratherm® foam insulation keeps liquids cooler longer
- Solid construction-double lock seams and reinforced bottoms
- Heavy-duty handles and dripproof spigot have no protruding parts

A B **Nos. 5H535 and 4GL77** feature Perm-A-Lined vinyl coated liner for water only.

C **No. 4GL78** features food grade stainless steel liner for hot or cold beverages.

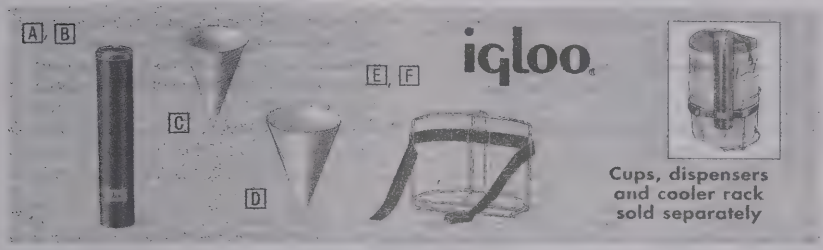
| Key | Cap. (Gal.) | Height (In.) | Dia. (In.) | Igloo® Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 5 | 20 27/64 | 13 1/32 | 351 | 5H535 | $91.49 | $63.30 | $56.97 | 12.0 |
| B | 10 | 20 3/4 | 15 7/8 | 3101 | 4GL77 | 125.01 | 89.75 | 80.76 | 18.0 |
| C | 5 | 20 3/4 | 12 3/4 | 351551 | 4GL78 | 209.95 | 180.00 | 162.00 | 13.0 |

"Drinking Water" label on each cooler to comply with OSHA regulation.

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

## WATER COOLER ACCESSORIES






Cups, dispensers and cooler rack sold separately

| Key | Description | Fits Coolers Size | Igloo® Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Plastic 4½ oz. Cup Dispenser | 3, 5 & 10-gallon | 8242 | 3ZC43 | $17.50 | $14.95 | $13.83/12 | 0.9 |
| B | Plastic 7 oz. Cup Dispenser | 3, 5 & 10-gallon | 9534 | 4GL74 | 23.50 | 16.95 | 15.26/12 | 0.2 |
| C | 4½ oz. Rolled Edge Paper Cone Cups (pkg. of 250) | — | 9345 | 3ZC48 | 8.39 | 6.15 | 5.84/20 | 1.2 |
| D | 7 oz. Straight Edge Paper Cone Cups (pkg. of 250) | — | 9377 | 4GL82 | 10.19 | 7.64 | 7.26/20 | 1.7 |
| E | Wire Cooler Rack | 2, 3 & 5-gallon | 9759 | 3ZC49 | 52.88 | 44.95 | 40.46/4 | 6.3 |
| F | Wire Cooler Rack | 6-15 gallon | 6335 | 4GL83 | 59.95 | 49.95 | 44.96/4 | 7.4 |

### A, B CUP DISPENSERS

- Attaches to all 3, 5, and 10 gallon plastic and metal commercial coolers
- No. 3ZC43 is 3.3 Dia. x 16" H
- No. 4GL74 is 3.9 Dia. x 16.5" H

### E, F COOLER RACKS

- Sturdy steel construction
- Mounts easily to vehicle—adds security to portability
- Adaptable for a wide variety of on-truck and stationary applications
- 1½"webbed strap with buckle
- No. 3ZC49 is 14.6L x 10.6W x 10.8"H and holds 2, 3, and 5 gallon round water coolers
- No. 4GL83 is 17.6L x 14.1W x 15"H holds 6-15 gallon round water coolers

## 40-QUART ICE CHEST

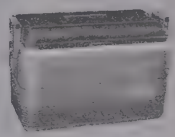
- Exclusive Ultrathermafoam insulation in body and lid delivers maximum cold retention
- UV inhibitors help protect against fading
- Refrigerator-quality liner is stain and odor resistant, easy to clean
- Recessed "triple snap" drain plug closure seals tight to prevent leaks
- Heavy-duty design will support loads up to a maximum of 300 lbs.
- Swing up handles stay in place up or down
- 24.3L x 13.7W x 14.1"W
- Red body/ White lip
- Igloo brand (407)

**No. 4GL80.** Shpg. wt. 10.0 lbs. List $39.95. Each $34.95; Lots 4 ..... $31.46

Replacement Parts Available 1-800-323-0620

igloo

IGLOO® FIVE YEAR WARRANTY



No. 4GL80

## BOSS® PERSONAL ICE CHEST

- Holds nine 12-oz. cans plus additional storage in contoured lid
- Unique lid storage compartment holds food, tools or personal items
- Two-piece lid design is secured with double swivel latch handle to prevent loss of lid
- Cool stone/black color
- Velcro strap holds 1-quart hot/cold bottle (not included, listed below)
- Ultratherm® foam insulation delivers maximum cold retention
- 14.9L x 9.75W x 11"H
- Igloo brand (2245)

**No. 4GL79.** Shpg. wt. 5.8 lbs. List ..... $22.95. Each $20.00; Lots 5 ..... $18.00



No. 4GL79

## STAINLESS STEEL 1-QUART HOT/COLD BOTTLE

- Superior vacuum insulation stores either hot/cold liquids
- Rugged stainless steel is virtually unbreakable
- Flow through stopper is trouble free pouring, no cap to lose
- Fold-out side handle and snap shoulder strap for carrying ease
- Two drinking cups
- Fits on contoured lid of Igloo® Boss® Personal Ice Chest sold above
- 4.5 Dia. x 11.8"H
- Igloo brand (1792)

**No. 4GL81.** Shpg. wt. 2.4 lbs. List ..... $39.99. Each $38.35; Lots 6 ..... $34.52

igloo

No. 4GL81



## WATER CONTAINERS

- Safely transport and store water
- Quick-fill wide mouth with screw on cap
- Bent pouring spout with cap stores inside container
- Molded-in top and side handles for easiest pouring
- FDA grade material meets Federal specifications for storage of food grade liquids
- Blue color
- Igloo brand

**No. 4GL75.** 3 Gallon Container (1400), 11.4L x 6.1W x 16.1"H. Shpg. wt. 2.5 lbs. List ..... $12.50. Each $9.95; Lots 5 ..... $8.96

**No. 4GL76.** 6 Gallon Container (1402), 13.9L x 7.3W x 21.7"H. Shpg. wt. 3.3 lbs. List ..... $18.50. Each $14.45; Lots 5 ..... $13.01



No. 4GL76

No. 4GL75

# GATORADE AND FIRST AID BLANKETS

## THIRST QUENCHER MIX

- Helps sustain employee performance and productivity
- Provides energy to working muscles
- Helps maintain proper blood electrolyte levels
- Promotes rehydration by aiding water absorption
- Powder and liquid concentrate forms; mix with water per instructions
- Dispenser rack with two pumps for concentrate bottles available separately below
- Gatorade brand

Instant Powder

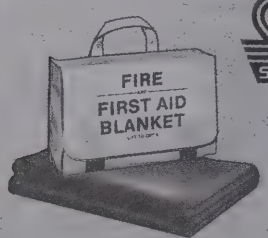
Liquid Concentrate




Does not include wire rack and pump dispensers. Order separately.

| Flavor | Yield (Gal.) | Quaker Oats Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **INSTANT POWDER** | | | | | | | |
| Lemon-Lime | 2½ | 03969 | 5T405 | $4.45 | $3.67 | $3.49/32 | 1.4 |
| Orange | 2½ | 03970 | 5T406 | 4.45 | 3.67 | 3.49/32 | 1.4 |
| Lemon Ice | 2½ | 33632 | 5T408 | 4.45 | 3.67 | 3.49/32 | 1.4 |
| Fruit Punch | 2½ | 33691 | 3AP83 | 4.45 | 3.67 | 3.49/32 | 1.4 |
| Citrus Cooler | 2½ | 33844 | 1AZ97 | 4.45 | 3.67 | 3.49/32 | 1.4 |
| Grape | 2½ | 32928 | 3AM69 | 4.45 | 3.67 | 3.49/32 | 1.4 |
| Lemon-Lime | 6 | 03967 | 5T410 | 9.33 | 7.77 | 7.38/14 | 3.4 |
| Orange | 6 | 03968 | 5T411 | 9.33 | 7.77 | 7.38/14 | 3.4 |
| Lemon Ice | 6 | 33633 | 5T413 | 9.33 | 7.77 | 7.38/14 | 3.4 |
| Fruit Punch | 6 | 33690 | 5AZ69 | 9.33 | 7.77 | 7.38/14 | 3.4 |
| Citrus Cooler | 6 | 33843 | 6AX76 | 9.33 | 7.77 | 7.38/14 | 3.4 |
| Grape | 6 | 32929 | 4BC03 | 9.33 | 7.77 | 7.38/14 | 3.4 |
| **LIQUID CONCENTRATE** | | | | | | | |
| Lemon-Lime | 6 | 33984 | 3AW92 | 12.26 | 10.15 | 9.64/ 4 | 12.0 |
| Orange | 6 | 33955 | 3AJ38 | 12.26 | 10.15 | 9.64/ 4 | 10.0 |
| Lemonade | 6 | 33976 | 5AL70 | 12.26 | 10.15 | 9.64/ 4 | 10.0 |
| Fruit Punch | 6 | 33977 | 2AF76 | 12.26 | 10.15 | 9.64/ 4 | 12.0 |
| Citrus Cooler | 6 | 32648 | 2AJ82 | 12.26 | 10.15 | 9.64/ 4 | 9.7 |
| **DISPENSER RACK** | | | | | | | |
| Dispenser Rack with 2 pumps | — | 49150 | 6AV22 | 39.00 | 35.10 | 31.59/ 2 | 4.0 |

## FIRE/FIRST AID BLANKET




**Flame retardant, 100% wool material blanket** for all emergency needs. Can be used to smother flames, drape over injured victims, cover stretchers and other rescue carriers. 100% wool blanket combines flame retardant characteristics with resistance and durability. 62 x 84" size with fully serged hems. Meets Federal Standard Title 16 CFR 1610 for flame retardant use.

Blanket stores neatly in bright red nylon pouch, vinyl coated on both sides to withstand water, weather, and cold elements. Features carrying strap and four heavy-duty grommets for hanging on wall. Self-adhering Velcro nylon fastener opens pouch allowing easy removal of blanket.

For all emergencies in first aid stations, plants, schools, fire trucks, police cars, utility trucks, ambulances, and rescue vehicles. Steiner brand (BTPCO).

**No. 4T178.** Shpg. wt. 4.6 lbs. First Aid Blanket
List.....$62.00.
Each **$52.70**; Lots 4.....**$50.07**

## EMERGENCY FIRE BLANKET

sellstrom safeguards®



**Emergency fire blanket** is 5 x 6 ft. woven fiberglass with a continuous service temperature of 1000°F. Conveniently packed in a 18 x 12½" red herculite stain-resistant pouch. Pouch has two heavy-duty grommets for wall hanging. Velcro™ pull tab located at bottom of pouch for easy access.

**For emergency use** in plants, rescue vehicles, schools, offices, and utility trucks. Blanket smothers flames and protects victims.

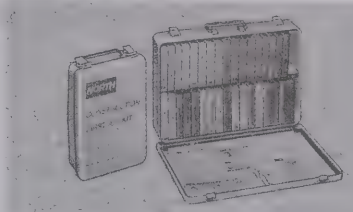
**Blanket can be washed for repeated use.** Center for Disease Control suggests a .10 diluted household bleach to wash blankets. Use soft sponge and air dry. Sellstrom brand.

| Description | Sellstrom Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Emergency Fire Blanket | 97450 | 1N783 | $70.50 | $63.55 | $60.36 | 4.3 |

CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS. THOUSANDS OF QUALITY PRODUCTS ARE LISTED

## CONSTRUCTION FIRST AID KITS

- **Kits are weatherproof to keep first aid supplies clean and dry on site or on mobile service vehicles**
- **Meet OSHA standards for contractor industry**
- **Filled to meet contractor's most common injuries—cuts, bruises, sprains, eye irritations, insect bites**



NORTH

ITEMS PACKAGED IN INDIVIDUALLY SEALED CARTONS

REFILLS SOLD ON PAGES 2549 — 2550

| Contents | North Model | Stock No. | Pkg. Qty. | No. of Indiv. Packs SM | MED | LG | DLX |
|---|---|---|---|---|---|---|---|
| Adhesive Bandages, Plastic 1 x 3" | 02-07-95 | 2AC46 | 16 | 2 | 2 | 4 | 4 |
| Adhesive Bandages, 2¼ x 4½" | 02-09-15 | 1N702 | 6 | — | — | 1 | 1 |
| Adhesive Tape, 1" x 2½ yds. | 04-80-08 | 4RL86 | 2 | — | 1 | 1 | 1 |
| Alcohol Prep Pads | 02-10-47 | 6AX98 | 10 | 1 | 1 | 1 | 2 |
| Ammonia Inhalants | 02-02-25 | 5AT08 | 10 | — | 1 | 1 | 1 |
| Bandage Compress, 2" Offset | 02-07-66 | 6AT25 | 4 | — | — | 1 | 1 |
| Bandage Compress, 4" Offset | 02-07-68 | 5AV68 | 1 | 1 | 1 | 1 | 2 |
| Burn Ointment, 1/8 oz. | 02-11-55 | 6AG06 | 6 | 1 | 1 | 1 | 2 |
| Cold Pak, Instant | 02-06-67 | 2AG23 | 1 | 1 | 1 | 2 | 2 |
| Eye Dressing Pads w/Adhesive Strips | 02-03-00 | 6AV96 | 4 | 1 | 1 | 1 | 1 |
| Eye Wash Solution, 1 oz. Sterile | 02-06-99 | **2AL41** | 1 | — | 1 | 1 | 1 |
| Gauze Compress, 1728 sq. in. | 02-05-10 | **3AV36** | 1 | — | — | — | 1 |
| Sterile Pads, 3 x 3" | 02-04-30 | **3AM86** | 4 | — | 1 | 1 | 2 |
| Knuckle Bandages | 02-00-20 | **3AJ55** | 8 | — | — | 1 | 2 |
| Latex Gloves | 02-99-99 | **5M568** | 2 | 1 | 1 | 1 | 1 |
| PVP Iodine Wipes | 02-12-01 | **6AR61** | 10 | 1 | 1 | 2 | 3 |
| Sting Kill® Wipes | 02-12-02 | **6AR11** | 10 | — | — | 1 | 2 |
| Tourniquet & Forceps | 02-03-25 | **5AG38** | 1 | — | — | — | 1 |
| Triangular Bandage, Non-Sterile w/Pins | 02-03-74 | **2AZ22** | 1 | 1 | 1 | 1 | 3 |
| Wire Splint | 02-03-80 | **4RL65** | 1 | — | — | — | 1 |

| Kit Description | People Served | Dimensions (In.) L | W | H | North Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Small Kit—10 Unit** | Up to 5 | 8 | 2.6 | 5 | 01-03-10 | **5M586** | $25.95 | **$23.36** | **$21.03** | 3.0 |
| **Medium Kit—16 Unit** | Up to 8 | 10 | 3 | 7 | 01-03-16 | **5M585** | 36.84 | **33.20** | **29.86** | 4.0 |
| **Large Kit—24 Unit** | Up to 12 | 10 | 3 | 10 | 01-03-24 | **5M584** | 51.87 | **46.75** | **42.06** | 5.5 |
| **Deluxe Kit—36 Unit** | Up to 36 | 14 | 3 | 9 | 01-03-36 | **5M583** | 77.01 | **69.35** | **62.42** | 8.0 |

## ELECTRICIAN'S FIRST AID KIT

Plastic case filled specifically to meet the needs of the electrician's most common injuries—burns, eye irritations, cuts, bruises, and insect bites. North brand (01-14-10).

| Contents | North Model | Stock No. | Qty. |
|---|---|---|---|
| Adhesive Bandages, Plastic 1 x 3" | 02-07-95 | 2AC46 | 16 |
| Burn Ointment, 1/8 oz. | 02-11-55 | 6AG06 | 6 |
| Cold Pak, Instant | 02-06-67 | 2AG23 | 1 |
| Eye Wash Solution, Eyepads, & Strips | 02-09-56 | 6AL51 | 7 |
| Forceps | 03-15-65 | 4AV04 | 1 |
| Latex Gloves, Pair | 02-99-99 | 5M568 | 2 |
| PVP Iodine Wipes | 02-12-01 | 6AR61 | 10 |
| Scissors, 4" Blunt | 03-15-45 | 3AV02 | 1 |
| Sting Kill Wipes | 02-10-45 | 5AP39 | 10 |
| Triangular Bandage | 02-03-74 | 2AZ22 | 1 |
| First Aid Guide | 04-21-15 | 5AZ72 | 1 |

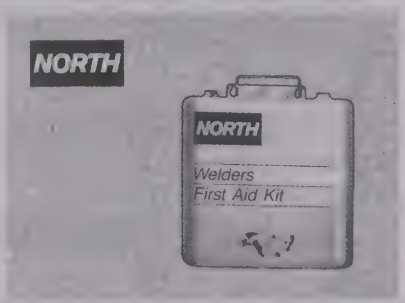



**No. 5M582.** Shpg. wt. 2.0 lbs. List $28.77. Each **$23.87**; Lots 4.....**$22.68**

## WELDER'S FIRST AID KIT

Specifically filled plastic case to meet the needs of the welder's most common injuries—burns, eye irritations, and cuts. North brand (01-15-24).

| Contents | North Model | Stock No. | Qty. |
|---|---|---|---|
| Adhesive Bandages, Plastic 1 x 3" | 02-07-95 | 2AC46 | 64 |
| Adhesive Bandages, 2 x 4½" | 02-09-15 | 1N702 | 6 |
| Adhesive Tape, 1" x 2½ yds. | 04-80-08 | 4RL86 | 2 |
| Ammonia Inhalants | 02-02-25 | 5AT08 | 10 |
| Bandage Compress, 2" Offset | 02-07-66 | 6AT25 | 4 |
| Bandage Compress, 4" Offset | 02-07-68 | 5AV68 | 1 |
| Burn Ointment, 1/8 oz. | 02-11-55 | 6AG06 | 18 |
| Eye Dressing Pads w/Adhesive Strips | 02-03-00 | 6AV96 | 8 |
| Eye Wash Solution, 1 oz. Sterile | 02-06-99 | 2AL41 | 2 |
| Knuckle Bandages | 02-00-20 | 3AJ55 | 8 |
| Latex Gloves, Pair | 02-99-99 | 5M568 | 2 |
| PVP Iodine Wipes | 02-12-01 | 6AR61 | 10 |
| Gauze Bandage, 2" x 6 yds. | 02-06-30 | 3AG65 | 1 |
| Sterile Pads 3" x 3" | 02-04-30 | 3AM86 | 4 |

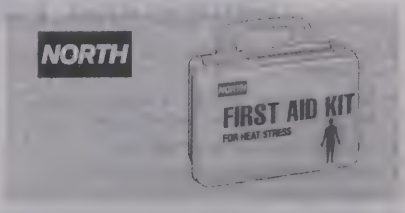



**No. 5M580.** 5.5 lbs. List $50.95. Each **$45.90**; Lots 4.....**$41.29**

## HEAT STRESS KIT

Provides the essential items to relieve the effects of heat stress. Includes plastic case. North brand (01-19-30).

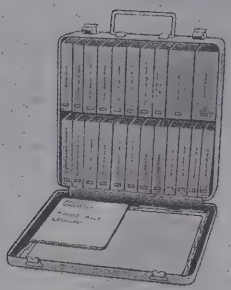
| Contents | North Model | Stock No. | Qty. |
|---|---|---|---|
| Absorbent Towel | — | — | 2 |
| Electrolyte Replacement Drink | — | — | 3 |
| Cold-Pak | 02-06-67 | 2AG23 | 2 |
| Cold-Wrap | — | — | 1 |



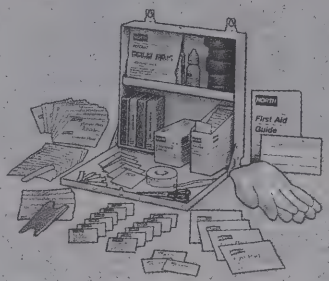

**No. 5M576.** Shpg. wt. 3.5 lbs. List $28.24. Each **$25.45**; Lots 4.....**$22.89**

# FIRST AID KITS

REFILLS SOLD ON PAGES 2549 - 2550



Mobile/Outdoor First Aid Kit
No. 5X807



Indoor First Aid Kit
No. 4A419



Stationary/Indoor First Aid Cabinet
No. 5AC21

- Sturdy steel construction and rust-proof coating on all cases
- Kit contents are further described on facing page

## MOBILE/OUTDOOR FIRST AID KITS

- All kits are weatherproof and will keep supplies clean and dry
- Equipped with carrying handle and mounting bracket
- Ideal for construction, utilities, transportation, and government agencies
- Color-coded cartons hold individually sealed unit dose applications
- Color Codes: Yellow—Bandages, Compresses; Blue—Antiseptics, Wound Cleansers; Red—Burn Treatment; Green—Special, Miscellaneous; Orange—Personal Protection

## INDOOR FIRST AID KITS

- All kits contain bulk supplies which provide economy through larger volumes of individual products for frequently used items
- Equipped with carrying handles for mobility to emergencies and mounting brackets for sites throughout the facility
- Ideal for manufacturing settings where a wide variety of first aid needs are required
- Offers the greatest variety of treatments

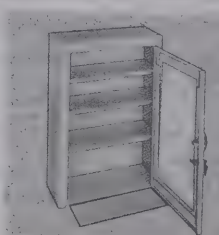
## STATIONARY / INDOOR FIRST AID CABINETS

- Provides largest quantities with a streamlined assortment of first aid and medical supplies for most minor injuries, aches and pains
- Ideal for large office or plant settings
- Offer the largest supply of medicinals for relief from colds, pain, and indigestion
- Tablet medicinals are non-drowsy and are packaged in tamper-resistant packs
- Cabinets equipped with wall-mounting brackets and carrying handle

| People Served | Quantity of Treatment: Bandages | Medicinal | Burn Treatment | Eye Treatment | Kit Description | Dimensions (In.) D | W | H | North Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MOBILE/OUTDOOR FIRST AID KITS** | | | | | | | | | | | | | | |
| **10-15** | 37 | — | 6 | — | Small | 2⅝ | 8 | 5 | 01-15-60 | **5X806** | $33.56 | **$27.85** | **$26.46** | 2.6 |
| **17-24** | 46 | — | 6 | 1 | Medium | 2⅝ | 9½ | 6¾ | 01-15-80 | **4T309** | 46.51 | **41.90** | **37.69** | 3.8 |
| **24-32** | 78 | — | 12 | 1 | Large | 2⅝ | 9½ | 9½ | 01-16-10 | **5X807** | 63.87 | **57.50** | **51.74** | 5.0 |
| **36-48** | 117 | — | 18 | 2 | Deluxe | 2⅝ | 14 | 9 | 01-16-30 | **4T310** | 103.70 | **93.35** | **84.00** | 7.6 |
| **INDOOR FIRST AID KITS** | | | | | | | | | | | | | | |
| **25 or Less** | 107 | — | 2 | 3 | Small | 2½ | 10½ | 5 | 01-21-00 | **4A418** | 30.37 | **25.25** | **23.99** | 3.0 |
| **25-50** | 125 | 25 | 5 | 6 | Medium | 2½ | 10½ | 10½ | 01-21-01 | **4A419** | 51.11 | **46.00** | **43.70** | 5.5 |
| **50-75** | 144 | 100 | 2 | 9 | Large | 2½ | 10½ | 15½ | 01-21-02 | **4A420** | 111.69 | **100.60** | **90.50** | 8.0 |
| **75-100** | 360 | 100 | 2 | 12 | Deluxe | 6 | 11⅞ | 18 | 01-21-03 | **4A421** | 184.86 | **167.00** | **150.08** | 18.0 |
| **STATIONARY/INDOOR FIRST AID CABINETS** | | | | | | | | | | | | | | |
| **50-75** | 210 | 200 | 1 | 1 | Medium | 4½ | 10½ | 15 | 01-90-89 | **5M575** | 72.50 | **65.30** | **62.02** | 11.0 |
| **75-100** | 227 | 100 | 1 | 5 | Large | 6 | 12 | 18 | 01-90-00 | **3AP27** | 128.44 | **115.70** | **109.90** | 15.0 |
| **100-125** | 332 | 800 | 1 | 5 | Deluxe | 6 | 17 | 22 | 01-90-01 | **5AC21** | 168.77 | **152.25** | **144.48** | 25.0 |

## INDUSTRIAL FIRST AID CABINET

- Steel construction provides maximum strength
- White baked enamel finish for long lasting, attractive appearance
- Three fixed storage shelves
- Pull-out shelf provides convenient work space
- Standard plexiglass window in door for quick visual identification
- Dimensions: 8D x 18W x 27"H
- Includes lock and two keys
- Durham brand (518-43)



DURHAM

**No. 3KR08.** Shpg. wt. 30.0 lbs. List $230.17. Each.....$166.75



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# STANDARD FIRST AID KIT AND CABINET CONTENTS



**The following chart outlines the contents of the North First Aid Kits and Cabinets sold on the previous page.**

REFILLS SOLD ON PAGES 2549—2550

| Description | Pieces Per Unit | North Model | Stock No | MOBILE/OUTDOOR KITS SM 5X806 | MED 4T309 | LG 5X807 | DLX 4T310 | INDOOR KITS SM 4A418 | MED 4A419 | LG 4A420 | DLX 4A421 | STATIONARY/INDOOR CABINETS MED 5M575 | LG 3AP27 | DLX 5AC21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Absorbent Cotton, 1 oz., Sterile | 1 | 04-80-10 | 4RL79 | — | — | — | — | — | 1 | 1 | 2 | — | — | — |
| Acid Relief®, 2 per pouch | 200 | 03-25-09 | 4AZ96 | — | — | — | — | — | — | — | — | — | — | 1 |
| Adhesive Bandages, 1 x 3", Sterile | 16 | 02-07-95 | 2AC46 | 2 | 2 | 3 | 4 | — | — | — | — | — | — | — |
| Adhesive Bandages, 1 x 3", Sterile | 100 | 03-20-72 | 4T370 | — | — | — | — | — | — | — | 1 | — | — | — |
| Adhesive Bandages, 2 x 4½", Sterile | 50 | 03-21-76 | 4RL78 | — | — | — | — | — | — | 5* | 1 | — | — | — |
| Adhesive Bandages, 3/4 x 3", Sterile | 100 | 03-20-77 | 4RL76 | — | — | — | — | 1 | 1 | 1 | 1 | — | — | — |
| Adhesive Bandages, 1 x 3", Cloth | 100 | 03-20-71 | 4T369 | — | — | — | — | — | — | — | — | — | 1 | 1 |
| Adhesive Bandages, 3/4 x 3", Cloth | 100 | 03-20-70 | 4T371 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| Adhesive Tape, 1" x 5 yds., Waterproof | 1 | 04-80-06 | 4RL85 | — | — | — | — | — | — | 2 | 6 | — | — | — |
| Adhesive Tape, 1/2" x 5 yds., Waterproof | 1 | 04-80-07 | 5M566 | — | — | — | — | 1 | 1 | 1 | 2 | — | — | — |
| Adhesive Tape, Tri-Cut, 1/2, 3/8, 7/8" x 5 yds. | 1 | 03-21-70 | 5AG62 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| Alcohol Wipes | 10 | 02-10-47 | 6AX98 | — | — | — | — | 4* | — | — | — | — | — | — |
| Alcohol Wipes | 100 | 03-25-25 | 5AD39 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| Ammonia Inhalants | 10 | 02-02-25 | 5AT08 | — | — | — | — | 2* | 5* | 1 | 1 | 1 | 1 | 1 |
| Antiseptic Spray, 5 oz. | 1 | 03-22-00 | 1AV60 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| Antiseptic Towelettes | 6 | 02-16-35 | 5M569 | — | 1 | 1 | 1 | — | — | — | — | — | — | — |
| Aspirin, 5 grain 100 pouches, 2 per pouch | 100 | 03-20-80 | 4RL77 | — | — | — | — | — | — | 1 | 1 | — | — | — |
| Aspirin, 5 grain, 100 pouches, 2 per pouch | 200 | 03-20-90 | 4T375 | — | — | — | — | — | — | — | — | 1 | — | 1 |
| Bandage Compress, 2" Offset® | 4 | 02-07-66 | 6AT25 | 1 | 1 | 2 | 3 | — | — | — | — | — | 1 | 1 |
| Bandage Compress, 4" Offset® | 1 | 02-07-68 | 5AV68 | — | 1 | 2 | 3 | — | — | 2 | 3 | — | — | — |
| Burn Compound, 3.5 gram (1/8 oz.) Tube | 6 | 02-00-56 | 4RL66 | — | — | — | — | 2* | 5* | — | — | — | — | — |
| Burn Compound, 5/8 oz. Resealable Tube | 2 | 02-01-49 | 1N729 | — | — | — | — | — | — | 1* | 2* | — | — | — |
| Burn Ointment, 1/8 oz. Packet | 6 | 02-11-55 | 6AG06 | 1 | 1 | 2 | 3 | — | — | — | — | — | — | — |
| Burn Spray, 1/2 oz. | 2 | 02-08-61 | 4RL69 | — | — | — | — | — | — | 1* | — | — | — | — |
| Burn Spray, 3 oz. | 1 | 03-22-02 | 3AX13 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| Cold Pak, Instant | 1 | 02-06-67 | 2AG23 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 4 | 1 | 1 | 1 |
| I-Pro-Tab®, 100 pouches, 2/pouch | 200 | 03-21-12 | 5M567 | — | — | — | — | — | — | — | — | — | — | 1 |
| Eye Pad With Adhesive Strips | 4 | 02-03-00 | 6AV96 | — | — | — | — | — | — | — | — | — | 1 | 1 |
| Eye Pads, Sterile | 1 | 03-14-00 | 4RL75 | — | — | — | — | 2 | 4 | 6 | 8 | — | — | — |
| Eye-Lert, 1 oz., Sterile | 1 | 02-06-99 | 2AL41 | — | 1 | 1 | 2 | 1 | 1 | 2 | 2 | — | — | — |
| Eye-Lert, 4 oz., Sterile | 1 | 12-60-40 | 6AJ73 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| Fingertip Bandages, Sterile | 50 | 03-21-73 | 3T928 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| Fingertip Bandages, Sterile | 10 | 02-08-55 | 4AX43 | — | — | 1 | 2 | — | — | — | 1 | — | — | — |
| Foille Spray, 3 oz. Can | 1 | 11-38-60 | 4RL92 | — | — | — | — | — | — | — | 2 | — | — | — |
| Green Soap Wipes | 10 | 02-12-03 | 5M571 | — | — | — | — | — | 6* | 1 | 2 | — | — | — |
| Gauze Compress, 24 x 72", Sterile | 1 | 03-14-00 | 4RL75 | — | — | — | — | — | — | 1 | 1 | — | — | — |
| 2" x 2" Sterile Pads | 10 | 04-19-75 | 4RL81 | — | — | — | — | — | — | — | 2 | — | — | — |
| 3" x 3" Sterile Pads | 25 | 03-20-16 | 4T363 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| 3" x 3" Sterile Pads | 10 | 04-19-80 | 4RL82 | — | — | — | — | 5* | 1 | 2 | 2 | — | — | — |
| 4" x 4" Sterile Pads | 1 | 04-80-01 | 4RL83 | — | — | — | — | — | — | — | 5 | — | — | — |
| Hydrocortisone, 3.5 gram (1/8 oz.) | 6 | 02-11-60 | 5AD76 | — | — | — | — | — | — | — | 1 | — | — | — |
| Instant Spray Bandage, 5 oz. | 1 | 03-22-01 | 3AM66 | — | — | — | — | — | — | — | — | — | — | 1 |
| Knuckle Bandages, Sterile | 50 | 03-21-75 | 3T927 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| Knuckle Bandages, Sterile | 8 | 02-00-20 | 3AJ55 | — | 1 | 1 | 2 | — | 1 | 1 | 1 | — | — | — |
| Latex Gloves, Unitized, 2 Pair | 4 | 02-99-99 | 5M568 | 1 | 1 | 1 | 2 | 1 | 1 | — | — | — | — | — |
| Latex Gloves, Sealed Bag, 1 Pair | 2 | 15-99-00 | 4RL95 | — | — | — | — | — | — | 1 | 1 | 1 | 1 | 1 |
| Pain-A-Rest®, Non-Aspirin, 100pouches, 2/pouch | 200 | 03-20-92 | 4T376 | — | — | — | — | — | — | — | — | — | — | 1 |
| Pain-A-Rest®, Non-Aspirin, 13 pouches, 2/pouch | 26 | 02-05-55 | 5AJ08 | — | — | — | — | — | 1 | — | — | — | — | — |
| Pain-A-Rest®, Non-Aspirin, 50 pouches, 2/pouch | 100 | 03-20-82 | 3AG26 | — | — | — | — | — | — | — | — | — | 1 | — |
| PVP Iodine Wipes | 10 | 02-12-01 | 6AR61 | 1 | 2 | 3 | 4 | — | — | — | — | — | — | — |
| PVP Iodine Wipes | 100 | 03-20-04 | 3AG04 | — | — | — | — | 4* | 6* | 40* | 1 | — | 1 | 1 |
| PVP Ointment, 3.5 gram (1/8 oz.) Packets | 6 | 02-11-50 | 2AN28 | — | — | — | — | — | — | 1 | — | — | — | — |
| Rescue Blanket | 1 | 02-06-18 | 4RL68 | — | — | — | — | — | — | 1 | 1 | — | — | — |
| Self Adherent Wrap, 1" x 5 yds. | 5 | 72-00-70 | 4RM13 | — | — | — | — | — | 1 | — | 1 | — | — | — |
| Self Adherent Wrap, 2" x 5 yds. | 1 | 72-00-71 | 4RM14 | — | — | — | — | 1 | — | 1 | — | — | — | — |
| Self Adherent Wrap, 3" x 5 yds. | 1 | 72-00-72 | 4RM15 | — | — | — | — | — | — | 1 | 2 | — | — | — |
| Self Adherent Wrap, 4" x 5 yds. | 1 | 72-00-73 | 4RM16 | — | — | — | — | — | — | — | 2 | — | — | — |
| 212 Skin Conditioner, 4 oz. Tubes | 1 | 27-12-04 | 3AR02 | — | — | — | — | — | — | — | 1 | — | — | — |
| Sting Kill® Swabs | 10 | 02-10-45 | 5AP39 | 1 | 1 | 2 | 2 | — | — | — | — | — | — | — |
| Stretch Bandage, 1" x 4.1 yds. | 1 | 04-80-02 | 4RL84 | — | — | — | — | — | — | 2 | 2 | — | — | — |
| Stretch Bandage, 2" x 4.1 yds. | 1 | 04-80-03 | 3AX55 | — | — | — | — | — | — | — | — | — | — | 1 |
| Tongue Depressors | 5 | 15-45-03 | 4RL93 | — | — | — | — | — | — | 1 | 1 | — | — | — |
| Tourniquet | 1 | 02-03-50 | 1N724 | — | — | — | — | — | — | 1 | 1 | — | — | — |
| Triangular Bandage with Pins, Sterile | 1 | 02-03-70 | 6AN08 | 1 | 1 | 2 | 2 | — | — | — | — | — | — | — |
| Triangular Bandage, Non-Sterile with Pins | 1 | 02-03-74 | 2AZ22 | — | — | — | — | — | 1 | 1 | 2 | — | 1 | 1 |
| Triple Antibiotic Ointment | 10 | 02-01-25 | 2AC62 | — | — | — | — | — | — | — | — | 1 | 1 | 1 |
| Wire Splint | 1 | 02-03-80 | 4RL65 | — | — | — | — | — | — | 1 | 1 | — | — | — |
| Scissors, 4" Blunt | 1 | 03-15-45 | 3AV02 | — | — | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Forceps, Pointed | 1 | 03-15-65 | 4AV04 | — | — | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| First Aid Manual | 1 | 04-21-15 | 5AZ72 | — | — | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

(*) Actual number of pieces included, not full unit quantities.

## FOOD SERVICE FIRST AID KIT

Specifically filled metal case to meet the needs of common injuries in commercial kitchens, restaurants, and fast food establishments. North brand (01-19-20)

| Contents | North Model | Stock No. | Qty. | Contents | North Model | Stock No. | Qty. |
|---|---|---|---|---|---|---|---|
| Adhesive Bandages, Plastic, 1 x 3" | 02-07-95 | 2AC46 | 16 | PVP Iodine Wipes | 02-12-01 | 6AR61 | 10 |
| Antiseptic Towelettes | 02-16-35 | 5M569 | 6 | Self Adherent Wrap, 2" x 5 yds. | 72-00-71 | 4RM14 | 1 |
| Burn Compound, 1/8 oz. Packets | 02-11-55 | 3AG06 | 6 | Scissors | 03-15-45 | 3AV02 | 1 |
| CPR Microshield® Rescue Breather | 12-10-65 | 4T382 | 1 | Water-Jel Burn Dressing, 4 x 4" | 04-90-77 | 5M554 | 1 |
| Cold Pak, Instant | 02-06-67 | 2AG23 | 1 | Water-Jel Burn Dressing, 2 x 6" | 02-10-32 | 4RL71 | 1 |
| Knuckle Bandages, Cloth | 02-00-20 | 3AJ55 | 8 | Water-Jel Burn Dressing, 2 x 2" | 02-10-30 | 4RL70 | 1 |
| Latex Gloves, Pair | 02-99-99 | 5M568 | 2 | | | | |

**No. 5M577.** Shpg. wt. 4.0 lbs. List $55.19. Each **$49.75** ; Lots 4 ..... **$44.74**

## DEPARTMENT OF TRANSPORTATION (DOT) FIRST AID KIT

Specifically filled metal case to comply with the Interstate Commerce Commission's requirements for use on commercial interstate vehicles. North brand (01-15-45).

| Contents | North Model | Stock No. | Qty. | Contents | North Model | Stock No. | Qty. |
|---|---|---|---|---|---|---|---|
| Adhesive Bandages, Plastic, 1 x 3" | 02-07-95 | 2AC46 | 32 | Burn Ointment, 1/8 oz. | 02-11-55 | 6AG06 | 6 |
| Bandage Compress, 2" Offset | 02-07-66 | 6AT25 | 4 | Latex Gloves, Pair | 02-99-99 | 5M568 | 1 |
| Bandage Compress, 4" Offset | 02-07-68 | 5AV68 | 1 | PVP Iodine Wipes | 02-12-01 | 6AR61 | 10 |
| | | | | Tourniquet | 02-03-50 | 1N724 | 1 |
| | | | | Triangular Bandage | 02-03-74 | 2AZ22 | 1 |
| | | | | Wire Splint | — | — | 1 |

**No. 5M579.** Shpg. wt. 3.0 lbs. List $34.70. Each **$28.80;** Lots 4 ..... **$27.36**

## COMPACT FIRST AID KIT

Ideal first aid kit for small emergencies and minor injuries. Perfect for traveling. Kit dimensions: 5L x 3½W x 2"H. North brand (12-39-50).

| Contents | North Model | Stock No. | Qty. | Contents | North Model | Stock No. | Qty. |
|---|---|---|---|---|---|---|---|
| Adhesive Bandages, Plastic, 3/4 x 3" | 02-10-10 | 5AH93 | 8 | Burn Ointment, 1/8 oz. | 02-11-55 | 6AG06 | 2 |
| Adhesive Bandages, 2 x 41/2" | 02-09-15 | 1N702 | 2 | First Aid Guide | 04-21-15 | 5AZ72 | 1 |
| Adhesive Tape, ½" x 5 yds. | 04-80-07 | 5M566 | 1 | PVP Ointment, 1/8 oz. | 02-11-50 | 2AN28 | 1 |
| Bandage Compress, 2" x 6 yds. | 02-06-30 | 3AG65 | 1 | PVP Iodine Wipes | 02-12-01 | 6AR61 | 10 |
| | | | | Scissors | 03-15-45 | 3AV02 | 1 |
| | | | | Sterile Pads, 3 x 3" | 02-04-30 | 3AM86 | 2 |

**No. 5T516.** Shpg. wt. 0.4 lbs. List $8.23. Each **$7.41;** Lots 12 ..... **$6.67**

## OFFICE FIRST AID KIT

Ideal first aid for minor injuries/aches and pains experienced in an office setting. Includes plastic case. North brand (01-19-10).

| Contents | North Model | Stock No. | Qty. | Contents | North Model | Stock No. | Qty. |
|---|---|---|---|---|---|---|---|
| Acid Relief Tabs (2 per pkg.) | 03-25-09 | 4AZ96 | 6 | Eye-Lert, 1 oz. | 02-06-99 | 2AL41 | 1 |
| Adhesive Bandages, Plastic, 3/4 x 3" | 03-20-77 | 4RL76 | 100 | First Aid Cream, 1/2 oz. | 02-11-50 | 2AN28 | 1 |
| AdhesiveTape, 1/2" x 5 yds. | 04-80-07 | 5M566 | 1 | First Aid Guide | 04-21-15 | 5AZ72 | 1 |
| Alcohol Prep Pads | 02-10-47 | 6AX98 | 3 | Hydrocortisone, 1/8 oz. | 02-11-60 | 5AD76 | 2 |
| Ammonia Inhalants | 02-02-25 | 5AT08 | 2 | Latex Gloves, Pair | 02-99-99 | 5M568 | 2 |
| Antiseptic Hand Towelettes | 02-16-35 | 5M569 | 2 | PVP Iodine Wipes | 02-12-01 | 6AR61 | 4 |
| Aspirin Tabs (2 per pkg.) | 02-05-56 | 6AP97 | 6 | Self-Adherent Wrap 2" x 5 yds. | 72-00-71 | 4RM14 | 1 |
| CPR Microshield® Rescue Breather | 12-10-65 | 4T382 | 1 | 212 Skin Conditioner, 4 oz. | 27-12-04 | 3AR02 | 1 |
| Cold Pak, Instant | 02-06-67 | 2AG23 | 1 | Sterile Pads, 3 x 3" | 02-04-30 | 3AM86 | 2 |
| Eye Pad w/Adhesive Strips | 02-03-00 | 6AV96 | 2 | Triple Antibiotic Ointment, 1 gm. | 02-01-25 | 2AC62 | 2 |
| | | | | Tweezers | 03-15-65 | 4AV04 | 1 |

**No. 5M578.** Shpg. wt. 2.5 lbs. List $37.25. Each **$33.60;** Lots 4 ..... **$30.21**

**CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS.
THOUSANDS OF QUALITY PRODUCTS ARE LISTED**

REFILLS FOR ALL KITS SOLD ON PAGES 2549 - 2550




No. 5M577




No. 5M579



No. 5T516




No. 5M578

## BLOODBORNE PATHOGEN BODILY FLUID CLEAN-UP KITS




- **Provides fast, effective clean-up of potentially infectious materials such as blood, vomit, and other bodily fluids**
- **Contains all equipment needed for safe clean-up & disposal of hazardous materials • Intended for single use**

**TO USE:** Cover spill with absorbent beads, allow to congeal. Scoop up spill with shovel. Place into biohazard bag. Dispose of properly.

**Kits contain** absorbent beads and towel, instruction sheet, shovel, germicidal towelette (registered with EPA as a disinfectant), absorbent towel, antiseptic hand wipes, white plastic and red biohazard bags, bag ties and gloves. All kits are packaged in sealed plastic bags except No. 1N734.

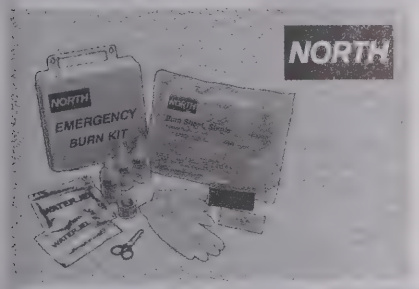
**Nos. 6T401, 3AW50, and 1N734** also contain shoe covers, splash goggles with mask, disposable gown, scraper. Kits comply with OSHA Bloodborne Pathogen Standard (29 CFR 1910.1030).

**No. 3AW50 North Response Kit** features CPR Microshield for reduced risk of contamination.

| Description | North Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **8 oz. Absorbent Beads** | 12-70-01 | **6T402** | $8.70 | **$7.83** | **$7.05** | 0.7 |
| **CPR Microshield** | 12-10-51 | **4AZ63** | 8.11 | **7.31** | **6.58** | 0.1 |
| **Nitrile Gloves, 2 Pr.** | 02-16-40 | **4AD96** | 2.54 | **2.29** | **2.06** | 0.1 |
| **Gown** | 02-16-30 | **3AL82** | 3.76 | **3.39** | **3.04** | 0.1 |
| **Body Fluid Clean-Up Absorbent** | 02-16-05 | **4BC34** | 4.72 | **4.25** | **4.04** | 0.1 |
| **Biohazard Red Bag** | 02-16-01 | **6AH25** | 1.81 | **1.62** | **1.46** | 0.1 |
| **Germicidal Cleaner/ Disinfectant** | 02-16-20 | **1N685** | 2.11 | **1.90** | **1.81** | 0.1 |
| **Face Mask w/Eyeshield** | 02-16-25 | **5M570** | 3.40 | **3.07** | **2.75** | 0.1 |
| **Antiseptic Hand Wipes** | 02-16-35 | **5M569** | 0.98 | **0.89** | **0.85** | 0.1 |
| **Latex Gloves** | 02-99-99 | **5M568** | 1.61 | **1.45** | **1.38** | 0.1 |

| Description | North Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Econo Kit** | 12-70-03 | **6T400** | $7.39 | **$6.66** | **$5.99** | 0.4 |
| **Response Kit** | 12-70-10 | **6T401** | 20.13 | **18.12** | **16.31** | 0.5 |
| **Response Kit w/CPR Microshield** | 12-70-11 | **3AW50** | 28.17 | **25.40** | **22.82** | 0.8 |
| **Response Kit w/ Plastic Case** | 01-80-12 | **1N734** | 35.09 | **31.70** | **28.50** | 2.0 |

**The owner/user assumes all other risks, if any, such as the risk of any direct, indirect, or consequential loss or damage arising out of the use of, or inability to use, this product. This warranty is made in lieu of warrants of merchantability, fitness for particular purpose, and all other warranties, express or implied, and may not be varied or extended in writing by Grainger.**



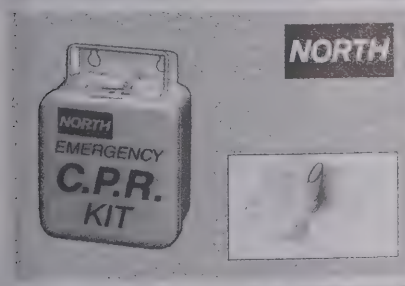

## EMERGENCY BURN KIT

Contains essential elements necessary to treat minor burn injuries. Water-Jel® burn dressing helps relieve pain; cools, and comforts, helps prevent contamination, and is non-adherent. Plastic case dimensions: 9½L x 9½W x 2⅝"H. North brand (01-18-00).

| Kit Contents | North Model | Stock No. | Qty. | Kit Contents | North Model | Stock No. | Qty. |
|---|---|---|---|---|---|---|---|
| 36 x 72" Sterile Burn Sheet | 04-90-30 | 5M564* | 1 | 1" x 5 yd. Adhesive Tape | 04-80-07 | 5M566 | 1 |
| 4 x 4" Water-Jel Burn Dressing | 04-90-76 | 5M554 | 1 | 4 oz. Eyewash | 12-60-40 | 6AJ73 | 3 |
| 4 x 16" Water-Jel Burn Dressing | 04-90-76 | 4RL89 | 1 | Latex Gloves, Pair | 02-99-99 | 5M568 | 2 |
| 4" x 6 yd. Gauze Roller Bandage | 02-03-05 | 4AJ25 | 1 | 4" Scissors | 03-15-45 | 3AV02 | 1 |
| | | | | First Aid Handbook | 04-21-15 | 5AZ72 | 1 |

(*) Pack/size configuration may vary. Water-Jel® is a registered trademark of Water-Jel Technologies, Inc.

**No. 3T956.** Emergency Burn Kit. Shpg. wt. 3.6 lbs. List.....$53.91.
Each $48.55; Lots 4.....$43.66




## CPR MICROSHIELD® RESCUE BREATHER KIT

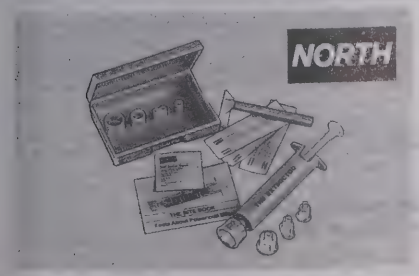
**Reduces potential hazard** of biological transfer between victims requiring cardio-pulmonary resuscitation (CPR) and rescuer. Consistent with American Red Cross guidelines suggested use of faceshield during CPR.

**Soft film membrane** conforms to victim's facial contours. One-way valve prevents victim's secretions from contacting rescuer through mouthpiece/airway. Unit is surgically clean, disposable, intended for single use. Microshield intended for use by CPR-trained individuals only. **Do not** use on infant victims. Compatible with most CPR models & mannequins for training purposes.

**Includes** metal container, 4 pr. each latex and nitrile gloves, 2 Microshields, 10 antiseptic wipes. North brand (01-15-00).

**No. 5M581.** CPR Rescue Breather Kit.
Shpg. wt. 1.5 lbs. List.....$31.33.
Each $28.25; Lots 4.....$25.42

**CPR Microshield is a registered trademark of Medical Devices International.**




## THE EXTRACTOR™ SNAKE BITE/INSECT STING KIT

**Safe, effective way to remove** poison from insect stings and snake bites. Requires no incision or tourniquet. Pump creates powerful vacuum over wound that draws out poison painlessly.

**Compact, lightweight and durable.** Venom pump should be basic protective first aid equipment for every outdoor worker. Even when working alone, in many cases the injured worker can use extractor pump with one hand, without assistance, to obtain effective relief.

**Comes in rugged plastic case** with four sizes of suction cups. Included: "The Bite Book" brochure detailing treatment instructions; safety razor for shaving around wound; PVP iodine wipes; and adhesive bandages for protecting wound after treatment. Kit dimensions: 4¾L x 3½W x 1½"H. North brand (12-39-24).

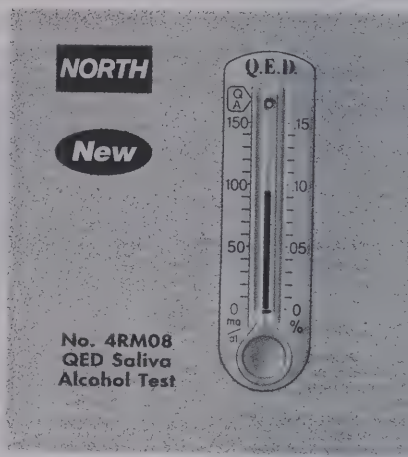
**No. 4T312.** Snake Bite/Insect Sting Kit.
Shpg. wt. 0.3 lbs. List.....$16.71.
Each $15.04; Lots 4.....$13.54

# SALIVA ALCOHOL TEST AND TRAINING KIT AND EMERGENCY BURN KITS

## QED® SALIVA ALCOHOL TEST

QED Saliva Alcohol Test is a fast, non-invasive, easy way to perform random alcohol testing. Simplicity, reliability, affordability, and on-the-spot results make this an ideal onsite test. The QED is DOT approved and can be used in many working environments from machine and forklift operators to office personnel. Test subjects use a cotton-tipped saliva collector to gather saliva from their mouths, which is then placed into the QED Test by the test technician. Will test blood alcohol content from 0-45mg/dL, 0-0.145%. North brand (31-15-02).

***New*** **No. 4RM08.** QED Saliva Alcohol Test.
Shpg. wt. 0.5 lbs. List ..... $9.94.
Each **$8.95;** Lots 6 ..... **$8.50**




## DOT APPROVED TRAINING KIT FOR QED® TEST

QED Screening Test Technician Video Training Kit is a new way to train technicians for your alcohol testing program. This kit is a DOT approved training course under DOT Rule 49 CFR Part 40. There will need to be a witness to verify the student's proficiency and completion of the course. Each training kit includes: SST training video, facilitator's guide, student workbook, 10 QED A150 tests, positive control solution, procedure card, alcohol testing form, exercises and exam, and certificate. North brand (31-00-02).

***New*** **No. 4RM07.** QED Screening Test Training Kit. Shpg. wt. 1.0 lbs. List ..... $354.44.
Each **$319.00;** Lots 2 ..... **$303.05**

## EMERGENCY BURN KITS

North Emergency Burn Kits contain the essential items to quickly treat burn emergencies. Available in a variety of fills to meet your specific needs, kits feature Water-Jel Burn Dressing Packets, the simple-to-use one step product for emergency burn care. Easily wall mounted, the durable plastic kits are ideal for use wherever burns may occur. North Burn Kits can also be mounted beside basic first aid kits as a supplement to provide quick first aid for burns.

### WELDER'S BURN KIT

| Contents | North Model | Stock No. | Qty. | Contents | North Model | Stock No. | Qty. |
|---|---|---|---|---|---|---|---|
| 4 x 16" Water-Jel Burn Dressing | 04-90-76 | 4RL89 | 1 | Latex Gloves, 2 pair | 03-15-45 | 5M568 | 2 |
| 4 x 4" Water-Jel Burn Dressing | 04-90-77 | 5M554 | 3 | Scissors, 5.5" Chrome | 75-25-75 | — | 1 |
| 2 x 6" Water-Jel Burn Dressing | 04-90-78 | 4RL71 | 3 | 3" x 5 yds. Self-Adhesive Wrap | 72-00-72 | 4RM15 | 2 |
| 8 x 18" Water-Jel Burn Dressing | 04-90-75 | 5M555 | 1 | | | | |

***New*** **No. 4RL61.** Welder's Burn Kit (01-15-85). Shpg. wt. 2.5 lbs. List ..... $72.94.
Each **$65.65;** Lots 4 ..... **$62.37**

### FOOD SERVICE BURN KIT

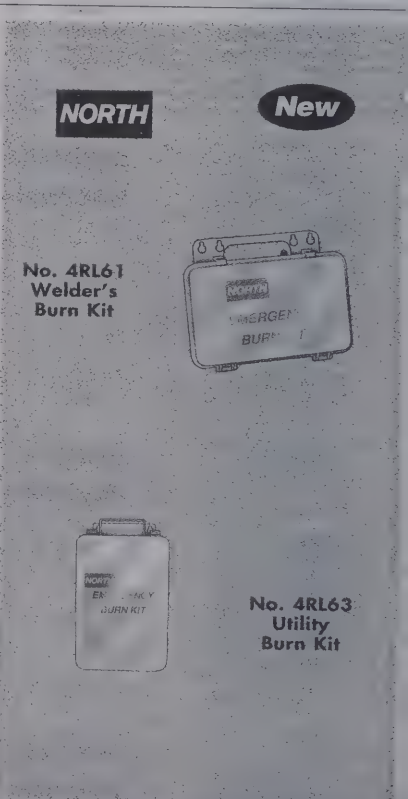
| Contents | North Model | Stock No. | Qty. | Contents | North Model | Stock No. | Qty. |
|---|---|---|---|---|---|---|---|
| 4 x 16" Water-Jel Burn Dressing | 04-90-76 | 4RL89 | 1 | Latex Gloves, 2 pair | 02-99-99 | 5M568 | 1 |
| 4 x 4" Water-Jel Burn Dressing | 04-90-77 | 5M554 | 2 | Scissors, 4" Blunt | 03-15-45 | 3AV02 | 1 |
| 2 x 6" Water-Jel Burn Dressing | 04-90-78 | 4RL71 | 2 | 3" x 5 yds. Self-Adhesive Wrap | 72-00-72 | 4RM15 | 1 |
| 8 x 18" Water-Jel Burn Dressing | 04-90-75 | 5M555 | 1 | | | | |

***New*** **No. 4RL62.** Food Service Burn Kit (01-18-02). Shpg. wt. 2.0 lbs. List ..... $39.17.
Each **$35.25;** Lots 4 ..... **$33.49**

### UTILITY BURN KIT

| Contents | North Model | Stock No. | Qty. | Contents | North Model | Stock No. | Qty. |
|---|---|---|---|---|---|---|---|
| 4 x 16" Water-Jel Burn Dressing | 04-90-76 | 4RL89 | 1 | Latex Gloves, 2 pair | 02-99-99 | 5M568 | 1 |
| 4 x 4" Water-Jel Burn Dressing | 04-90-77 | 5M554 | 2 | Scissors, 4" blunt | 03-15-45 | 3AV02 | 1 |
| 12 x 16" Water-Jel Face Mask | 04-90-80 | 4RL90 | 1 | 3" x 5 yds. Self-Adhesive Wrap | 72-00-72 | 4RM15 | 1 |

***New*** **No. 4RL63.** Utility Burn Kit. Shpg. wt. 3.0 lbs. List ..... $55.55.
Each **$50.00;** Lots 4 ..... **$47.50**




## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# EMPTY FIRST AID KITS

- Empty kits will hold both bulk and unitized refills
- Unit quantity refers to the number of individually sealed unitized cartons a kit will hold
- Combine an empty kit with refill items to meet custom first aid needs
- All kits are weatherproof and include a carrying handle and mounting brackets




| Kit Description | Dimensions (In.) L | W | H | North Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **EMPTY METAL FIRST AID KITS** | | | | | | | | | |
| **10-Unit Kit** | 8 | 2⅝ | 5 | 05-24-64 | **5M561** | $12.38 | **$11.14** | **$10.03** | 2.0 |
| **16-Unit Kit** | 9½ | 2⅝ | 6¾ | 05-25-64 | **5M560** | 15.49 | **13.95** | **12.56** | 2.6 |
| **24-Unit Kit** | 9½ | 2⅝ | 9½ | 05-27-64 | **5M558** | 19.17 | **17.25** | **16.39** | 4.0 |
| **36-Unit Kit** | 10 | 3 | 10 | 05-28-64 | **5M557** | 21.50 | **19.36** | **17.42** | 5.5 |
| **EMPTY PLASTIC FIRST AID KITS** | | | | | | | | | |
| **10-Unit Kit** | 8½ | 3½ | 6 | 05-40-05 | **5M556** | 8.72 | **7.85** | **7.46** | 0.7 |
| **16-Unit Kit** | 10 | 3 | 7 | 05-15 22 | **5M562** | 11.58 | **10.43** | **9.38** | 1.0 |
| **24-Unit Kit** | 10 | 3 | 3 | 05-27-20 | **5M559** | 15.96 | **14.37** | **12.94** | 1.0 |

NORTH

# ANTISEPTICS, OINTMENTS AND CREAMS

**No. 5M569 Antiseptic Towelettes.** Antimicrobial towelettes disinfect a large area. Active ingredient is Benzalkonium Chloride. 8 x 5" towelette. 6 towlettes per package.

**No. 1AV60 Antiseptic Spray.** 3 oz.spray can to soothe and disinfect wounds.

**Nos. 6AR61 and 3AG04 PVP Iodine Wipes.** Premoistened wipe pad containing 10% povidine iodine, individually sealed in foil packets

**Nos. 3AN07 and 4T364 PVP Iodine Swabs.** 1/2cc PVP iodine sealed in a glass ampule with a non-clogging applicator tip.

**No. 2AN28 PVP Medicated Ointment.** Each unit contains six 1/8 oz. tubes.

**No. 2AC62 Triple Antibiotic Ointment.** Contains Neomycin and Polymyxin B Sulfate to kill gram positive organisms, and Bacitracin to kill gram negative organisms. Each unit contains 10 1/32 oz. packets.

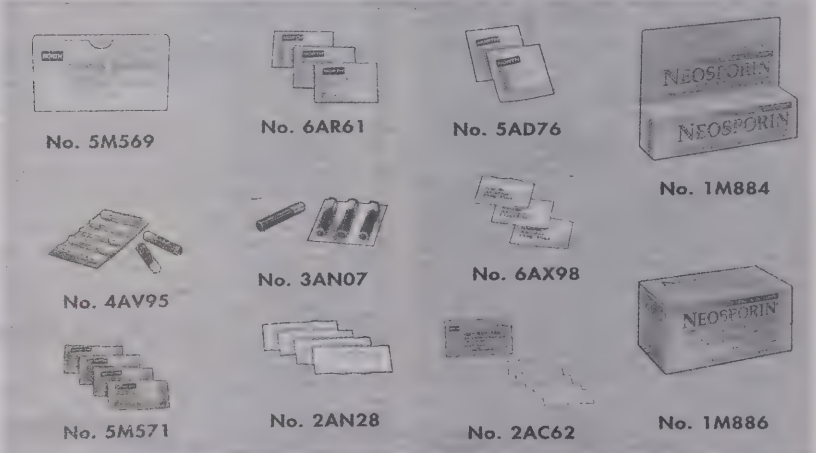
**No. 4AV95 Green Soap Swabs.** 1/2 cc Green Soap sealed in glass ampule with non-clogging applicator tip. Green Soap is a wound cleanser, not an antiseptic. 10 swabs per package.

**No. 5M571 Green Soap Wipes.** Wipes individually sealed in foil packets. 10 wipes per package.

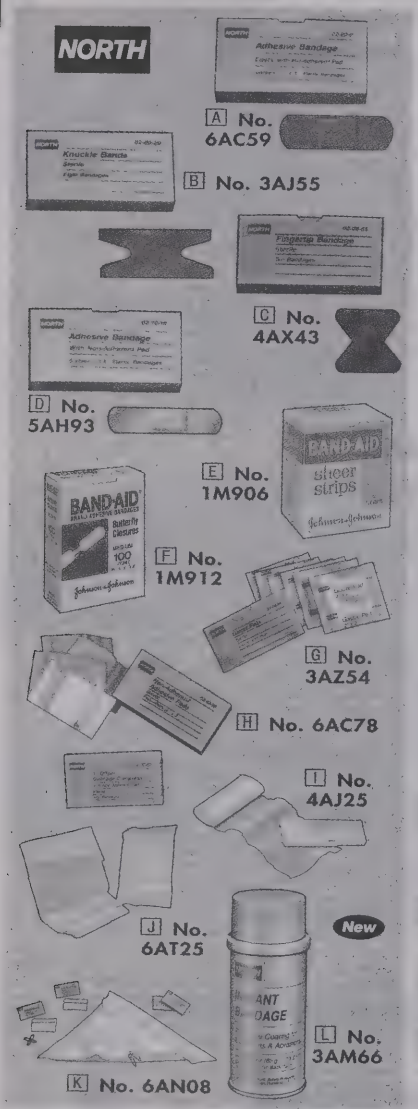
**Nos. 4AV63, 4T366, and 5AD76 Hydrocortisone Cream.** For temporary relief of itching associated with minor skin irritations and rashes.

**Nos. 6AX98 and 5AD39 Alcohol Prep Pads.** Premoistened wipe pads individually sealed in foil packets.

**Nos. 1M882, 1M884 and 1M886 Neosporin® Antibiotic Ointment.** Helps prevent infection in minor cuts, scrapes and burns. Will not sting or burn. Polymyxin B Sulfate-Bacitracin Zinc-Neomycin Sulfate. Available in ½ oz. tube, 1 oz. tube or box of 144 1/32 oz. foil packets.




| Description | Carton Qty. | North Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **UNITIZED, INDIVIDUALLY PACKAGED ITEMS** | | | | | | |
| **Antiseptic Towelettes** | 6 | 02-16-35 | **5M569** | $0.98 | **$0.89** | 0.1 |
| **Antiseptic Spray, 3 oz.** | 1 | 03-22-00 | **1AV60** | 4.93 | **4.45** | 0.5 |
| **PVP Iodine Wipes** | 10 | 02-12-01 | **6AR61** | 1.43 | **1.29** | 0.1 |
| **PVP Iodine Swabs** | 10 | 02-08-60 | **3AN07** | 2.31 | **2.08** | 0.1 |
| **PVP Medicated Ointment, 1/8 oz.** | 6 | 02 11-50 | **2AN28** | 2.18 | **1.97** | 0.1 |
| **Triple Antibiotic Ointment, 1/32 oz.** | 10 | 02 01-25 | **2AC62** | 2.17 | **1.95** | 0.1 |
| **Green Soap Swabs** | 10 | 02-09-40 | **4AV95** | 2.48 | **2.24** | 0.1 |
| **Green Soap Wipes** | 10 | 02 12-03 | **5M571** | 1.27 | **1.15** | 0.1 |
| **Hydrocortisone Cream, 1/32 oz.** | 10 | 02-11-61 | **4AV63** | 2.71 | **2.44** | 0.1 |
| **Hydrocortisone Cream, 1/8 oz.** | 6 | 02-11-60 | **5AD76** | 2.84 | **2.56** | 0.1 |
| **Alcohol Prep Pads** | 10 | 02-10-47 | **6AX98** | 1.00 | **0.90** | 0.1 |
| **Neosporin, 1/2 oz.** | 1 | 23734 | **1M882** | 7.86 | **6.28** | 0.1 |
| **Neosporin, 1 oz.** | 1 | 23736 | **1M884** | 12.30 | **9.84** | 0.1 |
| **Neosporin, 1/32 oz. foil packets** | 144 | 23730 | **1M886** | 63.36 | **50.75** | 0.6 |
| **BULK PACKAGED ITEMS** | | | | | | |
| **PVP Iodine Wipes** | 100 | 03-20-04 | **3AG04** | 10.01 | **9.01** | 0.5 |
| **PVP Iodine Swabs** | 100 | 03-20-01 | **4T364** | 23.13 | **20.82** | 0.5 |
| **Alcohol Prep Pads** | 100 | 03-25-25 | **5AD39** | 5.22 | **4.70** | 0.4 |
| **Hydrocortisone Cream, 1/32 oz.** | 100 | 03-20-03 | **4T366** | 36.34 | **32.75** | 0.5 |




## BANDAGE REFILLS

| Key | Description | Brand | Carton Qty. | North Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **ADHESIVE CLOTH BANDAGES** | | | | | | | | |
| A | 1 x 3" Cloth Adhesive Bandage | North | 16 | 02-80-01 | | 6AC59 | $1.63 | $1.47 | 0.1 |
| A | 1 x 3" Cloth Adhesive Bandage | North | 100 | 03-20-71 | | 4T369 | 7.59 | 6.83 | 0.3 |
| A | 3/4 x 3" Cloth Adhesive Bandage | North | 100 | 03-20-70 | | 4T371 | 6.40 | 5.76 | 0.2 |
| B | Knuckle Cloth Adhesive Bandage | North | 8 | 02-00-20 | | 3AJ55 | 1.33 | 1.20 | 0.1 |
| B | Knuckle Cloth Adhesive Bandage | North | 50 | 03-21-75 | | 3T927 | 7.43 | 6.69 | 0.2 |
| C | Fingertip Cloth Adhesive Bandage | North | 10 | 02-08-55 | | 4AX43 | 1.85 | 1.67 | 0.1 |
| C | Fingertip Cloth Adhesive Bandage | North | 50 | 03-21-73 | | 3T928 | 7.36 | 6.62 | 0.1 |
| — | Fingertip (5) & Knuckle (4) Combo | North | 9 | 02-00-10 | | 5M574 | 1.43 | 1.29 | 0.1 |
| | **ADHESIVE PLASTIC BANDAGES** | | | | | | | | |
| D | 3/4 x 3" Plastic Adhesive Bandage | North | 16 | 02-10-10 | | 5AH93 | 1.11 | 1.01 | 0.1 |
| D | 3/4 x 3" Plastic Adhesive Bandage | North | 100 | 03-20-77 | New | 4RL76 | 4.03 | 3.64 | 0.5 |
| D | 1 x 3" Plastic Adhesive Bandage | North | 16 | 02-07-95 | | 2AC46 | 0.89 | 0.80 | 0.1 |
| D | 1 x 3" Plastic Adhesive Bandage | North | 32 | 02-07-01 | | 6AR03 | 2.10 | 1.89 | 0.1 |
| D | 1 x 3" Plastic Adhesive Bandage | North | 100 | 03-20-72 | | 4T370 | 5.40 | 4.86 | 0.3 |
| D | 1 x 3½" Plastic Adhesive Bandage | North | 100 | 03-20-10 | | 4T372 | 7.50 | 6.75 | 0.3 |
| D | 2 x 4½" Plastic Adhesive Bandage | North | 6 | 02-09-15 | | 1N702 | 1.55 | 1.40 | 0.1 |
| E | 3/4 x 3" Plastic Adhesive Bandage | Band-Aid | 100 | 4634 | | 1M908 | 6.50 | 5.20 | 0.2 |
| E | 1 x 3" Plastic Adhesive Bandage | Band-Aid | 100 | 4644 | | 1M906 | 7.36 | 5.89 | 0.2 |
| E | 2 x 4½" Plastic Adhesive Bandage | Band-Aid | 50 | 5716 | | 1M904 | 11.92 | 9.53 | 0.3 |
| E | 2 x 4½" Plastic Adhesive Bandage | North | 25 | 03-21-76 | New | 4RL78 | 6.28 | 5.65 | 0.2 |
| F | 1¾ x 3/8" Butterfly Bandage | North | 16 | 02-05-66 | New | 4RL66 | 2.33 | 2.10 | 0.5 |
| F | 1¾ x 3/8" Butterfly Bandage | Band-Aid | 100 | 4331 | | 1M912 | 11.86 | 9.49 | 0.1 |
| F | 2¾ x 1/2" Butterfly Bandage | Band-Aid | 100 | 4332 | | 1M910 | 15.86 | 12.69 | 0.1 |
| | **STERILE PADS, BANDAGES, AND COTTON** | | | | | | | | |
| G | 2 x 2" Sterile Pads | North | 6 | 02-05-83 | | 3AZ54 | 1.51 | 1.36 | 0.1 |
| G | 2 x 2" Sterile Pads | North | 10 | 04-19-75 | New | 4RL81 | 2.39 | 2.16 | 0.2 |
| G | 3 x 3" Sterile Pads | North | 4 | 02-04-30 | | 3AM86 | 1.14 | 1.03 | 0.1 |
| G | 3 x 3" Sterile Pads | North | 10 | 04-19-80 | New | 4RL82 | 3.06 | 2.75 | 0.2 |
| G | 3 x 3" Sterile Pads | North | 25 | 03-20-16 | | 4T363 | 7.23 | 6.51 | 0.3 |
| G | 4 x 4" Sterile Pads | North | 10 | 04-80-01 | New | 4RL83 | 5.50 | 4.95 | 17.0 |
| H | 2 x 3" Non-Adherent Pad | North | 4 | 02-07-30 | | 6AC78 | 1.50 | 1.35 | 0.1 |
| I | 3" 2 yd. Ace Bandage | North | 1 | 04-19-61 | New | 4RL80 | 3.17 | 2.86 | 0.5 |
| I | 1" x 6 yd. Bandage | North | 4 | 02-06-25 | | 6AR74 | 4.34 | 3.91 | 0.1 |
| I | 2" x 6 yd. Bandage | North | 2 | 02-06-30 | | 3AG65 | 2.84 | 2.56 | 0.1 |
| I | 4" x 6 yd. Bandage | North | 1 | 02-03-05 | | 4AJ25 | 2.33 | 2.10 | 0.1 |
| I | 2" x 4.1 yd. Stretch Bandage | North | 1 | 04-80-03 | | 3AX55 | 1.53 | 1.38 | 0.1 |
| I | 1" x 4.1 yd. Stretch Bandage | North | 1 | 04-80-02 | New | 4RL84 | 1.00 | 0.90 | 0.2 |
| I | Absorbent Cotton, 1 oz. | North | 1 | 04-08-10 | New | 4RL79 | 2.42 | 2.17 | 0.2 |
| | **COMPRESSES** | | | | | | | | |
| J | 2" Offset® Bandage Compress | North | 4 | 02-07-66 | | 6AT25 | 3.66 | 3.30 | 0.1 |
| J | 3" Offset® Bandage Compress | North | 2 | 02-07-67 | | 5M572 | 3.00 | 2.71 | 0.1 |
| J | 4" Offset® Bandage Compress | North | 1 | 02-07-68 | | 5AV68 | 2.31 | 2.08 | 0.1 |
| J | 24 x 72" Gauze Compress | North | 1 | 02-05-10 | | 3AV36 | 2.54 | 2.29 | 0.1 |
| | **TRIANGULAR BANDAGES** | | | | | | | | |
| K | Sterile Triangular Bandage w/Safety Pins | North | 1 | 02-03-70 | | 6AN08 | 2.44 | 2.20 | 0.1 |
| K | Non-Sterile Triangular Bandage w/Safety Pins | North | 1 | 02-03-74 | | 2AZ22 | 1.79 | 1.61 | 0.1 |
| | **BANDAGE SPRAY** | | | | | | | | |
| — | Trauma Dressing, 36" x 72" | North | 1 | 15-48-51 | New | 4RL94 | 8.83 | 7.95 | 0.2 |
| L | 3 oz. Bandage Spray | North | 1 | 03-22-01 | | 3AM66 | 4.93 | 4.45 | 0.5 |
| | **SELF-ADHERENT WRAP** | | | | | | | | |
| M | Self-Adherent Wrap, 1" x 5 yds. | North | 5 | 72-00-70 | New | 4RM13 | 7.21 | 6.50 | 0.2 |
| M | Self-Adherent Wrap, 2" x 5 yds. | North | 1 | 72-00-71 | New | 4RM14 | 2.17 | 1.96 | 0.2 |
| M | Self-Adherent Wrap, 3" x 5 yds. | North | 1 | 72-00-72 | New | 4RM15 | 2.57 | 2.32 | 0.2 |
| M | Self-Adherent Wrap, 4" x 5 yds. | North | 1 | 72-00-73 | New | 4RM16 | 3.10 | 2.80 | 0.2 |

## TAPE, TOURNIQUETS, INSTRUMENTS AND BLANKET

| Description | Carton Qty. | North Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2" x 5 yd. Waterproof Adhesive Tape | 1 | 04-80-07 | | 5M566 | $1.72 | $1.55 | 0.2 |
| 1" x 2.5 yd. Adhesive Tape | 2 | 02-06-15 | New | 4RL67 | 2.15 | 1.95 | 0.2 |
| 1" x 2.5 yd. Adhesive Tape | 1 | 04-80-08 | New | 4RL86 | 1.93 | 1.75 | 0.2 |
| 1" x 5 yd. Adhesive Tape | 1 | 04-80-06 | New | 4RL85 | 2.09 | 1.89 | 0.2 |
| Tri-Cut Tape Combo (1/2, 5/8, 7/8" x 5 yd.) | 1 ea. | 03-21-70 | | 5AG62 | 3.58 | 3.23 | 0.2 |
| Tourniquet | 1 | 02-03-50 | | 1N724 | 3.25 | 2.93 | 0.1 |
| Tourniquet and Forceps | 1 ea. | 02-03-25 | | 5AG38 | 4.12 | 3.71 | 0.1 |
| Forceps and Scissors | 1 ea. | 02-05-50 | | 6AK40 | 1.99 | 1.79 | 0.1 |
| 4" Blunt Scissors | 1 | 03-15-45 | | 3AV02 | 0.73 | 0.66 | 0.1 |
| Forceps, Pointed | 1 | 03-15-65 | | 4AV04 | 0.73 | 0.66 | 0.1 |
| Tongue Depressors | 5 | 15-45-03 | New | 4RL93 | 1.48 | 1.33 | 0.2 |
| Wire Splint, 3.75" x 30" | 1 | 02-00-56 | New | 4RL64 | 4.55 | 4.10 | 0.5 |
| Rescue Blanket, 56" x 84" | 1 | 02-06-18 | New | 4RL68 | 4.39 | 3.95 | 0.2 |



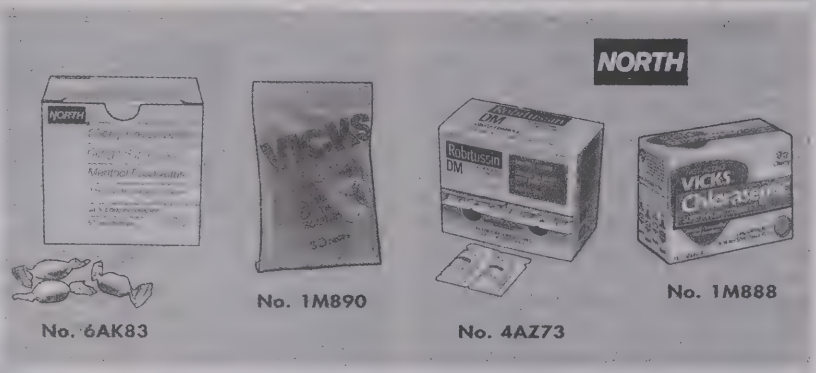
# FIRST AID MEDICINAL PRODUCTS AND REFILLS

**No. 6AK83 Cough Drops.** Cherry flavored cough drops control coughs due to minor bronchial irritation. Non-narcotic.

**No. 1M890 Vicks® Cough Drops.** Menthol cough suppressant and oral anesthetic coats, calms, and soothes minor sore throat pain and coughs due to colds. Cherry flavor.

**No. 4AZ73 Robitussin® DM Cough Syrup.** Alcohol-free formula controls coughs, loosens and relieves chest congestion. Guaifenesin, USP 200 mg., Dextromethorphan Hydrobromide, USP 20 mg./dose.

**No. 1M888 Vicks® Chloraseptic Throat Lozenges.** Fast acting oral anesthetic for long lasting relief of minor sore throat pain. Menthol/benzocaine. Cherry flavor.




| Description | Size | Carton Qty. | Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **North Cough Drops** | 50 drops | — | 03-21-30 | **6AK83** | $3.83 | **$3.45** | 0.6 |
| **Vicks Cough Drops** | 30 drops | — | 808998 | **1M890** | 2.94 | **2.35** | 0.2 |
| **Robitussin Cough Syrup** | 1/3 oz. dose | 24 dose | 0031-8685-24 | **4AZ73** | 17.36 | **13.89** | 1.0 |
| **Chloraseptic Lozenges** | 18 lozenges | — | 231290 | **1M888** | 5.74 | **4.59** | 0.2 |

# GLOVES, FACE MASK, CPR SHIELD, AND FIRST AID GUIDE

**No. 4RL95 Latex Gloves.** Medical grade. 2 pair per bag.

**No. 5M568 Latex Gloves.** Medical grade. 2 pair per unit carton.

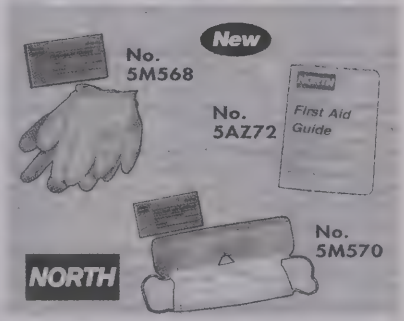
**No. 4AD96 Nitrile Gloves.** Medical grade. 2 pair per unit carton.

**No. 5M570 Face mask.** With eye shield.

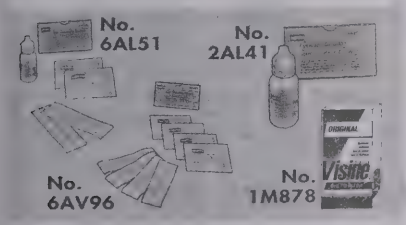
**No. 4T382 CPR Microshield®.** Packed in a vinyl pouch.

**No. 5T060 CPR Microshield®.** Packed with 4 alcohol wipes and one pair of latex gloves.

**No. 5AZ72 Pocket First Aid Guide.** Quick reference for common first aid procedures.




| Description | Carton Qty. | North Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Latex Gloves** | 2 pr. | 15-99-00 | *New* | **4RL95** | $1.44 | **$1.30** | 0.2 |
| **Latex Gloves** | 2 pr. | 02-99-99 | | **5M568** | 1.61 | **1.45** | 0.1 |
| **Nitrile Gloves** | 2 pr. | 02-16-40 | | **4AD96** | 2.54 | **2.29** | 0.1 |
| **Face Mask w/ Eye Shield** | 1 | 02-16-25 | | **5M570** | 3.40 | **3.07** | 0.1 |
| **CPR Microshield®** | 1 | 12-10-65 | | **4T382** | 7.45 | **6.71** | 0.1 |
| **CPR Microshield® w/Wipes & Gloves** | 1 | 12-10-55 | | **5T060** | 9.22 | **8.30** | 0.1 |
| **Pocket First Aid Guide** | 1 | 04-21-15 | | **5AZ72** | 0.91 | **0.83** | 0.1 |




# New EYE CARE PRODUCTS

| Description | Brand | Carton Qty. | Model No. | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Eye-Lert® 1 oz. Eye Wash** | North | 1 | 02-06-99 | | **2AL41** | $3.00 | **$2.71** | 0.1 |
| **Eye-Lert® 1 oz. Eye Wash** | North | 12 | 03-20-45 | | **4T365** | 33.31 | **30.00** | 1.3 |
| **Eye-Lert® 1 oz. w/2 Eye Pads, Strips** | North | 1 | 02-09-56 | | **6AL51** | 3.50 | **3.15** | 0.1 |
| **Eye-Lert® 4 oz. Eye Wash** | North | 1 | 12-60-40 | | **6AJ73** | 2.72 | **2.45** | 0.3 |
| **Eye Dressing Pads w/Adhesive Strips** | North | 4 | 02-03-00 | | **6AV96** | 2.06 | **1.86** | 0.1 |
| **Eye Pad, Sterile** | North | 1 | 03-14-00 | *New* | **4RL75** | 0.50 | **0.45** | 0.5 |
| **Eye Drops, 1/2 oz.** | Visine | 1 | 00803 | | **1M878** | 6.94 | **5.55** | 0.1 |
| **Eye Drops, 1 oz.** | Visine | 1 | 00308 | | **1M880** | 11.10 | **8.88** | 0.1 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# FIRST AID MEDICINAL PRODUCTS AND REFILLS

## ORAL MEDICINES

**No. 6AP97, 4RL77 and 4T375 Aspirin Tablets.** Analgesic, antipyretic, anti-inflammatory product for temporary relief of minor aches and pains, headaches, and fever. Caffeine and sodium free. Aspirin, 325 mg. per tablet. 2 per packet.

**No 1M902 Bayer® Aspirin.** Fast, safe relief from minor aches and pains and pain from arthritis. Micro-coating and sleek shape for easy swallowing. Caffeine and sodium free. Aspirin, 325 mg. per tablet. 2 per packet.

**No. 4AV91 Anacin® Coated Analgesic Aspirin Tablets.** Coated for easier swallowing; works for hours. Quickly relieves minor aches and pains due to neuralgia, neuritis, sprains, muscular aches, discomfort and fever of colds, tooth extraction, toothache, and minor arthritic pain. Aspirin, 400 mg.; Caffeine, 32 mg./tablet. 2 per packet.

**No. 5AJ08, 4T376 and 3AG26 Pain-A-Rest® Tablets.** Non-aspirin analgesic, antipyretic. Acetaminophen 325 mg. per tablet. 2 per packet.

**No. 4T378 Pain-A-Rest® Extra Caplets.** Acetaminophen 500 mg. per tablet. 2 per packet.

**No. 1M894 Tylenol® Regular Strength Tablets.** Provide safe, analgesic aspirin free pain relief from minor aches and pains and fever reduction. Acetaminophen, 325 mg. per tablet. 2 per packet.

**No. 1M896 Tylenol® Extra Strength Caplets.** Safe analgesic, aspirin free pain reliever as regular Tylenol in extra strength, easy to swallow caplet form. Acetaminophen, 500 mg. per caplet. 2 per packet.

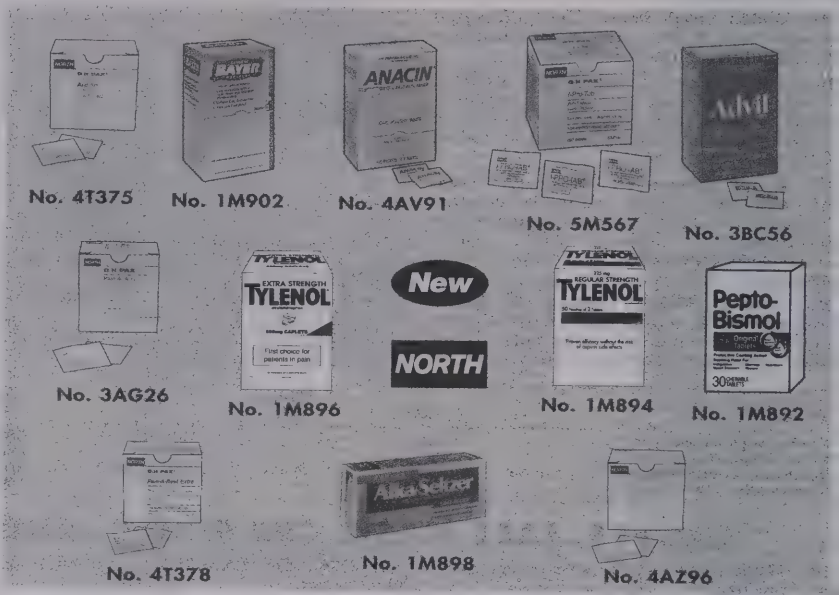
**No. 5M567 I-Pro-Tab®** For temporary relief of headache, toothache, muscular aches, minor arthritis pains and menstrual cramps. Ibuprofen 200 mg. per tablet. 2 per packet.

**No. 3BC56 Advil® Pain Relief Tablets.** For temporary relief of minor aches and pains associated with the common cold, headache, toothache, muscular ache, backache, minor arthritic pain, fever reduction. Ibuprofen, 200 mg. per tablet. 2 per packet.

**No. 4AZ96 Acid Relief® Tablets.** Chewable tablets for prompt, temporary relief of heartburn, sour stomach, or acid indigestion. 2 per packet.

**No 1M898 Alka-Seltzer® Effervescent Tablets.** Antacid and pain reliever for heartburn, acid indigestion, sour stomach with headache, body aches, pains. 2 per packet.

**No. 1M892 Pepto-Bismol® Tablets.** Provide soothing relief from indigestion, upset stomach, diarrhea, nausea and heartburn. 48 tablets/box.




| Description | Size | Carton Qty. | North Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| North Aspirin | 2/packets | 13 pkts. | 02-05-56 | | 6AP97 | $1.47 | $1.33 | 0.1 |
| North Aspirin | 2/packets | 50 pkts. | 03-20-80 | New | 4RL77 | 4.59 | 4.14 | 0.5 |
| North Aspirin | 2/packets | 100 pkts. | 03-20-90 | | 4T375 | 6.68 | 6.02 | 0.4 |
| Bayer Aspirin | 2/packets | 100 pkts. | 114-07-C5 | | 1M902 | 18.72 | 14.98 | 0.5 |
| Anacin Aspirin | 2/packets | 125 pkts. | 0031-0202-93 | | 4AV91 | 15.48 | 12.38 | 0.5 |
| North Pain-A-Rest | 2/packets | 13 pkts. | 02-05-55 | | 5AJ08 | 2.01 | 1.82 | 0.1 |
| North Pain-A-Rest | 2/packets | 50 pkts. | 03-20-82 | | 3AG26 | 5.89 | 5.30 | 0.2 |
| North Pain-A-Rest | 2/packets | 100 pkts. | 03-20-92 | | 4T376 | 8.85 | 7.97 | 0.4 |
| North Pain-A-Rest Extra | 2/packets | 100 pkts. | 03-20-93 | | 4T378 | 13.35 | 12.01 | 0.3 |
| Tylenol | 2/packets | 50 pkts. | 0496-102 | | 1M894 | 10.64 | 8.51 | 0.3 |
| Tylenol Extra | 2/packets | 50 pkts. | 0449-108 | | 1M896 | 13.34 | 10.67 | 0.3 |
| North I-Pro-Tab | 2/packets | 100 pkts. | 03-21-12 | | 5M567 | 10.50 | 9.45 | 0.5 |
| Advil | 2/packets | 100 pkts. | 0573-0151-65 | | 3BC56 | 16.78 | 13.43 | 0.5 |
| North Acid Relief | 2/packets | 100 pkts. | 03-25-09 | | 4AZ96 | 7.54 | 6.79 | 0.5 |
| Alka-Seltzer | 2/packets | 36 pkts. | 0H15026 | | 1M898 | 16.90 | 13.52 | 0.6 |
| Pepto-Bismol | 48 tablets | — | 326428 | | 1M892 | 9.56 | 7.65 | 0.2 |

## COLD PACKS, INHALANTS, INSECT & SNAKE BITE AID

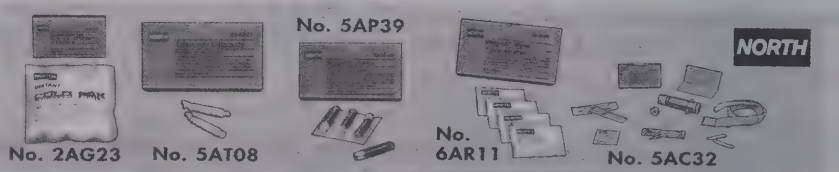
**No. 2AG23, 4T362.** Instant Cold Pak. Ideal for sprains, nose bleeds, insect bites, burns, headaches. North brand.

**No. 5AT08.** Ammonia inhalants. Indelible coloring stains cotton when inhalant is broken to indicate presence of released ammonia. North brand.

**No. 5AP39, 4T361.** Sting Kill Swabs. 1/2 cc. North brand.

**No. 6AR11.** Sting Kill Wipes. Individually sealed packets. North brand.

**No. 5AC32.** Snake Bit Kit. Contains venom suction pump and all accessories necessary to treat a snake bit. North brand.




| Description | Carton Qty. | North Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Instant Cold Pak | 1 | 02-06-67 | 2AG23 | $1.25 | $1.13 | 0.2 |
| Instant Cold Pak | 10 | 03-20-42 | 4T362 | 13.72 | 12.35 | 2.5 |
| Ammonia Inhalants | 10 | 02-02-25 | 5AT08 | 2.17 | 1.96 | 0.1 |
| Sting Kill Swabs | 10 | 02-10-45 | 5AP39 | 2.25 | 2.03 | 0.1 |
| Sting Kill Swabs | 100 | 03-20-41 | 4T361 | 22.01 | 19.82 | 0.5 |
| Sting Kill Wipes | 10 | 02-12-02 | 6AR11 | 1.47 | 1.33 | 0.1 |
| Snake Bite Kit | 1 | 12-39-10 | 5AC32 | 16.32 | 14.69 | 0.1 |

# BURN CARE AND PERSONAL PROTECTION TOWELETTES

## BURN CARE

### SPRAY, GEL, AND OINTMENTS

**Nos. 4T368, 4RL69, 3AX13, and 4RL92 Burn Spray/Foille Spray.** Topical anesthetic provides instant relief from pain caused by burns.

**No. 2AD94, 2BC14, and 6AZ81 Water Jel®/Burn Jel®.** Individual packets with strong pain relieving medicine for burns. Contains lidocaine.

**Nos. 6AG06, 4RL64 and 1N729 Burn Ointment.** Individual packets with strong pain relieving medicine for burns. Contains benzocaine. Water-Jel® Cool Jel - Specifically made for use on minor burns, cuts, and scrapes. Cool Jel's cooling formula soothes, comforts and moisturizes the afflicted areas while forming a protective barrier that guards against contaminants and irritants that may delay healing.

Water-Jel® Unburn - Specifically formulated for sunburn. Contains pain relieving lidocaine. It is not sticky and will not stain clothing. Unburn cools and soothes affected areas while moisturizing the skin to prevent peeling.

### WATER-JEL® PRODUCTS

Water-Jel dressings and blankets are a patented system combining a scientifically formulated gel and a special care material. When applied to a burn, these products help calm the victim as well as immediately cool the skin, ease pain, and protect the wound from further contamination. They can be easily removed without reinjuring the wound.

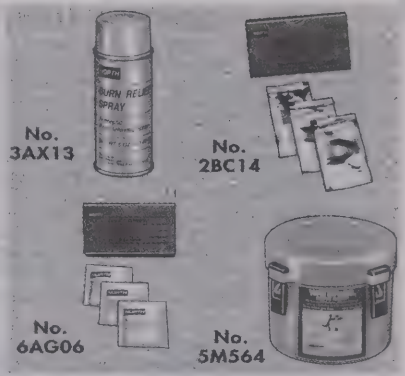
**No. 5M564. Water-Jel Burn Wrap.** 3 ft. x 2½ ft. burn wrap/extinguisher in plastic canister.

**No. 5M565 Water-Jel Fire Blanket.** 5 ft. x 6 ft. blanket in durable plastic canister.

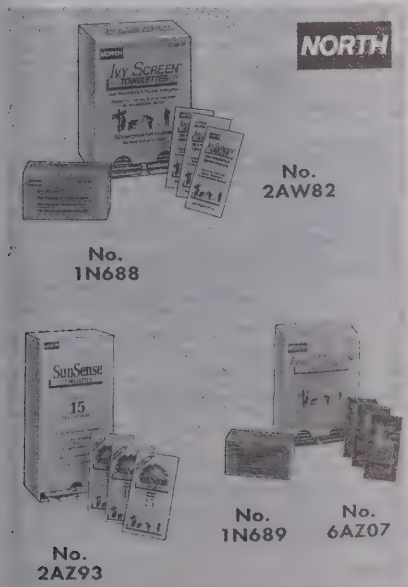
**No. 5M563 Water-Jel Heat Shield Blanket.** 8 ft. x 6 ft. blanket in durable plastic canister. Protects rescuer from heat and flames.

**No. 4RL70, 4RL71, 5M554, and 5M555 Water-Jel Burn Dressing.** Bacteriostatic burn dressing protects wound from further contamination. Will not adhere to skin. Available in 2 x 2", 2 x 6", 4 x 4", 4 x 16", 12 x 16", and 8 x 18" sizes.

New NORTH




| Description | Carton Qty. | North Model | | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Burn Spray, 1/2 oz. | 12 | 03-20-46 | | 4T368 | $46.83 | $42.15 | $40.04/ 4 | 0.9 |
| Burn Spray, 1.2 oz. | 2 | 02-08-61 | New | 4RL69 | $6.05 | 5.46 | 5.18/12 | 0.5 |
| Foille Spray, 3 oz. | 1 | 11-38-60 | New | 4RL92 | $6.05 | 5.46 | 5.18/12 | 0.5 |
| Burn Spray, 3 oz. | 1 | 03-22-02 | | 3AX13 | 4.93 | 4.45 | 4.23/ 6 | 0.5 |
| Burn-Jel, 1/8 oz. Pouch | 25 | 04-90-50 | | 2AD94 | 16.86 | 15.17 | 14.41/ 6 | 0.3 |
| Burn-Jel, 1/8 oz. Pouch | 6 | 02-10-20 | | 2BC14 | 5.27 | 4.75 | 4.51/ 6 | 0.1 |
| Burn-Jel, 4 oz. Bottle | 1 | 04-90-60 | | 6AZ81 | 7.97 | 7.18 | 6.82/ 6 | 0.4 |
| Burn Ointment, 1/8 oz. Packet | 6 | 02-11-55 | | 6AG06 | 2.15 | 1.94 | 1.84/12 | 0.1 |
| Burn Ointment, 1/8 oz. Packet | 6 | 02-00-56 | New | 4RL64 | 4.55 | 4.10 | 3.90/12 | 0.5 |
| Burn Ointment, 5/8 oz. Tube | 2 | 02-01-49 | | 1N729 | 3.30 | 2.98 | 2.84/12 | 0.1 |
| Water-Jel Cool Jel, 4 oz. Bottle | 1 | 04-90-70 | New | 4RL88 | 4.56 | 4.11 | 3.90/12 | 0.5 |
| Water-Jel Cool Jel, 1/8 oz. Packet | 25 | 04-90-90 | New | 4RL91 | 10.77 | 9.70 | 9.22/12 | 0.5 |
| Water-Jel Cool Jel, 1/8 oz. Packet | 6 | 02-10-40 | New | 4RL72 | 2.57 | 2.31 | 2.20/12 | 0.5 |
| Unburn, 6gm unit dose | 5 | 02-90-51 | New | 4RL74 | 4.82 | 4.34 | 4.12/12 | 0.5 |
| Unburn Sunburn Relief, 4 oz. Bottle | 1 | 04-90-53 | New | 4RL87 | 7.24 | 6.52 | 6.19/12 | 0.5 |
| Water-Jel Burn Wrap, 2½ x 3 ft. | 1 | 04-90-30 | | 5M564 | 61.19 | 56.15 | 53.33/ 4 | 6.5 |
| Water-Jel Fire Blanket, 5 x 6 ft. | 1 | 04-90-20 | | 5M565 | 134.32 | 123.25 | 117.08/ 3 | 20.0 |
| Water-Jel Heat Shield, 6 x 8 ft. | 1 | 04-90-40 | | 5M563 | 201.65 | 185.25 | 175.76/ 3 | 28.0 |
| Water-Jel Burn Dressing, 2 x 2" | 1 | 02-10-30 | New | 4RL70 | 5.20 | 4.69 | 4.46/12 | 0.5 |
| Water-Jel Burn Dressing, 2 x 6" | 1 | 02-10-32 | New | 4RL71 | 9.74 | 8.78 | 8.34/12 | 0.2 |
| Water-Jel Burn Dressing, 4 x 4" | 1 | 04-90-77 | | 5M554 | 6.50 | 5.99 | 5.69/ 6 | 0.1 |
| Water-Jel Burn Dressing, 4 x 16" | 1 | 04-90-76 | New | 4RL89 | 9.30 | 8.38 | 7.96/12 | 0.2 |
| Water-Jel Burn Dressing, 8 x 18" | 1 | 04-90-75 | | 5M555 | 14.15 | 12.99 | 12.34/ 6 | 0.8 |
| Water-Jel Facial Dressing, 12 x 16" | 1 | 04-90-80 | New | 4RL90 | 17.48 | 15.75 | 14.97/12 | 1.0 |




## PERSONAL PROTECTION TOWELETTES

- **Ideal for outdoor workers who need to protect their skin from exposure to the sun, insects, and poisonous plants**
- **Each towelette is individually packaged in a leak-proof foil pouch**
- **One towelette covers the face, neck, and arms of an average size adult**
- **North brand**
- **50-count dispenser cartons are economical and convenient for work crews**

**Ivy Screen® Towelettes** contain a specially formulated non-greasy skin protectant and topical analgesic. Fragrance free. Quick drying and will not stain clothing.

**No. 2AW82.** (12-20-10). **Packed in a 50-count dispenser.** Shpg. wt. 2.0 lbs. List $35.32. Each ..**$31.85**; Lots 4.... **$28.65**

**No. 1N688.** (02-12-05). **Packed in a 5-count unit carton.** Shpg. wt. 0.1 lbs. List $3.17. Each **$2.86**; Lots 12.... **$2.57**

**SunSense®** Towlettes contains a non-greasy sunscreen with SPF 15 that blocks out almost 95% of the sun's damaging rays. The towlettes are also PABA and fragrance-free, reducing chances of skin irritation or allergic reaction. **Packed in a 50-count dispenser**

**No. 2AZ93.** (12-20-00). Shpg. wt. 2.0 lbs. List $25.54. Each **$22.99**; Lots 4.... **$20.69**

**Insect Repellent Towlettes** contain DEET (N,N-Diethyl-Meta-Toluamide) which is proven to be effective against mosquitoes, ticks, chiggers, deer, stable, and black flies, gnats, and fleas. Towlettes are non-staining and registered with the U.S. and all state Environment Protection Agencies. **No. 6AZ07 is packed in a 50-count dispenser; No. 1N689 is packed in a 5-count dispenser.**

**No. 6AZ07.** (12-20-04). Shpg. wt. 2.0 lbs. List $35.13. Each **$31.70**; Lots 4.... **$28.51**

**No. 1N689.** (02-12-04). Shpg. wt. 0.1 lbs. List $3.26. Each **$2.94**; Lots 12. .... **$2.64**

# VISUAL SIGNALING DEVICES

## WARNING LIGHTS

Warning lights are effective signal devices in high ambient noise areas. Visual signaling devices come in a variety of revolving (rotating) or strobe light styles. Federal Signal brand.

**Revolving lights** create a flash by either rotating the lamp or a mirror-like reflector around a bulb. They provide a steady burning beam as they revolve in a circular pattern. Generally used in areas where caution should be exercised: process control, start-up, overhead door movement, and in similar situations where action or movement requires attention.

**Strobe lights** produce a high intensity burst of light. Normally unaffected by vibration and require little maintenance. For use in areas requiring a warning of potential danger such as: toxic release, treacherous walkways, moving robotic equipment.




### ECONOMICAL REVOLVING WARNING LIGHT

**Vitalite®.** Compact revolving light for areas where hazardous or dangerous conditions are present and where a constant revolving beam of light is desirable. Single screw dome retainer makes relamping easier. 60 flashes per minute. 40-watt long-life incandescent lamp. Designed for 1/2" dia. pipe mount. Red or amber color. 120VAC, 60 Hz. UL Listed indoors (E94581); CSA Certified (C22.2).

### HEAVY DUTY REVOLVING WARNING LIGHT

**Commander®.** Powerful 100 watt rotating sealed beam lamp in heavy-duty die cast housing. 24 fins dissipate heat for extended life. Approximately 60 flashes per minute producing a revolving beam of light with 20,000 candlepower. Pivotable lamp allows for beam adjustment through 90°. Hammertone gray finish base with stainless steel dome retaining ring. Designed for 1" pipe or flat surface mount. Red or amber color. Rated NEMA 3R; UL Listed (1638) indoor, outdoor; CSA Certified (C22.2).

### COMPACT STROBE WARNING LIGHT

**Fireball®.** Effectively brings attention to industrial hazards, and production processes. Features Xenon flash tube, solid-state circuitry, polycarbonate fresnel dome, zinc die cast base painted with a corrosion resistant polyurethane. Produces a brilliant flash 80 times per minute. 300 effective candlepower, peak candlepower 1,000,000*. Designed for 1/2" dia. pipe mount. Red or amber color. 120VAC, 60 Hz. UL Listed indoor, outdoor (E94581); CSA Certified (C22.2).

### DOUBLE FLASH STROBE WARNING LIGHT

**Starfire®.** Convenient size and intense double flash of light makes this model popular for mounting on cranes and other moving devices, marking dangerous areas, and process control. Features solid-state electronics, impact-resistant polycarbonate fresnel dome, anodized aluminum base which resists rust and corrosion. Produces a double-flash of light 75-85 times per minute. 1200 effective candlepower, peak candlepower 2,000,000*. Designed for 1/2" dia. pipe mount. Red or amber color. 120VAC, 60 Hz. UL Listed indoor, outdoor (E94581); CSA Certified (C22.2).

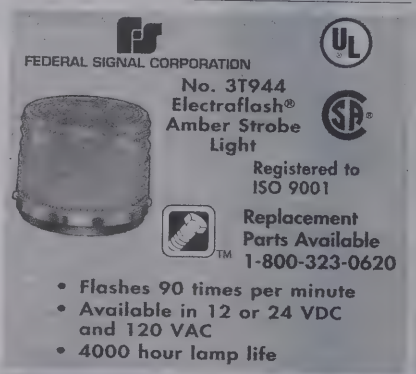
(*) Effective candlepower is intensity which would appear to observer if light were burning steadily. Peak candlepower is max. light intensity generated by flashing light during light pulse.

| Description | Type of Light | Color | Lamp Life (Hr.) | Req'd Power | Amps | Overall Dimensions (In.) H | Dia. | Federal Signal Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vitalite®** | Revolving | Red | 40,000 | 120VAC, 60 Hz | 0.33 | 6 1/2 | 5 1/16 | 121S-120R | **4A961** | $203.31 | **$182.75** | **$164.22** | 2.3 |
| **Vitalite®** | Revolving | Amber | 40,000 | | | | | 121S-120A | **4A962** | 203.31 | **182.75** | **164.22** | 2.3 |
| **Commander®** | Revolving | Red | 2000 | 120VAC, 60 Hz | 0.80 | 11 3/8 | 9 1/8 | 371L-120R | **1N747** | 848.55 | **718.00** | **645.81** | 10.0 |
| **Commander®** | Revolving | Amber | 2000 | | | | | 371L-120A | **1N748** | 848.55 | **718.00** | **645.81** | 10.0 |
| **Fireball®** | Strobe | Red | 10,000 | 120VAC, 60 Hz | 0.25 | 4 15/16 | 3 15/16 | FB2PST-120R | **4A963** | 233.94 | **209.25** | **188.07** | 2.3 |
| **Fireball®** | Strobe | Amber | 10,000 | | | | | FB2PST-120A | **4A964** | 233.94 | **209.25** | **188.07** | 2.3 |
| **Starfire®** | Double flash strobe | Red | 10,000 | 120VAC, 60 Hz | 0.60 | 7 1/2 | 5 11/16 | 131DST-120R | **4A965** | 385.89 | **345.75** | **310.83** | 5.0 |
| **Starfire®** | Double flash strobe | Amber | 10,000 | | | | | 131DST-120A | **4A966** | 385.89 | **345.75** | **310.83** | 5.0 |

## ECONOMICAL STROBE WARNING LIGHT

Electraflash® provides an effective strobe flash in alerting of hazardous conditions. 12 VDC and 24 VDC are most often used on moving equipment such as forklifts and utility vehicles, while the 120 VAC unit is used as an economical alternative to the Fireball® strobe listed above. Features Xenon flash tube, solid state circuitry, polycarbonate Fresnel dome and polycarbonate base. Provides 90 FPM. 12 VDC and 24 VDC units mount on any flat surface. 120 VAC unit designed for 1/2" dia. pipe mount. Lamp life 4,000 hrs. 120 VAC unit is UL Listed (1638). Indoor/outdoor. CSA Certified (C22.2).

| Description | Color | Voltages | Amps | Overall Dims. (In.) H | Dia. | Federal Signal Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Electraflash®** | Red | 12 VDC | 0.18 | 5 | 5 1/2 | 141ST-012R | **3T943** | $109.17 | **$81.40** | **$73.22** | 1.2 |
| **Electraflash®** | Amber | 12 VDC | 0.18 | 5 | 5 1/2 | 141ST-012A | **3T944** | 109.17 | **81.40** | **73.22** | 1.1 |
| **Electraflash®** | Red | 24 VDC | 0.08 | 5 | 5 1/2 | 141ST-024R | **3T945** | 109.17 | **81.40** | **73.22** | 1.2 |
| **Electraflash®** | Amber | 24 VDC | 0.08 | 5 | 5 1/2 | 141ST-024A | **3T946** | 109.17 | **81.40** | **73.22** | 1.1 |
| **Electraflash®** | Red | 120 VAC | 0.060 | 5 1/4 | 5 1/2 | 141ST-120R | **3T947** | 123.90 | **110.85** | **99.72** | 0.5 |
| **Electraflash®** | Amber | 120 VAC | 0.060 | 5 1/4 | 5 1/2 | 141ST-120A | **3T948** | 123.90 | **110.85** | **99.72** | 1.1 |




## WARNING LIGHT MOUNTING KIT

**Provides firm, dependable support** for all 120 volt warning lights listed on this page, on walls throughout commercial, institutional, and industrial facilities. Attractive styling complements office decor or manufacturing environment.

Easy to install. Durable cast aluminum construction with gray hammertone finish. Can be wired through back of bracket for electrical box mounting or through threaded hole in base for external 1/2" conduit connection. Kit includes wall mounting bracket, backplate, and mounting screws. 6H x 6 3/8"W. Extension is 5 7/8". Federal Signal brand (LWMB2).

**No. 5T588.** Shpg. wt. 2.8 lbs. List.....$84.04. Each **$74.65;** Lots 4.....**$67.14**



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# LITESTAK™ STATUS INDICATOR SIGNALING LIGHTS

**Litestak™ Status Indicator produces attention grabbing pulses of light** through the use of a solid state flasher. Subtle flash provided by units for use in process control applications such as machine shut down, material shortage, fault, and tooling change. Litestak™is a column of signaling lights composed of a No. 3T949 die cast zinc base and polycarbonate light modules listed below.

**Base module is prewired** to support from one to five light modules. No. 3T949 base is a non-metallic construction, designed for 3/4" NPT pipe mounting connection or surface mounting through the 4 knockouts molded internally. Contains a flasher circuit. Base can be wired to either flash (flasher included) and/or steady burn each light module.

**Surface Mount Base** is prewired with six wires for steady on light modules. Includes mounting ring and gasket. Accommodates up to five of the light modules listed below (Nos. 3T950 thru 3T954). Requires a 2⅜" dia. hole in mounting surface.

**Light modules are interchangeable and stackable.** Allows customization from 1 to 5 different colored modules per column. Each module is prewired for easy assembly. Includes a 25 watt lamp and a split lens which allows for quick lamp change. Applications include machine shutdown, part storage, tooling change, robotic cell activity, and process control. 120 VAC, 60 Hz, UL Listed. Indoor. Meets NEMA 1 (National Electrical Manufacturers Association) requirements. Federal Signal brand.

**Litestak™ Horn module** can be used as a stand-alone audible device with LSB pipe mount base (3T949), LSBS surface mount base (1N896), or combined with Litestak status indicator light modules to create an audible/visual combination signal.

The Horn is a modular unit which mounts directly onto the top of any 120VAC Litestak™ (maximum 4 colors). Black speaker grille covers protect the Horn. Volume is adjustable. Produces 77dB a@ 10'. Applications include assembly lines, conveyor systems, automated lines, instrument panels, workshops, etc., where a higher volume device is not required. 120 VAC unit. UL-Listed (E4813N), indoor. CSA Approved (LR5835-42).

- Approximately 70 flashes per minute
- Light modules are stackable and interchangeable
- Flashing or steady burning
- Meets NEMA 1 requirements
- 25 Watt lamp included
- Easy to install
- UL Listed (E94581)
- CSA Certified (005835W)

FEDERAL SIGNAL CORPORATION

New

No. 3T949 Litestak™ Base with Light Modules



Registered to ISO 9001

Replacement Parts Available 1-800-323-0620

| Description | Color | Lamp Life (Hr.) | Voltage | Amps | Overall Dimensions (In.) H | D | Federal Signal Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Litestak™ Base** | — | — | 120 VAC | — | 4 | 4⅜ | LSB-120 | **3T949** | $87.45 | **$77.90** | **$70.07** | 3.3 |
| **Litestak™ Surface Mount Base** | — | — | 120 VAC | — | 3/4 | 4⅛ | LSBS | **1N896** | 42.52 | **38.40** | **34.54** | 0.6 |
| **Litestak™ Light** | Amber | 40,000 | 120 VAC | 0.2 | 3⅝ | 4 | LSL-120A | **3T950** | 81.44 | **73.10** | **65.76** | 0.8 |
| **Litestak™ Light** | Blue | 40,000 | 120 VAC | 0.2 | 3⅝ | 4 | LSL-120B | **3T951** | 81.44 | **73.10** | **65.76** | 0.8 |
| **Litestak™ Light** | Clear | 40,000 | 120 VAC | 0.2 | 3⅝ | 4 | LSL-120C | **3T952** | 81.44 | **73.10** | **65.76** | 0.8 |
| **Litestak™ Light** | Green | 40,000 | 120 VAC | 0.2 | 3⅝ | 4 | LSL-120G | **3T953** | 81.44 | **73.10** | **65.76** | 0.8 |
| **Litestak™ Light** | Red | 40,000 | 120 VAC | 0.2 | 3⅝ | 4 | LSL-120R | **3T954** | 81.44 | **73.10** | **65.76** | 0.8 |
| **Litestak™ Horn Module** | — | — | 120 VAC | — | | | LSH-120 | ***New*4RM47** | 115.30 | **102.95** | **92.66** | 0.7 |

## BATTERY POWERED WARNING LIGHT



FEDERAL SIGNAL CORPORATION

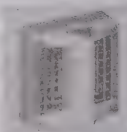
Registered to ISO 9001

Replacement Parts Available 1-800-323-0620

Portable light for job sites or areas requiring temporary warning lights. Five watt lamp flashes 65 times per minute utilizing solid state flasher. Amber dome made of impact resistant polycarbonate. Features simple steel carrying ring, or can be mounted with through bolt. 12 VDC. Powered by two 6 volt batteries (not included, order No. 5U060). Lamp life 300 hours. 11.2H x 3.5D x 7.22"W. Federal Signal brand (BPL26).

**No. 1N744.** Shpg. wt. 2.5 lbs. List $65.17
Each **$51.15**; Lots 4 ..... $46.01

## SURFACE MOUNT STROBE LIGHTS



FEDERAL SIGNAL CORPORATION

Registered to ISO 9001

No. 1N741 Clear Strobe Light

- Horn not included

Panel mount strobe provides 180° flash. Exterior polycarbonate construction with gasket. Unit mountable on 4" electrical box with blank cover, directly on enclosure or panel, or directly to No. 4A967 horn to produce audible and visual signal in one (as pictured, horn not included). 120 VAC, 0.06 amps. Lamp life 4000 hours. Triangular shape measures 3⅞ x 3 15/16"W. Available in clear or red. UL Listed indoor (1638); CSA Certified (C22.2). Federal Signal brand.

**No. 1N741.** Clear Strobe Light (VALS-120) Shpg. wt. 0.2 lbs.
List $92.37. Each **$64.40**; Lots 4 ..... **$57.91**

**No. 1N740.** Red Strobe Light (VALS-120R). Shpg. wt. 0.2 lbs.
List $92.37. Each **$64.40**; Lots 4 ..... **$57.91**

# AUDIBLE AND VISUAL SIGNALING DEVICES




## BACK-UP ALARM

Interactive vehicular alarm provides just the right level of audible signal to warn people of approaching fork lift, tow motor o vehicle. Back-up alarm samples ambient noise levels surroundin vehicle and adjusts sound output. Decibel output can vary fron 107dB to 82dB. Federal Signal brand (253-012-048).

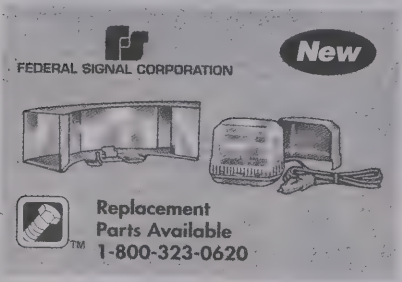
*New!* **No. 4RM40.** Shpg. wt. 1.6 lbs. List $129.78.
Each **$116.95;** Lots 4 ..... **$105.21**




## LOW PROFILE STREAMLINE® MINI STROBE

Designed to be flush mounted to control panels or other flat surfaces in which electrical wiring can be passed through to mounting surface. For use on control panels, machines, above entry ways, on walls and along assembly lines. Mount via two supplied 1¼", 8/32 slotted hex bolts. Polypropylene gasket is supplied to provide water-tight and dust-tight seal (NEMA 4X). Gasket mounts between base of ligh and mounting surface. Available in amber green and red colors. Strobe tube i replaceable and is rated for 4,000 hours o life. 120VAC. UL listed, CSA approved Federal Signal brand.

| Color | Federal Signal Model | *New!* Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Amber** | LP1-120A | **4RM44** | $91.61 | **$82.35** | **$74.12** | 0.4 |
| **Green** | LP1-120G | **4RM45** | 91.61 | **82.35** | **74.12** | 0.4 |
| **Red** | LP1-120R | **4RM46** | 91.61 | **82.35** | **74.12** | 0.4 |




## MAGNET MOUNT FIREBEAM® ROTATING LIGHT

Compact, lightweight light designed for law enforcement, fire, construction and utility market applications. Features snap-together polycarbonate dome and base, which allows lamp to be quickly changed without tools. 55 watt halogen lamp produces 68,000 candelas. Light can be operated at a speed of 95 or 175 flashes per minute. Swivel and magnetic mounts allow versatility. Comes equipped with a cigarette lighter plug (10 foot cord) and black half-dome covers to prevent flashback. Conforms to SAE, J845. Available in blue or amber color. 12VDC. Federal Signal brand.

| Color | Federal Signal Model | *New!* Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Amber** | FB3SM-A | **4RM42** | $103.25 | **$93.70** | **$84.32** | 2.0 |
| **Blue** | FB3SM-B | **4RM43** | 103.25 | **93.70** | **84.32** | 2.0 |




## FLASHING VEHICLE WARNING LIGHT

Electraflash® provides 360° flashing light with approximately 70 flashes per minute. Features Fresnel lens constructed of impact resistant polycarbonate. Light consists of solid state long life flasher with an incandescent bayonet type lamp socket molded into base (lamp included). Nos. 1N906, 1N908 and 1N910 feature long-life incandescent lamps. All units can be surface mounted. 1N906 can be pipe mounted with 1/2" npt. Red or amber dome color. Federal Signal brand.

| Voltage VDC | Dome Color | Amps | Flash Rate | Dim. (In.) H | Dim. (In.) Dia. | Federal Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **12** | Red | 0.3 | 70 FPM | 5 | 5½ | 141-012R | **1N908** | $76.13 | **$52.80** | **$47.49** | 1.1 |
| **12** | Amber | 0.3 | 70 | 5 | 5½ | 141-012A | **1N910** | 76.13 | **52.80** | **47.49** | 1.1 |
| **24** | Amber | 0.9 | 70 | 5 | 5½ | 141-024A | **1N906** | 76.13 | **52.80** | **47.49** | 1.1 |
| **36** | Amber | 0.6 | 70 | 5 | 5½ | 141-036A | **1N904** | 76.13 | **52.80** | **47.49** | 1.1 |




## ELECTRONIC BACK UP ALARM

For vehicles such as fork lifts, dump trucks, and other vehicles that are used around people. Operates on 12VDC to 48VDC, drawing 0.2 amps. 2 bolt universal mounting enclosed in rugged non-metallic weather=proof housing with solid state electronics encapsulated in epoxy. Alarm produces horn-type beep of 97DBA at 4 feet, sounding approximately 60 times per minute with equal on/off pulses. Conforms to SAE, J99 Sound Level Type C. Federal Signal brand (252-012-048).

**No. 1N898.** Shpg. wt. 0.7 lbs. List $81.47.
Each **$48.95;** Lots 4 ..... **$44.01**

# EXPLOSION PROOF SIGNALING DEVICES



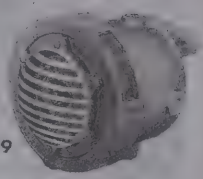
Replacement Parts Available
1-800-323-0620

No. 1N751
Strobe Light



No. 1N756
Revolving
Warning Light

FEDERAL SIGNAL CORPORATION
Registered to ISO 9001



No. 1N749
Horn

### EXPLOSION PROOF STROBE LIGHT

For use in hazardous and marine locations. Finished with powder epoxy applied over copper free aluminum housing. All exposed hardware is 316 grade stainless steel. Comes standard for 3/4" pendant mount. After mounting box is in place, fixture is threaded onto mounting box, making electrical connection. Electrical continuity is not made until five threads are engaged. Strobe light has effective candlepower of 850 candelas and two million peak candlepower. Flash rate approximately 80 per minute. UL Listed for hazardous (UL 844) and marine locations (UL 595). Meets NEC Classifications for Class I, Division 1 & 2, Group C & D; Class II, Division 1 & 2, Group E, F & G; Class III, Division 1 & 2. Rated NEMA 4X. CSA Certified (C22.2). Federal Signal brand.

### EXPLOSION PROOF REVOLVING WARNING LIGHTS

For use on oil rigs, mines, refineries and chemical plants. Has all features of Nos. 1N750 & 1N751 strobe lights above, except it produces a beam of light that rotates in 360° pattern with approximate flash rate of 90 per minute. Candlepower of 1800 utilizing 40 watt lamp. Red or amber color. Federal Signal brand.

### EXPLOSION PROOF HORN

Corrosion resistant horn features stainless steel diaphragm. Produces 100 dB at 10 feet. 120 VAC, features internal volume control. Tapped for 3/4" mounting UL Listed for Class I, Division 1, Groups C & D; Class II, Division I, Groups E, F & G. CSA Certified (C22.1). California State Fire Marshal approved. Federal Signal brand.

## SPECIFICATIONS AND ORDERING DATA

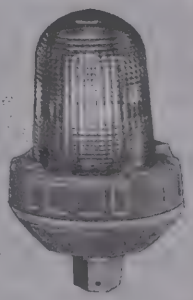
| Description | Type of Signal | Color | Lamp Life (Hrs.) | Req'd Power | Amps | Dimensions (In.) H | D | W | Federal Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strobe Light** | Strobe | Amber | 10,000 | 120VAC, 60 Hz | 0.60 | 15½ | 8¾ | — | 27XST-120ASC | **1N751** | $1302.32 | **$903.00** | **$812.20** | 18.0 |
| **Strobe Light** | Strobe | Red | 10,000 | 120VAC, 60 Hz | 0.60 | 15½ | 8¾ | — | 27XST-120RSC | **1N750** | 1302.32 | **903.00** | **812.20** | 18.0 |
| **Revolving Warning Light** | Revolving | Red | 800 | 120VAC, 60 Hz | 0.33 | 15½ | 8¾ | — | 121X-120RSC | **1N756** | 1082.57 | **861.00** | **774.07** | 18.0 |
| **Revolving Warning Light** | Revolving | Amber | 800 | 120VAC, 60 Hz | 0.33 | 15½ | 8¾ | — | 121X-120ASC | **1N757** | 1082.57 | **861.00** | **774.07** | 18.0 |
| **Horn** | Horn | — | — | 120VAC | 0.2 | 7⅞ | 6 | 6½ | 31X-120-3 | **1N749** | 718.36 | **500.50** | **449.96** | 8.0 |

# HAZARDOUS LOCATION STROBE LIGHTS

Units provide 80 high intensity flashes per minute. Feature effective candlepower of 165 candelas (1N754 and 1N755) and 240 effective candlepower (1N900 and 1N902). 520,000 and 580,000 peak candlepower respectively. Aluminum base specially treated for corrosion resistance. Heavy-duty tempered glass or polycarbonate dome. Designed for 3/4" pipe mount (1N754 and 1N755) and 1/2" pipe mount (1N900 and 1N902). Red or amber color. Certified by UL as meeting NEMA Type 4X (water tight and corrosion resistant) enclosure requirements. UL Listed. CSA Certified (C22.2) for Class I, Division 2, Groups A, B, C and D; Class II, Divisions 1 & 2, Groups E, F and G; Class III. Federal Signal brand.

FEDERAL SIGNAL CORPORATION
Registered to ISO 9001

No. 1N754
Strobe Light



Replacement
Parts Available
1-800-323-0620

### WIRING AND LAMP WATTAGE

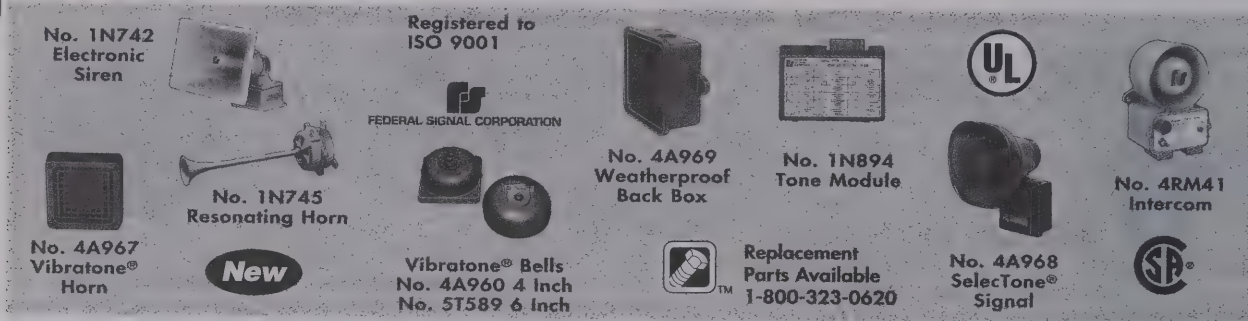
| Hazardous Location | Max. Temperature* UL Temperature Code | Dome Color | Lamp Wattage | Supply Wire Insulation Rating °C |
|---|---|---|---|---|
| Class I, Division 2 | 325°C/T2<br>215°C/T2D | Red or Amber | 100 (A-19)<br>40 (A-19) | 125°<br>85° |
| Class II, Groups E & F | 200°C/T3 | Red or Amber | 40 (A-19) | 85° |

(*) At 40°C ambient.

## SPECIFICATIONS AND ORDERING DATA

| Description | Color | Lamp Life (Hrs.) | Req'd Power | Amps | Dims. (In.) H | D | Federal Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strobe Light (Glass)** | Red | 10,000 | 120VAC, 60 Hz | 0.35 | 8¾ | 5¾ | 154XST-120R | **1N754** | $416.91 | **$353.75** | **$318.17** | 5.0 |
| **Strobe Light (Glass)** | Amber | 10,000 | 120VAC, 60 Hz | 0.35 | 8¾ | 5¾ | 154XST-120A | **1N755** | 416.91 | **353.75** | **318.17** | 5.0 |
| **Strobe Light (Poly)** | Red | 10,000 | 120VAC, 60 Hz | 0.32 | 7½ | 5 | 225XST-120R | **1N900** | 274.80 | **233.25** | **209.53** | 2.1 |
| **Strobe Light (Poly)** | Amber | 10,000 | 120VAC, 60 Hz | 0.32 | 7½ | 5 | 225XST-120A | **1N902** | 274.80 | **233.25** | **209.53** | 2.1 |

# AUDIBLE SIGNALING DEVICES




Audible signaling devices, either solid-state or electromechanical, produce distinctive sounds. This characteristic in itself, helps determine where the device can be effectively used. The models listed below produce varying sounds: vibrating horns No. 4A967, ringing bells Nos. 4A960 and 5T589, and electronic reproductions of your choice of one of four tones in No. 4A968. For example a horn or bell may be selected to overcome moderate noise levels while a "blast" from the SelecTone® will get attention in noisier environments. Federal Signal brand.

## VIBRATING HORN

**Vibratone® Horn.** Low current horn used for producing coded blasts or sustained tones for paging, and for start and dismissal signaling indoors or out (with No. 4A969 weatherproof box). Produces 100 dB at 10 ft. 120V, 60 Hz. Gray hammertone finish with mounting screws included. UL Listed (E4813); CSA certified (005835X); FM approved.

## ELECTRONIC SIREN

**Electronic Siren.** Produces one of three different high decibel tone outputs from same unit. Tone choices are "wail", yelp or horn. Tone is user selectable by reconfiguring internal jumpers. Capable of producing up to 111 dB at 10 ft. Rugged high impact plastic construction. Resistant to ultraviolet light and is rated NEMA 3R. When mounted on No. 4A969 weatherproof box, unit can be pointed anywhere within 360° half sphere of area. Standard voltages of 24VDC, 120VAC or 240VAC field selectable. UL Listed (464) indoor, outdoor; Canadian Underwriters Laboratories approved (464).

## RESONATING HORN

**Resonating Horn.** Electric horn which produces sound by means of a diaphragm, which resonates a column of air. Unit produces a horn-type tone that is 105 dB at 10 ft. Features corrosion resistant cast aluminum housing with brass projector. Gray hammertone finish. Housing tapped for 1/2" conduit. Duty cycle of five minutes on, five minutes off. For indoor/outdoor use. UL Listed (464), CSA approved (C22.2).

## VIBRATING BELLS

**Vibratone® Bells.** Vibrating bells signal general alarms, starts and dismissals, and danger warnings. 4" model produces 98 dB at 10 ft. 6" model produces 100 dB at 10 ft. Mount on standard outlet box or in outdoor applications use No. 4A969 weatherproof box. Gray hammertone finish. 120V, 60 Hz. UL Listed (E4813); CSA certified (005835X); FM approved.

## WEATHERPROOF BACK BOX

For weatherproof outdoor surface mounting of Nos. 4A967 horn, No. 1N742 siren, and 4A960 and 5T589 bells. Cast aluminum gasketed weatherproof box complete with mounting lugs and threaded conduit openings. ½" and ¾".

## SOLID-STATE AUDIBLE SIGNAL

**SelecTone® Signal.** Lightweight, compact signal device produces 110 dB at 10 ft. Requires one tone module No. 1N894 listed below (order separately). Used for code paging, general alarm, start and dismissal, evacuation and other specific warnings. Speaker cone and projector made of spun aluminum. Internal amplification circuitry including gain control contained in die-cast aluminum housing. Gray hammertone finish. 120V, 60 Hz. UL Listed indoor, outdoor (S2635); CSA certified (005835X).

## UNIVERSAL TONE MODULE

For exclusive use with No. 4A968 SelecTone® Audible Signal listed above. Micro controller based tone generator is capable of producing any one of 18 different tones. Tone selection choices include: Wail, Yelp, Hi Lo, Bell, Yeow, Horn, Beep, Stutter, Slow Whoop, Gradual Horn, Temporal Slow Whoop, Westminster Chime, Evac, Air Horn, Chime, Phaser, Alternate Hi Lo, and Warble. User tone selection is accomplished by setting the five position DIP switch in any one of the 18 configurations. Plastic housing with impregnated stainless steel fibers shields circuitry from RFI (radio frequency interference) and EMI (electro magnetic interference).

## INTERCOM

Two-way industrial intercom provides reliable communications and superior sound quality. Has a rugged NEMA type 4X housing. Ideal for use in oil refineries, petrochemical plants, offshore platforms, pulp and paper mills, etc. Features include: volume control, call button, balanced line output, listen/talk switch and remote device activation. The listen/talk switch is easy to operate; to talk, press down; to listen, release. Will operate from -31° to 150°F. Standard voltages of 24VDC, 120VAC, and 240VAC are field selectable. Minimum 2 required. UL-Listed (E94581N), indoor/outdoor, CSA approved (5835-49). Federal Signal brand.

## SPECIFICATIONS AND ORDERING DATA

| Description | Type of Signal | Required Power | Amps | Overall Dimensions (In.) W | H | D | Federal Signal Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vibratone® Horn** | Horn, 100 dB @10 ft. | 120VAC, 60 Hz | 0.18 | 4 | 4 | 21/2 | 350-120-30 | **4A967** | $105.63 | **$93.95** | **$84.53 /4** | 2.0 |
| **Electronic Siren** | Siren, 111 dB @ 10 ft. | 24VDC, 120/240VAC | 0.60 | 12 | 141/2 | 9 | SST-MV | **1N742** | 530.28 | **394.50** | **354.92 /3** | 7.0 |
| **Resonating Horn** | Horn, 105 dB @ 10 ft. | 120VAC | 0.75 | 8 | 8 | 193/4 | 55-120-1 | **1N745** | 603.56 | **420.50** | **378.35 /3** | 8.0 |
| **4" Vibratone® Bell** | Bell, 98 dB @ 10 ft. | 120VAC, 60 Hz | 0.08 | 4 | 4 | 21/8 | 504-120 | **4A960** | 121.97 | **91.00** | **81.86 /4** | 2.0 |
| **6" Vibratone® Bell** | Bell, 100 dB @ 10 ft. | 120VAC, 60 Hz | 0.08 | 6 | 6 | 21/8 | 506-120 | **5T589** | 156.77 | **116.70** | **105.02 /4** | 3.0 |
| **Weatherproof Box** | — | — | — | — | 4.53 | 2.44 | WB | **4A969** | 37.35 | **33.60** | **30.21 /4** | 0.7 |
| **SelecTone® Signal** | 110 dB @ 10 ft., Choose model below | 120VAC, 60 Hz | 0.27 | 8 | 121/4 | 81/4 | 300GC-120 | **4A968** | 672.36 | **568.50** | **511.21 /2** | 7.0 |
| **Universal Tone Module** | — | — | — | — | — | — | UTM | **1N894** | 90.37 | **85.40** | **76.82 /4** | 0.3 |
| **Intercom** | — | 24VDC, 120/24VAC | .26 | 6.88 | 10.2 | 5.81 | 310-MV | ***New*** **4RM41** | 749.09 | **637.50** | **573.35 /3** | 12.0 |

# LOW VOLTAGE BELLS, BUZZER AND CHIME KIT

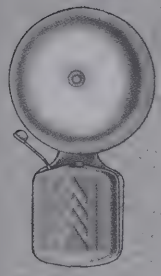


A No. 3ZR09 Low Voltage Buzzer

EDWARDS



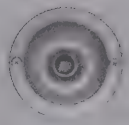
C No. 3ZR06 Low Voltage 4" Bell



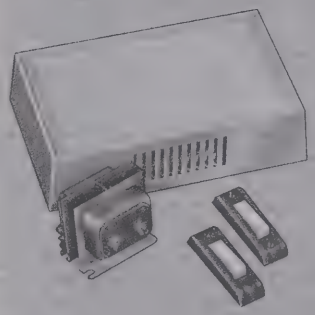
B No. 3ZR05 Low Voltage 2½" Bell

- Solenoid activated
- Includes mounting equipment
- Snap on cover for easy installation
- Attractive satin aluminum finish
- Operates off of 3 to 6 volt DC battery or 6-8 volt, 60 Hz, AC transformer
- For No. 4X742 transformer, see Index
- 32mA at 16 VAC

D No. 3ZR07 Push Button



- Surface mounted
- Durable metal construction
- Brass finish



E No. 3ZR10 Chime Kit

- COMPLETE KIT
- Includes mounting equipment, 16 volt UL Listed transformer and two push buttons
- Decorative white cover plate
- Two note signal
- Solenoid activated

## A LOW VOLTAGE BUZZER

88 dB at 3 ft. for use in quiet areas where soft subtle signals are not offensive. Schools, libraries, hospitals, hotels, apartment buildings and most businesses. Operates on 6-8 VAC or 3-6 VDC (use transformer No. 4X742 for VAC—see page 403). Satin aluminum finish. 1¾W x 2¾H x 1"D. Edwards brand (725).

**No. 3ZR09.** Shpg.wt. 0.2 lbs. List $9.20. Each **$6.44**; Lots 6.....**$6.12**

## B LOW VOLTAGE 2½" BELL

Bell with 2½" gong signaling device. 78 dB at 10 ft. For commercial businesses or institutions. Use to signal people or to signal vehicle entrance. Use to gain entrance to closed or secured areas such as labs or computer rooms. Operates on 6-8 VAC or 3-6 VDC (use transformer No. 4X742 for VAC—see page 403). Silver color. 2½ W x 5⅜ H x 1¼" D. Edwards brand (740).

**No.3ZR05.** Shpg. wt. 0.4lbs. List $11.35. Each **$7.94**; Lots 6.....**$7.55**

## C LOW VOLTAGE 4" BELL

Bell with 4" gong signaling device. 78 dB at 10 ft. For facilities where signals must be heard over normal manufacturing noises. Use in machine shops, foundries and stamping plants. Operates on 6-8 VAC or 3-6 VDC (use transformer No. 4X742 for VAC—see Index. Silver color. 4 W x 6⅞ H x 1¾" D. Edwards brand (744).

**No. 3ZR06.** Shpg. wt. 0.4 lbs. List $14.50. Each **$10.15**; Lots 6.....**$9.64**

## D PUSH BUTTON

Use push button along with No. 4X742 transformer and No. 1W566 wire to complete system using bells and buzzers listed (both sold separately—see page 403). Surface mounted. Round style is 2⅝ W x 2⅝ H x ⅝" D, with durable metal construction and brass finish. Rectangular style is ⅞ x 2⅞ H x ⅝" D, with a non-rusting plastic brown and ivory finish..

**No. 3ZR07.** Round style. Edwards brand(600). Shpg.wt. 0.1 lbs. List$4.70. Each **$3.29**; Lots 6.....**$3.13**

**No. 3ZR08** Rectangular style. Edwards brand (630). Shpg. wt. 0.1 lbs. List $3.95. Each **$2.77**; Lots 6.....**$2.63**

## E CHIME KIT

Features two note signal for one entrance and a one note signal for another. Double entry. For applications where signal is given before entry or for service. Ideal for use in any commercial application where a low volume pleasant tone would serve as the best signaling device. Includes 10 volt UL Listed transformer, and two brown w/ ivory push buttons. Chime box has white finish. 7¼H x 4⅝Wx2"D. Edwards brand(C212W).

**No. 3ZR10.** Shpg. wt. 2.0 lbs. List $23.60. Each **$16.52**; Lots 4 .....**$15.69**

## F MINIATURE BELLS

70dB at 3 ft. For notification purposes. Adjustable volume and dust proof cover. Grounded frame. 3⅛ H x ¾ W x ¾" D. Bell is 1¼" D. Edwards brand.

| Input Volts | Edwards Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6-12 VAC or 5-10 VDC | 13-1AB | 3ZR03 | $34.45 | $24.12 | $22.91 | 0.2 |
| 24 VAC | 13-1G5 | 3ZR04 | 34.45 | 24.12 | 22.91 | 0.2 |

# SAFETY LOCKOUT/TAGOUT ACCESSORIES

## SAFETY LOCKOUT CENTERS

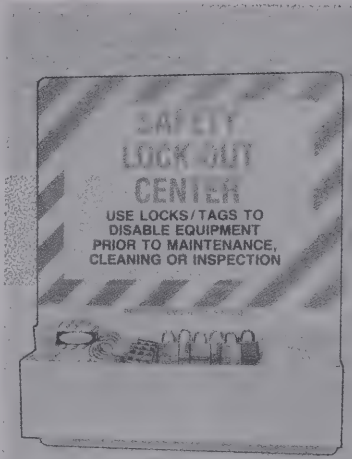
Store and dispense lockout/tagout devices for OSHA compliance. Select lockout equipment to fit individual needs or choose fully equipped units. Components sold separately on following pages. Prinzing brand.

**Deluxe Lockout Board.** Provides focal point for distributing lockout equipment and information. Large pockets accommodate a variety of lockout safety devices and supplies. Red and black lettering with red stripes on white background. Tough acrylic construction. 30"H x 24"W x 4½"D. Available Equipped or Unequipped. Equipped model includes: 25 lockout training booklets, 20 tags and fasteners, six individually keyed multi-colored padlocks, and five multiple 1½" dia. lockout devices.

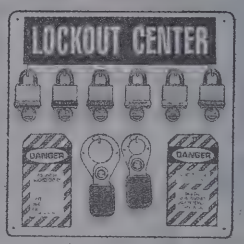
**Economy Lockout Board.** For small shops or for multiple locations near machines in large plants. Features 10 hooks to mix and match lockout equipment to fit individual needs. Black lettering on white background. Acrylic construction. 14"H x 14"W x 1⅜"D. Available Equipped or Unequipped. Equipped model includes: six individually keyed multi-colored padlocks, two multiple lockout devices (1" and 1.5") and ten lockout tags with cable ties.

**Circuit Breaker Lockout Board.** For attachment on or near breaker box. Holds only necessary lockout equipment to properly secure breakers into "Off" position. Red lettering and stripes on white background. Polystyrene plastic construction. 6"W x 8"H x 2½"D. Available Equipped or Unequipped. Equipped model includes: one each single, double and multi-pole breaker lockouts, one lockout tag and tie and one padlock.

**Lockout Training Booklet.** Assists in basic understanding of lockout tags, locks, deenergizing power sources and release or blocking of energy prior to performing maintenance. Available in English or Spanish language. 16 pages. **10 per package.**




No. 5U713




No.3ZM47

PRINZING ENTERPRISES, INC.

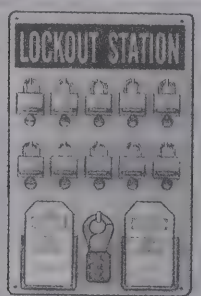



No. 3ZM48

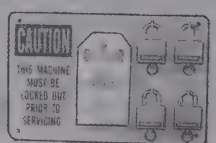
**Components for Unequipped Centers sold separately**

| Description | | Prinzing Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Deluxe Lockout Board** | Equipped | 3001 | **5U713** | $255.91 | **$205.00** | **$194.75/3** | 16.0 |
| | Unequipped* | 3012 | **5T826** | 136.62 | **112.70** | **107.07/3** | 11.0 |
| **Economy Lockout Board** | Equipped | 3003 | **3ZM47** | 120.36 | **100.75** | **95.70/3** | 5.2 |
| | Unequipped* | 3004 | **3AT98** | 45.98 | **39.10** | **37.15/3** | 2.0 |
| **Circuit Breaker Lockout Board** | Equipped | 3075 | **3ZM48** | 46.44 | **39.20** | **37.21/4** | 1.3 |
| | Unequipped* | 3070 | **5AP18** | 23.81 | **19.45** | **18.48/4** | 0.8 |
| **Lockout Training Booklets, Pkg. of 10** | English | 2112 | **5T827** | 17.28 | **13.46** | **12.78/6** | 0.6 |
| | Spanish | 2112SP-10 | **3ZM46** | 17.27 | **13.46** | **12.78/6** | 0.7 |

(*) Centers sold unequipped. Components sold separately on following pages.




No. 1D684
Ten Lock
Station




No. 1D696
Personal
Lockout
Station

## LOCKOUT STATIONS

•Registered to ISO 9001

BRADY

Highly visible lockout stations make locks, tags and lockouts convenient to find and use. Durable yellow polycarbonate construction for tough conditions. Brady USA brand.

**Ten Lock Station** available equipped or unequipped. Equipped station No. 1D684 includes ten 3/4" blue bumper padlocks, 25 No. 5T822 "Do Not Operate" tags and three 1" safety lockouts. Unequipped station No. 2AK04 includes board only. Dimensions: 19" x 12".

**Personal Lockout Station** available equipped or unequipped. Equipped station No. 1D696 includes four 3/4" blue bumper padlocks and 25 No. 5T822 "Do Not Operate" tags. Unequipped station No. 2AG55 includes board only. Dimensions: 8" x 12".

### SPECIFICATIONS AND ORDERING DATA

| Description | Size (In.) H x W | Brady Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Ten Lock Station, Unequipped*** | 19 x 12 | 65679 | **2AK04** | $146.08 | **$132.80** | **$126.16** | 2.2 |
| **Ten Lock Station, Equipped** | 19 x 12 | 65680 | **1D684** | 311.85 | **283.50** | **269.33** | 7.7 |
| **Personal Lockout Station, Unequipped*** | 8 x 12 | 65550 | **2AG55** | 64.02 | **58.20** | **55.29** | 1.0 |
| **Personal Lockout Station, Equipped** | 8 x 12 | 65553 | **1D696** | 146.08 | **132.80** | **126.16** | 3.2 |

(*) Centers sold unequipped. Components sold separately on following pages.



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

## RED WALL SWITCH LOCKOUT

**Safely lock most wall-mounted switches** in the On or Off position. Helps protect against unauthorized or accidental use of switches. Installs using existing screws. Accepts standard shackle diameter locks. Rugged plastic construction resists tampering and breakage. Red color. **Six per package.** Brady USA brand (65696).

**No. 2AF98.** Shpg. wt. 0.2 lbs. List $49.39. Each **$44.90;** Lots 5 **$42.66;** Lots 10.....**$40.41**

## CLEAR WALL SWITCH LOCKOUT

**Wall switch lockout** helps prevent accidental or unwanted operation of wall switch. Constructed of clear polycarbonate plastic to give user plain view of wall switch position. Mounting holes in lockout line up with existing holes in switch cover plate and allow use of existing switch plate screws. Accepts 9/32" diameter shackle padlock (not included). Each lockout includes instruction card. **Priced and sold individually.** 1⅜"W x 4¼"H x 1¼"D. Prinzing brand (WSL0).

**No. 5U715.** Shpg. wt. 0.1 lbs. List $7.09. Each **$6.38;** Lots 6 **$6.06;** Lots 12.....**$5.74**

## LOCKOUT/TAGOUT TRAINING MATERIALS

**OSHA's 1910.147 Lockout/Tagout standard** requires that all energy sources be turned Off and "locked out" while machines are being serviced or maintained. The standard calls for three steps to compliance:

1. Written Program and Procedures
2. Employee Training
3. Program Implementation

Utilize Brady's complete and effective program to comply. Compliance manuals aid in the understanding of the regulation and development of the compliance program, videos and booklets help with the training of employees, and a variety of locks, tags, signs, and devices help implement lockout procedures for many different energy sources.

## LOCKOUT COMPLIANCE MANUAL

**The Lockout Compliance Manual and Procedures** is a two volume set which contains samples that highlight what OSHA is looking for and demonstrates what must be done to comply with the regulation. Manual includes step-by-step instructions for developing a compliance program, suggested training program, forms and checklists for developing hazardous energy control procedures, sample programs and procedures, and a copy of OSHA Standard CFR 1910.147. Lockout Procedures includes programs and forms for completing an inventory listing, equipment procedures and employee training log. Brady USA brand (65558).

**No. 6T826.** Shpg. wt. 5.0 lbs. List $159.72. Each **$145.20;** Lots 3.....**$130.68**

## TRAINING VIDEOS

**Lockout/Tagout** video is a two-part program which explains the standard, and details correct procedures for locking and tagging. Excellent source for training employees on the importance of Lockout/Tagout and explaining five key elements of a company's lockout procedures. Length: 27 minutes. Brady USA brand (65554).

**No. 6T822.** Shpg. wt. 0.7 lbs. List $544.50. Each **$495.00;** Lots 3.....**$445.50**

**Lockout For Life** video analyzes real-life scenarios to show what went wrong and how following proper lockout procedures could have saved lives. Demonstrates many effective lockout techniques. Motivational program appropriate for both new and experienced employees—ideal for annual retraining program. Length: 19 minutes. Brady USA brand (66255).

**No. 6U834.** Shpg. wt. 0.7 lbs. List $544.50. Each **$495.00;** Lots 3.....**$445.50**

**Lockout/Tagout: Controlling The Beast** video is designed to work with the employer's plan for the control of hazardous energy. Provides general overview of standard, different types of energy sources, when to lock and tag, and OSHA's six-step procedure for controlling hazardous energy. Length: 19 Minutes. Brady USA brand (65285).

**No. 6T733.** Shpg. wt. 0.7 lbs. List $544.50. Each **$495.00;** Lots 3.....**$445.50**

## TRAINING HANDBOOKS

**Handbooks are ideal** for use in conjunction with training videos. Explains to employees their role in an effective lockout program. Includes quiz to test understanding and comprehension of the standard. **10 per package.** Brady USA brand.

| Description | Qty./ Pkg. | Brady Model No. | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Lockout/Tagout** | 10 | 65555 | **6T823** | $23.87 | **$21.70** | **$19.53** | 0.6 |
| **Lockout For Life** | 10 | 65812 | **6T876** | 23.87 | **21.70** | **19.53** | 0.6 |
| **Lockout/Tagout: Controlling the Beast** | 10 | 65286 | **6T734** | 23.87 | **21.70** | **19.53** | 0.6 |

BRADY

• Registered to ISO 9001



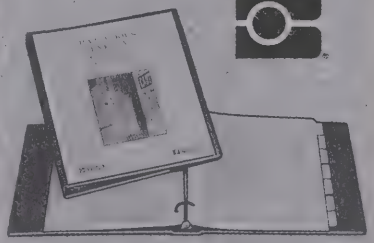
No. 2AF98
Wall Switch Lockout
(Padlock not included)



PRINZING ENTERPRISES INC.

No. 5U715
Wall Switch
Lockout
(Padlock not
included)

BRADY

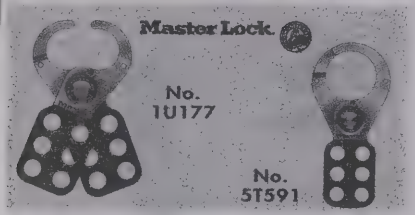


No. 6T826
Lockout
Compliance
Manual




No. 6T822
Lockout/Tagout
Training
Video and
Handbooks

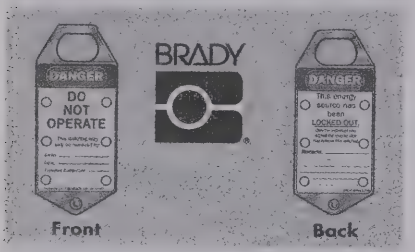
# SAFETY LOCKOUT ACCESSORIES AND PADLOCKS




## SAFETY LOCKOUTS

**Tamper Resistant Safety Lockouts** keep equipment inoperative while repairs or adjustments are being made. This reduces the risk of injury, work spoilage, and costly equipment damage. Simply attach device to energy disconnect switch. Up to six people can place their padlocks on the lockout. Control cannot be turned on until after the last worker has removed their padlock. Insulated with bright vinyl coating. Made of high tensile steel for twist resistance. Locking holes accommodate padlocks with up to 3/8" shackle dia. Meet OSHA requirements. Master brand.

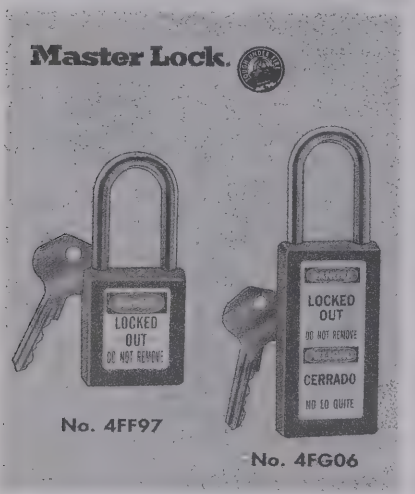
| Inside Jaw Dia. (In.) | Dim. (In.) L | W | Master Model | Stock No. | List | Each | Lots 12 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 | 4½ | 1½ | 420 | **1U177** | $4.79 | $4.31 | $4.10 | 0.3 |
| 1½ | 5 | 1½ | 421 | **5T591** | 5.69 | 4.71 | 4.47 | 0.3 |




## LABELED LOCKOUT HASPS

Labeled lockout hasp is a combination lockout tag and safety lockout. Allows up to six workmen to lockout power on line or equipment while displaying tagout message. Durable anodized aluminum. 7¼ x 3". Available in five colors. 5 hasps per package. Combination pack includes one hasp of each color. Brady USA brand.

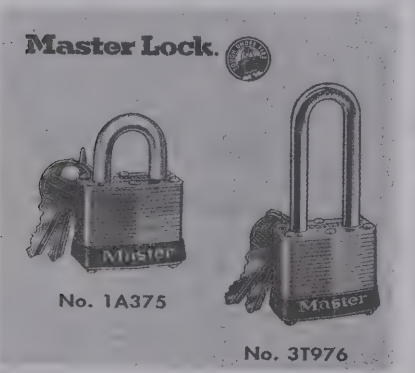
| Color | Brady USA Model | Stock No. | Qty. Per Pack | Priced per Pkg. List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Red** | 65960 | **6T438** | 5 | $63.03 | **$57.30** | **$54.44** | 1.9 |
| **Silver** | 65961 | **6T439** | 5 | 63.03 | **57.30** | **54.44** | 1.6 |
| **Blue** | 65962 | **6T440** | 5 | 63.03 | **57.30** | **54.44** | 1.9 |
| **Green** | 65963 | **6T441** | 5 | 63.03 | **57.30** | **54.44** | 1.9 |
| **Gold** | 65964 | **6T442** | 5 | 63.03 | **57.30** | **54.44** | 1.9 |
| **Combination** | 65967 | **6T443** | 5 | 63.03 | **57.30** | **54.44** | 1.9 |




## SAFETY LOCKOUT LIGHTWEIGHT PADLOCKS

**Complete OSHA device compliance.** Reduces confusion with other locks due to "Safety Lockout" identification on lock and keys. Two permanent write-on labels allow easy, custom identification. Eight body colors for fast identification. Restricted safety key minimizes unauthorized duplication and the risk of key interchange. For extra safety, one key provided and key can't be removed when lock is open. Lightweight Xenoy® body is durable and non-conductive. Extra long shackle fits most lockout applications. **Precision 6 pin tumbler mechanism. Keyed differently.** Master model 411 series features custom English/Spanish label. Master brand.

| Case Size (In.) Width | Thickness | Height | Shackle Size (In.) Height | Width | Dia. | Body Color | Master Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 3/4 | 1¾ | 1½ | 3/4 | 1/4 | Black | 410BLK | 4FF97 | $10.93 | $8.86 | $8.42 | $7.97 | 0.2 |
| | | | | | | Blue | 410BLU | 4FF98 | 10.93 | 8.86 | 8.42 | 7.97 | 0.2 |
| | | | | | | Green | 410GRN | 4FF99 | 10.93 | 8.86 | 8.42 | 7.97 | 0.2 |
| | | | | | | Orange | 410ORJ | 4FG01 | 10.93 | 8.86 | 8.42 | 7.97 | 0.2 |
| | | | | | | Purple | 410PRP | 4FG02 | 10.93 | 8.86 | 8.42 | 7.97 | 0.2 |
| | | | | | | Red | 410RED | 4FG03 | 10.93 | 8.86 | 8.42 | 7.97 | 0.2 |
| | | | | | | Teal | 410TEL | 4FG04 | 10.93 | 8.86 | 8.42 | 7.97 | 0.2 |
| | | | | | | Yellow | 410YLW | 4FG05 | 10.93 | 8.86 | 8.42 | 7.97 | 0.2 |
| 1½ | 3/4 | 3 | 1½ | 3/4 | 1/4 | Black | 411SPA BLK | 4FG06 | 11.99 | 10.79 | 10.25 | 9.71 | 0.3 |
| | | | | | | Blue | 411SPA BLU | 4FG07 | 11.99 | 10.79 | 10.25 | 9.71 | 0.3 |
| | | | | | | Green | 411SPA GRN | 4FG08 | 11.99 | 10.79 | 10.25 | 9.71 | 0.3 |
| | | | | | | Orange | 411SPA ORJ | 4FG09 | 11.99 | 10.79 | 10.25 | 9.71 | 0.3 |
| | | | | | | Purple | 411SPA PRP | 4FG10 | 11.99 | 10.79 | 10.25 | 9.71 | 0.3 |
| | | | | | | Red | 411SPA RED | 4FG11 | 11.99 | 10.79 | 10.25 | 9.71 | 0.3 |
| | | | | | | Teal | 411SPA TEL | 4FG12 | 11.99 | 10.79 | 10.25 | 9.71 | 0.3 |
| | | | | | | Yellow | 411SPA YLW | 4FG13 | 11.99 | 10.79 | 10.25 | 9.71 | 0.3 |




## SAFETY LOCKOUT LAMINATED STEEL PADLOCKS

**Provides fast visual identification** by department, function, or work team. Laminated steel body with hardened shackle provides positive worker protection. Six different bumper colors to choose from. **Keyed differently.** Available with standard or extra length shackles. 2 keys included. Precision 4-pin tumbler mechanism. Master brand.

| Case Size (In.) Width | Thickness | Shackle Size (In.) H | W | D | Locking Mechanism | Bumper Color | Master Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 3/4 | 3/4 | 5/8 | 9/32 | 4-Pin Tumbler | Blue | 3 Blue | 5AK24 | $8.29 | $6.86 | $6.52 | $6.17 | 0.4 |
| | | | | | | Red | 3 Red | 5T807 | 8.29 | 6.86 | 6.52 | 6.17 | 0.4 |
| | | | | | | Yellow | 3 Yellow | 5T808 | 8.29 | 6.86 | 6.52 | 6.17 | 0.4 |
| | | | | | | Green | 3 Green | 5T809 | 8.29 | 6.86 | 6.52 | 6.17 | 0.4 |
| | | | | | | Black | 3 Black | 5T810 | 8.29 | 6.86 | 6.52 | 6.17 | 0.4 |
| | | | | | | White | 3 White | 5T811 | 8.29 | 6.86 | 6.52 | 6.17 | 0.4 |
| 1½ | 3/4 | 2 | 5/8 | 9/32 | 4-Pin Tumbler | Blue | 3LH Blue | 1AV26 | 10.99 | 9.10 | 8.65 | 8.19 | 0.5 |
| | | | | | | Red | 3LH Red | 5T813 | 10.99 | 9.10 | 8.65 | 8.19 | 0.5 |
| | | | | | | Yellow | 3LH Yellow | 5T814 | 10.99 | 9.10 | 8.65 | 8.19 | 0.5 |
| | | | | | | Green | 3LH Green | 5T815 | 10.99 | 9.10 | 8.65 | 8.19 | 0.5 |
| | | | | | | Black | 3LH Black | 5T816 | 10.99 | 9.10 | 8.65 | 8.19 | 0.5 |
| | | | | | | White | 3LH White | 5T817 | 10.99 | 9.10 | 8.65 | 8.19 | 0.5 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# SAFETY LOCKOUT AND BRASS PADLOCKS

## MASTER PRO SERIES ALUMINUM PADLOCKS

New Master Lock



Replacement Parts Available
1-800-323-0620

For keyed-alike or master keying, or for key numbers not listed, call 1-800-323-0620

Solid body aluminum padlocks provide superior corrosion resistance. 6 bright powder coated colors for easy identification, hold up against scratches and UV deterioration. Hardened steel shackles for superior resistance to cutting. Stainless steel ball bearings resist corrosion, prying and pulling. 5 spool pin tumbler cylinders for resistance to picking and corrosion. Rekeyable lock bodies for easy key system maintenance. Ideal for safety lockout situations. Master Lock brand.

### *New!* ALUMINUM PADLOCK SPECIFICATIONS AND ORDERING DATA

| Case Size (In.) Width | Thickness | Height | Shackle Size (In.) Height | Width | Dia. | Key Type | Body Color | MasterLock Model | *New!* Stock No. | List | Each | Lot 6 | Lot 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 9/16 | .80 | 1 31/32 | 1 1/16 | 25/32 | 1/4 | Different | Green | 6835GRN | **4RD89** | $10.26 | **$9.23** | **$8.77** | **$8.31** | 0.4 |
| | | | | | | Alike | Green | 6835KAGRN10G500 | **4RD92** | 10.70 | **9.63** | **9.15** | **8.67** | 0.4 |
| 1 9/16 | .80 | 1 31/32 | 1 1/16 | 25/32 | 1/4 | Different | Orange | 6835ORJ | **4RD96** | 10.26 | **9.23** | **8.77** | **8.31** | 0.4 |
| | | | | | | Alike | Orange | 6835KAORJ10G501 | **4RD93** | 10.70 | **9.63** | **9.15** | **8.67** | 0.4 |
| 1 9/16 | .80 | 1 31/32 | 1 1/16 | 25/32 | 1/4 | Different | Red | 6835RED | **4RD97** | 10.26 | **9.23** | **8.77** | **8.31** | 0.4 |
| | | | | | | Alike | Red | 6835KARED10G502 | **4RD94** | 10.70 | **9.63** | **9.15** | **8.67** | 0.4 |
| 1 9/16 | .80 | 1 31/32 | 1 1/16 | 25/32 | 1/4 | Different | Yellow | 6835YLW | **4RD98** | 10.26 | **9.23** | **8.77** | **8.31** | 0.4 |
| | | | | | | Alike | Yellow | 6835KAYLW10G503 | **4RD95** | 10.70 | **9.63** | **9.15** | **8.67** | 0.4 |
| 1 9/16 | .80 | 1 31/32 | 1 1/16 | 25/32 | 1/4 | Different | Black | 6835BLK | **4RD87** | 10.26 | **9.23** | **8.77** | **8.31** | 0.4 |
| | | | | | | Alike | Black | 6835KABLK10G504 | **4RD90** | 10.70 | **9.63** | **9.15** | **8.67** | 0.4 |
| 1 9/16 | .80 | 1 31/32 | 1 1/16 | 25/32 | 1/4 | Different | Blue | 6835BLU | **4RD88** | 10.26 | **9.23** | **8.77** | **8.31** | 0.4 |
| | | | | | | Alike | Blue | 6835KABLU10G505 | **4RD91** | 10.70 | **9.63** | **9.15** | **8.67** | 0.4 |

## MASTER PRO SERIES BRASS PADLOCKS

New Master Lock




No. 4RD85



No. 4RD99



No. 4RF02

Replacement Parts Available
1-800-323-0620

For keyed-alike or master keying, or for key numbers not listed, call 1-800-323-0620

Brass padlocks with solid body construction provide tough, reliable performance for all-weather conditions. Hardened Boron Alloy shackles for superior resistance to cutting. Dead-locking stainless steel ball bearings resist prying and pulling. 5 spool pin tumbler cylinders for resistance to picking and corrosion. Rekeyable lock bodies for easy key system maintenance. Master Lock brand.

### *New!* BRASS PADLOCK SPECIFICATIONS AND ORDERING DATA

| Case Size (In.) Width | Thickness | Height | Shackle Size (In.) Height | Width | Dia. | Key Type | MasterLock Model | *New!* Stock No. | List | Each | Lot 6 | Lot 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 9/16 | .80 | 1 31/32 | 1 1/16 | 25/32 | 1/4 | Different | 6830 | **4RD85** | $14.09 | **$12.68** | **$12.05** | **$11.41** | 0.7 |
| | | | | | | Alike | 6830KA10G200 | **4RD86** | 14.52 | **13.07** | **12.41** | **11.76** | 0.7 |
| 1 3/4 | .90 | 1 31/32 | 1 3/16 | 29/32 | 5/16 | Different | 6840 | **4RD99** | 16.63 | **14.97** | **14.22** | **13.47** | 0.8 |
| | | | | | | Alike | 6840KA10G201 | **4RF01** | 17.07 | **15.36** | **14.59** | **13.83** | 0.8 |
| 2 | 1 | 2 1/32 | 1 15/32 | 29/32 | 3/8 | Different | 6850 | **4RF02** | 18.93 | **17.04** | **16.19** | **15.33** | 1.1 |
| | | | | | | Alike | 6850KA10G202 | **4RF03** | 19.37 | **17.43** | **16.56** | **15.69** | 1.1 |

## BREAKER SWITCH LOCKOUTS

### SINGLE POLE CIRCUIT BREAKER SWITCH LOCKOUT

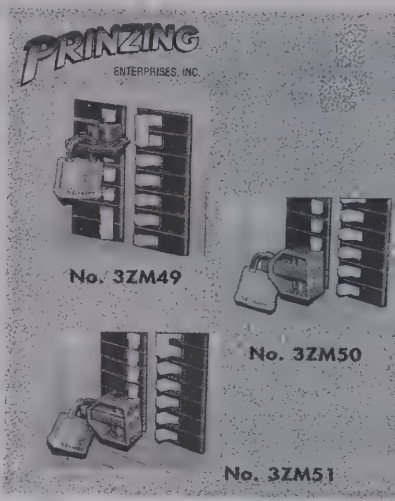
Safely locks out most major brand breaker switches with a recess hole in the toggle. Simple design slides into place and can be secured with a 1/4" or 9/32" diameter shackle padlock. Red polycarbonate material. Prinzing brand.

### DOUBLE POLE CIRCUIT BREAKER SWITCH LOCKOUT

Safely locks out most major brand double pole circuit breaker switches with toggles connected by a cross bar. Simple design makes application easy. Centered bar slides into place and can be secured with a 1/4" or 9/32" diameter shackle padlock. Red polycarbonate material. Prinzing brand.

### MULTI-POLE CIRCUIT BREAKER SWITCH LOCKOUT

Safely locks out most major brand multi- or triple pole circuit breaker switches in the "OFF" position. Simple design makes application easy. Centered bar slides into place and can be secured with a 1/4" or 9/32" diameter shackle padlock. Red polycarbonate material. Prinzing brand.




**SPECIFICATIONS AND ORDERING DATA**

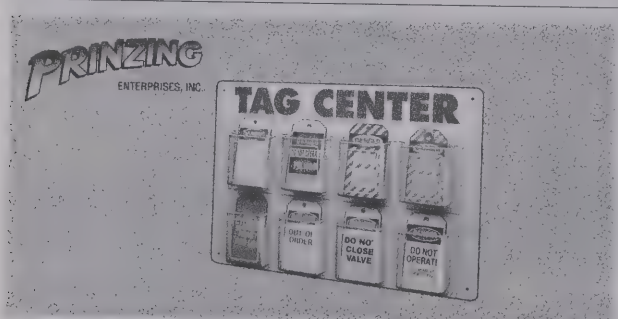
| Description | Dimensions (In.) W | L | D | Prinzing Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Single pole** | 1⅛ | 2¼ | 7/8 | BL01 | **3ZM49** | $4.22 | **$3.44** | **$3.27** | **$3.10** | 0.1 |
| **Double pole** | 1⅞ | 2¼ | 1 | BL02 | **3ZM50** | 8.27 | **6.97** | **6.62** | **6.28** | 0.1 |
| **Multiple pole** | 1⅞ | 2¼ | 1 | BL03 | **3ZM51** | 8.56 | **7.21** | **6.85** | **6.49** | 0.1 |

## PREMIUM LOCKOUT KIT

Deluxe kit offers portable solutions to most any lockout requirement. The rugged polyethylene carrying case contains: three 1.5" 12 gauge steel multiple lockout hasps; three Master Lock #3 padlocks; fourteen padlock identifier stickers; twenty vinyl lockout safety tags with eyelets and nylon cable ties; three single pole electrical breaker lockouts; two double pole electrical breaker lockouts; one electric plug lockout; one lockout safety training booklet; one gate valve lockout fits 1-2.5" diameter handle; one gate valve lockout fits 2.5-5" diameter handle; one wall switch lockout; five 3 x 5" "LOCK OUT HERE" pressure sensitive vinyl signs, black on yellow; five 3 x 5" "LOCK OUT BEFORE SERVICING" pressure sensitive vinyl signs, black on yellow; five 5 x 7" "CAUTION-THIS MACHINE MUST BE LOCKED OUT BEFORE DOING MAINTENANCE..." pressure sensitive vinyl signs, black on yellow; one AC voltage detector pen (120-600). 7H x 14.3L x 7.5"D. Prinzing brand (LKP).

**No. 3ZM53.** Shpg. wt. 6.5 lbs. List.....$172.44. Each **$149.95;** Lots 3.....**$142.45;** Lots 6.....**$134.96**

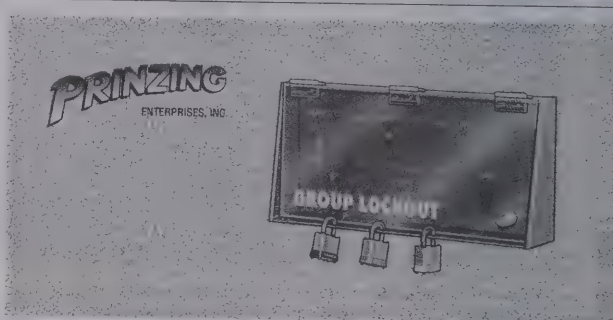



## TAG CENTER

Tag organizer keeps them handy. Eight clear, flexible pockets hold a total of approximately 240 tags. Each pocket measures 4⅜H x 3⅝W x 1¼"D and offers instant identification of tags. Durable white acrylic unit with red lettering measures 15½H x 23¼W x 1½"D and is wall mountable. Prinzing brand (TC8).

**No. 3ZM60.** Shpg. wt. 3.0 lbs. List $48.24. Each **$41.95;** Lots 3.....**$39.85**




## GROUP LOCKOUT BOX

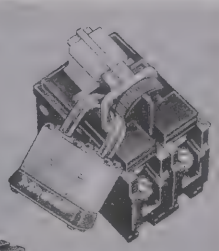
Each worker can apply a padlock to the key box, effectively locking out multiple sources of energy controlled by the keys inside the box. Clear acrylic hinged cover provides a visual check and access to keys when padlocks are removed. Eighteen hooks for keys and 13 external holes for padlocks. Rugged red and clear acrylic construction for wall mounting. 7½H x 16W x 2½"D. Prinzing brand (GLOBOX).

**No. 3ZM52.** Shpg. wt. 3.4 lbs. List $61.00. Each **$51.50;** Lots 4.....**$48.88**

## UNIVERSAL MULTI-POLE BREAKER LOCKOUT

For use with most major multi-pole breakers with tie-bar. No self-locking tie needed. Locks out breakers including GE, I-T-E, Sylvania, Challenger, Bryant, Westinghouse and General Switch Co. Rugged red plastic construction. Helps comply with OSHA lockout requirements. Accepts up to 9/32" diameter padlock. **Six per package.** Brady USA brand (66320).

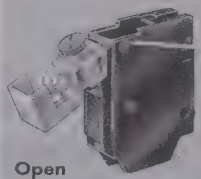
**No. 1D671.** Shpg. wt. 0.3 lbs. List $45.87. Each **$41.70**; Lots 6 **$39.62**; Lots 12.....**$37.53**

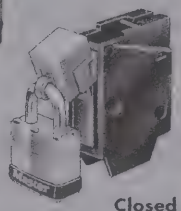



No. 1D671 Universal Multi-Pole Breaker Lockout

## "NO HOLE" CIRCUIT BREAKER LOCKOUTS AND CLEATS

Locks out most single throw circuit breakers with or without a hole through the switch tongue. Fits wider and thicker switch tongues; 277-.65" x 0.46" thick. To assure positive lockout for long sliding switch throws and switches with large angular rotation found with some Westinghouse, I-T-E, Square D and Federal Pacific circuit breakers, use lockout cleat in conjunction with 277 and 480/600 volt "No Hole" breaker lockouts. Snap-on and off features allows for use only when needed. Red plastic construction. Accepts up to 9/32" diameter lock. **Priced and sold 6 per package.** Meets current OSHA lockout requirements. Brady USA brand.




No. 2AD54 "No-Hole" Circuit Breaker Lockout

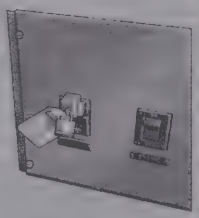
### SPECIFICATIONS AND ORDERING DATA

| Description | Qty. per Pkg. | Brady USA Model | Stock No. | Per Package List | Per Package Each | Lots 5 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **277 Volt Device** | 6 | 65965 | **2AD54** | $45.87 | **$41.70** | **$39.62** | **$37.53** | 0.2 |
| **480/600 Volt Device** | 6 | 65966 | **1AZ01** | 51.42 | **46.75** | **44.41** | **42.08** | 0.6 |
| **277 Volt Cleat** | 6 | 65404 | **1D704** | 4.59 | **4.18** | **3.97** | **3.76** | 0.1 |
| **480/600 Volt Cleat** | 6 | 65406 | **1D703** | 6.51 | **5.92** | **5.62** | **5.33** | 0.1 |

## OVERSIZED CIRCUIT BREAKER LOCKOUT

Oversized 480/600 volt frame lockout fits breakers up to 2½" wide x 7/8" thick. **Six per package.** Brady USA brand (65321).

**No. 3TM25.** Shpg. wt. 1.8 lbs. List $55.11. Each **$50.10**; Lots 6 **$45.09**



No. 3TM25 Oversized Circuit Breaker Lockout

## SINGLE POLE BREAKER SWITCH LOCKOUT

Safely locks out most major brand breaker switches with a hole in the switch tongue. Simple design snaps onto breaker switch and accepts up to 9/32" shackle diameter lock or nylon tie. Rugged red plastic construction prevents unauthorized connections. Helps comply with OSHA lockout requirements. **Six per package.** Brady USA brand (65688).

**No. 3T986.** Shpg. wt. 0.1 lbs. List $22.17.
Each **$20.16**; Lots 6.....**$19.15**
Lots 12.....**$18.14**

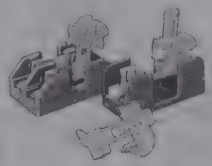


No. 3T986 Single Pole Breaker Lockout

## FUSE LOCKOUTS

Unique locking mechanism prevents red Fuse Lockout from being accidentally removed from fuse block. Use self-locking nylon tie to lock out. Available in two sizes for most commonly used fuses. Helps comply with OSHA Lockout/Tagout standard. **6 per package.** Brady USA brand.

| Size (In.) | Brady USA Model | Qty. Per Pkg. | Stock No. | List | Per Package Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **13/32** | 65750 | 6 | **6T859** | $45.87 | **$41.70** | **$39.62** | **$37.53** | 0.1 |
| **9/16** | 65751 | 6 | **6T860** | 47.24 | **42.95** | **40.80** | **38.66** | 0.1 |



No. 6T859 Fuse Lockouts

## FUSE BLOCKOUTS

Block out 1/4" to 1 1/16" and blade type fuses. Use these red, highly visible devices in conjuction with Brady Lockout Tags (see page 2569) to comply with OSHA's Lockout/Tagout standard. **6 per package.** Brady USA brand.

| Size (In.) | Qty. Per Pkg. | Brady USA Model | Stock No. | List | Per Package Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **¼, 9/32 and 9/16** | 6 | 65690 | **6T856** | $20.85 | **$18.96** | **$18.01** | **$17.06** | 0.1 |
| **13/16, 1 1/16 and blade type** | 6 | 65691 | **6T857** | 41.69 | **37.90** | **36.01** | **34.11** | 0.2 |



No. 6T856 Fuse Blockouts

# SAFETY LOCKOUT/TAGOUT ACCESSORIES

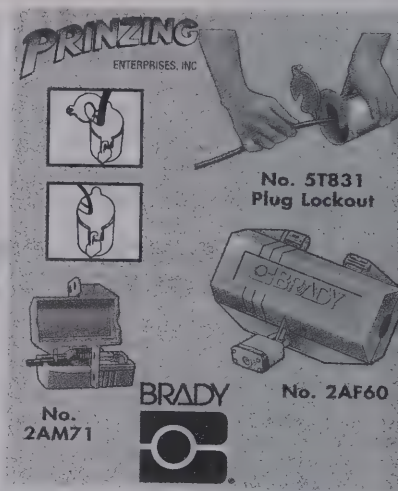
## YELLOW PLUG LOCKOUT

Safe, effective way to lock out electrical cords and plugs before servicing equipment. Bright yellow "caution" color and tough plastic housing warn and prevent unauthorized plug ins. Locks out any electrical plug up to 3" wide and 5¼" long (125V to 600V) with maximum cord diameter of 1¼". 5½"H x 3¼" dia. Meets current OSHA lockout requirements. Accepts up to 9/16" shackle diameter lock or nylon tie. Prinzing brand (PLO23).

**No. 5T831.** Shpg. wt. 0.5 lbs. List.....$14.64. Each **$12.43**; Lots 6 **$11.81**; Lots 12.....**$11.19**

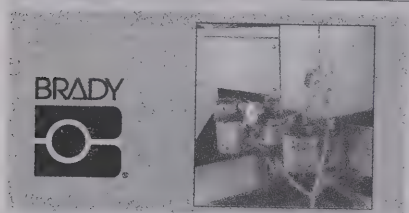
## RED PLUG LOCKOUTS

Safe, effective way to lockout electrical cords and plugs before servicing equipment. For use in heavy-duty applications. Available in two sizes to fit 110 volt and 220/550 volt plugs. Polypropylene construction. Ideal for those situations where the plug is not under the exclusive control of the person doing the service or performing the maintenance. Meet current OSHA lockout requirements. Accepts up to 9/16" shackle diameter lock or nylon tie. Brady USA brand.




### SPECIFICATIONS AND ORDERING DATA

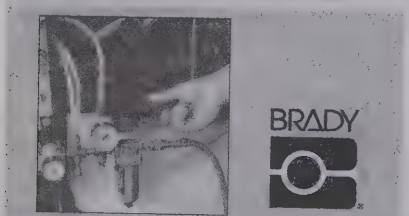
| Description | Brady USA Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **110 Volt Lockout Device** | 65674 | **2AM71** | $13.14 | **$11.95** | **$11.35** | **$10.76** | 0.2 |
| **220/550 Volt Lockout Device** | 65675 | **2AF60** | 15.92 | **14.48** | **13.76** | **13.03** | 0.6 |




## PNEUMATIC QUICK-DISCONNECT LOCKOUT

**Isolate pneumatic energy** without the expense and inconvenience of installing in-line lockout valves. Apply to male fitting to isolate equipment from compressed air sources. Helps comply with OSHA standards and accommodates most 1/4", 3/8", and 1/2" male fittings. Center of device allows for permanent storage of air hos and loop on side holds hose and lockou device. For use with 1/4" or 9/32" shackl diameter padlock. Red color. Brady USA brand (64221).

**No. 3ZG17.** Shpg. wt. 0.2 lbs. List.....$16.47. Each **$14.98**; Lots 6.....**$13.48**

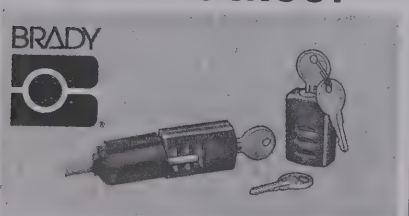



## AIR LINE REGULATOR LOCKOUT

**Designed to help comply with OSHA standards** for safe maintenance and repair of pneumatic systems. Eliminates problem of disabling other equipment sharing same air supply. Device enables regulator to be locked in the ON, OFF or THROTTLED position. Red color. Brady USA brand.

| Description | Brady USA Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Miniature Air Line Regulator Lockout** | 64539 | **3ZG18** | $19.71 | **$17.92** | **$16.13** | 0.3 |
| **Intermediate Air Line Regulator Lockout** | 64540 | **3ZG19** | 19.71 | **17.92** | **16.13** | 0.3 |

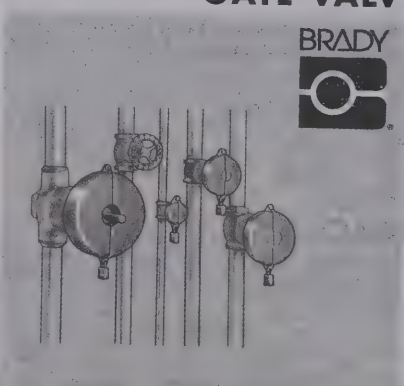
## CORD LOCKOUT




Brady's Stopower™ for office use and frequently locked out cords. Slides over cord prongs and locks. Cord cannot be plugged in with red device in place and device cannot be removed without key. Brady USA brand (65673).

**No. 6AP32.** Shpg. wt. 0.2 lbs. List.....$13.64. Each **$12.40**; Lots 6.....**$11.78**; Lots 12.....**$11.16**

## GATE VALVE LOCKOUTS




Locks out round handle gate valves safely. Available in five sizes to fit valve handles from 1" to 13" in diameter. Durable red, non-adherent plastic construction resists chemicals and hot and cold temperatures. Stainless steel hinge provides added strength and security. Knockout feature accommodates OS&Y or "rising stem" gate valves. Designed to accept all locks with up to 3/8" shackle diameter and 3/4" or greater vertical shackle clearance. Brady USA brand.

| Valve Handle Dia. (in.) | Brady Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1-2½** | 65560 | **3BC82** | $15.02 | **$13.66** | 0.2 |
| **2½-5** | 65561 | **2AV57** | 21.76 | **19.79** | 0.5 |
| **5-6½** | 65562 | **5AM43** | 32.67 | **29.70** | 0.7 |
| **6½-10** | 65563 | **3AT46** | 33.22 | **30.20** | 1.7 |
| **10-13** | 65564 | **6AG81** | 62.26 | **56.60** | 2.9 |

## UNIVERSAL BALL VALVE LOCKOUT DEVICE

For locking out quarter turn valves of varying sizes and geometrics (round, square, flat, handle dimensions below). Valves can be locked in On, Off or Throttle positions. Optional arms may be purchased separately to lock in throttled position and to lock out 3, 4 and 5-way valves. Lightweight stainless steel and Super-Tough® nylon construction resists breaking and most chemicals. Fits all major ball valves. Red color. Brady USA brand.

| Description | Valve Handle Max. (In.) Thickness | Width | Brady USA Model | Stock No. | List | Each | Lots 4 | Lots 8 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Small Lockout Device** | 3/4 | 1 | 65400 | **1D708** | $55.16 | **$50.15** | **$47.64** | **$45.14** | 1.6 |
| **Large Lockout Device** | 1¼ | 1⅝ | 65401 | **1D707** | 63.47 | **57.70** | **54.82** | **51.93** | 2.1 |
| **Small Arm** | 3/4 | 1 | 65402 | **1D706** | 22.71 | **20.65** | **19.62** | **18.59** | 1.0 |
| **Large Arm** | 1¼ | 1⅝ | 65403 | **1D705** | 25.05 | **22.78** | **21.64** | **20.50** | 0.6 |

## BALL VALVE LOCKOUT DEVICE

Designed for locking out quarter turn ball valves with flat "dog-leg" handles. Easy to use, adjusts to fit all major brand ball valves. Complies with OSHA's Lockout Standard. Device for 1/4" to 1" ball valves made of Super-Tough® nylon for unbreakable strength. Device for 1¼" to 3" ball valves made of heavy steel construction. Accepts up to 9/32" shackle diameter lock or nylon tie. Red color. Brady USA brand.

| Fits Valves (In.) | Brady Model | Stock No. | List | Each | Lots 4 | Lots 8 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/4-1** | 65666 | **5T820** | $20.37 | **$15.74** | **$14.95** | **$14.17** | 0.1 |
| **1¼-3** | 65669 | **5T821** | 33.38 | **30.35** | **28.83** | **27.32** | 1.0 |

## VALVE LOCKOUT STARTER KIT

Kit includes two each: 1" to 2½" Gate Valve Lockouts, 2½" to 5" Gate Valve Lockouts, small Ball Valve Lockouts, large Ball Valve Lockouts, 3/4" blue Padlocks, 2" blue Padlocks; three red labeled Lockout Hasps; and 10 heavy-duty Lockout Tags. Kit comes complete with a yellow canvas Locking Carrying Bag. Brady USA brand (65778).

**No. 6T865.** Shpg. wt. 7.1 lbs. List $265.65 Each **$241.50;** Lots 3 **$229.43;** Lots 6....**$217.35**

## COMBINATION LOCKOUT STARTER KIT

Kit includes six each: Single Pole Breaker Switch Lockouts, 277 Volt "No Hole" Circuit Breaker Lockouts, Universal Multi-Pole Breaker Lockouts, Wall Switch Lockouts, 3/4" blue Padlocks, 2" blue Padlocks; two each: 1" to 2½" red Gate Valve Lockouts, 2½" to 5" red Gate Valve Lockouts, small Ball Valve Lockouts, large Ball Valve Lockouts; five red Labeled Lockout Hasps; and 25 heavy-duty Lockout Tags. Kit comes complete with two yellow canvas Lockout Carrying Bags. Brady USA brand (65779).

**No. 6T866.** Shpg. wt. 15.0 lbs. List.....$553.30. Each **$503.00;** Lots 3 **$477.85;** Lots 6....**$452.70**

## ROUND HANDLE VALVE LOCKOUTS

Safe, easy way to lock out round valve handles. Rugged red plastic lockout covers install quickly. Open up two sides of the donut, snap over handle, and secure with the appropriate lockout/tagout device. Nonconductive Safetee Donuts® are resistant to weather, abrasion and most chemicals. 5 sizes for 1" to 13" handle diameter. For use on propane tanks, water lines, etc. Complies with current OSHA requirements. Accepts up to 9/16" shackle diameter lock or nylon tie. Prinzing brand.

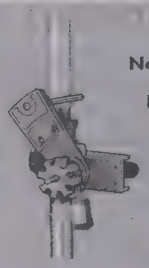
| Fits Handles (In.) | Prinzing Model | Stock No. | List | Each | Lots / Qty. | Lots / Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1-2½** | SD02 | **5T828** | $13.93 | **$12.21** | **$11.60/6** | **$10.99/12** | 0.3 |
| **2½-5** | SD04 | **5T829** | 20.39 | **17.88** | **16.99/6** | **16.09/12** | 0.5 |
| **5-6½** | SD06 | **5T830** | 31.60 | **26.80** | **25.42/6** | **24.09/12** | 0.6 |
| **6½-10** | SD08 | **1D300** | 31.90 | **27.15** | **25.79/6** | **24.44/12** | 1.3 |
| **10-13** | SD13 | **1D299** | 59.90 | **50.95** | **48.40/4** | **45.86/8** | 2.5 |

## CABLE LOCKOUT DEVICE

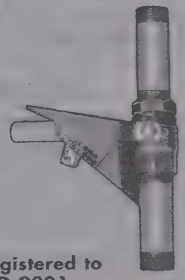
A new way to lock out large gate valves and a number of different energy sources. One size fits all. Flexible cable will lock ALL sizes of gate valves and can even be used to lockout multiple valves. Easier and more efficient to use than a chain. Comes with 6 foot cable. Brady USA brand (65318).

**No. 3TM22** Shpg. wt. 0.8 lbs. List.....$34.10 Each **$31.00;** Lots 3.....**$27.90**

**No. 3TM23** Shpg. wt. 0.3 lbs. List.....$9.02. Each **$8.20;** Lots 5.....**$7.38**



No. 1D708 Small Lockout Device



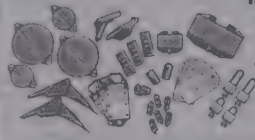
No. 5T820 Ball Valve Lockout Device

BRADY • Registered to ISO 9001



No. 6T865 Valve Lockout Starter Kit

BRADY Registered to ISO 9001



No. 6T866 Combination Lockout Starter Kit



No. 5T828 Round Handle Valve Lockout

PRINZING ENTERPRISES, INC.



No. 3TM22 Cable Lockout Device

BRADY • Registered to ISO 9001

# SAFETY LOCKOUT/TAGOUT ACCESSORIES

## LOCKOUT SAFETY KIT

**Lockout Safety Kit** assists in complying with OSHA safety lockout requirements. Helps protect employees from accidental start-up of equipment and machinery by locking out power control. Kit includes: gray polyethylene carrying case, three 1.5" 12 gauge steel multiple lockouts, three Master Lock No. 3 padlocks, fourteen padlock identifier stickers, ten vinyl lockout safety tags with eyelets and nylon cable ties, three single pole electrical breaker lockouts, two double pole electrical breaker lockouts, one electrical plug lockout and one Lockout Safety Training Booklet. Prinzing brand (LKX).

**No. 5U714.** Shpg. wt. 5.0 lbs. List $86.45. Each ..... **$73.55;**
Lots 3 **$69.87**; Lots 6 ..... **$66.20**




No. 5U714
Lockout Safety Kit

## LOCKOUT SAFETY KIT

**Solve almost any lockout situation** with full range of lockout devices and accessories. Kit includes one each: black plastic tool box with tray for transportation, 1" to 2½" Gate Valve Lockout, small Ball Valve Lockout, 3/4" blue padlock, 2" blue padlock, Labeled Lockout Hasp, Universal Multi-Pole Lockout, 480/600V "No Hole" Lockout, red Wall Switch Lockout, small red Plug Lockout, and five Lockout Tags. Brady USA brand (65289).

**No. 1D711.** Shpg. wt. 5.2 lbs. List $124.08. Each ..... **$112.80;**
Lots 3 **$107.16**; Lots 6 ..... **$101.52**



BRADY

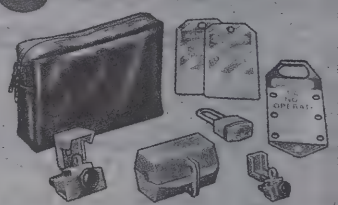
No. 1D711
Lockout Safety Kit

## ELECTRICAL LOCKOUT

Kit includes one each: 2" blue padlock, Red Labeled Lockout Hasp, 277 Volt "No Hole" Circuit Breaker Lockout, Universal Multi-Pole Breaker Lockout, small Brady Plug Lockout. Also includes two heavy-duty Lockout Tags. Kit comes complete with a black pouch which has metal loops for hanging on a belt loop. Made of heavy duty nylon. Brady USA brand (65291).

**No. 6T737.** Shpg. wt. 1.5 lbs. List $79.47. Each ..... **$72.25;**
Lots 6 ..... **$65.03**

- **Registered to ISO 9001**



No. 6T737
Electrical Lockout Pouch

## ELECTRICAL LOCKOUT STARTER KIT

Kit includes six each: Single Pole Breaker Switch Lockouts, 277 Volt "No Hole" Circuit Breaker Lockouts, Universal Multi-Pole Breaker Lockouts, Wall Switch Lockouts; one each: large Brady Plug Lockout, small Brady Plug Lockout; two each: 3/4" blue padlocks, 2" blue padlocks; three Red Labeled Lockout Hasps; and 10 heavy-duty Lockout Tags. Kit comes complete with a yellow canvas locking carrying bag. Brady USA brand (65777).

**No. 6T864.** Shpg. wt. 5.2 lbs. List $258.22. Each ..... **$234.75;**
Lots 3 **$223.01**; Lots 6 ..... **$211.28**



No. 6T864
Electrical Lockout
Starter Kit

## LOCK BOX

Lock box accepts up to 13 individual locks for complex group lockout applications. Heavy steel construction. Red color. Brady USA brand (65699).

**No. 1D677.** Shpg. wt. 5.2 lbs. List $59.23. Each ..... **$53.85;**
Lots 5 **$51.16**; Lots 10 ..... **$48.47**




No. 1D677
Lock Box

## LOCKOUT SAFETY PROCEDURE STATION

- **For Ready Access and High Visibility OSHA Compliance**

Station consists of one 14"W x 20"H rugged polystyrene backboard, one white PVC coated steel binder holder, 25 lockout procedure forms, and one three-ring procedure binder. Hardware included for wall mounting. Prinzing brand(LOSP22).

**No. 1D303.** Shpg. wt. 4.5lbs. List $68.00. Each ..... **$57.80**
Lots 4 **$54.91**; Lots 8 ..... **$52.02**



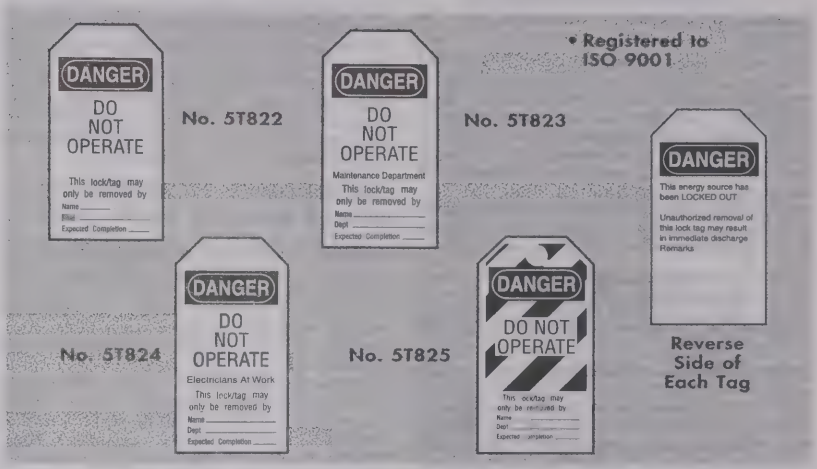

PRINZING
ENTERPRISES, INC

No. 1D303
Lockout Safety
Procedure Station

# HEAVY-DUTY LOCKOUT TAGS

BRADY

Lockout tags can be used for both lockout and tagout identification. Tags designed for repeated use. Brass grommet for added strength. Accepts locks up to 7/16" diameter shackle. Polyester laminate protects graphics against water, grease, and extreme temperatures. Wipes clean. Write-on matte finish allows workers to personalize tags with pen, pencil or marker. Heavy-duty construction prevents accidental removal. Withstands over 80 lbs. of pulling pressure. Standard package includes 25 identical 5½ x 3" tags. Brady USA brand.



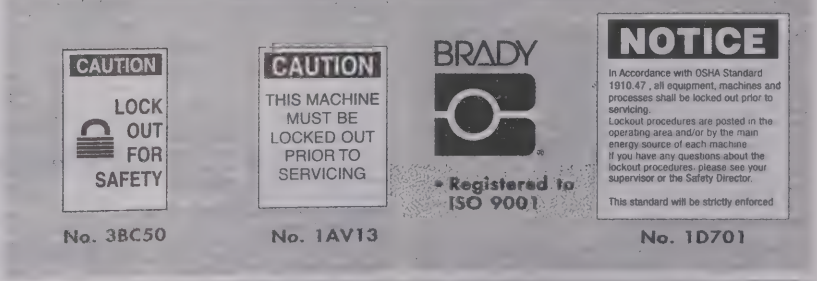

## LOCKOUT TAG SPECIFICATIONS AND ORDERING DATA

| Description | Qty. per Pkg. | Brady Model | Stock No. | Per Package List | Per Package Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **DANGER-DO NOT OPERATE** | 25 | 65502 | **5T822** | $52.14 | **$47.40** | **$45.03** | 0.4 |
| **DANGER-DO NOT OPERATE-MAINTENANCE DEPARTMENT** | 25 | 65503 | **5T823** | 52.14 | **47.40** | **45.03** | 0.4 |
| **DANGER-DO NOT OPERATE-ELECTRICIANS AT WORK** | 25 | 65504 | **5T824** | 52.14 | **47.40** | **45.03** | 0.4 |
| **DANGER-DO NOT OPERATE (Striped Background)** | 25 | 65520 | **5T825** | 52.14 | **47.40** | **45.03** | 0.4 |

# LOCKOUT SAFETY SIGNS

- **Excellent chemical and abrasion resistance**
- **Will not chip, rust, shatter, or peel**
- **Ultraviolet inhibitors protect legend against fading caused by exposure to sunlight**

Constructed from fiberglass reinforced plastic. Meet OSHA specifications for size, color, and legend. Safety signs consist of protected graphics permanently embedded within fiberglass resin package for indoor and outdoor durability. Brady USA brand.



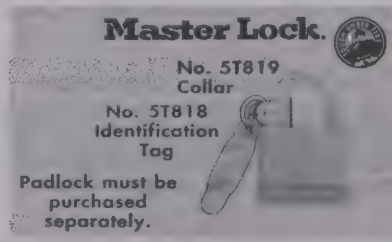

## LOCKOUT SAFETY SIGN SPECIFICATIONS AND ORDERING DATA

| Description | Dimensions H x W (In.) | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **CAUTION-LOCK OUT FOR SAFETY** | 14 x 10 | 65570 | **3BC50** | $15.09 | **$13.72** | **$12.35** | 0.6 |
| **CAUTION-THIS MACHINE MUST BE LOCKED OUT PRIOR TO SERVICING** | 14 x 10 | 65516 | **1AV13** | 15.09 | **13.72** | **12.35** | 0.6 |
| **NOTICE-IN ACCORDANCE WITH OSHA...** | 20 x 14 | 65511 | **1D701** | 26.70 | **24.28** | **21.85** | 1.5 |

# IDENTIFICATION TAGS AND COLLARS

**Provides instant identification** of assigned padlock users. Brass tags can be inscribed or stamped with employee names and numbers. Durable attachment collars withstand rugged work environments. **Sold only in packs of 12.** Master Lock brand.

| Description | Package Qty. | Master Model | Stock No. | Per Package List | Per Package Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Brass Tag with Ring** | 12 | 71TAG | **5T818** | $13.45 | **$12.11** | **$11.50** | **$10.89** | 0.2 |
| **Collar with Rivets, fits 9/32" shackle** | 12 | 71SC9 | **5T819** | 9.15 | **8.24** | **7.82** | **7.41** | 0.2 |



# INDUSTRIAL SAFETY TRAINING MATERIALS

## BLOODBORNE PATHOGENS—WORKER AWARENESS

**Designed in Compliance with OSHA 29 CFR 1910.1030**

**Live-action video** designed specifically for training industrial workers and emergency response teams. Easy-to-understand, comprehensive program helps eliminate misconceptions and trains workers on modes of transmission, universal precautions, safe housekeeping practices, cleanup and disposal of contaminated material and spills. Program includes 10 Employee Handbooks and one Facilitator Guide. Video and Interactive CD-ROM available.

## PERMIT–REQUIRED CONFINED SPACE ENTRY

**Designed in Compliance with OSHA 29 CFR 1910.146**

**Program illustrates the hazards** of working in a confined space and the importance of following proper procedures. Live-action footage and graphics make this program a must-see for all maintenance, repair and response teams. Designed to meet federal regulation, program trains workers on: What is a Confined Space; Associated Hazards; Proper Entry Procedures including Permits, Monitoring and Protective Equipment; Attendant Responsibilities; and Emergency Rescue Procedures. Program includes 10 Employee Handbooks and one Facilitator Guide. Video and Interactive CD-ROM available.

## LOCKOUT/TAGOUT

**Designed in Compliance with OSHA 29 CFR 1910.147**

**Two out of every three incidents** related to the accidental release of stored energy involve machine operators. Two-part series complies with the OSHA standard, motivates workers to recognize and respect the potential hazards of stored energy, and follow safe work practices. Program includes 10 Employee Handbooks and one Facilitator Guide. Video and Interactive CD-ROM available.

**Part 1—AWARENESS**

Aimed at non-maintenance personnel who are affected by Lockout/Tagout procedures, program creates an awareness and respect for hazards associated with the accidental release of stored energy and the purpose of a lockout and tagout program.

**Part 2—PROCEDURES**

Step-by-step procedures are demonstrated for safely isolating, locking out and tagging all common forms of energy found in industry. The video covers safe start-up procedures and special situations.

## BACK SAFETY—THE ERGONOMIC CONNECTION

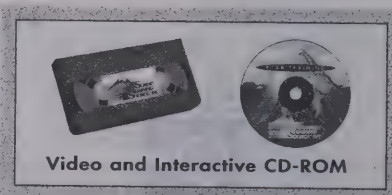
Back injuries account for over 25% of all disabling work injuries and make up one-third of all compensation expenses in the United States. Reduce incidents and associated costs with this program. Graphics and multiple live-action examples help explain ergonomic solutions to prevent back disorders and encourage employees to use proper body mechanics and lifting techniques. Program covers: How the Back Works; Proper Body Mechanics; Common Back Injuries; Risk Factors Causing Back Injuries; and Preventive Measures. Program includes 10 Employee Handbooks and one Facilitator Guide. Video and Interactive CD-ROM available.

## ERGONOMICS--PREVENTING CTDs

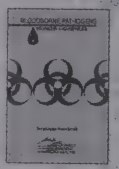
**Millions of workers** are disabled yearly by cumulative trauma injuries at an enormous cost to industry. Ergonomics has been the target of multi-million dollar fines levied by OSHA. Reviewed by ergonomic experts, this two-part program helps your company reduce workers' compensation costs and absenteeism due to CTDs. Program helps improve quality and effectiveness, and increase job satisfaction. Broadcast quality, live-action video filmed in paper, pharmaceutical, textile, chemical and manufacturing facilities features graphics that explain important concepts in ergonomics.

**Part 1—Employee Module:** Contains What are Cumulative Trauma Injuries; Factors Causing Cumulative Trauma Injuries; Preventive Measures.

**Part 2—Supervisor Module:** Contains Techniques to Analyze Job Functions; Recognizing CTD Indicators; Preventive Measures in Job Function and Design. Program includes 10 Employee Handbooks and one Facilitator Guide. Complies with OSHA's proposed Ergonomic Guidelines for General Industry. Video and Interactive CD-ROM available.



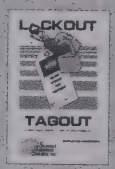
Video and Interactive CD-ROM



Bloodborne Pathogens




Permit-Required Confined Space Entry




Lockout/Tagout

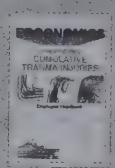



Women-Owned Business






Back Safety




Ergonomics—Preventing CTDs

| Description | Summit Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **BLOODBORNE PATHOGENS—WORKER AWARENESS** | | | | | |
| Training Video, 12 minutes | 0000001 | 3JX90 | $495.00 | $395.00 ▲ | 3.0 |
| Interactive CD-ROM | 0007007 | 3JW67 | 695.00 | 678.00 ▲ | 2.0 |
| Employee Handbook (Pkg. of 25) | 0000503 | 3JX50 | 42.50 | 41.45 ▲ | 3.0 |
| Facilitator Guide | 0000538 | 3JX06 | 4.95 | 4.83 ▲ | 1.0 |
| **PERMIT–REQUIRED CONFINED SPACE ENTRY** | | | | | |
| Training Video, 20 minutes | 0000002 | 3JX91 | 495.00 | 395.00 ▲ | 3.0 |
| Interactive CD-ROM | 0007005 | 3JW66 | 695.00 | 678.00 ▲ | 2.0 |
| Employee Handbook (Pkg. of 25) | 0000505 | 3JX51 | 42.50 | 41.45 ▲ | 3.0 |
| Facilitator Guide | 0000540 | 3JX08 | 4.95 | 4.83 ▲ | 1.0 |
| **LOCKOUT/TAGOUT** | | | | | |
| Part 1 Training Video–Awareness, 10 minutes | 0000003 | 3JX92 | 495.00 | 395.00 ▲ | 3.0 |
| Part 2 Training Video–Procedures, 14 minutes | 0000004 | 3JX93 | 495.00 | 395.00 ▲ | 3.0 |
| Part 1 Interactive CD-ROM | 0007040 | 3JW96 | 695.00 | 678.00 ▲ | 2.0 |
| Part 2 Interactive CD-ROM | 0007041 | 3JW97 | 695.00 | 678.00 ▲ | 2.0 |
| Employee Handbook (Pkg. of 25) | 0000525 | 3JX60 | 42.50 | 41.45 ▲ | 3.0 |
| Facilitator Guide | 0000574 | 3JX22 | 4.95 | 4.83 ▲ | 1.0 |
| **BACK SAFETY—THE ERGONOMIC CONNECTION** | | | | | |
| Training Video, 14 minutes | 0000007 | 3JX96 | 495.00 | 395.00 ▲ | 3.0 |
| Interactive CD-ROM | 0007012 | 3JW69 | 695.00 | 678.00 ▲ | 2.0 |
| Employee Handbook (Pkg. of 25) | 0000502 | 3JX49 | 42.50 | 41.45 ▲ | 3.0 |
| Facilitator Guide | 0000537 | 3JX05 | 4.95 | 4.83 ▲ | 1.0 |
| **ERGONOMICS—PREVENTING CTDs** | | | | | |
| Training Video, Employee Module, 17 minutes | 0000018 | 3JZ08 | 495.00 | 395.00 ▲ | 3.0 |
| Training Video, Supervisor Module, 17 minutes | 0000019 | 3JZ09 | 495.00 | 395.00 ▲ | 3.0 |
| Interactive CD-ROM, Employee Module | 0007046 | 3JX03 | 695.00 | 678.00 ▲ | 2.0 |
| Interactive CD-ROM, Supervisor Module | 0007047 | 3JX04 | 695.00 | 678.00 ▲ | 2.0 |
| Employee Handbook (Pkg. of 25) | 0000511 | 3JX54 | 42.50 | 41.45 ▲ | 3.0 |
| Facilitator Guide | 0000546 | 3JX14 | 4.95 | 4.83 ▲ | 1.0 |

(▲) Net prices, not subject to discounts.



*Close it, lock it, keep it safe — You'll find the right stuff right here.*



Video and Interactive CD-ROM

SUMMIT TRAINING SOURCE, INC.



Hazard Communication



Personal Protective Equipment

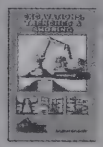


Forklift Safety

SUPPLIER DIVERSITY™ Women-Owned Business



Fall Protection



Excavations, Trenches and Shoring



Safety Orientation

## HAZARD COMMUNICATION

**Designed in Compliance with OSHA 29 CFR 1910.1200**

**Three out of five OSHA citations are related to Hazard Communication.** This cost-effective, step-by-step program emphasizes Right-to Know compliance. The broadcast quality video uses graphics and live-action film sequences to train employees on:

Hazard Identification, Container Labeling, MSDS, Employee Training, and Written Plan. Program includes 10 Employee Handbooks and one Facilitator Guide. Video and Interactive CD-ROM available.

## PERSONAL PROTECTIVE EQUIPMENT--THE DANGER ZONE

**Designed in Compliance with OSHA 29 CFR 1910.132**

**Broadcast-quality video** uses convincing statistics and motivational sequences to encourage workers to wear the proper protection for the hazards they face on the job. Stresses importance of assessing hazards prior to PPE selection. Filmed in industry, this program demonstrates proper use and care of hard hats, safety glasses, goggles, respirators, protective clothing, gloves, shoes and more. Program includes 10 Workbooks. Video and Interactive CD-ROM available.

## FORKLIFT SAFETY--THE RESPONSIBLE OPERATOR

**Designed in Compliance with OSHA 29 CFR 1910.178**

**Motivational 2-part compliance series** incorporates graphics and live-action footage to train forklift operators on the principles of operation, safe driving skills, and hazard awareness in the driving environment.

Program includes 10 Employee Handbooks and one Facilitator Guide. Video and Interactive CD-ROM available.

**Part 1—OPERATIONS:** Includes Operation of a Forklift; Refueling and Battery Changing; Load Capacity; Stability Triangle; Pre-Operation Inspection

**Part 2—SAFE DRIVING SKILLS:** Includes Driving Skills; Interaction with Pedestrian Traffic; Proper Load Handling Techniques; Hazard Awareness in the Driving Environment.

## FALL PROTECTION--TAKING CONTROL

**Designed in Compliance with OSHA 29 CFR 1926.501**

**Almost 10% of all fatal occupational injuries** are due to falls in the workplace. Program motivates workers to follow safe work practices. Train employees on how to recognize and respect fall hazards, the importance of engineering hazards out of a worksite, and how to correctly select, use and care for fall arrest equipment. This program uses graphics and industrial footage to effectively teach planning and equipment use in protecting against falls.

Produced in consultation with regulatory agencies, industry experts and equipment manufacturers, this program explains the correct use of: Anchor Points; Full Body Harnesses; Rope Grabs; Lanyards; and Lifelines. Program includes 10 Employee Handbooks and one Facilitator Guide. Video and Interactive CD-ROM available.

## EXCAVATIONS, TRENCHES AND SHORING

**Designed in Compliance with 1926.651 and 1926.652**

**Excavation and trenching accidents** are a leading cause of disabling injuries in the construction industry. This program uses live-action footage and state-of-the-art graphics to train workers to recognize and respect the potential hazards associated with excavations. The program provides an overview of protective systems, regulatory requirements and safe work practices to prevent cave-ins and is ideal for all personnel who work in or around excavations and trenches. Program includes 10 Employee Handbooks and one Facilitator Guide. Available in Video only.

## SAFETY ORIENTATION

**Safety Orientation is the first line of defense** against common workplace accidents at your facility. This outstanding safety training program motivates employees, reduces on-the-job accidents, and creates a positive safety culture. This live-action film with scenes including mills, warehouses, assembly lines, laboratories and offices, covers these important topics: PPE; Good Housekeeping; Hazard Communication, Recognizing Potential Hazards in the Work Environment and Ergonomic Awareness. Program includes 10 Employee Handbooks and one Facilitator Guide. Video and Interactive CD-ROM available.

| Description | Summit Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **HAZARD COMMUNICATION** | | | | | | |
| Training Video, 12 minutes | 0000023 | 3JZ13 | $495.00 | $395.00 | ▲ | 3.0 |
| Interactive CD-ROM | 0007000 | 3JW64 | 695.00 | 678.00 | ▲ | 2.0 |
| Employee Handbook (Pkg. of 25) | 0000515 | 3JX55 | 42.50 | 41.45 | ▲ | 3.0 |
| Facilitator Guide | 0000599 | 3JX31 | 4.95 | 4.83 | ▲ | 1.0 |
| **PERSONAL PROTECTIVE EQUIPMENT—THE DANGER ZONE** | | | | | | |
| Training Video, 12 minutes | 0000068 | 3JZ47 | 495.00 | 395.00 | ▲ | 3.0 |
| Interactive CD-ROM | 0007003 | 3JW65 | 695.00 | 678.00 | ▲ | 2.0 |
| Employee Workbook (Pkg. of 25) | 0000528 | 3KD21 | 123.75 | 120.70 | ▲ | 5.0 |
| **FORKLIFT SAFETY—THE RESPONSIBLE OPERATOR** | | | | | | |
| Training Video, Operations, 12 minutes | 0000206 | 3JZ77 | 495.00 | 395.00 | ▲ | 3.0 |
| Training Video, Safe Driving Skills, 14 minutes | 0000207 | 3JZ78 | 495.00 | 395.00 | ▲ | 3.0 |
| Interactive CD-ROM, Operations | 0007029 | 3JW85 | 695.00 | 678.00 | ▲ | 2.0 |
| Interactive CD-ROM, Safe Driving Skills | 0007030 | 3JW86 | 695.00 | 678.00 | ▲ | 2.0 |
| Employee Handbook (Pkg. of 25) | 0000616 | 3JX75 | 42.50 | 41.45 | ▲ | 3.0 |
| Facilitator Guide | 0000617 | 3JX40 | 4.95 | 4.83 | ▲ | 1.0 |
| **FALL PROTECTION—TAKING CONTROL** | | | | | | |
| Training Video, 11 minutes | 0000208 | 3JZ79 | 495.00 | 395.00 | ▲ | 3.0 |
| Interactive CD-ROM | 0007010 | 3JW68 | 695.00 | 678.00 | ▲ | 2.0 |
| Employee Handbook (Pkg. of 25) | 0000594 | 3JX67 | 42.50 | 41.45 | ▲ | 3.0 |
| Facilitator Guide | 0000593 | 3JX29 | 4.95 | 4.83 | ▲ | 1.0 |
| **EXCAVATIONS, TRENCHES AND SHORING** | | | | | | |
| Training Video, 18 minutes | 0000227 | 3JZ92 | 495.00 | 395.00 | ▲ | 3.0 |
| Employee Handbook (Pkg. of 25) | 0000648 | 3JX86 | 42.50 | 41.45 | ▲ | 3.0 |
| Facilitator Guide | 0000647 | 3JX46 | 4.95 | 4.83 | ▲ | 1.0 |
| **SAFETY ORIENTATION** | | | | | | |
| Training Video, 14 minutes | 0000250 | 3KC09 | 495.00 | 395.00 | ▲ | 3.0 |
| Interactive CD-ROM | 0007021 | 3JW77 | 695.00 | 678.00 | ▲ | 2.0 |
| Employee Handbook (Pkg. of 25) | 0000635 | 3JX80 | 42.50 | 41.45 | ▲ | 3.0 |
| Facilitator Guide | 0000634 | 3JX44 | 4.95 | 4.83 | ▲ | 1.0 |

(▲) Net prices, not subject to discounts.

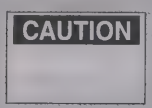
# SAFETY SIGNS

## "CAUTION" HEADER SAFETY SIGNS

Four safety sign materials available to fit every application: fiberglass, aluminum, plastic and self-sticking vinyl.

Fiberglass signs consist of protected graphics permanently embedded within a fiberglass resin package for excellent indoor/outdoor durability. Aluminum signs have superior chemical and abrasion resistance over traditional surface printed aluminum signs. Plastic signs provide an economical alternative for light duty applications. Self-sticking vinyl signs provide excellent abrasion and chemical resistance while reliably adhering to tough surfaces. All signs meet OSHA specifications for size, color and legend. Brady USA brand.

**BRADY USA INC. 15-YEAR WARRANTY**
Brady warrants their fiberglass signs for 15 years against a fading, chipping, or cracking. Other signs warranted for year. Text of warranty available on request. S "Manufacturers' Warranties" on page opposite inside ba cover.




No. 3AG92 Fiberglass
No. 1M128 Aluminum
No. 1M344 Plastic
No. 1K881 Self-Stick



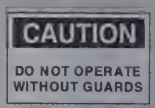

No. 5T126 Fiberglass
No. 1M260 Aluminum
No. 1M476 Plastic
No. 1M038 Self-Stick



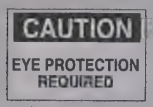

No. 4T638 Fiberglass
No. 1M286 Aluminum
No. 1M502 Plastic
No. 1M064 Self-Stick




No. 4T639 Fiberglass
No. 1M284 Aluminum
No. 1M500 Plastic
No. 1M062 Self-Stick




No. 4T640 Fiberglass
No. 1M180 Aluminum
No. 1M396 Plastic
No. 1K933 Self-Stick




No. 4T648 Fiberglass
No. 1M244 Aluminum
No. 1M460 Plastic
No. 1M016 Self-Stick




No. 5T129 Fiberglass
No. 1M206 Aluminum
No. 1M420 Plastic
No. 1K979 Self-Stick




No. 4T652 Fiberglass
No. 1M212 Aluminum
No. 1M426 Plastic
No. 1K997 Self-Stick




No. 5T131 Fiberglass
No. 1M242 Aluminum
No. 1M458 Plastic
No. 1M014 Self-Stick

Black and Yellow Header with Black Legend

• Registered to ISO 9001

BRADY

| Legends | Material | Dimensions (In.) H W | Brady Model | Stock No. | List | Each | Lots 10 | Shp Wt |
|---|---|---|---|---|---|---|---|---|
| CAUTION Header with Blank Panel | Fiberglass | 10 x 14 | 47002 | 3AG92 | $15.09 | $13.72 | $12.35 | 0.6 |
| | Aluminum | 10 x 14 | 42934 | 1M128 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 25357 | 1M344 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 88919 | 1K881 | 8.39 | 7.63 | 6.87 | 0.1 |
| CORROSIVE MATERIALS WEAR REQUIRED PROTECTION | Fiberglass | 10 x 14 | 47117 | 5T126 | 15.09 | 13.72 | 12.35 | 0.8 |
| | Aluminum | 10 x 14 | 40837 | 1M260 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22273 | 1M476 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 84298 | 1M038 | 8.39 | 7.63 | 6.87 | 0.1 |
| DO NOT ENTER | Fiberglass | 7 x 10 | 75444 | 4T638 | 8.30 | 7.55 | 6.80 | 0.4 |
| | Aluminum | 7 x 10 | 40623 | 1M286 | 8.54 | 7.77 | 6.99 | 0.3 |
| | Plastic | 7 x 10 | 22059 | 1M502 | 7.10 | 6.46 | 5.81 | 0.2 |
| | Self-Stick | 7 x 10 | 84008 | 1M064 | 5.99 | 5.45 | 4.91 | 0.1 |
| DO NOT ENTER | Fiberglass | 10 x 14 | 47093 | 4T639 | 15.09 | 13.72 | 12.35 | 0.3 |
| | Aluminum | 10 x 14 | 40624 | 1M284 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22060 | 1M500 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 84009 | 1M062 | 8.39 | 7.63 | 6.87 | 0.1 |
| DO NOT OPERATE WITHOUT GUARDS | Fiberglass | 7 x 10 | 47060 | 4T640 | 8.30 | 7.55 | 6.80 | 0.3 |
| | Aluminum | 7 x 10 | 42402 | 1M180 | 8.54 | 7.77 | 6.99 | 0.3 |
| | Plastic | 7 x 10 | 22879 | 1M396 | 7.10 | 6.46 | 5.81 | 0.2 |
| | Self-Stick | 7 x 10 | 85797 | 1K933 | 5.99 | 5.45 | 4.91 | 0.1 |
| EYE PROTECTION REQUIRED | Fiberglass | 10 x 14 | 47050 | 4T648 | 15.09 | 13.72 | 12.35 | 0.3 |
| | Aluminum | 10 x 14 | 40964 | 1M244 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22400 | 1M460 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 84530 | 1M016 | 8.39 | 7.63 | 6.87 | 0.1 |
| FACE SHIELD AREA | Fiberglass | 10 x 14 | 70339 | 5T129 | 15.09 | 13.72 | 12.35 | 0.7 |
| | Aluminum | 10 x 14 | 41151 | 1M206 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22587 | 1M420 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 84984 | 1K979 | 8.39 | 7.63 | 6.87 | 0.1 |
| FIRE DOOR KEEP CLOSED | Fiberglass | 10 x 14 | 47113 | 4T652 | 15.09 | 13.72 | 12.35 | 0.7 |
| | Aluminum | 10 x 14 | 41076 | 1M212 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22512 | 1M426 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 84700 | 1K997 | 8.39 | 7.63 | 6.87 | 0.1 |
| GLOVES REQUIRED | Fiberglass | 10 x 14 | 70358 | 5T131 | 15.09 | 13.72 | 12.35 | 0.3 |
| | Aluminum | 10 x 14 | 40968 | 1M242 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22404 | 1M458 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 84534 | 1M014 | 8.39 | 7.63 | 6.87 | 0.1 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# "CAUTION" HEADER SAFETY SIGNS

**Four safety sign materials available to fit every application: fiberglass, aluminum, plastic and self-sticking vinyl.**

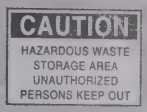
**Fiberglass signs consist of protected graphics permanently embedded within a fiberglass resin package for excellent indoor/outdoor durability. Aluminum signs have superior chemical and abrasion resistance over traditional surface printed aluminum signs. Plastic signs provide an economical alternative for light duty applications. Self-sticking vinyl signs provide excellent abrasion and chemical resistance while reliably adhering to tough surfaces. All signs meet OSHA specifications for size, color, and legend. Brady USA brand.**

### BRADY USA 15-YEAR WARRANTY

**Brady warrants their fiberglass signs for 15 years against any fading, chipping, or cracking. Other signs warranted for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**




No. 4T660 Fiberglass
No. 1M240 Aluminum
No. 1M456 Plastic
No. 1M012 Self-Stick



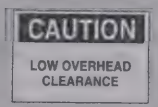

No. 5T133 Fiberglass
No. 1M258 Aluminum
No. 1M474 Plastic
No. 1M036 Self-Stick




No. 4T661 Fiberglass
No. 1M112 Aluminum
No. 1M328 Plastic
No. 1K991 Self-Stick



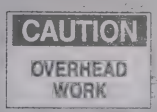

No. 4T663 Fiberglass
No. 1M238 Aluminum
No. 1M454 Plastic
No. 1M010 Self-Stick



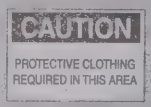

No. 5T135 Fiberglass
No. 1M176 Aluminum
No. 1M392 Plastic
No. 1K929 Self-Stick




No. 5T138 Fiberglass
No. 1M210 Aluminum
No. 1M424 Plastic
No. 1K995 Self-Stick




No. 5T139 Fiberglass
No. 1M174 Aluminum
No. 1M390 Plastic
No. 1K927 Self-Stick




No. 5T141 Fiberglass
No. 1M236 Aluminum
No. 1M452 Plastic
No. 1M008 Self-Stick

Black and Yellow Header with Black Legend

BRADY • Registered to ISO 9001




No. 3BC50 Fiberglass
No. 1M178 Aluminum
No. 1M394 Plastic
No. 1K931 Self-Stick

| Legends | Material | Dimensions (In.) H x W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| HARD HATS REQUIRED | Fiberglass | 10 x 14 | 74581 | 4T660 | $15.09 | $13.72 | $12.35 | 0.3 |
| | Aluminum | 10 x 14 | 40970 | 1M240 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22406 | 1M456 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 84536 | 1M012 | 8.39 | 7.63 | 6.87 | 0.1 |
| HAZARDOUS WASTE STORAGE AREA UNAUTHORIZED PERSONS KEEP OUT | Fiberglass | 10 x 14 | 70374 | 5T133 | 15.09 | 13.72 | 12.35 | 0.8 |
| | Aluminum | 10 x 14 | 40843 | 1M258 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22570 | 1M474 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 84304 | 1M036 | 8.39 | 7.63 | 6.87 | 0.1 |
| HEARING PROTECTION MUST BE WORN IN THIS AREA | Fiberglass | 10 x 14 | 47101 | 4T661 | 15.09 | 13.72 | 12.35 | 0.8 |
| | Aluminum | 10 x 14 | 43042 | 1M112 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 25465 | 1M328 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 84785 | 1K991 | 8.39 | 7.63 | 6.87 | 0.1 |
| HEARING PROTECTION REQUIRED | Fiberglass | 10 x 14 | 47018 | 4T663 | 15.09 | 13.72 | 12.35 | 0.3 |
| | Aluminum | 10 x 14 | 40972 | 1M238 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22408 | 1M454 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 84538 | 1M010 | 8.39 | 7.63 | 6.87 | 0.1 |
| LOW OVERHEAD CLEARANCE | Fiberglass | 10 x 14 | 74270 | 5T135 | 15.09 | 13.72 | 12.35 | 0.8 |
| | Aluminum | 10 x 14 | 42441 | 1M176 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22948 | 1M392 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 86859 | 1K929 | 8.39 | 7.63 | 6.87 | 0.1 |
| OPEN DOOR SLOWLY | Fiberglass | 10 x 14 | 70466 | 5T138 | 15.09 | 13.72 | 12.35 | 0.7 |
| | Aluminum | 10 x 14 | 41080 | 1M210 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22516 | 1M424 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 84707 | 1K995 | 8.39 | 7.63 | 6.87 | 0.1 |
| OVERHEAD WORK | Fiberglass | 10 x 14 | 70470 | 5T139 | 15.09 | 13.72 | 12.35 | 0.1 |
| | Aluminum | 10 x 14 | 42447 | 1M174 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22924 | 1M390 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 86871 | 1K927 | 8.39 | 7.63 | 6.87 | 0.1 |
| PROTECTIVE CLOTHING REQUIRED IN THIS AREA | Fiberglass | 10 x 14 | 70491 | 5T141 | 15.09 | 13.72 | 12.35 | 0.1 |
| | Aluminum | 10 x 14 | 40980 | 1M236 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22446 | 1M452 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 84546 | 1M008 | 8.39 | 7.63 | 6.87 | 0.1 |
| LOCK OUT FOR SAFETY | Fiberglass | 14 x 10 | 65570 | 3BC50 | 15.09 | 13.72 | 12.35 | 0.6 |
| | Aluminum | 14 x 10 | 42433 | 1M178 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 14 x 10 | 22940 | 1M394 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 14 x 10 | 86849 | 1K931 | 8.39 | 7.63 | 6.87 | 0.1 |

# SAFETY SIGNS

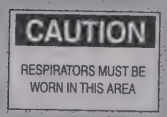
## "CAUTION" HEADER SAFETY SIGNS

Four safety sign materials available to fit every application: fiberglass, aluminum, plastic, and self-sticking vinyl.

Fiberglass signs consist of protected graphics permanently embedded within a fiberglass resin package for excellent indoor/outdoor durability. Aluminum signs have superior chemical and abrasion resistance over traditional surface printed aluminum signs. Plastic signs provide an economical alternative for light duty applications. Self-sticking vinyl signs provide excellent abrasion and chemical resistance while reliably adhering to tough surfaces. All signs meet OSHA specifications for size, color, and legend. Brady USA brand.

**BRADY USA INC. 15-YEAR WARRANTY**

Brady warrants their fiberglass signs for 15 years against an fading, chipping, or cracking. Other signs warranted for year. Text of warranty available on request. Se "Manufacturer's Warranties" on page opposite inside bac cover.




No. 5T143 Fiberglass
No. 1M234 Aluminum
No. 1M450 Plastic
No. 1M006 Self-Stick



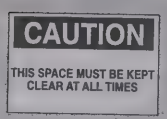

No. 5T145 Fiberglass
No. 1M098 Aluminum
No. 1M314 Plastic
No. 1K973 Self-Stick

BRADY • Registered to ISO 9001

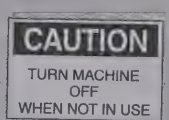
Black and Yellow Header with Black Legend



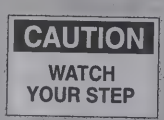

No. 1AV13 Fiberglass
No. 1M172 Aluminum
No. 1M388 Plastic
No. 1K925 Self-Stick




No. 4T690 Fiberglass
No. 1M192 Aluminum
No. 1M406 Plastic
No. 1K943 Self-Stick




No. 5T147 Fiberglass
No. 1M170 Aluminum
No. 1M386 Plastic
No. 1K923 Self-Stick




No. 4T691 Fiberglass
No. 1M096 Aluminum
No. 1M312 Plastic
No. 1K971 Self-Stick




No. 4T693 Fiberglass
No. 1M138 Aluminum
No. 1M354 Plastic
No. 1K891 Self-Stick

| Legends | Material | Dimensions (In.) H W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **RESPIRATORS MUST BE WORN IN THIS AREA** | Fiberglass | 10 x 14 | 70506 | **5T143** | $15.09 | **$13.72** | **$12.35** | 0.7 |
| | Aluminum | 10 x 14 | 40983 | **1M234** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22419 | **1M450** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84557 | **1M006** | 8.39 | **7.63** | **6.87** | 0.1 |
| **SLIPPERY FLOOR** | Fiberglass | 10 x 14 | 70528 | **5T145** | 15.09 | **13.72** | **12.35** | 0.3 |
| | Aluminum | 10 x 14 | 43176 | **1M098** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25599 | **1M314** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 85086 | **1K973** | 8.39 | **7.63** | **6.87** | 0.1 |
| **THIS MACHINE MUST BE LOCKED OUT PRIOR TO SERVICING** | Fiberglass | 14 x 10 | 65516 | **1AV13** | 15.09 | **13.72** | **12.35** | 0.6 |
| | Aluminum | 14 x 10 | 42455 | **1M172** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 14 x 10 | 22932 | **1M388** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 14 x 10 | 85893 | **1K925** | 8.39 | **7.63** | **6.87** | 0.1 |
| **THIS SPACE MUST BE KEPT CLEAR AT ALL TIMES** | Fiberglass | 10 x 14 | 72975 | **4T690** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 41337 | **1M192** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22773 | **1M406** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 85599 | **1K943** | 8.39 | **7.63** | **6.87** | 0.1 |
| **TURN MACHINE OFF WHEN NOT IN USE** | Fiberglass | 10 x 14 | 70563 | **5T147** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 42461 | **1M170** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22938 | **1M386** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 85901 | **1K923** | 8.39 | **7.63** | **6.87** | 0.1 |
| **WATCH YOUR STEP** | Fiberglass | 10 x 14 | 74455 | **4T691** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 43188 | **1M096** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25611 | **1M312** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 85098 | **1K971** | 8.39 | **7.63** | **6.87** | 0.1 |
| **WEAR SAFETY SHOES IN THIS AREA** | Fiberglass | 10 x 14 | 74740 | **4T693** | 15.09 | **13.72** | **12.35** | 0.1 |
| | Aluminum | 10 x 14 | 42784 | **1M138** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25207 | **1M354** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 88584 | **1K891** | 8.39 | **7.63** | **6.87** | 0.1 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

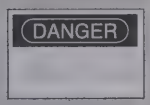
# "DANGER" HEADER SAFETY SIGNS

Four safety sign materials available to fit every application: fiberglass, aluminum, plastic, and self-sticking vinyl.

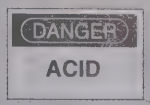
Fiberglass signs consist of protected graphics permanently embedded within a fiberglass resin package for excellent indoor/outdoor durability. Aluminum signs have superior chemical and abrasion resistance over traditional surface printed aluminum signs.Plastic signs provide an economical alternative for ligth duty applications. Self-sticking vinyl signs provide excellent abrasion and chemical resistance while reliably adhering to tough surfaces. All signs meet OSHA specifications for size, color, and legend. Brady USA brand.

**BRADY USA INC. 15-YEAR WARRANTY**

**Brady warrants their fiberglass signs for 15 years against any fading, chipping, or cracking. Other signs warranted for 1 year. Text of warranty available on request. See "Manufacturer's Warranties" on page opposite inside back cover.**



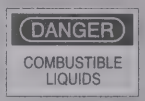

No. 5AW27 Fiberglass
No. 1M126 Aluminum
No. 1M342 Plastic
No. 1K879 Self-Stick




No. 5T188 Fiberglass
No. 1M256 Aluminum
No. 1M472 Plastic
No. 1M034 Self-Stick




No. 5T121 Fiberglass
No. 1M254 Aluminum
No. 1M470 Plastic
No. 1M032 Self-Stick



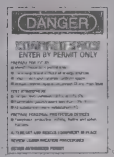

No. 5T122 Fiberglass
No. 1M252 Aluminum
No. 1M468 Plastic
No. 1M030 Self-Stick



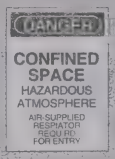

No. 1D670 Fiberglass
No. 1M232 Aluminum
No. 1M448 Plastic
No. 1M004 Self-Stick




No. 5T123 Fiberglass
No. 1M230 Aluminum
No. 1M446 Plastic
No. 1M002 Self-Stick




No. 1D674 Fiberglass
No. 1M228 Aluminum
No. 1M444 Plastic
No. 1L584 Self-Stick




No. 1D669 Fiberglass
No. 1M226 Aluminum
No. 1M442 Plastic
No. 1L582 Self-Stick

BRADY

• Registered to ISO 9001




No. 1D668 Fiberglass
No. 1M224 Aluminum
No. 1M440 Plastic
No. 1L580 Self-Stick




No. 5T127 Fiberglass
No. 1M116 Aluminum
No. 1M332 Plastic
No. 1M024 Self-Stick

| Legends | Material | Dimensions (In.) H W | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **DANGER Header with Blank Panel** | Fiberglass | 10 x 14 | 47004 | **5AW27** | $15.09 | **$13.72** | **$12.35** | 0.6 |
| | Aluminum | 10 x 14 | 42938 | **1M126** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25361 | **1M342** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 88926 | **1K879** | 8.39 | **7.63** | **6.87** | 0.1 |
| **ACID** | Fiberglass | 10 x 14 | 47206 | **5T118** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 40859 | **1M256** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22295 | **1M472** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84327 | **1M034** | 8.39 | **7.63** | **6.87** | 0.1 |
| **CHEMICAL STORAGE** | Fiberglass | 10 x 14 | 70240 | **5T121** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 40876 | **1M254** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22312 | **1M470** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84352 | **1M032** | 8.39 | **7.63** | **6.87** | 0.1 |
| **COMBUSTIBLE LIQUIDS** | Fiberglass | 10 x 14 | 70246 | **5T122** | 15.09 | **13.72** | **12.35** | 0.7 |
| | Aluminum | 10 x 14 | 40882 | **1M252** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22318 | **1M468** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84362 | **1M030** | 8.39 | **7.63** | **6.87** | 0.1 |
| **CONFINED SPACE ENTER BY PERMIT ONLY** | Fiberglass | 7 x 10 | 70248 | **1D670** | 8.30 | **7.55** | **6.80** | 0.3 |
| | Aluminum | 7 x 10 | 40988 | **1M232** | 8.54 | **7.77** | **6.99** | 0.3 |
| | Plastic | 7 x 10 | 22424 | **1M448** | 7.10 | **6.46** | **5.81** | 0.1 |
| | Self-Stick | 7 x 10 | 84562 | **1M004** | 5.99 | **5.45** | **4.91** | 0.1 |
| **CONFINED SPACE ENTER BY PERMIT ONLY** | Fiberglass | 10 x 14 | 70249 | **5T123** | 15.09 | **13.72** | **12.35** | 0.3 |
| | Aluminum | 10 x 14 | 40989 | **1M230** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22425 | **1M446** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 84563 | **1M002** | 8.39 | **7.63** | **6.87** | 0.1 |
| **CONFINED SPACE ENTER BY PERMIT ONLY (PROCEDURE SIGN)** | Fiberglass | 20 x 14 | 65809 | **1D674** | 26.70 | **24.28** | **21.85** | 1.5 |
| | Aluminum | 14 x 10 | 40990 | **1M228** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 14 x 10 | 22426 | **1M444** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 14 x 10 | 84564 | **1L584** | 8.39 | **7.63** | **6.87** | 0.1 |
| **CONFINED SPACE HAZARDOUS ATMOSPHERE AIR SUPPLIED RESPIRATOR REQUIRED FOR ENTRY** | Fiberglass | 20 x 14 | 70250 | **1D669** | 26.70 | **24.28** | **21.85** | 1.5 |
| | Aluminum | 14 x 10 | 40992 | **1M226** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 14 x 10 | 22428 | **1M442** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 14 x 10 | 84566 | **1L582** | 8.39 | **7.63** | **6.87** | 0.1 |
| **CONFINED SPACE HAZARDOUS ATMOSPHERE CHECK OXYGEN LEVEL BEFORE AND DURING ENTRY** | Fiberglass | 14 x 20 | 70251 | **1D668** | 26.70 | **24.28** | **21.85** | 1.3 |
| | Aluminum | 10 x 14 | 40994 | **1M224** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22430 | **1M440** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84568 | **1L580** | 8.39 | **7.63** | **6.87** | 0.1 |
| **DIESEL FUEL** | Fiberglass | 10 x 14 | 70266 | **5T127** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 43006 | **1M116** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25429 | **1M332** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84376 | **1M024** | 8.39 | **7.63** | **6.87** | 0.1 |

# SAFETY SIGNS

## "DANGER" HEADER SAFETY SIGNS

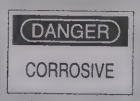
Four safety sign materials available to fit every application: fiberglass, aluminum, plastic, and self-sticking vinyl.

Fiberglass signs consist of protected graphics permanently embedded within a fiberglass resin package for excellent indoor/outdoor durability. Aluminum signs have superior chemical and abrasion resistance over traditional surface printed aluminum signs. Plastic signs provide an economical alternative for ligth duty applications. Self-sticking vinyl signs provide excellent abrasion and chemical resistance while reliably adhering to tough surfaces. All signs meet OSHA specifications for size, color, and legend. Brady USA brand.

**BRADY USA INC. 15-YEAR WARRANTY**

Brady warrants their fiberglass signs for 15 years against an fading, chipping, or cracking. Other signs warranted for year. Text of warranty available on request. Se "Manufacturer's Warranties" on page opposite inside back cover.

**Red/White/Black Header; Black Legend**




No. 5T124 Fiberglass
No. 1M250 Aluminum
No. 1M466 Plastic
No. 1M028 Self-Stick




No. 5T125 Fiberglass
No. 1M118 Aluminum
No. 1M334 Plastic
No. 1M026 Self-Stick




No. 4T637 Fiberglass
No. 1M222 Aluminum
No. 1M438 Plastic
No. 1L578 Self-Stick



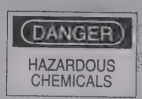

No. 4T641 Fiberglass
No. 1M282 Aluminum
No. 1M498 Plastic
No. 1M060 Self-Stick



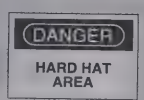

No. 4T657 Fiberglass
No. 1M094 Aluminum
No. 1M310 Plastic
No. 1K969 Self-Stick



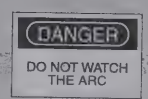

No. 5T130 Fiberglass
No. 1M092 Aluminum
No. 1M308 Plastic
No. 1K967 Self-Stick




No. 5T132 Fiberglass
No. 1M114 Aluminum
No. 1M330 Plastic
No. 1M022 Self-Stick




No. 4T659 Fiberglass
No. 1M166 Aluminum
No. 1M382 Plastic
No. 1K919 Self-Stick




No. 5T128 Fiberglass
No. 1M168 Aluminum
No. 1M384 Plastic
No. 1K921 Self-Stick

BRADY

• Registered to ISO 9001

| Legends | Material | Dimensions (In.) H W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **CORROSIVE** | Fiberglass | 10 x 14 | 70258 | **5T124** | $15.09 | **$13.72** | **$12.35** | 0.7 |
| | Aluminum | 10 x 14 | 40888 | **1M250** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22324 | **1M466** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84368 | **1M028** | 8.39 | **7.63** | **6.87** | 0.1 |
| **CORROSIVE LIQUIDS WEAR PROTECTIVE EQUIPMENT** | Fiberglass | 10 x 14 | 70260 | **5T125** | 15.09 | **13.72** | **12.35** | 0.7 |
| | Aluminum | 10 x 14 | 43002 | **1M118** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25425 | **1M334** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84372 | **1M026** | 8.39 | **7.63** | **6.87** | 0.1 |
| **DO NOT ENTER** | Fiberglass | 7 x 10 | 70885 | **4T637** | 8.30 | **7.55** | **6.80** | 0.6 |
| | Aluminum | 7 x 10 | 40997 | **1M222** | 8.54 | **7.77** | **6.99** | 0.3 |
| | Plastic | 7 x 10 | 22433 | **1M438** | 7.10 | **6.46** | **5.81** | 0.2 |
| | Self-Stick | 7 x 10 | 84571 | **1L578** | 5.99 | **5.45** | **4.91** | 0.1 |
| **ELECTRICAL EQUIPMENT AUTHORIZED PERSONNEL ONLY** | Fiberglass | 10 x 14 | 71545 | **4T641** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 40658 | **1M282** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22094 | **1M498** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 84069 | **1M060** | 8.39 | **7.63** | **6.87** | 0.1 |
| **FLAMMABLE GAS** | Fiberglass | 10 x 14 | 72230 | **4T657** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 43238 | **1M094** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25661 | **1M310** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 85176 | **1K969** | 8.39 | **7.63** | **6.87** | 0.1 |
| **FLAMMABLE MATERIALS** | Fiberglass | 10 x 14 | 72246 | **5T130** | 15.09 | **13.72** | **12.35** | 0.3 |
| | Aluminum | 10 x 14 | 43244 | **1M092** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25667 | **1M308** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 85184 | **1K967** | 8.39 | **7.63** | **6.87** | 0.1 |
| **HAZARDOUS CHEMICALS** | Fiberglass | 10 x 14 | 70372 | **5T132** | 15.09 | **13.72** | **12.35** | 0.3 |
| | Aluminum | 10 x 14 | 43018 | **1M114** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25441 | **1M330** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84398 | **1M022** | 8.39 | **7.63** | **6.87** | 0.1 |
| **HARD HAT AREA** | Fiberglass | 10 x 14 | 71187 | **4T659** | 15.09 | **13.72** | **12.35** | 0.7 |
| | Aluminum | 10 x 14 | 42507 | **1M166** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22984 | **1M382** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 88102 | **1K919** | 8.39 | **7.63** | **6.87** | 0.1 |
| **DO NOT WATCH THE ARC** | Fiberglass | 10 x 11 | 71132 | **5T128** | 15.09 | **13.72** | **12.35** | 0.3 |
| | Aluminum | 10 x 14 | 42489 | **1M168** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22966 | **1M384** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 85972 | **1K921** | 8.39 | **7.63** | **6.87** | 0.1 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# "DANGER" HEADER SAFETY SIGNS

BRADY

- Registered to ISO 9001
- Red/White/Black Header; Black Legend

**BRADY USA INC 15-YEAR WARRANTY**

Brady warrants their fiberglass signs for 15 years against any fading, chipping, or cracking. Other signs warranted for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.




No. 4T664 Fiberglass
No. 1M106 Aluminum
No. 1M322 Plastic
No. 1K985 Self-Stick




No. 4T665 Fiberglass
No. 1M104 Aluminum
No. 1M320 Plastic
No. 1K983 Self-Stick




No. 4T666 Fiberglass
No. 1M102 Aluminum
No. 1M318 Plastic
No. 1K981 Self-Stick




No. 5AK63 Fiberglass
No. 1M280 Aluminum
No. 1M496 Plastic
No. 1M058 Self-Stick




No. 4T667 Fiberglass
No. 1M164 Aluminum
No. 1M380 Plastic
No. 1K917 Self-Stick



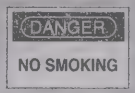

No. 4T669 Fiberglass
No. 1M278 Aluminum
No. 1M494 Plastic
No. 1M056 Self-Stick



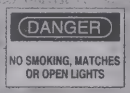

No. 5T148 Fiberglass
No. 1M162 Aluminum
No. 1M378 Plastic
No. 1K915 Self-Stick




No. 5T136 Fiberglass
No. 1M160 Aluminum
No. 1M376 Plastic
No. 1K913 Self-Stick




No. 4T675 Fiberglass
No. 1M156 Aluminum
No. 1M372 Plastic
No. 1K909 Self-Stick




No. 4T677 Fiberglass
No. 1M154 Aluminum
No. 1M370 Plastic
No. 1K907 Self-Stick




No. 4T678 Fiberglass
No. 1M152 Aluminum
No. 1M368 Plastic
No. 1K905 Self-Stick

| Legends | Material | Dimensions (In.) H | W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| HIGH VOLTAGE | Fiberglass | 7 | 10 | 71565 | 4T664 | $8.30 | $7.55 | $6.80 | 0.4 |
| | Aluminum | 7 | 10 | 43109 | 1M106 | 8.54 | 7.77 | 6.99 | 0.3 |
| | Plastic | 7 | 10 | 25532 | 1M322 | 7.10 | 6.46 | 5.81 | 0.2 |
| | Self-Stick | 7 | 10 | 84876 | 1K985 | 5.99 | 5.45 | 4.91 | 0.1 |
| HIGH VOLTAGE | Fiberglass | 10 | 14 | 47005 | 4T665 | 15.09 | 13.72 | 12.35 | 0.3 |
| | Aluminum | 10 | 14 | 43110 | 1M104 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 | 14 | 25533 | 1M320 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 | 14 | 84877 | 1K983 | 8.39 | 7.63 | 6.87 | 0.1 |
| HIGH VOLTAGE | Fiberglass | 10 | 7 | 47146 | 4T666 | 8.30 | 7.55 | 6.80 | 0.3 |
| | Aluminum | 10 | 7 | 43111 | 1M102 | 8.54 | 7.77 | 6.99 | 0.3 |
| | Plastic | 10 | 7 | 25534 | 1M318 | 7.10 | 6.46 | 5.81 | 0.2 |
| | Self-Stick | 10 | 7 | 84878 | 1K981 | 5.99 | 5.45 | 4.91 | 0.1 |
| HIGH VOLTAGE KEEP OUT | Fiberglass | 10 | 14 | 15471 | 5AK63 | 15.09 | 13.72 | 12.35 | 0.6 |
| | Aluminum | 10 | 14 | 40668 | 1M280 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 | 14 | 22104 | 1M496 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 | 14 | 84084 | 1M058 | 8.39 | 7.63 | 6.87 | 0.1 |
| HOT | Fiberglass | 10 | 14 | 74609 | 4T667 | 15.09 | 13.72 | 12.35 | 0.8 |
| | Aluminum | 10 | 14 | 42509 | 1M164 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 | 14 | 22986 | 1M380 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 | 14 | 88108 | 1K917 | 8.39 | 7.63 | 6.87 | 0.1 |
| KEEP OUT | Fiberglass | 10 | 14 | 47008 | 4T669 | 15.09 | 13.72 | 12.35 | 0.6 |
| | Aluminum | 10 | 14 | 40676 | 1M278 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 | 14 | 22112 | 1M494 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 | 14 | 84096 | 1M056 | 8.39 | 7.63 | 6.87 | 0.1 |
| LOOK OUT FOR LIFT TRUCKS | Fiberglass | 10 | 14 | 74264 | 5T148 | 15.09 | 13.72 | 12.35 | 0.1 |
| | Aluminum | 10 | 14 | 42525 | 1M162 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 | 14 | 23002 | 1M378 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 | 14 | 88132 | 1K915 | 8.39 | 7.63 | 6.87 | 0.1 |
| MEN WORKING ABOVE | Fiberglass | 10 | 14 | 47022 | 5T136 | 15.09 | 13.72 | 12.35 | 0.1 |
| | Aluminum | 10 | 14 | 42535 | 1M160 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 | 14 | 23012 | 1M376 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 | 14 | 88144 | 1K913 | 8.39 | 7.63 | 6.87 | 0.1 |
| NO SMOKING | Fiberglass | 10 | 14 | 47010 | 4T675 | 15.09 | 13.72 | 12.35 | 0.7 |
| | Aluminum | 10 | 14 | 42654 | 1M156 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 | 14 | 25077 | 1M372 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 | 14 | 88371 | 1K909 | 8.39 | 7.63 | 6.87 | 0.1 |
| NO SMOKING, MATCHES OR OPEN LIGHTS | Fiberglass | 10 | 14 | 47203 | 4T677 | 15.09 | 13.72 | 12.35 | 0.1 |
| | Aluminum | 10 | 14 | 42658 | 1M154 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 | 14 | 25081 | 1M370 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 | 14 | 88377 | 1K907 | 8.39 | 7.63 | 6.87 | 0.1 |
| NO SMOKING, NO OPEN FLAMES, NO SPARKS | Fiberglass | 10 | 14 | 72118 | 4T678 | 15.09 | 13.72 | 12.35 | 0.7 |
| | Aluminum | 10 | 14 | 42660 | 1M152 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 | 14 | 25083 | 1M368 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 | 14 | 88379 | 1K905 | 8.39 | 7.63 | 6.87 | 0.1 |

# SAFETY SIGNS

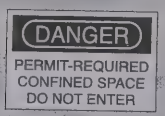
## "DANGER" HEADER SAFETY SIGNS

**Four safety sign materials available to fit every application: fiberglass, aluminum, plastic, and self-sticking vinyl.**

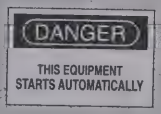
**Fiberglass signs consist of protected graphics permanently embedded within a fiberglass resin package for excellent indoor/outdoor durability. Aluminum signs have superior chemical and abrasion resistance over traditional surface printed aluminum signs. Plastic signs provide an economical alternative for ligth duty applications. Self-sticking vinyl signs provide excellent abrasion and chemical resistance while reliably adhering to tough surfaces. All signs meet OSHA specifications for size, color, and legend. Red/White/Black Header; Blac Legend Brady USA brand.**

BRADY USA INC 15-YEAR WARRANTY

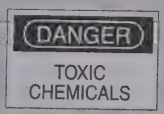
**Brady warrants their fiberglass signs for 15 years against a fading, chipping, or cracking. Other signs warranted for year. Text of warranty available on request. S "Manufacturers' Warranties" on page opposite inside ba cover.**



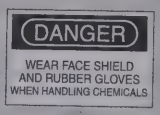

No. 6AF36 Fiberglass
No. 1M074 Aluminum
No. 1M290 Plastic
No. 1M070 Self-Stick




No. 4T689 Fiberglass
No. 1M158 Aluminum
No. 1M374 Plastic
No. 1K911 Self-Stick




No. 5T146 Fiberglass
No. 1M248 Aluminum
No. 1M464 Plastic
No. 1M020 Self-Stick



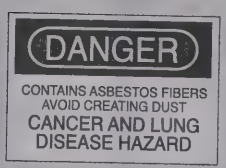

No. 5T149 Fiberglass
No. 1M136 Aluminum
No. 1M352 Plastic
No. 1K889 Self-Stick

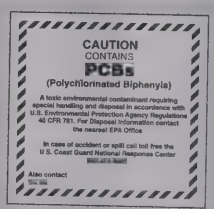
• Registered

BRADY

| Legends | Material | Dimensions (In.) H W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **PERMIT-REQUIRED CONFINED SPACE DO NOT ENTER** | Fiberglass | 10 x 14 | 65817 | **6AF36** | $15.09 | **$13.72** | **$12.35** | 0.6 |
| | Aluminum | 10 x 14 | 43518 | **1M074** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25921 | **1M290** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 65949 | **1M070** | 8.39 | **7.63** | **6.87** | 0.1 |
| **THIS EQUIPMENT STARTS AUTOMATICALLY** | Fiberglass | 10 x 14 | 47192 | **4T689** | 15.09 | **13.72** | **12.35** | 0.3 |
| | Aluminum | 10 x 14 | 42563 | **1M158** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 23040 | **1M374** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 88186 | **1K911** | 8.39 | **7.63** | **6.87** | 0.1 |
| **TOXIC CHEMICALS** | Fiberglass | 10 x 14 | 70556 | **5T146** | 15.09 | **13.72** | **12.35** | 0.7 |
| | Aluminum | 10 x 14 | 40908 | **1M248** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22344 | **1M464** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84446 | **1M020** | 8.39 | **7.63** | **6.87** | 0.1 |
| **WEAR FACE SHIELD AND RUBBER GLOVES WHEN HANDLING CHEMICALS** | Fiberglass | 10 x 14 | 70582 | **5T149** | 15.09 | **13.72** | **12.35** | 0.7 |
| | Aluminum | 10 x 14 | 42800 | **1M136** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25223 | **1M352** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 88628 | **1K889** | 8.39 | **7.63** | **6.87** | 0.1 |

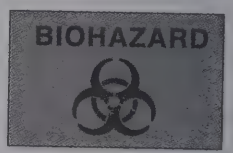
## REGULATORY LABELS




• Registered to ISO 9001

BRADY




### ASBESTOS HAZARD LABEL.

Alert workers and other personnel to hazards present during asbestos abatement projects. Label meets OSHA requirement 1910.1001 for jobsite safety. Black and red printing on white background. 3½H x 5"W. Sold individually. Brady USA brand (85451)

**No. 1K945.** Shpg. wt. 0.1 lbs. List.....$1.60.
Each **$1.46;** Lots 10.....**$1.31**

### PCB LABEL

Meet most current EPA regulations for identifying either PCB contaminated equipment or waste. Durable outdoor vinyl construction. Black printing on yellow background. 6" x 6". 50 per package. Brady USA brand (87028).

**No. 3AM99.** Shpg. wt. 0.8 lbs. List.....$62.86.
Each **$57.15;** Lots 5.....**$51.44**

### BLOODBORNE PATHOGENS LABEL

Designed to reduce occupational exposure to bloodborne pathogens including Hepatitis B, Non-B, HIV and a variety of other bloodborne diseases. Helps comply with OSHA 1910.1030. Black printing on orange background. 3½ H x 5". Sold individually. Brady USA brand (89170).

**No. 5AH27.** Shpg. wt. 0.1 lbs. List.....$1.60.
Each **$1.46;** Lots 10.....**$1.31**

**HAZARDOUS WASTE LABELS AVAILABLE SEE PAGE 2594**

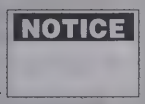
# "NOTICE" HEADER SAFETY SIGNS

Four safety sign materials available to fit every application: fiberglass, aluminum, plastic and self-sticking vinyl.

Fiberglass signs consist of protected graphics permanently embedded within a fiberglass resin package for excellent indoor/outdoor durability. Aluminum signs have superior chemical and abrasion resistance over traditional surface printed aluminum signs. Plastic signs provide an economical alternative for light duty applications. Self-sticking vinyl signs provide excellent abrasion and chemical resistance while reliably adhering to tough surfaces. All signs meet OSHA specifications for size, color and legend. Brady USA brand.

### BRADY USA INC. 15-YEAR WARRANTY

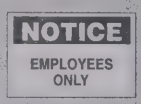
Brady warrants their fiberglass signs for 15 years against any fading, chipping, or cracking. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.




No. 5AJ49 Fiberglass
No. 1M124 Aluminum
No. 1M340 Plastic
No. 1K877 Self-Stick

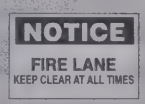



No. 4T633 Fiberglass
No. 1M276 Aluminum
No. 1M492 Plastic
No. 1M054 Self-Stick




No. 4T644 Fiberglass
No. 1M274 Aluminum
No. 1M490 Plastic
No. 1M052 Self-Stick

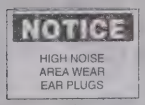
Blue and White Header with Black Legend



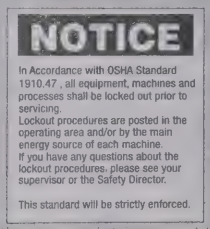

No. 4T656 Fiberglass
No. 1M090 Aluminum
No. 1M306 Plastic
No. 1K965 Self-Stick




No. 4T662 Fiberglass
No. 1M110 Aluminum
No. 1M326 Plastic
No. 1K989 Self-Stick




No. 5T134 Fiberglass
No. 1M108 Aluminum
No. 1M324 Plastic
No. 1K987 Self-Stick




No. 1D701 Fiberglass
No. 1M072 Aluminum
No. 1M288 Plastic

BRADY • Registered to ISO 9001




No. 4T670 Fiberglass
No. 1M208 Aluminum
No. 1M422 Plastic
No. 1K933 Self-Stick

| Legends | Material | Dimensions (In.) H W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| NOTICE Header with Blank Panel | Fiberglass | 10 x 14 | 47014 | 5AJ49 | $15.09 | $13.72 | $12.35 | 0.7 |
| | Aluminum | 10 x 14 | 42942 | 1M124 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 27365 | 1M340 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 88933 | 1K877 | 8.39 | 7.63 | 6.87 | 0.1 |
| AUTHORIZED PERSONNEL ONLY | Fiberglass | 10 x 14 | 70602 | 4T633 | 15.09 | 13.72 | 12.35 | 0.3 |
| | Aluminum | 10 x 14 | 40706 | 1M276 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22142 | 1M492 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 84130 | 1M054 | 8.39 | 7.63 | 6.87 | 0.1 |
| EMPLOYEES ONLY | Fiberglass | 10 x 14 | 47327 | 4T644 | 15.09 | 13.72 | 12.35 | 0.3 |
| | Aluminum | 10 x 14 | 40708 | 1M274 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22144 | 1M490 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 84132 | 1M052 | 8.39 | 7.63 | 6.87 | 0.1 |
| FIRE LANE KEEP CLEAR AT ALL TIMES | Fiberglass | 10 x 14 | 71708 | 4T656 | 15.09 | 13.72 | 12.35 | 0.3 |
| | Aluminum | 10 x 14 | 43258 | 1M090 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 25681 | 1M306 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 85206 | 1K965 | 8.39 | 7.63 | 6.87 | 0.1 |
| HEARING PROTECTION MUST BE WORN IN THIS AREA | Fiberglass | 10 x 14 | 47332 | 4T662 | 15.09 | 13.72 | 12.35 | 0.7 |
| | Aluminum | 10 x 14 | 43068 | 1M110 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 25491 | 1M326 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 84815 | 1K989 | 8.39 | 7.63 | 6.87 | 0.1 |
| HIGH NOISE AREA WEAR EAR PLUGS | Fiberglass | 10 x 14 | 70682 | 5T134 | 15.09 | 13.72 | 12.35 | 0.7 |
| | Aluminum | 10 x 14 | 43070 | 1M108 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 25493 | 1M324 | 9.98 | 9.08 | 8.17 | 0.4 |
| | Self-Stick | 10 x 14 | 84817 | 1K987 | 8.39 | 7.63 | 6.87 | 0.1 |
| IN ACCORDANCE WITH OSHA STANDARD... | Fiberglass | 20 x 14 | 65511 | 1D701 | 26.70 | 24.28 | 21.85 | 1.5 |
| | Aluminum | 14 x 10 | 43519 | 1M072 | 14.28 | 12.99 | 11.69 | 0.6 |
| | Plastic | 14 x 10 | 25922 | 1M288 | 9.98 | 9.08 | 8.17 | 0.4 |
| KEEP THIS DOOR CLOSED | Fiberglass | 10 x 14 | 70667 | 4T670 | 15.09 | 13.72 | 12.35 | 0.5 |
| | Aluminum | 10 x 14 | 41102 | 1M208 | 14.28 | 12.99 | 11.69 | 0.5 |
| | Plastic | 10 x 14 | 22538 | 1M422 | 9.98 | 9.08 | 8.17 | 0.3 |
| | Self-Stick | 10 x 14 | 84753 | 1K993 | 8.39 | 7.63 | 6.87 | 0.1 |

# SAFETY SIGNS

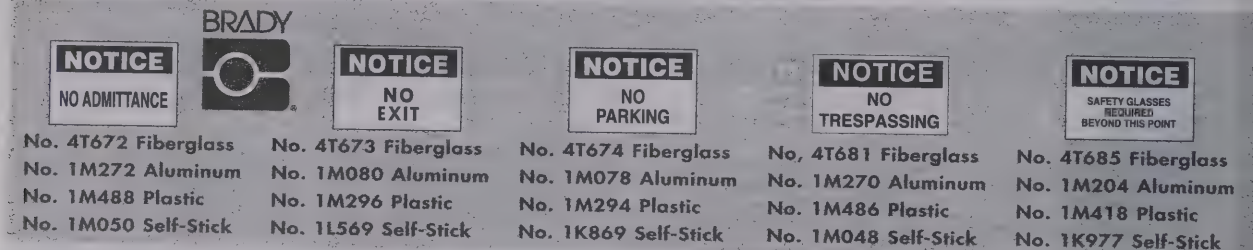
## "NOTICE" HEADER SAFETY SIGNS

Four safety sign materials available to fit every application: fiberglass, aluminum, plastic and self-sticking vinyl.

Fiberglass signs consist of protected graphics permanently embedded within a fiberglass resin package for excellent indoor/outdoor durability. Aluminum signs have superior chemical and abrasion resistance over traditional surface printed aluminum signs. Plastic signs provide an economical alternative for light duty applications. Self-sticking vinyl signs provide excellent abrasion and chemical resistance while reliably adhering to tough surfaces. All signs meet OSHA specifications for size, color and legend. Brady USA brand.

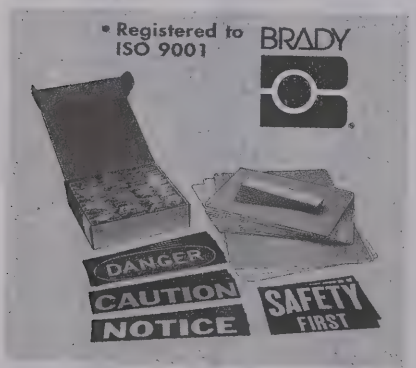
**BRADY USA 15-YEAR WARRANTY**
Brady warrants their fiberglass signs for 15 years against an fading, chipping, or cracking. Other signs warranted for year.Text of warranty available on request. Se "Manufacturers' Warranties" on page opposite inside bac cover.

Blue and White Header with Black Legend




| No. 4T672 Fiberglass | No. 4T673 Fiberglass | No. 4T674 Fiberglass | No, 4T681 Fiberglass | No. 4T685 Fiberglass |
|---|---|---|---|---|
| No. 1M272 Aluminum | No. 1M080 Aluminum | No. 1M078 Aluminum | No. 1M270 Aluminum | No. 1M204 Aluminum |
| No. 1M488 Plastic | No. 1M296 Plastic | No. 1M294 Plastic | No. 1M486 Plastic | No. 1M418 Plastic |
| No. 1M050 Self-Stick | No. 1L569 Self-Stick | No. 1K869 Self-Stick | No. 1M048 Self-Stick | No. 1K977 Self-Stick |

| Legends | Material | Dimensions (In.) H W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| NO ADMITTANCE | Fiberglass | 10 x 14 | 70699 | **4T672** | $15.09 | **$13.72** | **$12.35** | 0.5 |
| | Aluminum | 10 x 14 | 40712 | **1M272** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22148 | **1M488** | 9.98 | **9.08** | **8.17** | 0.4 |
| | Self-Stick | 10 x 14 | 84138 | **1M050** | 8.39 | **7.63** | **6.87** | 0.1 |
| NO EXIT | Fiberglass | 10 x 14 | 71166 | **4T673** | 15.09 | **13.72** | **12.35** | 0.3 |
| | Aluminum | 10 x 14 | 43339 | **1M080** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25762 | **1M296** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 84618 | **1L569** | 8.39 | **7.63** | **6.87** | 0.1 |
| NO PARKING | Fiberglass | 10 x 14 | 47329 | **4T674** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 43406 | **1M078** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 25829 | **1M294** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 89134 | **1K869** | 8.39 | **7.63** | **6.87** | 0.1 |
| NO TRESPASSING | Fiberglass | 10 x 14 | 47330 | **4T681** | 15.09 | **13.72** | **12.35** | 0.3 |
| | Aluminum | 10 x 14 | 40728 | **1M270** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22164 | **1M486** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 84156 | **1M048** | 8.39 | **7.63** | **6.87** | 0.1 |
| SAFETY GLASSES REQUIRED BEYOND THIS POINT | Fiberglass | 10 x 14 | 47334 | **4T685** | 15.09 | **13.72** | **12.35** | 0.8 |
| | Aluminum | 10 x 14 | 41191 | **1M204** | 14.28 | **12.99** | **11.69** | 0.5 |
| | Plastic | 10 x 14 | 22627 | **1M418** | 9.98 | **9.08** | **8.17** | 0.3 |
| | Self-Stick | 10 x 14 | 85036 | **1K977** | 8.39 | **7.63** | **6.87** | 0.1 |




## SIGN-SHOP-IN-A-BOX® KIT

Kit contains:

- 2" high, black Quik-Align® self-spacing letters:
  20 each—A, E, I, L, N, O, R, S, T
  10 each—remaining letters
- 15 fiberglass sign panels:
  10 white, 10 x 14"
  2 yellow, 10 x 14"
  2 white, 14 x 20"
  1 yellow, 14 x 20"
- 12 vinyl self-sticking OSHA headers:
  3 "CAUTION"
  4 "DANGER"
  3 "NOTICE"
  2 "SAFETY FIRST"
- 10 double-faced foam mounting strips.

Versatile kit for making quick, accurate signs. Brady USA, Inc. brand (44197).

**No. 5T159.** Shpg. wt. 16.0 lbs. List .....$270.05. Each $245.50; Lots 2.....$220.95

COMPLETE INDEX AT BACK OF CATALOG
WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# SAFETY SIGNS

BRADY

• Registered to ISO 9001

"No Header" safety signs available in four materials: fiberglass, aluminum, plastic, and self-stick. Brady USA brand.

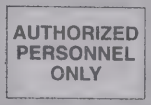
**BRADY USA 15-YEAR WARRANTY**
Brady warrants their fiberglass signs for 15 years against any fading, chipping, or cracking. Other signs warranted for 1 year.Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



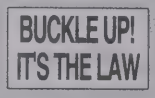
No. 5AR91 Fiberglass
No. 1M120 Aluminum
No. 1M336 Plastic
No. 1K873 Self-Stick



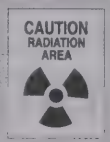
No. 6AH81 Fiberglass
No. 1M122 Aluminum
No. 1M338 Plastic
No. 1K875 Self-Stick



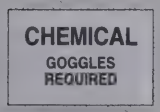

No. 4T634 Fiberglass
No. 1M266 Aluminum
No. 1M482 Plastic
No. 1M044 Self-Stick



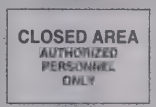

No. 4T635 Fiberglass
No. 1M076 Aluminum
No. 1M292 Plastic
No. 1K871 Self-Stick




No. 5T119 Fiberglass
No. 1M132 Aluminum
No. 1M348 Plastic
No. 1K885 Self-Stick



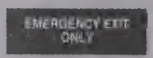

No. 5T120 Fiberglass
No. 1M246 Aluminum
No. 1M462 Plastic
No. 1M018 Self-Stick



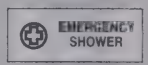

No. 4T636 Fiberglass
No. 1M264 Aluminum
No. 1M480 Plastic
No. 1M042 Self-Stick




No. 1D666 Fiberglass
No. 1M130 Aluminum
No. 1M346 Plastic
No. 1K883 Self-Stick




No. 4T642 Fiberglass
No. 1M216 Aluminum
No. 1M432 Plastic
No. 1L235 Self-Stick




No. 4T643 Fiberglass
No. 1M200 Aluminum
No. 1M414 Plastic
No. 1K953 Self-Stick

| Legends | Legend/Background Color | Material | Dimensions (In.) H W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **BLANK WHITE PANEL** | —/White | Fiberglass | 10 x 14 | 47000 | **5AR91** | $10.08 | **$9.17** | **$8.25** | 0.6 |
| | | Aluminum | 10 x 14 | 42954 | **1M120** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 x 14 | 25377 | **1M336** | 9.98 | **9.08** | **8.17** | 0.3 |
| | | Self-Stick | 10 x 14 | 88949 | **1K873** | 7.46 | **6.79** | **6.11** | 0.1 |
| **BLANK YELLOW PANEL** | —/Yellow | Fiberglass | 10 x 14 | 76040 | **6AH81** | 10.08 | **9.17** | **8.25** | 0.7 |
| | | Aluminum | 10 x 14 | 42952 | **1M122** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 x 14 | 25375 | **1M338** | 9.98 | **9.08** | **8.17** | 0.4 |
| | | Self-Stick | 10 x 14 | 88947 | **1K875** | 7.46 | **6.79** | **6.11** | 0.1 |
| **AUTHORIZED PERSONNEL ONLY** | Red/White | Fiberglass | 10 x 14 | 70833 | **4T634** | 15.09 | **13.72** | **12.35** | 7.5 |
| | | Aluminum | 10 x 14 | 40772 | **1M266** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 x 14 | 22208 | **1M482** | 9.98 | **9.08** | **8.17** | 0.3 |
| | | Self-Stick | 10 x 14 | 84213 | **1M044** | 8.39 | **7.63** | **6.87** | 0.1 |
| **BUCKLE UP! IT'S THE LAW** | Black/White | Fiberglass | 10 x 14 | 87301 | **4T635** | 15.09 | **13.72** | **12.35** | 0.3 |
| | | Aluminum | 10 x 14 | 43465 | **1M076** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 x 14 | 25888 | **1M292** | 9.98 | **9.08** | **8.17** | 0.4 |
| | | Self-Stick | 10 x 14 | 89132 | **1K871** | 8.39 | **7.63** | **6.87** | 0.1 |
| **CAUTION RADIATION AREA** | Magenta/Yellow | Fiberglass | 14 x 10 | 74829 | **5T119** | 15.09 | **13.72** | **12.35** | 0.1 |
| | | Aluminum | 14 x 10 | 42854 | **1M132** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 14 x 10 | 25277 | **1M348** | 9.98 | **9.08** | **8.17** | 0.4 |
| | | Self-Stick | 14 x 10 | 88739 | **1K885** | 8.39 | **7.63** | **6.87** | 0.1 |
| **CHEMICAL GOGGLES REQUIRED** | Black/White | Fiberglass | 10 x 14 | 73033 | **5T120** | 15.09 | **13.72** | **12.35** | 0.8 |
| | | Aluminum | 10 x 14 | 40945 | **1M246** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 x 14 | 22381 | **1M462** | 9.98 | **9.08** | **8.17** | 0.3 |
| | | Self-Stick | 10 x 14 | 84498 | **1M018** | 8.39 | **7.63** | **6.87** | 0.1 |
| **CLOSED AREA AUTHORIZED PERSONNEL ONLY** | Black/White | Fiberglass | 10 x 14 | 70863 | **4T636** | 15.09 | **13.72** | **12.35** | 0.7 |
| | | Aluminum | 10 x 14 | 40778 | **1M264** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 x 14 | 22214 | **1M480** | 9.98 | **9.08** | **8.17** | 0.4 |
| | | Self-Stick | 10 x 14 | 84219 | **1M042** | 8.39 | **7.63** | **6.87** | 0.1 |
| **DANGER LASER LIGHT** | Black/Red/White | Fiberglass | 5 x 14 | 74886 | **1D666** | 8.37 | **7.61** | **6.85** | 0.4 |
| | | Aluminum | 10 x 14 | 42865 | **1M130** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 10 x 14 | 25288 | **1M346** | 9.98 | **9.08** | **8.17** | 0.4 |
| | | Self-Stick | 5 x 14 | 88702 | **1K883** | 5.97 | **5.43** | **4.89** | 0.1 |
| **EMERGENCY EXIT ONLY** | White/Blue | Fiberglass | 5 x 14 | 70915 | **4T642** | 8.37 | **7.61** | **6.85** | 0.1 |
| | | Aluminum | 7 x 10 | 41044 | **1M216** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 7 x 10 | 22480 | **1M432** | 7.10 | **6.46** | **5.81** | 0.2 |
| | | Self-Stick | 5 x 14 | 84662 | **1L235** | 5.97 | **5.43** | **4.89** | 0.1 |
| **EMERGENCY SHOWER** | Green/White | Fiberglass | 5 x 14 | 72681 | **4T643** | 8.37 | **7.61** | **6.85** | 0.3 |
| | | Aluminum | 10 x 14 | 41223 | **1M200** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 x 14 | 22659 | **1M414** | 9.98 | **9.08** | **8.17** | 0.4 |
| | | Self-Stick | 5 x 14 | 88740 | **1K953** | 5.97 | **5.43** | **4.89** | 0.1 |

# SAFETY SIGNS

BRADY

• Registered to ISO 9001

"No Header" safety signs available in four materials: fiberglass, aluminum, plastic, and self-stick. Brady USA brand.

**BRADY USA 15-YEAR WARRANTY**
Brady warrants their fiberglass signs for 15 years against any fading, chipping, or cracking. Other signs warranted for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



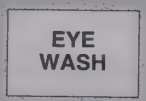

No. 4T645 Fiberglass
No. 1M214 Aluminum
No. 1M430 Plastic
No. 1L233 Self-Stick



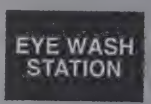

No. 4T646 Fiberglass
No. 1M218 Aluminum
No. 1M434 Plastic
No. 1L387 Self-Stick




No. 4T647 Fiberglass
No. 1M220 Aluminum
No. 1M436 Plastic
No. 1L561 Self-Stick




No. 4T649 Fiberglass
No. 1M198 Aluminum
No. 1M412 Plastic
No. 1K951 Self-Stick




No. 4T650 Fiberglass
No. 1M196 Aluminum
No. 1M410 Plastic
No. 1K949 Self-Stick




No. 4T651 Fiberglass



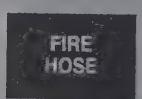

No. 4T653 Fiberglass
No. 1M088 Aluminum
No. 1M304 Plastic
No. 1K963 Self-Stick




No. 5T276 Fiberglass
No. 1M086 Aluminum
No. 1M302 Plastic
No. 1K961 Self-Stick




No. 4T654 Fiberglass
No. 1M084 Aluminum
No. 1M300 Plastic
No. 1K959 Self-Stick




No. 4T655 Fiberglass
No. 1M082 Aluminum
No. 1M298 Plastic
No. 1K957 Self-Stick

| Legends | Legend / Background Color | Material | Dimensions (In.) H | W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **EXIT** | Red/White | Fiberglass | 10 | x 14 | 47288 | **4T645** | $15.09 | **$13.72** | **$12.35** | 0.3 |
| | | Aluminum | 10 | x 14 | 41054 | **1M214** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 | x 14 | 22490 | **1M430** | 9.98 | **9.08** | **8.17** | 0.3 |
| | | Self-Stick | 10 | x 14 | 84674 | **1L233** | 8.39 | **7.63** | **6.87** | 0.1 |
| **EXIT (LEFT ARROW)** | Red/White | Fiberglass | 7 | x 14 | 47035 | **4T646** | 10.86 | **9.88** | **8.89** | 0.5 |
| | | Aluminum | 10 | x 14 | 41022 | **1M218** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 | x 14 | 22458 | **1M434** | 9.98 | **9.08** | **8.17** | 0.3 |
| | | Self-Stick | 10 | x 14 | 84632 | **1L387** | 8.39 | **7.63** | **6.87** | 0.1 |
| **EXIT (RIGHT ARROW)** | Red/White | Fiberglass | 7 | x 14 | 47034 | **4T647** | 10.86 | **9.88** | **8.89** | 0.5 |
| | | Aluminum | 10 | x 14 | 41020 | **1M220** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 | x 14 | 22456 | **1M436** | 9.98 | **9.08** | **8.17** | 0.3 |
| | | Self-Stick | 10 | x 14 | 84630 | **1L561** | 8.39 | **7.63** | **6.87** | 0.1 |
| **EYE WASH** | Green/White | Fiberglass | 10 | x 14 | 72700 | **4T649** | 15.09 | **13.72** | **12.35** | 0.3 |
| | | Aluminum | 10 | x 14 | 41226 | **1M198** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 | x 14 | 22662 | **1M412** | 9.98 | **9.08** | **8.17** | 0.4 |
| | | Self-Stick | 10 | x 14 | 85350 | **1K951** | 8.39 | **7.63** | **6.87** | 0.1 |
| **EYE WASH STATION** | White/Green | Fiberglass | 7 | x 10 | 72722 | **4T650** | 8.30 | **7.55** | **6.80** | 0.4 |
| | | Aluminum | 7 | x 10 | 41229 | **1M196** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 7 | x 10 | 22665 | **1M410** | 7.10 | **6.46** | **5.81** | 0.1 |
| | | Self-Stick | 7 | x 10 | 85354 | **1K949** | 5.97 | **5.43** | **4.89** | 0.1 |
| **FIRE ALARM** | White/Red | Fiberglass | 12 | x 9 | 70986 | **4T651** | 11.33 | **10.30** | **9.27** | 0.6 |
| **FIRE EXTINGUISHER** | White/Red | Fiberglass | 12 | x 9 | 71038 | **4T653** | 11.33 | **10.30** | **9.27** | 0.2 |
| | | Aluminum | 14 | x 10 | 43294 | **1M088** | 14.28 | **12.99** | **11.69** | 1.1 |
| | | Plastic | 14 | x 10 | 25717 | **1M304** | 9.98 | **9.08** | **8.17** | 0.3 |
| | | Self-Stick | 12 | x 9 | 85260 | **1K963** | 7.64 | **6.95** | **6.26** | 0.1 |
| **FIRE EXTINGUISHER** | White/Red | Fiberglass | 24 | x 4 | 71655 | **5T276** | 9.55 | **8.69** | **7.82** | 0.2 |
| | | Aluminum | 10 | x 7 | 43295 | **1M086** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 10 | x 7 | 25718 | **1M302** | 7.10 | **6.46** | **5.81** | 0.2 |
| | | Self-Stick | 14 | x 3.5 | 85261 | **1K961** | 5.97 | **5.43** | **4.89** | 0.1 |
| **FIRE HOSE** | White/Red | Fiberglass | 24 | x 4 | 71694 | **4T654** | 9.55 | **8.69** | **7.82** | 0.5 |
| | | Aluminum | 10 | x 7 | 43300 | **1M084** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 10 | x 7 | 25723 | **1M300** | 7.10 | **6.46** | **5.81** | 0.2 |
| | | Self-Stick | 14 | x 5 | 85270 | **1K959** | 5.97 | **5.43** | **4.89** | 0.1 |
| **FIRE HOSE** | White/Red | Fiberglass | 10 | x 14 | 71681 | **4T655** | 15.09 | **13.72** | **12.35** | 0.7 |
| | | Aluminum | 7 | x 10 | 43306 | **1M082** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 7 | x 10 | 25729 | **1M298** | 7.10 | **6.46** | **5.81** | 0.2 |
| | | Self-Stick | 10 | x 14 | 85278 | **1K957** | 8.39 | **7.63** | **6.87** | 0.1 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# SAFETY SIGNS

BRADY

• Registered to ISO 9001

"No Header" safety signs available in four materials: fiberglass, aluminum, plastic, and self-stick. Brady USA brand.

**BRADY USA 15-YEAR WARRANTY**

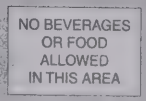
Brady warrants their fiberglass signs for 15 years against any fading, chipping, or cracking. Other signs warranted for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.




No. 4T668 Fiberglass
No. 1M190 Aluminum
No. 1M428 Plastic
No. 1L231 Self-Stick




No. 4T671 Fiberglass
No. 1M186 Aluminum
No. 1M402 Plastic
No. 1K939 Self-Stick




No. 5T137 Fiberglass
No. 1M184 Aluminum
No. 1M400 Plastic
No. 1M937 Self-Stick




No. 4T676 Fiberglass
No. 1M148 Aluminum
No. 1M364 Plastic
No. 1K901 Self-Stick




No. 1D667 Fiberglass
No. 1M146 Aluminum
No. 1M362 Plastic
No. 1K899 Self-Stick




No. 4T680 Fiberglass
No. 1M150 Aluminum
No. 1M366 Plastic
No. 1K903 Self-Stick




No. 4T679 Fiberglass
No. 1M144 Aluminum
No. 1M360 Plastic
No. 1K897 Self-Stick




No. 4T682 Fiberglass
No. 1M262 Aluminum
No. 1M478 Plastic
No. 1M040 Self-Stick




No. 5T140 Fiberglass
No. 1M182 Aluminum
No. 1M398 Plastic
No. 1K935 Self-Stick




No. 4T683 Fiberglass
No. 1M188 Aluminum
No. 1M404 Plastic
No. 1K941 Self-Stick

| Legends | Legend / Background Color | Material | Dimensions (In.) H | W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| IN CASE OF FIRE DO NOT USE ELEVATORS, USE STAIRWAYS | Black/Red/White | Fiberglass | 7 | 7 | 76870 | 4T668 | $6.91 | $6.29 | $5.66 | 0.2 |
| | | Aluminum | 7 | 10 | 41062 | 1M190 | 8.54 | 7.77 | 6.99 | 0.3 |
| | | Plastic | 7 | 10 | 22498 | 1M428 | 7.10 | 6.46 | 5.81 | 0.2 |
| | | Self-Stick | 7 | 7 | 84684 | 1L231 | 4.78 | 4.35 | 3.92 | 0.1 |
| KEEP THIS PLACE CLEAN AND ORDERLY | White/Blue | Fiberglass | 7 | 10 | 72800 | 4T671 | 8.30 | 7.55 | 6.80 | 0.3 |
| | | Aluminum | 7 | 10 | 42365 | 1M186 | 8.54 | 7.77 | 6.99 | 0.3 |
| | | Plastic | 7 | 10 | 22842 | 1M402 | 7.10 | 6.46 | 5.81 | 0.2 |
| | | Self-Stick | 7 | 10 | 85720 | 1K939 | 5.97 | 5.43 | 4.89 | 0.1 |
| NO BEVERAGES OR FOOD ALLOWED IN THIS AREA | Black/White | Fiberglass | 10 | 14 | 70436 | 5T137 | 15.09 | 13.72 | 12.35 | 0.7 |
| | | Aluminum | 10 | 14 | 42367 | 1M184 | 14.28 | 12.99 | 11.69 | 0.5 |
| | | Plastic | 10 | 14 | 22844 | 1M400 | 9.98 | 9.08 | 8.17 | 0.4 |
| | | Self-Stick | 10 | 14 | 85724 | 1K937 | 8.39 | 7.63 | 6.87 | 0.1 |
| NO SMOKING | White/Red | Fiberglass | 10 | 14 | 72024 | 4T676 | 15.09 | 13.72 | 12.35 | 0.3 |
| | | Aluminum | 10 | 14 | 42695 | 1M148 | 14.28 | 12.99 | 11.69 | 0.5 |
| | | Plastic | 10 | 14 | 25118 | 1M364 | 9.98 | 9.08 | 8.17 | 0.3 |
| | | Self-Stick | 10 | 14 | 88426 | 1K901 | 8.39 | 7.63 | 6.87 | 0.1 |
| NO SMOKING (PICTOGRAM) | Black/Red/White | Fiberglass | 10 | 7 | 72293 | 1D667 | 8.30 | 7.55 | 6.80 | 0.1 |
| | | Aluminum | 10 | 7 | 42696 | 1M146 | 8.54 | 7.77 | 6.99 | 0.3 |
| | | Plastic | 10 | 7 | 25119 | 1M362 | 7.10 | 6.46 | 5.81 | 0.1 |
| | | Self-Stick | 10 | 7 | 88427 | 1K899 | 5.97 | 5.43 | 4.89 | 0.1 |
| NO SMOKING | White/Red | Fiberglass | 5 | 14 | 72040 | 4T680 | 8.37 | 7.61 | 6.85 | 0.4 |
| | | Aluminum | 7 | 10 | 42687 | 1M150 | 8.54 | 7.77 | 6.99 | 0.3 |
| | | Plastic | 7 | 10 | 25110 | 1M366 | 7.10 | 6.46 | 5.81 | 0.1 |
| | | Self-Stick | 5 | 14 | 88418 | 1K903 | 5.97 | 5.43 | 4.89 | 0.1 |
| NO SMOKING THIS AREA | Red/White | Fiberglass | 10 | 14 | 72148 | 4T679 | 15.09 | 13.72 | 12.35 | 0.8 |
| | | Aluminum | 10 | 14 | 42712 | 1M144 | 14.28 | 12.99 | 11.69 | 0.5 |
| | | Plastic | 10 | 14 | 25135 | 1M360 | 9.98 | 9.08 | 8.17 | 0.3 |
| | | Self-Stick | 10 | 14 | 88452 | 1K897 | 8.39 | 7.63 | 6.87 | 0.1 |
| NO TRESPASSING | Red/White | Fiberglass | 5 | 14 | 70736 | 4T682 | 8.37 | 7.61 | 6.85 | 0.4 |
| | | Aluminum | 7 | 10 | 40791 | 1M262 | 8.54 | 7.77 | 6.99 | 0.3 |
| | | Plastic | 7 | 10 | 22227 | 1M478 | 7.10 | 6.46 | 5.81 | 0.2 |
| | | Self-Stick | 5 | 14 | 84247 | 1M040 | 5.97 | 5.43 | 4.89 | 0.1 |
| PITCH IN (PICTOGRAM) | White/Green | Fiberglass | 7 | 10 | 70481 | 5T140 | 8.30 | 7.55 | 6.80 | 0.4 |
| | | Aluminum | 7 | 10 | 42370 | 1M182 | 8.54 | 7.77 | 6.99 | 0.3 |
| | | Plastic | 7 | 10 | 22847 | 1M398 | 7.10 | 6.46 | 5.81 | 0.2 |
| | | Self-Stick | 7 | 10 | 85729 | 1K935 | 5.97 | 5.43 | 4.89 | 0.1 |
| PLEASE DEPOSIT ALL RUBBISH IN RECEPTACLES PROVIDED | Blue/Black/White | Fiberglass | 10 | 14 | 72623 | 4T683 | 15.09 | 13.72 | 12.35 | 0.7 |
| | | Aluminum | 10 | 14 | 42336 | 1M188 | 14.28 | 12.99 | 11.69 | 0.5 |
| | | Plastic | 10 | 14 | 22813 | 1M404 | 9.98 | 9.08 | 8.17 | 0.4 |
| | | Self-Stick | 10 | 14 | 85659 | 1K941 | 8.39 | 7.63 | 6.87 | 0.1 |

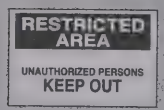
# SAFETY SIGNS

BRADY • Registered to ISO 9001

"No Header" safety signs available in four materials: fiberglass, aluminum, plastic, and self-stick. Brady USA brand.

**BRADY USA 15-YEAR WARRANTY**

Brady warrants their fiberglass signs for 15 years against an fading, chipping, or cracking. Other signs warranted for year. Text of warranty available on request. Se "Manufacturers' Warranties" on page opposite inside bac cover.



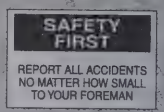

No. 4T684 Fiberglass
No. 1M268 Aluminum
No. 1M484 Plastic
No. 1M046 Self-Stick




No. 5T144 Fiberglass




No. 4T658 Fiberglass
No. 1M134 Aluminum
No. 1M350 Plastic
No. 1K887 Self-Stick



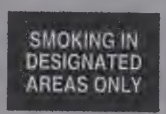

No. 5T142 Fiberglass
No. 1M202 Aluminum
No. 1M416 Plastic
No. 1K955 Self-Stick



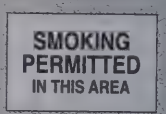

No. 4T692 Fiberglass
No. 1M100 Aluminum
No. 1M316 Plastic
No. 1K975 Self-Stick




No. 4T686 Fiberglass
No. 1M194 Aluminum
No. 1M408 Plastic
No. 1K947 Self-Stick




No. 4T687 Fiberglass
No. 1M142 Aluminum
No. 1M358 Plastic
No. 1K895 Self-Stick




No. 4T688 Fiberglass
No. 1M140 Aluminum
No. 1M356 Plastic
No. 1K893 Self-Stick

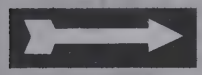
| Legends | Legend / Background Color | Material | Dimensions (In.) H | W | Brady Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **RESTRICTED AREA: UNAUTHORIZED PERSONS KEEP OUT** | Red/Black/White | Fiberglass | 10 | 14 | 71389 | **4T684** | $15.09 | **$13.72** | **$12.35** | 0.3 |
| | | Aluminum | 10 | 14 | 40754 | **1M268** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 | 14 | 22190 | **1M484** | 9.98 | **9.08** | **8.17** | 0.3 |
| | | Self-Stick | 10 | 14 | 84188 | **1M046** | 8.39 | **7.63** | **6.87** | 0.1 |
| **RESPIRATOR REQUIRED** | Black/White | Fiberglass | 3.5 | 14 | 76866 | **5T144** | 6.91 | **6.29** | **5.66** | 0.3 |
| **SAFETY FIRST: FOOT PROTECTION REQUIRED IN THIS AREA** | Green/Black/White | Fiberglass | 7 | 10 | 47375 | **4T658** | 8.30 | **7.55** | **6.80** | 0.4 |
| | | Aluminum | 7 | 10 | 42817 | **1M134** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 7 | 10 | 25240 | **1M350** | 7.10 | **6.46** | **5.81** | 0.2 |
| | | Self-Stick | 7 | 10 | 88659 | **1K887** | 5.97 | **5.43** | **4.89** | 0.1 |
| **SAFETY FIRST: REPORT ALL ACCIDENTS NO MATTER HOW SMALL TO YOUR FOREMAN** | Green/Black/White | Fiberglass | 7 | 10 | 70504 | **5T142** | 8.30 | **7.55** | **6.80** | 0.4 |
| | | Aluminum | 7 | 10 | 41214 | **1M202** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 7 | 10 | 22650 | **1M416** | 7.10 | **6.46** | **5.81** | 0.2 |
| | | Self-Stick | 7 | 10 | 85331 | **1K955** | 5.97 | **5.43** | **4.89** | 0.1 |
| **SAFETY FIRST: WEAR GOGGLES** | Green/Black/White | Fiberglass | 10 | 14 | 74479 | **4T692** | 15.09 | **13.72** | **12.35** | 0.8 |
| | | Aluminum | 10 | 14 | 43160 | **1M100** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 | 14 | 25583 | **1M316** | 9.98 | **9.08** | **8.17** | 0.4 |
| | | Self-Stick | 10 | 14 | 85056 | **1K975** | 8.39 | **7.63** | **6.87** | 0.1 |
| **SAFETY SHOWER** | White/Green | Fiberglass | 10 | 14 | 72883 | **4T686** | 15.09 | **13.72** | **12.35** | 0.1 |
| | | Aluminum | 7 | 10 | 41250 | **1M194** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 7 | 10 | 22686 | **1M408** | 7.10 | **6.46** | **5.81** | 0.2 |
| | | Self-Stick | 10 | 14 | 85378 | **1K947** | 8.39 | **7.63** | **6.87** | 0.1 |
| **SMOKING IN DESIGNATED AREAS ONLY** | White/Red | Fiberglass | 10 | 14 | 72176 | **4T687** | 15.09 | **13.72** | **12.35** | 0.1 |
| | | Aluminum | 7 | 10 | 42721 | **1M142** | 8.54 | **7.77** | **6.99** | 0.3 |
| | | Plastic | 7 | 10 | 25144 | **1M358** | 7.10 | **6.46** | **5.81** | 0.2 |
| | | Self-Stick | 10 | 14 | 88468 | **1K895** | 8.39 | **7.63** | **6.87** | 0.1 |
| **SMOKING PERMITTED IN THIS AREA** | Black/White | Fiberglass | 10 | 14 | 72336 | **4T688** | 15.09 | **13.72** | **12.35** | 0.3 |
| | | Aluminum | 10 | 14 | 42725 | **1M140** | 14.28 | **12.99** | **11.69** | 0.5 |
| | | Plastic | 10 | 14 | 25148 | **1M356** | 9.98 | **9.08** | **8.17** | 0.4 |
| | | Self-Stick | 10 | 14 | 88472 | **1K893** | 8.39 | **7.63** | **6.87** | 0.1 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

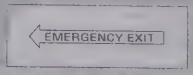
# GLOW-IN-THE-DARK SAFETY SIGNS

**Phosphorescent, "Glow-In-The-Dark", self-sticking vinyl safety signs** provide critical safety and evacuation information in the event of a power outage or lack of light. Glow up to eight hours. All signs have red letters on white background unless noted. Apply to clean, dry surface. Brady USA brand.

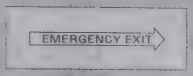

No. 6EX02



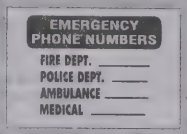
No. 6EX42



No. 6EX09



No. 6EX08



No. 6EX10



Nos. 6EX11 and 6EX12



•Registered to ISO 9001



No. 6EX13



Nos. 6EX16 and 6EX17



Nos. 6EX18 and 6EX19



No. 6EX20



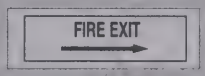
No. 6EX21



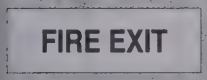
No. 6EX22



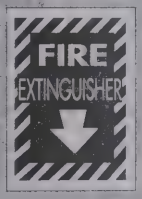
No. 6EX29



No. 6EX28



No. 6EX25



No. 6EX34



No. 6EX33



No. 6EX35



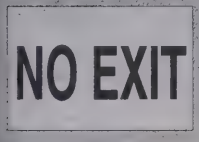
No. 6EX38



No. 6EX39



No. 6EX40



No. 6EX44



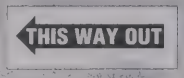
No. 6EX45



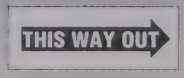
No. 6EX46



No. 6EX47



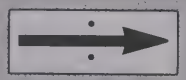
No. 6EX54

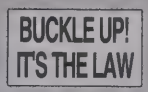


No. 6EX53

| Legend | Size (In.) HxW | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Arrow (white on red) | 3.5 x 14 | 73500 | 6EX02 | $7.27 | $6.61 | $5.95 | 0.1 |
| Danger High Voltage (black and red on white) | 7 x 10 | 73540 | 6EX42 | 9.77 | 8.89 | 8.00 | 0.1 |
| Emergency Exit (left arrow) | 2 x 12 | 73507 | 6EX09 | 5.02 | 4.57 | 4.11 | 0.1 |
| Emergency Exit (right arrow) | 2 x 12 | 73506 | 6EX08 | 5.02 | 4.57 | 4.11 | 0.1 |
| Emergency Phone Numbers Fire Dept._____ Police Dept._____ Ambulance_____ Medical_____ | 10 x 12 | 73508 | 6EX10 | 14.59 | 13.27 | 11.94 | 0.1 |
| Exit | 7 x 10 | 73509 | 6EX11 | 9.77 | 8.89 | 8.00 | 0.1 |
| Exit | 10 x 14 | 73510 | 6EX12 | 19.83 | 18.03 | 16.23 | 0.1 |
| Exit | 8 x 10 | 73511 | 6EX13 | 10.03 | 9.12 | 8.21 | 0.1 |
| Exit (right arrow) | 10 x 10 | 73514 | 6EX16 | 12.47 | 11.34 | 10.21 | 0.1 |
| Exit (right arrow) | 12 x 12 | 73515 | 6EX17 | 20.21 | 18.38 | 16.54 | 0.1 |
| Exit (left arrow) | 10 x 10 | 73516 | 6EX18 | 12.47 | 11.34 | 10.21 | 0.1 |
| Exit (left arrow) | 12 x 12 | 73517 | 6EX19 | 20.21 | 18.38 | 16.54 | 0.1 |
| Exit | 10 x 10 | 73518 | 6EX20 | 12.47 | 11.34 | 10.21 | 0.1 |
| Fire Alarm | 12 x 9 | 73519 | 6EX21 | 14.08 | 12.80 | 11.52 | 0.1 |
| Fire Alarm | 18 x 4 | 73520 | 6EX22 | 9.77 | 8.89 | 8.00 | 0.1 |
| Fire Exit (left arrow) | 3 x 12 | 73527 | 6EX29 | 6.57 | 5.98 | 5.38 | 0.1 |
| Fire Exit (right arrow) | 3 x 12 | 73526 | 6EX28 | 6.57 | 5.98 | 5.38 | 0.1 |
| Fire Exit | 3.5 x 14 | 73523 | 6EX25 | 7.27 | 6.61 | 5.95 | 0.1 |
| Fire Extinguisher | 12 x 9 | 73532 | 6EX34 | 14.08 | 12.80 | 11.52 | 0.1 |
| Fire Extinguisher | 14 x 3.5 | 73531 | 6EX33 | 7.27 | 6.61 | 5.95 | 0.1 |
| Fire Extinguisher Here | 3.5 x 10 | 73533 | 6EX35 | 6.33 | 5.76 | 5.18 | 0.1 |
| Fire Hose | 12 x 9 | 73536 | 6EX38 | 14.08 | 12.80 | 11.52 | 0.1 |
| Fire Hose | 14 x 3.5 | 73537 | 6EX39 | 7.27 | 6.61 | 5.95 | 0.1 |
| First Aid (green on white) | 3.5 x 10 | 73538 | 6EX40 | 6.33 | 5.76 | 5.18 | 0.1 |
| No Exit | 7 x 10 | 73542 | 6EX44 | 9.77 | 8.89 | 8.00 | 0.1 |
| No Smoking | 6 x 12 | 73543 | 6EX45 | 9.77 | 8.89 | 8.00 | 0.1 |
| Not An Exit | 10 x 12 | 73544 | 6EX46 | 15.16 | 13.79 | 12.41 | 0.1 |
| Not An Exit (black on white) | 7 x 12 | 73545 | 6EX47 | 9.77 | 8.89 | 8.00 | 0.1 |
| This Way Out (left arrow) | 3 x 12 | 73552 | 6EX54 | 6.57 | 5.98 | 5.38 | 0.1 |
| This Way Out (right arrow) | 3 x 12 | 73551 | 6EX53 | 6.57 | 5.98 | 5.38 | 0.1 |

# TRAFFIC SIGNS


No. 3AZ23



No. 4T635



No. 1K841



No. 1M068



No. 1K853



No. 3AX76



No. 1K867

• Registered to ISO 9001



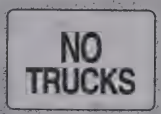
No. 3AM89



No. 5AH08



No. 1K865



No. 1M066



No. 1K851



No. 1K849



No. 1K847


Nos. 1K839 and 1K837



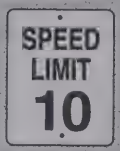
No. 1K835



No. 3AM68



No. 6AX46



No. 3AW12



No. 3AH64



No. 1K843



No. 1K845

Traffic signs designed and manufactured to meet MUTCD specifications. Signs available in reflective sheeting on aluminum (certain signs available in fiberglass material only). Brady USA brand.



Nos. 1K863, 1K861, 1K859 and 1K857



No. 5AT66



No. 1K855

| Description | Legend / Background Color | Material | Dimensions (In.) H x W | Brady Model | Stock No. | List | Each | Lots / Qty. | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Reversible Arrow** | Blk/White | Fiberglass | 5 x 14 | 75063 | **3AZ23** | $8.30 | **$7.55** | **$6.80/10** | 0.3 |
| **Buckle Up! It's the Law** | Blk/White | Fiberglass | 10 x 14 | 87301 | **4T635** | 15.09 | **13.72** | **12.35/10** | 0.3 |
| **Bump** | Blk/Yellow | Reflective | 24 x 24 | 94225 | **1K841** | 80.68 | **73.35** | **66.02/5** | 4.7 |
| **Customer Parking** | Blk/White | Fiberglass | 12 x 18 | 75086 | **1M068** | 21.12 | **19.20** | **17.28/10** | 1.0 |
| **Do Not Enter** | White/Red | Reflective | 30 x 30 | 94150 | **1K853** | 115.33 | **104.85** | **94.36/5** | 7.4 |
| **No Parking** | Red/White | Reflective | 18 x 12 | 94116 | **3AX76** | 32.06 | **29.15** | **26.24/5** | 1.4 |
| **No Parking Any Time** | Red/White | Reflective | 18 x 12 | 94120 | **1K867** | 32.06 | **29.15** | **26.24/5** | 0.7 |
| **No Parking Any Time** | Red/White | Reflective | 18 x 12 | 94119 | **3AM89** | 32.06 | **29.15** | **26.24/5** | 1.4 |
| **No Parking Fire Lane** | Red/White | Fiberglass | 18 x 12 | 75143 | **5AH08** | 21.12 | **19.20** | **17.28/10** | 1.0 |
| **No Parking Loading Zone** | Red/White | Reflective | 18 x 12 | 94130 | **1K865** | 32.06 | **29.15** | **26.24/5** | 0.7 |
| **No Trucks** | Blk/White | Fiberglass | 18 x 24 | 75153 | **1M066** | 39.32 | **35.75** | **32.18/5** | 2.0 |
| **One Way (w/left arrow)** | Blk/White | Reflective | 24 x 18 | 94195 | **1K851** | 61.27 | **55.70** | **50.13/5** | 0.7 |
| **One Way (w/right arrow)** | Blk/White | Reflective | 24 x 18 | 94197 | **1K849** | 61.27 | **55.70** | **50.13/5** | 3.6 |
| **One Way Do Not Enter** | Blk/White | Reflective | 24 x 18 | 94199 | **1K847** | 61.27 | **55.70** | **50.13/5** | 3.6 |
| **Pedestrian Crossing** | Blk/Yellow | Reflective | 24 x 24 | 94234 | **1K839** | 80.68 | **73.35** | **66.02/5** | 4.7 |
| **Pedestrian Crossing** | Blk/Yellow | Reflective | 30 x 30 | 94235 | **1K837** | 115.33 | **104.85** | **94.36/5** | 7.4 |
| **Railroad Crossing** | Blk/Yellow | Reflective | 30" Dia. | 94307 | **1K835** | 115.33 | **104.85** | **94.36/5** | 6.0 |
| **Reserved Parking** | Blk/White | Fiberglass | 12 x 18 | 75190 | **3AM68** | 21.12 | **19.20** | **17.28/10** | 1.0 |
| **Speed Limit 5** | Blk/White | Reflective | 24 x 18 | 94210 | **6AX46** | 61.27 | **55.70** | **50.13/5** | 0.7 |
| **Speed Limit 10** | Blk/White | Reflective | 24 x 18 | 94211 | **3AW12** | 61.27 | **55.70** | **50.13/5** | 3.6 |
| **Speed Limit 15** | Blk/White | Reflective | 24 x 18 | 94212 | **3AH64** | 61.27 | **55.70** | **50.13/5** | 3.5 |
| **Speed Limit 20** | Blk/White | Reflective | 24 x 18 | 94213 | **1K843** | 61.27 | **55.70** | **50.13/5** | 3.6 |
| **Speed Limit 25** | Blk/White | Reflective | 24 x 18 | 94209 | **1K845** | 61.27 | **55.70** | **50.13/5** | 3.6 |
| **Stop** | White/Red | Reflective | 18 x 18 | 94142 | **1K863** | 46.14 | **41.95** | **37.76/5** | 3.6 |
| **Stop** | White/Red | Reflective | 24 x 24 | 94143 | **1K861** | 80.68 | **73.35** | **66.02/5** | 4.0 |
| **Stop** | White/Red | Reflective | 30 x 30 | 94144 | **1K859** | 115.33 | **104.85** | **94.36/5** | 6.2 |
| **Stop** | White/Red | Reflective | 36 x 36 | 94145 | **1K857** | 167.75 | **152.50** | **137.25/5** | 8.0 |
| **Visitors Parking Only** | Blk/White | Fiberglass | 18 x 12 | 75227 | **5AT66** | 21.12 | **19.20** | **17.28/10** | 0.2 |
| **Yield** | Red/White | Reflective | 30" Tri. | 94148 | **1K855** | 63.03 | **57.30** | **51.57/5** | 3.2 |

**GRAINGER HAS OVER 350 BRANCHES NATIONWIDE**

We're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who car about your business. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# HANDICAPPED ACCESSIBILITY SIGNS





No. 6T435



No. 6T418

- Reflective sheeting on aluminum panel provides high visibility
- Outdoor, durable legend resists fading caused by sunlight




No. 6T424




Nos. 6T425 and 6T426




No. 6T423




No. 6T427




No. 6T429



No. 6T419



No. 6T420




No. 6T421




No. 6T428




No. 6T430





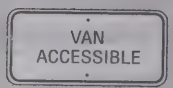

No. 6T431

BRADY

- Registered to ISO 9001




No. 3TN60




No. 6T432




Nos. 6T433

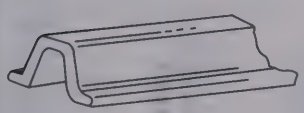



No. 6T436

Handicapped signs for use in parking lots, garages, access ramps, and driveways. Made of reflective sheeting permanently laminated to an aluminum panel. All signs are designed and manufactured to meet Manual on Uniform Traffic Control Devices (MUTCD). Mount easily on No. 6T437 U-Channel post listed below or with No. 5T160 Bradyfoam™ mounting tape listed on page 2588. Mounting hardware not included. 5/16" bolt, 2" length and hex head nut required for fastening sign to post. Brady USA, Inc.

| Legends | Legend Background/Color | Dimensions (In.) | Brady USA Model | Stock No. | List | Each | Lots 10 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| Handicapped Symbol | White/Blue | 12 x 12 | 94174 | 6T435 | $23.49 | $21.36 | $19.22 | 1.5 |
| Handicapped Symbol | White/Blue | 18 x 18 | 91346 | 6T418 | 46.14 | 41.95 | 37.76 | 2.2 |
| Handicapped Parking | White/Blue | 12 x 18 | 91357 | 6T424 | 32.06 | 29.15 | 26.24 | 0.4 |
| Handicapped Parking | White/Blue | 12 x 12 | 91358 | 6T425 | 23.49 | 21.36 | 19.22 | 1.1 |
| Handicapped Parking | White/Blue | 18 x 18 | 91359 | 6T426 | 46.14 | 41.95 | 37.76 | 2.1 |
| Handicapped Parking Towing Enforced | White/Blue | 18 x 12 | 91356 | 6T423 | 32.06 | 29.15 | 26.24 | 1.5 |
| Handicapped Parking Permit Required | White/Blue | 18 x 12 | 91360 | 6T427 | 32.06 | 29.15 | 26.24 | 0.7 |
| Handicapped Symbol Parking | White/Blue | 18 x 12 | 91362 | 6T429 | 32.06 | 29.15 | 26.24 | 2.9 |
| Handicapped Symbol Right Arrow | White/Blue | 18 x 12 | 91351 | 6T419 | 32.06 | 29.15 | 26.24 | 1.6 |
| Handicapped Symbol Left Arrow | White/Blue | 18 x 12 | 91352 | 6T420 | 32.06 | 29.15 | 26.24 | 1.5 |
| Access at Side | White/Blue | 18 x 12 | 91354 | 6T421 | 32.06 | 29.15 | 26.24 | 1.5 |
| Access at Rear | White/Blue | 18 x 12 | 91361 | 6T428 | 32.06 | 29.15 | 26.24 | 1.5 |
| Wheel Chair Ramp | White/Blue | 18 x 12 | 91363 | 6T430 | 32.06 | 29.15 | 26.24 | 0.7 |
| $50 Fine | Green/White | 6 x 12 | 91390 | 6T431 | 16.46 | 14.97 | 13.47 | 0.5 |
| $100 Fine | Green/White | 6 x 12 | 91326 | 3TN60 | 16.46 | 14.97 | 13.47 | 0.6 |
| Van Accessible | Green/White | 6 x 12 | 91387 | 6T432 | 16.46 | 14.97 | 13.47 | 0.6 |
| Reserved Parking | Green/Blue/White | 18 x 12 | 91388 | 6T433 | 32.06 | 29.15 | 26.24 | 1.1 |
| Reserved Parking | Green/Blue/White | 18 x 12 | 94175 | 6T436 | 32.06 | 29.15 | 26.24 | 0.7 |

## U-CHANNEL POSTS



BRADY

- Registered to ISO 9001

For the mounting and installation of traffic signs. Baked green enamel finish on hot rolled high tensile strength steel for years of maintenance free service. Mounting holes are 3/8" prepunched on 1" centers over full length of post. 8 ft. length. Brady USA, Inc. (97204).

**No. 6T437.** Shpg. wt. 17.0 lbs. List ..... $24.42.
Each $22.20; Lots 5 ..... $19.98

# SAFETY SIGNS AND SIGN MOUNTING TAPE

## BRAILLE SAFETY SIGNS




No. 6T329




No. 6T330




No. 6T331

- Registered to ISO 9001
- Designed to help comply with the Americans with Disabilities Act
- Non-glare matte finish
- Grade II braille and raised characters
- Includes 2 strips of double faced mounting tape
- Durable acrylic material can be used indoors or outdoors

BRADY

### Americans with Disabilities Act

**On January 26, 1992, the Americans with Disabilities Act** (ADA) preventing discrimination against people with disabilities became effective. The act states that buildings must be able to "reasonably accommodate" people with disabilities. Every place where a disabled person could visit or work must comply with ADA requirements. These places include existing manufacturing facilities, hospitals, offices, schools, as well as places of public accommodation, such as hotels, restaurants and retail stores. New construction and renovation projects with a permit applied for after January 26, 1992, must also comply.

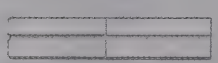
**ADA requires special signs** that designate permanent rooms and spaces such as restrooms, conference rooms and offices. These signs must have: Grade II braille, raised characters, upper case letters that are 5/8-2" high, and pictograms with verbal descriptions. Signs must also be used to identify accessible areas such as parking spaces, loading zones, entrances and restrooms with International Symbols of Accessibility. Special signs are required to provide direction to or information about functional spaces such as accessible exits or restrooms.

**Brady USA, Inc. signs have a non-glare matte finish** and provide high contrast between legend and background. White lettering or black background. Acrylic. Brady USA, Inc.

### BRAILLE SIGN SPECIFICATIONS AND ORDERING DATA

| Legends | Dimensions (In.) | Brady USA Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **WOMEN** | 8 x 8 | 70101 | **6T329** | $33.88 | **$30.80** | **$27.72** | 0.2 |
| **MEN** | 8 x 8 | 70102 | **6T330** | 33.88 | **30.80** | **27.72** | 0.2 |
| **RESTROOM** | 8 x 8 | 70103 | **6T331** | 33.88 | **30.80** | **27.72** | 0.2 |

BRADY • Registered to ISO 9001



## BRADYFOAM™ MOUNTING TAPE

Ideal for mounting safety signs listed on nearby pages to any surface, including rough or irregular surfaces. Tape consists of white polyethylene foam coated on both sides with high tack rubber adhesive. 3/4 x 4½". Four pieces of tape per card. Brady USA, Inc. (97200).

**No. 5T160.** Shpg. wt. 0.1 lbs. List .....$1.05
Each Card **$0.96;** Lots 25 .....**$0.8**

## HIGH VISIBILITY FIRE EQUIPMENT SIGNS




No. 6G460
"L" Style

BRADY

• Registered to ISO 9001



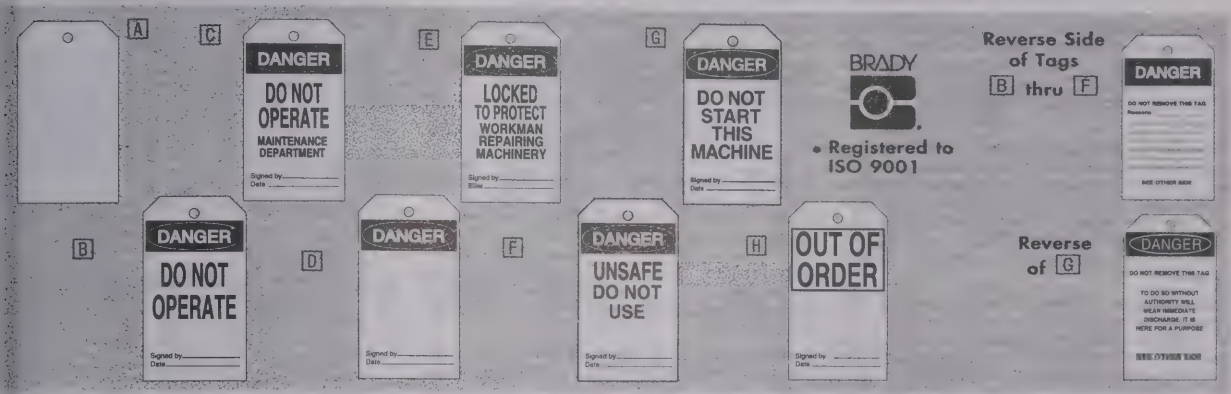

No. 6G742
"V" Style

Create extra awareness of fire alarm, fire extinguisher and fire hose locations. Signs are printed on both sides so they can be seen by traffic from all directions. Choose from two styles. Signs come predrilled with holes for mounting to walls, columns, etc. "L" style mounts perpendicular to wall. "V" style has V-shape. White on red. 12 x 9" size. Polyethylene material. Brady USA

| Legend | Style | Brady USA Model No. | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Fire Alarm** | L | 70997 | **6G459** | $11.07 | **$10.07** | **$9.06** | 0.2 |
| **Fire Extinguisher** | L | 70998 | **6G460** | 11.07 | **10.07** | **9.06** | 0.2 |
| **Fire Hose** | L | 70999 | **6G461** | 11.07 | **10.07** | **9.06** | 0.2 |
| **Fire Alarm** | V | 96907 | **6G741** | 15.84 | **14.40** | **12.96** | 0.5 |
| **Fire Extinguisher** | V | 96908 | **6G742** | 15.84 | **14.40** | **12.96** | 0.5 |
| **Fire Hose** | V | 96909 | **6G743** | 15.84 | **14.40** | **12.96** | 0.5 |

# ACCIDENT PREVENTION TAGS AND WARNING LABELS

## VINYL ACCIDENT PREVENTION TAGS



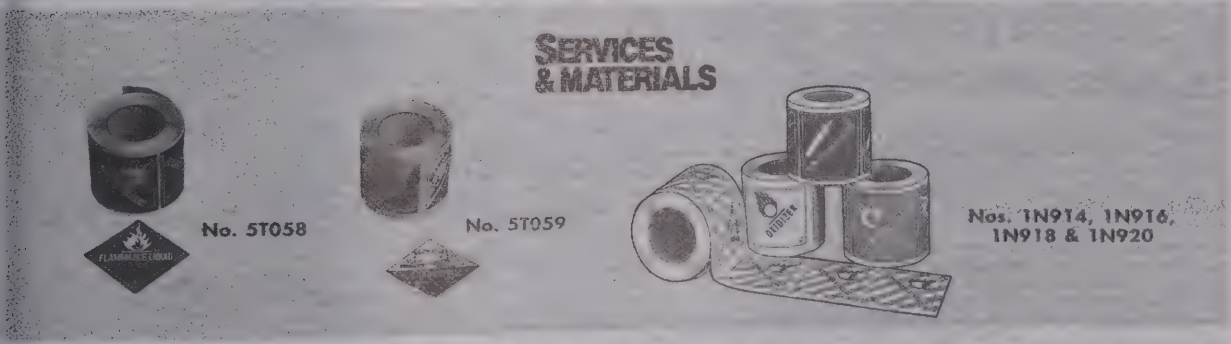

On-the-spot warning of dangerous conditions can be marked with these colorful tags made of durable rigid vinyl. Can be written on with pen or pencil. 5¾ x 3" with two chamfered corners and 3/8" grommeted hole. Meet OSHA specification 1910.145. No. 5T155 meets OSHA standard 1910.147. **Packaged 25 identical tags per bag.** Includes 5½" plastic lock-on tie per tag. Brady USA brand.

### PREVENTION TAG SPECIFICATIONS AND ORDERING DATA

| Key | Description | Color | Reverse Side | Qty. Per Bag | Brady USA Model | Stock No. | List | Each Bag | Lots 5 Bags | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | (BLANK) | White | (Blank) | 25 | 65372 | 5T152 | $29.09 | $26.45 | $23.81 | 0.4 |
| A | (BLANK) | Yellow | (Blank) | 25 | 65373 | 5T153 | 29.09 | 26.45 | 23.81 | 0.4 |
| B | DANGER-DO NOT OPERATE | Black/Red/White | * | 25 | 65367 | 5T150 | 32.34 | 29.40 | 26.46 | 0.4 |
| C | DANGER-DO NOT OPERATE-MAINTENANCE DEPT | Black/Red/White | * | 25 | 76180 | 5T151 | 32.34 | 29.40 | 26.46 | 0.4 |
| D | DANGER | Black/Red/White | * | 25 | 76171 | 5T154 | 32.34 | 29.40 | 26.46 | 0.4 |
| E | DANGER-LOCKED TO PROTECT WORKMAN REPAIRING MACHINERY | Black/Red/White | * | 25 | 76206 | 5T155 | 32.34 | 29.40 | 26.46 | 0.4 |
| F | DANGER-UNSAFE-DO NOT USE | Black/Red/White | * | 25 | 76221 | 5T156 | 32.34 | 29.40 | 26.46 | 0.4 |
| G | DANGER-DO NOT START THIS MACHINE | Black/Red/White | * | 25 | 76188 | 5T157 | 32.34 | 29.40 | 26.46 | 0.4 |
| H | OUT OF ORDER | Black/White | Same | 25 | 76215 | 5T158 | 32.34 | 29.40 | 26.46 | 0.4 |

(*) See photo above for reverse side of tags B thru G.

## HAZARDOUS MATERIAL WARNING LABELS




These diamond-shaped pressure sensitive paper labels measure 4 x 4" and are available in six legends. Can be used on containers, vehicles, and dispensers containing these types of products. Meet requirements of Department of Transportation regulation 49, CFR, Sec. 172.4000, chart 6, revised for 1980. **500 Labels per roll.** Services & Materials brand.

### WARNING LABEL ORDERING DATA

| Description | Labels Per Roll | Services & Materials Model | Stock No. | List | Each Roll | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Flammable Liquid | 500 | 2061864 | 5T058 | $27.00 | $16.50 | $15.68 | 3.0 |
| Flammable Solid | 500 | 2172962 | 1N916 | 27.00 | 16.50 | 15.68 | 3.0 |
| Flammable Gas | 500 | 2172950 | 1N918 | 27.00 | 16.50 | 15.68 | 3.0 |
| Corrosive | 500 | 2061876 | 5T059 | 27.00 | 16.50 | 15.68 | 3.0 |
| Oxidizer | 500 | 2172974 | 1N914 | 27.00 | 16.50 | 15.68 | 3.0 |
| Nonflammable Gas | 500 | 2172948 | 1N920 | 27.00 | 16.50 | 15.68 | 3.0 |

# SAFETY POSTERS AND RIGHT-TO-KNOW CENTERS

## SAFETY POSTERS

• Asset to Training Programs

**Lockout Safety Poster.** Two-color illustrated poster covers basic points of lockout safety, reminding workers of potential dangers. Laminated on both sides and edge sealed for durability. 18H x 24"W. Prinzing brand.

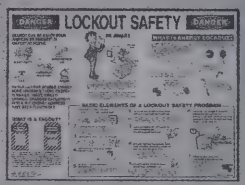
**Bloodborne Pathogen Poster.** Provides an easy-to-understand, colorful simplification of OSHA's biohazard standard. Constant visual reminder of safe hygiene and universal precautions. Heavy-duty polyethylene material is tear resistant and can be easily wiped clean. 16H x 24"W. Prinzing brand.

**Confined Space Safety Poster.** Provides all employees with a basic overview of potential dangers of confined spaces and related safety precautions. Helps meet OSHA requirements. Colorful illustrations help get message across. Laminated paper construction. 18H x 24"W. Prinzing brand.

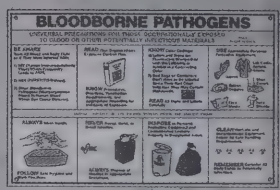
**"Safe Handling of Flammable Liquids Basic Guidelines for Your Workplace" Poster.** Covers a broad spectrum of flammable liquid handling. Colorfully describes entire safety cycle of flammable/hazardous liquids from start through clean up and disposal. Visual reminder of safe work precautions. Heavy-duty polyethylene material is tear resistant and easy to clean. Corner grommets prevent ripping. 16H x 24"W. Prinzing brand.

**Right To Know Understanding MSDS Poster.** Visually reminds workers of OSHA's hazard communication standard and compliance situations. Contains basic elements of typical Right to Know programs. Encourages safe work practices while being used as a reference guide. Laminated paper construction. 18H x 24"W. Prinzing brand.

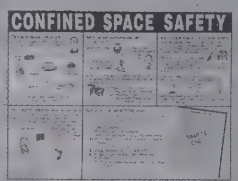
**Haz-Mat Warning Label Poster.** Colorfully describes two of the most popular warning label systems used. Constant visual reference guide. Heavy-duty polyethylene material is tear resistant and easy to clean. Corner grommets prevent ripping. 16H x 24"W. Prinzing brand.




No. 1D302




No. 3ZM55




No. 3ZM56

### SPECIFICATIONS AND ORDERING DATA

| Poster Description | Prinzing Model | Stock No. | List | Each | Lots 4 | Lots 8 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Lockout Safety | LOSP8 | 1D302 | $21.79 | $18.95 | $18.00 | $17.06 | 0.3 |
| Bloodborne Pathogen | BHP | 3ZM55 | 28.75 | 25.00 | 23.75 | 22.50 | 0.8 |
| Confined Space | CSP | 3ZM56 | 21.79 | 18.95 | 18.00 | 17.06 | 0.2 |
| Safe Handling of Flammable Liquids | FLH | 3ZM66 | 28.75 | 25.00 | 23.75 | 22.50 | 0.8 |
| RTK Understanding MSDS | RTKSP-1 | 3ZM69 | 21.79 | 18.95 | 18.00 | 17.06 | 0.2 |
| Haz-Mat Warning Label | HP-1 | 3ZM67 | 28.75 | 25.00 | 23.75 | 22.50 | 0.8 |

## RIGHT-TO-KNOW CENTERS

Provide employees with ready access to Material Safety Data Sheets for any chemical to which they are exposed.

**Standard Center** includes blue Plexiglas® display board, MSDS binder, and 10 training booklets. Additional binders and booklets sold below. 24W x 30"H. Prinzing brand.

**Right To Know Display Board Only (Unequipped).** 30W x 24H x 4.5"W. Prinzing brand.

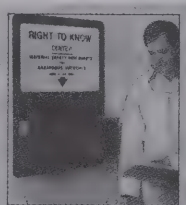
**Bilingual (Spanish/English) Center** includes blue Plexiglas® display board, bilingual MSDS binder, five English training booklets and five Spanish training booklets. Additional binders and booklets sold below. 24W x 30"H. Prinzing brand.

**Right to Know Compliance Center** includes red polystyrene board with yellow lettering, yellow PVC-coated wire binder holder, and MSDS binder. 14W x 20"H. Prinzing brand.

**MSDS Binder** has 300 sheet capacity (sheets not included) with 36" chain. Yellow polyethylene construction with 1½" dia. rings. Available in English and Bilingual binders. Bilingual binder has both English and Spanish translation. 10.5W x 11.5H x 3.1"D. English only. Prinzing brand.

**MSDS Large Binder** has approximately 500 sheet capacity (sheets not included) with 36" chain. Yellow polyethylene construction with 2½" dia. rings. 3¼W x 11⅝H x 11¾"D. English only. Prinzing brand.

**Training Booklets** contain safety information to help compliance with Right To Know training requirements of OSHA hazard communications standard. Available in English and Spanish Translation versions. Sixteen fully illustrated pages, 10 per package. 5⅜W x 8¼H x 0.3"D. Prinzing brand.



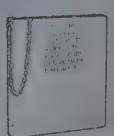

No. 5T281 Standard Center



No. 3ZM61 Bilingual Center




No. 6AV66 Compliance Center



No. 3ZM64 Bilingual MSDS Binder



No. 3ZM65 Spanish Training Booklet

### SPECIFICATIONS AND ORDERING DATA

| Description | Prinzing Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| English Language Right to Know Standard Center | 2001 | 5T281 | $147.09 | $121.00 | $114.95 /3 | 16.0 |
| Right to Know Center Display Board Only | 2012 | 3ZM62 | 110.40 | 96.00 | 91.20 /3 | 12.0 |
| Bilingual (Spanish/English) Right to Know Center | 2002 | 3ZM61 | 147.09 | 121.00 | 114.95 /3 | 13.0 |
| Right to Know Compliance Center | 2010 | 6AV66 | 61.95 | 51.00 | 48.43 /4 | 4.5 |
| Engish Language MSDS Binder | 2023 | 5U605 | 16.80 | 14.28 | 13.57 /6 | 1.0 |
| Bilingual (Spanish/English) MSDS Binder | 2026 | 3ZM64 | 16.80 | 14.28 | 13.57 /6 | 0.9 |
| MSDS Large Binder | 2024 | 3ZM63 | 24.15 | 21.00 | 19.95 /6 | 1.4 |
| English Language Training Booklets (Pkg. of 10) | 2101 | 5T282 | 17.07 | 14.10 | 13.40 /6 | 0.6 |
| Spanish Language Training Booklets (Pkg. of 10) | 2103B-10 | 3ZM65 | 17.07 | 14.10 | 13.40 /6 | 0.5 |

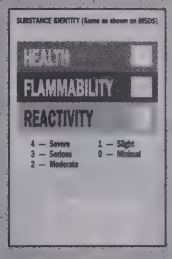


*Close it, lock it, keep it safe — You'll find the right stuff right here.*

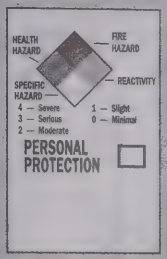
# WRITE-ON PAPER & VINYL RIGHT-TO-KNOW LABELS

BRADY

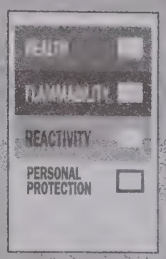
New



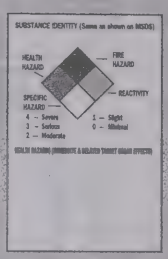

No. 3TL67
(5" x 3")



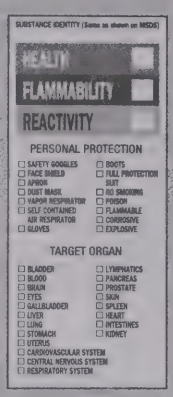

No. 3TL77
(2" x 1¼")



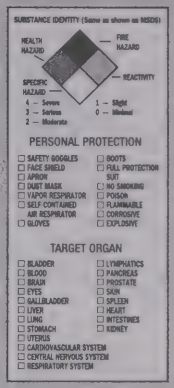

No. 3TL75
(2" x 1¼")



No. 3TL69
(5" x 3")




No. 3TL71
(8" x 3")




No. 3TL73
(8" x 3")

Fire Hazard—ranks susceptibility to burn
Health Hazard—ranks probable severity to personal health
Reactivity—ranks ease rate and quantity of energy released
Specific Hazard—ranks special hazard potential

## LABEL ORDERING DATA

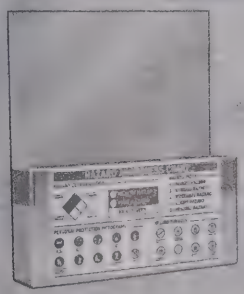
| Size (In.)/Format | Material | Qty. Per Roll | Brady USA Model | *New!* Stock No. | List | Each Roll | Lot 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2 x 1¼ New Color Bar** | Paper | 500 | 58268 | **3TL75** | $16.03 | **$14.58** | **$13.12** | 0.4 |
| **2 x 1¼ New Color Bar** | Vinyl | 500 | 58269 | **3TL76** | 28.32 | **25.75** | **23.18** | 0.5 |
| **2 x 1¼ NFPA** | Paper | 500 | 58270 | **3TL77** | 16.03 | **14.58** | **13.12** | 0.4 |
| **2 x 1¼ NFPA** | Vinyl | 500 | 58271 | **3TL78** | 28.32 | **25.75** | **23.18** | 0.5 |
| **5 x 3 New Color Bar** | Paper | 500 | 58260 | **3TL67** | 30.30 | **27.55** | **24.80** | 2.1 |
| **5 x 3 New Color Bar** | Vinyl | 500 | 58261 | **3TL68** | 67.10 | **61.00** | **54.90** | 2.8 |
| **5 x 3 NFPA** | Paper | 500 | 58262 | **3TL69** | 30.30 | **27.55** | **24.80** | 2.1 |
| **5 x 3 NFPA** | Vinyl | 500 | 58263 | **3TL70** | 67.10 | **61.00** | **54.90** | 2.8 |
| **8 x 3 New Color Bar** | Paper | 500 | 58264 | **3TL71** | 44.66 | **40.60** | **36.54** | 3.4 |
| **8 x 3 New Color Bar** | Vinyl | 500 | 58265 | **3TL72** | 102.24 | **92.95** | **83.66** | 3.5 |
| **8 x 3 NFPA** | Paper | 500 | 58266 | **3TL73** | 44.66 | **40.60** | **36.54** | 3.4 |
| **8 x 3 NFPA** | Vinyl | 500 | 58267 | **3TL74** | 102.24 | **92.95** | **83.66** | 3.5 |

OSHA Federal Hazard Communication Standard 29 CFR 1900.1200, known as the "Right to Know" law, requires that employers identify hazardous materials in the workplace for the benefit and safety of employees who may come in contact with those materials.

Two different label formats are available to help you comply with the Right to Know laws. Utilize either the NFPA or the New Color Bar format to clearly identify your secondary containers. All labels sold in standard package of 500 labels/roll. Brady USA brand.

BRADY

New



## MINI RIGHT-TO-KNOW STATION

Ideal for office and lab areas. Station is made of clear acrylic (12 W x 14¼ L x 2"D) and includes Hazard Awareness Chart. Brady USA brand (58681).

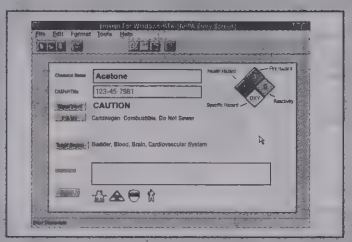
***New*** **No. 6G954.** Shpg. wt. 2.4 lbs. List.....$55.22.
Each $50.20; Lots 3.....**$45.18**

## TECHNICAL REFERENCE LITERATURE

Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics. See Index under Books.

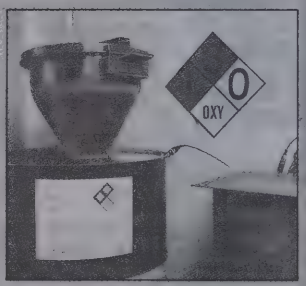
## RIGHT-TO-KNOW SOFTWARE

Create custom Right-To-Know container labels instantly with Windows based software and label blanks. Scroll and select from the pre-programmed categories to create the labels needed. Categories include: physical and health hazards, signal words, target organs and pictograms. Chemical information is saved on a personal computer hard drive. Chemical data is automatically formatted to all label sizes without having to re-key information. Preview each label format and then print. Choose from either NFPA Diamond or Color Bar formats. Labels are made of vinyl material for both indoor and outdoor use. 25 sheets per package. Brady USA brand.




Screen Menu for No. 3ZD47 Right-To-Know Software

BRADY




Registered to ISO 9001

### SPECIFICATIONS AND ORDERING DATA

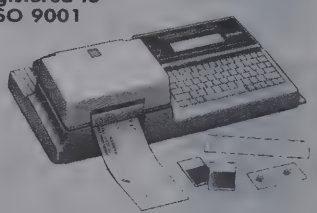
| Description | Size (In.) (HxW) | No. of Labels per Sheet | Brady USA Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Right To Know Software Version 1.1** | — | — | 15384 | **3ZD47** | $220.00 | **$200.00** | **$180.00/3** | 0.7 |
| **Sign, Tag and Label & RTK Software Suite Kit** | — | — | 64651 | **4VJ30** | 298.37 | **271.25** | **244.13/3** | 1.9 |
| **NFPA Diamond (Pkg. of 25)** | 1 x 1 | 35 | 59252 | **3ZG05** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **NFPA Diamond (Pkg. of 25)** | 2 x 2 | 6 | 59251 | **3ZG04** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **NFPA Diamond (Pkg. of 25)** | 4 x 4 | 2 | 59250 | **3ZG03** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **NFPA Diamond (Pkg. of 25)** | 5¾ x 5¾ | 1 | 59249 | **3ZG02** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **NFPA Diamond w/ Hazard Classification (Pkg. of 25)** | 2 x 2 | 15 | 59255 | **3ZG08** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **NFPA Diamond w/ Hazard Classification (Pkg. of 25)** | 3½ x 5 | 4 | 59254 | **3ZG07** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **NFPA Diamond w/ Hazard Classification (Pkg. of 25)** | 5 x 7 | 2 | 59253 | **3ZG06** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **NFPA Diamond w/ Hazard Classification (Pkg. of 25)** | 7 x 10 | 1 | 59248 | **3ZG01** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **Color Bar (Pkg. of 25)** | 2 x 2 | 15 | 59243 | **3ZF95** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **Color Bar (Pkg. of 25)** | 3½ x 5 | 4 | 59242 | **3ZF94** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **Color Bar (Pkg. of 25)** | 5 x 7 | 2 | 59241 | **3ZF93** | 68.75 | **62.50** | **56.25/3** | 1.9 |
| **Color Bar (Pkg. of 25)** | 7 x 10 | 1 | 59240 | **3ZF92** | 68.75 | **62.50** | **56.25/3** | 1.9 |

## RIGHT-TO-KNOW SOFTWARE

Create custom Right To Know labels on Labelizer™ Plus Industrial Labeling System (No. 4AD59 sold separately on page 2597). Software helps compliance with federal and state Right To Know laws. Includes 128,000 character memory card to build and store database of chemicals. Additional memory cards available. Brady USA brand.

BRADY

Registered to ISO 9001



Labelizer™ Plus sold separately, see page 2597.

### ORDERING DATA

| Description | Qty. Per Pkg. | Brady Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Right To Know 128K Software** | 1 | 64952 | **6AW77** | $632.50 | **$575.00** | **$517.50** | 0.6 |
| **128K Memory Card** | 1 | 64877 | **6AC73** | 330.00 | **300.00** | **270.00** | 0.1 |
| **2" x 2" Outdoor NFPA Diamond Labels** | 400 | 64956 | **2AJ10** | 165.00 | **150.00** | **135.00** | 1.7 |
| **3" x 5" Outdoor NFPA Diamond Labels** | 200 | 64960 | **5AP20** | 245.30 | **223.00** | **200.70** | 2.4 |
| **7" x 10" Outdoor NFPA Diamond Labels** | 50 | 64968 | **5AR62** | 214.50 | **195.00** | **175.50** | 2.5 |

**DESK SPACE AT A PREMIUM?**
**USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

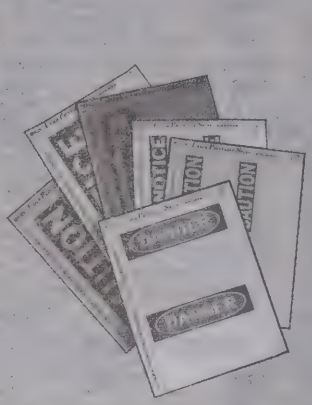
# SIGN MAKING SOFTWARE AND SIGN BLANKS

## SIGN MAKER SOFTWARE

Create industrial signs instantly using Windows based Sign Maker Software and sign blanks. 100 of Brady's most popular sign legends (in English and Spanish) are built into the software, as are 55 standard pictograms. Laser/ink jet printable sign blanks are self-sticking and made of polyester material for both indoor and outdoor use. Available with common OSHA headers; blank yellow, white and orange; and three convenient sizes. 25 sheets per package. Brady USA brand.

## SIGN, TAG & LABEL AND RIGHT-TO-KNOW SOFTWARE SUITE KIT

Software suite is a comprehensive identification software package that comes complete with ready-to-go templates including right-to-know tags and labels, safety signs, lockout tags, safety decals and more. Use this software with PC and laser or ink-jet printer. Works well with Windows 3.1, Windows 95 and Windows NT. Kit contains SLT and RTK software, blanks starter kit and 100 snap-in grommets. Brady USA brand (64651).



New

BRADY

• Registered to ISO 9001

No. 6N670

### SIGNMAKER SOFTWARE ORDERING DATA

| Description | Brady USA No. | | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Sign Maker Software 1.1** | 13005 | | **3ZD31** | $165.00 | **$150.00** | **$135.00** | 0.7 |
| **STL & RTK Software Suite Kit** | 64651 | *New* | **4VJ30** | 298.37 | **271.25** | **244.13** | 1.9 |

### SIGN BLANKS SPECIFICATIONS AND ORDERING DATA

| Description | Size (In.) (HxW) | No. Signs Per 8.5"x11" Sheet | Sheets Per Pkg. | Brady USA Model No. | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Danger** | 3½ x 5 | 4 | 25 | 12906 | **6N670** | $75.62 | **$68.75** | **$61.88** | 0.8 |
| **Caution** | 3½ x 5 | 4 | 25 | 12909 | **6N673** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Notice** | 3½ x 5 | 4 | 25 | 12912 | **6N676** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Warning** | 3½ x 5 | 4 | 25 | 12923 | **6N687** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Blank White** | 3½ x 5 | 4 | 25 | 12900 | **6N664** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Blank Yellow** | 3½ x 5 | 4 | 25 | 12903 | **6N667** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Blank Orange** | 3½ x 5 | 4 | 25 | 12926 | **6N690** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Danger** | 5 x 7 | 2 | 25 | 12907 | **6N671** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Caution** | 5 x 7 | 2 | 25 | 12910 | **6N674** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Notice** | 5 x 7 | 2 | 25 | 12913 | **6N677** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Warning** | 5 x 7 | 2 | 25 | 12922 | **6N686** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Blank White** | 5 x 7 | 2 | 25 | 12901 | **6N665** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Blank Yellow** | 5 x 7 | 2 | 25 | 12904 | **6N668** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Blank Orange** | 5 x 7 | 2 | 25 | 12925 | **6N689** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Danger** | 7 x 10 | 1 | 25 | 12908 | **6N672** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Caution** | 7 x 10 | 1 | 25 | 12911 | **6N675** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Notice** | 7 x 10 | 1 | 25 | 12914 | **6N678** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Warning** | 7 x 10 | 1 | 25 | 12921 | **6N685** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Blank White** | 7 x 10 | 1 | 25 | 12902 | **6N666** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Blank Yellow** | 7 x 10 | 1 | 25 | 12905 | **6N669** | 75.62 | **68.75** | **61.88** | 0.8 |
| **Blank Orange** | 7 x 10 | 1 | 25 | 12924 | **6N688** | 75.62 | **68.75** | **61.88** | 0.8 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

## HAZARDOUS INFORMATION PLACARD

Graphically explains the National Fire Protection Association hazard identification coding system. Excellent means of training and reminding personnel how the NFPA system works. Indoor/outdoor durable fiberglass material. Four mounting holes for quick installation. 14H x 10"W. Brady USA brand (78786).

**No. 3AC37**. Shpg. wt. 0.6 lbs. List.....$15.09. Each **$13.72**; Lots 10.....**$12.35**

## HAZARDOUS MATERIAL SIGNALS

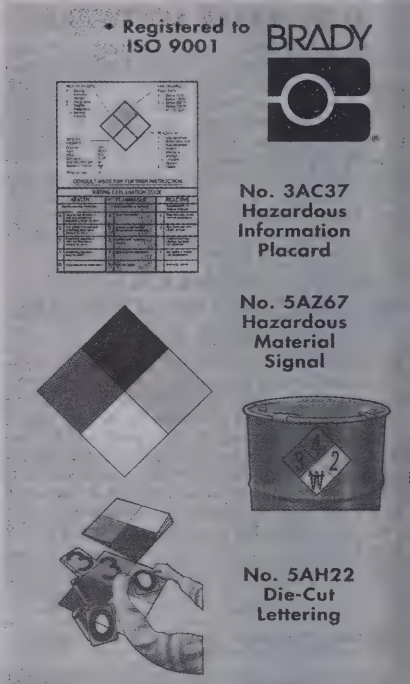
Signals provide identification of hazardous chemical containers and dedicated hazardous material storage areas based on the National Fire Protection Association Code No. 704M and Federal Standard 313. For placement on storage tanks, processing tanks and vessels, feed hoppers, pipelines and other potentially hazardous equipment. Can be used to identify potentially hazardous areas for benefit of both employees and outside emergency response personnel. Available in premium outdoor grade vinyl or Fiber-Shield® fiberglass. Fiberglass signals come with four predrilled mounting holes. Quik-Align® die-cut numbers and letters mark corners of signal (sold separately below). Brady USA brand.

### SPECIFICATIONS AND ORDERING DATA

| Material | Size (In.) Sq. | No. per Pkg. | Quik-Align Size (In.) | Brady Model | Stock No. | Per Package List | Per Package Each | Lot/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Fiberglass** | 11 | 1 | 4 | 58656 | **5AZ67** | $12.96 | **$11.79** | **$10.61/10** | 0.6 |
| **Vinyl** | 5 | 10 | 2 | 58501 | **2BC56** | 22.15 | **20.14** | **18.13/10** | 0.1 |
| **Vinyl** | 10 | 10 | 4 | 58503 | **3AC80** | 82.44 | **74.95** | **67.46/5** | 0.3 |

## QUIK-ALIGN® DIE-CUT LETTERING

Pressure sensitive Quik-Align® die-cut numbers and letters for use in identifying NFPA Hazardous Material Signals. Outdoor grade vinyl characters are black Gothic style, except for radiation trefoil which is magenta color. Use for both number ratings and specific hazard information. **10 identical characters per package.** Brady USA brand.

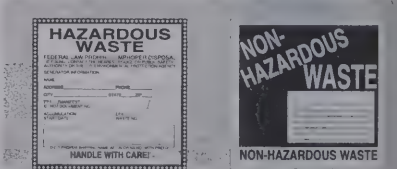



### SPECIFICATIONS AND ORDERING DATA

| Description | 2" SIZE Model No. | 2" SIZE Stock No. | 2" SIZE Per Package List | 2" SIZE Per Package Each | 2" SIZE Lots 25 | 2" SIZE Shpg. Wt. | 4" SIZE Model No. | 4" SIZE Stock No. | 4" SIZE Per Package List | 4" SIZE Per Package Each | 4" SIZE Lots 25 | 4" SIZE Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 5050-0 | **4T734** | $4.46 | **$4.06** | **$3.65** | 0.1 | 5140-0 | **5AH22** | $7.88 | **$7.17** | **$6.45** | 0.1 |
| **1** | 5050-1 | **4T735** | 4.46 | **4.06** | **3.65** | 0.1 | 5140-1 | **5AX79** | 7.88 | **7.17** | **6.45** | 0.1 |
| **2** | 5050-2 | **4T736** | 4.46 | **4.06** | **3.65** | 0.1 | 5140-2 | **3AM10** | 7.88 | **7.17** | **6.45** | 0.1 |
| **3** | 5050-3 | **4T737** | 4.46 | **4.06** | **3.65** | 0.1 | 5140-3 | **5AX42** | 7.88 | **7.17** | **6.45** | 0.1 |
| **4** | 5050-4 | **4T738** | 4.46 | **4.06** | **3.65** | 0.1 | 5140-4 | **4AD85** | 7.88 | **7.17** | **6.45** | 0.1 |
| **"Use No Water" symbol** | 58506 | **5AF39** | 4.49 | **4.09** | **3.68** | 0.1 | 58508 | **5AN65** | 7.88 | **7.17** | **6.45** | 0.1 |
| **"Radiation" symbol** | 58602 | **5AT68** | 4.49 | **4.09** | **3.68** | 0.1 | 58604 | **6AV75** | 7.88 | **7.17** | **6.45** | 0.1 |
| **OXY** | 58665 | **4AJ34** | 4.49 | **4.09** | **3.68** | 0.1 | 58667 | **3AK57** | 7.88 | **7.17** | **6.45** | 0.1 |
| **ACID** | 58670 | **1AV25** | 4.49 | **4.09** | **3.68** | 0.1 | 58672 | **6AG88** | 7.88 | **7.17** | **6.45** | 0.1 |
| **COR** | 58686 | **6AJ40** | 4.49 | **4.09** | **3.68** | 0.1 | 58688 | **4AG11** | 7.88 | **7.17** | **6.45** | 0.1 |
| **ALK** | 58691 | **5AG68** | 4.49 | **4.09** | **3.68** | 0.1 | 58693 | **6AP13** | 7.88 | **7.17** | **6.45** | 0.1 |

## HAZARDOUS WASTE LABELS

Labels comply with Federal regulations regarding identification of hazardous waste materials for transport off-site. Printed on durable outdoor marking film. Hazardous label has black and red printing on a yellow background, Non-Hazardous label has white printing on a green background. 6" x 6". **50 labels per package.** Brady USA brand.



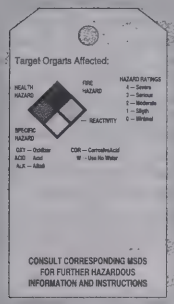

### SPECIFICATIONS AND ORDERING DATA

| Description | Colors | Brady Model | Stock No. | Per Package List | Per Package Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Hazardous Waste** | Black/Red/Yellow | 63268 | **5AH44** | $19.43 | **$17.67** | **$15.90** | 0.9 |
| **Non-Hazardous Waste** | White/Green | 63275 | **5AP83** | 19.43 | **17.67** | **15.90** | 0.8 |

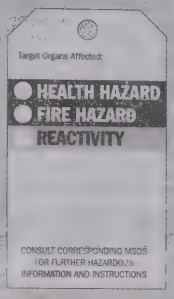
**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

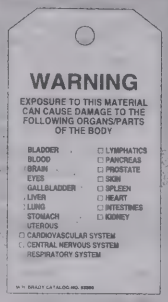
## RIGHT-TO-KNOW ACCIDENT PREVENTION TAGS




No. 3AF92 NFPA




No. 5AR08 Color Bar




Back (Both Formats)

BRADY • Registered to ISO 9001

Right-To-Know tags offer an alternative for labeling hazardous materials where labels and signs are not feasible. Write-on surface allows for indicating hazardous material, hazard rating or other information with pencil, ballpoint or permanent marking pen. Available in either NFPA diamond or color bar formats. Heavy duty 15 mil rigid vinyl construction. 5¾H x 3"W with two chamfered corners and 3/8" grommeted hole. **25 identical tags with plastic lock-on ties per package.** Brady USA brand.

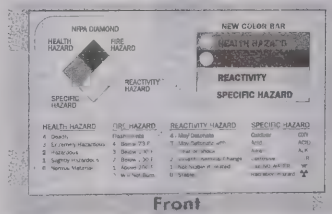
### ORDERING DATA

| Description | Brady Model | Stock No. | Per Package List | Per Package Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| NFPA | 76227 | 3AF92 | $39.32 | $35.75 | $32.18 | 0.4 |
| Color Bar | 76237 | 5AR08 | 32.34 | 29.40 | 26.46 | 0.4 |

## RIGHT-TO-KNOW WALLET CARDS

**Wallet cards** graphically explain the National Fire Protection Association hazard identification coding system. Distribute to each employee to finalize formal hazard communication training. 2⅛H x 3⅜"W. **25 cards per package.** Brady USA brand (58515).

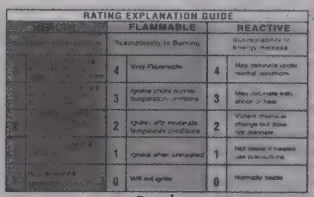
**No. 3BC04.** Shpg. wt. 0.1 lbs. List $44.60. Each **$40.55;** Lots 5.....**$36.50**




Front

BRADY

Registered to ISO 9001




Back

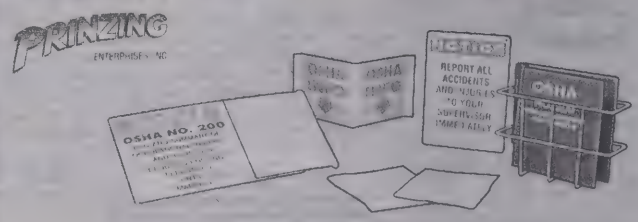
## MSDS/JOB SITE DOCUMENT CENTER




For use indoors in dusty/dirty work areas or outdoors in all weather. Helps keep MSDS and other documents readily accessibly and in compliance with OSHA requirements. Accommodates one 3" binder, sold separately. Durable yellow sintra plastic construction with red wording. Features lockable hasp on full length hinged cover and keyholes for wall mounting. 13.4W x 13.3H x 4.7"D. Prinzing brand (JS1).

**No. 3ZM68.** Shpg. wt. 5.3 lbs. List.....$84.13. Each **$71.05;** Lots 4.....**$67.48**

## OSHA #200 RECORDKEEPING CENTER



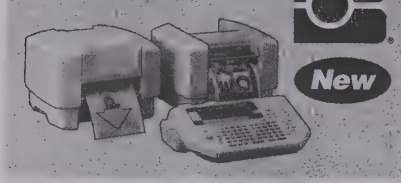

Help comply with OSHA's 200 Log and Summary requirement. OSHA requires most companies with eleven or more employees to prepare and maintain records of work related injuries and illnesses. Comprehensive kit offers immediate compliance solutions for accident recordkeeping and documentation.

**Kit includes:** white with blue lettering acrylic summary and posting board with clear view pocket to showcase documents, 12H x 24"W; blue polyethylene three ring binder (1.5" dia. rings) which holds approximately 300 sheets, white PVC-coated wire binder holder keeps required five years of injury/illness documents; white, blue and black plastic sign with legend "Report All Accidents", 10 x 14"; white and blue acrylic standout wall sign "OSHA Info", 8H x 14½W x 6"D; and one package each of 25 OSHA #200 and #101 log forms. Prinzing brand (OR25001).

**No. 3ZM59.** Shpg. wt. 7.6 lbs. List.....$138.00. Each **$120.00;** Lots 4.....**$114.00**

# LABEL AND SIGN MAKING SYSTEM

Brady 6 Month Warranty. See page opposite inside backside cover.

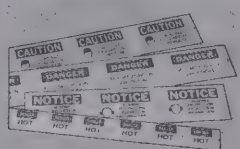


## GRAPHICSPRO™ LETTERING AND LABELING SYSTEM

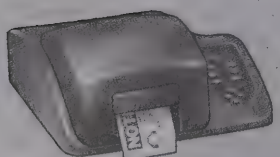
Create custom labels and signs using GraphicsPro™ lettering and labeling system. System includes three components: keyboard/display, thermal transfer printer and cutter. Choose a complete system for the greatest value or a keyboard/cutter combination package. PC Interface printer and cutter hardware connects to any PC running Windows® 95. Create attractive, multi-color labels by easily matching ribbon and tape colors. Hundreds of print color options. Prints/cuts up to 3¾" characters. Optional scanner allows printing of scanned images such as a corporate logo. Standard software features include over 100 frequently used symbols, barcoding (UPC, Code 3 of 9, Interleave 2 of 5 and EAN), 21 different fonts and eight languages (English, Spanish, French, German, Dutch, Italian, Danish and Portuguese). Use premask to apply cut image to sign blank or any flat, clean surface. Ribbons and tapes available in wide variety of colors and materials. Brady USA brand.

### LETTERING AND LABELING SYSTEM ORDERING DATA

| Description | Size | Brady Model | Stock No. | List | Each | Lot/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Keyboard, Printer and Cutter Combo** | — | 36605 | **3ZD54** | $4944.50 | **$4495.00** | **$4045.50/2** | 28.0 |
| **Keyboard and Cutter Combo** | — | 36604 | **3ZD53** | 3844.50 | **3495.00** | **3145.50/2** | 15.0 |
| **PC Interface w/ Software/Printer/Cutter** | — | 36732 | ***New*4NG75** | 4394.50 | **3995.00** | **3595.50/2** | 31.0 |
| **PC Interface w/ Software/Cutter** | — | 36733 | ***New*4NG76** | 3069.00 | **2790.00** | **2511.00/2** | 18.0 |
| **Memory Pack-Text (256K)** | — | 36607 | **3ZD56** | 330.00 | **300.00** | **270.00/2** | 0.3 |
| **Memory Pack-Scanner (256K)** | — | 36608 | **3ZD57** | 330.00 | **300.00** | **270.00/2** | 0.3 |
| **Spare Cutting Blades (2 per Pkg.)** | — | 36609 | **3ZD58** | 55.00 | **50.00** | **45.00/2** | 0.1 |
| **Weeding Tool** | — | 36611 | **3ZD60** | 5.50 | **5.00** | **4.50/10** | 0.1 |
| **Squeegee** | — | 36612 | **3ZD61** | 3.30 | **3.00** | **2.70/10** | 0.2 |
| **Carrying Case** | — | 36610 | **3ZD59** | 142.94 | **129.95** | **116.96/2** | 4.5 |
| **Pin Mounts (20/pkg)** | — | 36618 | **3ZD62** | 58.30 | **53.00** | **47.70/2** | 0.3 |
| **Premask** | 164' | 36635 | **3ZD78** | 54.94 | **49.95** | **44.96/3** | 1.8 |
| **White Vinyl Tape** | 4⅜" x 50' | 36620 | **3ZD63** | 54.94 | **49.95** | **44.96/3** | 1.5 |
| **Yellow Vinyl Tape** | 4⅜" x 50' | 36621 | **3ZD64** | 54.94 | **49.95** | **44.96/3** | 1.5 |
| **Orange Vinyl Tape** | 4⅜" x 50' | 36622 | **3ZD65** | 54.94 | **49.95** | **44.96/3** | 1.5 |
| **Red VinylTape** | 4⅜" x 50' | 36623 | **3ZD66** | 54.94 | **49.95** | **44.96/3** | 1.5 |
| **Blue Vinyl Tape** | 4⅜" x 50' | 36624 | **3ZD67** | 54.94 | **49.95** | **44.96/3** | 1.5 |
| **Green Vinyl Tape** | 4⅜" x 50' | 36625 | **3ZD68** | 54.94 | **49.95** | **44.96/3** | 1.5 |
| **Black Vinyl Tape** | 4⅜" x 50' | 36626 | **3ZD69** | 54.94 | **49.95** | **44.96/3** | 1.5 |
| **Clear Vinyl Tape** | 4⅜" x 50' | 36627 | **3ZD70** | 54.94 | **49.95** | **44.96/3** | 1.5 |
| **White Reflective Tape** | 4⅜" x 33' | 36630 | **3ZD73** | 98.94 | **89.95** | **80.96/3** | 1.3 |
| **Green Phosphorescent Tape** | 4⅜" x 33' | 36631 | **3ZD74** | 98.94 | **89.95** | **80.96/3** | 1.4 |
| **Clear Static Cling** | 4⅜" x 50' | 36632 | **3ZD75** | 54.94 | **49.95** | **44.96/3** | 1.4 |
| **Yellow Fluorescent Tape** | 4⅜" x 33' | 36633 | **3ZD76** | 65.94 | **59.95** | **53.96/3** | 1.3 |
| **White Tamper Evident Tape** | 4⅜" x 33' | 36634 | **3ZD77** | 65.94 | **59.95** | **53.96/3** | 1.4 |
| **White Ribbon** | 4¾" x 164' | 36636 | **3ZD79** | 164.94 | **149.95** | **134.96/3** | 0.7 |
| **Black Ribbon** | 4¾" x 164' | 36637 | **3ZD80** | 164.94 | **149.95** | **134.96/3** | 0.7 |
| **Red Ribbon** | 4¾" x 164' | 36638 | **3ZD81** | 164.94 | **149.95** | **134.96/3** | 0.7 |
| **Blue Ribbon** | 4¾" x 164' | 36639 | **3ZD82** | 164.94 | **149.95** | **134.96/3** | 0.7 |
| **Green Ribbon** | 4¾" x 164' | 36640 | **3ZD83** | 164.94 | **149.95** | **134.96/3** | 0.7 |
| **Process Cyan (Blue) Ribbon** | 4¾" x 164' | 36643 | **3ZD86** | 164.94 | **149.95** | **134.96/3** | 0.7 |
| **Process Yellow Ribbon** | 4¾" x 164' | 36641 | **3ZD84** | 164.94 | **149.95** | **134.96/3** | 0.7 |
| **Process Magenta Ribbon** | 4¾" x 164' | 36642 | **3ZD85** | 164.94 | **149.95** | **134.96/3** | 0.7 |




No. 4NF72



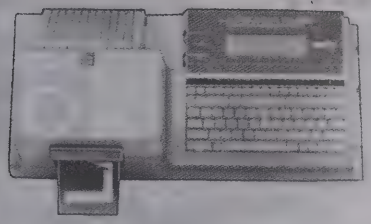
No. 4NF66

## VERSAPRINTER™ LABEL AND SIGN MAKER SYSTEM

Quickly create labels or signs from your PC. VersaPrinter™ includes 4 software packages: VersaLabel™ software uses existing templates or downloaded information from database, Right-To-Know software prompts user to use existing templates, Safety Sign Maker software creates custom OSHA/ANSI Header labels, Pipe Maker software creates custom pipe markers. Requires Windows® 3.1 or 95, 486 processor, 8MB required (16MB recommended). Use with die-cut label cartridges below or with Labelizer Plus tape cartridges, listed on page 2597. Brady USA brand.

| Description | Size (In.) Vinyl | Qty. Per Pkg. | Brandy Model | *New!* Stock No. | List | Each | Lots/Qty. | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **VersaPrinter™ Sign and Label Maker System (includes 4 special software listed above)** | — | 1 | 40117 | **4NF66** | $3844.50 | **$3495.00** | **$3145.50/2** | 32.0 |
| **VersaPrinter™ Carrying case** | — | 1 | 40130 | **4NR16** | 276.10 | **251.00** | **225.90/3** | 7.1 |
| **VersaPrinter™ Tape with "NOTICE" header** | 2 x 2 | 400 | 64125 | **4NF72** | 165.00 | **150.00** | **135.00/3** | 1.8 |
| | 3 x 5 | 200 | 64126 | **4NR18** | 245.30 | **223.00** | **200.70/3** | 2.6 |
| | 7 x 10 | 50 | 64127 | **4NF73** | 214.50 | **195.00** | **175.50/3** | 2.7 |
| **VersaPrinter™ Tape with "WARNING" header** | 2 x 2 | 400 | 64128 | **4NF74** | 165.00 | **150.00** | **135.00/3** | 1.8 |
| | 3 x 5 | 200 | 64129 | **4NF75** | 245.30 | **223.00** | **200.70/3** | 2.6 |
| | 7 x 10 | 50 | 64130 | **4NF76** | 214.50 | **195.00** | **175.50/3** | 2.7 |
| **VersaPrinter™ Tape with "CAUTION" header** | 2 x 2 | 400 | 64131 | **4NF77** | 165.00 | **150.00** | **135.00/3** | 1.8 |
| | 3 x 5 | 200 | 64132 | **4NF78** | 245.30 | **223.00** | **200.70/3** | 2.6 |
| | 7 x 10 | 50 | 64133 | **4NF79** | 214.50 | **195.00** | **175.50/3** | 2.7 |
| **VersaPrinter™ Tape with "DANGER" header** | 2 x 2 | 400 | 64134 | **4NF80** | 165.00 | **150.00** | **135.00/3** | 1.8 |
| | 3 x 5 | 200 | 64135 | **4NF81** | 245.30 | **223.00** | **200.70/3** | 2.6 |
| | 7 x 10 | 50 | 64136 | **4NF82** | 214.50 | **195.00** | **175.50/3** | 1.8 |

# LABELIZER™ PLUS INDUSTRIAL LABELING SYSTEM



Labelizer™ Plus Machine

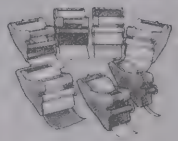
New

BRADY

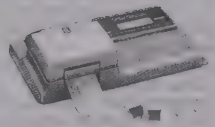
•Registered to ISO 9001

**BRADY 90-DAY WARRANTY**

Labelizer™ Plus comes with 90-Day Manufacturer's Warranty. See page opposite inside back cover.



Indoor/Outdoor Vinyl Tape



Right-to-Know Preformatted Labels

Create custom labels in widths from 1/2" to 4". Thermal transfer print process produces durable labels for indoor or outdoor applications. Produces Right-To-Know labels, bar code labels and pipe markers to meet all of the ANSI Standard size and color requirements. Produce hundreds of symbols with the Industrial Symbols and Safety Symbols Power Cards. Tapes available in a variety of sizes and colors. Brady USA brand.

## SPECIFICATIONS AND ORDERING DATA

| Description | Color | Qty. Per Pkg. | Brady USA Model | | Stock No. | List | Each | Lots 3 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Labelizer™ Plus Machine** | — | 1 | 64801 | *New* | **4AD59** | $3844.50 | **$3495.00** | **$3145.50** | 32.0 |
| **Carrying Case** | — | 1 | 64804 | *New* | **6AP44** | 251.62 | **228.75** | **205.88** | 5.8 |
| **Systems Pipe Marker Software for Windows®** | — | 1 | 64228 | *New* | **4NF92** | 324.50 | **295.00** | **265.50** | 0.5 |
| **Systems Signmaker Software for Windows®** | — | 1 | 64227 | *New* | **4NF91** | 324.50 | **295.00** | **265.50** | 0.8 |
| **Systems Right-To-Know Software for Windows®** | — | 1 | 64226 | *New* | **4NF90** | 324.50 | **295.00** | **265.50** | 0.8 |
| **System Software Suite*** | — | 1 | 64225 | *New* | **4NF89*** | 764.50 | **695.00** | **625.50** | 1.7 |
| **Pipe Marker Software** | — | 1 | 40073 | *New* | **1D784** | 302.50 | **275.00** | **247.50** | 0.3 |
| **Code 3 of 9 Bar Code Card** | — | 1 | 64873 | | **1AG17** | 214.50 | **195.00** | **175.50** | 0.2 |
| **Right-To-Know 128K Software** | — | 1 | 64952 | | **6AW77** | 632.50 | **575.00** | **517.50** | 0.6 |
| **128K Memory Card** | — | 1 | 64877 | | **6AC73** | 330.00 | **300.00** | **270.00** | 0.1 |
| **Industrial Symbols Card** | — | 1 | 64755 | | **6R854** | 214.50 | **195.00** | **175.50** | 0.2 |
| **Safety Symbols Card** | — | 2 | 64939 | | **6T636** | 429.00 | **390.00** | **351.00** | 0.3 |
| **General Industrial Starter Kit** | — | 1 | 64675 | | **6R788** | 6594.50 | **5995.00** | **5395.50** | 77.0 |
| **Pipe Marker Starter Kit** | — | 1 | 64677 | | **6R790** | 4724.50 | **4295.00** | **3865.50** | 79.0 |
| **.5" X 90' In/Outdoor Tape** | Black on Yellow | 2 | 64810 | | **6R904** | 176.00 | **160.00** | **144.00** | 1.6 |
| **1.125" X 90' In /Outdoor Tape** | Black on Yellow | 2 | 64811 | | **6AP14** | 220.00 | **200.00** | **180.00** | 2.0 |
| **2.25" X 90' In/Outdoor Tape** | Black on Yellow | 1 | 64812 | | **5AF95** | 153.94 | **139.95** | **125.96** | 1.9 |
| **4.0" X 90' In/Outdoor Tape** | Black on Yellow | 1 | 64813 | | **6AL83** | 220.00 | **200.00** | **180.00** | 2.5 |
| **.5" X 90' In/Outdoor Tape** | White on Green | 2 | 64814 | | **6R906** | 176.00 | **160.00** | **144.00** | 1.6 |
| **1.125" X 90' In/Outdoor Tape** | White on Green | 2 | 64815 | | **5AH20** | 220.00 | **200.00** | **180.00** | 2.0 |
| **2.25" X 90' In/Outdoor Tape** | White on Green | 1 | 64816 | | **4AD08** | 153.94 | **139.95** | **125.96** | 1.9 |
| **4.0" X 90' In/Outdoor Tape** | White on Green | 1 | 64817 | | **6AM04** | 220.00 | **200.00** | **180.00** | 2.7 |
| **.5" X 90' In/Outdoor Tape** | White on Blue | 2 | 64818 | | **6R908** | 176.00 | **160.00** | **144.00** | 1.6 |
| **1.125" X 90' In/Outdoor Tape** | White on Blue | 2 | 64819 | | **5AK45** | 220.00 | **200.00** | **180.00** | 2.0 |
| **2.25" X 90' In/Outdoor Tape** | White on Blue | 1 | 64820 | | **1BC68** | 153.94 | **139.95** | **125.96** | 2.5 |
| **4.0" X 90' In/Outdoor Tape** | White on Blue | 1 | 64821 | | **2AP11** | 220.00 | **200.00** | **180.00** | 2.6 |
| **.5" X 90' In/Outdoor Tape** | White on Red | 2 | 64822 | | **6R910** | 176.00 | **160.00** | **144.00** | 1.6 |
| **1.125" X 90' In/Outdoor Tape** | White on Red | 2 | 64823 | | **2AN97** | 220.00 | **200.00** | **180.00** | 2.0 |
| **2.25" X 90' In/Outdoor Tape** | White on Red | 1 | 64824 | | **6AM02** | 153.94 | **139.95** | **125.96** | 2.0 |
| **4.0" X 90' In/Outdoor Tape** | White on Red | 1 | 64825 | | **3AP14** | 220.00 | **200.00** | **180.00** | 1.9 |
| **.5" X 90' In/Outdoor Tape** | Black on White | 2 | 64826 | | **6R912** | 176.00 | **160.00** | **144.00** | 1.6 |
| **1.125" X 90' In/Outdoor Tape** | Black on White | 2 | 64827 | | **3AW70** | 220.00 | **200.00** | **180.00** | 2.0 |
| **2.25" X 90' In/Outdoor Tape** | Black on White | 1 | 64828 | | **2AN27** | 153.94 | **139.95** | **125.96** | 1.9 |
| **4.0" X 90' In/Outdoor Tape** | Black on White | 1 | 64829 | | **5AG85** | 220.00 | **200.00** | **180.00** | 2.7 |
| **.5" X 90' In/Outdoor Tape** | Black on Orange | 2 | 64830 | | **6R914** | 176.00 | **160.00** | **144.00** | 1.6 |
| **1.125" X 90' In/Outdoor Tape** | Black on Orange | 2 | 64831 | | **3AW82** | 220.00 | **200.00** | **180.00** | 2.0 |
| **2.25" X 90' In/Outdoor Tape** | Black on Orange | 1 | 64832 | | **6AV23** | 153.94 | **139.95** | **125.96** | 1.9 |
| **4.0" X 90' In/Outdoor Tape** | Black on Orange | 1 | 64833 | | **5AL33** | 220.00 | **200.00** | **180.00** | 2.5 |
| **.5" X 90' In/Outdoor Tape** | White on Black | 2 | 64894 | | **6T623** | 176.00 | **160.00** | **144.00** | 1.0 |
| **1.25" X 90' In/Outdoor Tape** | White on Black | 2 | 64895 | | **6T624** | 220.00 | **200.00** | **180.00** | 2.3 |
| **2.25" X 90' In/Outdoor Tape** | White on Black | 1 | 64896 | | **6T625** | 153.94 | **139.95** | **125.96** | 2.1 |
| **4.0" X 90' In/Outdoor Tape** | White on Black | 1 | 64897 | | **6T626** | 220.00 | **200.00** | **180.00** | 2.6 |
| **2" x 2" In/Outdoor NFPA Diamond Labels** | — | 100 | 64956 | | **2AJ10** | 165.00 | **150.00** | **135.00** | 1.7 |
| **2" x 2" Outdoor Color Bar Labels** | — | 100 | 64958 | | **5AJ62** | 165.00 | **150.00** | **135.00** | 1.7 |
| **3" x 5" In/Outdoor NFPA Diamond Labels** | — | 200 | 64960 | | **5AP20** | 245.30 | **223.00** | **200.70** | 2.4 |
| **3" x 5" Outdoor Color Bar Labels** | — | 200 | 64962 | | **3AD02** | 245.30 | **223.00** | **200.70** | 2.4 |
| **3.75" x 6" Outdoor NFPA Diamond Labels** | — | 200 | 64964 | | **6T646** | 257.40 | **234.00** | **210.60** | 2.7 |
| **3.75" x 6" Outdoor Color Bar Labels** | — | 200 | 64966 | | **6T648** | 257.40 | **234.00** | **210.60** | 2.7 |
| **7" x 10" In/Outdoor NFPA Diamond Labels** | — | 50 | 64968 | | **5AR62** | 214.50 | **195.00** | **175.50** | 2.5 |
| **7" x 10" Outdoor Color Bar Labels** | — | 50 | 64970 | | **3BC11** | 214.50 | **195.00** | **175.50** | 2.5 |

(*) Indoors Nos. 4NF90, 4NF91 and 4NF92.

**IF YOU'RE IN A BIND, CALL GRAINGER**

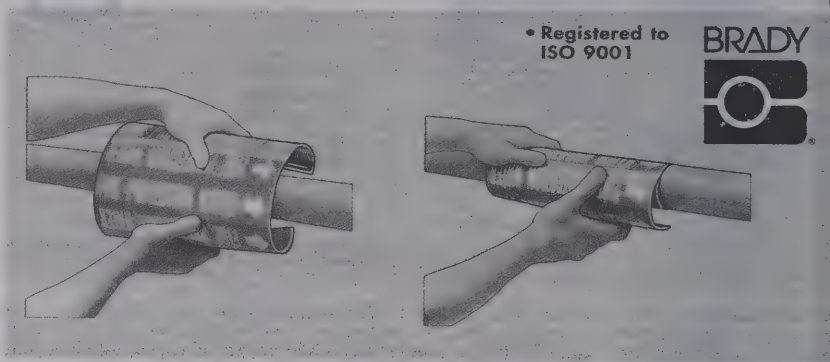
If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# PIPE MARKERS

## BRADYSNAP-ON™ PIPE MARKERS

Designed for use either indoors or out, in plants with minimal heat and chemical exposure. Ideal for use when self-sticking markers are not appropriate (ie. dirty, oily, greasy or rough surface pipes) or when quick installation is needed. No pipe preparation is necessary. BradySnap-On™ markers provide 360° visibility. If needed, markers can be taken off and reapplied. All markers meet or exceed the ANSI standard for pipe identification.

For pipes 3/4" to 5⅞" outside diameter, select from BradySnap-On™ pipe markers listed below and on pages 2599 and 2600. This is a coiled vinyl pipe marker, sized to fit the pipe it is to be applied to. Simply uncoil the marker and snap it around the pipe.




### BRADYSNAP-ON™ PIPE MARKERS SPECIFICATIONS AND ORDERING DATA

| Legend | Color | Brady Size A 3/4"-1" | Stock No. | List | Each | Lots 25 | Shpg. Wt. | Brady Size B 1⅜"-2⅜" | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Acid** | Yellow | 4000-A | **6GV64** | $3.90 | **$3.55** | **$3.20** | 0.1 | 4000-B | **6GV69** | $5.39 | **$4.90** | **$4.41** | 0.1 |
| **Air** | Blue | 4002-A | **6GZ67** | 3.90 | **3.55** | **3.20** | 0.1 | 4002-B | **6GZ68** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Air** | Green | 4001-A | **6GT13** | 3.90 | **3.55** | **3.20** | 0.1 | 4001-B | **6GT28** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Air** | Yellow | 4003-A | **6GT14** | 3.90 | **3.55** | **3.20** | 0.1 | 4003-B | **6GZ73** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Argon** | Green | 4006-A | **6H898** | 3.90 | **3.55** | **3.20** | 0.1 | 4006-B | **6H899** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Caustic** | Yellow | 4020-A | **6GV65** | 3.90 | **3.55** | **3.20** | 0.1 | 4020-B | **6GV70** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Chilled Water Return** | Green | — | — | — | — | — | — | 4023-B | **6GV93** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Chilled Water Supply** | Green | — | — | — | — | — | — | 4024-B | **6GV92** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Chilled Water** | Green | — | — | — | — | — | — | 4022-B | **6GT57** | 5.39 | **4.90** | **4.41** | 0.1 |
| **City Water** | Green | 4028-A | **6GT25** | 3.90 | **3.55** | **3.20** | 0.1 | 4028-B | **6GT58** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Cold Water** | Green | 4029-A | **6GT26** | 3.90 | **3.55** | **3.20** | 0.1 | 4029-B | **6GT59** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Compressed Air** | Blue | 4034-A | **6GP80** | 3.90 | **3.55** | **3.20** | 0.1 | 4034-B | **6GT31** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Compressed Air** | Green | 4033-A | **6GP78** | 3.90 | **3.55** | **3.20** | 0.1 | 4033-B | **6GT29** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Compressed Air** | Yellow | 4032-A | **6GV67** | 3.90 | **3.55** | **3.20** | 0.1 | 4032-B | **6GT30** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Condensate** | Yellow | 4035-A | **6GP82** | 3.90 | **3.55** | **3.20** | 0.1 | 4035-B | **6GT32** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Condensate Drain** | Yellow | 4036-A | **6GP47** | 3.90 | **3.55** | **3.20** | 0.1 | 4036-B | **6GP48** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Condenser Water Return** | Green | — | — | — | — | — | — | — | — | — | — | — | — |
| **Condenser Water Supply** | Green | — | — | — | — | — | — | — | — | — | — | — | — |
| **Danger Asbestos Insulation** | Yellow | 4045-A | **6GP66** | 3.90 | **3.55** | **3.20** | 0.1 | 4045-B | **6GP68** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Deionized Water** | Green | 4046-A | **6GR05** | 3.90 | **3.55** | **3.20** | 0.1 | 4046-B | **6GT62** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Domestic Cold Water** | Green | 4048-A | **6H557** | 3.90 | **3.55** | **3.20** | 0.1 | 4048-B | **6H558** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Domestic Hot Water** | Yellow | 4051-A | **6GR06** | 3.90 | **3.55** | **3.20** | 0.1 | 4051-B | **6GT63** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Domestic Hot Water Return** | Yellow | — | — | — | — | — | — | 4052-B | **6H808** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Fire Auto Sprinklers** | Red | — | — | — | — | — | — | 4059-B | **6GT34** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Fire Protection Water** | Red | 4060-A | **6GP86** | 3.90 | **3.55** | **3.20** | 0.1 | 4060-B | **6GT35** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Gas** | Yellow | 4067-A | **6HF38** | 3.90 | **3.55** | **3.20** | 0.1 | 4067-B | **6GT37** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Heating Return** | Yellow | — | — | — | — | — | — | 4070-B | **6GT39** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Heating Supply** | Yellow | — | — | — | — | — | — | 4071-B | **6GT40** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Hot Water** | Yellow | 4079-A | **6GT27** | 3.90 | **3.55** | **3.20** | 0.1 | 4079-B | **6GT64** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Hot Water Return** | Yellow | — | — | — | — | — | — | 4081-B | **6GR08** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Hot Water Supply** | Yellow | — | — | — | — | — | — | 4082-B | **6GR09** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Instrument Air** | Blue | 4089-A | **6GV68** | 3.90 | **3.55** | **3.20** | 0.1 | 4089-B | **6GP81** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Low Pressure Condensate** | Yellow | — | — | — | — | — | — | 4091-B | **6GT33** | 5.38 | **4.90** | **4.41** | 0.1 |
| **Natural Gas** | Yellow | 4097-A | **6GT15** | 3.90 | **3.55** | **3.20** | 0.1 | 4097-B | **6GT38** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Nitrogen** | Blue | 4100-A | **6HF23** | 3.90 | **3.55** | **3.20** | 0.1 | 4100-B | **6HF24** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Nitrogen** | Green | 4099-A | **6GT17** | 3.90 | **3.55** | **3.20** | 0.1 | 4099-B | **6GT42** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Nitrogen** | Yellow | 4098-A | **6HF27** | 3.90 | **3.55** | **3.20** | 0.1 | 4098-B | **6HF28** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Nonpotable Water** | Yellow | 4102-A | **6H648** | 3.90 | **3.55** | **3.20** | 0.1 | 4102-B | **6H649** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Oxygen** | Green | 4106-A | **6GT19** | 3.90 | **3.55** | **3.20** | 0.1 | 4106-B | **6GT44** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Plant Air** | Yellow | 4108-A | **6H671** | 3.90 | **3.55** | **3.20** | 0.1 | 4108-B | **6H672** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Potable Water** | Green | 4111-A | **6GR10** | 3.90 | **3.55** | **3.20** | 0.1 | 4111-B | **6GT65** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Process Water** | Green | 4113-A | **6H869** | 3.90 | **3.55** | **3.20** | 0.1 | 4113-B | **6H870** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Process Water** | Yellow | — | — | — | — | — | — | 4112-B | **6H690** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Sprinkler Water** | Red | 4128-A | **6GP87** | 3.90 | **3.55** | **3.20** | 0.1 | 4128-B | **6GT36** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Steam** | Yellow | 4129-A | **6GT20** | 3.90 | **3.55** | **3.20** | 0.1 | 4129-B | **6GT47** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Vacuum** | Green | 4147-A | **6GT24** | 3.90 | **3.55** | **3.20** | 0.1 | 4147-B | **6GT54** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Vent** | Yellow | 4148-A | **6H787** | 3.90 | **3.55** | **3.20** | 0.1 | 4148-B | **6H788** | 5.39 | **4.90** | **4.41** | 0.1 |
| **Water** | Green | 4155-A | **6GP94** | 3.90 | **3.55** | **3.20** | 0.1 | 4155-B | **6GT56** | 5.39 | **4.90** | **4.41** | 0.1 |

CONTINUED ON NEXT PAGE

CONTINUED FROM PREVIOUS PAGE

# BRADYSNAP-ON™ PIPE MARKERS

## BRADYSNAP-ON™ PIPE MARKERS

| Legend | Color | Brady Size C 2½"-3¼" | Stock No. | List | Each | Lots 25 | Shpg. Wt. | Brady Size D 3⅜"-4½" | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Acid** | Yellow | 4000-C | **6GP75** | $9.92 | **$9.02** | **$8.12** | 0.3 | 4000-D | **6GZ64** | $10.27 | **$9.34** | **$8.41** | 0.3 |
| **Air** | Blue | 4002-C | **6GZ69** | 9.92 | **9.02** | **8.12** | 0.3 | 4002-D | **6GZ70** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Air** | Green | 4001-C | **6GT68** | 9.92 | **9.02** | **8.12** | 0.3 | 4001-D | **6GV08** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Air** | Yellow | 4003-C | **6GZ74** | 9.92 | **9.02** | **8.12** | 0.3 | 4003-D | **6GZ75** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Argon** | Green | 4006-C | **6H900** | 9.92 | **9.02** | **8.12** | 0.3 | 4006-D | **6H901** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Caustic** | Yellow | 4020-C | **6GP76** | 9.92 | **9.02** | **8.12** | 0.3 | 4020-D | **3TL66** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Chilled Water Return** | Green | 4023-C | **6GP95** | 9.92 | **9.02** | **8.12** | 0.3 | 4023-D | **6GW01** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Chilled Water Supply** | Green | 4024-C | **6GP96** | 9.92 | **9.02** | **8.12** | 0.3 | 4024-D | **6GW02** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Chilled Water** | Green | 4022-C | **6GT95** | 9.92 | **9.02** | **8.12** | 0.3 | 4022-D | **6GV37** | 10.27 | **9.34** | **8.41** | 0.3 |
| **City Water** | Green | 4028-C | **6GT96** | 9.92 | **9.02** | **8.12** | 0.3 | 4028-D | **6GV38** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Cold Water** | Green | 4029-C | **6GT97** | 9.92 | **9.02** | **8.12** | 0.3 | 4029-D | **6GV39** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Compressed Air** | Blue | 4034-C | **6GT71** | 9.92 | **9.02** | **8.12** | 0.3 | 4034-D | **6GV11** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Compressed Air** | Green | 4033-C | **6GT69** | 9.92 | **9.02** | **8.12** | 0.3 | 4033-D | **6GV09** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Compressed Air** | Yellow | 4032-C | **6GT70** | 9.92 | **9.02** | **8.12** | 0.3 | 4032-D | **6GV10** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Condensate** | Yellow | 4035-C | **6GT72** | 9.92 | **9.02** | **8.12** | 0.3 | 4035-D | **6GV12** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Condensate Drain** | Yellow | 4036-C | **6GP49** | 9.92 | **9.02** | **8.12** | 0.3 | 4036-D | **6GP50** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Condenser Water Return** | Green | 4040-C | **6H540** | 9.92 | **9.02** | **8.12** | 0.3 | 4040-D | **6H541** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Condenser Water Supply** | Green | 4041-C | **6H543** | 9.92 | **9.02** | **8.12** | 0.3 | 4041-D | **6H544** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Danger Asbestos Insulation** | Yellow | 4045-C | **6GP70** | 9.92 | **9.02** | **8.12** | 0.3 | 4045-D | **6GP72** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Deionized Water** | Green | 4046-C | **6GV01** | 9.92 | **9.02** | **8.12** | 0.3 | 4046-D | **6GV42** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Domestic Cold Water** | Green | 4048-C | **6H559** | 9.92 | **9.02** | **8.12** | 0.3 | 4048-D | **6H560** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Domestic Hot Water** | Yellow | 4051-C | **6GV02** | 9.92 | **9.02** | **8.12** | 0.3 | 4051-D | **6GV43** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Domestic Hot Water Return** | Yellow | 4052-C | **6H811** | 9.92 | **9.02** | **8.12** | 0.3 | 4052-D | **6H817** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Fire Auto Sprinklers** | Red | 4059-C | **6GT74** | 9.92 | **9.02** | **8.12** | 0.3 | 4059-D | **6GV14** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Fire Protection Water** | Red | 4060-C | **6GT75** | 9.92 | **9.02** | **8.12** | 0.3 | 4060-D | **6GV15** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Gas** | Yellow | 4067-C | **6GT77** | 9.92 | **9.02** | **8.12** | 0.3 | 4067-D | **6GV17** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Heating Water Return** | Yellow | 4072-C | **6H815** | 9.92 | **9.02** | **8.12** | 0.3 | 4072-D | **6H821** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Heating Water Supply** | Yellow | 4073-C | **6H816** | 9.92 | **9.02** | **8.12** | 0.3 | 4073-D | **6H822** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Hot Water** | Yellow | 4079-C | **6GV03** | 9.92 | **9.02** | **8.12** | 0.3 | 4079-D | **6GV44** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Hot Water Return** | Yellow | 4081-C | **6GV88** | 9.92 | **9.02** | **8.12** | 0.3 | 4081-D | **6GW08** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Hot Water Supply** | Yellow | 4082-C | **6GV89** | 9.92 | **9.02** | **8.12** | 0.3 | 4082-D | **6GW09** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Instrument Air** | Blue | 4089-C | **6H627** | 9.92 | **9.02** | **8.12** | 0.3 | 4089-D | **6H628** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Low Pressure Condensate** | Yellow | 4091-C | **6GT73** | 9.92 | **9.02** | **8.12** | 0.3 | 4091-D | **6GV13** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Natural Gas** | Yellow | 4097-C | **6GT78** | 9.92 | **9.02** | **8.12** | 0.3 | 4097-D | **6GV18** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Nitrogen** | Blue | 4100-C | **6HF25** | 9.92 | **9.02** | **8.12** | 0.3 | 4100-D | **6HF26** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Nitrogen** | Green | 4099-C | **6GT82** | 9.92 | **9.02** | **8.12** | 0.3 | 4099-D | **6GV22** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Nitrogen** | Yellow | 4098-C | **6HF29** | 9.92 | **9.02** | **8.12** | 0.3 | 4098-D | **6H959** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Nonpotable Water** | Yellow | 4102-C | **6GV90** | 9.92 | **9.02** | **8.12** | 0.3 | 4102-D | **6GW10** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Oxygen** | Green | 4106-C | **6H665** | 9.92 | **9.02** | **8.12** | 0.3 | 4106-D | **6H666** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Plant Air** | Yellow | 4108-C | **6H673** | 9.92 | **9.02** | **8.12** | 0.3 | 4108-D | **6H674** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Potable Water** | Green | 4111-C | **6GV04** | 9.92 | **9.02** | **8.12** | 0.3 | 4111-D | **6GV45** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Process Water** | Green | 4113-C | **6H871** | 9.92 | **9.02** | **8.12** | 0.3 | 4113-D | **6H872** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Process Water** | Yellow | 4112-C | **6H691** | 9.92 | **9.02** | **8.12** | 0.3 | 4112-D | **6H692** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Sprinkler Water** | Red | 4128-C | **6GT76** | 9.92 | **9.02** | **8.12** | 0.3 | 4128-D | **6GV16** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Steam** | Yellow | 4129-C | **6GT85** | 9.92 | **9.02** | **8.12** | 0.3 | 4129-D | **6GV27** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Vacuum** | Green | 4147-C | **6GT92** | 9.92 | **9.02** | **8.12** | 0.3 | 4147-D | **6GV34** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Vent** | Yellow | 4148-C | **6GP92** | 9.92 | **9.02** | **8.12** | 0.3 | 4148-D | **6GW15** | 10.27 | **9.34** | **8.41** | 0.3 |
| **Water** | Green | 4155-C | **6GT94** | 9.92 | **9.02** | **8.12** | 0.3 | 4155-D | **6GV36** | 10.27 | **9.34** | **8.41** | 0.3 |

CONTINUED ON NEXT PAGE

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

CONTINUED FROM PREVIOUS PAGE

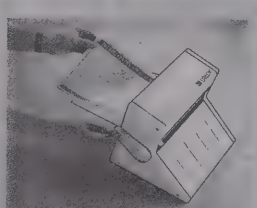
# BRADYSNAP-ON™ PIPE MARKERS

## BRADYSNAP-ON™ PIPE MARKERS

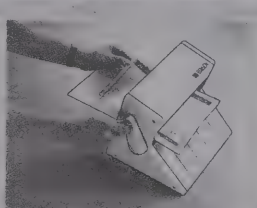
| Legend | Color | Brady Size E 4⅜"-5⅞" | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Acid | Yellow | 4000-E | 6GZ65 | $10.64 | $9.68 | $8.71 | 0.4 |
| Air | Blue | 4002-E | 6GZ71 | 10.64 | 9.68 | 8.71 | 0.4 |
| Air | Green | — | — | — | — | — | — |
| Air | Yellow | 4003-E | 6GZ76 | 10.64 | 9.68 | 8.71 | 0.4 |
| Argon | Green | — | — | — | — | — | — |
| Caustic | Yellow | 4020-E | 6H501 | 10.64 | 9.68 | 8.71 | 0.4 |
| Chilled Water Return | Green | 4023-E | 6GW17 | 10.64 | 9.68 | 8.71 | 0.4 |
| Chilled Water Supply | Green | 4024-E | 6GW18 | 10.64 | 9.68 | 8.71 | 0.4 |
| Chilled Water | Green | 4022-E | 6GV57 | 10.64 | 9.68 | 8.71 | 0.4 |
| City Water | Green | 4028-E | 6GV58 | 10.64 | 9.68 | 8.71 | 0.4 |
| Cold Water | Green | 4029-E | 6GV59 | 10.64 | 9.68 | 8.71 | 0.4 |
| Compressed Air | Blue | 4034-E | 6H528 | 10.64 | 9.68 | 8.71 | 0.4 |
| Compressed Air | Green | — | — | — | — | — | — |
| Compressed Air | Yellow | 4032-E | 6GP79 | 10.64 | 9.68 | 8.71 | 0.4 |
| Condensate | Yellow | 4035-E | 6GV48 | 10.64 | 9.68 | 8.71 | 0.4 |
| Condensate Drain | Yellow | 4036-E | 6GP51 | 10.64 | 9.68 | 8.71 | 0.4 |
| Condenser Water Return | Green | 4040-E | 6H542 | 10.64 | 9.68 | 8.71 | 0.4 |
| Condenser Water Supply | Green | 4041-E | 6H545 | 10.64 | 9.68 | 8.71 | 0.4 |
| Danger Asbestos Insulation | Yellow | 4045-E | 6GP74 | 10.64 | 9.68 | 8.71 | 0.4 |
| Deionized Water | Green | 4046-E | 6H550 | 10.64 | 9.68 | 8.71 | 0.4 |
| Domestic Cold Water | Green | 4048-E | 6H561 | 10.64 | 9.68 | 8.71 | 0.4 |
| Domestic Hot Water | Yellow | 4051-E | 6GR07 | 10.64 | 9.68 | 8.71 | 0.4 |
| Domestic Hot Water Return | Yellow | 4052-E | 6H823 | 10.64 | 9.68 | 8.71 | 0.4 |
| Fire Auto Sprinklers | Red | — | — | — | — | — | — |
| Fire Protection Water | Red | 4060-E | 6GV49 | 10.64 | 9.68 | 8.71 | 0.4 |
| Gas | Yellow | 4067-E | 6H599 | 10.64 | 9.68 | 8.71 | 0.4 |
| Heating Water Return | Yellow | 4072-E | 6H824 | 10.64 | 9.68 | 8.71 | 0.4 |
| Heating Water Supply | Yellow | 4073-E | 6H825 | 10.64 | 9.68 | 8.71 | 0.4 |
| Hot Water | Yellow | 4079-E | 6GV61 | 10.64 | 9.68 | 8.71 | 0.4 |
| Hot Water Return | Yellow | 4081-E | 6GW22 | 10.64 | 9.68 | 8.71 | 0.4 |
| Hot Water Supply | Yellow | 4082-E | 6GW23 | 10.64 | 9.68 | 8.71 | 0.4 |
| Instrument Air | Blue | — | — | — | — | — | — |
| Low Pressure Condensate | Yellow | 4091-E | 6GW24 | 10.64 | 9.68 | 8.71 | 0.4 |
| Natural Gas | Yellow | 4097-E | 6GV50 | 10.64 | 9.68 | 8.71 | 0.4 |
| Nitrogen | Blue | — | — | — | — | — | — |
| Nitrogen | Green | — | — | — | — | — | — |
| Nitrogen | Yellow | — | — | — | — | — | — |
| Nonpotable Water | Yellow | 4102-E | 6H650 | 10.64 | 9.68 | 8.71 | 0.4 |
| Oxygen | Green | 4106-E | 6H667 | 10.64 | 9.68 | 8.71 | 0.4 |
| Plant Air | Yellow | 4108-E | 6H675 | 10.64 | 9.68 | 8.71 | 0.4 |
| Potable Water | Green | 4111-E | 6GV62 | 10.64 | 9.68 | 8.71 | 0.4 |
| Process Water | Green | 4113-E | 6H873 | 10.64 | 9.68 | 8.71 | 0.4 |
| Process Water | Yellow | 4112-E | 6H693 | 10.64 | 9.68 | 8.71 | 0.4 |
| Sprinkler Water | Red | 4128-E | 6H746 | 10.64 | 9.68 | 8.71 | 0.4 |
| Steam | Yellow | 4129-E | 6GV54 | 10.64 | 9.68 | 8.71 | 0.4 |
| Vacuum | Green | 4147-E | 6H776 | 10.64 | 9.68 | 8.71 | 0.4 |
| Vent | Yellow | 4148-E | 6GW28 | 10.64 | 9.68 | 8.71 | 0.4 |
| Water | Green | 4155-E | 6H796 | 10.64 | 9.68 | 8.71 | 0.4 |

## LAMINATOR

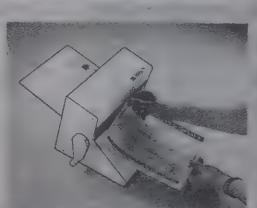
Small, lightweight, portable. For use in office or industrial applications to laminate documents without heat, electricity or messy chemicals. Laminate signs, graphs, ID badges, ISO documents, instruction or procedure sheets and other important documents. Three replaceable cartridges allow for lamination on one or both sides of a document, or laminate one side while applying adhesive to the other for mountable documents. Laminates documents 8-1/2" wide up to 100 feet long. Features integral cut-off blade at roller exit. Supply laminate cartridges sold separately below. Made in USA. Brady USA brand.



No. 4NG66. Select cartridge, insert document, and turn handle



Adhesives and laminate are applied



Cut-off blade provides a precise trim to finish documents

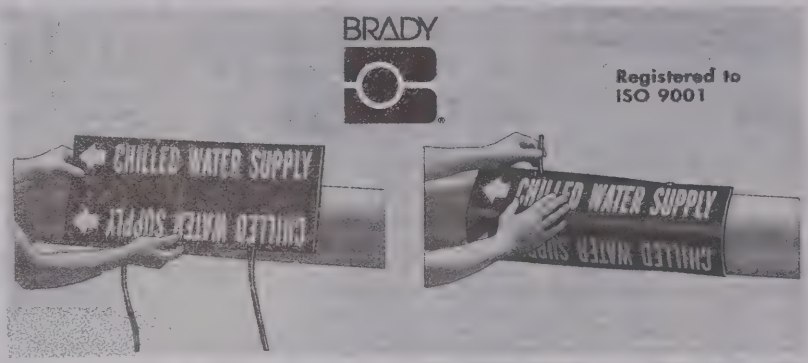
| Description | Supply Size | Brady USA Model | *New!* Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| BLS850 Laminator | — | 20585 | 4NG66 | $275.00 | $250.00 | $225.00 | 9.1 |
| Supply Laminate, Double-sided/Industrial use | 4.2" x 100' | 20586 | 4NG67 | 99.00 | 90.00 | 81.00 | 3.1 |
| Supply Laminate, Single-sided/Industrial use | 4.2 x 100 | 20587 | 4NG68 | 77.00 | 70.00 | 63.00 | 2.7 |
| Supply Laminate, Single-sided/Industrial use | 8.6 x 50 | 20588 | 4NG69 | 77.00 | 70.00 | 63.00 | 2.7 |
| Supply Laminate, Double-sided/Industrial use | 8.6 x 50 | 20589 | 4NG70 | 99.00 | 90.00 | 81.00 | 3.0 |
| Supply Laminate, Double-sided/Industrial use | 3.2 x 100 | 20590 | 4NG71 | 99.00 | 90.00 | 81.00 | 2.9 |
| Supply Laminate, Transfer adhesive*/Industrial use | 8.6 x 50 | 20601 | 4NG72 | 88.00 | 80.00 | 72.00 | 2.9 |
| Supply Laminate, Double-sided/Office use | 8.6 x 100 | 20602 | 4NG73 | 55.00 | 50.00 | 45.00 | 3.1 |

(*) Over-lam on one side, transfer adhesive on the other side

Designed for use either indoors or out, in plants with minimal heat and chemical exposure. Ideal for use when selfsticking markers are not appropriate (ie. dirty, oily, greasy or rough surface pipes) or when quick installation is needed. No pipe preparation is necessary. If needed, markers can be taken off and reapplied. All markers meet or exceed the ANSI standard for pipe identification.

For pipes 6" to 15" outside diameter, select from Strap-On pipe marker choices listed below. Designed to meet the needs of large pipe identification. Marker is a flat sheet with sets of slots to accommodate the two straps of Bradylock™ Fastener (included with each marker.) Hold the marker where it should be placed on the pipe, wrap one strap around the pipe and insert into the slot on other side of marker. Repeat with remaining strap. Brady USA brand.

## STRAP-ON PIPE MARKERS




| Legend | Color | Brady Size F 6"-7⅞" | Stock No. | List | Each | Lots 10 | Shpg. Wt. | Brady Size G 8"-9⅞" | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | BRADY SIZE F (6" - 7⅞") | | | | | | BRADY SIZE G (8" - 9⅞") | | | | |
| Acid | Yellow | 4000-F | 6GZ66 | $10.98 | $9.99 | $8.99 | 0.1 | — | — | — | — | — | — |
| Air | Blue | 4002-F | 6GZ72 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Air | Yellow | 4003-F | 6GZ77 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Caustic | Yellow | 4020-F | 6H835 | 10.98 | 9.99 | 8.99 | 0.1 | 4020-G | 6H836 | $15.59 | $14.18 | $12.76 | 0.3 |
| Chilled Water Return | Green | 4023-F | 6GW30 | 10.98 | 9.99 | 8.99 | 0.1 | 4023-G | 6GW42 | 15.59 | 14.18 | 12.76 | 0.3 |
| Chilled Water Supply | Green | 4024-F | 6GW31 | 10.98 | 9.99 | 8.99 | 0.1 | 4024-G | 6GW43 | 15.59 | 14.18 | 12.76 | 0.3 |
| Chilled Water | Green | 4022-F | 6GW29 | 10.98 | 9.99 | 8.99 | 0.1 | 4022-G | 6GW41 | 15.59 | 14.18 | 12.76 | 0.3 |
| City Water | Green | 4028-F | 6H517 | 10.98 | 9.99 | 8.99 | 0.1 | 4028-G | 6H518 | 15.59 | 14.18 | 12.76 | 0.3 |
| Cold Water | Green | 4029-F | 6GP97 | 10.98 | 9.99 | 8.99 | 0.1 | 4029-G | 6H520 | 15.59 | 14.18 | 12.76 | 0.3 |
| Compressed Air | Blue | 4034-F | 6H529 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Compressed Air | Yellow | 4032-F | 6H530 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Condensate | Yellow | 4035-F | 6GP83 | 10.98 | 9.99 | 8.99 | 0.1 | 4035-G | 6H531 | 15.59 | 14.18 | 12.76 | 0.3 |
| Condensate Drain | Yellow | 4036-F | 6GP52 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Condenser Water Return | Green | 4040-F | 6GP98 | 10.98 | 9.99 | 8.99 | 0.1 | 4040-G | 6GP99 | 15.59 | 14.18 | 12.76 | 0.3 |
| Condenser Water Supply | Green | 4041-F | 6GR02 | 10.98 | 9.99 | 8.99 | 0.1 | 4041-G | 6GR03 | 15.59 | 14.18 | 12.76 | 0.3 |
| Deionized Water | Green | 4046-F | 6H551 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Domestic Cold Water | Green | 4048-F | 6H562 | 10.98 | 9.99 | 8.99 | 0.1 | 4048-G | 6H563 | 15.59 | 14.18 | 12.76 | 0.3 |
| Domestic Hot Water | Yellow | 4051-F | 6HF11 | 10.98 | 9.99 | 8.99 | 0.1 | 4051-G | 6HF12 | 15.59 | 14.18 | 12.76 | 0.3 |
| Domestic Hot Water Return | Yellow | 4052-F | 6H826 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Fire Protection Water | Red | 4060-F | 6GW32 | 10.98 | 9.99 | 8.99 | 0.1 | 4060-G | 6GW44 | 15.59 | 14.18 | 12.76 | 0.3 |
| Gas | Yellow | 4067-F | 6H600 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Heating Water Return | Yellow | 4072-F | 6H827 | 10.98 | 9.99 | 8.99 | 0.1 | 4072-G | 6H829 | 15.59 | 14.18 | 12.76 | 0.3 |
| Heating Water Supply | Yellow | 4073-F | 6H828 | 10.98 | 9.99 | 8.99 | 0.1 | 4073-G | 6H830 | 15.59 | 14.18 | 12.76 | 0.3 |
| Hot Water | Yellow | 4079-F | 6H617 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Hot Water Return | Yellow | 4081-F | 6GW33 | 10.98 | 9.99 | 8.99 | 0.1 | 4081-G | 6GW45 | 15.59 | 14.18 | 12.76 | 0.3 |
| Hot Water Supply | Yellow | 4082-F | 6GW34 | 10.98 | 9.99 | 8.99 | 0.1 | 4082-G | 6GW46 | 15.59 | 14.18 | 12.76 | 0.3 |
| Low Pressure Condensate | Yellow | 4091-F | 6GW35 | 10.98 | 9.99 | 8.99 | 0.1 | 4091-G | 6H629 | 15.59 | 14.18 | 12.76 | 0.3 |
| Natural Gas | Yellow | 4097-F | 6H643 | 10.98 | 9.99 | 8.99 | 0.1 | 4097-G | 6H644 | 15.59 | 14.18 | 12.76 | 0.3 |
| Nonpotable Water | Yellow | 4102-F | 6H651 | 10.98 | 9.99 | 8.99 | 0.1 | 4102-G | 6H652 | 15.59 | 14.18 | 12.76 | 0.3 |
| Plant Air | Yellow | 4108-F | 6H676 | 10.98 | 9.99 | 8.99 | 0.1 | 4108-G | 6H677 | 15.59 | 14.18 | 12.76 | 0.3 |
| Potable Water | Green | 4111-F | 6H687 | 10.98 | 9.99 | 8.99 | 0.1 | 4111-G | 6H688 | 15.59 | 14.18 | 12.76 | 0.3 |
| Process Water | Green | 4113-F | 6H874 | 10.98 | 9.99 | 8.99 | 0.1 | 4113-G | 6H875 | 15.59 | 14.18 | 12.76 | 0.3 |
| Process Water | Yellow | 4112-F | 6H694 | 10.98 | 9.99 | 8.99 | 0.1 | 4112-G | 6H695 | 15.59 | 14.18 | 12.76 | 0.3 |
| Sprinkler Water | Red | 4128-F | 6H747 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Steam | Yellow | 4129-F | 6GW38 | 10.98 | 9.99 | 8.99 | 0.1 | 4129-G | 6GW48 | 15.59 | 14.18 | 12.76 | 0.3 |
| Vacuum | Green | 4147-F | 6H777 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |
| Vent | Yellow | 4148-F | 6GW40 | 10.98 | 9.99 | 8.99 | 0.1 | 4148-G | 6H789 | 15.59 | 14.18 | 12.76 | 0.3 |
| Water | Green | 4155-F | 6H797 | 10.98 | 9.99 | 8.99 | 0.1 | — | — | — | — | — | — |

| Legend | Color | Brady Size H 10"-15" | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | | | BRADY SIZE H (10" - 15") | | | | |
| Chilled Water Return | Green | 4023-H | 6GW50 | $19.63 | $17.85 | $16.07 | 0.4 |
| Chilled Water Supply | Green | 4024-H | 6GW51 | 19.63 | 17.85 | 16.07 | 0.4 |
| Chilled Water | Green | 4022-H | 6GW49 | 19.63 | 17.85 | 16.07 | 0.4 |
| City Water | Green | 4028-H | 6H519 | 19.63 | 17.85 | 16.07 | 0.4 |
| Cold Water | Yellow | 4029-H | 6H521 | 19.63 | 17.85 | 16.07 | 0.4 |
| Condensate | Green | 4035-H | 6H532 | 19.63 | 17.85 | 16.07 | 0.4 |
| Condenser Water Return | Green | 4040-H | 6GR01 | 19.63 | 17.85 | 16.07 | 0.4 |
| Condenser Water Supply | Yellow | 4041-H | 6GR04 | 19.63 | 17.85 | 16.07 | 0.4 |
| Domestic Hot Water | Yellow | 4051-H | 6HF13 | 19.63 | 17.85 | 16.07 | 0.4 |
| Hot Water Return | Yellow | 4081-H | 6H618 | 19.63 | 17.85 | 16.07 | 0.4 |
| Hot Water Supply | Yellow | 4082-H | 6H619 | 19.63 | 17.85 | 16.07 | 0.4 |
| Low Pressure Condensate | Yellow | 4091-H | 6H630 | 19.63 | 17.85 | 16.07 | 0.4 |
| Nonpotable Water | Green | 4102-H | 6H653 | 19.63 | 17.85 | 16.07 | 0.4 |
| Potable Water | Green | 4111-H | 6H689 | 19.63 | 17.85 | 16.07 | 0.4 |
| Process Water | Green | 4113-H | 6H876 | 19.63 | 17.85 | 16.07 | 0.4 |
| Steam | Yellow | 4129-H | 6GW53 | 19.63 | 17.85 | 16.07 | 0.4 |

# PIPE MARKERS

## SELF-STICKING VINYL PIPE MARKERS



*Registered to ISO 9001

BRADY

**Brady Pipe Marking Systems Meet the ANSI A13.1-1981 Standard**

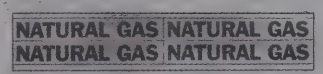
Premium indoor/outdoor grade vinyl film designed to stick directly to the pipe or pipe covering. Apply to clean, dry surface. Also order arrow tape or additional arrows and pipe banding tape (see page 2604) to show direction of flow and provide a complete identification system. **Choose Style 1HV for 6" or greater pipe outside diameter; Style 1 for 3" to 5"; Style 4 for 1" to 2½"; and Style 3C for 3/4" or less.** Brady USA brand.

### HOW TO ORDER PIPE MARKERS

1. Choose legends from the listing below and on pages 2603 and 2604
2. Choose from ANSI colors:
Hazardous materials—Black lettering on yellow field
Liquids of low hazard—White lettering on green field
Fire quenching materials—white letters on blue background
Gases of low hazard—white letters on blue background
3. Choose size of marker according to pipe diameter:
See paragraph above for reference.
4. When ordering self-sticking pipe markers, also order arrow tape or additional arrows and pipe banding tape below and on page 2604.

Style 1
1 Marker Per
2¼ x 14" Card




Style 4
4 Markers Per
1⅛ x 7" Card

| Legend | Color | Style 1HV Brady USA Model 4" x 24" 1 Marker Per Card | Stock No. | List | Each | Lots 25 | Shpg. Wt. | Style 1 Brady USA Model 2¼" x 14" 1 Marker Per Card | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Air** | Green | — | — | — | — | — | — | 7007-1 | **6N523** | $1.91 | **$1.74** | **$1.57** | 0.1 |
| **Air** | Blue | — | — | — | — | — | — | 7006-1 | **6M335** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Ammonia** | Yellow | — | — | — | — | — | — | 7014-1 | **4T566** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Argon** | Green | — | — | — | — | — | — | 7015-1 | **6M584** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Arrow - Single** | Yellow | 93390 | **6N596** | $3.88 | **$3.53** | **$3.18** | 0.1 | 76507* | **4T567** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Arrow - Single** | Red | 93394 | **6N600** | 3.88 | **3.53** | **3.18** | 0.1 | 76505* | **6M306** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Arrow - Single** | Blue | 93392 | **6N598** | 3.88 | **3.53** | **3.18** | 0.1 | 76502* | **6M304** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Arrow - Single** | Green | 93396 | **6N602** | 3.88 | **3.53** | **3.18** | 0.1 | 76503* | **4T568** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Asbestos Free** | Blue | — | — | — | — | — | — | 7017-1 | **6M703** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Asbestos Insulation** | Yellow | — | — | — | — | — | — | 7019-1 | **6N646** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Blank** | Yellow | 7025-1HV | **6N642** | 3.88 | **3.53** | **3.18** | 0.1 | 7025-1 | **4T571** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Blank** | Green | 7022-1HV | **6N640** | 3.88 | **3.53** | **3.18** | 0.1 | 7022-1 | **4T572** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Breathing Air** | Green | — | — | — | — | — | — | 7035-1 | **6M580** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Caustic** | Yellow | — | — | — | — | — | — | 7040-1 | **6M367** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Chilled Water** | Green | 7045-1HV | **6N627** | 3.88 | **3.53** | **3.18** | 0.1 | 7045-1 | **4T575** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Chilled Water Return** | Green | 7046-1HV | **6N204** | 3.88 | **3.53** | **3.18** | 0.1 | 7046-1 | **6M492** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Chilled Water Supply** | Green | 7047-1HV | **6N205** | 3.88 | **3.53** | **3.18** | 0.1 | 7047-1 | **6M494** | 1.91 | **1.74** | **1.57** | 0.1 |
| **City Water** | Green | 7054-1HV | **6N628** | 3.88 | **3.53** | **3.18** | 0.1 | 7054-1 | **4T577** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Cold Water** | Green | 7055-1HV | **6N629** | 3.88 | **3.53** | **3.18** | 0.1 | 7055-1 | **4T579** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Compressed Air** | Yellow | — | — | — | — | — | — | 7058-1 | **4T581** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Compressed Air** | Green | — | — | — | — | — | — | 7059-1 | **4T582** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Compressed Air** | Blue | — | — | — | — | — | — | 7060-1 | **6M339** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Condensate Return** | Yellow | — | — | — | — | — | — | 7065-1 | **4T585** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Condensate** | Yellow | 7061-1HV | **6N604** | 3.88 | **3.53** | **3.18** | 0.1 | 7061-1 | **4T587** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Condenser Water** | Green | 7067-1HV | **6N630** | 3.88 | **3.53** | **3.18** | 0.1 | 7067-1 | **4T589** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Cooling Water** | Green | 7070-1HV | **6N631** | 3.88 | **3.53** | **3.18** | 0.1 | 7070-1 | **6M408** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Deionized Water** | Green | — | — | — | — | — | — | 7073-1 | **6M607** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Domestic Cold Water** | Green | 7084-1HV | **6M634** | 3.88 | **3.53** | **3.18** | 0.1 | 7084-1 | **6M560** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Domestic Hot Water** | Yellow | — | — | — | — | — | — | 7087-1 | **4T592** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Drain** | Green | — | — | — | — | — | — | 7091-1 | **6M470** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Fire Auto Sprinklers** | Red | 7107-1HV | **6N608** | 3.88 | **3.53** | **3.18** | 0.1 | 7107-1 | **6M363** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Fire Protection Water** | Red | 7110-1HV | **6N609** | 3.88 | **3.53** | **3.18** | 0.1 | 7110-1 | **6M412** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Fuel Oil** | Yellow | 7115-1HV | **6N614** | 3.88 | **3.53** | **3.18** | 0.1 | 7115-1 | **6M385** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Gas** | Yellow | 7119-1HV | **6N610** | 3.88 | **3.53** | **3.18** | 0.1 | 7119-1 | **6N501** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Heating Return** | Yellow | 7125-1HV | **6N612** | 3.88 | **3.53** | **3.18** | 0.1 | 7125-1 | **4T594** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Heating Supply** | Yellow | 7127-1HV | **6N613** | 3.88 | **3.53** | **3.18** | 0.1 | 7127-1 | **4T596** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Heating Water** | Yellow | 7128-1HV | **6N633** | 3.88 | **3.53** | **3.18** | 0.1 | 7128-1 | **4T598** | 1.91 | **1.74** | **1.57** | 0.1 |
| **High Pressure Steam** | Yellow | 7141-1HV | **6N620** | 3.88 | **3.53** | **3.18** | 0.1 | 7141-1 | **4T601** | 1.91 | **1.74** | **1.57** | 0.1 |
| **High Pressure Condensate** | Yellow | — | — | — | — | — | — | 7137-1 | **4T600** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Hot Water** | Yellow | 7146-1HV | **6N635** | 3.88 | **3.53** | **3.18** | 0.1 | 7146-1 | **4T602** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Hot Water Return** | Yellow | 7148-1HV | **6N210** | 3.88 | **3.53** | **3.18** | 0.1 | 7148-1 | **6M541** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Hot Water Supply** | Yellow | 7149-1HV | **6N211** | 3.88 | **3.53** | **3.18** | 0.1 | 7149-1 | **6M543** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Hydrogen** | Yellow | — | — | — | — | — | — | 7157-1 | **6M594** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Industrial Water** | Green | — | — | — | — | — | — | 7163-1 | **6M409** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Low Pressure Condensate** | Yellow | — | — | — | — | — | — | 7175-1 | **4T604** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Low Pressure Steam** | Yellow | 7179-1HV | **6N621** | 3.88 | **3.53** | **3.18** | 0.1 | 7179-1 | **4T605** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Medical Air** | Yellow | — | — | — | — | — | — | 90326 | **6M735** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Medical Vacuum** | White | — | — | — | — | — | — | 90328 | **6M737** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Medium Pressure Steam** | Yellow | 7191-1HV | **6N622** | 3.88 | **3.53** | **3.18** | 0.1 | 7191-1 | **4T607** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Natural Gas** | Yellow | 7196-1HV | **6N611** | 3.88 | **3.53** | **3.18** | 0.1 | 7196-1 | **4T608** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Nitrogen** | Green | — | — | — | — | — | — | 7198-1 | **6M394** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Oxygen** | Yellow | — | — | — | — | — | — | 7209-1 | **6M386** | 1.91 | **1.74** | **1.57** | 0.1 |

(*) Two 2¼" x 7" markers per card.



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

CONTINUED FROM PREVIOUS PAGE

# SELF-STICKING VINYL PIPE MARKERS

## STYLE 1HV and 1 PIPE MARKERS (CON'T.)

| Legend | Color | Style 1HV Brady USA Model 4" x 24" 1 Marker Per Card | Stock No. | List | Each | Lots 25 | Shpg. Wt. | Style 1 Brady USA Model 2¼" x 14" 1 Marker Per Card | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oxygen | Green | — | — | — | — | — | — | 79568* | 6M490 | $1.91 | $1.74 | $1.57 | 0.1 |
| Plant Air | Yellow | — | — | — | — | — | — | 7212-1 | 6N533 | 1.91 | 1.74 | 1.57 | 0.1 |
| Potable Water | Green | 7219-1HV | 6N636 | $3.88 | $3.53 | $3.18 | 0.1 | 7219-1 | 6M372 | 1.91 | 1.74 | 1.57 | 0.1 |
| Refrigerant Liquid | Yellow | — | — | — | — | — | — | 7235-1 | 6M598 | 1.91 | 1.74 | 1.57 | 0.1 |
| Return | Green | 7242-1HV | 6N616 | 3.88 | 3.53 | 3.18 | 0.1 | 7242-1 | 4T612 | 1.91 | 1.74 | 1.57 | 0.1 |
| Return | Yellow | 7244-1HV | 6N615 | 3.88 | 3.53 | 3.18 | 0.1 | 7244-1 | 4T613 | 1.91 | 1.74 | 1.57 | 0.1 |
| Roof Drain | Green | 7247-1HV | 6N605 | 3.88 | 3.53 | 3.18 | 0.1 | 7247-1 | 4T616 | 1.91 | 1.74 | 1.57 | 0.1 |
| Sanitary Sewer | Green | 7250-1HV | 6N617 | 3.88 | 3.53 | 3.18 | 0.1 | 7250-1 | 6M396 | 1.91 | 1.74 | 1.57 | 0.1 |
| Sprinkler Fire | Red | — | — | — | — | — | — | 7268-1 | 6M411 | 1.91 | 1.74 | 1.57 | 0.1 |
| Sprinkler Water | Red | — | — | — | — | — | — | 7269-1 | 6M413 | 1.91 | 1.74 | 1.57 | 0.1 |
| Steam | Yellow | 93413 | 6N619 | 3.88 | 3.53 | 3.18 | 0.1 | 7270-1 | 4T617 | 1.91 | 1.74 | 1.57 | 0.1 |
| Storm Drain | Green | 7273-1HV | 6N606 | 3.88 | 3.53 | 3.18 | 0.1 | 7273-1 | 4T619 | 1.91 | 1.74 | 1.57 | 0.1 |
| Supply | Green | 7282-1HV | 6N624 | 3.88 | 3.53 | 3.18 | 0.1 | 7282-1 | 4T620 | 1.91 | 1.74 | 1.57 | 0.1 |
| Supply | Yellow | 93417 | 6N623 | 3.88 | 3.53 | 3.18 | 0.1 | 79084* | 4T621 | 1.91 | 1.74 | 1.57 | 0.1 |
| Tower Water | Green | 7285-1HV | 6N637 | 3.88 | 3.53 | 3.18 | 0.1 | 7285-1 | 6M404 | 1.91 | 1.74 | 1.57 | 0.1 |
| Vacuum | Yellow | — | — | — | — | — | — | 7291-1 | 6M601 | 1.91 | 1.74 | 1.57 | 0.1 |
| Vacuum | Green | — | — | — | — | — | — | 7292-1 | 6M602 | 1.91 | 1.74 | 1.57 | 0.1 |
| Vent | Yellow | — | — | — | — | — | — | 7295-1 | 6N513 | 1.91 | 1.74 | 1.57 | 0.1 |
| Vent | Green | 7296-1HV | 6N625 | 3.88 | 3.53 | 3.18 | 0.1 | 7296-1 | 6N515 | 1.91 | 1.74 | 1.57 | 0.1 |
| Waste | Yellow | — | — | — | — | — | — | 7298-1 | 4T626 | 1.91 | 1.74 | 1.57 | 0.1 |
| Water | Yellow | — | — | — | — | — | — | 7303-1 | 6M484 | 1.91 | 1.74 | 1.57 | 0.1 |
| Water | Green | 7304-1HV | 6N626 | 3.88 | 3.53 | 3.18 | 0.1 | 7304-1 | 6M324 | 1.91 | 1.74 | 1.57 | 0.1 |
| lb. Steam | Yellow | — | — | — | — | — | — | 7309-1 | 6M485 | 1.91 | 1.74 | 1.57 | 0.1 |

## PIPE MARKERS

| Legend | Color | Style 3C Brady USA Model 2¼" x 2¾" 3 Markers Per Card | Stock No. | List | Each | Lots 25 | Shpg. Wt. | Style 4 Brady USA Model 1¼" x 7" 4 Markers Per Card | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Air | Green | 7007-3C | 6N543 | $1.91 | $1.74 | $1.57 | 0.1 | 7007-4 | 4T565 | $1.91 | $1.74 | $1.57 | 0.1 |
| Air | Blue | — | — | — | — | — | — | 7006-4 | 6M336 | 1.91 | 1.74 | 1.57 | 0.1 |
| Ammonia | Yellow | 7014-3C | 6N546 | 1.91 | 1.74 | 1.57 | 0.1 | 7014-4 | 6M418 | 1.91 | 1.74 | 1.57 | 0.1 |
| Argon | Green | 7015-3C | 6N547 | 1.91 | 1.74 | 1.57 | 0.1 | 7015-4 | 6N219 | 1.91 | 1.74 | 1.57 | 0.1 |
| Arrow - Single | Yellow | — | — | — | — | — | — | 93242 | 4T569 | 1.91 | 1.74 | 1.57 | 0.1 |
| Arrow - Single | Red | — | — | — | — | — | — | 93252 | 6N527 | 1.91 | 1.74 | 1.57 | 0.1 |
| Arrow - Single | Blue | — | — | — | — | — | — | 93247 | 6N525 | 1.91 | 1.74 | 1.57 | 0.1 |
| Arrow - Single | Green | — | — | — | — | — | — | 93257 | 4T570 | 1.91 | 1.74 | 1.57 | 0.1 |
| Asbestos Free | Blue | — | — | — | — | — | — | 7017-4 | 6M704 | 1.91 | 1.74 | 1.57 | 0.1 |
| Asbestos Insulation | Yellow | — | — | — | — | — | — | 7019-4 | 6N647 | 1.91 | 1.74 | 1.57 | 0.1 |
| Blank | Yellow | — | — | — | — | — | — | 7025-4 | 4T573 | 1.91 | 1.74 | 1.57 | 0.1 |
| Blank | Green | — | — | — | — | — | — | 7022-4 | 4T574 | 1.91 | 1.74 | 1.57 | 0.1 |
| Breathing Air | Green | — | — | — | — | — | — | 7035-4 | 6N215 | 1.91 | 1.74 | 1.57 | 0.1 |
| Caustic | Yellow | 7040-3C | 6N548 | 1.91 | 1.74 | 1.57 | 0.1 | 7040-4 | 6M423 | 1.91 | 1.74 | 1.57 | 0.1 |
| Chilled Water | Green | — | — | — | — | — | — | 7045-4 | 4T576 | 1.91 | 1.74 | 1.57 | 0.1 |
| Chilled Water Return | Green | — | — | — | — | — | — | 7046-4 | 6M493 | 1.91 | 1.74 | 1.57 | 0.1 |
| Chilled Water Supply | Green | — | — | — | — | — | — | 7047-4 | 6M495 | 1.91 | 1.74 | 1.57 | 0.1 |
| City Water | Green | 7054-3C | 6N587 | 1.91 | 1.74 | 1.57 | 0.1 | 7054-4 | 4T578 | 1.91 | 1.74 | 1.57 | 0.1 |
| Cold Water | Green | 7055-3C | 6N588 | 1.91 | 1.74 | 1.57 | 0.1 | 7055-4 | 4T580 | 1.91 | 1.74 | 1.57 | 0.1 |
| Compressed Air | Yellow | 7058-3C | 6GN49 | 1.91 | 1.74 | 1.57 | 0.1 | 7058-4 | 4T584 | 1.91 | 1.74 | 1.57 | 0.1 |
| Compressed Air | Green | 7059-3C | 6GN50 | 1.91 | 1.74 | 1.57 | 0.1 | 7059-4 | 4T583 | 1.91 | 1.74 | 1.57 | 0.1 |
| Compressed Air | Blue | 7060-3C | 6GN51 | 1.91 | 1.74 | 1.57 | 0.1 | 7060-4 | 6M340 | 1.91 | 1.74 | 1.57 | 0.1 |
| Condensate Return | Yellow | — | — | — | — | — | — | 7065-4 | 4T586 | 1.91 | 1.74 | 1.57 | 0.1 |
| Condensate | Yellow | 7061-3C | 6N550 | 1.91 | 1.74 | 1.57 | 0.1 | 7061-4 | 4T588 | 1.91 | 1.74 | 1.57 | 0.1 |
| Condenser Water | Green | — | — | — | — | — | — | 7067-4 | 6M330 | 1.91 | 1.74 | 1.57 | 0.1 |
| Cooling Water | Green | — | — | — | — | — | — | 7070-4 | 4T590 | 1.91 | 1.74 | 1.57 | 0.1 |
| Deionized Water | Green | — | — | — | — | — | — | 7073-4 | 4T591 | 1.91 | 1.74 | 1.57 | 0.1 |
| Domestic Cold Water | Green | — | — | — | — | — | — | 7084-4 | 6M561 | 1.91 | 1.74 | 1.57 | 0.1 |
| Domestic Hot Water | Yellow | — | — | — | — | — | — | 7087-4 | 4T593 | 1.91 | 1.74 | 1.57 | 0.1 |
| Drain | Green | — | — | — | — | — | — | 7090-4 | 6N496 | 1.91 | 1.74 | 1.57 | 0.1 |
| Fire Auto Sprinklers | Red | — | — | — | — | — | — | 7107-4 | 6M419 | 1.91 | 1.74 | 1.57 | 0.1 |
| Fire Protection Water | Red | 7110-3C | 6N555 | 1.91 | 1.74 | 1.57 | 0.1 | 7110-4 | 6M465 | 1.91 | 1.74 | 1.57 | 0.1 |
| Fuel Oil | Yellow | 7115-3C | 6N571 | 1.91 | 1.74 | 1.57 | 0.1 | 7115-4 | 6M441 | 1.91 | 1.74 | 1.57 | 0.1 |
| Gas | Yellow | 7119-3C | 6N557 | 1.91 | 1.74 | 1.57 | 0.1 | 7119-4 | 6N502 | 1.91 | 1.74 | 1.57 | 0.1 |
| Heating Return | Yellow | — | — | — | — | — | — | 7125-4 | 4T595 | 1.91 | 1.74 | 1.57 | 0.1 |
| Heating Supply | Yellow | — | — | — | — | — | — | 7127-4 | 4T597 | 1.91 | 1.74 | 1.57 | 0.1 |
| Heating Water | Yellow | — | — | — | — | — | — | 7128-4 | 4T599 | 1.91 | 1.74 | 1.57 | 0.1 |
| High Pressure Steam | Yellow | — | — | — | — | — | — | 7111-4 | 6N238 | 1.91 | 1.74 | 1.57 | 0.1 |
| High Pressure Condensate | Yellow | — | — | — | — | — | — | 7137-4 | 6M446 | 1.91 | 1.74 | 1.57 | 0.1 |
| Hot Water | Yellow | 7146-3C | 6N590 | 1.91 | 1.74 | 1.57 | 0.1 | 7146-4 | 4T603 | 1.91 | 1.74 | 1.57 | 0.1 |
| Hot Water Return | Yellow | — | — | — | — | — | — | 7148-4 | 6M542 | 1.91 | 1.74 | 1.57 | 0.1 |
| Hot Water Supply | Yellow | — | — | — | — | — | — | 7149-4 | 6M544 | 1.91 | 1.74 | 1.57 | 0.1 |
| Hydrogen | Yellow | 7157-3C | 6N566 | 1.91 | 1.74 | 1.57 | 0.1 | 7157-4 | 6N232 | 1.91 | 1.74 | 1.57 | 0.1 |
| Industrial Water | Green | — | — | — | — | — | — | 7163-4 | 6M462 | 1.91 | 1.74 | 1.57 | 0.1 |
| Low Pressure Condensate | Yellow | — | — | — | — | — | — | 7175-4 | 6M447 | 1.91 | 1.74 | 1.57 | 0.1 |

(*) Two 2¼" x 7" markers per card. (**) Four 2¼" x 3½" markers per card.

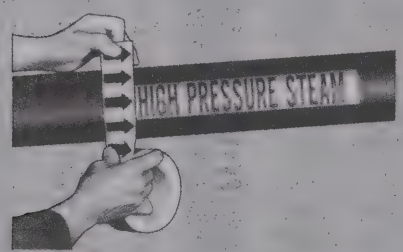
CONTINUED FROM PREVIOUS PAGE

## SELF-STICKING VINYL PIPE MARKERS

### STYLE 3C & 4 PIPE MARKERS (CON'T.)

| Legend | Color | Style 3C Brady USA Model 2¼" x 2¾" 3 Markers Per Card | Stock No. | List | Each | Lots 25 | Shpg. Wt. | Style 4 Brady USA Model 1⅛" x 7" 4 Markers Per Card | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Low Pressure Steam** | Yellow | — | — | — | — | — | — | 7179-4 | **4T606** | $1.91 | **$1.74** | **$1.57** | 0.1 |
| **Medical Air** | Yellow | 87743 | **6M573** | $1.91 | **$1.74** | **$1.57** | 0.1 | 90327 | **6M736** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Medical Vacuum** | White | 87744 | **6M574** | 1.91 | **1.74** | **1.57** | 0.1 | 90329 | **6M738** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Medium Pressure Steam** | Yellow | — | — | — | — | — | — | 7191-4 | **6N239** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Natural Gas** | Yellow | 7196-3C | **6N561** | 1.91 | **1.74** | **1.57** | 0.1 | 7196-4 | **4T609** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Nitrogen** | Green | 7198-3C | **6N567** | 1.91 | **1.74** | **1.57** | 0.1 | 7198-4 | **4T610** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Oxygen** | Yellow | 7209-3C | **6N573** | 1.91 | **1.74** | **1.57** | 0.1 | 7209-4 | **4T611** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Oxygen** | Green | 87747 | **6M577** | 1.91 | **1.74** | **1.57** | 0.1 | 93154 | **6N507** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Plant Air** | Yellow | — | — | — | — | — | — | 7212-4 | **6N534** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Potable Water** | Green | — | — | — | — | — | — | 7219-4 | **6M428** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Refrigerant Liquid** | Yellow | — | — | — | — | — | — | 7235-4 | **6N236** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Return** | Green | 7242-3C | **6N576** | 1.91 | **1.74** | **1.57** | 0.1 | 7242-4 | **4T615** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Return** | Yellow | 7244-3C | **6N575** | 1.91 | **1.74** | **1.57** | 0.1 | 7244-4 | **4T614** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Roof Drain** | Green | — | — | — | — | — | — | 7247-4 | **6N226** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Sanitary Sewer** | Green | — | — | — | — | — | — | 7250-4 | **6M451** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Sprinkler Fire** | Red | — | — | — | — | — | — | 7268-4 | **6M464** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Sprinkler Water** | Red | — | — | — | — | — | — | 7269-4 | **6M466** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Steam** | Yellow | 7270-3C | **6N577** | 1.91 | **1.74** | **1.57** | 0.1 | 7270-4 | **4T618** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Storm Drain** | Green | — | — | — | — | — | — | 7273-4 | **6N228** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Supply** | Green | 7282-3C | **6N579** | 1.91 | **1.74** | **1.57** | 0.1 | 7282-4 | **4T623** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Supply** | Yellow | 93358 | **6N578** | 1.91 | **1.74** | **1.57** | 0.1 | 93177 | **4T622** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Tower Water** | Green | — | — | — | — | — | — | 7285-4 | **6M458** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Vacuum** | Yellow | 7291-3C | **6N580** | 1.91 | **1.74** | **1.57** | 0.1 | 7291-4 | **4T624** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Vacuum** | Green | 7292-3C | **6N581** | 1.91 | **1.74** | **1.57** | 0.1 | 7292-4 | **4T625** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Vent** | Yellow | 7295-3C | **6N582** | 1.91 | **1.74** | **1.57** | 0.1 | 7295-4 | **6N514** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Vent** | Green | 7296-3C | **6N583** | 1.91 | **1.74** | **1.57** | 0.1 | 7296-4 | **6N516** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Waste** | Yellow | 7298-3C | **6N584** | 1.91 | **1.74** | **1.57** | 0.1 | 7298-4 | **4T627** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Water** | Yellow | 7303-3C | **6N586** | 1.91 | **1.74** | **1.57** | 0.1 | 7303-4 | **6N518** | 1.91 | **1.74** | **1.57** | 0.1 |
| **Water** | Green | 7304-3C | **6N585** | 1.91 | **1.74** | **1.57** | 0.1 | 7304-4 | **6N517** | 1.91 | **1.74** | **1.57** | 0.1 |
| **___lb. Steam** | Yellow | — | — | — | — | — | — | 7309-4 | **6M558** | 1.91 | **1.74** | **1.57** | 0.1 |

## ARROW AND PIPE BANDING TAPE




BRADY

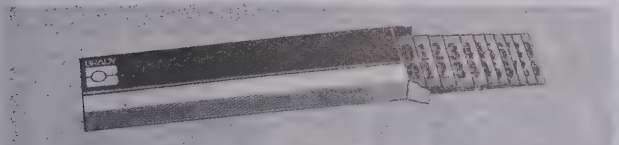
• Registered to ISO 9001



### ARROW AND PIPE BANDING TAPE

| Description | Roll Size | Color | Brady USA Model No. | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Pipe Banding Tape** | 1"x30 yds. | Yellow | 36301 | **6GP13** | $17.83 | **$16.21** | **$14.59** | 0.5 |
| | 1"x30 yds. | Green | 36304 | **6GP16** | 17.83 | **16.21** | **14.59** | 0.5 |
| | 1"x30 yds. | Red | 36302 | **6GP14** | 17.83 | **16.21** | **14.59** | 0.5 |
| | 1"x30 yds. | Blue | 36303 | **6GP15** | 17.83 | **16.21** | **14.59** | 0.5 |
| | 1"x30 yds. | Orange | 91428 | **6M872** | 17.83 | **16.21** | **14.59** | 0.5 |
| | 2"x30 yds. | Yellow | 55260 | **4T108** | 35.69 | **32.45** | **29.21** | 1.0 |
| | 2"x30 yds. | Green | 55263 | **4T140** | 35.69 | **32.45** | **29.21** | 1.0 |
| | 2"x30 yds. | Red | 55261 | **6HF66** | 35.69 | **32.45** | **29.21** | 1.0 |
| | 2"x30 yds. | Blue | 55262 | **6HF67** | 35.69 | **32.45** | **29.21** | 1.0 |
| | 2"x30 yds. | Orange | 91430 | **6M874** | 35.69 | **32.45** | **29.21** | 1.0 |
| **Arrow Tape** | 1"x30 yds. | Black/Yellow | 91424 | **4T561** | 22.15 | **20.14** | **18.13** | 0.5 |
| | 1"x30 yds. | White/Green | 91425 | **4T562** | 22.15 | **20.14** | **18.13** | 0.5 |
| | 1"x30 yds. | White/Red | 91426 | **6M870** | 22.15 | **20.14** | **18.13** | 0.5 |
| | 1"x30 yds. | White/Blue | 91427 | **6M871** | 22.15 | **20.14** | **18.13** | 0.5 |
| | 2"x30 yds. | Black/Yellow | 91420 | **4T563** | 44.27 | **40.25** | **36.23** | 1.1 |
| | 2"x30 yds. | White/Green | 91421 | **4T564** | 44.27 | **40.25** | **36.23** | 1.0 |
| | 2"x30 yds. | White/Red | 91422 | **6M868** | 44.27 | **40.25** | **36.23** | 1.0 |
| | 2"x30 yds. | White/Blue | 91423 | **6M869** | 44.27 | **40.25** | **36.23** | 1.0 |

## CARD MOUNTED NUMBERS AND LETTERS



- Black on a yellow background

**Card Mounted Configuration**

BRADY

- Registered to ISO 9001

Self-sticking vinyl cloth will stick to any clean, dry surface, and is removable for changes. Black on a yellow background. Easy to use dispenser cards with 32 markers per card. Letters are 5/8H x 9/16"W. Replacement cards available; see chart below.

### No. 4T730 LETTER COMBINATION KIT

Each card includes a letter assortment of letters A-Z and a repeat of A-F. 25 cards total in kit. Brady USA, Inc. (34251).

**No. 4T730.** Shpg. wt. 0.4 lbs. List.....$33.33
Each **$30.30**; Lots 5 .....**$27.27**

### No. 4T731 NUMBER COMBINATION KIT

Includes a number assortment of three columns of each number 0, 1, 2, 3, 4, 5; and two columns of each number 6, 7, 8 and 9 on each card. 25 cards total in kit. Brady USA, Inc. (34252)..

**No. 4T731.** Shpg. wt. 0.4 lbs. List.....$33.33
Each **$30.30**; Lots 5.....**$27.27**

### REPLACEMENT CARDS

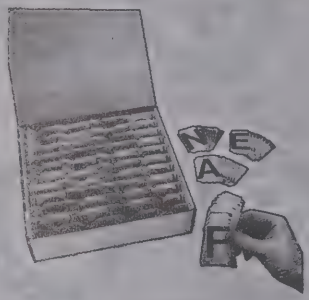
| Description | Qty. Per Card | Brady USA Model | Stock No. | List | Each Card | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0** | 32 | 3420-0 | **4T694** | $2.29 | **$2.09** | **$1.88** | 0.1 |
| **1** | 32 | 3420-1 | **4T695** | 2.29 | **2.09** | **1.88** | 0.1 |
| **2** | 32 | 3420-2 | **4T696** | 2.29 | **2.09** | **1.88** | 0.1 |
| **3** | 32 | 3420-3 | **4T697** | 2.29 | **2.09** | **1.88** | 0.1 |
| **4** | 32 | 3420-4 | **4T698** | 2.29 | **2.09** | **1.88** | 0.1 |
| **5** | 32 | 3420-5 | **4T699** | 2.29 | **2.09** | **1.88** | 0.1 |
| **6** | 32 | 3420-6 | **4T700** | 2.29 | **2.09** | **1.88** | 0.1 |
| **7** | 32 | 3420-7 | **4T701** | 2.29 | **2.09** | **1.88** | 0.1 |
| **8** | 32 | 3420-8 | **4T702** | 2.29 | **2.09** | **1.88** | 0.1 |
| **9** | 32 | 3420-9 | **4T703** | 2.29 | **2.09** | **1.88** | 0.1 |
| **A** | 32 | 3420-A | **4T704** | 2.29 | **2.09** | **1.88** | 0.1 |
| **B** | 32 | 3420-B | **4T705** | 2.29 | **2.09** | **1.88** | 0.1 |
| **C** | 32 | 3420-C | **4T706** | 2.29 | **2.09** | **1.88** | 0.1 |
| **D** | 32 | 3420-D | **4T707** | 2.29 | **2.09** | **1.88** | 0.1 |
| **E** | 32 | 3420-E | **4T708** | 2.29 | **2.09** | **1.88** | 0.1 |
| **F** | 32 | 3420-F | **4T709** | 2.29 | **2.09** | **1.88** | 0.1 |
| **G** | 32 | 3420-G | **4T710** | 2.29 | **2.09** | **1.88** | 0.1 |
| **H** | 32 | 3420-H | **4T711** | 2.29 | **2.09** | **1.88** | 0.1 |
| **I** | 32 | 3420-I | **4T712** | 2.29 | **2.09** | **1.88** | 0.1 |
| **J** | 32 | 3420-J | **4T713** | 2.29 | **2.09** | **1.88** | 0.1 |
| **K** | 32 | 3420-K | **4T714** | 2.29 | **2.09** | **1.88** | 0.1 |
| **L** | 32 | 3420-L | **4T715** | 2.29 | **2.09** | **1.88** | 0.1 |
| **M** | 32 | 3420-M | **4T716** | 2.29 | **2.09** | **1.88** | 0.1 |
| **N** | 32 | 3420-N | **4T717** | 2.29 | **2.09** | **1.88** | 0.1 |
| **O** | 32 | 3420-O | **4T718** | 2.29 | **2.09** | **1.88** | 0.1 |
| **P** | 32 | 3420-P | **4T719** | 2.29 | **2.09** | **1.88** | 0.1 |
| **Q** | 32 | 3420-Q | **4T720** | 2.29 | **2.09** | **1.88** | 0.1 |
| **R** | 32 | 3420-R | **4T721** | 2.29 | **2.09** | **1.88** | 0.1 |
| **S** | 32 | 3420-S | **4T722** | 2.29 | **2.09** | **1.88** | 0.1 |
| **T** | 32 | 3420-T | **4T723** | 2.29 | **2.09** | **1.88** | 0.1 |
| **U** | 32 | 3420-U | **4T724** | 2.29 | **2.09** | **1.88** | 0.1 |
| **V** | 32 | 3420-V | **4T725** | 2.29 | **2.09** | **1.88** | 0.1 |
| **W** | 32 | 3420-W | **4T726** | 2.29 | **2.09** | **1.88** | 0.1 |
| **X** | 32 | 3420-X | **4T727** | 2.29 | **2.09** | **1.88** | 0.1 |
| **Y** | 32 | 3420-Y | **4T728** | 2.29 | **2.09** | **1.88** | 0.1 |
| **Z** | 32 | 3420-Z | **4T729** | 2.29 | **2.09** | **1.88** | 0.1 |

## QUIK-ALIGN® DIE CUT NUMBERS AND LETTERS KIT

- 2" black letters

BRADY

- Registered to ISO 9001





### No. 4T732 QUIK-ALIGN® KIT.

**Self-spacing and self-aligning** die cut numbers and letters interlock for quality results. Self-sticking vinyl will adhere tightly to clean, dry surface, indoors or outdoors. Characters are 2" and black. Replacement packs available; see chart below.

**Quik-Align® kit consists of 20 each** of A, E, I, L, N, O, R, S, and T. 10 each of remaining letters, 20 each of numerals 0-9. Five each of $, &, and punctuation cards. Brady USA, Inc. (52207).

**No. 4T732.** Shpg. wt. 2.0 lbs. List .....$214.50
Each $195.00 Lots 2.....**$175.50**

### REPLACEMENT PACKS

| Description | Qty. Per Pkg. | Brady USA Model | Stock No. | List | Each Pkg. | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **$** | 5 | 50538 | **4T733** | $4.46 | **$4.06** | **$3.65** | 0.1 |
| **0** | 10 | 5050-0 | **4T734** | 4.46 | **4.06** | **3.65** | 0.1 |
| **1** | 10 | 5050-1 | **4T735** | 4.46 | **4.06** | **3.65** | 0.1 |
| **2** | 10 | 5050-2 | **4T736** | 4.46 | **4.06** | **3.65** | 0.1 |
| **3** | 10 | 5050-3 | **4T737** | 4.46 | **4.06** | **3.65** | 0.1 |
| **4** | 10 | 5050-4 | **4T738** | 4.46 | **4.06** | **3.65** | 0.1 |
| **5** | 10 | 5050-5 | **4T739** | 4.46 | **4.06** | **3.65** | 0.1 |
| **6** | 10 | 5050-6 | **4T740** | 4.46 | **4.06** | **3.65** | 0.1 |
| **7** | 10 | 5050-7 | **4T741** | 4.46 | **4.06** | **3.65** | 0.1 |
| **8** | 10 | 5050-8 | **4T742** | 4.46 | **4.06** | **3.65** | 0.1 |
| **9** | 10 | 5050-9 | **4T743** | 4.46 | **4.06** | **3.65** | 0.1 |
| **A** | 10 | 5050-A | **4T744** | 4.46 | **4.06** | **3.65** | 0.1 |
| **B** | 10 | 5050-B | **4T745** | 4.46 | **4.06** | **3.65** | 0.1 |
| **C** | 10 | 5050-C | **4T746** | 4.46 | **4.06** | **3.65** | 0.1 |
| **D** | 10 | 5050-D | **4T747** | 4.46 | **4.06** | **3.65** | 0.1 |
| **E** | 10 | 5050-E | **4T748** | 4.46 | **4.06** | **3.65** | 0.1 |
| **F** | 10 | 5050-F | **4T749** | 4.46 | **4.06** | **3.65** | 0.1 |
| **G** | 10 | 5050-G | **4T750** | 4.46 | **4.06** | **3.65** | 0.1 |
| **H** | 10 | 5050-H | **4T751** | 4.46 | **4.06** | **3.65** | 0.1 |
| **I** | 10 | 5050-I | **4T752** | 4.46 | **4.06** | **3.65** | 0.1 |
| **J** | 10 | 5050-J | **4T753** | 4.46 | **4.06** | **3.65** | 0.1 |
| **K** | 10 | 5050-K | **4T754** | 4.46 | **4.06** | **3.65** | 0.1 |
| **L** | 10 | 5050-L | **4T755** | 4.46 | **4.06** | **3.65** | 0.1 |
| **M** | 10 | 5050-M | **4T756** | 4.46 | **4.06** | **3.65** | 0.1 |
| **N** | 10 | 5050-N | **4T757** | 4.46 | **4.06** | **3.65** | 0.1 |
| **O** | 10 | 5050-O | **4T758** | 4.46 | **4.06** | **3.65** | 0.1 |
| **P** | 10 | 5050-P | **4T759** | 4.46 | **4.06** | **3.65** | 0.1 |
| **Q** | 10 | 5050-Q | **4T761** | 4.46 | **4.06** | **3.65** | 0.1 |
| **R** | 10 | 5050-R | **4T762** | 4.46 | **4.06** | **3.65** | 0.1 |
| **S** | 10 | 5050-S | **4T763** | 4.46 | **4.06** | **3.65** | 0.1 |
| **T** | 10 | 5050-T | **4T764** | 4.46 | **4.06** | **3.65** | 0.1 |
| **U** | 10 | 5050-U | **4T765** | 4.46 | **4.06** | **3.65** | 0.1 |
| **V** | 10 | 5050-V | **4T766** | 4.46 | **4.06** | **3.65** | 0.1 |
| **W** | 10 | 5050-W | **4T767** | 4.46 | **4.06** | **3.65** | 0.1 |
| **X** | 10 | 5050-X | **4T768** | 4.46 | **4.06** | **3.65** | 0.1 |
| **Y** | 10 | 5050-Y | **4T769** | 4.46 | **4.06** | **3.65** | 0.1 |
| **Z** | 10 | 5050-Z | **4T770** | 4.46 | **4.06** | **3.65** | 0.1 |

# HARD HAT EMBLEMS

Standardize your hard hat identification with Brady Hard Hat Emblems. Self-sticking emblems are printed with safety slogans to provide a way to constantly remind personnel to observe good safety practices. Use indoors or out. 2" diameter. **4 labels per card. Priced and sold per card.** Brady USA brand.



No. 6EW66




No. 6EW69




No. 6EW73




No. 6EW95



BRADY

Registered to ISO 9001




No. 6EW87




No. 6EW80




No. 6EW79




No. 6EW84




No. 6EW75




No. 6EX92




No. 6EW97




No. 6EW88




No. 6EX91




No. 6EW99




No. 6EW96




No. 6EW71




No. 6EW64




No. 6EX01




No. 6EW67




No. 6EW65

## HARD HAT EMBLEMS SPECIFICATIONS AND ORDERING DATA

| Legend | Color | Labels Per Card | Brady USA Model No. | Stock No. | List | Each | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **First Aid Cross Symbol** | White/Green | 4 | 45332 | **6EW66** | $2.07 | **$1.89** | **$1.70** | 0.1 |
| **Accident Free Award-1 Year** | White/Green | 4 | 49550 | **6EW69** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Authorized Operator Fork Lift** | Black/White | 4 | 49554 | **6EW73** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Basic Life Support Certified CPR** | Red/White | 4 | 49576 | **6EW95** | 2.07 | **1.89** | **1.70** | 0.1 |
| **CPR Certificado** | Red/White | 4 | 49568 | **6EW87** | 2.07 | **1.89** | **1.70** | 0.1 |
| **CPR Certified** | Red/White | 4 | 49561 | **6EW80** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Certified Crane Operator** | Black/White | 4 | 49560 | **6EW79** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Certified First Aid** | Red/White | 4 | 49565 | **6EW84** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Emergency Response Team** | Red/White | 4 | 49556 | **6EW75** | 2.07 | **1.89** | **1.70** | 0.1 |
| **First Aid Squad** | White/Green | 4 | 76306 | **6EX92** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Haz Mat Squad** | Red/White | 4 | 49578 | **6EW97** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Health and Safety Committee Member** | Green/White | 4 | 49569 | **6EW88** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Member Fire Brigade** | Red/White | 4 | 76305 | **6EX91** | 2.07 | **1.89** | **1.70** | 0.1 |
| **No Drugs** | Black/Red/White | 4 | 49580 | **6EW99** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Safe Worker No Accidents** | White/Green | 4 | 49577 | **6EW96** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Safe Worker No Accidents-1 Year** | Green/White | 4 | 49552 | **6EW71** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Safety Committee** | White/Green | 4 | 45330 | **6EW64** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Safety First** | White/Green | 4 | 49581 | **6EX01** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Visitor Wear Safety Glasses At All Times** | Blue/White | 4 | 45333 | **6EW67** | 2.07 | **1.89** | **1.70** | 0.1 |
| **Think Work Safely** | White/Green | 4 | 45331 | **6EW65** | 2.07 | **1.89** | **1.70** | 0.1 |

## VEHICLE PLACARD

Designed for compliance with D.O.T. HM-181 standards. Made of polycoated tagboard material which exceeds D.O.T.'s 30 day weather requirement. 10¾" x 10¾" size. Placard holder is made from die stamped aluminum and includes pre-punched holes for riveting to truck or trailer walls. Front Plate/Back Plate combination is recommended. Brady USA brand.

BRADY

• Registered to ISO 9001




No. 6R678




No. 6P359




No. 6R676




No. 6N844




No. 6R664




No. 6N847




No. 6N999



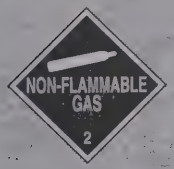

No. 6N998




No. 6R660




No. 6R670




No. 6N997




No. 6R666




No. 6R672




No. 6N995




No. 6R662




No. 6GF48 & 6GF49

### VEHICLE PLACARDS AND PLACARD HOLDER SPECIFICATIONS AND ORDERING DATA

| Description | D.O.T. Class | Color | Brady Model | Stock No. | List | Each | Lot/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Blank w/ Black Stripes** | 9 | Black/White | 63455 | **6R678** | $1.03 | **$0.94** | **$0.85/25** | 0.1 |
| **Combustible** | 3 | White/Red | 63444 | **6P359** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Corrosive** | 8 | Black/White | 63451 | **6R676** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Dangerous** | — | Black/Red/White | 63212 | **6N844** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Dangerous When Wet** | 4 | White/Blue | 63448 | **6R664** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Drive Safely** | — | Black/White | 63218 | **6N847** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Flammable** | 3 | White/Red | 63443 | **6N999** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Flammable Gas** | 2 | White/Red | 63442 | **6N998** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Flammable Solid** | 4 | Black/Red/White | 63446 | **6R660** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Harmful Stow Away From Foodstuffs** | 6 | Black/White | 63451 | **6R670** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Non-Flammable Gas** | 2 | White/Green | 63441 | **6N997** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Oxidizer** | 5.1 | Black/Yellow | 63449 | **6R666** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Poison** | 6 | Black/White | 63452 | **6R672** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Poison Gas** | 2 | Black/White | 63439 | **6N995** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Spontaneously Combustible** | 4 | Black/Red/White | 63447 | **6R662** | 1.03 | **0.94** | **0.85/25** | 0.1 |
| **Front Plate Placard Holder** | — | — | 76088 | **6GF48** | 6.93 | **6.30** | **5.67/10** | 0.2 |
| **Back Plate Placard Holder** | — | — | 76089 | **6GF49** | 5.28 | **4.80** | **4.32/10** | 0.5 |

## PERMANENT FLIP-FILE PLACARDS

Complies with D.O.T. Regulations. Helps assure drivers always have the right placard when they need it. Heavy duty construction designed to match the life of driver's vehicle. Weather tested paint stays bright and resists chipping. Stainless steel rivets and hinges resist rust and corrosion.

**WELDING SUPPLY AND MEDICAL VAN LEGENDS** — ideal for trucks or vans that transport bottled gas. Legends are: Drive Safely, Flammable Gas, Non-Flammable Gas, Oxygen. Brady USA brand (63200).

**No. 6N834.** Shpg. wt. 1.7 lbs. List $37.34. Each **$33.95**; Lot 5.....**$30.56**

**DIGIT-FLIP PLACARD FOR CARGO TANKS** — five hazard legends and 10,000 number combinations help with compliance when hauling bulk hazardous materials. Legends are: Drive Safely, Flammable, Oxidizer, Corrosive, Poison. Brady USA brand (63214).

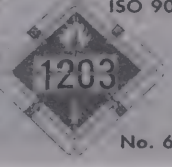
**No. 6N846.** Shpg. wt. 2.0 lbs. List $67.48. Each **$61.35**; Lot 5.....**$55.22**




No. 6N834

BRADY

• Registered to ISO 9001




No. 6N846

# FLOOR SIGNS AND SAFETY CONES

## FLOOR SIGNS

**Identify hazardous areas** with Brady floor signs. Signs will stand up to heavy traffic and communicate personal protection requirements. 17" diameter signs are overlaminated with non-slip material for extra durability. Brady USA brand.



No. 6V548



No. 6V544



No. 6V545



No. 6V546


No. 6V542



No. 6V547



No. 6V543



Registered to ISO 9001

| Legend | Color | Brady USA Model No. | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Biohazard** | Black/Orange | 92411 | **6V548** | $27.25 | **$24.78** | **$22.30** | 0.2 |
| **Ear Protection Area** | Black/Yellow | 92405 | **6V544** | 27.25 | **24.78** | **22.30** | 0.2 |
| **Eye Protection Area** | Black/Yellow | 92406 | **6V545** | 27.25 | **24.78** | **22.30** | 0.2 |
| **Hard Hat Area** | Black/Yellow | 92407 | **6V546** | 27.25 | **24.78** | **22.30** | 0.2 |
| **No Smoking Symbol** | Red/Black/White | 92400 | **6V542** | 27.25 | **24.78** | **22.30** | 0.2 |
| **Safety Goggles Required** | Black/Yellow | 92408 | **6V547** | 27.25 | **24.78** | **22.30** | 0.2 |
| **Watch Out for Fork Lift Trucks** | Black/Yellow | 92404 | **6V543** | 27.25 | **24.78** | **22.30** | 0.2 |

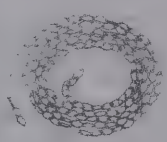
## SAFETY CONES





[A] No. 3U506 English Language Cone

[A] No. 4HC88 Bilingual English/Spanish Cone


[B] No. 3U509 2" x 20' Chain


[C] No. 3U508 Lock-In Sign





[D] No. 3U510 English Language Label Only

Lamba® Systems



[D] No. 4HC90 Bilingual English/Spanish Label Only

**Alert and direct pedestrian traffic** away from potentially hazardous areas. Lock-in sign/labels can be read from 20 to 30' away. Written messages are reinforced by graphic or international symbol. Lamba brand.

[A] Safety Cone is 35" high. The contrasting color safety warnings are printed on all four sides and can be seen from any direction. International symbols and bilingual English/Spanish cones available.

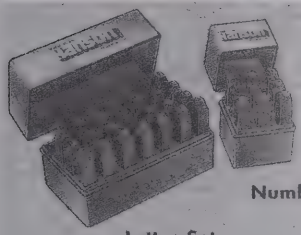
[B] Yellow Plastic Chain is made of 2" links in 20 ft. lengths.

[C] Red Lock-In Sign locks securely in the slot on top of the cone. Frame holds one 8 x 8" message label on each side.

[D] Labels are black and red on yellow. The 8 x 8" adhesive backed message label adheres to lock-in sign frame. Available in English language or Bilingual English/Spanish.

| Key | Description | Lamba Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **A** | "Caution–Wet Floor" Cone (Yellow) | 23870 | **3U506** | $37.50 | **$33.75** | **$32.06/5** | 5.0 |
| **A** | "Caution–Safety First" Cone (Yellow) | 23863 | **3U507** | 37.50 | **33.75** | **32.06/5** | 5.0 |
| **A** | "Wet Floor–Precaution Piso Mojado" Cone (Yellow) | 24098 | **4HC88** | 37.50 | **33.75** | **32.06/5** | 6.0 |
| **A** | "Safety First–Precaution Seguridad" Cone (Yellow) | 24087 | **4HC87** | 37.50 | **33.75** | **32.06/5** | 6.0 |
| **A** | "Icy Area–Warning" Cone (Yellow) | 24099 | **4HC89** | 37.50 | **33.75** | **32.06/5** | 6.0 |
| **B** | 2" x 20' Yellow Chain | 26407 | **3U509** | 22.84 | **20.56** | **19.53/10** | 0.6 |
| **C** | Lock-In Sign (Red) | 26401 | **3U508** | 6.60 | **5.94** | **5.64/10** | 0.8 |
| **D** | "Watch Your Step" English Label | 26480 | **3U510** | 1.98 | **1.78** | **1.69/10** | 0.2 |
| **D** | "Wet Floor–Please Walk to Left" English Label | 26491 | **3U511** | 1.98 | **1.78** | **1.69/10** | 0.2 |
| **D** | "Wet Floor–Please Walk to Right" English Label | 26490 | **3U512** | 1.98 | **1.78** | **1.69/10** | 0.1 |
| **D** | "Caution–Wet Floor" English Label | 26502 | **3U513** | 1.98 | **1.78** | **1.69/10** | 0.2 |
| **D** | "Caution–Men Working Above" English Label | 26508 | **3U514** | 1.98 | **1.78** | **1.69/10** | 0.2 |
| **D** | "Wet Floor" English/Spanish Label | 26654 | **4HC90** | 1.98 | **1.78** | **1.69/10** | 0.3 |
| **D** | "Watch Your Step" English/Spanish Label | 26655 | **4HC91** | 1.98 | **1.78** | **1.69/10** | 0.3 |

# STEEL HAND STAMPS

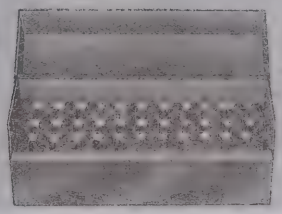


Letter Set




Number Set

Replacement Parts Available
TM 1-800-323-0620



Combination Number & Letter Set

Steel letter and number sets allow permanent marking of a wide range of heat-treated metal parts, tools, assemblies, and components. Stamps are easy to hold, and the beveled ends are easy to strike with a hammer. Impressions are Gothic letters and numbers. Made of domestically sourced first-run 6150 alloy tool steel and engineered to a hardness of 60 to 63 at the character end and 49 to 53 (Rockwell C scale) at the striking end for longest wear and highest safety. Sets are stored in a high-impact plastic case except Nos. 1F108 and 1F109 which have wood cases.

Letter sets contain 27 pieces—A thru Z and an ampersand (&). Number sets contain 9 pieces—0 thru 8 with 6 serving as 9. Combination letter and number hand stamp sets contain 36 pieces—A thru Z plus an ampersand (&) and 0 thru 8 with 6 serving as 9; housed in a metal index box.

All stamps meet or exceed Federal Specification GGG-D-280C. Made in USA. C.H. Hanson brand.

**Heavy-Duty Stamp Sets.** Designed for heavy-duty metal marking at a lower cost. Character and size are marked on thumb side.

**Premier Heavy-Duty Stamp Sets.** Feature extra large shanks for easiest use. Reduces hand fatigue while larger striking surface promotes safety. Character and size are marked on thumb side.

## HEAVY-DUTY HAND STAMP SETS

| Description | Shank Size (In.) Square | Shank Size (In.) L | Hanson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/32" Numbers** | 5/16 | 2½ | 21340 | **1F102** | $19.58 | **$13.90** | 0.7 |
| **3/32" Letters** | 5/16 | 2½ | 20801 | **1F103** | 58.74 | **42.00** | 2.1 |
| **3/32" Combo** | 5/16 | 2½ | 21624 | **1F110** | 78.33 | **63.40** | 3.7 |
| **1/8" Numbers** | 5/16 | 2½ | 21360 | **3W636** | 19.58 | **13.90** | 0.8 |
| **1/8" Letters** | 5/16 | 2½ | 20851 | **3W637** | 58.74 | **42.00** | 2.3 |
| **1/8" Combo** | 5/16 | 2½ | 21625 | **1F111** | 78.33 | **63.40** | 3.7 |
| **3/16" Numbers** | 3/8 | 2¾ | 21400 | **3W699** | 23.46 | **16.70** | 1.1 |
| **3/16" Letters** | 3/8 | 2¾ | 20951 | **3W638** | 70.40 | **50.10** | 3.3 |
| **3/16" Combo** | 3/8 | 2¾ | 21627 | **1F112** | 93.87 | **76.10** | 5.1 |
| **1/4" Numbers** | 7/16 | 3 | 21440 | **3W639** | 27.14 | **19.56** | 1.7 |
| **1/4" Letters** | 7/16 | 3 | 21051 | **3W640** | 81.42 | **58.45** | 4.9 |
| **1/4" Combo** | 7/16 | 3 | 21628 | **1F113** | 108.57 | **88.15** | 7.5 |
| **3/8" Numbers** | 9/16 | 3⅛ | 21480 | **1F104** | 38.74 | **29.60** | 2.6 |
| **3/8" Letters** | 9/16 | 3⅛ | 21151 | **1F105** | 116.23 | **88.70** | 7.7 |

## PREMIER HEAVY-DUTY HAND STAMP SETS

| Description | Shank Size (In.) Square | Shank Size (In.) L | Hanson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/32" Numbers** | 5/16 | 2¼ | 22841 | **1F106** | $22.57 | **$17.17** | 0.8 |
| **3/32" Letters** | 5/16 | 2¾ | 22100 | **1F107** | 67.72 | **51.60** | 2.3 |
| **3/32" Combo** | 5/16 | 2¾ | 24004 | **1F114** | 90.30 | **73.20** | 3.9 |
| **1/8" Numbers** | 3/8 | 2¼ | 22861 | **3W641** | 22.57 | **17.17** | 1.3 |
| **1/8" Letters** | 3/8 | 2¾ | 22150 | **3W642** | 67.72 | **51.55** | 3.5 |
| **1/8" Combo** | 3/8 | 2¾ | 24005 | **1F115** | 90.30 | **73.20** | 5.0 |
| **3/16" Numbers** | 7/16 | 2¾ | 22901 | **3W643** | 26.98 | **20.61** | 1.6 |
| **3/16" Letters** | 7/16 | 2¾ | 22250 | **3W644** | 80.95 | **62.00** | 4.5 |
| **3/16" Combo** | 7/16 | 2¾ | 24007 | **1F116** | 107.94 | **87.55** | 6.8 |
| **1/4" Numbers** | 1/2 | 3 | 22941 | **3W645** | 31.19 | **23.92** | 2.0 |
| **1/4" Letters** | 1/2 | 3 | 22350 | **3W646** | 93.55 | **71.75** | 5.8 |
| **1/4" Combo** | 1/2 | 3 | 24008 | **1F117** | 124.74 | **101.25** | 8.9 |
| **3/8" Numbers** | 5/8 | 3⅛ | 22981 | **1F108** | 44.57 | **33.90** | 3.4 |
| **3/8" Letters** | 5/8 | 3⅛ | 22450 | **1F109** | 133.71 | **101.55** | 10.0 |

# HAND HELD TYPE HOLDER AND STEEL TYPE KITS




Provide fast multiple character marking of a wide range of metal parts, tools, other metal surfaces. Heavy-duty type and holder make neat, legible impression of a series of letters and numbers with one hammer blow. Type holder has spring pin to securely hold notched type. L-wrench and screw lock type together. 1/8" and 3/16" holder capacity is 15 characters. 1/4" holder is 12 characters. Letters/numbers/blank spaces must always equal full capacity of holder.

Kits contain 48 individual pieces of type—Letters A thru Z with two each A, E, R, O, S, I, U, and T; numbers 0 thru 9; a dash; and three blank spaces housed in a high impact injection molded case. Replacement and additional pieces available; call 1-800-323-0620. Made in USA. C.H. Hanson brand.

| Description | Hanson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/8" Characters** | 27775 | **1F118** | $344.40 | **$338.75** | 3.5 |
| **3/16" Characters** | 27779 | **1F119** | 368.55 | **362.25** | 3.9 |
| **1/4" Characters** | 27783 | **1F120** | 415.80 | **408.75** | 4.8 |

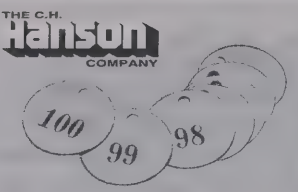
# METAL CHECK ACCESSORIES

Split key rings and spring sleeve rings are designed for holding and preventing loss of checks and tags. All have a nickel-plated finish to prevent rust. Sold in package of 25. C.H. Hanson brand.

| Description | Hanson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1" Ring | 40082 | 1F098 | $3.99 | **$3.44** | 0.2 |
| 1¼" Ring | 40083 | 1F099 | 5.93 | **5.14** | 0.4 |
| 1½" Ring | 40084 | 1F100 | 7.15 | **6.46** | 0.5 |
| Spring Sleeve | 40087 | 1F101 | 6.66 | **5.76** | 0.3 |



# IDENTIFICATION TAGS AND SECURITY SEALING PRESS




## BRASS NUMBER TAGS

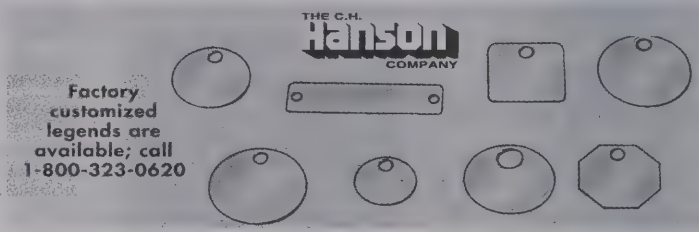
Durable brass tags provide quick identification for a wide range of items such as valves and key sets. Promote safety and can reduce maintenance costs. Made from 18-gauge brass. 1½" diameter with 1/2" black filled numbers and 3/16" hole. Available only in unbroken series of 25; eight different number series available. Made in USA. C.H. Hanson brand.

| Number Series | Hanson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 -25 | 40023 | 6A233 | $23.99 | **$19.84** | 0.5 |
| 26 -50 | 40024 | 6A234 | 23.99 | **19.84** | 0.5 |
| 51 -75 | 40025 | 6A235 | 23.99 | **19.84** | 0.5 |
| 76 -100 | 40026 | 6A236 | 23.99 | **19.84** | 0.5 |
| 101 -125 | 40027 | 1F028 | 23.99 | **19.84** | 0.5 |
| 126 -150 | 40028 | 1F029 | 23.99 | **19.84** | 0.5 |
| 151 -175 | 40029 | 1F030 | 23.99 | **19.84** | 0.5 |
| 176 -200 | 40030 | 1F031 | 23.99 | **19.84** | 0.5 |

## BLANK METAL TAGS

Blank tags allow quick and easy identification of most types of equipment, materials, and pipes by simply stamping description directly onto tag. Ideal for building maintenance and housekeeping applications. Use of steel hand stamp sets (available separately) allows customized legends and valve tags.

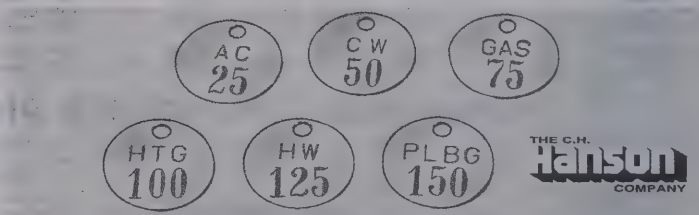
All solid brass tags are 18-gauge thick except No. 1F034 (also known as a "miner's check") which is 16-gauge. No. 1F036 20-gauge stainless steel tag is recommended for corrosive environments such as the petrochemical industry. Sold in package of 100. Made in USA. C.H. Hanson brand.




| Type | Shape | Size (In.) | Hole Size (In.) | Hanson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Brass** | Round | 1 | 3/16 | 1078B | **1F032** | $12.65 | **$11.73** | 0.9 |
| **Brass** | Round | 1¼ | 3/16 | 1090B | **1F033** | 20.42 | **18.94** | 1.5 |
| **Brass** | Round | 1⅜ | 3/8 | 1094M | **1F034** | 32.28 | **29.95** | 2.1 |
| **Brass** | Round | 1½ | 3/16 | 1098B | **1F035** | 28.50 | **26.50** | 2.2 |
| **Brass** | Rectangle | 5/8 x 2½ | 1/8 | 140B | **1F037** | 39.84 | **36.95** | 1.9 |
| **Brass** | Rectangle | 5/8 x 1 29/32 | 1/8 | 21B | **1F038** | 23.52 | **21.83** | 1.4 |
| **Brass** | Rectangle | 1 x 2 | 1/8 | 76B | **1F039** | 32.28 | **29.95** | 2.4 |
| **Brass** | Square | 1¼ | 3/16 | 916B | **1F040** | 24.20 | **22.45** | 1.9 |
| **Brass** | Octagon | 1¼ | 3/16 | 947B | **1F041** | 22.26 | **20.66** | 1.9 |
| **Stainless Steel** | Round | 1½ | 3/16 | 1098S | **1F036** | 42.73 | **39.55** | 1.8 |

## STANDARD BRASS VALVE TAGS

Six different consecutively numbered legends available. Round, 18-gauge solid brass tags are 1½" in diameter with a 3/16" tophole. Feature 1/4" black-filled characters above 1/2" black-filled numbers. Tags satisfy ANSI A13.1-1981-3.4. (For identification of materials in pipes of less than 3/4" in diameter. Use of permanently legible tags is suggested for valve and fitting identification.) Sold in consecutively numbered lots of 25. Legends available are: AC (air conditioning), CW (cold water), HW (hot water), GAS, HTG (heating), and PLBG (plumbing). Made in USA. C.H. Hanson brand.




| Number Series | AC Tags Hanson Model | AC Tags Stock No. | CW Tags Hanson Model | CW Tags Stock No. | HW Tags Hanson Model | HW Tags Stock No. | GAS Tags Hanson Model | GAS Tags Stock No. | HTG Tags Hanson Model | HTG Tags Stock No. | PLBG Tags Hanson Model | PLBG Tags Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AC25 | **1F048** | CW25 | **1F056** | HW25 | **1F064** | GAS25 | **1F072** | HTG25 | **1F080** | PLBG25 | **1F088** | $23.99 | **$21.57** | 0.5 |
| 26 -50 | AC50 | **1F049** | CW50 | **1F057** | HW50 | **1F065** | GAS50 | **1F073** | HTG50 | **1F081** | PLBG50 | **1F089** | 23.99 | **21.57** | 0.5 |
| 51 -75 | AC75 | **1F050** | CW75 | **1F058** | HW75 | **1F066** | GAS75 | **1F074** | HTG75 | **1F082** | PLBG75 | **1F090** | 23.99 | **21.57** | 0.5 |
| 76 -100 | AC100 | **1F051** | CW100 | **1F059** | HW100 | **1F067** | GAS100 | **1F075** | HTG100 | **1F083** | PLBG100 | **1F091** | 23.99 | **21.57** | 0.5 |
| 101 -125 | AC125 | **1F052** | CW125 | **1F060** | HW125 | **1F068** | GAS125 | **1F076** | HTG125 | **1F084** | PLBG125 | **1F092** | 23.99 | **21.57** | 0.5 |
| 126 -150 | AC150 | **1F053** | CW150 | **1F061** | HW150 | **1F069** | GAS150 | **1F077** | HTG150 | **1F085** | PLBG150 | **1F093** | 23.99 | **21.57** | 0.5 |
| 151 -175 | AC175 | **1F054** | CW175 | **1F062** | HW175 | **1F070** | GAS175 | **1F078** | HTG175 | **1F086** | PLBG175 | **1F094** | 23.99 | **21.57** | 0.5 |
| 176 -200 | AC200 | **1F055** | CW200 | **1F063** | HW200 | **1F071** | GAS200 | **1F079** | HTG200 | **1F087** | PLBG200 | **1F095** | 23.99 | **21.57** | 0.5 |




## LEAD SECURITY SEALING PRESS AND SEALS

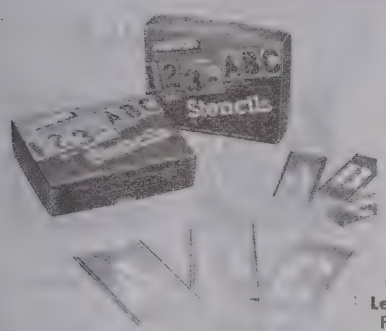
Heavy-duty sealing press and lead seals provide security and protection in a variety of situations. Once the annealed two ply twisted wire is slipped through hole in lead seal disc and crushed with press, seal cannot be opened without detection. Use for sealing shipping containers, various meters, controls, valves, and boxes as well as other applications where tamper resistance is desired. Lead seal discs are 7/16" in dia. with 10" long wires. C.H. Hanson brand.

**No. 1F132.** Seal Press (27905). Shpg. wt. 0.9 lbs. List.....$48.71. Each.....**$43.30**

**No. 1F246.** Security Seals (27910). 7/16" disc with 10" long two ply wire. 100 seals per package. Shpg. wt. 1.1 lbs. List.....$10.39. Each.....**$9.41**

# BRASS ADJUSTABLE INTERLOCKING STENCILS

THE C.H. Hanson COMPANY




92-Piece Number & Letter Kits Available in Four Character Sizes



13-Piece Number & 33-Piece Letter Kits Available in Large 8, 10, & 12" Sizes

A flexible method of marking goods for shipment, and making signs for plant use. Simple to use. All characters interlock by sliding adjacent grooves of individual stencils together. Equally simple to disassemble and wipe clean for immediate recomposition or storage. Made in USA. C.H. Hanson brand.

**92-piece character kits** are available in 1, 2, 3, and 4" character heights and include: four letter E's; three each A, I, N, O, S; one Q; two each of remaining letters and ampersand (&) symbol. Numbers include three each 1 and 0; two each of 2 thru 9. Also one each of beginner, period ender, plain ender, comma, and dash; two periods; three spacers.

**13-piece number kits** come in 8, 10, and 12" number heights and include: one each 1 thru 9 and 0; one each of beginner, plain ender, and period.

**33-piece letter kits** also come in 8, 10, and 12" letter heights and contain: one each A thru Z; one each of ampersand (&), beginner, ender, spacer, period, comma, and dash.

| Kit Description | Character Height (In.) | Hanson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **92-Piece Numbers & Letters** | 1 | 10118 | **3W647** | $45.09 | **$36.65** | 0.8 |
| | 2 | 10151 | **6A231** | 62.52 | **51.30** | 1.3 |
| | 3 | 10153 | **6A232** | 113.71 | **80.25** | 2.1 |
| | 4 | 10154 | **3W648** | 169.36 | **129.55** | 3.7 |
| **13-Piece Numbers** | 8 | 10160 | **1F042** | 129.51 | **117.45** | 4.1 |
| | 10 | 10161 | **1F043** | 206.79 | **187.75** | 4.5 |
| | 12 | 10162 | **1F044** | 237.77 | **215.75** | 5.5 |
| **33-Piece Letters** | 8 | 10165 | **1F045** | 411.70 | **373.50** | 8.5 |
| | 10 | 10166 | **1F046** | 526.68 | **477.75** | 11.0 |
| | 12 | 10167 | **1F047** | 601.91 | **546.50** | 13.0 |

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

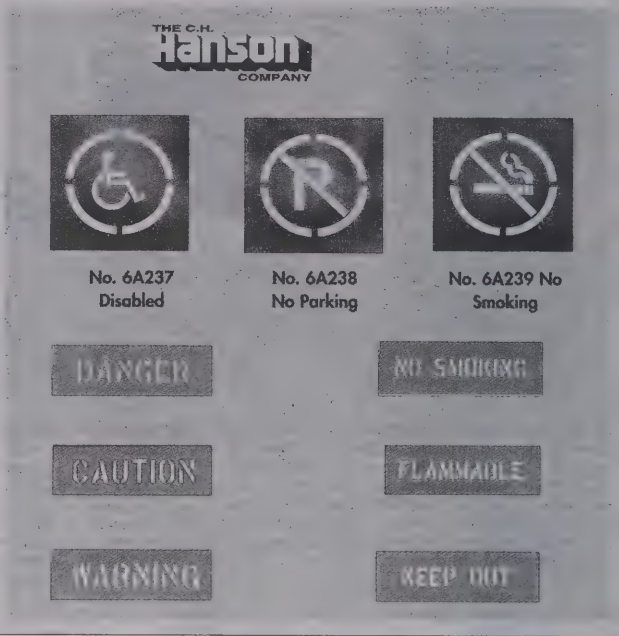
## SAFETY STENCILS

Flexible stencils are precut for simple application to numerous surfaces where they quickly provide legible warnings and precautions. Easily cleaned and reusable stencils are made of durable PVC plastic. Ideal for plant and parking lot applications. Can be used with a variety of spray or brush-on paint.

Symbol stencils have overall dimensions of 20 x 20". Word stencils have an overall stencil size of 6" high x 22" long. Danger, Caution, and Warning signal words conform to OSHA regulation 1910.145F and can be used with Nos. 6A237, 6A238, and 6A239 symbol stencils. Made in USA. C.H. Hanson brand.

### SPECIFICATIONS AND ORDERING DATA

| Description | Symbol Size or Letter Ht. (In.) | Hanson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **SAFETY SYMBOL STENCILS** | | | | | | |
| **Disabled** | 15 x 15 | 12416 | **6A237** | $25.20 | **$14.33** | 0.8 |
| **No Parking** | 15 x 15 | 12417 | **6A238** | 25.20 | **14.33** | 0.8 |
| **No Smoking** | 15 x 15 | 12418 | **6A239** | 25.20 | **14.33** | 0.8 |
| **SAFETY LEGEND STENCILS** | | | | | | |
| **No Smoking** | 2 H | 12400 | **1F121** | 6.82 | **6.10** | 0.1 |
| **No Parking** | 2 | 12401 | **1F122** | 6.82 | **6.10** | 0.1 |
| **Keep Out** | 2 | 12402 | **1F123** | 6.82 | **6.10** | 0.1 |
| **Flammable** | 2 | 12410 | **1F127** | 6.82 | **6.10** | 0.1 |
| **Exit** | 2 | 12411 | **1F128** | 6.82 | **6.10** | 0.1 |
| **High Voltage** | 2 | 12412 | **1F129** | 6.82 | **6.10** | 0.1 |
| **Fire Extinguisher** | 2 | 12413 | **1F130** | 6.82 | **6.10** | 0.1 |
| **Bio Hazard** | 2 | 12415 | **1F131** | 6.82 | **6.10** | 0.1 |
| **Danger** | 2½ | 12406 | **1F124** | 6.82 | **6.10** | 0.1 |
| **Caution** | 2½ | 12407 | **1F125** | 6.82 | **6.10** | 0.1 |
| **Warning** | 2½ | 12408 | **1F126** | 6.82 | **6.10** | 0.1 |




## PARKING LOT AND FLOOR STENCILS

Durable stencils provide clear and legible warnings and precautions. Made of 0.015 mil thick high impact, chemical-resistant plastic. Reusable, flexible, and durable, these stencils are easily stored when not in use. Made in USA. C.H. Hanson brand.

**Parking lot stencils** help solve employee parking problems, provide added service to customers and visitors, and promote traffic safety. Large 12" high letters. Can be used on a variety of surfaces with either spray or brush-on paints formulated for parking lot use. (Refer to Rust-Oleum System Selector on page 1980)

**Floor marking stencils** are typically used for factory and warehouse floors and sidewalks. When used with spray or brush-on paints, these reusable stencils provide easy permanent identification of dangerous or hazardous areas. Character height is 3".

### SPECIFICATIONS AND ORDERING DATA

| Description | Overall L x H (In.) | Hanson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **PARKING LOT LEGENDS** | | | | | | |
| **No Parking** | 75 x 18 | 12430 | **3W626** | $31.39 | **$27.85** | 1.8 |
| **Disabled** | 75 x 18 | 12441 | **3W627** | 31.39 | **27.85** | 1.8 |
| **Fire Lane** | 75 x 18 | 12432 | **3W628** | 31.39 | **27.85** | 1.8 |
| **Exit Only** | 75 x 18 | 12433 | **3W629** | 31.39 | **27.85** | 1.8 |
| **Reserved** | 75 x 18 | 12434 | **3W630** | 31.39 | **27.85** | 1.8 |
| **Visitors** | 75 x 18 | 12435 | **3W631** | 31.39 | **27.85** | 1.8 |
| **Entrance** | 75 x 18 | 12439 | **3W632** | 31.39 | **27.85** | 1.8 |
| **PARKING LOT SYMBOLS** | | | | | | |
| **Straight Arrow** | 60 x 21 | 12436 | **3W633** | 31.39 | **27.85** | 1.4 |
| **Curved Arrow** | 60 x 21 | 12437 | **3W634** | 31.39 | **27.85** | 1.8 |
| **Disabled** | 51 x 46 | 12438 | **3W635** | 36.65 | **32.60** | 2.8 |
| **FLOOR MARKING STENCILS** | | | | | | |
| **Watch Your Step** | 36 x 7 | 12420 | **1F096** | 19.16 | **16.91** | 0.3 |
| **Keep Aisle Clear** | 36 x 7 | 12421 | **1F097** | 19.16 | **16.91** | 0.3 |



# SIGN STANDS

### No. 4HC74 ROLL-UP/RIGID TRI-POD SIGN STAND

Tripod style sign stand displays 36" or 48" roll-up or rigid signs, without special adapters, around construction work zones. Fabricated from durable, galvanized mechanical tubing. Strong, lightweight design allows for easy set-up and take down. Special attention given to elimination of sharp edges. Also holds up to 3 warning flags for additional visibility.

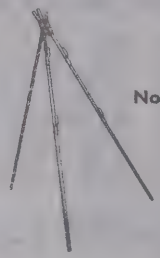
### No. 4HC76 ALUMINUM SPRING-LESS SIGN STAND

Sign stand displays 36" or 48" roll-up signs a minimum of 14" off the ground. Spring-less stand features fold-down telescoping aluminum legs utilizing kick-lock release levers. Legs adjust for uneven terrain. Ideal for use with roll-up signs offered below. Signs are held securely in place by a swivel pad and threaded shaft, tightened via easy to use knob.

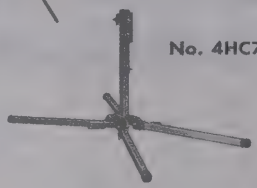
### No. 4HC77 ALUMINUM SPRING LOADED SIGN STAND

Spring loaded sign stand displays 36" or 48" roll-up signs a minimum of 14" off the ground. Patented spring design incorporates positive stops to prevent spring over-stress and absorbs winds up to 50 mph. Durable, lightweight, and corrosion-resistant aluminum legs provide longer service life and easier handling without sacrificing strength. Telescoping legs provide maximum stability. Ideal for use with roll-up signs offered below.

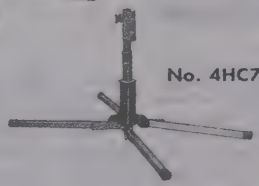
| Description | Services Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Roll-up/Rigid Tri-Pod** | 2173227 | **4HC74** | $58.85 | **$47.10** | **$44.75** | 13.0 |
| **Aluminum Spring-Less** | 2180177 | **4HC76** | 209.50 | **167.75** | **159.36** | 15.0 |
| **Aluminum Spring-Loaded** | 2180191 | **4HC77** | 275.00 | **220.00** | **209.00** | 20.0 |



No. 4HC74



No. 4HC76



No. 4HC77

SERVICES & MATERIALS

# ADDGARD BARRICADE SYSTEM

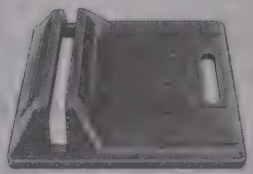
Ideal for confined space manholes, industrial plant dangers, sidewalk barriers, airports, and hospitals. Meets the OSHA requirement (29 CFR parts 1910) for protecting "confined space" and MUTCD requirement (MUTCD 6D-1) protecting pedestrians in a temporary traffic control work zone. Quick release snap hinge allows for quick assembly and take down, enabling a large area to be fenced off in minutes. Folds accordion style for compact storage. Manufactured of structurally foam molded polyethylene. Each Addgard Barricade System unit consists of 4 panels, 2 "Caution" signs, 2 "Confined Space" signs and 4 orange and white reflective striped boards. No. 4HC75 thirteen pound flat weights offer additional panel stability. Order separately below.

| Description | Services Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Addgard Barricade System** | 2190562 | **4HC79** | $598.00 | **$478.50** | **$454.58** | 45.0 |
| **13-Lb. Flat Weight** | 2173708 | **4HC75** | 51.00 | **40.10** | **38.10** | 14.0 |



No. 4HC79

• No. 1A123 Flashing light and No. 4HC75 base are sold separately



SERVICES & MATERIALS

No. 4HC75

# ROLL-UP SIGNS

## MESH ROLL-UP SIGNS

Constructed with 2 layers of orange heavy duty, double knit, nylon mesh material. Legends and boarders are heat sealed using black vinyl material. Sign kits include: 36" or 48" sign, heavy duty rib supports and carrying case.

## REFLECTIVE VINYL ROLL-UP SIGNS

Fluorescent orange, super bright reflective vinyl construction signs are most effective during the hours of dusk to dawn, when sources of light are reduced. Superior protection is provided by these temporary signs with highest reflectivity available. Sign kits include: 48" x 48" roll-up sign, heavy duty rib supports and carrying case.

| Symbol/Legend | Size (In.) | Services Model | Stock No. | List | Each | Lots 4 | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **MESH ROLL-UP SIGNS** | | | | | | | |
| **Person Working symbol** | 36 x 36 | 2190571 | **4HC80** | $88.75 | **$71.00** | **$67.45** | 5.5 |
| **Road Work Ahead legend** | 36 x 36 | 2190586 | **4HC81** | 88.75 | 71.00 | 67.45 | 5.5 |
| **Person Working symbol** | 48 x 48 | 2190598 | **4HC82** | 123.90 | 99.15 | 94.19 | 7.0 |
| **Road Work Ahead legend** | 48 x 48 | 2190603 | **4HC83** | 123.90 | 99.15 | 94.19 | 7.0 |
| **REFLECTIVE ROLL-UP SIGNS** | | | | | | | |
| **Person Working symbol** | 48 x 48 | 2190615 | **4HC84** | 358.36 | 286.75 | 272.41 | 7.0 |
| **International Flagger symbol** | 48 x 48 | 2190627 | **4HC85** | 358.36 | 286.75 | 272.41 | 7.0 |
| **Utility Work Ahead legend** | 48 x 48 | 2190639 | **4HC86** | 358.36 | 286.75 | 272.41 | 7.0 |



No. 4HC80



No. 4HC84

SERVICES & MATERIALS

## DUAL FUNCTION 12V LIGHT WITH PHOTOCELL FOR BEAR-A-CADE

Rugged, reliable unit provides trouble-free, long life operation in hot and/or cold weather. Amber 7" lens features dual function for both steady-burn and/or flashing triple switch. 55-75 FMP rate. Powered by two 6 volt lantern batteries (not included). Photocell conserves battery life and eliminates manual operation. Case constructed of copolymer polypropylene with UV stabilizers. Comes with theft resistant, galvanized 5½" bolt, protector, special wrench and key. Compliments Bear-A-Cade brand barricades Nos. 3JP35 and 3JP36, sold below. (#2000).

**No. 3JP33.** Shpg. wt. 2.7 lbs.
List $27.25. Each.....**$25.90**

## TYPE I AND II PLASTIC BARRICADES

- Durable
- Recyclable
- Expandable
- Economical
- Interchangeable
- Stackable

**Impact-resistant, plastic barricades are designed to snap together easily** and break away when hit, yielding less damage to persons, property and barricade itself. Cost efficient interchangeable modular panels allow replacement of single module, not entire barricade. High density polyethylene construction guarantees long wear. UV antioxidant additives resist sun damage. Washable, non-rusting. Push-button stabilizer arms help prevent closing, "walking", or toppling over in heavy winds. Holes at the bottom of legs allow for placement of anchoring stakes.

**Barricades feature 3M 8" x 24" engineer grade** reflective orange and white, left and right striped sheeting, meeting State of California requirements. Type I has sheeting on top panel only; Type II has sheeting on both top and bottom panels. Panels have reinforced bolt holes strategically placed for easy installation of signs. Accommodates industry standard flashing light with 5½" bolt (No. 3JP33, order separately above). Stacking lugs secure barricades in place for shipping and storage. Bear-A-Cade brand.

| Description | Bear-A-Cade Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Type I Barricade | W8X4E2 | 3JP35 | $62.60 | $59.50 | 18.0 |
| Type II Barricade | W8X4E4 | 3JP36 | 77.60 | 73.75 | 18.0 |

## MINI-CADE "CAUTION" SIGN STAND

Bear-A-Cade's mini-cade (cub) is bright yellow and made of recycled plastic materials. Provides a "24 hour" night and day visibility safety sign stand or warning device to alert of hazardous areas. Bold, black "CAUTION" lettering on 3M reflective sheeting. Can be used indoors or outdoors in various situations at home or on the job. High density polyethylene guarantees long wear. UV antioxidant additives resist sun damage. Washable, no rusting or warping. Reinforced bolt holes for easy installation of multi-purpose signage. Sign folds flat for easy storage. Bear-A-Cade brand (8X2E2).

**No. 3JP34.** Shpg. wt. 9.0 lbs.
List $38.80. Each.....**$36.90**

### VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

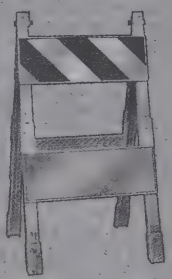
**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

Minority-Owned Business



No. 3JP33 Barricade Light

Meets MUTCD Standards



No. 3JP35 Type I Barricade



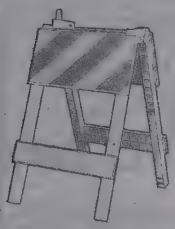
Passed State of California Dept. of Transportation Tests for Use on State Highways

No. 3JP36 Type II Barricade




- Durable
- Recyclable
- Economical

No. 3JP34 Mini-Cade Sign Stand



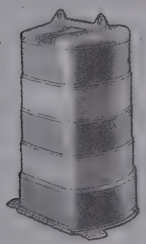
- Meets MUTCD Standards and minimum reflectivity requirements
- 100% recyclable
- Resistant to temperature extremes
- Recessed light mount bracket protects flashing light and keeps it attached when impacted

No. 3W259 Molded Plastic Barricade





Nos. 1A123 and 4HC78 Barricade Lights



No. 5U797 Plastic Channelizer (base sold separately)

**SERVICES & MATERIALS**

Replacement Parts Available 1-800-323-0620



No. 2W697 28" Traffic Cone



No. 5T039 18" Traffic Cone



No. 3T922 28" Traffic Cone with Reflective Collars

No. 5U800 12 lb. 36" Traffic Cone with Reflective Collars

## MOLDED PLASTIC BARRICADE

Features the latest technology for durability, impact absorption, recyclability and visibility. Safely warns motorists and pedestrians of dangers on roads and around construction work zones. Engineer reflective orange and white stripes provide nighttime visibility. Replaceable 12 x 24" top panel meets the Federal Manual on Uniform Traffic Control Devices for reflective sheeting requirements. Unique recessed light mount bracket protects and accommodates flashing barricade lights, No. 1A123 or No. 4HC78, sold separately below. Includes recessed area to protect reflective sheeting. Sheeted panel is replaceable. 24W x 36"H unit is made from a minimum of 30% post consumer recycled high density polyethylene. White color. Services & Materials brand (2085792).

**No. 3W259.** Shpg. wt. 18.0 lbs. List .....$72.34.
Each **$50.95**; Lots 4.....**$48.40**

## FLASHING AMBER BARRICADE LIGHT

7" Lexan polycarbonate lens in Fresnel design with advanced optics increases visibility. 55 to 75 FPM flash rate. Unit is powered by two 6V lantern batteries (such as No. 2V553, not included) and comes with an internal photocell which eliminates manual operation in outdoor applications and conserves battery power. Light can be mounted on any barricade or plastic barrel by use of a 3½" bolt. Tamperproof bolt and key provided help guard against theft. Used as a warning device around construction sites, work zones, in plant work areas, and around highway construction projects. Services & Materials brand (2004828).

**No. 1A123.** Shpg. wt. 1.8 lbs. List .....$25.76.
Each **$16.81**; Lots 10.....**$15.97**

## L.E.D. AMBER BARRICADE LIGHT

**Offers same features as No. 1A123** Flashing Barricade Light listed above, with the latest technology for extended battery life. L.E.D. light provides savings in replacement batteries, replacement incandescent bulbs and labor costs. Bulb turns with lens to transmit light in proper direction. Features 7" polycarbonate lens in Fresnal design and internal photocell to eliminate manual operation. Services & Materials brand (2190550).

**No. 4HC78.** Shpg. wt. 2.0 lbs. List .....$48.00.
Each **$36.05**; Lots 10.....**$34.21**

## PLASTIC CHANNELIZERS

For use in channelizing or delineating traffic flow and marking specific hazards. Channelizers meet or exceed MUTCD Part IV Section 6C-6 Specifications. Highly visible units constructed of high density polyethylene that retains shape after repeated impacts. Single flat side prevents drum from rolling after impact. Waffle pattern on bottom of base eliminates "creeping." **Base sold separately below.** Available with 4" or 6" engineer grade or flexible high intensity reflective sheeting, depending on local requirements. Tapered design enables nesting for storage and transport. 38⅝" height, 18⅛" top diameter, 22³⁄₁₆" base diameter. Accommodates No. 1A123 or No. 4HC78 flashing barricade lights, listed above. **Channelizer and base sold separately.** See chart below for ordering data. Services & Materials brand.

| Stripe Description | Services & Materials Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4" Engineer Grade Stripes** | 2070229 | **5U796** | $45.23 | **$38.50** | **$36.55** | 12.0 |
| **6" Engineer Grade Stripes** | 2070231 | **5U797** | 49.59 | **42.20** | **40.07** | 12.0 |
| **4" Hi-Intensity Stripes** | 2070205 | **5U798** | 74.90 | **63.75** | **60.52** | 12.0 |
| **6" Hi-Intensity Stripes** | 2070217 | **5U799** | 86.84 | **73.00** | **69.33** | 12.0 |
| **Channelizer Base** | 2070425 | **5U794** | 12.25 | **10.42** | **9.90** | 0.7 |

## TRAFFIC CONES

Flow molded PVC cones have extra wide, weighted bases for maximum stability in high winds and highway turbulence, no ballast needed. Construction withstands high speed impacts; cones snap back into shape with little or no damage. "Hi-viz" red/orange. Nos. 5U795 and 5U800 feature a black base. Available plain or stenciled with "Caution/Wet Floor" legend on one side of cone only. Used indoors and out to channel traffic, control crowds, warn people of repair projects, wet floors, and similar hazards. No. 3T922 28" cone and No. 5U800 12 lb. 36" cone feature 2 permanently attached reflector cone collars needed to meet standards set in the Federal Manual on Uniform Traffic Control Devices (MUTCD Manual Section F, VI-34(c) and VI-34(c) Rev. 5). This states that a cone 28" or more should be reflectorized with a 6" and 4" white reflective band when used on high speed roadways and on all facilities during hours of darkness. Stack easily to store. Services & Materials brand.

| Height | Base | Color | Stencil | Mfr. Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 18" | 11 x 11 | Red/Orng. | Plain | TC-18W | **5W419** | $8.87 | **$6.13** | **$5.82** | 2.8 |
| 28 | 14½ x 14½ | Red/Orng. | Plain | TC-28W | **2W697** | 15.73 | **11.33** | **10.76** | 6.0 |
| 36 | 14½ x 14½ | Red/Orng.* | Plain | TC-36DW | **5U795** | 22.01 | **14.18** | **13.47** | 12.0 |
| 18 | 11 x 11 | Red/Orng. | Caution/Wet Floor | TC-18W-CWF | **5T039** | 9.72 | **6.26** | **5.95** | 3.0 |
| 28 | 14½ x 14½ | Red/Orng. | Caution/Wet Floor | TC-28W-CWF | **5T040** | 17.33 | **12.99** | **12.35** | 7.0 |
| 28 | 14½ x 14½ | Red/Orng. | Refl. Collars | TC-28W-CCGR | **3T922** | 30.35 | **19.13** | **18.17** | 6.3 |
| 28 | 14½ x 14½ | Red/Orng. | Refl. Collars | TC-36DW-CCGR | **5U800** | 36.46 | **23.51** | **22.33** | 12.0 |
| 36 | 14½ x 14½ | Red/Orng. | | | | | | | |

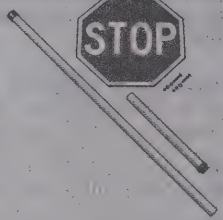
(*) Feature black base.




- Ideal for School Crossing Guards, Flagmen and Plant Security Guards

No. 5T048 No. 5T049




## STOP AND SLOW PADDLES

High visibility portable traffic control signs meet Federal MUTCD regulations. Both styles are easy to carry and use all day. Store easily in work vehicles. Both paddles feature a red "STOP" sign with 6" white letters on one side and "SLOW" sign on other side with orange background and 6" black letters. No 5T049 has 8" letters. Services & Materials brand.

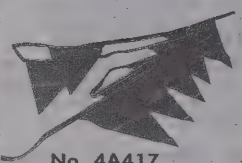
**No. 5T048** is an 18" octagon-shaped sign made of durable weatherproof 0.063 gauge aluminum. Aluminum handle dimensions are 3/4" diameter x 5" length.

**No. 5T049** is a 26" diameter black ABS plastic reflectorized octagon-shaped sign. Two-piece staff with plastic couplings. Staff dimensions are 2" diameter x 81" length.

| Description | Services & Materials Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **18" Octagon Shape** | S&S-18 | **5T048** | $29.55 | **$23.85** | **$22.66** | 2.5 |
| **26" Octagon Shape** | 2177613 | **5T049** | 80.62 | **65.55** | **62.27** | 5.0 |

**SERVICES & MATERIALS**





No. 4A417

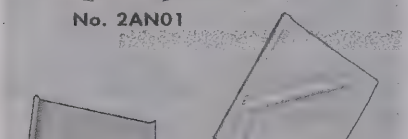


No. 2AN01

## COLORED PENNANTS

**Strong 4 mil vinyl pennants** sewn onto reinforced polypropylene cording. Each string is 60 ft. long. 9 x 12" Pennants. Draws attention to construction sites, work areas, perimeter marking, sporting events, store grand openings, and special sales. **Priced each, sold in multiples of 5 pennants only.** Services & Materials brand.

| Color | Number of Pennants per String | Services & Materials Model | Stock No. | List | Lots 5 | Lots 25 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Red** | 36 | PM-60 | **4A417** | $6.30 | **$4.15** | **$3.94** | 0.4 |
| **Multi-Color** | 36 | 0118895 | **2AN01** | 6.36 | **4.45** | **4.23** | 0.6 |



No. 4A415 No. 1N948

## STANDARD WARNING FLAGS

Fluorescent hi-viz red/orange vinyl blend flag is 18W x 18"L, mounted on 3/4" diameter hardwood dowel. Hem is heat sealed to help prevent tearing. No. 1N948 has 24" dowel with plastic stay. Used by flaggers and school crossing guards, with traffic cones No. 2W697, on trucks, and to identify hazardous areas. (Not recommended for trucks traveling at highway speeds.) **Priced each, sold in multiples of 10 flags only.** Services & Materials brand.

| Description | Services & Materials Model | Stock No. | List | Lots 10 | Lots 30 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Flag with Dowell** | VF1824 | **4A415** | $2.86 | **$2.09** | **$1.99** | 0.4 |
| **Flag with Dowell and Stay** | 0117217 | **1N948** | 3.64 | **2.55** | **2.42** | 0.5 |

## ECONOMY THROWAWAY FLAGS

Used in any application where materials are protruding outside the perimeter of vehicles. Bright red 4 mil polyethylene plastic flag. Widely used by lumber companies and contractors. Three sizes: 12 x 12", 16 x 16", and 18 x 18". **100 flags per package.** Services & Materials brand.

| Flag Size (In.) | Services & Materials Model | Stock No. | Per Package List | Per Package Each | Lots 5 Packs | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 12 x 12 | ETF-12 | 5T055 | $19.64 | $16.36 | $15.54 | 1.9 |
| 16 x 16 | ETF-16 | 5T056 | 27.87 | 23.16 | 22.01 | 3.4 |
| 18 x 18 | ETF-18 | 5T057 | 30.39 | 25.40 | 24.13 | 4.4 |



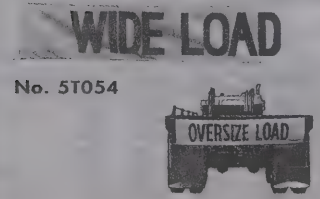
No. 5T055

No. 5T056 No. 5T057

## WIDE LOAD/OVERSIZE LOAD BANNER

8 ft. long x 18" wide banner is made of bright yellow 10 oz reinforced vinyl coated nylon with 3/16" jute rope for fastening. Big bold 12" black letter with "WIDE LOAD" on one side, and "OVERSIZE LOAD" on the other side. Services & Materials brand (C/WLB).

**No. 5T054.** Shpg. wt. 1.4 lbs. List .....$22.33. Each **$18.20**; Lots 5 .....**$17.29**

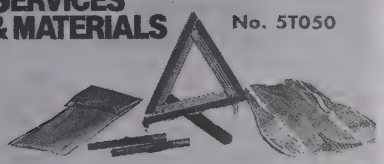



No. 5T054

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

SERVICES & MATERIALS



No. 5T050

## MOTORIST SAFETY KIT

Provides safety for those emergency repairs along highways. Kit includes two 30-minute Hi-Intensity cyalume lightsticks, one highway warning triangle, and one reflective vest. Kit comes in waterproof bag. Dayglow orange reflective vest is made of soft, lightweight synthetic mesh, and has a Velcro front closure with elastic side ties. Highway warning triangle complies with Federal Motor Vehicle Safety Standard No. 125. Constructed of molded polypropylene plastic with red acrylic plastic reflectors for day or night use. Easy to erect and set up. Weighted base rotates 90°. 17¾W x 16¼"H. Services & Materials brand (MSK).

**No. 5T050.** Shpg. wt. 5.1 lbs. List .....$34.96.
Each **$29.40;** Lots 5 .....**$27.93**

SERVICES & MATERIALS



## NON-SPIKE SAFETY FLARES

Provide long distance illumination for safety during emergency road-side situations. Flares are visible in fog, rain, or snow and are easy to ignite with self-contained striker. Available in 15, 20 or 30 minute duration. UL Listed. Services & Materials brand.

| Flare Duration | Quantity Per package | Services & Materials Model | Stock No. | Per Package List | Per Package Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **15** | 72 | 15NSP | **1N936** | $130.56 | **$84.90** | **$80.62** | 37.0 |
| **20** | 72 | 0117944 | **1N944** | 163.20 | **106.10** | **100.78** | 34.0 |
| **30** | 36 | 0117279 | **1N946** | 106.84 | **69.50** | **65.99** | 25.0 |

SERVICES & MATERIALS



## HIGHWAY WARNING TRIANGLES

Constructed of molded plastic in high visibility fluorescent orange with red acrylic plastic reflectors for day or night use. Dimensions including base: 17¾W x 16¼"H. Weighted base rotates 90° to prevent triangles from blowing over in wind or highway turbulence. Design meets FMVSS 125 Specifications and SAE-W4-74DOT. Set of three triangles packed in molded storage case. Services & Materials brand (HWT-3).

**No. 1A493.** Shpg. wt. 19.0 lbs. List .....$26.63.
Each **$24.46;** Lots 5 .....**$23.24**

## SAFETY VESTS

Comfortable vests in dayglow orange color are available in Econo Style, General purpose, Surveyor's or LED Flashing style. D.O.T. Reflective and Tightweave vests are lime color. Services & Materials brand.

Econo Style Vests, Nos. 5AG19 and 5AZ90 are 100% dayglow orange polyester mesh and have 3/4 x 2" front Velcro closure with 3/4 x 8" elastic side straps. Both are bound in 3/4" black cotton binding. No. 5AZ90 has 3/4" reflective lime green vertical stripes on both front and back, and it conforms to Manual on Uniform Traffic Control Devices. Section 6F-3. VI-60 (C) Rev.5. Priced each, sold in multiples of 5 vests only.

**General Purpose Vests, Nos. 4A414 and 4A413** are similar to the Econo Style vests above only these are constructed of flat-weave, vinyl coated polyester mesh. No. 4A413 is reflective and has 1⅜" vertical stripes on front and back, and it conforms to Manual on Uniform Traffic Control Devices. Section 6F-3. VI-60 (C) Rev.5. **Priced each, sold in multiples of 5 vests only.**

**Surveyor's Vests, Nos. 1N934 and 1N932** are 65% cotton and 35% polyester and feature 1⅜" white reflective stripes. These vests have front zipper closure with two outside and two inside pockets. **Priced and sold individually.**

**L.E.D. Flashing Safety Vest, No. 4RR16** is a poncho-style soft mesh vest with flashing horizontal stripes. Vertical reflective stripes are 1⅜" wide. Ideal for flaggers, law enforcement and emergency response. L.E.D. light is visible up to 1/2 mile. Two AA batteries for 240 hours of battery life (fully charged). One size fits all. **Priced and sold individually.**

**D.O.T. Reflective Safety Vests, Nos. 4RR15 and 4RR13** are polyester tightweave fluorescent lime mesh material and feature 1½" orange/silver reflective stripes. Bound in black cloth binding with hook and loop front closure. 360° visibility at night, conform to high visability requirements and manual on Uniform Traffic Control Devices Section 6E-3, Revision 3. **Priced and sold individually.**

**Tightweave Reflective Vest, No. 4RR14** is lightweight, woven polyester mesh with 1½" orange/silver vertical reflective stripes. Breathable vest features black cloth binding with elastic side straps and hook and loop front closure. Meets D.O.T. requirements for fluorescent lime color. One size fits all. **Priced and sold individually.**

SERVICES & MATERIALS

New



No. 1N934 Surveyor's Vest



No. 4A413 Reflective



No. 4A414 Nonreflective



No. 4RR14 Tightweave Vest



No. 4RR13 D.O.T. Vest



No. 4RR16 L.E.D. Vest

| Vest Description | Size | Services Model | Stock No. | List | Each | Lots 5 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **ECONO STYLE VESTS** | | | | | | | | |
| Nonreflective | Universal | 0104143 | 5AG19 | $5.83 | — | $3.75 | $3.56 | 0.1 |
| Reflective | Universal | 0104193 | 5AZ90 | 11.14 | — | 7.18 | 6.82 | 0.2 |
| **GENERAL PURPOSE VESTS** | | | | | | | | |
| Nonreflective | Universal | GPV | 4A414 | 7.38 | — | 4.89 | 4.65 | 0.1 |
| Reflective | Universal | GPV RFL | 4A413 | 11.76 | — | 9.50 | 9.03 | 0.1 |
| **SURVEYOR'S VEST** | | | | | | | | |
| Reflective | Large | 2080626 | 1N934 | 26.43 | 17.02 | 16.17 | 15.32 | 0.6 |
| Reflective | X-Large | 2080638 | 1N932 | 27.21 | 17.52 | 16.64 | 15.77 | 0.6 |
| **LED FLASHING VEST** | | | | | | | | |
| Reflective | Universal | 2197481 | *New* 4RR16 | 43.50 | 36.95 | 35.10 | 33.26 | 0.7 |
| **D.O.T. REFLECTIVE VESTS** | | | | | | | | |
| Reflective | Large | 2197455 | *New* 4RR15 | 27.20 | 23.25 | 22.09 | 20.93 | 0.1 |
| Reflective | X-Large | 2197170 | *New* 4RR13 | 28.80 | 24.50 | 23.28 | 22.05 | 0.1 |
| **TIGHTWEAVE VEST** | | | | | | | | |
| Reflective | Universal | 2197443 | *New* 4RR14 | 15.60 | 13.25 | 12.59 | 11.93 | 0.1 |

## DELINEATOR POSTS

**Easily transportable** delineator provides durable highly visible barrier. Features unique reflective dot. Applications include traffic delineation in congested areas, parking garages, and sporting events. Each unit features two 3" white reflective collars and two yellow reflective dots for added daytime and nighttime visibility. Impact resistant polyethylene. 4 O.D. x 42"H. Delineators meet standards set in MUTCD Section F, 3F-2.

**No. 3T999** delineator features permanent metal base that can be either epoxied to road surface or bolted down using standard anchor bolts for semi-permanent applications.

**No. 3T998** delineator features durable 12 lb. rubber base that slides over post and enables unit to be easily moved.

Services & Materials brand.




| Base Type | Services & Materials | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Metal | 42PM | 3T999 | $27.05 | $22.62 | $21.49 | 4.0 |
| Rubber | 42RPRB-12 | 3T998 | 29.67 | 24.52 | 23.29 | 15.0 |

## BRADYLINK™ WARNING POST AND CHAIN

- Nonconductive
- Built-in ultraviolet inhibitors
- Lightweight—Chain weighs less than 9 lbs. per 100 ft.
- Nonrusting •Fillable base
- Posts striped for greater visibility

**Barricade potentially hazardous areas** with portable post and chain. For indoor and outdoor use. Made of polyethylene. Black and yellow stripe post, yellow link chain. Posts come with bases and tops in sets of six. Brady USA brand.



Insert post into base and turn into place. Base may be filled with sand to make the assembly more stable.



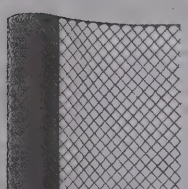
Drop chain into post slots, insert post top, and turn into place.

BRADY



| Descr. | Color | Quantity per Bag | Size | Brady Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Post | Black/Yellow | 6 Posts/Bases/Tops | 40"H | 92234 | 4T632 | $392.70 | $357.00 | $321.30 | 19.0 |
| Chain | Yellow | 100 ft. | 2"W x 100'L | 78238 | 4T630 | 146.08 | 132.80 | 119.52 | 7.0 |
| Links | Yellow | 36 | 2"W | 78246 | 4T631 | 27.42 | 24.93 | 22.44 | 0.7 |

## PLASTIC SAFETY FENCE



- Acid resistant
- Nonconductive
- Nontoxic
- Reusable
- 50 ft. roll length
- U.V. Stabilized

SERVICES & MATERIALS








**Strong, lightweight, reusable** bright orange colored diamond mesh safety fence is made of high density polyethylene. Used for temporary or permanent enclosures around excavations, construction sites, dangerous equipment, at ski resorts, golf courses, recreation areas, for crowd control barriers, and erosion control netting. Roll size is 4 ft. high x 50 ft. long. Mesh opening is 1¼ x 1½". Breakload is 360 lbs. per foot. Services & Materials brand (FNC-450S).

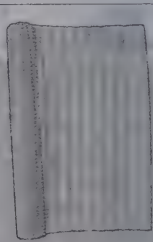
**No. 5W418.** Shpg. wt. 14.0 lbs. List.....$68.70.
Each Roll **$49.30**; Lots 3 .....**$46.84**

## WARNING BARRIER FENCE

**Economical, highly visible** bright orange colored safety fence designed to provide an excellent visual warning barrier around work zones, hazardous areas, or for crowd control. This strong, lightweight fence is made of high density polyethylene. The rolls are extremely compact, easy to handle, and require a minimum of storage space. Roll size is 4 ft. high x 100 ft. long. Oval mesh opening is 3½ x 1½". Breakload is 740 lbs. per foot. Services & Materials brand (LWBF-4100)

**No. 5T587.** Shpg. wt. 16.0 lbs. List .....$112.68.
Each Roll **$69.00**; Lots 3 .....**$65.55**

SERVICES & MATERIALS



# FLAGGING, BARRIER, UNDERGROUND AND ANTISKID TAPES

## FLAGGING TAPE

**Highly visible** rugged poly-vinyl plastic tape for flagging boundary stakes, trees, hazardous areas and right of way **Standard package of 12 rolls per carton.**

| Color | Services & Material Model | Stock No. | Per Carton List | Per Carton Each | Lots 5 Cartons | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1¼" x 150 FT. DAYGLOW COLOR ROLLS** | | | | | | |
| **Dayglow Orange** | ST-100DG | **3T995** | $17.27 | **$14.69** | **$13.95** | 4.6 |
| **Dayglow Pink** | ST-100DG | **3T996** | 17.27 | **14.69** | **13.95** | 4.6 |
| **Dayglow Lime** | ST-100DG | **3T997** | 17.27 | **14.69** | **13.95** | 4.6 |
| **Dayglow Red** | ST-100DG | **3T994** | 17.27 | **14.69** | **13.95** | 4.6 |
| **Dayglow Blue** | ST-100DG | **1N938** | 17.27 | **14.69** | **13.95** | 4.6 |
| **1¼" x 300 FT. STANDARD COLOR ROLLS** | | | | | | |
| **Yellow** | ST-100 | **1N940** | 17.27 | **14.69** | **13.95** | 4.3 |
| **Red** | ST-100 | **1N942** | 17.27 | **14.69** | **13.95** | 4.1 |




## CAUTION BARRIER TAPE

**Poly barricade tape is strong, yet disposable** and very economical. Can be reused. Repeat wording easily identifies any hazard and outlines restricted areas. Used for identifying work sites, construction and hazardous areas, perimeter marking, and pedestrian crossings. Roll size is 3" x 1000 ft. Tape thickness approx. 4 mils. Caution tape is yellow with black lettering. Danger tape is red with black lettering. Meet OSHA Spec. 1910.144 for marking of hazardous areas. Services & Materials brand.

| Description | Services & Materials Model | Stock No. | Per Roll List | Per Roll Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **YELLOW COLOR—3" x 1000 FT. ROLLS** | | | | | | |
| **CAUTION** | JRB-3 | **4A416** | $18.08 | **$12.20** | **$11.59** | 4.0 |
| **CAUTION RESTRICTED AREA** | 2172986 | **1N912** | 18.08 | **12.20** | **11.59** | 4.0 |
| **CAUTION NO PARKING** | 0110893 | **1N954** | 18.08 | **12.20** | **11.59** | 4.0 |
| **CAUTION CONSTRUCTION AREA** | 0110855 | **1N958** | 18.08 | **12.20** | **11.59** | 4.0 |
| **CAUTION DO NOT ENTER** | 0110867 | **1N956** | 18.08 | **12.20** | **11.59** | 4.0 |
| **CAUTION (Spanish)** | 2088522 | **1N922** | 18.08 | **12.20** | **11.59** | 4.0 |
| **POLICE LINE DO NOT ENTER** | 0111029 | **1N950** | 18.08 | **12.20** | **11.59** | 4.0 |
| **HAZARDOUS AREA KEEP OUT** | 0110984 | **1N952** | 18.08 | **12.20** | **11.59** | 4.0 |
| **RED COLOR—3" x 1000 FT. ROLLS** | | | | | | |
| **DANGER DO NOT ENTER** | 0110805 | **1N962** | 18.08 | **12.20** | **11.59** | 4.0 |
| **DANGER DANGER** | 0110817 | **1N960** | 18.08 | **12.20** | **11.59** | 4.0 |




## DETECTABLE UNDERGROUND TAPE

Detectable underground tape provides location and identification of buried utility lines. Durable plastic encased aluminum. American Public Works association color coded for specific use. Services & Materials brand.

| Color | Type of Application | Services & Materials Model | Stock No. | Per Roll List | Per Roll Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **2" x 1000 FT. ROLLS** | | | | | | | |
| **Red** | Electric | 0110738 | **1N966** | $40.35 | **$34.30** | **$32.59** | 4.0 |
| **Green** | Sewer | 0110714 | **1N970** | 40.35 | **34.30** | **32.59** | 4.0 |
| **Yellow** | Gas | 0110740 | **1N964** | 40.35 | **34.30** | **32.59** | 4.0 |
| **Orange** | Fiber optics | 0110726 | **1N968** | 40.35 | **34.30** | **32.59** | 4.0 |
| **6" x 1000 FT. ROLLS** | | | | | | | |
| **Red** | Electric | 2087989 | **1N930** | 112.06 | **95.25** | **90.49** | 8.0 |
| **Green** | Sewer | 2088002 | **1N928** | 112.06 | **95.25** | **90.49** | 8.0 |
| **Yellow** | Gas | 2088028 | **1N926** | 112.06 | **95.25** | **90.49** | 8.0 |
| **Orange** | Fiber optics | 2088041 | **1N924** | 112.06 | **95.25** | **90.49** | 8.0 |



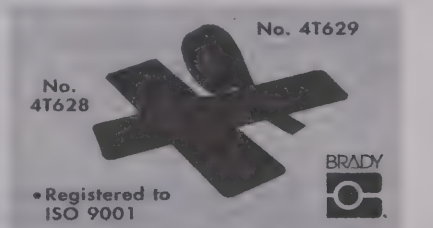

## ANTISKID TAPE

- **Works indoors or outdoors**
- **Bonds permanently**
- **Withstands grease and oil**
- **Eliminates masking, cleanup, and drying time**

Rugged, adhesive backed plastic tape is coated with durable aluminum oxide grit* for sure traction. Helps reduce the likelihood of slipping and falling on wet or slick floors. Black color. Brady USA brand.

(*) Adheres to most clean, dry, oil-free surfaces. Conforms to irregular or uneven surfaces so your protection stays in place.

| Description | Qty. Per Pack | Size | Brady USA Model | Stock No. | List | Each | Lots/Qty. | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Cleats** | 50 Pcs. | 6" x 24" | 78195 | **4T628** | $229.90 | **$209.00** | **$188.10** | /3 | 11.0 |
| **Rolls** | 1 | 2" x 60 Ft. | 78190 | **4T629** | 48.01 | **43.65** | **39.29** | /6 | 2.2 |




## STRIPED ANTISKID TAPE

Bright yellow and black striped Anti-Skid tape aids visibility and helps prevent slipping and falling on wet or slick floors. Adhesive backed plastic tape, oxide grit coated. One roll per package. Brady USA brand.

| Size | Brady USA Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1" x 60'** | 78146 | **3ZG31** | $32.39 | **$29.45** | **$26.51** | 1.1 |
| **2" x 60'** | 78147 | **3ZG32** | 64.84 | **58.95** | **53.06** | 0.7 |
| **3" x 60'** | 78148 | **3ZG33** | 97.24 | **88.40** | **79.56** | 1.6 |
| **4" x 60'** | 78149 | **3ZG34** | 129.63 | **117.85** | **106.07** | 4.5 |
| **6" x 60'** | 78150 | **3ZG35** | 383.62 | **348.75** | **313.88** | 3.5 |



# ANTI-SKID TAPE, PAINT AND EPOXY

## FLEX-TRED® ANTI-SKID TAPE

**Heavy-duty anti-skid safety surface** installs quickly and provides durable pedestrian safety on slippery surfaces. Pressure sensitive adhesive backed tape will stick to virtually any smooth dry surface. Available in rolls, strips and die cuts in sparkle black standard color.

Edge Sealer No. 3JW45 is used to seal edge of anti-skid surface tape when used in wet environments. Floor Preparation Solution No. 3JW46 is used to clean the application area prior to application of anti-skid surface tape. **These accessories are for use with Flex-Tred tape, not to be used alone.** Wooster Products brand.

| Description | Width (In.) | Length | Qty. per Pkg. | Wooster Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Anti-Skid Tape Roll** | 1 | 60 ft. | 1 | 1X60SB | **3JW41** | $14.08 | **$12.67** | 1.2 |
| **Anti-Skid Tape Roll** | 2 | 60 ft. | 1 | 2X60SB | **3JW42** | 31.02 | **28.20** | 2.5 |
| **Anti-Skid Tape Roll** | 4 | 60 ft. | 1 | 4X60SB | **3JW43** | 56.33 | **50.70** | 5.0 |
| **Anti-Skid Tape Roll** | 6 | 60 ft. | 1 | 6X60SB | **3JW44** | 84.50 | **76.05** | 7.5 |
| **Anti-Skid Strips** | 1 | 24 in. | 50 | 1X24SB | **3JT31** | 36.00 | **30.10** | 3.0 |
| **Anti-Skid Strips** | 2 | 24 in. | 50 | 2X24SB | **3JT33** | 65.00 | **58.50** | 5.0 |
| **Anti-Skid Strips** | 6 | 24 in. | 50 | 6X24SB | **3JW40** | 154.00 | **146.30** | 13.0 |
| **Anti-Skid Strips** | 5½ | 5½ in. | 50 | 55X55SB | **3JW39** | 37.00 | **33.30** | 3.0 |
| **Edge Sealing Compound** | — | — | 1 | Edge Sealer | **3JW45** | 6.32 | **5.75** | 0.4 |
| **Floor Preparation Compound** | — | — | 1 | Floor Prep | **3JW46** | 3.85 | **3.50** | 0.4 |

## SAFE-STRIDE® ANTI-SKID PAINT

**Acrylic, abrasive anti-slip paint** provides safe traction for pedestrian traffic. Single coat application dries in 18 to 25 hours. Surface installation is between 12 and 16 mils. Lead, chromium and mercury free. Applies with brush or roller, cleans up easily with water. Adheres to cleaned bare materials such as wood, concrete, primed metal, asphalt, marble, stone and many other surfaces. Use Floor Preparation compound No. 3JW46, sold separately above, to clean and prepare surface before application. Coverage of 100 to 125 sq. ft. per gallon. For best results, apply above 50°F. Available in one gallon containers. Wooster Products brand (SSAGRY)

**No. 3JW47.** Shpg. wt. 13.0 lbs.
List $44.71. Each.....**$40.65**

## SAFETY RESURFACER KIT

**Provides safe traction for pedestrians** and vehicles on floors, decks and ramps. Heavy-duty two-part epoxy cures overnight to a durable anti-slip safety surface. Surface installation is about 1/16" thick and fills cracks, holes and voids with no shrinkage. When properly installed, will not crack or separate from substrate when subjected to reasonable flexing, thermal shock or impact. Bonds to practically any surface. USDA approved. Coverage of 25 sq. ft. per kit with no shrinkage.

**Kit includes:** Part "A" epoxy with abrasive grit, Part "B" epoxy curing agent with color pigment, blending agitator for proper mixing, spatula for removing material from cans, and squeegee applicator for proper grit exposure. Wooster Products brand (WP70KITGRY).

**No. 3JW48.** Shpg. wt. 20.0 lbs.
List $101.42. Each.....**$92.20**

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

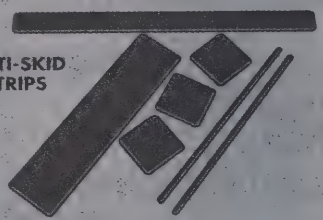
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

WOOSTER PRODUCTS, INC.

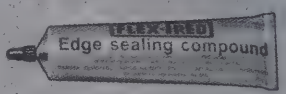
Women-Owned Business



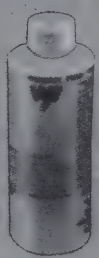
ANTI-SKID TAPE ROLLS



ANTI-SKID STRIPS



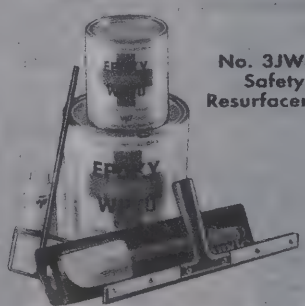

No. 3JW45 Edge Sealing Compound



No. 3JW46 Floor Preparation Compound




No. 3JW47 Anti-Skid Paint



No. 3JW48 Safety Resurfacer Kit

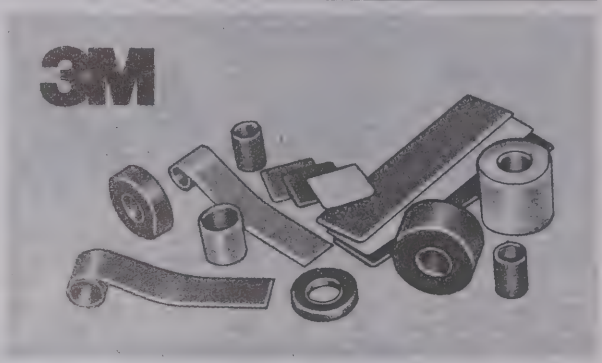
# SLIP RESISTANT SAFETY TAPES/TREADS AND ACCESSORIES

**Safety-Walk™ slip resistant materials** line of pressure sensitive tapes provide additional tension in a slippery situation. Available in treads and matting and comes in a variety of pre-cut, easy to apply shapes, sizes, colors, and grades.

## SAFETY-WALK™ GENERAL PURPOSE TREADS

**Mineral-coated, slip resistant material.** Highly durable surface. Low profile reduces trip hazard. For use on smooth, flat surfaces such as ramps, walkways, loading docks, and around machinery and vehicles. 3M brand.

| Color | Size | 3M Model | Stock No. | Qty. / Pkg. | Priced Per Pkg. List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Black | 6" x 24" piece | 610 | 5AN41 | 50 | $196.98 | $179.50 | 5.2 |
| | 5½" x 5½" piece | | 6BV12 | 50 | 50.35 | 45.80 | 3.5 |
| | 1" x 60 ft. roll | | 6BV13 | 4 | 82.42 | 74.95 | 10.0 |
| | 2" x 60 ft. roll | | 5AN34 | 2 | 78.03 | 70.95 | 3.3 |
| | 4" x 60 ft. roll | | 6AD55 | 1 | 78.03 | 70.95 | 2.1 |
| | 6" x 60 ft. roll | | 3AH44 | 1 | 113.91 | 103.60 | 3.6 |
| | 12" x 60 ft. roll | | 6BV14 | 1 | 237.74 | 216.25 | 10.0 |
| Yellow | 2" x 60 ft. roll | 630 | 6BV15 | 2 | 82.42 | 74.95 | 3.5 |
| | 4" x 60 ft. roll | | 6BV16 | 1 | 82.42 | 74.95 | 3.5 |
| | 6" x 60 ft. roll | | 6BV17 | 1 | 143.58 | 130.55 | 5.2 |




## SAFETY-WALK™ CONFORMABLE TREADS

High-friction slip resistant material has aluminum backing that conforms around corners and adheres to irregular surfaces. Used for diamond grade safety plates, steps, ladder rungs, and heavy equipment and vehicles. 3M brand.

| Color | Size | 3M Model | Stock No. | Qty. / Pkg. | Priced Per Pkg. List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Black | 6" x 24" piece | 510 | 6BV20 | 50 | $273.69 | $249.00 | 10.0 |
| | 2" x 60 ft. roll | | 6BV21 | 2 | 105.47 | 95.95 | 3.5 |
| | 4" x 60 ft. roll | | 6BV22 | 1 | 105.47 | 95.95 | 3.5 |
| | 6" x 60 ft. roll | | 6BV23 | 1 | 158.19 | 143.85 | 5.2 |

## SAFETY-WALK™ MEDIUM RESILIENT TREADS

**Resilient non-mineral, slip resistant material.** Soft surface is suitable for bare feet. Use in locker rooms, recreational/athletic equipment areas, boats, docks, interior stairwells, entryways, and lobbies. 3M brand.

| Color | Size | 3M Model | Stock No. | Qty. / Pkg. | Priced Per Pkg. List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Black | 6" x 24" piece | 310 | 6BV24 | 50 | $234.18 | $213.25 | 10.0 |
| Gray | 6" x 24" piece | 370 | 6BV28 | 50 | 234.18 | 213.25 | 10.0 |
| Black | 2" x 60 ft. roll | 310 | 6BV25 | 2 | 90.10 | 81.95 | 3.9 |
| Gray | 2" x 60 ft. roll | 370 | 6BV30 | 2 | 90.10 | 81.95 | 3.9 |
| Black | 4" x 60 ft. roll | 310 | 6BV26 | 1 | 90.10 | 81.95 | 3.9 |
| Gray | 4" x 60 ft. roll | 370 | 6BV29 | 1 | 90.10 | 81.95 | 3.9 |
| Black | 6" x 60 ft. roll | 310 | 6BV27 | 1 | 135.16 | 122.90 | 5.8 |
| Gray | 6" x 60 ft. roll | 370 | 6BV31 | 1 | 135.16 | 122.90 | 5.8 |

## SAFETY-WALK™ SLIP-RESISTANT GENERAL PURPOSE MATTING

Used in food service and industrial applications. Low profile enables easy movement of cart and people traffic. Vinyl material will not absorb liquids. Excellent solution where oily/greasy quarry tiles present a safety concern. 3M brand.

| Color | Size | 3M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Brown | 3 ft. x 5 ft. | 860 | 6BV68 | $189.02 | $170.25 | 14.0 |
| | 3 ft. x 10 ft. | | 6BV69 | 377.78 | 340.00 | 29.0 |
| | 3 ft. x 20 ft. | | 6BV70 | 755.18 | 680.00 | 52.0 |
| | 3 ft. x 40 ft. | | 6BV71 | 1505.36 | 1355.00 | 100.0 |

## SAFETY-WALK™ WALK-EASY CLEAN TREADS

Durable, moppable construction. Slip-resistant surface for dry, wet or oily floors. Suitable for industrial and commercial applications. Used in heavy boot shoe and cart traffic areas. Comfortable for bare feet. 3M brand.

| Color | Size (In.) | 3M Model | Stock No. | Qty. / Pkg. | Priced Per Pkg. List | Each | Shpg. wt. |
|---|---|---|---|---|---|---|---|
| Brown | 5½ x 5½ piece | 460 | 6BV18 | 50 | $96.00 | $86.40 | 3.5 |
| | 6 x 24 piece | | 6BV19 | 50 | 320.70 | 291.75 | 10.0 |

# SAFETY-WALK™ ACCESSORIES

## 3M EDGE SEALING COMPOUND

Seals tread edges exposed to water, grease, or oil. Use with 3M Safety-Walk™ products. 5 oz. tube. 3M brand (No. 902).

**No. 6BT82.** Shpg. wt. 7.3 lbs. List $271.08. Each ..... $246.75

## SAFETY-WALK™ PRIMER

For preparing porous surfaces prior to tread application. One quart. 3M brand (No. 901).

**No. 6BV33.** Shpg. wt. 0.5 lbs. List $7.97. Each ..... $7.25

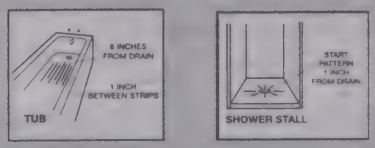
## SAFETY-WALK™ TUB & SHOWER STRIPS

3/4" x 17" strips have fine textured surface for light traffic areas and bare skin applications. Package includes 400 strips. 3M brand (No. 7705).

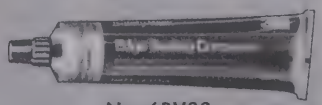
**No. 6BV32.** Shpg. wt. 2.3 lbs. List $23.94. Each ..... $21.75




No. 6BV32




No. 6BT82



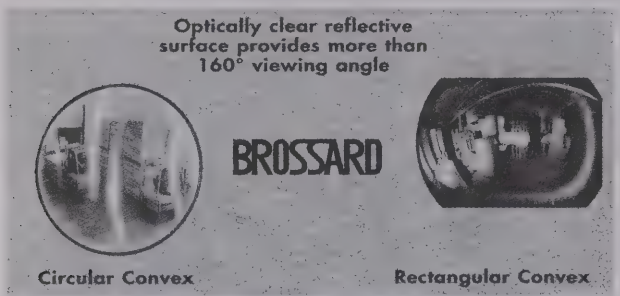
No. 6BV33

VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our online catalog allows you to search and display products as well as place orders online. . . day or night.**

# SAFETY AND SECURITY MIRRORS

## CONVEX STYLE SAFETY AND SECURITY MIRRORS




Enable dock workers and drivers to see around blind corners and doorways. Also used for security to monitor aisles and high risk areas. All circular and rectangular convex mirrors are trimmed with heavy extruded rubber rim. Suitable for indoor or outdoor use and require minimum maintenance.

Adjustable swivel ball assembly and heavy gauge steel mounting bracket enable fine adjustment of proper angle for effective viewing. Mirror size in inches equates to viewing distance in feet, i.e. 18" mirror distance seen clearly is 18 feet. Rectangular mirrors use height.

Lightweight, shatterproof Klear Vu® acrylic lens mounted to durable hardboard backing or steel backing for added strength and durability. For use in harsh environments. Tough, double-strength glass lens models mounted to hardboard backing are also available. Klear Vu® brand by Brossard.

| Size (In.) | Approx. Distance of Sight (Ft.) | Mfr. Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. | Mfr. Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. | Mfr. Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ACRYLIC LENS/HARDBOARD BACKING | | | | | | ACRYLIC LENS/STEEL BACKING | | | | | | GLASS LENS/HARDBOARD BACKING | | | | | |
| **CIRCULAR CONVEX MIRRORS** | | | | | | | | | | | | | | | | | | | |
| 12 Dia. | 12 | P120 | 3W670 | $33.49 | $31.05 | $29.47 | 4.0 | P-120MR | 6AR72 | $50.02 | $41.70 | $39.61 | 4.5 | 120 | 1M876 | $35.34 | $29.45 | $27.98 | 5.0 |
| 18 | 18 | P180 | 2A095 | 66.88 | 52.35 | 49.73 | 6.0 | P-180MR | 2BC95 | 66.27 | 55.25 | 52.47 | 7.5 | 180 | 1M868 | 55.75 | 46.50 | 44.14 | 8.0 |
| 26 | 26 | P260 | 5A121 | 108.83 | 86.90 | 82.54 | 10.0 | P-260MR | 5AN32 | 113.08 | 94.25 | 89.52 | 13.0 | 260 | 1M866 | 85.68 | 71.40 | 67.83 | 14.0 |
| 30 | 30 | P300 | 3W672 | 142.32 | 128.80 | 122.35 | 14.0 | P-300MR | 4BC13 | 139.98 | 116.70 | 110.83 | 17.0 | 300 | 1M864 | 110.88 | 92.40 | 87.78 | 18.0 |
| 36 | 36 | P360 | 5A122 | 178.08 | 142.35 | 135.21 | 20.0 | P-360MR | 2AK29 | 189.63 | 158.25 | 150.13 | 24.0 | 360 | 1M862 | 123.48 | 102.90 | 97.76 | 25.0 |
| **RECTANGULAR CONVEX MIRRORS** | | | | | | | | | | | | | | | | | | | |
| 12H x 18L | 18 | P1218 | 3W676 | 57.96 | 51.80 | 49.18 | 6.0 | P-1218MR | 1M802 | 77.17 | 64.35 | 61.10 | 7.0 | | | | | | |
| 18 x 26 | 26 | P1826 | 3W677 | 102.63 | 91.50 | 86.89 | 10.0 | P-1826MR | 1M800 | 131.48 | 109.60 | 104.09 | 12.0 | | | | | | |
| 20 x 30 | 30 | P2030 | 3W678 | 132.82 | 118.60 | 112.67 | 12.0 | P-2030MR | 1M798 | 172.80 | 144.05 | 136.80 | 14.0 | | | | | | |
| 24 x 36 | 36 | P2436 | 3W679 | 173.88 | 155.25 | 147.43 | 15.0 | P-2436MR | 1M796 | 211.36 | 176.25 | 167.33 | 19.0 | | | | | | |

## DOME STYLE SAFETY AND SECURITY MIRRORS

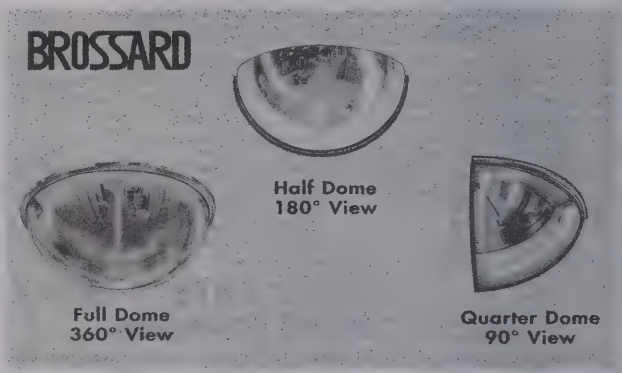
Lightweight, shatterproof All Vu® acrylic dome mirrors offer wide angle visibility of aisle, pedestrian or vehicle traffic at blind intersections and corners. For indoor or outdoor use. All mirrors have heavy extruded rubber rim. Full and half dome styles are available with either durable hardboard backing or steel backing for added strength and durability.

Require minimum maintenance. Viewing distance of mirror in feet is equivalent to its size in inches, i.e. 18" mirror distance seen clearly is 18 feet. Mirrors can be suspended or fastened to a wall or ceiling with hangers furnished. All Vu® brand by Brossard.

**Full Dome Mirrors** provide 360° viewing recommended for 4-way intersections. Ceiling type. Available with hardboard or steel backing. Extra large 48" size also available.

**Half Dome Mirrors** for 3-way "T" intersections allow 180° viewing. Wall or ceiling type. Choice of hardboard or steel backing.

**Quarter Dome Mirrors** enable 90° of viewing at 2-way, "L-shaped" intersections to help avoid collisions. Corner mounted. Available with hardboard backing only.




| Size Dia. (In.) | Approx. Distance of Sight (Ft.) | Brossard Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. | Brossard Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HARDBOARD BACKING | | | | | | STEEL BACKING | | | | | |
| **360° VIEW FULL DOME ACRYLIC MIRRORS** | | | | | | | | | | | | | |
| 18 | 18 | AV18F | 3W671 | $108.88 | $73.05 | $69.37 | 7.0 | AV18FS | 1M848 | $100.80 | $84.00 | $79.80 | 8.0 |
| 26 | 26 | AV26F | 5A123 | 152.61 | 116.85 | 110.97 | 15.0 | AV26FS | 1M836 | 161.22 | 134.35 | 127.63 | 17.0 |
| 32 | 32 | AV32F | 3W673 | 217.35 | 163.50 | 155.12 | 20.0 | AV32FS | 1M832 | 225.54 | 188.00 | 178.55 | 29.0 |
| 36 | 36 | AV36F | 5A124 | 248.69 | 179.50 | 170.32 | 28.0 | AV36FS | 1M826 | 247.59 | 206.50 | 196.01 | 32.0 |
| 48 | 48 | AV48F | 1AD60 | 320.04 | 266.75 | 253.37 | 40.0 | | | | | | |
| **180° VIEW HALF DOME ACRYLIC MIRRORS** | | | | | | | | | | | | | |
| 18 | 18 | AV18H | 5A125 | 57.69 | 42.60 | 40.45 | 4.0 | AV18HS | 1M846 | 58.77 | 49.00 | 46.54 | 5.0 |
| 26 | 26 | AV26H | 5A126 | 87.99 | 68.80 | 65.34 | 7.0 | AV26HS | 1M834 | 94.94 | 79.15 | 75.16 | 9.0 |
| 32 | 32 | AV32H | 3W674 | 137.02 | 100.35 | 95.31 | 15.0 | AV32HS | 1M830 | 138.47 | 115.40 | 109.63 | 15.0 |
| 36 | 36 | AV36H | 3W675 | 177.31 | 103.45 | 98.26 | 20.0 | AV36HS | 1M824 | 148.93 | 124.15 | 117.90 | 16.0 |
| **90° VIEW QUARTER DOME ACRYLIC MIRRORS** | | | | | | | | | | | | | |
| 18 | 18 | AV18Q | 6AJ57 | 29.00 | 24.17 | 22.96 | 3.0 | | | | | | |
| 26 | 26 | AV26Q | 2AZ20 | 46.80 | 39.05 | 37.05 | 5.0 | | | | | | |
| 32 | 32 | AV32Q | 1M828 | 62.49 | 52.10 | 49.48 | 7.0 | | | | | | |
| 36 | 36 | AV36Q | 1M822 | 77.99 | 65.00 | 61.75 | 8.0 | | | | | | |

# SPECIALTY DOME STYLE SAFETY AND SECURITY MIRRORS

### DROP-IN CEILING FULL DOME MIRROR

Shatterproof All Vu® acrylic drop-in ceiling dome mirror is for use with T-bar or suspended ceilings. For overhead surveillance and traffic safety. Easy to install. Simply remove existing ceiling tile and fit dome mirror into existing 2 x 2 ft. opening. 24" diameter. 360° panoramic viewing provides traffic safety in a variety of facilities. All Vu® brand by Brossard.

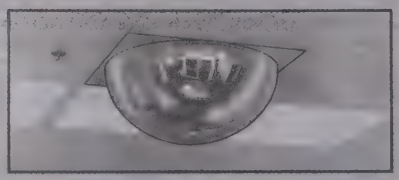
### SEE-THRU FULL DOME MIRRORS

All Vu® double-duty acrylic dome mirrors provide one way, see-thru viewing for hidden camera surveillance and is mirrored as an additional security feature, reducing chance of theft. 360° panoramic viewing also provides traffic safety. Choice of 18 or 24" size. All Vu® brand by Brossard.

### SEE-THRU SMOKED FULL DOME

Smoked acrylic full dome security device provides see-thru viewing for hidden camera surveillance. 24" diameter. Made of transparent smoked acrylic. Brossard.

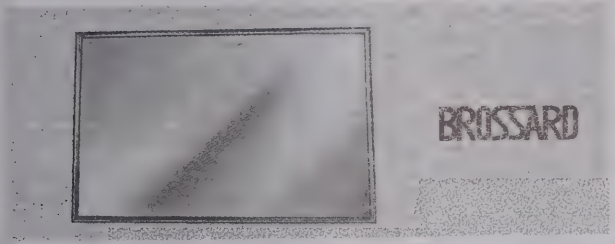
BROSSARD



Drop-in Ceiling Full Dome

| Description | Brossard Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Drop-in Ceiling Full Dome 24" | AV24DI | 1M842 | $129.40 | $107.85 | $102.45 | 12.0 |
| See-Thru Full Dome 18" | AV18ST | 1M844 | 77.99 | 65.00 | 61.75 | 11.0 |
| See-Thru Full Dome 24" | AV24ST | 1M838 | 110.88 | 92.40 | 87.78 | 12.0 |
| See-Thru Smoked Full Dome 24" | AV24SM | 1M840 | 102.06 | 85.05 | 80.80 | 12.0 |

# FLAT SAFETY AND SECURITY MIRRORS



BROSSARD

Klear Vu® inspection mirrors are used for detection and monitoring of assembly line equipment. Also useful for traffic safety. Mirrors are made with steel backing and stainless steel frame. For use indoors or outdoors. Available in shatterproof acrylic, double strength glass, or polished stainless steel for harsh environments and vandalism-prone areas. Corrosion-resistant. Klear Vu® brand by Brossard.

| Size (In.) L x W | Brossard Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ACRYLIC FLAT MIRRORS** | | | | | | |
| 12 x 12 | A-1212MR | 1M858 | $60.60 | $50.55 | $47.99 | 6.0 |
| 12 x 16 | A-1216MR | 1M856 | 66.40 | 55.35 | 52.57 | 8.0 |
| 16 x 24 | A-1624MR | 1M854 | 92.79 | 77.35 | 73.47 | 15.0 |
| 24 x 36 | A-2436MR | 1M852 | 186.29 | 155.25 | 147.48 | 28.0 |
| **GLASS FLAT MIRRORS** | | | | | | |
| 9 x 18 | 918MR | 1M860 | 37.04 | 30.90 | 29.33 | 9.0 |
| 12 x 12 | 1212MR | 1M874 | 44.22 | 36.90 | 35.02 | 8.0 |
| 12 x 16 | 1216MR | 1M872 | 62.11 | 51.80 | 49.18 | 10.0 |
| 16 x 24 | 1624MR | 1M870 | 90.46 | 75.40 | 71.62 | 18.0 |
| **POLISHED STAINLESS STEEL FLAT MIRRORS** | | | | | | |
| 10 x 14 | M-1014MR | 1M816 | 55.69 | 46.45 | 44.09 | 8.0 |
| 12 x 12 | M-1212MR | 1M814 | 59.85 | 49.90 | 47.39 | 7.0 |
| 12 x 16 | M-1216MR | 1M812 | 70.43 | 58.70 | 55.77 | 9.0 |
| 14 x 18 | M-1418MR | 1M810 | 81.01 | 67.55 | 64.14 | 11.0 |
| 16 x 24 | M-1624MR | 1M808 | 105.27 | 87.75 | 83.34 | 16.0 |
| 20 x 30 | M-2030MR | 1M806 | 172.30 | 143.60 | 136.41 | 24.0 |

# MOUNTING BRACKETS FOR SAFETY AND SECURITY MIRRORS

Steel extension mounting bracket for wall or ceiling enables installation of mirror in hard to reach areas and adjusts mirror to accommodate view. Can be used with convex or flat style safety and security mirrors. Brossard.

BROSSARD

| Length (In.) | Brossard Model | Stock No. | List | Each | Lot 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 14 | H100 | 1M820 | $11.86 | $9.89 | $9.40 | 2.0 |
| 24 | H200 | 1M818 | 15.52 | 12.94 | 12.29 | 2.0 |



14" and 24" brackets available

# VEHICLE SAFETY MIRRORS

Help eliminate dangerous blind spots when driving fork lifts, delivery trucks, buses, and other vehicles.

Rear view, back up mirror No. 2AT55 provides 180° viewing and is made of die-cast metal with polished chrome plate finish. Measures 2½ x 7". 8" diameter glass circular convex mirror or side arm mirror No. 1M804 provides 160° viewing. 8" diameter acrylic dome or eye ball mirror No. 1M850 provides 360° viewing area. All models are easily mounted. For indoor or outdoor use. Brossard.

| Description | Viewing Area | Brossard Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Rear View Mirror 2½ x 7" | 180° | M-70 | 2AT55 | $40.19 | $33.50 | $31.83 | 1.0 |
| Circular Convex Mirror 8" | 160° | 080MR | 1M804 | 25.35 | 21.13 | 20.07 | 3.0 |
| Acrylic Dome Mirror 8" | 360° | AV08F | 1M850 | 26.10 | 21.76 | 20.66 | 3.0 |

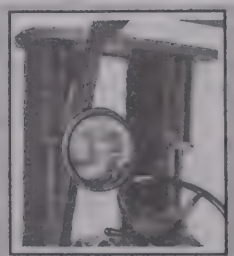
BROSSARD



No. 2AT55



No. 1M804



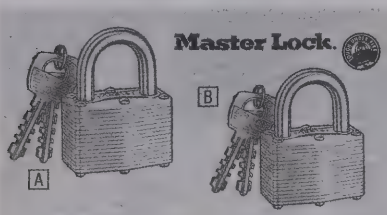
No. 1M850 Dome Mirror Mounted to Fork Lift

# STANDARD KEY SYSTEMS

Available in two types of key systems to meet your security needs. Locks can be ordered keyed differently or keyed alike.

**Keyed Different (KD).** Each lock has a different key number for added pick resistance and a wider key range.

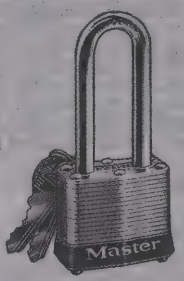
**Keyed Alike (KA).** Each lock has same key number for added convenience. Additional locks can be ordered later to fit that same key number. For master keying and other options not listed on this page, call 1-800-323-0620 for price and delivery.

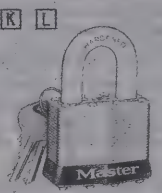






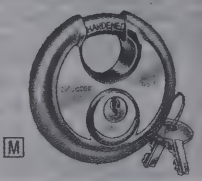
**For keyed alike or master keying, or for Key Sequences not listed, call 1-800-323-0620**




**MASTER LOCK LIFETIME WARRANTY**

Text of warranty available on request, see page opposite inside back cover




A, B **Medium Security.** Popular low cost protection ideal for applications requiring tamper resistance. Warded multi-spring locking padlock with durable laminated steel case and steel shackle. Rustproofed for extended wear. Two keys included. Individually boxed. Master Lock brand.

C, D **Medium Security.** Designed for general security uses including tool boxes, well covers, trash containers, and other similar applications. Features laminated steel case, single locking steel shackle and 4-pin tumbler locking mechanism. Rustproofed for extended wear. Extra length shackles available. Two brass keys included. Individually boxed. Master Lock brand.

E **thru** J **High Security.** Ideal for storage cabinets, tool cribs, sheds, gates and other similar applications. Tough laminated steel bodies stand up to physical abuse for dependable protection against theft. Features 4-pin tumbler lock mechanism with dual locking hardened steel shackles for cut and saw resistance. Extra length shackles available. Rustproofed for extended wear. Two brass keys included. Individually boxed. Master Lock brand.

K, L **High Security.** For perimeter and storefront gates, construction equipment, vending equipment and truck doors. Large diameter hardened alloy steel shackles resist cutting, sawing, pulling and prying. Heavy-duty steel cases stand up to severe attack. 5-Pin tumbler cylinders provide added pick resistance. Rustproofed for extended wear. Two brass keys included. Individually boxed. Master Lock brand.

M **High Security.** Round body design increases security by minimizing shackle exposure to cutting and sawing. Interior anti-saw pins deter cutting through the stainless steel case. Hardened steel shackle resists prying. Disc-shaped design helps repel forced attacks. Individually carded. Master Lock brand.

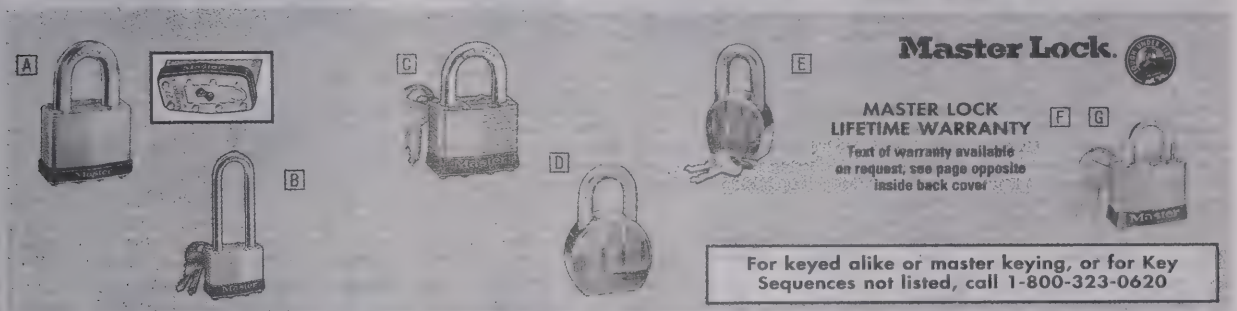
| Key | Security Level | Locking Mechanism | Case Size (In.) Width | Case Size (In.) Thickness | Key Type | Shackle Size (In.) H | Shackle Size (In.) W | Shackle Size (In.) Dia. | Master Model | Stock No. | List | Each | Lots/ Qty. | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Medium | Warded | 1½ | 3/4 | Different | 5/8 | 9/16 | 1/4 | 22 | **1A377** | $2.89 | **$2.34** | **$2.22/12** | **$2.11/36** | 0.3 |
| | | | | | Alike | | | | 22KA-338 | **3T978** | 3.29 | **2.66** | **2.53/12** | **2.40/36** | 0.3 |
| **B** | Medium | Warded | 1¾ | 3/4 | Different | 13/16 | 13/16 | 9/32 | 500 | **3T983** | 3.45 | **3.11** | **2.95/12** | **2.79/36** | 0.5 |
| | | | | | Alike | | | | 500KA-263 | **3T982** | 3.85 | **3.47** | **3.29/12** | **3.12/36** | 0.5 |
| **C** | Medium | 4-Pin Tumbler | 1⅛ | 1/2 | Different | 9/16 | 1/2 | 13/64 | 7 | **4T083** | 5.70 | **4.62** | **4.39/6** | **4.16/12** | 0.2 |
| | | | | | Alike | | | | 7KA-P225 | **4T085** | 6.67 | **5.40** | **5.13/6** | **4.86/12** | 0.2 |
| | | | | | Alike | | | | 7KA-P569 | **4T089** | 6.67 | **5.40** | **5.13/6** | **4.86/12** | 0.2 |
| | | | | | Alike | | | | 7KA-P256 | **4T094** | 6.67 | **5.40** | **5.13/6** | **4.86/12** | 0.2 |
| **D** | Medium | 4-Pin Tumbler | 1⅛ | 1/2 | Different | 2½ | 1/2 | 13/64 | 7LJ | **3T985** | 9.49 | **7.69** | **7.30/6** | **6.92/12** | 0.3 |
| | | | | | Alike | | | | 7LJKA-P518 | **3T984** | 9.89 | **8.01** | **7.61/6** | **7.21/12** | 0.2 |
| **E** | High | 4-Pin Tumbler | 1½ | 3/4 | Different | 3/4 | 5/8 | 9/32 | 3 | **1A376** | 7.11 | **5.76** | **5.47/6** | **5.18/12** | 0.5 |
| | | | | | Alike | | | | 3KA-3476 | **1A446** | 8.07 | **6.53** | **6.21/6** | **5.88/12** | 0.5 |
| | | | | | Alike | | | | 3KA-0410 | **4T087** | 8.07 | **6.53** | **6.21/6** | **5.88/12** | 0.4 |
| | | | | | Alike | | | | 3KA-3092 | **4T092** | 8.07 | **6.53** | **6.21/6** | **5.88/12** | 0.5 |
| **F** | High | 4-Pin Tumbler | 1½ | 3/4 | Different | 2 | 5/8 | 9/32 | 3LH | **5T812** | 10.69 | **8.66** | **8.23/6** | **7.79/12** | 0.5 |
| | | | | | Alike | | | | 3LHKA-0344 | **3T979** | 11.09 | **8.98** | **8.53/6** | **8.08/12** | 0.5 |
| **G** | High | 4-Pin Tumbler | 1¾ | 7/8 | Different | 15/16 | 3/4 | 5/16 | 1 | **1A375** | 8.23 | **6.67** | **6.34/6** | **6.00/12** | 0.5 |
| | | | | | Alike | | | | 1KA-2246 | **1A445** | 9.19 | **7.44** | **7.07/6** | **6.70/12** | 0.6 |
| | | | | | Alike | | | | 1KA-X2289 | **4T086** | 9.19 | **7.44** | **7.07/6** | **6.70/12** | 0.6 |
| | | | | | Alike | | | | 1KA-X2420 | **4T091** | 9.19 | **7.44** | **7.07/6** | **6.70/12** | 0.6 |
| **H** | High | 4-Pin Tumbler | 1¾ | 7/8 | Different | 2½ | 3/4 | 5/16 | 1LJ | **3T977** | 9.84 | **7.97** | **7.58/6** | **7.18/12** | 0.6 |
| | | | | | Alike | | | | 1LJKA-2440 | **3T976** | 10.80 | **8.75** | **8.31/6** | **7.87/12** | 0.5 |
| **I** | High | 4-Pin Tumbler | 2 | 1 | Different | 1 | 15/16 | 3/8 | 5 | **4T082** | 10.46 | **8.47** | **8.05/6** | **7.62/12** | 0.8 |
| | | | | | Alike | | | | 5KA-A326 | **4T084** | 11.41 | **9.24** | **8.78/6** | **8.32/12** | 0.8 |
| | | | | | Alike | | | | 5KA-A565 | **4T088** | 11.41 | **9.24** | **8.78/6** | **8.32/12** | 0.8 |
| | | | | | Alike | | | | 5KA-A418 | **4T093** | 11.41 | **9.24** | **8.78/6** | **8.32/12** | 0.8 |
| **J** | High | 4-Pin Tumbler | 2 | 1 | Different | 2½ | 15/16 | 3/8 | 5LJ | **3T981** | 14.89 | **12.06** | **11.46/6** | **10.85/12** | 1.0 |
| | | | | | Alike | | | | 5LJKA-A152 | **3T980** | 15.29 | **12.38** | **11.76/6** | **11.15/12** | 0.8 |
| **K** | High | 5-Pin Tumbler | 2 | 1 | Different | 1 | 3/4 | 7/16 | 17 | **1A374** | 13.79 | **11.17** | **10.61/6** | **10.05/12** | 1.0 |
| | | | | | Alike | | | | 17KA-19T455 | **1A444** | 14.19 | **11.49** | **10.92/6** | **10.34/12** | 1.0 |
| | | | | | Alike | | | | 17KA-14T325 | **4T090** | 14.19 | **11.49** | **10.92/6** | **10.34/12** | 0.9 |
| | | | | | Alike | | | | 17KA-14T917 | **4T095** | 14.19 | **11.49** | **10.92/6** | **10.34/12** | 0.9 |
| **L** | High | 5-Pin Tumbler | 2½ | 1⅛ | Different | 1 | 1 13/16 | 7/16 | 15 | **1D574** | 18.69 | **16.82** | **15.98/6** | **15.14/12** | 1.5 |
| | | | | | Alike | | | | 15KA-19N464 | **1D572** | 19.09 | **17.18** | **16.32/6** | **15.46/12** | 1.5 |
| **M** | High | 4-Pin Tumbler | 2¾ | 7/8 | Different | 3/4 | 3/4 | 3/8 | 40D | **1D560** | 16.39 | **14.75** | **14.01/6** | **13.28/12** | 0.6 |
| | | | | | Alike | | | | 40KAD-4M055 | **1D559** | 16.79 | **15.11** | **14.35/6** | **13.60/12** | 0.6 |

# REMOVABLE CYLINDER PADLOCKS AND BRASS PADLOCKS

Available in two types of key systems to meet your security needs. Locks can be ordered keyed different or keyed alike.

**Keyed Different (KD).** Each lock has a different key number. Choose 5- and 6-Pin tumbler locks for added pick resistance and a wider key range.

**Keyed Alike (KA).** Each lock has the same key number for added convenience. Additional locks can be ordered later to fit that same key number. For master keying and other options not listed on this page, call 1-800-323-0620 for price and delivery.




A, B, C **High Security with Removable Cylinders.** Removable cylinder allows padlock to be rekeyed whenever security is compromised due to lost keys or employee turnover. Includes 5-pin cylinders for pick resistance, dual locking steel shackles for cut and saw resistance. Nos. 1U163 and 1U164 include hardened alloy steel shackles and hardened locking levers for additional strength. Individually boxed. Master Lock brand.

D, E **High Security Round Body Design.** Includes removable cylinder feature of units listed above, with a round body design to deflect hammer blows. Anti-saw pins located in lock body to resist cutting. Features hardened steel alloy shackles, dual ball bearing locking, and 5-pin cylinders to resist physical assault and picking. Individually boxed. Master Lock brand.

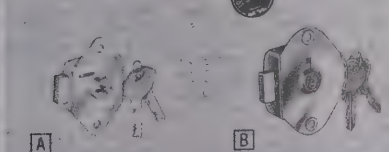
F, G **High Security Brass Padlocks.** Corrosion resistant brass case and brass cylinders make locks ideal for outdoor security use and other areas where corrosion is a problem. Dual locking hardened steel shackle provides pry, cut, and saw resistance, 4-pin cylinder resists picking. Applications include outdoor gates, sheds, truck doors, utility equipment, boats and marine equipment, and other areas where extra corrosion resistance and high security are required. Two keys included. Individually boxed. Master Lock brand.

## SPECIFICATIONS AND ORDERING DATA

| Key | Security Level | Locking Mechanism | Case Size (In.) Width | Case Size (In.) Thickness | Key Type | Shackle Dimensions (In.) H | Shackle Dimensions (In.) W | Shackle Dimensions (In.) Dia. | Master Model | Stock No. | List | Each | Lots 5 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | High | 5-Pin Tumbler | 1¾ | 7/8 | Different | 15/16 | 3/4 | 5/16 | 21 | 1U160 | $11.99 | $10.79 | $10.25 | $9.71 | 0.6 |
| | | | | | Alike | | | | 21KA-10L320 | 1U161 | 12.39 | 11.15 | 10.59 | 10.04 | 0.6 |
| B | High | 5-Pin Tumbler | 1¾ | 7/8 | Different | 2½ | 3/4 | 5/16 | 21LJ | 1U125 | 14.89 | 12.06 | 11.46 | 10.85 | 0.6 |
| | | | | | Alike | | | | 21LJKA-10L320 | 1U126 | 15.29 | 12.39 | 11.77 | 11.15 | 0.6 |
| C | Maximum | 5-Pin Tumbler | 2 | 1 | Different | 1 | 3/4 | 7/16 | 27 | 1U163 | 16.29 | 14.66 | 13.93 | 13.19 | 0.9 |
| | | | | | Alike | | | | 27KA-10L410 | 1U164 | 16.69 | 15.02 | 14.27 | 13.52 | 1.0 |
| D | Maximum | 5-Pin Tumbler | 2 | 7/8 | Different | 1 | 3/4 | 7/16 | 220 | 1U154 | 16.85 | 15.17 | 14.41 | 13.65 | 0.8 |
| | | | | | Alike | | | | 220KA-10L115 | 1U155 | 17.25 | 15.53 | 14.75 | 13.97 | 0.8 |
| E | Maximum | 5-Pin Tumbler | 2½ | 1 | Different | 1 | 15/16 | 7/16 | 230 | 1U157 | 19.45 | 17.51 | 16.63 | 15.75 | 1.3 |
| | | | | | Alike | | | | 230KA-10L262 | 1U158 | 19.85 | 17.87 | 16.97 | 16.08 | 1.3 |
| F | High | 4-Pin Tumbler | 1¾ | 7/8 | Different | 15/16 | 3/4 | 5/16 | 2 | 1U168 | 10.99 | 9.89 | 9.40* | 8.90† | 0.7 |
| | | | | | Alike | | | | 2KA-X2431 | 1U169 | 11.39 | 10.25 | 9.74* | 9.23† | 0.7 |
| G | High | 4-Pin Tumbler | 1½ | 3/4 | Different | 3/4 | 5/8 | 9/32 | 4 | 1U170 | 9.35 | 8.42 | 7.99* | 7.57† | 0.5 |
| | | | | | Alike | | | | 4KA-0712 | 1U171 | 9.75 | 8.78 | 8.34* | 7.90† | 0.5 |

(*) Lots 6 price. (†) Lots 12 price.

# KEY OPERATED LOCKER LOCKS




A **Medium Security.** For cost effective nuisance protection. Dependable lever tumbler design discourages pilfering and is ideal for applications requiring general security. Designed to fit most lockers. Rugged steel case withstands abuse. All locks supplied master keyed. Two keys supplied with each lock. Mounting hardware not included. Master Lock brand.

B **High Security.** Features 5-pin tumbler cylinders for pick resistance and increased key control. Includes manually operated deadbolt and hardened steel case to resist tampering and vandalism. Designed to fit most lockers. Two keys supplied with each lock. Mounting hardware not included. Master Lock brand.

## SPECIFICATIONS AND ORDERING DATA

| Key | Description | Security Level | Locking Mechanism | Key Type | Required Door Thickness | Master Lock Model | Stock No. | List | Each | Lots 10 | Lots 30 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Built-In Keyed Lock | Medium | Lever Tumbler | Master Keyed | .020"-.188" | 1718 | 5T806 | $9.36 | $8.42 | $8.00 | $7.58 | 0.3 |
| — | Master Key for No. 5T806 | — | — | — | — | 1718K | 6T328 | 3.70 | 3.33 | 3.16* | 3.00† | 0.1 |
| B | Built-In Keyed Lock | High | 5-Pin Tumbler | Different | .20-.188" | 1710 | 1D571 | 10.10 | 9.09 | 8.64 | 8.18 | 0.3 |

(*) Lots 25 price. (†) Lots 50 price.

## COMBINATION PADLOCKS

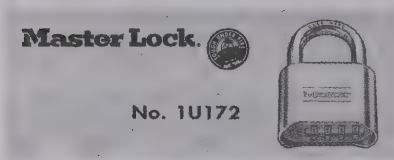



A, B **Medium Security.** Durable protection with reinforced stainless steel outer case covering heavy wrought steel inner case. Hardened steel shackle for cut and saw resistance. Lifetime lubricated. Dial automatically locks under shackle tension to resist combination picking. For use in factories, schools and lockers. Case sizes: 1⅞" thickness, 3/4" dia. Shackle dimen: 9/32" dia., 3/4" vertical, 13/16" horizontal. Nos. 4T103, 1D573, and 1D569 feature key control override for fast supervisory access to all locks in system. Control key ordered separately. Control chart with all serial numbers and combinations maintained at Master Lock. Verification required for control chart information. For small installations not requiring serial number and code registration, order No. 1D573. Master Lock brand.

C, D **High Security.** Provide protection against severe vandalism and attack. Combination convenience with dual locking hardened steel alloy steel shackles and solid inner case. Dial automatically locks under shackle tension to resist combination picking. Lifetime lubricated. For high security applications. Case sizes: 2³⁄₁₆" thickness. 15/16" dia. Shackles dimens: 5/16" dia. 1" vertical, 15/16" horizontal. For small installations not requiring serial number and key code registration, order No. 1D569. Master Lock brand.

| Key | Description | Security Level | Key Control | Registration Required | Master Model | Stock No. | List | Each | Lots/ Qty. | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Padlock | Medium | No | No | 1500 | **6X694** | $5.15 | **$4.08** | **$3.88/12** | **$3.67/36** | 0.4 |
| **B** | Padlock | Medium | Yes | No | 1525-V660 | **1D573** | 6.97 | **5.51** | **5.23/12** | **4.96/36** | 0.4 |
| — | Control Key for 1D573 | — | — | — | 1525K-V660 | **4B366** | 3.15 | **2.84** | **2.69/25** | **2.56/50** | 0.1 |
| **B** | Padlock | Medium | Yes | Yes | 1525 | **4T103** | 6.97 | **6.27** | **5.96/12** | **5.64/36** | 0.1 |
| — | Control Key for 4T103 | — | — | — | 1525K | **5T117** | 3.70 | **3.33** | **3.16/25** | **3.00/50** | 0.1 |
| **C** | Padlock | High | No | No | 2001 | **1D570** | 15.59 | **14.03** | **13.33/6** | **12.63/12** | 0.6 |
| **D** | Padlock | High | Yes | No | 2010-V70 | **1D569** | 17.59 | **15.83** | **15.04/6** | **14.25/12** | 0.8 |
| — | Control Key for No. 1D569 | — | — | — | 2010K-V70 | **4B365** | 3.15 | **2.84** | **2.69/25** | **2.56/50** | 0.1 |

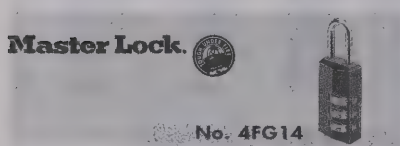
## RESETTABLE COMBINATION PADLOCKS




**Set-your-own combination feature** permits lock to open at any personally programmed 4-digit combination. Combination change key provided allows combination to be reset to any of 10,000 possible combinations. For use in allowing authorized individuals temporary access while retaining private control of reset feature. Hardened steel tamper guard blocks reset keyway when lock is closed. Dual locking hardened steel shackle provides high resistance to pulling, prying and cutting. Solid brass case for added corrosion protection. Standard or extra length shackles fit a variety of applications. Master Lock brand.

| Locking Mechanism | Case Size (In.) Width | Case Size (In.) Thickness | Shackle Dimensions (In.) H | Shackle Dimensions (In.) W | Shackle Dimensions (In.) Dia. | Master Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4-Digit Dialing** | 2 | 15/16 | 1 | 1 | 5/16 | 175 | **1U172** | $18.09 | **$14.98** | **$14.23** | **$13.48** | 0.6 |
| | | | 2¼ | 1 | 5/16 | 175 LH | **1U173** | 20.79 | **17.21** | **16.35** | **15.49** | 0.7 |

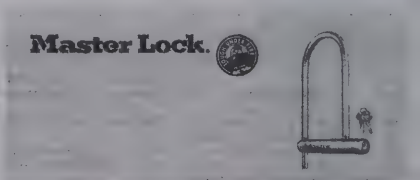
## SET-YOUR-OWN COMBINATION LUGGAGE LOCK




**Corrosion resistant** brass-plated steel shackle. Windows make viewing combination quick and accurate. Black zinc alloy body. Combination can be easily changed. Ideal for luggage, briefcases, sport bags, tool boxes, cabinets. **One per pack except No. 4FG15, which is two per pack.** Master Lock brand.

| Locking Mechanism | Case Size (In.) Width | Shackle Dimensions (In.) H | Shackle Dimensions (In.) W | Shackle Dimensions (In.) Dia. | Master Model | Stock No. | Package Qty. | List | Each | Lots 12 | Lots 36 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Resettable Combo** | 3/4 | 11/16 | 3/8 | 1/8 | 646D | **4FG14** | 1 | $3.73 | **$3.36** | **$3.19** | **$3.02** | 0.2 |
| | 3/4 | 11/16 | 3/8 | 1/8 | 646T | **4FG15** | 2 | 7.31 | **6.58** | **6.25** | **5.92** | 0.2 |
| | 1¼ | 15/16 | 9/16 | 3/16 | 647D | **4FG16** | 1 | 4.85 | **4.37** | **4.15** | **3.93** | 0.2 |

## COMMERCIAL U-BAR LOCK




**High Security.** Commercial U-Bar lock provides secure protection for commercial and industrial property including power equipment and generators, tools, ladders, and other high value items. Includes removable high security hardened alloy steel shackle for superior cut and saw resistance, deadbolt locking mechanism to withstand aggressive pulling and prying, and 5-pin tumbler cylinder for pick resistance. Keyed different. Shackle size: 8½"H x 4¼"W x 1/2" diameter. Individually boxed. Two keys included. Master Lock brand (50).

**No. 1D558.** Shpg. wt. 3.2 lbs. List $31.89.
Each **$28.70;** Lots 6.....**$27.27**

# PRO SERIES® PADLOCKS

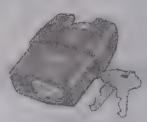


A B C






D E F



For keyed alike or master keying, or for Key Sequences not listed, call 1-800-323-0620



G

**A, B, C Weather Tough Rekeyable Padlocks** for outdoor commercial applications where weather is a problem. Thermal plastic cover and cylinder dust cover protect lock body and key cylinder from dirt, dust, and other contaminants. Drain channels move water and other debris through lock body and away from lock mechanism. Locks also feature chromed boron alloy steel shackles to repel saws and bolt cutters. Dual locking shackles resist forcing and prying, pick resistant spool pins prevent unauthorized entry. Locks can be ordered keyed differently or alike.

Padlocks feature steel case and 5-pin W6000 removable steel cylinder. Replaceable case-hardened chromed boron alloy steel shackle. Dual stainless steel ball bearings lock each shackle leg separately. Lubricated internally with "Corrosion X" to prevent rusting. Master Lock brand.

**D, E, F, G High Security Rekeyable Padlocks** for high security commercial use. Feature chromed boron alloy steel shackles which provide up to 16,000 lbs. shackle pull strength and include dual deadbolt locking for extreme resistance to prying. Large steel shackle guard repels saws and bolt cutters (Nos. 6T416 and 6T417 have hardened solid steel body). Five pin cylinders with pick resistant spool pins are virtually impossible to pick. Locks available keyed differently or alike.

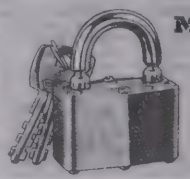
Padlocks feature steel case and removable 5-pin W6000 cylinder. Replaceable case-hardened chromed boron alloy steel shackle. Dual hardened stainless steel ball bearings lock each shackle leg separately. Weather resistant thermal plastic cover, except for Nos. 6T416 and 6T417. Lubricated internally with "Corrosion X" to prevent rusting. Master Lock brand.

| Key | Security Level | Key Mechanism | Body Size (In.) Width | Body Size (In.) Thickness | Key Type | Shackle Size (In.) H | Shackle Size (In.) W | Shackle Size (In.) Dia. | Master Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | High | 5-Pin Anti-Pick | 2 1/8 | 1 | Different | 1 1/8 | 7/8 | 5/16 | 6121 | **6T403** | $16.75 | **$13.87** | **$13.18** | **$12.48** | 1.0 |
| | | | | | Alike | 1 1/8 | 7/8 | 5/16 | 6121KA-10G012 | **6T404** | 17.15 | **14.20** | **13.49** | **12.78** | 1.0 |
| | | | | | Alike | 2 1/4 | 7/8 | 5/16 | 6121KAJL-10G013 | **6T405** | 20.05 | **16.60** | **15.77** | **14.94** | 1.2 |
| B | High | 5-Pin Anti-Pick | 2 5/8 | 1.2 | Different | 1 1/8 | 7/8 | 3/8 | 6125 | **6T406** | 19.45 | **17.51** | **16.63** | **15.76** | 1.4 |
| | | | | | Alike | | | | 6125KA-10G014 | **6T407** | 19.85 | **17.87** | **16.97** | **16.08** | 1.4 |
| C | High | 5-Pin Anti-Pick | 2 5/8 | 1.3 | Different | 1 5/8 | 7/8 | 7/16 | 6127 | **6T408** | 22.65 | **20.39** | **19.37** | **18.35** | 1.4 |
| | | | | | Alike | | | | 6127KA-10G015 | **6T409** | 23.05 | **20.75** | **19.71** | **18.67** | 1.4 |
| D | High | 5-Pin Anti-Pick | 2 1/8 | 1 | Different | 3/4 | 7/8 | 5/16 | 6321 | **6T410** | 23.05 | **20.75** | **19.71** | **18.68** | 1.4 |
| | | | | | Alike | | | | 6321KA-10G016 | **6T411** | 23.45 | **21.11** | **20.05** | **18.99** | 1.4 |
| E | High | 5-Pin Anti-Pick | 2 1/8 | 1.2 | Different | 3/4 | 7/8 | 3/8 | 6325 | **6T412** | 27.25 | **24.53** | **23.30** | **22.08** | 1.6 |
| | | | | | Alike | | | | 6325KA-10G017 | **6T413** | 27.65 | **24.89** | **23.64** | **22.40** | 1.6 |
| F | High | 5-Pin Anti-Pick | 2 5/8 | 1.3 | Different | 3/4 | 7/8 | 7/16 | 6327 | **6T414** | 31.45 | **28.35** | **26.93** | **25.52** | 1.8 |
| | | | | | Alike | | | | 6327KA-10G018 | **6T415** | 31.85 | **28.70** | **27.23** | **25.80** | 1.8 |
| G | High | 5-Pin Anti-Pick | 2 1/2 | 1 | Different | 1 1/8 | 7/8 | 7/16 | 6230 | **6T416** | 23.05 | **20.75** | **19.71** | **18.68** | 1.4 |
| | | | | | Alike | | | | 6230KA-10G019 | **6T417** | 23.45 | **21.11** | **20.05** | **18.99** | 1.4 |

# BREAKAWAY SHACKLE PADLOCK

**Laminated steel padlock** features specially constructed shackle that can easily be shattered in an emergency by a hammer blow. Specified by leading fire insurance underwriters for equipping sprinkler shut-off valves and fire hose housings. Prevents tampering with hose housing or sprinkler system but provides fast, easy access when necessary.

Sturdy 1 3/4" wide laminated steel case, multi-spring warded locking mechanism, and self-locking 9/32" shackle. 13/16" vertical and horizontal clearance. Two nickel plated steel keys included. Master Lock brand.

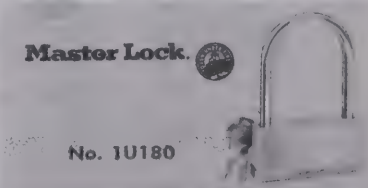



| Security Level | Locking Mechanism | Case Size (In.) Width | Case Size (In.) Thickness | Key Type | Shackle Dimensions (In.) H | Shackle Dimensions (In.) W | Shackle Dimensions (In.) Dia. | Master Model | Stock No. | List | Each | Lots 12 | Lots 36 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Medium** | Warded | 1 3/4 | 15/16 | Keyed Alike | 13/16 | 13/16 | 9/32 | 500BRKKA-229 | **1U176** | $4.69 | **$4.22** | **$4.01** | **$3.80** | 0.5 |

# EXTRA REACH PADLOCKS

- **High security padlocks**
- **5-pin tumbler with rekeyable cylinder**
- **3 1/8 x 2 1/4"W shackle clearance**
- **Master Lock brand**

**Long shackle gives plenty of clearance** in tight locking situations. Ideal for commercial refrigerators and freezers. Dual steel levers lock each shackle leg independently for double the security of ordinary padlocks. Rekeyable padlocks have 3 1/4" wide laminated case with 5-pin tumbler and removable cylinder. Shackle is 5/16" diameter case-hardened alloy steel. Two keys included.




| Security Level | Locking Mechanism | Case Size (In.) Width | Case Size (In.) Thickness | Key Type | Dimensions (In.) H | Dimensions (In.) W | Dimensions (In.) Dia. | Master Model | Stock No. | List | Each | Lots 5 | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **High** | 5-Pin Tumbler | 3 1/4 | 7/8 | Different Alike | 3 1/8 | 2 1/4 | 5/16 | 101 | **1U180** | $21.99 | **$19.79** | **$18.80** | **$17.81** | 1.3 |
| | | | | | | | | 101KA-10L648 | **1U181** | 22.39 | **20.15** | **19.14** | **18.14** | 1.2 |

## GENERAL PURPOSE HASPS

Strong protection for most doors, gates, and cabinets. Recommended for use with Master Lock medium and high security padlocks. Ribbed steel with rolled edges protect against prying and conceal mounting screws. Hardened steel staple resists cutting and sawing. Tamper-proof hinge protects against forced attacks. Master Lock brand.




### GENERAL PURPOSE HASP SPECIFICATIONS AND ORDERING DATA

| Hasp Length (In.) | Hasp Material | Staple Material | Design | Accepts Shackles Up To (In.) | Master Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.5 | Steel | Hardened Steel | Straight | 1/2 | 704 | 4T101 | $3.89 | $3.22 | $3.06 | $2.90 | 0.4 |
| 6 | Hardened Steel | Hardened Steel | Straight | 9/16 | 706 | 6X700 | 7.39 | 6.65 | 6.32 | 5.99 | 0.8 |

## HIGH SECURITY HASPS

Superior protection for doors, gates, and containers. Recommended for use with Master Lock high security padlocks. Heavy malleable iron resists cutting, sawing, and hammering. Hardened boron alloy staple on No. 4FG21 withstands up to 8 tons of cutting force. Hardened hinge pins resist being driven out. Mounting hardware is concealed under cast design. Master Lock brand.

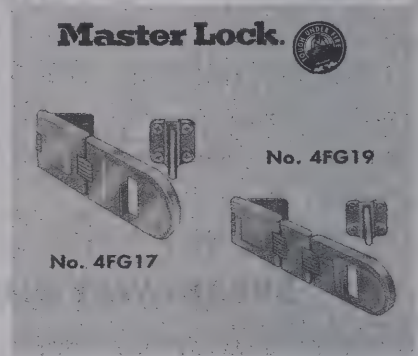



### HIGH SECURITY HASP SPECIFICATIONS AND ORDERING DATA

| Hasp Length (In.) | Hasp Material | Staple Material | Design | Accepts Shackles Up To (In.) | Master Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.5 | Solid Iron | Boron Alloy | Straight | 7/16 | 723 | 4FG20 | $15.50 | $13.95 | $13.25 | $12.56 | 1.2 |
| 7 | Solid Iron | Boron Alloy | Straight | 7/16 | 724 | 4FG21 | 28.39 | 25.60 | 24.32 | 23.04 | 2.8 |

## HIGH SECURITY HASPS— SPECIAL APPLICATION

Single and double hinged designs fit most corners and angles to secure hard-to-lock property. Recommended for use with Master Lock medium and high security padlocks. Heavy gauge hardened steel protects against cutting and sawing. Hardened boron alloy staple on No. 4FG18 withstands up to 8 tons of cutting force. Rolled edges protect against prying and conceal mounting screws. Hinge pins are hidden and are virtually impossible to remove. Master Lock brand.

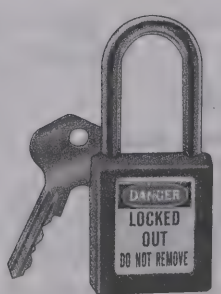



### HIGH SECURITY SPECIAL APPLICATION HASP SPECIFICATIONS AND ORDERING DATA

| Hasp Length (In.) | Hasp Material | Staple Material | Design | Shackles Up To (In.) | Master Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.25 | Hardened Steel | Boron Alloy | Single Hinge | 7/16 | 720 | 4FG17 | $7.70 | $6.93 | $6.58 | $6.24 | 0.7 |
| 8 | Hardened Steel | Boron Alloy | Single Hinge | 7/16 | 721 | 4FG18 | 10.77 | 9.69 | 9.21 | 8.72 | 1.4 |
| 7.75 | Hardened Steel | Boron Alloy | Double Hinge | 7/16 | 722 | 4FG19 | 8.75 | 7.88 | 7.48 | 7.09 | 0.8 |

## SAFETY LOCKOUT PADLOCKS AVAILABLE CHECK INDEX FOR COMPLETE LISTINGS

Master Lock.






## KEY CONTROL CABINETS

Cabinets are designed for storing and controlling distribution of keys and for providing a high degree of security for keys to restricted areas, equipment, vehicles, etc.

Steel cabinet comes with built-in slotted steel key racks, numbered white snap-hook key tags (replacement key tags available below), "out-key" control tags and a numbered lock location chart. These materials allow adoption of a key control system for key accountability and security. Available in seven key capacities.

The sturdy, welded steel cabinet can be hung on a wall, used on table or shelf, or recessed into a wall opening. Door has full length hinge and comes with a key lock, two keys included. All cabinets are made with heavy gauge steel and finished with a two-step textured epoxy paint. Beige enamel finish. HPC brand.



- **Key control system for key accountability and security**
- **Cabinet can be hung on a wall, used on a table or shelf, or recessed into wall opening**

**No. 2W800**
**240 Key Capacity**

### SPECIFICATIONS AND ORDERING DATA

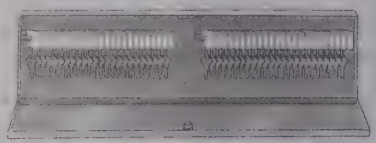
| Key Cap. | Overall Dimen. (In.) H | W | D | HPC Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 30 | 12 | 8 | 2½ | KEKAB-30 | 6X895 | $54.33 | $40.75 | $38.71 | 4.3 |
| 60 | 17 | 13 | 3¼ | KEKAB-60 | 6X896 | 92.31 | 69.15 | 65.69 | 10.0 |
| 120 | 17 | 13 | 3¼ | KEKAB-120 | 2W459 | 153.59 | 112.85 | 107.17 | 10.0 |
| 240 | 20 | 16½ | 5 | KEKAB-240 | 2W800 | 258.87 | 190.25 | 180.61 | 23.0 |
| 330 | 20 | 16½ | 5 | KEKAB-330 | 5T832 | 305.95 | 229.25 | 217.79 | 23.0 |
| 500 | 25¼ | 18 | 5½ | KEKAB-500 | 5T833 | 481.08 | 360.50 | 342.48 | 39.0 |
| 730 | 25¼ | 18 | 7 | KEKAB-730 | 3ZV13 | 638.00 | 478.50 | 454.58 | 50.0 |

## SPACE SAVER KEY CABINETS

**Specially designed key cabinets** for mounting in hard to fit places. No. 6T398 vertical cabinet for narrow areas such as between a doorway and corner. No. 6T397 horizontal cabinet for such areas as above or beneath a window. Made with heavy gauge steel and finished with a two-step textured epoxy paint. Beige enamel finish. HPC brand.



**No. 6T398**
**Vertical**
**Space Saver Cabinet**



**No. 6T397 Horizontal**
**Space Saver Cabinet**

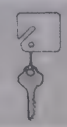
### SPECIFICATIONS AND ORDERING DATA

| Key Cap. | Overall Dimen. (In.) H | W | D | HPC Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 50 | 29½ | 7 | 1½ | KEKAB-V50 | 6T398 | $93.61 | $68.60 | $65.16 | 8.0 |
| 48 | 7 | 29½ | 1½ | KEKAB-H48 | 6T397 | 93.61 | 68.60 | 65.16 | 8.0 |

## REPLACEMENT KEY TAGS

White key tags without numbers. May be lettered or numbered by the user with whatever information is necessary. Furnished complete with nickel plated snap hooks. Key tags are compatible with most single tag key control cabinets. **50 tags per pack.** 1⅝"W x 1½"H. HPC brand.

| Finish | HPC Model | Stock No. | Per Package List | Per Package Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| White | PLT-50 | 1U235 | $21.79 | $16.41 | $15.59 | 0.4 |



## EMERGENCY KEY BOX



6⅝"H x 5¾"W x 2"D

Designed to house a restricted key at the immediate location. Bright red steel box has key-locking hinged door with "break glass" window. When an emergency arises and access to key is necessary, break window with attached hammer. HPC brand.

| Description | HPC Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Emergency Key Box | 511 | 5T834 | $51.17 | $38.40 | $36.48 | 2.5 |
| Replacement Window | | 5T835 | 12.13 | 9.11 | 8.65 | 0.1 |

## KEY DROP BOX



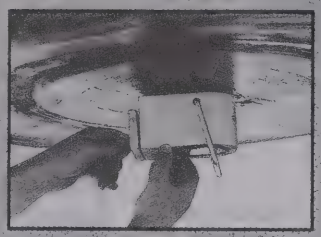
**Help prevent lost or stolen keys.** Key box holds 30 keys. Available both keyed alike or different. 18 gauge steel with charcoal grey baked enamel finish. Box dimensions: 7¼"H x 4⅛"W x 3⅜"D; slot dimensions: 2¼" x 1/2". HPC brand.

| Description | HPC Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Keyed Alike | KEP-M2-301 | 3ZV14 | $58.08 | $42.65 | $40.48 | 2.0 |
| Keyed Different | KEP-M2-KD | 3ZV15 | 58.08 | 42.65 | 40.48 | 2.0 |

# TRAILER LOCKS

## ENFORCER™ KING PIN TRAILER LOCK

- Electroplated for maximum weather and wear protection
- Locks with or without key



No. 1U207
King Pin Lock

**King Pin Lock**
**Designed to Prevent Trailer Theft**

**Specially designed cylinder security locking mechanism.** It uses rotating brass discs instead of spring loaded pins. This disc cylinder design makes these locks extremely difficult to pick. The rotating brass discs are like tumblers on a safe; locks must be in locked position in order to remove key. When key is removed, combinations are automatically scrambled making key duplication very difficult. The principle also provides maximum resistance to freezing or fouling from dirt or rust.

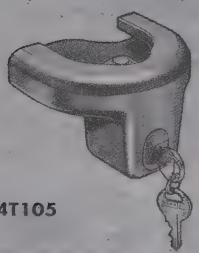
Each locking system has an individually coded key and lock combination with 360,000,000 possible combinations. Key replacement/duplication must be done by the manufacturer who maintains a computerized code record of each unit. Transport Security brand.

**No. 1U207 Enforcer™ King Pin Lock.** Solid cast with ductile alloy; one component design is both lightweight and very strong. No exposed dismantling parts. Electroplated for maximum weather and wear protection. Locks with or without key; all purpose handle helps prevent accidental locking. Housing of the lock is made from case-hardened steel and is threaded directly into ductile cast body of the unit.

**TRAILER LOCK ORDERING DATA**

| Lock Type | Transport Security Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **King Pin Lock** | 1111 | **1U207** | $102.05 | **$90.30** | **$81.27** | 11.0 |

Master Lock.



No. 4T105

## TRAILER LOCKS

**Locks Securely Enclose Trailer Coupler Socket to Prevent Theft of Unhitched Vehicles and Equipment**

**Special purpose lock** is designed to guard against tow-away of unhitched generators, air compressors, boats, snowmobiles, and utility trailers. Frustrates thieves by covering the trailer coupler with a secure enclosure designed to surround the coupler socket. Case-hardened set screw is blocked by a key operated cylinder.

Lock features the same pin-tumbler locking mechanism used in Master's most popular padlocks. Rust resistant baked epoxy acrylic finish. Master Lock brand.

**TRAILER LOCK DATA**

| Trailer Lock Type | Master Lock Model | Stock No. | List | Each | Lots 6 | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Fits Most 1⅞" Couplers** | 33 | **4T105** | $41.19 | **$37.10** | **$35.22** | **$33.36** | 2.8 |
| **Fits Most 2" Couplers** | 34 | **4T104** | 41.19 | **37.10** | **35.22** | **33.36** | 3.0 |

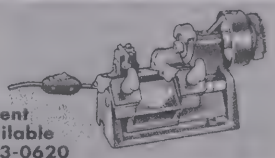
## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

## COMPACT SPEEDEX® KEY DUPLICATING MACHINE

**Used by motels, hotels, locksmiths,** apartment house managers, hardware and farm stores, and for institutional operation where occasional key duplication is necessary. Portable size and weight make the key machine convenient to use almost anywhere. Rotary milling cutter has bronze bearings and features Softy™ Tylon X rotary brush. 4-Way jaws for cutting regular and double-sided keys. Features double-sided copy dog. 1/15 HP, 120 volt AC motor. HPC brand (9120 RM).

**No. 5T836.** Shpg. wt. 16.0 lbs. List .....$704.94.
Each **$410.75;** Lots 3.....**$390.08**

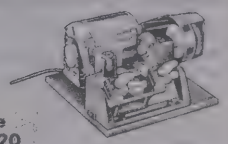


HPC Replacement Parts Available 1-800-323-0620

## HIGH VOLUME SPEEDEX® KEY DUPLICATING MACHINE

**Used by motels, hotels, locksmiths,** property management, and fleet operations where constant duplications of existing keys are necessary. Mounts on a sturdy base. Rotary cutter has bronze bearing and features Softy™ Tylon X rotary brush with cover. 4-Way jaws for cutting regular and double-sided keys. Features double-sided copy dog. Cuts large hotel and motel keys. 1/6 HP, 120 volt AC heavy-duty motor. HPC brand (9160 MC).

**No. 6T399.** Shpg. wt. 31.0 lbs. List.....$896.75.
Each **$538.00;** Lots 3.....**$511.10**

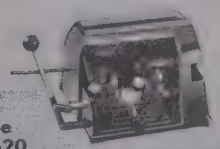


HPC Replacement Parts Available 1-800-323-0620

## POWER SPEEDEX SEMI-AUTOMATIC KEY DUPLICATOR

**Semi-automatic for duplicating even the largest of keys,** such as hotel/motel keys. Operated by spring loaded lever carriage. Moves smoothly with use of one hand when cutting. Features molded plastic cover with built-in light that encloses motor. Equipped with 4-Way jaws to ensure accurate cut keys on the first try. Durable construction and bronze bearings combine for long life and accuracy. 1/6 HP, 3.5 amps, 120 volts AC. Bench size: 18"W x 19"D. HPC brand (9180MC).

**No. 3ZV08.** Shpg. wt. 35.0 lbs. List.....$1140.00.
Each **$798.00;** Lots 3.....**$758.10**

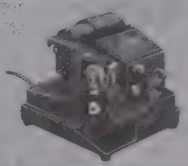


HPC Replacement Parts Available 1-800-323-0620

## AUTOMATE™ FULLY AUTOMATIC KEY DUPLICATOR

**For use by motels, hotels, locksmiths,** real estate management firms, hardware and farm stores and institutional operations where constant key duplicating is necessary. Fully automatic feature allows for total hands free operation. Cutting cycle is 20 seconds. Reversible jaws allow cutting a wide variety of keys. Spring loader carriage assures consistent duplication. High quality tool steel cutter. Cuts large hotel and motel keys. 1/6 HP, 3.7 amps, 120 volts AC. Bench size: 19"W x 16"D. HPC brand (6666HQT).

**No. 3ZV07.** Shpg. wt. 35.0 lbs. List.....$1998.00.
Each **$1399.00;** Lots 3 .....**$1329.05**



HPC Replacement Parts Available 1-800-323-0620

## KEY BLANKS

Thirty-eight different styles of key blanks offered by manufacturer's name and Curtis numbering system. **All styles priced and sold by the box of 50 only.**

| Description | Curtis No. | Stock No. | List | Each Box / 50 | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Arrow** | AR1 | **5T837** | $30.24 | **$20.75** | **$18.68** | 1.0 |
| **Arrow** | AR3 | **5T838** | 54.59 | **27.60** | **24.83** | 1.0 |
| **Best** | BE2 | **5T839** | 25.45 | **20.44** | **18.40** | 1.0 |
| **Corbin** | CO3 | **5T840** | 45.13 | **27.20** | **24.45** | 1.0 |
| | CO7 | **5T841** | 45.13 | **27.20** | **24.45** | 1.0 |
| | SK1 | **5T842** | 45.13 | **27.20** | **24.45** | 1.0 |
| | CO87 | **5T843** | 25.45 | **20.44** | **18.40** | 1.0 |
| | CO88 | **5T844** | 25.45 | **20.44** | **18.40** | 1.0 |
| | CO97 | **5T845** | 25.45 | **20.44** | **18.40** | 1.0 |
| **Dexter** | DE6 | **5T846** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Ilco** | IN3 | **5T847** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Ilco*** | IN33 | **5T848** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Kwikset** | KW1 | **5T849** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Russwin** | RU1 | **5T850** | 25.45 | **20.44** | **18.40** | 1.0 |
| | RU4 | **5T851** | 25.45 | **20.44** | **18.40** | 1.0 |
| | RU45 | **5T852** | 25.45 | **20.44** | **18.40** | 1.0 |
| | RU46 | **5T853** | 25.45 | **20.44** | **18.40** | 1.0 |
| **Sargent** | S6 | **5T854** | 59.33 | **31.15** | **28.02** | 1.0 |
| **Sargent** | S16 | **5T855** | 25.45 | **20.44** | **18.40** | 1.0 |

| Description | Curtis No. | Stock No. | List | Each Box / 50 | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Sargent** | S22½ | **5T856** | $109.16 | **$42.20** | **$37.98** | 1.0 |
| | S22 | **5T857** | 59.33 | **31.15** | **28.02** | 1.0 |
| | S31 | **5T858** | 59.33 | **31.15** | **28.02** | 1.0 |
| **Schlage** | SC1 | **5T860** | 30.24 | **20.75** | **18.68** | 1.1 |
| | SC4 | **5T861** | 30.24 | **20.75** | **18.68** | 1.0 |
| | SC7 | **5T862** | 30.24 | **20.75** | **18.68** | 1.0 |
| | SC10 | **5T863** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Segal** | SE1 | **5T864** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Taylor** | T7 | **5T865** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Weiser** | WR3 | **5T866** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Weiser** | WR6 | **5T867** | 70.44 | **31.65** | **28.45** | 1.0 |
| **Weslock** | WK2 | **5T869** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Yale** | Y1 | **5T870** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Yale** | Y2 | **5T871** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Yale** | Y54 | **5T872** | 30.24 | **20.75** | **18.68** | 1.0 |
| **Master** | Padlock M1 | **5T873** | 30.25 | **20.75** | **18.68** | 0.7 |
| **American** | Padlock A1 | **5T874** | 30.24 | **20.75** | **18.68** | 1.0 |

(*) Same as Lockwood L1.

# STANDARD-DUTY CYLINDRICAL LOCKSETS

Provides a high degree of key-in-knob security for application in homes and light commercial buildings. These locksets can be installed in doors prepared to ANSI A115.2 Specifications covering cylindrical locksets. They are available in a variety of trim and lock functions. Construction features include a heavy-gauge steel, zinc-plated dichromated mechanism, 2¾" standard backset (for doors with 2⅜" backset, utilize one of the kits listed below, Nos. 5T680 thru 5T683), 1/2" throw latchbolt, and a guardbolt that deadlocks latchbolt when door is closed. Adjustable from 1⅜" to 2" standard door thickness. 2¼" x 1" rectangular flat front is standard. Locksets are field reversible. Strikes are 1¼" curved lip for 1¾" standard door thickness. Keyed different. ANSI Series 4000, Grade 2. Yale brand.

**FUNCTIONS:**

**Passage or Closet Set** for doors that do not require locking. Either knob operates latchbolt at all times.

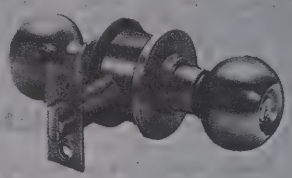
**Privacy or Bath Lock.** Either knob operates latchbolt unless outside knob is locked by pushbutton inside. Button automatically releases when inside knob is turned or door is closed. Emergency release in outside knob. Inside knob always active.

**Storeroom or Closet Lock** for use on utility, exit or storeroom doors. Deadlocking latchbolt operated by knob inside, key in outside knob. Outside knob always rigid, inside knob always active.

**Entrance or Office Lock** features deadlocking latchbolt which is operated by either knob when unlocked. Pushing and turning button locks outside knob. Requires key until-button is manually unlocked. Pushing button locks outside knob until unlocked by key or by turning inside knob.

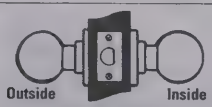
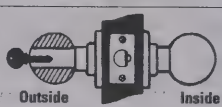
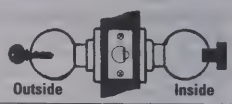
Yale®
Yale Security Inc.

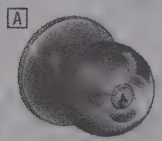
UL R3618



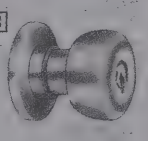
For keyed alike or master keying, call 1-800-323-0620

## FUNCTION

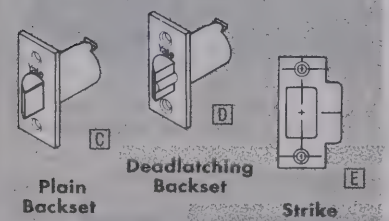
| Passage or Closet Set Function | Privacy or Bath Lock Function | Storeroom or Closet Lock Function | Entrance or Office Lock Function |
|---|---|---|---|
|  |  |  |  |
| Outside Inside | Outside Inside | Outside Inside | Outside Inside |




No. 5T667




No. 5T675




## LOCKSET SPECIFICATIONS AND ORDERING DATA

| Key | Lock Type | Finish | Yale Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Passage | Satin Chrome 26D | CA5301 | **5T660** | $56.00 | **$44.80** | **$42.56** | 1.6 |
| | | Bright Brass US3 | | **5T661** | 56.00 | **44.80** | **42.56** | 1.6 |
| A | Privacy | Satin Chrome 26D | CA5302 | **5T662** | 66.00 | **52.80** | **50.16** | 1.7 |
| | | Bright Brass US3 | | **5T663** | 66.00 | **52.80** | **50.16** | 1.7 |
| A | Storeroom | Satin Chrome 26D | CA5305 | **5T664** | 110.00 | **88.00** | **83.60** | 2.0 |
| | | Bright Brass US3 | | **5T665** | 110.00 | **88.00** | **83.60** | 2.0 |
| A | Office | Satin Chrome 26D | CA5307 | **5T666** | 110.00 | **88.00** | **83.60** | 2.0 |
| | | Bright Brass US3 | | **5T667** | 110.00 | **88.00** | **83.60** | 2.0 |
| B | Passage | Satin Chrome 26D | LF5301 | **5T668** | 56.00 | **44.80** | **42.56** | 1.6 |
| | | Bright Brass US3 | | **5T669** | 56.00 | **44.80** | **42.56** | 1.6 |
| B | Privacy | Satin Chrome 26D | LF5302 | **5T670** | 66.00 | **52.80** | **50.16** | 2.0 |
| | | Bright Brass US3 | | **5T671** | 66.00 | **52.80** | **50.16** | 2.0 |
| B | Storeroom | Satin Chrome 26D | LF5305 | **5T672** | 110.00 | **88.00** | **83.60** | 1.9 |
| | | Bright Brass US3 | | **5T673** | 110.00 | **88.00** | **83.60** | 1.9 |
| B | Office | Satin Chrome 26D | LF5307 | **5T674** | 110.00 | **88.00** | **83.60** | 1.9 |
| | | Bright Brass US3 | | **5T675** | 110.00 | **88.00** | **83.60** | 1.9 |
| C&E | 2⅜" Backset Kit, Plain* | Satin Chrome 26D | KIT | **5T682** | 12.60 | **10.08** | **9.58** | 0.3 |
| | | Bright Brass US3 | | **5T683** | 12.60 | **10.08** | **9.58** | 0.3 |
| D&E | 2⅜" Backset Kit, Deadlatching† | Satin Chrome 26D | KIT | **5T680** | 16.50 | **13.20** | **12.54** | 0.3 |
| | | Bright Brass US3 | | **5T681** | 16.50 | **13.20** | **12.54** | 0.3 |

(*) Utilize with passage and privacy sets only. (†) Utilize with storeroom and office/entrance locks only.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road.
Contact your local branch for more information.

# STANDARD-DUTY CYLINDRICAL LEVER LOCKSETS

**For keyed alike or master keying, call 1-800-323-0620**

Yale®
Yale Security Inc.



- **Complies with applicable Americans with Disabilities Act (ADA) Requirements**

Combines the Augusta and Pacific Beach Levers with the 5300 Series Grade 2 standard duty lock configuration. Provides easy accessibility for handicapped persons and those with disabilities. The lever designs are easy to grip and depress for entry. Meets Accessibility Guidelines of the Americans with Disabilities Act (ADA), the Uniform Federal Accessibility Standards and ANSI 117.1, which requires ease of accessibility for the handicapped. Lever locksets on this page conform to ANSI Spec. A156.2, Series 4000 Grade 2 and can be installed in doors prepared to ANSI Spec. 115.2, which covers hollow metal doors and frame preparation for cylindrical locksets. UL Listed for mounting on fire doors up to and including 3 hours.

Features heavy gauge cold rolled steel mechanism, 2 1/16" dia. lock case, 1/2" throw stainless steel latchbolt, 2 3/4" backset (for doors with 2 3/8" backset, utilize one of the kits listed below, Nos. 6T584 thru 6T587), and 1 1/4" curved lip strike. Adjustable for use on doors from 1 3/8" to 1 3/4" thick. Installation requires 2 1/8" cross bore, and latchbolt requires a 1" edge bore with mortise for rectangular front.

## FUNCTIONS:

**Passage or Closet Set** for doors that do not require locking. Either lever operates latchbolt at all times.

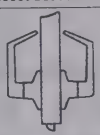
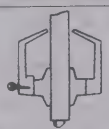
**Privacy or Bath Lock** for lavatory or other privacy doors. Either lever operates latchbolt unless outside lever is locked by pushbutton inside. Button automatically releases when inside lever is turned or door is closed. Emergency release in outside lever. Emergency key included. Inside lever always active.

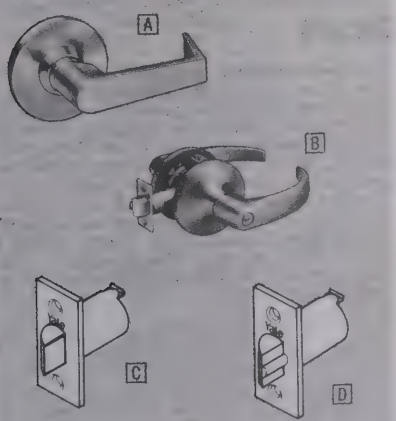
**Storeroom or Closet Lock** for use on utility, exit, or storeroom doors. Deadlocking latchbolt operated by lever inside, key in outside lever. Outside lever always locked; inside knob always active.

**Classroom Lock** for use primarily on classroom and utility room doors. Deadlocking latchbolt. Either lever operates latchbolt except when outside lever is locked by key. Inside lever always active. Key releases outside lever.

**Entrance or Office Lock** for general home, office, or entrance doors. Deadlocking latchbolt operated by key in outside lever or by rotating inside lever. Either lever operates latchbolt (except when outside lever is locked from inside). Pushing turn button in inside lever locks outside lever. Button automatically releases when inside lever is turned or key is rotated in locked outside lever. Outside lever may be retained in locked position by pushing and rotating turn button 90° clockwise to a horizontal position. This is not released until turn button is manually returned to the vertical position. Inside lever always active.

## FUNCTIONS

| Passage or Closet Set Function | Privacy or Bath Lock Function | Storeroom, Closet or Classroom Function | Entrance or Office Lock Function |
|---|---|---|---|
|  |  |  |  |
| Outside Inside | Outside Inside | Outside Inside | Outside Inside |



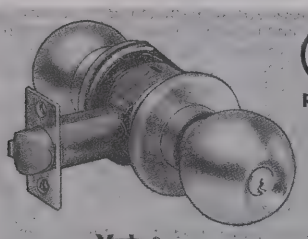

**Plain Backset** **Deadlatching Backset**

## LOCKSET SPECIFICATIONS AND ORDERING DATA

| Key | Function | Finish | Yale Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Passage | Satin Chrome 26D | AU5301LN | **4LM23** | $108.00 | **$86.40** | **$82.08** | 4.3 |
| | | Bright Brass US3 | AU5301LN | **4LM24** | 116.00 | **92.80** | **88.16** | 3.3 |
| | Privacy | Satin Chrome 26D | AU5302LN | **4LM25** | 118.00 | **94.40** | **89.68** | 3.4 |
| | | Bright Brass US3 | AU5302LN | **4LM26** | 126.00 | **100.80** | **95.76** | 3.4 |
| | Storeroom | Satin Chrome 26D | AU5305LN | **4LM27** | 148.00 | **118.40** | **112.48** | 3.4 |
| | | Bright Brass US3 | AU5305LN | **4LM28** | 156.00 | **124.80** | **118.56** | 3.4 |
| | Office | Satin Chrome 26D | AU5307LN | **4LM29** | 148.00 | **118.40** | **112.48** | 3.4 |
| | | Bright Brass US3 | AU5307LN | **4LM30** | 156.00 | **124.80** | **118.56** | 3.4 |
| | Classroom | Satin Chrome 26D | AU5308LN | **3ZV51** | 148.00 | **118.40** | **112.48** | 3.4 |
| | | Bright Brass US3 | AU5308LN | **3ZV52** | 156.00 | **124.80** | **118.56** | 3.4 |
| B | Passage | Satin Chrome 26D | PB5301LN | **3ZV43** | 108.00 | **86.40** | **82.08** | 3.0 |
| | | Bright Brass US3 | PB5301LN | **3ZV44** | 116.00 | **92.80** | **88.16** | 3.0 |
| | Privacy | Satin Chrome 26D | PB5302LN | **3ZV45** | 118.00 | **94.40** | **89.68** | 3.0 |
| | | Bright Brass US3 | PB5302LN | **3ZV46** | 126.00 | **100.80** | **95.76** | 3.4 |
| | Storeroom | Satin Chrome 26D | PB5305LN | **3ZV47** | 148.00 | **118.40** | **112.48** | 3.4 |
| | | Bright Brass US3 | PB5305LN | **3ZV48** | 156.00 | **124.80** | **118.56** | 3.4 |
| | Office | Satin Chrome 26D | PB5307LN | **3ZV49** | 148.00 | **118.40** | **112.48** | 3.4 |
| | | Bright Brass US3 | PB5307LN | **3ZV50** | 156.00 | **124.80** | **118.56** | 3.4 |
| C | 2 3/8" Backset Kit, Plain* | Satin Chrome 26D | 378LN | **4LM19** | 12.60 | **10.08** | **9.58** | 0.1 |
| | | Bright Brass US3 | 378LN | **4LM20** | 12.60 | **10.08** | **9.58** | 0.1 |
| D | 2 3/8" Backset Kit, Deadlatching† | Satin Chrome 26D | 380LN | **4LM21** | 16.50 | **13.20** | **12.54** | 0.1 |
| | | Bright Brass US3 | 380LN | **4LM22** | 16.50 | **13.20** | **12.54** | 0.1 |

(*) Utilize with passage and privacy sets only (†) Use with storeroom and office entrance locks only

# HEAVY-DUTY CYLINDRICAL LOCKSETS AND BOLTLOCKS




**For keyed alike or master keying, call 1-800-323-0620**

Provides the highest level of key-in-knob cylindrical lockset security. These locksets can be installed in doors prepared to ANSI A115.2 Specifications covering cylindrical locksets. Construction features include steel zinc-plated dichromated mechanism, 2¾" backset, and 1/2" throw standard latchbolt. Guardbolt that deadlocks latchbolt when door is closed is standard on all locking functions. Adjustable from 1⅜" to 2" standard door thickness. 2¼" x 1⅛" beveled fronts standard. Locksets are field reversible. 1¼" curved lip strikes for 1¾" door is standard. Keyed different. ANSI Series 4000, Grade 1. Yale brand.

**Passage or Closet Set** for doors that do not require locking. Either knob operates latchbolt at all times.

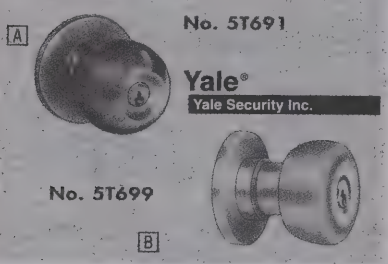
**Privacy or Bath Lock.** Either knob operates latchbolt unless outside knob is locked by pushbutton inside. Button automatically releases when inside knob is turned or door is closed. Emergency release in outside knob. Inside knob is always active.

**Storeroom or Closet Lock** for use in utility, exit or storeroom doors. Deadlocking latchbolt operated by knob inside, key in outside knob. Outside knob always rigid; inside knob always active.

**Entrance or Office Lock** features deadlocking latchbolt which is operated by either knob when unlocked. Pushing and turning button locks outside knob. Requires key until button is manually unlocked. Pushing button locks outside knob until unlocked by key or turning inside knob

## FUNCTIONS

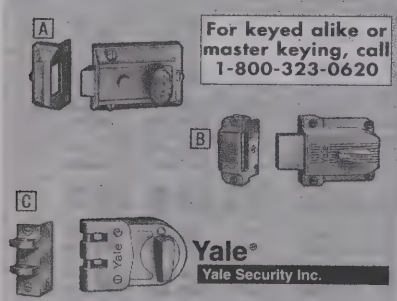
| Passage or Closet Function | Privacy or Bath Lock Function | Storeroom or Closet Lock Function | Entrance or Office Lock Function |
|---|---|---|---|
|  |  |  |  |
| Outside Inside | Outside Inside | Outside Inside | Outside Inside |




## LOCKSET SPECIFICATIONS AND ORDERING DATA

| Key | Lock-Type | Finish | Yale Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Passage Set | Bright Brass US3<br>Satin Chrome 26D | CA5401 | **5T685**<br>**5T684** | $170.00<br>166.00 | **$136.00**<br>**132.80** | **$129.20**<br>**126.16** | 2.7<br>2.7 |
| A | Privacy Set | Bright Brass US3<br>Satin Chrome 26D | CA5402 | **5T687**<br>**5T686** | 204.00<br>200.00 | **163.25**<br>**160.00** | **155.09**<br>**152.00** | 2.8<br>2.8 |
| A | Storeroom | Bright Brass US3<br>Satin Chrome 26D | CA5405 | **5T689**<br>**5T688** | 246.00<br>242.00 | **197.00**<br>**193.75** | **187.15**<br>**184.06** | 3.0<br>3.0 |
| A | Office | Bright Brass US3<br>Satin Chrome 26D | CA5407 | **5T691**<br>**5T690** | 246.00<br>242.00 | **197.00**<br>**193.75** | **187.15**<br>**184.06** | 3.3<br>3.3 |
| B | Office | Bright Brass US3<br>Satin Chrome 26D | LF5407 | **5T699**<br>**5T698** | 246.00<br>242.00 | **197.00**<br>**193.75** | **187.15**<br>**184.06** | 3.0<br>3.0 |

## BOLTLOCKS




**For keyed alike or master keying, call 1-800-323-0620**

**Security Boltlock.** Key outside, thumbturn inside. Latchbolt held retracted or deadlocked by button. Installation on 1⅛" to 2¼" thick doors. Supplied with 1109E brass cylinder (2 keys), 3⅝W x 2½"H case, and 2⅜" backset. Latchbolt has 1/2" throw. High-density rust resistant alloy with brass finish. Yale brand.

**Heavy-Duty Boltlock.** No. 5T720 has key outside, thumbturn inside. No. 5T721 has keys on both sides. Installs on either hand of door, 1⅛" to 2¼" thick. 2⅜" backset standard. Case, strike and deadbolt with two hardened steel inserts. 1109E brass cylinder. Keyed different. Brass finish. Yale brand.

**Pin Tumbler Boltlock.** No. 5T722 has key outside, thumbturn inside. No. 5T723 has keys on both sides and has one-way installation screws that cannot be removed without drilling. Features two hardened steel interlocking bolts that resist prying. Shutter guard protects against forced entry even if outside cylinder is removed. Installation on 1⅜ to 2¼" thick doors of either hand. 1109E brass cylinder (2 keys), 4¾W x 3⁵⁄₃₂"H high density rust-resistant alloy case, and 2⅜" backset. Dull bronze finish. Yale brand.

| Key | Lock Type | Finish | Yale Model | Stock No. | List | Each | Lots 3 | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Security | Brass | 80 | **5T724** | $27.00 | **$21.60** | **$20.52** | **$19.44** | 1.2 |
| B | Heavy-Duty | Brass<br>Bronze | 112<br>112¼ | **5T720**<br>**5T721** | 46.00<br>54.00 | **36.80**<br>**43.20** | **34.96**<br>**41.04** | **33.12**<br>**38.88** | 3.0<br>3.0 |
| C | Pin Tumbler | Bronze | 197<br>197¼ | **5T722**<br>**5T723** | 46.00<br>54.00 | **36.80**<br>**43.20** | **34.96**<br>**41.04** | **33.12**<br>**38.88** | 2.5<br>2.5 |

# HEAVY-DUTY CYLINDRICAL LOCKSETS AND BORED DEADLOCKS

For keyed alike or master keying, call 1-800-323-0620

R3618



Ⓐ No. 5T707



Ⓑ No. 3ZV59

Yale®
Yale Security Inc.

- **Complies with applicable Americans with Disabilities Act (ADA) Requirements**

Combines the Augusta and Pacific Beach Lever Handles with the high level security of the 5400 Series lockset. These locksets can be installed in doors prepared to ANSI A115.2 or A115.18 Specifications covering cylindrical locksets. This key-in-lever design is available in a variety of lock functions. Construction features include heavy-duty gauge steel, zinc-plated dichromated mechanism, 2¾" standard backset, 1/2" standard latchbolt, and guardbolt that deadlocks latchbolt when door is closed. Adjustable from 1¾" to 2¼" door thickness. 2¼ x 1/8" beveled fronts are standard. Locks are field reversible. 1¼" curved lip strike for 1¾" door is standard. Keyed different. ANSI Series 4000, Grade 1.

FUNCTIONS:

**Passage or Closet Set** for doors that do not require locking. Either lever operates latchbolt at all times.

**Privacy or Bath Lock** for lavatory or other privacy doors. Either lever operates latchbolt unless outside lever is locked by push-button inside. Button automatically releases when inside lever is turned or door is closed. Emergency release in outside lever. Emergency key included. Inside lever always active.

**Storeroom or Closet Lock** for use in utility, exit or storeroom doors. Deadlocking latchbolt operated by lever inside, key in outside lever. Outside lever always locked; inside lever always active.

**Classroom Lock** for use primarily on classroom and utility room doors. Deadlocking latchbolt. Either lever operates latchbolt when outside lever is locked by key. Inside lever always active. Key releases outside lever.

**Entrance or Office Lock** for general home, office, or entrance doors. Deadlocking latchbolt operated by key in outside lever or by turning inside lever. Either lever operates latchbolt (except when outside lever is locked from inside). Pushing turn button in inside lever locks outside lever. Button automatically releases when inside lever is turned or key is rotated in locked outside lever. Outside lever may be retained in locked position by pushing and rotating turn button 90° clockwise to a horizontal position. This is not released until turn button is manually returned to the vertical position. Inside lever always active.

## FUNCTIONS

**Passage or Closet Set**



Outside Inside

**Privacy or Bath Lock**



Outside Inside

**Storeroom, Closet or Classroom**



Outside Inside

**Entrance or Office Lock**

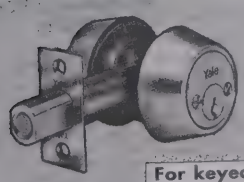


Outside Inside

## ORDERING DATA

| Key | Function | Finish | Yale Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Passage | Bright Brass US3 | AU5401LN | **5T701** | $188.00 | **$150.50** | **$142.98** | 4.3 |
| | | Satin Chrome 26D | | **5T700** | 180.00 | **144.00** | **136.80** | 4.3 |
| A | Privacy | Bright Brass US3 | AU5402LN | **5T703** | 226.00 | **181.00** | **171.95** | 4.8 |
| | | Satin Chrome 26D | | **5T702** | 218.00 | **174.50** | **165.78** | 4.8 |
| A | Storeroom | Bright Brass US3 | AU5405LN | **5T705** | 254.00 | **203.25** | **193.09** | 5.0 |
| | | Satin Chrome 26D | | **5T704** | 246.00 | **197.00** | **187.15** | 5.0 |
| A | Classroom | Bright Brass US3 | AU5408LN | **3ZV38** | 254.00 | **203.25** | **193.09** | 4.5 |
| | | Satin Chrome 26D | | **3ZV37** | 246.00 | **197.00** | **187.15** | 4.5 |
| A | Office | Bright Brass US3 | AU5407LN | **5T707** | 254.00 | **203.25** | **193.09** | 5.0 |
| | | Satin Chrome 26D | | **5T706** | 246.00 | **197.00** | **187.15** | 5.0 |
| B | Passage | Bright Brass US3 | PB5401LN | **3ZV54** | 188.00 | **150.50** | **142.98** | 4.5 |
| | | Satin Chrome 26D | | **3ZV53** | 180.00 | **144.00** | **136.80** | 4.5 |
| B | Privacy | Bright Brass US3 | PB5402LN | **3ZV56** | 226.00 | **181.00** | **171.95** | 4.5 |
| | | Satin Chrome 26D | | **3ZV55** | 218.00 | **174.50** | **165.78** | 4.5 |
| B | Storeroom | Bright Brass US3 | PB5405LN | **3ZV58** | 254.00 | **203.25** | **193.09** | 4.5 |
| | | Satin Chrome 26D | | **3ZV57** | 246.00 | **197.00** | **187.15** | 4.5 |
| B | Classroom | Bright Brass US3 | PB5408LN | **3ZV62** | 254.00 | **203.25** | **193.09** | 4.5 |
| | | Satin Chrome 26D | | **3ZV61** | 246.00 | **197.00** | **187.15** | 4.5 |
| B | Office/ Entrance | Bright Brass US3 | PB5407LN | **3ZV60** | 254.00 | **203.25** | **193.09** | 4.5 |
| | | Satin Chrome 26D | | **3ZV59** | 246.00 | **197.00** | **187.15** | 4.5 |

# BORED DEADLOCKS



For keyed alike or master keying, call 1-800-323-0620

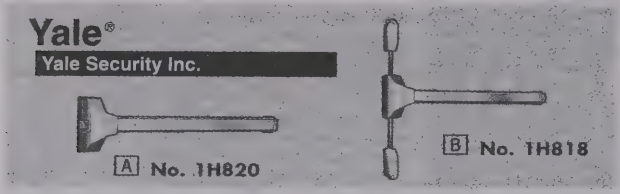
Yale®
Yale Security Inc.

Requires only cross bore, edge bore and mortise for installation. Deadbolts can be installed in doors prepared to ANSI A115.13 Specifications. Construction features include toggle-action throw mechanism, 2¾" backset, 1" throw solid brass deadbolt with hardened steel insert, 1¾" standard thickness. To fit 2¼" doors, call 1-800-323-0620 to order special fit kit. Bolt cannot be pried back. Deadbolts completely reversible. 2¾" x 1⅛" flat standard strikes. Keyed different. Yale brand.

| Lock Type | Dimensions (In.) Backset | Front Size | Finish | Finish No. | Yale Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Cylinder x Thumbturn Deadbolt | 2⅜ | 2¼ x 1⅛ | Brass | US3 | 3311B | **5T709** | $60.00 | **$48.00** | **$45.60** | 1.4 |
| | | | Chrome | 26D | | **5T708** | 60.00 | **48.00** | **45.60** | 1.4 |
| | 2¾ | 2¼ x 1⅛ | Brass | US3 | 3312B | **5T713** | 60.00 | **48.00** | **45.60** | 1.4 |
| | | | Chrome | 26D | | **5T712** | 60.00 | **48.00** | **45.60** | 1.4 |
| Cylinder x Cylinder Deadbolt | 2⅜ | 2¼ x 1⅛ | Brass | US3 | 3321B | **5T711** | 102.00 | **81.60** | **77.52** | 1.8 |
| | | | Chrome | 26D | | **5T710** | 102.00 | **81.60** | **77.52** | 1.8 |
| | 2¾ | 2¼ x 1⅛ | Brass | US3 | 3322B | **5T715** | 102.00 | **81.60** | **77.52** | 1.9 |
| | | | Chrome | 26D | | **5T714** | 102.00 | **81.60** | **77.52** | 1.8 |

# EXIT DEVICES

## 2100/2110 EXIT DEVICES



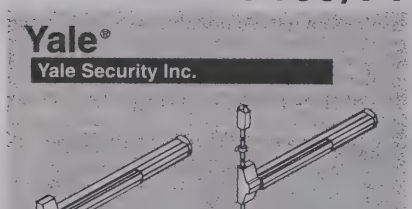

**A 2100 Series Rim Devices** feature deadlocking latchbolt where single point latching is required. 3/4" throw stainless steel latchbolt. Dogging is standard by hex key. Yale brand.

**B 2110 Series Vertical Rod Devices** feature upper and lower bolts. Automatic deadlocking upper latchbolt with 3/4" throw. Lower deadbolt with 5/8" throw. Latchbolts/deadbolts remain retractable when door is open; release when door closes. No spring mechanism—operated by gravity bolts. Apply to doors 7'0" or less. Yale brand.

| Key | Type | Fits Doors (In.) | Finish | Yale Model | Stock No.* | List | Each | Lots 3 | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Rim Device | 30-36 | Baked Aluminum | 2100-SB | **1H820** | $196.00 | **$157.00** | **$149.15** | **$141.30** | 14.0 |
| | | | Baked Bronze | 2100-BL | **1H819** | 196.00 | **157.00** | **149.15** | **141.30** | 14.0 |
| B | Vertical Rod Device | 30-36 | Baked Aluminum | 2110-SB | **1H818** | 284.00 | **227.25** | **215.89** | **204.53** | 19.0 |
| | | | Baked Bronze | 2110-BL | **1H817** | 284.00 | **227.25** | **215.89** | **204.53** | 19.0 |

(*) Shipped Right Handed, reversible in field to Left Handed.

## 7100/7110 ARCHITECTURAL EXIT DEVICES




**A 7100 Series include hinged latchbolt** with 3/4" throw. Guardbolt deadlocks latchbolt when door is closed and latched. Can be installed on right hand or left hand doors. For use on 1¾" thick doors. Fits door sizes 30-36". No. 5T794 is UL Listed as Panic Hardware. No. 5T796 is UL Listed as Fire Exit Hardware. Nos. 5T794 and 5T796 can be installed on stock hollow metal doors prepared with Fed. No. 161/ANSI A115.2 cutouts for cylindrical locksets when used with outside trims A and C on opposite page. Yale brand.

**B 7110 Series include automatic deadlocking upper latchbolt** with 3/4" throw. 5/8" throw, steel bolt lower deadbolt. Latchbolt and deadbolt held retracted when door is open. Automatically released when door is closed. Reversible. Gravity operation. Door thickness is 1¾". Fits door sizes 30-36". Door height 7' standard. No. 5T797 is UL Listed as Fire Exit Hardware. When used with outside trim A or C on opposite page, Nos. 5T795 and 5T797 with wide covers can be installed on stock hollow metal doors prepared with Fed. No. 161/ANSI A115.2 cutouts for cylindrical locksets. Yale brand.

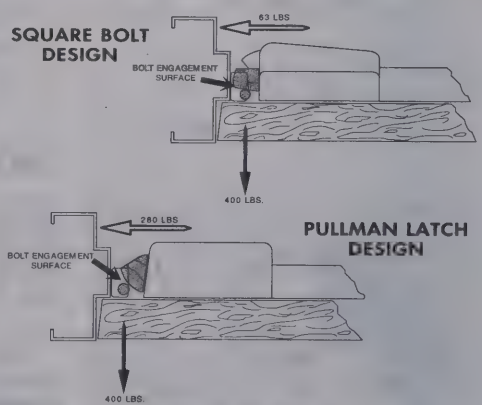
| Key | Type | Hand | Finish | Yale Model | Stock No. | List | Each | Lots 3 | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Rim Device | Not handed | Stainless Steel (32D) | 7100 | **5T794** | $520.00 | **$416.00** | **$395.20** | **$374.40** | 17.0 |
| | | Not handed | Stainless Steel (32D) | 7100F* | **5T796** | 600.00 | **480.00** | **456.00** | **432.00** | 22.0 |
| B | Vertical Rod Device | RHR† | Stainless Steel (32D) | 7110 | **5T795** | 652.00 | **522.00** | **495.90** | **469.80** | 22.0 |
| | | RHR† | Stainless Steel (32D) | 7110F* | **5T797** | 732.00 | **586.00** | **556.70** | **527.40** | 22.0 |

(*) UL Listed Fire Exit Hardware. (†) Reversible in field to Left Handed (LHR).

## 7150 SQUARE BOLT EXIT DEVICES

**For use in hospitals, museums, schools, theaters, and hotels** where increased security is desired. Increases security, maintains safety required by law. 400 lbs. pull outside applies only 63 lbs. of force on frame. Traditional pullman latch bolts apply 280 lbs. to frame with the same 400 lbs. pull. Meets ANSI 156.3 Grade 1 Types 1 and 28. Utilizes same outside trim as 2100 and 7100 Series exit devices. Fits doors from 30" to 48" wide, single door or pair of doors with mullion. UL and ULC listed fire exit hardware for openings up to 8 ft. x 8 ft. (20, 30, 45, 60, 90 and 120 minute doors). UL and ULC listed panic exit hardware for emergency exit doors. Yale brand.




| Door Size (In.) | Fire Rated | Stile Width Minimum (In.) | Finish | Yale Model | Stock No. | List | Each | Lots 3 | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **30-36** | No | 4½ | Satin Stainless | 7150-36 32D | **3ZV63** | $560.00 | **$448.00** | **$425.60** | **$403.20** | 15.0 |
| **30-36** | Yes | 4½ | Satin Stainless | 7150F-36 32D | **3ZV64** | 640.00 | **512.00** | **486.40** | **460.80** | 15.0 |
| **36-48** | No | 4½ | Satin Stainless | 7150-48 32D | **3ZV65** | 560.00 | **448.00** | **425.60** | **403.20** | 15.0 |
| **36-48** | Yes | 4½ | Satin Stainless | 7150F-48 32D | **3ZV66** | 640.00 | **512.00** | **486.40** | **460.80** | 15.0 |



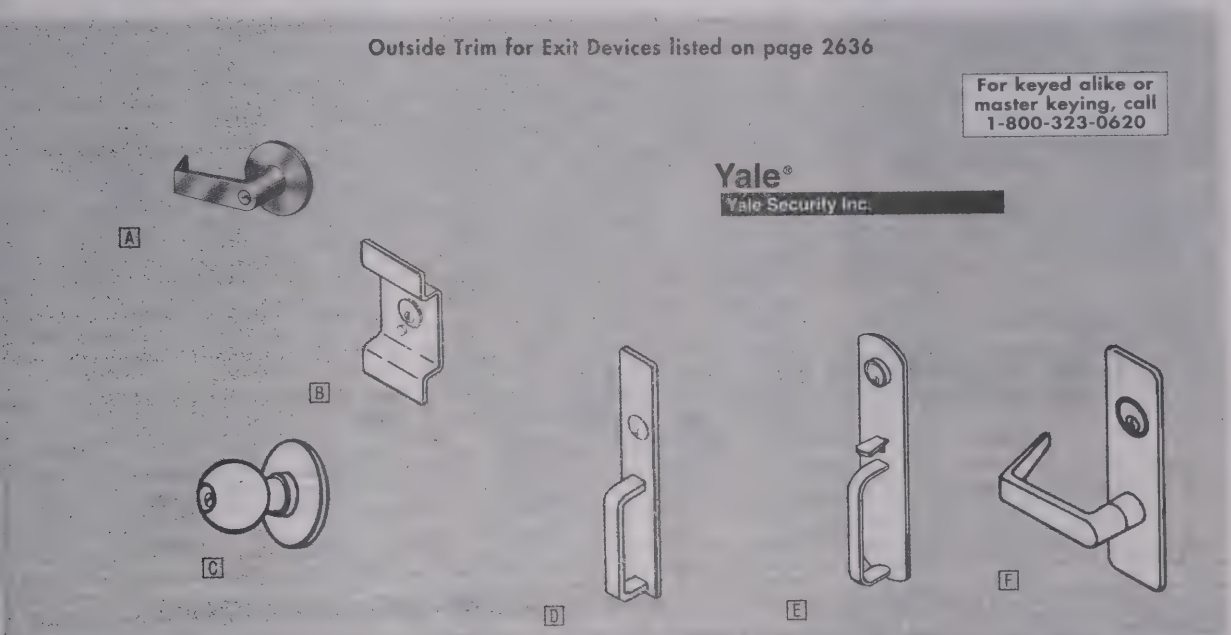
*Close it, lock it, keep it safe — You'll find the right stuff right here.*

## OUTSIDE TRIM FOR 2100/2110, 7100/7110 AND 7150 EXIT DEVICES†

Outside Trim for Exit Devices listed on page 2636

For keyed alike or master keying, call 1-800-323-0620

Yale®
Yale Security Inc.




**A Outside Trim AU546 Series Key-In Lever.** Augusta-style handle retracts latchbolt except when lever is set by key. Lever is inactive when set by key.

**A Outside Trim AU548 Series Passage Function,** lever always active. Utilized on inside doors when locking not required or prohibited (stairwells, hallway doors and fire doors in the path of egress). No key or cylinder. Used also as dummy trim.

**A Outside Trim AU541 Series Key-In Lever.** Augusta-style lever handle is always rigid. Access only with use of key.

**B 217 Series Cylinder** x Pull Plate. Key retracts the latchbolts only. Cylinder 2153.

**C CA542 Series Cylinder** in Knob x Rose. Cylinder locks or unlocks knob. When unlocked, knob retracts latchbolt. Cylinder 1801.

**D Outside Trim 532** features key retractable latchbolt. Pull when dogged.

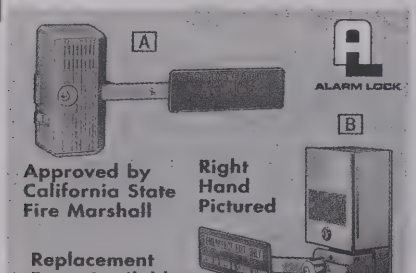
**E Outside Trim 533** features key that locks and unlocks thumbpiece. Thumbpiece retracts latchbolt.

**F Outside Trim 526** has key that locks and unlocks lever. Lever retracts latchbolt.

| Key | Hand | Finish | Yale Model | Stock No. | List | Each | Lots 3 | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A ♿ | NA | Satin Chrome | AU546-26D | 1H813‡ | $188.00 | $150.50 | $142.98 | $135.45 | 2.5 |
| | NA | Bronze | AU546-US10 | 1H812‡ | 188.00 | 150.50 | 142.98 | 135.45 | 2.5 |
| | NA | Baked Aluminum | AU546-SB | 3ZV42‡ | 128.00 | 102.40 | 97.28 | 92.16 | 4.0 |
| | NA | Baked Bronze | AU546-BL | 3ZV41‡ | 128.00 | 102.40 | 97.28 | 92.16 | 4.0 |
| | NA | Satin Chrome | AU548-26D | 1H811‡ | 166.00 | 132.80 | 126.16 | 119.52 | 2.5 |
| | NA | Bronze | AU548-US10 | 1H810‡ | 166.00 | 132.80 | 126.16 | 119.52 | 2.5 |
| | NA | Baked Aluminum | AU541-SB | 3ZV40‡ | 128.00 | 102.40 | 97.28 | 92.16 | 4.0 |
| | NA | Baked Bronze | AU541-BL | 3ZV39‡ | 128.00 | 102.40 | 97.28 | 92.16 | 4.0 |
| B | N/A | Baked Aluminum | 217-SB | 1H816‡ | 28.00 | 22.40 | 21.28 | 20.16 | 1.4 |
| | N/A | Baked Bronze | 217-BL | 1H815‡ | 28.00 | 22.40 | 21.28 | 20.16 | 1.4 |
| C | N/A | Satin Chrome | CA542-26D | 1H809‡ | 134.00 | 107.20 | 101.84 | 96.48 | 2.0 |
| | N/A | Bronze | CA542-US10 | 1H808‡ | 134.00 | 107.20 | 101.84 | 96.48 | 2.0 |
| D ♿ | N/A | Stainless Steel | 532-US32D | 5T798‡ | 76.00 | 60.80 | 57.76 | 54.72 | 3.0 |
| | N/A | Stainless Steel | 532F-US32D | 5T799‡ | 76.00 | 60.80 | 57.76 | 54.72 | 3.0 |
| E | N/A | Bronze | 533-US10 | 1H814‡ | 130.00 | 104.00 | 98.80 | 93.60 | 3.0 |
| | N/A | Stainless Steel | 533-US32D | 5T800‡ | 136.00 | 108.80 | 103.36 | 97.92 | 3.0 |
| | N/A | Stainless Steel | 533F-US32D | 5T801‡ | 136.00 | 108.80 | 103.36 | 97.92 | 3.0 |
| F ♿ | RH | Stainless Steel | AU526-US32D | 5T802‡ | 168.00 | 134.40 | 127.68 | 120.96 | 2.8 |
| | LH | Stainless Steel | AU526-US32D | 5T803‡ | 168.00 | 134.40 | 127.68 | 120.96 | 2.8 |
| | RH | Stainless Steel | AU526F-US32D | 5T804‡ | 168.00 | 134.40 | 127.68 | 120.96 | 2.8 |
| | LH | Stainless Steel | AU526F-US32D | 5T805‡ | 168.00 | 134.40 | 127.68 | 120.96 | 2.8 |

(*) UL Listed Fire Exit Hardware. (†) All trim interchangeable ONLY with exit devices on opposite page.
(‡) Complies with applicable Americans with Disabilities Act (ADA) Requirements

# EMERGENCY EXIT DOOR ALARMS AND ACCESS CONTROL LOCKS




## EMERGENCY EXIT ALARM LOCKS

A **Multigard double deadlock provides maximum protection** from unauthorized entrance while granting easy and instant emergency exit. Key operated deadbolt requires less than one pound of force to throw one full inch of hardened steel bolt into keeper. Easy to operate and extra tough for protection against thieves. Withstands 250 lbs. of pulling force. 18" Clapper arm. Tested for up to 100,000 cycles of operation for UL listing as panic hardware (SA4890). Packaged with 9 volt DC battery with low battery alert. Non-handed, can be used right or left hand. Alarm Lock brand.

B **Security device used to control unauthorized use** of emergency exit door while complying with standard safety and building codes. Provides maximum security, trouble-free service, theft deterrence, and permits instant exit in case of emergency. Features deadbolt, warning alarm, outside cylinder capability, tamper switch on alarm box cover, and long-life battery pack (No. 1U106, for replacement battery pack, see page 2646). First person to reach door releases lock by applying pressure on emergency door clapper plate to open door and sound alarm. Alarm Lock brand. UL Listed (SA5911).

C **Panic exit alarm deadbolt locking-bar and channel type device** restricts unauthorized use of exit doors by sounding a dual piezo alarm, yet enables immediate door opening in emergencies. Features easy installation, relatching by deadbolting latchbolt, and outside cylinder readiness for alarm bypass by designated individuals. Incorporates 9 volt battery with low battery alert. Approved by the California State Fire Marshall. Non-handed, can be used right or left hand. Alarm Lock brand. UL Listed (SA4890).

**Rim cylinders for above listed units available below.**

| Key | Description† | Finish | Alarm Lock Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 18" Exit Alarm Deadlock | Aluminum | 250x28 | **1U122** | $307.05 | **$199.75** | **$179.59** | 8.0 |
| B | Exit Door Lock (Right Hand)<br>Exit Door Lock (Left Hand) | Chrome | 11A<br>11ALHRB | **1U111**<br>**1U036** | 349.80<br>349.80 | **227.50**<br>**227.50** | **204.63**<br>**204.63** | 11.0<br>11.0 |
| C | 32" Panic Exit Alarm Deadlock | Aluminum | 700x28 | **1U124** | 384.82 | **250.00** | **224.94** | 10.0 |

(†) Cylinder not included. Order separately below.




## EXIT ALARM RIM CYLINDERS

These cylinders are used to arm/disarm and lock/unlock all Alarm Lock brand emergency exit alarm locks listed above. Includes two keys. Alarm Lock brand.

| Cylinder Type | Alarm Lock Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Keyed Different** | CER | **1U107** | $20.95 | **$13.62** | **$12.95** | 0.7 |
| **Keyed Alike** | CERKA-12345 | **1U005** | 20.95 | **13.63** | **12.95** | 0.5 |




## KEYLESS ACCESS CONTROL LOCKS

- **Self contained fully programmable 12 digit metal keypad**
- **Low battery audible alert**
- **UL Listed fire rated**

**Alarm Lock Trilogy™T-2 DL2700 and DL2750 series electronic digital locksets** offer limited access without use of keys. Electronic locks feature three tier hierarchy system: Master code, Sub-Master code, and 15 individual user codes. All codes can be easily programmed into keypad at once. 20,000,000 possible codes make system virtually pickproof. Combinations can be set for 3, 4, or 5 digits.

**Features self-contained battery power source** (5 AA alkaline batteries) allowing 200,000 openings. Easily installed unit uses same door preparation as most standard cylindrical locksets. Provides key override with standard cylinders included, or interchangeable core accepts Best IC core type cylinders. Cylinder not included on Interchangeable Core Nos. 3ZM83 thru 3ZM85, 3ZM89 thru 3ZM91.

**DL2700 Lockset is a Grade 1 leverset** which features clutch mechanism for long life and durability. Also meets all ADA requirements. Accommodates 1⅝" to 1⅞" thick doors with a 2¾" backset. **Leversets are non-handed.** Alarm Lock brand.

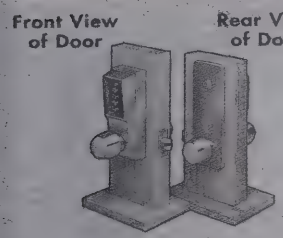
| Key | Type | Keying | Finish | Alarm Lock Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Lever | Standard | Dull Chrome | DL2700 | **3ZM80** | $498.00 | **$373.50** | **$354.83** | 7.3 |
| | | Standard | Antique Brass | DL2700 | **3ZM82** | 527.88 | **396.00** | **376.12** | 7.3 |
| | | Standard | Bright Brass | DL2700 | **3ZM81** | 549.08 | **412.00** | **391.22** | 7.3 |
| | | IC-Core* | Dull Chrome | DL2700 | **3ZM83** | 515.00 | **386.25** | **366.94** | 7.3 |
| | | IC-Core* | Antique Brass | DL2700 | **3ZM85** | 545.90 | **409.50** | **388.96** | 7.3 |
| | | IC-Core* | Bright Brass | DL2700 | **3ZM84** | 564.62 | **423.50** | **402.30** | 7.3 |
| B | Knob | Standard | Dull Chrome | DL2750 | **3ZM86** | 498.00 | **373.50** | **354.83** | 6.7 |
| | | Standard | Antique Brass | DL2750 | **3ZM88** | 527.88 | **396.00** | **376.12** | 7.2 |
| | | Standard | Bright Brass | DL2750 | **3ZM87** | 549.08 | **412.00** | **391.22** | 6.7 |
| | | IC-Core* | Dull Chrome | DL2750 | **3ZM89** | 529.93 | **397.50** | **377.58** | 6.7 |
| | | IC-Core* | Antique Brass | DL2750 | **3ZM91** | 545.90 | **409.50** | **388.96** | 6.7 |
| | | IC-Core* | Bright Brass | DL2750 | **3ZM90** | 567.10 | **425.50** | **404.06** | 6.7 |

(*) Cylinders not included.



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

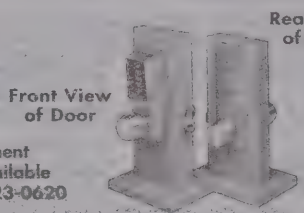
# MECHANICAL PUSHBUTTON COMBINATION LOCKS




A Standard Access Control

**Unican**

Replacement Parts Available 1-800-323-0620




B Standard Access Control with Thumb, or Key Passage Set



Front View of Door (Right Hand Lever pictured)




C Standard Access Control with Lever

- **One-hand operation; depress correct buttons in the correct sequence and turn knob to unlock the 5/8" deadlocking latch**
- **Combinations can be made up of one, two, three, four, or all five buttons pushed individually, or if desired, pushed in unison with other buttons, developing thousands of different combination possibilities. Changeable in seconds by authorized individuals**
- **Burglar-proof with no keyhole to pick; vandal-proof with no card slot to jam**
- **Easily installed; fits A.S.A. 161 cutouts on 1 3/8 to 2 1/4" thick wood or metal doors**
- **Completely mechanical—no electrical wiring—no batteries**
- **Passage set function. When activated by an inside thumb or key turn (see No. 1U141 or No. 1U083), the outside knob can be set to open the lock without using pushbutton combination. For use in offices or anywhere the door is left unlocked for extended periods.**

Unican 1000 Series keyless access control for use whenever limited access is desirable in commerce, industry, institutions, and residences. Typical applications include apartment lobbies, employee entrances, dormitories, computer rooms, and hospitals.

Eliminates problem of issuing, controlling, and collecting keys or magnetic cards. Quick, simple combination change assures continuing security after employees, tenants, or guests leave.

All locks include ASA and, standard strike, installation instructions, full scale template, and key for combination change access.

Replaces cylindrical and tubular lock sets. **Dimensions:** 2¾" backset, 3" wide, 7⅜" high (outside), 9" high (inside). 3 13/16" deep, and latch front 1⅛ x 2¼". Unican brand.

| Key | Description | Latch Length | Hand | Finish | Unican Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Standard Access Control | 5/8" | — | Satin Chrome | 1011-26D | 1U140 | $333.60 | $294.50 | $279.78 | 7.2 |
| | Standard Access Control | 5/8 | — | Antique Brass | 1011-05 | 1U092 | 333.60 | 294.50 | 279.78 | 7.2 |
| B | Standard w/Thumb, or Key Turn Passage Set | 5/8 | — | Satin Chrome | 1031-26D | 1U141 | 371.40 | 316.50 | 300.68 | 7.2 |
| | Standard w/Thumb, or Key Turn Passage Set | 5/8 | — | Antique Brass | 1031-05 | 1U083 | 371.40 | 316.50 | 300.68 | 7.2 |
| C | Standard Access Control with Lever | 5/8 | LH | Satin Chrome | LL-1011-26D | 5U740 | 417.05 | 354.75 | 337.01 | 8.3 |
| | Standard Access Control with Lever | 5/8 | RH | Satin Chrome | LR-1011-26D | 5U742 | 417.05 | 354.75 | 337.01 | 8.3 |
| | Standard Access Control with Lever | 5/8 | LH | Antique Brass | LL-1011-05 | 5U739 | 417.05 | 354.75 | 337.01 | 9.5 |
| | Standard Access Control with Lever | 5/8 | RH | Antique Brass | LR 1011-05 | 5U741 | 417.05 | 354.75 | 337.01 | 9.5 |

## Simplex



No. 1U094 Deadbolt

- **Combination can be changed in seconds by authorized individuals**

**Deadbolt Door Locks DL Series.** Press combination and turn front knob clockwise to "open". Lock remains open (bolt retracted) until either inside lever or outside knob is turned to throw bolt into locked position. Measures 4W x 5"H. Simplex brand.

**Automatic Spring Latch NL & NLA Series. NL Series:** Door locks automatically when closed unless latch hold-back thumbslide on inside is activated, allowing door to remain unlocked. Deadlocking latch can't be pried back on closed door; opens with thumb turn from inside. Latch bolt reverses without affecting deadlatching. Measures 4W x 5"H. Simplex brand.

**NLA Series:** Same as NL Series but without thumbslide latch hold-back feature. Simplex brand.

**NOTE:** Series 100 for door 1⅜" thick. Series 200 for door 1¾ to 2⅛" thick. All locks above include a sheet metal strike for outswing doors and a cast box strike for inswing wood frame installation.

| Finish | Series | Simplex Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Satin Brass | 100-DL | 902-04 | 1U078 | $108.45 | $95.65 | $90.87 | 3.5 |
| Brushed Chrome | 100-DL | 902-26D | 1U081 | 108.45 | 95.65 | 90.87 | 3.5 |
| Satin Brass | 200-DL | 904-04 | 1U082 | 108.45 | 95.65 | 90.87 | 3.5 |
| Brushed Chrome | 200-DL | 904-26D | 1U085 | 108.45 | 95.65 | 90.87 | 3.5 |
| Satin Brass | 100-NL | 917-04 | 1U086 | 132.10 | 116.50 | 110.68 | 3.5 |
| Brushed Chrome | 100-NL | 917-26D | 1U089 | 132.10 | 116.50 | 110.68 | 3.5 |
| Satin Brass | 200-NL | 919-04 | 1U090 | 132.10 | 116.50 | 110.68 | 3.5 |
| Brushed Chrome | 200-NL | 919-26D | 1U093 | 132.10 | 116.50 | 110.68 | 3.5 |
| Satin Brass | 100-NLA | 9176-04 | 1U094 | 132.10 | 116.50 | 110.68 | 3.5 |
| Brushed Chrome | 100-NLA | 9176-26D | 1U095 | 132.10 | 116.50 | 110.68 | 3.5 |
| Satin Brass | 200-NLA | 9196-04 | 1U096 | 132.10 | 116.50 | 110.68 | 3.5 |
| Brushed Chrome | 200-NLA | 9196-26D | 1U097 | 132.10 | 116.50 | 110.68 | 3.5 |

## ADAPTER KIT FOR METAL FRAMES

Includes surface mounted strike with shims to adjust strike box. Also includes 1/4 x 3/8" reversible riser plate for aligning inside housing to strike. Simplex brand.

| Finish | Stimplex Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Satin Brass | 800-04 | 1U002 | $12.90 | $11.31 | $10.74 | 1.0 |
| Brushed Chrome | 800-26D | 1U001 | 12.90 | 11.31 | 10.74 | 1.3 |

## COMMERCIAL GRADE PROGRAMMABLE LOCK

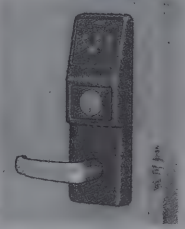
**For Both Exterior or Interior Doors**

Extra heavy duty TorqDefender outside lever lock retracts latchbolt when valid code is entered on keypad. Allows owner to program up to 20 unique 3 to 8 digit keypad codes. No external wiring required. Uses four AA batteries, features low battery indicator. Escutcheon plate allows universal retrofitting to existing doors, both right or left hand installations. Weather and vandal resistant. Clutch controlled outside lever is normally locked, inside lever is normally open. 10$\frac{7}{16}$L x 3$\frac{1}{4}$W x 1$\frac{1}{2}$"D. Locknetics brand (PRO5157).

- **Solid stainless steel keypad buttons in Lexan housing**
- **Extra heavy-duty, cast stainless steel internal parts, solid cast lever handles**
- **Exceeds ANSI Grade 1, ADA compliant hardware**
- **UL listed for 3 hr. fire rated openings**
- **Mechanical keyed by 1¼" mortise cylinder. Can override programmable lock**

**No. 4GD96.** Shpg. wt. 8.2 lbs. List .....$638.00.
Each **$446.75**; Lots 4.....**$424.41**

LOCKNETICS Security Engineering



**No. 4GD96**

## HOW TO ORDER

### I) SELECT THE TYPE OF LOCK:

**For Electromagnetic Types:**

**A) Heavy-Duty, High Traffic or Perimeter Door:**

1) Stock Number requires activation device to release (see Part II below): Nos. 4GD84, 4GD85

2) Stock Number does not require activation device* to release: Nos. 4GD79, 4GD80

**B) General Purpose, Medium Traffic:**

1) Stock Number requires activation device to release (See Part II below): No. 4GD81

**C) Light-Duty, Low Traffic or Interior Door:**

1) Stock Number requires activation device to release (See Part II below): Nos. 4GD82, 4GD83~

**For Electromechanical Types:**

**A) Light-Duty, Low Traffic:**

1) Stock Number includes keypad activation device for release and power supply: No. 4GD96

(*) Use activation device to prevent unauthorized exit alarm in lock from energizing, or for remote use. See options under Part II.

### II) SELECT TYPE OF ACTIVATION DEVICE:

**For:**

**A) Entry (Access)**

1) Authorized

a) Keyed

i) Standard Cylindrical Lock Type; Nos. 4GD91, 4GD92

ii) Programmable Data Touchentry™ Key; Nos. 4GD93, 4GD99, 4HC31

b) Coded

i) Keypad; Stock Nos. 4GD94, 4GD95

**B) Exit (Egress)**

1) Authorized (use same devices found in Part II A, listed above)

2) Universal and Unauthorized, Delayed; Nos. 4GD88, 4GD89

### III) SELECT POWER SUPPLY:

**NOTE: Power Supply Provides:**

1) 12 or 24 DC voltage output to power locks from 110 AC voltage input. DC voltage required for Nos. 4GD84, 4GD85, 4GD82, 4GD83, 4GD81. Optional for Stock Nos. 4GD79, 4GD80 (check input power specifications for lock).

2) Back up power for minimum of 4 hours. Automatically applied if main power is interrupted. Recommended for all locks and devices.

**TO SELECT TYPE AND NUMBER OF POWER SUPPLIES:**

A) Determine current draw of lock and activation (release) device

B) Multiply by number of locks and devices

C) Select power supply with output current that exceeds total current draw

**Note: More than one power supply may be required.**

# SURFACE MOUNT TYPE ELECTROMAGNETIC LOCKS

**For outswinging, single, hollow, metal, aluminum or wood doors and frames**

Units are designed to stay locked as long as power is supplied to them. Shutting off or interrupting power will cause release. See How To Order charts on page 2640. Immediate release can be achieved by connecting to most fire alarm panels (see Index). Satin Aluminum, clear adonized finish. Locknetics brand.

**390 SERIES**

- 1650 lbs. holding force
- 12 or 24 VDC input voltage

**310 SERIES**

- 1200 lbs. holding force
- 12 or 24 VDC input voltage

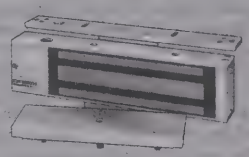
**320 SERIES**

- 650 lbs. holding force
- 12 or 24 VDC input voltage

**101+ SERIES**

- 1500 lbs. holding force
- 12 or 24V; DC or AC input voltage
- Adjustable 15 to 30 second release delay. Unauthorized release by applying approximately 15 lbs. pressure to inside of door
- Unauthorized release will activate light and audible alarms
- Authorized release by inserting TOUCHENTRY™ key into unit reader (2 keys included), or with remote activation device

LOCKNETICS Security Engineering a HARROW company



- Meets ANSI/BHMA Standard A156.23

## SPECIFICATIONS AND ORDERING DATA

| Amp Draw @ 12V | Amp Draw @ 24V | Options Included* | Lock Body (In.) L | Lock Body (In.) W | Lock Body (In.) D | Armature (In.) L | Armature (In.) W | Armature (In.) D | Mtg. Plate (In.) L | Mtg. Plate (In.) W | Mtg. Plate (In.) D | Locknetics Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.67DC | 0.35DC | None | 10½ | 2½ | 1½ | 7¾ | 2 5/16 | 19/32 | 10½ | ¼ | 1½ | 390 | 4GD84 | $410.00 | $287.00 | $272.65 | 10.0 |
| 0.67DC | 0.35DC | MBS, ATD | 10½ | 2½ | 1½ | 7⅜ | 2 5/16 | 19/32 | 10½ | ¼ | 1½ | 390MBSATD | 4GD85 | 575.00 | 402.50 | 382.38 | 10.0 |
| 0.60DC | 0.30DC | None | 10 | 2 5/16 | 1½ | 7⅜ | 2 5/16 | 19/32 | 9¼ | ¼ | 1⅝ | 310 | 4GD81 | 353.00 | 247.25 | 234.89 | 9.1 |
| 0.23DC | 0.45DC | None | 7 | 1¾ | 1¾ | 4⅞ | 1½ | ⅝ | | — | — | 320 | 4GD82 | 334.00 | 234.00 | 222.30 | 4.2 |
| 0.23DC | 0.45DC | MBS, ATD | 7 | 1¾ | 1⅜ | 4¼ | 1½ | ⅝ | | — | — | 320MBSATD | 4GD83 | 500.00 | 350.00 | 332.50 | 4.2 |
| 0.8DC/AC | 0.5DC/AC | None | 11½ | 3 1/32 | 3 3/16 | 7⅜ | 2 5/16 | 19/32 | 11½ | ¼ | 2 3/32 | 101+ | 4GD79 | 1162.00 | 813.50 | 750.98 | 14.0 |
| 0.8DC/AC | 0.5DC/AC | MBS, ATD | 11½ | 3 1/32 | 3 3/16 | 7⅜ | 2 5/16 | 19/32 | 11½ | ¼ | 2 3/32 | 101+MBS | 4GD80 | 1268.00 | 888.00 | 843.60 | 14.0 |

(*) Options: MBS=Magnetic Bond Sensor, indicates proper lock closure. ATD=Adjustable Time Delay, 0 to 30 seconds before relocking.

# ACCESSORIES

**Herculite Door Bracket** for use with 390 Models. For single 1/2" or 3/4" glass door applications. Locknetics brand (HDB1).

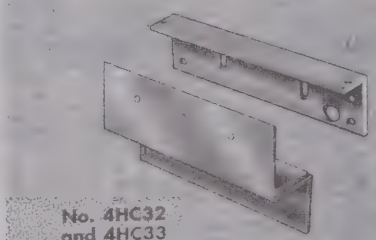
**No. 4GD97.** Shpg. wt. 2.1 lbs. List $199.00. Each **$139.30**; Lots 4 ..... **$132.34**

**Top Jamb Bracket** for use with 390 Models. For single inswinging door applications. Locknetics brand (TJ1).

**No. 4HC32.** Shpg. wt. 3.7 lbs. List $97.00. Each **$67.90**; Lots 4 ..... **$64.51**

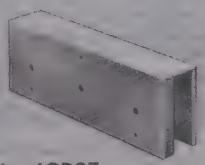
**Top Jamb Bracket** for use with 320 Models. For single inswinging door applications. Locknetics brand (TJ30).

**No. 4HC33.** Shpg. wt. 3.4 lbs. List $98.00. Each **$68.60**; Lots 4 ..... **$65.17**



No. 4HC32 and 4HC33

LOCKNETICS Security Engineering a HARROW company



No. 4GD97

# POWER SUPPLIES

- Input power is 110VAC, 60 Hz
- Output is selectable 12 or 24 VDC, filtered and regulated
- Output and battery are fuse and overload protected
- Enclosure is 12H x 12W x 4"D, NEMA 1
- Beige enamel finish
- Battery (not included, order separately) provides back up power
- Locknetics brand

| Description | No. of Batteries Required | Output Current | Locknetics Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Power Supply | 1 | 1A @ 12 or 24 VDC | 505 | 4GD86 | $167.00 | $116.90 | $111.06 | 8.1 |
| | 2 | 2A or 3A @ 12 or 24 VDC | 510 | 4GD87 | 328.00 | 236.75 | 224.91 | 11.0 |
| Battery | N/A | 6A/hr. @12 VDC; 2A/hr. @ 24 VDC | SBP2 | 4GD98 | 105.00 | 73.50 | 69.83 | 7.8 |



No. 4GD86 Power Supply



LOCKNETICS

No. 4GD98 Battery

LOCKNETICS Security Engineering a HARROW company

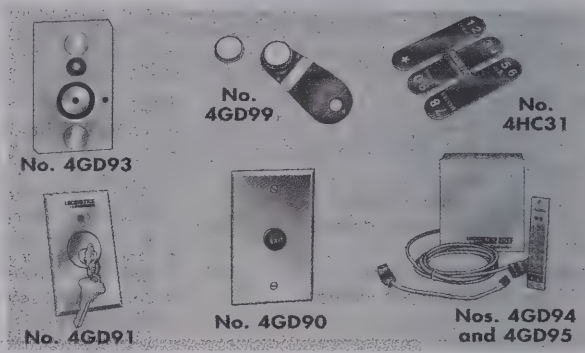
# ACTIVATION DEVICES

**Entry Types for Authorized Remote Release of Electromagnetic Locks**

## KEYED VERSIONS

### TOUCHENTRY™ PROGRAMMABLE DATA KEY STATIONS

- Includes controller, reader and connecting cable
- Controller allows up to 150 unique codes
- Steel NEMA 1 housing, 8W x 8H x 4"D
- Current draw: 200mA max. @ 12 or 24V AC/DC; 5A DPDT, 30VDC output; 2-aux outputs @ 5A SPDT, 30 VDC
- Reader has stainless steel housing, 1⅜W x 2⁵⁄₁₆H x ⅞"D, is vandal and weather resistant
- Frame mount, max 2 readers per controller
- Use No. 4HC31, sold separately, to change standard factory set TOUCHENTRY™ key codes
- TOUCHENTRY™ key No. 4GD99, sold separately, is sealed against environment and static




### STANDARD KEY STATIONS

- Accepts 1¼" mortise cylinder (sold separately, see Index)
- Anti-tamper screws
- Stainless steel plate, 2¾"W x 4½"H, with aluminum housing, 1⅝"D
- Current draw: 30mA max. @ 12 or 24V AC/DC
- Mounts in standard 2 x 4 box

### STANDARD PUSH BUTTON STATIONS

- Lighted, ⅞" dia. red engraved, with "EXIT" button
- Stainless steel plate, 2¾W x 4½"L

## CODED VERSIONS

### KEYPAD STATIONS

- Includes controller, keypad and connecting cable
- Controller allows up to 150 unique codes
- LED signal status
- Current draw: 200mA max. @ 12 or 24V AC/DC; 5A, DPDT, 30VDC output; 2-aux outputs @ 5A SPDT, 30VDC
- No. 4GD94 for high traffic areas

### KEYED VERSION ACTIVATION DEVICES

| Description | Rating | Locknetics Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **TOUCHENTRY Station** | — | 780 | **4GD93** | $343.00 | **$240.25** | **$228.24** | 4.6 |
| **TOUCHENTRY Key** | — | TEK2 | **4GD99** | 10.00 | **7.00** | **6.65** | 0.1 |
| **TOUCHENTRY Programmer** | — | TEP1 | **4HC31** | 74.00 | **51.80** | **49.21** | 0.1 |
| **Maintained, SPDT Standard Key Station*** | 3A @ 28VDC | 753-04 | **4GD91** | 114.00 | **79.80** | **75.81** | 0.3 |
| **Momentary, SPDT Standard Key Station*** | 2A @ 28VDC | 753-05 | **4GD92** | 104.00 | **72.80** | **69.16** | 0.3 |
| **Momentary Standard Push Button Station** | 5A @ 250 VAC | 701RDEXILL | **4GD90** | 71.00 | **49.70** | **47.22** | 0.2 |

### CODED VERSION ACTIVATION DEVICES

| Description | Dimensions (In.) | Locknetics Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Stainless Steel Housing Keypad Station** | 6¼ H x 1⅛W x 7/16"D | CT150KPXKP74+ | **4GD94** | $397.00 | **$278.00** | **$264.10** | 5.1 |
| **Lexan Housing Keypad Station** | 7H x 1⅛W x 7/16"D | CT150KPXKP76+ | **4GD95** | 318.00 | **222.75** | **211.61** | 5.1 |

(*) Mortise cylinder sold separately.

# NON-LATCHING EXIT TYPE BARS

**For Random Release of Electromagnetic Locks**

### SMARTBAR

- Requires only slight touch to deactivate lock
- Contact can be made at any point on bar. One motion egress
- No moving parts to wear out or damage, low maintenance
- Heavy-duty aluminum extrusion, contemporary design, clear anodized finish
- 12 or 24 VAC/DC input
- Current draw: 250mA; 3A @ 30VDC, SPDT output
- For 36" or less door (can be cut in field), includes 16 ft. door cord and cable
- Locknetics brand (690-36)

**No. 4GD89.** Shpg. wt. 5.0 lbs. List $360.00. Each **$252.00**; Lots 4 ..... **$239.40**

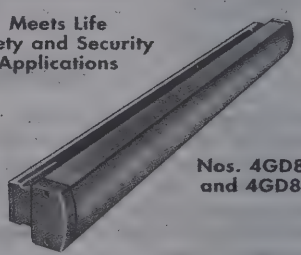
### TOUCH BAR

- Push to deactivate lock, pressure can be applied to any part of bar face
- Heavy-duty aluminum extrusion contemporary design, clear anodized finish
- No input power required; 3A @ 30VDC, SPDT output
- For 36" or less door (can be cut in field), includes 18" 20 AWG leads
- Locknetics brand (671-36XAR)

**No. 4GD88.** Shpg. wt. 5.9 lbs. List $240.00. Each **$168.00**; Lots 4..... **$159.60**

LOCKNETICS Security Engineering a HARROW company

Meets Life Safety and Security Applications

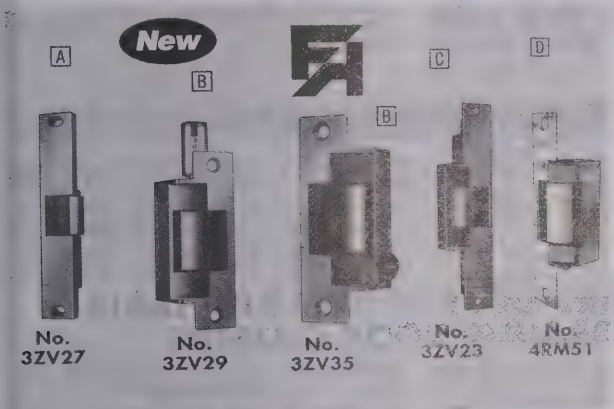


Nos. 4GD88 and 4GD89

Allows for Exit from Inside without Keys or Codes

# ELECTRIC STRIKES

BHMA Standard 501, grade 1 electric strikes are non fail safe, unlock when energized. Solenoid actuated for 12 or 24 Volt DC. Requires rectifier (sold separately below) for conversion from AC to DC. Reversible, non-handed. UL Listed Standard No. 1034 burglary resistant electric strike. Horizontal adjustment to compensate for misalignment. Corrosion resistant metal construction, stainless steel face plate, cast stainless steel case and working parts, stainless steel springs. 32D dull stainless steel finish. Folger Adam brand.




**A For use with Rim-Type exit devices, active leaf of a pair of doors or doors with surface mount vertical rod exit device.** When using electrical strike in conjunction with vertical rod exit device, it is necessary that the bottom rod of exit device be removed or made inoperative, the latchbolt of exit device be the "pullman" of beveled type (round or square latchbolts must be beveled), and the latchbolt be free-latching and remain projected while door is open. Mechanisms that hold latchbolt retracted while door is open and automatically release it when door is closed must be removed or made inoperative.

**B For use with locks without deadbolts and mortise exit devices.** Designed for hollow metal and wood frame applications. Feature 1/2, 5/8, and 3/4" bolt throws. UL Listed Standard No. 10B Fire Test of Door Assemblies, Class A, 3 Hour, Single Swing Doors. Fits Standard ANSI A115.1 Frame cutout (with slight modifications to face of frame).

**C For use with locks without deadbolts.** Features 1/2, 5/8, 3/4, and 7/8" bolt throws. UL Listed Standard No. 10B Fire Test of Door Assemblies, Class A, 3 Hour, Single Swing Doors.

**D BHMA Standard 156.5, grade 2 electric strikes** are non fail safe, unlocks when energized. Tested to 500,000 cycles, 2100 lbs pull test and 70 lb impact test. Reversible, non-handed. UL Listed Standard No. 1034 burglary resistant electric strikes. Requires rectifier when 12 or 24 volt AC power available only for silent operation. Utilize 3ZV22 listed below. Fits ANSI 115.1 Standard Prep.

| Key | Input Solenoid Voltage | Bolt Throw (In.) | Door Frame Type | Finish | Dimensions (In.) D | W | H | Folger Adam Model | | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 24VDC | — | — | * | 3/4 | 1½ | 9 | 310-4 | | **3ZV28** | $320.00 | **$208.00** | **$197.60** | 4.0 |
| A | 12VDC | — | — | * | 3/4 | 1½ | 9 | 310-4 | | **3ZV27** | 320.00 | **208.00** | **197.60** | 4.0 |
| B | 24VDC | 1/2, 5/8 | Hollow Metal | * | 1½ | 1⅞ | 4⅞ | 712 | | **3ZV30** | 303.00 | **197.00** | **187.15** | 3.0 |
| B | 12VDC | 1/2, 5/8 | Hollow Metal | * | 1½ | 1⅞ | 4⅞ | 712 | | **3ZV29** | 298.00 | **193.75** | **184.06** | 3.0 |
| B | 24VDC | 1/2, 5/8, 3/4 | Hollow Metal | * | 1⅝ | 1¾ | 4⅞ | 712-75 | | **3ZV32** | 303.00 | **197.00** | **187.15** | 3.0 |
| B | 12VDC | 1/2, 5/8, 3/4 | Hollow Metal | * | 1⅝ | 1¾ | 4⅞ | 712-75 | | **3ZV31** | 308.00 | **200.25** | **190.24** | 3.0 |
| B | 24VDC | 1/2, 5/8 | Wood | * | 1½ | 1⅞ | 4⅞ | 732 | | **3ZV34** | 288.00 | **187.25** | **177.89** | 3.0 |
| B | 12VDC | 1/2, 5/8 | Wood | * | 1½ | 1⅞ | 4⅞ | 732 | | **3ZV33** | 293.00 | **190.50** | **180.98** | 3.0 |
| B | 24VDC | 1/2, 5/8, 3/4 | Wood | * | 1⅝ | 1¾ | 4⅞ | 732-75 | | **3ZV36** | 298.00 | **193.75** | **184.06** | 3.0 |
| B | 12VDC | 1/2, 5/8, 3/4 | Wood | * | 1⅝ | 1¾ | 4⅞ | 732-75 | | **3ZV35** | 303.00 | **197.00** | **187.15** | 3.0 |
| C | 24VDC | 1/2, 5/8 | — | * | 1⅝ | 2 1/16 | 9 | 310-2 | | **3ZV26** | 325.00 | **211.25** | **200.69** | 4.0 |
| C | 12VDC | 1/2, 5/8 | — | * | 1⅝ | 2 1/16 | 9 | 310-2 | | **3ZV25** | 325.00 | **211.25** | **200.69** | 4.0 |
| C | 24VDC | 3/4, 7/8 | — | * | 2 | 2 9/16 | 9 | 310-2 3/4 | | **3ZV23** | 370.00 | **240.50** | **228.48** | 4.0 |
| C | 12VDC | 3/4, 7/8 | — | * | 2 | 2 9/16 | 9 | 310-2 3/4 | | **3ZV24** | 370.00 | **240.50** | **228.48** | 4.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Aluminum | Dull Chrome | 1½ | 1¾ | 4⅞ | 204-US28 | New | **4RM48** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Aluminum | Black | 1½ | 1¾ | 4⅞ | 204-ABL | New | **4RM49** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Aluminum | Brown | 1½ | 1¾ | 4⅞ | 204-ABR | New | **4RM50** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Hollow Metal | Dull Chrome | 1½ | 1¾ | 4⅞ | 202-US28 | New | **4RM51** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Hollow Metal | Black | 1½ | 1¾ | 4⅞ | 202-ABL | New | **4RM52** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Hollow Metal | Brown | 1½ | 1¾ | 4⅞ | 202-ABR | New | **4RM53** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Aluminum | Dull Chrome | 1½ | 1¾ | 6⅞ | 205-US28 | New | **4RM54** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Aluminum | Black | 1½ | 1¾ | 6⅞ | 205-ABL | New | **4RM55** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Aluminum | Brown | 1½ | 1¾ | 6⅞ | 205-ABR | New | **4RM56** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Hollow Metal | Dull Chrome | 1½ | 1¾ | 6⅞ | 203-US28 | New | **4RM57** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Hollow Metal | Black | 1½ | 1¾ | 6⅞ | 203-ABL | New | **4RM58** | 89.00 | **66.75** | **63.41** | 2.0 |
| D | 12/24 AC/DC | 1/2, 5/8 | Hollow Metal | Brown | 1½ | 1¾ | 6⅞ | 203-ABR | New | **4RM59** | 89.00 | **66.75** | **63.41** | 2.0 |

(*) These items have Dull Stainless Finish.

## SAMPLE SYSTEM CHART

**All components with Stock No. listed are needed for proper operation**

| Line Voltage | 12 Volt Transformer | 24 Volt Transformer | 2/24 VDC Rectifier | Switch | Electric Strike* |
|---|---|---|---|---|---|
| 120 VAC | 4R876 | None | 3ZV22 | 3ZR08 | 12 VDC |
| 120 VAC | None | 3A358 | 3ZV22 | 3ZR07 | 24 VDC |
| 12 VAC | None | None | 3ZV22 | 3ZR08 | 12 VDC |
| 24 VAC | None | None | 3ZV22 | 3ZR07 | 24 VDC |
| 12 VAC | None | None | 3ZV22 | 3ZR08 | 12 VDC |
| 24 VAC | None | None | 3ZV22 | 3ZR07 | 24 VDC |
| 12 VDC | None | None | None | 3ZR08 | 12 VDC |
| 24 VDC | None | None | None | 3ZR07 | 24 VDC |
| 12 VDC | None | None | None | 3ZR08 | 12 VDC |
| 24 VDC | None | None | None | 3ZR07 | 24 VDC |

(*) All strikes listed on this page can be used with components on the line with proper electric strike voltage.

## AC TO DC POWER RECTIFIER

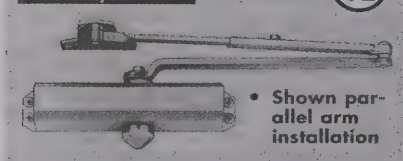


**Changes AC voltage to DC voltage** with a full wave bridge rectifier. Accepts 12 or 24 volt AC input and gives 12 or 24 volt DC output depending on input. Maximum amps: 1.5. Each has four 6" leads. All units in listing above require DC input voltage. If DC power not available, the power must be rectified from AC to DC after the voltage is stepped down to 12 or 24 VAC. Folger Adam brand (076-0712-005).

**No. 3ZV22.** Shpg. wt. 1.0 lbs. List.....$40.00.
Each **$26.00**; Lots 5.....**$24.70**

# HYDRAULIC DOOR CLOSERS

## STANDARD-DUTY SIZED HYDRAULIC DOOR CLOSERS




• Shown parallel arm installation

Replacement Parts Available 1-800-323-0620

- For interior or exterior doors
- Tri-style installation
- Two valve door control
- Adjustable backcheck
- UL Listed, meets ANSI Grade 1 Standards

**Aluminum housing** for doors serving medium traffic applications. Closer's narrow style makes it ideal for glass doors. Has two independent valves for best closing control. Sized interior models can be mounted on doors opening left or right, either push or pull side. Tri-style installation. Can be mounted regular arm, top jamb, or parallel arm.

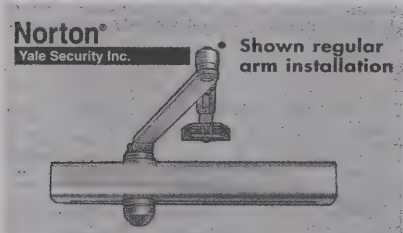
**Can be used with doors 1¾ to 2½" thick; 2 ½ to 4 feet wide; up to 8 feet high.** Hydraulic cylinder is case aluminum alloy. Straight steel arm assembly.

**Also fits Yale 50 Series** door and screw hole locations. Aluminum or brown finish. UL Listed. Meet ANSI Grade 1 Standards. Norton brand.

### SPECIFICATIONS AND ORDERING DATA

| Type of Installation | Finish Color | Housing Dimensions (In.) L | W | H | Norton Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Interior door** | Aluminum | 9¾ | 2⅞ | 2⅝ | 1603 | **6A990** | $118.50 | **$77.05** | **$73.20** | 7.5 |
| **Interior door** | Brown | | | | 1603 | **6A991** | 118.50 | **77.05** | **73.20** | 7.0 |
| **Exterior door** | Aluminum | 9¾ | 2⅞ | 2⅝ | 1605 | **6A992** | 118.50 | **77.05** | **73.20** | 7.6 |
| **Exterior door** | Brown | | | | 1605 | **6A993** | 118.50 | **77.05** | **73.20** | 7.6 |

## STANDARD-DUTY FULLY ADJUSTABLE HYDRAULIC DOOR CLOSERS




• Shown regular arm installation

- Multi-size power
- Tri-style installation
- Non-handed
- Individual control for adjusting door speed, latch speed and backcheck
- UL Listed, meets ANSI Grade 1 Standards

Replacement Parts Available 1-800-323-0620

**Aluminum housing** for doors serving medium traffic applications. Non-sized to adjust spring power for proper closing force on both interior and exterior doors. Power range is adjusted from size 2 thru size 6 by turning nut. Tri-style installation. Can be mounted regular arm, top jamb, or parallel arm. Non-handed to permit closer mounting on either right or left hand doors. Adjustable back check provides cushion toward end of opening cycle. Molded slim style cover made of high impact UL Listed material.

**All models fit Yale 3301 Series** door and screw hole locations. UL Listed. Meets ANSI Grade 1 Standards.

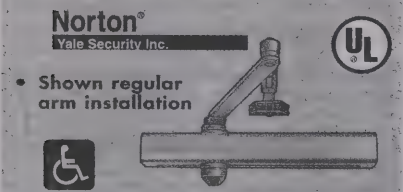
**Nos. 6T314 and 6T315 include a Hold Open Arm** which allows door to be held in an open position from 90 to 180°. To release, a slight push will cause door to close. Non-handed. Norton brand.

### SPECIFICATIONS AND ORDERING DATA

| Finish Color | Housing Dimensions (In.) L | W | H | Norton Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **WITHOUT HOLD OPEN FEATURE** | | | | | | | | | |
| **Aluminum** | 13 | 2¾ | 2½ | 8301 | **6T312** | $160.00 | **$104.00** | **$98.80** | 8.0 |
| **Brown** | 13 | 2¾ | 2½ | 8301 | **6T313** | 160.00 | **104.00** | **98.80** | 8.0 |
| **WITH HOLD OPEN FEATURE** | | | | | | | | | |
| **Aluminum** | 13 | 2¾ | 2½ | 8301H | **6T314** | 170.00 | **110.50** | **104.98** | 9.3 |
| **Brown** | 13 | 2¾ | 2½ | 8301H | **6T315** | 170.00 | **110.50** | **104.98** | 9.3 |

## STANDARD-DUTY BARRIER FREE HYDRAULIC DOOR CLOSERS

Replacement Parts Available 1-800-323-0620




• Shown regular arm installation

- For interior or exterior doors
- Individual control for adjusting door speed, latch speed and backcheck
- UL Listed, meets ANSI Grade 1 Standards

**Aluminum housing** for doors serving medium traffic applications. Designed for compliance with the Physically Handicapped Accessibility Code. Barrier free door closers are adjustable in 1 thru 4 size range. Lighter powered to reduce door opening resistance to manageable levels for the handicapped and still provide door control. Tri-style installation. Can be mounted regular arm, top jamb, or parallel arm. Non-handed to permit closer mounting on either right or left hand doors.

**Also fits Yale 3301BF Series** door and screw hole locations. UL Listed. Meets ANSI Grade 1 Standards. Norton brand.

### SPECIFICATIONS AND ORDERING DATA

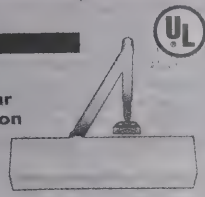
| Finish Color | Housing Dimensions (In.) L | W | H | Norton Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Aluminum** | 13 | 2¾ | 2½ | 8301BF | **6T316** | $160.00 | **$104.00** | **$98.80** | 7.0 |
| **Brown** | 13 | 2¾ | 2½ | 8301BF | **6T317** | 160.00 | **104.00** | **98.80** | 7.0 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# HEAVY-DUTY SIZED HYDRAULIC DOOR CLOSERS

REXSON™
Yale Security Inc.



- Shown regular arm installation

Replacement Parts Available
™ 1-800-323-0620

**RIXSON-FIREMARK 10-YEAR LIMITED WARRANTY ON PARTS**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- For interior or exterior doors
- Handle doors up to 10 ft. high
- Adjustable speed opening and closing
- UL Listed, meets ANSI Grade 1 Standards
- Tri-style installation

**Heavy-duty cast-iron housing** for doors serving heavy traffic stairwells, gymnasiums, and all frequently used doorways. Narrow projection-high style full cover closers with adjustable speed opening and closing. Sized interior models can be mounted on doors opening left or right, either push or pull side. Tri-style installation. Can be mounted regular arm, top jamb, or parallel arm. Design enables widest options for installation. **Can handle doors 1¾ to 2½" thick, 2½ to 4' wide; up to 10' high.** Hydraulic cylinder is cast-iron with steel cover and arm assembly. Choice of aluminum or brown finish. UL Listed. CSA Certified. Meets ANSI Grade 1 standards. Rixson-Firemark brand.

| Type of Installation | Finish Color | Housing Dimensions (In.) L | W | H | Rixson-Firemark Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior door | Aluminum | 13¾ | 2⅞16 | 2⅛ | M2004 | **3X958** | $172.00 | **$111.80** | **$100.62** | 12.0 |
| Interior door | Brown | | | | M2004 | **2A128** | 172.00 | **111.80** | **100.62** | 12.0 |
| Exterior door | Aluminum | 13¾ | 2⅞16 | 2⅛ | M2005 | **3X959** | 172.00 | **111.80** | **100.62** | 12.0 |
| Exterior door | Brown | | | | M2005 | **2A129** | 172.00 | **111.80** | **100.62** | 12.0 |

# OVERHEAD DOOR STOPS/HOLDERS

REXSON™
Yale Security Inc.



Replacement Parts Available
™ 1-800-323-0620

**RIXSON-FIREMARK TWO-YEAR WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- Hold door in open positions up to 110°
- Meet requirements of ANSI A156.8
- Aluminum finish
- For use with all closers including Rixson and Norton closers listed above and on page 2079,2644

For medium traffic interior doors or heavy traffic exterior doors where floor or wall stops cannot be used. Surface mounts with screws and thru-bolts provided in package. Holders are reversible for right or lefthand door mounting.

Can be mounted to mechanically hold door open at positions up to 110° (holder engages when door is pushed to specified degree and remains until manually pulled closed). Control knob (found only on No. 4A438) can manually turn off hold-open feature whenever desired.

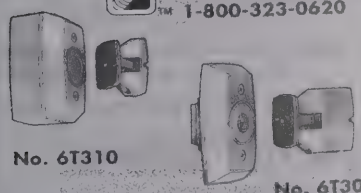
Positive dead stop built into holder prevents door from hitting other doors, walls, and people; reduces wear on door closer mechanism, frame and door. Holders can be used with all closers including Rixson and Norton closers listed above and on page 2580. Aluminum finish. Meet requirements of ANSI A156.8. Rixson-Firemark brand.

| Application | Finish | Door Opening (In.) Butts / Offset Pivots | Center Hung Pivots | Door Thickness | Rixson-Firemark Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior | Aluminum | 30-5/16-36" | 32-1/16"-38" | 1¾"-2¼" | 10-326 | **4A437** | $70.00 | **$45.50** | **$40.95** | 3.0 |
| Exterior | Aluminum | 33-1/16-38 | 36-1/16-41 | 1¾-2¼ | 9-326 | **4A438** | 130.00 | **84.50** | **76.05** | 4.0 |

# ELECTROMAGNETIC DOOR RELEASES

REXSON™
Yale Security Inc.

Replacement Parts Available
™ 1-800-323-0620



No. 6T310

No. 6T308

**RIXSON-FIREMARK TWO-YEAR WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- Approximately 45 pounds of holding power • Aluminum finish
- Magnet protected against transients and surges up to 600V (AC models)
- Fail-safe operation, power failure releases door to close
- Positive release button initiates closing motion • Meets NFPA Codes

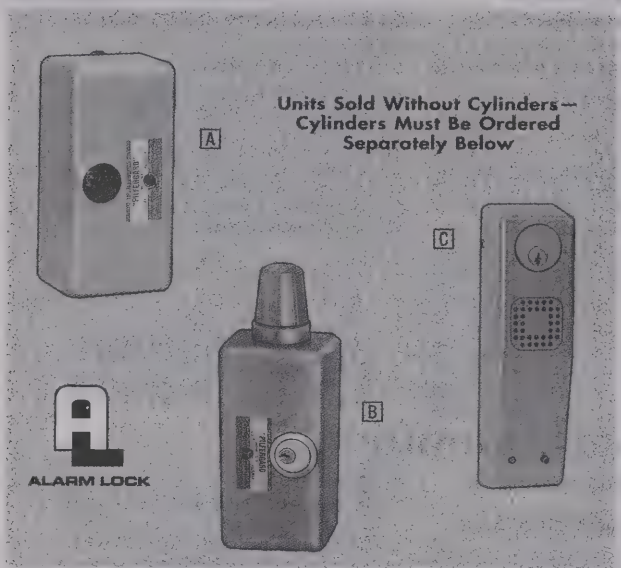
Designed to hold fire and smoke barrier doors open until released by remote smoke detector or other switching device. Complete assembly includes armature contact plate with adjustable pivot mounting for installation on door, and heavy-duty electromagnet for mounting on wall behind door. Door-mounted contact plate includes hardware for thru-bolting or concealed mounting. Spotting template assures correct alignment. Armature may be bolted through with concealed fastening bracket. Mounting hardware included.

For installation where required by code, where doors may be used to confine smoke or fire, or wherever remote control or automatic closing doors are required. Releases operate on 120V, AC, 60 Hz, 0.017 amp, or 24V, AC/DC, 0.080 amp. Conforms to the requirements of National Fire Protection Association NFPA/ANSI Buls. 80 and 101. Listed with California State Fire Marshall. UL Listed, GTPR for automatic releasing systems. Rixson-Firemark brand.

| Wiring Type | Voltage | Projection From Wall | Total Projection | Rixson Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Concealed | 120V AC | 7/8 | 3 | 998 | **6T308** | $186.00 | **$111.50** | **$100.35** | 1.8 |
| Concealed | 24V AC/DC | 7/8 | 3 | 998 | **6T309** | 186.00 | **111.50** | **100.35** | 1.8 |
| Surface | 120V AC | 2 | 4 | 996 | **6T310** | 196.00 | **117.50** | **105.75** | 1.8 |
| Surface | 24V AC/DC | 2 | 4 | 996 | **6T311** | 196.00 | **117.50** | **105.75** | 1.8 |

# EMERGENCY EXIT DOOR ALARMS

## PILFERGARD EXIT DOOR ALARMS




A **Pilfergard exit door alarm** is engineered to deter use of emergency exit door by emitting a heavy-duty twin action horn when door is opened by unauthorized personnel. However, exit doors can still be unlocked as required by safety codes and bypassed only by approved, designated key-carrying employees. Easily surface mounted, tamper proof, cannot be defeated by a second magnet, and comes with a test button to ascertain battery and horn condition. Contains battery pack already installed. Alarm Lock brand.

For additional battery packs, order No. 1U106 listed below.

For cylinders, see below.

B **Exit door alarm with large, flashing warning light** as well as twin action horns. Provides visual and audible evidence as to exact door violated. Contains battery pack already installed. Alarm Lock brand.

For additional battery packs, order No. 1U106 listed below.

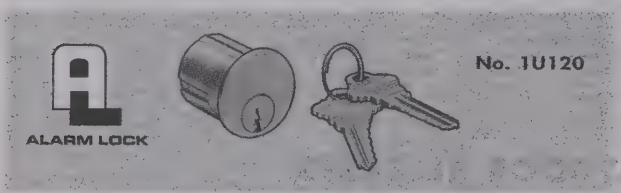
For cylinders, see below.

C **Easy-to-install, multipurpose door annunciator** is for use on a wide range of doors, including narrow stiles. Features include: an attention-getting 110 dB alarm at 10 ft., steady test button sound and staccato tone, user selectable immediate or 15-second delay alarm, user selectable continuous alarm (until silenced by user with key), or 2-minute automatic shutoff with continuing red flashing LED indicator light. Mar-resistant, metallic-silver finish. Contains standard alkaline 9-volt battery. Alarm Lock brand.

For cylinders, see below.

| Key | Description† | Finish | Alarm Lock Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Exit Alarm | Silver | PG10 | **1U112** | $189.74 | **$123.35** | **$111.00** | 3.5 |
| B | Exit Alarm w/Flashing Light | Silver | LL1 | **1U109** | 201.40 | **130.95** | **117.82** | 4.0 |
| C | Exit Alarm w/Annunciator | Silver | PG21MS | **1U108** | 171.00 | **111.20** | **100.04** | 1.7 |

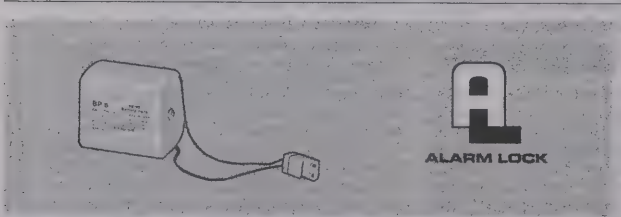
(†) Cylinder not included. Order separately below.




## MORTISE CYLINDER

Used to arm/disarm and lock/unlock all Pilfergard models listed above only. Includes two keys. Alarm Lock brand.

| Inside Keyed Cylinder Type | Alarm Lock Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Different** | CEM | **1U120** | $20.95 | **$13.62** | **$12.95** | 0.7 |
| **Alike** | CEMKA-12345 | **1U004** | 20.95 | **13.63** | **12.95** | 0.5 |




## BATTERY PACK

Replacement 6-volt power pack. Power source for alarm locks and most Pilfergard alarms. Alarm Lock brand (BP-6).

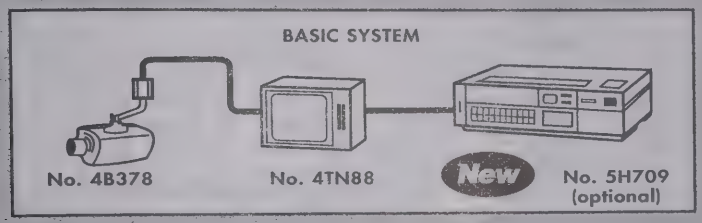
**No. 1U106.** Shpg. wt. 0.5 lbs. List.....$19.95.
Each **$12.97**; Lots 6.....**$11.67**

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# CLOSED CIRCUIT TV EQUIPMENT

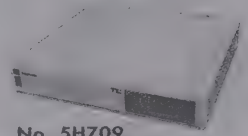
## Panasonic



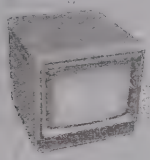



No. 4B378
Mini-Camera

Lens Not Included
(See Index under
Lenses)



No. 5H709
Time Lapse VCR



No. 5H710
B&W Monitor



No. 5H711
Camera Power Supply

### No. 4TN88 BLACK & WHITE SINGLE CABLE SYSTEM MONITOR

- 1000 TV line horizontal resolution
- 14" Monitor
- Built-in 4 camera switcher
- On-screen set-up menu
- Sequence time adjustment 1-30 seconds
- Alarm time adjustment 1-60 seconds
- Audio input/output capability
- Dimensions: 12 13/16H x 12 5/8W x 12 7/8"D
- Panasonic brand (WV-BM140)

**New No. 4TN88.** Shpg. wt. 26.0 lbs. List $620.00. Each **$558.00**; Lots 2 ..... **$530.10**

### No. 4B378 BLACK & WHITE MINI-CAMERA

- Provides clear pictures with 380 lines of resolution—1/3" CCD
- Minimum illumination for a picture is 2 lux with a F2.8 f-stop lens
- Temperature range: -22° to 122°F
- CS mount 4.5 mm lens included
- Compatible with No. 5H585 monitor or No. 5H711 power supply
- UL Listed (E72900) •Panasonic brand (WV-BP70)

**No. 4B378.** B&W Mini-Camera. Shpg. wt. 2.5 lbs. List $300.00. Each **$270.00**; Lots 3 ..... **$256.50**

### No. 5H589 ADDITIONAL CAMERA ADAPTER

- Expands No. 5H585 Mini CCTV Monitor to allow 3 additional camera connections
- Provides spot/sequence control to system expansion cameras
- Dimensions: 11 1/8W x 1 3/4H x 9 3/16"D; weighs 5.2 lbs.
- Black and white video signal only
- Total system expansion, 3 cameras
- UL Listed (E72900)
- Panasonic brand (WV-83)

**No. 5H589.** Camera Adapter. Shpg. wt. 7.8 lbs. List $590.00. Each **$531.00**; Lots 2 ..... **$504.45**

### No. 5H709 VHS TIME LAPSE VIDEO RECORDER

- Daily timer recording/weekly timer recording
- Alarm recording
- Six different time lapse modes 24, 48, 72, 96, 120, 168 hr.
- Reverse review
- Clear still/clear slow - field by field
- Fast-forward/reverse play
- Built-in time/date generator/comp
- Warning at end of tape
- UL Listed (679F)
- Panasonic brand (AG-TL500)

**No. 5H709.** Video Recorder. Shpg. wt. 19.0 lbs. List $1175.00. Each **$1058.00**; Lots 2 ..... **$1005.10**

### No. 5H710 BLACK & WHITE MONITOR

- 9" Diagonal monochrome screen
- Front panel operating controls
- Use as a remote monitor for No. 5H585 monitor
- Use as single camera system; No. 5H711 camera power supply required to drive camera and provide NTSC video signal. For use with camera No. 4B378.
- Operates on 120VAC @ 28 watts
- Dimensions: 8 11/16W x 8 15/16H x 10 5/16"D
- No audio
- UL Listed (E37995)
- Panasonic brand (TR-990C)

**No. 5H710.** Video Monitor. Shpg. wt. 11.0 lbs. List $180.00. Each **$162.00**; Lots 4 ..... **$153.90**

### No. 5H711 CAMERA POWER SUPPLY

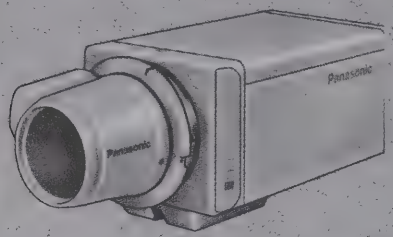
- Required power supply for each camera if used with No. 5H710 monitor
- Use with Mini-CCTV cameras and standard monitors, such as No. 5H710
- For use with camera No. 4B378
- Operates on 120VAC @ 16 watts
- Provides DC voltage and video signals from camera
- Dimensions: 5 7/16W x 1 3/4H x 7 5/16"D
- UL Listed (E72900)
- Panasonic brand (WV-PS11B)

**No. 5H711.** Camera Power Supply. Shpg. wt. 2.7 lbs. List ..... $250.00. Each **$225.00**; Lots 3 ..... **$213.75**

# CLOSED CIRCUIT TV EQUIPMENT

**Panasonic**

**New**



No. 4TN89 Camera

No. 4B386 Switcher



## BLACK AND WHITE CAMERAS

- 1/3 interline transfer CCD, 512 (H)x 492 (V) pixels
- High sensitivity 0.08 lux at f/1.4
- 380-line horizontal resolution and a S/N ratio of 46db
- Line lock/VD2
- Back light compensation selectable
- C or CS mount lens, Auto Iris
- Electronic light control
- 2 9/16H x 2 5/8W x 4 13/16D
- UL Listed

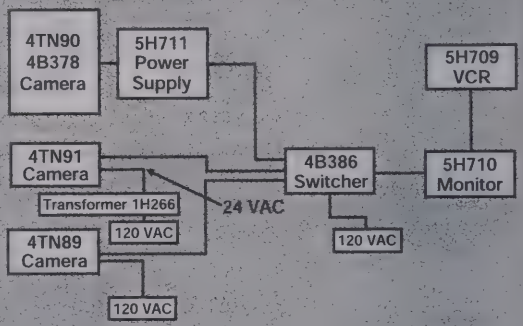
**Use all models with No. 4B386 switcher and No. 5H710 monitor.**

No. 4TN91 operates on 24VAC.
No. 4TN90 operates on 12VDC.
No. 4TN89 operates on 120VAC.

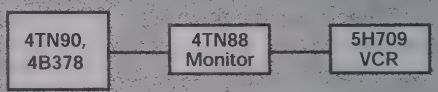
### *New!* CAMERA ORDERING DATA

| Panasonic Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| WV-BP134 | 4TN91 | $210.00 | $189.00 | $179.55 | 2.0 |
| WV-CP150 | 4TN90 | 875.00 | 787.50 | 748.13 | 1.8 |
| WV-BP130 | 4TN89 | 210.00 | 189.00 | 179.55 | 2.0 |

### ADVANCED SYSTEM




### BASIC SYSTEM




## No. 4B386 CAMERA SWITCHER

- Permits a single camera and monitor system to be expanded up to an eight camera system
- Provides 8 camera inputs that can also be looped out
- Sequence/Spot switchable output
- Bypass/Auto/Spot switch
- Adjustable sequence time selectable from 1-30 seconds for each camera
- UL Listed (E82562)
- Panasonic brand (WJ-SQ-208)

**No. 4B386.** Camera Switcher. Shpg. wt. 6.7 lbs. List .....$340.00. Each $306.00; Lots 4.....$290.70

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# CLOSED CIRCUIT TV ACCESSORIES AND LENSES

## No. 4B384 INDOOR DUSTPROOF HOUSING

- For use with most Panasonic CCD cameras with fixed focal length lenses
- Mounts from top or bottom
- Can be installed or removed without disconnecting or separating camera from bracket
- Panasonic brand (WV-7110A)

**No. 4B384.** Dripproof Indoor Dustproof Housing. Shpg. wt. 1.5 lbs.
List $110.00. Each **$99.00**; Lots 4 ..... **$94.05**

## No. 4B383 OUTDOOR HOUSING

- Small outdoor housing for 1/3 to 1/2" CCD cameras with fixed focal length lenses
- Built-in sun shield
- Provision for optional heater and fan unit, No. 4B382
- Overall length: 15¾"
- Panasonic brand (WV-7135)

**No. 4B383.** Outdoor Housing. Shpg. wt. 8.8 lbs. List ..... $430.00.
Each **$387.00**; Lots 4 ..... **$367.65**

## No. 4B387 OUTDOOR SWIVEL HEAD MOUNTING BRACKET

- Heavy-duty bracket for outdoor use
- For use with outdoor housing No. 4B383
- Panasonic brand (P9000HW)

**No. 4B387.** Outdoor Swivel Mounting Bracket. Shpg. wt. 9.0 lbs.
List $100.00. Each **$90.00**; Lots 4 ..... **$85.50**

## No. 4B385 WALL MOUNT BRACKET

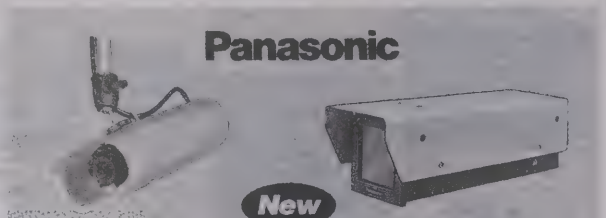
- Indoor wall mount for Nos. 4TN91 and 4TN89 cameras
- Adjustable head for fixed multi-directional viewing
- Panasonic brand (WV-7015)

**No. 4B385.** Wall Mount Bracket. Shpg. wt. 1.5 lbs. List ..... $55.00.
Each **$49.50**; Lots 4 ..... **$47.03**

## No. 4B382 FAN/HEATER UNIT

- Optional fan/heater unit for No. 4B383
- 24VAC operation
- Heater is 40 watts; fan is 6 watts
- Requires 24VAC power transformer, see Index under No. 1H266
- Panasonic brand (WV-7141)

**No. 4B382.** Fan/Heater Unit. Shpg. wt. 1.7 lbs. List ..... $360.00.
Each **$324.00**; Lots 4 ..... **$307.80**




No. 4B384 Dustproof Housing

No. 4B383 Outdoor Camera Housing

## CAMERA LENSES

| Lens (†) | Focal Length | Panasonic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Super Wide | 2.8 mm | WV-LA2R8C3B | *New* 4TN92 | $146.00 | $131.40 | 0.4 |
| Super Wide | 4.5 | WV-LA4R5A | 5H596 | 275.00 | 247.50 | 0.1 |
| Super Wide | 4.5 | WV-LF4R5C3A | 4B375 | 90.00 | 81.00 | 0.2 |
| Super Wide | 4.5 | WV-LA4R5C3B | *New* 4TN93 | 112.00 | 100.80 | 0.4 |
| Wide | 6.0 | WV-LA6B2 | 5H595 | 160.00 | 144.00 | 0.1 |
| Standard | 9.0 | WV-LF9C3A | 4B374 | 90.00 | 81.00 | 0.2 |
| Standard | 9.0 | WV-LA9C3B | *New* 4TN94 | 101.00 | 90.90 | 0.4 |
| Standard | 12.0 | WV-LA12B2 | 5H594 | 101.00 | 90.90 | 0.2 |
| Semi-Telephoto | 18.0 | WV-LA18 | 5H762 | 310.00 | 279.00 | 0.1 |
| Telephoto | 36.0 | WV-LA36 | 5H763 | 310.00 | 279.00 | 0.1 |

(†) Max aperature ratio 1:1.4.

## WIRE LENGTH SELECTION GUIDE

| Type of Cable | Cable Stock No.† | Connector Stock No.† | Max. Length of Cable Between Camera & Monitor Power Supply |
|---|---|---|---|
| RG59/U 30 ohms/1000 ft.* | 2W591 | 4A220 | 890 ft. @ 19.8 ohms Total |

(*) Video/CCTV grade cable with copper center conductor. Copper clad steel will have 3 to 4 times DC resistance which will reduce max calbe length by a factor of 4.
(†) See index for page number and ordering information.

## CAMERA ACCESSORIES

| Accessory | | For Use With Camera No. 4B378 | For Use With Camera No. 4TN89, 4TN90, 4TN91 |
|---|---|---|---|
| Outdoor Housing | No. 4B383 | No | Yes |
| Indoor Housing | No. 4B384 | Yes | Yes |
| Mount | No. 4B385 | No | Yes |
| 2.8 mm Lens | No. 4TN92 | No | No |
| 4.5 mm Lens | No. 5H596 | No | No |
| 4.5 mm Lens | No. 4B375 | Yes | Yes |
| 4.5 mm Lens | No. 4TN92 | No | Yes |
| 6 mm Lens | No. 5H595 | No | No |
| 9 mm Lens | No. 4B374 | Yes | Yes |
| 9 mm Lens | No. 4TN94 | No | Yes |
| 12 mm Lens | No. 5H594 | No | Yes |
| 18 mm Lens | No. 5H762 | No | Yes |
| 36 mm Lens | No. 5H763 | No | Yes |

## CAMERA LENS SELECTION GUIDE

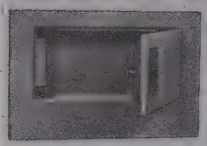
Selection Procedure:
1. Determine maximum distance between camera and object.
2. Determine width of object to be viewed.
3. Select lens with proper viewing coverage*.

(*) Viewing height is calculated by multiplying viewing width by 0.75.

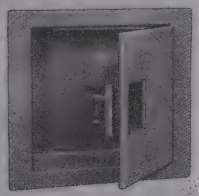
| Maximum Distance Between Camera and Object (in feet) | | | | | | | | | | | | Lens Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 120 | 130 | |
| Maximum Viewing Width Covered by Lens (in feet) | | | | | | | | | | | | |
| 22 | 45 | 68 | 90 | 115 | 137 | 160 | 182 | 205 | 228 | 272 | 295 | 4TN92 |
| 13 | 23 | 40 | 52 | 65 | 80 | 90 | 105 | 120 | 130 | 150 | 160 | 5H596 |
| 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 120 | 130 | 4B375 |
| 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 120 | 130 | 4TN93 |
| 10 | 20 | 30 | 40 | 60 | 60 | 70 | 80 | 90 | 100 | 120 | 130 | 5H595 |
| 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 60 | 65 | 4B374 |
| 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 60 | 65 | 4TN94 |
| 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 60 | 65 | 5H594 |
| 5 | 10 | 15 | 12 | 15 | 18 | 20 | 22 | 25 | 28 | 34 | 38 | 5H762 |
| 3 | 5 | 9 | 5 | 6 | 7 | 9 | 10 | 11 | 12 | 13 | 14 | 5H763 |
| 1 | 3 | 4 | | | | | | | | | | |

Note: Numbers should be rounded to next highest value.

# WALL AND FIRE SAFES



No. 3ZV16



No. 3ZV19

## WALL SAFES

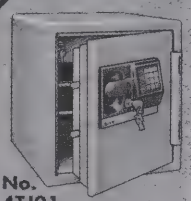
Available in two sizes, with 475 or 670 cubic inch interiors. Available with tubular or combination locks. Door face and lock area made of 14 gauge steel, locking and hinge points constructed of dual reinforced steel. Textured epoxy paint finish, sand color. Door opening: 11½ x 5½". HPC brand.

### WALL SAFE SPECIFICATIONS AND ORDERING DATA

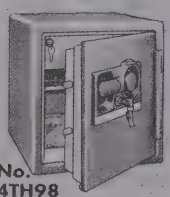
| Cap. Cub. In. | Inside Dims. (In.) L | H | D | Face Dims. (In.) L | H | Wall Cut Out Dims. (In.) L | H | Lock Style | HPC Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 475 | 14 | 8½ | 3¾ | 16¼ | 10¾ | 14¼ | 8¾ | Tubular | WS-100 | 3ZV16 | $135.00 | $94.50 | $89.78 | 12.0 |
| 475 | 14 | 8½ | 3¾ | 16¼ | 10¾ | 14¼ | 8¾ | Combination | WS-100C | 3ZV17 | 209.99 | 142.75 | 135.58 | 12.0 |
| 670 | 14 | 12½ | 3¾ | 16¼ | 14¾ | 14¼ | 14¾ | Tubular | WS-200 | 3ZV18 | 198.00 | 138.60 | 131.67 | 17.0 |
| 670 | 14 | 12½ | 3¾ | 16¼ | 14¾ | 14¼ | 14¾ | Combination | WS-200C | 3ZV19 | 291.45 | 198.75 | 188.59 | 17.0 |

SENTRY

New



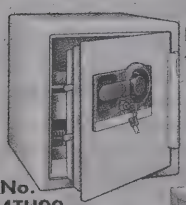
No. 4TJ01



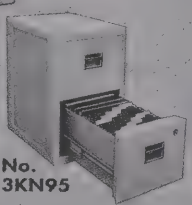
No. 4TH98



No. 3W167



No. 4TH99



No. 3KN95



No. 5Z058

## INSULATED FIRE SAFES AND 2-DRAWER FILE

### No. 4TH98 ADVANCED OFFICE SAFE

- UL350°F—2 hour label
- Water Resistant
- 4-Number changeable combination lock and tubular key
- 6 live-locking bolts
- Door pocket, key rack and compartment for valuables
- Locking drawer and multi-position shelf
- May be bolted to floor (hardware included)
- Holds standard and A-4 size papers and binders

### No. 4TJ01 OFFICE SAFE

- UL350°F—1 hour label
- Electronic lock and tubular key
- 4 live-locking bolts
- Door pocket, key rack and compartment for valuables
- Locking drawer and 2 multi-position shelves
- May be bolted to floor (hardware included)
- Holds standard and A-4 size papers and binders

### No. 4TH99 OFFICE SAFE

- UL350°F—1 hour label
- 3-number combination lock and tubular key
- 4 live-locking bolts
- Door pocket, key rack and compartment for valuables
- Locking drawer and multi-position shelf
- May be bolted to floor (hardware included)
- Holds standard and A-4 size papers and binders

### No. 3W167 HOME/OFFICE SAFE

- UL350°F—1 hour label
- 3-number changeable combination lock with privacy shield
- Long-lasting powder-coat finish
- 4" line locking bolts with steel dead bolts
- Includes inner drawer for small valuables

### No. 5Z058 OFFICE SAFE

- UL350°F—1 hour label
- 3-number changeable combination lock
- 4" live-locking bolt
- Adjustable shelf for organization
- Optional bolt-down installation feature, hardware included

### No. 3KN95 2-DRAWER FILE

- UL350°F—1 hour label
- Smooth, quiet, rugged drawer slides
- Accommodates legal and letter-size file folders
- Key lock for privacy and dual latches for security
- Weighted so file will not tip when both drawers are open

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

### FIRE SAFE SPECIFICATIONS AND ORDERING DATA

| Capacity Cubic Feet | Exterior (In.) H | W | D | Interior (In.) H | W | D | Sentry Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.20 | 17 27/32 | 16 11/32 | 18 19/32 | 13¾ | 12 9/16 | 11⅞ | A3431 | *New* 4TH98 | $309.38 | $232.75 | $209.48 | 135.0 |
| 1.20 | 17 27/32 | 16 11/32 | 18 19/32 | 13¾ | 12 9/16 | 11⅞ | S3861 | *New* 4TJ01 | 318.75 | 239.75 | 215.78 | 99.0 |
| 1.20 | 17 27/32 | 16 11/32 | 18 19/32 | 13¾ | 12 9/16 | 11⅞ | S3421 | *New* 4TH99 | 277.50 | 208.75 | 187.88 | 99.0 |
| 2.03 | 22 | 171/4 | 24 | 153/16 | 121/8 | 19 | 1380 | 3W167 | 333.34 | 283.50 | 255.15 | 170.0 |
| 2.97 | 26 | 181/8 | 251/2 | 20 | 141/4 | 18 | 6530 | 5Z058 | 742.00 | 537.50 | 483.75 | 199.0 |
| 1.19 | 28 | 171/4 | 231/4 | 91/2* | 12* | 18* | 6000 | 3KN95 | 562.50 | 421.75 | 379.58 | 199.0 |

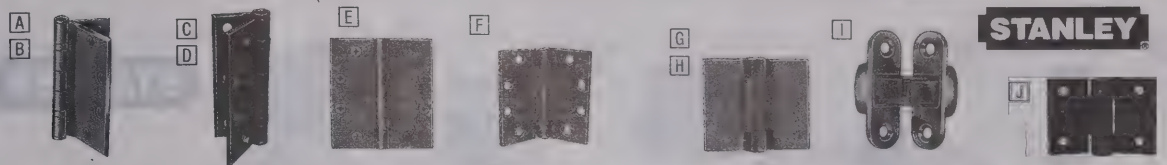
(*) Per drawer.

### SENTRY LIMITED WARRANTY

Nos. 4TH99, 5Z058 , 4TH98 and 3KN95 are warranted for 5 years on parts and service, with lifetime After Fire Replacement guarantee. Nos. 3W167 and 4TJ01 for 3 year parts and service with lifetime After Fire Replacement guarantee. Text of warranty available on request.

# COMMERCIAL GRADE HINGES AND SPECIAL APPLICATION AND DETENTION HINGES





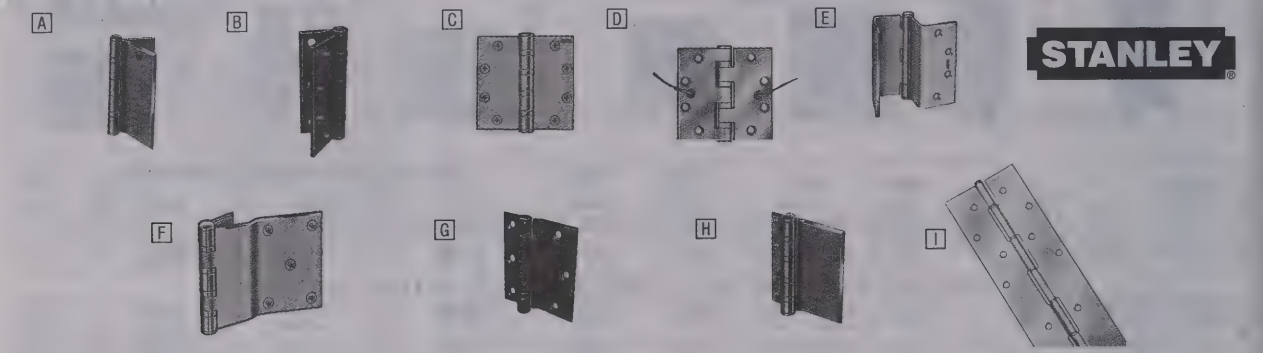

| Key | Size (In.) HxW | Finish | Thick-ness | Holes Per Leaf | Stanley Class Number | Stanley EDP Number | PRICE EACH, SOLD IN BOX AND CASE QUANTITY ONLY Stock No. | List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD WEIGHT BALL BEARING HALF SURFACE HINGE, STEEL, PLATED, OR PRIME COATED FINISHES** | | | | | | | | | | | | | |
| **A** | 4½ | USP-Prime Coat | .134 | 4-frame, 3-door | FBB173 | 06-2722 | **1J729** | $39.33 | **$26.25** | 3 | **$24.91** | 30 | 0.5 |
| | 4½ | US26D-Satin Chrome | .134 | 4-frame, 3-door | FBB173 | 06-2726 | **1J732** | 47.44 | **31.65** | 3 | **30.04** | 30 | 0.5 |
| **HEAVY WEIGHT BALL BEARING HALF SURFACE HINGE, STEEL, PLATED, OR PRIME COATED FINISHES** | | | | | | | | | | | | | |
| **B** | 4½ | USP-Prime Coat | .180 | 4-frame, 3-door | FBB163 | 06-1983 | **5T986** | 85.89 | **57.30** | 3 | **54.40** | 30 | 1.6 |
| | 4½ | US26D-Satin Chrome | .180 | 4-frame, 3-door | FBB163 | 06-1984 | **1J476** | 93.89 | **62.60** | 3 | **59.46** | 30 | 0.5 |
| | 5 | USP-Prime Coat | .190 | 4-frame, 4-door | FBB163 | 06-4343 | **1J481** | 98.11 | **72.70** | 3 | **69.05** | 24 | 2.0 |
| | 5 | US26D-Satin Chrome | .190 | 6-frame, 4-door | FBB163 | 06-4344 | **1J482** | 106.78 | **71.20** | 3 | **67.62** | 24 | 2.0 |
| **STANDARD WEIGHT BALL BEARING HALF MORTISE HINGE, STEEL, PRIME COATED FINISHES** | | | | | | | | | | | | | |
| **C** | 4½ | USP-Prime Coat | .134 | 3-frame, 4-door | FBB167 | 06-2143 | **1J518** | 39.33 | **26.25** | 3 | **24.91** | 30 | 0.3 |
| **HEAVY WEIGHT BALL BEARING HALF MORTISE HINGE, STEEL, PRIME COATED FINISHES** | | | | | | | | | | | | | |
| **D** | 4½ | USP-Prime Coat | .180 | 3-frame, 4-door | FBB138 | 06-0263 | **1J332** | 85.89 | **57.30** | 3 | **54.40** | 30 | 1.2 |
| **STANDARD WEIGHT CONCEALED BEARING THREE KNUCKLE HINGE, PLATED OR PRIME COATED FINISHES** | | | | | | | | | | | | | |
| **E** | 4½x4½ | US26D-Satin Chrome | .134 | 4 | CB1900 | 91-2158 | **2J339** | 27.22 | **18.14** | 3 | **17.23** | 48 | 1.1 |
| | 4½x4 | USP-Prime Coat NRP | .134 | 4 | CB1900 | 91-2527 | **4JH74** | 25.67 | **17.11** | 3 | **16.25** | 48 | 1.0 |
| **HEAVYWEIGHT CONCEALED BEARING HINGE, STEEL, PRIME COATED, OR STAINLESS STEEL FINISHES** | | | | | | | | | | | | | |
| **F** | 4½x4½ | USP-Prime Coat | .180 | 4 | IHTCB1901 | 91-5152 | **2J396** | 90.00 | **60.00** | 3 | **57.00** | 36 | 0.5 |
| | 4½x4½ | US32D-Satin Stainless Steel | .187 | 4 | IHTCB1995 | 92-5495 | **4JH75** | 122.89 | **81.95** | 3 | **77.82** | 30 | 2.7 |
| **DOUBLE WEIGHT BALL BEARING HEAVY STEEL HINGE, NO HOLES (DETENTION HINGE)** | | | | | | | | | | | | | |
| **G** | 5x6 | USP-Prime Coat (No holes) | .281 | — | BB855 | 02-9468 | **5J054** | 125.00 | **112.50** | 2 | **106.88** | 10 | 1.8 |
| **TRIPLE WEIGHT BALL BEARING EXTRA HEAVY STEEL HINGE, NO HOLES (DETENTION HINGE)** | | | | | | | | | | | | | |
| **H** | 5x6 | USP-Prime Coat (No holes) | .375 | — | BB852 | 02-9388 | **5J050** | 143.78 | **129.40** | 2 | **122.93** | 10 | 2.5 |
| **CONCEALED HINGE** | | | | | | | | | | | | | |
| **I** | 3⅜ | US32D-Satin Stainless Steel | — | — | 2010 | 10-0600 | **5J463** | 27.78 | **25.00** | 3 | **23.75** | 48 | 0.1 |
| **HEAVY WEIGHT CUFF PORT STEEL HINGE (DETENTION HINGE)** | | | | | | | | | | | | | |
| **J** | 3x4 | USP-Prime Coat | .210 | 2 | 853 | 02-9376 | **5J575** | 53.56 | **48.20** | 2 | **45.79** | 20 | 1.1 |

## HINGE HEIGHT—STANDARD DOOR SIZE 3'0" (.91m) x 7'0" (2.13m)

| Weight | Frequency | DOOR THICKNESS (In.-mm) 1⅜ (35mm) | 1¾ (44mm) | 2 (51mm) |
|---|---|---|---|---|
| **Up to 50 lbs. (23 Kg)** | Low | 741 3½ x 3½ (89 x 89) | 741 4 x 4 (102 x 102) | — |
| | Medium | 741 3½ x 3½ (89 x 89) | — | — |
| | High | 1900 4 x 4 (102 x 102) | — | — |
| **50 lbs.(23 Kg) to 75 lbs. (34 Kg)** | Low | 741 4 x 4 (102 x 102) | 1900 4 x 4 (102 x 102) | 1900 4½ x 4½ (114 x 114) |
| | Medium | CB1900 3½ x 3½ (89 x 89) | CB1900 4 x 4 (102 x 102) | CB1900 4½ x 4½ (114 x 114) |
| | High | CB1900 4 x 4 (102 x 102) | CB1900 4½ x 4½ (114 x 114) | CB1900 4½ x 4½ (114 x 114) |
| **76 lbs. (34 Kg) to 125 lbs. (57 Kg)** | Low | 1900 4½ x 4 (114 x 102) | 1900 4½ x 4½ (114 x 114) | 1900 5 x 5 (127 x 127) |
| | Medium | CB1900 4½ x 4 (114 x 102) | CB1900 4½ x 4½ (114 x 114) | CB1900 4½ x 4½ (127 x 127) |
| | High | CB1900 5 x 4½ (127 x 114) | CB1901 4½ x 4½ (114 x 114) | CB1901 4½ x 4½ (114 x 114) |
| **126 lbs. (57 Kg) to 175 lbs. (79 Kg)** | Low | 1900 4½ x 4 (114 x 102) | 1900 4½ x 4½ (114 x 114) | 1900 5 x 5 (127 x 127) |
| | Medium | CB1900 4½ x 4 (114 x 102) | CB1900 4½ x 4½ (114 x 114) | CB1900 5 x 5 (127 x 127) |
| | High | CB1901 4½ x 4½ (114 x 114) | CB1901 4½ x 4½ (114 x 114) | CB1901 5 x 5 (127 x 127) |
| **176 lbs. (80 Kg) to 225 lbs. (102 Kg)** | Low | — | CB1900 5 X 4½ (127 x 114) | CB1900 5 x 5 (127 x 127) |
| | Medium | — | CB1901 4½ x 4½ (114 x 114) | CB1901 4½ x 4½ (114 x 114) |
| | High | — | CB1901 5 x 5 (127 x 127) | CB1901 5 x 5 (127 x 127) |
| **226 lbs. (102 Kg) to 300 lbs. (136 Kg)** | Low | — | CB1901 5 x 4½ (127 x 114) | CB1901 5 x 4½ (127 x 114) |
| | Medium | — | CB1901 5 x 5 (127 x 127) | CB1901 5 x 5 (127 x 127) |
| | High | — | CB1901 6 x 5 (152 x 127) | CB1901 6 x 6 (152 x 152) |
| **301 lbs. (136 Kg) to 600 lbs. (272 Kg)** | Low | — | CB1901 5 x 5 (127 x 127) | CB1901 5 x 5 (127 x 127) |
| | Medium | — | CB1901 6 x 5 (152 x 127) | CB1901 6 x 6 (152 x 152) |
| | High | — | BB601 8 x 6 (203 x 152) | BB601 8 x 8 (203 x 203) |
| **601 lbs. (272 Kg) to 1000 lbs. (453 Kg)** | Low | — | BB601 8 x 6 (203 x 152) | BB601 8 x 8 (203 x 203) |
| | Medium | — | BB855 | BB855 |
| | High | — | BB852 | BB852 |
| **1001 lbs. (453 Kg) to 2000 lbs. (906 Kg)** | All | — | BB852 | BB852 |

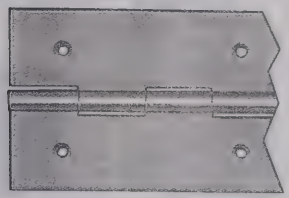
Design Options: A comparable "F" Line hinge, a comparalbe non-ferrous hinge, or comparable different kind of hinge may be substituted.
Example: 150 lbs. (68 Kg) 1¾" (44m) x 3' (.91m) x 7' (2.13m) door, medium frequency application. Select door weight column 126 lbs. (57 Kg) to 175 lbs. (79Kg) and select door size column 1¾" (44m) x 3' (.91m) x 7' (2.13m). In box where both lines intersect, use CB1900 4 x 4 (114mm x 114mm) or 4½ x 4 (114mm x 102mm) hinge for medium frequency use.

# COMMERCIAL GRADE, SPECIAL APPLICATION, AND COMMERCIAL GRADE CONTINUOUS HINGES




| Key | Size (In.) HxW | Finish | Thick-ness | Holes Per Leaf | Stanley Class Number | Stanley EDP Number | Stock No. | List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD WEIGHT, LOW FREQUENCY, PLAIN BEARING, FULL MORTISE HINGES, PLATED OR PRIME COATED FINISHES** | | | | | | | | | | | | | |
| | 3½x3½ | USP-Prime Coat | .123 | 3 | F179 | 05-0480 | **1J854** | $4.11 | **$2.74** | 2 | **$2.60** | 100 | 0.3 |
| | 4x4 | USP-Prime Coat | .130 | 4 | F179 | 05-0541 | **5T877** | 6.00 | **4.00** | 3 | **3.80** | 48 | 0.3 |
| **A** | 4½x4½ | USP-Prime Coat | .134 | 4 | F179 | 05-0029 | **5T880** | 8.22 | **5.48** | 3 | **5.21** | 48 | 0.4 |
| | 4½x4½ | US4-Satin Brass | .134 | 4 | F179 | 05-0042 | **5T882** | 8.22 | **5.48** | 3 | **5.21** | 48 | 0.4 |
| | 4½x4½ | US26D-Satin Chrome | .134 | 4 | F179 | 05-0038 | **5T881** | 12.44 | **8.29** | 3 | **7.88** | 48 | 0.4 |
| **STANDARD WEIGHT BALL BEARING STEEL HINGES, PLATED OR PRIME COATED FINISHES** | | | | | | | | | | | | | |
| | 4x4 | USP-Prime Coat | .130 | 4 | FBB179 | 06-7282 | **2J069** | 16.78 | **11.18** | 3 | **10.62** | 48 | 0.9 |
| | 4x4 | US26D-Satin Chrome | .130 | 4 | FBB179 | 06-8261 | **2J153** | 20.67 | **13.78** | 3 | **13.09** | 48 | 0.3 |
| | 4½x4 | USP-Prime Coat | .134 | 4 | FBB179 | 06-3412 | **2J014** | 18.33 | **12.22** | 3 | **11.61** | 48 | 1.0 |
| | 4½x4 | US26D-Satin Chrome | .134 | 4 | FBB179 | 06-3416 | **2J018** | 22.78 | **15.18** | 3 | **14.42** | 48 | 1.0 |
| **B** | 4½x4½ | USP-Prime Coat | .134 | 4 | FBB179 | 06-8431 | **5T886** | 18.33 | **12.22** | 3 | **11.61** | 48 | 1.3 |
| | 4½x4½ | US4-Satin Brass | .134 | 4 | FBB179 | 06-8784 | **5T888** | 18.33 | **12.22** | 3 | **11.61** | 48 | 1.1 |
| | 4½x4½ | US26D-Satin Chrome | .134 | 4 | FBB179 | 06-8441 | **5T887** | 22.78 | **15.18** | 3 | **14.42** | 48 | 1.1 |
| | 4½x4½ | US3-Bright Brass | .134 | 4 | FBB179 | 06-8436 | **2J160** | 26.67 | **17.78** | 3 | **16.89** | 48 | 1.1 |
| | 4½x4½NRP | USP-Prime Coat | .134 | 4 | FBB179 | 06-8851 | **2J200** | 22.22 | **14.81** | 3 | **14.07** | 48 | 1.1 |
| | 4½x4½NRP | US26D-Satin Chrome | .134 | 4 | FBB179 | 06-8853 | **2J202** | 26.67 | **17.78** | 3 | **16.89** | 48 | 1.1 |
| **HEAVY WEIGHT BALL BEARING STEEL HINGES, PLATED OR PRIME COATED FINISHES** | | | | | | | | | | | | | |
| | 4½x4½ | USP-Prime Coat | .180 | 4 | FBB168 | 06-1672 | **5T892** | 45.44 | **30.30** | 3 | **28.78** | 30 | 1.4 |
| | 4½x4½ | US26D-Satin Chrome | .180 | 4 | FBB168 | 06-1676 | **5T893** | 49.33 | **32.90** | 3 | **31.24** | 30 | 1.4 |
| **C** | 4½x4½NRP | USP-Prime Coat (Non-removable pin) | .180 | 4 | FBB168 | 06-1682 | **1J534** | 49.33 | **32.90** | 3 | **31.24** | 30 | 0.5 |
| | 4½x4½NRP | US26D-Satin Chrome (Non-removable pin) | .180 | 4 | FBB168 | 06-1684 | **1J536** | 53.22 | **35.50** | 3 | **33.71** | 30 | 0.5 |
| | 5x4½ | USP-Prime Coat | .190 | 4 | FBB168 | 06-1742 | **1J565** | 52.67 | **35.15** | 3 | **33.35** | 24 | 0.6 |
| | 5x4½ | US26D-Satin Chrome | .190 | 4 | FBB168 | 06-1746 | **1J569** | 56.00 | **37.35** | 3 | **35.46** | 24 | 0.6 |
| **HEAVY WEIGHT BALL BEARING, OR STAINLESS STEEL HINGES** | | | | | | | | | | | | | |
| | 4½x4½ | US32D-Satin Stainless Steel | .180 | 4 | FBB199 | 04-4783 | **2J971** | 96.44 | **64.30** | 3 | **61.08** | 30 | 0.5 |
| **C** | 4½x4½NRP | US32D-Satin Stainless Steel | .180 | 4 | FBB199 | 04-4786 | **2J973** | 100.33 | **66.90** | 3 | **63.54** | 30 | 0.5 |
| | 5x4½ | US32D-Satin Stainless Steel | .190 | 4 | FBB199 | 04-5073 | **2J992** | 109.33 | **72.90** | 3 | **69.24** | 24 | 1.7 |
| **STANDARD WEIGHT BALL BEARING FULL MORTISE CONCEALED 4 WIRE ELECTRIC HINGE, STEEL, PLATED FINISHES** | | | | | | | | | | | | | |
| **D** | 4½x4½ | US26D-Satin Chrome | .134 | 4 | CEFBB179-54 | 06-0352 | **1J818** | 228.78 | **206.00** | 1 | **195.61** | 5 | 1.0 |
| **HEAVY WEIGHT BALL BEARING FULL MORTISE CONCEALED 4 WIRE ELECTRIC HINGE, STEEL, PLATED FINISHES** | | | | | | | | | | | | | |
| **D** | 4½x4½ | US26D-Satin Chrome | .180 | 4 | CEFBB168-54 | 06-1570 | **1J525** | 255.33 | **230.00** | 1 | **218.31** | 5 | 2.0 |
| **HEAVY WEIGHT BALL BEARING FULL MORTISE SWING CLEAR HINGE, STEEL, PLATED FINISHES** | | | | | | | | | | | | | |
| **E** | 4½ | US26D-Satin Chrome | .180 | 4 | FBB268 | 06-0011 | **3J448** | 107.00 | **71.35** | 3 | **67.76** | 30 | 0.7 |
| **HEAVY WEIGHT BALL BEARING FULL SURFACE SWING CLEAR HINGE, STEEL, PRIME COATED FINISHES** | | | | | | | | | | | | | |
| **F** | 5 | USP-Prime Coat | .190 | 4-frame, 5-door | FBB266 | 06-9517 | **3J437** | 103.33 | **68.90** | 3 | **65.44** | 15 | 0.7 |
| **STANDARD WEIGHT BALL BEARING FULL SURFACE HINGE, STEEL, PRIME COATED FINISHES** | | | | | | | | | | | | | |
| **G** | 4½ | USP-Prime Coat | .134 | 3 | FBB171 | 06-2483 | **1J692** | 39.33 | **26.25** | 3 | **24.91** | 30 | 0.4 |
| **HEAVYWEIGHT BALL BEARING FULL SURFACE HINGE, STEEL, PRIME COATED FINISHES** | | | | | | | | | | | | | |
| **H** | 4½ | USP-Prime Coat | .180 | 3 | FBB169 | 06-2212 | **1J639** | 85.89 | **57.30** | 3 | **54.40** | 30 | 0.5 |
| | 5 | USP-Prime Coat | .190 | 4 | FBB169 | 06-2302 | **1J650** | 98.11 | **65.45** | 3 | **62.14** | 24 | 0.6 |
| **600 SERIES CONTINUOUS HINGES** | | | | | | | | | | | | | |
| | 83 | US32D-Satin Stainless Steel (full mortise) | .075 | — | 651 | 16-1094 | **4JH19** | 280.44 | **252.50** | 1 | **239.78** | 3 | 13.0 |
| **I** | 83 | USP-Prime Coated (full mortise) | .075 | — | 641 | 16-1062 | **4JH17** | 160.22 | **144.20** | 1 | **136.99** | 3 | 13.0 |
| | 83 | US32D-Satin Stainless Steel (full surface with covers) | .075 | — | 657 | 16-1130 | **4JH20** | 315.89 | **284.50** | 1 | **270.09** | 3 | 13.0 |
| **I** | 95 | US32D-Satin Stainless Steel (full surface with covers) | .075 | — | 657 | 16-1132 | **4JH21** | 375.33 | **338.00** | 1 | **320.91** | 3 | 15.0 |
| | 83 | USP-Prime Coated (full surface with covers) | .075 | — | 647 | 16-1089 | **4JH18** | 234.67 | **211.25** | 1 | **200.64** | 3 | 13.0 |

# MEDIUM AND HEAVY GAUGE CONTINUOUS HINGES

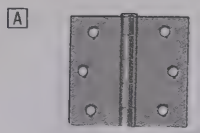


STANLEY®

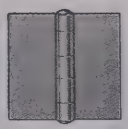
- **Medium Gauge Continuous Hinges for use on lids, table leaves and cabinet doors. Made from 0.040 material with a 0.100 pin and 1/2" knuckles. Available with holes or without holes for welding**
- **Heavy Gauge Continuous Hinges for use on lids, table leaves and cabinet doors. Made from 0.060 material with 0.124 pin and 1/2" knuckles. Available with holes or without holes for welding**

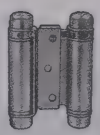
| Key | Size (In.) | Finish | Stanley Class Number | Stanley EDP Number | PRICE EACH, SOLD IN BOX AND CASE QUANTITY ONLY<br>Stock No. | List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MEDIUM GAUGE CONTINUOUS HINGES, STEEL, PLAIN STEEL OR, PLATED FINISHES, WITH HOLES, NO SCREWS** | | | | | | | | | | | |
| | 1 1/16x72 | PS-Plain Steel | 311 | 47-0740 | **3J572** | $7.36 | **$6.62** | 10 | **$6.29** | 20 | 1.4 |
| | 1 1/16x72 | US14-Bright Nickel | 311 | 47-0500 | **3J570** | 14.67 | **13.20** | 10 | **12.54** | 20 | 1.4 |
| | 1 1/2x72 | PS-Plain Steel | 311 | 47-1680 | **3J574** | 8.69 | **7.82** | 10 | **7.43** | 20 | 1.7 |
| A | 1 1/2x72 | US3-Bright Brass | 311 | 47-1630 | **3J573** | 16.89 | **15.20** | 10 | **14.44** | 20 | 1.9 |
| | 1 1/2x72 | US14-Bright Nickel | 311 | 47-1750 | **3J575** | 16.89 | **15.20** | 10 | **14.44** | 20 | 1.7 |
| | 2x48 | US14-Bright Nickel | 311 | 47-2130 | **3J579** | 14.78 | **13.30** | 10 | **12.64** | 20 | 1.4 |
| | 2x72 | PS-Plain Steel | 311 | 47-1880 | **3J578** | 12.11 | **10.90** | 10 | **10.36** | 20 | 2.1 |
| | 2x72 | US14-Bright Nickel | 311 | 47-1870 | **3J577** | 20.33 | **18.30** | 10 | **17.39** | 20 | 2.1 |
| **MEDIUM GAUGE CONTINUOUS HINGES, STEEL, UNFINISHED, NO HOLES** | | | | | | | | | | | |
| | 1 1/16x72 | PS-Plain Steel (No holes) | NH311 | 47-0750 | **3J584** | 7.36 | **6.62** | 10 | **6.29** | 20 | 1.4 |
| A | 1 1/2x72 | PS-Plain Steel (No holes) | NH311 | 47-1700 | **3J585** | 8.69 | **7.82** | 10 | **7.43** | 20 | 1.7 |
| | 2x72 | PS-Plain Steel (No holes) | NH311 | 47-1890 | **3J586** | 12.11 | **10.90** | 10 | **10.36** | 20 | 2.3 |
| **MEDIUM GAUGE CONTINUOUS HINGES, STEEL, PLATED FINISH, WITH HOLES AND SCREWS** | | | | | | | | | | | |
| | 1 1/2x48 | US3-Bright Brass | SC311 | 47-1530 | **3J593** | 13.00 | **11.70** | 5 | **11.12** | 10 | 1.4 |
| | 1 1/2x72 | US3-Bright Brass | SC311 | 47-1631 | **3J594** | 17.89 | **16.10** | 5 | **15.30** | 10 | 2.0 |
| A | 1 1/16x48 | US14-Bright Nickel | SC311 | 47-0730 | **3J591** | 12.11 | **10.90** | 5 | **10.36** | 10 | 1.1 |
| | 1 1/2x48 | US14-Bright Nickel | SC311 | 47-1640 | **3J595** | 13.00 | **11.70** | 5 | **11.12** | 10 | 1.5 |
| | 1 1/2x72 | US14-Bright Nickel | SC311 | 47-1751 | **3J596** | 17.89 | **16.10** | 5 | **15.30** | 10 | 2.0 |
| **MEDIUM GAUGE CONTINUOUS HINGES, ALUMINUM, WITH OR WITHOUT HOLES, NO SCREWS** | | | | | | | | | | | |
| | 1 1/16x72 | AL-Plain Aluminum | AL311-1/4 | 47-7660 | **5J501** | 9.29 | **8.36** | 10 | **7.94** | 20 | 0.6 |
| A | 1 1/2x72 | AL-Plain Aluminum | AL311-1/4 | 47-7750 | **3J583** | 10.96 | **9.86** | 10 | **9.37** | 20 | 0.7 |
| | 1 1/2x72 | AL-Plain Aluminum (No holes) | NHAL311-1/4 | 47-7760 | **5J502** | 10.96 | **9.86** | 10 | **9.37** | 20 | 0.8 |
| **MEDIUM GAUGE CONTINUOUS HINGES, STAINLESS STEEL, WITH OR WITHOUT HOLES, NO SCREWS** | | | | | | | | | | | |
| | 1 1/16x72 | STS-Plain Finish | STS311-1/4 | 47-8078 | **5J503** | 32.44 | **29.20** | 10 | **27.74** | 20 | 1.4 |
| A | 1 1/2x72 | STS-Plain Finish | STS311-1/4 | 47-8999 | **3J607** | 45.33 | **40.80** | 10 | **38.76** | 20 | 1.8 |
| | 1 1/16x72 | STS-Plain Finish (No holes) | NHSTS311-1/4 | 47-8989 | **3J588** | 32.44 | **29.20** | 10 | **27.74** | 20 | 1.4 |
| | 1 1/2x72 | STS-Plain Finish (No holes) | NHSTS311-1/4 | 47-8998 | **3J587** | 45.33 | **40.80** | 10 | **38.76** | 20 | 1.6 |
| **HEAVY GAUGE CONTINUOUS HINGES, STEEL, PLAIN STEEL OR, PLATED FINISHES, WITH HOLES, NO SCREWS** | | | | | | | | | | | |
| | 1 1/2x72 | PS-Plain Steel | 314 | 47-8340 | **3J612** | 15.22 | **13.70** | 10 | **13.02** | 20 | 2.5 |
| | 2x72 | PS-Plain Steel | 314 | 47-8500 | **3J613** | 16.00 | **14.40** | 10 | **13.68** | 20 | 3.2 |
| | 2x72 | US14-Bright Nickel | 314 | 47-7360 | **3J611** | 26.33 | **23.70** | 10 | **22.52** | 20 | 3.3 |
| A | 2 1/2x72 | PS-Plain Steel | 314 | 47-8600 | **3J615** | 18.11 | **16.30** | 5 | **15.49** | 10 | 4.0 |
| | 2 1/2x72 | US14-Bright Nickel | 314 | 47-8580 | **3J614** | 28.00 | **25.20** | 5 | **23.94** | 10 | 4.0 |
| | 3x72 | PS-Plain Steel | 314 | 47-8680 | **3J616** | 20.44 | **18.40** | 5 | **17.48** | 10 | 4.2 |
| | 3x72 | US14-Bright Nickel | 314 | 47-8695 | **3J618** | 31.89 | **28.70** | 5 | **27.27** | 10 | 4.1 |
| **HEAVY GAUGE CONTINUOUS HINGES, STEEL, UNFINISHED, NO HOLES** | | | | | | | | | | | |
| | 1 1/2x72 | PS-Plain Steel | NH314 | 47-8350 | **3J621** | 15.22 | **13.70** | 10 | **13.02** | 20 | 0.3 |
| A | 2x72 | PS-Plain Steel | NH314 | 47-8510 | **3J622** | 16.00 | **14.40** | 10 | **13.68** | 20 | 3.3 |
| | 2 1/2x72 | PS-Plain Steel | NH314 | 47-8590 | **3J623** | 18.11 | **16.30** | 5 | **15.49** | 10 | 3.8 |
| | 3x72 | PS-Plain Steel | NH314 | 47-8690 | **3J624** | 20.44 | **18.40** | 5 | **17.48** | 10 | 4.6 |
| **HEAVY GAUGE CONTINUOUS HINGE, ALUMINUM, WITH HOLES, NO SCREWS** | | | | | | | | | | | |
| A | 2x72 | AL-Aluminum | AL314-1/4 | 47-7320 | **5J504** | 20.56 | **18.50** | 10 | **17.58** | 20 | 1.3 |
| **HEAVY GAUGE CONTINUOUS HINGE, STAINLESS STEEL, WITH OR WITHOUT HOLES, NO SCREWS** | | | | | | | | | | | |
| A | 2x72 | STS-Plain Finish | STS314-1/4 | 47-2911 | **5J505** | 60.22 | **54.20** | 10 | **51.49** | 20 | 3.3 |
| | 2x72 | STS-Plain Finish (No holes) | NHSTS314-1/4 | 47-2910 | **3J625** | 60.22 | **54.20** | 10 | **51.49** | 20 | 3.1 |

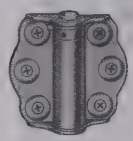
# UTILITY HINGES AND RESIDENTIAL/COMMERCIAL SPRING HINGES

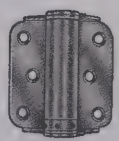


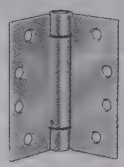


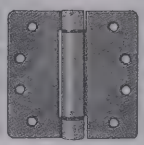












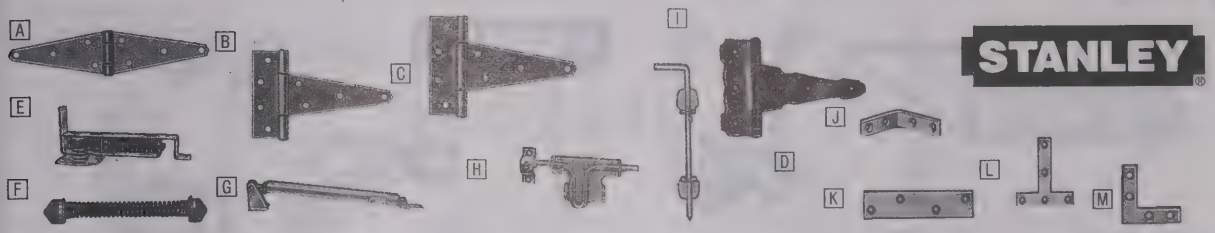

| Key | Size (In.) HxW | Finish | Thickness | Holes Per Leaf | Stanley Class Number | Stanley EDP Number | PRICE EACH, SOLD IN BOX AND CASE QUANTITY ONLY Stock No. | List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STEEL, NARROW UTILITY HINGE, PLATED FINISH WITH HOLES AND NON-REMOVABLE PIN, NO SCREWS** | | | | | | | | | | | | | |
| A | 2x1 9/16 | US2C-Bright Zinc | — | 2 | 838 | 11-3500 | **5T989** | $1.02 | **$0.92** | 20 | **$0.87** | 400 | 0.1 |
| | 3x2 | US2C-Bright Zinc | — | 3 | 838 | 11-3900 | **5T990** | 1.44 | **1.30** | 20 | **1.24** | 200 | 0.2 |
| **STEEL UTILITY HINGES WITH HOLES** | | | | | | | | | | | | | |
| A | 2x2 | US2C-Bright Zinc | .077 | 2 | 804 | 12-0100 | **4J608** | 1.96 | **1.76** | 20 | **1.67** | 100 | 0.1 |
| | 3x3 | US2C-Bright Zinc | .080 | 3 | 804 | 12-0550 | **4J610** | 2.07 | **1.86** | 10 | **1.77** | 100 | 0.3 |
| | 3 1/2x3 1/2 | US2C-Bright Zinc | .088 | 3 | 804 | 12-0800 | **4J611** | 2.40 | **2.16** | 10 | **2.05** | 100 | 0.4 |
| | 4x4 | US2C-Bright Zinc | .088 | 4 | 804 | 12-1000 | **4J612** | 3.78 | **3.40** | 5 | **3.23** | 50 | 0.5 |
| **STEEL UTILITY HINGES WITH HOLES AND NON-REMOVABLE PIN** | | | | | | | | | | | | | |
| B | 2x2 | US2C-Bright Zinc | .077 | 2 | 808 | 12-3300 | **4J680** | 2.00 | **1.80** | 20 | **1.71** | 200 | 0.1 |
| | 3x3 | US2C-Bright Zinc | .080 | 3 | 808 | 12-3950 | **4J682** | 2.11 | **1.90** | 10 | **1.81** | 100 | 0.3 |
| | 4x4 | US2C-Bright Zinc | .088 | 4 | 808 | 12-4500 | **4J686** | 3.84 | **3.46** | 5 | **3.29** | 50 | 0.5 |
| | 4 1/2x4 1/2 | US2C-Bright Zinc | .134 | 4 | 808 | 12-4650 | **4J688** | 8.20 | **7.38** | 5 | **7.01** | 40 | 1.1 |
| | 5x5 | US2C-Bright Zinc | .142 | 4 | 808 | 12-4800 | **4J689** | 15.33 | **13.80** | 2 | **13.11** | 40 | 1.3 |
| | 6x6 | US2C-Bright Zinc | .160 | 5 | 808 | 12-4900 | **4J690** | 32.33 | **29.10** | 2 | **27.65** | 20 | 2.1 |
| **STEEL EXTRA HEAVY HINGES, NO HOLES, AND NON-REMOVABLE PINS** | | | | | | | | | | | | | |
| C | 2x2 | PS-Plain Steel | .099 | — | 850 | 12-7400 | **5J041** | 2.87 | **2.58** | 10 | **2.45** | 200 | 0.2 |
| | 2 1/2x2 1/2 | PS-Plain Steel | .110 | — | 850 | 12-7600 | **5J042** | 5.00 | **4.50** | 10 | **4.28** | 200 | 0.3 |
| | 3x3 | PS-Plain Steel | .110 | — | 850 | 12-7850 | **5J043** | 6.36 | **5.72** | 2 | **5.43** | 40 | 0.3 |
| | 3 1/2x3 1/2 | PS-Plain Steel | .120 | — | 850 | 12-8100 | **5J044** | 9.71 | **8.74** | 2 | **8.30** | 50 | 0.6 |
| | 4x4 | PS-Plain Steel | .139 | — | 850 | 12-8350 | **5J576** | 12.56 | **11.30** | 2 | **10.74** | 40 | 1.0 |
| | 4 1/2x4 1/2 | PS-Plain Steel | .150 | — | 850 | 12-8450 | **5J045** | 15.78 | **14.20** | 2 | **13.49** | 40 | 1.2 |
| | 5x5 | PS-Plain Steel | .165 | — | 850 | 12-8550 | **5J046** | 23.89 | **21.50** | 2 | **20.43** | 40 | 0.8 |
| | 6x6 | PS-Plain Steel | .187 | — | 850 | 12-8750 | **5J047** | 36.67 | **33.00** | 2 | **31.35** | 20 | 1.2 |
| **DOUBLE ACTING SPRING HINGE, STEEL, PLATED FINISH** | | | | | | | | | | | | | |
| D | 3 | US4-Satin Brass | — | — | CD160 | 46-3040 | **1J473** | 21.33 | **19.20** | 1 | **18.24** | 5 | 1.4 |
| **ADJUSTABLE TENSION STORM DOOR SPRING HINGE, STEEL, PLATED FINISH** | | | | | | | | | | | | | |
| E | 2 3/4x2 15/16 | US2C-Bright Zinc | — | 3 | CD2154 | 74-8848 | **3J204** | 5.86 | **5.27** | 1 | **5.01** | 5 | 0.1 |
| **ADJUSTABLE TENSION HEAVY STORM DOOR HINGE, STEEL, PLATED FINISH** | | | | | | | | | | | | | |
| F | 3x2 29/32 | US2C-Bright Zinc | — | 3 | SP154 | 38-2200 | **1J397** * | 23.70 | **21.33** | 1 | **20.26** | 5 | 1.0 |
| **FULL MORTISE ADJUSTABLE SPRING HINGES, STEEL, PLATED, PRIME COATED OR STAINLESS FINISHES, SQUARE CORNERS** | | | | | | | | | | | | | |
| G | 3 1/2x3 1/2 | US4-Satin Brass | .099 | 3 | 2060R | 42-0742 | **3J099** | 14.11 | **9.40** | 2 | **8.93** | 50 | 0.7 |
| | 3 1/2x3 1/2 | US26D-Satin Chrome | .099 | 3 | 2060R | 42-0750 | **3J104** | 18.56 | **12.37** | 2 | **11.75** | 50 | 0.7 |
| | 4x4 | US4-Satin Brass | .099 | 4 | 2060R | 42-2102 | **3J117** | 15.78 | **10.52** | 2 | **9.99** | 50 | 0.8 |
| | 4x4 | US26D-Satin Chrome | .099 | 4 | 2060R | 42-2106 | **3J119** | 22.22 | **14.81** | 2 | **14.07** | 50 | 0.8 |
| | 4x4 | US32D-Satin Stainless Steel | .099 | 4 | 2060R | 42-2312 | **4JH47** | 77.89 | **51.95** | 2 | **49.32** | 50 | 0.4 |
| | 4 1/2x4 | USP-Prime Coat | .134 | 4 | 2060R | 42-0920 | **3J107** | 26.67 | **17.78** | 3 | **16.89** | 48 | 1.1 |
| | 4 1/2x4 | US26D-Satin Chrome | .134 | 4 | 2060R | 42-0923 | **3J109** | 36.33 | **24.22** | 3 | **23.01** | 48 | 1.1 |
| | 4 1/2x4 1/2 | USP-Prime Coat | .134 | 4 | 2060R | 42-0935 | **5T883** | 26.67 | **17.78** | 3 | **16.89** | 48 | 1.2 |
| | 4 1/2x4 1/2 | US4-Satin Brass | .134 | 4 | 2060R | 42-0936 | **5T885** | 29.44 | **19.62** | 3 | **18.64** | 48 | 1.1 |
| | 4 1/2x4 1/2 | US10-Satin Bronze | .134 | 4 | 2060R | 42-0937 | **3J113** | 33.00 | **22.00** | 3 | **20.90** | 48 | 0.4 |
| | 4 1/2x4 1/2 | US26D-Satin Chrome | .134 | 4 | 2060R | 42-0939 | **5T884** | 36.33 | **24.22** | 3 | **23.01** | 48 | 1.1 |
| | 4 1/2x4 1/2 | US3-Bright Brass | .134 | 4 | 2060R | 42-0940 | **5J464** | 38.00 | **25.35** | 3 | **24.06** | 48 | 0.4 |
| | 4 1/2x4 1/2 | US10A-Satin Oxidized Bronze | .134 | 4 | 2060R | 42-0941 | **3J114** | 38.00 | **25.35** | 3 | **24.06** | 48 | 1.1 |
| | 4 1/2x4 1/2 | US26-Bright Chrome | .134 | 4 | 2060R | 42-0942 | **3J115** | 38.00 | **25.35** | 3 | **24.06** | 48 | 0.4 |
| | 4 1/2x4 1/2 | US32D-Satin Stainless Steel | .134 | 4 | 2060R | 42-2314 | **4JH48** | 87.33 | **58.25** | 3 | **55.31** | 48 | 1.1 |
| **FULL MORTISE, STANDARD WEIGHT ADJUSTABLE SPRING HINGE, STEEL, PLATED FINISHES, 1/4" OR 5/8" RADIUS CORNERS** | | | | | | | | | | | | | |
| H | 3 1/2x3 1/2 | US4-Satin Brass 1/4" Radius Corner | .099 | 3 | RD2060R | 42-0754 | **3J124** | 14.11 | **9.40** | 2 | **8.93** | 50 | 0.4 |
| | 3 1/2x3 1/2 | US26D-Satin Chrome 1/4" Radius Corner | .099 | 3 | RD2060R | 42-0762 | **3J128** | 18.56 | **12.37** | 2 | **11.75** | 50 | 0.4 |
| | 4x4 | US4-Satin Brass 1/4" Radius Corner | .099 | 4 | RD2060R | 42-2152 | **3J130** | 15.78 | **10.52** | 2 | **9.99** | 50 | 0.8 |
| | 4x4 | US26D-Satin Chrome 1/4" Radius Corner | .099 | 4 | RD2060R | 42-2156 | **3J132** | 22.22 | **14.81** | 2 | **14.07** | 50 | 0.4 |
| | 3 1/2x3 1/2 | US4-Satin Brass 5/8" Radius Corner | .099 | 3 | RD2068R | 42-0766 | **3J143** | 14.11 | **9.40** | 2 | **8.93** | 50 | 0.4 |
| | 4x4 | US4-Satin Brass 5/8" Radius Corner | .099 | 4 | RD2068R | 42-2202 | **5J465** | 15.78 | **10.52** | 2 | **9.99** | 50 | 0.8 |

(*) Packaged 2 each per pack.



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# STRAP & TEE HINGES/REINFORCEMENT HARDWARE/HYDRAULIC DOOR CLOSER



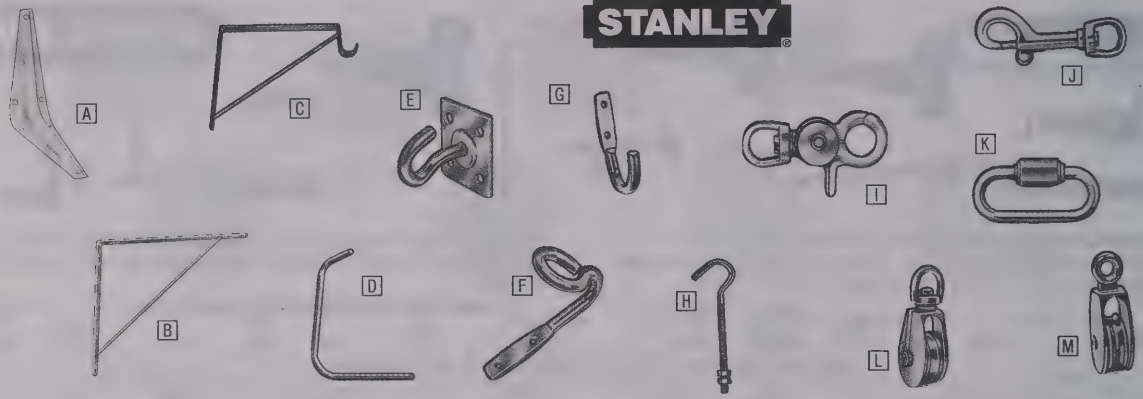

- **Decorative Lifespan Heavy Strap & Tee Hinge** with Limited Lifetime guarantee. Bearing design eliminates metal to metal contact reducing wear.
- **Hydraulic Door Closers** for smooth, bounce free closing action. For wood or metal screen and storm doors up to 1 3/8".

| Key | Size (In.) | Finish | Holes Per Leaf | Stanley Class Number | Stanley EDP Number | PRICE EACH, SOLD IN BOX AND CASE QUANTITY ONLY<br>Stock No. | List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **HEAVY LIFESPAN STRAP HINGES-BULK, NO SCREWS** | | | | | | | |
| A | 4x1 15/32 | US2C-Bright Zinc | 3 | 902 | 14-1270 | **5T994** | $2.34 | **$2.11** | 1 | **$2.00** | 10 | 0.2 |
| | 6x2 5/16 | US2C-Bright Zinc | 4 | 902 | 14-1500 | **5T995** | 3.23 | **2.91** | 1 | **2.76** | 10 | 0.6 |
| | 8x2 31/32 | US2C-Bright Zinc | 4 | 902 | 14-1620 | **5T996** | 5.36 | **4.82** | 1 | **4.58** | 10 | 1.1 |
| | 10x3 3/8 | US2C-Bright Zinc | 4 | 902 | 14-1720 | **5J130** | 9.46 | **8.51** | 1 | **8.08** | 10 | 1.7 |
| | 12x3 27/32 | US2C-Bright Zinc | 5 | 902 | 14-1802 | **5J131** | 18.77 | **16.89** | 1 | **16.05** | 10 | 2.4 |
| | | | | | **HEAVY DUTY LIFESPAN TEE HINGES-BULK, NO SCREWS** | | | | | | | |
| B | 4 | US2C-Bright Zinc | — | 908 | 14-5600 | **5T991** | 2.79 | **2.51** | 1 | **2.38** | 10 | 0.2 |
| | 6 | US2C-Bright Zinc | — | 908 | 14-5020 | **5T992** | 3.82 | **3.44** | 1 | **3.27** | 10 | 0.6 |
| | 8 | US2C-Bright Zinc | — | 908 | 14-5160 | **5T993** | 6.27 | **5.64** | 1 | **5.36** | 10 | 1.1 |
| | 10 | US2C-Bright Zinc | — | 908 | 14-5252 | **5J157** | 10.24 | **9.22** | 1 | **8.76** | 10 | 1.8 |
| | 12 | US2C-Bright Zinc | — | 908 | 14-5255 | **5J158** | 23.33 | **21.00** | 1 | **19.95** | 10 | 2.6 |
| | | | | | **HEAVY DUTY TEE HINGES, GALVANIZED WITH BRASS PIN, WITH SCREWS** | | | | | | | |
| C | 8 | ST2H-Galvanized | — | SP908BP | 17-3640 | **5J169*** | 35.68 | **32.15** | 1 | **30.50** | 10 | 2.7 |
| | | | | | **DECORATIVE HEAVY TEE HINGES, WITH SCREWS** | | | | | | | |
| D | 6 | US1D-Black Coated | — | SP909 | 15-6470 | **5J174** | 5.29 | **4.76** | 1 | **4.52** | 10 | 0.8 |
| | | | | | **ADJUSTABLE BALL BEARING DOUBLE ACTING FLOOR SPRING HINGE SET, STEEL, PLATED FINISH** | | | | | | | |
| E | — | US4-Satin Brass | — | BB159 | 38-4310 | **1J436** | 91.60 | **82.45** | 1 | **78.32** | 5 | 3.4 |
| | | | | | **ADJUSTABLE GATE SPRING** | | | | | | | |
| F | 11 | US1D-Flat Black | — | CD1295 | 76-0865 | **1J312** | 13.21 | **11.89** | 1 | **11.30** | 5 | 1.2 |
| | 14 | US1D-Flat Black | — | CD1295 | 76-0860 | **1J313** | 14.32 | **12.89** | 1 | **12.25** | 5 | 1.5 |
| | | | | | **PNEUMATIC-SHOCK ABSORBING-HYDRAULIC-DOOR CLOSERS** | | | | | | | |
| G | — | US1D-Flat Black | — | CD1702 | 74-5777 | **1J677** | 16.42 | **14.78** | 1 | **14.04** | 5 | 1.2 |
| | | | | | **SLIDE ACTION BOLTS** | | | | | | | |
| H | — | US2C-Bright Zinc | — | CD1271 | 76-0814 | **1J300** | 5.60 | **5.04** | 1 | **4.79** | 5 | 0.8 |
| | — | US1D-Black Coated | — | CD1271 | 76-0815 | **1J301** | 6.77 | **6.09** | 1 | **5.79** | 5 | 0.9 |
| | — | US2C-Bright Zinc | — | SP1263 | 77-8025 | **4JH58** | 18.74 | **16.87** | 1 | **16.03** | 5 | 1.4 |
| | | | | | **CANE BOLTS** | | | | | | | |
| I | 12 | US2C-Bright Zinc | — | CD1009 | 53-2501 | **1J042** | 9.76 | **8.79** | 1 | **8.35** | 5 | 1.3 |
| | 18 | US2C-Bright Zinc | — | CD1009 | 53-2528 | **1J044** | 13.46 | **12.11** | 1 | **11.50** | 5 | 1.6 |
| | 18 | US1D-Black Coated | — | CD1009 | 53-2527 | **1J043** | 16.04 | **14.44** | 1 | **13.72** | 5 | 1.4 |
| | | | | | **CORNER BRACES, NO SCREWS** | | | | | | | |
| J | 1 | US2C-Bright Zinc | — | 997 | 30-3000 | **5J355** | 0.29 | **0.26** | 25 | **0.25** | 750 | 0.1 |
| | 1 1/2 | US2C-Bright Zinc | — | 997 | 30-3160 | **5J357** | 0.34 | **0.31** | 25 | **0.29** | 500 | 0.1 |
| | 2 | US2C-Bright Zinc | — | 997 | 30-3320 | **5J359** | 0.46 | **0.41** | 25 | **0.39** | 500 | 0.1 |
| | 3 | US2C-Bright Zinc | — | 997 | 30-3640 | **5J363** | 0.78 | **0.70** | 25 | **0.67** | 250 | 0.1 |
| | 4 | US2C-Bright Zinc | — | 997 | 30-3960 | **5J366** | 1.46 | **1.31** | 10 | **1.24** | 100 | 0.3 |
| | 5 | US2C-Bright Zinc | — | 997 | 30-4140 | **5J368** | 2.32 | **2.09** | 10 | **1.99** | 100 | 0.5 |
| | 8 | US2C-Bright Zinc | — | 997 | 30-4360 | **5J372** | 5.78 | **5.20** | 5 | **4.94** | 20 | 1.0 |
| | | | | | **MENDING PLATES, NO SCREWS** | | | | | | | |
| K | 2x 6/8 | US2C-Bright Zinc | — | 995 | 30-0120 | **5J325** | 0.32 | **0.29** | 25 | **0.28** | 750 | 0.1 |
| | 4x 7/8 | US2C-Bright Zinc | — | 995 | 30-0680 | **5J328** | 0.57 | **0.51** | 25 | **0.48** | 500 | 0.1 |
| | | | | | **TEE PLATES, NO SCREWS** | | | | | | | |
| L | 2 1/2x2 1/2 | US2C-Bright Zinc | — | 995 1/2 | 30-1441 | **5J336** | 1.16 | **1.04** | 25 | **0.99** | 500 | 0.1 |
| | 5x5 | US2C-Bright Zinc | — | 995 1/2 | 30-1801 | **5J339** | 3.01 | **2.71** | 25 | **2.57** | 250 | 0.2 |
| | | | | | **FLAT CORNER IRONS, NO SCREWS** | | | | | | | |
| M | 2 | US2C-Bright Zinc | — | 999 | 30-5520 | **5J405** | 0.43 | **0.29** | 25 | **0.28** | 500 | 0.1 |
| | 3 | US2C-Bright Zinc | — | 999 | 30-6040 | **5J407** | 0.54 | **0.49** | 25 | **0.47** | 500 | 0.1 |
| | 4 | US2C-Bright Zinc | — | 999 | 30-6560 | **5J410** | 0.74 | **0.67** | 25 | **0.64** | 250 | 0.1 |

(*) Packaged 2 each per pack.

# LATCHES AND SHELF AND CLOSET HARDWARE

STANLEY®




| Key | Size (In.) | Finish | Stanley Class Number | Stanley EDP Number | Stock No. | PRICE EACH, SOLD IN BOX AND CASE QUANTITY ONLY List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **UTILITY SHELF BRACKETS, NO SCREWS, NOMINAL SIZE (IN.)** | | | | | | | | | | | |
| A | 6x8 | BG-Baked Gray Enamel | 797 | 25-0530 | **4J594** | $0.84 | **$0.76** | 20 | **$0.72** | 100 | 0.2 |
| | 6x8 | WHI-White Enamel | 797 | 25-0534 | **4JH22** | 0.99 | **0.89** | 20 | **0.85** | 100 | 0.2 |
| | 8x10 | BG-Baked Gray Enamel | 797 | 25-0545 | **4J596** | 1.11 | **1.00** | 20 | **0.95** | 100 | 0.2 |
| | 8x10 | WHI-White Enamel | 797 | 25-0559 | **4JH23** | 1.26 | **1.13** | 20 | **1.07** | 100 | 0.2 |
| | 10x12 | BG-Baked Gray Enamel | 797 | 25-0560 | **4J598** | 1.68 | **1.51** | 20 | **1.43** | 100 | 0.4 |
| | 10x12 | WHI-White Enamel | 797 | 25-0574 | **4JH24** | 2.00 | **1.80** | 20 | **1.71** | 100 | 0.4 |
| | 12x14 | BG-Baked Gray Enamel | 797 | 25-0575 | **4J600** | 2.42 | **2.18** | 20 | **2.07** | 100 | 0.5 |
| | 12x14 | WHI-White Enamel | 797 | 25-0585 | **4JH25** | 2.77 | **2.49** | 20 | **2.37** | 100 | 0.5 |
| **HEAVY DUTY RIGID SHELF BRACKET, NO SCREWS** | | | | | | | | | | | |
| B | 16x18 | PCW-Prime Coat White | 796 | 25-7561 | **4JH26** | 18.64 | **16.78** | 1 | **15.94** | 10 | 2.0 |
| **SHELF SUPPORTS, WITH SCREWS** | | | | | | | | | | | |
| C | — | DW-Desert White Paint | 7046 | 19-3000 | **4J261** | 4.24 | **3.82** | 20 | **3.63** | 100 | 1.0 |
| **HEAVY DUTY STORAGE HOOKS** | | | | | | | | | | | |
| D | 5" Projection | US2C-Bright Zinc | CD8309 | 81-9250 | **4J731** ** | 3.98 | **3.58** | 1 | **3.40** | 10 | 0.6 |
| | 6 1/16" Projection | US2C-Bright Zinc | SP8370 | 81-9671 | **4JH73** ** | 2.14 | **1.93** | 1 | **1.83** | 10 | 0.6 |
| | 11" Projection | US2C-Bright Zinc | DP8371 | 13-2770 | **4JH16** | 3.19 | **2.87** | 1 | **2.73** | 24 | 0.7 |
| **PLATE MOUNTED UTILITY HOOKS, WITH SCREWS** | | | | | | | | | | | |
| E | 2x1 7/8 | US2C-Bright Zinc | CD4112 | 76-6350 | **3J824** | 2.52 | **2.27** | 5 | **2.16** | 50 | 0.3 |
| **ROPE BINDING HOOK, WITH SCREWS** | | | | | | | | | | | |
| F | 4 3/16 | US2C-Bright Zinc | CD4122 | 76-6400 | **3J840** | 2.57 | **2.31** | 10 | **2.19** | 100 | 0.4 |
| **TARP ROPE HOOKS, WITH SCREWS FOR NOS. 3J836, 3J837, 3J838** | | | | | | | | | | | |
| G | 2 1/2 | US2C-Bright Zinc | 4120 | 13-1030 | **3J831** * | 1.41 | **1.27** | 10 | **1.21** | 100 | 0.1 |
| | 3 1/2 | US2C-Bright Zinc | 4120 | 13-1040 | **3J832** * | 1.53 | **1.38** | 10 | **1.31** | 100 | 0.2 |
| | 4 3/4 | US2C-Bright Zinc | 4120 | 13-1050 | **3J833** * | 1.90 | **1.71** | 10 | **1.62** | 100 | 0.2 |
| **HOOK BOLTS** | | | | | | | | | | | |
| H | 5/16x6 | US2C-Bright Zinc | 4124 | 13-1080 | **3J841** | 1.19 | **1.07** | 10 | **1.02** | 100 | 0.2 |
| | 3/8x7 1/4 | US2C-Bright Zinc | 4124 | 13-1085 | **3J842** | 1.66 | **1.49** | 10 | **1.42** | 100 | 0.3 |
| **ROUND EYE SWIVEL TRIGGER SNAP** | | | | | | | | | | | |
| I | 3/8 | US26-Bright Chrome | 64-5004 | 64-5004 | **4J193** | 2.40 | **2.16** | 10 | **2.05** | 100 | 0.1 |
| **ROUND EYE SWIVEL BOLT SNAPS** | | | | | | | | | | | |
| J | 3/8 | US26-Bright Chrome | 64-5016 | 64-5016 | **4J195** | 1.86 | **1.67** | 10 | **1.59** | 100 | 0.1 |
| | 1/2 | US10-Satin Bronze | 64-5018 | 64-5018 | **4J197** | 2.02 | **1.82** | 10 | **1.73** | 100 | 0.1 |
| **QUICK LINK** | | | | | | | | | | | |
| K | 1/4 | US2C-Bright Zinc | 64-7341 | 64-7341 | **4J199** | 2.20 | **1.98** | 10 | **1.88** | 100 | 0.1 |
| **SWIVEL EYE PULLEY** | | | | | | | | | | | |
| L | 1 | US26-Bright Chrome | 64-8001 | 64-8001 | **4J201** † | 2.93 | **2.64** | 10 | **2.51** | 100 | 0.2 |
| **FIXED EYE PULLEYS** | | | | | | | | | | | |
| M | 1 | US26-Bright Chrome | 64-8003 | 64-8003 | **4J203** † | 2.52 | **2.27** | 10 | **2.16** | 100 | 0.1 |
| | 1 1/2 | US26-Bright Chrome | 64-8005 | 64-8005 | **4J205** † | 4.44 | **4.00** | 10 | **3.80** | 100 | 0.3 |

(*) Does not include screws. (†) 100 lb. maximum load capacity. (**) Packaged 2 each per pack.



*Close it, lock it, keep it safe — You'll find the right stuff right here.*

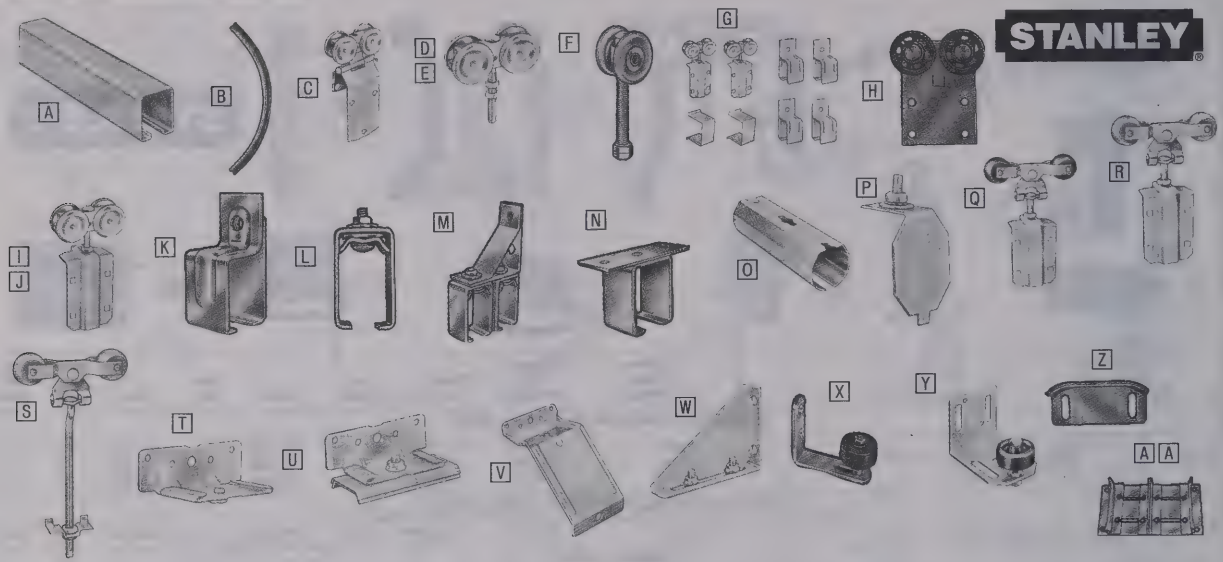
# DOOR BOLTS AND DOOR HARDWARE PULLS AND CHEST HANDLES




| Key | Size (In.) | Finish | Stanley Class Number | Stanley EDP Number | Stock No. | List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **HEAVY CONSTRUCTION BARREL BOLTS** | | | | | | | | |
| **A** | 4 | US2C-Bright Zinc | CD1084 | 76-3760 | **1J124** | $5.88 | **$5.29** | 1 | **$5.03** | 5 | 0.1 |
| | 6 | US2C-Bright Zinc | CD1084 | 76-3805 | **1J127** | 7.43 | **6.69** | 1 | **6.36** | 5 | 0.1 |
| | 8 | US2C-Bright Zinc | SP1085 | 77-3123 | **4JH55** | 13.82 | **12.44** | 1 | **11.82** | 5 | 1.6 |
| | | | **HEAVY DUTY PADLOCKABLE SPRING BOLT** | | | | | | | | |
| **B** | 6½ | US2C-Bright Zinc | 1088 | 23-1893 | **1J129** | 11.82 | **10.64** | 1 | **10.11** | 5 | 0.3 |
| | | | **BARREL BOLTS** | | | | | | | | |
| **C** | 2½ | ST2H-Mechanically Galvanized (Solid Brass Bolts) | CD1078BB | 75-7825 | **1J092** | 6.18 | **5.56** | 1 | **5.28** | 10 | 0.1 |
| | 3 | ST2H-Mechanically Galvanized (Solid Brass Bolts) | CD1078BB | 75-7955 | **1J093** | 6.42 | **5.78** | 1 | **5.49** | 10 | 0.1 |
| | 2½ | US2C-Bright Zinc | SP1078 | 81-3200 | **1J097** | 2.20 | **1.98** | 1 | **1.88** | 10 | 0.2 |
| | 3 | US2C-Bright Zinc | SP1078 | 81-3220 | **1J099** | 2.47 | **2.22** | 1 | **2.11** | 10 | 0.2 |
| | 4 | US2C-Bright Zinc | SP1078 | 81-3240 | **1J101** | 2.74 | **2.47** | 1 | **2.35** | 10 | 0.1 |
| | 6 | US2C-Bright Zinc | SP1078 | 81-3270 | **1J103** | 5.13 | **4.62** | 1 | **4.39** | 10 | 0.1 |
| | | | **TRANSOM CATCH** | | | | | | | | |
| **D** | 2x1⅝ | US2C-Bright Zinc | 1165 | 23-7560 | **1J247** | 17.41 | **15.67** | 1 | **14.89** | 10 | 0.3 |
| | | | **FOOT BOLTS** | | | | | | | | |
| **E** | 6 | US2C-Bright Zinc | CD1056 | 75-7060 | **1J066** | 14.69 | **13.22** | 1 | **12.56** | 5 | 0.1 |
| | | | **CHAIN BOLTS** | | | | | | | | |
| **F** | 4 | US2C-Bright Zinc | CD1055 | 75-7033 | **1J059** | 13.96 | **12.56** | 1 | **11.93** | 5 | 0.6 |
| | 6 | US2C-Bright Zinc | CD1055 | 75-7040 | **1J060** | 14.93 | **13.44** | 1 | **12.77** | 5 | 1.0 |
| | | | **CHEST LATCHES** | | | | | | | | |
| **G** | 2¹⁄₁₆x1½ | US3-Bright Brass | CD5365 | 80-1700 | **4J086*** | 3.92 | **3.53** | 1 | **3.35** | 5 | 0.2 |
| | | | **DOOR PULLS FOR SCREEN AND STORM DOORS, WITH SCREWS** | | | | | | | | |
| **H** | 4⅞ | US2C-Bright Zinc | CD479 | 75-1180 | **3J972** | 1.48 | **1.33** | 1 | **1.26** | 10 | 0.1 |
| | | | **DOOR PULLS FOR SHED OR BARN DOORS, WITH SCREWS** | | | | | | | | |
| **I** | 5x1¼ #1 | US2C-Bright Zinc | SP482 | 81-0500 | **3J981** | 2.30 | **2.07** | 1 | **1.97** | 10 | 0.1 |
| | 5x1¼ #1 | US1D-Black Coated | SP482 | 81-0505 | **3J982** | 2.49 | **2.24** | 1 | **2.13** | 10 | 0.1 |
| | 5¾x1½ #2 | US2C-Bright Zinc | SP482 | 81-0530 | **3J983** | 2.44 | **2.20** | 1 | **2.09** | 10 | 0.2 |
| | 5¾x1½ #2 | US1D-Black Coated | SP482 | 81-0535 | **3J984** | 2.67 | **2.40** | 1 | **2.28** | 10 | 0.2 |
| | 6½x1¾ #3 | US2C-Bright Zinc | SP482 | 81-0560 | **3J986** | 2.59 | **2.33** | 1 | **2.21** | 10 | 0.2 |
| | 6½x1¾ #3 | US1D-Black Coated | SP482 | 81-0565 | **3J987** | 2.93 | **2.64** | 1 | **2.51** | 10 | 0.2 |
| | 7½x2¼ #4 | US2C-Bright Zinc | SP482 | 81-0590 | **3J988** | 6.71 | **6.04** | 1 | **5.74** | 10 | 0.1 |
| | 7½x2¼ #4 | US1D-Black Coated | SP482 | 81-0595 | **3J989** | 7.21 | **6.49** | 1 | **6.17** | 10 | 0.1 |
| | | | **DOOR PULL, NO SCREWS** | | | | | | | | |
| **J** | 6⁹⁄₃₂x1¹⁹⁄₃₂ #3 | PS-Plain Steel | NH482 (No holes) | 32-3525 | **3J980** | 3.19 | **2.87** | 1 | **2.73** | 25 | 0.2 |
| | | | **HEAVY DUTY DOOR PULL, WITH SCREWS** | | | | | | | | |
| **K** | 6½ | US2C-Bright Zinc (Heavy Duty) | SP484 | 77-4040 | **4JH56** | 3.09 | **2.78** | 1 | **2.64** | 5 | 0.5 |
| | 6½ | US2C-Bright Zinc (Extra Heavy Duty) | SP488 | 77-6015 | **4JH57** | 7.66 | **6.89** | 1 | **6.55** | 5 | 0.8 |
| | | | **WELDABLE CHEST HANDLE, NO SCREWS** | | | | | | | | |
| **L** | 4¹⁄₁₆x3 | PS-Plain Steel | NH1205 | 33-4185 | **1J262** | 5.41 | **4.87** | 1 | **4.63** | 50 | 0.6 |
| | | | **CHEST HANDLES, WITH SCREWS** | | | | | | | | |
| **M** | 3½ | US2C-Bright Zinc | 1205 | 33-3880 | **1J253** | 3.38 | **3.04** | 10 | **2.89** | 100 | 0.5 |
| | 4 | US2C-Bright Zinc | 1205 | 33-4180 | **1J255** | 4.32 | **3.89** | 10 | **3.70** | 50 | 0.6 |
| | | | **FLUSH MOUNTED CHEST HANDLE, WITH SCREWS** | | | | | | | | |
| **N** | 5½x4¼ | US2C-Bright Zinc | 1226 | 33-8850 | **1J274** | 4.34 | **3.91** | 10 | **3.71** | 50 | 0.1 |

(*) Packaged 2 each per pack.

# BOX AND ROUND TRACK, HANGERS AND BRACKETS FOR DOORS




| Key | Size | Finish | Stanley Class Number | Stanley EDP Number | PRICE EACH, SOLD IN BOX AND CASE QUANTITY ONLY Stock No. | List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **XY BOX TRACK FOR DOORS WEIGHING UP TO 450 LBS.,14-GAUGE** | | | | | | | | | | | |
| | 6 ft. | US2H-Galvanized | XY2641 | 41-4530 | **4JH45** | $19.96 | **$17.96** | 1 | **$17.06** | 2 | 6.0 |
| **A** | 8 | US2H-Galvanized | XY2641 | 41-4540 | **3J408** | 25.67 | **23.10** | 1 | **21.95** | 2 | 8.0 |
| | 10 | US2H-Galvanized | XY2641 | 41-4580 | **3J409** | 32.33 | **29.10** | 1 | **27.65** | 2 | 10.0 |
| | 12 | US2H-Galvanized | XY2641 | 41-4590 | **4JH46** | 39.44 | **35.50** | 1 | **33.73** | 2 | 12.0 |
| **B** | 24 | US2H-Galvanized-for 150 lb. doors | X2641-CT | 41-3400 | **3J406** | 162.33 | **146.10** | 1 | **138.80** | 2 | 2.5 |
| **XY BOX TRACK HANGERS FOR DOORS WEIGHING UP TO 450 LBS. (USE WITH XY TRACK)** | | | | | | | | | | | |
| **C** | 2 1/8"* | US2C-Bright Zinc | BBXY26501/2 | 41-1004 | **4JH31** | 20.56 | **18.50** | 1 | **17.58** | 5 | 2.0 |
| **D** | 2 1/8* | US2C-Bright Zinc | XYT2600 | 41-1002 | **4JH29** | 12.33 | **11.10** | 1 | **10.55** | 5 | 1.6 |
| **E** | 2 1/8* | US2C-Bright Zinc | BBXYT2600 | 41-1003 | **4JH30** | 14.33 | **12.90** | 1 | **12.26** | 5 | 1.0 |
| **F** | 1 7/8* | US2C-Bright Zinc-for 300 lb. doors | BBXT26001/2 | 41-1920 | **3J368** | 23.89 | **21.50** | 2 | **20.43** | 20 | 0.7 |
| **G** | 2 1/8* | US2C-Bright Zinc- SET | SXY2650 | 41-1020 | **4JH33** | 44.33 | **39.90** | 1 | **37.91** | 5 | 6.0 |
| **H** | 2 1/8* | US2C-Bright Zinc-for 125 lb. doors | X2646 | 41-4760 | **3J414** | 25.78 | **23.20** | 1 | **22.04** | 5 | 1.0 |
| **I** | 2 1/8* | US2C-Bright Zinc | XY2650 | 41-1000 | **4JH27** | 15.78 | **14.20** | 1 | **13.49** | 6 | 2.4 |
| **J** | 2 1/8* | US2C-Bright Zinc | BBXY2650 | 41-1001 | **4JH28** | 19.22 | **17.30** | 1 | **16.44** | 6 | 2.3 |
| **BRACKETS FOR XY TRACK PLACED EVERY 2 FT. ON CENTER** | | | | | | | | | | | |
| **K** | — | US2C-Bright Zinc | XY2650-C | 41-4900 | **3J423** | 3.33 | **3.00** | 1 | **2.85** | 10 | 0.1 |
| **L** | — | US2C-Bright Zinc | XY2651 | 41-5400 | **3J429** | 5.64 | **5.08** | 1 | **4.83** | 25 | 1.0 |
| **M** | — | US2C-Bright Zinc | XY2651-D | 41-5460 | **3J430** | 16.78 | **15.10** | 1 | **14.35** | 10 | 1.6 |
| **N** | — | US2C-Bright Zinc | XY2652 | 41-5760 | **3J434** | 7.78 | **7.00** | 1 | **6.65** | 10 | 0.9 |
| **ROUND TRACK FOR DOORS WEIGHING UP TO 600 LBS.** | | | | | | | | | | | |
| | 8 ft. | US2H-Galvanized | R2641 | 41-1021 | **4JH34** | 28.78 | **25.90** | 1 | **24.61** | 2 | 8.0 |
| **O** | 10 | US2H-Galvanized | R2641 | 41-1022 | **4JH35** | 35.22 | **31.70** | 1 | **30.12** | 2 | 10.0 |
| | 12 | US2H-Galvanized | R2641 | 41-1023 | **4JH36** | 41.67 | **37.50** | 1 | **35.63** | 2 | 12.0 |
| **P** | End cap | US2H-Galvanized | R2610-EC | 41-1028 | **4JH41** | 1.11 | **1.00** | 1 | **0.95** | 10 | 0.2 |
| **ROUND TRACK HANGERS FOR DOORS WEIGHING UP TO 600 LBS.** | | | | | | | | | | | |
| **Q** | 1 15/16" | US2C-Bright Zinc (plastic wheel) | R2640 | 41-1031 | **4JH44** | 24.00 | **21.60** | 1 | **20.52** | 6 | 2.2 |
| **R** | 1 15/16 | US2C-Bright Zinc (steel wheel) | RBR2650 | 41-1029 | **4JH42** | 24.33 | **21.90** | 1 | **20.81** | 6 | 3.8 |
| **S** | 1 15/16 | US2C-Bright Zinc | RBR2660 | 41-1030 | **4JH43** | 19.44 | **17.50** | 1 | **16.63** | 6 | 3.5 |
| **ROUND TRACK BRACKETS FOR TRACK PLACED EVERY 2 FT. ON CENTER** | | | | | | | | | | | |
| **T** | — | US2H-Galvanized | R2610-C | 41-1024 | **4JH37** | 1.60 | **1.44** | 1 | **1.37** | 36 | 0.3 |
| **U** | — | US2H-Galvanized | R2610-SC | 41-1027 | **4JH40** | 4.33 | **3.90** | 1 | **3.71** | 10 | 0.7 |
| **V** | — | US2H-Galvanized | R2610-KO | 41-1025 | **4JH38** | 2.11 | **1.90** | 1 | **1.81** | 20 | 0.6 |
| **W** | — | US2H-Galvanized | R2610-D | 41-1026 | **4JH39** | 8.78 | **7.90** | 1 | **7.51** | 10 | 0.9 |
| **ACCESSORIES** | | | | | | | | | | | |
| **X** | 4 1/2x3 1/2x1 1/4 | US2C-Bright Zinc | SP25591/2 | 41-1801 | **3J335** | 7.22 | **6.50** | 1 | **6.18** | 10 | 0.8 |
| **Y** | 5 3/4x4x4 | US2C-Bright Zinc | SP2560 | 41-1008 | **4JH32** | 10.11 | **9.10** | 1 | **8.65** | 5 | 2.0 |
| **Z** | 4 1/2x1 1/2x1 1/8 | US2C-Bright Zinc | SP2550 | 41-1221 | **3J332** | 13.67 | **12.30** | 1 | **11.69** | 4 | 1.8 |
| **AA** | 8 3/8x4 1/2 | US2C-Bright Zinc | SP2551 | 41-1201 | **3J333** | 42.89 | **38.60** | 1 | **36.67** | 10 | 3.8 |

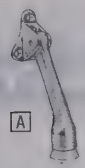
(*) Wheel diameter.

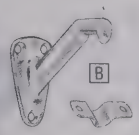


*Close it, lock it, keep it safe — You'll find the right stuff right here.*

# DOOR STOPS AND DOOR TRIMS

STANLEY®

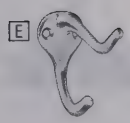


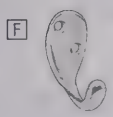









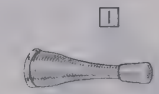





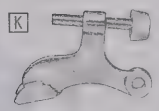


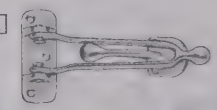









| Key | Size | Finish | Stanley Class Number | Stanley EDP Number | Stock No. | List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PRICE EACH, SOLD IN BOX AND CASE QUANTITY ONLY | | | | | | |
| | | | | **DOOR STOP** | | | | | | | |
| A | 4¼" arm length | US26-Bright Chrome | SP7096 | 75-6363 | **4JH53** | $5.58 | **$5.02** | 1 | **$4.77** | 10 | 0.2 |
| | | US3-Bright Brass | SP7096 | 81-9004 | **4JH67** | 5.31 | **4.78** | 1 | **4.54** | 10 | 0.2 |
| | | | | **HANDRAIL BRACKETS, WITH SCREWS** | | | | | | | |
| B | Approx. 3" Projection | US3-Bright Brass | DP57-1050 | 57-1050 | **4J130** | 1.80 | **1.62** | 1 | **1.54** | 75 | 0.2 |
| | | US3-Bright Brass-Heavy Duty | SP-7094 | 75-6052 | **4JH51** | 3.76 | **3.38** | 1 | **3.21** | 20 | 0.1 |
| | | | | **TRADITIONAL AND WIDE ANGLE DOOR VIEWER** | | | | | | | |
| C | — | US3-Bright Brass | CD4538 | 61-0470 | **3J944** | 5.09 | **4.58** | 1 | **4.35** | 5 | 0.1 |
| | — | US3-Bright Brass-Wide Angle | SP80-3968 | 80-3968 | **4JH61** | 12.08 | **10.87** | 1 | **10.33** | 5 | 0.1 |
| | | | | **ECONOMY COAT AND HAT HOOK** | | | | | | | |
| D | — | US3-Bright Brass | DP57-1070 | 57-1070 | **4J134** | 0.81 | **0.73** | 1 | **0.69** | 100 | 0.1 |
| | — | F8-Antique Brass | DP57-1075 | 57-1075 | **4J135** | 0.89 | **0.80** | 1 | **0.76** | 100 | 0.1 |
| | | | | **HEAVY DUTY SOLID BRASS OR DIE-CAST COAT AND HAT HOOK** | | | | | | | |
| E | — | US3-Solid Brass | SP80-4021 | 80-4021 | **4JH62** | 7.21 | **6.49** | 1 | **6.17** | 5 | 0.2 |
| | — | US26-Bright Chrome | SP7082 | 75-6107 | **4JH52** | 1.76 | **1.58** | 1 | **1.50** | 10 | 0.1 |
| | | | | **HEAVY DUTY SOLID BRASS OR DIE-CAST SINGLE PRONG ROBE HOOK** | | | | | | | |
| F | — | US3-Solid Brass | SP80-4026 | 80-4026 | **4JH63** | 4.02 | **3.62** | 1 | **3.44** | 10 | 0.1 |
| | — | US26-Bright Chrome | SP4025 | 81-9065 | **4JH70** | 1.41 | **1.27** | 1 | **1.21** | 20 | 0.1 |
| | | | | **HEAVY DUTY SOLID BRASS OR DIE-CAST DOUBLE PRONG ROBE HOOK** | | | | | | | |
| G | — | US3-Solid Brass | SP80-4032 | 80-4032 | **4JH64** | 5.01 | **4.51** | 1 | **4.28** | 10 | 0.2 |
| | — | US26-Bright Chrome | SP4030 | 81-9066 | **4JH71** | 1.58 | **1.42** | 1 | **1.35** | 20 | 0.1 |
| | | | | **SOLID BRASS OR HEAVY DUTY GARMENT HOOK** | | | | | | | |
| H | — | US3-Solid Brass | SP80-4036 | 80-4036 | **4JH65** | 18.22 | **16.40** | 1 | **15.58** | 5 | 0.2 |
| | — | US26-Bright Chrome | SP7078 | 75-8144 | **4JH54** | 5.66 | **5.09** | 1 | **4.84** | 5 | 0.3 |
| | | | | **SPRING DOOR STOP** | | | | | | | |
| I | | US3-Brass | SP7092 | 81-9050 | **4JH69** * | 2.27 | **2.04** | 1 | **1.94** | 20 | 0.2 |
| | | | | **SOLID DOOR STOP** | | | | | | | |
| J | — | US3-Brass | SP7071 | 81-9002 | **4JH66** * | 2.69 | **2.42** | 1 | **2.30** | 20 | 0.2 |
| | | | | **HINGE PIN DOOR STOP** | | | | | | | |
| K | | US3-Brass | SP7090 | 81-9110 | **4JH72** | 2.84 | **2.56** | 1 | **2.43** | 20 | 0.1 |
| | | US3-Solid Brass | SP80-3966 | 80-3966 | **4JH60** | 6.12 | **5.51** | 1 | **5.23** | 5 | 0.2 |
| | | | | **SOLID BRASS DOOR GUARD** | | | | | | | |
| L | | US3-Bright Brass | SP57-5485 | 57-5485 | **4JH49** | 19.01 | **17.11** | 1 | **16.25** | 5 | 0.6 |
| | | US26D-Satin Chrome | SP57-5490 | 57-5490 | **4JH50** | 20.49 | **18.44** | 1 | **17.52** | 5 | 1.5 |
| | | | | **SASH LOCKS** | | | | | | | |
| — | — | US3-Brass | SP7073 | 81-9025 | **4JH68** | 2.20 | **1.98** | 1 | **1.88** | 20 | 0.1 |

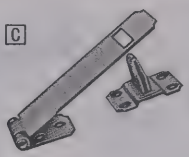
(*) Packaged 2 each per pack.

# SAFETY HASPS AND CABINET CATCHES

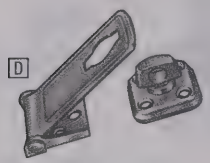









STANLEY®









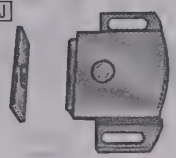












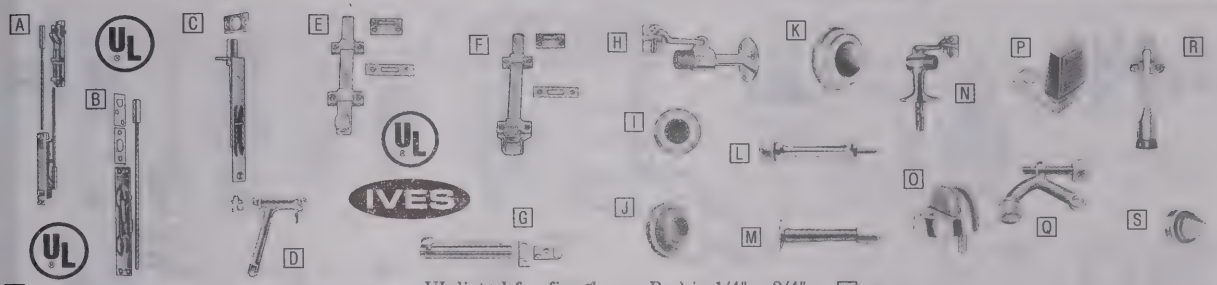




| Key | Size (In.) | Finish | Stanley Class Number | Stanley EDP Number | Stock No. | PRICE EACH, SOLD IN BOX AND CASE QUANTITY ONLY List Each | Each | Box Qty. | Each | Case Qty. | Shpg. Wt. Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT DUTY SAFETY HASP** | | | | | | | | | | | |
| A | 2½ | ST4C-Satin Brass Tone | CD346 | 75-0910 | **3J708** | $2.62 | **$2.36** | 5 | **$2.24** | 50 | 0.1 |
| **LIFESPAN SAFETY HASPS** | | | | | | | | | | | |
| B | 2½ | US2C-Bright Zinc | SP911 | 81-1700 | **5J190** | 2.37 | **2.13** | 10 | **2.02** | 100 | 0.1 |
| | 3½ | US2C-Bright Zinc | SP911 | 81-1710 | **5J191** | 2.84 | **2.56** | 10 | **2.43** | 100 | 0.3 |
| | 4½ | US2C-Bright Zinc | SP911 | 81-1720 | **5J192** | 3.60 | **3.24** | 10 | **3.08** | 100 | 0.4 |
| | 6 | US2C-Bright Zinc | SP911 | 81-1740 | **5J193** | 5.14 | **4.62** | 5 | **4.39** | 50 | 0.7 |
| **HASPS, GALVANIZED WITH BRASS PIN** | | | | | | | | | | | |
| B | 3½ | ST2H-Galvanized | CD911BP | 75-4540 | **5J178** | 6.14 | **5.53** | 5 | **5.25** | 50 | 0.4 |
| | 4½ | ST2H-Galvanized | CD911BP | 75-4585 | **5J185** | 7.01 | **6.31** | 5 | **5.99** | 50 | 0.2 |
| | 6 | ST2H-Galvanized | CD911BP | 75-4705 | **5J188** | 8.71 | **7.84** | 5 | **7.45** | 50 | 0.8 |
| **SAFETY HASPS** | | | | | | | | | | | |
| C | 3½ | PS-Plain Steel | 915 | 51-4300 | **5J208** | 2.27 | **2.04** | 10 | **1.94** | 100 | 0.2 |
| | 4½ | PS-Plain Steel | 915 | 51-4650 | **5J209** | 2.91 | **2.62** | 10 | **2.49** | 100 | 0.3 |
| | 6 | PS-Plain Steel | 915 | 51-4900 | **5J210** | 4.57 | **4.11** | 5 | **3.90** | 50 | 0.6 |
| | 3½ | US2C-Bright Zinc | SP915 | 81-1800 | **5J216** | 2.97 | **2.67** | 10 | **2.54** | 100 | 0.3 |
| | 4½ | US2C-Bright Zinc | SP915 | 81-1810 | **5J217** | 3.86 | **3.47** | 10 | **3.30** | 100 | 0.3 |
| | 6 | US2C-Bright Zinc | SP915 | 81-1830 | **5J218** | 6.49 | **5.84** | 5 | **5.55** | 50 | 0.6 |
| | 7½ | US2C-Bright Zinc | SP915 | 77-9155 | **4JH59** | 19.48 | **17.53** | 1 | **16.65** | 5 | 1.4 |
| **LIFESPAN LATCHING HASP** | | | | | | | | | | | |
| D | 3½ | US2C-Bright Zinc | SP917 | 81-1900 | **5J225** | 5.13 | **4.62** | 10 | **4.39** | 100 | 0.3 |
| | 4½ | US2C-Bright Zinc | SP917 | 81-1910 | **5J226** | 6.04 | **5.44** | 10 | **5.17** | 100 | 0.4 |
| **DOUBLE HINGE SAFETY HASP, WITH SCREWS** | | | | | | | | | | | |
| E | 3 | US2C-Bright Zinc | CD925 | 75-5250 | **5J231** | 5.56 | **5.00** | 5 | **4.75** | 50 | 0.2 |
| **STAPLES-REPLACEMENTS, NO SCREWS** | | | | | | | | | | | |
| F | 1x11/16 | US2C-Bright Zinc | 913#2 | 51-1405 | **5J207** | 1.19 | **1.07** | 25 | **1.02** | 500 | 0.1 |
| **HEAVY DUTY HINGE HASPS, WITH SCREWS** | | | | | | | | | | | |
| G | 7½ | PS-Plain Steel | SP941 | 81-1980 | **5J250** | 13.46 | **12.11** | 5 | **11.50** | 25 | 1.0 |
| **LIFESPAN KEYLOCKING SAFETY HASPS** | | | | | | | | | | | |
| H | 4½ | US2C-Bright Zinc | CD921 | 75-5240 | **5J228** | 10.30 | **9.27** | 5 | **8.81** | 50 | 0.6 |
| **ROLLER CABINET LATCHES** | | | | | | | | | | | |
| I | — | US2C-Bright Zinc | SP35 | 81-0130 | **3J710** | 2.08 | **1.87** | 25 | **1.78** | 250 | 0.1 |
| **MAGNETIC CABINET CATCHES** | | | | | | | | | | | |
| J | — | AL-Plain Aluminum | SP41 | 81-0160 | **3J818** | 2.20 | **1.98** | 25 | **1.88** | 250 | 0.1 |
| K | — | AL-Plain Aluminum | SP46 | 81-0200 | **3J957** | 2.12 | **1.91** | 25 | **1.81** | 250 | 0.1 |



*Close it, lock it, keep it safe — You'll find the right stuff right here.*




**A Automatic Flush Bolt for Metal Fire Doors.** For top and bottom in inactive leaf of a pair of coordinated doors. Used where inactive leaf is not required for exit purposes. Fits standard hollow metal doors. Flush bolt prep.

**B Manual Extension Flush Bolt for Metal Doors.** For top and bottom in inactive leaf of a pair of swinging fire doors. 6¾"H x 1"W, 12" rod, throw is 3/4". Mounting hardware included.

**C Residential Grade Flush Bolt.** Automatic holding of bolt in projected or retracted position. Diameter of bolt head is 1/2", throw is 1". Mounting hardware included.

**D Door Coordinator for Metal Fire Doors.** Use for coordinating the closing of active and inactive leafs where overlapping astragel is used. Use No. 4JG75 for doors 38" wide and under. Use No. 4JG74 for doors over 38" wide. Mounting hardware included.

**E F Heavy-Duty Surface Bolts.** No. 5U621 UL listed for fire doors. Rod is 1/4" x 3/4", projection is 1⅝", throw is 1⅜". Mortise strike and mounting hardware included. No. 5U620 accepts padlock.

**G Concealed Screw Surface Bolts.** Mortise strikes and mounting hardware included.

**H** thru **R** Door and Floor Stops feature non-marring rubber bumpers.

**H Heavy-Duty Wall Door Stop w/Holder.** Wood screw mounting hardware included.

**I Standard-Duty Concave Wall Door Stop.** Door knob hits stop without damaging or engaging lock. Drywall, anchor and screw mounting hardware included.

**J Concave Wall Door Stop.** Permits door knob to hit stop without damaging or engaging lock. Self-adhesive.

**K Compact Convex Wall Door Stop.** Sheet metal, screw, and rawl and brad nail mounting hardware included.

**L Residential Grade Rigid Door Stop.** Wood screw mounting hardware included.

**M Residential Grade Flexible Door Stop.** Wood screw mounting hardware included.

**N Heavy-Duty Floor Stop w/Door Holder.** Expansion and lead shield mounting hardware included.

**O Floor Stop for Threshold or Undercut Doors.** Wood screw and plastic anchor mounting hardware included.

**P Floor Stop for Threshold Doors.** Wood screw and plastic anchor mounting hardware included.

**Q Hinge Pin Door Stop.** For hinged doors where wall or floor stops are not desirable. No. 4JG86 designed for narrow trim look. Both models fit on 1/4"-5/16" dia. hinge.

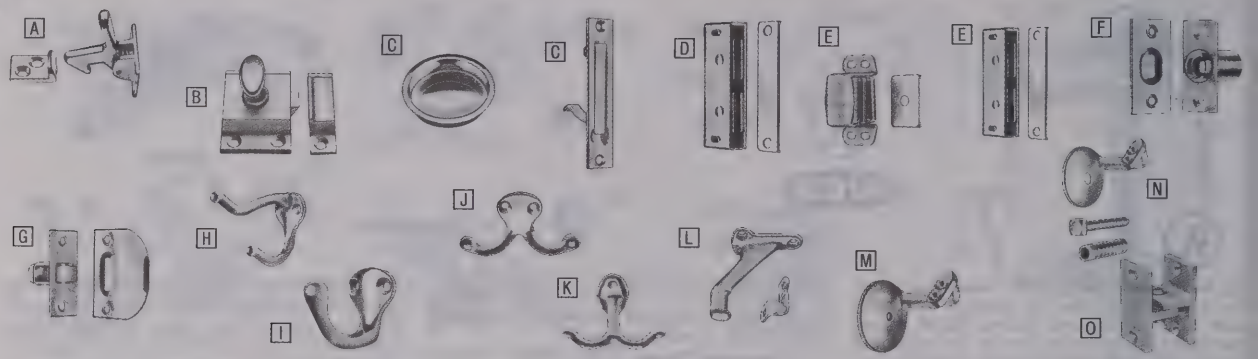
**R Door Holder.** Mounts on door, stainless steel spring release is foot operated. Rubber tip. Sheet metal screws included.

**S Door Silencer.** For metal frame doors. Absorbs impact when door is closed. Grey rubber. Needs mounting hole of 9/32". **10 per bag.**

| Key | Description | Dimensions (In.) H | W | L | Finish | Ives Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Automatic Flush Bolt | — | — | — | Satin Chrome | PR559B26D | **4JG76** | $162.66 | **$146.45** | **$139.08/4** | 3.1 |
| **B** | Manual Extension Bolt | 6¾ | 1 | — | Bright Brass | 458B3 12 IN | **4JG70** | 17.78 | **16.01** | **15.21/5** | 0.9 |
| | | 6¾ | 1 | — | Satin Chrome | 458B26D 12 IN | **5U619** | 17.13 | **11.14** | **10.59/10** | 0.9 |
| **C** | Residential Grade Flush Bolt | 6 | 3/4 | — | Bright Brass | 262B3 | **4JG69** | 17.05 | **15.35** | **14.58/5** | 0.3 |
| | | 6 | 3/4 | — | Satin Chrome | 262B26D | **4JG68** | 20.46 | **18.42** | **17.50/5** | 0.4 |
| **D** | Door Coordinators | — | — | — | Satin Chrome | 469B26D | **4JG75** | 121.33 | **109.25** | **103.74/4** | 2.1 |
| | | — | — | — | Satin Chrome | 469 1/2B26D | **4JG74** | 125.54 | **113.00** | **107.35/4** | 2.5 |
| **E F** | Heavy-Duty Surface Bolt | — | 2 1/32 | 8 | Zinc Steel | 453F2C 8IN USMS | **5U621** * | 26.00 | **16.25** | **15.44/5** | 1.1 |
| | | — | 2 1/32 | 8 | Zinc Steel | 0454F2C 8IN USMS | **5U620** | 35.92 | **22.45** | **21.33/5** | 1.2 |
| **G** | Concealed Screw Surface Bolt | — | 5/8 | 3 | Bright Brass | 40B3 3IN | **4JG71** | 10.46 | **9.41** | **8.95/5** | 0.2 |
| | | — | 5/8 | 4 | Bright Brass | 40B3 4IN | **4JG72** | 11.42 | **10.28** | **9.76/5** | 0.2 |
| | | — | 5/8 | 6 | Bright Brass | 40B3 6IN | **4JG73** | 13.52 | **12.17** | **11.57/5** | 0.4 |
| **H** | Door Stop w/Door Holder | 2¼ | 3 5/8 | — | Bright Brass | 449B3 | **5U611** | 34.45 | **22.39** | **21.27/5** | 1.2 |
| | | 2¼ | 3 5/8 | — | Satin Chrome | 449B26D | **5U610** | 41.30 | **26.90** | **25.54/5** | 1.0 |
| **I** | Concave Heavy-Duty Door Stop | 2 7/16 | 1 5/16 | — | Bright Brass | 407 1/2B3 | **5U615** | 4.29 | **2.79** | **2.65/20** | 0.2 |
| | | 2 7/16 | 1 5/16 | — | Satin Chrome | 407 1/2B26D | **5U614** | 4.29 | **2.79** | **2.65/20** | 0.2 |
| **J** | Concave Heavy-Duty Door Stop | 1½ | 5/8 | — | Rubber/Grey Stop | 411R-G | **4JG95** | 2.17 | **1.96** | **1.85/20** | 0.1 |
| | | 1⅝ | 5/8 | — | Rubber/White Stop | 411R-W | **4JG96** | 2.17 | **1.96** | **1.85/20** | 0.1 |
| **K** | Convex Standard-Duty Door Stop | 1 | 9/16 | — | Bright Brass | 404B3 | **4JG87** | 4.04 | **3.65** | **3.46/20** | 0.1 |
| | | 1 | 9/16 | — | Satin Chrome | 404B26D | **4JG91** | 4.85 | **4.37** | **4.15/20** | 0.1 |
| **L** | Rigid Residential Grade Door Stop | 3 | — | 3 | Bright Brass | 61MB3 | **4JG88** | 6.15 | **5.54** | **5.26/5** | 0.1 |
| | | 3 | — | 3 | Bright Brass | 61A3 | **4JG90** | 1.05 | **0.95** | **0.90/20** | 0.1 |
| | | 3 | — | 3 | Natural Aluminum | 61A92 | **4JG92** | 1.05 | **0.95** | **0.90/20** | 0.1 |
| | | 3 | — | 3 | Bright Brass | 62MB3 | **4JG89** | 10.25 | **9.23** | **8.78/5** | 0.2 |
| | | 4½ | — | 4½ | Natural Aluminum | 62A92 | **4JG93** | 3.82 | **3.44** | **3.27/5** | 0.1 |
| | | | | | Bright Brass | 060F3 | **4JG94** | 0.82 | **0.74** | **0.70/20** | 0.1 |
| **M** | Flexible Residential Grade Door Stop | 3 | — | — | Bright Brass | 446B3 | **5U617** | 38.98 | **25.35** | **24.07/5** | 0.8 |
| | | | | | Satin Chrome | 446B26D | **5U616** | 46.78 | **30.45** | **28.91/5** | 0.8 |
| **N** | Heavy-Duty Floor Stop w/Door Holder | 3⅜ | 2½ | — | Bright Brass | 438B3 | **5U609** | 6.03 | **3.92** | **3.73/20** | 0.2 |
| | | 3⅜ | 2½ | — | Satin Chrome | 438B26D | **5U608** | 6.03 | **3.92** | **3.73/20** | 0.3 |
| **O** | Standard-Duty Floor Stop for Threshold or Undercut Doors | 1⅛ | 9/16 Base | — | Bright Brass | 436B3 | **5U607** | 5.01 | **3.27** | **3.10/20** | 0.2 |
| | | 1⅛ | 9/16 Base | — | Satin Chrome | 436B26D | **5U606** | 5.01 | **3.27** | **3.10/20** | 0.2 |
| | | 1 | 3/16 Base | — | | | | | | | |
| | | 1 | 3/16 Base | — | | | | | | | |
| **P** | Standard-Duty Floor Stop for Threshold Doors | 2⅛ | 1½ | 2¼ | Burnished Steel | 434P2C | **4JG97** | 7.39 | **6.65** | **6.32/5** | 0.4 |
| **Q** | Hinge Pin for 85 to 125° Door Opening | — | — | — | Bright Brass | 70A3 | **4JG86** | 1.57 | **1.42** | **1.35/20** | 0.1 |
| | Hinge Pin for 70 to 100° Door Opening | — | — | — | Bright Brass | 69F3 | **4JG98** | 2.69 | **2.43** | **2.31/20** | 0.1 |
| **R** | Door Holder | — | — | 4 | Bright Brass | 455MB3 | **4JG77** | 21.51 | **19.36** | **18.40/5** | 0.5 |
| | | — | — | 4 | Satin Chrome | 455MB26D | **5U618** | 24.61 | **14.77** | **14.03/5** | 0.5 |
| **S** | Door Silencer (10/Bag) | — | — | — | Grey Rubber | 20R | **4JG85** | 2.47 | **2.22** | **2.11/5** | 0.3 |

(*) UL Listed for fire doors.

# BUILDER'S HARDWARE




A **Elbow Catch.** Ideal for use in inactive leaf of cabinet doors. Surface mounting, hardware included. Plate is 1⅜W x 5/8"H, strike is 13/16" x 5/8".

B **Cupboard Latch.** Surface mounting, hardware included. Case is 1¾ x 1⅛".

C **Flush Pulls.** Mounting hardware included. Nos. 4JG45 and 4JG46 dimensions: inside dia. 2⅛", outside dia. 2⁷⁄₁₆", 7/16" deep; Nos. 4JG47 and 4JG48 dimensions: 3⅛H x 1⁵⁄₁₆W x 3/8"D.

D **Sliding Door Edge Pull.** Automatically returns lever flush with plate. Mounting hardware included.

E **Magnetic Catches.** Self aligning magnet for maximum pull. Mounting hardware included.

F **Adjustable Ball Catches.** For jamb installations. Adjustable door clearance and holding strength. Face plate dimensions: 2⅛H x 1"W; bore dimensions: 7/8 x 1¼". No. 4JG52 strike dimensions: 2⅛ x 1¹⁄₁₆", lip is 9/16" to center. Nos. 4JG53 and 4JG54 strike dimensions: 2⅛ x 1⅜", lip is 7/8" to center. Mounting hardware included.

G **Heavy-Duty Roller Catch.** Positive latching action, quiet nylon roller, adjustable tension. Face plate dimensions: 2¼ x 7/8"; bore dimensions: 3/4 x 1¾"; strike dimensions: 2¼ x 1⅝"; lip is 1³⁄₁₆" to center.Mounting hardware included.

H **Coat and Hat Hook.** Projection from wall is 3".

I **Wardrobe Hook.** Projection from wall is 1¹¹⁄₁₆".

J **Double Wardrobe Hook.** Projection from wall is 1⅛".

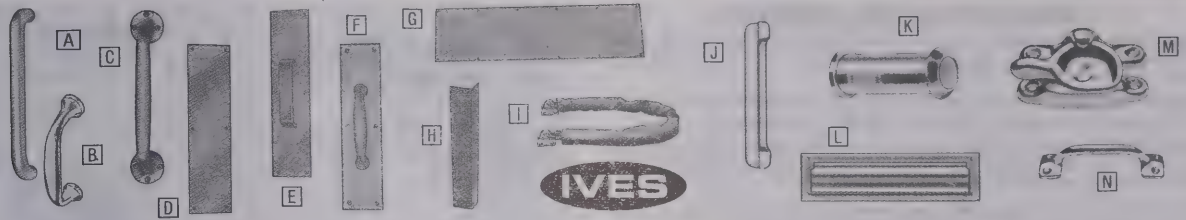
K **Ceiling Hook.** Projection from ceiling is 2¼".

L thru N **Fixed Handrail Brackets.** Mounting hardware included. Screws with No. 4JH01, screws and toggle bolt for hollow walls with No. 4JH02, screws and expansion shield for solid walls with Nos. 4JH03 and 4JH04. 4JH01 base to center of rail is 2⁷⁄₁₆". All others are 3⅛" base to center of rail.

O **Adjustable Handrail Bracket.** Mounting hardware included. Adjustable distance from wall, base to center rail, 1¾" to 2¼".

| Key | Description | Dimensions (In.) H | W | D | Finish | Ives Model | Stock No. | List | Each | Lots/ Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Elbow Catch | — | — | — | Bright Brass | 2A3 | **4JG49** | $2.67 | **$2.41** | **$2.29/5** | 0.1 |
| | | — | — | — | Natural Aluminum | 2A92 | **4JG50** | 2.67 | **2.41** | **2.29/5** | 0.1 |
| B | Cupboard Latch | — | — | — | Bright Brass | 540B3 | **4JG51** | 27.71 | **24.95** | **23.70/5** | 0.2 |
| C | Flush Pull | — | — | — | Bright Brass | 221B3 | **4JG46** | 2.86 | **2.58** | **2.45/5** | 0.1 |
| | | — | — | — | Satin Chrome | 221B26D | **4JG45** | 2.71 | **2.45** | **2.33/5** | 0.1 |
| | | — | — | — | Bright Brass | 222B3 | **4JG48** | 13.16 | **11.85** | **11.26/5** | 0.1 |
| | | 3⅛ | 1⁵⁄₁₆ | 3/8 | Satin Chrome | 222B26D | **4JG47** | 15.74 | **14.17** | **13.46/5** | 0.2 |
| D | Sliding Door Edge Pull | 3⁷⁄₈ | 3/4 | 1⅝ | Bright Brass | 230B3 | **4JH07** | 9.13 | **8.22** | **7.81/5** | 0.2 |
| | | 3⁷⁄₈ | 3/4 | 1⅝ | Satin Chrome | 230B26D | **4JH06** | 10.16 | **9.15** | **8.69/5** | 0.2 |
| E | Magnetic Catch | 3⅛ | 1 | 9/16 | Natural Aluminum | 326A92 | **4JG56** | 4.66 | **4.20** | **3.99/5** | 0.3 |
| | | 3⅛ | 1 | 3/4 | Natural Aluminum | 327A92 | **4JG57** | 8.19 | **7.37** | **7.01/5** | 0.4 |
| | | 2¹⁄₁₆ | 1³⁄₃₂ | 7/8 | Natural Aluminum | 323A92 | **4JG55** | 2.69 | **2.43** | **2.31/5** | 0.2 |
| F | Adjustable Ball Catch | — | — | — | Bright Brass | 346B3 | **4JG52** | 8.89 | **8.01** | **7.61/5** | 0.2 |
| | | — | — | — | Bright Brass | 347B3 | **4JG54** | 8.89 | **8.01** | **7.61/5** | 0.2 |
| | | — | — | — | Satin Chrome | 347B26D | **4JG53** | 9.88 | **8.90** | **8.46/5** | 0.2 |
| G | Heavy-Duty Roller Catch | — | — | — | Bright Brass | 335B3 | **4JG58** | 9.43 | **8.49** | **8.06/5** | 0.2 |
| H | Coat and Hat Hook | 1¾ | 1⁷⁄₁₆ | — | Bright Brass | 571A3 | **4JG64** | 1.05 | **0.95** | **0.90/5** | 0.1 |
| | | 1¾ | 1⁷⁄₁₆ | — | Natural Aluminum | 571A92 | **4JG66** | 1.05 | **0.95** | **0.90/5** | 0.1 |
| | | 1¾ | 1⁷⁄₁₆ | — | Bright Brass | 571MB3 | **4JG63** | 6.13 | **5.52** | **5.25/5** | 0.2 |
| | | 1¾ | 1⁷⁄₁₆ | — | Bright Chrome | 571MB26 | **4JG65** | 6.75 | **6.08** | **5.78/5** | 0.2 |
| | | 1¾ | 1⁷⁄₁₆ | 1⁷⁄₁₆ | Satin Chrome | 571MB26D | **4JG67** | 6.75 | **6.08** | **5.78/5** | 0.2 |
| I | Wardrobe Hook | 1⅛ | 1⅛ | — | Bright Brass | 581MB3 | **4JH10** | 4.25 | **3.83** | **3.64/5** | 0.1 |
| | | 1⅛ | 1⅛ | — | Satin Chrome | 581MB26D | **4JH12** | 5.01 | **4.51** | **4.28/5** | 0.1 |
| | | 1⅛ | 1⅛ | — | Natural Aluminum | 581A92 | **4JH08** | 1.12 | **1.01** | **0.96/5** | 0.1 |
| J | Double Wardrobe Hook | 1⅛ | 1⅛ | — | Bright Brass | 582MB3 | **4JH11** | 5.35 | **4.82** | **4.58/5** | 0.1 |
| | | 1⅛ | 1⅛ | — | Satin Chrome | 582MB26D | **4JH13** | 5.84 | **5.25** | **5.00/5** | 0.1 |
| | | 1⅛ | 1⅛ | — | Natural Aluminum | 582A92 | **4JH09** | 1.14 | **1.03** | **0.98/5** | 0.1 |
| K | Ceiling Hook | 1 | 1⅞ | — | Natural Aluminum | 580A92 | **4JG59** | 2.24 | **2.02** | **1.92/5** | 0.1 |
| L | Handrail Bracket | 2¼ | 1⅜ | — | Bright Brass | 059A3 | **4JH01** | 2.84 | **2.55** | **2.43/5** | 0.2 |
| M | Handrail Bracket | 3* | 1⅜ | — | Natural Aluminum | 158A92 | **4JH02** | 8.87 | **7.99** | **7.59/5** | 0.6 |
| N | Handrail Bracket | 3* | 1⅜ | — | Bright Brass | 159A3 | **4JH03** | 11.76 | **10.59** | **10.05/5** | 0.7 |
| N | Handrail Brakcet | 3* | 1⅜ | — | Natural Aluminum | 159A92 | **4JH04** | 11.76 | **10.59** | **10.05/5** | 0.7 |
| O | Adjustable Handrail Bracket | 2¾ | 1¾ | — | Polished Anodized Aluminum | 162PA28 | **4JH05** | 26.27 | **23.65** | **22.46/5** | 0.4 |

(*) Diameter.




**A B C Door Pulls.**

**D Door Push Plates.** Includes mounting hardware.

**E F Pull Plates.** 8305 Series handle is 1" flatted back, 6" mounting holes. 8311 Series handle is 1" round, 5¼" mounting holes. Includes handle and mounting hardware.

**G Door Protection Plates.** Mop plates protect bottom of pull side of door from cleaning procedures. Kick Plates protect bottom of push side of door from foot traffic. Stretcher Plates protect section of door that consistently comes into contact with equipment.

**H Corner Guard.** Protects wall corners from traffic damage. Mounting hardware included.

**I Crash Stop.** Heavy-duty cast bracket and welded chain with vinyl cover. End mounting brackets are 1½" square. Mounting hardware included.

**J Lock Guards.** Deter tampering with latch or bolt. For outswinging doors. Mounting hardware included.

**K One Way Viewer.** Features non-removable glass lens. Requires ½" dia. hole. 120° angle of view. For door thicknesses of 1⅜" to 2 1/16".

**L Letter Box Plates.** Water-tight spring loaded front plate can be installed vertically. Nos. 4JG84 and 4JG82 have covered back plates.

**M Window Lock.** Low profile for maximum strength. Camming action for snug fit. Base 15/16" x 2⅝", strike 5/8" x 2⅝".

**N Window Lift.** Base 1⅛" x 4", projection 1 1/16". Mounting hardware included.

| Key | Description | Size (In.) | Finish | Ives Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Door Pull | 2¼D x 6¾L | Bright Brass | 8102-6B3 | 5U623 | $34.40 | $22.36 | 1.3 |
| | | 2¼D x 6¾L | Satin Chrome | 8102-6B26D | 5U622 | 37.85 | 24.61 | 1.0 |
| | | 2¼D x 8¾L | Satin Chrome | 8102-8B26D | 5U624 | 37.85 | 24.61 | 1.7 |
| | | 2½D x 11L | Satin Chrome | 8103-0B26D | 5U625 | 55.54 | 36.15 | 4.0 |
| B | Door Pull | 1 3/16D x 6½L | Bright Brass | 8111-5B3 | 5U613 | 32.23 | 20.96 | 1.0 |
| | | 1 3/16D x 6½L | Satin Chrome | 8111-5B26D | 5U612 | 36.05 | 23.43 | 1.0 |
| C | Door Pull | 2⅛D x 7 1/16L | Bright Brass | 8112-5B3 | 5U627 | 36.05 | 23.43 | 1.2 |
| | | 2⅛D x 7 1/16L | Satin Chrome | 8112-5B26D | 5U626 | 39.68 | 25.85 | 1.2 |
| | | 2⅛D x 10 1/16L | Bright Brass | 8112-8B3 | 5U629 | 37.64 | 24.46 | 1.5 |
| | | 2⅛D x 10 1/16L | Satin Chrome | 8112-8B26D | 5U628 | 41.36 | 26.90 | 1.5 |
| D | Door Push Plate | 3 x 12 | Bright Brass | 8200B3 3X12 | 5U636 | 13.47 | 8.76 | 0.6 |
| | | 3 x 12 | Satin Bronze | 8200B10 3X12 | 5U630 | 13.47 | 8.76 | 0.6 |
| | | 3 x 12 | Satin Chrome | 8200B26D 3X12 | 5U632 | 14.85 | 9.65 | 0.6 |
| | | 3½ x 15 | Bright Brass | 8200B3 3.5X15 | 5U635 | 13.47 | 8.76 | 0.8 |
| | | 3½ x 15 | Satin Chrome | 8200B26D 3.5X15 | 5U634 | 14.85 | 9.65 | 0.8 |
| | | 4 x 16 | Bright Brass | 8200B3 4X16 | 5U637 | 15.81 | 10.28 | 1.0 |
| | | 4 x 16 | Satin Bronze | 8200B10 4X16 | 5U631 | 15.80 | 10.27 | 1.0 |
| | | 4 x 16 | Satin Chrome | 8200B26D 4X16 | 5U633 | 17.32 | 11.26 | 1.0 |
| E | Door Push Plate | 3 x 12 | Satin Chrome | 8305-6B26D 3X12 | 5U639 | 54.25 | 35.30 | 1.9 |
| | | 3½ x 15 | Satin Chrome | 8305-6B26D 3.5X15 | 5U638 | 53.71 | 34.95 | 2.0 |
| | | 3½ x 15 | Bright Brass | 8305-6B3 3.5X15 | 5U641 | 48.97 | 31.90 | 2.0 |
| | | 4 x 16 | Satin Chrome | 8305-6B26D 4X16 | 5U640 | 56.09 | 36.50 | 2.4 |
| F | Door Pull Plate | 3 x 12 | Bright Brass | 8311-5B3 3X12 | 5U643 | 41.44 | 27.00 | 1.0 |
| | | 3 x 12 | Satin Bronze | 8311-5B10 3X12 | 5U645 | 41.44 | 27.00 | 1.0 |
| | | 3 x 12 | Satin Chrome | 8311-5B26D 3X12 | 5U647 | 43.84 | 28.55 | 1.5 |
| | | 3½ x 15 | Bright Brass | 8311-5B3 3.5X15 | 5U649 | 41.44 | 27.00 | 1.8 |
| | | 3½ x 15 | Satin Chrome | 8311-5B26D 3.5X15 | 5U646 | 43.84 | 28.55 | 1.8 |
| | | 4 x 16 | Bright Brass | 8311-5B3 4X16 | 5U644 | 41.87 | 27.25 | 2.3 |
| | | 4 x 16 | Satin Bronze | 8311-5B10 4X16 | 5U642 | 41.87 | 27.25 | 1.0 |
| | | 4 x 16 | Satin Chrome | 8311-5B26D 4X16 | 5U648 | 46.04 | 30.00 | 2.0 |
| G | Mop Plate | 6H x 34W | Bright Brass | 8400B3 6X34 | 5U650 | 32.09 | 20.86 | 3.0 |
| | | 6H x 34W | Satin Stl. Steel | 8400S32D 6X34 | 5U654 | 26.47 | 17.21 | 2.9 |
| G | Kick/Stretcher Plate | 8 x 30 | Bright Brass | 8400B3 8X30 | 5U651 | 37.76 | 24.54 | 3.5 |
| | | 8 x 30 | Satin Stl. Steel | 8400S32D 8X30 | 5U655 | 26.50 | 17.22 | 3.4 |
| | | 8 x 34 | Bright Brass | 8400B3 8X34 | 5U652 | 42.75 | 27.85 | 3.9 |
| | | 8 x 34 | Satin Stl. Steel | 8400S32D 8X34 | 5U656 | 35.38 | 23.00 | 3.8 |
| | | 8 x 34 | Bright Brass | 8400B3 8X40 | 5U653 | 50.35 | 32.80 | 4.6 |
| | | 8 x 40 | Satin Stl. Steel | 8400S32D 8X40 | 5U657 | 41.60 | 27.05 | 4.5 |
| | | 8 x 40 | Satin Stl. Steel | 8500S32D 3X3X40 | 5U658 | 41.81 | 27.20 | 3.2 |
| H | Corner Guard | 3 x 3 x 40 | Satin Chrome | 115B26D 201/2 IN | 4JG60 | 32.84 | 29.60 | 1.0 |
| I | Crash Stop | 20½ (rec. door width 30") | Satin Chrome | 115B26D 251/2 IN | 4JG61 | 35.04 | 31.60 | 1.1 |
| | | 25½ (rec. door width 36") | Satin Chrome | 115B26D 301/2 IN | 4JG62 | 38.76 | 34.95 | 1.3 |
| | | 30½ (rec. door width 42") | Satin Stl. Steel | 180S32D | 4JG78 | 43.76 | 39.40 | 0.9 |
| J | Lock Guards | 2⅛W x 10L | Satin Stl. Steel | 182S32D | 4JG79 | 43.76 | 39.40 | 0.7 |
| | | 1 9/16W x 10L | Satin Stl. Steel | 184S32D | 4JG80 | 42.60 | 38.40 | 0.4 |
| | | 1 9/16W x 6L | — | U700B4 | 4JG99 | 7.96 | 7.17 | 0.1 |
| K | One Way Viewer | — | Bright Brass | 620B3 | 4JG83 | 50.56 | 45.55 | 1.5 |
| | | — | Bright Brass | 621B3 | 4JG84 | 68.89 | 62.05 | 2.0 |
| L | Letter Box Plate | 13W x 3 9/16H | Polished Anodized Aluminum | 620PA28 | 4JG81 | 33.27 | 30.00 | 0.6 |
| | | 13W x 3 9/16H | Polished Anodized Aluminum | 621PA28 | 4JG82 | 43.48 | 39.15 | 0.8 |
| | | 13W x 3 9/16H | Bright Brass | 07MB3 | 4JH15 | 11.28 | 10.16 | 0.2 |
| | | 13W x 3 9/16H | Bright Brass | 026MB3 | 4JH14 | 6.04 | 5.44 | 0.1 |
| M | Window Lock | — | | | | | | |
| N | Window Lift | — | | | | | | |

# MOWERS AND GAS CANS

## MULCHING LAWN MOWERS

**Dual/Triple Care System**—mulching baffle and side discharge grass deflector included on Nos. 3LC42 and 4LT46. 3.1 bushel rear bagging system also included on No. 3LC45.

**Heavy Steel Deck**—high vacuum 12-gauge deck and mulching blade lifts grass for cleaner, smoother cut and sure bagging.

**Zone Safety System**—extended rope start and handle safety control meet or exceed Consumer Product Safety Commission (CSPC) blade safety standards.

**Heavy-Duty Easy Folding Handles**—powder-coated with foam grip. Comes fully assembled in box; no set-up necessary.

**Briggs and Stratton Quantum Engine**—solid-state ignition, easy-pull recoil starter. No. 3LC45 has a 6.0 HP B&S Quantum I/C engine with cast iron sleeves; No. 4LT46 has 6.5 HP Briggs & Stratton Intek OHV engine.

**Large 8 x 2" Ball Bearing Wheels**—includes hub caps and 9-position manual height adjustment from 1¼ to 3¼". Nos. 3LC45 has single lever height adjustment. No. 4LT46 has 14 x 2" ball bearing rear wheels.

**Optional 1.6 Bushel Grass Catcher**—for No. 3LC42, sold separately below.

**6-Speed Shift-on-the-Go Transmission**—No. 3LC45 has smooth differential action speed changes to handle varying terrain and grass conditions. Yard-Man by MTD brand.

### OPTIONAL BAG FOR YARD-MAN MOWERS

Side grass catcher for No. 3LC42 and other Yard-Man side-discharge mowers. Steel rod frame construction with 1.6 bushel black polyester bag. Meets ANSI nail test standards. Yard-Man by MTD brand (OEM-190-106).

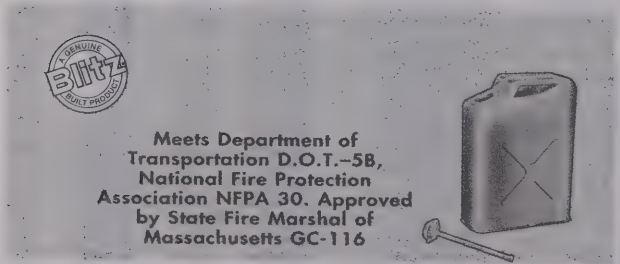
**No. 3LC48.** Shpg. wt. 8.0 lbs. List $72.00. Each ..... **$65.00▲**




| Cutting Width (In.) | Drive Type | Discharge | 4-Cycle Engine | Fuel Capacity (Qt.) | Grass Catcher | Yard-Man Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | Push | Mulcher & Side | 5 HP | 1.5 | 3LC48 | 11A-106C401 | | **3LC42** | $279.00 | **$235.00 ▲** | 78.0 |
| **21** | Self-Propelled | Mulcher & Rear | 6.5 HP | 1.5 | Standard | 12A-559K401 | *New* | **4LT46** | 425.00 | **359.00 ▲** | 97.0 |
| **21** | Self-Propelled | Mulcher, Rear & Side | 6 HP | 1.5 | Standard | 12A-979C401 | | **3LC45** | 555.00 | **469.00 ▲** | 105.0 |

(▲) Net prices, not subject to discounts.

## HEAVY-DUTY JEEP STYLE GAS CAN

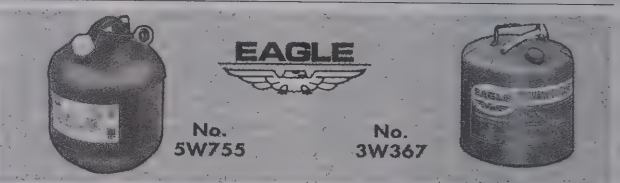



### 5 GALLON GAS CAN WITH SPOUT

**Bright red can** has a space-saving design for easy handling, stacking and storage. Preferred by construction contractors and landscapers. Blitz brand (11070S).

- **Includes 3/4" diameter, 12" flexible metal screw type spout**
- **Hand-crafted heavy-gauge steel**
- **Safely handles flammable liquids**
- **Leak-resistant, threaded screw type cap has built-in air vent—when cap is in place, vent hole is open for smooth pouring**

**No. 3ZC41.** Shpg. wt. 9.6 lbs. List $39.59. Each ..... **$36.80**
Lots 4 ..... **$33.59**




## POLYETHYLENE GAS CANS

High-density polyethylene cans are impact-resistant, non-rusting, and non-corrosive. Dome-shaped rounded body. Finger groove in bottom for easier pouring. Vent cap and flexible spout with built-in screen store on the can. **Not for diesel fuel.**

| Can Capacity (Gal.) | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2½** | PG-3 | **5W755** | $7.18 | **$4.67** | **$4.32** | 2.0 |
| **5** | PG-5 | **5W756** | 11.68 | **7.59** | **7.02** | 3.0 |

## GALVANIZED STEEL GAS CANS

Strong, durable galvanized steel cans with double-seamed bottom resist leakage and withstand rough use. No seams on top or sides. Flip vent equalizes pressure for pouring. Detachable 7" long flexible pour spout with filter screen. Approved by Massachusetts State Fire Marshal. Red cans with white lettering. **Not for diesel fuel.**

| Can Capacity | Bottom Dia. | Ht. | Eagle Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2¼ Gal.** | 11¼" | 8⅝" | SP-2½ | **2W677** | $15.19 | **$9.49** | **$8.78** | 2.5 |
| **5** | 12½ | 12⅞ | SP-5 | **3W367** | 21.26 | **13.29** | **12.30** | 5.0 |

# LEAF BLOWERS




## PROFESSIONAL LEAF BLOWERS

### A LEAF BLOWER

**Powerful hand-held blower** provides blowing power comparable to small back-pack units. The 24cc, 1.0 HP engine delivers a 134 MPH blast of air. Suited for blowing leaves, yard clippings, dirt, debris and light snow. Long-life engine has two piston rings and chrome plated cylinder. Tanaka brand (THB-2500).

### B BACKPACK BLOWER

**Powerful 2.3 HP blower** delivers steady stream of air blowing at 218 MPH measured at end of tube. Use to clear parking lots, grounds, stadiums, and arenas. Anti-vibe system provides added comfort. Heavy-duty air filter prolongs engine life. Interlocked, swiveling blowing tube allows operator to clean hard-to-reach angles without shifting body position. Large capacity fuel tank provides longer operating time. Only 68dB at 3/4 throttle setting. Tanaka brand (TBL-505).

| Key | Blower Type | Engine Displacement | HP | Fuel Tank Cap. (fl. oz.) | Net Wt. | Air Flow/CFM | Air Speed MPH | | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Hand held | 24 cc (1.5 cu.in.) | 1.0 | 23.6 | 10.6 | 304 | 134 | New | 4LT61 | $229.99 | $225.00 | ▲ | 12.0 |
| B | Backpack | 43 | 2.3 | 68 | 22.9 | 540 | 218 | | 3W698 | 549.99 | 499.00 | ▲ | 31.0 |

(▲) Net prices, not subject to discounts.

## LEAF BLOWERS/VACUUMS




### MULCHING VAC/LEAF BLOWER

**Lightweight blower, vacuum, and mulcher** in one unit. Quiet-running 22cc engine, with 165 MPH maximum air velocity. Vacuum attachment (included) mulches leaves and yard debris into compost-ready material—10:1 mulching reduction. Easily converts from blower to vacuum. Poulan Weed Eater brand (BV1650).

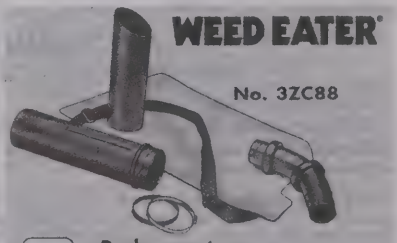
**No. 4JT89.** Shpg. wt. 11.0 lbs. List ..... $172.00.
Each ..... $155.00

### ELECTRIC LEAF BLOWER

**8.5 amp motor. 125 mph maximum air velocity.** 320 cubic feet of air per minute. 2-Speed airflow switch. Built-in cord retainer. Double insulated. UL Listed (E99077). Accepts optional vacuum kit No. 3ZC88. Weed Eater brand (2540).

**No. 3ZC87.** Electric Leaf Blower. Shpg. wt. 7.9 lbs. List $58.85. Each ..... $52.95

## LEAF BLOWER VACUUM KIT




Replacement Parts Available 1-800-323-0620

**Vacuum Kit** converts leaf blower into vacuum for leaves and debris. For use on Electric Leaf Blower No. 3ZC87. Includes vac bag, shoulder strap, and vacuum tubes. Weed Eater brand (VA-1905).

**No. 3ZC88.** Vacuum Kit.. Shpg. wt. 4.0 lbs.
List ..... $47.75.
Each ..... $42.95

## PROFESSIONAL OUTDOOR LEAF BLOWER

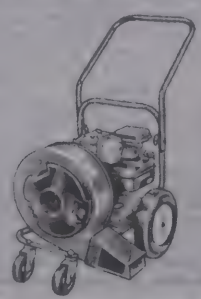
- **Delivers 200 MPH airstream**
- **Walk-behind model covers large areas**
- **Ideal for walks, parking lots and curbs**

**Produces powerful airstream** to push leaves and debris into piles for easy pickup. Used on lawns, parking lots, driveways and construction sites. Briggs & Stratton 5 HP, 4-cycle engine with recoil start. Adjustable chute deflector allows for controlled direction of the airflow. Full-rotation of the front wheels allows for easy maneuverability. 12 x 3" rear wheels allow for easy pushing. Engine-mounted throttle. Durable 1¼" diameter steel handle folds for easy storage. Red and black enamel finish. Yard Machines by MTD brand (24A-652C000).

**No. 3Z811.** Professional Leaf Blower. Shpg. wt. 119.0 lbs.
List ..... $505.00.
Each ..... $479.00▲

YARD MACHINES by MTD

Replacement Parts Available 1-800-323-0620




(▲) Net prices, not subject to discounts.

# LINE TRIMMERS AND BRUSH CUTTERS

## [A] AUTO-START™ GRASS TRIMMER/BRUSH CUTTER

- **Built-in battery and self-charging system**
- **Fully automatic BRAIN® trimmer head**
- **Bearing-supported 7mm solid steel drive shaft**
- **Removeable, rechargeable battery**

One-touch electric starting system eliminates the need for pull-starts. Auto-Start™ method provides instant starts at the touch of a button, while the BRAIN® trimmer head senses when more line is needed and feeds out the right amount of line. Bearing-supported 7mm solid steel drive shaft provides smooth, efficient power transfer from the engine to the trimmer head. Features a power-to-weight ratio that allows for the most amount of work to be done with the least amount of fatigue. Tanaka brand (AST-210).

## [B] CURVED SHAFT LINE TRIMMER

- **Lightweight, yet powerful**
- **Ergonomic curved shaft**
- **"The Brain" automatic line feed head**

**Features heavy-duty engine components** including anti-vibration technology and transistorized electronic ignition system. 1 HP, 2-cycle engine provides years of dependable performance. Lightweight model is ideal for cutting grass and weeds. Heavy-duty flex-cable drive is housed in curved sh<P>aft for exceptional control. "Brain" head auto-line trimmer head is standard as is a tool kit. Unit is not designed to use a brush cutting blade. Tanaka brand (TBC-4000).

## [C] STRAIGHT TRIMMER LINE TRIMMER/BRUSH CUTTER

- **Commercial duty**
- **Optional blade (No. 1R488 available below)**
- **The BRAIN™ automatic line feed head**
- **Sound Reduction System**

**Industrial/commercial-duty unit.** Use for trimming and edging around sidewalks, driveways, buildings, and bushes. Provides durable performance, ease of operation, and safety.

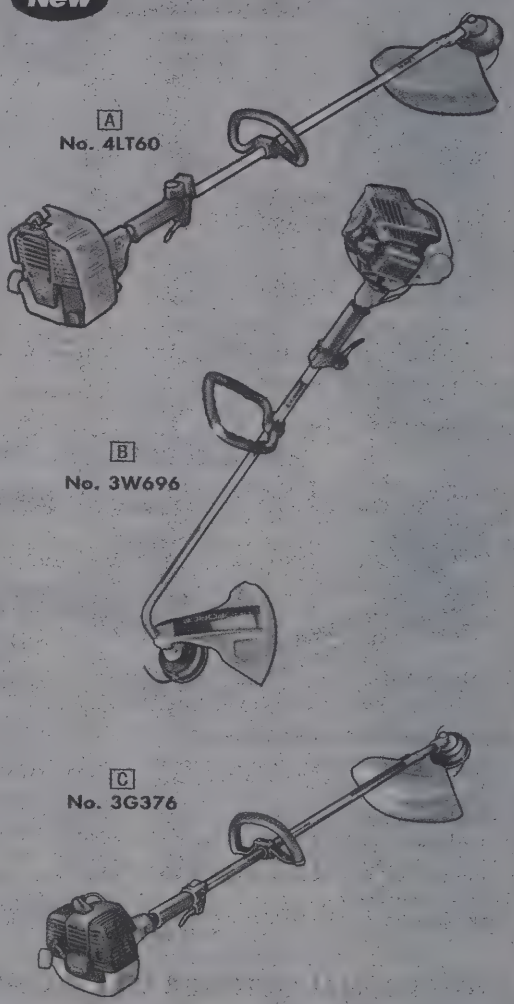
**High-torque 2-cycle air-cooled engine** features extended-life internal engine components, anti-vibration technology, high performance fuel and electronic ignition systems. Easy auto-rewind starting and servicability. 1.2 HP high-torque engine has two piston rings to maintain compression, reduces blow-by; large crank shaft ball bearings, needle bearings in heavy-duty forged connecting rod, and etched chrome plated cylinder. Sound reduction system reduces noise up to 40%.

**Heavy-duty engine mounted centrifugal clutch** transmits maximum power to gear-driven solid steel straight shaft, supported by five bearings. Generates approximately 20% more power than many competitive models. Other features include wide-radius safety guard, spark-arrester muffler, tool kit. The BRAIN™ line trimmer head automatically feeds proper amount of line; no need to pull out new line or bang head on ground to release more line. Change to optional metal blade No. 1R488 and clear fields of heavy brush and saplings up to 5" thick. Tanaka brand (TBC-250).

Tanaka™

Replacement Parts Available
1-800-323-0620

New




| Key | Engine Displacement | HP | Fuel Tank Capacity (Fl. Oz.) | Cutting Swath (In.) | Line Dia. (In.) | Shaft Type | Tanaka Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 20cc | 1.0 | 11.8 | 16 | .095 | Solid Steel | AST-210 | New 4LT60 | $429.99 | $379.00▲ | 21.0 |
| B | 20cc | 1.0 | 11.8 | 16 | .095 | Flex-Cable | TBC-4001 | 3W696 | 239.99 | 219.00▲ | 19.0 |
| C | 24cc | 1.2 | 25.7 | 18 | .095 | Solid Steel | TBC-250 | 3G376 | 399.99 | 339.00▲ | 24.0 |

(▲) Net prices, not subject to discounts.
(*) For blade No. 1R488 and No. 748501 Blade Conversion Kit (shoulder strap, blade attaching bolt, and cutter holding cap), call 1-800-323-0620.

**IF YOU'RE IN A BIND, CALL GRAINGER**

**If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# LINE TRIMMERS/BRUSH CUTTERS AND HEDGE TRIMMER




**Weed Eater Gas Powered Line Trimmers** feature exclusive Tap-N-Go® line advance that lets the operator choose the length of line being fed to the cutting head. Use 0.080" cutting line. Totally enclosed 30cc engine (except No. 4JT90) with anti-vibration system. Heavy-duty Precision Clutch™. Weed Eater brand.

### A TRIMMER WITH BLADE

Powerful 24cc engine for trimming heavier grasses and weeds. 18" cutting path and ComforTouch anti-vibe handle for added comfort. Tap-N-Go line advance and heavy-duty precision clutch for quick, easy starts. Barrier handlebar, metal shield, padded shoulder strap, and 8" weed blade included.

### B WEED EATER XT LINE TRIMMER

Lightweight trimmer handles multiple jobs. 17" cutting path with a 48" curved shaft length. Converts from a trimmer to an edger with a push of a button. Features an easy-to-adjust handle. Powerful 24cc engine cuts with sturdy 0.080" line. Quick-snap spool replacement. Weed Eater brand.

### C YARD PRO BRUSH CUTTER

Sweeping 18" wide cutting path. 57" straight shaft length. 30cc cycle engine with heavy-duty automatic clutch makes for easier starting and operation. Comes with an 8" saw tooth brush blade, bull horn-style handle and shoulder strap for easy manuevering. Tap-N-Go® line advance keeps you working, not fussing.

### REPLACEMENT WOUND SPOOL FOR WEED EATER TRIMMERS

**No. 4LT59. Tap-N-Go® Replacement Wound Spool** for No. 4LT58 and 4LT58 Weed Eater trimmer/edgers. 40 ft. spool of 0.080" dia. line.

**No. 5W943 Tap-N-Go® Replacement Wound Spool.** 40 ft. spool of 0.80" dia. line.

### 400 FT. COIL PACK 0.080" NYLON REPLACEMENT LINE

**No. 5W945.** 400 ft. coil of 0.080" dia. universal nylon replacement line. Can be used on all Weed Eater brand line trimmers and any line trimmers using 0.080" dia. nylon replacement line. Strong, durable construction.

| Key | Description | Engine Displacement (cc) | Fuel Tank Capacity (Qt.) | Line Dia. (In.) | Weed Eater Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 18" Trimmer | 24 | 0.5 | 0.080 | BC 24W | **4JT90** | $220.00 | **$199.00** | 21.0 |
| B | 17" Trimmer | 24 | 0.5 | 0.080 | XT400 | ***New*4LT58** | 173.39 | **156.00** | 11.0 |
| C | 18" Trimmer | 30 | 0.5 | 0.080 | BC30B | ***New*4LT57** | 305.29 | **274.75** | 22.0 |

| Trimmer Accessory Description | Fits Trimmer No. | Weed Eater Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Replacement Wound Spool** | 4LT58 | 952-711548 | ***New* 4LT59** | $8.65 | **$7.76** | 0.3 |
| **Replacement Wound Spool** | 4JT90 & 4LT57 | 952-701589 | **5W943** | 8.85 | **7.75** | 0.2 |
| **400 Ft. Coil of 0.080" Nylon Line** | 4JT90 & 4LT57 | 952-701590 | **5W945** | 12.15 | **10.95** | 1.3 |

## HEDGE TRIMMER

- **Sound reduction system**
- **180° quick twist handle**
- **Professional duty**

**Portable and lightweight,** this design is well-suited for cutting hedges, bushes, vines, and small trees. It features Tanaka's Sound Reduction System™ which provides a quieter running engine. QuickTwist System enables the engine and blades to pivot within a 180° span, while the rear handle remains in an upright and comfortable position. Heavy-duty anti-vibration system greatly reduces fatigue. Unit has a reliable 1 HP engine with transistorized electronic ignition, diaphragm carburetion, centrifugal clutch system, spark arrest muffler, and 26" heavy-duty dual reciprocating blade movement. Tanaka brand (THT-2120).

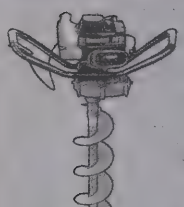
| Trimmer Size (In.) | Engine Displacement | HP | Fuel Tank Cap. (Fl. Oz.) | Net Wt. | Blade Length (In.) | Edges | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **26** | 21 cc | 1.0 | 11.8 | 10.6 | 26 | Double | **6ZC04** | $379.00 | **$329.00▲** | 17.0 |

(▲) Net prices, not subject to discounts.



# POST HOLE DIGGERS AND EARTH AUGERS

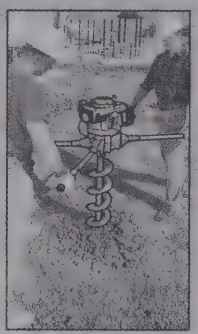
## GAS-DRIVEN POST HOLE DIGGERS



A

No. 2Z014 (Shown with auger)

New



B

No. 4LV57 (Shown with auger)

General EQUIPMENT COMPANY

**GENERAL 2-YEAR LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- **Ergonomic design for ease of operation**
- **Powerful, yet lightweight for extra control**

**Portable hole diggers** are well suited for light and medium-duty drilling projects such as fence posts, mail boxes, tree planting. Precision manufactured tolerances, heat treated shafts and gears, and over-sized bearings provide reliable long-term operation. Ergonomically designed handles enhance control by reducing operator fatigue. 2-cycle, air-cooled engines and spark arresting mufflers. Automatic, all-metal centrifugal clutches. Heavy-duty spur gear transmission. Sealed ball bearing output shaft. Transmissions are grease lubricated. **Augers not included.**

**Earth augers for No. 2Z014 and 2Z677 hole diggers sold separately, see Earth Augers listing below.** Augers dig down as deep as 30". By adding 15" auger extension No. 2Z683, a depth of 45" is possible. Depending on model, use 2 to 12" augers. Takes a 3-jaw chuck, No. 3M526, which converts it to a gas-powered drill.

### A SINGLE OPERATOR

Unique "Butterfly" operator handle reduces fatigue and provides greater control. Powerful 33cc, 1.6HP Tecumseh 2-cycle engine, and precision gear transmission. Accepts standard 30" length augers from 2 to 8" diameter.

20 oz. capacity fuel tank. 47 ft-lbs. maximum drilling torque. 1" diameter output shaft, spring return, finger grip throttle. General brand.

### B DUAL OPERATOR

- **Fully enclosed spur gear transmission**
- **All-metal centrifugal clutch with fully enclosed transmission**
- **Comfort-Flex composite material operator handle**
- **Magura® Twist grip throttle control**
- **1⅜" hexagon auger drive connection**

Gas-driven, 4-cycle post hole digger digs holes for fences, signs quickly and safely. Clutch internally mounted within the transmission, no external belts or chains. Gears lubricated constantly by transmission oil, extensding life and service of clutch. Mugura Twist grip throttle helps reduces stress and fatigue, increases control over machine. Hexagonal-shaped auger drive connection has longer life span over traditional square and round drive connections. General brand.

| Key | Digger Type | HP | Type | Engine Manufacturer | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Single Operator | 1.6 | 2-Cycle | Tecumseh | 210 | **2Z014** | **$499.00▲** | 37.0 |
| B | Dual Operator | 5.0 | 4-Cycle | Honda | M330H | ***New*4LV57** | **1399.00▲** | 79.0 |

(▲) Net prices, not subject to discounts.

## EARTH AUGERS



No. 4Z549 2" Dia. Earth Auger

General EQUIPMENT COMPANY

New

**Use with General brand post hole diggers.** Replaceable wear parts. 10 and 12" diameter augers are not designed for use with No. 2Z014 digger. 30" digging length. 1" diameter drive connection. General brand.

| Diameter (In.) | General Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **2** | 2135-2E | **4Z549** | **$80.00▲** | 9.0 |
| **4** | 2135-4E | **2Z682** | **95.00▲** | 11.0 |
| **6** | 2135-6E | **2Z681** | **99.00▲** | 15.0 |
| **6** | 4400-6E3 | ***New* 4LV54** † | **180.00▲** | 21.0 |
| **8** | 2135-83 | **2Z680** | **105.00▲** | 20.0 |
| **8** | 4400-8E3 | ***New* 4LV55** † | **195.00▲** | 29.0 |
| **10** | 2135-10E | **2Z679** * | **120.00▲** | 28.0 |
| **12** | 2135-12E | **2Z678** * | **135.00▲** | 40.0 |
| **12** | 4400-12E3 | ***New* 4LV53** † | **220.00▲** | 45.0 |

(▲)Net prices, not subject to discounts. (*) Not for use on No. 2Z014. (†) Used on 4LV57

### 15" AUGER EXTENSIONS

Extends digging capability to 45" deep. Plain tube design. No auger flighting. Not intended for multiple usage. Fits all hole diggers and augers listed on this page. General brand.

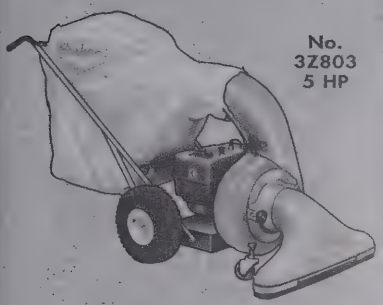
**No. 2Z683.** 15' Auger Extension for 4LV57 (5500-15x). Shpg. wt. 3.7 lbs. Each .....**$55.00▲**

***New*No. 4LV56.** 15' Auger Extension for 4LV57 (5500-15x). Shpg. wt. 3.7 lbs.. Each .....**$70.00▲**

(▲) Net prices, not subject to discounts.

## PUSH TYPE VACUUMS

Parker®



No. 3Z803 5 HP

**The Parker VAC-35®** is a powerful, easy to operate walk-behind vacuum, well suited for cleaning up litter, debris, waste and leaf covered grounds.

**Aerodynamic design** for maximum airflow of 2,000 CFM which exceeds 70 MPH at the 30" wide intake housing. Nonsparking aluminum/magnesium impeller in steel-lined housing complete with anti-wrap protection. High-tech plastic technology reduces vibration, noise levels, and weight. Spin-Pak® safety deflector and debris packer protects operator while packing up to 19% more bulk material into 7.2 bushel mildew-resistant felt collector bag. Heavy gauge steel handles, chassis, and axles for maximum durability. Fully pneumatic 5 x 14" cleated tires and 3" dual swivel casters for easy maneuverability.

**No. 3Z803, 5 HP.** Briggs & Stratton 5 HP, 4-cycle engine with recoil starter, float type carburetor, easy access oil drain, handle mounted throttle control and shut-off. 3 quart fuel tank. Shipped without oil.

**No. 3Z804, 8 HP.** Kohler Magnum® cast-iron, 8 HP, 4-cycle engine. Added horsepower ensures big-job efficiency, longer life, and maintenance-free service. Equipped with recoil starter, engine throttle control and shut-off in easy reach of operator. 1¼ gallon fuel tank. Shipped without oil.

**Replacement Collector Bags.** Mildew-protected synthetic felt collector bag with 54" brass zipper.

| HP | Dimensions (In.) Height | Width | Length | Parker Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 | 42 | 30 | 78 | PV-8705-BT | **3Z803** | **$1454.00** | 164.0 |
| 8 | 42 | 30 | 78 | PV-8708-KT | **3Z804** | **1853.00** | 204.0 |

**PARKER 2 YEAR PARTS AND 1 YEAR LABOR LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

### REPLACEMENT FELT BAGS FOR Nos. 3Z803 and 3Z804

| For Vacuums | Parker Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| Without Bag Platform (current vacuum models) | 350850 | **4Z395** | **$91.00** | 3.6 |
| With Bag Platform (vacuums supplied 1987 & prior) | 350800 | **5W754** | **91.00** | 3.0 |

## INDOOR/OUTDOOR VACUUM

Clarke



No. 7A143

**A powerful, easy-to-operate walk-behind vacuum** for cleaning up litter, debris, waste, leaves and sticks, both in and outdoors. Large adjustable up/down front swivel casters and 30" cleaning path make vacuum an efficient method for large area cleaning.

**Powered by industrial 6 HP Tecumseh engine.** Heavy-duty impeller picks up bottles, cans, sticks, leaves, etc. Trap door allows large debris to pass into the vacuum chamber. Nonrusting fan housing allows easy passage of debris to bag with a side zipper for easy disposal. Large 11 cu-ft. collector bag and large bicycle-type wheels.

Clarke brand (LV-30).

**No. 7A143.** Indoor/Outdoor Vacuum. Shpg. wt. 202.0 lbs. List $2105.00. Each .....$2000.00

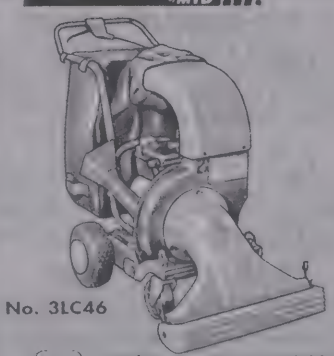
## SELF-PROPELLED CHIPPER/SHREDDER/VACUUM

**Chute takes branches up to 2" diameter.** Shredder reduces yard debris 10:1 and greater. 24" vacuum draws 1200 CFM at 144 MPH. Features 5.5HP Tecumseh OHV engine with solid-state ignition, easy-pull recoil starter and 3-quart fuel tank. Rear drive transmission system connects engine to permanently lubricated direct chain drive. Lever control on handle. Welded steel frame, hardened cast steel self-cleaning screen, and thermoplastic vacuum nozzle.

**Adjustable vacuum intake height,** from 1/4 to 4¾". Lockable 6" front caster wheels provide easy maneuvering—anchors unit when on an incline. Features 10 x 3½" pneumatic tires, 3 bushel felt-lined nylon mesh bag for discarding mulch. Safety goggles and engine oil included. Optional 10-ft. hose with handle kit sold separately below. Yard-Man by MTD brand (24A-203B401).

**No. 3LC46.** Shpg. wt. 184.0 lbs. List $824.00. Each .....$699.00▲

YARD-MAN by MTD



No. 3LC46

Replacement Parts Available 1-800-323-0620

### OPTIONAL HOSE KIT FOR CHIPPER/SHREDDER/VACUUM

**For No. 3LC46 and other Yard-Man self-propelled chipper/shredder/vacuums.** Flexible 4" dia. 10 ft. long hose, convenient handle and tapered nozzle to extend vacuum reach under decks, hedges and porches. Mounts easily to blower without tools. Yard-Man by MTD brand (OEM-290-005).

**No. 3LC49.** Shpg. wt. 12.0 lbs. List $90.00. Each .....$85.00▲

(▲)Net prices, not subject to discounts.

# GARDEN TRACTOR ATTACHMENTS

### A 42" TOW HEAVY-DUTY LAWN SWEEPER

Tow-behind model makes quick work of just about any pick-up task. Versatile enough for big and small jobs alike. Design makes dumping of debris easy. 12.0 cu-ft. hopper capacity. 4 - 12" diameter brush; 4.5:1 brush-to-wheel ratio. Infinite height adjuster, with semi-pneumatic tires.

### B HEAVY-DUTY BROADCAST SPREADER

Spreads granulated materials like seed, fertilizer, herbicide, and ice melters. Heavy gauge steel tubing frame with rust-proof polypropylene hopper and impeller. Approx. 175 lbs. granulated fertilizer capacity covering approx. 40,000 sq. ft. 10-12 ft. average spread width. Pneumatic tires, tow hitch.

### C COMMERCIAL TOW BROADCAST SPREADER

Heavy-duty broadcast spreader with hopper screen. Double stainless steel shut off plates allow narrow-to-wide dispersal pattern. 4-20 ft. dispersal with 50 lb. capacity poly hopper. 13 x 4" studded pneumatic tires. 3-way adjustable handle with positive On/Off control.

### D POLY LAWN ROLLER—PUSH OR TOW

Use for grooming lawns. Get rid of uneven ground caused from frost heaves or ground hogs and moles. Pack down newly seeded lawns or new sod. Roller measures 18 x 24"W. Filled roller weighs up to 250 lbs.

### E HEAVY-DUTY ROLLER

Use for grooming lawn. Measures 24" dia. x 36" wide. Heavy-gauge welded steel construction. 1" ID bearings. Standard pin type tow hitch with 17/32" hole. Fill with water for added weight. Filled roller weighs up to 640 lbs.

### F LAWN AERATOR

40" wide with 3" coring depth; approx. 3/4" diameter hole. Plug type, self-cleaning. Improves health and beauty of lawn by increasing oxygen supply to roots. Frame is all-steel, 25mm axle with ball bearings.

### G TINE-COMBO DE-THATCHER

Gently brings matted layers of thatch and large clippings to the surface for easy removal for a healthier lawn. Use with No. 5Z325 Lawn Aerator to attach for combination Thatcher/Aerator.

### H TINE DETHATCHER

Universal mount for tow-behind units. Improves health and beauty of lawn by loosening dead grass/thatch. All-steel frame, #10 spring steel tines, 3/16" diameter, 20 teeth.

### I 15 GALLON SPRAYER

Easy-grip handgun hose for efficient operation and control of liquid spray direction. Use for spot weed control or massive fertilization projects. 15 gallon capacity; 80" spray width with the boom; 1.4 GPM output. 12V/7A pump with fuse.

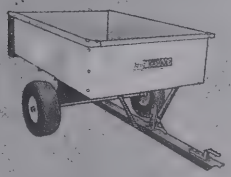



| Key | Description | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Heavy-Duty Lawn Sweeper | Agri-Fab | 45-0260 | **4HD63** | $340.00 | **$316.25** | 95.0 |
| B | Heavy-Duty Broadcast Spreader | Agri-Fab | 45-01871 | **6Z172** | 231.00 | **219.25** | 50.0 |
| C | Heavy-Duty Towable Broadcast Spreader | EarthWay | 2150T | **4HD58** | 180.75 | **162.75** | 25.0 |
| D | Poly Lawn Roller | Agri-Fab | 45-0267 | **4HD65** | 119.00 | **107.00** | 40.0 |
| E | Heavy-Duty Roller | Agri-Fab | 45-0179C | **5Z323** | 212.00 | **201.25** | 145.0 |
| F | Lawn Aerator | Agri-Fab | 45-01664 | **5Z325** | 219.00 | **208.00** | 69.0 |
| G | 40" Tine Combo Dethatcher | Agri-Fab | 45-0263 | **4HD64** | 88.25 | **80.30** | 23.0 |
| H | 40" Tine Dethatcher | Agri-Fab | 45-01862 | **5Z326** | 88.00 | **83.50** | 33.0 |
| I | 15 Gallon Sprayer | Agri-Fab | 63152 | **4HD66** | 310.00 | **273.50** | 29.0 |

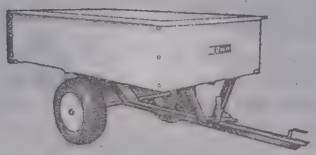
# HEAVY-DUTY UTILITY DUMP CARTS

Replacement Parts Available
1-800-323-0620

Agri-Fab



No. 5Z030
10 Cu. Ft. Heavy-Duty
Utility Dump Cart



No. 5Z096
17 Cu. Ft.
Heavy-Duty
Utility Dump Cart

**10 cu. ft.**—Designed for tough hauling jobs without marring finished lawns and landscapes. 18-gauge steel bed, 32½W x 49L x 12"H. Approximate inside dimensions: 30 x 46½". Removeable tailgate with reinforced guides and spring loaded release helps make loading and emptying easy. 15 x 6½" pneumatic turf tread tires. 1.0" dia. steel axle. 1000 pound maximum capacity. Ivory and black finish. Agri-Fab brand (45-01713).

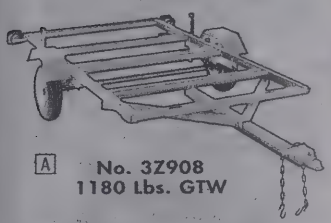
**No. 5Z030.** Shpg. wt. 127.0 lbs. List $229.00. Each ..... **$217.00**

**17 cu. ft.**—Handles extra-capacity loads. 16-gauge steel bed, 36½W x 61L x 14"H. Approximate inside dimensions: 34 x 58½". Removeable tail plate with reinforced guides for easy dumping. 16 x 6½" turf tread tires. 1.0" dia. steel axle. 1500 lb. maximum capacity. Ivory and black finish. Agri-Fab brand (45-01841).

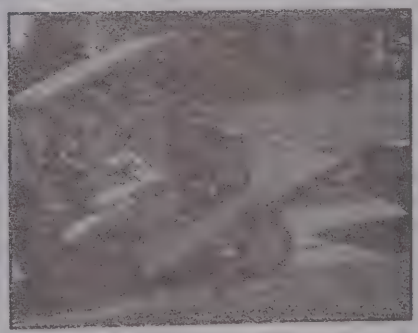
**No. 5Z096.** Shpg. wt. 180.0 lbs.. List ..... $293.00
Each ..... **$277.75**

# TILT BED UTILITY TRAILERS

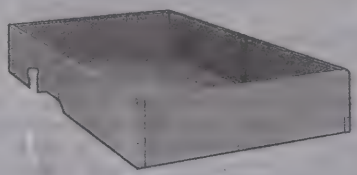
NuWay



A No. 3Z908
1180 Lbs. GTW



B No. 7Z819 Tilt Utility Trailer
(Golf Cart Not Included)



C No. 52378
Cargo Box
(Wood Flooring Not Included)

**Tilt Bed Utility Trailers** have safety class I or class II coupler and plated safety chains. Standard features include tapered automatic bearings, cast iron hubs, 4-bolt demountable steel wheels with tubeless load range B and C rated tires. Complete lighting system includes stop, turn, clearance lights, wiring harness for trailer to truck, and wire connectors. Shipped unassembled. Easily assembled with ordinary workshop tools. Gray baked enamel finish. NuWay brand.

## A 1180 Lb. (GTW) TILT UTILITY TRAILER

Has a class I, 1⅞" safety lock coupler. Holds 900 lb. payload, carrying surface 32 sq. ft. 10-gauge axle, tongue, tongue channel, 12-gauge side members, and 14-gauge cross members. Double-leaf eye and slipper suspension. 4.80 x 8" tubeless, load range B rated tires with 4-hole steel wheels. Cargo box No. 5Z378 available separately.

## B 2180 Lb. (GTW) TILT UTILITY TRAILER

Has class II 2" safety lock coupler. Holds 1800 lb. payload with carrying surface of 40 sq. ft., 10-gauge reinforced tongue, tongue channel and side rails, 12-gauge cross members and V-braces. 5.30 x 12" tubeless load range C rated rated tires. 4-hole steel wheel and 4-leaf slipper spring suspension.

## C CARGO BOX

**Fits No. 3Z908 tilt bed utility trailer.** Provides durable sides for transporting loose and untied loads. 16-gauge steel construction. L-bracket reinforced side panels. Gray baked enamel finish. 96 L x 51W x 14"H. Bolts directly to frame of trailer. NuWay brand (NW13649GH).

**No. 5Z378.** Cargo Box. Shpg. wt. 95.0 lbs.Each ..... **$129.00**

| Key | Capacity (GTW) (Lbs.) | Payload Capacity (Lbs) | Frame Dimensions (In.) Length | Frame Dimensions (In.) Width | Overall Length (In.) | NuWay Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 1180 | 900 | 96 | 51 | 135 | 13800 | **3Z908** | **$319.00** | 225.0 |
| B | 2180 | 1800 | 96 | 60 | 135 | 13224 | **7Z819** | **565.00** | 362.0 |

# BROADCAST SPREADERS

## [A] LIGHT-DUTY BROADCAST SPREADER

- 75-120 lb. Load Bearing, 1,900 cu-in. poly hopper
- 8-10 ft. 180° dispersal • 10" heavy-duty poly wheels
- Large, permanently lubricated, enclosed gears
- Plated steel axle and handle with nylon brushes
- Composite material non-rusting shutoff plate
- EarthWay brand (2050SU)

**No. 4HD56**. Shpg. wt. 14.0 lbs. List $72.05. Each ..... **$64.85**

## [B] HEAVY-DUTY COMMERCIAL BROADCAST SPREADER WITH HOPPER SCREEN

- 4 to 20 Ft. Dispersal with 50 lb. capacity poly hopper
- Super-duty gearbox • 13 x 4" pneumatic tires
- 3-way adjustable handle with positive On and Off control
- Double stainless steel shut off plates—allows narrow to wide dispersal pattern
- EarthWay brand (2150)

**No. 4HD57**. Shpg. wt. 26.0 lbs. List $180.75. Each ..... **$162.75**

## [C] PROFESSIONAL-DUTY BROADCAST SPREADER

- Rugged stainless steel frame, axle; high-impact molded hopper—100 lb. capacity • Super-duty gear box
- Ergonomic 3-way adjustable handle • With screen
- 4 greasable ball bearings • 13 x 5" Jumbo Turf Tires
- EarthWay brand (C24SS)

**No. 4HD62**. Shpg. wt. 33.0 lbs. List $462.30. Each ..... **$416.25**

## [D] PROFESSIONAL-DUTY BROADCAST SPREADER

- Polypropylene hopper and impeller for rust resistance; frame is constructed of heavy gauge steel tubing
- Flow handles located on handle
- 14" x 4" pneumatic tires for easy handling
- Vinyl hopper cover keeps contents dry and free of debris
- Easy-to-reach positive On-Off switch, calibrated flow rate control plate and guidelines located on handle of unit
- Agri-Fab brand (45-02101)

Spreads up to 125 lbs. of heavy-duty materials such as fertilizer, lime, ice melting compounds, and rock salt in a path that ranges from 10 to 12 feet, depending on forward speed, material, and flow setting.

**No. 3ZC22**. Shpg. wt. 45.0 lbs. List $196.00. Each ..... **$186.25**

## [E] SHOULDER BROADCAST SPREADER

- 25 lb. capacity with 8 to 16 ft. broadcast distribution
- Zippered cotton canvas bag has comfortable adjustable shoulder strap; molded handle for safety and stability
- Enclosed cast zinc gears with tough nylon bearings; oscillating shuttle to prevent clumping
- Hopper design assures all material will be broadcast
- Conveniently located flow handle with infinite settings
- Standing leg keeps spreader upright while filling
- EarthWay brand (2700A)

Lightweight shoulder spreader easily handles granular materials such as ice melts, fertilizers, seed and feed, delivers a very even broadcast.

**No. 1D886**. Shpg. wt. 5.0 lbs. List $43.78. Each ..... **$39.45**

## [F] PROFESSIONAL MANUAL SHOULDER-HELD BROADCAST SPREADER

- 50 lb. Capacity poly hopper with zinc-plated tubular steel
- 3-Hole drop with twin-flow control adjusting plates
- 3-Position handle • EarthWay brand (3100)

**No. 4HD59**. Shpg. wt. 9.0 lbs. List $99.86. Each ..... **$89.90**




## [G] 20" DROP PATTERN SPREADER

- Lightweight poly hopper holds up to 60 lb. capacity
- 10" Poly wheels and painted tubular steel frame
- Controls high on handle for operator ease
- Composite non-rusting shut off
- EarthWay brand (7300SU)

**No. 4HD61**. Shpg. wt. 12.0 lbs. List $61.75. Each ..... **$51.50**

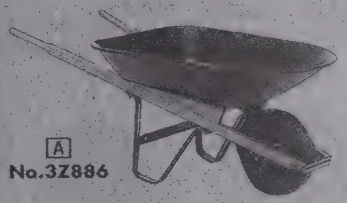
## [H] SALT DEFLECTOR KIT

- Fits Nos. 4HD57, 4HD62, and 4HD58 (sold on page 2670)
- Converts lawn spreader into sidewalk or driveway salt spreader
- Heavy-duty plates not affected by salt or calcium chloride
- EarthWay brand (60166)

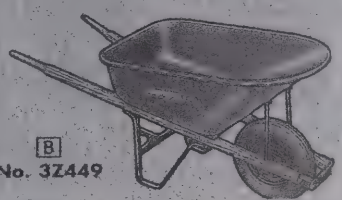
**No. 4HD60**. Shpg. wt. 2.0 lbs. List $42.18. Each ..... **$38.00**

# WHEELBARROWS AND MORTAR PANS

TRUE TEMPER

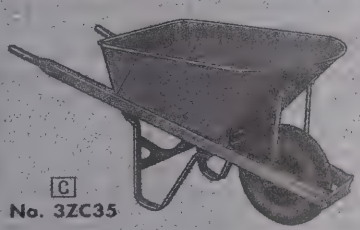


A
No.3Z886

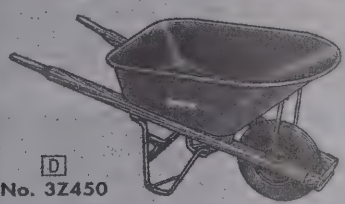


B
No. 3Z449

Jackson



C
No. 3ZC35



D
No. 3Z450

## WHEELBARROWS

Well-suited for a variety of uses. Designed to dump or pour material quickly, efficiently and cleanly. Hardwood handles are extra strong and smooth. Undercarriage provides maximum strength, stability and lateral support. Heavy-duty wheel guard prevents sliding and slipping.

### A WHEELBARROW

- **4 cu. ft. heap capacity**
- **20-gauge steel construction with long-lasting finish**
- **13 x 4" pneumatic tire**
- **Lightweight, well-suited for a variety of lawn and garden applications**

### B CONTRACTOR WHEELBARROW

- **Drawn trays are pressed from 18-gauge steel**
- **1-pc. solid wood lacquered handles**
- **Ball bearings**
- **Long lasting, chip-resistant finish**
- **16 x 4" pneumatic, 2-ply rated tire**
- **Large curl for additional strength**
- **Well-suited for daily use in construction, landscaping, etc.**
- **6 cu. ft. heap capacity**

### HEAVY-DUTY CONTRACTOR WHEELBARROWS

- **16-gauge steel construction stand up years of daily use under demanding construction usage**
- **Large full tray provides maximum tray strength**
- **16 x 4" pneumatic, 2-ply rated tires**
- **Long lasting, chip-resistant finish**
- **Cross supports and leg brace for extra strength and stability**
- **Provide excellent balance to prevent accidental tipping and spillage**

C **No. 3ZC35** 5 cu. ft. heap capacity. Extra strong to handle concrete. Folded seamless tray combines 3 thicknesses of 16-gauge steel at each of the corners. Wire reinforced rim for extra strength. 1-pc. solid wood lacquered handles. Ball bearings.

D **No. 3Z450** 6 cu. ft. heap capacity. Drawn trays are pressed from 18-gauge steel. Large full curl for maximum strength. 1-pc. solid wood lacquered handles. Ball bearings.

| Key | Heap Capacity* Cu. Ft. | Tray Dimensions (In.) L | W | D | Tray Finish | Brand | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 4 | 37½ | 27½ | 8 | Red | True Temper | 5W/S4 | **3Z886** | $104.60 | **$41.95▲** | 42.0 |
| B | 6 | 38½ | 25½ | 12 | Black | True Temper | C6T22BB | **3Z449** | 139.00 | **69.95▲** | 52.0 |
| C | 5¾ | 38½ | 25½ | 12 | Blue | Jackson | M11T22BB | **3ZC35** | 175.06 | **99.00▲** | 65.0 |
| D | 6 | 38½ | 25½ | 12 | Blue | Jackson | M6T22BB | **3Z450** | 168.14 | **85.00▲** | 62.0 |

(*) Heap capacity is the cubic feet of sand which can be mounted into wheelbarrow. Measure is now widely used by manufacturers. Approx. 15% more than level tray capacity.

WORK GLOVES AVAILABLE, SEE INDEX FOR LISTINGS

## MORTAR PAN AND MIXING BOX

### MORTAR PAN

3 cu. ft. capacity mortar pan for use with mortar, plaster, terrazzo, and other patching compounds. Seamless steel tray with blue enamel finish. Jackson brand (1MP).

**No. 3ZC36.** Shpg. wt. 15.0 lbs. List $52.92. Each.....$33.95▲

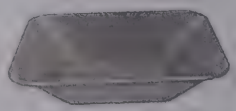
### MIXING BOX

11 cu. ft. capacity mixing box for hand mixing concrete, cement, mortar and other compounds. Heavy gauge steel with black enamel finish. Dimensions: 64L x 36W x 11"D. Jackson brand (40MB).

**No. 3ZC38.** Shpg. wt. 67.0 lbs. List $213.10. Each.....$134.95▲

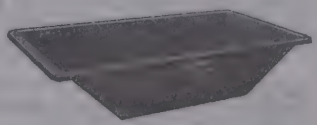
(▲) Net prices, not subject to discounts.

Jackson



No. 3ZC36
Mortar Pan

Long-wearing, chip-resistant finish



No. 3ZC38
Mixing Box

# ELECTRONIC INSECT KILLERS

## RESIDENTIAL LANTERN STYLE INSECT KILLERS

**Flowtron Electronic Insect Killers safely destroy a variety of light-sensitive flying insects.** No chemicals, sprays or poisons that are harmful to the environment or to which insects can become immune. Easy to install. Simply mount and plug in. Operate on 120 VAC. For outdoor use only.

**Long lasting, high intensity black light** provides maximum luring power to kill mosquitoes, moths, millers, gnats, flies, and mites. Electronically charged, self-cleaning vertical rod grid disposes of insects. Outer enclosure prevents harm to humans, pets, and wildlife, yet it allows bugs to fly through. Weatherproof Lexan top and body. Heavy-duty transformer provides reliable operation year after year. Killing grid voltage is 5600V at 9 MA. UL Listed (E51021); CSA Certified (LR88967). Meet EPCA standards. Flowtron brand.

**No. 2W545** has a U-shaped 40 watt black light for luring range up to 1 acre.

**No. 2W579** has two 40 watt U-shaped black lights for luring range of 1½ acres.

FLOWTRON®

Replacement Parts Available 1-800-323-0620



NO. 2W545 40 WATTS

NO. 2W579 80 WATTS

| Total Watts Black Light | Acres | Dimensions (In.) Height | Width | Depth | Flowtron Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 40 | 1 | 16¼ | 9¾ | 9¾ | BK-40-D | 2W545 | $53.50 | 7.6 |
| 80 | 1½ | 19¾ | 11 | 11 | BK-80-D | 2W579 | 75.10 | 12.0 |

## COMMERCIAL/INDUSTRIAL AGRI-BUSINESS INSECT KILLERS

FLOWTRON



No. 2W546 80 Watts



No. 3ZF09 120 Watts



No. 2W547 120 Watts

E51021 LR88967

Replacement Parts Available 1-800-323-0620

**These electronic insect killers are used where flying insects are a threat to sanitation** such as in restaurants, hospitals, food processing plants, supermarkets, stables, and barns. Coverage is primarily for fly control. Flowtron commercial insect killers incorporate exclusive glo-panel reflectors to reradiate black light for more luring power. Fly sex pheromone is included to extend unit's effectiveness in luring and killing house and garbage flies during daylight hours. Operate on 120 VAC. Flowtron brand. UL Listed (E51021); CSA Certified (LR88967).

**No. 2W546 Commercial/Industrial-Duty Model** for indoor use only. Mounts on wall. Uses two 40 watt U-shaped black lights for luring range up to 1200 sq.-ft. Killing grid voltage is 5600V at 9MA.

**No. 3ZF09 Commercial/Industrial/Agri-Business Duty Model** for indoor applications. Mounts on wall. Uses three 40-watt U-shaped high intensity black light bulbs for luring range up to 1500 sq.-ft. Killing grid voltage is 5600V at 9MA.

**No. 2W547 Agri-Business Duty Model** can be used indoors and outside. Mounts on wall or may be suspended from ceiling or pole. Utilizes glo-tube and three 40 watt black lights for luring range up to 2000 sq.-ft. inside and up to two acres outside. Killing grid voltage is 5600V at 9MA.

| Total Watts Black Light | Coverage Sq.- Ft. | Dimensions (In.) Height | Width | Depth | Flowtron Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 80 | 1200 | 18 | 15¼ | 5 | FC7600 | 2W546 | $226.75 | 14.0 |
| 120 | 1500 | 25¾ | 15¼ | 5 | FC7800B | 3ZF09 | 253.50 | 14.0 |
| 120 | 2000 | 25¼ | 13⅜ | 13⅜ | FC8800C | 2W547 | 275.50 | 25.0 |

# ELECTRONIC BUG KILLER AND ACCESSORIES

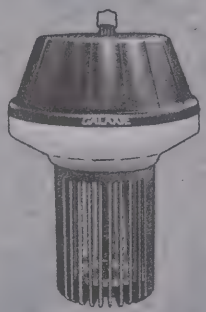
## GALAXIE® VACUUM-ACTION ELECTRONIC INSECT KILLER

- **Sucks in bugs that might not otherwise be destroyed**
- **Covers up to ¾ acre**
- **Rugged construction**
- **Environmentally safe**
- **Easy bulb replacement**

Mosquitoes tend to fly around conventional bug killers and avoid capture. This space-age axial fan develops 120 cu-ft. of air which passes through louvers to produce an air flow pattern that actually draw's mosquitoes and other flying insects into the unit's 5600 Volt killing grid. A patented non-clogging feature ensures clean, quiet, and effective kills. The tough polycarbonate housing won't rust, crack or fade. The outer enclosure protects children, pets, birds, and other wildlife from danger. There are no fogs, poisons, or chemicals to harm the environment. The large, 8" round diameter ultraviolet bulb has 30 watts of luring power and is long-lasting, yet easy to replace. Measures 10¾W x 14¼H x 10¾"D. Flowtron® brand (GAL-35).

**New No. 4LV50.** Shpg. wt. 7.2 lbs.
Each ..... $69.95

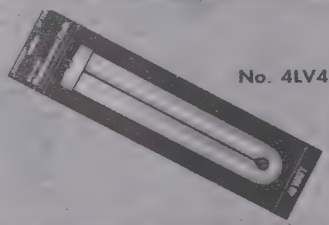
FLOWTRON® New



## BLACKLIGHT REPLACEMENT BULBS

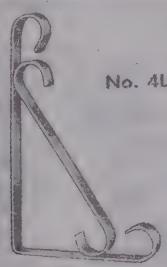
- **Use to lure flying insects into bug killers**
- **Use in barns, resturants, warehouses, indoors and out**
- **40 watt ultraviolet light**
- **Available in U or straight shape**
- **Flowtron brand**

FLOWTRON® New




| Description | Bulb Shape | For Use in Nos. | Dimensions (In.) H | W | D | Flowtron Model | New! Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **40W Ultraviolet** | U-Shape | — | 19½ | 4⅛ | 1⅛ | BF100 | **4LV42** | **$20.95** | 1.2 |
| **40W Ultraviolet** | U-Shape | 3ZF09, 2W547 | 18¾ | 5 | 1⅜ | BF130 | **4LV43** | **27.95** | 0.5 |
| **40W Ultraviolet** | U-Shape | 2W579 | 16½ | 4⅛ | 1⅛ | BF150 | **4LV44** | **12.95** | 0.5 |
| **40W Ultraviolet** | U-Shape | 2W546 | 14½ | 4⅛ | 1⅛ | BF175 | **4LV45** | **14.95** | 0.5 |
| **40W Ultraviolet** | U-Shape | 2W545 | 14 | 4¼ | 1½ | BF190 | **4LV46** | **12.95** | 0.5 |
| **40W Ultraviolet** | U-Shape | — | 16½ | 7⅞ | 3¼ | BF60 | **4LV47** | **25.95** | 1.3 |
| **40W Ultraviolet** | Straight | — | 21⅜ | 3 | 2¼ | BF70 | **4LV48** | **14.95** | 0.8 |

FLOWTRON®







New

No. 4LV49

## WALL BRACKET

- **Weatherproof**
- **Durable, welded 1" steel construction**
- **Locking feature helps revent theft**

1" diameter steel tubing with a welded steel scroll features a unique locking feature that makes it hard to steal. Flowtron brand (SB300A).

**New No. 4LV52.** Shpg. wt. 0.7 lbs.
Each ..... $5.95

## MOSQUITO ATTRACTANT

- **Makes insect killer more effective in killing certain mosquitos and biting insects**
- **Effective for up to 400 hours**
- **Dimensions: 7½H x 5¼W x ½"D**
- **Flowtron brand (MA-1000)**

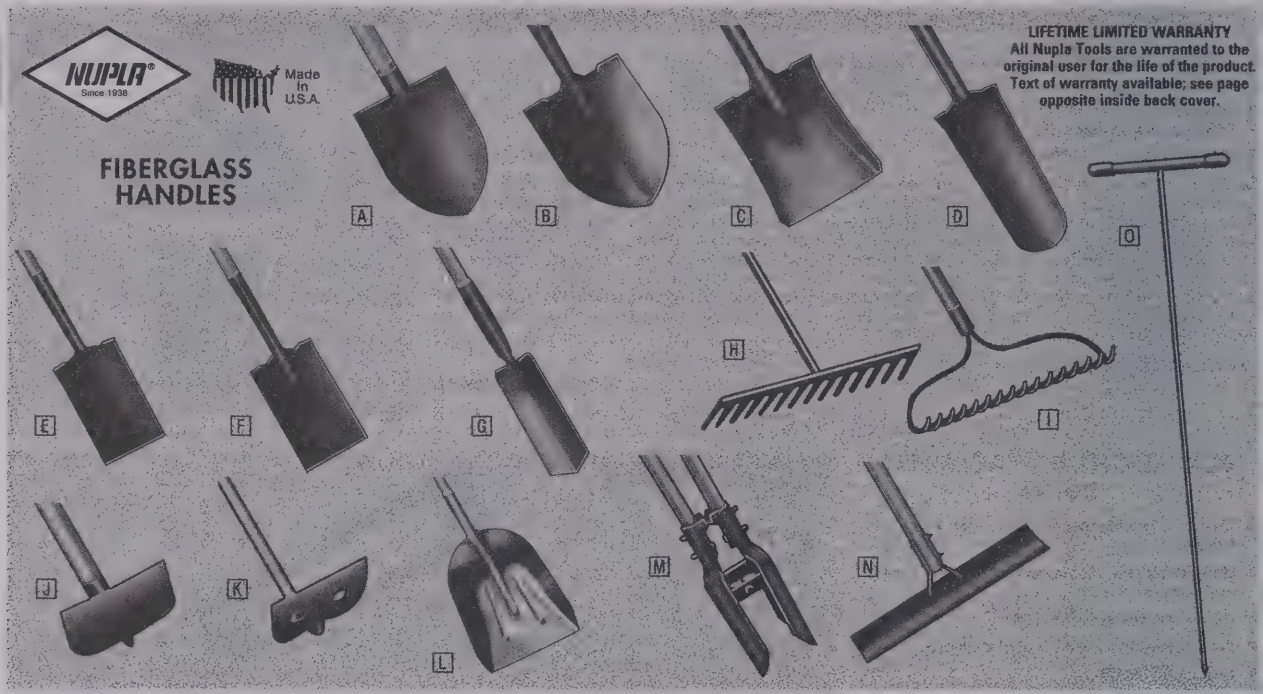
**New No. 4LV51.** Shpg. wt. 0.1 lbs.
Each ..... $4.95

## SUPPLEMENTAL FLY LURE

- **Attaches right onto the outer screen to provide 24 hours luring power**
- **Effective for 30 days**
- **Dimensions: 7½H x 5¼W x ½"D**
- **Flowtron brand (FA-5000)**

**New No. 4LV49.** Shpg. wt. 0.2 lbs.
Each ..... $2.95

# SHOVELS, SPADES, RAKES, HOES, POST HOLE DIGGER, AND SOIL PROBE




## POWER PYLON™

- Features ergonomic handle, full length step, solid back blade with large volume capacity
- Power Pylon one-piece construction eliminates weak link rivets for maximum strength

## REPLACEMENT HANDLE

- No. 3MD34 will fit all shovel blade styles

## E-SERIES®

- Ergonomic design for reduced fatigue
- Polypropylene outer jacket resists U.V. deterioration and protects user from splinters
- Resist industrial chemicals
- Easily cleaned of concrete, tar, etc.
- 100% weather-resistant

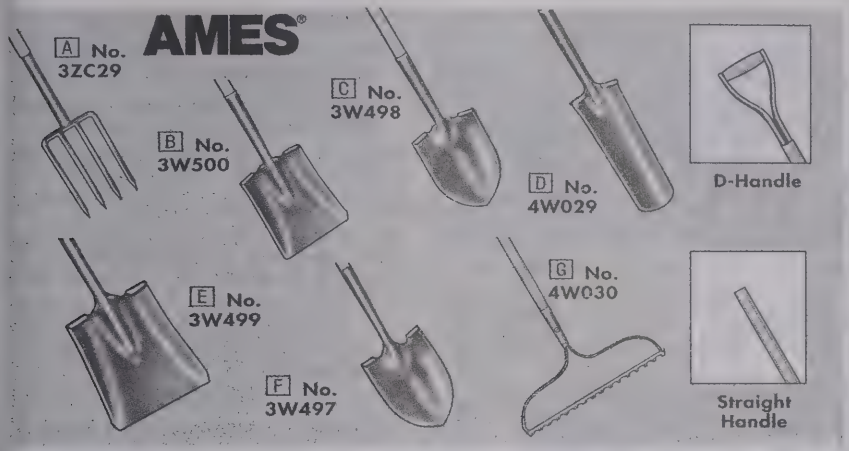
## PRO-TEC CLASSIC®

- Vinyl sleeve completely encapsulates fiberglass core eliminating splintering and abrasion
- Resist industrial chemicals and U.V. deterioration
- Easily cleaned of concrete, tar, etc.
- 100% weather-resistant

| Key | Description | Blade Size (In.) | Handle Type | Handle Length (In.) | Nupla Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Round Point Shovel—Power Pylon | 8.5 x 11.5 | D-Handle | 27" E Series | RP14DPY-E | **3MD51** | $39.20 | **$35.30** | 4.7 |
| A | Round Point Shovel—Power Pylon | 8.5 x 11.5 | Straight | 48" E Series | RP14LPY-E | **3MD52** | 39.20 | **35.30** | 5.5 |
| B | Round Point Shovel—16 Gauge | 8.5 x 11.5 | D-Handle | 27" E Series | RP2D-E | **3MD53** | 31.10 | **24.88** | 3.7 |
| B | Round Point Shovel—16 Gauge | 8.5 x 11.5 | Straight | 48" E Series | RP2L-E | **3MD54** | 31.10 | **24.88** | 4.7 |
| C | Square Point Shovel—16 Gauge | 9 x 12 | D-Handle | 27" E Series | SP2D-E | **3MD55** | 31.10 | **28.00** | 4.7 |
| C | Square Point Shovel—16 Gauge | 9 x 12 | Straight | 48" E Series | SP2L-E | **3MD56** | 31.10 | **28.00** | 5.5 |
| D | 14" Drain Spade | 4.75 x 14 | D-Handle | 27" E Series | SS14D-E | **3MD57** | 36.30 | **32.70** | 5.0 |
| D | 14" Drain Spade | 4.75 x 14 | Straight | 48" E Series | SS14L-E | **3MD58** | 36.30 | **32.70** | 5.7 |
| E | Garden Spade Shovel | 7.750 x 12 | Straight | 48" E Series | GS2L-E | **3MD44** | 37.86 | **34.10** | 5.5 |
| F | Roofer's Spade Shovel | 7.375 x 12 | Straight | 48" E Series | R2SL-E | **3MD50** | 36.30 | **32.70** | 6.2 |
| G | 4" V-Type Trenching Shovel | 4 x 12 | Straight | 48" E Series | TS-V4-E | **3MD59** | 39.37 | **35.45** | 3.8 |
| G | 5" V-Type Trenching Shovel | 5 x 12 | Straight | 48" E Series | TS-V5-E | **3MD60** | 39.37 | **35.45** | 4.2 |
| — | 48" Replacement Shovel Handle | — | Straight | 48" E Series | 48LHS-E | **3MD34** | 19.89 | **17.90** | 2.4 |
| H | Asphalt Rake | 17" Wide | Straight | 60" Protec | AR14T-P | **3MD38** | 78.63 | **70.80** | 5.6 |
| I | 16-Tine Forged Bow Rake | 16" Wide | Straight | 60" Protec | BR16T-P | **3MD40** | 54.08 | **48.70** | 3.9 |
| J | General Purpose Hoe, Forged | 7 x 5 | Straight | 60" Protec | CH75-P | **3MD42** | 40.62 | **36.60** | 3.6 |
| K | Mortar Hoe, Forged | 10 x 6 | Straight | 66" Protec | MMH10-P | **3MD45** | 51.95 | **46.80** | 3.4 |
| L | #10 Aluminum Scoop | 14.5 x 17.75 | D-Handle | 27" E Series | AGS10D-E | **3MD36** | 58.57 | **52.75** | 3.5 |
| L | #10 Aluminum Scoop | 14.5 x 17.75 | Straight | 48" E Series | AGS10L-E | **3MD37** | 58.57 | **52.75** | 4.5 |
| M | Post Hole Digger | 9.5 x 6.5 | Straight | 48" Protec | PHD4-P | **3MD47** | 94.57 | **85.15** | 12.0 |
| N | Concrete Kumalong with Hook | 20" Wide | Straight | 66" Protec | CC20H-P | **3MD41** | 56.37 | **50.75** | 5.2 |
| O | Soil Probe/Locator | — | Straight | 48" T-Grip | PRB4-T | **3MD49** | 22.77 | **20.49** | 2.0 |



*If you use it outside, you'll find it in here.*




## KODIAK® MEDIUM GRADE TOOLS

ALL TOOLS:

- Built for medium-grade use
- Tough northern ash wood handles
- Wood is firmly locked in place to prevent twisting
- Exclusive "Armor D" handle design completely encases wood on "D" handle tools for maximum strength

SHOVEL FEATURES:

- Lightweight, hollow-back design with blade and socket of 1-piece tempered steel
- 14-gauge blades with forward turned steps

| Key | Description | Blade Size (In.) | Handle Type | Handle Length (In.) | Ames Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Spading Fork | 7⅛ x 10¾ † | D-Handle | 30 | 18-035 | **3ZC29** | $41.70 | **$39.65** | 4.4 |
| B | Square Point Shovel | 9¾ x 11½ | D-Handle | 30 | 13-093 | **3W500** | 36.50 | **28.35** | 4.5 |
| C | Round Point Shovel | 8¾ x 11¾ | D-Handle | 30 | 13-096 | **3W498** | 36.50 | **22.95▲** | 4.0 |
| D | 16" Drain Spade | 5½ x 16 | D-Handle | 30 | 15-770 | **4W029** | 40.60 | **33.95** | 4.3 |
| E | Square Point Shovel | 9¾ x 11½ | Straight | 48 | 13-095 | **3W499** | 32.40 | **25.20** | 4.3 |
| F | Round Point Shovel | 8¾ x 11¾ | Straight | 48 | 13-098 | **3W497** | 32.40 | **17.95▲** | 3.8 |
| G | Forged Bow Rake | 16 ¾* | Straight | 60 | 18-863 | **4W030** | 38.30 | **23.95▲** | 5.2 |

(*) Head width. (†) 4 Fork tines instead of blade. (▲) Net prices, not subject to discounts.



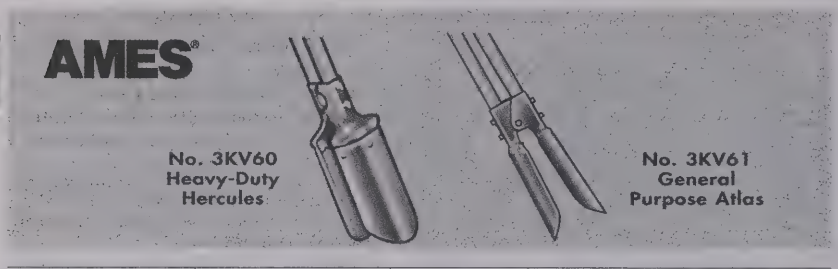

## PONY® PROFESSIONAL TOOLS

- Built for heavy-duty demands of contractors and industrial users
- Tough northern ash wood handles for extra strength and perfect balance
- Exclusive "Armor D" handle design completely encases wood on "D" handle tools for maximum strength
- Wood is firmly locked in place to prevent twisting
- Blades, shank, and socket on all tools except lute are forged from one solid bar of steel, and blade is tempered to provide superior hardness with proper ductility
- Mortar mixer hoe has strong, solid steel edge and perforated blade
- Asphalt lute has an aluminum handle

| Key | Description | Blade Size (In.) | Handle Type | Handle Length (In.) | Ames Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 16" Drain Spade | 5½ x 16 | D-Handle | 27 | 12-311 | **3W438** | $69.10 | **$57.40** | 4.3 |
| B | Square Point Shovel | 9½ x 12 | D-Handle | 27 | 12-009 | **3W434** | 61.30 | **50.85** | 5.0 |
| C | Round Point Shovel | 8¾ x 11¾ | D-Handle | 27 | 12-015 | **3W436** | 61.20 | **50.80** | 4.6 |
| D | Square Point Shovel | 9 ¾ x 12 | Straight | 47 | 12-011 | **3W435** | 58.50 | **48.55** | 5.0 |
| E | Round Point Shovel | 8 ¾ x 11¾ | Straight | 47 | 12-019 | **3W437** | 58.50 | **32.95▲** | 4.3 |
| F | Mortar Mixer Hoe | 10 x 6 | Straight | 66 | 18-884 | **3W439** | 52.90 | **43.80** | 4.3 |
| G | Heavy-Duty Road Rake | 17⅞" Wide | Straight | 66 | 18-806 | **5W758** | 62.90 | **51.95** | 4.6 |
| H | Asphalt Lute | 36" Wide | Straight | 82 | 19-100 | **3ZC25** | 87.80 | **72.90** | 5.7 |

(▲) Net prices, not subject to discounts.

# POST HOLE DIGGERS, SCOOPS, AND RAKES



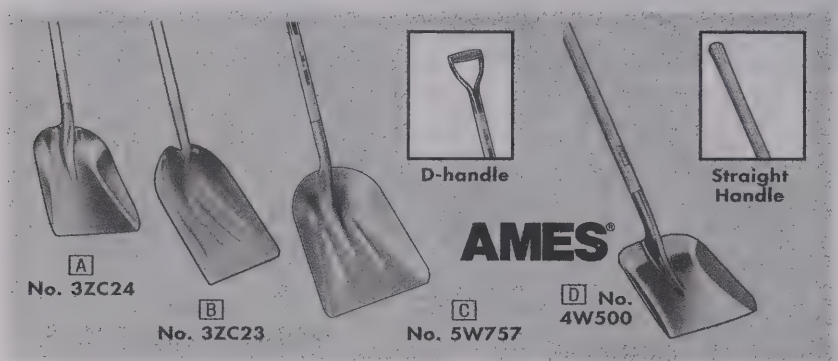

## POST HOLE DIGGERS

- **Make quick work of digging into hard, heavy gravel soils**
- **Tough, high carbon blades are bolted to 48" long hardwood handles**

**Heavy-Duty Hercules Post Hole Digger No. 3KV60** is built for extremely hard soils. Blades are 6¼" apart when fully opened. Blades riveted to steel frames.

**Kodiak® General Purpose Atlas Post Hole Digger No. 3KV61** is built for general purpose digging. Blades are 5¾" apart when fully opened.

| Description | Distance Between Blade Tips (In.) | Handle Length (In.) | Ames Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Heavy-Duty Hercules** | 6¼ | 48 | 17-061 | **3KV60** | $69.90 | **$41.95** | 11.0 |
| **General Purpose Atlas** | 5¾ | 48 | 17-057 | **3KV61** | 55.10 | **30.95** | 8.3 |




## SCOOPS

- **Excellent for handling larger loads of grain, feed, snow, dirt, coal, etc.**
- **Tough northern ash wood handles for extra strength and perfect balance**
- **Exclusive "Armor D" handle design completely encases a wooden "D" in the handle for maximum strength on Nos. 3ZC24 and 5W757**
- **Power "D" handle on No. 3ZC23**

**No. 3ZC24 #2 Eastern Pattern Steel Scoop** has streamlined, narrower blade.

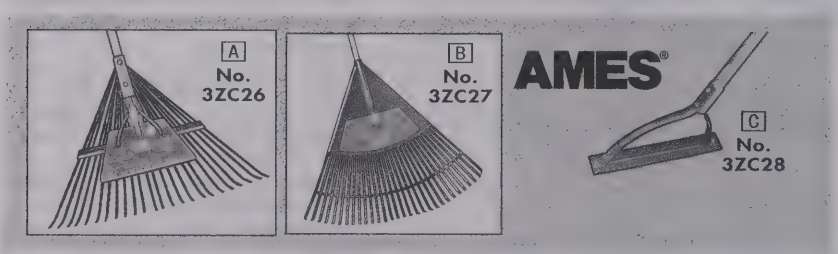
**No. 3ZC23 #12 Grain Hog® Poly Scoop** has wide, ribbed blade for large loads. Made of durable poly for lightweight and corrosion resistance.

**No. 5W757 #12 Aluminum Scoop** has lightweight aluminum blade.

**No. 4W500 Square Street Shovel** combines wide area of a scoop with the control of a long-handled shovel.

| Key | Description | Blade Size (In.) | Handle Length (In.) | Handle Type | Ames Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **A** | Eastern Pattern | 11 x 15 | 27 | D-handle | 13-117 | **3ZC24** | $44.70 | **$37.15** | 5.6 |
| **B** | Grain Hog® | 14¼ x 19 | 27 | D-handle | 16-800 | **3ZC23** | 30.10 | **19.50** ▲ | 3.5 |
| **C** | #12 Aluminum | 15¼ x 19 | 27 | D-handle | 16-712 | **5W757** | 50.90 | **30.95** ▲ | 4.0 |
| **D** | Square Street Shovel | 11 x 13½ | 48 | Straight | 16-324 | **4W500** | 22.60 | **14.50** ▲ | 5.0 |

(▲) Net prices, not subject to discounts.




## RAKES AND WEED WHIP

**No. 3ZC26 Kodiak® Deluxe Spring Brace Rake.** Spring steel construction. 23½" wide head with 24 tines. Bolt thru handle assembly. Professional duty. Wooden handle.

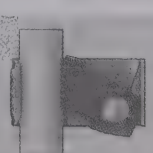
**No. 3ZC27 Ideal Greensweeper® Rake.** Extra wide 30" head with 30 tines. High impact plastic head. Well suited for professional landscapers, park district crews, and lawn and garden applications. Wooden handle.

**No. 3ZC28 Weed Whip.** Well suited for lawn and garden uses—for cutting back weeds and tall grass. Wooden handle.

| Key | Description | Head Width (In.) | Handle Length (In.) | Ames Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A** | Deluxe Spring Brace Rake | 23½ | 54 | 19-237 | **3ZC26** | $21.20 | **$13.25** ▲ | 2.7 |
| **B** | Ideal Greensweeper Rake | 30 | 48 | 19-230 | **3ZC27** | 15.10 | **9.95** ▲ | 2.7 |
| **C** | Weed Whip | 14 | 30 | 19-450 | **3ZC28** | 20.70 | **17.15** | 2.5 |

(▲) Net prices, not subject to discounts.

**Bassick**

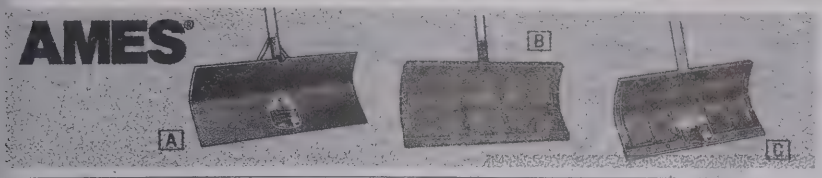


## HAND-L-HOLD STORAGE DEVICE

**Hand-L-Hold Clamp** provides convenient storage for mops, brooms, garden tools, and hoses. Nonmarking natural rubber and positive spring action provide secure grip around handles. Predrilled for easy mounting. Brass plated for rust protection. 1⅛" handle diameter capacity. Bassick brand.

**No. 6A111.** Shpg. wt. 0.2 lbs. List $2.12. Each **$1.46;** Lots 6 ..... **$1.31**

# SNOW SHOVELS, SCRAPERS, AND ICE MELTER




| Key | Description | Blade Size (In.) | Handle Length (In.) | Ames Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Snow Pusher with Braces | 12 x 30 | 48 | 16-427 | **5W936** | $46.90 | **$38.85** | 11.0 |
| B | Snow Pusher/Shovel | 12 x 24 | 48 | 16-426 | **4W603** | 25.70 | **16.95** ▲ | 7.5 |
| C | Snow Pusher, Aluminum | 12 x 24 | 48 | 15-371 | **5W935** | 32.00 | **19.95** ▲ | 5.0 |

## SNOW PUSHERS

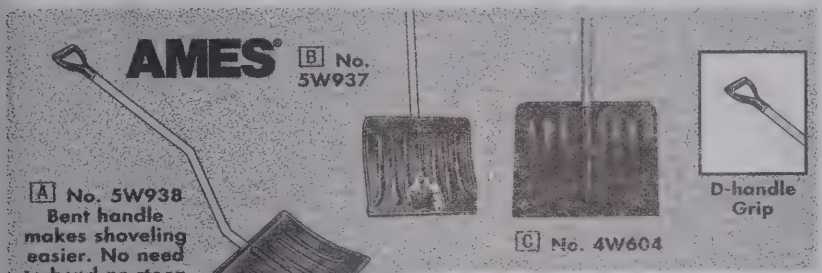
All snow pushers have non-stick finishes and extra long, lacquer-coated handles for moisture protection and long wear.

**No. 5W936.** Heavy-duty carbon steel blade with steel reinforcing braces.

**No. 4W603.** Heavy-duty carbon steel blade construction.

**No. 5W935.** Aluminum blade construction with steel wear strip for longer wear.

(▲) Net prices, not subject to discounts.

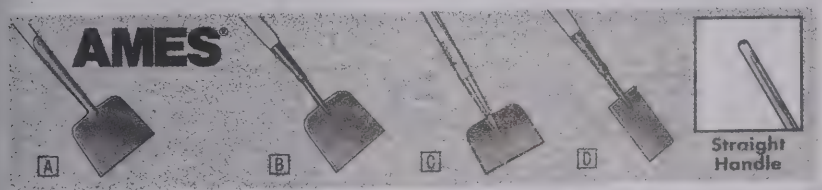



## SNOW SHOVEL

- **Ruggedly built for years of service**
- **Aluminum blade shovels have steel wear strip for longer wear**
- **Polyethylene D-handle grip for comfort; retains strength at extremely low temperatures**
- **All winter tool handles are lacquer coated to seal against moisture and for better appearance**
- **Nonstick finish; reinforced ribs**

(▲) Net prices, not subject to discounts.

| Key | Description | Blade Size (In.) | Handle Length (In.) | Ames Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Bent-handle Shovel | 14½ x 18 | 39 | 16-389 | **5W938** | $36.40 | **$22.95**▲ | 4.8 |
| B | Aluminum Shovel | 14½ x 18 | 39 | 16-387 | **5W937** | 26.90 | **22.25** | 4.0 |
| C | Snow Shovel | 14½ x 18 | 33 | 16-409 | **4W604** | 22.00 | **14.95**▲ | 5.8 |




## SCRAPERS

Use for scraping/chopping ice, removing old roof shingles and linoleum, general maintenance and scraping concrete forms.

**No. 5W940.** Heavy-duty solid shank forged steel scraper.

**No. 5W939.** Heavy-duty socket patterned forged steel scraper.

**No. 5W759.** Forged shank scraper with chrome ferrule.

**No. 5W941.** Forged ice chisel with narrow blade. Ideal for stairs and tight areas.

(▲) Net prices, not subject to discounts.

| Key | Description | Blade Size (In.) | Handle Length (In.) | Ames Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Solid Shank Scraper | 8½ x 6 | 48 | 16-458 | **5W940** | $52.50 | **$43.60** | 3.6 |
| B | Socket Pattern Scraper | 7 x 6 | 48 | 16-463 | **5W939** | 33.90 | **20.95** ▲ | 4.8 |
| C | Chrome Ferrule Scraper | 7 x 5 | 48 | 16-462 | **5W759** | 26.90 | **21.95** | 3.6 |
| D | Ice Chisel/General Scraper | 3¼ x 6¼ | 48 | 19-408 | **5W941** | 36.90 | **30.45** | 3.5 |

## ICE MELTING COMPOUND

Women-Owned Business




No. 4W973

| COMPARISON CHART FOR ICE MELTER PRODUCTS | Premiere | Salt | Potassium Chloride | Calcium Chloride |
|---|---|---|---|---|
| Metal Corrosion Inhibitors | x | | | |
| Anti-Caking Agents | x | | | |
| Safer on Vegetation | x | | | |
| Colored Product | x | | | |
| Safer on Skin | x | x | x | |
| Safer on Leather | x | x | x | |
| Safer on Carpets & Floors | x | x | x | |
| No Protective Clothing Needed | x | x | x | |
| Freezing Point | -8°F | -5°F | 12°F | -59°F |

- **Industrial strength formulation**
- **Granulated; won't cake up**
- **Helps increase surface traction**
- **Safer de-icer than calcium chloride**
- **Non-toxic when used as directed**

Premiere Ice Melter with its patented inhibitor system containing CMA (Calcium, Magnesium Acetate) offers a fast-acting, safer, effective ice melter. Premiere's de-icing capabilities result in a longer-lasting residual coating action and is effective to –8° F.

**No. 4W973.** 50 lb. cardboard carton.

**No. 4W974.** Reusable 100 lb. drum.

**NO PREPAID FREIGHT ALLOWED ON THIS PRODUCT. CUSTOMER IS RESPONSIBLE FOR ALL FREIGHT CHARGES.**

| Description | Premiere Model | Stock No. ❶ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **50 lb. Carton** | CPM050P | **4W973** | $20.96 | **$17.82**▲ | 52.0 |
| **100 lb. Reusable Drum** | CPM100P | **4W974** | 50.35 | **42.80**▲ | 105.0 |

Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

● These products are covered by OSHA Hazard Communication Standard, and

# HAMMERS, AXES, PICKS, AND BARS




| Key | Description | Head Wt. (Lbs.) | Handle Length (In.) | Mfr. | Mfr's. Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | **HAMMERS** | | | | | | | | |
| **A** | Double Face Sledge Hammer | 8 | 36 | Collins | OS-8 | **2A638** | $23.37 | **$22.20** | 9.0 |
| **A** | Double Face Sledge Hammer | 10 | 36 | Collins | OS-10 | **4A288** | 27.80 | **26.45** | 11.0 |
| **A** | Double Face Sledge Hammer | 12 | 36 | Collins | OS-12 | **4A289** | 33.98 | **32.30** | 13.0 |
| — | Replacement 36" Handle for Nos. 2A638, 4A288 & 4A289 | — | 36 | Vaughan | 67363 | **6D036** | 6.70 | **6.59** | 1.7 |
| | **AXES AND WEDGE** | | | | | | | | |
| **B** | 4 Lb. Wedge | 4 | — | Collins | S4WG | **4A286** | 8.74 | **8.30** | 4.0 |
| **C** | Michigan Axe | 3½ | 34 | Collins | H3½MI | **4A284** | 24.57 | **23.34** | 5.0 |
| — | Replacement 36" Handle for No. 4A284 | — | 36 | Vaughan | 65363 | **6D034** | 7.30 | **6.99** | 1.8 |
| **D** | Axe Eye Maul | 8 | 34 | Collins | S8MA | **4A285** | 26.15 | **24.84** | 10.0 |
| — | Replacement 36" Handle for No. 4A285 | — | 36 | Vaughan | 65513 | **6D035** | 7.30 | **6.99** | 1.7 |
| | **PICK/MATTOCK** | | | | | | | | |
| **E** | Pick/Mattock with Handle Guard over Hickory Handle | 5 | 36 | Collins | PM5WH | **6D020** | 24.09 | **22.89** | 8.7 |
| — | Replacement 36" Handle for No. 6D020 | — | 36 | Vaughan | 68363 | **6D037** | 8.95 | **8.79** | 2.4 |
| **F** | Pick Mattock | 5 | 36 | Nupla | PM-5H-ESG | **3MD48** | 48.07 | **43.30** | 9.0 |
| **G** | Replacement 36" Handle for No. 3MD38 | — | 36 | Nupla | NS6-1ESG | **3MD46** | 23.35 | **21.02** | 3.0 |
| | **DIGGING BARS** | | | | | | | | |
| **H** | 6-Ft. Digging Bar with Tamping End | — | 72 | Collins | DB-16 | **4A293** | 33.98 | **32.30** | 17.0 |
| **I** | 6-Ft. Digging Bar with Wedge | — | 72 | Nupla | DBW6 | **3MD43** | 81.59 | **73.45** | 1.5 |

**TECHNICAL REFERENCE LITERATURE**

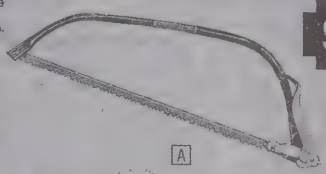
Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics
See Index under Books.

# PRUNERS, SHEARS, SAWS AND LOPPERS

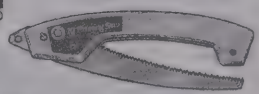
FISKARS® Made in U.S.A.

- Made in USA—Power Lever items carry a full warranty
- Hand tools feature precision ground blades; cushioned textured vinyl grips

STANLEY®



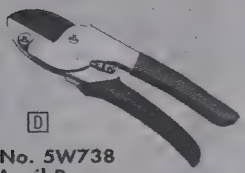
A No. 3ZF02 21" Bow Saw



C No. 3ZF03 10" Folding Saw



B No.1C077 30" Bow Saw



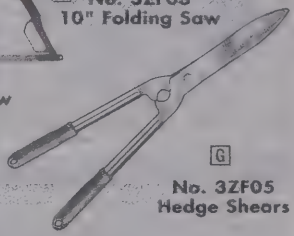
D No. 5W738 Anvil Pruner



E No. 3ZF06 By-Pass Pruner



F No. 5W740 Grass Shears



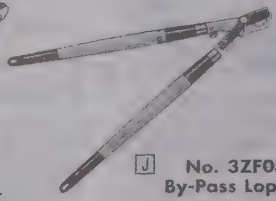
G No. 3ZF05 Hedge Shears



H No. 5W739 Hedge Shears



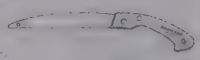
I No. 5W741 Anvil Lopper



J No. 3ZF04 By-Pass Lopper



K No. 5R820 Pruning Saw



L No. 4JV60 Short Cut Pruning Saw

### A 21" BOW SAW

Heavy-duty, welded steel tube. Smooth rust-resistant surface. Easy blade release. Blade rivets are permanently attached. Includes 21" Hard Point hardened Denmark steel blade.

### A 21" BOW SAW BLADE

Hard Point hardened Denmark steel. Replacement for use on 21" bow saws.

### B 30" BOW SAW

Heavy-duty, aggressive "American" style tooth for fast, smooth cutting. Hand guard offers protection from cuts and bruises. Hard point teeth last longer than conventional teeth.

### C 10" BLADE FOLDING SAW

Cuts cleaner with less scarring to trees. Starts and cuts without grabbing or binding. Easy to keep sharp. Blade folds into handle. Push-button safety latch locks blade.

### D ANVIL PRUNER

Power Lever cutting action. Chrome-plated steel handles with cushioned grips. Non-stick coated blade.

### E BY-PASS PRUNER

Non-stick coated steel blade. All-steel construction with chrome-plated body. Cushion grip, enclosed spring, and safety latch. By-Pass design provides a closer, cleaner cut without bruising.

### F GRASS SHEARS

Power Lever self-sharpening cutlery blades. Foam cushioned grips. Right or left hand safety latch. 5" blades. Patented Gator Blade serrations.

### G 8" HEDGE SHEARS

Four-pivot Power Lever action provides 50% more cutting power. 8" steel blades. Serrated top blade holds branches securely during cutting. Tubular steel handles with textured grips.

### H 10" HEDGE SHEARS

Power Lever cutting action, non-stick coated bottom blade. Stainless steel top blade. Serrated blade grasps and holds for improved cutting action. Lightweight fiberglass handles with cushioned grips. 10" blades.

### I ANVIL LOPPER

Power Lever cutting action with non-stick coated carbon steel blade. Northern hardwood handles have 28" overall length. Adjustable/replaceable anvil. 1⅞" cutting capacity.

### J BY-PASS LOPPER

Dual-pivot compound Power Lever cutting action, providing 50% extra power. Focuses power where resistance is the greatest. Non-stick coated carbon steel blade. 2" cutting capacity. Ash handles with cushioned grips.

### K STRAIGHT DOUBLE-EDGE PRUNING SAW

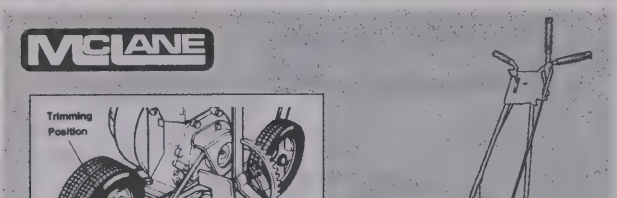
Hardened, tempered blade. One edge has sharp crosscut teeth for finish stroke and barking; other edge has coarse "Champion" teeth for easy sawing in green wood. Natural hardwood handle with lacquered finish.

### L SHORT CUT PRUNING SAW

Fast, efficient cuts in green and wet wood. Razor sharp Short Cut teeth cut on both pull and push stroke. Comfortable hardwood handle. Curved for improved cutting leverage; flared for safety and control. Folds closed for safe, convenient storage.

| Key | Description | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 21" Bow Saw | Fiskars | 7029 | **3ZF02** | $13.30 | **$9.96** | 1.2 |
| A | 21" Bow Saw Blade | Fiskars | 7025 | **3ZF01** | 4.95 | **3.71** | 0.2 |
| B | 30" Bow Saw | Stanley | 15-453 | **1C077** | 13.29 | **9.49** | 2.0 |
| B | 30" Bow Saw Replacement Blade | Stanley | 15-448 | **1C079** | 4.60 | **3.39** | 1.9 |
| C | 10" Blade Folding Saw | Fiskars | 7917 | **3ZF03** | 21.10 | **15.80** | 0.6 |
| D | Anvil Pruner | Fiskars | 9110 | **5W738** | 19.55 | **14.63** | 0.8 |
| E | By-Pass Pruner | Fiskars | 9109 | **3ZF06** | 21.50 | **16.10** | 0.6 |
| F | Grass Shears | Fiskars | 7820 | **5W740** | 25.70 | **19.24** | 1.0 |
| G | 8" Hedge Shears | Fiskars | 9190 | **3ZF05** | 33.35 | **24.99** | 2.3 |
| H | 10" Hedge Shears | Fiskars | 9177 | **5W739** | 46.15 | **34.60** | 2.6 |
| I | Anvil Lopper | Fiskars | 9130 | **5W741** | 47.35 | **35.50** | 3.4 |
| J | By-Pass Lopper | Fiskars | 9152 | **3ZF04** | 54.90 | **41.15** | 3.8 |
| K | 18" Straight Double-Edge Pruning Saw | Stanley | 15-374 | **5R820** | 18.98 | **13.59** | 0.9 |
| L | 10 8 Pt. Short Cut Pruning Saw | Stanley | 20-230 | **4JV60** | 16.11 | **12.40** | 0.5 |

# EDGER/TRIMMER, CHIPPER/SHREDDER, AND POLE PRUNER

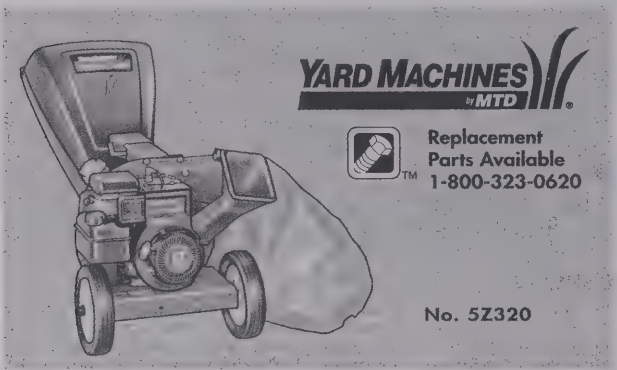



## EDGER/TRIMMER

- **Cutter assembly rotates 90° for edge or trimmer function**
- **8 cutting depths**

Powered by 3.5 HP Briggs & Stratton engine. Rugged, all-steel construction with 1/4 x 1¼" heavy cross-member frame. 4-wheel design for greater stability and control. Has 8" rim, ball bearing wheels with 2⅛" wide tires. Convenient lever control provides 8 depth selection plus clutch notch. Exclusive safety guard system has semi-enclosed blade guard with wide ricochet shield. Enclosed belt pulley guards. Blade is 2 x 9" spring steel 1075 material. Handle is 3/4" tubular, 14-gauge steel. Finish is powder coated, baked polyester for maximum chip and corrosion resistance. 6-position angle selector. McLane brand (801-3.5RP-CA).

**No. 3Z478.** Professional Edger/Trimmer. Shpg. wt. 64.0 lbs. List $423.95.
Each ..... **$299.00▲**




## CHIPPER/SHREDDER

- **5 HP Briggs & Stratton engine**
- **Handles 2" diameter branches**
- **Nylon bag included**

Powered by a 5 HP Briggs & Stratton engine. Three-stage chipping and shredding reduces leaves, branches, and limbs by a 10:1 ratio. The hopper can be lowered for rake-in shredding. The chipping arm will process branches up to 2" in diameter. Comes with 2.5 bushel nylon mesh bag for clean, convenient collection of discharged mulch. All blades and shredding knives are easily replaceable. Large 10 x 2.5" wheels for easy transport. Yard Machines by MTD brand (24A-462B000).

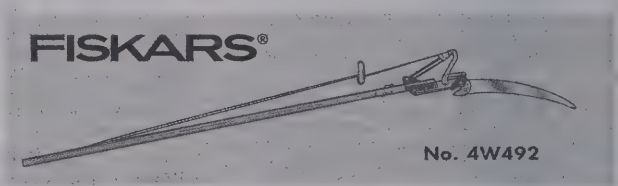
**No. 5Z320.** Chipper/Shredder. Shpg. wt. 161.0 lbs. List $625.00.
Each ..... **$529.00▲**

(▲) Net prices, not subject to discounts.

## POLE PRUNER

Telescoping fiberglass pole extends 6 to 12 feet and locks into place. Fully assembled 16" adjustable saw blade made of steel. Non-stick coated primary blade. Adjustable sliding hand grip. 1⅛" cutting capacity. Power Lever action with two pulleys. Fiskars brand (9235).

**No. 4W492.** Shpg. wt. 7.5 lbs. List $83.35.
Each ..... **$62.50**

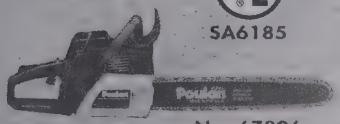



## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

Poulan

SA6185



No. 6Z826

Replacement Parts Available 1-800-323-0620

No. 3ZC84 Carrying Case



## HEAVY-DUTY GAS ENGINE CHAIN SAWS

**18 and 20" Heavy-duty Chain Saws.** High performance yet lightweight. 2.8, 3.3, and 3.7 cubic inch engines are suited for the heavy-duty cutting jobs of farmers, forestry department crews and homeowners.

**Antivibration system** reduces cutting vibrations as much as 78% through use of vibration-dampening padded handlebar, vibration isolators, and counterbalanced crankshaft. Lets operator work longer with easier handling and less fatigue.

**Two-cycle, one-cylinder, air-cooled engine** with 100% needle or ball bearing construction, lightweight magnesium or aluminum components, and quiet tone USDA-FS approved spark arresting muffler. Fully adjustable all-position diaphragm carburetor isolated with fuel tank from engine for cooler running. Sprocket nose guide bar reduces friction and prolongs bar life.

**Moisture and dustproof solid state ignition** combines with automatic rewind starter and large pulley to provide fast, easy starting.

**Adjustable automatic oiling** provides lubrication to bar and chain for longer life. This professional feature allows adjustment for bar lengths and wood types.

**Safety Features:** All Poulan chain saws meet or exceed ANSI Standards and feature handguard, reduced kickback guide bar and low kick chain to reduce hazard to the operator. Wide handle spacing gives these saws excellent balance and handling characteristics. All units are UL Listed (SA6185).

### CHAIN SAW CARRYING CASE

- **Constructed of rugged black plastic**
- **Use with Nos. 6Z824, 6Z825 and 6Z826**

**No. 3ZC84.** Shpg. wt. 7.6 lbs. List .....$55.50.
Each .....$39.00▲

| Bar & Chain Size (In.) | Chain Speed @ Peak Power (Ft. / Min.) | Engine Specifications Displ. (Cu. In.) | Bore (In.) | Stroke (In.) | Peak Power RPM | Fuel Tank Capacity (Ml.) | Series | Poulan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 3637 | 2.8 | 1.685 | 1.26 | 8500 | 410 | FarmHand™ | 2750-18 | **6Z824*** | $343.35 | **$279.00▲** | 17.0 |
| **20** | 3222 | 3.3 | 1.830 | 1.25 | 8500 | 549 | Forester® | 3300-20 | **6Z825*** | 447.00 | **319.00▲** | 18.0 |
| **20** | 3639 | 3.7 | 1.930 | 1.25 | 8500 | 549 | TimberMaster® | 3500-20 | **6Z826*** | 465.00 | **339.00▲** | 20.0 |

(*) Limited availability–Contact local branch.

Poulan

SA6185

Replacement Parts Available 1-800-323-0620



No. 6Z823

## GAS ENGINE CHAIN SAWS

**16 and 18" Gas Engine Chain Saws.** Available in 2.1 and 2.3 cubic inch displacement with professional features for the weekend wood cutter.

**Verticle cylinder design** with SuperClean™ air filter system and gear driven automatic oiler. Inside the engine, the main bearings are ball type and all needle bearings are cogged. The large volume muffler and powerful high RPM engine allow for fast cutting and quiet operation. Sprocket nose guide bar reduces friction and prolongs bar life. Primer bulb for easy starting.

**Safety Features:** All Poulan chain saws meet or exceed ANSI Standards and feature handguard, reduced kickback guide bar, and low kick chain to reduce hazard to the operator. Wide handle spacing gives these saws excellent balance and handling characteristics. All saws are UL Listed (SA6185).

### CHAIN SAW CARRYING CASE

- **Constructed of rugged black plastic**
- **Use with Nos. 4Z109 and 3W995**

**No. 3ZC84.** Shpg. wt. 7.6 lbs. List .....$55.50
Each .....$39.00▲

**LEG PROTECTION FOR CHAIN SAW USERS AVAILABLE.**
**See Chain Saw Chaps on page 2481**

| Bar & Chain Size (In.) | Chain Speed @ Peak Power (Ft. / Min.) | Engine Specifications Displacement (Cu. In.) | Bore (In.) | Stroke (In.) | Peak Power RPM | Fuel Tank Capacity (Ml.) | Series | Poulan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16** | 2934 | 2.1 | 1.499 | 1.26 | 8000 | 300 | Woodsman® | 2150-16 | **4Z109** | $210.00 | **$149.00▲** | 14.0 |
| **18** | 3118 | 2.3 | 1.619 | 1.26 | 8000 | 300 | WoodMaster® | 2450-18 | **3W995** | 283.35 | **195.00▲** | 15.0 |

(▲) Net prices, not subject to discounts.

**DON'T FORGET THE BACK OF THE BOOK!**
**MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# CHAIN SAWS

## GAS ENGINE CHAIN SAWS

Designed to provide powerful performance, durability, and ease of operation under demanding circumstances.

**ENGINE**—2-cycle, 1-cylinder, air-cooled engine has solid state electronic ignition, hard chrome plated cylinder for fast, easy starts, longer engine life. All-position carburetor has externally adjustable high and low speed jets. No. 4CN44 incorporates vertical cylinder engine which produces less heat, more power.

**OPERATION**—Rear handle design with foot plate/hand guard provides balance, comfort, safety. Sprocket tip bar increases bar & chain life. Gear driven automatic oiler on Nos. 4Z971 and 4Z972 delivers even, dependable flow to bar and chain. No. 4CN44 features clutch-activated, adjustable automatic gear-driven chain oiler which delivers oil to bar & chain only while chain is moving.

**SAFETY**—Feature Flag-Style Chain Brakes®/Hand Guard, low kick-back chain, chain catcher, safety trigger, throttle latch and muffler shield to protect operator. McCulloch chain saws meet ANSI Code B175.1 (1991) safety standards. UL Listed. Muffler and spark arrestor screen are approved by United States Forest Service (USFS).

### A 14" CHAIN SAW

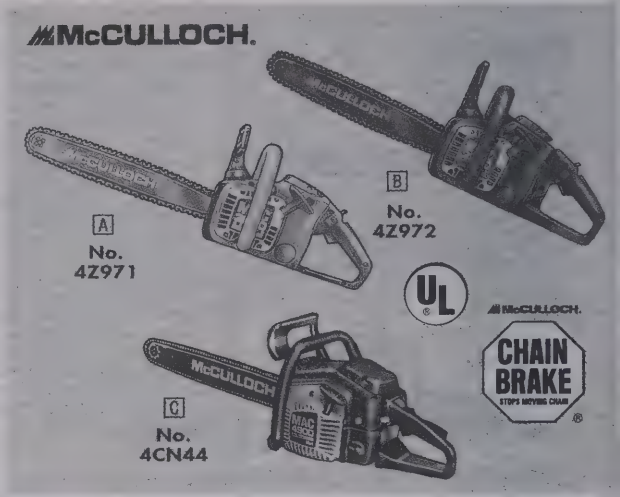
Lightweight, powerful saw handles home cutting chores such as trimming & shaping trees, cutting firewood, light carpentry.

**• 2.0 cu-in. •14" sprocket tip bar •Flag-style Chain Brake®/hand guard • Gear-driven automatic oiler • Rear-handle design • Primer carburetor • Chrome-plated cylinder**

### B 16" CHAIN SAW

Power, lightweight balance and anti-vibration feature for medium-duty cutting applications.

**• 2.1 cu-in. •16" Sprocket tip bar • Flag-style Chain Brake®/hand guard •Anti-vibration system • Chrome chain •Gear-driven automatic oiler •Chrome-plated cylinder**




### C 20" PRO STYLE CHAIN SAW

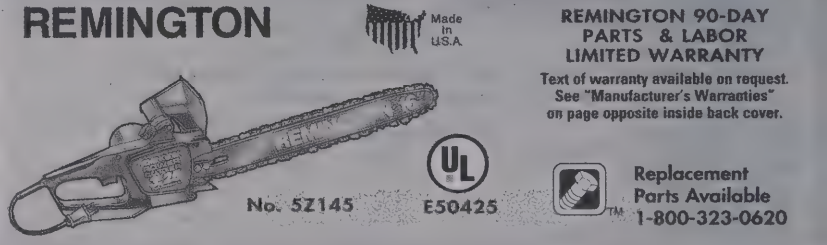
Professional style includes vertical cylinder that produces less heat, more power with a slimmer design for better balance and handling.

**• 3.0 cu-in. • 20" replaceable sprocket tip bar •Vertical cylinder • Flag-style Chain Brake®/ hand guar • Pro-style anti-vibration/air cleaning system • Adjustable automatic gear-driven oiler • Solid state ignition/primer bulb • Hard chrome-plated cylinder • Bucking spike**

| Key | Bar & Chain Size (In.) | Chain Speed Feet Per Minute | Engine Specifications: Displacement (Cu. In.) | Bore (In.) | Stroke (In.) | RPM | Gas Capacity (Oz.) | Oil Capacity (Oz.) | McCulloch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 14 | 3000 | 2.0 | 1.430 | 1.201 | 8000 | 10.8 | 3.2 | MAC 3214 | **4Z971** | $188.00 | **$159.00▲** | 12.0 |
| **B** | 16 | 3000 | 2.1 | 1.496 | 1.200 | 8000 | 11.0 | 3.4 | MAC 3516AV | **4Z972** | 255.00 | **179.00▲** | 14.0 |
| **C** | 20 | 3333 | 3.0 | 1.740 | 1.260 | 8500 | 22.7 | 11.8 | MAC 4900-20 PRO | **4CN44** | 435.00 | **309.00▲** | 19.0 |

## ELECTRIC CHAIN SAWS

Lightweight, compact, electric chain saws are used by homeowners, landscape firms, and construction crews for felling trees, trimming limbs, and cutting firewood. Equipped with chrome tooth chain-cutting surface so the chain stays sharp longer. All models double insulated for protection against shock hazards, and include a 2-conductor cord set for operation on 115V, 60 Hz power. All models have a reduced kickback guide bar with low kick-back Oregon chain (3/8" pitch, .050" gauge), No. 4Z309 has a self-sharpening chain. All saws come with built-in bucking spike. Internal gear system is designed to prevent damage to motor if binding occurs. Manual oiler has 1¼ oz. capacity. Other design features include non-slip textured finish on main and auxiliary handles, cushion handgrip (except No. 4Z121), hard nose bar, safety trigger lock, and hand guard on both front and rear. Positive chain tension adjustment. UL Listed (E50425). Made in the USA. Remington brand.




**No. 4Z121.** 3.0 HP motor produces 5600 RPM no-load sprocket speed. 14" bar.
**No. 4Z309.** Same high-performance 3.0 HP motor as No. 4Z121, but features automatic chain sharpening at the push of a button. 14" bar. Fast, sharp chain.
**No. 5Z145.** 16" bar and 25% more power than models above. 3.25 HP high performance motor produces 6000 RPM no-load sprocket speed for fast, clean cuts.

| Bar Size (In.) | Motor HP | Motor Amps | Dimensions (In.) Length | Width | Height | Remington Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **14** | 3.0 | 11.5 | 27 | 8¼ | 5¾ | 75762 | **4Z121** | $77.00 | **$59.00 ▲** | 7.9 |
| **14** | 3.0 | 11.5 | 27 | 8¼ | 5¾ | 100089-07 | **4Z309** | 99.00 | **79.00 ▲** | 8.6 |
| **16** | 3.25 | 11.5 | 29 | 8¼ | 5¾ | 98031 | **5Z145** | 88.00 | **69.00 ▲** | 8.3 |

(▲) Net prices, not subject to discounts.

# SAW CHAIN, SAW CHAIN LOOPS, AND BULK SAW CHAINS

OREGON® Xtraguard Low Kickback Chain 100 Ft. Reels

No. 5H869 Semi-Chisel Chain



## BULK SAW CHAINS

**Saw chain is fast-cutting and long-lasting.** Cutters and drive links are heat-treated chromium-nickel steel alloy. Rivets are double heat-treated high carbon steel. Xtraguard design reduces kickback and meets the kickback requirements of ANSI B175.1-1985, UL Classification 17R2.

**Economical alternative to saw chain loops.** Depending on bar length, 20 to 32 loops can be made from each 100 ft. reel. Approximate length of saw chain required is 2.7 times bar length. Requires use of Chain Breaker No. 3LC33 and Rivet Spinner No. 3LC34, sold on page 2688.

**Low profile, semi-chisel, and chisel cutter types.** Low profile chain No. 5H868 provides excellent all-around cutting performance. Well-suited for electric saws and gas saws up to 2.5 cubic inches and for bars up to 16" in length. Use semi-chisel chain No. 5H869 for fast, smooth reduced friction operation on saws 3 to 6 cubic inches and bars 16 to 30" in length. Chisel chain No.5H870 incorporates 0.325" pitch for professional high production 2.5 to 3.5 cubic inch chain saws and bars 11 to 20" long. Chain Type No. is stamped on each side link. Saw chain is packaged on 100 ft. reels. Each reel includes four packages of eight tie straps, eight preset tie straps, and eight guard links. Oregon brand.

| Pitch † (In.) | Chain Type | Gauge‡ (In.) | File* Size (In.) | Oregon Model | Stock No. | List | Each# | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/8 | Low Profile | 0.050 | 5/32 | U91VG-100U | 5H868 | $399.95 | $295.00 | 15.0 |
| 3/8 | Semi-Chisel | 0.050 | 7/32 | U72SG-100U | 5H869 | 433.30 | 345.00 | 20.0 |
| 0.325 | Chisel | 0.050 | 5/32 | U33SL-100U | 5H870 | 455.50 | 359.00 | 19.0 |

(*) For information purposes only. Files NOT included. To order chain saw files see page 1371.
(†) Pitch is determined by measuring distance between the centers of any three consecutive rivets and dividing by two.
(‡) Gauge is thickness of drive link measured at the tang. (#) 100 ft. reels. Includes four packages of eight tie straps, eight preset tie straps, and eight guard links.

## OREGON SAW CHAIN LOOPS

Smooth, fast cutting, hard chromed replacement saw chains stay sharp and provide long life. Equipped with guard link or slanted depth gauge to minimize kickback. Cutters have corners which are nearly square for maximum wood bite and smooth cutting action. To determine the proper replacement saw chain, check the replacement cross reference on pages 2687 and 2688. Oregon brand.

| Cutting Bar Length (In.) | File* Size (In.) | Oregon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 12 | 5/32 | 91VG-45C | 1R327 | $16.10 | $13.69 | 0.7 |
| 14 | 5/32 | 91VG-52C | 1R328 | 18.56 | 15.49 | 0.6 |
| 14 | 5/32 | 91VG-50C | 1R339 | 17.86 | 15.49 | 0.5 |
| 14 | — | 38163-50G | 1R340 | 29.43 | 23.69 | 0.5 |
| 14 | 5/32 | 91VG-53C | 1R370 | 18.91 | 15.49 | 0.5 |
| 14 | 5/32 | 91VG-49C | 1R371 | 17.40 | 15.45 | 0.5 |
| 16 | 5/32 | 91VG-57C | 1R331 | 20.43 | 16.95 | 0.6 |
| 16 | 5/32 | 91VG-56C | 1R457 | 20.09 | 18.69 | 0.6 |
| 16 | 7/32 | 72SG-59C | 1R368 | $21.48 | $18.95 | 0.8 |
| 16 | 7/32 | 72SG-60C | 1R369 | 21.96 | 18.95 | 0.8 |
| 16 | 5/32 | 91VG-54C | 1R443 | 19.38 | 15.59 | 0.5 |
| 16 | 5/32 | 33SL-66C | 1R458 | 24.17 | 22.75 | 0.8 |
| 18 | 7/32 | 72SG-66C | 1R329 | 24.17 | 21.59 | 0.7 |
| 18 | 5/32 | 33SL-72C | 1R459 | 26.38 | 24.95 | 0.9 |
| 18 | 5/32 | 91VG-62C | 3LC38 | 22.19 | 18.95 | 0.7 |
| 20 | 7/32 | 72SG-70C | 1R335 | 25.56 | 20.49 | 0.9 |
| 20 | 5/32 | 33SL-78C | 3LC37 | 28.61 | 23.95 | 0.9 |
| 24 | 7/32 | 72SG-81C | 1R332 | 29.54 | 25.25 | 1.0 |

(*) For information purposes only. Files NOT included. To order chain saw files, see page 2631.

## REPLACEMENT BAR AND CHAIN

Combination replacement package features a sturdy chain and tough steel bar with low-kick Double Guard® nose. Unit may also be used to increase cutting capacity and efficiency of some existing chain saws by extending bar length. Simply purchase a larger size Oregon replacement unit. Fits many brand name chain saws. Bars for Homelite saws are drilled to accept Saf-T-Tip. To determine which combination replacement package to use with existing chain saw, check replacement guide. Oregon brand.

OREGON® No. 1R374




## OREGON REPLACEMENT BAR AND CHAIN ORDERING DATA

Comes complete with bar and chain. For additional replacement chains only, use appropriate Stock No. listed below.

| Cutting Bar Length (In.) | Replacement Chain Only Stock No. | Oregon Model | Replacement Bar & Chain Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 12 | — | 27860 | 1R377 | $35.00 | $29.20 | 2.0 |
| 14 | 1R328 | 27856 | 1R375 | 35.78 | 30.35 | 2.0 |
| 14 | 1R370 | 27859 | 1R378 | 35.78 | 30.35 | 2.0 |
| 14 | 1R371 | 100453 | 1R379 | 35.78 | 30.35 | 2.0 |
| 16 | 1R457 | 27857 | 1R374 | 40.53 | 34.15 | 2.3 |
| 16 | 1R369 | 27853 | 1R381 | 45.44 | 38.65 | 3.1 |
| 16 | 1R369 | 27851 | 1R383 | 45.44 | 38.60 | 3.7 |
| 16 | 1R458 | 36891 | 1R460 | 45.44 | 41.10 | 2.5 |
| 18 | 1R459 | 36892 | 1R461 | 50.80 | 45.80 | 2.9 |
| 18 | 3LC38 | 39272 | 3LC36 | 50.80 | 43.95 | 3.3 |
| 20 | 1R335 | 27862 | 1R382 | 52.62 | 44.75 | 3.7 |
| 20 | 1R335 | 27850 | 1R384 | 52.62 | 44.75 | 3.7 |
| 20 | 3LC37 | 37977 | 3LC35 | 52.62 | 45.95 | 3.7 |

(#) For more information on Oregon replacement chains, see pages 2687 and 2688.

**60-DAY OREGON LIMITED WARRANTY**

**Text of warranty available on request. See "Manufacturer's Warranties" on page opposite inside back cover.**

# COMPETITIVE SAW CHAIN CROSS-REFERENCE

## COMBINATION BAR & CHAIN REPLACEMENT CROSS-REFERENCE GUIDE

OREGON®

The table below lists, by Oregon® model number, the Oregon replacement bar and chain that can be used with many chain saw models.

**TO USE THIS CROSS-REFERENCE:** Locate the chain saw brand, model number, and length of bar required. Where two lengths are shown for the same model, it indicates the saw's capability to use either length.

| Saw Manufacturer's Model | Cutting Bar Length | Oregon Model | Stock No. |
|---|---|---|---|
| **DAYTON** | | | |
| 2Z760, 2Z753, 2Z970, 2Z790B, 4Z022, 4Z023, 4Z023A<br>4Z023B, 4Z109, 4Z109A, 4Z109C, 4Z573, 6Z823, 6Z284<br>2Z462, 2Z462A, 2Z561, 2Z971, 4Z251, 4Z251A, 4Z252,<br>4Z397, 6Z826, 7Z627 | 14"<br>16<br>18 | 27856<br>27857<br>39272 | 1R375<br>1R374<br>3LC36 |
| **DYNAMARK** | | | |
| 4421 | 16<br>20 | 27851<br>27850 | 1R383<br>1R384 |
| **ECHO** | | | |
| CS280E, CS280EVL, CS290, CS290EVL,<br>CS301 (between 6/78 & 9/80), CS302 (before s/n 0015304),<br>CS302S (after s/n 0015304), CS315, CS330EVL,<br>CS351 (before s/n 00112195), CS351VL (after s/n 0112195),<br>CS3000, CS3450 | 14<br>16 | 27856<br>27857 | 1R375<br>1R374 |
| CS400EVL, CS4000, CS440, CS4500, CS4600, CS5000 | 16<br>18<br>20 | 36891<br>36892<br>37977 | 1R460<br>1R461<br>3LC35 |
| CS60, CS60S, CS451VL, CS452VL, CS500VL, CS500EVL,<br>CS501EVL, CS510, CS550, CS601VL, CS602VL, CST610,<br>CS650EVL, CS660EVL, CS701, CS701VL, CS701SVL,<br>CS702VL, CS702EVL, CS706VL, CS750, CS6700, CS8000 | 16<br>20 | 27851<br>27850 | 1R383<br>1R384 |
| **HOMELITE** | | | |
| LX-30, XEL Electric, XL, XL-2 (after #5042001), Super 2,<br>VI Super 2, 200, 240, XL2CC, Super 2CC, XEL-14, 240SL,<br>245 (before #XE339), XL-10, XL-16, 180 Series, 200 Series,<br>Bandit, Little Red | 12<br>14 | 27860<br>27859 | 1R377<br>1R378 |
| C-Series, XL-12, Super XL, SXL-AO, 330, 350, 360, 360-AO,<br>360SL, 360W, XL-400, 410, 450SL, 450W, 460, 550, 550SL,<br>550W, 650, XL (700 Series), XL (800 Series), XL (900 Series),<br>SXL922, SXL923, SXL925, SXL925W, VI955, XL-15 | 16<br>20 | 27853<br>27852 | 1R381<br>1R382 |
| **HUSQVARNA** | | | |
| Husky 36 | 14<br>16 | 27856<br>27857 | 1R375<br>1R374 |
| **JOHN DEERE** | | | |
| 25EV, 28V, 30V, 35EV, 40V | 14<br>16 | 27856<br>27857 | 1R375<br>1R374 |
| 50AV, 50V, 51SV, 55V, 55SV, 60VL, 60V, 66SV, 70V, 70VL,<br>80EV (Sym. Bars) | 16<br>20 | 27851<br>27850 | 1R383<br>1R384 |
| 45EV, 46EV, 450V | 16<br>18<br>20 | 36891<br>36892<br>37977 | 1R460<br>1R461<br>3LC35 |
| **MAKITA** | | | |
| DCS 330S, DCS 390S | 14<br>16 | 27856<br>27857 | 1R375<br>1R374 |
| **McCULLOCH** | | | |
| Electramac 12AE, 14AE, Mini Mac, 35AS, Mac 140,<br>Power Mac 320, Power Mac 340, 12A/S, 14 A/S, EM16,<br>Mini Mac (all models), Mac 110, 115, 120, 130, 140,<br>Pro Mac 155, 165, 175, 310, 320, 330, 340, 355, 365, 375,<br>510, 515, SP40, 160S, 400, 430, 435, 440, 445,<br>Power Mac 6 (s/n 13XXXXX), Eager Beaver 2.0/2.1 series,<br>EM14E, EM16E, 10E, 12E, 14E, 6A, Titan 35, 40,<br>Silver Eagle 2012, 2014, 2014CC, 2016, 2016CC, 2116CC ,<br>3200, 3210, 3214, 3216, 3516, PM380, PM400, 410,<br>Eager Beaver 2.3, Wildcat, Mac Cat, Silver Eagle 2316, 2316CC,<br>2318, 2318CCK, 300S, 3818, 3214 | 14 | 100465 | 1R379 |
| MAC (1-10, 2-10, 3-10, 4-10, 5-10, 6-10, 7-10, 10-10), CP55,<br>CP70, CP70L, 10-10A, Pro 10-10A, Pro Mac (55, 60, 555, 570,<br>605, 610, 650, 655, 700, 800, 805, 850), Super Pro (60, 70, 80, 81),<br>Double Eagle 50, Double Eagle 80, Eager Beaver 3.7, Titan 50,<br>57, 620, Timber Bear, Silver Eagle 3420, 3720, PM610-20 | 16<br>20 | 27851<br>27850 | 1R383<br>1R384 |
| **OLYMPYK** | | | |
| 250, 250A, 250AS, 251, Super 251, 251B, 251S, 252, 254,<br>254F, 254S, 260, 260AP, 260P, 261, 272, 280, 280S, 284,<br>355, 460, 461, 480, Super 480, 481, 482 | 16"<br>20 | 27853<br>27852 | 1R381<br>1R382 |
| **PARTNER** | | | |
| 365 | 14 | 27856 | 1R375 |
| **POULAN** | | | |
| Micro SXXVCVA, Micro XX (after #20287653),<br>Micro XXV (after #25663272), Micro XXVD, Micro SXXVD,<br>Micro SXXVDV, Super Micro XXVDA, Super Micro XXVD,<br>Super Micro SXXVCVA, S25, 200, 205, 225, 235, 255, 1220,<br>1420, 1425, 1625, 1800, 2000, Pioneer 2050, Woodsman 2150,<br>WoodMaster 2250, 2300, 2300AV, 2300CVA, 2350, 2400,<br>WoodMaster 2450, 2550, Farmhand 2500/2600, E14E, E16E | 14<br>16<br>18 | 27856<br>27857<br>39272 | 1R375<br>1R374<br>3LC36 |
| 285, 295, 305, 306, 335, 336, 2700, Farmhand 2750, 2800,<br>Farmhand 2900, 3000, Farmhand 3050, Forester 3100, 3300 | 16<br>18<br>20 | 36891<br>36892<br>37977 | 1R460<br>1R461<br>3LC35 |
| 203, 245, 245A, 306, 306A, 306SA, 360, 361, 375, 395,<br>400 Series, 450, 3400, 3400CVA, TimberMaster 3500/3600,<br>3700, 3700CVA, 3800, 3900, 4000, 4000CVA, 4200, 4200CVA,<br>4400, 4400CVA, 4900, 4900CVA, 5200, 5200CVA, 5400,<br>5400CVA, 5500, 6700, 6900, 7700, 8500 | 16<br>20 | 27851<br>27850 | 1R383<br>1R384 |
| **REMINGTON** | | | |
| (Gas) Job Master, Mighty Mite 100-500 (after 1976),<br>Mighty Mite Weekender, Outdoorsman II, Rancher,<br>Yardmaster, 812, 814, 816, 816A, 840, 850, 860 | 14 | 100453 | 1R379 |
| Logger, PL-4, PL-5, PL-55, SL-4 Automatic, SL-9, SL-9 Auto.,<br>SL-10, SL-11A, SL-14, SL-16, Woodsman | 16<br>20 | 27853<br>27852 | 1R381<br>1R382 |
| **SEARS (Models with a 358 Prefix)** | | | |
| 3412, 3425, 3455, 3476, 34111, 34181, 35082, 35093, 35104,<br>35106, 35114, 35116, 35201, 35202, 35203, 35205, 35206,<br>35207, 35231, 35263, 35266, 35267, 35363, 35366, 35367,<br>35504, 35505, 35506, 35512, 35514, 35516, 35624, 35718,<br>35723, 35736 | 14<br>16<br>18 | 27856<br>27857<br>39272 | 1R375<br>1R374<br>3LC36 |
| 35119, 35607, 35624.2, 35628<br>35120, 35492, 35633 | 18<br>20 | 36892<br>37977 | 1R461<br>3LC35 |
| 35483, 35608, 35609, 35690, 35885, 35887, 35889 | 16<br>20 | 27851<br>27850 | 1R383<br>1R384 |
| **SHINDAIWA** | | | |
| 90, 100, 110, 120, 140, 150, 160, 180 | 14 | 27856 | 1R375 |
| 377, 415, 416, 450, 451, 488, 500 | 16 | 36891 | 1R460 |
| **SKIL** | | | |
| 1620, 1622, 1624, 1634, 1636 | 14 | 27856 | 1R375 |
| 1641 | 20 | 27850 | 1R384 |
| **TORO** | | | |
| 51100, 51140 | 14 | 27856 | 1R375 |
| **WESTERN AUTO** | | | |
| WIZ 010, WIZ 012, WIZ 014, WIZ 110, WIZ 112, WIZ 212,<br>WIZ 214, AV14 (Elec.), WIZ 316, WIZ 316AV, AV16 (Elec.),<br>CAT 17, Ele., 1800, 2000, 525DA | 14 | 27856 | 1R375 |
| BO13, 430, WIZARD AV-18, 3400 | 16<br>20 | 27851<br>27850 | 1R383<br>1R384 |

# SAW CHAIN LOOP CROSS-REFERENCE

OREGON®

To determine the proper replacement cutting chain, look up the chain saw brand, model number, and cutting length of the bar below. Oregon replacement bar and chains are sold on page 2685.

| Saw Manufacturer's Model | Cutting Bar Length | Drive Link Count | Stock No. |
|---|---|---|---|
| **DAYTON** | | | |
| 2Z760, 2Z753, 2Z970, 2Z970B, 4Z022, 4Z023, 4Z023A, 4Z023B, 4Z109, 4Z109A, 4Z109C | 12" | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| 4Z573, 6Z823, 6Z284 | 16 | 56 | 1R457 |
| | 18 | 62 | 3LC38 |
| 2Z462, 2Z462A, 2Z561, 2Z971, 4Z251, 4Z251A, 4Z252, 4Z397, 6Z826, 7Z627 | 16 | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| **ECHO** | | | |
| CS280E, CS280EVL, CS290, CS290EVL, CS301 (bef. 6/78 & 9/80) CS302 (before s/n 0015304), CS302S (after s/n 0015304) CS315, CS330EVL, CS351 (before s/n00112195), CS351VL (after s/n 0112195), CS3000, CS3450 | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 57 | 1R331 |
| CS400EVL, CS4000, CS440, CS4500, CS4600, CS5000 | 16 | 66 | 1R458 |
| | 18 | 72 | 1R459 |
| | 20 | 78 | 3LC37 |
| CS60, CS60S, CS451VL, CS452VL, CS500VL, CS500EVL, CS501EVL, CS510, CS550, CS601VL, CS602VL, CST610, CS650EVL, CS660EVL, CS701, CS701VL, CS701SVL, CS702VL, CS702EVL, CS706VL, CS750, CS6700, CS8000 | 16 | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| **HOMELITE** | | | |
| LX-30, XEL Elec., XL, XL-2 (after #5042001), Super 2, VI Super 2 200, 240, XL2CC, Super 2CC, XEL-14, 240SL, 245 (bef. #XE399). XL-10, XL-16, 180 Series, 20 Series, Bandit, Little Red | 14 | 53 | 1R370 |
| EL-12, EL-14, EL-16 | 12 | 45 | 1R327 |
| | 14 | 50 | 1R339 |
| | 16 | 56 | 1R457 |
| EZ Series, 150AO, XL-76, XL-100 Series, V15-Mini-S6, Super EZAO 130, 150, EZ250 (Prior 1989), 290, 340, 350, Mini SL, Big Red | 16 | 59 | 1R368 |
| | 20 | 70 | 1R335 |
| C-Series, XL-12, Super XL, SXL-AO, 330, 350, 360, 360-AO, 360SL, 360W, XL-400, 410, 450SL, 450W, 460, 550, 550SL, 550W, 650, XL (700 Series), XL (800 Series), XL (900 Series), SXL922, SXL923, SXL925, SXL925, SXL925W, VI955, XL-15 | 16 | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| **HUSQVARNA** | | | |
| Husky 34, 35, 37 | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 56 | 1R457 |
| Husky 36 | 14 | 52 | 1R328 |
| | 16 | 56 | 1R457 |
| Husky 32 | 14 | 53 | 1R370 |
| Rancher 61, Rancher 62, 65, 160, 162SE, 185,285CD, 380S, 480CD, 1100CD, 2100CD, 65, SS77, 266SE, 266SG, 160S, 260, 181SE, 181SG | 16 | 60 | 1R369 |
| **JOHN DEERE** | | | |
| 25EV, 28V, 30V, 35EV, 40V | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 57 | 1R331 |
| 50AV, 50V, 51SV, 55V, 55SV, 60VL, 60V, 66SV, 70V, 70VL, 80EV (Sym. Bars) | 16 | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| 45EV, 46EV, 450V | 16 | 66 | 1R458 |
| | 18 | 72 | 1R459 |
| | 20 | 78 | 3LC37 |
| **JONSERED** | | | |
| 36, 36A, 361A, 361AV, 365, 370 (Late Model Saws), 2036 | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 56 | 1R457 |
| 60, 61, 62, 66, 70, 75, 77, 80, 81, 90, 110, 111, 601, 621, | 16 | 60 | 1R369 |
| 751, 801, 820, 830, 910, 920, 939, 1020 | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| **MAKITA** | | | |
| DCS 330S, DCS 390S | 14 | 52 | 1R328 |
| | 16 | 56 | 1R457 |
| 5012B, 5014B | 12 | 45 | 1R327 |
| | 14 | 54 | 1R443 |
| **McCULLOCH** | | | |
| Electramac 12AE, 14AE, Mini Mac 35AS, Mac 140, Power Mac 3214, 320; Power Mac 340, 12A/S, 14 A/S, EM16, Mini Mac (all) Mac 110, 115, 120, 130, 140, Pro Mac 155, 165, 175, 310, 320, 330, 340, 355, 365, 375, 510, 515, SP40, 160S, 400, 430, 435, 440, 445, Power Mac 6 (s/n 13XXXXX), Eager Beaver 2.0/2. 1 series, EM14E. EM16E. 10E, 12E, 14E, 6A, titan 35, 40, Silver Eagle 2012, 2014, 2014CC, 2016, 2016CC, 2116CC,3200, 3210, 3214, 3216, 3516 | 14" | 49 | 1R371 |
| | 16 | 54 | 1R443 |
| PM380, PM400, 410, Eager Beaver 2.3, Wildcat, Mac Cat, Silver Eagle 2316, 2316CC, 2318, 2318CCK, 300S, 3818, | 12 | 45 | 1R327 |
| | 14 | 49 | 1R371 |
| MAC (1-10, 2-10, 3-10, 4-10, 5-10, 6-10, 7-10, 10-10), CP55, CP70, CP70L, 10-10A, Pro 10-10A, Pro Mac (55, 60, 555, 570, 605, 610, 650, 655, 700, 800, 805, 850), Super Pro (60, 70, 80, 81), PM-610-20, Double Eagle 50, Double Eagle 80, Eager Beaver 3.7; Titan 50, 57, 620; Timber Bear, Silver Eagle 3420, 3720 | 16 | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| Electramac 10ES, 12ES, 14ES, 16ES, SE250, SE300, EM250, EM300S | 12 | 45 | 1R327 |
| | 14 | 50 | 1R339 |
| SE3020, Mac 4600 Series, 4900 Series | 16 | 66 | 1R458 |
| | 18 | 72 | 1R459 |
| | 20 | 78 | 3LC37 |
| **OLYMPYK** | | | |
| 240 (Late Models), 241, 244 | 14 | 49 | 1R371 |
| 250, 250A, 250AS, 251, Super 251, 251B, 251S, 252, 254, 254F, 254S, 260, 260AP, 260P, 261, 272, 280, 280S, 284, 355, 460, 461, 480, Super 480, 481, 482 | 16 | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| **PARTNER** | | | |
| 1601, 1602, 1610, 1611, 1612, 1613, 1614, 1616, Mini P, Mini PII, Mini PIII, Spartan 330, 350, 365 | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 56 | 1R457 |
| F50, F55, F55AV, P50, P51, P55, P65, P70, P85, P100, R11, R12, R14, R16, R17, R18, R19, R20, R21, R22, R23, R30, R35, R40, R416, R420, R421, R435, R440, S-50, S-55, S-65, 550, 650, 7000, 1655,2055 | 16 | 60 | 1R369 |
| | 20 | 70 | 1R335 |
| P360, P400, P450, P500, P5000 | 16 | 66 | 1R458 |
| **PIONEER** | | | |
| P-10, P-12 | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 56 | 1R457 |
| P-28 | 16 | 66 | 1R458 |
| P-11, P-20, P-25, P-285, P-970, P-1072, P-1073 | 16 | 60 | 1R369 |
| **POULAN** | | | |
| Micro SXXVCVA, Micro XX (after #20287653), Micro XXV, (after #25663272), Micro XXVD, Micro SXXVD, Micro SXXVDV, Super Micro XXVDA, XXVD, SXXVCVA, S25, 200, 205, 225, 235 255, 1220, 1420, 1425, 1625, 1800, 2000, Pioneer 2050, Woodsman 2150, WoodMaster 2250, 2300, 2300AV, 2300CVA, 2350, 2400, WoodMaster 2450, 2550, Farmhand 2500/2600, E14E, E16E | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 56 | 1R457 |
| | 18 | 62 | 3LC38 |
| 285, 295, 305, 306, 335, 336, 2700, Farmhand 2750, 2800, Farmhand 2900, 3000, Farmhand 3050, Forester 3100, 3300 | 16 | 66 | 1R458 |
| | 18 | 72 | 1R459 |
| | 20 | 78 | 3LC37 |
| 203, 245, 245A, 306, 306A, 306SA, 360, 361, 375, 395, 400 Series 150, 3400, 3400CVA, TimberMaster 3500,3600, 3700, 3700CVA, 3800, 3900, 4000, 4000CVA, 4200, 4200CVA, 4400, 4400CVA, 5200, 5200CVA, 5400, 5400CVA, 5500, 6700, 6900, 7700, 8500 | 16 | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| **REMINGTON** | | | |
| (Gas) Job Master, Mighty Mite 100-500 (after 1976), Mighty Mite Weekender, Outdoorsman II, Rancher, Yard Master, 812, 814, 816, 816A, 840, 850, 860 | 12 | 45 | 1R327 |
| | 14* | 49 | 1R371 |
| | 16 | 56 | 1R457 |
| (*) NOTE: Remington brand bars require No. 1R339 replacement chain. OREGON brand bars use No. 1R371 | | | |
| (Elec.) Limb 'N Trim 2, 8-14, (w/C prefix on s/n), 7548H, 75751H, 75792H, 75728H, EL-1, EL-6, EL-7, | 12 | 45 | 1R327 |
| | 14* | 50 | 1R339 |
| 09803111, 99178, 1000015-05 | 14 | 53 | 1R370 |
| | 16 | 56 | 1R457 |

CONTINUED ON NEXT PAGE

# SAW CHAIN LOOP CROSS-REFERENCE GUIDE AND CHAIN SAW ACCESSORIES

## SAW CHAIN LOOP CROSS-REFERENCE GUIDE, CONTINUED

To determine the proper replacement cutting chain, look up the chain saw brand, model number and cutting length of the bar below. Replacement bar and chains are sold on page 2685.

| Saw Manufacturer's Model | Cutting Bar Length | Drive Link Count | Stock No. |
|---|---|---|---|
| **REMINGTON, continued** | | | |
| Logger, PL-4, PL-5, PL-55, SL-4 Automatic, SL-9, SL-9 Automatic, SL-10, SL-11A, SL-14, SL-16, Woodsman | 16" | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| **SEARS (Models with a 358 Prefix)** | | | |
| 3412, 3425, 3455, 3476, 34111, 34181, 35082, 35093, 35104, 35207, 35231, 35263, 35266, 35267, 35363, 35366, 35367, 35504 | 12 | 45 | 1R327 |
| | 16 | 56 | 1R457 |
| 35505, 35506, 35512, 35514, 35516, 35624, 35718, 35736 | 18 | 62 | 3LC38 |
| 35094, 35211 | 14 | 53 | 1R370 |
| 35232, 35238, 35886 (15") | 16 | 57 | 1R331 |
| 35119, 35607, 35624.2, 35628 | 18 | 72 | 1R459 |
| 35238, 35618, 35623 | 18 | 62 | 3LC38 |
| 35120, 35492, 35633 | 20 | 78 | 3LC37 |
| 35483, 35608, 35609, 35690, 35885, 35887, 35889 | 16 | 59 | 1R368 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| **SEARS (Models with a 315 Prefix)** | | | |
| 3400, 3401, 3402, 3445, 3455 | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 56 | 1R457 |
| 3411, 3460, 3461 | 14 | 52 | 1R328 |
| 3408, 3465, 3466 | 14 | 53 | 1R370 |
| **SEARS (Models with a 917 Prefix)** | | | |
| 35251 | 14 | 53 | 1R370 |
| 35255 | 16 | 57 | 1R331 |
| **SHINDAIWA** | | | |
| 90, 100, 110, 120, 140, 150, 160, 180 | 12 | 45 | 1R327 |
| 377, 415, 416, 450, 451, 488, 500 | 14 | 52 | 1R328 |
| | 16 | 57 | 1R331 |
| 377, 415, 416, 450, 451, 488, 500 | 16 | 66 | 1R458 |
| | 18 | 72 | 1R459 |
| | 20 | 78 | 3LC37 |
| **SKIL** | | | |
| 1601, 1602, 1610 (Types 1, 2 & 3), 1611 (Type 1), 1612, 1613, 1614, 1614E (Types 1 & 2), 1616 (Types 1, 2 & 3), 1700E, 1705 (Types 1A thru 3) | 12 | 45 | 1R327 |
| | 14 | 50 | 1R339 |
| | 16 | 56 | 1R457 |
| 1620, 1622, 1624, 1634, 1636 | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 57 | 1R331 |
| 605, 606 Electric | 14 | 52 | 1R328 |
| 1641 | 16 | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |
| | 24 | 81 | 1R332 |
| **SOLO** | | | |
| 600, 600B, 605, 605B, 606, 606B, 631K, 632AVK, 638AVK | 14 | 53 | 1R370 |
| **STIHL** | | | |
| 009, 010AV, 011, 012, 015, 021, 023, E10, E14 | 14 | 50 | 1R339 |
| **TORO** | | | |
| 51100, 51140 | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| **WEN** | | | |
| 1100 (Type I), 1200 (Type I), 1400 (Type I) | 12 | 49 | 1R371 |
| | 14 | 54 | 1R443 |
| 1100, 1200, 1400, 2000, 2400, 2600, 2700, 5000, 5008, R5010, 5014, 5016, Bumble Bee, Wasp, Hornet, 6014, 6016 | 12 | 49 | 1R371 |
| | 14 | 53 | 1R370 |
| **WESTERN AUTO** | | | |
| WIZ 010, WIZ 012, WIZ 014, WIZ 110, WIZ 112, WIZ 212, WIZ 214, AV14 (Electric), WIZ 316, WIZ 316AV, AV16 (Electric), CAT 17, Electric, 1800, 2000, 525DA | 12 | 45 | 1R327 |
| | 14 | 52 | 1R328 |
| | 16 | 57 | 1R331 |
| BO13, 430, WIZARD AV-18, 3400 | 16 | 60 | 1R369 |
| | 18 | 66 | 1R329 |
| | 20 | 70 | 1R335 |

## SURE SHARP™ CHAIN SAW SHARPENER

- **Heavy-duty steel construction**
- **Easy to use; no need to remove chain from bar**
- **Accommodates 5/32, 3/16, 7/32, and 1/4" file sizes (not included)**
- **Fits all chain saws**




Provides fast precision sharpening while chain is in place on bar.

One setscrew firmly attaches sharpener to bar. Positive grip on tooth being filed makes tool easy to use in field or shop. Precision calibration settings for all critical angles designed to sharpen chain to factory specifications. Unit painted to prevent rust. Sharpener dimensions: 2W x 4H x 7¾"D. Files **not** included. Files sold on page 1371. Oregon brand (23820).

**No. 5H871.** Chain Saw Sharpener. Shpg. wt. 1.0 lbs. List .....$27.90
Each .....**$25.85**

## SAW CHAIN BREAKER & RIVET SPINNER




Used for making saw chain loops from bulk chains and chain repairs. Bolt holes for bench mounting. Handles 1/4, .325, 3/8, .404, and 1/2" pitch saw chains.

**Saw Chain Breaker No. 3LC33** drives rivets out of chain. Used to cut chain to correct length or replace worn rivets. Lever-operated cam action develops force needed for easy operation.

**Rivet Spinner No. 3LC34** produces tight, consistent, and smooth rivet spins for above pitch sizes. Equal pressure is applied by take-up handles while spinning to make rivet heads tighter. Minimizes risk of chain breakage.

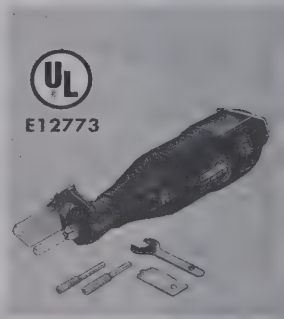
**No. 3LC33.** Saw Chain Breaker (24548). Shpg. wt. 5.0 lbs. List .....$54.95
Each .....**$54.95▲**

**No. 3LC34.*** Rivet Spinner (24549). Shpg. wt. 3.5 lbs. List $59.95
Each .....**$59.95▲**

(*)Limited Availability – contact local branch.

## CHAIN SAW SHARPENING TOOL KIT

- **Built-in sharpening guide assures cutting edge at proper angle**
- **Saw gauge shows where to set guide for every type of chain**
- **Fits comfortably in the palm of your hand—1⅞" dia.**
- **Includes Dremel electric sharpener with guide, 5/32, 3/16, and 7/32" aluminum oxide grinding wheels, two adjustment spacers, wrench, and chain guide**
- **6 ft., 2-conductor cord**
- **For AC operation only**

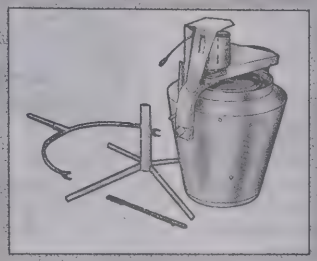



| No-Load RPM | Amps at 115V | Tool Length | Dremel Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **28,000** | 1.15 | 7.25" | 1277 | **1A194** | $71.04 | **$48.80** | ▲ | 2.0 |

(▲) Net prices, not subject to discounts.

## PORTABLE UTILITY MIXER



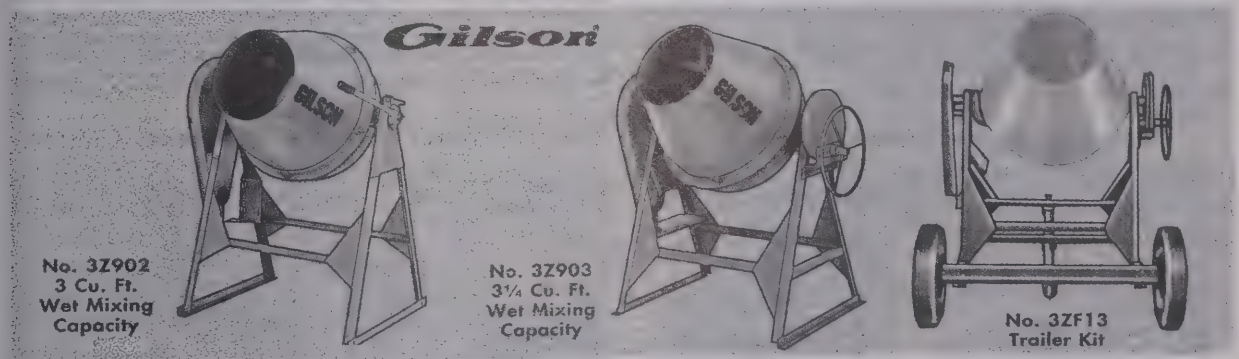
Take utility mixer apart for easy transport and storage

**Portable Utility Mixer** has all-steel construction for long life and durability. Applications include mixing concrete, fertilizer, and feed.

- **Pedestal mounted for easy assembly and breakdown**
- **Includes 1/3 HP electric motor**
- **Mix up to 2 cu. ft. of concrete or up to 4 cu. ft. of dry material**
- **No tools required for assembly; set mixer on the 2-piece stand**
- **Easy to take apart for transport in truck or car trunk**
- **Easy to operate, unit is well-suited for rental and repair jobs**
- **Gilson brand (59005)**

**No. 3ZC33.** Shpg. wt. 165.0 lbs. List.....$875.00
Each.....**$841.00**

## STEEL DRUM MIXERS




No. 3Z902 3 Cu. Ft. Wet Mixing Capacity

No. 3Z903 3¼ Cu. Ft. Wet Mixing Capacity

No. 3ZF13 Trailer Kit

**Sturdy drum with replaceable cast-iron ring gear.** Welded steel frame and pulley for heavy-duty mixing applications. Alemite fittings at all lubrication points. Available with correct Dayton 1725 RPM, 115V, 60Hz, service factor 1.0, open dripproof, split-phase motor with V-belt, pulley and power supply cord.

### 3 CUBIC FEET CAPACITY MIXER

**5½ cu. ft. steel drum** has a wet mixing capacity of 3 cu. ft. Adjustable lever tilting mechanism locks drum in five positions. Bronze bearings, 41" inches long, 26" wide, 46" high. Available with Dayton 1/3 HP motor. See No. 7Z817 listed below.

### 3¼ CUBIC FEET CAPACITY MIXER

**6½ cu. ft. steel drum** has a wet mixing capacity of 3¼ cu. ft. Load balanced drum has easy pouring tilt wheel with band type brake to hold drum at any mixing angle. Tapered roller bearings. 41" long, 28" wide, 46" high. Available with Dayton 1/2 HP motor. See No. 7Z818 listed below.

### TRAILER KIT FOR STEEL DRUM MIXERS

**Converts stationary steel drum mixers** No. 3Z902, 3Z903, 7Z817, and 7Z818 to road-towable units. Gilson brand (69250A).

- **Includes axle, wheels, tow pole for 1⅞" ball, and mounting hardware**
- **4.80 x 8" high speed trailing wheels**
- **Set up for rear or side discharge of mix**
- **All-steel construction for durability**
- **Smooth-rolling pneumatic tires**
- **Easy to assemble**

**No. 3ZF13.** Shpg. wt. 80.0 lbs. List.....$500.00
Each.....**$469.00**

### STEEL DRUM MIXER SPECIFICATIONS AND ORDERING DATA

| Wet Mixing Capacity | Drum Size, Cu. Ft. | Gilson Model | Less Motor Stock No. | Less Motor List | Less Motor Each | Less Motor Shpg. Wt. | HP | With Motor Stock No. | With Motor List | With Motor Each | With Motor Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3 cu. ft.** | 5½ | 59015C | **3Z902** | $795.00 | **$729.00** | 248.0 | 1/3 | **7Z817** | $923.05 | **$759.00** | 264.3 |
| **3¼** | 6½ | 59020A | **3Z903** | 1125.00 | **1047.00** | 291.0 | 1/2 | **7Z818** | 1282.20 | **1079.00** | 310.5 |

### GAS ENGINE CONVERSION KIT FOR CONCRETE DRUM MIXERS ABOVE

**Converts mixers to gas-powered unit.** Engine not included. Order No. 6Z471 separately. Includes steel engine hood, V-belt, and pulley. Fits Gilson 1½ to 3¼ cu-ft. mixers. Gilson brand (69211).

**No. 6Z177.** Shpg. wt. 40.0 lbs. List $240.00. Each.....**$228.00**

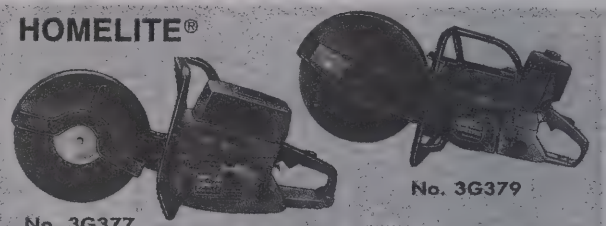
# CUTOFF SAWS AND PATCHING COMPOUNDS

## MULTIPURPOSE CUTOFF SAWS

**Homelite Multipurpose Cutoff Saws** cut concrete, asphalt, steel, aluminum, bronze, cast iron, and other construction materials.

- **Powerful 3.8 cu. in. (No. 3G377) or 5.4 cu. in. (No. 3G379), 2-cycle, air-cooled engine**
- **Exclusive universal arbor readily accepts 1", 22mm and 20mm diameter wheels**
- **Wraparound handle with strategically located vibration isolation reduces vibration, impact, and operator fatigue**
- **Triple air filtration system helps extend engine life. Unique design allows unit to be washed without covering the filter**
- **Simple, accurate, right-angle semi-automatic belt tensioner helps maintain proper belt tension for maximum belt life**
- **Reversible arm for inboard or outboard wheel mounting**

**HOMELITE®**



No. 3G379

No. 3G377

**Replacement Wheels For Cutoff Saws Available.**
**SEE PAGE 1606**

**Replacement Parts Available 1-800-323-0620**

| Wheel Dia. (In.) | Depth of Cut (in.) | Engine Displacement cu. in. | Engine Displacement cc | Arbor Diameter | Dimensions (In.) L | W | H | Homelite Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12** | 4 | 3.8 | 62 | 1"; 20mm & 22mm adaptors included | 29.5 | 10 | 14 | MP-38 | **3G377** | $1050.00 | **$995.00** | 20.0 |
| **14** | 5 | 5.4 | 88 | 1"; 20mm & 22mm adaptors included | 30.5 | 12 | 16 | MP-88-14 | **3G379** | 1350.00 | **1279.00** | 35.0 |

### No. 3G380 OPTIONAL WET CUTTING KIT

**Use with Nos. 3G377 and 3G379.** Offers longer abrasive and diamond wheel life. Installs on wheel guard with screw-on fittings. Use with water source from regular garden hose. Water is sprayed on both sides of wheel and on cutting surface to cool wheel, reduce wear. Homelite brand (A-49649).

**No. 3G380.** Shpg. wt. 2.0 lbs. List $105.00. Each ..... **$99.00**

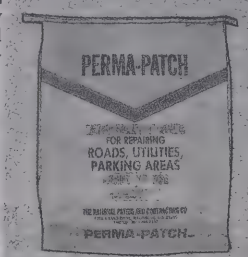
### No. 3G381 MULTIPURPOSE SAW DOLLY

**Use with Nos. 3G377 and 3G379.** Designed to fit Homelite brand 12" and 14" cutoff saws. Unit features fail-safe throttle control. Lightweight for easy maneuvering, especially where precision cuts or extended cutting is required. Homelite brand (05064).

**No. 3G381.** Shpg. wt. 10.0 lbs. List $235.00. Each ..... **$220.00**

## PERMA-PATCH PAVING MATERIAL

**Perma Patch Asphalt Paving Compound** rapidly, safely, and effectively patches potholes, utility cuts, and cracks or other parking area problems.

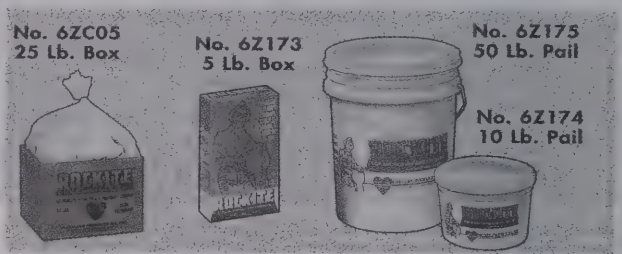



- **Bonds permanently to asphalt, concrete, steel, wood, and other hard surfaces**
- **Bonds equally well to dry, damp, or wet surfaces**
- **Use directly from bag; no mixing, heating, or special preparation needed**
- **Apply under any temperature or weather condition, including sub-freezing ambient road temperatures**
- **Pressure sensitive; cures faster under greater volumes of traffic**
- **1 bag fills a 6 sq. ft. area 1 inch high**
- **Compaction can be accomplished by hand tamping**
- **2-year shelf life**
- **60 lb. bag**
- **Black color**

**No. 3ZC17.** ❸ Shpg. wt. 60.0 lbs. List $23.45. Each ..... **$20.86**

❸ These products are covered by OSHA Hazard Communication Standard, Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## ROCKITE® ANCHORING & PATCHING CEMENT



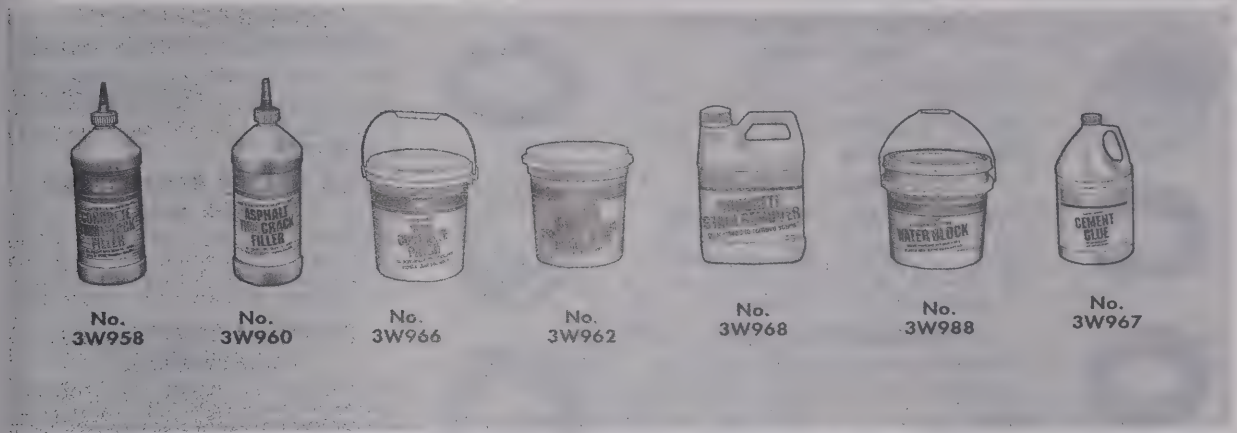

Used for applications such as anchoring bolts, buildings, partitions, machines, appliances, tools, railings, hardware, and posts to concrete and other masonry floors and walls. An expanding, fast-setting, pourable, hydraulic type cement. Has more than twice the strength of fully cured, conventional concrete. Flows easily into place when mixed with water to pourable consistency. Initial set within 15 minutes. Develops a compression strength of 4,500 lbs. per square inch within 1 hour. May also be used for patching concrete and other masonry floors and walls. One pound yields 18¾ cubic inches. 92 lbs. yields one cubic foot. Packaged in poly bags inside containers. Rockite brand.

| Size | Rockite Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **5 lb. box** | 10005 | **6Z173** | $9.04 | **$7.33** | 5.5 |
| **10 lb. pail** | 10010 | **6Z174** | 17.75 | **14.40** | 11.0 |
| **25 lb. box** | 10025 | **6ZC05** | 37.09 | **30.10** | 26.0 |
| **50 lb. pail** | 10051 | **6Z175** | 70.55 | **57.25** | 52.0 |

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# PATCHING, REPAIRING, AND WATERPROOFING COMPOUNDS




No. 3W958 | No. 3W960 | No. 3W966 | No. 3W962 | No. 3W968 | No. 3W988 | No. 3W967

## CONCRETE THIN CRACK FILLER

Ready to use latex based product for easy, no-mess repairs less than 1/2" wide. Remains flexible. Adheres to all concrete areas. Gray color. 1 qt. plastic bottle. Set brand (080112124).

**No. 3W958.** ❸ Shpg. wt. 3.6 lbs. List .....$10.42.
Each .....**$8.65**

## CONCRETE WIDE CRACK FILLER

Convenient, self-leveling crack filler for rigid repairs over 1/2" wide. Takes tire traffic in 1 hour. 5 lb. plastic bottle. Set brand (051850324).

**No. 3W959.** ❸ Shpg. wt. 6.3 lbs. List .....$18.07
Each .....**$15.00**

## ASPHALT THIN CRACK FILLER

Convenient, self-leveling crack filler is ready to use for easy, no-mess repairs. For repairs less than 1/2" wide. Remains flexible. Black color. 1 qt. plastic bottle. Set brand (014112024).

**No. 3W960.** ❸. Shpg. wt. 2.5 lbs. List .....$10.05
Each .....**$8.34**

## ASPHALT WIDE CRACK FILLER

Convenient, self-leveling crack filler for rigid repairs over 1/2" wide. Suitable for heavy traffic areas. Takes tire traffic in 1 hour. Black color. 5 lb. plastic bottle. Set brand (051950324).

**No. 3W961.** ❸. Shpg. wt. 5.8 lbs. List .....$17.93
Each .....**$14.88**

## CONCRETE RESURFACER

Two-part masonry repair can be used on aged, spackled, or rough concrete level surface areas. Self-bonding, self-curing for thin (1/16 to 1/4"), lasting mortar and concrete surface repairs. 48 lb. plastic pail. Set brand (021101524).

**No. 3W989.** ❸ Shpg. wt. 48.0 lbs. List .....$66.25
Each .....**$55.05**

## VINYL CONCRETE PATCH

For thin masonry repairs (1/8" to 1/2") on walks, steps, walls, and bricks. Can also be used to restore, tuckpoint. All-around concrete repair. Self-bonding, permanent repairs. Just add water. 20 or 45 lb. plastic pail. Set brand.

**No. 3W966.** ❸ 20 lb. pail (023535024). Shpg. wt. 21.0 lbs. List .....$22.64.
Each .....**$18.80**

**No. 3W987.** ❸ 45 lb. pail (023557024). Shpg. wt. 45.0 lbs. List .....$30.02.
Each .....**$24.92**

## SPEED ROCK CONCRETE REPAIR

15-minute concrete repair mix and anchoring cement. Chemically based, impervious to water, road salt, or chemicals. For 1/2" to full depth patching and repair. High strength concrete repairs quickly and easily indoors or out. Self-bonding, self-curing. Takes foot traffic in 45 minutes. 10 or 45 lb. pail. Set brand.

**No. 3W962.** ❸ 10 lb. pail (051821024). Shpg. wt. 11.0 lbs. List $16.79. Each .....**$13.93**

**No. 3W963.** ❸ 45 lb. pail (051874524). Shpg. wt. 48.0 lbs. List $59.97. Each .....**$49.80**

## CONCRETE STAIN REMOVER

Guaranteed to remove stains. Removes oil, grease, and tire marks from concrete surfaces. 1 qt. plastic bottle. Set brand (0070513024).

**No. 3W968.** ❸ Shpg. wt. 2.1 lbs. List .....$14.33
Each .....**$11.89**

## CEMENT GLUE

Bonding additive improves strength and bond of cement mixes. Can also be added to waterblock for higher bonding strength to concrete and brick walls. 1 gal. plastic bottle. Set brand (021302424).

**No. 3W967.** ❸ Shpg. wt. 9.6 lbs. List .....$26.90
Each .....**$22.33**

## WATER BLOCK

Heavy-duty concrete coating forms a durable coating that beautifies walls as it waterproofs. Seals, protects, and waterproofs concrete, masonry, and brick walls. Paintable 158 sq. ft. coverage. White color. 35 lb. plastic pail. Set brand (033104124).

**No. 3W988.** ❸ Shpg. wt. 37.0 lbs. List .....$42.09
Each .....**$34.95**

## MASONRY STOPLEAK

Add water, form into ball, and force into the leak. Stops flowing and seeping water. Sets in 3-5 minutes. Use for leaking walls, dams, sewers, tunnels, basements, underwater repairs, and pools. 10 or 50 lb. plastic pail. Set brand.

**No. 3W964.** ❸ 10 lb. pail (026225124). Shpg. wt. 11.0 lbs. List $15.94. Each .....**$13.23**

**No. 3W965.** ❸ 50 lb. pail (026257024). Shpg. wt. 53.0 lbs. List $56.34. Each .....**$46.80**

## ORDER DIRECT FROM GRAINGER

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**

(*) This item **NOT** for sale in the following areas: Maricopa County, AZ; Jefferson County, KY; Bronx, Kings, Nassau, Queens, Richmond, Rockland, Suffolk, Westchester Counties, NY; New York City, NY; Southwest Clark County, WA; All of Massachusetts, New Jersey, California.
Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
❸ These products are covered by OSHA Hazard Communication Standard, and

# WATER HOSE



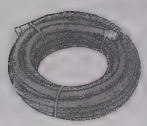
## FLATLINE® REINFORCED VINYL HOSE

For pools, patios, campers, boats and RV's. USFDA-listed tube materials for drinking water safety. Drains automatically. Coils flat for storage. Non-corrosive nylon GRIPPER® couplings.



## COUNTRY CLUB® RT PROFESSIONAL DUTY HOSE

1" I.D., premium PVC hose. Flexible and lightweight. Industrial knit reinforcing for 450 PSI burst strength. For turf and nursery applications. Brass couplings.



## CONTRACTOR HOSE

Heavy-duty PVC construction for strength, flexibility, and abrasion resistance. Industrial style reinforcing. Brass couplings.



## WEATHER MASTER® REINFORCED VINYL HOSE

Strong 5-ply construction. All-weather tube. Dual reinforcing for excellent kink resistance. Non-corrosive nylon GRIPPER® coupling.



## EARTH QUENCHER® SOAKER HOSE

Drip irrigation style watering hose. Uses up to 70% less water than spray watering. Can be buried for direct underground soaking. Resists mold, fungal growth. Smooth cover.



## SPRINKLER SOAKER® TRIPLE TUBE HOSE

100% vinyl hose for wide-area spraying or direct ground soaking. With stripes up, it waters like gentle rain; stripes down for soaking. Color blends with landscape. End coupled for connecting hoses in series.



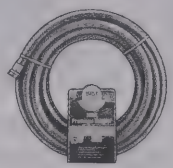
## COMMERCIAL DUTY REINFORCED RUBBER HOSE

Rubber cover resists oil, chemicals, abrasion, and weather. Withstands extensive hot water (200° F) use. Industrial knit reinforcing delivers 600 PSI burst pressure. Brass couplings.



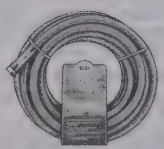
## HOT WATER REINFORCED RUBBER HOSE

Withstands hot water use up to 200°F. Heavy-duty construction for maximum abrasion resistance. Industrial style reinforcing. Crush-resistant brass couplings.



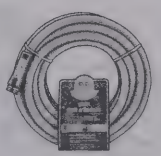
## PREMIUM REINFORCED RUBBER HOSE

Heavy-duty, all rubber construction. Handles hot water up to 160° F. High grade tube for great pressure capacity and flexibility. Dual radial reinforcing for maximum burst strength and kink resistance. SEAL-TITE™ brass coupling with permanent O-ring for leak proof use.



## PERFECT GARDENER® RUBBER/ VINYL REINFORCED HOSE

Special grooves in tube assure water flow even if hose is kinked. Premium rubber /vinyl striped cover for all-weather use. Dual spiral/knit reinforcing for high burst strength. Crush-resistant, machined brass couplings.



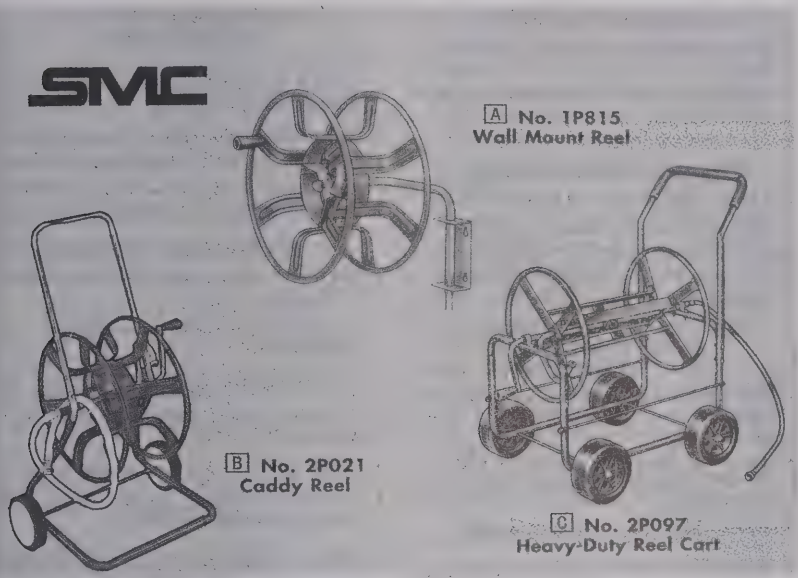
## SOFT & SUPPLE® RUBBER/VINYL HOSE

Heavy-duty 5-ply construction. Rubber/ vinyl cover provides excellent handling and flexibility. All-weather PVC inner tube offers optimum water pressure capacity. Dual reinforcing for maximum kink resistance.

### WATER HOSE SPECIFICATIONS AND ORDERING DATA

| Description | Hose Size ID (In.) x Length (Ft.) | Coupling* | Hose Color | Operating Temp. (°F) | Max. Pressure | GPH ‡ | Swan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Flatline** | 5/8 x 50 | GHT* | White | † | 100 | 732 | FL5850 | **3W684** | $35.50 | **$23.81** | 7.6 |
| **Country Club RT** | 1 x 50 | 1" NPSH @ | Green | † | 125 | 1368 | CC0150 | **2P292** | 115.00 | **80.60** | 20.0 |
| **Country Club RT** | 1 x 100 | 1" NPSH @ | Green | † | 125 | 1368 | CC01100 | **2P293** | 202.55 | **140.65** | 39.0 |
| **Contractor** | 5/8 x 50 | GHT | Black | † | 150 | 732 | BG5850 | **2P561** | 34.65 | **24.73** | 8.8 |
| **Contractor** | 3/4 x 50 | GHT | Black | † | 150 | 918 | BG3450 | **2P562** | 44.00 | **30.35** | 11.0 |
| **Weather Master** | 5/8 x 50 | GHT | Lt. Green | † | 100 | 732 | WM5850 | **1P648** | 26.45 | **15.13** | 6.8 |
| **Weather Master** | 5/8 x 75 | GHT | Lt. Green | † | 100 | 732 | WM5875 | **1P863** | 30.90 | **20.34** | 10.0 |
| **Weather Master** | 5/8 x 100 | GHT | Lt. Green | † | 100 | 732 | WM58100 | **2P099** | 39.60 | **30.00** | 15.0 |
| **Earth Quencher** | 3/8 x 50 | GHT | Black | † | 30 | N/A | ER50 | **3W683** | 18.75 | **12.97** | 3.2 |
| **Sprinkler Soaker** | 3-Tube x 50 | GHT | Green | † | 40 | 210 | 3TEC50 | **2P100** | 13.25 | **9.64** | 3.0 |
| **Commercial Duty** | 3/4 x 50 | GHT | Black | -40 to 200 | 150 | 918 | CD3450 | **1P650** | 69.85 | **48.30** | 21.0 |
| **Commercial Duty** | 1 x 50 | 1" NPSH @ | Black | -40 to 200 | 150 | 1368 | CD0150 | **1P865** | 105.00 | **72.65** | 23.0 |
| **Hot Water** | 5/8 x 50 | GHT | Red | -40 to 200 | 100 | 732 | HW5850 | **1P864** | 49.25 | **34.05** | 11.0 |
| **Premium Rubber** | 5/8 x 50 | GHT | Black | -20 to 160 | 100 | 732 | PM5850 | **1P649** | 36.30 | **24.91** | 9.4 |
| **Premium Rubber** | 5/8 x 75 | GHT | Black | -20 to 160 | 100 | 732 | PM5875 | **2P098** | 54.80 | **37.85** | 15.0 |
| **Perfect Gardener** | 5/8 x 50 | GHT | Green | † | 100 | 732 | PG5850 | **3W682** | 32.95 | **22.77** | 11.0 |
| **Soft & Supple** | 5/8 x 50 | GHT | Lt. Green | † | 100 | 732 | SS5850 | **3W680** | 33.35 | **22.94** | 9.0 |
| **Soft & Supple** | 3/4 x 50 | GHT | Lt. Green | † | 100 | 918 | SS3450 | **1P755** | 43.20 | **29.85** | 13.0 |
| **Soft & Supple** | 3/4 x 75 | GHT | Lt. Green | † | 100 | 918 | SS3475 | **3W681** | 62.75 | **43.25** | 19.0 |

(*) GHT = Garden Hose Thread. (†) Not intended for hot water. (‡) GPH = Gallons per Hour. (@) NPSH – National Pipe Straight Hose




## HOSE REELS

Extra large capacity. Heavy-gauge steel construction. Hold up to 200 ft. of 5/8" ID hose or 250 ft. of 1/2" ID hose, except commercial model which holds up to 350 ft. of 5/8" ID hose and 400 ft. of 1/2" ID hose. Come with connecting hose and water seal. Specialty brand.

### A ALL STEEL WALL MOUNT REEL

Mounting bracket with two lock positions permit reel to operate parallel or perpendicular to wall. Green baked enamel finish.

### B ALL STEEL CADDY REEL

Front pull design for easy hose release and greater cart stability. Zinc plated cart handle and 7½" wheels. Green baked enamel finish.

### C ALL STEEL HEAVY-DUTY REEL CART

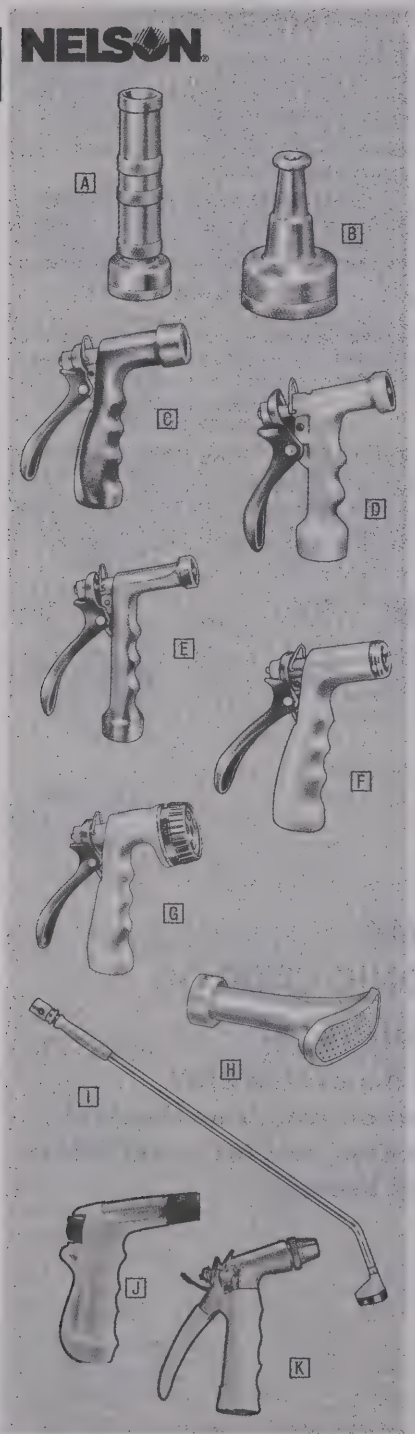
Flow through design, rugged 1" diameter steel frame, four 3"x9" heavy duty plastic wheels, and solid steel axles. Zinc plated handle with nylon foam grip can be mounted front or rear for rewinding preference. Green baked enamel finish.

| Key | Reel Type | Capacity | Reel Diameter (In.) | Reel Width (In.) | Cart Height (In.) | Specialty Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Wall Mount | 200 ft. x 5/8" ID to 250 ft. x 1/2" ID | 17 | 9 | 17 | 400-B | **1P815** | $37.45 | **$29.95** | 9.8 |
| B | Caddy | 200 x 5/8 to 250 x 1/2 | 17 | 9 | 36 | 315-B | **2P021** | $68.69 | **$54.95** | 15.0 |
| C | Cart | 350 x 5/8" to 400 x 1/2 | 17 | 21 | 37 | 350-B | **2P097** | $136.25 | **$109.00** | 28.0 |

DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# WATER NOZZLES




### A BRASS TWIST NOZZLE

- Self-centering 1-piece stem adjusts from fine spray to powerful stream
- 6.3 oz. rust-proof machined rod brass construction
- 3⅞" overall length

### B BRASS SWEEPER NOZZLE

- 1.3 oz. machined rod brass 2" long
- Straight-through design provides powerful non-adjustable stream
- Jet-force power; ideal for cleaning sidewalks, drives, siding, etc.

### C HOT/COLD INSULATED PISTOL GRIP NOZZLE WITH THERMO-GUARD™

- Large die-cast zinc body with brass stem and nut; glass-filled nylon handle
- Rated for temperatures up to 160°F (71°C) or pressures up to 100 PSI (6.9 bars)
- Adjustable from mist to powerful stream
- Thread guard for maximum protection

### D PISTOL NOZZLE

- Precision die-cast yellow color zinc body designed for smaller hands; comfort grip
- Adjusts from mist to powerful stream—clip locks nozzle open
- Glass-filled nylon handle

### E PISTOL NOZZLE

- Large precision die-cast green color zinc body with comfort grip
- Adjusts from mist to powerful stream-clip locks nozzle open
- Glass-filled nylon handle with brass stem and nut

### F INSULATED PISTOL NOZZLE

- Large die-cast zinc body with yellow contoured insulated grip—protects against cold water
- Adjustable from mist to powerful stream—clip locks nozzle open
- Glass filled nylon handle and threaded tip

### G INSULATED DIAL 5® PISTOL NOZZLE

- Large, die-cast zinc body with contoured insulated grip for comfort and cold water protection
- 5 patterns—flat spray, shower spray, jet stream, Halo™ spray and full On
- Brass stem and nut with glass filled nylon handle—clip locks nozzle open

### H FAN SPRAY NOZZLE

- Die-cast yellow color zinc body with brass face
- Soft spray for delicate watering applications

### I SPRAY NOZZLE WAND

- 36" aluminum handle with comfort grip; built-in shut-off
- Large impact-resistant plastic head
- 5 patterns—spray, gentle spray, flat spray, power jet, full open

### J INSULATED WATER SAVER NOZZLE

- Large die-cast zinc body with contoured rubberized insulated grip for cold water protection and rubber-protected spray tip with brass stem
- Memory spray tip adjusts from mist to jet and retains pattern until changed
- Water pressure dial controls exact water flow and turns from On to Off

### K INSULATED PISTOL GRIP NOZZLE

- Large chrome-plated die-cast zinc body with plastic insulating shield—protects against cold water
- Solid brass memory spray tip adjusts from mist to jet and retains pattern until changed
- Clip locks water On

| Key | Description | Nelson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Straight Nozzle | N21C | **4KH04** | $8.67 | **$5.95** | 0.3 |
| B | Brass Sweeper Nozzle | N26C | **4KH05** | 4.22 | **2.95** | 0.1 |
| C | Pistol Grip Nozzle w/ Thermo-Guard | 2280 | **4KG76** | 15.53 | **12.95** | 0.8 |
| D | Pistol Nozzle | 2215Y | **4KG72** | 4.22 | **3.28** | 0.4 |
| E | Pistol Nozzle | 2220G | **4KG73** | 5.73 | **4.49** | 0.4 |
| F | Insulated Pistol Nozzle | 2230 | **4KG74** | 9.58 | **7.46** | 0.7 |
| G | Insulated Dial 5 Pistol Nozzle | 2240 | **4KG75** | 17.44 | **12.95** | 0.8 |
| H | Fan Spray Nozzle | 2650 | **4KG77** | 9.56 | **6.95** | 0.4 |
| I | Spray Nozzle Wand | 2655 | **4KG78** | 20.00 | **14.95** | 0.9 |
| J | Water Saver Nozzle | 2270 | **3ZC18** | 13.25 | **11.25** | 0.8 |
| K | Insulated Pistol Grip Nozzle | 2237 | **5W753** | 9.85 | **8.35** | 0.6 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# WATER SPRINKLERS

## A IMPULSE SPIKE SPRINKLER

- Full or part circle spray pattern with distance and density controls—90 ft. diameter maximum coverage
- Brass impact head with water-saver arm
- Series connections metal spike
- Brass swivel hose connection with washer

## B METAL STEP SPIKE

- Heavy-duty die-cast zinc construction
- 1/2" NPT connection with series connection base
- Use with Nos. 4KG89 and 4KG90 heads

## C STATIONARY SPRINKLER

- 30 ft. diameter maximum circular spray pattern coverage
- Durable die-cast zinc with aluminum face construction

## D IMPULSE SPRINKLER

- Produces rain-like spray which covers large area—90 ft. dia. max. coverage
- Brass impact head, full or part circle
- Water-saver arm and density controls
- Mounted on die-cast sled base
- Brass swivel hose connection with washer

## E IMPACT SPRINKLER HEAD

- 85 ft. full or part circle maximum coverage
- High-impact plastic construction with water-saver arm

## F IMPACT SPRINKLER HEAD

- 90 ft. full or part circle maximum coverage
- Brass and stainless steel construction with water-saver arm
- 1/2" NPT (M) threads—5/32" nozzle
- Diffuser pin and baffle arm adjust stream

## G OSCILLATING SPRINKLER

- Dial-A-Rain coverage permits 59 separate positions
- 19 precision jet nozzles give maximum coverage of 55 x 66 ft. (3,630 sq. ft.) area
- Heart-shaped cam eliminates puddling and provides uniform coverage in all watering positions
- High-torque water motor operates with high or low water pressure
- Rust-proof metal housing has gold anodized spray and base tubes

## H OSCILLATING SPRINKLER

- Water flow and pattern width controls
- Adjusts from 72 to 3000 sq. ft. coverage
- Durable impact-resistant plastic with aluminum runners

## I OSCILLATING SPRINKLER

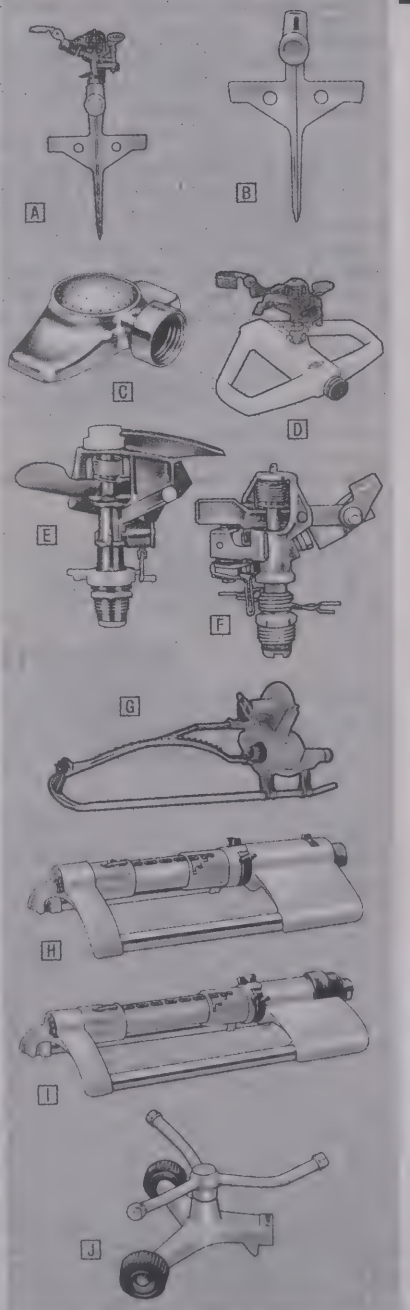
- Timer with built-in automatic shut-off and pattern width control collars
- Adjusts from 75 to 3600 sq. ft. coverage
- Durable impact-resistant plastic construction with aluminum runners

## J WHIRLING SPRINKLER

- 45 x 45 ft. maximum to 5 x 5 ft. minimum square pattern coverage
- Durable rust-proof metal construction

| Key | Description | Nelson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Impulse Spike Sprinkler | 1725 | 3ZC19 | $30.20 | $22.65 | 1.6 |
| B | Metal Step Spike | 1720 | 4KG70 | 7.78 | 6.25 | 0.8 |
| C | Stationary Sprinkler | 2140 | 4KG71 | 5.44 | 4.25 | 0.4 |
| D | Impulse Sprinkler | 1730 | 5W752 | 35.60 | 30.25 | 2.4 |
| E | Impact Sprinkler Head | 5073 | 4KG89 | 10.22 | 6.95 | 0.2 |
| F | Impact Sprinkler Head | 5075 | 4KG90 | 25.49 | 18.95 | 0.7 |
| G | Oscillating Sprinkler | N055A | 5W750 | 57.00 | 48.45 | 5.0 |
| H | Oscillating Sprinkler | 3000FW | 4KG79 | 24.89 | 19.95 | 1.5 |
| I | Oscillating Sprinkler | 3600TW | 4KG80 | 35.67 | 27.95 | 1.6 |
| J | Whirling Sprinkler | N54 | 4KH06 | 17.78 | 11.95 | 0.9 |

NELSON® Made in U.S.A.




**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# LARGE AREA SPRINKLERS AND HOSE REPAIR KITS/ACCESSORIES

## COMMERCIAL-GRADE LARGE AREA SPRINKLERS

### A TRAVELING SPRINKLER

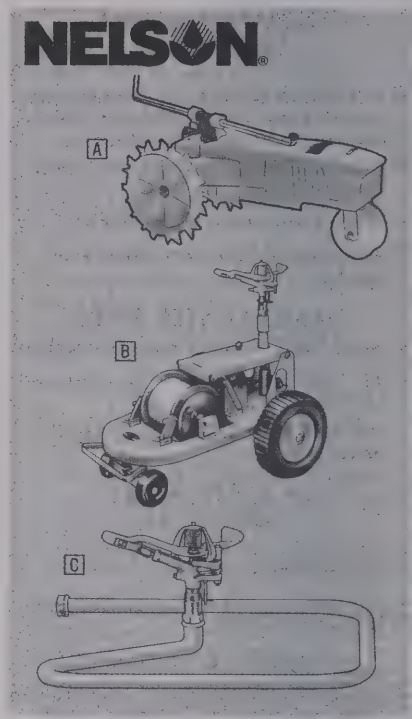
- 2 forward speeds for watering along hose path
- Adjustable arms provide coverage width from 15 to 55 ft. along 200 ft. length of hose
- 16,000 sq. ft. maximum coverage
- Die-cast iron body with rear wheel cleats for maximum tracking
- Shut-off ramp automatically stops sprinkler, shuts off water
- Brass garden hose connection

### B TURF TRAVELING SPRINKLER

- For athletic fields, parks, and other areas where cost and/or difficulty of installing underground system is too high
- Unit includes large brass impact head with 1/4" nozzle; requires 1" hose size
- Water-driven motor operates independently of sprinkler
- Adjust travel from 5 to 60 feet per hour
- Automatically shuts off when reaches end of non-kinking dacron cable
- Min. water pressure to unit—40 PSI with 48 PSI pressure required at hose inlet
- Coverage radius is 55 ft., sprinkler capacity is 11.5 GPM

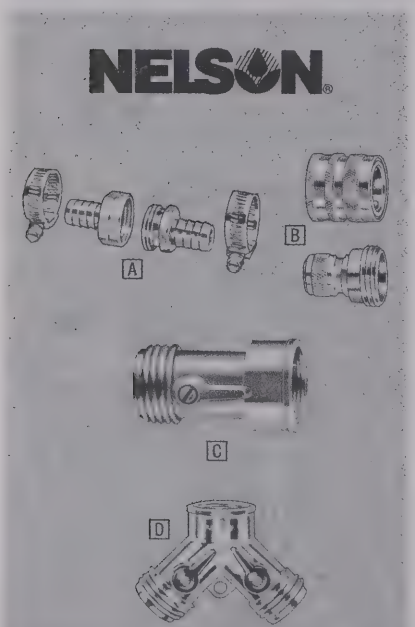
### C LARGE AREA IMPACT SPRINKLER

- Allows 114 ft. dia. coverage
- Head has solid brass construction, heavy-duty retraction springs, 2 pre-installed nozzles, and a stainless steel diffuser screw
- Full or part circle patterns
- Powder coated tubular steel base • Sealed bearing prevents leakage
- For cold water use only with a 1" hose




| Key | Description | Nelson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Traveling Sprinkler | 1865 | **5W751** | $107.70 | **$91.55** | 22.0 |
| B | Commercial Traveling Sprinkler | 8401 | **4KG96** | 1389.76 | **995.00** | 71.0 |
| C | Commercial Impact Sprinkler | 1641R | **4KG69** | 133.33 | **103.85** | 15.0 |

## WATER HOSE REPAIR KIT AND ACCESSORIES




### A HEAVY-DUTY BRASS WATER HOSE REPAIR KIT

- High quality rod brass construction
- Repairs plastic or rubber hose
- Stainless steel worm gear clamps included
- Female end includes live rubber washer
- No. 4KG68 complete coupling repairs 5/8" water hose; No. 4KG67 complete coupling repairs 3/4" water hose

### B 5/8" BRASS WATER HOSE QUICK-CONNECTORS

- Solid brass construction—connects hose instantly
- Push back collar for quick, leakproof connection
- For 5/8" water hoses only
- Female connector in No. 4KG98 complete coupling and female connector No. 4HK01 automatically shuts off water when disengaged

### C SINGLE WATER HOSE SHUT-OFF

- Has adjustable shut-off valve to control water flow
- Die-cast zinc construction
- For cold water use only

### D 2-WATER HOSE ADAPTER

- Allows use of 2 hoses from 1 faucet
- Chrome-plated zinc alloy casting is for cold water use only
- Adjustable shut-off valve for each hose connection

| Key | Description | Nelson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 5/8" Brass Hose Repair | 1558B | **4KG68** | $7.22 | **$5.95** | 0.3 |
| A | 3/4" Brass Hose Repair | 1534B | **4KG67** | 7.22 | **5.95** | 0.3 |
| B | Water Quick Connector - Complete Coupling (M&F) | N109C | **4KG97** | 7.56 | **5.95** | 0.2 |
| | Water Quick Connector - Complete Coupling (M&F) With Auto Shut Off | N109C-AS | **4KG98** | 8.87 | **6.95** | 0.3 |
| B | Water Quick Connector—Female Only | N109FC | **4KG99** | 5.40 | **4.25** | 0.2 |
| | Water Quick Connector—Female Only with Auto Shut-off | N109FC-AS | **4KH01** | 6.71 | **5.25** | 0.2 |
| B | Water Quick Connector—2 Males Only | N109MC | **4KH02** | 5.07 | **3.95** | 0.2 |
| C | Hose Shut-Off | N111C | **4KH03** | 3.89 | **2.95** | 0.2 |
| D | 2-Hose Adapter | N78C | **4KH07** | 4.89 | **3.95** | 0.3 |

# AUTOMATIC WATER TIMERS AND PIPE AND HOSE THREAD CONNECTORS

## AUTOMATIC WATER TIMERS

### A AUTOMATIC WATER TIMERS

- Shuts water off automatically without wiring or batteries
- Set from 3 hrs. to 30 minutes
- Rugged plastic construction with brass coupling
- Compact unit swivels on faucet for easy access to controls

### B ELECTRONIC WATER TIMER

- Allows 2 watering cycles/day based on delay
- Digital LCD display
- Programs in 1 min. increments up to 30 min. and in 15 min. increments from 30 min. up to 4 hrs.
- Automatic repeat or skips up to 3 days between watering cycles
- Requires 2 C-size alkaline batteries (not included)

### C ELECTRONIC WATER TIMER

- Allows 4 watering cycles/day based on actual time
- Program from 1 min. up to 24 hours
- Automatic repeat or program to water every other day, every 3 days, or to skip any number of days up to 6 days
- 3 pre-programmed settings
- Timed manual mode
- Digital LCD display
- Requires 2 C-size alkaline batteries (not included)

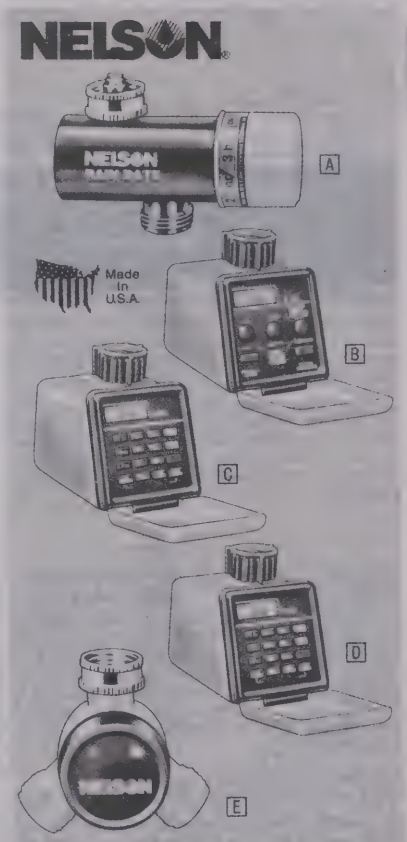
### D ELECTRONIC WATER TIMER

- Allows 6 watering cycles per day
- Program from 1 min. up to 24 hours
- Auto repeat or set to water every other day, every 3 days, or to skip any number of days up to 6 days; repeats a cycle of up to 7 days
- Mist cycle and 6 pre-programmed settings
- Timed manual mode
- Digital LCD display
- Requires 2 C-size alkaline batteries (not included)

### E HYDRAZONER

- Automatic water area switcher designed for use with timers such as Nos. 4KG93, 4KG94, and 4KG95
- Allows user to water two areas from one faucet and timer
- No wiring or batteries needed
- Small compact design made of rugged ABS/Polycarbonate material
- Swivel brass female connector
- Max. operating pressure 150 PSI; min. operating pressure 10 PSI

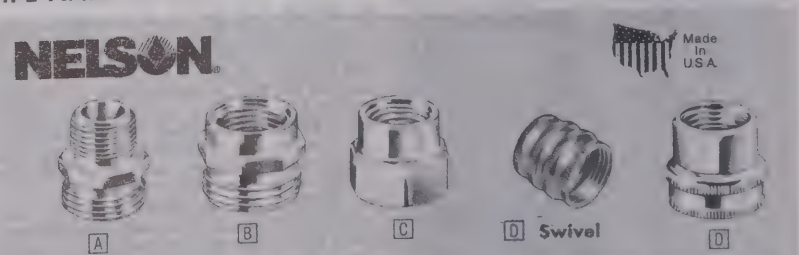
COLD WATER USE ONLY




| Key | Description | Nelson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Automatic Water Timer | 5200 | 4KG91 | $15.56 | $11.95 | 0.3 |
| B | 2-Cycle Electronic Water Timer | 5750 | 4KG93 | 52.18 | 39.95 | 0.9 |
| C | 4-Cycle Electronic Water Timer | 5800 | 4KG94 | 70.56 | 54.95 | 1.2 |
| D | 6-Cycle Electronic Water Timer | 5850 | 4KG95 | 84.44 | 65.95 | 1.2 |
| E | Hydrazoner | 5210 | 4KG92 | 19.95 | 15.95 | 0.4 |

## BRASS PIPE AND HOSE THREAD CONNECTORS

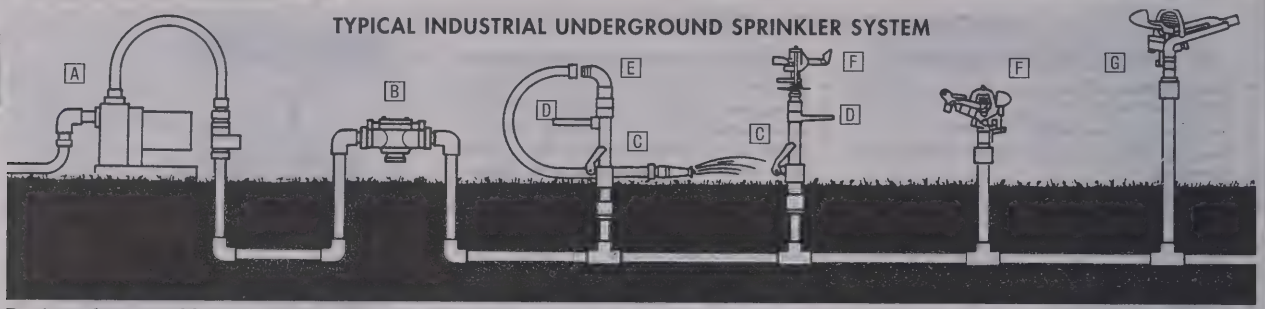
- For connecting threaded pipe and hose of different sizes or types
- Made of high-quality rod brass
- Threads for hose couplings and nipples:
  N.H.—National Hose Coupling
  N.P.T.—National Pipe Taper Thread
  N.P.S.—National Pipe Straight Thread




| Key | Description | Size (In.) | Nelson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Double Male Brass Connector | 3/4 NH x 3/4 NPT x 1/2 NPS | 1829 | 4KG81 | $3.44 | $2.65 | 0.2 |
| | Double Male Brass Connector | 3/4 NH x 3/4 NH | 4833 | 4KG82 | 3.44 | 2.63 | 0.2 |
| | Double Male Brass Connector | 3/4 NH x 3/4 NPT | 4827 | 4X072 | 2.65 | 2.65 | 0.2 |
| | Double Male Brass Connector | 3/4 NH x 1/2 NPT | 1825 | 1P654 | 2.65 | 2.65 | 0.2 |
| B | Male & Female Brass Connector | 3/4 NH (M) x 1/2 NPS (F) | 4847 | 4KG83 | 3.44 | 2.63 | 0.1 |
| | Male & Female Brass Connector | 3/4 NH (M) x 3/4 NPS (F) | 1851 | 4KG84 | 3.44 | 2.63 | 0.2 |
| | Male & Female Brass Connector | 3/4 NH (M) x 3/4 NH (F) | 1849 | 1P723 | 2.10 | 2.10 | 0.1 |
| C | Double Female Connector | 1/2 NPS x 3/4 NH | 1865 | 4KG85 | 3.44 | 2.63 | 0.2 |
| | Double Female Connector | 3/4 NPS x 3/4 NH | 1869 | 4KG86 | 3.44 | 2.63 | 0.2 |
| | Double Female Connector | Swivel 3/4 NH x 3/4 NH | 1873 | 1P724 | 2.15 | 2.15 | 0.1 |
| D | Swivel Hose to Pipe Fitting (Double Female) | 1/2 NPS x 3/4 NH | 4905 | 4KG87 | 3.44 | 2.63 | 0.1 |
| | | 3/4 NPS x 3/4 NH | 4907 | 4KG88 | 3.44 | 2.63 | 0.1 |

# PROFESSIONAL TURF AND AG DUTY SPRINKLING SYSTEM COMPONENTS

## TYPICAL INDUSTRIAL UNDERGROUND SPRINKLER SYSTEM




Design the sprinkler system that best meets your irrigation needs. The number and type of sprinklers on each line can vary according to the landscape needs in each area you plan to irrigate.

A **Sprinkler Pump** may be used to supply pressurized water from a stream, pond, lake, or shallow well for your irrigation system when a direct water hookup is not available. For lawn sprinkler pumps, see page 3137.

B **Backflow Preventer** prevents backflow when supply pressure falls below the system pressure. See page 3051.

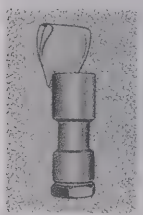
C **Brass Quick Coupler Valve** may be placed at or above ground level. Allows for full water flow when Quick Coupler Key is inserted. Designed for full pressure main line or lateral line.

D **Brass Quick Coupler Key** inserts into valve for water flow. Key is threaded and designed to be used with hose swivels or impact sprinklers.

E **Brass Hose Swivel** allows for water hose hookup and up to 360° rotation for hand watering and other special applications.

F **Heavy-Duty Brass & Stainless Steel Impact Sprinkler Head.** Full or part circle use; adjustable stream flow.

G **Heavy-Duty Brass & Stainless Steel Part or Full Circle Impact Sprinkler** designed for 20° to 340° or continuous 360° coverage.

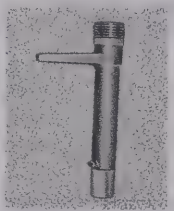


### C BRASS QUICK COUPLER VALVES

Use with ground impact sprinklers or hose swivels for water hose access. Can be kept under constant pressure or valved in groups for zone control. West Ag brand.

**No. 3W728.** 3/4" coupler valve (V075-PL). Shpg. wt. 0.8 lbs. List $26.55. Each.....**$21.24**

**No. 3W729.** 1" coupler valve (V100-PL). Shpg. wt. 1.9 lbs. List $39.86. Each.....**$31.90**



### D BRASS QUICK COUPLER KEYS

Heavy-duty cast brass single lug keys. Sizes vary to facilitate most sprinkler sizes. Also helps to prevent theft and vandalism. West Ag brand.

**No. 3W730.** 3/4" coupler key (C075). Shpg. wt. 0.8 lbs. List $17.75. Each .....**$14.20**

**No. 3W731.** 1" coupler key (C100). Shpg. wt. 1.2 lbs. List $36.72. Each .....**$29.40**

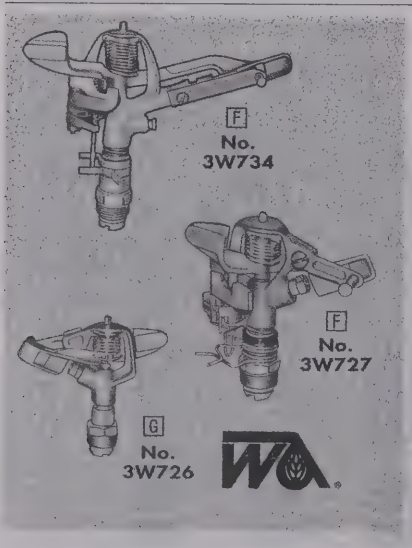


### E BRASS HOSE SWIVELS

When connected, allow for 360° hose rotation for hand watering and other hose applications. Fit standard 3/4" hose. Available in 2 sizes. West Ag brand.

**No. 3W732.** Fits 3/4" hose x 3/4" NPT (HS-075). Shpg. wt. 0.8 lbs. List.....$26.85. Each .....**$21.48**

**No. 3W733.** Fits 3/4" hose x 1" NPT (HS-100). Shpg. wt. 1.0 lbs. List.....$28.35. Each .....**$22.68**




### F G IMPACT SPRINKLERS

**No. 3W726. 1/2" Full Circle.** For heavy-duty AG applications. Solid brass construction with stainless steel drive spring. West Ag brand (S90DFULL).

**No. 3W727. 1/2" Part/Full Circle.** For industrial and commercial turf, lawn & garden and general applications. Solid brass body and arm, stainless steel drive spring, and stainless steel trip collars. 20° to 340° arc or full circle. West Ag brand (S63D).

**No. 3W724. 1/2" Part/Full Circle.** For turf, lawn & garden applications. Solid brass body, silicon brass driver arm has patented spray grooves which decrease dry area in center of distribution. Stainless steel drive spring, trip collars, and trip assembly. 20° to 340° arc or full circle. West Ag brand (S90D).

**No. 3W725. 3/4" Full Circle.** For heavy-duty AG applications. Solid brass construction with stainless steel drive spring and sure-seal bearing assembly. West Ag brand (S2000).

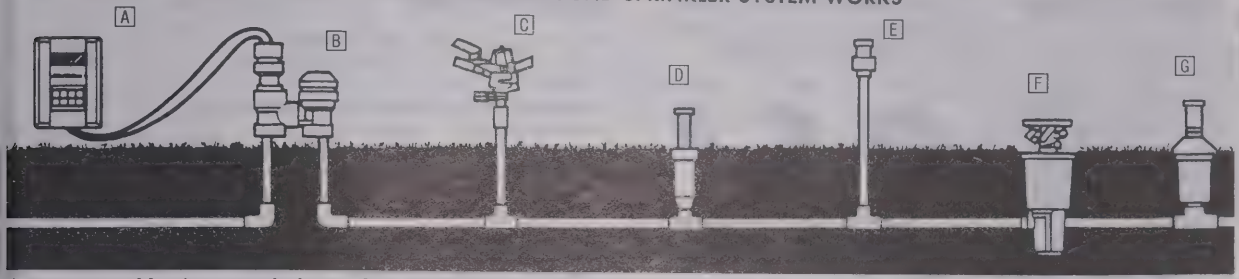
**No. 3W723. 3/4" Part/Full Circle.** For large turf applications, commercial and highway maintenance, and farm irrigation. Solid brass construction, stainless steel drive spring, friction tip collars, and trip assembly. 20° to 340° arc or full circle. West Ag brand (S261DST).

**No. 3W734. 1" Part/Full Circle.** For fairway or field applications and dust control. Heavy-duty brass construction. Cast brass trip assembly; stainless steel friction trip collars. 20° to 340° arc or full circle. West Ag brand (S360BA).

| Key | Size (In.) | Thread (Male) | Spray Pattern (Circle) | Pressure (PSI) | GPM | Rad. of Throw (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| G | 1/2 | NPT | Full w/diffuser | 26-60 | 3.50-5.50 | 37-41 | **3W726** | $15.63 | **$12.50** | 0.5 |
| F | 1/2 | NPT | Full & Part w/diffuser/deflector | 25-55 | 3.55-5.37 | 35-48 | **3W727** | 21.26 | **17.01** | 0.7 |
| F | 1/2 | NPT | Full & Part w/diffuser/deflector | 25-50 | 3.40-5.00 | 38-41 | **3W724** | 21.58 | **17.26** | 1.0 |
| G | 3/4 | NPT | Full | 35-80 | 6.00-9.10 | 52-59 | **3W725** | 19.16 | **15.33** | 2.0 |
| F | 3/4 | NPT | Full & Part w/diffuser/deflector | 30-60 | 5.50-7.80 | 43-48 | **3W723** | 42.97 | **34.40** | 2.5 |
| F | 1 | NPT | Full & Part w/diffuser | 35-75 | 16.40-24.20 | 55-71 | **3W734** | 71.66 | **57.35** | 3.2 |

# UNDERGROUND SPRINKLER SYSTEM COMPONENTS

## HOW AN UNDERGROUND SPRINKLER SYSTEM WORKS




A programmable timer sends low voltage signals to an electric valve, supplying water to sprinklers for a set period of time. Sprinklers on each valve can be varied according to landscape needs in each part of a yard. One valve can control many sprinklers. One timer can control many valves/stations. The basic components of the sprinkler system, not including pipe and fittings, are listed at right.

A **Rain Clock Digital Timers.** Allows automatic watering every day.

B **Automatic Sprinkler Valves.** Constructed of noncorrosive thermoplastic. Solenoids encased in plastic housing to prevent rust.

C **Impulse Sprinkler Heads.** Full or partial circle coverage. Adjustable stream length.

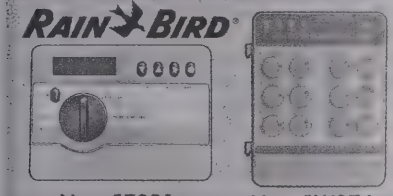
D **Pop-Up Spray Heads.** Disappear into lawn when not in operation. Available in quarter, half, full or adjustable circle patterns.

E **Shrubbery Spray Heads.** For special plantings that require careful waterings.

F **Pop-Up Impulse Sprinklers.** Installed at ground level, pops up to water. For medium to large areas.

G **Pop-Up Rotor Sprinklers.** Full and part circle coverage. Closed case design for trouble-free performance.

RAIN BIRD



No. 5Z301 No. 3W974

### DUAL PROGRAM TIMER

- Flexible day schedule allows automatic watering every day, every other day, every third day, and so on
- Choose between 6 pre-programmed schedules or customize your own
- Water-conserving dual program enables two separate watering schedules, up to three starts each day
- 0-180 minute station timing
- Pump start output
- Rainbird brand (ISA-406)

**No.5Z301.** Automatic Timer. Shpg wt.1.8 lbs. List $98.25. Each .....$75.25

### DIGITAL SPRINKLER TIMER

- Create separate schedules for each station, up to 6 stations
- Automatic watering up to 3X per day
- Station watering time from 1 - 45 min. or up to 3 hours for slow drip
- Pause feature, manual on/off and rain switch give you added control and flexibility in watering schedules
- Large, easy-to-read LCD display
- Pump start output
- Rainbird brand (PC-506)

**No. 3W974.** Rain Timer. Shpg. wt. 3.0 lbs. List $93.35. Each.....$84.00

RAIN BIRD



No. 5Z297 No. 5Z299

- Valve bodies constructed of durable, noncorrosive thermoplastic with ultraviolet inhibitors
- All solenoids have PVC and acetal resin plastic housing to prevent rust
- Solenoid rating: 24 volts, 50/60 Hz, inrush: 0.30 amps, holding: 0.19 amps
- Rated at 125 PSI max. working pressure

**Sure Flow™ Automatic Anti-Siphon Valves** feature combination electric remote control valve and atmospheric backflow preventer in one unit. Meets I.A.P.M.O. and A.S.S.E. listing specifications. Easy-to-turn pressure-assisted flow control mechanism. Electric valves work with any standard 24 volt sprinkler timer. Comes in 3/4 and 1" sizes.

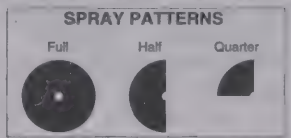
### B AUTOMATIC VALVES

**Automatic In-Line Valves** for city systems or pump systems where backflow protection is not required. In-line installation reduces pressure loss. Designed for underground installation. Operates automatically or manually with manual bleed screws. Reverse flow design reduces stress on diaphragm for dependable operation. Works with any standard timer. Comes in 3/4 and 1" sizes.

**Filtered Drain Valve** protects against freezing by automatically draining pipes when water is turned off. Unique two stage screening process. Valve prevents grit from siphoning back into pipes. Eliminates need for gravel drain. 1/2" MPT connection.

| Connections | Rainbird Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **AUTOMATIC ANTISIPHON VALVES** | | | | | |
| **3/4" FPT** | DAS-075 | **5Z297** | $39.50 | **$34.75** | 1.8 |
| **1 FPT** | DAS-100 | **5Z298** | 39.35 | **34.60** | 1.8 |
| **AUTOMATIC IN-LINE VALVES** | | | | | |
| **3/4 FPT** | CP-075 | **5Z299** | 25.55 | **23.68** | 1.0 |
| **1 FPT** | CP-100 | **5Z300** | 25.55 | **23.66** | 1.0 |
| **FILTERED DRAIN VALVE** | | | | | |
| **1/2 MPT** | 16A-FDV | **5Z302** | 2.90 | **1.98** | 0.1 |

**SPRAY PATTERNS**

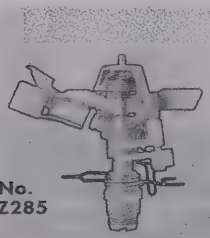



**MATCHED FLOW RATE PERFORMANCE CHART FOR PLASTIC SPRAY HEADS AND NOZZLES AT 20 PSI**

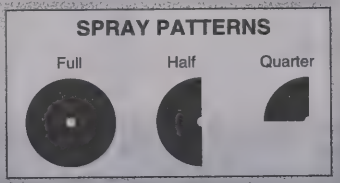
| Pattern | Nozzle Designation | Radius (Feet) | GPM Output | SP25 | SP40 | A17 |
|---|---|---|---|---|---|---|
| Full | F | 12 | 3.0 | 5Z290 | 5Z293 | 5Z296 |
| Half | H | 12 | 1.5 | 5Z289 | 5Z292 | 5Z295 |
| Quarter | Q | 12 | 0.75 | 5Z288 | 5Z291 | 5Z294 |
| Adjustable | A | 12 | 0.75 - 3.0 | 3W971 | 3W972 | N/A |

# UNDERGROUND SPRINKLER SYSTEM COMPONENTS

## RAIN BIRD® C IMPULSE SPRINKLER HEAD



No. 5Z285




Spray Pattern for Impulse Sprinkler Head No. 5Z287

- **Full circle or part circle coverage up to 82 ft. diameter**
- **50 ft. maximum spacing**
- **1/2" MPT**
- **25 to 50 PSI operating pressure with maximum 5.0 GPM output at 50 PSI, high gallonage output**

### BRASS IMPULSE SPRINKLER HEAD

No. 5Z285 has a brass body, bronze arm, and stainless steel trip assembly. Adjustable deflector controls stream length from 20 to 41 foot radius. Diffuser screw breaks water into smaller droplets. Precision Jet, PJ™ spray guide arm controls stream, stops side splash, saves water.

| Flow | Rainbird Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **High** | 25PJDA-C | **5Z285** | $27.25 | **$22.61** | 0.7 |

### PLASTIC IMPULSE SPRINKLER HEAD

Full circle or part circle coverage up to 82 foot diameter. Durable high-impact acetal resin plastic body and trip assembly with stainless steel trip lever. Diffuser screw adjusts stream length from 20 to 41 foot radius. Precision Jet, JP™ spray guide arm controls stream, prevents side splash, and saves water. 50 feet maximum spacing. 1/2" MPT connection. Rainbird brand (P5PJC).

**No. 5Z285.** Shpg. wt. 0.7 lbs. List $27.25. Each.....**$22.61**

**No. 5Z287.** Shpg. wt. 0.2 lbs. List $9.73. Each.....**$9.06**

## RAIN BIRD® F POP-UP IMPULSE SPRINKLERS

- **Full or part circle spray pattern**
- **Acetal resin plastic & stainless steel head**
- **Diffuser screw adjusts stream length**
- **Precision Jet, PJ™ spray guide arm controls stream, prevents side splash, saves water**
- **Gritproof bearing**
- **3" pop-up clearance**
- **Filled polypropylene plastic case 4⅛" dia., 8⅝"H, 1/2" female connection at side or bottom**
- **Nos. 5Z283 and 5Z284 have 25 to 50 PSI operating pressure with maximum 3.6 GPM output at 50 PSI**



No. 5Z283

**No. 5Z283**—has low gallon flow for more head per circuit, especially suited for low water pressure areas. Recommended spacing—25 to 43 ft. apart. "Mini Paw."

**No. 5Z284**—has medium gallon flow to reduce sprinkling time by watering at faster rate of flow. Recommended spacing—28 to 49 ft. apart. "Mini Paw."

**No. 3W973**—has maximum gallon flow for fastest coverage. Five interchangeable, color-coded Matched Precipitation Rate Nozzles. No tools needed to change nozzles. Variable nozzle options provide for all gallonage flow with variable watering rate of 1.9 GPM to 8.4 GPM @ 60 PSI. Recommended spacing—36 to 54 ft. apart. "Maxi Paw."

| Flow | Rainbird Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Low** | LG-3 | **5Z283** | $29.79 | **$27.60** | 1.2 |
| **Medium** | MG-4 | **5Z284** | 29.79 | **27.60** | 1.0 |
| **Adjustable** | AG-5 | **3W973** | 34.03 | **31.80** | 1.2 |

### HEAD REMOVAL WRENCH

Wrench removes sprinkler head from case for cleaning or replacement for Nos. 5Z283, 5Z284 & 3W973. Rainbird brand (42064).

**No. 5Z303.** Head Removal Wrench. Shpg. wt. 0.4 lbs. List $8.19. Each.....**$5.85**

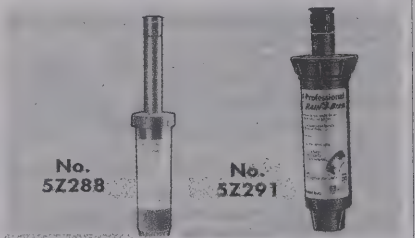
## D & E POP-UP AND SHRUBBERY SPRAY HEADS

RAIN BIRD®

**Plastic 2½" Pop-Up Spray Heads** feature exclusive cover ring that traps grit. Stainless steel spring ensures position retraction. Made of durable, high-impact PVC plastic. Can be spaced up to 15 feet apart. 1/2" female connection at bottom. Matched Flow Rate (MFR) nozzles ensure uniform coverage when patterns are mixed on the same circuit. MFR nozzles have corrosion-resistant stainless steel screws which regulate distance thrown up to 12 feet. Coverage patterns: quarter, half, full circle and adjustable

**Pop-Up Spray Heads** have a 4" pop-up clearance for normal grass. Accepts all 15 series MFR nozzles. Body labels are color coded by spray pattern. 4" overall length. Available in three spray patterns: quarter, half, full circle, and variable.

**Shrubbery Spray Heads** accept all series MFR nozzles. Adjustment screw regulates distance thrown up to 12 feet. Can be spaced up to 15 feet apart. 1/2" female pipe connection. Available in quarter, half, and full circle coverage patterns, end strip and center strip.



No. 5Z288

No. 5Z291

| Circle Pattern | Rainbird Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **2 1/2" POP-UP SPRAY HEADS** | | | | | |
| **Quarter** | SP25-Q | **5Z288** | $3.45 | **$3.19** | 0.2 |
| **Half** | SP25-H | **5Z289** | 3.45 | **3.19** | 0.2 |
| **Full** | SP25-F | **5Z290** | 3.45 | **3.19** | 0.2 |
| **Adjustable** | SP25-AP | **3W971** | 6.22 | **3.57** | 0.2 |
| **PROFESSIONAL 4" POP-UP SPRAY HEADS** | | | | | |
| **Quarter** | 1804-Q | **5Z291** | 6.23 | **5.60** | 0.3 |
| **Half** | 1804-H | **5Z292** | 6.23 | **5.60** | 0.2 |
| **Full** | 1804-F | **5Z293** | 6.23 | **5.60** | 0.2 |
| **Adjustable** | 1804-VAN | **3W972** | 7.62 | **6.24** | 0.3 |
| **SHRUBBERY SPRAY HEADS** | | | | | |
| **Quarter** | A-17-Q | **5Z294** | 1.94 | **1.79** | 0.1 |
| **Half** | A-17-H | **5Z295** | 1.94 | **1.79** | 0.1 |
| **Full** | A-17-F | **5Z296** | 1.94 | **1.79** | 0.1 |

## G POP-UP ROTOR SPRINKLER

RAIN BIRD®



No. 3W975

- **Closed case rotor prevents dirt, sand, and other debris from getting inside**
- **Pattern adjusts from part to full circle**
- **Consistent rotation speed provides uniform coverage**
- **Water-lubricated drive mechanism provides quiet operation**

3.0 GPM nozzle provides maximum coverage. 3/4" inlet at bottom allows easy replacement to existing systems, spacing from 33 to 40 ft. apart. 4-9GPM @ 60PSI. Rainbird brand (TDR-2/R-50).

**No. 3W975.** Closed Case Rotor. Shpg. wt. 1.2 lbs. List.....$29.58. Each.....**$27.70**

# COMPRESSED AIR SPRAYERS

## STAINLESS STEEL SPRAYERS

**Constructed with high quality 304 Grade stainless steel** for maximum chemical resistance and easy cleaning. Electronically welded seams and overlapping tops add extra strength and durability. Comfortable carrying strap for easy handling.

### A COMPRESSED AIR SPRAYERS

**For use in a sanitary environment.** Ideal for cleaning, light degreaser, and other sanitary applications.

- **4½" open head for easy filling, mixing and cleaning**
- **Heavy-duty 9" brass pump for efficient pressurizing**
- **Brass plated shut-off assembly and 42" reinforced nylon hose**
- **No. 6Z169 has 12" solid brass extension wand and nozzle; No. 4W499 has 18" solid brass extension wand and nozzle**
- **No. 6Z169 has 2 gallon capacity; No. 4W499 has 3 gallon capacity**

### B PROFESSIONAL PEST CONTROL SPRAYER

For pesticide, herbicide, and fungicide applications, light cleaning and degreasing applications. Made with Viton® gaskets and O-rings for maximum chemical resistance and easy cleaning.

- **Twist-Lock D-grip handle incorporates a safety pressure-release feature**
- **Comes with a 48" hose and 18" brass extension wand with adjustable pattern nozzle—crack and crevice tip assembly included**
- **1 Gallon capacity**

### C PORTABLE PUMP CART SPRAYER

For commercial landscaping, nurseries, lumberyards, farms and vineyards for pesticide/herbicide applications, cleaning, sealing, and light-duty maintenance/chemical use.

- **Sturdy hand cart for maximum portability**
- **5.25 gallon usable capacity for large area applications**
- **Brass pump for quick, easy pressurizing**
- **10 Ft. reinforced nylon hose**
- **18" brass extension wand with adjustable cone nozzle**
- **Stainless steel tank detaches from steel tube frame for easy cleaning, storage**

## TRI-POXY SPRAYERS

**12-Step epoxy coating process** inhibits corrosion and rust on all interior seams, welds, walls, and bottoms. Tanks rinse clean to prevent cross-contamination of chemicals. Comfortable carrying strap for easy handling.

### D LIGHT-DUTY SPRAYER

**Ideal for light industrial applications.** Uses include herbicides, pesticides, and sealants.

- **Wide mouth, funnel top for easy filling, mixing, and cleaning**
- **Brass plated shut-off assembly**
- **18" brass extension wand and adjustable cone nozzle**

### E LIGHT-DUTY SPRAYER

**Ideal for light/small construction applications.** Common uses include form oil and curing compound applications.

- **4½" open head tank for easy cleaning and filling**
- **Brass plated shut-off assembly**
- **18" brass extension wand and adjustable cone nozzle**

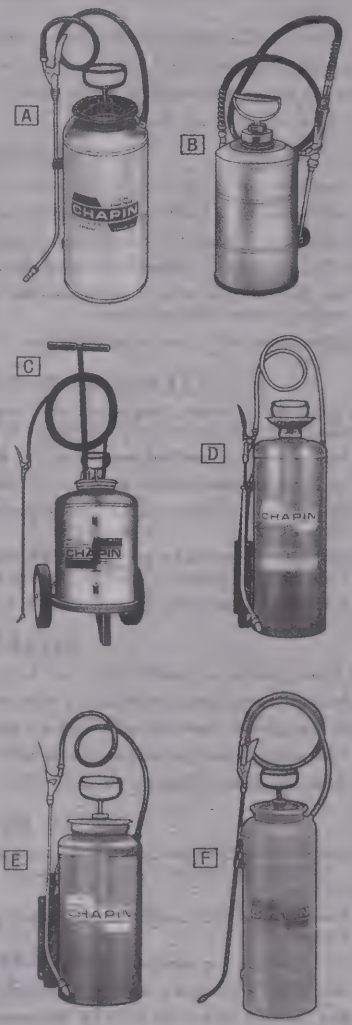
### F CONSTRUCTION-DUTY SPRAYER

**Ideal for all construction applications.** Common uses include form oil and curing compound applications.

- **4½" open head tank for easy cleaning, mixing, and filling**
- **Solid brass shut-off for corrosion protection**
- **24" brass extension wand and 1/2 GPM brass fan tip nozzle**
- **Heavy-duty brass threaded fittings—easy changing of hose, shut-off, or nozzle**

CHAPIN

REPLACEMENT PARTS SOLD ON PAGE 2703




| Key | Description | Type | Usable Capacity (Gals.) | Hose Length (In.) | Pump Length (In.) | Extension Tube (In.) | Viton Seals/Gaskets | Chapin Model | Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Compressed Air | Stainless Steel | 2.0 | 42 | 9 | 12 | No | 1739 | 6Z169 | $141.26 | $89.95 | ▲ | 9.3 |
| A | Compressed Air | Stainless Steel | 3.0 | 42 | 12 | 18 | No | 1749 | 4W499 | 153.52 | 99.95 | ▲ | 11.0 |
| B | Compressed Air | Stainless Steel | 1.0 | 48 | 8 | 18 | Yes | 1018 | 3XL16 | 313.95 | 199.00 | ▲ | 8.5 |
| C | Manual Pump Cart | Stainless Steel | 5.25 | 10 ft. | 14 | 18 | No | 6300 | 3XL41 | 319.95 | 219.00 | ▲ | 29.0 |
| D | Light Duty | Tri-Poxy | 3.5 | 42 | 12 | 18 | No | 1480 | 2Z706 | 71.10 | 44.95 | ▲ | 8.8 |
| E | Light Duty | Tri-Poxy | 3.0 | 42 | 12 | 18 | No | 1831 | 2Z707 | 97.54 | 65.95 | ▲ | 9.8 |
| F | Construction Duty | Tri-Poxy | 3.5 | 48 | 14 | 24 | No | 1949 | 4Z122 | 117.95 | 79.95 | ▲ | 11.0 |

(▲) Net prices, not subject to discounts.

# COMPRESSED AIR SPRAYERS

## POLYETHYLENE SPRAYERS

**Durable high-density polyethylene construction** resists breakage, leaking, and chemical corrosion.

### [A] PREMIER POLYETHYLENE SPRAYER

**For light-duty jobs** and chemical maintenance applications.

- **High-density polyethylene construction resists breaking, leaking, and chemical corrosion**
- **Built-in relief valve and pressure gauge preset to release at 45 PSI**
- **Brass-plated shut-off with lock-on feature allows for continuous spraying**
- **Brass extension wand rotates 360°**
- **3 fan nozzle pack included**

### [B] INDUSTRIAL SPRAYERS

**For use with** form oils, curing compounds, and general light chemical use.

- **Serviceable polyethylene pump for efficient pressurizing**
- **Built-in relief valve and pressure gauge for added safety**
- **18" solid brass extension wand with 1/2 GPM brass fan tip nozzle**
- **No. 3ZC30 has Viton®-equipped seals and gaskets for maximum protection against chemical corrosion**
- **Both come with a comfortable carrying strap for easy handling**

### [C] CLEANING AND DEGREASING SPRAYERS

**For tough acid, solvent, degreaser, and stripping projects.** For cleaning concrete, masonry, engines, and janitorial/sanitation applications.

- **Serviceable polyethylene pump for efficient pressurizing**
- **Lock-off mechanism to prevent accidental discharge**
- **No. 3ZC31 features a 12" polyethylene extension wand with adjustable poly cone nozzle**
- **No. 3XL17 features an 18" polyethylene extension wand with adjustable poly cone nozzle—sprays coarse stream to a fine mist**
- **No. 3XL17 features a comfortable carrying strap for easy handling**

### [D] KNAPSACK SPRAYER

**For home garden, orchards,** and other farm and agricultural applications.

- **Poly piston pump for higher pressure and longer service**
- **Brass-plated shut-off with lock-on feature for continuous spraying**
- **18" solid brass extension wand with 2-part brass adjustable cone nozzle**
- **Nozzles attach directly to shut-off or extension wand**

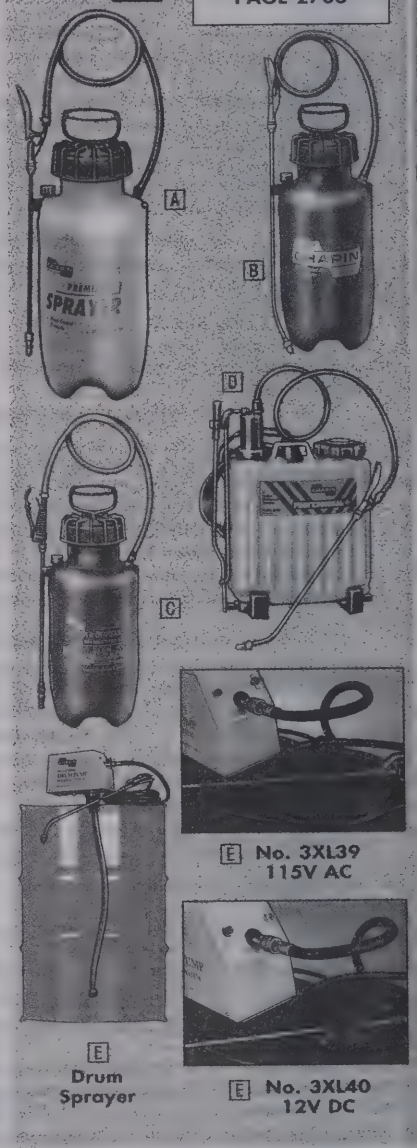
### [E] DRUM PUMPS

**Dispenses chemicals from 5, 30, and 55-gallon drums.** For a variety of applications, from curing compounds, to form oils and sealant applications. Use with solutions with less than 30% solids.

- **Pressure control switch automatically shuts off when pump discharge valve is closed**
- **18" solid brass extension wand with two (0.5 and 1.0 GPM ) brass fan nozzles**
- **No. 3XL39 features an 8 ft, 3-cond. 115V AC power supply cord**
- **No. 3XL40 has a 20 ft, 12V DC power supply with battery clips**

CHAPIN

REPLACEMENT PARTS SOLD ON PAGE 2703



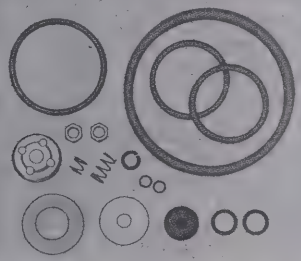

| Key | Description | Tank Type | Capacity (Gal.) | Hose Length (In.) | Pump Length (In.) | Extension Tube (In.) | Viton Seal/Gasket | Chapin Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Premier Sprayer | Polyethylene | 2.00 | 42 | 7 | 12 | No | 2122 | **3XL18** | $56.88 | **$39.95▲** | 5.2 |
| B | Industrial Sprayer | Polyethylene | 3.00 | 36 | 9 | 18 | No | 2209 | **4Z398** | 68.95 | **45.95▲** | 6.8 |
| B | Industrial Sprayer | Polyethylene | 3.00 | 36 | 9 | 18 | Yes | 2279 | **3ZC30** | 81.95 | **54.95▲** | 6.8 |
| C | Cleaning & Degreasing Sprayer | Polyethylene | 2.00 | 42 | 9 | 12 | Yes | 2235 | **3ZC31** | 70.95 | **48.95▲** | 5.0 |
| C | Cleaning & Degreasing Sprayer | Polyethylene | 3.00 | 42 | 9 | 18 | Yes | 2236 | **3XL17** | 79.95 | **54.95▲** | 6.0 |
| D | 4 Gal. Knapsack Sprayer | Polyethylene | 4.00 | 48 | 18 | 18 | No | 6140 | **3ZC32** | 121.94 | **79.95▲** | 11.0 |
| E | Drum Pump Sprayer | — | Drum | 50 Ft | — | 18 | Yes | 6060 | **3XL39** | 638.95 | **399.00▲** | 13.0 |
| E | Drum Pump Sprayer | — | Drum | 50 Ft. | — | 18 | Yes | 6061 | **3XL40** | 691.95 | **429.00▲** | 15.0 |

(▲) Net prices, not subject to discounts.

# REPLACEMENT PARTS FOR CHAPIN SPRAYERS

The items below are for Chapin Sprayers sold on pages 2701 and 2702.

For the full line of replacement parts for Chapin sprayers, please call 1-800-323-0620.



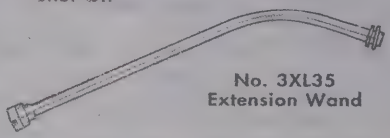
No. 3XL23
Repair Kit




No. 3XL31
Nozzle



No. 3XL20
Shut-Off



No. 3XL35
Extension Wand

Replacement Parts Available
1-800-323-0620



No. 3XL34
Reinforced Hose

| Description | Type | For Use With Nos. | Chapin Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Repair Kits** | Seals & Gaskets | 2Z706, 3XL18 | 6-1925 | **3XL22** | $8.64 | **$7.78▲** | 0.2 |
| | Seals & Gaskets | 2Z707, 6Z169, 4W499, 4Z122, 4Z398, 3XL41 | 6-4627 | **3XL23** | 12.11 | **10.90▲** | 0.6 |
| | Seals & Gaskets w/ Viton | 3ZC30, 3ZC31, 3XL17 | 6-4628 | **3XL24** | 19.60 | **17.64▲** | 0.7 |
| | Seals & Gaskets w/ Viton | 3XL16 | 3-1831 | **3XL19** | 62.87 | **56.60▲** | 0.1 |
| | Seals & Gaskets | 3ZC32 | 6-4643 | **3XL29** | 19.04 | **17.14▲** | 0.4 |
| **Nozzles** | Brass Adjustable | 2Z706, 2Z707, 3XL18, 6Z169, 4W499, 3ZC32, 3XL41 | 6-6000 | **3XL31** | 4.87 | **4.38▲** | 0.2 |
| | Brass Fan | 4Z122, 4Z398, 3ZC30, 3XL39, 3XL40 | 6-5797 | **3XL30** | 5.58 | **5.02▲** | 0.2 |
| | Poly Adjustable | 3ZC31, 3XL17 | 6-6003 | **3XL27** | 5.24 | **4.72▲** | 0.3 |
| **Extension Wands** | Brass 12" | 3XL18, 6Z169 | 6-7701 | **3XL35** | 7.33 | **6.60▲** | 0.1 |
| | Brass 18" | 2Z706, 2Z707, 4W499, 3ZC32, 3XL41 | 6-7711 | **3XL37** | 8.13 | **7.32▲** | 0.3 |
| | Brass 18" | 4Z398, 3ZC30, 3XL39, 3XL40 | 6-7742 | **3XL38** | 9.82 | **8.84▲** | 0.1 |
| | Brass 24" | 4Z122 | 6-7704 | **3XL36** | 10.78 | **9.70▲** | 0.1 |
| | Poly 12" | 3ZC31 | 6-7748 | **3XL25** | 5.00 | **4.50▲** | 0.1 |
| | Poly 18" | 3XL17 | 6-7749 | **3XL26** | 5.82 | **5.24▲** | 0.7 |
| **Shut-Offs** | Brass-plated | 2Z706, 2Z707, 3XL18, 6Z169, 4W499, 3ZC32, 3XL41 | 6-1866 | **3XL20** | 11.75 | **10.58▲** | 1.0 |
| | Brass | 4Z398, 3ZC30, 3XL39, 3XL40 | 6-1898 | **3XL21** | 22.83 | **20.55▲** | 0.7 |
| | Brass | 4Z122 | 6-6062 | **3XL32** | 23.31 | **20.98▲** | 0.4 |
| | Poly | 3ZC31, 3XL17 | 6-4638 | **3XL28** | 14.40 | **12.96▲** | 0.6 |
| **Hoses** | 42" Reinforced | 2Z706, 2Z707, 3XL18, 6Z169, 4W499, 4Z398, 3ZC30, 3ZC31, 3XL17 | 6-6136 | **3XL34** | 8.84 | **7.96▲** | 0.5 |
| | 48" Industrial Reinforced | 4Z122 | 6-6091 | **3XL33** | 22.75 | **20.48▲** | 0.5 |

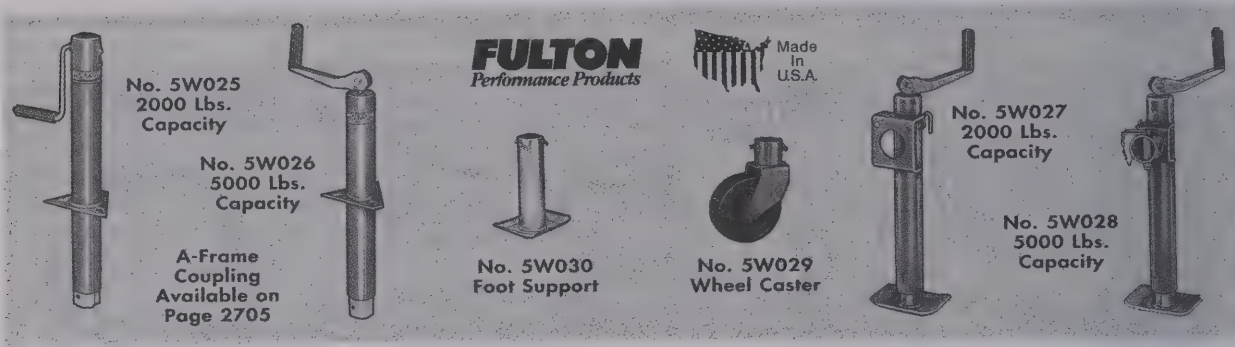
(▲) Net prices, not subject to discounts.

DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# TRAILER JACKS AND STAND

## INDUSTRIAL/AGRICULTURAL JACKS




Rolled Acme threads and steel anti-friction thrust bearings for smooth cranking and long cycle life. Top-wind handle (side-wind handle on No. 5W025) folds away for easy storage. 2000 and 5000 pound load capacities.

Nos. 5W025 and 5W026 A-frame jacks use optional caster wheel or foot support listed below. Nos. 5W027 and 5W028 come with heavy gauge zinc plated steel foot ensuring a strong base for lifting heavy loads on soft ground. No. 5W027 has snap ring mounting bracket, No. 5W028 has tubular mounting bracket.

| Load Capacity (Lbs.) | Overall Length Retracted (In.) | Gear Travel (In.) | Fulton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **2000** | 20 | 14 | JA214S | **5W025** | $52.53 | **$42.05** | 12.0 |
| **5000** | 19.2 | 14 | JA514T | **5W026** | 44.84 | **35.90** | 11.0 |
| **2000** | 14.5 | 10 | 210TS11 | **5W027** | 58.93 | **47.20** | 13.0 |
| **5000** | 18.5 | 15 | 515TG15 | **5W028** | 76.87 | **61.50** | 16.0 |

### WHEEL CASTER

Caster assembly with 6" rustproof polyolefin wheel for smooth easy rolling ground support on soft surfaces. Easily attach to Fulton jacks with 3/8" cross pin clip included. 1000 lb. static load capacity. Fulton brand (CE555).

**No. 5W029.** Fulton Wheel Caster. Shpg. wt. 4.5 lbs. List $27.30.
Each ..... **$21.84**

### SUPPORT FOOT

4 x 6" foot pad provides firm ground support for Fulton jacks on soft surfaces. Features 8" extension tube to provide same lift capability as Fulton caster. Zinc plated for corrosion protection. Easily attaches to jack with 3/8" pin and pin clip included. 2000 lb. load capacity. Fulton brand (F2000).

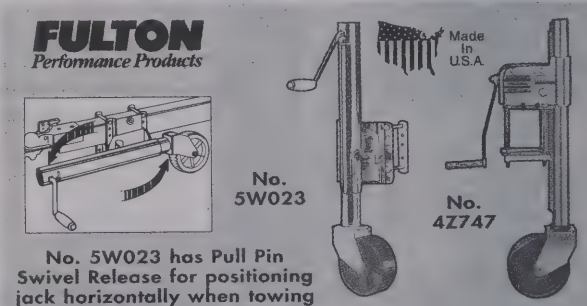
**No. 5W030.** Fulton Support Foot. Shpg. wt. 3.7 lbs. List $18.20.
Each ..... **$14.56**

## RV/MARINE TRAILER JACKS

Heavy-duty construction with zinc plated housing and tube to resist corrosion. Bolt to trailer tongues up to 3" wide x 5" high. Mounting bracket attaches to jack in minutes with common hand tools. Side wind handle.

**No. 4Z747 600 Lbs. Load Capacity Gear Jack** provides up to 24" lift with smooth operating rack and pinion gear system. Self-locking worm gear holds jack at desired level. 6" polyolefin wheel retracts along side of frame to prevent damage during towing. Made in U.S.A.

**No. 5W023 1000 Lbs. Load Capacity Screw Jack** provides up to 25" lift. Comes with 6" polyolefin wheel. Features unique pull pin swivel release that enables jack to swing up in seconds to horizontal position for towing. Factory assembled bolt on mounting bracket provides quick, easy installation. Made in U.S.A.



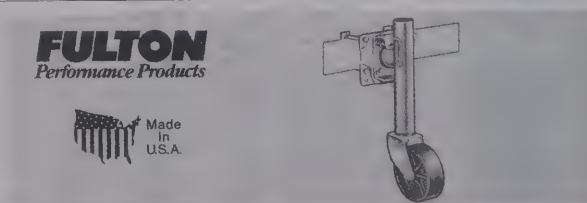

| Load Capacity (Lbs.) | Lift Range (In.) | Overall Ht. (In.) | Fulton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **600** | 7-24 | 27 | TJ650 | **4Z747** | $75.59 | **$60.50** | 15.0 |
| **1000** | 15-25 | 23 | TJ1055 | **5W023** | 75.59 | **60.50** | 18.0 |

## TRAILER STAND

- **Swing-away operation**

Economical trailer stand has 350 pound load capacity. Bolts to trailer tongues up to 3" wide x 5" high, or may be welded on. Made in U.S.A. Fulton brand (TSC-350).

**No. 6Z176.** Shpg. wt. 9.0 lbs. List $47.86.
Each ..... **$38.30**



## FAS-LOK™ TRAILER COUPLER

**Nos. 2W698 and 2W699.** FAS-LOK™ couplings bolt to the trailer tongue and provide a simple hookup to a 1⅞" ball for Class I trailers, gross vehicle weight (GVW) up to 2000 lbs. or a 2" ball for Class II trailers, GVW up to 3500 lbs.

Safety latch prevents accidental uncoupling. Zinc coated finish. Made in U.S.A. Fulton brand.

## A-FRAME COUPLER

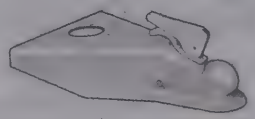
**Nos. 5W232 and 3W749.** Coupling mounts to 50° A-frame. Used with Nos. 5W025 and 5W026 jacks. 2" or 2⅝" ball size. No. 5W232 is Class III, 5000 lb. with 2" ball size. No. 3W749 is Class IV, 10,000 lb. with 2⅝" ball size. Jack mounting hole 2.29" dia. Bolt and thread 3/8"-16 UNC. Prime painted finish. Made in U.S.A. Fulton brand.

| Class | Capacity GVW (Lbs.) | Ball Size (In.) | Tongue Width (In.) | Fulton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| I | 2000 | 1⅞ | 3 | 11-300 | **2W698** | $16.73 | **$13.39** | 2.7 |
| II | 3500 | 2 | 3 | 22-300 | **2W699** | 24.46 | **19.57** | 4.1 |
| III | 5000 | 2 | 50° A-Frame | 33-305 | **5W232** | 36.75 | **29.40** | 5.6 |
| IV | 10,000 | 2⅝ | 50° A-Frame | 44-305 | **3W749** | 40.68 | **32.60** | 8.0 |

FULTON Performance Products — Made in U.S.A.

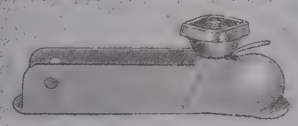


No. 2W698



No. 5W232

FULTON Performance Products — Made in U.S.A.



No. 5W233

## HAND WHEEL COUPLER

Heavy-duty hand wheel designed to screw down tight on ball. Must be fully engaged before towing. Preferred for rental and utility trailers. 2" ball size, 2⅞" wide channel. 5000 lbs. max. trailer GVW. Prime painted finish. Made in U.S.A. Fulton brand (308).

**No. 5W233.** Shpg. wt. 5.0 lbs. List.....$42.48.
Each.....**$34.00**

## TRAILER HITCH BALLS

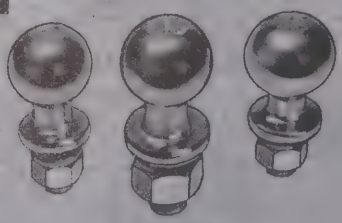
**Solid Steel and Zinc Hitch Balls** are cold-formed and heat-treated for added strength. Steel balls have a chrome-plated surface that protects against corrosion and enables smooth operation with a coupler. Hitch balls are available in different sizes, shank diameters, and lengths to fit your specific draw bar or step bumper applications. All Reese hitch balls comply with Safety Specification and Requirements of VESC Regulations V-5. Hitch load rating must equal or exceed the trailer Gross Vehicle Weight Rating (GVWR). Reese brand.

### BALL COVER

Protects ball hitch when not in use.

**No. 4KD28.** Shpg. wt. 0.1 lbs. List.....$2.19.
Each.....**$2.08**

REESE



Hitch Balls



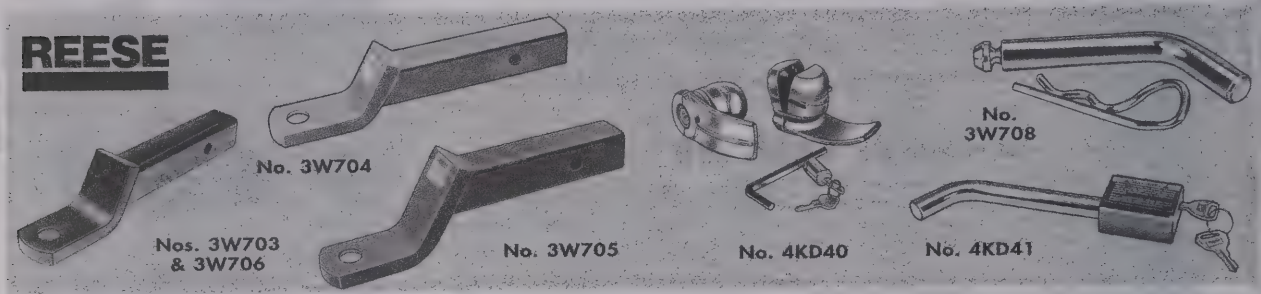
Ball Cover

| Capacity (GVWR) (Lbs.) | Ball Dia. (In.) | Shank Dia. (In.)* | Shank Length (In.) | Reese Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **CHROME TRAILER HITCH BALLS** | | | | | | | | |
| **2000** | 1⅞ | 3/4 | 1½ | 74006 | **3W709** | $8.38 | **$7.96** | 1.9 |
| **2000** | 1⅞ | 3/4 | 2⅜ | 74013 | **3W712** | 10.10 | **9.60** | 1.8 |
| **2000** | 1⅞ | 1 | 2 | 74022 | **3W715** | 10.38 | **9.86** | 2.4 |
| **3500** | 2 | 3/4 | 1½ | 74008 | **3W710** | 8.76 | **8.32** | 2.1 |
| **3500** | 2 | 3/4 | 2 | 74020 | **3W713** | 10.38 | **9.86** | 2.2 |
| **5000** | 2 | 1 | 2 | 74010 | **3W711** | 9.52 | **9.04** | 2.6 |
| **6000** | 2⅝ | 1 | 2 | 74021 | **3W714** | 16.67 | **15.84** | 2.1 |
| **10,000** | 2⅝ | 1¼ | 2⅜ | 74294 | **4KD61** | 19.43 | **18.46** | 3.9 |
| **ZINC TRAILER HITCH BALLS** | | | | | | | | |
| **2000** | 1⅞ | 3/4 | 1½ | 74005 | **4KD21** | 6.86 | **6.52** | 1.8 |
| **2000** | 1⅞ | 1 | 2 | 74018 | **4KD24** | 8.57 | **8.14** | 2.3 |
| **3500** | 2 | 3/4 | 1½ | 74007 | **4KD22** | 7.33 | **6.96** | 2.0 |
| **6000** | 2⅝ | 1 | 2 | 74011 | **4KD23** | 14.76 | **14.02** | 3.3 |

(*) When installing Reese hitch balls, torque all 3/4" shank balls to 120 ft. lb. Torque all 1" and 1¼" shank balls to 200 ft. lb.

# TOWING ACCESSORIES

## DRAW BARS




**Draw Bars** are attached to hitch receivers and hitch balls to complete the hitch assembly. Available in different drops and rises to assure level towing, prevent trailer sway.

**Class III Draw Bars** are 2" in dimension to match the hitch box opening on the trailer hitch receiver. Class II draw bar is 1¼" dimension.

**Adjustable Draw Bar** No. 4KD16 features a 5000/5000 lb. rating and has a 13½" total height adjustment and a 9" length. Adjusts easily by pulling pin and clip. No. 4KD17 is an additional ball mount insert that allows you to carry a second ball and slip it into the receiver when a quick ball change is needed.

**Pull Pin and Clip Assemblies.** For Class III, 5/8" diameter; Class II, 1/2" dia. For use with all Reese utility hitch bars. Reese brand.

**Hitch Pin Locks** are available in 1/2 and 5/8" diameters.

### DRAW BAR SPECIFICATIONS & ORDERING DATA

| Type (Class) | Capacity GVW (Lbs.) | Bar Drop (In.) Dim. | Drop | Rise | Length (In.) | Ball Hole Size (In.) | Reese Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| II | 3500 | 1¼ | 1¼ | 3/4 | 9 | 3/4 | 06280 | **3W706** | $20.57 | **$19.54** | 6.0 |
| II | 3500 | 1¼ | 1¼ | 3/4 | 7 | 3/4 | 06260 | **4KD13** | 20.57 | **19.54** | 5.1 |
| II | 3500 | 1¼ | 3½ | 3 | 8 | 3/4 | 06283 | **4KD14** | 33.62 | **31.95** | 5.8 |
| II | 3500 | 1¼ | 2½ | 2 | 7 | 3/4 | 06474 | **4KD15** | 24.95 | **23.70** | 5.5 |
| III | 6000 | 2 | 2 | 3/4 | 10½ | 1 | 21171 | **3W703** | 22.95 | **21.80** | 7.3 |
| III | 5000 | 2 | 3¼ | 2 | 10½ | 1 | 21175 | **3W704** | 36.19 | **32.60** | 7.3 |
| III | 5000 | 2 | 6 | 4¾ | 11½ | 1 | 21186 | **3W705** | 36.67 | **34.85** | 10.0 |

### ADJUSTABLE DRAW BAR SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| III | 5000 | 2 | 13½ | 13½ | 9 | 1 | 21141 | **4KD16** | 83.81 | **79.65** | 14.0 |
| III | 5000 | N/A | N/A | N/A | 9 | 1 | 21149 | **4KD17** | 30.76 | **29.25** | 6.0 |

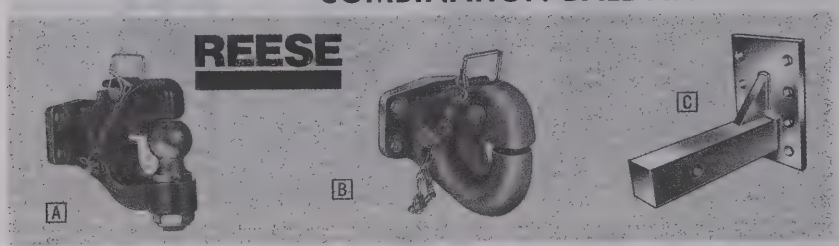
### PULL PIN / CLIP ASSEMBLY

| For Use With | Size (In.) | Reese Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Class II Drawbar | — | 74108 | **3W708** | $5.14 | **$4.88** | 0.4 |
| Class II Drawbar | — | 74163 | **4KD40** | 6.48 | **6.16** | 0.3 |
| Class III Drawbar | — | 74055 | **3W707** | 5.90 | **5.61** | 0.7 |

### HITCH PIN LOCKS

| | | | | | | |
|---|---|---|---|---|---|---|
| Class II Drawbar | 1/2 | 74171 | **4KD41** | 18.95 | **18.00** | 0.8 |
| Class III Drawbar | 5/8 | 74172 | **4KD42** | 18.95 | **18.00** | 1.0 |

## COMBINATION BALL AND PINTLE HOOK




Utilized for heavy-duty towing applications such as air compressors, towable generators, utility trailers, construction equipment. Made of forged steel for increased strength. Top and lower jaws are machined to assure proper match for reduced jaw movement and increased wear. Attaching hardware (Grade 8), full installation instructions, and bolt template included. Reese brand.

### COMBINATION BALL AND PINTLE HOOK SPECIFICATIONS & ORDERING DATA

| Key | Description | Gross Trailer Wt. Load Cap. (Lbs.) | Tongue Cap. (Lbs.) | Trailer Ball Dia. (In.) | Ball Shank Dia. (In.) | Reese Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Ball & Pintle | 16,000 | 3000 | 1⅞ | 1¼ | 74115 | **3W716** | $106.89 | **$96.25** | 14.0 |
| A | Ball & Pintle | 16,000 | 3000 | 2 | 1¼ | 74116 | **3W717** | 107.56 | **96.85** | 15.0 |
| A | Ball & Pintle | 16,000 | 3000 | 2⅝ | 1⅛ | 74117 | **4KD32** | 132.10 | **125.50** | 15.0 |
| B | Pintle | 20,000 | 2000 | — | — | 74118 | **3W719** | 64.86 | **61.65** | 9.4 |
| B | Pintle | 30,000 | 6000 | — | — | 74119 | **3W720** | 87.62 | **78.90** | 11.0 |

### MOUNTING PLATES

| Key | Description | Capacity (Lbs.) | Reese Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| C | Mounting Plate | 10,000 | 74281 | **4KD59** | $49.52 | **$47.05** | 17.0 |
| C | Mounting Plate | 6,000 | 74474 | **4KD63** | 36.48 | **34.70** | 15.0 |

### REPLACEMENT BALLS FOR BALL & PINTLE HOOK

| Key | Description | Size (In.) | Reese Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| — | Replacement Ball | 1⅞ | 74120 | **4KD33** | $36.29 | **$34.50** | 2.3 |
| — | Replacement Ball | 2 | 74121 | **4KD34** | 38.86 | **36.95** | 2.4 |
| — | Replacement Ball | 2⅝ | 74122 | **4KD35** | 41.14 | **39.10** | 2.9 |

# TRAILER HITCHES AND STEP BUMPER HITCHES

- **No welding required; bolts to frame**
- **Removable utility ball mount**
- **Easy to install with ordinary tools**
- **Instructions and hardware included**

Receivers adapt to different towing needs when used with different draw bars and hitch ball sizes (utility balls, pull pins, draw bars sold separately).

### A SPORT UTILITY HITCHES

Rated for 3500 lbs. towing capacity (Class II). Install easily to over 90% of pick-up trucks, vans, minivans, sport utility vehicles, and cars in use today (see selection guide below). Unique design provides custom fit and features 1¼" hitch box. No welding required; hitch bolts to vehicle frame rails.

### B PICK-UP AND UNIVERSAL TRUCK HITCH RECEIVERS

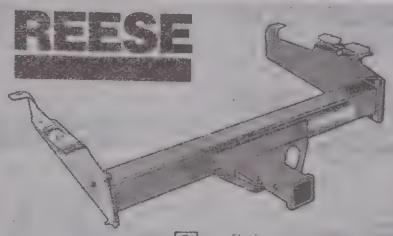
Features 2" hitch box and accepts a wide range of utility ball mounts. Bolts to pick-up frame rails and can be used for weight-carrying payloads of up to 6,000 lbs. (Class III); or add weight distributing accessory (not available through Grainger) and increase payload capacity to 10,000 lbs. (Class IV).

### B RECEIVER TRUCK HITCHES

For Ford Explorer and F150 pick-up. Ratings are: Explorer—6000 lbs. weight distributing, and 5000 lbs. weight carrying; F150—7500 lbs. weight distributing, and 5000 lbs. weight carrying.

### C PICK-UP STEP BUMPER RECEIVER/HITCHES

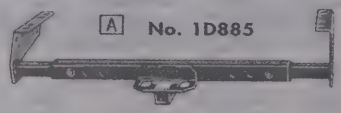
Hitches attach directly to existing pick-up truck step bumper for all domestic pick-up trucks. No. 4KD373 features an additional step, as well as three optional ball-mounting locations. One location is a traditional 2" receiver hole. No. 4KD74 is a traditional 2" receiver mount.



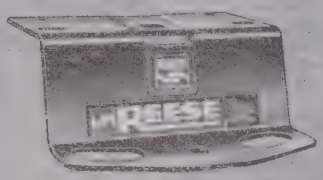

B No. 3W701
Pick-Up and Universal Truck Hitch Receivers
CLASS III/IV



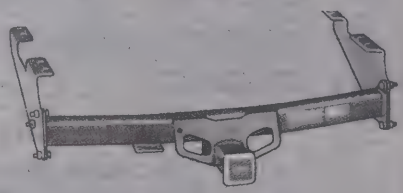
A No. 1D884
Sport Utility Universal Hitches
CLASS II



A No. 1D885




C No. 4KD73
Step Bumper Receiver Hitch



B No. 4KD18
Pick-Up and Universal Truck Hitch
CLASS III/IV

| Key | Hitch Type | Capacity G.V.W. (Lbs.) | Tongue Wt. (Lbs.) | Weight Dist. Cap. (Lbs.) | Reese Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Class II | 3500 | 300 | N/A | 88002 | **1D884** | $131.71 | **$118.55** | 48.0 |
| A | Class II | 3500 | 300 | N/A | 88001 | **1D885** | 131.71 | **118.55** | 43.0 |
| B | Class III/IV | 5000 | 500 | 6000 | 37012 | **4KD18** | 155.90 | **146.40** | 38.0 |
| B | Class III/IV | 5000 | 500 | 7500 | 36099 | **4KD20** | 151.43 | **136.30** | 55.0 |
| B | Class III/IV | 5000 | 500 | 7500 | 36069 | **4KD19** | 141.14 | **127.05** | 42.0 |
| B | Class III/IV | 6000 | 600 | 10,000 | 36034 | **3W701** | 151.43 | **136.30** | 45.0 |
| C | Step Bumper Hitches | 3500 | 350 | N/A | 81377 | **4KD73** | 69.62 | **66.15** | 13.0 |
| C | Step Bumper Hitches | 3500 | 350 | N/A | 81378 | **4KD74** | 59.05 | **56.10** | 9.0 |

## TRAILER HITCH SELECTION GUIDE

### CLASS II HITCHES

**No. 1D884**

84 - 96 **Buick** Century Estate Wagon
88 - 98 **Buick** Electra & Park Avenue
86 - 95 **Buick** LeSabre (Not T-Type)
91 - 96 **Buick** Roadmaster, Sedan, & Wagon
77 - 96 **Cadillac** Fleetwood & Brougham (RWD)
85 - 92 **Cadillac** Fleetwood (FWD)
83 - 94 **Chevrolet** S-10 Blazer
91 - 96 **Chevrolet** Caprice & Wagon
94 - 96 **Chevrolet** Impala
88 - 95 **Chrysler** LeBaron
88 - 93 **Dodge** Dynasty
85 - 98 **Ford** Crown Victoria
83 - 91 **Ford** Crown Victoria & Country Squire Wagon
86 - 98 **Ford** Taurus, Sedan & Wagon
75 - 98 **Ford** Van, Full-Size
83 - 94 **GMC** S-15 Jimmy
88 - 98 **Lincoln** Continental
83 - 94 **Lincoln** Cartier
80 - 98 **Lincoln** Towncar
80 - 83 **Lincoln** Mark VI
83 - 98 **Mercury** Grand Marquis
83 - 91 **Mercury** Grand Marquis & Col. Park Wagon
86 - 98 **Mercury** Sable, Sedan & Wagon
91 - 94 **Oldsmobile** Bravada
86 - 95 **Oldsmobile** 88 & 98 ('96 for Olds 98)
91 - 92 **Oldsmobile** Custom Cruiser Wagon
84 - 96 **Oldsmobile** Ciera & Cutlass Cruiser Wagon
84 - 96 **Oldsmobile** Ciera Wagon

**No. 1D885**

95 - 98 **Chevrolet** Blazer S10
92 - 94 **Chevrolet** Blazer 2 & 4WD
96 - 98 **Chevrolet** Full Size Van
73 - 98 **Chevrolet** Pick-Up Full Size
88 - 91 **Chevrolet** Pick-Up 4 Dr Crew Cab
73 - 87 **Chevrolet** Pick-Up Full Size 4 Dr
88 - 97 **Chevrolet** Pick-Up S-10 (Not Baja)
92 - 98 **Chevrolet** Suburban
95 - 98 **Chevrolet** Tahoe
90 - 98 **Chrysler** Town & Country Van
84 - 98 **Dodge** Caravan (All)
71 - 98 **Dodge** Pick-Up, Full Size
86 - 98 **Dodge** Dakota
89 - 97 **Ford** Aerostar
78 - 96 **Ford** Bronco, Full Size
83 - 90 **Ford** Bronco II
80 - 97 **Ford** Pick-Up, Full-Size
95 - 98 **GMC** Jimmy
92 - 98 **GMC** Yukon
73 - 98 **GMC** Pick-Up, Full-Size
88 - 91 **GMC** Pick-Up, Full-Size Crew Cab
96 - 97 **GMC Van**, Full-Size
83 - 97 **GMC** Pick-Up, S-15 and Sonoma
92 - 98 **GMC** Suburban
84 - 96 **Jeep** Cherokee XJ
93 - 98 **Jeep** Grand Cherokee
96 - 98 **Oldsmobile** Bravada
84 - 98 **Plymouth** Voyager (All)
90 - 93 **Mazda** Pick-Up
87 - 97 **Nissan** Pick-Up
84 - 95 **Toyota** Pick-Up
95 - 98 **Toyota** Tacoma

### CLASS III / IV HITCHES

**No.4KD20**

97 - 98 **Ford** F-150 Pick-Up and Light Duty F-250

**No. 3W701**

73 - 87 **Chevrolet** Pick-Up Full Size
88 - 98 **Chevrolet** Pick-Up Full Size (except 88-91 4-Door)
92 - 98 **Chevrolet** Pick-Up Full Size, 4-Door
71 - 98 **Dodge** Pick-Up 2 & 4 WD, 6 x 8' Box
78 - 96 **Ford** Bronco
73 - 96 **Ford** Pick-Up, Full Size
97 - 98 **Ford** F-350 & Heavy-Duty F-250
73 - 87 **GMC** Pick-Up, Full-Size
88 - 98 **GMC** Pick-Up, Full-Size (except 88-91 4-Door)
92 - 98 **GMC** Pick-Up, Full-Size
97 - 98 **Ford** F-350 & Heavy-Duty F-250
98 - 99 **Ford** F-250/350 Super Duty

**No. 4KD19**

73 - 98 **Chevrolet** Pick-Up Full Size (except 88-91 4 Door)
92 - 98 **Chevrolet** Pick-Up Full Size 4-Door
71 - 98 **Dodge** Pick-Up 2 & 4 WD, 6 x 8' Box
73 - 96 **Ford** Bronco
73 - 96 **Ford** Pick-Up, Full Size
97 - 98 **Ford** F-350 & Heavy-Duty F-250
73 - 98 **GMC** Pick-Up, Full-Size (except 88-91 4-Door)
92 - 98 **GMC** Pick-Up, Full-Size
98 - 99 **Ford** F-250/350 Super Duty

**No. 4KD18**

91 - 98 **Ford** Explorer
91 - 94 **Mazda** Navajo
97 - 98 **Mercury** Mountainer

# TRAILER COUPLERS, LOCKS AND WIRING ACCESSORIES

## TRAILER COUPLER LOCKS

Replacement couplers to repair damaged trailer couplers.

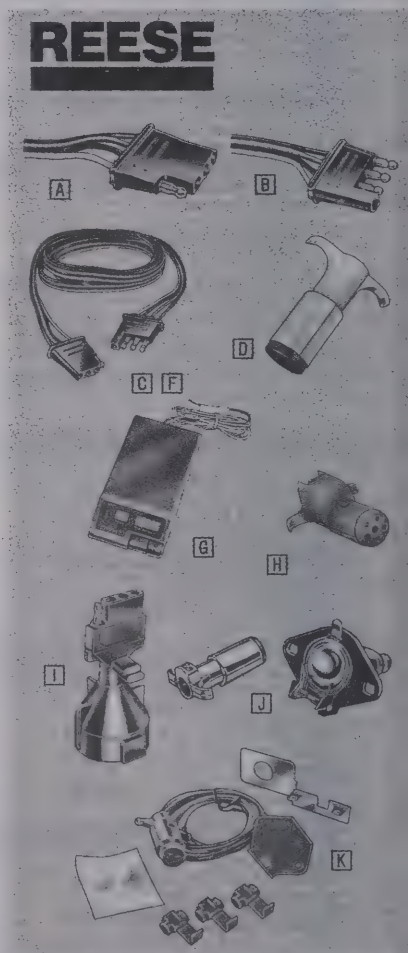
## TRAILER COUPLER LOCKS

No. 4KD60 coupler lock inserts into the coupler and expands to make the coupler inoperable to prevent theft. No. 4KD43 is a padlock that locks the handle on the Fas-Lock style couplers to prevent opening.




| Ball Size (In.) | Style | Channel Width (In.) | Capacity (Lbs.) | Reese Model | Stock No. | List | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **TRAILER COUPLERS** | | | | | | | | | |
| **2** | Fas-Lock | 2½ | 3500 | 02022 | **4KD10** | $22.95 | **$21.80** | **1** | 4.0 |
| **2** | Hand Wheel | 2⅞ | 5000 | 02024 | **4KD12** | 49.43 | **47.00** | **1** | 4.7 |
| **1⅞** | Fas-Lock | 2½ | 2000 | 74040 | **4KD25** | 19.52 | **18.54** | **1** | 2.5 |
| **2** | Fas-Lock | 2½ | 3500 | 74042 | **4KD26** | 25.14 | **23.88** | **1** | 4.5 |
| **2** | Fas-Lock | 3 | 3500 | 74280 | **4KD58** | 32.29 | **30.70** | **1** | 4.4 |
| **TRAILER COUPLER LOCKS** | | | | | | | | | |
| **All Coupler Sizes—Padlock Style** | | | | 74174 | **4KD43** | 12.86 | **12.22** | **1** | 0.5 |
| **1⅞ and 2" Locks—Insert Style** | | | | 74290 | **4KD60** | 40.38 | **38.40** | **1** | 2.0 |

## TRAILER WIRING ACCESSORIES




### A FOUR-WAY FLAT CONNECTOR

With 60" pigtail. Car end. Reese brand (74123).
**No. 4KD36.** Shpg. wt. 0.3 lbs. List $3.52. Each.....**$3.34**

### B FOUR-WAY FLAT CONNECTOR

With 12" pig tail. Trailer end. Reese brand (74124).
**No. 4KD37.** Shpg. wt. 0.8 lbs. List $2.29. Each.....**$2.18**

### C 4-WAY FLAT CONNECTOR

With 60" car and trailer ends. Reese brand (74125).
**No. 4KD38.** Shpg. wt. 0.5 lbs. List $3.62. Each.....**$3.44**

### D 6-WAY TRAILER END CONNECTOR

Round metal trailer end connector. Reese brand (74130).
**No. 4KD39.** Shpg. wt. 1.5 lbs. List $6.29. Each.....**$5.98**

### E 6-WAY CAR END CONNECTOR (Not Shown)

Round metal car end connector. Reese brand (74183).
**No. 4KD49.** Shpg. wt. 0.5 lbs. List $25.52. Each.....**$24.24**

### F 4-WAY FLAT CONNECTOR

With 24 ft. wire pigtail. Reese brand (74636).
**No. 4KD72.** Shpg. wt. 0.5 lbs. List $9.90. Each.....**$9.40**

### G BRAKEMAN DIGITAL READOUT ELECTRONIC BRAKE CONTROLLER

Solid state electronics. Can be mounted in any position. For two to eight brakes. Reese brand (74643).
**No. 4KD53.** Shpg. wt. 0.6 lbs. List $97.43. Each.....**$92.60**

### H 6-WAY ROUND TO 4-WAY FLAT ADAPTER PLUG

Reese brand (74605).
**No. 4KD68.** Shpg. wt. 0.1 lbs. List $9.33. Each.....**$8.86**

### I 7-WAY ROUND TO 4-WAY FLAT ADAPTER PLUG

Reese brand (74607).
**No. 4KD69.** Shpg. wt. 0.2 lbs. List $9.33. Each.....**$8.86**

### J 6-WAY ROUND CAR AND TRAILER ENDS

With 48" of wire, wire taps, mounting brackets, and screws. Reese brand (74608).
**No. 4KD70.** Shpg. wt. 0.8 lbs. List $13.71. Each.....**$13.02**

### K 4-WAY ROUND KIT

With car and trailer ends, 48" of wire, wire taps, and mounting brackets. Reese brand (74611).
**No. 4KD71.** Shpg. wt. 0.3 lbs. List $8.48. Each.....**$8.06**

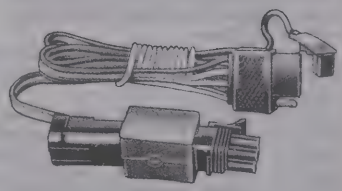
# T-CONNECTORS AND TRAILER ACCESSORIES

## T-CONNECTORS

T-connectors make quick work of wiring 4-way flat plugs to most of today's popular towing vehicles. No cutting, splicing, or taping necessary. Simply connect into the vehicle's factory wiring harness.

REESE

| Vehicle | Model Year | Reese Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| GM Chevy Blazer<br>GM Chevy Pick-Up, Full Size<br>GM Chevy Suburban<br>GM Chevy S-10 Pick-Up | 88 - 91<br>85 - 87<br>85 - 91<br>85 - 97 | 74178 | **4KD44** | $13.33 | **$12.66** | 0.5 |
| Ford Ranger | 86 - 92 | 74179 | **4KD45** | 13.33 | **12.66** | 0.5 |
| GM Full Size Pick-Up | 88 - 98 | 74180 | **4KD46** | 13.33 | **12.66** | 0.5 |
| Ford Full Size Pick-Up | 87 - 96 | 74181 | **4KD47** | 13.33 | **12.66** | 0.5 |
| Dodge Dakota Pick-Up | 86 - 94 | 74182 | **4KD48** | 26.67 | **25.35** | 0.5 |
| GM Suburban, Blazer, Yukon | 92 - 98 | 74186 | **4KD50** | 13.33 | **12.66** | 0.5 |
| Chrysler / Dodge Mini Vans | 91 - 95 | 74187 | **4KD51** | 29.81 | **28.35** | 0.5 |
| Ford Explorer / Mazda Navajo | 91 - 94 | 74190 | **4KD52** | 16.29 | **15.48** | 0.5 |
| GM Pick-Up and Blazer | 84 & Earlier | 74425 | **4KD62** | 13.33 | **12.66** | 0.4 |
| Dodge Ram and Dakota Pick-Up | 95 - 98 | 74475 | **4KD64** | 26.67 | **25.35** | 0.5 |
| Jeep Cherokee (Down Sized) | 92 - 96 | 74476 | **4KD65** | 23.24 | **22.08** | 0.5 |



No. 4KD44

## TRAILER ACCESSORIES

### A SAFETY CHAIN SETS

2000 lb. rating. 72" long. Reese brand (74050).

**No. 4KD27.** Shpg. wt. 3.0 lbs. List $14.00. Each ..... $13.30

5000 lb. rating. 72" long. Reese brand (74059).

**No. 4KD29.** Shpg. wt. 4.0 lbs. List $24.57. Each ..... $23.34

### B QUICK LINK CONNECTORS

1/4" quick link. 3500 lb. rating. Reese brand (74603).

**No. 4KD67.** Shpg. wt. 0.1 lbs. List $2.76. Each ..... $2.62

5/16" quick link. 5000 lb. rating. Reese brand (74602).

**No. 4KD66.** Shpg. wt. 0.2 lbs. List $3.24. Each ..... $3.08

### C HITCH BOX OPENING COVERS

Deluxe-style chrome cover for 1¼" receivers. Reese brand (74199).

**No. 4KD57.** Shpg. wt. 1.5 lbs. List $18.10. Each ..... $17.20

Deluxe-style chrome cover for 2" receivers. Reese brand (74106).

**No. 4KD31.** Shpg. wt. 0.8 lbs. List $6.95. Each ..... $6.60

Deluxe-style chrome cover for 2" receivers. Reese brand (74197).

**No. 4KD55.** Shpg. wt. 1.4 lbs. List $19.33. Each ..... $18.36

Elite-style chrome cover for 1¼" receivers. Reese brand (74198).

**No. 4KD56.** Shpg. wt. 0.7 lbs. List $19.05. Each ..... $18.10

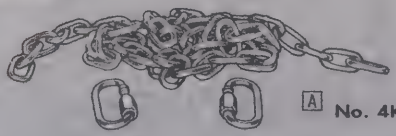
Elite-style chrome cover for 2" receivers. Reese brand (74196).

**No. 4KD54.** Shpg. wt. 1.3 lbs. List $19.33. Each ..... $18.36

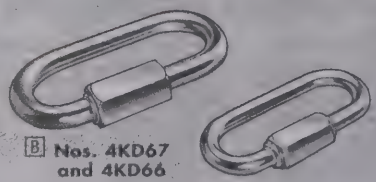
Black plastic-style hitch box opening cover for 2" receivers. Reese brand (74099).

**No. 4KD30.** Shpg. wt. 0.5 lbs. List $6.76. Each ..... $6.42

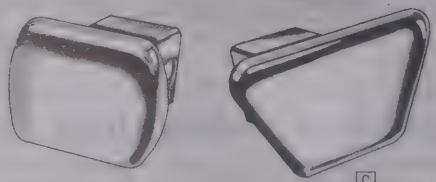
REESE



A No. 4KD27

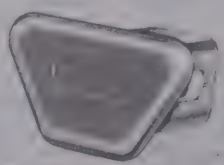


B Nos. 4KD67 and 4KD66



C Nos. 4KD55 and 4KD57

C Nos. 4KD54 and 4KD56



C No. 4KD30

### ORDER DIRECT FROM GRAINGER

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**

# HYDRAULIC BOTTLE JACKS

- **Durable baked gray enamel finish**
- **Machined and polished cylinder walls insure straight lifts, preventing uneven wear**
- **Heat treated adjustable extension screw with cleated lift saddle prevents slippage**
- **Patented bypass mechanism protects hydraulic cylinder from over pumping**
- **Can be used vertically (not upside down) or at any angle to not more than 5 degrees from vertical position. Can also be used horizontally or vertically in appropriately designed fixtures**
- **Bottle jacks with lifting capacity of 12 tons and over have carrying handle for convenient moving or positioning**
- **1-Year Limited Warranty**

### Nos. 3ZC56 AND 3ZC57 12 AND 20 TON "SHORTY" SERIES

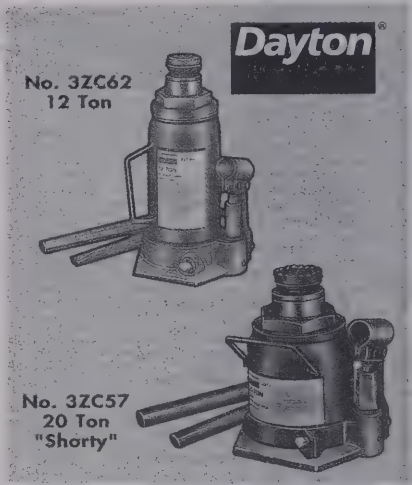
Well suited for working where height limitations are a problem. Applications include industrial, agricultural, construction, and automotive lifting, pushing, bonding, and straightening.

### No. 3ZC64 30 TON

For extra heavy-duty applications which include bridge construction, renovation, house moving and hydraulic presses.

**All Hydraulic Bottle Jacks in this listing are manufactured to meet the safety guidelines of the American National Standard Institute. ANSI/ASME PALD1B**

**Replacement Parts Available 1-800-323-0620**




| Lifting Capacity (Tons) | Saddle Height (In.) Lowered | Raised | Extension Screw (In.) | Base Size (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2 | 7 1/8 | 13 5/8 | 2 | 3 5/8 x 3 3/4 | 3ZC58 | $13.95▲ | 9.2 |
| 4 | 8 | 15 5/8 | 2 3/8 | 4 x 3 7/8 | 3ZC59 | 17.95▲ | 12.0 |
| 6 | 8 5/8 | 16 5/8 | 3 | 4 3/8 x 4 | 3ZC60 | 23.95▲ | 13.0 |
| 8 | 8 7/8 | 17 5/8 | 2 3/4 | 4 3/4 x 4 3/4 | 3ZC61 | 36.95▲ | 17.0 |
| 12 | 9 1/2 | 18 5/8 | 3 1/8 | 5 1/4 x 5 1/8 | 3ZC62 | 49.95▲ | 28.0 |
| 20 | 9 1/2 | 18 5/8 | 3 1/8 | 6 1/4 x 5 7/8 | 3ZC63 | 79.95▲ | 14.0 |
| 12* | 6 | 10 5/8 | 1 5/8 | 5 1/4 x 5 1/8 | 3ZC56 | 49.95▲ | 22.0 |
| 20* | 6 1/2 | 11 1/4 | 1 5/8 | 6 1/4 x 5 3/4 | 3ZC57 | 79.95▲ | 56.0 |
| 30 | 11 | 18 | — | 8 1/8 x 6 7/8 | 3ZC64 | 199.00▲ | 56.0 |

(*) "Shorty" series low profile jacks. (▲) Net prices, Not subject to discounts.

# TELESCOPING HYDRAULIC BOTTLE JACKS

For lifting automotive, farm, marine, industrial, and construction vehicles. Jacks can be used vertically (not upside down) or at any angle to not more than 5 degrees from vertical position. Can also be used horizontally or vertically in appropriately designed fixtures. High-tonnage jack with handle accommodates moving and positioning. Telescoping bottle jacks provide a high lift with a minimum collapsed height. Jacks have low operating force. Hydraulic cylinder is protected by a safety by-pass system to prevent overloading and ram overtravel. Meets ANSI/ASME PALD 1B.




| Lifting Capacity (Tons) | Saddle Height (In.) Lowered | Raised | Extension Screw (In.) | Base Size (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 | 8 3/8 | 21 3/4 | 3 | 5 5/8 x 5 5/8 | 5M451 | $79.00▲ | 18.7 |
| 10 | 7 1/8 | 17 1/4 | 2 3/4 | 6 3/4 x 6 5/8 | 5M463 | 129.00▲ | 26.0 |
| 15 | 7 1/4 | 17 1/2 | 3 1/8 | 8 3/4 x 8 1/4 | 5M464 † | 169.00▲ | 43.0 |

(†) Limited availability — Contact local branch. (▲) Net prices, Not subject to discounts.

# AIR/MANUAL HYDRAULIC BOTTLE JACKS

For use in the shop, home, or in an industrial setting. A minimum of 90#PSI is required to lift rated capacity loads. Manual function allows for normal operation anywhere, even without an air supply. RECOMMENDED AIR SUPPLY: 90-150#PSI at 7.8CFM (at least 3HP recommended). Jacks meet ANSI/ASME PALD 1B.




| Lifting Capacity (Tons) | Saddle Height (In.) Lowered | Raised | Extension Screw (In.) | Base Size (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 12 | 9 1/2 | 18 5/8 | 3 1/8 | 8 1/8 x 5 7/8 | 5M452 | $179.00▲ | 28.0 |
| 20 | 9 1/2 | 18 5/8 | 3 1/8 | 8 7/8 x 6 3/4 | 5M453 | 259.00▲ | 36.0 |

(▲) Net prices, Not subject to discounts.

### A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

# HYDRAULIC JACKS

## 2, 4, 6, 8, 12, 20, AND 30 TON JACKS

**Durable hydraulic hand jacks feature** cast iron base with wide stance for stability, cleated steel lift saddle to prevent slippage, and automatic bypass system to prevent ram overtravel.

**Extension screw on** 20 ton jacks and both "shorty" jacks permits adjustment of lift height. Machined and polished cylinder and piston. Easy-to-use release valve.

## 12 AND 20 TON LOW PROFILE "SHORTY" JACKS

**For lifting low clearance autos and objects.** Same features as other jacks except has a lower stance and clearance.

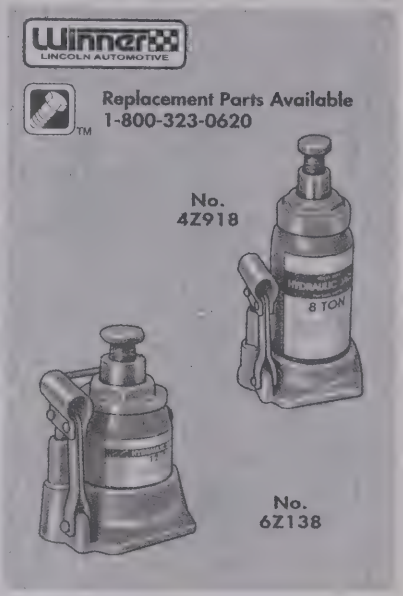
**Manufactured to meet the safety guidelines of the American National Standard Institute. ANSI/ASME PALD-1B-1991**

### 1-YEAR LIMITED WARRANTY

**Lincoln warrants jacks for 1 year parts and labor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Lifting Capacity (Tons) | Saddle Height (In.) Lowered | Raised | Extension Screw (In.) | Base Size (In.) | Winner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **2** | 7 1/8 | 13 5/8 | 2 | 3 3/4 x 3 3/4 | H68026 | **4Z915** | $20.00 | **$16.79▲** | 6.5 |
| **4** | 8 1/16 | 15 1/2 | 2 7/16 | 3 7/8 x 3 7/8 | H68027 | **4Z916** | 26.00 | **21.59▲** | 8.7 |
| **6** | 8 9/16 | 16 11/16 | 3 1/16 | 4 x 4 | H68028 | **4Z917** | 35.00 | **28.80▲** | 12.0 |
| **8** | 9 1/2 | 18 5/8 | 3 1/4 | 5 3/8 x 4 3/4 | H68029 | **4Z918** | 53.00 | **44.40▲** | 19.0 |
| **12** | 10 | 19 3/8 | 3 3/8 | 5 3/8 x 5 1/8 | H68030 | **4Z919** | 72.00 | **59.95▲** | 25.0 |
| **12*** | 6 1/8 | 9 5/8 | 1 1/8 | 5 3/4 x 5 3/4 | H68031 | **6Z138** | 72.00 | **59.95▲** | 19.0 |
| **20*** | 6 9/16 | 10 3/8 | 1 1/8 | 7 x 5 1/8 | H68034 | **6Z139** | 99.00 | **95.00▲** | 28.0 |
| **20** | 10 1/4 | 21 | 3 9/16 | 6 1/8 x 5 15/16 | H68036 | **4Z920** | 99.00 | **95.00▲** | 35.0 |
| **30** | 11 | 18 | — | 8 9/16 x 6 7/8 | H68035 | **1ZC01†** | 244.00 | **179.00▲** | 53.0 |

(*) "Shorty" series low profile jacks. (†) Limited availability -- Contact local branch. (▲) Net prices. Not subject to discounts.




# HEAVY-DUTY HYDRAULIC JACKS

- **Heavy-duty construction meets or exceeds ANSI standards**
- **Tapped, solid machined steel base accepts hydraulic pressure gauge**
- **Extension screw allows low pick up height adjustment**
- **May be used vertically (not upside down) or at any angle not more than 5 degrees from vertical position. May also be used horizontally or vertically in appropriately designed fixtures**

## 1½, 3, 5, 8, AND 12 TON JACKS

**Applications include construction,** industrial, agricultural, and automotive lifting, pushing, bending, and straightening. Centered pump and ram for balance and easy positioning. Ribbed base adds extra strength. Hydraulic bypass circuit prevents ram overtravel.

**Low profile 12 ton model No. 6Z990** is suited for jobs requiring power at a low pick up point.

### 1-YEAR LIMITED WARRANTY

**Lincoln warrants jacks for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**




## 20 TON JACKS

**Designed for use on** large industrial and heavy equipment applications. Hydraulic bypass circuit prevents ram overtravel. Low profile model No. 6Z991 is suited for jobs requiring power at a low pick up point. Wide base for stable operation.

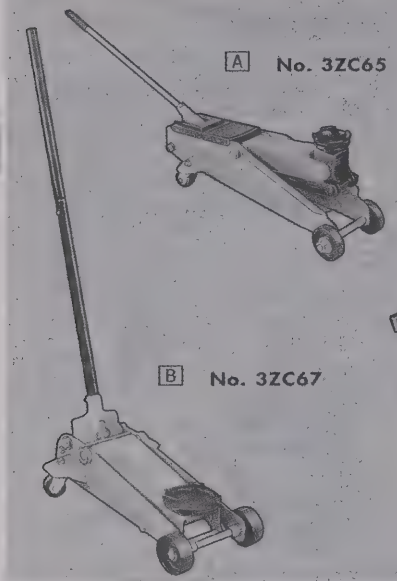
## 30 AND 50 TON JACKS

**For extra heavy applications** such as house moving, bridge construction, renovation, and hydraulic presses. Two speed operation—speed to contact/power to lift. Heat treated lifting head. No. 5Z157 has swing-out carrying handles.

| Lifting Capacity (Tons) | Height (Closed) (In.) | Maximum Height (In.) | Power Raise (In.) | Base Size (In.) | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1½** | 7¼ | 14½ | 5⅛ | 3 x 5¼ | W93225 | **6Z983** | $84.00 | **$68.00▲** | 9.0 |
| **3** | 8½ | 18 | 6 | 3½ x 6¼ | W93226 | **6Z984** | 122.00 | **99.00▲** | 14.0 |
| **5** | 9 | 19¼ | 6¼ | 4¼ x 6⅝ | W93227 | **6Z985** | 143.00 | **115.00▲** | 18.0 |
| **8** | 9 | 19½ | 6¼ | 4½ x 6⅞ | W93228 | **6Z986** | 163.00 | **129.00▲** | 21.0 |
| **12** | 9 | 17¾ | 5½ | 4½ x 7⅛ | W93229 | **6Z987** | 185.00 | **149.00▲** | 26.0 |
| **12 (Low Profile)** | 6½ | 9½ | 3 | 4½ x 7⅛ | W93223 | **6Z990** | 184.00 | **149.00▲** | 22.0 |
| **20** | 10¾ | 18½ | 7¾ | 5½ x 7 | W93233 | **6Z988** | 279.00 | **229.00▲** | 46.0 |
| **20 (Low Profile)** | 7 | 10¾ | 3¾ | 5¼ x 8⅜ | W93224 | **6Z991** | 277.00 | **229.00▲** | 33.0 |
| **30** | 11 | 17¼ | 6¾ | 7⅜ x 6½ | W93601 | **6Z989** | 1069.00 | **879.00▲** | 62.0 |
| **50** | 12 | 19 | 7 | 9⅞ x 8 | W93602 | **5Z157** | 1680.00 | **1379.00▲** | 114.0 |

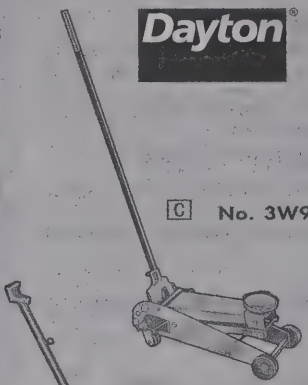
(▲) Net prices, not subject to discounts.

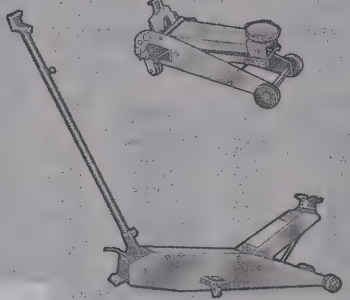
# HYDRAULIC SERVICE JACKS

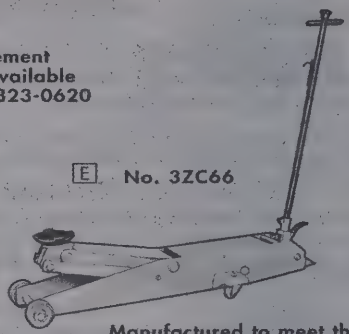



Dayton®

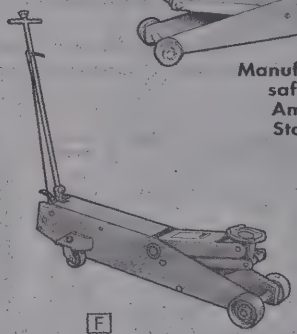
Replacement Parts Available 1-800-323-0620

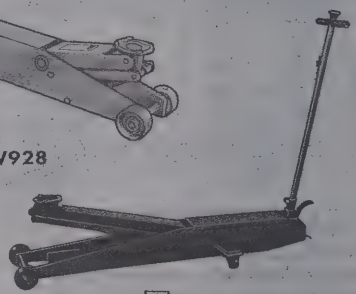



Manufactured to meet the safety guidelines of American National Standards Institute ANSI/ASME PALD 10B




## A B C GARAGE JACKS

- **Ideal for most general purpose lifting requirements; provides safe and stable load handling**

A **No. 3ZC65 2½ Ton Floor Jack** features a one-piece lift arm with dual leveling mechanism and reinforced flanged side frames for added strength under load. Patented safety bypass system prevents overextension and accidental overloading. Double swivel saddle and heavy steel casters allow safe, easy positioning.

B **No. 3ZC67 2½ Ton Heavy-duty Garage Jack** with unique twist gear mechanism gives metered control throughout lifting range. Hydraulic system is internally protected from overpumping and overloading. One-piece reinforced arm with heat treated pivot pins and steel swivel saddle provide safe high lifts.

C **No. 3W926 3 Ton High Output Garage Jack** is specially constructed to maintain a low center of gravity under heavier loading conditions. Extra thick, rigid side frame with exceptionally wide stance prevent distortion and twisting on uneven surfaces. Load limiting device prevents internal damage to powerful hydraulic system.

**1-YEAR LIMITED WARRANTY**
Dayton Electric Corporation warrants jacks for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside

## D E F LONG CHASSIS JACKS

- **Ideal for lifting heavy trucks, buses, agricultural and construction equipment with hard to access lift points**

**4, 5, and 10 Ton Long Chassis Service Jacks** have extended reach for safely lifting oversized loads. Units operate from either the multi-position T-style handle or quick action high ratio foot pedal. Load release knob is conveniently located on top of handle. Oversize industrial steel roller bearing casters allow ease of movement and positioning. Safety bypass mechanism protects hydraulic ram from overextension damage while an internal load limiting device prevents accidental overloading.

## G HIGH LIFT SERVICE JACK

- **Extra high lift design features for use in body repair shops and truck repair center**

Used for lifting part of a total vehicle. Applications include use in automotive, truck, farm, industrial, and construction. Equipped with a built-in by-pass safety device to prevent damage to jack from overpumping. Internal safety valve prevents damage to jack from overloading.

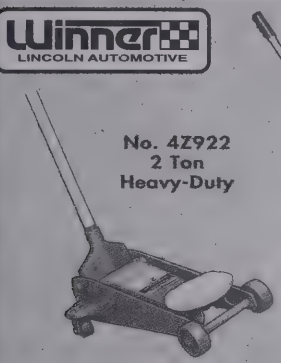
### SERVICE JACKS SPECIFICATIONS AND ORDERING DATA

| Key | Lifting Capacity (Tons) | Low Pick Up Height (In.) | High Lifting Point (In.) | Power Raise (In.) | Chassis Length (In.) | Handle Length (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 2½ | 5 | 16½ | 11½ | 24⅜ | 24¾ | 3ZC65 | $59.95▲ | 42.0 |
| B | 2½ | 5½ | 19½ | 15 | 25⅜ | 42⅛ | 3ZC67 | 139.00▲ | 73.0 |
| C | 3 | 5½ | 19 | 13½ | 25 | 42⅛ | 3W926 | 179.00▲ | 83.5 |
| D | 4 | 5 | 24 | 19 | 50⅝ | 42⅛ | 3W927 | 439.00▲ | 160.0 |
| E | 5 | 7 | 27 | 20 | 55¾ | 42⅛ | 3ZC66 | 599.00▲ | 234.0 |
| F | 10 | 7 | 27 | 20 | 54¾ | 42⅛ | 3W928 | 1199.00▲ | 440.0 |
| G | 2 | 5 | 36 | 31 | 65⅝ | 42⅛ | 5M467† | 359.00▲ | 108.8 |

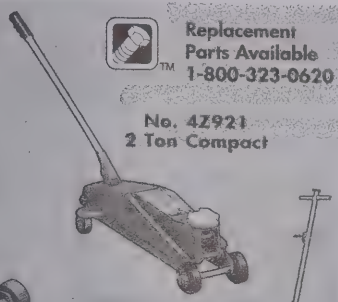
(†) Limited availability — Contact local branch. (▲) Net prices, not subject to discounts.

# HYDRAULIC SERVICE JACKS

Winner LINCOLN AUTOMOTIVE

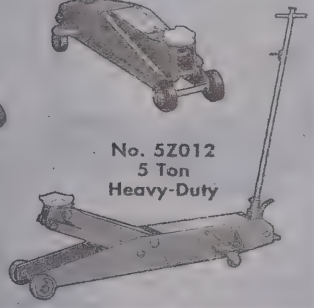


No. 4Z922
2 Ton
Heavy-Duty



Replacement Parts Available 1-800-323-0620

No. 4Z921
2 Ton Compact



No. 5Z012
5 Ton
Heavy-Duty

**1-YEAR LIMITED WARRANTY**

Lincoln warrants jacks for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Manufactured to meet the safety guidelines of American National Standard Institute. ANSI/ASME PALD-1B-1991**

Durable hydraulic service jacks lift cars, light trucks, farm machinery and other vehicles. Feature hardened steel saddle. Pumping action on handle raises saddle; twist of handle lowers saddle. Winner Series from Lincoln.

**No. 4Z921 Compact, 2 Ton Hydraulic Service Jack.** Heavy gauge welded steel frame with rolled edges for added strength. Hardened steel saddle. Heavy-duty reinforced lifting arm. Bypass valve protects hydraulic unit from overpumping. 18⅝" wheel base for extra stability.

**No. 4Z922 Heavy-Duty, 2 Ton Hydraulic Service Jack.** Built for professional in-shop or road service. Short, easy-handling chassis for working in tight quarters. Full 90° pumping arc for fast lifting. Automatic overload valve protects cylinder. Features oversized forged saddle and wide stance with low center of gravity for extra stability.

**No. 5Z012 Heavy-Duty, 5 Ton Hydraulic Service Jack** has long chassis to reach under vehicles with a large overhang. Foot pedal brings saddle up to load quickly. Big forged saddle is easy to spot. Automatic overload valve protects cylinder. Handle locks in three positions for easier moving and convenient storage.

| Lifting Capacity (Tons) | Low Pick Up Height (In.) | High Lifting Point (In.) | Power Raise (In.) | Chassis Length (In.) | Handle Length (In.) | Winner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 5 | 16½ | 11½ | 25 | 24¾ | H68054 | **4Z921** | $73.00 | **$69.95▲** | 44.0 |
| 2 | 5⅛ | 19¼ | 14⅛ | 26 | 45⅜ | H68041 | **4Z922** | 191.00 | **159.00▲** | 90.0 |
| 5 | 7 | 27 | 20 | 55¾ | 41¼ | H68052 | **5Z012** | 839.00 | **699.00▲** | 200.0 |

# HYDRAULIC AND AIR-OPERATED SERVICE JACKS

LINCOLN

Made in U.S.A.

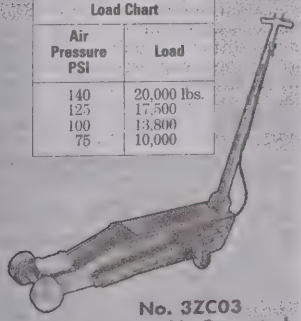
**1-YEAR LIMITED WARRANTY**

Lincoln warrants jacks 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



No. 5Z160
4 Ton Heavy-Duty

| No. 3ZC03 Pressure/ Load Chart | |
|---|---|
| Air Pressure PSI | Load |
| 140 | 20,000 lbs. |
| 125 | 17,500 |
| 100 | 13,800 |
| 75 | 10,000 |



No. 3ZC03
10 Ton Air-Operated

Replacement Parts Available 1-800-323-0620

- **Extra long handle and chassis for easy positioning under low overhangs**
- **Sealed hydraulic unit and oil filter screen keeps out dirt, grit, and grime**
- **Automatic valve prevents overloading**
- **Full swivel rear casters for easy positioning**
- **Heavy-duty construction meets or exceeds ANSI standards**

**No. 5Z159 Heavy-Duty 2 Ton Hydraulic Service Jack.** Wide stance for stability under load. Dual return springs assure longer seal life. Removable split handle for easy transportation and compact storage. Flanged sideplates increase strength, resist twisting.

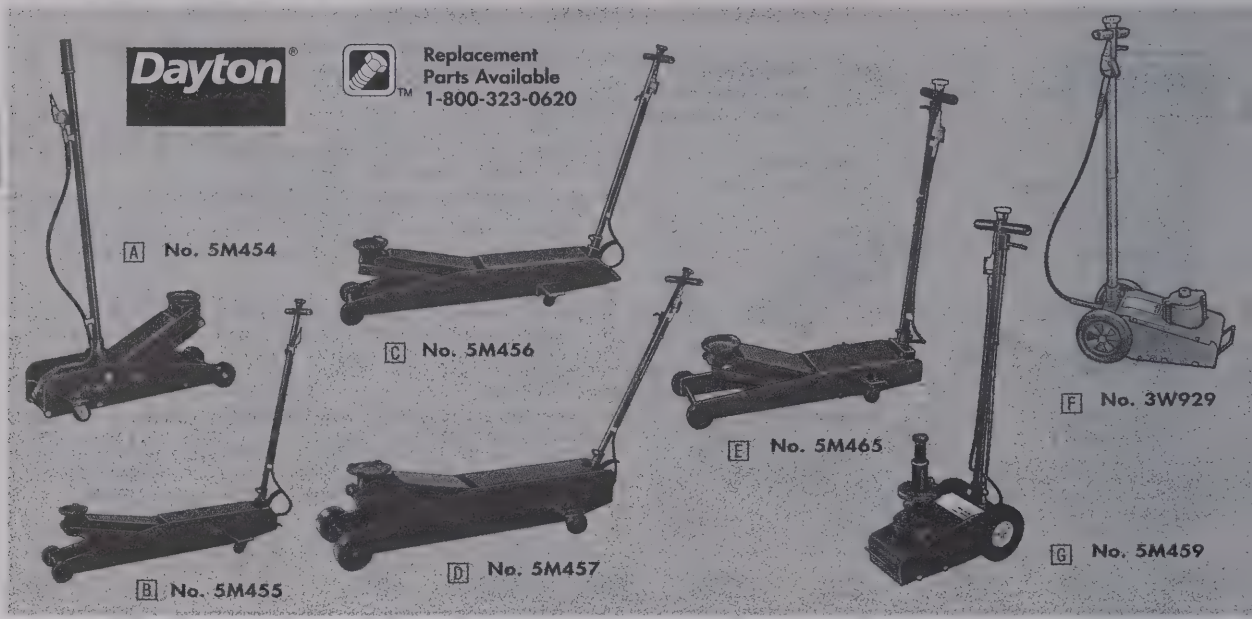
**Nos. 5Z160 and 3ZC02 Heavy-Duty 4 to 10 Ton Hydraulic Service Jacks.** Ideally suited for most automotive, agricultural, and repair facilities. Dual pump action provides speed to contact the load and power to lift it. Handle adjusts to three pumping positions. Large handle knob provides fine load release control. T-handle permits easier maneuvering. Extra strong, unitized steel sideplates resist twisting.

**No. 3ZC03 Heavy-Duty 10 Ton Hydraulic/Air-Operated Service Jack** has all features of the heavy-duty 4 to 10 ton hydraulic service jacks listed above. In addition it can be air or manually operated.

| Lifting Capacity (Tons) | Low Pickup Height (In.) | High Lifting Point (In.) | Power Raise (In.) | Cap Size | Chassis (In.) Length | Chassis (In.) Height | Handle Length (In.) | Wheel Dia. (In.) Front | Wheel Dia. (In.) Caster | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HYDRAULIC SERVICE JACKS** | | | | | | | | | | | | | | |
| 2 | 3¾ | 20 | 16¼ | 5¾" dia. | 26¾ | 6¾ | 50 | 3¾ | 2½ | W93642 | **5Z159** | $428.00 | **$374.50▲** | 100.0 |
| 4 | 4½ | 25 | 20½ | 7½ sq. | 48½ | 7½ | 48 | — | — | W93657 | **5Z160** | 1217.00 | **1064.00▲** | 240.0 |
| 10 | 5⅞ | 25 | 19⅛ | 7½ sq. | 53⅜ | 9¾ | 50 | 6⅞ | 4 | W93660 | **3ZC02** | 2789.00 | **2417.00▲** | 177.0 |
| **HYDRAULIC/AIR-OPERATED SERVICE JACK** | | | | | | | | | | | | | | |
| 10 | 5⅞ | 25 | 19⅛ | 7½ sq. | 53⅜ | 9¾ | 50 | 6⅞ | 4 | W93662 | **3ZC03** | 3245.00 | **2789.00▲** | 508.0 |

(▲) Net price, not subject to discounts.

# AIR-ASSISTED HYDRAULIC SERVICE JACKS




## SERVICE JACKS

### A B C D AIR/MANUAL HYDRAULIC SERVICE JACKS

Used for lifting part of a total vehicle (i.e., one wheel). Applications include use in automotive, truck, farm, industrial and construction. Features a powerful air motor for lifts of rated load, and conventional foot pumping and handle pumping. Jacks are equipped with a built-in by-pass device to prevent damage to jack from overpumping. An internal safety valve prevents damage to jack from overloading. Meets ANSI/ASME PALD 10B.

### E AIR/MANUAL LOW CHASSIS SERVICE JACK

Same features as air/manual hydraulic service jacks, above. For automobiles with ground effects packages and trucks with low body construction. Meets ANSI/ASME PALD 10B.

**1-YEAR LIMITED WARRANTY**

**Dayton Electric Corporation warrants jacks for one year. Text of warranty available on request. See "Manufacturer's Warranties" on page opposite inside back cover.**

## TRUCK JACKS

### F 22 TON AIR-OVER HYDRAULIC TRUCK JACK

**Compact, low profile design for maximum access.** Unit fits easily between the wheels of a tandem axle vehicle. Two-speed action of air-assist motor quickly raises saddle to lift point and then powerlifts load to desired height. Uses standard coupler hook-up to a shop compressor with air regulator control lever handle conveniently located. Pressure relief valve is located on top of handle for metered control and load height adjustment. Reinforced air hose is resistant to chemicals and temperature extremes. Oversized rubber wheels allow easy maneuvering under the lift load. Safety bypass mechanism protects hydraulic system from accidental overload. Meets ANSI/ASME PALD 10B.

### G 22/35 TON AIR HYDRAULIC AXLE JACK

**Provides quick, effortless lifts of rated capacity loads.** For lifting automotive, low clearance bus, farm, marine, industrial, and construction vehicles. Features powerful air motor and stamped steel frame construction with steel base. First ram piston has a capacity of 35 tons, second ram piston has capacity of 22 tons. Double ram design allows jack to have low saddle height of 8" while maintaining the same maximum lifting height as a comparable single ram design. Meets ANSI/ASME PALD 10B.

| Key | Lift Capacity (Tons) | Low Pick-up Height (In.) | High Lifting Point (In.) | Power Raise (In.) | Chassis Length (In.) | Handle Length (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **AIR/MANUAL HYDRAULIC SERVICE JACKS** | | | | | | | | | |
| A | 3 | 5½ | 19 | 13½ | 30 | 42⅛ | **5M454** | **$365.25▲** | 99.0 |
| B | 4 | 5 | 24 | 19 | 50⅝ | 42⅛ | **5M455** | **665.50▲** | 167.0 |
| C | 5 | 7 | 27 | 20 | 57¾ | 42⅛ | **5M456** | **859.50▲** | 236.6 |
| D | 10 | 7 | 27 | 20 | 54¾ | 42⅛ | **5M457** | **1499.00▲** | 447.0 |
| **AIR/MANUAL LOW CHASSIS SERVICE JACK** | | | | | | | | | |
| E | 2 | 4½ | 17½ | 13 | 40½ | 39⅛ | **5M465*** | **449.00▲** | 76.0 |
| **TRUCK JACKS** | | | | | | | | | |
| F | 22 | 9½ | 19½ | 10 | 22⅞ | 40¾ | **3W929** | **499.00▲** | 73.2 |
| G | 22/35 | 8 | 19½ | 11½ | 21⅝ | 40¾ | **5M459** | **899.00▲** | 120.8 |

(*) Limited availability– Contact local branch. (▲) Net prices, not subject to discounts.

Replacement Parts Available 1-800-323-0620™

LINCOLN



No. 6Z364 Forklift Jack

## 4 TON HYDRAULIC FORKLIFT JACK

**High capacity** and rugged enough for daily workouts.

**Extra low pick up point** and 2-position lift pad for hard-to-reach places under low profile lift trucks.

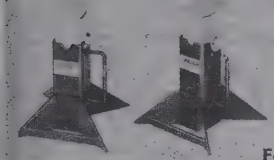
**Maximum lift of 16"** provides room needed to perform a variety of repairs.

**Removable handle and compact size** make it easy to maneuver and transport.

**Specially designed seals,** chrome plated parts, and heavy-duty steel construction.

**Meets or exceeds ANSI standards.**

| Lifting Capacity (Tons) | Lifting Ht. (In.) Min. | Lifting Ht. (In.) Max. | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4 | 2¼ | 16 | W93659 | **6Z364** | $1601.00 | **$1350.00▲** | 72.0 |



No. 6Z792 Forklift Stands

## 5 TON FORKLIFT STANDS

- **Provide muscle needed to support forklifts and heavy machinery**
- **7 3/4" wide square base for maximum load security**
- **Adjust from 9½ to 14" at 2" intervals**
- **Heavy-duty holding pins for adjustable heights**
- **Lightweight for portability and ease of positioning**
- **Meets or exceeds ANSI standards**

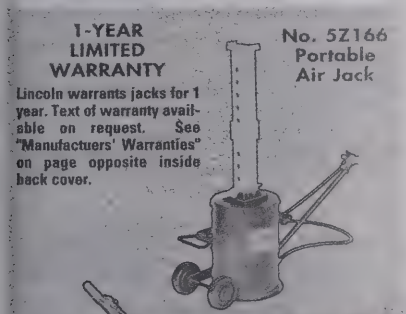
| Capacity (Tons) (Each Stand) | Lifting Ht. (In.) Min. | Lifting Ht. (In.) Max. | Lincoln Model | Stock No. | List | Each Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5 | 9½ | 14 | W93524 | **6Z792** | $295.00 | **$252.50▲** | 35.0 |

**1-YEAR LIMITED WARRANTY**

Lincoln warrants vehicle stands for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**1-YEAR LIMITED WARRANTY**

Lincoln warrants jacks for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



No. 5Z166 Portable Air Jack

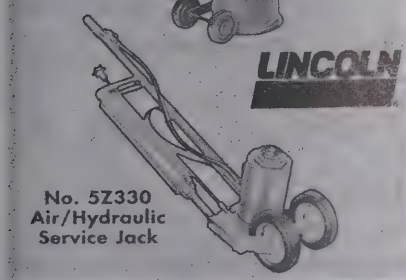
## 7½ TON AIR PORTABLE JACK

**For heavy-duty lifting jobs** in truck repair garages, construction equipment facilities, and agricultural equipment repair shops; ideal for frame and axle lifts. Multiple lifting heights through use of extensions and pins.

**Air operated** for smooth, dependable lifts. Two wheels for easy mobility. Space saving removable handle, and extra long air hose. **Dimensions:** 19½L x 11W x 17"H. **Air pressure for rated capacity:** 200 PSI. **Lift pad travel:** 10½". Lincoln brand.

| Lifting Capacity (Tons) | Lifting Ht. (in.) Min. | Lifting Ht. (in.) Max. | Base Size | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 7½ | 17 | 49 | 12" dia. | W93737 | **5Z166** | $1115.00 | **$1115.00▲** | 118.0 |

LINCOLN



No. 5Z330 Air/Hydraulic Service Jack

## 20 TON AIR/HYDRAULIC SERVICE JACK

**For use on trucks,** construction equipment, and agricultural equipment; low height for lifting loaded trailers and trucks by the axle. Compact size makes it easy to transport and store.

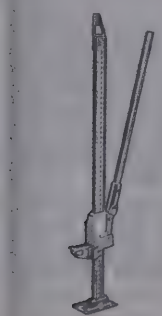
**Extension screw permits** pick up height adjustment from 9½ to 12".

**Patented "Speed-Pak"** provides quick, effortless lifts with air power.

**Automatic valve prevents overloading.** Large semi-pneumatic tires for mobility.

**Air pressure for rated capacity:** 140 PSI (75 PSI for 19,700 lb. load). **Handle length:** 50". Lincoln brand.

| Capacity (Tons) | Lifting Ht. (In.) Min. | Lifting Ht. (In.) Max. | Base Size (In.) | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 20 | 9½ | 17½ | 8 x 5½ | W93731 | **5Z330** | $1090.00 | **$924.00▲** | 73.0 |



LINCOLN

No. 5Z156 High-Lift Utility Jack

**1-YEAR LIMITED WARRANTY**

Lincoln warrants jacks for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## HIGH-LIFT UTILITY JACK

- **Heavy-duty, cast iron construction meets or exceeds ANSI standards**

**For lifting, pulling, clamping, and spreading** on tractors and four-wheel drive vehicles. Low pick up with lifting nose 4½" from bottom of base plate.

**4" long lifting nose** for safe, positive contact with load. Adjustable top clamp clevis can be moved to any position on the upright steel standard for clamping operations.

**Exposed working parts** for easy cleaning and lubing. Safety shear pin prevents loading jack beyond rated capacity. Upright steel standard can be reversed for longer wear. Automatic operation lowers load step-by-step. Lincoln brand.

| Lifting Capacity (Tons) | Lifting Ht. (In.) Min. | Lifting Ht. (In.) Max. | Base Size (Sq. In.) | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3½ | 4½ | 48 | 28 | W93497 | **5Z156** | $115.00 | **$100.80▲** | 31.0 |

(▲) Net prices, not subject to discounts.

# ENGINE STANDS & TRANSMISSION JACK

## AUTOMOTIVE ENGINE STANDS




- Heavy-gauge tubular construction
- 4 Heavy-duty industrial steel bearing casters for easy maneuvering
- H-shape design on No. 3W931, U-shape design for added stability and load centering on No. 3ZC70
- Head swivels 360° with an adjustable locking mechanism
- Adapter arms hold engine secure for head and shaft removal
- Quickly disassembles for storing or transporting
- Extra long handle with rubber grips for easy rotation of engine
- Slotted arm adjustment makes attachment easy
- Rugged gray enamel finish, and heat treated bolts for lasting performance
- Provides easy service access to auto, truck, marine, generator and air compressor engines
- 1-Year Limited Warranty

### ENGINE STAND SPECIFICATIONS AND ORDERING DATA

| Capacity (Lbs.) | Dimensions (In.) Length | Width | Height | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 750 | 34 | 32 | 34½ | 3W931 | $94.45▲ | 50.0 |
| 1250 | 33⅛ | 33½ | 38¾ | 3ZC70 | 160.25▲ | 92.0 |

## AUTOMOTIVE ENGINE STANDS

Replacement Parts Available 1-800-323-0620




- Heavy-duty engine stand provides a stable workbench for major engine service
- Suited for use by schools, auto enthusiasts, racers, professional mechanics, and engine rebuilders
- Rugged tubular frame supports 750 lb. loads
- 360° Rotating head locks in any position
- 23" Handle allows easy rotation of engine
- 3½" dia. steel wheels for smooth and easy maneuvering
- Stand comes apart easily for storage or transporting
- Designed to fit between the legs of most portable shop cranes

**1-YEAR LIMITED WARRANTY**
Lincoln warrants stands for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Manufactured to meet the safety guidelines ofAmerican National Standard Institute. ANSI/ASME PALD-3C-1991

### ENGINE STAND SPECIFICATIONS AND ORDERING DATA

| Capacity (Lbs.) | Dimensions (In.) Length | Width | Height | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 750 | 34 | 28½ | 36¼ | W93777 | 6Z136 | $167.00 | $137.80▲ | 48.0 |
| 1250 | 36 | 36 Rear; 17¾ Front | 35 | W93778 | 6Z137 | 252.00 | 210.00▲ | 86.0 |

## TRANSMISSION JACK




- Used for lifting and lowering automotive transmissions
- Saddle has both side and tilting angle adjustment to fit onto different shapes and sizes of various transmissions and differentials
- Meets ANSI/ASME PALD 2

### TRANSMISSION JACK SPECIFICATIONS AND ORDERING DATA

| Lifting Capacity (Lbs.) | Base Size (In.) | Height (In.) Minimum | Maximum | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1100 | 31 x 15 | 8½ | 24¾ | 5M474 | $311.00▲ | 108.0 |

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

(▲) Net prices, not subject to discounts.

# PIT AND TRANSMISSION JACKS

Dayton



No. 5M466 Hi-lift Transmission Jack

No. 5M462 Pit Jack

Replacement Parts Available 1-800-323-0620

## PIT JACK

- Designed to be used as an aid in removal and installation of vehicle component parts and systems
- Features swivel casters and foot pump for easy positioning and an extra wide cradle for holding up to an 8-quart pan
- Equipped with a by-pass device and safety valve
- Meets ANSI/ASME PALD 2

| Lifting Capacity (Lbs.) | Base Size (In.) | Height (In.) Minimum | Height (In.) Maximum | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 440 | 12¼ x 12¼ | 51⅛ | 86¾ | 5M462* | $129.00▲ | 55.1 |

(*) Limited availability–contact local branch.

## AIR/MANUAL HI-LIFT TRANSMISSION JACK

- Provides quick, effortless lifts of rated capacity loads
- Lifting transmissions, differentials of automotive, farm, marine vehicles
- Features powerful air motor, stamped steel frame construction with steel base
- Jack can be operated by air or with manual foot pedal
- Air pressure requirement at rated capacity: 90-175 PSI
- Saddle has side and tilting angle adjustment to fit onto different shapes of various transmissions, differentials
- Hydraulic cartridges installed in pneumatic and manual operating oil circuit provide overload protection
- Oil by-pass mechanism offers stroke limitation of ram piston
- Metered release valve assures precise adjustment of saddle height and smooth lowering of load
- Meets ANSI/ASME PALD 2

| Capacity (Lbs.) | Saddle Low (In.) | Saddle Height (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1000 | 36¾ | 76⅝ | 5M466 | $980.50▲ | 179.8 |

LINCOLN



No. 5Z167 1/2 Ton Capacity

No. 5Z158 1/2 Ton Capacity

Replacement Parts Available 1-800-323-0620

No. 3ZC01 1 Ton Capacity

## AIR/HYDRAULIC HIGH-LIFT TRANSMISSION JACK

- 1000 lb. capacity; 75" max. lift height
- Air provides fast, easy lift in first stage; hydraulics provide smooth, precise lifting in second stage
- Head can be tilted 10° side to side, 50° forward, and 20° backward for proper alignment of splines and bolt holes
- Heavy-duty construction meets or exceeds ANSI standards

Combines air and hydraulic power for maximum speed and accuracy. Widespread swiveling casters provide sure, smooth maneuverability. Four ratcheting brackets fit transmission pan flanges, hefty steel safety chain helps anchor transmission, and easy-to-grip knobs speed under-hoist transmission removal and installation allowing user to work faster. Air pressure for rated capacity: 90 PSI. 36H x 41L x 41"W. Lincoln brand.

| Capacity (Tons) | Lifting Ht. (In.) Min. | Lifting Ht. (In.) Max. | Tilt Capacity Front | Tilt Capacity Rear | Tilt Capacity Side | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 34½ | 75 | 50° | 20° | 10° | W93720 | 5Z167 | $2335.00 | $1984.00 ▲ | 165.0 |

## HEAVY-DUTY HYDRAULIC TRANSMISSION JACKS

- 1000 or 2000 lb. capacities
- Head can be tilted side to side, forward and backward for proper alignment of splines and bolt holes
- Easily adjusts to 0.030" or less
- Heavy-duty construction meets or exceeds ANSI standards

DIMENSIONS

- No. 5Z158: 33L x 20W x 5½"H
- No. 3ZC01: 50½L x 29½W x 10"H

Handles passenger car and truck automatic transmissions. Fits front wheel drive transaxles and many air-cooled VW engines. Smooth hydraulic operation permits precise raising and lowering. Four adjustable load support arms swivel to fit around all transmission pan flanges. Double pump handle allows jack to be operated from either side. Four full swivel ball bearing casters for easy maneuverability. Wide support base provides stability under load. Lincoln brand.

| Capacity (Tons) | Lifting Ht. (In.) Min. | Lifting Ht. (In.) Max. | Tilt Capacity Front | Tilt Capacity Rear | Tilt Capacity Side | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 5½ | 27⅞ | 60° | 18° | 12° | W93716 | 5Z158 | $945.00 | $818.00▲ | 100.0 |
| 1 | 7½ | 36 | 10 | 10 | 10 | W93717 | 3ZC01 | 2113.00 | 1834.00▲ | 357.0 |

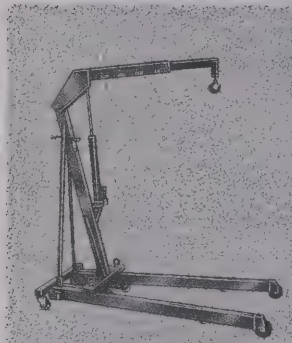
### 1-YEAR LIMITED WARRANTY

Lincoln warrants jacks for one year. Text of warranty available on request. See "Manufacturer's Warranties" on page opposite inside back cover.

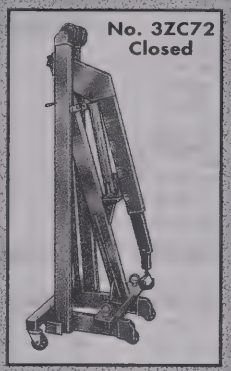
(▲) Net prices, not subject to discounts.

# HYDRAULIC CRANES & CRANE JACKS

## HYDRAULIC ENGINE CRANES



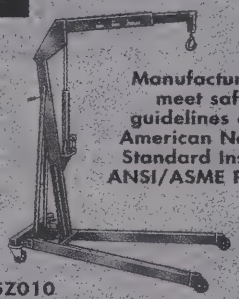
No. 3ZC72
1-Ton Space Saver
Open



No. 3ZC72
Closed

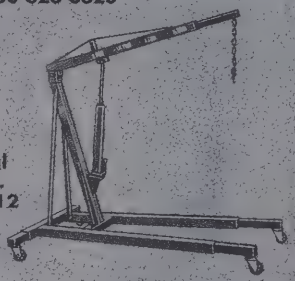
Dayton®

Replacement Parts Available
1-800-323-0620



Manufactured to meet safety guidelines of the American National Standard Institute. ANSI/ASME PALD 12

No. 5Z010
3/4 Ton



No. 3ZC71
2-Ton Heavy-Duty

- Heavy-gauge reinforced structural steel frame with industrial steel bearing casters
- Heat-treated bolts and forged steel grab hook for added safety
- Adjustable boom allows for multiple lift capacity
- Hydraulic ram has metering release valve for lowering boom at a controlled rate
- No. 3ZC72 has folding design for complete storage
- No. 3ZC71 has adjustable front and rear legs for versatile positioning
- Durable gray baked enamel finish

| Boom Position | Capacity | Hook Height (In.) Height Min. | Hook Height (In.) Height Max. | Hook Height (In.) Boom (In.) | Overall Dimensions (In.) L | Overall Dimensions (In.) W | Overall Dimensions (In.) H | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3/4 TON ENGINE CRANE** | | | | | | | | | | |
| 1 | 1500 lbs. | 9 1/2 | 76 1/2 | 38 3/8 | | | | | | |
| 2 | 1000 | 5 1/2 | 79 1/2 | 42 1/4 | 54 | 36 | 55 1/2 | 5Z010 | $492.25▲ | 146.0 |
| 3 | 500 | 1 1/2 | 82 | 46 1/4 | | | | | | |
| **1 TON SPACE-SAVER ENGINE CRANE** | | | | | | | | | | |
| 1 | 2200 | 11 1/8 | 85 1/2 | 47 1/4 | | | | | | |
| 2 | 1650 | 5 1/4 | 88 | 53 | 71 1/8 | 23 3/4 - 50 | 70 3/4 | 3ZC72 | 623.50▲ | 297.0 |
| 3 | 1100 | 0 | 90 3/4 | 58 3/4 | | | | | | |
| **2 TON HEAVY-DUTY ENGINE CRANE** | | | | | | | | | | |
| 1 | 2 tons | 15 7/8 | 73 | 53 3/4 | | | | | | |
| 2 | 1 1/2 | 11 1/2 | 78 3/4 | 62 3/4 | 62 7/8 - 91 1/8 | 35 7/8 - 50 1/2 | 57 1/4 | 3ZC71 | 589.00▲ | 304.0 |
| 3 | 1 | 7 1/4 | 84 1/4 | 71 3/4 | | | | | | |
| 4 | 1/2 | 2 3/4 | 90 1/2 | 80 5/8 | | | | | | |

## HYDRAULIC CRANE JACKS

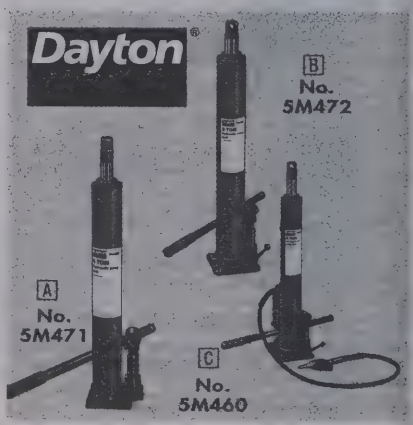
- Used in engine cranes for lifting automotive, marine, and industrial engines
- Comply with all applicable safety standards including safety valve and travel limit requirements

## AIR/MANUAL HYDRAULIC CRANE JACK

- Minimum 90 PSI required to lift rated capacity loads
- Manual function allows for normal operation anywhere, even without air supply
- Recommended air supply—90-150 PSI at 7.8 CFM, 3HP recommended

| Key | Lifting Capacity (Tons) | Fits Crane Nos. | Height (In.) Min. | Height (In.) Max. | Stroke (In.) | Ram Hole Dia. (In.) | Pin Mounting Holes (3) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **HYDRAULIC CRANE JACKS** | | | | | | | | | | |
| A | 4 | 5Z010 | 19 3/8 | 34 3/4 | 15 3/8 | 1/2 | 5/16 | 5M471 | $72.30 ▲ | 18.0 |
| B | 8 | 3ZC71, 3ZC72, 5Z011 | 23 3/8 | 42 3/4 | 19 | 5/8 | 3/8 | 5M472 | 107.15 ▲ | 28.0 |
| **AIR / MANUAL HYDRAULIC CRANE JACK** | | | | | | | | | | |
| C | 8 | 3ZC71, 3ZC72, 5Z011 | 23 3/8 | 42 3/4 | 19 | 5/8 | 3/8 | 5M460 | 267.00▲ | 39.0 |

(▲) Net prices, not subject to discounts.

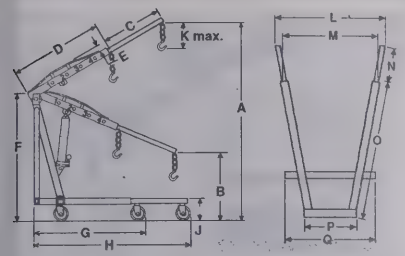





*Lift it, start it, pull it with these shop-tested tough products.*

# HYDRAULIC CRANE AND CRANE JACKS

## 2 TON HYDRAULIC CRANE




**1-YEAR LIMITED WARRANTY**

Winner warrants cranes and crane jacks for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- For convenient lifting and transportation of automotive and truck engines or transmissions. Also useful in industrial applications for machining, rebuilding, and maintenance jobs
- Heavy gauge structural steel tube construction for maximum lifting strength
- 4 Position telescoping boom
- 4 Ball bearing casters with steel wheels for easy rolling
- Extendable legs for greater stability
- Metering-type release provides precise, controlled lowering of load
- Built-in tray for tools and small parts
- Adjustable length chain and hook assembly to wrap around and lift large objects

LINCOLN

Made in U.S.A.



No. 5Z011
2 Ton Hydraulic Crane

Replacement Parts Available
1-800-323-0620

**DIMENSIONS (IN.)**

| A* | B* | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|
| 95½ | 35⅛ | 30⅝ | 50⁹⁄₁₆ | 3¾ | 53½ | 64 | 95¼ |

| J | K | L | M | N | O | P | Q |
|---|---|---|---|---|---|---|---|
| 7¼ | 13 | 43½ | 34½ | 34⅛ | 59½ | 18¼ | 35 |

(*) Dimensions for boom postion 1; boom positions 2, 3 and 4 not included. Maximum boom extension is "C".

| Lift Capacity in Boom Position (Lbs.) 1 | 2 | 3 | 4 | Lincoln Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **4000** | 3000 | 2000 | 1000 | W93808 | **5Z011** | $713.00 | **$605.00▲** | 297.0 |

## 4 AND 8 TON HYDRAULIC CRANE JACKS

- Hydraulic crane jacks feature long stroke, ram pin hole, and base mounting holes
- Available in 4 and 8 ton capacities for use with hydraulic cranes

**1-YEAR LIMITED WARRANTY**

Lincoln warrants cranes and crane jacks for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

| Lifting Capacity (Tons) | Fits Crane Stock No.* | Closed Height (In.) | Stroke (In.) | Ram Pin Hole Dia. (In.) | Base Mounting Holes (3) (In.) | Winner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **4** | 5Z010 | 19⅞ | 15⅝ | 1/2 | 5/16 | H68475 | **6Z996** | $125.00 | **$104.30** ▲ | 18.0 |
| **8** | 3ZC71, 3ZC72, and 5Z011 | 23⅝ | 19 | 5/8 | 3/8 | H68476 | **6Z997** | 129.00 | **115.30** ▲ | 28.0 |

(*) Sold on this page and previous page. (▲) Net prices, not subject to discounts.



Winner LINCOLN AUTOMOTIVE

Manufactured to meet the safety guidelines of American National Standard Institute. ANSI/ASME PALD-3C-1991

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# TRUCK CRANE, WHEEL DOLLY, AND VEHICLE END LIFT

## PICK-UP TRUCK CRANE

Designed to help lift, load, unload, and position cargo too heavy for manual lifting. Can lift 500 lbs when installed onto a 1/2-3/4 ton capacity pick-up truck, and 750 lbs when installed onto a 1 ton capacity pick-up truck when using 12V, bi-directional 10,000 lb rolling load capacity winch with remote control. Control rate of descent is accomplished using a high torque motor, vented disk brake with double-action calipers, metal/organic pads, and 12 ft of durable weather-resistant 1/4" aircraft cable.

| Capacity | Hook Height (In.) Min. | Hook Height (In.) Max. | Boom Length (In.) | Base Size (In.) | Store Height (In.) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 500 lb for 1/2 - 3/4 Ton Truck<br>750 lb for 1 Ton Truck | 0 | 67½ | 37 | 15¾ x 15¾ | 54 | 5M473 | $626.00▲ | 171.0 |




### VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

## HEAVY-DUTY HYDRAULIC WHEEL DOLLY

- Heavy-duty construction meets or exceeds ANSI standards
- Designed for easy removal, installation, and handling of dual wheels and large single wheels. Handles up to 52" diameter tires and wheels
- Load leveler aids alignment and reduces risk of damaged bearings, grease seals, and anti-skid sensors
- Hydraulic lifting power makes operation easy
- Carriage rollers, with self-lubricating bearings, allow tire rotation for easy lug alignment
- Four rollers guide carriage for smooth vertical lifting; two full swivel ball bearing casters for easy positioning
- Wide frame and lifting carriage enhance stability
- Built-in tool and parts tray

LINCOLN

**1-YEAR LIMITED WARRANTY**

Lincoln warrants wheel dollies for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



Replacement Parts Available 1-800-323-0620

| Lifting Capacity | Lift Range | Lifting Arms (In.) Length | Lifting Arms (In.) Spread | Overall (In.) Length | Overall (In.) Width | Overall (In.) Height | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 Ton | 2⅜-7⅞ | 23 | 24 | 33⅜ | 35 | 31 | W93765 | 5Z164 | $1021.00 | $872.00▲ | 119.0 |

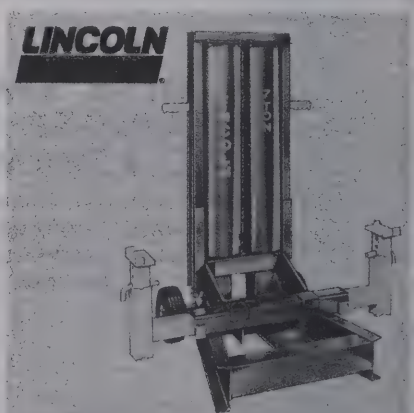
## AIR-OPERATED VEHICLE END LIFT

- Designed for heavy-duty high lifting of cars, trucks, and buses, in service stations, garages, industrial plants and truck and bus maintenance garages
- Dual hydraulic dampers provide smooth operation and safety restraint if load is suddenly removed
- 2-stage air valve permits lifting and speed selection
- Spring-loaded front caster permits base to contact ground under load for excellent stability and support
- 10-position lifting saddles assure maximum grip and load contact
- Telescoping lifting arms facilitate lift position and compact storage

### 1-YEAR LIMITED WARRANTY

Lincoln warrants jack for 1 year. Text of warrant, available on request. See "Manufacturers' Warranties on page opposite inside back cover.

LINCOLN



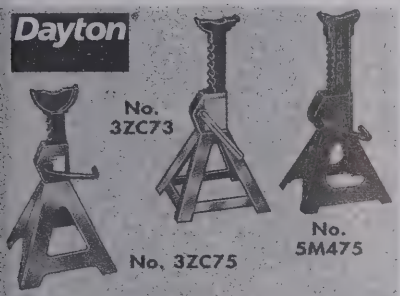
Replacement Parts Available 1-800-323-0620

| Capacity (Ton) | Low Pick-Up Height | High Lifting Point | Power Raise | Saddle Spread | Overall Dimensions (In.) L | W | H | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 13½ | 58½ | 32½ | 29-47" | 29 | 26 | 59 | W93692 | 3ZC05 | $3054.00 | $2657.00 ▲ | 586.0 |

(▲) Net prices, not subject to discounts.

**WARNING: Always use vehicle stands in pairs and on hard, level surface. Load must be centered on saddle. Study, understand, and follow all operating instructions supplied with this product.**

Dayton




## HEAVY-DUTY VEHICLE STANDS

**Manufactured to meet the safety guidelines of American National Standard Institute. ANSI/ASME PALD 4C**

- **Nos. 3ZC73 and 3ZC74 feature sturdy angular steel construction with strong welded base**
- **Nos. 5M475 and 3ZC75 have one-piece stamped steel construction**
- **Rust-free baked enamel, gray finish for long term durability**
- **Heat treated ductile ratchet bar will safely sustain heavy loads over extended support time**
- **Weight on ratchet pin serves as locking mechanism to prevent accidental release under load**
- **Quick adjustment mechanism securely locks into desired location on multiposition ratchet bar**
- **Sold only in pairs**

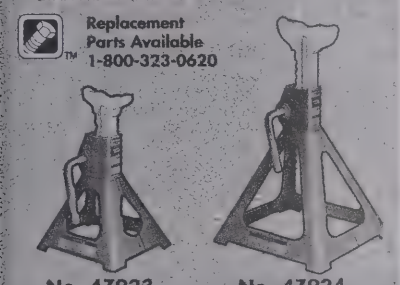
| Lifting Capacity (Tons) | Lifting Height (In.) Min. | Max. | Base Size (In.) | Stock No. | Each Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 | 11¼ | 17⅞ | 8⅛ x 7 | 3ZC73 | $29.95 ▲ | 19.0 |
| 4 | 11⅞ | 18⅜ | 7½ x 8¾ | 5M475 | 34.95 ▲ | 25.1 |
| 6 | 14½ | 24 | 11¼ x 10 | 3ZC74 | 49.95 ▲ | 32.0 |
| 12 | 19 | 30 | 12 x 12½ | 3ZC75 | 159.00 ▲ | 66.0 |

### 1-YEAR LIMITED WARRANTY

**Dayton Electric Corporation warrants stands for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

Winner LINCOLN AUTOMOTIVE

Replacement Parts Available 1-800-323-0620™




## VEHICLE STANDS

**Manufactured to meet the safety guidelines of American National Standard Institute. ANSI/ASME PALD-4C-1991**

**Stands are used** to support loads when servicing vehicles or equipment in automotive and industrial applications.

**Tested at factory** to ensure reliable service. Exceed all current government standards. Formed steel construction gives solid support.

**Saddles are designed** as an integral part of ratchet bar for greater strength and easy height adjustment.

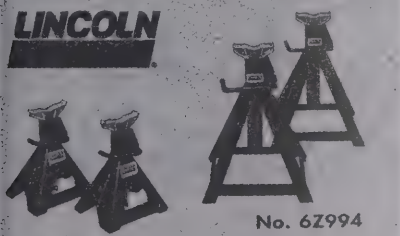
**Built to use weight of load** to prevent ratchet pawl from disengaging under load. Available in 3 and 6 ton capacities. Enamel finish. Winner Series from Lincoln. **Sold only in pairs.**

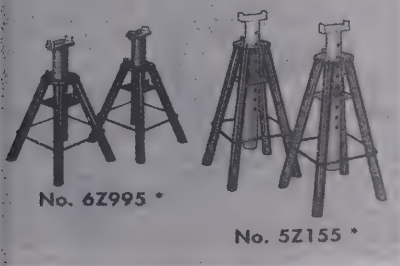
### 1-YEAR LIMITED WARRANTY

**Lincoln warrants vehicle stands for 1 year parts and labor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Lifting Capacity (Tons) | Lifting Height (In.) Min. | Max. | Base Size (In.) | Winner Model | Stock No. | List | Each Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3 | 10⅞ | 17¼ | 7⅝ x 8⅝ | H68047 | 4Z923 | $43.00 | $35.95▲ | 24.0 |
| 6 | 15⅜ | 24¾ | 10½ x 11¾ | H68048 | 4Z924 | 72.00 | 59.95▲ | 43.0 |

LINCOLN




## HEAVY-DUTY VEHICLE STANDS

**Heavy-duty steel construction** meets or exceeds ANSI standards. Saddle column has ratchet action height adjustment.

**Dual purpose handle** serves as carry handle or saddle column release. Spring-loaded release prevents rack bar from jamming.

**Rugged tubular construction,** large thick saddle for extra strength, and 4-leg base adds stability and support.

**10 Ton capacity stands** have a chain that prevents loss of height adjusting pin.

**2, 5 & 7 ton stands sold in pairs only. 10 ton stands priced individually but must be used in pairs.**

### 1-YEAR LIMITED WARRANTY

**Lincoln warrants vehicle stands for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Capacity† (Tons) | Lifting Height (In.) Min. | Max. | Intervals | Base Size (In.) | Lincoln Model | Stock No. | List | Each Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 11 | 17⅞ | 5/8 | 7 x 9¼ | W93505 | 6Z992 | $101.00 | $81.95▲ | 19.0 |
| 5 | 14⅜ | 24⅝ | 3/4 | 10 x 12½ | W93516 | 6Z993 | 135.00 | 109.00▲ | 41.0 |
| 7 | 20 | 30⅜ | 3/4 | 12⅞ x 15⅛ | W93519 | 6Z994 | 275.00 | 225.00▲ | 58.0 |
| 10 | 18⅝ | 30½ | 1½ | 16 x 16 | W93522 | 6Z995* | 190.00 | 155.00▲ | 36.0 |
| 10 (high) | 28¾ | 46 | 2 | 16 x 16 | W93525 | 5Z155* | 345.00 | 279.00▲ | 50.0 |

(*) Note: 10 ton stands are priced individually, must be used in pairs. (†) Each pair.
(▲) Net prices, not subject to discounts.

### OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# HYDRAULIC RAM SYSTEMS AND AIR HYDRAULIC PUMP

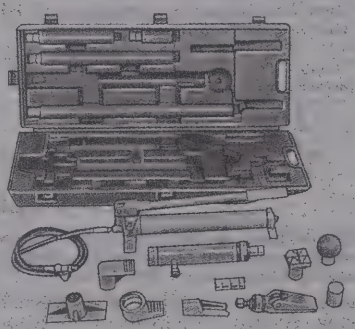
## 4- AND 10-TON HYDRAULIC RAM SYSTEMS

**KITS FEATURE:**

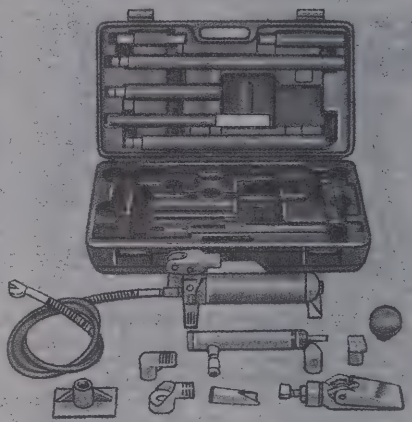
- Hand pump assembly with hose
- Heavy-duty spreader ram
- 2¾" rubber head
- Rubber faced flat base
- Ram toe and plunger toe
- Chrome plated long life ram plunger
- Serrated saddle
- Wedge head
- 90° combination head
- Easy, snap together assembly
- Kits come with a custom fitted, rugged blow molded storage case with carry handle. No. 3ZC69 has wheels for easy movement
- Safety overload protection mechanism to prevent ram and cylinder damage

Dayton®

Replacement Parts Available 1-800-323-0620™



No. 3ZC69
10-Ton Kit



No. 3ZC68
4-Ton Kit

**No. 3ZC68 4-TON KIT**

**8000 lb. capacity.** Includes 21", 18", 10", 7½", and 4½" extension tubes. Ram has approximately 4¾" stroke.

**No. 3ZC68.** 4-Ton Kit. Shpg. wt. 45.0 lbs. List $267.20. Each.....**$187.00▲**

**No. 3ZC69 10-TON KIT**

**20,000 lb. capacity.** Includes 28¾", 19¾", 11¾", and 5¾" extension tubes. Ram has approximately 6" stroke.

**No. 3ZC69.** 10-Ton Kit. Shpg. wt. 91.4 lbs. List $396.60. Each.....**$288.00▲**

**1-YEAR LIMITED WARRANTY**

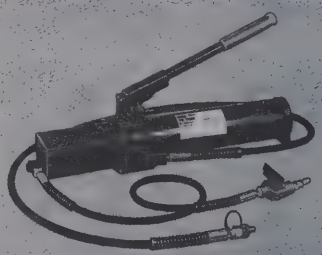
Dayton Electric Corporation warrants RAM systems for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## 10-TON AIR/MANUAL HYDRAULIC RAM

- Provides quick, effortless lifts of rated capacity loads
- Features a powerful air motor for pushing, clamping, and spreading repair jobs
- Use as a replacement for pump assembly on Nos. 3ZC68, 3ZC69, 4Z925 and 1ZC02

| Capacity (Tons) | Handle Length (In.) | Base Dimension (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 10 | 13¾ | 22 x 6⅛ | 5M461 | $387.50 | $272.00 | 29.0 |

Dayton



No. 5M461

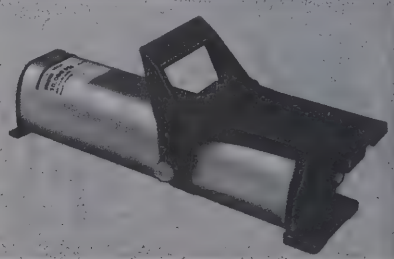
## AIR HYDRAULIC PUMP

Foot- or hand-operated air hydraulic pump which operates on air pressure of 90-175PSI. Pump is used in applications where oil operating of 10,000PSI is required, such as presses, rams, and hose crimping machines. Volume of oil 61.03 cu-in. Two mounting slots on each side permit installation in more permanent locations. During use, pump does not "idle", but functions only upon demand. Internal valve will hold loads if pressure is turned off. 16¾L x 6W x 6⅝"H. Dayton brand.

**No. 5M458.** Shpg. wt. 13.0 lbs. List $385.65. Each.....**$261.25▲**

(▲) Net prices, not subject to discounts.

Dayton



No. 5M458

# HYDRAULIC REPAIR KITS AND MAINTENANCE SET

## 4- AND 10-TON HYDRAULIC REPAIR KITS

Made to American dimensions. Snap-lock heavy-walled extension tubes and other accessories snap together in seconds without pins or threading. Compact, lightweight pumps deliver 4 or 10 ton pressure (depending on model) with a few easy strokes. Pump automatic overload protection helps prevent damage to rams and equipment. Long stroke rams reduce need for frequent set-up changes. Winner Series by Lincoln.

**BOTH KITS INCLUDE:**

- **Pump, ram, and 6 ft. hose**
- **Plunger and ram toes**
- **Wedge**
- **90° combination head**
- **Male connector**
- **Serrated saddle**
- **Hydraulic spreader**
- **Rubber padded flat base**
- **Molded case**

### 4-TON KIT

**Includes:** 3, 6, 8½, 16½, and 19½" set-up length extension tubes (overall length 1½" longer) and 2¾" rubber padded heads. Ram has approximately 4⅞" stroke. (H67700).

**No. 4Z925.** 4-Ton Repair Kit. Shpg. wt. 57.0 lbs. List $256.00. Each.....$213.50▲

### 10-TON KIT

**Also Includes:** 4, 10, 18, and 27" set-up length extension tubes (overall length 2" longer) and 3" rubber padded heads. Ram has approximately 6" stroke. (H68075).

**No. 1ZC02.** 10-Ton Repair Kit. Shpg. wt. 88.0 lbs. List $329.00. Each.....$297.00▲

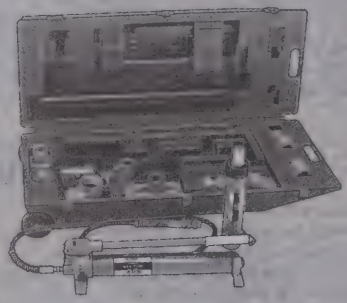
(▲) Net prices, not subject to discounts.

Winner LINCOLN AUTOMOTIVE

**CAUTION: Hydraulic jacks should not be used for supporting raised loads. Garage or jack stands positioned under the load is highly recommended while performing service and when raised loads are left unattended.**



No. 4Z925
4-Ton Kit



No. 1ZC02
10-Ton Kit

**1-YEAR LIMITED WARRANTY**

Lincoln warrants body repair kits for 1 year. Text of warranty is available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## HEAVY-DUTY HYDRAULIC MAINTENANCE SET

ENERPAC

**Complete assortment** of hydraulic powered equipment from which you can quickly assemble combinations or set-ups to meet your application requirements.

**Set includes:** Two-speed hand pump (No. 6W462); 6' hose (No. 3KD65); 10-Ton cylinder with 6" stroke (No. 4Z486); 1-Ton spreader attachment, gauge and gauge adapter (Nos. 3KD63 & 3KD38); male and female lock on adapters; 4 locking pins; 4 extensions (5", 10", 18", 30"); adjustable extension pipe; 2 lock-on connectors; smooth and serrated saddle; threaded connector and plunger adapter; cylinder attachments; cylinder and base attachments; lock-on clamp toe; threaded plunger; collar clamp head; collar and spread toe; cylinder and plunger toe; 2 pipe couplings; chain with hook and two chain plates; 90° V-base; wedge head; rubber flex head; and wooden storage box. Enerpac brand (MS210).

**NOTE: When using cylinder attachments; never exceed 5,000 PSI.** Use gauge to verify operating pressure.

**No. 3KD70.** Heavy Duty Maintenance Set. Shpg. wt. 140.0 lbs. List $1586.00. Each.....$1539.00




No. 3KD70

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

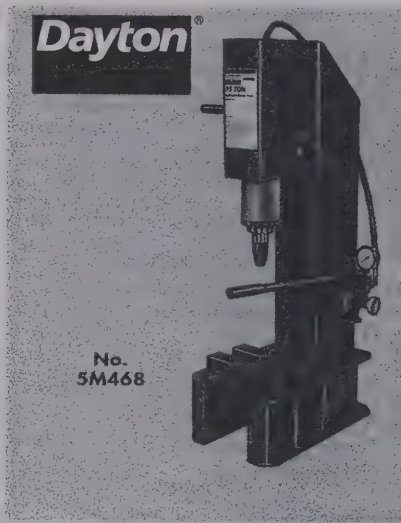
# HYDRAULIC BENCH PRESS AND H-FRAME PRESS SETS

## 15-TON HYDRAULIC BENCH PRESS

- **Designed for industrial, automotive, and general press shop work**
- **For the removal of gears, universal joints, pulleys, wrist pins, and other press jobs**
- **Use for bending, straightening, or press applications**
- **One-piece steel I-beam unibody construction**
- **Built-in high pressure hydraulic system with integral gauge and release valve**
- **Not intended for use as a hold-down fixture for assembly work**

| Capacity Tons | Dimensions (In.) L | W | H | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **15** | 19⅝ | 11⅞ | 41¾ | **5M468*** | **$1099.00 ▲** | 319.0 |

(*) Limited availability–Contact local branch. (▲) Net prices, not subject to discounts.



No. 5M468

### DON'T DELAY... ORDER FROM GRAINGER NOW!

**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**

## HEAVY-DUTY INDUSTRIAL HYDRAULIC H-FRAME PRESS SETS

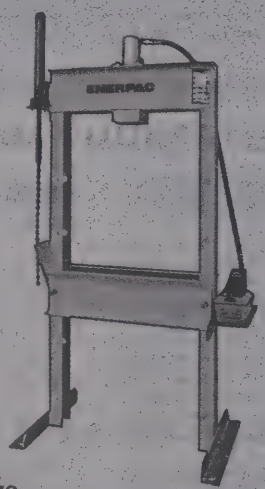
- **H-frame presses are designed for general maintenance, intermittent use**
- **Complete set includes the H-frame press, cylinder, pump, hose, load gauge and gauge adaptor**
- **Heavy-duty welded frame minimizes flex under load, lasting longer than bolted or pinned-style frames**
- **The adjustable work bed is supported by pin support holes, 10" apart**

**Convenient roller head design** allows the cylinder to move across the upper frame and lock in place for off-center pressing jobs. Presses include a cylinder mounting block to allow the cylinder to be mounted into the H-frame while allowing side-to-side movement of the cylinder. The 25, 50, and 100-ton presses include the "Hydra-Lift" system, which uses an 18" stroke hydraulic jack to adjust the press bed height. It is safer and takes less time and effort than hand cranks or winches.

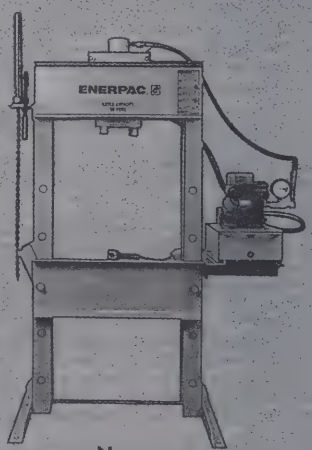
**Presses include** a pump mounting bracket to support the pump at the side of the H-frame. No. 3KD84 includes a two-speed hand pump (No. 4Z481); No. 3KD83 also includes a two-speed hand pump (No. 6W462). Nos. 3KD79, and 3KD80 both include the Turbo air hydraulic pump (No. 1Z907). The electric pumps on Nos. 3KD82, and 3KD81 are both 1.5 HP pumps with a 5-gallon reservoir and a 10-foot remote control pendant.

ENERPAC

- **Available in 10, 25, 50, and 100-Ton capacities**



No. 3KD79



No. 3KD82

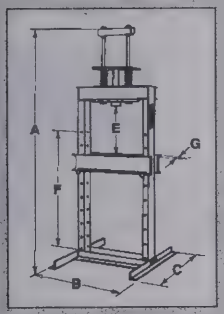
### INDUSTRIAL HEAVY-DUTY HYDRAULIC H-FRAME PRESS SET ORDERING DATA

| Frame Capacity (Tons) | Pump Type | Cylinder Stroke (In.) | Cyl. Type (Single or Double acting) | Total Height (In.) | Working Height (In.) | Total Width (In.) | Working Width (In.) | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | Hand | 10 | Single | 52 | 40 | 24.88 | 18.63 | IPH1240 | **3KD83** | $833.00 | **$798.50** | 158.0 |
| **10** | Air | 10 | Single | 52 | 40 | 24.88 | 18.63 | IPA1220 | **3KD79** | 1044.00 | **1024.00** | 160.0 |
| **25** | Hand | 14 | Single | 89.25 | 7.0-54.5 | 40.5 | 29.00 | IPH2531 | **3KD84** | 2768.00 | **2664.00** | 620.0 |
| **25** | Air | 14 | Single | 89.25 | 7.0-54.5 | 40.5 | 29.00 | IPA2520 | **3KD80** | 2848.00 | **2771.00** | 610.0 |
| **50** | Electric | 13 | Double | 84.75 | 7.0-48.5 | 42.75 | 28.75 | IPE5060 | **3KD82** | 7626.00 | **7474.00** | 1100.0 |
| **100** | Electric | 13 | Double | 84.75 | 7.0-42.5 | 51.00 | 35.00 | IPE10060 | **3KD81** | 9864.00 | **9410.00** | 1801.0 |

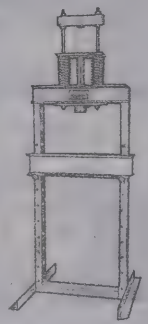
# HYDRAULIC H-FRAME PRESSES

Dayton®

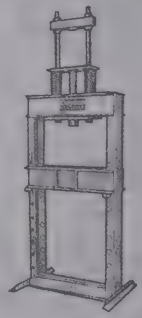
Replacement Parts Available 1-800-323-0620™



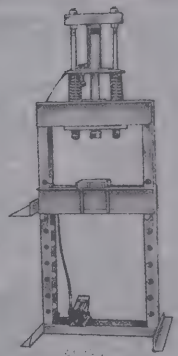

| DIMENSIONS | | |
|---|---|---|
| Frame Capacity | 15 Ton | 25 Ton |
| Ram Travel | 6" | 6½" |
| Height (A) | 72" | 80" |
| Base Length (B) | 28¾" | 32¾" |
| Base Width (C) | 30" | 30" |
| Working Distance: | | |
| Min. (E) | 3⅜" | 3¼" |
| Max. (E) | 40¼" | 35¼" |
| Bed Ht. Adjustments (F): | | |
| No. of Positions | 10 | 9 |
| Hole Spacing | 4" | 4" |
| Working Space (G): Between Bed Rails | 5 x 20" | 6 x 23" |



No. 3Z915
15 Ton Max. Capacity



No. 3Z916
25 Ton Max. Capacity



No. 7Z985
25 Ton Max. Includes Hydraulic Pump

- **15 or 25 ton capacities**
- **Available with or without hydraulic jacks**
- **Choice of Dayton, Lincoln, or Enerpac hydraulic jack combinations**
- **10 table positions**

**Feature rugged welded construction,** rigid steel channel framing, and adjustable press bed having one set of arbor plates with two cutouts to accommodate a variety of shaft sizes.

**Spring loaded jack cage** automatically retracts ram when jack valve is open.

### Nos. 7Z820 and 7Z821

Hydraulic presses include a Dayton brand hydraulic jack.

### Nos. 7Z371 and 7Z372

Hydraulic presses include a Lincoln brand hydraulic jack.

### No. 7Z985

Hydraulic press includes an Enerpac brand hydraulic hand pump, cylinder and hose assembly.

### No. 7Z986

Hydraulic press includes an Enerpac brand air powered hydraulic pump, cylinder and hose assembly.

## H-FRAME LESS HYDRAULIC JACK OR PUMP

| Frame Capacity (Tons) | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|
| 15 | 3Z915 | $939.00 | 240.0 |
| 25 | 3Z916 | 939.00 | 412.0 |

## H-FRAME PLUS HYDRAULIC JACK

| Max. Jack Capacity (Tons) | H-Frame Model | Hydraulic Jack Brand | Hydraulic Jack Stock No. | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 12 | 3Z915 | Dayton | 3ZC62 | 7Z820 | $599.00 | 257.0 |
| 12 | 3Z915 | Lincoln | 6Z987 | 7Z371 | $699.00 | 458.0 |
| 20 | 3Z916 | Dayton | 3ZC63 | 7Z821 | $999.00 | 257.0 |
| 20 | 3Z916 | Lincoln | 6Z988 | 7Z372 | $1170.00 | 440.0 |

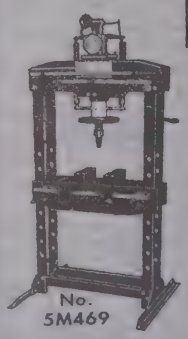
## H-FRAME PLUS HYDRAULIC PUMP

| Max. Pump Capacity (Tons) | H-Frame Model | Hydraulic Jack Brand | Hydraulic Jack Stock No. | No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 25 | 3Z915 | Enerpac | 6W462 | 7Z985 | $1499.00 | 447.9 |
| 25 | 3Z916 | Enerpac | 1Z907 | 7Z986 | 1699.00 | 456.4 |

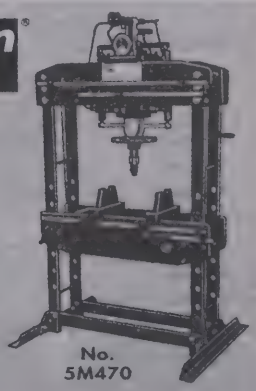
# 15- AND 35-TON HYDRAULIC PRESSES

- **Designed for industrial, automotive, and general press shop work**
- **For the removal of gears, axle and drive shaft bearings, universal joints, pulleys, wrist pins, and other press jobs**
- **Use for bending, straightening, or press applications**
- **Multiple position worktable can be vertically adjusted by hand crank**
- **Hydraulic system has built-in gauge and pressure release valve**
- **Not intended for use as a hold-down fixture for assembly work**

Dayton®



No. 5M469

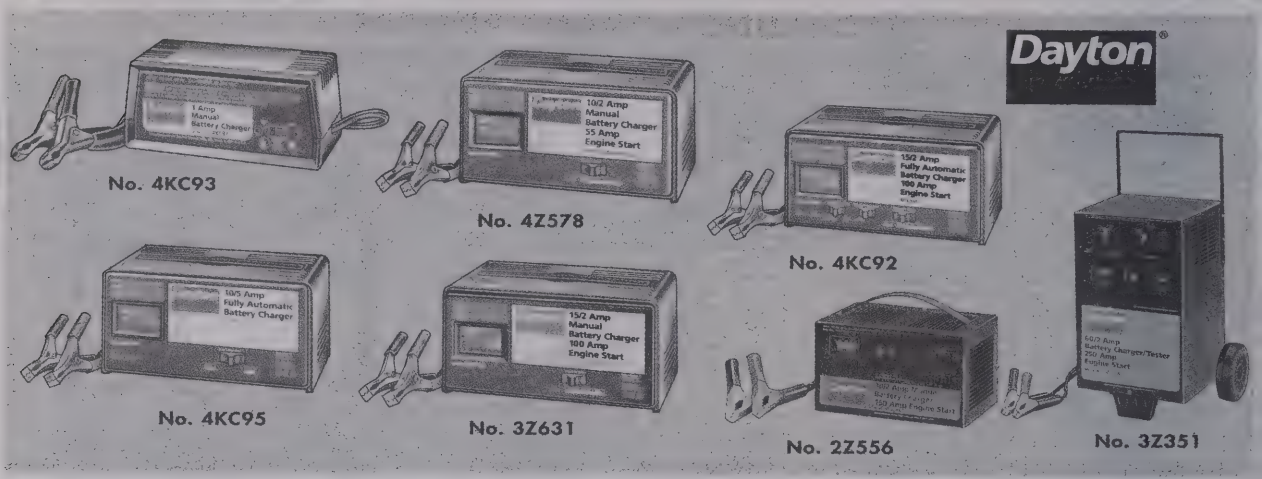


No. 5M470

| Capacity (Tons) | Dimensions (In.) L | W | H | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 15 | 33⅞ | 33½ | 64½ | 5M469 | $2103.00▲ | 497.0 |
| 35 | 42½ | 33½ | 71⅝ | 5M470 | 3799.00▲ | 836.0 |

(▲) Net prices, not subject to discount.

# BATTERY CHARGER SELECTION GUIDE




## APPLICATIONS

| | Typical Charging Limits | Chargers | | | Charger/Starters | | | | | Wheel-Type Charger/Starters | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 4KC93 | 2Z197 | 4KC95 | 4Z578 | 6Z763 | 3Z631 | 4KC92 | 2Z556 | 3Z991 | 4KC94 | 3Z351 | 3Z633 |
| **Motorcycle** | 2 Amps | 1 Amp | • | | • | • | • | • | • | • | • | • | |
| **Snowmobile** | 2 Amps | • | • | | • | • | • | • | • | • | • | • | |
| **Garden Tractor** | 2 Amps | • | • | | • | • | • | • | • | • | • | • | |
| **Refillable Automotive Car, Van, Light Truck RV, Tractor and Farm Equipment** | 60 Amps | | • | • | • | • | • | • | • | • | • | • | • |
| **Maintenance-Free Automotive Car, Van, Light Truck RV, Tractor and Farm Equipment** | 40 Amps | | • | • | • | • | • | • | • | • | • | • | • |
| **Heavy-Duty Truck** | 60 Amps | | | | • | • | • | • | • | • | • | • | † |
| **Deep-Cycle** | 25 Amps | | • | † | • | † | • | • | | | • | | |
| **Automotive Battery Warming** | 2 Amps | • | • | | • | • | • | • | • | • | • | • | |
| **24 Volt Charging** | | | | • | | | | | | | | | • |

## FEATURES

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Charging Amps** | 1 | 6<br>2 | 10<br>5 | 10<br>2 | 10<br>2 | 15<br>2 | 15<br>2 | 30<br>2 | 40<br>2 | 0 -<br>60 | 60<br>40<br>2 | 60<br>40<br>30 |
| **Charging Volts** | 6/12 | 6/12 | 12/24 | 6/12 | 6/12 | 6/12 | 6/12 | 6/12 | 6/12 | 6/12 | 6/12 | 6/12<br>24 |
| **Engine Start Amps (UL Rated)** | | | | 55 | 55 | 100 | 100 | 150 | 200 | 250 | 250 | 225 |
| **Approximate Hours to Charge*** | 16-18 | 5-7 | 3-12 | 3-4 | 3-4 | 2-3 | 2-3 | 1-2 | 1-1.5 | .5-1 | .5-1 | .5-1 |
| **Manual** | • | • | | • | | • | | • | • | • | • | • |
| **Automatic (Complete Shut-Off)** | | | • | | • | | • | | | • | | |
| **Timer Shut-Off** | | | | | | | | | • | ‡ | • | • |
| **Charge-Complete Indicator** | | | • | | • | | • | | | • | | |
| **Reverse Connection Indicator** | | | • | | • | | • | | | • | | |
| **Battery and/or Alternator Testing** | | | | | | | | | | • | • | • |

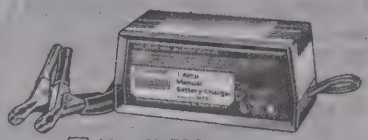
(*) Hours to charge based on average size automotive battery at 50% of charge, with charger set on maximum.
(†) Highly recommended for this more specialized application. (‡) Timer switches from manual to automatic mode.

# BATTERY CHARGERS, TESTERS AND JUMPER CABLES

- Rugged steel cases; No. 4KC93 has thermoplastic case
- Color-coded ammeters (except No. 4KC93)
- Convenient carrying handle (except No. 4KC93)
- For 120V, 60 Hz operation
- Automatic reset circuit breakers protect against overload or reversed connection damage
- Large clamps grip securely to top or side battery terminals
- UL and C-UL Listed (E34452)

Dayton

E34452 E34452



A No. 4KC93



B No. 2Z197

## 6 & 12 VOLT MANUAL BATTERY CHARGERS

### A 1 AMP

- 1 amp charge rate for 6 or 12 Volt batteries
- Ideal for small engine batteries (motorcycles, snowmobiles, and riding mowers) that can be damaged if charged at more than two or three amps
- Also for warming larger automotive batteries overnight for improved cold-weather starting

### B 6/2 AMP

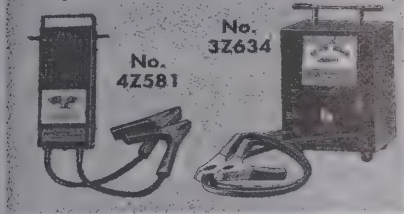
- 6 amp/6 Volt for cars and tractors with 6 Volt systems
- 6 amp/12 Volt for cars, trucks, and vans
- 2 amp/12 Volt for motorcycles, snowmobiles, and riding mowers

Must be unplugged when charge is complete to prevent damage to battery. Tapers to 1/2 of rated output as power builds in battery.

| Key | UL Rated Amps 6V | 12V | 24V | Taper To Amps | Manual (M) | Average Charge Time in Hours 6V | 12V | 24V | AC Cord | Primary AC Amps Input | Overall Dimensions (In.) Width | Height | Depth | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 | 1 | N/A | 0.5 | 6/12V (M) | 24-26 | 16-18 | N/A | 6 ft., 2-cond. | 0.2 | 5⅞ | 2¾ | 2⅞ | **4KC93** | $32.95 | **$29.95** | 2.3 |
| B | 6 | 6/2 | N/A | 3/1 | 6/12V (M) | 6-8 | 4-6 | N/A | 6 ft., 3-cond. | 1.3 | 7⅛ | 5½ | 4⅜ | **2Z197** | 42.43 | **33.95** | 7.5 |

- Tests 6 and 12 Volt batteries
- Does not draw electrolyte from battery

Dayton




## 100 AMP LOAD TYPE BATTERY TESTER

- Compact design
- Color coded voltmeter, scaled 1 to 16 volts
- 100 amp rated clamps and selector switch
- Tests charging and starter systems
- Tests batteries to 1000 cold cranking amps
- 12½H x 6½W x 3½"D

No. 4Z581. Shpg. wt. 5.0 lbs. List.....$79.81.
Each.....$63.85

## 200 AMP LOAD TYPE BATTERY TESTER

- Temperature compensation
- Tests battery performance level, battery percent of charge, and vehicle charging and starting systems
- 200 amp rated clamps and selector switch
- Detects short circuits
- Tests batteries to 1000 cold cranking amps
- 12½H x 9W x 7¾"D

No. 3Z634. Shpg. wt. 11.0 lbs. List .....$238.75.
Each.....$191.00

## CAROL® PROBOOST SLIMCLAMP™ BOOSTER CABLES

- SlimClamp™ provides easy access for hard -to-reach top and side post batteries
- Tangleproof® and flexible in extreme cold
- Built-in positive/negative identification
- For 6 and 12 Volt systems

### A STANDARD-DUTY CABLES

- 400 max. amps
- Twintron® PVC jacketed cable remains flexible to -20°F
- Copper coated contacts
- For 6 and 12 Volt systems

### B HEAVY-DUTY CABLES

- 500 max. amps
- Vutron® cable resists chemicals, acids, oil, grease, cuts and abrasions
- Remains flexible to -58°F
- For 6, 12, 24, and 48 Volt systems

CAROL BRAND



No. 2W564
Standard-Duty Cable

AU2470



PRICES ON THESE ITEMS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT LOCAL BRANCH FOR CURRENT PRICING

| Key | Copper Gauge | Cable Length (Ft.) | Max. Amps | Cable Color | UL Listed | Carol Model | Stock No. | List | Each | Lots 2 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 10 | 12 | 400 | Yellow | No | ST1012SC | **2W564** | $15.45 | **$12.90** | **$12.26** | 3.7 |
| A | 8 | 12 | 400 | Black | No | 20812SC | **2W245** | 16.96 | **14.24** | **13.53** | 4.4 |
| B | 6 | 16 | 500 | Yellow | Yes | 616SC | **2W565** | 37.01 | **30.40** | **28.28** | 8.1 |
| B | 4 | 16 | 500 | Orange | Yes | 416SC | **2W049** | 40.23 | **33.00** | **30.67** | 8.0 |
| B | 4 | 25 | 500 | Orange | Yes | 425SC | **2W247** | 69.27 | **56.50** | **52.55** | 11.0 |

# MANUAL & AUTOMATIC BATTERY CHARGERS

- Rugged steel case
- For 120V, 60 Hz operation
- Color-coded ammeters
- Convenient carrying handle
- Automatic reset circuit breakers protect against overload and reversed connection damage
- Large clamps grip securely to top or side battery terminals

## MANUAL 6 & 12V BATTERY CHARGERS & ENGINE STARTERS

Manual battery chargers must be unplugged when charge is complete to prevent damaging battery. Chargers taper to approx. 1/2 of rated output as power builds in battery.

### A 10/2/55 AMP

- 10A, 6V for cars, light trucks, tractors with 6V systems
- 10A, 12V for cars, light trucks, tractors and vans with 12V systems
- 2A, 12V for motorcycles, snowmobiles, and riding mowers
- 55A engine starting power; spins engine after several minutes of pre-charging

### B 15/2/100 AMP

- 15A, 6V for cars, light- and medium-duty trucks, tractors with 6V systems
- 15A, 12V for cars, light-, medium-duty trucks; tractors, vans with 12V systems
- 2A, 12V for motorcycles, snowmobiles, and riding mowers
- 100A engine starting power; spins engine after minimal pre-charging

### C 30/2/150 AMP

- 30A, 6V for cars, light & medium duty trucks, tractors with 6V systems
- 30A, 12V for cars, light trucks, and tractors with 12 volt systems
- 2A, 12V for motorcycles, snowmobiles, and riding mowers
- 150A engine starting power; spins engine after several minutes of pre-charging

## AUTOMATIC COMPLETE CUT-OFF 6 & 12V BATTERY CHARGER AND ENGINE STARTERS

**For deep-cycle and conventional batteries. 12V settings** turn charger's output off completely at full charge. If battery discharges for any reason, charger will resume charging until full charge is reached again. For extended charging periods and maintaining batteries in storage. Manual 6V settings provided for added versatility. Red light indicates reverse hook-up; green light indicates battery has reached full charge and charging has stopped.

### D 10/2/55 AMP

- Manual 10A setting for 6V charging applications
- 10A, 12V for cars, light trucks, and tractors with 12 volt systems
- 2A, 12V for motorcycles, snowmobiles, and riding mowers
- 55A engine starting power; spins engine after several minutes of pre-charging

### E 15/2/100 AMP

- Manual 15A setting for 6 volt charging applications
- 15A, 12V for cars, boats, RVs, light- and medium-duty trucks, tractors, and vans with 12 volt systems
- 2A, 12V for motorcycles, snowmobiles, and riding mowers
- 100A engine starting power; spins engine after minimal pre-charging



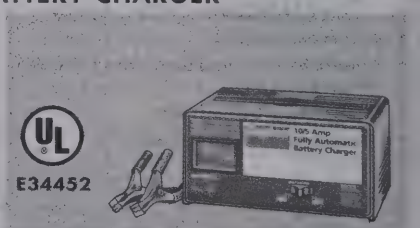

| Key | 6V | 12V | Start | Taper to Amps | Manual (M) or Automatic (A) | Avg. Charge Time in Hours 6V High | 12V Low | 12V High | AC Cord | AC Amps Input | Overall Dimensions (In.) W | H | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 10 | 10/2 | 55 | 5/1 | 6/12V (M) | 4-6 | 12-14 | 3-4 | 6 ft., 3-cond. | 2.2 | 9⅞ | 5⅛ | 7¼ | **4Z578** | $66.68 | **$53.35** | 14.0 |
| B | 15 | 15/2 | 100 | 8/1 | 6/12V (M) | 2-4 | 12-14 | 2-3 | | 2.7 | 9⅝ | 5⅛ | 7¼ | **3Z631** | 126.06 | **100.85** | 18.0 |
| C | 30/6 | 30/2 | 150 | 15/1 | 6/12V (M) | 1-2 | 12-14 | 1-1.5 | | 7 | 6¼ | 10½ | 7 | **2Z556** | 159.12 | **127.30** | 30.0 |
| D | 10 | 10/2 | 55 | 0 | 6V(M) / 12V (A) | 4-6 | 12-14 | 3-4 | | 2.2 | 9⅝ | 5⅛ | 7¼ | **6Z763** | 88.81 | **71.05** | 14.0 |
| E | 15 | 15/2 | 100 | 0 | 6V(M) / 12V (A) | 2-4 | 12-14 | 2-3 | | 2.7 | 9⅝ | 5⅛ | 7¼ | **4KC92** | 142.99 | **124.95** | 13.0 |

## AUTOMATIC 12 & 24 VOLT COMPLETE CUT-OFF BATTERY CHARGER

### 10A/12V, 5A/24V

- For deep cycle or conventional batteries
- 10A/12V for cars, boats, RVs, light trucks, and vans
- 5A/24V for golf carts, tractors, wheelchairs, stand-by power plants, and other 24 volt applications
- Red light signals reverse hook-up; green light indicates battery has reached full charge and charging has stopped

**Automatic complete shut-off chargers turn** output off completely at full charge. If battery should discharge for any reason, battery charger will resume charging, until full charge is reached. For extended charging periods and maintaining batteries in storage. *Works on only 12 volt setting.*

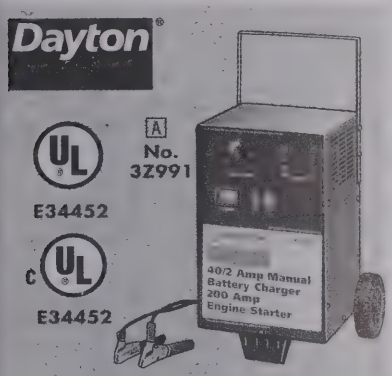


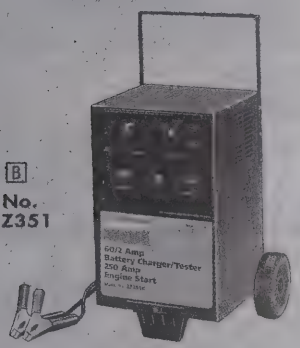

| UL Rated Amps 6V | 12V | 24V | Taper To Amps | Manual (M) Automatic (A) | Average Charge Time in Hours 6V | 12V | 24V | AC Cord | Primary AC Amps Input | Overall Dimensions (In.) Width | Height | Depth | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N/A | 10 | 5 | 0 | 12V(A)/24V(M) | N/A | 3-12 | 4-8 | 6 ft., 3-cond. | 2.2 | 9⅝ | 5⅛ | 7¼ | **4KC95** | $93.45 | **$84.95** | 14.0 |

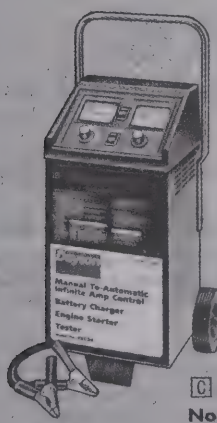


*Lift it, start it, pull it with these shop-tested tough products.*

# COMMERCIAL WHEEL-TYPE BATTERY CHARGER & ENGINE STARTERS




C
No.
4KC94

For heavy-duty use in service stations, maintenance shops, farms, fleets, or garages.

FEATURES

- For 120 Volt, 60 Hz operation
- Multiple charge rates and voltages for various applications
- 2-hour timer
- Automatic reset circuit breaker protects against overload
- Heavy-duty rectifiers withstand power surges
- Color-coded meters
- 6 ft. (1.82m), 3-cond. cord
- Sawtooth clamps ensure good connection to top or side battery terminals
- Adjustable height handle
- Large wheels roll easily on rough or uneven surfaces
- Rugged steel cabinet
- UL and C-UL Listed (E34452)

## A 340/2/200 AMP

- 40 amp charge rate for 6 and 12 Volt, heavy-duty batteries
- 2 amp charge rate for small motorcycle-type batteries
- 200 amp engine start assists vehicles with weak batteries
- 2-hr. timer shuts off charger when time is up

## B 60/40/250 AMP WITH TEST

- 60 amp charge rate for 6 and 12 Volt, heavy-duty batteries
- 40 amp charge rate for most 12 Volt automotive and marine batteries
- 2 amp charge rate for small motorcycle-type batteries
- 250 amp engine start assists vehicles with weak batteries
- 2-hr. timer shuts off charger when time is up
- Test feature indicates battery percent-of-charge level, charging system performance, and problem battery conditions, such as shorted or sulfated batteries

## C 0-to-60/250 AMP, MANUAL-TO-AUTOMATIC WITH TEST

**Infinite charge control rate.** Select any rate from 0 to 60 amps for 6 and 12 Volt, lead-acid battery charging applications.

**Manual to automatic charging.** Set timer for up to 2 hours to begin charging at a higher rate. When time is up, charger automatically switches to a 15 amp automatic mode. When full charge is reached, charger shuts off output, but will turn on again if battery discharges.

- 250 amp engine start assists vehicles with weak batteries
- Test feature indicates battery percent-of-charge level, charging system performance, and problem battery conditions, such as shorted or sulfated batteries
- Red light signals reverse hook-up; green light indicates battery has reached full charge and charging has stopped
- Comes with tubular multi-height handle and rubber-tired wheels

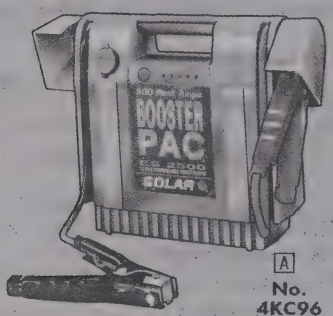
## D 6/12/24 VOLT FLEET CHARGER

- 60 amp charge rate for 6 and 12 Volt, heavy-duty batteries
- 40 amp charge rate for most 12 Volt automotive and marine batteries
- 30 amp charge rate for 24 Volt batteries
- 225 amp engine start to assist vehicles with weak batteries
- 2-hr. timer shuts off charger when time is up

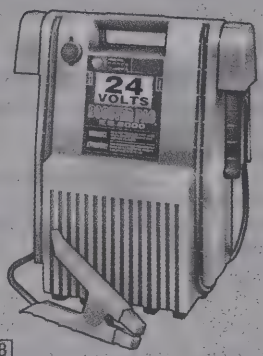
| Key | UL Rated Amps 6V | 12V | 24V | Start | Taper To Amps | Manual (M) Automatic (A) | Avg. Charge Time—Hrs. 6V | 12V | 24V | AC Amps Input | Overall Dimensions (In.) W | H | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 40 | 40/2 | N/A | 200 | 20/1 | 6/12V (M) | 1 1/4 - 1 1/2 | 3/4 - 1 | N/A | 8.5 | 16 | 25 | 15 | 3Z991 | $200.00 | $160.00 | 42.0 |
| B | 60 | 60/40/2 | N/A | 250 | 35/20/1 | 6/12V (M) | 1/2 - 1 | 1/2 - 3/4 | N/A | 12 | 16 | 25 | 15 | 3Z351 | 287.81 | 230.25 | 45.0 |
| C | 0 to 60 | 0 to 60 | N/A | 250 | 0 | 6/12V (M) to (A) | 1/2 - 1 | 1/2 - 3/4 | N/A | 12 | 16¾ | 33 | 13 | 4KC94 | 428.99 | 399.00 | 59.0 |
| D | 60 | 60/40 | 30 | 225 | 35/20/15 | 6/12/24V (M) | 1/2 - 1 | 1/2 - 3/4 | 1/2 - 1 | 12 | 16 | 25 | 15 | 3Z633 | 413.12 | 330.50 | 58.0 |

# PORTABLE BATTERY BOOSTERS

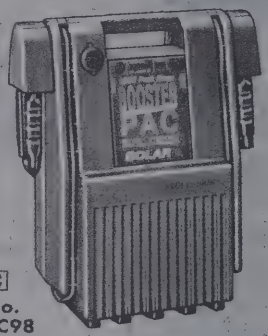
## BOOSTER PAC




A
No. 4KC96




B
No. 4KC97




C
No. 4KC98

## PORTABLE BATTERY BOOSTERS & DC POWER SOURCES

- Portable, cordless, rechargeable
- Powerful enough to start engines
- No need for second vehicle or booster cables
- Carry along in car, truck, or boat
- For farmers, tow truck operators, and service facilities
- Power 12 Volt devices such as spotlights, air compressors, radios, TVs, cellular phones, coolers and car vacs; take along camping, fishing, hunting, boating—sealed battery won't leak or spill
- Charge level lights indicate remaining power
- Heavy-duty cables and clamps grip to top or side terminals
- Safety holster prevents clamps from making unwanted contact; rotate 90° for easy storage
- Compact design features durable, non-corrosive thermoplastic case with built-in carrying handle

Charger continues to charge from any household outlet (120V, 60Hz). Nos. 4KC96 and 4KC98 include power extension cord to charge from 12V vehicle lighter socket.

### A 12V BOOSTER PAC

- 900 peak amps; 250 cranking amps to help start vehicles with weak batteries
- 17 ampere hour battery
- 1/2 amp charger and power extension cord included

### B 24V HEAVY-DUTY BOOSTER PAC

- 24 volt power for 24 volt starting, and DC power applications
- 900 peak amps; 250 cranking amps to help start vehicles with weak batteries
- Heavy-duty clamps with recessed jaws for added spark protection
- 3/4 amp charger included

### C 12V HEAVY-DUTY BOOSTER PAC WITH POLARITY PROTECTION

- 1200 peak amps; 600 cranking amps to help start vehicles with weak batteries
- 40 ampere hour battery
- Heavy-duty clamps with recessed jaws for added spark protection
- 1.5 amp charger and power extension cord included

Polarity protection prevents current flow if connected to battery in reverse. Also prevents clamps from sparking if accidentally touched together. Green light signals correct hook-up, red light warns of reverse hook-up.

| Key | Operating Voltage | Peak Amps | Cranking Amps | Ampere Hours | Cable Length (In.) | Cable Guage | Overall Dimensions (In.) W | D | H | Booster Pac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 12 | 900 | 250 | 17 | 20 | #6 AWG | 13¼ | 3¾ | 10¼ | ES2500KE | **4KC96** | $165.89 | **$99.95 ▲** | **18.0** |
| B | 24 | 900 | 250 | 17 | 52 | #4 AWG | 13½ | 7 | 16 | ES8000K | **4KC97†** | 329.85 | **199.00 ▲** | **33.0** |
| C | 12 | 1200 | 600 | 40 | 52 | #4 AWG | 13½ | 7 | 16 | ES7000K | **4KC98** | 349.95 | **249.00 ▲** | **39.0** |

(▲) Net prices, Not subject to discounts. (†) Limited availability - contact local branch.

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

# AIR-COOLED, 4-CYCLE GASOLINE ENGINES



- Rotation CCW, facing shaft
- Maintenance-free electronic ignition

### GENERAL PURPOSE ENGINES

Feature horizontal keyed shafts suitable for applications such as driving air compressors, pressure washers, augers, pulley-driven pumps, concrete equipment, and hydraulic equipment.

### MIXER ENGINES

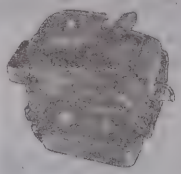
Feature integral gear box which provides PTO shaft speed of 600 RPM (6:1 reduction). Used in cement mixer and diaphragm pump applications.

### PUMP ENGINES

Feature threaded shafts suitable for mounting pump impellers.

### GENERATOR ENGINES

Feature tapered tapped shafts for mounting up to generator heads.

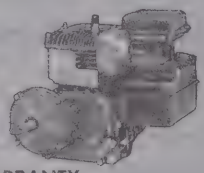


Standard Series Vertical Shaft Engine No. 4Z688

BRIGGS & STRATTON



Industrial Plus Series Horizontal Shaft Engine No. 3Z905



Standard Series Horizontal Shaft Engine No. 4Z686

Replacement Parts Available 1-800-323-0620

**STANDARD SERIES LIMITED WARRANTY**

Briggs & Stratton warrants all standard 2-18 HP engines installed on lawn mowers, riders, edgers, tillers for 2 years consumer use, 90 days commercial use within the U.S.A. and Canada. 1 year and 30 days, respectively, for areas outside the U.S.A. and Canada. All other standard 2-18 HP engines are warranted for 1 year consumer, 90 days commercial. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**I/C SERIES AND INDUSTRIAL PLUS SERIES LIMITED WARRANTY**

Briggs & Stratton warrants all Industrial/Commercial engines for 2 years consumer use, 1 year commercial use. Text of warranty available upon request. See "Manufacturers' Warranties" on page opposite inside back cover.

# STANDARD SERIES GASOLINE ENGINES

- Rotation CCW, facing shaft
- Maintenance-free electronic ignition

## BRIGGS & STRATTON STANDARD SERIES ENGINE SPECIFICATIONS AND ORDERING DATA

| HP | Fuel Tank (Qt.) | Applications | Overall Dimen. Facing PTO (In.) W | H | D† | Shaft Dimensions (In.) L* | Dia | Configuration | B & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VERTICAL CRANKSHAFT ENGINES** | | | | | | | | | | | | | |
| **3.75** | 1 | Mower | 11 3/4 | 10 31/32 | 12 45/64 | 3 5/32 | 7/8 | Two Woodruff Key | 98902-1515 | **4Z688** | $183.76 | **$177.50** | 23.0 |
| **8.0** | None | Mower | 16 41/64 | 14 31/32 | 13 7/16 | 3 5/32 | 1 | Keyway, Tapped 7/16-20 | 194702-4515 | **3Z906** | 408.96 | **404.50** | 50.0 |
| **HORIZONTAL CRANKSHAFT ENGINES** | | | | | | | | | | | | | |
| **3.5** | 2 | Pump | 13 5/16 | 12 5/8 | 11 17/32 | 2 27/64 | 5/8 | Straight Threaded 5/8-18 | 91232-0336 | **4Z689** | 254.67 | **252.00** | 28.0 |
| **3.5** | 2 | General | 13 7/16 | 12 1/16 | 11 15/32 | 2 45/64 | 3/4 | Keyway, Tapped 5/16-24 | 91232-0335 | **4Z690** | 255.43 | **252.75** | 28.0 |
| **5.0** | 3 | General | 13 21/32 | 13 21/64 | 12 49/64 | 2 5/32 | 3/4 | Keyway, Tapped 5/16-24 | 135202-0615 | **4Z683** | 299.39 | **294.25** | 34.0 |
| **5.0** | 3 | Pump | 13 21/32 | 13 21/64 | 12 29/32 | 2 25/64 | 5/8 | Straight Threaded 5/8-18 | 135232-0635 | **4Z692** | 307.30 | **303.50** | 35.0 |
| **5 0** | 3 | General | 13 21/32 | 13 21/64 | 12 29/32 | 2 25/64 | 3/4 | Keyway, Tapped 5/16-24 | 135232-0636 | **4Z684** | 307.74 | **304.00** | 35.0 |
| **5.0** | 3 | Mixer | 13 21/32 | 13 21/64 | 15 17/64 | 2 | 3/4 | PTO 6:1 Reduction with Key | 135252-0649 | **4Z686** | 395.04 | **393.00** | 41.0 |
| **8.0** | 4 | General | 18 9/16 | 16 19/16 | 15 1/8 | 3 21/32 | 1 | Keyway, Tapped 7/16-20 | 192432-0535 | **3Z904** | 469.78 | **462.00** | 58.0 |

(*) Length as measured from mounting surface to PTO shaft end. (†) Depth includes PTO shaft length.

# I/C SERIES AND INDUSTRIAL PLUS SERIES GASOLINE ENGINES

- Cast-iron sleeve integrally cast in aluminum to provide years of trouble-free, low maintenance reliability
- Horizontal shaft engines built for heavy-duty performance, long life, and minimum maintenance
- Oilgard® low-oil shutdown system (all except No. 6Z471)

## BRIGGS & STRATTON I/C SERIES ENGINE SPECIFICATIONS AND ORDERING DATA

| HP | Fuel Tank (Qt.) | Applications | Overall Dimen. Facing PTO (In.) W | H | D† | PTO Shaft Dimensions (In.) L* | Dia. | Configuration | B & S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3.5** | 2 | Mixer | 12 13/16 | 11 5/8 | 11 1/16 | 2 | 3/4 | PTO 6:1 Reduction with Key | 92252-0049 | **6Z471** | $423.38 | **$415.25** | 34.0 |
| **5.0** | 3 | General | 14 1/16 | 13 3/4 | 12 7/16 | 2 25/64 | 3/4 | Keyway, Tapped 5/16-24 | 133232-0336 | **4Z685** | 429.85 | **422.50** | 37.0 |
| **5.0** | 3 | Mixer | 14 1/16 | 13 3/4 | 15 9/64 | 2 | 3/4 | PTO 6:1 Reduction with Key | 133252-0349 | **4Z693** | 516.04 | **511.50** | 42.0 |
| **5.0** | 3 | Pump | 14 1/16 | 13 3/4 | 12 7/16 | 2 25/64 | 5/8 | Straight Threaded | 133232-0335 | **4Z694** | 430.00 | **422.50** | 37.0 |
| **5.0** | 3 | Generator | 14 1/16 | 13 3/4 | 12 11/16 | 2 5/16 | 5/16-24 | Tapered, Tapped 5/16-24 | 133232-0338 | **3W947** | 434.15 | **426.50** | 37.0 |

## BRIGGS & STRATTON INDUSTRIAL PLUS SERIES ENGINE SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8.0** | 6 | General | 18 5/8 | 15 | 12 | 3 | 1 | Keyway, Tapped 7/16-20 | 196432-0535 | **3Z905** | 615.44 | **606.00** | 61.0 |
| **8.0** | 6 | Mixer | 18 5/8 | 16 1/2 | 18 | 2 | 1 | PTO 6:1 Reduction with Key | 196452-0549 | **6Z168** | 760.86 | **750.00** | 77.0 |
| **8.0** | 6 | Pump | 18 5/8 | 15 49/64 | 12 | 3 | 1 | Straight Threaded | 196432-0547 | **6Z167** | 614.55 | **605.50** | 62.0 |
| **8.0** | 6 | Generator | 18 5/8 | 15 31/32 | 12 47/32 | 4 | 1 | Tapered, Tapped 5/16-24 | 196432-0570 | **3W948** | 613.61 | **604.50** | 61.0 |

(*) Length as measured from mounting surface to PTO shaft end. (†) Depth includes PTO shaft length. **Note:** All Briggs & Stratton Engines built after July 1st, 1997 meet all EPA emission regulations

# AIR-COOLED, 4-CYCLE, HORIZONTAL SHAFT GASOLINE ENGINES

KOHLERengine
6 HP
Command Series
Horizontal Shaft Engine
No. 3LW58



## 6 HP KOHLER COMMAND SERIES ENGINE

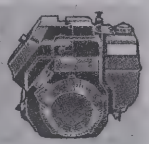
- Overhead valve design
- Slant cylinder with cast-iron liner
- Electronic ignition
- 100-hour oil changes
- Automatic compression release
- Rotation CCW, facing shaft
- Muffler included

### KOHLER COMMAND SERIES OHV ENGINE SPECIFICATIONS AND ORDERING DATA

| HP | Start | Fuel Tank (Qt.) | Overall Dimen. Facing PTO* (In.) W | H | D | PTO Shaft Dimensions (In.) L | H | Dia. | Key | Kohler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Recoil | 3 | 14.9 | 13.6 | 11.6 | 2.43 | 4.2 | 3/4 | 3/16 | CH6-PA-15102 | **3LW58** | $385.00 | **$366.25** | 50.0 |

(*) Overall dimensions do not include length of PTO shaft. **Note:** All Kohler engines are certified to meet strict 1997 California and EPA Emission Standards.

KOHLERengine
13 HP
Command Pro Series
Horizontal Shaft Engine
No. 3LW59



## 13 AND 15 HP KOHLER COMMAND PRO SERIES ENGINES

- Overhead valve design
- Hydraulic valve lifters
- Full pressure lubrication with full flow filter
- 100-hour oil/200-hour filter changes
- Electronic ignition
- Self-relieving choke
- Rotation CCW, facing shaft
- Muffler and mounting kit not included, order separately below

**No. 3LW55.** Muffler. Requires Mounting Kit. Kohler (12 068 11). Shpg. wt. 5.7 lbs. List $80.45. Each ..... $76.10

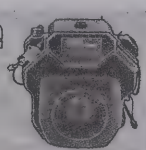
**No. 3LW56.** Muffler. Mounting Kit for PTO side. Kohler (12 786 04). Shpg. wt. 2.3 lbs. List $29.50. Each ..... $27.15

### KOHLER COMMAND PRO SERIES OHV ENGINE SPECIFICATIONS AND ORDERING DATA

| HP | Start | Fuel Tank (Qt.) | Overall Dimen. Facing PTO* (In.) W | H | D | PTO Shaft Dimensions (In.) L | H | Dia. | Key | Kohler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **13** | Recoil | 5 | 19.78 | 18.17 | 13.42 | 3.15 | 5.31 | 1 | 1/4 | CH13TPA-22501 | **3LW59** | $741.70 | **$686.50** | 95.0 |
| **13** | Electric | 5 | 19.78 | 18.17 | 13.42 | 3.15 | 5.31 | 1 | 1/4 | CH13SPA-22502 | **3LW60** | 825.00 | **763.50** | 95.0 |
| **15** | Electric | 5 | 19.78 | 18.17 | 13.42 | 3.15 | 5.31 | 1 | 1/4 | CH15SPA-44502 | **3LW61** | 863.35 | **799.50** | 95.0 |

(*) Overall dimensions do not include length of PTO shaft. **Note:** All Kohler engines are certified to meet strict 1997 California and EPA Emission Standards.

KOHLERengine
20 HP
Command Series
Horizontal Shaft Engine
No. 3LW62



## 20 AND 25 HP KOHLER COMMAND SERIES ENGINES

- Overhead valve design
- Hydraulic valve lifters
- Electronic ignition
- Twin cylinder
- 100-hour oil/200-hour filter changes
- 20 HP—cast-iron liner, 25 HP Power-Bore Cylinders
- Rotation CCW, facing shaft
- Muffler not included, order separately below

**No. 3LW57.** PTO Cannister Muffler. Kohler (24 786 10). Shpg. wt. 10.0 lbs. List $87.00. Each ..... $82.45

### KOHLER COMMAND SERIES OHV ENGINE SPECIFICATIONS AND ORDERING DATA

| HP | Start | Fuel Tank | Overall Dimen. Facing PTO* (In.) W | H | D | PTO Shaft Dimensions (In.) L | H | Dia. | Key | Kohler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | Electric | None | 17.16 | 18.63 | 12.96 | 4.45 | 6.13 | 17/16 | 3/8 | PA-64501 | **3LW62** | $1300.00 | **$1204.00** | 106.0 |
| **25** | Electric | None | 17.16 | 18.96 | 13.98 | 4.45 | 6.13 | 17/16 | 3/8 | PA-68501 | **3LW63** | 1575.00 | **1458.00** | 106.0 |

(*) Overall dimensions do not include length of PTO shaft. **Note:** All Kohler engines are certified to meet strict 1997 California and EPA Emission Standards.

KOHLERengine
8 HP
Magnum Series
Horizontal Shaft Engine
No. 5Z003



## MAGNUM SERIES ENGINES

- Electronic ignition
- Cast-iron cylinders
- Balance gear (12, 16 HP)
- Automatic compression release
- Dual element air cleaner
- Rotation CCW, facing shaft
- Muffler included

For Kohler engines not listed, or for accessories or replacement parts, call 1-800-323-0620

Replacement Parts Available
1-800-323-0620

### KOHLER MAGNUM SERIES ENGINE SPECIFICATIONS AND ORDERING DATA

| HP | Start | Fuel Tank (Qt.) | Overall Dimen. Facing PTO* (In.) W | H | D | PTO Shaft Dimensions (In.) L | H | Dia. | Key | Kohler Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8** | Recoil | 5 | 16.8 | 14.4 | 12.6 | 3.25 | 4.73 | 1 | 1/4 | PA-301642 | **5Z003** | $680.95 | **$564.50** | 78.0 |
| **8** | Electric | 5 | 16.8 | 14.4 | 10.6 | 3.25 | 4.73 | 1 | 1/4 | PA-301643 | **5Z004** | 822.65 | **659.50** | 86.0 |
| **12** | Electric | 6 | 20.1 | 18.7 | 11.5 | 3.78 | 6.13 | 1 1/8 | 1/4 | PA-471595 | **5Z006** | 1137.75 | **959.00** | 150.0 |
| **16** | Electric | 6 | 20.1 | 18.7 | 11.5 | 3.78 | 6.13 | 1 1/8 | 1/4 | PA-711588 | **5Z008** | 1324.80 | **1102.00** | 150.0 |

(*) Overall dimensions do not include length of PTO shaft. **Note:** All Kohler engines are certified to meet strict 1997 California and EPA Emission Standards.

# GENERATOR SELECTION GUIDE

**A generator must be properly sized** for the load it will be called upon to handle. Electric motors are particularly difficult for a generator because starting an electric motor requires 2 to 3* times its nameplate amperage or wattage.

While electricity supplied by an electric power company has essentially infinite surge capacity (limited only by the circuit protection provided), a generator is limited by the engine horsepower and inertia of the rotating parts. Thus, a current surge of short duration can be supplied by a generator, but a current demand of longer duration, such as a heavily loaded motor starting a high inertia system, can overload a generator possibly damaging both the generator and motor. A 3450 RPM air compressor motor is a prime example of this type of load.

For this reason, when determining the power your generator is to provide, it is important to calculate electric motor requirements at 3* times the running watts to compensate for the surge needed to start the motor. With this in mind, the following guidelines can be helpful in selecting the right size generator for your application.

**1.** Total the wattages of all small appliances, tools and light bulbs to be operated at the same time. Most appliances have labels showing wattage (if volts and amps are given: volts x amps = wattage). For example, you may wish to operate the following equipment:

| | |
|---|---|
| Electric heater | 1000 Watts |
| Eight 100-watt light bulbs | 800 |
| **TOTAL** | **1800 Watts** |

**2.** Next determine volt-amperes (wattage) requirement of electric motors to be operated (e.g. furnace blower motor 1/3hp), remembering that the starting requires 2 to 3* times the nameplate or running (rated) watts. Thus, if running watts of the motor is 600, multiply the number by 3 to determine max. VA needed.

Running = 600 Watts

Starting = 600 x 3 = **1800 Max. VA**

**3.** Total watts and VA in Steps 1 and 2 to get total requirements:

**4.** To allow for anticipated future needs or use of extra equipment, add 25% to total in Step 3.

**5.** See performance data charts at bottom of each generator listing for the unit that meets your total load criteria. For example, a generator that provides at least 4500 max. VA and 4000 watts which meets the load requirement for the example above. A 3000-watt generator should not be selected because it does not have enough max. VA to start the electric motor load.

NOTE: The starting (max.) VA can also be determined by referring to the Motor Code Listing which indicates starting KVA per horsepower (see chart below).

| | Running 1800W | Starting 1800 |
|---|---|---|
| Step 1 | | |
| Step 2 | + 600 | + 1800 |
| Step 3 | 2400W | 3600VA |
| + 25% | + 600 | + 900 |
| Step 4 | 3000W | 4500VA |

NOTE: If more than one motor is to be started, start one motor at a time and always start the largest first. If trying to take the entire load of the generator from a single receptacle, be sure ampere rating of receptacle is not being exceeded.

NOTE: Make sure the extension cords used with generators are properly sized for load and cord length. Otherwise, excessive voltage drops and generator loading may result and cause excessive heating of portable power tools.

(*) Some motors can require as much as 5 to 6 time their normal amperage. Check the motor code listing to be sure.

## TYPICAL ELECTRIC TOOL AND APPLIANCE WATTAGES

Note: This chart is provided to suggest typical values. Actual wattages may be significantly higher or lower depending on age, size, make, and condition of appliance.

| Equipment | Running Watts | Maximum VA |
|---|---|---|
| Light bulb (100W) | 100 | 100 |
| Radio | 150 | 150 |
| Fan | 200 | 600 |
| Television | 400 | 400 |
| Refrigerator (conventional) | 400 | 1200 |
| Furnace fan—1/3 HP with blower | 600 | 1800 |
| Vacuum cleaner | 600 | 1800 |
| Sump pump—1/3 HP | 700 | 2100 |
| Refrigerator/freezer combination | 800 | 2400 |
| 6" Circular saw | 800 | 2400 |
| Floodlight | 1000 | 1000 |
| 1/2" Drill | 1000 | 3000 |
| Toaster coffeemaker | 1200 | 1200 |
| 14" Chain saw | 1200 | 3600 |
| Water well pump—1/2 HP | 1400 | 4200 |
| Hot plate range (per burner) | 1500 | 1500 |
| 10" Circular saw | 2000 | 6000 |
| Water Heater (storage-type) | 5000 | 5000 |
| Electric oven | 10,000 | 10,000 |

## MOTOR CODE LISTING

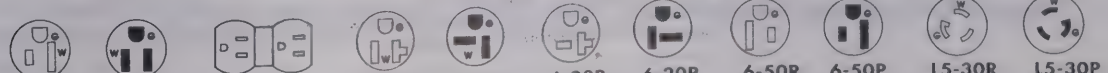
| Code | KVA Per Horsepower | Code | KVA Per Horsepower | Code | KVA Per Horsepower |
|---|---|---|---|---|---|
| A | 0- 3.15 | H | 6.3- 7.1 | R | 14.0- 16.0 |
| B | 3.15- 3.55 | J | 7.1- 8.0 | S | 16.0- 18.0 |
| C | 3.55- 4.0 | K | 8.0- 9.0 | T | 18.0- 20.0 |
| D | 4.0- 4.5 | L | 9.0- 10.0 | U | 20.0- 22.4 |
| E | 4.5- 5.0 | M | 10.0- 11.2 | V | 22.4 & up |
| F | 5.0- 5.6 | N | 11.2- 12.5 | | |
| G | 5.6- 6.3 | P | 12.5- 14.0 | | |

## RECOMMENDED EXTENSION CORDS FOR USE WITH GENERATORS & PORTABLE ELECTRIC TOOLS

It is important to use extension cords of adequate current carrying capacity when utilizing a generator to operate portable electric tools. Undersized cords result in excessive voltage drops and additional power plant loading. This also causes excessive heating of the portable tool because voltage drop reduces tool capaci-

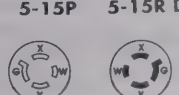
| Ampere Rating | Wire Gauge @ Cord Length 50 ft. | 100 ft. | 150 ft. | Ampere Rating | Wire Gauge @ Cord Length 50 ft. | 100 ft. | 150 ft. |
|---|---|---|---|---|---|---|---|
| 2 | 18 | 18 | 18 | 8 | 16 | 14 | 12 |
| 3 | 18 | 18 | 18 | 10 | 16 | 14 | 12 |
| 4 | 16 | 16 | 16 | 12 | 14 | 14 | 12 |
| 5 | 16 | 16 | 16 | 14 | 14 | 12 | 10 |
| 6 | 16 | 16 | 14 | 16 | 12 | 12 | 10 |

## NEMA CODE PLUG AND RECEPTACLE CONFIGURATIONS

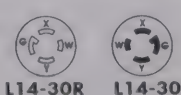


5-15R 5-15P 5-15R Duplex 5-20R 5-20P 6-20R 6-20P 6-50R 6-50P L5-30R L5-30P

"L" = Locking; "P" = Plug; "R" = Connector



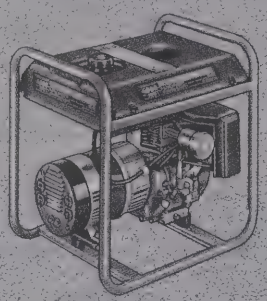
L14-20R L14-20P



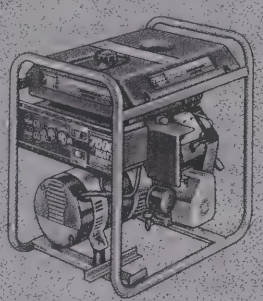
L14-30R L14-30P

SEE INDEX UNDER PLUGS / RECEPTACLES

# RESIDENTIAL-DUTY PORTABLE GENERATORS



No. 3MK72



No. 3MK74

**DEVILBISS AIR POWER COMPANY LIMITED WARRANTY**
Generators warrantied for one year for consumer use and 90 days for commercial use. Text of warranty available upon request. See "Manufacturers' Warranties" on page opposite inside back cover.

Repair Service Available at Most Locations-Contact Your Local Branch™

**GENERATORS:**

- Alternator with brushless design for long life, skewed laminations for low distortion power
- 7-gallon tank for extended run time
- 120/240V, 60 Hz
- Circuit breaker protection
- Vibration reducing rubber isolators standard

**ENGINES:**

**Nos. 3MK72 and 3MK73**

- Briggs & Stratton Gen Power
- Low oil shutdown system
- Large air cleaner
- Recoil start with compression release
- Cast-iron cylinder sleeve
- Solid-state ignition

**No. 3MK74**

- Briggs & Stratton Vanguard V-Twin (OHV-overhead valve engine)
- Electric start/auxiliary recoil start with compression release*
- Durabore™ cast-iron cylinder sleeve
- OilGuard™ low oil shutdown system
- Full pressure lubrication system
- Electronic ignition

(*) Battery not included, 12VDC, Group #U1, Minimum 32 Amp hour recommended

| Stock No. | Amps at 120/240V | Number of Receptacles 120V 15 Amps | NEMA Code | 20 Amps | NEMA Code | 30 Amps | NEMA Code | 240V 15 Amps | NEMA Code | 20 Amps | NEMA Code | 30 Amps | NEMA Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3MK72 | 33.3/16.7 | 2 | 5-20R | — | — | — | — | 2 | 6-20R | — | — | — | — |
| 3MK73 | 41.7/20.8 | — | — | 2 | 5-20R | — | — | — | — | 2 | 6-20R | — | — |
| 3MK74 | 58.3/29.2 | — | — | 2 | 5-20R | 1 | L5-30R | — | — | — | — | 1 | L14-30R |

## PORTABLE GENERATOR SPECIFICATIONS AND ORDERING DATA

| Rated Watts | Engine HP | Run Time (Hrs/Tank.) @ 1/2 Load | @ Full Load | Dimensions (In.) L | W | H | Briggs & Stratton Engine Type | DeVilbiss Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4000** | 8.0 | 11.7 | 8.1 | 25 | 19 | 26 | GenPower | EXGB4000 | **3MK72** | $650.00 | **$529.00▲** | 125.0 |
| **5000** | 10.0 | 9.3 | 6.5 | 25 | 19 | 26 | GenPower | EXGB5000 | **3MK73** | 750.00 | **599.00▲** | 128.0 |
| **7000** | 14.0 | 9.6 | 5.9 | 27 | 19 | 27 | Vanguard | EXGBV7000 | **3MK74** | 1800.00 | **1449.00▲** | 201.0 |

(▲) Net prices, not subject to discounts. Note: Wheel kit available thru Grainger Parts Operation @ 1-800-323-0620, order part #GA100.

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# PORTABLE GENERATORS

## SPORT AND HOME PORTABLE GENERATOR

Versatile generator provides power wherever needed. For home, sport, or recreational applications such as fans, lights, radio, television, and small appliances.

## PROFESSIONAL-DUTY PORTABLE GENERATORS

Rugged and compact generators provide steady power while standing up to heavy use. Powerful, brushless alternator design provides excellent motor starting capabilities and long life. Clean waveform for use with electronic equipment.

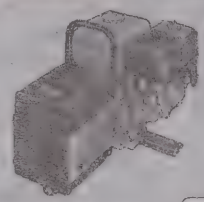
### HEAVY-DUTY WHEEL KIT WITH HANDLES

Available for Nos. 3W736, 3W737, 3W738, 3W739, 5U936, and 4W315.

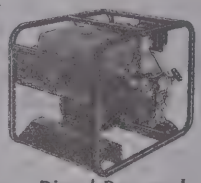
**No. 3W924.** Wheel Kit Shpg. wt. 33.0 lbs. List $153.00. Each ..... $122.40▲

Dayton

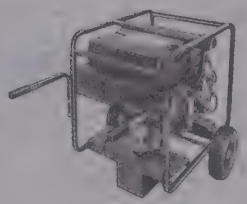
FREE DELIVERY on orders of $900 or more
See Freight Policy



Sport & Home Generator No. 3W735



Diesel-Powered Generator No. 4W315



Professional-Duty Generator No. 3LW64

Repair Service Available at Most Locations-Contact Your Local Branch

Replacement Parts Available 1-800-323-0620

**LIMITED WARRANTY**

Dayton warrants Generators for 5 years, Honda Engines for 2 years, and Yanmar Engines for 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

| Stock No. | Amps @ 120 / 240V | Number of Receptacles: GFCI 120V 15 Amp | NEMA Code | 120V 15 Amp | NEMA Code | 120V 30 Amp | NEMA Code | 120 / 240V 20 Amp | NEMA Code | 120 / 240V 30 Amp | NEMA Code | 120 / 240V 50 Amp | NEMA Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3W735 | 18.3/— | — | — | 2 | 5-15R | — | — | — | — | — | — | — | — |
| 3W736 | 33.3/16.6 | 2 | 5-15R | 2 | 5-15R | 1 | L5-30R | 1 | L14-20R | — | — | — | — |
| 3W737 | 41.6/20.8 | 2 | 5-15R | 2 | 5-15R | 1 | L5-30R | 1 | L14-20R | — | — | — | — |
| 5U936 | 41.6/20.8 | 2 | 5-15R | 2 | 5-15R | 1 | L5-30R | 1 | L14-20R | — | — | — | — |
| 3W738 | 50.0/25.0 | 2 | 5-15R | 2 | 5-15R | 1 | L5-30R | 1 | L14-20R | — | — | — | — |
| 3W739 | 60.0/30.0 | 2 | 5-15R | 2 | 5-15R | 1 | L5-30R | — | — | 1 | L14-30R | — | — |
| 3LW64 | 83.3/41.7 | 2 | 5-15R | 2 | 5-15R | 1 | L5-30R | — | — | 1 | L14-30R | 1 | 14-50R |
| 4W315 | 41.6/20.8 | 2 | 5-15R | 2 | 5-15R | 1 | L5-30R | 1 | L14-20R | — | — | — | — |

## GASOLINE-POWERED GENERATOR SPECIFICATIONS AND ORDERING DATA

| Rated Watts | Engine HP | Engine Brand | Starter Type | Fuel Tank (Gal.) | Runt Time (Hr.) | Sound‡ Level (db) | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2500** | 5.5 | Honda | Recoil | 1.0 | 2.4 | 78 | 20 | 15 | 13 | **3W735** | $1131.28 | **$905.50** | 87.0 |
| **4000** | 8.0 | Honda | Recoil | 5.0 | 7.6 | 73 | 32½ | 21½ | 20 | **3W736** | 1818.00 | **1455.00** | 143.0 |
| **5000** | 9.0 | Honda | Recoil | 5.0 | 6.8 | 76 | 32½ | 21½ | 20 | **3W737** | 2023.20 | **1619.00** | 177.0 |
| **5000** | 9.0 | Honda | Electric*/Recoil | 5.0 | 6.8 | 76 | 32½ | 21½ | 20 | **5U936** | 2528.34 | **2023.00** | 186.0 |
| **6000** | 11.0 | Honda | Recoil | 5.0 | 5.5 | 77 | 34 | 21½ | 22 | **3W738** | 2353.70 | **1883.00** | 195.0 |
| **7000** | 13.0 | Honda | Electric*/Recoil | 5.0 | 4.7 | 78 | 34 | 21½ | 22 | **3W739** | 3117.46 | **2494.00** | 251.0 |
| **10,000** | 20.0 | Honda | Electric* | 5.0 | 2.7 | 79 | 34 | 24½ | 29 | **3LW64** | 3985.24 | **2795.00▲** | 339.0 |

## DIESEL-POWERED GENERATOR SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5000** | 9.0 | Yanmar | Electric*/Recoil | 4.2 | 8.3 | 85 | 32 | 21½ | 24 | **4W315** | 4198.00 | **3359.00** | 255.0 |

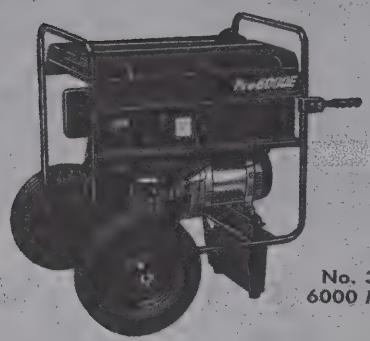
(*) Battery not included. 12VDC, Group U1, minimum 32 amp recommended. (†) Continuous full load. (‡) At 23 ft. and full load. (▲) Net prices, not subject to discounts.

| Dayton Generator/Engine Feature Comparison | No. 3W735 | No. 3W736 | No. 3W737 | No. 5U936 | No. 3W738 | No. 3W739 | No. 3LW64 | No. 4W315 |
|---|---|---|---|---|---|---|---|---|
| **GENERATORS:** | | | | | | | | |
| 1" Welded Steel Frame | — | • | • | • | • | • | • | • |
| Brushless Alternator | • | • | • | • | • | • | • | • |
| Hourmeter on Panel | — | • | • | • | • | • | • | • |
| Circuit Breaker Protection on All Receptacles | • | • | • | • | • | • | • | • |
| Rubber Vibration Dampeners on Engine & Alternator | • | • | • | • | • | • | • | • |
| Carry Handle | • | — | — | — | — | — | — | — |
| Full Power Switch | — | • | • | • | • | — | — | • |
| Auto Idle Control | — | — | — | • | — | • | • | — |
| Run Light | — | — | — | — | — | — | • | — |
| 12" Pneumatic Wheel Kit with Handles | — | — | — | — | — | — | • | — |
| **ENGINES:** | | | | | | | | |
| Low Oil Shutdown Protection | • | • | • | • | • | • | • | • |
| Cast-iron Cylinder Sleeve | • | • | • | • | • | • | • | • |
| Dual Element Air Cleaner | • | • | • | • | • | • | — | • |
| USDA Forest Service Approved Spark Arrest Muffler | • | • | • | • | • | • | • | • |
| Ball Bearings on Crankshaft | — | — | — | — | — | — | • | • |
| Pressurized Lubrication System | — | — | — | — | — | — | • | — |
| Decompression Control for Easy Starting | • | • | • | • | • | • | • | • |

# PROFESSIONAL-DUTY PORTABLE GENERATORS

Onan®

FREE DELIVERY on orders of $900 or more
See Freight Policy



No. 3W744
6000 Max. VA

Shown with Optional Wheel Kit No. 3W940

Replacement Parts Available
1-800-323-0620™

Onan® Pro Series Generators provide quiet dependable power in the most demanding conditions. Ideal for jobsite use or for emergency power. Up to 13 hours of run time on one tank of gas. High performance Onan overhead valve engine (OHV) and wide range of premium features are standard on these units. CSA Certified (LR91388).

**GENERATORS:**

- Full protective cradle of 1" steel tubing
- Voltmeter
- Full power switch
- Twist-lock® receptacles
- Solid state voltage regulator
- 12V DC battery charger with cables
- Large fuel tank for longer run time
- Full featured, recessed control panel prevents accidental damage
- Two 120V 15 amp ground fault circuit interrupt (GFCI) outlets

**ENGINES:**

- Onan Overhead Valve Engine (OHV)
- Low oil shutdown with indicator light
- Idlematic Automatic idle control
- Combination electric and manual start
- USDA Forest Service approved, spark arresting muffler
- Full pressure lube on Nos. 3W743 and 3W744
- 1995-1998 Carb-Emissions Certified
- Full flow, spin-on type oil filters on Nos. 3W743 and 3W744

Repair Service Available at Most Locations-Contact Your Local Branch™

## OPTIONAL WHEEL KIT

**No. 3W940.** Onan (410-1166). Shpg. wt. 35.0 lbs. List.....$264.00. Each .....$225.00

| Stock No. | Max VA | Amps at 120 / 240V | DC Output Amps | Number of Receptacles | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 120V 15A | NEMA Code | 120V 30A‡ | NEMA Code | 240V 20A‡ | NEMA Code | 240V 30A‡ | NEMA Code |
| 3W939 | 4000 | 29.2/14.6 | 10 | 2 | 5-15R | 1 | L5-30R | 1 | L14-20R | — | — |
| 3W743 | 5000 | 41.6/20.8 | 10 | 2 | 5-15R | 1 | L5-30R | 1 | L14-20R | — | — |
| 3W744 | 6000 | 45.8/22.9 | 10 | 2 | 5-15R | 2 | L5-30R | — | — | 1 | L14-30R |

## GENERATOR SPECIFICATIONS AND ORDERING DATA

| Rated Watts | Engine HP | Engine Brand | Starter Type | Fuel Tank (Gal.) | Run* Time | Dimensions (In.) L | W | H | Onan Model | Stock No. | List | Each Freight Prepaid | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3500** | 9 | Onan OHV | Recoil/ Electric‡ | 6.5 | 13 | 26 13/16 | 22 | 24 39/64 | Pro 4000E | **3W939** | $1943.00 | **$1850.00** | 164.0 |
| **5000** | 14 | Onan OHV | Recoil/ Electric‡ | 8 | 10 | 29 1/4 | 22 1/2 | 27 1/4 | Pro 5000E | **3W743** | 2360.00 | **2225.00** | 208.0 |
| **5500** | 14 | Onan OHV | Recoil/ Electric‡ | 8 | 9 | 29 1/4 | 22 1/2 | 27 1/4 | Pro 6000E | **3W744** | 2546.00 | **2400.00** | 208.0 |

(*) Approximate engine running time in hours per tank at full rated load. (†) Twist lock. (‡) Battery not included. 12VDC, Group U1, minimum 32 amp hour recommended.

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**

# STANDBY GENERATOR POWER SYSTEMS



**Dayton standby generator power systems** produce emergency electric power during utility power failures to keep essential heating/cooling systems, pumps, lighting, and office equipment operating. Applications include homes, commercial businesses, greenhouses, farms, industrial plants and remote communication buildings.

### GENERATORS

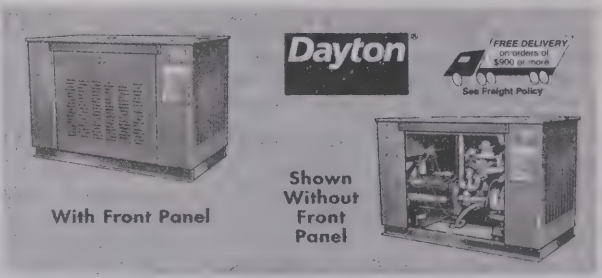
- **Housed in a weather-resistant, sound dampening, all-metal enclosure (included with generator)**
- **Designed for outdoor use only as a permanently installed, standby power source**
- **Includes muffler, battery rack, cables, and trickle charger**

**Generators require an automatic transfer switch** to ensure that vital electric loads are maintained without manual intervention. When a complete power loss or brown-out condition exists, generator cranks, starts and transfers specific load circuits to generator output. Transfer switch re-transfers voltage back to utility source when normal power is restored. Switch is mounted indoors near incoming electrical distribution panel.

**Also requires the use of a 12V, automotive-type storage battery**, not included. See chart below for proper battery size.

**Note:** Not for use as a primary power source or in any mobile-type application. Not operable at 50 Hz. See Generator Selection Guide for sizing assistance.

**Replacement Parts Available 1-800-323-0620**




### POWER SYSTEM

- **Automatic engine start/stop**
- **Automatic 7-day exerciser–ensures system is running satisfactorily by physically running generator for 20 min./week**
- **Overspeed, low oil, high temp., low coolant level shutdown, anti-overcrank devices–protect the engine from damage from extended usage**
- **Battery charger–keeps the engine starting circuit ready**
- **Main circuit breaker–protects the generator from overload**
- **Hour meter–monitors operating time for scheduled preventive maintenance**

**Engines can be fueled with either natural gas or LP.** Air-cooled engines provide up to 8000 watts of power, while liquid-cooled engines can provide up to 40,000 watts of power. A strict maintenance schedule of oil/filter changes, filter checks, tune-ups, and battery checks is required to ensure safe and reliable operation of generator.

**Units should be installed by a qualified electrician or contractor.** Installation may require local permits for gas piping, concrete foundation, electrical inspection and approval. Check with local building codes prior to beginning installation.

## 40kW GENERATOR CIRCUIT BREAKER SELECTION GUIDE

| Volts | Amps | Phase | Square D Model | Stock No. |
|---|---|---|---|---|
| 120/240 | 333/167 | 1/1 | KAL36200 | **5B891** |
| 120/240 | 240/120 | 1/3 | KAL36150 | **5B888** |
| 120/208 | 417/139 | 1/3 | KAL36150 | **5B888** |
| 277/480 | 180/60 | 1/3 | FAL34070 | **5B847** |

Note: Compression lugs will need to be changed from top of breaker to bottom.

## STANDBY GENERATOR SELECTION GUIDE

| | | Electrical Specifications | | Battery Requirements | | | Engine Specifications | | | | | FUEL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Load Consumption* | | | Connection at Generator | |
| Stock No. | Main Circuit Breaker | Kilowatts (on LP) | Amps @ 120/240V 1Ø, 60 Hz | Volts | Group | Min. Amp Hours | Mfr. | Size | RPM | Cooling | Block Heater | Natural Gas (Cu.ft./Hr.) | Propane Cu.ft./Hr. (Gal./Hr.) | | NPT Pipe Size (In.) | Minimum Gas Pressure Required (In., W.C.) |
| 4LM41 | Yes | 5 kW | 41.7/20.8 | 12 | 26 | 35 | Generac | 410 cc | 3600 | Air | — | 145 | 67 | (1.8) | 3/4 | 11 |
| 4LM42 | Yes | 8 kW | 66.7/33.3 | 12 | 26 | 35 | Generac | 570 cc | 3600 | Air | — | 195 | 77 | (2.2) | 3/4 | 11 |
| 4LM39 | Yes | 10 kW | 83.3/41.6 | 12 | 26 | 75 | Mitsubishi | 1.5L | 1800 | Liquid | Yes | 359 | 143 | (4.0) | 3/4 | 11 |
| 4LM38 | Yes | 20 kW | 166.6/83.3 | 12 | 26 | 75 | Mitsubishi | 1.5L | 3600 | Liquid | Yes | 684 | 270 | (7.2) | 3/4 | 11 |
| 4LM43 | See Chart | 40 kW | 333.3/166.6 | 12 | 27F | 90 | GM | 4.3L | 1800 | Liquid | Yes | | | | | |

(*) Natural gas and LPG ratings may decrease depending on BTU content of local gas supply.

## STANDBY GENERATOR FEATURES AND ORDERING DATA

| | | GENERATOR CONTROLS | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Shutdown | | | | | | | | | |
| Sound Level dB(A) @ 23 Ft. (7M) | Required Automatic Transfer Switch* | Automatic Voltage Regulation | 2 Amp 12V DC Battery Charger | Charger Ammeter | Run Time Hour Meter | Crank Protection | Fault Indicator Lights | Low Oil Pressure | Coolant Level | Over-Speed | High Temp. | Dimensions (In.) L | W | H | Stock No. | List | Each Freight Prepaid | Shpg. Wt. |
| 78 | 1ZC00 Included | ● | ● | — | — | ● | — | ● | — | ● | ● | 38 | 23 | 27 | **4LM41** | $5311.85 | **$4619.00** | 464.0 |
| 78 | 1ZC00, 5W961 | ● | ● | — | — | ● | — | ● | — | ● | ● | 38 | 23 | 27 | **4LM42** | 6023.70 | **5238.00** | 461.0 |
| 71 | 1ZC00, 5W961 | ● | ● | — | ● | ● | ● | ● | ● | ● | ● | 50 | 26 | 43 | **4LM39** | 8604.30 | **7482.00** | 898.0 |
| 85 | 1ZC00, 5W961 | ● | ● | — | ● | ● | ● | ● | ● | ● | ● | 50 | 26 | 43 | **4LM38** | 9930.00 | **8549.00** | 800.0 |
| 81 | 4W123, 4W124, 4W125, 4W126, 5W962 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | 76 | 35 | 62 | **4LM43** | 15376.65 | **13371.00** | 2088.0 |

(*) Uses only one of the switches listed. See Transfer Switches for ordering information.

# AUTOMATIC TRANSFER SWITCHES

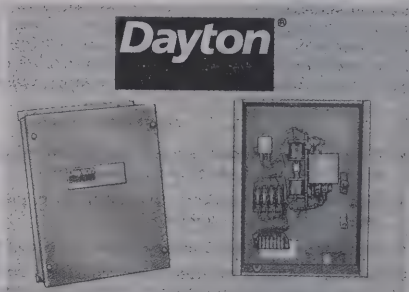
- **7-day exerciser clock starts engine every seven days at preselected time**
- **Line failure, under voltage, and generator frequency sensing**
- **For use with 2-wire starting systems**

**Dayton automatic transfer switches** prompt the automatic start-up of a standby generator and the line switching necessary to provide a smooth transition from utility to generator power.

**This crucial part of a standby generator** power system can sense the partial or total loss of utility power. It automatically exercises the generator every seven days, which keeps the generator ready for emergency start-up. The switch also provides protection for the generator by removing the possibility of utility power backfeed into the generator, limiting rapid intermittent start-up and shut-down, prolonging the life of the power system.

**These switches should be installed** by a qualified electrician or contractor, and may require local permits and inspection. UL Listed (1008), at 480V or less.

**Replacement Parts Available**
**1-800-323-0620**

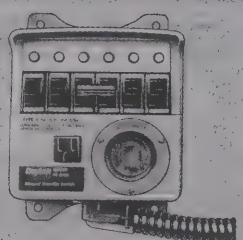



Automatic Transfer Switch

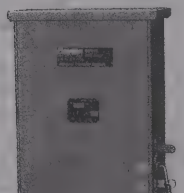
## AUTOMATIC TRANSFER SWITCH SPECIFICATIONS AND ORDERING DATA

| Current Rating (Amps) | Volts (AC) | Phase | NEMA Enclosure No. | 7-Day Auto Exerciser | Sensing: Line Failure | Sensing: Under Voltage | Sensing: Gen. Freq. | Time Delay: Transfer | Time Delay: Re-Transfer | Time Delay: Neutral | Dimensions (In.): H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY AUTOMATIC** | | | | | | | | | | | | | | | | | |
| **100** | 250 | 1 | 1 | Yes | Fixed | Fixed | Yes | Yes | Yes | — | 20 | 14 | 7 | **1ZC00*** | $577.30 | **$502.00** | 23.0 |
| **200** | 250 | 1 | 1 | Yes | Fixed | Fixed | Yes | Yes | Yes | — | 48 | 30 | 13 | **5W961*** | 2236.75 | **1945.00** | 184.0 |
| **HEAVY-DUTY AUTOMATIC** | | | | | | | | | | | | | | | | | |
| **150** | 250 | 1 or 3 | 12 | Yes | Adjust. | Adjust. | Yes | Yes | Yes | Yes | 36 | 24 | 11 | **4W123** | 2990.00 | **2600.00** | 147.0 |
| **300** | 250 | 1 or 3 | 12 | Yes | Adjust. | Adjust. | Yes | Yes | Yes | Yes | 48 | 30 | 13 | **4W124** | 4378.05 | **3807.00** | 223.0 |
| **100** | 600 | 1 or 3 | 12 | Yes | Adjust. | Adjust. | Yes | Yes | Yes | Yes | 36 | 24 | 11 | **4W125** | 3163.65 | **2751.00** | 177.0 |
| **200** | 600 | 1 or 3 | 12 | Yes | Adjust. | Adjust. | Yes | Yes | Yes | Yes | 48 | 30 | 13 | **4W126** | 4324.00 | **3760.00** | 232.0 |
| **400** | 600 | 1 or 3 | 12 | Yes | Adjust. | Adjust. | Yes | Yes | Yes | Yes | 48 | 30 | 13 | **5W962** | 6016.80 | **5232.00** | 340.0 |

(*) Can only be used with Dayton Standby Generators under 40KW, manufactured after 1991. Not compatible with any other make or model of generator.




Residential Switch
No. 4LM40



Commercial Switch
No. 5W911

# MANUAL TRANSFER SWITCHES

## RESIDENTIAL SWITCH

- **Easy to install and operate**
- **6 one-pole, 120V circuit or one two-pole 240V circuits plus 4 one-pole circuits**
- **15 amp max. load per circuit**
- **40 amp max. combined load**
- **L14-20P receptacle**
- **5000 watt max.**
- **Prewired flexible conduit**

**Connects portable or standby generator** to residential load center safely and quickly.

**Allows manual transfer of individual loads** to prevent overloading generator. Transfers loads of emergency circuits separately, only as needed.

**Required in many areas** to reduce the chances of backfeeding electric power to the utility lines.

**Installs in less than an hour,** without pulling the electric meter or installing a sub-panel. UL Listed (E80469). NEMA 1 enclosure.

**Replacement Parts Available**
**1-800-323-0620**

## COMMERCIAL SWITCH

- **For use with PTO, towable, or standby generators**
- **Single-phase, double throw**
- **200 amp, 250V rating**
- **200 amp auxillary contacts**
- **Multiple load lugs standard**
- **Ample wiring space for most typical installations**

**A fast, safe way to transfer loads** between commercial power and auxilary power from generators.

**Double throw switches** feature the exclusive spring-tension design and also provide snap action of contacts, so loads may be switched between sources with minimum interruption.

**Quick-make, quick-break design** minimizes contact arcing and prolongs contact life. Snap-action and floating contacts provide a positive and complete self-cleaning contact, preventing excessive contact heating.

**Lightweight, corrosion-resistant aluminum enclosures** for wall mounting. Corrosion-resistant operating handles prevent jamming due to rust. NEMA 3R oversized enclosures provide ample wiring space.

**All switches** feature lugs for aluminum or copper conductors. Wall mounting hardware included. UL Listed (E80469).

| Switch Type | Current Rating | Voltage Rating | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Residential** | 40 | 250 | 7.5 | 7 | 5 | **4LM40** | $249.83 | **$217.25** | 3.0 |
| **Commercial** | 200 | 250 | 20 | 16 | 6 | **5W911** | 691.15 | **601.00** | 30.0 |

# POWER TAKE-OFF GENERATORS

- 1800 RPM
- Quick disconnect plugs
- Greater surge power
- Voltmeter visible to shaft side
- Compact design
- V/F voltage regulation 1%
- Nos. 3W954 and 3W955 single-phase operation. No. 3W956 single or three-phase operation

**Dayton PTO generators** are designed as a standby electrical power supply primarily for farm and poultry applications. Utilizes the power take-off from tractors, bulldozers, or trucks as the prime mover. Units are equipped with a new gear box ratio design that operates at 1800 RPM for longer life, quieter operation, and smoother running.

**Designed with solid state frequency** compensated ±1% voltage regulation. Provides optimized fast response to changing load conditions.

**Alternators provide** reliability and long life. Revolving field alternators are wound with fully insulated and self-ventilating characteristics.

**Rustproof sheet metal** with baked enamel finish. All sheet metal parts have electrostatically applied zinc coating that enhances paint adhesion and provides protection against rusting.

**Main line circuit breaker** is capable of handling the full output capacity of the systems while still protecting the unit.

**Easy access control panel** with a rear mounted voltmeter. Units include a lifting eye, rodent screen, and recessed drip resistant control panel.

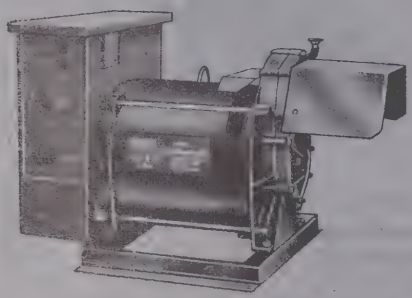
## TRAILER KIT

For use with Nos. 3W954, 3W955, and 3W956. Made of steel. Large durable tires. Assembly required. Dayton brand.

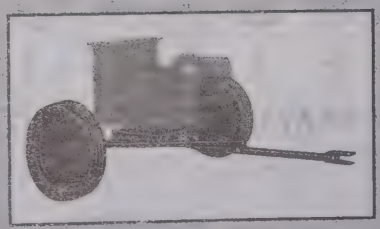
**No. 3W957.** Shpg. wt. 262.0 lbs. List $980.95. Each ..... $853.00

- 5-years warranty on 3W954 and 3W955
- 1-year warranty on 3W956

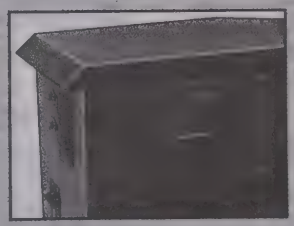
Dayton®



PTO Generator No. 3W954



No. 3W957 Trailer Kit
Sold Separately
(Shown with Generator)



Voltmeter

FREE DELIVERY on orders of $900 or more
See Freight Policy

## POWER TAKE-OFF GENERATOR SPECIFICATIONS AND ORDERING DATA

| Rated AC Power | Surge AC Power | Rated AC Amps at 240V | HP Req'd. | PTO RPM | Max. G Motor Starting | Dimensions (In.) L | W | H | Stock No. | List | Each Freight Prepaid | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **25KW** | 50KVA | 104 | 45 | 540 | 10 HP | 38 | 26 | 26 | **3W954** | $3206.20 | **$2788.00** | 530.0 |
| **40** | 80 | 166 | 65 | 540 | 15 | 38 | 26 | 26 | **3W955** | 4131.95 | **3593.00** | 590.0 |
| **60** ‡ | 120 | 250 | 105 | 1000 | 20 | 42 | 26 | 26 | **3W956** | 6019.10 | **5234.00** | 730.0 |

(*) 30% voltage dip. (‡) 3-Phase power rating shown. When configured for single-phase operation, AC power rating will be 54KW.

Dayton®

Replacement Parts Available
1-800-323-0620

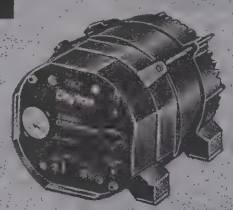
## POWER TAKE-OFF SHAFT KITS FOR PTO GENERATORS (Above)

- Shielded universal telescoping pin and coupling
- Attachment kits are 48" long overall
- No. 2W083: 1⅜" 6 spline at both ends
- No. 6T518: 1⅜" 21 spline both ends 21 spline for 1000 RPM operation
- Dayton brand

| Fits Generator | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3W055, 4W605, 3W954, 3W955 | **2W083** | $479.83 | **$417.25** | 43.0 |
| 3W956 | **6T518** | 400.77 | **348.50** | 43.0 |

# BELT-DRIVEN GENERATORS AND EMERGENCY STARTING GENERATORS

## BELT-DRIVEN GENERATORS



No. 5W964
4000 Watts

Replacement Parts Available
1-800-323-0620

- **Rated 3600 RPM**
- **120 and 120/240V, 60 Hz single phase**
- **Clockwise or counterclockwise operation**

For continuous portable and standby power needs. Units may be belt-driven by small gas engine or used with original powered equipment such as pressure washers, steam cleaners, and sand blasters.

Double sleeved ball bearings and revolving armature design. Drive pulley not included.

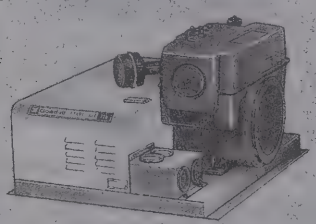
Nos. 5W963, 5W964, and 5W965 have rugged, lightweight, compact design. Nos. 5W964 and 5W965 can be hard wired or can use outlets provided. No 5W965 contains a control panel with exterior circuit breaker and voltmeter.

| Stock No. | Number of Receptacles 120V 20 Amps | 120V NEMA Code | 120V 30 Amps | 120V NEMA Code | 240V 20 Amps | 240V NEMA Code | 240V 50 Amps | 240V NEMA Code |
|---|---|---|---|---|---|---|---|---|
| 5W963 | 2 | 5-20R | — | — | — | — | — | — |
| 5W964 | 2 | 5-20R | — | — | 1 | 6-20R | — | — |
| 5W965 | 2 | 5-20R | 1 | L5-30R | — | — | 1 | 6-50R |

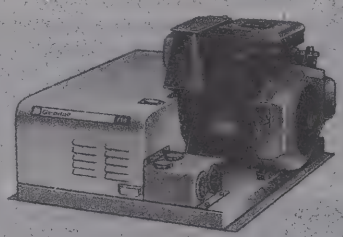
### BELT-DRIVEN GENERATOR SPECIFICATIONS AND ORDERING DATA

| Maximum AC Watts | Volts 60 Hz | Rated AC Amps | Maximum Motor Starting HP | Shaft Dia. (In.) | HP Req'd. | Dimensions (In.) L | W | H | Suggested Pulleys Type | P.D. (In.) | Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2000** | 120 | 16.7 | 1/2 | 3/4 | 4 | 13 | 8½ | 8½ | 1,A | 4.7 | 3/4 | **5W963** | $453.96 | **$394.75** | 64.0 |
| **4000** | 120 / 240 | 33.3 / 16.6 | 3/4 | 3/4 | 6 | 14 | 8½ | 8½ | 1,B | 6.0 | 3/4 | **5W964** | 592.25 | **515.00** | 56.0 |
| **8000** | 120 / 240 | 66.7 / 33.3 | 3 | 3/4 | 16 | 19 | 13 | 9 | 2,B | 5.4 | 3/4 | **5W965** | 1137.35 | **989.00** | 120.0 |

## EMERGENCY HEAVY-DUTY STARTING UNIT GENERATORS



No. 4W169



No. 4W170



For Use On Trucks, Cars, Oil Rigs, & Commercial & Industrial Equipment

FREE DELIVERY on orders of $900 or more
See Freight Policy

- **Heavy-duty, emergency DC power safety starts vehicles**
- **Electric start and amp indicator for direct reading of output current**
- **Anti-vibration kit to reduce noise and vibration**
- **Use with 12V, 12/24V, or 24V ignition systems**
- **Positive starter with 12V electric start**
- **Includes two 30 ft. #2 gauge duplex welding cable with 500 amp clamps and canvas cover**
- **No. 4W169 has Kohler 16 HP, 4-cycle, cast-iron engine**
- **No. 4W170 has Briggs & Stratton 18 HP, twin cylinder aluminum, 4-cycle engine with cast-iron sleeves**

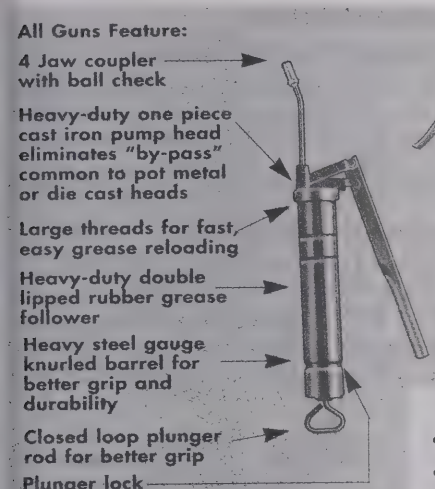
### EMERGENCY HEAVY-DUTY STARTING UNIT GENERATOR SPECIFICATIONS AND ORDERING DATA

| Engine Size | Voltage | Cranking Power | Dimensions (In.) W | L | H | Start-All Model | Stock No. | List | Each Freight Prepaid | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **16 HP Kohler** | 12/24VDC | 12V / 600A; 24V / 250A | 33 | 30 | 23 | 11-716KVC | **4W169** | $4972.44 | **$3395.00** | 380.0 |
| **18 HP Briggs** | 12/24VDC | 12V / 700A; 24V / 300A | 33 | 32 | 21 | 11-718VC | **4W170** | 5324.44 | **3525.00** | 355.0 |

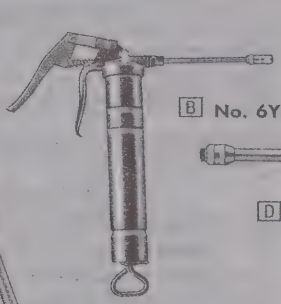
# GREASE GUNS AND ACCESSORIES

**All Guns Feature:**

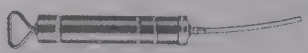
- 4 Jaw coupler with ball check
- Heavy-duty one piece cast iron pump head eliminates "by-pass" common to pot metal or die cast heads
- Large threads for fast, easy grease reloading
- Heavy-duty double lipped rubber grease follower
- Heavy steel gauge knurled barrel for better grip and durability
- Closed loop plunger rod for better grip
- Plunger lock



A No. 6Y826



B No. 6Y829



C No. 6Y831



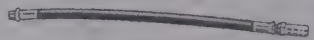
D No. 6Y828



E No. 6Y830



F No. 6Y836



G No. 6Y835

## A STANDARD TWO WAY LOADING LEVER GUN

- Removable plug for installing optional filler nipple
- 6" outlet pipe
- Develops up to 6,000 PSI
- Two way fill — standard cartridge, and bulk fill

**No. 6Y826.** Legacy (L1000). Shpg. wt. 3.5 lbs.
List $16.43. Each ..... $11.87▲

## A DELUXE THREE WAY LOADING LEVER GUN

- Filler nipple may be used as air bleeder valve
- 6" outlet pipe
- PVC hand grip
- Develops up to 6,000 PSI
- Three way fill — standard cartridge, bulk fill, and grease transfer pump

**No. 6Y827.** Legacy (L1100). Shpg. wt. 3.5 lbs.
List $18.45. Each ..... $17.82

## B ONE HAND, PISTOL TYPE, THREE WAY LOADING GREASING GUN

- Filler nipple may be used as air bleeder valve
- 6" outlet pipe
- Develops up to 6,000 PSI
- Removable ball check and spring — field repairable
- 3 way fill — standard cartridge, bulk fill, and grease transfer pump

**No. 6Y829.** Legacy (L1150). Shpg. wt. 3.5 lbs.
List $23.46. Each ..... $18.68

## C OIL SUCTION GUN

- Heavy-duty knurled barrel
- 16 oz. capacity
- Flexible vinyl hose
- Rugged design

**No. 6Y831.** Legacy (L1700). Shpg. wt. 2.0 lbs.
List $16.79. Each ..... $13.26

## D ADJUSTABLE OUTLET PIPE WITH COUPLER

- Locks in any position
- Rotates 360°
- Easy access for hard to reach fittings
- 1/8" MNPT fits any standard grease gun

**No. 6Y828.** Legacy (L2455). Shpg. wt. 0.3 lbs.
List $13.05. Each ..... $9.14

## E HYDRAULIC COUPLER

- 3 Jaw coupler
- Ball check type
- Narrow design, for use with hand equipment only
- 1/8" FNPT threads

**No. 6Y830.** Legacy (L2000). Shpg. wt. 0.1 lbs.
List $3.94. Each ..... $3.08

## F WHIP HOSE

- For use with all hand-operated guns
- H.D. wire braid/rubber hose
- 1/8" MNPT both ends
- 3000 PSI max. working pressure
- 13,000 PSI min. burst

| Length | Legacy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 12" | L2200-GRA | 6Y836 | $8.64 | $6.14 | 0.3 |
| 18 | L2210-GRA | 6Y837 | 10.59 | 7.55 | 0.3 |
| 24 | L2220-GRA | 6Y838 | 14.61 | 10.93 | 0.4 |

## G WHIP HOSE WITH COUPLER

Includes No. 6Y836 12" whip hose with No. 6Y830 hydraulic coupler.

**No. 6Y835.** Legacy (L2205). Shpg. wt. 0.3 lbs.
List $10.59. Each ..... $8.05

## GREASE INJECTOR NEEDLE ADAPTER

- For bolts and tight places
- For sealed bearings
- Fits standard grease gun coupler
- For use with hand equipment only

**No. 6Y832.** Legacy (L2100). Shpg. wt. 0.1 lbs.
List $5.17. Each ..... $3.41

## NEEDLE NOSE DISPENSER

- For a fine line of controlled grease
- 1/8" FNPT
- For use with hand equipment only

**No. 6Y833.** Legacy (L2110). Shpg. wt. 0.1 lbs.
List $7.12. Each ..... $5.65

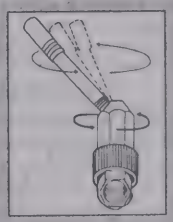
## NEEDLE NOSE ADAPTER

Same as No. 6Y833 but with locking sleeve adapter. Locks tightly onto hydraulic coupler.

**No. 6Y834.** Legacy (L2120). Shpg. wt. 0.2 lbs.
List $12.75. Each ..... $9.96

360° SWIVEL FITTING

**PLEWS**

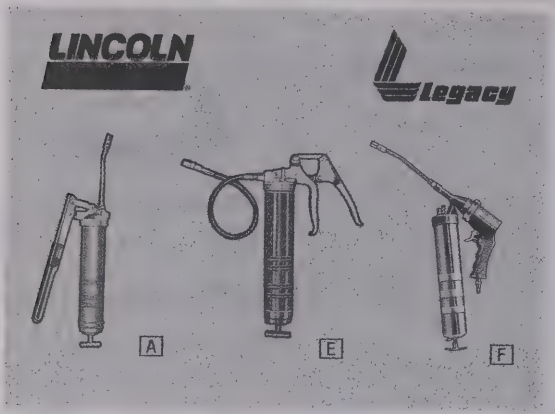


- Swivels in full 360° circle with 12 position locks
- 45° fitting angle allows easy access to hard to reach grease fittings
- Grease coupler and extention pipe are included
- 1/8" female inlet allows easy assembly to standard grease guns
- Use with hand grease guns only

**No. 4F368.** Plews (05-057). Shpg. wt. 0.4 lbs.
List $22.68. Each ..... $12.72

(▲) Net Prices, not subject to discounts.

# GREASE GUNS




## GREASE GUNS

### A B C LEVER TYPE GREASE GUNS

A **No. 6Y888** is the standard lever grease gun with cast iron pump head.

B **No. 6Y889** is the same as No. 6Y888 except with handle grip and vent valve for purging air from gun and variable stroke, variable pressure feature.

C **No. 6Y892** is the same as No. 6Y888 except with 18" whip hose and end coupler.

### D E PISTOL TYPE GREASE GUNS

**Nos. 6Y895 and 6Y894** are identical except for the nozzle extension.

D **No. 6Y895** comes with a 6" straight pipe nozzle extension.

E **No. 6Y894** comes with an 18" flexible hose nozzle extension.

### F AIR-POWERED GREASE GUN

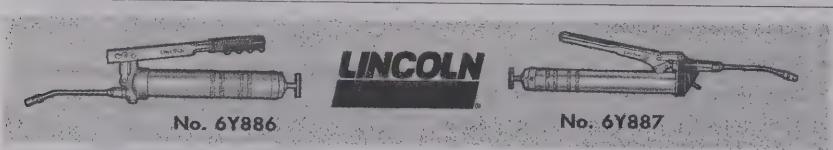
F **No. 6Y885** Pistol type gun with rigid and flexible extensions. 40:1 ratio with air input range of 30-150 PSI. Legacy brand.(L1455-GRA)

**All Grease Guns Feature:**

- Cadmium plated gun head, toggle and handle assembly
- High gloss barrel finish
- Long lasting polyurethane paint
- Coupler included
- Two way filling—suction and cartridge

| Key | Lube Capacity | Extension (In.) | Length (In.) | Operating Pressure | Strokes for 1 oz. Output* | Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 16 oz. bulk or 14½ oz. cartridge | 6 | 21¾ | 6000 | 33 | 1142 | **6Y888** | $25.50 | **$21.20** | 4.0 |
| B | | 6 | 21¾ | 6000 | 33 | 1148 | **6Y889** | 32.50 | **25.60** | 4.0 |
| C | | 18 hose | 21¾ | 6000 | 33 | 1147 | **6Y892** | 30.50 | **25.60** | 4.0 |
| D | 16 oz. bulk or 14½ oz. cartridge | 6 straight pipe | 15½ | 6000 | 33 | 1132 | **6Y895** | 37.95 | **33.25** | 3.4 |
| E | | 18 flex. hose | 15½ | 6000 | 33 | 1133 | **6Y894** | 39.95 | **35.45** | 3.5 |
| F | 14 oz. bulk or cartridge | rigid and flexible | — | 1500-6000 | NA | L1455 | **6Y885** | 79.07 | **69.90** | 4.0 |

(*) Using No. 1 grease at 70°F. Barrel diameter 2¼".




No. 6Y886 No. 6Y887

## HEAVY-DUTY GREASE GUNS

### HEAVY-DUTY DUAL PRESSURE GREASE GUNS

- Long life cast iron head
- Dual pressure—high or low—for light or heavy-duty greasing action
- Full pressure on short strokes—allows heavy greasing in tight places (develops full pressure with 1/4" minimum stroke)
- Extension swivels 360° • 3 way loading—cartridge, filler pump or bulk
- Grease resistant rubber handle grip provides comfortable, sure grip for positive pumping action

### HEAVY-DUTY HIGH PRESSURE AND VOLUME GREASE GUNS

- Toggle mechanism design—uses compound leverage for high pressure pumping
- All weather use—zinc plated gun barrel and handle, cast iron head, black enamel paint for rust and corrosion resistance
- Filler nipple for fast refill • Large capacity barrel

| Lube Capacity | Nozzle Extension (In.) | Overall Length (In.) | Maximum Pressure (PSI) | Number of Strokes for Output* | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **HEAVY-DUTY DUAL PRESSURE GREASE GUNS** | | | | | | | | | |
| **16 oz. Bulk or Cartridge (14½ oz.)** | 6 | 22⅞ | 7000 or 6000 | Low Pressure: 18 High Pressure: 33 | 1013 | **6Y886** | $78.50 | **$63.70** | 4.0 |
| **21 oz. Bulk or Cartridge (14½ oz.)** | 6 | 25¼ | | | 1145 | **6Y891** | 82.50 | **68.15** | 4.6 |
| **HEAVY-DUTY HIGH PRESSURE AND VOLUME GREASE GUNS** | | | | | | | | | |
| **21 oz. Bulk or Cartridge (14½ oz.)** | 6 | 27¼ | 7000 | 25 | 1035 | **6Y887** | 125.00 | **99.70** | 6.0 |
| **21 oz. Bulk or Cartridge (14½ oz.)** | 6 | 27¼ | 3000 | 9 | 1037 | **6Y890** | 127.50 | **102.95** | 7.0 |

(*) Lubricant output using No. 1 cup grease @70°F. Barrel diameter 2¼".

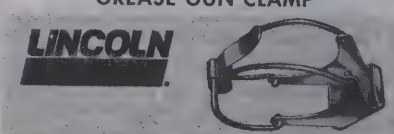
## PISTOL GRIP MINI-GREASE GUN




Handles on-the-spot lube requirements for trailers, boats, mowers, RV's, power tools, etc. All metal construction. Can be cartridge or bulk loaded (suction filled). 3 oz. capacity. Hand grip for easy lever action. Comes with 6" rigid extension and coupler. Lincoln brand (1138).

**No. 6Y893.** Shpg. wt. 1.9 lbs. List ..... $24.00.
Each ..... **$19.04**

## GREASE GUN CLAMP

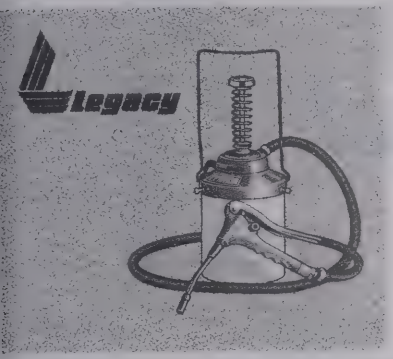



Mounts on tractor, truck, machine or workbench holding grease gun for easy access when needed. Snap-latch cinches all 2¼" diameter barrel guns securely. Lincoln brand (82760).

**No. 6Y855.** Shpg. wt. 0.3 lbs. List ..... $9.40.
Each ..... **$7.34**

# MANUAL GREASE AND GEAR OIL PUMPS

## MINI-LUBE GREASE PUMP




- Performs like larger equipment with added portability. Fits 7 lb. (1 gal. US) container. Use No. 4F981 Mobilgrease® HP on page 2771
- Spring-load mechanism provides up to 30 shots before repriming
- Pressurite™ self - bleeding gun features push button controller either high volume or high pressure up to 10,000 PSI
- Flexible 6.5 ft. hose with 360° swivel
- Built - in strainer for clean grease delivery
- For use with grease up to NLGI No. 2
- Rubber edged follower plate.

**No. 4F984.** Legacy brand (K6). Shpg. wt. 0.9 lbs. List $248.28. Each ..... $169.75

## ARO®-PAK GREASE DISPENSER



- Portable, long-lasting grease supply suitable for on-the-spot vehicle/machinery maintenance
- Holds 5 lbs. and 40 PSI air prime for fast delivery
- Comes with 4 ft. of 1/2" I.D. hose and medium pressure control handle
- Delivers both NLGI #1 and #2 grease
- Develops up to 7500 PSI at control handle

**No. 4F317.** ARO brand (640110). Shpg. wt. 10.0 lbs. List $468.00. Each ..... $360.00

## ARO® GREASE AND GEAR OIL PUMPS • ARO is registered to ISO 9002



- Economical lubrication supply
- Fits 35 lb. pails
- Adjustable ratio delivers 1/4 oz. per stroke
- Comes complete with booster control handle, 10 ft. material hose, drum cover and follower plate

**No. 2P685.** ARO brand (611016). Shpg. wt. 24.0 lbs. List $510.00. Each ..... $460.75

### HAND-OPERATED FILLER PUMP



- 6:1 ratio provides fast filling
- Rugged, durable construction
- Fits 35 lb. pails
- Includes drum cover, follower plate and three grease gun adapters

**No. 2P777.** ARO brand (611406). Shpg. wt. 7.0 lbs. List $62.00. Each ..... $59.40

### 35 LB. PAIL GEAR OIL PUMP



- Fast, economical heavy oil supply
- Simple hand operation
- Heavy gauge metal drum cover
- 5 ft. material hose and dispensing nozzle included
- Adjustable ratio (2:1, 4:1, 7:1) for delivery at various speeds

**No. 2P776.** ARO brand (611170). Shpg. wt. 13.0 lbs. List $199.00. Each ..... $162.00

## LINCOLN







Replacement Parts Available
1-800-323-0620™

## FILLER PUMPS

### A 5 GALLON/35 LB. CLAMP-ON FILLER PUMP

Clamps to any 25-50 pound refinery container. Handles medium and light lubricants in any weather. Includes pump, filler socket, follower plate and ribbed steel drum cover. Rust resistant. Tube size: 1½".

### B 120 LBS. STATIONARY FILLER PUMP

For use with refinery drums with maximum head diameter of 14⅝" and overall height of 26⅝". Includes pump, filler socket and drum cover with one set of adjustable screws to accommodate variations in drum diameter. Delevers 1 oz. per stroke. Red enamel finish; black pump head and handle.

| Key | Container Size (Lb.) | Dimensions (In.) | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 25 - 50 | 20 H x 12¼ W | 1296 | **6Y863** | $140.00 | **$89.10** | 7.0 |
| B | 120 | 26⅜ H x 14⁹⁄₁₆ Dia. | 500 | **6Y861** | 275.00 | **198.25** | 18.0 |

## ARO® INGERSOLL-RAND FLUID PRODUCTS

ISO 9002



No. 4F310

## HEAVY-DUTY AIR-POWERED GREASE GUN

- Heavy-duty spring, piston, and air valve provide long life in heavy service
- Heavy-duty construction provides additional protection from damage
- 5000 PSI "single-shot delivery" (150 PSI inlet)
- High pressure chamber has unique lapped fit piston which will not wear or fail as may occur with o-ring or seal
- Three fill methods—filler pump, cartridge, or suction
- Fills to a maximum 20 oz. capacity.

**No. 4F310.** Shpg. wt. 7.0 lbs. List ..... $385.00. Each ..... $318.00

# OIL DISPENSING AND TRANSFER EQUIPMENT

## GEAR LUBE DISPENSERS

Manually operated pumps which provide fast, clean refilling of differentials, gear cases and final drives. Smooth, easy pumping action (no crank or gears) dispenses all types of gear lubricants even in the coldest weather. Baked on enamel finish prevents rust and corrosion. Includes nozzle and 5 ft. hose.

### A 35 LB./5 GAL. PAIL GEAR LUBE DISPENSER

For 25-50 lb. original refinery containers. 12" I.D. clamp-on and carry style.

### B 120 LB./16 GAL. GEAR LUBE DISPENSER

For 120 lb. original refinery container. 15" I.D. drum cover style. Cast iron pump outlet body and handle provide durability. Non-totalizing meter registers in 1/4 pint gradations. Air expeller built into pump to prevent air from registering on meter. Roll-around base with large replaceable swivel casters provide ease of maneuverability. Drum not included.

| Key | Contain Size | Output* | Pump Tube Length | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 35 lb. Pail | 1 oz. per stroke | 13" Below Drum Cover | 1293 | **6Y881** | $112.00 | **$102.35** | 7.0 |
| B | 120 lb. | 1 pt. per 7 strokes | 25¾" | 535 | **6Y899** | 551.00 | **517.50** | 36.0 |

(*) Using SAE 90 Gear Lubricant @ 70°F.




## BUCKET PUMPS

High pressure and volume bucket pumps for use with grease or oil. Compact and portable pumps dispense high pressure lubricant in any weather — even at 0°F.

### C 5 GALLON/35 LB. PAILS CLAMP-ON BUCKET PUMP

Fits 25-50 lb. original refinery container. Includes bucket cover, coupler, and follower plate.

### D 30 LB. BULK SELF CONTAINED BUCKET PUMP

Comes with carrying handle and follower.

### E 40 LB. BULK SELF CONTAINED BUCKET PUMP

Comes with carrying handle and coupler.

## E LEVER ACTION TRANSFER PUMP

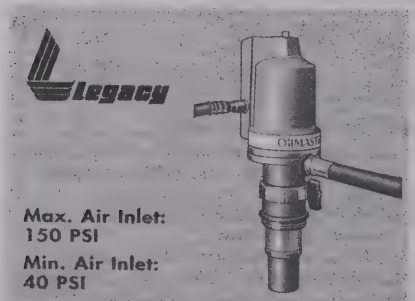
- **Neoprene seals resist wear and abrasive fluids**
- **Steel piston and foot valve for durability**
- **Black epoxy finish on pump body retards rust and corrosion**
- **Curved discharge spout with garden hose threads allows for convenient hose extension**
- **2-Piece telescoping suction tube fits 30-55 gal. drums**
- **Delivers 10 oz. of fluid per stroke**
- **Plews brand**

**No. 6Y857.** Shpg. wt. 5.5 lbs. List.....$56.99.
Each.....$33.40

| Key | Container Size | Max Pressure (PSI) | Hose Length (Ft.) | Dimensions (In.) | Output* | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| C | 5 Gallon/35 lb. | 2500 | 5 | 12¼W x 21½H | 0.303 oz./stroke | 1292 | **6Y859** | $225.00 | **$180.50** | 14.0 |
| D | 30 lb. Bulk | 3500 | 7 | 28H x 1 W x 9 Dia | 0.28 oz./stroke or 11 oz./min. | 1273D | **6Y858** | 372.50 | **278.25** | 26.0 |
| — | 40 lb. Bulk | 5000 | 5 | 23½H x 11⅝W x 14⅝L | 0.37 oz./stroke high position<br>0.95 oz./stroke low position | 1276 | **6Y898** | 384.50 | **337.50** | 26.0 |

(*) Using #1 grease at 80°F.

## AIR OPERATED 5:1 RATIO OIL TRANSFER STUB PUMP




- **Nitrile Seals**
- **Use with engine oils, gear oils, hydraulic oils etc. up to SAE 140**
- **Output of 5 gallons per minute of SAE 10 150 PSI**
- **Corrosion resistant air motor (no air line oiler required) drives double acting reciprocating piston pump**
- **½" NPT(F) oil outlet**
- **Feature 2" bung adapter with 1" female oil inlet to fit kegs, drums, and bulk tanks**

**No. 4F989.** Legacy brand (T512).
Shpg. wt. 5.8 lbs. List $393.79.
Each.....$357.75

## SUCTION TUBE

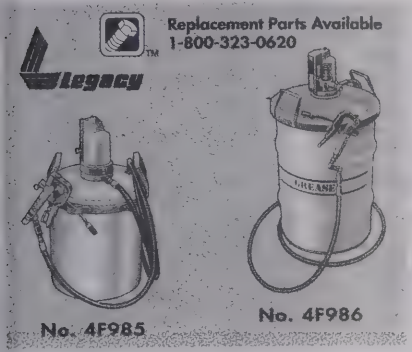



Telescopic steel suction tube for 16-55 gallon drums or tanks up to 48" deep. 1"-20 UNEF male thread. Can be used with No. 4F989. Legacy brand (TB25S).

**No. 6Y643.** Shpg. wt. 0.8 lbs. List $28.32.
Each.....$26.85

## 50:1 AIR-OPERATED GREASE PUMPS

Replacement Parts Available 1-800-323-0620




No. 4F985 No. 4F986

- Corrosion resistant air motor (does not require air line oiler)
- For use with grease up to NLGI No. 2
- Maximum inlet pressure of 125 PSI
- Booster gun with 360° Z-swivel can produce up to 12,000 PSI to break through tough fittings
- 13 ft. grease hose included
- Requires a minimum of 2.5 CFM
- Rubber edged follower plate
- Containers not included

### No. 4F985 FITS STANDARD 35-40 LB./5 GALLON PAILS

**No. 4F985.** Legacy brand (P3). Shpg. wt. 18.0 lbs. List $761.25. Each ..... **$620.00**

### No. 4F986 FITS 120 LB./ 16 GALLON KEGS

**No. 4F986.** Legacy brand (P6). Shpg. wt.24.0 lbs. List $909.55. Each ..... **$744.00**




### 4 SWIVEL CASTER METAL DOLLY FOR 5 GAL. PAILS For Use with No. 4F985

**No. 4F987.** Legacy brand (TRS). Shpg. wt. 5.3 lbs. List $74.86.
Each ..... **$65.30**

### 4 SWIVEL CASTER METAL DOLLY FOR 16 GAL. DRUMS For Use with No. 4F986

**No. 4F988.** Legacy brand (TR6). Shpg. wt. 8.0 lbs. List $96.01.
Each ..... **$83.35**

LINCOLN



No. 6Y897 No. 6Y896

Replacement Parts Available 1-800-323-0620

## AIR-OPERATED GREASE PUMPS

High pressure grease pumps with 50:1 ratio. Include air coupler, heavy-duty high pressure control valve, swivel and rubber follower plate suitable for use with tapered plastic pails; 7 ft. hose.

### 35 LB. PAIL CLAMP-ON PUMP

For 25-50 lb. original refinery containers.

### 120 LB. PUMP

For 120 lb. original refinery container. Roll-around four caster base.

| Continer Size | Pump Tube Length | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **35 lb. Pail** | Adjustable 13⅝" Max. Below Drum Rim | 989 | **6Y897** | $885.00 | **$817.00** | 25.0 |
| **120 lb.** | 25¼" Below Drum Rim | 917 | **6Y896** | $1195.00 | **1142.00** | 36.0 |

## THUNDER™ HIGH FLOW GREASE PUMP PACKAGES

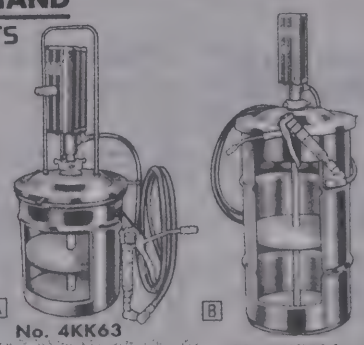
- Ships complete including: pump, follower plate, drum cover, air coupler/connector, ten foot hose, and high-pressure gun (grease sold separately)
- Two distinct grease container models; 35 and 120 Lb. service
- Two distinct pressure/delivery pump models; 50:1, 60:1
- Stall-free, ice-free air motor design
- Excellent Flow Rates

### THUNDER™ HIGH FLOW GREASE PUMP PACKAGES

| Key | Air Motor Size (In.) | Size (Lbs.) | Free Flow Max. Lbs./Min. | Pump Ratio | Aro Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 2 | 35 | 2.5 | 60:1 | LP2002-1 | 4KK63* | $679.00 | 31.0 |
| | 2 | 120 | 2.5 | 60:1 | LP2004-1 | 4KK64† | 740.00 | 37.0 |
| B | 3 | 35 | 4 | 50:1 | LP3001-1 | 4KK65* | 889.50 | 38.0 |
| | 3 | 120 | 4 | 50:1 | LP3003-1 | 4KK66† | 983.00 | 47.0 |

(*) Inlet/Outlet = Primer-3/8".(†) Includes dolly.

INGERSOLL-RAND
FLUID PRODUCTS
ARO®



A No. 4KK63 B No. 4KK66

Replacement Parts Available 1-800-323-0620

# GREASE PUMP ACCESSORIES

## PUMP ACCESSORIES

### [A] LUBE ADAPTERS

#### 90° ANGLE LUBE ADAPTER

Eliminates need to remove front "deep dish" wheels for lubrication of tie rod ends and ball joints. Use to service cars, trucks, machines, and farm equipment.

#### RECESSED LUBE ADAPTER

Straight extension—use to lubricate recessed fittings where obstructions will not permit use of hydraulic coupler. Includes extension nozzle and locking sleeve.

#### 360° EXTENSION LUBE ADAPTER

7000 PSI maximum operating pressure. Includes 360° coupler for full swivel, 2" steel extension tube and locking sleeve.

### [B] NEEDLE NOZZLES

Nos. 6Y900 and 6Y856 allow operator to contact flush type or hard-to-reach hydraulic type fittings. No. 6Y856 comes with additional extension and locking sleeve.

### [C] HYDRAULIC COUPLER

6000 PSI maximum operating pressure for No. 6Y884 and 7500 PSI maximum operating pressure for No. 6Y904. For use with all hydraulic type grease fittings. Small outside diameter permits easy contact with recessed fittings. Built-in ball check prevents leaks and lubricant back-up. Inlet 1/8" NPT female.

### [D] HOSE EXTENSIONS

For manually or air-operated grease guns. 4,500 PSI maximum working pressure. Coil spring provides non-slip, push-pull grip and prevents accidental "kinking" which could cause hose ruptures. 1/8" NPT male thread size. No. 6Y882 is 12" long. No. 6Y883 18" long.

### [E] "Z" ROTATIONAL SWIVEL

Provides optimum gun movement flexibility, avoiding hose line kinks and twists.

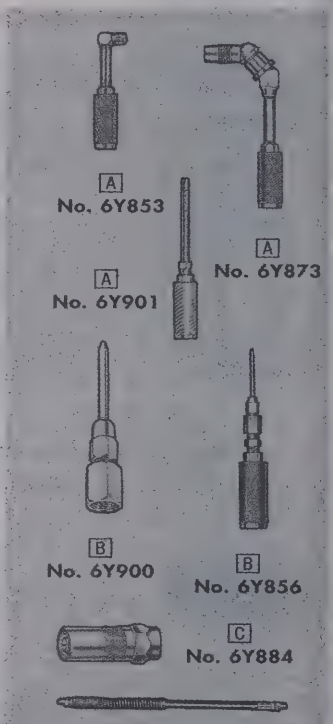
No. 6Y905 universal swivel has 5000 PSI maximum operating pressure. Threads of 1/2"-27 male x 1/4" NPT male.

### [F] COUPLER ADAPTER

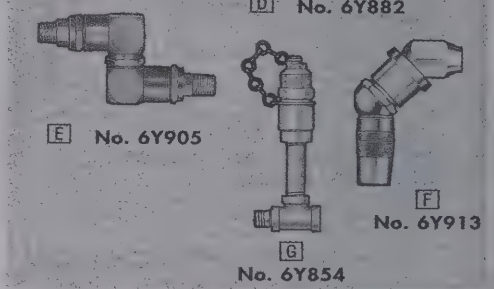
7000 PSI maximum operating pressure. Built-in 360° swivel rotation. Locks in eight 45° positions. Adjustable coupler section permits contact with fittings in reverse position. 1/8" NPT (F) inlet.

### [G] GUN FILLER ATTACHMENT

May be added to any Lincoln bucket pump. Permits fast, clean refilling of hand guns equipped with filler nipple. 3/8" NPT, inlet male, outlet female.




| Key | Description | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 90° Angle Adapter | 5859 | **6Y853** | $23.95 | **$22.05** | 0.3 |
| A | Recessed Adapter | 5855 | **6Y901** | 24.00 | **19.87** | 0.3 |
| A | 360° Extension Adapter | 5849 | **6Y873** | 54.00 | **47.45** | 0.6 |
| B | Needle Nozzle | 5803 | **6Y900** | 9.00 | **7.34** | 0.1 |
| B | Needle Nozzle with Extension & Locking Sleeve | 82784 | **6Y856** | 18.50 | **15.52** | 0.3 |
| C | 6000 PSI Coupler | 5852 | **6Y884** | 5.50 | **4.89** | 0.1 |
| C | 7500 PSI Coupler | 5845 | **6Y904** | 9.20 | **7.89** | 0.2 |
| D | 12" Hose Extension | 5812 | **6Y882** | 15.00 | **13.33** | 0.2 |
| D | 18" Hose Extension | 5818 | **6Y883** | 16.00 | **14.42** | 0.3 |
| E | Swivel | 81387 | **6Y905** | 63.00 | **53.15** | 0.7 |
| F | Coupler Adapter | 5848 | **6Y913** | 38.50 | **31.35** | 0.3 |
| G | Gun Filler Attachment | 81794 | **6Y854** | 35.50 | **30.30** | 0.8 |




## INDUSTRIAL GREASE FITTINGS

- Corrosion resistant steel fittings for heavy-duty applications

| Thread Size | Configuration | Hex Size | Shank Length | Lincoln Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/8" NPT | Straight | 7/16" | 9/32" | 5190 | **6Y872** | $6.00 | **$5.39** | 0.1 |
| 1/8" NPT | 45° | 7/16 | 9/32 | 5290 | **6Y869** | 12.00 | **10.84** | 0.2 |
| 1/8" NPT | 65° | 7/16 | 9/32 | 5300 | **6Y870** | 12.00 | **10.84** | 0.2 |
| 1/8" NPT | 90° | 7/16 | 9/32 | 5490 | **6Y871** | 12.00 | **10.84** | 0.3 |
| 1/4" NPT | 65° | 9/16 | 3/8 | 5350 | **6Y868** | 22.00 | **19.49** | 0.5 |
| 1/4" NPT† | Straight | 5/16 | 3/16 | 5191 | **6Y867** | 5.00 | **4.19** | 0.1 |
| 1/4" NPT† | 45° | 3/8 | 13/64 | 5291 | **6Y865** | 12.00 | **10.36** | 0.2 |
| 1/4" NPT† | 90° | 3/8 | 3/16 | 5491 | **6Y866** | 12.00 | **10.36** | 0.2 |
| 6mm | Straight | 7mm | 7/32 | 5175 | **6Y875** | 7.50 | **6.47** | 0.2 |
| 6mm | 45° | 9mm | 7/32 | 5176 | **6Y874** | 16.50 | **14.70** | 0.2 |
| 8mm | Straight | 9mm | 7/32 | 5178 | **6Y876** | 10.00 | **9.24** | 0.1 |

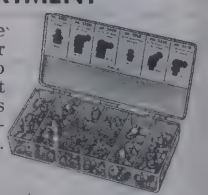
(†) Tapered threads



- Built-in ball check valve
- Short thread length
- Sold in packages of 10

## GREASE FITTING ASSORTMENT

100 assorted grease fittings in six popular sizes. Sturdy, easy to handle transparent dispenser box has labeled and illustrated compartments. Lincoln brand (5469).



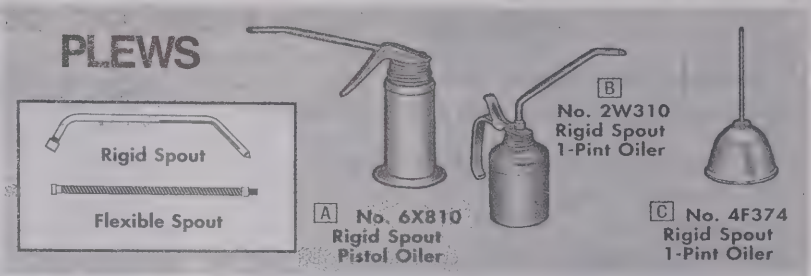
| Size | Number of Fittings Straight | 45° | 65° | 90° |
|---|---|---|---|---|
| 1/8" NPT | 20 | — | 10 | 10 |
| 1/4"-28 short thread | 40 | 10 | — | 10 |

**No. 6Y864.** Shpg. wt. 1.7 lbs. List $61.50. Each ..... **$54.00**

# OILERS AND SPRAY LUBRICATOR/CLEANER

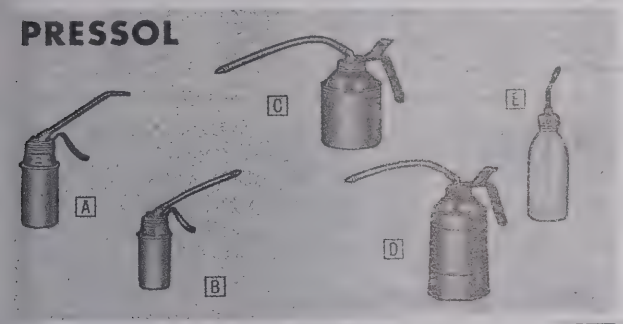
## OILERS

- Heavy-duty drawn steel construction; black epoxy coating with plated cap, spout and trigger
- Available in flexible or rigid spout styles
- Pistol oilers are for use in confined areas
- Flexible spout oilers have detachable tips with 10-32 threads and can be used for mounting hollow wire




| Key | Description | Capacity | Spout | Spout Length (In.) | Spout Tip | Plews Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Pistol Oiler | 6 oz. | Rigid | 6 | Ledge-cone | 50-512 | **6X810** | $14.23 | **$8.70** | 0.6 |
| A | Pistol Oiler | 6 oz. | Flexible | 6 | Ledge-cone | 50-519 | **6X811** | 16.75 | **10.49** | 0.7 |
| B | Handled Oiler | 1 qt. | Rigid | 9 | Angle-tapered | 50-361 | **4F375*** | 25.07 | **15.22** | 1.4 |
| B | Handled Oiler | 1 qt. | Flexible | 9 | Hollow wire | 50-447 | **2W308** | 27.16 | **19.33** | 1.3 |
| B | Handled Oiler | 1 pt. | Rigid | 9 | Angle-tapered | 50-440 | **2W310** | 20.46 | **13.51** | 1.0 |
| B | Handled Oiler | 1 pt. | Flexible | 9 | Hollow wire | 50-437 | **2W309** | 24.45 | **14.82** | 1.2 |
| C | Bench Oiler | 12 oz. | Rigid | 6 | Straight | 50-122 | **4F374*** | 11.94 | **8.33** | 0.5 |

(*) Black epoxy coated cap.

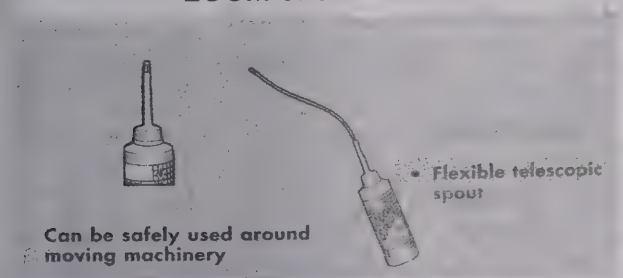



## OILERS

Heavy gauge seamless steel bodies with oven baked, durable enamel finish to resist breaking and rust. Powerful force feed brass pump with two ball valves. Available in rigid or flexible spouts. Flexible spouts can be bent 360° for hard to reach places. No. 6Y750 is a plastic oiler with telescopic tube and brass spout with nozzle valve for leakproof storage.

| Key | Capacity | Spout Length (In.) | Type | Pressol Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 6 oz. | 4 | Rigid | 05212 | **6Y746** | $9.83 | **$6.59** | 0.4 |
| B | 6 oz. | 7 | Flexible | 05222 | **6Y747** | 14.36 | **6.82** | 0.4 |
| C | 1 pt. | 9 | Flexible | 05225 | **6Y749** | 21.42 | **7.83** | 0.6 |
| D | 1½ pt. | 9 | Flexible | 05226 | **6Y748** | 22.10 | **13.92** | 0.8 |
| E | 8 oz. | 6 | Telescopic | 06865 | **6Y750** | 5.38 | **4.37** | 0.2 |

## ZOOM-SPOUT® OILER

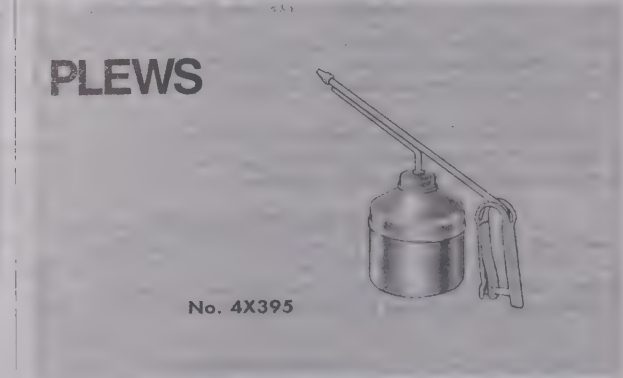



- For use with electric motors (1/5 to 5 HP), bearings, bushings, heaters, blowers, fans, appliances, mechanical tools, air tools, etc.
- High quality multipurpose certified turbine grade oil
- Retractable telescopic tube reaches over 14½" from user's hand
- Flexible tube reaches hard to get spots

Superior quality, non-gumming, multipurpose genuine turbine grade oil. Features wetting agents and rust/oxidation/corrosion inhibitors in a paraffinic base. Effective operating temperatures up to 250°F. 4 fl. oz. Delshar brand.

**No. 4ZF11.** ❸ Shpg. wt. 0.3 lbs. List $2.49. Each ..... $1.49

## SPRAY LUBRICATOR/CLEANER




One quart capacity lubricator/cleaner for degreasing engines and equipment or applying various oils. Unit sprays light bodied cutting, penetrating, lubricating, and protective oils, and mild detergents. Clip-on spray unit attaches to standard air chuck (Speedaire No. 4X787). Plews No. 30-805.

**No. 4X395.** Shpg. wt. 1.5 lbs. List. $43.66. Each ..... $20.49

MSDS) are available. See page opposite inside back cover.

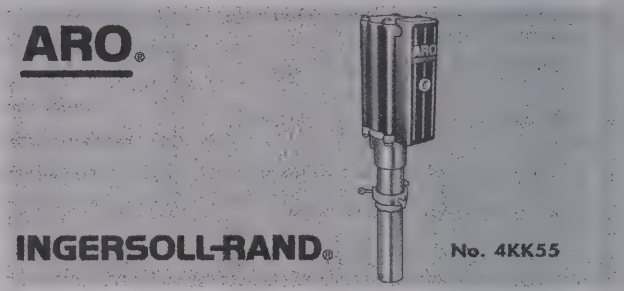
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (

# OIL PUMPS AND ACCESSORIES

## THUNDER™ HIGH FLOW (OIL, ATF) PUMPS

- **Stall-free, ice-free air motor design**
- **Constructed with 50% fewer parts than most comparable pumps**
- **Pumps come equipped with a 2" bung adapter**
- **Low-noise, only 85-dbs.**
- **Excellent flow rates**

These portable lubrication pumps represent the latest in oil transfer technology. Their ice and stall-free air motor design is enclosed in a rugged housing that will withstand most working environments.




| Key | Air Motor Size (In.) | Pump Ratio | Container Size | Working Flow Max. GPM | Outlet Pressure MAX PSI* | Air Inlet NPT(F) | Fluid In/Out NPT(F) | Aro Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 2 | 3:1 | Stub | 6 | 300 | 1/4 | 3/4"-1/2" | LM2203A-11 | **4KK55** | **$489.25** | 13.0 |
| | 2 | 3:1 | 16-Gallon | 6 | 300 | 1/4 | 3/4"-1/2" | LM2203A-31 | **4KK56** | **514.00** | 16.0 |
| | 2 | 3:1 | 55-Gallon | 6 | 300 | 1/4 | 3/4"-1/2" | LM2203A-41 | **4KK57** | **524.50** | 19.0 |
| | 2 | 3:1 | 275-Gallon | 6 | 300 | 1/4 | 3/4"-1/2" | LM2203A-51 | **4KK58** | **543.50** | 23.0 |
| B | 3 | 5:1 | Stub | 6 | 500 | 1/4 | 1½"-1/2" | LM2305A-11 | **4KK59** | **766.00** | 16.0 |
| | 3 | 5:1 | 16-Gallon | 6 | 500 | 1/4 | 1½"-1/2" | LM2305A-31 | **4KK60** | **825.00** | 29.0 |
| | 3 | 5:1 | 55-Gallon | 6 | 500 | 1/4 | 1½"-1/2" | LM2305A-41 | **4KK61** | **855.00** | 29.0 |
| | 3 | 5:1 | 275-Gallon | 6 | 500 | 1/4 | 1½"-1/2" | LM2305A-51 | **4KK62** | **869.50** | 32.0 |

(*) Based on 100 PSI air inlet.

## THUNDER™ PUMP DRUM COVERS

Double, heavy gauge, coated metal covers can be used with Thunder oil pumps. Before ordering be sure to verify your container size.




| Key | Fits Container | ARO Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| A | 5 Gallon | 94420 | **4KK52** | **$69.35** | 2.8 |
| B | 16 Gallon | 94421 | **4KK53** | **78.85** | 5.9 |
| C | 55 Gallon | 94422 | **4KK54** | **113.05** | 12.0 |

## CONVERTAFUNNEL™ FLOW CONTROL SYSTEM

This modular spout and funnel system lets you customize to meet your pouring needs for industrial chemicals* and oils.

(*) Chemicals compatible with these wetted materials are polypropylene, high density polyethylene (HDPE), and Viton® O-rings.

- **On/Off flow controller spout eliminates spills**
- **Add on 12" extensions to suit your needs**
- **All components are interchangeable**




### ACCESSORY EXTENSION SPOUTS

***New*** **No. 4UP70.** Rigid Add-On Extension Spout. Legacy brand (CV102). Shpg. wt. 1.1 lbs. Each.....**$1.55**

***New*** **No. 4UP71.** Flexible Add-On Extension Spout. Included in No. 4UP68 system. Legacy brand (CV103). Shpg. wt. 1.1 lbs. Each.....**$1.55**

| Starter Kit Description | Legacy Model | *New!* Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **ConvertaValve™ with mini-spout and thread adapter** | CV-K1 | **4UP67** | **$4.00** | 1.8 |
| **ConvertaValve™ with mini-spout, thread adapter, and flex extension** | CV-K2 | **4UP68** | **4.70** | 2.9 |
| **ConvertaValve™ with mini-spout, thread adapter, flex extension and MeasOr Mix™ Funnel** | CV-K3 | **4UP69** | **6.35** | 2.0 |

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA
ARE PROVIDED FOR MANY OF OUR PRODUCTS.
SEE PAGES AT BACK OF CATALOG

# CONTROL HANDLES, CONTROL GUN, AND OIL METER

## HIGH PRESSURE CONTROL HANDLES

### A HIGH-PRESSURE CONTROL HANDLES

7500 PSI maximum operating pressure control valves for power-operated grease guns. Steel handle, body and guard bracket provide durability. Precision control inlet check valve provides ease of handle operation even with increase in pressure. Knurled handle for positive grip. Trigger guard prevents pinching. Reversible inlet check seat and hydraulic jaws provide extended life. No. 6Y877 comes with 6" extension nozzle and coupler.

### B HIGH-PRESSURE GREASE CONTROL HANDLE

7500 PSI maximum operating pressure. Comfortable, "non-pinch" trigger. Features carbon steel construction, curved nozzle, coupler, and internal filter to avoid clogging.

### C BOOSTER GUN WITH SWIVEL

High pressure booster gun for air operated greasing system. Capable of doubling the pressure output of the pump — up to 12,000 PSI. Unlike a standard control handle a booster gun delivers extra pressure on demand for tough to grease fittings. Features 360° Z-swivel allowing easy rotation so hose does not get tangled. Great for use with hose reels. Handles up to NLGI 2 viscosity. Includes 1/4" NPT female inlet.

### D MEDIUM PRESSURE CONTROL HANDLE

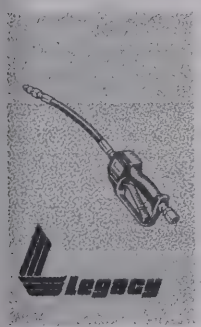
2500 PSI maximum operating pressure. Light spring provides easy pull handle. Used with 14:1 ratio pump for filling cotton picker spindles.

| Key | Max. Oper. Pressure (PSI) | Inlet (In.) (NPT Female) | Outlet (In.) (NPT Female) | Mfr. | Mfr's Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 7,500 | 1/4 | 1/8 | Lincoln | 740 | **6Y877** | $130.00 | **$116.00** | 2.0 |
| A | 7,500 | 3/8 | 1/8 | Lincoln | 81495 | **6Y914** | 116.50 | **94.25** | 1.7 |
| B | 7,500 | 1/8* | 1/8 | ARO | 636111 | **2P512** | 99.00 | **97.35** | 2.1 |
| C | 10,000 | 1/4 | — | Legacy | B2-01 | **6Y641** | 148.04 | **125.05** | 3.0 |
| D | 2,500 | 1/4 | 1/8 | Lincoln | 84385 | **6Y915** | 139.00 | **119.30** | 1.7 |

(*) Male Inlet, Adapter 3/8" Female If Removed




## LEGACY OIL CONTROL GUN



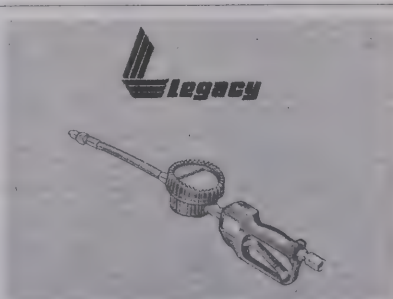

Oil control gun with 12" flexible extension and manual non-drip nozzle. Heavy duty forged brass body with tough nylon housing and trigger guard to prevent accidental dispensing. Smooth trigger operation. 2000 psi maximum operating pressure. 1/2" NPT female swivel inlet connection. Legacy brand (LCG90002).

**No. 6Y644.** Shpg. wt. 2.0 lbs. List .....$98.00.
Each .....**$91.60**

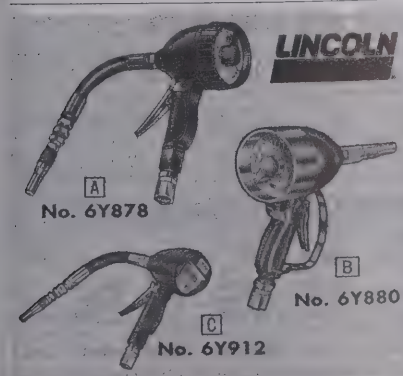
## DIGITAL OIL METER

- **12" flexible extension with non-drip nozzle**
- **1000 psi maximum operating pressure**
- **Maximum viscosity SAE 240 oil**
- **Minimum flow rate 1, maximum flow rate 20 quarts per minute (with SAE 30 oil)**
- **1/2" NPT swiveling female hose inlet connection**
- **Push button calibration: pints/qts/gals/ltrs**
- **Accuracy ± .5%**
- **Resettable register**
- **3-year minimum battery life (field replaceable)**

5-digit LCD field calibratable oil meter registers in either pints, quarts, liters, or gallons and totals in either liters or gallons. Non-resettable totalizer displays up to 99,999 gallons or liters. Not suitable for use with chemicals, corrosive liquids or water. Powered by a lithium battery. Legacy brand (LCG90112).




**No. 6Y642.** Shpg. wt. 3.0 lbs. List .....$428.00.
Each .....**$380.75**




## METERING CONTROL HANDLES

### A & B ANALOG CONTROL HANDLES

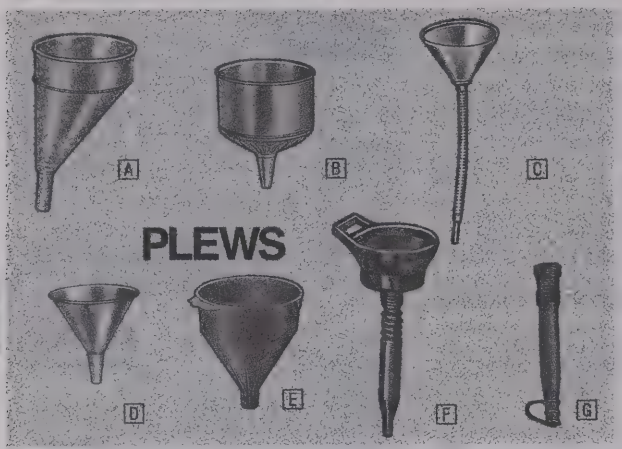
Totalizing analog control handles have 1000 PSI maximum operating pressure. For oils, automatic transmission fluids, and antifreeze. Nos. 6Y880 and 6Y879 have preset countdown metering. 3½" diameter. Inlet/Outlet 1/2" NPT female. 1/2" male x 1/2" female swivel included.

### C DIGITAL CONTROL HANDLE

Easy to read digital display meter reads in .001 increments for precise measurement. Dispenses in pint, quart, gallon and liter increments. 1500 PSI maximum operating pressure. Ideal for dispensing motor oil, automatic transmission fluid, gear lube and other fluid lubricants. Powered by lithium battery.

| Key | Dial Totals | Dial Graduation | Extension | Lincoln Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 16 Quarts | 1/4 Quart | 10" Hose | 877 | **6Y878** | $420.00 | **$392.25** | 5.2 |
| B | 16 Quarts/ 12 Liters | 1/2 Quart/ 1 Liter | Rigid | 3866 | **6Y880** | 780.00 | **735.50** | 4.8 |
| B | 60 Quarts | 1 Quart | Rigid | 3867 | **6Y879** | 780.00 | **735.50** | 4.8 |
| C | — | Electronic Read-Out | 18" Hose | 967 | **6Y912** | 535.00 | **503.50** | 5.0 |

# FUNNELS AND LIQUID MEASURES




## FUNNELS

A **Offset Steel Funnel.** Heavy galvanized steel with screen. 6-qt. capacity (with blocked outlet). 14" H.

B **Standard Steel Funnel.** 8-qt. capacity (with blocked outlet). 11½"H. Galvanized steel with screen.

C **Utility Steel Funnel with Extension.** Heavy galvanized steel with flexible extension, safety strainer and tapered tip. All purpose fluid dispenser, not for use with acids.

D **Utility Tin Funnels.** Lightweight, general purpose funnels with 1 pint to 2-qt. capacities.

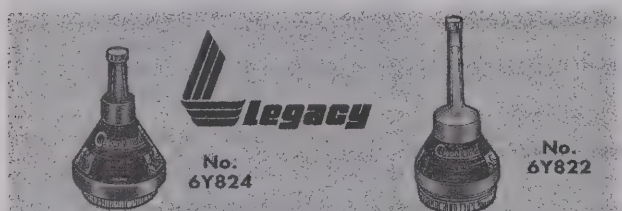
E **Plastic Funnel.** All-purpose polyethylene funnel is corrosion resistant. Fine mesh straining screen and hanging tabs. 6-qt. capacity.

F **Plastic Funnel with Detachable Spout.** Two-piece multipurpose funnel with detachable 12" flexible spout. Easy grip handle and strainer.

G **Easy-Pour Flex Spout.** Tough plastic flexible spout for automotive, marine, farm and home applications. Two thread sizes screw on most containers of motor oil, antifreeze, and windshield washer fluid. Stopper cap and hanging tab.

| Key | Description | Total Capacity | Flow Capacity* | Diameter (In.) | Plews Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Offset Steel Funnel | 6 qts. | 6 qts. | 8¾ | 75-002 | **6Y798** | $39.79 | **$28.55** | 1.5 |
| B | Standard Steel Funnel | 8 qts. | 12 qts. | 9½ | 75-004 | **6Y799** | 30.05 | **17.01** | 1.5 |
| C | Steel Funnel w/Extension | 1.5 pts. | 1qt. | 6 | 75-007 | **4F391** | 10.13 | **6.30** | 0.5 |
| D | Utility Tin Funnel | 10 oz. | 1 pt. | 4½ | 75-009 | **6Y800** | 5.02 | **3.68** | 0.1 |
| | | 1.5 pts. | 1 qt. | 5¾ | 75-010 | **6Y801** | 5.55 | **4.14** | 0.1 |
| | | 1 qt. | 2 qts. | 6½ | 75-011 | **6Y802** | 6.51 | **5.04** | 0.2 |
| | | 2 qts. | 4 qts. | 8 | 75-012 | **6Y803** | 8.79 | **6.60** | 0.3 |
| E | Plastic Funnel | 6 qts. | 9 qts. | 9 | 75-072 | **6Y805** | 10.89 | **7.55** | 0.5 |
| F | Plastic Funnel w/Detachable Spout | 1 qt. | 1.5 qts. | 5 13/16 | 75-074 | **6Y806** | 9.82 | **7.70** | 0.3 |
| G | Easy-Pour Flex Spout | — | — | — | 60-200 | **6Y804** | 3.79 | **2.00** | 0.1 |

(*) Flow capacity is determined by the volume of water which passes through a funnel in a predetermined time frame.

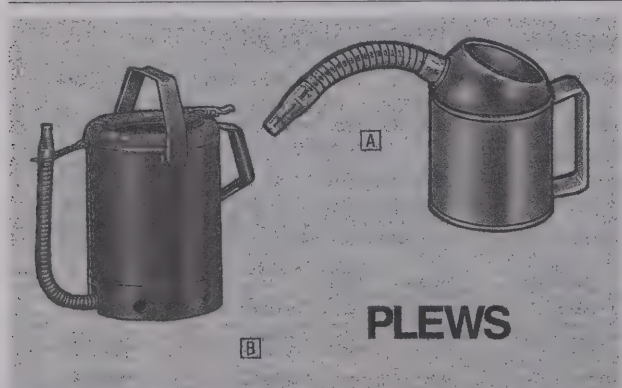



## CLEAN FUNNEL™

Funnels come with screw-on cap at each end to seal out harmful contaminants and prevent residue from leaking out during storage. Eliminates the need to clean prior to use.

### SPECIFICATIONS AND ORDERING DATA

| Capacity | Color | Length (In.) | Spout OD (In.) | Legacy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1 pt.** | Orange | 8.5 | 0.5 | CF115 | **6Y822** | $4.52 | **$4.44** | 0.1 |
| **1.25 qt.** | Green | 8.5 | 1.0 | CF328 | **6Y824** | 6.09 | **5.50** | 0.3 |
| **1.30 qt.** | Black | 10.5 | 1.5 | CF338 | **6Y825** | 6.09 | **5.50** | 0.3 |
| **1.5 qt.** | Red | 17.0 | 0.5 | CF415 | **6Y823** | 6.31 | **5.94** | 0.3 |




## LIQUID MEASURES

A **Galvanized Steel Measures** feature spill proof tops, rolled edges, easy grip handles and calibrated fill lines. Flexible metal spout allows for heard to reach pouring angles.

B **Painted Measures** feature swing spout for one hand operation. Thumb-operated valve controls flow. Flip action locks valve in open position. Recessed bottom drains fully and guards against puncture. Flexible metal spout for hard-to-reach pouring angles.

### SPECIFICATIONS AND ORDERING DATA

| Key | Description | Capacity (Qts.) | Plews Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Galvanized Measure | 1 | 75-441 | **6Y793** | $18.76 | **$9.44** | 0.7 |
| | | 2 | 75-442 | **6Y794** | 20.29 | **10.57** | 0.9 |
| | | 4 | 75-444 | **6Y795** | 24.36 | **12.72** | 1.3 |
| B | Painted Measure w/ tapered tip spout | 5 | 75-665 | **6Y796** | 80.90 | **49.55** | 3.9 |
| B | Painted Measure | 8 | 75-668 | **6Y797** | 88.12 | **53.90** | 4.2 |

## FILLERS, BATTERY CARRIER AND BATTERY TESTER

**A 6 Oz. Battery Filler.** For all fluids including battery acid. Rubber bulb remains pliable in cold weather. 6 oz capacity with 6" flex spout. Plews brand (75-033).

**No. 6Y814.** Shpg. wt. 0.3 lbs. List $7.37. Each ..... **$2.93**

**B 2 Qt. Battery Filler.** Shuts-off automatically to prevent overfilling. Heavy injected-mold body with double action shut-off valve to eliminate dripping. Plews brand (75-030).

**No. 6Y813.** Shpg. wt. 0.6 lbs. List $20.81. Each ..... **$10.77**

**C Radiator Filler.** Heavy-duty high density polyethylene won't freeze or crack in cold weather. 3 gal. capacity. Plews brand (75-025).

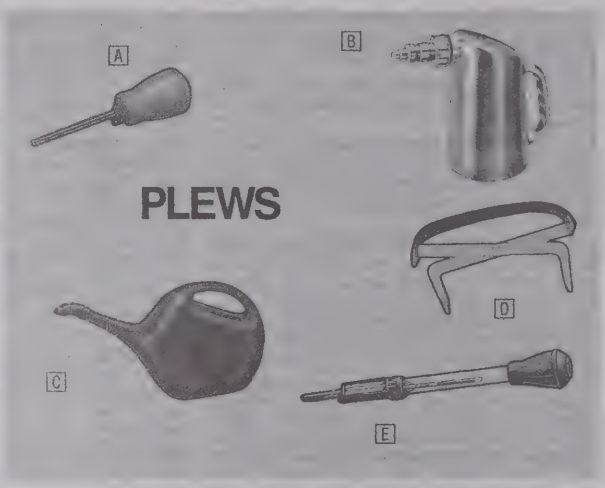
**No. 6Y812.** Shpg wt. 1.6 lbs. List $32.95. Each ..... **$17.39**

**D Battery Carrier.** Black baked epoxy powder paint finish steel jaws securely grip battery for lifting. Acid resistant non-conductive 17" PVC strap. Carries 6 and 12V side terminal or post batteries with one hand control. Plews brand (70-037).

**No. 6Y816.** Shpg wt. 0.7 lbs. List $15.42. Each ..... **$8.75**

**E Professional Battery Tester.** Color-coded float accurately indicates all cell conditions at-a-glance. Thermometer permits compensated readings for all temperatures. Includes annealed glass body and float, acid-resistant bulb and tip. Plews brand (70-053).

**No. 6Y815.** Shpg wt. 0.3 lbs. List $17.28. Each ..... **$9.49**




## FILTER WRENCHES

**A Heavy-Duty Truck Oil Filter Wrench.** Low profile for heavy-duty use. Wide, tough steel band removes filters from 4 21/32 to 5 5/32" (118mm to 130mm).1/2" Drive. Plews brand (70-763).

**No. 6Y790.** Shpg. wt. 1.5 lbs. List $44.56. Each ..... **$33.45**

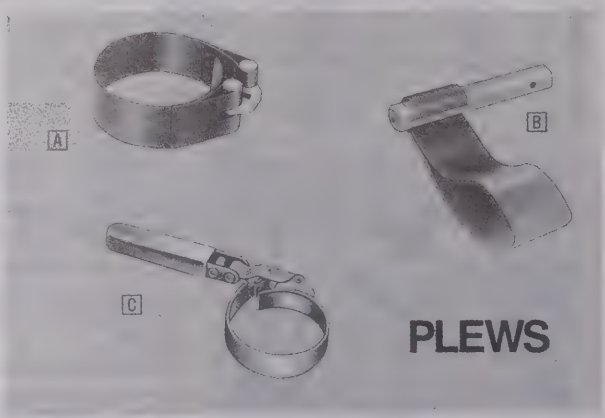
**B Strap Type Filter Wrenches.** Strong nylon web strap grips and holds filter tight. Adapts to any spin-on filter up to 6" in diameter. Universal applications. Use 1/2" sq. drive wrench. Oil-resistant vinyl strap. Plews brand (70-719).

**No. 6Y792.** Shpg. wt. 0.5 lbs. List $11.84 Each ..... **$10.26**

**C Swivel Filter Wrenches.** Swivel handle clears obstructions in hard to reach places. Oil resistant with vinyl grip. Steel construction with stainless steel band. Plews brand.

### SPECIFICATIONS AND ORDERING DATA

| Swivel Filter Wrench Size | Fits Filter Std. (in.) | Fits Filter Metric (mm) | Plews Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Small** | 2 13/16-3 5/32 | 71-80 | 70-623 | **4F376** | $11.96 | **$7.95** | 0.7 |
| **Large** | 3 1/2-3 7/8 | 89-98 | 70-625 | **4F377** | 8.91 | **7.95** | 0.7 |
| **Truck** | 4 1/8-4 1/2 | 105-114 | 70-627 | **6Y791** | 8.91 | **8.79** | 0.8 |




## BEARING PACKERS

**A No. 6Y907 Wheel Bearing Packer** services bearings to 9½" with minimum 9 9/16" I.D. Includes adapter to service smaller bearings of 1 to 1¾" O.D. and follower plate. Unit clamps on 25 to 50 lb. original refinery container. Primes easily and pumps efficiently when using heavy greases at low temperatures. 21H x 2½"W. Red enamel finish on drum cover. Lincoln brand (102929).

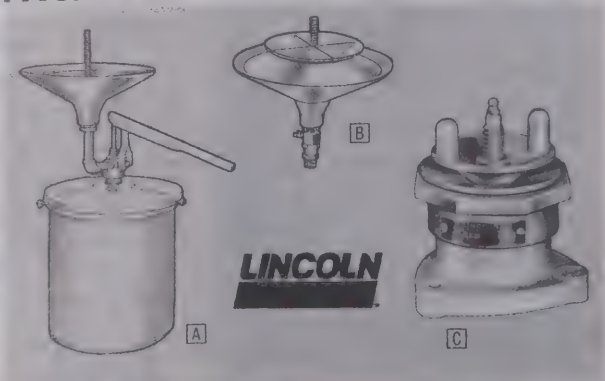
**No. 6Y907.** Shpg. wt. 14.0 lbs. List $264.00. Each ..... **$226.50**

**B No. 6Y908 Bearing Packer Head.** For bench mounting or attachment to No. 6Y897 Powerluber. Services bearings 1¾" to 9½" O.D. with minimum 9/16" I.D. Accepts greases through fitting from high pressure control valve or hand gun. For bench mount, use 1/2" pipe flange. Lincoln brand (102891).

**No. 6Y908.** Shpg. wt. 8.0 lbs. List $155.50. Each ..... **$114.90**

**C No. 6Y909 Bearing Packer** services bearings with 5/8 to 1½" I.D. Bearing is flushed and packed by contacting fitting in packer head with power gun control valve or by high pressure hand gun. 4½"H x 4"W. Lincoln brand (816).

**No. 6Y909.** Shpg. wt. 3.6 lbs. List $123.50. Each ..... **$89.95**



# DRAIN AND FLUID TRANSFER EQUIPMENT

## DRAIN AND DRIP PANS

**A 3½ GALLON UTILITY DRAIN PAN.** Seamless, full-drawn galvanized steel bottom for extra strength. 16D x 4"H.

**B 12 QUART GARAGE PAIL.** Rust resistant galvanized steel metal construction. 11 Dia. x 10"H.

**C 6 GALLON RADIATOR DRAIN PAN.** Heavy-duty galvanized steel pan features rolled smooth edge and ribbed bottom for extra strength and anti-splash baffle to prevent spilling. 19D x 6"H.

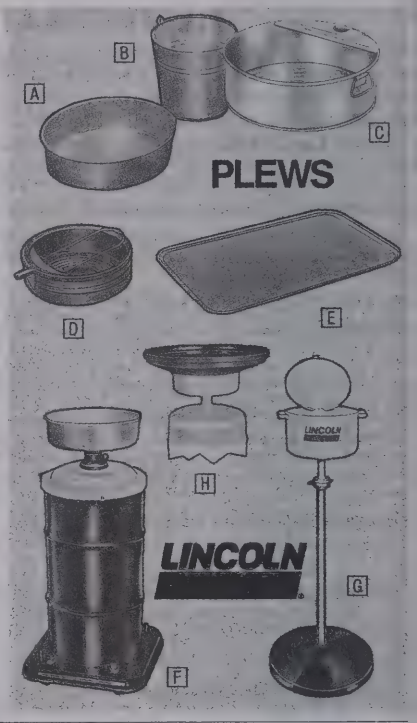
**D 5 GALLON PLASTIC DRAIN PAN.** Tough polyethylene construction won't rust, dent or scratch. Pouring spout and handle allows easy spill-free pouring. Handle can be used to push pan under vehicle. Rolled edge helps prevent splashing and makes full pan easier to carry. 17.5 Dia. x 6"H.

**E DRIP PAN.** Constructed of rust resistant rugged galvanized sheet metal. Protects driveways, garage or automotive showroom floors from fluid droppings. Rolled edges for extra strength. 17½ x 25¾ x 1".

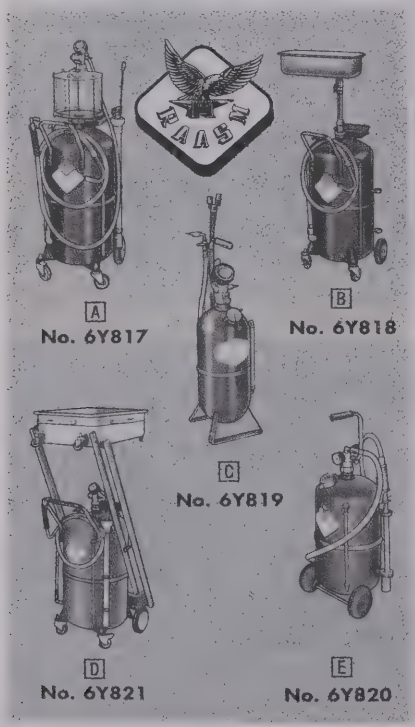
**F WASTE OIL DRAIN.** For use with 16 gallon (120 lb.) open top drum (not included). Float gauge indicates when drum is full. Includes 17" square rolling base with 2½" wheels for easy movement. Telescopic drain bowl adjusts from 42¾" to 70".

**G PORTABLE WASTE OIL DRAIN.** Lightweight, easy to maneuver. Latch trigger allows drain bowl to automatically lock at desired height. Bowl cover lid hinged for splash guard and bowl extension to catch oil flowing from hard to reach drain plugs. Spring actuated valve in drain bowl prevents leakage. Adapter bushing for draining bowl eliminates mess and clean-up. Large bowl assembly has 4.5 gallon capacity.

**H FUNNEL DRAIN PAN.** For use when a larger draining area is required. Molded plastic drain pan rests on top of waste oil drain No. 6Y902. Can be used with pedestal or portable drain devices with 6" or larger drain bowl. 24½"D bowl.




| Key | Manufacturer | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Plews | 75-751 | **6Y808** | $13.86 | **$7.71** | 1.3 |
| B | Plews | 75-825 | **6Y811** | 24.69 | **12.21** | 2.3 |
| C | Plews | 75-750 | **6Y809** | 47.66 | **25.80** | 5.0 |
| D | Plews | 75-762 | **6Y810** | 31.39 | **15.26** | 3.1 |
| E | Plews | 75-755 | **6Y807** | 17.93 | **10.30** | 3.5 |
| F | Lincoln | 613 | **6Y902** | 320.00 | **299.75** | 32.0 |
| G | Lincoln | 3605 | **6Y903** | 382.50 | **321.50** | 32.0 |
| H | Lincoln | 3610 | **6Y910** | 46.50 | **34.40** | 2.0 |




## FLUID TRANSFER EQUIPMENT

Portable tanks allow for easy transfer of oils, coolants, and other non-corrosive viscous fluids. Ideal for transferring either new or used oil from machine to bulk storage. Units come with 6 ft. transfer hose and site gauge to show tank fluid level. **NOT FOR USE WITH FLAMMABLE OR CAUSTIC LIQUIDS.**

**FOR MODELS THAT EXTRACT FLUIDS:**

Use shop air (115 psi) to depressurize tank allowing extraction of fluids. Comes with charge gauge indicating amount of available charge (vacuum).

**FOR MODELS THAT EVACUATE FLUIDS:**

Once tank is full, switch valve and charge tank (7 psi) to expel fluids.

### A EXTRACTOR/EVACUATOR

Self contained unit allows visual inspection of fluids before fluids are transferred to 24 gallon steel holding tank. Features automatic emptying of holding tank which minimizes leaks and spills. For marine, automotive, aircraft, and industrial applications. Comes with six probes/adapters for removing fluids.

### B EVACUATING OIL DRAIN

Features telescoping 3½ gallon capacity drain pan and 24 gallon steel holding tank. For use with lift or pit installations.

### C FLUID EXTRACTOR

4.2 gallon holding tank allows extraction of fluids. Requires manual emptying of holding tank. Comes with six probes/adapters for removing fluids.

### D MOBILE UNIVERSAL OIL CHANGER

Features 17 gallon, adjustable/hinged catch basin that can be used at floor level, with a lift, or in a pit. 30 gallon holding tank. For trucks and engines/machinery with larger fluid capacities. Comes with six probes/adapters for extracting fluids.

### E FLUID DISPENSER

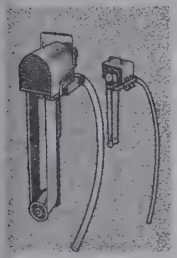
Dispenses gear oils and other light viscosity fluids. 6.3 gallon rated capacity. Manual fill tank with no-splash funnel (provided). Comes with pressure gauge, 7 ft. hose and trigger control handle with built-in manual anti-drip valve.

| Key | Extract | Evacuate | Raasm Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Yes | Yes | 43091 | **6Y817** | $1207.00 | **$966.00** | 83.0 |
| B | No | Yes | 42090 | **6Y818** | 755.00 | **604.00** | 78.0 |
| C | Yes | No | 43016 | **6Y819** | 460.00 | **391.00** | 23.0 |
| D | Yes | Yes | 46215 | **6Y821** | 1999.00 | **1598.00** | 150.0 |
| E | No | Yes | 33024 | **6Y820** | 410.00 | **348.50** | 28.0 |

# OIL SKIMMERS, MIST COOLING SYSTEMS, AND MICRO-DROP® DISPENSERS

## PORTABLE OIL SKIMMERS

### HEAVY-DUTY PORTABLE OIL SKIMMER



Skims up to 6 GPH of oil from water. Keeps coolants, wash water, and waste water free of tramp oils. Elevates oil into drum discharge. Handles fluctuating fluid levels, high heat and harsh environments. Rated for continuous duty. Portable units are easily set up or can be permanently mounted. Use a 2" wide (SS) stainless steel belt. Includes 4 ft. clear discharge hose, on/off switch and 8 ft. cord. Stock belt lengths measured from mounting base to bottom of tail pulley.

| Base to Bottom | Abanaki Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **6 GPH*** | | | | | |
| 12" | BT2S-0018 | 6Y751 | $1180.44 | $1148.00 | 36.0 |
| 24 | BT2S-0030 | 6Y752 | 1180.44 | 1148.00 | 39.0 |
| 54 | BT2S-0060 | 6Y753 | 1180.44 | 1148.00 | 41.0 |

(*) Rated for SAE 30 oils.

### MIGHTY MINI SKIMMERS



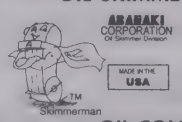
No. 6Y757

Removes 1 GPH of oil from water. Works with oil concentrator for virtually water free oil discharge. Cleans up floating tramp oil from coolants or parts washers. Fits through 55 gal. drum bung hole. Lightweight, portable units require no assembly. 1" wide, SS belt unit can fit under a CNC machine. Includes 8 ft. cord and discharge hose. Available in 6, 12, 18, and 24" sizes (from base to bottom of tail pulley). Order dual-position mounting bracket model OMMST100 through Grainger Parts Operation.

| Base to Bottom (In.) | Abanaki Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1 GPH*** | | | | | |
| 6 | MM100-06 | 6Y757 | $415.34 | $382.75 | 5.0 |
| 12 | MM100-12 | 6Y758 | 415.34 | 382.75 | 6.0 |
| 18 | MM100-18 | 6Y759 | 415.34 | 382.75 | 7.0 |
| 24 | MM100-24 | 6Y760 | 415.34 | 382.75 | 8.0 |

(*) Rated for SAE 30 oils.

### OIL SKIMMER ACCESSORIES




#### OIL CONCENTRATOR

Makes skimmed oil virtually water free. Keeps water and coolant from going out with the oil, conserving coolant.

**No. 6Y756.** (0DM100) Shpg. wt. 5.0 lbs. List $215.00. Each ..... **$170.00**

#### STANDS

**Drum/Tank Mount** allows quick mounting of 6 GPH portable skimmers on the edge of open drums or tanks with tank lips under 1" wide. Can also be used with oil concentrator.

**No. 6Y755.** (0TISTDM1). Shpg. wt. 7.0 lbs. List $98.76. Each ..... **$88.90**

**Storage Stand** allows easy storage of 6 GPH units. Made of carbon steel with baked on powder coating. Height 5 ft.

**No. 6Y754.** (0TIST500) Shpg. wt. 20.0 lbs. List $158.88. Each ..... **$144.45**

### MICRO-DROP® DISPENSERS




No. 6Y839

Dispenses small amounts of high efficiency lubricant to cutting tools. Air operated dispensers available in single and dual lines. Solenoid equipped models allow for remote shut-off and machine synchronization. For use in sawing, drilling, milling, and tapping operations. Come with 18" Loc-Line® nozzles and 6 ft. long lines. 16 oz. capacity reservoir. Use with Nos. 6Y842 or 6Y843 lubricants.

| Line | Operation Type | Trico Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Dual | Air | 30802 | 6Y839 | $412.00 | $391.50 | 8.3 |
| Single | Air w/ Solenoid - 115V | 30805 | 6Y840 | 412.00 | 391.50 | 7.7 |
| Dual | Air w/ Solenoid - 115V | 30806 | 6Y841 | 481.00 | 456.00 | 8.9 |

### MICRO-DROP® LUBRICANTS




No. 6Y843

Designed for use with Micro-Drop® dispensing systems or other micro-lubrication equipment (Not intended for mist-coolant systems). Non-toxic, hypoallergenic and environmentally friendly lubricants. Container size: 1 gallon. Trico brand.

**No. 6Y842.** ❸ Advanced Synthetic Lubricant (30659-1). Shpg. wt. 8.7 lbs. List $54.00. Each ..... **$53.65**

**No. 6Y843.** ❸ Vegetable Based Lubricant (30648). Shpg. wt. 8.7 lbs. List $64.50. Each ..... **$64.20**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## MIST COOLING SYSTEMS

### 1 QUART CAPACITY



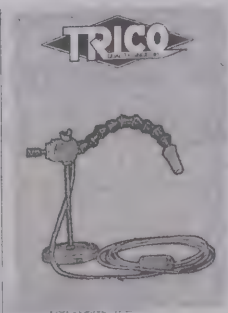
No. 6Y845

For light-duty operations. 4 ft. line available in plastic (No. 6Y844) or brass (No. 6Y845). Features easy-to-read liquid level gauge and separate air and coolant controls. Includes mounting bracket and 3" straight brass nozzles. Trico Brand.

**No. 6Y844.** Plastic line unit Lil-Mister® (30451). Shpg. wt. 2.0 lbs. List $74.80. Each..... **$71.10**

**No. 6Y845.** Brass line unit Lil-Mister® (30453). Shpg. wt. 2.2 lbs. List $83.50. Each..... **$79.35**

### PORTABLE UNIT




Economical, easy to assemble portable unit. Comes with 7" flexible nozzle, 60 lb. magnetic base, 7 ft. siphon line with a 40 micron stainless steel filter. Trico Brand.

**No. 6Y846.** DL Mist Unit (30660) Shpg. wt. 1.0 lbs. List $54.90. Each ..... **$53.30**

### 1 GALLON CAPACITY



No. 6Y848

Heavy-duty corrosion-resistant stainless steel reservoir. Features easy-to-read liquid level gauge and individual air and coolant controls. Brass armored lines. Single line (No. 6Y847) and double line (No. 6Y848) systems available. Trico Brand.

**No. 6Y847.** Spraymaster®-SS with 1 line (30531). Shpg. wt. 5.1 lbs. List $176.00. Each..... **$170.25**

**No. 6Y848.** Spraymaster®-SS with 2 lines (30532). Shpg. wt. 6.1 lbs. List $233.00. Each..... **$221.50**

# RESERVOIRS AND ACCESSORIES

## AIR OVER OIL RESERVOIRS

For use with basic low pressure hydraulic circuits. Converts shop air into low pressure hydraulic power without the high cost of conventional hydraulic power unit. 1:1 pressure ratio. Features acrylic bowl, aluminum end plates and Buna N seals.

| Capacity Cu. In. | Air Inlet (In.) NPTF | Fluid Outlet (In.) NPTF | Sight Dia (In.) | Unit Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **FLOOR MOUNT AIR/OIL RESERVOIR** | | | | | | | | | |
| **14** | 1/4 | 1/4 | 2 1/2 | 6 5/8 | A/OR1018-2 | **1U548** | $52.27 | **$47.00** | 1.6 |
| **26** | 1/4 | 1/4 | 2 1/2 | 10 5/8 | A/OR1030-2 | **1U549** | 63.97 | **57.55** | 2.2 |
| **47** | 1/4 | 3/8 | 3 1/2 | 8 15/16 | A/OR2053-3 | **1U550** | 81.97 | **73.70** | 3.5 |
| **67** | 1/4 | 3/8 | 3 1/2 | 11 13/16 | A/OR2075-3 | **1U551** | 94.59 | **85.10** | 3.9 |
| **88** | 1/4 | 3/8 | 3 1/2 | 14 13/16 | A/OR2100-3 | **1U552** | 106.89 | **96.15** | 4.4 |
| **130** | 1/4 | 3/8 | 3 1/2 | 20 13/16 | A/OR2150-3 | **1U553** | 133.64 | **120.20** | 5.5 |
| **171** | 1/4 | 3/8 | 3 1/2 | 26 11/16 | A/OR2200-3 | **1U554** | 164.43 | **147.90** | 6.5 |
| **WALL MOUNT AIR/OIL RESERVOIR** | | | | | | | | | |
| **127** | 3/8 | 3/8 | 5 1/2 | 8 11/16 | A/OR5100-3 | **1U555** | 142.28 | **127.95** | 5.2 |
| **220** | 3/8 | 3/8 | 5 1/2 | 13 7/16 | A/OR5200-3 | **1U556** | 196.39 | **176.75** | 6.9 |

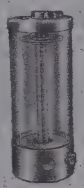
## HORIZONTAL RESERVOIRS

Gravity fed reservoirs with large capacity clear acrylic bowl for extended operation. Feature machined aluminum cast end plates, 1" dia. snap closing filler, and Buna N seals.

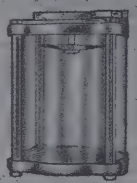
| Capacity | Outlet NPT (In.) | Sight Dia. (In.) | Unit Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **RESERVOIR WITHOUT FILTER** | | | | | | | | |
| **1 qt.** | 1/4 | 5 1/2 | 5 13/16 | RHG101 | **1U557** | $158.97 | **$142.95** | 5.2 |
| **1/2 gal.** | 1/4 | 5 1/2 | 9 5/16 | RHG102 | **1U558** | 180.07 | **162.00** | 6.3 |
| **1 gal.** | 1/4 | 5 1/2 | 14 5/16 | RHG103 | **1U559** | 212.60 | **191.25** | 7.0 |
| **2 gal.** | 1/4 | 5 1/2 | 27 9/16 | RHG104 | **1U560** | 275.47 | **247.75** | 9.8 |
| **RESERVOIR WITH 40 MICRON FILTER** | | | | | | | | |
| **1 qt.** | 1/4 | 5 1/2 | 5 13/16 | RHG151 | **1U561** | 206.41 | **186.00** | 5.4 |
| **1/2 gal.** | 1/4 | 5 1/2 | 9 5/16 | RHG152 | **1U562** | 219.88 | **197.75** | 6.5 |
| **1 gal.** | 1/4 | 5 1/2 | 14 5/16 | RHG153 | **1U563** | 257.03 | **231.25** | 7.3 |
| **2 gal.** | 1/4 | 5 1/2 | 27 9/16 | RHG154 | **1U564** | 327.01 | **294.25** | 10.0 |

LUBE DEVICES, INC.

Maximum Operating Conditions: Floor Mount 80 PSI/140°F, Wall Mount 60 PSI/140°F

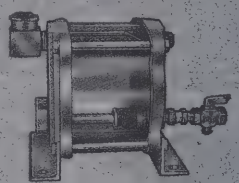


No. 1U548 Floor Mount



No. 1U555 Wall Mount

Maximum Operating Conditions: 160°F @ Atmospheric Pressure



No. 1U561 Horizontal Reservoir

## FILLER CUPS

- Steel, zinc plated

LUBE DEVICES, INC.

A No. 1U864





B No. 1U868

C No. 1U869





D No. 1U871

E No. 1U874



### FILLER CUP SPECIFICATIONS AND ORDERING DATA

| Hole Dia. (In.) | Thread | Drive Dia. (In.) | Drive Length (In.) | Overall Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **A SHOULDER DRIVE OIL FILLER** | | | | | | | | | |
| **1/4** | — | .253 / .255 | 7/32 | 7/16 | FC002 | **1U860** | 2.24 | **2.04** | 0.1 |
| **5/16** | — | .315 / .317 | 3/16 | 7/16 | FC003 | **1U861** | 2.22 | **2.00** | 0.1 |
| **3/8** | — | .378 / .380 | 5/16 | 17/32 | FC004 | **1U862** | 2.84 | **2.56** | 0.1 |
| **1** | — | 1.003 / 1.006 | 13/32 | 59/64 | FC006 | **1U864** | 4.86 | **4.37** | 0.1 |
| **B SPRING LOADED BALL VALVE** | | | | | | | | | |
| **3/16** | — | .190 / .192 | 1/4 | 21/64 | FC021 | **1U865** | 1.12 | **0.99** | 0.1 |
| **1/4** | — | .253 / .255 | 1/4 | 21/64 | FC022 | **1U866** | 1.21 | **1.09** | 0.1 |
| **3/8** | — | .378 / .380 | 25/64 | 1/2 | FC024 | **1U868** | 1.51 | **1.38** | 0.1 |
| **C PRESS FIT ELBOW OIL FILLER** | | | | | | | | | |
| **1/4** | — | .253 / .255 | 1/4 | 31/32 | FE001 | **1U869** | 2.63 | **2.38** | 0.1 |
| **D THREADED ELBOW OIL FILLER** | | | | | | | | | |
| — | **10-32 UNF** | — | 3/16 | 25/32 | FE011 | **1U871** | 3.49 | **3.15** | 0.1 |
| **E THREADED STRAIGHT OIL FILLER** | | | | | | | | | |
| — | **10-32 UNF** | — | — | 1/2 | FC030 | **1U874** | 3.71 | **3.31** | 0.1 |
| — | **1/4-18 NPT** | — | 13/32 | 1 1/4 | FC033 | **1U877** | 4.23 | **3.81** | 0.1 |

SEE PRODUCT INDEX UNDER "LUBRICANTS" FOR OTHER RELATED ITEMS

# MANUAL AND ELECTRIC RESERVOIRS

Gravity fed full-flow reservoirs. Break-resistant clear acrylic bowl allows full 360° viewing of fluid. For temperatures up to 160°F. Ratings at atmospheric pressure. Aluminum end plates and Buna N seals.

### [A] MANUAL FULL FLOW

Provides full flow of oil which can be shut off manually. Ideal when used as a central dispenser for lubrication system.

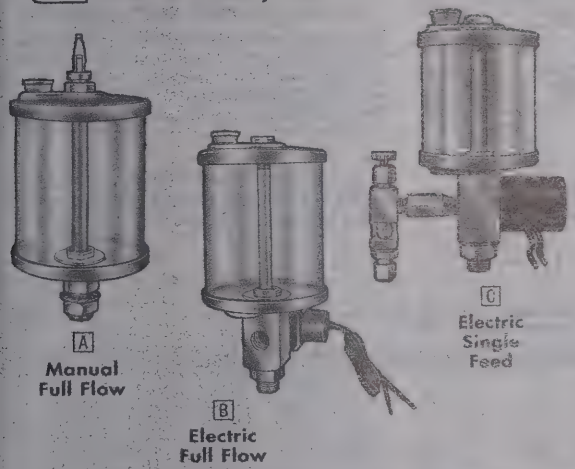
### [B] ELECTRIC FULL-FLOW

Can be connected in series to valve or valve brushes. Normally closed solenoid is usually wired across machine starting switch to provide automatic on/off full flow fluid control. 120V, 60 Hz, 1 Phase coil in solenoid.

### [C] ELECTRIC SINGLE FEED

Automatically control the distribution of lubricant through needle valve. Normally closed solenoid is usually wired across machine starting switch to provide automatic on/off fluid control. Needle valve included. 120V, 60 Hz, 1 phase coil in solenoid.

LUBE DEVICES, INC.

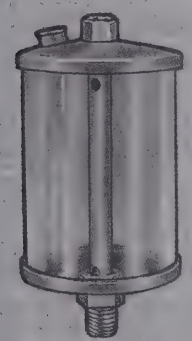



| Capacity | Bowl Dia. (In.) | Unit Length | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **[A] MANUAL FULL FLOW** | | | | | | | |
| **9 oz.** | 3 | 7⅞ | RFF101 | **1U683** | $40.01 | **$36.00** | 0.9 |
| **12 oz.** | 3 | 8⅞ | RFF102 | **1U684** | 40.63 | **36.60** | 1.0 |
| **1 pint** | 3½ | 8⅞ | RFF103 | **1U685** | 44.60 | **40.15** | 1.2 |
| **1 quart** | 4¼ | 10 11/16 | RFF104 | **1U686** | 70.68 | **63.60** | 1.8 |
| **1/2 gal.** | 5½ | 12⅛ | RFF105 | **1U687** | 101.69 | **91.50** | 3.0 |
| **1 gal.** | 5½ | 17⅛ | RFF106 | **1U688** | 130.90 | **117.75** | 3.8 |
| **[B] ELECTRIC FULL FLOW** | | | | | | | |
| **9 oz.** | 3 | 6⅞ | REF151-26 | **1U689** | 102.86 | **92.50** | 2.1 |
| **12 oz.** | 3 | 7⅞ | REF152-26 | **1U690** | 108.51 | **97.60** | 2.2 |
| **1 pint** | 3½ | 7⅞ | REF153-26 | **1U691** | 112.66 | **101.35** | 2.4 |
| **1 quart** | 4¼ | 9 9/16 | REF154-26 | **1U692** | 140.61 | **126.50** | 3.3 |
| **1/2 gal.** | 5½ | 11⅛ | REF155-26 | **1U693** | 177.96 | **160.25** | 4.2 |
| **1 gal.** | 5½ | 16⅛ | REF156-26 | **1U694** | 210.50 | **189.50** | 5.0 |
| **[C] ELECTRIC SINGLE FEED** | | | | | | | |
| **2½ oz.** | 2 | 5 9/16 | REO151-26 | **1U695** | 103.97 | **93.55** | 1.9 |
| **5 oz.** | 2½ | 6 1/16 | REO152-26 | **1U696** | 110.51 | **99.40** | 2.1 |
| **9 oz.** | 3 | 6⅞ | REO153-26 | **1U697** | 122.78 | **110.50** | 2.4 |
| **12 oz.** | 3 | 7⅞ | REO154-26 | **1U698** | 126.03 | **113.40** | 2.5 |
| **1 pint** | 3½ | 7⅞ | REO155-26 | **1U699** | 129.77 | **116.75** | 2.7 |
| **1 quart** | 4¼ | 9 9/16 | REO156-26 | **1U700** | 160.49 | **144.35** | 3.6 |
| **1/2 gal.** | 5½ | 11⅛ | REO157-26 | **1U701** | 207.65 | **187.00** | 4.5 |
| **1 gal.** | 5½ | 16⅛ | REO158-26 | **1U702** | 234.67 | **211.25** | 5.3 |
| **2 gal.** | 5½ | 26⅝ | REO159-26 | **1U703** | 322.94 | **290.50** | 7.7 |

# GRAVITY FEED RESERVOIRS

Make-up or replenishing reservoirs with no-flow control function. Features clear acrylic bowl which allows full 360° viewing of fluid level and condition. Self-closing snap lid filler caps. Aluminum body and Buna N seals. Can be disassembled for cleaning. For temperatures up to 160°F. Ratings at atmospheric pressure.

LUBE DEVICES, INC.

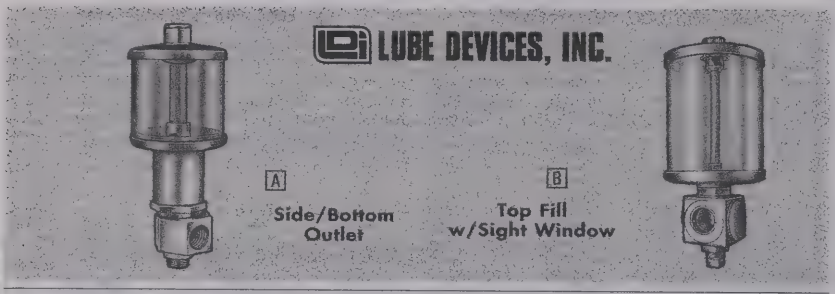


No. 1U636

| Mounting Thread (In.) NPTF | Bowl Dia. (In.) | Capacity | Overall Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/8 | 1½ | 1 oz. | 3 | R151-01 | **1U625** | $12.36 | **$11.12** | 0.1 |
| 1/4 | 1½ | 1 oz. | 3¼ | R151-02 | **1U626** | 12.61 | **11.34** | 0.1 |
| 1/8 | 1¾ | 1⅜ oz. | 2 15/16 | R152-01 | **1U627** | 13.25 | **11.93** | 0.2 |
| 1/4 | 1¾ | 1⅜ oz. | 3⅜ | R152-02 | **1U628** | 13.38 | **12.04** | 0.2 |
| 1/8 | 2 | 1¾ oz. | 3⅛ | R153-01 | **1U629** | 13.76 | **12.38** | 0.2 |
| 1/4 | 2 | 1¾ oz. | 3⅜ | R153-02 | **1U630** | 13.88 | **12.49** | 0.2 |
| 1/8 | 2 | 2½ oz. | 3½ | R154-01 | **1U631** | 18.62 | **16.74** | 0.2 |
| 1/4 | 2 | 2½ oz. | 3¾ | R154-02 | **1U632** | 18.74 | **16.85** | 0.2 |
| 1/8 | 2½ | 5 oz. | 4⅛ | R155-01 | **1U633** | 21.26 | **19.13** | 0.3 |
| 1/4 | 2½ | 5 oz. | 4 5/16 | R155-02 | **1U634** | 21.26 | **19.13** | 0.3 |
| 1/8 | 2½ | 8 oz. | 5 5/16 | R107-01 | **1U635** | 25.40 | **22.84** | 0.4 |
| 1/4 | 2½ | 8 oz. | 5⅜ | R107-02 | **1U636** | 25.40 | **22.84** | 0.4 |
| 1/8 | 3 | 9 oz. | 5 5/16 | R108-01 | **1U637** | 33.76 | **30.35** | 0.8 |
| 1/4 | 3 | 9 oz. | 5⅜ | R108-02 | **1U638** | 33.76 | **30.35** | 0.8 |
| 3/8 | 3 | 12 oz. | 6 7/16 | R109-03 | **1U639** | 36.80 | **33.15** | 0.9 |
| 1/2 | 3 | 12 oz. | 6⅜ | R109-04 | **1U640** | 36.80 | **33.15** | 0.9 |
| 3/8 | 3½ | 1 pint | 6 7/16 | R110-03 | **1U641** | 41.29 | **37.15** | 1.0 |
| 1/2 | 3½ | 1 pint | 6⅜ | R110-04 | **1U642** | 41.29 | **37.15** | 1.0 |
| 3/8 | 4¼ | 1 quart | 7 15/16 | R111-03 | **1U643** | 56.56 | **50.95** | 1.9 |
| 1/2 | 4¼ | 1 quart | 8 1/16 | R111-04 | **1U644** | 56.78 | **51.10** | 1.9 |
| 3/8 | 5½ | 1/2 gal. | 9 15/16 | R112-03 | **1U645** | 67.15 | **60.40** | 2.8 |
| 1/2 | 5½ | 1/2 gal. | 10⅛ | R112-04 | **1U646** | 67.25 | **60.50** | 2.9 |
| 1/2 | 5½ | 1 gal. | 15⅛ | R113-04 | **1U647** | 97.53 | **87.75** | 3.6 |

# CONSTANT LEVEL OILERS AND MULTIPLE FEED RESERVOIRS

## CONSTANT LEVEL OILERS




Automatically maintain oil levels in bearing, pump or gear housings, line shafts, moistening pads, etc. Available with acrylic bowl (for temperatures to 160°F) or glass bowl (for temperatures to 250°). Aluminum body and Buna N seals.

### A DUAL SIDE & BOTTOM OUTLET

Allow 1/2" oil level adjustment. Side and bottom outlet (1/4" NPTF). Simply remove pipe plug from outlet to be used and screw it into the unused port.

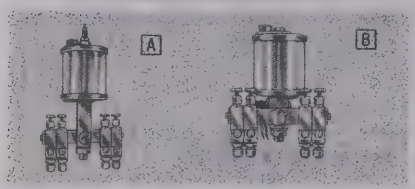
### B TOP FILL WITH SIGHT WINDOW

Large sight window with "OIL LEVEL" line clearly indicates fluid level in chamber. Side or bottom mounted. Large surge capacity. Bottom outlet can be used as drain. 1/8" PTF air vent, 1/2" NPTF outlets.

**CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS. THOUSANDS OF QUALITY PRODUCTS ARE LISTED**

| Capacity | Bowl Material | Bowl Dia. (In.) | Unit Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A SIDE/BOTTOM OUTLET CONSTANT LEVEL OILERS** | | | | | | | | |
| **2.5 oz.** | Acrylic | 2 | 5 1/4 | RCL133 | **1U615** | $25.41 | **$22.84** | 0.4 |
| **4 oz.** | Acrylic | 2 1/2 | 5 1/4 | RCL135 | **1U616** | 28.40 | **25.55** | 0.4 |
| **8 oz.** | Acrylic | 2 1/2 | 6 7/8 | RCL137 | **1U617** | 33.81 | **30.45** | 0.5 |
| **2.5 oz.** | Glass | 2 | 5 1/4" | RCL183 | **1U618** | 31.25 | **28.20** | 0.4 |
| **5 oz.** | Glass | 2 1/2 | 5 3/4 | RCL186 | **1U619** | 37.61 | **33.85** | 0.7 |
| **B TOP FILL WITH SIGHT WINDOW CONSTANT LEVEL OILERS** | | | | | | | | |
| **2.5 oz.** | Glass | 2 | 6 | RCL311 | **1U622** | 88.20 | **79.40** | 1.3 |
| **9 oz.** | Glass | 3 | 7 9/16 | RCL313 | **1U623** | 105.72 | **95.10** | 1.8 |
| **1 quart** | Glass | 4 1/4 | 9 9/16 | RCL315 | **1U624** | 150.20 | **135.00** | 3.3 |

## MULTIPLE FEED RESERVOIRS




Manual and electric multiple feed oilers control lubrication of multiple points from one location. Feature break-resistant transparent acrylic bowl which allows 360° viewing. For temperatures to 160°F. Also features 5/8-1/8 central mounting shank, snap closing filler cap, aluminum construction, and Buna N seals.

### A MANUAL

Manually operated toggle lever controls on/off full flow of oil valves. Drip feed rate individually set at each valve and indicated through glass sight in valve body. Compact manifold design allows for easy removal of any of the valves.

### B ELECTRIC

Solenoid valve (120V, 60 Hz, 1 PH coil) automatically controls full flow of oil from reservoir to valves. For automatic operation; wire normally closed solenoid across machine starting switch; feeding stops when machine is turned off. Drip feed rate determined by adjustment of needle valves.

| Bowl Capacity | Bowl Dia. (In.) | Number of Feeds | Unit Height from Mount (In.) | Valve Bracket Width (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **A MANUAL MULTIPLE FEED RESERVOIRS** | | | | | | | | | |
| **9 oz.** | 3 | 2 | 8 1/2 | 4 3/8 | RDM101-02 | **1U704** | $82.71 | **$74.45** | 1.7 |
| **12 oz.** | 3 | 2 | 9 1/2 | 4 3/8 | RDM102-02 | **1U705** | 91.01 | **81.90** | 1.8 |
| **1 pint** | 3 1/2 | 2 | 9 1/2 | 4 3/8 | RDM103-02 | **1U706** | 93.22 | **83.90** | 2.0 |
| **1 quart** | 4 1/4 | 2 | 10 11/16 | 4 3/8 | RDM104-02 | **1U707** | 117.57 | **105.80** | 2.8 |
| **1/2 gal.** | 5 1/2 | 2 | 12 3/4 | 4 3/8 | RDM105-02 | **1U708** | 156.89 | **141.15** | 3.8 |
| **1 gal.** | 5 1/2 | 2 | 17 3/4 | 4 3/8 | RDM106-02 | **1U709** | 188.95 | **170.25** | 4.7 |
| **9 oz.** | 3 | 3 | 8 1/2 | 5 | RDM101-03 | **1U710** | 106.04 | **95.45** | 1.8 |
| **12 oz.** | 3 | 3 | 9 1/2 | 5 | RDM102-03 | **1U711** | 112.59 | **101.30** | 2.0 |
| **1 pint** | 3 1/2 | 3 | 9 1/2 | 5 | RDM103-03 | **1U712** | 116.94 | **105.20** | 2.1 |
| **1 quart** | 4 1/4 | 3 | 10 11/16 | 5 | RDM104-03 | **1U713** | 140.86 | **126.75** | 2.9 |
| **1/2 gal.** | 5 1/2 | 3 | 12 3/4 | 5 | RDM105-03 | **1U714** | 182.23 | **164.00** | 4.5 |
| **1 gal.** | 5 1/2 | 3 | 17 3/4 | 5 | RDM106-03 | **1U715** | 212.66 | **191.50** | 4.7 |
| **9 oz.** | 3 | 4 | 8 1/2 | 5 7/8 | RDM101-04 | **1U716** | 129.72 | **116.70** | 2.1 |
| **12 oz.** | 3 | 4 | 9 1/2 | 5 7/8 | RDM102-04 | **1U717** | 134.43 | **120.95** | 2.1 |
| **1 pint** | 3 1/2 | 4 | 9 1/2 | 5 7/8 | RDM103-04 | **1U718** | 139.48 | **125.50** | 2.3 |
| **1 quart** | 4 1/4 | 4 | 10 11/16 | 5 7/8 | RDM104-04 | **1U719** | 163.45 | **147.05** | 3.0 |
| **1/2 gal.** | 5 1/2 | 4 | 12 3/4 | 5 7/8 | RDM105-04 | **1U720** | 204.43 | **184.00** | 4.1 |
| **1 gal.** | 5 1/2 | 4 | 17 3/4 | 5 7/8 | RDM106-04 | **1U721** | 236.25 | **212.75** | 5.0 |
| **B ELECTRO MULTIPLE FEED RESERVOIRS** | | | | | | | | | |
| **9 oz.** | 3 | 2 | 6 | | REM151-02-26 | **1U722** | 142.39 | **128.10** | 2.7 |
| **12 oz.** | 3 | 2 | 7 | 4 3/8 | REM152-02-26 | **1U723** | 147.15 | **132.40** | 2.7 |
| **1 pint** | 3 1/2 | 2 | 7 | 4 3/8 | REM153-02-26 | **1U724** | 150.72 | **135.60** | 3.0 |
| **1 quart** | 4 1/4 | 2 | 8 7/16 | 4 3/8 | REM154-02-26 | **1U725** | 174.18 | **157.00** | 3.9 |
| **1/2 gal.** | 5 1/2 | 2 | 10 7/16 | 4 3/8 | REM155-02-26 | **1U726** | 213.50 | **192.25** | 4.8 |
| **1 gal.** | 5 1/2 | 2 | 15 7/16 | 4 3/8 | REM156-02-26 | **1U727** | 242.82 | **218.75** | 5.6 |
| **2 gal.** | 5 1/2 | 2 | 28 7/16 | 4 3/8 | REM157-02-26 | **1U728** | 339.50 | **305.75** | 7.7 |
| **9 oz.** | 3 | 3 | 6 | 5 | REM151-03-26 | **1U729** | 163.91 | **147.45** | 2.8 |
| **12 oz.** | 3 | 3 | 7 | 5 | REM152-03-26 | **1U730** | 168.67 | **151.75** | 2.9 |
| **1 pint** | 3 1/2 | 3 | 7 | 5 | REM153-03-26 | **1U731** | 173.15 | **155.75** | 3.1 |
| **1 quart** | 4 1/4 | 3 | 8 7/16 | 5 | REM154-03-26 | **1U732** | 196.19 | **176.75** | 3.8 |
| **1/2 gal.** | 5 1/2 | 3 | 10 7/16 | 5 | REM155-03-26 | **1U733** | 236.46 | **213.00** | 4.9 |
| **1 gal.** | 5 1/2 | 3 | 15 7/16 | 5 | REM156-03-26 | **1U734** | 264.71 | **238.25** | 5.8 |
| **2 gal.** | 5 1/2 | 3 | 28 7/16 | 5 | REM157-03-26 | **1U735** | 362.34 | **326.25** | 7.9 |
| **9 oz.** | 3 | 4 | 6 | 5 7/8 | REM151-04-26 | **1U736** | 186.13 | **167.50** | 3.0 |
| **12 oz.** | 3 | 4 | 7 | 5 7/8 | REM152-04-26 | **1U737** | 190.46 | **171.50** | 3.1 |
| **1 pint** | 3 1/2 | 4 | 7 | 5 7/8 | REM153-04-26 | **1U738** | 194.75 | **175.25** | 3.3 |
| **1 quart** | 4 1/4 | 4 | 8 7/16 | 5 7/8 | REM154-04-26 | **1U739** | 219.03 | **197.25** | 4.1 |
| **1/2 gal.** | 5 1/2 | 4 | 10 7/16 | 5 7/8 | REM155-04-26 | **1U740** | 257.92 | **232.25** | 5.1 |
| **1 gal.** | 5 1/2 | 4 | 15 7/16 | 5 7/8 | REM156-04-26 | **1U741** | 286.16 | **257.50** | 6.0 |
| **2 gal.** | 5 1/2 | 4 | 28 7/16 | 5 7/8 | REM157-04-26 | **1U742** | 383.79 | **345.25** | 8.2 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# DROP FEED—MANUAL RESERVOIRS

Dispenses oil by gravity from reservoir bowl through adjustable needle valve. Features vented sight chamber, adjustable metering, toggle shut-off, and self closing filler cap. Aluminum construction and Buna N seals. Break resistant, transparent acrylic bowl for temperatures to 160°F. Glass bowls are borosilicate for fluid compatibility, thermal shock and temperatures to 250°F. Ratings are at atmospheric pressure.

LUBE DEVICES, INC.



No. 1U669
Pipe Mounting



No. 1U678
Remote Mounting
Straight Thread

| Mounting Thread Type | Bowl Material | Bowl Dia. (In.) | Capacity | Overall Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **PIPE MOUNTING** | | | | | | | | | |
| 1/8 NPTF | Acrylic | 1 1/2 | 5/8 oz. | 4 1/2 | RDF101-01 | 1U648 | $22.99 | $20.67 | 0.2 |
| 1/4 NPTF | Acrylic | 1 1/2 | 1 oz. | 5 1/8 | RDF102-02 | 1U649 | 24.98 | 22.47 | 0.2 |
| 1/4 NPTF | Acrylic | 1 3/4 | 1 1/2 oz. | 5 5/16 | RDF103-02 | 1U650 | 26.48 | 23.82 | 0.2 |
| 3/8 NPTF | Acrylic | 2 | 2 1/2 oz. | 5 5/8 | RDF104-03 | 1U651 | 29.74 | 26.80 | 0.3 |
| 3/8 NPTF | Acrylic | 2 1/2 | 5 oz. | 6 3/16 | RDF105-03 | 1U652 | 32.18 | 29.00 | 0.4 |
| 3/8 NPTF | Acrylic | 3 | 9 oz. | 7 1/16 | RDF107-03 | 1U653 | 40.76 | 36.70 | 0.9 |
| 1/2 NPTF | Acrylic | 3 | 9 oz. | 7 7/8 | RDF107-04 | 1U654 | 40.88 | 36.80 | 0.9 |
| 3/8 NPTF | Acrylic | 3 | 12 oz. | 8 1/16 | RDF108-03 | 1U655 | 39.86 | 35.90 | 1.0 |
| 1/2 NPTF | Acrylic | 3 | 12 oz. | 8 7/8 | RDF108-04 | 1U656 | 39.86 | 35.90 | 1.0 |
| 3/8 NPTF | Acrylic | 3 1/2 | 1 pint | 8 11/16 | RDF109-03 | 1U657 | 43.90 | 39.55 | 1.2 |
| 1/2 NPTF | Acrylic | 3 1/2 | 1 pint | 8 7/8 | RDF109-04 | 1U658 | 43.90 | 39.55 | 1.2 |
| 1/2 NPTF | Acrylic | 4 1/4 | 1 quart | 10 1/8 | RDF110-04 | 1U659 | 75.49 | 67.90 | 2.0 |
| 1/2 NPTF | Acrylic | 5 1/2 | 1/2 gal. | 12 1/8 | RDF111-04 | 1U660 | 104.65 | 94.15 | 3.0 |
| 1/2 NPTF | Acrylic | 5 1/2 | 1 gal. | 17 1/8 | RDF112-04 | 1U661 | 141.31 | 127.10 | 3.9 |
| 1/8 NPTF | Glass | 1 1/2 | 5/8 oz. | 4 1/2 | RDF101-11 | 1U662 | 30.59 | 27.55 | 0.2 |
| 1/4 NPTF | Glass | 1 1/2 | 1 oz. | 5 1/8 | RDF102-12 | 1U663 | 33.02 | 29.75 | 0.2 |
| 1/4 NPTF | Glass | 1 3/4 | 1 1/2 oz. | 5 5/16 | RDF103-12 | 1U664 | 35.14 | 31.65 | 0.2 |
| 3/8 NPTF | Glass | 2 | 2 1/2 oz. | 5 5/8 | RDF104-13 | 1U665 | 38.39 | 34.55 | 0.3 |
| 3/8 NPTF | Glass | 2 1/2 | 5 oz. | 6 3/16 | RDF105-13 | 1U666 | 45.25 | 40.75 | 0.5 |
| 3/8 NPTF | Glass | 3 | 9 oz. | 7 1/16 | RDF107-13 | 1U667 | 45.82 | 41.25 | 1.1 |
| 1/2 NPTF | Glass | 3 | 9 oz. | 7 7/8 | RDF107-14 | 1U668 | 45.49 | 40.95 | 1.2 |
| 3/8 NPTF | Glass | 3 1/2 | 1 pint | 8 11/16 | RDF109-13 | 1U669 | 59.72 | 53.75 | 1.7 |
| 1/2 NPTF | Glass | 3 1/2 | 1 pint | 8 7/8 | RDF109-14 | 1U670 | 59.72 | 53.75 | 1.7 |
| 1/2 NPTF | Glass | 4 1/4 | 1 quart | 10 1/8 | RDF110-14 | 1U671 | 106.64 | 95.95 | 2.6 |
| 1/2 NPTF | Glass | 5 1/2 | 1/2 gal. | 12 1/8 | RDF111-14 | 1U672 | 146.95 | 132.20 | 4.7 |
| **REMOTE MOUNTING, STRAIGHT THREAD** | | | | | | | | | |
| 9/16-18 | Acrylic | 1 1/2 | 5/8 oz. | 4 3/4 | RDF101-06 | 1U673 | 27.45 | 24.68 | 0.2 |
| 9/16-18 | Acrylic | 1 1/2 | 1 oz. | 5 5/16 | RDF102-06 | 1U674 | 29.95 | 26.95 | 0.2 |
| 9/16-18 | Acrylic | 1 3/4 | 1 1/2 oz. | 5 5/8 | RDF103-06 | 1U675 | 33.75 | 30.40 | 0.3 |
| 9/16-18 | Acrylic | 2 | 2 1/2 oz. | 5 11/16 | RDF104-06 | 1U676 | 35.77 | 32.20 | 0.3 |
| 9/16-18 | Acrylic | 2 1/2 | 5 oz. | 6 1/4 | RDF105-06 | 1U677 | 37.50 | 33.80 | 0.4 |
| 5/8-18 | Acrylic | 3 | 9 oz. | 8 | RDF107-08 | 1U678 | 45.15 | 40.65 | 1.0 |
| 5/8-18 | Acrylic | 3 | 12 oz. | 9 | RDF108-08 | 1U679 | 44.46 | 40.05 | 1.0 |
| 5/8-18 | Acrylic | 3 1/2 | 1 pint | 9 | RDF109-08 | 1U680 | 47.66 | 42.95 | 1.2 |
| 5/8-18 | Acrylic | 4 1/4 | 1 quart | 10 1/4 | RDF110-08 | 1U681 | 77.59 | 69.80 | 1.9 |
| 5/8-18 | Acrylic | 5 1/2 | 1/2 gal. | 12 1/4 | RDF111-08 | 1U682 | 107.03 | 96.25 | 3.0 |

TRICO QUALITY SINCE 1917



No. 6Y849
Constant
Level Oilers

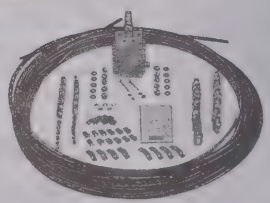
## CONSTANT LEVEL OILERS

One piece glass reservoirs prevent accidental overfilling of the oil level through leaky gaskets. Constructed of zinc cast with zinc plating. Features adjustable level setting with side and bottom ports. Available in 4, 8, and 16 oz. capacities. 1/4" pipe thread connection.

| Capacity (oz.) | Dimensions (In.) Height | Width | OPTO-MATIC® Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4 | 5 9/16 | 2 11/16 | 30003 | 6Y849 | $27.15 | $25.95 | 1.0 |
| 8 | 6 11/16 | 3 3/16 | 30005 | 6Y850 | 30.40 | 28.90 | 1.2 |
| 16 | 7 9/16 | 4 1/8 | 30010 | 6Y851 | 34.80 | 33.25 | 1.6 |

LINCOLN

## QUICKLUB® CENTRALIZED LUBRICATION SYSTEM



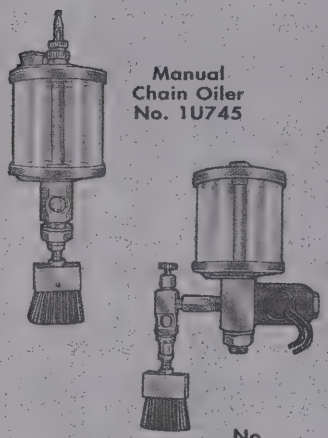
Contains all items required to install a lubrication system — including detailed instructions, drilling templates and service literature.

Includes:

- Metering valve – 12 outlets with cycle indicator pin, pressure relief and grease fitting
- Mounting bolts – use as self-tapping screw or as nut and bolt
- Tube fittings/closure plugs - for lubricating 2 to 12 lube points
- Feed line tubing – 100ft ¼" O.D. nylon prefilled with N.L.G.I. #1 grease
- Tube Clamps/Screws – for mounting lines securely to machine
- Snap-on Couplers – Connects feed lines to existing grease fittings

No. 6Y860. Lincoln (83712) Shpg. wt. 17.0 lbs. List ..... $398.50.
Each ..... $322.25

LUBE DEVICES, INC.



Manual Chain Oiler No. 1U745

No. 1U753 Electric Chain Oiler

## CHAIN OILER RESERVOIRS

Deliver oil at all load carrying points where motion occurs. Flexible brush bristles follow contour of moving chain, sheet stock, or cable distributing oil to critical points, reducing wear. Nylon brush bristles 1½ x 3/8" flat, acrylic bowl for temperatures to 160°F. Ratings at atmospheric pressure. Aluminum construction. Buna N seals, and snap closing vented filler cap.

### MANUAL

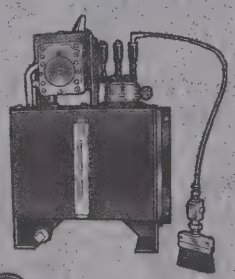
Toggles shut-off on reservoir can be turned on and off without affecting previously set feed rate. Drip rate clearly visible through large viewing sight in central mounting shank.

### ELECTRIC

Solenoid valve (120V, 60 Hz, 1 PH coil) automatically controls full flow of oil from reservoir to valve brush. For automatic operation: wire normally closed solenoid across machine starting switch, feeding stops when machine is turned off. Drip feed rate determined by adjustment of needle valve.

| Bowl Capacity | Bowl Dia. (In.) | Unit Height From Mount (In.) | Mounting Thread | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **MANUAL CHAIN OILER** | | | | | | | | |
| 2½ oz. | 2 | 5¼ | 1/2-20 | RDB303-N-4 | 1U743 | $41.34 | $37.25 | 0.4 |
| 5 oz. | 2½ | 5⅞ | 1/2-20 | RDB304-N-4 | 1U744 | 43.83 | 39.50 | 0.5 |
| 9 oz. | 3 | 7¼ | 5/8-18 | RDB306-N-4 | 1U745 | 50.53 | 45.50 | 1.0 |
| 12 oz. | 3 | 8¼ | 5/8-18 | RDB307-N-4 | 1U746 | 57.18 | 51.45 | 1.0 |
| 1 pint | 3½ | 8¼ | 5/8-18 | RDB308-N-4 | 1U747 | 60.28 | 54.25 | 1.3 |
| 1 quart | 4¼ | 9½ | 5/8-18 | RDB309-N-4 | 1U748 | 90.14 | 81.10 | 1.1 |
| 1/2 gal. | 5½ | 11½ | 5/8-18 | RDB310-N-4 | 1U749 | 120.71 | 108.60 | 3.1 |
| 1 gal. | 5½ | 16½ | 5/8-18 | RDB311-N-4 | 1U750 | 156.50 | 140.75 | 4.0 |
| **ELECTRIC CHAIN OILER** | | | | | | | | |
| 2½ oz. | 2 | 4 11/16 | 5/8-18 | REB303-N-4-26 | 1U751 | 114.08 | 102.65 | 2.0 |
| 5 oz. | 2½ | 5 11/16 | 5/8-18 | REB304-N-4-26 | 1U752 | 122.28 | 110.00 | 2.5 |
| 9 oz. | 3 | 6 | 5/8-18 | REB306-N-4-26 | 1U753 | 135.04 | 121.50 | 2.2 |
| 12 oz. | 3 | 7 | 5/8-18 | REB307-N-4-26 | 1U754 | 140.08 | 126.00 | 2.6 |
| 1 pint | 3½ | 7 | 5/8-18 | REB308-N-4-26 | 1U755 | 144.68 | 130.15 | 2.8 |
| 1 quart | 4½ | 8 7/16 | 5/8-18 | REB309-N-4-26 | 1U756 | 176.47 | 159.00 | 3.6 |
| 1/2 gal. | 5½ | 10½ | 5/8-18 | REB310-N-4-26 | 1U757 | 216.48 | 195.00 | 4.6 |
| 1 gal. | 5½ | 15½ | 5/8-18 | REB311-N-4-26 | 1U758 | 250.08 | 225.25 | 5.4 |

LUBE DEVICES, INC.



Pump Operated

## PUMP OPERATED MULTI-POINT LUBRICATORS

Ideal for applications where height restrictions prevent the use of gravity oilers. Feature 2 to 6 outlets with brush applicators for each outlet. Also includes 14 day timer. May be floor or wall mounted.

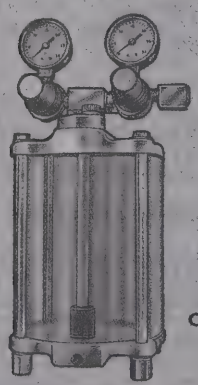
**Timer:** 14 day, 120V, 60 Hz, clock driven, up to 6 operations a day 5 minutes to 1 hour in length, 3 SPST switch rated 5A per pole.

**Reservoir:** 2 gallon, welded steel, oiled interior, liquid level gage.

**Brush Kit:** 2¼ x 3/8" flat long wearing nylon with adjustable mounting shank, fittings and 10 ft. of poly tubing; one kit per outlet.

**Pump:** 120V, 60 Hz, 1 PH, 1.3A: 0.5 GPH max. 750 SSU lube oil max. 30 ft. head max.

| Outlets | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 | REP101-2 | 1U759 | $1193.40 | $1074.00 | 29.0 |
| 4 | REP101-4 | 1U760 | 1291.00 | 1162.00 | 30.0 |
| 6 | REP101-6 | 1U761 | 1409.50 | 1269.00 | 31.0 |



Air Operated

## AIR OPERATED, DUAL REGULATORS

- **Inlet unregulated air pressure 125 psig maximum regulated air and fluid pressure**
- **Break resistant, transparent acrylic bowl for temperatures to 160°F**
- **Ratings at atmospheric pressure**
- **Aluminum construction and Buna N seals**

For applying lubricants to chains or rollers, or for spraying large sheets using a spray valve. Spray pattern accurately controlled by varying pressure on fluid and spray valve. Use of solenoid on outlet side will provide positive shut-off of air and liquid.

**See page 2759 for optional spray valves, Nos. 1U766 and 1U767.**

| Bowl Capacity | Bowl Dia. (In.) | Unit Height (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 quart | 5½ | 10 13/16 | RVP101 | 1U762 | $230.12 | $207.25 | 5.8 |
| 1/2 gal. | 5½ | 14¼ | RVP102 | 1U763 | 295.08 | 265.50 | 6.5 |
| 1 gal. | 5½ | 19½ | RVP103 | 1U764 | 314.84 | 283.50 | 7.5 |
| 2 gal. | 5½ | 32¼ | RVP104 | 1U765 | 382.67 | 344.25 | 11.0 |

# REGULATED SPRAY VALVES

Air operated multi-point spray valves for spraying lubricant on bearings, rollers, or chains. Sheet stock may be lubricated prior to blanking or drawing. Provides precise adjustment of fluid/nozzle pressure when used in conjunction with regulators on a reservoir. 1/8"-27 NPTF inlet. See page 2758 for Air Operated Reservoir.

| Spray Pattern | Unit Length | Air PSI | Liquid PSI | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Flat | 2⅝" | 22 | 10 | SV101 | 1U766 | $71.99 | $64.80 | 0.2 |
| Round | 2⅝ | 12-20 | 10-20 | SV102 | 1U767 | 71.99 | 64.80 | 0.2 |

# VALVE BRUSHES

Apply lubricant to chain drives traveling in a horizontal or slightly inclined plane. Can be connected in series to lubricate several points and feed from central reservoir. Feed rate adjustable at hand-wheel and easily monitored through glass sight in valve body. Aluminum and brass construction. 1/2-20 UNF thread for mounting. Long wearing nylon bristles for temperatures below 250°F. Stainless steel bristles available for temperatures above 250°F.

| Brush Material | Brush Dia. / Width (In.) | Brush Length (In.) | Overall Unit Length (In.) | Inlet NPTF (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **VALVE WITH ROUND BRUSH** | | | | | | | | | |
| Nylon | 1 | 1⅝ | 6⅜ | 1/8 | NVB103-2 | 1U769 | $44.02 | $39.65 | 0.3 |
| Stainless steel | 1 | 1⅝ | 6⅜ | 1/8 | NVB103-3 | 1U770 | 55.01 | 49.50 | 0.3 |
| **VALVE WITH FLAT BRUSH** | | | | | | | | | |
| Nylon | 1½ x 3/8 | 1⅛ | 5¾ | 1/8 | NVB304-2 | 1U771 | 42.83 | 38.55 | 0.3 |
| Stainless steel | 1½ x 3/8 | 1⅛ | 5¾ | 1/8 | NVB304-3 | 1U772 | 48.41 | 43.60 | 0.3 |
| Nylon | 2¼ x 3/8 | 1⅛ | 5¾ | 1/8 | NVB305-2 | 1U773 | 44.87 | 40.40 | 0.3 |
| Stainless steel | 2¼ x 3/8 | 1⅛ | 5¾ | 1/8 | NVB305-3 | 1U774 | 55.94 | 50.35 | 0.3 |
| **VALVE WITH ROTARY WHEEL BRUSH** | | | | | | | | | |
| Nylon | 3 x 1 | N/A | 7⅝ | 1/8 | NVB401-2 | 1U775 | 63.78 | 57.40 | 0.6 |

# SHANK BRUSHES

Designed for applying lubricant to chain drives traveling in a horizontal or slightly inclined plane. Can be remotely mounted and feed rate controlled from metering valves by central reservoir. Flexible brush bristles follow the contour of chain distributing oil to load carrying points.

Aluminum construction and 1/2-20 UNF thread for mounting. Long wearing nylon bristles for temperatures below 250°F. Stainless steel bristles for temperatures above 250°F. 1/2" adjustment for brush wear provided.

| Brush Material | Brush Dia. / Width (In.) | Brush Length (In.) | Overall Unit Length (In.) | Inlet (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **ROUND SHANK BRUSH** | | | | | | | | | |
| Nylon | 5/8 | 1 | 4¼ | 1/8 PTF | SB102-2 | 1U776 | $24.91 | $22.42 | 0.1 |
| Stainless steel | 5/8 | 1 | 4¼ | 1/8 PTF | SB102-3 | 1U777 | 33.72 | 30.40 | 0.2 |
| Nylon | 1 | 1⅝ | 4⅞ | 1/8 PTF | SB103-2 | 1U778 | 32.42 | 29.20 | 0.2 |
| Stainless steel | 1 | 1⅝ | 4⅞ | 1/8 PTF | SB103-3 | 1U779 | 39.33 | 35.40 | 0.3 |
| **FLAT SHANK BRUSH** | | | | | | | | | |
| Nylon | 1/2 x 3/8" | 1⅛ | 4¼ | 1/8 PTF | SB301-2 | 1U780 | 27.40 | 24.66 | 0.1 |
| Nylon | 3/4 x 3/8 | 1⅛ | 4¼ | 1/8 PTF | SB302-2 | 1U781 | 28.68 | 25.80 | 0.2 |
| Nylon | 1 x 3/8 | 1⅛ | 4¼ | 1/8 PTF | SB303-2 | 1U782 | 26.85 | 24.15 | 0.2 |
| Nylon | 1½ x 3/8 | 1⅛ | 4¼ | 1/8 PTF | SB304-2 | 1U783 | 28.09 | 25.30 | 0.2 |
| Nylon | 2¼ x 3/8 | 1⅛ | 4¼ | 1/8 PTF | SB305-2 | 1U784 | 30.59 | 27.55 | 0.2 |
| **ROUND - PIPE THREAD** | | | | | | | | | |
| Nylon | 1 | 1⅝ | 4⅜ | 1/8 NPTF | SB203-2 | 1U786 | 24.60 | 22.12 | 0.2 |
| Stainless steel | 1 | 1⅝ | 4⅜ | 1/8 NPTF | SB203-3 | 1U787 | 40.71 | 36.65 | 0.2 |
| Nylon | 1½ | 1⅝ | 4⅜ | 1/8 NPTF | SB204-2 | 1U788 | 24.48 | 22.02 | 0.2 |
| Stainless steel | 1½ | 1⅝ | 4⅜ | 1/8 NPTF | SB204-3 | 1U789 | 40.64 | 36.60 | 0.3 |
| **FLAT - PIPE THREAD** | | | | | | | | | |
| Nylon | 1½ x 3/8 | 1⅛ | 3½ | 1/8 NPTF | SB354-2 | 1U790 | 35.24 | 31.75 | 0.1 |
| Stainless steel | 1½ x 3/8 | 1⅛ | 3½ | 1/8 NPTF | SB354-3 | 1U791 | 42.44 | 38.25 | 0.1 |
| Nylon | 2¼ x 3/8 | 1⅛ | 3½ | 1/8 NPTF | SB355-2 | 1U792 | 38.05 | 34.30 | 0.2 |
| Stainless steel | 2¼ x 3/8 | 1⅛ | 3½ | 1/8 NPTF | SB355-3 | 1U793 | 47.84 | 43.10 | 0.2 |

LUBE DEVICES, INC.



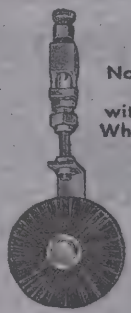
No. 1U767 Regulated Spray Valve



No. 1U770 Valve with Round Brush



No. 1U771 Valve with Flat Brush



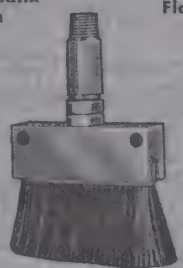
No. 1U775 Valve with Rotary Wheel Brush



No. 1U776 Round Shank Brush



No. 1U782 Flat Shank Brush



No. 1U792 Flat Pipe Brush

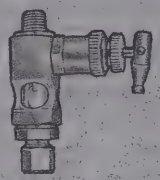
# TOGGLE AND SOLENOID VALVES AND NEEDLE VALVE MANIFOLDS

## TOGGLE VALVES—SIGHT FEED

Straight, cross, and angle pattern flow toggle valves can be turned off and on without affecting previous set drip or flow rate. Removable valve stem and toggle make it ideal for installation in areas with small assembly clearance. Valves feature large viewing window in sight body that provides clear view of feed rate. Feed rate is adjustable from full orifice flow to shut off. .094 orifice diameter. Solid brass construction, Buna N seals and glass sight.

| Inlet Type | Inlet (In.) | Bottom Outlet (In.) | Overall Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **STRAIGHT PATTERN FLOW** | | | | | | | | |
| **Top** | 1/8 male NPTF | 1/4 tube | 2 25/32 | N601-05 | **1U835** | 26.65 | **23.96** | 0.4 |
| **Top** | 1/4 male NPTF | 1/4 tube | 2 31/32 | N602-05 | **1U837** | 25.27 | **22.74** | 0.4 |
| **ANGLE PATTERN FLOW** | | | | | | | | |
| **Side** | 1/8 fem. NPTF | 1/8 male NPTF | 3 13/16 | N471-02 | **1U844** | 24.65 | **22.18** | 0.4 |
| **Side** | 1/8 fem. NPTF | 1/4 tube | 4 | N471-03 | **1U845** | 24.65 | **22.18** | 0.4 |
| **Side** | 1/8 male NPTF | 1/4 tube | 4 | N472-03 | **1U847** | 24.65 | **22.18** | 0.4 |
| **Side** | 1/4 male NPTF | 1/4 tube | 4 | N473-03 | **1U849** | 25.27 | **22.74** | 0.4 |

LUBE DEVICES, INC.



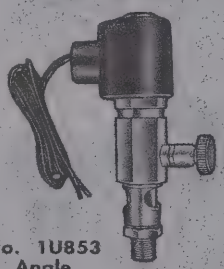
No. 1U835 Straight Pattern Flow



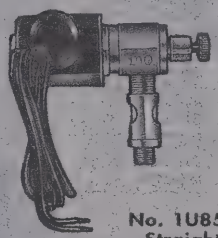
No. 1U844 Angle Pattern Flow

## SOLENOID VALVES

LUBE DEVICES, INC.



No. 1U853 Angle Pattern Flow



No. 1U855 Straight Pattern Flow

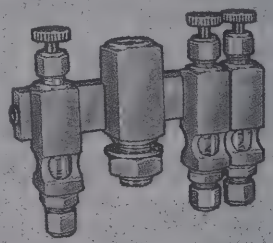
Features automatic fluid flow. Coil can be wired to start switch so unit feeds only when machine runs. Knurled adjustment wheel provides positive, smooth feed rate from full flow to shut-off. Large vented glass sight window for easy viewing of drip rate. Normally closed valve, solid brass construction, and Buna N seals.

Power consumption is 11.5 watts. Class "B" molded waterproof coil. .094 minimum orifice. 120V, 60 Hz, 1 Ph coil in solenoid.

| Inlet (In.) PTF | Outlet (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ANGLE PATTERN FLOW** | | | | | | |
| **1/4 female** | 1/4 tube | ESS101-26 | **1U852** | $84.50 | **$76.05** | 1.5 |
| **1/4 female** | 1/4 male NPTF | ESS102-26 | **1U853** | 84.50 | **76.05** | 1.5 |
| **1/4 female** | 1/8 male NPTF | ESS103-26 | **1U854** | 84.50 | **76.05** | 1.4 |
| **STRAIGHT PATTERN FLOW** | | | | | | |
| **1/8 female** | 1/8 male NPTF | ESS151-26 | **1U855** | 79.04 | **71.10** | 1.2 |
| **1/8 female** | 1/4 male NPTF | ESS152-26 | **1U856** | 79.04 | **71.10** | 1.2 |
| **1/8 female** | 1/4 tube | ESS155-26 | **1U858** | 79.04 | **71.10** | 1.2 |

## NEEDLE VALVE MANIFOLDS

LUBE DEVICES, INC.



No. 1U829 Three Feed Manifold

Provide controlled multiple oiling from central location. Lubricant (in reservoir or dispenser) metered at individual valves and travels to various points allowing servicing of normally inaccessible areas. Easily disassembled for cleaning. Valves may be removed without disturbing other components. Comes with vented sight chamber.

Features include 5/8-18 UNF central mounting, 1/4 NPTF inlet and 1/4 tube outlet (tube not included). Aluminum construction, Buna N seals and glass sights. Vented at sight, intended for gravity applications.

| Number Of Feeds | Overall Width (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2** | 4 3/16 | NVM102-002 | **1U828** | $40.41 | **$36.40** | 0.7 |
| **3** | 4 15/16 | NVM102-003 | **1U829** | 56.86 | **51.15** | 0.9 |
| **4** | 5 11/16 | NVM102-004 | **1U830** | 73.52 | **66.20** | 1.0 |
| **5** | 6 7/16 | NVM102-005 | **1U831** | 90.67 | **81.60** | 1.2 |
| **6** | 7 3/16 | NVM102-006 | **1U832** | 107.87 | **97.05** | 1.4 |
| **8** | 8 11/16 | NVM102-008 | **1U833** | 139.88 | **125.85** | 1.7 |

**ORDER DIRECT FROM GRAINGER**

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**

LUBE DEVICES, INC.

# SIGHT FEED NEEDLE VALVES

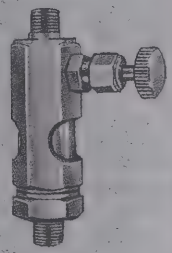
Ideal for installations requiring controlled visible fluid metering. Straight, angle and cross patterns allow optimum configuration selection. Knurled handwheel provides smooth, accurate adjustment of flow rates. Drip rate visible through large glass sight window in body valve. Valves furnished with vented sight chamber.

### STRAIGHT PATTERN

Precision machined from brass bar stock for durability.

### ANGLE/CROSS PATTERNS

Vented angle and cross pattern needle valves can be installed singly or in a series. Aluminum bar stock construction. All pipe threads are dryseal .094 orifice diameter.



A
No. 1U794
Straight Pattern
Flow, .094 Orifice

## A STRAIGHT PATTERN FLOW NEEDLE VALVES

| Orifice Dia. (In.) | Top Inlet (In.) | Bottom Outlet (In.) | Overall Unit Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| .094 | 1/8 male NPTF | 1/8 male NPTF | 3 1/32 | N102-01 | 1U794 | $22.53 | $20.26 | 0.4 |
| .094 | 1/4 male NPTF | 1/4 male NPTF | 3 13/32 | N102-02 | 1U795 | 22.53 | 20.26 | 0.4 |
| .094 | 1/8 fem. NPTF | 1/8 fem. NPTF | 2 23/32 | N102-03 | 1U796 | 22.53 | 20.26 | 0.4 |
| .094 | 1/4 fem. NPTF | 1/4 fem. NPTF | 2 31/32 | N102-04 | 1U797 | 22.53 | 20.26 | 0.4 |
| .094 | 1/4 male NPTF | 1/4 tube | 3 7/16 | N102-06 | 1U799 | 24.91 | 22.40 | 0.4 |
| .109 | 3/8 male NPTF | 3/8 male NPTF | 3 9/16 | N103-01 | 1U802 | 30.39 | 27.35 | 0.6 |
| .109 | 3/8 fem. NPTF | 3/8 fem. NPTF | 3 1/4 | N103-02 | 1U803 | 30.39 | 27.35 | 0.6 |
| .152 | 1/2 male NPTF | 1/2 male NPTF | 3 15/16 | N104-01 | 1U804 | 40.10 | 36.10 | 0.7 |
| .152 | 1/2 fem. NPTF | 1/2 fem. NPTF | 4 5/8 | N104-02 | 1U805 | 40.10 | 36.10 | 0.7 |

## B CROSS PATTERN FLOW

| Inlet (In.) | Outlet (In.) | Overall Unit Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/8 fem. NPTF | 1/8 fem. NPTF | 2 15/16 | N401-01 | 1U806 | $19.37 | $17.43 | 0.1 |
| 1/8 fem. NPTF | 1/4 tube | 3 3/8 | N401-04 | 1U809 | 19.37 | 17.43 | 0.2 |

## C ANGLE PATTERN FLOW

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1/8 fem. NPTF | 1/8 fem. NPTF | 2 15/16 | N403-01 | 1U810 | 19.37 | 17.43 | 0.2 |
| 1/8 fem. NPTF | 1/8 male NPTF | 3 1/8 | N403-02 | 1U811 | 19.37 | 17.43 | 0.2 |
| 1/8 fem. NPTF | 1/4 tube | 3 3/8 | N403-04 | 1U812 | 19.49 | 17.54 | 0.2 |
| 1/8 male NPTF | 1/8 fem. NPTF | 2 15/16 | N404-01 | 1U813 | 19.49 | 17.54 | 0.2 |

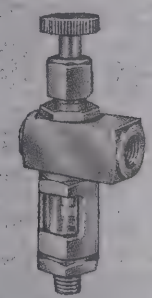


B
No. 1U806
Cross Pattern
Flow

# HEAVY-DUTY VENTED NEEDLE VALVES

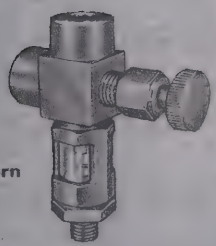
For rugged conditions requiring controlled visible fluid metering. Knurled handwheel provides smooth accurate adjustment of flow rates. Flow rate clearly visible through large glass sight window open on two sides. Sight window adjustable independent of valve body for optimum viewing. Comes with vented sight chamber—not intended for pressure applications.

Provided with full .250 diameter orifice for low pressure drops at high flow rates. Solid brass bar stock construction.



C
No. 1U819
Angle Pattern
Flow

| Inlet (In.) | Outlet (In.) | Overall Unit Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **C ANGLE PATTERN FLOW** | | | | | | | |
| 1/4 fem. NPTF | 1/4 male NPTF | 5 1/4 | N501-02 | 1U819 | $50.22 | $45.25 | 1.0 |
| 3/8 fem. NPTF | 3/8 male NPTF | 5 1/4 | N501-03 | 1U820 | 50.22 | 45.25 | 1.0 |
| **D STRAIGHT PATTERN FLOW** | | | | | | | |
| 1/4 fem. NPTF | 1/4 male NPTF | 4 7/16 | N504-02 | 1U825 | 50.70 | 45.60 | 1.4 |
| 3/8 fem. NPTF | 3/8 male NPTF | 4 7/16 | N504-03 | 1U826 | 50.70 | 45.60 | 1.3 |
| 1/2 fem. NPTF | 1/2 male NPTF | 4 7/16 | N504-04 | 1U827 | 50.70 | 45.60 | 1.3 |



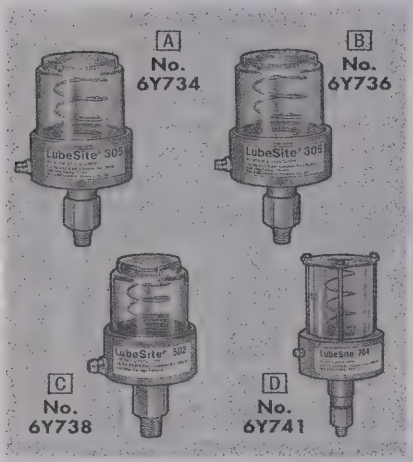
D
No. 1U825
Straight Pattern
Flow

DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# GREASE FEEDERS AND LUBRICATORS

## GREASE FEEDERS




### LubeSite®

- Allow easy visual inspection of grease level
- Mounts in any position
- Spring tension 1-2 PSI
- 1/8" NPT

**A ALL POLYCARBONATE**

- For minimal vibration operating conditions
- Comes assembled with medium spring, additional light and heavy springs included

**B POLYCARBONATE WITH METAL BASE**

- For dynamic and vibrating operating conditions
- Comes assembled with medium spring, additional light and heavy springs included

**C POLYCARBONATE WITH CORROSION RESISTANT METAL BASE**

- For corrosive operating conditions such as chemical and food processing applications
- Polycarbonate with double plated nickel-chrome construction; come assembled with medium spring, additional light spring and heavy spring included

**D HIGH TEMPERATURE GREASE FEEDER**

- For high temperature operating conditions such as steel mills, foundries, lumber drying kilns, glass plants, and metal heat-treating facilities
- Comes assembled with medium spring, additional heavy spring included
- Borosilicate glass, stainless steel cap, and temperature-resistant Viton seal construction

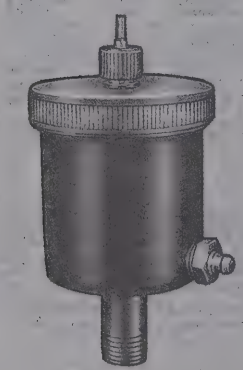
| Capacity (Oz.) | Size Height (In.) | Size Diameter (In.) | Operating Temp. (°F) | LubeSite Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A ALL POLYCARBONATE** | | | | | | | | |
| 1 | 3 5/8 | 1 3/4 | -10 to +250 | 202 | **6Y733** | $25.48 | **$19.85** | 0.3 |
| 2 | 4 5/8 | 2 3/8 | -10 to +250 | 205 | **6Y734** | 32.71 | **25.50** | 0.5 |
| **B POLYCARBONATE WITH METAL BASE** | | | | | | | | |
| 1 | 3 5/8 | 1 3/4 | -10 to +250 | 302 | **6Y735** | 41.33 | **33.70** | 0.3 |
| 2 | 4 5/8 | 2 3/8 | -10 to +250 | 305 | **6Y736** | 44.85 | **39.90** | 0.7 |
| 6 | 6 | 3 | -10 to +250 | 360 | **6Y737** | 82.17 | **67.30** | 1.5 |
| **C POLYCARBONATE WITH CORROSION RESISTANT METAL BASE** | | | | | | | | |
| 1 | 3 5/8 | 1 3/4 | -10 to +250 | 502 | **6Y738** | 58.25 | **47.70** | 0.4 |
| 2 | 4 5/8 | 2 3/8 | -10 to +250 | 505 | **6Y739** | 71.49 | **58.55** | 0.7 |
| 6 | 6 | 3 | -10 to +250 | 560 | **6Y740** | 114.31 | **93.40** | 1.5 |
| **D HIGH TEMPERATURE** | | | | | | | | |
| 4 | 7 1/8 | 3 1/4 | -10 to +450 | 704 | **6Y741** | 169.50 | **138.60** | 2.0 |

### REMOTE GREASE REFILL KIT

Allows refill of hard to reach sites. Kit comes complete with all of the required fittings and 10 ft. of high pressure nylon tubing.

**No. 6Y742.** Lubeline™ (900). Shpg. wt. 0.3 lbs. List $38.42. Each.....**$32.75**

LUBE DEVICES, INC.




## GREASE LUBRICATORS

**GUN-fil® Grease Lubricators** provide dependable, uniform bearing lubrication. Features a single point, spring loaded grease applicator, colored valve stem indicator to show when refill is needed, grease fitting for filling, and rugged steel construction.

**Available in two valve speeds:** Slow feed for high ambient temperatures, close or tight fitting bearings, and intermittent operations; Fast feed for low ambient temperatures, loose fitting bearings, and continuous operation.

**Mount in any position** horizontally, vertically, or inclined at any angle in new or existing installations—only pipe tapped holes are required.

| Capacity (Oz.) | Valve Speed | Shank | Overall Dia. (In.) | Filled Height (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **FOR BEARINGS UP TO 50 SQ. IN.** | | | | | | | | | |
| 1/2 | Slow | 1/8-27 | 1 1/4 | 4.15 | 201452 | **1U883** | $40.51 | **$36.45** | 0.4 |
| | Fast | | | | 201453 | **1U887** | 40.51 | **36.45** | 0.4 |
| **FOR BEARINGS 50 TO 100 SQ. IN.** | | | | | | | | | |
| 1 3/4 | Slow | 3/8-18 | 2 1/2 | 4.35 | 201464 | **1U884** | 51.95 | **46.75** | 1.3 |
| | Fast | | | | 201465 | **1U888** | 51.95 | **46.75** | 1.3 |
| **FOR BEARINGS 100 TO 250 SQ. IN.** | | | | | | | | | |
| 3 1/2 | Slow | 3/8-18 | 2 1/2 | 6.21 | 201468 | **1U885** | 58.50 | **52.65** | 1.6 |
| | Fast | | | | 201469 | **1U889** | 58.50 | **52.65** | 1.6 |
| **FOR BEARINGS 250 TO 400 SQ. IN.** | | | | | | | | | |
| 8 | Slow | 3/4-14 | 3 1/4 | 9.74 | 201472 | **1U886** | 149.75 | **134.70** | 4.0 |
| | Fast | | | | 201473 | **1U890** | 149.75 | **134.70** | 4.1 |

# LIQUID LEVEL SIGHT PLUGS, IN-LINE FILTER, AND BREATHER VENTS

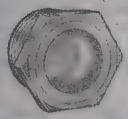
## LIQUID LEVEL SIGHT PLUGS

LUBE DEVICES, INC.



Low PSI Sight Plug W. Reflector

No. 1U917



No. 1U926

High PSI Sight Plug—Open View

**Maximum Operating Temperature: High PSI 500°F**

**Allow visual inspection** of fluid levels in gear boxes or reservoirs. Can be used as an observation window to check burner flames, gears in motion, relay or switch operation in sealed housings.

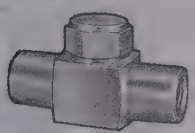
**Low pressure sight plugs** feature stainless steel reflector to aid viewing of dark fluids. Solid brass body, clear glass sight, and Buna N seals.

**High pressure sight plugs** are constructed with fused heavy glass window. Steel body with electroless nickel plating. Open view (no reflector).

| Pipe Thread | Sight Dia. (In.) | Hex Dia. (In.) Flats | Maximum Operating PSI | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **LOW PSI SIGHT PLUG WITH REFLECTOR** | | | | | | | | |
| **3/8-18** | 7/16 | 3/4 | 100 | LSP151-03-01 | **1U915** | $10.47 | **$9.39** | 0.1 |
| **1/2-14** | 9/16 | 7/8 | 100 | LSP151-04-01 | **1U916** | 10.76 | **9.65** | 0.1 |
| **3/4-14** | 3/4 | 1 1/8 | 60 | LSP151-05-01 | **1U917** | 10.24 | **9.22** | 0.1 |
| **1-11-1/2** | 31/32 | 1 7/16 | 60 | LSP151-06-01 | **1U918** | 13.64 | **12.26** | 0.2 |
| **1 1/4-11-1/2** | 1 1/8 | 1 3/4 | 25 | LSP151-07-01 | **1U919** | 23.43 | **21.08** | 0.5 |
| **1 1/2-11-1/2** | 1 3/8 | 2 | 25 | LSP151-08-01 | **1U920** | 29.33 | **26.45** | 0.5 |
| **2-11-1/2** | 1 7/8 | 2 1/2 | 10 | LSP151-09-01 | **1U921** | 35.32 | **31.80** | 0.9 |
| **HIGH PSI FUSED SIGHT PLUG—OPEN VIEW** | | | | | | | | |
| **3/8-18** | 7/16 | 3/4 | 1850 | LSP51-03 | **1U922** | 8.13 | **7.31** | 0.1 |
| **1/2-14** | 9/16 | 15/16 | 1750 | LSP51-04 | **1U923** | 9.49 | **8.54** | 0.1 |
| **3/4-14** | 3/4 | 1 1/16 | 1500 | LSP51-05 | **1U924** | 10.49 | **9.44** | 0.1 |
| **1-11-1/2** | 15/16 | 1 3/8 | 1250 | LSP51-06 | **1U925** | 15.13 | **13.62** | 0.2 |
| **1 1/4-11-1/2** | 1 3/16 | 1 3/4 | 1000 | LSP51-07 | **1U926** | 21.79 | **19.61** | 0.4 |
| **1 1/2-11-1/2** | 1 7/16 | 2 | 750 | LSP51-08 | **1U927** | 26.80 | **24.11** | 0.5 |
| **2-11-1/2** | 1 7/8 | 2 1/2 | 500 | LSP51-09 | **1U928** | 35.27 | **31.75** | 0.7 |

## IN-LINE LIQUID FILTER

LUBE DEVICES, INC.



No. 1U590

For use in liquid lines where dirt or particles could cause clogging. In-line cap unscrews to allow filter cleaning without dismantling unit from line. Brass construction and Buna N seals. 40 micron filter. 150 psi max. working pressure. 175°F maximum temperature.

| Thread (Female) PTF | Body (Square) (In.) | Length (In.) | Height (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/8-27** | 1 | 2 1/16 | 1 9/16 | LF201-01 | **1U588** | $32.30 | **$30.00** | 0.4 |
| **1/4-18** | 1 | 2 3/8 | 1 9/16 | LF201-02 | **1U589** | 32.30 | **30.00** | 0.4 |
| **3/8-18** | 1 | 2 3/8 | 1 9/16 | LF201-03 | **1U590** | 36.93 | **33.25** | 0.5 |

## BREATHER/VENTS

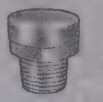
LUBE DEVICES, INC.



A No. 1U585



B No. 1U568



C No. 1U572



D No. 1U584

### A PRESSURE/VACUUM BREATHERS

Allow sealed pressure systems to vent off excess pressure as heat in system builds up. Air pressure is allowed back into system as system cools. 20 micron bronze filter keeps dirt from entering. Steel body with aluminum top cap. Buna N seals.

| Thread PTF | Dia. (In.) Hex Flats | Overall Length (In.) | PSI | Vacuum In. Hg. | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **3/8-18** | 1 1/4 | 2 5/32 | 3.5 - 4.5 | 2.0 - 2.2 | PRV201-03 | **1U585** | $33.72 | **$30.40** | 0.1 |
| **3/8-18** | 1 1/4 | 2 5/32 | 6 - 12 | 28 - 30 | PRV201-13 | **1U586** | 33.72 | **30.40** | 0.1 |
| **3/8-18** | 1 1/4 | 2 5/32 | 45 - 55 | 28 - 30 | PRV201-30 | **1U587** | 33.72 | **30.40** | 0.1 |

### B FILTER VENT

Relieve excessive pressure from gearboxes. 40 micron filter element easily removed for cleaning. Aluminum construction.

| Thread Size | Dia. (In.) Hex Head | Overall Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/8 PTF** | 11/16 | 1 1/16 | FV101 | **1U565** | $6.76 | **$6.07** | 0.1 |
| **1/4** | 11/16 | 1 9/16 | FV102 | **1U566** | 6.88 | **6.18** | 0.1 |
| **3/8** | 11/16 | 1 9/16 | FV103 | **1U567** | 7.13 | **6.41** | 0.1 |
| **1/2** | 15/16 | 1 9/16 | FV104 | **1U568** | 8.37 | **7.52** | 0.1 |

### C PROTECTED VENT

Provide a labyrinth air path restricting direct entry of dirt and moisture to reservoir or gearbox. Aluminum construction.

| Thread Size | Top Cap Dia. (In.) | Base (Square) (In.) | Overall Length (In.) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/8 PTF** | 9/16 | 7/16 | 1 1/8 | AV101 | **1U569** | $4.39 | **$3.94** | 0.1 |
| **1/4** | 3/4 | 9/16 | 1 9/16 | AV102 | **1U570** | 4.76 | **4.28** | 0.1 |
| **3/8** | 1 | 11/16 | 1 9/16 | AV103 | **1U571** | 5.75 | **5.18** | 0.1 |
| **1/2** | 1 1/4 | 7/8 | 1 9/16 | AV104 | **1U572** | 7.38 | **6.63** | 0.1 |

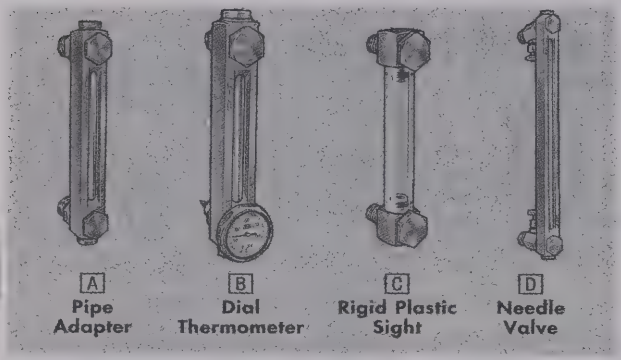
### D RELIEF/FILLER VENT PLUG

Dual purpose relief or filler vent plugs can be used for gear box housings and bearings to eliminate excessive pressure. Brass and plated steel construction. Automatic reset for continuous duty.

| Thread PTF | Dia. (In.) Hex Flats | Overall Length (In.) | PSI Relief Min. / Max. | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/4-18** | 9/16 | 1 1/8 | 1 - 5 | PRV102-2 | **1U573** | $6.89 | **$6.19** | 0.1 |
| **1/4-18** | 9/16 | 1 1/8 | 7.5 - 15 | PRV102-3 | **1U574** | 6.89 | **6.19** | 0.1 |
| **1/4-18** | 9/16 | 1 1/8 | 15 - 25 | PRV102-4 | **1U575** | 6.89 | **6.19** | 0.1 |
| **1/4-18** | 9/16 | 1 1/8 | 45 - 80 | PRV102-5 | **1U576** | 7.13 | **6.41** | 0.1 |
| **3/8-18** | 11/16 | 1 3/16 | 1 - 5 | PRV103-2 | **1U577** | 8.12 | **7.31** | 0.1 |
| **3/8-18** | 11/16 | 1 3/16 | 7.5 - 15 | PRV103-3 | **1U578** | 8.24 | **7.42** | 0.1 |
| **3/8-18** | 11/16 | 1 3/16 | 15 - 25 | PRV103-4 | **1U579** | 8.12 | **7.31** | 0.1 |
| **3/8-18** | 11/16 | 1 3/16 | 45 - 80 | PRV103-5 | **1U580** | 8.62 | **7.76** | 0.1 |
| **1/2-14** | 7/8 | 1 3/8 | 1 - 5 | PRV104-2 | **1U581** | 9.38 | **8.43** | 0.1 |
| **1/2-14** | 7/8 | 1 3/8 | 7.5 - 15 | PRV104-3 | **1U582** | 9.50 | **8.55** | 0.1 |
| **1/2-14** | 7/8 | 1 3/8 | 15 - 25 | PRV104-4 | **1U583** | 9.13 | **8.21** | 0.1 |
| **1/2-14** | 7/8 | 1 3/8 | 45 - 80 | PRV104-5 | **1U584** | 9.75 | **8.77** | 0.1 |

# CLOSED CIRCUIT LIQUID LEVEL GAGES AND VENTED OIL GAGES

## CLOSED CIRCUIT LIQUID LEVEL GAGES




### A FRONT MOUNT—ADAPTERS

1/4" NPTF brass pipe adapters for mounting in heavy wall tank or weld spuds on reservoir walls. Aluminum construction, front mounting, and Buna N seals. Borosilicate sight glass with red line on white background.

### B FRONT MOUNT—DIAL THERMOMETER

Dial probe thermometer series gage features highly accurate protected sensing element. Stainless steel dial thermometer: 1⅜" dia. Fahrenheit dial (0° to 300°). Aluminum construction, 1/2-20 UNF thread front mounting, Buna N seals. Borosilicate sight glass with red line on white background.

### C FRONT MOUNT—RIGID PLASTIC SIGHT

Provides wide angle viewing through tough, break resistant transparent cylindrical nylon sight. Aluminum end blocks and mounting bolts. 1/2-20 UNF thread front mounting. Buna N seals.

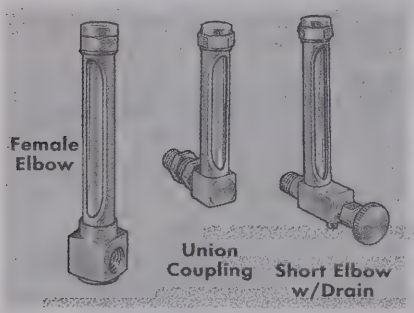
### LUBE DEVICES, INC.

### D FRONT MOUNT—NEEDLE VALVES

Features brass shut-off valves, 1/2 NPTF pipe thread. Gage body may be removed from valves without loss of fluid. Aluminum construction, front mounting, Buna N seals. Borosilicate sight glass with red line on white background.

| Mounting Centers (In.) | Maximum Operating PSI | Maximum Operating Temp. (°F) | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **A FRONT MOUNT—PIPE ADAPTERS** | | | | | | | |
| 5 | 290 | 250 | G607-05-A-1-2 | **1U929** | $32.15 | **$28.95** | 0.8 |
| 6 | 290 | 250 | G607-06-A-1-2 | **1U930** | 36.39 | **32.80** | 0.9 |
| 7 | 290 | 250 | G607-07-A-1-2 | **1U931** | 39.17 | **35.30** | 0.9 |
| 9 | 290 | 250 | G607-09-A-1-2 | **1U932** | 37.77 | **34.00** | 1.0 |
| 12 | 270 | 250 | G607-12-A-1-2 | **1U933** | 46.49 | **41.85** | 1.3 |
| **B FRONT MOUNT—DIAL THERMOMETER** | | | | | | | |
| 4 | 125 | 250 | G615-04-A-1 | **1U934** | 45.23 | **40.75** | 0.6 |
| 5 | 125 | 250 | G615-05-A-1 | **1U935** | 45.04 | **40.55** | 0.6 |
| 7 | 125 | 250 | G615-07-A-1 | **1U936** | 49.59 | **44.65** | 0.7 |
| 10 | 125 | 250 | G615-10-A-1 | **1U937** | 53.35 | **48.05** | 1.0 |
| 12 | 125 | 250 | G615-12-A-1 | **1U938** | 64.16 | **57.75** | 1.1 |
| **C FRONT MOUNT—RIGID PLASTIC SIGHT** | | | | | | | |
| 3 | 125 | 225 | G613-03-A-1 | **1U939** | 20.27 | **18.24** | 0.3 |
| 5 | 125 | 225 | G613-05-A-1 | **1U940** | 21.89 | **19.69** | 0.3 |
| 7 | 125 | 225 | G613-07-A-1 | **1U941** | 25.75 | **23.17** | 0.3 |
| 10 | 125 | 225 | G613-10-A-1 | **1U942** | 32.47 | **29.25** | 0.4 |
| 12 | 125 | 225 | G613-12-A-1 | **1U943** | 36.26 | **32.70** | 0.4 |
| **D FRONT MOUNT—NEEDLE VALVES** | | | | | | | |
| 12 | 270 | 250 | G608-12-A-1-4 | **1U944** | 70.05 | **63.05** | 2.0 |
| 15 | 260 | 250 | G608-15-A-1-4 | **1U945** | 80.58 | **72.55** | 2.2 |
| 18 | 240 | 250 | G608-18-A-1-4 | **1U946** | 91.33 | **82.15** | 2.5 |
| 24 | 210 | 250 | G608-24-A-1-4 | **1U947** | 117.24 | **105.45** | 3.0 |
| 30 | 185 | 250 | G608-30-A-1-4 | **1U948** | 144.87 | **130.30** | 3.6 |

## VENTED OIL GAGES




Provide quick, visual inspection of fluid levels in gear boxes and bearing housings. Protective gage shield rotates for optimum viewing. Positive sealing achieved by employing two trepanned pressure bosses inside chamber; one in the shank cavity and one in the closure cap. This prevents lateral extrusion of seals and eliminates leaks. Brass construction with glass sight. Buna N seals.

**Short and long elbow gages** may be disassembled on site, elbow alone installed, and gage reassembled.

**Union coupling gages** provide a convenient break point.

| Sight Length (In.) | Base Square (In.) | Mounting Thread | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **ELBOW—FEMALE** | | | | | | | |
| 1⅞ | 7/8 | 1/8 Fem. NPTF | G403-1 | **1U591** | $15.53 | **$13.97** | 0.3 |
| 1⅞ | 7/8 | 3/8 Fem. NPTF | G403-3 | **1U592** | 15.53 | **13.97** | 0.3 |
| 2¼ | 7/8 | 1/4 Fem. NPTF | G404-2 | **1U593** | 16.16 | **14.54** | 0.3 |
| 3¼ | 7/8 | 1/4 Fem. NPTF | G406-2 | **1U594** | 18.93 | **17.03** | 0.4 |
| 4¼ | 1 | 3/8 Fem. NPTF | G421-3 | **1U595** | 27.69 | **24.90** | 0.5 |
| 4¼ | 1 | 1/2 Fem. NPTF | G421-4 | **1U596** | 28.30 | **25.50** | 0.5 |
| **SHORT ELBOW** | | | | | | | |
| 1⅜ | 11/16 | 1/4 NPTF | G102-2 | **1U597** | 14.04 | **12.63** | 0.3 |
| 1⅞ | 11/16 | 1/4 NPTF | G103-2 | **1U598** | 14.41 | **12.96** | 0.3 |
| 2¼ | 11/16 | 1/4 NPTF | G104-2 | **1U599** | 15.16 | **13.63** | 0.3 |
| 2¾ | 11/16 | 1/4 NPTF | G105-2 | **1U600** | 15.79 | **14.20** | 0.3 |
| **LONG ELBOW** | | | | | | | |
| 1⅞ | 11/16 | 1/8 NPTF | G153-1 | **1U601** | 17.28 | **15.54** | 0.3 |
| 1⅞ | 11/16 | 1/4 NPTF | G153-2 | **1U602** | 17.78 | **15.99** | 0.3 |
| 2¼ | 11/16 | 1/4 NPTF | G154-2 | **1U603** | 18.41 | **16.55** | 0.3 |
| 3¼ | 11/16 | 1/4 NPTF | G156-2 | **1U604** | 19.42 | **17.48** | 0.4 |
| 4¼ | 7/8 | 3/8 NPTF | G261-3 | **1U605** | 33.13 | **29.85** | 0.7 |
| 4¼ | 7/8 | 1/2 NPTF | G261-4 | **1U606** | 32.85 | **29.60** | 0.7 |
| **UNION COUPLING** | | | | | | | |
| 1⅞ | 11/16 | 1/4 NPTF | G653-2 | **1U607** | 19.27 | **17.34** | 0.3 |
| 2¾ | 11/16 | 1/4 NPTF | G655-2 | **1U608** | 21.43 | **19.26** | 0.4 |
| **SHORT ELBOW WITH DRAIN** | | | | | | | |
| 1⅞ | 11/16 | 1/8 NPTF | G803-1 | **1U609** | 23.41 | **21.05** | 0.4 |
| 1⅞ | 11/16 | 1/4 NPTF | G803-2 | **1U610** | 24.03 | **21.61** | 0.4 |
| 2¼ | 11/16 | 1/4 NPTF | G804-2 | **1U611** | 24.19 | **21.75** | 0.5 |
| 3¼ | 11/16 | 1/4 NPTF | G806-2 | **1U612** | 27.68 | **24.89** | 0.5 |
| 4¼ | 7/8 | 3/8 NPTF | G901-3 | **1U613** | 38.73 | **34.85** | 0.8 |
| 4¼ | 7/8 | 1/2 NPTF | G901-4 | **1U614** | 39.35 | **35.45** | 0.8 |

# INLINE DOUBLE WINDOW FLOW SIGHTS

Can be used in vertical or horizontal fluid lines to observe fluid flow, condition or clarity. Solid brass bar stock construction, Buna N seals, and borosilicate sight window. Models with nylon ball aid in viewing of dark fluids in dim light conditions.

| Pipe Thread | Dia. Hex Flats (In.) | Sight Length (In.) | Overall Length (In.) | Max. Working PSI @ 150°F | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **FEMALE X FEMALE FLOW SIGHT** | | | | | | | | | |
| **1/8-27** | 7/8 | 1 1/16 | 3 11/32 | 435 | F151 | **1U891** | $24.07 | **$21.64** | 0.5 |
| **1/4-18** | 7/8 | 1 1/16 | 3 9/16 | 435 | F152 | **1U892** | 24.07 | **21.64** | 0.5 |
| **3/8-18** | 1 1/16 | 1 1/8 | 4 1/4 | 425 | F153 | **1U893** | 29.00 | **26.10** | 0.8 |
| **1/2-14** | 1 1/4 | 1 5/16 | 4 5/8 | 380 | F154 | **1U894** | 38.95 | **35.10** | 1.1 |
| **3/4-14** | 1 3/8 | 1 3/8 | 4 3/4 | 345 | F155 | **1U895** | 42.54 | **38.30** | 1.4 |
| **FEMALE X FEMALE INLINE WITH NYLON BALL** | | | | | | | | | |
| **1/8-27** | 7/8 | 1 1/16 | 3 11/32 | 435 | F151-01 | **1U896** | 30.42 | **27.40** | 0.5 |
| **1/4-18** | 7/8 | 1 1/16 | 3 9/16 | 435 | F152-01 | **1U897** | 30.42 | **27.40** | 0.5 |
| **3/8-18** | 1 1/16 | 1 1/8 | 4 1/4 | 425 | F153-01 | **1U898** | 35.80 | **32.25** | 0.8 |
| **1/2-14** | 1 1/4 | 1 5/16 | 4 5/8 | 380 | F154-01 | **1U899** | 39.42 | **35.50** | 1.1 |
| **3/4-14** | 1 3/8 | 1 3/8 | 4 3/4 | 345 | F155-01 | **1U900** | 48.45 | **43.65** | 1.4 |

# DOUBLE WINDOW FLOW SIGHTS

Can be used in either vertical or horizontal fluid lines. Nylon ball indicator aids in viewing under low light level or dark liquid conditions. Female x female NPT. Brass body, Buna N seals, and tempered borosilicate sight window.

| Pipe Thread | Sight Dia. (In.) | Overall Length (In.) | Max. Working PSI @150°F | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/4-14** | 7/8 | 3 1/2 | 400 | F251-05-01 | **1U909** | $106.99 | **$96.25** | 3.1 |
| **1-11 1/2** | 1 3/8 | 4 5/8 | 160 | F251-06-01 | **1U910** | 117.38 | **105.60** | 5.0 |
| **1 1/4-11 1/2** | 1 3/8 | 4 5/8 | 160 | F251-07-01 | **1U911** | 150.18 | **135.10** | 5.5 |

# WIDE VIEW FLOW SIGHTS

Large cylindrical sight allows 360° viewing. Can be used in vertical or horizontal fluid lines. Nylon ball indicator aids in viewing under low light levels or dark fluid conditions. Female x female NPT. Brass body, Buna N seals, and borosilicate sight window.

| Pipe Thread | Sight Dia. (In.) | Overall Length (In.) | Max Working PSI @ °F | | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/2-14** | 1 3/4 | 4 1/4 | 130 | 212 | F301-04-01 | **1U903** | 86.44 | **77.75** | 2.2 |
| **3/4-14** | 1 3/4 | 4 1/4 | 130 | 212 | F301-05-01 | **1U904** | 93.78 | **84.35** | 2.5 |
| **1-11 1/2** | 1 3/4 | 4 7/8 | 130 | 212 | F301-06-01 | **1U905** | 123.60 | **111.20** | 3.3 |
| **1 1/4-11 1/2** | 2 1/2 | 5 5/8 | 100 | 185 | F301-07-01 | **1U906** | 171.76 | **154.50** | 5.9 |
| **1 1/2-11 1/2** | 2 1/2 | 5 7/8 | 100 | 185 | F301-08-01 | **1U907** | 200.06 | **180.25** | 5.8 |
| **2-11 1/2** | 3 1/2 | 7 1/2 | 60 | 150 | F301-09-01 | **1U908** | 276.80 | **249.00** | 10.0 |

**WE OFFER A WIDE RANGE OF ENERGY SAVING PRODUCTS**

Electric motors, controls, blowers, fans and ventilators, lighting, boilers, ballasts, pumps, furnaces, water heaters, and other products. See Index under Energy Right Products for complete listings.

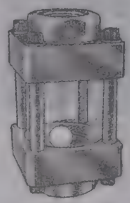
**LUBE DEVICES, INC.**



No. 1U910



No. 1U899



No. 1U906

# VISCOSITY CLASSIFICATIONS

## OIL WEIGHT CHART*

| SAE Wt. | ISO Visc. Grade | SUS Visc. @ 100°F |
|---|---|---|
| 5W | 15-22 | 80-100 |
| 10W | 32 | 135-164 |
| | 46 | 191-234 |
| 20W | 68 | 280-345 |
| 30W | 100 | 410-500 |
| 40W | 150 | 615-750 |
| 50W | 220 | 900-1200 |

(*) Charts for general reference. Consult your equipment manual for proper determination of viscosity.

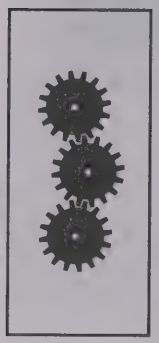
## COMPARITIVE VISCOSITY CLASSIFICATION*

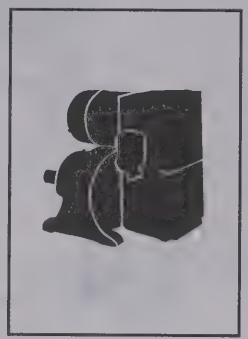
| SUS @ 100°F† | cST @ 40°C | ISO VG | AGMA Lub. No. | SAE Gear Visc. No. | SAE Engine Visc. No. | cST @ 100°C | SUS @ 210°F† |
|---|---|---|---|---|---|---|---|
| 5304 | 1000- | 1000 | 8A comp | | | -46 | 223 |
| 4905 | 925- | | | | | -44 | 214 |
| 3940 | 850- | | | | | -42 | 197 |
| 3600 | 775- | | | 140 | | -40 | 188 |
| 3245 | 700- | 680 | 8A comp | | | -38 | 179 |
| 2900 | 625- | | | | | -36 | 169 |
| 2550 | 550- | | | | | -34 | 150 |
| 2300 | 500- | | | | | -32 | 151 |
| 2100 | 450- | 400 | 7 comp | | | -30 | 142 |
| 1850 | 400- | | | | | -28 | 133 |
| 1700 | 365- | | | | | -26 | 125 |
| 1460 | 315- | 320 | 6 | | | -24 | 116 |
| 1300 | 280- | | | | | -22 | 107 |
| 1100 | 240- | | | | | -20 | 98 |
| 950 | 205- | 220 | 5 | 90 | 50 | -18 | 90 |
| 810 | 175- | | | | | -16 | 82 |
| 650 | 140- | 150 | 4 | | 40 | -14 | 74 |
| 535 | 115- | | | 85W | | -12 | 67 |
| 394 | 85- | 100 | 3 | | 30 | -10 | 59 |
| 278 | 60- | | | 80W | 25W | -8 | 52 |
| 186 | 40- | 32 | | 75W | 15W | -6 | 46 |
| 98 | 20- | 22 | | | 20 | -4 | 39 |
| 59 | 10- | | | | 10W | -2 | 33 |

(†) Approximate measurement.

# SYNTHETIC AND MINERAL GEAR AND POWER TRANSMISSION OILS

Mobil





## A SYNTHETIC GEAR OILS

- **For industrial enclosed gears, speed and gear reducers (worm, helical, spur), plain and roller bearings**

Multi-viscosity SHC base. Recommended for severe temperature and load conditions. Reduces power consumption. Contains additives that enhance oxidation stability, and corrosion protection. Extends oil drain intervals. Approved by major gear manufacturers Mobil SHC 634 ISO VG 460 AGMA 7 for No. 4ZF30. Mobil SHC 630 ISO VG 220 AGMA 5 for No. 6Y778.

## B INDUSTRIAL GEAR OILS

- **For industrial enclosed gear drives**

Premium quality, heavy-duty industrial gear lubricants formulated to provide anti-wear, rust, and corrosion protection. Recommended in gear drives containing both circulation and splash lubrication systems. Satisfy AGMA specifications as follows: Mobilgear 634-AGMA 7EP.

## C MULTIPURPOSE GEAR LUBRICANT

- **For axles, final drives and some manual transmissions on cars, trucks, tractors, and contractor and mining equipment**

Multipurpose heavy-duty, extreme pressure gear lubricants are qualified API Service GL-5 and meet US Military Specifications MIL-1-2105D and Mack GO-H. Ideal for equipment operated under high speed shock load, high-speed low torque, and low-speed high torque conditions.

## D SYNTHETIC GEAR LUBRICANT

- **For year-round automotive applications in some manual transmissions, differentials, and light to medium-duty gearboxes**

Specially designed extreme pressure limited slip, GL5 sulphur-phosphorus additive package with SHC base. Reduces wear and spalling under high speed, high torque, and high horsepower conditions. Extremely resistant to heat and breakdown.

## E MOBIL 1® SYNTHETIC AUTOMATIC TRANSMISSION FLUID

- **For automatic transmissions requiring GM DEXRON III and Mercon fluid**

Synthetic transmission fluid which outperforms all conventional multipurpose ATF products. Meets or exceeds Allison C-4 requirements and Caterpillar TO-2 for on-and-off-highway heavy-duty transmissions.

## F MOBIL TRACTOR HYDRAULIC/ TRANSMISSION FLUID

- **For top-off and refill of transmissions, differentials, final drives, hydraulics, and power steering systems, as well as wet brakes. PTOs and hydrostatic drives in farm, contractor, and industrial tractors**

Meets or exceeds the following specifications: John Deere J20A, J20C; Ford New Holland M2C134D; Massey Ferguson M1135, M1141; White New Idea Q-1802, Q-1826; Case International JIC 145, MS1210, B6 JIC 185, MS 1204, MS 1205, MS1206, Allison C-4; Deutz Allis XL; Caterpillar TO-2 Powershift, SAE80, API GL-4 Gear Lube.

## G AUTOMATIC POWER TRANSMISSION FLUID

- **For automotive transmissions in most cars and light trucks requiring GM DEXRON III and Mercon fluid**

New generation, premium automatic transmission fluid provides excellent protection against wear and deposits in heavy-duty service. Recommended where Ford MERCON, M2C166-H (Types CJ and H) fluids are specified. Also recommended for off highway transmissions, power steering, and hydraulic systems requiring DEXRON II, Allison C-4, or Caterpillar TO-2 fluid. Meets industrial hydraulic oil demands of Denison HF-O Vickers Vane Pump, and Sundstrand Piston Pump specifications.

Mobil produces high quality products and is a leading name in lubricants. Complete line of oils and greases including: premium graded mineral, food grade and synthetic lubricants. Products are packaged in smaller containers to provide you the following benefits.

- **Smaller initial purchases**
- **Availability, no need to inventory**
- **Reduced chance of contamination**
- **No leaking drums to create hazard**
- **Conveniently used or dispensed, see dispensing equipment on 2752**

Be sure to follow equipment manufacturer's recommendations relative to lubricant's properties. If you require additional assistance call: 1-800-662-4525.

| Key | Container Size | ISO VG | Viscosity SUS @ 100°F | Viscosity Index | Flash Point (°F) | Pour Point (°F) | Mobil Product Name | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 quart | 460 | 2236 | 159 | 460 | -20 | Mobil SHC® 634 | **4ZF30** | $10.11 | **$8.60** | 2.0 |
| A | 1 quart | 220 | 1122 | 152 | 445 | -40 | Mobil SHC® 630 | **6Y778** | 10.03 | **8.53** | 2.0 |
| B | 1 gallon | 460 | 2493 | 95 | 450 | 20 | Mobilgear 634 | **6Y785** | 12.25 | **10.42** | 8.3 |
| C | 1 quart | — | 728 | 95 | 375 | -15 | Mobilube HD 80W-90 | **4F979** | 4.60 | **3.85** | 2.1 |
| C | 2.5 gallon | — | 728 | 95 | 375 | -15 | Mobilube HD 80W-90 | **4ZF27** | 31.70 | **26.95** | 21.0 |
| C | 1 quart | — | 1980 | 95 | 400 | 0 | Mobilube HD 85W-140 | **4F980** | 4.60 | **3.85** | 2.1 |
| C | 2.5 gallon | — | 1980 | 95 | 400 | 0 | Mobilube HD 85W-140 | **4ZF28** | 31.70 | **26.95** | 21.0 |
| D | 1 quart | — | 525 | 149 | 347 | -50 | Mobil 1® SGL 75W-90 | **4F744** | 9.25 | **7.85** | 2.0 |
| E | 1 quart | — | 144 | 136 | 420 | -65 | Mobil 1® Synthetic ATF | **6Y776** | 8.18 | **6.95** | 2.0 |
| F | 2.5 gallon | — | 283 | 158 | 442 | -46 | Mobilfluid® 424 | **4ZF29** | 29.07 | **24.69** | 21.0 |
| G | 1 quart | — | 188 | 163 | 320 | -40 | Mobil Multi-Purpose ATF | **4ZF26** | 2.70 | **2.30** | 2.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.


## YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly— plus the solutions you need to keep your operation running more profitably.**

# GASOLINE AND DIESEL ENGINE OILS

Mobil





**Mobil produces high quality products and is a leading name in lubricants. Complete line of oils and greases including: premium graded mineral, food grade and synthetic lubricants. Products are packaged in smaller containers to provide you the following benefits.**

- **Smaller initial purchases**
- **Availability, no need to inventory**
- **Reduced chance of contamination**
- **No leaking drums to create hazard**
- **Conveniently used or dispensed, see dispensing equipment on 2752**

**Be sure to follow equipment manufacturer's recommendations relative to lubricant's properties. If you require additional assistance call: 1-800-662-4525.**

## [A] DELVAC 1300 SUPER DIESEL ENGINE OIL

- **For on and off-highway and farm diesel engines**

SAE 15W-40 high performance multi-grade diesel engine oil meets new emission requirement. Offers superior overall engine wear protection with minimal ring and crown land deposits. Excellent soot control makes them ideal for pick-up and delivery service.

Meets or exceeds specifications: API, CH-4, SJ, CF-4; Mack EO-M, EO-L plus, EO-K2; Cummins NTC 400; Detroit Diesel 7SE270; Navistar TSI-85-6; GM 6094M; Ford ESE-M2C-153E; MIL-L-2104E; MIL-L-46152D; Allison C-4 fluid; Caterpillar TO-2 fluid.

## [B] GASOLINE/DIESEL/NATURAL GAS ENGINE OIL

- **For air-cooled and water cooled gasoline and diesel engines and equipment. Also natural gas engines using liquid propane, methane, and butane in lift trucks and irrigation equipment**

SAE 30 highly stable, highly detergent monograde engine oil features: ashless dispersants, metallic detergents; oxidation, corrosion and rust inhibitors, anti-wear agents, and a defoamant.

Meets or exceeds API classifications CF2, CF, CE, CD-II, CD and SH. Approved for use by the Allison Division of GM as a type C-4 fluid. Exceeds performance requirement of US Military Specifications MIL-L-46152E and MIL-L-2104F; meets or exceeds Ford ESE-M2C153D, GM 6094M, Detroit Diesel 7SE270, Cummins NTC 400, and Mack EO-K/2.

Mobil




[C] No. 4F743

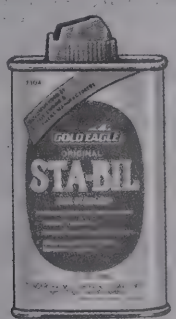
## [C] MOBIL 1® AUTOMOTIVE

- **For automotive engines including turbo-charged, light-truck gasoline or diesel engines requiring API service SJ/CF and ILSAC GF.2**

SAE 10W30 which increases fuel efficiency and extends oil drain intervals two to three times (depending on driving and environmental conditions). Synthetic, detergent-dispersant oil contains no impurities, providing engine cleanliness and fewer deposits. Exceeds Energy Conserving II fuel efficiency ratings, and manufacturers' requirements. Extreme heat protection, up to 425°F. Cold start protection, able to pump oil at -45°F. Compatible with and may be mixed with mineral base oils.

| Key | Container Size | SAE Grade | Viscosity SUS @ 100°F | Flash Point (°F) | Pour Point (°F) | Sulphated Ash (Wt.) | TBN ASTM D2896 | Mobil Product Name | Stock ❸ | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 gallon | 15W-40 | 520 | 400 | -20 | 1.3% | 11.0 | Delvac 1300 Super 15w40 | 4ZF24 | $12.25 | $10.42 | $9.90/6 | 8.3 |
| B | 1 quart | 30W | 508 | 430 | 0 | 0.9% | 7.5 | Delvac 1230 | 4ZF20 | 2.66 | 2.25 | 2.14/12 | 2.0 |
| C | 1 quart | 10W-30 | 283 | 450 | -65 | — | NIL | Mobil 1* | 4F743 | 7.15 | 5.50 ▲ | — | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See Page opposite inside back cover.
(▲) Net prices, not subject to discounts.




## STA-BIL® FUEL STABILIZER

**Used for:**

- **Seasonal storage**
- **Preventive maintenance for infrequently used equipment**
- **Gasoline stabilization in hot and humid climates**
- **Assured starts in stand-by and emergency equipment**

**Used in all 2 and 4-cycle engines, diesel engines, engine-powered equipment.**

**Prevents oxidation, rust, and corrosion** in fuel systems; prevents gum and varnish formation; and keeps gaskets lubricated and leak-free.

**Easy to use.** Just add to fuel tank, agitate, run equipment, and store. Stabilized fuel remains in tank to keep the system conditioned for quick, easy start-up. Eliminates the need to drain or burn off fuel prior to storage. One 4-ounce container treats 5 gallons of gasoline. Golden Eagle brand.

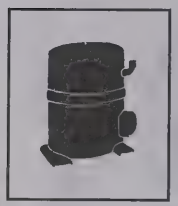
No. 6A114. ❸ Shpg. wt. 0.4 lbs. List $5.82. Each ..... $3.49

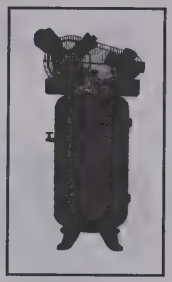
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# COMPRESSOR OILS AND SPECIAL SERVICE OILS

## COMPRESSOR OILS

Mobil®





### A AIR COMPRESSOR OIL

- **For single and multistage reciprocating air compressors**

Developed to handle higher speeds and temperatures of modern single and multistage air compressors. Specially selected additives combined to enhance lubrication, anti-wear and rust protection in cylinders and crankcases. Can minimize valve carbon and crankcase sludge deposits, allowing extended service and drain intervals. Nondetergent, anti-foam additive maintains lubrication and density. 30 wt.

### B SYNTHETIC AIR COMPRESSOR OIL

- **For rotary screw air compressors (No. 4ZF39) and for reciprocating air compressors (No. 6Y783)**

Synthetic diester meets viscosity requirements of many compressors. Extraordinary resistance to oxidation provides long oil, filter, and separator life.

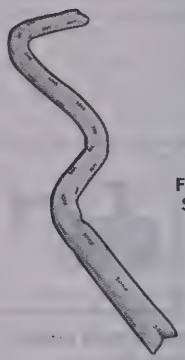
### C REFRIGERATION COMPRESSOR OIL

- **For refrigeration compressors**

Highly refined naphthenic base oil exceeds manufacturer's recommendations. Suitable for lubrication of reciprocating compressors (cylinders and bearings) using many types of refrigerants except sulfur dioxide, HCFCs, and HFCs.

**COMPRESSOR OIL REFRIGERANT COMPATIBILITY**

| Key | Stock No. | Recommended for Compressors Using: R 11 | R 12 | R 22 | R 113 | R 114 | R 502 | Ammonia |
|---|---|---|---|---|---|---|---|---|
| C | 4ZF40 | Yes | Yes | Yes | Yes | No | Yes | No |
| C | 4ZF41 | Yes | Yes | Yes | Yes | No | Yes | No |
| D | 4ZF42 | No | Yes | No | No | Yes | No | Yes |

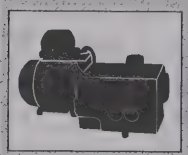


FOR PETROLEUM SORBENTS, SEE INDEX

### COMPRESSOR OIL SPECIFICATIONS AND ORDERING DATA

| Key | Container Size | ISO Viscosity Grade | Viscosity SUS @ 100°F | Flash Point (°F) | Pour Point (°F) | Floc Point (°F) | Mobil Product Name | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 quart | 100 | 530 | 480 | 25 | — | Rarus® 427 | **4ZF21** | $4.94 | **$4.11** | 2.0 |
| A | 1 gallon | 100 | 530 | 480 | 25 | — | Rarus® 427 | **4F978** | 16.43 | **13.87** | 8.3 |
| B | 5 gallon pail | 32 | 137 | 450 | -65 | — | Rarus® 824 | **4ZF39** | 153.44 | **130.45** | 44.0 |
| B | 5 gallon pail | 100 | 422 | 430 | -35 | — | Rarus® 827 | **6Y783** | 148.65 | **126.40** | 43.0 |
| C | 5 gallon pail | — | 307 | 340 | -30 | -50 | Gargoyle® Arctic® Oil 300 | **4ZF41** | 77.30 | **65.80** | 40.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

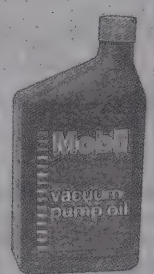






Mobil®




A No. 4ZF22 B No. 4ZF23

## SPECIAL SERVICE OILS

### A ROCK DRILL, AIR TOOL OIL

- **For air tools and air line lubricators and pneumatic rock drills**

Formulation provides a balance of adhesiveness, yet is emulsifiable enough to pick up moisture carried in oil stream. High EP characteristics protect tools even in tough mining, contractor and in-plant operations. 10 wt.

### B VACUUM PUMP OIL

- **For vacuum pumps**

High quality, straight mineral oil with low vapor pressure. Recommended for most vacuum pumps where high vacuum is required (0.08 Hg max. microns). Suitable for use with Busch, Leybold, Gast, Pneumotive, and Welch pumps.

### SPECIAL SERVICE OIL SPECIFICATIONS AND ORDERING DATA

| Key | Container Size | ISO Viscosity Grade | Viscosity SUS@ 100°F | Flash Point (°F) | Pour Point (°F) | Mobil Product Name | Stock No. ❸ | List | Each | Lots | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 quart | 46 | 230 | 370 | -20 | Almo® 525 | **4ZF22** | $4.60 | **$3.91** | **$3.72** | 2.1 |
| B | 1 quart | 68 | 332 | 450 | 15 | Vacuum Pump Oil | **4ZF23** | 5.76 | **4.90** | **4.65** | 2.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# HYDRAULIC AND MACHINE TOOL OILS

## HYDRAULIC OILS

### [A] PREMIUM HYDRAULIC OILS

- **For use with a wide variety of industrial, marine, and mobile service hydraulic equipment. Also for use in hand and power operated jacks, scissor jacks, hand pumps, etc.**

Highest quality, premium antiwear industrial hydraulic oils that meet the requirements of all conventional and high output hydraulic systems, including high pressure systems with servo valves, and all robotics. Allows operation in wide range of temperatures while handling heavy loads. Approved in Dension HF-0, Vickers V-104C and 35VQ25, and Sunstrand pump tests. Available in convenient sizes for various applications.

### [B] PREMIUM CIRCULATING OIL

- **For bearings, gears, hydraulics, selected vacuum pumps, and air compressors**

High quality, double-inhibited oil designed for multiple applications.

Contains: oxidation inhibitors to resist thermal degradation, defoamants to ensure entrained air is released. Demulsibility permits water and other contaminants to separate.

### [C] FOOD GRADE HYDRAULIC OIL

- **H1 USDA Approved hydraulic/circulating oil for use in food processing equipment**

Highly refined mineral oil specially treated to remove color bodies. White oil that will not stain or discolor material it comes in contact with. FDA and USDA Regulation H-1 Approved. Suitable for use where there is a likelihood of incidental contact with food.

### [D] BIODEGRADABLE HYDRAULIC OIL

- **For industrial, marine, and mobile service including high pressure systems, systems with servo valves, and all robotics**

Satisfies stringent criteria for biodegradability and toxicity. Recommended for most hydraulic systems requiring readily biodegradable, nontoxic fluids. Approved in Vickers V-104C, 35VQ25, and other various pump tests.

### [E] PREMIUM HYDRAULIC OIL

- **Excellent keep-clean performance and deposit control** *New*
- **Antiwear performance equal to the best premium zinc containing oils**
- **Compatible with zinc containing hydraulic fluids**
- **Controlled demulsibility to work with small amounts of water and separate out large quantities**
- **Multimetal compatibility**
- **Excellent protection against rust**

High quality premium hydraulic oil formulated for most applications in industrial, marine, and mobile service where zinc free fluids are desired. Designed for high pressure systems, systems with servo valves, NC control mechanisms, and all robotics. Provides maximum equipment productivity with keep-clean performance, minimizing sludge, varnish, and deposit formation. Minimizes equipment maintenance by reducing wear and corrosion.

Mobil

| Key | Container Size | ISO Viscosity Grade | Viscosity (SUS @100°F) | Flash Point (°F) | Pour Point (°F) | Mobil Product Name | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 quart | 32 | 165 | 395 | -10 | DTE 24 | 4ZF32 | $4.05 | $3.45 | 2.0 |
| A | 1 gallon | 32 | 165 | 395 | -10 | DTE 24 | 4ZF33 | 13.37 | 11.37 | 8.3 |
| A | 5 gallon pail | 32 | 165 | 395 | -10 | DTE 24 | 4F968 | 57.73 | 46.20 | 42.0 |
| A | 1 gallon | 46 | 238 | 395 | -10 | DTE 25 | 4F973 | 11.96 | 10.13 | 8.3 |
| A | 5 gallon pail | 46 | 238 | 395 | -10 | DTE 25 | 4ZF34 | 57.76 | 46.20 | 42.0 |
| A | 1 gallon | 68 | 335 | 400 | -10 | DTE 26 | 6Y780 | 12.07 | 10.26 | 8.3 |
| A | 5 gallon pail | 68 | 335 | 400 | -10 | DTE 26 | 4ZF35 | 57.84 | 46.30 | 38.0 |
| B | 5 gallon pail | 32 | 158 | 395 | 20 | DTE Oil Light | 4ZF36 | 56.98 | 48.45 | 37.0 |
| B | 1 gallon | 100 | 495 | 410 | 20 | DTE Oil Heavy | 6Y781 | 12.68 | 10.79 | 8.3 |
| B | 1 gallon | 150 | 840 | 440 | 25 | DTE Oil Extra Heavy | 6Y782 | 12.68 | 10.79 | 8.3 |
| C | 5 gallon pail | 32 | 165 | 425 | 15 | DTE FM 32 | 4ZF37 | 95.95 | 81.50 | 40.0 |
| D | 5 gallon pail | 32-46 | 183 | 432 | 22 | EAL 224H | 4F971 | 113.85 | 96.60 | 42.0 |
| E | 5 gallon pail | — | 40 | 240 | 20 | DTE Excel 46* | *New* 3VG65 | — | 57.50▲ | 39.0 |

(▲) Net prices, not subject to discounts.

## MACHINE TOOL OILS

### [A] WAY OILS

- **For machine tool ways, slides and gears**

Recommended when extreme precision or slow speeds make it necessary to eliminate stick-slip or chatter. Approved by major machine tool builders such as Cincinnati Milacron, Okuma, Bijur. Aqueous coolant friendly.

### [B] SPINDLE BEARING OILS

- **For high speed spindle, plain, and antifriction bearings in textile machines, precision grinders, and other machine tools**

Light bodied, light colored oil offers long service life, excellent antifoam, and rust protection. Resists oxidation and deposit formation. Approved against Cincinnati Milacron P specifications.




| Key | Container Size | ISO Viscosity Grade | Viscosity (SUS @ 100°F) | Flash Point (°F) | Pour Point (°F) | Mobil Product Name | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 5 gallon pail | 68 | 355 | 424 | 20 | Vactra No. 2 | 4ZF13 | $55.36 | $47.10 | 40.0 |
| A | 5 gallon pail | 220 | 1170 | 495 | 20 | Vactra No. 4 | 4F969 | 56.37 | 47.95 | 42.0 |
| B | 1 gallon | 10 | 59 | 310 | 25 | Velocite No. 6 | 4F974 | 12.72 | 10.69 | 8.3 |
| B | 5 gallon pail | 10 | 59 | 310 | 25 | Velocite No. 6 | 4ZF38 | 54.64 | 46.40 | 36.0 |
| B | 1 gallon | 22 | 107 | 360 | 25 | Velocite No. 10 | 4F975 | 12.72 | 10.69 | 8.3 |
| B | 5 gallon pail | 22 | 107 | 360 | 25 | Velocite No. 10 | 4F970 | 55.82 | 47.45 | 42.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## LOCTITE® DUPONT® KRYTOX® HIGH PERFORMANCE GREASES

- **Increases service life of critical parts**
- **Using Teflon® technology lubricates in extreme conditions, decreasing downtime and part replacement**

For demanding bearing, valve and seal use. Chemically inert, nonreactive; will not form gummy solids or deposits which cause failures. Will not react with gaseous or liquid oxygen or chlorine. Nonflammable, no flash or fire point. Thermally stable from -60°F to 600°F; withstands continuous temp. of 400°F and intermittent temp. of 600°F.

Outperforms hydrocarbon, synthetic, silicone, fluorinated silicone and chlorofluorocarbon greases. Hybrid compound of perfluoroalklpolyether oil and Teflon® thickener, made only by DuPont®. Insoluble in hydrocarbons, water, solvents, acids and bases.

### GENERAL PURPOSE GREASES

#### GENERAL PURPOSE

NLGI Grade 2. Base oil viscosity cSt @ 20°C = 810. 2 oz. size.

**No. 4F646.** Shpg. wt. 0.2 lbs. List $18.37. Each ..... $17.49▲

#### GENERAL PURPOSE WITH CORROSION INHIBITOR

Contains anti-rust additive.

**No. 4F647.** Shpg. wt. 0.2 lbs. List $18.37. Each ..... $17.49▲

(▲) Net prices, not subject to discounts.

No. 4F646
2 oz. Tube




## THERMAPLEX™ HI-TEMP

Specially developed to remain stable and resist carbonization at extremely high temperatures, thus reducing risk of bearing failure. Features: Excellent high temperature performance, very high melting point: 536°F (over 280°C), extends relubrication intervals, reduces grease consumption, reduces risk of bearing failure at high temps, very good vibration resistance, reduces need for multiple greases

***New*** **No. 4UJ38.** LPS brand (70214). Shpg. wt. 1.0 lbs. List $7.42. Each ..... $6.75

## THERMAPLEX™ HI-LOAD

Designed to provide long-lasting lubrication for heavily loaded bearings or those subjected to shock loading and vibration. Features: Excellent load carrying ability, withstands shock loading, reduces wear from vibration, good corrosion resistance, excellent anti-wear properties, wide operating temperature range.

***New*** **No. 4UJ40.** LPS brand (70414). Shpg. wt. 1.0 lbs. List $5.11 Each ..... $4.65

## THERMAPLEX™ MULTI-PURPOSE

Specifically developed to outperform conventional bearing greases and extend relubrication periods, reducing maintenance requirements and grease use. Features: Long life, excellent load carrying properties, prolongs bearing life, good corrosion resistance, reduces grease consumption. Ideal for lubricating all types of bearings.

***New*** **No. 4UJ42.** LPS brand (70614). Shpg. wt. 1.0 lbs. List $4.18 Each ..... $3.80

## THERMAPLEX™ LO-TEMP

Formulated to provide excellent bearing lubrication at extremely low temperatures or in environments where rapid temperature variations occur. Features: Excellent low temperature performance, very good load carrying capacity, reduces wear, excellent corrosion resistance, resists water wash out, increases efficiency, extends lubrication intervals

***New*** **No. 4UJ39.** LPS brand (70314). Shpg. wt. 1.0 lbs. List $4.95. Each ..... $4.50




## THERMAPLEX™ FOODLUBE

Suitable for bearing lubrication in which incidental contact with food stuffs may occur or in an application where clean, routine lubrication is required. Features: USDA H1 category approved, uses only FDA listed ingredients, high degree of water resistance, excellent corrosion protection, very good load capacity, does not contain mineral oil, solvents or silicone. Product is non-toxic, nonstaining, and nonemulsifying.

***New*** **No. 4UJ37.** LPS brand (70114). Shpg. wt. 1.0 lbs. List $6.05. Each ..... $5.50

## THERMAPLEX™ AQUA

Specially created to withstand the effects of running water and to provide excellent long-lasting lubrication even when fully submerged in fresh or salt water. Features: Resists water wash out, good adhesion properties, excellent corrosion resistance, significant load carrying capability, reduces wear, reduces grease consumption. Provides a greater degree of bearing protection and is resistant to both salt and fresh water.

***New*** **No. 4UJ41.** LPS brand (70514). Shpg. wt. 1.0 lbs. List $3.85. Each ..... $3.50

# GREASE

**Mobil produces high quality products and is a leading name in lubricants. Complete line of oils and greases including: premium grade mineral, food grade and synthetic lubricants. Products are packaged in smaller containers to provide you the following benefits:**

- **Smaller initial purchases**
- **Availability, no need to inventory**
- **Reduce chance of contamination**
- **No leaking drums to create hazard**
- **Conveniently used or dispensed, see dispensing equipment on pages 2752 - 2753**

**Be sure to follow equipment manufacturer's recommendations relative to lubricant's properties. If you require additional information or assistance, call: 1-800-662-4525.**

**See page 2765 for comparative viscosity classifications.**




NLGI: National Lubrication and Grease Institute

## [A] MULTIPURPOSE GREASE

- **For bearings, cams, ways, other sliding elements**

NLGI Grade 2 extreme-pressure, antiwear lithium complex, soap-base grease. Excellent service under severe operating conditions of high-pressure, shock loading and water contamination. Recommended for temperatures up to 350°F.

## [B] MOBIL 1 SYNTHETIC AUTOMOTIVE GREASE

- **For automotive grease applications**

NLGI Grade 2, for high and low temperature greasing. Ideal for disc brake wheel bearings, ball and steering joints and universal joints.

## [C] MULTIPURPOSE AUTO GREASE

- **For chassis, universal joints, disc brake wheel bearings in automotive, fleet, farm and off—highway service**

NLGI Grade 2 extreme pressure, unleaded, lithium, soap base grease. Excellent resistance to oxidation and water displacement.

## [D] MULTIPURPOSE AUTO GREASE WITH MOLY

Same as above multipurpose auto grease but with molybdenum disulfide (moly).

## [E] CONTRACTOR/MINING GREASE

- **For heavy-duty, severe service greasing requirements of off-highway contractor and mining equipment**

NLGI Grade 2, unleaded, extreme pressure grease with 3% moly. Provides protection against wear and shock loads, and rust and water wash. Exhibits long-term structural and chemical stability.

## [F] SYNTHETIC BEARING GREASE

- **For grease lubricated rolling element bearings in electric motors**

NLGI Grade 2 grease combines a synthetic base fluid with a lithium complex soap thickener. Satisfies long service life and performance requirements for most electric motor manufacturers. (ISO 100 synthetic)

## [G] SYNTHETIC BEARING GREASE

- **For high-temperature, high-load rolling element bearings and water pump applications**

NLGI Grade 1.5 antiwear, extreme pressure grease combines synthetic base fluid with lithium complex soap thickener. Resists consistency change when contaminated with water. Superior protection against rust and corrosion. (ISO 460 synthetic)

## [H] FOOD GRADE GREASE

- **H1 USDA Approved for journal and antifriction bearings on food/beverage machinery and sanitary equipment**

NLGI Grade 2, aluminum soap-thickened grease for use in plant food machinery and movable equipment handling food products. Withstands elevated temperatures and is resistant to water contamination. Meets FDA regulation 178.3570 and has USDA Type H-1 for lubricants with incidental food contact.

| Key | Container Size | NLGI Grade | Dropping Point (°F) Min. | Color | Mobil Product Name | Stock No. ❸ | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 3 oz. cartridge | 2 | 475 | Green | Mobilith AW 2 | 4F982 | $4.65† | $3.95 | $3.56 | 0.9 |
| A | 14 oz. cartridge | 2 | 475 | Green | Mobilith AW 2 | 4ZF46 | 2.12 | 1.80 | 1.71 | 1.2 |
| A | 35 lb. pail | 2 | 475 | Green | Mobilith AW 2 | 4ZF47 | 78.25 | 66.50 | — | 40.0 |
| B | 12 oz. cartridge | 2 | 475 | Red | Mobil 1 Syn. Grease | 6Y777 | 5.84 | 4.97 | 4.48 | 1.2 |
| C | 1 lb. tub | 2 | 475 | Blue | Mobilgrease HP | 6Y788 | 3.82 | 3.25 | 2.93 | 1.3 |
| C | 7 lb. tub | 2 | 475 | Blue | Mobilgrease HP | 4F981 | 20.41 | 17.01 | — | 8.3 |
| D | 14 oz. cartridge | 2 | 475 | Black | Mobilgrease Special with Moly | 4ZF44 | 2.40 | 2.04 | 1.93 | 1.2 |
| E | 14 oz. cartridge | 2 | 475 | Gray | Mobilgrease CM-P | 6Y786 | 3.24 | 2.75 | 2.48 | 1.2 |
| F | 12.5 oz. cartridge | 2 | 475 | Red | Mobilith SHC 100 | 4ZF49 | 6.36 | 5.44 | 5.16 | 1.2 |
| G | 12.5 oz. cartridge | 1.5 | 475 | Off White | Mobilith SHC PM | 4ZF48 | 6.36 | 5.44 | 5.04 | 1.2 |
| H | 14 oz. cartridge | 2 | 420 | Amber | Mobilgrease FM102 | 4ZF43 | 3.64 | 3.10 | 2.95 | 1.2 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(†) Priced in package quantities of three.

# CUTTING FLUIDS

## LPS® TAPMATIC® CUTTING FLUIDS

**LPS® TAPMATIC #1 GOLD Cutting Fluid** Simultaneously protects and lubricates to reduce friction and eliminate chip welding in tapping, drilling, reaming, and threading. Does not contain 1,1,1 trichloroethane, CFC's, chlorinated paraffins, water, solvents, or inactive fillers. Safe to use on all metals. LPS brand. (40320)

**No. 2F019.** Shpg. wt. 0.3. List $4.36. Each ..... **$3.80**

**No. 2F021.** Shpg. wt. 1.1. List $8.57. Each ..... **$7.45**

## LPS® TAPMATIC® AQUACUT

**LPS® Tapmatic® Aquacut.** A water-based cutting fluid that extends tool life and reduces friction, heat, and tool failure. Provides clean cuts and fine finishes. Designed for use on steel, aluminum, and other metals, except magnesium. Does not contain any sulfur, chlorine, or 1,1,1 trichloroethane. Will not stain metal. Nonflammable and cinnamon-scented. LPS brand (01216).

**No. 2C649.** Shpg. wt. 1.3. List $7.25. Each ..... **$6.03**

## CRC® CUTTING OIL

Thread-cutting lubricant for use on all types of metal. Low-odor formula is safe on soft metals such as brass, copper, and aluminum, and has no strong sulfur odor. Additives create strong film that withstands extreme pressures, increasing tool life and ease of cutting. 16 oz. can/12 oz. net wt. CRC brand (14050).

**No. 2F146.** Shpg. wt. 1.0. List $5.62. Each ..... **$5.35**

## SPRAYON® CUTTING OIL

Provides cooling and lubrication at point of work to eliminate scoring. For use when drilling, cutting, sawing, and threading. Ideal for all matreials including stainless steel, aluminum, brass, and copper surfaces. Foaming action aids penetration for longer tool life. Features jet-type spray, and pinpoint extension tube. USDA H2 rated. Sprayon brand. (S00208)

**No. 2W755.** Shpg. wt. 1.1 lbs. List $8.06. Each ..... **$3.95**




## STARRETT® TOOL AND INSTRUMENT OIL

Highly refined, colorless, oil for use in extreme temperatures on close-fitting parts. Protects high quality precision tools.

## STARRETT® M1 ALL-PURPOSE LUBRICANT

Cleans, polishes, and protects against rust and corrosion damage. Prevents short circuits and halts electrical leakage from wet ignition wires. Contains no fluorocarbons, detergents, or silicone and is not water soluble. FDA approved for use in or near food-related environments. Works in extreme temperatures. Removes grease, tar and grime from metal parts and painted surfaces.

| Description | Container Size | Starrett Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Tool and Instrument Oil** | 4 Fluid Oz. Can | 1620 | **4K256** | **$4.15▲** | 0.3 |
| **M1 All-Purpose Lubricant** | 12 Oz. Aerosol Can | M1-95173 | **4L958** | **3.69** | 1.1 |

(▲) Net prices, not subject to discounts.




## VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

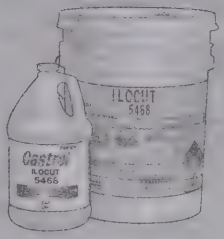
**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**




COOLEDGE® 6612C



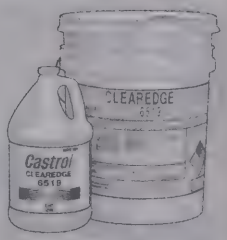

SUPEREDGE® 6759




ILOCUT® 5468




SYNTILO® 9930




CLEAREDGE® 6519

## COOLEDGE® 6612C General Purpose Soluble Oil

- **Soft fluid residue offers lubrication to fixtures and gauges; resulting in care-free equipment maintenance**
- **Strong operator acceptance—clean, neutral-odor fluid is pleasant to use**

A water-dilutable cutting and grinding fluid for machining and grinding of ferrous and nonferrous metals. Especially for shops that machine an assortment of alloys. This concentrate mixes easily with hard or soft water to form a stable emulsion. Formulated to keep machines and parts clean and free of sticky residues.

**No. 3VJ01.** 1 Gal. Shpg. wt. 8.8 lbs. Each ..... $20.60

**No. 3VJ02.** 5 Gal. Shpg. wt. 38.0 lbs. Each ..... $78.75

## ILOCUT® 5468 High Performance Straight Oil

- **Extreme pressure lubrication prevents tool wear to extend tool life**
- **Boundary and polar lubrication—achieve closer tolerances for improved surface finish**
- **Reduces chip welding so tools remain clean and free-cutting**

Formulated with sulfurized and chlorinated extreme pressure additives to provide a combination of both hydrodynamic and polar lubrication. Ideal for general machining operations on ferrous alloys. Provides outstanding performance in screw and bar machine, chucker and deep-hole drilling applications.

**No. 3VJ03.** 1 Gal. Shpg. wt. 8.6 lbs. Each ..... $16.40

**No. 3VJ04.** 5 Gal. Shpg. wt. 38.0 lbs. Each ..... $60.30

## CLEAREDGE® 6519 Premium Performance Semi-Synthetic Fluid

- **Bioresistant to inhibit microbial growth**
- **Long sump life—reduces overall costs in both individual sumps and central systems**
- **Exceptional foam control to eliminate foam-outs and spills**

A premium performance semi-synthetic fluid for machining aluminum and ferrous alloys. For job shops that want a single fluid. Fluid provides dependable rancidity control when used in machine tools that operate on individual coolant reservoirs.

**No. 3VH96.** 1 Gal. Shpg. wt. 9.4 lbs. Each ..... $29.80

**No. 3VH97.** 5 Gal. Shpg. wt. 41.0 lbs. Each ..... $111.50

## SUPEREDGE® 6759 High Performance Soluble Oil

- **Unique tool/wheel performance is formulated to offer extreme pressure and boundary lubrication far exceeding conventional fluids**
- **Strong operator acceptance—clean, mild-to-the-skin, low odor fluid is pleasant to use**

A water-soluble cutting and grinding fluid that provides trouble-free performance and excellent tool life. Resists microbial attack under rigorous conditions, promoting extended service life in central system applications as well as individual sumps. Its light, transparent, oily film protects both parts and machine tools from corrosion.

**No. 3VJ11.** 1 Gal. Shpg. wt. 9.4 lbs. Each ..... $26.15

**No. 3VJ12.** 5 Gal. Shpg. wt. 42.0 lbs. Each ..... $97.60

## SYNTILO® 9930 Oil-Rejecting Synthetic Fluid

- **Versatile fluid can be used in a wide range of applications on ferrous metals**
- **Excellent cooling properties remove heat from the work-piece to improve tool life and surface finish**
- **Bioresistant to inhibit microbial growth to extend fluid life in central systems and individual sumps**

A synthetic fluid for a variety of machining applications on ferrous metals. The superior cooling properties provide long service life in both central systems and individual sumps; resulting in low turnover rates. Offers foam control and low residue characteristics, settles chips and swarf quickly, and contains a corrosion protection package to keep parts and machines free from in-process rust.

**No. 3VJ13.** 1 Gal. Shpg. wt. 10.0 lbs. Each ..... $24.99

**No. 3VJ14.** 5 Gal. Shpg. wt. 45.0 lbs. Each ..... $90.80

# FLUID MANAGEMENT

## N1 REFRACTOMETER



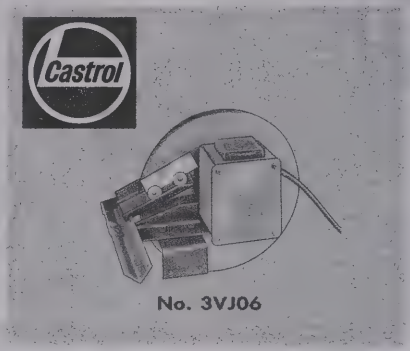
No. 3VJ05

The N1 Refractometer is a precise, hand-held, optical instrument used to quickly measure the concentration of metalworking fluids.

- **Extended fluid life — maintaining the correct concentration promotes optimum fluid performance**
- **Longer tool life and improved surface finish — maintaining proper fluid concentration results in longer tool life and improved surface finish**
- **Easy-to-use, durable aluminum casting is easy to read, calibrate, and clean**
- **Instant results; readings done "on the spot," no need to wait for lab results**
- **Portable, hand-held design can easily be carried from individual sumps to central systems**

**No. 3VJ05.** Shpg. wt. 1.0 lbs. Each .....**$201.00**

## OIL WHEEL SKIMMER 201D



No. 3VJ06

The Oil Wheel Skimmer 201D is designed to remove free, unemulsified floating hydraulic and lubricating oils and greases from the surface of coolant in individual machine tool coolant tanks.

- **Extends fluid life - removes the tramp oil deposits that contaminate coolant tanks**
- **Easy to install and operate - wiper blades wipe off oil that adheres to the disc and run-off is directed to a separate area for proper disposal**
- **Trouble-free operation - one moving part requires minimal maintenance**

**No. 3VJ06.** Shpg. wt. 9.0 lbs. Each .....**$284.00**

## SUMP DEODORIZING TABLETS

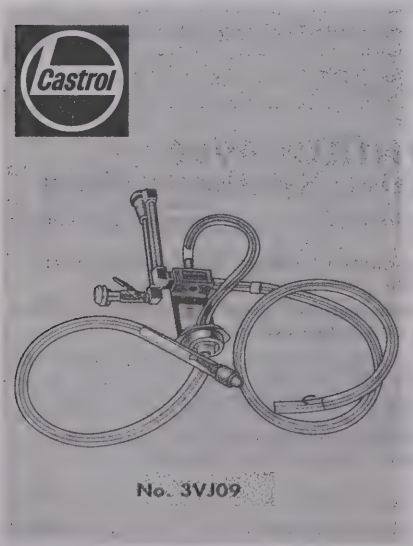



No. 3VJ08

Sump Deodorizing Tablets (SDT) provide fast, effective odor control to oil-containing coolant systems. One tablet treats 25 gallons of fluid for up to 7 days. Besides odor control, SDT's assist with controlling pH. 15 tablets per tube.

- **Eliminates odors immediately to increase operator satisfaction and comfort**
- **Easy to use; simply place tablets in individual machine sumps**
- **Stabilizes emulsions for cleaner machines and improved rust protection**
- **Formaldehyde-free to improve operator health and safety**

**No. 3VJ08.** Shpg. wt. 1.3 lbs. Each .....**$22.04**



No. 3VJ09

## DRUM PROPORTIONER SP-174

The Drum Proportioner SP-174 accurately mixes liquid chemical concentrate with water and dispenses proportioned solution into a designated container.

- **Automatic mixing eliminates the guesswork, mess and waste associated with manual mixing**
- **Uniquely designed, color-coded metering tips offer a wide range of accurate water-to-product concentration ratios**
- **Easy to install—attaches to standard garden hose thread and adapts to 3/4" and 2" standard drum bung openings in 5, 30 and 55 gallon containers**
- **Foot valve provides protection against backflow into concentrate**
- **Tamper-resistant location of the tip in the siphon tube is accessible when a change in concentration is desired**
- **Chemical-resistant components are made of quality PVC, stainless steel and plated brass; making the unit usable with caustic solutions and water temperatures up to 180° F (82.2° C)**

**No. 3VJ09.** Shpg. wt. 3.0 lbs. Each .....**$147.95**

# RUSTLICK METALWORKING FLUIDS AND ACCESSORIES

## EDM-30 DIELECTRIC OIL

- **High quality, low viscosity oil for fast setting and simplified purification**
- **Yields higher quality finishes**
- **Eliminates smoke and odor, and is designed for paper cartridge filtration up to 150 Amps**

**No. 1C191.** 5-Gallon Pail (72052). Shpg. wt. 37.0 lbs. Each ..... $54.00

## EDM-250 DIELECTRIC OIL

- **Designed to resist thermal degradation from high amperage applications**
- **Prevents clogging of diatomaceous earth and edge-wafer disposable cartridge filters**
- **Eliminates smoke and odor**
- **Long lasting, low viscosity for excellent flushing and finishing**

**No. 1C193.** 55-Gallon Drum (72550). Shpg. wt. 425.0 lbs. Each ..... $437.00▲

(▲) Net prices, not subject to discounts.

## WS-5050 HEAVY-DUTY SOLUBLE OIL

- **Suited to all types of machining. Compatible with CNC machining**
- **Can be used on all metals except magnesium and titanium**
- **Special additive protects neoprene seals and extends tool life**

**No. 1C841.** 1-Gallon Can (74016) Shpg. wt. 8.0 lbs. Each ..... $18.00

**No. 1C853.** 5-Gallon Drum (74056). Shpg. wt. 43.0 lbs. Each ..... $76.00

## WS-11 NON-CHLORINATED SOLUBLE OIL

- **For light machining of all metals**
- **Can be used as a light rust preventative**

**No. 1C847.** 5-Gallon Pail (74053). Shpg. wt. 41.0 lbs. Each ..... $62.50

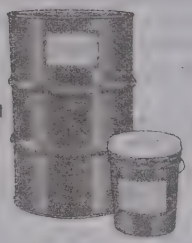
## WS-600A BIOSTABLE HEAVY-DUTY SOLUBLE OIL

- **Provides stable pH performance that resist bacteria and fungal growth, rancidity, and unpleasant odors**
- **Does not contain chlorine, active sulfur, or phenols**
- **Use on all metals, including titanium**
- **Contains additives and highly refined mineral oils which leave a protective film on machine slides, ways, fixtures**

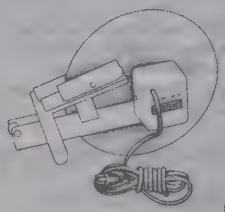
**No. 1C845.** 1-Gallon Can (74018). Shpg. wt. 8.0 lbs. Each ..... $22.25

**No. 1C857.** 5-Gallon Drum (74058). Shpg. wt. 47.0 lbs. Each ..... $90.00

RUSTLICK®



No. 1C191



Tramp Oil Skimmer No. 1C911



No. 1C875



No. 1C756



No. 1C877

## G-1066D SYNTHETIC DIAMOND GRINDING FLUID

- **Designed for diamond wheel grinding and slicing**
- **Transparent, biodegradeable, keeps wheels clean and free cutting**

**No. 1C875.** 5-gallon Pail (75051). Shpg. wt. 47.0 lbs. Each ..... $65.00

## G-25J SYNTHETIC GRINDING FLUID

- **For surface grinding applications**
- **Well suited for Blanchard-type grinding, grinding of cast iron and other ferrous metals**
- **Transparent, non-foaming, biodegradable, allows for rapid settling of residues**

**No. 1C877.** 5-gallon Pail (75052). Shpg. wt. 47.0 lbs Each ..... $64.00

## RUSTLICK 228J SYNTHETIC GRINDING FLUID

- **Designed for carbide grinding**
- **Remains clear and non-staining**
- **Does not contain nitrites, solvents or hazardous materials**
- **Allows fines to settle in minutes and provides excellent lubricity and less wheel dressing**

**No. 1C756.** 5-gallon Pail (73553). Shpg. wt. 47.0 lbs. Each ..... $84.00

## REFRACTOMETER

**No. 1E158.** Refractometer (78095). Shpg. wt. 2.5 lbs. Each ..... $270.00

## TRAMP OIL SKIMMER

- **Effective way to remove up to 1½ gallons of tramp oil per hour**
- **Helps to prevent rancidity and eliminates odors**

**No. 1C909.** 12" Skimmer (78013). Shpg. wt. 6.5 lbs. Each ..... $275.00

**No. 1C911.** 18" Skimmer (78019). Shpg. wt. 8.8 lbs. Each ..... $350.00

## DRUM MIXER

- **Use to dilute and mix coolant concentrates with proper amount of water**
- **Comes with series of color-coded inserts, each delivers specific dilution ratio**
- **Tamper-resistant**
- **Rustlick brand**

**No. 1E162.** Drum Mixer (78096). Shpg. wt. 4.0 lbs. Each ..... $120.00

## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# COOLANTS AND LAYOUT FLUIDS

## RUSTLICK SN-100A BIOSTABLE SYNTHETIC COOLANT

- Versatile, heavy-duty fluid formulated to meet critical performance requirements
- Provides level pH performance which resists bacteria and fungal growth, rancidity, and unpleasant odors
- Does not contain chlorine, active sulfur, or phenols
- Excellent for use on all metals including titanium
- Provides rapid chip and swarf setting, leaves a clear, non-sticky film on tool, machine surfaces, and parts
- 5 Gallon pail

**No. 1C199.** Shpg. wt. 47.0 lbs. Each .....$90.00

## RUSTLICK SS-400A BIOSTABLE SEMI-SYNTHETIC COOLANT

- Contains boundary lubricants that improve the performance of all machining operations
- Coolant provides stable pH levels that resist bacteria and fungal growth, rancidity, and unpleasant odors
- Allows swarth to settle quickly to ease filtration and prevent poor finish from contaminated coolant
- Will not leave sticky or tacky residues on machine tools or parts
- 5 Gallon pail

**No. 1C752.** Shpg. wt. 47.0 lbs. Each .....$90.00

## RUSTLICK SS 405L SEMI-SYNTHETIC COOLANT

- Near-universal coolant for machining or grinding many different metals, including aluminum
- Provides exceptional lubricity and leaves a protective oil film on machines for rust prevention
- 5 Gallon pail

**No. 1E168.** Shpg. wt. 45.0 lbs. Each.....$75.00

**RUSTLICK®**



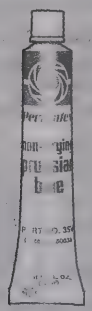
BioStable Synthetic Coolant No. 1C199



BioStable Semi-Synthetic Coolant No. 1C752

LOCTITE®

Sprayon™



New

No. 4UK13



No. 1D271



No. 1D272

## PRUSSIAN BLUE LAYOUT FLUID

- Use on bearings, valves, gears, and other machined assemblies
- Locates high spots on close-to-tolerance components
- Aids precision fitting of machined surfaces
- Non-drying, easy cleanup
- Color blue
- Conforms to MIL-P3051
- Loctite brand

***New*** **No. 4UK13.** 0.75 Oz. Tube (80038). Shpg. wt. 0.1 lbs. List $3.19. Each .....$2.90

## BLUE LAYOUT FLUID

- The economical choice for most layout projects
- VOC compliant
- Fast-drying, non-flaking, non-etching, won't peel
- Heat-resistant, non-corrosive
- Adheres to metal or glass
- Equipped with DanVern Fanspray valve
- Spray-On brand (500603)

Uses: Pattern making, tool and die making, machining, maintenance mechanicals.

**No. 1D271.** 16-Oz. Can.. Shpg. wt. 1.1 lbs. List $5.20. Each $4.50; Lots 12..... $4.05

## LAYOUT FLUID REMOVER

- Specially formulated to remove layout fluids quickly and efficiently
- May also be used to remove light oils, greases, lacquer materials and other markings on metal or glass
- Leaves no residue
- Does not contain chlorinated solvents
- Equipped with DanVern standard valve
- Spray-On brand (500606)

Uses: Tool and die applications and production departments.

**No. 1D272.** 16-Oz. Can.. Shpg. wt. 1.1 lbs. List $5.20. Each $4.95; Lots 12 .....$4.46

# CUTTING AND METALWORKING FLUIDS

## [A] WATER SOLUBLE CUTTING OIL

- **For cutting and grinding operations**

Moderate-duty fluid containing soaps, sulfonates, coupling agents and stabilizers to control odor. Recommended for ferrous and nonferrous metals. Will not stain. Use in areas of normal water hardness (300 PPM). Do not use in machining magnesium due to potential fire hazards.

## [B] CUTTING FLUIDS, NONSTAINING

- **For automatic screw machines and all grinding operations where a non-staining cutting oil is needed**

Heavy-duty dual- or tri-purpose, antimist cutting oil. Nonstaining. Permits use where complementary oils are required for splash, hydraulic, or spindle lubrication systems of metalworking machines. Excellent for severe machining operations on difficult to machine metals such as copper and its alloys, as well as stainless and high-alloy steels.

Mobil



## [C] CUTTING FLUID, ACTIVE

- **For severe operations including threading, tapping, and broaching**

Antimist, active cutting oil. Transparent, low odor oil controls build up on tool tip for better surface finish. Applications include heavy-duty threading, tapping, and broaching. For use with difficult to machine metals that are tough, draggy, and brittle. Excellent for use with less difficult materials. May stain nonferrous metals except aluminum.





## [D] SYNTHETIC METALWORKING COOLANT

- **For machining operations such as drilling, turning, milling, grinding and tapping requiring friction reducing coolants**

Non-toxic, bioresistant synthetic based soluble oil which, when added to water forms an effective metalworking coolant. Use with a wide range of ferrous and nonferrous alloys. Optimal 5% concentration, with water, emulsifies spontaneously. Has good resistance to foaming and provides effective protection against rust. Does not contain halogens, sulfur, chlorine, biocides, phenols or nitrites. Proprietary formula requires less monitoring due to 250 day batch life and high resistance to bacterial growth. NOTE: Add coolant to water. Do not add water to coolant.

| Key | Container Size | Viscosity (SUS @ 100°F) | Flash Point (°F) | Pour Point (°F) | Total Sulphur (%) | Cl (%) | Mobil Product Name | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1 gallon | 250 | 350 | 0 | — | — | Mobilmet® S-122 | 4F972 | $15.90 | $13.50 | 8.3 |
| B | 1 gallon | 135 | 365 | 30 | 0.5 | Nil | Mobilmet® Omicron | 4F977 | 14.02 | 11.85 | 8.3 |
| B | 5 gallon pail | 135 | 365 | 30 | 0.5 | Nil | Mobilmet® Omicron | 4ZF19 | 55.28 | 47.05 | 38.0 |
| C | 1 gallon | 167 | 350 | 30 | 1.2 | 0.45 | Mobilmet® Gamma | 4ZF17❶ | 15.91 | 13.50 | 8.3 |
| C | 5 gallon pail | 167 | 350 | 30 | 1.2 | 0.45 | Mobilmet® Gamma | 4ZF16❶ | 55.35 | 47.05 | 38.0 |
| C | 1 gallon | 1050 | 350 | 30 | 2.2 | 1.60 | Mobilmet® Omega | 4F976❶ | 14.02 | 11.85 | 8.3 |
| D | 2.5 gallon | 2031 | 305 | 20 | – | — | Mobilmet® Aqua Rho | 4F745 | 123.84 | 104.95 | 21.0 |

# CUTTING FLUIDS




## TAP MAGIC™

Special blend of extreme pressure lubricants penetrate to the cutting edge to break down surface tension, stress and prevent metal-to-metal adhesion (weldment). Drilling, tapping, threading, and boring operations are free of drag. Provides greater precision, superior finish while greatly extending tool life.

[A] **New Tap Magic.** Formulated with Ep-Xtra™ to replace 1,1,1 trichloroethane. Highly effective fluid yields micro-fine finish while preventing rust and corrosion. Ideal for difficult cutting operations including long duration extreme-pressure cuts. For use with all metals including stainless steel, aluminum and titanium. Longer cling time reduces need for reapplication.

[B] **Protap.** Highly effective on all metals. Completely biodegradable and free of all regulated chemicals.

[C] **Aluminum.** Formulated specifically for use on aluminum. Provides excellent performance for all cutting operations.

| Key | Size | Tap Magic Model | Stock No. ❸ | List | Each | Lots/Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 4 oz. | 10004E | 6Y645 | $1.83 | $1.79 | $1.61/24 | 0.4 |
| A | 16 oz. | 10016E | 4F963 | 6.17 | 6.10 | 5.49/12 | 1.3 |
| A | 1 gal. | 10128E | 6Y646 | 37.00 | 35.00 | 31.50/ 2 | 9.0 |
| A | 5 gals. | 10640E | 6Y647 | 160.00 | 149.00 | 134.10/ 1 | 47.0 |
| B | 16 oz. | 30016P | 4ZF07 | 6.17 | 6.10 | 5.49/12 | 1.3 |
| C | 16 oz. | 20016A | 4R818 | 8.39 | 6.99 | 6.29/12 | 1.3 |
| C | 1 gal. | 20128A | 4R820 | 37.00 | 35.00 | 31.50/ 2 | 8.0 |

Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

❸ These products are covered by OSHA Hazard Communication Standard, and Material Data Safety Sheets (MSDS) are available. See page opposite inside back cover.
❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

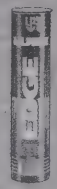
# CUTTING AND METALWORKING FLUIDS



No. 4KK71



No. 4KK72



No. 4KK73



No. 4KK74

## EDGE LIQUID

LPS Tapmatic Edge Liquid is a biodegradable high film strength, friction-reducing agent for cutting and forming operations on all materials. The naturally-derived formula contains no hazardous chemicals.

- **Low toxicity**
- **Replaces flood coolants and eliminates disposal costs**
- **Increases tool life**
- **High film strength**
- **Reduces friction**
- **Excellent for high alloy metals**
- **Safe on all metals**
- **Compatible with oil and water systems**
- **Compatible with drop applicators**
- **Authorized by the USDA for use in federally inspected meat and poultry plants**

## EDGE CREME

LPS Tapmatic Edge Creme is a biodegradable, creme paste formula cutting lubricant that can be applied to cutting tools before tapping or reaming.

- **Ecological and economical**
- **Biodegradable, does not contain any hazardous chemicals**
- **For use when drilling, tapping blind holes, forming, bending, pre-coating fasteners and lubricating rubber seals**
- **Can be applied to cutting tools before tapping or reaming**
- **Excellent for vertical applications**
- **Safe on all metals**
- **Squeeze tube allows easy usage**
- **Authorized by the USDA for use in federally inspected meat and poultry plants**

## EDGE LUBE

LPS Tapmatic Edge Lube is a biodegradable, solid, white waxy bar cutting lubricant. Edge Lube is packaged in an easy to use cylinder for manual application to rotating or stationary cutting tools, grinding wheels or belts.

- **Low toxicity, does not contain any hazardous chemicals**
- **Biodegradable**
- **Excellent for belt, wheel and disc grinding or sawing applications**
- **Extends grinding wheel life**
- **Eliminates heat build-up and belt loading**
- **Safe on all metals**
- **White, solid waxy bar**
- **Compatible with oil and water systems**
- **Authorized by the USDA for use in federally inspected meat and poultry plants**

## NATURAL CUTTING FLUID

LPS Tapmatic Natural is a high-performance, biodegradable, naturally organic cutting fluid without 1,1,1 trichloroethane that can be used for tapping, drilling and machining.

- **Nontoxic and nonhazardous**
- **Does not irritate the skin, eyes or respiratory tract**
- **Ultra-safe and biodegradable**
- **High performance lubricating ability eliminates galling and seizing**
- **Safe on all metals**
- **Does not contain 1,1,1 trichloroethane, sulfur, chlorine, chlorinated solvents, water, mineral oil or inactive fillers**
- **Authorized by the USDA for use in federally inspected meat and poultry plants**

### CUTTING LUBRICANTS

| Description | Size (oz.) | Qty/Case | LPS Model | Stock No. | Each | Shpg. Wt |
|---|---|---|---|---|---|---|
| Edge Liquid; biodegradable, for application on all metals | 16 | 12 plastic bottles | 43020 | **4KK71** | **$11.95** | 1.1 |
| Edge Cream; biodegradable, cream formula | 11 | 10 tubes | 43100 | **4KK72** | **10.35** | 0.7 |
| Edge Lube; biodegradable, in a solid waxy bar | 13 | 10 bars | 43200 | **4KK73** | **9.88** | 0.9 |
| Natural Cutting Fluid; biodegradable, without 1,1,1 trichloroethane | 16 | 12 plastic bottles | 44220 | **4KK74** | **7.13** | 1.1 |

## SAFETY-DRAW® 722X Drawing and Tapping Lubricant

A heavy-duty extreme pressure lubricant for drawing and tapping. Relieves intense pressures and temperatures, allowing for greater metal flow with less tool wear. Used for rigorous applications such as cold forging, impact extruding, tapping and tube drawing.

- **Versatile for use in a wide range of applications on various metals**
- **Easy to apply with hand-held squeeze bottle; spout directs flow accurately for maximum effectiveness**
- **Castrol brand**

**No. 3VJ07.** SAFETY-DRAW® 722X.(16 oz bottles.) Shpg. wt. 1.3 lbs. Each.....**$8.59**




No. 3VJ07



No. 3VJ10

## STICK WAX® GENERAL PURPOSE SOLID LUBRICANT

STICK WAX® offers the lubricating properties of wax in a convenient cardboard tube. Can be used on an assortment of materials including metal, plastic, fiberglass, wood and hardboard. Periodic applications directly on the cutting surface of tools, saw blades, grinding wheels and sanding belts improves machining performance. Apply to windows, doors, fasteners, hinges, slides and tracks to reduce friction and smooth movement. Castrol brand.

**No. 3VJ10.** Shpg. wt. 1.1 lbs. Each.....**$4.20**

# MOLD RELEASES

### LPS MR-750 Silicone Mold Release/Lubricant

Nonflammable, noncorrosive, colorless thin film, excellent for releasing molded parts in high temperatures or pressures. 12 oz. LPS brand (01616).

**No. 4KK78.** Shpg. wt. 1.1 lbs. Each.....$8.80

### LPS MR-650 Food Grade Mold Release/Lubricant

Quick evaporating, noncorrosive lubricant. Meets FDA regulation for incidental food contact when used in accordance with FDA guidelines. Meets/exceeds the following specs: FDA Regulation 21 CFR 178.3570 for Incidental Food Contact. 12 0z. LPS brand (01716).

**No. 4KK79.** Shpg. wt. 1.1 lbs. Each.....$8.64

### LPS MR-850 Lecithin Mold Release/Lubricant

Nonflammable, paintable lubricant. MR-850 is excellent for releasing molded parts for post finishing applications and is an ideal welding anti-spatter. 12 oz. LPS brand (01816).

**No. 4KK80.** Shpg. wt. 1.1 lbs. Each.....$8.23

### LPS MR-950 Zinc Stearate Mold Release/Lubricant

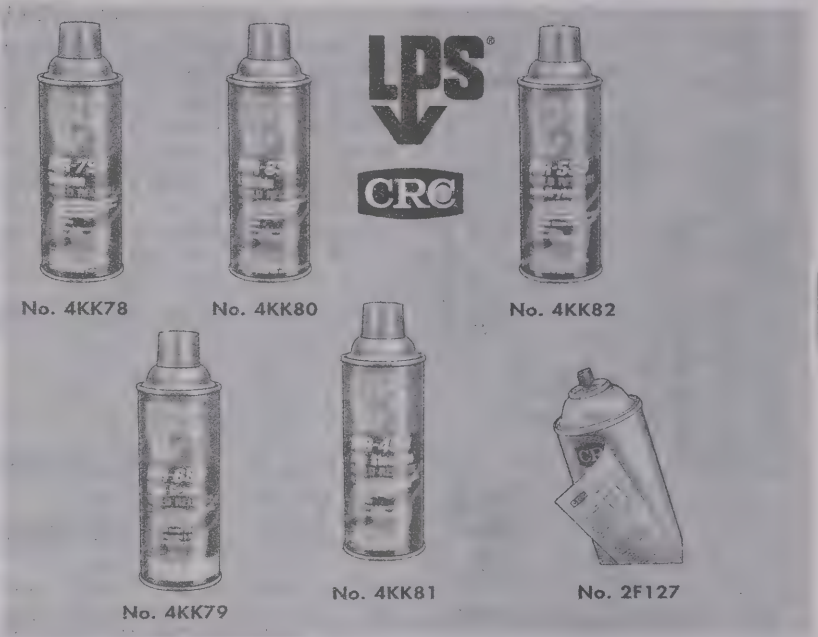
Nonflammable lubricant, used for releasing molded parts for post decorating applications. 12 oz. LPS brand (02316).

**No. 4KK81.** Shpg. wt. 1.1 lbs. Each.....$8.33

### LPS MR-550 Mold Release/Lubricant

Nonflammable, dry film lubricant with the latest advancement in release technology. Provides lubrication for releasing molded parts. 12 oz. LPS brand (02616).

**No. 4KK82.** Shpg. wt. 1.1 lbs. Each.....$8.59




No. 4KK78 No. 4KK80 No. 4KK82

No. 4KK79 No. 4KK81 No. 2F127

### CRC MOLD RELEASE—BORON NITRIDE

Super slick, dry film lubricant that withstands extreme temperatures. Can be used as a mold release for metal, ceramics and other materials. Withstands maximum temperature 1500°F in an oxidizing environment and can also be used as a electrical insulator and thermal conductor. 16 oz. can/10 oz. net wt. CRC brand (03046).

**No. 2F127.** Shpg. wt. 1.0 lbs.Each $32.50; Lots 12.....$29.25

### CRC MOLD RELEASE—PAINTABLE LECITHIN

Versatile non-silicone paintable mold release assures multiple clean releasers. Provides quick, clean releases for metal die molding, thermoset plastics, epoxy resins and thermoplastics. Does not interfere with parts to be painted, adhesive bonded, heat sealed or laminated. 16 oz. can/12 oz. net wt. CRC brand (03047).

**No. 2F128.** Shpg. wt. 1.0 lbs. Each $9.81; Lots 12.....$8.83

# CUTTING FLUIDS

## CRC CUTTING OIL

Thread-cutting lubricant for use on all types of metal. Low-odor formula is safe on soft metals such as brass, copper, and aluminum, and has no strong sulfur odor. Additives create strong film that withstands extreme pressures, increasing tool life and ease of cutting. 16 oz. can/12 oz. net wt. CRC brand (14050).

**No. 2F146.** Shpg. wt. 1.0. List $5.62. Each.....$5.35

## LPS® TAPMATIC AQUACUT

**LPS® Tapmatic® Aquacut cutting fluid.** A water-based cutting fluid that extends tool life and reduces friction, heat, and tool failure. Provides clean cuts and fine finishes. Designed for use on steel, aluminum, and other metals, except magnesium. Does not contain any sulfur, chlorine, or 1,1,1 trichloroethane. Will not stain metal. Nonflammable and cinnamon-scented. LPS brand (01216).

**No. 2C649.** Shpg. wt. 1.3. List $7.25. Each.....$6.03

## LPS® TAPMATIC CUTTING FLUIDS

**LPS® TAPMATIC #1 GOLD Cutting Fluid** Simultaneously protects and lubricates to reduce friction and eliminate chip welding in tapping, drilling, reaming, and threading. Does not contain 1,1,1 trichloroethane, CFC's, chlorinated paraffins, water, solvents, or inactive fillers. Safe to use on all metals. LPS brand (40320).

**No. 2F019.** Shpg. wt. 0.3. List $4.36. Each.....$3.80
**No. 2F021.** Shpg. wt. 1.1. List $8.57. Each.....$7.45




No. 2C649 No. 2F019

# LUBRICANTS AND COMPRESSED AIR SPRAYERS




## WD-40® LUBRICANTS

**WD-40®** Displaces moisture and establishes a protective barrier to prevent rust. Loosens rust-to-metal bonds and frees stuck, frozen or rusted metal parts. Contains no CFC's chorinated solvents or 1.1.1. Trichlorethane. Dissolves most adhesives. USDA authorized for use in federally inspected meat and poultry plants (H-2 classification). Silicone free, won't attract dust or dirt.

**T*A*L5™** Aerosol for heavy duty applications. Resists breakdown due to corrosion, friction, temperature, load and motion. Can be applied to rubber, metal or plastic. Contains no CFC's or VOC's and has a flash point of over 200°F. 360° spray valve for added convenience.

**3-IN-One®** for applications that require precise control of lubrication and rust prevention. Unique spout helps to pinpoint each application. Contains no CFC's or VOC's.

| Key | Size | Model No. | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | | | **WD-40®** | | | |
| A | 8 oz. Aerosol Can | 10008 | **3UM45** | $3.69 | **$2.04▲** | 0.8 |
| A | 11 oz. Aerosol Can | 10011 | **3UM46** | 4.57 | **2.64▲** | 1.0 |
| A | 16 oz. Aerosol Can | 10016 | **3UM47** | 5.90 | **3.91▲** | 1.4 |
| B | 1 Gallon Container | 10010 | **5A283** | 18.32 | **13.63▲** | 7.4 |
| C | 55 Gallon Container | 10118 | **6A546** | 661.98 | **585.50▲** | 420.0 |
| D | Spray Bottle Empty | 10000 | **5A284** | 3.10 | **2.70** | 0.3 |
| | | | **T*A*L5™** | | | |
| E | 8 oz. Aerosol Can | 10068 | **4KN52** | 6.10 | **5.99** | 0.8 |
| E | 13.5 oz. Aersol Can | 10073 | **4KN53** | 8.35 | **7.89** | 1.3 |
| | | | **3-IN-ONE® MULTI PURPOSE** | | | |
| F | 3 oz. Motor Oil | 10045 | **3UM48** | 2.33 | **2.10** | 0.3 |
| G | 3 oz. Multi-Purpose Oil | 10035 | ***New*** **4UJ34** | 2.50 | **2.25** | 0.3 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover. (▲) Net prices, not subject to discounts.

## SURE SHOT RECHARGEABLE/REUSABLE COMPRESSED AIR SPRAYERS




**These sprayers are not recommended for use with paints.**

- **Uses compressed air eliminating hazardous propellants**
- **Safe and easy to use. Unscrew fill port, fill with sprayable fluids, and charge using air chuck using standard compressed air (Max. 200 PSI)**
- **Provides economical spraying of bulk liquids**
- **Contents label write-in-space**
- **Eliminates disposal of used and/or half full discharged aerosol cans**
- **Controlled, uniform spraying action with a full range of nozzles from pin stream to fine finish**
- **For use with light fluids (10 weight motor oil and lighter) such as lubricants, penetrants, degreasers, pesticides, solvents and cleaners**

**To choose the right model for your needs,** refer to chart below. If unsure of base, contact fluid supplier for recommendations.

**No. 2Z858** not for use with ammonia based materials.

**Nos. 4Z986 and 4F965** not for use with chlorinated materials.

### SPRAYER COMPATIBILITY CHART

| | STOCK NO. | | | | |
|---|---|---|---|---|---|
| BASE FLUID | 4F965 | 4Z986 | 6Z790 | 2Z857 | 2Z858 |
| Solvent Based | • | • | • | • | • |
| Water Based | • | • | • | | • |

**8 Ounce** (1 cup) unit No. 4F965 is constructed of aluminum. Similar to dimensions of standard aerosol cans. Comes with double set of spray nozzles. From pin stream (with extension tube) to fine finish.

**16 Ounce** (1 pint) units Nos. 4Z796 and 6Z790 come in aluminum or stainless steel. Both units include a double set of spray nozzles from pin stream (with extrusion tube) to fine mist spray, similar in performance to those used on aerosol spray cans. Easy to clean and maintain.

**32 Ounce** (1 quart) units Nos. 2Z857 and 2Z858 come in steel with red enamel finish and chrome plated brass. Sprayers are equipped with metal, swirl jet nozzles that convert from general purpose round to pin stream. Thumb trigger style.

### ATOMIZER SPRAYER SPECIFICATIONS AND ORDERING DATA

| Key | Capacity (Oz.) | Canister Construction | Dimensions (In.) Height | Dimensions (In.) Diameter | Milwaukee Sprayer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 8 | Aluminum | 8½ | 2½ | 8300 | **4F965*** | $24.10 | **$18.25▲** | 0.8 |
| A | 16 | Aluminum | 9½ | 2¾ | 8000 | **4Z986** | 26.76 | **20.75▲** | 1.2 |
| B | 16 | Stainless Steel | 9½ | 2¾ | 8500 | **6Z790** | 43.02 | **32.95▲** | 1.5 |
| C | 32 | Red-Enameled Steel | 9 | 4¼ | 1000 | **2Z857** | 36.90 | **28.50▲** | 2.3 |
| D | 32 | Chrome-Plated Brass | 9 | 4¼ | 2000 | **2Z858** | 54.25 | **41.75▲** | 2.4 |

(*) No. 4F965 8-oz. unit is similar in appearance to 16-oz. unit No. 4Z986. (▲) Net prices, not subject to discounts

### CRC 3-36®

Multi-purpose lubricant/corrosion inhibitor that displaces moisture and seals out corrosion with micro-thin film. High affinity for metal allowing penetration and lubrication, while attacking rust and preventing corrosion. Cleans light soils. 360° spray valve for added convenience. 16 oz. can/11 oz. net wt. CRC brand (03005).

**No. 2F141.** Shpg. wt. 1.0 lbs. Each .....$3.95
Lots 12 .....$3.56

### CRC ULTRA-LITE 3-36®

Ultra-thin, non-staining dry film light-duty lubricant and cleaner resists oil, dust and dirt build-up. Penetrates minute openings, sealing out moisture and preventing corrosion. Excellent for use on delicate mechanisms and parts. 16 oz. can/11 oz. net wt. CRC brand (03160).

**No. 2F140.** Shpg. wt. 1.0 lbs. Each .....$4.23
Lots 12 .....$3.81

### CRC TECHNICAL GRADE 3-36

Multi-purpose lubricant/corrosion inhibitor that displaces moisture, cleans surfaces without leaving gummy residue, penetrates rust and corrosion. Safe for use around polyethylene, PPO resins, ABS and polycarbonate plastics including Noryl®. 360° spray valve for added convenience. 16 oz. can/11 oz. net wt. CRC brand (03003).

**No. 4ZF10.** Shpg. wt. 1.0 lbs. Each .....$4.29
Lots 12 .....$3.86

### CRC SCREW LOOSE PENETRATING OIL

Non-compromise penetrant attacks rust and corrosion and penetrates through oxides and soil to free corroded fasteners and mechanical components. Low surface tension formulation quickly dissolves rust, scale, and corrosion, aiding disassembly of close tolerance fasteners and assemblies. 360° spray valve for added convenience. 16 oz. can/11 oz. net wt. CRC brand (03060).

**No. 2F145.** Shpg. wt. 1.0 lbs. Each .....$3.64
Lots 12 .....$3.28

### LPS® LST PENETRANT

A deep penetrating formulation which attacks rust and corrosion to free "frozen" parts. Extremely low surface tension that combines with a powerful foaming action to provide complete surface coverage, better penetration, and improved moisture displacement. USDA authorized for use in federally inspected poultry and meat plants. Meets or exceeds these specifications: Fed. Spec. VV-P216C Type 1 A-A-50493 Type 1. LPS brand (01916). 11 oz. can.

**No. 2C665.** Shpg. wt. 1.0 lbs. Each .....$4.41
Lots 6 .....$3.97

### TKX - ALL-PURPOSE PENETRANT

Lubricant and Protectant. A safe, nonflammable propellant alternative that loosens rusted and frozen parts, displaces moisture, and protects against corrosion. 11 oz. LPS brand (02016).

**No. 4KK77.** Shpg. wt. 1.0 lbs. Each .....$3.33

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

CRC LPS Starrett



No. 2F141 No. 2F140 No. 4ZF10 No. 2F145 No. 2C665




No. 4KK77 No. 6Y743 No. 6Y744 No. 4L958 No. 1D267

### LPS 1 GREASELESS LUBRICANT

Fine lubricant that penetrates, dries "non-oily", and resists dirt and dust build-up. Cleans and displaces moisture. Dissolves and removes grease and oils. Meets or exceeds specifications: O-W-001284a, MIL-C-23411A. 16 oz. can/11 oz. net wt. LPS brand (00116).

**No. 6Y743.** ❸ Shpg. wt. 1.0 lbs. Each .....$5.08

### LPS 2 INDUSTRIAL STRENGTH LUBRICANT

Multipurpose lubricant and penetrant with added corrosion protection. Non-drying, oily film lubricant loosens rusted and frozen parts. Meets or exceeds specifications: MIL-C-813809E Type III Grade 1, 16 oz. can/11 oz. net wt. LPS brand.

**No. 6Y744.** ❸ Shpg. wt. 1.0 lbs. Each .....$5.44

### STARRETT M1 ALL-PURPOSE LUBRICANT

Cleans, polishes and protects against rust and corrosion damage. Prevents short circuits and halts electrical leakage from wet ignition wires. Contains no fluorocarbons, detergents, or silicone and is not water soluble. Protects high quality precision tools. FDA approved for use in or near food-related environments. Works in extreme temperatures. Removes grease, tar and grime from metal parts and painted surfaces. Starrett brand (95173).

**No. 4L958.** Shpg. wt. 1.1 lbs. Each ..... $3.69

### CRC BELT DRESSING

Extends the life of drive belts and pulley bearings by improving traction and allowing runs under reduced belt tension. Its a tacky film resists being washed off. Meets FDA regulation. CFR21-178.3570 for incidental contact.

**No. 1D267.** Shpg. wt. 1.3 lbs. Each $5.40
Lots 12 .....$4.86

(▲) Net prices, not subject to discounts.

# SPECIALTY LUBRICANTS

## TEFLON LUBRICANTS

### CRC POWER LUBE®

Sophisticated additive package with "Teflon" provides long lasting protection against friction and wear—increasing life and operating efficiency of parts and equipment. Works under extremes of pressure and the environment. 16 oz. can/11 oz. net wt. CRC brand (03045).

**No. 2F144.** ❸ Shpg. wt. 1.0 lbs. Each ..... $4.48

### LPS MAGNUM TEFLON™

LPS Magnum Teflon™ is a high-performance lubricant formulated for maximum lubricity. 11 oz. LPS brand (00616).

**No. 4KK75.** Shpg. wt. 1.0 lbs. Each..... $6.82

## SILICONE LUBRICANTS

### LPS HEAVY-DUTY SILICONE

A silicone-rich formula that lubricates and protects rubber, plastic, and metal parts. Meets or exceeds the following specs: FDA Regulation 21. CFR 178.3570 for Incidental Food Contact. 13 oz. LPS brand.

**No. 4KK76.** Shpg. wt. 1.1 lbs. Each ..... $5.18

### CRC EXTREME DUTY SILICONE

Nonstaining, clear, odorless film which is moisture resistant and helps prevent corrosion and oxidation. Reduces friction and galling—effective on metallic and nonmetallic surfaces. High grade release and parting agent. Effective temperature range: -100°F to 500°F. USDA authorized for use in federally inspected meat and poultry plants. 16 oz. can/10 oz. net wt. CRC brand (03030).

**No. 4ZF08.** Shpg. wt. 1.0 lbs. Each..... $6.60

### CRC FOOD GRADE SILICONE

Colorless, tasteless, non-toxic and non-staining moisture resistant film. Performs through wide temperature range. Excellent release agent and lubricant for all surfaces. Meets FDA Regulation CFR 21-178.3570 for incidental food contact. 16 oz. can/10 oz. net wt. CRC brand (03040).

**No. 2F130.** Shpg. wt. 1.0 lbs. Each..... $4.35

### CRC CHAIN AND WIRE LUBRICANT

Colorless, tasteless, non-toxic and non-staining moisture resistant film. Performs through wide temperature range. Excellent release agent and lubricant for all surfaces. Meets FDA Regulation CFR 21-178.3570 for incidental food contact. 16 oz. can/10 oz. net wt. CRC brand (03050).

**No. 2F139.** Shpg. wt. 1.0 lbs. Each..... $5.25

### CHAIN & CABLE LUBRICANT

Oil lubricant with graphite increases the life of chains and cables by providing longer lasting lubrication. When oil evaporates graphite remains to provide lubrication. Lubricant protects against corrosion, penetrates wire rope, and is unaffected by temperature extremes. For use on conveyors, fasteners, bearings, dies and molds, chains, steering cables, hinges, and wire rope. 16 oz. can/12.5 oz. net. Superior Graphite brand (35201G).

**No. 6Y649.** Shpg. wt. 1.2 lbs. Each..... $5.40




No. 4KK75 No. 4KK76

No. 2F130 No. 6Y649

### CRC DRY MOLY LUBRICANT

High solids molybdenum disulfide (moly) coating that withstands high pressure and high temperature. Penetrates substrate pores and forms thin film that provides long-lasting anti-friction and anti-seizure properties. Dries rapidly, excellent for use as dirt resistant lubricant. 16 oz. can/11 oz. net wt. CRC brand (03084).

**No. 2F138.** Shpg. wt. 1.0 lbs. Each..... $4.54

### CRC MACHINE OIL—FOOD GRADE

General purpose machine oil that penetrates rust, dirt, scale, and corrosion. Non-silicone lubricant for use in areas where silicone over spray can interfere with carton sealing and capping operations. Virtually odorless, tasteless, and colorless. USDA H-1 rated. 16 oz. can/12 oz. net wt. CRC brand (03081).

**No. 2F132.** Shpg. wt. 0.9 lbs. Each..... $5.03

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets are available. See page opposite inside back cover.

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

# SPRAY LUBRICANTS

### [A] T.F.E DRY LUBE

Dry, non-oily, non-staining lubricant made with DuPont Krytox®. Ideal for use where low speeds and light loads are involved. Dries quickly to a white, chemically inert film. Effective from -40 to 572°F. SprayOn brand (S00708).

### [B] THE PROTECTOR™ PENETRANT

Unlocks frozen or rusted parts. Formulated to ensure maximum moisture displacement. Ultra-thin and greaseless with a rust preventative film. USDA H-2 rated. Dielectric strength 47,000 VPM. Perfect for electrical wiring, transformers, operating controls, and production equipment. Sprays in upright and inverted positions. SprayOn brand (S00711).

### [C] SILICONE LUBRICANT

All-purpose lubricant stops squeaks and sticking, eliminating friction, repelling water. Protects and lubricates wood, most plastics, rubber and metals against corrosion. Effective from -50 to 375°F. Equipped with Spray any Way valve and extension tube. SprayOn brand (S00206).

### [D] GEAR AND WIRE ROPE LUBRICANT

Provides lubrication and rust prevention for gears, cables, and wire rope. Strong adhering properties; penetrates pores of metal and core of wire rope. Black color spray allows visual check for coverage. Will not wash away. Withstands extreme temperatures. Works from 0 to 250°F. SprayOn brand (S00201).

### [E] CUTTING OIL

Provides cooling and lubrication at point of work to eliminate scoring. For use when drilling, cutting, sawing, and threading. Ideal for all metals, including stainless steel, aluminum, brass, and copper surfaces. Foaming action aids penetration for longer tool life. Features jet-type spray, and pinpoint extension tube. Spray On brand (SS00208).

| Key | 16 oz. Cans Net. Wt. | Stock No. ❶ ❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 10.00 | **2W757** | $9.51 | **$4.95** | **$4.46** | 0.1 |
| B | 11.00 | **2X725** | 7.99 | **3.95** | **3.56** | 0.1 |
| C | 10.00 | **2X988** | 7.90 | **3.85** | **3.47** | 0.1 |
| D | 12.00 | **4X595** | 10.67 | **5.25** | **4.73** | 0.1 |
| E | 12.00 | **2W755** | 5.20 | **3.95** | **3.56** | 0.1 |

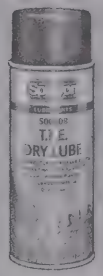
❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

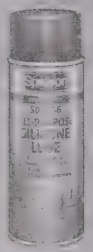
Sprayon™

CFC

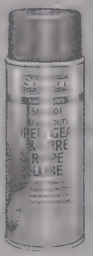
Contains no chlorofluorocarbons (CFC) or chlorinated solvents



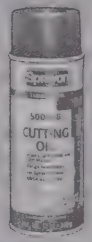

[A] No. 2W757



[C] No. 2X988



[D] No. 4X595




[E] No. 2W755

## GREASE GUN IN A CAN©

- Rust prevention
- Fast-acting
- No CFCs
- Heat resistant to 400°F
- USDA-H2
- Ball brand

Cleans, lubricates, and prevents rust in one step. Penetrating liquid converts to tack-free, lubrication coating within minutes of initial contact. The red lubricating film has a tenacious bond to metal that is impervious to salt and moisture. Effective at temperatures up to 400°F.

**No. 2U425.** Shpg. wt. 0.9 lbs. List.....$7.85.
Each.....**$5.95**



No. 2U425

BALL

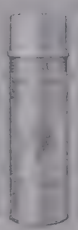
CFC

## SHORT STOP™ SAFETY SOLVENT/DEGREASER

- Non-conductive, high flash point
- Non-corrosive
- Low V.O.C. formula
- USDA-K2
- Ball brand

A multi-purpose aerosol safety solvent and spot cleaner/degreaser that is non-conductive. Controlled evaporation rate makes cleaning easier and eliminates moisture condensation. Pin-point spray pattern for precise application. It degreases printing presses, electrical motors, condensers, coils, circuit boards and other similar electronic components and mechanisms. Short Stop™ is safe to use on most surfaces and leaves no residue.

**No. 2U694.** Shpg. wt. 0.9 lbs. List .....$9.28.
Each.....**$6.49**



No. 2U694

BALL

# ANTI-SEIZE AND SPECIALTY LUBRICANTS

## ANTI-SEIZE LUBRICANTS

**FEL-PRO®**




A B No.



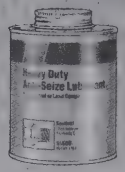

C No. 5A452




D No. 5E200



E No. 4KM72




F No. 4KM74




G No. 5E202

### A B C5-A® COPPER BASED ANTI-SEIZE

- Protects to 1800°F against rust, galling, corrosion, seizing
- Eases assembly and disassembly of metal parts

### C NICKEL ANTI-SEIZE

- Recommended for applications exposed to acids, chemicals and temperatures to 2400°F; copper-free

### D MOLY PASTE

- Low friction lubricant
- Molybdenum disulfide formula recommended for protecting equipment during break-in, under high static or slow moving loads
- Ultimate press fit lubricant

### E FOOD GRADE ANTI-SEIZE

- USDA approved for incidental food contact

### F HEAVY DUTY ANTI-SEIZE

- Metal-free
- Temperature to 2400°F
- Provides outstanding lubrication to all metals
- OE approved

### G MOLY DRY FILM LUBRICANT

- Aerosol can lubricant forms a solid film of protection
- Withstands loads to 300,000 psi
- Dirt, dust and grime will not stick to it

| Key | Description | Size | Fel-Pro Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | C5-A Copper Based Anti-Seize | 4 oz. Brush top can | 51144 | **4KM71** | $6.20 | **$6.08** | **$5.47** | 0.8 |
| A | C5-A Copper Based Anti-Seize | 1 lb. Brush top can | 51007 | **2A272** | 16.05 | **15.29** | **13.76** | 1.2 |
| A | C5-A Copper Based Anti-Seize | 8 oz. Brush top can | 51147 | **5E203** | 11.33 | **10.79** | **9.71** | 0.6 |
| B | C5-A Copper Based Anti-Seize | 16 oz. Aerosol | 51003 | **5A450** | 14.16 | **13.49** | **12.14** | 1.2 |
| C | Nickel Anti-Seize | 8 oz. Brush top can | 51285 | **4KM73** | 14.73 | **13.99** | **12.59** | 1.3 |
| C | Nickel Anti-Seize | 1 lb. Brush top can | 51119 | **5A452** | 26.55 | **25.30** | **22.76** | 1.2 |
| D | Moly Paste | 8 oz. Brush top can | 51048 | **5E200** | 21.30 | **20.29** | **18.26** | 0.6 |
| E | Food Grade Anti-Seize | 8 oz. Brush top can | 51168 | **4KM72** | 13.37 | **12.70** | **11.43** | 1.3 |
| F | Heavy Duty Anti Seize | 9 oz. Brush top can | 51605 | **4KM74** | 22.63 | **21.55** | **19.40** | 1.2 |
| G | Moly Dry Film Lubricant | 12 oz. Aerosol | 51026 | **5E202** | 15.32 | **14.59** | **13.13** | 1.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Data Safety Sheets (MSDS) are available. See page opposite inside back cover.

## SPECIALTY LUBRICANTS

### PENETRATING OIL

Fast-acting, deep-action oil with graphite eases disassembly of mechanical components by penetrating deeply to loosen rusted and frozen parts. When oil evaporates, graphite is still present to provide lubrication. For use on extrusions, bearings, latches, nuts and bolts, precision parts, engine parts, pulleys, fasteners, etc. 16 oz. can/12.5 oz. net.

**No. 6Y650.** Shpg. wt. 2.4 lbs. List $6.00.Each **$5.40;** Lots 12 .....**$5.10**

### CHAIN & CABLE LUBRICANT

Oil lubricant with graphite increases the life of chains and cable by providing longer lasting lubrication. When oil evaporates, graphite remains to provide lubrication. Lubricant protects against corrosion, penetrates wire rope, and is unaffected by temperature extremes. For use on conveyors, fasteners, bearings, dies and molds, chains, steering cables, hinges, and wire rope. 16 oz can/12.5 oz. net.

**No. 6Y649.** Shpg. wt. 1.2 lbs. List $6.00. Each **$5.40;** Lots 12 .....**$5.10**

**SUPERIOR GRAPHITE CO.**




No.6Y650




No. 6Y649

# SPECIALTY LUBRICANTS

**A** **CRC White Lithium Grease** High quality, purity NLGI grade 2 grease with excellent EP characteristics. Resistant to wash off and maintains high viscosity film. White color for easy visual detection. 16 oz. can/10 oz. net wt. CRC brand (03080).

**A** **CRC Di-Electric Grease** Non-curing silicone paste used for sealing, lubricating, protecting and insulating. Waterproof—protects against water infiltration and arcing on all types of electrical connections. Excellent electrical resistance, high dielectric strength, ability to encapsulate airborne contaminants and prevent them from causing problems to insulators. Helps reduce arcing, tracking, crossover, and voltage drop conditions—improving electrical performance. 16 oz. can/10.5 oz. net wt. CRC brand (03082).

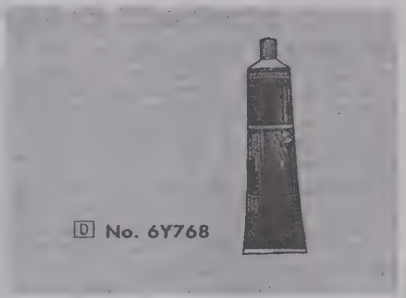
**B** **Extreme Low Temperature Bearing Grease** Silicone grease NLGI 1.5 (Light), 2 (Medium), compatible with metal, plastic, and rubber. For use with: high or low speed lightly loaded ball bearings primarily in lower temperatures. Food grade USDA H2. Dow Corning brand.

**C** **Extreme High Temperature Bearing Grease** Carbon black thickened silicone grease, NLGI #2. For use with lightly loaded, low speed ball and anti-friction bearings encountering high temperatures.

**D** **High Temperature Bearing Grease Silicone** grease NLGI 1.5 (Light), 2 (Medium). For use with: Moderate to high speed loaded bearings and plastic and rubber parts encountering higher temperatures. Available in light and medium. Dow Corning brand.

**E** **O-Ring Lubricant** Lithium soap thickened silicone grease NLGI #2. For use with: rubber O-rings and seals providing barrier between rubber and metal parts. Not recommended for use with silicone/rubber, polycarbonate, and some plastics. Dow Corning brand.

**F** **Valve Lubricant/Sealant** NLGI #3 heavy consistency grease-like silicone paste. For use as a valve lubricant and sealant providing non-curing, non-paintable moisture barrier. NSF51 and FDA21 Approved. Dow Corning brand.



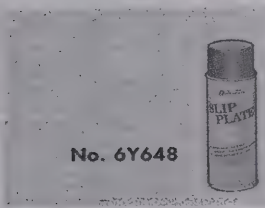
**D** No. 6Y768

**G** **Electrical Insulating Compound** Medium consistency grease like silicone paste. For use with electrical/electronic equipment. Provides moisture barrier. Not for surfaces that will be painted. Dow Corning brand.

| Key | Temperature Range | Size (Oz.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | — | — | CRC | 03080 | 4ZF09 | $5.56 | $5.08 | $4.57 | 1.0 |
| | — | — | CRC | 03082 | 2F136 | 11.64 | 10.00 | 9.00 | 1.0 |
| B | -100°F to 355°F | 5.3 | Dow Corning | 33 Light | 6Y763 | 15.39 | 12.95▲ | — | 0.6 |
| | -100°F to 355°F | | Dow Corning | 33 Medium | 6Y764 | 15.39 | 12.95▲ | — | 0.6 |
| C | 0°F to 550°F | 14.1 | Dow Corning | 41 | 6Y766 | 35.35 | 31.00▲ | — | 1.1 |
| D | -40°F to 400°F | 5.3 | Dow Corning | 44 Light | 6Y767 | 15.39 | 12.95▲ | — | 0.6 |
| | | 5.3 | Dow Corning | 44 Medium | 6Y768 | 15.39 | 12.95▲ | — | 0.6 |
| | | 14.1 | Dow Corning | 44 Medium | 6Y769 | 34.75 | 29.30▲ | — | 1.1 |
| E | -85°F to 350°F | 5.3 | Dow Corning | 55 | 6Y770 | 15.75 | 13.50▲ | — | 0.6 |
| F | -40°F to 400°F | 5.3 | Dow Corning | 111 | 6Y762 | 9.95 | 8.39▲ | — | 0.6 |
| G | -40°F to 400°F | 5.3 | Dow Corning | 4 | 6Y765 | 10.89 | 9.19▲ | — | 0.6 |

▲ Net prices, not subject to discounts.

## GRAPHITE LUBRICANTS




No. 6Y648



No. 6Y652



No. 6Y654

### GRAPHITE DRY FILM LUBRICANT

Slip Plate® greaseless, ozone-safe lubricant reduces friction, resists build-up of rust, prevents parts wear, and bonds quickly. For use on saw blades, conveyors, hitches, hay bailers, tools, fork lifts, snowblowers, and lawnmower decks. Dries quickly at room temperature. Operating temperature: -75°F to 400°F. 16 oz. can/12 oz. net. Superior Graphite brand.

**No. 6Y648.** Shpg. wt. 1.2 lbs. List $6.51.
Each **$5.86;** Lots 12.....**$5.53**

### SLIP PLATE No.1 DRY FILM LUBRICANT

Heavy-duty dry film lubricant for maximum lubricity and protection. For applications that slide, roll, turn, twist or spin. Bonds to clean metal, wood, concrete, and most plastic surfaces. Dry film graphite eliminates build up of dirt and provides long lasting lubrication. Tack free dry time: 70-90 minutes. Coverage (approx.): 200 sq.ft. Operating temp. (approx.): -75°F to 400°F. Do not store above 120°F. Superior Graphite brand.

**No. 6Y652.** Shpg. wt. 10.0 lbs. List $32.97.
Each **$29.70;** Lots 4.....**$26.70**

**No. 6Y653.** Shpg. wt. 51.0 lbs. List $155.41.
Each.....**$139.90**

### SLIP PLATE No. 3 DRY FILM LUBRICANT

**Slip Plate No. 3 DRY FILM Lubricant** sprayable, quick-dry lubricant provides protective dry film graphite coat which does not gather dirt, dust, or mud. Will not melt, freeze, or wash off. Formulated for spray gun, paint brush or dipping applications. Tack free dry time: 15-20 minutes. Coverage (approx.): 300 sq.ft. Operating temp.: -75°F to 400°F. Do not store above 120°F. Container size: 1 gallon. Superior Graphite brand.

**No. 6Y654.** Shpg. wt. 9.0 lbs. List $30.62.
Each.....**$27.60**

# CLEANERS AND DEGREASERS

## CONTACT CLEANERS

**CRC INDUSTRIAL CONTACT CLEANER.** This patent pending blend of solvents replaces chlorinated precision cleaners. For precision cleaning applications involving sensitive plastics. Does not contain suspected carcinogens or highly toxic solvents and is not restricted under the EPA Essential Use guidelines. Effectively removes dirt, dust, light oils and fingerprints. Non-corrosive; SNAP approved.

**CRC CONTACT CLEANER 2000.** A HCFC based, high purity cleaner that does not exhibit the same ozone-depleting properties as traditional CFC based cleaners. Evaporates fast, no residue, no flashpoint. For removing flux, light oils, and other contaminants.

**CRC QD CONTACT CLEANER.** An alcohol based precision cleaner that is 100% free of CFC's. Evaporates fast, no residue, and is harmless to most plastics and paper tapes.

**IMPORTANT PRODUCT INFORMATION**

**Contact Cleaner 2000, No. 1D260, is EPA regulated, and may only be purchased by commercial entities. Buyers must verify their commercial status, prior to purchasing the product, by presenting a Federal employer identification number, a state sales tax exemption number, a local business license number or a government contract number.**




| Description | Can Size | Net Wt. | CRC Model | Stock No. ❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Industrial Contact Cleaner** | 16 oz. | 14 oz. | 03070 | **1D266** | $30.47 | **$27.75** | **$24.94** | 1.3 |
| **Contact Cleaner 2000** | 16 | 14 | 03150 | **1D260*** | 12.72 | **11.58** | **10.42** | 1.3 |
| **QD Contact Cleaner** | 16 | 11 | 03130 | **1D262*** | 7.66 | **6.97** | **6.27** | 1.1 |
| **HF Contact Cleaner** | 16 | 11 | 03125 | **1D263*** | 7.55 | **6.87** | **6.18** | 1.1 |
| **Contact Cleaner W/Lube** | 16 | 11 | 03140 | **1D261*** | 7.25 | **6.59** | **5.93** | 1.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are printed on reverse side of label.
(*) Product may only be purchased by commercial users.

## DEGREASING SOLVENTS

### CRC HEAVY-DUTY DEGREASER

TCE-based cleaner/degreaser is chemically stable and effective in heavy-duty applications. Has no ozone depleting substances. Nonflammable, nonstaining, and noncorrosive. Evaporates fast; no residue. Dissolves away grease, oil, dirt, and sludge. CRC Brand.

### CRC HEAVY-DUTY DEGREASER II

Alternative to 1, 1, 1, Trichloroethane and other chlorinated solvents. Removes tough grease, oil, and dirt from mechanical and electrical equipment. Flashpoint of over 140°F and dielectric strength of 21,600 volts. CRC Brand.

### CRC QUICK CLEAN

A nonozone-depleting alternative to 1, 1, 1, Trichloroethane solvents. Nonflammable, nonstaining, noncorrosive, and nonconducting. Evaporates fast, no residue, removes grease, oil, and dirt from equipment. CRC Brand.




| Description | Can Size | Net Wt. | CRC Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Heavy-Duty Degreaser** | 20 | 19 | 03095 | **1D265*** | $7.24 | **$6.76** | **$6.08** | 1.5 |
| **Heavy-Duty Degreaser II** | 20 | 15 | 03120 | **1D264*** | 8.61 | **7.83** | **7.05** | 1.3 |
| **Quick Clean Degreaser** | 20 | 19 | 03180 | **1D259❷†** | 5.23 | **4.76** | **4.28** | 1.5 |

(*) Product may only be purchased by commercial users. (†) Product contains Dichloromethane which has been shown to cause cancer in labaratory animals.
❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

## TECHNICAL REFERENCE LITERATURE

**Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics See Index under Books.**

# CLEANERS AND DEGREASERS




## A LPS ZERO TRI CLEANER/DEGREASER

Fast-acting, solvent alternative to 1,1,1 for cleaning and degreasing parts and equipment. Removes oil, grease, wax, tar, dirt, brake fluid, and other contaminants in seconds. Safe for most surfaces. ZeroTri is flammable. USDA Authorized for use in federally inspected meat and poultry plants. LPS brand (03520). 15 oz. can.

**No. 2C691**. Shpg. wt. 1.2 lbs. Each.....$8.53

## B LPS PRECISION CLEAN MULTI-PURPOSE CLEANER/DEGREASER

Removes stubborn soils such as grease, oil, sludge, soot, ink, coffee, and more. Water-based, biodegradable, wipes off or rinses clean. Contains potentially harmful butyl, chlorinated or petroleum solvents, bleach, ammonia, or abrasives. Used in parts washers, dip tanks, ultrasonic cleaners, and in pressure washers. Meets or exceeds these specifications: McDonnel Douglas CSD #1, Boeing D6-17487 Rev. H, AMS 1526A. USDA authorized for use in federally inspected meat and poultry plants. LPS brand (02728). 28 oz. bottle.

**No. 2C682**. Shpg. wt. 2.2 lbs. Each.....$6.87

## C LPS PRESOLVE CLEANER/DEGREASER

Removes adhesives, oils, grease, wax, tar, dirt. Nonconductive, no CFC's or 1,1,1 trichloroethane, can be used on metal and most plastics. USDA authorized for use in federally inspected meat and poultry plants. Meets or exceeds these specifications: McDonnell Douglas CSD #1. LPS brand (01420). 15 oz. can.

**No. 2C654**. Shpg. wt. 1.3 lbs. Each.....$8.25

## D LPS CFC-FREE ELECTRO CONTACT CLEANER

Fast-penetrating cleaner for removing light grease, oil, dirt, and flux from delicate precision parts. Contains no CFC's, HCFC's, or 1,1,1 trichloroethane. Fast evaporation. NSN#6850-00-N047576. USDA authorized for use in federally inspected meat and poultry plants. LPS brand (03116). 11 oz. can.

**No. 2C687**. Shpg. wt. 1.0 lbs. Each.....$10.09

## E LPS NO FLASH ELECTRO CONTACT CLEANER

A vaporous solvent cleaner alternative to CFC's that's safe to use on most surfaces. Can be used while equipment is in operation. Dislodge soil, grease, dirt, and other materials from precision parts. Meets or exceeds these specifications. McDonnell Douglas CDs #1. LPS brand (04016). 15 oz. can.

**No. 2F017**. Shpg. wt. 1.3 lbs. Each.....$13.38

## F LPS PSC PLASTIC SAFE CLEANER

A nonconductive, noncorrosive cleaner with no flash point. It is safe to use on most plastics and can be used on energized equipment. 20 oz. can. LPS brand.

**No. 4KK69**. Shpg. wt. 1.4 lbs. Each.....$24.39

## G LPS MAGNUM TEFLON™

A high-performance lubricant formulated for maximum lubricity. 11 oz. LPS brand.

**No. 4KK75**. Shpg. wt. 1.0 lbs. Each.....$6.82

## H HEAVY-DUTY SILICONE LUBRICANT

A silicone-rich formula that lubricates and protects rubber, plastic, and metal parts. Meets or exceeds the following specs: FDA Regulation 21. CFR 178.3570 for Incidental Food Contact. 13 oz. LPS brand (01516).

**No. 4KK76**. Shpg. wt. 1.1 lbs. Each.....$5.18

## I TKX ALL-PURPOSE PENETRANT

Lubricant and Protectant. A safe, nonflammable propellant alternative that loosens rusted and frozen parts, displaces moisture, and protects against corrosion. 11 oz. can. LPS brand (02016).

**No. 4KK77**. Shpg. wt. 1.0 lbs. Each.....$3.33

## J HDX HEAVY-DUTY DEGREASER

Fast-acting, heavy-duty solvent removes oil, grease, wax, dirt, moisture, tar, brake fluid, and other contaminants from parts and equipment without rinsing. Nonflammable. LPS brand (01020). 19 oz.

*New* **No. 4KK67**. Shpg. wt. 1.5 lbs. Each.....$5.94

# CLEANERS, VARNISHES, COATINGS AND RUBBER PROTECTANT




## CLEANERS

### ENGINE DEGREASER

Especially formulated to clean all mechanical engines, machinery, and tools. Removes dirt, grease, and varnish deposits. Simply spray on, allow to set for 15 minutes, and flush surface with water; contaminants are carried away, leaving a clean surface. Biodegradable. Penetrates to the metal. Water soluble. Noncorrosive, nonstaining. Will not damage wiring, insulation, distributor caps, or painted surfaces. High velocity valve delivers deep penetration to intricate mechanical parts. For use on: automotive and marine engines; shop equipment; tools.

### PAINT & DECAL REMOVER

A fast-acting remover that cuts through all paint finishes (air-dry or baked). Also removes urethane, varnish, shellac, decals. Catalyst action penetrates through gasket cements, sealants, adhesives, tape residue, and carbon deposits. Leaves surface clean and ready to repaint. Accepted by USDA as a paint remover for use in nonprocessing areas of official establishments operating under the Federal Meat and Poultry Products Inspection Program. For use on: metal; wood; glass; concrete; stone; brick; ceramic tile. NOTE: May damage plastic, fiberglass, or any synthetic material. Before using on questionable surfaces, first test for suitability.

## VARNISHES AND COATINGS

### GREEN EPOXY INSULATING VARNISH

A superior spray insulation for motor windings, electric components, etc. Bake or air dry to an extra-hard, tough surface that is oilproof and waterproof. High arc-resistant and nontracking properties. High dielectric strength. Class F, over 1900 volts/mil, dry; over 1400 volts/mil, wet. (ASTM-D115-55). Danvern® Standard nozzle features clog-resistant spraying, less finger pressure, greater coverage.

### RED & CLEAR INSULATING VARNISHES

Insulating sprays for general coating, impregnating and insulating electrical and electronic work. Excellent adhesion to metals, windings, coils. Dry in 10-15 minutes; tack-free in 60 minutes. Protect surface against oils, moisture, acid, and alkalis. Perfect for small field and magnet coils; penetrate old and new windings; excellent flexibility and water resistance. Dielectric strength up to 2100 volts/mil.

Air dries faster than most insulating materials. High arc-resistance and nontracking properties. Equipped with exclusive easy-operating Danvern® Standard nozzle for less finger fatigue and professional coverage. Use as an insulating varnish in Class F systems as well as a finish coat. Resist abrasion and wear. Contain no methylene chloride. For use on: motor windings; transformers; commutator ends; sealing electrical and electronic components; field and magnet coils; armatures; stator windings; ring and frames.

### CLEAR ACRYLIC COATING

Seals electrical and electronic parts. Weatherproofs and waterproofs in one application. Protects against rust, corrosion, and tarnish. Resists fungus, chemicals, dirt, and grease. Material dries in approximately four minutes to a crystal clear, flexible film. Meets MIL-C-175048 and TT-L-50G Type I and Type III performance requirements. Dries to the touch in less than five minutes. Dielectric strength of 1500 volts/mil. Equipped with Danvern® Standard nozzle. Contains no methylene chloride. For use on: wiring installations; printed circuit boards; batteries; chrome and bright work.

### CRYSTAL CLEAR COATING

A clear, colorless lacquer protective spray coating. Tough, long-lasting protection for electronic components and circuits. Goes on clear; stays clear. Dries to the touch in two minutes. Waterproof and weatherproof. Resists moisture, rust, tarnish, and corrosion. High dielectric strength helps keep electronic equipment functioning under adverse conditions. Dielectric strength is 1346 volts/mil. For use on: televisions, radios, stereos, and other electronic units.

| Description | Can Size (oz.) | Net Wt. (Oz.) | Sprayon Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **CLEANERS** | | | | | | | | |
| **Engine Degreaser** | 16 | 12 | 702 | **1D269** ❸ | $5.28 | **$4.49** | **$4.04** | 1.1 |
| **Paint & Decal Remover** | 16 | 15 | 615 | **1D270** ❷❸ | 5.82 | **4.55** | **4.10** | 1.3 |
| **VARNISHES AND COATINGS** | | | | | | | | |
| **Green Epoxy Insulating Varnish** | 20 | 15¼ | 609 | **1D275** ❷❸ | 6.14 | **4.48** | **4.03** | 1.1 |
| **Red Insulating Varnish** | 20 | 15.3 | 601 | **1D276** ❷❸ | 6.14 | **4.48** | **4.03** | 1.1 |
| **Clear Insulating Varnish** | 16 | 12.0 fl.oz | 600 | **1D268** ❷❸ | 4.75 | **4.48** | **4.03** | 1.1 |
| **Clear Acrylic Coating** | 16 | 11.3 fl.oz | 2000 | **1D273** ❷❸ | 4.45 | **3.60** | **3.24** | 1.1 |
| **Crystal Clear Coating** | 16 | 11.0 fl.oz | 611 | **1D274** ❷❸ | 4.94 | **4.69** | **4.22** | 1.2 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.




No. 5E229

## COLOR GUARD™ RUBBER PROTECTANT

Rubber coating won't crack or chip like paint. Protect, seals, identifies, and adds gripping power to almost any material like valve handles, handtools, electronic connections, and pipe hangers. Dip, spray, or brush on. Use to 200°F. USDA approved. Permatex brand.

| Description | Size | Permatex Model | Stock No. ❷❸ | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Blue Color** | 15 fl. oz. can | 81814 | **5E229** | $11.52 | **$11.06** | **$9.95** | 1.2 |
| **Blue Color** | 1gal. can | 81810 | **5E230** | 90.72 | **87.10** | **78.33** | 11.0 |
| **Red Color** | 14.5 fl. oz. can | 81811 | **5E231** | 11.52 | **11.06** | **9.95** | 1.2 |
| **Red Color** | 1gal. can | 81807 | **5E232** | 90.72 | **87.10** | **78.33** | 8.8 |

# CORROSION INHIBITORS AND RUST PREVENTATIVES

### LPS 3 HEAVY DUTY RUST INHIBITOR

Transparent waxy film stops rust and corrosion, provides protective coating for up to 2 years. Resists moisture, sand, dirt, dust, and vibration. Stops exfoliation or filiform corrosion of aluminum. Provides anti-seize coating. Penetrates to replace moisture. Meets or exceeds specifications: MIL-C-16173D-Grade 2, MIL-C-0083933A, BMS 3-23F Type II; DMS 2150, Airbus TN A.007.10138 Type 1, Grade 2. 16 oz. can/11 oz. net wt. LPS brand (00316).

**No. 6Y745.** ❸ Shpg. wt. 1.0 lbs. Each ..... $6.62

### RUST BREAKER™

Penetrates through grease, dirt, and corrosion to free rusted or frozen parts quickly effortlessly. Deposits a long-lasting moly film to displace moisture and protect against rust and corrosion. Jet-stream spray assures saturation of working areas only, preventing unnecessary waste and also allowing safe application on moving parts. Low surface tension permits complete penetration. Will not harm painted surfaces. Packaged with a nonflammable propellant that provides a higher flashpoint and safety. Diaelectric strength is 47,400 volts/mil, per ASTM D 877. Authorized by USDA for use in federally inspected meat and poultry plants. For use on: lugs and bolts; tight-fitting parts and fasteners; tools and dies; machined shafting. SprayOn brand (S00103).

**No. 1D277.** Shpg. wt. 1.1 lbs. Each ..... $4.25

### CRC SP-350

Long-term indoor corrosion inhibitor provides extended protection for all metal parts and assemblies for up to 2 years. Thin, non-drying film protects better than many thicker, waxy films and is easily removed with solvent cleaners. 16 oz. can/14 oz. net wt. CRC brand (03262).

**No. 2F142.** ❸ Shpg. wt. 1.0 lbs. Each ..... $5.99

### CRC SP-400

Extreme duty corrosion inhibitor provides long-term outdoor metal protection for up to 1 year. Dry transparent waxy film seals out moisture and can be easily removed or diluted with petroleum solvents. Highly resistant to humidity and salt spray—coating never becomes brittle. 16 oz. can/12 oz. net wt. CRC brand (03282).

**No. 2F143.** Shpg. wt. 0.9 lbs. Each ..... $5.25

### LPS COLD GALVANIZED CORROSION INHIBITOR

The 95% zinc, coating protects ferrous metals indoors and out. Temp range up to 750° continuous dry heat. Meets or exceeds specs: MIL-P-46105 Weld Through Primer, ASTM A-780, Passes Preece Test for Hot-Dip Galvanizing, NSN 8010-00-214-7241. LPS Brand (00516).

**No. 4KK70.** ❸ Shpg. wt. 1.3 lbs. Each ..... $7.41

### CRC BATTERY TERMINAL PROTECTOR

Provides lead-free protective coating formulated for aerosol applications. Protects terminals from corrosion, which is a major cause of hard starting and battery failure. Dries quickly to a soft film assuring easier starting and longer battery life. 12 oz. can/7.5 oz. net wt. CRC brand.

**No. 2F134.** ❸ Shpg. wt. 1.1 lbs. Each ..... $4.25




### RUSTLICK 631 CORROSION PROTECTION

- **Concentrated rust preventative designed for long-term use in harsh environments which may include acid and salt vapors**
- **Non-conductive and can be safely used on electrical parts**

**No. 1C187.** 1-Gallon Pail (71011). Shpg. wt. 8.0 lbs. Each ..... $15.75

**No. 1C185.** 5-Gallon Pail (71051). Shpg. wt. 37.0 lbs. Each ..... $64.00

### RUSTLICK B WATER-SOLUBLE CORROSION INHIBITOR

- **Designed for use with ferrous metals**
- **Non-flammable and does not require removal prior to painting, plating or assembly**
- **For in-process corrosion control**
- **Can be used for hydrostatic testing and corrosion control during vibratory finishing and sand blasting**

**No. 1C197.** 5-Gallon Pail (73051). Shpg. wt. 49.0 lbs. Each ..... $84.00

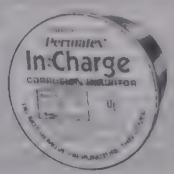
## IN-CHARGE™ CORROSION INHIBITOR

- **Contains ingredients that absorb moisture and release a vapor that coats and protects surfaces inside enclosed areas**
- **Sold in packages of 2**
- **Applications include junction boxes, control panels, and tool boxes**
- **Ideal for environments subject to salt, moisture, contaminants and corrosive substances**

**No. 4KL38.** Shpg. wt. 0.2 lbs., 7 gm. inhibitor, protects 6 cu. ft.. Each ..... $10.80

**No. 4KL39.** Shpg. wt. 0.2 lbs. 11 gm. inhibitor, protects 11 cu. ft.. Each ..... $18.60

PERMATEX INDUSTRIAL




No. 4KL39

❸ These products are covered by OSHA Hazard Communications Standard and Material Safety and Data Sheets (MSDS) are available upon request. See page opposite inside back cover.

# CLEANERS, CAN PUNCTURING KIT, AND CAN HANDLER

## LPS PSC PLASTIC SAFE CLEANER

A nonconductive, noncorrosive cleaner with no flash point. It is safe to use on all plastics and can be used on energized equipment. 20 oz. LPS brand (04620).

**No. 4KK69.** Shpg. wt. 1.4 lbs. Each.....**$24.39**

## LPS TRIFREE BRAKE CLEANER

Removes brake fluid, oil, grease, and other contaminants on contact, evaporating completely, no residue. 15 oz. LPS brand (03620).

**No. 4KK68.** Shpg. wt. 1.3 lbs. Each.....**$6.97**

## CRC BRAKELEEN NON-CHLORINATED

Brake parts cleaner formulated to quickly remove brake fluid, grease, oil and other contaminants from brake linings, and pads. Effectively removes brake fluid, grease, and oil. Contains no 1,1,1 trichloroethane. 20 oz. container. CRC brand (05088). 20 oz. can/15 oz. net wt.

**No. 2F147.** Shpg. wt. 1.3 lbs. Each .....**$4.01**

## ENGINE DEGREASER

Formulated to clean all mechanical engines, machinery and tools. Removes dirt, grease, and varnish deposits. Spray on, allow to set for 15 minutes, and flush surface with water. Biodegradable. Penetrates to the metal. Water soluble. Non corrosive, nonstaining. Will not damage wiring, insulation , distributor caps, or painted surfaces. High velocity valve delivers deep penetration to intricate mechanical parts. For use on: automotive and marine engines; shop equipment; tools. SprayOn brand (S00702).

**No. 1D269.** Shpg. wt. 1.1 lbs. Each.....**$4.49**

## CRC CARB AND CHOKE CLEANER

Dissolves and removes gum and varnish deposits from carburetors, automatic chokes, heat control valves and PCV valves. Easy to use, fast acting-will not harm oxygen sensors or catalytic converters. 16 oz. can/12 oz. net wt. CRC brand (3077).

**No. 2F135.** Shpg. wt. 1.0 lbs. Each.....**$2.59**

## CAN HANDLER

- **Prevents absorption of chemicals through skin**
- **Keeps hands clean**
- **Reduces finger fatigue**
- **Includes trigger lock**
- **Demkote brand**

**No. 4ZF12.** Shpg. wt. 0.1 lbs. Each .....**$1.62**




## COME-CLEAN® 900 HEAVY-DUTY INDUSTRIAL CLEANER

Heavy duty, water-based cleaner removes soil from metal substrates and concrete. Effective in steam cleaning equipment. Works in industrial scrubbers, manual operations and immersion cleaning systems. Recommended for the flushing and cleaning of machine tools before charging with fresh coolant. Castrol brand.

**No. 3VH98.** 1 Gal. Shpg. wt. 11.0 lbs. Each.....**$19.97**

**No. 3VH99.** 5 Gal. Shpg. wt. 50.0 lbs. Each.....**$74.35**

## CRC BATTERY CLEANER

Designed to remove corrosion quickly and economically while neutralizing acid spills. Easily removes corrosion and helps restore battery output. Can be used on battery terminals, casing, cable connectors, and retainer frames. 12 oz. can/11 oz. net. wt. CRC brand (01376).

**No. 2F133.** Shpg. wt. 0.9 lbs. Each .....**$3.05**

## RUSTLICK KILL-CIDE 700 BACTERIA FUNGI CONTROL

- **Controls rancidity in difficult environments in order to prevent rusting and foul-smelling sump odors.**
- **Extends coolant life and is useful in protecting coolants in seldom-used machines**

**No. 1C905.** 16 oz. Plastic Bottle (77122). Shpg. wt. 1.3 lbs. Each .....**$15.00**

**No. 1C893.** 1 Gallon Can (77012). Shpg. wt. 8.0 lbs. Each.....**$71.50**

## RUSTLICK KLEENZOL DY ALKALINE CLEANER

- **A general maintenance cleaner for machines, sump, and parts**
- **Non-flammable, non-toxic, and biodegradable**

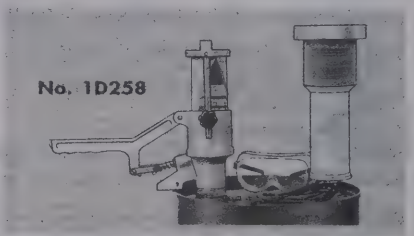
**No. 1C883.** 1 Gallon Pail (76012). Shpg. wt. 8.0 lbs. Each.....**$13.75**

## AEROSOLV CAN PUNCTURING KIT

Lightweight, portable unit threads directly to any standard drum and collects residual aerosol contents directly into the drum. Accommodates all sizes of aerosol cans. Combination filter effectively filters and collects VOC's removes organic compounds, and filters odors. Each kit contains one aerosol can puncturing unit, one combination filter, one anti-static wire, and one pair of safety goggles.

**EXTRA COMBINATION FILTER.** For use with Can Puncturing System No. 1D528. For best results, replace every 45-60 days.

| Description | CRC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Aerosov Can Puncturing Kit** | 14140 | **1D258** | $643.76 | **$613.50** | 7.0 |
| **Aerosov Extra Combination Filter** | 14141 | **1D257** | 157.52 | **150.00** | 1.0 |



# HYDRAULIC SYSTEM COMPONENTS

**Cushion**—A deceleration device sometimes built into the ends of a cylinder to restrict the flow of fluid at the outlet port.

**Cylinder**—A device which converts fluid power into linear mechanical force and motion. It usually consists of a movable element, such as a piston and piston rod, plunger or ram, operating within a cylindrical bore.

**Double Acting Cylinder**—A cylinder in which fluid force can be applied to the movable element in either direction.

**Ram Cylinder**—A cylinder in which the movable element has the same cross-sectional area as the piston rod.

**Single Acting Cylinder**—A cylinder in which the fluid force can be applied to the movable element in only one direction.

**Hydraulic Filter**—A device whose primary function is the retention of insoluble contaminants from a fluid.

**Return Line Filter**—A hydraulic filter positioned in the system just before the reservoir. This is the filter most often used and is recommended for all hydraulic systems.

**Suction Filter**—A hydraulic filter located in the suction line between reservoir and pump.

**Hydraulic Motor**—A device which converts fluid power into mechanical force and motion. It usually provides rotary motion. Motors are either fixed displacement, in which the quantity of fluid per unit of output motion is constant or variable displacement, in which the quantity of fluid per unit of output motion can be adjusted.

**Gear Motor**—A fixed displacement motor having two or more intermeshed rotating gears enclosed in a housing.

**Piston Motor**—A variable displacement motor having multiple pistons disposed radially and actuated by an eccentric swashplate.

**Vane Motor**—This is the more widely used hydraulic motor. It develops an output torque at its shaft by allowing hydraulic pressure to act on vanes within the motor housing.

**Hydraulic Pump**—A device which converts mechanical force and motion into fluid power. Pumps are either fixed displacement or variable displacement types.

**Gear Pump**—This is the most widely used fixed displacement pump. It has two or more intermeshed rotating gears enclosed in a housing. It is most often used in agricultural and mobile equipment.

**Piston Pump**—A variable displacement pump having multiple pistons disposed radially and actuated by an eccentric swashplate.

**Vane Pump**—A variable displacement pump having multiple radial vanes within a supporting rotor.

**Hydraulic Valve**—A device which controls fluid flow direction, pressure or flow rate.

**Directional Control Valve**—A valve whose function is to direct or prevent flow through selected passages. Most common types are three way and four way valves.

**Four Way Valve**—A directional control valve whose primary function is to pressurize and exhaust two ports. Used in system with double acting cylinder.

**Three Way Valve**—A directional control valve whose primary function is to pressurize and exhaust one port. Used in system with single acting cylinder.

**Flow Control Valve**—An adjustable valve which meters flow rate in one direction and permits full flow in the opposite direction.

**Needle Valve**—An adjustable valve whose function is to meter flow rate.

**Relief Valve**—A pressure control valve whose primary function is to limit system pressure.

**Reservoir**—A container for storing and conditioning fluid in a hydraulic system.

# HYDRAULIC FORMULAS

The following formulas can be helpful in designing and sizing of hydraulic systems for specific applications.

$PSI = \frac{F}{A}$ — Fluid pressure (PSI) = Force (lbs.) ÷ Area (sq. in.)

$A = \pi r2$ — Cylinder area (sq. in.) = 3.1416 x Radius² (in.)

$F = PA$ — Cylinder force (lbs.) = Pressure (PSI) x Area (sq. in.)

$V = \frac{.3208Q}{A}$ — Cylinder speed (ft./sec.) = (231 x GPM) ÷ (12 x 60 x Area)

$HP = \frac{QP}{1714}$ — Hydraulic horsepower = Pressure (PSI) x GPM ÷ 1714

$T = \frac{PD}{2\pi}$ — Fluid motor torque (in. -lbs.) = Pressure (PSI) x displ. (cu. in.) ÷ 62822

$N = \frac{231\ Q}{d}$ — Fluid motor speed (RPM) = 231 x GPM ÷ displ. (cu. in.)

$HP = \frac{TN}{63025}$ — Fluid motor horsepower = Torque (in.-lbs.) x RPM ÷ 63025

$Q = \frac{ND}{231}$ — Pump output flow (GPM) = Speed (RPM) x displ. (cu. in.) ÷ 231

1 Gallon = 231 Cubic Inches

Input HP = PSI x GPM x .0007

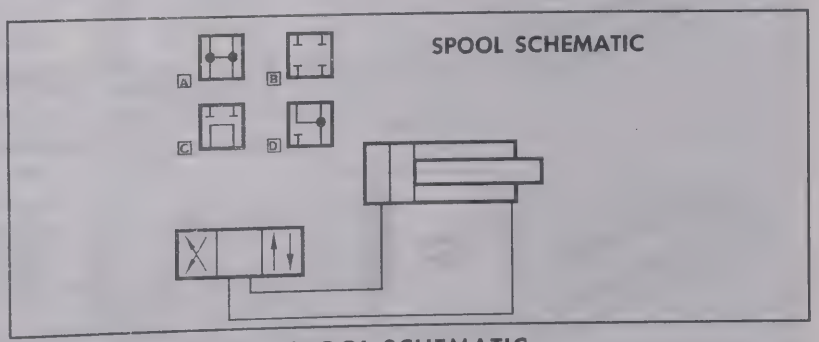
Hydraulic Motor HP = Torque x RPM ÷ 63025

Volume (in.³) = Area (in.²) x Stroke (in.)

Area = (Piston Dia.)² x .7854

Flow (GPM) = Rod Speed (in./min.) x Area (in²) ÷ 231

Force (lbs.) = Pressure Applied (PSI) x Piston Area (in.²)




## SPOOL SCHEMATIC

A **OPEN CENTER**—Used when cylinder "drift" is necessary under pressure (i.e. snow plow blade)

B **CLOSED CENTER**—Used when cylinder must lock into place along travel path and fluid flow from supply is blocked completely (i.e. air powered press)

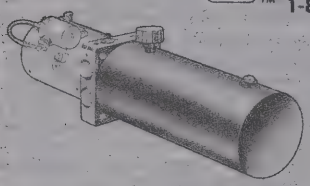
C **TANDEM CENTER**—Same as "B" but allows fluid to flow through valve reducing created fluid heat and facilitating more functions downstream (i.e. multiple valves in series)

D **FLOAT CENTER**—In the center position the cylinder can move freewheeling in or out under no pressure (i.e. free wheeling hydraulic motor)

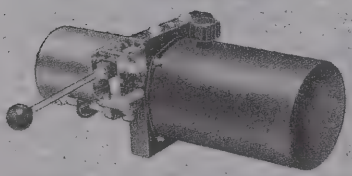
# 12 VDC POWER UNITS

**Fenner Fluid Power**

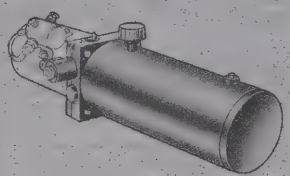
Replacement Parts Available 1-800-323-0620™



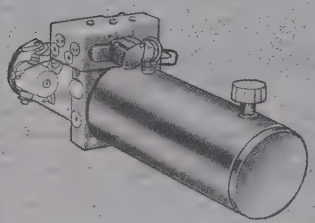
No. 4Z629



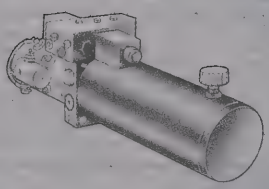
No. 4Z185




No. 4Z186

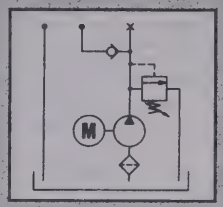


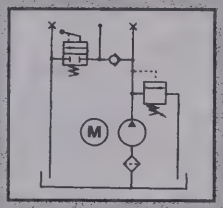
No. 4Z338

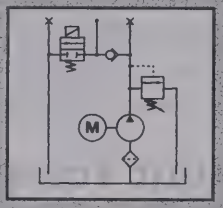


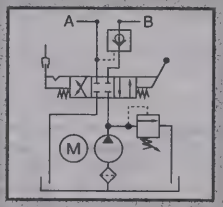

No. 4Z339

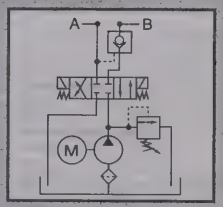
**HYDRAULIC SCHEMATICS**




**12 Volt DC, horizontal mount hydraulic power units** offer a range of valving options to suit many mobile applications: truck tail gates, cranes, wheel chair lifts, concrete saws, dump bodies, and aerial lifts.

- **For applications requiring additional oil capacity, 2½ (6W873) and 4 (6W874) gallon reservoirs are also available. See page 2793.**
- **Nos. 4Z629, 4Z185, and 4Z186 can be horizontally mounted only**
- **Nos. 4Z338 and 4Z339 can only be horizontally mounted**

**Maximum Duty Cycle:**
1 Minute in 5 maximum running at 500 PSI
1/2 Minute in 5 maximum running at 2000 PSI

### No. 4Z629 BASIC POWER UNIT

- **For use in custom applications using remote mounted directional control valves**
- **Includes relief valve and check valve**

### No. 4Z185 MANUAL CONTROL POWER UNIT

- **For single acting cylinders only for tail gates, dump bodies, and material handling**
- **Includes relief valve, check valve, and manually actuated release valve**

**Spring-centered handle** controls function; one direction starts motor to raise load, other direction provides fingertip control of lowering speed.

### No. 4Z186 REMOTE CONTROL POWER UNIT

- **For single acting cylinders only, for remotely operated wheel chair/personal lifts, material handling, dump bodies, aerial ladders, and cherry pickers**
- **Includes relief valve, check valve, and solenoid actuated release valve**

**Includes weatherproof control box** with 10 ft. cord. One button starts motor to raise load, other button releases pressure to lower load.

### No. 4Z338 MANUAL 4-WAY POWER UNIT

- **Used for 4-way manual control of double acting cylinders or reversing fluid motors**
- **Includes relief valve and manually actuated directional control valve**

**Spring-centered handle** moves in either direction from center to start the motor and direct flow to one of two work ports. At one port, a pilot operated check valve holds system pressure until handle is moved to opposite position.

### No. 4Z339 REMOTE 4-WAY POWER UNIT

- **Used for 4-way remote control of double acting cylinders or reversing fluid motors**
- **Includes relief valve and 4-way solenoid-actuated directional control valve**

**Has weatherproof control box** and 10 ft. cord. One button starts motor and sends flow to one work port with pilot operated check valve. Other button starts motor and sends flow to unchecked work port.

## 12 DC POWER UNIT SPECIFICATIONS AND ORDERING DATA

| GPM (PSI) @ 500 | GPM (PSI) @ 2000 | Pressure Preset | Pressure Max. | AMPS (PSI) @ 500 | AMPS (PSI) @ 2000 | Ports (NPT) (F) Pressure | Ports (NPT) (F) Return | Reservoir Cap. Quarts | Dimensions (In.) H | W | L | Fenner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.4** | 1.4 | 2500 | 3000 | 120 | 220 | 3/8 | 3/8 | 3 | 6.3 | 6.8 | 20.3 | DC-30 | **4Z629** | $338.46 | **$295.50** | 34.0 |
| **2.4** | 1.4 | 2500 | 3000 | 120 | 220 | 3/8 | 3/8 | 3 | 7.1 | 9.7 | 16.8 | DC-1 | **4Z185** | 349.84 | **310.50** | 36.0 |
| **2.4** | 1.4 | 2500 | 3000 | 120 | 220 | 3/8 | 3/8 | 3 | 6.3 | 7.6 | 20.3 | DC-20 | **4Z186** | 426.48 | **368.75** | 36.0 |
| **2.4** | 1.4 | 2500 | 3000 | 120 | 220 | 1/4 | 1/4 | 3 | 7.2 | 6.8 | 20.3 | DC-50 | **4Z338** | 510.32 | **439.75** | 43.0 |
| **2.4** | 1.4 | 2500 | 3000 | 120 | 220 | 1/4 | 1/4 | 3 | 7.2 | 8.0 | 20.3 | DC-60 | **4Z339** | 588.01 | **517.00** | 43.0 |

# DC SNOWPLOW POWER UNIT

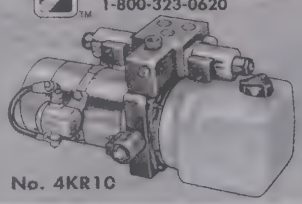
**Fenner Fluid Power**

- For horizontal mounting only
- See-thru 1.5 quart poly tank
- Toggle switches with 10 ft. cords
- Aeroquip snowplow hose, see page 2830

**12-Volt DC snowplow power unit.** Operate front end truck mounted snowplows with single-acting and double-acting cylinders. For raise/lower and left/right functions.

**Features:** Fitted with 2000 PSI relief valve, 3-position 4-way solenoid valve, 2-way lowering valve, load holding check valve and crossover relief valves. Intermittent duty motor: 60 sec. On/4 min. Off at 500 PSI; 30 sec On/4.5 min. Off at 1600 PSI.

Replacement Parts Available 1-800-323-0620



No. 4KR10

## DC SNOWPLOW UNIT SPECIFICATIONS AND ORDERING DATA

| Flow GPM @ 1600 PSI | Relief Valve PSI | Maximum Pressure | Amps 500PSI | Amps 1600PSI | Ports NPT (In.) | Dimensions (In.) L | W | H | Fenner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.3 | Adjustable: set @ 2000 | 3000 | 100 | 170 | 1/4 | 14.75 | 8.08 | 7.17 | DB-1244 | 4KR10 | $700.00 | $602.00▲ | 47.0 |

(▲) Net prices, not subject to discounts.

# Fenner Fluid Power

## DC PALLET TRUCK POWER UNITS

- 12 and 24 Volt DC units for powering raise, hold, and lower functions on walk-behind pallet trucks
- Fitted with relief, check, and solenoid actuated release valves and pressure compensated return flow control
- For vertical mounting only
- 7/16 SAE auxiliary return port

**Intermittent Duty Motors:**

10 Sec. in any minute at 500 PSI

5 Sec. in any minute at 2000 PSI

## DC AUXILIARY POWER UNIT

- 12 Volt DC unit for mobile auxiliary power applications including back-up hydraulic power for truck mounted equipment, emergency power steering for off-road vehicles, elevated work platforms, and material handling auxiliary functions
- Includes check valve and relief valve
- Requires remotely mounted reservoir, and accepts remotely mounted auxiliary valving
- Unit has 9/16 - 18 external drain relief

**Intermittent Duty Motors:**

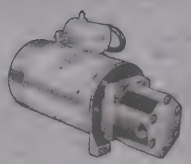
1 Min. in 5 maximum running at 500 PSI

1/2 Min. in 5 maximum running at 2000 PSI

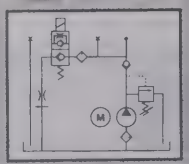
Replacement Parts Available 1-800-323-0620

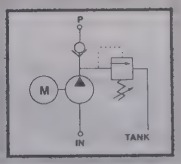


No. 4F691



No. 4F689





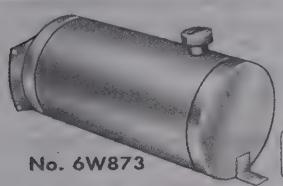

## Nos. 4F690 AND 4F691 DC PALLET TRUCK POWER UNITS SPECIFICATIONS AND ORDERING DATA

| GPM (PSI) @500 | GPM (PSI) @2000 | Relief Valve (PSI) Preset | Relief Valve (PSI) Max. | Volts | AMPS (PSI) @500 | AMPS (PSI) @2000 | Ports (In.)* Pressure | Ports (In.)* Return | Reservoir Cap. Quarts | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.0 | 1.2 | 2500 | 3000 | 12 | 100 | 200 | 9/16-18 | 9/16-18 | 1/3 | 16.3 | 6.9 | 5.75 | 4F690 | $402.67 | $347.00 | 33.0 |
| 1.6 | 1.1 | 2500 | 3000 | 24 | 40 | 95 | 9/16-18 | 9/16-18 | 1/3 | 16.3 | 6.9 | 5.75 | 4F691 | 402.67 | 347.00 | 33.0 |

## No. 4F689 DC AUXILIARY POWER UNIT SPECIFICATIONS AND ORDERING DATA

| GPM (PSI) @1000 | GPM (PSI) @2000 | Relief Valve Setting Preset | Relief Valve Setting Max. | Volts | AMPS (PSI) @1000 | AMPS (PSI) @2000 | Ports (In.)* Inlet | Ports (In.)* Pressure | Ports (In.)* External Relief Valve Drain | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.8 | 1.3 | 2500 | 4000 | 12 | 130 | 190 | 3/4-16 | 9/16-18 | 9/16-18 | 10.45 | 4.5 | 7.15 | 4F689 | $294.99 | $253.75 | 27.0 |

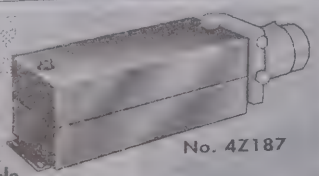
(*) SAE Thread.



No. 6W873

**Fenner Fluid Power**

Replacement Parts Available 1-800-323-0620



No. 4Z187

# HIGH CAPACITY RESERVOIRS FOR 12VDC POWER UNITS

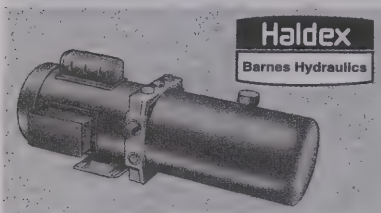
For use with Fenner and Dayton 12VDC power units. Can be interchanged with standard 3-quart reservoir to provide additional fluid capacity. Heavy-duty steel construction. Black finish.

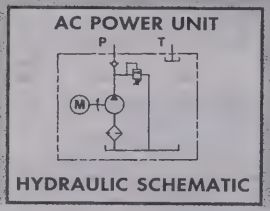
| Nominal Capacity (Gal.) | Useable Capacity (Cu. In.) | For Use With Power Units | Dimensions (In.) L* | W | H | Dia. | Pilot Dia. (In.) | Fenner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2½ | 420 | 4Z186D-E, 4Z338-D, 4Z339D-E, 4Z629D, 4Z690D | 17 | – | – | 6¾ | 4¾ | R-46 | 6W873 | $73.48 | $62.95 | 8.5 |
| 4 | 715 | | 26 | – | – | 6¾ | 4¾ | R-44 | 6W874 | 91.06 | 79.85 | 12.0 |
| 2½ | 410 | 4Z185A-D, 4Z186A-C, 4Z338A-C, 4Z339A-C, 4Z629A-C | 12½ | 8 | 6¼ | – | 5½ | T-35 | 4Z187 | 73.48 | 64.60 | 8.5 |
| 4 | 675 | | 19½ | 8 | 6¼ | – | 5½ | T-38 | 4Z188 | 91.06 | 77.80 | 12.0 |

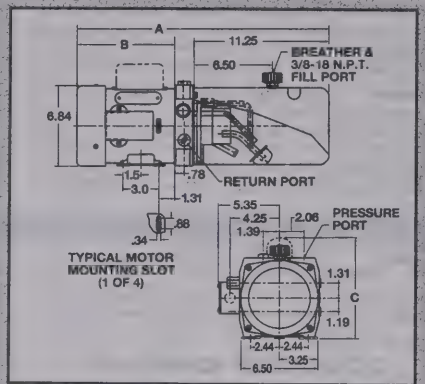
(*) Foot mounting tab adds 1" to overall length.

# AC POWER UNITS

## 1/2 TO 2 HP AC POWER UNITS

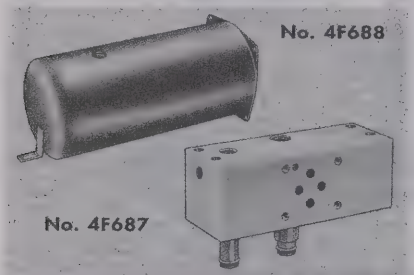



- For lift tables, hose crimpers, conveyors, dock levelers, car hoists, presses, robotics, packaging machines, machine tools
- Compact, lightweight design
- Comes completely assembled as pump, motor, reservoir with check valve and relief valve preset at maximum operating pressure as noted below
- Pretested
- Standard 1½ gallon oil reservoir; 2½ gallon reservoir available, see below
- Heavy-duty cast iron pump with quiet 11-tooth hardened steel gears. Aluminum center adapter serves as a port manifold and valve housing with load holding check and adjustable relief valve
- 9/16-18 outlet and return ports
- Barnes brand

| Nominal GPM | Maximum Operating PSI | HP | Motor Phase | Volts 60 Hz | Full Load AMPS | Recommended Motor Starter | RPM | Dimensions (In.) A | B | C | Barnes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1500 | 1/2 | 1 | 115/230 | 10.0/4.2-5.0 | 1H385 | 1800 | 21.01 | 8.17 | 8.79 | 1280546 | **4F678** | $596.05 | **$470.50** | 40.0 |
| 1/2 | 3000 | 1 | 1 | 115/208-230 | 13.2/6.8-6.6 | 1H385 | 1800 | 23.04 | 10.20 | 8.79 | 1280547 | **4F679** | 669.54 | **528.50** | 48.0 |
| 1 | 1500 | 1 | 1 | 115/208-230 | 13.2/6.8-6.6 | 1H385 | 1800 | 23.04 | 10.20 | 8.79 | 1280548 | **4F680** | 669.54 | **528.50** | 48.0 |
| 1½ | 1000 | 1 | 1 | 115/208-230 | 13.2/6.8-6.6 | 1H385 | 1800 | 23.04 | 10.20 | 8.79 | 1280549 | **4F681** | 669.54 | **528.50** | 48.0 |
| 2 | 750 | 1 | 1 | 115/208-230 | 13.2/6.8-6.6 | 1H385 | 1800 | 23.04 | 10.20 | 8.79 | 1280550 | **4F682** | 669.52 | **528.00** | 50.0 |
| 1 | 1500 | 1 | 3 | 230/460 | 4.0/2.0 | 1H412 | 1800 | 21.23 | 8.39 | N/A | 1280551 | **4F683** | 626.87 | **495.25** | 43.0 |
| 2 | 750 | 1 | 3 | 230/460 | 4.0/2.0 | 1H412 | 1800 | 21.23 | 8.39 | N/A | 1280552 | **4F684** | 633.62 | **499.25** | 43.0 |
| 2 | 1500 | 2 | 3 | 230/460 | 6.0/3.0 | 1H412 | 3600 | 21.70 | 8.86 | N/A | 1280553 | **4F685** | 643.66 | **507.50** | 48.0 |
| 4 | 750 | 2 | 3 | 230/460 | 6.0/3.0 | 1H412 | 3600 | 21.70 | 8.86 | N/A | 1280554 | **4F686** | 643.66 | **507.50** | 48.0 |




Haldex
Barnes Hydraulics

## RESERVOIR AND MANIFOLD ADAPTER KIT

### 2½ GALLON RESERVOIR

2½ gallon oil reservoir expands capabilities of AC power units listed above. For applications requiring longer run times and more useable oil; or when oil temperature exceeds or will continuously run at 160-165°F. Barnes brand (2280916).

**No. 4F688.** 2½ Gallon Reservoir.
Shpg. wt. 4.5 lbs. List $61.35. Each.....**$48.25**

### MANIFOLD ADAPTER KIT

Adapts above power units to NFPA DO3 (DO1) valve. Ports are 9/16-18. NOTE: It is recommended an open or tandem centered valve be used with the above units. Barnes brand (2620290).

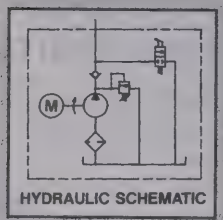
**No. 4F687.** Manifold Adapter Kit.
Shpg. wt. 2.3 lbs. List $136.74. Each.....**$107.90**

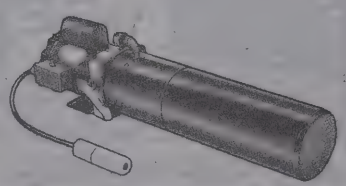
## AC HYDRAULIC POWER UNIT FOR AUTO HOISTS

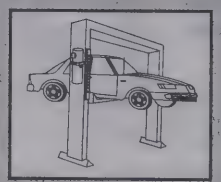
Replacement Parts Available 1-800-323-0620

Haldex
Barnes Hydraulics

AC power unit designed for use in 2 and 4 post auto hoists with single acting cylinders





- Supplies power to raise, hold, and lower
- Adjustable poppet type relief valve
- Hardened steel valve parts may be serviced in the field
- 100 mesh pump inlet screen and breather filler reduce contamination risk
- 230 volt, single phase, 11.0 Amps
- 9/16-18 ports
- 3 gallon reservoir
- Includes #12 AWG 3 wire 18" long cord
- Interchangeable with most OEM lifts using standard NEMA mountings
- Barnes brand (1280555)

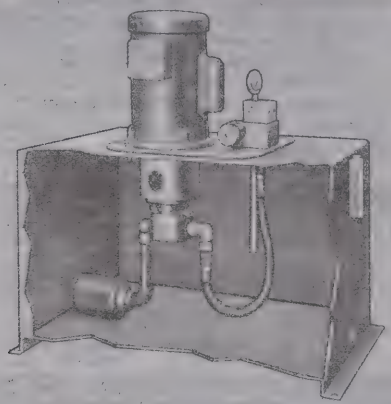
| Cu. In. / Rev. | GPM Displ. @ RPM 3600 | Factory Preset PSI | Operating Pressure | Overall Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.129 | 2 | 2250/2450 | 1900 | 34 39/64 | 6 1/2 | 9 5/32 | **4F676** | $682.81 | **$538.00** | 55.0 |



*Repair, replace or install — Your hydraulic powerhouse has it all.*

# 1 TO 5 HP AC POWER UNITS

Haldex
Barnes Hydraulics



Replacement Parts Available
1-800-323-0620

No. 6W644

- Nos. 6W642 and 6W643 two-stage hi-low pumps are ideal for compactors, presses, log splitters, and clamping circuits
- Heavy-duty pumps include hardened and ground alloy-steel gears and shafts, with high strength, fine grain cast-iron housings
- All units come completely assembled with: filler/breather, fluid level gauge with thermometer, pressure gauge, flexible coupling, and relief valve
- D03 manifold units have 1/2" (F) NPT ports, and 3/4" SAE ports
- D05 manifold units have 3/4" (F) NPT ports, and 3/4" SAE ports
- Barnes brand

Power units provide dependable source of hydraulic power for industrial machinery in actuating, pressing, stamping, molding, punching, clamping, and lifting applications. Manifold block included for mounting single D03 or D05 valve. Can also accommodate optional 2- or 3-station manifold, see page 2815. Manifold is removable for direct pressure and tank (P&T) plumbing. Block includes both NPT and SAE ports.

Nos. 6W642 and 6W643 two-stage pumps, first stage pump unloads fully at 450 PSI, second stage operates up to high pressure relief setting. All units include high torque motors so that relief valves can be adjusted up to 50% above factory setting for intermittent applications. 3000 PSI maximum.

## AC POWER UNITS SPECIFICATIONS AND ORDERING DATA

| Pump GPM | Pump PSI | Manifold Block | Motor HP | Motor RPM | Motor Volts | Motor Full Load AMPS | Motor PH | Motor Hz | Recom. Starter | Dimensions (In.) L | W | H | Barnes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE-STAGE, 5 GALLON POWER UNIT SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | | | | | | |
| **1.0** | 1500 | DO3 | 1 | 1800 | 115/230 | 13.6/16.8 | 1 | 60 | 1H385 | 12 | 12 | 24 | 1400010 | **6W644** | $1280.04 | **$943.50** | 95.0 |
| **1.5** | 2000 | DO3 | 2 | 1800 | 115/230 | 19.0/9.5 | 1 | 60 | 1H415 | 12 | 12 | 26 | 1400011 | **6W645** | 1433.84 | **1023.00** | 106.0 |
| **2.0** | 1500 | DO3 | 2 | 1800 | 230/460 | 6.0/3.0 | 3 | 60 | 1H412 | 12 | 12 | 25 | 1400012 | **6W646** | 1412.71 | **1036.00** | 102.0 |
| **SINGLE-STAGE, 15 GALLON POWER UNIT SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | | | | | | |
| **2.5** | 3000 | DO3 | 5 | 1800 | 208-230/460 | 15.0/13.6/6.8 | 3 | 60 | 1H417 | 25 | 14 | 28 | 1400013 | **6W632** | 1595.80 | **1181.00** | 171.0 |
| **3.5** | 2000 | DO3 | 5 | 1800 | 208-230/460 | 15.0/13.6/6.8 | 3 | 60 | 1H417 | 25 | 14 | 28 | 1400014 | **6W633** | 1617.08 | **1198.00** | 171.0 |
| **4.5** | 1500 | DO3 | 5 | 1800 | 208-230/460 | 15.0/13.6/6.8 | 3 | 60 | 1H417 | 25 | 14 | 28 | 1400015 | **6W634** | 1631.69 | **1207.00** | 171.0 |
| **5.0** | 1250 | DO3 | 5 | 1800 | 208-230/460 | 15.0/13.6/6.8 | 3 | 60 | 1H417 | 25 | 14 | 28 | 1400016 | **6W635** | 1621.60 | **1200.00** | 171.0 |
| **7.0** | 600 | DO5 | 3 | 3600 | 208-230/460 | 14.4/12.8/6.4 | 3 | 60 | 1H412 | 25 | 14 | 29 | 1400018 | **6W636** | 1412.59 | **1154.00** | 171.0 |
| **7.0** | 1000 | DO5 | 5 | 3600 | 230/460 | 8.0/4.0 | 3 | 60 | 1H417 | 25 | 14 | 25 | 1400017 | **6W637** | 1881.28 | **1260.00** | 140.0 |
| **9.0** | 500 | DO5 | 3 | 3600 | 230/460 | 8.0/4.0 | 3 | 60 | 1H412 | 25 | 14 | 25 | 1400019 | **6W638** | 1573.42 | **1156.00** | 170.0 |
| **9.0** | 750 | DO5 | 5 | 3600 | 208-230/460 | 14.4/12.8/6.4 | 3 | 60 | 1H417 | 25 | 14 | 29 | 1400020 | **6W639** | 1732.72 | **1277.00** | 141.0 |
| **11.0** | 400 | DO5 | 3 | 3600 | 230/460 | 8.0/4.0 | 3 | 60 | 1H412 | 25 | 14 | 25 | 1400021 | **6W640** | 1571.79 | **1155.00** | 142.0 |
| **11.0** | 600 | DO5 | 5 | 3600 | 208-230/460 | 14.4/12.8/6.1 | 3 | 60 | 1H417 | 25 | 14 | 29 | 1400022 | **6W641** | 1733.62 | **1282.00** | 171.0 |
| **TWO-STAGE, 15 GALLON POWER UNIT SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | | | | | | |
| **11.0**<br>**2.8** | 250<br>1500 | DO5 | 3 | 3600 | 230/460 | 8.0/4.0 | 3 | 60 | 1H412 | 28 | 17 | 36 | 1400023 | **6W642** | 1791.63 | **1327.00** | 145.0 |
| **16.0**<br>**3.8** | 250<br>2000 | DO5 | 5 | 3600 | 208-230/460 | 14.4/12.8/6.4 | 3 | 60 | 1H417 | 28 | 17 | 36 | 1400024 | **6W643** | 1759.31 | **1297.00** | 176.0 |

**YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!**

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

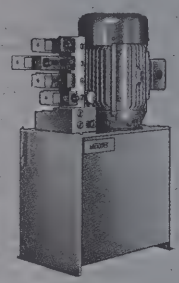
# POWER UNITS

Zero leak design Global System Pak power units are quality engineered, complete hydraulic systems with optional single or multi-station valve manifolds for mounting Vickers DO3 directional controls and Systemstak valves.

- **Zero leak design reservoir with filler/breather, pressure gauge, oil level indicator, and removable top**
- **Vickers V10 fixed vane pump or Vickers PVQ remote pressure compensated piston pump with adjustable max. displacement stop**
- **Top serviceable, high performance return line filter with visual indicator to clean system oil to ISO 16/14/12**
- **Vickers adjustable cartridge style relief valve**
- **Power units are 100% tested and backed by Vickers**
- **3/4 SAE pressure and tank ports**

VICKERS®

Replacement Parts Available 1-800-323-0620



No. 4LG72

## DO3 MANIFOLD BLOCKS SPECIFICATIONS AND ORDERING DATA

| Item Description | Vickers Model | Mounting Kit | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 Station Manifold | 3004800-24 | 722920 | **4LG67** | $255.00 | **$192.50** | 4.2 |
| 2 Station Manifold | 722874 | 722920 | **4LG84** | 484.00 | **272.75** | 6.5 |
| 3 Station Manifold | 3004800-25 | 722920 | **4LG68** | 786.00 | **391.00** | 9.0 |
| 4 Station Manifold | 3004800-26 | 722920 | **4LG69** | 1371.00 | **528.50** | 12.0 |
| 5 Station Manifold | 3004800-27 | 722920 | **4LG70** | 1705.00 | **650.00** | 14.0 |
| 6 Station Manifold | 3004800-28 | 722920 | **4LG71** | 2640.00 | **1104.00** | 17.0 |
| Filter Element | VL201B1E05 | N/A | **4LG85** | 118.00 | **107.90** | 4.5 |

## VANE PUMP POWER UNITS SPECIFICATIONS AND ORDERING DATA

| HP | GPM | Maximum Pressure (PSI) | Tank Size (Gal.) | Motor Volts | Motor Phase | Motor Amp Draw | Dimensions (In.) Length | Dimensions (In.) Width | Dimensions (In.) Height | Vickers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.5** | 1.5 | 1500 | 5 | 230 | 1 | 8 | 32 | 37 | 42 | TG5V-V15F-*-410 | **4LG72** | $2577.00 | **$1662.00** | 200.0 |
| **1.5** | 1.5 | 1500 | 5 | 460 | 3 | 2.5 | 32 | 37 | 42 | TG5V-V15F-*-411 | **4LG73** | 2463.00 | **1602.00** | 200.0 |
| **3.0** | 3.0 | 1500 | 10 | 460 | 3 | 4.3 | 32 | 37 | 42 | TG10V-V30F-*-420 | **4LG74** | 2641.00 | **1722.00** | 230.0 |
| **5.0** | 3.0 | 2250 | 10 | 460 | 3 | 6.6 | 32 | 37 | 42 | TG10V-V30F-*-430 | **4LG75** | 2705.00 | **1829.00** | 265.0 |
| **5.0** | 4.5 | 1500 | 15 | 460 | 3 | 6.6 | 32 | 37 | 48 | TG15V-V45F-*-430 | **4LG76** | 2716.00 | **1879.00** | 265.0 |
| **7.5** | 4.5 | 2250 | 15 | 460 | 3 | 10.0 | 32 | 37 | 48 | TG15V-V45F-*-440 | **4LG77** | 2943.00 | **1999.00** | 310.0 |
| **10.0** | 7.5 | 2250 | 20 | 460 | 3 | 13.6 | 32 | 37 | 48 | TG20V-V75F-*-450 | **4LG78** | 3195.00 | **2368.00** | 375.0 |
| **10.0** | 11.0 | 1400 | 30 | 460 | 3 | 13.6 | 32 | 37 | 54 | TG30V-V110F-*-450 | **4LG79** | 3246.00 | **2708.00** | 390.0 |

## PRESSURE COMPENSATED PISTON PUMP POWER UNITS SPECIFICATIONS AND ORDERING DATA

| HP | GPM | Maximum Pressure (PSI) | Tank Size (Gal.) | Motor Volts | Motor Phase | Motor Amp Draw | Dimensions (In.) Length | Dimensions (In.) Width | Dimensions (In.) Height | Vickers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5.0** | 5.0 | 1500 | 15 | 460 | 3 | 6.6 | 32 | 37 | 48 | TG15V-VQ10SGD-*-430 | **4LG80** | 3786.00 | **2773.00** | 275.0 |
| **10.0** | 5.0 | 3000 | 15 | 460 | 3 | 13.6 | 32 | 37 | 48 | TG15V-VQ10SGD-†-450 | **4LG81** | 4033.00 | **2954.00** | 380.0 |
| **10.0** | 10.0 | 1500 | 30 | 460 | 3 | 13.6 | 32 | 37 | 54 | TG30V-VQ20SGD-*-452 | **4LG82** | 4685.00 | **3431.00** | 400.0 |
| **20.0** | 10.0 | 3000 | 30 | 460 | 3 | 26.6 | 32 | 37 | 54 | TG30V-VQ20SGD-†-472 | **4LG83** | 5442.00 | **3985.00** | 450.0 |

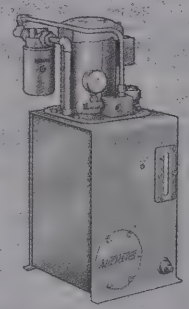
(*) M-N-GS30-RF4-10 (†) M-N-GS50-RF4-10 (#) Manifolds and Vickers valves are supplied separately for customer mounting. See DO3 valves on page 2818.

## 1 TO 10 HP AC POWER UNITS

For powering hydraulic equipment in applications such as pressing, clamping, chucking, transferring, actuating, lifting, and indexing.

**Comes assembled and includes:**

- **Vickers models V10 or V20 vane pump (depending on HP)**
- **Heavy-gauge steel tank**
- **3-phase, 230/460V, 60 Hz, 1800 RPM TEFC motor with C-face mounting**
- **Motor/pump adapter**
- **Adjustable relief valve**
- **Filler/Breather**
- **Pressure gauge • Oil level gauge**
- **Return-line spin-on filter**
- **Clean-out port in tank**

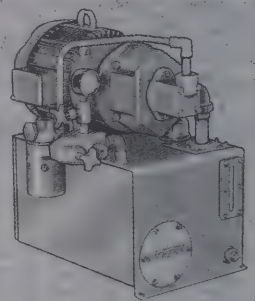


No. 6Z610 1.0 HP unit with 8.0 gallon tank

VICKERS®

**Nos. 6Z610 thru 6Z616 have vertically mounted motor. Nos. 6Z617 thru 6Z619 have horizontally mounted motors.**

Replacement Parts Available 1-800-323-0620

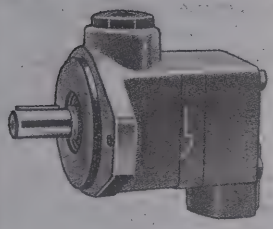


No. 6Z619 10 HP unit with 30 gallon tank

| HP | GPM | Maximum Pressure (PSI) | Tank Size (Gal.) | Motors Volts | Motors Phase | Motors Amp Draw | Dimensions (In.) Length | Dimensions (In.) Width | Dimensions (In.) Height | Vickers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.0** | 1.5 | 1000 | 8.0 | 230/460 | 3 | 3.0/1.5 | 12 | 14 | 30 | TK8VP-FV01-†-1012-A3/1HP | **6Z610** | $1775.00 | **$1175.00** | 105.0 |
| **2.0** | 1.5 | 2000 | 8.0 | 230/460 | 3 | 6.0/3.0 | 12 | 14 | 30 | TK8VP-FV01-†-1012-A3/2HP | **6Z611** | 1804.00 | **1202.00** | 150.0 |
| **2.0** | 3.0 | 1000 | 10.0 | 230/460 | 3 | 6.0/3.0 | 15 | 19 | 26 | TK10V-FV02-†-1039-A3/2HP | **6Z612** | 1856.00 | **1230.00** | 143.0 |
| **3.0** | 3.0 | 1500 | 10.0 | 230/460 | 3 | 9.4/4.7 | 15 | 19 | 26 | TK10V-FV02-†-1039-A3/3HP | **6Z613** | 1907.00 | **1283.00** | 125.0 |
| **3.0** | 4.5 | 1000 | 10.0 | 230/460 | 3 | 9.4/4.7 | 15 | 19 | 26 | TK10V-FV03-†-1040-A3/3HP | **6Z614** | 1907.00 | **1283.00** | 125.0 |
| **5.0** | 3.0 | 2250 | 10.0 | 230/460 | 3 | 13.2/6.6 | 15 | 19 | 26 | TK10V-FV02-†-1039-A3/5HP | **6Z615** | 2100.00 | **1381.00** | 184.0 |
| **5.0** | 4.5 | 1650 | 10.0 | 230/460 | 3 | 132/6.6 | 15 | 19 | 26 | TK10V-FV03-†-1040-A3/5HP | **6Z616** | 2100.00 | **1381.00** | 150.0 |
| **7.5** | 7.5 | 1500 | 20.0* | 230/460 | 3 | 20.0/10.0 | 18 | 26 | 14 | TK20P-FV05-†-10A2-213TC/71/2HP | **6Z617** | 3225.00 | **2188.00** | 260.0 |
| **10.0** | 7.5 | 2000 | 20.0* | 230/460 | 3 | 20.0/10.0 | 18 | 26 | 14 | TK20P-FV05-†-10A2-215TC/10HP | **6Z618** | 3373.00 | **2240.00** | 289.0 |
| **10.0** | 10.0 | 1500 | 30.0* | 230/460 | 3 | 27.0/13.5 | 39 | 20 | 35 | TK30P-FV07-†-10A2-215TC/10HP | **6Z619** | 3500.00 | **2386.00** | 375.0 |

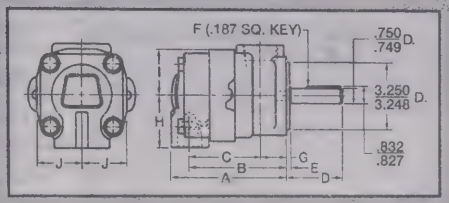
(*) Horizontal mounting style. (†) MN-GF30-F1

## VANE PUMPS



VICKERS®

Replacement Parts Available 1-800-323-0620




- Heavy-duty pumps for high-flow, high performance, continuous duty applications
- Low vane tip/ring loading allows high pressure operation
- Excellent hydraulic balance
- Used in industrial power units and mobile equipment such as trenchers, tractors, and backhoes
- Reversible rotation (shipped clockwise facing shaft)

**Internal inlet and outlet ports** are diametrically opposed, for balanced pressure-induced radial loads.

**Maximum pressure** is 2500 PSI. All units have SAE two-bolt "A" flange mounting.

| Vickers Series | Stock No. | Dimensions (In.) A | B | C | D | E | F* | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|---|
| V10 | 6Z620, 6Z621, 6Z622 | 4.55 | 3.62 | 2.65 | 1.75 | 0.250 | 1.00 | 0.97 | 2.47 | 2.38 | 1.50 |
| | 6Z623, 6Z624 | 4.80 | 3.87 | 2.90 | 1.75 | 0.250 | 1.00 | 0.97 | 2.47 | 2.38 | 1.50 |
| | 3MC33, 3MC34 | 5.00 | 4.07 | 3.10 | 1.75 | 0.250 | 1.00 | 0.97 | 2.47 | 2.38 | 1.50 |
| V20 | 6Z625 | 4.93 | 4.02 | 2.80 | 2.66 | 0.156 | 1.62 | 1.22 | 2.60 | 2.44 | 2.19 |
| | 6Z626, 6Z627 | 5.18 | 4.27 | 3.05 | 2.66 | 0.156 | 1.62 | 1.22 | 2.60 | 2.44 | 2.19 |
| | 3MC32 | 5.38 | 4.47 | 3.25 | 2.66 | 0.156 | 1.62 | 1.22 | 2.60 | 2.44 | 2.19 |
| | 3MC31, 3MC35 | 5.52 | 4.61 | 3.39 | 2.66 | 0.156 | 1.62 | 1.22 | 2.60 | 2.44 | 2.19 |

(*) 0.187 square key

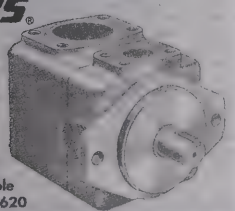
### VANE PUMP SPECIFICATIONS AND ORDERING DATA

| Displ. Cu. In. / Rev. | GPM @ RPM 1725 | 3450 | Max. RPM | Ports (NPT) (In.) In | Out | Max. Pressure PSI | Vickers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.20** | 1.5 | 3.0 | 4800 | 1.00 | 0.50 | 2500 | V10-1P1P1A20 | **6Z620** | $375.00 | **$257.25** | 12.0 |
| **0.40** | 3.0 | 6.0 | 4500 | 1.00 | 0.50 | 2500 | V10-1P2P1A20 | **6Z621** | 375.00 | **257.25** | 11.0 |
| **0.60** | 4.5 | 9.0 | 4000 | 1.00 | 0.50 | 2500 | V10-1P3P1A20 | **6Z622** | 375.00 | **257.25** | 11.0 |
| **0.80** | 6.0 | 12.0 | 3400 | 1.00 | 0.50 | 2500 | V10-1P4P1A20 | **6Z623** | 375.00 | **257.25** | 10.0 |
| **1.00** | 7.5 | * | 3200 | 1.00 | 0.50 | 2500 | V10-1P5P1A20 | **6Z624** | 375.00 | **257.25** | 12.0 |
| **1.19** | 9.0 | * | 3000 | 1.00 | 0.50 | 2200 | V10-1P6P | **3MC33** | 411.60 | **350.00** | 15.0 |
| **1.39** | 10.5 | * | 2800 | 1.00 | 0.50 | 2000 | V10-1P7P | **3MC34** | 411.60 | **350.00** | 15.0 |
| **1.19** | 9.0 | 18.0 | 3400 | 1.25 | 0.75 | 2500 | V20-1P6P1A11 | **6Z625** | 465.00 | **316.25** | 16.0 |
| **1.39** | 10.5 | * | 3000 | 1.25 | 0.75 | 2500 | V20-1P7P1A11 | **6Z626** | 459.00 | **316.25** | 17.0 |
| **1.62** | 12.0 | * | 2800 | 1.25 | 0.75 | 2500 | V20-1P8P1A11 | **6Z627** | 459.00 | **316.25** | 18.0 |
| **1.81** | 13.5 | * | 2800 | 1.25 | 0.75 | 2500 | V20-1P9P | **3MC30** | 506.10 | **430.00** | 21.0 |
| **2.22** | 16.5 | * | 2500 | 1.25 | 0.75 | 2500 | V20-1P11P | **3MC32** | 506.10 | **430.00** | 21.0 |
| **2.38** | 18.0 | * | 2400 | 1.25 | 0.75 | 2200 | V20-1P12P | **3MC35** | 506.10 | **430.00** | 21.0 |
| **2.59** | 19.5 | * | 2400 | 1.25 | 0.75 | 2200 | V20-1P13P | **3MC31** | 506.10 | **430.00** | 21.0 |

(*) Not recommended at this speed.

## INTRAVANE PUMPS

VICKERS®



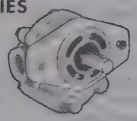
Replacement Parts Available 1-800-323-0620

- Intravane pumps provide longer life, increased productivity, and application versatility. Compact size and ease of service allow maximum equipment design flexibility.
- Low noise characteristics inherent in intravane design enhance operator comfort
- Hydraulic balancing, designed to prevent internally-induced radial shaft and bearing loads, provides long life
- High operating pressure capabilities in compact packages provide high power-to-weight ratios and lower installed costs
- Max. RPM 1800
- Ports: 10 SAE 4-bolt flange, see page 2798
- SAE 2-bolt mounting (3MC19-3MC22;B-Flange, 3MC23-3MC29 C-Flange)

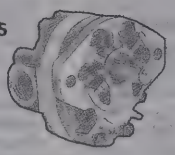
| Delivery GPM @ 1800 RPM | Max. Pressure (PSI) | Sound Level (dBa) | 4-Bolt Flange Adapter Inlet Flange Stock No. | Outlet Flange Stock No. | Vickers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **18** | 2500 | 67 | 4LG95 | 4LG91 | 25V12A-1C22R | **3MC19** | $964.95 | **$820.00** | 37.0 |
| **21** | 2500 | 67 | 4LG96 | 4LG92 | 25V17A-1C22R | **3MC20** | 964.95 | **820.00** | 37.0 |
| **25** | 2500 | 67 | — | | 25V21A-1C22R | **3MC21** | 964.95 | **820.00** | 37.0 |
| **31** | 2500 | 67 | — | | 25V25A-1C22R | **3MC22** | 964.95 | **820.00** | 37.0 |
| **37** | 2500 | 69 | 4LG97 | 4LG93 | 35V30A-1C22R | **3MC23** | 1723.05 | **1465.00** | 55.0 |
| **45** | 2500 | 69 | 4LG97 | 4LG94 | 35V35A-1C22R | **3MC24** | 1723.05 | **1465.00** | 55.0 |
| **52** | 2500 | 69 | 4LG97 | — | 35V38A-1C22R | **3MC25** | 1723.05 | **1465.00** | 55.0 |
| **56** | 2500 | 69 | 4LG97 | | 35V42A-1C22R | **3MC26** | 1723.05 | **1465.00** | 55.0 |
| **63** | 2500 | 71 | 4LG98 | 4LG95 | 45V42A-1C22R | **3MC27** | 2386.65 | **2029.00** | 80.0 |
| **75** | 2500 | 71 | 4LG98 | 4LG96 | 45V50A-1C22R | **3MC28** | 2386.65 | **2029.00** | 80.0 |
| **90** | 2500 | 71 | 4LG98 | | 45V60A-1C22R | **3MC29** | 2386.65 | **2029.00** | 80.0 |

# GEAR PUMPS

SAE "AA" 2-Bolt D SERIES



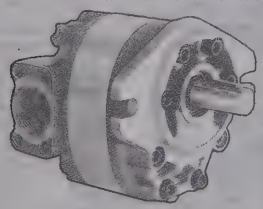
SAE "A" 2-Bolt H SERIES

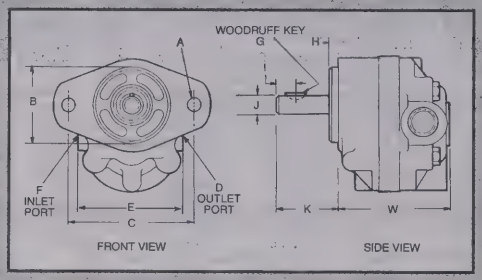


Parker

Replacement Parts Available 1-800-323-0620

SAE "B" 2-Bolt M SERIES






## GEAR PUMPS

- High tolerance to system contamination
- Reliable under cold weather conditions
- Few moving parts makes a simple, efficient design
- Compact and lightweight for capacity
- Pressures to 2500 PSI
- 185°F max. temperature
- Direct drive only
- Pressure balanced design

Parker hydraulic gear pumps feature die cast aluminum case with extruded center section to enhance overall durability. Lightweight. Case hardened shaft with dual lip Buna seals and bronze bushings for reliability and long pump life. Clockwise rotation facing shaft end. 80-1000 SSU operating viscosity range. 4000 SSU maximum startup viscosity.

### GEAR PUMP DIMENSIONS (In.)

| Series | Stock Nos. | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 4ZC26, 4ZC27, 4ZC28, 4ZC29, 4ZC30, 4ZC31, 4ZC32, 4ZC33 | 0.39 | 2.00 | 3.25 | 3/4-16 SAE | 2/88 | 7/8-14 SAE | 1/8 x 5/8 Dia. | 0.25 | 0.5 | 0.5 | 1.56 |
| H | 4ZC34, 4ZC35, 4ZC36, 4ZC37, 4ZC38, 4ZC39 | 0.43 | 3.25 | 4.19 | 7/8-14 SAE | 4.0 | 1 1/16-12 SAE | 3/16 x 5/8 Dia. | 0.25 | 0.5 | 0.75 | 1.56 |
| M | 4ZC40, 4ZC41, 4ZC42 | 0.56 | 4.00 | 5.75 | 1 1/16-12 SAE | 5.45 | 1 5/8-12 SAE | 1/4 x 1 Dia. | 0.36 | 0.75 | 0.875 | 2.13 |

### GEAR PUMP SPECIFICATIONS AND ORDERING DATA

| Series | Nominal GPM | Cu. In. / Rev. | GPM @ 1000 PSI 1800 RPM | GPM @ 1000 PSI 3600 RPM | Max. Pressure (PSI) Continuous Duty | Max. Pressure (PSI) Intermittent Duty* | Width (In.) (W) | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 0.9 | 0.114 | 0.89 | 1.78 | 2500 | 2800 | 2.48 | D05AA2A | **4ZC26** | $232.20 | **$155.00** | 2.3 |
| | 1.3 | 0.168 | 1.31 | 2.62 | 2500 | 2800 | 2.57 | D07AA2A | **4ZC27** | 233.26 | **155.50** | 2.1 |
| | 1.6 | 0.210 | 1.64 | 3.27 | 2500 | 2800 | 2.64 | D09AA2A | **4ZC28** | 234.32 | **156.00** | 2.0 |
| | 2.0 | 0.262 | 2.04 | 4.08 | 2500 | 2800 | 2.72 | D11AA2A | **4ZC29** | 238.56 | **158.25** | 2.1 |
| | 2.6 | 0.329 | 2.56 | 5.13 | 2500 | 2800 | 2.83 | D14AA2A | **4ZC30** | 239.61 | **158.50** | 2.7 |
| | 3.1 | 0.404 | 3.15 | 6.30 | 2500 | 2800 | 2.96 | D17AA2A | **4ZC31** | 240.67 | **158.75** | 2.8 |
| | 4.1 | 0.522 | 4.07 | 8.14 | 2500 | 2800 | 3.15 | D22AA2A | **4ZC32** | 245.97 | **163.50** | 3.0 |
| | 5.0 | 0.641 | 4.99 | 9.99 | 2000 | 2300 | 3.34 | D27AA2A | **4ZC33** | 256.58 | **169.75** | 3.0 |
| H | 4.7 | 0.603 | 4.70 | 9.40 | 2500 | 2800 | 3.43 | H25AA2A | **4ZC34** | 345.62 | **187.00** | 5.8 |
| | 5.9 | 0.754 | 5.88 | 11.75 | 2500 | 2800 | 3.54 | H31AA2A | **4ZC35** | 350.92 | **230.50** | 6.1 |
| | 7.3 | 0.942 | 7.34 | 14.68 | 2500 | 2800 | 3.68 | H39AA2A | **4ZC36** | 355.16 | **235.75** | 6.4 |
| | 9.2 | 1.178 | 9.18 | 18.36 | 2500 | 2800 | 3.86 | H49AA2A | **4ZC37** | 371.06 | **243.50** | 6.7 |
| | 11.5 | 1.473 | 11.48 | 22.96 | 2500 | 2800 | 4.08 | H62AA2A | **4ZC38** | 373.18 | **245.25** | 7.0 |
| | 14.4 | 1.842 | 14.35 | 28.71 | 2000 | 2300 | 4.63 | H77AA2A | **4ZC39** | 443.35 | **256.75** | 7.7 |
| M | 16.7 | 2.146 | 16.72 | 33.44 | 2500 | 2800 | 4.80 | M09AA2A | **4ZC40** | 509.88 | **298.25** | 13.0 |
| | 20.9 | 2.683 | 20.91 | 43.81 | 2250 | 2500 | 5.07 | M11AA2A | **4ZC41** | 516.24 | **301.25** | 13.0 |
| | 26.1 | 3.353 | 26.13 | 52.25 | 2000 | 2250 | 5.40 | M14AA2A | **4ZC42** | 535.30 | **313.25** | 15.0 |

(*) Operation in the intermittent pressure range must not exceed 5 seconds per duty cycle and must make up less than 20% of the overall cycle time.

VICKERS

## 4-BOLT FLANGES

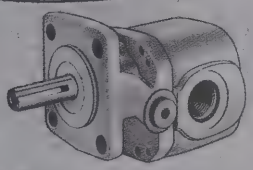
- For use with Vickers intravane pumps listed on page 2797

Threaded-connection flanges are for use on standard SAE 4-bolt flange mounting pads and are furnished with seals and screws for mounting. Straight threaded models are preferred over pipe threaded models because they reduce the possibility of leakage. Maximum pressure 3000 PSI.

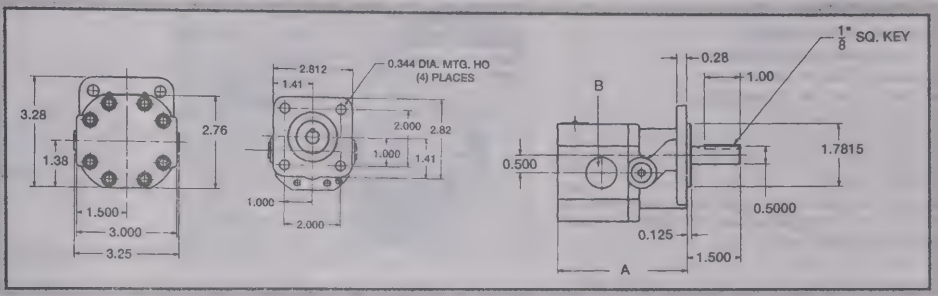
| SAE Straight Thread (In.) | (F) NPT Pipe Thread (In.) | Vickers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| — | 3/4 | FL1-6-06P-10 | **4LG89** | $38.00 | **$34.75** | 1.3 |
| **1 1/16-12** | — | FL1-6-12S-10 | **4LG90** | 38.00 | **34.75** | 1.2 |
| — | 1 | FL1-8-08P-10 | **4LG91** | 41.00 | **37.50** | 1.6 |
| **1 5/16-12** | — | FL1-8-16S-10 | **4LG92** | 41.00 | **37.50** | 1.5 |
| — | 1 1/4 | FL1-10-10P-10 | **4LG93** | 43.00 | **39.50** | 2.2 |
| **1 5/8-12** | — | FL1-10-20S-10 | **4LG94** | 43.00 | **39.50** | 2.2 |
| — | 1 1/2 | FL1-12-12P-10 | **4LG95** | 51.00 | **46.90** | 3.0 |
| **1 7/8-12** | — | FL1-12-24S-10 | **4LG96** | 51.00 | **46.90** | 3.0 |
| — | 2 | FL1-16-16P-10 | **4LG97** | 62.00 | **57.00** | 3.4 |
| — | 3 | FL1-24-24P-10 | **4LG98** | 126.00 | **116.05** | 7.8 |

# BI-ROTATIONAL GEAR PUMPS

Haldex
Barnes Hydraulics



Replacement Parts Available
1-800-323-0620




## APPLICATIONS

- Machine tools—lubrication, clamping, clutch shifting
- Robotics
- Drilling and boring heads
- Metal bending, forming, stamping, and punching
- Material handling
- Platform and elevator lifts
- Agricultural and construction equipment
- Lawn care
- Efficient 11-tooth hydraulic gear pump pumps a variety of fluids with lubricating qualities
- Durable cast iron body with hardened steel gears suitable for continuous duty to 3000 PSI and intermittent pressures up to 3500 PSI
- Four-bolt 4F17 mounting with 1½" long shaft extension, key drive, side outlet ports
- Barnes brand

Bi-rotational pumps suit gas engines or electric motors. Proper coupling and C-face adapter are required. Calculate horsepower based on 1/3 HP/1 GPM/500 PSI. Nos. 4F652-4F659 pumps also function as motors, see page 2803.

## BI-ROTATIONAL GEAR PUMP SPECIFICATIONS AND ORDERING DATA

| Nominal GPM | Cu. In. / Rev. | Flow (GPM) @ RPM 1800 | Flow (GPM) @ RPM 3600 | Pressure Rating Continuous Duty | Pressure Rating Intermittent Duty | Dimensions (In.) A | Dimensions (In.) B | Barnes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.50** | 0.065 | 0.50 | 1.00 | 3000 | 3500 | 3.16 | 9/16–18 | 1002496 | **4F649** | $128.76 | **$114.00** | 5.0 |
| **0.75** | 0.097 | 0.75 | 1.50 | 3000 | 3500 | 3.16 | 9/16–18 | 1002497 | **4F650** | 128.76 | **114.00** | 5.0 |
| | 0.129 | 1.00 | 2.00 | 3000 | 3500 | 3.16 | 3/4–16 | 1002498 | **4F651** | 128.76 | **114.00** | 5.0 |
| **1.50** | 0.194 | 1.50 | 3.00 | 3000 | 3500 | 3.16 | 3/4–16 | 1002499 | **4F652** | 128.76 | **114.25** | 4.8 |
| **2.00** | 0.258 | 2.00 | 4.00 | 3000 | 3500 | 3.69 | 3/4–16 | 1070054 | **4F653** | 142.22 | **122.35** | 5.0 |
| **2.50** | 0.323 | 2.50 | 5.00 | 3000 | 3500 | 3.69 | 7/8–14 | 1070043 | **4F654** | 155.53 | **139.60** | 6.0 |
| **3.00** | 0.388 | 3.00 | 6.00 | 3000 | 3300 | 3.69 | 7/8–14 | 1070045 | **4F655** | 152.68 | **136.40** | 5.6 |
| **3.50** | 0.452 | 3.50 | 7.00 | 2750 | 3025 | 3.69 | 7/8–14 | 1070047 | **4F656** | 166.03 | **142.15** | 6.0 |
| **4.00** | 0.517 | 4.00 | 8.00 | 2750 | 2750 | 3.69 | 7/8–14 | 1070049 | **4F657** | 160.87 | **139.65** | 5.7 |
| **5.00** | 0.647 | 5.00 | — | 2000 | 2200 | 4.20 | 7/8–14 | 1070035 | **4F658** | 170.85 | **148.65** | 6.9 |
| **5.50** | 0.711 | 5.50 | — | 1800 | 2000 | 4.20 | 7/8–14 | 1070033 | **4F659** | 162.35 | **144.80** | 6.4 |

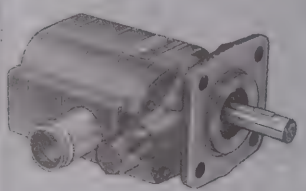
# TWO-STAGE "HI-LO" GEAR PUMPS

## APPLICATIONS

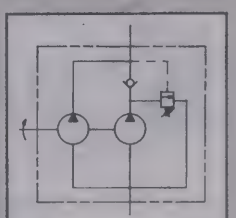
- Presses, log splitters, compactors
- Automatic two-speed transmission
- Heavy-duty cast-iron pumps with optimum output per unit size
- Hardened steel 11-tooth gears with large bearings and shaft size
- Clockwise rotation for electric motor or gas engine
- 1/2 in. drive shaft with #404 Woodruff drive key
- Direct drive only
- Motor, coupling, and adapter not included
- Barnes brand

Two stages—first stage pump unloads fully at 450 PSI, second stage operates up to 2500 PSI. Generally 5 HP input is required for No. 4F663 and 8 HP for No. 4F664. Note: Circuit requires the addition of a pressure-limiting relief valve. Standard 4F17 four-bolt mounting.

Haldex
Barnes Hydraulics



Replacement Parts Available
1-800-323-0620



HYDRAULIC SCHEMATIC

## TWO-STAGE "HI-LO" GEAR PUMP SPECIFICATIONS AND ORDERING DATA

| Nominal GPM | Input RPM | GPM @ Pressure 250 | GPM @ Pressure 1000 | GPM @ Pressure 2000 | High Pressure | Low Pressure | Shaft (In.) Dia. | Shaft (In.) Length | Ports (In.) Inlet | Ports (In.) Outlet | Barnes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5.5** | 1800 | 5.47 | 1.4 | 1.36 | 0.194 in² | 0.517 in³ | 1/2 | 1⅛ | 1 Tube | 1/2 NPTF | 1002508 | **4F663** | $179.18 | **$157.75** | 9.0 |
| **11.0** | 3600 | 10.94 | 2.8 | 2.72 | | | | | | | | | | | |
| **8.0** | 1800 | 7.95 | 1.9 | 1.81 | 0.258 | 0.776 | 1 2 | 1 ⅛ | 1 | 1/2 | 1002509 | **4F664** | 220.71 | **199.75** | 10.0 |
| **16.0** | 3600 | 15.91 | 3.8 | 3.62 | | | | | | | | | | | |

# HIGH PRESSURE GEAR PUMPS

## 3-9 GPM SAE "A" 2-BOLT MOUNTING PUMPS

### APPLICATIONS

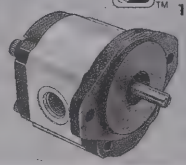
- Material handling
- Construction and paving
- Aerial lifts • Winches
- Turf care • Agricultural
- Direct drive only

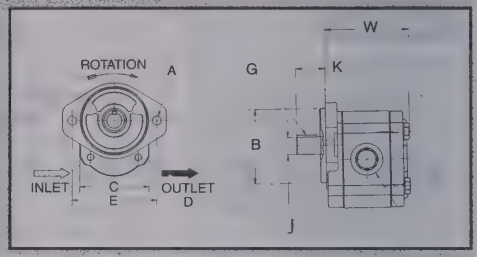
Continuous pressures to 4000 PSI. Speeds 500 to 4000 RPM. 90% overall efficiency and low noise.

Rough bore bushing type design constructed of high strength aluminum housings and cast-iron end covers.

Haldex
Barnes Hydraulics

Replacement Parts Available 1-800-323-0620






### DIMENSIONS (In.)

| Stock No. | A | B | C | Outlet D | E | Inlet | G | J | K | W |
|---|---|---|---|---|---|---|---|---|---|---|
| 4F665 | 0.45 dia. | 3.25 | 3.44 | 3/4-16 | 4.19 | 7/8-14 | .187 | 0.75 | 1.25 | 3.64 |
| 4F666 | | | | 7/8-14 | | 1 1/16-12 | | | | 3.74 |
| 4F667 | | | | 7/8-14 | | 1 1/16-12 | | | | 3.91 |
| 4F668 | | | | 7/8-14 | | 1 1/16-12 | | | | 4.09 |
| 4F669 | | | | 7/8-14 | | 1 1/16-12 | | | | 4.20 |
| 4F671 | | | | 1 1/16-12 | | 1 5/16-12 | | | | 4.85 |

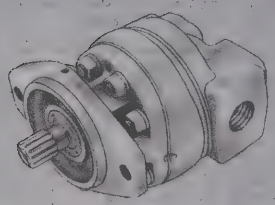
### 3-9 GPM SPECIFICATIONS AND ORDERING DATA

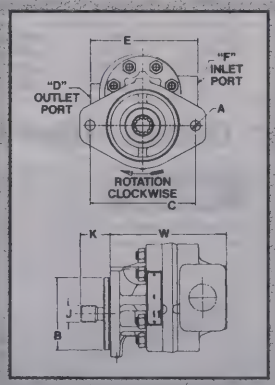
| GPM | Cu. In. / Rev. | GPM Displ. @ RPM 1800 | GPM Displ. @ RPM 3600 | Maximum Pressure (PSI) Continuous Duty | Maximum Pressure (PSI) Intermittent Duty | Barnes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3** | 0.37 | 2.88 | 5.77 | 4000 | 4400 | 1800288 | **4F665** | $180.87 | **$161.00** | 7.9 |
| **4** | 0.49 | 3.82 | 7.64 | 4000 | 4400 | 1800289 | **4F666** | 186.25 | **165.00** | 8.1 |
| **5** | 0.67 | 5.22 | 10.44 | 4000 | 4400 | 1800290 | **4F667** | 190.56 | **170.25** | 9.0 |
| **6** | 0.85 | 6.65 | 13.30 | 4000 | 4400 | 1800291 | **4F668** | 195.93 | **174.25** | 8.8 |
| **7** | 0.98 | 7.64 | 15.27 | 4000 | 4400 | 1800292 | **4F669** | 206.71 | **183.75** | 9.0 |
| **9** | 1.16 | 9.03 | 18.06 | 4000 | 4400 | 1800293 | **4F671** | 216.41 | **192.00** | 9.2 |

## 11/14 GPM SAE "A" 2-BOLT MOUNTING PUMPS
## 20/26 GPM SAE "B" 2-BOLT MOUNTING PUMPS

Haldex
Barnes Hydraulics

Replacement Parts Available 1-800-323-0620






### APPLICATIONS

- Backhoes • End loaders • Booms • Trenchers
- Skid steer vehicles • Dump trucks • Mining equipment
- High tolerance to system contamination
- Reliable under cold weather conditions
- Simple, efficient design with few moving parts
- Compact • Pressures to 4000 PSI
- 205°F max. temperature
- Pressure balanced design

Cast-iron front and rear covers for reliability, strength, and noise reduction. Center section is cast-iron, allowing gear tips to generate their own run-in paths, creating minimum radial gear-tip clearance for high volumetric efficiency.

Gears are AISI 8620 alloy steel for greater shaft strength and stronger gear assembly. Ten-tooth gears minimize pressure ripple. Gear sides and shaft journals are carburized, hardened, and ground to fine finish.

Seals utilize two seal packs and two bronze faced wear plates to minimize leakage across the end faces of the gears and to reduce wear.

Bearings and support structures move in unison with and adjust to shafts that are deflected by high hydraulic loads. Optimum bearing alignment under load minimizes wear, maximizing life of bearings and pump.

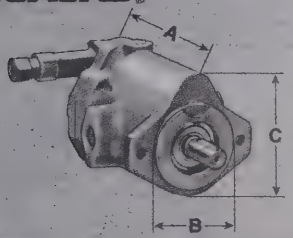
### DIMENSIONS (In.)

| Stock No. | A | B | C | D | E | F | J | K | W |
|---|---|---|---|---|---|---|---|---|---|
| 4F672, 4F673 | 0.450 | 3.25 | 4.19 | 1 5/16-12 | 5.84 | 1 5/8-12 | 9T 16-32DP | 1.62 | 6.27 max. |
| 4F674, 4F675 | 0.582 | 4.00 | 5.75 | 1 5/16-12 | 5.84 | 1 5/8-12 | 13T 16-32DP | 1.62 | 6.97 max. |

### 11/14, 20/26 GPM SPECIFICATIONS AND ORDERING DATA

| Nominal GPM | Cu. In. / Rev. | GPM Displ. @ RPM 1800 | GPM Displ. @ RPM 3600 | Max. Pressure (PSI) Continuous Duty | Max. Pressure (PSI) Intermittent Duty | Barnes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **11** | 1.41 | 10.99 | 21.99 | 4000 | 4400 | 02-100786 | **4F672** | $253.14 | **$226.50** | 28.0 |
| **14** | 1.79 | 13.95 | 28.90 | 4000 | 4400 | 02-100787 | **4F673** | 261.93 | **228.75** | 29.0 |
| **20** | 2.60 | 20.25 | 40.52 | 4000 | 4400 | 02-100788 | **4F674** | 271.98 | **237.75** | 32.0 |
| **26** | 3.33 | 25.95 | 51.97 | 4000 | 4400 | 02-100789 | **4F675** | 282.04 | **245.75** | 34.0 |

VICKERS®




Replacement Parts Available
1-800-323-0620

# PISTON PUMPS

- Inline variable displacement units provide efficient performance and high operating reliability
- Operate on variety of hydraulic fluids including oil, invert emulsions, water glycols, and high water based fluids
- CW rotation only as viewed from shaft end
- 5W565 and 5W566 have SAE A 2-bolt mounting
- 3MD24 and 3MD25 have SAE B 2-bolt mounting
- 3MD26 and 3MD27 have SAE C 2-bolt mounting
- 3MD28 has SAE D 4-bolt mounting

**Pumps demonstrate** approximately 97% volumetric efficiency and 85% overall efficiency at rated speeds and pressures.

**Pressure compensator control** automatically adjusts pump delivery to maintain volume requirements of the system at a preselected pressure. Minimizes need for cooling equipment and reduces size of reservoir required. Pressure compensator adjustable range: 250-3000 PSI (Nos. 5W565, 3MD24, 3MD26, and 3MD28); 250-2000 PSI (Nos. 5W566, 3MD25, and 3MD27).

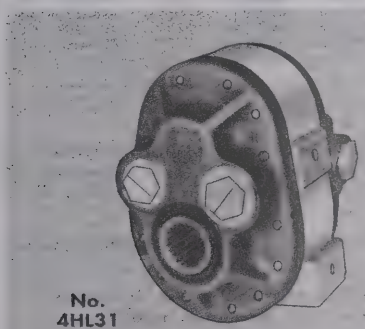
**SAE straight thread ports** are standard on all units, SAE four bolt flange on 4MD28. All units have 7/8 x 2.31" keyed shaft.

## PISTON PUMP SPECIFICATIONS AND ORDERING DATA

| 22 Delivery GPM @ 1800 RPM | Max. Press. PSI* | Sound Level (dBa)† | Overall Dimensions (In.) A Length | B Width | C Height | Inlet / Outlet Ports (In.) | Vickers Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 3000 | 59 | 8.72 | 3.25 | 5.18 | 1 1/16-12-UN2B | PVB5-RSY-21-C-11 | 5W565 | $1100.00 | $791.00 | 20.0 |
| 6 | 2000 | 59 | 8.72 | 3.25 | 5.18 | 1 1/16-12-UN2B | PVB6-RSY-21-C-11 | 5W566 | 1200.00 | 862.50 | 20.0 |
| 10 | 3000 | 62 | 10.50 | 4.00 | 5.81 | 1 5/16-12-UN2B | PVB10-RSY-40-C 11 | 3MD24 | 1558.20 | 1325.00 | 31.0 |
| 15 | 2000 | 65 | 10.50 | 4.00 | 5.81 | 1 5/16-12-UN2B | PVB15-RSY-40-C-11 | 3MD25 | 1662.15 | 1415.00 | 31.0 |
| 20 | 3000 | 67 | 11.62 | 5.00 | 7.44 | 1 5/16-12-UN2B | PVB20-RS-20-C-11 | 3MD26 | 2167.20 | 1845.00 | 57.0 |
| 29 | 2000 | 70 | 11.62 | 5.00 | 7.44 | 1 5/16-12-UN2B | PVB29-RS-20-C-11 | 3MD27 | 2588.25 | 2200.00 | 57.0 |
| 45 | 3000 | — | 16.00 | 6.00 | 12.30 | 2 SAE 4-Bolt Fig. | PVB45-RSF-20-C-11 | 3MD28 | 5652.15 | 4799.00 | 210.0 |

(*) Unit service life is individual to each application. Applications which require continuous operation at maximum pressure will likely result in shortened service life.
(†) Sound levels recorded per NAFP standards at 3 ft. full flow, 1800 RPM, and maximum pressure.

# PTO PUMPS



No. 4HL31

Prince HYDRAULICS

**LIMITED 3-YEAR WARRANTY**

Prince hydraulic pumps carry a 3-year limited warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



Nos. 4Z171 and 4Z172

- Used as original equipment or additional hydraulic power supply on farm tractors of all sizes
- No additional gearing needed
- Provides working pressures up to 2500 PSI

**Power take-off (PTO) hydraulic gear pumps** have two self-adjusting wear plates to seal off leakage around the two unequal size gears. These plates, activated by internal fluid pressure, offset any wear or expansion that may occur during life of the pump. Each pump is assembled with zero clearance between housing and tips of gear teeth and is test run until teeth establish a proper wear path in the housing.

**Pumps have high tensile, cast-iron end-plates,** aluminum housing, and an internal splined 6-tooth shaft supported on both sides by roller bearings. Tapped holes are provided for torque arm mounting. No. 4Z171 includes #16 SAE to 1.25" hose barb adapter for inlet port, #12 SAE to 0.75" (F) NPTF adapter for outlet port, #12 SAE plug for unused pressure port. No. 4Z172 includes #16 SAE to 1" hose barb adapter for inlet port, #12 SAE to 0.75" (F) NPTF adapter for outlet port, #12 SAE plug for unused pressure port. CW rotation only. No. 4HL31 includes #20 SAE to 2" hose barb adapter for inlet, #16 SAE to 1" (F) NPTF adapter for outlet, #12 SAE plug for unused pressure port.

## PTO PUMP SPECIFICATIONS AND ORDERING DATA

| Inlet Port (In.)* | Outlet Port (In.)* | Shaft (In.) | RPM | GPM @ 2000 PSI | Displacement Cu. In. / Rev. | Min. HP | Prince Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 5/8-12 | 1 5/16-12 | 1 3/8 Dia., 21 tooth | 1000 | 40.0 | 9.9 | 60 | HCPK11 | 4HL31 | $576.85 | $486.25 | 40.0 |
| 1 5/16-12 | 1 1/16-12 | 1 1/8 Dia., 6 tooth | 540 | 21.0 | 9.9 | 30 | PTO-1A | 4Z171 | 543.18 | 404.00 | 38.0 |
| 1 5/16-12 | 1 1/16-12 | 1 3/8 Dia., 6 tooth | 540 | 11.4 | 5.7 | 20 | PTO-2A | 4Z172 | 483.00 | 369.00 | 35.0 |

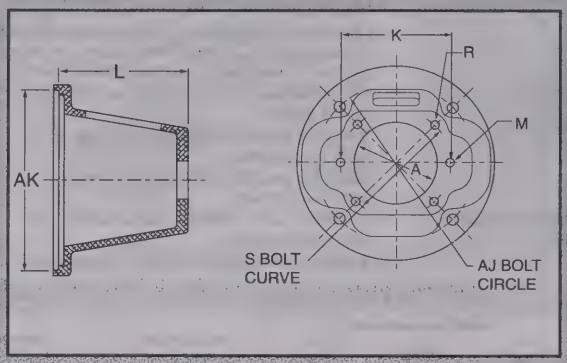
(*) O-Ring Boss.

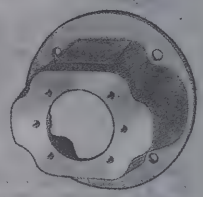
# PUMP MOUNTS

## C-FACE PUMP/MOTOR ADAPTERS

VESCOR®

- Aluminum alloy encloses shaft and coupling for quiet, safe operation
- For mounting 4F17 4 bolt, SAE "AA" 2 bolt, SAE "A" 2 and 4 bolt, SAE "B" 2 and 4 bolt, see Specifications and Ordering Data below for motor frame combinations
- All models can be horizontally mounted; Nos. 6Z069, 6Z070, and 4F322 can also be vertically mounted
- Slotted for easy coupling adjustment
- Maximum coupling diameter: 3½" for Nos. 6Z069 and 6Z070; 4½" for No. 6Z071



No. 6Z071

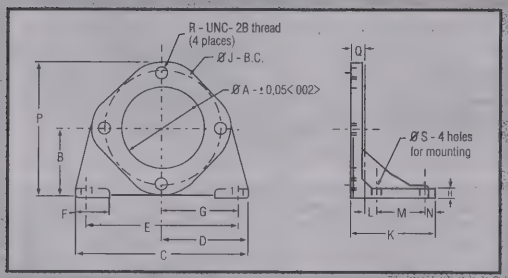
### ADAPTER SPECIFICATIONS AND ORDERING DATA

| Flange Style | Pump Bolt Configuration | Motor Frame | Dimensions (Inches) A | L | K | M Tapped Holes | S | R Tapped Holes | AJ | AK | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SAE A** | 2 & 4 | 56C-145TC | 3.25 | 4.25 | 4.18 | (2) 3/8-16 | 4.13 | (4) 3/8-16 | * | 4.501/4.503 | **6Z069** | $31.62 | **$27.65** | 2.8 |
| **4F17** | 4 | 56C-145TC | 1.78 | 4.25 | N/A | N/A | 2.89 | (4) 5/16-18 | * | 4.501/4.503 | **6Z070** | 34.68 | **28.75** | 2.8 |
| **SAE AA** | 2 | 56C-145TC | 2.00 | 4.25 | 3.25 | (2) 3/8-16 | N/A | N/A | * | 4.501/4.503 | **4F322** | 34.68 | **28.45** | 2.8 |
| **SAE A** | 2 & 4 | 182TC-184TC | 3.25 | 5.00 | 4.18 | (2) 3/8-16 | 4.13 | (4) 3/8-16 | † | 8.501/8.503 | **6Z071** | 52.16 | **45.75** | 6.8 |
| **SAE B** | 2 & 4 | 182TC-184TC | 4.00 | 5.81 | 5.75 | (2) 1/2-13 | 5.00 | (4) 1/2-13 | † | 8.501/8.503 | **4F320** | 54.95 | **45.05** | 6.8 |
| **SAE A** | 2 & 4 | 182TC/184TC | 3.25 | 5.81 | 4.18 | (2) 3/8-16 | 4.12 | (4) 3/8-16 | † | 8.501/8.503 | **4F321** | 54.95 | **45.05** | 6.8 |
| **SAE A** | 2 & 4 | 213TC-215TC | 3.25 | 6.81 | 4.18 | (2) 3/8-16 | 4.12 | (4) 3/8-16 | † | 8.501/8.503 | **4F318** | 57.37 | **47.05** | 6.8 |
| **SAE B** | 2 & 4 | 213TC-215TC | 4.00 | 6.81 | 5.75 | (2) 1/2-13 | 5.00 | (4) 1/2-13 | † | 8.501/8.503 | **4F319** | 57.37 | **47.05** | 6.8 |

(*) 4 13/32 ON 5 7/8 B.C. (†) 4 13/32 ON 7 1/4 B.C.

## FOOT BRACKET MOUNTING KITS

VICKERS®




- Foot brackets can be used to mount pumps or hydraulic motors having standard SAE 2-bolt A, B, or C mounting flanges. These designations correspond to -A, -B, and -C- letters in the kit model number.
- Each kit includes a bracket and screws for mounting to the pump or motor
- Kits are not included with pumps and hydraulic motors, and must be ordered separately by model number

### FOOT BRACKET KITS ORDERING DATA

| Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **FB-A-10** | **3MC36** | $71.40 | **$61.00** | 9.0 |
| **FB-B-10** | **3MC37** | 122.85 | **105.00** | 10.0 |
| **FB-C-10** | **3MC38** | 163.80 | **139.00** | 17.0 |

### FOOT BRACKET KIT DIMENSIONS

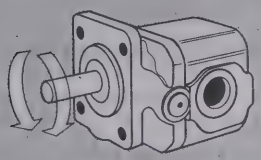
| Model No. | Dimensions (In.) A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FB-A-10** | 3.253 | 2.75 | 6.00 | 3.00 | 5.00 | 1.44 | 2.50 | .50 | 4.188 | 3.78 | .59 | 2.00 | .50 | 5.31 | .69 | .38-16 | .44 |
| **FB-B-10** | 4.003 | 3.63 | 6.75 | 3.38 | 5.75 | 1.44 | 2.88 | .50 | 5.75 | 3.77 | .59 | 2.00 | .50 | 7.12 | .68 | .50-13 | .44 |
| **FB-C-10** | 5.003 | 4.31 | 10.44 | 5.22 | 9.25 | 2.00 | 4.63 | .62 | 7.13 | 5.18 | .75 | 3.00 | .68 | 8.50 | .75 | .62-11 | .687 |

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

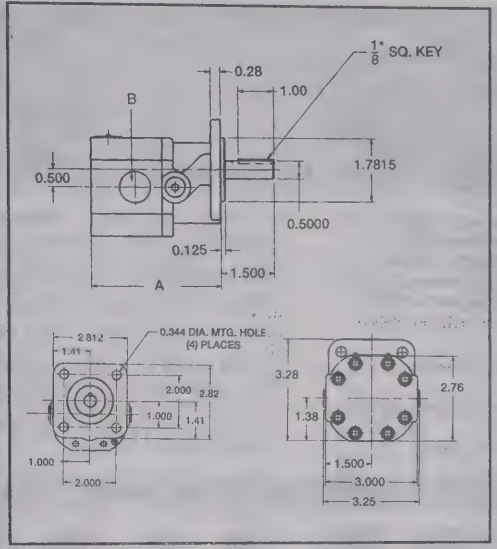
Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# BI-ROTATIONAL FLUID MOTORS

Haldex
Barnes Hydraulics



**Applications:**
- Conveyors
- Reel drives
- Index tables
- Variable speed drives
- Two-directional, forward-reverse drives
- Vacuum blowers
- Fan drives
- Robotics




**Features:**

**Heavy-duty cast-iron contruction.** Quiet 11-tooth hardened gears. Suitable for intermittent pressures up to 3500 PSI with output torque up to 180 in.-lbs.; see performance data below. Four-bolt 4F17 mount, 0.500 dia. x 1½" shaft extension and square key drive.

**400 PSI Viton lip seal** and reversing check valves included to avoid a case drain port. This feature also allows motors to be used as bi-directional pumps, see page 2799

**Side ports with SAE straight threads** are standard in sizes shown below.

**Maximum shaft speed** is 5000 RPM; minimum speed for most applications is 750 RPM.

**Maximum input** is 12 GPM.

Made in USA.

**Note:** Motors may be used to replace electric motors or gas engines in hazardous locations.

**Replacement Parts Available**
**1-800-323-0620**

## BI-ROTATIONAL FLUID MOTOR PERFORMANCE DATA

| Displ. Cu. In. / Rev. | Stock No. | Flow Range GPM | INLET PRESSURE 500 PSI Torque In.-Lbs. | 500 PSI Speed RPM | 1000 PSI Torque In.-Lbs. | 1000 PSI Speed RPM | 1500 PSI Torque In.-Lbs. | 1500 PSI Speed RPM | 2000 PSI Torque In.-Lbs. | 2000 PSI Speed RPM | 2500 PSI Torque In.-Lbs. | 2500 PSI Speed RPM | 3000 PSI Torque In.-Lbs. | 3000 PSI Speed RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.194 | 4F652 | 1 | 12 | 1102 | 26 | 1013 | 40 | 925 | 54 | 837 | 68 | 748 | 81 | 660 |
| | | 2 | 12 | 2293 | 26 | 2204 | 40 | 2116 | 54 | 2027 | 68 | 1939 | 81 | 1850 |
| | | 3 | 12 | 3483 | 26 | 3395 | 40 | 3306 | 54 | 3218 | 68 | 3130 | 81 | 2041 |
| | | 4 | 12 | 4674 | 26 | 4586 | 40 | 4497 | 54 | 4409 | 68 | 4320 | 81 | 4230 |
| 0.258 | 4F653 | 2 | 16 | 1702 | 34 | 1613 | 53 | 1525 | 72 | 1437 | 90 | 1348 | 108 | 1260 |
| | | 3 | 16 | 2597 | 34 | 2509 | 53 | 2420 | 72 | 2332 | 90 | 2244 | 108 | 2155 |
| | | 4 | 16 | 3493 | 34 | 3404 | 53 | 3316 | 72 | 3227 | 90 | 3139 | 108 | 3051 |
| | | 5 | 16 | 4388 | 34 | 4299 | 53 | 4211 | 72 | 4123 | 90 | 4034 | 108 | 3946 |
| 0.323 | 4F654 | 2 | 20 | 1341 | 43 | 1253 | 66 | 1165 | 90 | 1076 | 113 | 988 | 136 | 900 |
| | | 4 | 20 | 2772 | 43 | 2683 | 66 | 2595 | 90 | 2507 | 113 | 2418 | 136 | 2330 |
| | | 6 | 20 | 4202 | 43 | 4114 | 66 | 4025 | 90 | 3937 | 113 | 3849 | 136 | 3760 |
| | | 7 | 20 | 4917 | 43 | 4829 | 66 | 4741 | 90 | 4652 | 113 | 4564 | 136 | 4475 |
| 0.388 | 4F655 | 3 | 24 | 1697 | 52 | 1609 | 80 | 1520 | 108 | 1432 | 136 | 1344 | 163 | 1255 |
| | | 5 | 24 | 2880 | 52 | 2800 | 80 | 2711 | 108 | 2623 | 136 | 2534 | 163 | 2446 |
| | | 6 | 24 | 4079 | 52 | 3990 | 80 | 3902 | 108 | 3813 | 136 | 3725 | 163 | 2141 |
| | | 8 | 24 | 4674 | 52 | 4586 | 80 | 4497 | 108 | 4409 | 136 | 4320 | 163 | 4232 |
| 0.453 | 4F656 | 4 | 28 | 1951 | 60 | 1862 | 93 | 1774 | 126 | 1686 | 159 | 1597 | — | — |
| | | 6 | 28 | 2971 | 60 | 2882 | 93 | 2794 | 126 | 2706 | 159 | 2617 | — | — |
| | | 8 | 28 | 3991 | 60 | 3902 | 93 | 3814 | 126 | 3725 | 159 | 3637 | — | — |
| | | 10 | 28 | 5000 | 60 | 4922 | 93 | 4834 | 126 | 4745 | 159 | 4657 | — | — |
| 0.517 | 4F657 | 5 | 32 | 2145 | 69 | 2057 | 106 | 1968 | 144 | 1880 | 181 | 1792 | — | — |
| | | 7 | 32 | 3039 | 69 | 2950 | 106 | 2862 | 144 | 2774 | 181 | 2685 | — | — |
| | | 9 | 32 | 3932 | 69 | 3844 | 106 | 3756 | 144 | 3667 | 181 | 3579 | — | — |
| | | 11 | 32 | 4826 | 69 | 4738 | 106 | 4649 | 144 | 4561 | 181 | 4472 | — | — |
| 0.647 | 4F658 | 6 | 40 | 2053 | 86 | 1965 | 133 | 1877 | 180 | 1788 | — | — | — | — |
| | | 9 | 40 | 3124 | 86 | 3036 | 133 | 2948 | 180 | 2859 | — | — | — | — |
| | | 11 | 40 | 3838 | 86 | 3750 | 133 | 3662 | 180 | 3573 | — | — | — | — |
| 0.711 | 4F659 | 7 | 44 | 2185 | 95 | 2097 | 146 | 2009 | — | — | — | — | — | — |
| | | 10 | 44 | 3160 | 95 | 3072 | 146 | 2983 | — | — | — | — | — | — |
| | | 12 | 44 | 3810 | 95 | 3721 | 146 | 3633 | — | — | — | — | — | — |

## BI-ROTATIONAL FLUID MOTOR ORDERING DATA

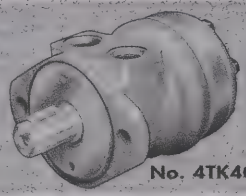
| Displacement Cu. In. / Rev. | Maximum Pressure Continuous | Maximum Pressure Intermittent | Dimensions (In.) A | Dimensions (In.) B | Barnes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0.194** | 3000 | 3500 | 3.160 | 3/4-16 | 1002199 | **4F652** | $128.76 | **$114.25** | 4.8 |
| **0.258** | 3000 | 3500 | 3.160 | 3/4-16 | 1070054 | **4F653** | 142.22 | **122.35** | 5.0 |
| **0.323** | 3000 | 3600 | 3.690 | 7/8-14 | 1070043 | **4F654** | 155.53 | **139.60** | 6.0 |
| **0.388** | 3000 | 3300 | 3.690 | 7/8-14 | 1070045 | **4F656** | 166.03 | **142.15** | 6.0 |
| **0.453** | 2750 | 3025 | 3.690 | 7/8-14 | 1070047 | **4F657** | 160.87 | **139.65** | 5.7 |
| **0.517** | 2750 | 2750 | 3.690 | 7/8-14 | 1070049 | **4F658** | 170.85 | **148.65** | 6.9 |
| **0.647** | 2000 | 2200 | 4.200 | 7/8-14 | 1070035 | **4F659** | 162.35 | **144.80** | 6.1 |
| **0.711** | 1800 | 2000 | 4.200 | 7/8-14 | 1070033 | | | | |

# MEDIUM-DUTY, AND HEAVY-DUTY, HIGH TORQUE, LOW SPEED MOTORS

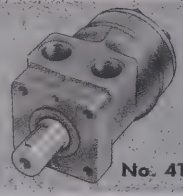
Fluid Power

Danfoss

New



No. 4TK40/C Type Flange



No. 4TK30/A2 Type Flange

- **Medium-duty motors are used in demanding applications including car wash brush drives, salt spreader drives, machine tool turntables, and farm implement drives.**
- **Heavy-duty motors are used in tough applications including wheel, winch, digger, auger, and conveyor drives**
- **Both feature cast iron construction and are direct-drive**
- **Maximum oil temperature: 140° F**
- **Minimum oil viscosity: 100 SUS (Saybolt Universal Seconds)**
- **Maximum continuous operation pressure see charts, intermittent operation 2500 PSI**
- **Straight keyed shaft is 1" diameter x 1.75" long**

Mounting and shaft dimensions are interchangeable with hydraulic motors of similar performance ratings, making these motors highly suitable replacements for other major brands. Check with your local Grainger Branch for cross reference information. Medium-duty models have plain teeth gear rims. These models are ideal for applications with long operating periods at moderate pressures or short operating periods at high pressures. Heavy-duty models have roller gear rims for low friction and better efficiency at high pressures. Useful in applications requiring long operating periods with high pressures. Medium-Duty models are available with 2-bolt oval SAE "C" type flange or 4-bolt SAE "A2" type flange. Heavy-duty models have 4-bolt SAE "A2" type flange. Straight keyed shaft is 1" diameter x 1.75" long.

## MEDIUM—DUTY HYDRAULIC MOTOR PERFORMANCE DATA

| Flow Rate GPM | Incoming Pressure 300 psi in.lbs/rpm | 600 psi in.lbs/rpm | 900 psi in.lbs/rpm | 1200 psi in.lbs/rpm | 1500 psi in.lbs/rpm | 1800 psi in.lbs/rpm |
|---|---|---|---|---|---|---|
| **Nos. 4TK30, 4TK40, 4TK50, 4TK60 — 2.2 Cu. In./Rev.** | | | | | | |
| 2 | 75/205 | 160/200 | 250/190 | 325/180 | 425/160 | 510/150 |
| 4 | 65/410 | 155/405 | 252/402 | 330/400 | 430/390 | 520/360 |
| 6 | 60/625 | 152/610 | 245/605 | 325/600 | 425/590 | 510/575 |
| 8 | 55/840 | 150/830 | 240/820 | 320/810 | 410/805 | 505/790 |
| 10 | 50/1050 | 140/1040 | 230/1030 | 310/1020 | 405/1010 | 500/990 |
| **Nos. 4TK31, 4TK41, 4TK51, 4TK61 — 3.0 Cu. In./Rev.** | | | | | | |
| 2 | 100/150 | 225/147 | 340/145 | 460/135 | 560/125 | 690/110 |
| 4 | 95/310 | 215/305 | 340/300 | 457/297 | 575/285 | 700/275 |
| 6 | 93/460 | 205/455 | 330/450 | 450/450 | 567/430 | 695/427 |
| 8 | 75/610 | 200/607 | 325/605 | 445/600 | 560/595 | 690/580 |
| 10 | 70/770 | 190/760 | 310/757 | 430/755 | 550/750 | 675/740 |
| 12 | 50/930 | 175/920 | 295/905 | 420/902 | 545/900 | 660/897 |
| **Nos. 4TK32, 4TK42, 4TK52, 4TK62 — 4.8 Cu. In./Rev.** | | | | | | |
| 2 | 190/100 | 350/97 | 550/90 | 740/80 | 920/60 | 1100/57 |
| 4 | 187/195 | 347/193 | 548/190 | 738/175 | 910/160 | 1110/150 |
| 6 | 160/290 | 345/285 | 525/280 | 730/275 | 907/273 | 1105/260 |
| 8 | 155/380 | 335/377 | 520/375 | 710/370 | 905/360 | 1100/350 |
| 10 | 147/480 | 310/478 | 500/475 | 705/473 | 900/468 | 1090/450 |
| 12 | 100/580 | 300/578 | 490/575 | 695/570 | 890/560 | 1050/550 |
| 16 | 50/778 | 255/775 | 420/771 | 610/768 | 800/760 | 1000/750 |
| **Nos. 4TK33, 4TK43, 4TK53, 4TK63 — 5.9 Cu. In./Rev.** | | | | | | |
| 2 | 230/70 | 460/68 | 700/65 | 920/62 | 1150/55 | 1390/53 |
| 4 | 220/150 | 450/148 | 690/146 | 900/142 | 1145/138 | 1400/130 |
| 6 | 200/230 | 450/228 | 680/225 | 890/220 | 1140/218 | 1395/215 |
| 8 | 190/310 | 420/308 | 650/305 | 900/302 | 1105/300 | 1390/295 |
| 10 | 180/385 | 400/380 | 620/375 | 890/372 | 1100/371 | 1350/360 |
| 12 | 150/460 | 390/459 | 600/457 | 850/453 | 1080/451 | 1320/448 |
| 16 | 75/622 | 320/621 | 550/620 | 795/615 | 1010/610 | 1240/605 |
| **Nos. 4TK34, 4TK44, 4TK54, 4TK64 — 7.6 Cu. In./Rev.** | | | | | | |
| 2 | 300/60 | 600/59 | 860/55 | 1195/50 | 1480/40 | 1780/30 |
| 4 | 295/122 | 595/120 | 890/118 | 1200/115 | 1500/100 | 1800/80 |
| 6 | 290/180 | 590/177 | 880/175 | 1190/172 | 1490/168 | 1800/150 |
| 8 | 260/230 | 560/228 | 870/227 | 1150/226 | 1470/225 | 1775/220 |
| 10 | 240/300 | 500/299 | 815/298 | 1100/296 | 1450/285 | 1750/275 |
| 12 | 190/365 | 495/362 | 798/360 | 1090/355 | 1410/350 | 1730/330 |
| 16 | 100/484 | 400/482 | 700/480 | 1010/475 | 1320/470 | 1640/460 |

(*) 1650 psi. (†) 1400 psi.

| Flow Rate GPM | Incoming Pressure 300 psi in. lbs/rpm | 600 psi in. lbs/rpm | 900 psi in. lbs/rpm | 1200 psi in. lbs/rpm | 1500 psi in. lbs/rpm | 1650 psi in. lbs/rpm |
|---|---|---|---|---|---|---|
| **Nos. 4TK35, 4TK45, 4TK55, 4TK65 — 9.5 Cu. In./Rev.** | | | | | | |
| 2 | 350/45 | 700/41 | 1090/38 | 1475/35 | 1820/30 | 2000/26* |
| 4 | 315/90 | 695/89 | 1080/85 | 1470/83 | 1850/78 | 2020/75* |
| 6 | 305/140 | 685/138 | 1070/136 | 1460/135 | 1830/130 | 2000/128* |
| 8 | 280/190 | 650/193 | 1050/190 | 1430/185 | 1800/180 | 1990/175* |
| 10 | 260/240 | 640/238 | 1000/236 | 1400/235 | 1750/230 | 1900/227* |
| 12 | 250/290 | 600/289 | 990/287 | 1350/285 | 1700/280 | 1890/278* |
| 16 | 190/389 | 487/385 | 830/381 | 1220/380 | 1600/378 | 1750/375* |
| **Nos. 4TK36, 4TK46, 4TK56, 4TK66 — 11.9 Cu. In./Rev.** | | | | | | |
| 2 | 480/35 | 950/32 | 1375/31 | 1850/28 | 2360/26 | — |
| 4 | 470/78 | 875/76 | 1380/75 | 1900/74 | 2335/65 | — |
| 6 | 380/115 | 870/112 | 1370/111 | 1800/110 | 2325/105 | — |
| 8 | 375/158 | 850/156 | 1350/152 | 1750/150 | 2300/148 | — |
| 10 | 360/190 | 760/189 | 1300/187 | 1700/185 | 2250/180 | — |
| 12 | 260/235 | 750/233 | 1250/231 | 1680/230 | 2225/228 | — |
| 16 | 125/311 | 600/311 | 1100/310 | 1590/309 | 2050/305 | — |
| **Nos. 4TK37, 4TK47, 4TK57, 4TK67 — 14.8 Cu. In./Rev.** | | | | | | |
| 2 | 550/32 | 1100/32 | 1680/30 | 2250/25 | 2625/24† | — |
| 4 | 510/67 | 1125/65 | 1720/62 | 2300/58 | 2580/55† | — |
| 6 | 500/93 | 1100/89 | 1700/88 | 2250/87 | 2700/82† | — |
| 8 | 480/125 | 1050/123 | 1650/121 | 2200/118 | 2650/116† | — |
| 10 | 405/156 | 1000/155 | 1600/153 | 2125/151 | 2600/148† | — |
| 12 | 310/187 | 900/186 | 1550/185 | 2075/180 | 2500/178† | — |
| 16 | 200/250 | 800/248 | 1400/248 | 1900/243 | 2325/240† | — |
| **Nos. 4TK38, 4TK48, 4TK58, 4TK68 — 18.7 Cu. In./Rev.** | | | | | | |
| 2 | 700/25 | 1400/23 | 2100/21 | 2960/17 | — | — |
| 4 | 690/48 | 1410/47 | 2075/42 | 2900/39 | — | — |
| 6 | 600/74 | 1390/72 | 2050/68 | 2850/64 | — | — |
| 8 | 580/98 | 1350/96 | 2025/92 | 2825/90 | — | — |
| 10 | 500/120 | 1300/119 | 2000/117 | 2790/115 | — | — |
| 12 | 450/148 | 1200/147 | 1900/143 | 2700/140 | — | — |
| 16 | 200/198 | 1000/196 | 1750/192 | 2450/190 | — | — |
| **Nos. 4TK39, 4TK49, 4TK59, 4TK69 — 23.8 Cu. In./Rev.** | | | | | | |
| 2 | 900/18 | 1600/16 | 2750/14 | — | — | — |
| 4 | 875/39 | 1780/37 | 2750/35 | — | — | — |
| 6 | 800/58 | 1750/56 | 2650/55 | — | — | — |
| 8 | 775/78 | 1700/76 | 2600/75 | — | — | — |
| 10 | 750/97 | 1600/95 | 2550/92 | — | — | — |
| 12 | 600/118 | 1550/116 | 2500/115 | — | — | — |
| 16 | 300/156 | 1300/154 | 2250/153 | — | — | — |

CONTINUED ON NEXT PAGE

# MEDIUM AND HEAVY-DUTY HIGH TORQUE LOW SPEED MOTORS

## *New!* MEDIUM-DUTY HYDRAULIC MOTOR ORDERING DATA

| Displ. Cu.In./Rev. | Port Thread | Flange Mount | Dimensions (In.) L | W | H | Danfoss Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **2.2** | 7/8-14 UNF | SAE A2 | 4.71 | 5.12 | 3.78 | 151-2000 | **4TK30** | $186.23 | **$177.50** | 12.0 |
| **2.2** | 1/2-14 NPTF | SAE A2 | 4.71 | 5.12 | 3.78 | 151-2080 | **4TK50** | 186.23 | **177.50** | 12.0 |
| **2.2** | 7/8-14 UNF | SAE C | 4.71 | 3.50 | 3.36 | 151-2040 | **4TK40** | 178.12 | **169.75** | 11.0 |
| **2.2** | 1/2-14 NPTF | SAE C | 4.71 | 3.50 | 3.36 | 151-2120 | **4TK60** | 178.12 | **169.75** | 11.0 |
| **3.0** | 7/8-14 UNF | SAE A2 | 4.73 | 5.12 | 3.78 | 151-2001 | **4TK31** | 189.65 | **180.75** | 12.0 |
| **3.0** | 1/2-14 NPTF | SAE A2 | 4.73 | 5.12 | 3.78 | 151-2081 | **4TK51** | 189.65 | **180.75** | 12.0 |
| **3.0** | 7/8-14 UNF | SAE C | 4.73 | 3.50 | 3.36 | 151-2041 | **4TK41** | 181.27 | **172.75** | 11.0 |
| **3.0** | 1/2-14 NPTF | SAE C | 4.73 | 3.50 | 3.36 | 151-2121 | **4TK61** | 181.27 | **172.75** | 11.0 |
| **4.8** | 7/8-14 UNF | SAE A2 | 4.89 | 5.12 | 3.78 | 151-2002 | **4TK32** | 201.98 | **192.50** | 12.0 |
| **4.8** | 1/2-14 NPTF | SAE A2 | 4.89 | 5.12 | 3.78 | 151-2082 | **4TK52** | 201.98 | **192.50** | 12.0 |
| **4.8** | 7/8-14 UNF | SAE C | 4.89 | 3.50 | 3.36 | 151-2042 | **4TK42** | 193.35 | **184.25** | 11.0 |
| **4.8** | 1/2-14 NPTF | SAE C | 4.89 | 3.50 | 3.36 | 151-2122 | **4TK62** | 193.35 | **184.25** | 11.0 |
| **5.9** | 7/8-14 UNF | SAE A2 | 4.99 | 5.12 | 3.78 | 151-2003 | **4TK33** | 209.07 | **199.25** | 12.0 |
| **5.9** | 1/2-14 NPTF | SAE A2 | 4.99 | 5.12 | 3.78 | 151-2083 | **4TK53** | 209.07 | **199.25** | 12.0 |
| **5.9** | 7/8-14 UNF | SAE C | 4.99 | 3.50 | 3.36 | 151-2043 | **4TK43** | 200.17 | **190.75** | 12.0 |
| **5.9** | 1/2-14 NPTF | SAE C | 4.99 | 3.50 | 3.36 | 151-2123 | **4TK63** | 200.17 | **190.75** | 12.0 |
| **7.6** | 7/8-14 UNF | SAE A2 | 5.14 | 5.12 | 3.78 | 151-2004 | **4TK34** | 213.79 | **203.75** | 13.0 |
| **7.6** | 1/2-14 NPTF | SAE A2 | 5.14 | 5.12 | 3.78 | 151-2084 | **4TK54** | 213.79 | **203.75** | 13.0 |
| **7.6** | 7/8-14 UNF | SAE C | 5.14 | 3.50 | 3.36 | 151-2044 | **4TK44** | 204.64 | **195.00** | 12.0 |
| **7.6** | 1/2-14 NPTF | SAE C | 5.14 | 3.50 | 3.36 | 151-2124 | **4TK64** | 204.64 | **195.00** | 12.0 |
| **9.5** | 7/8-14 UNF | SAE A2 | 5.30 | 5.12 | 3.78 | 151-2005 | **4TK35** | 225.08 | **214.50** | 13.0 |
| **9.5** | 1/2-14 NPTF | SAE A2 | 5.30 | 5.12 | 3.78 | 151-2085 | **4TK55** | 225.08 | **214.50** | 13.0 |
| **9.5** | 7/8-14 UNF | SAE C | 5.30 | 3.50 | 3.36 | 151-2045 | **4TK45** | 215.40 | **205.25** | 12.0 |
| **9.5** | 1/2-14 NPTF | SAE C | 5.30 | 3.50 | 3.36 | 151-2125 | **4TK65** | 215.40 | **205.25** | 12.0 |
| **11.9** | 7/8-14 UNF | SAE A2 | 5.50 | 5.12 | 3.78 | 151-2006 | **4TK36** | 236.63 | **225.50** | 13.0 |
| **11.9** | 1/2-14 NPTF | SAE A2 | 5.50 | 5.12 | 3.78 | 151-2086 | **4TK56** | 236.63 | **225.50** | 13.0 |
| **11.9** | 7/8-14 UNF | SAE C | 5.50 | 3.50 | 3.36 | 151-2046 | **4TK46** | 226.69 | **216.00** | 13.0 |
| **11.9** | 1/2-14 NPTF | SAE C | 5.50 | 3.50 | 3.36 | 151-2126 | **4TK66** | 226.69 | **216.00** | 13.0 |
| **14.8** | 7/8-14 UNF | SAE A2 | 5.76 | 5.12 | 3.78 | 151-2007 | **4TK37** | 249.50 | **237.75** | 14.0 |
| **14.8** | 1/2-14 NPTF | SAE A2 | 5.76 | 5.12 | 3.78 | 151-2087 | **4TK57** | 249.50 | **237.75** | 14.0 |
| **14.8** | 7/8-14 UNF | SAE C | 5.76 | 3.50 | 3.36 | 151-2047 | **4TK47** | 238.49 | **227.25** | 13.0 |
| **14.8** | 1/2-14 NPTF | SAE C | 5.76 | 3.50 | 3.36 | 151-2127 | **4TK67** | 238.49 | **227.25** | 13.0 |
| **18.7** | 7/8-14 UNF | SAE A2 | 6.09 | 5.12 | 3.78 | 151-2008 | **4TK38** | 264.45 | **252.00** | 15.0 |
| **18.7** | 1/2-14 NPTF | SAE A2 | 6.09 | 5.12 | 3.78 | 151-2088 | **4TK58** | 264.45 | **252.00** | 15.0 |
| **18.7** | 7/8-14 UNF | SAE C | 6.09 | 3.50 | 3.36 | 151-2048 | **4TK48** | 253.20 | **241.25** | 14.0 |
| **18.7** | 1/2-14 NPTF | SAE C | 6.09 | 3.50 | 3.36 | 151-2128 | **4TK68** | 253.20 | **241.25** | 14.0 |
| **23.8** | 7/8-14 UNF | SAE A2 | 6.52 | 5.12 | 3.78 | 151-2009 | **4TK39** | 288.87 | **275.25** | 16.0 |
| **23.8** | 1/2-14 NPTF | SAE A2 | 6.52 | 5.12 | 3.78 | 151-2089 | **4TK59** | 288.87 | **275.25** | 16.0 |
| **23.8** | 7/8-14 UNF | SAE C | 6.52 | 3.50 | 3.36 | 151-2049 | **4TK49** | 276.30 | **263.25** | 15.0 |
| **23.8** | 1/2-14 NPTF | SAE C | 6.52 | 3.50 | 3.36 | 151-2129 | **4TK69** | 276.30 | **263.25** | 15.0 |

## HEAVY-DUTY HYDRAULIC MOTOR PERFORMANCE DATA

**Incoming Pressure**

| Flow Rate GPM | In. - Lbs. / RPM 300 PSI | 600 PSI | 900 PSI | 1200 PSI | 1500 PSI | 1800 PSI | 2000 PSI |
|---|---|---|---|---|---|---|---|
| **Nos. 4TK70, 4TK79 — 3.2 Cu.In./Rev.** | | | | | | | |
| 2 | 120/150 | 250/148 | 350/146 | 470/130 | 585/125 | 680/120 | 760/112 |
| 4 | 130/295 | 248/290 | 370/285 | 505/275 | 625/280 | 740/250 | 800/245 |
| 6 | 110/450 | 240/445 | 360/435 | 500/425 | 640/420 | 750/400 | 820/390 |
| 8 | 90/595 | 225/594 | 355/592 | 497/590 | 635/575 | 760/550 | 820/525 |
| 10 | 75/705 | 215/710 | 350/715 | 485/720 | 625/710 | 750/700 | 820/675 |
| — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — |
| **Nos. 4TK71, 4TK80 — 4.9 Cu.In./Rev.** | | | | | | | |
| 2 | 190/95 | 390/92 | 630/87 | 830/85 | 1025/75 | 1200/68 | 1350/65 |
| 4 | 200/180 | 425/178 | 625/173 | 850/173 | 1050/170 | 1275/165 | 1390/150 |
| 6 | 195/275 | 420/273 | 620/271 | 830/270 | 1040/260 | 1272/255 | 1400/250 |
| 8 | 175/375 | 400/373 | 615/365 | 815/380 | 1025/355 | 1250/350 | 1390/345 |
| 10 | 150/465 | 375/463 | 600/480 | 800/458 | 1010/455 | 1240/445 | 1350/440 |
| 12 | 125/580 | 350/555 | 570/553 | 775/551 | 990/550 | 1200/540 | 1330/530 |
| 16 | 75/750 | 275/749 | 500/746 | 700/745 | 930/740 | 1130/730 | 1275/725 |
| **Nos. 4TK72, 4TK81 — 6.1 Cu.In./Rev.** | | | | | | | |
| 2 | 210/72 | 480/70 | 780/68 | 1000/65 | 1280/60 | 1480/55 | 1620/50 |
| 4 | 200/150 | 500/149 | 770/148 | 1030/148 | 1300/145 | 1500/143 | 1760/130 |
| 6 | 195/220 | 480/218 | 750/216 | 1010/215 | 1280/216 | 1550/205 | 1705/200 |
| 8 | 180/305 | 450/300 | 710/295 | 1000/293 | 1250/290 | 1500/280 | 1680/275 |
| 10 | 170/355 | 425/360 | 700/365 | 980/368 | 1220/372 | 1485/365 | 1650/360 |
| 12 | 120/460 | 400/455 | 680/450 | 965/448 | 1210/447 | 1470/445 | 1620/440 |
| 16 | 100/607 | 300/607 | 600/607 | 860/607 | 1160/605 | 1390/600 | 1540/596 |
| **Nos. 4TK73, 4TK82 — 7.7 Cu.In./Rev.** | | | | | | | |
| 2 | 300/60 | 650/58 | 1000/58 | 1300/55 | 1625/53 | 1950/50 | 2075/48 |
| 4 | 310/122 | 640/120 | 1020/120 | 1320/118 | 1650/116 | 1995/110 | 2190/105 |
| 6 | 305/175 | 620/175 | 1000/174 | 1300/173 | 1620/170 | 1960/165 | 2080/165 |
| 8 | 300/240 | 600/240 | 990/238 | 1290/238 | 1600/237 | 1950/233 | 2070/235 |
| 10 | 250/300 | 590/300 | 980/298 | 1210/298 | 1580/297 | 1900/293 | 2030/350 |
| 12 | 200/365 | 525/365 | 900/364 | 1095/363 | 1550/360 | 1850/355 | 1980/472 |
| 16 | 100/480 | 405/480 | 780/479 | 1060/478 | 1480/478 | 1800/475 | 1880/472 |

| Flow Rate GPM | In. - Lbs. / RPM 300 PSI | 600 PSI | 900 PSI | 1200 PSI | 1500 PSI | 1800 PSI | 2000 PSI |
|---|---|---|---|---|---|---|---|
| **Nos. 4TK74, 4TK83 — 9.7 Cu.In./Rev.** | | | | | | | |
| 2 | 410/48 | 810/48 | 1225/45 | 1680/40 | 2000/35 | 2300/32 | 2550/30 |
| 4 | 405/90 | 805/90 | 1300/88 | 1670/85 | 2050/83 | 2500/80 | 2780/75 |
| 6 | 400/145 | 802/145 | 1240/143 | 1650/140 | 2030/138 | 2480/135 | 2750/130 |
| 8 | 350/188 | 800/188 | 1200/187 | 1620/186 | 2010/180 | 2450/175 | 2700/172 |
| 10 | 320/238 | 750/238 | 1180/235 | 1600/235 | 2000/230 | 2400/225 | 2680/222 |
| 12 | 250/285 | 700/285 | 960/280 | 1580/278 | 1980/275 | 2380/273 | 2600/270 |
| 16 | 180/379 | 600/378 | 1100/378 | 1455/375 | 1800/373 | 2210/385 | 2500/360 |
| **Nos. 4TK75, 4TK84 — 12.2 Cu.In./Rev.** | | | | | | | |
| 2 | 500/38 | 1000/38 | 1600/35 | 2010/33 | 2600/30 | 3050/30 | — |
| 4 | 495/75 | 1005/75 | 1550/73 | 2005/71 | 2595/70 | 3190/68 | — |
| 6 | 480/113 | 990/113 | 1530/110 | 2003/109 | 2550/105 | 3030/103 | — |
| 8 | 400/150 | 980/150 | 1500/148 | 2000/146 | 2500/144 | 3000/142 | — |
| 10 | 380/188 | 880/185 | 1480/183 | 1990/179 | 2480/177 | 2970/175 | — |
| 12 | 375/230 | 850/229 | 1375/225 | 1850/224 | 2375/223 | 2850/223 | — |
| 16 | 225/303 | 650/303 | 1250/303 | 1700/300 | 2250/300 | 2750/298 | — |
| **Nos. 4TK76, 4TK85 — 15.2 Cu.In./Rev.** | | | | | | | |
| 2 | 630/30 | 1250/30 | 1950/30 | 2600/28 | 3200/25 | — | — |
| 4 | 625/58 | 1270/55 | 1925/55 | 2610/54 | 3200/52 | — | — |
| 6 | 615/87 | 1250/85 | 1910/85 | 2600/83 | 3190/83 | — | — |
| 8 | 575/118 | 1200/117 | 1875/116 | 2500/115 | 3125/114 | — | — |
| 10 | 500/151 | 1125/150 | 1860/150 | 2400/149 | 3100/145 | — | — |
| 12 | 425/181 | 1060/180 | 1750/180 | 2375/178 | 3000/174 | — | — |
| 16 | 240/242 | 878/240 | 1600/239 | 2175/238 | 2800/237 | — | — |
| **Nos. 4TK77, 4TK86 — 19.3 Cu.In./Rev.** | | | | | | | |
| 2 | 750/23 | 1600/23 | 2400/22 | 3150/21 | — | — | — |
| 4 | 780/45 | 1595/45 | 2500/43 | 3200/42 | — | — | — |
| 6 | 760/70 | 1580/69 | 2485/68 | 3200/66 | — | — | — |
| 8 | 650/95 | 1570/93 | 2475/92 | 3100/91 | — | — | — |
| 10 | 600/120 | 1560/120 | 2300/118 | 3050/116 | — | — | — |
| 12 | 450/144 | 1425/142 | 2150/142 | 2900/141 | — | — | — |
| 16 | 300/191 | 1190/190 | 1990/189 | 2650/187 | — | — | — |

# HEAVY-DUTY HIGH TORQUE, LOW SPEED MOTORS AND FLOW DIVIDERS

## HEAVY-DUTY HYDRAULIC MOTOR PERFORMANCE DATA (CONTINUED)

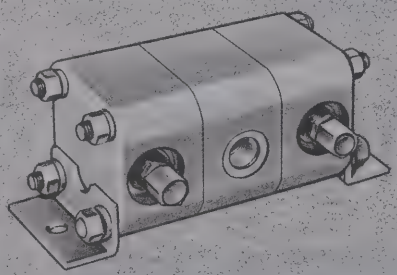
### Nos. 4TK78,4TK87 23.8 Cu. In./Rev

| Flow Rate GPM | Incoming Pressure 300 PSI In. lbs./RPM | 600 PSI In. lbs/RPM | 900 PSI In. lbs/RPM | 1000 Max. PSI in. lbs/RPM |
|---|---|---|---|---|
| 2 | 1100 / 18 | 2000 / 18 | 3000 / 16 | 3250 / 14 |
| 4 | 1000 / 37 | 1995 / 37 | 2995 / 37 | 3315 / 36 |
| 6 | 875 / 59 | 1990 / 59 | 2825 / 59 | 3200 / 58 |
| 8 | 865 / 78 | 1825 / 78 | 2800 / 78 | 3170 / 75 |
| 10 | 750 / 96 | 1750 / 96 | 2750 / 95 | 3100 / 93 |
| 12 | 600 / 115 | 1600 / 114 | 2700 / 114 | 2850 / 113 |
| 16 | 375 / 155 | 1300 / 155 | 2300 / 153 | 2600 / 152 |

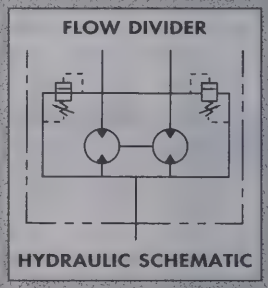
## *New!* HEAVY-DUTY HYDRAULIC MOTOR ORDERING DATA

| Displ Cu. In./Rev | Port Thread | Flange Mount | Dimensions (In.) L | W | H | Danfoss Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3.2** | 7/8-14 UNF | SAE A2 | 4.91 | 5.12 | 3.78 | 151-2301 | **4TK70** | $255.00 | **$243.00** | 13.0 |
| **3.2** | 1/2-14 NPTF | SAE A2 | 4.91 | 5.12 | 3.78 | 151-2381 | **4TK79** | 255.00 | **243.00** | 13.0 |
| **4.9** | 7/8-14 UNF | SAE A2 | 5.11 | 5.12 | 3.78 | 151-2302 | **4TK71** | 259.73 | **247.50** | 14.0 |
| **4.9** | 1/2-14 NPTF | SAE A2 | 5.11 | 5.12 | 3.78 | 151-2382 | **4TK80** | 259.73 | **247.50** | 14.0 |
| **6.1** | 7/8-14 UNF | SAE A2 | 5.22 | 5.12 | 3.78 | 151-2303 | **4TK72** | 273.38 | **260.50** | 14.0 |
| **6.1** | 1/2-14 NPTF | SAE A2 | 5.22 | 5.12 | 3.78 | 151-2382 | **4TK81** | 273.38 | **260.50** | 14.0 |
| **7.7** | 7/8-14 UNF | SAE A2 | 5.24 | 5.12 | 3.78 | 151-2304 | **4TK73** | 280.20 | **267.00** | 14.0 |
| **7.7** | 1/2-14 NPTF | SAE A2 | 5.24 | 5.12 | 3.78 | 151-2384 | **4TK82** | 280.20 | **267.00** | 14.0 |
| **9.7** | 7/8-14 UNF | SAE A2 | 5.50 | 5.12 | 3.78 | 151-2305 | **4TK74** | 293.33 | **279.50** | 15.0 |
| **9.7** | 1/2-14 NPTF | SAE A2 | 5.50 | 5.12 | 3.78 | 151-2385 | **4TK83** | 293.33 | **279.50** | 15.0 |
| **12.2** | 7/8-14 UNF | SAE A2 | 5.66 | 5.12 | 3.78 | 151-2306 | **4TK75** | 304.62 | **290.25** | 15.0 |
| **12.2** | 1/2-14 NPTF | SAE A2 | 5.66 | 5.12 | 3.78 | 151-2386 | **4TK84** | 304.62 | **290.25** | 15.0 |
| **15.2** | 7/8-14 UNF | SAE A2 | 5.93 | 5.12 | 3.78 | 151-2307 | **4TK76** | 321.94 | **306.75** | 16.0 |
| **15.2** | 1/2-14 NPTF | SAE A2 | 5.93 | 5.12 | 3.78 | 151-2387 | **4TK85** | 321.94 | **306.75** | 16.0 |
| **19.3** | 7/8-14 UNF | SAE A2 | 6.27 | 5.12 | 3.78 | 151-2308 | **4TK77** | 341.63 | **325.50** | 17.0 |
| **19.3** | 1/2-14 NPTF | SAE A2 | 6.27 | 5.12 | 3.78 | 151-2388 | **4TK86** | 341.63 | **325.50** | 17.0 |
| **23.8** | 7/8-14 UNF | SAE A2 | 6.72 | 5.12 | 3.78 | 151-2309 | **4TK78** | 362.89 | **345.75** | 19.0 |
| **23.8** | 1/2-14 NPTF | SAE A2 | 6.72 | 5.12 | 3.78 | 151-2389 | **4TK87** | 362.89 | **345.75** | 19.0 |

# FLOW DIVIDERS



Haldex
Barnes Hydraulics




- **Up to 3000 PSI inlet pressure**
- **Up to 4500 PSI outer pressure**
- **Maximum speed up to 4500 RPM**
- **11-tooth hardened steel gears**
- **Permanent mold cast-iron bodies machined to close tolerances**
- **Differential pressure relief valves**

**Gear Type Rotary Flow Dividers** synchronize two parallel motions hydraulically rather than mechanically. Hydraulic flow dividers split the flow from a single pump source to a pair of matched cylinders or fluid motors.

**Applications** include agricultural equipment—planters, cotton strippers and cultivators, equalizing jacks on cargo containers and semi-trailers, self-propelled manlifts, booms, trim mowers, and car wash machines.

**Both drive gears** in 2-section dividers are driven by common shaft, allowing flow equalization to occur in a wide speed range. Speeds in the range of 2000 to 4500 RPM will improve overall efficiency.

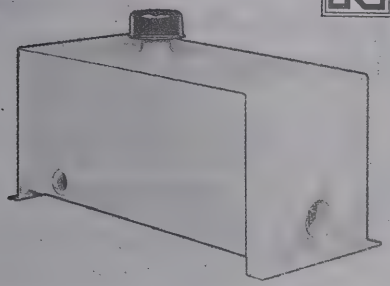
**Integral differential relief valves** for each circuit limit pressure intensification and permit cylinders to re-phase at the end of each stroke.

**Accuracy** is 3.4 cu. in./min. per 100 PSI differential in operating pressure.

## FLOW DIVIDER SPECIFICATIONS AND ORDERING DATA

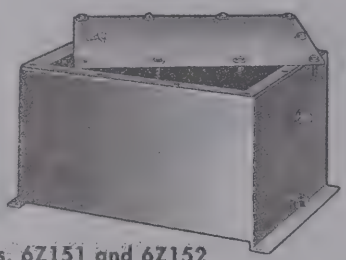
| Flow Rate (GPM) | Cu. In. / Rev. | Operating Pressure (PSI) | SAE Port Sizes Inlet (In.) | Outlet (In.) | Dimensions (In.) Length | Width | Height | Barnes Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 0.129 | 3000 | 3/4 | 3/4 -16 | 7.55 | 2.99 | 3.26 | 1020075 | **4F660** | $242.75 | **$216.25** | 9.0 |
| **10** | 0.258 | 2300 | 7/8 | 3/4 -16 | 7.55 | 2.99 | 3.26 | 1020076 | **4F661** | 242.76 | **216.00** | 9.0 |
| **20** | 0.581 | 2750 | 15/16 | 7/8 -14 | 9.85 | 4.25 | 4.00 | 1100042 | **4F662** | 413.17 | **366.50** | 27.0 |

## NEWCO FABRICATION



**No. 4Z980**

- 3/4" NPT return port
- 1½" NPT suction port
- Fill port with breather cap
- Black powder coat finish



**Nos. 6Z151 and 6Z152**

- For custom designed hydraulic power units
- Removable steel cover
- Horizontal or vertical mount
- Cork neoprene cover gasket
- Oil sight gauge
- 3/4" NPT deep reach magnetic drain plug
- Black powder coat finish

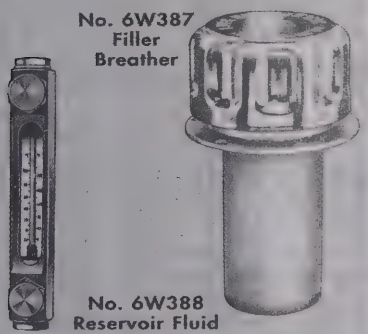
**Applications** include log splitters, mobile and industrial hydraulic systems.

**Five and ten gallon capacity,** 14-gauge steel, general purpose and power unit reservoirs. Used as primary or auxiliary storage tanks for hydraulic oil. Allow contaminants to settle out of oil and entrained air to be vented before being picked up by the pump

### RESERVOIR SPECIFICATIONS AND ORDERING DATA

| Capacity | Dimensions (In.) H | W | L | Removable Cover | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 5 | 8⅝ | 8⅝ | 20 | No | **4Z980** | $58.40 | **$57.15** | 23.0 |
| 5 | 8½ | 12 | 17 | Yes | **6Z151** | 84.60 | **82.75** | 24.0 |
| 10 | 10½ | 14 | 22 | Yes | **6Z152** | 110.60 | **103.65** | 45.0 |

## FILLER BREATHER



**No. 6W387 Filler Breather**

**No. 6W388 Reservoir Fluid Level Gauge**

3 in. diameter, 40 micron plated steel breather cap handles up to 30 cfm airflow at less than 1" Hg differential pressure. Twist-to-lock cap includes safety chain. 30 mesh, stainless steel strainer basket allows rapid filling and is compatible with most hydraulic fluids. Includes mounting screws and gasket. Lube Devices (FB103).

**No. 6W387.** Shpg. Wt. 0.5 lbs. List $14.99.
Each ..... **$10.99**

## RESERVOIR FLUID LEVEL/TEMPERATURE GAUGES

Fluid level gauges have low profile bodies with wide sight opening for maximum visibility. Machined from extruded aluminum bar stock. Crystal clear borosilicate sights compatible with all hydraulic fluids. Will not discolor with age or temperature. Buna-N seals. 20 PSI maximum working pressure. 250°F maximum temperature. 1/2-20 UNF threads on mounting bolts. Lube Devices brand. For additional fluid level gauges, see pages 2763 and 2764.

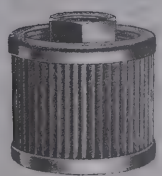
**No. 6W389.** 3 in. Mounting Center Level Gauge* (G1615-03-A-1). Shpg. wt. 0.4 lbs. List $24.89.
Each ..... **$13.97**

**No. 6W388.** 5 in. Mounting Center Level Gauge* (G1615-05-A-1). Shpg. wt. 0.5 lbs. List $26.31.
Each ..... **$14.54**

**No. 6W390.** 10 in. Mounting Center Level Gauge* (G1615-10-A-1). Shpg. wt. 0.7 lbs. List $52.04.
Each ..... **$28.15**

(*) ½-20 UNF mounting threads on bolts.

## LUBE DEVICES, INC.



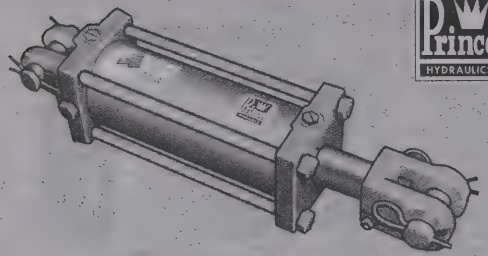
**No. 6W382**

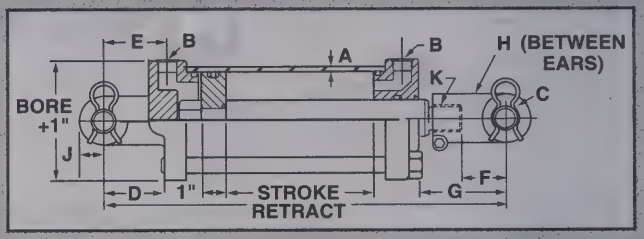
## HYDRAULIC SUCTION STRAINERS

Used to filter oil at end of pick-up tube in oil reservoir. Zinc-plated steel end plates. Rigid, one piece inner frame. Stainless steel. 100 mesh screen can be easily cleaned. Lube Devices brand.

| Port Size NPT (In.) | Nominal Flow (GPM) | Dimensions (In.) Length | Diameter | Lube Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 5 | 3.10 | 2.63 | SS104 | **6W382** | $13.74 | **$11.19** | 0.3 |
| 3/4 | 8 | 3.50 | 2.63 | SS105 | **6W383** | 13.86 | **11.85** | 0.7 |
| 1 | 10 | 5.40 | 2.63 | SS106 | **6W384** | 19.73 | **14.59** | 0.4 |
| 1¼ | 20 | 6.85 | 3.39 | SS107 | **6W385** | 26.36 | **21.15** | 0.4 |
| 1½ | 30 | 7.90 | 3.39 | SS108 | **6W386** | 29.18 | **23.84** | 0.7 |

# AG/MOBILE TIE-ROD CYLINDERS






**LIMITED 3-YEAR WARRANTY**

Prince AG/Mobile cylinders carry a 3-year limited warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Replacement Parts Available 1-800-323-0620

- **Double acting tie-rod design allows cylinders to be used in heavy-duty agricultural, transportation, construction, and industrial equipment applications**
- **2500 PSI features: O-ring seal and leather back-up washers on piston**
- **3000 PSI features: Urethane U-cup rod seal, metal encased rod wiper (2½" bore and larger), crown seal on piston, nylon bearing on piston (4, 4½, and 5" bores), and hardened pins (4, 4½, and 5" bores)**
- **O-ring seal between tube and ductile iron butt and gland casting**

**Precision honed tubes** and ground and polished chromed piston rods. Cast iron piston with O-ring seal between piston rod and piston. (NPT adapter fittings included with cylinder. NPT ports are 1/2" except No. 4Z193 is 3/4").

## AREA AND FORCE CHART FOR 2 to 5" BORE CYLINDERS

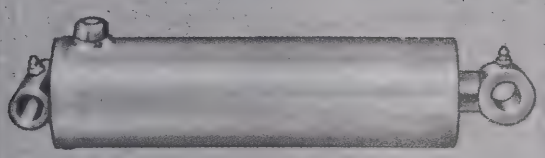
| Bore Dia. (In.) | PUSH FORCES: Effective Area | Forces in Lbs. @ PSI: 1000 | 1500 | 2000 | 2500 | 3000 | PULL FORCES: Effective Area | Forces in Lbs. @ PSI: 1000 | 1500 | 2000 | 2500 | 3000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 3.14 | 3140 | 4710 | 6280 | 7850 | 9420 | 2.36 | 2360 | 3540 | 4720 | 5900 | 7080 |
| 2½ | 4.91 | 4910 | 7365 | 9820 | 12,275 | 14,730 | 3.68 | 3680 | 5520 | 7360 | 9200 | 11,040 |
| 3 | 7.07 | 7070 | 10,605 | 14,140 | 17,675 | 21,210 | 5.84 | 5840 | 8765 | 11,680 | 14,600 | 17,520 |
| 3½ | 9.62 | 9670 | 15,430 | 19,240 | 24,050 | 28,860 | 8.40 | 8400 | 12,590 | 16,800 | 21,000 | 25,200 |
| 4 | 12.56 | 12,560 | 18,840 | 25,120 | 31,400 | 37,680 | 10.16 | 10,160 | 15,240 | 20,320 | 25,400 | 30,480 |
| 4½ | 15.90 | 15,900 | 23,850 | 31,800 | 39,750 | 47,700 | 12.75 | 12,750 | 19,125 | 25,500 | 31,875 | 38,250 |
| 5 | 19.63 | 19,630 | 29,445 | 39,260 | 49,075 | 58,890 | 17.23 | 17,230 | 25,845 | 34,460 | 43,075 | 51,690 |

## HYDRAULIC CYLINDER SPECIFICATIONS AND ORDERING DATA

| Bore Dia. (In.) | Stroke Length (In.) | Max. PSI | Retract (In.) | Rod Dia. (In.) | Dimensions (In.) A | B* | C | D | E | F | G | H | J | K | Prince Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 4 | 3000 | 14¼ | 1⅛ | 3/16 | 3/4-16 | 1.015 | 27/16 | 2⅜ | 1 13/16 | 3¼ | 1.06 | 15/16 | 1⅛-12 | SAE-32004 | **4HL38** | $129.85 | **$107.20** | 16.0 |
| **2** | 8 | 3000 | 20¼ | 1⅛ | 3/16 | 3/4-16 | 1.015 | 27/16 | 2⅜ | 1 13/16 | 5¼ | 1.06 | 15/16 | 1⅛-12 | SAE-32008 | **4HL39** | 139.17 | **117.60** | 20.0 |
| **2** | 20 | 2400 | 30¼ | 1⅛ | 3/16 | 3/4-16 | 1.015 | 27/16 | 2⅜ | 1 13/16 | 3¼ | 1.06 | 15/16 | 1⅛-12 | SAE-32020 | **4HL40** | 174.26 | **147.85** | 29.0 |
| **2½** | 8 | 2500 | 20¼ | 1⅛ | 1/8 | 3/4-16 | 1.015 | 27/16 | 2⅜ | 1 13/16 | 5¼ | 1.06 | 15/16 | 1⅛-12 | SAE-7008 | **4Z189** | 133.56 | **116.10** | 23.0 |
| **2½** | 8 | 3000 | 20¼ | 1¼ | 3/16 | 3/4-16 | 1.015 | 27/16 | 2⅜ | 1 13/16 | 5¼ | 1.06 | 15/16 | 1⅛-12 | SAE-32508 | **4HL41** | 152.37 | **129.20** | 25.0 |
| **2½** | 12 | 3000 | 22¼ | 1¼ | 3/16 | 3/4-16 | 1.015 | 27/16 | 2⅜ | 1 13/16 | 3¼ | 1.06 | 15/16 | 1⅛-12 | SAE-32512 | **4HL42** | 166.52 | **141.50** | 29.0 |
| **3** | 8 | 2500 | 20¼ | 1⅛ | 3/16 | 3/4-16 | 1.015 | 27/16 | 27/16 | 1 13/16 | 5¾ | 1.06 | 15/16 | 1⅛-12 | SAE-7108 | **4Z190** | 148.40 | **129.05** | 26.0 |
| **3** | 8 | 3000 | 20¼ | 1⅜ | 3/16 | 3/4-16 | 1.015 | 27/16 | 27/16 | 1 13/16 | 5¾ | 1.06 | 15/16 | 1⅛-12 | SAE-33008 | **4HL43** | 159.68 | **135.75** | 28.0 |
| **3** | 16 | 2500 | 31½ | 1⅜ | 3/16 | 3/4-16 | 1.015 | 27/16 | 27/16 | 1 13/16 | 9 | 1.06 | 15/16 | 1⅛-12 | SAE-9216 | **4Z194** | 185.50 | **157.00** | 39.0 |
| **3** | 16 | 3000 | 31½ | 1⅜ | 3/16 | 3/4-16 | 1.015 | 27/16 | 27/16 | 1 13/16 | 9 | 1.06 | 15/16 | 1⅛-12 | SAE-33016 | **4HL44** | 193.23 | **165.50** | 39.0 |
| **3** | 24 | 1800 | 34¼ | 1⅜ | 3/16 | 3/4-16 | 1.015 | 27/16 | 27/16 | 1 13/16 | 3¾ | 1.06 | 15/16 | 1⅛-12 | SAE-33024 | **4HL45** | 232.03 | **198.50** | 46.0 |
| **3½** | 8 | 2500 | 20¼ | 1⅛ | 3/16 | 3/4-16 | 1.015 | 2⅜ | 27/16 | 1 13/16 | 5¾ | 1.06 | 1¼ | 1⅛-12 | SAE-7208 | **4Z191** | 156.88 | **135.70** | 30.0 |
| **3½** | 8 | 3000 | 20¼ | 1⅜ | 3/16 | 3/4-16 | 1.015 | 2⅜ | 27/16 | 1 13/16 | 5¾ | 1.06 | 1¼ | 1⅛-12 | SAE-33508 | **4HL46** | 173.36 | **148.25** | 35.0 |
| **3½** | 16 | 2500 | 31½ | 1⅜ | 3/16 | 3/4-16 | 1.015 | 2⅜ | 27/16 | 1 13/16 | 9 | 1.06 | 1¼ | 1⅛-12 | SAE-9316 | **4Z195** | 208.82 | **181.50** | 43.0 |
| **3½** | 16 | 3000 | 31½ | 1⅜ | 3/16 | 3/4-16 | 1.015 | 2⅜ | 27/16 | 1 13/16 | 9 | 1.06 | 1¼ | 1 5/16-12 | SAE-33516 | **4HL47** | 216.66 | **186.00** | 46.0 |
| **3½** | 24 | 2500 | 34¼ | 1⅜ | 3/16 | 3/4-16 | 1.015 | 2⅜ | 27/16 | 1 13/16 | 3¾ | 1.06 | 1¼ | 1⅛-12 | SAE-9324 | **4Z448** | 244.86 | **213.50** | 51.0 |
| **3½** | 24 | 1350 | 34¼ | 1⅜ | 3/16 | 3/4-16 | 1.015 | 2⅜ | 27/16 | 1 13/16 | 3¾ | 1.06 | 1¼ | 1⅛-12 | SAE-33524 | **4HL48** | 254.34 | **218.25** | 54.0 |
| **4** | 8 | 2500 | 20¼ | 1½ | 3/16 | 3/4-16 | 1.015 | 2 5/16 | 27/16 | 1⅞ | 5¼ | 1.06 | 1¼ | 1½-12 | SAE-8608 | **4Z192** | 209.88 | **186.75** | 43.0 |
| **4** | 8 | 3000 | 20¼ | 1¾ | 3/16 | 3/4-16 | 1.015 | 2 5/16 | 27/16 | 1⅞ | 5¼ | 1.06 | 1¼ | 1½-12 | SAE-34008 | **4HL49** | 229.59 | **197.25** | 49.0 |
| **4** | 16 | 2500 | 31½ | 1¾ | 3/16 | 3/4-16 | 1.015 | 2 5/16 | 27/16 | 1⅞ | 8½ | 1.06 | 1¼ | 1½-12 | SAE-9416 | **4Z196** | 274.54 | **235.50** | 64.0 |
| **4** | 16 | 3000 | 31½ | 1¾ | 3/16 | 3/4-16 | 1.015 | 2 5/16 | 27/16 | 1⅞ | 8½ | 1.06 | 1¼ | 1½-12 | SAE-34016 | **4HL50** | 285.82 | **246.00** | 64.0 |
| **4** | 24 | 2500 | 34¼ | 1¾ | 3/16 | 3/4-16 | 1.015 | 2 5/16 | 27/16 | 1⅞ | 3¼ | 1.06 | 1¼ | 1½-12 | SAE-9424 | **4Z449** | 306.34 | **270.50** | 74.0 |
| **4** | 24 | 2700 | 34¼ | 1¾ | 3/16 | 3/4-16 | 1.015 | 2 5/16 | 27/16 | 1⅞ | 3¼ | 1.06 | 1¼ | 1½-12 | SAE-34024 | **4HL51** | 318.95 | **275.25** | 75.0 |
| **4½** | 8 | 3000 | 20¼ | 2 | 1/4 | 7/8-14 | 1.265 | 2⅝ | 2 15/16 | 2 | 4 | 1.13 | 15/16 | 1½-12 | SAE-34508 | **4HL52** | 304.53 | **278.00** | 63.0 |
| **4½** | 16 | 3000 | 31½ | 2 | 1/4 | 7/8-14 | 1.265 | 2⅝ | 2 15/16 | 2 | 7¼ | 1.13 | 15/16 | 1½-12 | SAE-34516 | **4HL53** | 378.79 | **333.25** | 85.0 |
| **4½** | 24 | 2700 | 36¼ | 2 | 1/4 | 7/8-14 | 1.265 | 2⅝ | 2 15/16 | 2 | 4 | 1.13 | 15/16 | 1½-12 | SAE-34524 | **4HL54** | 396.49 | **361.25** | 100.0 |
| **4½** | 30 | 1900 | 42¼ | 2 | 1/4 | 7/8-14 | 1.265 | 2⅝ | 2 15/16 | 2 | 4 | 1.13 | 15/16 | 1½-12 | SAE-34530 | **4HL55** | 442.39 | **405.25** | 114.0 |
| **5** | 8 | 2500 | 20¼ | 1¾ | 1/4 | 7/8-14 | 1.265 | 2¾ | 2⅝ | 2 | 4 | 1.06 | 1¼ | 1½-12 | SAE-8208 | **4Z193** | 296.80 | **264.00** | 64.0 |
| **5** | 8 | 3000 | 20¼ | 2 | 1/4 | 7/8-14 | 1.265 | 2¾ | 2⅝ | 2 | 4 | 1.13 | 1⅜ | 1½-12 | SAE-35008 | **4HL56** | 335.01 | **288.00** | 73.0 |
| **5** | 16 | 3000 | 31½ | 2 | 1/4 | 7/8-14 | 1.265 | 2¾ | 2⅝ | 2 | 7¼ | 1.13 | 1⅜ | 1½-12 | SAE-35016 | **4HL57** | 396.44 | **342.75** | 97.0 |
| **5** | 24 | 2850 | 36¼ | 2 | 1/4 | 7/8-14 | 1.265 | 2¾ | 2⅝ | 2 | 4 | 1.13 | 1⅜ | 1½-12 | SAE-35024 | **4HL58** | 436.19 | **378.25** | 113.0 |

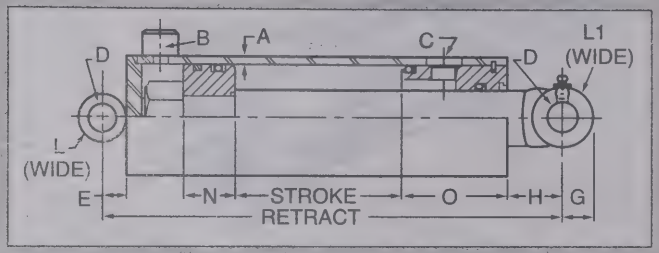
(*) SAE O-Ring.

# AG/MOBILE WELDED CYLINDERS



**LIMITED 3-YEAR WARRANTY**

Prince AG/Mobile cylinders carry a 3-year limited warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.




- **Universal end mountings allow double acting cylinder to fit a variety of construction, industrial, and agricultural applications**
- **Maximum working pressure: 2500 PSI†**
- **Available in 2½" to 4" bores and in 16, 20, 24, 30, and 36" strokes**

Cylinders feature all steel welded construction with welded cross tube. Heavy wall honed steel tubing. Ground and polished chrome piston rod with welded crosstube. Cast-iron ring, O-ring, and back-up washer packing on piston. Urethane U-cup rod seal. Truarc gland retainer. Red finish. Prince brand.

## AG/WELDED CYLINDER SPECIFICATIONS AND ORDERING DATA

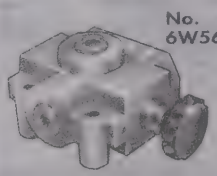
| Bore Dia. (In.) | Stroke Length (In.) | Retract (In.) | Rod Dia. (In.) | Dimensions (In.) A | B* | C* | D | E | G | H | L | L1 | N | O | Prince Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2½ | 16 | 24 | 1⅜ | 3/16 | 3/8 | 3/8 | 0.760 | 9/16 | 3/4 | 2 9/16 | 3 | 1⅜ | 1¼ | 2½ | PMC-5416 | 5Z366 | $190.80 | $165.00 | 23.0 |
| 2½ | 24 | 32 | 1⅜ | 3/16 | 3/8 | 3/8 | 0.760 | 9/16 | 3/4 | 2 9/16 | 3 | 1⅜ | 1¼ | 2½ | PMC-5424 | 5Z367 | 208.82 | 182.50 | 30.0 |
| 3 | 20 | 28 | 1½ | 3/16 | 1/2 | 1/2 | 1.015 | 11/16 | 1 | 2 5/16 | 3½ | 1½ | 1¼ | 2⅝ | PMC-8320 | 5Z368 | 235.32 | 205.25 | 34.0 |
| 3 | 30 | 38 | 1½ | 3/16 | 1/2 | 1/2 | 1.015 | 11/16 | 1 | 2 5/16 | 3½ | 1½ | 1¼ | 2⅝ | PMC-8330 | 5Z369† | 276.66 | 242.75 | 45.0 |
| 3½ | 30 | 38 | 1½ | 3/16 | 1/2 | 1/2 | 1.015 | 11/16 | 1 | 1 11/16 | 4 | 1½ | 1½ | 2⅝ | PMC-5530 | 5Z370† | 295.74 | 259.25 | 51.0 |
| 3½ | 36 | 44 | 1½ | 3/16 | 1/2 | 1/2 | 1.015 | 11/16 | 1 | 1 11/16 | 4 | 1½ | 1½ | 2⅝ | PMC-5536 | 5Z371† | 320.12 | 282.25 | 58.0 |
| 4 | 30 | 39 | 2 | 3/16 | 1/2 | 1/2 | 1.265 | 15/16 | 1¼ | 2 | 4½ | 2 | 1⅝ | 2⅞ | PMC-5630 | 5Z372 | 340.26 | 303.25 | 75.0 |

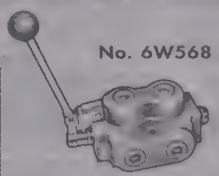
(*) Ports, NPTF (†) Cylinders will operate at full pressure thru 16" stroke except: 5Z369 with limit of 13,000 lbs. (1839 PSI) in extension; 5Z370 with limit of 13,540 lbs. (1407 PSI) in extension; and 5Z371 with limit of 9700 lbs. (1008 PSI) in extension.

# TWO POSITION SELECTOR VALVES

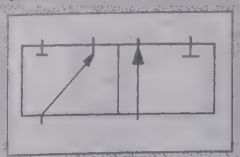
- **Available in single and double models**
- **Heat treated and hard chrome-plated spools for maximum load handling capacity**
- **Cast-iron body**
- **2500 PSI maximum pressure rating**
- **No. 6W567 is a 2-position, 3-way valve that enables the operator to direct flow to either of two separate hydraulic circuits**
- **No. 6W568 is a double selector valve**

**Note:** a single selector valve is typically used to operate either of two single acting cylinders or two motors that only run in one direction. A double selector valve is typically used to control two separate double acting cylinders or motors or to control four single acting cylinders or motors.

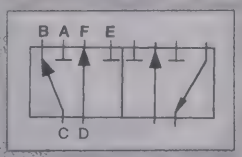



HYDRAULIC SCHEMATIC



HYDRAULIC SCHEMATIC



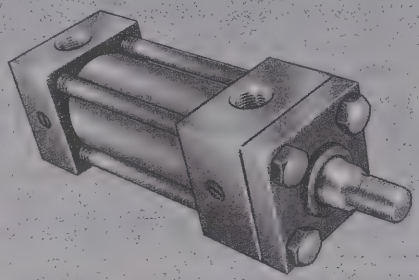

## TWO POSITION SELECTOR VALVE SPECIFICATIONS AND ORDERING DATA

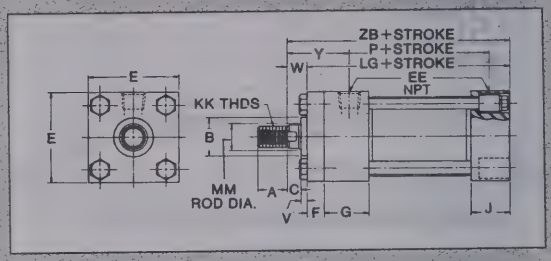
| Port Size NPT (In.) | Capacity GPM | Maximum PSI | Overall Dimensions (In.) Length | Width | Height | Prince Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 20 | 2500 | 5⅛ | 3¼ | 2¼ | SS-2A1D | 6W567 | $50.35 | $45.35 | 12 |
| 3/4 | 40 | 2500 | 5½ | 4¼ | 3¼ | DS-4A1E | 6W568 | 91.16 | 81.65 | 12.0 |

# INDUSTRIAL CYLINDERS

Miller FLUID POWER

Replacement Parts Available
1-800-323-0620






- **Industrial grade hydraulic cylinders**
- **Meet NFPA and JIC standards**
- **Pressures up to 2500 PSI**
- **Temperature range:-20 to 160F**
- **All steel construction with black finish**
- **Modular mounting design**

Available in 1½" to 4" bores with 1" to 12" strokes. 6, 8, 10, and 12" stroke cylinders have adjustable cushions on both ends with ball checks for faster out-of-cushion starts.

Pilot bushing assures concentricity.

Piston rods case hardened and hard chrome plated to resist mechanical damage.

High strength tie rods protect against shock and fatigue.

Patented Teflon SHEF tube and seals provide positive sealing action even under shock conditions.

Pre-loaded rod seal provides positive seal at high or low pressures.

Single, bidirectional dynamic piston seal protects against high-pressure spikes.

One-piece piloted piston design provides maximum strength and protection against shock loads.

Durable, non-metallic wear band on piston prevents metal-to-metal contact and reduces possibility of scoring of tube.

Urethane piston and rod seals compatible with standard hydraulic fluids.

## AREA AND THEORETICAL-FORCE CHARTS FOR HYDRAULIC CYLINDERS

| Bore (In.) | PUSH FORCES IN LBS. @ PSI 500 | 1000 | 2000 | 2500 | Piston Area Sq. In. | PULL FORCES* IN LBS. @ PSI 500 | 1000 | 2000 | 2500 | Piston Area Sq. In. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 885 | 1770 | 3540 | 4425 | 1.77 | 730 | 1460 | 2920 | 3650 | 1.46 |
| 2 | 1570 | 3140 | 6280 | 7850 | 3.14 | 1180 | 2360 | 4720 | 5900 | 2.36 |
| 2½ | 2455 | 4910 | 9820 | 12275 | 4.91 | 2060 | 4120 | 8240 | 10300 | 4.12 |
| 3¼ | 4150 | 8300 | 16600 | 20750 | 8.30 | 3405 | 6810 | 13620 | 17025 | 6.81 |
| 4 | 6285 | 12570 | 25140 | 31425 | 12.57 | 5080 | 10160 | 20320 | 25400 | 10.16 |

(*) Rod size of 5/8" diameter on 1½"; 1" diameter on 2 and 2½"; 1⅜" diameter on 3¼"; and 1¾" diameter on 4" bores are deducted from piston area and force table on return or pull.

## HYDRAULIC CYLINDER DIMENSIONS IN INCHES

| Bore | A | B | C | E | EE | F | G | J | KK | LG | MM | P | V | W | Y | ZB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 3/4 | 1⅛ | 3/8 | 2½ | 1/2 | 3/8 | 1¾ | 1½ | 7/16-20 | 5 | 5/8 | 2⅞ | 1/4 | 5/8 | 2 | 5⅝ |
| 2 | 1⅛ | 1½ | 1/2 | 3 | 1/2 | 5/8 | 1¾ | 1½ | 3/4-16 | 5¼ | 1 | 2⅞ | 1/4 | 3/4 | 2⅜ | 6⅛ |
| 2½ | 1⅛ | 1½ | 1/2 | 3½ | 1/2 | 5/8 | 1¾ | 1½ | 3/4-16 | 5⅝ | 1 | 3 | 1/4 | 3/4 | 2⅜ | 6⅛ |
| 3¼ | 1⅝ | 2 | 5/8 | 4½ | 3/4 | 3/4 | 2 | 1¾ | 1-14 | 6¼ | 1⅜ | 3½ | 1/4 | 7/8 | 2¾ | 7⅛ |
| 4 | 2 | 2⅜ | 3/4 | 5 | 3/4 | 7/8 | 2 | 1¾ | 1¼-12 | 6⅝ | 1¾ | 3¾ | 1/4 | 1 | 3 | 7⅝ |

## HYDRAULIC CYLINDERS ORDERING DATA

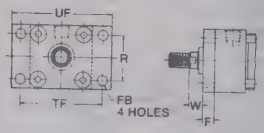
| Bore Diameter (In.) | Stroke (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1½ | 1 | 4Z630 | $242.10 | $214.00 | 8.0 |
| 1½ | 2 | 4Z631 | 244.70 | 216.00 | 8.5 |
| 1½ | 3 | 4Z632 | 248.59 | 219.25 | 8.6 |
| 1½ | 4 | 4Z633 | 249.63 | 220.50 | 9.1 |
| 1½ | 6 | 4Z634 | 361.97 | 319.75 | 11.0 |
| 1½ | 8 | 4Z635 | 366.92 | 324.00 | 11.0 |
| 2 | 1 | 4Z636 | 284.98 | 251.75 | 13.0 |
| 2 | 2 | 4Z637 | 288.10 | 254.50 | 13.0 |
| 2 | 4 | 4Z638 | 296.41 | 261.50 | 15.0 |
| 2 | 6 | 4Z639 | 396.28 | 350.00 | 17.0 |
| 2 | 8 | 4Z640 | 403.55 | 356.25 | 19.0 |
| 2 | 10 | 4Z641 | 410.83 | 362.50 | 20.0 |
| 2½ | 1 | 4Z642 | 321.37 | 283.50 | 17.0 |
| 2½ | 2 | 4Z643 | 325.52 | 287.75 | 19.0 |
| 2½ | 4 | 4Z644 | 334.88 | 295.75 | 20.0 |
| 2½ | 6 | 4Z645 | $446.18 | $393.75 | 23.0 |
| 2½ | 8 | 4Z646 | 455.53 | 401.75 | 24.0 |
| 2½ | 10 | 4Z647 | 464.36 | 410.00 | 27.0 |
| 3¼ | 2 | 4Z648 | 445.08 | 393.25 | 36.0 |
| 3¼ | 4 | 4Z649 | 435.71 | 384.50 | 41.0 |
| 3¼ | 6 | 4Z650 | 558.46 | 492.50 | 42.0 |
| 3¼ | 8 | 4Z651 | 571.45 | 504.50 | 46.0 |
| 3¼ | 10 | 4Z652 | 584.43 | 516.00 | 51.0 |
| 3¼ | 12 | 4Z653 | 597.94 | 528.00 | 53.0 |
| 4 | 2 | 4Z654 | 557.41 | 491.75 | 46.0 |
| 4 | 4 | 4Z655 | 571.94 | 505.00 | 54.0 |
| 4 | 6 | 4Z656 | 712.87 | 629.50 | 61.0 |
| 4 | 8 | 4Z657 | 728.46 | 643.00 | 65.0 |
| 4 | 10 | 4Z658 | 744.56 | 657.50 | 70.0 |
| 4 | 12 | 4Z659 | 760.16 | 671.00 | 72.0 |

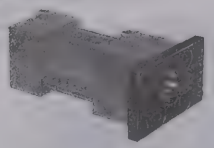
(*) 6, 8, 10, and 12" stroke cylinders have cushion seals on both ends to absorb shocks.

Miller FLUID POWER

## STEEL FRONT OR REAR FLANGE

- Mounts to cylinder rear with 4 bolts provided
- Front mounting requires bolt removal of retaining plate
- NFPA "MF1" mounting

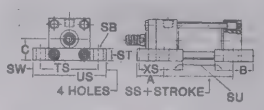


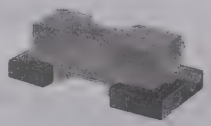



| Bore (In.) | F | R | TF | UF | W | FB | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 1/2 | 3/8 | 1.63 | 3 7/16 | 4 1/4 | 5/8 | 7/16 | 1A329 | $22.88 | $20.39 | 1.1 |
| 2 | 5/8 | 2.05 | 4 1/8 | 5 1/8 | 3/4 | 9/16 | 1A332 | 25.47 | 22.42 | 2.7 |
| 2 1/2 | 5/8 | 2.55 | 4 5/8 | 5 5/8 | 3/4 | 9/16 | 1A335 | 35.87 | 31.60 | 3.5 |
| 3 1/4 | 3/4 | 3.25 | 5 7/8 | 7 1/8 | 7/8 | 11/16 | 1A338 | 63.42 | 56.10 | 6.4 |
| 4 | 7/8 | 3.82 | 6 3/8 | 7 3/8 | 1 | 11/16 | 1A341 | 161.73 | 142.80 | 8.2 |

## STEEL SIDE LUG MOUNT

- Mounts to cylinder side with 4 bolts provided
- NFPA "MS2" mounting

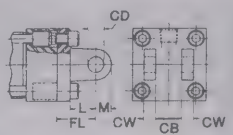


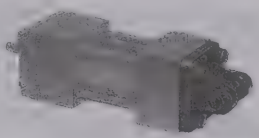



| Bore (In.) | A | B | C | SB | ST | SU | SW | TS | US | XS | SS | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 1/2 | 1 9/16 | 1 1/8 | 1 1/4 | 7/16 | 7/8 | 15/16 | 3/8 | 3 1/4 | 4 | 1 3/8 | 3 5/8 | 1A330 | $104.01 | $91.80 | 2.4 |
| 2 | 2 1/8 | 1 1/2 | 1 1/2 | 9/16 | 1 | 1 1/4 | 1/2 | 4 | 5 | 1 7/8 | 3 5/8 | 1A333 | 127.15 | 112.20 | 5.0 |
| 2 1/2 | 2 5/16 | 1 11/16 | 1 3/4 | 13/16 | 1 | 1 9/16 | 11/16 | 4 7/8 | 6 1/4 | 2 1/16 | 3 3/8 | 1A336 | 138.32 | 122.40 | 7.0 |
| 3 1/4 | 2 11/16 | 1 15/16 | 2 1/4 | 13/16 | 1 1/4 | 1 9/16 | 11/16 | 5 7/8 | 7 1/4 | 2 5/16 | 4 1/8 | 1A339 | 173.67 | 153.00 | 11.0 |
| 4 | 3 | 2 1/8 | 2 1/2 | 1 1/16 | 1 1/4 | 2 | 7/8 | 6 3/4 | 8 1/2 | 2 3/4 | 4 | 1A342 | 190.56 | 168.25 | 17.0 |

## STEEL CLEVIS MOUNT

- Includes clevis pin and 4 mounting bolts
- NFPA "MP2" mounting

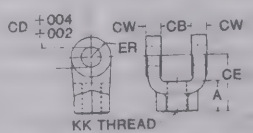


| Bore (In.) | CB | CD | CW | FL | L | M | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 1/2 | 3/4 | 1/2 | 7/16 | 1 1/8 | 3/4 | 1/2 | 1A331 | $72.81 | $64.25 | 1.0 |
| 2 | 1 1/4 | 3/4 | 9/16 | 1 7/8 | 1 1/1 | 3/4 | 1A334 | 78.52 | 69.35 | 3.1 |
| 2 1/2 | 1 1/4 | 3/4 | 9/16 | 1 7/8 | 1 1/4 | 3/4 | 1A337 | 83.20 | 73.45 | 4.0 |
| 3 1/4 | 1 1/2 | 1 | 11/16 | 2 1/4 | 1 1/2 | 1 | 1A340 | 103.99 | 91.80 | 7.3 |
| 4 | 2 | 1 3/8 | 15/16 | 2 7/8 | 2 | 1 5/16 | 1A343 | 126.86 | 112.15 | 12.0 |

## CAST-IRON ROD CLEVIS MOUNT

- Includes clevis pin

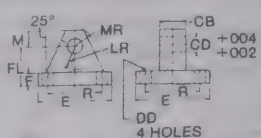


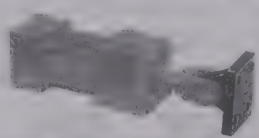



| Bore (In.) | A | CB | CD | CE | CW | ER | KK | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 1/2 | 3/4 | 3/4 | 1/2 | 1 1/8 | 1/2 | 1/2 | 7/16-20 | 1A345 | $28.87 | $25.50 | 0.8 |
| 2-2 1/2 | 1 1/8 | 1 1/4 | 3/4 | 2 1/8 | 5/8 | 3/4 | 3/4-16 | 1A347 | 43.68 | 38.75 | 1.8 |
| 3 1/4 | 1 5/8 | 1 1/2 | 1 | 2 15/16 | 3/4 | 1 | 1-14 | 1A349 | 63.44 | 56.10 | 3.3 |
| 4 | 2 | 2 | 1 3/8 | 3 3/4 | 1 | 1 3/8 | 1 1/4-12 | 1A351 | 106.06 | 93.80 | 8.3 |

## STEEL EYE BRACKET

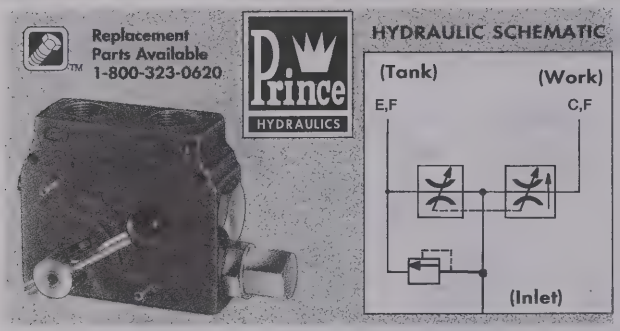
- Provides swivel mounting with rod or clevis mount



| Bore (In.) | CB | CD | DD | E | F | FL | LR | M | MR | R | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 1/2 | 3/4 | 1/2 | 13/32 | 2 1/2 | 3/8 | 1 1/8 | 3/4 | 1/2 | 9/16 | 1.63 | 1A344 | $39.27 | $34.70 | 1.0 |
| 2-2 1/2 | 1 1/4 | 3/4 | 17/32 | 3 1/2 | 5/8 | 1 7/8 | 1 1/4 | 3/4 | 7/8 | 2.55 | 1A346 | 52.00 | 45.90 | 3.1 |
| 3 1/4 | 1 1/2 | 1 | 21/32 | 4 1/2 | 3/4 | 2 1/4 | 1 3/4 | 1 | 1 1/4 | 3.25 | 1A348 | 71.75 | 63.25 | 6.0 |
| 4 | 2 | 1 3/8 | 21/32 | 5 | 7/8 | 3 | 2 1/8 | 1 3/8 | 1 5/8 | 3.82 | 1A350 | 137.26 | 121.35 | 12.0 |

# RELIEF AND CONTROL VALVES




## 3/4" ADJUSTABLE FLOW CONTROL VALVE

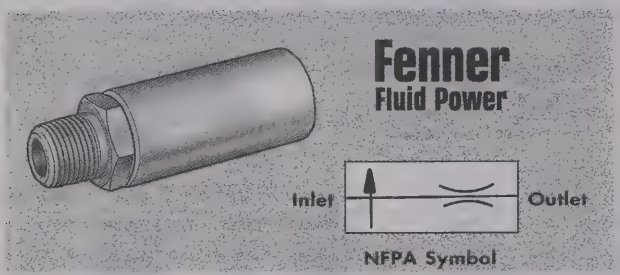
- **Starts and stops hydraulic cylinders or motors**
- **Varies speed smoothly over the full range**
- **Flow range capacity: 0 to 30 GPM**
- **Pressure range: 500 to 3000 PSI**
- **Pressure compensated adjustable flow control**
- **Prince brand (RDRS-175-30)**

**Dimensions: 4.6L x 4.1H x 2.9"D**

Once speed is set with the lever, it remains constant regardless of load variations. Comes with built-in ball and spring relief valve with cast iron seat.

**No. 6X842.** Shpg. wt. 8.0 lbs. List $101.00. Each.....**$78.00**

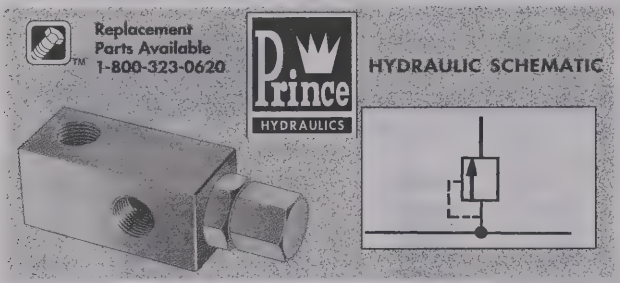
**Limited 3-year warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**




## FLOW CONTROL VALVES

Current OSHA standards require that the lowering speed of hydraulically supported loads be controlled in event of pump circuit failure. In-line valve regulates lowering of speed by controlling flow rate of hydraulic fluid between cylinder and reservoir in return cycle. Maintains flow rate within 1% for every 100 PSI change in pressure. Only 70 PSI pressure drop across orifice. Can be installed directly into cylinder outlet port. 3/8" (M)NPT inlet and 3/8" (F)NPT outlet. 3⅛"L x 1" dia. Max flow: 16 GPM.

| Flow Rate (GPM) | Fenner Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | A8-2142-00 | **5X487** | $25.89 | **$24.94** | 0.4 |
| 2 | A8-2142-00 | **5X488** | 25.89 | **24.94** | 0.4 |




## 1/2" ADJUSTABLE RELIEF VALVE

- **Compact 1/2" NPT, high pressure relief valve designed for full flow with low pressure drop**
- **Pressure adjustable from 1000 to 2500 PSI**
- **For heavy-duty hydraulic applications**
- **High strength steel bar stock body with replaceable heat treated seat • 16 GPM maximum**
- **Prince brand (RD1850H)**

**Dimensions: 4⅝L x 1½W x 1½"D**

**No. 6X843.** Shpg. wt. 2.2 lbs. List $41.34. Each.....**$28.50**

**Limited 3-year warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

## ADJUSTABLE RELIEF VALVES

- **Adjustable relief valve controls maximum pressure within a hydraulic circuit**
- **Two stage, balanced piston design provides fast response and minimizes pressure override**
- **Vent connection allows low pressure venting of system to tank**
- **Remote pressure control capability is achieved by directing flow from vent connection to a separate pressure relief valve**
- **Standard "F3" seals provide multi-fluid capability**

**Inlet and outlet pressure connections** may be used interchangeably when the valve is mounted in the pressure line, or the valve may be teed off the pressure line with one of the inlet pressure connections plugged. 7/8"-14 UNF-2B thread inlet and outlet connections CS-03. 1.0625-12 UN-2B thread inlet and outlet connections-CS-06.

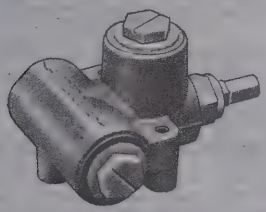
**Pressure setting selected** should be approximately 150 to 200 PSI above the actual system working pressure.

**Pressure is adjusted** by loosening the jam nut and turning the control knob. Maximum pressure 3000 PSI. Dimensions: 5.6L x 6.6W x 2.1"H. Vickers brand.

| Adjust. Pressure Range (PSI) | Maximum Flow (GPM) | Vickers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **125-1000** | 45 | CS-03-B50 | **6Z628** | $265.00 | **$166.00** | 9.0 |
| **500-2000** | 45 | CS-03-C50 | **6Z629** | 265.00 | **166.00** | 9.0 |
| **1500-3000** | 45 | CS-03-F50 | **6Z630** | 265.00 | **166.00** | 9.0 |
| **125-1000** | 60 | CS-06-B-50 | **3MD21** | 285.60 | **243.00** | 10.0 |
| **500-2000** | 60 | CS-06-C-50 | **3MD22** | 285.60 | **243.00** | 10.0 |
| **1500-3000** | 60 | CS-06-F-50 | **3MD23** | 285.60 | **243.00** | 10.0 |

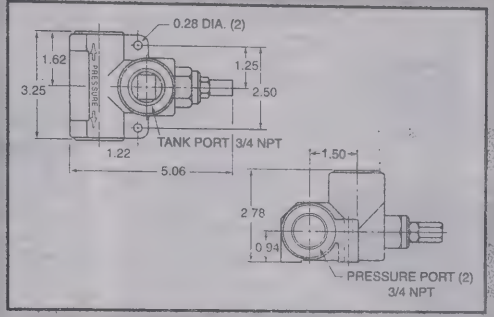


## DIFFERENTIAL POPPET INLINE RELIEF VALVE



No. 4HL34

Replacement Parts Available 1-800-323-0620



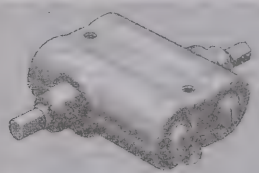

**Differential poppet type inline relief valve** is made up of a relief cartridge and a cast iron valve body. Provides smooth quiet performance with a minimum variation between cracking and full flow pressures, and is also less sensitive to system contamination. No. 4HL34 is well suited as a system relief up to 30 GPM and 3000 PSI. Unit comes factory set at 2000 PSI @ 10 GPM. Externally adjustable. 3/4" NPT ports.

### INLINE RELIEF VALVE SPECIFICATIONS AND ORDERING DATA

| Max. Inlet Flow GPM | Min. PSI | Max. PSI | Dimensions (In.) L | W | H | Prince Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **30** | 1500 | 3000 | 2.78 | 3.25 | 5.06 | RV-2H | **4HL34** | $41.49 | **$34.25** | 3.5 |

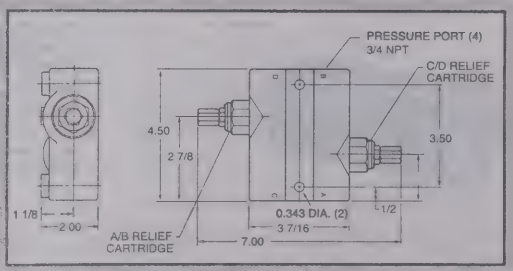
## DIFFERENTIAL POPPET DOUBLE RELIEF VALVE

**Differential poppet type double relief valve** uses the same relief cartridge as No. 4HL34. The double relief is used in systems that require cross-over relief protection such as a reversible hydraulic motor, or systems that require a cushion valve such as double acting cylinders. Unit comes factory set at 2000 PSI @ 10 GPM.



No. 4HL35

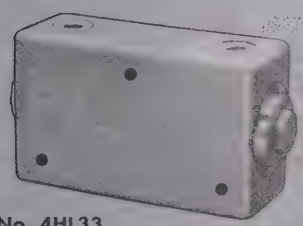
Replacement Parts Available 1-800-323-0620



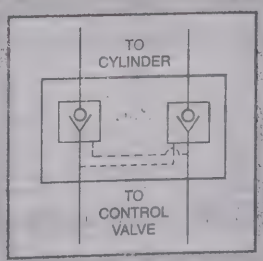

### DOUBLE RELIEF VALVE SPECIFICATIONS AND ORDERING DATA

| Max. Inlet Flow GPM | Min. PSI | Max. PSI | Dimensions (In.) L | W | H | Prince Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **30** | 1500 | 3000 | 4.5 | 7.0 | 2.0 | DRV-2HH | **4HL35** | $77.48 | **$63.75** | 5.3 |

## DOUBLE PILOT-OPERATED CHECK VALVE



No. 4HL33



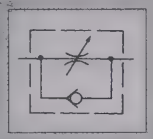

**Double pilot-operated lock valve** will lock a cylinder in place when a directional control valve is in the neutral position. In operation, oil is directed to one of the valve ports and oil can free flow to the corresponding cylinder port. The pressure on this valve port will shift the pilot spool opening to the opposite check valve. This will allow oil to return through the opposite check valve. Valve has hardened steel seat and steel ball and should not be used in applications requiring absolutely zero leakage. Valve features 1/2" NPT ports.

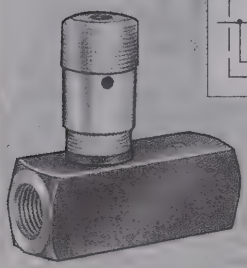
### DOUBLE PILOT-OPERATED CHECK VALVE SPECIFICATIONS AND ORDERING DATA

| Max. Inlet Flow GPM | Max. PSI | Dimensions (In.) L | W | H | Prince Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30** | 3000 | 5.0 | 1.75 | 3.0 | RD-1450 | **4HL33** | $99.11 | **$85.15** | 6.8 |

# CONTROL VALVES

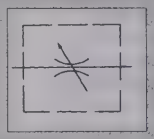
NFPA Symbol

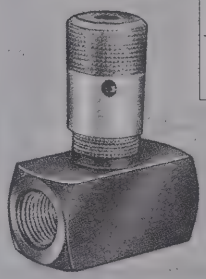




No. 1A853

NFPA Symbol



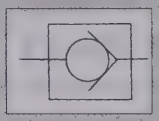


No. 1A861

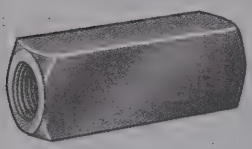
Parker

Replacement Parts Available 1-800-323-0620

NFPA Symbol



No. 1A857



- Withstand shock, vibration, and wear to provide accurate settings and precise control
- Poppets in precision fitted cylinders eliminate wobble and erratic travel common to check balls
- Maximum working pressure for brass valves: 2000 PSI
- Maximum working pressure for steel valves: 5000 PSI

Poppets feature hydraulic cushioning to soften impact against valve spring and seat; whereas check balls impact heavily against spring and seat, eventually causing leaks.

Brass valves are suited for pneumatic and medium pressure hydraulic applications.

Steel valves are for high pressure hydraulic applications.

### COLORFLOW® FLOW CONTROL VALVES

Series F valves provide precision flow control in one direction, and automatically allow unrestricted free flow in opposite direction. Two-step needle allows fine adjustment at low flow with first three turns of adjusting knob. Next three turns give full-open needle position and conventional throttling control. Exclusive Colorflow color reference scale on valve stem permits fast, accurate setting and quick return to previous setting.

### COLORFLOW® NEEDLE VALVES

Series N valves are used as speed controls where a reverse flow check valve is not needed. Have the same operating features as Series F Colorflow valves with the exception of reverse flow. They provide excellent control and reliable shut-off in a small envelope. May be used to control flow in both directions.

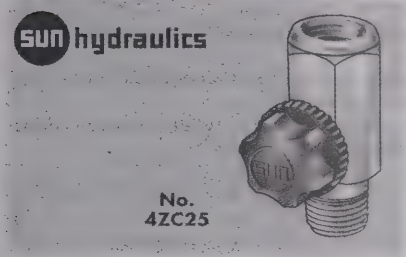
### COLORFLOW® CHECK VALVES

Series C check valves provide free flow in one direction and dependable shutoff in the opposite direction. Valve body has inlet and outlet ports and movable poppet controlled by spring pressure. Unique triangular retainers guide poppet and hold spring firmly in place even under high velocity and shock loads. 5 PSI cracking pressure.

| Type (In.) | Port Size NPTF (In.) | Max. Press. (PSI) | Max. Flow (GPM) | Length (In.) | Height* (In.) | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **COLORFLOW® FLOW CONTROL VALVES SERIES F** | | | | | | | | | | |
| **1/8 Brass** | 1/8-27 | 2000 | 3 | 2.00 | 1.54 | F200B | **1A853** | $29.34 | **$22.84** | 0.3 |
| **1/4 Brass** | 1/4-18 | 2000 | 5 | 2.62 | 1.79 | F400B | **1A854** | 32.20 | **24.67** | 0.5 |
| **3/8 Brass** | 3/8-18 | 2000 | 8 | 2.75 | 2.18 | F600B | **1A855** | 42.06 | **33.65** | 0.9 |
| **1/2 Brass** | 1/2-14 | 2000 | 15 | 3.44 | 2.70 | F800B | **1A856** | 58.17 | **46.00** | 1.5 |
| **1/4 Steel** | 1/4-18 | 5000 | 5 | 2.62 | 1.79 | F400S | **1A041** | 34.65 | **27.10** | 0.5 |
| **3/8 Steel** | 3/8-18 | 5000 | 8 | 2.75 | 2.18 | F600S | **1A042** | 43.03 | **33.30** | 0.7 |
| **1/2 Steel** | 1/2-14 | 5000 | 15 | 3.44 | 2.70 | F800S | **1A043** | 57.96 | **42.40** | 1.6 |
| **3/4 Steel** | 3/4-14 | 3000 | 25 | 3.88 | 3.38 | F1200S | **1A865** | 84.13 | **63.50** | 2.3 |
| **COLORFLOW® NEEDLE VALVES SERIES N** | | | | | | | | | | |
| **1/8 Brass** | 1/8-27 | 2000 | 3 | 1.50 | 1.54 | N200B | **1A861** | 23.73 | **18.28** | 0.3 |
| **1/4 Brass** | 1/4-18 | 2000 | 5 | 2.00 | 1.77 | N400B | **1A862** | 28.93 | **22.35** | 0.5 |
| **3/8 Brass** | 3/8-18 | 2000 | 8 | 2.50 | 2.18 | N600B | **1A863** | 38.77 | **30.05** | 1.0 |
| **1/2 Brass** | 1/2-14 | 2000 | 15 | 2.62 | 2.70 | N800B | **1A864** | 54.86 | **42.20** | 1.5 |
| **1/4 Steel** | 1/4-18 | 5000 | 5 | 2.00 | 1.74 | N400S | **1A047** | 36.02 | **28.05** | 0.4 |
| **3/8 Steel** | 3/8-18 | 5000 | 8 | 2.50 | 2.18 | N600S | **1A048** | 43.00 | **33.60** | 1.0 |
| **1/2 Steel** | 1/2-14 | 5000 | 15 | 2.62 | 2.70 | N800S | **1A049** | 55.19 | **42.85** | 1.5 |
| **3/4 Steel** | 3/4-14 | 5000 | 25 | 3.25 | 3.38 | N1200S | **1A867** | 74.26 | **57.25** | 2.3 |
| **COLORFLOW® CHECK VALVES SERIES C** | | | | | | | | | | |
| **1/8 Brass** | 1/8-27 | 2000 | 3 | 2.00 | 0.62 | C200B | **1A857** | 16.95 | **13.15** | 0.3 |
| **1/4 Brass** | 1/4-18 | 2000 | 5 | 2.62 | 0.81 | C400B | **1A858** | 18.75 | **14.91** | 0.4 |
| **3/8 Brass** | 3/8-18 | 2000 | 8 | 2.75 | 1.00 | C600B | **1A859** | 25.97 | **20.44** | 0.6 |
| **1/2 Brass** | 1/2-14 | 2000 | 15 | 3.44 | 1.25 | C800B | **1A860** | 32.84 | **24.66** | 1.3 |
| **1/4 Steel** | 1/4-18 | 5000 | 5 | 2.62 | 0.81 | C400S | **1A044** | 26.05 | **20.40** | 0.4 |
| **3/8 Steel** | 3/8-18 | 5000 | 8 | 2.75 | 1.00 | C600S | **1A045** | 30.85 | **23.83** | 0.6 |
| **1/2 Steel** | 1/2-14 | 5000 | 15 | 3.44 | 1.25 | C800S | **1A046** | 35.81 | **27.50** | 1.2 |
| **3/4 Steel** | 3/4-14 | 5000 | 25 | 3.88 | 1.50 | C1200S | **1A866** | 52.09 | **40.30** | 1.8 |

(*) Height of Series F and N valves are measured from center of port with adjustment knob fully open.

## GAUGE SNUBBER




**Stainless steel gauge snubber** is a throttling and shut-off device that isolates, protects, and extends the life and accuracy of hydraulic gauges. When partially opened, unit reduces or eliminates gauge pointer pulsations. When closed, unit positively shuts off gauge from line pressure. Leak-proof needle stem is positively retained. Viton seals. Fingertip adjustment and lock-nut. 1/4" NPT, 5000 PSI maximum pressure rating. Sun Hydraulics (#NSAB-KXV-BA).

**No. 4ZC25.** Gauge Snubber. Shpg. wt. 0.2 lbs. List $19.79. Each.....$17.25

## SANDWICH VALVES

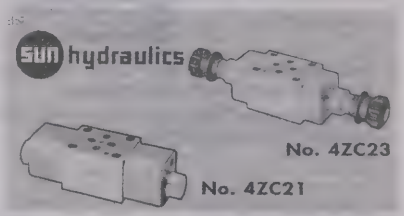
**Sandwich design valves are compact,** which allows mounting between solenoid-operated directional valves and subplate or manifold. Units allow construction of compact hydraulic circuits with a minimum of piping or potential leakeage points. Effective means of adding additional control functions to existing circuit since piping does not require changing.

### DUAL PILOT-TO-OPEN CHECK VALVE

**Dual pilot-to-open check valve assemblies** positively lock a pressurized load at actuator work ports when solenoid operated valve is centered (de-energized). Internal pilots release load as soon as directional valve solenoids are energized. Valves have hardened steel seats for long wear and maximum dirt tolerance. 30 PSI cracking pressure. Buna N seals. 3000 PSI maximum pressure rating.

| For NFPA* | Sun Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **D03** | CKCB XCN EBY | **4ZC21** | $146.55 | **$139.10** | 2.1 |
| **D05** | CKEB XCN BBY | **4ZC22** | 191.04 | **178.00** | 3.4 |

(*) D03 is former D01, D05 is former D02




### DUAL PRESSURE COMPENSATED FLOW CONTROLS

**Dual pressure compensated flow regulators** with internal reverse free-flow checks for precise speed (flow) control at either or both work ports. Handknobs provide easy adjustment. May be installed to provide either meter-in or meter-out control of load. Buna N seals. 3000 PSI maximum pressure rating.

| For NFPA* | Sun Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **D03** | FDBA HAN GBY | **4ZC23** | $170.11 | **$157.00** | 2.0 |
| **D05** | FDCB HAN DGY | **4ZC24** | 224.75 | **210.00** | 3.6 |

(*) D03 is former D01, D05 is former D02

## CARTRIDGE VALVES

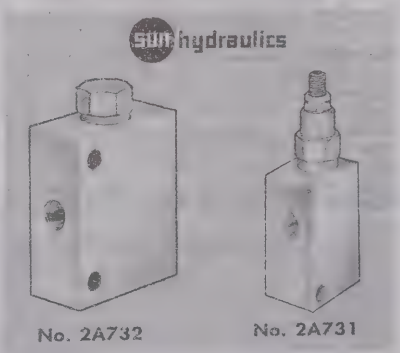
### PILOT-TO-OPEN CHECK VALVE

Non-vented internal pilot valve positively locks a pressurized load, but will release the load upon application of pressure to the pilot port. Releases when a pilot pressure equaling one-third of the system's pressure is applied.

**Applications** include personnel lifts, stabilizer jacks, clamps, up- or down-acting cylinders and presses.

**Valve has a steel seat** for long wear and maximum dirt tolerance. 30 PSI cracking pressure. Buna N seals. 1/2" NPTF main ports, 1/4" NPTF pilot port. Sun Hydraulics brand (CKEB-XCN-BCC).

**No. 2A732.** Shpg. wt. 2.5 lbs. List $60.09. Each.....$54.35




### RELIEF VALVE

**Pilot-operated, balanced spool relief valve** is used to regulate maximum system pressure, limit pressure in all systems and subsystems, and cushion deceleration of hydraulic cylinders and motors.

**Valve has Buna N seals** and 1/2" NPTF ports. Leakproof screw adjusts relief setting between 100 and 3000 PSI. Designed for flows of up to 25 GPM. Sun Hydraulics brand (RPEC-LAN-FAC).

**No. 2A731.** Shpg. wt. 0.7 lbs. List $53.48. Each.....$47.65

## HYDRAULIC VALVE MANIFOLDS




**Daman parallel circuit aluminum manifolds** are designed to accommodate two or three valves in applications where a power unit is required to actuate more than one device. They incorporate dry seal pipe threads and steel mounting brackets with hex-head. Maximum pressure rating is 3000 PSI. Additional pressure and tank ports on top of manifolds are for pressure-beyond and return-line filter applications, if needed. Nos. 1A763 and 1A765 are 2-station manifolds, while Nos. 1A764 and 1A766 are 3-station types.

**NFPA D03 Design Nos. 1A763 and 1A764** conform to NFPA standard D03 specifications for mounting as well as ISO-03 mounting configurations. A and B cylinder ports are 3/8-18 NPTF. Pressure and tank ports are 1/2-14 NPTF.

**NFPA D05 Design Nos. 1A765 and 1A766** conform to NFPA standard D05 and ISO-05. A and B cylinder ports are 1/2-14 NPTF. Pressure and tank ports are 3/4-14 NPTF.

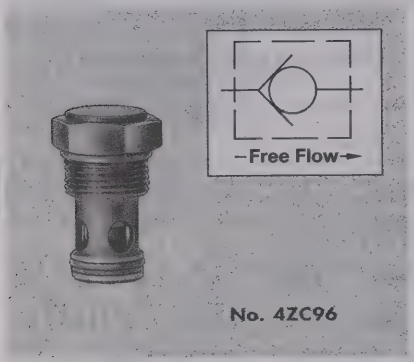
**Bolt kits available** through Grainger Parts Operations, Part #BK590716.

| NFPA Standard* | No. of Stations | Daman Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **D03** | 2 | C00803 | **1A763** | $82.72 | **$75.50** | 4.2 |
| **D03** | 3 | C00804 | **1A764** | 108.91 | **98.05** | 5.8 |
| **D03** | 2 | C00805 | **1A765** | 121.42 | **112.65** | 7.7 |
| **D05** | 3 | C00806 | **1A766** | 174.74 | **160.75** | 11.0 |

(*) D03 is former D01, D05 is former D02

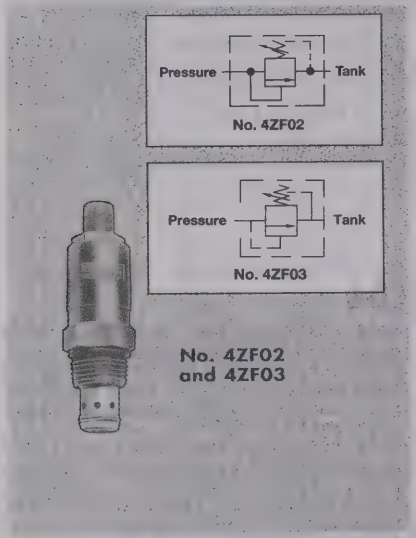
# THREADED CARTRIDGE VALVES

- Self-contained, portless valves designed for straight thread installation to eliminate leakage
- Reduce weight and space required compared to a conventionally plumbed system
- Reduce cost of fittings and hose, simplifies troubleshooting and reduces downtime
- Quick and easy removal. Simply unscrew, no fittings to disconnect
- Allow hydraulic system controls to be integrated into a single block or individual valve bases
- Cartridge style valves include: check, relief, pressure reducing, sequence, needle, and solenoid valves




## A CHECK VALVES

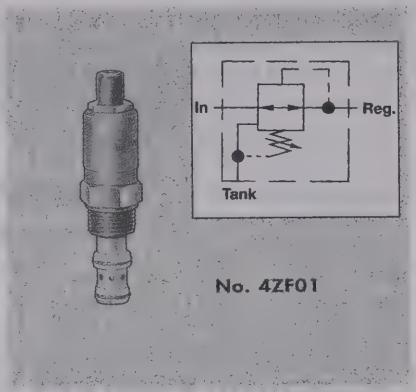
**Nos. 4ZC96 and 4ZC97** check valves allow free flow in one direction while preventing flow in the reverse direction. They can be used to isolate portions of a hydraulic cir-




## B RELIEF VALVES

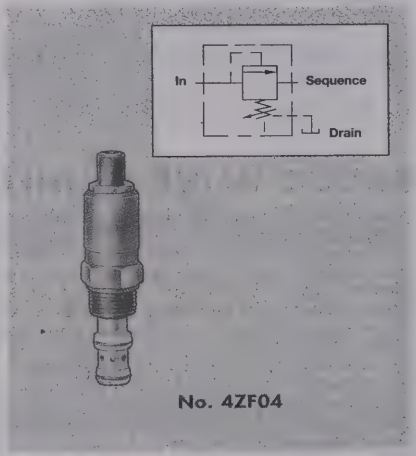
**No. 4ZF02 relief valve** is suited for continuous duty applications and is primarily used to limit main system pressure.

**No. 4ZF03 relief valve** is best suited for intermittent duty applications as overload protection and shock protection relief.



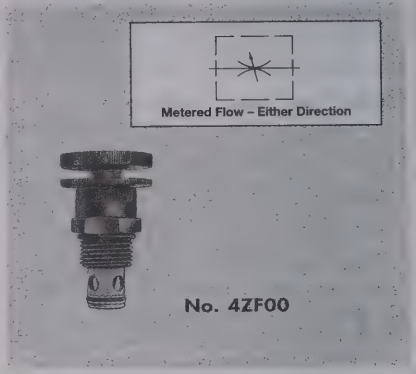

## C PRESSURE REDUCING/ RELIEF VALVE

**No. 4ZF01 pressure reducing/relieving valve** can be used in any application where a regulated pressure lower than system pressure is required. The valve also acts as a relief valve, relieving any shocks or surges that occur between its regulated pressure port and the actuator. When the valve is in the relieving mode, the inlet port is blocked. 200-3500 PSI range.



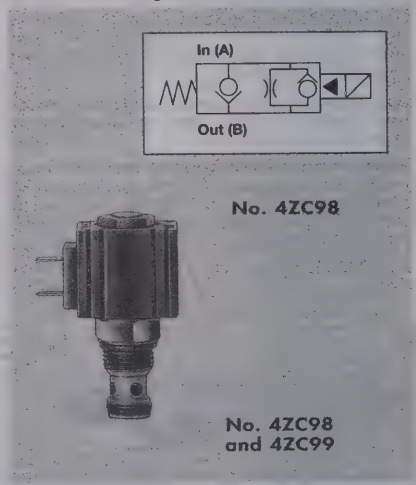

## D SEQUENCE VALVE

**No. 4ZF04 sequence valve** is used to control the sequence of operation of two or more hydraulic actuators by assuring priority hydraulic pressure to one actuator before another.




## E NEEDLE VALVE

**No. 4ZF00 needle valve** provides speed control and shutoff where a reverse flow check is not required.




## F SOLENOID VALVES

**Nos. 4ZC98 and 4ZC99 solenoid valves** are used in circuits requiring On/Off valves and low leakage. Single acting cylinder applications typically utilize valves of this type. Valves can be used for bleed down flow and/or raising and lowering a vertical cylinder. No 4ZC98 (DC) is normally closed and No. 4ZC99 (DC) is normally open.

CONTINUED ON NEXT PAGE

# THREADED CARTRIDGE VALVES

## THREADED CARTRIDGE VALVE/BASE INTERCHANGE GUIDE

| Description | Stock No. | Parker Model | Modular Controls | Hydra Force | Compact Controls | Delta | Fluid Controls |
|---|---|---|---|---|---|---|---|
| Valve | 4ZC96 | CV103P | CV1-10-P-0-5 | CV10-20-0-N2 | CP100-1-B-0-005 | D10E-CVA-05-N | 3C400-5SV |
| Valve | — | — | CV3-10-P-0-3 | CV10-20-0-M-5 | CP100-2-B-0-005 | — | — |
| Valve | 4ZC97 | CV161P | CV1-16-P-0-5 | CV16-20-0-N05 | CP102-1-B-0-005 | — | 3C600-5SV |
| Valve | 4ZF00 | NV101K | NV1-10-K-0 | NV10-20-B 0-N | CP610-1-B-0-B | D10E-NVA-00-0 | 2N400 R-SV |
| Valve | 4ZF03 | RD103S35 | RVS-10-S-0-36 | RV10-22-B-0-N-35 | CP200-1-B-0-E-C-150 | D10E-RVD-22-3000 | 1L400-P25SV |
| Valve | 4ZF02 | RA101S30 | RVS-10-S-0-25 | RV10-26-B-0-N-30 | CP210-2-B-0-E-C-150 | D10E-RVP-00-3000 | 1A400 P25SV |
| Valve | 4ZF01 | PR101S30 | PRV1 10-S-0-26 | PR10-32 B-0-N-21 | CP230-1-B-0-A-C-150 | D10F-PKP-00-3000 | 1PAA400-P-405V |
| Valve | 4ZF04 | SV101S30 | PSV1-10-S-0-24 | PS10-30-B-0-N-21 | CP240-1-B-0-A-C-150 | D10E-PSE-00-1200 | 1SA400-P-50SV |
| Valve | 4ZC98 | DS091CD012LP | SV2 8-C-D-1200 | — | — | — | — |
| Valve | 4ZC99 | DS091ND012LP | SV1-8-0-0-1200 | — | — | — | — |
| Base | 4ZC92 | B09-2-6P | — | — | — | — | — |
| Base | 4ZC93 | B10-2-8P | 20058-A | 7024240 | — | — | — |
| Base | 4ZC94 | B10-3-8P | 20196-A | 7024330 | — | — | — |
| Base | 4ZC95 | B16-2-16P | 20459-A | 7023220 | — | — | — |

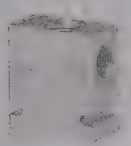
See Cross-Reference Information on page opposite inside back cover.

## CARTRIDGE VALVE ORDERING DATA

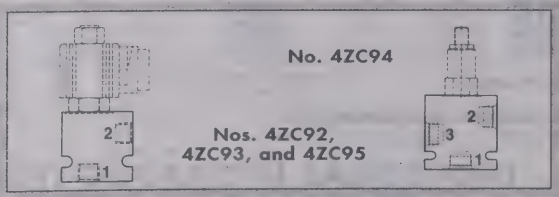
| Key | Valve Type | Valve Cavity | Max. GPM | Maximum Pressure PSI | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | Check | C10-2 | 21 | 3500 | CV103P | **4ZC96** | $16.98 | **$16.66** | 0.2 |
| A | Check | C10-2 | 60 | 3500 | CV161P | **4ZC97** | 47.70 | **46.65** | 0.6 |
| B | Direct Acting Relief | C10-2 | 20 | 3500 | RD103S35 | **4ZF03** | 37.62 | **36.60** | 0.5 |
| B | Pilot Operated Relief | C10-2 | 15 | 3000 | RA101S30 | **4ZF02** | 48.23 | **47.75** | 0.5 |
| C | Pilot Operated Pressure Reducing/Relief | C10-3 | 15 | 3000 | PR101S30 | **4ZF01** | 56.64 | **55.10** | 0.5 |
| D | Pilot Operated Remote Vented Sequence | C10-3 | 15 | 3000 | SV101S30 | **4ZF04** | 51.92 | **50.60** | 0.5 |
| E | Needle | C10-2 | 15 | 3500 | NV101K | **4ZF00** | 28.08 | **27.80** | 0.4 |
| F | Normally Closed 2-Way, 2-Position 12 VDC Solenoid | C09-2 | 8 | 3000 | DS091CD012LP | **4ZC98** | 54.05 | **52.65** | 0.5 |
| F | Normally Open 2-Way, 2-Position 12 VDC Solenoid | C09-2 | 8 | 3000 | DS091ND012LP | **4ZC99** | 69.53 | **67.60** | 0.5 |

# BASES FOR THREADED CARTRIDGE VALVES

- **Aluminum bases allow for individual piping of cartridge valves. See below for description of port functions. Port designations stamped on base**



No. 4ZC92




No. 4ZC94

Nos. 4ZC92, 4ZC93, and 4ZC95

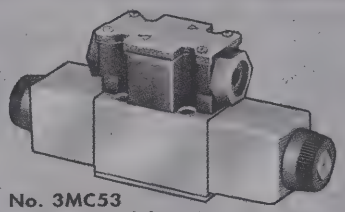
## VALVE BASE ORDERING DATA

| Base Stock No. | Fits Valve Stock No. | NPTF Ports (In.) | Port Functions 1 | Port Functions 2 | Port Functions 3 | Dimensions (In.) L | W | H | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4ZC92** | 4ZC98<br>4ZC99 | 3/8 | Outlet | Inlet | — | 1 | 1¼ | 1¾ | B09-2-6P | **4ZC92** | $32.30 | **$21.79** | 0.6 |
| **4ZC93** | 4ZC96 | 1/2 | Free Flow Inlet | Outlet Free Flow | — | 1¼ | 2 | 2 | B10-2-8P | **4ZC93** | 32.29 | **21.82** | 1.0 |
| | 4ZF00 | | Pressure or Outlet | Inlet or Pressure | — | | | | | | | | |
| | 4ZF02 | | Pressure or Inlet | Tank or Outlet | — | | | | | | | | |
| | 4ZF03 | | Tank or Outlet | Pressure or Inlet | | | | | | | | | |
| **4ZC94** | 4ZF01 | 1/2 | Regulated Pressure or Inlet | Tank or Vent Vent or Drain | Pressure or Inlet Sequence or Outlet | 1¼ | 2½ | 2 9/16 | B10-3-8P | **4ZC94** | 53.50 | **35.70** | 1.8 |
| | 4ZF04 | | | | | | | | | | | | |
| **4ZC95** | 4ZC97 | 1/2 | Free Flow or Inlet | Outlet or Free Flow | — | 1¾ | 3 | 3 | B16-2-16P | **4ZC95** | 67.23 | **45.75** | 3.5 |

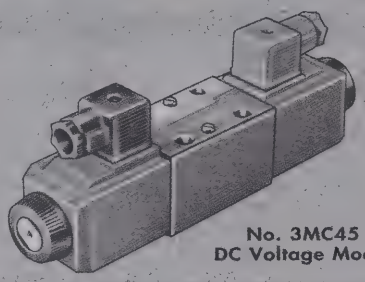
# CETOP-3 SIZE SOLENOID OPERATED DIRECTIONAL VALVES

**DG4V3S SERIES FEATURES:**

- Compatible with the ISO 4401 size 03, and NFPA D03 port and mounting patterns
- Valve body NFPA fatigue proof rated at 5075 PSI for safety and performance
- High solenoid and spring forces provide increased reliability in extreme conditions
- Optimized valve body/spool design minimizes pressure drop and energy consumption
- Higher machine productivity and uptime, valve endurance tested over 20 million cycles
- Viton O-rings provide multi-fluid capability without changing seals
- Max. working port pressure (P, A, B) is 5075 PSI
- Max. tank pressure is 1450 PSI
- DC valves require both wire connectors Nos. 3MC17 and 3MC18

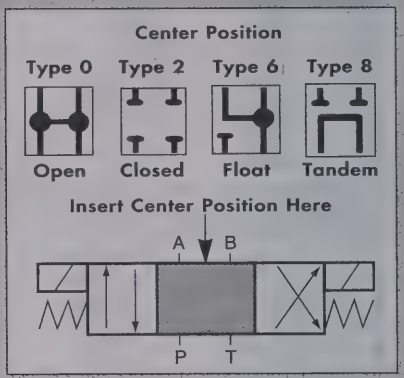


No. 3MC53
AC Voltage Model



No. 3MC45
DC Voltage Model

VICKERS®




Replacement Parts Available
1-800-323-0620

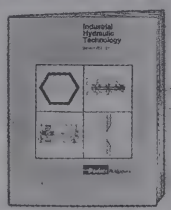
## SPECIFICATIONS AND ORDERING DATA

| Coil Voltage | Hertz | Inrush Amps | Holding Amps | Spool Type | Max. GPM | Dimensions (In.) Length | Width | Height | Vickers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **110–120V AC** | 50/60 Hz | 2.6 | 0.48 | 0 | 10.5 | 7.8 | 2 | 3.6 | DG4V3S-0C-M-FTWL-B5-60 | **3MC53** | $328.65 | **$279.00** | 5.5 |
| **110–120V AC** | 50/60 Hz | 2.6 | 0.48 | 2 | 10 | 7.8 | 2 | 3.6 | DG4V3S-2C-M-FTWL-B5-60 | **3MC52** | 328.65 | **279.00** | 5.5 |
| **110–120V AC** | 50/60 Hz | 2.6 | 0.48 | 6 | 10.5 | 7.8 | 2 | 3.6 | DG4V3S-6C-M-FTWL-B5-60 | **3MC51** | 328.65 | **279.00** | 5.5 |
| **110–120V AC** | 50/60 Hz | 2.6 | 0.48 | 8 | 6.6 | 7.8 | 2 | 3.6 | DG4V3S-8C-V-M-FTWL-B5-61 | **3MC55** | 328.65 | **279.00** | 5.5 |
| **12V DC** | — | — | 30 Watts | 0 | 10.5 | 8.7 | 1.9 | 2.1 | DG4V3S-0C-M-U-G5-60 | **3MC47** | 298.20 | **254.00** | 5.5 |
| **12V DC** | — | — | 30 Watts | 2 | 10.5 | 8.7 | 1.9 | 2.1 | DG4V3S-2C-M-U-G5-60 | **3MC50** | 298.20 | **254.00** | 5.5 |
| **12V DC** | — | — | 30 Watts | 6 | 10.5 | 8.7 | 1.9 | 2.1 | DG4V3S-6C-M-U-G5-60 | **3MC49** | 298.20 | **254.00** | 5.5 |
| **12V DC** | — | — | 30 Watts | 8 | 6.6 | 8.7 | 1.9 | 2.1 | DG4V3S-8C-V-M-U-G5-61 | **3MC56** | 298.20 | **254.00** | 5.5 |
| **24V DC** | — | — | 30 Watts | 0 | 10.5 | 8.7 | 1.9 | 2.1 | DG4V3S-0C-M-U-H5-60 | **3MC46** | 298.20 | **254.00** | 5.5 |
| **24V DC** | — | — | 30 Watts | 2 | 10.5 | 8.7 | 1.9 | 2.1 | DG4V3S-2C-M-U-H5-60 | **3MC45** | 298.20 | **254.00** | 5.5 |
| **24V DC** | — | — | 30 Watts | 6 | 10.5 | 8.7 | 1.9 | 2.1 | DG4V3S-6C-M-U-H5-60 | **3MC48** | 298.20 | **254.00** | 5.5 |
| **24V DC** | — | — | 30 Watts | 8 | 6.6 | 8.7 | 1.9 | 2.1 | DG4V3S-8C-V-M-U-H5-61 | **3MC57** | 298.20 | **254.00** | 5.5 |
| **SUBPLATES** | Port Size 3/4"-16 SAE O-ring<br>Port Size 1/4" NPT | | | | | 3.3<br>2 | 3.3<br>2 | 1.4<br>1.25 | DGVM-3-10-S<br>696638 | **3MC82**<br>**1A323** | 99.75<br>85.00 | **85.00**<br>**54.60** | 1.0<br>1.2 |
| **DC SOLENOID WIRE CONNECTORS** | | | | | | 2<br>2 | 1.1<br>1.1 | 1.1<br>1.1 | BLACK PLUG-SOL. B 710775<br>GRAY PLUG-SOL. A 710776 | **3MC17**<br>**3MC18** | 21.86<br>21.86 | **18.50**<br>**18.50** | 0.1<br>0.1 |

## INDUSTRIAL HYDRAULIC TECHNOLOGY

Updated 2nd edition text contains 15 chapters for both designers and users of hydraulic systems. Individual hydraulic components are explained in function and use in most common circuit designs. Two new chapters on hydrualic fluids and the basics of proportional and servo hydraulic valves. Exercises at end of each chapter serve as summary of important points with answers provided in separate manual (included). Color illustrations. 331 pages. Parker Bulletin 0232-B1.

**No. 6W620.** Shpg. wt. 2.1 lbs. List $41.92.
Each ..... **$38.35**




No. 6W620

## HYDRAULIC MAINTENANCE TECHNOLOGY

Training textbook provides user of industrial hydraulic equipment with detailed reference in areas of maintenance and troubleshooting. Common hydraulic problems, causes and possible remedies are discussed in detail and listed in Troubleshooting Charts. Exercises at end of each chapter serve as summary of important points with answers in separate manual (included). 214 pages. Parker Bulletin 0240-B1.

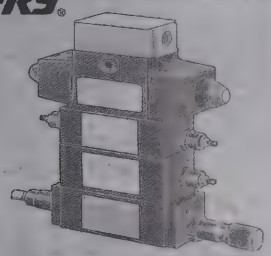
**No. 6ZF44.** Shpg. wt. 1.8 lbs. List $25.59.
Each ..... **$24.74**




No. 6ZF44

# SYSTEMSTAK CONTROL VALVES

VICKERS®



Replacement Parts Available
1-800-323-0620™

## CETOP-3 SIZE SYSTEMSTAK® CONTROL VALVES

- Compatible with ISO 4401-03 and NFPA DO3 port and mounting patterns
- A wide variety of valve functions and options for simplified design and installation of hydraulics systems
- Valve bodies fatigue proof rated to 4500 PSI with flow capability to 15.7 GPM
- Compact "sandwich" mounted design improves system response and reduces potential for system leakage
- Fewer mounting points, fittings and piping result in quicker assembly and lower installed cost
- Larger flow passages and improved designs allow these Vickers valves to operate at flow rates up to 50% higher than similar valves
- Viton O-rings allow multi-fluid capability without changing seals
- Rugged screw and locknut arrangements allows quick and secure adjustment of pressure or flow setting

## SPECIFICATIONS AND ORDERING DATA

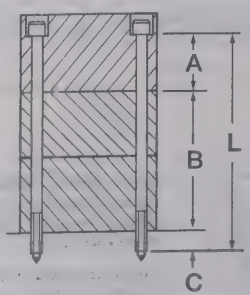
| Valve Type | Valve Function | Adjustment Range | Dimensions (In.) L | W | H | Vickers Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Relief** | Pressure to Tank | 45-1450 PSI | 6.2 | 1.9 | 1.6 | DGMC-3-PT-BW-41 | **3MC66** | $268.80 | **$229.00** | 3.5 |
| **Relief** | Pressure to Tank | 145-2900 PSI | 6.2 | 1.9 | 1.6 | DGMC-3-PT-CW-41 | **3MC79** | 268.80 | **229.00** | 3.5 |
| **Relief** | Pressure to Tank | 725-4500 PSI | 6.2 | 1.9 | 1.6 | DGMC-3-PT-GW-41 | **3MC73** | 268.80 | **229.00** | 3.5 |
| **Relief** | Crossport: A to B, B to A | 45-1450 PSI | 9.2 | 1.9 | 1.6 | DGMC2-3-AB-BW-BA-BW-41 | **3MC64** | 374.85 | **319.00** | 3.5 |
| **Relief** | Crossport: A to B, B to A | 145-2900 PSI | 9.2 | 1.9 | 1.6 | DGMC2-3-AB-CW-BA-CW-41 | **3MC65** | 374.85 | **319.00** | 3.5 |
| **Relief** | Crossport: A to B, B to A | 725-4500 PSI | 9.2 | 1.9 | 1.6 | DMNC2-3-AB-GW-BA-GW-41 | **3MC78** | 374.85 | **319.00** | 3.5 |
| **Counterbalance** | T port, control from A port | 50-1000 PSI | 6.6 | 1.9 | 1.6 | DGMR-3-TA-BW-S-40 | **3MC58** | 330.75 | **281.00** | 3.5 |
| **Counterbalance** | T port, control from A port | 145-2000 PSI | 6.6 | 1.9 | 1.6 | DGMR-3-TA-CW-S-40 | **3MC59** | 330.75 | **281.00** | 3.5 |
| **Conterbalance** | T port, control from A port | 290-3625 PSI | 6.6 | 1.9 | 1.6 | DGMR-3-TA-FW-S-40 | **3MC60** | 330.75 | **281.00** | 3.5 |
| **Sequence** | Control in P port | 45-435 PSI | 6.6 | 1.9 | 1.6 | DGMR1-3-PP-AW-S-40 | **3MC81** | 330.75 | **281.00** | 3.5 |
| **Sequence** | Control in P port | 50-1000 PSI | 6.6 | 1.9 | 1.6 | DGMR1-3-PP-BW-S-40 | **3MC54** | 330.75 | **281.00** | 3.5 |
| **Sequence** | Control in P port | 145-2000 PSI | 6.6 | 1.9 | 1.6 | DGMR1-3-PP-CW-S-40 | **3MC80** | 330.75 | **281.00** | 3.5 |
| **Reducing** | Control in P port | 45-435 PSI | 6.6 | 1.9 | 1.6 | DGMX2-3-PP-AW-S-40 | **3MC74** | 346.50 | **295.00** | 3.5 |
| **Reducing** | Control in P port | 50-1000 PSI | 6.6 | 1.9 | 1.6 | DGMX2-3-PP-BW-S-40 | **3MC75** | 346.50 | **295.00** | 3.5 |
| **Reducing** | Control in P port | 145-2000 PSI | 6.6 | 1.9 | 1.6 | DGMX2-3-PP-CW-S-40 | **3MC76** | 346.50 | **295.00** | 3.5 |
| **Reducing** | Control in P port | 290-3625 PSI | 6.6 | 1.9 | 1.6 | DGMX2-3-PP-FW-S-40 | **3MC77** | 346.50 | **295.00** | 3.5 |
| **Direct Check** | Free flow to actuator | 15 PSI | 3.5 | 1.9 | 1.6 | DGMDC-3-Y-PK-41 | **3MC61** | 132.30 | **113.00** | 3.5 |
| **Direct Check** | Free flow from actuator | 15 PSI | 3.5 | 1.9 | 1.6 | DGMDC-3-X-TK-41 | **3MC62** | 132.30 | **113.00** | 3.5 |
| **Pilot oper. check** | In A line, pilot from B line | 15 PSI | 3.8 | 1.9 | 1.6 | DGMPC-3-ABK-41 | **3MC72** | 242.55 | **206.00** | 3.5 |
| **Pilot oper. check** | In B line, pilot from A line | 15 PSI | 3.8 | 1.9 | 1.6 | DGMPC-3-BAK-41 | **3MC71** | 242.55 | **206.00** | 3.5 |
| **Pilot oper. check** | Dual P.O. Check Function | 15 PSI | 4.0 | 1.9 | 1.6 | DGMPC-3-ABK-BAK-41 | **3MC63** | 256.20 | **218.00** | 3.5 |
| **Flow Control** | Meter Out, line T only | Std. Control | 4.8 | 1.9 | 1.6 | DGMFN-3-Z-T2W-41 | **3MC70** | 166.95 | **142.00** | 3.5 |
| **Flow Control** | Meter Out, line A and B | Std. Control | 6.6 | 1.9 | 1.6 | DGMFN-3-Y-A2W-B2W-41 | **3MC67** | 202.65 | **172.00** | 3.5 |
| **Flow Control** | Meter In, line P only | Std. Control | 4.8 | 1.9 | 1.6 | DGMFN-3-Z-P2W-41 | **3MC69** | 166.95 | **142.00** | 3.5 |
| **Flow Control** | Meter In, line A and B | Std. Control | 6.6 | 1.9 | 1.6 | DGMFN-3-X-A2W-B2W-41 | **3MC68** | 202.65 | **172.00** | 3.5 |

## SYSTEMSTAK® VALVE MOUNTING BOLT KITS

**FOR CETOP-3 ISO 4401-03 SIZE SYSTEMSTAK VALVES:**

The length of mounting bolt used to install a SYSTEMSTAK assembly is dependent on the number of valves being used, plus the length needed for mounting other valves in the assembly, such as: solenoid operated directional valves, tapping or blanking plates. A large selection of bolt kits (kit=4 bolts) are offered. To determine your needs, use the following guide for bolt length calculation. Rated to 4500 PSI when using cast iron or steel subplates or manifolds. 3000 PSI with aluminum subplates or manifolds. Thread size: 10-24 UNC-3A.

**Note:** If not using Vickers bolt kits, bolts must be to Grade 12.9 (ISO 898) or better.




**A-Bolt clamp length in directional valve, blanking plate, crossover plate, etc.**

**B-Height of intermediate valve stack, comprising SystemStak valve(s) plus tapping plates, etc.**

**C- Depth of thread engagement in subplate/manifold block.**

**L-Required bolt length; select from the table.**

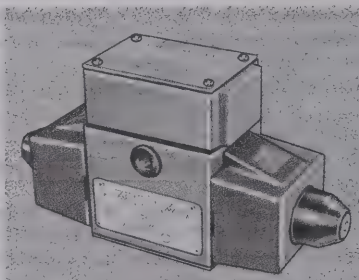
| Length (In.) | Vickers Bolt Kit No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **2** | BK255689 | **3TZ23** | $17.85 | **$15.17** | 0.4 |
| **2.375** | BK466849 | **3TZ24** | 17.85 | **15.17** | 0.2 |
| **2.75** | BK870017 | **3TZ37** | 37.80 | **32.15** | 0.3 |
| **3.125** | BK466850 | **3TZ25** | 19.95 | **16.96** | 0.3 |
| **3.5** | BK466851 | **3TZ26** | 19.95 | **16.96** | 0.3 |
| **3.937** | BK466852 | **3TZ27** | 19.95 | **16.96** | 0.3 |
| **4.312** | BK466853 | **3TZ28** | 34.66 | **29.50** | 0.3 |
| **4.75** | BK466854 | **3TZ29** | $45.15 | **$38.40** | 0.3 |
| **5.125** | BK466855 | **3TZ30** | 48.30 | **41.10** | 0.3 |
| **5.5** | BK466856 | **3TZ31** | 50.40 | **42.85** | 0.3 |
| **5.937** | BK466857 | **3TZ32** | 65.10 | **55.35** | 0.3 |
| **6.312** | BK466858 | **3TZ33** | 72.45 | **61.60** | 0.3 |
| **6.687** | BK466859 | **3TZ34** | 74.55 | **63.40** | 0.3 |

# CETOP-5 SIZE SOLENOID OPERATED DIRECTIONAL VALVES

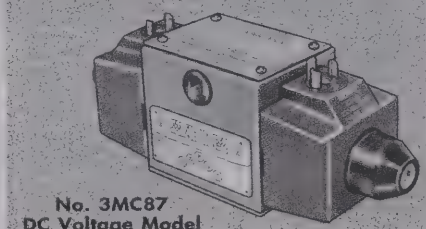
VICKERS

**DG4S4 SERIES FEATURES:**

- Compatible with the ISO 4401 size 05 and NFPA DO5 port and mounting patterns
- DC valve require both solenoid wire connector Nos. 3MC17 and 3MC18
- Manual overrides allow safe manual shifting during troubleshooting or power failure
- Optimized valve body/spool design minimizes pressure drop and energy consumption
- Higher machine productivity and uptime, valve endurance tested over 20 million cycles
- Solenoid/core tube design allows coils to be changed without removing valve from installation and without risk of oil spillage or system contamination
- Max. pressure P, A, B ports to 3600 PSI
- Max. pressure T port to 1000 PSI

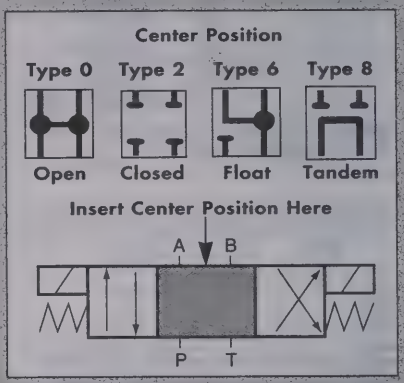


No. 3MC84
AC Voltage Model



No. 3MC87
DC Voltage Model

Replacement Parts Available
1-800-323-0620

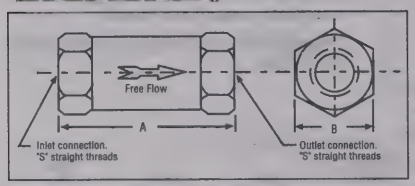



## DG4S4 SERIES SPECIFICATIONS AND ORDERING DATA

| Coil Voltage | Hertz | Inrush Amps | Holding Amps | Spool Type | Max. GPM | Dimensions (In.) Length | Width | Height | VICKERS Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **110–120V AC** | 50/60 Hz | 3.8 | .69 | 0 | 25 | 9.5 | 2.8 | 3.6 | DG4S4L-010C-B-60 | **3MC88** | $502.95 | **$428.00** | 12.0 |
| **110–120V AC** | 50/60 Hz | 3.8 | .69 | 2 | 25 | 9.5 | 2.8 | 3.6 | DG4S4L-012C-B-60 | **3MC85** | 502.95 | **428.00** | 12.0 |
| **110–120V AC** | 50/60 Hz | 3.8 | .69 | 6 | 20 | 9.5 | 2.8 | 3.6 | DG4S4L-016C-B-60 | **3MC84** | 502.95 | **428.00** | 12.0 |
| **110–120V AC** | 50/60 Hz | 3.8 | .69 | 8 | 12 | 9.5 | 2.8 | 3.6 | DG4S4L-018C-B-60 | **3MC86** | 518.70 | **441.00** | 12.0 |
| **12V DC** | — | — | 44 Watts | 0 | 25 | 12.5 | 2.8 | 3.6 | DG4S4-010C-U-G-60 | **3MC92** | 463.05 | **394.00** | 12.0 |
| **12V DC** | — | — | 44 Watts | 2 | 25 | 12.5 | 2.8 | 3.6 | DG4S4-012C-U-G-60 | **3MC91** | 463.05 | **394.00** | 12.0 |
| **12V DC** | — | — | 44 Watts | 6 | 20 | 12.5 | 2.8 | 3.6 | DG4S4-016C-U-G-60 | **3MC87** | 463.05 | **394.00** | 12.0 |
| **12V DC** | — | — | 44 Watts | 8 | 12 | 12.5 | 2.8 | 3.6 | DG4S4-018C-U-G-60 | **3MC93** | 478.80 | **407.00** | 12.0 |
| **24V DC** | — | — | 44 Watts | 0 | 25 | 12.5 | 2.8 | 3.6 | DG4S4-010C-U-H-60 | **3MC89** | 463.05 | **394.00** | 12.0 |
| **24V DC** | — | — | 44 Watts | 2 | 25 | 12.5 | 2.8 | 3.6 | DG4S4-012C-U-H-60 | **3MC94** | 463.05 | **394.00** | 12.0 |
| **24V DC** | — | — | 44 Watts | 6 | 20 | 12.5 | 2.8 | 3.6 | DG4S4-016C-U-H-60 | **3MC83** | 463.05 | **394.00** | 12.0 |
| **24V DC** | — | — | 44 Watts | 8 | 12 | 12.5 | 2.8 | 3.6 | DG4S4-018C-U-H-60 | **3MC90** | 478.80 | **407.00** | 12.0 |
| **SUBPLATES** | | | Port Size 3/4"-16 SAE O-ring | | | 4.5 | 4.0 | 1.3 | DGSM-01-20-T8 | **3MD20** | 87.15 | **74.00** | 1.0 |
| | | | Port Size 1/2" NPT | | | 4.5 | 4.0 | 1.7 | 696639 | **1A324** | 277.00 | **164.00** | 7.6 |
| **DC SOLENOID WIRE CONNECTORS** | | | | | | 2.0 | 1.1 | 1.1 | BLACK PLUG-SOL. A | **3MC17** | 21.86 | **18.50** | 0.1 |
| | | | | | | 2.0 | 1.1 | 1.1 | GRAY PLUG-SOL. B | **3MC18** | 21.86 | **18.50** | 0.1 |

# IN-LINE CHECK VALVES

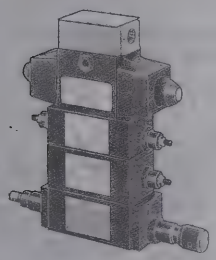
VICKERS




- Inline check valves are direct operated and used in hydraulic circuits to allow the free flow of fluid in one direction only
- Inline models are designed for low shock service
- Max. operating pressure 3000 PSI
- CAUTION: Do not use this valve to check a high velocity reverse flow resulting in shock conditions

| Cracking Pressure (PSI) | Flow Capacity GPM | A Inches | B Inches | Stright Thd UNF-2B | Vickers Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5** | 8 | 3 | 1 | .7500-16 | DS8P1-03-5-10 | **3MC40** | $69.30 | **$59.00** | 1.5 |
| **30** | 8 | 3 | 1 | .7500-16 | DS8P1-03-30-10 | **3MC44** | 69.30 | **59.00** | 1.5 |
| **5** | 20 | 4.09 | 1.5 | 1.0625-12 | DS8P1-06-5-11 | **3MC39** | 74.55 | **63.00** | 2.5 |
| **30** | 20 | 4.09 | 1.5 | 1.0625-12 | DS8P1-06-30-11 | **3MC42** | 74.55 | **63.00** | 2.5 |
| **5** | 50 | 5.25 | 2.5 | 1.0625-12 | DS8P1-10-5-11 | **3MC41** | 165.90 | **141.00** | 3.5 |
| **30** | 50 | 5.25 | 2.5 | 1.0625-12 | DS8P1-10-30-11 | **3MC43** | 165.90 | **141.00** | 3.5 |

VICKERS



Replacement Parts Available
1-800-323-0620

## CETOP-5, SIZE SYSTEMSTAK® CONTROL VALVES

- A wide variety of valve functions and options for simplified design and installation of hydraulic systems
- Compatible with ASO 4401 size 05 and NFPA DO5 Port and Mounting patterns
- Valve bodies fatigue proof rated to 4500 PSI with flow capacity to 32 GPM
- Compact "sandwich" mounted design improves system response and reduces potential for system leakage
- Fewer mounting points, fittings and piping result in quicker assembly and lower installed cost
- Larger flow passages and improved designs allow Vickers valves to operate at flow rates up to 50% higher than competitors valves
- Viton O-rings allow multi-fluid capability without changing seals
- Rugged screw and locknut arrangement allows quick and secure adjustment of pressure or flow setting

### SIZE 05 SYSTEMSTAK VALVES SPECIFICATIONS AND ORDERING DATA

| Valve Type | Valve Function | Pressure Range | Dimensions (In.) L | W | H | Vickers Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Relief** | Pressure to Tank | 60-1450PSI | 7.6 | 2.8 | 2.0 | DGMC-5-PT-BW-S-30 | **3MD15** | $494.55 | **$420.00** | 8.0 |
| **Relief** | Pressure to Tank | 60-2900 PSI | 7.6 | 2.8 | 2.0 | DGMC-5-PT-FW-S-30 | **3MD16** | 494.55 | **420.00** | 8.0 |
| **Relief** | Pressure to Tank | 60-4500 PSI | 7.6 | 2.8 | 2.0 | DGMC-5-PT-GW-S-30 | **3MD12** | 494.55 | **420.00** | 8.0 |
| **Relief** | Crossport: A to B, B to A | 60-1450 PSI | 8.5 | 2.8 | 2.4 | DGMC-2-5-AB-BW-BA-BW-30 | **3MD14** | 586.95 | **499.00** | 9.5 |
| **Relief** | Crossport: A to B, B to A | 60-2900 PSI | 8.5 | 2.8 | 2.4 | DGMC-2-5-AB-FW-BA-FW-30 | **3MD17** | 586.95 | **499.00** | 9.5 |
| **Relief** | Crossport: A to B, B to A | 60-4500 PSI | 8.5 | 2.8 | 2.4 | DGMC-2-5-AB-GW-BA-GW-30 | **3MD13** | 586.95 | **499.00** | 9.5 |
| **Counterbalance** | In A port, pilot from B port | 900-3000 PSI | 8.2 | 2.8 | 2.4 | DGMR-5-A1-FW-30 | **3MC95** | 495.60 | **421.00** | 9.5 |
| **Counterbalance** | In B port, pilot from A port | 900-3000 PSI | 8.2 | 2.8 | 2.4 | DGMR-5-B1-FW-30 | **3MC96** | 495.60 | **421.00** | 9.5 |
| **Counterbalance** | Dual Counterbalance | 900-3000 PSI | 11.3 | 2.8 | 2.4 | DGMR-5-A1-FW-B1-FW-30 | **3MC97** | 616.35 | **524.00** | 9.5 |
| **Sequence** | Control in P port | 75-1450 PSI | 7.0 | 2.8 | 2.4 | DGMR-1-5-PP-BW-S-30 | **3MD19** | 551.25 | **469.00** | 9.5 |
| **Sequence** | Control in P port | 75-2900 PSI | 7.0 | 2.8 | 2.4 | DGMR-1-5-PP-FW-S-30 | **3MD18** | 551.25 | **469.00** | 9.5 |
| **Reducing** | Control in P port | 30-725 PSI | 7.0 | 2.8 | 2.4 | DGMX2-5-PP-AW-S-30 | **3MD10** | 537.60 | **457.00** | 9.5 |
| **Reducing** | Control in P port | 125-1450 PSI | 7.0 | 2.8 | 2.4 | DGMX2-5-PP-BW-S-30 | **3MD09** | 537.60 | **457.00** | 9.5 |
| **Reducing** | Control in P port | 125-2900 PSI | 7.0 | 2.8 | 2.4 | DGMX2-5-PP-FW-S-30 | **3MD11** | 537.60 | **457.00** | 9.5 |
| **Direct Check** | Free flow to actuator | 15 PSI Cracking | 5.4 | 2.8 | 2.0 | DGMDC-5-Y-PK-30 | **3MC98** | 216.30 | **184.00** | 8.0 |
| **Direct Check** | Free flow from actuator | 15 PSI Cracking | 5.4 | 2.8 | 2.0 | DGMDC-5-X-TK-30 | **3MC99** | 216.30 | **184.00** | 8.0 |
| **Pilot oper. check** | In A line, pilot from B line | 15 PSI Cracking | 5.4 | 2.8 | 2.0 | DGMPC-5-ABK-30 | **3MD07** | 427.35 | **363.00** | 8.0 |
| **Pilot oper. check** | In B line, pilot from A line | 15 PSI Cracking | 5.4 | 2.8 | 2.0 | DGMPC-5-BAC-30 | **3MD08** | 427.35 | **363.00** | 8.0 |
| **Pilot oper. check** | Dual P.O. Check Function | 15 PSI Cracking | 5.8 | 2.8 | 2.0 | DGMPC-5-ABK-BAK-30 | **3MD01** | 462.00 | **393.00** | 8.0 |
| **Flow Control** | Meter In, line A and B | Std. Control | 9.2 | 2.8 | 2.0 | DGMFN-5-X-A2W-B2W-30 | **3MD03** | 260.40 | **221.00** | 8.0 |
| **Flow Control** | Meter Out, lines A and B | Std. Control | 9.2 | 2.8 | 2.0 | DGMFN-5-Y-A2W-B2W-30 | **3MD02** | 260.40 | **221.00** | 8.0 |
| **Flow Control** | Meter In, line P only | Std. Control | 7.8 | 2.8 | 2.0 | DGMFN-5-X-P2W-30 | **3MD04** | 216.30 | **184.00** | 8.0 |
| **Flow Control** | Meter Out, line A only | Std. Control | 7.5 | 2.8 | 2.0 | DGMFN-5-Y-A2W-30 | **3MD06** | 216.30 | **184.00** | 8.0 |
| **Flow Control** | Meter Out, line B only | Std. Control | 7.5 | 2.8 | 2.0 | DGMFN-5-Y-B2W-30 | **3MD05** | 216.30 | **184.00** | 8.0 |

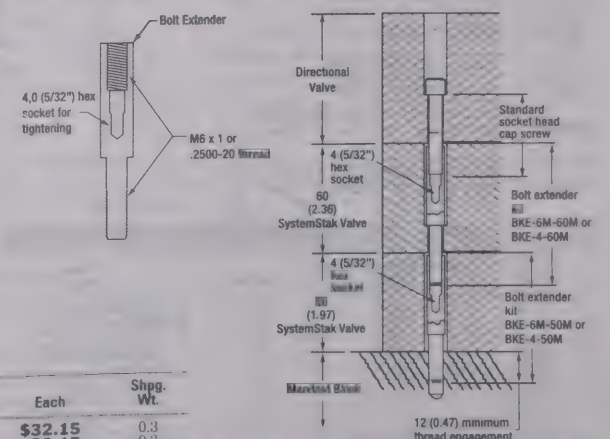
## SYSTEMSTAK VALVE BOLT EXTENDER KIT INFORMATION

VICKERS

**FOR CETOP-5, ISO 4401-05 SIZE SYSTEMSTAK VALVES**

- **Uses 5/32 Hex socket for tightening**
- **1/4"—20 threads**

These valves may be mounted with bolt extender kits. The use of these kits simplifies installation by permitting each valve body to be separately installed with the correct torque value. This also provides the ability to remove the directional valve for service or replacement without disturbing the stack assembly. There are 4 bolt extenders per kit.



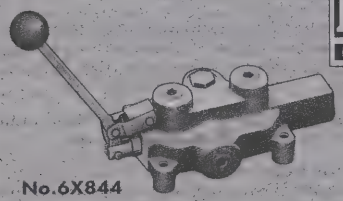

| SystemStak Height (In.) | Thread | Kit Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1.97 (2.0)** | .2500-20 UNC | BKE-4-50M | **3TZ35** | $37.80 | **$32.15** | 0.3 |
| **2.36 (2.4)** | .2500-20 UNC | BKE-4-60M | **3TZ36** | 37.80 | **32.15** | 0.3 |

# DIRECTIONAL CONTROL VALVES

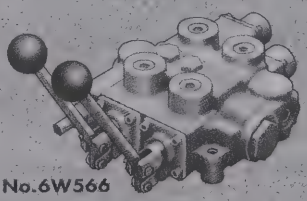
## ONE, TWO, AND THREE SPOOL MONOBLOCK VALVES

Prince HYDRAULICS

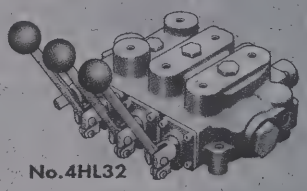
Replacement Parts Available 1-800-323-0620



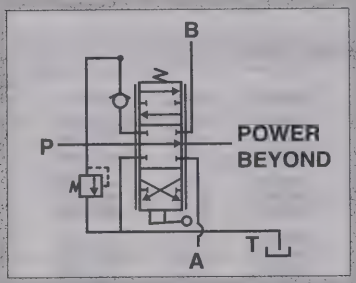
No.6X844

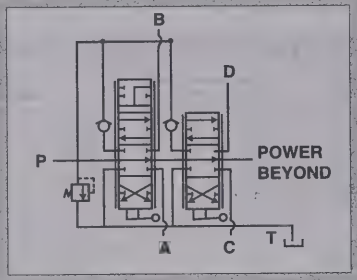


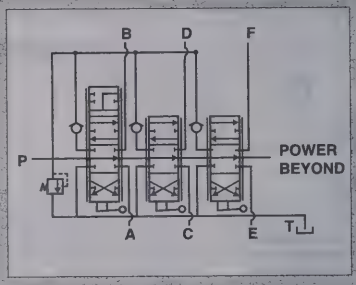
No.6W566



No.4HL32




- Valves commonly used to control cylinders or motors in mobile, agricultural and light industrial applications
- Single spool valves are 3 or 4-way, 3 position and tandem center. Three-way spool valves are used for single-acting cylinders; 4-way spool valves are used for double-acting cylinders
- Two and three spool valves have a 3 position, tandem center first spool with a 4th position float. Commonly used on equipment that needs to be allowed to "drift" during part of the usage cycle: for example, a loader bucket following the ground contour. The remaining spool(s) are 4-way, 3 position and tandem center
- Load checks provided on all spools (except No. 1A967)
- Can be converted to closed center*‡ or power beyond† operation
- No. 6W565 can be converted to closed center operation‡
- All valves have differential poppet relief valves
- No. 1A967 features a pressure detent release preset at 1200 PSI with an adjustment range of 600 to 2000 PSI for applications including logsplitters and presses

### ONE, TWO, AND THREE SPOOL MONOBLOCK VALVE SPECIFICATIONS

| Stock No. | Spool Action | Ways | Spools | Inlet, Outlet Port Size NPT (In.) | Work Port Size NPT (In.) | Capacity GPM | Factory Relief Setting PSI | Relief Range PSI | Maximum PSI |
|---|---|---|---|---|---|---|---|---|---|
| 6X844 | Spring Center to Neutral | 4 | 1 | 1/2 | 1/2 | 16 | 1500 PSI @ 12 GPM | 1000-2750 | 3000 |
| 6X845*† | Spring Center to Neutral | 4 | 1 | 3/4 | 1/2 | 30 | 2000 PSI @ 10 GPM | 1500-3000 | 3000 |
| 6W565‡ | 3 Position Detent | 4 | 1 | 3/4 | 1/2 | 20 | 1500 PSI @ 12 GPM | 1000-2750 | 3000 |
| 4HL36*† | 3 Position Detent | 4 | 1 | 3/4 | 1/2 | 30 | 2000 PSI @ 10 GPM | 1500-3000 | 3000 |
| 1A967 | Spring Center to Neutral | 4 | 1 | 3/4 | 1/2 | 25 | 2250 PSI @ 3 GPM | 1000-2750 | 2750 |
| 4HL37*† | Spring Center to Neutral | 3 | 1 | 3/4 | 1/2 | 30 | 2000 PSI @ 10 GPM | 1500-3000 | 3000 |
| 6W566*† | No. 1: Spring Center to Neutral and 4th Position Detent. No. 2: Spring Center to Neutral | 4 | 2 | 3/4 | 1/2 | 25 | 2000 PSI @ 10 GPM | 1500-3000 | 3000 |
| 4HL32*† | No. 1: Spring Center to Neutral and 4th Position Detent. No. 2 and No. 3: Spring Center to Neutral | 4 | 3 | 3/4 | 1/2 | 25 | 2000 PSI @ 10 GPM | 1500-3000 | 3000 |

### ONE, TWO, AND THREE SPOOL MONOBLOCK VALVE SPECIFICATIONS AND ORDERING DATA

| Overall Dimensions (In.) Length | Width | Height | Prince Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 8 | 3⅞ | 3⅜ | RD2555T4ESA1 | **6X844** | $99.00 | **$95.50** | 10.0 |
| 10 | 5¼ | 3¼ | RD512CA5A4B1 | **6X845** | 148.00 | **132.85** | 15.0 |
| 8 | 3⅞ | 2⅜ | RD2575T4EDA1 | **6W565** | 97.00 | **93.50** | 10.0 |
| 10 | 5¼ | 3¼ | RD512CB5A4B1 | **4HL36** | 141.51 | **135.10** | 15.0 |
| 12½ | 5 | 2 15/16 | LS3000-1 | **1A967** | 98.00 | **86.75** | 10.0 |
| 10 | 5¼ | 3¼ | RD512AA5A4B1 | **4HL37** | 137.42 | **128.40** | 15.0 |
| 10 15/16 | 7⅝ | 3¼ | RD522GCGA5A4B1 | **6W566** | 209.00 | **188.50** | 25.0 |
| 10 15/16 | 9½ | 3¼ | RD532GCCGAA5A4B1 | **4HL32** | 320.01 | **271.50** | 36.0 |

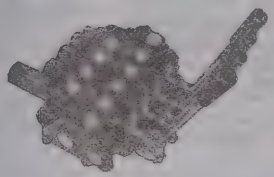
(*) Requires Prince number 660312004 plug. (†) Requires Prince number 660312005 plug. (‡) Requires Prince number 200018002 plug. Available by calling 1-800-323-0620.

# 12 GPM STACK VALVES

Replacement Parts Available 1-800-323-0620

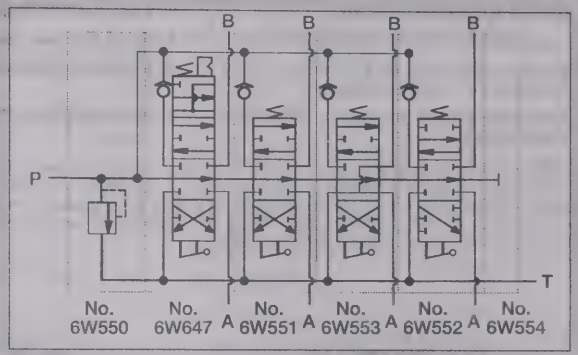


Unassembled



Assembled

HYDRAULIC SCHEMATIC




**Stack valves are hydraulic control valves** built in a modular fashion. Used in a wide range of applications from mobile to agricultural to light industrial.

**Stack Valves Consist of:**

1. Inlet section
2. Work section(s)
3. Outlet section
4. Bolt kit (to hold assembly together)

**Each work section provides** everything needed to control one function or circuit. As extra circuits are needed, they can be added into the stack. Stack valve handles can be mounted in various ways to enable usage in overhead position or to change the flow direction with regard to handle movement without re-plumbing the circuit.

- **Add additional functions by inserting sections**
- **Control up to 8 functions from one station**
- **Assemble special valves for specific applications**
- **Assembly easily performed by sliding inlet, work sections, and outlet together onto 3 bolts, and torquing the bolts to 12.5 ft.-lbs.**
- **Load checks on each section • 12 GPM nominal rating**
- **Inlets offer top and end porting and are machined for cartridge type relief valve**
- **Inlet relief valves are smooth, efficient differential poppet design**
- **Inlets feature #100RB (7/8-14) straight thread porting with the option of using either top or side ports**
- **Work sections all feature #8 ORB (3/4-16) straight thread porting**
- **Outlets feature #8 ORB (7/8-14) straight thread porting with top or side porting**

### INLET SECTION: 500 TO 1500 PSI

- **Standard #10 SAE inlet with relief**
- **Relief preset at 1000 PSI with an adjustment range of 500 to 1500 PSI**
- **Prince model (SV124)**

**No. 6W549.** Shpg. wt. 4.0 lbs. List $44.52.
Each ..... $39.75

### INLET SECTION: 1500 TO 3000 PSI

- **Standard inlet with relief**
- **Relief preset at 2000 PSI with an adjustment range of 1500 to 3000 PSI**
- **Prince model (SV125)**

**No. 6W550.** Shpg. wt. 4.2 lbs.. List $44.52.
Each ..... $39.75

### WORK SECTION: 4-WAY, 3 POSITION, TANDEM CENTER

- **Standard 4-way, 3 position spring centered section with work ports blocked in neutral**
- **Prince model (SVW1BA1)**

**No. 6W551.** Shpg. wt. 6.2 lbs. List $69.96.
Each ..... $64.55

### WORK SECTION: 4-WAY, 4 POSITION, FLOAT CENTER

- **4-way, 4 position fourth position float with spring center and float detent**
- **Prince model (SVW1DD1)**

**No. 6W647.** Shpg. wt. 7.0 lbs. List $88.51.
Each ..... $84.80

### WORK SECTION: 4-WAY, 3 POSITION, OPEN CENTER

- **4-way, motor spool 3 position spring center section with work ports open to tank in neutral**
- **Prince model (SVW1CA1)**

**No. 6W553.** Shpg. wt. 6.2 lbs. List $71.02.
Each ..... $67.35

### WORK SECTION: 3-WAY, 3 POSITION

- **3-way, 3 position section for single acting cylinders**
- **Prince model (SVW1AA1)**

**No. 6W552.** Shpg. wt. 4.1 lbs.. List $71.02.
Each ..... $67.35

### OUTLET SECTION: OPEN CENTER

- **Standard open center outlet**
- **Prince model (SVE21)**

**No. 6W554.** Shpg. wt. 4.1 lbs. List $29.15.
Each ..... $26.50

### OUTLET SECTION: POWER-BEYOND OUTLET

- **Power-beyond outlet with 3/4-16 straight thread power-beyond port**
- **Prince model (SVE22)**

**No. 6W555.** Shpg. wt. 4.1 lbs. List $37.10.
Each ..... $33.40

### OUTLET SECTION: CLOSED CENTER

- **Closed center outlet**
- **Prince model (SVE23)**

**No. 6W556.** Shpg. wt. 4.0 lbs. List $36.04.
Each ..... $32.35

### BOLT KITS

| No. of Work Sections | Prince Model (660401) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 001 | 6W557 | $5.83 | **$5.57** | 0.4 |
| 2 | 002 | 6W558 | 5.93 | **5.67** | 0.5 |
| 3 | 003 | 6W559 | 6.09 | **5.78** | 0.6 |
| 4 | 004 | 6W560 | 6.36 | **5.94** | 0.7 |
| 5 | 005 | 6W561 | 6.36 | **6.04** | 0.9 |
| 6 | 006 | 6W562 | 6.57 | **6.15** | 0.9 |
| 7 | 007 | 6W563 | 6.67 | **6.25** | 1.0 |
| 8 | 008 | 6W564 | 6.89 | **6.63** | 1.0 |

# DIRECTIONAL CONTROL VALVES

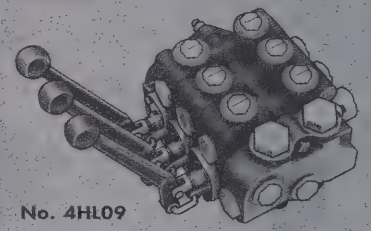
## 20 GPM STACK VALVES

- Up to 8 work sections
- Power beyond capability
- Load checks on each work port
- Float section can be installed in any location in valve assembly
- Interchangeable mounting with other stack valves
- Fine spool metering
- Reversible handle
- Hard chrome plated spools
- Maximum operating pressure: 3500 PSI
- Nominal flow rating: 20 GPM

**Parallel circuit construction.** When any one of the spools in a valve bank is shifted, it blocks off the open center passage. Oil then flows into the parallel circuit core, making oil available to all spools. If more than one spool is fully shifted, then oil will go to the section with the lowest pressure requirements. Possible to meter flow to the spool with the least load, and power two unequal loads.

Prince HYDRAULICS

Replacement Parts Available 1-800-323-0620



No. 4HL09

### INLET SECTION: 1350 TO 1750 PSI

- Standard #12 SAE inlet with relief set

**No. 4HL09.** Shpg. wt. 7.5 lbs. List $83.10.
Each ..... $73.70

### INLET SECTION: 1750 TO 2200 PSI

- Standard #12 SAE inlet with relief set

**No. 4HL10.** Shpg. wt. 7.5 lbs. List $83.10.
Each ..... $73.70

### INLET SECTION: 2200 TO 3000 PSI

- Standard #12 SAE inlet with relief set

**No. 4HL11.** Shpg. wt. 7.5 lbs. List $83.10.
Each ..... $73.70

### WORK SECTION: 4-WAY, 3 POSITION

- 4-way, 3 position work ports blocked in neutral, spring return to center
- Prince model 20P1BA1AA

**No. 4HL12.** Shpg. wt. 10.0 lbs. List $115.22.
Each ..... $102.10

### WORK SECTION: 4-WAY, 3 POSITION

- 4-way, 3 position work ports blocked in neutral, 3 position detent
- Prince model 20P1BB1AA

**No. 4HL13.** Shpg. wt. 10.0 lbs. List $120.09.
Each ..... $106.40

### WORK SECTION: 4-WAY, 4 POSITION

- 4-way, 4 position work ports blocked in center position, 3 position spring return to center, 4th position is float position with detent, port reliefs set at 2200 PSI
- Shim adjustable from 1700 to 2200 PSI
- Prince model 20P1DD1DD

**No. 4HL14.** Shpg. wt. 11.0 lbs. List $228.11.
Each ..... $200.50

### WORK SECTION: 4-WAY, 3 POSITION

- 4-way, 3 position work ports open to tank in center (motor spool), spring to center
- Prince model 20P1CA1AA

**No. 4HL15.** Shpg. wt. 10.0 lbs. List $121.42.
Each ..... $107.50

### WORK SECTION: 4-WAY, 3 POSITION

- 4-way, 3 position work ports open to tank in center (motor spool), 3 position detent
- Prince model 20P1CB1AA

**No. 4HL16.** Shpg. wt. 10.0 lbs. List $126.24.
Each ..... $111.70

### OUTLET SECTION: OPEN CENTER

- Open center, #12 SAE port, option port plugged
- Prince model 20E21

**No. 4HL17.** Shpg. wt. 4.5 lbs. List $36.09.
Each ..... $32.30

### OUTLET SECTION: OPEN CENTER

- Open center, #12 SAE port, power beyond sleeve with #10 SAE port
- Prince model 20E22

**No. 4HL18.** Shpg. wt. 4.5 lbs. List $39.90.
Each ..... $35.55

### OUTLET SECTION: CLOSED CENTER

- Closed center, #12 SAE port
- Prince model 20E23

**No. 4HL19.** Shpg. wt. 4.5 lbs. List $41.02.
Each ..... $36.55

### PORT RELIEF CARTRIDGE: 1350 TO 1750 PSI

- Set at 1750 PSI
- Shim adjustable from 1351 to 1750 PSI
- Prince model 660290323

**No. 4HL20.** Shpg. wt. 1.0 lbs. List $45.89.
Each ..... $40.15

### PORT RELIEF CARTRIDGE: 1750 TO 2200 PSI

- Set at 2200 PSI
- Shim adjustable from 1750 to 2200 PSI
- Prince model 660290325

**No. 4HL21.** Shpg. wt. 1.0 lbs. List $45.89.
Each ..... $40.15

### PORT RELIEF CARTRIDGE: 2200 TO 3000 PSI

- Set at 2500 PSI
- Shim adjustable from 2200 to 3000 PSI
- Prince model 660290327

**No. 4HL22.** Shpg. wt. 1.0 lbs. List $45.89.
Each ..... $40.15

### BOLT KITS

| No. of Work Sections | Prince Model (660402) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 | 101 | 4HL23 | $9.22 | $8.14 | 0.5 |
| 2 | 102 | 4HL24 | 10.49 | 9.30 | 0.7 |
| 3 | 103 | 4HL25 | 11.66 | 10.36 | 0.9 |
| 4 | 104 | 4HL26 | 12.24 | 10.90 | 1.1 |
| 5 | 105 | 4HL27 | 12.93 | 11.43 | 1.2 |
| 6 | 106 | 4HL28 | 13.67 | 12.18 | 1.4 |
| 7 | 107 | 4HL29 | 14.68 | 13.02 | 1.5 |
| 8 | 108 | 4HL30 | 23.95 | 21.07 | 1.6 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

GUARDIAN® Parker Filtration



No. 6F582

No. 6F583

No. 6F590

## GUARDIAN® PORTABLE FILTRATION SYSTEM

- For conditioning and transferring petroleum-based and water emulsion fluids
- Use when adding new oil to reservoir or to clean and "polish" oil already in system
- Compact, hand-held design is lightweight and ideal for hard to reach places
- Prevents contaminants from damaging critical hydraulic components
- Flow rate to 4 GPM
- Built-in relief valve with no downstream bypass ensures 100% filtration
- Wide variety of replacement filter elements available (see below)
- UL Recognized, CSA Listed motor

Gerotor pump with visible serviceable inlet strainer. 1/4 HP, 115 VAC, 3.0 F/L Amp, motor with thermal overload protection. Inlet and outlet hoses can be connected for leak proof transport. Auxiliary ports can be used to sample oil. Viton seals provide long life.

Includes one 10-micron cellulose filter element and two clear, wire reinforced, 5 ft. hose assemblies with wand attachments.

Maximum 16,000 SUS fluid viscosity. 50 PSI maximum operating pressure. Visual 25 PSID differential pressure indicator. Operating temperature range: -15 to 180°F (120°F maximum operating temperature of wand and hoses).

**No. 6F582.** Parker brand (GT410C1).
Shpg. wt. 27.0 lbs. List $759.44. Each...**$722.50**

### MOLDED PLASTIC CARRYING CASE

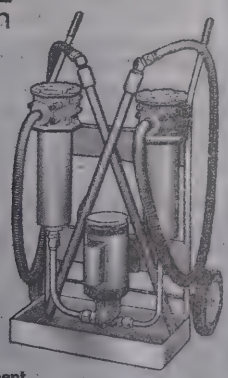
Optional carrying case for ease of transporting and storage.

**No. 6F583.** Parker brand (GT410C1).
Shpg. wt. 8.6 lbs. List $173.80. Each.....**$164.50**

### REPLACEMENT FILTER ELEMENTS FOR No. 6F582

| Filter Media | Microns | Box Qty. | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Woven wire | 74 | 1 | 922626 | **6F587** | $134.62 | **$111.20** | 0.6 |
| Woven wire | 40 | 1 | 922628 | **6F588** | 128.67 | **106.20** | 0.6 |
| Woven wire | 25 | 1 | 922627 | **6F589** | 218.86 | **181.00** | 0.6 |
| Cellulose | 20 | 2 | 932020 | **6F590** | 63.36 | **52.15** | 0.9 |
| Cellulose | 10 | 2 | 932016 | **6F584** | 63.36 | **52.15** | 0.9 |
| Microglass II | 10 | 2 | 932017Q | **6F585** | 98.15 | **80.75** | 1.0 |
| Microglass II | 3 | 2 | 932018Q | **6F591** | 103.99 | **85.80** | 1.0 |
| Copolymer | 20 | 2 | 932019 | **6F586** | 86.69 | **71.55** | 0.9 |

Parker Filtration



Replacement Parts Available 1-800-323-0620™

No. 4Z987

## PORTABLE OIL FILTRATION CART

- Eliminate contaminants found even in fresh oil
- Prefilter hydraulic oil while transferring to the reservoir
- Filter oil already in reservoir as a part of routine maintenance schedule to prolong life of hydraulic components
- 3/4 HP, 115V 10 amp motor with thermal overload protection
- Incorporates two high capacity filters to remove ultrafine contaminants
- Flow rate to 10 GPM
- Built-in bypass valve allows no partial bypass until differential pressure is reached
- Assembled on two-wheel hand cart with oil drip pan

System filters fluids through a primary 40-micron synthetic polyester inlet filter, then through a final discharge 10-micron cellulose filter. Visual indicator tells condition of element and warns when element should be changed (direct replacement and optional replacement elements listed below).

Unit includes two 1" diameter x 7 foot hoses and two 3-foot wands on inlet and discharge filters. Two-wheel cart is easy to maneuver and includes a cart-mounted On/Off switch.

Measures 25½L x 19W x 40½"H. Maximum operating temperature is 225°F.

**No. 4Z987.** Parker brand (10M40SA 10C).
Shpg. wt. 104.0 lbs. List $1369.93.
Each .....**$1345.00**

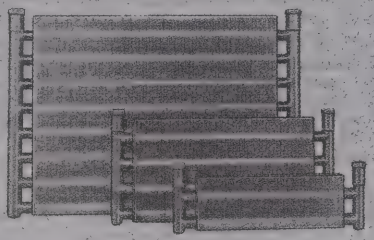
Optional Discharge Filter Medium. Replacement elements available in microglass, cellulose, and 20-micron/water removal. Microglass has a higher dirt-holding capacity for longer usable filter life. Three-micron cellulose element provides finer filtration than the standard element provided with filter cart. Twenty-micron/water removal element will eliminate moisture and the damaging effects of rust and corrosion to prolong component life.

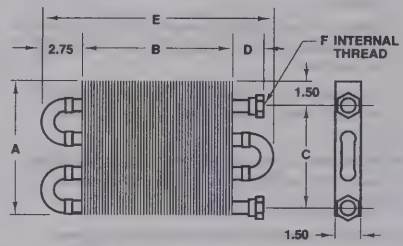
### REPLACEMENT FILTER ELEMENTS FOR No. 4Z987 HYDRAULIC CART

| Filters | Filter Media | Microns | Parker Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Inlet | Polyester | 40 | 924448 | **1R440** | $43.04 | **$37.10** | **$35.22** | 0.9 |
| Discharge | Cellulose | 10 | 924450 | **1R441** | 38.02 | **32.85** | **31.16** | 1.0 |
| Discharge | Microglass II | 10 | 924453Q | **4ZC79** | 85.88 | **68.35** | **64.88** | 1.0 |
| Discharge | Cellulose | 3 | 924419 | **4ZC78** | 43.04 | **36.45** | **34.55** | 1.0 |
| Discharge | Copolymer | 20/Water Removal | 927584 | **4ZC80** | 59.95 | **47.70** | **45.28** | 1.0 |

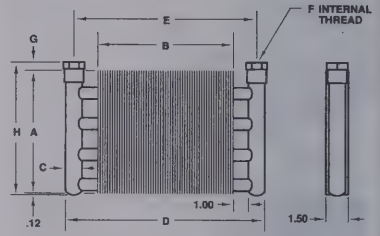
# MOBILE OIL COOLERS AND FORCED AIR OIL COOLERS

## MOBILE OIL COOLERS






No. 4F360
Dimensional Diagram




Nos. 4F361, 4F362 & 4F363
Dimensional Diagram

- **Highly efficient design**
- **Rugged construction resists vibration**
- **Universal mounting bracket included (hoses not provided)**
- **Max. PSI 300**
- **Max. temperature 350°F**
- **Performance based on oil entering cooler 50°F higher than ambient air temperature, 1000 FPM air flow**

| Flow Range (GPM) | HP Heat Removed | Dimensions (In.) A | B | C | D | E | F | G | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.3-2** | 1.0 | 8.00 | 8.00 | 6.00 | 2.12 | 13.50 | 1/2 NPT | — | — | **4F360** | $123.17 | **$104.35** | 4.0 |
| **3.0-24** | 3.5 | 12.00 | 11.50 | 1.50 | .75 | 14.62 | 3/4 | 1.56 | 13.56 | **4F361** | 148.97 | **127.55** | 6.0 |
| **6.0-24** | 5.0 | 12.00 | 16.75 | 1.50 | 21.00 | 19.88 | 3/4 | 0.56 | 12.69 | **4F362** | 170.04 | **145.40** | 10.0 |
| **10.0-30** | 9.0 | 18.00 | 19.75 | 1.50 | 24.00 | 22.88 | 3/4 | 0.56 | 18.69 | **4F363** | 245.11 | **210.75** | 13.0 |

## FORCED AIR OIL COOLERS

- **Compact, highly efficient design with contoured air side fins and internal oil turbulators**
- **Rugged construction resists vibration and torsional stress**
- **Eliminates water and sewer costs**
- **Copper and aluminum construction**
- **Fully assembled**
- **Mounting bracket included for easy installation**
- **Max. PSI 300 • Max. temperature 350°F**

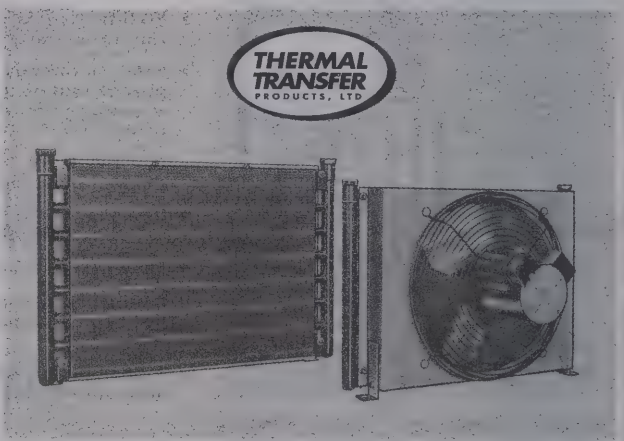
### Sizing Forced Air Units:

1.Find the system oil flow (GPM)

2.Size heat exchanger to remove approximately 30% of input horsepower

NOTE: To find an approximation of the BTU removed, multiply the HP heat removed by 2545.

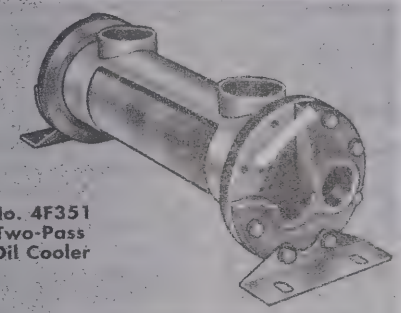
- **Pressure drop is less than 25 PSI at maximum flow**
- **Performance based on oil entering cooler 50°F higher than ambient air temperature**



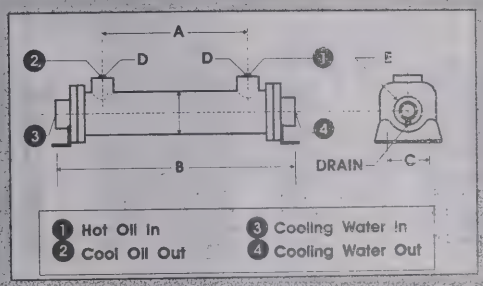
### SPECIFICATIONS AND ORDERING DATA

| Flow Range (GPM) | HP Heat Removed | Oil Connections (F)NPT (In.) | Fan Motor HP | Volts, 50 / 60 Hz | Amps | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.3-2** | 1.0 | 1/2 | 1/30 | 115 / 230 | 1.1/0.7 | 9 | 13 | 7 | **4F353** | $289.73 | **$247.75** | 13.0 |
| **3.0-24** | 2.5 | 3/4 | 1/4 | 115 / 230 | 3.2/1.6 | 15 | 16 | 12 | **4F354** | 531.23 | **453.25** | 26.0 |
| **6.0-24** | 4.0 | 3/4 | 1/4 | 115 / 230 | 3.2/1.6 | 14 | 21 | 12 | **4F355** | 636.77 | **484.75** | 28.0 |
| **8.0-24** | 5.5 | 3/4 | 1/4 | 115 / 230 | 3.2/1.6 | 15 | 21 | 12 | **4F356** | 662.58 | **566.00** | 29.0 |
| **10.0-30** | 8.0 | 3/4 | 1/4 | 115 / 230 | 3.2/1.6 | 19 | 24 | 13 | **4F357** | 726.97 | **620.50** | 38.0 |

# WATER COOLED HYDRAULIC OIL COOLERS



No. 4F351
Two-Pass
Oil Cooler




Many hydraulic systems recommend the operating temperature of oil not exceed 160°F. Excessive temperatures can cause oil to oxidize, forming gum, varnish resins, sludge, and acids. These by-products shorten life of oil, cause valves to stick and cause erratic operation of system. Additionally, excessive heat reduces efficiency of system while consuming more energy.

- **Aluminum fins mechanically bonded to copper tubes extend cooling surface**
- **Highly efficient design lowers operating costs**
- **Internal oil flow bypass relief valve (surge cushion) protects cooler from pressure spikes**
- **Rotating mounting brackets allow for easy installation**
- **Removable end caps allow easy access to tubes for cleaning**
- **Nos. 4F351 and 4F352 are two-pass units**
- **Maximum water PSI 150**
- **Maximum oil PSI 500**

**Sizing Hydraulic Cooler:**

1. Find the system oil flow (GPM)
2. Size heat exchanger to remove approximately 30% of input horsepower

**NOTE:** To find an approximation of the BTU removed, multiply the HP heat removed by 2545.

- **Pressure drop is less than 20 PSI at maximum flow**
- **One GPM of water is required for every two GPM of oil**
- **Performance based on oil leaving cooler 40°F higher than incoming water temperature**

## SIZING SPECIFICATIONS

| Oil Flow (GPM) | Heat Removed (HP) 4F350 | 4F351 | 4F352 |
|---|---|---|---|
| 4 | 4 | — | — |
| 6 | 5 | 8 | — |
| 8 | 6 | 9.5 | — |
| 10 | 7 | 11 | 20 |
| 12 | 8 | 12 | 22 |
| 15 | 9 | 15 | 25 |
| 20 | 11 | 17 | 30 |
| 25 | — | 20 | 36 |
| 30 | — | — | 40 |
| 40 | — | — | 50 |
| 50 | — | — | 56 |

## DIMENSIONS (INCHES)

| Stock No. | A | B | C | D NPT | E NPT |
|---|---|---|---|---|---|
| 4F350 | 3.85 | 10.44 | 2.5 | 3/4 | 3/4 |
| 4F351 | 3.00 | 10.70 | 3.0 | 1½ | 3/4 |
| 4F352 | 6.18 | 15.45 | 4.0 | 2 | 1 |

## SPECIFICATIONS AND ORDERING DATA

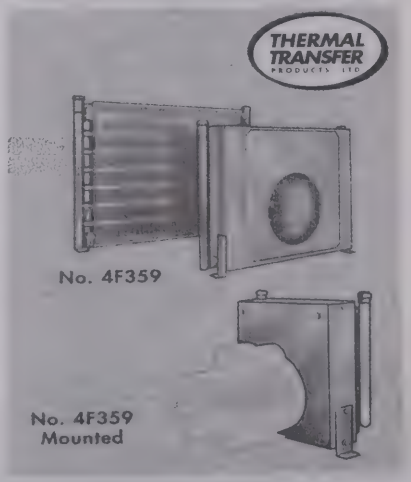
| Cooling Surface (Sq. ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 7.9 | 4F350 | $253.41 | **$215.25** | 7.0 |
| 14.9 | 4F351 | 356.61 | **303.75** | 14.0 |
| 47.2 | 4F352 | 614.52 | **529.00** | 37.0 |

# TEFC MOTOR MOUNTED OIL COOLERS

- **Uses air stream from fan of TEFC electric motor**
- **Sized to fit popular electric motor frame sizes**
- **Ideal for cooling in low flow case drain lines**
- **Durable powder painted cabinet**
- **Maximizes efficiency with contoured air side fins and internal oil turbulators**
- **Includes motor-cooler gasket and mounting brackets**
- **Performance based on oil entering cooler 50°F higher than ambient air temperature**
- **Max. PSI 300**

## SPECIFICATIONS AND ORDERING DATA

| TEFC NEMA Frame Size | Flow Range GPM | HP Heat Removed | Dimensions (In.) H | W | D | Oil Connections (F)NPT | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 48, 56,143T, 145T, 154,182, 184,182T,184T | 0.3-2 | 0.75 | 10.0 | 14.0 | 4.0 | 1/2" | 4F358 | $165.65 | **$148.60** | 8.0 |
| 48, 56, 143T, 145T, 154, 182, 184, 182T,184T | 3-24 | 0.9 | 15.0 | 15.8 | 4.7 | 3/4 | 4F359 | 249.00 | **224.50** | 15.0 |
| 213, 215, 213T, 215T,254U, 256U, 254T, 256T | 3-24 | 2.0 | | | | | | | | |

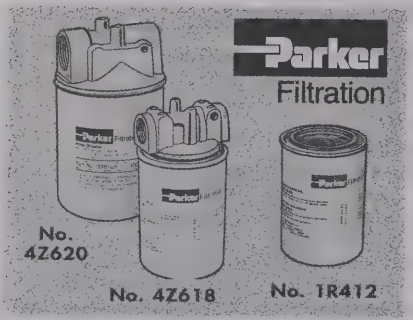


No. 4F359

No. 4F359
Mounted

# SPIN-ON FILTER & REPLACEMENT ELEMENTS

## HYDRAULIC RETURN LINE SPIN-ON FILTERS




- **Used in return line, just before the reservoir, in any hydraulic system using petroleum-based fluids**
- **Maximum pressure is 150 PSI; temperature 225°F**
- **Cast aluminum head mounts securely to in-line piping**
- **Like size filter heads are interchangeable**

**Head has 1/8" NPTF port** for use with optional gauge No. 1A318 listed below.

**Dual Buna N seals;** outer seal resists leaks up to 150 PSI; inner seal keeps incoming fluid from mixing with clean filtered fluid. Have 15 PSID bypass spring. Flow rates are determined by fluid viscosity. Amount of dirt entering system affects frequency of element replacement.

**Two threaded holes in filter head** permit extra rigid mounting. In sizing filters, consider maximum flow rate of oil discharge to reservoir as return flow rate can be more than pump rated flow rate.

**Filter medium** is phenolic impregnated cellulose or microglass. Microglass has a higher dirt-holding capacity for longer usable filter life. Elements are interchangeable with major brands having same size element stem: 1"-12 thread for 20 GPM models and 1½"-16 thread for 50 GPM models. Parker brand.

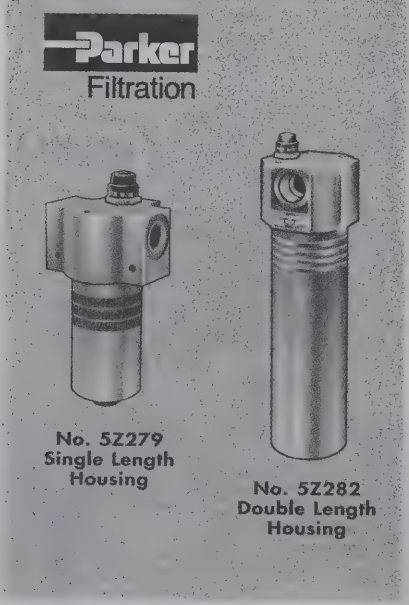
| | | | COMPLETE FILTER | | | | | | REPLACEMENT ELEMENTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max. GPM | Filter Media | Filter Microns | Ports NPT (In.) | Parker Model | Stock No. | List | Each | Shpg. Wt. | Parker Model | Stock No. | List | Each | Shpg. Wt. |
| **20** | Cellulose | 3 | 3/4 | 12AT03CN15BBLI | **4ZC86** | $26.59 | **$23.98** | 1.7 | 926543 | **4ZC81** | $13.69 | **$12.72** | 1.5 |
| **20** | Cellulose | 10 | 3/4 | 12AT10CN15BBLI | **4Z618** | 24.50 | **23.01** | 1.8 | 921999 | **1R412** | 12.08 | **11.28** | 1.5 |
| **20** | Microglass | 10 | 3/4 | 12AT10BN15BBLI | **4ZC87** | 51.64 | **43.90** | 1.7 | 928763 | **4ZC82** | 48.86 | **38.10** | 1.5 |
| **20** | Microglass | 20 | 3/4 | 12AT20BN15BBLI | **4ZC88** | 51.64 | **43.90** | 2.0 | 928764 | **4ZC83** | 48.86 | **38.10** | 1.5 |
| **20** | Cellulose | 25 | 3/4 | 12AT25CN15BBLI | **4Z619** | 24.51 | **23.02** | 1.7 | 925023 | **1R413** | 12.08 | **11.28** | 1.5 |
| **50** | Cellulose | 3 | 1¼ | 50AT03CN15BBLI | **4ZC91** | 48.52 | **42.95** | 5.3 | 926541 | **5W285** | 27.69 | **25.25** | 2.5 |
| **50** | Cellulose | 10 | 1¼ | 50AT10CN15BBLI | **4Z620** | 47.20 | **44.75** | 5.3 | 926169 | **1R414** | 25.42 | **23.22** | 2.3 |
| **50** | Microglass | 10 | 1¼ | 50AT10BN15BBLI | **4ZC89** | 91.77 | **78.15** | 5.3 | 928766 | **4ZC84** | 86.84 | **70.00** | 3.1 |
| **50** | Microglass | 20 | 1¼ | 50AT20BN15BBLI | **4ZC90** | 91.77 | **78.15** | 5.3 | 928767 | **4ZC85** | 86.84 | **70.00** | 2.8 |
| **50** | Cellulose | 25 | 1¼ | 50AT25CN15BBLI | **4Z621** | 47.20 | **44.75** | 5.3 | 926170 | **1R415** | 25.42 | **23.22** | 2.3 |

## FILTER REPLACEMENT GAUGE/INDICATOR

1/8" NPT back connection compound gauge/indicator. Enables operator to tell when filter canister needs replacing. Indicator is red-lined at 15 to 60 PSI. ±3% full scale accuracy. ABS case. Polycarbonate window. 2" diameter open face dial. Ashcroft brand (20W1005PH).

**No. 2C492.** Filter Replacement Indicator. Shpg. wt. 0.2lbs. List $22.25. Each ..... **$8.74**

## HYDRAULIC PRESSURE FILTERS




- **For intermediate and higher pressure systems in mobile and industrial applications**
- **Rated max. allowable operating pressure of 3000 PSI**
- **Lightweight, compact design made of corrosion resistant anodized aluminum**

Protect proportional controls, servo valves, and other critical hydraulic components against dirt and foreign matter when installed downstream from pump.

**Two housing lengths.** Single for normal filtration requirements. Double for extended element life. Ten-micron paper element is standard.

**Built-in 50 PSID bypass valve** allows system to continue operating in an unfiltered condition. Pop-up indicator signals the bypass condition and need for element replacement. 3/4"-SAE12 (5Z279, 5Z280), and 1"-SAE16 (5Z281, 5Z282). Parker brand.

### HYDRAULIC PRESSURE FILTERS

| Nominal GPM | Housing Type | Maximum Pressure (PSI) | Parker Series | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **20** | Single | 3000 | 15P1 | **5Z279** | $287.72 | **$275.75** | 3.9 |
| **20** | Double | 3000 | 15P2 | **5Z280** | 311.23 | **298.75** | 5.2 |
| **50** | Single | 3000 | 30P1 | **5Z281** | 333.64 | **319.50** | 7.7 |
| **50** | Double | 3000 | 30P2 | **5Z282** | 344.92 | **317.50** | 9.9 |

### REPLACEMENT ELEMENTS

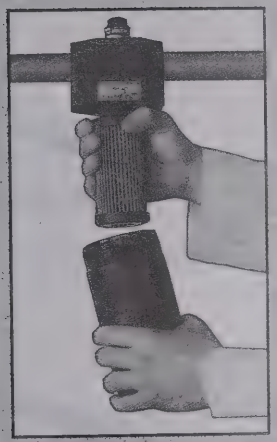
| Use With Filter No. | Housing Type | Material | Micron | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **5Z279** | Single | Cellulose | 10 | 925385 | **5W283** | $38.58 | **$34.70** | 0.3 |
| **5Z279** | Single | Microglass II | 10 | 932612Q | **5W353** | 44.86 | **41.10** | 0.4 |
| **5Z280** | Double | Cellulose | 10 | 925394 | **5W357** | 46.78 | **41.40** | 0.5 |
| **5Z280** | Double | Microglass II | 10 | 9326189 | **5W314** | 56.61 | **49.75** | 0.5 |
| **5Z281** | Single | Cellulose | 10 | 922624 | **5W720** | 56.01 | **48.00** | 0.5 |
| **5Z281** | Single | Microglass II | 10 | 922622 | **5W721** | 69.51 | **59.70** | 0.7 |
| **5Z282** | Double | Cellulose | 10 | 925835 | **5W722** | 77.65 | **66.70** | 0.5 |
| **5Z282** | Double | Microglass II | 10 | 925837 | **5W723** | 106.95 | **88.30** | 0.8 |

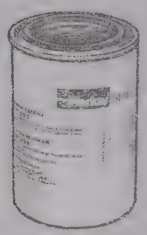
# HYDRAULIC FILTER ELEMENTS

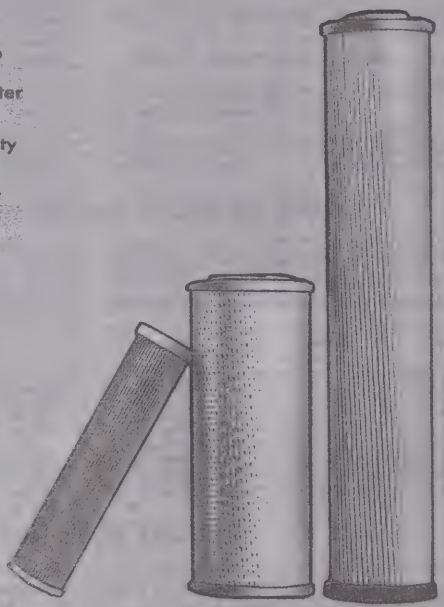
Parker

Par Fit™

- Parker Par-Fit™ elements are directly interchangeable with Pall, Schroeder, and other filter manufacturers' elements
- Increased dirt holding capacity for longer element life
- Meet or exceed original filter element specifications







| Parker Part No. | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 921999 | **1R412** | $12.08 | **$11.28** | **$10.71** | 1.5 |
| 925023 | **1R413** | 12.08 | **11.28** | **10.71** | 1.5 |
| 926169 | **1R414** | 25.42 | **23.22** | **22.05** | 2.3 |
| 926170 | **1R415** | 25.42 | **23.22** | **22.05** | 2.3 |
| 925385 | **5W283** | 38.58 | **34.70** | **32.92** | 0.3 |
| 925520 | **5W284** | 30.22 | **26.85** | **25.48** | 1.4 |
| 926541 | **5W285** | 27.69 | **25.25** | **23.95** | 2.5 |
| 927147 | **5W286** | 25.41 | **23.22** | **22.05** | 2.5 |
| 926898 | **5W287** | 34.82 | **32.10** | **30.43** | 1.7 |
| 926698Q | **5W289** | 136.28 | **115.70** | **111.50** | 2.0 |
| 926835Q | **5W290** | 68.17 | **62.15** | **59.01** | 1.0 |
| 926839Q | **5W291** | 116.97 | **106.65** | **101.28** | 2.0 |
| HF4L3VQ | **5W293** | 77.63 | **69.25** | **65.74** | 1.5 |
| 927861Q | **5W296** | 195.74 | **174.75** | **165.94** | 6.3 |
| 933044Q | **5W297** | 362.51 | **319.50** | **303.19** | 7.0 |
| 933046Q | **5W298** | 323.54 | **285.50** | **270.92** | 8.0 |
| 932872Q | **5W300** | 606.61 | **536.00** | **508.65** | 16.0 |
| 932874Q | **5W301** | 551.04 | **487.00** | **462.40** | 16.0 |
| 932613Q | **5W302** | 102.54 | **93.60** | **88.84** | 0.5 |
| 932619Q | **5W303** | 150.90 | **133.55** | **126.81** | 1.3 |
| 927694Q | **5W304** | 163.77 | **143.95** | **136.70** | 0.9 |
| 926888Q | **5W309** | 172.58 | **157.75** | **149.81** | 3.0 |
| 926556 | **5W310** | 31.51 | **29.15** | **27.66** | 1.5 |
| 926566 | **5W311** | 20.92 | **19.33** | **18.36** | 0.8 |
| 924734 | **5W313** | 44.65 | **41.35** | **39.28** | 1.3 |
| 932618Q | **5W314** | 56.61 | **49.75** | **47.20** | 0.5 |
| 932616Q | **5W315** | 65.12 | **57.80** | **54.86** | 0.5 |
| 924735 | **5W317** | 43.36 | **40.10** | **38.04** | 0.8 |
| 932621Q | **5W318** | 146.17 | **129.80** | **123.25** | 2.4 |
| 927723Q | **5W320** | 172.82 | **153.00** | **145.21** | 1.0 |
| 926543 | **5W324** | 13.70 | **13.08** | **12.43** | 1.2 |
| 926899 | **5W325** | 24.46 | **22.18** | **21.08** | 1.4 |

| Parker Part No. | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|
| 927148 | **5W326** | $25.42 | **$23.22** | **$22.05** | 2.0 |
| 926565 | **5W327** | 59.42 | **50.70** | **48.11** | 3.5 |
| 926697Q | **5W328** | 97.49 | **89.90** | **85.34** | 1.0 |
| 926899Q | **5W329** | 173.70 | **154.50** | **146.69** | 0.6 |
| 926837Q | **5W330** | 85.67 | **81.40** | **77.33** | 1.0 |
| HF4L15VQ | **5W333** | 67.20 | **62.25** | **59.09** | 1.7 |
| 927861Q | **5W336** | 190.36 | **176.50** | **167.48** | 5.0 |
| 932615Q | **5W342** | 96.80 | **88.60** | **84.11** | 0.5 |
| 927696Q | **5W343** | 124.31 | **113.45** | **107.74** | 1.7 |
| 922625 | **5W349** | 56.01 | **49.60** | **47.04** | 0.5 |
| 926557 | **5W350** | 20.90 | **19.32** | **18.35** | 1.4 |
| 926567 | **5W351** | 18.40 | **16.95** | **16.11** | 0.7 |
| 901536 | **5W352** | 41.05 | **37.60** | **35.62** | 0.7 |
| 932612Q | **5W353** | 44.86 | **41.10** | **38.96** | 0.4 |
| 932610Q | **5W354** | 50.48 | **45.95** | **43.62** | 0.5 |
| 925594 | **5W357** | 46.78 | **41.40** | **39.28** | 0.5 |
| 931437 | **5W358** | 22.80 | **19.85** | **18.86** | 1.7 |
| 933576Q | **5W359** | 132.30 | **117.55** | **111.62** | 1.0 |
| 927176Q | **5W360** | 348.47 | **302.50** | **286.95** | 2.0 |
| 925576 | **5W369** | 38.65 | **35.00** | **33.22** | 0.3 |
| 926475 | **5W370** | 84.00 | **74.00** | **70.30** | 2.3 |
| 927992Q | **5W374** | 89.86 | **81.90** | **77.80** | 1.2 |
| 925578 | **5W377** | 45.87 | **40.90** | **38.87** | 0.3 |
| 925574 | **5W378** | 138.51 | **126.30** | **119.93** | 0.4 |
| 932873Q | **5W379** | 601.51 | **531.50** | **504.61** | 14.0 |
| 926896Q | **5W382** | 145.12 | **132.50** | **125.85** | 2.7 |
| 901856 | **5W384** | 28.74 | **25.80** | **24.50** | 0.4 |
| 901535 | **5W385** | 41.05 | **37.60** | **35.54** | 0.5 |
| 926568 | **5W386** | 18.40 | **16.95** | **16.11** | 0.7 |

## PARKER HYDRAULIC FILTER ELEMENTS ALSO INTERCHANGE WITH THE FOLLOWING BRANDS†:

FIAT- ALLIS FRAM · GRESEN HYDRECO · MOOG RYCO · STEIGER SULLAIR · TORO VICKERS

(†) Cross-reference information available listing brands and models where Parker elements can be used. See Cross-Reference Information on page opposite inside back cover.

# DEFINITE PURPOSE HOSE ASSEMBLIES

## SNOW PLOW HOSE ASSEMBLIES

Aeroquip thermoplastic FC372 1/4" I.D. hose coupled with 1/4" (1/4-18) (M)NPT at each end.

- **Works with Nos. 2F773 and 2F775 couplers**
- **Hose working PSI: 2750**
- **All hoses have a 4:1 safety factor**
- **Temperature range: -65° to 200°F**
- **Minimum bend radius: 1.25"**

| Type | Hose Size (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Western Snow Plows** | 1/4 x 36 | 4-36WH | **2F499** | $41.50 | **$15.92** | 0.5 |
| **Meyer Snow Plows** | 1/4 x 45 | 4-45MH | **2F501** | 45.00 | **17.25** | 0.8 |

## LIQUID PROPANE GAS HOSE ASSEMBLIES

Aeroquip FC321-5/16" I.D. hose coupled with 4401-6S (5/8-18) SAE 45° swivel at each end. LPG UL listing MH6044. For use in butane-propane applications on mobile and stationary equipment. Operating temperature range: -40° to 250°F (-40° to 121°C). Maximum operating PSI: 350; 4:1 safety factor. Bend radius: 2".

| Length (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **12** | LP-12 | **2F655** | $50.50 | **$19.44** | 0.4 |
| **18** | LP-18 | **2F659** | 56.50 | **21.74** | 1.0 |
| **24** | LP-24 | **2F661** | 62.50 | **24.02** | 2.0 |
| **30** | LP-30 | **2F663** | 68.50 | **26.35** | 1.0 |
| **36** | LP-36 | **2F665** | 74.00 | **28.65** | 0.8 |
| **42** | LP-42 | **2F667** | 88.50 | **34.10** | 1.0 |
| **48** | LP-48 | **2F669** | 92.00 | **35.35** | 1.0 |
| **120** | LP-120 | **2F657** | 163.25 | **62.80** | 2.0 |

## HOSE ASSEMBLY

Aeroquip FC310-1" I.D. hose SAE 100R2 Hi-Pac performance coupled with 1" (1-11 1/2) male NPT at each end. Hose assembly is protected by steel coil spring for use between tractor and trailers. Operating temperature range: -40°F to 212°F (-40° to 100°C). Maximum operating PSI: 2000; 4:1 safety factor. Minimum bend radius: 6".

| Length (Ft.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt |
|---|---|---|---|---|---|
| **8** | WL-8 | **2F787** | $233.00 | **$89.70** | 10.0 |
| **10** | WL-10 | **2F783** | 276.50 | **106.40** | 12.0 |
| **12** | WL-12 | **2F785** | 320.00 | **123.25** | 14.0 |

## LOW SPILL-CONNECT UNDER PRESSURE QUICK COUPLER

5100 Series low spill-connect under pressure. Brass coupling with steel tubular valve offers minimum air inclusion and fluid loss. Thread together latch provides connect under pressure capability and vibration resistance. Not rated for continuous hydraulic impulse applications.

- **Tubular valve construction for virtually no fluid loss during disconnection, reducing environmental and worker safety hazards**
- **Low air inclusion during connection maintains system performance**
- **Connect against pressure capability allows connection of halves even when pressurized**
- **Brass construction with steel valving components and Buna N seal material**
- **Working PSI: 3000; Flow GPM: 40**
- **Vacuum (IN/HG): 28**

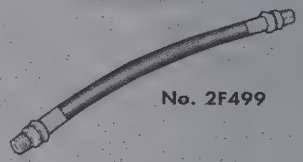
| Type | Pipe Size (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Coupler Body** | 1 (F)NPT | 5100-S5-16B | **2F535** | $123.00 | **$59.20** | 1.8 |
| **Nipple (Tip)** | 1 (F)NPT | 5100-S2-16B | **2F533** | 80.50 | **38.75** | 1.7 |

## HIGH PRESSURE HOSE ASSEMBLIES

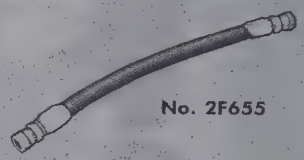
- **For high pressure hydraulic jacking systems maximum 10,000 PSI operating pressure**
- **Buna N tube, double wire braid reinforcement, PVC-nitrile blend cover**
- **Temperature range: -40° to 212°F**
- **All hoses have a 2:1 safety factor**
- **Hose is 1/4" I.D. (0.60" O.D.)**
- **Minimum bend radius: 2"**
- **3/8" (M)NPT fittings with spring guards**
- **Meets Material Handling Institute (MHI) specification IJ100**

| Length (Ft.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **15** | EH-15 | **2F575** | $130.00 | **$62.55** | 4.0 |
| **20** | EH-20 | **2F577** | 158.50 | **76.25** | 4.5 |

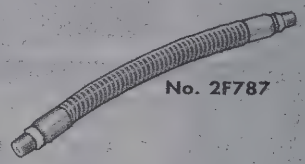
Aeroquip



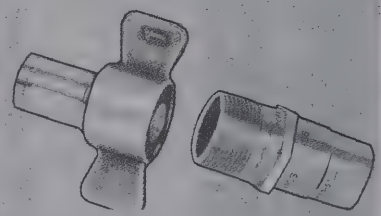
No. 2F499



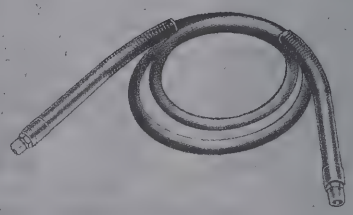
No. 2F655



No. 2F787

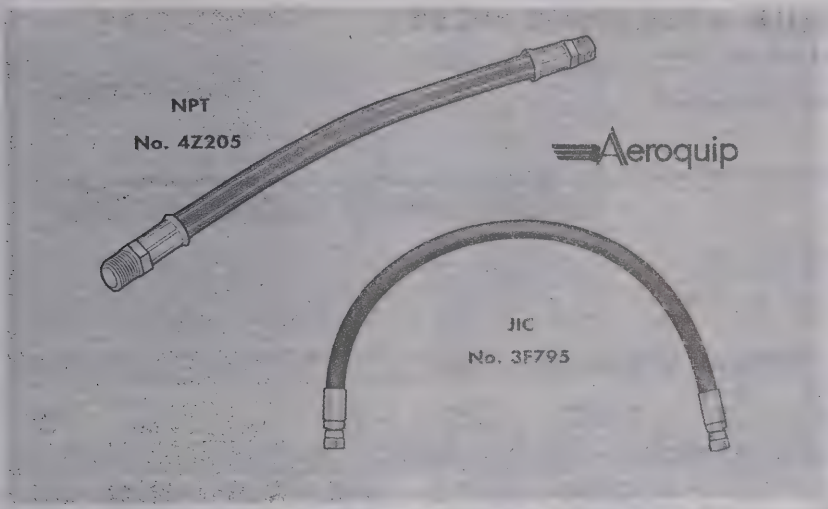


No. 2F535 No. 2F533



No. 4Z479

# HIGH PRESSURE HOSE ASSEMBLIES




Aeroquip

- **Aeroquip HI-PAC® hose meets or exceeds performance aspects of SAE J517C 100R2 ratings**
- **For hydraulic system and general industrial applications**
- **Compatible with petroleum and water based fluids**
- **Temperature range: -40 to 212°F**

**Tube:** Seamless, heat and oil resistant synthetic rubber

**Reinforcement:** Braided, carbon steel wire

**Cover:** Black, oil and abrasion resistant synthetic rubber

- **All hoses have a 4:1 safety factor**

## NPT HOSE ASSEMBLY SPECIFICATIONS

| Male Pipe Thread (In.) | Hose I.D. (In.) | Hose O.D. (In.) | Maximum Operating PSI | Min. Bend Radius (In.) | Wt. per Foot in Lbs. |
|---|---|---|---|---|---|
| 1/4-18 | 1/4 | 0.55 | 5000 | 2.00 | 0.21 |
| 3/8-18 | 3/8 | 0.68 | 4000 | 2.50 | 0.27 |
| 1/2-14 | 1/2 | 0.79 | 3500 | 3.50 | 0.34 |
| 3/4-14 | 3/4 | 1.08 | 2250 | 4.75 | 0.50 |
| 1-11½ | 1 | 1.36 | 2000 | 6.00 | 0.71 |

## NPT HOSE ASSEMBLY ORDERING DATA

| Hose Dia. x L (In.) | NPT Size (In.) | Dash Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4 x 15** | 1/4-18 | 4 | **2F711** | $23.00 | **$8.92** | 0.4 |
| **1/4 x 24** | 1/4-18 | 4 | **2F713** | 27.00 | **10.37** | 0.8 |
| **1/4 x 36** | 1/4-18 | 4 | **2F715** | 34.75 | **13.36** | 1.0 |
| **1/4 x 48** | 1/4-18 | 4 | **2F717** | 39.75 | **15.28** | 1.0 |
| **1/4 x 60** | 1/4-18 | 4 | **2F719** | 47.50 | **18.25** | 1.0 |
| **1/4 x 72** | 1/4-18 | 4 | **2F721** | 58.00 | **22.24** | 1.5 |
| **1/4 x 96** | 1/4-18 | 4 | **2F723** | 68.00 | **26.15** | 2.7 |
| **3/8 x 24** | 1/4-18 | 4 | **2F725** | 30.50 | **11.73** | 0.5 |
| **3/8 x 36** | 1/4-18 | 4 | **2F727** | 38.50 | **14.84** | 1.0 |
| **3/8 x 48** | 1/4-18 | 4 | **2F729** | 44.00 | **16.94** | 1.3 |
| **3/8 x 60** | 1/4-18 | 4 | **2F733** | 52.00 | **20.06** | 1.0 |
| **3/8 x 72** | 1/4-18 | 4 | **2F735** | 63.00 | **24.22** | 1.0 |
| **3/8 x 15** | 3/8 -18 | 6 | **4Z214** | 25.00 | **9.54** | 0.6 |
| **3/8 x 24** | 3/8 -18 | 6 | **4Z215** | 29.00 | **11.18** | 0.8 |
| **3/8 x 36** | 3/8 -18 | 6 | **2F731** | 37.00 | **14.22** | 1.0 |
| **3/8 x 48** | 3/8 -18 | 6 | **4Z216** | 42.50 | **16.32** | 1.4 |
| **3/8 x 60** | 3/8 -18 | 6 | **4Z217** | 50.50 | **19.43** | 1.7 |
| **3/8 x 96** | 3/8 -18 | 6 | **4Z218** | 72.00 | **27.80** | 2.6 |
| **1/2 x 36** | 3/8 -18 | 6 | **2F753** | 42.75 | **15.44** | 1.5 |
| **1/2 x 48** | 3/8 -18 | 6 | **2F757** | 49.00 | **18.86** | 2.0 |
| **1/2 X 60** | 3/8-18 | 6 | **2F761** | 58.00 | **22.34** | 1.5 |
| **1/2 x 72** | 3/8-18 | 6 | **2F765** | 70.00 | **26.95** | 3.0 |
| **1/2 x 15** | 1/2-14 | 8 | **4Z205** | 28.00 | **10.83** | 0.8 |
| **1/2 x 24** | 1/2-14 | 8 | **4Z206** | 33.00 | **12.66** | 1.0 |
| **1/2 x 36** | 1/2-14 | 8 | **4Z207** | 42.00 | **16.12** | 2.7 |
| **1/2 x 48** | 1/2-14 | 8 | **4Z208** | 48.25 | **18.56** | 1.7 |
| **1/2 x 60** | 1/2-14 | 8 | **4Z209** | 57.25 | **22.03** | 2.0 |
| **1/2 x 72** | 1/2-14 | 8 | **4Z210** | 63.50 | **24.48** | 2.2 |
| **1/2 x 96** | 1/2-14 | 8 | **4Z211** | 81.50 | **31.45** | 3.3 |
| **1/2 x 108** | 1/2-14 | 8 | **4Z212** | 88.00 | **33.90** | 4.0 |
| **1/2 x 120** | 1/2-14 | 8 | **4Z213** | 94.00 | **36.30** | 4.0 |
| **3/4 x 24** | 3/4-14 | 12 | **2F673** | 62.00 | **23.87** | 1.0 |
| **3/4 x 36** | 3/4-14 | 12 | **2F677** | 71.50 | **27.55** | 1.5 |
| **3/4 x 48** | 3/4-14 | 12 | **2F681** | 81.00 | **31.15** | 2.0 |
| **3/4 x 60** | 3/4-14 | 12 | **2F685** | 95.50 | **36.80** | 2.5 |
| **3/4 x 72** | 3/4-14 | 12 | **2F689** | 107.75 | **41.50** | 3.0 |
| **1 x 24** | 1-11½ | 16 | **2F693** | 84.00 | **32.35** | 1.5 |
| **1 x 36** | 1-11½ | 16 | **2F697** | 96.80 | **37.30** | 1.5 |
| **1 x 48** | 1-11½ | 16 | **2F701** | 115.00 | **44.30** | 2.0 |
| **1 x 60** | 1-11½ | 16 | **2F705** | 128.00 | **49.20** | 2.0 |
| **1 x 72** | 1-11½ | 16 | **2F709** | 143.50 | **55.20** | 2.0 |

## JIC X JIC HOSE ASSEMBLY SPECIFICATIONS

| Female JIC Thread (In.) | Hose I.D. (In.) | Hose O.D. (In.) | Maximum Operating PSI | Min. Bend Radius (In.) | Wt. per Foot in Lbs. |
|---|---|---|---|---|---|
| 7/16-20 | 1/4 | 0.55 | 5000 | 2.00 | 0.21 |
| 9/16-18 | 3/8 | 0.68 | 4000 | 2.50 | 0.27 |
| 3/4-16 | 1/2 | 0.79 | 3500 | 3.50 | 0.34 |
| 7/8-14 | 1/2 | 0.79 | 3500 | 3.50 | 0.34 |
| 1 1/16-12 | 3/4 | 1.08 | 2250 | 4.75 | 0.50 |
| 1 5/16-12 | 1 | 1.36 | 2000 | 6.00 | 0.71 |

## JIC HOSE ASSEMBLY ORDERING DATA

| Hose Dia x L (In.) | JIC Size (In.) | Dash Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4 x 15** | 7/16-20 | 4 | **3F811** | $25.00 | **$9.64** | 0.9 |
| **1/4 x 24** | 7/16-20 | 4 | **3F809** | 29.00 | **11.10** | 0.8 |
| **1/4 x 36** | 7/16-20 | 4 | **3F807** | 36.50 | **14.05** | 0.8 |
| **1/4 x 48** | 7/16-20 | 4 | **3F805** | 41.50 | **16.00** | 1.0 |
| **1/4 x 60** | 7/16-20 | 4 | **3F803** | 49.50 | **18.98** | 1.0 |
| **1/4 x 72** | 7/16-20 | 4 | **3F801** | 59.75 | **22.97** | 1.5 |
| **1/4 x 96** | 7/16-20 | 4 | **3F799** | 69.75 | **26.90** | 2.7 |
| **3/8 x 15** | 9/16-18 | 6 | **3F797** | 27.50 | **10.62** | 1.1 |
| **3/8 x 24** | 9/16-18 | 6 | **3F795** | 31.50 | **12.18** | 0.5 |
| **3/8 x 36** | 9/16-18 | 6 | **3F793** | 40.00 | **15.30** | 1.0 |
| **3/8 x 48** | 9/16-18 | 6 | **3F791** | 45.25 | **17.42** | 0.7 |
| **3/8 x 60** | 9/16-18 | 6 | **3F789** | 54.00 | **20.54** | 1.0 |
| **3/8 x 72** | 9/16-18 | 6 | **3F787** | 64.25 | **24.69** | 1.5 |
| **3/8 x 96** | 9/16-18 | 6 | **3F785** | 75.00 | **28.90** | 3.0 |
| **1/2 x 15** | 3/4-16 | 8 | **2F747** | 33.50 | **12.87** | 1.0 |
| **1/2 x 24** | 3/4-16 | 8 | **2F749** | 38.00 | **14.67** | 1.0 |
| **1/2 x 36** | 3/4-16 | 8 | **2F751** | 47.25 | **18.17** | 1.0 |
| **1/2 x 48** | 3/4-16 | 8 | **2F755** | 53.50 | **20.58** | 1.0 |
| **1/2 x 60** | 3/4-16 | 8 | **2F759** | 62.50 | **24.07** | 1.0 |
| **1/2 x 72** | 3/4-16 | 8 | **2F763** | 74.00 | **28.60** | 1.0 |
| **1/2 x 96** | 3/4-16 | 8 | **2F767** | 87.00 | **33.50** | 2.0 |
| **1/2 x 36** | 7/8-14 | 10 | **2F737** | 48.00 | **18.38** | 1.0 |
| **1/2 x 48** | 7/8-14 | 10 | **2F739** | 54.00 | **20.80** | 2.0 |
| **1/2 x 60** | 7/8-14 | 10 | **2F741** | 63.00 | **24.26** | 3.0 |
| **1/2 x 72** | 7/8-14 | 10 | **2F743** | 74.85 | **28.80** | 2.0 |
| **1/2 x 96** | 7/8-14 | 10 | **2F745** | 87.50 | **33.70** | 2.5 |
| **3/4 x 24** | 1 1/16-12 | 12 | **2F671** | 68.50 | **26.30** | 1.0 |
| **3/4 x 36** | 1 1/16-12 | 12 | **2F675** | 77.85 | **29.95** | 1.5 |
| **3/4 x 48** | 1 1/16-12 | 12 | **2F679** | 92.50 | **35.65** | 2.0 |
| **3/4 x 60** | 1 1/16-12 | 12 | **2F683** | 102.00 | **39.30** | 2.5 |
| **3/4 x 72** | 1 1/16-12 | 12 | **2F687** | 114.00 | **43.95** | 3.0 |
| **1 x 24** | 1 5/16-12 | 16 | **2F691** | 94.25 | **36.30** | 2.0 |
| **1 x 36** | 1 5/16-12 | 16 | **2F695** | 107.00 | **41.25** | 2.0 |
| **1 x 48** | 1 5/16-12 | 16 | **2F699** | 125.25 | **48.25** | 2.0 |
| **1 x 60** | 1 5/16-12 | 16 | **2F703** | 138.00 | **53.15** | 2.0 |
| **1 x 72** | 1 5/16-12 | 16 | **2F707** | 153.50 | **59.15** | 2.0 |

TELL US WHAT YOU NEED—
WE'LL DO OUR BEST TO HELP YOU!

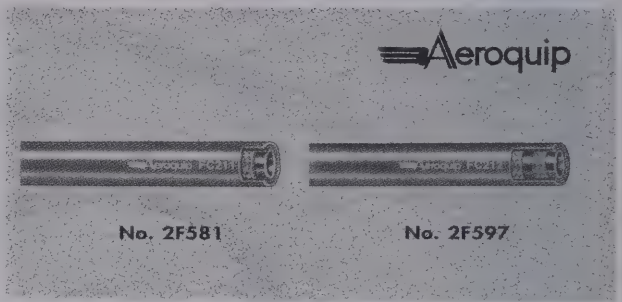
# BULK HYDRAULIC HOSE AND FITTINGS

## BULK HYDRAULIC HOSE

- **Available in SAE 100R1 medium pressure and SAE 100R2 high pressure Type AT designs**
- **Used on industrial, agricultural, and construction hydraulic equipment**
- **Temperature range: -40 to 212°F**
- **Meets Mine Safety and Health Administration (MSHA) standards**
- **All hoses have a 4:1 safety factor**

**Neoprene rubber inner tube** is reinforced with steel braid (two braids on high pressure hose) and covered with neoprene.

**Available in 50 ft. boxes** containing no more than two lengths of hose and in 250 ft. reels with no more than three lengths of hose.

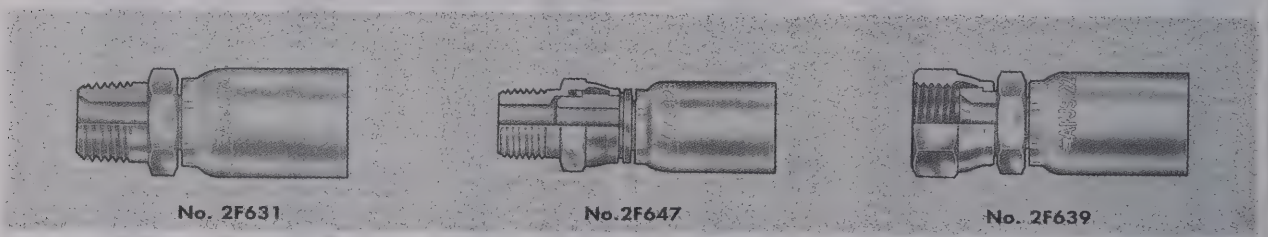



No. 2F581 No. 2F597

### HYDRAULIC HOSE ORDERING DATA

| Hose I.D. (In.) | Dash Size | Hose O.D. (In.) | Minimum Hose Length (Ft) | Operating Pressure (PSI) | Minimum Bend Radius (In.) | Weatherhead Interchange | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MEDIUM PRESSURE HOSE — SAE 100R1 Type AT** | | | | | | | | | | | |
| **1/4** | 4 | 0.53 | 50 | 2750 | 4 | H10404-50 | FC211-04-50 | **2F581** | $217.00 | **$83.45** | 10.0 |
| **1/4** | 4 | 0.53 | 250 | 2750 | 4 | H10404-250 | FC211-04-250 | **2F579** | 986.00 | **379.25** | 45.0 |
| **3/8** | 6 | 0.69 | 50 | 2250 | 5 | H10406-50 | FC211-06-50 | **2F585** | 164.50 | **101.75** | 12.0 |
| **3/8** | 6 | 0.69 | 250 | 2250 | 5 | H10406-250 | FC211-06-250 | **2F583** | 1202.00 | **462.25** | 63.0 |
| **1/2** | 8 | 0.81 | 50 | 2000 | 7 | H10408-50 | FC211-08-50 | **2F589** | 294.00 | **113.15** | 15.0 |
| **1/2** | 8 | 0.81 | 250 | 2000 | 7 | H10408-250 | FC211-08-250 | **2F587** | 1337.00 | **514.50** | 73.0 |
| **3/4** | 12 | 1.09 | 50 | 1250 | 9½ | H10412-50 | FC211-12-50 | **2F593** | 425.00 | **163.75** | 24.0 |
| **3/4** | 12 | 1.09 | 250 | 1250 | 9½ | H10412-250 | FC211-12-250 | **2F591** | 1930.50 | **743.00** | 115.0 |
| **HIGH PRESSURE HOSE — SAE 100R2 Type AT** | | | | | | | | | | | |
| **1/4** | 4 | 0.60 | 50 | 5000 | 4 | H42504-50 | FC212-04-50 | **2F597** | 306.00 | **117.75** | 10.0 |
| **1/4** | 4 | 0.60 | 250 | 5000 | 4 | H42504-250R | FC212-04-250 | **2F595** | 1391.00 | **535.00** | 70.0 |
| **3/8** | 6 | 0.75 | 50 | 4000 | 5 | H42506-50 | FC212-06-50 | **2F601** | 350.50 | **134.80** | 22.0 |
| **3/8** | 6 | 0.75 | 250 | 4000 | 5 | H42506-250R | FC212-06-250 | **2F599** | 1593.00 | **613.00** | 108.0 |
| **1/2** | 8 | 0.88 | 50 | 3500 | 7 | H42508-50 | FC212-08-50 | **2F605** | 389.00 | **149.70** | 24.0 |
| **1/2** | 8 | 0.88 | 250 | 3500 | 7 | H42508-250R | FC212-08-250 | **2F603** | 1768.35 | **680.50** | 120.0 |
| **3/4** | 12 | 1.16 | 50 | 2250 | 9½ | H42512-50 | FC212-12-50 | **2F609** | 573.50 | **220.75** | 34.0 |
| **3/4** | 12 | 1.16 | 250 | 2250 | 9½ | H42512-250R | FC212-12-250 | **2F607** | 2605.50 | **1003.00** | 168.0 |

## FJ STYLE FITTINGS



No. 2F631 No. 2F647 No. 2F639

Aeroquip

- **Fit 1/4, 3/8, 1/2, and 3/4" medium and high pressure hydraulic rubber hose**
- **Available in chamfer rigid and swivel male pipe and JIC female swivel fittings**
- **Aeroquip brand**

**(*) Interchange information is for reference purposes only. Aeroquip fittings and hose can be assembled using Weatherhead crimp tools. Do not mix hose and fittings of different manufacturers.**

### FJ STYLE HOSE END FITTINGS ORDERING DATA

| Hose Size (In.) | Dash Size | Thread Size (In.) | Length (In.) | Weatherhead * Interchange | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **MALE PIPE — RIGID** | | | | | | | | | |
| **1/4** | 4 | 1/4-18 | 2 19/32 | 04U-104 | FJ9121-0404S | **2F631** | $6.50 | **$2.53** | 0.1 |
| **3/8** | 6 | 3/8-18 | 2 9/16 | 06U-106 | FJ9121-0606S | **2F633** | 7.00 | **2.76** | 0.1 |
| **1/2** | 8 | 1/2-14 | 2 13/16 | 08U-108 | FJ9121-0808S | **2F635** | 9.00 | **3.40** | 0.3 |
| **3/4** | 12 | 3/4-14 | 3 15/64 | 12U-112 | FJ9121-1212S | **2F637** | 13.65 | **5.25** | 0.5 |
| **MALE PIPE — SWIVEL** | | | | | | | | | |
| **1/4** | 4 | 1/4-18 | 3 3/16 | 04U-J04 | FJ9126-0404S | **2F647** | 12.75 | **4.90** | 0.2 |
| **3/8** | 6 | 3/8-18 | 3 7/64 | 06U-J06 | FJ9126-0606S | **2F649** | 12.85 | **4.94** | 0.3 |
| **1/2** | 8 | 1/2-14 | 3 23/64 | 08U-J08 | FJ9126-0808S | **2F651** | 14.50 | **5.55** | 0.3 |
| **3/4** | 12 | 3/4-14 | 3 13/16 | 12U-J12 | FJ9126-1212S | **2F653** | 24.00 | **9.26** | 0.6 |
| **JIC FEMALE SWIVEL** | | | | | | | | | |
| **1/4** | 4 | 7/16-20 | 2 11/16 | 04U-604 | FJ9122-0404S | **2F639** | 6.75 | **2.59** | 0.1 |
| **3/8** | 6 | 9/16-18 | 2 13/16 | 06U-606 | FJ9122-0606S | **2F641** | 8.00 | **3.09** | 0.2 |
| **1/2** | 8 | 3/4-16 | 2 55/64 | 08U-608 | FJ9122-0808S | **2F643** | 9.50 | **3.71** | 0.3 |
| **3/4** | 12 | 1 1/16-12 | 3 7/16 | 12U-612 | FJ9122-1212S | **2F645** | 15.25 | **5.85** | 0.6 |

# HYDRAULIC HOSE CRIMPER AND REUSABLE BULK HOSE AND FITTINGS

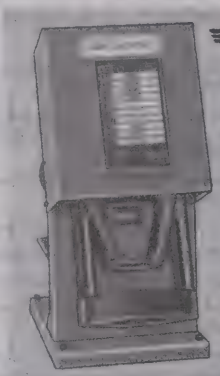
## PRO CRIMP™ 1380 HOSE CRIMPER

- Setup in garage, shop, or work area
- Preset crimp settings for FJ stlye fittings
- Hydraulic pump included
- Crimp 1/4 through 3/4" I.D., 1 and 2 wire braided hose
- For use with SAE 100R1/100R2 hose and FJ style fittings

**Electronically controlled hose crimper** for fast, accurate crimps. Electronic keypad is easily adjustable with up to 10 programmable settings. Preset settings minimize training and errors and reduce the number of steps and time involved in set-up and crimping of assembly. Upright design features highly visible work area and work light that illuminates top of fitting being crimped. Simple die cage insertion. Includes instruction video.

**Features Enerpac** 10,000 PSI hydraulic pump and cylinder for quiet, efficient operation. When power is On, electronic display and light are lit to indicate set-up. Pump will not begin operation until crimp toggle switch is activated, saving energy and motor wear. Aeroquip brand (FT1380-1-9).

**No. 3F813.** Shpg. wt. 270.0 lbs.
List $4971.00. Each.....$2494.00




No. 3F813

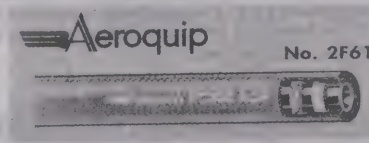
## REUSABLE HOSE AND FITTINGS

### FC300 MULTIPURPOSE HYDRAULIC HOSE

- Single wire braid SAE 100R5 type hose
- Aeroquip elastomer tube, polyester inner braid, single wire braid reinforcement with blue polyester braid cover
- All hoses have a 4:1 safety factor
- Transfers hydraulic oil, air, gasoline, fuel oils, lubricating oils and fire resistant hydraulic fluids
- DOT/FMVSS 106 type all approved for brake line inspection
- Temperature range: -55 to 300°F (-49 to 150°C), except for Air, which is 250°F (121°C)
- High temperature range for longer life
- Fittings: Screw together reuseable type

#### HOSE SPECIFICATIONS AND ORDERING DATA

| Hose I.D. (In.) | Hose O.D. (In.) | Hose Length (Ft.) | Operating Pressure (PSI) | Vac Service (IN/HG) | Min. Bend Rad. (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3/16** | 0.52 | 25 | 3000 | 28 | 3 | FC300-04-25 | **2F611** | $282.50 | **$135.85** | 5.0 |
| **5/16** | 0.67 | 25 | 2250 | 28 | 4 | FC300-06-25 | **2F613** | 327.00 | **157.25** | 6.0 |
| **13/32** | 0.76 | 25 | 2000 | 28 | 4⅝ | FC300-08-25 | **2F615** | 339.00 | **163.00** | 8.0 |
| **1/2** | 0.93 | 25 | 1750 | 28 | 5½ | FC300-10-25 | **2F617** | 419.00 | **201.75** | 10.0 |




No. 2F611

### SAE100R5/FC300 HOSE FITTINGS

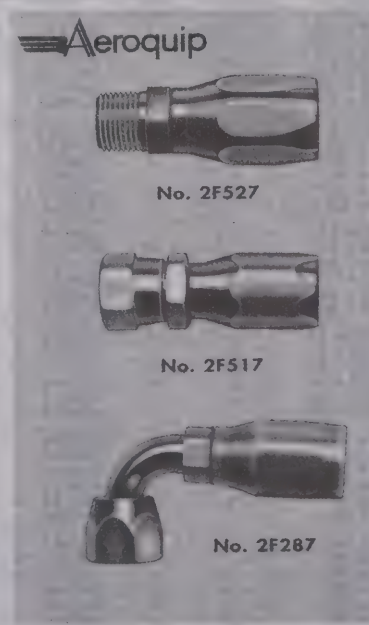
- Screw together reusable type fitting allows for fast reliable field assembly (M) NPT SAE100R5 HOSE FITTINGS
- Features 30° chamfer for use with NPSM swivel adapters
- Fits SAE 100R5 type hose
- Zinc plated for corrosion resistance FEMALE JIC/SAE SWIVEL FITTINGS
- SAE thread size used with brass SAE 45° flare fittings

#### MALE NPT HOSE FITTING SPECIFICATIONS AND ORDERING DATA

| Fitting Type | Hose Size (In.) | Dash Size | NPT Thread Size (In.) | Length (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Straight** | 3/16 | -4 | 1/8-27 | 1.68 | 4412-2-4S | **2F519** | $5.50 | **$2.68** | 0.2 |
| **Straight** | 3/16 | -4 | 1/4-18 | 1.87 | 4412-4-4S | **2F521** | 6.85 | **3.27** | 0.1 |
| **Straight** | 5/16 | -6 | 1/4-18 | 2.13 | 4412-4-6S | **2F523** | 8.00 | **3.83** | 0.1 |
| **Straight** | 5/16 | -6 | 3/8-18 | 2.13 | 4412-6-6S | **2F525** | 10.25 | **4.97** | 0.2 |
| **Straight** | 13/32 | -8 | 3/8-18 | 2.48 | 4412-6-8S | **2F527** | 11.25 | **5.40** | 0.2 |
| **Straight** | 13/32 | -8 | 1/2-14 | 2.73 | 4412-8-8S | **2F531** | 13.00 | **6.16** | 0.3 |
| **Straight** | 1/2 | -10 | 1/2-14 | 2.88 | 4412-8-10S | **2F529** | 16.50 | **7.85** | 0.4 |

#### FEMALE JIC/SAE SWIVEL FITTING SPECIFICATIONS AND ORDERING DATA

| Fitting Type | Hose Size (In.) | Dash Size | NPT Thread Size (In.) | Length (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Straight** | 3/16 | -4 | 7/16-20(SAE) | 1.97 | 4401-4S | **2F505** | $7.75 | **$3.72** | 0.1 |
| **Straight** | 5/16 | -6 | 5/8-18(SAE) | 2.36 | 4401-6S | **2F507** | 11.00 | **5.38** | 0.2 |
| **Straight** | 13/32 | -8 | 3/4-16(SAE) | 2.78 | 4401-8S | **2F509** | 14.50 | **6.89** | 0.3 |
| **Straight** | 1/2 | -10 | 7/8-14(SAE) | 3.10 | 4401-10S | **2F503** | 20.50 | **9.87** | 0.4 |
| **Straight** | 3/16 | -4 | 7/16-20 | 1.97 | 4411-4S | **2F513** | 7.75 | **3.72** | 0.1 |
| **Straight** | 5/16 | -6 | 9/16-18 | 2.33 | 4411-6S | **2F515** | 11.00 | **5.25** | 0.1 |
| **Straight** | 13/32 | -8 | 3/4-16 | 2.78 | 4411-8S | **2F517** | 14.75 | **7.07** | 0.3 |
| **Straight** | 1/2 | -10 | 7/8-14 | 3.10 | 4411-10S | **2F511** | 21.00 | **10.03** | 0.4 |
| **90° Elbow** | 3/16 | -4 | 7/16-20 | 1.74 | 190296-4S | **2F285** | 19.50 | **9.39** | 0.2 |
| **90° Elbow** | 5/16 | -6 | 9/16-18 | 2.13 | 190261-6S | **2F281** | 26.00 | **12.42** | 0.2 |
| **90° Elbow** | 13/32 | -8 | 3/4-16 | 2.76 | 190296-8S | **2F287** | 27.50 | **13.31** | 0.2 |
| **90° Elbow** | 1/2 | -10 | 7/8-14 | 2.94 | 190296-10S | **2F283** | 32.00 | **15.31** | 0.6 |




No. 2F527

No. 2F517

No. 2F287

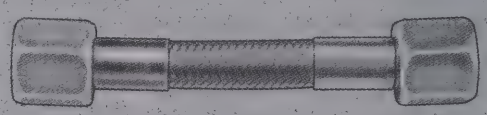
# TEFLON* HOSE ASSEMBLIES WITH STAINLESS STEEL BRAIDED COVER

- **Applications: Chemical lines, food handling, pharmaceutical, hydraulic fluid, air and water**
- **FDA approved for handling food products. Teflon will not transmit odor, taste, or introduce contamination at any operational temperature**
- **Temperature range: Teflon hose will stand up to alternate steam to cold chill shock cycles**
- **-100 to +500°F (-73 to +260°C) intermittent service**
- **-65 to +450°F (-54 to +232°C) continuous service**
- **Meets or exceeds SAE 100R14 specifications**
- **Non-stick: Smooth bore Teflon hose can be easily steamed cleaned or solvent flushed**
- **Non-aging: Weather, exposure and time do not affect the properties of Teflon. Teflon hose has limitless shelf life, it does not age**
- **Flexible and strong: Combined with stainless steel braid, Teflon hose can perform under high pressure and continuous flexing and vibration conditions**
- **Low friction: Deposits will not accumulate to obstruct flow and reduce pressure**

**The only known classes of chemicals** that attack Teflon are the molten alkali metals such as sodium and potassium, and halogenated chemicals like fluorine gas or chlorine trifluoride. The chemical compatibility of Teflon combined with its other physical characteristics, make it the ideal engineered plastic for use in hose applications. The superior qualities of Teflon and stainless steel are a natural for virtually any hose application.

(*) A DuPont registered trademark.

- **Stainless steel adapters for use with Teflon hose assemblies, see page 2839**



**No. 4HM65**

## TEFLON HOSE ASSEMBLY SPECIFICATIONS *

| Hose (In.) | Female JIC Thread | Hose O. D. (In.) | Max. Operating PSI | Minimum Bend Radius (In.) |
|---|---|---|---|---|
| 3/16 | 7/16-20 (-4) | .312 | 3000 | 2.0 |
| 1/4 | 1/2-20 (-5) | .375 | 3000 | 3.0 |
| 5/16 | 9/16-18 (-6) | .445 | 2500 | 4.0 |
| 13/32 | 3/4-16 (-8) | .549 | 2000 | 5.2 |
| 1/2 | 7/8-14 (-10) | .648 | 1500 | 6.5 |
| 5/8 | 1 1/16-12 (-12) | .778 | 1200 | 7.7 |

(*) Teflon tube stainless braided hose assemblies are coupled with CA360 brass female JIC swivel ends or 300 series stainless steel female JIC ends.

## BRASS FEMALE JIC ENDS ORDERING DATA

| Hose I.D Length (In.) | Female JIC Size (In.) | Dash Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/16 x 12** | 7/16 - 20 | 4 | **4HM47** | $20.45 | **$8.08** | 0.3 |
| **3/16 x 18** | 7/16 - 20 | 4 | **4HM48** | 23.10 | **9.14** | 0.4 |
| **3/16 x 24** | 7/16 - 20 | 4 | **4HM49** | 25.80 | **10.22** | 0.5 |
| **3/16 x 36** | 7/16 - 20 | 4 | **4HM50** | 31.10 | **12.30** | 0.5 |
| **3/16 x 48** | 7/16 - 20 | 4 | **4HM51** | 36.45 | **14.42** | 0.6 |
| **3/16 x 60** | 7/16 - 20 | 4 | **4HM52** | 41.75 | **16.51** | 0.7 |
| **1/4 x 12** | 1/2 - 20 | 5 | **4HM53** | 23.20 | **9.18** | 0.4 |
| **1/4 x 18** | 1/2 - 20 | 5 | **4HM54** | 26.15 | **10.34** | 0.4 |
| **1/4 x 24** | 1/2 - 20 | 5 | **4HM55** | 29.10 | **11.51** | 0.5 |
| **1/4 x 36** | 1/2 - 20 | 5 | **4HM56** | 35.00 | **13.87** | 0.6 |
| **1/4 x 48** | 1/2 - 20 | 5 | **4HM57** | 40.95 | **16.20** | 0.7 |
| **1/4 x 60** | 1/2 - 20 | 5 | **4HM58** | 46.90 | **18.56** | 0.8 |
| **5/16 x 12** | 9/16 - 18 | 6 | **4HM59** | 25.40 | **10.06** | 0.5 |
| **5/16 x 18** | 9/16 - 18 | 6 | **4HM60** | 28.55 | **11.32** | 0.6 |
| **5/16 x 24** | 9/16 - 18 | 6 | **4HM61** | 31.75 | **12.59** | 0.7 |
| **5/16 x 36** | 9/16 - 18 | 6 | **4HM62** | 38.15 | **15.13** | 0.8 |
| **5/16 x 48** | 9/16 - 18 | 6 | **4HM63** | 44.50 | **17.64** | 0.9 |
| **5/16 x 60** | 9/16 - 18 | 6 | **4HM64** | 50.90 | **20.16** | 1.0 |
| **13/32 x 12** | 3/4 - 16 | 8 | **4HM65** | 32.00 | **12.69** | 0.7 |
| **13/32 x 18** | 3/4 - 16 | 8 | **4HM66** | 35.95 | **14.26** | 0.8 |
| **13/32 x 24** | 3/4 - 16 | 8 | **4HM67** | 39.90 | **15.83** | 0.9 |
| **13/32 x 36** | 3/4 - 16 | 8 | **4HM68** | 47.75 | **18.93** | 1.0 |
| **13/32 x 48** | 3/4 - 16 | 8 | **4HM69** | 55.65 | **22.05** | 1.1 |
| **13/32 x 60** | 3/4 - 16 | 8 | **4HM70** | 63.50 | **25.15** | 1.2 |
| **1/2 x 12** | 7/8 - 14 | 10 | **4HM35** | 22.00 | **16.30** | 0.9 |
| **1/2 x 18** | 7/8 - 14 | 10 | **4HM36** | 35.00 | **18.19** | 1.1 |
| **1/2 x 24** | 7/8 - 14 | 10 | **4HM37** | 35.00 | **20.07** | 1.2 |
| **1/2 x 36** | 7/8 - 14 | 10 | **4HM38** | 60.00 | **23.82** | 1.4 |
| **1/2 x 48** | 7/8 - 14 | 10 | **4HM39** | 69.45 | **27.55** | 1.5 |
| **1/2 x 60** | 7/8 - 14 | 10 | **4HM40** | 78.90 | **31.30** | 1.7 |
| **5/8 x 12** | 1 1/16 - 12 | 12 | **4HM41** | 62.30 | **24.66** | 1.1 |
| **5/8 x 18** | 1 1/16 - 12 | 12 | **4HM42** | 69.40 | **27.45** | 1.1 |
| **5/8 x 24** | 1 1/16 - 12 | 12 | **4HM43** | 76.50 | **30.30** | 1.3 |
| **5/8 x 36** | 1 1/16 - 12 | 12 | **4HM44** | 90.65 | **35.90** | 1.5 |
| **5/8 x 48** | 1 1/16 - 12 | 12 | **4HM45** | 104.85 | **41.50** | 1.7 |
| **5/8 x 60** | 1 1/16 - 12 | 12 | **4HM46** | 119.00 | **47.05** | 1.8 |

## STAINLESS STEEL FEMALE JIC ENDS ORDERING DATA

| Hose I.D x Length (In.) | Female JIC Size (In.) | Dash Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3/16 x 12** | 7/16 - 20 | 4 | **4HM83** | $44.10 | **$17.35** | 0.3 |
| **3/16 x 18** | 7/16 - 20 | 4 | **4HM84** | 46.75 | **18.42** | 0.4 |
| **3/16 x 24** | 7/16 - 20 | 4 | **4HM85** | 49.40 | **19.47** | 0.5 |
| **3/16 x 36** | 7/16 - 20 | 4 | **4HM86** | 54.75 | **21.57** | 0.5 |
| **3/16 x 48** | 7/16 - 20 | 4 | **4HM87** | 60.05 | **23.67** | 0.6 |
| **3/16 x 60** | 7/16 - 20 | 4 | **4HM88** | 65.10 | **25.80** | 0.7 |
| **1/4 x 12** | 1/2 - 20 | 5 | **4HM89** | 54.20 | **21.33** | 0.4 |
| **1/4 x 18** | 1/2 - 20 | 5 | **4HM90** | 57.15 | **22.49** | 0.4 |
| **1/4 x 24** | 1/2 - 20 | 5 | **4HM91** | 60.10 | **23.67** | 0.5 |
| **1/4 x 36** | 1/2 - 20 | 5 | **4HM92** | 66.05 | **26.05** | 0.6 |
| **1/4 x 48** | 1/2 - 20 | 5 | **4HM93** | 71.95 | **28.40** | 0.7 |
| **1/4 x 60** | 1/2 - 20 | 5 | **4HM94** | 77.90 | **30.75** | 0.8 |
| **5/16 x 12** | 9/16 - 18 | 6 | **4HM95** | 54.15 | **21.34** | 0.5 |
| **5/16 x 18** | 9/16 - 18 | 6 | **4HM96** | 57.30 | **22.59** | 0.6 |
| **5/16 x 24** | 9/16 - 18 | 6 | **4HM97** | 60.50 | **23.87** | 0.7 |
| **5/16 x 36** | 9/16 - 18 | 6 | **4HM98** | 66.90 | **26.40** | 0.8 |
| **5/16 x 48** | 9/16 - 18 | 6 | **4HM99** | 73.25 | **28.90** | 0.9 |
| **5/16 x 60** | 9/16 - 18 | 6 | **4HN01** | 79.90 | **31.55** | 1.0 |
| **13/32 x 12** | 3/4 - 16 | 8 | **4HN02** | 78.90 | **31.10** | 0.7 |
| **13/32 x 18** | 3/4 - 16 | 8 | **4HN03** | 82.80 | **32.65** | 0.8 |
| **13/32 x 24** | 3/4 - 16 | 8 | **4HN04** | 86.75 | **34.20** | 0.9 |
| **13/32 x 36** | 3/4 - 16 | 8 | **4HN05** | 94.65 | **37.35** | 1.0 |
| **13/32 x 48** | 3/4 - 16 | 8 | **4HN06** | 102.50 | **40.45** | 1.1 |
| **13/32 x 60** | 3/4 - 16 | 8 | **4HN07** | 110.40 | **43.55** | 1.2 |
| **1/2 x 12** | 7/8 - 14 | 10 | **4HM71** | 124.35 | **48.95** | 0.9 |
| **1/2 x 18** | 7/8 - 14 | 10 | **4HM72** | 129.05 | **50.85** | 1.1 |
| **1/2 x 24** | 7/8 - 14 | 10 | **4HM73** | 133.80 | **52.75** | 1.2 |
| **1/2 x 36** | 7/8 - 14 | 10 | **4HM74** | 143.25 | **56.50** | 1.4 |
| **1/2 x 48** | 7/8 - 14 | 10 | **4HM75** | 152.70 | **60.20** | 1.5 |
| **1/2 x 60** | 7/8 - 14 | 10 | **4HM76** | 162.15 | **63.95** | 1.7 |
| **5/8 x 12** | 1 1/16 - 12 | 12 | **4HM77** | 195.35 | **76.85** | 1.1 |
| **5/8 x 18** | 1 1/16 - 12 | 12 | **4HM78** | 211.30 | **83.15** | 1.2 |
| **5/8 x 24** | 1 1/16 - 12 | 12 | **4HM79** | 227.30 | **89.45** | 1.4 |
| **5/8 x 36** | 1 1/16 - 12 | 12 | **4HM80** | 259.25 | **102.00** | 1.5 |
| **5/8 x 48** | 1 1/16 - 12 | 12 | **4HM81** | 291.20 | **114.55** | 1.7 |
| **5/8 x 60** | 1 1/16 - 12 | 12 | **4HM82** | 323.15 | **127.10** | 1.8 |

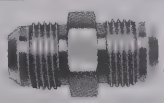
# HYDRAULIC HOSE ADAPTERS

- JIC 37° male flare adapters conform to Society of Automotive Engineers (SAE) and Joint Industry Conference (JIC) standards
- One-piece, forged steel construction offers greater strength and resistance to vibration and shock loading than conventional, 2-piece brazed adapters
- Zinc-plated finish resists corrosion
- Aeroquip brand
- Meets or exceeds SAE 100R2 maximum operating pressure

## NPT X JIC HYDRAULIC HOSE ADAPTER ORDERING DATA

| Adapter Type | Illustration | Straight Thread (In.) | NPT Thread (In.) | Max. PSI | Size NPT X Tube OD (In.) | Length (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Straight |  | 7/16-20 | 1/8-27 | 8500 | 1/8 x 1/4 | 1.22 | 2021-2-4S | 6W433 | $1.50 | $0.76 | 0.1 |
| | | 9/16-18 | 1/8-27 | 7000 | 1/8 x 3/8 | 1.20 | 2021-2-6S | 2F297 | 2.00 | 0.93 | 0.1 |
| | | 7/16-20 | 1/4-18 | 8500 | 1/4 x 1/4 | 1.42 | 2021-4-4S | 6W434 | 2.00 | 0.93 | 0.1 |
| | | 1/2-20 | 1/4-18 | 8500 | 1/4 x 5/16 | 1.42 | 2021-4-5S | 2F301 | 2.00 | 0.93 | 0.1 |
| | | 9/16-18 | 1/4-18 | 7000 | 1/4 x 3/8 | 1.43 | 2021-4-6S | 6W435 | 2.50 | 1.28 | 0.1 |
| | | 3/4-16 | 1/4-18 | 6000 | 1/4 x 1/2 | 1.53 | 2021-4-8S | 2F303 | 3.00 | 1.50 | 0.2 |
| | | 7/16-20 | 3/8-18 | 8000 | 3/8 x 1/4 | 1.42 | 2021-6-4S | 2F305 | 3.00 | 1.50 | 0.2 |
| | | 9/16-18 | 3/8-18 | 7000 | 3/8 x 3/8 | 1.43 | 2021-6-6S | 6W436 | 3.25 | 1.59 | 0.1 |
| | | 3/4-16 | 3/8-18 | 6000 | 3/8 x 1/2 | 1.53 | 2021-6-8S | 6W437 | 3.50 | 1.64 | 0.1 |
| | | 3/4-16 | 1/2-14 | 6000 | 1/2 x 1/2 | 1.79 | 2021-8-8S | 6W438 | 3.50 | 1.64 | 0.2 |
| | | 7/8-14 | 1/2-14 | 5500 | 1/2 x 5/8 | 1.89 | 2021-8-10S | 2F307 | 4.00 | 1.95 | 0.2 |
| | | 1 1/16-12 | 1/2-14 | 4000 | 1/2 x 3/4 | 2.06 | 2021-8-12S | 2F309 | 5.75 | 2.80 | 0.3 |
| | | 3/4-16 | 3/4-14 | 5000 | 3/4 x 1/2 | 1.85 | 2021-12-8S | 2F291 | 5.75 | 2.80 | 0.4 |
| | | 1 1/16-12 | 3/4-14 | 4000 | 3/4 x 3/4 | 2.06 | 2021-12-12S | 3F815 | 6.00 | 2.96 | 0.3 |
| | | 1 5/16-12 | 3/4-14 | 3500 | 3/4 x 1 | 2.11 | 2021-12-16S | 2F289 | 8.50 | 4.19 | 0.4 |
| | | 1 1/16-12 | 1-11 1/2 | 4000 | 1 x 3/4 | 2.25 | 2021-16-12S | 2F293 | 9.00 | 4.36 | 0.4 |
| | | 1 5/16-12 | 1-11 1/2 | 3500 | 1 x 1 | 2.30 | 2021-16-16S | 2F295 | 11.00 | 5.18 | 0.3 |
| | | 1 5/8-12 | 1 5/16-11 1/2 | 3500 | 1 1/4 x 1 1/4 | 2.45 | 2021-20-20S | 2F299 | 16.50 | 7.90 | 0.4 |
| 45° Elbow |  | 7/16-20 | 1/8-27 | 8500 | 1/8 x 1/4 | 0.72 | 2023-2-4S | 6W445 | 7.25 | 3.51 | 0.1 |
| | | 7/16-20 | 1/4-18 | 8500 | 1/4 x 1/4 | 0.86 | 2023-4-4S | 6W446 | 9.50 | 4.63 | 0.1 |
| | | 9/16-18 | 1/4-18 | 7000 | 1/4 x 3/8 | 0.86 | 2023-4-6S | 6W447 | 9.50 | 4.63 | 0.1 |
| | | 9/16-18 | 3/8-18 | 7000 | 3/8 x 3/8 | 0.95 | 2023-6-6S | 6W448 | 10.25 | 4.99 | 0.1 |
| | | 3/4-16 | 3/8-18 | 6000 | 3/8 x 1/2 | 0.98 | 2023-6-8S | 6W449 | 11.50 | 5.54 | 0.2 |
| | | 3/4-16 | 1/2-14 | 6000 | 1/2 x 1/2 | 1.17 | 2023-8-8S | 6W450 | 12.50 | 5.98 | 0.2 |
| | | 1 1/16-12 | 3/4-14 | 4000 | 3/4 x 3/4 | 1.20 | 2023-12-12S | 2F311 | 18.50 | 8.86 | 0.4 |
| 90° Elbow |  | 7/16-20 | 1/8-27 | 8500 | 1/8 x 1/4 | 0.78 | 2024-2-4S | 6W439 | 5.50 | 2.68 | 0.1 |
| | | 7/16-20 | 1/4-18 | 8500 | 1/4 x 1/4 | 1.09 | 2024-4-4S | 6W440 | 6.00 | 2.96 | 0.1 |
| | | 1/2-20 | 1/4-18 | 8500 | 1/4 x 5/16 | 1.09 | 2024-4-5S | 2F319 | 7.00 | 3.46 | 0.1 |
| | | 9/16-18 | 1/4-18 | 7000 | 1/4 x 3/8 | 1.09 | 2024-4-6S | 6W441 | 7.50 | 3.59 | 0.1 |
| | | 7/16-20 | 3/8-18 | 8000 | 3/8 x 1/4 | 1.22 | 2024-6-4S | 2F321 | 8.50 | 4.05 | 0.2 |
| | | 9/16-18 | 3/8-18 | 7000 | 3/8 x 3/8 | 1.22 | 2024-6-6S | 6W442 | 9.00 | 4.24 | 0.2 |
| | | 9/16-18 | 1/2-14 | 6000 | 1/2 x 3/8 | 1.47 | 2024-8-6S | 2F325 | 11.00 | 5.33 | 0.2 |
| | | 3/4-16 | 3/8-18 | 6000 | 3/8 x 1/2 | 1.25 | 2024-6-8S | 6W443 | 11.50 | 5.56 | 0.2 |
| | | 3/4-16 | 1/2-14 | 6000 | 1/2 x 1/2 | 1.47 | 2024-8-8S | 6W444 | 11.50 | 5.56 | 0.3 |
| | | 7/8-14 | 1/2-14 | 5500 | 1/2 x 5/8 | 1.47 | 2024-8-10S | 2F323 | 12.50 | 5.96 | 0.4 |
| | | 1 1/16-12 | 3/4-14 | 4000 | 3/4 x 3/4 | 1.59 | 2024-12-12S | 2F313 | 17.00 | 8.14 | 0.5 |
| | | 1 5/16-12 | 1-11 1/2 | 3500 | 1 x 1 | 1.97 | 2024-16-16S | 2F315 | 28.00 | 13.56 | 0.8 |

## JIC X JIC HOSE ADAPTER ORDERING DATA

| Adapter Type | Illustration | Straight Thread (In.) | Max. PSI | Length (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Union |  | 7/16-20 | 3500 | 1.37 | 2027-4-4S | 2F333 | $3.00 | $1.30 | 0.1 |
| | | 9/16-18 | 7000 | 1.41 | 2027-6-6S | 2F335 | 3.00 | 1.30 | 0.1 |
| | | 3/4-16 | 6000 | 1.62 | 2027-8-8S | 2F337 | 4.00 | 1.97 | 0.2 |
| | | 7/8-14 | 5500 | 1.88 | 2027-10-10S | 2F327 | 6.50 | 3.04 | 0.3 |
| | | 1 1/16-12 | 4000 | 2.16 | 2027-12-12S | 2F329 | 8.00 | 3.93 | 0.2 |
| | | 1 5/16-12 | 3500 | 2.25 | 2027-16-16S | 2F331 | 12.00 | 5.71 | 0.4 |
| Bulkhead |  | 7/16-20 | 8500 | 2.07 | 2041-4-4S | 4HL60 | 8.01 | 4.17 | 0.1 |
| | | 9/16-18 | 7000 | 2.18 | 2041-6-6S | 2F361 | 9.50 | 4.57 | 0.2 |
| | | 3/4-16 | 6000 | 2.44 | 2041-8-8S | 2F363 | 12.00 | 5.71 | 0.4 |
| 90° Elbow, Swivel |  | 7/16-20 | 5500 | 0.66 | 2071-4-4S | 4HL66 | 8.00 | 4.39 | 0.1 |
| | | 9/16-18 | 4000 | 0.88 | 2071-6-6S | 2F423 | 10.50 | 5.09 | 0.2 |
| | | 3/4-16 | 4000 | 0.96 | 2071-8-8S | 2F425 | 15.50 | 7.41 | 0.2 |

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

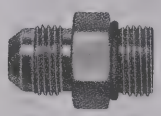
In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

# HYDRAULIC HOSE ADAPTERS

- Male O-ring boss fittings
- Zinc-plated steel
- Conforms to Society of Automotive Engineers (SAE) and Joint Industry Conference (JIC)standards

Aeroquip

## SAE 0-RING X JIC HOSE ADAPTER ORDERING DATA

| Adapter Type | Illustration | JIC Straight Thread (In.) | O-Ring Thread (In.) | Max. PSI | Length (In.) | Aeroquip Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Straight |  | 7/16-20 | 7/16-20 | 7500 | 1.23 | 202702-4-4S | 2F347 | $3.00 | $1.51 | 0.1 |
| | | 9/16-18 | 7/16-20 | 7500 | 1.27 | 202702-4-6S | 2F349 | 3.00 | 1.51 | 0.1 |
| | | 9/16-18 | 9/16-18 | 7000 | 1.30 | 202702-6-6S | 2F351 | 3.50 | 1.71 | 0.1 |
| | | 3/4-16 | 9/16-18 | 7000 | 1.44 | 202702-6-8S | 2F353 | 4.00 | 2.06 | 0.1 |
| | | 9/16-18 | 3/4-16 | 6000 | 1.38 | 202702-8-6S | 2F357 | 4.00 | 2.06 | 0.2 |
| | | 3/4-16 | 3/4-16 | 6000 | 1.48 | 202702-8-8S | 2F359 | 4.50 | 2.29 | 0.1 |
| | | 3/4-16 | 7/8-14 | 5500 | 1.50 | 202702-10-8S | 2F341 | 5.00 | 2.49 | 0.2 |
| | | 7/8-14 | 3/4-16 | 6000 | 1.54 | 202702-8-10S | 2F355 | 5.50 | 2.70 | 0.1 |
| | | 7/8-14 | 7/8-14 | 5500 | 1.70 | 202702-10-10S | 2F339 | 5.80 | 2.78 | 0.4 |
| | | 1 1/16-12 | 1 1/16-12 | 4000 | 1.97 | 202702-12-12S | 2F343 | 8.50 | 4.14 | 0.2 |
| | | 1 5/16-12 | 1 5/16-12 | 3500 | 2.04 | 202702-16-16S | 2F345 | 13.50 | 6.52 | 0.3 |
| | | 1 5/16-12 | 1 5/8-12 | 3500 | 2.17 | 202702-20-16S | 4HL59 | 25.81 | 11.85 | 0.5 |
| 90° Elbow |  | 7/16-20 | 7/16-20 | 4500 | 1.03 | 2062-4-4S | 2F407 | 11.00 | 5.23 | 0.2 |
| | | 9/16-18 | 9/16-18 | 4000 | 1.25 | 2062-6-6S | 2F409 | 12.00 | 5.85 | 0.2 |
| | | 3/4-16 | 9/16-18 | 4000 | 1.32 | 2062-6-8S | 2F411 | 15.50 | 7.52 | 0.2 |
| | | 9/16-18 | 3/4-16 | 4000 | 1.45 | 2062-8-6S | 2F415 | 17.25 | 8.26 | 0.2 |
| | | 3/4-16 | 3/4-16 | 4000 | 1.45 | 2062-8-8S | 2F417 | 17.50 | 8.47 | 0.2 |
| | | 3/4-16 | 7/8-14 | 4000 | 1.50 | 2062-10-8S | 2F401 | 20.25 | 9.80 | 0.3 |
| | | 7/8-14 | 3/4-16 | 4000 | 1.54 | 2062-8-10S | 2F413 | 20.50 | 9.90 | 0.3 |
| | | 7/8-14 | 7/8-14 | 4000 | 1.71 | 2062-10-10S | 2F399 | 25.50 | 12.29 | 0.4 |
| | | 1 1/16-12 | 1 1/16-12 | 3500 | 1.94 | 2062-12-12S | 2F403 | 28.00 | 13.57 | 0.6 |
| | | 1 5/16-12 | 1 5/16-12 | 2500 | 2.05 | 2062-16-16S | 2F405 | 42.50 | 20.45 | 0.9 |

## PLUG AND CAP ADAPTER ORDERING DATA

| Adapter Type | Illustration | JIC Straight Thread (In.) | Length (In.) | Aeroquip Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| Plug |  | 7/16-20 | 0.80 | 900599-4S | 2F567 | $2.50 | $1.25 | 0.1 |
| | | 9/16-18 | 0.84 | 900599-6S | 2F569 | 3.50 | 1.69 | 0.1 |
| | | 3/4-16 | 0.94 | 900599-8S | 2F571 | 4.00 | 2.01 | 0.1 |
| | | 7/8-14 | 1.10 | 900599-10S | 2F561 | 5.50 | 2.73 | 0.2 |
| | | 1 1/16-12 | 1.28 | 900599-12S | 2F563 | 7.50 | 3.64 | 0.4 |
| | | 1 5/16-12 | 1.33 | 900599-16S | 2F565 | 12.75 | 6.13 | 0.4 |
| Cap |  | 7/16-20 | 0.59 | 210292-4S | 2F493 | 2.00 | 1.04 | 0.1 |
| | | 9/16-18 | 0.62 | 210292-6S | 2F495 | 2.50 | 1.19 | 0.1 |
| | | 3/4-16 | 0.75 | 210292-8S | 2F497 | 3.00 | 1.40 | 0.1 |
| | | 7/8-14 | 0.84 | 210292-10S | 2F487 | 5.75 | 2.79 | 0.2 |
| | | 1 1/16-12 | 0.91 | 210292-12S | 2F489 | 9.00 | 4.40 | 0.1 |
| | | 1 5/16-12 | 1.02 | 210292-16S | 2F491 | 13.50 | 6.43 | 0.1 |

# NPT PIPE X (F)NPT SWIVEL ADAPTERS

- Prevent hose stress due to twisting during assembly
- Internal pipe swivel mechanism (NPSM) with 30°seat
- Zinc-plated for corrosion resistance
- Fit all 1/4, 3/8, 1/2, 3/4, 1" male NPT threads with 30° chamfer

Aeroquip

| Adapter Type | Illustration | Male Thread (In.) | Female Thread (In.) | Max. PSI | Length (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Internal Pipe Swivel, NPSM/Male NPT Elbow |  | 1/4-18 | 1/4-18 | 5000 | 0.78 | 2047-4-4S | 2F393 | $9.00 | $4.36 | 0.1 |
| | | 3/8-18 | 3/8-18 | 4000 | 0.94 | 2047-6-6S | 2F395 | 9.00 | 4.36 | 0.3 |
| | | 1/2-14 | 1/2-14 | 3500 | 1.00 | 2047-8-8S | 2F397 | 11.50 | 5.54 | 0.3 |
| | | 3/4-14 | 3/4-14 | 3500 | 1.19 | 2047-12-12S | 2F389 | 21.00 | 10.28 | 1.0 |
| | | 1-11½ | 1-11½ | 3000 | 1.44 | 2047-16-16S | 2F391 | 38.00 | 18.32 | 0.9 |
| | | 1¼-11½ | 1¼-11½ | 2000 | 1.62 | 2047-20-20S | 4HL62 | 42.85 | 26.40 | 1.0 |
| Male Pipe Connector |  | 1/8-27 | 1/8-27 | 6000 | 0.94 | 2045-2-2S | 2F369 | 4.00 | 2.03 | 0.1 |
| | | 1/4-18 | 1/4-18 | 5000 | 1.25 | 2045-4-4S | 2F373 | 4.00 | 2.03 | 0.2 |
| | | 3/8-18 | 3/8-18 | 4000 | 1.31 | 2045-6-6S | 2F375 | 4.00 | 2.03 | 0.1 |
| | | 1/2-14 | 1/2-14 | 3500 | 1.61 | 2045-8-8S | 2F377 | 5.75 | 2.79 | 0.2 |
| | | 3/4-14 | 3/4-14 | 3500 | 1.73 | 2045-12-12S | 2F365 | 10.00 | 4.92 | 0.1 |
| | | 1-11½ | 1-11½ | 3000 | 2.00 | 2045-16-16S | 2F367 | 15.50 | 7.41 | 0.5 |
| | | 1-11½ | 1-11½ | 2000 | 2.06 | 2045-20-20S | 2F371 | 30.00 | 14.55 | 0.9 |
| Internal Pipe Swivel, NPSM/FNPT |  | — | 1/4-18 | 4500 | 1.12 | 2046-4-4S | 2F383 | 4.50 | 2.21 | 0.6 |
| | | — | 3/8-18 | 3500 | 1.12 | 2046-6-6S | 2F385 | 4.50 | 2.21 | 0.2 |
| | | — | 1/2-14 | 3500 | 1.50 | 2046-8-8S | 2F387 | 5.50 | 2.73 | 0.2 |
| | | — | 3/4-14 | 3000 | 1.62 | 2046-12-12S | 2F379 | 11.50 | 5.54 | 0.4 |
| | | — | 1-11½ | 2500 | 2.00 | 2046-16-16S | 2F381 | 25.00 | 11.98 | 0.5 |
| | | — | 1¼-11½ | 2000 | 2.00 | 2046-20-20S | 4HL61 | 28.33 | 15.02 | 0.9 |
| Internal Pipe Swivel, |  | 9/16-18 | 3/8-18 | 4000 | 1.14 | 2066-6-6S | 2F419 | 5.50 | 2.73 | 0.1 |
| | | 3/4-16 | 1/2-14 | 3500 | 1.23 | 2066-8-8S | 2F421 | 6.75 | 3.25 | 0.2 |
| | | 7/8-14 | 1/2-14 | 3500 | 1.30 | 2066-8-10S | 4HL65 | 7.79 | 3.90 | 0.2 |
| | | 1 1/16-12 | 3/4-14 | 3500 | 1.58 | 2066-12-12S | 4HL63 | 13.29 | 7.05 | 0.3 |
| | | 1 5/16-12 | 1-11½ | 3000 | 1.59 | 2066-16-16S | 4HL64 | 28.82 | 15.24 | 0.4 |



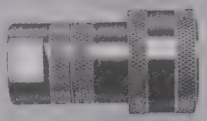
Repair, replace or install — Your hydraulic powerhouse has it all.

# HYDRAULIC QUICK COUPLERS

## SAFEWAY/PIONEER INTERCHANGE COUPLERS

- Allows quick connection/disconnection of hydraulic lines on agricultural, mobile, and industrial hydraulic equipment
- All parts machined in USA from solid steel bar stock
- Double shut-off type using rugged ball style checks (standard to agricultural industry)
- Temperature range: -40° to 250°F
- Pioneer 4000 Series interchange

Steel parts are zinc and gold dichromate plated for corrosion protection. Critical parts are induction hardened for long life. Dependable ball locking mechanism holds mating halves together and provides swivel feature. Buna N body seal. Rated pressure (PSI); 1/4" couplers: 4000; 3/8" and 1/2" couplers: 3000. 1/2" size meets ISO #5675 standards.



No. 2F771



No. 2F781

SAFEWAY

| Type | Pipe Size NPT (In.) | Pioneer Interchange | Safeway Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Coupler (Body) | 1/4 | 4050-2 | S25A-2 | 2F773 | $25.75 | $10.34 | 0.3 |
| Coupler (Body) | 3/8 | 4050-3 | S45-3 | 2F779 | 29.50 | 11.33 | 0.5 |
| Coupler (Body) | 1/2 | 4050-4 | S25-4 | 2F771 | 28.50 | 10.91 | 1.1 |
| Nipple (Tip) | 1/4 | 4010-2 | S41-2 | 2F775 | 11.50 | 4.73 | 0.1 |
| Nipple (Tip) | 3/8 | 4010-3 | S41-3 | 2F777 | 13.25 | 5.09 | 0.2 |
| Nipple (Tip) | 1/2 | 8010-4 | S71-4 | 2F781 | 12.75 | 4.89 | 0.2 |

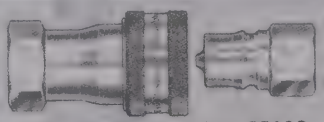
## FD45 SERIES INDUSTRIAL INTERCHANGE COUPLERS

- Interchanges with Parker 60 Series and Hansen HK Series
- Operating temperature range: -40° to 250°F
- Maximum working pressure for 1/4" couplers: 5000 PSI
- Maximum working pressure for 3/8", 1/2", 3/4" and 1" couplers: 4000 PSI

**Valve in both body and nipple halves** prevents fluid loss when disconnected. Captive valve seal ensures "bubble tight" poppet sealing. 360° metal to metal valve stop maintains valve alignment and guarantees poppet opens fully.

**Couplers machined from solid steel bar stock** for maximum resistance to hydraulic and mechanical shock. Zinc plated for corrosion resistance. Durable ball locking mechanism for reliable connections. Ball bearings distribute load and permit excellent swiveling action to reduce torque and prolong hose life.

**Buna N seals.** Flow rate is 3 GPM for 1/4" couplings, 6 GPM for 3/8", 12 GPM for 1/2", 28 GPM for 3/4" and 50 GPM for 1" units. Industry interchangeable with most major brand couplings.



No. 2F625 No. 2F619

Aeroquip

| Type | Pipe Size NPT (In.) | Flow Rate | Parker Interchange | Hansen Interchange | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Coupler (Body) | 1/4 | 3 | H2-62 | 2-H16 | FD45-1003-0404 | 2F625 | $25.50 | $10.29 | 0.3 |
| Coupler (Body) | 3/8 | 6 | H3-62 | 3-H21 | FD45-1003-0606 | 2F627 | 37.50 | 15.33 | 0.5 |
| Coupler (Body) | 1/2 | 12 | H4-62 | 4-H26 | FD45-1003-0810 | 2F629 | 43.50 | 18.19 | 0.6 |
| Coupler (Body) | 3/4 | 28 | H6-62 | 6-H31 | FD45-1003-1212 | 4HL87 | 74.16 | 33.70 | 1.0 |
| Coupler (Body) | 1 | 50 | H8-62 | 8-H36 | FD45-1003-1616 | 4HL88 | 100.61 | 45.80 | 1.5 |
| Nipple (Tip) | 1/4 | 3 | H2-63 | 2-K16 | FD45-1002-0404 | 2F619 | 11.00 | 4.57 | 0.1 |
| Nipple (Tip) | 3/8 | 6 | H3-63 | 3-K21 | FD45-1002-0606 | 2F621 | 17.25 | 6.75 | 0.2 |
| Nipple (Tip) | 1/2 | 12 | H4-63 | 4-K26 | FD45-1002-0810 | 2F623 | 19.50 | 8.10 | 0.2 |
| Nipple (Tip) | 3/4 | 28 | H6-63 | 6-K31 | FD45-1002-1212 | 4HL85 | 32.85 | 15.08 | 0.5 |
| Nipple (Tip) | 1 | 50 | H8-63 | 8-K36 | FD45-1002-1616 | 4HL86 | 45.86 | 20.85 | 1.5 |

## 5600 SERIES/INDUSTRIAL INTERCHANGE (SERIES A) COUPLERS

- Body and nipples are interchangeable with Parker 6600 series
- Double shutoff design for hydraulic applications where frequent connections and disconnections are required
- For use with dump trucks, snow plows, refuse hauling, mining, asphalt paving, and truck trailer connections
- 5000 PSI max. Working pressure on 1/8, 1/4: 4000 PSI max. working pressure on 3/8, 1/2, 3/4, 1

**Positive valve stop.** Solid metal perch maintains valve alignment and prevents flow checking. Valves stay fully open during high pressure fluid surges.

**Captive valve seal** assures bubble tight poppet sealing.

**Case hardened sleeves, induction hardened nipples** and zinc plated bar stock steel construction throughout add extra durability to withstand harsh environments.



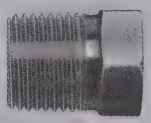
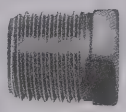
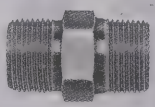
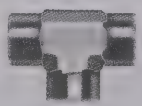
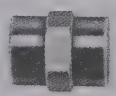
No. 2F547 No. 2F559

Aeroquip

| Type | Pipe Size NPT (In.) | Parker Interchange | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Coupler (Body) | 1/8 | 6601-2-4 | 5601-2-4S | 2F541 | $30.00 | $13.26 | 0.2 |
| Coupler (Body) | 1/4 | 6601-4-4 | 5601-4-4S | 2F543 | 36.00 | 17.47 | 0.3 |
| Coupler (Body) | 3/8 | 6601-6-6 | 5601-6-6S | 2F545 | 37.00 | 15.54 | 0.5 |
| Coupler (Body) | 1/2 | 6601-8-10 | 5601-8-10S | 2F547 | 39.00 | 16.32 | 0.6 |
| Coupler (Body) | 3/4 | 6601-12-12 | 5601-12-12S | 2F537 | 68.50 | 31.15 | 0.6 |
| Coupler (Body) | 1 | 6601-16-16 | 5601-16-16S | 2F539 | 93.00 | 41.10 | 1.0 |
| Nipple (Tip) | 1/8 | 6602-2-4 | 5602-2-4S | 2F553 | 12.50 | 5.82 | 0.2 |
| Nipple (Tip) | 1/4 | 6602-4-4 | 5602-4-4S | 2F555 | 13.00 | 6.24 | 0.2 |
| Nipple (Tip) | 3/8 | 6602-6-6 | 5602-6-6S | 2F557 | 15.50 | 7.02 | 0.2 |
| Nipple (Tip) | 1/2 | 6602-8-10 | 5602-8-10S | 2F559 | 18.00 | 7.23 | 0.2 |
| Nipple (Tip) | 3/4 | 6602-12-12 | 5602-12-12S | 2F549 | 31.75 | 14.03 | 0.4 |
| Nipple (Tip) | 1 | 6602-16-16 | 5602-16-16S | 2F551 | 42.00 | 17.62 | 0.7 |

# HYDRAULIC PIPE THREAD ADAPTERS

## HYDRAULIC HOSE ADAPTER—NPT THREAD ORDERING DATA

| Adapter Type | Illustration | Male Thread (In.) | Female Thread (In.) | Max. PSI | Length (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Reducer Bushing** |  | 1/4-18 | 1/8-27 | 5000 | 0.85 | 2081-4-2S | **2F433** | $2.50 | **$1.23** | 0.1 |
| | | 3/8-18 | 1/8-27 | 5000 | 0.85 | 2081-6-2S | **4HL71** | 2.83 | **1.31** | 0.1 |
| | | 3/8-18 | 1/4-18 | 4500 | 0.85 | 2081-6-4S | **2F435** | 3.00 | **1.35** | 0.1 |
| | | 1/2-14 | 1/4-18 | 4500 | 1.10 | 2081-8-4S | **2F437** | 4.50 | **2.21** | 0.1 |
| | | 1/2-14 | 3/8-18 | 3500 | 1.10 | 2081-8-6S | **2F439** | 5.00 | **2.32** | 0.2 |
| | | 3/4-14 | 3/8-18 | 3500 | 1.17 | 2081-12-6S | **2F427** | 7.25 | **3.43** | 0.1 |
| | | 3/4-14 | 1/2-14 | 3500 | 1.17 | 2081-12-8S | **2F429** | 6.00 | **2.80** | 0.2 |
| | | 1-11½ | 1/2-14 | 3500 | 1.36 | 2081-16-8S | **4HL67** | 8.01 | **3.81** | 0.3 |
| | | 1-11½ | 3/4-14 | 3000 | 1.36 | 2081-16-12S | **2F431** | 9.00 | **4.34** | 0.4 |
| | | 1¼-11½ | 1-11½ | 2500 | 1.47 | 2081-20-16S | **4HL68** | 12.91 | **6.90** | 0.4 |
| | | 1½-11½ | 1¼-11½ | 2000 | 1.57 | 2081-24-20S | **4HL69** | 23.70 | **12.56** | 0.5 |
| | | 2-11½ | 1½-11½ | 1500 | 1.75 | 2081-32-24S | **4HL70** | 49.79 | **26.45** | 0.9 |
| **Pipe Plug** |  | 1/8-27 | — | 10,000 | 0.56 | 2082-2S | **2F441** | 2.00 | **0.93** | 0.1 |
| | | 1/4-18 | — | 9500 | 0.75 | 2082-4S | **2F443** | 2.25 | **1.07** | 0.1 |
| | | 3/8-18 | — | 8000 | 0.78 | 2082-6S | **2F445** | 2.75 | **1.33** | 0.1 |
| | | 1/2-14 | — | 6000 | 0.97 | 2082-8S | **2F447** | 3.50 | **1.69** | 0.1 |
| | | 3/4-14 | — | 5000 | 1.06 | 2082-12S | **4HL72** | 6.05 | **3.25** | 0.3 |
| | | 1-11½ | — | 4000 | 1.25 | 2082-16S | **4HL73** | 10.51 | **5.61** | 0.4 |
| **Hex Nipple** |  | 1/4-18 | — | 9500 | 1.45 | 2083-4-4S | **2F453** | 3.00 | **1.35** | 0.1 |
| | | 3/8-18 x 1/4-18 | — | 8000 | 1.45 | 2083-6-4S | **2F455** | 4.50 | **2.21** | 0.1 |
| | | 3/8-18 | — | 8000 | 1.45 | 2083-6-6S | **2F457** | 3.50 | **1.64** | 0.1 |
| | | 1/2-14 | — | 6000 | 1.89 | 2083-8-8S | **2F459** | 5.00 | **2.32** | 0.2 |
| | | 3/4-14 | — | 5000 | 1.96 | 2083-12-12S | **2F449** | 8.00 | **3.87** | 0.5 |
| | | 1-11½ | — | 4000 | 2.34 | 2083-16-16S | **2F451** | 13.25 | **6.39** | 0.4 |
| | | 1½-11½ | — | 3000 | 2.48 | 2083-20-20S | **4HL74** | 21.35 | **8.08** | 0.5 |
| **FNPTx FNPT Elbow** |  | — | 1/4-18 | 4500 | 0.88 | 2087-4-4S | **2F461** | 15.50 | **7.52** | 0.2 |
| | | — | 3/8-18 | 3500 | 1.02 | 2087-6-6S | **2F463** | 16.00 | **7.59** | 0.2 |
| | | — | 1/2-14 | 3500 | 1.23 | 2087-8-8S | **2F465** | 20.50 | **9.86** | 0.2 |
| | | — | 3/4-14 | 3000 | 1.36 | 2087-12-12S | **4HL75** | 28.11 | **13.42** | 0.5 |
| | | — | 1-11½ | 2500 | 1.62 | 2087-16-16S | **4HL76** | 41.51 | **15.78** | 0.8 |
| **NPT Street Elbow** |  | 1/4-18 | 1/4-18 | 4500 | 1.11 | 2089-4-4S | **2F469** | 11.00 | **5.20** | 0.2 |
| | | 3/8-18 | 3/8-18 | 3500 | 1.23 | 2089-6-6S | **2F471** | 12.50 | **6.01** | 0.4 |
| | | 1/2-14 | 1/2-14 | 3500 | 1.47 | 2089-8-8S | **2F473** | 15.50 | **7.53** | 0.5 |
| | | 3/4-14 | 3/4-14 | 3000 | 1.69 | 2089-12-12S | **2F467** | 28.50 | **13.77** | 0.4 |
| | | 1-11½ | 1-11½ | 2500 | 1.97 | 2089-16-16S | **4HL77** | 33.21 | **17.19** | 0.5 |
| | | 1¼-11½ | 1¼-11½ | 2000 | 2.38 | 2089-20-20S | **4HL78** | 73.05 | **37.65** | 0.4 |
| **NPT Tee** |  | — | 1/4-18 | 4500 | 0.88 | 2090-4-4S | **2F475** | 15.25 | **7.33** | 0.2 |
| | | — | 3/8-18 | 3500 | 1.02 | 2090-6-6S | **2F477** | 16.50 | **7.95** | 0.3 |
| | | — | 1/2-14 | 3500 | 1.23 | 2090-8-8S | **2F479** | 30.84 | **17.00** | 0.8 |
| | | — | 3/4-14 | 3000 | 1.36 | 2090-12-12S | **4HL79** | 36.50 | **17.60** | 0.8 |
| | | — | 1-11½ | 2500 | 1.62 | 2090-16-16S | **4HL80** | 62.90 | **33.40** | 1.0 |
| | | — | 1¼-11½ | 2000 | 1.70 | 2090-20-20S | **4HL81** | 101.21 | **47.40** | 1.0 |
| **NPT Coupling** |  | — | 1/4-18 | 4500 | 1.13 | 2096-4S | **2F481** | 5.50 | **2.60** | 0.2 |
| | | — | 3/8-18 | 3500 | 1.13 | 2096-6S | **2F483** | 7.25 | **3.48** | 0.3 |
| | | — | 1/2-14 | 3500 | 1.13 | 2096-8S | **2F485** | 11.00 | **5.35** | 0.2 |
| | | — | 3/4-14 | 3000 | 1.53 | 2096-12S | **4HL82** | 12.53 | **6.71** | 0.5 |
| | | — | 1-11½ | 2500 | 1.89 | 2096-16S | **4HL83** | 25.17 | **13.43** | 0.7 |
| | | — | 1¼-11½ | 2000 | 1.93 | 2096-20S | **4HL84** | 79.20 | **40.00** | 0.8 |


### IF YOU'RE IN A BIND, CALL GRAINGER

If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 350 well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're conveniently located. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

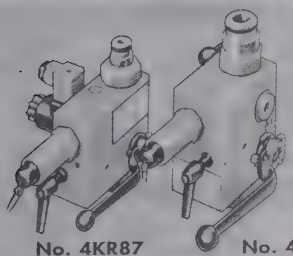
# NPT X JIC TYPE 316 STAINLESS STEEL HOSE ADAPTERS

- Designed in accordance with SAE J514 and military specification
- Use in conjunction with Teflon hose assemblies or where a stainless steel adapter is required
- Forged design for superior strength and vibration resistance
- Excellent chemical resistance
- Corrosion resistant

## NPT X JIC 316 STAINLESS STEEL SPECIFICATIONS AND ORDERING DATA

| Adapter Type | Illustration | JIC Straight Thread (In.) | NPT Thread (In.) | Size NPT X Tube O.D. (In.) | Maximum Working PSI | Length (In.) | Mfg. No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Straight |  | 7/16 - 20 | 1/8 - 27 | 1/8 x 1/4 | 2125 | 1.22 | J4CBO | **4HM23** | $10.00 | **$4.98** | 0.1 |
| | | 7/16 - 20 | 1/4 - 18 | 1/4 x 1/4 | 2125 | 1.42 | J4-4CBO | **4HM21** | 12.00 | **6.16** | 0.1 |
| | | 1/2 - 20 | 1/4 - 18 | 1/4 x 5/16 | 2125 | 1.42 | J5-4CBO | **4HM25** | 12.00 | **6.29** | 0.1 |
| | | 9/16 - 18 | 1/4 - 18 | 1/4 x 3/8 | 1750 | 1.43 | J6CBO | **4HM29** | 15.00 | **8.12** | 0.1 |
| | | 9/16 - 18 | 3/8 - 18 | 3/8 x 3/8 | 1750 | 1.43 | J6-6CBO | **4HM27** | 15.00 | **8.27** | 0.2 |
| | | 3/4 - 16 | 3/8 - 18 | 3/8 x 1/2 | 1500 | 1.53 | J8CBO | **4HM33** | 19.00 | **10.24** | 0.2 |
| | | 3/4 - 16 | 1/2 - 14 | 1/2 x 1/2 | 1500 | 1.79 | J8-8CBO | **4HM31** | 14.15 | **12.59** | 0.2 |
| | | 7/8 - 14 | 1/2 - 14 | 1/2 x 5/8 | 1375 | 1.89 | J10CBO | **4HM17** | 24.00 | **12.59** | 0.2 |
| | | 1 1/16 - 12 | 3/4 - 14 | 3/4 x 3/4 | 1000 | 2.06 | J12CBO | **4HM19** | 45.00 | **24.95** | 0.5 |
| Elbow |  | 7/16 - 20 | 1/8 - 27 | 1/8 x 1/4 | 2125 | 0.78 | J4MEBO | **4HM24** | 13.00 | **11.53** | 0.1 |
| | | 7/16 - 20 | 1/4 - 18 | 1/4 x 1/4 | 2125 | 1.09 | J4-4MEBO | **4HM22** | 22.00 | **13.75** | 0.1 |
| | | 1/2 - 20 | 1/4 - 18 | 1/4 x 5/16 | 2125 | 1.09 | J5-4MEBO | **4HM26** | 25.00 | **16.63** | 0.1 |
| | | 9/16 - 18 | 1/4 - 18 | 1/4 x 3/8 | 1750 | 1.09 | J6MEBO | **4HM30** | 25.00 | **16.63** | 0.1 |
| | | 9/16 - 18 | 3/8 - 18 | 3/8 x 3/8 | 1750 | 1.22 | J6-6MEBO | **4HM28** | 40.00 | **22.20** | 0.2 |
| | | 3/4 - 18 | 3/8 - 18 | 3/8 x 1/2 | 1500 | 1.25 | J8MEBO | **4HM34** | 40.00 | **22.26** | 0.2 |
| | | 3/4 - 18 | 1/2 - 14 | 1/2 x 1/2 | 1500 | 1.47 | J8-8MEBO | **4HM32** | 55.00 | **28.30** | 0.5 |
| | | 7/8 - 14 | 1/2 - 14 | 1/2 x 5/8 | 1375 | 1.47 | J10MEBO | **4HM18** | 60.00 | **32.90** | 0.4 |
| | | 1 1/16 - 12 | 3/4 - 14 | 3/4 x 3/4 | 1000 | 1.59 | J12MEBO | **4HM20** | 95.00 | **50.10** | 4.0 |

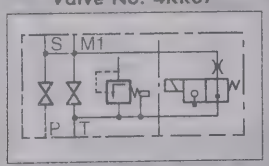
# ACCUMULATOR SAFETY AND SHUT-OFF BLOCKS



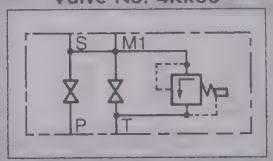
No. 4KR87 No. 4KR86

HYDAC

Solenoid-Operated Bleed Valve No. 4KR87




Manually Operated Bleed Valve No. 4KR86




S-Accumulator Connection, P-System Connection, T-Tank Connection, M1-Gauge Connection

**Safety and Shut-off Block** is designed to protect, shut-off and discharge hydraulic accumulators or user units.

**Features:**

- Max. working pressure: 4565 PSI
- Pressure relief valve
- Pressure gauge connection
- Shut-off valve
- Manual bleed valve
- 2-Way solenoid operated bleed valve (electric units only)

In accordance with OSHA requirements for stored hazardous energy, HYDAC recommends the use of its safety and shut-off block (SAB) with solenoid operated bleed valve. Use of the SAB block in your system satisfies OSHA regulation 29 CFR part 1910 for the accumulator

Solenoid-operated bleed valve (open when de-energized) allows automatic release of the accumulator or equipment during emergency or shut-down.

**Fluids:** Mineral oil, hydraulic oil, water-glycol (min. 95/5), non-flammable fluids.
**Temperature:** 14°F to 176°F (-10° to 80°C).

Nos. 4KR86, 4KR89, and 4KR92 with manually operated bleed valve for manual pressure release of the accumulator. Nos. 4KR87, 4KR88, 4KR90, 4KR91, 4KR93, and 4KR94 with solenoid operated bleed valve (open when de-energized), for automatic pressure release of the accumulator.

## SAFETY AND SHUT-OFF BLOCKS SPECIFICATIONS AND ORDERING DATA

| To Be Used With Accumulator No. | Max. Flow Rate (GPM) | System Conn. (SAE) (In.) | Accumulator Conn. (SAE) (In.) | Voltage | HYDAC Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6W621 | 120 | 1 1/16-12 | 1 1/16-12 | N/A | 02064402 | **4KR86** | $640.00 | **$605.00** | 19.0 |
| 6W621 | 120 | 1 1/16-12 | 1 1/16-12 | 24 DC | 02064404 | **4KR87** | 803.00 | **768.00** | 19.0 |
| 6W621 | 120 | 1 1/16-12 | 1 1/16-12 | 110 AC | 02064405 | **4KR88** | 834.00 | **795.00** | 19.0 |
| 6W622 | 120 | 1 5/16-12 | 1 5/16-12 | N/A | 02064406 | **4KR89** | 654.00 | **620.00** | 19.0 |
| 6W622 | 120 | 1 5/16-12 | 1 5/16-12 | 24 DC | 02060005 | **4KR90** | 813.00 | **778.00** | 19.0 |
| 6W622 | 120 | 1 5/16-12 | 1 5/8-12 | 110 AC | 02064407 | **4KR91** | 845.00 | **805.00** | 19.0 |
| 6W622 | 120 | 1 7/8-12 | | | | | | | |
| 6W623, 6W624 6W625 | 240 | 1 7/8-12 | 1 7/8-12 | N/A | 02065076 | **4KR92** | 889.00 | **855.00** | 36.0 |
| 6W623, 6W624 6W625 | 240 | 1 7/8-12 | 1 7/8-12 | 24 DC | 02064728 | **4KR93** | 1072.00 | **1032.00** | 36.0 |
| 6W623, 6W624 6W625 | 240 | 1 7/8-12 | 1 7/8-12 | 110 AC | 02064729 | **4KR94** | 1108.00 | **1070.00** | 36.0 |

# BLADDER ACCUMULATORS

**HYDAC bladder accumulators** are used in hydraulic systems to (1) reduce pump size and energy consumption, (2) provide auxiliary hydraulic pressure in case of emergency, (3) provide pressure compensation for system leakage, (4) minimize pump pulsations, and (5) absorb hydraulic shock.

**Construction:** Accumulators include forged shell designed according to ASME Buna N bladder, and valves for gas and fluid. Accumulators are not precharged and must be precharged to desired pressure using dry nitrogen only. See below for charging and gauging kit.

**WARNING: DO NOT PRECHARGE WITH OXYGEN OR AIR. EXPLOSION COULD RESULT.**

**Mounting Position:** Can be installed vertically or at a slant. When installing vertically or at a slant, the fluid port must be at the bottom. The following mounting is preferred for the listed applications:

**Energy storage**—vertical

**Pulsation dampening**—vertical or slant

**Maintaining constant pressure**—any position from horizontal to vertical

**Volume compensation:** vertical to horizontal

**Maximum Pressure:** 3000 PSI

**Temperature Range:** Mineral oil 5°F to 180°F; water and water-glycol 32°F to 180°F.

**Accessories:** Mounting components and charging and gauging kit available, see listings below.

## REPAIR KITS

Include Buna N bladder, valve seal cap, seal kit, and gas valve core with 7/8-14 UNF valve stem.

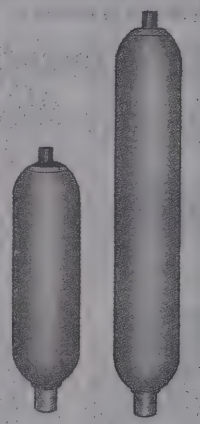
## CHARGING AND GAUGING KIT

Includes valve body, check valve, manual bleed valve, relief valve, 0-3600 PSI pressure gauge, 8 ft. charging hose, adapter for nitrogen cylinders, and carrying case. For use with HYDAC bladders only. HYDAC brand (02054186).

**No. 6W653.** Shpg. wt. 8.0 lbs. List.....$240.00.
Each.....**$228.00**

HYDAC

- Reduce wear and increase system performance
- Lower operating and maintenance costs
- Provide fail safe conditions
- Prevent pump, pipe, and system failure



No. 6W624 No. 6W625



No. 6W653

## ACCUMULATORS

| Fluid Volume (Gal.) | Gas Vol. (Cu. In.) | Height (In.) | Diameter (In.) | Inlet S.A.E. (In.) | Hydac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0.25** | 66 | 12 | 4⅝ | 11/16-12 UNF | 2054003 | **6W621** | $372.00 | **$353.50** | 12.0 |
| **1.00** | 226 | 16 | 6⅝ | 15/8-12 | 2054004 | **6W622** | 465.00 | **442.00** | 26.0 |
| **2.50** | 566 | 21½ | 9 | 17/8-12 | 2054005 | **6W623** | 765.00 | **727.00** | 86.0 |
| **5.00** | 1125 | 33¾ | 9 | 17/8-12 | 2054006 | **6W624** | 975.00 | **925.00** | 150.0 |
| **10.00** | 2080 | 54 | 9 | 17/8-12 | 2054007 | **6W625** | 1360.00 | **1295.00** | 230.0 |
| **15.00** | — | — | — | — | — | — | — | — | — |

## REPAIR KITS

| Hydac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2054034 | **6W626** | $145.00 | **$138.00** | 1.3 |
| 2054035 | **6W627** | 166.00 | **160.00** | 2.5 |
| 2054036 | **6W628** | 196.00 | **186.00** | 3.5 |
| 2054037 | **6W629** | 275.00 | **262.00** | 5.7 |
| 2054038 | **6W630** | 442.00 | **420.00** | 9.6 |
| 2054039 | **6W631** | 555.00 | **527.00** | 14.0 |

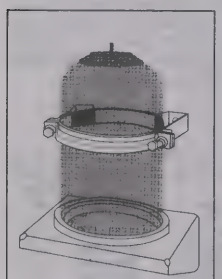
## ACCUMULATOR CROSS-REFERENCE GUIDE

| Stock No. | Accum. Inc. Model | Bosch Model | Greer Model | Oil Air Model | Parker Model |
|---|---|---|---|---|---|
| 6W621 | A1QT31003 | 0-531-112-640 | 851550 | 1QT-100-3 | AB01B3T1A1 |
| 6W622 | A131003 | 0-531-113-640 | 841720 | 1-100-3 | AB04B3T1A1 |
| 6W623 | A2.531003 | 0-531-114-640 | 849760 | 2.5-100-3 | AB10B3T1A1 |
| 6W624 | A531003 | 0-531-115-640 | 849392 | 5-100-3 | AB20B3T1A1 |
| 6W625 | A1031003 | 0-531-115-650 | 850670 | 10-100-3 | AB40B3T1A1 |

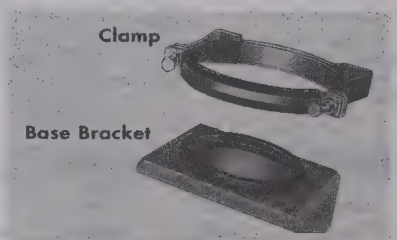
See Cross-Reference Information on page opposite inside back cover.

## REPAIR KIT CROSS-REFERENCE GUIDE

| Stock No. | Accum. Inc. Model | Bosch Model | Greer Model | Oil Air Model | Parker Model |
|---|---|---|---|---|---|
| 6W626 | AI-1QT-300 | 9-534-232-024 | 702928 | 1QT-300 | 850693002 |
| 6W627 | AI-1-300 | 9-534-232-025 | 702956 | 1-300 | 850693010 |
| 6W628 | AI-2.5-300 | 9-534-232-026 | 702970 | 2.5-300 | 850693025 |
| 6W629 | AI-5-300 | 9-534-232-027 | 702984 | 5-300 | 850693050 |
| 6W630 | AI-10-300 | 9-534-232-028 | 702998 | 10-300 | 850693100 |
| 6W631 | AI-15-300 | 9-534-232-029 | 703026 | 15-300 | 850693150 |



Mounting Components Shown with Accumulator




## SELECTION CHART

| Accumulator Stock No. | Clamp Stock No. | Base Bracket Stock No. |
|---|---|---|
| 6W621 | 6W648 | — |
| 6W622 | 6W649 | 6W651 |
| 6W623 | 6W650 | 6W652 |
| 6W624 | 6W650 | 6W652 |
| 6W625 | 6W650 (2) | 6W652 |

HYDAC

# MOUNTING COMPONENTS

Heavy-duty mounting clamps are constructed of zinc plated steel. Mounting clamps have rubber insert to absorb vibration. Base brackets are constructed of zinc plated steel with vibration absorbing rubber support ring.

## SPECIFICATIONS AND ORDERING DATA

| ID (In.) | Hydac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **HEAVY-DUTY CLAMPS** | | | | | |
| **4.89** | 00236679 | **6W648** | $32.00 | **$31.00** | 2.0 |
| **6.57** | 02110642 | **6W649** | 32.00 | **31.00** | 3.0 |
| **8.90** | 00235224 | **6W650** | 48.00 | **46.75** | 4.0 |
| **BASE BRACKETS** | | | | | |
| **4.72** | 02107989 | **6W651** | 48.00 | **46.75** | 6.3 |
| **6.69** | 02100651 | **6W652** | 50.00 | **48.75** | 5.8 |

# PUMP AND CYLINDER MATCHING GUIDE

**After selecting cylinder, use matching guide to select pump with sufficient oil capacity to fully extend cylinder.**

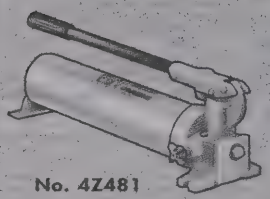
| Cylinder | | Grainger Pump Stock No. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3KD31 | 4Z481 | 6W462 | 6W461 | 4Z480 | 3KD77 | 3KD78 | 3KD33 | 1Z907 | 4Z482 | 4ZC75 | 3KD32 |
| | | Enerpac Pump Model | | | | | | | | | | | |
| Enerpac Part No. | Grainger Stock No. | P-802 | P-80 | P-392 | P-142 | P-39 | PBR12001B | PBR13001B | PGM2308R | PAT1102N | PA133 | PUJ1200B | PER2032 |
| RC50 | 3KD48 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No |
| RC51 | 3KD49 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No |
| RC53 | 4Z483 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No |
| RC55 | 4Z484 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No |
| RC57 | 3KD50 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No |
| RC59 | 3KD51 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No | No |
| RC101 | 3KD42 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | No |
| RC102 | 4Z485 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | No |
| RC104 | 6Z783 | Yes | Yes | Yes | No | Yes | Yes | Yes | No | Yes | Yes | Yes | No |
| RC106 | 4Z486 | Yes | Yes | Yes | No | Yes | Yes | Yes | No | Yes | Yes | Yes | No |
| RC108 | 3KD43 | Yes | Yes | Yes | No | Yes | Yes | Yes | No | Yes | Yes | Yes | No |
| RC1010 | 4Z487 | Yes | Yes | Yes | No | Yes | Yes | Yes | No | Yes | Yes | Yes | No |
| RC152 | 3KD44 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RC156 | 6W463 | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RC1510 | 6W464 | Yes | Yes | Yes | No | Yes | No | No | Yes | Yes | No | Yes | Yes |
| RC252 | 3KD45 | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RC254 | 3KD46 | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RC256 | 4Z488 | Yes | Yes | Yes | No | Yes | No | No | Yes | Yes | No | Yes | Yes |
| RC258 | 3KD47 | Yes | Yes | Yes | No | No | No | No | Yes | Yes | No | Yes | Yes |
| RC2510 | 6W473 | Yes | Yes | No | No | No | No | No | Yes | Yes | No | Yes | Yes |
| RC506 | 4Z489 | Yes | Yes | No | No | No | No | No | Yes | No | No | Yes | Yes |
| RCH121 | 6Z269 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RCH123 | 3KD54 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RCH202 | 6Z270 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RCH302 | 6Z271 | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RCS101 | 6Z066 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RCS201 | 6Z067 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RCS302 | 6Z068 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RCS502 | 6Z272 | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RSM50 | 6Z782 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RSM100 | 3KD55 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RSM200 | 3KD56 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RSM300 | 6W466 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RSM500 | 6W467 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| BRP106C | 3KD41 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| WR5 | 3KD94 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| WR15 | 3KD93 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| WHC750 | 3KD36 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| NC1319 | 3KD73 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| SP35 | 3KD34 | Yes | Yes | Yes | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

LIQUID FILLED PRESSURE GAUGES AVAILABLE.
SEE PAGE 2847

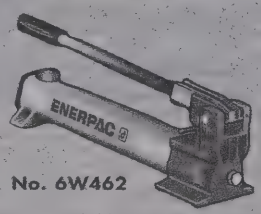
# HIGH FORCE HYDRAULIC TOOLS

ENERPAC

Replacement Parts Available
1-800-323-0620



No. 4Z481




No. 6W462

**ENERPAC LIMITED LIFETIME WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranty" on page opposite inside back cover.

## HAND PUMPS

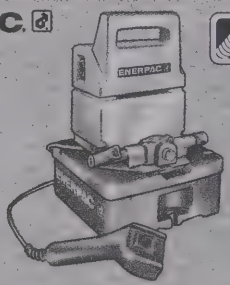
- Available in single- and two-stage designs
- Feature integral oil reservoir, manually operated pumping unit and external load release valve
- Internal adjustable pressure relief valve factory preset at 10,000 PSI
- For operating single acting cylinders, crimping equipment, and hydraulic presses
- Can be used in horizontal or vertical position with pump head downward
- Nos. 6W461, 6W462, and 3KD31 are constructed of durable glass filled nylon. Encapsulated aluminum pump base
- Two-stage pumps offer higher flow at low pressure and automatically shift to low flow at high pressure
- Units shipped with oil

### HAND PUMP SPECIFICATIONS AND ORDERING DATA

| Speed | Max. PSI 1st Stage / 2nd Stage | Displacement Per Stroke 1st Stage / 2nd Stage (cu. in.) | Reservoir Capacity Cu. In. | Port (NPT) | Dimensions (In.) Length | Width | Height | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Single** | 10,000 | .16 | 43 | 3/8 | 22 1/16 | 5 1/4 | 4 1/16 | P-39 | **4Z480** | $206.00 | **$196.25** | 14.0 |
| **Two** | 200/10,000 | .221/.055 | 20 | 1/4 | 13 3/4 | 3 3/4 | 5 5/16 | P-142 | **6W461** | 208.00 | **191.75** | 5.3 |
| **Two** | 200/10,000 | .687/.151 | 55 | 3/8 | 21 | 4 3/4 | 7 | P-392 | **6W462** | 245.00 | **226.25** | 10.0 |
| **Two** | 350/10,000 | .99/.15 | 140 | 3/8 | 23 | 5 3/4 | 6 7/8 | P-80 | **4Z481** | 357.00 | **356.00** | 28.0 |
| **Two** | 400/10,000 | 2.4/.15 | 150 | 3/8 | 21 3/4 | 7 1/8 | 9 | P-802 | **3KD31** | 411.00 | **405.50** | 19.0 |

ENERPAC

91386




Replacement Parts Available
1-800-323-0620

**ENERPAC LIMITED LIFETIME WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## 1/2 HP ELECTRIC PUMP

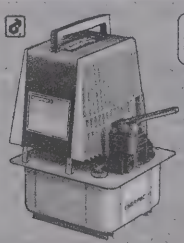
For use in fabricating, maintenance, and construction jobs requiring high pressure hydraulic power. Not intended for continuous duty or production.

- 1/2 HP motor operates on standard 115V, 15 amp circuit. Allows accessibility to remote applications or even with long extension cords
- Two-stage, 10,000 PSI pump produces flow of 200 cu. in./min.
- Lightweight—only 22 lbs.
- 3-way, two-position valve for Advance-Hold-Retract of cylinder
- 10 ft. remote pendant operates on 24V for user's safety
- Jog feature allows operator to "inch" cylinders into position
- Durable shroud and 1/2 gallon reservoir constructed of high-impact polyethylene

### 1/2 HP ELECTRIC PUMP SPECIFICATIONS AND ORDERING DATA

| Reservoir Capacity | Oil Displacement 0-200 PSI | Oil Displacement 200-10,000 PSI | HP | Volts | Amps | Fluid Port | dBa | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **115 Cu. In.** | 200 cu. in./min. | 20 cu. in./min. | 1/2 | 115 | 9.5 | 3/8 | 85-89 | PUJ1200B | **4ZC75** | $1068.00 | **$1037.00** | 22.0 |

ENERPAC



No. 3KD32

Replacement Parts Available
1-800-323-0620

## 1-HP ELECTRIC PUMP

Ideal for continuous use/production and high flow application. Also used for fabrication, maintenance, and construction jobs requiring high pressure hydraulics power.

- 2-Stage electric pump
- 3-way, 2-position solenoid valve for Advance-Hold-Retract of cylinder
- 10-foot power cord
- Jog feature allows cylinder to be "inched" into position
- 2-gallon hydraulic reservoir

### 1 HP ELECTRIC PUMP SPECIFICATIONS AND ORDERING DATA

| Reservoir Capacity | Oil Displacement 0-500 PSI | Oil Displacement 500-10,000 | HP | Volts | Amps | Fluid Port | dBa | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **462 cu. in.** | 240 cu. in./min. | 42 cu. in./min. | 1 | 115/230 | 19.5/9.8 | 3/8 | 80 | PER2032 | **3KD32** | $2674.00 | **$2617.00** | 116.0 |

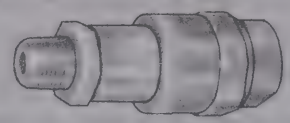
# HIGH FORCE HYDRAULIC TOOLS

## 3/8" HIGH PRESSURE COUPLER

- For use with Enerpac pumps and cylinders at 10,000 PSI
- Includes 3/8" NPT male and female coupler
- Designed for quick-connect/disconnect
- New design improves back flow from cylinder to pump
- Shorter profile length than comparable couplers
- Zinc-coated to resist corrosion
- Interchangeable with similar couplings of same size regardless of valve style, including Pioneer 3000 Series, Enerpac C604 Series, and Safeway S30-3

**No. 3KD30.** High Pressure Coupler. Shpg. wt. 0.9 lbs. List $38.00. Each.....$30.65

SAFEWAY



No. 3KD30

## 1/4" HIGH PRESSURE COUPLER

- For use with 6W461 hand pump and 6Z782 cylinder
- Includes 1/4" NPT male and female coupler
- Dust cap for female half only
- Works with Dayton and Lincoln hydraulic repair kits

**No. 3KD28.** High Pressure Coupler. Shpg. wt. 0.3 lbs. List $36.00. Each.....$35.35



No. 3KD28

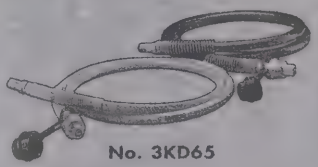
## HIGH PRESSURE HOSE ASSEMBLIES

- Designed for use with all Enerpac 10,000 PSI pumps and cylinders
- Hose assemblies include: 3/8" NPT thread on one end, and 3/8" male coupler half on other (except 3KD66 and 3KD64)
- 3KD66 hose can only be used with3KD77 and 3KD78 WalkPac battery-powered pump has 3/8 male couplersat both ends
- 3KD64 has 1/4" (M) NPT fitting; to be used with 3KD28 (coupler), 6Z782 (cylinder) and 6W461 (hand pump)

**HOSE ORDERING DATA**

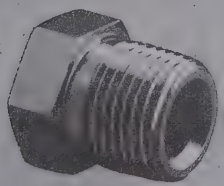
| Length (Ft.) | Fitting (NPT) (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 6 | 1/4 | 3KD64 | $79.00 | $74.00 | 1.0 |
| 6 | 3/8 | 3KD65 | 70.00 | 39.95 | 3.0 |
| 6 | 3/8 | 3KD66 | 111.00 | 97.95 | 6.0 |
| 10 | 3/8 | 3KD67 | 96.00 | 59.75 | 4.4 |
| 15 | 3/8 | 3KD68 | 140.00 | 80.95 | 6.5 |
| 20 | 3/8 | 3KD69 | 177.00 | 100.80 | 7.7 |

Aeroquip SAFEWAY



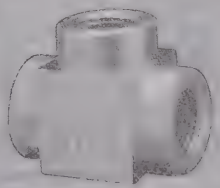
No. 3KD65

## HIGH PRESSURE HYDRAULIC FITTINGS



No. 3F435

Aeroquip



No. 2F477



No. 2F547

These high pressure steel fittings are designed for 10,000 PSI High Force Hydraulic Tools. They can simplify many connections in a hydraulic tool system. NOTE: Never use standard pipe fittings or lower pressure rated fittings in a 10,000 PSI High Force Hydraulic Tool System.

**HYDRAULIC FITTING ORDERING DATA**

| Description | Length (In.) | Male Thread (In.) | Female Thread (In.) | Aeroquip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Bushing | 0.85 | 3/8-18 | 1/4-18 | 2081-6-4S | 2F435 | $3.00 | $1.35 | 0.1 |
| Hex Nipple | 1.45 | 3/8-18 | — | 2083-6-6S | 2F457 | 3.50 | 1.64 | 0.1 |
| Tee | 1.02 | — | 3/8-18 | 2090-6-6S | 2F477 | 16.50 | 7.95 | 0.2 |

YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.

# HIGH FORCE HYDRAULIC TOOLS

All cylinders have chrome plated plungers to resist corrosion and wear. Internal bronze plunger bearings help absorb side loading stresses. Polyurethane rod wiper and seals provide long, leak free operation. Snap-in removable hardened alloy steel saddle handle directs loads without added stress to plunger. Cylinders come with 3/8" female coupler with dust cap (except Nos. 6Z782 and 6Z269, which come with 1/4" coupler).

## [A] SINGLE ACTING RAM CYLINDERS

- **Used for a wide range of general and special applications including hydraulic pressing, clamping, holding, pulling and lifting**
- **Base mounting holes and collar threads for easy fixturing**
- **Mount in any position, spring return plunger**
- **Compact design provides flexible, easy installation**
- **Comes with grooved saddle**

| Capacity in Tons | Stroke | Oil Cap., Cu. In. | Retracted (In.) Height | Retracted (In.) Dia. | Plunger Dia. (In.) | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 0.63 | .62 | 1.63 | 1½ | 1 | RC-50 | **3KD48** | $162.00 | **$158.50** | 2.5 |
| **5** | 1.00 | 1.00 | 4.34 | 1½ | 1 | RC-51 | **3KD49** | 175.00 | **170.75** | 2.3 |
| **5** | 3.00 | 3.20 | 6½ | 1½ | 1 | RC-53 | **4Z483** | 181.00 | **169.00** | 3.4 |
| **5** | 5.00 | 5.20 | 8½ | 1½ | 1 | RC-55 | **4Z484** | 188.00 | **176.75** | 4.2 |
| **5** | 7.00 | 7.20 | 10¾ | 1½ | 1 | RC-57 | **3KD50** | 235.00 | **229.75** | 5.3 |
| **5** | 9.13 | 9.20 | 12¾ | 1½ | 1 | RC-59 | **3KD51** | 282.00 | **272.00** | 6.1 |
| **10** | 1.00 | 2.20 | 3½ | 2¼ | 1½ | RC-101 | **3KD42** | 200.00 | **192.25** | 4.0 |
| **10** | 2.13 | 4.80 | 4 25/32 | 2¼ | 1½ | RC-102 | **4Z485** | 203.00 | **188.50** | 5.1 |
| **10** | 4.13 | 9.20 | 6¾ | 2¼ | 1½ | RC-104 | **6Z783** | 226.00 | **211.25** | 7.2 |
| **10** | 6.13 | 13.90 | 9¾ | 2¼ | 1½ | RC-106 | **4Z486** | 249.00 | **231.25** | 9.8 |
| **10** | 8.00 | 18.00 | 11¾ | 2¼ | 1½ | RC-108 | **3KD43** | 291.00 | **283.75** | 12.0 |
| **10** | 10.13 | 22.90 | 13¾ | 2¼ | 1½ | RC-1010 | **4Z487** | 297.00 | **277.50** | 14.0 |
| **15** | 2.00 | 6.50 | 5⅞ | 2¾ | 1⅝ | RC-152 | **3KD44** | 263.00 | **257.00** | 9.0 |
| **15** | 6.00 | 19.00 | 10 11/16 | 2¾ | 1⅝ | RC-156 | **6W463** | 294.00 | **276.25** | 15.0 |
| **15** | 10.00 | 31.50 | 14 11/16 | 2¾ | 1⅝ | RC-1510 | **6W464** | 445.00 | **409.75** | 21.0 |
| **25** | 2.00 | 10.30 | 6½ | 3⅜ | 2¼ | RC-252 | **3KD45** | 330.00 | **322.25** | 14.0 |
| **25** | 4.00 | 21.90 | 8½ | 3⅜ | 2¼ | RC-254 | **3KD46** | 360.00 | **351.00** | 18.0 |
| **25** | 6.25 | 32.20 | 10¾ | 3⅜ | 2¼ | RC-256 | **4Z488** | 399.25 | **379.25** | 22.0 |
| **25** | 8.25 | 42.50 | 12¾ | 3⅜ | 2¼ | RC-258 | **3KD47** | 537.00 | **524.50** | 27.0 |
| **25** | 10.25 | 52.80 | 14¾ | 3⅜ | 2¼ | RC-2510 | **6W473** | 823.00 | **577.50** | 31.0 |
| **50** | 6.25 | 69.00 | 11⅛ | 5 | 3⅛ | RC-506 | **4Z489** | 701.00 | **653.00** | 51.0 |

## CYLINDER BASES

Cylinder bases for 10, 25, and 50 ton single acting ram cylinders only. Help to stabilize load when lifting with longer stroke cylinders.

| Tonnage | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **10** | JBI-10 | **6W470** | $91.00 | **$87.90** | 7.0 |
| **25** | JBI-25 | **6W471** | 179.00 | **172.25** | 15.0 |
| **50** | JBI-50 | **6W472** | 134.00 | **129.50** | 23.0 |

## [B] HEAVY-DUTY LOW HEIGHT LIFTING CYLINDERS

- **For lifting and maintenance applications where low height, weight and portability are needed**
- **Internal return spring for easy retraction**
- **Comes with grooved saddle**

| in Tons | Stroke | Oil Cap., Cu. In. | Retracted (In.) Height | Retracted (In.) Dia. | Plunger Dia. (In.) | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 1.50 | 3.4 | 3 15/32 | 2¾ | 1½ | RCS-101 | **6Z066** | $237.00 | **$220.25** | 9.0 |
| **20** | 1.75 | 7.7 | 3⅞ | 3⅝ | 2 | RCS-201 | **6Z067** | 354.00 | **327.25** | 11.0 |
| **30** | 2.44 | 15.8 | 4⅝ | 4 | 2⅝ | RCS-302 | **6Z068** | 397.00 | **366.75** | 15.0 |
| **50** | 2.38 | 22.8 | 4 13/16 | 5 | 2¾ | RCS-502 | **6Z272** | 489.00 | **451.75** | 24.0 |

## MOUNTING SPECIFICATIONS

| Cap. Tons | D.C. Dia. | Thread Size | No. of Threads | Collar Thread | Plunger Thread |
|---|---|---|---|---|---|
| 5 | 1.00 | 1/4-20 | 2 | 1½-16 | 3/4-16 |
| 10 | 1.56 | 5/16-18 | 2 | 2¼-14 | 1-8 |
| 15 | 1.88 | 3/8-16 | 2 | 2¾-16 | 1-8 |
| 25 | 2.31 | 1/2-13 | 2 | 3 5/16-12 | 1½-16 |
| 50 | 3.75 | 1/2-13 | 2 | 5-12 | — |

**ENERPAC**

**ENERPAC LIMITED LIFETIME WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.




### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# HIGH FORCE HYDRAULIC TOOLS

## [A] FLAT-JAC® COMPACT MOVING CYLINDERS

- Low retract heights for tight spaces
- Ideal for maintenance and construction applications
- Use to create larger work areas
- Includes internal return spring
- No. 6Z782 comes with 1/4" female coupler and reducer bushing. Remove bushing to use with 3/8" NPTF couplers and hose

| Capacity in Tons | Stroke | Oil Cap., (Cu. In.) | Dimensions (In.) H x L x W | Plunger Dia. (In.) | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5** | 0.25 | 0.3 | 1 9/32 x 2 5/16 x 1 5/8 | 1 | RSM-50 | **6Z782** | $163.00 | **$152.25** | 2.2 |
| **10** | 0.44 | 1.0 | 1.69 x 3 1/8 x 2 5/16 | 1 1/2 | RSM-100 | **3KD55** | 234.00 | **228.00** | 3.1 |
| **20** | 0.44 | 2.0 | 2.0 x 4.0 x 3.0 | 2 | RSM-200 | **3KD56** | 391.00 | **381.00** | 6.8 |
| **30** | 0.50 | 3.2 | 2 5/16 x 4 5/8 x 3 3/4 | 2 | RSM-300 | **6W466** | 453.00 | **422.50** | 10.0 |
| **50** | 0.62 | 6.0 | 2 5/8 x 5 1/2 x 4 1/2 | 2 3/4 | RSM-500 | **6W467** | 527.00 | **492.75** | 15.0 |

## [B] SINGLE ACTING HOLLOW PLUNGER CYLINDERS

- For tooling and tensioning applications
- Can be used as push cylinders from the top or pull cylinders from the bottom
- Hollow piston design allows for rod stock, threaded rod or steel cable to be passed through
- Center hole diameter: No. 6Z269, 3KD54 0.77", No. 6Z270 1.06", No. 6Z271 1.31"
- Comes with smooth saddle

| Capacity in Tons | Stroke | Oil Cap., (Cu. In.) | Dimensions (In.) Height | Dia. | Plunger Dia. (In.) | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **12** | 1.62 | 4.5 | 4 3/4 | 2 3/4 | 1.38 | RCH-121 | **6Z269** | $362.00 | **$335.75** | 6.2 |
| **12** | 3.00 | 8.3 | 7 1/4 | 2 3/4 | 1.38 | RCH-123 | **3KD54** | 433.00 | **422.75** | 9.8 |
| **20** | 2.00 | 9.4 | 6 5/16 | 3 7/8 | 2.13 | RCH-202 | **6Z270** | 501.00 | **453.00** | 17.0 |
| **30** | 2.50 | 18.0 | 7 1/32 | 4 1/2 | 2.50 | RCH-302 | **6Z271** | 612.00 | **575.50** | 24.0 |

## [C] SINGLE ACTING SPREAD CYLINDERS

- Ideal where a tremendous amount of force is needed to spread open a very narrow space
- Provides smooth, controlled hydraulic spreading force
- Ideal for concrete form removal
- No. 3KD93: Long-stroke spreading application
- No. 3KD94: Small-stroke spreading application

| Capacity in Tons | Stroke | Oil Cap., (Cu. In.) | Spread Width (In.) | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **.75** | 11.50 | 3.91 | 11.5 | WR-15 | **3KD93** | $426.00 | **$409.00** | 25.0 |
| **1.00** | 3.50 | .61 | 3.7 | WR-5 | **3KD94** | 159.00 | **154.25** | 5.0 |

## [D] SINGLE ACTING PULL CYLINDER

- Enables heavy steel plates, subassemblies and prefabricated metal modules to be pulled together
- Internal maximum pressure capacity is 8,604 PSI
- Includes 3/8" female coupler

| Capacity in Tons | Stroke | Oil Cap., (Cu. In.) | Internal Pressure at Cap. (PSI) | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **10** | 6.00 | 13.8 | 8,604 | BRP-106C | **3KD41** | $1265.00 | **$1215.00** | 35.0 |

## [E] NEEDLE VALVE

Controls cylinder speed when lowering load for all cylinders. Can also be used for temporary load holding. 3/8" (F)NPT. Enerpac brand (V-82).

No. 6W468. Shpg. wt. 2.1 lbs. List.....$74.00.
Each.....$68.65

## [F] MANUALLY OPERATED CHECK VALVE

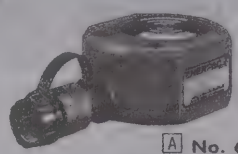
For holding applications with all cylinders. Valve is manually opened to allow oil to flow back to reservoir when cylinder retracts. 3/8" (F)NPT inlet. 3/8" (M)NPT outlet. Enerpac brand (V-66).

No. 6W469. Shpg. wt. 2.3 lbs. List.....$163.00
Each.....$149.95

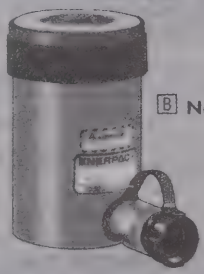
**ENERPAC**

**ENERPAC LIMITED LIFETIME WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



[A] No. 6W466



[B] No. 3KD54



[C] No. 3KD93



[C] No. 3KD94



[D] No. 3KD41



[E] No. 6W468

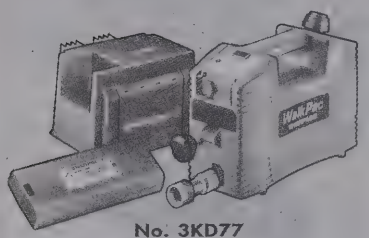


[F] No. 6W469

# HIGH FORCE HYDRAULIC TOOLS

## WALKPAC® CORDLESS PUMPS

ENERPAC



No. 3KD77

Replacement Parts Available 1-800-323-0620

Combined portability of a hand pump (freedom of movement, cordless operation, lightweight) with power and convenience of an electric pump (one hand operation, reduced operator fatigue) to produce 10,000 PSI. For most intermittent and construction applications. Used with electrical lug crimpers, knock-out punches, nut splitter, spread cylinders, and single acting cylinders up to 25 tons.

- **Ideal for confined or elevated areas such as catwalks or on ladders**
- **Both units come with: 24 Volt Ni-Cad battery, battery charger, shoulder strap, and dust cap**
- **3KD77 has manual release valve**
- **3KD78 has electric valve with 3 ft. remote control**
- **Battery charger operates on 115 Volt and can recharge battery in one hour**
- **Uses 3KD66 hose**
- **Weighs only 19 lbs.**

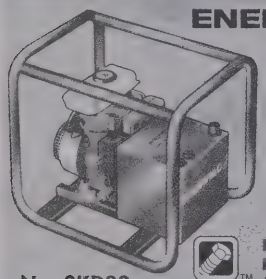
### CORDLESS PUMP SPECIFICATIONS AND ORDERING DATA

| Reservoir Capacity (Cu. In.) | Oil Displacement 0 PSI | Oil Displacement 10,000 PSI | Dda | Fluid Port NPT* | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **38** | 16 cu. in. | 10 cu. in. | 62-68 | 3/8" | PBR12001B | **3KD77** | $1050.00 | **$1010.00** | 34.0 |
| **38** | 16 cu. in. | 10 cu. in. | 62-68 | 3/8" | PBR13001B | **3KD78** | 1725.00 | **1656.00** | 34.0 |

(*) Includes female 3/8" coupler.

## GAS ENGINE HYDRAULIC PUMP

ENERPAC



Replacement Parts Available 1-800-323-0620

No. 3KD33

**ENERPAC LIMITED LIFETIME WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Gas engine powered portable pump requires no auxiliary power sources. Works in any weather. For use in remote applications such as construction, rescue and rail yards.

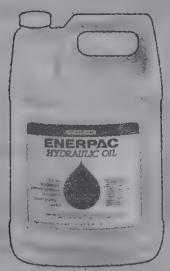
- **2.5 HP Honda engine, recoil start**
- **Three-way, two position valve**
- **Runs up to 2 hours on one tank of fuel**
- **10,000 PSI; by-pass pressure of 2000 PSI**
- **2 gallon oil reservoir**
- **.37 gallon fuel tank (1.4 liters)**
- **For use with single acting hydraulic cylinders**

### GAS ENGINE PUMP SPECIFICATIONS AND ORDERING DATA

| Reservoir Capacity Cu. In. | Oil Displacement 0-200 PSI | Oil Displacement 10,000 PSI | Fluid Port NPT | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **462 cu. in.** | 200 cu. in./min. | 40 cu. in./min. | 3/8 | PGM2308R | **3KD33** | $1650.00 | **$1585.00** | 72.0 |

## PREMIUM HYDRAULIC OIL

ENERPAC




No. 3KD76

**Features:**

- **Recommended for all Enerpac products**
- **Maximum pump volumetric efficiency**
- **Maximum internal heat transfer**
- **Prevents pump cavitation**
- **Anti-rust, foaming and sludge additives improve low temp. flow and stability at high temperatures**
- **High viscosity index**
- **Distinct blue color**
- **Maximum film protective lubricity**
- **Stops oil oxidation**
- **Cleanest hydraulic oil available**

### ORDERING DATA

| Container Size | ISO Viscosity Grade | Viscosity (SUS @ 100°F) | Flash Point (°F) | Pour Point (°F) | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1 quart** | 100 | 150/165 | 400 | -25 | HF100 | **3KD75** | $12.00 | **$10.43** | 2.0 |
| **1 gallon** | 100 | 150/165 | 400 | -25 | HF101 | **3KD76** | 20.00 | **19.00** | 8.0 |

ENERPAC

Replacement Parts Available 1-800-323-0620




**ENERPAC LIMITED LIFETIME WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranty" on page opposite inside back cover.

## TURBO® AIR POWERED PUMP

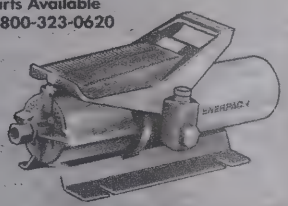
For use in production, maintenance, and construction applications. Turbo® air pump features a unique design in which the exhausting air is used to power the pump. Capable of developing 10,000 PSI with only 80 PSI air. Reservoir capacity is 150 cu.in. with a usable capacity of 127 cu.in. Pump is 13.66L x 6.2W x 8.21"H.

- **Air exhaust muffler reduces noise to 79 dBa, resulting in reduced operator fatigue**
- **Return to tank port for use with remote valve applications**
- **Air and hydraulic inlet filters reduce potential for damage from contamination**
- **Horizontal or vertical operation**
- **Produces operating oil pressure up to 10,000 PSI**
- **Rugged construction and 150 PSI inlet air capability**
- **Large reservoir capacity for system flexibility**
- **Three position treadle enables hand or foot operation and Advance/Hold/Retract of cylinder**

| Operating Air Pressure (PSI) | Air Consumption (CFM) | Air Inlet (NPT) (In.) | Fluid Port (NPT) (In.) | Oil Displacement 0 PSI | Oil Displacement 10,000 PSI | dBa | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **40-150** | 12 | 1/4 | 3/8 | .65 cu. in./min. | 8 cu. in./min. | 79 | PAT1102N | **1Z907** | $463.00 | **$439.25** | 17.0 |

ENERPAC

Replacement Parts Available 1-800-323-0620



**ENERPAC LIMITED LIFETIME WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## AIR POWERED PUMP

For use in maintenance and light construction applications.

**Swivel coupling** on hydraulic port allows hookup in any position except with oil port pointing downward. Swivel coupling on air intake port permits hose rotation to prevent twisted air line.

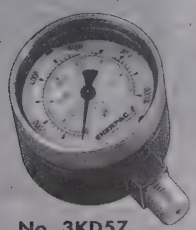
**Easy-to-fill reservoir** holds 36.0 cu. in. useable oil to operate single acting cylinders under 25 tons. Hydraulic assist release valve provides quick retraction.

**Internal 3-way valving** holds load if air pressure is turned off. Replaceable air filter protects internal parts from impurities. Pump is 14.69L x 5.62W x 5.71"H.

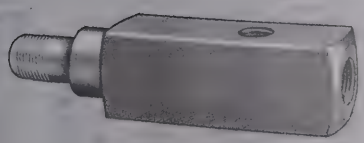
- **Lightweight and portable pump**
- **Three position treadle enables hand or foot operation and Advance/Hold/Retract of cylinder**
- **10,000 PSI**
- **Carrying handle is built into treadle**
- **Internal air exhaust muffler for quiet operation**

| Operating Air Pressure (PSI) | Air Consumption (CFM) | Air Inlet (NPT) (In.) | Fluid Port (NPT) (In.) | Oil Displacement 0 PSI | Oil Displacement 10,000 PSI | dBa | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **60-115** | 9 | 1/4 | 3/8 | 40 cu. in./min. | 8 cu. in./min. | 85 | PA133 | **4Z482** | $418.00 | **$376.50** | 12.0 |

ENERPAC



No. 3KD57



No. 3KD38

## GAUGES AND GAUGE ADAPTERS

**Enerpac gauges** permit visual reading of the pressures generated by a load to minimize overloading of equipment and ensure proper service, or used to determine the required force for an application. Gauges are precisely calibrated and highly accurate within +/- 2% of full scale. Gauges are calibrated to read in PSI. Glycerin or liquid filled gauges are used in high vibration or tough applications, and feature safety blow-out disk and pressure equalizing membrane. All gauges have bottom connection. Gauge adapters permit fast easy installation of gauges in the line.

### GAUGES

| Scale | Used with Cylinder/Press | Required Gauge Adapter | Gauge Type | Gauge Face Dia. (In.) | Fitting NPT | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **0-10,000 PSI** | All cylinders | 3KD38 | Dry | 4 | 1/2 | GP10-S | **3KD63** | $174.00 | **$172.50** | 1.4 |
| **0-10,000 PSI** | All cylinders | 3KD39 | Liquid | 2.5 | 1/4 | G2535L | **3KD57** | 57.00 | **54.00** | 0.8 |
| **0-10,000 PSI** | All cylinders | 3KD39 | Liquid | 4 | 1/4 | G4088L | **3KD59** | 101.00 | **99.60** | 2.0 |

### GAUGE ADAPTERS

| Gauge Port NPT (F) (In.) | Male End NPT (In.) | Female End NPT (In.) | Length (In.) | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/2** | 3/8 | 3/8 | 5.50 | GA-2 | **3KD38** | $35.00 | **$34.30** | 2.0 |
| **1/4** | 3/8 | 3/8 | 5.25 | GA-3 | **3KD39** | 29.00 | **28.95** | 1.6 |
| **1/2** | 1/4 | 3/8 | 4.38 | GA-4 | **3KD40** | 29.00 | **28.95** | 1.2 |

# HIGH FORCE HYDRAULIC TOOLS

## 4-TON HYDRAULIC CUTTING HEADS

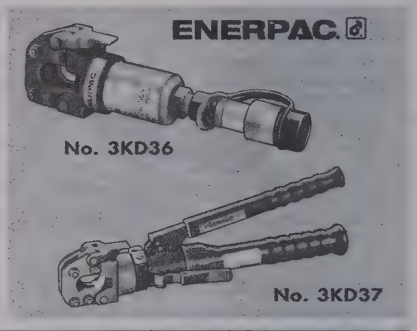
**Designed to cut a wide range** of steel wire rope, bar, strand, bolts, cable and chain. No. 3KD36 is designed to work with any Enerpac air, hand, electric, or battery powered pump. Recommended for applications where numerous cuts must be made and productivity is important. No. 3KD36 includes a 3/8" female coupler and carrying bag.

**No. 3KD37 self-contained cutter** is used primarily when the use of power pumps is not feasible. No pump or hoses necessary; makes cutting job easier when in tight or confined work spaces.

**No. 3KD36.** 4-Ton Self- Contained Hydraulic Cutter Head. Enerpac Model (WHC750). Shpg. wt. 7.0 lbs. List $817.00. Each.....**$799.00**

**No. 3KD37.** 4-Ton Self- Contained Hydraulic Cutter. Enerpac Model (WMC750). Shpg. wt. 8.0 lbs. List $1070.00. Each.....**$1027.00**

**No. 3KD35.** Replacement Blade for 3KD36 and 3KD37. Enerpac Model (WCB750). Shpg. wt. 0.2 lbs. List $85.00. Each.....**$83.50**




### SELECTION CHART (MAXIMUM CUTTING CAPACITIES - INCHES)

| | | | | | Round Bar | | | Wire Strand | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Stock No. | Cap. (Tons) | Cutterhead Operation | Oil Cap. (Cu. In.) | Length (In.) | Steel Wire Rope 6X7 6X12, 6X19 Hempcore or IWRC | Copper Wire or Bar | Aluminum Wire or Bar | Soft Steel Bolts | Bare Copper Wire Strands | Bare Aluminum Wire Strands | ACSR | Guy Steel Wire Strands 1X7, 1X19 |
| 3KD36 | 4 | Single Acting | 1.2 | 5.00 | .69 | .69 | .69 | .69 | .75 | .75 | .75 | .63 |
| 3KD37 | 4 | — | — | 15.00 | .75 | .69 | .69 | .69 | .75 | .75 | .75 | .56 |

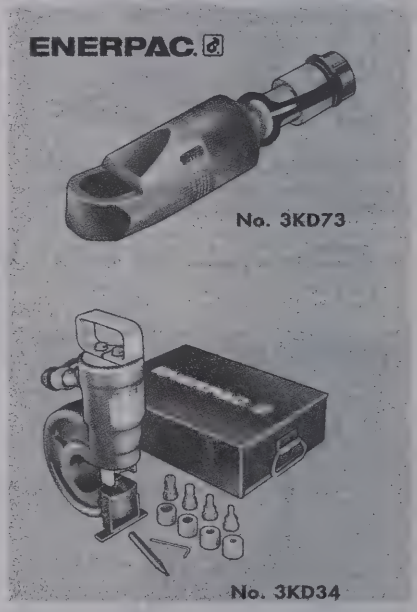
CAUTION: Unit is not designed to cut telephone cable, lead sheated cable, or underground cable. Any attempt to do so my result in personal injury or damage to the unit and will void warranty.

## HYDRAULIC NUT SPLITTER

- **Used to split all grades of hex nuts up to HRc-44 hardness**
- **No grinding, sawing or flame cutting**
- **Single acting, spring return cylinder**
- **Used with hand, air, electric, or battery powered pumps**
- **Includes one spare blade, spare set of screws and wrenches to secure blade, and 3/8" female quick coupler**
- **5 ton capacity**
- **Bolt range (In.): .31 to .50**
- **Hex nut range (In.): .50 to .75**

**No. 3KD73.** 5-Ton Nut Splitter. Enerpac Model (NC1319). Shpg. wt. 3.0 lbs. List $435.00. Each.....**$419.00**

**No. 3KD74.** Replacement Blade. Enerpac Model (NCB1319). Shpg. wt. 1.0 lbs. List $64.00. Each.....**$63.00**




## 35-TON HYDRAULIC PUNCH

Designed to punch burr free holes in mild steel up to 1/2" thick. Faster than drilling and cleaner than torches. Punch includes bench mount bracket, metal storage case, die changeover tools, and 3/8" coupler. Works with hand, air, electric, and battery powered pumps.

- **Spring return cylinder**
- **Punch and Die sets sold separately**
- **Punch and Die sets range from 1/4" up to 3/4" bolt size**

**No. 3KD34.** Enerpac Model (SP35). Shpg. wt. 47.0 lbs. List $1708.00. Each.....**$1640.00**

### PUNCH AND DIE SETS SPECIFICATIONS AND ORDERING DATA

| Standard (In.)** Hole Size | Bolt Size | Mild A-7 | Boiler Plate | Structural A-36 | Struct CORTEN ASTM A242 | Cold Rolled C-1018 | Hot Rolled C-1050 | Hot Rolled C-1095 | Hot Rolled C-1095 Annealed | Stainless 302 Annealed | Stainless 304 Cold Rolled | Stainless 316 Cold Rolled | Enerpac Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **.31** | 1/4 | .31 | .31 | .25 | .25 | .25 | .25 | .13 | .19 | .25 | .25 | .25 | SPD313 | **3KD85** | $80.00 | **$77.00** | 0.4 |
| **.38** | 5/16 | .38 | .38 | .31 | .31 | .31 | .31 | .19 | .25 | .31 | .31 | .31 | SPD375 | **3KD86** | 80.00 | **77.00** | 0.4 |
| **.44** | 3/8 | .44 | .44 | .38 | .38 | .38 | .31 | .19 | .31 | .31 | .31 | .31 | SPD438 | **3KD87** | 80.00 | **77.00** | 0.4 |
| **.53** | 7/16 | .50 | .50 | .44 | .44 | .44 | .38 | .25 | .31 | .38 | .38 | .38 | SPD531 | **3KD88** | 80.00 | **77.00** | 0.4 |
| **.56** | 1/2 | .50 | .50 | .50 | .44 | .50 | .44 | .25 | .38 | .44 | .44 | .44 | SPD563 | **3KD89** | 80.00 | **77.00** | 0.4 |
| **.69** | 5/8 | .50 | .50 | .50 | .44 | .50 | .40 | .25 | .31 | .40 | .40 | .40 | SPD688 | **3KD90** | 80.00 | **77.00** | 0.4 |
| **.78** | — | .50 | .50 | .50 | .44 | .50 | .38 | .25 | .31 | .38 | .38 | .38 | SPD781 | **3KD91** | 80.00 | **77.00** | 0.4 |
| **.81** | 3/4 | .50 | .50 | .50 | .44 | .50 | .31 | .19 | .31 | .31 | .31 | .31 | SPD813 | **3KD92** | 80.00 | **77.00** | 0.4 |

Note: Maximum allowable material thickness to be punched varies with die set wear. Chart above is for reference only. (**) Material thickness should not exceed hole diameter.

# GUIDE TO AIR COMPRESSOR SELECTION



**Satisfaction with an air compressor** comes with the unit producing the right amount of air at the needed force. CHOOSING BY HORSEPOWER ALONE does not give all the information needed. You must consider your demand in the amount of air (volume--CFM, cubic feet per minute) and force of air (pressure--PSI, pounds per square inch). Duty Cycles let you know how often the compressor can run, and Pump Life will let you know how long it will last.

To help in selecting the best compressor to fit your requirements, several key terms are explained below. You will find these terms used in most of the air compressor listings.

**PEAK/DEVELOPED MOTOR HORSEPOWER. This rating is commonly the industry's advertised HP of smaller single stage air compressors.** This rating is determined by the motor's output power when a maximum load is applied prior to an abrupt drop in speed and torque. Sometimes also referred to as breakdown torque.

**Note:** Compressor with a peak/developed HP rating may not operate at or near its peak/developed HP, but rather its running HP.

**RUNNING HP.** The motor's output power needed to run the compressor pump to deliver air at a rated pressure and flow.

**FREE AIR.** The **actual** volume/CFM of air produced by the compressor pump at rated pressure(s).

**DUTY CYCLE.** The percentage of time in an hour that the pump should be allowed to actually run. If the compressor has a 50/50 duty cycle, and is going to run in a 10 minute cycle, it should be run for **a combined maximum** of 5 minutes ON and 5 minutes OFF. The higher the duty cycle, the greater amount of time the pump can operate within one hour.

**PUMP LIFE.** Generally, other components within the pump outlast the pump bearings. The B-10 rating is a calculated pump bearing life. Meaning that, on average, 90% of the bearings in a test group would continue to operate beyond the rated life. **Note:** Individual compressor pump life will vary depending on duty cycle, ambient temperature, maintenance performed, and air intake quality.

In sizing a compressor, the following factors need to be considered:

- **Power Source**
- **Air Flow (CFM)**
- **Tank Size**
- **Duty Cycle**
- **Pressure (PSI)**

**Power Source (Electrical/Gas):**

What electrical power is available to run the compressor? The most common electrical outlet is rated 115 Volt, 15 Amp. If portability is a concern, then select a compressor rated to operate at 115 Volts, 15 amps or less.

If available, 230 Volts will allow the selection of higher HP, which supplies greater CFM output, but 230 Volt outlets are not as common as 115 Volt. Three phase compressors and larger single phase compressors, such as 5 HP two stage units, require magnetic motor starters and are usually permanently wired.

If electrical power is not always available, gas engine driven units are the alternative.

**Cubic Feet Per Minute (CFM):**

The next critical factor is CFM output of the pump. Users commonly size compressors based on their HP rating. **A compressor needs to be sized by CFM, not HP. Your tools or equipment run off the CFM and Pressure (PSI).** A larger HP motor/engine allows the pump to run at faster speeds or larger displacement to produce more CFM at a rated pressure.

It is always better to **oversize a reciprocating compressor** than to undersize. As a rule of thumb, to size a compressor, determine the total CFM being consumed, with additional future expansion in mind, and multiply by 1.5. This will provide approximately a 50% duty cycle.

Undersizing an air compressor will cause the pump to exceed its rated duty cycle and will shorten the life of the pump. Continuous run compressors, such as gasoline engine powered compressors, should also be sized as above. Even though they run continuously, they are not always under a load.

**Example:**

Total air required is 5 CFM. 5 x 1.5 = 7.5

This means that a compressor must produce a **minimum** of 7.5 CFM at maximum rated pressure to operate properly.

**Tank Size:**

The proper tank size has already been engineered on each compressor in the catalog. If a system is being put together, units in the catalog would be a good reference in selecting the proper tank to motor/pump combination.

**Duty Cycle:**

Another consideration is the duty cycle of tools or equipment being used. Impacts or nail guns are generally used intermittently, and only consume small amounts of air over a long period of time. Sanders and grinders run continuously and consume a large amount of air over a long period of time. For continuous use tools, it may be better to step up to a larger CFM producing compressor.

**PSI:**

The PSI is determined by the tools or equipment that the compressor is running. It is important that the compressor maintains pressures that are higher than what is required. If your tool/equipment requires 90 PSI, then a single stage compressor that operates between 95-125/135 will work, assuming that the compressor also produces enough CFM to operate the tool/equipment. If the tool/equipment runs at 120 PSI, then a single stage unit that is turning on at 95 will not be able to produce the proper pressure needed to run the tool. This would require a two stage unit that runs between 145-175 PSI.

## VACUUM SYSTEM ACCESSORIES/VACUUM PUMP SYSTEM TERMINOLOGY

**Exhaust Muffler.** Installed at the discharge side of the vacuum pump to reduce exhaust noise and trap any particles that may be discharged by the pump.

**Intake Filter.** Installed at the intake to the vacuum pump to prevent potentially damaging foreign particles from entering the pump, such as dust, dirt or liquids.

**Vacuum Gauge.** Used to measure vacuum levels. Normally designed to read 0 to 30 in. Hg.

**Vacuum Relief Valve.** Used to vent a vacuum system at a predetermined level. Normally used in continuous operations to keep pump working at desired vacuum levels. Helps to extend life of the pump by preventing pump from operating at higher than necessary vacuum levels.

**Absolute Pressure**—In vacuum systems, the pressure above a perfect vacuum.

**Gauge Pressure**—In vacuum systems, the difference between pressure in an evacuated system and atmospheric pressure.

**Vacuum**—A space containing air at pressure below atmosphere (O PSI Gauge), usually expressed in the following measurements:

**In. Hg-Inches of Mercury**—0 in. Hg represents atmospheric pressure; 29.92126 in. Hg gauge represents perfect vacuum. The higher the number of inches Hg the higher the vacuum.

**mm Hg—Millimeter of Mercury**—760 mm Hg absolute represents atmospheric pressure; 0 mm Hg absolute represents perfect vacuum. The lower the number of mm Hg, the higher the vacuum.

**Microns**—Equal to 0.001 mm Hg. Used to express very high vacuum levels. Examples: 25 microns=0.025 mm Hg=29.9209 in. Hg; 1.0 micron=0.001 mm Hg=29.9212 in. Hg. (in mercury).

**Vacuum Pump Types**—There are three basic pump types:

**Diaphragm**—Consists of a diaphragm that is flexed back and forth by a shaft, creating a pistonlike motion inside a housing.

**Piston**—Consists of one or more pistons reciprocating inside one or more cylinders. Similar in operation to a piston compressor, except that air is discharged to atmosphere.

**Rotary Vane**—Consists of a rotor with sliding vanes rotating inside a housing. The rotating vanes trap the air and "sweep" it from intake to exhaust, generating a vacuum.

**Torr**—Unit of pressure (vacuum) equal to 1mm of mercury

# FUJI REGENERATIVE BLOWERS

**Fuji regenerative blowers (ring compressors) are designed to generate pressure** or vacuum through the rotation of a unique, single-stage impeller. Air enters through an inlet port and is picked up between the vanes of an impeller. As the impeller is rotated, air is bounced in and out between the base of the impeller and the outer casing. The cycle of air bouncing in and out of the casing to the rotating impeller vanes, accelerates and compresses, or regenerates the air until the air reaches the outlet port.

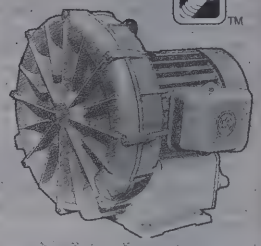
**Impeller, mounting base and housing are constructed of aluminum alloy** (No. 5Z189, 5F243, and 5F651 have cast iron housing) for maximum strength, reduced weight and increased corrosion resistance. No. 5F241 is constructed of polyethylene plastics. Dustproof shaft seal protects bearings from contaminated air and foreign particles. Dynamically balanced to virtually eliminate vibration while increasing overall reliability. Class B NEMA insulation.

**Blower and TEFC motor are built as single unit** with no gears, belts, motor bushings or sliding vanes. Single-phase motors have automatic reset thermal protection; three-phase motors have pilot duty thermal protection. For use with air and noncombustible, noncorrosive, nonexplosive gases. Maximum ambient temperature: 104°F.

- Continuous duty
- Pressure or vacuum operated
- Air flow without pulsation
- Oil-free air
- Low noise levels
- For use as original equipment or for upgraded performance

FUJI

LR48762 E54355



**Performance ratings shown below are rated with motor run at 60 Hz. If 50 Hz is used deduct 1/5 from rating. Minimum CFM ratings are at continuous flow. Conversions: to PSI = (inches of water x 0.036). To inches Hg = (Inches of water x 0.074).**

## FUJI REGENERATIVE BLOWER CFM AIR FLOW

| Stock No. | Open Flow | SCFM @ Pressure in Inches of Water 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | Max | Min CFM* | SCFM @ Vacuum in Inches of Water 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5F241 | 17.7 | — | — | — | — | — | — | — | — | — | — | — | — | — | 10 | 0 | — | — | — | — | — | — | — | — | — | — | — |
| 4Z749 | 19.5 | 12 | — | — | — | — | — | — | — | — | — | — | — | — | 19.5 | 0 | 12 | — | — | — | — | — | — | — | — | — | — |
| 5F242 | 42 | 36 | 29 | 15 | — | — | — | — | — | — | — | — | — | — | 37 | 3.5 | 31 | 25 | 17 | 2 | — | — | — | — | — | — | — |
| 4Z750 | 42 | 36 | 29 | 15 | — | — | — | — | — | — | — | — | — | — | 34 | 3.5 | 34 | 25 | 10 | — | — | — | — | — | — | — | — |
| 5Z187, 5Z649 | 56 | 51 | 46 | 37 | 25 | — | — | — | — | — | — | — | — | — | 50 | 17 | 49 | 41 | 33 | 20 | — | — | — | — | — | — | — |
| 4Z751, 4Z752 | 98 | 88 | 79 | 69 | 55 | 30 | — | — | — | — | — | — | — | — | 54.5 | 3.5 | 85 | 70 | 62 | 45 | 13 | — | — | — | — | — | — |
| 4Z753, 5Z650 | 154 | 150 | 145 | 130 | 118 | 100 | 90 | 60 | — | — | — | — | — | — | 80 | 45/60 | 150 | 139 | 125 | 110 | 90 | 50 | 0 | — | — | — | — |
| 5Z188 | 206 | 199 | 182 | 175 | 162 | 150 | 138 | 125 | 112 | 100 | 80 | 62 | — | — | 118 | 56 | 198 | 180 | 165 | 150 | 137 | 117 | 100 | 79 | 59 | — | — |
| 5Z651 | 267 | 255 | 240 | 230 | 215 | 198 | 185 | 168 | 145 | 125 | 100 | 62 | 22 | — | 114 | 88 | 250 | 232 | 215 | 195 | 175 | 151 | 115 | 100 | 62 | — | — |
| 5Z189 | 388 | 376 | 365 | 353 | 340 | 329 | 316 | 300 | 283 | 276 | 245 | 225 | 185 | 150 | 135 | 135 | 370 | 351 | 340 | 320 | 300 | 275 | 250 | 225 | 192 | 145 | 0 |
| 5F243 | 570 | 550 | 530 | 510 | 482 | 458 | 430 | 402 | 375 | 341 | 302 | 275 | 275 | 175 | 139 | 195 | 530 | 500 | 470 | 440 | 400 | 365 | 325 | 275 | 225 | 150 | — |

(*) Minimum CFM continuous flow. Under minimum flow conditions or less, relief valves are mandatory.

## FUJI SPECIFICATION AND ORDERING DATA

| HP | Inlet/ Outlet (In.) | Phase | Volts, 60/50 | Full-Load Amps | Motor Starter Stock No. | Overall Dimensions (In.) Length | Depth | Height | Fuji Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.05** | 1.26 OD | 1 | 110/115 | 0.56 | 1H385 | 5 7/8 | 6 | 6 7/8 | VFC 063P-1T | **5F241** | $367.80 | **$339.25** | 6.7 |
| **0.11** | 1.26 OD | 1 | 115/230 | 1.2/0.6 | 1H385 | 7 3/4 | 7 7/16 | 7 13/16 | VFC 084P-5T | **4Z749** | 382.64 | **352.25** | 14.0 |
| **0.33** | 1 (F)NPT | 3 | 200-230/460 | 1.3/.66 | 1H412 | 10 | 9 1/32 | 9 3/5 | VFC 209A-7W | **5F242** | 535.94 | **495.25** | 22.0 |
| **0.37** | 1 (F)NPT | 1 | 115/230 | 3.6/1.8 | 1H385 | 10 | 9 1/32 | 9 | VFC 209P-5T | **4Z750** | 572.38 | **529.00** | 23.0 |
| **0.51** | 1 1/4 (F)NPT | 1 | 115/230 | 5.0/2.5 | 1H385 | 10 | 11 5/8 | 10 1/8 | VFC 309P-5T | **5Z187** | 630.19 | **581.50** | 31.0 |
| **0.56** | 1 1/4 (F)NPT | 3 | 200/230/460 | 2.1/1.1 | 1H412 | 10 | 11 5/8 | 10 1/8 | VFC 309A-7W | **5Z649** | 575.30 | **532.50** | 31.0 |
| **1.00** | 1 1/2 (F)NPT | 1 | 115/230 | 9.8/5.1 | 1H385 | 12 3/16 | 11 5/8 | 11 15/16 | VFC 409P-5T | **4Z751** | 716.65 | **661.00** | 57.0 |
| **1.10** | 1 1/2 (F)NPT | 3 | 200/230/460 | 2.9/1.5 | 1H412 | 12 3/16 | 11 5/8 | 11 15/16 | VFC 409A-7W | **4Z752** | 609.99 | **563.50** | 55.0 |
| **2.30** | 1 1/2 (F)NPT | 1 | 200/230 | 11 | 1H415 | 15 7/32 | 13 9/16 | 13 7/8 | VFC 504P-2T | **5Z650** | 907.88 | **835.00** | 102.0 |
| **2.50** | 1 1/2 (F)NPT | 3 | 200/230/460 | 6.5/3.3 | 1H412 | 13 | 13 1/2 | 13 7/8 | VFC 509A-7W | **4Z753** | 762.51 | **702.50** | 80.0 |
| **4.50** | 2 (F)NPT | 3 | 200/230/460 | 11/5.5 | 1H417 | 14 3/4 | 15 1/8 | 15 1/8 | VFC 604A-7W | **5Z188** | 1165.76 | **1076.00** | 130.0 |
| **7.00** | 2 (F)NPT | 3 | 200/230/460 | 16/8 | 1H417 | 16 25/32 | 16 25/32 | 18 1/4 | VFC 704A-7W | **5Z651** | 1581.61 | **1457.00** | 287.0 |
| **10.00** | 2 1/2 (F)NPT | 3 | 200/230/460 | 23/11.5 | 5A658†/4DF02** | 20 7/16 | 17 15/16 | 20 9/16 | VFC 804A-7W | **5Z189** | 2263.99 | **2095.00** | 308.0 |
| **20.00** | 3 NPT | 3 | 200-230/460 | 44/22 | 1H536†/4DF08** | 25 5/8 | 19 31/32 | 23 5/32 | VFC 904A-7W | **5F243** | 3210.99 | **2965.00** | 450.0 |

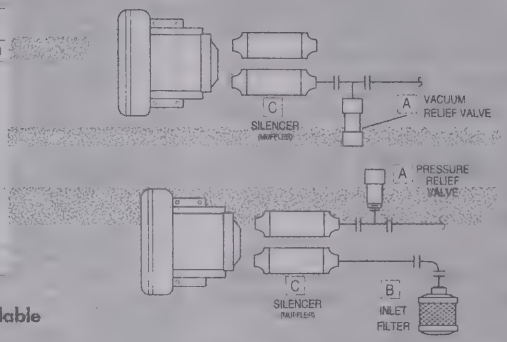
## FUJI REGENERATIVE BLOWER CROSS-REFERENCE

| Stock No. | Fuji-Current | Fuji-Old | Gast | Rotron | Siemens | Spencer |
|---|---|---|---|---|---|---|
| 4Z749 | VFC-084P-5T | VFC-083P-1T | R1102 | DR083 | NONE | NONE |
| 5F242 | VFC-209A-7W | VFC-204A-7W | | | | |
| | | VFC-202A-2T | R2303 | DR202 3PH | NONE | VB002E |
| | | VFC-202A-4W | | | | VB003E |
| | | VFC-203A-2T | | | | |
| | | VFC-203A-4W | | | | |
| 4Z750 | VFC-209P-5T | VFC-204P-5T | | | | |
| | | VFC-202P-1T | R2103 | DR202 1PH | NONE | VB002S |
| | | VFC-203P-1T | | | | VB003S |
| 5Z187 | VFC-309P-5T | VFC-304P-5T | | | | |
| | | VFC-302P-5T | R3105 | DR303 1PH | 2CH3 1 PH | VB004S |
| | | VFC-303P-5T | R3105-1 | | 2BH31 1 PH | |
| 5Z649 | VFC-309A-7W | VFC-304A-7W | | | | |
| | | VFC-302A-7W | R3305 | DR303 3PH | 2CH3 3 PH | VB004 |
| | | VFC-303A-7W | | | 2BH31 3PH | VB004E |
| 4Z751 | VFC-409P-5T | VFC-404P-5T | | | | |
| | | VFC-402P-5T | R4110 | DR404 1PH | 2CH4 1 PH | |
| | | VFC-403P-5T | R4110-1 | | 2BH41 1 PH | VB007S |
| | | | R4110-2 | | | |
| 4Z752 | VFC-409A-7W | VFC-404A-7W | | | | |
| | | VFC-402A-7W | R4310 | DR404 3PH | 2CH4 3 PH | |
| | | VFC-403A-7W | R4310A-1 | | 2BH41 3PH | VB007 |
| | | | R4310A-2 | | | VB007E |
| 5Z650 | VFC-504P-2T | VFC-502P-2Y | R5125 | DR505 1PH | 2CH5 1PH | VB019S |
| | | | | | 2BH51 1PH | |
| 4Z753 | VFC-509A-7W | VFC-504A-7W | | | | |
| | | VFC-502A-7W | R5325 | DR505 3PH | 2CH5 3PH | VB019 |
| | | VFC-503A-7W | R5325A-1 | | 2BH51 3PH | VB019E |
| 5Z188 | VFC-604A-7W | VFC-602A-7W | R6350 | DR606 3PH | 2CH6 3PH | VB037 |
| | | VFC-603A-7W | R6350A | | 2BH61 3PH | VB037E |
| 5Z651 | VFC-704A-7W | VFC-701A-7W | R6P355 | DR707 3PH | NONE | VB055 |
| | | VFC-703A-7W | | | | VB055E |
| 5Z189 | VFC-804A-7W | VFC-801A-7W | R7100 | DR808 3PH | 2BH81 3PH | VB075 |
| | | VFC-803A-7W | R7100A | | | VB075E |
| 5F243 | VFC-904A-7W | VFC-901A-7W | NONE | DR10 | 2BH847 | VB110 |
| | | VFC-903A-7W | | | | |

(†) 200/230 Volt. (**) 460 Volt. See cross-reference information on inside back cover.

## REGENERATIVE BLOWER APPLICATION CHART

| Application | Example | Pressure | Vacuum |
|---|---|---|---|
| Aeration | Fish Hatcheries–Sewage | • | |
| Agitation | Spas–Chemical Baths | • | |
| By-Product Recovery | Debris–Dental | • | |
| Cushioning | Printing–Paper | • | • |
| Drying/Cooling | Film–Paint–Dry Cleaners–Printing | • | • |
| Exhausting | Clean Rooms–Nonaggressive Fumes | • | • |
| Material Transport | Small Pellets–Powders | | • |
| Misting | Lubricants–Paint–Printing | • | |
| Oxygenation | Furnaces–Chemical Baths | • | |
| Packaging | Blister–Shrink Wrap | | • |
| Pneumatic Conveying | Bank & Mail Systems–Plastics | | • |
| Separation | Printing–Paper | • | • |
| Degasing | Dairy–Plastic Molding | | • |




FUJI

Replacement Parts Available
1-800-323-0620

## [A] VACUUM AND PRESSURE RELIEF VALVES

- **Protect regenerative blowers (ring compressors) from overheating**
- **Relief valves for either vacuum or pressure (deadhead) conditions**
- **Field adjustable for use with other manufacturer's regenerative blowers (ring compressors)**

**Vacuum and pressure relief valves** are preset at minimum air flow or maximum pressure/vacuum level for Fuji regenerative blowers. Field adjustable for Gast, Rotron, Siemens, and Spencer regenerative blowers (see Fuji Regenerative Blower Cross-Reference listed on facing page).

| Valve Type | Preset Limit In. / Water (In.) | For Regen. Blower Stock No. | Connection (In.) | Fuji Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Vacuum | 39 | 5Z187, 5Z649 | 1½ (F)NPT | VV3 | **5Z573** | $128.07 | **$117.95** | 1.8 |
| | 42 | 4Z751, 4Z752 | 1½ (F)NPT | VV4 | **5Z574** | 128.07 | **117.95** | 2.0 |
| | 60 | 4Z753, 5Z650 | 1½ (F)NPT | VV5 | **5Z575** | 128.07 | **117.95** | 1.8 |
| | 86 | 5Z188 | 2 (F)NPT | VV6 | **5Z576** | 147.95 | **136.70** | 2.7 |
| | 85 | 5Z651 | 2 (F)NPT | VV7 | **5Z652** | 147.95 | **136.70** | 2.3 |
| | 100 | 5Z189, 5F243* | 2 (F)NPT | VV8 | **5Z653** | 147.95 | **136.70** | 2.3 |
| Pressure | 42 | 5Z187, 5Z649 | 1½ (M)NPT | PV3 | **5Z577** | 103.21 | **97.10** | 1.3 |
| | 46 | 4Z751, 4Z752 | 1½ (M)NPT | PV4 | **5Z578** | 103.21 | **97.10** | 1.5 |
| | 68 | 4Z753, 5Z650 | 1½ (M)NPT | PV5 | **5Z579** | 103.21 | **97.10** | 1.8 |
| | 100 | 5Z188 | 2 (M)NPT | PV6 | **5Z580** | 128.07 | **117.95** | 1.8 |
| | 98 | 5Z651 | 2 (M)NPT | PV7 | **5Z654** | 128.07 | **117.95** | 2.1 |
| | 127 | 5Z189, 5F243* | 2 (M)NPT | PV8 | **5Z655** | 128.07 | **117.95** | 1.8 |

(*) 2 required for 5F243.

## [B] INLET FILTERS WITH REPLACEABLE COVERS

- **Filter particles from inlet air to protect regenerative blowers**
- **Can be used with other manufacturer's regenerative blowers**

**Inlet filters** are specifically designed to protect regenerative blowers (ring compressors) by filtering damaging particles from inlet air. Filters have perforated outer cylinders. Inner cylinder is wrapped with fine (0.009") mesh screen.

**Replaceable filter covers** are made of 7/8" thick, 100% polyester filter media. Provide 80% efficiency to 5 microns. Can also be used with Gast, Rotron, Siemens, and Spencer regenerative blowers (see Fuji Regenerative Blower Cross-Reference listed on facing page).

### INLET FILTERS WITH COVERS

| Ht. (In.) | Dia. (In.) | Inlet (M)NPT (In.) | For Regen. Blower Stock Nos. | Fuji Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **7 3/8** | 3⅞ | 1¼ | 5F241, 4Z749, 5F242 4Z750, 5Z187, 5Z649 | F-123 | **5Z581** | $95.69 | **$87.50** | 1.5 |
| **8** | 5⅛ | 1½ | 4Z751, 4Z752 4Z753, 5Z650 | F-45 | **5Z582** | 106.45 | **97.25** | 2.3 |
| **14** | 5⅛ | 2 | 5Z188, 5Z651 | F-67 | **5Z583** | 128.07 | **116.90** | 3.1 |
| **23 1/2** | 8¼ | 3 | 5Z189, 5F243 | F-89 | **5F244** | 338.20 | **311.75** | 8.5 |

### REPLACEMENT FILTER COVERS

| For Use With Filter No. | Fuji Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 5Z581 | C-123 | **5Z584** | $10.05 | **$9.56** | 0.2 |
| 5Z582 | C-45 | **5Z585** | 12.25 | **11.52** | 0.1 |
| 5Z583 | C-67 | **5Z586** | 14.22 | **13.48** | 0.5 |
| 5F244 | C-89 | **5F245** | 21.76 | **20.62** | 0.3 |

## [C] MUFFLERS

- **Specifically designed for quieting regenerative blowers operating for pressure or vacuum**
- **One muffler will lower sound level (at 1 meter) by 5 dBa**

**Mufflers** for use in environments where noise level reduction is desired or required to comply with specified or regulated noise levels. Mufflers will reduce noise levels by 5 dBa; a 3 dBa reduction lowers noise levels by 50%. Can be used on inlet and/or outlet side and/or in the pressure relief valve circuit.

| Inlet (F)NPT (In.) | For Fuji Regenerative Blower Stock Nos. | Dimensions (In.) L | Dia. | Fuji Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1** | 5F241, 4Z749, 5F242, 4Z750 | 12 | 2½ | VFY-021A | **5F246** | $54.01 | **$49.45** | 3.0 |
| **1 1/4** | 5Z187, 5Z649 | 12 | 2½ | VFY-023A | **5F247** | 59.96 | **55.15** | 2.5 |
| **1 1/2** | 4Z751, 4Z752, 5Z650, 4Z753 | 12 | 3 | VFY-024A | **5F248** | 92.86 | **85.50** | 3.6 |
| **2** | 5Z188, 5Z651 | 15¾ | 3½ | VFY-026A | **5F249** | 124.71 | **114.60** | 5.3 |
| **2 1/2** | 5Z189 | 21 | 4½ | VFY-028A | **5F250** | 201.35 | **191.25** | 9.8 |
| **3** | 5F243 | 26 | 5 | VFY-029A | **5F251** | 275.02 | **253.75** | 13.0 |

# ROTARY VANE VACUUM PUMPS AND VACUUM/PRESSURE RELIEF VALVES

- **Oil-less design prevents downstream oil contamination problems, allows mounting in non-regular maintenance areas, and provides long life**
- **Self-adjusting, self-lubricating vanes for maximum efficiency and sustained pump capacity throughout service life**
- **Cast iron pump housing provides strength and durability as well as an optimum running surface for vanes**
- **Permanently lubricated and sealed bearings provide long, service-free life**
- **All models include intake and exhaust filters. For use as a compressor; units are easily converted by removing discharge filter**

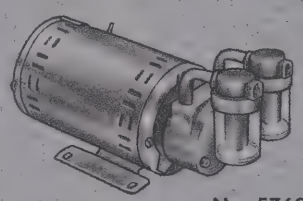
**Rotary vane compressors and vacuum pumps** for continuous duty in general vacuum and low pressure applications such as aeration, vacuum frames, packaging equipment, printing presses, air sampling, and graphic arts. **Time proven rotary pump design** with integral motor combine to provide a high efficiency pneumatic or vacuum supply in a compact unit. Precision machined surfaces provide close tolerance alignment of moving parts for high quality products with maximum performance and long life.

**Open dripproof, ball bearing motors** with automatic reset thermal protection. Ambient temperature range: 35° to 95°F. Gray finish.

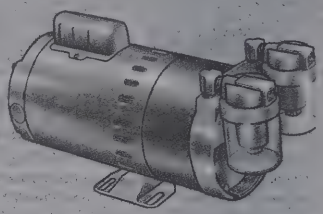
**NOTE:** Units may not fit your applications as is. Additional plumbing or mounting alterations may be required.

THOMAS COMPRESSORS & VACUUM PUMPS

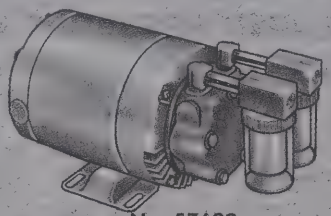
E65420 LR2297



No. 5Z690



No. 5Z695



No. 5Z692

Replacement Parts Available 1-800-323-0620

## PERFORMANCE DATA

| HP | Stock No. | Free Air CFM @ Vacuum (Hg") 0 | 5 | 10 | 15 | 20 | 25 | Max. Vac. | Free Air CFM @ Pressure (PSI) 0 | 5 | 10 | Max. PSI Cont. / Int.† | Port Size (F)NPT Inlet | Outlet |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/10 | 5Z690* | 1.50 | 1.10 | 0.80 | 0.50 | 0.20 | — | 24" | 1.50 | 1.20 | 0.95 | 10/10 | 1/8" | 1/8" |
| 1/8 | 5Z691* | 1.85 | 1.45 | 1.05 | 0.65 | 0.24 | — | 23 | 1.85 | 1.60 | 1.15 | 15/15 | 1/4 | 1/4 |
| 1/6 | 5Z692* | 3.00 | 2.35 | 1.75 | 1.10 | 0.50 | — | 24 | 3.00 | 2.40 | 1.80 | 10/10 | 1/4 | 1/4 |
| 1/4 | 5Z693* | 4.00 | 3.25 | 2.46 | 1.75 | 0.92 | 0.25 | 26 | 4.00 | 3.60 | 3.20 | 10/10 | 1/4 | 1/4 |
| 1/2 | 5Z694 | 7.20 | 5.90 | 4.43 | 3.10 | 1.66 | 0.30 | 26 | 7.20 | 6.70 | 6.20 | 10/15 | 3/8 | 3/8 |
| 3/4 | 5Z695 | 10.00 | 8.10 | 6.15 | 4.30 | 2.31 | 0.40 | 26 | 10.00 | 9.50 | 9.00 | 10/10 | 3/8 | 3/8 |

(*) Perfomance rated with motor run at 60 Hz. If 50 Hz is used, deduct 17% from ratings.
(†) Intermittent duty not to exceed 15 minute operating intervals.

## ORDERING DATA

| HP | Volts | Full Load Amps @ 115V, 60 Hz | Hz | RPM | Dimensions (In.) L | W | H | Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/10** | 115 | 1.3 | 50/60 | 1725 | 8 1/2 | 4 | 5 | SR-0015-VP | **5Z690** | $263.04 | **$249.00** | 8.5 |
| **1/8** | 115 | 2.9 | 50/60 | 1725 | 12 | 5 3/4 | 6 | TA-0015-V | **5Z691** | 318.81 | **306.25** | 17.0 |
| **1/6** | 115 | 3.4 | 50/60 | 1725 | 14 | 6 3/8 | 7 1/4 | TA-0030-V | **5Z692** | 343.70 | **330.00** | 32.0 |
| **1/4** | 115 | 4.6 | 50/60 | 1725 | 14 3/8 | 6 3/8 | 7 1/4 | TA-0040-V | **5Z693** | 349.74 | **336.75** | 24.0 |
| **1/2** | 115/230 | 8.4 | 60 | 1725 | 16 3/4 | 6 1/2 | 7 3/4 | TA-0075-V | **5Z694** | 516.84 | **498.25** | 42.0 |
| **3/4** | 115/230 | 9.4 | 60 | 1725 | 17 | 6 1/2 | 7 3/4 | TA-0100-V | **5Z695** | 565.71 | **545.50** | 44.0 |

# VACUUM/PRESSURE RELIEF VALVES

control devices inc.



- **Relieve vacuum from 0-30" Hg., pressure to 20 PSI**
- **Easily convert from vacuum to pressure relief by reversing poppet and spring**

Compatible with rotary vane, diaphragm, and piston pumps to 3 HP. To size, match maximum air flow of vacuum pump/compressor to maximum flow capacity of relief valve. Brass body with zinc plated wire spring. Poppet on Stock No. 5Z763 is chrome steel ball; Nos. 5Z764 and 5Z765 have nylon poppet with nitrile seal.

| Flow Cap., CFM | (M)NPT Inlet (In.) | Length (In.) | Hex (In.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **0-2** | 1/4 | 1 3/4 | 9/16 | VR-25 | **5Z763** | $8.26 | **$8.04** | 0.2 |
| **0-15** | 3/8 | 2 | 11/16 | VR-33 | **5Z764** | 14.43 | **13.01** | 0.3 |
| **0-54** | 3/4 | 2 3/4 | 1 1/16 | VR-75 | **5Z765** | 35.59 | **29.40** | 0.4 |

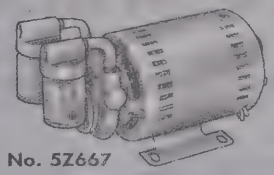
# ROTARY VANE VACUUM PUMPS

- For general vacuum requirements up to 27" Hg (mercury) continuous
- Handle low pressure requirements up to 10 PSI
- Vacuum units can be easily converted to compressor operation by removing the discharge muffler assembly
- Oil-less design produces oil-free air, eliminates oil vapor carryover, allows use in remote applications where maintenance is difficult
- Self-sealing, compound carbon vanes self-adjust as they wear to maintain pump efficiency
- Used in packaging equipment, graphic arts equipment, laboratories, photo and food processing

**Nos. 4F740, 4F741, 4F742, 4TF21, and 4TF42** have internal filters and mufflers to reduce operating noise. Have international multivoltage, dual frequency motors.

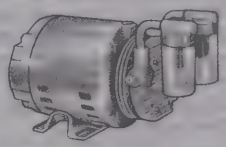
**Nos. 5Z667, 4Z334, 4F740, 4F741, 4F742, 4TF21, and 4TF22** are compact and lightweight. Single phase motors have thermal overload protection. Motor mounted design minimizes installation requirements. No. 5Z667 has 10 ft. cord with plug and toggle switch. No. 4Z334 has rubber foot supports. CSA Certified (LR39793)

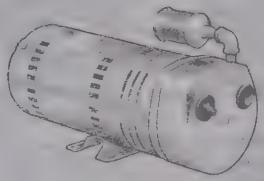
**Nos. 4Z469 and 4Z470** include coupling and integral coupling guard. Mount to NEMA 56C frame motors. Available with or without electric motor. Models with motors (Nos. 7Z778-7Z783) listed below are not CSA Certified. Gray finish. Gast brand.

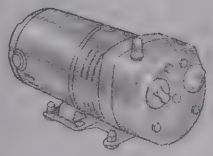

No. 5Z667

New

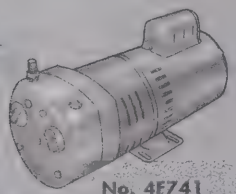
GAST
A UNIT OF IDEX CORPORATION
IDEX CORPORATION


No. 4Z334


No. 4TF21


No. 4F740

LR39793
Except Nos. 7Z778 thru 7Z783


No. 4F741

• Registered to ISO 9001


No. 7Z778

Replacement Parts Available
1-800-323-0620

## PERFORMANCE DATA

| HP | Stock No. | Free Air CFM @ Vacuum (Hg") 0 | 5 | 10 | 15 | 20 | 25 | Max. Vac (Hg") | Free Air CFM @ PSI 0 | 5 | 10* | Port Size (F)NPT (In.) Inlet | Outlet | Dimensions (In.) L | W | H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/10 | 5Z667 | 1.5 | 1.15 | 0.82 | 0.45 | 0.13 | — | 20 | 1.5 | 1.20 | 0.9 | 1/8 | 1/8 | 9 | 4⅛ | 4¾ |
| 1/6 | 4Z334 | 1.1 | 0.80 | 0.60 | 0.30 | 0.00 | — | 20 | 1.1 | 0.85 | 0.6 | 1/4 | 1/4 | 11¾ | 5⅝ | 6½ |
| 1/3 | 4F740‡ | 5.0 | 4.00 | 3.00 | 2.20 | 1.40 | 0.50 | 26 | 4.8 | 4.40 | 3.9 | 1/4 | 1/4 | 13.22 | 5.62 | 5.92 |
| 3/4 | 4F741‡ | 8.0 | 6.50 | 5.00 | 3.50 | 2.00 | 0.50 | 26 | 8.0 | 7.10 | 6.8 | 3/8 | 3/8 | 15.3 | 6½ | 8.88 |
| 3/4 | 4F742‡ | 10.0 | 8.20 | 6.30 | 4.50 | 2.60 | 0.80 | 26 | 10.0 | 9.50 | 9.0 | 3/8 | 3/8 | 15.3 | 6½ | 8.88 |
| 1 | 4TF21 | 13.2 | 10.00 | 8.00 | 6.00 | 2.70 | — | 25 | 13.5 | 11.90 | 10.0 | 3/8 | 3/8 | 16¼ | 6½ | 8⅝ |
| 1 | 4TF22 | 13.2 | 10.00 | 8.00 | 6.00 | 2.70 | — | 25 | 13.5 | 11.90 | 10.0 | 3/8 | 3/8 | 16⅛ | 6½ | 8⅝ |
| 1 | 4Z469 | 17.0 | 13.50 | 10.00 | 6.60 | 3.60 | 1.00 | 27 | 17.0 | 14.50 | 12.5 | 3/4 | 3/4 | 22⁵⁄₁₆† | 18 | 13⅛ |
| 1½ | 4Z470 | 21.0 | 17.00 | 13.00 | 9.00 | 5.00 | 1.10 | 27 | 21.0 | 19.50 | 17.9 | 3/4 | 3/4 | 22¹⁵⁄₁₆† | 18 | 13⅛ |

(*) Maximum pressure continuous duty. (†) Includes motor. (‡) UL Recognized Component (E62533).

## VACUUM PUMP/AIR COMPRESSORS WITH MOTORS (ASSEMBLED)

| HP | Phase | Volts, 60 Hz | Nameplate Amp | RPM | Gast Equivalent | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/10 | 1 | 115* | 2.3 | 3450 | 1531-107B-G557X | **5Z667** | $298.86 | **$283.50** | 11.0 |
| 1/6 | 1 | 115 | 4.2 | 1725 | 0211-103A-G8CX | **4Z334** | 324.36 | **296.75** | 20.0 |
| 1/3 | 1 | 115* | 5.5 | 1725 | 0523-101Q-G582DX | **4F740** | 336.80 | **322.70** | 30.0 |
| 3/4 | 1 | 115/230# | 12.2/6.1 | 1725 | 0823-101Q-G608X | **4F741** | 510.00 | **475.50** | 52.0 |
| 3/4 | 1 | 115/230# | 12.2/6.1 | 1725 | 1023-101Q-G608X | **4F742** | 510.00 | **475.50** | 52.0 |
| 1 | 3 | 230/460## | 3.0/1.5 | 1725 | 1423-101Q-G625 | ***New*4TF21** | 608.73 | **559.50** | 60.0 |
| 1 | 1 | 115/230# | 13.0/6.5 | 1725 | 1423-101Q-G626X | ***New*4TF22** | 626.38 | **575.50** | 60.0 |

(*) Can operate at 110V, 50 Hz. (#) Can operate at 220/240-380-415V, 50 Hz. If 50 Hz is used, deduct 17% from CFM ratings

## VACUUM PUMP/AIR COMPRESSORS (WITH AND WITHOUT MOTORS)

| HP | Pumps Less Motor: Gast Equivalent | Stock No. | List | Each | Shpg. Wt. | Pumps With Motors (Unassembled): Phase | Volts, 60 Hz | RPM | Motor Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2067-V103 | **4Z469** | $654.84 | **$600.00** | 54.0 | 1 | 115/230 | 1725 | Dripproof | **7Z778** | $868.00 | **$756.00** | 84.0 |
| | | | | | | 1 | 115/230 | 1725 | TEFC | **7Z779** | 917.00 | **769.00** | 86.0 |
| | | | | | | 3 | 208-230/460 | 1725 | Dripproof | **7Z780** | 833.00 | **718.00** | 80.0 |
| | | | | | | 3 | 230/460 | 1725 | TEFC | **7Z781** | 857.00 | **733.50** | 83.0 |
| 1½ | 2567-V103 | **4Z470** | 672.18 | **616.00** | 56.0 | 1 | 115/230 | 1725 | TEFC | **7Z782** | 972.00 | **841.00** | 96.0 |
| | | | | | | 3 | 230/460 | 1725 | TEFC | **7Z783** | 881.00 | **757.50** | 89.0 |

# MEDIUM VACUUM PUMPS, AND REFRIGERATION VACUUM PUMPS

## R5 SERIES MEDIUM VACUUM PUMPS

**Features:**

- Compact, simple design for easy installation and low maintenance
- Air cooled, requiring no water
- Direct drive, eliminating belts and gears that loosen or wear
- Oil mist eliminator for 99.9% oil-free exhaust
- Quiet operation for placement near the operator

**Includes:**

- TEFC motor for continuous duty
- Motor starter with 208-230V insert included (460V inserts available—call 1-800-323-0620)
- Oil sight glass
- 5 micron inlet filter
- Non-metallic, non-asbestos vanes
- Built-in exhaust filter
- Vibration isolators
- Vacuum oil

**Modular design Busch R5 series rotary vane vacuum pumps** are single stage, oil-flooded, air cooled, and direct driven. Motor, pump, and exhaust separation system is an integral unit.

**These pumps are designed for vacuum applications** between 20" and 29.3" Hg (15 Torr), and are available in 4 sizes ranging from 15 to 63 CFM displacement. Rugged pumps are used extensively in vacuum packaging, vacuum chucking, die casting, vacuum thermoforming, and material handling. UL Recognized Component (E136528), except No. 5Z354. Silver/gray metallic finish.

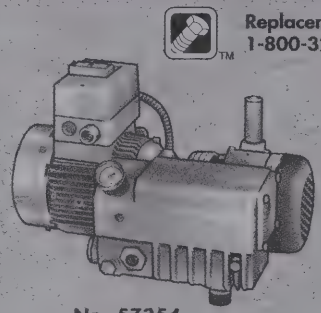
Replacement Parts Available 1-800-323-0620

BUSCH

ISO 9001 QUALITY SYSTEM CERTIFICATE NO. 84321

CE

Made in U.S.A.

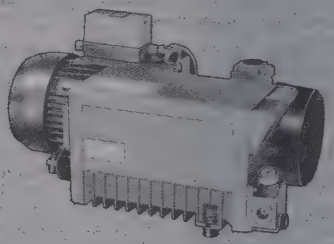


No. 5Z354

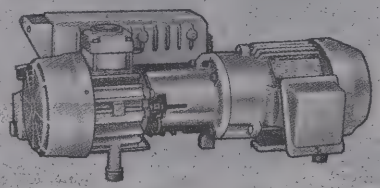
FREE DELIVERY on orders of $900 or more

See Freight Policy

E136528 Except No. 5Z354



No. 5Z357



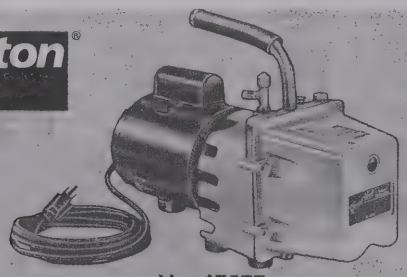
No. 5Z355

| Stock No. | Free Air (cfm) @ Vac (Hg") 0 | 20 | Max Vac |
|---|---|---|---|
| 5Z354 | 14.0 | 4.4 | 29.3 |
| 5Z355 | 18.0 | 5.7 | 29.3 |
| 5Z356 | 36.0 | 11.4 | 29.3 |
| 5Z357 | 56.0 | 18.0 | 29.3 |

| HP | Phase | Volts 60 Hz | AMP Draw | Displ. CFM | End Vacuum (Hg ins.) | Max. dBA | Inlet NPT (In.) | Dimensions (In.) L | W | H | H* | Busch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 115 | 14.2 | 15 | 29.2 | 62 | 1 hose | 17 3/8 | 11 7/16 | 10 5/8 | N/A | 0021 | **5Z354** | $2034.14 | **$1949.00** | 67.0 |
| 1 1/2 | 3 | 208/230/460 | 5-4.8/1.6 | 20 | 29.3 | 68 | 1 1/4 | 26 1/8 | 14 9/16 | 10 3/8 | 17 1/8 | 0025 | **5Z355** | 2514.26 | **2399.00** | 152.0 |
| 3 | 3 | 208/230/460 | 9-8.4/4.2 | 41 | 29.3 | 70 | 1 1/4 | 28 | 19 5/16 | 11 1/2 | 18 1/4 | 0063 | **5Z356** | 3430.63 | **3299.00** | 198.0 |
| 5 | 3 | 208/230/460 | 14.2-13/6.5 | 63 | 29.3 | 71 | 1 1/4 | 29 1/2 | 19 5/16 | 11 1/2 | 18 3/4 | 0100 | **5Z357** | 4660.12 | **4449.00** | 226.0 |

(*) Height with filter.

Dayton



No. 4Z577

Replacement Parts Available 1-800-323-0620

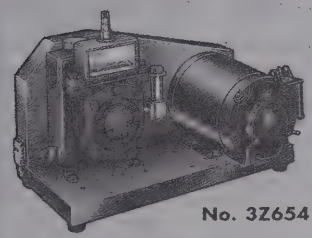
## REFRIGERATION SERVICE VACUUM PUMP

Lightweight, direct-drive, two-stage, portable vacuum pump designed for use in the refrigeration service industry for evacuating refrigeration systems. 3 CFM free air displacement. 25 microns ultimate vacuum. Operating temperature 150°F, ±18°F. Powered by a 1/3 HP, 1725 RPM, 115V, 60 Hz, thermal overload protected, capacitor-start motor. Durable aluminum housing with iron and steel internal parts. Easy-to-fill oil port, oil drain, oil level sight glass and field replaceable vacuum cartridge. Includes rubber feet, 10' cord and On/Off switch. 1/4 and 3/8" SAE male flare inlet connections. 13 1/8L x 5 3/4W x 9 1/2"H.

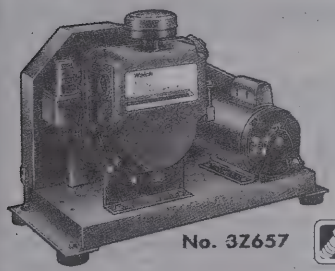
**No. 5Z354.** Shpg. wt. 67.0 lbs. List $2034.14. Each ..... **$1949.00**

# HIGH VACUUM PUMPS

## STANDARD HIGH VACUUM PUMPS



No. 3Z654



No. 3Z657

Welch Vacuum THOMAS

**Applications:**

- Potting
- Neon sign manufacturing
- Degassing
- Vacuum drying
- Rice Porosity Test
- Light bulb and picture tube evacuation
- Freeze drying
- Chamber evacuation

**DUOSEAL®**

Replacement Parts Available 1-800-323-0620

- **Low pump RPM facilitates long service life; pump speed ranges between 400 and 580 RPM**
- **Large oil reservoir dilutes contaminants and minimizes oil changes**
- **High vacuum achieved; ultimate pressure to 1 x $10^{-4}$ Torr (.1 Microns)**
- **Cool running lengthens oil life and minimizes maintenance**
- **Stable pumping efficiency even in low micron range reduces pump down time**
- **Continuous duty with thermally protected motors**

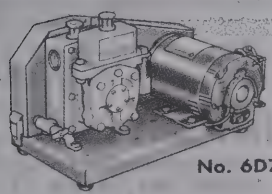
**DUOSEAL® two-stage high vacuum pumps** are rated for low micron Hg vacuum, continuous duty operation. Low pump RPM (400 to 580 RPM) reduces internal wear. Pumps operate 20°F cooler than many high RPM direct-drive pumps. Lower operating temperature reduces maintenance requirements. Built to be rugged with fewer moving parts. All metal internal construction.

Contoured molded belt-guard and base on 3Z655 and 3Z656 uniquely designed for quieter operation and preventing visible oil weeping at seal.Gas ballast inhibits condensation inside pump. Factory wired for 115V operation, Intake filter screens reduce possibility of foreign material entering pump. Belt guard, base, motor with On-Off switch, and 3-wire cord. Blue/gray finish. Oil included.

| Displ. CFM | Ultimate Pressure, Torr | Tubing I.D. (In.) | HP | Volts, 60 Hz | Amp Draw | Dimensions (In.) L | W | H | Welch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.9** | 1 X 10-4 | 7/16 | 1/3 | 115 | 4.8 | 17¾ | 9 | 12⅝ | 1400B-01 | **3Z654** | $772.29 | **$596.50▲** | 69.0 |
| **5.6** | 1 x 10-4 | 13/16 | 1/2 | 115 / 230 | 8.4/4.2 | 20 | 12 | 15⅝ | 1402B-01 | **3Z655** | 1904.00 | **1877.00▲** | 131.0 |
| **10.6** | 1 x 10-4 | 13/16 | 1 | 115 / 230 | 13.4/6.7 | 19¼ | 14⅛ | 15⅞ | 1376B-01 | **3Z656** | 2629.00 | **2592.00▲** | 185.0 |
| **17.7** | 1 x 10-4 | 1⅝ | 1 | 115 / 230 | 13.4/6.7 | 26 | 13¾ | 18¾ | 1397B-01 | **3Z657** | 3457.00 | **3356.00▲** | 224.0 |

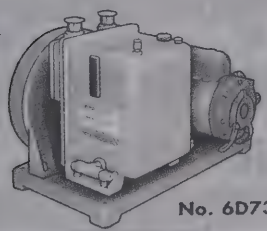
(▲) Net prices, not subject to discounts.

## HIGH VACUUM PUMPS FOR PUMPING CORROSIVE GASES



No. 6D734

Replacement Parts Available 1-800-323-0620



No. 6D735

Welch Vacuum THOMAS

**For Pumping Corrosive Gases:**

- HCl • HBr
- Br2 • Cl2
- SOx • Cl2
- HOAC
- CH2O

**CHEMSTAR®**

- **High contamination tolerance; vital parts corrosion resistant**
- **High vacuum achieved; ultimate pressure to 1 x $10^{-4}$ Torr (.1 Microns)**
- **Reduced friction wear due to low pump RPM (400 to 580 RPM)**

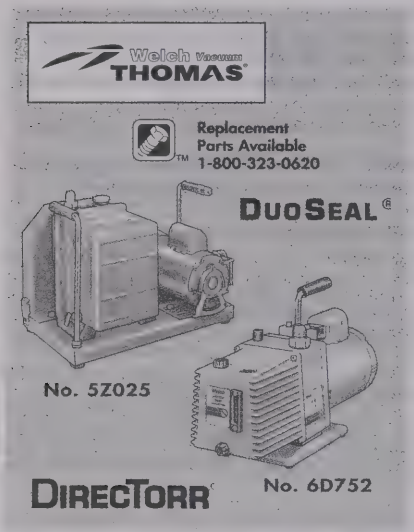
**CHEMSTAR® two-stage high vacuum pumps** are used for pumping corrosive gases to pressures below 1 Torr (1 mm of Hg). Vital parts are made of corrosion resistant material. Stainless steel vane springs, valves, pressure tubes, and oil baffle. Oil case is Teflon® lined. Nitrogen purge comes standard and allows degassing and cooling of the pump reducing oil corrosion rate. Gas ballast valve inhibits condensation of vapor.

Contoured molded belt-guard and base on 6D735 and 6D732 uniquely designed for quieter operation and preventing visible oil weeping at seal. Pumps rotate at speeds less than 580 RPM compared with over 1700 RPM of direct-drive vacuum pumps. Factory wired for 115V operation. Intake filter screens to reduce possibility of foreign material entering pump. Each pump includes hose adapter, belt guard, base, motor with On-Off switch, and 3-wire cord, except No. 6D730, where conduit wiring installation is required. Silver finish on pumping module. Oil included.

| Displ. CFM | Ultimate Pressure, Torr | Tubing I.D. (In.) | HP | Volts 60 Hz | Amp Draw | Dimensions (In.) L | W | H | Welch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.9** | 1 X $10^{-4}$ | 7/16 | 1/3 | 115 | 4.8 | 17¾ | 9 | 12⅝ | 1400N-01 | **6D734** | $1514.00 | **$1376.00 ▲** | 68.0 |
| **5.6** | 1 X $10^{-4}$ | 13/16 | 1/2 | 115/230 | 8.4/4.2 | 20 | 12 | 15⅝ | 1402N-01 | **6D735** | 2184.00 | **1983.00 ▲** | 128.0 |
| **10.6** | 1 X $10^{-4}$ | 13/16 | 1 | 115/230 | 13.4/6.7 | 20 | 14⅛ | 15⅞ | 1376N-01 | **6D732** | 3022.00 | **2781.00 ▲** | 177.0 |
| **23.0** | 1 X $10^{-4}$ | 1⅝ | 1½ | 115/230 | 18.2/9.1 | 26 | 13¾ | 18¾ | 1374N-01 | **6D730** | 4342.00 | **3902.00 ▲** | 231.0 |

(▲) Net prices, not subject to discount.

# COMMERCIAL AND INDUSTRIAL REFRIGERATION SERVICE PUMPS




**Welch® refrigeration service pumps** are designed for removing air and moisture from industrial and commercial chillers. The vacuum pumps are rated for low micron Hg vacuum, continuous duty (except 4Z197 which is for intermittent duty). Belt-drive vacuum pumps are known worldwide for ruggedness and dependability due to their all metal internal construction, low pump RPM, which facilitates long service life, and large oil reservoirs which dilutes contaminants. Direct-drive DirecTorr® vacuum pumps are lightweight for rooftop jobs, with high capacity to get you on and off the job fast. All models feature a gas ballast valve (except 4Z197), that inhibits condensation of water which can lead to corrosion. All models are factory wired for 115V operation with On-Off switch and 3-wire cord. Belt-drive pumps, with blue/gray finish, come complete with base, belt, belt guard and motor; carrying handles supplied with Stock No. 5Z025. Direct-drive pumps have light gray finish, except 4Z197 which is black. Pumps come with oil.

## PUMP SELECTION GUIDE

| Application | Tonnage | Stock No. | Pump Capabilities |
|---|---|---|---|
| Lithium Bromide Absorption Chiller | 100 - 500<br>500 - 1000<br>1000 - 1500 | 5Z025<br>5Z025, 6D731<br>6D731 | Handles harsh salt-laden water vapor<br>Withstands accidental ingestion of salt solution<br>Recirculates clean fraction of vacuum pump oil |
| Cold Storage | 10 - 50<br>50 - 500<br><br>500 - 1000 | 5Z025<br>5Z025, 6D731<br>6D751, 6D752<br>6D733, 6D752 | Handles long pumpdown time effectively<br>Handles high water vapor loads<br>Draws a very deep vacuum |
| HCFC, CFC or Ammonia Chillers | 10 - 50<br>50 - 500<br><br>500 - 1000 | 5Z025<br>5Z025, 6D731<br>6D751, 6D752<br>6D733, 6D752 | Seals and gaskets won't break down in the presence of R-11, R-12, R-13, R-22, R-113, R-123, R-114, R-502, R-503 or ammonia<br>Draws a very deep vacuum<br>Handles high water vapor loads |

## HEAVY-DUTY DUOSEAL® BELT DRIVE VACUUM PUMPS SPECIFICATIONS AND ORDERING DATA

| Displ. CFM | Ultimate Pressure, Torr | Intake Male SAE Flare | HP | Volts 60 Hz | Amp Draw | Dimensions (In.) L | W | H | Welch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5.6** | $1 \times 10^{-4}$ | 3/4 | 1/2 | 115/230 | 8.4/4.2 | 20 | 12 | 15 | 1402B-46 | **5Z025** | $2039.00 | **$1948.00** ▲ | 125.0 |
| **10.6** | $1 \times 10^{-4}$ | 3/4 | 1 | 115/230 | 13.4/6.7 | 20 | 14 1/8 | 15 3/8 | 1376B-46 | **6D731** | 2829.00 | **2363.00** ▲ | 177.0 |
| **17.7** | $1 \times 10^{-4}$ | * | 1 | 115/230 | 13.4/6.7 | 26 | 13 3/4 | 18 3/4 | 1397B-46 | **6D733** | 3457.00 | **3105.00** ▲ | 224.0 |

(*) Female 1½" NPT Fitting. (▲) Net prices, not subject to discounts.

## PORTABLE DIRECTORR® DIRECT DRIVE VACUUM PUMPS SPECIFICATIONS AND ORDERING DATA

| Displ. CFM | Ultimate Pressure, Torr | Intake Male SAE Flare | HP | Volts 60 Hz | Amp Draw | Dimensions (In.) L | W | H | Welch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.0** | $3 \times 10^{-2}$ | 1/4 | 1/10 | 115 | 3.8 | 10 3/8 | 4 | 8 1/4 | 8803B | **4Z197** | $725.00 | **$695.00** ▲ | 18.0 |
| **7.7** | $3 \times 10^{-4}$ | 3/4 | 1/2 | 115/230 | 6.8/3.4 | 20 1/2 | 7 1/8 | 10 3/4 | 8920A-46 | **6D751** | 2075.00 | **1868.00** ▲ | 68.0 |
| **11.3** | $4 \times 10^{-4}$ | 3/4 | 3/4 | 115/230 | 9.2/4.6 | 21 1/4 | 7 1/8 | 12 1/2 | 8925A-46 | **6D752** | 2479.00 | **2226.00** ▲ | 77.0 |

(▲) Net prices, not subject to discounts.




# WELCH® VACUUM PUMP OILS

- Recommended for use with Welch Vacuum Pumps
- Tested for high vacuum levels
- Oils meet rigid requirements for vapor pressure, stability, and viscosity
- No. 6D753 recommended for corrosive gas applications

## VACUUM PUMP OIL ORDERING DATA

| For Use With | Welch Model | Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **DUOSEAL® belt-drive vacuum pumps** | 1407K-11 | Quart | **6D736** | $9.00 | **$8.45**▲ | 2.2 |
| **DIRECTORR® direct-drive vacuum pumps** | 8995P-11 | Liter | **6D754** | 11.00 | **10.40**▲ | 2.2 |
| **CHEMSTAR® vacuum pumps** | 8995G-11 | Liter | **6D753** | 30.00 | **26.80**▲ | 2.2 |

(▲) Net prices, not subject to discounts.

# EXHAUST FILTERS

- Filters oil mist from pump exhaust
- Filters to 0.3 micron particle size
- Reduces pump noise
- Easy replacement of element
- Screw-in type

## EXHAUST FILTERS ORDERING DATA

| Use with Welch Pump Stock No. | Dim. of Ex. Filter (In.) Dia. | Ht. | Exhaust Filter Welch Model | Stock No. | List | Each | Shpg. Wt. | Replacement Element Welch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4Z197, 3Z654 | 2½ | 2½ | 1417 | **6D737** | $101.00 | **$90.70**▲ | 0.8 | 1417L | **6D740** | $53.00 | **$47.85** ▲ | 0.5 |
| 3Z655, 3Z656 5Z025, 6D731 6d751, 6D752 | 5 | 6¼ | 1417P-10 | **6D741** | 245.00 | **220.25**▲ | 3.0 | 1417G | **6D738** | 93.00 | **83.70** ▲ | 0.8 |
| 3Z657, 6D733 | 5 | 9 | 1417P-20 | **6D742** | 357.00 | **321.00**▲ | 5.0 | 1417H-01 | **6D739** | 123.00 | **110.60** ▲ | 1.0 |

# HIGH VACUUM PUMPS

- **Direct drive; no belts to wear out and replace**
- **Quiet operation**
- **Large sight ports for easy oil level check**
- **Built-in anti-suckback mechanism and gas ballast valve**
- **Modular design and construction makes maintenance easy**
- **Heavy-duty cast aluminum frames and bodies**
- **CE Approved**

Totally enclosed fan-cooled motors are single phase with thermal protection. Include 6 ft. power cord wired to a junction box with switch. Built-in oil filter. Filter cartridge can be changed without dismantling pump. Pressure relief valve keeps oil flowing if filter is clogged. An anti-suckback mechanism keeps the pump isolated from the rest of the system whenever the motor stops. Gas ballast valve prevents vapors from condensing in the pump chamber. Nos. 5Z621 and 5Z622 have a 1/2" hose adapter, and Nos. 5Z623 and 5Z624 have a 1.0" hose adapter.

**Two-stage, high vacuum applications**

- **Degassing**
- **Autoclaving, sterilization**
- **Chamber evacuation**
- **Distillation**
- **Electron beam; melting, welding**
- **Electronic tube and light bulb evacuation**
- **Freezer drying**
- **Leak detectors**
- **Refrigeration and air conditioning evacuation**
- **Thin film applications**
- **Hose adapters available through Grainger Parts Operations**

Made In U.S.A.

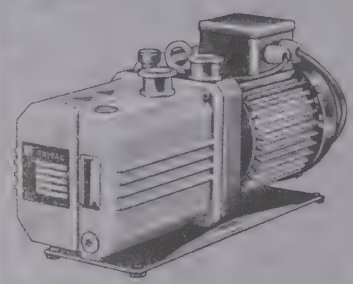
FREE DELIVERY on orders of $900 or more

See Freight Policy

## TRIVAC® E

LEYBOLD

Replacement Parts Available 1-800-323-0620



No. 5Z622

## ROTARY VANE PUMP PERFORMANCE

| Stock No. | Displacement CFM | Pumping Speed (ACFM)* in Microns ($E10^3$) 760 | 10 | 1 | 0.1 | 0.01 | 0.004 |
|---|---|---|---|---|---|---|---|
| 5Z621 | 2.1 | 1.9 | 1.9 | 1.8 | 1.5 | 1.0 | 0.71 |
| 5Z622 | 4.3 | 3.7 | 3.7 | 3.5 | 2.5 | 1.6 | 1.4 |
| 5Z623 | 8.6 | 7.4 | 7.4 | 7.2 | 5.6 | 3.8 | 3.8 |
| 5Z624 | 13.9 | 11.2 | 11.2 | 11.2 | 10.0 | 10.0 | 8.0 |

(*) ACFM = Actual cubic feet per minute. Ultimate pressure is 15 microns.

## HIGH VACUUM PUMP SPECIFICATIONS AND ORDERING DATA

| HP | Phase | Volts/60 Hz† | Full Load Amps | Displ. CFM | End Vacuum Microns | Max. dBA | Dimensions (In.) L | W | H | Leybold Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **.40** | 1 | 115V/220V | 3.7/1.5 | 2.1 | 15 | 48 | 15.1 | 6.0 | 8.3* | 2.5E | **5Z621** | $1425.00 | **$1415.00** | 34.0 |
| **.74** | 1 | 115V/220V | 5.6/2.4 | 4.3 | 15 | 48 | 16.4 | 7.3 | 9.1* | 5.0E | **5Z622** | 1575.00 | **1565.00** | 49.0 |
| **.74** | 1 | 115V/220V | 5.6/2.8 | 8.6 | 15 | 48 | 17.2 | 7.3 | 9.1* | 10.0E | **5Z623** | 1730.00 | **1720.00** | 53.0 |
| **1.1** | 1 | 115V/220V | 9.6/4.8 | 13.9 | 15 | 52 | 19.3 | 6.9 | 10.2 | 16.0E | **5Z624** | 2540.00 | **2520.00** | 68.0 |

(*) Without Eye Bolt or Handle. (†) All models wired for 115V. Performance rated with motor run at 60 Hz. If 50 Hz is used, deduct 17% from ratings.

## AIR FLOW AND AIR PRESSURE TERMINOLOGY

### AIR FLOW (CFM) THROUGH ORIFICE OR JET

| PSI | Orifice or Jet Size 1/64 | 1/16 | 1/8 | 1/4 |
|---|---|---|---|---|
| 10 | .084 | 1.36 | 5.45 | 21.8 |
| 25 | .133 | 2.16 | 8.6 | 34.5 |
| 50 | .225 | 3.64 | 14.5 | 58.2 |
| 80 | .330 | 5.32 | 21.2 | 85.0 |
| 100 | .400 | 6.45 | 25.8 | 103.0 |
| 120 | .470 | 7.58 | 30.2 | 121.0 |
| 150 | .570 | 9.20 | 36.7 | 147.0 |
| 200 | .760 | 12.20 | 48.7 | 195.0 |

### PRESSURE EQUIVALENTS

| Milliton or Micron of Hg | | Torr or MM of Hg |
|---|---|---|
| 1000 | = 1.0 | = $10^0$ |
| 100 | = 0.1 | = $10^{-1}$ |
| 10 | = 0.01 | = $10^{-2}$ |
| 1.0 | = 0.001 | = $10^{-3}$ |
| 0.5 | = 0.0005 | = $5 \times 10^{-4}$ |
| 0.1 | = 0.0001 | = $1 \times 10^{-4}$ or $10^{-4}$ |
| 0.01 | = 0.00001 | = $10^{-5}$ |
| 0.001 | = 0.000001 | = $10^{-6}$ |

Abbreviation for Mercury = Hg

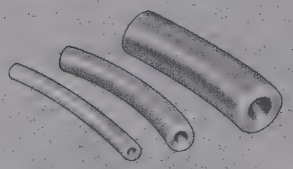
**ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY**

Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items.

See Index under Energy Right Products.

# HIGH VACUUM PUMP ACCESSORIES

Welch Vacuum THOMAS



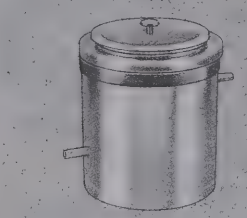
No. 6D746

## VACUUM HOSE

- Very thick walled hose for high vacuum applications
- Five feet per pkg

### VACUUM HOSE ORDERING DATA

| Use with Vacuum Pump Stock No. | Use Clamp Stock No. | Hose I.D. (In.) | Hose Wall Thickness (In.) | Hose O.D. (In.) | Welch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 3Z655, 6D734 | 5X445 | 7/16 | 5/16 | 1 1/16 | 331040-5 | 6D746 | $33.00 | $29.05▲ | 2.5 |
| 3Z655, 3Z656, 6D735, 6D732, 5Z621, 5Z622, 5Z623, 5Z624, 5Z354 | 2W402 | 13/16 | 3/8 | 1 9/16 | 331060-5 | 6D747 | 65.00 | 58.50▲ | 5.0 |
| 3Z657, 6D730 | 5X446 | 1 5/8 | 11/16 | 3 | 331080-5 | 6D748 | 154.00 | 137.75▲ | 16.0 |



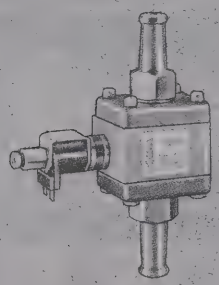
No. 6D743

## DRY ICE COLD TRAP

**Dry ice cold traps** are used between the connecting line and the pump to collect corrosive vapors or large quantities of condensable vapors evolved from vacuum processing. The cold trap condenses out most of the vapors to help prevent damage to the pump mechanism and oil contamination. Dimensions 8¾"H x 10" diameter. Welch brand (1420H-14)

- Removable 3 quart center well for dry ice/alcohol slurry (do not use acetone)
- Visible trapping surface through acrylic cap
- Cold temperature up to 12 hours depending on vapor load
- Accepts 7/16 I.D. vacuum hose

**No. 6D743.** Shpg. wt. 11.0 lbs.
List $559.00. Each..... **$509.50▲**



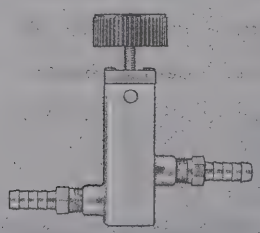
No. 6D750

## ISOLATION VALVE

The Welch Isolation Valve is a safety valve which will protect the vacuum system in the event of a power failure by isolating the vacuum system and venting the vacuum pump. This helps to prevent oil backup into the vacuum system, minimizes the pressure rise in the vacuum system, and makes it easier for the vacuum pump motor to restart. A normally open solenoid is used as the activator. Installation consists of mounting the valve vertically at the pump intake using 13/16" I.D. hose. Dimensions 7 L X 3" diameter. Welch brand (567060).

- Protects vacuum system upon power failure from oil or air in-rush
- Mounts vertically on pump inlet
- Reopens only after intake line is evacuated after power returns
- Operates on 115 V, 60 Hz, 1 Ph

**No. 6D750.** Shpg. wt. 4.0 lbs.
List $266.00. Each..... **$245.25▲**

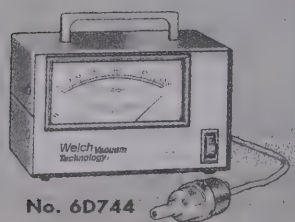


No. 6D749

## BRASS VACUUM SHUT-OFF VALVE

- Usable to 1 x $10^{-4}$ Torr
- Seals against atmosphere in either direction
- Viton® seal, bronze body and bellows
- Use for forelines in laboratory or industrial service
- Accepts 13/16" I.D. vacuum hose

**No. 6D749.** Shpg. wt. 2.0 lbs.
List $186.00. Each..... **$170.50▲**




No. 6D744

## THERMOCOUPLE VACUUM GAUGE

The Welch single station thermocouple vacuum gauge is self-contained with solid state electronics for rapid response time, long life, and low maintenance. The gauge sensor tube is designed to assure maximum sensitivity over the entire vacuum range. Supplied with permanently attached 6 ft. probe cable, sensor tube, and carrying handle. Sensor tube screws into a 1/8" female NPT hole tapped into metal vacuum line. (Caution: Should not be used to measure the pressure of flammable or explosive gases or vapors.) 7W x 5D x 5.6"H. Wired for 115V, 60Hz, with 5 ft. line cord and plug.

- Portable and lightweight
- Range of 0-5000 millitorr (0-5000 microns Hg)
- 0-10 VDC recorder output

### THERMOCOUPLE VACUUM GAUGE ORDERING DATA

| Description | Welch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Thermocouple vacuum gauge | 1515 | 6D744 | $554.00 | $509.00▲ | 6.0 |
| Replacement sensor tube | 1515A | 6D745 | 93.00 | 85.50▲ | 0.2 |

(▲) Net prices, not subject to discounts.



*Dedicated operations or on the job site — these compressors pack the power.*

# OIL-LESS DIAPHRAGM AIR COMPRESSOR/VACUUM PUMPS

## DIAPHRAGM COMPRESSOR/VACUUM PUMPS

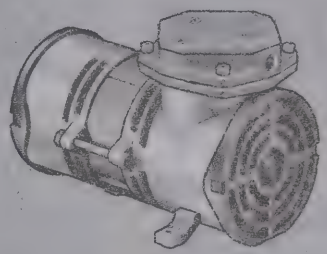
- **Pressure or vacuum without modification**
- **Extra-quiet operation**
- **12V DC model offers extra mobility**
- **Cast aluminum head, housing and connecting rod**
- **Swedish stainless steel reed-type valves**
- **Inlet and exhaust valve seats cast in head**
- **Compact size**
- **Extra quiet: 55-65 maximum dbA**
- **UL Recognized and CSA Certified (except No. 5Z670)**
- **No. 2Z866 has 1/8 HP shaded pole automatic thermal overload protected motor**
- **No. 4Z024 has 1/3 HP permanent split capacitor motor with automatic thermal overload protection and 6 ft., 3-wire cord with molded 3-prong plug**
- **No. 4Z026 has 12" wire leads and grounding screw**
- **No. 5Z670 has 10" leads and shaded pole motor with automatic thermal overload protection**
- **Nos. 4Z026 and 5Z670 interchangeable with Thomas Industries Series 107**

**Reversible 1/4" (F)NPT inlet and outlet ports.** Permanently lubricated bearings and large diameter motor shaft. Connecting rod is permanently bonded to rod bearing to prevent loosening. Air flow enters and exits at head; no danger of vaporized grease from bearings being picked up and carried into system.

**Oil-less diaphragm compressor and vacuum pumps** are used for continuous duty applications in labs, printing, water aeration, computers, and chemical and photo processing. 1/16 HP models are used for coffee, food, and vending machines, auto analyzers, and office copiers. UL Recognized component (E62533). CSA Certified (LR37697) except No. 5Z670.

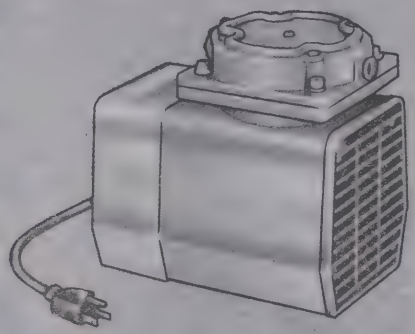
GAST
A UNIT OF IDEX CORPORATION
IDEX CORPORATION

LR37697 E62533

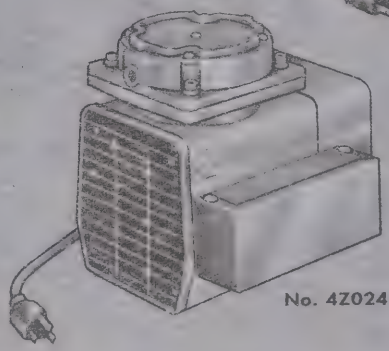


No. 4Z026

•Registered to ISO 9001



No. 2Z866



No. 4Z024

Made in U.S.A.

Replacement Parts Available
1-800-323-0620

### COMPRESSOR/VACUUM PUMP SPECIFICATIONS

| HP | Stock No. | Free Air CFM* @ Vacuum (In. Hg.) 5 | 10 | 15 | 20 | 24 | Max Vac. | Free Air CFM* @ Pressure (PSI) 10 | 20 | 30 | 40 | 50 | 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/16 | 4Z026 | 0.31 | 0.21 | 0.14 | 0.07 | 0.00 | 24.0 | 0.34 | 0.25 | 0.17 | 0.11 | 0.05 | — |
| 1/16 | 5Z670 | 0.44 | 0.25 | 0.17 | 0.07 | 0.00 | 24.0 | 0.43 | 0.32 | 0.23 | 0.15 | 0.09 | — |
| 1/8 | 2Z866 | 0.85 | 0.60 | 0.40 | 0.20 | 0.05 | 25.5 | 0.86 | 0.70 | 0.55 | 0.40 | 0.25 | 0.10 |
| 1/3 | 4Z024 | 1.40 | 1.00 | 0.65 | 0.30 | 0.10 | 25.5 | 1.50 | 1.20 | 0.90 | 0.70 | 0.50 | 0.30 |

(*) Performance rated with motor run at 60 Hz for No. 4Z024. If 50 Hz is used, deduct 17% from ratings.

### COMPRESSOR/VACUUM PUMP ORDERING DATA

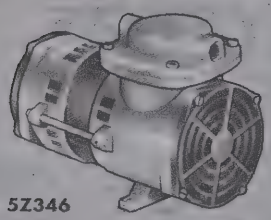
| HP | Volts | Amp Draw | Hz | RPM | Dimensions (In.) L | W | H | Gast Equivalent | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/16** | 115 | 2.1 | 60 | 1575 | 7 3/32 | 4 9/32 | 4 11/16 | MOA-P101-AA | **4Z026** | $161.16 | **$152.75** | 6.5 |
| **1/16** | 12VDC | 6.8 | — | 1800 | 7 3/32 | 4 9/32 | 4 11/16 | MOA-P101-JH | **5Z670** | 193.80 | **184.25** | 7.1 |
| **1/8** | 115 | 4.2 | 60 | 1575 | 7 11/32 | 5 1/8 | 7 5/8 | DOA-P101-AA | **2Z866** | 223.38 | **212.25** | 15.0 |
| **1/3** | 115 | 4.8 / 3.3 | 50/60 | 3000 | 7 5/8 | 6 5/8 | 7 5/8 | DOA-P109-EB | **4Z024** | 276.42 | **262.25** | 17.0 |

### LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

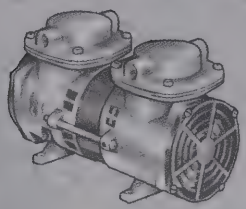
**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# OIL-LESS DIAPHRAGM AND PISTON AIR COMPRESSORS/VACUUM PUMPS

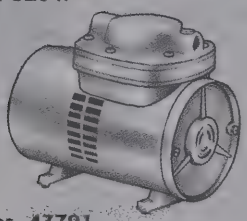
## DIAPHRAGM MODELS



No. 5Z346

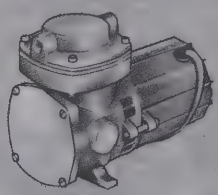


No. 5Z347

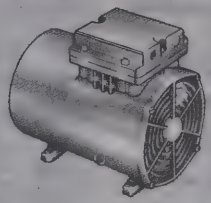


Nos. 4Z791, 4Z792, and 5Z348

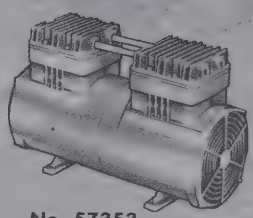
## PISTON MODELS



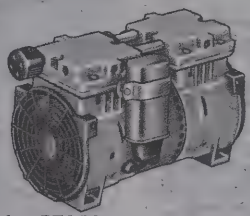
No. 5Z349



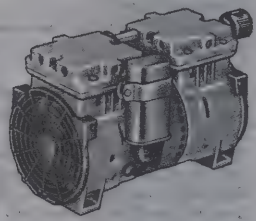
No. 5Z646



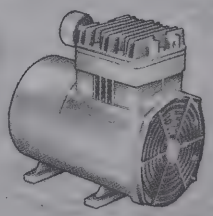
No. 5Z353



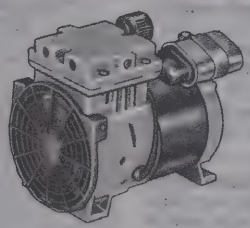
No. 5Z350



No. 5Z648



Nos. 5Z351, 5Z352



No. 5Z647

THOMAS COMPRESSORS & VACUUM PUMPS

E46046

Except Nos. 5Z349 and 5Z353

Replacement Parts Available 1-800-323-0620

**Construction features:** Single-phase induction motor protected by an auto-reset thermal protector. Lightweight die-cast aluminum parts reduce unnecessary weight. Swedish stainless steel flapper valves provide lasting performance. Balanced eccentrics for low noise and vibration. Bearings are permanently lubricated for maintenance-free life. All units are designed for easy field serviceability. Gray finish.

**Diaphragm units** have long-life diaphragm. For commercial and industrial applications such as agitators, instrumentation, graphic arts, pond/aquarium aeration, business machines, laboratory use, and foam makers, as well as OEM's requiring intermittent and continuous duty operation. 6 ft. grounded power cord on Nos. 4Z791, 4Z792, and 5Z348. 1750 RPM.

**Piston units** have rugged flexible piston cup for high efficiency and constant performance. For aeration, photographic equipment, business machines, packaging equipment, laboratories, paint spraying, air tools, computers, and beverage dispensing, as well as OEM's requiring intermittent and continuous operation. Nos. 5Z350 through 5Z353 and 5Z646 through 5Z648 have 6 ft. grounded power cord. 1750 RPM. No. 5Z349 is 3400 RPM.

## SPECIFICATIONS AND ORDERING DATA FOR DIAPHRAGM MODELS

| HP | Volts 60 Hz | Amp Draw | (F)NPT Inlet / Outlet (In.) | | Free Air (CFM) @ Vacuum (Hg") 0 | 10 | 20 | Max. Vac (In.) | Free Air (CFM) @ Pressure (PSI) 0 | 10 | 30 | Max. PSI Cont. / Int. | Dimensions (In.) L | W | H | Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/20 | 115* | 1.7 | 1/8 | 1/8 | 0.76 | 0.40 | 0.08 | 23 | 0.76 | 0.51 | 0.20 | 25/25 | 7 | 1 1/4 | 1 1/4 | 107CAB18 | 5Z346 | $146.00 | $131.65 | 6.0 |
| 1/20 | 115 | 1.6 | 1/8 | 1/8 | 1.65 | 0.77 | 0.17 | 23 | 1.65 | — | — | 5/5 | 8 1/4 | 1 1/4 | 1 1/4 | 2107CA20 | 5Z347 | 206.14 | 185.25 | 6.5 |
| 1/12 | 115 | 2.0 | 1/4 | — | 1.15 | 0.48 | — | 22 | — | — | — | — | 8 | 4 3/4 | 7 | 900-13-58 | 4Z792 | 176.54 | 143.00 ▲ | 10.0 |
| 1/12 | 115 | 2.4 | — | 1/4 | — | — | — | — | 1.15 | 0.87 | 0.34 | 20/35 | 8 | 4 3/4 | 7 | 900-13-59 | 4Z791 | 169.55 | 138.80 ▲ | 10.0 |
| 1/8 | 115 | 3.0 | 1/4 | 1/4 | 1.49 | 0.64 | 0.16 | 23 | 1.49 | 1.02 | 0.44 | 30/40 | 8 | 4 3/4 | 7 | 917CA18 | 5Z348 | 207.36 | 177.75 | 12.0 |

## SPECIFICATIONS AND ORDERING DATA FOR PISTON MODELS

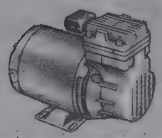
| HP | Volts 60 Hz | Amp Draw | (F)NPT Inlet / Outlet (In.) | | Free Air (CFM) @ Vacuum (Hg") 0 | 10 | 20 | Max. Vac. (In.) | Free Air (CFM) @ Pressure (PSI) 0 | 40 | 80 | Max. PSI Cont. / Int. | Dimensions (In.) L | W | H | Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/10 | 12VDC | 10.5 | — | 1/8 | — | — | — | — | 0.92 | 0.53 | 0.35 | 100/100 | 7 1/8 | 4 1/4 | 5 3/8 | 405A1DC38/12 | 5Z349 | $174.71 | $157.50 | 5.0 |
| 1/8 | 115 | 3.4 | 1/4 | 1/4 | 0.84 | 0.46 | 0.15 | 26 | 0.84 | 0.46 | 0.20 | 100/100 | 8 | 5 | 6 5/8 | 607CA22 | 5Z646 | 207.36 | 188.50 | 13.0 |
| 1/3 | 115 | 3.5 | 1/4 | 1/4 | 1.60 | 0.90 | 0.33 | 27.6 | 1.60 | 1.21 | 0.91 | 100/100 | 8 | 5 1/4 | 6 5/8 | 627CE44 | 5Z647 | 264.00 | 245.00 | 15.0 |
| 1/3 | 115 | 3.0 | 1/4 | 1/4 | 1.60 | 0.98 | 0.48 | 29 | — | — | — | — | 11 | 6 1/4 | 6 5/8 | 2628VE44 | 5Z648 | 390.50 | 359.50 | 18.0 |
| 1/3 | 115 | 4.2 | 1/4 | 1/4 | 3.15 | 1.60 | 0.64 | 27.6 | 3.15 | — | — | 25/25 | 10 1/8 | 6 | 6 7/8 | 2628CE44 | 5Z350 | 377.00 | 346.75 | 18.0 |
| 1/3 | 115* | 8.7 | 1/4 | 1/4 | 3.25 | 1.60 | 0.67 | 27.7 | 3.25 | 2.34 | 1.75 | 100/100 | 10 3/4 | 6 3/8 | 10 | 807CB60 | 5Z351 | 400.09 | 357.50 | 27.0 |
| 1/2 | 115 | 10.1 | 1/4 | 1/4 | 4.05 | 1.93 | 1.83 | 27.9 | 4.05 | 2.93 | 2.29 | 100/100 | 10 3/4 | 6 3/4 | 10 | 1007CB72 | 5Z352 | 405.16 | 367.00 | 27.0 |
| 1 | 115 | 12.3 | 1/4 | 1/4 | 6.20 | 3.60 | 1.30 | 25 | 6.20 | 5.20 | 3.80 | 50/120 | 15 3/4 | 6 3/8 | 10 | 2807CB72 | 5Z353 | 728.44 | 644.50 | 40.0 |

*1) Can operate at 110V 50 Hz and 230V 50 Hz. If 50 Hz is used, reduce 17% from ratings. ▲) Net prices, not subject to discounts.

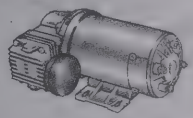
# OIL-LESS PISTON AIR COMPRESSORS/ VACUUM PUMPS

## TASKAIR™ HIGH PRESSURE AIR COMPRESSORS/VACUUM PUMPS

No. 6Z834



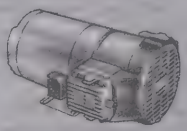
No. 5Z677



THOMAS COMPRESSORS & VACUUM PUMPS

Replacement Parts Available 1-800-323-0620

No. 6Z838



No. 6Z841



**Taskair™ reciprocating oil-less air compressors/vacuum pumps** are designed for equipment operating at pressures greater than 15 PSIG or at vacuum levels up to 27.5" Hg.

**Oil-less design** offers oil-less air delivery, versatility in mounting location, and minimal maintenance. High strength, low lift stainless steel valves and permanently lubricated, sealed bearings. Teflon piston rings and skirts reduce piston friction and effectively seal for optimum volumetric efficiency. Cast-iron cylinders provide optimum running surface for piston rings and skirts. 1/4" (F)NPT outlet; No. 6Z841 has 3/8" (F)NPT outlet.

**Nos. 5Z677 and 5Z678** feature a 12V DC high torque, totally enclosed nonventilated motor design which incorporates fused commutators, Class H insulation.

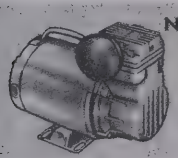
**Come with fifty-micron inlet air filters.** 35° to 95°F ambient temperature range. Safety relief valve set at 15 PSI above maximum pressure ratings and comes standard on 1/2 to 1½ HP models. Powered by 1725 RPM, open, dripproof, thermally protected, ball bearing motor. Gray enamel finish. UL Listed (MP2825) and CSA Certified (LR22977). Thomas brand.

| HP | Volts, 60 Hz | Full Load Amps @ 115V, 60 Hz | Free Air CFM @ PSI 0 | 20 | 50 | 100 | Max. PSI Cont. / Int. | Free Air CFM @ Vacuum (Hg") 0 | 10 | 20 | Max. Vac. (In.) | Dimensions (In.) L | W | H | Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/12 | 115* | 2.5 | 1.20* | 0.75 | 0.30 | — | 60/60 | 1.20 | 0.70 | 0.20 | 24.0 | 10¼ | 5⅝ | 8 | TA-1061 | 6Z834 | $277.72 | $249.00 | 16.0 |
| 1/6 | 115* | 3.3 | 1.40 | 1.10 | 0.70 | 0.35 | 100/100 | 1.40 | 0.89 | 0.38 | 27.5 | 10¼ | 5⅝ | 8 | TA-2101 | 6Z835 | 283.25 | 254.25 | 20.0 |
| 1/4 | 115/230 | 5.0 | 1.60 | 1.25 | 1.10 | 0.60 | 100/100 | 1.70 | 1.08 | 0.46 | 27.5 | 10⅞ | 5⅝ | 8 | TA-3101 | 6Z836 | 320.84 | 287.75 | 21.0 |
| 1/4 | 12 VDC | 22.0 | 1.70 | 1.40 | 1.10 | 0.75 | 100/100 | 1.70 | 1.08 | 0.46 | 27.5 | 11½ | 8⅝ | 5⅞ | TA-3101-DC | 5Z677# | 533.25 | 476.25 | 25.0 |
| 1/3 | 12 VDC | 26.0 | 2.20 | 1.75 | 1.35 | 0.95 | 100/100 | 2.20 | 1.40 | 0.60 | 27.5 | 12¾ | 8⅝ | 5⅞ | TA-4101-DC | 5Z678# | 535.00 | 499.25 | 28.0 |
| 1/3 | 115 | 3.5 | 2.20 | 1.75 | 1.35 | 0.95 | 100/100 | 2.20 | 1.40 | 0.60 | 27.5 | 13¾ | 5⅞ | 8 | TA-4101 | 6Z837 | 379.01 | 339.75 | 24.0 |
| 1/2 | 115/230 | 7.2 | 3.20 | 2.68 | 2.25 | 1.70 | 100/150 | 3.20 | 2.64 | 0.87 | 27.5 | 15 | 10 | 6⅞ | TA-5102 | 6Z838 | 511.31 | 459.00 | 37.0 |
| 3/4 | 115/230 | 10.6 | 4.30 | 3.80 | 3.15 | 2.40 | 100/100 | 4.30 | 2.74 | 1.17 | 27.5 | 18½ | 12⅜ | 6⅞ | TA-6102 | 6Z839 | 557.37 | 501.50 | 44.0 |
| 1 | 115/230 | 9.2 | 5.40 | 5.00 | 4.40 | 3.30 | 100/100 | 5.40 | 3.44 | 1.47 | 27.5 | 18½ | 12⅜ | 6⅞ | TA-7102 | 6Z840# | 687.01 | 619.50 | 65.0 |
| 1½ | 115/230 | 13.0 | 10.00 | 8.40 | 7.00 | 5.20 | 100/100 | 10.00 | 6.36 | 2.73 | 27.5 | 21 | 18 | 9¼ | HP-1500 | 6Z841# | 1121.61 | 1006.00 | 90.0 |

(*) Can operate at 110V/50 Hz. If 50 Hz is used, deduct 17% from ratings. (#) Not UL Listed or CSA Certified.

## GH SERIES HIGH FLOW AIR COMPRESSORS/VACUUM PUMPS

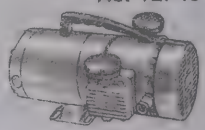
No. 4Z436



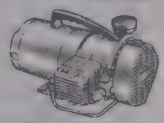
Replacement Parts Available 1-800-323-0620

THOMAS COMPRESSORS & VACUUM PUMPS

No. 1Z748



No. 5Z680



**GH series reciprocating oil-less air compressors/vacuum pumps** are used with precision air tools by machinists in aeration; vacuum—clamps, presses, and frames. Also used in laboratory and packaging equipment.

All, except Nos. 4Z436 and 5Z679 incorporate a patented, pressure-tight finned chamber in body that discharges cooled air in a steady, even flow. Chamber acts as an aftercooler, smoothing out air pulsations to aid quiet operation. Also allows for direct coupling of pressure switch to eliminate need for air tank.

**Heavy-duty two-stage piston compressors** are cast iron and aluminum for long life and reliable performance in a lightweight compact configuration. Compressors incorporate a patented, pressure-tight finned chamber in the body that discharges cooled air in a steady even flow.

**Powered by 1725 RPM, capacitor-start, high torque motor** with ball bearings and automatic reset thermal protection. Heavy duty pistons, ultra-smooth cast-iron cylinder sleeves and low-lift reed valves. Bearings are grease packed, sealed for life. Gray finish. 1/4" (F)NPT outlet. UL Listed (MP2825) and CSA Certified (LR22977). Thomas brand.

| HP | Volts, 60 Hz | Full Load Amps @ 115V, 60 Hz | Free Air CFM @ PSI 0 | 20 | 50 | 100 | Max. PSI Cont. / Int. | Free Air CFM @ Vacuum (Hg") 0 | 10 | 20 | Max. Vac. In. | Dimensions (In.) L | W | H | Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE-STAGE, 50 AND 60 MAXIMUM PSI** | | | | | | | | | | | | | | | | | | | |
| 1/12 | 115* | 2.5 | 1.20 | 0.75 | — | — | 60/60 | 1.20 | 0.70 | 0.20 | 24.0 | 10½ | 6½ | 8¾ | LGH-106 | 4Z436 | $342.44 | $300.25 | 19.0 |
| 1/6 | 115* | 3.3 | 1.60 | 0.75 | — | — | 50/50 | 1.60 | 0.96 | 0.32 | 25.0 | 11¾ | 6⅞ | 8¾ | LGH-205 | 5Z679† | 354.25 | 311.25 | 23.0 |
| 1/4 | 115/230 | 6.2 | 2.00 | 1.70 | 1.00 | — | 50/50 | 2.00 | 1.27 | 0.55 | 27.5 | 15½ | 10⅝ | 8¾ | GH-305B | 4Z437 | 496.10 | 436.75 | 39.0 |
| 1/3 | 115/230 | 8.0 | 3.30 | 2.80 | 2.00 | — | 50/50 | 3.30 | 2.10 | 0.90 | 27.5 | 16 | 11⅝ | 8¾ | GH-505B | 4Z438 | 595.90 | 526.00 | 44.0 |
| 1/2 | 115/230 | 7.2 | 4.30 | 3.75 | 2.95 | — | 50/50 | 4.30 | 2.74 | 1.17 | 27.5 | 16¼ | 11⅝ | 8¾ | GH-505B | 1Z748 | 648.52 | 571.50 | 47.0 |
| 3/4 | 115/230 | 10.6 | 5.20 | 4.65 | 3.95 | — | 50/50 | 5.20 | 3.31 | 1.42 | 27.5 | 16¼ | 12⅝ | 8¾ | GH-605B | 1Z964 | 725.04 | 639.00 | 53.0 |
| **TWO-STAGE, 175 MAXIMUM PSI** | | | | | | | | | | | | | | | | | | | |
| 1/3 | 115/230 | 8.0 | 1.40 | 1.35 | 1.25 | 1.15 | 175/175 | — | — | — | — | 16 | 12⅝ | 10¾ | GH-417B | 5Z680 | 784.10 | 700.00 | 49.0 |
| 1/2 | 115/230 | 7.2 | 1.80 | 1.80 | 1.78 | 1.65 | 175/175 | — | — | — | — | 16¼ | 12⅝ | 10¾ | GH-517B | 5Z681 | 823.35 | 734.50 | 55.0 |
| 3/4 | 115/230 | 10.4 | 2.40 | 2.37 | 2.31 | 2.20 | 175/175 | — | — | — | — | 16¾ | 12⅝ | 10¾ | GH-617B | 5Z682 | 924.56 | 823.50 | 60.0 |

(*) Can operate at 110V/50 Hz. If 50 Hz is used, deduct 17% from ratings. (†) Not UL Listed or CSA Certified.

AIR COMPRESSORS

# OIL-LESS PISTON AIR COMPRESSORS AND AIR COMPRESSOR/VACUUM PUMP

## PISTON AIR COMPRESSORS

- **Exclusive lap-joint Teflon piston ring design ensures rated flow throughout service life of pump**
- **Thermally protected motors with high torque start windings maximize pump life**
- **Oil-free system delivers uncontaminated air, helps air compressor stay clean and service-free**
- **Aluminum cylinders, cylinder heads, and pistons resist corrosion for longer life**
- **Corrosion resistant valve design helps maintain pump efficiency and ensures uninterrupted performance**
- **Changeable eccentrics allow stroke length to be changed: make a pump to best suit your application**

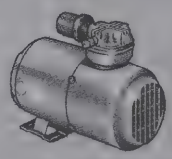
**Gast oil-less air compressors** are used in painting, laboratory, water aeration, computer, photographic, and chemical processing applications.

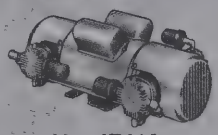
**Stainless steel seals** prevent joint leakage from behind and below the piston rings. Large piston skirt ring of filled Teflon for low friction coefficient between piston and cylinder. Corrosion resistant sandwich valve stops foreign particles from lodging on valve seats. CSA Certified (LR37697). UL Listed except Nos. 4Z706, 4Z707, 4Z460, and 5Z668. Gray finish.

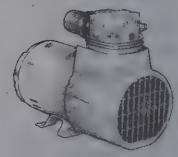
GAST
A UNIT OF IDEX CORPORATION
IDEX CORPORATION

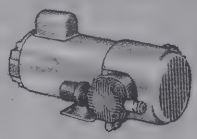
New

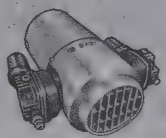
LR37697 MP1448

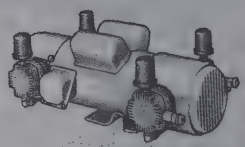

No. 2Z867


No. 4Z460


No. 4TF24


No. 4Z706


No. 2Z868


No. 4Z707

Made in U.S.A.

Replacement Parts Available
1-800-323-0620

• Registered to ISO 9001

### COMPRESSOR SPECIFICATIONS AND ORDERING DATA

| HP | Cyls. | Volts 60 Hz | Amp Draw | (F)NPT Outlet | Dimensions (In.) L | W | H | Free Air CFM @ Pressure (PSI) 20 | 40 | 50 | 100 | Gast Equivalent | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/6 | 1 | 115 | 4.3 | 1/4 | 11 5/8 | 5 5/8 | 8 1/2 | 1.00 | 0.70 | 0.65 | 0.38 | 1HAB-10-M100X | **2Z867** | $280.50 | **$259.75** | 18.0 |
| 1/4 | 1 | 115 | 6.8 | 1/4 | 12 1/8 | 5 5/8 | 8 1/2 | 1.40 | 1.20 | 1.15 | 0.85 | 2HAH-10-M200X | **5Z668** | 320.28 | **295.00** | 25.0 |
| 1/3 | 1 | 115 | 7.2 | 1/4 | 11 1/2 | 5 5/8 | 9 3/16 | 2.00 | 1.80 | 1.70 | 1.20 | 3HEB-10-M345X | **New4TF24** | 385.96 | **351.50** | 28.0 |
| 1/3 | 2 | 115 | 8.2 | 1/4 | 13 | 10 7/8 | 5 7/8 | 2.00 | 1.70 | 1.50 | 1.10 | 3HBB-10-M300X | **2Z868** | 419.22 | **387.25** | 29.0 |
| 1/2 | 2 | 115/230 | 12.0/6.0 | 1/4 | 13 1/4 | 12 | 8 | 3.00 | 2.60 | 2.40 | 1.70 | 4HCC-10-M450X | **2Z869** | 503.88 | **466.25** | 39.0 |
| 3/4 | 2 | 115/230 | 14.0/7.0 | 1/4 | 14 1/2 | 12 1/16 | 8 1/4 | 4.10 | 3.60 | 3.40 | 2.50 | 5HCD-10-M550X | **2Z870** | 551.82 | **511.00** | 43.0 |
| 1 | 2 | 115/230 | 14.8/7.4 | 1/4 | 17 5/8 | 12 1/4 | 8 15/16 | 4.70 | 4.20 | 4.00 | 3.20 | 6HCA-10-M616X | **4Z706** | 668.10 | **617.50** | 62.0 |
| 1 1/2 | 4 | 115/208/230 | 21.6/12.0/10.8 | 3/8 | 20 3/4 | 12 1/16 | 8 1/2 | 7.90 | 6.90 | 6.50 | 5.00 | 7HDD-10-M750X | **4Z460** | 1096.50 | **1010.00** | 77.0 |
| 2 | 4 | 230 | 12.0 | 3/8 | 21 1/2 | 12 1/4 | 8 1/2 | 9.90 | 9.00 | 8.50 | 7.00 | 8HDM-10-M850X | **4Z707** | 1391.28 | **1266.00** | 85.0 |

## PISTON COMPRESSOR/VACUUM PUMP

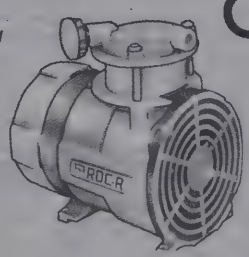
- **Pressure to 100 PSI**
- **Vacuum to 27" Hg**
- **Durable Teflon cups**
- **Bonded piston rod and bearing assembly**
- **Hard coated aluminum cylinder**

**Oil-less compressor/vacuum pump** combines diaphragm pump quietness and durability with piston pump performance. Used for continuous duty applications in laboratories, and food industry where oil-mist contamination is undesirable.

**Sound level** is 63 dbA at 60 PSI. Has shaded pole motor with automatic thermal protection and 6-ft., 3-wire cord and plug assembly. UL Recognized (E62533). CSA Certified (LR37697). Gray finish.

GAST
A UNIT OF IDEX CORPORATION
IDEX CORPORATION
ROC-R®

LR37697 E62533




Made in U.S.A.

• Registered to ISO 9001

Replacement Parts Available
1-800-323-0620

### COMPRESSOR / VACUUM PUMP SPECIFICATIONS AND ORDERING DATA

| HP | Volts 60 Hz | Amp Draw | Dimensions (In.) L | W | H | Free Air CFM @ Vacuum (Hg") 5 | 10 | 15 | 20 | 25 | Free Air CFM @ Pressure (PSI) 20 | 40 | 60 | 80 | 100 | Gast Equivalent | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 115 | 4.2 | 5 | 5 | 7 | 0.65 | 0.50 | 0.47 | 0.28 | 0.06 | 0.56 | 0.43 | 0.33 | 0.25 | 0.18 | ROA P101 AA | **5Z669** | $216.24 | **$200.00** | 12.0 |



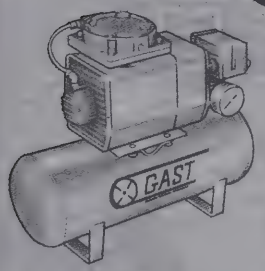
*Dedicated operations or on the job site — these compressors pack the power.*

# OIL-LESS COMPRESSED AIR SYSTEMS

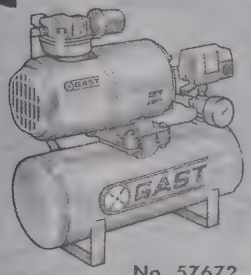
CE

GAST
A UNIT OF IDEX CORPORATION
IDEX CORPORATION

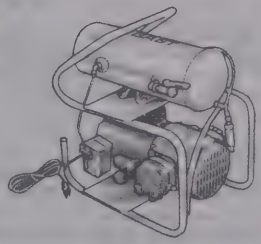
E62533 for 5Z671
E75450 for others except No. 5Z676

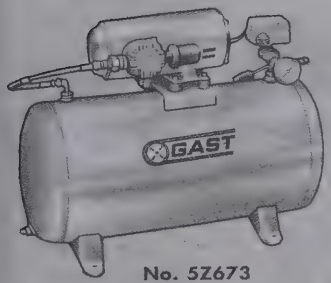


No. 5Z671



No. 5Z672

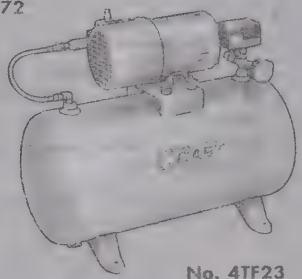

No. 5Z674

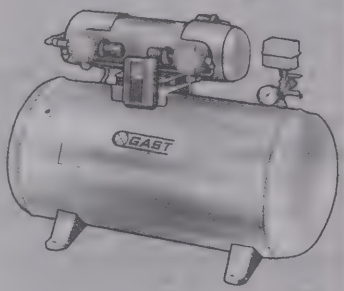


No. 5Z673

Made in USA

New


No. 4TF23



No. 5Z676

Replacement Parts Available
1-800-323-0620

**High Volumes.** If the application requires an instantaneous blast of high pressure, then the reservoir provided by a tank system is essential. Even the largest pumps have to start at atmospheric pressure and therefore will not be able to provide an instantaneous blast pressure.

**Longer Pump Life.** A tank system makes it possible to install two pumps on one tank. Adding a pressure switch and alternator control to run the pump(s) only when needed lets pumps cool down and rest between cycles, prolonging operating life.

**Cost Savings.** A tank system can reduce initial, maintenance, and replacement costs, depending on application.

**Quiet Operation.** In a tank system the pump runs on demand, so it is not operating part of the time. When it is not operating, there is no operating noise.

**Pulse-Free.** Pulse-free air is required by many pneumatic systems for proper operation of components. A tank dampens pulsation from the reciprocating compressor.

**Central System.** Small industrial shops where different tools are required at different times find tank systems particularly useful, since one tank system can supply air to multiple locations.

## 1/8 & 1/6 HP COMPRESSORS

- **Used for beverage dispensing, laboratories, portable displays, commercial door actuation, and for portable off-site use**
- **Include pressure switch, manual drain, pressure safety valve (ASME), pressure gauge, and globe valve**

## 1/3 TO 1½ HP COMPRESSORS

- **Applications include cylinder actuation, pneumatic temperature control, photo processing, spray painting, pneumatic logic, small to medium shops, and auto service stations**
- **Include: ASME coded tank, pressure switch, manual drain, pressure safety valve (ASME), pressure gauge, and globe valve**
- **No. 5Z676 has magnetic starter**

**Tank systems are best suited** for situations that require pulse free air on demand. While the tank stores air for later use, it dampens the pulsations generated by a reciprocating compressor.

**All models** incorporate either a Gast diaphragm or piston compressor pump (listed on page 2859 & 2860). Pressure switch unloading: 70 PSI-On/90 PSI-Off. No. 5Z671 has 30 PSI-On/50 PSI-Off. Gray finish.

## TANK-MOUNTED COMPRESSOR SPECIFICATIONS AND ORDERING DATA

| HP | Volts 60 Hz | Amp Draw | (F)NPT Outlet (In.) | Tank Gal. | Tank ASME Code | Compressor Pump | Free Air CFM @ PSI 70 | Free Air CFM @ PSI 90 | Dimensions (In.) L | W | H | Gast Equivalent | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/8** | 115 | 4.2 | 1/4 | 2 | No | 2Z867 | 0.50 | 0.40 | 18 | 8 | 15 | DOA-P106T-AA | **5Z671** | $561.00 | **$484.50** | 39.0 |
| **1/6** | 115 | 4.3 | 1/4 | 2 | No | 1TF24 | 1.50 | 1.30 | 18 | 8 | 17 | 1HAB-11T-M100X | **5Z672** | 595.68 | **514.50** | 49.0 |
| **1/3** | 115 | 7.2 | 1/4 | 12 | Yes | 2Z868 | 1.30 | 1.20 | 26 | 13 | 24 | 3HEB-11T-M315X | ***New*4TF23** | 797.91 | **700.00** | 78.0 |
| **1/3** | 115 | 8.2 | 1/4 | 12 | Yes | 2Z870 | 2.40 | 2.00 | 26 | 14 | 23 | 3HHB-11T-M300X | **5Z673** | 828.24 | **715.00** | 93.0 |
| **3/4** | 115/230 | 14.0/7.0 | 1/4 | 2 | No | 2Z870 | 2.40 | 2.00 | 18 | 13 | 22 | 5HCD-78-M550X | **5Z674** | 955.74 | **840.00** | 60.0 |
| **3/4** | 115/230* | 14.0/7.0 | 1/4 | 20 | Yes | 2Z870 | 2.40 | 2.00 | 33 | 16 | 35 | 5HCD-11TA-M550X | **5Z675** | 1077.12 | **929.50** | 121.0 |
| **1½** | 230 | 10.8 | 3/8 | 30 | Yes | 4Z460 | 5.75 | 5.25 | 38 | 17 | 29 | 7HDD-11TA-M750X | **5Z676** | 2247.88 | **1932.00** | 155.0 |

(*) Factory wired for 230V, may be converted to 115V. (†) CSA Certified (LR37697).

# OIL-LESS AIR COMPRESSORS

## LIGHT-DUTY OIL-LESS AIR COMPRESSORS

**Oil-free Air Compressors** are simple and reliable. Ideal for home shop use. Oil-less air compressors are light weight, start easily in cold temperatures, can operate at any angle, and are virtually maintenance free. All models on this page are UL/CUL Listed.

**No. 3JR69**

- Tankless design with built in regulator.
- Maximum pressure: 125 PSI
- Unit weighs only 12 lbs.
- 115 volt universal motor starts easily under low voltage conditions
- Includes 25' air hose and tire chuck

**No. 3JR70**

- 2.5 gallon hotdog style tank
- Unit weighs only 25 lbs.
- 115 volt universal motor for improved start under low voltage conditions

**No. 3JR71**

- 20 gallon horizontal portable tank for optimum mobility
- 5 HP NEMA rated motor operates on 120/230V standard household electric current
- Includes regulator, gauges, 1/4" (M)NPT outlets, and ASME safety valve

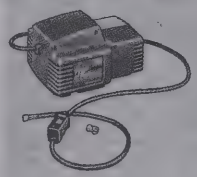
**No. 4UP72**

- Vertical/Portable tank design saves floor space and maintains portability
- 5 HP NEMA rated motor operates on 120V standard household electric current
- Includes regulator, gauges, 1/4" (M)NPT outlets, and ASME safety valve

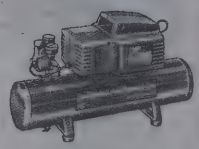
**No. 3JR72**

- 30 gallon ASME code tank
- Twin cylinder, V-block, oil free design for high air flow and smooth operation
- 6HP NEMA motor operates on 240V current
- Includes regulator, gauges, 1/4" (M)NPT outlet, and ASME safety valve

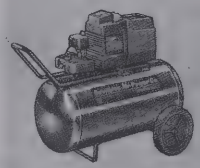


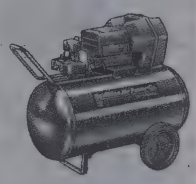
No. 3JR69



No. 3JR70



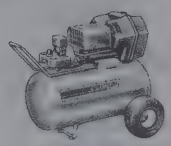
No. 3JR71



No. 3JR72



4UP72



4UP73

New



4UP74

SPEEDAIRE®

Replacement Parts Available
1-800-323-0620

## HEAVY-DUTY OIL-LESS SPEEDAIRE AIR COMPRESSORS

Speedaire heavy-duty oil-less air compressors offer long life, quiet operation, high air flow, and low maintenance.

- 1725 pump RPM for cooler temperatures and longer life
- 2-cylinder, V-block, oil-free design for higher output and smooth operation
- 135 psi maximum/110 psi restart provides greater air supply for extended operation of air tools
- Rated for 65/35 higher-than-standard duty cycle
- 20-gallon ASME code tank
- 3.5 HP NEMA rated motor is equipped with automatic thermal overload protection which prevents motor damage
- Stainless steel valves, anodized cylinder coatings, Teflon piston ring, and large ball bearings ensure reliability
- Includes regulator, gauges, 1/4" (M)NPT outlets and ASME safety valve

**No. 4UP73**

- 10 X 3" pneumatic wheels for improved manueverability on uneven surfaces

**No. 4UP74**

- Vertical/Portable tank design saves floor space and maintains portability

### LIGHT-DUTY OIL-LESS AIR COMPRESSORS

| Peak/ Developed HP** | Running Motor HP** | Free Air CFM @ PSI 90 | 125 | Tank Gal. | Tank Type | Volts, 60 Hz | Amp Draw | Max. PSI | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .65 | 2.1 | 1.8 | — | — | 120 | 9.1 | 125 | 15.4 | 11 | 16.75 | 3JR69 | $130.00 | $109.00▲ | 15.0 |
| 1 | .70 | 2.1 | 1.8 | 2.5 | Hotdog | 120 | 9.5 | 125 | 23.5 | 11 | 18 | 3JR70 | 215.00 | 179.00▲ | 32.0 |
| 5 | 1.75 | 5.0 | 3.7 | 20 | Horiz./Port. | 120/230 | 15.0 | 125 | 34.25 | 16.5 | 31.5 | 3JR71 | 335.00 | 279.00▲ | 103.0 |
| 5 | 1.75 | 5.0 | 3.7 | 20 | Vert./Port. | 120 | 15.0 | 125 | 22.5 | 22.5 | 45.5 | New4UP72 | 485.00 | 325.00▲ | 125.0 |
| 6 | 3.0 | 9.8 | 8.7 | 30 | Horiz./Port. | 240 | 14.3 | 125 | 38.5 | 17.5 | 35.5 | 3JR72 | 450.00 | 379.00▲ | 142.0 |

### HEAVY-DUTY OIL-LESS AIR COMPRESSORS

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.5 | 1.8 | 6.1 | 4.6 | 20 | Horiz./Port. | 120 | 15.0 | 135 | 35.75 | 18.7 | 32.35 | New4UP73 | 485.00 | 375.00▲ | 135.0 |
| 3.5 | 1.8 | 6.1 | 4.6 | 20 | Vert./Port. | 120 | 15.0 | 135 | 22.5 | 22.5 | 45.5 | New4UP74 | 500.00 | 375.00▲ | 125.0 |

(▲) Net prices, not subject to discounts. (**) For specific HP rating explanation, see page 2849.

# CONTRACTOR AIR COMPRESSORS

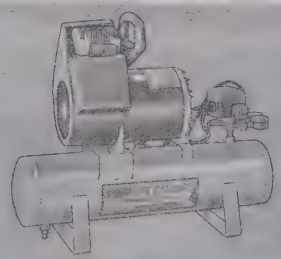
**SPEEDAIRE®**

**Speedaire direct-drive, oil-less air** compressors are designed to provide power, durability, and portability for job site needs.

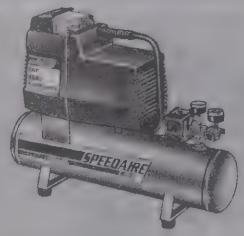
- **Permanently lubricated/oil-less design allows units to operate at virtually any angle; no oil to spill or starve pick-up**
- **Lightweight and compact for easy carrying, pulling, or maneuvering**
- **Direct drive design eliminates belts and pulleys as well as messy oil refills or spills**
- **Durable, metal housed 4-port regulator and gauge with auto pressure setting**
- **50/50 duty cycle**
- **6 Foot power cord**
- **1/4" (F)NPT outlet**

**Speedaire Model 4B222** belt-driven, oil lubricated air compressor is ideal for commercial and residential construction; operates nailers and pneumatic tools.

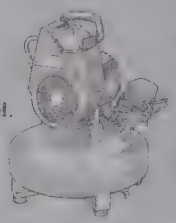
- **Cast-iron, two cylinder air compressor pump offers greater durability and longer life**
- **Belt drive design provides smooth, quieter operation**
- **Low center of gravity wheelbarrow design for easy job site maneuvering**
- **Metal wire beltguard for safe operation**
- **50/50 Duty cycle**
- **6 Foot power cord**
- **1/4" (F)NPT outlet**



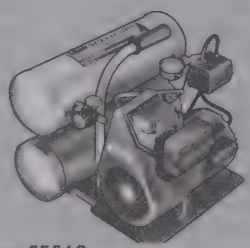
No. 5F237
1 HP, 3 Gal.



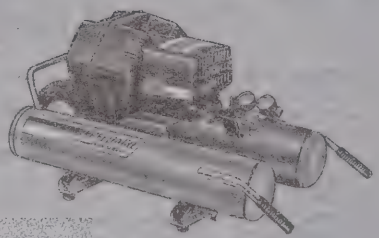

No. 5Z598
1 HP, 3 Gal.



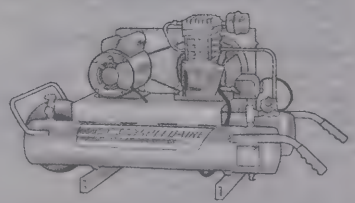
No. 5F222
1½ HP, 4 Gal.



No. 5F562
2 HP, 4 Gal.



No. 5Z599
2 HP, 8 Gal.



No. 4B222
2 HP, 8 Gal.

45245 except No. 5Z599

E87107

Made in U.S.A.

Replacement Parts Available
1-800-323-0620

Installation & Service Available at Most Locations

## MINIMUM GAUGE FOR WIRING AND EXTENSION CORDS*

| Amp Rating Range | Length of Wire in Feet for 120V / 240V 25 / 50 | 50 / 100 |
|---|---|---|
| 8-10 | 14 ga. | 10 ga. |
| 10-12 | 12 | 10 |
| 12-14 | 12 | N/A |
| 14-16 | 12 | N/A |

(*) USE AIR HOSE WHEREVER POSSIBLE.
Caution: Very long extension cords can cause excessive amp draw, leading to non-starts and premature motor failure. Use longer air hose instead.

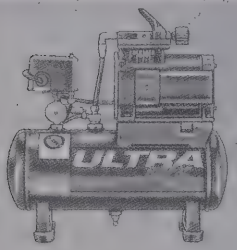
## CONTRACTOR AIR COMPRESSOR ORDERING DATA

| Peak/ Developed HP** | Running Motor HP** | Free Air CFM @ PSI 90 | 125 | Tank Gal. | Tank Type | Volts, 60 Hz | Amp Draw | Max. PSI | Rated Pump Life† (Hrs.) | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .71 | 2.0 | 1.7 | 3 | Hotdog | 115 | 10 | 125 | 2500 | 28 | 14⅝ | 21⅛ | 5F237 | $255.00 | $199.00▲ | 50.0 |
| 1 | .68 | 3.0 | 2.5 | 3 | Hotdog | 115 | 11 | 125 | 1500 | 28 | 10 | 20 | 5Z598 | 309.00 | 239.00▲ | 45.0 |
| 1 | .68 | 3.0 | 2.5 | 3 | Hotdog | 115 | 10 | 125 | 3000 | 16 | 16 | 20¼ | 5F222 | 360.50 | 270.50▲ | 49.0 |
| 1½ | .90 | 3.1 | 2.4 | 4 | Pancake* | 115 | 14 | 125 | 1000 | 19 | 15½ | 17 | 5F562 | 393.50 | 295.00▲ | 65.0 |
| 2 | 1.60 | 4.3 | 3.4 | 4 | Stack | 115 | 15 | 125 | 2000 | 42 | 18 | 19 | 5Z599 | 499.00 | 379.00▲ | 100.0 |
| 2 | 1.80 | 6.1 | 4.6 | 8 | Twin | 115 | 15 | 125 | 3900 | 48 | 24⅛ | 24⅛ | 4B222 | 623.75 | 499.00▲ | 157.0 |
| 2 | 1.80 | 5.7 | 4.9 | 8 | Twin | 115/230 | 15/7.5 | 125 | | | | | | | | |

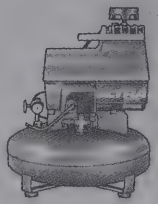
(**) For specific HP rating explanations, see page 2849. Individual life will vary depending on duty cycle, ambient temperature, air intake quality, and manufacturing part tolerances. (†) As rated by the standard B-10 bearing life of the pump, see page 2849 for B-10 rating explanation. (*) Check state and local codes, not for sale in Mass. (▲) Net prices, not subject to discounts.

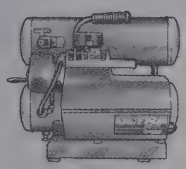
# CONTRACTOR AIR COMPRESSORS AND PORTABLE TANK DOLLY

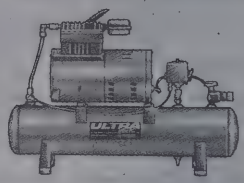
## THOMAS ULTRA AIR-PAC® CONTRACTOR AIR COMPRESSORS



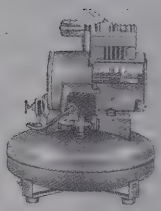
No. 5Z683

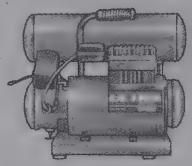

No. 5Z406

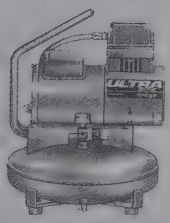

No. 5Z594



No. 6B515

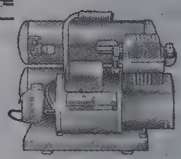

No. 3Z888


No. 5Z595



No. 6B518

ULTRA AIR-PAC


No. 5F252

Replacement Parts Available
1-800-323-0620

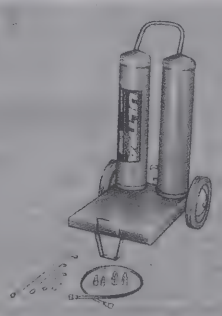
- Air-Pac® compressors are designed for contractors, are lightweight, come with a sturdy handle, and have a low center of gravity for exceptional stability
- PERMA-LUBE DESIGN provides low maintenance and long life
- N-CLINE DESIGN allows any angle operation
- CIRCUIT SAVER—units draw less than 15 amps, helping to prevent breaker trips
- COLD WEATHER STARTS—units start and run in all types of weather
- EXTENSION CORD-OK—units can be operated on extension cords (Maximum recommended lengths: 14 ga., 50 ft.; 12 ga., 100 ft.; 10 ga., 150 ft.)
- Heavy-Duty aluminum compressor components provide long life and eliminate unnecessary weight
- All units include regulator, tank, and outlet pressure gauge (except No. 5Z683)
- All compressors incorporate a high efficiency, thermally protected induction motor
- Balanced eccentrics provide smooth, low vibration operation and reduce noise level
- UL Listed pressure switch turns unit On at 100 PSI and Off at 125 PSI
- 140 PSI ASME safety valve
- Solid brass fittings
- User-friendly tank drain
- Black/red finish

| HP | Volts, 60 Hz | Amp @ 115V, 60 Hz | Tank Gallons | Tank Type | (F)NPT Outlet (In.) | Compressor Type | CFM @ 100 PSI | CFM @ 125 PSI | Dimensions (In.) L | W | H | Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 115 | 4.2 | 2.0 | Hot Dog | 1/4 | Oil-less | 0.90 | 0.70 | 16.5 | 8.0 | 16.0 | T-617HD | **5Z683**†‡ | $348.86 | **$277.25▲** | 29.0 |
| 3/4 | 115 | 11.4 | 4.5 | Pancake | 1/4 | Oil-less | 2.10 | 1.85 | 16.0 | 16.0 | 20.0 | T-20HP | **5Z406**†‡ | 392.30 | **312.00▲** | 51.0 |
| 3/4 | 115 | 11.4 | 4.0 | Stack | 1/4 | Oil-less | 2.10 | 1.85 | 19.0 | 15.5 | 16.5 | T-20ST | **5Z594***# | 401.03 | **316.25▲** | 53.0 |
| 1 | 115 | 10.0 | 3.0 | Hot Dog | 1/4 | Oil-less | 2.50 | 2.25 | 27.0 | 9.0 | 19.3 | T-35HD | **6B515***† | 404.00 | **311.25▲** | 45.0 |
| 1¼ | 115 | 12.0 | 4.5 | Pancake | 1/4 | Oil-less | 2.75 | 2.50 | 16.0 | 16.0 | 20.0 | T-30HP | **3Z888***† | 499.49 | **371.00▲** | 60.0 |
| 1¼ | 115 | 12.0 | 4.0 | Stack | 1/4 | Oil-less | 2.75 | 2.50 | 19.0 | 15.5 | 16.5 | T-30ST | **5Z595***† | 497.34 | **376.25▲** | 59.0 |
| 2 | 115 | 12.5 | 4.5 | Pancake | 1/4 | Oil-less | 4.85 | 4.10 | 16.0 | 16.0 | 22.0 | T-150HP | **6B518***# | 508.00 | **390.50▲** | 73.0 |
| 2 | 115 | 12.5 | 4.0 | Stack | 1/4 | Oil-less | 4.85 | 4.10 | 20.0 | 15.5 | 21.0 | T-150ST | **5F252***# | 517.72 | **386.50▲** | 68.0 |

(*) UL Listed. (†) CSA Certified. (‡) CSA/NRTL Certified. (#) CUL Listed. (▲) Net prices, not subject to discounts.

## PORTABLE TANK DOLLY

- Provides 6 gallons of additional high-pressure air storage
- Compact design consumes a small amount of space
- Sturdy two wheel dolly with wide rubber wheels increases maneuverability
- Accepts all Thomas brand pancake, wide-tank and stack-tank models
- Versatile design permits mounting of a variety of compressors
- Includes storage for hoses and cords
- Easy and fast assembly



THOMAS COMPRESSORS & VACUUM PUMPS

ULTRA AIR-PAC

**No. 5Z685.** Shpg. wt. 70.0 lbs. List $210.00. Each..... **$208.00▲**

(▲) Net prices, not subject to discounts.



*Dedicated operations or on the job site — these compressors pack the power.*

# CONTRACTOR AIR COMPRESSORS

## THOMAS ULTRA AIR-PAC CONTRACTOR COMPRESSORS

**Air-Pac electric compressors are designed for contractors, are lightweight, come with a sturdy handle, and have a low center of gravity for exceptional stability**

### ELECTRIC POWERED AIR COMPRESSORS

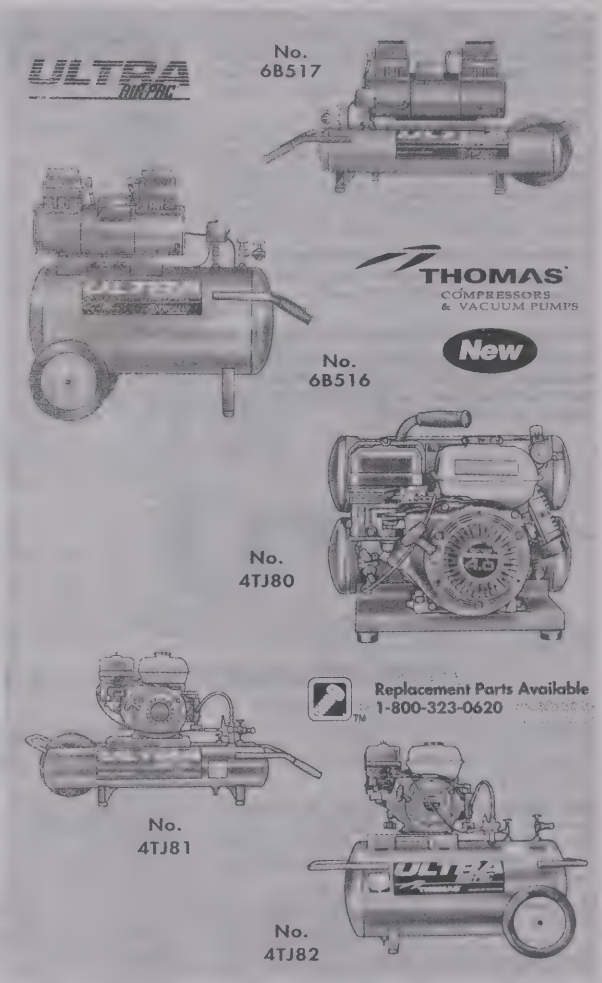
- PERMA-LUBE DESIGN provides low maintenance and long life
- N-CLINE DESIGN allows any angle operation
- COLD WEATHER STARTS-units start and run in all types of weather
- EXTENSION CORDS-OK-units can be operated on extension cords (Maximum recommended lengths: 14 ga., 50 ft.; 12 ga., 100 ft.; 10 ga., 150 ft.)
- Heavy-duty aluminum compressor components provide long life and eliminate unnecessary weight
- Balanced eccentrics provide smooth operation and reduce noise level
- High efficiency, thermally protected induction motor
- UL Listed pressure switch turns unit On at 100 PSI, Off at 125 PSI
- 140 PSI safety valve
- Wheelbarrow and barrel tank configurations provide easy maneuverability and large capacity high-pressure air storage
- All units include regulator, tank and outlet pressure gauge
- Solid brass fittings
- User friendly tank drain
- Black/red finish

### GAS-POWERED AIR COMPRESSORS

- PERMA-LUBE DESIGN provides low maintenance, long life
- Integral compressor / engine design—no belts, pulleys, or guards to get damaged or replace
- Balanced eccentrics and integral mounting provide optimum balance for smooth operation
- High output compressors allow multiple tool operation
- Lightweight compact design allows easier movement on site and is less vulnerable to damage
- All units include regulator, tank, and outlet pressure gauge
- Automatic continuous run unloader valve—Unloads at 135 psi —Loads at 115 psi
- 4.0 HP has single cylinder compressor
- 5.5 HP units have twin cylinder compressor
- Solid brass fittings
- User friendly tank drain
- Black/red finish

### HONDA ENGINE COMPRESSOR

- High performance overhead valve design for added power and high efficiency
- Cast iron cylinder sleeve extends engine life
- Low oil shut down
- Large gas tank for increased fuel capacity and longer run time
- Electronic ignition
- Heavy-duty bearings
- Large muffler for quiet operation
- Easy start operation
- Two-Stage air cleaner
- Fuel shut-off valve
- Two-year engine warranty




| HP | Volts, 60 Hz | Amp @ 115V, 60 Hz | Tank Gal. | Tank Type | (F)NPT Outlet (In.) | CFM @ 100 PSI | CFM @ 125 PSI | Dimensions (In.) L | W | H | Thomas Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ELECTRIC-POWERED AIR COMPRESSORS** | | | | | | | | | | | | | | | |
| **2.5** | 115 | 17.0 | 7 | Twin | 1/4 | 6.4 | 5.0 | 43.0 | 16.0 | 24.0 | T-2150 | **6B517** | $709.00 | **$588.00▲** | 99.0 |
| **2.5** | 115 | 17.0 | 18† | Barrel | 1/4 | 6.4 | 5.0 | 36.5 | 19.0 | 32.0 | T-2150BT | **6B516** | 733.00 | **611.50▲** | 109.0 |
| **GASOLINE-POWERED AIR COMPRESSORS** | | | | | | | | | | | | | | | |
| **4.0** | Honda | | 4 | Stack | 1/4 | 4.5 | 4.3 | 19.0 | 15.0 | 18.0 | TG-175HS | ***New*4TJ80** | 949.00 | **787.00▲** | 75.0 |
| **5.5** | Honda | | 7 | Twin | 1/4 | 8.6 | 8.2 | 44.0 | 18.0 | 28.0 | TG-275H | ***New*4TJ81** | 1099.00 | **925.00▲** | 100.0 |
| **5.5** | Honda | | 18 | Barrel | 1/4 | 8.6 | 8.2 | 39.0 | 18.0 | 31.0 | TG-275HB | ***New*4TJ82** | 1179.00 | **965.00▲** | 120.0 |

(†) Check local and state codes before using this tank.(▲) Net prices, not subject to discounts

# PORTABLE AIR COMPRESSORS

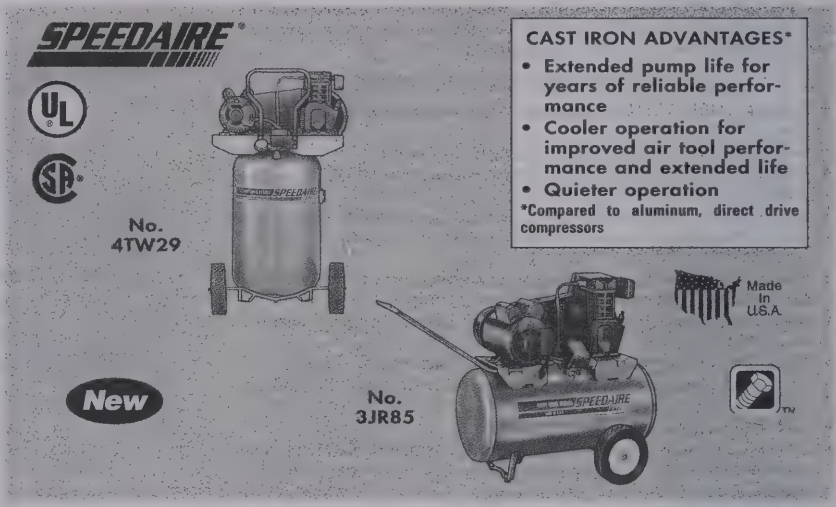
## VALUE PRICED CAST IRON AIR COMPRESSORS

**Portable Air Compressors** are designed to deliver solid, reliable performance for medium duty applications. Featuring a belt driven, cast iron pump, it is quieter and delivers more air than comparable oilless, direct drive compressors.

Cast iron, oil lubricated, single cylinder compressor pump. No. 3JR85 has 13 gallon horizontal ASME Code tank. No. 4TW29 has a 20 gallon vertical ASME Code tank. Rated for 50/50 duty cycle. Pressure switch set for 95 PSI On and 125 PSI Off

- **Includes pressure regulator and gauges, 6 foot power cord, tank drain, and 1/4 (F)NPT outlet**

**USE AIR HOSE WHEREVER POSSIBLE. Caution: Extension cords can cause excessive amp draw, leading to non-starts and premature motor failure. Use longer air hose instead.**




| Peak/ Developed HP* | Running Motor HP* | Free Air CFM @ PSI 90 | 125 | Tank Size (Gal.) | Volts 60 Hz. | Amp Draw 115/230 | Max PSI | RPM | Rated Pump Life† (Hrs.) | Pump Stock No.** | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 1.7 | 5.5 | 4.9 | 13 | 115/230 | 15/7.5 | 125 | 1280 | 3000 | 3JR84 | 28 | 17¾ | 26½ | **3JR85** | $389.00 | **$329.00** | ▲ 110.0 |
| 5 | 1.7 | 5.7 | 5.0 | 20 | 115 | 15 | 125 | 1280 | 3000 | 3JR84 | 31 | 21 | 38 | ***New*4TW29** | 445.00 | **345.00** | ▲ 180.0 |

For specific HP rating explanation, see page 2849. (†) As rated by the standard B-10 bearing life of the pump; see page 2849 for B-10 rating explanation. (**) See page 2884 for complete pump specifications. Note: Compressors are shipped without oil, 6 oz. required. Compressor oil 4ZF21 is recommended. (▲) Net prices, not subject to discounts.

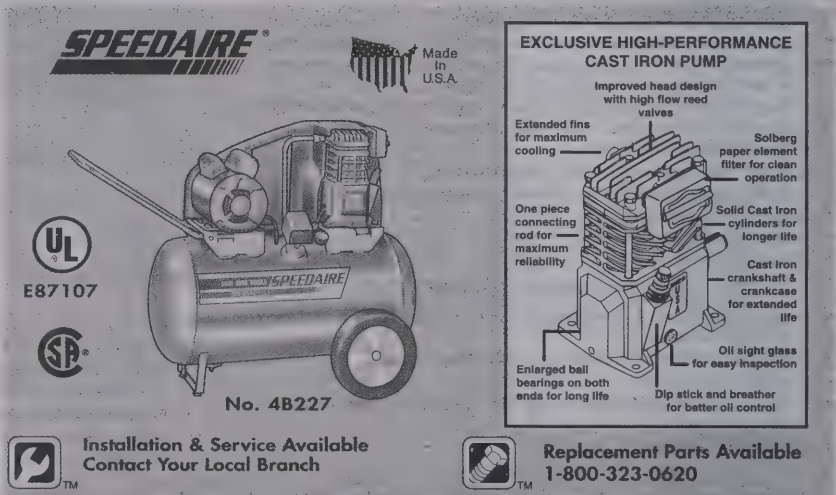
## HIGH PERFORMANCE CAST IRON AIR COMPRESSORS

**Speedaire High Performance Portable Air Compressors** deliver outstanding performance for heavy duty applications. They feature the exclusive High Performance Cast Iron Pump.

**High Performance Advantages.** Superior air flow. Longer pump life. Higher pressure—135 PSI maximum. Higher Duty Cycle—rated for 65/35 duty cycle vs. industry standard of 50/50.

**All Models Include:** High Performance, Cast Iron, oil lubricated, two cylinder compressor pump. 20 Gallon ASME Code tank Commercial grade pressure switch, regulator and gauge, and 1/4 (F)NPT outlet. Pressure switch set for 95 PSI On and 135 PSI Off. Belt drive design for quiet operation.6 foot power cord.

**USE AIR HOSE WHEREVER POSSIBLE. Caution: Extension cords can cause excessive amp draw, leading to non-starts and premature motor failure. Use longer air hose instead.**




| Peak/ Developed HP* | Running Motor HP* | Free Air CFM @ PSI 90 | 135 | Tank Size (Gal.) | Volts 60 Hz | Amp Draw 115/230 | Max PSI | RPM | Rated Pump Life† (Hrs.) | Pump Stock No.** | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2½ | 1.7 | 5.5 | 4.2 | 20 | 115/230 | 15/7.5 | 135 | 750 | 3600 | 4B246 | 33 | 19⅝ | 31 | **4B229** | $453.75 | **$359.00▲** | 146.0 |
| 5 | 1.8 | 5.7 | 4.9 | 20 | 115/230 | 15/7.5 | 135 | 930 | 4000 | 4B246 | 33 | 19⅝ | 31 | **4B227** | 467.75 | **399.00▲** | 148.0 |
| 6 | 3.1 | 10.3 | 9.1 | 20 | 230 | 15 | 135 | 1030 | 4000 | 4B247 | 33 | 19⅝ | 31 | **4B228** | 505.25 | **429.00▲** | 138.0 |

(*) For specific HP rating explanation, see page 2849. (†) As rated by the standard B-10 bearing life of the pump; see page 2849 for B-10 rating explanation.
(**) See page 2884 pump specifications. Note: Compressors are shipped without oil. All models require 16 oz. Compressor oil No. 4ZF21 is recommended.
(▲) Net prices, not subject to discounts.

# GASOLINE ENGINE DRIVEN CONTRACTOR AIR COMPRESSORS

SPEEDAIRE®

**Speedaire gasoline engine powered contractor** air compressors provide compressed air for contractor job sites or any location where electric power is not available.

### ALL MODELS INCLUDE

- **Low center of gravity design for stability and maneuverability**
- **Automatic throttle control that idles engine when pump is unloading**
- **Manual unloader valve for loadless starts and reduced stress on engine**

### No. 4B224 FEATURES

- **Cast iron, oil lubricated, two cylinder, single stage air compressor pump**
- **Briggs & Stratton 5 HP four cycle, aluminum block engine with easy recoil start and 3 qt. gas tank**

### No. 4B225 FEATURES

- **Cast iron, oil lubricated, two cylinder, single stage air compressor pump**
- **Honda 5.5 HP four cycle engine with aluminum block, overhead valves, low oil shutdown protection, easy recoil start and 3.8 qt. gas tank**

### No. 3JR79 FEATURES

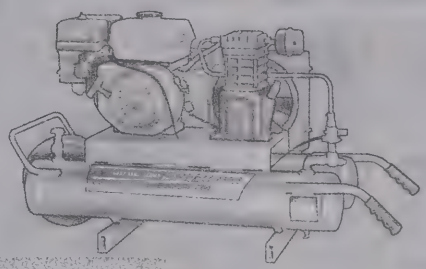
- **Cast iron, oil lubricated, four cylinder, single stage air compressor pump**
- **8HP Briggs & Stratton Industrial Plus engine with 6 qt. fuel tank and Oil Gard® low oil shutdown**

### No. 5F219 FEATURES

- **Two stage, V-style cast iron air compressor pump**
- **Honda 8 HP four cycle engine with aluminum block, overhead valves, low oil shutdown protection, easy recoil start and 6.4 qt. gas tank**

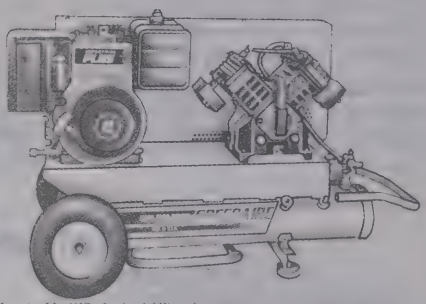
### OIL CAPACITY CHART

| Compressor Stock No. | Compressor Pump Cap. (Oz.) | Compressor Oil Stock No. | Engine Oil Cap. (Oz.) | Engine Oil Stock No. |
|---|---|---|---|---|
| 4B224 | 16 | 4ZF21 | 21 | 4ZF20 |
| 4B225 | 16 | 4ZF21 | 21 | 4ZF20 |
| 3JR79 | 45 | 4ZF21 | 44 | 4ZF20 |
| 5F219 | 42 | 4ZF21 | 37 | 4ZF20 |

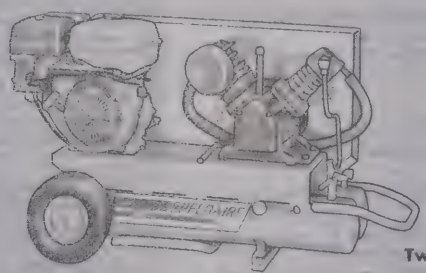


Made In U.S.A.

**No. 4B225**
**5 ½ HP Honda,**
**Single Stage, 8 Gallon**



**No. 3JR79**
**8 HP Briggs & Stratton**
**Single Stage, 8 Gallon**



**No. 5F219**
**8 HP Honda**
**Two Stage, 8 Gallon**

**Installation & Service Available**
**Contact Your Local Branch**

**Replacement Parts Available**
**1-800-323-0620**

## AIR COMPRESSOR ORDERING DATA AND SPECIFICATIONS

| Engine HP | Free Air CFM @ PSI 90 | Free Air CFM @ PSI Max. | Max. PSI | Tank Gallons/Type | (F) NPT Outlet (In.) | Engine Brand | Pump Stock No.* | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 9.0 | 8.5 | 125 | 8/Twin | 3/8 | Briggs | 4B245 | 48 | 24½ | 24½ | **4B224** | $675.00 | **$569.00▲** | 163.0 |
| **5½** | 9.0 | 8.5 | 125 | 8/Twin | 3/8 | Honda | 4B245 | 48 | 24½ | 24½ | **4B225** | 873.75 | **749.00▲** | 163.0 |
| **8** | 16.7 | 15.0 | 125 | 8/Twin | 1/2 | Briggs | 4KP89 | 42 | 19 | 25 | **3JR79** | 1499.00 | **1199.00▲** | 260.0 |
| **8** | 13.5 | 12.8 | 175 | 8/Twin | 1/2 | Honda | 5Z641 | 45 | 19½ | 25 | **5F219** | 1999.00 | **1550.00▲** | 250.0 |

(*) See pages 2884 and 2886 for complete pump specifications. (▲) Net prices, not subject to discounts. Note: Compressors are shipped without oil.

**ENERGY SAVING PRODUCTS FOR HOME, FARM, AND INDUSTRY**

Including blowers, fans, furnaces, heaters, lighting, motors, controls, thermostats, water heaters, and other items. See Index under Energy Saving Products.

# GASOLINE ENGINE-DRIVEN SINGLE-STAGE AIR COMPRESSORS

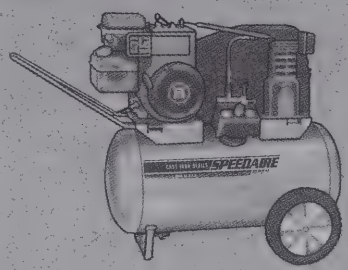
## PORTABLE AIR COMPRESSORS

**Gas powered, portable compressors** provide compressed air for remote areas or locations where electric power is not available such as job sites, farms, and rural environments.

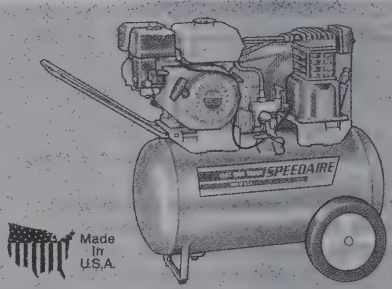
### FEATURES

- Cast iron, two cylinder air compressor pump
- 20 Gallon ASME Code tank
- 50/50 maximum duty cycle at full throttle
- Automatic throttle control idles engine when pump is unloading, set to load at 95 PSI and unload at 110 PSI
- Model 4B220 has Briggs & Stratton 5 HP four cycle aluminum block engine with easy recoil start and 3 qt. gas tank
- Model 4B241 has Honda 5.5 HP four cycle engine with aluminum block, overhead valves, low oil shutdown protection, easy recoil start and 3.8 qt. gas tank

SPEEDAIRE®



No. 4B220
5 HP Briggs & Stratton,
20 Gal. ASME Tank



Made in U.S.A.

No. 4B241
5½ HP Honda,
20 Gal. ASME Tank

Installation & Service Available
Contact Your Local Branch™

Replacement Parts Available
1-800-323-0620™

## STATIONARY AIR COMPRESSORS

### No. 4B239

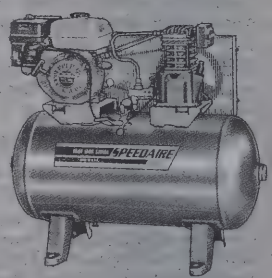
- Two cylinder, cast iron compressor pump, 1 year pump warranty
- 30 gallon ASME Code tank includes safety valve, tank drain, and pressure gauge
- 5½ HP Honda engine with overhead valves and low oil shutdown protection and easy recoil start
- Constant speed control set to load at 95 PSI and unload at 110 PSI

### No. 3JR78

- Four cylinder, cast iron V-style compressor pump, 1 year pump warranty
- 30 gallon ASME Code tank includes safety valve, tank drain, and pressure gauge
- 8 HP Briggs & Stratton industrial plus engine with 6 qt. fuel tank and Oil Gard® low oil shutdown
- Pilot valve control automatically idles engine at 125 PSI, resumes full throttle at 105 PSI

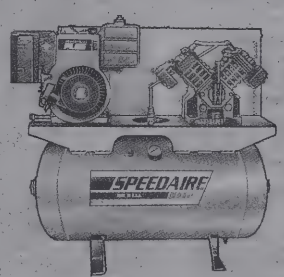
- Fleet or field service applications, truckbed mounting design
- Compressed air power for emergency production line needs
- Reserve air capacity for remote site pneumatic needs

SPEEDAIRE®



No. 4B239
5½ HP Honda,
30 Gal. ASME Tank

Made in U.S.A.



No. 3JR78
8 HP Briggs & Stratton,
30 Gal. ASME Tank

Replacement Parts Available
1-800-323-0620™

### OIL CAPACITY CHART

| Compressor Stock No. | Compressor Pump Capacity (Oz.) | Compressor Oil Stock No. | Engine Oil Capacity (Oz.) | Engine Oil Stock No. |
|---|---|---|---|---|
| 4B220 | 16 | 4ZF21 | 21 | 4ZF20 |
| 4B241 | 16 | 4ZF21 | 21 | 4ZF20 |
| 4B239 | 16 | 4ZF21 | 21 | 4ZF20 |
| 3JR78 | 45 | 4ZF21 | 44 | 4ZF20 |

### PORTABLE AND STATIONARY AIR COMPRESSOR ORDERING DATA AND SPECIFICATIONS

| Engine HP | Engine Brand | Free Air CFM @ PSI 90 | Free Air CFM @ PSI Max. | (F) NPT Outlet (In.) | Tank Gal. | Tank Type | Max. PSI | RPM | Rated Pump Life (Hr.)† | Pump Stock No.* | Dimensions (In.) L | Dimensions (In.) W | Dimensions (In.) H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | Briggs | 9.0 | 8.5 | 1/4 | 20 | Horizontal | 110 | 1020 | 3100 | 4B245 | 33 | 19¾ | 31¼ | **4B220** | $686.25 | **$549.00▲** | 159.0 |
| 5½ | Honda | 9.0 | 8.5 | 1/4 | 20 | Horizontal | 110 | 1020 | 3100 | 4B245 | 33 | 19¾ | 31¼ | **4B241** | 936.25 | **725.00▲** | 167.0 |
| 5½ | Honda | 9.0 | 8.5 | 1/4 | 30 | Horizontal | 110 | 1020 | | 4B245 | 40⅝ | 21⅝ | 38 | **4B239** | 1036.25 | **815.00▲** | 172.0 |
| 8 | Briggs | 16.7 | 15.0 | 1/2 | 30 | Horizontal | 125 | 855 | | 4KP89 | 42 | 19 | 36 | **3JR78** | 1649.00 | **1369.00▲** | 400.0 |

(*) See pages 2884 and 2886 for complete pump specifications. Note: Compressors shipped without oil. (†) As rated by the standard B-10 bearing life of pump. See page 2849 for B-2 rating information. (▲) Net prices, not subject to discounts.

# STATIONARY GASOLINE ENGINE DRIVEN AIR COMPRESSORS

## [A] TWO-STAGE 12½ and 13 HP AIR COMPRESSORS

**Two-stage gas engine air compressors** are ideal for fleet or field service applications with truckbed mounting design. Provide compressed air power for emergency production line needs. Feature reserve air capacity for remote site pneumatic needs. Automotive style air filter for superior filtration and quiet operation. Long life, stainless steel self-cleaning valves and durable ductile iron counterbalanced crankshaft. 30 gallon ASME code tank includes safety valve, tank drain, and pressure gauge.

- **Two-stage, cast iron compressor pump, 2 year pump warranty**
- **Heavy duty, double ball bearing construction**
- **Pilot valve control automatically idles engine at 175 PSI, resumes full throttle at 145 PSI**
- **Requires 12 VDC, 32 amp/hour battery**
- **No. 5F564: 12½ HP Kohler Command engine with 12V electric starter, fuel pump, 15 amp alternator, and full pressure lubrication**
- **No. 4LW38: 13 HP Honda engine with 12V electric starter, overhead valves, 15 amp alternator, and low oil alert**

### BATTERY TRAY KIT

Allows a battery to be conveniently mounted to Nos. 4LW38 and 5F564 air compressors. Kit includes: steel tray and hardware for attachment to compressor base, battery cables, all weather battery cover, and hold down clamps. Battery not included. (Note: addition of No. 4KP97 battery tray kit increases length of air compressors by 10 inches.) Speedaire brand.

- **For use with Nos. 4LW38 and 5F564 only**

**No. 4KP97.** Battery Tray Kit. Shpg. wt. 10.0 lbs. List $106.50. Each.....**$99.00**



No. 4KP97

## [B] TWO-STAGE TYPE-30, 11 HP AIR COMPRESSORS

These air compressors feature finned copper intercooler, removable cylinders for simple maintenance, splash lubrication design, corrosive resistant powder coat paint finish and 30 gallon ASME tank with manual drain. Also features 11 HP engine with fuel efficient idle engine control and electronic ignition. Meets California Emission Codes. Ingersoll-Rand brand.

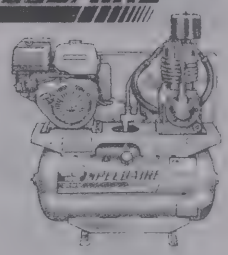
- **175 PSI operation, continuous duty rating with 100% cast iron design**
- **For fleet or field service applications with truckbed mounting design**
- **Provide compressed air power for emergency production line needs**
- **Pilot valve control automatically idles engine at 175 PSI, resumes full throttle at 145 PSI**
- **Requires 12 VDC, 32 amp/hour battery**

### OIL CAPACITY SPECIFICATIONS

| Compressor Stock No. | Compressor Pump Capacity (Oz.) | Compressor Oil Stock No. | Engine Oil Capcity (Oz.) | Engine Oil Stock No. | Start-up Kit Stock No. | Gas Tank Capacity (Gal.) | Engine Specifications Pull Start | Elec. Start | Alternator |
|---|---|---|---|---|---|---|---|---|---|
| 4LW38 | 64 | 4ZF21 | 64 | 4ZF20 | N/A | 6.88 | No | Yes | Yes |
| 5F564 | 64 | 4ZF21 | 64 | 4ZF20 | N/A | 1.25 | No | Yes | Yes |
| 4L991 | 43 | 4M578 | 72 | 4ZF20 | 4LG86 | 1.5 | No | Yes | No |
| 4KR44 | 43 | 4M578 | 37 | 4ZF20 | 4LG86 | 1.7 | Yes | Yes | Yes |
| 4KR45 | 43 | 4M578 | 37 | 4ZF20 | 4KR62 | 1.7 | No | Yes | No |

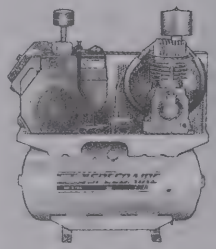
SPEEDAIRE

New



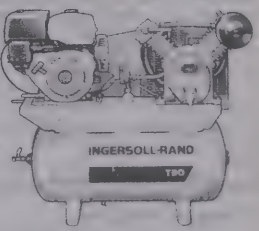
[A]

No. 4LW38



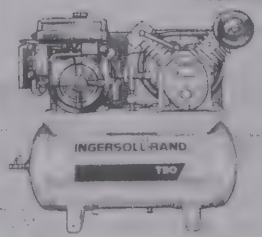
No. 5F564

INGERSOLL-RAND AIR COMPRESSORS



[B]

No. 4KR44



No. 4KR45

### AIR COMPRESSOR SPECIFICATIONS AND ORDERING DATA

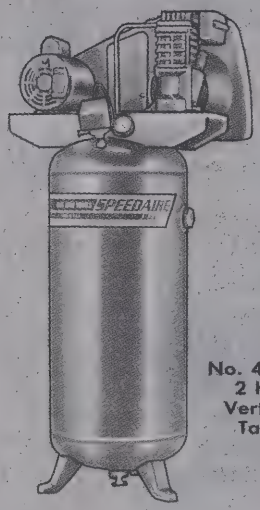
| Key | HP | Engine Brand | Free Air CFM @ 175 PSI | Max PSI | (F) NPT Outlet (In.) | Tank (Gal.) | Pump RPM | Pump Stock No. | Dimensions (In.) L | W | H | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 13 | Honda | 25.1 | 175 | 1/2 | 30H | 1020 | 5F566 | 49 | 25 | 53 | Speedaire | | New 4LW38 | $1956.00 | $1857.00▲ | 190.0 |
| | 12½ | Kohler | 25.1 | 175 | 1/2 | 30H | 1020 | 5F566 | 42 | 19 | 45½ | Speedaire | | 5F564 | 2121.25 | 1689.00▲ | 175.0 |
| | | Kohler | 19 | 175 | 3/4 | 30H | 1200 | 4RS68 | 44 | 22 | 46 | IR | 2475F1GK | 4L991 | 2475.85 | 1803.00▲ | 175.0 |
| B | 11 | Honda | 19 | 175 | 3/4 | 30H | 1200 | 4RS68 | 44 | 22 | 46 | IR | 2475F1GH | New 4KR44 | 2704.10 | 2195.00▲ | 185.0 |
| | 11 | Kawasaki | 24 | 175 | 3/4 | 30H | 1600 | 4RS60 | 44 | 22 | 46 | IR | 2475F1GKA | New 4KR45 | 2294.21 | 1892.00▲ | 185.0 |

(▲) Net prices, not subject to discounts. (*) Ingersoll-Rand warrants compressor pump for 2 years when used with start-up kits see page 2880

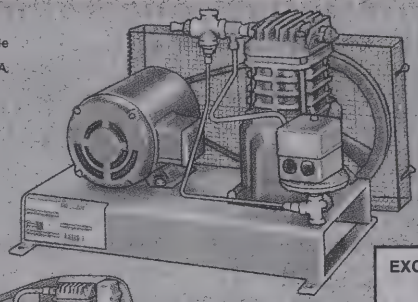
# STATIONARY TANK MOUNTED AND BASE PLATE AIR COMPRESSORS

SPEEDAIRE®

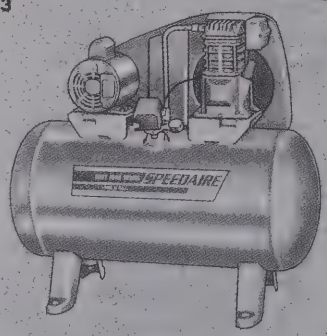
Made in U.S.A.



Except Nos. 4B242 & 4B243

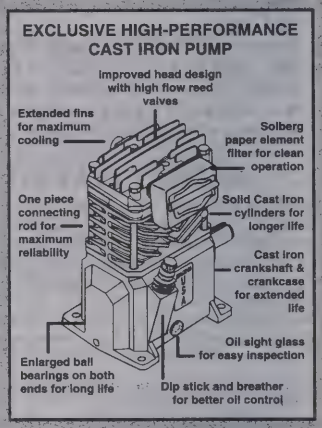


No. 4B243 Base Plate



No. 4B233 2 HP, Vertical Tank

No. 4B234 2 HP, Horizontal Tank




Installation & Service Available Contact Your Local Branch™

Repair Service Available Contact Your Local Branch™

**Speedaire tank mount and base plate air compressors** are designed for commercial/light industrial use. They are ideally suited for applications where a dedicated air supply is needed such as a machining center, small tool operation, or fire sprinkler system. The tank mount models feature a compact, space saving 30 gallon code tank. All models feature the exclusive High Performance Cast Iron Pump.

### HIGH PERFORMANCE ADVANTAGES

- Longer pump life
- Superior air flow
- Higher pressure—135 PSI maximum
- Higher duty cycle—rated for 65/35 duty cycle vs. industry standard of 50/50

### TANK MOUNT MODELS INCLUDE

- High performance, cast iron, two cylinder pump
- 30 Gallon ASME code tank
- Open dripproof single phase motors with thermal protection or 3-phase motors
- NEMA 1 enclosure pressure switch with gauge
- Pressure switch setting 95 PSI On and 135 PSI Off (except No. 4B232)

### FIRE SPRINKLER AIR COMPRESSOR NOS. 4B242 and 4B243

- Suitable for fire sprinkler applications (verify local codes and regulations for compliance)
- Prewired (240V) with pneumatic control package
- Pressure switch setting 30 PSI On and 40 PSI Off

## STATIONARY AIR COMPRESSOR ORDERING DATA AND STARTER SPECIFICATIONS

| HP | Free Air CFM @ PSI 90 | Free Air CFM @ PSI Max. | Max. PSI | RPM | Volts, 60 Hz | Phase | Amp Draw | Rec. Motor Starter‡ Voltage | Starter No. | Thermal Unit/Qty. | Tank Size (Gal.) | Tank (F) NPT Outlet (In.) | Pump Stock No.* | Rated Pump Life† Hrs. | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.5 | 5.4 | 100 | 750 | 115/230# | 1 | 15.0/ 7.5 | 120 230 | 4DD89 4DD91 | 1H613/1 1H640/1 | 30 H | 1/4 | 4B246 | 5000 | 40⅝ | 21⅝ | 38 | **4B232** | $748.75 | **$610.00▲** | 171.0 |
| 2 | 5.7 | 4.8 | 135 | 850 | 115/230# | 1 | 15.0/ 7.5 | 120 240 | 4DD96 4DD91 | 1H623/1 1H611/1 | 30 V | 1/2 | 4B246 | 3600 | 26¼ | 19 | 52 | **4B233** | 798.75 | **625.00▲** | 191.0 |
| 2 | 5.7 | 4.8 | 135 | 850 | 115/230# | 1 | 15.0/ 7.5 | 240 | 4DD91 | 1H611/1 | 30 H | 1/4 | 4B426 | 3600 | 40⅝ | 21⅝ | 38 | **4B234** | 798.75 | **625.00▲** | 179.0 |
| 3 | 8.5 | 8.3 | 135 | 1000 | 208/230/ 460 | 3 | 8.0 4.0 | 208-230 460 | 4DD93 | 1H629/3 | 30 H | 1/4 | 4B427 | 4200 | 40⅝ | 21⅝ | 38 | **4B237** | 873.75 | **710.00▲** | 180.0 |
| 2 | — | 11.6 | 40 | 1000 | 120 240 | 1 | 24.0/ 12.0 | 240 | 4DD91 | 1H612/1 | Base Plate | 1/2 | 4B427 | 5000 | 22½ | 15½ | 14¾ | **4B242** | 581.25 | **485.00▲** | 89.0 |
| 3 | — | 12.3 | 40 | 1225 | 240 480 | 3 | 8.0/ 4.0 | 480 | 4DD93 | 1H632/3 | Base Plate | 1/2 | 4B427 | 5000 | 22½ | 15½ | 14¾ | **4B243** | 645.00 | **540.00▲** | 90.0 |

(#) If running unit on 208V, use No. 1H275 Buckboost Transformer. (†) As rated by the standard B-10 bearing of the pump. See page 2849 for B-10 rating information.
(‡) Magnetic starters not mounted or wired, sold separately. (*) See page 2884 for complete pump specifications. (▲) Net prices, not subject to discounts.
Note: Compressors are shipped without oil. Compressor oil No. 4ZF21 is recommended.

# HIGH PERFORMANCE CAST-IRON AIR COMPRESSORS

SPEEDAIRE

**Speedaire High Performance Air Compressors deliver** outstanding performance in those demanding applications where a dependable air supply is essential. Ideal for paint sprayers, sanding, impact wrenches and other pneumatic operations.

## HIGH PERFORMANCE ADVANTAGES

- **Cast-Iron construction - NOT aluminum - for greater durability**
- **Superior Air Flow - up to 17 CFM**
- **Higher Pressure - Maximum 135 PSI for a broader range of applications**
- **Higher Duty Cycle - Suitable for 65/35 duty cycle vs. industry standard of 50/50**

### Model 4B236 Features

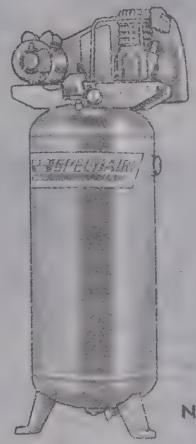
- **High Performance, two cylinder cast-iron compressor pump**
- **60-gallon vertical ASME Code tank**
- **Single-phase motor with thermal overload protection, no need for a magnetic starter**

### Model 3JR76 Features

- **High Performance, four cylinder "Quad" cast-iron compressor pump**
- **60-gallon vertical ASME Code tank**
- **Single-phase motor with thermal overload protection, no need for a magnetic starter**

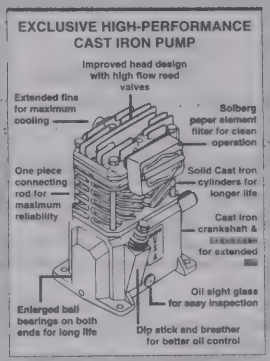
### Model 3JR77 Features

- **High Performance, four cylinder "Quad" cast-iron compressor pump**
- **80-gallon vertical ASME Code tank**
- **Three-phase motor with thermal overload protection, no need for a magnetic starter**

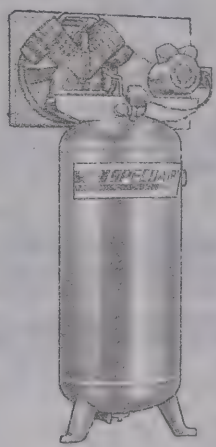


No. 4B236 Only

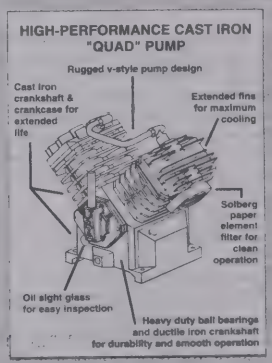
No. 4B236




Made in U.S.A.



No. 3JR76




**Installation & Service Available**
**Contact Your Local Branch**

**Replacement Parts Available**
**1-800-323-0620**

## CAST-IRON AIR COMPRESSORS ORDERING DATA

| Peak Developed HP | Running Motor HP | Free Air CFM @ PSI 90 | Free Air CFM @ PSI 135 | Max. PSI | Volts 60 Hz | Phase | Amp Draw | Tank Size (Gal.) | Tank (F) NPT Outlet (In.) | Replacement Parts Stock No. | Rated Pump Life (Hrs.)* | Dimensions L | Dimensions W | Dimensions H | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 3.1 | 10.3 | 9.0 | 135 | 230 | 1 | 15 | 60V | 3/4 | 4P747 | 4000 | 29 | 29 | 65 | **4B236** | $548.77 | **$449.00▲** | 311.0 |
| 7 | 5 | 16.7 | 14.9 | 135 | 230 | 1 | 21 | 60V | 3/4 | 4KP89 | 7500 | 31 | 28 | 66 | **3JR76** | 995.00 | **829.00▲** | 345.0 |
| 7 | 5 | 17.1 | 15.8 | 135 | 208/230/460 | 3 | 13.4/13.2/6.6 | 80 W | 3/4 | 4KP88 | 7500 | 32 | 27 | 66 | **3JR77** | 1139.00 | **949.00▲** | 442.0 |

Note: Compressors are shipped without oil; No. 4B236 requires 16 ozs. Nos. 3JR76 and 3JR77 require 45 ozs. Compressor oil No. 4ZF21 is recommended
(*) Rated by standard B-10 bearing life of pump, see page 2849 for B-10 rating. (†) If running unit on 208V, use No. 1H279 Buckboost Transformer
(‡) See pages 2884 and 2886 for complete pump specifications. (▲) Net prices, not subject to discounts

# CLIMATE CONTROL AIR COMPRESSORS FOR HVAC SYSTEMS

**Engineered specifically for** demanding pneumatic control systems requiring reliability, durability, and the absolute minimum oil carryover. For new, replacement, or upgrade HVAC installations and instrument air applications. Premounted starter and alternator saves time, labor, and expense of installation.

## PUMP FEATURES

- All pumps are individually run-in and certified for low oil carryover; average oil carryover is less than 2 PPM
- Integral fan greatly reduces discharge and operating temperatures
- 390R alloy cylinders quickly dissipate heat and provide long life
- Swedish stainless steel valves resist carbon build-up and are extremely reliable
- Step cut side sealer rings and diamond bored cylinders greatly reduce oil carryover

## TANK MOUNT FEATURES

- Each unit is certified to deliver published CFM at stated RPM and pressure and to be below 2 PPM in oil carryover. All units are run through a seven point quality assurance checklist
- All units are total packages ready for wiring and piping: Simplex packages include mounted and wired magnetic starter (except single phase); Duplex packages include mounted and wired alternator and two magnetic starters
- ASME certified tank and safety valve, also includes tank pressure gauge and manual drain
- Open dripproof NEMA motor, 3-phase, meets 1997 Federal Efficiency Levels
- All three phase duplex units require 115V for control panel power
- All controls are UL Listed
- Simplex: 70 PSI On/90 PSI Off
- Duplex: 70 PSI On/90 PSI Off (lead), 60 PSI On/80 PSI Off (lag)

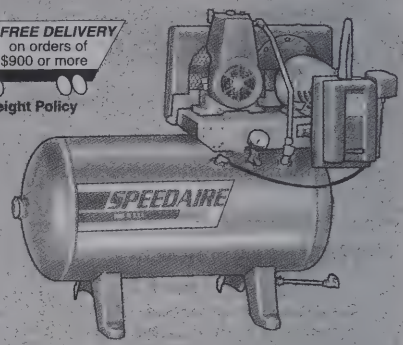
## SPEEDAIRE LIMITED WARRANTY

Speedaire warrants compressor pumps two years, all other parts and labor one year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

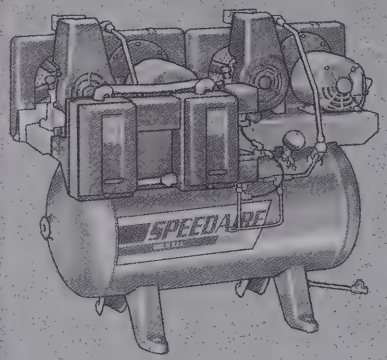
SPEEDAIRE®

FREE DELIVERY on orders of $900 or more

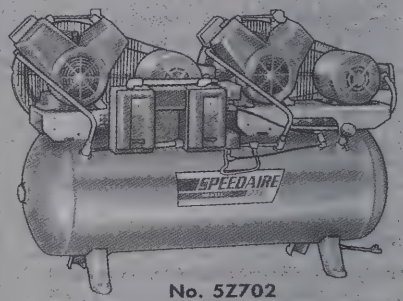
See Freight Policy




No. 5Z696
Simplex Model




No. 5Z698
Duplex Model




No. 5Z702
Duplex Model

**NOTE: Use of a non-climate control air compressor for HVAC installation can result in damaged controls due to oil contamination.**

Replacement Parts Available
1-800-323-0620

Installation & Service Available
Contact Your Local Branch

## COMPRESSOR SPECIFICATIONS

| HP | RPM | Pump Cylinders | Pump Bore | Pump Stroke | Oil Cap.†* | (F)NPT Outlet (In.) |
|---|---|---|---|---|---|---|
| 3/4 | 990 | 1 | 1.97 | 2.17 | 12 oz. | 3/4 |
| 1 | 665 | 1 | 2.60 | 2.60 | 16 | 3/4 |
| 1 1/2 | 900 | 1 | 2.60 | 2.60 | 16 | 3/4 |
| 2 | 720 | 2 | 2.60 | 2.40 | 36 | 3/4 |
| 3 | 765 | 2 | 3.00 | 2.40 | 35 | 3/4 |
| 5 | 525 | 2 | 4.10 | 3.30 | 51 | 1 |

(†) For Duplex models use twice the oil capacity. (*) No. 5Z703 has 3/4" (F) NPT outlet.
(*) No. 4ZF21 Compressor Oil is recommended.

## AIR COMPRESSOR ORDERING DATA

| HP | Free Air CFM @ 80 PSI | Phase | Volts, 60 Hz | Amp Draw | Tank Gallon | Tank Type | Configuration | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 2.5 | 1 | 115 / 230 | 11.0/5.5 | 30 | Horizontal | Simplex | 42 1/2 | 21 1/4 | 36 | 5Z696 | $1175.00 | **$1119.00** | 278.0 |
| 3/4 | 2.5 | 3 | 208-230 / 460 | 2.5-2.6/1.3 | 30 | Horizontal | Simplex | 42 1/2 | 21 1/4 | 36 | 5Z697 | 1425.00 | **1299.00** | 293.0 |
| 3/4 | 2.5* | 3 | 208-230 / 460 | 2.5-2.6/1.3 | 30 | Horizontal | Duplex | 41 1/2 | 21 1/4 | 36 | 5Z698 | 2905.00 | **2655.00** | 356.0 |
| 1 | 3.8 | 1 | 115 / 230 | 12.6/6.3 | 30 | Horizontal | Simplex | 42 1/2 | 21 1/4 | 36 | 3JR83 | 1559.00 | **1295.00** | 231.0 |
| 1 | 3.8* | 3 | 208-230 / 460 | 3.4-3.4/1.7 | 30 | Horizontal | Duplex | 41 1/2 | 21 1/4 | 36 | 3JR81 | 3399.00 | **2835.00** | 362.0 |
| 1 1/2 | 5.4 | 3 | 208-230 / 460 | 5.0-5.2/2.6 | 60 | Horizontal | Simplex | 50 3/4 | 22 1/4 | 40 | 5Z699 | 1970.00 | **1795.00** | 367.0 |
| 1 1/2 | 5.4* | 3 | 208-230 / 460 | 5.0-5.2/2.6 | 80 | Horizontal | Duplex | 64 1/4 | 22 1/4 | 39 | 5Z700 | 3700.00 | **3365.00** | 498.0 |
| 2 | 8.3* | 3 | 208-230 / 460 | 6.3-6.4/3.2 | 80 | Horizontal | Duplex | 65 1/4 | 23 1/4 | 41 | 3JR82 | 4495.00 | **3745.00** | 683.0 |
| 3 | 12.2 | 3 | 208-230 / 460 | 9.5-9/4.5 | 80 | Horizontal | Simplex | 65 1/2 | 23 1/4 | 41 | 5Z701 | 2659.00 | **2435.00** | 502.0 |
| 3 | 12.2* | 3 | 208-230 / 460 | 9.5-9/4.5 | 80 | Horizontal | Duplex | 65 1/4 | 23 1/4 | 41 | 5Z702 | 4570.00 | **4150.00** | 659.0 |
| 5 | 21.9 | 3 | 208-230 / 460 | 15.5-14.8/7.4 | 80 | Horizontal | Simplex | 65 1/2 | 23 1/4 | 46 | 5Z703 | 3316.08 | **3027.00** | 574.0 |
| 5 | 21.9* | 3 | 208-230 / 460 | 15.5-14.8/7.4 | 120 | Horizontal | Duplex | 71 1/4 | 26 1/4 | 49 1/4 | 5Z704 | 5834.02 | **5298.00** | 981.0 |

(*) CFM Ratings are based on each pump.

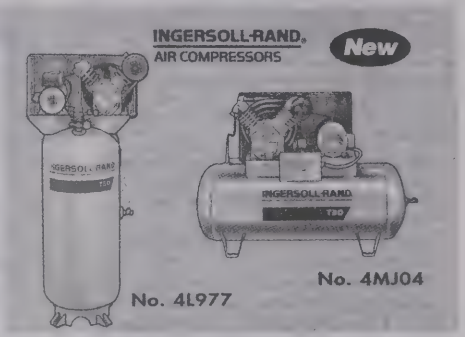
# TWO-STAGE AIR COMPRESSORS

## TYPE-30, VALUE PACKAGE TWO-STAGE ELECTRIC AIR COMPRESSORS

Ingersoll-Rand value packages are 100% cast iron, continuous duty cycle. Totally enclosed, beltguard. Stainless steel finger valve prolongs service intervals. Single point electrical connection, auto Start/Stop control factory set at 145-175 PSI. ASME tank with manual drain, discharge isolation ball valve, 300 PSI pressure gauge, check valve and relief valve.

V-cylinder design for ease of maintenance and maximum compressor cooling. Open dripproof, NEMA 1, 1 or 3 phase electric motor. Unloaded start feature prolongs motor life, splash lubrication. Interstage relief valve and discharge valve. Comply with State of California Code 462 (L)(2). Compressors are shipped without oil. Recommend the use of T30 Select® lubricant No. 4M578 or Air Compressor Start Up Kit No. 4M579 (5 HP) or 4M580 (10 HP). Ingersoll-Rand warrants the compressor pump for 2 years when using T-30 Select® lubricant and/or start-up kit.

No. 4L977 single phase 5 HP compressor features a capacitor start thermally protected motor requiring no magnetic starter. Nos. 4L974 and 4L976 3-phase 5 HP and 10 HP compressors include factory mounted and wired magnetic motor starter. 10 HP compressors feature an oil sight guage.



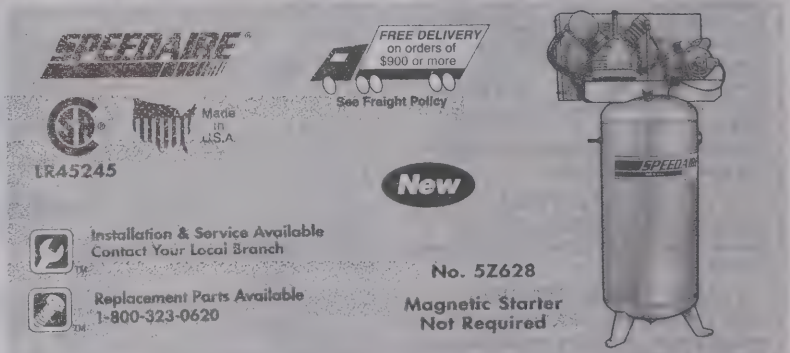

| HP | Delivery CFM | Max. PSI | Start-Up Kit Stock No. | Receiver | Voltage/ Phase | (F)NPT Outlet (In.) | Full Load Amps | Dimensions (In.) L | W | H | IR Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 15.0 | 175 | 4M579 | 60V | 230-1* | 1/2 | 22 | 34.4 | 20.7 | 70.8 | 2340L5 | **4L977** | $1370.56 | **$995.00▲** | 620.0 |
| 5 | 15.0 | 175 | 4M579 | 60V | 200-3 | 1/2 | 22 | 34.4 | 20.7 | 70.8 | 2340L | **4L976** | 1344.09 | **1010.00▲** | 630.0 |
| 5 | 15.0 | 175 | 4M579 | 60V | 230/460-3 | 1/2 | 22 | 34.4 | 20.7 | 70.8 | 2340L5 | **4L974** | 1344.09 | **1010.00▲** | 630.0 |
| 10 | 35.0 | 175 | 4M580 | 120H | 200-3 | 1 | 30.6 | 71 | 29 | 52 | 2545E10V | ***New* 4TN87** | 2583.74 | **2231.00▲** | 945.0 |
| 10 | 35.0 | 175 | 4M580 | 120H | 230-3 | 1 | 26.6 | 71 | 29 | 52 | 2545E10V | ***New* 4MJ04** | 2583.73 | **2231.00▲** | 945.0 |
| 10 | 35.0 | 175 | 4M580 | 120H | 460-3 | 1 | 13.3 | 71 | 29 | 52 | 2545E10V | ***New* 4MJ05** | 2583.73 | **2231.00▲** | 945.0 |

(*) If running unit on 208V, use No. 1H279 Buckboost Transformer. (▲) Net prices, not subject to discounts.

## VALUE PRICED 5 HP TWO-STAGE AIR COMPRESSOR AND PUMP

- **Two-stage, V-style pump with cast iron crankcase**
- **60 Gallon ASME Code tank with safety valve, tank drain, pressure switch and pressure gauge**
- **Open dripproof motor has thermal overload protection eliminating need for magnetic starter**
- **Pressure switch unloading, set at 145 PSI On and 175 PSI Off**

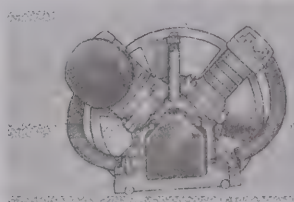
**Value priced Speedaire two-stage air compressor** designed for light commercial applications requiring a dependable air supply. Application should not exceed 60% On/40% Off duty cycle. For heavy duty commercial applications requiring more CFM and longer duty cycle, refer to the Speedaire two stage compressors listed on page 2878.




| HP | Free Air CFM @ 175 PSI | (F) NPT Outlet | Tank Gallons | Tank Type | Volts, 60 Hz | Phase | Amp Draw | Max PSI | Pump Stock No. | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 13.7 | 3/4 | 60 | Vertical | 230* | 1 | 22.0 | 175 | 5Z641 | 31 | 23 | 67 | **5Z628** | $1160.00 | **$929.00▲** | 405.0 |
| 5 | 13.7 | 3/4 | 60 | Vertical | 208-230/460 | 3 | 15.4/13.2/6.6 | 175 | 5Z641 | 31 | 23 | 67 | ***New* 4TK11** | 998.00 | **865.00▲** | 405.0 |

## 5 HP TWO-STAGE COMPRESSOR PUMP

- **Cast-iron construction**
- **Stainless steel valves for long life**
- **Cast-iron crankshaft and main ball bearings for strength and durability**
- **175 maximum PSI**
- **Flywheel is 16½" diameter, with single-groove B-section belts**
- **CCW rotation facing flywheel**



SPEEDAIRE

Made in U.S.A.

Installation & Service Available
Contact Your Local Branch

Replacement Parts Available
1-800-323-0620

| HP | Free Air CFM @ 175 PSI | Pump RPM | No. | Cylinder Bore (In.) | Stroke (In.) | (F)NPT Outlet (In.) | 3450 RPM Motor Sheave (In.) | Oil Cap. (Oz.) | Dimensions (In.) W | D | H | Mtg. Holes (In.) C to C | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 13.7 | 1600 | 2 | 3¼, 1.7 | 2.6 | 1/2 | 7in | 42 | 23in | 15 | 13in | 14in x 10in | **5ZE41** | $610.00 | **$499.00** | 66.0 |

Note: Compressors shipped without oil, 42 ozs. required. Compressor oil No. 4ZF21 recommended. (▲) Net Prices, not subject to discounts. (*) For 208V, use No. 1H279 Buckboost Transformer.

# TWO-STAGE DUPLEX AIR COMPRESSORS

## SPEEDAIRE DUPLEX DESIGN

**Speedaire Duplex Air Compressors** have two complete compressor pumps and motors providing built-in backup capability. This saves expensive downtime if one of the pumps or motors should require servicing. During times of heavy air usage, both pump/motors will operate to maximum CFM output.

- **All models include factory mounted and wired control panel consisting of definite purpose magnetic starters and alternator**
- **Built-in alternator provides equal pump usage**
- **Premounted control panel saves time, labor, and expense of installation**
- **Built for auto dealers, body shops, industrial machinery, and assembly line environments, printing plants, oil/mining, tire retreading**
- **All models comply with State of California Code 462 (L) (2)**
- **75/25 Duty cycle**

## OIL LUBRICATED PUMPS

- **Cast iron cylinders, crankcase, and pistons for extended life**
- **Deep finned intercooler and aluminum head for cooler running temperatures**
- **Long life stainless steel self-cleaning valves and durable ductile iron counterbalanced crankshaft**
- **Easy-to-read metal oil sight gauge**
- **Quiet operation with heavy-duty air filter/silencer**
- **Designed for start/stop operation**
- **Splash-type lubrication**

## MOTOR FEATURES

- **Open dripproof NEMA motor, 3-phase, meets 1997 Federal Efficiency Levels**

## TANK MOUNT FEATURES

- **Safe operation with ASME tank and safety valve. Includes tank drain and pressure gauge**
- **Alternator requires 120V power supply**
- **145 PSI On/175 PSI Off (lead); 125 PSI On/155 PSI Off (lag)**

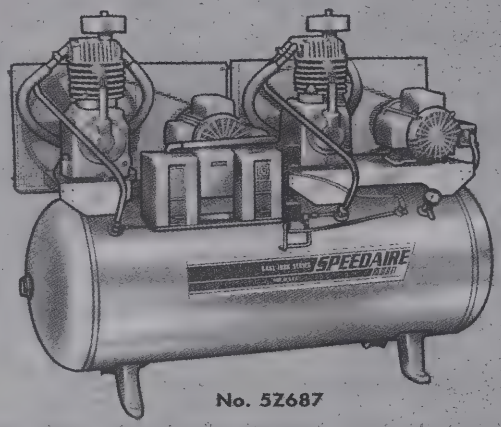
## SPEEDAIRE LIMITED WARRANTY

**Speedaire warrants compressor pumps two years, all other parts and labor one year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

FREE DELIVERY on orders of $900 or more
See Freight Policy

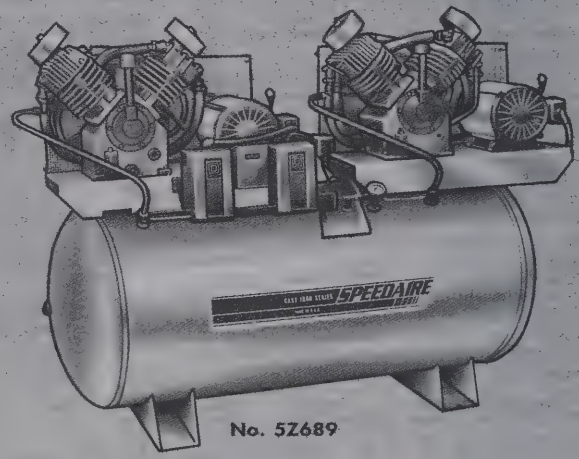
2 YEAR PUMP WARRANTY

SPEEDAIRE




No. 5Z687

Made in U.S.A.




No. 5Z689

LR45245

Installation & Service Available at Most Locations

Replacement Parts Available 1-800-323-0620

## AIR COMPRESSOR ORDERING DATA

| HP | Free Air CFM@ | Phase | Volts, 60 Hz | Pump Stock No. | Oil Capacity | Tank Gallons | Tank Type | (F) NPT Outlet (In.) | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5(2) | 34.2 | 1 | 230V | 5Z404 | 4 | 120 | Horizontal | 1 | 71 | 26½ | 54 | **5Z687** | $4190.00 | **$3001.00▲** | 941.0 |
| 5(2) | 34.2 | 3 | 230/460 | 5Z404 | 4 | 120 | Horizontal | 1 | 71 | 26½ | 54 | **5Z688** | 4126.95 | **2936.00▲** | 1488.0 |
| 10(2) | 68.4 | 3 | 230/460 | 5Z405 | 8 | 200 | Horizontal | 1 | 82 | 30 | 59 | **5Z689** | 6057.10 | **4635.00▲** | 1100.0 |

(*) See page 2888 for complete pump specifications. (†) Ratings are based on both pumps operating. (‡) Recommended oil is No. 4ZF21
(▲) Net prices, not subject to discounts

# TWO-STAGE PRESSURE LUBE AIR COMPRESSORS

## PRESSURE LUBRICATED

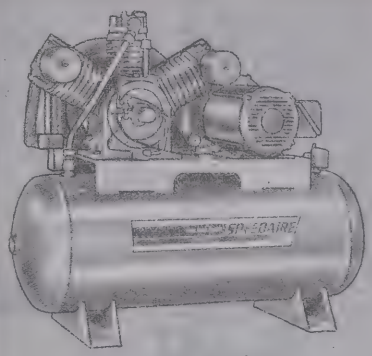
**Speedaire Pressure Lubricated Air Compressors** are built for long-lasting, heavy duty commercial service. Pressure lubrication provides direct, positive lubrication to the critical internal components of the pump such as connecting rod bearings and piston assembly. These compressors are ideally suited for machine shops, large automotive repair and body shops, printing plants, production air operations, and any other facility where a dependable air supply is essential.

### ALL MODELS FEATURE

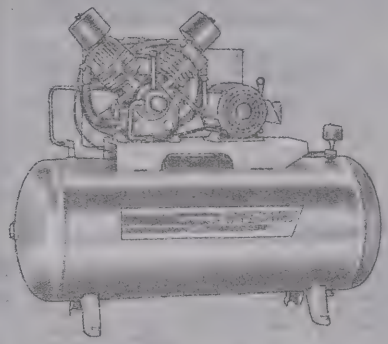
- Cast Iron, Pressure Lubricated compressor pump with gear driven oil pump and spin-on oil filter
- Stainless steel valves and ductile iron crankshaft for greater durability and longer life
- 80/20 Duty Cycle
- ASME Code tank with safety valve, pressure gauge, and manual tank drain
- Low RPM for longer life
- Pressure switch unloading, set for 145 PSI On, 175 PSI Off
- Open dripproof NEMA motor, 3-phase, meets 1997 Federal Efficiency Levels
- Compliance with California Code 462(L)(2)
- 25 HP Model No. 5Z634 includes dual control for stop/start or continuous run operation and low oil protection

### SPEEDAIRE LIMITED WARRANTY

Speedaire warrants compressor pumps two years, all other parts and labor one year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



No. 5Z634

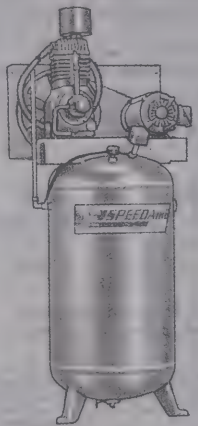


No. 5F233

SPEEDAIRE®

**WHY PRESSURE LUBRICATION?**
**Pressure lubrication provides direct, positive lubrication to the critical internal components of the pump. It is the best lubrication system available.**

**2-YEAR LIMITED WARRANTY**






No. 5F231

LR45245

Made In U.S.A.

Installation & Service Available
Contact Your Local Branch

Replacement Parts Available
1-800-323-0620

## AIR COMPRESSOR ORDERING DATA

| HP | Free Air CFM @ 175 PSI | Phase | Recommended Motor Starter* Voltage, 60 Hz | Amp Draw | Starter | Thermal Unit/Qty. | Pump Stock No. | Oil Cap. (Qts.)‡ | Tank Gallons† | Tank (F) NPT Outlet (In.) | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 17.1 | 1 | 208<br>230 | 24<br>23 | 4DD98 | 1H624/1 | 5F235 | 2 | 80V | 3/4 | 33 | 25 | 82 | **5F229** | $1965.00 | **$1475.00▲** | 585.0 |
| **5** | 17.1 | 3 | 208<br>230<br>460 | 14.2<br>13<br>6.5 | 4DD94<br>4DD94<br>4DD93 | 1H618/3<br>1H617/3<br>1H607/3 | 5F235 | 2 | 80V | 3/4 | 33 | 25 | 82 | **5F231** | 1882.52 | **1477.00▲** | 585.0 |
| **10** | 34.2 | 3 | 208<br>230<br>460 | 27.2<br>24.6<br>12.3 | 5A014<br>5A058<br>4DD93 | 1H627/3<br>1H627/3<br>1H617/3 | 5F236 | 4 | 120H | 1 | 69 | 26 | 56 | **5F233** | 3058.01 | **2471.00▲** | 888.0 |
| **15** | 51.0 | 3 | 208<br>230<br>460 | 40.5<br>38<br>19 | 4DF23<br>4DF23<br>4DF08 | 1H636/3<br>1H634/3<br>1H623/3 | 4B249 | 4 | 120H | 1 | 69 | 26 | 58 | **4B250** | 3818.70 | **3049.00▲** | 1002.0 |
| **25** | 88.0 | 3 | 208<br>230<br>460 | 66<br>61<br>30.5 | 1H538<br>1H536<br>4DF15 | 1H643/3<br>1H641/3<br>1H628/3 | 5Z636 | 4 | 120H | 1 | 69 | 29 | 58 | **5Z634*** | 7767.24 | **5731.00▲** | 1552.0 |

(*) Magnetic starters are not mounted or wired; sold separately. Both starter and thermal units required. See page 2888 for complete pump specifications.
(†) V = Vertical, H = Horizontal. (▲) Net prices, not subject to discounts. (‡) Compressor oil 1ZF21 is recommended. ◊ Limited availability

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# TWO-STAGE STATIONARY AIR COMPRESSORS

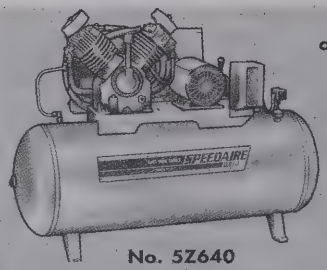
**Speedaire Two-Stage Air Compressors** are designed for heavy duty commercial applications. Featuring cast iron construction, compressors have a two year pump warranty and are backed by a complete parts program for maintenance and servicing.

### ALL MODELS INCLUDE

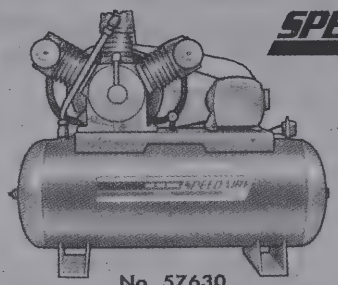
- **Cast-iron, splash lubricated compressor pump with finned copper intercooler, ductile iron crankshaft, and stainless steel valves**
- **75/25 Duty Cycle**
- **ASME Code tank with safety valve, pressure gauge, and manual tank drain**
- **Open dripproof NEMA motor, 3-phase, meets 1997 Federal Efficiency Levels**
- **Pressure switch unloading, set for 145 PSI On, 175 PSI Off**
- **Compliance with California Code 462(L)(2)**
- **25 HP model features dual control for stop/start or continuous run operation**

### MODELS WITH MOUNTED & WIRED MAGNETIC STARTER

- **Factory mounted & wired magnetic starter saves time, labor & expense of installation**




No. 5Z640



No. 5Z630

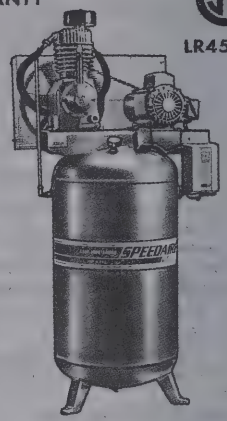
**5 thru 10 HP Models available with mounted & wired magnetic starter**

Made in U.S.A.

**2-YEAR WARRANTY**

LR45245

SPEEDAIRE®




No. 5Z637

**Installation & Service Available Contact Your Local Branch**

**Replacement Parts Available 1-800-323-0620**

## TWO-STAGE STATIONARY AIR COMPRESSORS ORDERING DATA

| HP | Free Air CFM @ 175 PSI | Phase | Voltage, 60 Hz | Amp. Draw | Recommended Motor Starter: Starter | Recommended Motor Starter: Thermal Unit/Qty. | Pump Stock Nos. | Oil Capacity (Qts.)** | Tank: Gal.* | Tank: (F) NPT Outlet (In.) | Dimensions (In.): L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 17.1 | 1 | 208V<br>230 | 24<br>23 | 4DD98 | 1H624/1 | 5Z404 | 2 | 80V | 3/4 | 33 | 25 | 79 | **5Z397** | $1692.00 | **$1228.00▲** | 582.0 |
| **5** | 17.1 | 1 | 208/230 | 23 | Includes motor starter | | 5Z404 | 2 | 80V | 3/4 | 33 | 25 | 79 | **5Z637** | 1852.00 | **1352.00▲** | 589.0 |
| **5** | 17.1 | 1 | 208<br>230 | 24<br>23 | 4DD98 | 1H624/1 | 5Z404 | 2 | 80H | 3/4 | 63 | 23 | 51 | **5Z398** | 1692.00 | **1228.00▲** | 582.0 |
| **5** | 17.1 | 3 | 208<br>230<br>460 | 14.2<br>13<br>6.5 | 4DD94<br>4DD94<br>4DD93 | 1H618/3<br>1H617/3<br>1H607/3 | 5Z404 | 2 | 80V | 3/4 | 33 | 25 | 79 | **5Z399** | 1626.00 | **1227.00▲** | 582.0 |
| **5** | 17.1 | 3 | 230 | 13 | Includes motor starter | | 5Z404 | 2 | 80V | 3/4 | 33 | 25 | 79 | **5Z638** | 1816.09 | **1328.00▲** | 590.0 |
| **5** | 17.1 | 3 | 208<br>230<br>460 | 14.2<br>13<br>6.5 | 4DD94<br>4DD94<br>4DD93 | 1H618/3<br>1H617/3<br>1H607/3 | 5Z404 | 2 | 80H | 3/4 | 63 | 23 | 51 | **5Z400** | 1635.32 | **1227.00▲** | 582.0 |
| **7½** | 25.1 | 1 | 230 | 30 | 4A698 | 1H628/3 | 5F566 | 2 | 80V | 3/4 | 33 | 25 | 81½ | **5F563** | 1861.00 | **1399.00▲** | 588.0 |
| **7½** | 25.1 | 1 | 230 | 30 | Includes motor starter | | 5F566 | 2 | 80V | 3/4 | 33 | 25 | 81½ | **5Z639** | 1931.00 | **1469.00▲** | 596.0 |
| **7½** | 25.1 | 3 | 208<br>230<br>460 | 20.3<br>18.2<br>9.1 | 4A345<br>4A345<br>4DD93 | 1H624/3<br>1H623/3<br>1H611/3 | 5F566 | 2 | 80V | 3/4 | 33 | 25 | 81½ | **5F565** | 1872.00 | **1414.00▲** | 588.0 |
| **7½** | 25.1 | 3 | 230 | 19.4 | Includes motor starter | | 5F566 | 2 | 80V | 3/4 | 33 | 25 | 81½ | **3JR80** | 1736.37 | **1450.00▲** | 596.0 |
| **10** | 34.2 | 3 | 208<br>230<br>460 | 27.2<br>24.6<br>12.3 | 5A014<br>5A658<br>4DD93 | 1H627/3<br>1H627/3<br>1H617/3 | 5Z405 | 4 | 80H | 3/4 | 63 | 23 | 51 | **5Z401** | 2511.87 | **1971.00▲** | 706.0 |
| **10** | 34.2 | 3 | 208<br>230<br>460 | 27.2<br>24.6<br>12.3 | 5A014<br>5A658<br>4DD93 | 1H627/3<br>1H627/3<br>1H617/3 | 5Z405 | 4 | 120H | 1 | 69 | 26 | 54 | **5Z402** | 2742.02 | **2170.00▲** | 828.0 |
| **10** | 34.2 | 3 | 230 | 24.6 | Includes motor starter | | 5Z405 | 4 | 120H | 1 | 69 | 26 | 54 | **5Z640** | 2996.76 | **2382.00▲** | 851.0 |
| **15** | 51.0 | 3 | 208<br>230<br>460 | 40.5<br>38<br>19 | 4DF23<br>4DF23<br>4DF08 | 1H636/3<br>1H636<br>1H624 | 4B248 | 4 | 120H | 1 | 69 | 26 | 58 | **5F567** | 3187.56 | **2757.00▲** | 943.0 |
| **25** | 88.0 | 3 | 208<br>230<br>460 | 66<br>61<br>30.5 | 1H538<br>1H536<br>4DF15 | 1H643/3<br>1H641/3<br>1H628/3 | 5Z632 | 4 | 120H | 1 | 69 | 29 | 58 | **5Z630†** | 6549.48 | **4731.00▲** | 1547.0 |

(▲) Net prices, not subject to discounts. (*) V=Vertical, H = Horizontal. For complete pump specifications see page 2888.
(**) Compressor oil No. 4ZF21 is recommended. (†) Limited availability. Contact Local Branch.

# 5 TO 25 HP TWO-STAGE DRY AIR SYSTEMS

## DRY AIR SYSTEM FEATURES

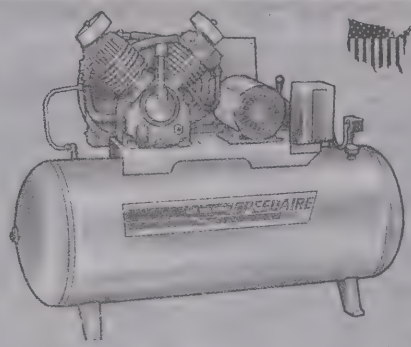
- Dry air systems include Speedaire two-stage air compressor and Speedaire three-in-one refrigerated dryer
- Provides high pressure, very dry air source with very low moisture
- Protects your air tools and equipment from damaging water and oil
- Dry, clean air minimizes downtime, reduces expensive repair, and extends life of tools and spray equipment
- Prevents water, oil, and dirt contaminants from causing paint problems such as 'fisheye' and 'orange peel'; also prevents air lines from clogging; keeps water from delicate air tools
- Only two components for ease of installation and maintenance
- Green metallic finish

## COMPRESSOR FEATURES

- Cast iron two-stage pumps
- Low RPM for longer pump life
- 2 year pump warranty
- 25 HP models feature dual control for stop/start or continuous run operation
- 75/25 duty cycle

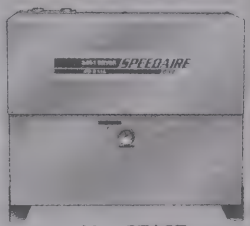
## THREE-IN-ONE DRYER FEATURES

- Refrigerated air dryer combines dryer, aftercooler, and reheater in a single unit
- Handles inlet temperatures up to 180°F; eliminates need for separate aftercooler
- Includes water separator and drain trap
- Heat exchanger is warranted for 5 years
- Reheats chilled air for temperature critical applications such as paint spraying



Made In U.S.A.

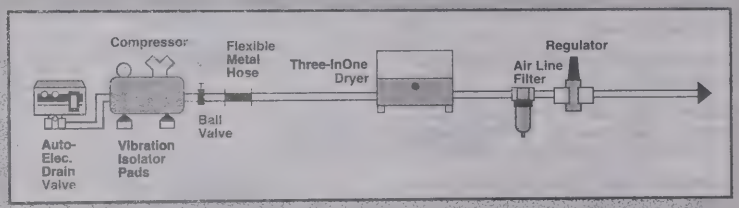
SPEEDAIRE®



No. 5Z640

No. 5Z657

**Air Compressor and Dryer Shipped as Separate Components**




System consists of:

- Durable cast iron air compressor
- Three-in-one dryer eliminates complexity by combining an aftercooler, refrigerated dryer, and air reheater

### DRY AIR SYSTEM SPECIFICATIONS

| HP | Water Removal | Gallons Removed | Oil Removal (No Filter) Dryer Only |
|---|---|---|---|
| 5 | 97.6% | 1.23 | 55% |
| 7.5 | 97.6 | 1.80 | 55 |
| 10 | 96.7 | 2.50 | 55 |
| 15 | 97.6 | 3.69 | 55 |
| 25 | 97.6 | 6.35 | 55 |

Ratings based on 90°F ambient temperature with 65% relative humidity, 8 hours of operation at a 75% duty cycle. Changes in temperature and relative humidity yield different results.

**Installation & Service Available**
**Contact Your Local Branch**

**Replacement Parts Available**
**1-800-323-0620**

## DRY AIR SYSTEM ORDERING DATA

### AIR COMPRESSOR WITH MAGNETIC STARTER

| HP | Phase | Volts, 60 Hz | Tank Gals. | Tank Type | Free Air CFM @ 175 PSI | (F)NPT Outlet (In.) | Stock No. |
|---|---|---|---|---|---|---|---|
| 5 | 1 | 208/230 | 80 | Vertical | 17.1 | 3/4 | 5Z637‡ |
| 5 | 1 | 208/230 | 80 | Horizontal | 17.1 | 3/4 | 5Z638‡ |
| 5 | 3 | 230 | 80 | Vertical | 17.1 | 3/4 | 5Z638‡ |
| | | 208/230/460 | | | | 3/4 | 5Z639‡ |
| 5 | 7.5 | 208/230/460 | 80 | Horizontal | 17.1 | 3/4 | 5Z400* |
| 7½ | 1 | 230 | 80 | Vertical | 25.1 | 3/4 | 5Z639‡ |
| 10 | 3 | 208/230/460 | 80 | Horizontal | 34.2 | 3/4 | 5Z401* |
| 10 | 3 | 230 | 120 | Horizontal | 34.2 | 1 | 5Z040‡ |
| | | 208/230/460 | | | | 1 | 5Z402* |
| 15 | 3 | 208/230/460 | 120 | Horizontal | 51.0 | 1 | 5P567‡ |
| 25 | 3 | 208/230/460 | 120 | Horizontal | 88.0 | 1 | 5Z630* |

### 3-IN-1 DRYER‡

| CFM Cap. @ 35°F Pressure Dew Point | Volts, 60 Hz | Stock No. |
|---|---|---|
| 22.0 | 115 | 5Z656 |
| 22.0 | 115 | 5Z656 |
| 22.0 | 115 | 5Z656 |
| 22.0 | 115 | 5Z656 |
| 37.0 | 115 | 5Z657 |
| 37.0 | 115 | 5Z657 |
| 37.0 | 115 | 5Z657 |
| 56.0 | 115 | 5Z658 |
| 91.0 | 230 | 5Z659 |

### DRY AIR SYSTEM

| Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|
| 7Z403 | $3374.00 | $2516.00▲ | 699.0 |
| 7Z407 | 3521.00 | 2392.00▲ | 698.0 |
| 7Z435 | 3353.00 | 2463.00▲ | 700.0 |
| 7Z437 | 3363.00 | 2362.00▲ | 698.2 |
| 7Z440 | 3256.00 | 2362.00▲ | 698.2 |
| 7Z459 | 3868.00 | 2731.00▲ | 783.0 |
| 7Z460 | 4639.00 | 3116.00▲ | 895.8 |
| 7Z462 | 4889.00 | 3501.00▲ | 1038.0 |
| 7Z463 | 4889.00 | 3304.00▲ | 1021.2 |
| 7Z464 | 6509.00 | 4137.00▲ | 1043.3 |
| 7Z466 | 10602.00 | 7355.00▲ | 1818.6 |

‡ Magnetic starter is factory mounted and wired

(*) Motor starters are required but sold separately, see page 2878 for recommended starter and thermal unit
(‡) For complete air compressor and dryer specifications, see pages 2878 and 2865 (▲) Net prices, not subject to discounts

# TWO-STAGE INDUSTRIAL AIR COMPRESSORS

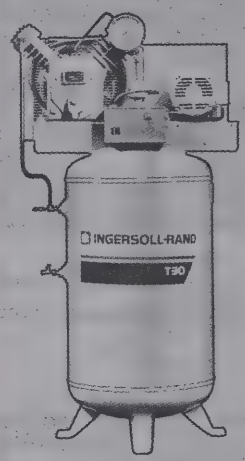
## TYPE 30 AIR COMPRESSORS

Type-30 compressors meet demanding 175 PSIG industrial requirements. V-design cylinders, deep cast cooling fins, interstage coolers and directional airflow patterns maximize compressor cooling, allowing 80/20 duty cycles. Separate cylinders for easy removal for maintenance.

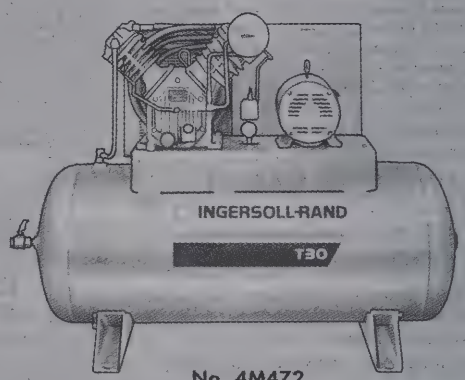
- Single piece connecting rods provide reliability
- All compressors allow for unloaded start feature, prolonging motor life
- 100% cast iron construction, splash lubrication
- Auto start/stop control (5-7.5 HP) dual controls for auto start/stop or constant speed operation (10-30 HP)
- Includes low oil level protection (10 HP and above)
- Interstage relief valve, discharge relief valve
- Open dripproof NEMA motor, 3-phase, conforms to 1997 Federal Efficiency Requirements (EPACT)
- Complies with State of California Code 462(L)(2)
- ASME rated receiver, horizontal (H) or vertical (V), with 300 PSIG pressure gauge, relief valve, insolation valve, and manual drain valve
- Gray color, baked powder coat enamel finish
- Maximum PSI: 175

**INGERSOLL-RAND®**
**AIR COMPRESSORS**

**IR 2-YEAR PUMP WARRANTY**
Ingersoll Rand warrants compressor pump for 2 years when used with No. 4M578 T30 Select® lubricant. Text of warranty available on request, see page opposite inside back cover.



No. 4L993



No. 4M472

**Installation & Service Available Contact Your Local Branch**™

**Replacement Parts Available 1-800-323-0620**™

### AIR COMPRESSOR SPECIFICATIONS AND ORDERING DATA

| HP | Delivery CFM | Oil Qty. (Oz.) | Receiver | (F)NPT Outlet (In.) | Magnetic Starter Included* | Voltage/ Phase | Full Load Amps | Start-Up Kit No.† | Dimensions (In.) L | W | H | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 17.0 | 43 | 80H | 3/4 | No | 230-1 | 28.5 | 4M579 | 68.5 | 20.4 | 44.1 | 2475D5 | **4L987** | $2179.90 | **$1499.00▲** | 685.0 |
| | 17.0 | | 80H | | No | 200-3 | 17.5 | | 68.5 | 20.4 | 44.1 | 2475D5 | **4L990** | 2048.82 | **1466.00▲** | 685.0 |
| | 17.0 | | 80H | | No | 230/460-3 | 15.2/7.6 | | 68.5 | 20.4 | 44.1 | 2475D5 | **4L988** | 2063.01 | **1466.00▲** | 685.0 |
| | 17.0 | | 80H | | Yes | 230-1 | 28.5 | | 68.5 | 27.9 | 44.1 | 2475D5 | **4L984** | 2344.22 | **1581.00▲** | 562.0 |
| | 17.0 | | 80H | | Yes | 200-3 | 17.5 | | 68.5 | 27.9 | 44.1 | 2475D5 | **4L986** | 2232.13 | **1551.00▲** | 705.0 |
| | 17.0 | | 80H | | Yes | 230/460-3 | 15.2/7.6 | | 68.5 | 27.9 | 44.1 | 2475D5 | **4L985** | 2232.13 | **1551.00▲** | 705.0 |
| | 17.0 | | 80V | | No | 230-1 | 28.5 | | 36.2 | 26.0 | 70.0 | 2475N5 | **4L995** | 2165.97 | **1500.00▲** | 650.0 |
| | 17.0 | | 80V | | No | 200-3 | 17.5 | | 36.2 | 26.0 | 70.0 | 2475N5 | **4L998** | 2069.18 | **1467.00▲** | 650.0 |
| | 17.0 | | 80V | | No | 230/460-3 | 15.2/7.6 | | 36.2 | 26.0 | 70.0 | 2475N5 | **4L996** | 2069.18 | **1467.00▲** | 650.0 |
| | 17.0 | | 80V | | Yes | 230-1 | 28.5 | | 36.2 | 30.5 | 70.0 | 2475N5 | **4L992** | 2344.58 | **1581.00▲** | 670.0 |
| | 17.0 | | 80V | | Yes | 200-3 | 17.5 | | 36.2 | 30.5 | 70.0 | 2475N5 | **4L994** | 2232.27 | **1551.00▲** | 670.0 |
| | 17.0 | | 80V | | Yes | 230/460-3 | 15.2/7.6 | | 36.2 | 30.5 | 70.0 | 2475N5 | **4L993** | 2232.27 | **1551.00▲** | 670.0 |
| 7.5 | 24.0 | 43 | 80V | 3/4 | Yes | 230-1 | 37.0 | 4M579 | 36.2 | 30.5 | 70.0 | 2475N7.5 | **4M310** | 2311.87 | **1689.00▲** | 680.0 |
| | 24.0 | | 80V | | Yes | 230/460-3 | 21.0 | | 36.2 | 30.5 | 70.0 | 2475N7.5 | **4M361** | 2283.14 | **1670.00▲** | 680.0 |
| | 24.0 | | 80V | | Yes | 230/460-3 | 18.0/9.0 | | 36.2 | 30.5 | 70.0 | 2475N7.5 | **4M311** | 2283.42 | **1670.00▲** | 570.0 |
| 10 | 35.0 | 74 | 120H | 1 | No | 200-3 | 30.6 | 4M580 | 71.3 | 29.0 | 51.8 | 2545E10 | **4M474** | 2817.42 | **2687.00▲** | 1035.0 |
| | 35.0 | | 120H | | No | 230/460-3 | 26.6/13.3 | | 71.3 | 29.0 | 51.8 | 2545E10 | **4M472** | 2817.43 | **2687.00▲** | 1035.0 |
| 15 | 50.0 | 80 | 120H | 1 | No | 200-3 | 44.9 | 4M580 | 71.3 | 27.3 | 56.8 | 7100E15 | **4R778** | 5118.88 | **3904.00▲** | 1300.0 |
| | 50.0 | | 120H | | No | 230/460-3 | 39.0/19.5 | | 71.3 | 27.3 | 56.8 | 7100E15 | **4R774** | 5118.88 | **3904.00▲** | 1300.0 |
| 20 | 69.2 | 144 | 120H | 1 | No | 200-3 | 58.6 | 4M581 | 71.3 | 33.1 | 60.5 | 3000E20 | **4M532** | 7472.96 | **5890.00▲** | 1560.0 |
| | 69.2 | | 120H | | No | 230/460-3 | 51.0/25.5 | | 71.3 | 33.1 | 60.5 | 3000E20 | **4M499** | 7472.96 | **5890.00▲** | 1560.0 |
| 25 | 85.1 | 144 | 120H | 1 | No | 200-3 | 74.8 | 4M581 | 71.3 | 33.1 | 60.5 | 3000E25 | **4M571** | 7810.15 | **5992.00▲** | 1610.0 |
| | 85.1 | | 120H | | No | 230/460-3 | 65.0/32.5 | | 71.3 | 33.1 | 60.5 | 3000E25 | **4M569** | 7810.15 | **5992.00▲** | 1610.0 |
| 30 | 100.0 | 144 | 120H | 1 | No | 200-3 | 88.6 | 4M581 | 71.3 | 33.1 | 60.5 | 3000E30 | **4M577** | 8376.84 | **6604.00▲** | 1660.0 |
| | 100.0 | | 120H | | No | 230/460-3 | 77.0/38.5 | | 71.3 | 33.1 | 60.5 | 3000E30 | **4M575** | 8376.84 | **6604.00▲** | 1660.0 |

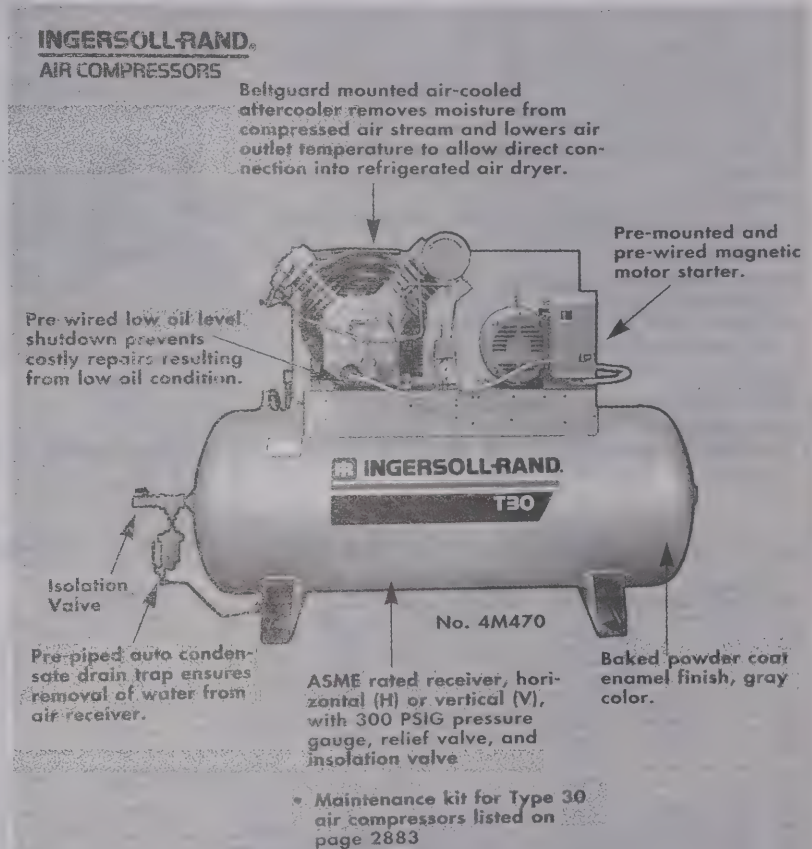
(*) Magnetic motor starter is an optional accessory. Starter protects motor from electrical overload condition. (†) See page 2889 for start-up kits.
**NOTE: STARTER IS REQUIRED.** Dependent upon installation, starter can be wall mounted or compressor mounted.
When ordering compressor with magnetic magnetic motor starter, assembly comes mounted and wired. (▲) Net prices, not subject to discounts.

# TWO-STAGE INDUSTRIAL AIR COMPRESSORS

## TYPE-30, FULLY PACKAGED AIR COMPRESSORS

For single point electrical and air piping connection. Ensures high quality air supply with minimal maintenance. Compressor packages include:

- **Factory tested, assembled, pre-piped and wired package for quick field connection and start-up**
- **Splash lubrication design provides simple, inexpensive, effective lubrication to critical pump components. In contrast to pressure lubrication units, there are no oil pumps to malfunction, or oil piping and filters to clog or be replaced**
- **Open dripproof NEMA motor, 3-phase, conforms to 1997 Federal Efficiency requirements (EPACT)**
- **5 and 7.5 HP have start/stop pressure switch control operation**
- **10-30 HP units have dual control for auto start/stop or continuous run operation which allows you to select operating control best suited for your shop. Results in power savings and less wear and tear on compressor**
- **Belt guard meets OSHA regulation**
- **Unit comes with heavy-duty 10 micron inlet filter protects the pump cylinder walls from harsh and potentially damaging air-borne particles adherent to body shop and dealership installations. The element itself is automotive style and fully replaceable**
- **Includes interstage relief valve, discharge relief valve and system isolation valve**
- **T-30 Start-up kits available. Kits include the proper amount of oil and intake air filter elements, see page 2889**
- **Maximum PSI: 175**




- Maintenance kit for Type 30 air compressors listed on page 2883

### IR 2-YEAR PUMP WARRANTY

**Ingersoll Rand warrants compressor pump for 2 years when used with No. 4M578 T30 Select® lubricant. Text of warranty available on request, see page opposite inside back cover.**

Installation & Service Available
Contact Your Local Branch

Replacement Parts Available
1-800-323-0620

### AIR COMPRESSOR SPECIFICATIONS AND ORDERING DATA

| HP | Delivery CFM | Oil Qty. (Oz.) | Air Receiver* | Voltage Phase | (F) NPT Outlet (In.) | Full Load Amps | Dimensions (in.) L | W | H | Startup Kit No. | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 17.0 | 43 | 80V | 230-1 | 3/4 | 28.5 | 36.2 | 30.5 | 70 | 4M579 | 2475N5 Package | **4R802** | $2570.98 | **$2140.00▲** | 700.0 |
| | 17.0 | | 80V | 200-3 | 3/4 | 17.5 | 36.2 | 30.5 | 70 | | | **4R808** | 2459.59 | **2109.00▲** | 700.0 |
| | 17.0 | | 80V | 230/460-3 | 3/4 | 15.2/7.6 | 36.2 | 30.5 | 70 | | | **4R804** | 2459.59 | **2109.00▲** | 700.0 |
| 7.5 | 24.0 | 43 | 80V | 230-1 | 3/4 | 37 | 36.2 | 30.5 | 70 | 4M579 | 2475N7.5 Package | **4R810** | 2840.49 | **2438.00▲** | 710.0 |
| | 24.0 | | 80V | 200-3 | 3/4 | 21 | 36.2 | 30.5 | 70 | | | **4R816** | 2810.32 | **2407.00▲** | 710.0 |
| | 24.0 | | 80V | 230/460-3 | 3/4 | 18.0/9.0 | 36.2 | 30.5 | 70 | | | **4R812** | 2810.32 | **2407.00▲** | 710.0 |
| 10 | 35.0 | 74 | 120H | 200-3 | 1 | 30.6 | 74.6 | 34.2 | 51.8 | 4M580 | 2545E10 Package | **4M471** | 4198.72 | **3194.00▲** | 1085.0 |
| | 35.0 | | 120H | 230/460-3 | 1 | 26.6/13.3 | 74.6 | 34.2 | 51.8 | | | **4M470** | 4198.32 | **3194.00▲** | 1085.0 |
| 15 | 50.0 | 80 | 120H | 200-3 | 1 | 44.9 | 74.6 | 34.2 | 56.8 | 4M580 | 7100E15 Package | **4R772** | 5566.70 | **4186.00▲** | 1350.0 |
| | 50.0 | | 120H | 230/460-3 | 1 | 39.0/19.5 | 74.6 | 34.2 | 56.8 | | | **4R768** | 5566.70 | **4186.00▲** | 1350.0 |
| 20 | 69.2 | 144 | 120H | 200-3 | 1 | 58.6 | 74.6 | 37.3 | 60.5 | 4M581 | 3000E20 Package | **4M498** | 7965.82 | **6102.00▲** | 1610.0 |
| | 69.2 | | 120H | 230/460-3 | 1 | 51.0/25.5 | 74.6 | 37.3 | 60.5 | | | **4M496** | 7965.82 | **6102.00▲** | 1610.0 |
| 25 | 85.1 | 144 | 120H | 200-3 | 1 | 74.8 | 74.6 | 37.3 | 60.5 | 4M581 | 3000E25 Package | **4M568** | 8434.41 | **6330.00▲** | 1660.0 |
| | 85.1 | | 120H | 230/460-3 | 1 | 65.0/32.5 | 74.6 | 37.3 | 60.5 | | | **4M533** | 8434.41 | **6330.00▲** | 1660.0 |
| 30 | 100.0 | 144 | 120H | 200-3 | 1 | 88.6 | 74.6 | 37.3 | 60.5 | 4M581 | 3000E30 Package | **4M574** | 8690.55 | **6846.00▲** | 1710.0 |
| | 100.0 | | 120H | 230/460-3 | 1 | 77.0/38.5 | 74.6 | 37.3 | 60.5 | | | **4M572** | 8706.22 | **6858.00▲** | 1710.0 |

(*) V=Vertical, H=Horizontal. (▲) Net prices, not subject to discounts.

AIR COMPRESSORS

# ROTARY SCREW INDUSTRIAL AIR COMPRESSORS

**What is a Rotary Screw Air Compressor?** Rotary compressors use two intermeshing rotors to compress air. As the rotor turns, their configuration compresses the trapped air. This simple process lowers the operating temperatures approximately 50% (as compared to reciprocating designs), increases efficiency and delivers a clean air supply. A rotary compressor uses a coolant to cool its internal components. This allows the compressor to operate at a fully loaded, continuous duty cycle.

**What are the benefits of Rotary Screw Air Compressors?**

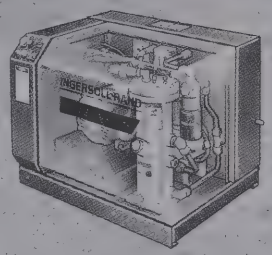
- Reliability
- Low noise level, 85 dBA and below, allowing flexibility in compressor location
- Minimum maintenance
- Low discharge air temperature
- Improved air quality

**SSR Rotary Screw Air compressors feature:**

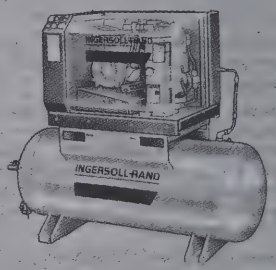
- Fully packaged design —online, offline and auto start/stop control, aircooled aftercooler and full voltage starter
- 8,000 hour/two-year cooling lubricant
- Easy installation/operation
- Two year air end warranty with the use of G-cool lubricant (see page 2883 for details)

**INGERSOLL-RAND®**
**AIR COMPRESSORS**

New




No. 4TN04 Shown with No. 4TM98 Canopy sold separately




No. 4TM98 Shown with No. 4TN01 baseplate mount air compressor sold separately

Repair Service Available Contact Your Local Branch

Replacement Parts Available 1-800-323-0620

## *New!* SSR SERIES AIR COMPRESSOR SPECIFICATIONS AND ORDERING DATA*

| HP | Delivered CFM | Receiver | Mount Type | (F) NPT Outlet (In.) | dBA @ 3 Feet | Voltage/ Phase | Full Amp | Overall Dimensions (In.) L | W | H | IR Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **7.5** | 27 | — | Baseplate | 3/4 | 85 | 230-1 | 37.9 | 36 | 29 | 29 | EP7.5/BM/UN | **4MJ11** | $5959.59 | **$5959.59▲** | 650.0 |
| **7.5** | 27 | — | Baseplate | 3/4 | 85 | 200-3 | 23.4 | 36 | 29 | 29 | EP7.5/BM/UN | **4MJ12** | 5777.00 | **4513.00▲** | 350.0 |
| **7.5** | 27 | — | Baseplate | 3/4 | 85 | 230-3 | 20.4 | 36 | 29 | 29 | EP7.5/BM/UN | **4MJ13** | 5777.00 | **4553.00▲** | 650.0 |
| **7.5** | 27 | — | Baseplate | 3/4 | 85 | 460-3 | 10.2 | 36 | 29 | 29 | EP7.5/BM/UN | **4MJ14** | 5777.00 | **4553.00▲** | 650.0 |
| **7.5** | 27 | — | Baseplate | 3/4 | 85 | 575-3 | 8.2 | 36 | 29 | 29 | EP7.5/BM/UN | **4MJ15** | 5777.00 | **4553.00▲** | 650.0 |
| **7.5** | 27 | 80H | Tank | 1 | 85 | 230-1 | 37.9 | 76 | 29 | 60 | EP7.5/TM/UN | **4MJ21** | 6534.67 | **5180.00▲** | 950.0 |
| **7.5** | 27 | 80H | Tank | 1 | 85 | 200-3 | 23.4 | 76 | 29 | 60 | EP7.5/TM/UN | **4MJ22** | 6350.00 | **5037.00▲** | 950.0 |
| **7.5** | 27 | 80H | Tank | 1 | 85 | 230-3 | 20.4 | 76 | 29 | 60 | EP7.5/TM/UN | **4MJ23** | 6350.00 | **5037.00▲** | 950.0 |
| **7.5** | 27 | 80H | Tank | 1 | 85 | 460-3 | 10.2 | 76 | 29 | 60 | EP7.5/TM/UN | **4MJ24** | 6350.00 | **5037.00▲** | 950.0 |
| **10** | 35 | — | Baseplate | 3/4 | 85 | 200-3 | 32.8 | 36 | 29 | 29 | EP10/BM/UN | **4MJ31** | 6545.55 | **5150.00▲** | 660.0 |
| **10** | 35 | — | Baseplate | 3/4 | 85 | 230/460-3 | 28.8/14.4 | 36 | 29 | 29 | EP10/BM/UN | **4MJ32** | 6545.55 | **5150.00▲** | 660.0 |
| **10** | 35 | 80H | Tank | 1 | 85 | 200-3 | 32.8 | 76 | 29 | 60 | EP10/TM/UN | **4MJ37** | 6707.70 | **5576.00▲** | 960.0 |
| **10** | 35 | 80H | Tank | 1 | 85 | 230/460-3 | 28.8/14.4 | 76 | 29 | 60 | EP10/TMUN | **4MJ38** | 6707.70 | **5576.00▲** | 960.0 |
| **15** | 53 | — | Baseplate | 3/4 | 85 | 200-3 | 47.2 | 36 | 29 | 29 | EP15/BM/UN | **4MJ43** | 7785.00 | **6188.00▲** | 670.0 |
| **15** | 53 | — | Baseplate | 3/4 | 85 | 230/460-3 | 43.2/20.6 | 36 | 29 | 29 | EP15/BM/UN | **4MJ44** | 7785.00 | **6188.00▲** | 670.0 |
| **15** | 53 | 120H | Tank | 1 | 85 | 200-3 | 47.2 | 76 | 29 | 60 | EP15/TM/UN | **4MJ49** | 7908.00 | **6686.00▲** | 1070.0 |
| **15** | 53 | 120H | Tank | 1 | 85 | 230/460-3 | 43.2/20.6 | 76 | 29 | 60 | EP15/TM/UN | **4MJ50** | 7908.00 | **6686.00▲** | 1070.0 |
| **20** | 79 | — | Baseplate | 1 | 85 | 200-3 | 60.7 | 45 | 30 | 38 | EP20/BM/UN | **4TM99** | 9025.00 | **7112.00▲** | 1005.0 |
| **20** | 79 | — | Baseplate | 1 | 85 | 230/460-3 | 2.9/26.8 | 45 | 30 | 38 | EP20/BM/UN | **4TN01** | 9025.00 | **7112.00▲** | 1005.0 |
| **20** | 79 | 120H | Tank | 1 | 85 | 200-3 | 60.7 | 76 | 30 | 64 | EP20/TM/UN | **4TN03** | 9560.00 | **7579.00▲** | 1405.0 |
| **20** | 79 | 100H | Tank | 1 | 85 | 230/460-3 | 2.9/26.8 | 76 | 30 | 64 | EP20/TM/UN | **4TN04** | 9560.00 | **7579.00▲** | 1405.0 |
| **25** | 97 | — | Baseplate | 1 | 85 | 200-3 | 75.0 | 45 | 30 | 38 | EP25/BM/UN | **4TN06** | 9675.00 | **7623.00▲** | 1070.0 |
| **25** | 97 | — | Baseplate | 1 | 85 | 230/460-3 | 5.3/33.0 | 45 | 30 | 38 | EP25/BM/UN | **4TN07** | 9675.00 | **7623.00▲** | 1070.0 |
| **25** | 97 | 120H | Tank | 1 | 85 | 200-3 | 75.0 | 76 | 30 | 64 | EP25/TM/UN | **4TN09** | 10250.00 | **8121.00▲** | 1470.0 |
| **25** | 97 | 120H | Tank | 1 | 85 | 230/460-3 | 5.3/33.0 | 76 | 30 | 64 | EP25/TM/UN | **4TN10** | 10250.00 | **8121.00▲** | 1470.0 |
| **30** | 112 | — | Baseplate | 1 | 85 | 200-3 | 90.4 | 45 | 30 | 38 | EP30/BM/UN | **4TN12** | 10742.00 | **8452.00▲** | 1104.0 |
| **30** | 112 | — | Baseplate | 1 | 85 | 230/460-3 | 8.7/39.7 | 45 | 30 | 38 | EP30/BM/UN | **4TN13** | 10742.00 | **8452.00▲** | 1104.0 |
| **30** | 112 | 120H | Tank | 1 | 85 | 200-3 | 90.4 | 76 | 30 | 64 | EP30/TM/UN | **4TN15** | 11395.00 | **9011.00▲** | 1504.0 |
| **30** | 112 | 120H | Tank | 1 | 85 | 230/460-3 | 8.7/39.7 | 76 | 30 | 64 | EP30/TM/UN | **4TN16** | 11395.00 | **9011.00▲** | 1504.0 |

(*) Additional pressure ratings of 140 psi (HP Series 7.5-30 HP), 175 psi (XP Series 7.5-30 HP) and 200 psi (HXP Series 20-30 HP) are available. Please contact your local Grainger Branch.
(▲) Net prices, not subject to discounts.

## DON'T FORGET THE BACK OF THE BOOK!
## MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

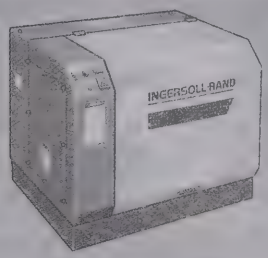
**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# ROTARY SCREW AND T30 INDUSTRIAL AIR COMPRESSOR ACCESSORIES

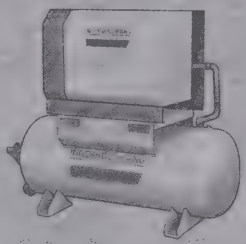
## OPTIONAL CANOPY – SOUND DAMPENING ENCLOSURE KITS

INGERSOLL-RAND®
AIR COMPRESSORS

New




No. 4TM98 Shown with No. 4MJ32 Baseplate mount Air Compressor sold separately



No. 4TM98 Shown with No. 4MJ38 tank mount Air Compressor sold separately

Optional canopy for use with rotary screw air compressors ensures quiet operating levels at 75 dBA or below. This meets of exceeds OSHA requirements and allows greater flexibility when locating compressor. Mounting hardware included.

| HP | dBA @ 3 Feet | Dimensions (In.) L | W | H | I-R Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 7.5-15 | 75 | 30 | 20 | 25 | 42448753 | 4TM98 | $917.00 | $725.00▲ | 30.0 |
| 20-30 | 75 | 32 | 17 | 32 | 12456483 | 4TN54 | 1250.00 | 999.00▲ | 40.0 |

(▲) Net prices, not subject to discounts.

## ROTARY SCREW G-COOL LUBRICANT

**G-Cool Synthetic Lubricant** is specially formulated for use in rotary screw air compressors. Lubrication qualities far exceed other standard petroleum base and synthetic oils. G-Cool is formulated for 8,000 hours or two years operation, extending maintenance intervals. 1 Gallon container, sold in package of 4. Ingersoll-Rand brand. (37981073).

***New* No. 4MJ06.** Shpg. wt. 41.0 Lbs. List.....$250.00.
Each .....$219.50▲

(▲) Net prices, not subject to discounts.

INGERSOLL-RAND®
AIR COMPRESSORS

New

No. 4MJ06




## ROTARY SCREW MAINTENANCE KITS

Rotary Screw Maintenance Kits include: coolant for one service interval, inlet air filter, coolant filter, separator filter, and v-belt.

| Compressor Description (HP) EP Series (125 PSI)* | I-R Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 7.5-10 | 38483905 | 4MJ07 | $337.57 | $291.50▲ | 18.0 |
| 15 HP | 38483913 | 4MJ08 | 346.66 | 298.50▲ | 18.0 |

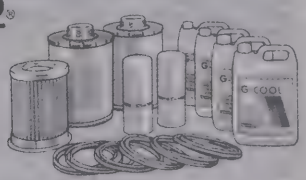
(*) Maintenance Kits are also available for additional ratings of 140 PSI (HP Series 7.5-30HP) 175 PSI (XP Series 7.5-30HP) and 200 PSI (HP Series 20-30HP). Please contact your local Grainger Branch. (▲) Net prices, not subject to discounts.

INGERSOLL-RAND®
AIR COMPRESSORS

New

No. 4MJ07

Quantity of Kit Components may vary by Stock No.




## T30 MAINTENANCE PACKS

Kits include components needed for annual maintenance:

- **All Season T30 Select®**
- **Air filter elements**
- **Check valve or discharge safety valve**
- **Head, manifold, unloader gaskets, and o-rings**
- **Maintenance reminder sticker**

| Compressor Model | I-R Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2340 | 38485314 | 4TM93 | $67.00 | $65.05▲ | 8.0 |
| 2475 | 38485330 | 4TM95 | 82.00 | 79.35▲ | 8.0 |
| 2545 | 38485298 | 4TM91 | 115.00 | 111.40▲ | 12.0 |
| 7100 | 38485322 | 4TM94 | 135.00 | 130.40▲ | 12.0 |
| 3000 | 38485306 | 4TM92 | 198.00 | 191.00▲ | 16.0 |

(▲) Net prices, not subject to discounts.

INGERSOLL-RAND®
AIR COMPRESSORS

New

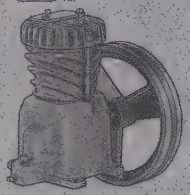
No. 4TM95



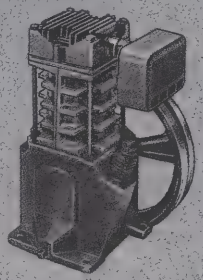
# SINGLE-STAGE AIR COMPRESSOR PUMPS

Installation & Service Available
Contact Your Local Branch

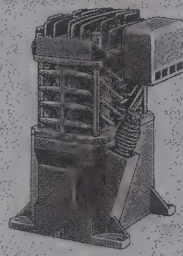
Replacement
Parts Available
1-800-323-0620



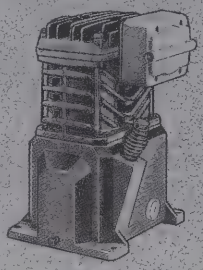
No. 2Z498



No. 3JR84



No. 4B244

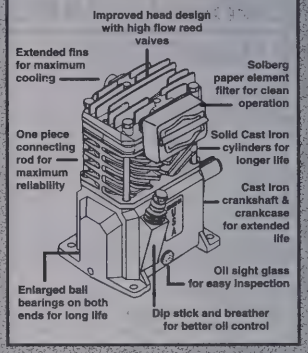


No. 4B247

Made in U.S.A.

## SPEEDAIRE® CAST IRON SERIES

**EXCLUSIVE HIGH-PERFORMANCE CAST IRON PUMP**




## SPEEDAIRE CAST IRON SINGLE-STAGE AIR COMPRESSOR PUMPS

**Speedaire compressor pumps** feature cast iron construction, high strength ductile iron crankshaft, ball bearings on both ends of crankshaft (except 2Z498, which has needle bearings), and splash lubrication. Can be used for new or replacement applications.

- **4B245 and 4B247 replace all 2Z499 and 2Z630 pumps**
- **High flow reed valves**
- **Oil dipstick, except 2Z498**
- **CCW rotation facing flywheel**
- **Refer to your tank mounted unit's original specification for replacement pump Nos.**
- **Flywheels sold separately, with 3 different belt styles***

(*) 2Z498 and 3JR84 comes with 8¾ flywheel, with 1A-belt groove.

### SPEEDAIRE HIGH PERFORMANCE COMPRESSOR PUMPS

Nos. 4B246 and 4B247 deliver outstanding performance for demanding applications and offer the following advantages over comparable standard models.

- **Higher duty cycle, 65/35 vs. industry standard 50/50, and longer life**
- **Oil level sight glass**
- **Solberg filter element, not foam element**
- **Higher presssure, 135 PSI vs. 125 PSI**

### STANDARD DUTY PUMP ORDERING DATA

| Running Motor HP Range* | Peak/ Developed Motor HP* | Cylinder No. | Cylinder Bore (In.) | Cylinder Stroke (In.) | Bearing Size, Flywheel Side | Oil Capacity (Oz.) | (F)NPT Outlet (In.) | Dimensions (In.) H | W | D | Mounting Holes C to C (In.) | Pump Shaft Dia. (In.) | Flywheel Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1-1½** | 1/3-2½ | 1 | 2¾ | 1½ | — | 7.0 | 3/8 | 9½ | 8¼ | 5¾ | 5⅛ x 3⅜ | 1/2 | 8¾ | **2Z498** | $186.25 | **$166.00** | 21.0 |
| **2** | 4 | 1 | 2¾ | 2 | — | 6.0 | 3/8 | 11¼ | 7 | 7¾ | 5⅞ x 4⁹/₃₂ | 3/4 | 8¾ | **3JR84** | 179.00 | **155.00** | 25.0 |
| **1-2** | 1-4½ | 2 | 2¾ | 1½ | 6204 | 11.5 | 3/8 | 10½ | 6¾ | 11 | 5²⁷/₃₂ x 5⅞ | 3/4 | 10 | **4B244** | 202.50 | **178.00** | 28.0 |
| **2-4** | 5-6 | 2 | 2¾ | 2 | 6204 | 16.0 | 3/8 | 10½ | 6¾ | 11¼ | 6⁹/₁₆ x 5⅞ | 3/4 | 10 | **4B245** | 206.25 | **179.00** | 29.0 |

### HIGH PERFORMANCE PUMP ORDERING DATA

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1-2** | 1-4½ | 2 | 2¾ | 1½ | 6304 | 11.5 | 3/8 | 10½ | 6¾ | 11 | 5²⁷/₃₂ x 5⅞ | 3/4 | 10 | **4B246** | 290.00 | **197.00** | 29.0 |
| **2-4** | 5-6 | 2 | 2¾ | 2 | 6304 | 16.0 | 3/8 | 10½ | 6¾ | 11¼ | 6⁹/₁₆ x 5⅞ | 3/4 | 10 | **4B247** | 293.75 | **199.00** | 30.0 |

Note: Flywheel and pulley sold separately. Counter-clockwise pump rotation facing flywheel. (†) As rated by the standard B-10 bearing life of the pump, see page 2849 for B-10 rating explanation. (*) For specific HP rating explanation, see page 2849.

### PUMP SPECIFICATIONS

| Pump Stock No. | Free Air CFM @ PSI 90 | Free Air CFM @ PSI Max. | Max. Rated Load PSI | Max. Pump RPM | Running Motor HP | Dayton Motor To Be Used Stock No. | Rated Pump Life† @ Max. PSI and RPM Standard Duty | Rated Pump Life† @ Max. PSI and RPM High Performance | O.D. of 3450 Motor Sheave (In.) | Motor Pulley to be used Stock No. | Belt Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2Z498 | 1.5 | 1.3 | 100 | 790 | 1/2 | 4FG46 | — | — | 2.00 | 3X761 | 1A |
| | 2.1 | 1.9 | 100 | 1000 | 3/4 | 4FG47 | — | — | 2.50 | 3X766 | 1A |
| | 3.2 | 2.3 | 125 | 1000 | 1 | 4FG48 | — | — | 2.50 | 3X766 | 1A |
| | 3.6 | 2.9 | 125 | 1200 | 1½ | 4FG49 | — | — | 2.95 | 3X829 | 1A |
| 3JR84 | 5.8 | 4.9 | 125 | 1280 | 2 | 4FG50 | 2500 | — | 3.75 | 3X868 | A |
| 4B244 | 3.7 | 3.5 | 100 | 620 | 1 | 4FG48 | 4000 | 5000 | 2.00 | 3X761 | A |
| 4B246 | 5.6 | 5.4 | 100 | 800 | 1½ | 4FG50 | 3500 | 5000 | 2.50 | 3X766 | A |
| | 6.6 | 6.2 | 125/135 | 955 | 2 | 4FG50 | 3000 | 3400 | 2.95 | 3X829 | A |
| 4B245 | 6.0 | 5.1 | 125/135 | 650 | 2 | 6K773 | 3000 | 5000 | 2.00 | 3X761 | A |
| 4B247 | 9.2 | 7.9 | 125/135 | 955 | 3 | 4FG51 | 2800 | 4300 | 2.95 | 3X829 | A |
| | 9.6 | 8.3 | 125/135 | 1030 | 5 | 4FG52 | 2700 | 4200 | 3.15 | 3X859 | A |

(†) As rated by the standard B-10 bearing life of the pump; see page 2849 for HP rating explanation.

# 1/4 TO 10 HP COMPRESSOR PUMPS



Made In U.S.A.

A

Replacement Parts Available 1-800-323-0620

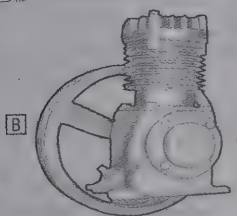
- **Die-cast aluminum cylinders with cast-iron sleeves for greater efficiency, cooling, and service life on models A through D**
- **Aluminum alloy pistons and connecting rods**
- **Swedish steel reed-type valves on models A through D**
- **Cast-iron crankcase and fan-type flywheel**
- **Tapered roller main bearings on pumps C thru F**
- **Designed for 100 PSI maximum heavy-duty and 125 PSI intermittent-duty applications**

**Same Dayton pumps used on many stock compressors,** giving outstanding service. Balanced ductile iron crankshaft. Splash oil lubrication.

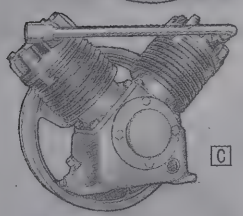
**Visual oil level gauge** on 2, 3, and 4-cylinder models. Cast-iron flywheels on all models except No. 2Z157, which is stamped steel. CCW rotation facing flywheel. For applications which require a constant speed unloader control, use No. 5X709 Load Genie unloader control. See Index under "Unloader control."(Formerly Dayton brand.)

**Nos. 3Z172 and 3Z241** have Swedish steel disc valves, centrifugal unloaders and cast iron cylinders. Max. intermittent pressure is 120 PSIG.

**To determine motor pulley size:** Compressor pulley x compressor RPM ÷ motor RPM = motor pulley size.

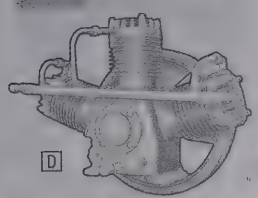


B

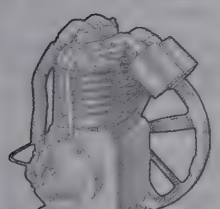


C

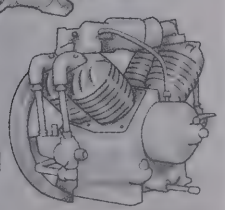
CHAMPION



D



E



F

## FLYWHEEL DATA

| Pump No. | O.D. (In.) | No. & Type Belt | Pump No. | O.D. (In.) | No. & Type Belt |
|---|---|---|---|---|---|
| 2Z157 | 9¼ | 1-A | 1Z945 | 10⅛ | 2-A |
| 1Z943 | 10⅛ | 1-A | 3Z170 | 12⅝ | 2-A |
| 2Z203 | 10⅛ | 1-A | 3Z172 | 16½ | 2-B |
| 2Z050 | 10⅛ | 1-A | 3Z241 | 18⅞ | 2-B |
| 1Z944 | 10⅛ | 2-A | | | |

## PUMP PERFORMANCE

| PSI | Free‡ Air CFM | Pump RPM | 1725* Motor Sheave | Free‡ Air CFM | Pump RPM | 1725* Motor Sheave | Free‡ Air CFM | Pump RPM | 1725* Motor Sheave | Free‡ Air CFM | Pump RPM | 1725* Motor Sheave |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1/4 HP | | A No. 2Z157 | 1/3 HP | | A No. 2Z157 | 1/2 HP | | A No. 2Z157 | | | |
| 50 | 1.40 | 685 | 3⅝" | 1.70 | 865 | 4½" | — | — | — | | | |
| 75 | 1.00 | 555 | 2⅞ | 1.30 | 720 | 3¾ | — | — | — | | | |
| 100 | 0.85 | 500 | 2⅝ | 1.10 | 645 | 3⅜ | 1.60 | 971 | 5⅛" | | | |
| 125† | 0.75 | 470 | 2½ | 0.95 | 610 | 3¼ | 1.40 | 935 | 4⅞ | | | |
| | 1/2 HP | | B No. 1Z943 | 3/4 HP | | B No. 1Z943 | 3/4 HP | | B No. 2Z203 | 1 HP | | B No. 2Z203 |
| 50 | 2.30 | 635 | 3⅝ | 3.50 | 950 | 5½ | 3.60 | 783 | 4½ | — | — | — |
| 75 | 1.90 | 565 | 3¼ | 2.80 | 845 | 4⅞ | 2.80 | 695 | 4 | 3.70 | 935 | 5⅜" |
| 100 | 1.65 | 525 | 3 | 2.50 | 800 | 4⅝ | 2.50 | 656 | 3¾ | 3.30 | 863 | 5 |
| 125† | 1.40 | 505 | 2⅞ | 2.20 | 760 | 4⅜ | 2.10 | 625 | 3⅝ | 2.80 | 830 | 4¾ |
| | 3/4 HP | | C No. 2Z050 | 1 HP | | C No. 2Z050 | 1 HP | | C No. 1Z944 | 1½ HP | | C No. 1Z944 |
| 50 | 3.60 | 900 | 5⅛ | — | — | — | 4.75 | 645 | 3¾ | 7.20 | 975 | 5⅝ |
| 75 | 2.80 | 790 | 4½ | — | — | — | 3.80 | 570 | 3¼ | 5.80 | 865 | 5 |
| 100 | 2.50 | 735 | 4¼ | 3.30 | 970 | 5⅝ | 3.30 | 535 | 3⅛ | 5.10 | 820 | 4¾ |
| 125† | 2.10 | 700 | 4 | 2.80 | 935 | 5⅜ | 2.90 | 515 | 3 | 4.50 | 780 | 4½ |
| | 2 HP | | C No. 1Z945 | 2 HP | | D No. 3Z170 | 3 HP | | D No. 3Z170 | | | |
| 50 | 9.30 | 960 | 5½ | 13.0 | 895 | 6⅜ | — | — | — | | | |
| 75 | 7.50 | 850 | 4⅞ | 10.5 | 750 | 5⅜ | — | — | — | | | |
| 100 | 6.60 | 805 | 4⅝ | 8.3 | 645 | 4½ | 10.5 | 900 | 6.6 | | | |
| 125† | 5.80 | 775 | 4½ | 7.1 | 580 | 4¼ | 9.9 | 850 | 6¼ | | | |
| | 3 HP | | E No. 3Z172 | 5 HP | | E No. 3Z172 | 7½ HP | | F No. 3Z241 | 10 HP | | F No. 3Z241 |
| 50 | 19.4 | 658 | 6 | 26.0 | 1000 | 9⅛ | 38.5 | 740 | 8 1/16 | 43.5 | 910 | 11 1/16 |
| 75 | 15.2 | 549 | 5 | 23.9 | 908 | 8¼ | 35.0 | 690 | 7 11/16 | 40.5 | 850 | 10⅜ |
| 100 | 12.8 | 490 | 4½ | 21.4 | 836 | 7⅝ | 31.0 | 640 | 7⅝ | 37.3 | 800 | 9 11/16 |
| 120† | 11.2 | 459 | 4⅛ | 19.5 | 788 | 7¼ | 27.2 | 600 | 7 5/16 | 33.9 | 740 | 9⅜ |

(*) Sheave sizes are O.D. to provide proper pump speed with 1725 RPM motor. (†) Intermittent duty. Use 2-stage pumps listed on next page for continuous duty. (‡) Tested in accordance with CAGI Acceptance Standard PN2CPTC2.

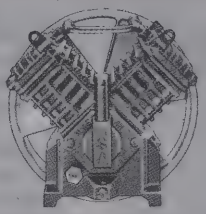
## SPECIFICATIONS AND ORDERING DATA

| Fig. | HP | Cylinder No. | Cylinder Bore (In.) | Cylinder Stroke (In.) | (M)NPT Outlet | Oil Cap. | Dimensions (In.) H | W | D | Mtg. Holes C to C (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 3/8 | 6 oz. | 10 3/4 | 9¾ | 7¼ | 5½ x 2⅜ | 2Z157 | $181.48 | $144.85 | 23.0 |
| A | 1/4-1/2 | 1 | 1¾ | 2 | 3/8 | 6 | 10¾ | 10⅛ | 7¼ | 5½ x 2⅜ | 1Z943 | 218.47 | 172.25 | 25.0 |
| B | 1/2-3/4 | 1 | 2⅜ | 2 | 3/8 | 6 | 10¾ | 10⅛ | 7¼ | 5½ x 2⅜ | 2Z203 | 235.35 | 189.50 | 27.0 |
| B | 3/4-1 | 1 | 2⅝ | 2 | 3/8 | 9 | 10¾ | 14½ | 8 | 6 9/16 x 2¾ | 2Z050 | 329.71 | 269.00 | 31.0 |
| C | 3/4-1 | 2 | 1¾ | 2 | 3/8 | 9 | 10¾ | 14¾ | 8 | 6 9/16 x 2¾ | 1Z944 | 366.54 | 292.25 | 37.0 |
| C | 1-1½ | 2 | 2⅜ | 2 | 3/8 | 9 | 10¾ | 14¾ | 8 | 6 9/16 x 2¾ | 1Z945 | 381.45 | 310.25 | 37.0 |
| C | 2 | 2 | 2⅝ | 2 | 3/8 | 9 | 10¾ | 14¾ | 8 | 6 9/16 x 2¾ | 3Z170 | 601.99 | 478.50 | 42.0 |
| D | 2-3 | 3 | 2⅝ | 2 | 1/2 | 10 | 12⅞ | 17⅝ | 8¾ | 7 x 2¾ | 3Z172 | 1219.12 | 994.00 | 141.0 |
| E | 5 | 3 | 3¾ | 3 | 3/4 | 2 qts. | 19 | 18 | 20 | 8¾ x 5¼ | 3Z241 | 2288.19 | 1868.00 | 294.0 |
| F | 7½-10 | 4 | 3¾ | 3 | 1 1/4 | 4 qts. | 20⅝ | 25 | 21¼ | 9¾ x 8½ | | | | |

# AIR COMPRESSOR PUMP ACCESSORIES AND PUMP OVERHAUL KITS

## SINGLE-STAGE AIR COMPRESSOR PUMP

- Cast-iron construction
- 16 CFM air delivery — comparable to two stage compressor air delivery
- 135 maximum pressure
- Splash lubrication
- Ball bearing construction for smooth, quiet operation
- Oil level sight glass



No. 4KP89

Made In U.S.A.

### PUMP SPECIFICATIONS

| Pump Stock No. | Free Air CFM @ PSI 90 | 135 | Max. Rated Load PSI | Max. Pump RPM | Running Motor HP | Dayton Motor To Be Used Stock No. | Rated Pump Life† @ Max. PSI & RPM | O.D. of 3450 Motor Sheave (In.) | Motor Pully To Be Used Stock No. | Belt Type |
|---|---|---|---|---|---|---|---|---|---|---|
| 4KP89 | 16.7 | 14.9 | 135 | 900 | 5 | 6K794 | 7500 | 4.45 | 3X814 | A |

(†) As rated by the standard B-10 bearing life of the pump; see page 2849 for HP rating explanation.

### SPECIFICATIONS AND ORDERING DATA

| Running Motor HP Range* | Peak/ Developed Motor HP* | No. Cyl. | Cylinder (In.) Bore | Stroke | Bearing Size Flywheel Side | Oil Cap. (Oz.) | (F) NPT Outlet (In.) | Dimensions (In.) H | W | D | Mounting Holes C to C (In.) | Pump Shaft Dia. (In.) | Flywheel Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 7 | 4 | 2.75 | 2.0 | 6206 | 45 | 3/8 | 21 | 24 | 20 | 6.5 x 7.5 | Special tapered shaft | 16.5 | 4KP89 | $532.00 | $495.00 | 57.0 |

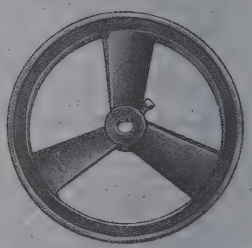
(*) For specific HP ratings explanations, see page 2849. Counter-clockwise pump rotation facing flywheel.

## AIR COMPRESSOR FLYWHEELS

**Available in three styles:**

- A-Groove: For gas and electric models using compressor pumps Nos. 4B244, 4B245, 4B246, and 4B247
- Poly V-Groove: For electric applications using compressor pumps Nos. 2Z499 and 2Z630
- B-Groove: For all gas powered applications using No. 2Z499 or 2Z630 compressor pumps

- Cast iron 10" dia. flywheel with 3/4" dia. bore using 3/16" key designed for maximum durability and balance
- Specifically designed for Dayton and Speedaire pumps



No. 4B254

### ORDERING DATA

| No. / Type | Outer Diameter (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/A-Groove | 10 | 4B253 | $38.25 | $31.25 | 9.0 |
| 1/Poly V-Groove | 10 | 4B254 | 36.25 | 26.00 | 10.0 |
| 1/B-Groove | 10 | 4B255 | 40.00 | 26.00 | 8.0 |

## SPEEDAIRE AND DAYTON PUMP OVERHAUL KITS

Replacement and rebuild kits for keeping Speedaire and Dayton compressor pumps in peak operating condition.

### GASKET PARTS KITS

- Consist of one each: cylinder head gasket, valve plate gasket, cylinder gasket, bearing cap gasket, and oil seal
- No. 1R396 Kit fits all No. 2Z499 and 2Z630 pumps
- No. 1R400 Kit fits all No. 2Z498 pumps
- No. 4B252 Kit fits all Nos. 4B244, 4B245, 4B246, and 4B247 pumps

### VALVE PARTS KITS

- No. 1R397 Kit includes 6 reed valves, 2 restrictors, and 12 screws; fits all No. 2Z499 and No. 2Z630 pumps
- No. 1R401 Kit inlcudes 2 reed valves, 6 bolts, and 2 gaskets; fits all No. 2Z498 pumps

### HEAD ASSEMBLY KIT

- Includes entire valve plate, valving, head, and gaskets
- Kit 4B251 fits pump Nos. 4B244, 4B245, 4B246, 4B247, 2Z630, 2Z499, and 4KP89*

### PISTON RING PARTS KITS

- Consist of 4 oil and 4 compression rings, and 2 expanders
- No. 1R398 Kit fits all No. 2Z498, 2Z499, 4B244, 4B245, 4KP89*, 4B246, and 4B247 pumps (Note: includes 2 sets of ring parts for pump No. 2Z498)
- No. 1R399 Kit fits all No. 2Z630 pumps

### ORDERING DATA

| Parts Kit | Fits Pump Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Gasket | 2Z499, 2Z630 | 1R396 | $21.13 | $18.25 | 0.3 |
| Gasket | 2Z498 | 1R400 | 13.44 | 11.25 | 0.1 |
| Gasket | 4B244, 4B245, 4B246, 4B247 4KP89* | 4B252 | 12.38 | 10.25 | 0.2 |
| Valve | 2Z499, 2Z630 | 1R397 | 19.06 | 15.75 | 0.1 |
| Valve | 2Z498 | 1R401 | 11.24 | 9.25 | 0.1 |
| Head Assembly | 4B244, 4B245, 4B246, 4B247, 4KP89* | 4B251 | 43.63 | 36.00 | 3.1 |
| Piston Ring | 2Z498, 2Z499, 4B244, 4B245, 4B246, 4B247 | 1R398 | 24.93 | 20.95 | 0.1 |
| Piston Ring | 2Z630 | 1R399 | 24.69 | 20.75 | 0.2 |

(*) Requires two kits.

# 3/4 to 25 HP COMPRESSOR PUMPS

CHAMPION Made in U.S.A.

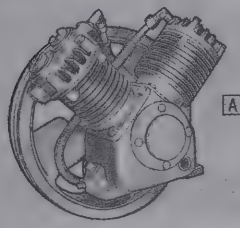
- Splash oil lubrication
- 2, 3, and 4-Cylinder models
- Die-cast aluminum cylinders with cast-iron sleeves for greater efficiency, cooling, and service life
- Cast-iron cylinders with integral heads on Nos. 3Z410 and 3Z411
- Counter-balanced, ductile iron crankshaft
- Tapered roller bearings on crankshaft
- Reed type valves in Nos. 3Z174 and 3Z176 pumps on low pressure side
- Swedish steel disc-in-plate design valves on all other pumps
- Visual oil level gauge

**Built to provide maximum efficiency and long life** in heavy-duty industrial applications. Large diameter finned intercoolers on models C through F dissipate heat for cooler operation. Splash lubrication of cylinder wall and internal moving parts.

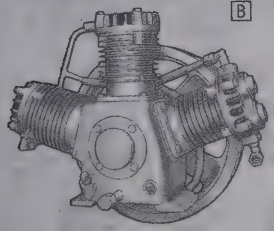
**Balanced fan-type flywheels** provide air flow for cooling pump. Rotation CCW facing flywheel. Nos. 3Z181, 3Z183, 3Z410, and 3Z411 include unloader and pilot valve for constant speed operation. (Formerly Dayton brand.)

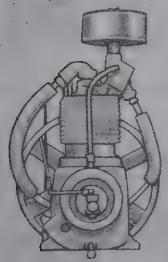
**Centrifugal unloader** provides efficient pressure release for loadless starting. Not available on 3Z174 and 3Z176. Gray metallic finish.

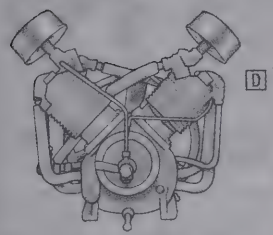
**To determine motor pulley size:** Compressor pulley x compressor RPM ÷ motor RPM = motor pulley size.

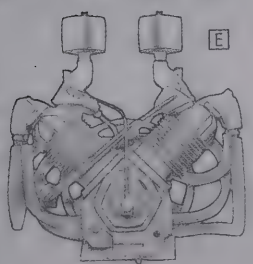



Replacement Parts Available 1-800-323-0620™




| PSI | 3/4 HP A No. 3Z174 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) | 1 HP A No. 3Z174 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) | 1 1/2 HP B No. 3Z176 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) | 2 HP B No. 3Z176 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 4.10 | 830 | 6 1/8 | 5.00 | 1000 | 7 1/4 | 7.10 | 710 | 5 1/8 | 9.20 | 920 | 6 5/8 |
| 125 | 3.70 | 770 | 5 1/2 | 4.60 | 945 | 6 3/4 | 5.60 | 645 | 4 5/8 | 8.40 | 860 | 6 1/4 |
| 150 | 3.10 | 675 | 4 7/8 | 3.80 | 815 | 5 7/8 | 5.30 | 600 | 4 1/4 | 7.40 | 790 | 5 3/4 |
| 175 | 2.60 | 590 | 4 1/4 | 3.60 | 780 | 5 5/8 | 5.40 | 565 | 4 1/8 | 6.70 | 720 | 5 1/4 |

| PSI | 3 HP C Nos. 3Z180, 3Z181 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) | 5 HP C Nos. 3Z180, 3Z181 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) | 7 1/2 HP D Nos. 3Z182, 3Z183 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) | 10 HP D Nos. 3Z182, 3Z183 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 13.94 | 553 | 5 3/16 | 22.60 | 894 | 8 3/8 | 36.00 | 738 | 8 3/16 | 41.85 | 853 | 9 7/16 |
| 125 | 10.9 | 485 | 4 13/16 | 19.1 | 805 | 7 5/8 | 30.00 | 670 | 7 5/8 | 37.30 | 810 | 8 3/4 |
| 150 | 11.78 | 470 | 4 1/2 | 19.34 | 781 | 7 5/16 | 31.75 | 652 | 7 1/4 | 36.45 | 772 | 8 3/16 |
| 175 | 9.7 | 440 | 4 1/4 | 16.5 | 710 | 7 | 25.8 | 575 | 6 3/8 | 34.8 | 740 | 8 1/8 |

| PSI | 15 HP Not Shown No. 3Z410 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) | 20 HP E No. 3Z411 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) | 25 HP E No. 3Z411 Free† Air CFM | Pump RPM | 1725* Motor Sheave (In.) |
|---|---|---|---|---|---|---|---|---|---|
| 100 | 62.5 | 990 | 12 3/4 | 98 | 820 | 10 3/8 | 112.0 | 990 | 12 3/8 |
| 125 | 59 | 890 | 11 1/4 | 91.9 | 770 | 9 3/4 | 102.1 | 890 | 11 1/8 |
| 150 | 55.2 | 820 | 10 5/8 | 82.0 | 720 | 9 | 95.0 | 820 | 10 3/8 |
| 175 | 53.7 | 770 | 9 3/4 | 76.7 | 655 | 8 3/8 | 90.1 | 770 | 9 3/4 |

| FLYWHEEL DATA Pump No. | O.D. (In.) | No. & Type Belt |
|---|---|---|
| 3Z174, 3Z176 | 12 5/8 | 2-A |
| 3Z180, 3Z181 | 16 1/2 | 2-B |
| 3Z182 | 18 7/8 | 2-B |
| 3Z410 | 22 | 3-B |
| 3Z183 | 18 7/8 | 2-B |
| 3Z411 | 22 | 3-B |

(*) Sheave sizes are OD to provide proper pump speed with 1740 RPM motor. (†) Tested in accordance with CAGI Acceptance Standard PN2CPTC2.

## SPECIFICATIONS AND ORDERING DATA

| Key | HP | Cylinder No. | Cylinder Bore (In.) | Cylinder Stroke (In.) | (F)NPT Outlet (In.) | Oil Cap. | Dimensions (In.) H | Dimensions (In.) W | Dimensions (In.) D | Mtg. Hole C to C (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PUMPS FOR START/STOP OPERATION** | | | | | | | | | | | | | | |
| A | 3/4 & 1 | 2 | 2 5/8 & 1 3/4 | 2 | 3/8 | 9 oz. | 10 1/2 | 13 1/4 | 8 9/16 | 6 5/16 x 2 5/8 | 3Z174 | $480.89 | $388.00 | 40.0 |
| B | 1 1/2 & 2 | 3 | 2 5/8 & 1 3/4 | 2 | 3/8 | 10 oz. | 12 3/16 | 17 3/8 | 11 | 7 x 2 5/8 | 3Z176 | 652.05 | 521.50 | 48.0 |
| C | 3 & 5 | 2 | 4 5/8 & 2 1/2 | 3 | 3/4 | 2 qt. | 23 1/4 | 18 | 20 | 8 3/4 x 5 3/4 | 3Z180 | 1002.94 | 818.00 | 123.0 |
| D | 7 1/2 & 10 | 4 | 4 5/8 & 2 1/2 | 3 | 3/4 | 4 qt. | 25 3/4 | 24 | 21 1/4 | 9 3/4 x 8 1/2 | 3Z182 | 2117.07 | 1757.00 | 230.0 |
| **PUMPS FOR CONSTANT OR DUAL CONTROL OPERATION** | | | | | | | | | | | | | | |
| C | 3 & 5 | 2 | 4 5/8 & 2 1/2 | 3 | 3/4 | 2 qt. | 23 1/4 | 18 | 20 | 8 3/4 x 5 3/4 | 3Z181 | 1137.73 | 909.50 | 125.0 |
| D | 7 1/2 & 10 | 4 | 4 5/8 & 2 1/2 | 3 | 3/4 | 4 | 29 1/2 | 24 | 21 1/4 | 9 3/4 x 8 1/2 | 3Z183 | 2422.13 | 1936.00 | 232.0 |
| — | 15 | 2 | 6 1/4 & 3 1/4 | 4 1/2 | 1 | 4 | 32 | 26 | 26 | 11 3/4 x 10 | 3Z410 | 3546.34 | 2830.00 | 434.0 |
| E | 20 & 25 | 4 | 6 1/4 & 3 1/4 | 4 | 1 1/4 | 6 1/4 | 26 3/4 | 33 | 27 3/4 | 11 7/8 x 11 1/4 | 3Z411 | 4302.89 | 3432.00 | 460.0 |

## INTAKE FILTER ADAPTER

**For Dayton Compressor Pumps**

Allows use of Solberg filter/silencer No. 4Z680 with pump No. 3Z172.

**No. 5Z664.** Intake Filter Adapter. Shpg. wt 0.1 lbs. List $6.95. Each.....$6.45

SOLBERG



# TWO-STAGE AIR COMPRESSOR PUMPS

## SPEEDAIRE® SPLASH LUBRICATED AIR COMPRESSOR PUMPS

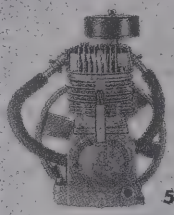
**Speedaire Two Stage Air Compressor Pumps** are rated for heavy duty commercial use in new or replacement applications. These pumps are splash lubricated with cast iron crankcase and cylinders for durability and aluminum head for cooler operating temperature. Rated for 75/25 duty cycle.

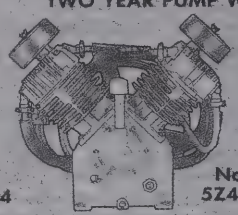
- **Cast-iron construction with ductile iron crankshaft for greater durability**
- **Stainless steel valves and finned copper intercooler for extended life**
- **175 Maximum PSI**
- **CCW rotation facing flywheel**
- **25 HP model has dual control for start/stop or continuous run operation**

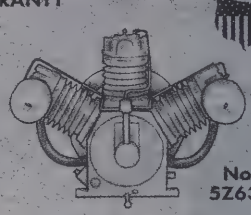
FREE DELIVERY on orders of $900 or more*
See Freight Policy

TWO YEAR PUMP WARRANTY

Made In U.S.A.


No. 5Z404


No. 5Z405


No. 5Z632

Installation & Service Available
Contact Your Local Branch

Replacement Parts Available
1-800-323-0620

### PUMP PERFORMANCE

| HP | Stock No. | Free Air CFM @ 175 PSI | Pump RPM | 1725 Motor Sheave* (In.) | Oil Cap. (Qts.) |
|---|---|---|---|---|---|
| **5** | 5Z404 | 17.1 | 685 | 6.75 | 2 |
| **7½** | 5F566 | 25.1 | 1020 | 4.95† | 2 |
| **10** | 5Z405 | 34.2 | 685 | 6.75 | 4 |
| **15** | 4B248 | 51.0 | 1020 | 11.37 | 4 |
| **25** | 5Z632 | 88.0 | 925 | 11.35 | 4 |

(*) Sheave sizes are OD to provide proper pump speed with 1725 RPM motor. (†) Based on 3450 RPM motor.

### PUMP SPECIFICATIONS AND ORDERING DATA

| HP | No. | Cylinder (In.) Bore | Cylinder (In.) Stroke | Outlet Size (In.) | Flywheel* Dia. (In.) | Dimensions (In.) W | Dimensions (In.) D | Dimensions (In.) H | Mtg. Holes C to C (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 2 | 4 3/4 & 2 1/2 | 3 | 3/4 | 16 1/2 | 18 | 16 1/2 | 22 1/4 | 8 3/4 x 5 3/4 | **5Z404** | $747.25 | **$699.00** | 145.0 |
| **7½** | 2 | 4 3/4 & 2 1/2 | 3 | 3/4 | 16 1/2 | 18 | 16 1/2 | 24 3/4 | 8 3/4 x 5 3/4 | **5F566** | 939.00 | **849.00** | 155.0 |
| **10** | 4 | 4 3/4 & 2 1/2 | 3 | 3/4 | 16 1/2 | 25 | 18 1/2 | 21 1/2 | 9 5/8 x 8 1/16 | **5Z405** | 1378.00 | **1249.00** | 235.0 |
| **15** | 4 | 4 3/4 & 2 1/2 | 3 | 3/4 | 19 3/8 | 28 3/8 | 19 1/2 | 24 1/4 | 9 5/8 x 8 1/16 | **4B248†** | 1876.00 | **1699.00** | 217.0 |
| **25** | 3 | 6 1/8 & 4 1/2 | 3 1/2 | 1 1/4 (F)NPT | 21 11/32 | 37 1/2 | 26 | 30 1/4 | 8 3/4 x 15 | **5Z632†** | 4245.00 | **3650.00** | 700.0 |

(*) Flywheels for 5, 7½, 10 & 15 HP pumps have two grooves, for 25 HP pumps have three grooves, all rated for B-section belts. Recommended oil is No. 4ZF21.
(†) Limited availability—Contact local branch.

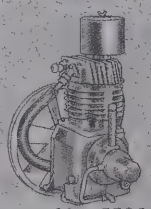
## SPEEDAIRE® PRESSURE LUBRICATED AIR COMPRESSOR PUMPS

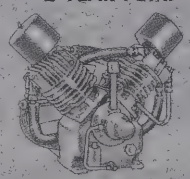
**Speedaire Pressure Lubricated Air Compressor Pumps** are designed for long-lasting, heavy-duty commercial/industrial service. Pressure lubrication provides direct, positive lubrication to the critical internal components of the pump such as connecting rod bearings and piston assembly. Rated for 80/20 duty cycle.

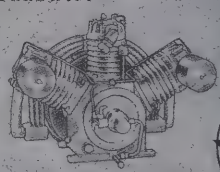
- **Cast-iron crankcase and cylinders for extended life and aluminum head for cooler operating temperature**
- **Heavy-duty, gear driven oil pump and spin-on filter to keep oil clean**
- **Stainless steel valves and finned copper intercooler for extended life**
- **175 maximum PSI**
- **CCW rotation facing flywheel**
- **25 HP model features low oil protection and dual control for start/stop or continuous run operation**

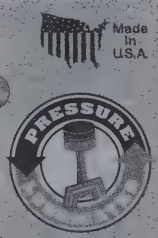
2-YEAR PUMP WARRANTY

Made In U.S.A.


No. 5F235


No. 5F236


No. 5Z636




Installation & Service Available
Contact Your Local Branch

Replacement Parts Available
1-800-323-0620

### PUMP PERFORMANCE

| HP | Stock No. | Free Air CFM @ 175 PSI | Pump RPM | 1725 Motor Sheave* (In.) | Oil Cap. (Qts.) |
|---|---|---|---|---|---|
| 5 | 5F235 | 17.1 | 685 | 6.75 | 2 |
| 10 | 5F236 | 34.2 | 685 | 6.75 | 4 |
| 15 | 4B249 | 51.0 | 1020 | 11.37 | 4 |
| 25 | 5Z636 | 88.0 | 925 | 11.35 | 4 |

(*) Sheave sizes are OD to provide proper pump speed with 1725 RPM motor.

### PUMP SPECIFICATIONS AND ORDERING DATA

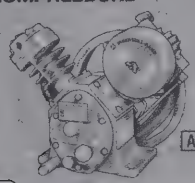
| HP | No. | Cylinder (In.) Bore | Cylinder (In.) Stroke | (F)NPT Outlet (In.) | Flywheel* Dia. (In.) | Dimensions (In.) L | Dimensions (In.) W | Dimensions (In.) D | Mtg. Holes C to C (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 2 | 4 3/4 & 2 1/2 | 3 | 3/4 | 16 1/2 | 18 | 20 1/4 | 24 3/4 | 8 3/4 x 5 3/4 | **5F235** | $967.00 | **$885.00** | 148.0 |
| **10** | 4 | 4 3/4 & 2 1/2 | 3 | 3/4 | 16 1/2 | 28 5/8 | 22 | 23 1/4 | 9 5/8 x 8 1/16 | **5F236** | 1927.00 | **1645.00** | 238.0 |
| **15** | 4 | 4 3/4 & 2 1/2 | 3 | 3/4 | 19 3/8 | 28 5/8 | 23 | 241/4 | 95/8 x 81/16 | **4B249** | 2251.00 | **1999.00** | 220.0 |
| **25** | 3 | 6 1/8 & 4 1/2 | 3 1/2 | 1 1/4 (F)NPT | 21 11/32 | 37 1/2 | 26 | 30 1/4 | 8 3/4 x 15 | **5Z636†** | 5175.00 | **4475.00** | 705.0 |

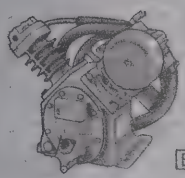
(*) Flywheels: for 5, 10 & 15 HP pumps have two grooves, for 25 HP pumps have three grooves, all rated for B-section belts. Recommended oil is No. 4ZF21.
(†) Limited availability—contact local branch.

# TWO-STAGE INDUSTRIAL AIR COMPRESSOR PUMPS AND START-UP/MAINTENANCE KITS

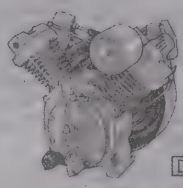
## TYPE-30 AIR COMPRESSOR PUMPS

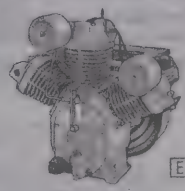
**INGERSOLL-RAND®**
**AIR COMPRESSORS**


A


B


C


D


E

**Replacement Parts Available**
**1-800-323-0620**

**Installation & Service Available**
**Contact Your Local Branch**

- **Features removable cylinders for easy repair and service**
- **One piece connecting rod reduces wearing parts**
- **Inlet and outlet finger valves (4KR37, 4R800, 4M392) for superior performance and long life**
- **Maximum PSI: 175**
- **Combination inlet finger valve and heavy duty disk outlet valve (4R766/4M495)**
- **Splash lubrication**
- **Nos. 4M392, 4R766, and 4M495 incorporate head unloaders for dual control operation**

| Key | HP | Oil Qty. (Oz.) | Flywheel Outside Dia. (In.) | Groove Qty. | Groove Section | Motor Speed (RPM) | Motor Sheave Dia. (In.) | Pump RPM | Delivered CFM | Dimensions (In.) L | W | H | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5 | 28 | 13.75 | 1 | A | 3450 | 6.95 | 1715 | 15.0 | 19.5 | 18.2 | 16.0 | 2340 | 4KR37 | $913.34 | $850.00▲ | 130.0 |
| B | 5<br>7.5 | 43 | 13.75 | 1<br>1 | A<br>A | 1725<br>3450 | 8.93<br>5.93 | 1040<br>1500 | 16.8<br>24.0 | 21.5<br>21.5 | 19.7<br>19.7 | 17.2<br>17.2 | 2475<br>2475 | 4R800 | 1191.74 | 984.50▲ | 250.0 |
| C | 5<br>7.5<br>10 | 74 | 18.00<br>18.00<br>18.00 | 2<br>2<br>2 | A<br>A<br>A | 1725<br>1740<br>1740 | 5.75<br>8.95<br>11.35 | 500<br>825<br>1050 | 16.0<br>27.0<br>35.0 | 25.8<br>25.8<br>25.8 | 27.6<br>27.6<br>27.6 | 20.8<br>20.8<br>20.8 | 2545<br>2545<br>2545 | 4M392 | 2258.47 | 1765.00▲ | 350.0 |
| D | 10<br>15 | 80 | 18.00<br>18.00 | 2<br>2 | B<br>B | 1725<br>1725 | 8.35<br>11.35 | 800<br>1100 | 37.0<br>50.0 | 29.8<br>29.8 | 26.5<br>26.5 | 25.8<br>25.8 | 7100<br>7100 | 4R766 | 2923.11 | 2364.00▲ | 530.0 |
| E | 20<br>25<br>30 | 144 | 21.25<br>21.25<br>21.25 | 2<br>2<br>2 | C<br>C<br>C | 1725<br>1725<br>1725 | 9.4<br>11.4<br>13.4 | 765<br>940<br>1100 | 73.0<br>85.0<br>100.0 | 34.5<br>34.5<br>34.5 | 32.2<br>32.2<br>32.2 | 30.5<br>30.5<br>30.5 | 3000<br>3000<br>3000 | 4M495 | 4879.78 | 3959.00▲ | 800.0 |

(▲) Net prices, not subject to discounts.

## T30 ALL SEASON SELECT® LUBRICANT

T30 Select® specially formulated synthetic lubricant for use with Type-30 air compressors. Lubricant extends compressor life by eliminating carbon build-up on rings. T30 Select® allows compressor to run cooler, extending maintenance intervals. Performs four times longer than petroleum based lubricants. 12 one quart containers per case. **All Ingersoll-Rand Type-30 air compressor pumps initially filled and operated with T30 Select® receive a full two year warranty from Ingersoll-Rand.** Ingersoll-Rand brand.


**No. 4M578**

**No. 4M578.** Shpg. wt. 2.2 lbs. List..... $10.55.
Each .....**$9.28▲**

(▲) Net prices, not subject to discounts.

## AIR COMPRESSOR OVERHAUL KITS


**No. 4KR58**

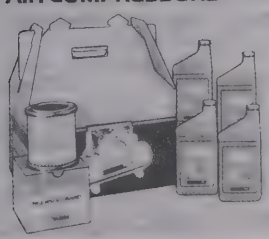
**Type-30 Compressor Maintenance Kit,** providing: replacement valves and rings, gaskets, bearing and connector rod assembly with replacement intake air filter. Kit to be utilized for scheduled equipment overhaul procedures. Ingersoll-Rand brand.

### SPECIFICATIONS AND ORDERING DATA

| For Use With I-R Pump Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2340 | 4KR57 | $208.95 | $188.25▲ | 7.4 |
| 2475 | 4KR58 | 219.45 | 198.00▲ | 10.0 |
| 2545 | 4KR59 | 418.95 | 393.25▲ | 8.8 |
| 7100 | 4KR60 | 691.95 | 659.50▲ | 16.0 |
| 3000 | 4KR61 | 964.95 | 920.00▲ | 24.0 |

(▲) Net prices, not subject to discounts.

**INGERSOLL-RAND®**
**AIR COMPRESSORS**



## AIR COMPRESSOR START-UP KITS

All Start-Up Kits include: T30 Select™ lubricant, two inlet air filters, and Material Safety Data Sheets (MSDS). Gasoline Start-Up Kits include: The manufacturer's engine oil, air filter and oil filter. Ingersoll Rand brand.

| Description | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 5-7.5 HP Start-Up | 32305880 | 4M579 | $78.38 | $67.20▲ | 11.0 |
| 10-15 HP Start-Up | 32305898 | 4M580 | 96.31 | 84.50▲ | 11.0 |
| 20-30 HP Start-Up | 32305906 | 4M581 | 117.17 | 102.70▲ | 16.0 |

### GASOLINE ENGINE COMPRESSOR START-UP KITS

| | | | | | |
|---|---|---|---|---|---|
| 11 HP Kohler Engine Start-Up Kit | 32305872 | 4KR55 | $100.98 | $92.75▲ | 15.0 |
| 11 HP Honda Engine Start-Up Kit | 32305963 | 4LG86 | 78.90 | 71.05▲ | 11.0 |
| 11 HP Kawasaki Engine Start-Up Kit | 32498511 | 4KR62 | 120.75 | 110.35▲ | 15.0 |

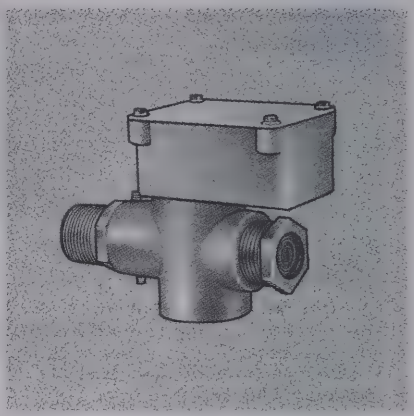
(▲) Net prices, not subject to discounts.

# TWO-STAGE AIR COMPRESSOR ACCESSORY AND MAINTENANCE KITS

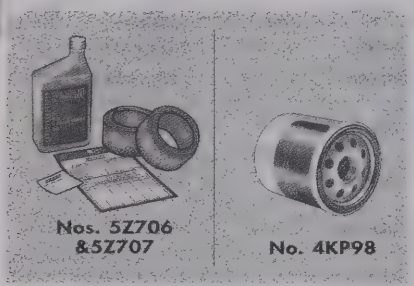
## LOW OIL GUARD FOR 5 TO 25 HP COMPRESSORS

- **Protects air compressor pump against damage if oil level drops too low**
- **For Speedaire and Dayton two-stage compressors listed in table below**
- **Easy to assemble and install**
- **1" NPT thread size**

Protect compressor from damage due to insufficient oil in compressor. The low oil guard monitors the oil level in the compressor and shuts it down when the oil level drops below the minimum level. The low oil guard is available for all 230V, electrically wired Speedaire and Dayton compressors listed in table below.



| For Air Compressor Stock Nos. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 5 HP: 5F229A thru 5F232A, 5F235A, 3Z492, 3Z494, 3Z495, 3Z745 5Z397 thru 5Z400, 5Z397A thru 5Z400A, 5Z397B thru 5Z400B 5Z404, 5Z404A, 5Z404B, 5Z404C, 5Z637, 5Z637A, 5Z638, 5Z638A, 5Z687A, 5Z688, 5Z688A | **5Z705** | $150.00 | **$139.00** | 2.3 |
| 7½ HP: 5F563, 5F565, 5F566, 5Z639, 5Z639A, 9Z720, 9Z720A, 3JR80 | | | | |
| 10 HP: 5F233, 5F233A, 5F236, 5F236A, 3Z493, 3Z496, 3Z497, 5Z401, 5Z401A, 5Z401B, 5Z402, 5Z402A, 5Z402B, 5Z405, 5Z405A, 5Z405B, 5Z460, 5Z460A, 5Z689, 5Z689A | | | | |
| 15 HP: 5F567, 3Z892, 3Z894, 5Z629, 5Z631, 5Z633, 5Z635, 4B248, 4B249, 4B250 | | | | |
| 25 HP: 3Z893, 3Z895, 5Z630, 5Z632, 5Z634, 5Z636 | | | | |




- **Preventive maintenance extends life of air compressors**
- **Kits include everything needed for routine compressor maintenance**
- **For Speedaire two-stage compressors listed at right**

## REPLACEMENT OIL FILTER

For Speedaire and Dayton pressure lubricated air compressor pumps, Nos. 4B249, 5F235, 5F236, and 5Z636. Air compressor Nos. 5F229, 5F230, 5F231, 5F232, 5F233, 4B250, and 5Z634.

**No. 4KP98.** Replacement Oil Filter.
Shpg. wt. 0.5 lbs. List ..... $10.25.
Each ..... **$9.50**

## COMPRESSOR MAINTENANCE KITS

**Kit for 5 HP compressors includes:** 2 qts. of compressor oil, 1 air filter element, 1 maintenance schedule and log, and a maintenance service decal.

**Kit for 10 HP compressors includes:** 4 qts. of compressor oil, 2 air filter elements, 1 maintenance schedule and log, and a maintenance service decal.

| For Speedaire Air Compressor Stock Nos. | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 5 HP: 5Z016, 5Z017, 5Z018, 5Z044, 5Z045, 5Z397, 5Z398, 5Z399, 5Z400, 5Z403, 5Z404,5Z637, 5Z638 | **5Z706** | $29.05 | **$25.00** | 4.5 |
| 10 HP: 5Z401, 5Z402, 5Z405, 5Z640, 5Z687, 5Z688 | **5Z707** | 42.55 | **39.00** | 11.0 |

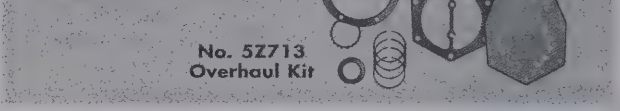
❸These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## PUMP OVERHAUL KITS FOR SPEEDAIRE 2-STAGE AIR COMPRESSORS

- **Kits come complete with all required gaskets, seals, and maintenance parts to fit most 5 thru 15 HP Speedaire compressors. Includes instruction and compressor pump schematic**

**A Valve and Head Rebuild Kit.** Includes head gasket(s), valve plate(s), valves, oil seal(s), O-ring(s), and cylinder gasket(s).

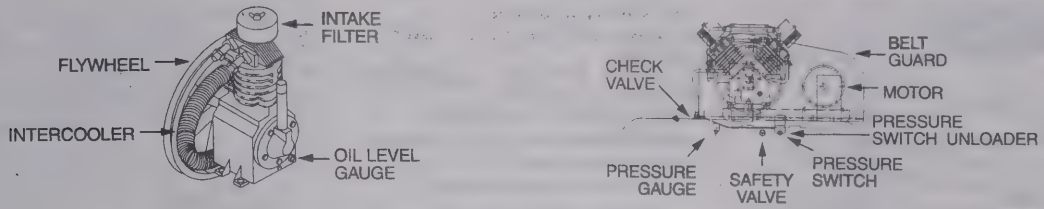
**B Overhaul Kit.** Includes valve and head rebuild kit (see above), plus a complete set of piston rings.




| For Air Compressor Stock Nos. | A Valve & Head Rebuild Kits Stock No. | List | Each | Shpg. Wt. | B Overhaul Kits Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3Z492, 3Z494, 3Z495, 3Z745, 5Z397, 5Z398, 5Z399, 5Z400, 5Z403, 5Z404, 3Z492A, 3Z494A | **5Z708** | $202.00 | **$195.00** | 4.5 | **5Z713** | $242.00 | **$235.00** | 5.6 |
| 5F229 thru 5F232, 5F229A thru 5F232A, 5F235, 5F235A, 5F563, 5F564, 5F565, 5F566, 5Z397A, 5Z397B, 5Z398A, 5Z398B, 5Z399A, 5Z399B, 5Z400A, 5Z400B, 5Z403B, 5Z404A, 5Z404B, 5Z404C, 5Z637, 5Z637A, 5Z638, 5Z639, 5Z639A, 5Z688, 5Z688A, 9Z720, 9Z720A, 3JR80 | **5Z709** | 125.00 | **115.00** | 3.0 | **5Z714** | 165.00 | **155.00** | 3.3 |
| 5Z016, 5Z017, 5Z018, 5Z044, 5Z045, 5Z593, 5Z628, 5Z628A, 5Z641, 5Z686, 5Z686A, 9Z522 | **5Z710** | 45.25 | **39.00** | 0.9 | **5Z715** | 66.00 | **64.00** | 0.5 |
| 3Z493, 3Z496, 3Z497, 5Z401, 5Z402, 5Z405 | **5Z711** | 390.00 | **375.00** | 11.0 | **5Z716** | 470.00 | **450.00** | 11.0 |
| 5F233, 5F233A, 5F236A, 5F567, 5Z401A, 5Z401B, 5Z402A, 5Z402B, 5Z405A, 5Z405B, 5Z405C, 5Z640, 5Z640A, 5Z689, 5Z689A, 4B248, 4B249, 4B250 | **5Z712** | 230.00 | **225.00** | 6.0 | **5Z717** | 310.00 | **290.00** | 6.3 |

# AIR COMPRESSOR COMPONENT TERMINOLOGY






**Magnetic Starter.** An electrically operated switch used to control the compressor motor and provide thermal protection. Activated by the pressure switch.

**Automatic Tank Drain Valve (No. 5Z617).** Installed at bottom of tank; opens briefly during each pumping cycle to release moisture condensed from the air.

**Belt Guard.** Metal or plastic shield around pump flywheel, belt and motor sheave. Necessary to comply with OSHA requirements.

**Low Oil Level Shutdown Switch.** Installed in compressor crankcase and wired to magnetic motor starter.

**Air Pump (Compressor Head)**—The part of the compressor that compresses the air.

**Single-Stage type,** for applications requiring air at 95 PSI or less. Has one or more cylinders, all discharging directly into the tank.

**Two-Stage type,** for applications requiring air at 100-175 PSI. Has two or more cylinders in series. The first cylinder compresses air into the second cylinder, which compresses it further and then pumps it into the tank.

**Intake Filter**—A foam pad or paper element mounted on the pump air intake. Must be serviced regularly for best pump efficiency.

**Air Tank (Receiver)**—Stores air compressed by pump for peak loads or intermittent use. 3 types are available:

**ASME Standard (UM Type) Tanks**— Made and tested in accordance with American Society of Mechanical Engineers standards. ASME certificate of compliance is available for each tank.

**ASME National Board (U Type) Tanks**— Made, tested, inspected and registered to meet standards of ASME. A certificate is available for each tank to show compliance and registry number. The ASME certificate is required by law in many cities and states to pass safety codes. It assures that: (1) Code approved materials are used, (2) Steel plate is without defects and is the specified thickness, (3) Proper welding techniques are employed by experienced operators, (4) Openings and supports are the correct size, and (5) Tank has passed rigid tests. ASME tanks must be used where OSHA compliance is required.

**Non-Code tanks** do not meet ASME standards. They are widely used on small compressors, in locations where compliance with OSHA and similar standards is not required.

**Tank Pressure Controls**—three types used:

**Pressure Switch Control** starts and stops the compressor as pressure falls and rises in the tank. Generally used on compressors for intermittent duty and where maximum air usage is less than 50% of the compressor's capacity.

**Constant Speed Control** releases (unloads) excess pressure, while compressor operates continuously. Used where air usage is continuous, or maximum air usage exceeds 50% of the compressor's capacity. See Unloaders.

**Dual Control** allows the selection of either constant speed or start-stop operation to fit varying air demands. Allows compressors to be used efficiently in all applications.

**Check Valve**—Allows air to flow one way only, from pump to tank. When compressor stops, this valve closes, preventing loss of air from tank or damage to pump valves.

**Safety or Relief Valve** vents the tank if excess pressure builds up. For safety, a relief valve must be used on all compressors. ASME stamped and sealed safety valves must be used on all ASME tanks.

**Unloaders**—There are two basic types:

**Pump Unloaders** open the air discharge line between pump and tank, whenever the pump stops, relieving pressure, to make re-starting easier. A check valve prevents loss of air from the tank. There are 3 types of head unloaders:

*Centrifugal:* a speed-activated valve that closes as compressor comes up to speed and opens when compressor stops.

*Pressure Switch Unloader* works together with pressure switch. Opens a valve to vent air whenever switch stops compressor. Closes valve when switch re-starts unit.

*Combination Unloader and Check Valve* (e.g. Load Genie, Nos. 4X996 to 4X999). As pump stops, valve senses lack of air flow and relieves pressure in discharge line. As pump starts, vent closes and check valve reopens.

**Constant Speed Unloaders** allow pump to operate unloaded (running, but not compressing air) when tank pressure reaches pre-set level. Used on continuous run compressors. 2 types:

*Pilot Valve Unloader* directs air to head unloader on pump which holds pump intake valve open when pre-set pressure is reached.

*Load Genie Continuous Run Unloader* (No. 5X709) vents pump discharge line to the open air whenever tank pressure reaches preset level. Also acts as check valve.

## AIR-CARRY TANKS

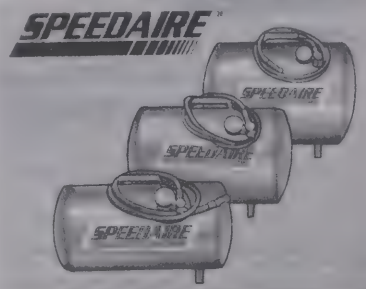
**Compact, lightweight air tanks** provide portable air supply wherever you need it. Use for inflating, or in combination with blow gun for cleaning equipment or work areas. Max. working pressure, 125 PSI.

- **6 ft. hose with tire chuck**
- **0-160 PSI pressure gauge**
- **Brass manifold with shutoff and safety valves**
- **14-gauge steel construction**
- **Black powder coat**

**NOTE:** These tanks do not have ASME certification. Before ordering, check local and state code requirements.

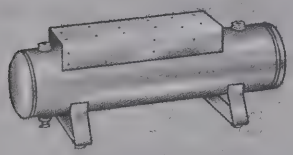
| Gal. | Inflation Capacity in Number of Tires Bicycle | Auto | Tractor | Dimension (In.) L | H | Dia. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 5 | 1 | 0.5 | 19 | 10 | 12 | 4F692 | $44.00 | $31.10▲ | 18.0 |
| 9 | 8 | 2 | 1.0 | 20 | 12 | 14 | 4F693 | 53.00 | 37.40▲ | 23.0 |
| 14 | 10 | 3 | 2.0 | 23 | 14 | 16 | 4F694 | 72.00 | 50.25▲ | 32.0 |

(▲) Net prices, not subject to discounts.

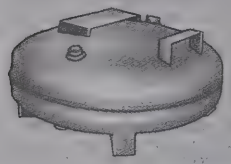


# PORTABLE AIR TANKS

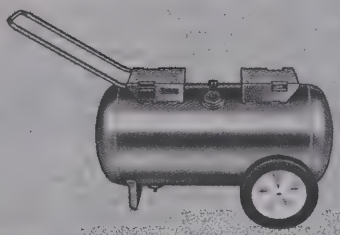
SPEEDAIRE®



No. 1Z782 Hotdog Tank



No. 5Z374 Pancake Tank



No. 3Z409 Portable Tank

- **Large baseplates to accommodate a wide variety of pumps**
- **Tall baseplates for faster, easier assembly**
- **Large 1/4" NPT drain port with drain cock reduces clogging**
- **Rubber grommets provided**
- **Portable tanks assemble in minutes**
- **Green metallic finish**
- **Not for use with gas engines**

**No. 1Z782 3-gallon hotdog tank** is small and compact for benchtop use or can be easily transported from job to job. Formed, one-piece steel strap feet for maximum stability. 1/4 and 1/2" NPT ports.

**No. 5Z374 4-gallon pancake tank** has 12-gauge steel construction and rounded knuckle radius shape to provide more strength than standard versions of this design. Two 1/2" ports and one 3/8" drain port. Split base design accommodates a variety of pumps. Some drilling may be required.

NOTE: Non-code tanks do not have ASME certification. Before ordering, check local and state code requirements.

**No. 2Z623 and 2Z624 portable ASME code tanks** include semi-pneumatic tires, axle assembly and pull handle. Tires on 7½ gallon tanks are 7.75 x 1.75"; on 11 gallon tanks, 9.75 x 1.75". 3/8" and 1/2" NPT ports. Sturdy, two-piece pump/motor platforms. No. 2Z623 is equipped with one-piece platform design. All models except No. 2Z623 are convertible to stationary tanks when used with Tank Conversion Kit listed below.

**No. 3Z409 portable ASME code air tank** includes semi-pneumatic 9.75 x 1.75" tires, axle assembly and pull handle. 1/4, 3/8, and 1/2" NPT openings. Sturdy, two-piece pump motor platforms. Convertible to stationary tanks when used with Tank Conversion Kit listed below.

**NOTE:** Code tanks will meet city and state requirements for all commercial and industrial installations. Certificate of Compliance is available for each tank.

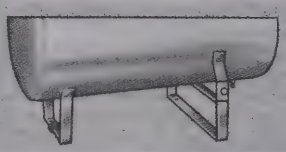
| Cap. (Gal.) | Tank Type | Working Pressure (PSI) | Max. Pump HP 1-Stage | Overall Dimensions (In.) L | W | H | Tank Dia. (In.) | Tank Gauge | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NON-CODE AIR TANKS** | | | | | | | | | | | | |
| **3** | Hotdog | 125 | 1 | 25¼ | 8¼ | 7¾ | 6 | 13 | **1Z782** | $78.13 | **$77.00** | 15.0 |
| **4** | Pancake | 125 | 1 | 16 | 16 | 8 | 16 | 11 | **5Z374** | 111.25 | **99.00** | 24.0 |
| **ASME CODE AIR TANKS** | | | | | | | | | | | | |
| **7½** | Portable | 125 | 1½ | 24½ | 10 | 12½ | 10 | 12 | **2Z623** | 98.75 | **89.00** | 20.0 |
| **11** | Portable | 125 | 2 | 25½ | 13½ | 16 | 12 | 12 | **2Z624** | 123.75 | **119.00** | 35.0 |
| **20** | Portable | 144 | 3* | 33⅛ | 15⅛ | 18¼ | 14 | 12 | **3Z409** | 175.50 | **159.00** | 74.0 |

These tanks are designed for use as air receivers only.
(*) Tanks are suitable replacements for larger HP Speedaire compressors listed on pages 2868 and 2865.

## STATIONARY COMPRESSOR CONVERSION KIT

**Converts many Dayton and Speedaire** 11, 12, and 20 gallon portable compressors to stationary units. Kit consists of mounting bracket, hardware, and instructions.

**No. 2Z561.** Shpg. wt. 3.2 lbs. List .....$79.00.
Each .....**$59.00**

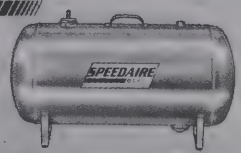


| Converts 11 & 12 Gallon Models | | | Converts 20 Gallon Models | | | |
|---|---|---|---|---|---|---|
| 5F210 | 5F211 | 4B217 | 4B218 | 4B219 | 4B220 | 4B226 |
| 5F210 | 2Z635 | 2Z624 | 4B227 | 4B228 | 4B229 | 4B240 |
| 3Z323 | 3Z394 | 3Z408 | 4B241 | 5F212 | 5F213 | 5F214 |
| 3Z972 | 5Z642 | 5Z643 | 3Z355 | 3Z404 | 3Z406 | 3Z409 |
| | 4B216 | | 3Z419 | 3Z869 | 5Z001 | 5Z033 |
| | | | 5Z034 | 5Z181 | 5Z644 | 5Z645 |

## STATIONARY/CARRY ASME CODE TANKS

SPEEDAIRE

New



No. 4TK09



No. 4TK12 Conversion Kit

| Cap. (Gal.) | Tank Type | Working Pressure (PSI) | Overall Dimensions (In.) L | W | H | Tank Dia. (In.) | Tank Gauge | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **13** | Portable | 140 | 29½ | 12½ | 16½ | 12 | 13 | **4TK09** | $123.00 | **$105.50** | 40.0 |
| **20** | Portable | 144 | 31½ | 12½ | 18½ | 14 | 13 | **4TK10** | 149.00 | **127.45** | 50.0 |

### ASME TANKS

Speedaire ASME Code tanks can be used in stationary applications or can be converted to a portable, carry tank unit with conversion kit 4TK12. Includes two 1/2" NPT ports, two inspection ports, drain valve, and ASME safety valve.

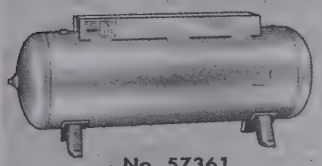
### PORTABLE CARRY TANK CONVERSION KIT

Converts Speedaire 13 and 20 gallon ASME Code Tanks 4TK09 and 4TK10 to portable, carry tank units. Kit Includes: 0-160 PSI pressure gauge, 25 foot recoil air hose, brass manifold with shutoff valve, and tire chuck.

***New* No. 4TK12.** Tank Conversion Kit. Shpg. wt. 1.0 lbs. List $24.00. Each .....**$20.57**

# STATIONARY ASME CODE AIR TANKS

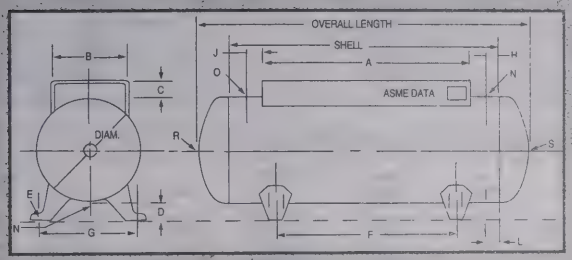




No. 5Z361

Made In U.S.A.

The ASME Certificate is required by law in many cities and states to pass safety codes, and assures that: (1) code approved materials are used, (2) steel plate is without defects and is specified thickness, (3) proper welding techniques are employed by experienced operators, (4) opening and supports are correct size, and (5) tank has passed rigid tests.



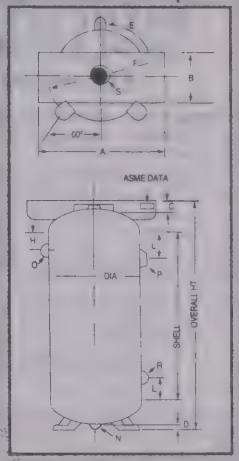

ASME Code and National Board Registered Tanks. ASME code (all models). National Board Registered (60, 80, & 120 gal.)

These American Society of Mechanical Engineers (ASME) U and UM Code air tanks meet city and state requirements for most commercial and industrial installations. Each unit is built, inspected and tested to meet rigid standards adopted by ASME.

NOTE: No. 4KP88 does not have baseplate.



No. 5Z365




SPEEDAIRE®

- Removable ASME inspection ports for increased piping flexibility
- Large baseplates to accommodate a wide variety of pumps. Note: No. 4KP88 does not have a baseplate
- Tall baseplates for faster, easier assembly
- Bases are pre-drilled to accommodate the most popular motor frame sizes
- Drilling will be required for pump mounting
- Large 3/8" drain port with drain cock reduces clogging

Designed to accept new or replacement compressor and motor assemblies; No. 5Z359 can be operated with gas engine to 5 HP max. All other models are designed for use with electric motors only. Base plate slots provided for motor assembly. Foot pads on 60, 80, and 120-gallon horizontal units. An ASME Certificate of Inspection is available, listing registered serial number, and verifying that tank has been inspected by an independent agency in accordance with ASME standards.

NOTE: California OSHA Code 462(L)(2) requires the pump, tank, and motor be tested as a complete unit. These tanks comply with this code when used with certain Speedaire and Dayton pumps.

## AIR TANK DIMENSIONS

| Stock No. | Dimensions (In.) Dia. | Length | Height | Shell | A | B | C | D | E | F | G | H | J | L | NPT (In.) N | O | P | R | Insp. Ports S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5Z359 | 16 | 41 | 20.4 | 31 | 24.5 | 8 | 3.3 | 2.4 | 0.6 | 18 | 13.4 | 1.5 | 1.8 | 0.9 | 3/8 | 1/2 | — | 3/4* | 1½ |
| 5Z360 | 20 | 48.4 | 27.6 | 35.8 | 29 | 9.3 | 3 | 4.6 | 0.6 | 28 | 18 | 2 | 1.3 | 1.5 | 3/8 | 3/4 | — | 3/4† | 2 |
| 5Z361 | 20 | 61.8 | 27.4 | 50.8 | 34 | 12 | 2.8 | 4.6 | 0.6 | 40 | 18 | 2.9 | 2.5 | 1.6 | 3/8 | 3/4 | — | 3/4† | 2 |
| 5Z362 | 24 | 68.3 | 31.9 | 54.3 | 34 | 12 | 3 | 4.9 | 0.6 | 42 | 18 | 2.9 | 7.3 | 1.8 | 3/8 | 1¼ | — | 3/4† | 2 |
| 5Z363 | 16 | — | 42.0 | 28.3 | 24.5 | 8 | 3 | 1.8 | 0.6 | 17 | — | 5 | — | 5 | 3/8 | 3/4 | 3/4* | 3/4* | ‡ |
| 5Z364 | 20 | — | 53.2 | 35.8 | 29 | 9.3 | 2.3 | 2.8 | 0.6 | 24 | — | 4.2 | — | 4.2 | 3/8 | 3/4 | 3/4† | 3/4† | ‡ |
| 5Z365 | 24 | — | 52.6 | 33.3 | 28 | 10 | 2.6 | 2.5 | 0.6 | 27 | — | 3 | — | 3 | 3/8 | 3/4 | 3/4† | 3/4† | ‡ |
| 4KP88 | 24 | N/A | 70.0 | 54.3 | N/A | N/A | N/A | 2.5 | 0.6 | 27 | N/A | 3 | N/A | 3 | 3/8 | 3/4 | 2 | N/A | N/A |

(*) 1½" Inspection ports. (†) 2" Inspection ports. (‡) 3/4" NPT. These tanks are designed for use as an air receiver only.

## AIR TANK ORDERING DATA

| Capacity (Gal.) | Tank Type | Working Pressure (PSI) | Max. Recommended Pump Size HP/Stage | Baseplate Slots Accommodate NEMA Motor Frames | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **30** | Horizontal | 200 | 5/1<br>2/2 | 56, 56H, 56HZ | **5Z359** | $327.50 | **$270.00** | 125.0 |
| **60** | Horizontal | 200 | 5/2 | 56, 56H, 56HZ<br>145T, 184T | **5Z360** | 497.50 | **425.00** | 217.0 |
| **80** | Horizontal | 200 | 10/2 | 145T, 184T, 215T | **5Z361** | 573.75 | **495.00** | 313.0 |
| **120** | Horizontal | 200 | 10/2 | 184T, 215T | **5Z362** | 812.50 | **710.00** | 405.0 |
| **30** | Vertical | 200 | 5/1<br>2/2 | 56, 56H, 56HZ | **5Z363** | 366.25 | **315.00** | 145.0 |
| **60** | Vertical | 200 | 5/2 | 56, 56H, 56HZ<br>145T, 184T | **5Z364** | 506.25 | **445.00** | 225.0 |
| **80** | Vertical | 200 | 5/2 | 145T, 184T | | 650.00 | **570.00** | 266.0 |
| **120** | Vertical | 200 | N/A | Air receiver only, not equipped with baseplate. | **4KP88*** | 848.00 | **789.00** | 360.0 |

(*) No. 4KP88 does not have baseplate.

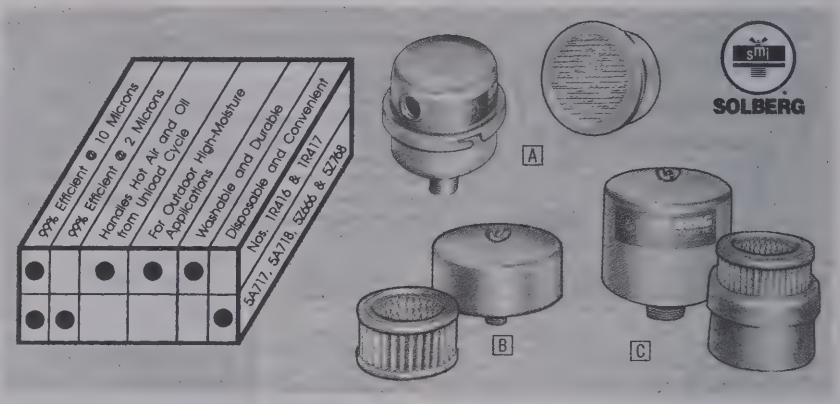
# INTAKE FILTERS/ SILENCERS AND REPLACEMENT ELEMENTS

**Solberg intake filters/silencers and replacement elements** are used by many original equipment manufacturers.

**Filters/silencers are used at the intake manifold of air compressors** to provide 99%+ efficient filtration at 10 microns, per SAE fine dust test.

**Tube silencers in housing decrease noise level** from 5 to 15 dB. Moisture-resistant polyester cloth element handles hot air and oil mist from unload cycle of reciprocating air compressors. (No. 5Z665 uses paper element). Low pressure drop of approximately 3 to 5" water at rated load. Rugged, all-steel weather hood.

**Replacement filter cartridges for use with Solberg brand and many OEM filter/silencers.** Specifically designed to withstand the strong pulsations of air compressor pumps. Easy to replace. Nos. 1R417 and 5A718 include polyurethane prefilter to increase dust loading capacity 40 to 50%. Solberg brand.




## FILTER/SILENCER ORDERING DATA

| Key | (M)NPT (In.) | Max. CFM | H (In.) | Dia. (In.) | Solberg Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 1/4 | 4 | 3 | 2 1/2 | FS-04-025 | **5Z766** | $12.50 | **$11.25** | 0.2 |
| A | 3/8 | 5 | 3 | 2 1/2 | FS-04-038 | **5Z767** | 12.50 | **11.25** | 0.7 |
| A | 1/2 | 10 | 4 | 3 1/4 | FS-06-050 | **5Z665** | 14.50 | **14.15** | 0.7 |
| B | 3/4 | 20 | 4 | 6 | FS-15-075 | **4Z679** | 21.20 | **18.50** | 2.0 |
| B | 1 | 20 | 4 | 6 | FS-15-100 | **4Z680** | 22.20 | **19.50** | 2.0 |
| C | 1 1/4 | 60 | 6 1/2 | 6 | FS-19P-125 | **4Z681** | 35.60 | **30.95** | 3.8 |
| C | 1 1/2 | 60 | 6 1/2 | 6 | FS-19P-150 | **4Z682** | 37.10 | **32.40** | 3.8 |

## REPLACEMENT ELEMENT ORDERING DATA

| For Use With Filter Nos. | Key | Element Material | Ht. (In.) | ID (In.) | OD (In.) | Solberg Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **5Z766, 5Z767** | A | Paper | 1 | — | 2 1/4 | 04 | **5Z768** | $6.45 | **$6.10** | 0.1 |
| **5Z665** | A | Paper | 1 3/8 | — | 3 | 06 | **5Z666** | 6.80 | **6.40** | 0.1 |
| **4Z679, 4Z680, 5Z660, 5Z661** | B | Polyester | 2 5/16 | 3 | 4 3/8 | 15 | **1R416** | 7.20 | **6.75** | 0.5 |
| **4Z679, 4Z680, 5Z660, 5Z661** | B | Paper | 2 5/16 | 3 | 4 3/8 | 14 | **5A717** | 6.45 | **6.05** | 0.1 |
| **4Z681, 4Z682, 5Z662, 5Z663** | C | Polyester | 4 3/4 | 3 | 4 3/8 | 19P | **1R417** | 13.10 | **11.80** | 0.5 |
| **4Z681, 4Z682, 5Z662, 5Z663** | C | Paper | 4 3/4 | 3 | 4 3/8 | 18P | **5A718** | 11.55 | **10.75** | 0.2 |

## INTAKE FILTER ADAPTER FOR CHAMPION AND DAYTON COMPRESSORS

**1" NPT adapter** allows replacement of existing intake filter with Solberg intake filter/silencer, No. 4Z680. Adapter slides into air intake of compressor pump and is tightened with set screw. Silicone O-ring provides positive seal. Solberg brand (AD-CP100)

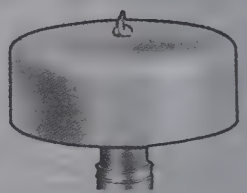
For use with these Champion air compressors and Dayton compressor pumps:

Fits Champion compressors: 5Z064, 5Z065, 5Z066, 5Z067, 5Z068, 5Z069

Fits Dayton Compressor pumps: 3Z172, 3Z180, 3Z181, 3Z182 3Z183

**No. 5Z664.** Shpg. wt. 0.1 lbs. List $6.85. Each ..... **$6.45**

SOLBERG



## INTAKE MANIFOLD KIT WITH FILTER/SILENCER

Replaces head plate on Speedaire compressors (listed below) for addition of No. 4Z679 Solberg intake filter/silencer. This combination permits quieter operation and increased filtration.

For use with these Champion air compressors and Dayton compressor pumps:

Fits Champion compressors: 5Z064, 5Z065, 5Z066, 5Z067, 5Z068, 5Z069

Fits Dayton Compressor pumps: 3Z172, 3Z180, 3Z181, 3Z182 3Z183

**No. 1R421.** Intake manifold kit. Shpg. wt. 2.0 lbs. List..... $82.99. Each ..... **$52.00**

**No. 4Z679.** Filter/Silencer. Shpg. wt. 2.0 lbs. List ..... $21.20. Each ..... **$18.50**

SPEEDAIRE®

**Intake Manifold Kit No. 1R421 Shown with No. 4Z679 Solberg Intake Filter/Silencer**

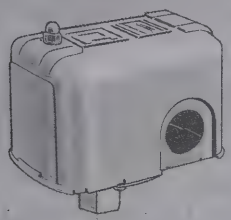


# AIR COMPRESSOR PRESSURE SWITCHES AND REPLACEMENT CONTACT KITS

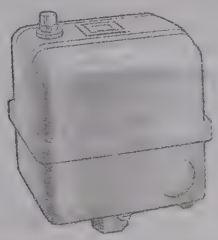
## PUMPTROL® AIR COMPRESSOR PRESSURE SWITCHES

SQUARE D
GROUPE SCHNEIDER

Class 9013



No. 5B418 Type F



No. 5B409 Type G

E12158

LR25490

- 1/4" NPSF internal threads
- 2 pole
- Pressure switches are designed for the control of electrically driven air compressors or pumps
- Contacts open on pressure rise
- Diaphragm actuated
- NEMA 1 enclosure
- UL Listed and CSA Certified

| Pressure Range (PSIG) | Differential (PSIG) | Factory Setting On/Off (PSIG) | Number of Ports | HP/Current Rating | Additional Features | Square D Model 9013. . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **TYPE F WITH FIXED DIFFERENTIAL** | | | | | | | | | | |
| | 20 | 80-100 | 1 | A | — | FHG-2J27 | **5B418** | $17.60 | **$13.77** | 0.9 |
| | 20 | 80-100 | 1 | A | Unloader | FHG-2J27X | **5B417** | 24.30 | **19.00** | 0.9 |
| | 20 | 80-100 | 1 | A | Manual Lever (Auto-Off) | FHG-2J27M1 | **1V628** | 20.90 | **19.92** | 1.3 |
| **20-100** | 20 | 80-100 | 4 | A | Unloader | FHG-4J27X | **5A301** | 29.30 | **22.93** | 1.2 |
| | 20 | 80-100 | 4 | A | Auto-Off/Unloader | FHG-4J27M1X | **5A018** | 32.60 | **25.55** | 1.3 |
| | 20 | 80-100 | 4 | B | Auto-Off Unloader | FHG-24J27M1X | **1V626** | 40.70 | **38.55** | 1.5 |
| | 30 | 95-125 | 1 | A | — | FHG-12J52 | **5B419** | 17.60 | **13.77** | 0.9 |
| | 30 | 95-125 | 1 | A | Unloader | FHG-12J52X | **2FG79** | 24.30 | **19.75** | 0.9 |
| **40-150** | 30 | 95-125 | 1 | A | Manual Lever (Auto-Off) | FHG-12J52M1 | **1V624** | 20.90 | **19.92** | 1.3 |
| | 30 | 95-125 | 4 | A | Unloader | FHG-14J52X | **5A537** | 29.30 | **22.93** | 1.3 |
| | 30 | 95-125 | 4 | A | Auto-Off/Unloader | FHG-14J52M1X | **5A020** | 32.60 | **25.55** | 1.2 |
| | 40 | 135-175 | 1 | B | — | FHG-52J59 | **2DC08** | 25.70 | **24.30** | 0.9 |
| **60-200** | 40 | 135-175 | 1 | B | Unloader | FHG-52J59X | **2DC09** | 32.40 | **30.70** | 0.9 |
| **TYPE G WITH ADJUSTABLE DIFFERENTIAL** | | | | | | | | | | |
| | 20-40 | 75-100 | 1 | C | — | GHG-2J29 | **6B438** | 55.00 | **44.05** | 2.0 |
| | 20-40 | 75-100 | 1 | C | Unloader | GHG-2J29X | **6B439** | 75.00 | **60.00** | 1.9 |
| | 20-40 | 75-100 | 1 | C | Manual Lever (On-Auto-Off) | GHG-2J29E | **6B440** | 75.00 | **60.00** | 1.9 |
| | 20-40 | 80-100 | 1 | C | — | GHG-2J30 | **6B441** | 55.00 | **44.05** | 2.0 |
| **40-200** | 20-40 | 80-100 | 1 | C | Unloader | GHG-2J30X | **6B442** | 75.00 | **60.00** | 2.1 |
| | 20-40 | 80-100 | 1 | C | Manual Lever (On-Auto-Off) | GHG-2J30E | **6B443** | 75.00 | **60.00** | 1.9 |
| | 20-40 | 80-100 | 1 | C | — | GHG-2J63 | **5B409** | 55.00 | **42.40** | 2.2 |
| | 20-40 | 145-175 | 1 | C | — | GHG-2J63X | **5B408** | 75.00 | **57.55** | 2.1 |
| | 20-40 | 145-175 | 1 | C | Unloader | | | | | |
| **35-250** | 24-45 | 130-175 | 1 | C | — | GHG-5J61 | **6B444** | 55.00 | **44.05** | 2.0 |
| **35-250** | 24-45 | 130-175 | 1 | C | Unloader | GHG-5J61X | **6B445** | 75.00 | **60.00** | 1.9 |
| **35-250** | 24-45 | 145-175 | 1 | C | — | GHG-6J63 | **1V632** * | 55.00 | **48.75** | 2.0 |
| **35-250** | 24-45 | 145-175 | 1 | C | Unloader | GHG-6J63X | **1V634** * | 75.00 | **66.25** | 2.1 |

(*) 3/8" NPSF internal threads.

### TYPE G VACUUM PRESSURE SWITCH

| Vacuum Range (In.) Hg | Differential (In.) | Factory Setting On/Off (In.) Hg | Number of Ports | HP/Current Rating | Square D Model 9016... | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5-25** | 3-8 | 18.5-25 | 1 | C | GVG1J10 | **2FP36** | $89.00 | **$81.20** | 3.5 |

### HP/CURRENT RATING SPECIFICATIONS

| Rating Key | Single Phase (HP/Amps) 115 VAC HP | 115 VAC Amps | 230 VAC HP | 230 VAC Amps |
|---|---|---|---|---|
| A | 1.5 | 17.2 | 2 | 10.7 |
| B | 2 | 27.4 | 3 | 14.5 |
| C | 2 | 21.4 | 3 | 14.5 |

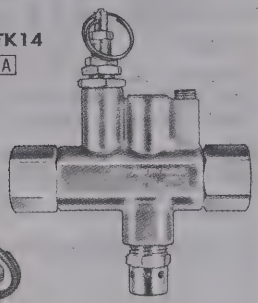
## REPLACEMENT CONTACT KITS

- Contains replacement diaphragm for pressure switch
- Contacts are 2 pole

| Equipment to be serviced | Square D Model 9998. . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| For all "A" HP rated switches | PC241 | **5B340** | $7.80 | **$6.54** | 0.2 |
| For all "B" HP rated switches | PC242 | **5B339** | 12.40 | **10.40** | 0.2 |

# UNLOADERS AND RELIEF VALVES

control devices inc.



No. 4TK14

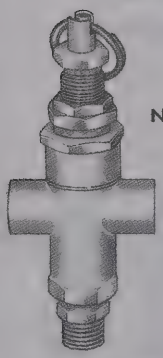
A

## A LOAD GENIE CONTINUOUS RUN UNLOADER CONTROL

**Self-contained, continuous run, manifold vent unloader** use three components required in conventional continuous run control systems: pilot valve, check valve, and suction or vent unloader valve. Converts any pressure switch control compressor to constant speed unloader type.

**Can be applied to any gas engine driven compressor** and to compressor applications where air consumption is steady and exceeds 50% of free air delivery. Preset to cut in at 95 PSI and out at 115 PSI. Range and differential can be adjusted to fit needs. 60–250 PSI Range. Stainless steel springs and Teflon seats. 1/8" tap for engine throttle control.

| Max. CFM | (F)NPT Inlet (In.) | (F)NPT Outlet (In.) | (F)NPT Vent Outlet (In.) | Brass Body | Dimensions (L x H) (In.) | Control Devices Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **30** | 1/2 | 1/2 | 3/8 | Forged | 4¾ | LGM30-0404AAF | **4TK14** | $47.40 | **$32.15** | 1.2 |



No. 3X818

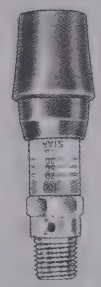
B

New

## B UNLOADER PILOT VALVE

**Single all-in-one control** is adjustable for pressure range and differential. Used on compressors with suction valve head unloaders. Includes an easy opening manual unloader sleeve for start-up under no load conditions. Body is forged brass, springs and ball are stainless steel. 1/4" (F)NPT inlet, 1/8" outlet. Includes 1/4 x 1/4" (M)NPT adapter. Preset at 95 to 115 PSI range. 250 PSI maximum working pressure. 350°F maximum operating temperature. Control Devices brand (P25G).

**No. 3X818.** Unloader valve. Shpg. wt. 0.5 lbs. List $15.14. Each.....**$12.80**



No. 4TK26

C

## C VARIABLE PRESSURE RELIEF VALVE

- **Installed directly in head of small compressor**
- **Micrometer-style scale, 0-100 PSI**
- **250°F max. temperature**
- **Brass body/nylon knob**
- **Stainless steel poppet/fluoro-carbon O-ring**

A variable pressure relief valve designed specifically for installation directly into the head of small (less than 2HP) tankless air compressors. May also be used wherever a low-flow variable pressure relief valve is used. Control Devices model TR25.

***New!* No. 4TK26.** Shpg. wt. 2.5 lbs. List $11.15. Each.....**$8.36**



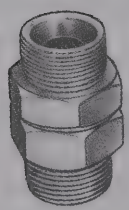
D

No. 6D927

## D ENGINE DRIVEN COMPRESSOR THROTTLE CONTROLS

Kit contains components required to install engine "slow down" device on engine driven air compressors. Can be used with all makes of unloader controls and pilot valves (e.g. 5X709, 3X818) to throttle engine back to idle whenever compressor is unloaded. Saves gas and wear and tear on both engine and compressor. Fits all major engine types. Brass cylinder with nitrile O-ring and stainless steel spring with 1/8" NPT (M). Vinyl coated steel jacketed stainless steel cable can be cut to length. Minimum pressure 60 PSI.

| Cable Length (In.) | Control Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **12** | TC12-1AA012 | **6D927** | $15.00 | **$12.92** | 0.9 |
| **18** | TC12-1AA018 | **6D928** | 15.00 | **12.92** | 0.8 |
| **24** | TC12-1AA024 | **6D929** | 16.31 | **12.24** | 0.8 |
| **48** | TC12-1AA48 | **6D930** | 17.38 | **14.97** | 0.1 |



E



No. 4X996

No. 5A703

## E LOAD GENIE UNLOADER & CHECK VALVES

Eliminates the need for pressure switch unloader and receiver check valve. Unloads manifolds when air flow stops. Brass body, Teflon seals and stainless steel spring withstand temperatures to 450°F. Max. working pressure 250 PSI. External threads coated with Loctite® Vibra-Seal® 516 dry type thread sealant.

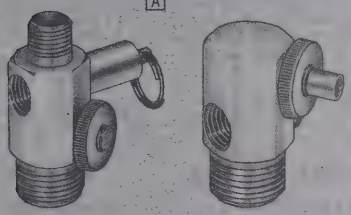
**Nos. 5A703 through 5A706** have (F)NPT inlet and (M)NPT outlet to tank. Nos. 4X996 through 4X999 are threaded to accept compression fitting at inlet, and have (M)NPT outlet to tank.

| Inlet (In.) | Outlet (M)NPT (In.) | Flow Range Free Air CFM* | Hex Size (In.) | Length (In.) | Control Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/4 (F)NPT** | 1/4 | 1.0 to 6.0 | 3/4 | 1¾ | PA61A | **5A703** | $8.82 | **$7.65** | 0.2 |
| **3/8 (F)NPT** | 3/8 | 3.0 to 12.0 | 13/16 | 1 13/16 | PA121A | **5A704** | 10.20 | **8.77** | 0.2 |
| **1/2 (F)NPT** | 1/2 | 8.0 to 24.0 | 1 | 2¼ | PA241A | **5A705** | 17.44 | **14.48** | 0.3 |
| **3/4 (F)NPT** | 3/4 | 15.0 to 48.0 | 1 3/16 | 2⅜ | PA481A | **5A706** | 22.84 | **18.67** | 0.4 |
| **3/8 OD†** | 1/4 | 1.0 to 6.0 | 3/4 | 1 9/16 | CA61A | **4X996** | 8.51 | **6.73** | 0.1 |
| **1/2 OD†** | 3/8 | 3.0 to 12.0 | 13/16 | 1 11/16 | CA121A | **4X997** | 9.53 | **7.55** | 0.2 |
| **3/4 OD†** | 1/2 | 8.0 to 24.0 | 1 | 2⅛ | CA241A | **4X998** | 16.26 | **12.95** | 0.3 |
| **3/4 OD†** | 3/4 | 15.0 to 48.0 | 1 3/16 | 2 9/16 | CA481A | **4X999** | 21.82 | **17.29** | 0.4 |

(*) Minimum to maximum. (†) Compression tube inlet size.

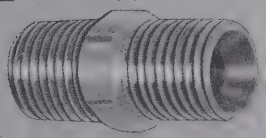
control devices inc.

A



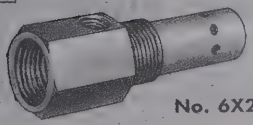
No. 6X271 No. 6X272

B



No. 6D914

C

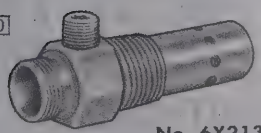


No. 6X207

**FOR USE WITH IRON PIPE**

**National Pipe Thread (NPT) On Inlet and Outlet**

D

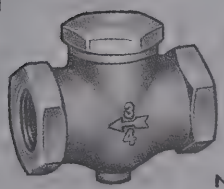


No. 6X213

**FOR USE WITH TUBING**

**National Pipe Thread on Outlet, Thread for Compression Fitting on Inlet**

E



No. 5X780

## A TANK MANIFOLDS

**All-in-one outlet fitting** for air compressor tanks combines safety valve, outlet valve, tank mount fitting, and fittings for mounting user's air gauge and pressure switch. Model for air carry tanks is similar but has tire-type filler valve in place of pressure switch fitting.

**Safety valve is** factory set for 150 PSI -40 to 180°F temperature range. Not suitable for accepting discharge directly from compressor. Airflow through valve must be from the air receiver into the tank-mount fitting. Fitting sizes: tank mount, 1/2" (M)NPT; pressure switch mount (not on No. 6X272) 1/4" (M)NPT; gauge mount and outlet 1/4" (F)NPT, 4H x 3½W x 3½"D brass body. External threads coated with Loctite® Vibra-Seal® 516 dry type thread sealant. Seals most fluids at temperatures from -65° to 250°F (300° intermittent).

| Max. CFM | Type | Tank Mount (In.) | Pressure Switch Mount (In.) | Control Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **20** | Compressor | 1/2 (M)NPT | 1/4 (M)NPT | ACM | **6X271** | $8.92 | **$6.63** | 0.4 |
| **20** | Carry Tank | 1/2 | — | CTM | **6X272** | 8.92 | **6.63** | 0.4 |

## B COMPACT BALL-TYPE CHECK VALVES

Compact check valves, stainless steel spring and poppet seating on viton O-ring. Low cracking pressure with bubble-tight seal in backflow direction. Widely used in pneumatic circuits, but also suitable for small air compressors (less than 1 HP). Brass body, stainless steel spring, acetyl polymer retainer. Max. pressure 250 PSI. Max. temperature 250°F.

| Key | Inlet (In.) | Outlet (In.) | Length (In.) | Hex (In.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **B** | 1/4 (M) NPT | 1/4 (M) NPT | 1.31 | 9/16 | M2525 | **6D914** | $8.36 | **$6.11** | 0.1 |
| | 1/4 (F) NPT | 1/4 (M) NPT | 1.44 | 11/16 | P2525 | **6D917** | 8.36 | **6.48** | 0.3 |

## C & D COMPRESSOR IN-TANK CHECK VALVES

Economical, reliable brass in-tank check valves for compressors, water or oil tanks. For industrial and commercial applications. Fluoropolymer poppet, stainless steel springs. Check valves have been tested to 400° F for water or oil; rated 450 PSI max. pressure. External threads coated with Loctite® Vibra-Seal® 516 dry type thread sealant. Seals most fluids at temperatures from -65° to 250°F (300° intermittent).

**Nos. 6X207, 6X208, 6X209, 6X210, 6D918, 6D919, 6D916 and 6X211** have female National Pipe Thread (NPT) inlets and male NPT into tank. **Nos. 6X213, 6X214, 6X215, and 6X216** have inlets threaded for compression fitting, no adapter for pipe thread-to-compression fitting thread needed. All check valves have 1/8" (F)NPT tapped unloader port; with removable plug for pressure switch unloader connection.

| Key | Inlet (F)NPT (In.) | Outlet (M)NPT (In.) | Length (In.) | Hex Size (In.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **VALVES FOR IRON PIPE—NPT BOTH ENDS** | | | | | | | | | |
| **C** | 3/8 | 1/2 | 2 3/4 | 7/8 | P3850-1EP | **6X207** | $9.33 | **$6.78** | 0.2 |
| | 1/2 | 1/2 | 3 | 1 | P5050-1EP | **6X208** | 9.33 | **6.78** | 0.3 |
| | 3/4 | 3/4 | 3 1/4 | 1 3/16 | P7575-1EP | **6X209** | 13.41 | **9.89** | 0.4 |
| | 3/4 | 1 | 3 3/8 | 1 5/16 | P7510-1EP | **6D918** | 22.68 | **17.85** | 0.8 |
| | 3/4 | 1 1/2 | 3 7/8 | 2 1/8 | P7515-1EP | **6D919** | 46.09 | **36.75** | 0.5 |
| | 1 | 1 | 3 5/8 | 1 1/2 | P1010-1EP | **6X210** | 23.05 | **18.11** | 0.8 |
| | 1 1/4 | 1 1/4 | 3 7/8 | 1 7/8 | P1212-1EP | **6X211** | 42.07 | **32.55** | 1.2 |
| | 1 1/2 | 1 1/2 | 3 7/8 | 2 1/8 | P1515-1EP | **6D916** | 47.14 | **36.75** | 0.5 |
| **VALVES FOR TUBING—INLET THREADED FOR COMPRESSION FITTING** | | | | | | | | | |
| **D** | 1/2 OD | 1/2 | 2 7/8 | 7/8 | C5050-1EP | **6X213** | 8.87 | **6.48** | 0.3 |
| | 3/4 OD | 1/2 | 3 | 1 | C7550-1EP | **6X214** | 9.18 | **6.73** | 0.3 |
| | 3/4 OD | 3/4 | 3 3/8 | 1 1/8 | C7575-1EP | **6X215** | 11.88 | **8.62** | 0.5 |
| | 3/4 OD | 1 | 3 3/8 | 1 5/16 | C7510-1EP | **6X216** | 17.64 | **13.21** | 0.7 |

## E BRONZE AIR CHECK VALVES

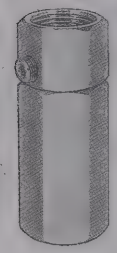
Noiseless, dome-shaped, positive seating Fluoropolymer discs for maximum air flow. Valves open at less than 3 PSI; withstand up to 250 PSI back pressure, temperatures up to 450°F. Valves may also be used on water or oil lines. Globe valve body with threaded cap; both ends tapped. All models have 1/8" tap for pressure switch unloader connection. Vertical or horizontal mounting.

| Key | (F)NPT Size (In.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **E** | 1/8 | CB-13 | **6D906** | $12.54 | **$9.28** | 0.5 |
| | 1/4 | CB-25 | **5X780** | 12.54 | **9.28** | 0.3 |
| | 3/8 | CB-33 | **5X781** | 15.65 | **11.58** | 0.4 |
| | 1/2 | CB-50 | **5X782** | 20.09 | **15.91** | 1.0 |
| | 3/4 | CB-75 | **5X783** | 24.32 | **17.95** | 1.5 |
| | 1 | CB-10 | **2A165** | 55.33 | **46.70** | 2.0 |
| | 1 1/4 | CB-12 | **2A166** | 74.76 | **63.10** | 2.8 |
| | 1 1/2 | CB-15 | **6D907** | 82.72 | **69.40** | 3.1 |
| | 2 | CB-20 | **6D908** | 144.84 | **121.40** | 4.1 |

# INLINE CHECK VALVES AND RELIEF VALVES

control devices inc.

New



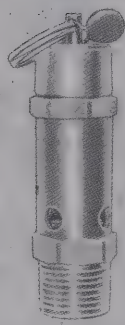
A

No. 4X828

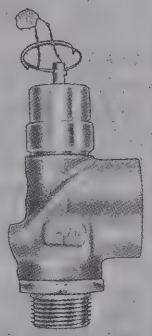


No. 5A707

B

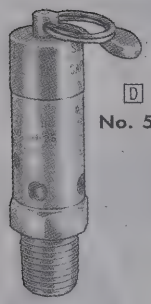


No. 6D924



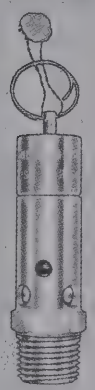
C

No. 4TK15



D

No. 5A712



No. 4TK23

## A INLINE CHECK VALVES

**Specifically designed for air compressor discharge piping.** Valves feature all-brass bodies with filled Teflon poppets and stainless steel springs. Valves have 1/8" (F)NPT tapped port for pressure switch unloader connection. Valves open at less than 3 PSI with maximum hold back pressure of 450 PSI. Withstands temperatures to 400°F.

| Key | (F)NPT Size (In.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 1/2 | IC50 | **4X828** | $16.77 | **$14.13** | 0.5 |
| | 3/4 | IC75 | **4X829** | 24.99 | **21.11** | 0.9 |

## B ASME AIR SAFETY VALVES

**Compact valves** are built to ASME standards, and are National Board Certified. One-piece brass body with resilient silicone elastomer poppet ensures positive, leakproof seal. Valves withstand maximum temperature of 250°F. Bubble-tight to within 10% of set pop-off pressure. Preset pressure limit is tested and sealed at the factory. External threads coated with Loctite® Vibra-Seal® 516 dry type thread sealant.

| Preset PSI | (M)NPT Size (In.) | Rated CFM @ Set Pressure | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **60** | 1/4 | 61 | ST25-1A060 | **5A707** | $6.88 | **$6.02** | 0.1 |
| **125** | 1/4 | 115 | ST25-1A125 | **5A708** | 6.88 | **6.02** | 0.1 |
| **150** | 1/4 | 136 | ST25-1A150 | **5A709** | 6.88 | **6.02** | 0.1 |
| **200** | 1/4 | 178 | ST25-1A200 | **5A710** | 6.88 | **6.02** | 0.1 |
| **200** | 3/8 | 178 | ST2533-1A200 | **5A711** | 6.88 | **6.02** | 0.1 |
| **125** | 1/2 | 232 | SF50-1A125 | **6D924** | 12.58 | **11.21** | 0.8 |
| **150** | 1/2 | 274 | SF50-1A150 | **6D925** | 12.58 | **11.21** | 0.8 |
| **200** | 1/2 | 358 | SF50-1A200 | **6D926** | 12.58 | **11.21** | 0.8 |

## C SCREWED OUTLET ASME SAFETY VALVES

- **Brass/stainless steel construction**
- **Silicone rubber seal**
- **Operating temperatures: -20°F to 250°F**
- **Lead seal**

Screwed outlet safety valves are built to ASME standards and are National Board Certified. Captured silicone o-ring ensures bubble-tight seal to within 10% of set pressure.

| Preset PSI | Inlet (In.) (M) NPT | Outlet (In.) (M) NPT | Rated CFM @ Set Pressure | Control Devices Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **125** | 1/2 | 1 | 496 | SCB5010-0A125 | **4TK15** | $110.50 | **$71.30** | 1.5 |
| **150** | 1/2 | 1 | 586 | SCB5010-0A150 | **4TK16** | 110.50 | **71.30** | 1.5 |
| **125** | 1/2 | 3/4 | 496 | SCB5075-0A125 | **4TK17** | 110.50 | **71.30** | 1.5 |
| **150** | 1/2 | 3/4 | 586 | SCB5075-0A150 | **4TK18** | 110.50 | **71.30** | 1.5 |
| **125** | 1/2 | 1 | 496 | SCB7510-0A125 | **4TK19** | 110.50 | **71.30** | 1.5 |
| **150** | 1/2 | 1 | 586 | SCB7510-0A150 | **4TK20** | 110.50 | **71.30** | 1.5 |
| **125** | 1/2 | 3/4 | 496 | SCB7575-0A125 | **4TK21** | 110.50 | **71.30** | 1.5 |
| **150** | 1/2 | 3/4 | 586 | SCB7575-0A150 | **4TK22** | 110.50 | **71.30** | 1.5 |

## D ASME HARD-SEAT AIR SAFETY VALVES

**Premium hard-seat valves** are built to ASME standards, and are National Board Certified. Brass body, chrome steel ball on brass seat, and stainless steel spring. Valves withstand maximum temperature of 350°F. Preset pressure limit is tested and sealed at the factory. Lead seal allows visual detection of tampering. External threads coated with Loctite® Vibra-Seal® 516 dry type thread sealant.

| Preset PSI | (M)NPT Size (In.) | Rated CFM @ Set Pressure | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **125** | 1/4 | 98 | SH25-125 | **5A712** | $10.81 | **$9.95** | 0.2 |
| **125** | 1/2 | 266 | SN50-1A125 | ***New* 4TK23** | 17.80 | **10.30** | 0.4 |
| **150** | 1/4 | 116 | SH25-150 | **5A713** | 10.81 | **9.95** | 0.2 |
| **150** | 1/2 | 314 | SN50-1A150 | ***New* 4TK24** | 17.80 | **10.30** | 0.4 |
| **165** | 1/4 | 127 | SH25-165 | **5A714** | 10.81 | **9.95** | 0.2 |
| **200** | 1/4 | 152 | SH25-200 | **5A715** | 10.81 | **9.95** | 0.3 |
| **200** | 3/8 | 152 | SH2533-200 | **5A716** | 10.60 | **10.15** | 0.2 |
| **200** | 1/2 | 314 | 5N50-1A200 | ***New* 4TK25** | 17.80 | **10.30** | 0.4 |

NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

control devices inc.



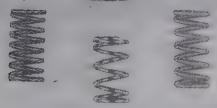
A

No. 6D922



B

No. 6D915





C

No. 5Z765

## A HIGH CAPACITY ASME AIR SAFETY VALVES

High capacity safety valves are used on large reciprocating and screw-type compressors, air dryers, and any other components requiring air overpressure protection with high flow rates. Built in accordance with the ASME Code, and flow capacity certified by the National Board. Brass bodies with stainless steel springs and silicone o-ring seals. Bubble tight to within 10% of set pressure. Preset pressure limit is tested and sealed at the factory. Temperature range -40°F to 300°F.

| Preset PSI | (M) NPT Size (In.) | Rated CFM @ Set Pressure | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **125** | 3/4 | 503 | SB75-1A125 | **6D922** | $39.22 | **$37.30** | 1.1 |
| **150** | 3/4 | 595 | SB75-1A150 | **6D923** | 39.22 | **37.30** | 1.1 |
| **125** | 1 | 1053 | SW100-1A125 | **6D920** | 45.64 | **43.35** | 1.3 |
| **150** | 1 | 1244 | SW100-1A150 | **6D921** | 39.22 | **37.30** | 1.3 |

## B ADJUSTABLE RELIEF VALVE

Versatile relief valve offers high flow rates and is easily adjusted to suit individual application. Valve comes with four color coded springs to cover set pressure range of 25 to 200 PSI. Flow rate through valve is 80 SCFM at 100 PSI. Brass body with silicone rubber seal and zinc-plated music wire springs. 9/16" hex body by 1.56" long, 1/4" (M) NPT. Max pressure 200 PSI. Max temperature 250°F. **Not an ASME approved valve.** Mfr's. model NC25K-1A100.

**No. 6D915.** Shpg. Wt. 0.2 lbs. List $4.26. Each.....$3.76

## C VACUUM/PRESSURE RELIEF VALVES

- **Relieve vacuum from 0-30" Hg, pressure to 20 PSI**
- **Max. temperature 250°F**
- **Easily convert from vacuum to pressure relief by reversing poppet and spring**

| Flow Cap., CFM | (M)NPT Inlet (In.) | Length (In.) | Hex (In.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **0-2** | 1/4 | 1 3/4 | 9/16 | VR-25-100 | **5Z763** | $8.26 | **$8.04** | 0.2 |
| **0-15** | 3/8 | 2 | 11/16 | VR-33-100 | **5Z764** | 14.43 | **13.01** | 0.3 |
| **0-54** | 3/4 | 2 3/4 | 1 1/16 | VR-75-100 | **5Z765** | 35.59 | **29.40** | 0.4 |


### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

### DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

### SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# SIMPLAIR COMPRESSED AIR PIPING SYSTEM

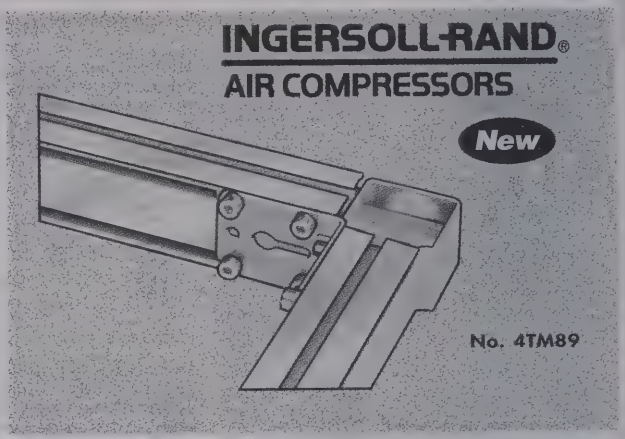
Simplair is a lightweight aluminum, extruded, compressed air piping system that provides considerable structural strength. Manufactured from high-grade anodized aluminum alloy, Simplair resists corrosion and contamination ensuring high-quality compressed air throughout the system. To plan your Simplair system, simply install a main header or loop system around the area where compressed air is required. Then add outlet points for drops and branch lines (sub-headers) at the same time or a later date if you are not sure where compressed air is needed. This flexible system ensures that modifications and expansions can be carried out quickly and easily at any time.

- **Energy savings - leak free system can save as much as 15% in power consumption**
- **Total flexibility - can be modified in minutes with little cost or down-time**
- **Non-corrosive system - maintains air quality from air compressor to point of use over full life of product**
- **Performance - achieves high flow rates and low pressure drops due to the low frictional losses through smooth boring of tubing**
- **Lightweight/clean - only 1/3 the weight of conventional steel or cast iron**
- **Hi-tech appearance - more aesthetically pleasing than conventional piping**
- **Maximum temperature: 226° F**
- **Maximum working pressure: 203 PSI**
- **ANSI B31.1 approved**
- **Can be used for compressed air, vacuum, and nitrogen applications**

**No. 4TN55 Toolkit** for assembling Simplair piping system. Includes: deburring tool, small drilling jig, stepper drill bit, tubes, pipe cutter, Allen wrench, torque wrench, and pilot drill. Ingersoll-Rand brand (88162326).

***New*** **No. 4TN55.** Shpg. wt. 5.4 lbs. List $250.00. Each.....**$199.00▲**

(▲) Net prices, not subject to discounts.




## FLOW RATES THROUGH TUBING*

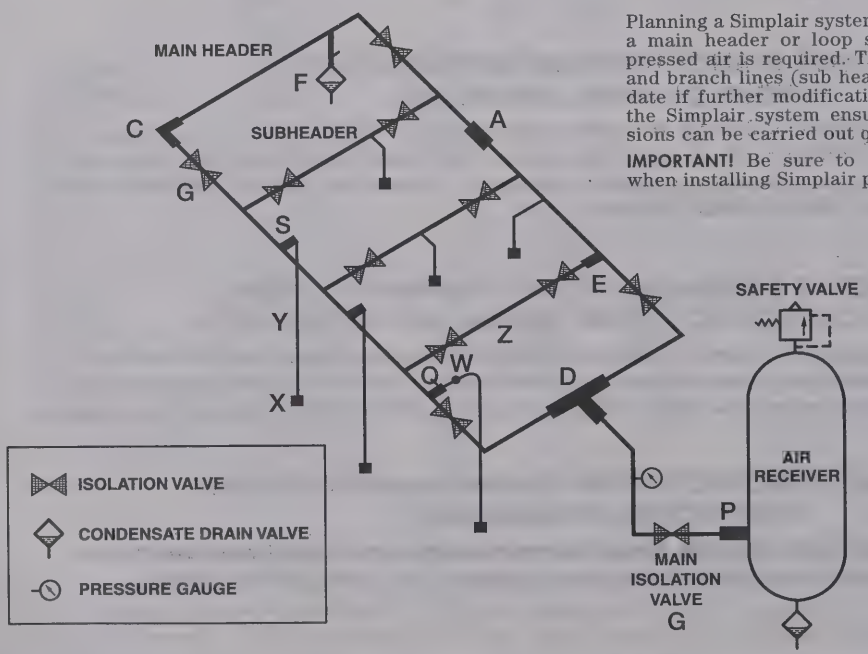
| Stock No. | Dia. (In.) | SCFM @ PSI 100 PSI | 125 PSI | 150 PSI | 175 PSI | 200 PSI |
|---|---|---|---|---|---|---|
| 4TM90 | 1/2 | 36 | 41 | 47 | 55 | 52 |
| 4TM89 | 1¼ | 155 | 172 | 218 | 269 | 324 |

(*) Based on 1 PSIG pressure drop per 100 feet at atmosphere conditions.

## TUBING ORDERING DATA

| Key | Description | Size | I-R Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Y** | 1/2" Tubing | 8'3" | 37983293 | **4TM90** | $12.72 | **$12.60▲** | 6.2 |
| **Z** | 1¼" Tubing | 8'3" | 37983285 | **4TM89** | 44.30 | **41.50▲** | 6.5 |

(▲) Net prices, not subject to discounts.



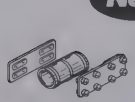

Planning a Simplair system could not be easier. Simply install a main header or loop system around the area that compressed air is required. Then add the outlet points for drops and branch lines (sub headers) at the same time or at a later date if further modifications are required. The flexibility of the Simplair system ensures that modifications and expansions can be carried out quickly and easily at any time.

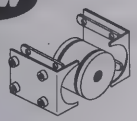
**IMPORTANT!** Be sure to follow manufacturer's instructions when installing Simplair piping.

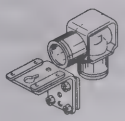
- [A] Straight Joint
- [C] L Joint
- [D] T Joint
- [E] Reduction Plate
- [F] Condensate Drain
- [G] Ball Valve
- [P] Threaded Terminals
- [Q] Outlet Plate
- [S] Swivel Elbow Outlet
- [W] Push-In Fittings
- [X] Termination Plate
- [Y] 1/2" Simplair pipe
- [Z] 1¼" Simplair Pipe

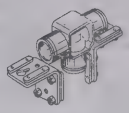
# SIMPLAIR COMPRESSED AIR PIPING SYSTEM

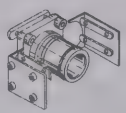
New

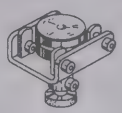

A

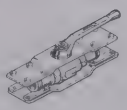

B

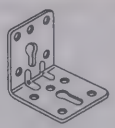

C

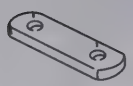

D


E

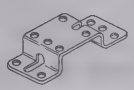

F


G


H


I

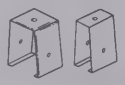

J

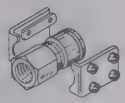

K

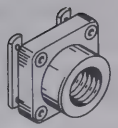

L


M

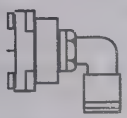

N

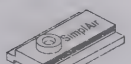

O


P

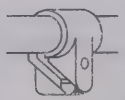

Q


R


S

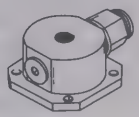


T


U


V


W


X

| Key | Description | Size | I-R Model | New! Stock No. | List | Each | | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | **1¼" SIMPLAIR COMPONENTS** | | | | | | | |
| A | Straight Joint | 3" | 92456435 | 4TN56 | $11.88 | $10.95 | ▲ | 0.6 |
| B | Closed Terminal | — | 92455625 | 4TN59 | 11.88 | 10.95 | | 0.6 |
| C | L - Joint | — | 92455526 | 4TN57 | 17.11 | 15.72 | ▲ | 0.6 |
| D | Tee Joint | — | 92455567 | 4TN58 | 29.70 | 27.40 | ▲ | 1.4 |
| E | Reduction Plate | — | 92455914 | 4TN60 | 31.57 | 29.05 | ▲ | 0.7 |
| F | Condensate Drain | — | 92456193 | 4TN62 | 17.81 | 16.43 | ▲ | 1.0 |
| G | Ball Valve | — | 92455989 | 4TN61 | 83.16 | 76.45 | ▲ | 2.5 |
| | **MOUNTING ACCESSORIES FOR 1¼" TUBING** | | | | | | | |
| H | L - Plate | 2" | 92456342 | 4TN64 | 2.37 | 2.32 | ▲ | 1.0 |
| I | Small Plate | 1½" | 92456409 | 4TN66 | 0.65 | 0.62 | | 0.1 |
| J | Straight Plate | 4¾" | 92456375 | 4TN65 | 1.79 | 1.79 | ▲ | 1.0 |
| K | Fixing Plate | 3⅛" | 92456425 | 4TN67 | 2.97 | 2.85 | ▲ | 0.8 |
| L | Allen Screw | .3" | 92456433 | 4TN68 | 0.19 | 0.17 | | 0.1 |
| L | Allen Screw | .5" | 92456441 | 4TN69 | 0.17 | 0.15 | | 0.1 |
| M | Wall Mnt Brkts | — | 92456573 | 4TN72 | 7.64 | 7.15 | ▲ | 0.3 |
| N | O - Ring | 1¼" | 92456474 | 4TN70 | 0.26 | 0.24 | | 0.1 |
| O | Hanging Brackets | — | 92456557 | 4TN71 | 3.40 | 3.26 | ▲ | 1.0 |
| | **1¼" THREADED TERMINALS** | | | | | | | |
| P | 1/4" Female | — | 92458371 | 4TN73 | 16.31 | 15.07 | ▲ | 1.0 |
| P | 1" Female | — | 92458389 | 4TN74 | 21.64 | 20.89 | ▲ | 1.0 |
| P | 1" Male | — | 92458439 | 4TN75 | 22.24 | 20.49 | ▲ | 1.0 |
| P | 1 1/4" Male | — | 92458447 | 4TN76 | 33.09 | 30.45 | ▲ | 1.0 |
| | **OUTLET PLATES FOR 1¼" TUBING** | | | | | | | |
| Q | 1/4" Female | — | 92458496 | 4TN77 | 10.74 | 9.96 | ▲ | 0.3 |
| Q | 3/8" Female | — | 92458504 | 4TN78 | 10.74 | 9.96 | ▲ | 0.3 |
| Q | 1/2" Female | — | 92458512 | 4TN79 | 14.00 | 12.95 | ▲ | 0.3 |
| Q | 3/4" Female | — | 92458520 | 4TN80 | 16.54 | 15.28 | ▲ | 0.3 |
| Q | 1" Female | — | 92458538 | 4TN81 | 17.82 | 16.44 | ▲ | 0.3 |
| R | 1" Male | — | 92458561 | 4TN82 | 23.39 | 21.52 | ▲ | 0.3 |
| | **1/2" SIMPLAIR COMPONENTS** | | | | | | | |
| S | Swivel | — | 92479278 | 4TN85 | 21.11 | 19.44 | ▲ | 0.5 |
| T | Drilling Jig | — | 92479286 | 4TN63 | 47.16 | 43.45 | ▲ | 0.6 |
| | **MOUNTING ACCESSORIES FOR 1/2" TUBING** | | | | | | | |
| U | Pipe Clips (100 PKg.) | — | 92479377 | 4TN86 | 43.33 | 39.85 | ▲ | 1.5 |
| V | Straight Connector | — | 92479260 | 4TN84 | 11.26 | 10.40 | ▲ | 0.7 |
| W | Push-In Fitting | 1/2" NPT | 92458587 | 4TN83 | 16.88 | 15.58 | ▲ | 0.3 |
| X | Termination Plate Kit | 1/2" NPT | 37958493 | 4TM88 | 32.25 | 31.50 | ▲ | 1.4 |

(▲) Net prices, Not subject to discounts.

# INDUSTRIAL BRONZE GATE VALVES AND GUIDE TO COMPRESSED AIR TREATMENT PRODUCTS

## INDUSTRIAL BRONZE GATE VALVES

**Nibco bronze gate valves** are designed to be used as the main fluid shutoff in industrial piping systems. Rising stem design with solid wedge bronze disc and screw-in bonnet for positive sealing. Valves are rated for 150 PSI steam and 300 PSI cold water working pressure. Operating temperature to 365°F. Comply with industrial* specifications for basic valve design, wall thickness and material selection. For use with steam, water, compressed air, fuel gas, low pressure industrial gas and other petroleum based liquids and solvents compatible with bronze. (*) Specification MSS SP-80 Type 2.




No. 2A726

| Inlet & Outlet (In.) | Height (In.)† | Nibco Mocel | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/2** | 5.3 | T131-1/2 | **2A726** | $13.98 | **$12.71** | 1.2 |
| **3/4** | 6.8 | T131-3/4 | **2A727** | 21.25 | **19.32** | 1.7 |
| **1** | 7.6 | T131-1 | **2A728** | 32.61 | **29.65** | 0.6 |
| **1 1/2** | 10.1 | T131- 1 1/2 | **2A729** | 59.89 | **54.45** | 4.1 |
| **2** | 12.2 | T131-2 | **2A730** | 88.44 | **80.40** | 7.5 |

(†) Measured from center line of valve opening to top of handle.

## GUIDE TO COMPRESSED AIR TREATMENT PRODUCTS

**Caution:** Compressed air contains concentrated water vapor, oil, dirt particles, and other contaminants. If not removed, these contaminants can damage air lines, air tools, air motors, pneumatic equipment and controls, and cause spray painting problems like "fisheye" and "orange peel."

The compressed air treatment products listed below will produce clean, dry air which prolongs equipment life, keeps equipment performing at optimal levels for improved product quality, and reduces maintenance costs.

### MAIN LINE AIR TREATMENT PRODUCTS

**Air-Cooled Aftercooler**—Uses fan-driven ambient air to cool hot compressed air to safe, usable temperatures (100 to 120°F). Cooling of compressed air causes water vapor to condense to liquid. Separator and drain required to remove condensate. Removes up to 75% of water and 70% of oil.

**Water-Cooled Aftercooler**—Same as above, except uses counterflowing water in heat exchanger to cool compressed air.

**Refrigerated Dryer**—Uses refrigeration to chill compressed air to 35 to 50°F pressure dewpoint. Causes more water vapor to condense into liquid. Removes up to 96% of water vapor and 40% of oil from compressed air. Requires use of aftercooler upstream to pre-cool incoming air.

**Regenerative Desiccant Dryer**—Compressed air flows through beds of desiccant material which adsorbs water vapor. Produces -40°F pressure dewpoint for ultra-dry air (removes up to 99.9% of water). Use of oil removal filter upstream is recommended to prevent contamination of desiccant material. Requires upstream aftercooler to pre-cool incoming air.

**Three-In-One Dryer**—Refrigerated dryer which incorporates aftercooler and reheater. Handles high inlet temperatures without need for separate aftercooler, condensate separator, and drain.

**Automatic, Auto-Electric Drain Valves**—Drain liquid water from air compressor receiver tank, aftercooler, and other air system components.

### POINT-OF-USE AIR TREATMENT PRODUCTS

**Air Line Filter**—Removes dirt particle contaminants and liquids from compressed air.

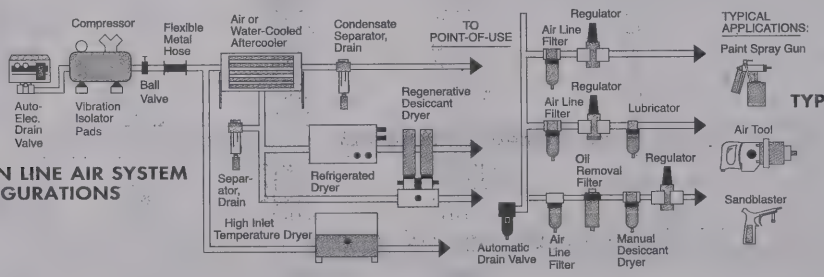
**Oil Removal Filter**—Causes oil aerosols in compressed air to coalesce into liquid. Reduces remaining oil content of air to extremely low levels for critical applications.

**Manual Desiccant Dryer**—Installed at point-of-use. Desiccant material absorbs any remaining water vapor in compressed air.

**Lubricator**—Provides proper type and amount of lubricant to air tools and other pneumatic equipment requiring lubrication.

**WARNING: Air treated with the above products is not suitable for breathing without further purification.**

**NOTE**: Ratings based on 75°F, 75% relative humidity. Different conditions will yield different results. Consult equipment operating instruction to determine air treatment requirements.




TYPICAL MAIN LINE AIR SYSTEM CONFIGURATIONS

TYPICAL POINT-OF-USE SYSTEM CONFIGURATIONS

### PIPING REQUIREMENTS FOR AIR DISTRIBUTION SYSTEMS

Pipe size used should be large enough to keep the pressure drop between the tank and the point of use to a minimum. All piping should slope to an accessible moisture drain point.

The main air line should not be smaller than the compressor outlet size. For long lines, sizes shown at right are recommended.

Outlets should be taken from the top of the main line (tees facing up) to keep moisture out.

Check all piping and fittings regularly to avoid leaks in the system. Filters, regulators and other accessories described above should also be properly maintained.

### PIPE SIZES FOR COMPRESSED AIR LINES

| Air CFM | Length of Pipe Lines in Feet | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 25 | 50 | 75 | 100 | 150 | 200 | 250 | 300 |
| 1-5 | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" |
| 6-10 | 1/2 | 1/2 | 1/2 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| 11-15 | 1/2 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| 16-20 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| 21-25 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 1 | 1 | 1 |
| 26-30 | 3/4 | 3/4 | 3/4 | 3/4 | 1 | 1 | 1 | 1 |
| 31-35 | 3/4 | 3/4 | 1 | 1 | 1 | 1 | 1 | 1 |
| 36-40 | 3/4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 41-59 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 60-79 | 1 | 1 | 1 | 1 | 1¼ | 1¼ | 1¼ | 1¼ |
| 80-100 | 1¼ | 1¼ | 1¼ | 1¼ | 1½ | 1½ | 1½ | 1½ |

# AIR-COOLED AND WATER-COOLED AFTERCOOLERS

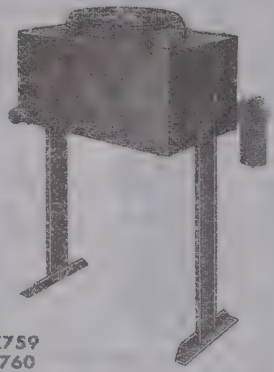
## AIR-COOLED AFTERCOOLERS



Nos. 5Z757 and 5Z758

THERMAL TRANSFER PRODUCTS, LTD

Nos. 5Z757–5Z760 may be mounted for either vertical or horizontal discharge



Nos. 5Z759 and 5Z760



Nos. 5Z761 and 5Z762

Replacement Parts Available
1-800-323-0620™

- Remove harmful water, oil, and contaminants from compressed air systems
- Precool hot air from compressor to temperatures required for use with compressed air dryers
- High efficiency copper tube/aluminum fin heat exchangers provide close approach temperatures with minimal power consumption
- Heavy-duty construction for long, trouble-free life
- Single point electrical junction box for ease of installation
- Includes legs
- Nos. 5Z759-5Z762 include ambient air filter to protect core from airborne contaminants
- Guards conform to OSHA requirements
- Fan motors are UL Recognized, CSA Certified
- Min. 80 PSI, max. 250 PSI, 350°F max.

NOTE: Use of flexible metal hose between air compressor and aftercooler is recommended to prolong equipment life. Separator and drain required to remove condensed water and oil. See Index for hose, separators, and drains.

| Maximum Comp. HP | Max. CFM @ 100 PSI* | Fan HP | Volts, 60 Hz | Max. Amp/Draw | Inlet / Outlet (M)NPT (In.) | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 20 | 1/12 | 115/230 | 2.4/1.2 | 1/2 | 21⅞ | 20⅜ | 9⅝ | 5Z757 | $386.83 | $299.25 | 24.0 |
| 10 | 35 | 1/12 | 115/230 | 2.4/1.2 | 1/2 | 21⅞ | 20⅜ | 9⅝ | 5Z758 | 430.14 | 335.25 | 30.0 |
| 15 | 50 | 1/12 | 115/230 | 2.4/1.2 | 1 | 42⅛ | 26⅛ | 15½ | 5Z759 | 564.31 | 437.00 | 65.0 |
| 25 | 100 | 1/12 | 115/230 | 2.4/1.2 | 1 | 42⅛ | 26⅛ | 15½ | 5Z760 | 752.13 | 582.50 | 68.0 |
| 35 | 150 | 1/4 | 115 | 7.2 | 1½ | 46⅛ | 33½ | 17¾ | 5Z761 | 993.86 | 767.50 | 150.0 |
| 50 | 240 | 1/4(2) | 115 | 7.2† | 2 | 49⅛ | 47⅛ | 17¾ | 5Z762 | 1304.03 | 1011.00 | 164.0 |

(*) Ratings based on 15°F approach with 250°F inlet temperature. (†) Two motors, 7.2 each.

## WATER-COOLED AFTERCOOLERS



THERMAL TRANSFER PRODUCTS LTD

- Remove damaging water, oil, and contaminants from compressed air systems
- Highly efficient cooler is built with corrosion resistant copper tubes, brass shell, and internal baffles
- 3 GPM of cooling water needed per 100 CFM of air
- Cast-iron end bonnets are removable for servicing

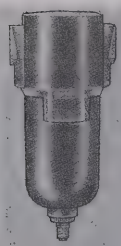
For best performance, install aftercoolers so water flows in opposite direction to compressed air. 250 PSI maximum air pressure, 250 PSI maximum water pressure. 350°F maximum operating temperature. Mounting feet at both ends.

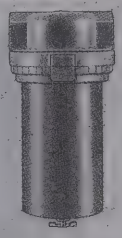
| Maximum Comp. HP | Max. CFM @ 100 PSI* | Cooling Area Surface (Sq. Ft.) | NPT Inlet & Outlet (In.) Water | Air | Dimensions (In.) Length | Width | Height | Stock No | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 40 | 3.5 | ½ | 1 | 23¾ | 3⅛ | 3½ | 5Z625 | $254.65 | $202.50 | 14.0 |
| 25 | 110 | 4.7 | ½ | 1½ | 36⅛ | 3⅛ | 3½ | 5Z626 | 285.76 | 227.75 | 15.0 |
| 60 | 300 | 18.0 | 1 | 2½ | 50⅛ | 5¼ | 6¼ | 5Z627 | 555.87 | 441.75 | 44.0 |

(*) Cooling compressed air to 15°F above inlet water temperature. Note: 3 GPM water flow required for each 100 SCFM.

# CONDENSATE SEPARATORS AND DRAIN VALVES

## CONDENSATE SEPARATORS AND AUTOMATIC DRAINS





Nos. 5Z771, 5Z614 and 5Z615 Separators with Internal Drains

Certificate No. FM21121



Nos. 5Z616 and 5Z618 Condensate Separators



No. 5Z620 Automatic Drain



No. 5Z617 Automatic Drain

• Registered to ISO 9001

WILKERSON CORPORATION • ENGLEWOOD, CO 80150

Replacement Parts Available 1-800-323-0620

**Patented, high efficiency separators** utilize centrifugal and impingement separation to remove liquid moisture and contaminants from compressed air systems.

**Typical separator installations** include aftercoolers, dryers and receiver tanks downstream from compressor, after long pipe runs, in drip legs, and point-of-use applications. Suitable for use in systems to 200 PSI at 150°F, over 10-100% of maximum flow rating. Pressure differential of 1 PSI or less results in significant energy savings.

**Nos. 5Z614, 5Z615, and 5Z771** feature cast zinc housings with quick-disconnect bowls for easy servicing, and internal float type drains to automatically discharge entrained condensate and dirt.

**Nos. 5Z616, 5Z618, and 5Z619** have cast aluminum housings with ribbed bowls for easy removal with C-spanner. These units are also equipped with a sight glass (except No. 5Z619) for monitoring proper operation, and can be equipped with an external automatic drain for a maintenance-free system (see table below for recommended drains).

**Automatic drains Nos. 5Z617 and 5Z620** are equipped with metal bowls compatible with all compressor lubricants, including synthetics. Rated at 200 PSI working pressure at 175°F. Drains discharge only when entrained moisture is present to prevent loss of compressed air. Override feature on No. 5Z617 allows manual operation of drain, if desired.

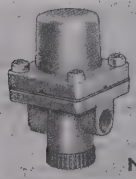
### CONDENSATE SEPARATORS

| Inlet/ Outlet NPT (In.) | Maximum SCFM @ 50 PSI | 100 PSI | 150 PSI | Overall Dimensions (In.) Ht. | Dia. | Recommended Automatic Drain | Wilkerson Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 29 | 50 | 72 | 7 | 3 1/4 | Included | WSA-04-FM0 | **5Z771** | $106.25 | **$74.75** | 3.5 |
| 3/4 | 57 | 100 | 144 | 10 | 4 5/8 | Included | WSA-06-FM0 | **5Z614** | 139.50 | **109.20** | 5.9 |
| 1 | 68 | 120 | 172 | 10 | 4 5/8 | Included | WSA-08-FM0 | **5Z615** | 139.50 | **109.20** | 5.7 |
| 1 | 96 | 170 | 244 | 12 1/8 | 4 3/4 | 5Z617 | WS0-08-000 | **5Z616** | 130.80 | **96.75** | 5.7 |
| 1 1/2 | 400 | 400 | 574 | 12 1/8 | 4 3/4 | 5Z617 | WS0-0B-000 | **5Z618** | 156.55 | **115.35** | 6.0 |
| 2 | 750 | 750 | 1077 | 18 5/8 | 6 1/4 | 5Z620 | WS0-0C-000 | **5Z619** | 298.70 | **215.25** | 13.0 |

### AUTOMATIC DRAINS

| Inlet NPT (In.) | Outlet NPT (In.) | Overall Dimensions (In.) Ht. | Dia. | Drain Rate @ 100 PSI | Bowl Capacity | Wilkerson Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1/8 | 6 3/4 | 3 | 80 GPH | 5 oz. | XB3-04-M00 | **5Z617** | $68.80 | **$54.15** | 2.0 |
| 1/2 | 1/8 | 8 1/2 | 4 3/4 | 150 | 1 qt. | X01-04-M00 | **5Z620** | 131.10 | **104.20** | 4.9 |

## AUTOMATIC DRAIN VALVE



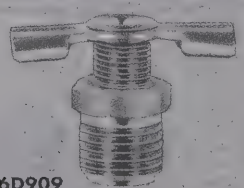
WILKERSON CORPORATION • ENGLEWOOD, CO 80150

No. 4KT04

**Automatically drains equipment** each time compressor cycles. This eliminates manual draining, delivers dryer air and recaptures full storage capacity. 10 PSI differential opens valve on each compressor cycle. Contains no floats, magnets, or buckets to cause maintenance problems. For up to 100 HP compressors. 30 to 200 PSI pressure range. No field adjustments needed. Installed in 3/8" (F)NPT inlet drain tap in compressor tank and piped to drain. Valve also is used on filters, aftercoolers, and separators.

**No. 4KT04.** Wilkerson compact automatic drain valve. Shpg. wt. 0.8 lbs. List .....$58.60. Each .....$50.50

## DRAIN COCKS



No. 6D909

External seat drain cocks are used on air compressor receivers, condensate separators, radiators, and many other similar applications. Brass stem and body with zinc-plated steel handle. Max. pressure 200 PSI. Max. temperature 200°F. Control Devices brand.

| NPT Size (In.) | Hex. (In.) | Height (In.) | Control Devices Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/8 | 7/16 | 0.88 | DC12-101 | **6D909** | $1.01 | **$0.60** | 0.1 |
| 1/4 | 9/16 | 1.00 | DC25-101 | **6D910** | 1.13 | **0.66** | 0.1 |
| 3/8 | 11/16 | 1.29 | DC38-101 | **6D911** | 3.45 | **2.03** | 0.1 |
| 1/2 | 7/8 | 1.48 | DC50-101 | **6D912** | 4.58 | **3.05** | 0.2 |

# HIGH INLET TEMPERATURE DRYERS

## THREE-IN-ONE REFRIGERATED DRYERS

- 3-in-1 design combines aftercooler, refrigerated dryer, and reheater in a single unit. Eliminates need for a separate aftercooler to precool the incoming air from compressor
- Handles inlet air temperatures up to 180°F
- Produces 35°F pressure dew point. Removes 96% of harmful moisture from compressed air. Helps protect air system components, spray guns, air tools, sandblasters and other pneumatic equipment
- Operates in hot environments (up to 100°F max. ambient temperature)
- All copper spiral fin tube-in-tube heat exchanger provides maximum efficiency for heat transfer and water separation/filter
- Heat exchanger warranted for 5 years
- Includes monitoring instrumentation, separator, and drain trap
- Refrigeration systems utilize environmentally safe R-134A refrigerant (No. 5Z656) or R-22 refrigerant (all other models)

SPEEDAIRE

Made in U.S.A.




Replacement Parts Available
1-800-323-0620

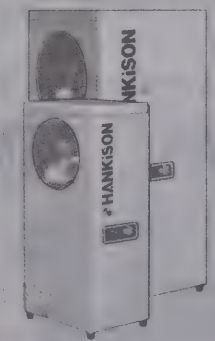
| Max. Air Compressor HP | CFM Cap. @ 35°F Dewpoint 175 psig | 125 psig | HP | Volts, 60 Hz | Inlet / Outlet (F)NPT (In.) | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 24.0 | 21.2 | 1/4 | 115 | 1 | 28 | 20 | 30 | 5Z656 | $1200.00 | $1164.00 | 141.0 |
| 10 | 40.0 | 34.0 | 1/2 | 115 | 1 | 28 | 20 | 30 | 5Z657 | 1342.00 | 1302.00 | 158.0 |
| 15 | 64.0 | 54.0 | 3/4 | 115 | 1 | 28 | 20 | 30 | 5Z658 | 1689.00 | 1640.00 | 200.0 |
| 25 | 96.0 | 81.0 | 1 | 230 | 1 | 31.5 | 28 | 34 | 5Z659 | 2787.00 | 2705.00 | 288.0 |

## COMBINATION AFTERCOOLER/SEPARATOR/DRYER/FILTER

Hankison HIT Series dryers offer a complete air treatment system—replaces aftercooler, separator, refrigerated dryer and filter.

- Ideal for commercial and industrial facilities with 5 to 20 horsepower compressors
- Makes air tools last longer; improves paint jobs; keeps pneumatic equipment operating
- Eliminates the need to frequently replace desiccants, paper rolls, etc.
- Cools—handles inlet air temperatures to 180°
- Dries—eliminates troublesome water
- Cleans—an integral 3 micron filter removes solids and oil aerosols (5ppm by weight remaining oil content)
- Reheats—saves energy and prevents pipe sweating
- Highly efficient heat exchangers and fan switch minimize energy usage
- CFC free refrigeration system requires no adjustments
- Includes power cord, On/Off switch, fault light, automatic condensate drain, ambient air filter and inlet strainer
- 5 year heat exchanger and 2 year refrigeration system warranty
- 175 psig max.; operates in ambient temperatures from 35°F to 110°F

HANKISON INTERNATIONAL




NRTL/C

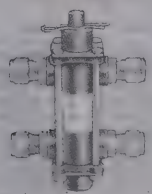
No. 3JR56

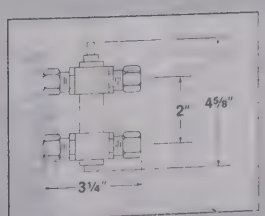
Replacement Parts Available
1-800-323-0620

| Max. Air Comp. HP Two Stage 175 psig | Single Stage 125 psig | CFM Cap. @ 50°F Dew Point 175 psig | 125 psig | Volts 60 Hz | Refrig. Comp. HP | Inlet / Outlet (F)NPT | Overall Dim. (In.) H | W | D | Hankison Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.0 | 5.0 | 23 | 20 | 115 | 5/8 | 1/2" | 28 | 10 | 13 | HIT20 | 3JR53 | $1076.00 | $921.50 | 79.0 |
| 7.5 | 5.0 | 29 | 25 | 115 | 5/8 | 1/2 | 28 | 10 | 13 | HIT25 | 3JR54 | 1147.00 | 978.00 | 80.0 |
| 10.0 | 7.5 | 41 | 35 | 115 | 5/8 | 1/2 | 28 | 10 | 13 | HIT35 | 3JR55 | 1379.00 | 1184.00 | 81.0 |
| 15.0 | 10.0 | 58 | 50 | 115 | 11/4 | 3/4 | 37 | 17 | 17 | HIT50 | 3JR56 | 1806.00 | 1543.00 | 150.0 |
| 20.0 | 15.0 | 88 | 75 | 115 | 11/4 | 3/4 | 37 | 17 | 17 | HIT75 | 3JR57 | 2271.00 | 1945.00 | 155.0 |

## AIR/LIQUID BY-PASS VALVE

HANKISON INTERNATIONAL





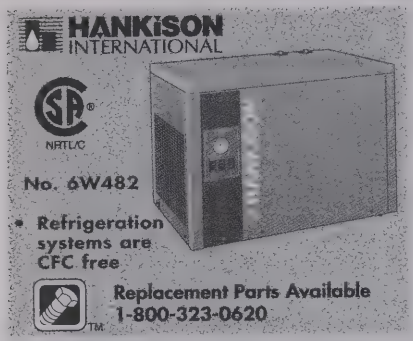

Replacement Parts Available
1-800-323-0620

- For use with most brands of refrigerated dryers, 5-15 CFM
- Allows servicing of system components without shutting down system
- Eliminates installation cost and space limitations of conventional three valve by-pass systems
- Push one button to change modes; no multiple valves to turn on and off
- Push button can be locked in place to make valve tamperproof
- Inlet and outlet fittings are compression type with rubber ferrule for installation on 3/8" O.D. tubing
- Can be used with liquids and gasses compatible with nylon, Buna N, and brass

| Max. Working Pressure | Max. Temp. | Compression Fittings (In.) | Hankison Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 200 PSI | 120°F | 3/8 | 1701-2 | 5Z777 | $46.00 | $41.35 | 1 |

# REFRIGERATED COMPRESSED AIR DRYERS

## HANKISON REFRIGERATED COMPRESSED AIR DRYERS




Hankison refrigerated dryers eliminate harmful moisture and provide high quality, clean, dry air.

- **Consistent outlet dew points assure dry air downstream**
- **Smooth surface heat exchangers permit low pressure drop through dryer**
- **Heat exchangers are fully encapsulated in non-degrading insulation to preserve cooling effect**
- **Non-fouling, smooth surface, copper heat exchangers maintain high heat transfer efficiency for life of dryer, no prefilter required**
- **Positive condensate discharge with compressed air powered automatic drain**
- **Refrigeration system service life maximized by continuous, non-cycling operation**
- **Utilize 134a refrigerant—CFC free**
- **Two-stage separator maintains high efficiency separation across wide range of flows. Includes 3 micron coalescer**

**Nos. 6W474, 6W475, and 6W476 feature** integral oil/dirt filter, power-on and high temperature warning lights, and six-foot power cord with plug. Full cabinet includes removable end screens and wall mounting bracket.

**Nos. 6W477 thru 6W483 have all features of No. 6W474. Also include** On/Off switch, refrigerant suction pressure gauge, and legs instead of brackets.

**No. 6W484 features** integral oil/dirt filter, and power-On, compressor-On, high temperature warning and refrigerant cut-out lights. Full cabinet includes removable end screens and legs. Also includes refrigerant suction pressure gauge.

| Max. Air Compr. HP | CFM Cap. @ Pressure Dew Points 38°F | 50°F | Refrig. Comp. HP | Volts / Phase 60 Hz | Inlet and Outlet (In.) | Overall Dimensions (In.) H | W | D | Hankison Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 5 | 7 | 1/10 | 115-1 | 3/8 OD | 14 | 16⅛ | 15 | PR5 | **6W474**† | $551.00 | **$475.50** | 50.0 |
| 3 | 10 | 13 | 1/6 | 115-1 | 3/8 OD | 14 | 16⅛ | 15 | PR10 | **6W475**† | 629.00 | **537.00** | 57.0 |
| 5 | 15 | 20 | 1/5 | 115-1 | 3/8 OD | 14 | 16⅛ | 15 | PR15 | **6W476**† | 780.00 | **660.00** | 65.0 |
| 7½ | 25 | 33 | 1/5 | 115-1 | 3/4* | 21 | 26 | 16 | PR25 | **6W477** | 1098.00 | **974.00** | 131.0 |
| 10 | 35 | 46 | 1/5 | 115-1 | 3/4* | 21 | 26 | 16 | PR35 | **6W478** | 1374.00 | **1298.00** | 144.0 |
| 15 | 50 | 65 | 1/4 | 115-1 | 1* | 25 | 34 | 22 | PR50 | **6W479** | 1841.00 | **1758.00** | 211.0 |
| 20 | 75 | 98 | 1/3 | 115-1 | 1* | 25 | 34 | 22 | PR75 | **6W480** | 2307.00 | **2202.00** | 253.0 |
| 25 | 100 | 130 | 1/2 | 115-1 | 1½* | 25 | 34 | 22 | PR100 | **6W481** | 2477.00 | **2356.00** | 293.0 |
| 30 | 125 | 163 | 3/4 | 115-1 | 1½* | 25 | 34 | 22 | PR125 | **6W482** | 2854.00 | **2696.00** | 302.0 |
| 40 | 150 | 195 | 3/4 | 115-1 | 1½* | 25 | 34 | 22 | PR150n | **6W483** | 3501.00 | **3324.00** | 470.0 |
| 50 | 200 | 260 | 1 | 460-3 | 2* | 37 | 40 | 36 | PR200 | **6W484** | 4445.00 | **4114.00** | 505.0 |

(*) (M)NPT. (†) Comes with wall mount.

## SPEEDAIRE REFRIGERATED COMPRESSED AIR DRYERS




Speedaire refrigerated dryers prevent water from damaging air operated tools, motors and cylinders, ruining paint jobs, and clogging sand blasters. Speedaire Compressed Air Dryers feature:

- **Oversized air-water separator handles heavy liquid loads . . . all models include a combination separator and 3-micron solid particle filter**
- **Automatic condensate drain**
- **Fully automatic refrigeration temperature control. Never needs adjustment. Maintains constant dew point and prevents freeze-ups**
- **Utilize CFC free refrigerants**
- **Smooth surface heat exchangers never need cleaning. No prefilter required ahead of dryer**
- **Refrigeration system includes suction accumulators, filters, dryers, and overloads to protect compressor**
- **Non-cycling operation allows long compressor service life**
- **115V units include power cord**
- **Heavy-duty cabinets supplied with wall mounting brackets or legs**
- **High temperature warning light gives ready indication of system malfunction or overloading. Other instrumentation includes: all units—power-on light; sizes 25 SCFM and larger—suction pressure gauge; 150 SCFM model also includes compressor-On and refrigerant cut-out lights**

### SPECIFICATIONS AND ORDERING DATA

| For Air Comp. HP | CFM Capacity* at Pressure Dew Points 38°F | 50°F | Refrig. Comp. HP | Volts, 60 Hz 1-Phase | Full-Load Amps | Inlet and Outlet (In.) | Overall Dimensions (In.) Height | Width | Depth | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 5 | 7 | 1/10 | 115 | 2.0 | 3/8 OD | 14 | 16⅛ | 15 | **5Z772** | $551.00 | **$455.25** | 50.0 |
| 3 | 10 | 13 | 1/6 | 115 | 3.4 | 3/8 OD | 14 | 16⅛ | 15 | **3Z528** | 629.00 | **519.50** | 57.0 |
| 5 | 15 | 20 | 1/5 | 115 | 4.7 | 3/8 OD | 14 | 16⅛ | 15 | **3Z529** | 780.00 | **647.50** | 65.0 |
| 7¼ | 25 | 33 | 1/4 | 115 | 7.1 | 1/2 (M)NPT | 17 | 22¼ | 16 | **3Z530** | 1066.00 | **926.50** | 97.0 |
| 10 | 35 | 46 | 1/4 | 115 | 7.1 | 1/2 (M)NPT | 17 | 22¼ | 16 | **3Z531** | 1339.00 | **1237.00** | 100.0 |
| 15 | 55 | 72 | 1/2 | 115 | 11.3 | 1 (M)NPT | 23¼ | ¼ | 19½ | **3Z532** | 1869.00 | **1722.00** | 201.0 |
| 20 | 70 | 91 | 3/4 | 115 | 15.8 | 1 (M)NPT | 23¼ | ¼ | 19½ | **3Z533** | 2240.00 | **2062.00** | 203.0 |
| 25 | 100 | 130 | 3/4 | 115 | 15.8 | 1 (M)NPT | 23¼ | ¼ | 19½ | **3Z534** | 2415.00 | **2223.00** | 223.0 |
| 30 | 125 | 163 | 3/4 | 115 | 15.8 | 1½ (M)NPT | 23¼ | ¼ | 19½ | **5Z773** | 2781.00 | **2559.00** | 240.0 |
| 40 | 150 | 195 | 3/4 | 115 | 15.8 | 2 (M)NPT | 37 | 40 | 36 | **5Z774** | 3501.00 | **3202.00** | 485.0 |

(*) Dryer capacities at 38° and 50°F pressure dew point temperatures have been established with compressed air entering dryer at 100 PSIG and 100°F saturated with dryer operating in 100°F ambient temperature. Operating range: 35° to 110°F ambient. Maximum working pressure: 175 PSIG. Maximum inlet compressed air temperature: 120°F.

**If inlet temperatures exceed 120°F, precool air with air or water cooled aftercooler.**

# REFRIGERATED COMPRESSED AIR DRYERS

## SDR SERIES REFRIGERATED COMPRESSED AIR DRYERS

**Air dryers** combine the latest advances in refrigeration technology into an efficient and reliable package. Patent pending system eliminates refrigerant condenser fans, motors, and fan cycling switches. Ingersoll-Rand brand.

- **Simple design with max. reliability**
- **Environmentally friendly R-134A refrigerant**
- **Compact size**
- **Easy installation**
- **Max. inlet air temp: 120°F (49°C)**
- **250 PSIG maximum pressure**

**No. 4KR71.** Wall Mounting Bracket Kit. Shpg. wt. 5.0 lbs. List $90.00. Each.....$82.65

**No. 4KR72.** Wall Mounting Bracket Kit. Shpg. wt. 5.0 lbs. List $90.00. Each.....$82.65




| Max. Air Compressor HP | Capacity (SCFM) @ Pressure Dew Pts. 35°F | 50°F | Volts/ Phase 60 Hz | Inlet/Outlet Conn. (In.) | Dimensions (In.) H | W | D | Refrigerant | Wall Mtg. Bracket Kit | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 7 | 9.1 | 115-1 | 3/8 | 15.8 | 12.5 | 12.5 | R-134A | 4KR71 | SDR7 | **4KR67** | $567.00 | **$507.00** | 44.0 |
| **3** | 10 | 13.0 | 115-1 | 3/8 | 15.8 | 12.5 | 12.5 | R-134A | 4KR71 | SDR10 | **4KR68** | 621.00 | **560.50** | 48.0 |
| **5** | 15 | 19.5 | 115-1 | 1/2 | 20.3 | 12.5 | 15.5 | R-134A | 4KR72 | SDR15 | **4KR69** | 802.00 | **718.00** | 55.0 |
| **7.5** | 25 | 13.0 | 115-1 | 1/2 | 22.6 | 12.5 | 15.5 | R-134A | 4KR72 | SDR25 | **4KR70** | 1039.00 | **904.50** | 66.0 |
| **10** | 35 | 19.5 | 115-1 | 1/2 | 25.0 | 22 | 18.25 | R-134A | — | SDR35 | ***New* 4TM96** | 1315.00 | **1215.00** | 85.0 |
| **15** | 50 | 32.5 | 115-1 | 3/4 | 24.25 | 25 | 24.25 | R-134A | — | SDR50 | ***New* 4TM97** | 1753.00 | **1620.00** | 110.0 |

NOTES: Dryer capacities at indicated pressure dew points are based on compressed air entering the dryer at 100 PSIG, 100°F, 100% RH, and 100°F ambient air temperature. Capacity ratings in accordance with CAGI Standard No. DF100 for Class H (33°F-39°F) pressure dew point. (▲) Net prices, Not subject to discounts.

## DXR SERIES REFRIGERATED COMPRESSED AIR DRYERS

**Air dryers** cool compressed air by mechanical refrigeration. Water vapor condenses and is removed from air stream by a moisture separator. Minimum maintenance, no purge air loss and low operating cost for an economical way to remove harmful moisture from compressed air systems. 120°F maximum ambient temperature and 130°F maximum inlet air temperature. If inlet air temperature exceeds 130°F, utilize an air or water cooled aftercooler to precool the air. Nos. 4M649, 4M870, and 4N456 include: Digital display of temperature data and fault warnings for inlet air, ambient air, refrigerant suction and refrigerant discharge. Microprocessor control, and automatic electric drain valve with adjustable operating set points. Ingersoll-Rand brand.

- **250 PSIG maximum pressure**
- **R134A or R22 refrigerant meets EPA regulations**
- **Smooth, non-fouling heat exchanger tubes eliminate need for prefilter**
- **Precooler maximizes refrigeration efficiency, reheater eliminates downstream pipe sweating**
- **99.99% efficient separator**
- **Auto condensate drain**




| Max. Air Compressor HP | Capacity (SCFM) @ Pressure Dew Points 35°F | 50°F | Volts/ Phase 60 Hz | AMP Draw | Inlet/ Outlet Conn. (In.) | Dimensions (In.) H | W | D | Refrigerant | Wall Mtg. Bracket | Micro Processor Control | I-R Model | Stock No. | List | Each | Shpg Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 75 | 98 | 115-1 | 8.8 | 1¼ NPT | 35.0 | 35.0 | 21.0 | R134A | No | No | DXR75 | **4M648** | $2477.80 | **$2327.00** | 240.0 |
| **20** | 75 | 98 | 115-1 | 8.8 | 1¼ NPT | 35.0 | 35.0 | 21.0 | R134A | No | Yes | DXR75T | **4M649** | 2926.23 | **2742.00** | 240.0 |
| **20** | 75 | 98 | 230-1 | 4.4 | 1¼ NPT | 35.0 | 35.0 | 21.0 | R134A | No | No | DXR75E3 | **4M650** | 2766.97 | **2591.00** | 240.0 |
| **20** | 75 | 98 | 230-1 | 4.4 | 1¼ NPT | 35.0 | 35.0 | 21.0 | R134A | No | Yes | DXR75TE | **4M651** | 3216.48 | **3011.00** | 240.0 |
| **25** | 100 | 130 | 115-1 | 9.2 | 1½ NPT | 35.0 | 35.0 | 21.0 | R134A | No | No | DXR100 | **4M674** | 2793.42 | **2581.00** | 255.0 |
| **25** | 100 | 130 | 115-1 | 9.2 | 1½ NPT | 35.0 | 35.0 | 21.0 | R134A | No | Yes | DXR100T | **4M870** | 3241.85 | **3027.00** | 255.0 |
| **25** | 100 | 130 | 230-1 | 4.6 | 1½ NPT | 35.0 | 35.0 | 21.0 | R134A | No | No | DXR100E3 | **4M871** | 3083.67 | **2891.00** | 255.0 |
| **25** | 100 | 130 | 230-1 | 4.6 | 1½ NPT | 35.0 | 35.0 | 21.0 | R134A | No | Yes | DXR100TE3 | **4M872** | 3532.10 | **3306.00** | 255.0 |
| **30** | 180 | 180 | 230-1 | 4.6 | 2 NPT | 39.0 | 35.0 | 21.0 | R134A | No | No | DXR150 | **4N059** | 3787.81 | **3544.00** | 277.0 |
| **30** | 180 | 180 | 230-1 | 4.6 | 2 NPT | 39.0 | 35.0 | 21.0 | R134A | No | Yes | DXR150T | **4N221** | 4536.68 | **4248.00** | 277.0 |
| **40** | 200 | 240 | 230-1 | 8.8 | 2 NPT | 40.0 | 34.0 | 36.0 | R22 | No | No | DXR200 | **4N455** | 4532.73 | **4237.00** | 366.0 |
| **40** | 200 | 240 | 230-1 | 8.8 | 2 NPT | 40.0 | 34.0 | 36.0 | R22 | No | Yes | DXR200T | **4N456** | 4979.43 | **4650.00** | 366.0 |
| **40** | 200 | 240 | 460-3 | 4.9 | 2 NPT | 40.0 | 34.0 | 36.0 | R22 | No | No | DXR200E3 | **4N457** | 4821.91 | **4522.00** | 366.0 |
| **40** | 200 | 240 | 460-3 | 4.9 | 2 NPT | 40.0 | 34.0 | 36.0 | R22 | No | Yes | DXR200TE3 | **4N458** | 5268.61 | **4940.00** | 366.0 |

NOTES: Dryer capacities at indicated pressure dew points are based on compressed air entering the dryer at 100 PSIG, 100°F, 100% RH and 100°F ambient air temperature. Capacity ratings in accordance with CAGI Standard No. ADF100 (33°F-39°F) pressure dew point. Dryer input kw includes the refrigeration compressor, refrigrant fan and controls.

# DESICCANT DRYERS

## WILKERSON DESICCANT DRYERS




- Registered to ISO 9001

Certificate No. FM21121

- **Remove harmful moisture from compressed air systems through direct adsorption**
- **Useful for small systems and moisture sensitive point-of-use applications**
- **Used with air tools, instruments, and paint spraying equipment, or where air lines must be protected from freeze-up**

**Desiccant dryers** provide -45°F atmospheric dewpoint (<0.5% relative humidity at 78°F). Units rated to 150 PSI at 125°F.

**Nos. 5Z610 and 5Z611** have quick-release polycarbonate bowls for easy detection and replacement of saturated desiccant. No. 5Z769 has quick-disconnect aluminum bowl with desiccant saturation indicator.

**Silica gel desiccant material** contains 25% cobalt blue coloring which turns pink to indicate saturation. When desiccant becomes saturated, replace with new desiccant, or regenerate at 350°F. Replacement desiccant material also available. See table below. Wilkerson brand.

### DESICCANT DRYER ORDERING DATA

| Max. SCFM @ 100 PSI | Total Cap. Cu. Ft.* | Overall Dimen. (In.) H | Overall Dimen. (In.) W | Inlet / Outlet (F)NPT (In.) | Bowl Size | Wilkerson Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 600 | 5 1/2 | 2 3/4 | 1/4 | 0.25 lbs. | X06-02-000 | **5Z610** | $58.25 | **$42.15** | 1.9 |
| 10 | 4400 | 13 | 4 5/8 | 1/4 | 1.64 | X03-02-000 | **5Z611** | 118.20 | **87.45** | 8.0 |
| 25 | 11,000 | 21 5/16 | 4 13/16 | 1/2 | 4.40 | X25-04-000 | **5Z769** | 272.95 | **206.00** | 13.0 |

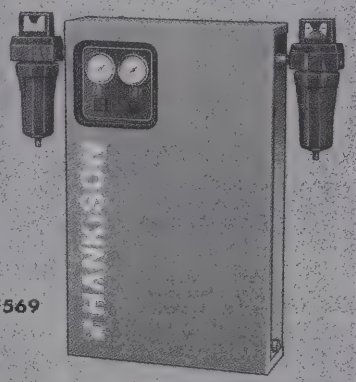
(*) Total volume of air that can be dried before desiccant must be replaced or regenerated.

### REPLACEMENT DESICCANT

| For Dryer Stock No. | Refills | Wilkerson Model No. | Stock No. | List | Pkg. Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5Z610** | 3 | DRP-95-303 | **5Z613** | $28.15 | **$21.95** | 1.0 |
| **5Z611** | 4 | DRP-85-059 | **5Z612** | 118.45 | **91.55** | 7.0 |
| **5Z769** | 3 | DRP-85-280 | **5Z770** | 212.80 | **167.25** | 14.0 |

## REGENERATIVE DESICCANT COMPRESSED AIR DRYERS

HANKISON INTERNATIONAL



- For ultra-dry compressed air
- Prefilter and afterfilter included

NRTL/C

No. 6F569

Replacement Parts Available 1-800-323-0620

Prevent liquid water from forming in air systems exposed to temperatures below freezing. Adjustable for -40°F or -100°F pressure dew points. CSA certified.

Applications: Added protection where air is used for air tools, motors, cylinders and valves, logic circuits and instrumentation, cable and antenna pressurization, dust collectors, sand blasting, and painting. Ultra-dry compressed air for critical applications such as air agitation, air bearings, air blanketing, air conveying and fluidization, fine grit blasting, nitrogen replacement for electronic chip manufacturing, feedstock for ozone generators.

- **Large desiccant beds provide consistent outlet pressure dew points**
- **Tower repressurization promotes long desiccant life**
- **Bed design minimizes purge air usage**
- **Solid-state timer accurately controls tower cycling**
- **Heavy-duty purge exhaust muffler for quiet operation**
- **Uses easily replaced bulk desiccant—no special cartridges required**
- **Removable, cleanable stainless steel flow diffusers**
- **Non-lubricated, soft seated control valves**
- **Enclosed in durable metal cabinet for easy wall mounting**
- **Front-mounted control panel with Power-On light, tower pressure gauges, and On/Off switch**

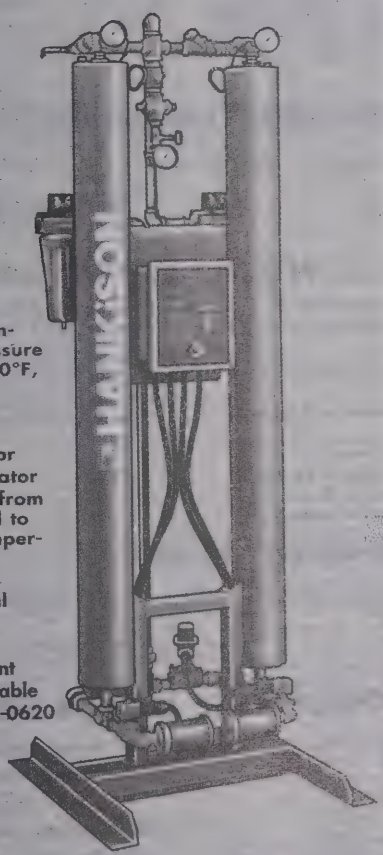
### DESICCANT AIR DRYERS ORDERING DATA

| Flow Capacity SCFM @ 100 PSIG (-40°F P.D.P.) Inlet | Flow Capacity SCFM @ 100 PSIG (-40°F P.D.P.) Outlet | In/Out Connection NPTF (In.) | Dimensions (In.) Height | Dimensions (In.) Width | Dimensions (In.) Depth | Hankison Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 4 | 1/2 | 30 1/2 | 22 7/8 | 6 3/4 | DHW-5 | **6F569** | $1265.00 | **$1160.00** | 98.0 |
| 10 | 8 | 1/2 | 30 1/2 | 22 7/8 | 6 3/4 | DHW-10 | **6F570** | 1427.00 | **1307.00** | 135.0 |
| 15 | 12 | 1/2 | 30 1/2 | 22 7/8 | 6 3/4 | DHW-15 | **6F571** | 1554.00 | **1425.00** | 152.0 |
| 20 | 16 | 1/2 | 30 1/2 | 31 1/8 | 8 5/8 | DHW-20 | **6F572** | 1821.00 | **1667.00** | 187.0 |
| 25 | 20 | 1/2 | 30 1/2 | 31 1/8 | 8 5/8 | DHW-25 | **6F573** | 2220.00 | **2038.00** | 212.0 |

**Note:** Electrical; 115VAC/1Ø/60 Hz, NEMA 1, includes 6 ft. power cord and plug. Minimum/Maximum Operating Pressure; 50/150 PSIG. Maximum Operating Temperature: 120°F. (If inlet temperature exceeds 120°F, use aftercooler to precool incoming air—see index under Aftercoolers.)

# DH SERIES PRESSURE-SWING REGENERATIVE DESICCANT COMPRESSED AIR DRYERS

HANKISON INTERNATIONAL



NRTL/C

- For ultra-dry compressed air (pressure dew points of -40°F, -100°F)
- Tower pressure gauges
- Moisture indicator
- Purge flow indicator
- Eliminate water from systems exposed to sub-freezing temperatures
- Reduce moisture content in critical applications

Replacement Parts Available 1-800-323-0620

No. 4HK98

## FEATURES

**Consistent Dew Points**—Large desiccant beds ensure sufficient contact time. Include extra desiccant to compensate for initial desiccant aging.

**Minimum Purge Air Use**—Towers are sized to retain the heat of adsorption, maximizing purge air efficiency.

**Maximum Desiccant Bed Life**—Desiccant won't fluidize. 3 to 5 year bed life.

**Safe**—Pressure relief valves, heavy duty mufflers for quiet operation. ASME code constructed. NEMA 4,4X.

**Easy To Maintain**—Fill and drain ports. Cleanable flow diffusers.

**Dual tower arrangement** allows one tower to dry the air supply while the other tower is regenerated. Towers are automatically switched on and off stream allowing continuous operation. Regeneration occurs by reducing pressure in a portion of the dried air (referred to as purge air) and passing it over the off-stream bed. No heaters are used.

**Rugged activated alumina desiccant** won't disintegrate in water. Offers high crush strength and resistance to abrasion. Environmentally safe. Standard pre-filter/after-filter packages include a high efficiency oil removal filter piped to the inlet of the dryer and a one micron particulate filter piped to the outlet. Dryer and pre-and-after filters are assembled on steel frame complete with floor stand, piped, wired, and shipped with full charge of desiccant. Includes lifting lugs for ease of transporting.

**NOS. 4HK98 THRU 4HL03, 4HL05, AND 4HL07 STANDARD CONTROL PANELS INCLUDE:**

- Tower status lights
- Cycle/mode selector—choice of 4 or 10 minute cycle (-40°F or -100°F outlet dew point) or test mode
- Switching failure alarm—monitors valve operation
- Purge Economizer Switch—allows manual purge air reduction when dryer operating at reduced loads

**NOS. 4HL04, 4HL06, AND 4HL08 SENSATHERM® MODELS INCLUDE:**

- Sensatherm® Automatic purge saving system—matches purge air use to the demand on the dryer
- Tower status lights
- Cycle/mode selector. Choice of 4 or 10 minute fixed cycles, demand mode settings for -40°F, 0°F, or +40°F outlet dew points, or diagnostic mode
- Alarms for switching failure or temperature probe malfunction

## DRYER SPECIFICATIONS AND ORDERING DATA

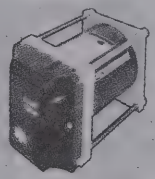
| Capacity SCFM @ 100 PSIG Inlet | Capacity SCFM @ 100 PSIG Outlet | Inlet/Outlet Connection NPT (In.) | DIMENSIONS (In.) Height | Width | Depth | Hankison Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 21.4 | 1/2 | 75 | 25 | 24 | DH-25 | 4HK98 | $2980.00 | $2482.00 | 355.0 |
| 45 | 38.5 | 1/2 | 75 | 25 | 24 | DH-45 | 4HK99 | 3184.00 | 2640.00 | 355.0 |
| 60 | 51.4 | 3/4 | 76 | 25 | 24 | DH-60 | 4HL01 | 4016.00 | 3332.00 | 414.0 |
| 80 | 68.5 | 1 | 82 | 30 | 30 | DH-80 | 4HL02 | 5074.00 | 4213.00 | 629.0 |
| 115 | 98.4 | 1 | 87 | 32 | 30 | DH-115 | 4HL03 | 5807.00 | 4816.00 | 678.0 |
| 115 | 98.4 | 1 | 87 | 32 | 30 | DH-115 | 4HL04 | 7927.00 | 6532.00 | 680.0 |
| 165 | 141.0 | 1½ | 87 | 33 | 31 | DH-165 | 4HL05 | 6230.00 | 5168.00 | 698.0 |
| 165 | 141.0 | 1½ | 87 | 33 | 31 | DH-165 | 4HL06 | 8350.00 | 6885.00 | 700.0 |
| 260 | 223.0 | 1½ | 90 | 35 | 42 | DH-260 | 4HL07 | 7649.00 | 6346.00 | 912.0 |
| 260 | 223.0 | 1½ | 90 | 35 | 42 | DH-260 | 4HL08 | 9769.00 | 8062.00 | 915.0 |

Inlet flows are established in accordance with CAGI standard ADF 200, Dual Tower Regenerative Desiccant Compressed Air Dryers - Methods for Rating and Testing.
Conditions for rating dryers are: inlet pressure - 100 PSIG; inlet temperature - saturated at 100°F. Electrics: 120 VAC 1 ph 60 Hz, 110 VAC 1 ph 50 Hz; NEMA 4, 4X.
Operating conditions: Maximum working pressure: 150 PSIG; Minimum working pressure: 10 minute cycle - 60 PSIG, 4 minute cycle - 80PSIG. Maximum inlet air or ambient air temperature: 120°F; Pressure drop at rated flow: 3 PSI.

# CONDENSATE DRAIN VALVES

INGERSOLL-RAND®
AIR COMPRESSORS




## PNEUMATIC OPERATED DRAIN VALVES

- **No electronics needed**
- **Reduced installation and operating cost**
- **Routine maintenance eliminated**

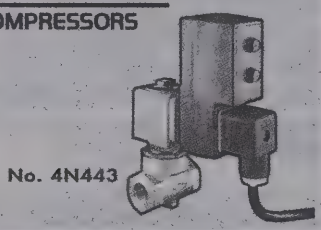
**No. 4KR56 moisture minder automatic condensate drain valve,** designed to automatically drain condensed water and oil from a compressed air system. Energy efficient design maintains system pressure and air flow, increasing productivity. Installation fittings and instruction materials included. Ingersoll-Rand brand.

**No. 4N445 system saver high capacity sump** allows adaptation to all condensate collection points within a compressed air system. High capacity drain valve provides protection to the compressed air system. Dry control system; moisture does not contaminate or corrode valve actuator. Unique liquid seal float design eliminates air leakage. Ingersoll-Rand brand.

### SYSTEM SAVER DRAIN VALVE SPECIFICATIONS AND ORDERING DATA

| Drain Type | Inlet/Outlet Connection (In.) | Capacity GPM @ 100 PSIG | Pressure, PSIG Max. | Pressure, PSIG Min. | Operating Temp. (°F) Min. / Max. | Valve Body Material | Pilot Pressure PSIG | Overall Dimensions (In.) H | W | D | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pneumatic** | 1/4 | 4.0 | 300 | 30 | 32/180 | Steel | N/A | 47/8 | 61/8 | 3 | 32311219 | **4KR56** | $188.48 | **$181.00** | 7.0 |
| **Pneumatic** | 1/2 | 10.5 | 175 | 10 | 32/170 | Aluminum | 10 - 175 | 71/2 | 121/2 | 7 | SSDV-1 | **4N445** | 817.52 | **756.50** | 22.0 |

INGERSOLL-RAND®
AIR COMPRESSORS



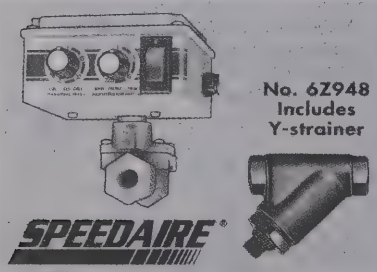

## ELECTRIC CONDENSATE DRAIN VALVES

- **NEMA-4 Electric components**
- **Fully automatic, assures unattended condensate removal**
- **7/16" Drain orifice, eliminates clogging**
- **Integral surge protection safeguard electronic timer**
- **Protective in-line strainer**
- **Adjustable cycle, 1/2 min. to 45 min., and purge time, 1/2 sec. to 10 sec., matching moisture load**
- **Drain cycle 1/2 min. to 45 min; purge time 1/2 sec. to 10 sec.**

Electronic drain valves provide a reliable low cost alternative to manual style drains. Minimum maintenance required. Ingersoll-Rand brand.

### DRAIN VALVE SPECIFICATIONS AND ORDERING DATA

| Drain Type | Inlet/Outlet Connection (In.) | Capacity GPM @ 100 PSIG | Pressure, PSIG Max. | Pressure, PSIG Min. | Operating Temp. (°F) Min. / Max. | Valve Body Material | Voltage-Ph 60 hz | Overall Dimensions (In.) H | W | D | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Electronic** | 1/4 | 4 | 300 | 3 | 32/180 | Brass | 115-1 | 51/2 | 2 | 41/2 | ADV-1711 | **4N443** | $201.89 | **$186.00** | 2.0 |
| **Electronic** | 1/2 | 4 | 300 | 3 | 32/180 | Brass | 115-1 | 51/2 | 2 | 41/2 | ADV-1811 | **4N444** | 201.89 | **186.00** | 2.0 |




## AUTO-ELECTRIC DRAIN VALVE

**Helps eliminate leaking, clogging, noise,** and other problems found in float-type drains. Solenoid controlled by a solid-state timer opens and closes drain valve at user-selected intervals.

**Features include:** Solid-state controls; corrosion-resistant waterproof molded solenoid coil; skinner brass and stainless valve; corrosion-proof molded plastic enclosure; manual override switch with "On" light; Buna N seals; and 6 ft. heavy-duty grounded power cord and plug.

- **1-60 Minute Adjustable Cycle Time**
- **1-30 Second Adjustable Drain Time**
- **1/4" (F)NPT Connection**
- **200 PSIG Maximum Working Pressure**
- **115Volts, 60 Hz, 0.25 Amps**
- **4 1/16H x 3 5/16W x 4 3/16"D**
- **Includes Y strainer**

**No. 6Z948.** Shpg. wt. 2.0 lbs. List $150.00.
Each ..... **$137.75**

control devices inc.



## CABLE-OPERATED DRAIN VALVE

Designed to be installed wherever a drain valve is needed, but access to valve is difficult. Examples include truck air brake reservoirs and air compressor receiver tanks. Brass body and stem, nitrile O-ring. Vinyl covered steel cable. Maximum pressure 200 PSI. Maximum temperature 200°F. Control Devices brand.

| NPT Size (In.) | Hex (In.) | Cable Length (Ft.) | Height (In.) | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/4** | 3/4 | 5 | 1.65 | DP25-101 | **6D913** | $6.34 | **$4.16** | 0.3 |

# POWER ACTUATED BALL VALVES

## ELECTRIC ACTUATED BALL VALVE DRAIN

- **Adjustable timer provides 5 minute to 10 hour cycles**
- **3½ Second drain/fill cycle;**
- **Flow Rate 186 PM at 186 PSI 1.05 gallon/cycle**
- **(F)NPT connections**
- **Rated 200 PSI**
- **Heavy-duty motor**
- **115V, 60 Hz, 2.5 amp**
- **NEMA 4 enclosure**

**Quickly and effectively drains water and sediment** from compressed air equipment without clogging and with minimum air loss. Full port valve design helps eliminate the need for a Y-strainer. Wide range electronic timer provides complete flexibility for varying condensate volumes.

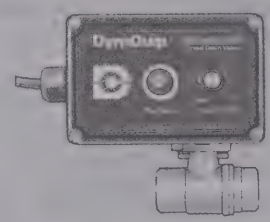
Weatherproof unit can be used with a wide variety of liquids for sampling or purging tanks, vessels, and pipes at programmed intervals.

**Installs simply** with integral mounting bracket. Mounts in any position. Useful for draining air receivers, air dryers, filters.

**Features include:** Corrosion-resistant stainless steel ball valve with RTFE seats; strong, impact-resistant ABS timer housing; test button and 6 ft. heavy-duty grounded power cord and plug. Includes 1/4" bushings.

**1/2" Valve**

**No. 6W175.** Shpg. wt. 5.5 lbs. List..... $215.00.
Each ..... **$199.00**




No. 6W175

Replacement Parts Available
1-800-323-0620

## AIR AND ELECTRIC ACTUATED BRASS BALL VALVES

DynaQuip actuated brass ball valves offer a choice of pneumatic or electric actuators. All units feature direct mount brass ball valves that eliminate actuator misalignment and provide a compact assembly profile. O-ring stem seals provide long life and low maintenance. All valves are full port, and have chrome plated brass balls, PTFE seats and fluorocarbon stem seals. Valve temperature range -10°F to 300°F; not suitable for steam. 600 PSI cold working pressure for 1/2 to 3/4" sizes, 300 PSI cold working pressure for 1-2" size.

Pneumatic actuators are either double acting models (air to open, air to close) or spring return models (air to open, close upon loss of air or power.) Units feature rack and pinion design with stroke adjustment, hard anodized aluminum housing, 300 series stainless steel bolts, lapped cylinder walls and piston guide bearings for long service life. These units include an integral NEMA4, 120 VAC, 60 Hz, NAMUR mount solenoid with two 1/4" NPT ports allowing easy connection and control of air sources. Actuator to valve mounting conforms to ISO 5211/DIN3337 actuator mounting standards. Actuator temperature range -5°F to 175°F. Actuator air pressure required 80 to 140 PSI.

Electric actuators feature reversible motors, NEMA 4 enclosure, terminal strip, manual override, anti-corrosive coating and a hardened precision gear train. Limit switches 15A, 1/2 HP, 125 - 250 VAC, provide two remote signaling positions, Cycle time - 2½ seconds for 1/2 to 1" sizes, 5 seconds for 1¼ and 1½" sizes, 15 seconds for 2" size. Actuator temperature range -4°F to 150°F.

### ACTUATED BRASS BALL VALVE SPECIFICATIONS AND ORDERING DATA

| Actuator Type | Ball Valve Type | Inlet & Outlet (In.) | Operating Power Requirements | DynaQuip Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Air Double Acting | Brass | 1/2 | 80-140 PSI | 189003 | | 6CX04 | $322.90 | $254.75 | 2.0 |
| | | 3/4 | | 189004 | | 6CX05 | 376.90 | 294.00 | 3.6 |
| | | 1 | | 189005 | | 6CX06 | 171.77 | 306.00 | 4.2 |
| | | 1¼ | | 189006 | | 6CX07 | 190.90 | 361.00 | 6.8 |
| | | 1½ | | 189007 | | 6CX08 | 236.31 | 425.00 | 11.0 |
| | | 2 | | 189008 | | 6CX09 | 399.46 | 443.00 | 13.0 |
| Air Spring Return (Fail-Safe) | Brass | 1/2 | 80-140 PSI | 189013.5 | | 6CX10 | 475.34 | 296.00 | 3.1 |
| | | 3/4 | | 189014.5 | | 6CX11 | 294.93 | 311.50 | 3.6 |
| | | 1 | | 189015.6 | | 6CX12 | 249.07 | 363.00 | 5.6 |
| | | 1¼ | | 189016.6 | | 6CX13 | 266.22 | 436.00 | 10.0 |
| | | 1½ | | 189017.6 | | 6CX14 | 380.98 | 525.00 | 11.0 |
| | | 2 | | 189018.6 | | 6CX15 | 347.21 | 624.00 | 22.0 |
| Electric | Brass | 1/2 | 50/60 115V .75 Amp | 189023.1 | | 6CX16 | 272.60 | 249.00 | 6.2 |
| | | 3/4 | | 189024.1 | | 6CX17 | 483.73 | 259.00 | 6.7 |
| | | 1 | | 189025.1 | | 6CX18 | 37.27 | 269.00 | 7.3 |
| | | 1¼ | | 189026.1 | | 6CX19 | 43.41 | 359.00 | 10.0 |
| | | 1½ | | 189027.1 | | 6CX20 | 3.54 | 439.00 | 11.0 |
| | | 2 | | 189028.1 | | 6CX21 | 4.73 | 689.00 | 19.0 |
| Air Double Acting | Stainless Steel | 1/4 | 80-140 PSI | 191021 | New | 4TL05 | 335.00 | 318.75 | 2.1 |
| | | 1/2 | | 191023 | New | 4TL06 | 342.00 | 325.50 | 2.1 |
| | | 3/4 | | 191024 | New | 4TL07 | 383.00 | 364.75 | 4.1 |
| | | 1 | | 191025 | New | 4TL08 | 405.00 | 371.00 | 4.6 |
| Air Spring Return (Fail-Safe) | Stainless Steel | 1/4 | 80-140 PSI | 191031.5 | New | 4TL09 | 398.00 | 338.50 | 3.8 |
| | | 1/2 | | 191033.5 | New | 4TL10 | 405.00 | 344.50 | 4.1 |
| | | 3/4 | | 191034.6 | New | 4TL11 | 510.00 | 433.75 | 5.7 |
| | | 1 | | 191035.6 | New | 4TL12 | 530.00 | 450.75 | 6.2 |
| Electric | Stainless Steel | 1/4 | 50/60 115V .74 Amp | 191011 | New | 4TL01 | 318.00 | 303.50 | 6.5 |
| | | 1/2 | | 191013 | New | 4TL02 | 326.00 | 311.25 | 6.8 |
| | | 3/4 | | 191014 | New | 4TL03 | 343.00 | 327.50 | 7.3 |
| | | 1 | | 191015 | New | 4TL04 | 516.00 | 473.25 | 9.3 |

DynaQuip New

No. 6CX10



No. 6CX19





No. 4TL05



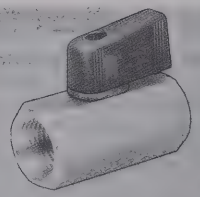
No. 4TL01

Replacement Parts Available
1-800-323-0620

# BRASS BALL VALVES

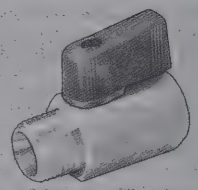
## BRASS MINI BALL VALVES

**DynaQuip industrial quality**, one-piece brass bar stock design mini ball valves provide the space savings necessary for small line fluid and gas control applications. Designed for handling compressed air, water, fuels, gases, and other non-corrosive liquids in industrial applications that require compact ball valves. Top-of-the-line features include 450 PSI CWP rating, PTFE ball seats for a positive seal in both directions, Viton stem seal, chrome plated brass ball and body for long life and extra corrosion resistance, bottom loaded stem for safety. Corrosion resistant nylon wing handle is compact, easy to use, and clearly shows ball position. Each valve is leak tested to ensure quality. Valve body functions as wrench flats for easy installation. Operating temperature range is -4 to 200° F. Valves have full NPT threads made to ANSI B1.20.1 standards. Full porting on 1/8" and 1/4" models, standard porting on 3/8" and 1/2" models. Offered with female pipe threads on both ends of valve, or with female pipe threads on one end and male pipe threads on the other.



No. 6CX35

DynaQuip

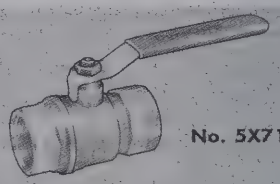


No. 6CX36

| Inlet & Outlet (In.) | Thread Style | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 | Female x Female | VNH3.AM 1/8 | **6CX30** | $5.77 | **$4.60** | 0.3 |
| 1/4 | Female x Female | VNH3.AM 1/4 | **6CX31** | 5.77 | **4.60** | 0.3 |
| 3/8 | Female x Female | VNH3.AM 3/8 | **6CX33** | 5.77 | **4.60** | 0.2 |
| 1/2 | Female x Female | VNH3.AM 1/2 | **6CX35** | 6.25 | **4.99** | 0.3 |
| 1/4 | Male x Female | VNH3.PM 1/4 | **6CX32** | 5.77 | **4.60** | 0.2 |
| 3/8 | Male x Female | VNH3.PM 3/8 | **6CX34** | 5.77 | **4.60** | 0.2 |
| 1/2 | Male x Female | VNH3.PM 1/2 | **6CX36** | 6.25 | **4.99** | 0.3 |

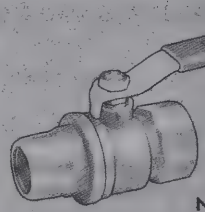
## BRASS BALL VALVES

**DynaQuip industrial two-piece forged brass ball valves** are precision machined for maximum strength, durability and maintenance free operation. Top-of-the-line features include 600 PSI WOG and 150 PSI WSP ratings, reinforced PTFE seats, chrome plated ball for long life, separate pack nut to permit handle removal under pressure and bottom loaded stem for safety. Corrosion-resistant steel handle comes with vinyl grip and 1/4" twin stop for positive control. Valves operate in either direction. Vacuum rating to 25 in. Hg. Temperature range is -20 to 370°F. NPT threads. Full port to 2". Offered with female pipe threads on both ends of valve. Offered with female pipe threads on one end and male pipe threads on the other. Listings/Approvals: UL, AGA, CGA, Factory Mutual.



No. 5X717

DynaQuip



Brass Ball Valves

No. 6W184

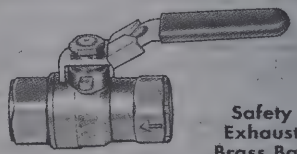
| Inlet & Outlet (In.) | Thread Style | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | Female x Female | VMH2.A9 1/4 | **5X713** | $8.05 | **$6.12** | 0.3 |
| 3/8 | Female x Female | VMH2.A9 3/8 | **5X714** | 8.05 | **6.12** | 0.3 |
| 1/2 | Female x Female | VMH2.A9 1/2 | **5X715** | 8.00 | **6.11** | 0.6 |
| 3/4 | Female x Female | VMH2.A9 3/4 | **5X716** | 11.65 | **9.28** | 0.8 |
| 1 | Female x Female | VMH2.A9 1 | **5X717** | 15.75 | **14.90** | 1.3 |
| 1 1/4 | Female x Female | VMH2.A9 1¼ | **6X217** | 25.80 | **24.22** | 2.5 |
| 1 1/2 | Female x Female | VMH2.A9 1½ | **6X218** | 32.70 | **31.35** | 2.9 |
| 2 | Female x Female | VMH2.A9 | **6X219** | 53.30 | **41.85** | 4.3 |
| 2 1/2 | Female x Female | VMH1.A9 2½ | **4A799** | 184.50 | **155.25** | 10.0 |
| 3 | Female x Female | VMH1.A9 3 | **4A800** | 211.60 | **176.75** | 11.0 |
| 1/4 | Male x Female | VMH2.P9 1/4 | **6W184** | 8.50 | **8.19** | 0.4 |
| 3/8 | Male x Female | VMH2.P9 3/8 | **6W187** | 8.50 | **8.19** | 0.4 |
| 1/2 | Male x Female | VMH2.P9 1/2 | **6W176** | 8.38 | **8.10** | 0.6 |
| 3/4 | Male x Female | VMH2.P9 3/4 | **6W186** | 12.30 | **10.92** | 0.8 |
| 1 | Male x Female | VMH2.P9 1 | **6W185** | 16.80 | **15.54** | 1.5 |

## SAFETY EXHAUST/ENERGY LOCKOUT BRASS BALL VALVES

Comply with requirements of paragraph 1910.147 of Occupational Safety and Health Standards. Exhaust port automatically and continuously bleeds down compressed air trapped between valve and machine when valve is closed, relieving potentially hazardous stored energy. This venting action ensures that air-powered equipment is safe to service. Strong lockable handle with vinyl grip accommodates 1/4" or 9/32" lock shackles, when valve is in closed position only. Two-piece body construction with reinforced PTFE seats and chrome plated ball. Full port design to minimize pressure drop. For use with compressed air and inert gases. Rated for 200 PSI operating pressure, 40° to 140°F temperature range. Female NPT.

DynaQuip

- **Energy Isolating and Lockout Valve meets OSHA Standard 1910.147**



Safety Exhaust Brass Ball Valve

No. 6Z576

| Inlet & Outlet (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | VMH2.A9JP 1/4 | **6Z576** | $12.55 | **$10.87** | 0.9 |
| 3/8 | VMH2.A9JP 3/8 | **6Z577** | 12.55 | **10.87** | 0.8 |
| 1/2 | VMH2.A9JP 1/2 | **6Z578** | 12.55 | **10.87** | 0.1 |
| 3/4 | VMH2.A9JP 3/4 | **6Z579** | 17.95 | **16.35** | 1.2 |
| 1 | VMH2.A9JP 1 | **6Z580** | 22.90 | **18.57** | 1.9 |

# BALL VALVES

## CARBON STEEL BALL VALVES

**DynaQuip one-piece carbon steel ball valves** feature self-adjusting, spring loaded stem packing that ensures long, leak-free operation. Bottom loaded stem resists blow-out. Valve body functions as wrench flats. Reinforced PTFE seats are designed to wipe ball clean upon closing. Valve is threaded on both ends and has vinyl grip handle. **Pressure rating is 2000 PSI for 1/4 to 1" valves, 1500 PSI for 1¼ to 2" valves.** Can also be used in vacuum service up to 25 in. Hg. Operating temperature is -20° to +425°F. Full porting on 1/4 and 3/8" models, reduced porting on others.

| Inlet & Outlet (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | VME2.A9 1/4 | 1A127 | $16.25 | $13.54 | 0.6 |
| 3/8 | VME2.A9 3/8 | 1A128 | 16.25 | 13.54 | 0.6 |
| 1/2 | VME3.A9 1/2 | 1A129 | 17.05 | 13.94 | 0.6 |
| 3/4 | VME3.A9 3/4 | 1A130 | 23.20 | 19.11 | 0.9 |
| 1 | VME3.A9 1 | 1A131 | 29.30 | 27.10 | 1.4 |
| 1¼ | VME3.A9 1¼ | 1A132 | 40.10 | 34.05 | 2.5 |
| 1½ | VME3.A9 1½ | 1A133 | 55.40 | 43.85 | 3.5 |
| 2 | VME3.A9 2 | 1A134 | 72.05 | 55.95 | 5.6 |




## STAINLESS STEEL BALL VALVES

**DynaQuip two-piece stainless steel ball valves** handle most acids, caustics, solvents, brines and other fluids compatible with Type 316 stainless steel. Bodies are investment cast ASTM A351 GR CF8M alloy, and the ball, stem and packing nut are machined from ASTM A276 Type 316 material. The ball seats and stem seal are reinforced PTFE; body seal is virgin PTFE; handle is Type 304 stainless steel; handle nut is 18-8 stainless steel; and handle has a vinyl grip.

Bottom loaded stem resists blow-out. Separate packing nut allows handle removal in service and mounting pad permits actuator or panel mounting. 1/4" to 2" (F) NPT sizes. Maximum pressure rating is 2000 PSI, sizes 1/4"-1" and 1500 PSI. sizes 1¼"-2" for air, gas, water, oil and other liquids; 150 PSI for steam. Vacuum rating is 25" Hg; temperature rating is -20°F to +425°F. Standard Porting.

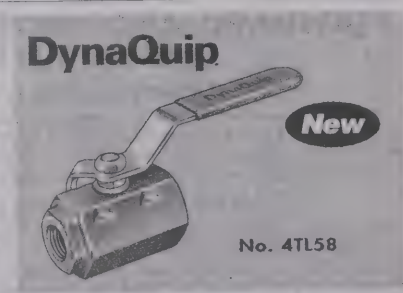
| Inlet & Outlet (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | VMB2.A9 1/4 | 2P281 | $38.50 | $32.40 | 0.6 |
| 1/2 | VMB1.A9 1/2 | 2P282 | 39.90 | 32.45 | 0.7 |
| 3/4 | VMB1.A9 3/4 | 2P283 | 65.96 | 51.70 | 3.0 |
| 1 | VMB1.A9 1 | 2P284 | 80.33 | 63.15 | 1.9 |
| 1¼ | VMB1.A9 1¼ | 2P285 | 153.89 | 117.45 | 3.1 |
| 1½ | VMB1.A9 1½ | 2P286 | 159.05 | 126.30 | 4.6 |
| 2 | VMB1.A9 2 | 2P287 | 208.53 | 162.75 | 6.5 |




## MEDIUM PRESSURE CARBON STEEL BALL VALVES

DynaQuip medium pressure carbon steel ball valves feature two-piece screwed body design. Body is C12L14 steel with a corrosion-resistant zinc phosphate coating. Chrome-plated ball assures smooth operation and extended seat life. Carbon and graphite filled PTFE seats for long wearing and low torque operation. Bottom-loaded stem for safety, adjustable stem packing. Zinc-plated steel handle resists corrosion. Operating temperature is -20° to 425°F. All sizes full port to minimize pressure drop. Pressure rating is 3000 WOG and 150 WSP. 100% leak tested. NPT female threads, ¼" to 1" sizes. (SAE O-ring boss ends available special order.)

| Inlet & Outlet (In.) | Thread | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | | VLE2.AK ¼ | *New* 4TL55 | $15.07 | $14.47 | 0.7 |
| 3/8 | Female | VLE2.AK ⅜ | *New* 4TL56 | 15.09 | 14.49 | 0.7 |
| 1/2 | x | VLE2.AK ½ | *New* 4TL57 | 41.56 | 36.25 | 1.7 |
| 3/4 | Female | VLE2.AK ¾ | *New* 4TL58 | 56.00 | 48.95 | 2.9 |
| 1 | | VLE2.AK 1 | *New* 4TL59 | 74.63 | 65.50 | 5.3 |




## HIGH PRESSURE CARBON STEEL BALL VALVES

**DynaQuip high pressure carbon steel ball valves** feature heavy duty bar stock or forged body 3-piece designs. Bottom loaded stems have nitrile rubber seals that require no maintenance. Ball seats are lubricated polyacetal resin designed to allow operation of the valve at full rated pressure without seat distortion. Valves have large porting to minimize pressure drop. Valve housing has a uniform black oxide finish, chrome plated balls assure smooth operation and extended seat life. Valve threads are female NPT conforming to ANSI B1.20.1. Handles are cast zinc alloy for 1/4 - 1/2" sizes and cast steel for the 3/4 - 2" sizes. All sizes have a 3 to 1 minimum safety factor. Operating temperature is -20° to 175° F. 1/4- 1 1/2" sizes have full port openings, 2" size has large standard port. Suitable for use with petroleum based, water/glycol and water/oil emulsion hydraulic fluids. Pressure rating: 1/4 - 3/8" 7000 PSI, 1/2" 5800 PSI, 3/4 - 2" 4600 PSI.

| Inlet & Outlet (In.) | Type | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 3-Piece | VAE2.A0 1/4 | 6CX22 | $41.20 | $34.95 | 0.6 |
| 3/8 | | VAE2.A0 3/8 | 6CX23 | 45.90 | 38.95 | 1.1 |
| 1/2 | | VAE2.A0 1/2 | 6CX24 | 53.00 | 44.95 | 1.6 |
| 3/4 | | VAE2.A0 3/4 | 6CX25 | 78.85 | 66.95 | 3.2 |
| 1 | | VAE2.A0 1 | 6CX26 | 100.00 | 85.00 | 4.8 |
| 1¼ | 2-Piece | VAE2.A0 1¼ | 6CX27 | 189.80 | 161.00 | 5.8 |
| 1½ | | VAE2.A0 1½ | 6CX28 | 240.10 | 204.00 | 7.6 |
| 2 | | VAE2.A0 2 | 6CX29 | 296.60 | 249.00 | 11.0 |



# COMPRESSED AIR FILTERS AND O-RINGS




## COMPRESSED AIR FILTERS

Coalescing filters effectively remove solid particulates, liquid water, oil and aerosols from compressed air. Contaminants are removed by mechanical separation, which occurs when compressed air is accelerated or channeled, which causes dense particles or liquids to drop from the air stream. Coalescence occurs when liquids, aerosols or particulates randomly collide with small diameter fibers. The process merges invisible contamination into larger droplets which gravitate to base of filter housing. Ingersoll-Rand brand.

- **Coalescing filters provided with two filtration efficiencies dependent upon application**
- **1.0 PPM element meets General Industry requirements for coarse filtration (mineral or synthetic lubricants)**
- **0.001 PPM element designed to meet difficult compressed air filtration requirements (paint spraying, coating operations and/or pneumatic instrumentation)**
- **Extended element life; minimum maintenance**
- **Integral element service indicator accurately monitors need for maintenance**
- **Automatic condensate drain (100 CFM and below)**

### AIR FILTER SPECIFICATIONS AND ORDERING DATA

| Capacity (SCFM)* | Inlet/Outlet NPT (In.) | Filter Rating Microns | Drain Type | Drain NPT | Overall Dim. (In.) H | W | D | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 3/8 | 1.0 | Auto | 1/8 | 10 | 4 | 4½ | IR10PC | **4N416** | $142.76 | **$139.75** | 5.0 |
| **20** | 3/8 | 1.0 | Auto | 1/8 | 12 | 4 | 4½ | IR20PC | **4N417** | 169.28 | **165.25** | 5.0 |
| **50** | 1/2 | 1.0 | Auto | 1/8 | 15 | 5 | 5 | IR50PC | **4N418** | 210.07 | **205.50** | 6.0 |
| **56** | 3/4 | 1.0 | Auto | 1/8 | 15 | 5 | 5 | IR56PC | **4N419** | 233.53 | **228.50** | 6.0 |
| **100** | 3/4 | 1.0 | Auto | 1/8 | 18 | 5½ | 6 | IR100PC | **4N420** | 275.34 | **269.50** | 7.0 |
| **150** | 1 | 1.0 | Auto | 1/8 | 18 | 6½ | 7 | IR150PC | **4N421** | 336.52 | **332.50** | 13.0 |
| **175** | 1¼ | 1.0 | Auto | 1/8 | 18 | 6½ | 7 | IR175PC | **4N422** | 382.41 | **375.50** | 13.0 |
| **5** | 1/4 | .01 | Auto | 1/8 | 6.5 | 3.1 | 4 | IR5CHE | **4KR65** | 181.53 | **164.50** | 2.2 |
| **14** | 3/8 | .01 | Auto | 1/8 | 10 | 4 | 4½ | IR14CHE | **4N423** | 168.26 | **159.00** | 5.0 |
| **27** | 1/2 | .01 | Auto | 1/8 | 15 | 5 | 5 | IR27CHE | **4N424** | 198.85 | **191.50** | 6.0 |
| **56** | 3/4 | .01 | Auto | 1/8 | 15 | 5 | 6 | IR56CHE | **4N425** | 244.75 | **240.00** | 6.0 |
| **100** | 1 | .01 | Auto | 1/8 | 18 | 6½ | 7 | IR100CHE | **4N427** | 318.16 | **312.50** | 13.0 |
| **175** | 1¼ | .01 | Auto | 1/2 | 18 | 6½ | 7 | IR175CHE | **4N429** | 482.36 | **472.25** | 13.0 |

### REPLACEMENT ELEMENTS

| I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| IR10PCE | **4N434** | $58.87 | **$38.90** | 0.5 |
| IR20PCE | **4N435** | 66.39 | **44.50** | 0.5 |
| IR50PCE | **4N436** | 63.29 | **51.05** | 0.5 |
| IR56PCE | **4N437** | 64.62 | **52.85** | 1.0 |
| IR100PCE | **4N438** | 60.16 | **57.85** | 2.5 |
| IR150PCE | **4N439** | 83.12 | **74.85** | 1.5 |
| IR175PCE | **4N440** | 97.62 | **77.55** | 1.5 |
| IR5CHEE | **4KR66** | 67.31 | **52.80** | 0.3 |
| IR14CHEE | **4N441** | 45.02 | **43.10** | 0.5 |
| IR27CHEE | **4N442** | 48.37 | **46.30** | 0.5 |
| IR56CHEE | **4N426** | 66.29 | **60.40** | 1.0 |
| IR100CHEE | **4N428** | 76.48 | **67.80** | 1.5 |
| IR175CHEE | **4N430** | 96.88 | **88.85** | 2.5 |

(*) Filter capacity based on 100 PSIG operating pressure and 100F inlet air temperature. Maximum filter operating pressure is 250 PSIG. (†) Filtration efficiency (99.9997%) attained by Dioctylphthalate (DOP) penetration test.

## STANDARD AND PROFESSIONAL O-RING KITS

### STANDARD O-RING KITS

High quality, industrial grade O-rings. 12 size, 1050-piece Buna N or 550-piece Viton kits available. Series 2, 70 durometer. Includes resilient 12-compartment plastic case. Shadow graph and chart on inside cover for easy O-ring identification.

### PROFESSIONAL O-RING KITS

High quality, industrial grade O-rings. 37 size, 513-piece Buna N or 33 size, 489-piece Viton kits available. Series 2, 70 durometer. Includes 2-compartment ABS plastic carrying case with molded handle. O-rings stored on removable locking pegs which prevent O-rings from falling off when case is tipped. Built-in gauges for O-ring sizing.




### STANDARD O-RING KIT SPECIFICATIONS AND ORDERING DATA

| O-Ring Material | Max. Temp. | O-Ring Qty. and Dash Sizes* | Total O-Rings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Buna N (Nitrile)** | -40° to 250°F | 100 ea. of 006 thru 012, 110, 111, and 112<br>25 ea. of 113 and 210 | 1050 | **6ZF14** | $37.00 | **$35.90** | 1.0 |
| **Viton (Fluorocarbon)** | -15° to 400°F | 50 ea. of 006 thru 012, 110, 111, and 112<br>25 ea. of 113 and 210 | 550 | **6ZF16** | 171.85 | **146.50** | 1.0 |

### PROFESSIONAL O-RING KIT SPECIFICATIONS AND ORDERING DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Buna N (Nitrile)** | -40° to 250°F | 36 ea. of 006 thru 012<br>12 ea. of 110 thru 116<br>9 ea. of 210 thru 222<br>6 ea. of 325 thru 334 | 513 | **5X403** | 125.80 | **112.60** | 4.4 |
| **Viton (Fluorocarbon)** | -15° to 400°F | 36 ea. of 006 thru 012<br>12 ea. of 110 thru 116<br>9 ea. of 210 thru 222<br>6 ea. of 325 thru 330 | 489 | **6ZF15** | 374.99 | **300.00** | 4.4 |

(*) Dash nos. equivalent to Aerospace Standards AS568A used in fluid power applications. See dash sizes to inches chart at right.

### DASH SIZES TO INCHES CONVERSION CHART

| Dash No. | I.D. | O.D. | Width* | Dash No. | I.D. | O.D. | Width* |
|---|---|---|---|---|---|---|---|
| 006 | 1/8 | 1/4 | 1/16 | 215 | 1 1/16 | 1 5/16 | 1/8 |
| 007 | 5/32 | 9/32 | 1/16 | 216 | 1 1/8 | 1 3/8 | 1/8 |
| 008 | 3/16 | 5/16 | 1/16 | 217 | 1 3/16 | 1 7/16 | 1/8 |
| 009 | 7/32 | 11/32 | 1/16 | 218 | 1 1/4 | 1 1/2 | 1/8 |
| 010 | 1/4 | 3/8 | 1/16 | 219 | 1 5/16 | 1 9/16 | 1/8 |
| 011 | 5/16 | 7/16 | 1/16 | 220 | 1 3/8 | 1 5/8 | 1/8 |
| 012 | 3/8 | 1/2 | 1/16 | 221 | 1 7/16 | 1 11/16 | 1/8 |
| 110 | 3/8 | 9/16 | 3/32 | 222 | 1 1/2 | 1 3/4 | 1/8 |
| 111 | 7/16 | 5/8 | 3/32 | 325 | 1 1/2 | 1 7/8 | 3/16 |
| 112 | 1/2 | 11/16 | 3/32 | 326 | 1 5/8 | 2 | 3/16 |
| 113 | 9/16 | 3/4 | 3/32 | 327 | 1 3/4 | 2 1/8 | 3/16 |
| 114 | 5/8 | 13/16 | 3/32 | 328 | 1 7/8 | 2 1/4 | 3/16 |
| 115 | 11/16 | 7/8 | 3/32 | 329 | 2 | 2 3/8 | 3/16 |
| 116 | 3/4 | 15/16 | 3/32 | 330 | 2 1/8 | 2 1/2 | 3/16 |
| 210 | 3/4 | 1 | 1/8 | 331 | 2 1/4 | 2 5/8 | 3/16 |
| 211 | 13/16 | 1 1/16 | 1/8 | 332 | 2 3/8 | 2 3/4 | 3/16 |
| 212 | 7/8 | 1 1/8 | 1/8 | 333 | 2 1/2 | 2 7/8 | 3/16 |
| 213 | 15/16 | 1 3/16 | 1/8 | 334 | 2 5/8 | 3 | 3/16 |
| 214 | 1 | 1 1/4 | 1/8 | | | | |

(*) Cross section width.

SPEEDAIRE

Replacement Parts
1-800-323-0620




## AIR LINE COALESCING/OIL REMOVING FILTERS

**Dual filtration system** incorporates inner impregnated paper support with thick borosilicate fibers filter to remove up to 99.9% of submicron particles and liquid aerosols including oil. Insures clean, filtered, oil free air. For applications where oil in air line must be removed to avoid damage to finished product.

**Grade 6 elements** are 99.97% efficient at removing .3 to .6 micron particles, and leave a maximum oil carryover of .008 parts per million in your system. Grade 6 elements offer very high efficiency for your most demanding coalescing applications.

**Grade 10 elements** are 95% efficient at removing .3 to .6 micron particles, and leave a maximum oil carryover of .85 parts per million in your system. Grade 10 elements offer higher flows with excellent system protection.

**Compact inline coalescing filter** in disposable coalescing style elements for cost effective filtration on low flow applications. Available in two filtration levels.

## FILTER SPECIFICATIONS AND ORDERING DATA

| Key | NPT Size (In.) | CFM† | Max. PSI | Max. Temp. (°F) | Bowl Size (Oz.) | Bowl Type | Height (In.) | Width (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OIL REMOVAL FILTERS – ISO CLASS 1 GRADE 6 ELEMENT** | | | | | | | | | | | | |
| **A** | 1/4 OD | 3.5 | 100 | 125 | — | Nylon | 3.28 | 1.00 | **3JV32** | $7.57 | **$6.47** | 0.1 |
| **B** | 1/4 Mini | 6 | 150 | 125 | 1 | Polycarbonate | 4.22 | 1.69 | **6ZC24** | 35.79 | **33.25** | 0.4 |
| **C** | 1/4 | 16 | 150 | 125 | 4.4 | Polycarbonate w/guard # | 6.22 | 2.81 | **3JV38** | 70.04 | **54.20** | 1.5 |
| **C** | 3/8 | 16 | 150 | 125 | 4.4 | Polycarbonate w/guard # | 6.22 | 2.81 | **3JV40** | 70.04 | **54.20** | 1.5 |
| **C** | 1/2 | 16 | 150 | 125 | 4.4 | Polycarbonate w/guard # | 6.22 | 2.81 | **3JV42** | 70.04 | **54.20** | 1.5 |
| **C** | 3/8 | 30 | 150 | 125 | 7.2 | Polycarbonate w/guard # | 7.67 | 3.24 | **3JV44** | 88.58 | **68.70** | 2.5 |
| **C** | 1/2 | 30 | 150 | 125 | 7.2 | Polycarbonate w/guard # | 7.67 | 3.24 | **3JV46** | 88.58 | **68.70** | 2.5 |
| **C** | 3/4 | 30 | 150 | 125 | 7.2 | Polycarbonate w/guard # | 7.67 | 3.24 | **3JV48** | 88.58 | **68.70** | 2.5 |
| **D** | 3/4 | 100 | 250 | 175 | 32 | Metal w/sight glass # | 10.56 | 5.00 | **6ZC35** | 202.91 | **178.00** | 4.4 |
| **D** | 1 | 100 | 250 | 175 | 32 | Metal w/sight glass # | 10.56 | 5.00 | **6Z949** | 202.91 | **178.00** | 4.7 |
| **D** | 1½ | 100 | 250 | 175 | 32 | Metal w/sight glass # | 10.56 | 5.00 | **3JV52** | 216.30 | **189.75** | 4.7 |
| **E** | 1½ | 350 | 250 | 175 | 130.8 | Metal # | 19.96 | 5.91 | **3JV54** | 551.05 | **497.00** | 12.0 |
| **E** | 2 | 450 | 250 | 175 | 406.3 | Metal # | 26.02 | 5.91 | **3JV55** | 973.35 | **881.50** | 35.0 |
| **OIL REMOVAL FILTERS – ISO CLASS 3 GRADE 10 ELEMENT** | | | | | | | | | | | | |
| **A** | 1/4 OD | 4.5 | 100 | 125 | — | Nylon | 3.25 | 1.00 | **3JV33** | 7.57 | **6.47** | 0.1 |
| **C** | 1/4 | 28 | 150 | 125 | 4.4 | Polycarbonate w/guard # | 6.22 | 2.81 | **3JV39** | 59.99 | **46.50** | 1.5 |
| **C** | 3/8 | 28 | 150 | 125 | 4.4 | Polycarbonate w/guard # | 6.22 | 2.81 | **3JV41** | 59.99 | **46.50** | 1.5 |
| **C** | 1/2 | 28 | 150 | 125 | 4.4 | Polycarbonate w/guard # | 6.22 | 2.81 | **3JV43** | 59.99 | **46.50** | 1.5 |
| **C** | 3/8 | 60 | 150 | 125 | 7.2 | Polycarbonate w/guard # | 7.67 | 3.24 | **3JV45** | 72.40 | **56.30** | 2.5 |
| **C** | 1/2 | 60 | 150 | 125 | 7.2 | Polycarbonate w/guard # | 7.67 | 3.24 | **3JV47** | 72.40 | **56.30** | 2.5 |
| **C** | 3/4 | 60 | 150 | 125 | 7.2 | Polycarbonate w/guard # | 7.67 | 3.24 | **3JV49** | 72.40 | **56.30** | 2.5 |
| **D** | 3/4 | 200 | 250 | 175 | 32 | Metal w/sight glass # | 10.56 | 5.00 | **3JV50** | 151.41 | **133.00** | 4.7 |
| **D** | 1 | 200 | 250 | 175 | 32 | Metal w/sight glass # | 10.56 | 5.00 | **3JV51** | 151.41 | **133.00** | 4.7 |
| **D** | 1½ | 200 | 250 | 175 | 32 | Metal w/sight glass # | 10.56 | 5.00 | **3JV53** | 164.80 | **144.65** | 4.7 |

(*) Polycarbonate bowls are not recommended for use in atmospheres containing chemicals such as acetone, benzene, carbon tetrachloride, ethylene dichloride, gasoline, and toluene, and/or air compressor systems using synthetic fire-resistant lubricants. (†) CFM measured at 100 PSIG with a 1 PSIG pressure drop. (#) Includes pressure differential indicator to suggest filter maintenance is necessary.

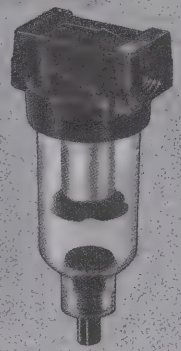
## REPLACEMENT COALESCING FILTER ELEMENTS

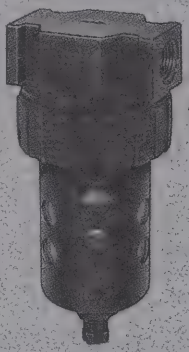
| For Use On Filter Nos. | Stock No. | List | Each | Shpg. Wt. | For Use On Filter Nos. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **6ZC24** | **6ZC34** | $16.68 | **$15.16** | 0.1 | **3JV54** | **3JV37** | $72.10 | **$66.90** | 0.7 |
| **3JV38, 3JV40, 3JV42** | **3JV60** | 26.11 | **24.16** | 0.1 | **3JV55** | **3JV56** | 76.73 | **73.05** | 1.0 |
| **3JV39, 3JV41, 3JV43** | **3JV61** | 18.74 | **16.13** | 0.2 | **4Z559** | **1R431** | 104.03 | **101.30** | 0.5 |
| **3JV44, 3JV46, 3JV48** | **3JV65** | 27.60 | **25.20** | 0.1 | **4Z035, 6ZC23** | **1R427** | 49.95 | **46.25** | 0.1 |
| **3JV45, 3JV47, 3JV49** | **3JV66** | 20.39 | **17.09** | 0.2 | **4Z036** | **1R428** | 62.72 | **60.15** | 0.1 |
| **6ZC35, 6Z949, 3JV52** | **1R476** | 91.97 | **89.60** | 0.5 | **2Z999** | **1R429** | 84.97 | **80.50** | 0.2 |
| **3JV50, 3JV51, 3JV53** | **3JV34** | 78.17 | **72.45** | 0.5 | **4Z558** | **1R430** | 87.55 | **85.25** | 0.4 |

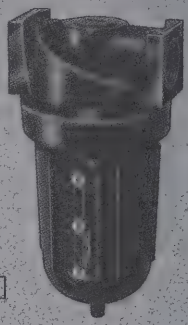
# AIR LINE FILTERS

SPEEDAIRE®

Replacement Parts Available
1-800-323-0620




## AIR LINE FILTERS

### A MINI AIR LINE FILTER

Compact, high flow miniature air filters offer efficient water removal while removing dirt and scale down to 5 microns in size. Miniature filters are standard with a clear, shatterproof polycarbonate bowl and easy to operate twist drain.

### B AIR LINE FILTERS

Using a unique deflector system, Speedaire air filters remove water and heavy contaminates by creating a swirling air system inside of the bowl. Depth style elements remove impurities down to 40 microns in size while allowing high flows. Liquids are removed from the clear, shatterproof polycarbonate bowl through the use of standard twist drain assembly. Metal bowl guard standard.

### C HEAVY-DUTY AIR LINE FILTERS

Similar to B, but with a rugged die cast bowl with sight glass for heavy-duty use at higher pressures and temperatures.

### FILTER SPECIFICATIONS AND ORDERING DATA

| Key | NPT Size (In.) | CFM† | Max. PSI | Max. Temp. (°F) | Bowl Size (Oz.) | Bowl Type* | Height (In.) | Width (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FILTERS** | | | | | | | | | | | | |
| **A** | 1/4 Mini | 24 | 150 | 125 | 1.0 | Polycarbonate | 4.22 | 1.69 | **2Z766** | $19.36 | **$16.99** | 0.2 |
| **B** | 1/4 | 60 | 150 | 125 | 4.4 | Polycarbonate w/guard | 6.22 | 2.81 | **4Z034** | 39.55 | **32.85** | 1.8 |
| **B** | 3/8 | 85 | 150 | 125 | 4.4 | Polycarbonate w/guard | 6.22 | 2.81 | **2Z763** | 39.55 | **32.85** | 1.8 |
| **B** | 1/2 | 90 | 150 | 125 | 4.4 | Polycarbonate w/guard | 6.22 | 2.81 | **3JV35** | 39.55 | **32.80** | 1.5 |
| **B** | 1/2 | 140 | 150 | 125 | 7.2 | Polycarbonate w/guard | 7.67 | 3.24 | **2Z764** | 52.58 | **45.10** | 2.5 |
| **B** | 3/4 | 150 | 150 | 125 | 7.2 | Polycarbonate w/guard | 7.67 | 3.24 | **6ZC32** | 54.28 | **49.25** | 2.3 |
| **HEAVY-DUTY FILTERS** | | | | | | | | | | | | |
| **C** | 3/8 | 85 | 250 | 175 | 4.4 | Metal w/sight glass | 6.22 | 2.81 | **2Z328** | 42.12 | **39.55** | 2.0 |
| **C** | 1/2 | 90 | 250 | 175 | 4.4 | Metal w/sight glass | 6.22 | 2.81 | **3JV36** | 42.12 | **39.55** | 1.5 |
| **C** | 1/2 | 140 | 250 | 175 | 7.2 | Metal w/sight glass | 7.67 | 3.24 | **2Z329** | 56.59 | **53.15** | 3.1 |
| **C** | 3/4 | 260 | 250 | 175 | 32 | Metal w/sight glass | 10.56 | 5.0 | **2Z330** | 117.67 | **115.80** | 5.0 |
| **C** | 1 | 310 | 250 | 175 | 32 | Metal w/sight glass | 10.56 | 5.0 | **4Z545** | 117.67 | **115.80** | 4.7 |
| **C** | 1½ | 420 | 250 | 175 | 32 | Metal w/sight glass | 10.56 | 5.0 | **6ZC28** | 137.60 | **128.05** | 4.7 |

(*) Polycarbonate bowls are not recommended for use in atmospheres containing chemicals such as acetone, benzene, carbon tetrachloride, ethylene dichloride, gasoline, and toluene, and/or air compressor systems using synthetic fire-resistant lubricants. (†) CFM rating based on 100 PSIG inlet and 5 PSIG pressure drop.

### REPLACEMENT FILTER ELEMENT SPECIFICATIONS AND ORDERING DATA

| For Use On Filter Nos. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **2Z328, 2Z763, 3JV05, 3JV06, 3JV07, 3JV08, 3JV15, 3JV16, 3JV17, 3JV18, 3JV19, 3JV20, 3JV28, 3JV29, 3JV30, 3JV31, 3JV35, 4Z027, 4Z028, 4Z034, 5Z416, 5Z417, 5Z420, 5Z421, 3JV36** | **1R423** | $10.30 | **$9.12** | 0.1 |
| **2Z330, 4Z545, 6ZC28, 3JV14, 3JV27** | **1R425** | 23.27 | **21.56** | 0.2 |

| For Use On Filter Nos. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **2Z329, 2Z764, 3JV09, 3JV10, 3JV11, 3JV12, 3JV13, 3JV26, 3JV21, 3JV22, 3JV23, 4Z029, 5Z418, 5Z422, 6ZC29, 6ZC32, 3JV24, 3JV25** | **1R424** | $11.48 | **$10.37** | 0.1 |
| **2Z766, 4Z030, 5Z415, 5Z419** | **1R426** | 9.78 | **7.56** | 0.1 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# AIR LINE REGULATORS

SPEEDAIRE®

Replacement Parts Available
1-800-323-0620


A


B


C


D


E

## A MINI AIR LINE REGULATORS

Self-relieving and reverse flow capability. Nonrising "locking" adjustment knob. Solid control piston with resilient seat for service-free operation. 2-125 PSI adjustable output. Includes two 1/8" NPT gauge ports. Uses No. 1X802 pressure gauge.

## B HIGH FLOW MINI AIR LINE REGULATOR

Compact regulator offers high flows. Self-relieving piston construction gives long trouble-free operation and ease of pressure adjustment. Balanced poppet for quick, accurate pressure regulation. 2-125 PSI adjustable output. Includes two 1/4" NPT gauge ports. Uses No. 1X762 pressure gauge.

## C HEAVY-DUTY AIR LINE REGULATORS

Rolling diaphragm regulator combines features of solid piston styles with the pressure regulation characteristics of typical flat diaphragm types for long service life with accurate pressure control. Self-relieving style and balanced poppet construction aid in setting and holding pressures. 2-125 PSI adjustable output. Includes two 1/4" NPT gauge ports. Uses No. 1X762 pressure gauge.

## D HEAVY-DUTY AIR LINE REGULATORS

Balanced poppet and efficient aspirator provide quick response and accurate pressure regulation. Self-relieving piston design gives long service life. 2-125 PSI adjustable output. Includes two 1/4" gauge ports. Uses No. 1X762 pressure gauges.

## E KEY LOCK

Speedaire Key Lock offers a field convertible, tamper-resistant option for systems that need protection from misadjustment. Fits all speedaire regulators except: 1Z838, 2Z324, 2Z767, 3JV14, 3JV27, 4Z030, 4Z546, 5Z415, 5Z419, 6ZC27, 6ZC33.

### REGULATOR SPECIFICATIONS AND ORDERING DATA

| Key | NPT Size (In.) | CFM† | Max. PSI | Max. Temp. (°F) | Adjustment Range (PSI) | Adjustment Type | Height (In.) | Width (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **REGULATORS** | | | | | | |
| **A** | 1/8 | 25 | 250 | 125 | 2-125 | Non-Rising Knob | 2.88 | 1.65 | **6ZC33** | $14.62 | **$13.64** | 0.5 |
| **A** | 1/4 | 25 | 250 | 125 | 2-125 | Non-Rising Knob | 2.88 | 1.65 | **2Z767** | 14.62 | **13.64** | 0.4 |
| **A** | 1/4 | 25 | 250 | 125 | 2-125 | Non-Rising Knob | 3.30 | 2.12 | **1Z838** | 23.84 | **21.50** | 0.6 |
| **B** | 1/4 | 35 | 250 | 175 | 2-125 | T-Handle | 7.0 | 2.81 | **6ZC25** | 29.97 | **28.20** | 1.3 |
| **C** | 1/4 | 70 | 250 | 175 | 2-125 | T-Handle | 7.0 | 2.81 | **1Z696** | 29.97 | **28.20** | 2.1 |
| **C** | 3/8 | 70 | 250 | 175 | 2-125 | T-Handle | 7.0 | 2.81 | **3JV95** | 29.97 | **28.20** | 2.0 |
| **C** | 1/2 | 90 | 250 | 175 | 2-125 | T-Handle | 7.5 | 3.25 | **1Z885** | 45.52 | **40.30** | 2.4 |
| **C** | 1/2 | 130 | 250 | 175 | 2-125 | T-Handle | 7.5 | 3.25 | **6ZC31** | 48.10 | **44.80** | 1.8 |
| **C** | 3/4 | 170 | 250 | 175 | 2-125 | T-Handle | 9.94 | 5.0 | **2Z321** | 88.99 | **85.40** | 3.8 |
| **D** | 3/4 | 400 | 250 | 175 | 2-125 | T Handle | 9.94 | 5.0 | **4Z546** | 88.99 | **85.45** | 4.0 |
| **D** | 1 | 450 | 250 | 175 | 2-125 | T-Handle | 9.94 | 5.0 | **6ZC27** | 109.28 | **101.70** | 3.7 |
| **D** | 1½ | 600 | 250 | 175 | 2-125 | T Handle | | | | | | |
| | | | | | | **KEY LOCKS** | | | | | | |
| **E** | Key Lock for Use on Regulators [C] | | | | | — | — | — | **3JV62** | 31.41 | **29.20** | 0.3 |

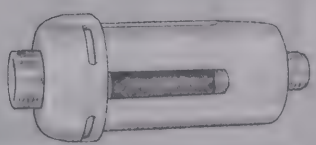
(†) CFM flow measured with 100 PSIG inlet adjusted to a set pressure of 90 PSIG and a 15 PSIG pressure drop.

# DISPOSABLE IN-LINE DESICCANT FILTER/DRYER

Ideal for paint spraying applications. Filter/dryer provides final protection against painting failures by removing oil aerosols and moisture that may have bypassed main air filtration system. Unit mounts directly to spray gun inlet for most efficient type of filtration. Removes oil, water and dirt by using a sintered bronze element for dirt, an oil removing filter media for oil vapor, and a desiccant drying agent for water vapor. Silica gel in clear plastic filter changes color when replacement is needed. 15 CFM. Max PSI 125, max temp. 130°F. 40 micron. Package of two. Speedaire brand

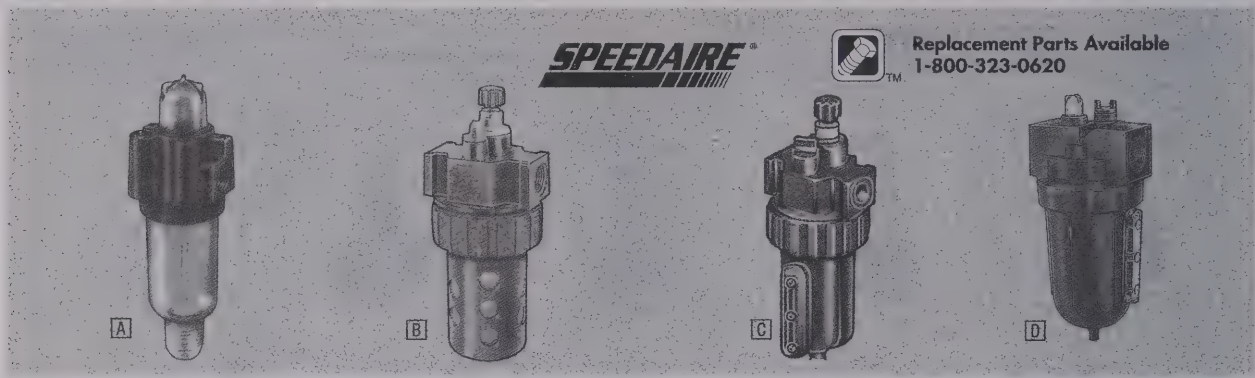
**No. 6ZC63.** Disposable Air Filter/Dryer. Shpg. wt. 0.4 lbs. ..... **$11.95**
List $12.50. Each

SPEEDAIRE®



- 3¾ x 1 11/16" diameter
- 1/4" NPT female inlet and male outlet
- Compact and lightweight
- Removes water, oil, and dirt
- Changes color when replacement is needed
- Mounts directly to spray gun inlet

# AIR LINE MICROMIST AND MIST LUBRICATORS




## MICROMIST AIR LINE LUBRICATORS

Proportional oil delivery over wide range of air flow. Generates oil particles 5 microns and smaller downstream (up to 100 ft.) to lubricate systems with complex piping arrangements. Bypass gives wide operating range without excessive pressure drop. B Clear, shatterproof polycarbonate bowl with metal bowl guard. C and Dhave metal bowls with sight glass.

## MIST AIR LINE LUBRICATORS

Wide operating flow range with minimal pressure drop. Precision needle valve oil feed adjustment. Can be filled under pressure. Clear, shatterproof polycarbonate bowl with metal bowl guard, except C, D, which have metal bowls with sight glass. Generates oil particles of 50-80 microns in size (should be used within 15-20 feet.)

## LUBRICATOR SPECIFICATIONS AND ORDERING DATA

| Key | NPT Size (In.) | CFM† | Max. PSI | Max. Temp. (°F) | Bowl Size (Oz.) | Bowl Type* | Height (In.) | Width (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LUBRICATOR — MICROMIST** | | | | | | | | | | | | |
| **A** | 1/4 | 15 | 150 | 125 | 1 | Polycarbonate | 5.29 | 1.68 | **2Z768** | $34.50 | **$28.65** | 0.4 |
| **B** | 1/4 | 45 | 150 | 125 | 3 | Polycarbonate w/guard | 7.82 | 2.81 | **3JV80** | 47.79 | **40.70** | 1.2 |
| **B** | 3/8 | 65 | 150 | 125 | 3 | Polycarbonate w/guard | 7.82 | 2.81 | **3JV82** | 47.79 | **40.70** | 1.2 |
| **B** | 1/2 | 95 | 150 | 125 | 3 | Polycarbonate w/guard | 7.82 | 2.81 | **3JV84** | 47.79 | **40.70** | 1.2 |
| **B** | 3/8 | 65 | 150 | 125 | 5 | Polycarbonate w/guard | 9.27 | 3.24 | **3JV86** | 58.65 | **50.40** | 3.1 |
| **B** | 1/2 | 95 | 150 | 125 | 5 | Polycarbonate w/guard | 9.27 | 3.24 | **3JV88** | 58.65 | **50.40** | 3.1 |
| **B** | 3/4 | 95 | 150 | 125 | 5 | Polycarbonate w/guard | 9.27 | 3.24 | **3JV90** | 60.15 | **51.70** | 3.1 |
| **LUBRICATOR HEAVY-DUTY — MICROMIST** | | | | | | | | | | | | |
| **C** | 1/4 | 45 | 250 | 175 | 3 | Metal w/sight glass | 7.82 | 2.81 | **3JV81** | 50.36 | **45.45** | 1.2 |
| **C** | 3/8 | 65 | 250 | 175 | 3 | Metal w/sight glass | 7.82 | 2.81 | **3JV83** | 50.36 | **45.45** | 1.2 |
| **C** | 1/2 | 95 | 250 | 175 | 3 | Metal w/sight glass | 7.82 | 2.81 | **3JV85** | 50.36 | **45.45** | 1.2 |
| **C** | 3/8 | 65 | 250 | 175 | 5 | Metal w/sight glass | 9.27 | 3.24 | **3JV87** | 62.67 | **57.00** | 3.1 |
| **C** | 1/2 | 95 | 250 | 175 | 5 | Metal w/sight glass | 9.27 | 3.24 | **3JV89** | 62.67 | **57.00** | 3.1 |
| **C** | 3/4 | 95 | 250 | 175 | 5 | Metal w/sight glass | 9.27 | 3.24 | **3JV91** | 64.16 | **58.35** | 3.1 |
| **D** | 3/4 | 200 | 250 | 175 | 32 | Metal w/sight glass | 11.73 | 5 | **3JV92** | 117.52 | **115.60** | 4.8 |
| **D** | 1 | 230 | 250 | 175 | 32 | Metal w/sight glass | 11.73 | 5 | **3JV93** | 117.52 | **115.60** | 4.8 |
| **D** | 1½ | 300 | 250 | 175 | 32 | Metal w/sight glass | 11.73 | 5 | **3JV94** | 137.71 | **128.15** | 4.8 |
| **LUBRICATOR — MIST** | | | | | | | | | | | | |
| **B** | 1/4 | 45 | 150 | 125 | 3 | Polycarbonate w/guard | 7.82 | 2.81 | **2Z458** | 47.79 | **40.70** | 1.2 |
| **B** | 3/8 | 65 | 150 | 125 | 3 | Polycarbonate w/guard | 7.82 | 2.81 | **1Z886** | 47.79 | **40.70** | 1.6 |
| **B** | 1/2 | 95 | 150 | 125 | 3 | Polycarbonate w/guard | 7.82 | 2.81 | **3JV76** | 47.79 | **40.70** | 1.2 |
| **B** | 1/2 | 95 | 150 | 125 | 5 | Polycarbonate w/guard | 9.27 | 3.24 | **2Z459** | 58.65 | **50.25** | 2.5 |
| **B** | 3/4 | 95 | 150 | 125 | 5 | Polycarbonate w/guard | 9.27 | 3.24 | **6ZC30** | 60.15 | **54.30** | 1.4 |
| **LUBRICATOR HEAVY-DUTY — MIST** | | | | | | | | | | | | |
| **C** | 1/4 | 45 | 250 | 175 | 3 | Metal w/sight glass | 7.82 | 2.81 | **3JV74** | 50.36 | **45.45** | 1.2 |
| **C** | 3/8 | 65 | 250 | 175 | 3 | Metal w/sight glass | 7.82 | 2.81 | **3JV75** | 50.36 | **45.45** | 1.2 |
| **C** | 1/2 | 95 | 250 | 175 | 3 | Metal w/sight glass | 7.82 | 2.81 | **3JV77** | 50.36 | **45.45** | 1.2 |
| **C** | 1/2 | 95 | 250 | 175 | 5 | Metal w/sight glass | 9.27 | 3.24 | **3JV78** | 62.67 | **57.00** | 3.1 |
| **C** | 3/4 | 95 | 250 | 175 | 5 | Metal w/sight glass | 9.27 | 3.24 | **3JV79** | 64.16 | **58.35** | 3.1 |
| **D** | 3/4 | 200 | 250 | 175 | 32 | Metal w/sight glass | 11.73 | 5 | **2Z460** | 117.52 | **115.70** | 5.3 |
| **D** | 1 | 260 | 250 | 175 | 32 | Metal w/sight glass | 11.73 | 5 | **4Z547** | 117.52 | **115.70** | 5.1 |
| **D** | 1½ | 270 | 250 | 175 | 32 | Metal w/sight glass | 11.73 | 5 | **6ZC26** | 137.71 | **128.10** | 4.8 |

(*) Polycarbonate bowls are not recommended for use in atmospheres containing chemicals such as acetone, benzene, carbon tetrachloride, ethylene dichloride, gasoline, and toluene, and/or air compressor systems using synthetic fire-resistant lubricants. (†) CFM based on 100 PSIG inlet and 5 PSIG pressure drop.

## AUTO FILL DEVICE FOR LUBRICATORS

Speedaire's automatic fill device offers a field conversion to create an automatic filling system to keep lubricators full on a daily basis. To use on models 3JV86, 3JV88, 3JV90, 2Z459 and 6ZC30 you must order new bowl part #387-9442. To use on models 3JV80, 3JV82, 3JV84, 3JV76, 2Z458 and 1Z886 you must order new bowl part #384-4081. Call Grainger Parts Operations, 1-800-323-0620 (Fits all Speedaire lubricators except 2Z768, 3JV92-94, 5Z419, 2Z460, 4Z547, 6ZC26, 3JV14, 3JV27).

**No. 3JV58.** Shpg. wt. 0.1 lbs. List $54.28. Each ..... **$51.50**

SPEEDAIRE®

Replacement Parts Available
1-800-323-0620



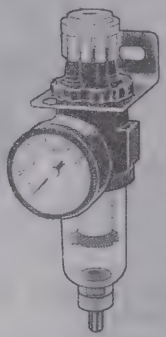
A



B



C



D



E

## "PIGGYBACK" FILTER/REGULATORS

**Space Saving "Piggyback" unit** combines filter and regulator features to provide optimal performance in minimal space. Pressurized air flows through louvered deflector in a swirling pattern, with liquids and dirt falling into lower baffle where they are prevented from re-entering the air stream. Clean air passes through the element and poppet area to outlet port.

A Unit comes with a shatterproof polycarbonate bowl with manual drain, and 5 micron filter elements. Regulator is self-relieving style, with non-rising adjustment knob, and has an adjustable output of 2-125 PSI. Unit has two 1/8" NPT gauge ports, uses 1X802 pressure gauge.

B, C Units come with a 40 micron filter element, self relieving style regulator with T-handle adjustment. 2-125 PSI adjustable output range. All units come with two 1/4" (f) NPT gauge ports, and use No. 1X762 pressure gauge. B Unit comes with shatterproof polycarbonate bowl with metal guard and manual drain. C Unit comes with metal bowl with sight glass, and manual drain.

D, E Units are the same as A and B, and also include pressure gauge and mounting bracket.

No. 4Z031 Auto Drain can be used on all units, except Nos. 4Z030 and 5Z415.

### "PIGGYBACK" COMBINATION SPECIFICATIONS AND ORDERING DATA

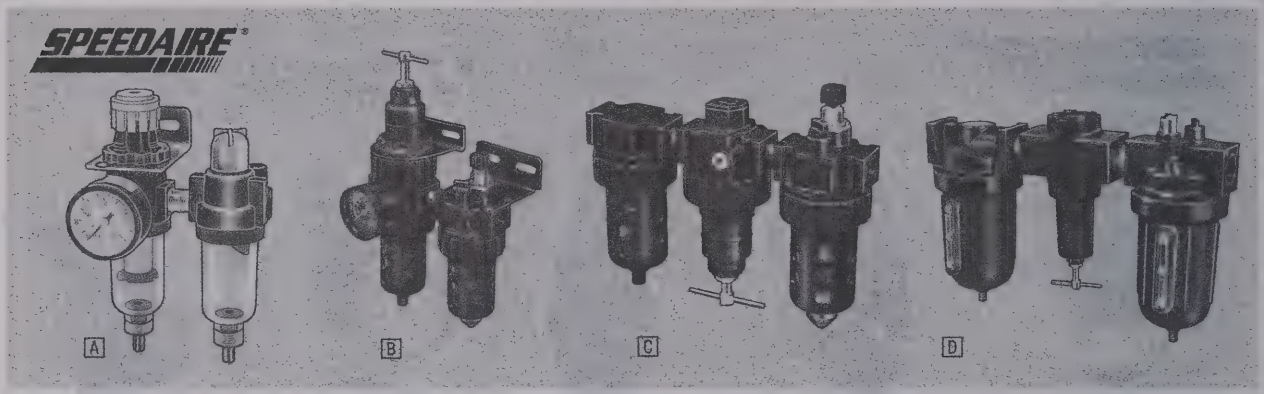
| Key | NPT Size (In.) | CFM† | Max. PSI | Max. Temp. (°F) | Bowl Size (Oz.) | Bowl Type* | Height (In.) | Width (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **"PIGGYBACK" FILTER/REGULATOR** | | | | | | |
| **A** | 1/4 Mini | 25 | 150 | 125 | 1.0 | Polycarbonate | 6.21 | 1.62 | **4Z030** | $43.37 | **$31.85** | 0.6 |
| **B** | 1/4 | 70 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 2.81 | **4Z027** | 64.94 | **58.85** | 2.5 |
| **B** | 3/8 | 70 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 2.81 | **4Z028** | 64.94 | **58.85** | 2.3 |
| **B** | 1/2 | 90 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 2.81 | **3JV30** | 67.51 | **61.00** | 1.9 |
| **B** | 1/2 | 130 | 150 | 125 | 7.2 | Polycarbonate w/guard | 13 | 3.24 | **4Z029** | 83.17 | **76.55** | 3.5 |
| **B** | 3/4 | 170 | 150 | 125 | 7.2 | Polycarbonate w/guard | 13 | 3.24 | **6ZC29** | 87.55 | **80.45** | 3.3 |
| | | | | | | **HEAVY-DUTY "PIGGYBACK" FILTER/REGULATORS** | | | | | | |
| **C** | 1/4 | 70 | 250 | 175 | 4.4 | Metal w/sight glass | 11.5 | 2.81 | **3JV28** | 67.51 | **61.00** | 1.9 |
| **C** | 3/8 | 70 | 250 | 175 | 4.4 | Metal w/sight glass | 11.5 | 2.81 | **3JV29** | 67.51 | **61.00** | 1.9 |
| **C** | 1/2 | 90 | 250 | 175 | 4.4 | Metal w/sight glass | 11.5 | 2.81 | **3JV31** | 67.51 | **61.00** | 1.9 |
| | | | | | | **"PIGGYBACK" FILTER/REGULATORS WITH GAUGE AND BRACKET** | | | | | | |
| **D** | 1/4 Mini | 25 | 150 | 125 | 1.0 | Polycarbonate | 6.21 | 1.62 | **5Z415** | 48.82 | **46.15** | 1.0 |
| **E** | 1/4 | 70 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 2.81 | **5Z416** | 80.59 | **73.75** | 2.1 |
| **E** | 3/8 | 70 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 2.81 | **5Z417** | 80.59 | **73.75** | 2.1 |
| **E** | 1/2 | 130 | 150 | 125 | 7.2 | Polycarbonate w/guard | 13 | 3.24 | **5Z418** | 98.62 | **90.85** | 2.9 |
| **E** | 3/4 | 170 | 150 | 125 | 7.2 | Polycarbonate w/guard | 13 | 3.24 | **3JV12** | 103.00 | **95.65** | 7.0 |

(*) Polycarbonate bowls are not recommended for use in atmospheres containing chemicals such as acetone, benzene, carbon tetrachloride, ethylene dichloride, gasoline and toluene, and/or air compressor systems using synthetic fire-resistant lubricants. (†) CFM flow measured at 100 PSIG inlet adjusted to a set pressure of 90 PSIG and a 15 PSIG pressure drop. All regulators are self-relieving type. For replacement filter elements, see page 2916.

NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# AIR LINE FILTER, REGULATOR AND LUBRICATOR COMBINATIONS




## A, B "PIGGYBACK" FILTER/REGULATOR AND LUBRICATOR COMBINATION UNITS WITH GAUGE AND BRACKET

"Piggyback" filter regulator and lubricator combination units offer reduced installation time and require less space. Units are piped together and include a pressure gauge and mounting bracket.

A Includes panel mounting nut and 5-micron filter.

B Includes 40-micron filter and metal bowl guard as standard. Key lock available, see page 2917.

## C, D FILTER REGULATOR AND LUBRICATOR COMBINATION UNITS WITH GAUGE AND MOUNTING BRACKET

Combination units offer reduced installation time. Units come with 40 micron filter element, relieving style regulators with T-handle adjustment, 2-125 PSI adjustable output pressure range, and manual drain as standard. Uses No. 1X762 pressure gauge. For key lock on regulator see page 2917.

C Standard with polycarbonate bowl and metal bowl guard.

D Standard with metal bowl with sight gauge.

## MICROMIST AIR LINE LUBRICATORS

Proportional oil delivery over wide range of air flow. Generates oil particles 5 microns and smaller downstream (up to 100 ft.) to lubricate systems with complex piping arrangements. Bypass gives wide operating range without excessive pressure drop.

## MIST AIR LINE LUBRICATORS

Wide operating flow range with minimal pressure drop. Precision needle valve oil feed adjustment. Can be filled under pressure. Generates oil particles of 50-80 microns in size (should be used within 15-20 feet.)

## "PIGGYBACK" COMBINATION SPECIFICATIONS AND ORDERING DATA

| Key | NPT Size (In.) | CFM† | Max. PSI | Max. Temp. (°F) | Bowl Size (Oz.) | Bowl Type* | Height (In.) | Width (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2-PIECE "PIGGYBACK" FILTER/REGULATOR AND LUBRICATOR COMBINATION UNITS — MICROMIST** | | | | | | | | | | | | |
| **A** | 1/4 Mini | 15 | 150 | 125 | 1 | Polycarbonate | 6.21 | 3.58 | **5Z419** | $84.30 | **$81.05** | 1.5 |
| **B** | 1/4 | 45 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 6.13 | **3JV18** | 132.66 | **121.80** | 5.5 |
| **B** | 3/8 | 65 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 6.13 | **3JV19** | 132.66 | **121.80** | 5.5 |
| **B** | 1/2 | 95 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 6.13 | **3JV20** | 132.66 | **121.80** | 5.5 |
| **B** | 3/8 | 95 | 150 | 125 | 7 | Polycarbonate w/guard | 13 | 6.99 | **3JV24** | 161.86 | **146.85** | 7.0 |
| **B** | 1/2 | 95 | 150 | 125 | 7 | Polycarbonate w/guard | 13 | 6.99 | **3JV25** | 161.86 | **146.85** | 7.0 |
| **B** | 3/4 | 95 | 150 | 125 | 7 | Polycarbonate w/guard | 13 | 6.99 | **3JV26** | 161.86 | **146.85** | 7.0 |
| **2-PIECE "PIGGYBACK" FILTER/REGULATOR AND LUBRICATOR COMBINATION UNITS — MIST** | | | | | | | | | | | | |
| **B** | 1/4 | 45 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 6.13 | **5Z420** | 132.66 | **121.70** | 5.0 |
| **B** | 3/8 | 65 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 6.13 | **5Z421** | 132.66 | **121.70** | 5.0 |
| **B** | 1/2 | 95 | 150 | 125 | 4.4 | Polycarbonate w/guard | 11.5 | 6.13 | **3JV08** | 132.66 | **121.70** | 5.5 |
| **B** | 1/2 | 95 | 150 | 125 | 7 | Polycarbonate w/guard | 13 | 6.99 | **5Z422** | 161.86 | **146.15** | 4.2 |
| **B** | 3/4 | 95 | 150 | 125 | 7 | Polycarbonate w/guard | 13 | 6.99 | **3JV13** | 161.86 | **146.85** | 7.0 |
| **3-PIECE FILTER/REGULATOR AND LUBRICATOR COMBINATION UNITS — MIST** | | | | | | | | | | | | |
| **C** | 1/4 | 45 | 150 | 125 | 4.4 | Polycarbonate w/guard | 7.82 | 9.45 | **3JV05** | 139.10 | **126.05** | 5.5 |
| **C** | 3/8 | 65 | 150 | 125 | 4.4 | Polycarbonate w/guard | 7.82 | 9.45 | **3JV06** | 139.10 | **126.05** | 5.5 |
| **C** | 1/2 | 95 | 150 | 125 | 4.4 | Polycarbonate w/guard | 7.82 | 9.45 | **3JV07** | 139.10 | **126.05** | 5.5 |
| **C** | 3/8 | 65 | 150 | 125 | 7 | Polycarbonate w/guard | 9.27 | 10.74 | **3JV09** | 179.63 | **163.00** | 7.0 |
| **C** | 1/2 | 95 | 150 | 125 | 7 | Polycarbonate w/guard | 9.27 | 10.74 | **3JV10** | 179.63 | **163.00** | 7.0 |
| **C** | 3/4 | 95 | 150 | 125 | 7 | Polycarbonate w/guard | 9.27 | 10.74 | **3JV11** | 179.63 | **163.00** | 7.0 |
| **D** | 1 | 230 | 250 | 175 | 32 | Metal w/sight glass | 11.73 | 15.81 | **3JV14** | 355.60 | **317.25** | 9.0 |
| **3-PIECE FILTER/REGULATOR AND LUBRICATOR COMBINATION UNITS — MICROMIST** | | | | | | | | | | | | |
| **C** | 1/4 | 45 | 150 | 125 | 4.4 | Polycarbonate w/guard | 7.82 | 9.45 | **3JV15** | 139.10 | **126.05** | 5.5 |
| **C** | 3/8 | 65 | 150 | 125 | 4.4 | Polycarbonate w/guard | 7.82 | 9.45 | **3JV16** | 139.10 | **126.05** | 5.5 |
| **C** | 1/2 | 95 | 150 | 125 | 4.4 | Polycarbonate w/guard | 7.82 | 9.45 | **3JV17** | 139.10 | **126.05** | 5.5 |
| **C** | 3/8 | 65 | 150 | 125 | 7 | Polycarbonate w/guard | 9.27 | 10.74 | **3JV21** | 179.63 | **163.00** | 7.0 |
| **C** | 1/2 | 95 | 150 | 125 | 7 | Polycarbonate w/guard | 9.27 | 10.74 | **3JV22** | 179.63 | **163.00** | 7.0 |
| **C** | 3/4 | 95 | 150 | 125 | 7 | Polycarbonate w/guard | 9.27 | 10.74 | **3JV23** | 179.63 | **163.00** | 7.0 |
| **D** | 1 | 260 | 250 | 175 | 32 | Metal w/sight glass | 11.73 | 15.81 | **3JV27** | 355.60 | **317.25** | 9.0 |

(*) Polycarbonate bowls are not recommended for use in atmospheres containing chemicals such as acetone, benzene, carbon tetrachloride, ethylene dichloride, gasoline, and toluene, and/or air compressor systems using synthetic fire-resistant lubricants. (†) CFM flow rated at 100 PSIG inlet pressure adjusted to a set pressure of 90 PSIG. All regulators are self-relieving type. For replacement filter elements, see page 2916 .



System components or tools — We're your one source for pneumatics.

# MOUNTING ACCESSORIES

## MOUNTING BRACKETS

| For Use With Stock Nos. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 6ZC25, 1Z696, 4Z027, 4Z028, 3JV95, 3JV30, 3JV29, 3JV31, 3JV28 | **3JV59** | $5.87 | **$5.34** | 0.2 |
| 1Z885, 6ZC31, 4Z029, 6ZC29 | **3JV64** | 5.87 | **5.34** | 0.2 |
| 1Z886, 2Z328, 2Z458, 2Z763, 3JV05, 3JV06, 3JV07, 3JV08, 3JV15 3JV16, 3JV17, 3JV18, 3JV19, 3JV20, 3JV21, 3JV35, 3JV36, 3JV37, 3JV38, 3JV39, 3JV40, 3JV41, 3JV42, 3JV43, 3JV74, 3JV75, 3JV76, 3JV77, 3JV80, 3JV81, 3JV82, 3JV83, 3JV84, 3JV85, 4Z034 | **3JV63** | 5.87 | **5.34** | 0.2 |
| 2Z329, 2Z459, 2Z764, 3JV09, 3JV10, 3JV11, 3JV13, 3JV21, 3JV22, 3JV23, 3JV24, 3JV25, 3JV26, 3JV44, 3JV45, 3JV46, 3JV47, 3JV48, 3JV49, 3JV78, 3JV79, 3JV86, 3JV87, 3JV88, 3JV89, 3JV90, 3JV91, 3Z422, 5Z422, 6CZ30, 6ZC32 | **3JV67** | 5.87 | **5.34** | 0.2 |
| 2Z321, 2Z460, 3JV50, 3JV51, 3JV52, 3JV53, 3JV92, 3JV93, 3JV94, 4Z545, 4Z546, 4Z547, 6Z949, 6ZC26 6ZC27, 6ZC28, 6ZC35, 2Z330, 3JV14, 3JV27 | **3JV57** | 12.25 | **10.92** | 0.2 |

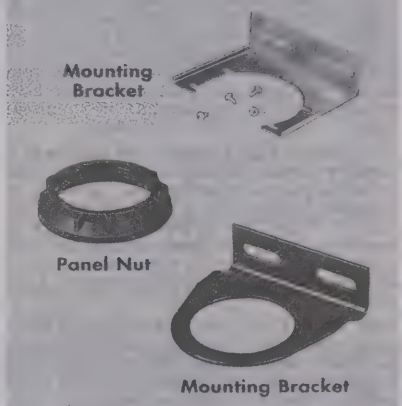
## PANEL NUTS

| | | | | |
|---|---|---|---|---|
| 1Z838, 2Z767, 4Z030, 6ZC33 | **6ZF64** | 1.85 | **1.64** | 0.1 |
| 6ZC25, 1Z696, 1Z885, 6ZC31, 4Z027, 4Z028, 4Z029, 6ZC29, 3JV28, 3JV29, 3JV31, 3JV95, 3JV30 | **6ZF63** | 3.60 | **3.18** | 0.1 |

## MOUNTING BRACKET W/PANEL NUT

| | | | | |
|---|---|---|---|---|
| 1Z838, 2Z767, 4Z030, 2Z768, 6ZC24, 2Z766, 6ZC33 | **6ZF65** | 5.15 | **4.67** | 0.1 |

SPEEDAIRE®




## EXHAUST SILENCER MIST ELIMINATOR

**Speedaire exhaust reclassifiers** eliminate unwanted oil mist from the exhaust of your pneumatic components, and reduces their noise to meet OSHA requirements.

SPEEDAIRE®

| Port Size (In.) | Element Type | H (In.) | W (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2** | Grade 6 | 5.3 | 2.57 | **3JV03** | $49.02 | **$44.00** | 0.1 |
| **1** | Grade 6 | 7.3 | 2.57 | **3JV04** | 54.38 | **48.80** | 0.1 |

## DRIP LEG DRAIN

**Compact, automatic drain** for drip legs and receiver tanks to remove water collected in your system.

| NPT Size (In.) | Max. PSI | Max. Temp. (°F) | H (In.) | W (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/4** | 250 | 175 | 3.25 | 2.5 | **3JV01** | $49.64 | **$44.65** | 0.6 |
| **1/2** | 250 | 175 | 3.25 | 2.5 | **3JV02** | 49.64 | **44.65** | 0.6 |



## AUTOMATIC FILTER DRAIN KIT

SPEEDAIRE®



Replacement Parts Available 1-800-323-0620™

**Converts manual drain on filters** to automatic drain operation. Made of sturdy plastic with built-in screen. Easy to install. Speedaire brand. (Fits all Speedaire air-line/oil filters except 3JV54, 3JV55, 6ZC24, 5Z415, 4Z030, 5Z419, 2Z766, 3JV32, 3JV33)

**No. 4Z031.** Shpg. wt. 0.1 lbs. List $26.67. Each ..... **$24.33**

## LOCKOUT VALVES

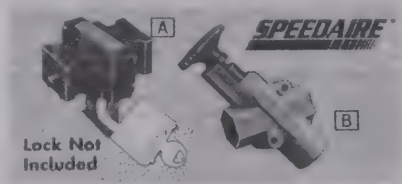
**Speedaire lockout valves** help you comply to OSHA regulations, as they relate to OSHA regulation 29 CFR Part 1910. This standard established the standards for Lockout/Tagout procedures as it relates to industrial equipment requiring service and/or repair.

A Straight slide operation offers very high flows with easy actuation. Speedaire lockout valves offer a unique 3-position slide construction, giving you a full open position, closed and exhausted, and a middle Slow Start condition. The Slow Start function allows the pressure into the system at a slow rate, reducing the possibility of valve mis-shifts and system shock. The valve can only be locked in the exhausted/closed position with a user supplied lock. The slide is manufactured in a bright red color for easy identification of function.

B Inline or surface mounted using two 11/32" mounting holes, these valves offer higher flows for total system applications. These valves offer a 1" exhaust port, in all sizes, for rapid exhaust flows for quick system relief. Rugged metal handles provide durable operation in a wide variety of industrial applications. This style of Speedaire valve is mounting interchangeable with Ross manual lockout valves and the 3/8" and 1/2" ISI brand. Painted safety yellow with red handles for high visibility.

## LOCKOUT VALVES

| Key | NPT (In.) | Cv Forward | Cv Exhaust | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **A** | 3/8 | 8 | 1 | **3JV72** | $28.32 | **$25.65** | 1.0 |
| **A** | 1/2 | 15 | 1.2 | **3JV73** | 32.03 | **29.05** | 1.2 |
| **B** | 3/8 | 4.3 | 6 | **3JV68** | 78.38 | **76.40** | 2.2 |
| **B** | 1/2 | 7.7 | 9 | **3JV69** | 78.38 | **76.40** | 2.2 |
| **B** | 3/4 | 9.5 | 9 | **3JV70** | 80.54 | **78.20** | 2.2 |
| **B** | 1 | 10.2 | 9 | **3JV71** | 93.83 | **90.90** | 2.2 |




SPEEDAIRE®

# WILKERSON MODULAR TERMINOLOGY

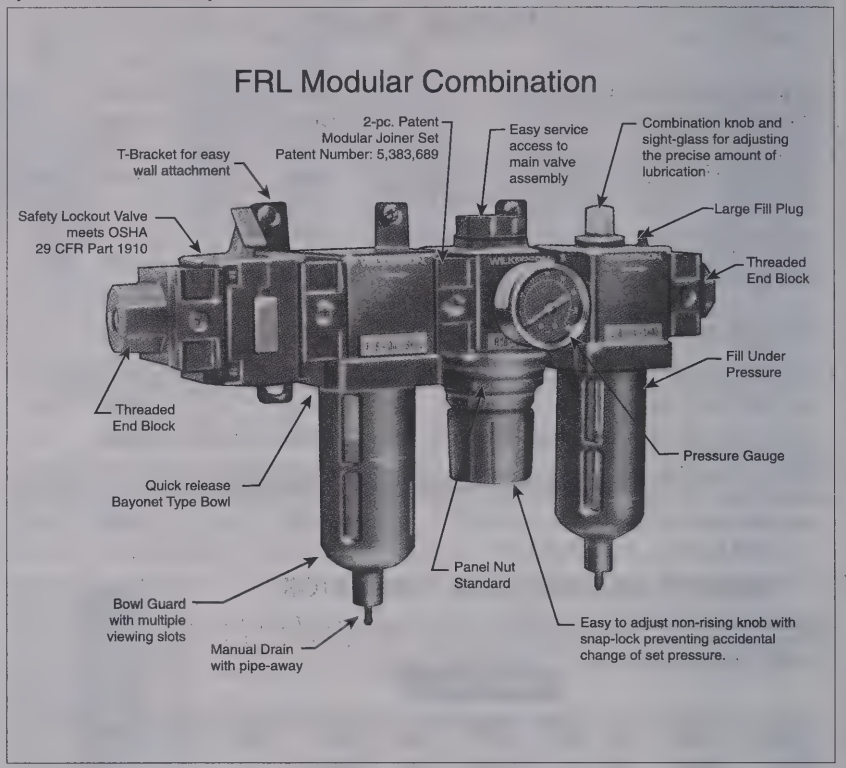
## MODULAR AIR LINE FILTERS, REGULATORS, LUBRICATORS & COMBINATION MODELS

WILKERSON
CORPORATION • ENGLEWOOD, CO. 80150

Wilkerson's modular FRL series employ a patented and time-saving method of connecting and replacing compressed air filters, regulators, lubricators, integral filter/regulator airsets, and FRL and FR+L combinations. Wilkerson also provides a comprehensive range of model options and accessory products that allows greater design flexibility for your specific application.

Wilkerson's FRL product line features a modular design that allows conventional in-line installation using pipe threads, or modular installation using the patented "joiner" clamp. The two-piece joiner clamp assembly provides easy installation and removal of FRL units, combination units and accessories without breaking the pipe connection.

Unit models are available in four body sizes - miniature (08), compact (18), standard (28), and jumbo (38), with threaded port sizes from 1/8" through 1" NPT. The product line provides exceptional high flow performance with minimum pressure losses.




### SAFETY LOCKOUT VALVES

The V08, V18, and V28 safety lockout valves help you conform to OSHA lockout regulation **OSHA 29 CFR Part 1910** governing equipment found in manufacturing and service industries, and where machinery requires maintenance, service, setup, or repair. The lockout valves are a manually operated, blade-type, 3-way valve. In the closed position, downstream air is exhausted to atmosphere. The valve blade can be locked in the closed position with a padlock.

### AIR LINE FILTERS

Feature a high-performance two-stage cleaning action that removes bulk liquid and solid particle contaminants. A non-corrosive, 5-micron-rated filter element with greater dirt holding capacity for longer service life is standard. Manual drain with pipe-away feature allows easy draining of collected contaminants. The filters feature a quick release bayonet type bowl, that comes with either a polycarbonate bowl with guard, or metal bowl with sight gauge. Automatic float drains are available as a separate option.

### COALESCING FILTERS

Wilkerson's ranges of coalescing filters are specifically designed for the removal of solid particles, water, and oil aerosols down to 0.5 micron. Each filter comes standard with a service life indicator that lets the user know when to change the filter element. The filters feature a quick release bayonet type bowl, that comes with either a polycarbonate bowl with guard, or metal bowl with sight gauge. Automatic float drains are available as a separate option.

Protection of components such as air valves, cylinders, as well as air conveyors, air gauging, air bearings, air control circuits, and paint equipment are several examples of specific end-use applications of this type of filter.

### AIR LINE REGULATORS

Regulators have a large, non-rising "pull to adjust/push to lock" adjustment knob for ease setting and maintaining desired pressure. Large main valve seat and precisely positioned aspirator provides high airflow capacity with steady pressure control and minimal pressure droop. A balanced valve provides superior and reliable regulation. Units are standard with two gauge ports that can be used as two additional regulated outlet ports. Regulator can be serviced without removal from the air line.

### AIR LINE LUBRICATORS

Lubricators are equipped with a unique flow-guide variable orifice that maintains a constant oil-to-air ratio regardless of changes in air flow. The sight dome is a combination oil drip rate adjustment knob and sight-glass for precisely setting the amount of lubrication required for the application. Other features include large fill port, siphon tube filter to provide clean lubricant downstream, quick release bayonet type bowl, that comes with either a polycarbonate bowl with guard, or metal bowl with oil level sight-gage, and manual drain. Unit can be filled with lubricant while pressurized.

### FILTER/REGULATOR AIRSETS

Filter/regulator integral combination unit incorporates all the features and high performance capabilities of the individual filter and regulator models into one space-saving package. The F/R model is available in all body sizes.

### FRL AND F/R+L COMBINATIONS

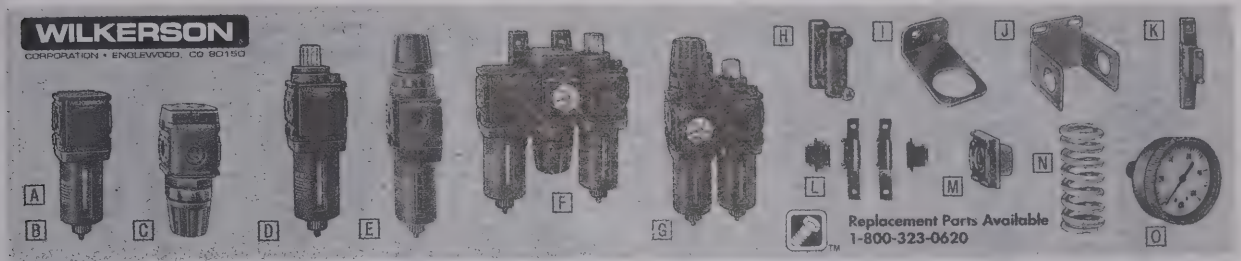
A comprehensive range of combination models integrates all the unique features, advanced functions and high performance of the modular FRL series into a compact, contemporary, and ready to mount assembly. The combination models are pre-assembled utilizing the modular T-bracket/joiner assembly to facilitate easy installation and mounting of the combination unit. Modular combination models come with a pressure gauge as a standard feature.

### ACCESSORIES

Listed along with each size/series, is a corresponding line of a accessories that include; joiner sets, end blocks, mounting brackets, automatic float drains, and pressure gauges.

# MINI "08" SERIES MODULAR AIR LINE FILTERS, REGULATORS, AND LUBRICATORS






### AIR LINE REGULATORS

- Air filters have 5-micron filter element
- Coalescing elements are 0.5 micron
- Manual drain
- Temp: Metal bowl - 175°F (79°C)
  Polycarb. bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 250 PSI
  Polycarb. Bowl - 150 PSI
- Bowl guards standard on polycarbonate units

### AIR LINE REGULATORS

- Adjustment from 0-125 PSI
- Non-rising adjustment knob
- 1/8" gauge port
- Panel nut included
- Max. Inlet Pressure - 300 PSI
  (Does not apply to combo units)
- Max. Temp. - 125°F (52°C)

### AIR LINE LUBRICATORS

- Temp: Metal bowl - 175°F (79°C)
  Polycarb. bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 250 PSI
  Polycarb. bowl - 150 PSI
- Bowl guards standard on polycarbonate units
- Integral sight dome and adjustment knob

## MINI "08" SERIES—MODULAR DESIGN SPECIFICATIONS AND ORDERING DATA

| Key | Description | Pipe Size NPT (In.) | CFM‡ | Bowl Type* | Bowl Size (Oz.) | Height (In.) | Width (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Filter | 1/8 | 21 | P | 0.6 | 4.58 | 1.58 | F08-01-SK00 | **6B289** | $20.00 | **$16.70** | 0.6 |
| | Filter | 1/8 | 21 | M | 0.6 | 4.58 | 1.58 | F08-01-SL00 | **6D780** | 22.40 | **18.88** | 0.9 |
| | Filter | 1/4 | 41 | P | 0.6 | 4.58 | 1.58 | F08-02-SK00 | **6B288** | 20.00 | **16.70** | 0.5 |
| | Filter | 1/4 | 41 | M | 0.6 | 4.58 | 1.58 | F08-02-SL00 | **6D781** | 22.40 | **18.88** | 0.9 |
| B | Oil Removal Coalescing Filter | 1/4 | 12 | P | 0.6 | 4.58 | 1.58 | M08-02-BK00 | **6B264** | 33.25 | **28.25** | 0.5 |
| | Oil Removal Coalescing Filter | 1/4 | 12 | M | 0.6 | 4.58 | 1.58 | M08-02-BL00 | **6D805** | 35.60 | **30.15** | 0.9 |
| C | Regulator | 1/8 | 28 | — | — | 3.94 | 1.58 | R08-01-F000 | **6B215** | 16.00 | **12.58** | 0.7 |
| | Regulator | 1/4 | 40 | — | — | 3.94 | 1.58 | R08-02-F000 | **6B214** | 16.00 | **12.58** | 0.7 |
| D | Lubricator | 1/4 | 42 | P | 0.6 | 5.65 | 1.58 | L08-02-LK00 | **6B275** | 29.35 | **25.75** | 0.6 |
| | Lubricator | 1/4 | 42 | M | 0.6 | 5.65 | 1.58 | L08-02-LL00 | **6D794** | 31.70 | **27.95** | 1.0 |
| E | Filter/Regulator | 1/8 | 28 | P | 0.6 | 6.46 | 1.58 | B08-01-FK00 | **6B316** | 34.00 | **28.10** | 0.8 |
| | Filter/Regulator | 1/8 | 28 | M | 0.6 | 6.46 | 1.58 | B08-01-FL00 | **6D755** | 45.10 | **30.75** | 1.1 |
| | Filter/Regulator | 1/4 | 42 | P | 0.6 | 6.46 | 1.58 | B08-02-FK00 | **6B315** | 34.00 | **28.10** | 0.7 |
| | Filter/Regulator | 1/4 | 42 | M | 0.6 | 6.46 | 1.58 | B08-02-FL00 | **3GD30** | 45.10 | **30.75** | 0.8 |
| F | Filter+Regulator+Lubricator† | 1/4 | 42 | P | 0.6 | 6.46 | 4.72 | C08-02-FKG0 | **6B306** | 84.85 | **70.20** | 2.0 |
| | Filter+Regulator+Lubricator† | 1/4 | 42 | M | 0.6 | 6.46 | 4.72 | C08-02-FLG0 | **6D764** | 89.60 | **74.15** | 2.0 |
| G | Filter/Regulator+Lubricator† | 1/4 | 42 | P | 0.6 | 6.46 | 3.15 | D08-02-FKG0 | **6B299** | 78.75 | **63.50** | 1.4 |
| | Filter/Regulator+Lubricator† | 1/4 | 42 | M | 0.6 | 6.46 | 3.15 | D08-02-FLG0 | **6D771** | 83.50 | **70.00** | 1.5 |

(*) Polycarbonate w/bowl guard. M=Metal. (†) Mounting bracket included. (‡) Explanation of CFM ratings, see page 2924

## REPLACEMENT FILTER ELEMENTS FOR "08" SERIES FILTERS ORDERING DATA

| Description | For Use With | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Air Filter** | 6B288, 6B289, 6B299, 6B306, 6B315, 6B316, 6D755, 6D764, 6D771, 6D780, 6D781, 6G036, 3GD30 | FRP-96-729 | **6B225** | $3.50 | **$1.52** | 0.1 |
| **Coalescing Filter** | 6B264, 6D805 | MSP-96-732 | **6B224** | 12.85 | **10.04** | 0.1 |

## MODULAR ACCESSORIES FOR "08" SERIES ORDERING DATA

| Key | Description | Oper. Pressure Range (PSI) | Pipe Size NPT (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| H | Modular Unit Connectors | — | — | GPA-96-738 | **6B222** | $2.55 | **$2.18** | 0.1 |
| I | Regulator Wall Mount Bracket | — | — | GPR-95-147 | **6B253** | 2.75 | **2.35** | 0.1 |
| J | Fil/Lub Wall Mount Bracket | — | — | GPA-97-010 | **6B221** | 2.45 | **2.09** | 0.2 |
| K | Modular Mounting Bracket | — | — | GPA-96-737 | **6B223** | 4.10 | **2.59** | 0.1 |
| L | End-Block Connecting Set* | — | 1/4 | GPA-97-026 | **6B218** | 12.85 | **10.74** | 0.2 |
| M | End-Block Connectors | — | 1/4 | GPA-97-019 | **6B220** | 11.50 | **9.59** | 0.3 |
| | | — | 3/8 | GPA-97-020 | **6B219** | 11.50 | **9.59** | 0.2 |
| N | Regulating Spring Kits | 0-30 | — | GRP-95-111 | **4KR95** | 2.85 | **2.56** | 0.1 |
| | | 0-60 | — | GRP-96-718 | **4KR96** | 2.85 | **2.66** | 0.1 |

## PRESSURE GAUGES ORDERING DATA

| Key | Description | Pipe Size NPT (In.) | Ametek Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| O | 0-160 PSI Pressure Gauge | 1/8 | PS00K-160CBM | **1X802** | $18.00 | **$7.65** | 0.2 |

(*) Includes two end-block connectors and joiner sets to connect up to a component.



No. 6B227

### AUTOMATIC PISTON DRAIN

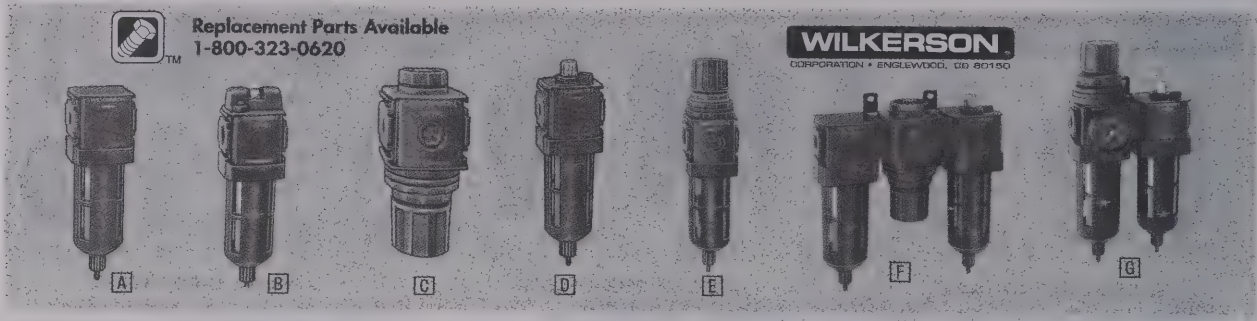
Converts manual drain in minifilter (08 series) to semi-automatic drain. Liquids are discharged when flow is interrupted.

**No. 6B227.** Shpg. wt. 0.1lbs. List $3.80. Each ..... **$2.46**

# STANDARD "18" SERIES MODULAR AIR LINE FILTERS, REGULATORS, AND LUBRICATORS

Replacement Parts Available
1-800-323-0620

WILKERSON
CORPORATION • ENGLEWOOD, CO 80150




### AIR LINE FILTERS

- Air filters have 5-micron filter element
- Coalescing elements are 0.5 micron
- Coalescing filters have filter service indicator
- Temp: Metal bowl - 175°F (79°C)
  Polycarb. bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 250 PSI
  Polycarb. Bowl - 150 PSI
  Oil Coalescing Removal Filters (with Metal or Polycarb Bowl - 150 PSI
- Bowl guards standard on polycarbonate units

### AIR LINE REGULATORS

- Adjustment from 0-125 PSI
- Non-rising adjustment knob
- 1/4" gauge port
- Panel nut included
- Max. Inlet Pressure - 300 PSI**
- Max. Temp. - 125°F (52°C)

### AIR LINE LUBRICATORS

- Temp: Metal bowl - 175°F (79°C)
  Polycarb. bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 250 PSI
  Polycarb. bowl - 150 PSI
- Bowl guards standard on polycarbonate units
- Integral sight dome and adjustment knob

## COMPACT "18" SERIES—MODULAR DESIGN SPECIFICATIONS AND ORDERING DATA

| Key | Description | Pipe Size NPT (In.) | CFM‡ | Bowl Type* | Bowl Size (Oz.) | Height (In.) | Width (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Filter | 1/4 | 84 | P | 4.09 | 7.40 | 2.36 | F18-02-SK00 | **6B287** | $39.90 | **$31.60** | 1.3 |
| | Filter | 1/4 | 84 | M | 4.09 | 7.40 | 2.36 | F18-02-SL00 | **6D782** | 43.00 | **35.85** | 2.1 |
| | Filter | 3/8 | 88 | P | 4.09 | 7.40 | 2.36 | F18-03-SK00 | **6B286** | 39.90 | **31.60** | 1.3 |
| | Filter | 3/8 | 88 | M | 4.09 | 7.40 | 2.36 | F18-03-SL00 | **6D783** | 43.00 | **35.85** | 2.0 |
| | Filter | 1/2 | 100 | P | 4.09 | 7.40 | 2.36 | F18-04-SK00 | **6B285** | 39.90 | **31.60** | 1.2 |
| | Filter | 1/2 | 100 | M | 4.09 | 7.40 | 2.36 | F18-04-SL00 | **6D784** | 43.00 | **35.85** | 1.5 |
| B | Oil Removal Coalescing Filter | 1/4 | 42 | P | 4.09 | 8.20 | 2.36 | M18-02-BK00 | **6B263** | 63.40 | **49.15** | 1.4 |
| | Oil Removal Coalescing Filter | 1/4 | 42 | M | 4.09 | 7.90 | 2.36 | M18-02-BL00 | **6D806** | 67.65 | **55.25** | 1.5 |
| | Oil Removal Coalescing Filter | 3/8 | 46 | P | 4.09 | 8.20 | 2.36 | M18-03-BK00 | **6B262** | 63.40 | **49.15** | 1.3 |
| | Oil Removal Coalescing Filter | 3/8 | 46 | M | 4.09 | 7.90 | 2.36 | M18-03-BL00 | **6D807** | 67.65 | **55.25** | 2.1 |
| | Oil Removal Coalescing Filter | 1/2 | 52 | P | 4.09 | 8.20 | 2.36 | M18-04-BK00 | **6B261** | 63.40 | **49.15** | 1.3 |
| | Oil Removal Coalescing Filter | 1/2 | 52 | M | 4.09 | 7.90 | 2.36 | M18-04-BL00 | **6D808** | 67.65 | **55.25** | 2.1 |
| C | Regulator | 1/4 | 80 | — | — | 5.40 | 2.36 | R18-02-F000 | **6B213** | 31.10 | **24.50** | 1.6 |
| | Regulator | 3/8 | 96 | — | — | 5.40 | 2.36 | R18-03-F000 | **6B212** | 31.10 | **24.50** | 1.6 |
| | Regulator | 1/2 | 96 | — | — | 5.40 | 2.36 | R18-04-F000 | **6B211** | 31.10 | **24.50** | 1.5 |
| D | Lubricator | 1/4 | 76 | P | 4.09 | 8.25 | 2.36 | L18-02-LK00 | **6B274** | 47.15 | **37.25** | 1.4 |
| | Lubricator | 1/4 | 76 | M | 4.09 | 8.35 | 2.36 | L18-02-LL00 | **6D795** | 50.25 | **41.85** | 2.2 |
| | Lubricator | 3/8 | 84 | P | 4.09 | 8.25 | 2.36 | L18-03-LK00 | **6B273** | 47.15 | **37.25** | 1.3 |
| | Lubricator | 3/8 | 84 | M | 4.09 | 8.35 | 2.36 | L18-03-LL00 | **6D796** | 50.25 | **41.85** | 2.1 |
| | Lubricator | 1/2 | 94 | P | 4.09 | 8.25 | 2.36 | L18-04-LK00 | **6B272** | 47.15 | **37.25** | 1.3 |
| | Lubricator | 1/2 | 94 | M | 4.09 | 8.35 | 2.36 | L18-04-LL00 | **6D797** | 50.25 | **41.85** | 1.5 |
| E | Filter/Regulator | 1/4 | 90 | P | 4.09 | 10.0 | 2.36 | B18-02-FK00 | **6B314** | 66.10 | **51.40** | 2.0 |
| | Filter/Regulator | 1/4 | 90 | M | 4.09 | 10.0 | 2.36 | B18-02-FL00 | **6D756** | 68.80 | **58.35** | 2.7 |
| | Filter/Regulator | 3/8 | 90 | P | 4.09 | 10.0 | 2.36 | B18-03-FK00 | **6B313** | 66.10 | **51.40** | 2.0 |
| | Filter/Regulator | 3/8 | 90 | M | 4.09 | 10.0 | 2.36 | B18-03-FL00 | **6D757** | 68.80 | **58.35** | 2.8 |
| | Filter/Regulator | 1/2 | 105 | P | 4.09 | 10.0 | 2.36 | B18-04-FK00 | **6B312** | 66.10 | **51.40** | 1.9 |
| | Filter/Regulator | 1/2 | 105 | M | 4.09 | 10.0 | 2.36 | B18-04-FL00 | **6D758** | 68.80 | **58.35** | 1.7 |
| F | Filter+Regulator+Lubricator | 1/4 | 80 | P | 4.09 | 8.35 | 7.77 | C18-02-FKG0 | **6B305**† | 147.65 | **116.65** | 4.1 |
| | Filter+Regulator+Lubricator | 1/4 | 80 | M | 4.09 | 8.35 | 7.77 | C18-02-FLG0 | **6D765**† | 153.80 | **127.20** | 6.9 |
| | Filter+Regulator+Lubricator | 3/8 | 80 | P | 4.09 | 8.35 | 7.77 | C18-03-FKG0 | **6B304**† | 147.65 | **116.65** | 4.1 |
| | Filter+Regulator+Lubricator | 3/8 | 80 | M | 4.09 | 8.35 | 7.77 | C18-03-FLG0 | **6D766**† | 153.80 | **127.20** | 4.9 |
| | Filter+Regulator+Lubricator | 1/2 | 80 | P | 4.09 | 8.35 | 7.77 | C18-04-FKG0 | **6B303**† | 147.65 | **116.65** | 4.1 |
| | Filter+Regulator+Lubricator | 1/2 | 80 | M | 4.09 | 8.35 | 7.77 | C18-04-FLG0 | **6D767**† | 153.80 | **127.20** | 4.9 |
| G | Filter/Regulator+Lubricator | 1/4 | 80 | P | 4.09 | 10.0 | 5.06 | D18-02-FKG0 | **6B298**† | 133.90 | **104.05** | 3.0 |
| | Filter/Regulator+Lubricator | 1/4 | 80 | M | 4.09 | 10.0 | 5.06 | D18-02-FLG0 | **6D772**† | 140.00 | **115.45** | 3.3 |
| | Filter/Regulator+Lubricator | 3/8 | 80 | P | 4.09 | 10.0 | 5.06 | D18-03-FKG0 | **6B297**† | 133.90 | **104.05** | 4.1 |
| | Filter/Regulator+Lubricator | 3/8 | 80 | M | 4.09 | 10.0 | 5.06 | D18-03-FLG0 | **6D773**† | 140.00 | **115.45** | 3.3 |
| | Filter/Regulator+Lubricator | 1/2 | 80 | P | 4.09 | 10.0 | 5.06 | D18-04-FKG0 | **6B296**† | 133.90 | **104.05** | 4.0 |
| | Filter/Regulator+Lubricator | 1/2 | 80 | M | 4.09 | 10.0 | 5.06 | D18-04-FLG0 | **6D774**† | 140.00 | **115.45** | 3.3 |

(*) P - Polycarbonate w/bowl guard M - Metal (†) Mounting bracket included (‡) Filter/Lubricators: CFM based on 100 PSIG inlet and 5 PSIG pressure drop. Coalescing Filter: CFM based on 100 PSIG with a 1 PSIG pressure drop. Regulator and Combination Units: CFM flow measured with 100 PSIG inlet adjusted to a set pressure of 90 PSIG and a 15 PSIG pressure drop. (**) Combination units: polycarbonate 150 PSI , metals bowls 250 PSI max.

# ACCESSORIES FOR COMPACT 18" SERIES FRL'S AND LOCKOUT VALVES




## MODULAR ACCESSORIES FOR "18" SERIES SPECIFICATIONS AND ORDERING DATA

| Key | Description | Oper. Pressure Range (PSI) | Pipe Size NPT (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Modular Unit Connectors | — | — | GPA-96-601 | **6B247** | $4.25 | **$3.61** | 0.4 |
| B | Mounting Bracket Used With 6B247 | — | — | GPA-96-602 | **6B246** | 6.10 | **5.32** | 0.1 |
| C | Modular Connecting Mounting Bracket | — | — | GPA-96-603 | **6B245** | 9.20 | **7.70** | 0.4 |
| D | Filter/Lub. Wall Mounting Bracket | — | — | GPA-96-604 | **6B244** | 7.15 | **6.08** | 0.2 |
| E | Regulator Wall Mounting Bracket | — | — | GPA-96-606 | **6B242** | 4.70 | **4.04** | 0.2 |
| F | End-Block Connectors | — | 1/4 | GPA-96-610 | **6B238** | 8.40 | **7.22** | 0.7 |
| | | — | 3/8 | GPA-96-611 | **6B237** | 8.40 | **7.24** | 0.6 |
| | | — | 1/2 | GPA-96-612 | **6B236** | 8.40 | **7.24** | 0.6 |
| | | — | 3/4 | GPA-96-613 | **6B235** | 8.40 | **7.24** | 0.6 |
| G | Regulating Spring Kits | 0-25 | — | RRP-96-659 | **4KT01** | 4.10 | **3.59** | 0.2 |
| | | 0-60 | — | RRP-96-660 | **4KT02** | 4.10 | **3.59** | 0.2 |
| | | 0-250 | — | RRP-96-662 | **4KT03** | 5.65 | **5.47** | 0.2 |

## PRESSURE GAUGE SPECIFICATIONS AND ORDERING DATA

| Key | Description | Oper. Pressure Range (PSI) | Pipe Size NPT (In.) | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| H | Pressure Gauge | 0-160 | 1/4 | P500K-160C BM | **1X762** | $16.00 | **$6.00** | 0.3 |

## REPLACEMENT FILTER ELEMENTS FOR "18" SERIES FILTERS ORDERING DATA

| Description | For Use With | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Air Filter** | 6B285, 6B286, 6B287, 6B296, 6B297, 6B298, 6B303, 6B304, 6B305, 6B312, 6B313, 6B314, 6D756, 6D757, 6D758, 6D765, 6D766, 6D767, 6D772, 6D773, 6D774, 6D782, 6D783, 6D784 | FRP-96-639 | **6B233** | $6.15 | **$5.31** | 0.1 |
| **Oil Removal Coalescing Filter** | 6B261, 6B262, 6B263, 6D806, 6D807, 6D808 | MSP-96-647 | **6B232** | 14.90 | **10.55** | 0.1 |

## AUTOMATIC FLOAT DRAIN

Converts manual drain on filter to automatic drain. The normally-open float operated drain automatically discharges liquids from the bowl when liquids reach a predetermined level. Fits 18, 28, 30 and 38 series. Wilkerson model (GRP-95-973).

**No. 6B251.** Shpg. wt. 0.1 lbs.
List $19.20. Each.....$16.63



WILKERSON
CORPORATION • ENGLEWOOD, CO 80150

No. 6B251

## SAFETY LOCKOUT VALVE




Wilkerson V Series Safety Lockout Valves conform to OSHA lockout regulations* governing equipment found in manufacturing and service industries, machinery requiring maintenance, setup or service.

The V Series valves are manually operated, slide-type valves. In the closed position, downstream air is exhausted to atmosphere. The valve slide can be locked in the closed position with user supplying a padlock.

Wilkerson's V08, V18 and V28 lockout valves are readily identifiable by the bright "OSHA" orange color of the slide mechanism. The orange color will satisfy OSHA's requirement that lockout devices be easily identifiable and standardized within the facility.

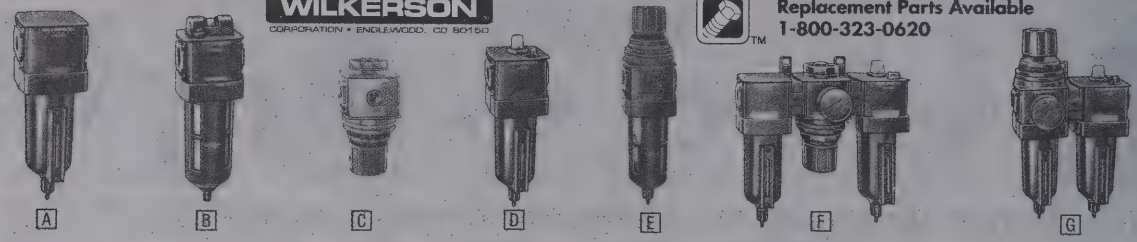
(*) OSHA 29 CFR Part 1910.

| Pipe Size NPT (In.) | Max. CFM | Max. PSI | Max. Temp. (°F) | Height (In.) | Width (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **MINI "08" SERIES SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | |
| 1/4 | 100 | 150 | 175 | 2.41 | 1.57 | V08-02-0000 | **5B759** | $16.85 | **$14.25** | 0.7 |
| **COMPACT "18" SERIES SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | |
| 1/4 | 141 | 150 | 175 | 3.16 | 3.19 | V18-02-0000 | **5B615** | 19.75 | **16.14** | 1.1 |
| 3/8 | 216 | 150 | 175 | 3.16 | 3.19 | V18-03-0000 | **4B930** | 19.75 | **16.14** | 1.1 |
| 1/2 | 272 | 150 | 175 | 3.16 | 3.19 | V18-04-0000 | **4B929** | 19.75 | **16.14** | 1.1 |
| **STANDARD "28" SERIES SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | |
| 3/8 | 268 | 150 | 175 | 3.23 | 3.41 | V28-03-0000 | **4B927** | 25.10 | **20.61** | 1.5 |
| 1/2 | 290 | 150 | 175 | 3.23 | 3.41 | V28-04-0000 | **4B926** | 25.10 | **20.61** | 1.3 |
| 3/4 | 300 | 150 | 175 | 3.23 | 3.41 | V28-06-0000 | **4B597** | 25.10 | **20.61** | 0.9 |

# STANDARD "28" SERIES MODULAR AIR LINE FILTERS, REGULATORS, AND LUBRICATORS

WILKERSON
CORPORATION • ENGLEWOOD, CO 80150

Replacement Parts Available
1-800-323-0620




## AIR LINE FILTERS

- Air filters have 5-micron filter element
- Coalescing elements are 0.5 micron
- Coalescing filters have filter service indicators
- Temp: Metal bowl - 175°F (79°C)
  Polycarb. bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 250 PSI
  Polycarb. Bowl - 150 PSI
  Oil Removal Coalescing Removal Filter (with Metal or Polycarb Bowls) - 150 PSI
- Bowl guards standard on polycarbonate units

## AIR LINE REGULATORS

- Adjustment from 0-125 PSI
- Non-rising adjustment knob
- 1/4" gauge port
- Panel nut included
- Max. Inlet Pressure - 300 PSI (Does not apply to combo units)
- Max. Temp. - 125°F (52°C)

## AIR LINE REGULATORS

- Temp: Metal bowl - 175°F (79°C)
  Polycarb. bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 250 PSI
  Polycarb. bowl - 150 PSI
- Bowl guards standard on polycarbonate units
- Integral sight dome and adjustment knob

## STANDARD "28" SERIES—MODULAR DESIGN SPECIFICATIONS AND ORDERING DATA

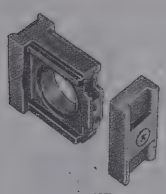
| Key | Description | Pipe Size NPT (In.) | CFM‡ | Bowl Type* | Bowl Size (Oz.) | Height (In.) | Width (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Filter | 3/8 | 98 | P | 6.11 | 8.40 | 2.90 | F28-03-SK00 | **6B284** | $53.45 | **$42.60** | 3.0 |
| | Filter | 3/8 | 98 | M | 6.11 | 8.40 | 2.90 | F28-03-SL00 | **6D785** | 57.85 | **47.65** | 3.2 |
| | Filter | 1/2 | 125 | P | 6.11 | 8.40 | 2.90 | F28-04-SK00 | **6B283** | 53.45 | **42.60** | 2.0 |
| | Filter | 1/2 | 125 | M | 6.11 | 8.40 | 2.90 | F28-04-SL00 | **6D786** | 57.85 | **47.65** | 2.3 |
| | Filter | 3/4 | 140 | P | 6.11 | 8.40 | 2.90 | F28-06-SK00 | **6B282** | 53.45 | **42.60** | 1.9 |
| | Filter | 3/4 | 140 | M | 6.11 | 8.40 | 2.90 | F28-06-SL00 | **6D787** | 57.85 | **47.65** | 2.3 |
| B | Oil Removal Coalescing Filter | 3/8 | 90 | P | 6.11 | 9.30 | 2.90 | M28-03-BK00 | **6B260** | 76.30 | **59.20** | 2.2 |
| | Oil Removal Coalescing Filter | 3/8 | 90 | M | 6.11 | 9.30 | 2.90 | M28-03-BL00 | **6D809** | 81.65 | **67.10** | 2.2 |
| | Oil Removal Coalescing Filter | 1/2 | 95 | P | 6.11 | 9.30 | 2.90 | M28-04-BK00 | **6B259** | 76.30 | **59.20** | 2.1 |
| | Oil Removal Coalescing Filter | 1/2 | 95 | M | 6.11 | 9.30 | 2.90 | M28-04-BL00 | **6D810** | 81.65 | **67.10** | 3.3 |
| | Oil Removal Coalescing Filter | 3/4 | 105 | P | 6.11 | 9.30 | 2.90 | M28-06-BK00 | **6B258** | 76.30 | **59.20** | 2.1 |
| | Oil Removal Coalescing Filter | 3/4 | 105 | M | 6.11 | 9.30 | 2.90 | M28-06-BL00 | **6D811** | 81.65 | **67.10** | 2.2 |
| C | Regulator | 3/8 | 120 | — | — | 5.90 | 2.90 | R28-03-F000 | **6B210** | 42.50 | **33.05** | 2.3 |
| | Regulator | 1/2 | 140 | — | — | 5.90 | 2.90 | R28-04-F000 | **6B209** | 47.35 | **37.55** | 2.2 |
| | Regulator | 3/4 | 140 | — | — | 5.90 | 2.90 | R28-06-F000 | **6B208** | 47.35 | **37.55** | 2.1 |
| D | Lubricator | 3/8 | 140 | P | 6.11 | 9.36 | 2.90 | L28-03-LK00 | **6B271** | 57.65 | **45.85** | 1.9 |
| | Lubricator | 3/8 | 140 | M | 6.11 | 9.36 | 2.90 | L28-03-LL00 | **6D798** | 60.85 | **51.25** | 3.3 |
| | Lubricator | 1/2 | 150 | P | 6.11 | 9.36 | 2.90 | L28-04-LK00 | **6B270** | 57.65 | **45.85** | 1.9 |
| | Lubricator | 1/2 | 150 | M | 6.11 | 9.36 | 2.90 | L28-04-LL00 | **6D799** | 60.85 | **51.25** | 3.2 |
| | Lubricator | 3/4 | 170 | P | 6.11 | 9.36 | 2.90 | L28-06-LK00 | **6B269** | 57.65 | **45.85** | 2.0 |
| | Lubricator | 3/4 | 170 | M | 6.11 | 9.36 | 2.90 | L28-06-LL00 | **6D800** | 60.85 | **51.25** | 2.4 |
| E | Filter / Regulator | 3/8 | 125 | P | 6.11 | 11.44 | 2.90 | B28-03-FK00 | **6B311** | 79.00 | **62.65** | 3.1 |
| | Filter / Regulator | 3/8 | 125 | M | 6.11 | 11.44 | 2.90 | B28-03-FL00 | **6D759** | 82.20 | **69.70** | 2.9 |
| | Filter / Regulator | 1/2 | 130 | P | 6.11 | 11.44 | 2.90 | B28-04-FK00 | **6B310** | 79.00 | **62.65** | 3.1 |
| | Filter / Regulator | 1/2 | 130 | M | 6.11 | 11.44 | 2.90 | B28-04-FL00 | **6D760** | 82.20 | **69.70** | 2.9 |
| | Filter / Regulator | 3/4 | 140 | P | 6.11 | 11.44 | 2.90 | B28-06-FK00 | **6B309** | 79.00 | **62.65** | 3.1 |
| | Filter / Regulator | 3/4 | 140 | M | 6.11 | 11.44 | 2.90 | B28-06-FL00 | **6D761** | 82.20 | **69.70** | 2.9 |
| F | Filter+Regulator+Lubricator | 3/8 | 115 | P | 6.11 | 9.36 | 9.32 | C28-03-FKG0 | **6B302**† | 184.25 | **143.65** | 6.0 |
| | Filter+Regulator+Lubricator | 3/8 | 115 | M | 6.11 | 9.36 | 9.32 | C28-03-FLG0 | **6D768**† | 193.10 | **157.75** | 6.2 |
| | Filter+Regulator+Lubricator | 1/2 | 130 | P | 6.11 | 9.36 | 9.32 | C28-04-FKG0 | **6B301**† | 189.10 | **148.85** | 6.0 |
| | Filter+Regulator+Lubricator | 1/2 | 130 | M | 6.11 | 9.36 | 9.32 | C28-04-FLG0 | **6D769**† | 198.00 | **162.75** | 6.2 |
| | Filter+Regulator+Lubricator | 3/4 | 130 | P | 6.11 | 9.36 | 9.32 | C28-06-FKG0 | **6B300**† | 189.10 | **148.85** | 6.0 |
| | Filter+Regulator+Lubricator | 3/4 | 130 | M | 6.11 | 9.36 | 9.32 | C28-06-FLG0 | **6D770**† | 198.00 | **162.75** | 6.2 |
| G | Filter / Regulator+Lubricator | 3/8 | 115 | P | 6.11 | 11.44 | 6.10 | D28-03-FKG0 | **6B295**† | 158.40 | **127.40** | 4.7 |
| | Filter / Regulator+Lubricator | 3/8 | 115 | M | 6.11 | 11.44 | 6.10 | D28-03-FLG0 | **6D775**† | 167.25 | **136.30** | 5.5 |
| | Filter / Regulator+Lubricator | 1/2 | 130 | P | 6.11 | 11.44 | 6.10 | D28-04-FKG0 | **6B294**† | 158.40 | **127.40** | 4.7 |
| | Filter / Regulator+Lubricator | 1/2 | 130 | M | 6.11 | 11.44 | 6.10 | D28-04-FLG0 | **6D776**† | 167.25 | **136.30** | 5.5 |
| | Filter / Regulator+Lubricator | 3/4 | 130 | P | 6.11 | 11.44 | 6.10 | D28-06-FKG0 | **6B293**† | 158.40 | **127.40** | 4.7 |
| | Filter / Regulator+Lubricator | 3/4 | 130 | M | 6.11 | 11.44 | 6.10 | D28-06-FLG0 | **6D777**† | 167.25 | **136.30** | 5.5 |

(*) P = Polycarbonate w/bowl guard. M= Metal. (†) Mounting bracket included. (‡) Filter/Lubricators: CFM based on 100 PSIG inlet and 5 PSIG pressure drop. Coalescing Filter: CFM based on 100 PSIG with a 1 PSIG pressure drop. Regulator and Combination Units: CFM flow measured with 100 PSIG inlet adjusted to a set pressure of 90 PSI and a 1 5PSIG pressure drop. (**) Combination units: polycarbonate bowls 150 PSI max., metal bowls 250 PSI max.

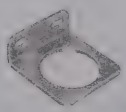


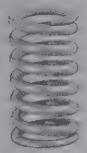
System components or tools — We're your one source for pneumatics.

# ACCESSORIES FOR STANDARD "28" SERIES FRL'S AND REPLACEMENT FILTER ELEMENTS


A


C

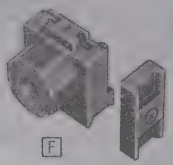

E


G


H


B


D


F

## MODULAR ACCESSORIES FOR "28" SERIES SPECIFICATIONS AND ORDERING DATA

| Key | Description | Oper. Pressure Range (PSI) | Pipe Size NPT (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Modular Unit Connector | — | — | GPA-96-601 | **6B247** | $4.25 | **$3.61** | 0.4 |
| B | Mounting Bracket Used With 6B247 | — | — | GPA-96-602 | **6B246** | 6.10 | **5.32** | 0.1 |
| C | Modular Connecting Mounting Bracket | — | — | GPA-96-603 | **6B245** | 9.20 | **7.70** | 0.4 |
| D | Filter/Lub. Wall Mounting Bracket | — | — | GPA-96-605 | **6B243** | 8.50 | **7.19** | 0.2 |
| E | Regulator Wall Mounting Bracket | — | — | GPA-96-607 | **6B241** | 6.10 | **5.21** | 0.2 |
| F | End-Block Connectors | — | 1/4 | GPA-96-610 | **6B238** | 8.40 | **7.22** | 0.7 |
| | | — | 3/8 | GPA-96-611 | **6B237** | 8.40 | **7.24** | 0.6 |
| | | — | 1/2 | GPA-96-612 | **6B236** | 8.40 | **7.24** | 0.6 |
| | | — | 3/4 | GPA-96-613 | **6B235** | 8.40 | **7.24** | 0.6 |
| G | Regulating Spring Kits | 0-25 | — | RRP-96-614 | **4KR97** | 4.30 | **3.82** | 0.3 |
| | | 0-60 | — | RRP-96-615 | **4KR98** | 4.30 | **3.82** | 0.4 |
| | | 0-250 | — | RRP-96-625 | **4KR99** | 6.40 | **5.78** | 0.3 |

## PRESSURE GAUGE SPECIFICATIONS AND ORDERING DATA

| Key | Description | Oper. Pressure Range (PSI) | Pipe Size NPT (In.) | Ametek Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| H | Pressure Gauge | 0-160 | 1/4 | P500K-160CBM | **1X762** | $16.00 | **$6.00** | 0.3 |

## REPLACEMENT FILTER ELEMENTS FOR "28" SERIES FILTERS ORDERING DATA

| Description | For Use With | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Air Filter** | 6B282, 6B283, 6B284, 6B293, 6B294, 6B295, 6B300, 6B301, 6B302, 6B309, 6B310, 6B311, 6D759, 6D760, 6D761, 6D768, 6D769, 6D770, 6D775, 6D776, 6D777, 6D785, 6D786, 6D787 | FRP-96-653 | **6B230** | $7.40 | **$6.31** | 0.2 |
| **Oil Removal Coalescing Filter** | 6B258, 6B259, 6B260, 6D809, 6D810, 6D811 | MSP-96-649 | **6B231** | 15.75 | **12.16** | 0.2 |

## AUTOMATIC FLOAT DRAIN

Converts manual drain on filter to automatic drain. The normally-open float operated drain automatically discharges liquids from the bowl when liquids reach a predetermined level. Fits 18, 28, 30 and 38 series. Wilkerson model (GRP-95-973).

**No. 6B251.** Shpg. wt. 0.1 lbs.
List $19.20. Each.....$16.63



WILKERSON

No. 6B251

## REPLACEMENT FILTER ELEMENTS FOR WILKERSON F00, F16, CB6, F26, M16, AND M26 SERIES AIR

### REPLACEMENT FILTER ELEMENTS ORDERING DATA

| Wilkerson Series | For Use With | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | | **FILTER ELEMENTS** | | | | |
| **F00, Mini** | 6Z951, 6Z953, 6Z954, 6Z957 | FRP-95-235 | **6ZC88** | $3.30 | **$2.36** | 0.3 |
| **F16, CB6, Compact Size** | 6Z510, 6Z511, 6Z525, 6Z526, 6ZC78, 6ZC79 | FRP-95-160 | **6ZC89** | 8.25 | **6.97** | 0.3 |
| **F26, Standard Size** | 6Z512, 6Z513, 6Z514 | FRP-95-115 | **6ZC90** | 8.25 | **5.87** | 0.3 |
| | | **OIL REMOVAL FILTER ELEMENTS** | | | | |
| **M16, Compact Size** | 6ZC82, 6ZC83, 6ZC84 | MSP-95-988 | **6ZC91** | 14.90 | **9.14** | 0.1 |
| **M26, Standard Size** | 6ZC85, 6ZC86, 6ZC87 | MSP-95-989 | **6ZC92** | 15.75 | **11.53** | 0.3 |

# JUMBO "30" & "35" SERIES AIR LINE FILTERS, REGULATORS AND LUBRICATORS




## JUMBO "30" SERIES

### AIR LINE FILTERS

- Air filters have 5-micron filter element
- Coalescing elements are 0.5 micron
- Bowl guards standard on polycarbonate units
- Coalescing filters have differential pressure indicator
- Temp: Metal bowl - 175°F (79°C)
  Polycarb. Bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 200 PSI
  Polycarb. Bowl - 150 PSI

### AIR LINE REGULATORS

- Adjustment from 10-125 PSI
- Self-relieving
- Two 1/4" NPT gauge ports
- High flow capacity
- Max. Inlet Pressure - 300 PSI
- Max. Temp. - 175°F (79°C)

### AIR LINE LUBRICATORS

- Full view sight dome
- Fill under pressure
- Adjustable oil feed
- Temp: Metal bowl - 175°F (79°C)
  Polycarb. Bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 200 PSI
  Polycarb. Bowl - 150 PSI

| Key | Description | Pipe Size NPT (In.) | CFM† | Bowl Type* | Bowl Size (Oz.) | Height (In.) | Width (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Filter | 3/4 | 260 | P | 26.0 | 9.80 | 4.80 | F30-06-000 | **6B281** | $102.25 | **$84.35** | 5.5 |
| | Filter | 3/4 | 260 | M | 26.0 | 9.80 | 4.80 | F30-06-G00 | **6D788** | 120.90 | **102.10** | 6.0 |
| | Filter | 1 | 280 | P | 26.0 | 9.80 | 4.80 | F30-08-000 | **6B280** | 102.25 | **84.35** | 5.5 |
| | Filter | 1 | 280 | M | 26.0 | 9.80 | 4.80 | F30-08-G00 | **6D789** | 120.90 | **102.10** | 6.0 |
| B | Oil Removal Coalescing Filter | 3/4 | 140 | P | 26.0 | 10.80 | 4.80 | M30-06-S00 | **6B257** | 151.80 | **120.20** | 5.4 |
| | Oil Removal Coalescing Filter | 3/4 | 140 | M | 26.0 | 10.50 | 4.80 | M30-06-MS0 | **6D812** | 188.35 | **160.50** | 6.0 |
| | Oil Removal Coalescing Filter | 1 | 160 | P | 26.0 | 10.80 | 4.80 | M30-08-S00 | **6B256** | 151.80 | **120.20** | 5.4 |
| | Oil Removal Coalescing Filter | 1 | 160 | M | 26.0 | 10.50 | 4.80 | M30-08-MS0 | **6D813** | 188.35 | **160.50** | 6.0 |
| C | Regulator | 3/4 | 470 | — | — | 10.30 | 4.30 | R30-06-000 | **6B207** | 90.20 | **70.75** | 6.0 |
| | Regulator | 1 | 500 | — | — | 10.30 | 4.30 | R30-08-000 | **6B206** | 90.20 | **70.75** | 5.7 |
| | Regulator | 1¼ | 800 | — | — | 10.30 | 4.30 | R30-0A-000 | **6B205** | 111.20 | **86.80** | 5.3 |
| D | Lubricator | 3/4 | 170 | P | 26.0 | 10.34 | 4.79 | L30-06-000 | **6B268** | 103.00 | **88.95** | 6.0 |
| | Lubricator | 3/4 | 170 | M | 26.0 | 10.90 | 4.79 | L30-06-G00 | **6D801** | 121.60 | **106.95** | 6.0 |
| | Lubricator | 1 | 340 | P | 26.0 | 10.34 | 4.79 | L30-08-000 | **6B267** | 103.00 | **88.95** | 6.0 |
| | Lubricator | 1 | 340 | M | 26.0 | 10.90 | 4.79 | L30-08-G00 | **6D802** | 121.60 | **106.95** | 6.0 |

(*) P=Polycarbonate with bowl guard, M= Metal. (†) For explanation of CFM rating, see page 2926.

## JUMBO "35" SERIES FILTERS

- Air filters have 5 micron filter element
- Coalescing elements are 0.5 micron
- Manual drain
- Differential pressure indicator
- 1/2" NPT drain port works with 5Z617 auto drain
- Temp: Metal bowl - 150°F (65°C)
- Max. PSI: 150 PSI

| Key | Description | Pipe Size NPT (In.) | CFM† | Bowl Type* | Bowl Size (Oz.) | Height (In.) | Width (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E | Filter | 1½ | 1050 | M | 120.0 | 19.07 | 7.80 | F35-0B-000 | **6B279** | $373.90 | **$306.50** | 19.3 |
| | Filter | 2 | 1180 | M | 120.0 | 19.07 | 7.80 | F35-0C-000 | **6B278** | 373.90 | **306.50** | 19.3 |
| F | Oil Removal Coalescing Filter | 1½ | 780 | M | 120.0 | 19.07 | 7.80 | M35-0B-S00 | **6B255** | 576.80 | **479.25** | 19.3 |
| | Oil Removal Coalescing Filter | 2 | 780 | M | 120.0 | 19.07 | 7.80 | M35-0C-S00 | **6B254** | 576.80 | **479.25** | 19.3 |

(*) M=Metal. (†) For explanation of CFM rating, see page 2926.

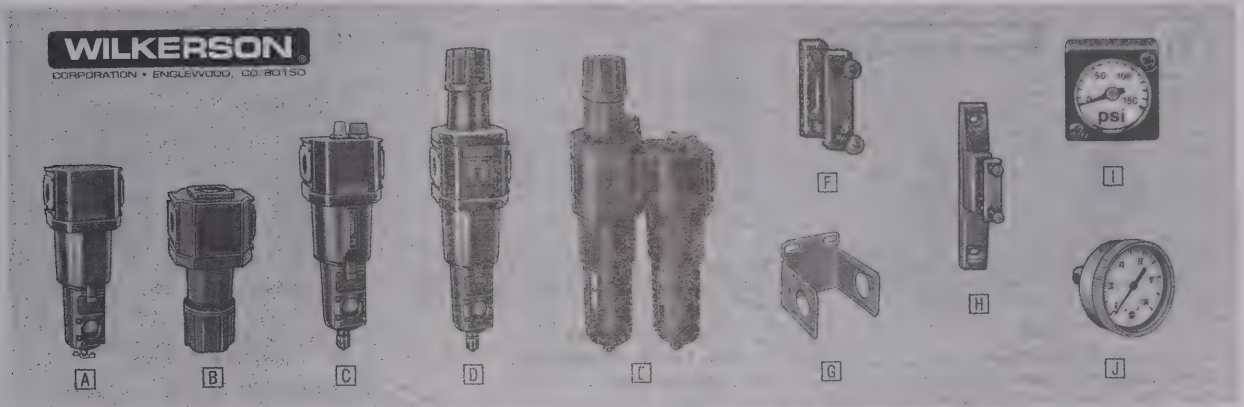
### REPLACEMENT FILTER ELEMENTS FOR "30" & "35" SERIES

| Description | For Use On Stock Nos. | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Air Filter** | 6B280, 6B281, 6D788, 6D789 | FRP-95-209 | **6B252** | $17.70 | **$17.58** | 0.2 |
| | 6B278, 6B279 | FRP-95-505 | **6B249** | 32.10 | **27.15** | 0.2 |
| **Oil Removal Coalescing Filters** | 6B257, 6B256, 6D812, 6D813 | MSP-95-992 | **6B248** | 31.35 | **24.20** | 0.4 |
| | 6B254, 6B255 | MSP-95-502 | **6B250** | 130.70 | **106.40** | 1.3 |



*System components or tools — We're your one source for pneumatics.*

# JUMBO "38" SERIES MODULAR AIR LINE FILTERS, REGULATORS AND LUBRICATORS




### AIR LINE FILTERS

- Air filters have 5-micron filter element
- Manual drain
- Temp: Metal bowl - 125°F (52°C)
  Polycarb. bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 150 PSI
  Polycarb. Bowl - 150 PSI

### AIR LINE REGULATORS

- Adjustment from 0-125 PSI
- 1/4" gauge ports
- Max. Inlet Pressure - 300 PSI
  (Does not apply to combo units)
- Max. Temp. - 175°F (79°C)
  (Does not apply to combo units)

### AIR LINE LUBRICATORS

- Temp: Metal bowl - 125°F (52°C)
  Polycarb. bowl - 125°F (52°C)
- Max. PSI: Metal bowl - 150 PSI
  Polycarb. bowl - 150 PSI

## JUMBO "38" SERIES—MODULAR DESIGN SPECIFICATIONS AND ORDERING DATA

| Key | Description | Pipe Size NPT (In.) | CFM† | Bowl Type* | Bowl Size (Oz.) | Height (In.) | Width (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Filter | 3/4 | 275 | P | 19.0 | 11.06 | 3.94 | F38-06-SK00 | **6B277** | $94.25 | **$77.25** | 3.0 |
| | Filter | 3/4 | 275 | M | 19.0 | 10.67 | 3.94 | F38-06-SL00 | **6D790** | 104.85 | **89.35** | 3.1 |
| | Filter | 1 | 320 | P | 19.0 | 11.06 | 3.94 | F38-08-SK00 | **6B276** | 94.25 | **77.25** | 2.9 |
| | Filter | 1 | 320 | M | 19.0 | 10.67 | 3.94 | F38-08-SL00 | **6D791** | 104.85 | **89.35** | 3.1 |
| B | Regulator | 3/4 | 500 | — | — | 7.83 | 3.94 | R38-06-F000 | **6B204** | 83.10 | **68.10** | 3.6 |
| | Regulator | 1 | 500 | — | — | 7.83 | 3.94 | R38-08-F000 | **6B203** | 83.10 | **68.10** | 3.6 |
| C | Lubricator | 3/4 | 280 | P | 19.0 | 11.11 | 3.94 | L38-06-LK00 | **6B266** | 94.65 | **77.25** | 3.1 |
| | Lubricator | 3/4 | 280 | M | 19.0 | 10.67 | 3.94 | L38-06-LL00 | **6D803** | 105.25 | **89.35** | 3.1 |
| | Lubricator | 1 | 420 | P | 19.0 | 11.11 | 3.94 | L38-08-LK00 | **6B265** | 94.65 | **77.25** | 3.1 |
| | Lubricator | 1 | 420 | M | 19.0 | 10.67 | 3.94 | L38-08-LL00 | **6D804** | 105.25 | **89.35** | 3.1 |
| D | Filter / Regulator | 3/4 | 340 | P | 12.67 | 16.02 | 3.94 | B38-06-FK00 | **6B308** | 188.80 | **152.00** | 4.5 |
| | Filter / Regulator | 3/4 | 340 | M | 12.67 | 16.02 | 3.94 | B38-06-FL00 | **6D762** | 190.90 | **159.25** | 5.3 |
| | Filter / Regulator | 1 | 340 | P | 12.67 | 16.02 | 3.94 | B38-08-FK00 | **6B307** | 188.80 | **152.00** | 4.5 |
| | Filter / Regulator | 1 | 340 | M | 12.67 | 16.02 | 3.94 | B38-08-FL00 | **6D763** | 190.90 | **159.25** | 5.3 |
| E | Filter / Regulator+Lubricator | 3/4 | 340 | P | 12.67 | 16.02 | 7.88 | D38-06-FK00 | **6B292** | 308.85 | **235.00** | 7.8 |
| | Filter / Regulator+Lubricator | 3/4 | 340 | M | 12.67 | 16.02 | 7.88 | D38-06-FL00 | **6D778** | 321.55 | **254.00** | 9.1 |
| | Filter / Regulator+Lubricator | 1 | 340 | P | 12.67 | 16.02 | 7.88 | D38-08-FK00 | **6B291** | 308.85 | **235.00** | 7.8 |
| | Filter / Regulator+Lubricator | 1 | 340 | M | 12.67 | 16.02 | 7.88 | D38-08-FL00 | **6D779** | 321.55 | **254.00** | 9.1 |

(*) P=Polycarbonate w/bowl guard. M=Metal. (†) For explanation of CFM rating, see page 2926.

## REPLACEMENT FILTER ELEMENT FOR "38" SERIES FILTERS ORDERING DATA

| Description | For Use With | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Air Filter** | 6B276, 6B277, 6B291, 6B292, 6B307, 6B308, 6D762, 6D763, 6D778, 6D779, 6D790, 6D791 | FRP-96-692 | **6B228** | $32.40 | **$17.49** | 0.2 |

## MODULAR ACCESSORIES FOR "38" SERIES ORDERING DATA

| Key | Description | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| F | Modular Unit Connectors | GPA-96-616 | **6B234** | $10.00 | **$6.63** | 0.2 |
| G | Wall Mount Bracket | GPA-96-609 | **6B239** | 12.35 | **5.66** | 0.8 |
| H | Modular Connecting | GPA-96-608 | **6B240** | 19.20 | **12.69** | 0.4 |

## PRESSURE GAUGE ORDERING DATA

| Key | Description | Pipe Size NPT (In.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| I | 0-160 PSI Pressure Gauge | — | GRP-96-719 | **6B226** | $8.90 | **$7.34** | 0.1 |
| J | 0-160 PSI Pressure Gauge | 1/4 | P500K-160CBM | **1X762** | 16.00 | **6.00** | 0.3 |

# MINI REGULATORS, BRASS FILTER/REGULATORS AND EXHAUST SILENCER MIST ELIMINATOR



No. 6Z952
Mini Regulator



No. 6B217
Brass Regulator

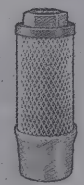


No. 6Z953
Brass Filter/Regulator

Exhaust Silencer Mist Eliminators



No. 4B508



No. 4B507



No. 4B416

### MINI REGULATOR

- 1/8" AND 1/4" NPT
- Adjustment from 5-125 PSI
- Small lightweight design
- Non-rising locking adjustment knob
- 1/8" NPT gauge port

### BRASS REGULATOR AND FILTER/REGULATOR

- 1/8" and 1/4" NPT
- 1/8" NPT gauge port
- Non-rising locking adjustment knob
- Includes panel nut
- Adjustment from 5-125 PSI
- Air only

### XMC EXHAUST SILENCER MIST ELIMINATOR

- Port sizes 1/2" NPT to 1½" NPT
- Flow capacity to 250 CFM
- Meets OSHA noise reduction requirements of <90dBA
- 1/4" slip-on drain tube fitting
- Vertical mounting only

| Description | Pipe Size NPT (In.) | Max. CFM | Max. PSI | Max. Temp. (°F) | Bowl Size (Oz.) | Height (in.) | Width (in.) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MINIATURE REGULATOR UNITS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | |
| **Regulator** | 1/8 | 17 | 300 | 175 | — | 3.29 | 1.50 | R00-01-000 | **6Z952** | $16.00 | **$12.58** | 0.5 |
| **Regulator** | 1/4 | 24 | 300 | 175 | — | 3.29 | 1.50 | R00-02-000 | **6Z955** | 16.00 | **12.58** | 0.5 |
| **BRASS REGULATOR AND FILTER/REGULATOR UNITS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | |
| **Regulator** | 1/8 | 36 | 300 | 175 | — | 3.42 | 1.50 | R04-01-000 | **6B217** | 20.50 | **15.96** | 0.7 |
| **Regulator** | 1/4 | 36 | 300 | 175 | — | 3.42 | 1.50 | R04-02-000 | **6B216** | 20.50 | **15.96** | 0.6 |
| **Filter / Regulator** | 1/8 | 17 | 150 | 125 | 0.5 | 5.81 | 1.50 | C04-01-B00 | **6Z953** | 40.85 | **33.00** | 0.7 |
| **Filter / Regulator** | 1/4 | 24 | 150 | 125 | 0.5 | 5.81 | 1.50 | C04-02-B00 | **6Z957** | 40.85 | **32.55** | 0.7 |
| **ACCESSORIES FOR MINI REGULATOR AND BRASS UNITS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | |
| **Mounting Bracket** | — | — | — | — | — | — | — | GRP-95-147 | **6B253** | 2.75 | **2.35** | 0.1 |
| **Pressure Gauge** | 1/8 | — | — | — | — | 1.59 | 1.86 | P500K-160CBM* | **1X802** | 18.00 | **7.65** | 0.2 |
| **Pressure Gauge** | 1/4 | — | — | — | — | 1.59 | 1.86 | P500K-160-CBM | **1X762** | 16.00 | **6.00** | 0.3 |
| **EXHAUST SILENCER MIST ELIMINATOR UNITS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | |
| **Exhaust Silencer** | 1/2 | 65 | 12 | 36-122 | — | 3.94 | 2.36 | XMC-04-000 | **4B508** | 51.20 | **42.05** | 0.3 |
| **Exhaust Silencer** | 1 | 110 | 12 | 36-122 | — | 5.83 | 2.36 | XMC-08-000 | **4B507** | 72.00 | **59.15** | 0.4 |
| **Exhaust Silencer** | 1½ | 200 | 12 | 36-122 | — | 8.19 | 3.42 | XMC-0B-000 | **4B416** | 91.15 | **75.20** | 0.4 |

(*) Ametek Brand

## IN-LINE LUBRICATOR



- Can be installed directly in inlet of air tool to produce a fine oil mist
- Mount in any position

Feature 1/4 oz. reservoir which holds enough lubricant to last an 8-hour shift. Cannot be filled while air pressure is on. No adjustments to tamper with; lubricates in any position. Maximum inlet port pressure is 200 PSI. Maximum temperature is 175°F. 22 CFM flow rating, Available in ¼ and ⅜" NPT female inlet and male outlet pipe connections. Wilkerson brand.

| Female Inlet (In.) | Male Outlet (In.) | Length (In.) | Hex (In.) | Maximum Pressure | Maximum Temp. (°F) | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1/4 | 3 | 1⅛ | 200 PSI | 175 | L01-02-M00 | **1A260** | $25.30 | **$19.13** | 0.2 |
| **3/8** | 3/8 | 3 | 1⅛ | 200 | 175 | L01-03-000 | **1A261** | 25.30 | **19.13** | 0.3 |

## IN-LINE FILTER



- Lightweight • 200 PSI max.
- Flow capacity to 17 CFM at 100 PSI
- 5 Micron filter element • 1/4" NPT

**No. 6B290.** Shpg. wt. 0.1lbs. List $16.80. Each ..... **$11.96**

## Flow Control Valves

The flow control valve combines a needle valve and a check valve parallel to each other in one housing. This allows for free flow in one direction, and metered flow in the other. Metered flow is indicated by an arrow on the side of the housing. Flow control valves are used to control the speed of a cylinder or air motor. The valves are mounted so that the arrow is pointing away from the cylinder or motor, so that it is metering flow on the exhaust. Helpful hint, "When in doubt, meter out".

**Types of Flow Controls:**

**In-Line** - Either piped directly to the port(s) of cylinder/motor or on the air line. Example, No. 4A788 or 6ZC07.

**Right Angle** - Designed to screw directly on to the porting of cylinder/motor. Most compact method, and precise. Example, No 2F847.

**Exhaust Port** - Mount directly to the exhaust port on the directional control valve. Easier to make adjustment, also doubles as exhaust silencer. Least precise control. Example, No. 6X368

## Shuttle Valve

The shuttle valve is a 3-way valve which accepts either or both of two inputs and provides one output. If a tee were used in place of the shuttle valve, the air pressure from the right inlet port could escape through the left port and through the exhaust of another valve. Example, No. 2G635.

## Quick Exhaust Valve

The quick exhaust valve is a 3-way valve that provides quick release of exhaust air in a cylinder. The valve is used to achieve maximum cylinder speeds in double acting cylinders by reducing the restriction of the exhaust air. Example, No. 4KP81.

## Directional Control Valves

**3-Way, 2-Position directional control valve** contains three working ports, provides two flow paths, and has two operating positions. This type of valve is used on single acting cylinders or air system that require that the equipment not be under pressure when not energized. The valve can be set up in two configurations; Normally Passing and Normally Non-Passing.

A **Normally Passing** - In the valves normal position, port 1(generally the inlet port) is open or flows to port 2(generally the working port), and port 3(generally the exhaust port) is blocked. When the valve is shifted to the second position, port 1 is now blocked, and port 2 is open or exhausts to port 3. Example, No. 2G499.

B **Normally Non-Passing** - Port 1 is blocked, and port 2 is open or exhausting to port 3. When the valve is shifted to the second position, port 1 is open or flows to port 2, and port 3 is blocked. Example, No. 2G487.

Some 3-Way, 2-Position valves can be used for both normally passing and non-passing. Example, No. 2F893.

**4-Way Direction control valve** contains either four or five working ports (depending on the design), provides four flow paths, and is available in either 2 or 3 positions.

C **A 4-Way, 2-Position valve works as follows:**

In the normal position of the valve, port 1 is open or flows to port 2, port 3 is blocked, and port 4 is open or exhaust to port 5. When the valve is shifted to the second position, port 1 is now open or flows to port 4, port 5 is blocked, and port 2 is open or exhausts to port 3. Example, No. 2F985.

D and E **A 4-Way, 3-Position valve** works the same way accept it has a center neutral position where the inlet port 1 is blocked, and the two working ports 2 and 4 can be set up into two configurations of all ports blocked or cylinder port open. All ports blocked configuration means that in the neutral position all ports are blocked and the valve will not pass any air. In the cylinder ports open configuration, ports 2 and 4 are open or exhaust to ports 3 and 5. Example, No. 2G451.

**The valves can be shifted by four types of actuators; Manual, Mechanical, Pilot, or Solenoid:**

**Manual actuators** are any device which is controlled directly by the operator, and come in a wide range of styles from hand lever, push button, and foot. Example, Nos. 2F931, 2F933, or 2G525.

**Mechanical actuator** is any actuating device triggered by another mechanical drive, such as a roller cam or limit arm. Example, Nos. 2F895 or 2F919.

**Pilot actuator** receives a pneumatic signal from another valve to shift the spool in the valve. These valves are normally used as a power valve receiving their signals from smaller limit valves. Example, No. 2F957.

**Solenoid valves** receive an electrical current to the solenoid to shift the spool. Solenoid valves are available in two types: direct acting and solenoid pilot or pilot operated.

On direct acting solenoid valves the solenoid in mechanically connected to the main valve spool. When the solenoid coil is energized the spool is shifted due to mechanical connection. Example, No. 2G487.

**Solenoid pilot operated valves,** the solenoid is attached to a small pilot valve which when energized sends a pilot signal to end of the main spool shifting the spool. The advantages of the pilot valve are that it reduces the chance of solenoid burn-out if the valve spool should stick, and reduces the size of the valve since only a small solenoid is needed to open up the pilot port. Pilot operated valves do require a minimum inlet pressure so that the valve can shift. Example, Nos. 2G627, 2F985, and 2G585.

2-Position valves can either have manual actuator to shift the valve into both position or returned to the original position by some sort of spring force. 3-Position being the same with the neutral position being the center position.

**Valve body configurations come in two types; Body Ported or Manifold:**

**Body ported** valves have threaded ports in the body of the valve to which plumbing connections are made.

**Manifold mounting** is a method of mounting several valves side-by-side using a common air supply.

## Cylinders

**Single acting cylinders** are any cylinder which uses air on only one stroke, and uses some other means, usually a spring, to move the piston on the other stroke or back to it's original position.

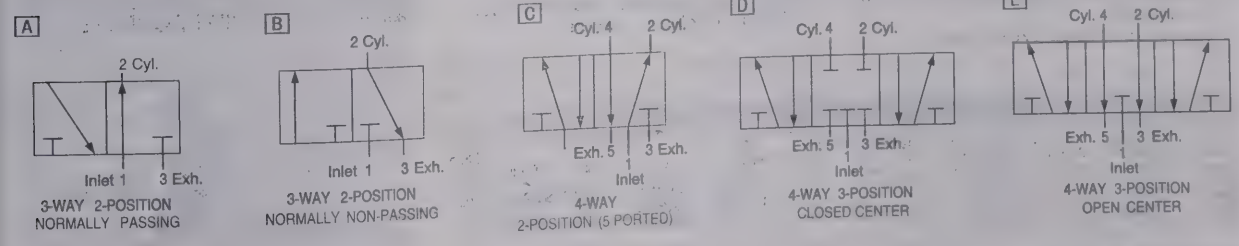
**Double acting cylinders** are cylinders designed to use air to extend and retract the piston.

**Bore** is the inside diameter of the cylinder.

**Stroke** is the length that the piston rod travels.

**Force** is the mechanical pressure that the piston can develop. Force can be calculated by F= Area x PSI.

## PORT CONFIGURATIONS



# FLOW CONTROL VALVES

## FLOW CONTROL AIR VALVES

- Used in pneumatic systems to control actuator speed by acting as a restriction
- Brass body construction with stainless steel needles and ball check
- Two-stage needle provides fine adjustment over the first turns, and nominal adjustments over the last turns
- Set screw secures selected needle position
- Knurled adjustment knob
- Integral needle stop prevents accidental removal of needle from body
- Rated for 2000 PSI max. (non-shock)
- Parker brand




### FLOW CONTROL AIR VALVE SPECIFICATIONS AND ORDERING DATA

| NPT Thread (In.) | Cv* | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 | 0.31 | PF 200B | 4A788 | $16.96 | $12.39 | 0.3 |
| 1/4 | 0.78 | PF 400B | 4A789 | 22.25 | 16.55 | 0.5 |
| 3/8 | 1.23 | PF 600B | 4A790 | 29.13 | 21.94 | 0.8 |
| 1/2 | 1.85 | PF 800B | 4A791 | 41.19 | 31.20 | 1.3 |

(*) Coefficient of volume: The amount of water in GPM at standard conditions, which will pass through the valve at full open with a 1 PSI pressure drop.

## THERMOPLASTIC FLOW CONTROL AIR VALVES

**Thermoplastic flow control valves** constructed of glass reinforced thermoplastic with zinc plated steel inserts in pipe ports. Four-stage needle for accurate and efficient cylinder speed control. Provides infinite control setting from full-close to full-open. Color coded micrometer and calibrated adjustment knob provides visual reference point for repetitive setting. Standard ring lock keeps adjustment from accidentally moving. Push down to lock, pull up to adjust. Pressure rating of 200 PSI. 0° to 200°F operating temperature. ARO brand.

### SPECIFICATIONS AND ORDERING DATA

| NPT Size (In.) | Aro Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/8 | F01 | 6ZC07 | $14.25 | $10.90 | 0.2 |
| 1/4 | F02 | 6ZC08 | 17.00 | 14.06 | 0.2 |
| 3/8 | F03 | 6ZC09 | 21.50 | 19.00 | 0.4 |
| 1/2 | F04 | 6ZC10 | 26.75 | 23.99 | 0.4 |

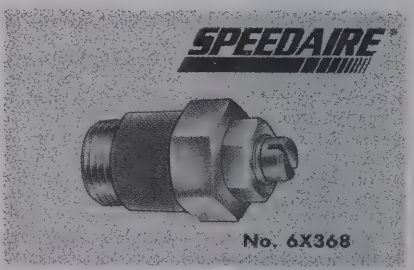



## EXHAUST PORT FLOW CONTROL

**Fits into exhaust port of valves or cylinders** to control speed. Adjustable orifice of port flow control throttles cylinder or valve exhaust and develops back pressure that acts to reduce speed of stroke. Solid, single piece body and screw construction and full size adjustment locking nut hold selected speed setting. Adjusting screw, body, and locking nut are brass. 0 to 250 PSI operating pressure. -65° to +300°F operating temperature.

### SPECIFICATIONS AND ORDERING DATA

| Port Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1/4 | 6X368 | $11.17 | $10.20 | 0.1 |
| 3/8 | 6X369 | 12.25 | 11.19 | 0.1 |
| 1/2 | 1A246 | 15.75 | 14.35 | 0.2 |

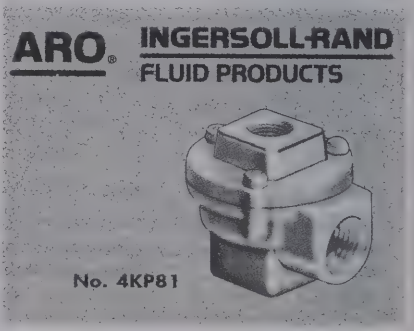



## QUICK EXHAUST VALVES

- Provides quick release of exhaust air at cylinder
- Speeds operation cycle time
- Eliminates need for large diameter piping or selector valves

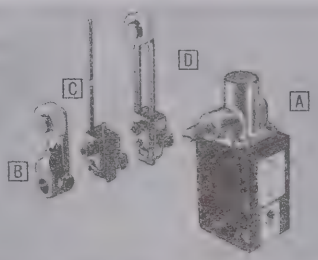
### SPECIFICATIONS AND ORDERING DATA

| Inlet Port (In.) | Cylinder Port (In.) | Exhaust Port (In.) | Pressure Range (PSI) | Dimensions (In.) L | W | H | ARO Model | No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 1/8 | 1/4 | 1-125 | 1.5 | 1.7 | 1.5 | EV125 | 4KP81 | $24.50 | $22.27 | 0.2 |
| 1/4 | 1/4 | 3/8 | 1-125 | 2.2 | 2.2 | 2.1 | EV250 | 4KP82 | 26.50 | 24.21 | 0.3 |
| 3/8 | 3/8 | 3/8 | 1-125 | 2.2 | 2.2 | 2.1 | EV375 | 4KP83 | 25.50 | 23.26 | 0.3 |



## HEAVY-DUTY LIMIT VALVES

**ARO 2-position, 3-way valves** for position sensing in demanding applications. Valves can be plumbed as normally passing or normally non-passing, selector, or any 2-way function. Available with clockwise actuation, counterclockwise actuation or both. Operating head can be rotated to any of four positions for various applications. Prelubed, can be operated without air line lubrication. Composite body for tough environments like car washes and wash-down applications. 30 to 150 PSI operating pressure. Cv*=0.195. ARO brand.




ARO
INGERSOLL-RAND
FLUID PRODUCTS

Replacement Parts Available
1-800-323-0620

### HEAVY-DUTY LIMIT VALVE SPECIFICATIONS AND ORDERING DATA

| Key | Port Size NPT (In.) | Actuator/ Return | Actuator Direction | Max. Temp. Range | Max. Operating Pressure | CFM† | Cv* | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/8 | Roller Lever/Spring | Clockwise only | 32-160°F | 150 PSI | 7.5 | 0.195 | 1 1/4 | 2 9/16 | 3 27/32 | 400-A | 2F919 | $64.50 | $60.40 | 0.8 |
| | 1/8 | Rod Lever/Spring | Counterclockwise only | 32-160° | 150 | 7.5 | 0.195 | 1 1/4 | 2 9/16 | 3 27/32 | 401-A | 2F921 | 64.50 | 60.40 | 0.8 |
| | 1/8 | Adj. Roller Lever/Spring | Both | 32-160° | 150 | 7.5 | 0.195 | 1 1/4 | 2 9/16 | 3 27/32 | 402-A | 2F923 | 64.50 | 60.40 | 0.7 |

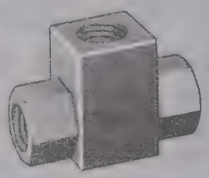
(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with 1 PSI pressure drop. (†) 90 PSI supply, 15 PSI drop.

### VALVE ACTUATOR SPECIFICATIONS AND ORDERING DATA

| Key | Description | Actuator Force Req'd. (Lbs.) | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| B | Nylon Roller | 2.5 | 1 1/8 | 1/2 | 2 9/16 | 447 | 2F925 | $17.50 | $16.45 | 0.1 |
| C | Rod Lever | 0.7 | 1 1/8 | 7/8 | 5 5/8 | 449 | 2F927 | 25.00 | 22.19 | 0.1 |
| D | Adjustable Roller Lever | 1.3 | 1 1/8 | 3/4 | 3 7/8 | 450 | 2F929 | 26.50 | 23.94 | 0.1 |

## SHUTTLE VALVES

**ARO shuttle valves act as special check valves,** connecting two inputs so only one is "ON" at a time. Valves features two inlet ports and one outlet port. Check ball moves away from inlet port with the greatest pressure and against the port with the least pressure (minimum pressure differential of 10 PSIG necessary to effect shuttle change). ARO brand.



ARO
INGERSOLL-RAND
FLUID PRODUCTS

Replacement Parts Available
1-800-323-0620

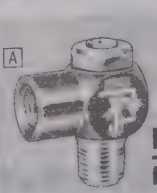
### SHUTTLE VALVE SPECIFICATIONS AND ORDERING DATA

| Port Size NPT (In.) | Max. Operating Pressure | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 200 PSI | 1 1/4 | 5/8 | 31/32 | SV10-B | 2G635 | $24.75 | $23.14 | 0.1 |
| 1/4 | 200 | 1 7/8 | 7/8 | 1 5/16 | SV20-B | 2G637 | 33.50 | 31.45 | 0.3 |

## FLOW CONTROL VALVES

**Right angle flow control valves** for mounting directly onto cylinder for precise control of cylinder speed. Adjust with screwdriver to increase or decrease speed. Rugged, all metal design includes nickel-plated brass body, anodized aluminum swivel and stainless steel spring for optimum corrosion resistance. Available in female threads (NPT) and convenient push-to-connect tube fittings.

Features dry thread sealant on male threads to eliminate need for piping tape. Full 360° rotation for tubing alignment. 0 to 150 PSI operating pressure range. 15 to 160°F temperature range. ARO brand.



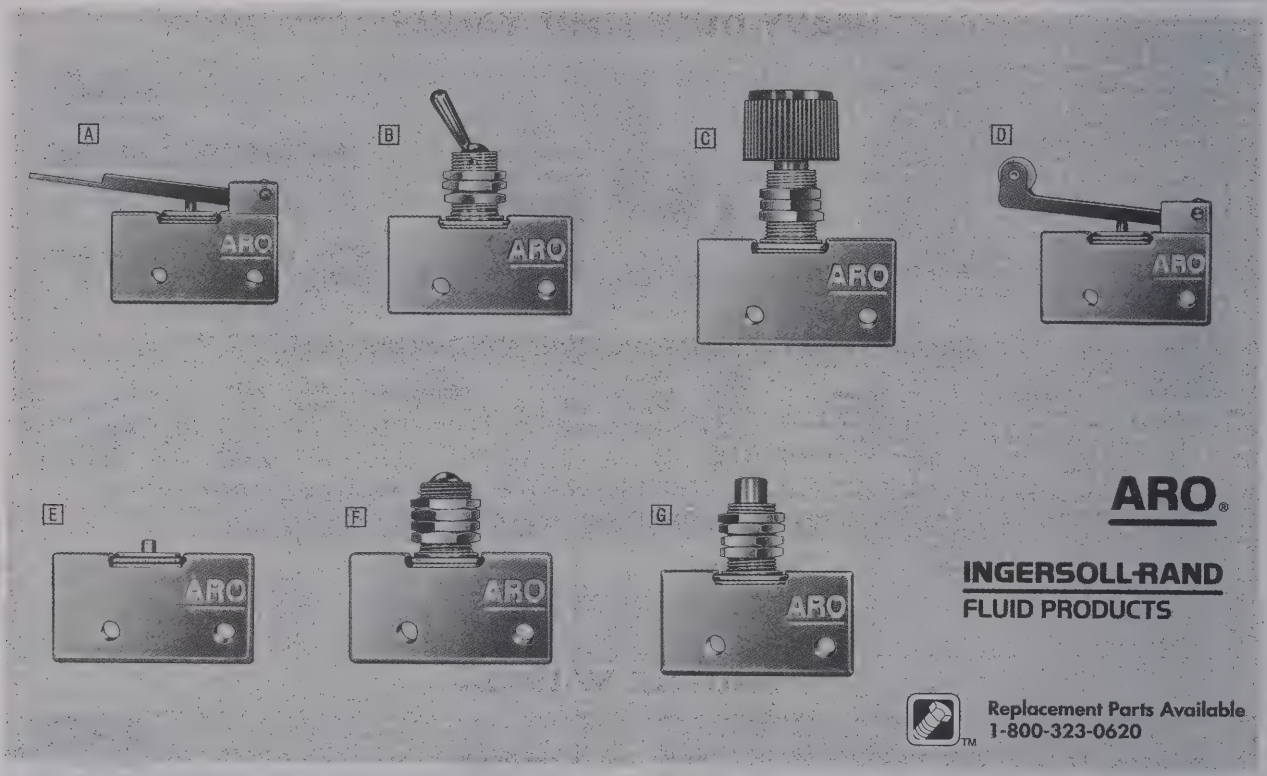

ARO
INGERSOLL-RAND
FLUID PRODUCTS




| Key | Male Port NPT | Female Port | Max. Temp. Range (°F) | Maximum Operating Pressure (PSI) | Cv* | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 10-32 | 10-32 NPT | 0-180 | 150 | 0.06 | 53/64 | 7/16 | 53/64 | 119307-103 | 2F847 | $10.00 | $9.36 | 0.1 |
| A | 1/8 | 1/8 NPT | 0-180 | 150 | 0.34 | 1 17/64 | 19/32 | 1 3/64 | 119307-125 | 2F849 | 12.00 | 11.08 | 0.1 |
| A | 1/4 | 1/4 NPT | 0-180 | 150 | 0.67 | 1 29/64 | 3/4 | 1 29/64 | 119307-250 | 2F851 | 15.50 | 14.45 | 0.1 |
| A | 3/8 | 3/8 NPT | 0-180 | 150 | 1.87 | 1 45/64 | 29/32 | 1 29/64 | 119307-375 | 2F853 | 19.00 | 17.83 | 0.2 |
| A | 1/2 | 1/2 NPT | 0-180 | 150 | 2.84 | 2 9/32 | 1 7/64 | 1 53/64 | 119307-500 | 2F855 | 28.00 | 26.30 | 0.4 |
| B | 10-32 | 5/32 Push to Connect | 0-180 | 150 | 0.06 | 53/64 | 7/16 | 1 | 119309-103 | 2F857 | 11.50 | 10.62 | 0.1 |
| B | 1/8 | 1/4 Push to Connect | 0-180 | 150 | 0.34 | 1 17/64 | 33/64 | 1 1/32 | 119309-125 | 2F859 | 13.25 | 12.30 | 0.1 |
| B | 1/4 | 1/4 Push to Connect | 0-180 | 150 | 0.67 | 1 29/64 | 33/64 | 1 1/2 | 119309-250 | 2F861 | 17.00 | 15.92 | 0.1 |
| B | 3/8 | 3/8 Push to Connect | 0-180 | 150 | 1.87 | 1 45/64 | 15/64 | 1 17/32 | 119309-375 | 2F863 | 21.00 | 19.51 | 0.3 |

(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with a 1 PSI pressure drop.

# MINIATURE MANUAL, MECHANICAL VALVES, AND QUICK EXHAUST VALVES




ARO®

INGERSOLL-RAND
FLUID PRODUCTS

Replacement Parts Available
1-800-323-0620

## MINIATURE MANUAL AND MECHANICAL VALVES

**ARO 2 position, 3-way mini valves** for use in sensing position of moving machine components such as cylinders, slides, gates, or where small manual actuator is desired. Valve can be plumbed to perform as normally passing, normally non-passing, selector, or any 2-way function. Zinc die cast bodies and stainless steel spools for durability and corrosion resistance. 30 to 150 PSI operating pressure. Cv*=0.195. ARO brand.

### MINIATURE VALVE SPECIFICATIONS AND ORDERING DATA

| Key | Description | Port Size NPT (In.) | Actuator/ Return | Max. Temp. Range (°F) | Max. Operating Pressure (PSI) | CFM | Cv* | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Mini Limit Valves | 1/8 | Fingertip/Lever | 32-160 | 150 | 7.5 | 0.195 | 2 5/8 | 11/16 | 1 1/2 | 201-C | **2F893** | $16.75 | **$15.67** | 0.3 |
| B | | 1/8 | Retained Toggle/Manual | 32-160 | 150 | 7.5 | 0.195 | 1 3/4 | 11/16 | 2 3/16 | 223-C | **2F905** | 23.25 | **21.86** | 0.3 |
| C | | 1/8 | Panel Button/Spring | 32-160 | 150 | 7.5 | 0.195 | 1 3/4 | 7/8 | 2 15/64 | 224-C | **2F907** | 26.00 | **24.22** | 0.3 |
| D | | 1/8 | Roller Lever/Spring | 32-160 | 150 | 7.5 | 0.195 | 2 27/64 | 11/16 | 1 49/64 | 203-C | **2F895** | 17.50 | **16.39** | 0.3 |
| E | | 1/8 | Pin Plunger/Spring | 32-160 | 150 | 7.5 | 0.195 | 1 3/4 | 11/16 | 1 | 209-C | **2F897** | 12.00 | **11.15** | 0.2 |
| F | | 1/8 | Ball Roller/Spring | 32-160 | 150 | 7.5 | 0.195 | 1 3/4 | 11/16 | 1 5/8 | 213-C | **2F901** | 21.50 | **20.19** | 0.2 |
| G | | 1/8 | Straight Plunger/Spring | 32-160 | 150 | 7.5 | 0.195 | 1 3/4 | 11/16 | 1 3/4 | 214-C | **2F903** | 21.50 | **20.19** | 0.3 |

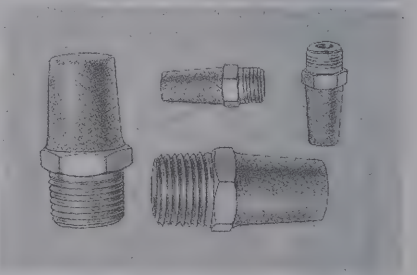
(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with 1 PSI pressure drop.

## PNEUMATIC EXHAUST MUFFLERS

**Speedaire muffler-filters** diffuse air and noise from exhaust ports of valves, cylinders, and air tools. Constructed of a 40 micron porous sintered bronze element directly bonded to copper plated steel pipe thread fitting, reducing exhaust noise levels to acceptable OSHA requirements. 300 PSI max.

### ORDERING DATA

| NPT Size (In.) | Length (In.) | Hex. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 | 1 1/8 | 7/16 | **1A325** | $1.75 | **$1.72** | 0.1 |
| 1/4 | 1 3/8 | 9/16 | **1A326** | 1.95 | **1.91** | 0.1 |
| 3/8 | 1 1/2 | 11/16 | **1A327** | 2.65 | **2.60** | 0.1 |
| 1/2 | 1 7/8 | 7/8 | **1A328** | 3.75 | **3.68** | 0.1 |
| 3/4 | 2 1/4 | 1 1/16 | **6F600** | 5.30 | **5.15** | 0.2 |
| 1 | 2 7/8 | 1 5/16 | **6F601** | 7.70 | **7.45** | 0.3 |

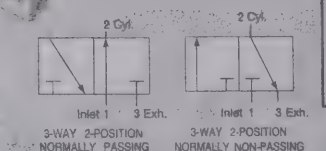


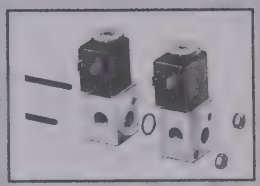
TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

**INGERSOLL-RAND**
**FLUID PRODUCTS**




**ARO.**



I Valve Stacking Kit

## MINIATURE DIRECT-ACTING SOLENOID VALVES

**3-Way, 2-Position electric-to-air interface valves** are solenoid-actuated with spring return and have sufficient flow for cylinders 1" diameter and below. Compact design allows valves to be pipe nippled directly to cylinder port. Suitable for air or inert gas. Can be assembled in stacks up to 6 valves. Coil can be rotated to meet application requirements. Rated for 100% duty cycle. Quick change design for easy replacement. Durable, lightweight aluminum extrusion body for good corrosion resistance. ARO brand.

## COILS AND CONNECTORS

**For pneumatic valves** when coil voltage other than 120 VAC or 12 VDC is required (see chart below). All coils are Class F, rated for 100% duty cycle applications at 122°F (50°C) ambient. Total coil rating is 311°F, which includes heat rise. AC or DC coils can be interchanged on same solenoid stem. One connector required for each coil. Each connector is its own junction box with molded connectors and gaskets to protect electrical connections. Design meets NEMA 4 classifications. ARO brand.

## STACKING KITS

**Kits for miniature solenoid valves** contain all necessary tie-rods, nuts, O-rings, plug and instructions for assembling miniature solenoid valves into valve stacks. Specify kit according to number of valves to be stacked. Valves sold separately. ARO brand.

## MINIATURE DIRECT-ACTING SOLENOID VALVES

| Key | Port Size NPT (In.) | Valve Type | Coil | Max. Temp. Range (F°) | Max. Operating Pressure (PSI) | CFM† | Cv | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/8 | Normally Non-Passing, Body Ported | 12 VDC | 0-122 | 150 | 2.2 | 0.062 | 1⅜ | 7/8 | 2⅝ | CAT33P-012-D | 2G485 | $31.25 | $28.90 | 0.3 |
| A | 1/8 | Normally Non-Passing, Body Ported | 120 VAC | 0-122 | 150 | 2.2 | 0.062 | 1⅜ | 7/8 | 2⅝ | CAT33P-120-A | 2G487 | 31.25 | 29.10 | 0.2 |
| A | 1/8 | Normally Non-Passing, Body Ported | * | 0-122 | 150 | 2.2 | 0.062 | 1⅜ | 7/8 | 2⅝ | CAT33P 000-N | 2G483 | 20.25 | 19.19 | 0.2 |
| A | 1/8 | Normally Passing, Body Ported | 12 VAC | 0-122 | 150 | 2.0 | 0.056 | 1⅜ | 7/8 | 3⅜ | CAT44P-012-D | 2G497 | 33.00 | 30.80 | 0.3 |
| A | 1/8 | Normally Passing, Body Ported | 120 VAC | 0-122 | 150 | 2.0 | 0.056 | 1⅜ | 7/8 | 3⅜ | CAT44P-120-A | 2G499 | 33.00 | 30.80 | 0.3 |
| A | 1/8 | Normally Passing, Body Ported | * | 0-122 | 150 | 2.0 | 0.056 | 1⅜ | 7/8 | 3¼ | CAT44P-000-N | 2G495 | 22.00 | 20.88 | 0.2 |
| B | 1/4 | Normally Non-Passing, Body Ported | 12 VDC | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¾ | 3⅝ | CAT66P-012-D | 4HN46 | 42.50 | 39.35 | 0.8 |
| B | 1/4 | Normally Non-Passing, Body Ported | 24 VDC | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¾ | 3½ | CAT66P-024-D | 4HN47 | 42.50 | 39.35 | 0.8 |
| B | 1/4 | Normally Non-Passing, Body Ported | 120 VAC | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¾ | 3½ | CAT66P-120-A | 4HN48 | 42.50 | 39.35 | 0.8 |
| B | 1/4 | Normally Non-Passing, Body Ported | * | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¾ | 3½ | CAT66P-000-N | 4KP78 | 29.00 | 26.95 | 0.4 |
| B | 1/4 | Normally Passing, Body Ported | 12 VDC | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¾ | 4⅛ | CAT88P-012-D | 4HN52 | 45.50 | 42.25 | 0.8 |
| B | 1/4 | Normally Passing, Body Ported | 24 VDC | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¾ | 4⅛ | CAT88P-024-D | 4HN53 | 45.50 | 42.25 | 0.8 |
| B | 1/4 | Normally Passing, Body Ported | 120 VAC | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¾ | 4⅛ | CAT88P-120-A | 4HN54 | 45.50 | 42.25 | 0.8 |
| B | 1/4 | Normally Passing, Body Ported | * | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¾ | 4⅛ | CAT88P-000-N | 4HN80 | 32.00 | 29.75 | 0.4 |
| C | 1/8 | Normally Non-Passing, Stackable | 12 VDC | 0-122 | 150 | 1.8 | 0.048 | 1⅝ | 1 | 2¹¹/₁₆ | CAT33S-012-D | 2G491 | 32.50 | 30.40 | 0.3 |
| C | 1/8 | Normally Non-Passing, Stackable | 120 VAC | 0-122 | 150 | 1.8 | 0.048 | 1⅝ | 1 | 2¹¹/₁₆ | CAT33S-120-A | 2G493 | 32.50 | 30.40 | 0.3 |
| C | 1/8 | Normally Non-Passing, Stackable | * | 0-122 | 150 | 1.8 | 0.048 | 1⅝ | 1 | 2¹¹/₁₆ | CAT33S-000-N | 2G489 | 21.50 | 20.39 | 0.2 |
| D | 1/4 | Normally Non-Passing, Stackable | 12 VDC | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¼ | 3½ | CAT77S-012-D | 4HN49 | 44.00 | 40.80 | 0.8 |
| D | 1/4 | Normally Non-Passing, Stackable | 24 VDC | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¼ | 3½ | CAT77S-024 D | 4HN50 | 44.00 | 40.80 | 0.8 |
| D | 1/4 | Normally Non-Passing, Stackable | 120 VAC | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¼ | 3½ | CAT77S 120-A | 4HN51 | 44.00 | 40.80 | 0.8 |
| D | 1/4 | Normally Non-Passing, Body Ported | * | 0-122 | 150 | 7.0 | 0.200 | 2⅛ | 1¼ | 3½ | CAT77S-000-N | 4KP79 | 30.50 | 28.35 | 0.4 |

(*) Coils available separately, see below. (†) 90 PSI supply 15 PSI pressure drop

## 22mm COILS FOR ARO 1/8" VALVES

| Key | Description | Voltage | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| E | Solenoid Coil | 6 VDC | 116218-37 | 2F791 | $11.00 | $9.93 | 0.1 |
| E | Solenoid Coil | 12 VDC | 116218-38 | 4HN40 | 11.00 | 10.18 | 0.2 |
| E | Solenoid Coil | 24 VDC | 116218-39 | 2F793 | 11.00 | 10.18 | 0.2 |
| E | Solenoid Coil | 120 VAC | 116218-33 | 4HN39 | 11.00 | 10.18 | 0.2 |
| E | Solenoid Coil | 240 VAC | 116218-35 | 2F789 | 11.00 | 9.93 | 0.1 |

## 22mm CONNECTORS FOR ARO 1/8" COILS

| Key | Description | Voltage | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| F | Solenoid w/o Lead Wires | Any ARO coil | CSN | 2G505 | $5.80 | $5.43 | 0.1 |
| G | Solenoid w/ 18" Lead Wire | Any ARO coil | CDW | 2G501 | 7.60 | 7.17 | 0.1 |
| H | Solenoid w/ 36" Molded Wire | Any ARO coil | CHW | 2G503 | 9.80 | 9.21 | 0.1 |

## VALVE STACKING KITS FOR ARO 1/8" VALVES

| Key | Description | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| I | 2-Valve Stacking Kit | 116345-2 | 2F795 | $7.10 | $6.98 | 0.1 |
| I | 3-Valve Stacking Kit | 116345-3 | 2F797 | 8.60 | 8.05 | 0.1 |
| I | 4-Valve Stacking Kit | 116345-4 | 2F799 | 9.50 | 8.93 | 0.1 |
| I | 5-Valve Stacking Kit | 116345-5 | 2F801 | 11.50 | 10.67 | 0.1 |
| I | 6-Valve Stacking Kit | 116345-6 | 2F803 | 12.00 | 11.14 | 0.1 |

## 30mm COILS FOR ARO 1/4" VALVES

| Key | Description | Voltage | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| E | Solenoid Coil | 6 VDC | 119690-37-G | 4KP75 | $13.50 | $12.51 | 0.4 |
| E | Solenoid Coil | 12 VDC | 119690-38-G | 4KP76 | 13.50 | 12.51 | 0.4 |
| E | Solenoid Coil | 24 VDC | 119690-39-G | 4KP77 | 13.50 | 12.51 | 0.4 |
| E | Solenoid Coil | 120 VAC | 119690-33-G | 4KP73 | 13.50 | 12.51 | 0.4 |
| E | Solenoid Coil | 240 VAC | 119690-35-G | 4KP74 | 13.50 | 12.51 | 0.4 |

## 30mm CONNECTORS FOR ARO 1/4" COILS

| Key | Description | Voltage | Aro Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| F | Solenoid w/o Lead Wires | Any ARO coil | CSN-30 | 4HN57 | $6.25 | $5.17 | 0.1 |
| G | Solenoid w/ 18" Lead Wire | Any ARO coil | CDW30 | 4HN55 | 8.00 | 6.81 | 0.1 |
| H | Solenoid w/ 36" Molded Wire | Any ARO coil | CHW-30 | 4HN56 | 10.00 | 8.83 | 0.2 |

## VALVE STACKING KITS FOR ARO 1/4" VALVES

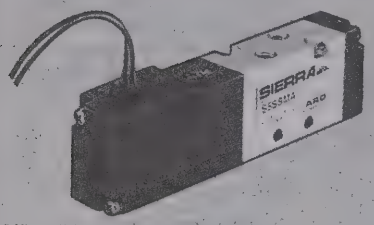
| Key | Description | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| I | 2-Valve Stacking Kit | 119690S-2 | 4HN41 | $8.80 | $8.14 | 0.1 |
| I | 3-Valve Stacking Kit | 119690S-3 | 4HN42 | 10.50 | 9.57 | 0.1 |
| I | 4-Valve Stacking Kit | 119690S-4 | 4HN43 | 12.00 | 11.01 | 0.1 |
| I | 5-Valve Stacking Kit | 119690S-5 | 4HN44 | 13.50 | 12.44 | 0.1 |
| I | 6-Valve Stacking Kit | 119690S-6 | 4HN45 | 15.00 | 13.88 | 0.1 |

# MINIATURE SOLENOID VALVES

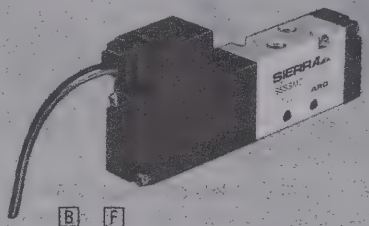
ARO®

SIERRA®

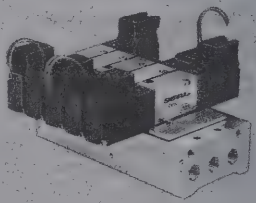
**INGERSOLL-RAND**
**FLUID PRODUCTS**



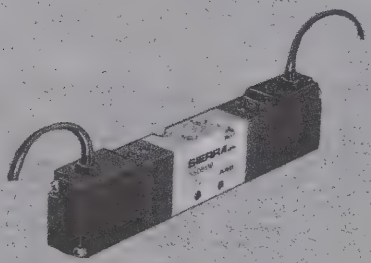
A E



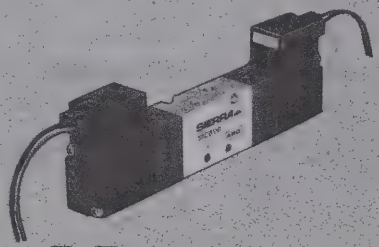
B F



Manifold style valves



C G



D H

Replacement Parts Available
1-800-323-0620

**Sierra Valves** are 15mm wide directional valves for operating small bore pneumatic cylinders. 4-way, 5-ported, 2 position valves are available in single and double solenoid styles. Body ported and manifold mounted valves have 0.25 Cv* flow and fast signal response time of 14 milliseconds.

**Features standard one-touch override** which can be operated for non-locking action, or push-and-twist to lock with screwdriver. Lead wire and plug-in styles in 120 VAC or 24 VDC. Plug-in integrated circuitry guards against miswiring damage and provides surge protection. Maximum cycle rate of 120 cycles per minute, 22 PSI shift pressure. Current ratings: 120 VAC=16mA (in-rush), 11mA (holding); 24 VDC=67mA. Power consumption is 2.1/1.8VA 1.6W. ARO brand.

## VALVE SPECIFICATIONS AND ORDERING DATA

| Key | Port Size NPT (In.) | Actuator/ Return | Coil | Max. Temp. Range (°F) | Max. Operating Pressure (PSI) | CFM** | Cv* | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BODY PORTED 4-WAY MINIATURE SOLENOID VALVES** | | | | | | | | | | | | | | | |
| **A** | 10/32 | Solenoid/Spring | Lead Wire, 120 VAC | 0-122 | 115 | 9 | 0.25 | 3 25/64 | 19/32 | 1 1/32 | S5SSMA | **2G627** | $42.00 | **$41.15** | 0.2 |
| **A** | 10/32 | Solenoid/Spring | Lead Wire, 24 VDC | 0-122 | 115 | 9 | 0.25 | 3 25/64 | 19/32 | 1 1/32 | S5SSMB | **2G629** | 42.00 | **41.15** | 0.2 |
| **B** | 10/32 | Solenoid/Spring | Plug-in,120 VAC | 0-122 | 115 | 9 | 0.25 | 3 1/2 | 19/32 | 1 1/2 | S5SSMC | **2G631** | 47.75 | **46.60** | 0.2 |
| **B** | 10/32 | Solenoid/Spring | Plug-in 24 VDC | 0-122 | 115 | 9 | 0.25 | 3 1/2 | 19/32 | 1 1/2 | S5SSMD | **2G633** | 47.75 | **46.60** | 0.2 |
| **C** | 10/32 | Double Solenoid | Lead Wire,120 VAC | 0-122 | 115 | 9 | 0.25 | 4 3/4 | 19/32 | 1 1/32 | S5DSMA | **2G611** | 65.00 | **63.10** | 0.3 |
| **C** | 10/32 | Double Solenoid | Lead Wire, 24 VDC | 0-122 | 115 | 9 | 0.25 | 4 3/4 | 19/32 | 1 1/32 | S5DSMB | **2G613** | 65.00 | **63.10** | 0.3 |
| **D** | 10/32 | Double Solenoid | Plug-in, 120 VAC | 0-122 | 115 | 9 | 0.25 | 4 31/32 | 19/32 | 1 1/2 | S5DSMC | **2G615** | 71.00 | **68.50** | 0.3 |
| **D** | 10/32 | Double Solenoid | Plug-in, 24 VDC | 0-122 | 115 | 9 | 0.25 | 4 31/32 | 19/32 | 1 1/2 | S5DSMD | **2G617** | 71.00 | **68.50** | 0.3 |
| **MANIFOLD MOUNTED 4-WAY MINIATURE SOLENOID VALVES** | | | | | | | | | | | | | | | |
| **E** | — | Solenoid/Spring | Lead Wire, 120 VAC | 0-122 | 115 | 9 | 0.25 | 3 23/64 | 19/32 | 1 1/16 | S5SS9A | **2G619** | 43.50 | **42.15** | 0.2 |
| **E** | — | Solenoid/Spring | Lead Wire, 24 VDC | 0-122 | 115 | 9 | 0.25 | 3 23/64 | 19/32 | 1 1/16 | S5SS9B | **2G621** | 43.50 | **42.15** | 0.2 |
| **F** | — | Solenoid/Spring | Plug-in, 120 VAC† | 0-122 | 115 | 9 | 0.25 | 3 1/2 | 19/32 | 1 1/2 | S5SS9C | **2G623** | 49.00 | **47.80** | 0.2 |
| **F** | — | Solenoid/Spring | Plug-in, 24 VDC† | 0-122 | 115 | 9 | 0.25 | 3 1/2 | 19/32 | 1 1/2 | S5SS9D | **2G625** | 49.00 | **47.80** | 0.2 |
| **G** | — | Double Solenoid | Lead Wire, 120 VAC | 0-122 | 115 | 9 | 0.25 | 4 3/4 | 19/32 | 1 1/16 | S5DS9A | **2G603** | 66.50 | **64.60** | 0.3 |
| **G** | — | Double Solenoid | Lead Wire, 24 VDC | 0-122 | 115 | 9 | 0.25 | 4 3/4 | 19/32 | 1 1/16 | S5DS9B | **2G605** | 66.50 | **64.60** | 0.3 |
| **H** | — | Double Solenoid | Plug-in, 120 VAC† | 0-122 | 115 | 9 | 0.25 | 4 31/32 | 19/32 | 1 1/2 | S5DS9C | **2G607** | 72.00 | **70.00** | 0.3 |
| **H** | — | Double Solenoid | Plug-in, 24 VDC† | 0-122 | 115 | 9 | 0.25 | 4 31/32 | 19/32 | 1 1/2 | S5DS9D | **2G609** | 72.00 | **70.00** | 0.3 |

(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with a 1 PSI pressure drop. (**) 90 PSI supply, 15 PSI pressure drop.
(†) Order raceway ribbon, plug-in valve wire harness or plug-in valve raceway wire harness separately.

# ACCESSORIES FOR MINIATURE VALVES

## ACCESSORIES FOR SIERRA SUBBASE AND MANIFOLD MOUNT VALVES AND 1/8" PORT COMPACT VALVES

[A] **Single Station Subbase** for use where convenience of a subbase is desired for fast maintenance on a one valve station.

[B] **Manifold** for use in applications where valve manifolding is needed for 2-8 valves.

[C] **Gasketed Metallic Blanking Plate** caps unused manifold ports. Quick installation. One plate per unused valve station required.

[D] **Raceway Manifold Conversion Kit** turns manifold into 4-, 6-, or 8-station raceway manifold with installation of raceway terminal circuit board.

[E] **39" Raceway Ribbon Connector** facilitates wiring. Can be used for 4-, 6-, or 8-station raceways.

[F] **Raceway Ribbon Connector Break-Out Box** is a 26-station junction box that allows raceway manifold valves to be interfaced with a personal computer or other electronic command device by means of raceway ribbon listed above. Current rating: 3A DC. UL Voltage rating: 30 VDC.

[G] **Plug-In Valve Wire Harness** is an 18" two-wire harness pre-stripped at one end with a pin-type locking connector at other end. One harness per coil required when used on standard manifold or subbase.

[H], [I] **Plug-In Valve Raceway Wire Harness** has pin-type locking plug connector at one end and raceway plug at the other. Available for single solenoid valves (4½" length harness) or double solenoid valves (4½" and 12" length harnesses).

[J],[K],[L],[M] **Connectors and Coils** for compact (1/8" ports) valves are class F, rated for 100% duty cycle applications at 122° (50°C) ambient. Total coil rating is 311°F, including heat rise. AC or DC coils can be interchanged on same solenoid stem. One connector required for each coil. Each connector is its own junction box, with molded connectors and gaskets to protect electrical connections. Design meets NEMA 4 classifications. ARO brand.



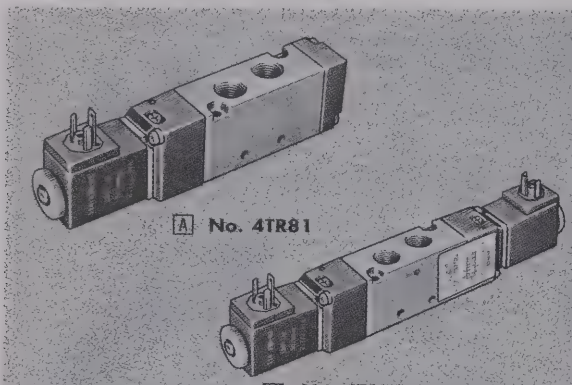

### MINIATURE VALVE ACCESSORIES

| Key | Description | Use With: | ARO Model | Stock No. | | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | Single station subbase for 1/8" port valves | 1 base-mounted valve | 119368 | 2F889 | | $9.00 | $8.18 | 0.2 |
| B | 2-station manifold for 1/8" port valves | 2 base-mounted valves | SMH51N-02 | 2F881 | | 39.75 | 38.75 | 0.5 |
| B | 4-station manifold for 1/8" port valves | 3 or 4 base-mounted valves | SMH51N-04 | 2F883 | | 49.75 | 48.65 | 0.8 |
| B | 6-station manifold for 1/8" port valves | 5 or 6 base-mounted valves | SMH51N-06 | 2F885 | | 60.50 | 58.80 | 1.1 |
| B | 8-station manifold for 1/8" port valves | 7 or 8 base-mounted valves | SMH51N-08 | 2F887 | | 71.50 | 69.70 | 1.4 |
| C | Gasketed metallic blanking plate | Valve manifold, as needed | 119351 | 2F865 | | 3.70 | 3.58 | 0.1 |
| D | Raceway manifold conversion kit | 4-station manifold | 119352-4 | 2F867 | | 31.75 | 30.45 | 0.1 |
| D | Raceway manifold conversion kit | 6-station manifold | 119352-6 | 2F869 | | 42.25 | 40.60 | 0.1 |
| D | Raceway manifold conversion kit | 8-station manifold | 119352-8 | 2F871 | | 53.00 | 51.00 | 0.1 |
| E | Raceway ribbon connector | Raceway manifold conversion kit | 119353-1 | 2F873 | | 13.50 | 12.75 | 0.1 |
| F | Raceway ribbon connector break-out box | Raceway manifold and ribbon | 119395 | 2F891 | | 49.50 | 48.05 | 0.1 |
| G | Plug-in valve wire harness | Solenoid | 119356 | 2F879 | | 1.80 | 1.65 | 0.1 |
| H | Plug-in valve raceway wire harness | Single solenoid valve, raceway | 119354 | 2F875 | | 2.30 | 2.10 | 0.1 |
| I | Plug-in valve raceway wire harness | Double solenoid valve, raceway | 119355 | 2F877 | | 4.90 | 4.60 | 0.1 |
| J | Connector, 16mm, Strain Relief | ⅛" port compact valves | CSN6 | New | 4TR75 | 5.60 | 5.36 | 0.1 |
| K | Connector, 36mm, Molded Leads | ⅛" port compact valves | CHW6 | New | 4TR74 | 9.50 | 9.10 | 0.2 |
| L | Solenoid coil, 16mm, 120 VAC | ⅛" port compact valves | 114138-33 | New | 4TR68 | 10.00 | 9.62 | 0.1 |
| L | Solenoid coil, 16mm, 24VDC | ⅛" port compact valves | 114138-39 | New | 4TR70 | 10.00 | 9.62 | 0.1 |
| L | Solenoid coil, 16mm, 12 VDC | ⅛" port compact valves | 114138-38 | New | 4TR69 | 10.00 | 9.62 | 0.1 |
| M | Solenoid coil with lead wires, 120 VAC | ⅛" port compact valves | 114153-33 | New | 4TR71 | 12.50 | 12.02 | 0.1 |
| M | Solenoid coil with lead wires, 24 VDC | ⅛" port compact valves | 114153-39 | New | 4TR73 | 12.50 | 12.02 | 0.1 |
| M | Solenoid coil with lead wires, 12 VDC or 12 VAC | ⅛" port compact valves | 114153-38 | New | 4TR72 | 12.50 | 12.02 | 0.1 |

**NATIONWIDE BRANCH NETWORK-WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# 1/8" PORT COMPACT SOLENOID VALVES



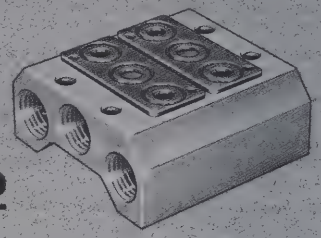

SIERRA®

New

ARO®

INGERSOLL-RAND

FLUID PRODUCTS




Replacement Parts Available
1-800-323-0620

Body ported solenoid valves can be plumbed in-line or manifold-mounted (2 ,4 ,6, 8, 10, 12, 16 stations). Featuring ⅛" NPT ports and compact size, these valves are ideal where fast signal response (14 milli-seconds) with moderate flow (.5 avg. Cv 3-positions, 0.8 Cv 2-position) pressures are required. Feature standard one-touch override which can be operated for non-locking action, or push-and-twist to lock with screwdriver. Intergrated circuitry guards against miswiring damage and provides surge protection.

## *New!* 1/8" PORT SOLENOID VALVES, 4-WAY

| Key | Valve Type | Coil | Max. Temp. Range (°F) | Max. Operating Press. (PSI) | CFM | Cv | Dimensions (In.) L | W | H | ARO Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 4-Way, 2-Position, Spring Return | 120 VAC | 122 | 115 | 32 | 0.8 | 4.19 | 1.06 | 0.71 | M812SS-120-A | **4TR81** | $49.00 | **$47.35** | 0.3 |
| A | 4-Way, 2-Position, Spring Return | 24 VDC | 122 | 115 | 32 | 0.8 | 4.19 | 1.06 | 0.71 | M812SS-024-D | **4TR80** | 49.00 | **47.35** | 0.3 |
| A | 4-Way, 2-Position, Spring Return | 12 VDC | 122 | 115 | 32 | 0.8 | 4.19 | 1.06 | 0.71 | M812SS-012-D | **4TR79** | 49.00 | **47.35** | 0.3 |
| B | 4-Way, 2-Position, Solenoid Return | 120 VAC | 122 | 115 | 32 | 0.8 | 6.24 | 1.06 | 0.71 | M812SD-120-A | **4TR78** | 77.00 | **74.40** | 0.5 |
| B | 4-Way, 2-Position, Solenoid Return | 24 VDC | 122 | 115 | 32 | 0.8 | 6.24 | 1.06 | 0.71 | M812SD-024-D | **4TR77** | 77.00 | **74.40** | 0.5 |
| B | 4-Way, 2-Position, Solenoid Return | 12 VDC | 122 | 115 | 32 | 0.8 | 6.24 | 1.06 | 0.71 | M812SD-012-D | **4TR76** | 77.00 | **74.40** | 0.5 |
| B | 4-Way, 3-Position, Double Solenoid, Closed Center | 120 VAC | 122 | 115 | 15 | 0.4 | 6.24 | 1.06 | 0.71 | M813SD-120-A | **4TR84** | 92.50 | **89.40** | 0.5 |
| B | 4-Way, 3-Position, Double Solenoid, Closed Center | 24 VDC | 122 | 115 | 15 | 0.4 | 6.24 | 1.06 | 0.71 | M813SD-024-D | **4TR83** | 92.50 | **89.40** | 0.5 |
| B | 4-Way, 3-Position, Double Solenoid, Closed Center | 12 VDC | 122 | 115 | 15 | 0.4 | 6.24 | 1.06 | 0.71 | M813SD-012-D | **4TR82** | 92.50 | **89.40** | 0.5 |
| B | 4-Way, 3-Position, Double Solenoid, Exhaust Center | 120 VAC | 122 | 115 | 15 | 0.4 | 6.24 | 1.06 | 0.71 | M817SD-120-A | **4TR87** | 92.50 | **89.40** | 0.5 |
| B | 4-Way, 3-Position, Double Solenoid, Exhaust Center | 24 VDC | 122 | 115 | 15 | 0.4 | 6.24 | 1.06 | 0.71 | M817SD-024-D | **4TR86** | 92.50 | **89.40** | 0.5 |
| B | 4-Way, 3-Position, Double Solenoid, Exhaust Center | 12 VDC | 122 | 115 | 15 | 0.4 | 6.24 | 1.06 | 0.71 | M817SD-012-D | **4TR85** | 92.50 | **89.40** | 0.5 |
| B | 4-Way, 3-Position, Double Solenoid, Pressure Center | 120 VAC | 122 | 115 | 32 | 0.7 | 6.24 | 1.06 | 0.71 | M81ASD-120-A | **4TR90** | 92.50 | **89.40** | 0.5 |
| B | 4-Way, 3-Position, Double Solenoid, Pressure Center | 24 VDC | 122 | 115 | 32 | 0.7 | 6.24 | 1.06 | 0.71 | M81ASD-024-D | **4TR89** | 92.50 | **89.40** | 0.5 |
| B | 4-Way, 3-Position, Double Solenoid, Pressure Center | 12 VDC | 122 | 115 | 32 | 0.7 | 6.24 | 1.06 | 0.71 | M81ASD-012-D | **4TR88** | 92.50 | **89.40** | 0.5 |

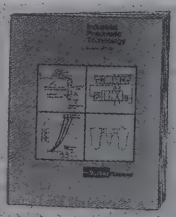
## *New!* MANIFOLDS FOR COMPACT 1/8" PORTS SOLENOID VALVES

| Key | No. of Stations | Dimensions (In.) L | W | H | ARO Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| C | 2 | 2.244 | 2.28 | 0.955 | SML81N-02 | **4TR91** | $28.00 | **$26.20** | 0.3 |
| C | 4 | 3.74 | 2.28 | 0.955 | SML81N-04 | **4TR92** | 35.00 | **32.75** | 0.5 |
| C | 6 | 5.236 | 2.28 | 0.955 | SML81N-06 | **4TR93** | 39.50 | **37.00** | 0.7 |
| C | 8 | 6.732 | 2.28 | 0.955 | SML81N-08 | **4TR94** | 44.00 | **41.20** | 0.9 |
| C | 10 | 8.228 | 2.28 | 0.955 | SML81N-10 | **4TR95** | 48.50 | **45.45** | 1.1 |
| C | 12 | 9.724 | 2.28 | 0.955 | SML81N-12 | **4TR96** | 55.00 | **51.55** | 1.3 |
| C | 16 | 12.716 | 2.28 | 0.955 | SML81N-16 | **4TR97** | 61.00 | **57.15** | 1.5 |

## INDUSTRIAL PNEUMATIC TECHNOLOGY

A training and reference manual for designers and users of pneumatic systems. Explains the basic principles and components found in typical industrial pneumatic, compressed air systems. Provides understanding of basic pneumatic principles and circuits that form an integral part of compressed air applications. Exercises at end of each chapter serve as summary of important points with answers provided in separate manual (included). 151 pages. Parker Bulletin 0275-B1.

**No. 5H566.** Shpg. wt. 1.0 lbs. List $24.27.
Each ..... **$23.37**




**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.**

## HIGH FLOW SOLENOID VALVES FOR PLUG-IN MANIFOLD

**Genesis® 1/4" or 3/8"** valves feature plug-in electrical connections between valve and manifold to make valve easy to install. Plug-in design keeps all electrical wiring inside of unit and features "make first-break last" grounding contact pin. Complies with ISO 5599-2 for replacement of foreign-made valves that meet specification. Large one-piece bonded spool design for energy saving efficient air flow and positive shifting with lower system pressure.

Mechanical valve override makes machine setup and troubleshooting easy. Mounting/assembly hardware features stainless steel stacking pins that eliminate the need for tie rods or separate bolts.

**NOTE: Valves must be used with either 1/4" or 3/8" port manifold. Order manifold and accessories below.**

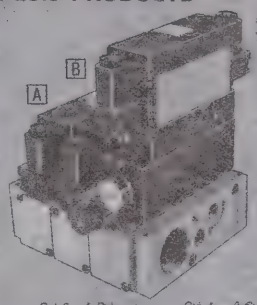
Indicators are standard equipment on valves. Valves are prelubed, can be operated without air line lubrication. Cv=1.2 average. 30 to 150 PSI operating pressure range. ARO brand

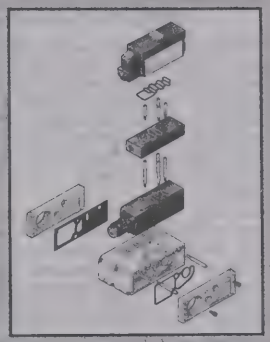
INGERSOLL-RAND FLUID PRODUCTS

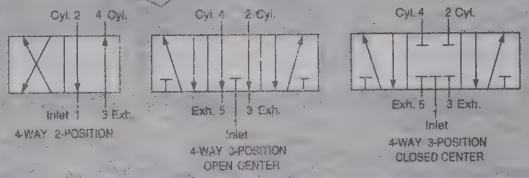
Replacement Parts Available 1-800-323-0620

ARO®

Genesis®






- Order End Plate Kit Separately, see below
- Order Manifold Separately, see below
- One Manifold required for each valve

## VALVE SPECIFICATIONS AND ORDERING DATA

| Key | Actuator/ Return | Coil | Max. Temp. Range (°F) | Max. Operating Pressure (PSI) | Cv* | Dimensions† (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4-WAY, 2-POSITION VALVES** | | | | | | | | | | | | | |
| A | Solenoid/Spring | 12 VDC | 0-180 | 150 | 1.2 | 6 | 1 11/16 | 2 7/16 | GP12SS-012-J | **2G581** | $73.00 | **$67.85** | 2.0 |
| A | Solenoid/Spring | 24 VDC | 0-180 | 150 | 1.2 | 6 | 1 11/16 | 2 9/16 | GP12SS-024-J | **2G583** | 73.00 | **67.85** | 2.0 |
| A | Solenoid/Spring | 120 VAC | 0-180 | 150 | 1.2 | 6 | 1 11/16 | 2 9/16 | GP12SS-120-H | **2G585** | 73.00 | **67.85** | 2.0 |
| A | Solenoid/Spring | 120 VAC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 5/16 | GP12SD-012-J | **2G575** | 111.00 | **103.80** | 2.3 |
| B | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 5/16 | GP12SD-024-J | **2G577** | 111.00 | **103.80** | 2.2 |
| B | Solenoid/Solenoid | 24 VDC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 5/16 | GP12SD-120-H | **2G579** | 111.00 | **103.80** | 2.2 |
| B | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 5/16 | | | | | |
| **4-WAY, 3-POSITION (Spring Centered, All Ports Blocked in Neutral)** | | | | | | | | | | | | | |
| B | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 9/16 | GP13SD-012-J | **2G587** | 138.50 | **128.75** | 2.2 |
| B | Solenoid/Solenoid | 24 VDC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 9/16 | GP13SD-024-J | **2G589** | 138.50 | **128.75** | 2.2 |
| B | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 9/16 | GP13SD-120-H | **2G591** | 138.50 | **128.75** | 2.2 |
| **4-WAY, 3-POSITION (Spring Centered, Inlet Port Blocked, Cylinder Ports Open in Neutral)** | | | | | | | | | | | | | |
| B | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 5/16 | GP17SD-012-J | **2G593** | 137.50 | **128.30** | 2.2 |
| B | Solenoid/Solenoid | 24 VDC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 5/16 | GP17SD-024-J | **2G595** | 137.50 | **128.30** | 2.2 |
| B | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 1.2 | 7 1/4 | 1 11/16 | 2 5/16 | GP17SD-120-H | **2G597** | 137.50 | **128.30** | 2.2 |

(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with a 1 PSI pressure drop.
(†) Dimensions are for a single valve and do not include manifold, end plate, regulator or speed control.

## ACCESSORIES FOR GENESIS VALVES

C Plug-In Style Manifold features a 5-pin plug that eliminates all external solenoid wiring. Body is powder coated for chip and scratch resistance.

D End Plate Kit features large raceway wiring channel for easy wiring. One kit required per stack.

E Sandwich Speed Control (optional) has low profile and offers quick installation, precise speed control, and a flush non-rising adjustment screw.

F 0 to 120 PSI Sandwich Style Regulator (optional) fits on valve and features front and rear gauge ports to match application requirements.

## ACCESSORY SPECIFICATIONS AND ORDERING DATA

| Key | Port Size NPT (In.) | CFM | Cv† | Description | Dimensions* (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MANIFOLDS FOR PLUG-IN STYLE SOLENOID VALVES** | | | | | | | | | | | | |
| C | 1/4 | 36 | 1.2 | Manifold | 6 | 1 11/16 | 2 7/16 | GMP121 | **2G547** | $32.50 | **$30.25** | 1.3 |
| C | 3/8 | 38 | 1.2 | Manifold | 6 | 1 11/16 | 2 7/16 | GMP131 | **2G561** | 32.50 | **30.25** | 1.3 |
| **END PLATES, SPEED CONTROL AND REGULATOR** | | | | | | | | | | | | |
| D | 3/8 | — | 1.2 | End plate kit (set of 2) | 6* | 1 1/4* | 2 1/16* | 118803-B | **2F845** | 25.25 | **23.85** | 1.8 |
| E | — | — | 1.2 | Speed control | 4 13/16 | 1 1/16 | 1 | 118565-P | **2F817** | 31.00 | **28.55** | 0.6 |
| F | — | — | 1.2 | Regulator | 7 1/8 | 1 11/16 | 2 | 118573-P4 | **2F819** | 56.00 | **52.15** | 1.2 |

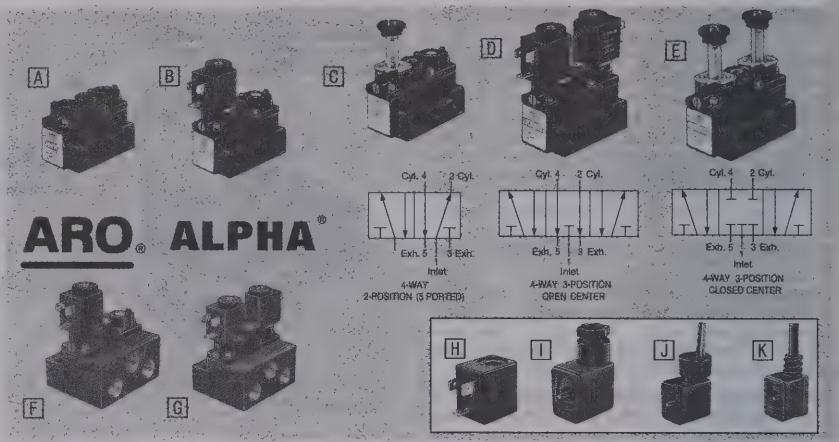
(*) Dimensions are for two end plates (one set). (†) 90 PSI supply, 15 PSI pressure drop.

# COMPACT BODY-PORTED SOLENOID AND PILOT VALVES

## COMPACT BODY-PORTED SOLENOID AND PILOT VALVES

Body-Ported Alpha Valves are compact 4-way, 2- and 3-position valves for applications where only one valve is required. High flow capacity for use in packaging machines, indexing tables and industrial machines with power cylinders, motors, pumps and spray heads. For use with air or inert gas and vacuum with external pilot supply.

One piece balanced spool provides quick response of 600 cycles per minute and high flow. Bonded and precision ground urethane-to-aluminum spool for excellent wear resistance. 5-ported, 4-way valve enables use of speed controls at valve exhaust ports. Valves are prelubed, can be operated without air line lubrication. 50 to 150 PSI operating pressure range. Solenoid may be rotated in any direction. Coil connectors available, order separately below. ARO brand.




## VALVE SPECIFICATIONS AND ORDERING DATA

| Key | Port Size NPT (In.) | Actuator/ Return | Coil | Max. Temp. Range (°F) | Max. Operating Pressure (PSI) | CFM‡ | Cv* | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4-WAY, 2-POSITION VALVES** | | | | | | | | | | | | | | | |
| **A** | 1/8 | Pilot/Spring | N/A | 0-180 | 150 | 32 | 0.9 | 2 15/16 | 1 15/16 | 1 13/16 | A211PS | **2F957** | $35.75 | **$34.00** | 0.6 |
| **A** | 1/8 | Pilot/Pilot | N/A | 0-180 | 150 | 32 | 0.9 | 2 15/16 | 1 15/16 | 1 13/16 | A211PD | **2F955** | 34.00 | **32.35** | 0.6 |
| **A** | 1/4 | Pilot/Spring | N/A | 0-180 | 150 | 54 | 1.5 | 2 15/16 | 1 15/16 | 1 13/16 | A212PS | **2F973** | 35.75 | **34.00** | 0.6 |
| **A** | 1/4 | Pilot/Pilot | N/A | 0-180 | 150 | 54 | 1.5 | 2 15/16 | 1 15/16 | 1 13/16 | A212PD | **2F971** | 34.00 | **32.35** | 0.6 |
| **B** | 1/8 | Solenoid/Spring | 12 VDC | 0-180 | 150 | 32 | 0.9 | 3 1/2 | 1 15/16 | 3 1/4 | A211SS-012-D | **2F967** | 54.00 | **50.05** | 0.8 |
| **B** | 1/8 | Solenoid/Spring | 120 VAC | 0-180 | 150 | 32 | 0.9 | 3 1/2 | 1 15/16 | 3 1/4 | A211SS-120-A | **2F969** | 54.00 | **50.05** | 0.8 |
| **C** | 1/8 | Solenoid/Spring | † | 0-180 | 150 | 32 | 0.9 | 2 15/16 | 1 15/16 | 3 1/4 | A211SS-000-N | **2F965** | 43.00 | **39.75** | 0.7 |
| **B** | 1/4 | Solenoid/Spring | 12 VDC | 0-180 | 150 | 54 | 1.5 | 3 1/2 | 1 15/16 | 3 1/4 | A212SS-012-D | **2F983** | 54.00 | **50.05** | 0.8 |
| **B** | 1/4 | Solenoid/Spring | 120 VAC | 0-180 | 150 | 54 | 1.5 | 3 1/2 | 1 15/16 | 3 1/4 | A212SS-120-A | **2F985** | 54.00 | **50.05** | 0.8 |
| **C** | 1/4 | Solenoid/Spring | † | 0-180 | 150 | 54 | 1.5 | 2 15/16 | 1 15/16 | 3 1/4 | A212SS-000-N | **2F981** | 43.00 | **39.75** | 1.0 |
| **D** | 1/8 | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 32 | 0.9 | 3 31/32 | 1 15/16 | 3 1/4 | A211SD-012-D | **2F961** | 85.50 | **78.80** | 1.0 |
| **D** | 1/8 | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 32 | 0.9 | 3 31/32 | 1 15/16 | 3 1/4 | A211SD-120-A | **2F963** | 85.50 | **79.35** | 1.0 |
| **E** | 1/8 | Solenoid/Solenoid | † | 0-180 | 150 | 32 | 0.9 | 2 15/16 | 1 15/16 | 3 1/4 | A211SD-000-N | **2F959** | 63.50 | **58.80** | 0.7 |
| **D** | 1/4 | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 54 | 1.5 | 3 31/32 | 1 15/16 | 3 1/4 | A212SD-012-D | **2F977** | 85.50 | **78.80** | 1.0 |
| **D** | 1/4 | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 54 | 1.5 | 3 31/32 | 1 15/16 | 3 1/4 | A212SD-120-A | **2F979** | 85.50 | **79.35** | 1.0 |
| **E** | 1/4 | Solenoid/Solenoid | † | 0-180 | 150 | 54 | 1.5 | 2 15/16 | 1 15/16 | 3 1/4 | A212SD-000-N | **2F975** | 63.50 | **58.30** | 0.7 |
| **F** | 3/8 | Solenoid/Spring | 120 VAC | 0-180 | 150 | 63 | 1.7 | 3 1/2 | 2 1/2 | 3 5/8 | A213SS-120-A | **2G549** | 75.00 | **69.50** | 1.3 |
| **G** | 3/8 | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 63 | 1.7 | 4 | 2 1/2 | 3 5/8 | A213SD-120-A | **2G551** | 104.00 | **96.95** | 1.4 |
| **4-WAY, 3-POSITION VALVES (Spring Centered, All Ports Blocked in Neutral)** | | | | | | | | | | | | | | | |
| **D** | 1/4 | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 50 | 1.4 | 3 31/32 | 1 15/16 | 3 1/4 | A312SD-012-D | **2G449** | 103.50 | **95.95** | 0.8 |
| **D** | 1/4 | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 50 | 1.4 | 3 31/32 | 1 15/16 | 3 1/4 | A312SD-120-A | **2G451** | 103.50 | **96.45** | 0.8 |
| **E** | 1/4 | Solenoid/Solenoid | † | 0-180 | 150 | 50 | 1.4 | 2 15/16 | 1 15/16 | 3 1/4 | A312SD-000-N | **2G447** | 81.50 | **75.90** | 0.7 |
| **4-WAY, 3-POSITION VALVES (Spring Centered, Inlet Port Blocked, Cylinder Ports Open in Neutral)** | | | | | | | | | | | | | | | |
| **D** | 1/4 | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 50 | 1.4 | 3 31/32 | 1 15/16 | 3 1/4 | A712SD-012-D | **2G467** | 103.50 | **95.95** | 1.0 |
| **D** | 1/4 | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 50 | 1.4 | 3 31/32 | 1 15/16 | 3 1/4 | A712SD-120-A | **2G469** | 103.50 | **96.45** | 1.0 |
| **E** | 1/4 | Solenoid/Solenoid | † | 0-180 | 150 | 50 | 1.4 | 2 15/16 | 1 15/16 | 3 1/4 | A712SD-000-N | **2G465** | 81.50 | **75.90** | 0.7 |

(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with a 1 PSI pressure drop.
(†) Coils available separately. See below. (‡) 90 PSI supply, 15 PSI pressure drop.

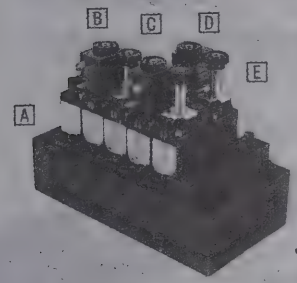
## COILS AND CONNECTORS FOR ALPHA VALVES

For use when coil voltage other than 120 VAC or 12 VDC is required (see chart below). All coils are Class F, rated for 100% duty cycle applications at 122°F (50°C) ambient. Total coil rating is 311°F, including heat rise. AC or DC coils can be interchanged on same solenoid stem. One connector required for each coil. Each connector is its own junction box, with molded connectors and gaskets to protect electrical connections. Design meets NEMA 4 classifications. ARO brand.

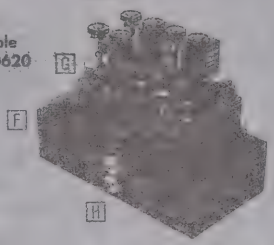
| Key | Description | Voltage | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **COILS FOR ARO VALVES** | | | | | | | |
| **H** | Coil for Solenoid | 5 VDC | 116218-37 | **2F791** | $11.00 | **$9.93** | 0.1 |
| **H** | Coil for Solenoid | 12 VDC | 116218-38 | **4HN40** | 11.00 | **10.18** | 0.1 |
| **H** | Coil for Solenoid | 24 VDC | 116218-39 | **2F793** | 11.00 | **10.18** | 0.1 |
| **H** | Coil for Solenoid | 120 VAC | 116218-33 | **4HN39** | 11.00 | **10.18** | 0.1 |
| **H** | Coil for Solenoid | 240 VAC | 116218-35 | **2F789** | 11.00 | **9.93** | 0.1 |
| **CONNECTORS FOR ARO COILS** | | | | | | | |
| **I** | Solenoid Connector Without Lead Wires | Any ARO coil | CSN | **2G505** | 5.80 | **5.43** | 0.1 |
| **J** | Solenoid Connector with 18" Lead Wire | Any ARO coil | CDW | **2G501** | 7.60 | **7.17** | 0.1 |
| **K** | Solenoid Connector with 36" Molded Wire | Any ARO coil | CHW | **2G503** | 9.80 | **9.21** | 0.1 |

**ARO® ALPHA®**

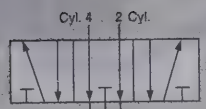
**INGERSOLL-RAND FLUID PRODUCTS**



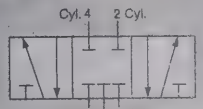

Replacement Parts Available 1-800-323-0620™



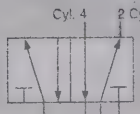

•Order Manifold Separately




4-WAY 3-POSITION OPEN CENTER




4-WAY 3-POSITION CLOSED CENTER




4-WAY 2-POSITION (5 PORTED)

## MANIFOLD STYLE SOLENOID AND PILOT VALVES

**ALPHA Thin manifold valves** are compact 4-way, 2- and 3-position valves for applications where the convenience of a manifold is desired. Manifold valves offer easy valve clustering and valve removal for replacement. Valves allow for controlling multiple machine functions with individual valves from one location. High flow capacity for packaging machines, indexing tables and industrial machines with air cylinders, motors, pumps and spray heads. Can be used with vacuum with external pilot supply. **Minimum operating pressure of 50 PSI.**

**One piece balanced spool** offers quick response of 600 cycles per minute and high flow.

**Valves are prelubed**, can be operated without air line lubrication.

F **Valve Manifolds** available in 2,4,6, 8 and 10 valves.

G **Blanking Kit** blocks one manifold station, permitting odd number of valves to be assembled on manifold.

H **Dual Speed Control Kit** includes speed controls for both exhaust ports of a valve.

## VALVE SPECIFICATIONS AND ORDERING DATA

| Key | Port Size NPT (In.) | Actuator/ Return | Coil | Max. Temp. Range (F°) | Operating Pressure (PSI) | Overall Dimensions* (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4-WAY, 2-POSITION VALVES** | | | | | | | | | | | | | |
| A | 1/8 or 1/4 manifold | Pilot/Spring | N/A | 0-180 | 150 | 3 7/8 | 1 | 1 7/8 | A249PS | 2G433 | $36.00 | $34.30 | 0.6 |
| A | 1/8 or 1/4 manifold | Pilot/Pilot | N/A | 0-180 | 150 | 3 7/8 | 1 | 1 7/8 | A249PD | 2G431 | 34.25 | 32.55 | 0.8 |
| B | 1/8 or 1/4 manifold | Solenoid/Spring | 12 VDC | 0-180 | 150 | 3 7/8 | 1 | 3 9/16 | A249SS-012-D | 2G443 | 54.00 | 50.00 | 1.0 |
| B | 1/8 or 1/4 manifold | Solenoid/Spring | 120 VAC | 0-180 | 150 | 3 7/8 | 1 | 3 9/16 | A249SS-120-A | 2G445 | 54.00 | 50.00 | 0.9 |
| C | 1/8 or 1/4 manifold | Solenoid/Spring | † | 0-180 | 150 | 3 7/8 | 1 | 3 9/16 | A249SS-000-N | 2G441 | 43.00 | 39.95 | 0.7 |
| D | 1/8 or 1/4 manifold | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 3 7/8 | 1 | 3 9/16 | A249SD-012-D | 2G437 | 85.00 | 78.80 | 1.0 |
| D | 1/8 or 1/4 manifold | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 3 7/8 | 1 | 3 9/16 | A249SD-120-A | 2G439 | 85.00 | 78.80 | 0.9 |
| E | 1/8 or 1/4 manifold | Solenoid/Solenoid | † | 0-180 | 150 | 3 7/8 | 1 | 3 9/16 | A249SD-000-N | 2G435 | 63.00 | 58.80 | 0.7 |
| **4-WAY, 3-POSITION VALVES (Spring Centered, All Ports Blocked in Neutral)** | | | | | | | | | | | | | |
| D | 1/8 or 1/4 manifold | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 4 | 1 | 3 9/16 | A349SD-012-D | 2G461 | 103.50 | 96.45 | 1.0 |
| D | 1/8 or 1/4 manifold | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 4 | 1 | 3 9/16 | A349SD-120-A | 2G463 | 103.50 | 96.45 | 0.9 |
| E | 1/8 or 1/4 manifold | Solenoid/Solenoid | † | 0-180 | 150 | 3 7/8 | 1 | 3 9/16 | A349SD-000-N | 2G459 | 81.50 | 76.35 | 0.8 |
| **4-WAY, 3-POSITION VALVES (Spring Centered, Inlet Port Blocked, Cylinder Ports Open in Neutral)** | | | | | | | | | | | | | |
| D | 1/8 or 1/4 manifold | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 4 | 1 | 3 9/16 | A749SD-012-D | 2G479 | 103.50 | 96.45 | 1.0 |
| D | 1/8 or 1/4 manifold | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 4 | 1 | 3 9/16 | A749SD-120-A | 2G481 | 103.50 | 96.45 | 0.9 |
| E | 1/8 or 1/4 manifold | Solenoid/Solenoid | † | 0-180 | 150 | 3 7/8 | 1 | 3 9/16 | A749SD-000-N | 2G477 | 81.50 | 76.35 | 0.6 |

(*) Dimensions are for a single valve and do not include manifold. (†) Coils available separately. See page 2946.

## MANIFOLD SPECIFICATIONS AND ORDERING DATA

| | Description | Port Size NPT (In.) | Cv* | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| F | 2-station valve manifold | 1/8 | 1.2 | 3 5/8 | 4 | 2 | 118604-2 | 2F823 | $42.25 | $39.55 | 2.4 |
| F | 4-station valve manifold | 1/8 | 1.2 | 5 3/8 | 4 | 2 | 118604-4 | 2F825 | 72.50 | 68.00 | 3.8 |
| F | 6-station valve manifold | 1/8 | 1.2 | 7 1/8 | 4 | 2 | 118604-6 | 2F827 | 101.50 | 95.55 | 5.2 |
| F | 8-station valve manifold | 1/8 | 1.2 | 8 7/8 | 4 | 2 | 118604-8 | 2F829 | 135.50 | 127.25 | 6.4 |
| F | 10-station valve manifold | 1/8 | 1.2 | 11 1/8 | 4 | 2 | 118604-10 | 2F821 | 162.00 | 152.75 | 7.7 |
| F | 2-station valve manifold | 1/4 | 1.2 | 3 5/8 | 4 | 2 | 118605-2 | 2F833 | 42.25 | 39.55 | 2.4 |
| F | 4-station valve manifold | 1/4 | 1.2 | 5 5/8 | 4 | 2 | 118605-4 | 2F835 | 72.50 | 68.00 | 3.7 |
| F | 6-station valve manifold | 1/4 | 1.2 | 7 1/8 | 4 | 2 | 118605-6 | 2F837 | 101.50 | 95.55 | 5.1 |
| F | 8-station valve manifold | 1/4 | 1.2 | 9 1/8 | 4 | 2 | 118605-8 | 2F839 | 135.50 | 127.25 | 6.4 |
| F | 10-station valve manifold | 1/4 | 1.2 | 11 1/8 | 4 | 2 | 118605-10 | 2F831 | 162.00 | 152.75 | 7.6 |
| G | Station blanking kit | — | 1.2 | — | — | — | 118612 | 2F841 | 12.75 | 11.81 | 0.1 |
| H | Dual speed control kit | — | 1.2 | — | — | — | 118618 | 2F843 | 19.75 | 18.56 | 0.1 |

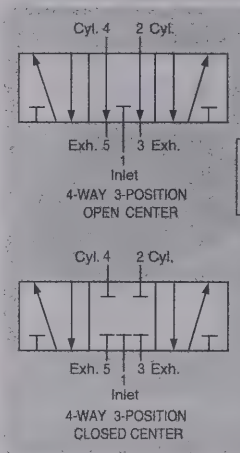
(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with a 1 PSI pressure drop. Figures shown are for 1/4" port. For External Pilot supply, order external solenoid supply kit #119306 from Grainger Parts Operations. Call 1(800) 323-0620.

# COMPACT, STACKING SOLENOID AND PILOT VALVES

## COMPACT STACKING SOLENOID AND PILOT VALVES

**ALPHA stacking valves** are 4-way, 2- and 3-position valves for applications requiring multiple valve banks without additional height of valve manifold. Control machine functions with individual valves from one location. High flow capacity for use with packaging machines, indexing tables and industrial machines with air cylinders, motors, pumps and spray heads can be used with vacuum with external pilot supply.

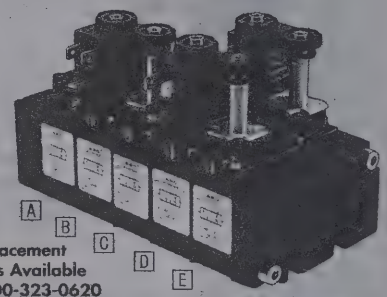
**One piece balanced spool** for quick response of 600 cycles per minute and high flow. Bonded and precision ground urethane-to-aluminum spool for wear resistance. Valves are prelubed, can be operated without air line lubrication. For use with air or inert gas. Solenoid can be rotated in any direction. Coil connectors available, order separately below. ARO brand.




•Order End Plate Kit separately see page 2943

Replacement Parts Available
1-800-323-0620

ARO® ALPHA®
INGERSOLL-RAND
FLUID PRODUCTS




### VALVE SPECIFICATIONS AND ORDERING DATA

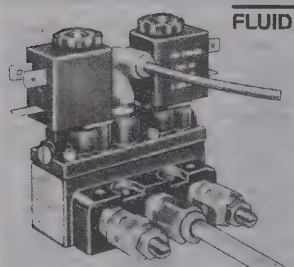
| Key | Port Size NPT (In.) | Actuator/ Return | Coil | Max. Temp. Range (°F) | Max. Operating Pressure (PSI) | CFM‡ | Cv* | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4-WAY, 2-POSITION VALVES** | | | | | | | | | | | | | | | |
| A | 1/4 | Pilot/Spring | N/A | 0-180 | 150 | 68 | 1.9 | 3 1/4 | 1 | 2 7/16 | A222PS | **2F989** | $36.25 | **$34.50** | 0.6 |
| A | 1/4 | Pilot/Pilot | N/A | 0-180 | 150 | 68 | 1.9 | 3 1/4 | 1 | 2 7/16 | A222PD | **2F987** | 34.25 | **32.55** | 0.6 |
| B | 1/4 | Solenoid/Spring | 12 VDC | 0-180 | 150 | 68 | 1.9 | 3 15/32 | 1 | 3 7/8 | A222SS-012-D | **2F999** | 54.50 | **50.00** | 0.8 |
| B | 1/4 | Solenoid/Spring | 120 VAC | 0-180 | 150 | 68 | 1.9 | 3 15/32 | 1 | 3 7/8 | A222SS-120-A | **2G429** | 54.50 | **50.50** | 0.9 |
| C | 1/4 | Solenoid/Spring | † | 0-180 | 150 | 68 | 1.9 | 3 1/4 | 1 | 3 7/8 | A222SS-000-N | **2F997** | 43.50 | **39.95** | 0.7 |
| D | 1/4 | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 68 | 1.9 | 3 31/32 | 1 | 3 7/8 | A222SD-012-D | **2F993** | 85.50 | **78.80** | 1.0 |
| D | 1/4 | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 68 | 1.9 | 3 31/32 | 1 | 3 7/8 | A222SD-120-A | **2F995** | 85.50 | **79.35** | 1.0 |
| E | 1/4 | Solenoid/Solenoid | † | 0-180 | 150 | 68 | 1.9 | 3 1/4 | 1 | 3 7/8 | A222SD-000-N | **2F991** | 63.50 | **58.80** | 0.7 |
| **4-WAY, 3-POSITION (Spring Centered, All Ports Blocked in Neutral)** | | | | | | | | | | | | | | | |
| D | 1/4 | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 61 | 1.7 | 3 31/32 | 1 | 3 7/8 | A322SD-012-D | **2G455** | 104.00 | **96.45** | 1.0 |
| D | 1/4 | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 61 | 1.7 | 3 31/32 | 1 | 3 7/8 | A322SD-120-A | **2G457** | 104.00 | **96.90** | 0.8 |
| E | 1/4 | Solenoid/Solenoid | † | 0-180 | 150 | 61 | 1.7 | 3 1/4 | 1 | 3 7/8 | A322SD-000-N | **2G453** | 82.00 | **76.35** | 0.7 |
| **4-WAY, 3-POSITION (Spring Centered, Inlet Port Blocked, Ports Open in Neutral)** | | | | | | | | | | | | | | | |
| D | 1/4 | Solenoid/Solenoid | 12 VDC | 0-180 | 150 | 61 | 1.7 | 3 31/32 | 1 | 3 7/8 | A722SD-012-D | **2G473** | 104.00 | **96.45** | 1.0 |
| D | 1/4 | Solenoid/Solenoid | 120 VAC | 0-180 | 150 | 61 | 1.7 | 3 31/32 | 1 | 3 7/8 | A722SD-120-A | **2G475** | 104.00 | **96.90** | 1.0 |
| E | 1/4 | Solenoid/Solenoid | † | 0-180 | 150 | 61 | 1.7 | 3 1/4 | 1 | 3 7/8 | A722SD-000-N | **2G471** | 82.00 | **76.35** | 0.7 |

(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with 1 PSI pressure drop.(†) Coils available separately. See page 2943. (‡) 90 PSI supply, 15 PSI pressure drop.

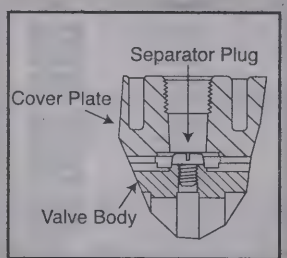
## EXTERNAL PILOT SUPPLY KIT FOR ALPHA SERIES VALVES

Replacement Parts Available
1-800-323-0620

ARO®
INGERSOLL-RAND
FLUID PRODUCTS



No. 4HN96




**External pilot supply kit** is used on Alpha series valves in low pressure (below 50 PSI) or vacuum applications. Alpha series valves are a pilot supply design, which means they use air pressure to shift the spool in the valve. This pilot pressure, which is supplied internally through the valve from the valve inlet pressure, must be between 50-150 PSI for the valve to operate. The external pilot supply kit blocks off the internal pilot supply and allows for an external pilot supply pressure above 50 PSI. Kit includes separator plug and push-on 1/4" tubing connector. ARO brand.

**No. 4HN96.** Shpg. wt. 0.1 lbs. List $2.40. Each.....$2.29

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.**

## ACCESSORIES FOR STACKING AND PILOT VALVES

[A] **End Plate Kit** includes two end plates, two cap screws and one gasket. Kit adds 1½" to length of valve stack. One end plate kit required per stack. ARO brand.

[B] **Isolator Plate** allows valve or section of valves within a stack to be isolated and operate on different pressure than the rest of stack. Gasket included. ARO brand.

[C] **Mounting Bracket.** Short "L" mounting bracket raises valve stack 3¾" above base. Tall "L" mounting bracket raises valve stack 7" above base. Each mounting bracket kit includes all hardware to mount valve stack to bracket. ARO brand.

[D] **Mounting Bracket.** Short "Z" mounting bracket raises valve stack 3" above base. Tall "Z" mounting bracket raises valve stack 6" above base. Each mounting bracket kit contains all hardware to mount valve stack to bracket. ARO brand.

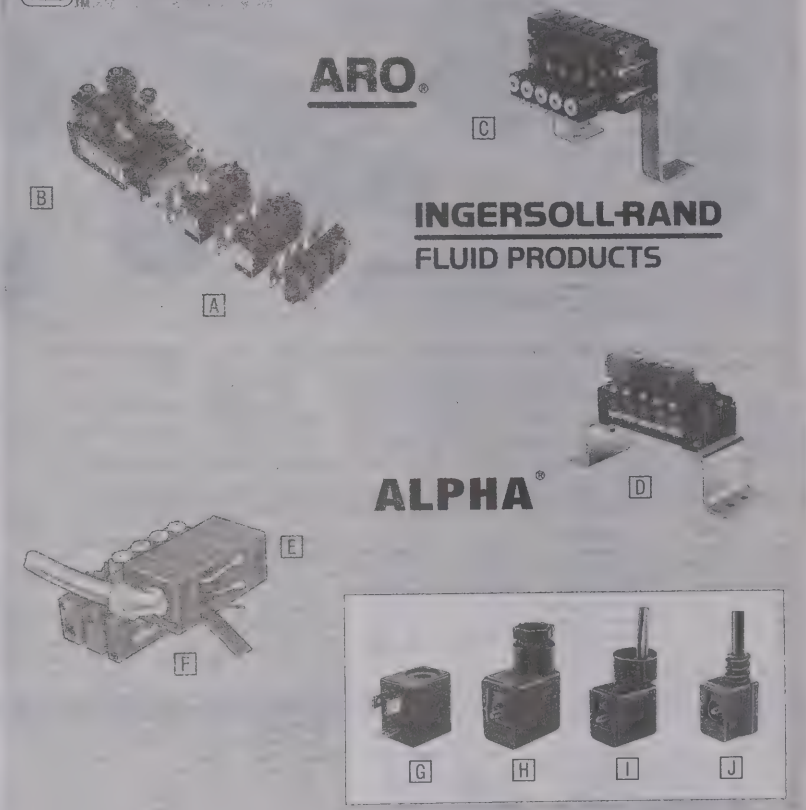
[E] **Junction Box** required for each coil in stack when solenoid connectors are not used. Includes box, jumper wires, gasket, screw and roll pin. ARO brand.

[F] **Blank Junction Box** provides entrance for conduit fitting for a row of coils. Includes box, dust plug and roll pin. ARO brand.

## COILS AND CONNECTORS FOR ALPHA VALVES

[G] thru [J] **All coils** are Class F, rated for 100% duty cycle applications at 122° (50°C) ambient. Total coil rating is 311°F, including heat rise. AC or DC coils can be interchanged on same solenoid stem. One connector required for each coil. Each connector is its own junction box, with molded connectors and gaskets to protect electrical connections. Design meets NEMA 4 classifications. ARO brand.

Replacement Parts Available
1-800-323-0620™



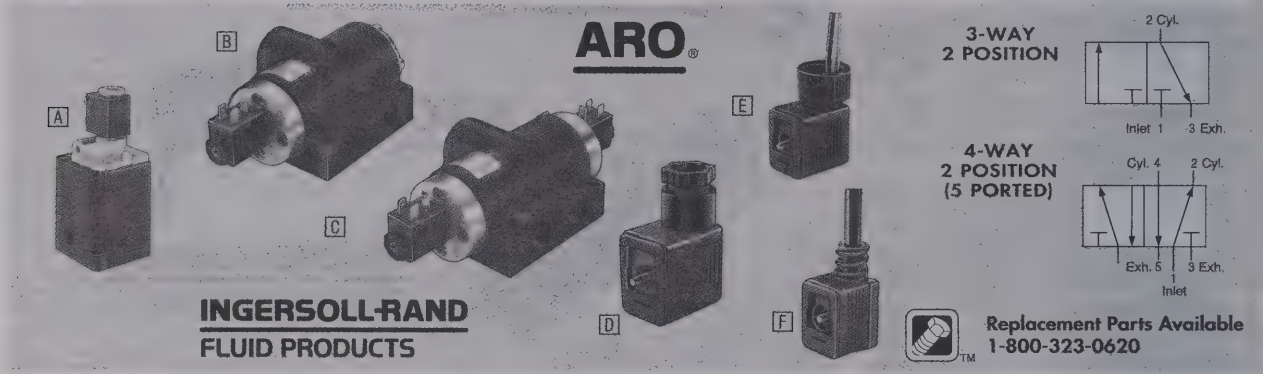

### ACCESSORIES FOR COMPACT STACKING POWER VALVES

| Key | Description | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | Stacking End Plate Kit | MKP | 2G599 | $24.75 | $23.14 | 0.5 |
| B | Isolator Plate | PTN | 2G601 | 3.10 | 2.89 | 0.1 |
| C | Short "L" Mounting Bracket | 116808 | 2F807 | 15.75 | 14.71 | 0.6 |
| C | Tall "L" Mounting Bracket | 116807 | 2F805 | 17.00 | 15.91 | 0.7 |
| D | Short "Z" Mounting Bracket | 117987 | 2F815 | 19.50 | 18.32 | 0.9 |
| D | Tall "Z" Mounting Bracket | 116809 | 2F809 | 23.75 | 22.19 | 0.7 |
| E | Junction Box | 117541 | 2F811 | 21.50 | 20.02 | 0.2 |
| F | Blank Junction Box | 117607 | 2F813 | 12.75 | 11.81 | 0.1 |

| Key | Description | Voltage | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | **COILS FOR ARO VALVES** | | | | | | |
| G | Coil for Solenoid | 5 VDC | 116218-37 | 2F791 | $11.00 | $9.93 | 0.1 |
| G | Coil for Solenoid | 12 VDC | 116218-38 | 4HN40 | 11.00 | 10.18 | 0.2 |
| G | Coil for Solenoid | 24 VDC | 116218-39 | 2F793 | 11.00 | 10.18 | 0.1 |
| G | Coil for Solenoid | 120 VAC | 116218-33 | 4HN39 | 11.00 | 10.18 | 0.2 |
| G | Coil for Solenoid | 240 VAC | 116218-35 | 2F789 | 11.00 | 9.93 | 0.1 |
| | **CONNECTORS FOR ARO COILS** | | | | | | |
| H | Solenoid Connector Without Lead Wires | Any ARO Coil | CSN | 2G505 | 5.80 | 5.43 | 0.1 |
| I | Solenoid Connector With 18" Lead Wire | Any ARO Coil | CDW | 2G501 | 7.60 | 7.17 | 0.1 |
| J | Solenoid Connector With 36" Molded Wire | Any ARO Coil | CHW | 2G503 | 9.80 | 9.21 | 0.1 |

# SOLENOID VALVES AND ANTI-TIE DOWN CONTROLS

## 1/2 & 3/4" PORT SOLENOID VALVES




**For applications where extra flow is needed.** 4-way, 2-position valves feature rugged construction aluminum sand cast bodies. Solenoid override provides easy means of setting up and troubleshooting circuits without power to the solenoids. Operating pressure range: solenoid/spring 50-150 PSI, solenoid/solenoid 20-150 PSI. Prelubed, can be operated without air line lubrication. Solenoid can be rotated in any direction. Class F, rated for 100% duty cycle applications at 122°F (50°C) ambient. Total coil rating is 311°F which includes heat rise.

One connector required for each coil. Each connector is its own junction box with molded connectors and gaskets to protect electrical connections. Design meets NEMA 4 classifications. See connector options below. ARO brand.

Additional coil voltages available on page 2943.

### 3-WAY, 2-POSITION VALVES

| Key | Port Size NPT (In.) | Actuator/ Return | Coil | Max. Temp. Range (°F) | Max. Operating Pressure (PSI) | CFM | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3/8 | Solenoid/Spring | 12 VDC | -10 - 180 | 150 | 81 | 6 | 2¾ | 3 | H253SS-012-D | **4HN59** | $194.50 | **$180.00** | 2.5 |
| A | 3/8 | Solenoid/Spring | 120 VAC | -10 - 180 | 150 | 81 | 6 | 2¾ | 3 | H253SS-120-A | **4HN60** | 194.50 | **180.00** | 2.5 |
| A | 3/8 | Solenoid/Spring | * | -10 - 180 | 150 | 81 | 6 | 2¾ | 3 | H253SS-000-N | **4HN58** | 183.50 | **170.25** | 2.4 |
| A | 1/2 | Solenoid/Spring | 12 VDC | -10 - 180 | 150 | 85 | 6¼ | 4 | 3½ | H254SS-012-D-G | **4HN62** | 215.00 | **197.50** | 2.4 |
| A | 1/2 | Solenoid/Spring | 120 VAC | -10 - 180 | 150 | 85 | 6¼ | 4 | 3½ | H254SS-120-A-G | **4HN63** | 215.00 | **197.50** | 2.4 |
| A | 1/2 | Solenoid/Spring | * | -10 - 180 | 150 | 85 | 6¼ | 4 | 3½ | H254SS-000-N-G | **4HN61** | 204.00 | **188.00** | 2.3 |

(*) Coils and connectors available separately. See page 2943.

### 4-WAY, 2-POSITION VALVES

| Key | Port Size NPT (In.) | Actuator/ Return | Coil | Max. Temp. Range (°F) | Maximum Operating Pressure (PSI) | CFM | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | 1/2 | Solenoid/Spring | 120 VAC | -10-180 | 150 | 90 | 6⅞ | 3½ | 2½ | K214SS-120-A | **2G553** | $188.00 | **$175.50** | 3.2 |
| B | 3/4 | Solenoid/Spring | 120 VAC | -10-180 | 150 | 270 | 10⅝ | 4½ | 3½ | K216SS-120-A | **2G557** | 311.00 | **289.75** | 1.3 |
| C | 1/2 | Solenoid/Solenoid | 120 VAC | -10-180 | 150 | 90 | 8¾ | 3½ | 2½ | K214SD-120-A | **2G555** | 260.00 | **242.25** | 1.3 |
| C | 3/4 | Solenoid/Solenoid | 120 VAC | -10-180 | 150 | 270 | 12⅝ | 4½ | 3½ | K216SD-120-A | **2G559** | 382.00 | **356.75** | 1.3 |

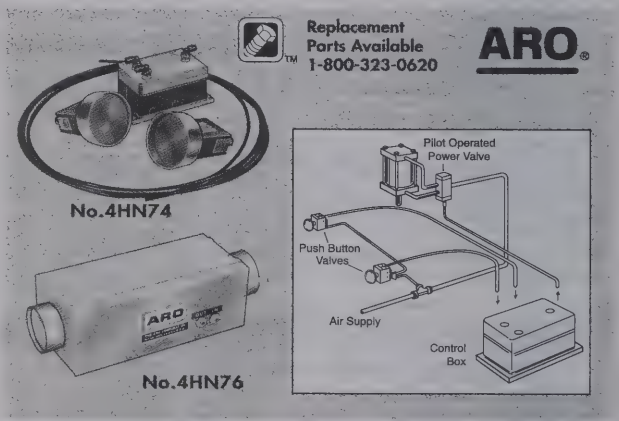
## TWO HAND ANTI-TIE DOWN CONTROLS

All-pneumatic,unitized control circuit designed to produce an output signal to machine only when it receives two concurrent signals from the push button valves at operator's station. Suited for industrial machines where it is desirable to monitor position of operator's hands throughout the hazardous portion of machine cycle.

No. 4HN74 unassembled package includes anti-tie down control box, 2 push button valves 21/4" dia., 10 ft. of 5/32" tubing, and fittings.

No. 4HN76 assembled package comes with all internal connections ready to install on machine. 21/4" Diameter. push buttons located on opposite ends of a single enclosure. External supply and output to machine made by 5/32" (4mm) instant tube fittings. Do not use on any revolutionary press.

WARNING: These provide only the anti-tie down logic function and not stroke limiting devices. On machines with full revolution clutches and/or where repeat cycles can occur, approved safety and/or single stroke devices must be used in conjunction with the anti-tie down units.



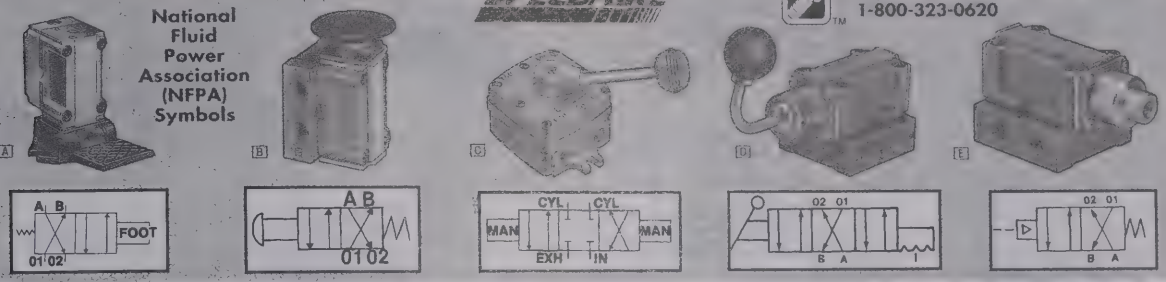

| Description | Pipe Size (In.) | Operating Pressure (PSI) | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Unassembled Control Package | 5/32 Tubing | 50-125 | 4½ | 2½ | 2 | 59003-842 | **4HN74** | $245.00 | **$236.25** | 4.5 |
| Assembled Control Package | 5/32 Tubing | 50-125 | 10 | 3⅝ | 4⅜ | 59809 | **4HN76** | 429.00 | **402.75** | 6.3 |

# HIGH-FLOW MANUAL AIR VALVES

SPEEDAIRE®

Replacement Parts Available
1-800-323-0620

National Fluid Power Association (NFPA) Symbols




**Heavy-duty high-flow manual air valves are available in foot, palm button, hand, and air actuated types. 0 to 150 PSI operating pressure.**

## A No. 6X367 FOOT AND B No. 1A208 PALM BUTTON VALVES

**Four-way, Two-position**, direct operated, spring return, spool-poppet valves for use with air cylinders. Can be operated as two-way or three-way, open or close center.

All valve parts are corrosion resistant. Poppet in valve is integral with spool, which is only moving part. Spool and stainless steel return spring can be removed from valve body through the top.

**Foot valve No. 6X367** has pneumatically balanced mechanism with actuation free from effect of line pressure. Can be used for vacuum service to 28" Hg.

**Palm button valve No. 1A208** is actuated by pressing down on sturdy button. Can be used for vacuum service to 26" Hg.

## C Nos. 5A545, 6X366 AND 5A546 HAND THROTTLE VALVES

**Four-way, three-position**, rotary disc valve operates single or double acting cylinders. Cylinder speed or position can be precisely controlled by adjusting throttle. Forged bronze disc and cast iron surface are ground and lapped to provide leak proof seal. Air pressure from inlet port is confined beneath disc, making seal tighter as pressure increases, yet only requires 15 pounds of force to move lever at 100 PSI line pressure. Handle comes disassembled and mounts in any of four positions, 90° apart to meet any operator or machine requirement.

## D No. 5A543 HAND LOCKING DETENT VALVE

**Four-way, two position** spool valve is used to operate double acting cylinders. Valve may also be used as two or three-way valve. Locking handle maintains desired spool position by means of a detent. 28" Hg to 150 PSI operating pressure. 3/8" NPT.

## E No. 5A544 AIR PILOT CONTROL VALVE

**Four-way, two position** air pressure actuated valve for use with double acting cylinders. may also be used as a two or three-way valve used to operate double acting cylinders. May also be used as two or three-way valve. A minimum of a 30 PSI maintained signal will shift and hold spool in desired position. Loss of signal will shift spool back to original position by means of a spring. 28" Hg to 150 PSI operating pressure. 3/8" NPT.

## HIGH FLOW AIR VALVES SPECIFICATIONS AND ORDERING DATA

| Key | Valve Type | NPT Size (In.) | Cv.* | Max. PSI | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Foot | 3/8 | 1.5 | 150 | 4 7/32 | 3 5/32 | 4 1/8 | 6X367 | $169.75 | $155.25 | 1.7 |
| B | Palm Button | 3/8 | 1.5 | 150 | 2 1/2 | 2 1/2 | 4 | 1A208 | 153.88 | 140.40 | 1.5 |
| C | Hand Throttle | 1/4 | 2.2 | 150 | 6 13/16 | 4 3/4 | 3 25/32 | 5A545 | 109.15 | 100.25 | 3.9 |
| C | Hand Throttle | 3/8 | 2.6 | 150 | 6 13/16 | 4 3/4 | 3 25/32 | 6X366 | 109.15 | 100.25 | 3.9 |
| C | Hand Throttle | 1/2 | 5.3 | 150 | 8 1/2 | 4 1/4 | 4 1/4 | 5A546 | 143.17 | 135.40 | 7.1 |
| D | Hand Locking | 3/8 | 1.5 | 150 | 7 | 2 1/2 | 3 1/2 | 5A543 | 185.93 | 170.00 | 2.0 |
| E | Air Actuated | 3/8 | 1.5 | 150 | 4 1/4 | 2 1/4 | 2 1/2 | 5A544 | 155.45 | 141.95 | 1.6 |

(*) Coefficient of volume. The amount of water in GPM at standard conditions (60° specify gravity = 1) which will pass through the valve at full open with a PSI pressure drop.

## TECHNICAL REFERENCE HANDBOOK

By E.P. Rasis. This book meets the need for a textbook/reference book for laboratory and classroom that is also a reliable on-the-job reference source for workers in the industrial and technical trades. Covers mathematics, units of measurement, machine tool technology, mechanics, strength of materials, and machine elements. In easy-to-understand language, the Handbook presents practical skills for solving technical problems, as well as important new concepts that bring the reader up to date with the latest developments in industrial technology. More than 200 illustrations and graphs supplement the textual information. 232 pages, hard cover.

**No. 5H671.** Shpg. wt. 0.5 lbs. .....List $22.25.
Each .....$21.75

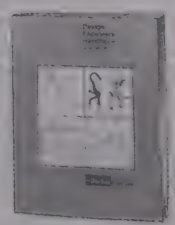



No. 5H671

## DESIGN ENGINEERS HANDBOOK

An advanced technical training and reference manual to aid engineers, designers, builders and users of fluid power components and systems. Includes pertinent information on the selection, installation and maintenance of fluid power products most commonly used in industry today. Table of contents and index have been organized for rapid identification and location of information. Parker Bulletin 0224-B1.

**No. 5H655.** Shpg. wt. 2.0 lbs. List .....$31.58.
Each .....$24.71



No. 5H655

# 3-WAY MANUAL AND MECHANICAL VALVES



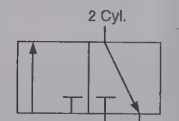

**ARO 1/8, 1/4 and 3/8-inch valves** for manual or mechanical operations in low to moderate flow applications such as small bore pneumatic cylinders. Available in 3- or 4-way, 2- or 3-position. Compact design for use as small power valve where space is limited. Durable aluminum extrusion body for good corrosion resistance. Valves are prelubed, can be operated without air line lubrication. Available with hand lever, palm button, roller cam, cam stem, foot pedal or treadle actuators.

## 3-WAY COMPACT MANUAL AND MECHANICAL VALVE SPECIFICATIONS AND ORDERING DATA

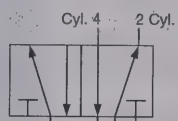
| Key | Port Size NPT (In.) | Actuator / Return | Max. Temp. Range (°F) | Max. Operating Pressure (PSI) | CFM | Cv* | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3-WAY, 2-POSITION VALVES** | | | | | | | | | | | | | | |
| **A** | 1/8 | Hand Lever/Spring | -10-180 | 150 | 7.5 | 0.43 | 3 15/32 | 1 1/2 | 3 13/16 | 5030-01 | **2F931** | $55.50 | **$52.15** | 0.5 |
| **A** | 1/8 | Hand Lever/Manual | -10-180 | 150 | 7.5 | 0.43 | 3 15/32 | 1 1/2 | 3 13/16 | 5030-10 | **2F939** | 55.00 | **51.65** | 0.5 |
| **A** | 1/4 | Hand Lever/Spring | -10-180 | 200 | 26 | 0.70 | 5 7/32 | 1 3/4 | 3 7/8 | E252LS | **2G533** | 61.00 | **57.40** | 0.9 |
| **A** | 1/4 | Hand Lever/Manual | -10-180 | 200 | 26 | 0.70 | 4 3/16 | 1 3/4 | 3 7/8 | E252LM | **2G531** | 53.50 | **50.65** | 0.9 |
| **B** | 1/8 | Palm Button/Spring | -10-180 | 150 | 7.5 | 0.43 | 3 11/32 | 1 3/4 | 1 3/4 | 5030-02 | **2F933** | 53.00 | **49.75** | 0.4 |
| **B** | 1/8 | Palm Button/Manual | -10-180 | 150 | 7.5 | 0.43 | 3 11/32 | 1 3/4 | 1 3/4 | 5030-12 | **2F941** | 52.00 | **48.80** | 0.4 |
| **B** | 1/4 | Palm Button/Spring | -10-180 | 200 | 26 | 0.70 | 6 1/2 | 1 3/4 | 1 3/4 | E252HS | **2G529** | 57.50 | **54.00** | 0.7 |
| **B** | 1/4 | Palm Button/Manual | -10-180 | 200 | 26 | 0.70 | 5 15/32 | 1 3/4 | 1 3/4 | E252HM | **2G527** | 53.50 | **50.65** | 0.6 |
| **C** | 1/8 | Roller Cam/Spring | -10-180 | 150 | 7.5 | 0.43 | 3 23/32 | 1 1/2 | 3/4 | 5030-05 | **2F935** | 55.50 | **52.15** | 0.4 |
| **C** | 1/4 | Roller Cam/Spring | -10-180 | 200 | 26 | 0.70 | 5 7/16 | 1 3/4 | 1 | E252RS | **2G535** | 57.50 | **53.75** | 0.7 |
| **D** | 1/8 | Cam Stem/Spring | -10-180 | 150 | 7.5 | 0.43 | 2 25/32 | 1 1/2 | 3/4 | 5030-06 | **2F937** | 50.50 | **48.00** | 0.3 |
| **D** | 1/4 | Cam Stem/Spring | -10-180 | 200 | 26 | 0.70 | 5 3/16 | 1 3/4 | 1 | E252CS | **2G523** | 55.00 | **51.65** | 0.8 |
| **E** | 1/4 | Foot Pedal/Spring | -10-180 | 200 | 26 | 0.70 | 9 9/32 | 4 | 2 | E252FS | **2G525** | 70.50 | **66.60** | 1.5 |
| **F** | 1/4 | Treadle/Manual | -10-180 | 200 | 26 | 0.70 | 8 11/32 | 2 3/4 | 4 5/8 | E252TM | **2G537** | 65.50 | **61.35** | 1.9 |
| **G** | 1/4 | Foot Guard | N/A | N/A | N/A | N/A | 12 1/4 | 6 1/2 | 7 | 20965-1 | **2F899**† | 66.00 | **61.45** | 7.4 |

(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with a 1 PSI pressure drop. (†) For use with No. 2G509 only

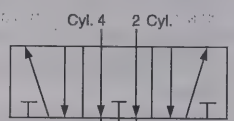
## VALVE SCHEMATICS



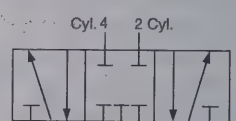
3-WAY 2-POSITION
NORMALLY NON-PASSING



4-WAY
2-POSITION (5 PORTED)



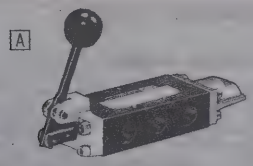
4-WAY 3-POSITION
OPEN CENTER

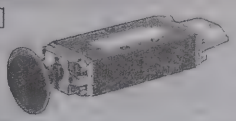


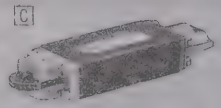
4-WAY 3-POSITION
CLOSED CENTER

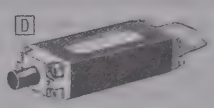
CONTINUED ON NEXT PAGE

# 4-WAY MANUAL AND MECHANICAL VALVES







ARO®

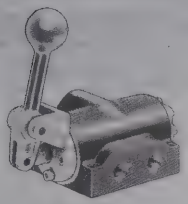
INGERSOLL-RAND

FLUID PRODUCTS



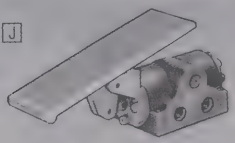













Replacement Parts Available 1-800-323-0620

## 4-WAY COMPACT MANUAL AND MECHANICAL VALVE SPECIFICATIONS AND ORDERING DATA

| Key | Port Size NPT (In.) | Actuator / Return | Max. Temp. Range (°F) | Max. Operating Pressure (PSI) | CFM | Cv* | Dimensions (In.) L | W | H | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4-WAY, 2-POSITION VALVES** | | | | | | | | | | | | | | |
| A | 1/8 | Hand Lever/Spring | -10-180 | 150 | 7.5 | 0.43 | 3 11/32 | 1 1/2 | 3 1/16 | 5040-01 | 2F943 | $60.00 | $56.20 | 0.6 |
| A | 1/8 | Hand Lever/Manual | -10-180 | 150 | 7.5 | 0.43 | 3 11/32 | 1 1/2 | 3 1/16 | 5040-10 | 2F951 | 59.50 | 56.20 | 0.6 |
| A | 1/4 | Hand Lever/Spring | -10-180 | 200 | 26 | 0.70 | 6 7/32 | 1 3/4 | 3 5/8 | E212LS | 2G517 | 70.50 | 66.75 | 1.0 |
| A | 1/4 | Hand Lever/Manual | -10-180 | 200 | 26 | 0.70 | 5 1/16 | 1 3/4 | 3 5/8 | E212LM | 2G515 | 68.50 | 64.65 | 0.9 |
| B | 1/8 | Palm Button/Spring | -10-180 | 150 | 7.5 | 0.43 | 3 27/32 | 1 1/2 | 1 3/4 | 5040-02 | 2F945 | 59.50 | 56.20 | 0.4 |
| B | 1/8 | Palm Button/Manual | -10-180 | 150 | 7.5 | 0.70 | 3 27/32 | 1 3/4 | 1 3/4 | 5040-12 | 2F953 | 58.00 | 54.25 | 0.4 |
| B | 1/4 | Palm Button/Spring | -10-180 | 200 | 26 | 0.70 | 6 1/2 | 1 3/4 | 1 3/4 | E212HS | 2G513 | 70.50 | 66.75 | 1.0 |
| B | 1/4 | Palm Button/Manual | -10-180 | 200 | 26 | 0.70 | 5 1/16 | 1 3/4 | 1 3/4 | E212HM | 2G511 | 66.50 | 62.90 | 0.8 |
| C | 1/8 | Roller Cam/Spring | -10-180 | 150 | 7.5 | 0.43 | 4 7/32 | 1 1/2 | 3/4 | 5040-05 | 2F947 | 60.00 | 56.20 | 0.5 |
| C | 1/4 | Roller Cam/Spring | -10-180 | 200 | 26 | 0.70 | 5 7/16 | 1 3/4 | 1 | E212RS | 2G519 | 70.00 | 65.30 | 0.8 |
| D | 1/8 | Cam Stem/Spring | -10-180 | 150 | 7.5 | 0.43 | 3 25/32 | 1 1/2 | 3/4 | 5040-06 | 2F949 | 57.00 | 53.30 | 0.4 |
| D | 1/4 | Cam Stem/Spring | -10-180 | 200 | 26 | 0.70 | 6 9/16 | 1 3/4 | 1 | E212CS | 2G507 | 68.00 | 64.35 | 0.8 |
| E | 1/4 | Foot Pedal/Spring | -10-180 | 200 | 26 | 0.70 | 10 9/32 | 4 | 2 | E212FS | 2G509 | 82.00 | 77.80 | 1.7 |
| F | 1/4 | Foot Treadle/Manual | -10-180 | 200 | 26 | 0.70 | 10 1/2 | 2 3/4 | 4 5/8 | E212TM | 2G521 | 74.50 | 70.10 | 2.0 |
| G | 1/4 | Foot Guard | NA | NA | NA | NA | 12 3/4 | 6 1/2 | 7 | 20965-1 | 2F899 † | 66.00 | 61.45 | 7.1 |
| H | 3/8 | Hand Lever/Manual | -10-180 | 150 | 83 | 2.3 | 7 1/4 | 6 3/4 | 4 | K213LM | 4HN65 | 139.00 | 128.65 | 3.3 |
| H | 3/8 | Hand Lever/Spring | -10-180 | 150 | 83 | 2.3 | 7 1/4 | 6 3/4 | 4 | K213LS | 4HN66 | 142.00 | 131.60 | 3.4 |
| I | 3/8 | Foot Pedal/Spring | -10-180 | 150 | 83 | 2.3 | 13 | 5 1/4 | 4 | K213FS | 4HN64 | 151.00 | 139.70 | 3.6 |
| J | 3/8 | Foot Treadle/Manual | -10-180 | 150 | 83 | 2.3 | 13 | 5 1/4 | 4 | K213TM | 4HN67 | 155.50 | 143.60 | 4.0 |
| **4-WAY, 3-POSITION VALVES (All Ports Blocked in Neutral)** | | | | | | | | | | | | | | |
| A | 1/4 | Hand Lever/Spring Centered | -10-180 | 200 | 26 | 0.70 | 6 9/16 | 1 3/4 | 3 5/8 | E312LS | 2G539 | 85.50 | 80.15 | 1.2 |
| A | 1/4 | Hand Lever/Manual | -10-180 | 200 | 26 | 0.70 | 5 1/16 | 1 3/4 | 3 5/8 | E512LM | 2G541 | 81.00 | 76.35 | 0.9 |
| H | 3/8 | Hand Lever/Spring | -10-180 | 150 | 83 | 2.3 | 7 1/4 | 6 3/4 | 4 | K313LS | 4HN68 | 160.00 | 147.80 | 3.4 |
| H | 3/8 | Hand Lever/Manual | -10-180 | 150 | 83 | 2.3 | 7 1/4 | 6 3/4 | 4 | K513LM | 4HN69 | 157.00 | 144.90 | 3.3 |
| J | 3/8 | Foot Treadle/Manual | -10-180 | 150 | 83 | 2.3 | 13 | 5 1/4 | 4 | K513TM | 4HN70 | 163.50 | 151.25 | 4.0 |
| **4-WAY, 3-POSITION VALVES (Inlet Port Blocked, Cylinder Ports Open)** | | | | | | | | | | | | | | |
| A | 1/4 | Hand Lever/Manual | -10-180 | 200 | 26 | 0.70 | 6 9/16 | 1 3/4 | 3 5/8 | E612LM | 2G543 | 81.00 | 76.35 | 0.9 |
| A | 1/4 | Hand Lever/Spring Centered | -10-180 | 200 | 26 | 0.70 | 6 1/16 | 1 3/4 | 3 5/8 | E712LS | 2G545 | 85.50 | 80.15 | 1.2 |
| H | 3/8 | Hand Lever/Manual | -10-180 | 150 | 83 | 2.3 | 7 1/4 | 6 3/4 | 4 | K613LM | 4HN71 | 163.50 | 151.25 | 3.3 |
| H | 3/8 | Hand Lever/Spring | -10-180 | 150 | 83 | 2.3 | 7 1/4 | 6 3/4 | 4 | K713LS | 4HN73 | 164.50 | 152.50 | 3.4 |
| J | 3/8 | Foot Treadle/Manual | -10-180 | 150 | 83 | 2.3 | 13 | 5 1/4 | 4 | K613TM | 4HN72 | 171.50 | 158.75 | 4.0 |

(*) Coefficient of Volume: The amount of water, in GPM, at standard conditions, which will pass through the valve at full open with a 1 PSI pressure drop.
(†) For use with No. 2G509 only.

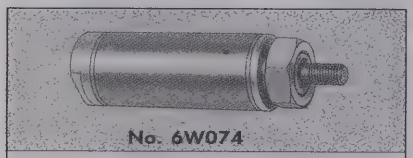
# STAINLESS STEEL BODY AIR CYLINDERS

- **Dimensionally interchangeable with leading manufacturers**
- **Type 304 stainless steel body**
- **Type 303 hard chrome-plated stainless steel piston rod**
- **250 PSI maximum operating pressure**
- **Pre-lubricated**
- **All single acting cylinders are spring loaded**

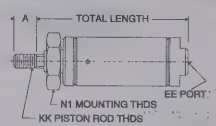
**Speedaire stainless steel body air cylinders** for pneumatic applications that do not require heavier duty, square head-tie rod cylinders. Available in eight popular bore sizes, 7/16", 9/16", 3/4", 1 1/16", 1 1/4", 1 1/2", 2" and 2 1/2". Single and double acting units available (2 1/2" bore are double acting only) in a variety of stroke lengths and mounting styles. **Cylinder is dimensionally interchangeable with leading manufacturers, allowing for model and mounting retrofit (see Interchange Guide).**

All units feature high-strength, double rolled Type 304 stainless steel body and aluminum alloy end caps. Piston rods are chrome-plated Type 303 stainless steel with rolled threads that are spin-riveted into aluminum alloy pistons for extended service life in high cycle applications. Sintered bronze bearing (except on Nos. 6W074-75, 6W087-88, 6W116-117 and 6W134-135) provides resistance to side load. Nitrile "U" cup piston and rod seals ensure low breakaway friction and leak free operation. Recommended for operating temperatures of -20° to 200°F.

**Note:** Nose mount units include mounting nut. Pivot mount units include stationary pivot pin (except 2" and 2 1/2" bores). Double end mount units include two mounting nuts. Pivot brackets, foot brackets and rod clevis ordered separately.



No. 6W074




| Bore (In.) | A | EE | KK | N1 |
|---|---|---|---|---|
| 7/16 | .50 | 10-32 | 10-32 | 3/8-24 |
| 9/16 | .50 | 10-32 | 10-32 | 7/16-20 |
| 3/4 | .50 | 1/8 NPT | 1/4-28 | 1/2-20 |
| 1 1/16 | .50 | 1/8 NPT | 5/16-24 | 5/8-18 |
| 1 1/4 | .75 | 1/8 NPT | 7/16-20 | 3/4-16 |
| 1 1/2 | .75 | 1/8 NPT | 7/16-20 | 3/4-16 |
| 2 | .88 | 1/4 NPT | 1/2-20 | 1 1/4-12 |

| TOTAL LENGTH (In.) | | | | | |
|---|---|---|---|---|---|
| Bore (In.) | 1/2" | 1" | 1 1/2" | 2" | 3" |
| 7/16 | 2.25 | 3.19 | 4.12 | 5.07 | — |
| 9/16 | 2.66 | 3.15 | 4.27 | 4.77 | — |
| 3/4 | — | 3.19 | — | 4.88 | 6.57 |
| 1 1/16 | — | 3.50 | — | 5.06 | 6.62 |
| 1 1/4 | — | 4.47 | — | 6.28 | 8.09 |
| 1 1/2 | — | 4.13 | — | 5.82 | 7.51 |
| 2 | — | 5.41 | — | 7.41 | 8.66 |

SPEEDAIRE

**Multiply air line pressure by Power Factor to determine approximate cylinder force output in pounds.**

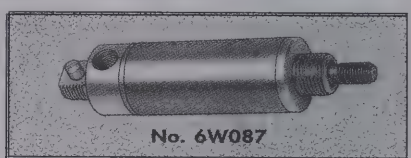
| POWER FACTORS | | |
|---|---|---|
| Bore (In.) | Extend | Retract+ |
| 7/16 | 0.15 | 0.12 |
| 9/16 | 0.25 | 0.22 |
| 3/4 | 0.44 | 0.39 |
| 1 1/16 | 0.89 | 0.81 |
| 1 1/4 | 1.23 | 1.08 |
| 1 1/2 | 1.77 | 1.62 |
| 2 | 3.14 | 2.84 |
| 2 1/2 | 4.91 | 4.61 |

+Double acting only

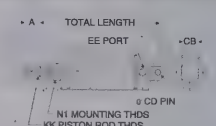
**Spring forces only apply to single acting cylinders.**

| APPROXIMATE SPRING FORCES | | |
|---|---|---|
| Bore (In.) | Retraction Force* (Lbs.) | Extension Force (Lbs.) |
| 7/16 | 1 | 2 |
| 9/16 | 2 | 4 |
| 3/4 | 3 | 6 |
| 1 1/16 | 3 | 6 |
| 1 1/4 | 7.5 | 15 |
| 1 1/2 | 6 | 12 |
| 2 | 15 | 30 |

*Single acting only.



No. 6W087




| Bore (In.) | A | CB | CD | EE | KK | N1 |
|---|---|---|---|---|---|---|
| 7/16 | .50 | .31 | .156 | 10-32 | 10-32 | 3/8-24 |
| 9/16 | .50 | .31 | .156 | 10-32 | 10-32 | 7/16-20 |
| 3/4 | .50 | .38 | .250 | 1/8 NPT | 1/4-28 | 1/2-20 |
| 1 1/16 | .50 | .38 | .250 | 1/8 NPT | 5/16-24 | 5/8-18 |
| 1 1/4 | .75 | .50 | .250 | 1/8 NPT | 7/16-20 | 3/4-16 |
| 1 1/2 | .75 | .62 | .375 | 1/8 NPT | 7/16-20 | 3/4-16 |
| 2 | .88 | .75 | .375 | 1/4 NPT | 1/2-20 | 1 1/4-12 |

| TOTAL LENGTH | | | | | |
|---|---|---|---|---|---|
| Bore (In.) | 1/2" | 1" | 1 1/2" | 2" | 3" |
| 7/16 | 2.69 | 3.63 | 4.57 | 5.51 | — |
| 9/16 | 2.93 | 3.43 | 4.55 | 5.05 | — |
| 3/4 | — | 3.97 | — | 5.66 | 7.35 |
| 1 1/16 | — | 4.22 | — | 5.78 | 7.34 |
| 1 1/4 | — | 5.19 | — | 7.00 | 8.81 |
| 1 1/2 | — | 4.81 | — | 6.50 | 8.19 |
| 2 | — | 6.34 | — | 8.34 | 9.59 |

## SINGLE ACTING (NOSE MOUNT) ORDERING DATA

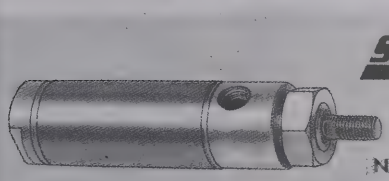
| Bore (In.) | Stroke (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 7/16 | 1/2 | 6W074 | $9.80 | $9.80 | 0.1 |
| 7/16 | 1 | 6W075 | 10.74 | 10.71 | 0.1 |
| 7/16 | 1 1/2 | 6W116 | 11.72 | 11.65 | 0.1 |
| 7/16 | 2 | 6W135 | 12.70 | 12.56 | 0.1 |
| 9/16 | 1/2 | 6D823 | 11.05 | 10.94 | 0.1 |
| 9/16 | 1 | 6D828 | 12.00 | 11.88 | 0.1 |
| 9/16 | 1 1/2 | 6D833 | 12.95 | 12.82 | 0.1 |
| 9/16 | 2 | 6D838 | 13.90 | 13.76 | 0.2 |
| 3/4 | 1 | 6W070 | 13.43 | 13.24 | 0.2 |
| 3/4 | 2 | 6W097 | 15.34 | 15.13 | 0.3 |
| 3/4 | 3 | 6W111 | 17.34 | 17.02 | 0.4 |
| 1 1/16 | 1 | 6W071 | 15.29 | 15.07 | 0.3 |
| 1 1/16 | 2 | 6W101 | 17.69 | 17.41 | 0.5 |
| 1 1/16 | 3 | 6W124 | 20.18 | 19.75 | 0.6 |
| 1 1/4 | 1 | 6D843 | 24.60 | 24.35 | 0.6 |
| 1 1/4 | 2 | 6D848 | 27.75 | 27.50 | 0.8 |
| 1 1/4 | 3 | 6D853 | 30.85 | 30.60 | 1.0 |
| 1 1/2 | 1 | 6W084 | 28.84 | 28.10 | 0.9 |
| 1 1/2 | 2 | 6W110 | 32.51 | 31.65 | 1.0 |
| 1 1/2 | 3 | 6W137 | 36.19 | 35.15 | 1.1 |
| 2 | 1 | 6D867 | 51.70 | 51.25 | 2.0 |
| 2 | 2 | 6D872 | 56.75 | 56.25 | 2.3 |
| 2 | 3 | 6D877 | 61.75 | 61.20 | 2.8 |

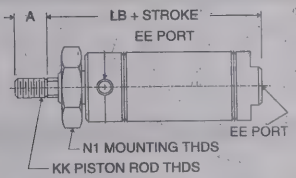
## SINGLE ACTING (PIVOT MOUNT) ORDERING DATA

| Bore (In.) | Stroke (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 7/16 | 1/2 | 6W087 | $12.99 | $12.84 | 0.1 |
| 7/16 | 1 | 6W088 | 13.97 | 13.78 | 0.1 |
| 7/16 | 1 1/2 | 6W117 | 14.95 | 14.72 | 0.1 |
| 7/16 | 2 | 6W134 | 15.93 | 15.62 | 0.1 |
| 9/16 | 1/2 | 6D824 | 14.10 | 13.96 | 0.1 |
| 9/16 | 1 | 6D829 | 15.05 | 14.90 | 0.1 |
| 9/16 | 1 1/2 | 6D834 | 16.00 | 15.84 | 0.1 |
| 9/16 | 2 | 6D839 | 16.95 | 16.78 | 0.2 |
| 3/4 | 1 | 6W078 | 16.51 | 16.22 | 0.3 |
| 3/4 | 2 | 6W098 | 18.47 | 18.07 | 0.3 |
| 3/4 | 3 | 6W133 | 20.47 | 20.00 | 0.5 |
| 1 1/16 | 1 | 6W079 | 18.42 | 18.07 | 0.5 |
| 1 1/16 | 2 | 6W104 | 20.86 | 20.40 | 0.6 |
| 1 1/16 | 3 | 6W108 | 23.26 | 22.78 | 0.9 |
| 1 1/4 | 1 | 6D844 | 29.05 | 28.80 | 0.6 |
| 1 1/4 | 2 | 6D849 | 32.20 | 31.95 | 0.8 |
| 1 1/4 | 3 | 6D854 | 35.30 | 34.95 | 1.0 |
| 1 1/2 | 1 | 6W092 | 32.96 | 32.05 | 1.0 |
| 1 1/2 | 2 | 6W139 | 36.63 | 35.55 | 1.0 |
| 1 1/2 | 3 | 6W138 | 40.35 | 39.15 | 1.5 |
| 2 | 1 | 6D868 | 58.25 | 57.70 | 2.0 |
| 2 | 2 | 6D873 | 63.30 | 62.70 | 2.3 |
| 2 | 3 | 6D878 | 68.30 | 67.65 | 2.8 |

# STAINLESS STEEL BODY AIR CYLINDERS

## DOUBLE ACTING (NOSE MOUNT)



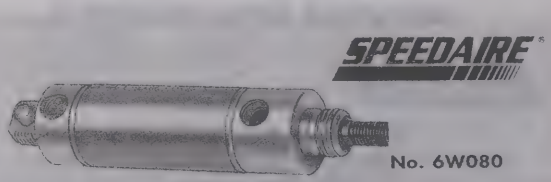



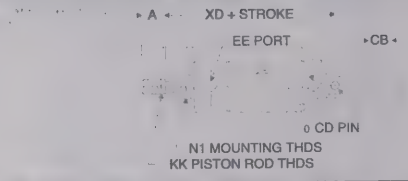

| Bore (In.) | A | EE | KK | LB | N1 |
|---|---|---|---|---|---|
| 7/16 | .50 | 10-32 | 10-32 | 2.12 | 7/16-20 |
| 9/16 | .50 | 10-32 | 10-32 | 2.28 | 7/16-20 |
| 3/4 | .50 | 1/8NPT | 1/4-28 | 2.97 | 5/8-18 |
| 1 1/16 | .50 | 1/8NPT | 5/16-24 | 3.12 | 5/8-18 |
| 1 1/4 | .75 | 1/8NPT | 7/16-20 | 4.00 | 3/4-16 |
| 1 1/2 | .75 | 1/8NPT | 7/16-20 | 3.69 | 3/4-16 |
| 2 | .88 | 1/4NPT | 1/2-20 | 4.69 | 1 1/4-12 |
| 2 1/2 | .88 | 1/4NPT | 1/2-20 | 4.69 | 1 3/8-12 |

| Bore (In.) | Stroke (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **7/16** | 1/2 | **6W077** | $13.24 | **$13.10** | 0.1 |
| **7/16** | 1 | **6W076** | 13.97 | **13.78** | 0.1 |
| **7/16** | 1 1/2 | **6W096** | 14.66 | **14.41** | 0.1 |
| **7/16** | 2 | **6W093** | 15.34 | **15.09** | 0.1 |
| **9/16** | 1/2 | **6D821** | 14.25 | **14.11** | 0.1 |
| **9/16** | 1 | **6D826** | 14.90 | **14.75** | 0.1 |
| **9/16** | 1 1/2 | **6D831** | 15.60 | **15.44** | 0.1 |
| **9/16** | 2 | **6D836** | 16.30 | **16.13** | 0.2 |
| **3/4** | 1 | **6W072** | 16.02 | **15.72** | 0.2 |
| **3/4** | 2 | **6W089** | 17.39 | **17.05** | 0.3 |
| **3/4** | 3 | **6W099** | 18.76 | **18.39** | 0.4 |
| **3/4** | 4 | **6W122** | 20.18 | **19.73** | 0.5 |
| **3/4** | 5 | **6W159** | 21.55 | **21.06** | 0.6 |
| **3/4** | 6 | **6W150** | 22.92 | **22.35** | 0.5 |
| **1 1/16** | 1 | **6W073** | 18.52 | **18.13** | 0.3 |
| **1 1/16** | 2 | **6W090** | 19.89 | **19.50** | 0.6 |
| **1 1/16** | 3 | **6W105** | 21.30 | **20.82** | 0.5 |
| **1 1/16** | 4 | **6W123** | 22.72 | **22.16** | 0.6 |
| **1 1/16** | 5 | **6W160** | 24.10 | **23.51** | 0.8 |
| **1 1/16** | 6 | **6W151** | 25.47 | **24.85** | 0.9 |
| **1 1/4** | 1 | **6D841** | 28.55 | **28.30** | 0.7 |
| **1 1/4** | 2 | **6D846** | 30.35 | **30.05** | 0.8 |
| **1 1/4** | 3 | **6D851** | 32.15 | **31.90** | 0.9 |
| **1 1/4** | 4 | **6D856** | 33.95 | **33.65** | 0.9 |
| **1 1/4** | 5 | **6D859** | 35.70 | **35.35** | 1.0 |
| **1 1/4** | 6 | **6D862** | 37.50 | **37.15** | 1.0 |
| **1 1/2** | 1 | **6W085** | 32.67 | **31.80** | 1.0 |
| **1 1/2** | 2 | **6W091** | 34.87 | **33.85** | 1.0 |
| **1 1/2** | 3 | **6W112** | 37.07 | **36.05** | 1.3 |
| **1 1/2** | 4 | **6W128** | 39.28 | **38.05** | 1 1 |
| **1 1/2** | 5 | **6W161** | 41.47 | **40.30** | 1.9 |
| **1 1/2** | 6 | **6W152** | 43.68 | **42.30** | 1.5 |
| **2** | 1 | **6D865** | 47.85 | **47.40** | 1.8 |
| **2** | 2 | **6D870** | 50.15 | **49.65** | 1.9 |
| **2** | 3 | **6D875** | 52.50 | **52.00** | 2.1 |
| **2** | 4 | **6D880** | 54.80 | **54.30** | 2.3 |
| **2** | 5 | **6D883** | 57.10 | **56.60** | 2.4 |
| **2** | 6 | **6D886** | 59.40 | **58.85** | 2.6 |
| **2 1/2** | 1 | **6D889** | 66.00 | **65.35** | 2.4 |
| **2 1/2** | 2 | **6D892** | 68.60 | **67.95** | 2.6 |
| **2 1/2** | 3 | **6D895** | 71.25 | **70.55** | 2.8 |
| **2 1/2** | 4 | **6D898** | 73.85 | **73.15** | 3.0 |
| **2 1/2** | 5 | **6D901** | 76.45 | **75.70** | 3.2 |
| **2 1/2** | 6 | **6D904** | 79.10 | **78.35** | 3.4 |

To calculate cylinder force, refer to Power Factors chart on page 2948.

## DOUBLE ACTING (PIVOT MOUNT)



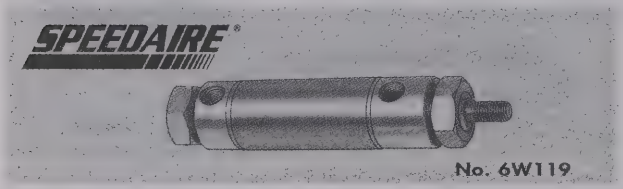

| Bore (In.) | A | CB | CD | EE | KK | XD | N1 |
|---|---|---|---|---|---|---|---|
| 7/16 | .50 | .31 | .156 | 10-32 | 10-32 | 2.56 | 7/16-20 |
| 9/16 | .50 | .31 | .156 | 10-32 | 10-32 | 2.56 | 7/16-20 |
| 3/4 | .50 | .38 | .250 | 1/8NPT | 1/4-28 | 3.75 | 5/8-18 |
| 1 1/16 | .50 | .38 | .250 | 1/8NPT | 5/16-24 | 3.84 | 5/8-18 |
| 1 1/4 | .75 | .50 | .250 | 1/8NPT | 7/16-20 | 4.72 | 3/4-16 |
| 1 1/2 | .75 | .62 | .375 | 1/8NPT | 7/16-20 | 4.38 | 3/4-16 |
| 2 | .88 | .75 | .375 | 1/4NPT | 1/2-20 | 5.62 | 1 1/4-12 |
| 2 1/2 | .88 | .75 | .375 | 1/4NPT | 1/2-20 | 5.62 | 1 3/8-12 |

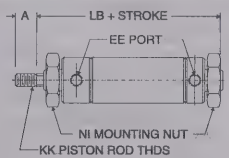
| Bore (In.) | Stroke (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **7/16** | 1/2 | **6W080** | $16.22 | **$15.90** | 0.1 |
| **7/16** | 1 | **6W081** | 16.95 | **16.61** | 0.3 |
| **7/16** | 1 1/2 | **6W118** | 17.59 | **17.21** | 0.1 |
| **7/16** | 2 | **6W094** | 18.32 | **17.89** | 0.1 |
| **9/16** | 1/2 | **6D822** | 17.15 | **16.98** | 0.1 |
| **9/16** | 1 | **6D827** | 17.85 | **17.66** | 0.1 |
| **9/16** | 1 1/2 | **6D832** | 18.55 | **18.36** | 0.1 |
| **9/16** | 2 | **6D837** | 19.20 | **19.01** | 0.2 |
| **3/4** | 1 | **6W082** | 19.06 | **18.62** | 0.3 |
| **3/4** | 2 | **6W100** | 20.47 | **19.98** | 0.4 |
| **3/4** | 3 | **6W102** | 21.84 | **21.30** | 0.4 |
| **3/4** | 4 | **6W126** | 23.21 | **22.61** | 0.4 |
| **3/4** | 5 | **6W156** | 24.59 | **23.97** | 0.6 |
| **3/4** | 6 | **6W129** | 26.01 | **25.35** | 0.5 |
| **1 1/16** | 1 | **6W083** | 21.84 | **21.32** | 0.5 |
| **1 1/16** | 2 | **6W106** | 23.21 | **22.65** | 0.6 |
| **1 1/16** | 3 | **6W107** | 24.58 | **24.03** | 0.9 |
| **1 1/16** | 4 | **6W125** | 26.01 | **25.35** | 0.5 |
| **1 1/16** | 5 | **6W157** | 27.38 | **26.70** | 0.8 |
| **1 1/16** | 6 | **6W130** | 28.79 | **28.05** | 0.8 |
| **1 1/4** | 1 | **6D842** | 33.20 | **32.90** | 0.7 |
| **1 1/4** | 2 | **6D847** | 35.00 | **34.65** | 0.8 |
| **1 1/4** | 3 | **6D852** | 36.80 | **36.50** | 0.9 |
| **1 1/4** | 4 | **6D857** | 38.60 | **38.25** | 0.9 |
| **1 1/4** | 5 | **6D860** | 40.40 | **40.00** | 1.0 |
| **1 1/4** | 6 | **6D863** | 42.20 | **41.85** | 1.0 |
| **1 1/2** | 1 | **6W086** | 36.97 | **35.85** | 1.0 |
| **1 1/2** | 2 | **6W113** | 39.18 | **37.95** | 1.0 |
| **1 1/2** | 3 | **6W114** | 41.39 | **39.80** | 1.1 |
| **1 1/2** | 4 | **6W147** | 43.58 | **42.25** | 1.6 |
| **1 1/2** | 5 | **6W158** | 45 79 | **44.30** | 1.5 |
| **1 1/2** | 6 | **6W148** | 47.94 | **46.40** | 1 2 |
| **2** | 1 | **6D866** | 54.40 | **53.90** | 1.8 |
| **2** | 2 | **6D871** | 56.70 | **56.20** | 1.9 |
| **2** | 3 | **6D876** | 59.00 | **58.45** | 2.1 |
| **2** | 4 | **6D881** | 61.30 | **60.75** | 2.3 |
| **2** | 5 | **6D884** | 63.60 | **63.00** | 2.4 |
| **2** | 6 | **6D887** | 65.90 | **65.25** | 2.5 |
| **2 1/2** | 1 | **6D890** | 73.50 | **72.80** | 2.4 |
| **2 1/2** | 2 | **6D893** | 76 10 | **75.35** | 2.6 |
| **2 1/2** | 3 | **6D896** | 78 70 | **77.95** | 2.8 |
| **2 1/2** | 4 | **6D899** | 81 35 | **80.55** | 3.0 |
| **2 1/2** | 5 | **6D902** | 83.95 | **83.15** | 3.2 |
| **2 1/2** | 6 | **6D905** | 86.55 | **85.70** | 3.4 |

To calculate cylinder force, refer to Power Factors chart on page 2948

# STAINLESS STEEL BODY AIR CYLINDERS AND ACCESSORIES

## DOUBLE ACTING (DOUBLE END MOUNT)



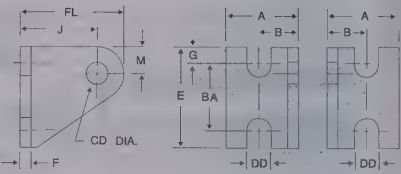

| Bore (In.) | A | EE | KK | LB | N1 |
|---|---|---|---|---|---|
| 7/16 | .50 | 10-32 | 10-32 | 2.81 | 7/16-20 |
| 9/16 | .50 | 10-32 | 10-32 | 2.75 | 7/16-20 |
| 3/4 | .50 | 1/8NPT | 1/4-28 | 4.03 | 5/8-18 |
| 1 1/16 | .50 | 1/8NPT | 5/16-24 | 4.12 | 5/8-18 |
| 1 1/4 | .75 | 1/8NPT | 7/16-20 | 5.12 | 3/4-16 |
| 1 1/2 | .75 | 1/8NPT | 7/16-20 | 4.50 | 3/4-16 |
| 2 | .88 | 1/4NPT | 1/2-20 | 6.06 | 1 1/4-12 |
| 2 1/2 | .88 | 1/4NPT | 1/2-20 | 6.06 | 1 3/8-12 |

| Bore (In.) | Stroke (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **7/16** | 1/2 | **6W119** | $16.51 | **$16.18** | 0.1 |
| **7/16** | 1 | **6W095** | 17.20 | **16.84** | 0.1 |
| **7/16** | 1 1/2 | **6W121** | 17.88 | **17.49** | 0.1 |
| **7/16** | 2 | **6W136** | 18.57 | **18.15** | 0.1 |
| **9/16** | 1/2 | **6D820** | 17.15 | **16.98** | 0.1 |
| **9/16** | 1 | **6D825** | 17.85 | **17.66** | 0.1 |
| **9/16** | 1 1/2 | **6D830** | 18.55 | **18.36** | 0.2 |
| **9/16** | 2 | **6D835** | 19.20 | **19.01** | 0.2 |
| **3/4** | 1 | **6W103** | 19.64 | **19.16** | 0.2 |
| **3/4** | 2 | **6W120** | 21.01 | **20.50** | 0.3 |
| **3/4** | 3 | **6W131** | 22.38 | **21.86** | 0.5 |
| **3/4** | 4 | **6W132** | 23.81 | **23.17** | 0.5 |
| **3/4** | 5 | **6W153** | 25.18 | **24.50** | 0.6 |
| **3/4** | 6 | **6W142** | 26.59 | **25.90** | 0.6 |
| **1 1/16** | 1 | **6W109** | 22.48 | **21.96** | 0.5 |
| **1 1/16** | 2 | **6W127** | 23.91 | **23.29** | 0.6 |
| **1 1/16** | 3 | **6W140** | 25.32 | **24.68** | 0.9 |
| **1 1/16** | 4 | **6W141** | 26.69 | **26.10** | 0.9 |
| **1 1/16** | 5 | **6W154** | 28.06 | **27.40** | 1.0 |
| **1 1/16** | 6 | **6W143** | 29.43 | **28.65** | 0.9 |
| **1 1/4** | 1 | **6D840** | 33.20 | **32.90** | 0.8 |
| **1 1/4** | 2 | **6D845** | 35.00 | **34.65** | 0.9 |
| **1 1/4** | 3 | **6D850** | 36.80 | **36.50** | 0.9 |
| **1 1/4** | 4 | **6D855** | 38.60 | **38.25** | 1.1 |
| **1 1/4** | 5 | **6D858** | 40.40 | **40.00** | 1.1 |
| **1 1/4** | 6 | **6D861** | 42.20 | **41.85** | 1.2 |
| **1 1/2** | 1 | **6W115** | 37.31 | **36.20** | 1.0 |
| **1 1/2** | 2 | **6W144** | 39.52 | **38.30** | 1.2 |
| **1 1/2** | 3 | **6W145** | 41.72 | **40.35** | 1.1 |
| **1 1/2** | 4 | **6W146** | 43.92 | **42.50** | 1.5 |
| **1 1/2** | 5 | **6W155** | 46.13 | **44.60** | 1.5 |
| **1 1/2** | 6 | **6W149** | 48.33 | **46.70** | 1.5 |
| **2** | 1 | **6D864** | 54.40 | **53.90** | 2.0 |
| **2** | 2 | **6D869** | 56.70 | **56.20** | 2.2 |
| **2** | 3 | **6D874** | 59.00 | **58.45** | 2.4 |
| **2** | 4 | **6D879** | 61.30 | **60.75** | 2.6 |
| **2** | 5 | **6D882** | 63.60 | **63.00** | 2.8 |
| **2** | 6 | **6D885** | 65.90 | **65.25** | 2.9 |
| **2 1/2** | 1 | **6D888** | 73.50 | **72.80** | 3.0 |
| **2 1/2** | 2 | **6D891** | 76.10 | **75.35** | 3.2 |
| **2 1/2** | 3 | **6D894** | 78.70 | **77.95** | 3.4 |
| **2 1/2** | 4 | **6D897** | 81.35 | **80.55** | 2.6 |
| **2 1/2** | 5 | **6D900** | 83.95 | **83.15** | 3.8 |
| **2 1/2** | 6 | **6D903** | 86.55 | **85.70** | 3.9 |

To calculate cylinder force, refer to Power Factors chart on page 2948.

## ACCESSORIES

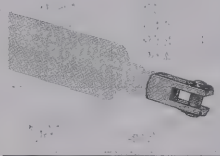


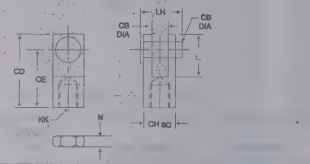



| Bore Dia. (In.) | A | B | BA | CD | DD | E | F | FL | G | J | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7/16 & 9/16 | .50 | .28 | .50 | .156 | .19 | .75 | .06 | .77 | .12 | .56 | .20 |
| 3/4, 1 1/16 & 1 1/4 | .81 | .44 | .75 | .250 | .27 | 1.12 | .12 | 1.19 | .19 | .88 | .31 |
| 1 1/2 | 1.00 | .62 | 1.00 | .375 | .27 | 1.50 | .12 | 1.75 | .25 | 1.38 | .38 |
| 2 & 2 1/2 | 1.125 | .68 | 1.00 | .375 | .26 | 1.50 | .25 | 1.75 | .25 | 1.38 | .38 |

### PIVOT BRACKET ORDERING DATA

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **7/16** | **6W166** | $2.49 | **$2.39** | 0.1 |
| **3/4, 1 1/16, 1 1/4** | **6W163** | 2.49 | **2.39** | 0.1 |
| **1 1/2** | **6W170** | 4.35 | **4.14** | 0.1 |
| **2, 2 1/2** | **6D818** | 8.90 | **8.81** | 0.4 |

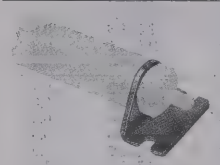


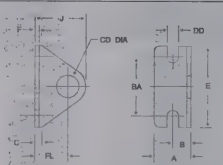



| Bore (In.) | CB | CD | CE | CH | KK | L | LH | N |
|---|---|---|---|---|---|---|---|---|
| 7/16 & 9/16 | .19 | .94 | .75 | .38 | 10-32 | .56 | .66 | .12 |
| 3/4 | .25 | 1.19 | .94 | .50 | 1/4-28 | .68 | .85 | .16 |
| 1 1/16 | .25 | 1.19 | .94 | .50 | 5/16-24 | .69 | .85 | .19 |
| 1 1/4 & 1 1/2 | .38 | 1.69 | 1.31 | .75 | 7/16-20 | .94 | 1.12 | .25 |
| 2 & 2 1/2 | .38 | 1.69 | 1.31 | .75 | 1/2-20 | .94 | 1.12 | .31 |

### ROD CLEVIS WITH PIN AND NUT ORDERING DATA

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **7/16** | **6W167** | $2.49 | **$2.39** | 0.1 |
| **3/4** | **6W164** | 2.93 | **2.77** | 0.1 |
| **1 1/16** | **6W169** | 2.93 | **2.77** | 0.1 |
| **1 1/2, 1 1/4** | **6W171** | 4.79 | **4.58** | 0.2 |
| **2, 2 1/2** | **6D819** | 5.35 | **5.29** | 0.2 |






| Bore (In.) | A | B | BA | C | CD | DD | E | F | FL | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 7/16 (S) | .62 | .31 | 1.00 | .12 | .38 | .19 | 1.38 | .07 | .56 | .88 |
| 7/16 (D) & 9/16 (S/D) | .69 | .38 | 1.00 | .12 | .44 | .19 | 1.38 | .09 | .56 | .83 |
| 3/4 (S) | .75 | .44 | 1.25 | .19 | .50 | .19 | 1.62 | .10 | .69 | 1.09 |
| 3/4 (D) & 1 1/16 (S/D) | 1.00 | .56 | 1.50 | .25 | .62 | .27 | 1.88 | .12 | .81 | 1.38 |
| 1 1/4 (S/D) & 1 1/2 (S/D) | 1.50 | .75 | 1.88 | .62 | .75 | .28 | 2.50 | .12 | 1.00 | 1.75 |
| 2 (S/D) | 1.62 | 1.00 | 2.25 | .62 | 1.38 | .34 | 3.12 | .25 | 1.50 | 2.50 |
| 2 1/2 (D) | 1.62 | 1.00 | 2.88 | .75 | 1.50 | .34 | 3.75 | .25 | 1.75 | 3.00 |

### FOOT BRACKET ORDERING DATA

| Bore* (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **7/16 (S)** | **6W172** | $1.56 | **$1.48** | 0.1 |
| **7/16 (D) & 9/16 (S/D)** | **6W165** | 1.56 | **1.48** | 0.1 |
| **3/4 (S)** | **6W173** | 1.76 | **1.65** | 0.1 |
| **3/4 (D) & 11/16 (S/D)** | **6W162** | 2.10 | **2.01** | 0.1 |
| **1 1/4 (S/D) & 1 1/2 (S/D)** | **6W168** | 2.98 | **2.79** | 0.2 |
| **2 (S/D)** | **6D816** | 6.33 | **6.27** | 0.5 |
| **2 1/2 (D)** | **6D817** | 6.60 | **6.53** | 0.8 |

(*) S - Single Acting D - Double Acting



System components or tools — We're your one source for pneumatics.

# STAINLESS STEEL BODY AIR CYLINDERS

## INTERCHANGE GUIDE

| Bore (In.) | Stroke (In.) | Cylinder Type | Mounting Style | Stock No. | Model No. Bimba | Clippard | American | Humphrey | Parker |
|---|---|---|---|---|---|---|---|---|---|
| 7/16 | 1/2 | Single Acting | Nose | 6W074 | 010.5 | N/A* | 437SNS1/2 | N/A* | .44NSR0.5 |
| | | | Pivot | 6W087 | 010.5-P | N/A* | 437SVS1/2 | N/A* | .44PSR0.5 |
| | | Double Acting | Nose | 6W077 | 010.5-D | N/A* | 437DNS1/2 | N/A* | .44DSR0.5 |
| | | | Pivot | 6W080 | 010.5-DP | N/A* | 437DVS1/2 | N/A* | .44DPSR0.5 |
| | | | Double End | 6W119 | 010.5-DX | N/A* | 437DVS1/2 2 | N/A* | .44DXPSR0.5 |
| | 1 | Single Acting | Nose | 6W075 | 011 | N/A* | 437SNS1 | N/A* | .44NSR1 |
| | | | Pivot | 6W088 | 011-P | N/A* | 437SVS1 | N/A* | .44PSR1 |
| | | Double Acting | Nose | 6W076 | 011-D | N/A* | 437DNS1 | N/A* | .44DSR1 |
| | | | Pivot | 6W081 | 011-DP | N/A* | 437DVS1 | N/A* | .44DPSR1 |
| | | | Double End | 6W095 | 011-DX | N/A* | 437DVS1 2 | N/A* | .44DXPSR1 |
| | 1½ | Single Acting | Nose | 6W116 | 011.5 | N/A* | 437SNS1 1/2 | N/A* | .44NSR1.5 |
| | | | Pivot | 6W117 | 011.5-P | N/A* | 437SVS1 1/2 | N/A* | .44PSR1.5 |
| | | Double Acting | Nose | 6W096 | 011.5-D | N/A* | 437DNS1 1/2 | N/A* | .44DSR1.5 |
| | | | Pivot | 6W118 | 011.5-DP | N/A* | 437DVS1 1/2 | N/A* | .44DPSR1.5 |
| | | | Double End | 6W121 | 011.5-DX | N/A* | 437DVS1 1/2 2 | N/A* | .44DXPSR1.5 |
| | 2 | Single Acting | Nose | 6W135 | 012 | N/A* | 437SNS2 | N/A* | .44NSR2 |
| | | | Pivot | 6W134 | 012-P | N/A* | 437SVS2 | N/A* | .44PSR2 |
| | | Double Acting | Nose | 6W093 | 012-D | N/A* | 437DNS2 | N/A* | .44DSR2 |
| | | | Pivot | 6W094 | 012-DP | N/A* | 437DVS2 | N/A* | .44DPSR2 |
| | | | Double End | 6W136 | 012-DX | N/A* | 437DVS2 2 | N/A* | .44DXPSR2 |
| 9/16 | 1/2 | Single Acting | Nose | 6D823 | 020.5 | N/A* | 562SNS1/2 | N/A* | .56NSR0.5 |
| | | | Pivot | 6D824 | 020.5-P | N/A* | 562SVS1/2 | N/A* | .56PSR0.5 |
| | | Double Acting | Nose | 6D821 | 020.5-D | N/A* | 56DNS1/2 | N/A* | .56DSR0.5 |
| | | | Pivot | 6D822 | 020.5-DXP | N/A* | 562DVS1/2 | N/A* | .56DXPSR0.5 |
| | | | Double End | 6D820 | 020.5-DXP | N/A* | 562DVS1/2 2 | N/A* | .56DXPSR0.5 |
| | 1 | Single Acting | Nose | 6D828 | 021 | N/A* | 562SNS1 | N/A* | .56NSR1 |
| | | | Pivot | 6D829 | 021-P | N/A* | 562SVS1 | N/A* | .56PSR1 |
| | | Double Acting | Nose | 6D826 | 021-D | N/A* | 562DNS1 | N/A* | .56DSR1 |
| | | | Pivot | 6D827 | 021-DXP | N/A* | 562DVS1 | N/A* | .56DXPSR1 |
| | | | Double End | 6D825 | 021-DXP | N/A* | 562DVS1 2 | N/A* | .56DXPSR1 |
| | 1½ | Single Acting | Nose | 6D833 | 021.5 | N/A* | 562SNS1 1/2 | N/A* | .56NSR1.5 |
| | | | Pivot | 6D834 | 021.5-P | N/A* | 562SVS1 1/2 | N/A* | .56PSR1.5 |
| | | Double Acting | Nose | 6D831 | 021.5-D | N/A* | 562DNS1 1/2 | N/A* | .56DSR1.5 |
| | | | Pivot | 6D832 | 021.5-DXP | N/A* | 562DVS1 1/2 | N/A* | .56DXPSR1.5 |
| | | | Double End | 6D830 | 021.5-DXP | N/A* | 562DVS1 1/2 2 | N/A* | .56DXPSR1.5 |
| | 2 | Single Acting | Nose | 6D838 | 022 | N/A* | 562SNS2 | N/A* | .56NSR2 |
| | | | Pivot | 6D839 | 022-P | N/A* | 562SVS2 | N/A* | .56PSR2 |
| | | Double Acting | Nose | 6D836 | 022-D | N/A* | 562DNS2 | N/A* | .56DSR2 |
| | | | Pivot | 6D837 | 022-DXP | N/A* | 562DVS2 | N/A* | .56DXPSR2 |
| | | | Double End | 6D835 | 022-DXP | N/A* | 562DVS2 2 | N/A* | .56DXPSR2 |
| 3/4 | 1 | Single Acting | Nose | 6W070 | 041 | SSR-12-1 | 750SNS1 | 7-S-1 | .75NSR1 |
| | | | Pivot | 6W078 | 041-P | USR-12-1 | 750SVS1 | 7-SP-1 | .75PSR1 |
| | | Double Acting | Nose | 6W072 | 041-D | SDR-12-1 | 750DNS1 | 7-D-1 | .75DSR1 |
| | | | Pivot | 6W082 | 041-DP | UDR-12-1 | 750DVS1 | 7-DP-1 | .75DPSR1 |
| | | | Double End | 6W103 | 041-DXP | UDR-12-1 | 750DVS1 2 | 7-DP-1 | .75DXPSR1 |
| | 2 | Single Acting | Nose | 6W097 | 042 | SSR-12-2 | 750SNS2 | 7-S-2 | .75NSR2 |
| | | | Pivot | 6W098 | 042-P | USR-12-2 | 750SVS2 | 7-SP-2 | .75PSR2 |
| | | Double Acting | Nose | 6W089 | 042-D | SDR-12-2 | 750DNS2 | 7-D-2 | .75DSR2 |
| | | | Pivot | 6W100 | 042-DP | UDR-12-2 | 750DVS2 | 7-DP-2 | .75DPSR2 |
| | | | Double End | 6W120 | 042-DXP | UDR-12-2 | 750DVS2 2 | 7-DP-2 | .75DXPSR2 |
| | 3 | Single Acting | Nose | 6W111 | 043 | SSR 12-3 | 750SNS3 | 7-S-3 | .75NSR3 |
| | | | Pivot | 6W123 | 043-P | USR 12-3 | 750SVS3 | 7-SP-3 | .75PSR3 |
| | | Double Acting | Nose | 6W099 | 043-D | SDR 12-3 | 750DNS3 | 7-D-3 | .75DSR3 |
| | | | Pivot | 6W102 | 043-DP | UDR 12-3 | 750DVS3 | 7-DP-3 | .75DPSR3 |
| | | | Double End | 6W131 | 043-DXP | UDR-12-3 | 750DVS3 2 | 7-DP-3 | .75DXPSR3 |
| | 4 | Double Acting | Nose | 6W122 | 044-D | SDR-12-4 | 750DNS4 | 7-D-4 | .75DSR4 |
| | | | Pivot | 6W126 | 044-DP | UDR-12-4 | 750DVS4 | 7-DP-4 | .75DPSR4 |
| | | | Double End | 6W132 | 044-DXP | UDR-12-4 | 750DVS4 2 | 7-DP-4 | .75DXPSR4 |
| | 5 | Double Acting | Nose | 6W159 | 045-D | SDR-12-5 | 750DNS5 | 7-D-5 | .75DSR5 |
| | | | Pivot | 6W156 | 045-DP | UDR-12-5 | 750DVS5 | 7-DP-5 | .75DPSR5 |
| | | | Double End | 6W153 | 045-DXP | UDR-12-5 | 750DVS5 2 | 7-DP-5 | .75DXPSR5 |
| | 6 | Double Acting | Nose | 6W150 | 046-D | SDR-12-6 | 750DNS6 | 7-D-6 | .75DSR6 |
| | | | Pivot | 6W129 | 046-DP | UDR-12-6 | 750DVS6 | 7-DP-6 | .75DPSR6 |
| | | | Double End | 6W142 | 046-DXP | UDR-12-6 | 750DVS6 2 | 7-DP-6 | .75DXPSR6 |

(*) Not available.

CONTINUED ON NEXT PAGE

# STAINLESS STEEL BODY AIR CYLINDERS

## INTERCHANGE GUIDE

| Bore (In.) | Stroke (In.) | Cylinder Type | Mounting Style | Stock No. | Model No. | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Bimba | Clippard | American | Humphrey | Parker |
| 1 1/16 | 1 | Single Acting | Nose | 6W071 | 091 | SSR-17-1 | 1062SNS1 | 6-S-1 | 1.06NSR1 |
| | | | Pivot | 6W079 | 091-P | USR-17-1 | 1062SVS1 | 6-SP-1 | 1.06PSR1 |
| | | Double Acting | Nose | 6W073 | 091-D | SDR-17-1 | 1062DNS1 | 6-D-1 | 1.06DSR1 |
| | | | Pivot | 6W083 | 091-DP | UDR-17-1 | 1062DVS1 | 6-DP-1 | 1.06DPSR1 |
| | | | Double End | 6W109 | 091-DX | UDR-17-1 | 1062DVS1 2 | 6-DP-1 | 1.06DXPSR1 |
| | 2 | Single Acting | Nose | 6W101 | 092 | SSR-17-2 | 1062SNS2 | 6-S-2 | 1.06NSR2 |
| | | | Pivot | 6W104 | 092-P | USR-17-2 | 1062SVS2 | 6-SP-2 | 1.06PSR2 |
| | | Double Acting | Nose | 6W090 | 092-D | SDR-17-2 | 1062DNS2 | 6-D-2 | 1.06DSR2 |
| | | | Pivot | 6W106 | 092-DP | UDR-17-2 | 1062DVS2 | 6-DP-2 | 1.06DPSR2 |
| | | | Double End | 6W127 | 092-DX | UDR-17-2 | 1062DVS2 2 | 6-DP-2 | 1.06DXPSR2 |
| | 3 | Single Acting | Nose | 6W124 | 093 | SSR-17-3 | 1062SNS3 | 6-S-3 | 1.06NSR3 |
| | | | Pivot | 6W108 | 093-P | USR-17-3 | 1062SVS3 | 6-SP-3 | 1.06PSR3 |
| | | Double Acting | Nose | 6W105 | 093-D | SDR-17-3 | 1062DNS3 | 6-D-3 | 1.06DSR3 |
| | | | Pivot | 6W107 | 093-DP | UDR-17-3 | 1062DVS3 | 6-DP-3 | 1.06DPSR3 |
| | | | Double End | 6W140 | 093-DX | UDR-17-3 | 1062DVS3 2 | 6-DP-3 | 1.06DXPSR3 |
| | 4 | Double Acting | Nose | 6W123 | 094-D | SDR-17-4 | 1062DNS4 | 6-D-4 | 1.06DSR4 |
| | | | Pivot | 6W125 | 094-DP | UDR-17-4 | 1062DVS4 | 6-DP-4 | 1.06DPSR4 |
| | | | Double End | 6W141 | 094-DX | UDR-17-4 | 1062DVS4 2 | 6-DP-4 | 1.06DXPSR4 |
| | 5 | Double Acting | Nose | 6W160 | 095-D | SDR-17-5 | 1062DNS5 | 6-D-5 | 1.06DSR5 |
| | | | Pivot | 6W157 | 095-DP | UDR-17-5 | 1062DVS5 | 6-DP-5 | 1.06DPSR5 |
| | | | Double End | 6W154 | 095-DX | UDR-17-5 | 1062DVS5 2 | 6-DP-5 | 1.06DXPSR5 |
| | 6 | Double Acting | Nose | 6W151 | 096-D | SDR-17-6 | 1062DNS6 | 6-D-6 | 1.06DSR6 |
| | | | Pivot | 6W130 | 096-DP | UDR-17-6 | 1062DVS6 | 6-DP-6 | 1.06DPSR6 |
| | | | Double End | 6W143 | 096-DX | UDR-17-6 | 1062DVS6 2 | 6-DP-6 | 1.06DXPSR6 |
| 1 1/4 | 1 | Single Acting | Nose | 6D843 | 121 | SSR-20-1 | 1250SNS1 | 25-S-1 | 1.25NSR1 |
| | | | Pivot | 6D844 | 121-P | USR-20-1 | 1250SVS1 | 25-SP-1 | 1.25PSR1 |
| | | Double Acting | Nose | 6D841 | 121-D | SDR-20-1 | 1250DNS1 | 25-D-1 | 1.25DSR1 |
| | | | Pivot | 6D842 | 121-DP | UDR-20-1 | 1250DVS1 | 25-DP-1 | 1.25DXPSR1 |
| | | | Double End | 6D840 | 121-DP | UDR-20-1 | 1250DVS1 2 | 25-DP-1 | 1.25DXPSR1 |
| | 2 | Single Acting | Nose | 6D848 | 122 | SSR-20-2 | 1250SNS2 | 25-S-2 | 1.25NSR2 |
| | | | Pivot | 6D849 | 122-P | USR-20-2 | 1250SVS2 | 25-SP-2 | 1.25PSR2 |
| | | Double Acting | Nose | 6D846 | 122-D | SDR-20-2 | 1250DNS2 | 25-D-2 | 1.25DSR2 |
| | | | Pivot | 6D847 | 122-DP | UDR-20-2 | 1250DVS2 | 25-DP-2 | 1.25DXPSR2 |
| | | | Double End | 6D845 | 122-DP | UDR-20-2 | 1250DVS2 2 | 25-DP-2 | 1.25DXPSR2 |
| | 3 | Single Acting | Nose | 6D853 | 123 | SSR-20-3 | 1250SNS3 | 25-S-3 | 1.25NSR3 |
| | | | Pivot | 6D854 | 123-P | USR-20-3 | 1250SVS3 | 25-SP-3 | 1.25PSR3 |
| | | Double Acting | Nose | 6D851 | 123-D | SDR-20-3 | 1250DNS3 | 25-D-3 | 1.25DSR3 |
| | | | Pivot | 6D852 | 123-DP | UDR-20-3 | 1250DVS3 | 25-DP-3 | 1.25DXPSR3 |
| | | | Double End | 6D850 | 123-DP | UDR-20-3 | 1250DVS3 2 | 25-DP-3 | 1.25DXPSR3 |
| | 4 | Double Acting | Nose | 6D856 | 124-D | SDR-20-4 | 1250DNS4 | 25-D-4 | 1.25DSR4 |
| | | | Pivot | 6D857 | 124-DP | UDR-20-4 | 1250DVS4 | 25-DP-4 | 1.25DXPSR4 |
| | | | Double End | 6D855 | 124-DP | UDR-20-4 | 1250DVS4 2 | 25-DP-4 | 1.25DXPSR4 |
| | 5 | Double Acting | Nose | 6D859 | 125-D | SDR-20-5 | 1250DNS5 | 25-D-5 | 1.25DSR5 |
| | | | Pivot | 6D860 | 125-DP | UDR-20-5 | 1250DVS5 | 25-DP-5 | 1.25DXPSR5 |
| | | | Double End | 6D858 | 125-DP | UDR-20-5 | 1250DVS5 2 | 25-DP-5 | 1.25DXPSR5 |
| | 6 | Double Acting | Nose | 6D862 | 126-D | SDR-20-6 | 1250DNS6 | 25-D-6 | 1.25DSR6 |
| | | | Pivot | 6D863 | 126-DP | UDR-20-6 | 1250DVS6 | 25-DP-6 | 1.25DXPSR6 |
| | | | Double End | 6D861 | 126-DP | UDR-20-6 | 1250DVS6 2 | 25-DP-6 | 1.25DXPSR6 |
| 1 1/2 | 1 | Single Acting | Nose | 6W084 | 171 | SSR-24-1 | 1500SNS1 | 5-S-1 | 1.50NSR1 |
| | | | Pivot | 6W092 | 171-P | CSR-24-1 | 1500SVS1 | 5-SP-1 | 1.50PSR1 |
| | | Double Acting | Nose | 6W085 | 171-D | SDR-24-1 | 1500DNS1 | 5-D-1 | 1.50DSR1 |
| | | | Pivot | 6W086 | 171-DP | CDR-24-1 | 1500DVS1 | 5-DP-1 | 1.50DPSR1 |
| | | | Double End | 6W115 | 171-DX | EDR-24-1 | 1500DVS1 2 | 5-DP-1 | 1.50DXSR1 |
| | 2 | Single Acting | Nose | 6W110 | 172 | SSR-24-2 | 1500SNS2 | 5-S-2 | 1.50NSR2 |
| | | | Pivot | 6W139 | 172-P | CSR-24-2 | 1500SVS2 | 5-SP-2 | 1.50PSR2 |
| | | Double Acting | Nose | 6W091 | 172-D | SDR-24-2 | 1500DNS2 | 5-D-2 | 1.50DSR2 |
| | | | Pivot | 6W113 | 172-DP | CDR-24-2 | 1500DVS2 | 5-DP-2 | 1.50DPSR2 |
| | | | Double End | 6W144 | 172-DX | EDR-24-2 | 1500DVS2 2 | 5-DP-2 | 1.50DXSR2 |
| | 3 | Single Acting | Nose | 6W137 | 173 | SSR-24-3 | 1500SNS3 | 5-S-3 | 1.50NSR3 |
| | | | Pivot | 6W138 | 173-P | CSR-24-3 | 1500SVS3 | 5-SP-3 | 1.50PSR3 |
| | | Double Acting | Nose | 6W112 | 173-D | SDR-24-3 | 1500DNS3 | 5-D-3 | 1.50DSR3 |
| | | | Pivot | 6W114 | 173-DP | CDR-24-3 | 1500DVS3 | 5-DP-3 | 1.50DPSR3 |
| | | | Double End | 6W145 | 173-DX | EDR-24-3 | 1500DVS3 2 | 5-DP-3 | 1.50DXSR3 |
| | 4 | Double Acting | Nose | 6W128 | 174-D | SDR-24-4 | 1500DNS4 | 5-D-4 | 1.50DSR4 |
| | | | Pivot | 6W147 | 174-DP | CDR-24-4 | 1500DVS4 | 5-DP-4 | 1.50DPSR4 |
| | | | Double End | 6W146 | 174-DX | EDR-24-4 | 1500DVS4 2 | 5-DP-4 | 1.50DXSR4 |
| | 5 | Double Acting | Nose | 6W161 | 175-D | SDR-24-5 | 1500DNS5 | 5-D-5 | 1.50DSR5 |
| | | | Pivot | 6W158 | 175-DP | CDR-24-5 | 1500DVS5 | 5-DP-5 | 1.50DPSR5 |
| | | | Double End | 6W155 | 175-DX | EDR-24-5 | 1500DVS5 2 | 5-DP-5 | 1.50DXSR5 |
| | 6 | Double Acting | Nose | 6W152 | 176-D | SDR-24-6 | 1500DNS6 | 5-D-6 | 1.50DSR6 |
| | | | Pivot | 6W148 | 176-DP | CDR-24-6 | 1500DVS6 | 5-DP-6 | 1.50DPSR6 |
| | | | Double End | 6W149 | 176-DX | EDR-24-6 | 1500DVS6 2 | 5-DP-6 | 1.50DXSR6 |

CONTINUED ON NEXT PAGE

# STAINLESS STEEL BODY AIR CYLINDERS

## INTERCHANGE GUIDE

| Bore (In.) | Stroke (In.) | Cylinder Type | Mounting Style | Stock No. | Model No. Bimba | Clippard | American | Humphrey | Parker |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | Single Acting | Nose | 6D867 | 311 | N/A* | N/A* | 4-S-1 | 2.00NSR1 |
| | | | Pivot | 6D868 | 311-XP | N/A* | N/A* | 4-SP-1 | 2.00PSR1 |
| | | Double Acting | Nose | 6D865 | 311-D | SDR-32-1 | N/A* | 4-D-1 | 2.00DSR1 |
| | | | Pivot | 6D866 | 311-DXP | UDR-32-1 | N/A* | 4-DP-1 | 2.00DXPSR1 |
| | | | Double End | 6D864 | 311-DXP | UDR-32-1 | N/A* | 4-DP-1 | 2.00DXPSR1 |
| | 2 | Single Acting | Nose | 6D872 | 312 | N/A* | N/A* | 4-S-2 | 2.00NSR2 |
| | | | Pivot | 6D873 | 312-XP | N/A* | N/A* | 4-SP-2 | 2.00PSR2 |
| | | Double Acting | Nose | 6D870 | 312-D | SDR-32-2 | N/A* | 4-D-2 | 2.00DSR2 |
| | | | Pivot | 6D871 | 312-DXP | UDR-32-2 | N/A* | 4-DP-2 | 2.00DXPSR2 |
| | | | Double End | 6D869 | 312-DXP | UDR-32-2 | N/A* | 4-DP-2 | 2.00DXPSR2 |
| | 3 | Single Acting | Nose | 6D877 | 313 | N/A* | N/A* | 4-S-3 | 2.00NSR3 |
| | | | Pivot | 6D878 | 313-XP | N/A* | N/A* | 4-SP-3 | 2.00PSR3 |
| | | Double Acting | Nose | 6D875 | 313-D | SDR-32-3 | N/A* | 4-D-3 | 2.00DSR3 |
| | | | Pivot | 6D876 | 313-DXP | UDR-32-3 | N/A* | 4-DP-3 | 2.00DXPSR3 |
| | | | Double End | 6D874 | 313-DXP | UDR-32-3 | N/A* | 4-DP-3 | 2.00DXPSR3 |
| | 4 | Double Acting | Nose | 6D880 | 314-D | SDR-32-4 | N/A* | 4-D-4 | 2.00DSR4 |
| | | | Pivot | 6D881 | 314-DXP | UDR-32-4 | N/A* | 4-DP-4 | 2.00DXPSR4 |
| | | | Double End | 6D879 | 314-DXP | UDR-32-4 | N/A* | 4-DP-4 | 2.00DXPSR4 |
| | 5 | Double Acting | Nose | 6D883 | 315-D | SDR-32-5 | N/A* | 4-D-5 | 2.00DSR5 |
| | | | Pivot | 6D884 | 315-DXP | UDR-32-5 | N/A* | 4-DP-5 | 2.00DXPSR5 |
| | | | Double End | 6D882 | 315-DXP | UDR-32-5 | N/A* | 4-DP-5 | 2.00DXPSR5 |
| | 6 | Double Acting | Nose | 6D886 | 316-D | SDR-32-6 | N/A* | 4-D-6 | 2.00SR6 |
| | | | Pivot | 6D887 | 316-DXP | UDR-32-6 | N/A* | 4-DP-6 | 2.00DXPSR6 |
| | | | Double End | 6D885 | 316-DXP | UDR-32-6 | N/A* | 4-DP-6 | 2.00DXPSR6 |
| 2½ | 1 | Double Acting | Nose | 6D889 | 501-D | N/A* | N/A* | 3-D-1 | N/A* |
| | | | Pivot | 6D890 | 501-DXP | UDR-40-1 | N/A* | 3-DP-1 | N/A* |
| | | | Double End | 6D888 | 501-DXP | UDR-40-1 | N/A* | 3-DP-1 | N/A* |
| | 2 | Double Acting | Nose | 6D892 | 502-D | N/A* | N/A* | 3-D-2 | N/A* |
| | | | Pivot | 6D893 | 502-DXP | UDR-40-2 | N/A* | 3-DP-2 | N/A* |
| | | | Double End | 6D891 | 502-DXP | UDR-40-2 | N/A* | 3-DP-2 | N/A* |
| | 3 | Double Acting | Nose | 6D895 | 503-D | N/A* | N/A* | 3-D-3 | N/A* |
| | | | Pivot | 6D896 | 503-DXP | UDR-40-3 | N/A* | 3-DP-3 | N/A* |
| | | | Double End | 6D894 | 503-DXP | UDR-40-3 | N/A* | 3-DP-3 | N/A* |
| | 4 | Double Acting | Nose | 6D898 | 504-D | N/A* | N/A* | 3-D-4 | N/A* |
| | | | Pivot | 6D899 | 504-DXP | UDR-40-4 | N/A* | 3-DP-4 | N/A* |
| | | | Double End | 6D897 | 504-DXP | UDR-40-4 | N/A* | 3-DP-4 | N/A* |
| | 5 | Double Acting | Nose | 6D901 | 505-D | N/A* | N/A* | 3-D-5 | N/A* |
| | | | Pivot | 6D902 | 505-DXP | UDR-40-5 | N/A* | 3-DP-5 | N/A* |
| | | | Double End | 6D900 | 505-DXP | UDR-40-5 | N/A* | 3-DP-5 | N/A* |
| | 6 | Double Acting | Nose | 6D904 | 506-D | N/A* | N/A* | 3-D-6 | N/A* |
| | | | Pivot | 6D905 | 506-DXP | UDR-40-6 | N/A* | 3-DP-6 | N/A* |
| | | | Double End | 6D903 | 506-DXP | UDR-40-6 | N/A* | 3-DP-6 | N/A* |

(*) Not available.


## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# COMPACT AIR CYLINDERS

Speedaire compact, high-performance pneumatic cylinders are designed for use in clamping devices, parts ejection and injection molding machines, as well as many robotic circuits. 150 PSI maximum operating pressure. Attachable mounts are listed on opposite page.

**Corrosion resistant aluminum alloy heads and caps.**

**High strength tie rods** to insure compression on tube end seals.

**Aluminum tube** is hard anodic coated on inside diameter for file hard (60RC) resistance to scoring and wear.

**Hard, chrome-plated piston rod** is ground and polished steel of 100,000 PSI minimum yield.

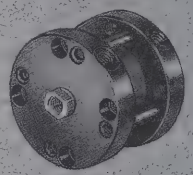
**Strong, lightweight aluminum alloy piston** has excellent wear characteristics against the hard coated ID tube.

**Quad ring seal** on piston and bushing combines positive sealing with minimal friction and long life

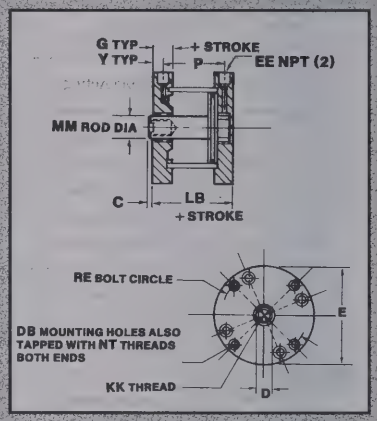
**Cast-iron, Teflon coated rod bushing** for maximum wear, permanent lubrication, and low friction.

**Piston is threaded to the rod** and retained with lock nut. Rod is then staked over the lock nut to ensure maximum cycle life.

SPEEDAIRE



| Bore (In.) | C | D | DB | E | EE | G | KK | LB | MM | NT | P | RE | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 1/8 | 1/4 | #6 | 1 1/2 | 10-32 | .312 | #10-32 | 13/16 | 5/16 | #8-32 | 9/16 | 17/32 | 1/8 |
| 1 1/8 | 1/8 | 7/16 | #6 | 2 | 1/8 | .500 | 3/8-24 | 1 1/8 | 1/2 | #10-32 | 5/8 | 1 11/16 | 1/4 |
| 1 1/2 | 1/8 | 1/2 | #10 | 2 5/8 | 1/8 | .515 | 7/16-20 | 1 13/64 | 5/8 | 1/4-20 | 45/64 | 2 3/16 | 1/4 |
| 2 | 1/8 | 1/2 | #10 | 3 1/8 | 1/8 | .515 | 7/16-20 | 1 13/64 | 5/8 | 1/4-20 | 45/64 | 2 11/16 | 1/4 |

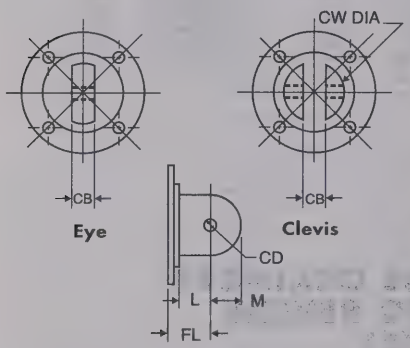



## COMPACT AIR CYLINDERS

| Bore (In.) | PUSH FORCES IN LBS. @ PSI 50 | 100 | 150 | Piston Area Sq.-In. | PULL FORCES IN LBS. @ PSI 50 | 100 | 150 | Piston Area Sq.-In. |
|---|---|---|---|---|---|---|---|---|
| 3/4 | 22 | 44 | 66 | .441 | 18 | 37 | 55 | .365 |
| 1 1/8 | 50 | 100 | 149 | .995 | 44 | 88 | 132 | .883 |
| 1 1/2 | 88 | 177 | 266 | 1.770 | 73 | 146 | 220 | 1.463 |
| 2 | 157 | 314 | 471 | 3.140 | 141 | 283 | 425 | 2.833 |

| Bore (In.) Dia. x Stroke | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **3/4 x 1/4** | **2A702** | $38.94 | **$33.70** | 0.1 |
| **3/4 x 1/2** | **2A703** | 39.33 | **34.05** | 0.1 |
| **3/4 x 1** | **2A704** | 40.12 | **34.70** | 0.1 |
| **1 1/8 x 1/4** | **2A705** | 43.98 | **38.05** | 0.1 |
| **1 1/8 x 1/2** | **2A706** | 44.63 | **38.60** | 0.1 |
| **1 1/8 x 1** | **2A707** | 45.80 | **39.60** | 0.1 |
| **1 1/2 x 1/4** | **2A708** | $56.32 | **$48.85** | 1.0 |
| **1 1/2 x 1/2** | **2A709** | 57.45 | **49.85** | 1.0 |
| **1 1/2 x 1** | **2A710** | 59.71 | **51.85** | 1.0 |
| **2 x 1/4** | **2A711** | 60.18 | **52.25** | 1.2 |
| **2 x 1/2** | **2A712** | 61.36 | **53.30** | 1.2 |
| **2 x 1** | **2A713** | 63.62 | **55.20** | 1.1 |

## EYE AND CLEVIS MOUNTS FOR COMPACT AIR CYLINDERS




### DIMENSIONS (In.)

| Bore Dia. | CB | CD | CW | FL | L | M |
|---|---|---|---|---|---|---|
| 3/4 | 3/8 | 1/4 | 27/32 | 5/8 | 7/16 | 27/64 |
| 1 1/8 | 3/8 | 3/8 | 1 | 45/64 | 33/64 | 1/2 |
| 1 1/2 | 3/4 | 3/8 | 1 1/2 | 63/64 | 49/64 | 3/4 |
| 2 | 3/4 | 3/8 | 1 1/2 | 63/64 | 49/64 | 3/4 |

### SPECIFICATIONS AND ORDERING DATA

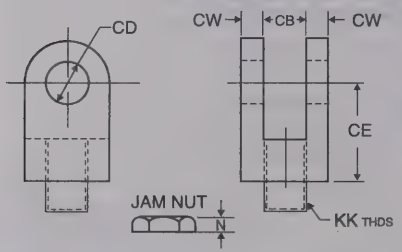
#### EYE BRACKETS

| Bore Dia. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **3/4** | **2A715** | $12.10 | **$10.45** | 0.1 |
| **1 1/8** | **2A718** | 16.85 | **14.55** | 0.1 |
| **1 1/2** | **2A721** | 21.80 | **20.02** | 0.1 |
| **2** | **2A724** | 24.08 | **22.08** | 0.1 |

#### CLEVIS MOUNT & BRACKET

| Bore Dia. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **3/4** | **2A714** | $13.02 | **$11.27** | 0.1 |
| **1 1/8** | **2A717** | 16.85 | **14.55** | 0.1 |
| **1 1/2** | **2A720** | 23.20 | **21.29** | 0.1 |
| **2** | **2A723** | 24.26 | **22.27** | 0.2 |

## ROD CLEVIS MOUNTS FOR COMPACT AIR CYLINDERS



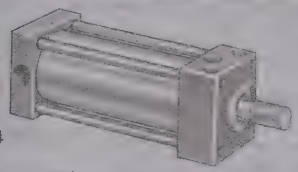

### SPECIFICATIONS AND ORDERING DATA

| Bore Dia (In.) | Dimensions (In.) CB | CD | CE | CW | KK | N | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3/4** | 1/4 | 1/4 | 11/16 | 1/8 | 10-32 | 5/32 | **2A716** | $7.05 | **$6.11** | 0.1 |
| **1 1/8** | 3/8 | 3/8 | 7/8 | 3/16 | 3/8-24 | 7/32 | **2A719** | 7.39 | **6.41** | 0.1 |
| **1 1/2** | 3/8 | 3/8 | 7/8 | 3/16 | 7/16-20 | 1/4 | **2A722** | 7.94 | **7.29** | 0.1 |
| **2** | 3/8 | 3/8 | 7/8 | 3/16 | 7/16-20 | 1/4 | **2A725** | 7.94 | **7.29** | 0.1 |

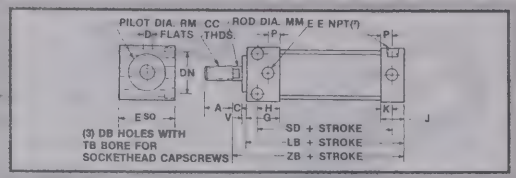
# SMALL BORE TIE-ROD AND END MOUNTS

## SMALL BORE AIR CYLINDERS

SPEEDAIRE®



No. 1A424




**Designed for small bore applications,** these Speedaire double-acting pneumatic cylinders are made of durable aluminum and outperform the round, "throw-away" type cylinders. Unique design provides for easy repairability, bolt-thru mounting and the flexibility of attaching any one of six mounts (listed on opposite page) without removing bolts or need for retorquing. Available in 3/4" bore with 1/2 to 2" strokes and in 1⅛" bore with 1/2 to 3" strokes. **Polished chrome plated steel piston rods** have 100,000 PSI minimum yield. End caps are made of 40,000 PSI minimum yield 6061-T6 aluminum. Rod bushing is 30,000 PSI cast iron for maximum strength and Teflon coated for permanent lubrication and low friction.

**Tube is made of 35,000 PSI minimum yield aluminum alloy** and the I.D. is hard anodic coated for file hard (60RC) resistance to scoring and wear. Tube end seals are made of heat resistant fiber with nitrate base elastomer as a binder. Lightweight piston is made of 40,000 PSI minimum yield 6061-T6 aluminum and designed to work with hard coated ID of the tube.

Buna N lip type rod and piston seals provide low friction characteristics, positive sealing, and long life. Tie rods are made of high strength steel to maintain compression on tube end seals. Silver and black finish. Speedaire brand.

| Bore (In.) | Rod Dia. (In.) | PUSH FORCES IN LBS. @ PSI 50 | 100 | 150 | 200 | Piston Area | PULL FORCES IN LBS. @ PSI* 50 | 100 | 150 | 200 | Piston Area |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 5/16 | 22.6 | 44.1 | 66.1 | 88.2 | .441 | 18.2 | 36.5 | 54.7 | 73.0 | .365 |
| 1⅛ | 3/8 | 49.8 | 99.5 | 149.2 | 199.0 | .995 | 44.1 | 88.3 | 132.4 | 176.6 | .883 |

| Bore | A | C | CC | D | DB | DN | E | EE | G | H | J | K | LB | MM | P | RM | SD | TB | V | ZB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 5/8 | 1/4 | 1/4-28 | 1/4 | 11/64 | 5/8 | 1 | 1/8 | 7/8 | 11/16 | 5/8 | 3/8 | 2¼ | 5/16 | 5/16 | 0.562 | 1⅜ | 9/32 | 1/8 | 2⅝ |
| 1⅛ | 5/8 | 1/4 | 5/8-24 | 5/16 | 13/64 | 1 | 1½ | 1/8 | 7/8 | 5/8 | 5/8 | 3/8 | 2¼ | 3/8 | 5/16 | 0.750 | 1¾ | 21/64 | 1/8 | 2⅝ |

| Bore Dia. (In.) | Stroke (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | 1/2 | 1A424 | $50.25 | $43.50 | 0.5 |
| 3/4 | 1 | 1A425 | 50.25 | 43.50 | 0.5 |
| 3/4 | 1½ | 1A426 | 51.23 | 44.40 | 0.5 |
| 3/4 | 2 | 1A427 | 51.23 | 44.40 | 0.5 |
| 1⅛ | 1/2 | 1A428 | $54.86 | $47.65 | 1.0 |
| 1⅛ | 1 | 1A429 | 54.86 | 47.65 | 1.0 |
| 1⅛ | 2 | 1A430 | 56.52 | 49.05 | 1.1 |
| 1⅛ | 3 | 1A431 | 58.28 | 50.65 | 1.1 |

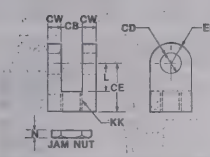
(*) Diameters are deducted from piston area and force table under "Pull Forces."

SPEEDAIRE®

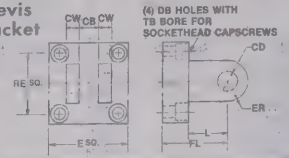
## END MOUNTS FOR SMALL BORE CYLINDERS

• All Mounts Can Be Added Without Removing Tie Bolts • Includes All Mounting Hardware

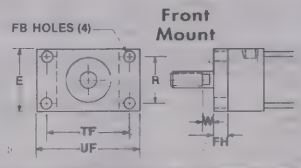
### Rod Clevis




### Clevis Bracket




### Front Mount




### ROD CLEVIS

| Bore | Stock No. | CB | CD | CE | CW | ER | KK | L | N |
|---|---|---|---|---|---|---|---|---|---|
| 3/4" | 1A434 | ½" | ¼" | 1 1/16" | ⅜" | ¼" | ¼-28 | ½" | 5/64" |
| 1⅛ | 1A440 | ⅝ | ⅜ | ⅞ | 3/16 | ⅜ | ⅜-24 | ½ | 7/32 |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3/4 | 1A434 | $7.05 | $6.11 | 0.1 |
| 1⅛ | 1A440 | 7.39 | 6.45 | 0.3 |

### CLEVIS BRACKET

| Bore | Stock No. | CB | CD | CW | DB | E | ER | FL | L | RE | TB |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4" | 1A432 | ½" | ¼" | ⅛" | 5/32" | 1" | ¼" | 1½" | 5/8" | ¾" | 17/64" |
| 1⅛ | 1A438 | ⅜ | ⅜ | 1/4 | 13/64 | 1½ | ⅜ | ⅞ | 1⅛ | 5/8 | 5/8 |

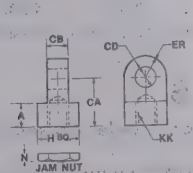
| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3/4 | 1A432 | $9.40 | $8.15 | 0.2 |
| 1⅛ | 1A438 | 10.05 | 8.79 | 0.4 |

### FRONT FLANGE MOUNT

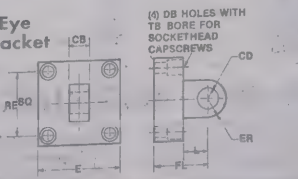
| Bore | Stock No. | E | FB | FH | R | TF | UF | W |
|---|---|---|---|---|---|---|---|---|
| 3/4" | 1A436 | 1" | 7/32" | ⅛" | ½" | 1½" | 2" | ⅛" |
| 1⅛ | 1A442 | 1½ | 7/32 | ¼ | 1 | 2 | 2½ | ⅛ |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3/4 | 1A436 | $6.85 | $5.97 | 0.1 |
| 1⅛ | 1A442 | 6.85 | 5.97 | 0.2 |

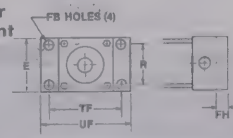
### Rod Eye




### Eye Bracket




### Rear Mount




### ROD EYE

| Bore | Stock No. | A | CA | CB | CD | ER | H | KK | N |
|---|---|---|---|---|---|---|---|---|---|
| 3/4" | 1A433 | 7/16" | ¼" | ¼" | ¼" | 1/4" | ½" | ¼-28 | 7/32 |
| 1⅛ | 1A439 | 11/16 | ⅜ | ⅜ | ⅜ | ⅜ | ¾ | ⅜-24 | 7/32 |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3/4 | 1A433 | $7.05 | $6.11 | 0.1 |
| 1⅛ | 1A439 | 7.39 | 6.45 | 0.3 |

### EYE BRACKET

| Bore | Stock No. | CB | CD | DB | E | ER | FL | L | RE | TB |
|---|---|---|---|---|---|---|---|---|---|---|
| 3/4" | 1A437 | ½" | ¼" | 5/32" | 1" | ¼" | 1 5/16" | 5/8" | ¾" | 17/64" |
| 1⅛ | 1A441 | 5/8 | ⅜ | 13/64 | 1½ | ⅜ | 1 13/16 | ⅞ | 1 | 5/8 |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3/4 | 1A435 | $8.05 | $7.90 | 0.1 |
| 1⅛ | 1A441 | 8.39 | 8.15 | 0.4 |

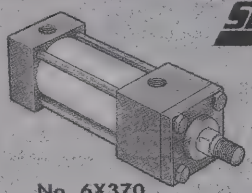
### REAR FLANGE MOUNT

| Bore | Stock No. | E | FB | FH | R | TF | UF |
|---|---|---|---|---|---|---|---|
| 3/4" | 1A437 | 1" | 7/32" | ⅛" | ½" | 1½" | 2" |
| 1⅛ | 1A443 | 1½ | 7/32 | ¼ | 1 | 2 | 2½ |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3/4 | 1A437 | $6.85 | $5.97 | 0.1 |
| 1⅛ | 1A443 | 6.85 | 5.97 | 0.3 |

# TIE-ROD CYLINDERS

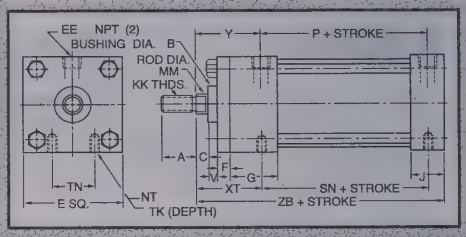
## LARGE BORE AIR CYLINDERS



No. 6X370

SPEEDAIRE®

- Meets all JIC and NFPA standards
- Permanently lubricated
- 250 PSI maximum operating pressure
- 400 PSI hydraulic (nonshock)
- Bottom flush mounting holes standard




**Heavy-duty double acting Speedaire cylinders** meet all Joint Industry Conference (JIC) and National Fluid Power Association (NFPA) standards. Unique design provides for easy addition of mounts without removing tie bolts or need for re-torquing. 8, 10, 12" stroke cylinders have adjustable cushion seals on both ends to absorb shocks, minimize noise and increase cylinder life. Seals are self-centering and pressure loaded for positive cushioning action. When pressure is reversed, the seal allows pressure to bypass and act on full piston area for fast breakaway.

**Constructed of lightweight, high tensile strength aluminum.** Polished chrome plated steel piston rods have 100,000 PSI minimum yield. Tie rods are of high strength steel and torqued to maintain compression on end seals. Buna N piston lip seals and urethane rod lip seals provide low friction characteristics and long life.

**Cylinders can be easily mounted** with optional brackets listed on opposite page. Silver and black finish. Speedaire brand.

| Bore (In.) | Rod Dia. (In.) | PUSH FORCES IN LBS. @ PSI 50 | 100 | 150 | 200 | Piston Area, (Sq. In.) | PULL FORCES* IN LBS. @ PSI 50 | 100 | 150 | 200 | Piston Area, (Sq. In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 5/8 | 88 | 177 | 266 | 353 | 1.77 | 73 | 146 | 220 | 292 | 1.463 |
| 2 | 5/8 | 157 | 314 | 471 | 628 | 3.14 | 141 | 283 | 425 | 567 | 2.833 |
| 2½ | 5/8 | 245 | 491 | 737 | 982 | 4.91 | 230 | 460 | 691 | 921 | 4.603 |
| 3¼ | 1 | 415 | 830 | 1245 | 1659 | 8.30 | 375 | 751 | 1127 | 1502 | 7.515 |
| 4 | 1 | 628 | 1257 | 1886 | 2513 | 12.57 | 589 | 1178 | 1768 | 2356 | 11.785 |
| 6 | 1⅜ | 1413 | 2827 | 4240 | 5654 | 26.27 | 1339 | 2678 | 4018 | 5357 | 26.785 |

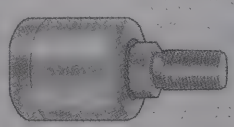
(*) Rod diameters are deducted from piston area and force table on return or pull.

| Bore (In.) | A | B | C | E | EE | F | G | J | KK | MM | NT | P | SN | TK | TN | V | XT | Y | ZB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½" | 3/4" | 1⅛" | 3/8" | 2" | 1/4" | 1/8" | 1½" | 1" | 1/2"-20 | 5/8" | 1/4"-20 | 2⅛" | 2¼" | 3/8" | 5/8" | 1/2" | 1 15/16" | 2" | 4⅝" |
| 2 | 3/4 | 1⅛ | 3/8 | 2½ | 1/4 | 1/8 | 1½ | 1 | 1/2 -20 | 5/8 | 5/16 -18 | 2⅛ | 2¼ | 1/2 | 7/8 | 1/2 | 1 15/16 | 2 | 4⅝ |
| 2½ | 3/4 | 1⅛ | 3/8 | 3 | 1/4 | 1/8 | 1½ | 1 | 1/2 -20 | 5/8 | 3/8 -16 | 2¼ | 2⅜ | 5/8 | 1¼ | 1/2 | 1 15/16 | 2 | 4¾ |
| 3¼ | 1⅛ | 1½ | 1/2 | 3¾ | 3/8 | 1/4 | 1¾ | 1¼ | 3/4 -16 | 1 | 1/2 -13 | 2⅝ | 2⅝ | 3/4 | 1½ | 5/8 | 2 7/16 | 2 7/16 | 5⅝ |
| 4 | 1⅛ | 1½ | 1/2 | 4½ | 3/8 | 1/4 | 1¾ | 1¼ | 3/4 -16 | 1 | 1/2 -13 | 2⅝ | 2⅝ | 3/4 | 2 1/16 | 5/8 | 2 7/16 | 2 7/16 | 5⅝ |
| 6 | 1⅝ | 2 | 5/8 | 6½ | 1/2 | 5/8 | 2 | 1½ | 1 -14 | 1⅜ | 3/4 -10 | 3 | 3⅛ | 1⅛ | 3¼ | 3/8 | 2 13/16 | 2 7/8 | 6⅝ |

| Bore Dia. (In.) | Stroke* (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1½ | 1 | 6X370 | $97.31 | **$88.40** | 2.4 |
| 1½ | 2 | 6X371 | 100.26 | **91.25** | 2.6 |
| 1½ | 3 | 6X372 | 103.31 | **93.95** | 2.6 |
| 1½ | 4 | 6X373 | 106.26 | **96.85** | 3.0 |
| 1½ | 5 | 6X374 | 109.31 | **99.60** | 3.1 |
| 1½ | 6 | 6X375 | 112.31 | **102.40** | 3.3 |
| 1½ | 8* | 6X376 | 153.91 | **140.60** | 3.9 |
| 1½ | 10* | 6X377 | 159.91 | **146.15** | 4.2 |
| 2 | 1 | 6X378 | 111.67 | **101.60** | 3.2 |
| 2 | 2 | 6X379 | 114.87 | **104.55** | 3.4 |
| 2 | 3 | 6X380 | 118.15 | **107.70** | 3.6 |
| 2 | 4 | 6X381 | 121.40 | **110.65** | 3.9 |
| 2 | 5 | 6X382 | 124.64 | **113.70** | 4.2 |
| 2 | 6 | 6X383 | 119.00 | **116.70** | 4.4 |
| 2 | 8* | 6X384 | 169.92 | **155.75** | 5.2 |
| 2 | 10* | 6X385 | 176.50 | **161.75** | 5.4 |
| 2½ | 1 | 6X386 | 121.34 | **110.50** | 4.3 |
| 2½ | 2 | 6X387 | 124.97 | **113.95** | 4.6 |
| 2½ | 3 | 6X388 | 128.55 | **117.25** | 4.8 |
| 2½ | 4 | 6X389 | 132.23 | **120.60** | 5.0 |
| 2½ | 5 | 6X390 | 135.90 | **124.05** | 5.2 |
| 2½= | 6 | 6X391 | $139.44 | **$127.40** | 5.7 |
| 2½ | 8* | 6X392 | 182.25 | **167.25** | 6.3 |
| 2½ | 10* | 6X393 | 189.46 | **173.75** | 6.5 |
| 3¼ | 2 | 6X394 | 167.72 | **152.75** | 8.9 |
| 3¼ | 4 | 6X395 | 178.51 | **162.75** | 9.8 |
| 3¼ | 6 | 6X396 | 189.30 | **172.50** | 11.0 |
| 3¼ | 8* | 6X397 | 244.14 | **222.00** | 12.0 |
| 3¼ | 10* | 6X398 | 254.93 | **231.75** | 13.0 |
| 4 | 2 | 6X399 | 193.44 | **176.50** | 12.0 |
| 4 | 4 | 6X400 | 204.82 | **187.00** | 13.0 |
| 4 | 6 | 6X467 | 216.24 | **197.25** | 14.0 |
| 4 | 8* | 6X468 | 271.66 | **247.25** | 15.0 |
| 4 | 10* | 6X469 | 283.13 | **258.00** | 16.0 |
| 6 | 4 | 2W489 | 372.96 | **341.25** | 25.0 |
| 6 | 6 | 2W490 | 392.08 | **359.00** | 27.0 |
| 6 | 8* | 2W491 | 464.07 | **423.50** | 26.0 |
| 6 | 10* | 2W492 | 483.18 | **441.50** | 31.0 |
| 6 | 12* | 2W493 | 502.30 | **459.25** | 32.0 |

(*) 8, 10, and 12" stroke cylinders have cushion seals on both ends to absorb shocks.

## SPEEDAIRE SELF-ALIGNING COUPLERS



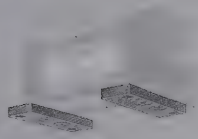
SPEEDAIRE®

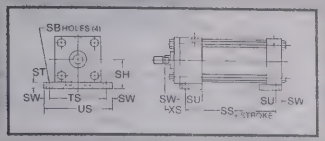
- Designed to prevent binding of cylinder caused by misalignment
- Permits greater tolerance between center-line of cylinder and mating part
- Speedaire brand

| Thread Sizes (In.) | Overall Dim. (In.) Length | Dia. | Max. Operating Force (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2-20 | 2¾ | 1¼ | 3500 | 1A313 | $34.25 | **$29.95** | 0.5 |
| 3/4-16 | 3 7/16 | 1¾ | 8500 | 1A314 | 46.01 | **40.35** | 1.2 |
| 1-14 | 4 9/16 | 2½ | 16,000 | 1A315 | 70.66 | **64.30** | 3.0 |

# END MOUNTS FOR TIE-ROD AIR CYLINDERS

## ANODIZED ALUMINUM SIDE LUG MOUNT



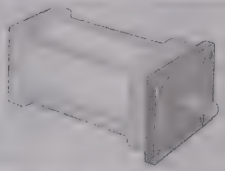


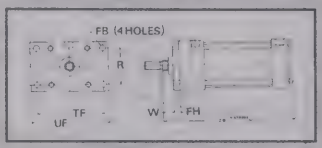

### DIMENSIONS (In.)

| Bore | Stock No. | SB | SH | SS | ST | SU | SW | TS | US | XS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 1A254 | 7/16 | 1¼ | 2⅞ | 1/4 | 1⅛ | 3/8 | 2¾ | 3½ | 1⅜ |
| 2 | 1A255 | 7/16 | 1½ | 2⅞ | 1/4 | 1⅛ | 3/8 | 3¼ | 4 | 1⅜ |
| 2½ | 1A256 | 7/16 | 1⅞ | 3 | 3/8 | 1⅛ | 3/8 | 3¾ | 4½ | 1⅜ |
| 3¼ | 1A257 | 9/16 | 2⅜ | 3¼ | 1/2 | 1¼ | 1/2 | 4¾ | 5⅜ | 1⅞ |
| 4 | 1A258 | 9/16 | 2¾ | 3¼ | 1/2 | 1¼ | 1/2 | 5½ | 6½ | 1⅞ |
| 6 | 1A259 | 13/16 | 4 | 3⅝ | 3/4 | 1⅝ | 11/16 | 7⅞ | 9¼ | 2⅝ |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1½ | 6X470 | $9.09 | $8.33 | 0.6 |
| 2 | 6X472 | 9.58 | 8.85 | 1.0 |
| 2½ | 6X474 | 12.00 | 11.04 | 1.4 |
| 3¼ | 6X478 | 16.92 | 15.41 | 3.7 |
| 4 | 6X480 | 15.94 | 14.57 | 5.1 |
| 6 | 1A016 | 36.26 | 33.35 | 12.0 |

## STEEL FRONT/REAR FLANGE MOUNT



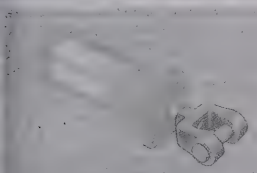


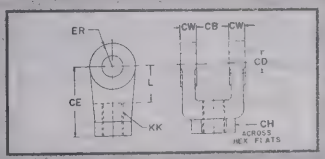

### DIMENSIONS (In.)

| Bore | Stock No. | Rod. Dia. | FB | FH | R | TF | UF | W |
|---|---|---|---|---|---|---|---|---|
| 1½ | 6X470 | 5/8 | 5/16 | 3/8 | 1.43 | 2¾ | 3⅜ | 5/8 |
| 2 | 6X472 | 5/8 | 3/8 | 3/8 | 1.84 | 3⅜ | 4⅛ | 5/8 |
| 2½ | 6X474 | 5/8 | 3/8 | 3/8 | 2.19 | 3⅞ | 4⅝ | 5/8 |
| 3¼ | 6X478 | 1 | 7/16 | 5/8 | 2.76 | 4 11/16 | 5½ | 3/4 |
| 4 | 6X480 | 1 | 7/16 | 5/8 | 3.32 | 5 7/16 | 6¼ | 3/4 |
| 6 | 1A016 | 1⅜ | 9/16 | 3/4 | 4.88 | 7⅝ | 8⅝ | 7/8 |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1½ | 1A254 | $14.67 | $13.26 | 0.2 |
| 2 | 1A255 | 11.77 | 10.70 | 0.3 |
| 2½ | 1A256 | 13.12 | 11.93 | 0.5 |
| 3¼ | 1A257 | 27.26 | 24.76 | 1.1 |
| 4 | 1A258 | 23.24 | 21.18 | 1.2 |
| 6 | 1A259 | 63.19 | 57.60 | 0.9 |

## CAST IRON ROD CLEVIS MOUNT





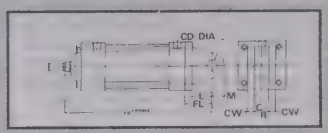

### DIMENSIONS (In.)

| Bore | Stock No. | CB | CD | CE | CH | CW | ER | KK | L |
|---|---|---|---|---|---|---|---|---|---|
| 1½ - 2½ | 6X476 | 3/4 | 1/2 | 1½ | 1 | 1/2 | 1/2 | 1/2 - 20 | 3/4 |
| 3¼ - 4 | 6X482 | 1¼ | 3/4 | 2⅜ | 1¼ | 5/8 | 3/4 | 3/4 - 16 | 1¼ |
| 6 | 1A018 | 1½ | 1 | 3⅛ | 1½ | 3/4 | 1 | 1 - 14 | 1½ |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1½ - 2½ | 6X476 | $18.93 | $17.21 | 0.6 |
| 3¼ - 4 | 6X482 | 28.57 | 26.25 | 1.7 |
| 6 | 1A018 | 46.81 | 42.90 | 3.7 |

## CAST IRON REAR CLEVIS MOUNT



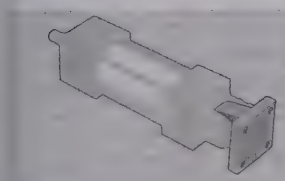


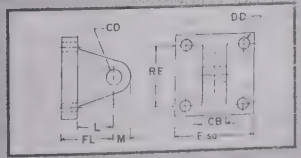

### DIMENSIONS (In.)

| Bore | Stock No. | Rod Dia. | CB | CD | CW | FL | L | M |
|---|---|---|---|---|---|---|---|---|
| 1½ | 6X471 | 5/8 | 3/4 | 1/2 | 1/2 | 1⅛ | 3/4 | 5/8 |
| 2 | 6X473 | 5/8 | 3/4 | 1/2 | 1/2 | 1⅛ | 3/4 | 5/8 |
| 2½ | 6X475 | 5/8 | 3/4 | 1/2 | 1/2 | 1⅛ | 3/4 | 5/8 |
| 3¼ | 6X479 | 1 | 1¼ | 3/4 | 5/8 | 1⅞ | 1¼ | 7/8 |
| 4 | 6X481 | 1 | 1¼ | 3/4 | 5/8 | 1⅞ | 1¼ | 7/8 |
| 6 | 1A017 | 1⅜ | 1½ | 1 | 3/4 | 2¼ | 1½ | 1 |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1½ | 6X471 | $14.09 | $12.87 | 0.8 |
| 2 | 6X473 | 17.38 | 15.90 | 1.0 |
| 2½ | 6X475 | 18.63 | 17.08 | 1.3 |
| 3¼ | 6X479 | 24.13 | 22.10 | 3.7 |
| 4 | 6X481 | 24.19 | 22.12 | 4.7 |
| 6 | 1A017 | 54.10 | 49.40 | 12.0 |

## CAST IRON EYE BRACKET






### DIMENSIONS (In.)

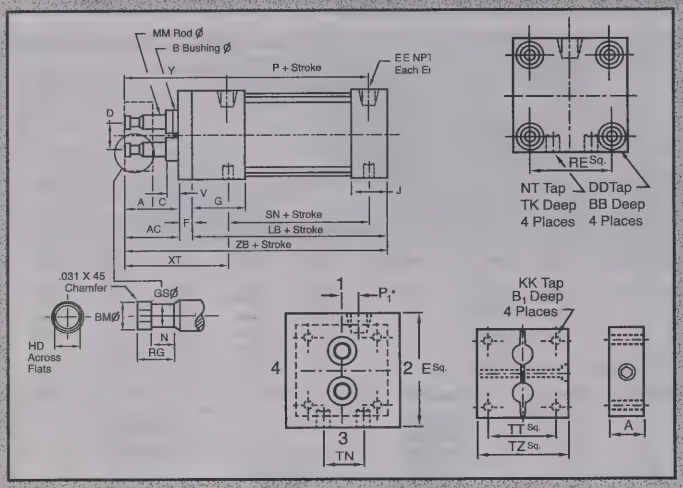
| Bore | Stock No. | CB | CD | E | FL | L | M | RE | DD |
|---|---|---|---|---|---|---|---|---|---|
| 1½ - 2½ | 6X477 | 3/4 | 1/2 | 2½ | 1⅛ | 3/4 | 5/8 | 1.84 | 11/32 |
| 3¼ - 4 | 6X483 | 1¼ | 3/4 | 3¾ | 1¾ | 1¼ | 7/8 | 2.94 | 15/32 |
| 6 | 1A019 | 1½ | 1 | 4½ | 2¼ | 1½ | 1 | 3.25 | 21/32 |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1½ - 2½ | 6X477 | $16.12 | $14.55 | 0.8 |
| 3¼ - 4 | 6X483 | 22.35 | 20.36 | 3.2 |
| 6 | 1A019 | 41.65 | 38.10 | 6.0 |


### SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

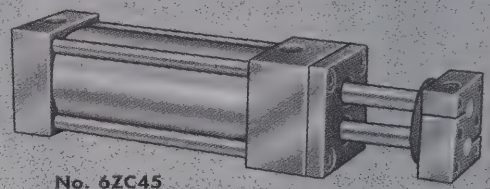
Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# NON-ROTATING ROD AIR CYLINDERS




**SPEEDAIRE**®

- Meets NFPA mounting standards
- Bottom flush (MS4) mounting holes standard
- 150 PSI operating pressure
- Permanently lubricated
- Adjustable cushions on 1½", 2" and 2½" bore sizes



No. 6ZC45

**Heavy-duty, double acting air cylinders** for applications requiring guided movement when it is critical that piston rod not rotate. Constructed with two piston rods instead of one, design prevents rods from twisting and turning off axis, providing user with reliable, repeatable linear motion without need for external guides. Cylinder bearing wear is also minimized by the non-rotating twin-rod design.

**Available in four bore sizes:** 1⅛", 1½", 2", and 2½". Standard stroke lengths are 1", 2", and 3" for the 1⅛" bore, and 2", 3", 4", and 6" for all other bore sizes. All bore sizes, except 1⅛", are equipped with adjustable cushions on both ends.

**Constructed of lightweight, high tensile strength aluminum.** Meets NFPA mounting standards. Piston rods are chrome plated, ground and polished steel rated for 100,000 PSI minimum yield. Tie rods are high strength steel and torqued to maintain compression on tube end seals. Rod bearing is heavy-duty, high load cast iron for durability and is easily removed. U-cup piston seals provide low friction characteristics and long service life.

## BASIC CYLINDER DIMENSIONS (In.)

| Bore (In.) | A | B | BB | C | D | DD | E | EE | F | G | GS | HD | J | LB | MM | N | NT | P | RE | RG | SN | TK | TN | Y | ZB | XT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1⅛ | .625 | N/A | .188 | .625 | .627 | 10-32 | 1.500 | 1/8 | .250 | .875 | .190 | .250 | .625 | 2.250 | .312 | .400 | 10-32 | 1.469 | 1.125 | .580 | 1.500 | .250 | .500 | 2.031 | 3.750 | 2.000 |
| 1½ | .625 | .590 | .312 | .875 | .750 | 1/4-28 | 2.000 | 1/4 | .375 | 1.500 | .250 | .312 | 1.000 | 3.625 | .375 | .400 | 1/4 - 20 | 2.125 | 1.428 | .580 | 2.250 | .375 | .625 | 2.875 | 5.500 | 2.812 |
| 2 | .750 | .900 | .312 | .750 | 1.052 | 5/16-24 | 2.500 | 1/4 | .375 | 1.500 | .500 | .500 | 1.000 | 3.625 | .625 | .526 | 5/16-18 | 2.125 | 1.840 | .705 | 2.250 | .500 | .875 | 2.875 | 5.500 | 2.812 |
| 2½ | .750 | .900 | .312 | 1.000 | 1.398 | 5/16-24 | 3.000 | 1-4 | .375 | 1.500 | .500 | .500 | 1.000 | 3.750 | .625 | .526 | 3/8-16 | 2.250 | 2.192 | .705 | 2.375 | .625 | 1.250 | 3.125 | 5.875 | 3.062 |

## THEORETICAL EXTEND AND RETRACT FORCES

| Bore Size (In.) | Movement | Effective Piston Area In.² | INPUT PRESSURE—PSI | | | | | | | | Cu. Ft Displacement Per Inch of Stroke |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 20 | 40 | 50 | 60 | 80 | 100 | 125 | 150 | |
| 1⅛ | Extend | .99 | 20 | 40 | 50 | 60 | 80 | 99 | 124 | 149 | .00058 |
| | Retract | .84 | 17 | 34 | 42 | 50 | 67 | 84 | 105 | 126 | .00049 |
| 1½ | Extend | 1.77 | 35 | 71 | 88 | 106 | 141 | 177 | 221 | 265 | .00102 |
| | Retract | 1.55 | 31 | 62 | 77 | 93 | 124 | 155 | 193 | 232 | .00089 |
| 2 | Extend | 3.14 | 63 | 126 | 157 | 189 | 251 | 314 | 393 | 471 | .00182 |
| | Retract | 2.53 | 51 | 101 | 126 | 152 | 202 | 253 | 316 | 379 | .00146 |
| 2½ | Extend | 4.91 | 98 | 196 | 245 | 295 | 393 | 491 | 614 | 736 | .00284 |
| | Retract | 4.30 | 86 | 172 | 215 | 258 | 344 | 430 | 537 | 644 | .00249 |

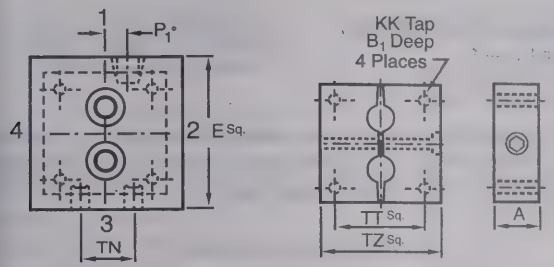
## AIR CYLINDER SPECIFICATIONS AND ORDERING DATA

| Bore Size (In.) | Stroke Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 | 2 | 6ZC52 | $236.48 | $208.75 | 5.0 |
| | 3 | 6ZC53 | 243.31 | 215.00 | 5.3 |
| | 4 | 6ZC54 | 250.18 | 203.00 | 5.5 |
| | 6 | 6ZC55 | 263.93 | 232.75 | 6.0 |
| 2½ | 2 | 6ZC56 | 266.00 | 234.75 | 7.7 |
| | 3 | 6ZC57 | 273.66 | 241.75 | 8.1 |
| | 4 | 6ZC58 | 281.21 | 248.25 | 8.5 |
| | 6 | 6ZC59 | 296.41 | 261.25 | 9.2 |

| Bore Size (In.) | Stroke Length (In.) | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| 1⅛ | 1 | 6ZC45 | $138.21 | $120.75 | 1.2 |
| | 2 | 6ZC46 | 141.22 | 123.45 | 1.3 |
| | 3 | 6ZC47 | 144.31 | 128.20 | 1.4 |
| 1½ | 2 | 6ZC48 | 214.07 | 190.50 | 3.0 |
| | 3 | 6ZC49 | 218.76 | 194.75 | 3.2 |
| | 4 | 6ZC50 | 223.50 | 197.00 | 3.4 |
| | 6 | 6ZC51 | 232.96 | 205.50 | 3.7 |



System components or tools — We're your one source for pneumatics.

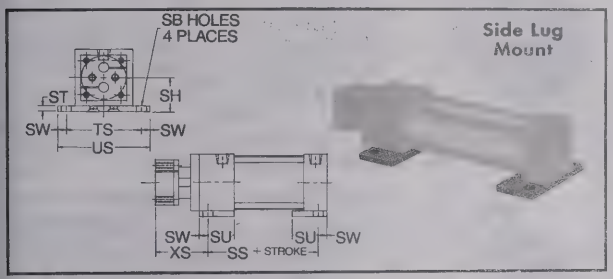


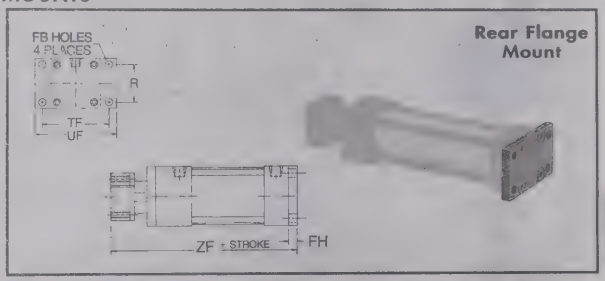

## TOOLING PLATE DIMENSIONS (In.)

| Bore (In.) | A | B1 | E | KK |
|---|---|---|---|---|
| 1 1/8 | .625 | .500 | 1.500 | 6-32 |
| 1 1/2 | .625 | Thru | 2.000 | 10-32 |
| 2 | .750 | Thru | 2.500 | 1/4-28 |
| 2 1/2 | .750 | Thru | 3.000 | 5/16-24 |

| Bore (In.) | P1 | TT | TZ | Clamping Screw Torque in Ft.-Lbs. |
|---|---|---|---|---|
| 1 1/8 | .241 | .750 | 1.250 | 2 1/2 |
| 1 1/2 | .303 | 1.125 | 1.500 | 10 |
| 2 | .480 | 1.430 | 2.000 | 20 |
| 2 1/2 | .635 | 1.840 | 2.500 | 30 |

## CYLINDER MOUNTS




## DIMENSIONS FOR BASE BAR MOUNTS (In.)

| Bore (In.) | Stock No. | SB | SH | SS | ST | SU | SW | TS | US | XS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 1/8 | 6ZC60 | .203 | 1.00 | 1.75 | .25 | .75 | .25 | 1.875 | 2.375 | 1.75 |
| 1 1/2 | 1A254 | .438 | 1.25 | 2.875 | .25 | 1.125 | .375 | 2.75 | 3.5 | 2.25 |
| 2 | 1A255 | .438 | 1.5 | 2.875 | .25 | 1.125 | .375 | 2.75 | 4.0 | 2.25 |
| 2 1/2 | 1A256 | .438 | 1.875 | 3.0 | .375 | 1.125 | .375 | 3.75 | 4.5 | 2.5 |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1 1/8 | 6ZC60 | $9.10 | $8.24 | 0.2 |
| 1 1/2 | 1A254 | 14.67 | 13.26 | 0.2 |
| 2 | 1A255 | 11.77 | 10.70 | 0.3 |
| 2 1/2 | 1A256 | 13.12 | 11.93 | 0.5 |

## DIMENSIONS FOR FRONT AND REAR FLANGE MOUNTS

| Bore (In.) | Stock No. | FB | FH | R | TF | UF | W | ZF |
|---|---|---|---|---|---|---|---|---|
| 1 1/8 | 1A443 | .219 | .25 | 1.0 | 2.0 | 2.5 | 1.25 | 4.0 |
| 1 1/2 | 6X470 | .313 | .375 | 1.43 | 2.75 | 3.375 | 1.5 | 5.875 |
| 2 | 6ZC61 | .375 | .375 | 1.84 | 3.375 | 4.125 | 1.5 | 5.875 |
| 2 1/2 | 6ZC62 | .375 | .375 | 2.19 | 3.875 | 4.625 | 1.75 | 6.25 |

| Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1 1/8 | 1A443 | $6.85 | $5.97 | 0.3 |
| 1 1/2 | 6X470 | 9.09 | 8.33 | 0.6 |
| 2 | 6ZC61 | 10.55 | 9.73 | 1.1 |
| 2 1/2 | 6ZC62 | 11.37 | 10.52 | 1.4 |

**Transverse Rod Deflection may be calculated by using the formula below**

$$D = \frac{P \times S^3}{K}$$

Where: D = Deflection in inches
K = Constant
S = Stroke in inches
P = Load in pounds

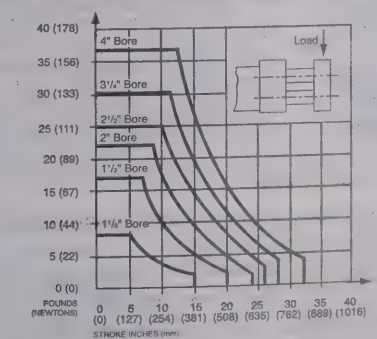
| Bore (In.) | K Factor | K1 Factor |
|---|---|---|
| 1 1/8 | 9,000 | 34,450 |
| 1 1/2 | 19,800 | 84,650 |
| 2 | 236,100 | 551,250 |
| 2 1/2 | 593,000 | 1,345,820 |

**Torsional Rod Deflections may be calculated by using the formula below**

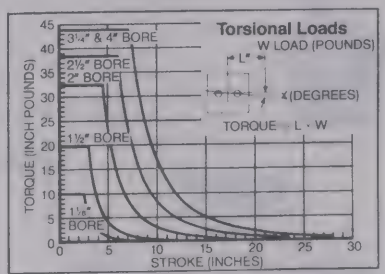
$$\text{Tangent of angle in degrees} = \frac{\text{Torque} \times S^3}{K_1 \times 4}$$

Where K = Constant
S = Stroke in in.
Torque = L x Wt. of load

**Transverse Loads**




**Torsional Loads**



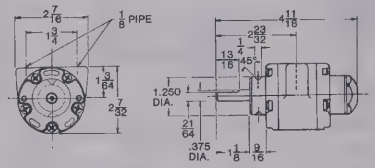

**The transverse and torsional load graphs shown are to be utilized as a guide-line with respect to the maximum load and stroke of each respective bore size.**

**Traverse or torsional loads placed on the cylinder will cause some deflection of the piston rods. Excessive deflection will adversely affect cylinder life and should be considered at the time initial application design.**

**Theoretical deflection of the piston rods in their extended position may be calculated by using the above formulas for either a traverse or torsional load.**

# AIR MOTORS AND GEARMOTORS

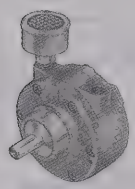


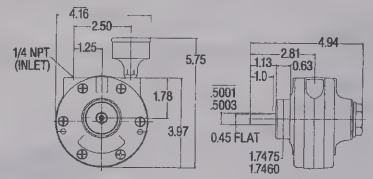



- Registered to ISO 9001
- Stall proof
- Variable speed
- Cast iron body
- Instantaneously reversible (except No. 6ZC93 which is counter clockwise only)

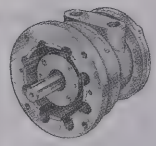
**(*) If greater torque and lower RPM are required, air motors may be converted to air gearmotors. Boston Gear, Winsmith and Dayton brands of C-face, right angle speed reducers are available. See index under Speed Reducers.**

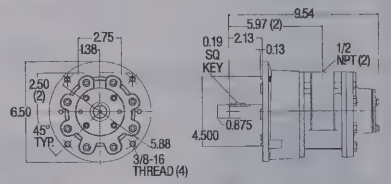
### No. 6ZC93 3/4 HP Air Motor



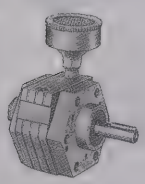


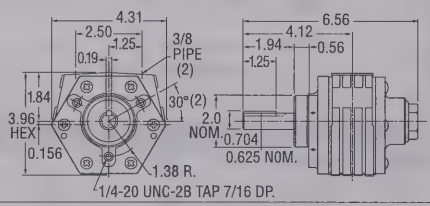

### No. 6ZC94 5 HP Air Motor*





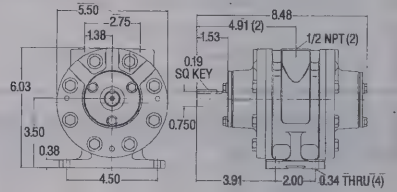

### No. 4Z231 1¾ HP Air Motor*



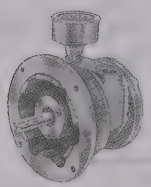


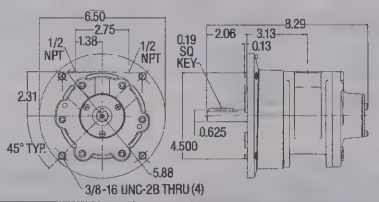

### No. 6ZC95 5 HP Air Motor



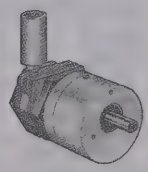


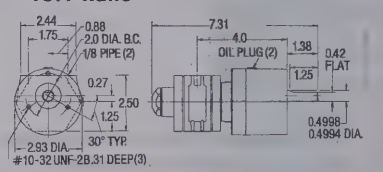

### No. 6ZC96 4 HP Air Motor*





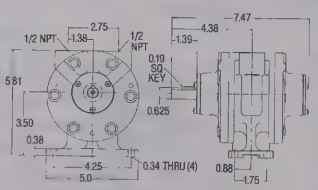

### No. 4Z412 1/3 HP Air Powered Gearmotor 15:1 Ratio



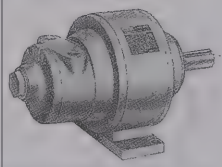


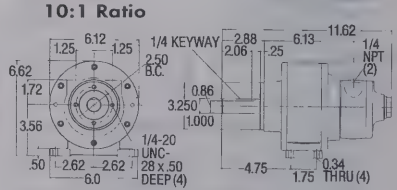

### No. 6ZC98 4 HP Air Motor





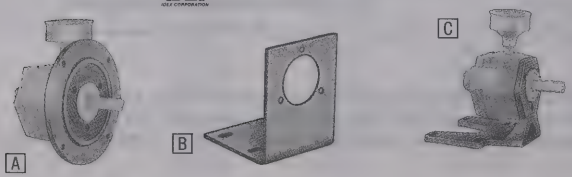

### No. 6ZC97 1½ HP Air Powered Gearmotor 10:1 Ratio






## MOUNTS FOR Nos. 4Z231, 4Z411, and 4Z412

GAST
A UNIT OF IDEX CORPORATION




**A NEMA 56C FRAME FLANGE MOUNT**

Cast iron flange mount for No. 4Z231.
**No. 6X889.** Shpg. wt. 3.3 lbs. List $49.98. Each.....**$42.65**

**B FOOT MOUNT**

Sturdy foot mount for use with Nos. 4Z411 and 4Z412.
**No. 5X372.** Shpg. wt. 0.6 lbs. List $17.34. Each.....**$14.81**

**C NEMA 56 FRAME FOOT MOUNT**

Cast aluminum foot mount for No. 4Z231.No. 6X8901.4
**No. 6X890.** Shpg. wt. 1.4 lbs. List $53.04. Each .....**$45.35**

GAST
A UNIT OF IDEX CORPORATION

## ROTARY VANE AIR MOTORS

**Gast air motors and gearmotors** are a compact, lightweight, dependable source of smooth, vibrationless power.

**Models will stop, start, and reverse (except No. 6ZC93 which is counter clockwise only) almost instantaneously** with use of a 4-way valve. Can continuously operate in extreme temperatures up to 250°F, as well as in wet and corrosive environments. With no heat build-up or electric sparking, air motors are an excellent alternative in applications that would normally require expensive explosion-proof motors. Stalling or overloading will not damage air motors.

**All units come with discharge muffler** to reduce noise. Gray metallic finish. Gast brand.

**Output speed and torque can be adjusted** through the use of an air regulator valve placed between air source and air motor. Requires little maintenance, as vanes are self-sealing and self-adjusting.

**Can be used in hundreds of continuous duty applications** including construction machinery, conveyors, hoisting, mixing, packaging, paint/finishing equipment; and to operate mechanical pumps in all industries.

## AIR POWERED GEARMOTORS

**Parallel shaft, air-powered gearmotors** provides same features and advantages of an air motor but at a higher torque and lower output speed range.

**Provide high torque with smooth start-up.** Torque increases and speed decreases in proportion to the ratio of the gear reducer selected. Geared speed reduction permits motor to operate at more efficient speeds, while providing better speed control under changing load and torque.

**Compact and lightweight in-line design** is ideal for applications where installation space is limited or where weight is a factor.

**Rated for continuous duty** and feature cast iron housing, high strength steel output shaft with key and plastic cover; tapered roller bearing; and hardened polished steel worm mating with forged, heat treated high manganese bronze worm gear. Supplied with AGMA #8 lubricant in gear chamber.

## ROTARY VANE AIR MOTORS PERFORMANCE DATA†

| Output RPM | INCOMING AIR PRESSURE 20 PSI HP | Torque In-Lb | CFM | 40 PSI HP | Torque In-Lb | CFM | 60 PSI HP | Torque In-Lb | CFM | 80 PSI HP | Torque In-Lb | CFM | 100 PSI HP | Torque In-Lb | CFM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **No. 4Z411 1/2 HP AIR MOTOR** | | | | | | | | | | | | | | | |
| 1000 | 0.02 | 1.6 | 2.0 | 0.05 | 3.2 | 9 | 0.08 | 4.8 | 12 | 0.10 | 6.5 | 15 | * | * | * |
| 2000 | 0.04 | 1.5 | 2.5 | 0.10 | 3.0 | 10 | 0.14 | 4.6 | 14 | 0.20 | 6.3 | 17 | * | * | * |
| 3000 | 0.06 | 1.2 | 3.0 | 0.14 | 2.9 | 11 | 0.22 | 4.5 | 15 | 0.29 | 6.0 | 20 | * | * | * |
| 4000 | 0.07 | 1.1 | 6.0 | 0.16 | 2.7 | 13 | 0.27 | 4.2 | 17 | 0.36 | 4.2 | 17 | * | * | * |
| 5000 | 0.08 | 1.0 | 9.0 | 0.20 | 2.5 | 14 | 0.32 | 4.0 | 19 | 0.44 | 5.5 | 25 | * | * | * |
| 6000 | 0.08 | 0.8 | 10.0 | 0.23 | 2.2 | 15 | 0.35 | 3.75 | 21 | 0.50 | 5.2 | 27 | * | * | * |
| **No. 6ZC93 3/4 HP AIR MOTOR** | | | | | | | | | | | | | | | |
| 300 | 0.02 | 5 | 2.5 | 0.05 | 10.5 | 5.2 | 0.07 | 15 | 8 | 0.09 | 21 | 11 | 0.17 | 26.3 | 12 |
| 500 | 0.04 | 4.8 | 3 | 0.07 | 10 | 6 | 0.12 | 14.7 | 9 | 0.15 | 20 | 12 | 0.20 | 26 | 13.5 |
| 1000 | 0.06 | 4 | 4 | 0.14 | 9.3 | 7 | 0.22 | 14 | 11 | 0.22 | 19 | 14.5 | 0.37 | 24.5 | 17 |
| 1500 | 0.08 | 3.5 | 5 | 0.20 | 8.5 | 8.5 | 0.31 | 13 | 13 | 0.45 | 18 | 17 | 0.55 | 23 | 20 |
| 2000 | 0.10 | 3 | 6 | 0.25 | 8 | 10 | 0.40 | 12 | 15 | 0.55 | 17 | 20 | 0.70 | 22 | 23.5 |
| 2500 | 0.10 | 2.3 | 7 | 0.27 | 7 | 11 | 0.45 | 11.5 | 17 | 0.65 | 16 | 22 | 0.83 | 21 | 27.0 |
| 3000 | 0.10 | 2 | 8 | 0.30 | 6.5 | 12.5 | 0.50 | 11 | 19 | 0.70 | 15 | 25 | 0.95 | 19 | 50 |
| **No. 4Z231 1 3/4 HP AIR MOTOR** | | | | | | | | | | | | | | | |
| 300 | 0.05 | 11 | 4.5 | 0.12 | 22 | 9.0 | 0.15 | 34 | 12 | 0.22 | 45.8 | 17.7 | 0.27 | 57 | 20.7 |
| 500 | 0.08 | 10.7 | 6.0 | 0.18 | 21.7 | 11 | 0.26 | 33.4 | 15.5 | 0.34 | 45 | 21 | 0.44 | 56 | 26.7 |
| 1000 | 0.16 | 10 | 9.0 | 0.32 | 20.7 | 15.7 | 0.51 | 31.7 | 22 | 0.70 | 42 | 29 | 0.82 | 53.9 | 36.3 |
| 1500 | 0.23 | 9 | 12 | 0.48 | 19.7 | 20.2 | 0.74 | 29.8 | 28 | 0.94 | 39.7 | 37 | 1.17 | 49.5 | 46 |
| 2000 | 0.28 | 8 | 15.5 | 0.59 | 18.3 | 25 | 0.89 | 28 | 34.5 | 1.17 | 36.8 | 45 | 1.47 | 46 | 56 |
| 2500 | 0.30 | 7 | 19 | 0.71 | 17 | 30 | 1.05 | 25.8 | 41 | 1.32 | 33.7 | 52.8 | 1.66 | 42.2 | 65 |
| 3000 | 0.32 | 6.5 | 22 | 0.76 | 15.4 | 34.5 | 1.12 | 23.6 | 47 | 1.46 | 30.5 | 60.5 | 1.80 | 38.8 | 75 |
| **Nos. 6ZC96 AND 6ZC98 4 HP AIR MOTORS** | | | | | | | | | | | | | | | |
| 300 | 0.10 | 22 | 11 | 0.20 | 46 | 16 | 0.40 | 73 | 22 | 0.5 | 93 | 27 | 0.6 | 114 | 33 |
| 500 | 0.20 | 20 | 13 | 0.40 | 45 | 20 | 0.60 | 70 | 25 | 0.8 | 91 | 33 | 0.9 | 111 | 40 |
| 1000 | 0.30 | 19 | 19 | 0.70 | 43 | 28 | 1.0 | 66 | 38 | 1.4 | 87 | 48 | 1.6 | 106 | 57 |
| 1500 | 0.40 | 17 | 24 | 1.0 | 41 | 37 | 1.4 | 63 | 50 | 2.0 | 82 | 63 | 2.4 | 100 | 75 |
| 2000 | 0.60 | 16 | 30 | 1.2 | 39 | 45 | 1.9 | 58 | 63 | 2.5 | 78 | 79 | 3.0 | 95 | 95 |
| 2500 | 0.65 | 15 | 35 | 1.5 | 36 | 55 | 2.2 | 55 | 75 | 2.9 | 74 | 95 | 3.6 | 90 | 112 |
| 3000 | 0.70 | 14 | 40 | 1.7 | 35 | 63 | 2.5 | 50 | 86 | 3.3 | 70 | 110 | 4.0 | 83 | 130 |
| **Nos. 6ZC94 AND 6ZC95 5 HP AIR MOTORS** | | | | | | | | | | | | | | | |
| 300 | 0.10 | 37 | 20 | 0.30 | 75 | 26 | 0.60 | 115 | 40 | 0.70 | 150 | 53 | 0.80 | 186 | 57 |
| 500 | 0.20 | 35 | 23 | 0.50 | 74 | 30 | 0.80 | 113 | 45 | 1.1 | 147 | 58 | 1.5 | 184 | 65 |
| 1000 | 0.40 | 34 | 28 | 1.0 | 72 | 40 | 1.6 | 108 | 60 | 2.2 | 144 | 75 | 2.7 | 175 | 87 |
| 1500 | 0.70 | 32 | 35 | 1.5 | 67 | 55 | 2.3 | 100 | 78 | 3.1 | 135 | 98 | 3.7 | 163 | 115 |
| 2000 | 0.80 | 27 | 45 | 1.8 | 60 | 70 | 2.8 | 90 | 97 | 3.8 | 125 | 125 | 4.5 | 148 | 145 |
| 2500 | 0.90 | 22 | 53 | 2.0 | 50 | 85 | 3.2 | 76 | 117 | 4.4 | 108 | 150 | 5.2 | 130 | 175 |

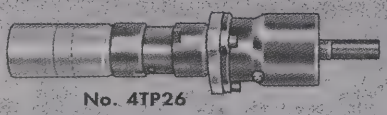
## ROTARY VANE AIR POWERED GEARMOTORS PERFORMANCE DATA†

| Output RPM | INCOMING AIR PRESSURE 20 PSI HP | Torque In-Lb | CFM | 40 PSI HP | Torque In-Lb | CFM | 60 PSI HP | Torque In-Lb | CFM | 80 PSI HP | Torque In-Lb | CFM | 100 PSI HP | Torque In-Lb | CFM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **No. 4Z412 1/3 HP AIR POWERED GEARMOTOR** | | | | | | | | | | | | | | | |
| 50 | 0.01 | 20.0 | 5.0 | 0.03 | 43.0 | 8 | 0.05 | 64 | 12 | 0.07 | 87 | 14 | * | * | * |
| 100 | 0.03 | 19.0 | 6.0 | 0.06 | 41.0 | 9 | 0.10 | 63 | 13 | 0.15 | 85 | 16 | * | * | * |
| 170 | 0.04 | 18.0 | 6.5 | 0.10 | 40.0 | 10 | 0.17 | 61 | 14 | 0.23 | 82 | 19 | * | * | * |
| 200 | 0.05 | 17.0 | 7.0 | 0.12 | 39.0 | 11 | 0.19 | 60 | 15 | * | * | * | * | * | * |
| 300 | 0.06 | 12.0 | 8.0 | 0.16 | 34.0 | 13 | 0.28 | 58 | 18 | * | * | * | * | * | * |
| 400 | 0.06 | 10.0 | 10.0 | 0.18 | 30.0 | 15 | 0.31 | 50 | 21 | * | * | * | * | * | * |
| **No. 6ZC97 1 1/2 HP AIR POWERED GEARMOTOR** | | | | | | | | | | | | | | | |
| 30 | 0.05 | 100 | 2.5 | 0.11 | 225 | 7.5 | 0.18 | 335 | 12.5 | 0.25 | 425 | 15 | * | * | * |
| 50 | 0.08 | 92 | 5 | 0.15 | 215 | 10 | 0.26 | 325 | 15 | 0.35 | 410 | 19 | * | * | * |
| 100 | 0.14 | 88 | 7.5 | 0.30 | 200 | 15 | 0.47 | 300 | 20 | 0.60 | 380 | 27.5 | * | * | * |
| 150 | 0.17 | 75 | 12 | 0.44 | 180 | 20 | 0.65 | 275 | 26 | 0.85 | 355 | 35 | * | * | * |
| 200 | 0.20 | 65 | 15 | 0.53 | 163 | 25 | 0.80 | 250 | 33 | 1.05 | 325 | 43 | * | * | * |
| 250 | 0.20 | 57 | 17.5 | 0.58 | 140 | 27.5 | 0.90 | 225 | 38 | 1.18 | 295 | 50 | * | * | * |
| 300 | 0.20 | 48 | 20 | 0.61 | 125 | 32 | 0.97 | 200 | 45 | 1.30 | 260 | 57.5 | * | * | * |

(†) HP = Torque in-lbs. x RPM ÷ 63025. Torque in-lbs. = HP x 63025 ÷ RPM. RPM = HP x 63025 ÷ Torque in-lbs.
(*) Not recommended.

| Description | Gast Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| **1/2 HP Air Motor w/Hub Mount** | 1 UP Series* | **4Z411** | $120.36 | **$113.85** | 4.0 |
| **3/4 HP Air Motor w/Hub Mount** | 2AM-NCC-16 | **6ZC93** | 128.52 | **115.70** | 5.0 |
| **1 3/4 HP Air Motor w/Hub Mount** | 4AM Series* | **4Z231** | 166.26 | **146.60** | 8.7 |
| **4 HP Air Motor w/NEMA 56C Mount** | 6AM-NRV-11A | **6ZC96** | 277.44 | **266.25** | 17.0 |
| **4 HP Air Motor w/Foot Mount** | 6AM-FRV-5A | **6ZC98** | 255.00 | **244.00** | 20.0 |
| **5 HP Air Motor w/NEMA 145TC Mount** | 8AM-NRV-28A | **6ZC94** | 378.42 | **356.00** | 31.0 |
| **5 HP Air Motor w/Foot Mount** | 8AM-FRV-2B | **6ZC95** | 309.06 | **290.50** | 26.0 |
| **1/3 HP Air Gearmotor w/Hub Mount** | 1UP-GR11 Series* | **4Z412** | 331.50 | **292.50** | 4.5 |
| **1 1/2 HP Air Gearmotor w/Face or Foot Mt.** | 4AM-RV-75-GR20 | **6ZC97** | 694.62 | **668.50** | 31.0 |

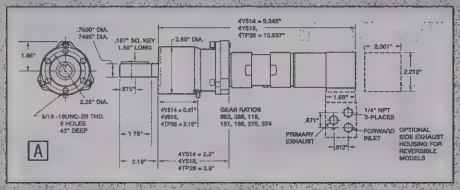
(*) Slight variation of a standard Gast model.

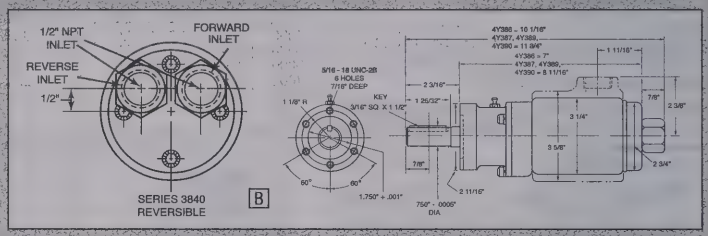


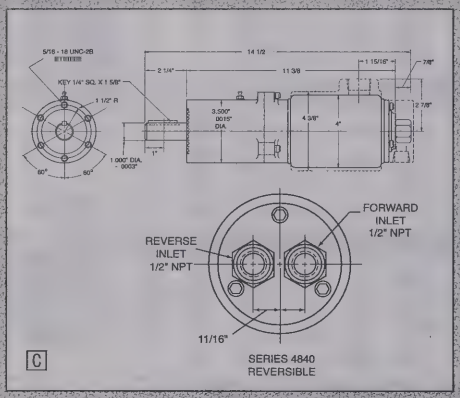
No. 4TP26

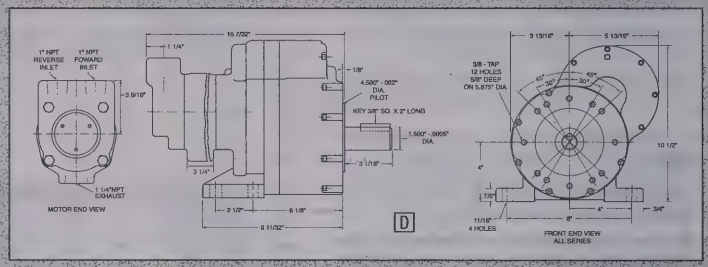
# INGERSOLL-RAND® PROFESSIONAL TOOLS

New




- For very high stall torque applications
- All motors have round keyed shaft
- 6 hole face mounting on all motors except No. 4Y423
- Instant starting, stopping and reversing eliminates the delays of motor speed up or slow-down periods

Safe operation in hazardous conditions, with no electrical sparks or hydraulic fluids.

## AIR MOTOR PERFORMANCE DATA

| Stock No. | Free Speed RPM | RPM @ Max. Power | TORQUE 40 PSI HP | 40 PSI Lb.-Ft. | 40 PSI CFM | 60 PSI HP | 60 PSI Lb.-Ft. | 60 PSI CFM | 80 PSI HP | 80 PSI Lb.-Ft. | 80 PSI CFM | 90 PSI HP | 90 PSI Lb.-Ft. | 90 PSI CFM | 110 PSI HP | 110 PSI Lb.-Ft. | 110 PSI CFM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4Y514 | 292 | 146 | 0.19 | 6.73 | 15 | 0.37 | 11.83 | 22 | 0.55 | 16.08 | 29 | 0.64 | 17.95 | 33 | 0.82 | 21.4 | 40 |
| 4Y518 | 94 | 47 | 0.18 | 19.13 | 15 | 0.35 | 33.61 | 22 | 0.52 | 45.7 | 29 | 0.61 | 51 | 33 | 0.78 | 60.79 | 40 |
| 4TP26 | 47 | 23 | 0.18 | 37.88 | 15 | 0.35 | 66.56 | 22 | 0.52 | 90.5 | 29 | 0.61 | 101 | 33 | 0.78 | 120.39 | 40 |
| 4Y386 | 825 | 390 | 0.42 | 5.91 | 20 | 0.81 | 10.38 | 29 | 1.2 | 14.11 | 39 | 1.4 | 15.75 | 44 | 1.79 | 18.77 | 54 |
| 4Y387 | 440 | 215 | 0.41 | 10.03 | 20 | 0.78 | 17.63 | 29 | 1.16 | 23.97 | 39 | 1.35 | 26.75 | 44 | 1.73 | 31.89 | 54 |
| 4Y389 | 190 | 100 | 0.41 | 21.56 | 20 | 0.78 | 37.89 | 29 | 1.16 | 51.52 | 39 | 1.35 | 57.5 | 44 | 1.73 | 68.54 | 54 |
| 4Y390 | 162 | 83 | 0.41 | 25.13 | 20 | 0.78 | 44.15 | 29 | 1.16 | 60.03 | 39 | 1.35 | 67 | 44 | 1.73 | 79.86 | 54 |
| 4Y396 | 975 | 485 | 0.96 | 11.81 | 43 | 1.86 | 20.76 | 64 | 2.75 | 28.22 | 85 | 3.2 | 31.5 | 95 | 4.1 | 37.55 | 116 |
| 4Y397 | 475 | 228 | 0.9 | 23.44 | 43 | 1.74 | 41.19 | 64 | 2.58 | 56 | 85 | 3 | 62.5 | 95 | 3.84 | 74.5 | 116 |
| 4Y399 | 255 | 125 | 0.9 | 40.31 | 43 | 1.74 | 70.84 | 64 | 2.58 | 96.32 | 85 | 3 | 107.5 | 95 | 3.84 | 128.14 | 116 |
| 4Y400 | 170 | 83 | 0.9 | 56.25 | 43 | 1.74 | 98.85 | 64 | 2.58 | 134.4 | 85 | 3 | 150 | 95 | 3.84 | 178.8 | 116 |
| 4Y423 | 120 | 59 | 2.37 | 204.38 | 101 | 4.58 | 359.16 | 151 | 6.79 | 488.32 | 200 | 7.9 | 545 | 225 | 10.11 | 649.64 | 275 |

## NEW! AIR MOTOR ORDERING DATA

| Key | HP @ 90 PSI | Mount | Shaft Dia. (in.) | Inlet/ Outlet | Overall Lgth. | I-R Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 0.64 | 6 Hole Face | .75 | 1/4 | 11.5 | M007RVR063BR6 | 4Y514 | $1140.00 | $1140.00▲ | 4.3 |
| A | 0.61 | 6 Hole Face | .75 | 1/4 | 13.1 | M007RVR188BR6 | 4Y518 | 1625.00 | 1625.00▲ | 4.3 |
| A | 0.61 | 6 Hole Face | .75 | 1/4 | 13.1 | M007RVR374BR6 | 4TP26 | 1670.00 | 1670.00 | 7.4 |
| B | 1.4 | 6 Hole Face | .75 | 1/2 | 10.1 | 3840M | 4Y386 | 1770.00 | 1768.00▲ | 8.3 |
| B | 1.35 | 6 Hole Face | .75 | 1/2 | 11.75 | 3840P | 4Y387 | 1880.00 | 1880.00▲ | 10.0 |
| B | 1.35 | 6 Hole Face | .75 | 1/2 | 11.75 | 3840S | 4Y389 | 2100.00 | 2100.00▲ | 10.0 |
| B | 1.35 | 6 Hole Face | .75 | 1/2 | 11.75 | 3840U | 4Y390 | 2210.00 | 2210.00▲ | 10.0 |
| C | 3.2 | 6 Hole Face | 1.00 | 1/2 | 12.1 | 4840M | 4Y396 | 2660.00 | 2660.00▲ | 17.0 |
| C | 3 | 6 Hole Face | 1.00 | 1/2 | 14.5 | 4840P | 4Y397 | 2775.00 | 2775.00▲ | 21.0 |
| C | 3 | 6 Hole Face | 1.00 | 1/2 | 14.5 | 4840S | 4Y399 | 3000.00 | 3000.00▲ | 21.0 |
| C | 3 | 6 Hole Face | 1.00 | 1/2 | 14.5 | 4840U | 4Y400 | 3115.00 | 3115.00▲ | 22.0 |
| D | 7.9 | Flange/base | 1.50 | 1 | 15.2 | 92RB078 | 4Y423 | 3850.00 | 3850.00▲ | 85.0 |

(▲) Net prices, Not subject to discounts.

# AIR RATCHETS

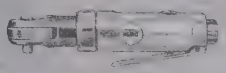
## 1/4" DRIVE AIR RATCHETS

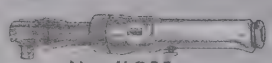
Dayton® INGERSOLL-RAND® PROFESSIONAL TOOLS

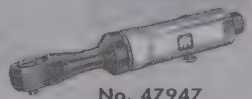
Installation & Service Available Contact Your Local Branch

Replacement Parts Available 1-800-323-0620


No. 4LG50


No. 4LG56


No. 4LG55


No. 4Z947

These small light-weight ratchets are ideal for running fasteners that are located in tight areas, such as in fenders or under dashboard work. Narrow drive heads also assist in getting in tight spaces. Ratchets feature ball detent for easy socket change, reversible operation, ball and needle bearing construction, and lever throttle for variable speed control, except 4Z947 which has push button throttle. Air ratchets should be used with impact sockets. Note: Look in index under "Sockets, Impact."

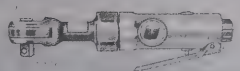
Nos. 4LG50, 4LG55, and 4Z947 ratchets have full size body for good torque producing capabilities for tightening and loosening fasteners.

Nos. 4LG56, and 6W379 compact body ratchets provide even more maneuverability in tight spaces.

## 3/8" DRIVE AIR RATCHETS


No. 1V680


No. 4Z780


No. 4LG51

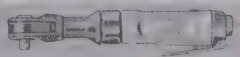
Dayton®


No. 4Z406

Replacement Parts Available 1-800-323-0620


No. 4Z241


No. 5Z273


No. 4KR74

INGERSOLL-RAND® PROFESSIONAL TOOLS


No. 4KR76

**Ideal for running** fasteners in and out quickly. Ratchets feature ball detent for easy socket change, reversible operation, ball and needle bearing construction, and lever throttle for variable speed control, except 4KR76 which has push button throttle. Air ratchets should be used with impact sockets. Note: Look in index under "Sockets, Impact."

**No. 5Z273. Egonomic reactionless ratchet** features unique built-in ball and cam mechanism that eliminates torque reaction, which means no more bloody or bruised knuckles when working in tight areas. This ratchet also runs at 300 RPM, twice as fast as most other ratchets.

**No. 4LG51. Compact body ratchet** features the same body as No. 4LG50 1/4" ratchet, but with 3/8" drive for easy access into tight areas.

**No. 4Z780. Ratchet kit** includes 1V680 ratchet, 3" extension bar, 13/16" spark plug socket with neoprene insert, and 6 point sockets in the following metric and S.A.E. sizes: 9-14mm, 16mm, 17mm, 19mm, 3/8, 7/16, 1/2, 5/8, 11/16, and 3/4", and carrying case.

**No. 4Z241. General-duty ratchet** is constructed with double needle bearings, to promote long life.

**No. 4KR74. General-duty ratchet** features rear exhaust to direct air away form work area.

**No. 4KR76. Super-duty ratchet** can deliver up to 60 ft. lbs. of torque.

| Torque Range (Ft.-Lbs.) | Max. Torque | Free Speed RPM | Avg. CFM* | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Head Width (In.) | Base to Top (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY 1/4" DRIVE AIR RATCHETS** | | | | | | | | | | | | | | | |
| **5-18** | 18 | 150 | 3.0 | 90 | 1/4 | 3/8 | 13/8 | 13/16 | 81/4 | Universal Tool | UT2000 | **4LG50** | $55.75 | **$52.50** ▲ | 2.0 |
| **GENERAL-DUTY 1/4" DRIVE AIR RATCHETS** | | | | | | | | | | | | | | | |
| **5-18** | 18 | 150 | 3.0 | 90 | 1/4 | 3/8 | 13/8 | 13/16 | 61/2 | Dayton | — | **4LG56** | 114.50 | **107.65** | 2.2 |
| **5-18** | 18 | 150 | 3.0 | 90 | 1/4 | 3/8 | 13/8 | 13/16 | 83/4 | Dayton | — | **4LG55** | 131.50 | **113.75** | 2.0 |
| **5-20** | 20 | 200 | 2.5 | 90 | 1/4 | 1/4 | 17/32 | 13/16 | 61/2 | Ingersoll-Rand | 103 | **6W379** | 159.95 | **118.45** | 1.6 |
| **5-20** | 20 | 200 | 2.5 | 90 | 1/4 | 1/4 | 17/32 | 13/16 | 73/4 | Ingersoll-Rand | 104 | **4Z947** | 169.93 | **129.70** | 1.6 |
| **LIGHT-DUTY 3/8" DRIVE AIR RATCHETS** | | | | | | | | | | | | | | | |
| **5-18** | 18 | 150 | 3.0 | 90 | 1/4 | 3/8 | 13/8 | 13/16 | 81/4 | Universal Tool | UT2003 | **4LG51** | 55.75 | **52.50** ▲ | 2.0 |
| **10-50** | 50 | 160 | 4.0 | 90 | 1/4 | 3/8 | 11/2 | 11/8 | 101/4 | Universal Tool | UT2005 | **1V680** | 66.00 | **55.50** ▲ | 2.7 |
| **10-50** | 50 | 160 | 4.0 | 90 | 1/4 | 3/8 | 11/2 | 11/8 | 191/4 | Universal Tool | UT2005K | **4Z780** | 108.00 | **80.75** ▲ | 6.0 |
| **GENERAL-DUTY 3/8" DRIVE AIR RATCHETS** | | | | | | | | | | | | | | | |
| **10-45** | 45 | 160 | 3.0 | 90 | 1/4 | 3/8 | 11/2 | 11/8 | 10 | Dayton | — | **4Z406** | 135.88 | **90.65** | 2.7 |
| **10-45** | 50 | 150 | 4.0 | 90 | 1/4 | 3/8 | 11/2 | 11/16 | 101/2 | Ingersoll Rand | 107 | **4Z241** | 159.95 | **118.45** | 2.7 |
| **10-45** | 50 | 150 | 4.0 | 90 | 1/4 | 3/8 | 11/2 | 11/16 | 101/2 | Ingersoll Rand | 108 | **4KR74** | 161.95 | **133.65** | 3.0 |
| **10-45** | 50 | 150 | 4.0 | 90 | 1/4 | 3/8 | 11/2 | 11/16 | 113/4 | Ingersoll Rand | 109 | **4KR76** | 231.95 | **198.25** | 3.0 |
| **10-60** | 60 | 250 | 4.0 | 90 | 1/4 | 3/8 | 11/2 | 11/16 | 101/2 | Ingersoll Rand | 111 | **5Z273** | 269.94 | **201.75** | 2.9 |
| **10-50** | 50 | 300 | 4.0 | 90 | 1/4 | 3/8 | 11/2 | 11/16 | 191/2 | | | | | | |

(*) Avg. CFM is based off of a 15 second run time. (▲) Net prices, not subject to discounts.

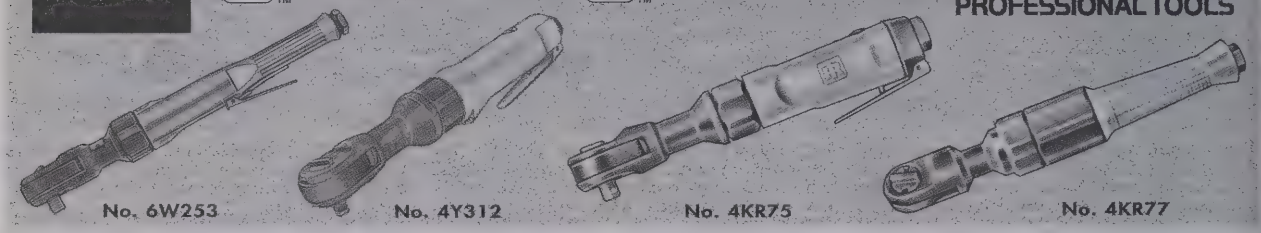
# AIR RATCHETS/ IMPACT WRENCH TERMINOLOGY

## 1/2" DRIVE AIR RATCHETS

Dayton® Replacement Parts Available 1-800-323-0620™

Installation & Service Available Contact Your Local Branch™

INGERSOLL-RAND® PROFESSIONAL TOOLS



No. 6W253 No. 4Y312 No. 4KR75 No. 4KR77

**Ratchets feature** ball detent for easy socket change, reversible operation, ball and needle bearing construction, and lever throttle for variable speed control, except 4KR77 which has push button throttle. Air ratchets should be used with impact sockets. **Note: Look in index under "Sockets, Impact."**

No. 6W253 Only true full body 1/2" wrench that can produce up to 90 ft. lbs. of torque.

**Nos. 4Y312, 4KR75, and 4KR77.** Same body as a 3/8" Ingersoll-Rand ratchet, but with 1/2" drive for easy access into tight areas. No. 4KR75 features rear exhaust to direct air away from work area.

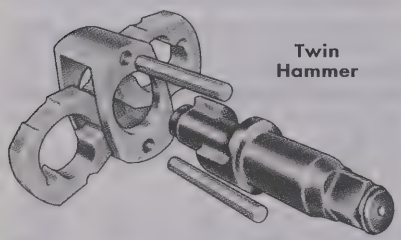
**OPERATIONAL NOTE:** Air ratchets are not intended to break loose or tighten a fastener to a final torque rating. Breaking loose or final tightening should be performed with the air ratchet in the same manner as a hand ratchet. The air ratchet should only be used to run the fastener out or in. The high torque capabilities should be used when a fastener is rusted, some type of thread sealant was used, or self locking fasteners are being used.

### GENERAL-DUTY 1/2" DRIVE AIR RATCHETS

| Torque Range (Ft.-Lbs.) | Max. Torque | Free Speed RPM | Avg. CFM* | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Head Width (In.) | Base to Top Ht. (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10-45** | 50 | 150 | 4 | 90 | 1/4 | 3/8 | 1 1/2 | 1 1/16 | 10 | Ingersoll-Rand | 1077 | **4Y312** | $169.93 | **$119.40** | 2.7 |
| **10-45** | 50 | 150 | 4 | 90 | 1/4 | 3/8 | 1 1/2 | 1 1/16 | 10 1/2 | Ingersoll-Rand | 1088 | **4KR75** | 174.95 | **134.10** | 2.7 |
| **10-60** | 60 | 250 | 4 | 90 | 1/4 | 3/8 | 1 1/2 | 1 1/16 | 11 3/4 | Ingersoll-Rand | 1099 | **4KR77** | 244.95 | **195.50** | 3.3 |
| **10-90** | 90 | 150 | 4 | 90 | 1/4 | 3/8 | 1 7/8 | 1 5/16 | 14 1/2 | Dayton | — | **6W253** | 370.75 | **221.00** | 4.9 |

(*) Avg. CFM is based off of a 15 second run time.

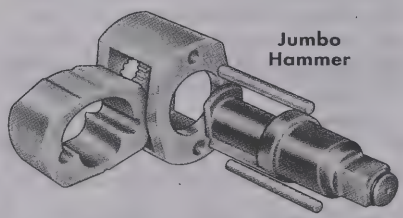
## IMPACT WRENCH MECHANISMS AND SOCKET RETAINER STYLES



**Twin Hammer**

A simplified, yet highly effective design that holds each of the reversible hammers in full engagement or disengagement with centrifugal force. The twin hammer mechanism delivers more power per pound, and is less sensitive to air pressure fluctuations than any other design.

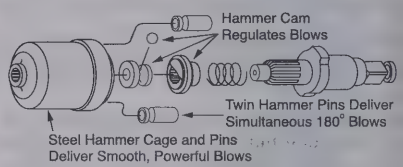
- **Smooth, balanced blow**
- **High power-to-weight ratio**
- **Suitable for hard or soft-draw applications**



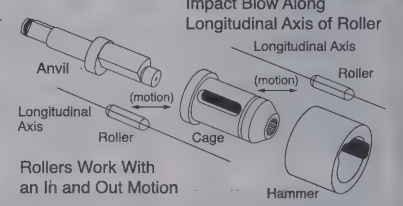
**Jumbo Hammer**

Similar in concept to the twin hammer mechanism, but employing a single hammer.

- **Simplified design**
- **Reversible hammers**
- **Direct drive**




**DynaPact® Pin Clutch Impact Mechanism**




**Roller Clutch Impact Mechanism**

## SOCKET RETAINER STYLES



RING TYPE | PIN TYPE | THRU HOLE TYPE | COMBINATION RING/THRU HOLE TYPE | QUICK CHANGE TYPE | #5 SPLINE TYPE

# 1/4" IMPACT WRENCHES

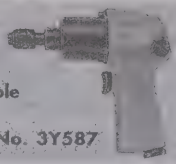
Dayton



No. 4LG52

Replacement Parts Available
1-800-323-0620™

Installation & Service Available
Contact Your Local Branch™



No. 3Y587

INGERSOLL-RAND
PROFESSIONAL TOOLS

For impact mechanism terminology, see page 2964.

**No. 4LG52. General-Duty Dayton 1/4" impact wrench** features a patented roller clutch which produces high energy impacts with fewer moving parts, multi-position power regulator for torque control, and 1/4" square drive. The unit's compact size makes it ideal for work in tight spots. **Note: For sockets, see index under "Sockets, Impact."**

**No. 3Y587. Industrial-Duty Ingersoll-Rand 1/4" impact wrench** features Jumbo hammer mechanism and pressure feed lubrication for impact mechanism, steel hammer case, and multi-position power regulator for torque control, and 1/4" quick change anvil. **Note: For sockets, see index under "Sockets, Impact."**

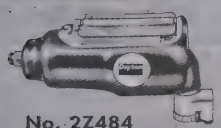
| Torque Range (Ft.-Lbs.) | Max. Torque (Ft.-Lbs.) | Max. Bolt Cap. (In.) | Free Speed RPM | Retainer Type | Avg. CFM* | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY 1/4" IMPACT WRENCHES** | | | | | | | | | | | | | | | |
| **5-25** | 25 | 1/4 | 10,000 | Ring | 3.0 | 90 | 1/4 | 3/8 | 4¾ | Dayton | | **4LG52** | $109.50 | **$103.00** | 2.8 |
| **INDUSTRIAL-DUTY 1/4" IMPACT WRENCHES** | | | | | | | | | | | | | | | |
| **20-70** | 85 | 1/4 | 10,000 | QC hex | 2.2 | 90 | 1/4 | 3/8 | 6½ | Ingersoll-Rand | 1702P4 | **3Y587** | 354.92 | **293.00** | 3.5 |

(*) Avg. CFM is based off of a 15 second run time.

# 3/8" IMPACT WRENCHES

Dayton

Replacement Parts Available
1-800-323-0620™



No. 2Z484

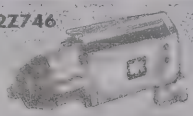
For impact mechanism terminology, see page 2964.



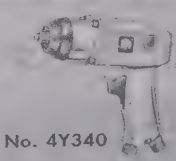
No. 6ZC74



No. 4LG47



No. 2Z746

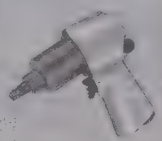


No. 4Y340



No. 4Y342

INGERSOLL-RAND
PROFESSIONAL TOOLS



No. 4Z623

Installation & Service Available
Contact Your Local Branch™

**No. 2Z484 Dayton general-duty, and Nos. 2Z746, and 4Y342 general-duty Ingersoll-Rand in-line body impact wrenches.** Nos. 2Z484 and 2Z746 both feature a "Butterfly" forward/reverse control, multi-position power regulator, and 360 degree air inlet swivel. No. 2Z484 has a rubber jacket for better grip. No. 2Z746 has a rubber nose piece. No. 4Y342 features Jumbo hammer mechanism, steel hammer case, lever throttle control, pressure feed lubrication for impact mechanism, and multi-position power regulator. **Note: For sockets, see index in back of catalog under "Sockets, Impact."**

**No. 4LG47. General-duty Dayton angle head impact wrench** is ideal for getting into tight spots. Unit features patented roller pin clutch hammer mechanism, lever throttle control, twist lever forward/reverse control, multi-position power regulator, and rubber nose piece. **Note: For sockets, see index in back of catalog under "Sockets, Impact."**

**No. 6ZC74 Dayton general-duty, and Nos. 4Y340, and 4Z623 general-duty Ingersoll-Rand pistol grip "heavy duty" impact wrenches.** No. 6ZC74 features patented roller clutch hammer mechanism, push button forward/reverse control, multi-position power regulator, and rubber nose piece. No. 4Y340 features a push button forward/reverse control, multi-position power regulator, and rubber nose piece. No. 4Z623 features Jumbo hammer mechanism, steel hammer case, lever throttle control, pressure feed lubrication for impact mechanism, and multi-position power regulator. **Note: For sockets, see index in back of catalog under "Sockets, Impact."**

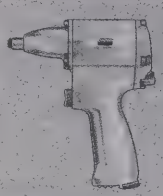
## GENERAL-DUTY 3/8" IMPACT WRENCHES

| Torque Range (Ft.-Lbs.) | Max. Torque (Ft.-Lbs.) | Max. Bolt Cap. (In.) | Free Speed RPM | Retainer Type | Avg. CFM* | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10-75** | 75 | 3/8 | 11,000 | Ring | 3.0 | 90 | 1/4 | 3/8 | 4¾ | Dayton | — | **2Z484** | $186.00 | **$124.00** | 2.5 |
| **10-75** | 75 | 3/8 | 10,000 | Ring | 3.0 | 90 | 1/4 | 3/8 | 5 | Dayton | — | **6ZC74** | 172.50 | **116.40** | 2.9 |
| **10-90** | 90 | 3/8 | 9,000 | Ring | 3.0 | 90 | 1/4 | 3/8 | 5¼ | Dayton | — | **4LG47** | 188.00 | **164.75** | 2.6 |
| **5-50** | 100 | 3/8 | 11,500 | Ring | 2.2 | 90 | 1/4 | 3/8 | 6½ | Ingersoll-Rand | 205 | **2Z746** | 198.95 | **145.35** | 2.8 |
| **5-50** | 100 | 3/8 | 11,500 | Ring | 2.2 | 90 | 1/4 | 3/8 | 7 | Ingersoll-Rand | 206 | **4Y340** | 198.95 | **168.50** | 3.1 |
| **20-125** | 150 | 7/16 | 10,000 | Ring | 2.5 | 90 | 1/4 | 3/8 | 6 | Ingersoll-Rand | 211 | **4Y342** | 318.90 | **236.00** | 3.1 |
| **20-150** | 180 | 7/16 | 10,000 | Ring | 2.2 | 90 | 1/4 | 3/8 | 6 | Ingersoll-Rand | 212 | **4Z623** | 287.90 | **207.00** | 3.8 |

(*) Avg. CFM is based off of a 15 second run time.

# IMPACT WRENCHES

## 3/8" IMPACT WRENCHES

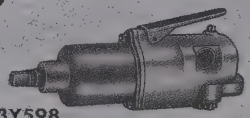


No. 6Z829 No. 4TL85

Replacement Parts Available 1-800-323-0620

New Dayton

INGERSOLL-RAND PROFESSIONAL TOOLS


No. 3Y598

For impact mechanism terminology, see page 2964.



No. 4Z253 No. 3Y584

Installation & Service Available Contact Your Local Branch

**No. 6Z829. Industrial-duty Dayton 3/8" impact wrench** features 3-position power regulator in the forward position and full power in reverse, dynapact impact clutch mechanism, steel impact housing, and through handle exhaust. **Note: For sockets, see index in back of catalog under "Sockets, Impact."**

**No. 4TL85. 3/8" Industrial-duty ergonomic impact wrench** features a contoured polyurethane grip, patented silent-X exhaust (6-dBa quieter than conventional impacts), 3-step power regulator, steel hammer case, pin-type socket retainer, and thru-handle exhaust.

**No. 3Y598. Industrial-duty 3/8" inline body and No. 4Z253 industrial-duty 3/8" pistol grip Ingersoll-Rand heavy-duty impact wrenches.** Feature Jumbo hammer impact mechanism, steel impact housing, pressure feed lubrication system for impact mechanism, push button forward/reverse control, multi-position power regulator, and integral muffler. **Note: For sockets, see index in back of catalog under "Sockets, Impact."**

**No. 3Y584. Industrial-duty Ingersoll-Rand 3/8" super-duty impact wrench** features Jumbo hammer mechanism, chrome plated steel impact housing, epoxy coated motor and handle, pressure feed lubrication system for impact mechanism, push button forward/reverse control, multi-position power regulator, built-in motor lubricator, and integral muffler. **Note: For sockets, see index in back of catalog under "Sockets, Impact."**

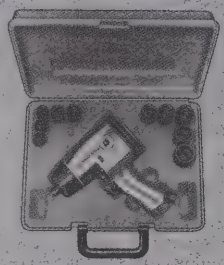
### INDUSTRIAL-DUTY 3/8" IMPACT WRENCHES

| Torque Range (Ft.-Lbs.) | Max. Torque (Ft.-Lbs.) | Max. Bolt Cap. (In.) | Free Speed RPM | Retainer Type | Avg. CFM* | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15-130** | 130 | 7/16 | 9000 | Ring | 5 | 90 | 1/4 | 3/8 | 6 | Dayton | — | **6Z829** | $257.15 | **$183.00** | 3.6 |
| **15-150** | 150 | 7/16 | 8500 | Pin | 5 | 90 | 1/4 | 3/8 | 6¼ | Dayton | — | **4TL85** | 322.00 | **230.00** | 4.0 |
| **20-125** | 150 | 7/16 | 10,000 | Pin | 2.5 | 90 | 1/4 | 3/8 | 6 | Ingersoll-Rand | 1702SB1 | **3Y598** | 402.70 | **328.75** | 3.1 |
| **20-150** | 180 | 7/16 | 10,000 | Pin | 2.2 | 90 | 1/4 | 3/8 | 6 | Ingersoll-Rand | 1702P1 | **4Z253** | 294.96 | **232.75** | 3.5 |
| **20-150** | 180 | 7/16 | 10,000 | Pin | 2.5 | 90 | 1/4 | 3/8 | 6 | Ingersoll-Rand | 2902P1 | **3Y584** | 619.81 | **533.50** | 3.3 |

(*) Avg. CFM is based off of a 15 second run time.

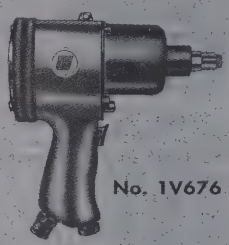
## VALUE PRICED 1/2" IMPACT WRENCHES


No. 1V678


No. 4Z779

Replacement Parts Available 1-800-323-0620

For impact mechanism terminology, see page 2964.


No. 1V676

Universal Tool light-duty impact wrenches are economical tools, ideal for home shop or light maintenance, intermittent applications. **Note: For sockets, see index under "Sockets, Impact."**

**No. 1V678. 1/2" impact wrench** features jumbo hammer mechanism, one piece lightweight housing, rubber nose piece, oil bath lubrication, push button forward/reverse control, and multi-position power regulator.

**No. 4Z779. 1/2" impact wrench kit** includes a 1V678 1/2" impact wrench, 10 hardened forged steel six point sockets in 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, and 1" sizes, and heavy-duty plastic carry case.

**No. 1V676. 1/2" impact wrench** features dynapact impact mechanism, steel impact housing, pressure feed lubrication for impact mechanism, push button forward/reverse control, and multi-position power regulator.

### LIGHT-DUTY 1/2" IMPACT WRENCHES

| Torque Range (Ft.-Lbs.) | Max. Torque (Ft.-Lbs.) | Max. Bolt Cap. (In.) | Free Speed RPM | Retainer Type | Avg. CFM* | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15-250** | 250 | 1/2 | 7000 | Ring | 4 | 90 | 1/4 | 3/8 | 7 | Universal Tool | UT2110R | **1V678** | $67.50 | **$54.00▲** | 5.5 |
| **15-250** | 250 | 1/2 | 7000 | Ring | 4 | 90 | 1/4 | 3/8 | 7 | Universal Tool | UT2110R Kit | **4Z779** | 135.00 | **105.00▲** | 9.0 |
| **25-350** | 350 | 5/8 | 7000 | Ring | 8 | 90 | 1/4 | 3/8 | 7½ | Universal Tool | UT2147P | **1V676** | 130.00 | **104.00▲** | 6.0 |

(*) Avg. CFM is based off of a 15 second run time. (▲) Net prices, not subject to discounts.

# 1/2" IMPACT WRENCHES




For impact mechanism terminology, see page 2964.

**No. 4Z543. 1/2" Dayton impact wrench** features Roller pin clutch impact mechanism, protective rubber jacket, push button forward/reverse control, and multi-position power regulator.

**No. 2Z853. 1/2" Dayton impact wrench** features roller pin clutch impact mechanism, protective rubber nose piece and rear rubber ring, push button forward/reverse control, and multi-position power regulator.

**No. 4LG57. 1/2" Dayton impact wrench** features roller pin clutch impact mechanism, steel impact housing, flip lever forward/reverse control, and multi-position power regulator.

**No. 5Z336. 1/2" Dayton extended anvil impact wrench** features roller pin clutch impact mechanism, 2" extended anvil, protective rubber nose piece and rear rubber ring, push button forward/reverse control, and multi-position power regulator.

**No. 4Z944. Ingersoll-Rand impact wrench** features twin hammer impact mechanism, steel impact housing, rear dial forward/reverse control with adjustable power in forward and full power in reverse, and handle exhaust.

**Nos. 2Z747 and 6Z917. Extended anvil Ingersoll-Rand impact wrench** features twin hammer impact mechanism, steel impact housing, pressure feed lubrication for impact mechanism, push button forward/reverse control, and multi-position power regulator. No. 6Z917 features a 2" extended anvil for use with flip sockets or reach into tight spots.

**No. 4Y348. Ingersoll-Rand impact wrench** features extra large motor for more torque, twin hammer impact mechanism, steel impact housing, pressure feed lubrication for impact mechanism, variable speed trigger, push button forward/reverse control, multi-position power regulator.

**Nos. 4Y343 and 4Y344. Ingersoll-Rand impact wrenches** are two of the most advanced impacts in the market today. Their unique, super strong composite housing and steel hammer case give the tool a lightweight, balanced and compact design. The innovative motor design and power management system deliver 600 ft. lbs. in reverse, and up to 4 position power regulator in forward that delivers up to 450 ft. lbs. of torque. The units feature twin hammer impact mechanism, one hand push button forward/reverse control, 360 degree swivel air inlet, and handle exhaust. No. 4Y344 features a 2" extended anvil.

**No. 4KR78. Ingersoll-Rand impact wrench care kit** contains 4 oz. impact hammer mechanism grease #115, grease gun, 4 oz. of air tool oil, and use and care instructions for the following IR 2131 series impact wrenches: 4Y343, 4Y344 and 3Y588.

**No. 4KR78.** Shpg. wt. 1.0 lbs.
List $19.95. Each.....$16.15

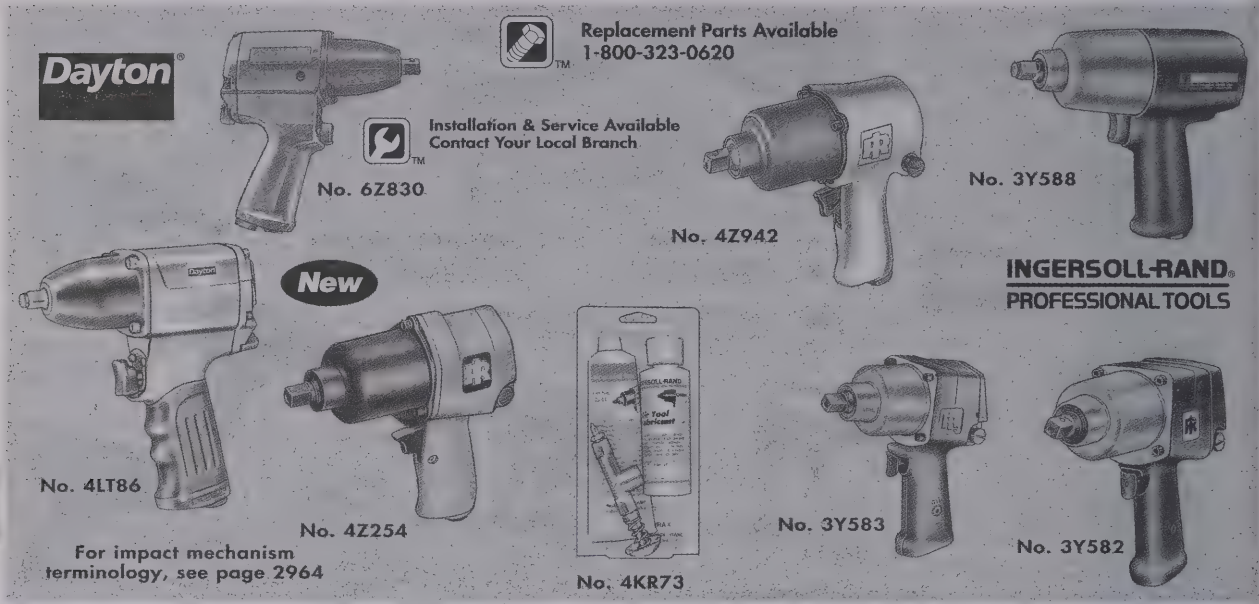
## GENERAL-DUTY 1/2" IMPACT WRENCHES

| Torque Range (Ft.-Lbs.) | Max. Torque (Ft.-Lbs.) | Max. Bolt Cap. (In.) | Free Speed RPM | Retainer Type | Avg. CFM* | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15-250** | 250 | 1/2 | 8000 | Ring | 4.0 | 90 | 1/4 | 3/8 | 7¼ | Dayton | — | **4Z543** | $168.15 | **$109.50** | 5.7 |
| **20-350** | 350 | 5/8 | 8000 | Ring | 4.0 | 90 | 1/4 | 3/8 | 7½ | Dayton | — | **2Z853** | 251.00 | **142.95** | 5.7 |
| **20-400** | 400 | 5/8 | 7500 | Ring | 6.0 | 90 | 1/4 | 3/8 | 7¼ | Dayton | — | **4LG57** | 159.00 | **149.95** | 6.1 |
| **20-425** | 425 | 5/8 | 8000 | Ring | 4.0 | 90 | 1/4 | 3/8 | 9½ | Dayton | — | **5Z336** | 224.60 | **165.00** | 6.5 |
| **25-225** | 375 | 1/2 | 9500 | Ring | 4.0 | 90 | 1/4 | 3/8 | 7¾ | Ingersoll-Rand | 235 | **4Z944** | 189.95 | **120.75** | 6.0 |
| **25-300** | 425 | 9/16 | 8000 | Ring | 4.2 | 90 | 1/4 | 3/8 | 7¼ | Ingersoll-Rand | 231 | **2Z747** | 236.85 | **166.75** | 6.5 |
| **25-300** | 425 | 9/16 | 8000 | Ring | 4.2 | 90 | 1/4 | 3/8 | 9¼ | Ingersoll-Rand | 231-2 | **6Z917** | 244.84 | **179.00** | 7.0 |
| **40-350** | 500 | 5/8 | 7000 | Ring | 5.4 | 90 | 1/4 | 3/8 | 7 | Ingersoll-Rand | 2131 | **4Y343** | 306.93 | **226.25** | 5.2 |
| **50-400** | 450/600 Rev | 9/16 | 9500 | Ring | 4.8 | 90 | 1/4 | 3/8 | 9 | Ingersoll-Rand | 2131-2 | **4Y344** | 337.55 | **244.50** | 5.3 |
| **50-400** | 450/600 Rev. | 9/16 | 9500 | Ring | 4.8 | 90 | 1/4 | 3/8 | | | | | | | |

(*) Avg. CFM is based off of a 15 second run time.

# IMPACT WRENCHES

## 1/2" IMPACT WRENCHES




For impact mechanism terminology, see page 2964

**No. 4TL86. Industrial-duty Dayton impact wrench** features contoured polyurethane grip, patented Silent-X exhaust for quiet operation, 3-step power regulator, steel hammer case, pin-type socket retainer, and thru-handle exhaust.

**No. 6Z830. Industrial-duty Dayton impact wrench** features dynapact impact mechanism, steel impact housing, three-position forward power regulator and full power in reverse, and through handle exhaust.

**Ingersoll-Rand** has three classifications for their **industrial-duty line** on impact wrenches; Standard-duty, Heavy-duty, and Super-duty.

**Standard-duty tools** are intended for less frequent use, involving lighter materials.

**Heavy-duty tools** are well suited to medium volume production or general maintenance and construction tasks, and offer a good balance between performance and economy.

**Super-duty Tools** are intended for high volume production or heavy maintenance and construction, where the ultimate performance and durability are required. These tools incorporate a number of unique added features, as well as the finest materials, bearings, and tight tolerances.

**No. 4Z942. 1/2" standard-duty Impact wrench** features twin hammer impact mechanism, steel impact housing, pressure feed lubrication for impact mechanism, push button forward/reverse control, and multi-position regulator.

**No. 3Y588. 1/2" standard-duty impact wrench's** unique, supper strong composite housing and steel hammer case give the tool a lightweight, balanced and compact ergonomic design. The innovative motor design and power management system deliver 600 ft. lbs. in reverse, and up to 4 position power regulator in forward that delivers up to 450 ft. lbs. of torque. The unit features twin hammer impact mechanism, one hand push button forward/reverse control, 360 degree swivel air inlet, and handle exhaust.

**No. 4Z254. 1/2" heavy-duty impact wrench** features twin hammer impact mechanism, steel impact housing, pressure feed lubrication for the impact mechanism, push button forward/reverse control, and multi-position regulator.

**No. 3Y583. 1/2" super-duty impact wrench** features Jumbo hammer impact mechanism, chrome plated steel impact housing, pressure feed lubrication for the impact mechanism, durable epoxy coated motor housing and handle, built-in lubricator for motor, integral muffler, push button forward/reverse control, and multi-position regulator.

**No. 3Y582. 1/2" super-duty impact wrench** features twin hammer impact mechanism, two-piece motor housing for easier maintenance, chrome plated steel impact housing, pressure feed lubrication for the impact mechanism, durable epoxy coated motor housing and handle, built-in lubricator for motor, integral muffler, push button forward/reverse control, and multi-position regulator.

**No. 4KR73. Impact wrench care kits** are for all Ingersoll-Rand impact wrenches that have pressure feed lubrication for the impact mechanism, except Nos. 4Y343, 4Y344, and 3Y588. Kit includes 4 oz. impact hammer mechanism grease #105, grease gun, 4 oz. of air tool oil, and use & care instructions for the following IR impact wrenches: 4Y342, 4Z623, 2Z747, 4Y348, 6W380, 4Y352, 4Y357, 4Y360, 4Z253, 3Y596, 4Y304, 4Z255, 4Y300, 4Z942, 4Z254, 3Y578, 4Y260, and 3Y576.

**No. 4KR73.** Shpg. wt. 1.0 lbs. List $19.94. Each ..... $16.15

| Torque Range (Ft.-Lbs.) | Max. Torque (Ft.-Lbs.) | Max. Bolt Cap. (In.) | Free Speed RPM | Retainer Type | Avg. CFM | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDUSTRIAL-DUTY 1/2" IMPACT WRENCHES** | | | | | | | | | | | | | | | |
| | 400 | | 7500 | Pin | — | 90 | 1/4 | 3/8 | 7.5 | Dayton | — | ***New*4TL86** | $364.00 | **$260.00** | 6.7 |
| **20-450** | 450 | 5/8 | 8000 | Pin | 8.0 | 90 | 1/4 | 3/8 | 7.5 | Dayton | — | **6Z830** | 301.20 | **186.00** | 5.7 |
| **25-300** | 425 | 9/16 | 8000 | Pin | 4.2 | 90 | 1/4 | 3/8 | 7.3 | Ingersoll-Rand | 2705A1 | **4Z942** | 236.85 | **180.00** | 6.5 |
| **50-400** | 450/600 | 9/16 | 9500 | Pin | 4.8 | 90 | 1/4 | 3/8 | 7.1 | Ingersoll-Rand | 2131P | **3Y588** | 306.93 | **226.50** | 5.2 |
| **40-350** | 500 | 5/8 | 7000 | Pin | 5.4 | 90 | 1/4 | 3/8 | 7.3 | Ingersoll-Rand | 2707A1 | **4Z254** | 329.92 | **243.00** | 7.0 |
| **30-185** | 220 | 9/16 | 6000 | Pin | 3.5 | 90 | 1/4 | 3/8 | 5.7 | Ingersoll-Rand | 2903P1 | **3Y583** | 664.78 | **585.00** | 5.6 |
| **50-400** | 500 | 5/8 | 5000 | Pin | 3.8 | 90 | 1/4 | 3/8 | 6.9 | Ingersoll-Rand | 2906P1 | **3Y582** | 709.77 | **595.00** | 7.1 |

# IMPACT WRENCHES

## 3/4" IMPACT WRENCHES




**Nos. 2Z855 and 6W251 General-duty Dayton 3/4" impact wrenches** feature: roller pin impact mechanism, push button forward/reverse control, multi-position power regulator, and protective rubber jacket. No. 6W251 features 6" extended anvil.

**Nos. 4KR79 and 1CH32. General-duty Ingersoll-Rand 3/4" impact wrenches** feature dual pin type mechanism, steel impact housing, oil bath impact lubrication, rear dial forward/reverse control, 3-position adjustable power regulator in forward and full power in reverse, 360 degree air inlet swivel, and handle exhaust.

**Nos. 6W380 and 3JD22. General-duty Ingersoll-Rand impact wrenches** feature jumbo hammer impact mechanism, pressure feed lubrication for impact mechanism, push button forward/reverse control, multi-position power regulator, and handle exhaust. No. 3JD22 features a 3" extended anvil.

**Nos. 4TN95 and 4TN96. 3/4" General-duty Ingersoll-Rand impact wrenches** feature jumbo twin hammer impact mechanism, pressure feed lubrication for impact mechanism, 3-position adjustable power regulator in forward and full power in reverse, 360 degree air inlet swivel.

**No. 6W252. Industrial-duty Dayton impact wrench** features Dynapact pin impact clutch mechanism, steel impact housing, 3 position power regulator, flip lever forward/reverse control, and 360° rotating side handle.

**Ingersoll-Rand** features two classifications for their industrial impact line, heavy-duty and super-duty.

**Heavy-duty tools** are well suited to medium volume production or general maintenance and construction task, and offer a good balance between performance and economy.

**Super-duty Tools** are intended for high volume production or heavy maintenance and construction, where the ultimate performance and durability are required. These tools incorporate a number of unique added features, as well as the finest materials, bearings, and tight tolerances.

**No. 4Z255. 3/4" Heavy-duty impact wrench** features jumbo impact mechanism, steel impact housing pressure feed lubrication for impact mechanism, push button forward/reverse control, and multi-position power regulator.

**No. 3Y581. 3/4" Super-duty impact wrench** features "D" grip rear handle, twin hammer impact mechanism, pressure feed lubrication for impact mechanism, chrome plated impact housing, integral muffler reduces operator fatigue, built-in lubricator, and durable epoxy coated motor housing and handle.

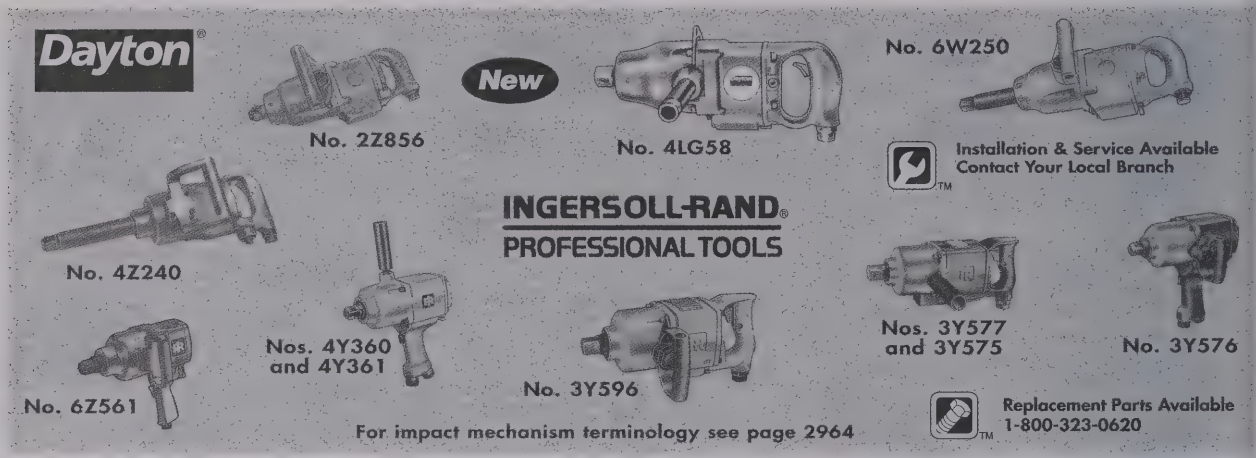
**Nos. 4TN98 and 4TP01. 3/4" Super-duty Ingersoll-Rand impact wrenches** feature jumbo twin hammer impact mechanism, 3-position power regulator in forward and full power reverse to handle rusted or weathered fastners, 360 degree air inlet swivel. No. 4TP01 "reverse bias" model delivers more torque in the reverse direction for the extra hard removal applications.

| Torque Range (Ft.-Lbs.) | Max. Torque (Ft.-Lbs.) | Bolt Cap. (In.) | Free Speed RPM | Retainer Type | Avg. CFM[1] | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY 3/4" IMPACT WRENCHES** | | | | | | | | | | | | | | | |
| **100-750** | 750 | 1 | 5000 | Ring | 7.0 | 90 | 1/4 | 3/8 | 10.0 | Dayton | | **2Z855** | $583.50 | **$302.50** | 12.0 |
| **100-750** | 750 | 1 | 5000 | Ring | 7.0 | 90 | 1/4 | 3/8 | 16.0 | Dayton | | **6W251** | 637.90 | **445.50** | 15.0 |
| **100-500** | 750 | 1 | 6500 | Ring | 7.5 | 90 | 3/8 | 1/2 | 9.0 | Ingersoll Rand | 252 | **4KR79** | 551.79 | **482.00** | 10.0 |
| **200-700** | 900 | 1 | 5000 | Ring | 10.3 | 90 | 3/8 | 1/2 | 9.8 | Ingersoll Rand | 255A | **1CH32** | 609.95 | **475.00** | 11.0 |
| **200-800** | 1100 | 1 | 5500 | Ring | 9.5 | 90 | 3/8 | 1/2 | 8.8 | Ingersoll Rand | 261 | **6W380** | 805.72 | **599.50** | 13.0 |
| **200-800** | 1100 | 1 | 5500 | Ring | 9.5 | 90 | 3/8 | 1/2 | 11.8 | Ingersoll Rand | 261-3 | **3JD22** | 827.73 | **647.50** | 14.0 |
| **250-900** | 1250 | 1 | 5200 | Ring | 18.5 | 90 | 3/8 | 1/2 | 8.6 | Ingersoll Rand | 2161 | ***New*** **4TN95** | 895.95 | **716.50** | 11.0 |
| **250-900** | 1250 | 1 | 5200 | Thru Hole Type* | 18.5 | 90 | 3/8 | 1/2 | 8.5 | Ingersoll Rand | 2161P | ***New*** **4TN96** | 795.00 | **730.00** | 11.0 |
| **INDUSTRIAL-DUTY 3/4" IMPACT WRENCHES** | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | **6W252** | 1236.25 | **865.50** | 16.0 |
| **100-950** | 950 | 1 | 5000 | Comb. | 10.0 | 90 | 1/2 | 1/2 | 10.25 | Dayton | | **4Z255** | 774.74 | **629.50** | 13.0 |
| **200-800** | 1100 | 3/4 | 5500 | Thru Hole Type* | 9.5 | 90 | 3/8 | 1/2 | 8.8 | Ingersoll Rand | 1720P1 | **3Y581** | 1914.44 | **1680.00** | 18.0 |
| **250-800** | 1100 | 3/4 | 5000 | Thru Hole Type* | 9.0 | 90 | 3/8 | 1/2 | 12.5 | Ingersoll Rand | 2920H1 | | | | |
| **350-1100** | 1450 | 1 | 5200 | Thru Hole Type* | 20 | 90 | 3/8 | 1/2 | 8.8 | Ingersoll Rand | 2925P1 | ***New*** **4TN98** | 1710.00 | **1686.00** | 8.9 |
| **300-950** | 1300 | 1 | 5200 | Thru Hole Type* | 20 | 90 | 3/8 | 1/2 | 8.8 | Ingersoll Rand | 2925RBP1 | ***New*** **4TP01** | 1710.00 | **1686.00** | 8.9 |

(*) Used with retainer pins and O-rings. See index in back of catalog under Sockets, Retainer Pins, or O-rings. [1] Avg. CFM is based off of a 15 second run time

# IMPACT WRENCHES

## 1" IMPACT WRENCHES




For impact mechanism terminology see page 2964

**Nos. 2Z856 and 6W250. General-duty Dayton 1" impact wrenches** feature "D" grip handle, spade style dead handle, twin hammer impact mechanism, and flip lever forward/reverse control. No. 6W250 has 6" extended anvil.

**No. 4LG58. Dayton industrial-duty 1" impact wrench** features "D" grip handle, spade style dead handle, Jumbo hammer impact mechanism, flip lever forward/reverse control, and tool balancer slot.

**No. 6Z561. Ingersoll-Rand general-duty 1" impact wrench** features compact design for use in tight spaces, and adjustable power speeds with a 4-position power regulator.

**No. 4Z240. General-duty Ingersoll-Rand 1" impact wrench** features "D" grip handle, spade style dead handle, twin hammer impact mechanism, three-position power regulator, 360 degree air inlet swivel, and angle down exhaust.

**No. 4TN97. General-duty Ingersoll-Rand 1" impact wrenches** feature jumbo twin hammer impact mechanism, pressure feed lubrication for impact mechanism, 3-position regulator in forward and full power in reverse, 360 degree air inlet swivel.

**Nos. 4Y360 and 4Y361. General-duty Ingersoll-Rand 1" impact wrenches** feature twin hammer impact mechanism, pressure feed lubrication for impact mechanism, straight style dead handle, rear flip lever forward/reverse control, and multi-position power regulator. No. 4Y361 features a #5 spline shaft.

**Nos. 4TP02 and 4TN99. Industrial-duty Ingersoll-Rand 1" impact wrench** features jumbo twin hammer impact mechanism, pressure feed lubrication for impact mechanism, 3-position power regulator, push button forward/reverse control, 360 degree air inlet swivel.

**No. 3Y596. Industrial-duty Ingersoll-Rand 1" heavy-duty impact wrench features** "D" grip handle, spade style dead handle, twin hammer impact mechanism, pressure feed lubrication for impact mechanism, ductile iron impact housing, and flip lever throttle control.

**No. 3Y578. Industrial-duty Ingersoll-Rand 1" super-duty impact wrench** features "D" grip handle,(inside handle throttle) straight style dead handle, twin hammer impact mechanism, pressure feed lubrication for impact mechanism, flip lever forward/reverse control, two-piece motor housing, built-in lubricator for motor, epoxy coated finish, and built-in power regulator.

**Nos. 3Y576, 3Y577, and 3Y575. Industrial-duty Ingersoll-Rand 1"- 1½" super-duty impact wrenches** feature twin hammer impact mechanism, pressure feed lubrication for impact mechanism, flip lever for forward/reverse control, integral muffler, two-piece motor housing, built-in lubricator for motor, and epoxy coated finish. No. 3Y576 features pistol grip handle, spade style dead handle, and integral power regulator. Nos. 3Y577 and 3Y575 also feature "D" grip handle, and straight dead handle.

### GENERAL-DUTY 1" IMPACT WRENCHES SPECIFICATIONS AND ORDERING DATA

| Torque Range (Ft.-Lbs.) | Max. Torque (Ft.-Lbs.) | Max. Bolt Cap. (In.) | Free Speed RPM | Retainer Type | Avg. CFM* | Max. PSI | Air Inlet (In.) | Min. Hose Size (In.) | Overall Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **250-1200** | 1200 | 11/4 | 4000 | Comb. | 12 | 90 | 1/2 | 1/2 | 17.25 | Dayton | — | **2Z856** | $903.90 | **$546.50** | 30.0 |
| **250-1200** | 1200 | 11/4 | 4000 | Comb. | 12 | 90 | 1/2 | 1/2 | 20.25 | Dayton | — | **6W250** | 923.90 | **631.50** | 33.0 |
| **250-1600** | 1600 | 11/4 | 2600 | Comb. | 12 | 90 | 1/2 | 3/4 | 16.62 | Dayton | — | ***New*4LG58** | 1727.00 | **1625.00** | 21.0 |
| **100-900** | 1400 | 11/4 | 4000 | Ring | 10 | 90 | 3/8 | 1/2 | 10.00 | Ingersoll-Rand | 295 | **6Z561** | 949.95 | **747.50** | 23.0 |
| **100-1000** | 1450 | 1¼ | 5000 | Ring | 10 | 90 | 1/2 | 3/4 | 20.10 | Ingersoll-Rand | 285-6 | **4Z240** | 989.63 | **774.00** | 27.0 |
| **250-900** | 1250 | 11/4 | 5200 | Thru Hole Type† | 18.5 | 90 | 3/8 | 1/2 | 8.88 | Ingersoll-Rand | 2171P | ***New*4TN97** | 875.00 | **872.50** | 11.0 |
| **1000-1600** | 2000 | 13/8 | 3500 | Ring | 12 | 90 | 1/2 | 3/4 | 11.30 | Ingersoll-Rand | 293 | **4Y360** | 3709.15 | **2614.00** | 25.0 |
| **1000-1600** | 2000 | 13/8 | 3500 | Thru Hole Type† | 12 | 90 | 1/2 | 3/4 | 11.30 | Ingersoll-Rand | 293-S | **4Y361** | 3785.16 | **2669.00** | 25.0 |

### INDUSTRIAL-DUTY 1" IMPACT WRENCHES SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **300-950** | 1300 | 11/4 | 5200 | Thru Hole Type† | 20 | 90 | 3/8 | 1/2 | 8.88 | Ingersoll-Rand | 2925RBP3 | ***New*4TP02** | 1850.00 | **1826.00** | 8.9 |
| **350-1100** | 1450 | 11/4 | 5200 | Thru Hole Type† | 20 | 90 | 3/8 | 1/2 | 8.88 | Ingersoll-Rand | 2925P3 | ***New*4TN99** | 1850.00 | **1826.00** | 8.9 |
| **450-1000** | 1350 | 11/4 | 6000 | Thru Hole Type† | 10 | 90 | 1/2 | 3/4 | 11.3 | Ingersoll-Rand | 1712B2 | **3Y596** | 1519.52 | **1332.00** | 22.0 |
| **500-1100** | 1500 | 11/4 | 6600 | Thru Hole Type† | 10 | 90 | 1/2 | 3/4 | 11.3 | Ingersoll-Rand | 2934B2 | **3Y578** | 2554.27 | **2273.00** | 23.0 |
| **1000-1600** | 2000 | 13/8 | 5000 | Thru Hole Type† | 12 | 90 | 1/2 | 3/4 | 12.3 | Ingersoll-Rand | 2940B2 | **3Y577** | 2969.15 | **2837.00** | 25.0 |
| **1000-1600** | 2000 | 13/8 | 3350 | Thru Hole Type† | 12 | 90 | 1/2 | 3/4 | 11.3 | Ingersoll-Rand | 2940P2 | **3Y576** | 3079.43 | **2888.00** | 25.0 |
| **1600-2500** | 3000 | 15/8 | 3750 | Thru Hole Type† | 15 | 90 | 1/2 | 3/4 | 14.5 | Ingersoll-Rand | 2950B7 | **3Y575** | 4595.00 | **4351.00** | 26.0 |

(*) Avg. CFM is based off of a 15 second run time. (†) Used with retainer pins and O-rings. See index in back of catalog under Sockets, Retainer Pins, or O-rings.

# PULSE TOOLS

## PULSE NUTRUNNERS/SCREWDRIVERS

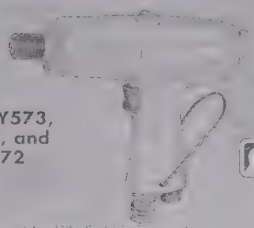


No. 3Y603



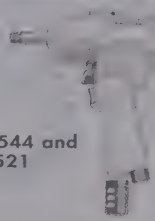
No. 3Y602

INGERSOLL-RAND
PROFESSIONAL TOOLS



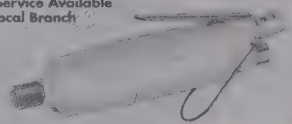
Nos. 3Y573, 3Y586, and 3Y572

Replacement Parts Available
1-800-323-0620



Nos. 3Y544 and 3Y521

Installation & Service Available
Contact Your Local Branch



Nos. 3Y592 and 3Y585

- Improved balance and quiet operation
- Virtually no overtorquing in critical applications
- Two-speed trigger for precision starts and high speed rundown
- Excellent power-to-weight ratio
- Special cooling system contributes to longer mechanism life
- Reversible with a choice between pistol or straight handles and trigger or lever start
- Operate at 90 PSI maximum air pressure

### PULSE NUTRUNNER/SCREWDRIVER SPECIFICATIONS AND ORDERING DATA

| Torque Range Soft Draw (Ft.-Lb.) | Hard Slam† (Ft.-Lb.) | Free Speed RPM | Drive (In.) | Handle Type | Throttle Type | Avg. CFM†† | Avg. Length (In.) | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3-6** | 3-8 | 9300 | 1/4 Q.C. | Pistol | Trigger | 3.0 | 5½ | 100PQ1 | **3Y603** | $1174.66 | **$1053.00** | 2.2 |
| **6-11** | 14-22 | 10,500 | 1/4 Q.C. | Pistol | Trigger | 3.0 | 6½ | 180PQ1 | **3Y573** | 1314.64 | **1187.00** | 3.5 |
| **10-16** | 16-26 | 9500 | 1/4 Q.C. | Pistol | Trigger | 3.0 | 7 | 280PQ1 | **3Y586** | 1314.64 | **1187.00** | 3.2 |
| **15-23** | 22-32 | 8500 | 1/4 Q.C. | Pistol | Trigger | 3.0 | 7 | 380PQ1 | **3Y572** | 1349.61 | **1205.00** | 4.0 |
| **20-30** | 25-43 | 8500 | 3/8 SQ. | Pistol | Trigger | 3.0 | 6½ | 500P | **3Y544** | 1389.75 | **1233.00** | 4.5 |
| **24-43** | 34-58 | 8500 | 3/8 SQ. | Pistol | Trigger | 3.0 | 6½ | 700P | **3Y521** | 1379.60 | **1239.00** | 4.6 |
| **3-6** | 4-9 | 10,000 | 1/4 Q.C. | Straight | Lever | 3.0 | 9 | 100SQ1 | **3Y602** | 1174.66 | **1053.00** | 2.0 |
| **6-11** | 12-22 | 9000 | 1/4 Q.C. | Straight | Lever | 3.0 | 8½ | 180SQ1 | **3Y592** | 1314.64 | **1187.00** | 2.1 |
| **7-14** | 13-26 | 8000 | 1/4 Q.C. | Straight | Lever | 3.0 | 9 | 280SQ1 | **3Y585** | 1314.64 | **1187.00** | 2.1 |

**Note:** Torque ranges should be used as a guide only. For best performance use tools at mid-torque range. Final torque can vary depending on air pressure and type of joint. (*) Soft draw is based on fastener being hand tight and then tightened with no less than 720° rotation of the fastener. Hard Slam is based on fastener being hand tight and then tightened with no more than 30° rotation of the fastener. (††) Avg. CFM is based off of a 15 second run time.

## AUTOMATIC SHUT-OFF PULSE TOOLS

**New**



No. 3JD33

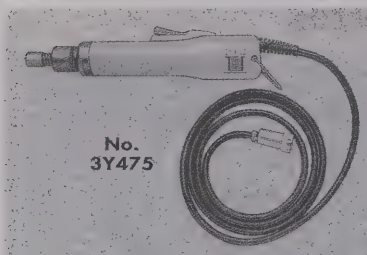
- An addition to the standard Power Pulse line from Ingersoll-Rand
- Shut-off models share advantages of the Power Pulse line, along with automatic shut-off capability
- All models are reversible drive pistol handle trigger style
- Faster rundown speeds with higher torque output

### AUTOMATIC SHUT-OFF PULSE TOOLS SPECIFICATIONS AND ORDERING DATA

| Torque Range Soft Draw (Ft.-Lb.) | Hard Slam (Ft.-Lb.) | Free Speed RPM | Drive (In.) | Handle Type | Throttle Type | Avg. CFM* | Avg. Length (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10-20** | 20-40 | 10,500 | 3/8 | Pistol | Trigger | 3.0 | 7⅞ | 500PS3 | **3JD33** | $1789.57 | **$1589.00** | 4.0 |
| **20-30** | 35-60 | 9,250 | 3/8 | Pistol | Trigger | 3.0 | 8⅛ | 700PS3 | **3JD36** | 1829.44 | **1639.00** | 4.5 |
| **30-40** | 55-70 | 8,000 | 1/2 | Pistol | Trigger | 3.0 | 9⅛ | 900PS4 | **3JD42** | 1869.45 | **1667.00** | 5.9 |
| **40-50** | 65-85 | 6,500 | 1/2 | Pistol | Trigger | 3.0 | 9⅝ | 1100PS4 | **3JD18** | 2259.33 | **2006.00** | 6.2 |
| **70-100** | 90-140 | 7,000 | 1/2 | Pistol | Trigger | 3.0 | 10⅜ | 1900PS4 | **3JD21** | 2489.25 | **2224.00** | 8.6 |
| | | | | | | | | 55P3 | ***New*4TP04** | 1325.00 | **1299.00** | 2.1 |
| **16.2-26.5** | 19.2-28.0 | 8,000 | 3/8 | Pistol | Trigger | 3.0 | | 55PQ1 | ***New*4TP05** | 1325.00 | **1299.00** | 2.1 |
| **14.6-23.9** | 17.3-25.2 | 8,000 | 1/4hex | Pistol | Trigger | 3.0 | | 60P3 | ***New*4TP06** | 1350.00 | **1329.00** | 2.2 |
| **20.7-33.2** | 22.1-33.2 | 6,600 | 3/8 | Pistol | Trigger | 3.5 | | 60PQ1 | ***New*4TP07** | 1350.00 | **1329.00** | 2.2 |
| **18.6-29.9** | 19.9-29.9 | 6,600 | 1/4hex | Pistol | Trigger | 3.5 | | 70P3 | ***New*4TP08** | 1400.00 | **1369.00** | 3.1 |
| **34.7-51.7** | 33.2-50.2 | 7,000 | 3/8 | Pistol | Trigger | 4.0 | | 90P4 | ***New*4TP09** | 1500.00 | **1429.00** | 4.0 |
| **50.2-64.9** | 50.2-70.8 | 6,000 | 1/2 | Pistol | Trigger | 4.0 | | | | | | |
| **Cordless Battery Models** | | | | | | | | | | | | |
| | | | | | | | | BP10P3 | ***New*4TP12** | 1250.00 | **1219.00** | 3.8 |
| **6.6-11.8** | 8.1-14.0 | 2,200 | 3/8 | Pistol | Trigger | N/A | | BP10PQ1 | ***New*4TP13** | 1250.00 | **1219.00** | 3.8 |
| **6.0-10.6** | 7.3-12.6 | 2,200 | 1/4hex | Pistol | Trigger | N/A | | | | | | |

Note: All Pulse Tools have 1/4" NPT and should use 3/8" air hose. (*) Avg. CFM is based off of a 15 second run time.

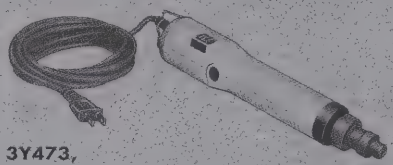
# INGERSOLL-RAND INDUSTRIAL ELECTRIC SCREWDRIVERS

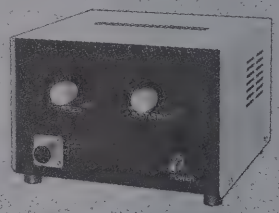



INGERSOLL-RAND®
PROFESSIONAL TOOLS

Replacement Parts Available
1-800-323-0620™

Installation & Service Available
Contact Your Local Branch™




**Application:** For light-duty assembly applications where electric power is required
**Type:** 1/4" reversing.
**Switch:** Standard precision shut-off clutch for assembly applications where precise torque control is necessary
**Power:** Operate on 115VAC, no special power needed. Control module required for No. 3Y475
**Approvals:** UL Listed
**Features:** Dynamic motor brake to reduce torque reaction

## SCREWDRIVER SPECIFICATIONS AND ORDERING DATA

| Torque Range (Soft Draw) (In.-lb.) | Free Speed RPM | Operation | Control Module Required | Length (In.) | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0.5-9.0*** | 500-650 | Soft-Start | 3Y470 | 9 | ES50T | **3Y475** | $424.88 | **$380.00** | 1.6 |
| **4.0-17.0** | 1000 | Push-to-Start | None | 10 | ES60P | **3Y474** | 724.78 | **650.50** | 2.0 |
| **10.0-26.0** | 700 | Push-to-Start | None | 10 | ES70P | **3Y473** | 724.78 | **650.50** | 2.0 |
| **4.0-16.0** | 2000 | Push-to-Start | None | 10 | ES90P | **3Y472** | 724.78 | **650.50** | 2.0 |
| **10.0-40.0** | 400 | Push-to-Start | None | 10 | ES100P | **3Y477** | 744.77 | **667.50** | 2.1 |
| **Control Module for use with No. 3Y475** | | | | | ESCB50 | **3Y470** | 289.89 | **256.50** | 5.6 |

(*) Two clutch springs furnished to cover torque range. Shipped with heavier clutch spring installed.

# VERSATEC™ ELECTRIC SCREWDRIVERS

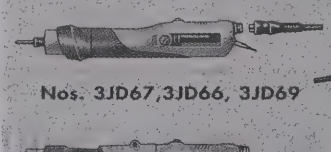
**Latest innovative Line of Electric,** Light Duty, Precision Assembly Screwdrivers that sets new standards for ergonomics and operator convenience. Egg-shaped oval grip fits almost any size hand. Soft touch grip feels good and maintains a comfortable temperature. Contoured flange follows the shape of user's hand.

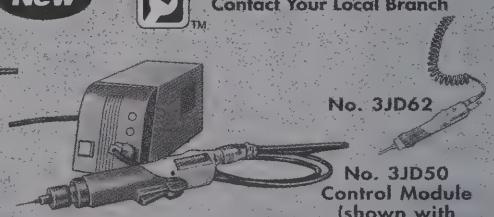
- **All Models UL Listed**
- **All Models Reversible, 1/4" Bit Size, no special power needed.**
- **Control Module required for Model Nos. 3JD52 and 3JD53. All models operate on 115V AC.**
- **All controls positioned for easy use by right or left-handed operators**
- **Exceptional performance at low sound levels**
- **Electric power cord easily detached from the tool by loosening threaded retainer**

INGERSOLL-RAND®
PROFESSIONAL TOOLS

New

Installation & Service Available
Contact Your Local Branch™







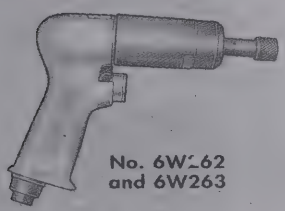


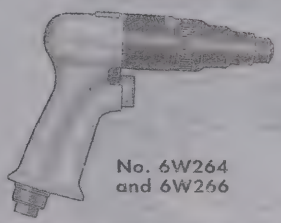

## VERSATEC™ SCREWDRIVER SPECIFICATIONS AND ORDERING DATA

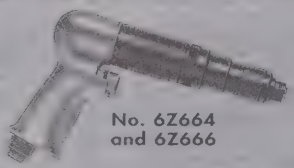
| Torque Range (In.-lb.) | Free Speed RPM | Operation | Control Module Required | Length (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5.0-15.0** | 2000 | Straight Push-to-Start | None | 10¾ | EP1520N | **3JD67** | $859.76 | **$783.50** | 1.6 |
| **5.0-15.0** | 1000 | Straight Push-to-Start | None | 10¾ | EP1510N | **3JD66** | 859.76 | **783.50** | 1.6 |
| **11.0-26.0** | 700 | Straight Push-to-Start | None | 10¾ | EP2607N | **3JD69** | 859.76 | **783.50** | 1.6 |
| **18.0-40.0** | 700 | Push-to-Start w/Pistol Attachment | None | 10¾ | EP4007N | **3JD71** | 879.77 | **802.50** | 1.9 |
| **0.44-4.79*** | 750–1000 | Straight Lever Start | 3JD50 | 8¾ | EL0410B | **3JD52** | 514.87 | **469.50** | 0.8 |
| **1.74-10.44*** | 500–700 | Straight Lever Start | 3JD50 | 8¾ | EL1007B | **3JD53** | 514.87 | **469.50** | 0.8 |
| **5.0-15.0** | 2000 | Straight Lever Start | None | 10¾ | EL1520N | **3JD58** | 850.00 | **783.50** | 1.6 |
| **5.0-15.0** | 1000 | Straight Lever Start | None | 10¾ | EL1510N | ***New*3JD54** | 866.00 | **799.00** | 2.2 |
| **11.0-26.0** | 700 | Straight Lever Start | None | 10¾ | EL2607N | ***New*3JD61** | 840.00 | **789.00** | 2.2 |
| **11.0-26.0** | 1200 | Straight Push-to-Start | None | 10¾ | EL2612N | ***New*3JD62** | 840.00 | **789.00** | 2.2 |
| **Controller Module for use with Nos. 3JD52, 3JD53** | | | | | EC24N | **3JD50** | 354.88 | **322.75** | 5.1 |

(*) Two clutch springs furnished to cover torque range. Shipped with heavier clutch spring installed.

# AIR SCREWDRIVERS







Replacement Parts Available
1-800-323-0620

## DIRECT DRIVE SCREWDRIVERS

**Nos. 6W262 and 6W263.** Dayton direct drive screwdrivers have a direct connection between the motor and bit, which stalls at completion of fastening. Both units include a quick change bit holder.

- **No. 6W262 produces up to 50 in.-lbs. of torque**
- **No. 6W263 produces up to 75 in.-lbs. of torque**
- **Reversible • 1/4" hex bit**

## PUSH-TO-START POSITIVE JAW CLUTCH SCREWDRIVERS

**Nos. 6W264 and 6Z666.** Dayton jaw clutch screwdrivers have a positive rolling impulse clutch that joins the motor and the bit through one clutch, separated by a light spring. The bit remains stationary for location purposes, until the operator pressure engages the jaw mechanism.

- **Pistol grip design**
- **No. 6W264 produces up to 30 in.-lbs of torque**
- **No. 6Z666 produces up to 50 in.-lbs. of torque**
- **For wood, sheet metal, and self-tapping screws**
- **Reversible • 1/4" hex bit**

## ADJUSTABLE CUSHION CLUTCH SCREWDRIVERS

**Nos. 6Z664, 6Z665, 6W265 and 6W266.** Dayton adjustable cushion clutch screwdrivers employ two clutch systems. An impulse clutch helps keep bit stationary for locating while the second adjustable clutch gives precise torque control.

- **Available in either pistol grip or straight handle design**
- **Nos. 6Z664 and 6Z665 have an adjustable torque range between 10-50 in.-lbs.**
- **Nos. 6W265 and 6W266 have an adjustable torque range between 10-75 in.-lbs.**
- **Nos. 6Z665 and 6W265 include lift bails for use with tool balancers**
- **For jobs with pre-drilled holes which require prescribed torque requirements**
- **Reversible**
- **1/4" hex bit**

## GENERAL DUTY SCREWDRIVER SPECIFICATIONS AND ORDERING DATA

| Torque Range Soft Draw (In.-Lbs) | Free Speed RPM | Handle Type | Throttle Type | Avg. CFM* | CFM† | Air Inlet NPT (In.) | Pressure Req'd. (PSI) | Min. Hose Size (In.) | Overall Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50‡** | 1800 | Pistol | Trigger | 3.5 | 14 | 1/4 | 90 | 3/8 | 7⅛ | **6W262** | $321.50 | **$224.50** | 2.5 |
| **75‡** | 800 | Pistol | Trigger | 3.5 | 14 | 1/4 | 90 | 3/8 | 8¼ | **6W263** | 465.00 | **310.00** | 3.6 |
| **30‡** | 3400 | Pistol | Trigger | 3.0 | 12 | 1/4 | 90 | 3/8 | 7½ | **6W264** | 489.55 | **342.75** | 2.7 |
| **50‡** | 1800 | Pistol | Trigger | 3.5 | 14 | 1/4 | 90 | 3/8 | 7½ | **6Z666** | 159.90 | **285.50** | 2.9 |
| **10-50** | 1800 | Pistol | Trigger | 3.5 | 14 | 1/4 | 90 | 3/8 | 8⅛ | **6Z664** | 578.50 | **381.75** | 3.6 |
| **10-75** | 800 | Pistol | Trigger | 3.5 | 14 | 1/4 | 90 | 3/8 | 7⅛ | **6W266** | 598.25 | **411.50** | 3.2 |
| **10-50** | 1800 | Straight | Lever | 3.5 | 14 | 1/4 | 90 | 3/8 | 10½ | **6Z665** | 551.50 | **324.75** | 2.8 |
| **10-75** | 800 | Straight | Lever | 3.5 | 14 | 1/4 | 90 | 3/8 | 11¼ | **6W265** | 598.50 | **420.00** | 3.6 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time. (‡) Torque can be adjusted by varying air pressure.

## POSITIVE ACTION CLUTCH SCREWDRIVER

**INGERSOLL-RAND**
**PROFESSIONAL TOOLS**




Replacement Parts Available
1-800-323-0620

Installation & Service Available
Contact Your Local Branch

- **Economical standard-duty for soft-draw applications**
- **Variable speed throttle**
- **Maximum air pressure 90 PSI**
- **Standard 1/4" hex bit**
- **Ingersoll-Rand brand**
- **Reversible**

## REVERSIBLE SCREWDRIVER SPECIFICATIONS AND ORDERING DATA

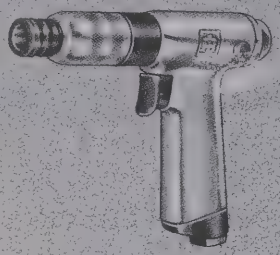
| Torque (Soft Draw) (In. Lb.) | Clutch Type | Handle/ Throttle Type | Free Speed RPM | Avg. CFM* | CFM† | Air Inlet (In.) | Min. Hose Size (In.) | Length (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30** | Positive Jaw | Pistol, Trigger | 1800 | 4 | 16 | 1/4 | 3/8 | 7¼ | 371 | **3JD32** | $144.95 | **$116.55** | 3.7 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

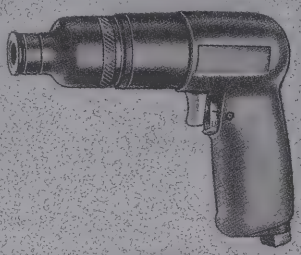
# AIR SCREWDRIVERS

## DIRECT DRIVE AND POSITIVE JAW SCREWDRIVERS

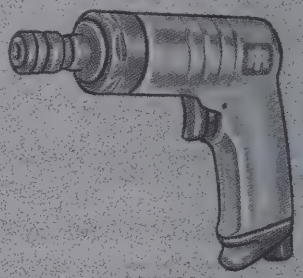
INGERSOLL-RAND®
PROFESSIONAL TOOLS



No. 3Y563



No. 3Y550



No. 3Y533, 3Y532, 3Y536 and 3Y537

Replacement Parts Available
1-800-323-0620™

Installation & Service Available
Contact Your Local Branch™

### DIRECT DRIVE SCREWDRIVERS

- **Pistol handle with trigger start control**
- **Reversible operation**
- **1/4" quick change chuck**

Direct drive screwdrivers have a direct connection between the motor and bit, and stalls at completion of fastening. Designed for soft pull applications in wood and other material not requiring critical torque control. Applied torque is controlled by the operator and can be limited by regulating air line pressure.

| Torque Range Soft Draw (In.-Lbs.) | | Free Speed RPM | Handle Type | Throttle Type | Avg. CFM* | CFM† | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDUSTRIAL-DUTY DIRECT DRIVE SCREWDRIVERS** | | | | | | | | | | | | | | |
| **34** | ‡ | 1000 | Pistol | Trigger | 2 | 8 | 1/8 | 1/4 | 7¼ | 3RAND1 | **3Y563** | $495.12 | **$447.50** | 2.1 |
| **35** | ‡ | 2000 | Pistol | Trigger | 4 | 16 | 1/4 | 1/4 | 7¼ | 5RALD1 | **3Y537** | 429.87 | **384.50** | 2.7 |
| **70** | ‡ | 900 | Pistol | Trigger | 4 | 16 | 1/4 | 1/4 | 8 | 5RAND1 | **3Y533** | 424.88 | **375.75** | 2.5 |

### POSITIVE JAW CLUTCH SCREWDRIVERS

**Nos. 3Y550, 3Y536 and 3Y532. Industrial-duty Ingersoll-Rand positive jaw clutch screwdrivers.**

**No. 3Y550 features:**

- **Ergonomic Skinsulate coating on the housing which helps insulate skin from cold metal housing; minimize vibration; protect tool as well as workpiece**
- **Reversible operation**
- **1/4" quick-connect change chuck**

**Nos. 3Y536 and 3Y532 feature:**

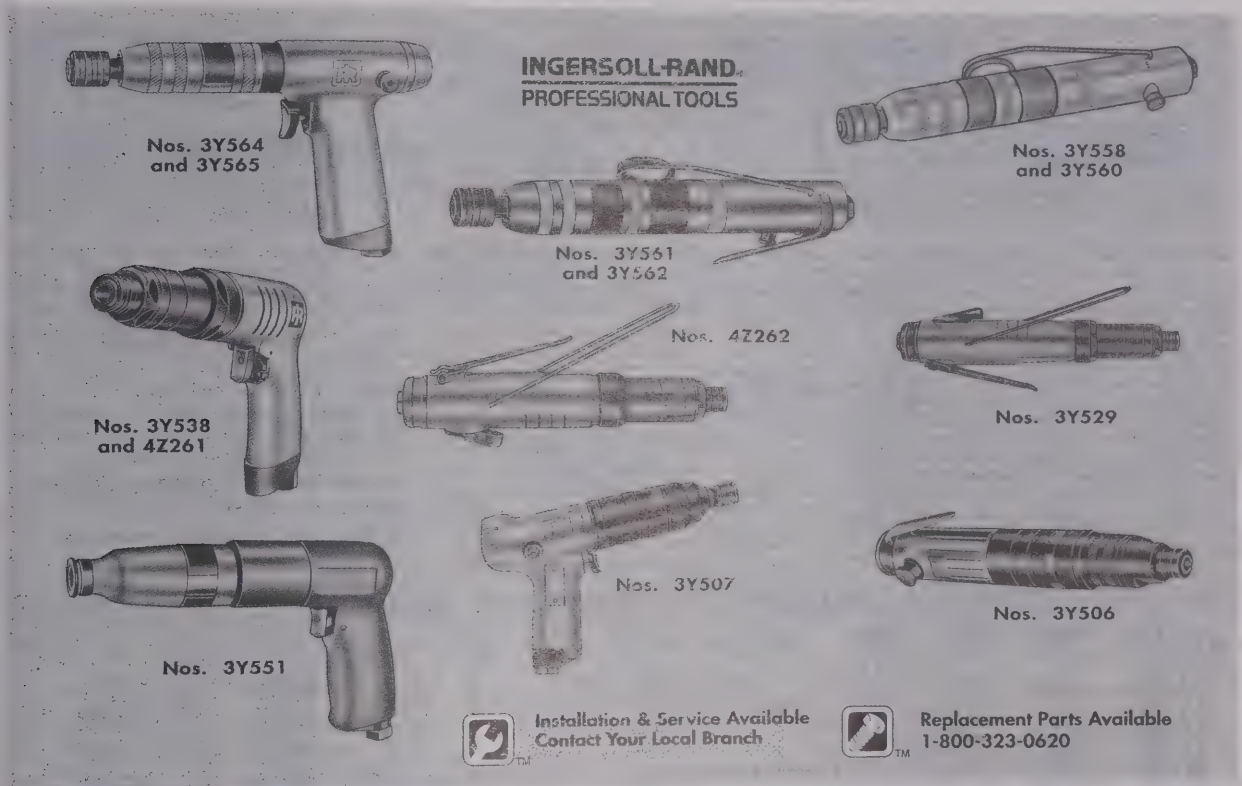
- **Pistol handle with trigger start control**
- **Reversible operation**
- **1/4" quick-connect change chuck**

Positive jaw clutch has two opposing clutch heads that are separated by a spring. Operator can start the motor and then press the tool toward the fastener to engage the clutch mechanism for faster operation in low torque operations and then start motor, then press toward the fasteners to engage the clutch mechanism for high torque application. Applied torque is controlled by the operator and can be limited by regulating air line pressure. Designed for applications where driving torque may exceed final seating torque as in wood and self-tapping applications.

| Torque Range Soft Draw (In.-Lbs.) | Free Speed RPM | Handle Type | Throttle Type | Ave. CFM* | CFM† | Air Inlet NPT (In.) | Min. Hose Size (In.) | Length (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDUSTRIAL-DUTY POSITIVE JAW CLUTCH SCREWDRIVERS** | | | | | | | | | | | | | |
| **45**‡ | 2500 | Pistol | Trigger | 4 | 16 | 1/4 | 1/4 | 7¼ | 41PP25TSQ4 | **3Y550** | $569.86 | **$513.00** | 3.0 |
| **35**‡ | 2000 | Pistol | Trigger | 4 | 16 | 1/4 | 1/4 | 7¼ | 5RALP1 | **3Y536** | 469.95 | **418.00** | 2.4 |
| **75**‡ | 900 | Pistol | Trigger | 4 | 16 | 1/4 | 1/4 | 8 | 5RANP1 | **3Y532** | 464.86 | **420.50** | 2.9 |

(*) Avg. CFM is based off a 15 second run time. (†) CFM is based off a 1 minute run time. (‡) Torque can be adjusted by varying air pressure.

# ADJUSTABLE CUSHION CLUTCH




**Adjustable cushion clutch** has steel balls between two indented plates. A spring pushes down on the top plate forcing down on the steel balls and bottom plate. Adjusting the spring tension higher increases torque output to the bit. Decreasing spring tension decreases torque output to the bit. When the fastener torque exceeds the spring tension on the balls, the clutch begins to slip and the bit stops turning. This operation makes it an excellent ergonomic selection for the operator, since little to no torque is transmitted back through to the operator.

These adjustable cushion clutch screwdrivers come in two different handle types which are pistol and straight handle. Straight handle units come standard with suspension bails for use with tool balancers.

Also, the adjustable cushion clutch screwdrivers come with three different operation controls which are trigger, lever, and push-to-start. Push-to-start models have no trigger button or lever arm to push On to start, rather the tool starts when the operator locates the tool on the fastener and pushes the tool toward the fastener; the tool automatically starts.

Some tools may include extra clutch springs to achieve the full torque range of the tool. All models come with a 1/4" quick change bit, and are reversible.

**No. 3Y551** features ergonomic Skinsulate coating on the housing which helps:

- **Insulate skin from cold metal housing**
- **Minimizes vibration**
- **Protects tool as well as workpiece**

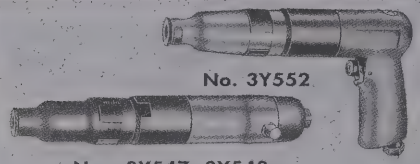
## INDUSTRIAL-DUTY ADJUSTABLE CUSHION CLUTCH

| Torque Range Soft Draw (In.-Lbs.) | Free Speed RPM | Handle Type | Throttle Type | Avg. CFM* | CFM† | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.5 - 30** | 1000 | Pistol | Trigger | 2 | 8 | 1/8 | 1/4 | 8½ | 3RANC1 | **3Y564** | $675.07 | **$612.50** | 2.3 |
| **1.5 - 30** | 1000 | Straight | Throttle | 2 | 8 | 1/8 | 1/4 | 9¾ | 3RLNC1 | **3Y561** | 675.08 | **612.50** | 1.7 |
| **1.5 - 30** | 1000 | Straight | Push-to-Start | 2 | 8 | 1/8 | 1/4 | 8¾ | 3RPNC1 | **3Y558** | 675.08 | **612.50** | 1.7 |
| **2.5 - 20** | 1650 | Pistol | Trigger | 2 | 8 | 1/8 | 1/4 | 8½ | 3RAMC1 | **3Y565** | 675.07 | **612.50** | 2.3 |
| **2.5 - 20** | 1650 | Straight | Throttle | 2 | 8 | 1/8 | 1/4 | 9¾ | 3RLMC1 | **3Y562** | 675.08 | **612.50** | 1.7 |
| **2.5 - 20** | 1650 | Straight | Push-to-Start | 2 | 8 | 1/8 | 1/4 | 8¾ | 3RPMC1 | **3Y560** | 675.08 | **612.50** | 1.7 |
| **13 - 35** | 2000 | Pistol | Trigger | 4 | 16 | 1/4 | 1/4 | 8¾ | 5RALC1 | **3Y538** | 529.82 | **479.75** | 2.8 |
| **13 - 40** | 2100 | Straight | Throttle | 4 | 16 | 1/4 | 1/4 | 10 | 5RLLC1 | **4Z262** | 529.82 | **479.75** | 3.3 |
| **13 - 70** | 900 | Pistol | Trigger | 4 | 16 | 1/4 | 1/4 | 8½ | 5RANC1 | **4Z261** | 529.83 | **479.75** | 3.0 |
| **13 - 75** | 1000 | Straight | Throttle | 4 | 16 | 1/4 | 1/4 | 10¾ | 5RLNC1 | **3Y529** | 529.82 | **479.75** | 3.5 |
| **10 - 100** | 800 | Pistol | Trigger | 4 | 16 | 1/4 | 1/4 | 9½ | 11PCSTSQ4 | **3Y551** | 664.79 | **600.50** | 4.0 |
| **20 - 110** | 1000 | Pistol | Trigger | 4 | 16 | 1/4 | 1/4 | 10½ | 7RAMC1 | **3Y507** | 839.73 | **762.50** | 4.2 |
| **20 - 110** | 1200 | Straight | Throttle | 4 | 16 | 1/4 | 1/4 | 12 | 7RLMC1 | **3Y506** | 839.73 | **762.50** | 4.6 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

# AIR SCREWDRIVERS

## PRECISION SHUT-OFF CLUTCH

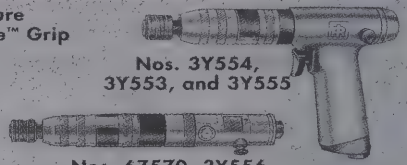



INGERSOLL-RAND® PROFESSIONAL TOOLS

Feature Skinsulate™ Grip

Installation & Service Available Contact Your Local Branch

Replacement Parts Available ™ 1-800-323-0620




**Adjustable precision shut-off clutch screwdrivers** have steel balls between two indented plates. A spring pushes down on the top plate forcing down on the steel balls and bottom plate. Adjusting the spring tension higher increases torque output to the bit. Decreasing spring tension decreases torque output to the bit. When the fastener torque exceeds the spring tension on the balls, the clutch slips and the top plate moves upward pushing on a rod that goes to the throttle valve disengaging it and stopping the tool instantly. Designed for critical fastening applications involving plastics, composites, or metals that require precise torque control.

The advantages of the shut-off clutch are that it reduces air consumption, which over time will allow for the tool to pay for itself in energy consumption, and reduces torque reaction on the operator.

The shut-off clutch screwdrivers come in two different handle types; pistol and straight handle. Straight handle units come standard with suspension bails for use with tool balancers.

The shut-off clutch screwdrivers come with two different operation controls which are push-to-start, and trigger permit. Push-to-start models have no trigger button or lever arm to push On to start, rather the tool starts when the operator locates the tool on the fastener and pushes the tool toward the fastener; the tool automatically starts. Trigger permit units are similar to push-to-start, but require that the tool is pressed against the fastener, and the trigger is pulled to start the tool.

Some tools may include extra clutch springs to achieve the full torque range of the tool. All models come with a 1/4" quick change bit, and are reversible.

**Nos. 3Y547, 3Y548, 3Y549, and 3Y552** feature ergonomic Skinsulate coating on the housing which helps:

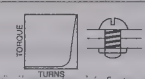
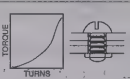
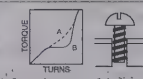
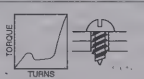
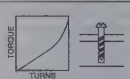
- **Insulate skin from cold metal housing**
- **Minimizes vibration**
- **Protects tool as well as workpiece**

### INDUSTRIAL-DUTY PRECISION SHUT-OFF CLUTCH

| Torque Range Soft Draw (In.-Lbs.) | Free Speed RPM | Handle Type | Throttle Type | Avg. CFM* | CFM† | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.5 - 30** | 1000 | Straight | Push-to-Start | 2 | 8 | 1/8 | 1/4 | 8¾ | 3RPNS1 | **6Z570** | $819.90 | **$709.50** | 1.7 |
| **1.5 - 30** | 1000 | Pistol | Trigger Permit | 2 | 8 | 1/8 | 1/4 | 8½ | 3RTNS1 | **3Y554** | 840.04 | **758.00** | 2.3 |
| **1.5 - 45** | 500 | Straight | Push-to-Start | 2 | 8 | 1/8 | 1/4 | 8¾ | 3RPQS1 | **3Y556** | 849.87 | **757.00** | 1.7 |
| **1.5 - 45** | 500 | Pistol | Trigger Permit | 2 | 8 | 1/8 | 1/4 | 8¾ | 3RTQS1 | **3Y553** | 849.87 | **757.00** | 2.3 |
| **2.5 - 20** | 1650 | Straight | Push-to-Start | 2 | 8 | 1/8 | 1/4 | 8¾ | 3RPMS1 | **3Y559** | 819.89 | **734.50** | 1.7 |
| **2.5 - 20** | 1650 | Pistol | Trigger Permit | 2 | 8 | 1/8 | 1/4 | 8½ | 3RTMS1 | **3Y555** | 840.04 | **758.00** | 2.3 |
| **15 - 40** | 2500 | Straight | Push-to-Start | 4 | 16 | 1/4 | 1/4 | 10½ | 41SA25PSQ4 | **3Y547** | 939.71 | **860.00** | 3.1 |
| **15 - 60** | 1700 | Straight | Push-to-Start | 4 | 16 | 1/4 | 1/4 | 11 | 41SA17PSQ4 | **3Y548** | 939.73 | **860.50** | 3.1 |
| **15 - 80** | 1000 | Straight | Push-to-Start | 4 | 16 | 1/4 | 1/4 | 11 | 41PA8TPQ4 | **3Y549** | 939.73 | **860.50** | 3.1 |
| **15 - 100** | 800 | Pistol | Trigger Permit | 4 | 16 | 1/4 | 1/4 | 9¾ | 41PA8TPQ4 | **3Y552** | 924.72 | **836.50** | 3.6 |

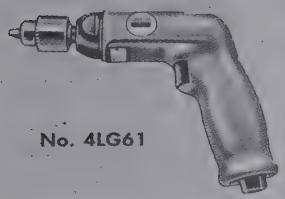
(*) Avg. CFM is bassed off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

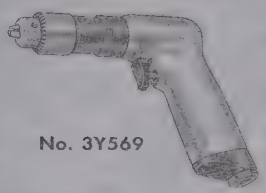
### SCREWDRIVER CLUTCH SELECTION FOR FASTENER JOINTS

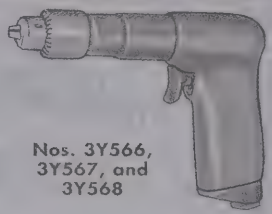
| | Free Running-Slam (Hard Drive) | Compressing Gaskets (Soft Draw) | Self-Tapping Screws | Sheet Metal Screws | Wood Screws |
|---|---|---|---|---|---|
| **Select the Clutch to Fit Your Job** |  Resistance low at start and during rundown but peaks suddenly as bolt head seats |  Turning resistance gradually increases as squeeze progresses to final turn |  Initial resistance high through tapping travel, easing off until sudden (B) or gradual (A) build-up for seating. |  Starting torque builds until penetration made, then resistance slacks off until head seats. |  Low resistance at start builds gradually through entire rundown until head seats. |
| **Adjustable Precision Shut-Off Clutch** | EXCELLENT for all screw sizes where precise torque control is required. | BEST for all screw sizes where precise torque control is required. | BEST for all screw sizes except where tapping torque exceeds final torque. | EXCELLENT for all size screws—not suitable if tapping torque exceeds stripping torque. | Not recommended. |
| **Adjustable Cushion Clutch** | VERY GOOD for most screw sizes where torque control is IMPORTANT. | VERY GOOD for most screw sizes where torque control is IMPORTANT. | VERY GOOD for all screw sizes when tapping torque does not exceed final torque. | GOOD for most screws where final torque exceeds tapping torque. | FAIR for all size screws. |
| **Positive Jaw Clutch** | FAIR for all sizes where close torque control is not required. | GOOD for most screws where close torque control is not required. | GOOD where tapping torque greatly exceeds final torque. | VERY GOOD where sheets are not aligned, GOOD where tapping torque is higher than final torque. | BEST for all screw sizes. |
| **Direct Drive** | GOOD for all screw sizes in hands of experienced operators. | GOOD for large and medium screws—must be adjusted to run rather slowly for small screws. | Not recommended unless stripping torque is considerably higher than tapping torque. | Not recommended unless stripping torque is considerably higher than tapping torque. | GOOD for large and medium screws—must be adjusted to turn slowly for smal screws. |

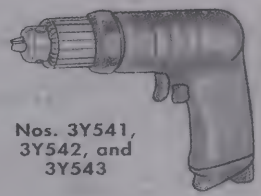
# AIR DRILLS

## 1/4" DRILLS


No. 4LG61


No. 3Y569

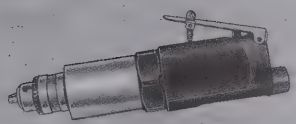

Nos. 3Y566, 3Y567, and 3Y568

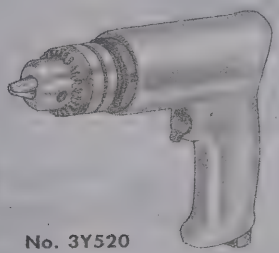

Nos. 3Y541, 3Y542, and 3Y543

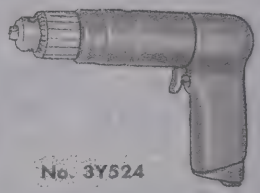
Dayton®

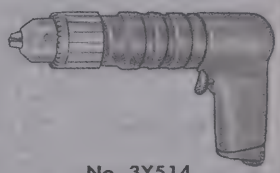
Installation & Service Available Contact Your Local Branch™

INGERSOLL-RAND PROFESSIONAL TOOLS


No. 6Z586


No. 3Y520


No. 3Y524


No. 3Y514

Replacement Parts Available 1-800-323-0620™

### No. 6Z586 GENERAL-DUTY DAYTON STRAIGHT HANDLE DRILL

- Compact design makes it easy to get into tight spots
- Lever throttle with safety lock-off lever
- Jacobs® multi-craft quality chuck and key

### No. 4LG61 INDUSTRIAL-DUTY DAYTON PRODUCTION DRILL

- Ergonomically designed handle and trigger location help reduce operator fatigue
- Textured surface reduces operator grip force and tool slippage
- High/low grip allows for two hand positions
- Muffled through handle exhaust directs air away from work surface
- Jacobs® aircraft quality chuck and key

### No. 3Y520 GENERAL-DUTY INGERSOLL-RAND MAINTENANCE DRILL

- Powerful and economical
- Excellent for general purpose applications
- Comes with Jacobs® chuck and key

### INGERSOLL-RAND INDUSTRIAL-DUTY PRODUCTION DRILLS

- Double row ball bearings assure precise concentric holes
- Variable speed control allows slow speed starting and high speed for fast drilling
- Excellent power-to-weight ratio means less operator fatigue
- Ergonomically designed handle and trigger location help reduce operator fatigue
- High/low grip allows for two hand positions
- Jacobs® chuck and key included
- All drills non-reversible

All Ingersoll-Rand industrial duty drills except 3Y569 feature Skinsulate® coating on drill housing which provides the following ergonomic benefits:

- Insulates skin from cold metal housing
- Minimizes vibration
- Increases adhesion, while reducing grip force
- Protects tool as well as work piece

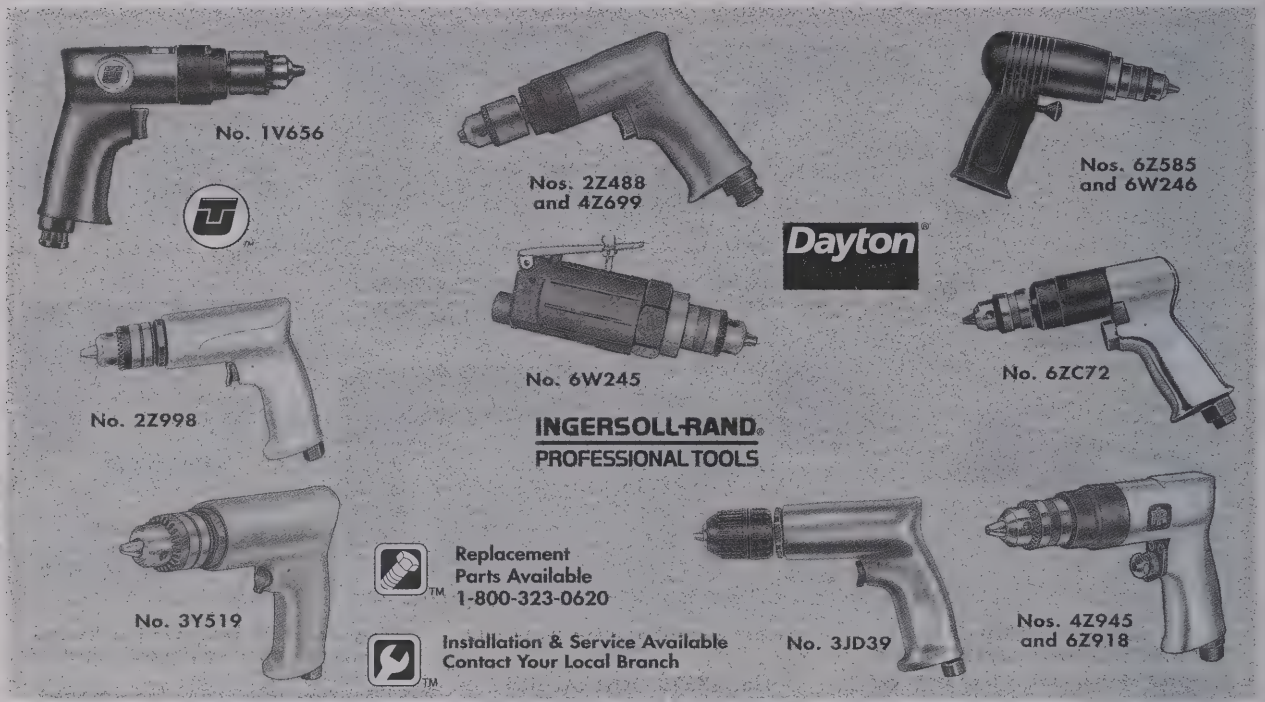
**Note: For drill bits, see index in back of catalog under "Drill Bits."**

| Chuck Capacity (In.) | HP | Free Speed RPM | Avg. CFM* | Required Pressure PSI | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY 1/4" DRILLS** | | | | | | | | | | | | | |
| **1/4** | 0.5 | 2800 | 4.0 | 90 | 1/4 | 3/8 | 7.50 | Dayton | — | **6Z586** | $199.50 | **$116.95** | 2.4 |
| **5/16** | 0.5 | 3800 | 3.2 | 90 | 1/4 | 1/4 | 7.00 | Ingersoll-Rand | 72SIA1 | **3Y520** | 209.92 | **172.25** | 3.8 |
| **INDUSTRIAL-DUTY 1/4" DRILLS** | | | | | | | | | | | | | |
| **1/4** | 0.6 | 6000 | 6.0 | 90 | 1/4 | 3/8 | 7.25 | Dayton | — | **4LG61** | 280.00 | **263.75** | 2.8 |
| **1/4** | 0.16 | 2800 | 2.0 | 90 | 1/4 | 1/4 | 6.25 | Ingersoll-Rand | 3AL1 | **3Y569** | 385.00 | **345.50** | 1.8 |
| **1/4** | 0.3 | 3800 | 2.0 | 90 | 1/4 | 1/4 | 6.25 | Ingersoll-Rand | 3P38ST4 | **3Y566** | 385.00 | **345.25** | 2.1 |
| **1/4** | 0.3 | 2100 | 2.0 | 90 | 1/4 | 1/4 | 6.75 | Ingersoll-Rand | 3P21ST4 | **3Y567** | 385.00 | **345.25** | 2.1 |
| **1/4** | 0.3 | 1300 | 2.0 | 90 | 1/4 | 1/4 | 6.75 | Ingersoll-Rand | 3P13ST4 | **3Y568** | 385.00 | **345.25** | 1.8 |
| **1/4** | 0.3 | 1300 | 2.0 | 90 | 1/4 | 1/4 | 6.75 | Ingersoll-Rand | 5AJST4 | **3Y543** | 419.88 | **371.75** | 2.5 |
| **1/4** | 0.4 | 4500 | 2.0 | 90 | 1/4 | 1/4 | 6.75 | Ingersoll-Rand | 5AKST4 | **3Y542** | 419.88 | **371.75** | 2.5 |
| **1/4** | 0.4 | 3000 | 2.8 | 90 | 1/4 | 1/4 | 6.75 | Ingersoll-Rand | 5ALST4 | **3Y541** | 419.88 | **371.75** | 2.0 |
| **1/4** | 0.4 | 2200 | 2.8 | 90 | 1/4 | 3/8 | 7.00 | Ingersoll-Rand | 6AKST4 | **3Y524** | 459.86 | **402.25** | 2.7 |
| **1/4** | 0.51 | 3100 | 3.3 | 90 | 1/4 | 3/8 | 7.50 | Ingersoll-Rand | 7AHST4 | **3Y514** | 565.01 | **511.50** | 2.8 |
| **1/4** | 0.75 | 6000 | 4.2 | 90 | 1/4 | | | | | | | | |

(*) Avg. CFM is based off of a 15 second run time.

# AIR TOOLS

## 3/8" DRILLS




**No. 1V656. Light-duty Universal Tool 3/8" drill** is an economical alternative for home shop use or light maintenance applications. The drill features a Jacobs® chuck and key, variable speed trigger, and is reversible.

**General-duty 3/8" drills** are excellent for general maintenance, light production, and automotive work. All drills feature quality Jacobs® chuck and key, compact design which allows for two high/low hand positions, and light weight aluminum housings, except 6Z585, 6W246, and 6W245 which have nylon housings.

- **Nos. 1V656, 6ZC72 and 6Z918 are reversible**
- **No. 3JD39 features keyless chuck**
- **Nos. 6W245 and 6W246 are high speed 20,000 RPM drills***

*Note: Nos. 6W245 and 6W246 are not for use with cast wheels or attachments not rated for 20,000 RPM.

**Note: For drill bits, see index in back of catalog under "Drill Bits."**

| Chuck Capacity (In.) | HP | Free Speed 3RPM | Avg. CFM* | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY 3/8" DRILLS** | | | | | | | | | | | | | |
| **3/8** | 0.5 | 1,800 | 4.0 | 90 | 1/4 | 3/8 | 6.5 | Universal Tool | UT2810R | **1V656** | $78.00 | **$62.50▲** | 3.2 |
| **GENERAL-DUTY 3/8" DRILLS** | | | | | | | | | | | | | |
| **3/8** | 0.5 | 2,600 | 4.0 | 90 | 1/4 | 3/8 | 6.5 | Dayton | — | **2Z488** | 143.50 | **91.40** | 2.5 |
| **3/8** | 0.5 | 2,200 | 4.0 | 90 | 1/4 | 3/8 | 6.75 | Dayton | — | **4Z699** | 215.00 | **105.00** | 2.3 |
| **3/8** | 0.5 | 2,800 | 4.0 | 90 | 1/4 | 3/8 | 6.75 | Dayton | — | **6Z585** | 161.00 | **97.30** | 2.5 |
| **3/8** | 0.5 | 20,000 | 4.0 | 90 | 1/4 | 3/8 | 6.5 | Dayton | — | **6W245** | 96.60 | **67.60** | 1.8 |
| **3/8** | 0.5 | 20,000 | 4.0 | 90 | 1/4 | 3/8 | 6.5 | Dayton | — | **6W246** | 96.60 | **67.60** | 2.0 |
| **3/8** | 0.5 | 1,800 | 4.0 | 90 | 1/4 | 3/8 | 7.0 | Dayton | — | **6ZC72** | 301.55 | **155.50** | 3.0 |
| **3/8** | 0.5 | 2,100 | 4.0 | 90 | 1/4 | 3/8 | 7.4 | Ingersoll-Rand | 7801KC | **3JD39** | 149.95 | **119.80** | 3.1 |
| **3/8** | 0.5 | 2,100 | 4.0 | 90 | 1/4 | 3/8 | 7.4 | Ingersoll-Rand | 7801 | **2Z998** | 149.95 | **116.55** | 3.1 |
| **3/8** | 0.5 | 2,100 | 4.0 | 90 | 1/4 | 3/8 | 7.4 | Ingersoll-Rand | 7802 | **4Z945** | 179.94 | **133.55** | 3.0 |
| **3/8** | 0.5 | 2,000 | 4.0 | 90 | 1/4 | 3/8 | 6.5 | Ingersoll-Rand | 7802R | **6Z918** | 234.95 | **172.75** | 3.0 |
| **3/8** | 0.5 | 2,100 | 4.0 | 90 | 1/4 | 3/8 | 7.4 | Ingersoll-Rand | 728LA2 | **3Y519** | 215.11 | **163.75** | 3.1 |

(*) Avg. CFM is based off of a 15 second run time. (▲) Net prices, not subject to discounts.

### REPLACEMENT CHUCKS FOR KEYLESS CHUCK DRILLS 3JD39, 3JD40

| Description | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/8" Keyless Chuck** | 728-99-KC5 | **3JD37** | $19.70 | **$19.55** | 0.3 |
| **1/2" Keyless Chuck** | 728-99-KC8 | **3JD38** | 29.00 | **28.75** | 0.3 |



# AIR DRILLS

## 3/8" DRILL




**No. 4TL88 Dayton reversible drill** features a 1/2 HP motor for increased speed and torque output. Contoured polyurethane grip provides increased comfort. Also has three-way planetary gearing for smooth operation, reverse switch for quick direction change, and a keyless Jacobs® chuck.

**No. 4LG62 Industrial-duty Dayton production drill** has an ergonomically designed handle and trigger location to help reduce operator fatigue. High/low grip allows for two hand positions while the textured surface reduces operator grip force and tool slippage. Muffled thru-handle exhaust directs air away from work surface. Also has Jacobs® aircraft quality chuck and key.

**Ingersoll-Rand industrial-duty production drills** feature double row ball bearings for precise concentric holes. Variable speed control allows slow speed starting and high speed for fast drilling. Excellent power-to-weight ratio means with ergonomically designed handle and trigger location mean less operator fatigue. High/low grip allows for two hand positions. Include Jacobs® chuck and key included. All drills are non-reversible, except No. 3Y535. No. 3Y539 features straight body for tool balancer applications.

**Skinsulate® coating on drill housing,** except No. 3Y539, insulates skin from cold metal housing and helps minimizes vibration. Also increases adhesion, while reducing grip force and protects tool as well as work piece.

**Note: For drill bits, see index in back of catalog under "Drill Bits."**

| Chuck Capacity (In.) | HP | Free Speed RPM | Avg. CFM* | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDUSTRIAL-DUTY 3/8" DRILLS** | | | | | | | | | | | | | |
| **3/8** | 0.5 | 2200 | — | 90 | 1/4 | 3/8 | 7.00 | Dayton | — | **New4TL88** | $301.00 | **$215.00** | 3.0 |
| **3/8** | 0.6 | 3200 | 6.0 | 90 | 1/4 | 3/8 | 7.25 | Dayton | — | **4LG62** | 280.00 | **263.75** | 3.0 |
| **3/8** | 0.4 | 1000 | 2.8 | 90 | 1/4 | 1/4 | 8.1 | Ingersoll-Rand | 5ANST6 | **3Y540** | 430.00 | **388.50** | 3.4 |
| **3/8** | 0.4 | 1000 | 2.8 | 90 | 1/4 | 1/4 | 9.4 | Ingersoll-Rand | 5LN3 | **3Y539** | 419.99 | **379.25** | 4.2 |
| **3/8** | 0.4 | 2000 | 2.8 | 90 | 1/4 | 1/4 | 6.2 | Ingersoll-Rand | 5RALST6 | **3Y535** | 461.03 | **401.00** | 3.2 |
| **3/8** | 0.51 | 350 | 3.3 | 90 | 1/4 | 3/8 | 8.25 | Ingersoll-Rand | 6ASST6 | **3Y523** | 499.87 | **450.00** | 3.7 |
| **3/8** | 0.75 | 3200 | 4.2 | 90 | 1/4 | 3/8 | 7.6 | Ingersoll-Rand | 7AKST6 | **3Y513** | 574.86 | **516.50** | 3.0 |
| **3/8** | 0.75 | 2400 | 4.2 | 90 | 1/4 | 3/8 | 7.5 | Ingersoll-Rand | 7ALST6 | **3Y512** | 574.86 | **516.50** | 3.3 |
| **3/8** | 0.75 | 1400 | 4.2 | 90 | 1/4 | 3/8 | 8.5 | Ingersoll-Rand | 7AMST6 | **3Y511** | 605.00 | **543.50** | 3.5 |

(*) Avg. CFM is based off of a 15 second run time.

## RIGHT ANGLE DRILLS




**No. 6Z832 Dayton and No. 3JD41 Ingersoll-Rand general-duty 3/8" right angle drills** are ideal for general maintenance or automotive work where drilling in tight spaces is required. Both drills feature a quality Jacobs® chuck and key, lever throttle control, and are reversible.

**No. 3Y522 Industrial-duty Ingersoll-Rand 3/8" right angle drill** features infinitely variable speed trigger which allows slow speed starting and high speed drilling. Angle head may be rotated 360 degrees to allow ideal orientation with throttle. Ergonomically designed housing provides a secure surface for operator to grip and quality design ensures precision holes for critical applications.

**No. 3Y508 Ingersoll-Rand industrial-duty 1/2" right angle drill** features double row ball bearings which assures precise concentric holes. Variable speed control allows slow speed starting and high speed for fast drilling and high/low grip allows for two hand positions. Includes Jacobs® chuck and key.

**Note: For drill bits, see index in back of catalog under "Drill Bits."**

| Chuck Capacity (In.) | HP | Free Speed RPM | Avg. CFM* | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Right Angle Length (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY RIGHT ANGLE DRILLS** | | | | | | | | | | | | | | |
| **3/8** | 0.50 | 1800 | 5.0 | 90 | 1/4 | 3/8 | 3 1/16 | 7 7/8 | Dayton | — | **6Z832** | $249.75 | **$144.95** | 2.6 |
| **3/8** | 0.33 | 1800 | 4.0 | 90 | 1/4 | 3/8 | 3 | 8.1 | Ingersoll-Rand | 7807R | **3JD41** | 141.95 | **116.10** | 2.7 |
| **INDUSTRIAL-DUTY RIGHT ANGLE DRILLS** | | | | | | | | | | | | | | |
| **3/8** | 0.51 | 600 | 3.3 | 90 | 1/4 | 1/4 | 4 | 10.6 | Ingersoll-Rand | 6LP3A43 | **3Y522** | 804.77 | **724.00** | 4.5 |
| **1/2** | 0.75 | 600 | 4.2 | 90 | 1/4 | 1/4 | — | 11 10 | Ingersoll-Rand | — | **3Y508** | 939.72 | **834.00** | 4.5 |

(*) Avg. CFM is based off of a 15 second run time.

# AIR DRILLS

## 1/2" DRILLS




**No. 1V654. Light-duty Universal Tool 1/2" drill** is an economical alternative for home shop use or light maintenance applications. The drill features a Jacobs® chuck and key, geared for high torque, variable speed trigger, and is reversible.

**Nos. 4Z542 and 6ZC73. General-duty Dayton 1/2" drills** are ideal for the high torque applications, such as hole saw, reaming, and large bore wood bit. Both drills feature:

- **Quality Jacobs® chuck and key**
- **Side handle with 360 degree rotation**
- **Variable speed trigger**
- **No. 6ZC73 is reversible**

**No. 3Y518 General-duty Ingersoll-Rand 1/2" drill** is an economical alternative that features:

- **Dead man side handle**
- **Quality Jacobs® chuck and key**

**Nos. 3JD40 and 4Z239 General-duty Ingersoll-Rand 1/2" drills feature:**

- **Double reduction planetary gears for high torque capabilities**
- **Variable speed throttle control**
- **Built-in muffler with handle exhaust**
- **No. 3JD40 features keyless chuck**
- **No. 4Z239 features dead man side handle**

**Nos. 6Z657 and 5Z274 General-duty Ingersoll-Rand 1/2" drills feature:**

- **Double reduction planetary gears for high torque capabilities**
- **Variable speed throttle control**
- **Dead man side handle**
- **No. 5Z274 is reversible**

**Ingersoll-Rand industrial-duty production drills** feature double row ball bearings which assures precise concentric holes. Variable speed control allows slow speed starting and high speed for fast drilling. High/low grip allows for two hand positions. All drills include a Jacobs® chuck and key. All Ingersoll-Rand industrial drills feature Skinsulate® coating on drill housing.

- **No. 3Y531 is reversible**

**Note:** For drill bits, see index in back of catalog under "Drill Bits"

| Chuck Capacity (In.) | HP | Free Speed RPM | Avg. CFM* | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY 1/2" DRILLS** | | | | | | | | | | | | | |
| **1/2** | 0.75 | 500 | 4.0 | 90 | 1/4 | 3/8 | 7.50 | Universal Tool | UT2850R | **1V654** | $133.00 | **$106.50▲** | 3.3 |
| **GENERAL-DUTY 1/2" DRILLS** | | | | | | | | | | | | | |
| **1/2** | 0.75 | 500 | 6.0 | 90 | 1/4 | 3/8 | 8.00 | Dayton | — | **4Z542** | 329.65 | **240.00** | 4.0 |
| **1/2** | 0.75 | 800 | 4.0 | 90 | 1/4 | 3/8 | 7.62 | Dayton | — | **6ZC73** | 329.65 | **240.00** | 3.4 |
| **1/2** | 0.50 | 950 | 5.0 | 90 | 1/4 | 3/8 | 8.40 | Ingersoll-Rand | 728NA3 | **3Y518** | 235.00 | **188.25** | 4.4 |
| **1/2** | 0.50 | 950 | 5.0 | 90 | 1/4 | 3/8 | 8.40 | Ingersoll-Rand | 7806KC | **3JD40** | 264.95 | **211.75** | 4.4 |
| **1/2** | 0.50 | 950 | 5.0 | 90 | 1/4 | 3/8 | 8.40 | Ingersoll-Rand | 7806 | **4Z239** | 264.95 | **209.25** | 4.4 |
| **1/2** | 0.50 | 500 | 4.0 | 90 | 1/4 | 3/8 | 9.00 | Ingersoll-Rand | 7803 | **6Z567** | 319.95 | **236.75** | 4.4 |
| **1/2** | 0.50 | 400 | 4.0 | 90 | 1/4 | 3/8 | 8.70 | Ingersoll-Rand | 7803R | **5Z274** | 339.95 | **260.50** | 4.4 |
| **INDUSTRIAL-DUTY 1/2" DRILLS** | | | | | | | | | | | | | |
| **1/2** | 0.40 | 900 | 4.0 | 90 | 1/4 | 1/4 | 8.25 | Ingersoll-Rand | 5RANST8 | **3Y531** | 470.97 | **417.00** | 4.2 |
| **1/2** | 0.75 | 900 | 4.2 | 90 | 1/4 | 3/8 | 8.75 | Ingersoll-Rand | 7ANST8 | **3Y510** | 619.82 | **539.50** | 4.4 |
| **1/2** | 0.75 | 600 | 4.2 | 90 | 1/4 | 3/8 | 8.75 | Ingersoll-Rand | 7AQS8 | **3Y509** | 619.82 | **539.50** | 4.5 |

(*) Avg. CFM is based off of a 15 second run time. (▲) Net prices, not subject to discounts.

# ORBITAL SANDERS

**No. 4Z698. General-duty Dayton orbital sander** has comfortable palm grip and constant 3/16" orbit for extra fine finishes. Features a built-in regulator for variable speed operation and muffled rear exhaust. Positive locking abrasive clamps hold paper securely on foam pad. Sandpaper sheets must be cut to size.

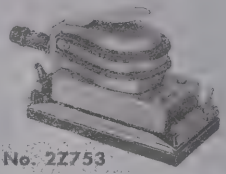
**No. 2Z753. General-duty Ingersoll-Rand orbital sander** has a compact, contoured palm-grip and balance bearing design which almost eliminates vibration, giving the operator comfortable use of the tool. Features an automatic release throttle lever with positive stop action, built-in regulator for speed control, positive locking clamps that hold paper securely, and foam rubber pad. Sandpaper sheets must be cut to size.

**Note: For sandpaper, see index in back of catalog under "Abrasives, Sandpaper Sheets."**

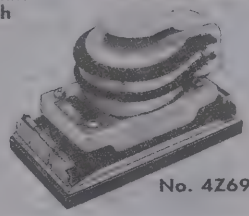
INGERSOLL-RAND PROFESSIONAL TOOLS

Dayton

Installation & Service Available
Contact Your Local Branch



No. 2Z753



No. 4Z698

## GENERAL-DUTY ORBITAL SANDERS

| Pad Size (In.) | Free Speed RPM | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3³/₈ x 6³/₄ | 6500 | 3 | 11 | 90 | 1/4 | 3/8 | 7⅞ | Dayton | — | 4Z698 | $153.30 | $93.00 | 4.9 |
| 3³/₈ x 6³/₄ | 8000 | 6 | 24 | 90 | 1/4 | 3/8 | 9 | Ingersoll-Rand | 312 | 2Z753 | 174.95 | 141.20 | 4.8 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

# RANDOM ORBITAL SANDERS

**Palm-grip industrial finishing sander** for wood, plastic, metal, and fiberglass surfaces.

**Ergonomic design** reduces user fatigue, and is 10% lighter than previous ARO orbital sander models. Contoured lever throttle with low pivot point requires little downward pressure and allows excellent throttling control for "feathering" action.

**Random orbit action** and extremely low vibration produce a high-quality, no-swirl finish.

**5-inch dia. vinyl face pad** uses PSA (pressure-sensitive adhesive) sanding discs. **Note: For discs see index in back of catalog under "Sandpaper, PSA Disc."**

**Directional muffler** keeps exhaust air away from the operator.

- Swirl-free finish
- "Glove-like" lever grip
- Effortless speed control
- Lightweight

ARO



No. 5Z345

**ARO 2-YEAR LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## INDUSTRIAL-DUTY RANDOM ORBITAL SANDER

| Pad Size (In.) | Free Speed RPM | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 10,000 | 4.6 | 18.5 | 90 | 1/4 | 3/8 | 4½ | ARO | 8446-B5C-V | 5Z345 | $255.27 | $230.00 | 2.8 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

# STRAIGHT-LINE SANDERS

**No. 4LG48. General-duty Dayton mini-straight line sander** features a small lightweight design for easier maneuverability.

- 1" stroke length
- Only accepts PSA backed paper
- Heat treated valve, piston, and gears

**No. 4Z697. General-duty Dayton straight-line** sander feather-edges smoothly and easily without swirl marks or surface etching.

- Dual piston design
- 15/16" stroke is virtually vibration-free for higher productivity and less operator fatigue
- Pad accepts both clip-on and adhesive backed paper

**No. 6Z565. General-duty Ingersoll-Rand straight-line sander** is excellent for smoothing down body filler or shaping and leveling large flat areas.

- Smooth power from dual piston design, helps prevent stalling
- 1" stroke length
- Reload easily with quick action paper clamps

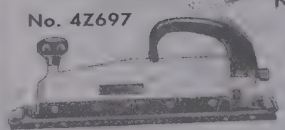
**Note: Both Nos. 4Z697 and 6Z565 use body file sanding sheets. See index in back of catalog under "Abrasives, Body File Sheets."**

Dayton



No. 4LG48

No. 4Z697



Installation & Service Available
Contact Your Local Branch

INGERSOLL-RAND PROFESSIONAL TOOLS

No. 6Z565



## GENERAL-DUTY STRAIGHT-LINE SANDERS

| Pad Size (In.) | Strokes Per Min. | Avg. CFM* | CFM† | Req. Press. (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2¾x12 | 2600 | 3 | 11 | 90 | 1/4 | 3/8 | 12 | Dayton | — | 4LG48 | $246.50 | $220.50 | 6.0 |
| 2¾x17½ | 2100 | 2 | 9 | 90 | 1/4 | 3/8 | 17 1/2 | Dayton | — | 4Z697 | 203.40 | 126.80 | 6.0 |
| 2¾x17½ | 3000 | 8 | 32 | 90 | 1/4 | 3/8 | 17 1/2 | I-R | 315 | 6Z565 | 169.93 | 139.75 | 7.0 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time

# SANDERS

## DUAL ACTION (DA) SANDERS




Dual action or DA sanders unique dual action motion pad produces swirl-free finishes, which makes it ideal for feather edging, metal preparation, and finishing work on body filler. The units can also be used in a rotary motion which is used for fast material removal. All DA sanders feature a built-in regulator to control speed for greater control when sanding different materials, and come with a 6" foam backed pad which accepts PSA (Pressure Sensitive Adhesive) sandpaper. **Note: For sandpaper, see index in back of the catalog under, "Sandpaper, PSA Disc." For replacement backing pads, see index in back of catalog under, "Sanders, Backing Pads."**

**No. 1V658. Light-duty Universal Tool DA sander** is ideal for home shop or light maintenance jobs.

**Nos. 6W258, and 4Z405 Dayton, and Nos. 6Z563, and 4Y362 Ingersoll-Rand general-duty DA sanders** are ideal for auto body shop use, and commercial applications.

**No. 6W258. General-duty Dayton palm DA sander** is a very sleek, compact and lightweight sander used to access corners and tight work areas.

### LIGHT-DUTY DUAL ACTION (DA) SANDERS

| Pad Size (In.) | Free Speed RPM | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 10,000 | 3 | 11 | 60-90 | 1/4 | 3/8 | 8½ | Universal Tool | UT2780 | **1V658** | $59.50 | **$47.50▲** | 4.6 |

### GENERAL-DUTY DUAL ACTION (DA) SANDERS

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 7,000 | 5 | 20 | 90 | 1/4 | 3/8 | 7½ | Dayton | — | **6W258** | 247.25 | **172.50** | 4.3 |
| 6 | 10,000 | 5 | 18 | 90 | 1/4 | 3/8 | 9 | Dayton | — | **4Z405** | 101.40 | **65.90** | 4.5 |
| 6 | 10,000 | 4 | 16 | 90 | 1/4 | 3/8 | 10 | Ingersoll-Rand | 311 | **6Z563** | 102.95 | **75.40** | 4.5 |
| 6 | 10,000 | 4 | 16 | 90 | 1/4 | 3/8 | 11 | Ingersoll-Rand | 310 | **4Y362** | 159.95 | **127.50** | 4.5 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time. (▲) Net prices, not subject to discounts.

## GEARED DUAL ACTION (DA) SANDERS




**No. 4LG49 Dayton, and No. 4Y368 Ingersoll-Rand general-duty geared DA sanders** are used for heavy material removal or sanding large surfaces, leaving a clean, swirl-free finish. Both units have a built-in power regulator that controls the speed of the sander, and have large 8" pad that accepts PSA (Pressure Sensitive Adhesive) sandpaper. **Note: For sandpaper, see index in back of the catalog under, "Sandpaper, PSA Disc."**

### GENERAL-DUTY GEARED DUAL ACTION (DA) SANDERS

| Pad Size (In.) | Free Speed RPM | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 950 | 4.5 | 18 | 90 | 1/4 | 3/8 | 12 | Dayton | — | **4LG49** | $250.75 | **$224.25** | 6.2 |
| 8 | 825 | 4.0 | 16 | 90 | 1/4 | 3/8 | 12 | Ingersoll-Rand | 328A | **4Y368** | 195.95 | **147.40** | 6.0 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

# CYCLONE™ SERIES RANDOM ORBITAL SANDERS



No. 3JF08



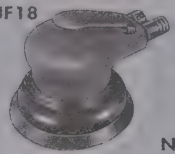
No. 3JF05

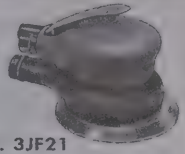
INGERSOLL-RAND PROFESSIONAL TOOLS



No. 3JF09

No. 3JF18





No. 3JF21

Installation & Service Available
Contact Your Local Branch

**Cyclone™ Series Random Orbital Sanders** have established new standards for ergonomic design, power, and speed in material removal applications. The Cyclone Series covers the full spectrum of applications in finishing metal, composite, and wood surfaces with three distinct versions: Cyclone Select Series, CycloVac™ Systems, and Cyclone Standard Series.

All models may be used in a totally dry air environment and are backed by a two-year limited warranty. Available with a full line of premium quality sanding pads and accessories.

- **Cyclone Select Series—lightweight, precision-molded composite housing with color-keyed grip rings that meet operator hand sizes. Available in non-vac and vac-ready**
- **CycloVac™ Systems—this version of the Select Series features a unique new self-generated vacuum-the most powerful and effective available**
- **Cyclone Standard Series—incorporate aluminum housings with textured comfort grips. Available in non-vac and vac-ready models**

## CYCLONE SELECT & CYCLOVAC SERIES SPECIFICATIONS

| Description | Shroud Style | Pad Size (In.) | Pad Face | Free Speed RPM | HP | Air Inlet NPT (In.) | CFM | Min. Hose Size (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non-Vacuum** | Short | 5 | Vinyl* | 12,000 | 0.2 | 1/4 | 15.8 | 3/8 | R025A-PSV | **3JF08** | $265.00 | **$238.75** | 1.9 |
| **Non-Vacuum** | Short | 6 | Vinyl* | 12,000 | 0.2 | 1/4 | 15.8 | 3/8 | R026A-PSV | **3JF13** | 270.00 | **243.50** | 2.0 |
| **Vacuum-Ready** | Short | 5 | Vinyl | 12,000 | 0.2 | 1/4 | 15.8 | 3/8 | R025A-CSV | **3JF06** | 285.00 | **257.75** | 1.9 |
| **Vacuum-Ready** | Long | 5 | Vinyl | 12,000 | 0.2 | 1/4 | 15.8 | 3/8 | R025A-CLV | **3JF05** | 285.00 | **257.75** | 2.0 |
| **Vacuum-Ready** | Long | 6 | Vinyl | 12,000 | 0.2 | 1/4 | 15.8 | 3/8 | R026A-CLV | **3JF10** | 289.99 | **262.00** | 2.0 |
| **CycloVac™** | Long | 5 | Vinyl | 12,000 | 0.2 | 1/4 | 15.8 | 3/8 | R025A-VLV | **3JF09** | 315.00 | **285.50** | 2.0 |
| **CycloVac™** | Long | 6 | Vinyl | 12,000 | 0.2 | 1/4 | 15.8 | 3/8 | R026A-VLV | **3JF14** | 320.00 | **288.75** | 2.0 |

## CYCLONE STANDARD SERIES SPECIFICATIONS

| Description | Pad Size (In.) | Pad Face | Free Speed RPM | HP | Air Inlet NPT (In.) | CFM‡ | Min. Hose Size (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non-Vac Palm Style** | 5 | Vinyl* | 10,000 | 0.3 | 1/4 | 18.5 | 3/8 | R035A-PSV | **3JF18** | $265.00 | **$238.50** | 2.8 |
| **Non-Vac Palm Style** | 6 | Vinyl* | 10,000 | 0.3 | 1/4 | 18.5 | 3/8 | R036A-PSV | **3JF24** | 270.00 | **243.25** | 2.8 |
| **Vac-Ready Palm Style** | 5 | Vinyl | 10,000 | 0.3 | 1/4 | 18.5 | 3/8 | R035A-CSV | **3JF15** | 285.00 | **257.75** | 2.9 |
| **Vac-Ready Palm Style** | 6 | Vinyl | 10,000 | 0.3 | 1/4 | 18.5 | 3/8 | R036A-CSV | **3JF21** | 289.99 | **262.25** | 2.9 |

## ACCESSORIES FOR CYCLONE RANDOM ORBITAL SANDERS

| Description | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Conversion Kit for 5" Select Series to Convert to CycloVac™ System (converts 3JF05 and 3JF08)** | IR49977 | **3JD86** | $111.96 | **$110.00** | 2.0 |
| **Conversion Kit for 6" Select Series to Convert to CycloVac™ System (converts 3JF10 and 3JF13)** | IR49978 | **3JD87** | 111.96 | **110.00** | 2.0 |
| **CycloVac™ Dust Collection Bag Cover** | IR49997 | **3JD31** | 20.79 | **20.04** | 0.2 |
| **CycloVac™ Disposable Vacuum Bags (20 pack)** | IR49988 | **3JD89** | 12.03 | **12.00** | 1.0 |
| **CycloVac™ Disposable Vacuum Bags (250 pack)** | IR49987 | **3JD88** | 123.55 | **123.00** | 6.0 |
| **Vacuum Adapter to convert Non-Vac Select Series to Vac-Ready Select Series** | IR49802 | **3JD81** | 7.78 | **7.75** | 1.0 |
| **6 Foot Vacuum Hose with Molded 1" I.D. Cuffs at Each End** | IR49982 | **3JD80** | 24.20 | **22.98** | 1.2 |

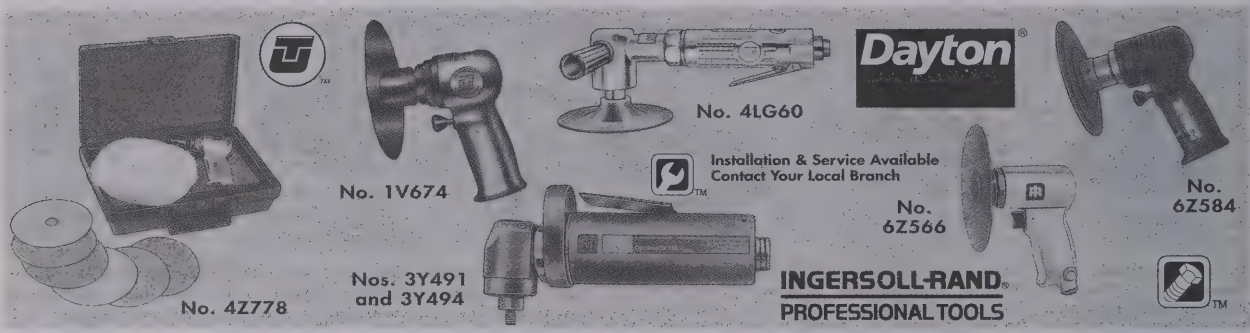
## PREMIUM QUALITY LOW-PROFILE PADS

| Pad Description | For Use With R/O Sander | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5" Duck Face** | Non-Vac Select Series | IR49877-1 | **3JD82** | $22.77 | **$22.75** | 0.5 |
| **5" Vinyl Face*** | Non-Vac Select Series | IR49878-1 | **3JD83** | 25.00 | **24.02** | 0.5 |
| **6" Vinyl Face*** | Non-Vac Select Series | IR49879-1 | **3JD84** | 58.23 | **51.50** | 0.5 |
| **6" Duck Face** | Non-Vac Select Series | IR49880-1 | **3JD85** | 56.98 | **50.35** | 0.5 |
| **5" Vinyl Face "Petal" Pattern** | CycloVac™, Select or Standard Vac-Ready | IR49096-1 | **3JD78** | 19.03 | **18.90** | 0.5 |
| **6" Vinyl Face "Petal" Pattern** | CycloVac™, Select or Standard Vac-Ready | 354-825-6A | **3JD30** | 21.10 | **20.25** | 0.5 |
| **5" Vinyl Face "Diamond" Pattern*** | Non-Vac Standard Series | IR49094-1 | **3JD76** | 28.95 | **27.40** | 0.5 |
| **5" Duck Face** | Non-Vac Standard Series | IR49095-1 | **3JD77** | 33.85 | **31.00** | 0.5 |
| **6" Vinyl Face "Diamond" Pattern*** | Non-Vac Standard Series | 354-825-6A | **3JD29** | 16.00 | **15.92** | 0.5 |
| **6" Duck Face** | Non-Vac Standard Series | IR49098-1 | **3JD79** | 32.03 | **30.65** | 0.5 |

(*) Non-vacuum sanders use PSA (Pressure Sensitive Adhesive) sandpaper. See index in back of catalog under Sandpaper, PSA Discs.(‡) CFM is based off of a 1 minute run time.

# SANDERS

## HIGH SPEED SANDERS




**High speed sanders** are good for light grinding of metals for preparation of body fillers, rust removal, or sanding large amounts of materials quickly. Light-duty and general-duty sanders all use fiber discs with 7/8" arbor hole X 4, 4½, and 5" diameter discs. **Note: For sanding disc, see index in back of catalog under "Abrasives, Fiber Discs."**

**No. 1V674. Light-duty Universal Tool high speed sander** features variable speed throttle, muffled exhaust, and includes 3, 4½, and 5½" diameter backing discs. Ideal for home shop and light maintenance use.

**No. 4Z778. Light-duty Universal Tool high speed sander kit** includes No. 1V674 sander, 3, 4½, and 5½" diameter backing discs, 6 abrasive discs in three popular grit sizes, 6" tie-on polish bonnet for light polishing, and carrying case.

**No. 6Z584. General-duty Dayton high speed sander** features an impact resistant nylon housing and handle, spring mounted trigger, and includes 3, 4½, and 5½" diameter backing pads.

**No. 4LG60. General-duty Dayton angle high speed sander** features a 1 HP motor, lever throttle with variable speed control, dead handle for increased operator control, rear exhaust, and 5" pad.

**No. 6Z566. General-duty Ingersoll-Rand high speed sander** features built-in power regulator and includes 3, 4½, and 5½" diameter backing pads.

**Nos. 3Y491 and 3Y494 industrial-duty Ingersoll-Rand Cyclone series high speed sanders.** Ergonomic design with a high profile flange that protects hand, along with low profile tilt throttle that provides protection from accidental start when set down. The exhaust direction can be switched easily from front to rear with no additional parts. Both units have a 1/4"-20 spindle. No. 3Y491 is rated up to a 2" sanding pad, and works with No. 3JD96 abrasive kit. No. 3Y494 is rated up to a 3" sanding pad, and works with No. 3JD97 abrasive kit.

Both units also work with Type-3 power lock backing pads and discs. **Note: See index in back of catalog under "Abrasives, Power-Lock Discs." For BearTex® Speed-Lok blending discs and backing pads, see index in back of catalog under "Abrasives, Bear-Tex Discs."**

| Pad Size x Arbor Size (In.) | Free Speed RPM | Avg. CFM † | CFM ‡ | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY HIGH SPEED SANDERS** | | | | | | | | | | | | | |
| **3, 4½,5½ x 7/8*** | 18,000 | 5.0 | 20 | 90 | 1/4 | 3/8 | 6½ | Universal Tool | UT2226 | **1V674** | $42.50 | **$34.00▲** | 3.0 |
| **3, 4½, 5½ x7/8*** | 18,000 | 5.0 | 20 | 90 | 1/4 | 3/8 | 6½ | Universal Tool | UT2226K | **4Z778** | 81.15 | **59.90▲** | 4.5 |
| **GENERAL-DUTY HIGH SPEED SANDERS** | | | | | | | | | | | | | |
| **3, 4½, 5½ x 7/8*** | 20,000 | 6.0 | 22 | 90 | 1/4 | 3/8 | 5 | Dayton | — | **6Z584** | 96.60 | **53.00** | 2.2 |
| **5 x 7/8*** | 7,000 | 6.0 | 24 | 90 | 1/4 | 3/8 | 9⅝ | Dayton | — | **4LG60** | 260.00 | **245.00** | 4.2 |
| **5 x 7/8*** | 18,000 | 6.0 | 25 | 90 | 1/4 | 3/8 | 4⅜ | Ingersoll-Rand | 317 | **6Z566** | 114.95 | **85.35** | 2.8 |
| **INDUSTRIAL-DUTY HIGH SPEED SANDERS** | | | | | | | | | | | | | |
| **2 x 1/4 - 20#** | 20,000 | 3.5 | 14 | 90 | 1/4 | 3/8 | 6 1/16 | Ingersoll-Rand | CA200RS4 | **3Y491** | 384.90 | **343.00** | 2.2 |
| **3 x 1/4 - 20#** | 12,000 | 3.0 | 12 | 90 | 1/4 | 3/8 | 6 1/16 | Ingersoll-Rand | CA120RS4 | **3Y494** | 384.90 | **343.00** | 2.0 |

(*) For use with 7/8" Bore Sandpaper or 7/8" Bore Sanding Discs. (#) Spindle size. (†) Avg. CFM is based off of a 15 second run time. (‡) CFM is based off of a 1 minute run time.
(▲) Net prices not subject to discounts.

## POLISHERS/BUFFERS KITS




**No. 3JD96 2" Pad Abrasive Kit** used on sander No. 3Y491 or any 25,000 RPM 1/4" collet grinder, includes: 1-2" medium 25,000 RPM Roloc™ Disc Pad, 1-1/4"-20 threaded shaft, 3 each of 36YF, 50YF, and 80YF Regalite™ Polycut™ RB Cloth 777F Roloc™ 2" disc, 2 each of course, medium, and very fine Scotch-Brite™ Roloc™ surface conditioning 2" discs, and 1 Roloc™ Color/Grade chart.

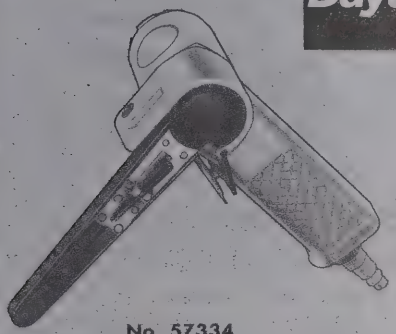
**No. 3JD96.** Shpg. wt. 0.5 lbs. List $25.69. Each ..... **$25.25**

**No. 3JD97 3" Pad Abrasive Kit** used on sander No. 3Y494 includes: 1-3" medium 15,000 RPM Roloc™ Disc Pad, 1-1/4"-20 threaded shaft, 3 each of 36YF, 56YF, and 66YF Regalite™ Polycut™ RB Cloth 777F Roloc™ 3" disc, 2 each of course, medium, and very fine Scotch-Brite™ Roloc™ conditioning 3" discs, and 1 Roloc™ Color/Grade chart.

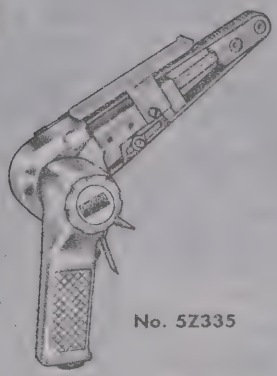
**No. 3JD97.** Shpg. wt. 0.5 lbs. List $35.90. Each ..... **$35.30**

# BELT SANDERS

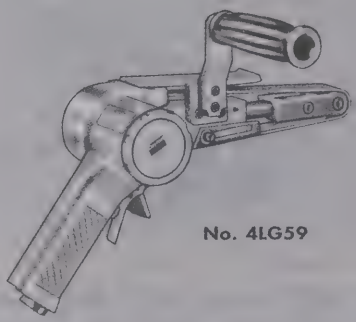
Dayton®



No. 5Z334



No. 5Z335

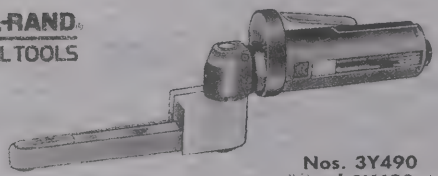


No. 4LG59

Replacement Parts Available
1-800-323-0620™

Installation & Service Available
Contact Your Local Branch™

INGERSOLL-RAND®
PROFESSIONAL TOOLS



Nos. 3Y490 and 3Y493

**Nos. 5Z334, 5Z335, and 4LG59. Industrial-duty Dayton belt sanders** all feature 180° rotating sanding head. No. 5Z335 also includes top hand pad. No. 4LG59 includes top hand pad and side handle. Replacement sanding belts are listed at bottom of page.

**Nos. 3Y493 and 3Y490. Industrial-duty Ingersoll-Rand Cyclone series belt sanders** feature .35 HP motor, an adjustable 180° rotating sanding head, high profile flange, low profile tilt throttle to provide protection from accidental starts when set down, comfortable grip, and adjustable front/rear exhaust.

**Note: Replacement sanding belts must be ordered through Grainger Parts Operations.**

## INDUSTRIAL-DUTY BELT SANDERS

| Belt Size W x L (In.) | Free Speed RPM | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/8 x 13** | 16,000 | 5.0 | 19 | 90 | 1/4 | 3/8 | 11 | Dayton | — | **5Z334** | $346.15 | **$252.25** | 2.0 |
| **3/4 x 20½** | 16,000 | 5.0 | 19 | 90 | 1/4 | 3/8 | 14¾ | Dayton | — | **5Z335** | 469.75 | **334.00** | 3.0 |
| **13/16 X 21¼** | 12,000 | 5.0 | 19 | 90 | 1/4 | 3/8 | 14½ | Dayton | — | **4LG59** | 487.00 | **458.00** | 5.0 |
| **1/2 x 12** | 12,000 | 3.0 | 12 | 90 | 1/4 | 3/8 | 10¾ | Ingersoll Rand | CA120RS812 | **3Y493** | 554.82 | **499.25** | 2.5 |
| **1/2 x 12** | 20,000 | 3.2 | 14 | 90 | 1/4 | 3/8 | 10¾ | Ingersoll-Rand | CA200RS812 | **3Y490** | 554.82 | **499.25** | 2.5 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

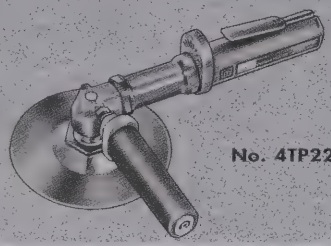
# SANDERS

## ANGLE SANDERS

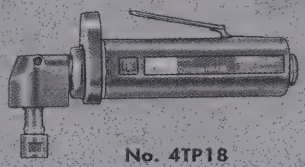
INGERSOLL-RAND® PROFESSIONAL TOOLS

New

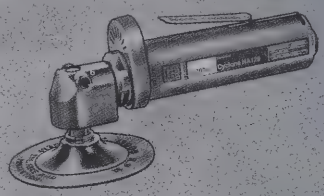
Installation & Service Available
Contact Your Local Branch™



No. 4TP22



No. 4TP18



No. 4TP15

- 1.0 HP motor
- Nos. 4TP15 through 4TP21 feature compact size
- Nos. 4TP22 through 4TP25 extended length tools provide extra reach
- Back-up pads not included

Industrial-duty Ingersoll-Rand Cyclofinish angle sanders. Ergonomic design with a high profile flange that protects hand, along with low profile tilt throttle that provides protection from accidental start when set down. All units also have an ergonomically designed side handle with foam handle that swivels and adjusts to many positions. The exhaust direction can be switched easily from the front to the rear with no additional parts. Units feature lockout nut and wrench for 5 or 7" backing pads.

Most sanders have 5/8"-11 spindle. Nos. 4TP18 and 4TP20 have 1/4" collet. **Note: for replacement sanding discs see index in back of catalog under "Abrasives, Fiber Disc."**

| Pad Size x Arbor Size (In.) | Free Speed RPM | Avg. CFM* | CFM† | Required Pressure PSI | Air Inlet NPT (In.) | Min. Hose Size (In.) | Length (In.) | Ingersoll-Rand Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 x 5/8-11 | 10,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | HA100RS10 | 4TP15 | $625.00 | $587.00 | 3.3 |
| 5 x 5/8-11 | 12,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | HA120RS10 | 4TP16 | 625.00 | 587.00 | 2.6 |
| 7 x 5/8-11 | 4,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | HA40RS10 | 4TP17 | 625.00 | 587.00 | 2.6 |
| 1/4 Collet | 4,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | HA40RSG4 | 4TP18 | 625.00 | 587.00 | 2.6 |
| 7 x 5/8-11 | 6,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | HA60RS10 | 4TP19 | 625.00 | 587.00 | 2.6 |
| 1/4 Collet | 6,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | HA60RSG4 | 4TP20 | 625.00 | 587.00 | 2.6 |
| 7 x 5/8-11 | 8,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | HA80RS10 | 4TP21 | 625.00 | 587.00 | 2.6 |
| 5 x 5/8-11 | 10,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 11 3/16 | HXA100RS10 | 4TP22 | 655.00 | 618.00 | 3.3 |
| 5 x 5/8-11 | 12,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 11 3/16 | HXA120RS10 | 4TP23 | 655.00 | 618.00 | 3.3 |
| 7 x 5/8-11 | 6,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 11 3/16 | HXA60RS10 | 4TP24 | 655.00 | 618.00 | 3.3 |
| 7 x 5/8-11 | 8,000 | 10.8 | 43 | 90 | 1/4 | 3/8 | 11 3/16 | HXA80RS10 | 4TP25 | 655.00 | 618.00 | 3.3 |

(*) Avg. CFM is based of a 15 second runtime. (†) CFM is based of a 1 minute run time.

VISIT THE GRAINGER WEB SITE
TO PLACE YOUR ORDER!

**http://www.grainger.com**

Link up with Grainger's Web site at and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG
TO REVIEW THOUSANDS OF PRODUCTS!

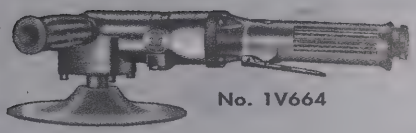
Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road.

Contact your local branch for more information.

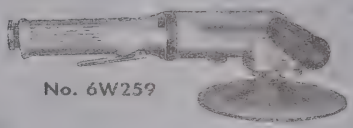
## 7" PAD SANDER

Dayton

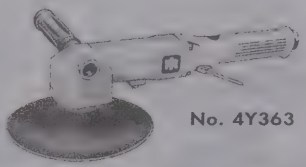
INGERSOLL-RAND PROFESSIONAL TOOLS



No. 1V664



No. 6W259



No. 4Y363

Installation & Service Available
Contact Your Local Branch

**No. 1V664. Light-duty Universal Tool angle sander** is an economical choice for home shop, light maintenance use. Tool features 1 HP motor, built-in regulator for speed control, and 7" backing pad.

**No. 6W259. General-duty Dayton angle sander** features 1 HP motor, ball bearing construction, built-in regulator for speed control, side handle that fits in either left or right side, lockout nut and wrench, and 7" backing pad.

**No. 4Y363. General-duty Ingersoll-Rand angle sander** features a 1 HP motor, ball bearing construction, side handle that fits in either left or right side, lockout nut and wrench, and 7" backing pad.backing pad.

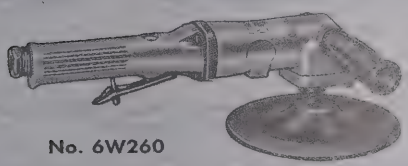
All sanders have 5/8"-11 spindle. All angle sanders use a 7" fiber sanding disc with a 7/8" arbor hole. **Note: See index in back of catalog under "Abrasives, Fiber Disc."**

| Pad Size x Arbor Size (In.) | Free Speed RPM | Avg. CFM* | CFM† | Required Pressure PSI | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY ANGLE SANDER, 7" PAD** | | | | | | | | | | | | | |
| **7 x 7/8** | 5000 | 6.0 | 22 | 90 | 1/4 | 3/8 | 12⅜ | Universal Tool | UT2730 | **1V664** | $157.50 | **$126.00▲** | 4.8 |
| **LIGHT-DUTY ANGLE SANDER, 7" PAD** | | | | | | | | | | | | | |
| **7 x 7/8** | 4500 | 6.0 | 22 | 90 | 1/4 | 3/8 | 12⅜ | Dayton | — | **6W259** | 313.25 | **211.75** | 5.9 |
| **7 x 7/8** | 5000 | 8.0 | 32 | 90 | 1/4 | 3/8 | 12⅞ | Ingersoll Rand | 313 | **4Y363** | 309.95 | **225.50** | 5.0 |

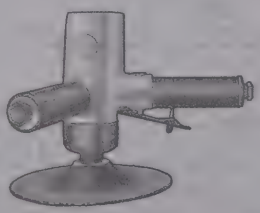
(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time. ▲ Net prices, not subject to discounts.

## POLISHERS/BUFFERS

Dayton



No. 6W260



No. 6W261

Installation & Service Available
Contact Your Local Branch

Nos. 6W260 angle and 6W261 vertical general-duty Dayton polisher/buffers.Feature a built-in regulator for speed control, lever throttle with safety lock-out lever, left-right side handle, rear exhaust, and includes an 8" polishing bonnet. Note: For replacement pads, see index in back of catalog under "Polishers, Pads."

| Pad Size x Spindle Size (In.) | Free Speed RPM | Avg. CFM* | CFM† | Required Pressure PSI | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY POLISHERS/BUFFERS** | | | | | | | | | | | | | |
| **8 x 5/8-11** | 2400 | 6.0 | 22 | 90 | 3/8 | 12⅞ | 12⅞ | Dayton | — | **6W260** | $358.50 | **$251.00** | 5.7 |
| **8 x 5/8-11** | 2500 | 6.0 | 24 | 90 | 3/8 | 7½ | 7½ | Dayton | — | **6W261** | 373.50 | **261.25** | 6.1 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

# SANDERS

## VERTICAL SANDERS




**No. 4Z776. General-duty Dayton vertical sander** features a 1 HP motor, heavy-duty planetary gearing, variable speed throttle control with safety lock-out lever which prevents accidental starts, lockout nut and wrench, and 7" backing pad.

**No 4Z624. General-duty Ingersoll-Rand vertical sander** features a 1 HP motor, heavy-duty planetary gearing, variable speed throttle control, lockout nut and wrench, and 7" backing pad.

**Nos. 3Y504, 3Y502, 4TP10, and 4TP11. Industrial-duty Ingersoll-Rand pro-series sanders** feature, spring loaded locking lever designed to prevent accidental throttle operation, and 7" backing pad. No. 3Y502 features a patented stainless steel motor controller that regulates airflow into motor to prevent over speeding. No. 3Y504 has a .8 HP motor. No. 3Y502 has a 2 HP motor. No. 4TP10 has a 2.5 HP motor. No. 4TP11 has a 3.5 HP motor.

All sanders use fiber discs with 7/8" arbor hole x 7" diameter disc. **Note: For sanding disc, see index in back of catalog under "Abrasives, Fibre Discs."**

| Pad Size x Arbor (In.) | Free Speed RPM | Avg. CFM* | CFM† | Required Pressure, (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY VERTICAL SANDERS** | | | | | | | | | | | | | | |
| **7 x 7/8** | 6000 | 6.0 | 24 | 90 | 1/4 | 3/8 | 7½ | Dayton | — | | **4Z776** | $350.75 | **$200.00** | 5.6 |
| **7 x 7/8** | 5000 | 6.0 | 24 | 90 | 1/4 | 3/8 | 8 | Ingersoll-Rand | 319 | | **4Z624** | 309.95 | **229.75** | 5.3 |
| **INDUSTRIAL-DUTY VERTICAL SANDERS** | | | | | | | | | | | | | | |
| **7 x 7/8** | 6000 | 5.5 | 22 | 90 | 1/4 | 3/8 | 6¾ | Ingersoll-Rand | 7S60L | | **3Y504** | 466.86 | **412.00** | 6.5 |
| **7 x 7/8** | 6000 | 15.2 | 61 | 90 | 1/2 | 3/4 | 6 | Ingersoll-Rand | 88S60W107 | | **3Y502** | 797.74 | **700.50** | 9.8 |
| **9 x 7/8** | 4500 | 17.5 | 70 | 90 | 1/2 | 3/4 | 6¼ | Ingersoll-Rand | 99S45W109 | ***New*** | **4TP10** | 895.00 | **841.00** | 9.5 |
| **7 x 7/8** | 6000 | 21 | 84 | 90 | 1/2 | 3/4 | 6¼ | Ingersoll-Rand | 99S60W107 | ***New*** | **4TP11** | 895.00 | **841.00** | 9.5 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

## FIBRE ABRASIVE DISCS

**Norzon® F826 Fibre Discs** feature premium, self-sharpening zirconia alumina abrasive for consistently fast cut rates. For heavy stock removal; especially productive on stainless steel. **Note: For full line of fibre discs, see index in back of catalog under, "Abrasives, Fiber Discs."**

### FIBRE DISCS SPECIFICATIONS AND ORDERING DATA

| Diameter x Hole (In.) | Grit | Description | Norton Model | Stock No. ❸ | Each | Price Each In Pkg. Qty. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **4½ x 7/8** | 36 | Norzon (Boxed) | 662611-38456 | **2D642** | **$1.72** | **$1.54** | 25 | 0.1 |
| | 50 | Norzon (Boxed) | 662611-38454 | **2D641** | **1.54** | **1.40** | 25 | 0.1 |
| | 60 | Norzon (Boxed) | 662611-38453 | **2D640** | **1.47** | **1.33** | 25 | 0.1 |
| | 80 | Norzon (Boxed) | 662611-38452 | **2D639** | **1.33** | **1.18** | 25 | 0.1 |
| **5 x 7/8** | 24 | Norzon (Boxed) | 662611-38563 | **3UN25** | **2.04** | **1.84** | 25 | 0.1 |
| | 36 | Norzon (Boxed) | 662611-38562 | **2D645** | **1.99** | **1.80** | 25 | 0.1 |
| | 50 | Norzon (Boxed) | 662611-38561 | **2D644** | **1.80** | **1.62** | 25 | 0.1 |
| | 60 | Norzon (Boxed) | 662611-38601 | **2D656** | **1.70** | **1.52** | 25 | 0.1 |
| | 80 | Norzon (Boxed) | 662611-38600 | **2D655** | **1.53** | **1.38** | 25 | 0.1 |
| **7 x 7/8** | 24 | Norzon (Boxed) | 662611-38594 | **2D654** | **2.50** | **2.24** | 25 | 0.2 |
| | 36 | Norzon (Boxed) | 662611-38593 | **2D653** | **2.45** | **2.20** | 25 | 0.1 |
| | 50 | Norzon (Boxed) | 662611-38592 | **2D652** | **2.19** | **1.97** | 25 | 0.1 |
| | 60 | Norzon (Boxed) | 662611-38591 | **2D651** | **2.09** | **1.86** | 25 | 0.1 |
| | 80 | Norzon (Boxed) | 662611-38590 | **2D650** | **1.88** | **1.69** | 25 | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

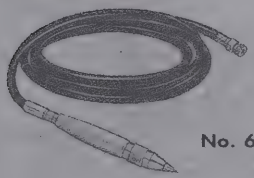
# GRINDERS

## ENGRAVING PENS

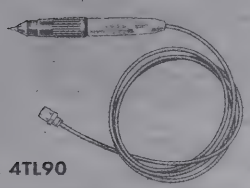
Dayton® New

INGERSOLL-RAND PROFESSIONAL TOOLS

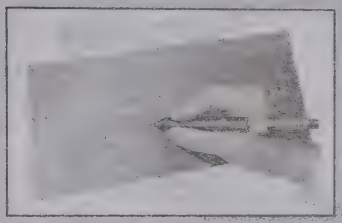
Installation & Service Availa
Contact Your Local Branch



No. 6ZC75



No. 4TL90



Nos. 3Y479 and 3Y478

**No. 6ZC75. General-duty Dayton engraving pen** features long lasting carbide tip, variable speed regulator for precise control, and 5½ ft. air hose. Suitable for non-ferrous metals, tool steel, glass, ceramic, plastic, etc.

**Nos. 3Y479 and 3Y478. Industrial-duty Ingersoll-Rand engraving pens** feature zoom throttle which increases operator control while the variable speed allows the tool to be used on a variety of materials, from glass to steel. Steel housing dampens vibration, increasing operator comfort. No. 3Y478 kit includes flexible hose, three assorted styluses, and molded plastic case.

**No. 4TL90. Recoilless air scribe pen** features low vibration for precise work and reduces operator fatigue. Durable steel housing has a carbide-tipped stylus for long life and is lubrication free. Roll throttle allows precise power output adjustment. Excellent for metals, glass, ceramic and plastics.

| Blows Per Min. | CFM* | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY ENGRAVING PEN** | | | | | | | | | | | |
| **9000** | 2.0 | 60 | 1/4 | 1/8 | 6⅝ | Dayton | — | **6ZC75** | $230.00 | **$188.50** | 0.7 |
| **INDUSTRIAL-DUTY ENGRAVING PENS** | | | | | | | | | | | |
| **18,750** | 2.5 | 90 | 1/8 | 5/16 | 5⅝ | Ingersoll-Rand | EP50 | **3Y479** | 415.93 | **305.75** | 0.6 |
| **18,750** | 2.5 | 90 | 1/8 | 5/16 | 10 | Ingersoll-Rand | EP50K | **3Y478** | 501.90 | **374.75** | 1.8 |
| **21,000** | 1 | 90 | 1/4 | 1/4 | 5½ | Dayton | — | ***New*4TL90** | 322.70 | **230.50** | 1.5 |

(*) CFM is based off of a 1 minute run time.

## PENCIL GRINDERS

ARO®



No. 5Z344 Rear Exhaust



No. 5Z343 Front Exhaust

- Large, precision ball bearings
- Extremely flexible air hose
- Variable speed control
- Long service life
- Lightweight

**ARO 1-YEAR LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**High-speed pencil grinders** are designed for precision grinding applications, and provide excellent finishing performance with carbide tooling. For carbide cutting tools see Index.

**Trim profile and lightweight design** for excellent maneuverability and reduced operator fatigue. Feature 1/8" capacity collect. Both units can use either carbide burrs or mounted grinding wheels. **Note: For carbide burrs, see index in the back of catalog under "Carbide, Burrs," or for mounted grinding wheels, under "Grinding, Mounted Points."** Note: Make sure that the wheel selected has the proper RPM rating and spindle size.

**Rotary vane motors** for smooth, powerful performance. Run quickly and quietly (60,000 RPM at only 77 dB), to maintain a comfortable work environment.

**No. 5Z344 rear exhaust model** features an overhose to channel exhaust away from the work and the operator. Unique plastic sleeve keeps housing warm to the touch. Large precision ball bearing supports the front spindle assembly. Weighs just 2.6 oz.—the lightest tool in its class.

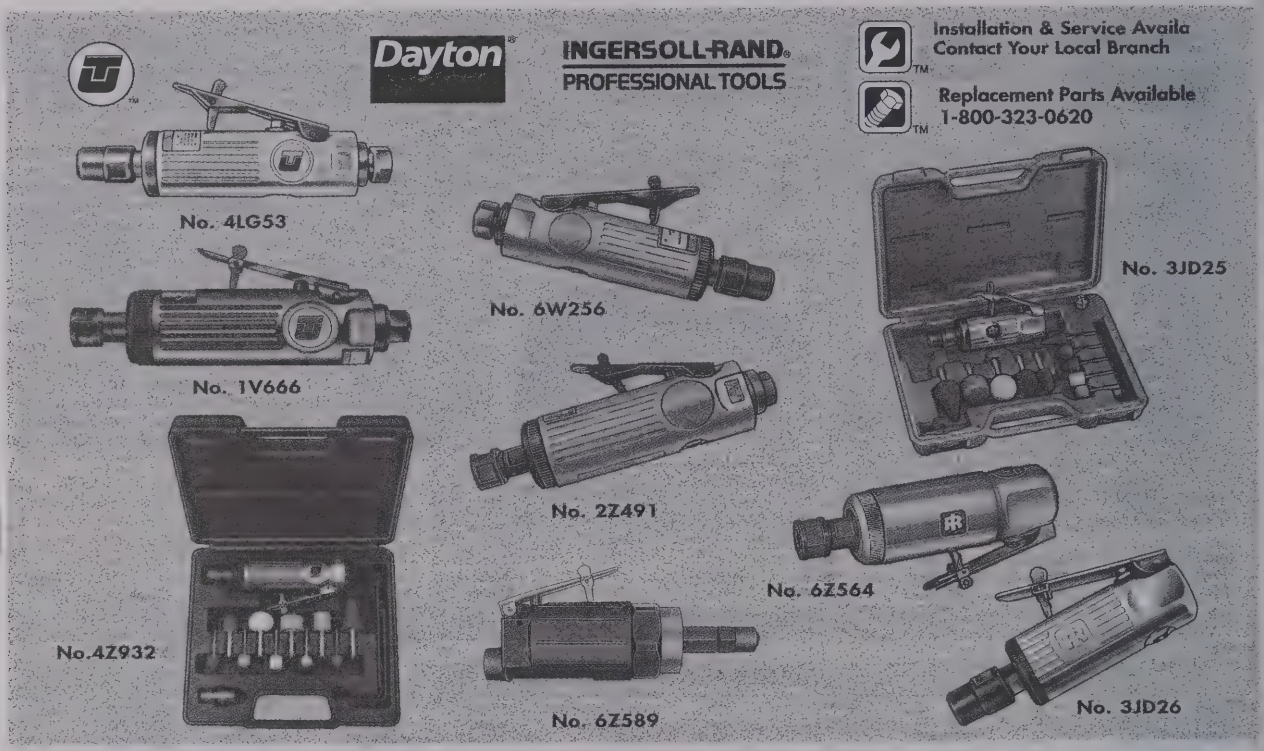
**No. 5Z343 front exhaust model** keeps work surface free of chips and dust for clear visibility. Grooved housing offers firm grip and control. Steel housing provides rugged durability.

**INDUSTRIAL-DUTY PENCIL GRINDERS**

| Exhaust Type | Throttle | CFM* | Tool Length (In.) | Whip Hose ID Size (In. x Ft.) | Hose (F) NPT (In.) | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Rear** | Twist | 7.0 | 5.3 | 7/32 x 6 | 1/4 | GH01LA-600-1 | **5Z344** | $311.90 | **$283.50** | 1.0 |
| **Front** | Slide | 6.0 | 5.6 | 5/16 x 7 | 1/4 | 7078 | **5Z343** | 284.02 | **259.75** | 1.0 |

(*) CFM is based off of a 1 minute run time.

# DIE GRINDERS




**No. 4LG53. Light-duty Universal Tool mini-die grinder** is ideal for home shop or light maintenance use. Unit features variable speed lever throttle control, and a lock-off throttle that prevents accidental start-ups.

**Nos. 1V666 and 4Z932. Light-duty Universal Tool die grinders** are ideal for home shop or light maintenance use. No. 1V666 has a lock-off throttle that prevents accidental start-ups. No. 4Z932 die grinder kit includes the No. 1V666 grinder, 1/4 and 1/8" steel shank grinding stones, 1/8" collet adapter, and plastic carrying case.

**Nos. 3JD26 and 3JD25. Light-duty Ingersoll-Rand mini-die grinders** feature a 1/4 HP motor, ball bearing construction, self-locking lever throttle, compact design and includes collet wrench. 3JD25 die grinder kit includes a 3JD26 die grinder, an assortment of 1/4 and 1/8" grinding stones, 1/8" collet adapter, and plastic carrying case.

**No. 6W256. General-duty Dayton mini-die grinder** features a 1/3 HP motor, variable speed self-locking throttle, ball and needle bearing construction, and light weight compact body design.

**No. 2Z491. General-duty Dayton die grinder** features a 1/2 HP four vane motor, ball bearing construction, and variable speed lock-off throttle.

**No. 6Z589. General-duty Dayton die grinder** feature a lightweight and durable nylon housing, 1/2 HP four vane motor, ball bearing construction, and variable speed lock-off throttle.

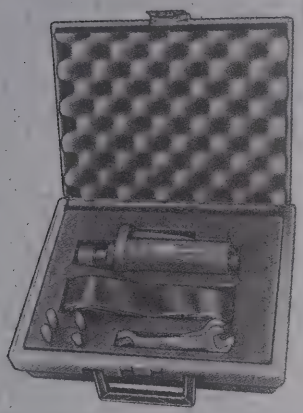
**No. 6Z564. General-duty Ingersoll-Rand die grinder** features a 1/3 HP motor, ball bearing construction, variable speed self-locking throttle, and includes two collet wrenches.

All units can use either carbide burrs or mounted grinding wheels. **Note: For carbide burrs, see index in the back of catalog under "Carbide, Burrs," or for mounted grinding wheels, under "Grinding, Mounted Points."** Note: make sure that the wheel selected has the proper RPM rating and spindle size.

| Free Speed RPM | HP | Exhaust | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY DIE GRINDERS** | | | | | | | | | | | | | | |
| **25,000** | 1/3 | Rear | 4 | 14 | 90 | 1/4 | 3/8 | 6 | Universal Tool | UT2710 | **4LG53** | $61.75 | **$55.10▲** | 1.0 |
| **20,000** | 1/2 | Rear | 6 | 22 | 90 | 1/4 | 3/8 | 6¾ | Universal Tool | UT2720 | **1V666** | 79.50 | **63.50▲** | 1.8 |
| **20,000** | 1/2 | Rear | 6 | 22 | 90 | 1/4 | 3/8 | 6¾ | Universal Tool | UT2720K | **4Z932** | 119.60 | **79.95▲** | 3.5 |
| **27,000** | 1/4 | Front | 3 | 12 | 90 | 1/4 | 3/8 | 4¾ | Ingersoll-Rand | 307A | **3JD26** | 79.94 | **61.00** | 1.1 |
| **27,000** | 1/4 | Front | 3 | 12 | 90 | 1/4 | 3/8 | 8 | Ingersoll-Rand | 307-K | **3JD25** | 104.95 | **79.75** | 1.9 |
| **GENERAL-DUTY DIE GRINDERS** | | | | | | | | | | | | | | |
| **25,000** | 1/3 | Rear | 4 | 14 | 90 | 1/4 | 3/8 | 5½ | Dayton | — | **6W256** | 185.50 | **129.75** | 1.8 |
| **25,000** | 1/2 | Rear | 6 | 22 | 90 | 1/4 | 3/8 | 6½ | Dayton | — | **2Z491** | 180.50 | **90.30** | 1.8 |
| **20,000** | 1/2 | Front | 6 | 22 | 90 | 1/4 | 3/8 | 6½ | Dayton | — | **6Z589** | 96.60 | **62.15** | 1.6 |
| **25,000** | 1/3 | Front | 3 | 12 | 90 | 1/4 | 3/8 | 5⅝ | Ingersoll-Rand | 308 | **6Z564** | 144.95 | **103.65** | 1.7 |

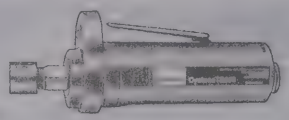
(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time. (▲) Net prices, not subject to discounts.

# DIE GRINDERS

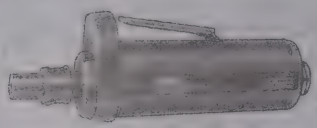


INGERSOLL-RAND
PROFESSIONAL TOOLS

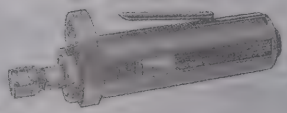
- All kits include an exhaust kit, 4 carbide burs, and plastic carrying case
- No. 3Y487 includes No. 3Y488 grinder
- No. 3Y449 includes No. 3Y450 grinder
- No. 3Y463 includes No. 3Y464 grinder



Nos. 3Y485 thru 3Y489



Nos. 3Y485 thru 3Y489



Nos. 3Y463 and 3Y464

No. 3Y487

Installation & Service Available
Contact Your Local Branch

Replacement Parts Available
1-800-323-0620

**Industrial-duty Ingersoll-Rand Cyclone die grinders** have innovated ergonomic design such as the unique D-shaped housing that makes it easier to grip and operate the tool. Advanced composites keep the housing from becoming cold to the touch, and reduces vibration so effectively, you can work steadily with less hand fatigue.

The unique high profile safety flange not only protects the operator's hand from the work, but also protects the throttle from accidental starts. Cyclone housings feature one-piece construction, with advanced composites molded over a steel liner. The patented flow ring offers the flexibility of front or rear exhaust without additional parts.

All grinders come standard with a 1/4" Erickson collet, and includes a collet body wrench and collet nut wrench.

**.35 HP grinders** are compact tools used for light material removal, cleaning rough castings, de-burring parts after machining, weld-cleaning, and other finishing tasks.

**.70 HP grinders** are for general finishing work and heavier material removal. Used for grinding, cleaning, and polishing.

**1 HP grinders** are for heavy material removal.

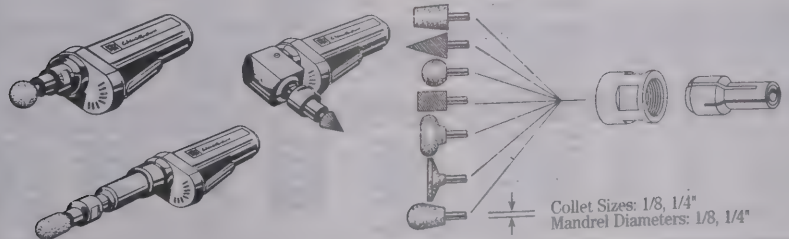
All units can use either carbide burrs or mounted grinding wheels. **Note: For carbide burrs, see index in the back of catalog under, "Carbide, Burrs," or for mounted grinding wheels, under "Grinding, Mounted Points."** Note: Make sure that the wheel selected has the proper RPM rating and spindle size.

## INDUSTRIAL-DUTY DIE GRINDERS

| Free Speed RPM | HP | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20,000** | .35 | 2.3 | 11 | 90 | 1/4 | 3/8 | 6 3/16 | CD200RG4 | **3Y489** | $289.90 | **$259.50** | 1.6 |
| **25,000** | .35 | 3 | 12 | 90 | 1/4 | 3/8 | 6 3/16 | CD250RG4 | **3Y488** | 289.90 | **259.50** | 1.6 |
| **25,000** | .35 | 3 | 12 | 90 | 1/4 | 3/8 | 6 3/16 | CD250RG4K | **3Y487** | 389.88 | **350.50** | 4.2 |
| **30,000** | .35 | 2.5 | 14 | 90 | 1/4 | 3/8 | 6 3/16 | CD300RG4 | **3Y486** | 289.90 | **259.50** | 2.0 |
| **30,000** | .35 | 2.75 | 15 | 90 | 1/4 | 3/8 | 6 3/16 | CD350RG4 | **3Y485** | 289.90 | **259.50** | 3.0 |
| **12,000** | .70 | 5 | 20 | 90 | 1/4 | 3/8 | 7 3/4 | TD120RG4 | **3Y453** | 370.08 | **329.25** | 2.5 |
| **18,000** | .70 | 5.75 | 23 | 90 | 1/4 | 3/8 | 7 3/4 | TD180RG4 | **3Y452** | 370.08 | **329.25** | 2.5 |
| **20,000** | .70 | 6 | 24 | 90 | 1/4 | 3/8 | 7 3/4 | TD200RG4 | **3Y451** | 370.08 | **329.25** | 2.3 |
| **25,000** | .70 | 6.5 | 26 | 90 | 1/4 | 3/8 | 7 3/4 | TD250RG4 | **3Y450** | 370.08 | **329.25** | 3.0 |
| **25,000** | .70 | 6.5 | 26 | 90 | 1/4 | 3/8 | 7 3/4 | TD250RG4K | **3Y449** | 469.93 | **422.75** | 5.0 |
| **18,000** | 1.00 | 10.5 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | HD180RG4 | **3Y464** | 434.98 | **379.00** | 3.4 |
| **18,000** | 1.00 | 10.5 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | HD180RG4K | **3Y463** | 529.82 | **476.25** | 5.4 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based of of a 1 minute run time.

## COLLET TYPE GRINDER TERMINOLOGY




**Grinder Safety Tips:** Always use eye protection. Use only recommended equipment and adapters. Inspect grinding wheels closely for any imperfections or damage such as cracks, pitting, or broken edges. Always make sure that the tool speed does not exceed the maximum operating speed marked on the wheel or wheel package. Use correct size guards, flanges, blotters, spindles, and mounting practices to ensure operator safety.

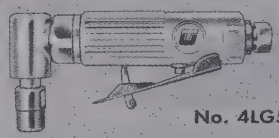
# GRINDERS

## RIGHT ANGLE DIE GRINDERS

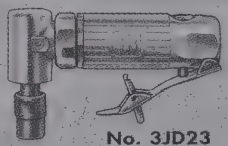
INGERSOLL-RAND PROFESSIONAL TOOLS

Replacement Parts Available 1-800-323-0620

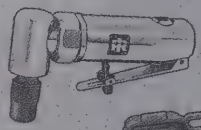
Installation & Service Availa Contact Your Local Branch



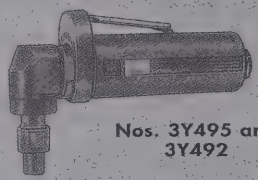
No. 4LG54



No. 3JD23



No. 6Z562

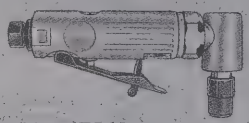


Nos. 3Y495 and 3Y492

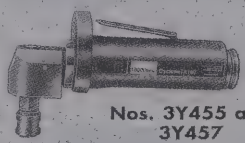


No. 3JD24

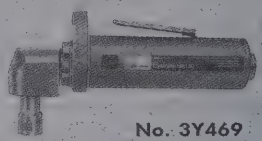
Dayton



No. 4Z541



Nos. 3Y455 and 3Y457



No. 3Y469

**No. 4LG54. Light-duty Universal Tool** mini-right angle die grinder is ideal for home shop or light maintenance use. Unit features variable speed lever throttle control and a lock-off throttle that prevents accidental start-ups.

**Nos. 3JD23 and 3JD24. Light-duty Ingersoll-Rand mini-right angle die grinders** feature a 1/4 HP motor, ball bearing construction, self-locking lever throttle, compact design, and includes collet wrench. No. 3JD24 die grinder kit includes a No. 3JD23 die grinder, an assortment of 1/4" and 1/8" grinding stones, 1/8" collet adapter, and plastic carrying case.

**No. 4Z541. General-duty Dayton mini-right angle die grinder** features a 1/3 HP motor, variable speed lock-off throttle, ball and needle bearing construction, and light weight compact body design.

**No. 6Z562. General-duty Ingersoll-Rand right angle die grinder** features a 1/3 HP motor, ball bearing construction, variable speed self-locking throttle, and includes two collet wrenches.

**Nos. 3Y495, 3Y492, 3Y457, 3Y455, and 3Y469. Industrial-duty Ingersoll-Rand Cyclone series right angle die grinders** have innovated ergonomics design such as the unique D-shaped housing that makes it easier to grip and operate the tool. Advanced composites keep the housing from becoming cold to the touch and reduce vibration so effectively, you can work steadily with less hand fatigue.

The unique high profile safety flange not only protects the operator's hand from the work, but also protects the throttle from accidental starts. Cyclone housings feature one-piece construction with advanced composites molded over a steel liner. The patented flow ring offers the flexibility of front or rear exhaust without additional parts.

All Cyclone grinders come standard with a 1/4" Erickson collet, and includes a collet body wrench and collet nut wrench.

All units can use either carbide burrs or mounted grinding wheels. **Note:** For carbide burrs, see index in the back of catalog under "Carbide, Burrs," or for mounted grinding wheels, under "Grinding, Mounted Points." Note: Make sure that the wheel selected has the proper RPM rating and spindle size.

| Free Speed RPM | HP | Exhaust | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY RIGHT ANGLE DIE GRINDERS** | | | | | | | | | | | | | | |
| **25,000** | .33 | Rear | 4.0 | 14 | 90 | 1/4 | 3/8 | 7 1/2 | Universal Tool | UT2715 | **4LG54** | $61.75 | **$55.10▲** | 1.5 |
| **20,000** | .25 | Front | 3.0 | 12 | 90 | 1/4 | 3/8 | 5 | Ingersoll-Rand | 301 | **3JD23** | 95.95 | **73.25** | 1.4 |
| **20,000** | .25 | Front | 3.0 | 12 | 90 | 1/4 | 3/8 | 8 | Ingersoll-Rand | 301-K | **3JD24** | 119.94 | **91.65** | 3.0 |
| **GENERAL-DUTY RIGHT ANGLE DIE GRINDERS** | | | | | | | | | | | | | | |
| **25,000** | .33 | Rear | 4.0 | 14 | 90 | 1/4 | 3/8 | 6 1/4 | Dayton | — | **4Z541** | 229.75 | **137.95** | 1.5 |
| **18,000** | .33 | Front | 3.0 | 12 | 90 | 1/4 | 3/8 | 5 5/8 | Ingersoll-Rand | 302 | **6Z562** | 204.95 | **148.95** | 1.4 |
| **INDUSTRIAL-DUTY RIGHT ANGLE DIE GRINDERS** | | | | | | | | | | | | | | |
| **12,000** | .35 | Rear | 3 | 12 | 90 | 1/4 | 3/8 | 6 1/16 | Ingersoll-Rand | CA120RG4 | **3Y495** | 414.89 | **374.75** | 2.5 |
| **20,000** | .35 | Rear | 2.5 | 14 | 90 | 1/4 | 3/8 | 6 1/16 | Ingersoll-Rand | CA200RG4 | **3Y492** | 414.89 | **374.75** | 2.5 |
| **12,000** | .70 | Rear | 6.5 | 26 | 90 | 1/4 | 3/8 | 7 13/16 | Ingersoll-Rand | TA120RG4 | **3Y457** | 559.82 | **504.50** | 3.5 |
| **18,000** | .70 | Rear | 6.5 | 26 | 90 | 1/4 | 3/8 | 7 13/16 | Ingersoll-Rand | TA180RG4 | **3Y455** | 559.82 | **504.50** | 3.5 |
| **12,000** | 1.00 | Rear | 10.75 | 43 | 90 | 1/4 | 3/8 | 8 3/16 | Ingersoll-Rand | HA120RG4 | **3Y469** | 644.79 | **582.00** | 3.8 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time. (▲) Net prices, not subject to discounts.

# EXTENDED DIE GRINDERS

Dayton

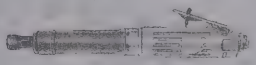
Replacement Parts Available 1-800-323-0620

Installation & Service Available Contact Your Local Branch

INGERSOLL-RAND PROFESSIONAL TOOLS



Nos. 3Y528 and 3Y525



No. 6Z667



Nos. 3Y484 and 3Y448



No. 3Y462

**No. 6Z667. General-duty Dayton extended die grinder** features a 1/2 HP four vane motor, ball bearing construction, collet wrenches, and variable speed lock-off throttle.

**Nos. 3Y484 and 3Y448. Industrial-duty Ingersoll-Rand Cyclone series extended die grinders** feature their unique ergonomic composite housing that helps reduce vibration and operator fatigue. The high profile safety flange protects operators hand and throttle from any accidental start-ups. Extension is constructed of steel. The tool can be easily changed from front to rear exhaust without any additional parts. Both grinders come with an Erickson collet and collet wrenches.

**Nos. 3Y528 and 3Y525. Industrial-duty Ingersoll-Rand Pro Series extended die grinders** feature a patented stainless steel motor controller that is maintenance and adjustment free, double-row ball bearings assure smooth operation. Exclusive grit rejection system keeps bearings clean, and has a built-in mist lubricator that automatically oils that motor during operation. Collet wrenches included.

All units can use either carbide burrs or mounted grinding wheels. **Note: For carbide burrs, see index in the back of catalog under "Carbide, Burrs," or for mounted grinding wheels, under "Grinding, Mounted Points."** Note: Make sure that the wheel selected has the proper RPM rating and spindle size.

| Free Speed RPM | HP | Exhaust | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY EXTENDED DIE GRINDERS** | | | | | | | | | | | | | | |
| **22,000** | .50 | Rear | 5.0 | 18 | 90 | 1/4 | 3/8 | 12¾ | Dayton | — | **6Z667** | $432.70 | **$234.50** | 3.5 |
| **INDUSTRIAL-DUTY EXTENDED DIE GRINDERS** | | | | | | | | | | | | | | |
| **25,000** | .35 | Front/Rear | 3.0 | 12 | 90 | 1/4 | 3/8 | 9 3/16 | Ingersoll-Rand | CX250RG4 | **3Y484** | 394.89 | **352.50** | 2.2 |
| **25,000** | .70 | Front/Rear | 6.5 | 26 | 90 | 1/4 | 3/8 | 12 7/16 | Ingersoll-Rand | TX250RG4 | **3Y448** | 509.83 | **458.50** | 3.5 |
| **18,000** | 1.00 | Front/Rear | 10.0 | 43 | 90 | 1/4 | 3/8 | 13 6/16 | Ingersoll-Rand | HX180RG4 | **3Y462** | 564.82 | **508.50** | 3.8 |
| **12,000** | 1.25 | Front/Rear | 9.3 | 37 | 90 | 3/8 | 1/2 | 15½ | Ingersoll-Rand | 61H120G4 | **3Y528** | 844.77 | **746.00** | 5.6 |
| **15,000** | 1.33 | Front/Rear | 10.0 | 40 | 90 | 3/8 | 1/2 | 15½ | Ingersoll-Rand | 61H150G4 | **3Y525** | 845.10 | **746.50** | 5.6 |

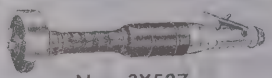
(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

# TYPE 1 WHEEL/CONE AND PLUG WHEELS

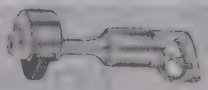
INGERSOLL-RAND PROFESSIONAL TOOLS



No. 3Y459



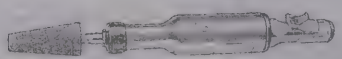
Nos. 3Y527



No. 3Y503



No. 3Y526



No. 3Y515

Replacement Parts Available 1-800-323-0620

Installation & Service Available Contact Your Local Branch

**No. 3Y459. Industrial-duty Ingersoll-Rand Cyclone series Type 1 wheel grinder** features a unique ergonomic composite housing that helps reduce vibration and operator fatigue. The high profile safety flange protects operators hand and throttle from accidental start-ups. Extension is constructed of steel. The tool can be easily changed from front to rear exhaust without any additional parts. Nos. 3Y459, 3Y527, and 3Y503 all use Type 1 grinding wheels; see index in back of catalog under "Grinding Wheels, Toolroom".

**Nos. 3Y527, 3Y503, 3Y526, and 3Y515. Industrial-duty Ingersoll-Rand Pro grinders** feature a patented stainless steel motor controller that is maintenance and adjustment free, double-row ball bearings assure smooth operation, Exclusive grit rejection system keeps bearings clean, and has a built-in mist lubricator that automatically oils that motor during operation.

Nos. 3Y526 and 3Y515 use cones and plug wheels. **Note: See index in the back of catalog under "Grinding Wheels, Cones and Plugs."**

## INDUSTRIAL-DUTY EXTENDED GRINDERS, TYPE 1 WHEEL/CONE AND PLUG WHEELS

| Free Speed RPM | Max. Wheel Size x Hole (In.) | Arbor Size (In.) | HP | Exhaust | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18,000** | 3 x 1/2 | 3/8 - 24 | 1.00 | Front/Rear | 10.5 | 43 | **90** | 1/4 | 3/8 | 10 5/16 | HXD150RH63 | **3Y459** | $509.90 | **$458.75** | 5.0 |
| **12,000** | 3 x 1/2 | 3/8 - 24 | 1.25 | | 9.3 | 37 | **90** | 1/2 | 3/4 | 15¾ | 61H120H63 | **3Y527** | 844.76 | **746.00** | 6.0 |
| **6,000** | 6 x 1 | 5/8 - 11 | 2.00 | 4 Position | 15.3 | 61 | **90** | 1/2 | 3/4 | 19 5/16 | 88H160H106 | **3Y503** | 1060.64 | **985.00** | 14.0 |
| **12,000** | — | 3/8 - 24 | 1.25 | | 9.3 | 37 | **90** | 3/8 | 1/2 | 14 5/16 | 61H120L6 | **3Y526** | $845.10 | **746.50** | 5.6 |
| **12,000** | — | 5/8 - 11 | 1.50 | | 9.8 | 39 | **90** | 3/8 | 1/2 | 16 7/16 | 77H120L10 | **3Y515** | 944.77 | **838.00** | 7.0 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time

# GRINDERS

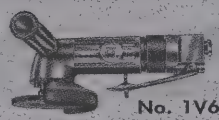
## ANGLE GRINDERS, TYPE 27 WHEELS

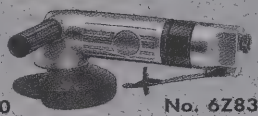
Replacement Parts Ava 1-800-323-0620
Installation & Service Available Contact Your Local Branch

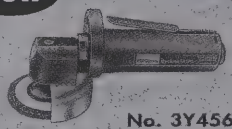
Dayton®

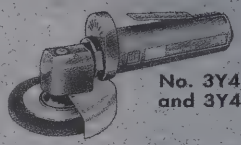
New

INGERSOLL-RAND®
PROFESSIONAL TOOLS


No. 1V660


No. 6Z831


No. 3Y456 and 3Y454


No. 3Y467 and 3Y468

**No. 1V660. Light-duty Universal Tool angle grinder** is ideal for home shop use or light maintenance. Grinder features safety lock-off on the lever throttle, front exhaust, safety guard, side handle, flanges and nut, spindle, and wheel nut wrenches.

**Nos. 4TP03, 6Z831. General-duty Dayton angle grinder** features safety lock-off on the lever throttle and includes safety guard, side handle, flanges, nut and wheel nut wrenches.

**Nos. 3Y456, 3Y454, 3Y467, and 3Y468. Industrial-duty Ingersoll-Rand cyclone series angle grinders** have innovated ergonomic design such as the unique D-shaped housing that makes it easier to grip and operated the tool. Advanced composites keep the housing from becoming cold to the touch, and reduce vibration so effectively, you can work steadily with less hand fatigue.

The unique high profile safety flange not only protects the operator's hand from the work, but also protects the throttle from accidental starts. Cyclone housings feature one-piece construction, with advanced composites molded over a steel liner. The patented flow ring offers the flexibility of front or rear exhaust without additional parts. All grinders come with wheel guard, flanges and nut, spindle, and wheel nut wrenches.

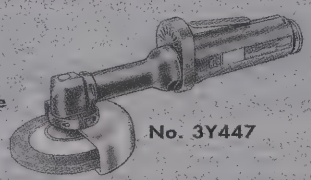
All Type 27 wheel angle grinders use a general purpose raised-hub wheel. Note: Grinding wheel selection is determined by wheel diameter, spindle size, and max. RPM. **Note: See index in the back of catalog under, "Grinding Wheels, Type 27."**

| Free Speed RPM | Wheel Dia. (In.) | Spindle Size (In.) | HP | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY ANGLE GRINDER, TYPE 27 WHEEL** | | | | | | | | | | | | | | | | |
| **11,000** | 4 | 3/8 - 24 | 0.75 | 4.0 | 17 | 90 | 1/4 | 3/8 | 9 | Universal Tool | UT2740 | | **1V660** | $178.00 | **$142.50▲** | 4.7 |
| **GENERAL-DUTY ANGLE GRINDERS, TYPE 27 WHEELS** | | | | | | | | | | | | | | | | |
| **12,000** | 4 | 3/8-24 | 0.8 | 9 | 26.5 | 90 | 1/4 | 3/8 | 9¼ | Ingersoll-Rand | 344 | *New* | **4TP03** | 425.95 | **340.25** | 3.6 |
| **12,000** | 4 | 3/8 - 24 | 0.75 | 4.0 | 17 | 90 | 1/4 | 3/8 | 8¾ | Dayton | — | | **6Z831** | 341.95 | **254.25** | 4.0 |
| **INDUSTRIAL-DUTY ANGLE GRINDERS, TYPE 27 WHEELS** | | | | | | | | | | | | | | | | |
| **12,000** | 4 | 3/8 - 24 | 0.70 | 6.5 | 26 | 90 | 1/4 | 3/8 | 7 11/16 | Ingersoll-Rand | TA120RP63 | | **3Y456** | 559.82 | **504.50** | 4.0 |
| **18,000** | 3 | 3/8 - 24 | 0.70 | 6.5 | 26 | 90 | 1/4 | 3/8 | 7 11/16 | Ingersoll-Rand | TA180RP64 | | **3Y454** | 559.82 | **504.50** | 4.0 |
| **12,000** | 4 | 3/8 - 24 | 1.00 | 10.5 | 43 | 90 | 1/4 | 3/8 | 8 13/16 | Ingersoll-Rand | HA120RP64 | | **3Y467** | 644.79 | **582.00** | 4.2 |
| **12,000** | 4½ | 5/8 - 11 | 1.00 | 10.5 | 43 | 90 | 1/4 | 3/8 | 8 13/16 | Ingersoll-Rand | HA120RP1045 | | **3Y468** | 644.79 | **582.00** | 4.5 |

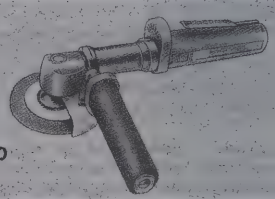
(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time. (▲) Net prices, not subject to discounts.

## EXTENDED ANGLE GRINDERS, TYPE 27 WHEELS

Replacement Parts Available 1-800-323-0620
Installation & Service Available Contact Your Local Branch


No. 3Y447

INGERSOLL-RAND®
PROFESSIONAL TOOLS


Nos. 3Y460 and 3Y461

**Nos. 3Y447, 3Y460, and 3Y461. Industrial-duty Ingersoll-Rand cyclone series angle grinders** feature their unique ergonomic composite housing that helps reduce vibration and operator fatigue. The high profile safety flange protects operators hand and throttle from accidental start-ups. Angle head is constructed of steel. The tool can be easily changed from front to rear exhaust without any additional parts. All grinders come with wheel guard, flanges and nut, and wheel nut wrenches. No. 3Y461 comes standard with side handle.

All Type 27 wheel angle grinders use a general purpose raised-hub wheel. Note: Grinding wheel selection is determined by wheel diameter, spindle size, and max. RPM. **Note: See index in the back of catalog under "Grinding Wheels, Type 27."**

| Free Speed PM | Wheel Dia. (In.) | Spindle Size (In.) | HP | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Min. Length (In.) | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDUSTRIAL-DUTY EXTENDED ANGLE GRINDERS, TYPE 27 WHEELS** | | | | | | | | | | | | | | |
| **13,500** | 4 | 3/8 - 24 | .70 | 5 | 25 | 90 | 1/4 | 3/8 | 10⅜ | TXA135RP64 | **3Y447** | $629.81 | **$563.50** | 4.2 |
| **12,000** | 4 | 3/8 - 24 | 1.00 | 10.5 | 43 | 90 | 1/4 | 3/8 | 11 13/16 | HXA120RP64 | **3Y460** | 674.79 | **608.00** | 5.0 |
| **12,000** | 4½ | 5/8 - 11 | 1.00 | 10.5 | 43 | 90 | 1/4 | 3/8 | 11 13/16 | HXA120RP1045 | **3Y461** | 674.79 | **608.00** | 5.0 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

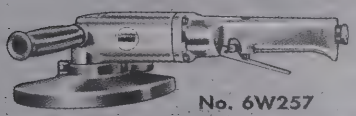
# GRINDERS, TYPE 27/28 WHEEL

Dayton®

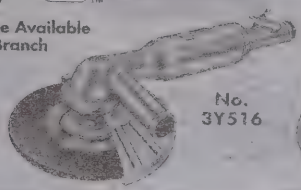
INGERSOLL-RAND PROFESSIONAL TOOLS

Replacement Parts Available 1-800-323-0620

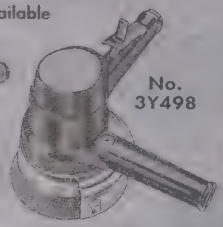
Installation & Service Available Contact Your Local Branch



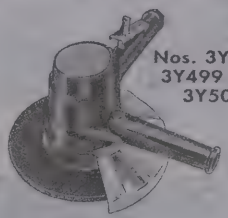
No. 6W257



No. 3Y516



No. 3Y498



Nos. 3Y500, 3Y499 and 3Y501

**No. 6W257. General-duty Dayton 7" angle grinder** features safety lock-off on the lever throttle, and includes safety guard, side handle, flanges and nut, spindle, and wheel nut wrenches.

No. 6W257 uses Type 27 depressed center wheel. Note: Grinding wheel selection is determined by wheel diameter, spindle size, and max. RPM. **Note: See index in the back of catalog under "Grinding Wheels, Type 27.**

**Industrial-duty Ingersoll-Rand Pro-Series Type 27 and 28 wheel grinders** all have the following features:

- **Powerful motors that produce high, efficient performance**
- **Patented stainless steel motor controller with the industry's only life time guarantee**
- **Self-locking throttle lever prevents accidental operation**
- **Integral steel guard provides extra strength for added operator protection**
- **Adjustable ergonomic side handles increase operator control on vertical models**
- **Built-in mist lubricator automatically oils motor each time the tool is used**

Nos. 3Y516, 3Y501, 3Y500 and 3Y499 all use either a Type 27 or 28 threaded wheel or plain hole depressed wheel. Note: Grinding wheel selection is determined by wheel diameter, spindle size, and max. RPM. Note: See index in the back of catalog under, "Grinding Wheels, Type 27 or Type 28." Grinders include wheel guard, flanges and nut for threaded depressed center wheels and for plain hole depressed center wheels.

No. 3Y498 uses a cup wheel, Type 6 or 11. Note: Grinding wheel selection is determined by wheel diameter, spindle size, and max. RPM. **Note: See index in the back of catalog under "Grinding Wheels, Toolroom."** No. 3Y498 comes with wheel guard, flanges, and wheel nut.

| Free Speed RPM | Wheel Dia. (In.) | Spindle Size (In.) | HP | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY GRINDER, TYPE 27 WHEEL** | | | | | | | | | | | | | | | |
| **7000** | 7 | 5/8 - 11 | 1.5 | 6.0 | 24 | 90 | 3/8 | 3/8 | 13½ | Dayton | | **6W257** | $603.30 | **$421.75** | 8.0 |
| **INDUSTRIAL-DUTY GRINDERS, TYPE 27/28 WHEEL** | | | | | | | | | | | | | | | |
| **6000** | 7 | 5/8 - 11 | 1.50 | 9.8 | 39 | 90 | 3/8 | 1/2 | 17 9/16 | Ingersoll-Rand | 77A60P107 | **3Y516** | 1109.62 | **992.50** | 11.0 |
| **6000** | 7 | 5/8 - 11 | 2.10 | 15.3 | 61 | 90 | 1/2 | 3/4 | 6 7/8 | Ingersoll-Rand | 88V60P107 | **3Y501** | 797.74 | **700.50** | 10.0 |
| **6000** | 7 | 5/8 - 11 | 3.00 | 21.0 | 84 | 90 | 1/2 | 3/4 | 6 7/8 | Ingersoll-Rand | 99V60P107 | **3Y500** | 934.68 | **811.00** | 13.0 |
| **6000** | 9 | 5/8 - 11 | 3.00 | 21.0 | 84 | 90 | 1/2 | 3/4 | 6 7/8 | Ingersoll-Rand | 99V60P109 | **3Y499** | 934.68 | **811.00** | 13.0 |
| **6000** | 5 or 6 | 5/8 - 11 | 3.00 | 21.0 | 84 | 90 | 1/2 | 3/4 | 6 7/8 | Ingersoll-Rand | 99V60S106 | **3Y498** | 934.68 | **811.00** | 13.0 |

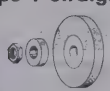
(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

## GRINDING WHEEL TERMINOLOGY

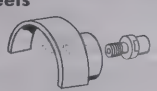
**Horizontal Grinders**



**Type 1 Straight Wheels**



Wheel Sizes: 2, 3 & 6"



Wheel Sizes: 2, 3 & 4" Spindle Sizes: 3/8"-24



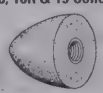
Spindle Sizes: 5/8, 3/8"-24

**Cone & Plug Wheel Grinders**

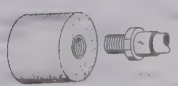




**Type 16, 17, 18, 18R & 19 Cone & Plug Wheels**



Wheel Sizes: 1-1/4" to 3" (max. dia.)



Spindle Sizes: 3/8"-24 & 5/8"-11

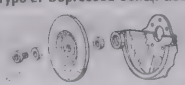
**Vertical & Angle Grinders**



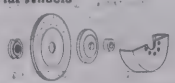




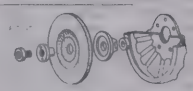
**Type 27 Depressed Center and Flat Wheels**



Threaded Wheel Sizes: 7 & 9" Type: Spindle Sizes 5/8"-11

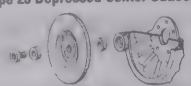


Wheel Sizes: 3 & 4" Spindle Size: 3/8"-24

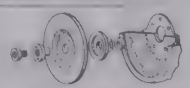


Non-Threaded Wheel Sizes: 7 & 9" Type: Spindle Sizes 5/8"-11

**Type 28 Depressed Center Saucer Wheels**



Threaded Wheel Sizes: 7 & 9" Type: Spindle Sizes 5/8"-11



Non-Threaded Wheel Sizes: 7 & 9" Type: Spindle Sizes 5/8"-11

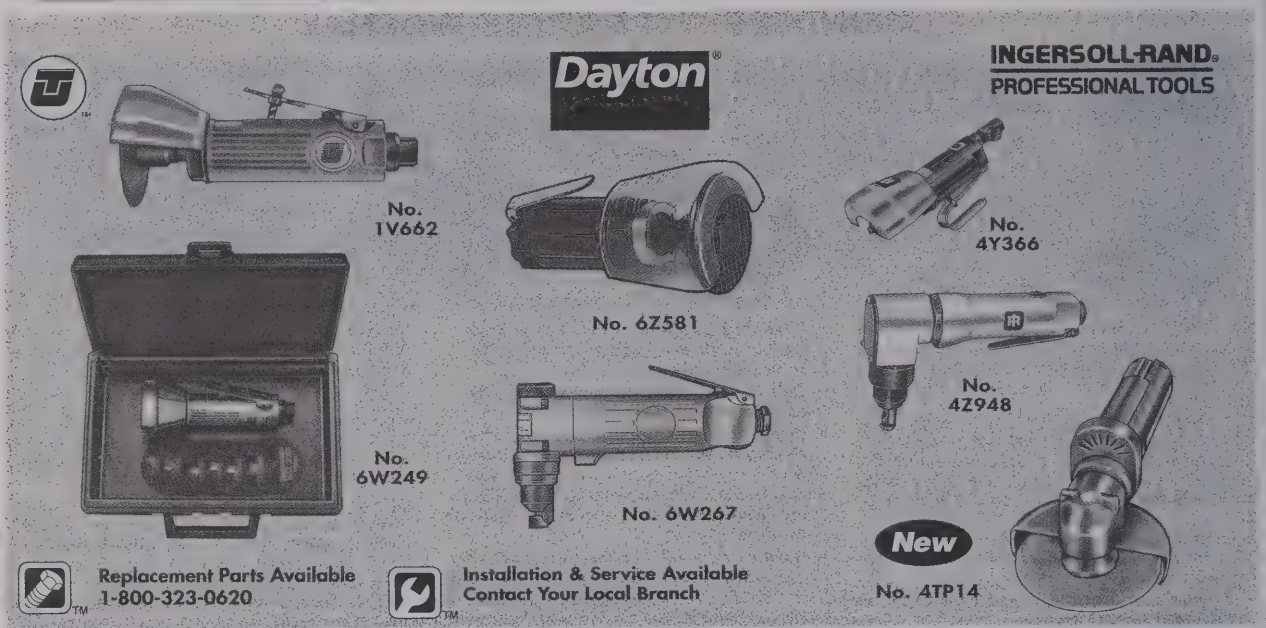
**Type 6 & 11 Cup Wheels**



Wheel Sizes: 5 & 6" Spindle Sizes: 5/8"-11

WARNING: Always use eye protection. Use only recommended equipment and adapters. Consult parts bulletin for details. Do not use if actual tool RPM is greater than nameplate RPM. Check RPM each shift or upon changing accessory. For further safety information, consult ANSIB7.1 and ANSIB186.1.

# CUTTING TOOLS




## CUT-OFF TOOLS

**No. 1V662. Light-duty Universal Tool cut-off tool** is ideal for home shop or light maintenance use. Tool features steel guard, and safety lock-off lever on throttle to prevent accidental starts.

**No. 6W249. Light-duty Universal Tool cut-off tool kit** includes a 1V662 cut-off tool, eight cut-off wheels, and carrying case.

**No. 6Z581. General-duty Dayton cut-off tool** features a lightweight and sturdy nylon motor housing, clear shatter resistant polycarbonate guard that allows for better visibility, and safety lock-off lever on throttle to prevent accidental starts.

**No. 4Y366. General-duty Ingersoll-Rand cut-off tool** features metal guard that can be rotated 360°, flow control valve for speed control, and safety lock-off lever on throttle to prevent accidental starts.

**Nos. 4TP14 & 4TP27. Industrial-duty Ingersoll-Rand air cut-off tools** are ergonomically designed. Unique D-shaped housing that makes it easier to grip and operate. Composite housing reduces vibration and is not cold to the touch.

## AIR NIBBLERS

**Air nibblers** are ideal for cutting sheet metal, plasitc and aluminum without deforming the material. Used by body shops, sheet metal shops, air conditioning fabrications, plastic fabricators, heateing contractors, and machine shops.

**No. 6W267. General-duty Dayton air nibbler** features 4.5mm adjustable die guide and punch for cutting in different directions, and comes with spare punch.

**No. 4Z948. General-duty Ingersoll-Rand air nibbler** features lever throttle control. "Nibbles" up to 18 gauge thickness, at a rate of more than 6 ft. per minute.

**Note: For replacement reinforced cut-off wheels, see index in back of catalog under "Abrasives, Small Diameter Cut-Off Wheels."**

| Wheel Dimensions (In.) Wheel Size | Arbor Size | Thickness | Free Speed RPM | Spindle Size Dia. (In.) | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY CUT-OFF TOOL** | | | | | | | | | | | | | | | | |
| 2⅞ | 3/8 | 1/16 | 22,000 | 3/8 | 4 | 14 | 90 | 1/4 | 3/8 | 7¼ | Universal Tool | UT2731 | **1V662** | $57.00 | **$45.50▲** | 3.0 |
| 2⅞ | 3/8 | 1/16 | 22,000 | 3/8 | 4 | 14 | 90 | 1/4 | 3/8 | 7¼ | Universal Tool | UT2731K | **6W249** | 128.80 | **81.75▲** | 3.7 |
| **GENERAL-DUTY CUT-OFF TOOL** | | | | | | | | | | | | | | | | |
| 2⅞ | 3/8 | 1/16 | 20,000 | 3/8 | 6 | 22 | 90 | 1/4 | 3/8 | 7 | Dayton | — | **6Z581** | 101.50 | **56.95** | 2.0 |
| 2⅞ | 3/8 | 1/16 | 18,000 | 3/8 | 10 | 40 | 90 | 1/4 | 3/8 | 8.9 | Ingersoll-Rand | 326 | **4Y366** | 89.95 | **65.65** | 2.6 |
| **INDUSTRIAL-DUTY CUT-OFF TOOLS** | | | | | | | | | | | | | | | | |
| 3 | 3/8 | 1/16 | 20,000 | 3/8 | 3.5 | 14 | 90 | 1/4 | 5/16 | 6⅛ | Ingersoll-Rand | CA200RH63 | ***New*4TP14** | 420.00 | **394.00** | 1.6 |
| 4 | 3/8 | 1/16 | 18,000 | 3/8 | 6.5 | 26 | 90 | 1/4 | 3/8 | 7 11/16 | Ingersoll-Rand | TA180RH64 | ***New*4TP27** | 540.00 | **518.00** | 2.7 |

| Stroke Per Min. | Gauge Thickness (Mild Steel) | Cutting Radius (In.) | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY AIR NIBBLER** | | | | | | | | | | | | | | |
| **2600** | 16 | 2¾ | 4 | 16 | 90 | 1/4 | 3/8 | 7.0 | Dayton | — | **6W267** | $234.75 | **$151.25** | 2.5 |
| **3200** | 18 | 2¼ | 4 | 16 | 90 | 1/4 | 3/8 | 7.3 | Ingersoll-Rand | 325 | **4Z948** | 219.95 | **163.25** | 2.8 |

(*) Avg. CFM is based off a 15 second run time. (†) CFM is based off of a 1 minute run time. (▲) Net prices, not subject to discounts.

# AIR SHEARS, AIR FILE, AIR SAWS, AND RECIPROCATING SAW

## AIR SHEARS

Air shears are ideal for body shops, sheet metal shops, air conditioning fabricators, plastic fabricators, heating contractors, and machine shops.

**No. 6Z588. General-duty Dayton air shears** feature a light weight and durable nylon housing, and adjustable cutting head that allows for side or overhead work, as well as easy radial and contour cuts.

**No. 4Y413. General-duty Ingersoll-Rand air shear** cuts squares, angles, and circles. Has a heavy-duty cutting blade and makes cuts in cold rolled steel, aluminum, tin, and plastics.

Replacement blades for both the Dayton and Ingersoll-Rand air shears are available through Grainger Parts Operations.

## AIR FILE

**No. 4TL91 Recoilless Air File** features low vibration with high blow frequency for increased production and reduced operator fatigue. The 360° rotating throttle is ideal for use in confined areas and provides increased control for precision work. File has low air consumption and noise level, and uses standard 1/4" shank files. For use in foundries, die casting, mold/die maintenance, and pattern shops.

## RECIPROCATING AIR SAWS

Reciprocating air saws are ideal for cutting intricate shapes in all types of plastics, fiberglass, composite materials, aluminum, and sheet metal.

**No. 6Z663. General-duty Dayton mini-reciprocating air saw** features adjustable blade guard which aids in depth of cut, built in power regulator that controls speed, lever throttle has safety lock-off which prevents accidental starts when tool is set down. Includes five saw blades and wrench.

**No. 4TL84. Dayton mini-air saw** features an adjustable blade guard for depth of cut precision. Lightweight unit (just over 1 lb.) has a lever throttle with lock-off lever to prevent accidental starts. Includes five saw blades and wrench.

**No. 6W381. General-duty Ingersoll-Rand mini-reciprocating saw** features lever throttle control with safety lock-out lever and includes 6 replacement blades.

**Nos. 3JD27 and 3JD28 replacement blades** listed below, are used for No. 6Z663 Dayton saw and No. 6W381 Ingersoll-Rand saw.




**No. 6Z569. Industrial-duty Ingersoll-Rand reciprocating saw** features grip handle with self-locking throttle to prevent accidental starts, rotatable exhaust with muffler for quiet operation, heavy-duty thrust bearings for extended life, and built-in lubricator. Unit includes metal carrying case and an assortment of 4" and 6" blades.

**No. 6Z569** uses standard reciprocating saw blades. **Note: See index in back of catalog under "Saw Blades, Reciprocating."**

**No. 4TL89. Recoilless air saw** features advanced vibration dampening with high blow frequency for increased production and reduced operator fatigue. Power unit will not stall when cutting curves, and handle rotates 360° and locks in position. Backhead design prevents damage from excessive air pressure. Use for cutting sheet metal, autobody panels, duct work, and fiberglass.

| Strokes Per Min. | Gauge Thickness (In.) | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY AIR SHEARS** | | | | | | | | | | | | | |
| **2800** | 18 Mild Steel | 4 | 16 | 90 | 1/4 | 3/8 | 8.50 | Dayton | — | **6Z588** | $282.90 | **$174.25** | 3.0 |
| **4200** | 20 | 4 | 16 | 90 | 1/4 | 3/8 | 9.10 | Ingersoll-Rand | 7802S | **4Y413** | 269.95 | **200.25** | 3.1 |
| **GENERAL-DUTY AIR FILE** | | | | | | | | | | | | | |
| **9000** | — | 1 | 3 | 90 | 1/4 | 1/4 | 7.00 | Dayton | — | ***New* 4TL91** | 371.84 | **265.75** | 2.4 |
| **GENERAL-DUTY AIR SAW** | | | | | | | | | | | | | |
| **9000** | — | 1 | 4 | 90 | 1/4 | 3/8 | 9.25 | Dayton | — | ***New* 4TL84** | 144.13 | **102.95** | 1.5 |
| **9000** | — | 2 | 6 | 90 | 1/4 | 3/8 | 9.25 | Dayton | — | **6Z663** | 257.15 | **171.00** | 1.6 |
| **9000** | — | 8 | 32 | 90 | 1/4 | 3/8 | 9.00 | Ingersoll-Rand | 429 | **6W381** | 155.95 | **115.30** | 1.6 |
| **INDUSTRIAL-DUTY RECIPROCATING SAW** | | | | | | | | | | | | | |
| **1600** | — | 5 | 21 | 90 | 1/4 | 3/8 | 17.25 | Ingersoll-Rand | SRA010K2 | **6Z569** | 1631.64 | **1251.00** | 11.0 |
| **9900** | — | 1 | 3.5 | 90 | 1/4 | 1/4 | 7.00 | Dayton | | ***New* 4TL89** | 371.00 | **265.00** | 2.4 |

**REPLACEMENT SAW BLADES FOR Nos. 6Z663 AND 6W381 SAWS**

| Description | Ingersoll-Rand Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Replacement Saw Blades/Coarse (6) each** | 329-C500 | **3JD27** | $12.00 | **$9.68** | 0.2 |
| **Replacement Saw Blades/Fine (6) each** | 329-F500 | **3JD28** | 12.00 | **9.68** | 0.2 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

# PERCUSSION TOOLS

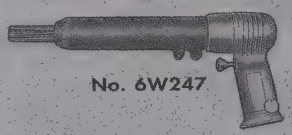
## NEEDLE SCALERS

Dayton® New

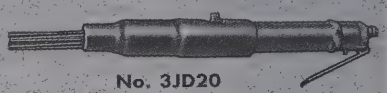
Installation & Service Available Contact Your Local Branch™

INGERSOLL-RAND® PROFESSIONAL TOOLS

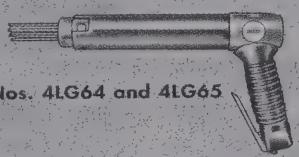
Replacement Parts Available 1-800-323-0620™

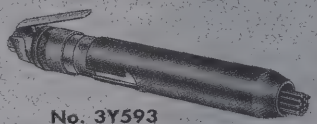

No. 6W247


No. 4LG63

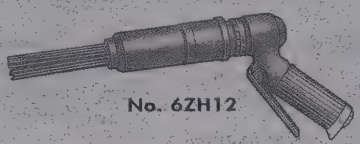

No. 3JD20


No. 6W248

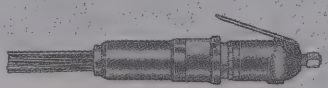

Nos. 4LG64 and 4LG65


No. 3Y593


No. 4TL87


No. 6ZH12


No. 3Y589


No. 6ZF92

Needle scalers are great for removing rust, paint, dirt, and weld slag, on metal surfaces, even in tight spaces, corners, or curved surfaces.

**No. 6W247. General-duty Dayton pistol grip needle scaler** features lightweight and durable nylon housing, built-in regulator for speed control, and 19 heat treated needles, barrel and piston.

**No. 6W248. General-duty Dayton straight body needle scaler** features lightweight and durable nylon housing, built-in regulator for speed control, and 19 heat treated needles, barrel, and piston.

**No. 4TL87. General-duty Dayton straight body needle scaler** features a lever throttle for precise speed control, "J" slot adjustment for increased needle exposure and hardened steel construction for maximum durability. Includes a set of 19, 7" long needles. Tool can also be converted to B1 shank chisel scaler.

**No. 3JD20. General-duty Ingersoll-Rand needle scaler** features lever throttle and 19 heat treated needles and barrel.

**Nos. 4LG63, 4LG64, and 4LG65. Industrial-duty Dayton recoilless needle scalers** feature a patented ergonomic design that produces low vibration which reduces operator fatigue, and produces high blow frequency for increased production.

- **No. 4LG63. Recoilless straight body needle scaler comes with 18 heat treated needles and barrel.**
- **No. 4LG64. Recoilless pistol grip needle scaler comes with 19 needles.**
- **No. 4LG65. Recoilless pistol grip needle scaler comes with 28 needles.**

**No. 6ZH12. Industrial-duty Dayton pistol grip needle scaler** features a lightweight and compact design with ergonomic handle position, level throttle control, and 19 heat treated needles, barrel, and piston.

**No. 6ZF92. Industrial-duty Dayton straight handle needle scaler** features lightweight and compact design, lever throttle control, and 19 heat treated needles, barrel, and piston.

**Nos. 3Y593 and 3Y589. Industrial-duty Ingersoll-Rand straight body needle scalers** feature an adjustable bayonet type needle housing lock which allows adjustment without any special tools, lever throttle, and 19 heat treated needles and barrel. Tested and approved in accordance with MIL-S-2349A (ships).

**Note: For replacement needles see index in back of catalog under "Needle, Sets, Air Tool."**

| Blows Per Min. | Stroke (In.) | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL-DUTY NEEDLE SCALERS** | | | | | | | | | | | | | | |
| **3700** | 2½ | 4.0 | 16 | 60 | 1/4 | 3/8 | 14 | Dayton | — | | **6W247** | $227.70 | **$169.50** | 4.9 |
| **3700** | 2½ | 4.0 | 16 | 60 | 1/4 | 3/8 | 16½ | Dayton | — | | **6W248** | 198.00 | **159.50** | 5.0 |
| **4600** | 1/2 | 4.0 | 16 | 90 | 1/4 | 3/8 | 12½ | Dayton | — | *New* | **4TL87** | 278.60 | **199.00** | 4.7 |
| **4600** | 1⅛ | 4.0 | 16 | 90 | 1/4 | 3/8 | 18⅜ | Ingersoll-Rand | 125 | | **3JD20** | 284.93 | **217.00** | 7.0 |
| **INDUSTRIAL-DUTY NEEDLE SCALERS** | | | | | | | | | | | | | | |
| **9000** | 1/4 | 2.0 | 5 | 90 | 1/4 | 3/8 | 12¼ | Dayton | — | | **4LG63** | 430.00 | **405.00** | 4.9 |
| **3400** | 1/4 | 2.0 | 5 | 90 | 1/4 | 3/8 | 11⅞ | Dayton | — | | **4LG64** | 526.00 | **495.00** | 6.6 |
| **3400** | 1/4 | 2.0 | 5 | 90 | 1/4 | 3/8 | 11⅞ | Dayton | — | | **4LG65** | 573.75 | **540.00** | 8.4 |
| **8000** | 9/32 | 2.0 | 5 | 90 | 1/4 | 3/8 | 12⅛ | Dayton | — | | **6ZH12** | 396.75 | **377.00** | 6.8 |
| **8000** | 9/32 | 2.0 | 5 | 90 | 1/4 | 3/8 | 13⅝ | Dayton | — | | **6ZF92** | 396.75 | **377.00** | 5.3 |
| **5500** | 9/16 | 3.0 | 12 | 90 | 1/4 | 3/8 | 13¾ | Ingersoll-Rand | 172LNA1 | | **3Y593** | 540.01 | **397.00** | 6.5 |
| **4000** | 1 1/16 | 3.0 | 13 | 90 | 1/4 | 3/8 | 15 | Ingersoll-Rand | 182LNA1 | | **3Y589** | 675.02 | **486.00** | 6.7 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

# NEEDLE SCALER KITS, SCALERS




**No. 6Z833. General-duty Dayton needle/scaler kit** includes all pieces to convert from a needle scaler to a chisel scaler. Unit features lever throttle control for precise speed control, 19 heat treated needles and barrel, B1 style shank weld flux chisel, and plastic carrying case. Note: For replacement needles For replacement B1 style weld flux chisels, see index in back of catalog under "Chisels, Weld Flux."

**No. 3Y591. Industrial-duty Ingersoll-Rand needle/scaler kit** comes with a No. 3Y590 scaler, needle housing attachment, two sets of 19 needles, 5 and 7" long, one straight chisel, one flat chisel, one angle chisel, and vinyl carrying case. Note: For replacement needles For replacement IR style weld flux chisels, see index in back of catalog under "Chisels, Weld Flux."

**No. 4LG66. Industrial-duty Dayton recoilless chisel scaler** features a patented ergonomic design that produces low vibration which reduces operator fatigue and produces high blow frequency for increased production. All steel construction, compact design, and includes 3/4" carbide chisel No. 4LG36. Replacement chisels are listed in the ordering chart below.

**No. 6ZH13. Industrial-duty Dayton chisel scaler** features a built in quick change retainer, knurled body for improved grip, and lever throttle control. The unit uses Fuji style weld flux chisels. Note: For replacement Fuji style weld flux chisels, see index in back of catalog under "Chisels, Weld Flux."

**No. 3Y594 and 3Y590. Industrial-duty Ingersoll-Rand chisel scalers** feature a positive lock chisel retainer that makes it easy to quickly change chisels, and lever throttle control. **Note:** For replacement IR style weld flux chisels, see index in back of catalog under "Chisels, Weld Flux."

| Blows Per Min. | Stroke (In.) | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDUSTRIAL-DUTY NEEDLE/SCALER KITS** | | | | | | | | | | | | | |
| **4600** | 1/2 | 4.0 | 14 | 90 | 1/4 | 3/8 | 12½ | Dayton | — | **6Z833** | $328.20 | **$284.50** | 7.0 |
| **4000** | 1 1/16 | 6.5 | 26 | 90 | 1/4 | 3/8 | 15 | Ingersoll-Rand | 182K1 | **3Y591** | 815.98 | **541.00** | 12.0 |
| **INDUSTRIAL-DUTY SCALERS** | | | | | | | | | | | | | |
| **9000** | 1/4 | 2.0 | 4 | 90 | 1/4 | 3/8 | 8¼ | Dayton | — | **4LG66** | 424.00 | **353.00** | 3.7 |
| **12000** | 1/2 | 2.0 | 5 | 90 | 1/4 | 3/8 | 6⅞ | Dayton | — | **6ZH13** | 262.20 | **249.25** | 2.9 |
| **5500** | 9/16 | 6.0 | 24 | 90 | 1/4 | 3/8 | 7⅝ | Ingersoll-Rand | 172L | **3Y594** | 415.99 | **300.50** | 4.1 |
| **4000** | 1 1/16 | 6.5 | 26 | 90 | 1/4 | 3/8 | 9 | Ingersoll-Rand | 182L | **3Y590** | 547.01 | **393.75** | 4.4 |

## REPLACEMENT CHISELS FOR No. 4LG66

| Description | Tip Width (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Flat Carbide Tipped Chisel** | 3/8 | **4LG35** | $48.00 | **$45.00** | 0.1 |
| **Flat Carbide Tipped Chisel** | 3/4 | **4LG36** ‡ | 48.00 | **45.00** | 0.2 |
| **Flat Carbide Tipped Chisel** | 1" | **4LG37** | 53.00 | **50.00** | 0.3 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time. (‡) Included with 4LG66.

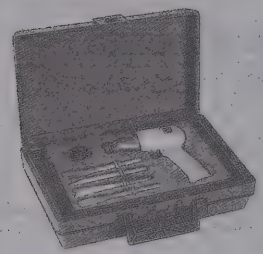
# PERCUSSION TOOLS

Dayton®

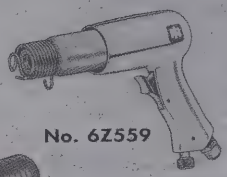
INGERSOLL-RAND®
PROFESSIONAL TOOLS

Replacement Parts Available
1-800-323-0620

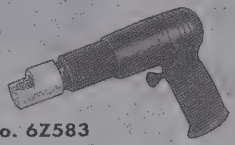
Installation & Service Available
Contact Your Local Branch

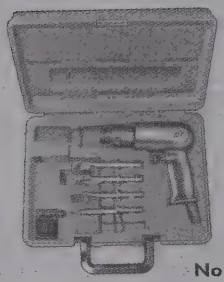

No. 4Z777


Nos. 2Z486 and 4Z540

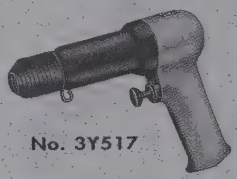

No. 6Z559

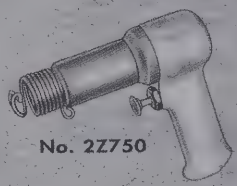

No. 3JD19


No. 6Z583


No. 1V668


Nos. 1V670 and 1V672


No. 3Y517


No. 2Z750


Nos. 3Y497 and 3Y496

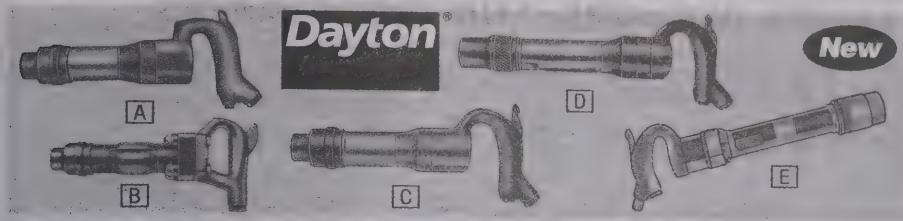
Air hammers are ideal for chipping, general cutting of sheet metal, light exhaust work, scraping, and removal and separation of rivets or joints. The more blows per minute or smaller stroke length means that the tool will work faster. The less blows per minute or longer stroke length means more power from the tool. Note: When operating a hammer always be sure that the chisel is held securely against the work surface, and is never allowed to "free fire", or allow the chisel to strike the retainer. Light-duty hammers are ideal for home shop use or light maintenance use. General-duty are ideal for automotive, general maintenance, or light construction. Industrial-duty are ideal for construction, riveting, or production line use.

**All hammers use .401" shank chisels. Note: For replacement chisels, see index in back of catalog under "Chisels, Air Hammer." For replacement retainers and quick change retainers or replacement retainer springs, see index in back of catalog under "Chisel Retainer."**

- **All hammers feature a spring type chisel retainer, except No. 6Z583 which contains a patented safety chuck**
- **No. 6Z583 also features a lightweight, durable nylon handle**
- **No. 4Z777 light-duty Universal Tool hammer kit includes No. 1V672 hammer, one tapered punch chisel, panel cutter, flat chisel, spot weld splitter, and plastic carrying case**
- **No. 1V668 light-duty Universal Tool hammer kit includes No. 1V670 hammer, one tapered punch chisel, panel cutter, flat chisel, spot weld splitter, and plastic carrying case**
- **No. 3JD19 general-duty Ingersoll-Rand hammer kit includes No. 2Z750 hammer chisel set, and plastic carrying case**

| Blows Per Min. | Stroke (In.) | Avg. CFM* | CFM† | Required Pressure (PSI) | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHT-DUTY .401 SHANK AIR HAMMERS** | | | | | | | | | | | | | |
| **5000** | 1 5/8 | 4.0 | 15 | 90 | 1/4 | 3/8 | 5.25 | Universal Tool | UT2235 | **1V672** | $24.00 | **$19.00** ▲ | 3.2 |
| **5000** | 1 5/8 | 4.0 | 15 | 90 | 1/4 | 3/8 | 5.25 | Universal Tool | UT2235K | **4Z777** | 66.40 | **40.25** ▲ | 4.0 |
| **3500** | 2 5/8 | 4.0 | 15 | 90 | 1/4 | 3/8 | 7.50 | Universal Tool | UT2610B | **1V670** | 38.00 | **26.50** ▲ | 3.5 |
| **3500** | 2 5/8 | 4.0 | 15 | 90 | 1/4 | 3/8 | 7.50 | Universal Tool | UT2610BK | **1V668** | 86.00 | **48.50** ▲ | 5.3 |
| **GENERAL-DUTY .401 SHANK AIR HAMMERS** | | | | | | | | | | | | | |
| **3000** | 2 5/8 | 4.0 | 15 | 90 | 1/4 | 3/8 | 6.75 | Dayton | — | **2Z486** | 66.70 | **36.95** | 3.4 |
| **2600** | 2 5/8 | 3.0 | 12 | 90 | 1/4 | 3/8 | 7.50 | Dayton | — | **6Z583** | 110.00 | **63.30** | 3.5 |
| **2000** | 3 1/2 | 4.0 | 16 | 90 | 1/4 | 3/8 | 8.50 | Dayton | — | **4Z540** | 103.50 | **55.00** | 4.3 |
| **3000** | 2 9/32 | 3.0 | 12 | 90 | 1/4 | 3/8 | 7.60 | Ingersoll-Rand | 121/Q | **2Z750** | 144.95 | **105.45** | 4.2 |
| **3000** | 2 9/32 | 3.0 | 12 | 90 | 1/4 | 3/8 | 12.0 | Ingersoll-Rand | 121/K6 | **3JD19** | 169.95 | **136.05** | 7.0 |
| **3500** | 2 5/8 | 3.0 | 12 | 90 | 1/4 | 3/8 | 7.80 | Ingersoll-Rand | 116 | **6Z559** | 69.95 | **48.40** | 3.8 |
| **INDUSTRIAL-DUTY .401 SHANK AIR HAMMERS** | | | | | | | | | | | | | |
| **2100** | 3 | 3.2 | 13 | 90 | 1/4 | 3/8 | 7.75 | Ingersoll-Rand | AVC12A1 | **3Y497** | 732.05 | **535.00** | 4.0 |
| **1725** | 4 | 3.2 | 13 | 90 | 1/4 | 3/8 | 8.75 | Ingersoll-Rand | AVC13A1 | **3Y496** | 732.05 | **535.00** | 4.3 |
| **3000** | 2 9/32 | 3.0 | 12 | 90 | 1/4 | 3/8 | 7.60 | Ingersoll-Rand | 772 | **3Y517** | 199.97 | **143.00** | 4.2 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time. (▲) Net prices, not subject to discounts.




INGERSOLL-RAND
PROFESSIONAL TOOLS

Replacement Parts Available
1-800-323-0620

Installation & Service Available
Contact Your Local Branch

More blows per minute, or smaller stroke length means that the tool will work faster. Fewer blows per minute or longer stroke length means more power from the tool. **Note:** when operating a chipper always be sure that the chisel is held securely against the work surface, and is never allowed to "free fire" or allow the chisel to strike the retainer. This practice could damage the retainer, and break the barrel.

A **Nos. 6W254 and 6W255. Dayton chipping hammers** feature one-piece forged handles, heat treated barrel and retainer for maximum durability, and grooved barrel with spring type retainer.

- **Nos. 6W254 and 6W255 use a .680" Round Shank/Oval collar chisel**

B **Nos. 3JT30, 3JT32, and 3JT34. Dayton 4-bolt chipping hammers** feature grooved barrel with spring type retainer, 4-bolt blackhead design eliminates handle loosening and breakage, variable speed trigger for ease of startup and better control, heat treated barrel and retainer for maximum durability and easier maintenance.

- **Nos. 3JT30, 3JT32, and 3JT34 use a .680" Round Shank/Oval collar chisel**

C **Nos. 4Z260, 6Z571, 3Y545, 3Y574, 3Y571, and 3Y546. Ingersoll-Rand chipping hammers** feature grooved barrel with spring type retainer, forged steel throttle handle, and special plated piston to reduce wear and extend life.

- **Nos. 4Z260, 6Z571, and 3Y545 use a .680" Round Shank/Oval collar chisel**
- **Nos. 3Y574, 3Y571, and 3Y546 use a .580" Hex Shank/Oval Collar chisel**

D **Nos. 3Y445, 3Y443, 3Y441, 3Y446, 3Y444, and 3Y442. Ingersoll-Rand chipping hammers** feature standard threaded barrel with rubber buffered retainer for more demanding applications, forged steel throttle handle, and special plated piston for reduced wear and extended life.

- **Nos. 3Y445, 3Y443, and 3Y441 use a .680" Round Shank/Round collar chisel**
- **Nos. 3Y446, 3Y444, and 3Y442 use .580" Hex Shank/Round collar chisel**

E **No. 3Y844. Ingersoll-Rand air buster percussion tool** features improved piston and shock-resistant material. Use for rivet busting and general demolition. Uses Jumbo 4-sided chisel tools.

**Note:** For chisels, see index in back of catalog under "Chisels, Air Hammer." For replacement grooved barrel spring type retainers, see index in back of catalog under "Chisel Retainers."

| Key | Blows Per Min. | Stroke (In.) | Avg. CFM* | CFM† | Required Pressure PSI | Air Inlet (NPT) (In.) | Min. Hose Size (In.) | Length (In.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INDUSTRIAL-DUTY .680" SHANK GROOVED BARREL WITH SPRING RETAINER CHIPPING HAMMERS** | | | | | | | | | | | | | | |
| A | 2150 | 2 | 6.0 | 24 | 90 | 3/8 | 1/2 | 15½ | Dayton | — | **6W254** | $579.60 | **$400.00** | 17.0 |
| | 1900 | 3 | 6.0 | 24 | 90 | 3/8 | 1/2 | 16½ | Dayton | — | **6W255** | 618.70 | **406.00** | 18.0 |
| B | 2300 | 2 | 6.0 | 24 | 90 | 3/8 | 1/2 | 14 | Dayton | — | **3JT30** | 585.00 | **425.00** | 18.0 |
| | 2100 | 3 | 6.0 | 24 | 90 | 3/8 | 1/2 | 15¼ | Dayton | — | **3JT32** | 585.00 | **425.00** | 19.0 |
| | 1700 | 4 | 6.0 | 24 | 90 | 3/8 | 1/2 | 16½ | Dayton | — | **3JT34** | 585.00 | **425.00** | 20.0 |
| C | 2300 | 2 | 7.0 | 28 | 90 | 3/8 | 1/2 | 16 | Ingersoll-Rand | 2A2SA | **4Z260** | 709.78 | **537.00** | 16.0 |
| | 1725 | 3 | 7.2 | 29 | 90 | 3/8 | 1/2 | 17⅜ | Ingersoll-Rand | 3A2SA | **6Z571** | 709.77 | **537.00** | 18.0 |
| | 1480 | 4 | 7.2 | 29 | 90 | 3/8 | 1/2 | 18⅞ | Ingersoll-Rand | 4A2SA | **3Y545** | 709.76 | **537.00** | 19.0 |
| **INDUSTRIAL-DUTY .680" SHANK THREADED BARREL WITH RUBBER BUFFERED RETAINER CHIPPING HAMMERS** | | | | | | | | | | | | | | |
| D | 2300 | 2 | 7.0 | 28 | 90 | 3/8 | 1/2 | 16⅝ | Ingersoll-Rand | W2A2 | **3Y445** | 1023.72 | **734.00** | 17.0 |
| | 1725 | 3 | 7.2 | 29 | 90 | 3/8 | 1/2 | 18½ | Ingersoll-Rand | W3A2 | **3Y443** | 1023.71 | **734.00** | 18.0 |
| | 1480 | 4 | 7.2 | 29 | 90 | 3/8 | 1/2 | 19¼ | Ingersoll-Rand | W4A2 | **3Y441** | 1023.71 | **734.00** | 19.0 |
| **INDUSTRIAL-DUTY .580" SHANK GROOVED BARREL WITH SPRING RETAINER CHIPPING HAMMERS** | | | | | | | | | | | | | | |
| C | 2300 | 2 | 7.0 | 28 | 90 | 3/8 | 1/2 | 16 | Ingersoll-Rand | 2A1SA | **3Y574** | 709.78 | **537.00** | 16.0 |
| | 1725 | 3 | 7.2 | 29 | 90 | 3/8 | 1/2 | 17⅜ | Ingersoll-Rand | 3A1SA | **3Y571** | 709.77 | **537.00** | 18.0 |
| | 1480 | 4 | 7.2 | 29 | 90 | 3/8 | 1/2 | 18⅞ | Ingersoll-Rand | 4A1SA | **3Y546** | 709.76 | **537.00** | 19.0 |
| **INDUSTRIAL-DUTY .580" SHANK THREADED BARREL WITH RUBBER BUFFERED RETAINER CHIPPING HAMMERS** | | | | | | | | | | | | | | |
| D | 2300 | 2 | 7.0 | 28 | 90 | 3/8 | 1/2 | 16⅝ | Ingersoll-Rand | W2A1 | **3Y446** | 1023.73 | **734.00** | 17.0 |
| | 1725 | 3 | 7.2 | 29 | 90 | 3/8 | 1/2 | 18¼ | Ingersoll-Rand | W3A1 | **3Y444** | 1023.71 | **734.00** | 18.0 |
| | 1480 | 4 | 7.2 | 29 | 90 | 3/8 | 1/2 | 19¾ | Ingersoll-Rand | W4A1 | **3Y442** | 1023.71 | **734.00** | 19.0 |
| **INDUSTRIAL-DUTY .888" JUMBO SHANK THREADED BARREL RUBBER BUFFERED RETAINER AIR BUSTER** | | | | | | | | | | | | | | |
| E | 900 | 9 | 10.0 | 40 | 90 | 3/8 | 1/2 | 22 | Ingersoll-Rand | 9001 | ***New*** **3Y844** | 1850.00 | **1848.00** | 32.0 |

(*) Avg. CFM is based off of a 15 second run time. (†) CFM is based off of a 1 minute run time.

NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# PERCUSSION TOOLS

## DIGGERS, PAVING BREAKERS, AND JACKHAMMERS

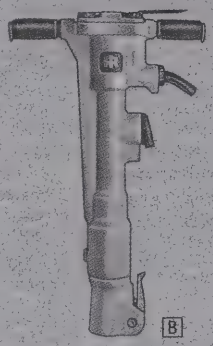
INGERSOLL-RAND®
PROFESSIONAL TOOLS

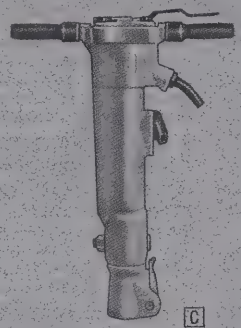
Replacement Parts Available
1-800-323-0620

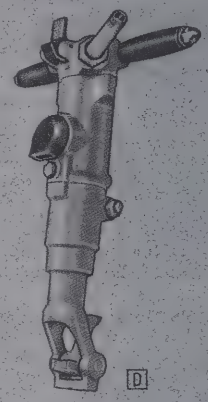
Installation & Service Available
Contact Your Local Branch

For chisels, see index in back of catalog under, Chisels, Air Tool


A


B


C


D

### DIGGERS

- All latch retainer type
- Light and medium weight for horizontal use
- Use for medium density earth and light demolition

### PAVING BREAKERS

- Promaxx™ Line of 60 and 90 lb. class of Standard and Vibration Reduced Flex-Handled Models
- More power, fewer parts than competitive models
- Spring-loaded anvil bushing keeps tool on work surface

### ROTARY JACKHAMMERS

- Promaxx™ Line of 35 lb. class Jackhamer™
- Standard and muffled models
- Ideally suited for both horizontal and vertical drilling projects
- Jack rods and carset bits available through Grainger Parts Operations

### SPECIFICATIONS AND ORDERING DATA

#### DIGGERS

| Key | Handle Type | Shank Size Hex w/ Collar (In.) | Piston Stroke (In.) | Blows Per Minute | CFM | Air Inlet (In.) | Hose Size (In.) | Length (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | D-Grip | 7/8 x 3 1/4 | 2 1/2 | 2350 | 45 | 3/8 | 1/2 | 18 7/8 | 93LA1 | **3JD44** | $1507.60 | **$1156.00** | 25.0 |
| | D-Grip | 7/8 x 3 1/4 | 4 | 1850 | 47 | 3/8 | 1/2 | 21 7/8 | 95LA1 | **3JD46** | 1507.57 | **1156.00** | 30.0 |
| | D-Grip | 1 x 4 1/4 | 4 | 1850 | 47 | 3/8 | 1/2 | 21 7/8 | 95LA3 | **3JD47** | 1507.55 | **1156.00** | 32.0 |

#### PAVING BREAKERS

| Key | Description | Shank Size Hex w/ Collar (In.) | Piston Stroke (In.) | Piston Bore (In.) | Blows Per Minute | CFM | Air Inlet (NPT) (In.) | Hose Size (In.) | Length (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | Standard 60 lb. class | 1 1/8 x 6 | 5 3/4 | 2.06 | 1250 | 75 | 3/4 | 3/4 | 27 1/2 | MX60A | **3JD98** | $1432.00 | **$1132.00** | 74.0 |
| | Standard 60 lb. class | 1 1/1 x 6 | 5 3/4 | 2.06 | 1250 | 75 | 3/4 | 3/4 | 27 1/2 | MX60B | **3JF01** | 1432.00 | **1132.00** | 74.0 |
| | Standard 90 lb. class | 1 1/8 x 6 | 5 3/4 | 2.62 | 1250 | 89 | 3/4 | 3/4 | 27 1/2 | MX90A | **3Y682** | 1548.00 | **1245.00** | 90.0 |
| | Standard 90 lb. class | 1 1/4 x 6 | 5 3/4 | 2.62 | 1250 | 89 | 3/4 | 3/4 | 27 1/2 | MX90B | **3Y679** | 1548.00 | **1245.00** | 90.0 |
| | **VIBRATION REDUCED FLEX-HANDLED MODELS** | | | | | | | | | | | | | |
| C | 60 lb. class | 1 1/8 x 6 | 5 3/4 | 2.06 | 1250 | 75 | 3/4 | 3/4 | 27 1/2 | MX60AF | **3JD99** | 1810.00 | **1430.00** | 74.0 |
| | 60 lb. class | 1 1/4 x 6 | 5 3/4 | 2.06 | 1250 | 75 | 3/4 | 3/4 | 27 1/2 | MX60BF | **3JF02** | 1810.00 | **1430.00** | 74.0 |
| | 90 lb. class | 1 1/8 x 6 | 5 3/4 | 2.62 | 1250 | 89 | 3/4 | 3/4 | 27 1/2 | MX90AF | **3JF03** | 1927.00 | **1522.00** | 90.0 |
| | 90 lb. class | 1 1/4 x 6 | 5 3/4 | 2.62 | 1250 | 89 | 3/4 | 3/4 | 27 1/2 | MX90BF | **3JF04** | 1927.00 | **1522.00** | 90.0 |

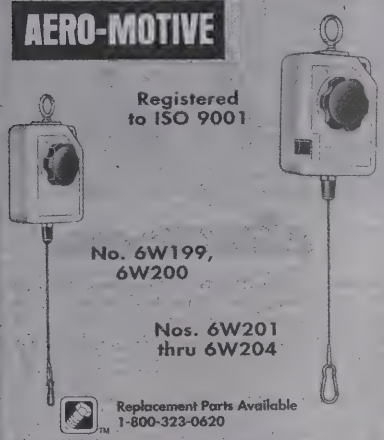
#### MUFFLER KITS

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **For use with 60 lb. class** | — | — | — | — | — | — | — | — | — | 52080298 | **3JD35** | 190.20 | **188.75** | 3.0 |
| **For use with 90 lb. class** | — | — | — | — | — | — | — | — | — | 51953453 | **3JD34** | 195.48 | **185.25** | 3.0 |

#### ROTARY JACKHAMMERS

| Key | Description | Shank Size Hex w/ Collar (In.) | Blows Per Minute | Air Inlet (NPT) (In.) | Hose Size (In.) | HP | Max. Bit Dia. (In.) | Max. Hole Depth (Ft.) | CFM | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | Standard 35 lb. class | 7/8 x 3 1/4 | 2400 | 3/4 | 3/4 | 4.8 | 1 1/2 | 10 | 75 | JX35A | **3JD90** | $2023.26 | **$1568.00** | 36.0 |
| | Standard 35 lb. class | 7/8 x 4 1/4 | 2400 | 3/4 | 3/4 | 4.8 | 1 1/2 | 10 | 75 | JX35B | **3JD92** | 2023.26 | **1568.00** | 36.0 |
| | Standard 35 lb. class | 1 x 4 1/4 | 2400 | 3/4 | 3/4 | 4.8 | 1 1/2 | 10 | 75 | JX35C | **3JD94** | 2023.26 | **1568.00** | 36.0 |
| | Muffled 35 lb. class | 7/8 x 3 1/4 | 2400 | 3/4 | 3/4 | 4.8 | 1 1/2 | 10 | 75 | JX35AS | **3JD91** | 2091.23 | **1621.00** | 36.0 |
| | Muffled 35 lb. class | 7/8 x 4 1/4 | 2400 | 3/4 | 3/4 | 4.8 | 1 1/2 | 10 | 75 | JX35BS | **3JD93** | 2091.23 | **1621.00** | 36.0 |
| | Muffled 35 lb. class | 1 x 4 1/4 | 2400 | 3/4 | 3/4 | 4.8 | 1 1/2 | 10 | 75 | JX35CS | **3JD95** | 2091.23 | **1621.00** | 36.0 |

AERO-MOTIVE



Registered to ISO 9001

No. 6W199, 6W200

Nos. 6W201 thru 6W204

Replacement Parts Available 1-800-323-0620

## PRODUCTION TOOL BALANCERS

Aero-Motive production tool balancers provide convenient, economical tool support for a wide variety of production and assembly operations. Ergonomic design helps reduce risk of repetitive motion injury (i.e. carpal tunnel syndrome) and improves worker productivity. Balancers also prevent expensive tools from being dropped or knocked against work surface.

Units feature easy cable tension adjustment without tools, in-line alignment of hanger and tool hook, and maintenance free design. Balancers include 360° swivel. Convenient snap-type tool clip and high-impact composite housing. Nos. 6W202 and 6W204 also feature ratchet lock mechanism for performing multiple tasks.

### SPECIFICATIONS AND ORDERING DATA

| For Tool Weighing | Cable Length (Ft.) | Aero-Motive Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1-2 lbs.** | 5.2 | RB2 | **6W199** | $36.75 | **$34.45** | 1.1 |
| **2-4** | 5.2 | RB4 | **6W200** | 36.75 | **34.45** | 1.1 |
| **4-6** | 6.7 | RF6 | **6W201** | 69.18 | **65.20** | 3.3 |
| **4-6** | 6.7 | RFL6 | **6W202*** | 84.32 | **79.35** | 3.3 |
| **6-8** | 6.7 | RF8 | **6W203** | 98.11 | **82.05** | 3.3 |
| **6-8** | 6.7 | RFL8 | **6W204*** | 115.92 | **84.65** | 3.4 |

(*) Includes ratchet lock mechanism.

AERO-MOTIVE



Registered to ISO 9001

4-10 lbs.
8-15 lbs.

## INDUSTRIAL TOOL BALANCERS

Aero-Motive tool balancers require only a light downward force to properly position the tool to the worker's task. By helping to control weight and movement the tools can be used with minimal effort for longer periods of time. The balancers can fatigue, and improve productivity. With balancers, workstations can be organized more efficiently by ensuring that the tools are always in the right place, yet suspended out of the way when not in use. Damage to tools can be prevented.

Balancer features: Rugged steel construction; permanent lubrication; easily replaceable, self-contained main spring; external tension adjustment that requires no special tools; 3/32" diameter stranded steel aircraft cable for 8' of travel.

### SPECIFICATIONS AND ORDERING DATA

| For Tool Weighing | Dia. (In.) | Depth (In.) | Aero-Motive Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **SERIES F 1-15 LB. TOOL BALANCERS** | | | | | | | |
| **4-10 lbs.** | 8.6 | 3.3 | 10F | **6Z157** | $165.40 | **$135.95** | 4.5 |
| **8-15** | 8.6 | 3.3 | 15F | **6Z158** | 167.58 | **157.25** | 4.5 |

Dayton®



No. 2Z372

No. 2Z373

Replacement Parts Available 1-800-323-0620

## TOOL BALANCERS

- Compact balancers ideal for workstations
- Designed to reduce repetitive motion injury risk
- Manually adjustable tension control
- Sturdy 10 ft. nylon cable/5 ft. travel
- Oilite bearings, case hardened shafts
- Steel reinforced aluminum drums
- Long life safety snaps. No whip action

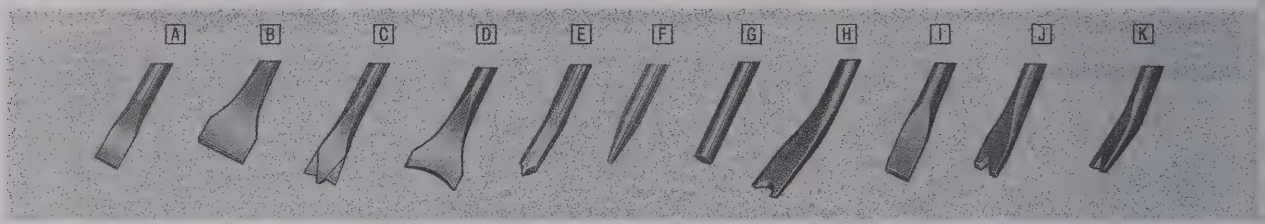
### SPECIFICATIONS AND ORDERING DATA

| For Tool Weighing | Dia. (In.) | Depth (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **To 1½ lbs.** | 3 | 2 | **4Z754** | $31.74 | **$29.75** | 0.7 |
| **2 to 5 lbs.** | 3 | 2 | **2Z372** | 31.74 | **29.55** | 0.8 |
| **5 to 10 lbs.** | 3½ | 2½ | **2Z373** | 57.40 | **53.10** | 1.5 |

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# CHISELS FOR AIR HAMMERS AND CHIPPING HAMMERS

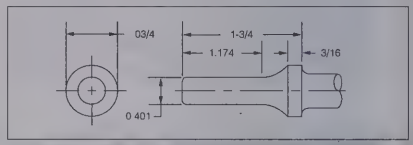



## 0.401" ROUND SHANK RIVET HAMMER CHISELS

| Key | Description | Length (In.) | Ajax Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Flat Chisel, 3/4" wide | 6½ | 910 | 2Z121 | $8.85 | $8.41 | 0.4 |
| A | Flat Chisel, 3/4" wide | 18 | 910-18 | 2Z887 | 18.00 | 17.10 | 1.1 |
| B | Scraping Chisel, 1 5/16" wide | 6 3/16 | 905 | 2Z122 | 11.60 | 11.02 | 0.4 |
| C | Ripping Chisel | 6 | 909 | 2Z124 | 12.60 | 11.97 | 0.3 |
| D | Cut-Off Tool | 6⅞ | 902 | 2Z126 | 9.74 | 9.26 | 0.3 |
| E | Muffler Splitter | 7½ | 908 | 2Z120 | 15.09 | 14.34 | 0.4 |
| F | Tapered Punch | 6½ | 911 | 2Z123 | 12.64 | 8.92 | 0.3 |
| G | 1/2" Punch Blank | 6½ | 913 | 2Z125 | 7.55 | 7.17 | 0.4 |
| H | 3/4" W. Lg. Notch | 8½ | — | 2Z179 | 13.85 | 13.16 | 0.4 |
| I | Rivet Cutter | 5¾ | 912 | 2Z885 | 8.95 | 8.50 | 0.3 |
| J | V-Chisel | 6¼ | 914 | 2Z886 | 11.35 | 10.78 | 0.3 |
| K | Claw Ripper | 5⅜ | 907 | 2Z884 | 13.85 | 13.16 | 0.3 |
| — | 4-Piece Set | 7 | — | 6ZF45 | 41.00 | 38.95 | 1.3 |

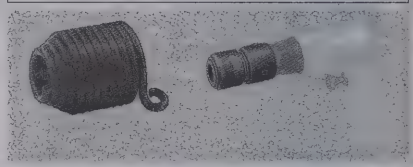
**AJAX Tools**

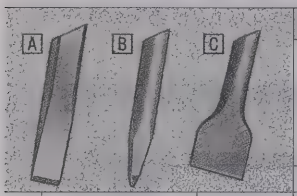
Chisels are made from heat-treated alloy steel for long life. Handy 4-piece set No. 6ZF45 contains one each No. 2Z121, No. 2Z122, No. 2Z123, and No. 2Z124. Ajax Tool brand.



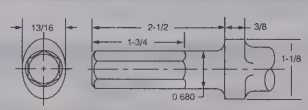

## RETAINERS FOR .401 SHANK PNEUMATIC HAMMERS

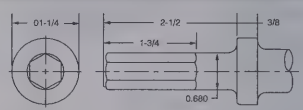
| Description | Fits | Ajax Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| .401 Shank Beehive Retainer Spring | Ingersoll-Rand | 895-IR | 3JW37 | $7.25 | $6.89 | 0.2 |
| .401 Shank Mech-Aid Retainer Spring | Dayton, CP, UT, Raider | 897 | 3JW38 | 8.25 | 7.84 | 0.1 |
| Ball Type Retainer | Dayton, CP, UT, Raider | 3300-U | 2Z883 | 40.00 | 36.75 | 0.8 |
| Ball Type Retainer | Ingersoll-Rand, Sioux | 3300-1 | 3JW14 | 43.35 | 41.20 | 1.0 |



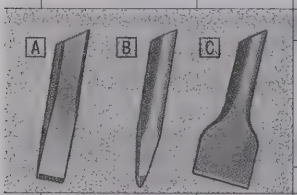



## 0.580" HEX SHANK - CHIPPING HAMMER CHISELS

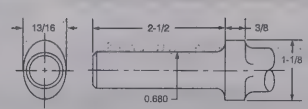


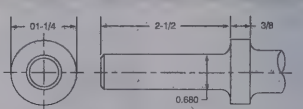




| Key | Description | Length (In.) | Oval Collar: Ajax Model | Oval Collar: Stock No. | Oval Collar: List | Oval Collar: Each | Oval Collar: Shpg. Wt. | Round Collar: Ajax Model | Round Collar: Stock No. | Round Collar: List | Round Collar: Each | Round Collar: Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1" Standard Chisel | 9 | 304 | 3JW06 | $21.64 | $20.56 | 1.3 | 406 | 3JW25 | $21.64 | $20.56 | 1.3 |
| A | 1" Standard Chisel | 12 | 304-12 | 3JW07 | 25.80 | 24.51 | 1.6 | 408 | 3JW27 | 25.80 | 24.51 | 1.6 |
| B | Moil Point | 9 | 314 | 3JW11 | 20.65 | 19.62 | 1.3 | 410 | 3JW29 | 21.64 | 20.56 | 1.3 |
| B | Moil Point | 12 | 316 | 3JW12 | 22.69 | 21.56 | 1.6 | 412 | 3JW31 | 25.80 | 24.51 | 1.6 |
| C | 2" Wide Chisel | 9 | 324 | 3JW13 | 27.85 | 26.50 | 1.3 | 424 | 3JW34 | 28.85 | 27.45 | 1.3 |

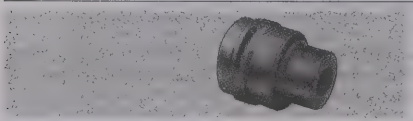



## 0.680" ROUND SHANK - CHIPPING HAMMER CHISELS




| Key | Description | Length (In.) | Oval Collar: Ajax Model | Oval Collar: Stock No. | Oval Collar: List | Oval Collar: Each | Oval Collar: Shpg. Wt. | Round Collar: Ajax Model | Round Collar: Stock No. | Round Collar: List | Round Collar: Each | Round Collar: Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1" Standard Chisel | 9 | 303 | 6W654 | $13.30 | $12.64 | 1.3 | 405 | 3JW24 | $27.85 | $26.50 | 1.3 |
| A | 1" Standard Chisel | 12 | 303-12 | 6W655 | 15.95 | 15.15 | 1.6 | 407 | 3JW26 | 21.64 | 20.56 | 1.6 |
| B | Moil Point | 9 | 313 | 6W656 | 13.65 | 12.97 | 1.3 | 409 | 3JW28 | 21.64 | 20.56 | 1.3 |
| B | Moil Point | 12 | 315 | 6W657 | 16.10 | 15.30 | 1.6 | 411 | 3JW30 | 25.80 | 24.51 | 1.6 |
| C | 2" Wide Chisel | 9 | 323 | 6W658 | 20.55 | 19.52 | 1.7 | 423 | 3JW33 | 28.85 | 27.45 | 1.7 |



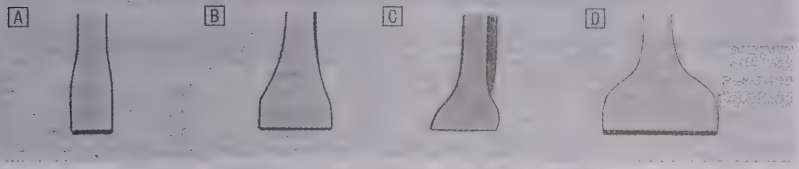
## RETAINERS FOR CHIPPING HAMMERS WITH SPRING RETAINER

| Description | Fits | Ajax Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Chipping Hammer Retainer | Dayton, CP, Jet | 4000-2 | 3JW22 | $41.25 | $39.20 | 2.0 |
| Chipping Hammer Retainer | IR | 4000-3 | 3JW23 | 41.25 | 39.20 | 2.0 |



*System components or tools — We're your one source for pneumatics.*

# CHISELS FOR AIR HAMMERS AND CHIPPING HAMMERS

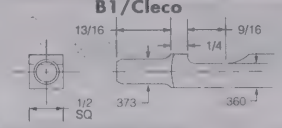



## WELD FLUX SCALING HAMMER CHISELS

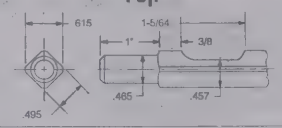
| Key | Shank Style | Description | Length (In.) | Ajax Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | B1/Cleco | Chisel, 3/4" wide | 8 | 392 | 6W208 | $10.35 | $9.83 | 0.5 |
| B | B1/Cleco | Chisel, 1 3/8" wide | 8 | 393 | 6W209 | 11.10 | 10.55 | 0.2 |
| C | B1/Cleco | Angle Chisel, 1 1/8" wide | 8 | 394 | 6W210 | 11.10 | 10.55 | 0.2 |
| D | B1/Cleco | Chisel 2" wide | 8 | 390 | 6W211 | 27.10 | 25.75 | 0.2 |
| A | Fuji | Chisel, 3/4" wide | 8 | | 6W212 | 11.29 | 10.73 | 0.4 |
| B | Fuji | Chisel, 1 3/8" wide | 8 | | 6W213 | 11.70 | 11.12 | 0.2 |
| C | Fuji | Angle Chisel, 1 3/8" wide | 8 | | 6W214 | 11.70 | 11.12 | 0.2 |
| D | Fuji | Chisel 2" wide | 8 | | 6W215 | 27.50 | 25.35 | 0.2 |
| A | IR | Chisel, 3/4" wide | 8 | 382 | 3JW16 | 9.30 | 8.84 | 0.5 |
| B | IR | Chisel, 1 3/8" wide | 8 | 383 | 3JW17 | 10.29 | 9.78 | 0.6 |
| B | IR | Chisel 1 3/8" wide | 12 | 383-12 | 3JW18 | 13.40 | 12.73 | 0.9 |
| C | IR | Angle Chisel, 1 3/8" wide | 8 | 384 | 3JW19 | 10.29 | 9.78 | 0.6 |
| D | IR | Chisel, 2" wide | 8 | 380 | 3JW15 | 23.75 | 22.56 | 0.6 |

AJAX Tools

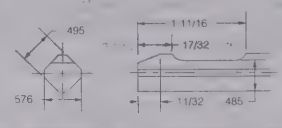
B1/Cleco

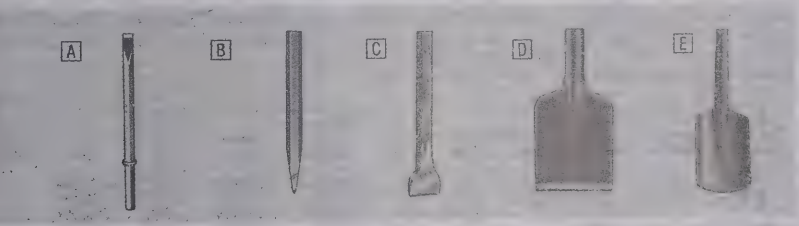



Fuji




IR

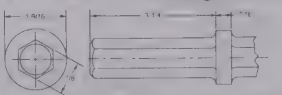


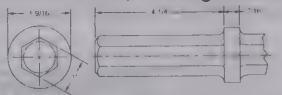

| Key | Description | Length (In.) | Ajax Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| | **7/8" HEX x 3 1/4" LENGTH SHANK** | | | | | | |
| A | Chisel | 14 | 11100 | 3JT29 | $30.55 | $29.05 | 5.0 |
| B | Moil Point | 14 | 11200 | 3JV96 | 30.55 | 29.05 | 5.0 |
| C | Chisel, 3" wide | 14 | 11300 | 3JV97 | 39.20 | 37.25 | 5.0 |
| D | Asphalt Cutter | 11 | 18400 | 3JV98 | 94.85 | 90.15 | 7.0 |
| E | Clay Spade | 16 | 19500 | 3JV99 | 108.25 | 102.85 | 7.5 |
| | **1" HEX x 4 1/4" LENGTH SHANK** | | | | | | |
| A | Chisel | 14 | 21100 | 6W194 | 21.05 | 20.00 | 4.5 |
| B | Moil Point | 14 | 21200 | 6W192 | 21.05 | 20.00 | 4.5 |
| C | Chisel, 3" wide | 14 | 21300 | 3JW01 | 39.15 | 37.20 | 6.0 |
| D | Asphalt Cutter | 11 | 28400 | 3JW03 | 95.90 | 91.15 | 7.5 |
| E | Clay Spade | 16 | 29500 | 3JW04 | 110.30 | 104.80 | 9.2 |
| | **1 1/8" HEX x 6" LENGTH SHANK** | | | | | | |
| A | Chisel | 14 | 31100 | 3JW08 | 37.10 | 35.25 | 7.0 |
| B | Moil Point | 14 | 31200 | 3JW09 | 37.10 | 35.25 | 7.0 |
| C | Chisel, 3" wide | 14 | 31300 | 3JW10 | 43.30 | 41.15 | 7.5 |
| D | Asphalt Cutter | 11 | 38400 | 3JW20 | 100.00 | 95.00 | 7.5 |
| E | Clay Spade | 16 | 39500 | 3JW21 | 118.55 | 112.65 | 11.0 |
| | **1 1/4" HEX x 6" LENGTH SHANK** | | | | | | |
| A | Chisel | 14 | 41100 | 6W195 | 26.30 | 24.99 | 7.3 |
| B | Moil Point | 14 | 41200 | 6W193 | 26.30 | 24.99 | 7.3 |
| C | Chisel, 3" wide | 14 | 41300 | 3JW32 | 47.45 | 45.10 | 9.0 |
| D | Asphalt Cutter | 11 | 48400 | 3JW35 | 104.15 | 98.95 | 9.5 |
| E | Clay Spade | 16 | 49500 | 3JW36 | 123.69 | 117.55 | 11.0 |
| | **STANDARD RIVET BUSTER CHISELS** | | | | | | |
| A | 7/8" Standard Chisel | 9 | 221 | 6W659 | 19.25 | 18.29 | 1.8 |
| A | 7/8" Standard Chisel | 12 | 221-12 | 6W660 | 29.85 | 28.40 | 2.5 |
| B | Moil Point | 12 | 246 | 6W661 | 23.70 | 22.52 | 2.5 |
| | **JUMBO RIVET BUSTER CHISELS** | | | | | | |
| A | Chisel | 12 | 276-12 | 3JW02 | 48.50 | 46.10 | 6.2 |
| B | Moil Point | 12 | 297 | 3JW05 | 43.35 | 41.20 | 2.0 |

AJAX Tools

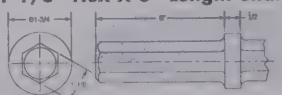
7/8" Hex 3-1/4" Length Shank



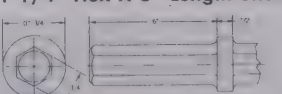
1" Hex X 4-1/4" Length Shank



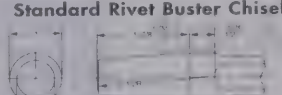
1-1/8" Hex X 6" Length Shank



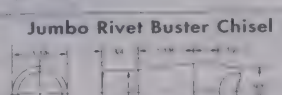
1-1/4" Hex X 6" Length Shank



Standard Rivet Buster Chisel

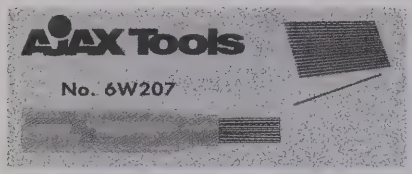


Jumbo Rivet Buster Chisel



For master cut burs and bur sets, see product index in back of this catalog.

# AIR TOOL ACCESSORIES

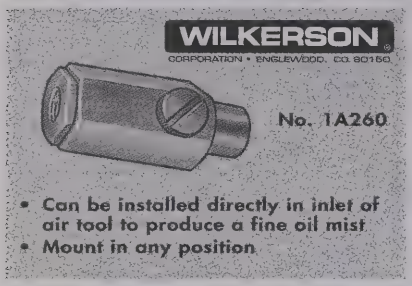



## REPLACEMENT NEEDLE SETS

**Replacement needle sets** for many brands of pneumatic needle scalers. Needles are heat treated steel for long life. Each set contains nineteen 1/8" (3mm) diameter needles.

**NEEDLE SETS ORDERING DATA**

| Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 5 | 6W206 | $14.20 | **$13.06** | 0.4 |
| 7 | 6W207 | 14.20 | **13.06** | 0.5 |



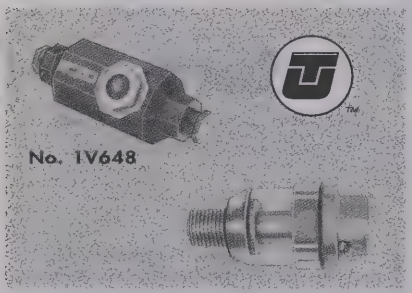

- Can be installed directly in inlet of air tool to produce a fine oil mist
- Mount in any position

## IN-LINE LUBRICATOR

Feature 1/4 oz. reservoir which holds enough lubricant to last an 8-hour shift. Cannot be filled while air pressure is on. No adjustments to tamper with; lubricates in any position. Maximum inlet port pressure is 200 PSI. Maximum temperature is 175°F. 3" long. 1⅛ hex. Available in 1/4 and 3/8" NPT female inlet and male outlet pipe connections. Wilkerson brand.

**IN-LINE LUBRICATOR SPECIFICATIONS AND ORDERING DATA**

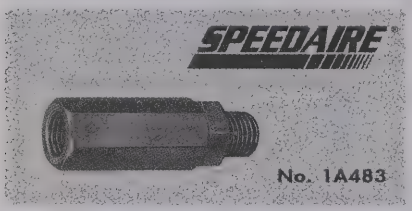
| Female Inlet (In.) | Male Outlet (In.) | Length (In.) | Hex (In.) | Maximum Pressure | Maximum Temp. | Wilkerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1/4 | 3 | 1⅛ | 200 PSI | 175°F | L01-02-M00 | **1A260** | $25.30 | **$19.13** | 0.2 |
| **3/8** | 3/8 | 3 | 1⅛ | 200 | 175 | L01-03-000 | **1A261** | 25.30 | **19.13** | 0.3 |




## IN-LINE OILERS

Keeps air tools lubricated continuously for longer tool life and better performance. 20% more capacity with 300% larger sight glass. Aluminum body for indoor or outdoor applications. Metering valve offers lifetime guarantee. Max. PSI 150. Universal Tool brand.

| Oil Capacity (Ounces) | Air Capacity (CFM) | Pipe Size NPT (Inches) | Dimensions (In.) Length | Width | Height | Universal Tool Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **0.2** | 40 | 1/4 | 2½ | 1⅛ | 1⅛ | UTA85830 | **1V644** | $19.00 | **$17.20** | 0.1 |
| **2.6** | 100 | 1/2 | 4½ | 2⅜ | 2 13/16 | UT9310 | **1V652** | 36.00 | **33.00** | 1.0 |
| **5.3** | 175 | 3/4 | 6 | 2⅞ | 3⅜ | UT9320 | **1V650** | 42.00 | **38.25** | 1.5 |
| **11.0** | 175 | 3/4 | 7 | 3⅜ | 3 11/16 | UT9330 | **1V648** | 52.50 | **47.50** | 2.0 |
| **16.0** | 350 | 1 | 10 | 3⅞ | 4 3/16 | UT9340 | **1V646** | 62.50 | **56.95** | 4.4 |




## IN-LINE FILTER

**Speedaire pneumatic in-line filter** protects air tools such as impact wrenches, grinders and screwdrivers from damage due to impurities in the air line. Reduces downtime and prevents costly tool repair. 40 micron sintered bronze filter element gives minimum pressure drop. Lightweight all anodized aluminum housing. Compact enough to be installed directly in air tool inlet. Filter may also be used for fluids including oil and gasoline. Working pressure is 500 PSI. 1/4" NPT. Speedaire brand.

**No. 1A483.** In-line Filter. Shpg. wt. 0.1 lbs. List $4.70. Each ..... **$4.61**




## AIR TOOL OIL

Suitable for use with all air tools, air line lubricators, air hammers and pneumatic rock drills. Formulation provides an optimum balance of adhesiveness, yet emulsifiable enough to pick up moisture carried in the oil stream. Special metal wetting agents coat and protect metal from moisture. High EP characteristics protect tools even in tough mining, contractor and in-plant operations.

**AIR TOOL OIL SPECIFICATIONS AND ORDERING DATA**

| Container Size/ Config. | ISO Viscosity Grade | Viscosity (Sus @100°F) | Flash Point (°F) | Pour Point (°F) | Stock No. ❸ | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Quart** | 46 | 230 | 370 | -20 | **4ZF22** | $4.60 | **$3.91** | **$3.72** | 2.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data sheets (MSDS) are available. See page opposite inside back cover

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

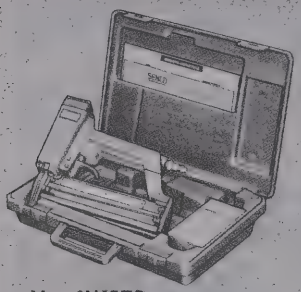
**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

## SPECIFICATIONS AND ORDERING DATA

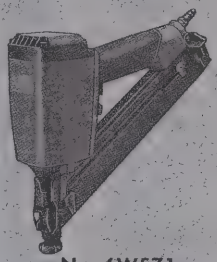
| For Use With Model | Description | | Dia. | Length (In.) | Quantity Per Box | Senco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **18 GAUGE BRADS** | | | | | | | | | | |
| | Galvanized | | 18 GA | 5/8 | 5000 | AY10EAA | **3LW66** | $15.55 | **$15.00** | 1.6 |
| | Galvanized | | 18 GA | 3/4 | 5000 | AY11EAA | **3LW67** | 16.75 | **16.00** | 2.1 |
| **6W572** | Galvanized | | 18 GA | 1 | 5000 | AX13EAA | **6W596** | 19.85 | **18.65** | 2.6 |
| **(SLP20)** | Galvanized | | 18 GA | 1¼ | 5000 | AX15EAA | **6W597** | 19.95 | **18.65** | 3.1 |
| | Galvanized | | 18 GA | 1½ | 5000 | AX17EAA | **6W598** | 20.95 | **19.34** | 4.0 |
| | Galvanized | | 18 GA | 1⅝ | 5000 | AX18EAA | **3LW65** | 22.65 | **21.10** | 4.3 |
| **FINISH NAILS** | | | | | | | | | | |
| | 2 "penny" | | 15 GA | 1 | 4000 | DA13EPBN | **3LW68** | 21.96 | **21.00** | 5.0 |
| | 3 "penny" | | 15 GA | 1¼ | 4000 | DA15EPBN | **6W590** | 22.85 | **21.12** | 6.0 |
| **6W570 (SFN40)** | 4 "penny" | (Galv.) | 15 GA | 1½ | 4000 | DA15EABN | **3LW69** | 32.84 | **31.50** | 7.2 |
| **and** | 4 "penny" | | 15 GA | 1½ | 4000 | DA17EPBN | **6W591** | 32.75 | **30.30** | 7.2 |
| **6W571 (SNF1)** | 5 "penny" | | 15 GA | 1¾ | 4000 | DA19EPBN | **6W592** | 32.45 | **30.10** | 8.5 |
| | 6 "penny" | | 15 GA | 2 | 4000 | DA21EPBN | **6W593** | 38.90 | **36.10** | 10.0 |
| | 6 "penny" | (Galv.) | 15 GA | 2 | 4000 | DA21EABN | **6W594** | 46.55 | **43.20** | 10.0 |
| | 7 "penny" | | 15 GA | 2¼ | 4000 | DA23EPBN | **3LW70** | 42.00 | **40.50** | 11.0 |
| **6W570** | 8 "penny" | (Galv.) | 15 GA | 2½ | 3000 | DA25EAB | **3LW71** | 51.00 | **49.00** | 9.3 |
| | 8 "penny" | | 14 GA | 2½ | 3100 | UA25EPB | **6W595** | 37.75 | **34.90** | 12.0 |
| **FLAT ROUND FULL HEAD NAILS** | | | | | | | | | | |
| | 6 "penny" | | .113 | 2 | 3500 | GD21APBS | **3LW72** | 44.73 | **44.00** | 22.0 |
| **3LW90** | 8 "penny" | | .113 | 2½ | 2800 | GD25APBS | **3LW73** | 41.97 | **40.00** | 22.0 |
| **(SN60)** | 10 "penny" | Ring Shank | .113 | 2⅞ | 2800 | GL24APBS | **3LW74** | 47.01 | **45.00** | 21.0 |
| | 10 "penny" | | .131 | 3 | 2500 | KD27APBS | **3LW75** | 35.88 | **34.50** | 30.0 |
| **(SN65)** | 12 "penny" | (Galv.) | .131 | 3½ | 2500 | KD28AABS | **3LW76** | 57.50 | **55.50** | 32.0 |
| | 12 "penny" | | .131 | 3¼ | 2500 | KD28APBS | **3LW77** | 43.55 | **42.00** | 32.0 |
| **STRIP NAILS** | | | | | | | | | | |
| | 6 "penny" | | .113 | 2 | 6700 | GC21APBN | **6W577** | 88.30 | **81.60** | 42.0 |
| **6W569** | 8 "penny" | | .113 | 2⅜ | 5000 | GC24APBN | **6W578** | 75.15 | **69.45** | 36.0 |
| **(SN325+)** | 8 "penny" | (Galv.) | .113 | 2⅜ | 1000 | GE24AAA | **6W579** | 83.70 | **79.75** | 36.0 |
| **3LW87** | 8 "penny" | | .113 | 2½ | 5000 | GC25APBN | **6W580** | 77.25 | **71.40** | 39.0 |
| **(SN70)** | 10 "penny" | | .120 | 3 | 3200 | HC27APBN | **6W581** | 49.75 | **45.75** | 32.0 |
| | 10 "penny" | | .131 | 3 | 3000 | KC27APBN | **6W582** | 48.35 | **44.90** | 36.0 |
| | 12 "penny" | | .131 | 3¼ | 3000 | KC28APBN | **6W583** | 58.10 | **54.10** | 39.0 |
| **STRIP GALVANIZED DECK NAILS** | | | | | | | | | | |
| **3LW87** | 8 "penny" | Ring Shank | .113 | 2⅜ | 5000 | GE24ADAN | **6W585*** | 130.40 | **120.55** | 36.0 |
| **(SN70)** | 8 "penny" | | .113 | 2½ | 5000 | GC25AABN | **6W586** | 86.25 | **82.45** | 39.0 |
| **6W569** | 10 "penny" | | .131 | 3 | 3000 | KC27AABN | **6W587** | 61.65 | **57.85** | 36.0 |
| **(SN325+)** | 10 "penny" | Screw Shank | .120 | 3 | 1600 | HF27EDB | **6W588** | 34.35 | **31.80** | 11.0 |
| **GALVANIZED ROOFING COIL NAILS** | | | | | | | | | | |
| | 2 "penny" | | .120 | 1 | 7200 | HJ13ATAP | **6W599** | 52.75 | **51.85** | 32.0 |
| **6W573** | 3 "penny" | | .120 | 1¼ | 7200 | HJ15ATAP | **6W600** | 57.70 | **54.95** | 36.0 |
| **(SCN40R)** | 4 "penny" | | .120 | 1½ | 7200 | HJ17ATAP | **6W601** | 67.32 | **64.15** | 41.0 |
| **GALVANIZED 3/16" CROWN FINE WIRE STAPLES** | | | | | | | | | | |
| | — | | 22 GA | 3/8 | 40,000 | A06BABP | **3LW78** | 71.60 | **69.00** | 6.0 |
| **3LW89** | — | | 22 GA | 1/2 | 30,000 | A08BAAP | **3LW79** | 58.50 | **56.00** | 5.8 |
| **(SJS-A)** | — | | 22 GA | 5/8 | 23,000 | D10BABN | **3LW83** | 33.60 | **31.40** | 5.4 |
| **GALVANIZED 3/8" CROWN FINE WIRE STAPLES** | | | | | | | | | | |
| | — | | 22 GA | 3/8 | 50,000 | C06BAAP | **3LW80** | 25.00 | **24.00** | 8.8 |
| **3LW88** | — | | 22 GA | 1/2 | 35,000 | C08BAAP | **3LW81** | 18.55 | **18.00** | 7.3 |
| **(SJS-C)** | — | | 22 GA | 5/8 | 27,000 | C10BAAPN | **3LW82** | 18.63 | **18.00** | 7.3 |
| **GALVANIZED 1/4" CROWN FINISH STAPLES** | | | | | | | | | | |
| **3LW91** | 1/4" Crown | | 18 GA | 1 | 5000 | L13BABN | **6W611** | 18.35 | **16.83** | 5.2 |
| **(SLS-20)** | 1/4 Crown | | 18 GA | 1¼ | 5000 | L15BAB | **6W612** | 20.15 | **19.12** | 6.7 |
| **6W576(SKS)** | 1/4 Crown | | 18 GA | 1½ | 5000 | L17BAB | **6W613** | 27.80 | **26.45** | 9.5 |
| **7/16" CROWN INDUSTRIAL STAPLES** | | | | | | | | | | |
| | 7/16" Crown | | 16 GA | 1½ | 10,000 | N17BRB | **6W605** | 45.90 | **42.75** | 26.0 |
| **3LW84** | 7/16 Crown | (Galv.) | 16 GA | 1½ | 10,000 | N17BAB | **6W606** | 57.50 | **53.45** | 26.0 |
| **(SNS45)** | 7/16 Crown | | 16 GA | 1¾ | 10,000 | N19BRB | **6W607** | 49.00 | **45.65** | 30.0 |
| **6W574** | 7/16 Crown | (Galv.) | 16 GA | 1¾ | 10,000 | N19BAB | **6W608** | 63.10 | **58.65** | 30.0 |
| **(M2+)** | 7/16 Crown | | 16 GA | 2 | 10,000 | N21BRB | **6W609** | 53.65 | **50.05** | 34.0 |
| | 7/16 Crown | (Galv.) | 16 GA | 2 | 10,000 | N21BAB | **6W610** | 69.00 | **64.25** | 34.0 |
| **GALVANIZED WIDE CROWN ROOFING/INDUSTRIAL STAPLES** | | | | | | | | | | |
| **6W575** | 1" Wide Crown | | 16 GA | 7/8 | 10,000 | P12BAB | **6W602** | 35.95 | **33.15** | 22.0 |
| **(SPS)** | 1 Wide Crown | | 16 GA | 1 | 10,000 | P13BAB | **6W603** | 38.50 | **35.55** | 24.0 |
| **(PWR) 3LW86** | 1 Wide Crown | | 16 GA | 1¼ | 10,000 | P15BAB | **6W604** | 43.50 | **40.10** | 28.0 |

(*) Weather ex nails last up to 3X longer than galvanized.

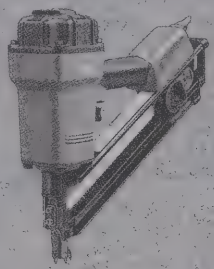
# SENCO AIR NAILERS



No. 6W572
Brad Nailer



No. 6W571
2" Finish Nailer

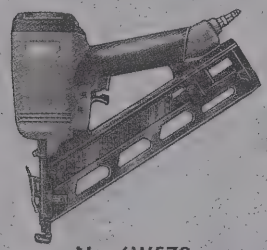


No. 4TT34

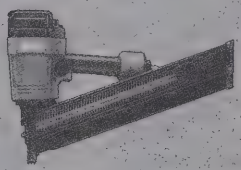
SENCO®
FASTENING SYSTEMS

New

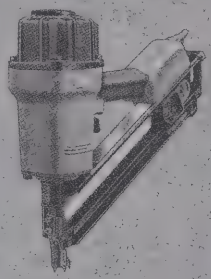
Replacement Parts Available
1-800-323-0620



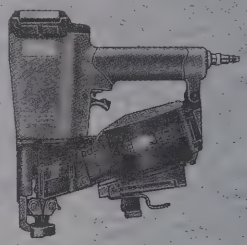
No. 6W570
2 1/2" Finish Nailer



No. 3LW90
Framing Nailer



No. 4TT35



No. 6W573
Roofing Coil Nailer

## BRAD NAILER

**No. 6W572** 1⅝" nailer for cabinet and furniture making, woodworking, on-site construction, and manufactured housing applications. Drives both slight-headed and medium-headed brads in a wide range of lengths. Oil-free design for no lubrication. Convenient carrying case.

## FINISH NAILERS

**No. 6W570** new oil-free nailer. 3 lbs. lighter with adjustable-depth-of-drive feature. Drives heavy-duty 15 gauge type brad-head finish nails from 1¼ to 2½" from trim, paneling, case goods, and face frames. 100 brad capacity. Oil-free design for no lubrication.

**No. 6W571** 2" nailer for light and heavy trim, molding, paneling, and stair applications. Countersinks or flush drives 1" to 2" true brad-head finishing nails without marring wood. Oil-free tool provides minimum maintenance with long service life.

## FRAMING NAILERS

**No. 3LW90** Construction framing nailer that **drives full round head nails only.** Used for framing decks, subflooring, sidewall sheathing, and roof decking. Drives smooth, ring, and full round head nails 2 to 3½" in length.

**Nos. 4TT34 and 4TT35.** Heavy-duty construction nailer for framing, truss building, subflooring, sheating, decking, siding, and fencing. Drives smooth, ring, and screw shank nails 2" to 3½" in length. Adjustable depth-of-drive control. Toe-nail safety grip studs to prevent slipping.

## ROOFING COIL NAILER

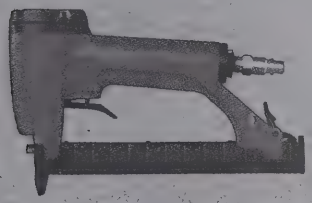
**6W573** nailer for fastening asphalt and fiberglass shingles. Drives full round-head roofing nails in lengths of 3/4 to 1½". High load 120 nail capacity minimizes production interruptions. Safety may be adjusted from 0 to 5/16" for precise depth-of-drive control. **NeverLube™ Design** - means no oil is required. **Adjustable Depth-of-Drive** - No tools are necessary to adjust drive depth to meet varying shingle roof configuration. **Straight-Drive™ Nail Alignment** - Simple "jaws" configuration promotes straight drive of nails, each time. Shorter nails (3/4, 7/8 and 1") can be driven without tumbling.

## AIR NAILER SPECIFICATIONS AND ORDERING DATA

| Type of Tool | Dimensions (In.) L | W | H | Rec. Air Pres. PSI | Avg. Air Cons. CFM* | Air Inlet NPT | Senco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Brad Nailer** | 9½ | 2 | 8¼ | 70-120 | 1.64 | 1/4 | SLP20 | **6W572** | $439.75 | **$239.00▲** | 5.0 |
| **Finish Nailer** | 13 | 3½ | 11¼ | 80-110 | 3.84 | 1/4 | SFN40 | **6W570** | 433.50 | **429.00▲** | 12.0 |
| **Finish Nailer** | 12 | 3 | 9 5/8 | 70-120 | 2.16 | 1/4 | SFN1+ | **6W571** | 503.25 | **336.50▲** | 6.0 |
| **Framing Nailer** | 19¾ | 4⅜ | 13½ | 70-120 | 8.16 | 3/8 | SN60 | **3LW90** | 657.00 | **453.50▲** | 9.0 |
| **Framing Nailer** | 15 | 4¼ | 13¼ | 80-120 | 9.96 | 3/8 | SN600 | ***New*4TT34** | 515.00 | **419.50▲** | 8.5 |
| **Framing Nailer** | 15 | 4¼ | 13¼ | 80-120 | 9.98 | 3/8 | SN650 | ***New*4TT35** | 555.00 | **486.00▲** | 9.0 |
| **Roofing Coil Nailer** | 9¾ | 4½ | 10⅜ | 90-120 | 4.72 | 1/4 | SCN40R | **6W573** | 645.00 | **525.00▲** | 9.0 |

(▲) Net pricing, not subject to discounts. (*) CFM based off of 60 cycles per minute.

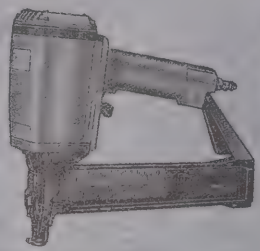
# SENCO AIR STAPLERS



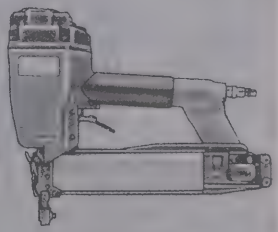
Nos. 3LW88 and 3LW89
Upholstery Stapler



No. 3LW91
Trim Stapler



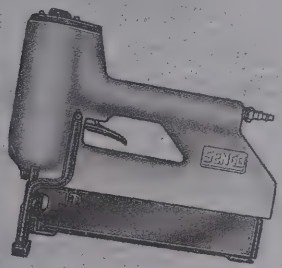
No. 6W576
Finish Stapler



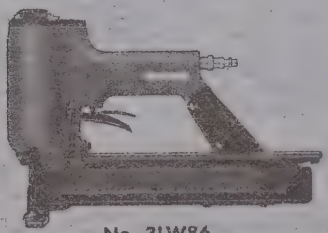
No. 3LW84
2" Stapler

SENCO®
FASTENING SYSTEMS

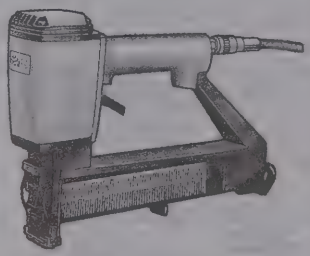
Replacement Parts Available
1-800-323-0620



No. 6W574
Industrial Stapler



No. 3LW86
Roofing Stapler



No. 6W575
Wide Crown Stapler

## FINISH STAPLERS

**No. 3LW88** light-duty stapler for furniture, upholstering, home insulation, picture frames, and roofing felt. Drives C wire 3/8" crown, 3/8 to 5/8" in length. Oil-free design for no lubrication.

**No. 3LW89** narrow crown light-duty stapler drives A wire staples 3/8 to 1/2" in length. Also drives D wire 3/16" crown staples that are used in furniture, upholstering, home insulation, picture frames, and roofing felt. Oil-free design for no lubrication.

**No. 3LW91** finish and trim stapler with Neverlube™ feature which requires no lubrication. Drives 18 gauge L wire 1/4" crown staples 3/8 to 1½" in length. Lightweight yet powerful for molding, trim, lattice, soffits, and insulative sheathing. Oil-free design for no lubrication. Convenient carrying case.

**No. 6W576** for cabinet furniture and general woodworking applications. Drives 1/4" crown staples up to 1½" into hard woods. Stapler requires no lubrication and has only two moving O-rings, 1" lip reaches into tight spaces. Oil-free design for no lubrication.

## INDUSTRIAL STAPLERS

**No. 3LW84** weighs only 5.1 lbs and is best in class power to weight ratio. Fewer moving parts means repair is minimal and easy. The SNS45 drives 7/16" crown staples in eight lengths of staples from 1" to 2"; features and adjustable depth of drive for consistent drive and also a comfort grip handle. Multi-purpose tool suited for on-site and manufactured housing, furniture frames, boxes, crates and pallets.

**No. 6W574** heavy-duty stapler for construction, packaging, and furniture. Drives 16-gauge, 7/16" crown staples from 1¼ to 2" from sheathing, flooring, decking, pallets, crates, and furniture frames. Holds over 140 staples.

## WIDE CROWN STAPLERS

**No. 3LW86** construction stapler drives 1" wide crown staples for shingles, lathing, and insulation. Drives staples 1/2 to 1¼" in length.

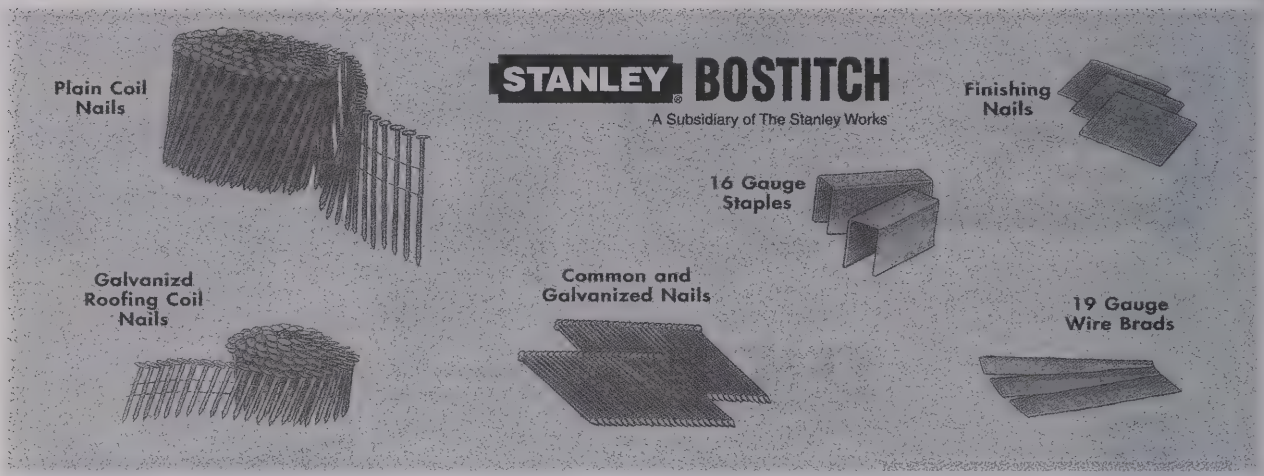
**No. 6W575** for general industrial applications such as lath wire attachment, insulation attachment, furniture and cabinet assembly, and carton-to-skid attachment. Drives 16-gauge 1" wide crown staples in various lengths. Oil-free design for no lubrication.

## AIR STAPLER SPECIFICATIONS AND ORDERING DATA

| Type of Tool | Dimensions (In.) L | W | H | Rec. Air Pressure PSI | Avg. Air Cons. CFM* | Air Inlet NPT | Crown (In.) | Senco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upholstery Stapler | 9 7/16 | 1 15/16 | 5 15/16 | 70 to 110 | .77 | 1/4 | 3/8 | SJS (C) | 3LW88 | $210.00 | $165.00 ▲ | 3.0 |
| Trim Stapler | 9 7/16 | 1 15/16 | 5 15/16 | 70 to 110 | .77 | 1/4 | 3/16 | SJS (A) | 3LW89 | 232.00 | 185.00 ▲ | 3.0 |
| Trim Stapler | 12 | 2 | 8½ | 70 to 120 | 1.64 | 1/4 | 1/4 | SLS20 | 3LW91 | 321.50 | 285.00 ▲ | 4.7 |
| Finish Stapler | 12 3/8 | 2 | 9⅛ | 70 to 120 | 2.16 | 1/4 | 1/4 | SKS | 6W576 | 390.00 | 310.00 ▲ | 6.0 |
| 2" Stapler | 14 | 3½ | 11 | 80 to 120 | 5.20 | 3/8 | 7/16 | SNS45 | 3LW84 | 507.00 | 399.00 ▲ | 6.7 |
| 2" Stapler | 12 7/8 | 3½ | 11½ | 80 to 120 | 4.56 | 3/8 | 7/16 | M2+ | 6W574 | 535.00 | 411.00 ▲ | 8.0 |
| Roofing Stapler | 12½ | 2½ | 8 1/16 | 80 to 120 | 2.28 | 3/8 | 1 | PWR | 3LW86 | 488.00 | 385.00 ▲ | 8.0 |
| Wide Crown Stapler | 13½ | 3 1/16 | 9 7/8 | 80 to 120 | 2.16 | 1/4 | 1 | SPS | 6W575 | 460.00 | 380.00 ▲ | 7.0 |

(▲) Net prices, not subject to discounts. (*) CFM based off of 60 cycles per minute.

# AIR NAILERS AND STAPLERS




**Bostitch fasteners are for use with pneumatic nailers, staplers, and tackers.** They are collated in sticks or coils for fast, easy loading. Nos. 5W013 thru 5W015 come in coils of 300 nails. Nos. 5W016 thru 5W018 come in coils of 250 nails. Nos. 5W011, 5W012, and 2W762 thru 2W764 come in coils of 120 roofing nails. Nos. 2W801, 2W802, and 2W803 are finishing nails. Nos. 2W804, 2W805, and 2W806 are 19 gauge wire brads with brown colored heads and come 100 brads per stick.

**Synthetic film coating** on nail shanks and staple legs is friction activated when fastener is driven into wood and solidifies as fastener is set to provide added holding power. Bostitch brand.

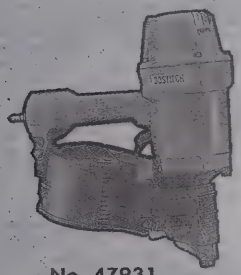
## SPECIFICATIONS AND ORDERING DATA

| Use Only With Model | Description | Dia. (In.) | Length (In.) | Quantity Per Box | Bostitch Model | Stock No. | Per Box List | Per Box Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **PLAIN SHANK COIL NAILS WITH BLUNT CHISEL POINT** | | | | | | | | | |
| **4Z931** | 5 "penny" | .099 | 1¾ | 9000 | AC5D099 | **5W013** | $110.65 | **$98.75** | 34.0 |
| **4Z931** | 6 "penny" | .099 | 2 | 3600 | C6P99D | **5W014** | 46.65 | **42.60** | 18.0 |
| **4Z931** | 7 "penny" | .099 | 2¼ | 9000 | AC7D099 | **5W015** | 128.50 | **117.85** | 44.0 |
| **4Z931** | 8 "penny" | .120 | 2½ | 2700 | C8P120D | **5W016** | 52.60 | **46.35** | 24.0 |
| **4Z931** | 10 "penny" | .120 | 3 | 2700 | C10P120D | **5W017** | 59.90 | **47.70** | 27.0 |
| **4Z931** | 12 "penny" | .120 | 3¼ | 2700 | C12P120D | **5W018** | 63.80 | **59.05** | 31.0 |
| **GALVANIZED ROOFING COIL NAILS WITH CHISEL POINT** | | | | | | | | | |
| **4Z782** | 2 "penny" | .120 | 7/8 | 7200 | CR2DCGAL | **5W011** | 75.50 | **53.80** | 31.0 |
| **4Z782** | 2 "penny" | .120 | 1 | 7200 | CR2DGAL | **5W012** | 78.40 | **56.05** | 33.0 |
| **4Z782** | 3 "penny" | .120 | 1¼ | 7200 | CR3DGAL | **2W762** | 83.20 | **57.45** | 36.0 |
| **4Z782** | 4 "penny" | .120 | 1½ | 7200 | CR4DGAL | **2W763** | 93.00 | **68.75** | 43.0 |
| **4Z782** | 5 "penny" | .120 | 1¾ | 7200 | CR5DGAL | **2W764** | 100.35 | **69.75** | 46.0 |
| **COMMON NAILS WITH DIAMOND POINT** | | | | | | | | | |
| **6Z668, 4Z407** | 6 "penny" | .113 | 2 | 2000 | S6D-2M | **5X386** | 30.40 | **29.05** | 14.0 |
| **6Z668, 4Z407** | 8 "penny" | .120 | 2½ | 2000 | S8D | **5W231** | 37.75 | **32.00** | 17.0 |
| **6Z668, 4Z407** | 10 "penny" | .120 | 3 | 2000 | S10D | **4X922** | 43.25 | **33.00** | 20.0 |
| **6Z668, 4Z407** | 12 "penny" | .120 | 3¼ | 2000 | S12D | **5X389** | 45.80 | **39.90** | 26.0 |
| **6Z668, 4Z407** | 16 "penny" | .131 | 3½ | 2000 | S16D131 | **5X390** | 62.50 | **47.25** | 27.0 |
| **GALVANIZED NAILS WITH DIAMOND POINT** | | | | | | | | | |
| **6Z668, 4Z407** | 8 "penny" | .120 | 2½ | 2000 | S8DGAL | **4X953** | 59.80 | **47.60** | 18.0 |
| **6Z668, 4Z407** | 10 "penny" | .120 | 3 | 2000 | S10DGAL | **4X954** | 73.00 | **68.00** | 24.0 |
| **6Z668, 4Z407** | 12 "penny" | .120 | 3¼ | 2000 | S12DGAL | **4X955** | 75.05 | **70.80** | 24.0 |
| **6Z668, 4Z407** | 16 "penny" | .131 | 3½ | 2000 | S16D131GAL | **4X956** | 80.45 | **77.40** | 27.0 |
| **16 GAUGE STAPLES WITH CHISEL POINT** | | | | | | | | | |
| **4Z409** | Galvanized | 1/2* | 1½ | 12,000 | BCS1109 | **5X391** | 111.40 | **78.10** | 36.0 |
| **4Z409** | Galvanized | 1/2* | 2 | 9000 | BCS1112 | **5X392** | 110.00 | **72.25** | 34.0 |
| **4Z410** | Galvanized | 1* | 7/8 | 11,200 | BCS1098 | **5X393** | 76.35 | **66.75** | 26.0 |
| **4Z410** | Galvanized | 1* | 1½ | 6400 | BCS1102 | **5X394** | 61.65 | **54.05** | 22.0 |
| **FINISHING NAILS** | | | | | | | | | |
| **5Z278** | Steel | 15 Ga. | 1½ | 3655 | FN1524 | **5A858** | 37.90 | **32.85** | 6.7 |
| **5Z278** | Steel | 15 Ga. | 2 | 3655 | FN1532 | **5A859** | 38.70 | **36.10** | 8.9 |
| **5Z278** | Steel | 15 Ga. | 2½ | 3655 | FN1540 | **5A860** | 44.25 | **41.65** | 11.0 |
| **19 GAUGE WIRE BRADS** | | | | | | | | | |
| **4Z903** | Brown Heads | 19 Ga. | 5/8 | 3000 | BT1300B | **2W804** | 17.75 | **14.73** | 1.0 |
| **4Z903** | Brown Heads | 19 Ga. | 3/4 | 3000 | BT1303B | **2W805** | 19.25 | **17.31** | 1.2 |
| **4Z903** | Brown Heads | 19 Ga. | 1 | 3000 | BT1309B | **2W806** | 20.05 | **18.10** | 1.6 |

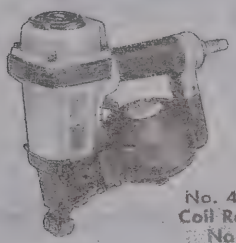
(*) Crown width.

**1-Year Stanley Bostitch Limited Warranty**

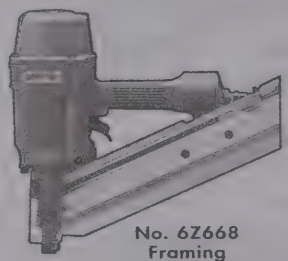
See "Manufacturers' Warranties" on page opposite inside back cover.



No. 4Z931 Coil-Fed Nailer



No. 4Z782 Coil Roofing Nailer

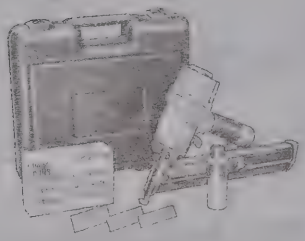


No. 6Z668 Framing Nailer

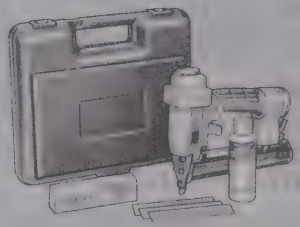
STANLEY BOSTITCH

A Subsidiary of The Stanley Works

Replacement Parts Available 1-800-323-0620



No. 5Z278 Finish Nailer



No. 4Z903 Brad Tacker

Bostitch pneumatic nailers and staplers are used for construction and industrial applications. Heavy-duty construction is lightweight for minimum operator fatigue.

Features include: quick-load, high capacity magazine, quick cycling and simplified air valving system. Operates at pressures as low as 60 PSI.

Nailer and staplers incorporate contact trip for rapid operation. Allow operator to depress trigger continuously and tap the gun tip for fast actuation. Steep-pitch magazine on nailer Nos. 4Z407 and 6Z668 concentrates weight at point of impact. 3/8" NPT air inlet and 3/8" I.D. recommended hose size, except 1/4" on No. 4Z782.

**No. 4Z931 Coil-Fed Nailer** is lightweight and easy to handle in high volume builder and contractor applications. Uses easy-to-load coils of 250 to 300 nails. Drives 1½ to 3¼" length full size, full head, plain ring and screw shank nails.

**No. 4Z782 Coil-Fed Roofing Nailer.** Drives full head, galvanized coil roofing nails, 120 nails per coil will nail down a full bundle of shingles per loading. One piece, one step loading with long-life carbide steel contact parts. Comfort grip handle and replaceable anti-slip rubber frame protector. Accommodates 3/4, 7/8, 1, 1¼, 1½, and 1¾" nails.

**No. 6Z668 Framing Nailer** is a lightweight, state-of-the art tool for framing, deck building and pallet-making. This high-performance, stick-fed, contact-trip unit can accommodate 2 to 3½" nails. Magazine capacity 75 to 105 nails.

**No. 5Z278 Finish Nailer Kit.** Compact yet powerful enough for construction applications. Aluminum alloy components are light and durable. Exclusive "Dial-A-Depth" adjustment precisely controls nail penetration. Sequential trip operation assures precise nail placement. Angled magazine for fast loading. Nonmarring foot prevents scratches in finished or soft wood. Drives 1¼-2½" finish nails. Kit includes: carrying case, oil, and fasteners.

**No. 4Z903 Brad Tacker Kit.** Features molded comfort grip & fast rear-loading with anti-jam magazine. Narrow nose for accurate fastener placement. Drives 19 gauge brads 5/8" through 1⅜". 100 brad capacity. Kit includes: carrying case, oil, and fasteners.

## SPECIFICATIONS AND ORDERING DATA

| Type | Pressure PSI | CFM† | Dimensions (In.) Length | Width | Height | Tool Wt. (Lbs.) | Bostitch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Coil-Fed Nailer** | 70-100 | 7.9 | 12 1/16 | 5 9/16 | 13 | 8.0 | N80CB-1 | **4Z931** | $578.00 | **$395.75** ▲ | 11.0 |
| **Coil Roof Nailer** | 70-100 | 5.0 | 10 5/8 | 4 3/8 | 10 3/8 | 6.0 | RN45B-1 | **4Z782** | 638.00 | **426.00** ▲ | 6.9 |
| **Framing Nailer** | 70-100 | 9.6 | 13 3/4 | 1 8 3/4 | 5 7/16 | 8.0 | N80SB-1 | **6Z668** | 578.00 | **396.00** ▲ | 8.3 |
| **Finish Nailer** | 70-100 | 6.0 | 14 1/8 | 3 | 10 7/8 | 4.4 | N60FN-2-Kit | **5Z278** | 618.00 | **320.00** ▲ | 6.6 |
| **Brad Tacker** | 60-100 | 1.6 | 10 3/8 | 2 5/16 | 7 7/8 | 2.7 | BT35B-Kit | **4Z903** | 279.00 | **139.95** ▲ | 3.4 |

(†) Maximum CFM based on 100 shots per minute. Actual requirement may be less. (▲) Net prices, not subject to discounts.

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# FASTENERS FOR DAYTON AIR STAPLERS AND NAILERS

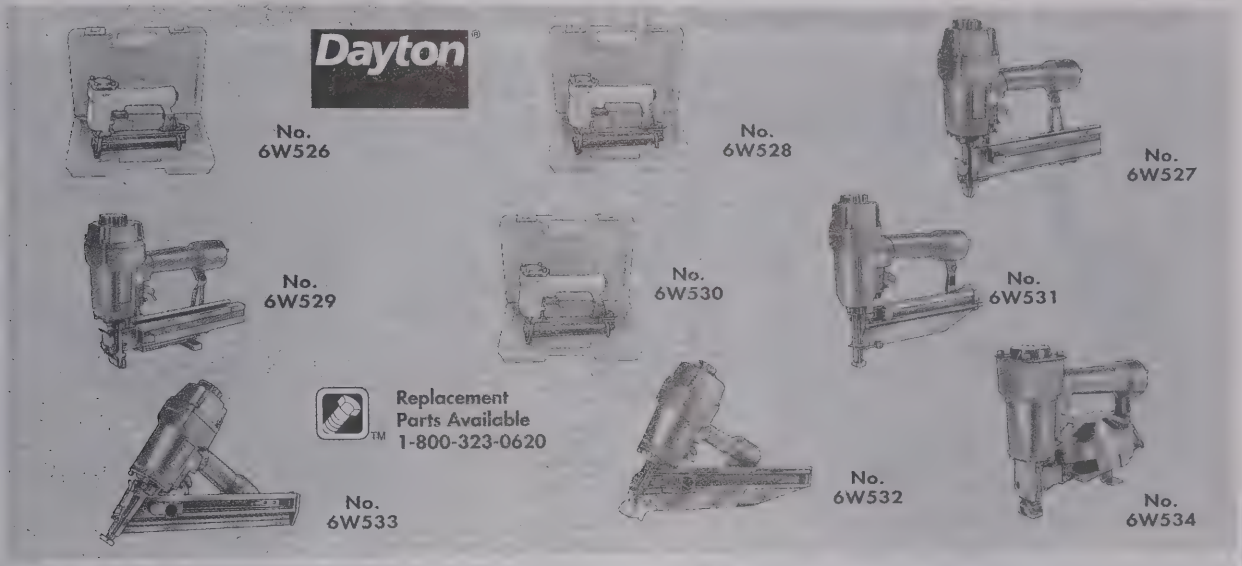
| For Use With Model | Description | Gauge | Length (In.) | Quantity Per Box | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **MEDIUM WIRE STAPLES** | | | | | | | | |
| **6W526** | 1/4" Crown | 18 | 1/2 | 5000 | **6W523** | $11.00 | **$9.00** | 2.7 |
| | | 18 | 3/4 | 5000 | **6W524** | 14.50 | **12.00** | 3.9 |
| | | 18 | 7/8 | 5000 | **6W525** | 17.00 | **14.00** | 4.6 |
| **FINE WIRE STAPLES** | | | | | | | | |
| **6Z059** | 1/2" Crown | 0.50 | 3/8 | 5000 | **6Z060** | 23.30 | **18.33** | 2.1 |
| | | 0.50 | 9/16 | 5000 | **6Z061**† | 25.85 | **19.82** | 2.1 |
| | | 0.50 | 7/8 | 5000 | **6Z062** | 40.55 | **31.80** | 3.1 |
| | | 0.50 | 1 | 5000 | **6Z063** | 37.95 | **31.35** | 3.1 |
| **6W528** | 1/2" Crown | 20 | 3/8 | 5000 | **6W536** | 7.50 | **6.00** | 1.5 |
| | | 20 | 1/2 | 5000 | **6W535** | 10.00 | **8.00** | 1.8 |
| | | 20 | 7/8 | 5000 | **6W537** | 14.50 | **12.00** | 2.6 |
| **HEAVY WIRE GALVANIZED STAPLES** | | | | | | | | |
| **6W527** | 1/2" Crown | 16 | 1½ | 12,000 | **5X391*** | 111.40 | **78.10** | 36.0 |
| | | 16 | 2 | 9000 | **5X392*** | 110.00 | **72.25** | 34.0 |
| **6W529** | 1" Crown | 16 | 1 | 5000 | **6W521** | 28.00 | **23.00** | 11.0 |
| | | 16 | 1½ | 5000 | **6W518** | 36.00 | **29.00** | 16.0 |
| **GALVANIZED BRAD NAILS** | | | | | | | | |
| **6W530** | Brown Head | 18 | 5/8 | 5000 | **6W539** | 11.00 | **8.99** | 1.6 |
| | | 18 | 1 | 5000 | **6W538** | 15.25 | **10.99** | 2.5 |
| | | 18 | 1¼ | 5000 | **6W513** | 18.30 | **13.50** | 3.2 |
| **GALVANIZED FINISH NAILS** | | | | | | | | |
| **6W531** | Plain Head | 16 | 3/4 | 5000 | **6W522** | 18.00 | **15.00** | 3.5 |
| | | 16 | 1¼ | 2500 | **6W520** | 10.00 | **8.00** | 2.8 |
| | | 16 | 1½ | 2500 | **6W517** | 14.00 | **11.50** | 3.5 |
| | | 16 | 2 | 2500 | **6W519** | 17.00 | **14.00** | 4.3 |
| **ANGLE FINISH NAILS** | | | | | | | | |
| **6W533** | Plain Head | 15 | 1½ | 4000 | **6W514** | 37.00 | **30.00** | 7.0 |
| | | 15 | 2 | 4000 | **6W516** | 43.00 | **36.00** | 8.6 |
| | | 15 | 2½ | 3000 | **6W515** | 41.00 | **35.00** | 12.0 |
| **COMMON NAILS WITH DIAMOND POINT*** | | | | | | | | |
| **6W532** | 6 "penny" | .113 | 2 | 2000 | **5X386** | 30.40 | **29.05** | 14.0 |
| | 8 "penny" | .120 | 2½ | 2000 | **5W231** | 37.75 | **32.00** | 17.0 |
| | 10 "penny" | .120 | 3 | 2000 | **4X922** | 43.25 | **33.00** | 20.0 |
| | 12 "penny" | .120 | 3¼ | 2000 | **5X389** | 45.80 | **39.90** | 26.0 |
| | 16 "penny" | .131 | 3½ | 2000 | **5X390** | 62.50 | **47.25** | 27.0 |
| **GALVANIZED ROOFING COIL NAILS WITH CHISEL POINT*** | | | | | | | | |
| **6W534** | 2 "penny" | .099 | 7/8 | 7200 | **5W011** | 75.50 | **53.80** | 31.0 |
| | 2 "penny" | .099 | 1 | 7200 | **5W012** | 78.40 | **56.05** | 33.0 |
| | 3 "penny" | .120 | 1¼ | 7200 | **2W762** | 83.20 | **57.45** | 36.0 |
| | 4 "penny" | .120 | 1½ | 7200 | **2W763** | 93.00 | **68.75** | 43.0 |
| | 5 "penny" | .120 | 1¾ | 7200 | **2W764** | 100.35 | **69.75** | 46.0 |

(*) Bostitch brand. (†) Contain divergent points for use in ceiling tile installation.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# DAYTON AIR STAPLERS AND NAILERS




- **Dayton Air Staplers and Nailers for industrial, construction and commercial applications.**
- **Ergonomic designed nailers and staplers let you work longer with less fatigue.**
- **Sure-grip rubber handle for improved control and comfortable handling even during extented use**

## STAPLERS

**No. 6W526 1/4" Crown Stapler** is used for paneling, molding or industrial use in manufacturing furniture. Slanted cylinder with longer nose to allow operator to reach tight areas. Unique combination trigger for rapid contact firing or easy to operate sequential mode. Includes an adjustable exhaust cap to deflect air in any direction, blow-molded storage case, and top load magazine to hold (120) 18 gauge staples 1/2" to 1" long. Operating pressure 60 to 100 PSI.

**No. 6W528 1/2" Crown Stapler** is ideal for insulation installers, furniture makers, upholsters, and carpenters. Slanted cylinder with longer nose to allow operator to reach tight areas. Unique combination trigger for rapid contact firing or easy to operate sequential mode. Includes an adjustable exhaust cap to deflect air away from work piece, blow-molded storage case, and bottom load magazine to hold (120) 20 gauge staples 3/8" to 1" long. Operating pressure 60 to 100 PSI.

**No. 6W527 1/2" Crown Heavy Duty Stapler** is used for sheathing, decking or industrial applications in furniture, cabinets or decking. Three-position switch for rapid contact firing, sequential mode or lock mode. Includes an adjustable exhaust cap to deflect air away from work piece. Magazine capacity of (150) 16 gauge staples 1¼" to 2" long. Operating pressure 70 to 110 PSI.

**No. 6W529 1" Crown Heavy Duty Stapler** is used for sheathing, and industrial cabinet making. Three-position switch for rapid contact firing, easy to use sequential mode or lock mode. Includes an adjustable exhaust cap to deflect air in any direction. Magazine holds (150) 16 gauge staples from 1" to 1½" long. Operating pressure 70 to 110 PSI.

## NAILERS

**No. 6W530 18 Gauge Brad Nailer** is ideal for window and door trim, paneling, cabinet and furniture making. Unique combination trigger for rapid contact firing or easy to operate sequential mode. Slanted cylinder with longer nose to allow operator to reach tight areas. Includes an adjustable exhaust cap to deflect air in any direction, blow-molded storage case, and top load magazine. Hold (110) 18 gauge brads 3/8" to 1¼" long. Operating pressure 60 to 100 PSI.

**No. 6W531 16 Gauge Finish Nailer** is used for trim, molding, base boards, furniture and cabinet making. Combination trigger for rapid firing, easy to operate sequential mode or lock mode. Drives nails from 3/4" to 2½" long. Easy top loading magazine is completetly enclosed and holds (100) 15 gauge nails. Includes blow-molded storage case. Operating pressure 70 to 110 PSI.

**No. 6W533 15 Gauge Angle Finish Nailer** for trim, molding, furniture and cabinet making. Angle magazine allows nailing in tight spaces, such as toenailing and corners. Quick rear loading magazine holds up to 120 nails.Operating pressure 60 to 110 PSI.

**No. 6W532 Angle Framing Nailer** used for house framing, truss building, sub-flooring, decking, pallet and crate making. Angle magazine allows nailing in tight spaces, such as toenailing and corners. Includes auto-stop firing that prolongs tool life by locking when magazine is empty. Large magazine holds up to 100 plain, ring and scew shank nails. Operating pressure 70 to 110 PSI.

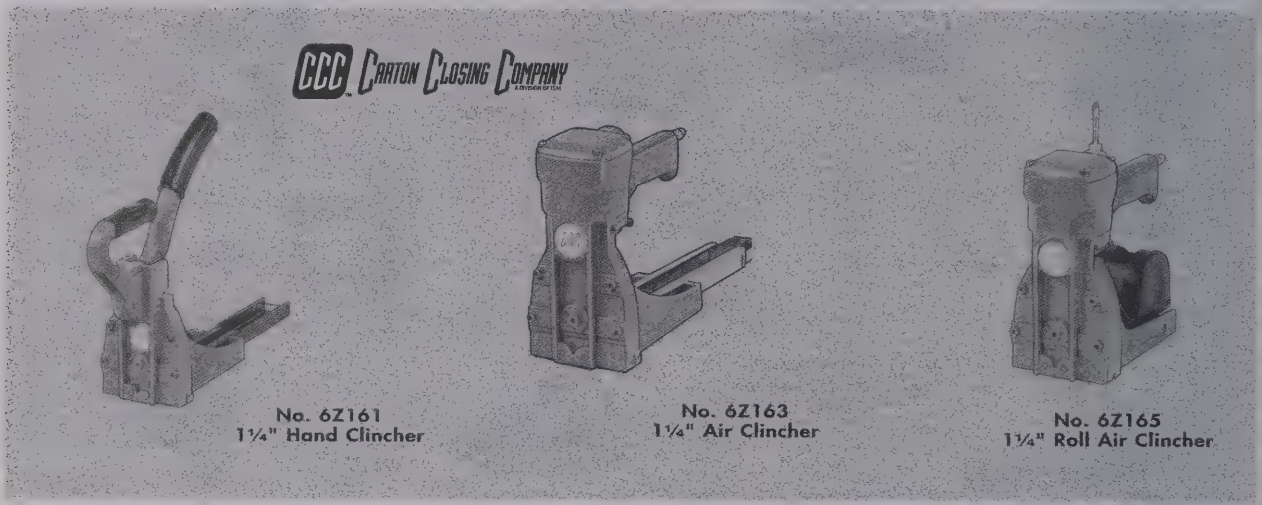
**No. 6W534 Roofing Nailer** drives full-headed coiled roofing nails from 3/4" to 1¾" long. Hardened contact top inserts reduce wear caused by applying roof shingles. Magazine holds 120 nails. Operating pressure 70 to 110 PSI.

| Type of Tool | Crown Size (In.) | Gauge | Fastener Range (In.) | Magazine Capacity | CFM | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Stapler** | 1/4 | 18 | 1/2 to 1 | 120 | 1.6 | **6W526** | $135.00 | **$95.00▲** | 4.9 |
| **Stapler** | 1/2 | 20 | 3/8 to 1 | 120 | 1.6 | **6W528** | 135.00 | **95.00▲** | 4.7 |
| **Heavy-Duty Stapler** | 1/2 | 16 | 1¼ to 2 | 150 | 6.0 | **6W527** | 405.00 | **299.00▲** | 7.6 |
| **Heavy-Duty Stapler** | 1 | 16 | 1 to 1½ | 150 | 6.0 | **6W529** | 375.00 | **280.00▲** | 7.6 |
| **Brad Nailer** | — | 18 | 3/8 to 1¼ | 110 | 1.6 | **6W530** | 145.00 | **99.00▲** | 4.8 |
| **Finish Nailer** | — | 16 | 3/4 to 2½ | 100 | 6.0 | **6W531** | 300.00 | **215.00▲** | 8.9 |
| **Angle Finish Nailer** | — | 15 | 1½ to 2 | 90-100 | 6.0 | **6W533** | 450.00 | **330.00▲** | 7.5 |
| **Angle Framing Nailer** | — | .113-.131 | 2 to 3½ | 75-100 | 8.3 | **6W532** | 525.00 | **353.50▲** | 11.0 |
| **Roofing Nailer** | — | .099-.120 | 3-4 to 1¾ | 120 | 7.0 | **6W534** | 525.00 | **359.00▲** | 7.6 |

(▲)Net prices, not subject to discounts.

# CARTON CLOSING STAPLES

## AIR AND MANUAL STAPLERS AND STAPLES



No. 6Z161
1¼" Hand Clincher

No. 6Z163
1¼" Air Clincher

No. 6Z165
1¼" Roll Air Clincher

- **Staple penetration is controlled easily with minor manual adjustments. Provides either full or blind depth penetration and either loose or tight clinch**
- **Readily removable magazine permits easy clearance without use of tools**
- **Efficient design of units ensures minimum air consumption**

Reliability, versatility and economy describe this line of pneumatic and manual packaging staplers. The Roll Air Clincher, with its staple capacity ten times that of ordinary staplers, is preferred by packaging professionals in high volume packaging applications. The Air Clincher is a practical choice because of its reduced size and weight; the Hand Clincher is a dependable, no-maintenance stapler. Carton Closing Corp. brand.

**Hand Clinchers** are manual staplers capable of closing thousands of cartons without maintenance. The new two-handle design permits a more accurate positioning of stapler on carton surface and minimizes the effort required to clinch staple. 1¼" stapler No. 6Z161 uses "C" staples; 1⅜" stapler No. 6Z162 uses "A" staples.

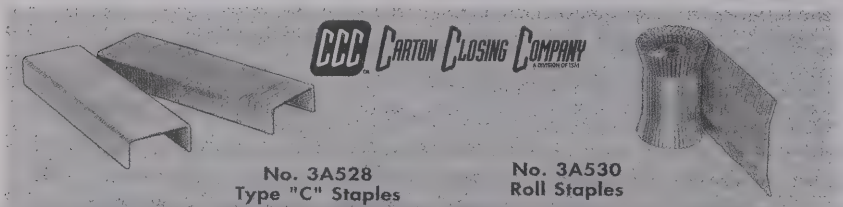
**Air Clincher** is the workhorse of the packaging industry. Its pneumatic system speeds carton closing operations. Air pressure: 80 PSI; air consumption: 0.08 cu ft. 1¼" stapler No. 6Z163 uses "C" (1¼" crown) staples; 1⅜" stapler No. 6Z164 uses "A" (1⅜" crown) staples.

**Roll Air Clincher** is a high production roll stapler with a capacity of 1000 staples. Performs up to 250 carton closings without needing to be reloaded yet, is the lightest roll stapler on the market. Air pressure: 80 PSI; air consumption: 0.08 cu. ft.

### STAPLER SPECIFICATIONS AND ORDERING DATA

| Type | Staple Capacity | Dimensions (In.) H | W | L | Carton Closing Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1¼" Hand Clincher** | 150"C" | 11¾ | 3⅞ | 19½ | HC150C-5/8 | **6Z161** | $224.19 | **$189.00** | 5.5 |
| **1⅜" Hand Clincher** | 100"A" | 11¾ | 3⅞ | 19½ | HC100A-5/8 | **6Z162** | 224.18 | **189.00** | 7.0 |
| **1¼" Air Clincher** | 150"C" | 8¼ | 3⅞ | 16 | AC150C-5/8 | **6Z163** | 413.23 | **360.25** | 8.5 |
| **1⅜" Air Clincher** | 100"A" | 8¼ | 3⅞ | 16 | AC100A-5/8 | **6Z164** | 413.23 | **360.25** | 8.5 |
| **1¼" Roll Air Clincher** | 1000 | 8¼ | 3⅞ | 8¼ | RC1000-5/8 | **6Z165** | 470.18 | **405.25** | 6.2 |

## REPLACEMENT STAPLES



No. 3A528
Type "C" Staples

No. 3A530
Roll Staples

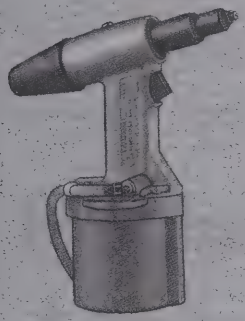
"C" staples have a crown width of 1¼" and wire size of 0.035 x 0.076"; "A" staples have a crown width of 1⅜" and wire size of 0.035 x 0.090". Both come in 5/8" leg lengths, and are interchangeable with other brand staples such as International Staple and Machine, Container Corp and Salco. "A" and "C" staples come in sticks of 50. Roll staples have a crown width of 1¼" and wire size of 0.035 x 0.076". They are 5/8" long and come 1000 per roll.

### REPLACEMENT STAPLE SPECIFICATIONS AND ORDERING DATA

| Type | Crown Width (In.) | Crown Depth (In.) | Carton Closing Model | Qty. per Carton | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **"C"** | 1¼ | 5/8 | 6029097C-5/8 | 25,000 | **3A528** | $75.95 | **$67.95** | 40.0 |
| **"A"** | 1⅜ | 5/8 | 6029098Husky-5/8 | 25,000 | **3A529** | 77.56 | **73.25** | 51.0 |
| **Roll** | 1¼ | 5/8 | 6019099RRI-5/8 | 24,000 | **3A530** | 84.02 | **81.40** | 39.0 |

## PRODUCTION AIR RIVETER

**POP®** FASTENERS



- "Standard of the Industry"
- Nosepieces set 1/8", 5/32", 3/16", and 1/4" open-end blind rivets
- 3000 lbs. pulling force
- Air/hydraulic design
- Lightweight construction

No. 6ZC22

**90-DAY LIMITED WARRANTY**

Pop Fasteners warrants riveter for 90 days. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**The Pop PRG540 is a high production air/hydraulic riveter** designed for assembly applications. Riveting can be performed with minimum effort on the part of the operator and fastenings are always uniform regardless of operator's strength. Riveter includes hardened steel jaws and nosepieces that set 1/8", 5/32", 3/16", and 1/4" open-end blind rivets.

**Quick exhaust air valve** rapidly returns pulling piston for high speed assembly. Pistol grip and trigger controlled air valve for easier operation. Attached lightweight air hose is connected to tool mid-line for balance and operator comfort when setting rivets in any position. 85 maximum PSI. Rated at 3000 lbs. pulling force. All cast-aluminum construction and polymer seals for long life and trouble-free service. 4½ lb. lightweight construction makes tool easy to handle. 7½L x 11³⁄₁₆"H. 4¾" diameter. Pop Tool brand.

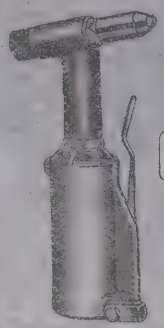
**NOTE: A wide selection** of steel and aluminum rivets available; see Index under Rivets.

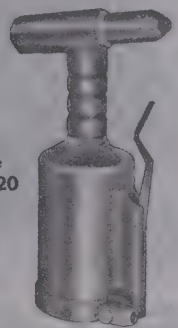
**No. 6ZC22.** Shpg. wt. 5.5 lbs. List $770.00. Each.....$755.00▲

(▲) Net prices, not subject to discounts.

## MEDIUM-DUTY AIR RIVETERS

**Dayton®**





Replacement Parts Available 1-800-323-0620

No. 4Z913

No. 4Z512

### No. 4Z913 AIR RIVETER

- For use with aluminum rivets only
- Includes 1/8", 5/32", and 3/16" nose piece sets
- Features safety grip on housing
- Rated at 2000 lbs. pulling force

### No. 4Z512 AIR RIVETER

- For use with aluminum rivets only
- Includes 3/16" and 1/4" nose piece sets
- Rated at 3200 lbs. pulling force

**SPECIFICATIONS AND ORDERING DATA**

| Blind Rivet Diameters (In.) | Overall Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/8, 5/32, 3/16 | 11¾ | 4Z913 | $354.20 | $211.50 | 3.5 |
| 3/16, 1/4 | 12¼ | 4Z512 | 770.50 | 542.00 | 5.0 |

## CAULK MASTER AIR POWERED CAULKING GUNS

- Up to 5 times faster than manual caulking guns
- Produces consistent, professional quality beads
- Lightweight for easy, fatigue free application
- Twist lock retainer for fast loading of cartridges
- No. 6W225 features high impact barrel for 10.5 oz. cartridge, pistol grip handle, and 2 ft. hose with 1/4" (M)NPT fitting
- No. 3KD95 features high impact barrel for 10.5 oz. cartridge, plastic barrel and adapter for 30 oz. cartridge, pistol grip handle and 2 ft. hose with 1/4" (M)NPT fitting
- 0-70 PSI operating range
- No. 6W225 holds 10.5 oz. (1/10 gal.) cartridge
- No. 3KD95 holds 10.5 oz. (1/10 gal.) and 30 oz. (1 qt.) cartridge




No. 6W225

For use with 10.5 oz. (1/10 gal) cartridges only




No. 3KD95

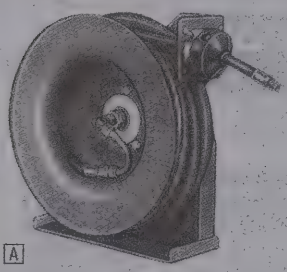
For use with both 10.5 oz. (1/10 gal.) cartridges and 30 oz. (1 qt.) cartridges

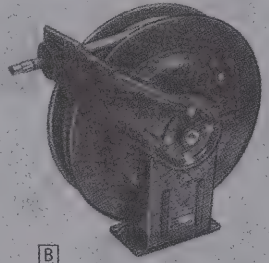
Valox is a registered trademark of GE Plastics

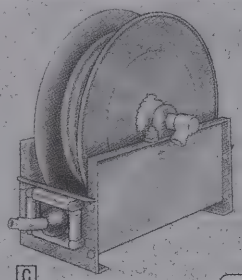
**SPECIFICATIONS AND ORDERING DATA**

| Cartridge Size | Caulk Master Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 10.5 oz. | PG100 | 6W225 | $43.48 | $41.50 | 2.0 |
| 10.5 oz. and 30 oz. | PG151 | 3KD95 | 88.50 | 87.00 | 2.0 |

# AUTOMATIC RETRACTABLE HOSE REELS


A


B


C




Replacement Parts Available
1-800-323-0620

- **Vibration proof, self-locking latch maintains desired length of hose**
- **Permanently lubricated bearings and swivels make units ideal for wall, floor, ceiling, or truck mounting**
- **Maximum temperature 150°F**

Low Pressure (300 PSI) hose reels are suitable for air and water applications. All low pressure hose reels have Buna-N seals except 3Z875 and 5Z026 which have Viton seals.

**No. 5Z026 accommodates hoses for air**, water, fuel oil, and certain chemicals compatible with Viton seals. Has capacity for 75 ft. of 1/2" or 3/4" I.D. hose, or 50 ft. of 1" hose. A 3/4" hose bumper is included.

**Low pressure (300 PSI) under the bench reels, Nos. 4HK86, and 4HK87** are smaller capacity reels for all general air and water applications. Reels can be mounted conveniently in out of the way locations for improved safety, convenience, and productivity.

**Stainless steel hose reels, Nos. 6Z784, 6Z785, and 6Z786 low pressure (500 PSI)** are ideal for low-pressure general air, water, solvent and chemical transfer applications in food processing, pre-rinse, washdown, chemical transfer, and industrial solvent handling markets. Also suitable for offshore and on-board marine applications where the harsh environment of salt spray requires the use of stainless steel hose reels. Complete with Viton seals, stainless steel swivel, and main shaft. Hose capacity on 6Z784 is 35ft. of 3/8", 6Z785, 50 ft. of 1/2", 6Z786 75 ft. of 3/4".

**Medium-pressure (2250 and 2000 PSI) hose reels** have S.A.E. 100R1, 1-wire braid hose. Suitable for motor oil, transmission fluid, gear oil, and hydraulic fluid transfer applications.

**High-pressure (4000 and 5000 PSI) hose reels** have S.A.E. 100R2, 2-wire braid hose for high pressure grease, or petroleum applications.

| Max PSI | Key | Hose Length (Ft.) | Hose ID (In.) | (M)NPT Hose Outlet (In.) | (F)NPT Reel Inlet (In.) | Dimensions (In.) L | W | H | Reelcraft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HOSE REELS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | | |
| **300** | A | 20 | 1/4 | 1/4 | 3/8 | 12 5/8 | 5 1/2 | 12 7/8 | 4420 OLP | **4HK86** | $138.37 | **$130.30** | 19.0 |
| **300** | A | 35 | 1/4 | 1/4 | 3/8 | 12 5/8 | 5 1/2 | 12 7/8 | 4435 OLP | **2Z862** | 176.75 | **168.00** | 22.0 |
| **300** | A | 15 | 3/8 | 1/4 | 3/8 | 12 5/8 | 5 1/2 | 12 7/8 | 4615 OLP | **4HK87** | 149.48 | **139.90** | 19.0 |
| **300** | A | 35 | 3/8 | 1/4 | 3/8 | 13 3/4 | 6 | 14 1/2 | 5635 OLP | **6Z160** | 212.12 | **201.25** | 28.0 |
| **300** | A | 35 | 1/2 | 3/8 | 3/8 | 16 1/2 | 6 | 17 1/2 | A5835 OLP | **4HK90** | 258.56 | **244.50** | 42.0 |
| **300** | A | 25 | 3/8 | 1/4 | 3/8 | 12 5/8 | 5 1/2 | 12 7/8 | 4625 OLP | **2Z863** | 184.89 | **174.50** | 22.0 |
| **300** | B | 50 | 3/8 | 1/4 | 1/2 | 19 | 7 | 20 1/4 | 7650 OLP | **2Z864** | 319.17 | **303.00** | 47.0 |
| **300** | B | 50 | 1/2 | 3/8 | 1/2 | 19 | 7 | 20 1/4 | 7850 OLP | **2Z865** | 331.31 | **313.25** | 52.0 |
| **300** | A | 50 | 3/8 | 3/8 | 3/8 | 16 1/2 | 6 | 17 1/2 | 5650 OLP | **4HK89** | 246.44 | **233.25** | 39.0 |
| **200** | C | 75 | 3/4 | 3/4 | 3/4 | 26 1/4 | 15 3/4 | 26 1/4 | FD9375 OLPBW | **3Z875** | 719.03 | **681.50** | 152.0 |
| **500** | C | — | — | — | 3/4 | 26 1/4 | 15 3/4 | 26 1/4 | FD9300 OLPBW | **5Z026*** | 532.18 | **505.00** | 116.0 |
| **2250** | A | 25 | 3/8 | 3/8 | 3/8 | 13 3/4 | 6 | 14 1/2 | 5625 OMP | **4Z314** | 304.69 | **281.00** | 32.0 |
| **2250** | A | 35 | 1/2 | 1/2 | 3/8 | 16 1/2 | 6 | 17 1/2 | A5835 OMP | **4HK91** | 356.53 | **327.00** | 44.0 |
| **2000** | B | 50 | 1/2 | 1/2 | 1/2 | 19 | 7 | 20 1/4 | 7850 OMP | **4Z313** | 428.28 | **407.75** | 56.0 |
| **5000** | A | 30 | 1/4 | 1/4 | 1/4 | 13 3/4 | 6 | 14 1/2 | 5430 OHP | **4Z174** | 348.55 | **331.25** | 30.0 |
| **5000** | A | 35 | 1/4 | 1/4 | 1/4 | 16 1/2 | 6 | 17 1/2 | 5435 OHP | **4HK88** | 369.66 | **341.50** | 44.0 |
| **4000** | B | 50 | 3/8 | 1/4 | 1/2 | 19 | 7 | 20 1/4 | 7650 OHP | **4Z175** | 474.80 | **450.75** | 60.0 |
| **STAINLESS STEEL HOSE REELS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | | | | | |
| **500** | A | — | — | — | 3/8 | 13 3/4 | 6 | 14 1/2 | 5600 OLS | **6Z784** | $459.00 | **$413.00** | 24.0 |
| **500** | B | — | — | — | 1/2 | 19 | 7 | 20 1/4 | 7800 OLS | **6Z785** | 671.00 | **599.00** | 46.0 |
| **500** | C | — | — | — | 3/4 | 26 1/4 | 15 3/4 | 26 1/4 | D9300 OLSBW | **6Z786** | 1557.00 | **1399.00** | 115.0 |

(*) 1/2" bumper No. 160-1699 and 1" bumper No. 167-9927 are available. For fastest service call 1-800-323-0620.

## REPLACEMENT HOSE BUMPERS

**Hose bumpers** are available for replacement use, or to accommodate hose sizes other than those for which the original hose bumper was intended.

Replacement Parts Available
1-800-323-0620

| Part No. | Hose ID (In.) | Hose OD (In.) | Bumper Diameter (In.) | For Stock Nos. |
|---|---|---|---|---|
| 119-5494 | 1/4 | .438-.624 | 2 1/2 | 6Z784, 6Z785 |
| 119-5379 | 3/8 | .625-.749 | 2 1/2 | 6Z784, 6Z785 |
| 165-3799 | 3/8 | .625-.749 | 3 | 6Z785 |
| 164-8203 | 1/2 | .750-1.050 | 3 | 6Z785 |
| 173-8848 | 3/4 | 1.060-1.300 | 3 | 6Z785 |
| 160-1699 | 1/2 | .750-1.050 | 3 1/2 | 6Z786 |
| 170-0947 | 3/4 | 1.060-1.380 | 3 1/2 | 6Z786 |
| 167-9927 | 1 | 1.390-1.550 | 3 1/2 | 6Z786 |

## MOTOR-DRIVEN HOSE REELS

**Motor-driven electric hose reels** have rugged construction and large storage capacity. For a variety of applications including: lawn care, pest control, grounds maintenance, steam cleaning, tree spraying, as well as most industrial applications.

**All bolted unitized construction—no welds.** Reel frame, spool, and drum are heavy-gauge steel with powder coat red finish.

**Full flow swivel is nickel plated** and equipped with Viton O-ring seals. Motor mounts on either end of reel. Chain and sprocket are partially shrouded for added protection.

**Friction lock with tension adjustment** prevents "bird nesting" of hose. Reels are shipped completely assembled. Hose not included.

**Operating temperature range: -20 to 250°F.**

**Maximum working pressure: 3000 PSI.**

**Nos. 5Z339 and 5Z340** have 12 Volt DC motors for mobile applications.

**No. 5Z341** has 115 Volt AC explosion-proof motor for industrial applications.




| Motor Type | Swivel Inlet (In.) | Hose Capacity (Feet) 1/4" I.D.* | 3/8" I.D.† | 1/2" I.D.‡ | 3/4" I.D.# | Dimensions (In.) H | W | D | Reelcraft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12V DC** | 1/2 | 425 | 300 | 200 | 100 | 20 1/4 | 22 | 17 3/4 | E32112M12D | **5Z340** | $504.25 | **$460.25** | 72.0 |
| **12V DC** | 1/2 | 625 | 450 | 325 | 175 | 20 1/4 | 28 | 17 3/4 | E32118M12D | **5Z339** | 517.41 | **472.00** | 80.0 |
| **115V AC** | 3/4 | 625 | 450 | 325 | 175 | 20 1/4 | 28 | 17 3/4 | E33118M10AX | **5Z341** | 740.66 | **676.50** | 94.0 |

(*) 0.530" O.D. (†) 0.688" O.D. (‡) 0.845" O.D. (#) 1.188" O.D.

## HEAVY-DUTY HAND CRANK HOSE REELS

**Heavy-duty hand crank hose reel** features unitized, all-bolted construction with heavy-gauge steel reel frame, spool and drum.

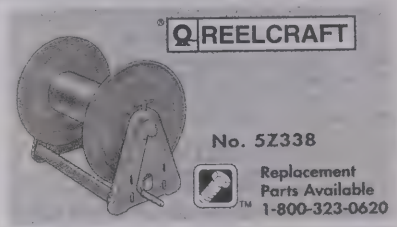
**Adjustable spool rotation drag** eliminates backlash when dereeling hose, while spool lock pins prevent spool rotation when not in use.

**Full flow rotary swivels** allow permanent attachment to supply line.

**Other features include** vibration-proof fasteners and 4 main bearing supports, nickel-plated swivel with Viton O-ring seals, and durable powder coated red finish.

**Reels are shipped completely assembled** and ready to install. Hose not included.

Operating temperature: -20 to +250°F.




| Max PSI | Swivel Inlet (In.) | Hose Capacity (Feet) 1/4" I.D.* | 3/8" I.D. † | 1/2" I.D.‡ | 3/4" I.D.# | Dimensions (In.) H | W | D | Reelcraft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3000** | 1/2 | 425 | 300 | 200 | 100 | 20 1/4 | 25 | 17 3/4 | C32112M | **4Z934** | $207.04 | **$196.50** | 36.0 |
| **1000** | 3/4 | 625 | 450 | 325 | 175 | 20 3/4 | 31 | 17 3/4 | C33118L | **5Z338** | 253.50 | **239.50** | 55.0 |

(*) 0.530" O.D. (†) 0.688" O.D. (‡) 0.845" O.D. (#) 1.188" O.D.

## WELDING HOSE REELS

**Oxygen/acetylene hose reels Nos. 4Z701, and 4Z702.** Reels only are UL Listed for use with oxy-acetylene welding and cutting equipment only. Oxygen line and gas line have separate input connections to provide added safety. Twin-line hoses meet R.M.A. and C.G.A. Type V.D. grade R specifications for flame resistance and burst strength.

**Reel No. 4HK93** is UL Listed and ideal for applications requiring longer lengths of hose and will accommodate up to 100 ft. of twin welding hose. For use with oxy-acetylene and other gases that require a grade T specification. Hose not included. (50' welding hose No. 4LG87, and 100' welding hose No. 4LG88 sold separately, see page 3021). UL Listed (MH12273). Reelcraft brand.



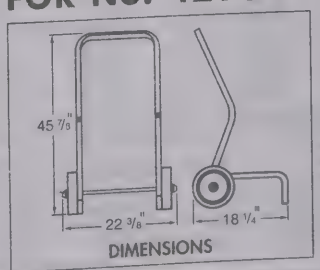

| Key | Max PSI | Hose Length (Ft.) | Hose I.D. (In.) | (M)NPT Hose Outlet (In.) | (F)NPT Reel Inlet (In.) | Dimensions (In.) L | W | H | Reelcraft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 200 | 25 | 1/4 | † | † | 13 1/2 | 6 | 14 1/2 | TW5425 OLP | **4Z701** | $256.60 | **$242.75** | 30.0 |
| **A** | 200 | 50 | 1/4 | † | † | 19 | 7 | 20 1/4 | TW7450 OLP | **4Z702** | 335.35 | **318.00** | 52.0 |
| **B** | 200 | — | — | † | † | 19 5/8 | 17 | 20 1/4 | S 36106 LT | **4HK93*** | 558.53 | **494.50** | 89.0 |

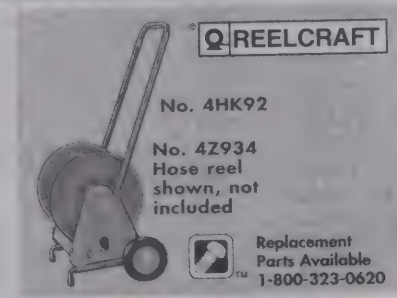
(*) Hose not included. (†) 9/16-18 UNF Female left and right hand threads.

## PORTABLE REEL CART FOR No. 4Z934

**Portable reel cart** offers the convenience of reel portability. Features include; rugged 1" square tubular steel frame, durable baked on powder coat finish, 1/2" diameter steel axle, 8" semi-pneumatic rubber tires, high grade pregreased sealed ball bearings for long service life and easy rolling. Reel cart will accommodate Stock No. 4Z934 hose reel listed above. Cart and reel sold separately. Reelcraft brand (600263-1)

**No. 4HK92.** Portable Reel Cart.
Shpg. wt. 21.0 lbs. List.....$81.81.
Each .....**$78.80**



# MULTIPURPOSE HOSE

- **Certified 4:1 safety factor (burst to working pressure)**
- **Resists checking, cracking and fading normally caused by sunlight exposure**
- **Flexible to -20°F**
- **Highly resistant to kinking**
- **20% less weight per foot than comparable rubber hoses**
- **Made in USA**
- **Bulk reels are maximum of 2 pieces (90% are one piece). If 2 pieces, minimum length is 50 ft.**
- **If coupling, use crimped-on fitting only. Reusable fitting not recommended**
- **Pressure ratings shown are at 72°F. Ratings decrease as temperatures increase. Do not exceed ambient temperatures of 120°F**

## 200 PSI GENERAL PURPOSE-AIR HOSE

Tube and cover made of PVC reinforced with polyester. Provides reliable service in normal use. Hose made in whole, or part from recycled material

## 250 PSI HYDRO-AIRE® AIR HOSE

Hose has greater strength, durability, and flexibility than standard duty air hoses. Do not expose to oils, ozone, or elevated pressures. Hose made in whole or part from recycled materials.

## 300 PSI THERM-O-BLUE® AIR HOSE

Provides optimum strength while remaining lightweight and flexible at low temperatures. Compounded prime tube formulated to resist lubricating oils. Smooth, nonmarking cover drags easily over most surfaces while resisting external abrasions.

swan®

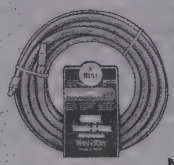
Made In U.S.A.



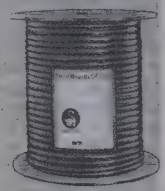
Nos. 1Z096 thru 6W953



Nos. 6W934 thru 6W939



Nos.6W940 thru 6W945

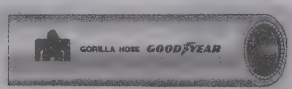


Nos. 6W950 and 6W951 Bulk Hose

## THERMOPLASTIC AIR HOSE SPECIFICATIONS AND ORDERING DATA

| ID (In.) x Length (Ft.) | Fitting Size (NPT) (In.) | OD (In.) | Type | Cover | Max. Working Pressure (PSI) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **COUPLED ASSEMBLIES** | | | | | | | | | |
| **1/4 x 25** | 1/4 (M) | 1/2 | General | Black | 200 | **1Z097** | $12.15 | **$10.56** | 3.5 |
| **1/4 x 50** | 1/4 (M) | 1/2 | General | Black | 200 | **2Z009** | 21.45 | **17.41** | 3.3 |
| **3/8 x 15** | 1/4 (F)* | 19/32 | General | Black | 200 | **1Z096** | 9.50 | **8.40** | 1.5 |
| **3/8 x 25** | 1/4 (F)* | 19/32 | General | Black | 200 | **6W952** | 14.15 | **12.60** | 2.6 |
| **3/8 x 25** | 1/4 (M) | 19/32 | General | Black | 200 | **6W932** | 15.14 | **12.22** | 2.8 |
| **3/8 x 50** | 1/4 (M) | 19/32 | General | Black | 200 | **6W933** | 25.50 | **20.39** | 6.0 |
| **1/4 x 25** | 1/4 (M) | 1/2 | Hydro-Aire | Red | 250 | **6W934** | 15.30 | **12.51** | 2.8 |
| **1/4 x 50** | 1/4 (M) | 1/2 | Hydro-Aire | Red | 250 | **6W935** | 22.99 | **18.74** | 4.8 |
| **3/8 x 25** | 1/4 (M) | 41/64 | Hydro-Aire | Red | 250 | **6W936** | 19.00 | **15.19** | 3.8 |
| **3/8 x 50** | 1/4 (M) | 41/64 | Hydro-Aire | Red | 250 | **6W937** | 26.00 | **21.08** | 6.8 |
| **3/8 x 25** | 3/8 (M) | 41/64 | Hydro-Aire | Red | 250 | **6W938** | 17.85 | **15.15** | 3.8 |
| **3/8 x 50** | 3/8 (M) | 41/64 | Hydro-Aire | Red | 250 | **6W939** | 26.75 | **22.89** | 6.8 |
| **3/8 x 25** | 1/4 (M) | 41/64 | Therm-O-Blue | Blue | 300 | **6W940** | 20.24 | **16.47** | 3.6 |
| **3/8 x 50** | 1/4 (M) | 41/64 | Therm-O-Blue | Blue | 300 | **6W941** | 32.75 | **27.00** | 6.8 |
| **3/8 x 25** | 3/8 (M) | 41/64 | Therm-O-Blue | Blue | 300 | **6W942** | 20.15 | **16.72** | 3.6 |
| **3/8 x 50** | 3/8 (M) | 41/64 | Therm-O-Blue | Blue | 300 | **6W943** | 33.15 | **27.30** | 6.8 |
| **1/2 x 25** | 1/2 (M) | 25/32 | Therm-O-Blue | Blue | 300 | **6W944** | 25.60 | **21.97** | 4.6 |
| **1/2 x 50** | 1/2 (M) | 25/32 | Therm-O-Blue | Blue | 300 | **6W945** | 35.75 | **29.40** | 8.8 |
| **500 FEET BULK HOSE LESS FITTINGS** | | | | | | | | | |
| **1/4 x 500** | None | 1/2 | General | Black | 200 | **6W946** | 171.00 | **138.05** | 42.0 |
| **3/8 x 500** | None | 19/32 | General | Black | 200 | **6W947** | 188.00 | **151.00** | 45.0 |
| **1/4 x 500** | None | 1/2 | Hydro-Aire | Red | 250 | **6W948** | 185.00 | **149.70** | 48.0 |
| **3/8 x 500** | None | 41/64 | Hydro-Aire | Red | 250 | **6W949** | 208.00 | **169.75** | 68.0 |
| **3/8 x 500** | None | 41/64 | Therm-O-Blue | Blue | 300 | **6W950** | 270.00 | **223.00** | 68.0 |
| **1/2 x 500** | None | 25/32 | Therm-O-Blue | Blue | 300 | **6W951** | 350.00 | **288.25** | 88.0 |

(*) NPSM = National Pipe Straight Mechanical.




GOODYEAR

- **Temperature range: -20° to 190°F.**

## GOODYEAR GORILLA™ BRAND PREMIUM HOSE

**Premium-quality multipurpose Gorilla™ brand hose** comes in coupled assemblies and uncoupled bulk lengths for heavy-duty, demanding applications found in manufacturing, construction, agriculture, mining, and petroleum industries. Tube is made with patented oil-resistant Chemi-gum® synthetic rubber, reinforced with Flexten® fiber yarn to resist bending and pressure stresses. Cover is made with tough abrasion and oil-resistant Carbryn® synthetic rubber. Compatible with oil, alkalies, paraffin, grease, salt solutions, as well as many solvents and chemicals. Certified 4:1 safety factor (burst to working pressure). Assemblies have steel (hydraulic type) couplings. Bulk Hose can use Dixon "Boss" Fittings or "Air King" Universal Couplings found on page 3029.

**WARNING: "Air King" Universal Couplers are only rated up to 110 PSI, check application before use.**

## COUPLED ASSEMBLIES SPECIFICATIONS AND ORDERING DATA

| I.D. (In.) x Length (Ft.) | O.D. (In.) | Fitting Size (M) NPT (In.) | Working Pressure (PSI) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/4 x 25** | 5/8 | 1/4 | 500 | **3JT55** | $50.00 | **$40.75** | 4.5 |
| **1/4 x 50** | 5/8 | 1/4 | 500 | **3JT56** | 75.00 | **61.50** | 9.0 |
| **3/8 x 25** | 3/4 | 3/8 | 500 | **3JT57** | 54.00 | **44.25** | 6.0 |
| **3/8 x 50** | 3/4 | 3/8 | 500 | **3JT58** | 88.00 | **72.25** | 12.0 |
| **1/2 x 25** | 29/32 | 1/2 | 500 | **3JT59** | 70.00 | **57.80** | 7.5 |
| **1/2 x 50** | 29/32 | 1/2 | 500 | **3JT60** | 113.00 | **93.95** | 15.0 |
| **3/4 x 25** | 1 1/16 | 3/4 | 500 | **3JT61** | 95.00 | **75.80** | 11.0 |
| **3/4 x 50** | 1 1/16 | 3/4 | 500 | **3JT62** | 175.00 | **143.35** | 21.0 |

## BULK HOSE LESS FITTINGS

| I.D. (In.) x Length (Ft.) | O.D. (In.) | Max. Working Pressure (PSI) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4 x 100** | 5/8 | 500 | **5W035** | $149.50 | **$122.00** | 14.0 |
| **3/8 x 100** | 3/4 | 500 | **5W036** | 185.00 | **150.25** | 21.0 |
| **1/2 x 100** | 29/32 | 500 | **5W037** | 255.00 | **209.00** | 28.0 |
| **3/4 x 100** | 1 1/16 | 500 | **5W038** | 346.00 | **282.50** | 45.0 |

# AIR AND MULTIPURPOSE HOSE

**Speedaire 150 PSI Air & Multipurpose Hose** features an EPDM tube and is designed for the transfer of air, water and mild chemicals. It is specially designed to provide the best value in low pressure industrial, construction, and agricultural applications. RMA Class C (limited) oil resistant tube. Temperature range is -20° to 190° F. Available in 25' and 50' assemblies or bulk lengths. Quick disconnect couplers for assembled hose can be found on page 3022. Bulk hose can use Speedaire fittings found on page 3020 or Dixon "Boss" Fittings/"Air King" Universal Couplings found on page 3029. **WARNING: "Airking" Universal Couplers are only rated up to 110 PSI, check application before use.**

- **Constructed of the highest quality materials to provide superior life**
- **Handles a much wider range of temperatures than thermoplastic hose**
- **Certified 4:1 Safety Factor (burst to working pressure)**

| (In.) x Length (Ft.) | Fitting Size NPT (In.) | O.D. (In.) | Color | Working Pressure (PSI) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **COUPLED ASSEMBLIES SPECIFICATIONS AND ORDERING DATA** | | | | | | | | |
| **1/4 x 25** | 1/4 | .500 | Black | 200 | **3JT63** | $10.00 | **$8.50** | 2.5 |
| **1/4 x 50** | 1/4 | .500 | Black | 200 | **3JT65** | 16.00 | **13.50** | 5.0 |
| **3/8 x 25** | 1/4 | .653 | Black | 200 | **3JT68** | 14.00 | **11.50** | 3.5 |
| **3/8 x 25** | 3/8 | .653 | Black | 200 | **3JT69** | 14.00 | **11.50** | 3.5 |
| **3/8 x 50** | 1/4 | .653 | Black | 200 | **3JT71** | 23.00 | **19.00** | 7.0 |
| **3/8 x 50** | 3/8 | .653 | Black | 200 | **3JT72** | 23.00 | **19.00** | 7.0 |
| **1/2 x 25** | 1/2 | .787 | Black | 200 | **3JT73** | 18.00 | **15.00** | 4.5 |
| **1/2 x 50** | 1/2 | .787 | Black | 200 | **3JT75** | 31.00 | **26.00** | 9.0 |
| **3/4 x 25** | 3/4 | 1.100 | Black | 200 | **3JT78** | 28.00 | **23.00** | 9.5 |
| **3/4 x 50** | 3/4 | 1.100 | Black | 200 | **3JT79** | 48.00 | **40.00** | 19.0 |
| **BULK HOSE LESS FITTINGS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | |
| **1/4 x 250** | — | .500 | Black | 200 | **3JT64** | $77.00 | **$64.00** | 23.0 |
| **1/4 x 500** | — | .500 | Black | 200 | **3JT66*** | 150.00 | **125.00** | 47.0 |
| **3/8 x 250** | — | .653 | Black | 200 | **3JT67** | 106.00 | **88.00** | 33.0 |
| **3/8 x 500** | — | .653 | Black | 200 | **3JT70*** | 167.00 | **139.00** | 74.0 |
| **1/2 x 250** | — | .787 | Black | 200 | **3JT74** | 126.00 | **105.00** | 43.0 |
| **1/2 x 500** | — | .787 | Black | 200 | **3JT76*** | 203.00 | **169.00** | 94.0 |
| **3/4 x 150** | — | 1.100 | Black | 200 | **3JT77** | 114.00 | **95.00** | 60.0 |
| **3/4 x 500** | — | 1.100 | Black | 200 | **3JT80*** | 331.00 | **276.00** | 187.0 |
| **1 x 150** | — | 1.441 | Black | 200 | **3JT81** | 164.00 | **137.00** | 90.0 |
| **1 x 450** | — | 1.441 | Black | 200 | **3JT82*** | 414.00 | **345.00** | 250.0 |

(*) Hose length can be made up from 1 to 2 pieces with varing lengths.




No. 3JT63
Multipurpose
Air Hose

# HEAVY-DUTY AIR & MULTIPURPOSE HOSE

**Constructed with a Nitrile oil resistant tube** and heavy-duty reinforcement. For air, water, and mild chemical applications that require a heavy-duty, oil resistant hose. Designed for superior life in even the toughest applications. RMA Class A (high) oil resistant tube cover. Temperature range is-20° to 180° F. Available in 25' and 50' assemblies coupled with (M) NPT crimped fittings each end, or bulk lengths. Quick disconnect couplers for assembled hose can be found on page 3029. Bulk hose can use Speedaire fittings found on page 3020 or Dixon "Boss" Fittings/"Air King" Universal Couplings found on page 3029.

**WARNING: "Airking" Universal Couplers are only rated up to 110 PSI, check application before use.**

- **Constructed of the highest quality materials to provide superior life**
- **Handles a much wider range of temperatures than thermoplastic hose**
- **Certified 4:1 Safety Factor (burst to working pressure)**
- **Hose is non-conductive**
- **RMA Class A tube and cover**

| I.D. (In.) x Length (Ft.) | Fitting Size (NPT) (In.) | O.D. (In.) | Color | Max. Working Pressure (PSI) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **COUPLED ASSEMBLIES SPECIFICATIONS AND ORDERING DATA** | | | | | | | | |
| **1/4 x 25** | 1/4 (M) | .500 | Red | 250 | **1Z666** | $15.90 | **$12.29** | 2.6 |
| **1/4 x 50** | 1/4 (M) | .500 | Red | 250 | **2Z010** | 27.80 | **19.28** | 4.8 |
| **3/8 x 25** | 1/4 (M) | .687 | Red | 250 | **6Z787** | 19.32 | **15.52** | 4.0 |
| **3/8 x 50** | 1/4 (M) | .687 | Red | 250 | **6Z788** | 31.91 | **22.55** | 8.0 |
| **3/8 x 25** | 3/8 (M) | .687 | Red | 250 | **4Z898** | 20.63 | **16.19** | 4.4 |
| **3/8 x 50** | 3/8 (M) | .687 | Red | 250 | **4Z899** | 25.97 | **24.61** | 8.0 |
| **1/2 x 25** | 1/2 (M) | .812 | Red | 250 | **6Z789** | 24.05 | **21.52** | 5.5 |
| **1/2 x 50** | 1/2 (M) | .812 | Red | 250 | **5Z331** | 47.87 | **39.00** | 11.0 |
| **3/4 x 25** | 3/4 (M) | 1.125 | Red | 250 | **5Z332** | 39.30 | **34.90** | 9.5 |
| **3/4 x 50** | 3/4 (M) | 1.125 | Red | 250 | **5Z333** | 68.24 | **63.70** | 17.0 |
| **BULK HOSE LESS FITTINGS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | |
| **1/4 x 250** | None | .500 | Red | 250 | **5W019** | 106.00 | **92.45** | 21.0 |
| **3/8 x 250** | None | .687 | Red | 250 | **5W020** | 142.50 | **112.05** | 32.0 |
| **1/2 x 250** | None | .812 | Red | 250 | **5W021** | 171.50 | **154.25** | 52.0 |
| **3/4 x 150** | None | 1.125 | Red | 250 | **5W731** | 196.00 | **168.75** | 49.0 |
| **1 x 150** | None | 1.500 | Red | 250 | **5W732** | 247.60 | **227.25** | 85.0 |




No. 1Z666
Heavy-Duty Hose

# MATERIAL HOSE ASSEMBLIES

For use with paints, solvents, and insecticides. Neoprene cover is resistant to oils, greases, solvents and mild chemicals and acids. Nitrile tube has good resistance to most paints, solvents, oil and other petroleum products. Rated pressure is 200 PSI. **Do not use with lacquer or lacquer-based paints.** Speedaire brand.

**SPECIFICATIONS AND ORDERING DATA**

| Fitting Size (In.) | Length (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/8 (F)NPSM* | 15 | 1Z530 | $16.95 | $14.65 | 3.0 |
| 3/8 (F)NPSM* | 25 | 2Z011 | 25.45 | 22.11 | 4.1 |

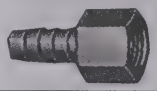
(*) National Pipe Straight Mechanical

# BRASS HOSE BARBS, FERRULES, CRIMPER, REUSABLE HOSE FITTINGS, AND SAFETY CABLES

## BRASS HOSE BARBS AND FERRULES

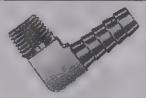
For fast, easy hook-up of bulk hose to tapered pipe thread fittings. For use with ferules or hose clamps. See Index under Hose Clamps.

### FEMALE FITTINGS



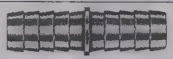
| Hose Id (In.) | Pipe Size (In.) | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 (F)NPT | 6X412 | $1.60 | $1.48 | $1.41 | 0.1 |
| 3/8 | 3/8 (F)NPT | 6X413 | 2.14 | 1.85 | 1.76 | 0.1 |
| 1/2 | 1/2 (F)NPT | 6X414 | 2.92 | 2.55 | 2.42 | 0.1 |

### MALE FITTINGS 90° ELBOW



| Hose Id (In.) | Pipe Size (In.) | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/8 (M)NPT | 4A491 | $5.44 | $1.75 | $1.67 | 0.1 |
| 1/4 | 1/4 (M)NPT | 4A492 | 5.33 | 1.94 | 1.84 | 0.1 |
| 3/8 | 1/4 (M)NPT | 4A493 | 4.89 | 2.22 | 2.11 | 0.1 |

### HOSE MENDERS



| Hose Id (In.) | Pipe Size (In.) | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | — | 4A494 | $1.02 | $0.94 | $0.89 | 0.1 |
| 3/8 | — | 4A495 | 1.58 | 1.24 | 1.18 | 0.1 |

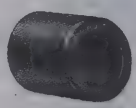
### MALE FITTINGS



| Hose Id (In.) | Pipe Size (In.) | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/8 (M)NPT | 4A496 | $0.94 | $0.85 | $0.81 | 0.1 |
| 1/4 | 1/4 (M)NPT | 6X409 | 1.04 | 0.71 | 0.68 | 0.1 |
| 3/8 | 1/8 (M)NPT | 4A487 | 1.26 | 0.95 | 0.90 | 0.1 |
| 3/8 | 1/4 (M)NPT | 4A488 | 1.14 | 0.85 | 0.81 | 0.1 |
| 3/8 | 3/8 (M)NPT | 6X410 | 1.65 | 1.39 | 1.32 | 0.1 |
| 1/2 | 1/4 (M)NPT | 4A489 | 1.92 | 0.95 | 0.90 | 0.1 |
| 1/2 | 3/8 (M)NPT | 4A490 | 2.04 | 1.18 | 1.12 | 0.1 |
| 1/2 | 1/2 (M)NPT | 6X411 | 2.90 | 1.95 | 1.86 | 0.1 |

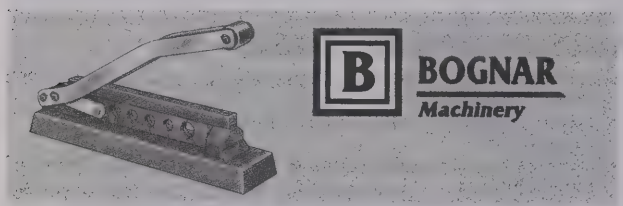
### BRASS HOSE FERRULES

Long-barrel hose ferrules crimp air hose to hose barb to form a permanent hose assembly. Used with bulk hose or any hose meeting the dimensional specifications listed below. American Coupling brand.



| Hose (In.) | | Ferrule (In.) | | Sold only in multiples of 10 | | | | |
|---|---|---|---|---|---|---|---|---|
| OD | ID | ID | Hole Dia. | Stock No. | List | Pkg. of 10 | Lots 5* | Shpg. Wt. |
| 1/2 | 1/4 | .525 | .406 | 2A733 | $2.70 | $2.05 | $1.95 | 0.2 |
| 11/16 | 3/8 | .725 | .500 | 2A734 | 4.00 | 3.10 | 2.95 | 0.2 |
| 13/16 | 1/2 | .850 | .687 | 2A735 | 4.60 | 3.52 | 3.34 | 0.5 |

(*) 5 packages of ten.




### HOSE CRIMPER

Used with Speedaire hose barbs and ferrules, this portable or workbench mounted crimper secures standard brass ferrules onto general purpose or heavy-duty air, liquid, and material hose, for a complete, permanent hose assembly. Self-contained cast-iron unit has 6 hardened steel dies for crimping 1/4"-1 braid through 1/2"-2 braid air hose. Positive camming action at end of lever stroke gives powerful leverage for one-hand operation.

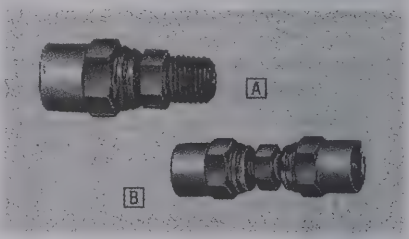
**No. 6Z072.** Shpg. wt. 10.0 lbs. List ..... $174.50.
Each ..... $136.15

## REUSABLE HOSE FITTINGS

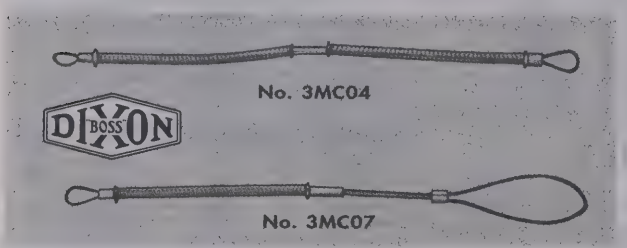
Reusable, screw-on brass fittings are field installable using two standard wrenches. Makes smooth projection-free professional hose assemblies. Male ends fit all air tools, menders make quick repairs. 250 PSI max. Speedaire brand.

### BRASS HOSE ENDS AND MENDERS

| Key | Hose Size I.D. (In.) | | O.D. (In.) | (M)NPT Threads (In.) | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 1/4 | x | 1/2 | 1/4 | 6X423 | $1.70 | $1.42 | $1.35 | 0.1 |
| A | 1/4 | x | 5/8 | 1/4 | 2X769 | 2.45 | 1.62 | 1.54 | 0.2 |
| A | 3/8 | x | 11/16 | 3/8 | 6X424 | 2.85 | 1.86 | 1.77 | 0.2 |
| A | 1/2 | x | 13/16 | 1/2 | 6X425 | 5.45 | 4.31 | 4.09 | 0.3 |
| B | 1/4 | x | 1/2 | — | 6X426 | 3.95 | 2.64 | 2.51 | 0.2 |
| B | 1/4 | x | 5/8 | — | 2X770 | 4.25 | 3.25 | 3.09 | 0.2 |
| B | 3/8 | x | 11/16 | — | 6X427 | 5.25 | 3.67 | 3.49 | 0.3 |




## "WHIPCHEK" SAFETY CABLES



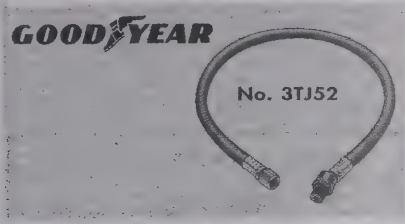

- Helps prevent hose whip in cases of accidental separation of coupling or clamp device
- Maximum working pressure 200 PSI for air only
- Must be installed in fully extended position (no slack)
- Accepted by OSHA, U.S. Army Corp. of Engineers, Bureau of Mines

### WHIPCHECK SAFETY CABLE

| Description | Cable (In.) | Hose I.D. (In.) | Length (In.) | Dixon Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Hose to Hose | 1/8 | 1/2-1 1/4 | 20 1/4 | WB1 | 3MC05 | $19.45 | $16.40 | 0.2 |
| | 1/4 | 1 1/2 - 3 | 38 | WA2 | 3MC04 | 29.70 | 25.05 | 1.1 |
| Hose to Tool | 1/8 | 1/2-1 1/4 | 20 1/4 | WSR1 | 3MC06 | 19.45 | 16.40 | 0.2 |
| | 1/4 | 1 1/2 - 3 | 38 | WSR2 | 3MC07 | 29.70 | 25.05 | 0.9 |

# INDUSTRIAL HOSE ASSEMBLIES

## SNUBBER HOSE




**Snubber (whip) hose** is a short length of heavy-duty hose used to connect an impact wrench, air hammer, or other pneumatic tool to a main air hose. The snubber hose absorbs shock, vibration, and abrasion that could otherwise damage the main length of hose. Nitrile oil-resistant tube and cover. Maximum working pressure—300 PSI. Certified 4:1 safety factor. Temperature range is -20° to 180° F.

**Stock Nos. 3JT52 and 3JT53** have brass 1/4" (M) NPT swivel x 1/4" (F) NPT fittings.

**Stock No. 3JT54** has brass 1/2" (M) NPT x 1/2" (M) NPT fittings.

| Hose Size I.D. (In.) x Length (In.) | Hose O.D. (In.) | Color | Working Pressure (PSI) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 x 30 | .54 | Black | 300 | 3JT52 | $9.60 | $8.00 | 0.3 |
| 3/8 x 30 | .69 | Black | 300 | 3JT53 | 10.80 | 9.00 | 0.6 |
| 1/2 x 24 | .86 | Black | 300 | 3JT54 | 8.40 | 7.00 | 0.5 |

## POLYURETHANE COIL AIR HOSE




- Will not mar or scratch surfaces
- Kink resistant
- 8" and 16" straight pigtail ends

**Non-abrasive, durable, 95 durometer flexcoil** is ideal for applications in assembly and finishing areas where hoses come in contact with finished painted surfaces. Excellent flexibility for automated assembly, robotics, and packaging machinery applications. Chemical, gasoline, oil, oxygen, and ozone resistant. -40 to 180°F temperature range. Max. working pressure 125 PSI @ 75°F, burst pressure 375 PSI @ 75°F*. Reusable 1/4" M(NPT) rigid fitting hose on one end with 1/4" M(NPT) swivel fitting on other end. Transparent blue color. Freelin-Wade brand.

(*) Based on 3:1 safety factor at 75°F. If hose is used in temperatures above 75°, it should first be tested for safety purposes in that environment. Hose burst pressure decreases significantly at higher temperatures.

| Hose Size I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 x 4 | 3/8 | 6ZC99 | $23.49 | $17.85 | 1.4 |
| 1/4 x 6 | 3/8 | 6ZF01 | 25.61 | 18.70 | 0.4 |
| 1/4 x 10 | 3/8 | 6ZF02 | 30.00 | 21.05 | 0.7 |
| 1/4 x 20 | 3/8 | 6ZF00 | 40.67 | 30.00 | 1.0 |

## NYLON COIL AIR HOSE




**Freelin-Wade nylon coil air hose** assemblies for use with air tools, cylinders and other pneumatic equipment in production and assembly operations. Self-storing hose retracts to coil 1/30 of maximum length. Extruded from heavy-duty Nylon. Tough and abrasion resistant. Oil, grease, and moisture resistant. 170 PSI maximum working pressure, -40 to 200°F temperature range. Safety yellow color. Reusable male rigid fitting on one end, reusable male swivel fitting on other. Coil spring guards on both ends. Freelin-Wade brand

| Hose I.D. (In.) | Total Length (Ft.) | Usable Length (Ft.) | Fittings (M)NPT (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 | 12 | 9 | 1/4 | 2Z252 | $20.15 | $11.70 | 0.5 |
| 1/4 | 25 | 18 | 1/4 | 2Z253 | 31.11 | 16.00 | 0.6 |
| 3/8 | 12 | 9 | 3/8 | 2Z254 | 31.03 | 17.30 | 0.8 |
| 3/8 | 25 | 18 | 3/8 | 2Z860 | 47.13 | 24.35 | 1.3 |
| 1/2 | 25 | 18 | 1/2 | 2Z861 | 74.56 | 40.45 | 1.8 |

## TWIN-LINE WELDING HOSE




**Goodyear twin-line welding hose** is flexible and highly kink resistant. Heavy-duty cover resists the deteriorating effects of oils, acids, alkalis, and other liquids. Meets or exceeds (RMA/CGA specifications) for welding hose.

**Gemini Grade R** is made with EPDM tube reinforced with 1-ply high tensile spiral for maximum burst strength. Wide web separates easily and evenly, yet has strength to resist tears. Oxygen line is color-coded green; acetylene line red. 9/16" 18-UNF 2B thread fittings. Available in 25 and 50 foot lengths. Goodyear brand.

**Gemini Grade T** is a premium quality welding hose produced to stringent specifications. Provides safe and reliable use with most welding fuel gasses. Constructed with Chemivic™ cover which is oil resistant and provides abrasion resistance in extreme welding conditions. 9/16" 18-UNF 2B thread fittings. Available in 50 and 100 foot lengths. Goodyear brand.

**WARNING: The use of certain fuel gasses may damage welding hose and lead to fires and explosions.**

| Hose Size I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. (PSI) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **GEMINI GRADE R HOSE** | | | | | | |
| 3/16 x 25 | 7/16 | 200 | 2Z704 | $26.15 | $24.11 | 4.0 |
| 3/16 x 50 | 7/16 | 200 | 6ZC11 | 30.55 | 27.55 | 5.0 |
| 1/4 x 25 | 17/32 | 200 | 2Z705 | 41.95 | 38.30 | 7.5 |
| 1/4 x 50 | 17/32 | 200 | 6ZC12 | 45.05 | 41.90 | 9.5 |
| **GEMINI GRADE T HOSE** | | | | | | |
| 1/4 x 50 | 17/32 | 200 | 4LG87 | $52.79 | $50.50 | 9.8 |
| 1/4 x 100 | 17/32 | 200 | 4LG88 | 100.00 | 91.00 | 20.0 |

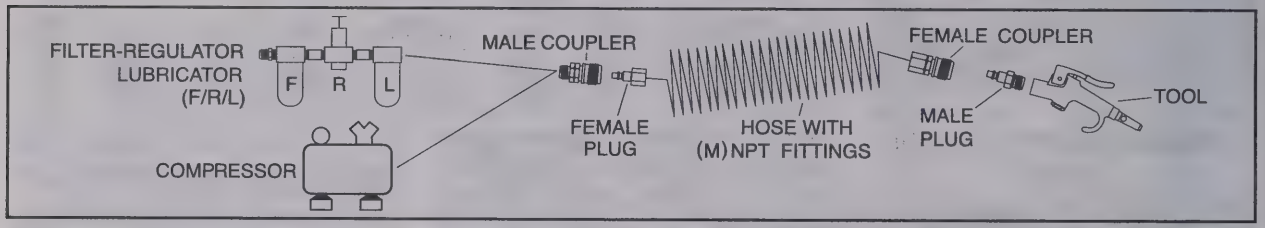
# AIR LINE QUICK COUPLERS AND PLUGS

## DynaQuip INDUSTRIAL INTERCHANGE QUICK COUPLERS

DynaQuip couplers provide quick, positive air line connections for all types of pneumatic tools and equipment. Simple to use, the swivel action connection prevents kinking and twisting hoses. Meets dimensional and interchangeability requirements of MIL-C-4109F. When disconnected, coupler body valve shuts off air flow and automatically opens valve when recoupled. Maximum pressure: 235 PSI. Meet ISO 6150.

| Body Size (In.) | Maximum Air Flow* |
|---|---|
| 1/4 | 15 S.C.F.M. |
| 3/8 | 30 |
| 1/2 | 50 |

(*) 90 PSI inlet and 2 PSI drop.




### QUICK CONNECT COUPLERS SPECIFICATIONS AND ORDERING DATA

### SLEEVE TYPE COUPLER

**Sleeve type coupler** requires pull back on sleeve to connect and disconnect plug. Steel construction with zinc plating.



**FEMALE NPT COUPLER** Used on end of hose or pipe.

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | D340 | **4X396** | $4.45 | **$3.85** | 0.3 |
| 3/8 | 1/4 | D360 | **4X792** | 4.90 | **4.61** | 0.3 |
| 1/2 | 1/2 | D580 | **6X415** | 10.85 | **9.68** | 0.6 |
| 3/4 | 1/2 | D5120 | **6X417** | 12.35 | **11.25** | 0.6 |
| 1/4 | 3/8 | D440 | ***New*** **4TL27** | 9.35 | **8.95** | 0.3 |
| 3/8 | 3/8 | D460 | ***New*** **4TL29** | 9.20 | **8.94** | 0.4 |

New



**MALE NPT COUPLER** Used on F/R/L or compressor.

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | D341 | **4X397** | $4.40 | **$3.88** | 0.3 |
| 3/8 | 1/4 | D361 | **4X793** | 4.90 | **4.67** | 0.3 |
| 1/2 | 1/2 | D581 | **6X416** | 10.25 | **9.26** | 0.5 |
| 3/4 | 1/2 | D5121 | **6X418** | 11.75 | **10.69** | 0.6 |
| 1/4 | 3/8 | D441 | ***New*** **4TL28** | 9.35 | **8.93** | 0.3 |
| 3/8 | 3/8 | D461 | ***New*** **4TL30** | 8.80 | **8.51** | 0.3 |

### HOSE BARB COUPLER

New



| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | D342 | **4TL23** | $5.25 | **$4.58** | 0.3 |
| 1/4 | 1/4 | D344 | **4TL24** * | 5.80 | **5.51** | 0.3 |
| 5/16 | 1/4 | D352 | **4TL25** | 5.70 | **4.97** | 0.3 |

(*) Push-on Type Barb

| Connection Size NPT (In.) | Body Size (In.) | DynaQuip Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/8 | 1/4 | D362 | **4TL26** | $5.10 | **$4.53** | 0.2 |
| 3/8 | 3/8 | D462 | **4TL31** | 9.80 | **9.26** | 0.3 |
| 1/2 | 1/2 | D582 | **4TL32** | 11.65 | **11.06** | 0.5 |

### PUSH TYPE COUPLER

**Push type coupler** provides fully automatic quick coupling action by inserting plug into coupler, no sleeve to pull back. Ideal for fixed mount coupler applications. Features brass bodies and dichromate plated steel socket ends.

New



**FEMALE NPT COUPLER** Used on end of hose or pipe.

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | DM340 | **3X688** | $8.10 | **$7.65** | 0.3 |
| 3/8 | 1/4 | DM360 | **3X690** | 8.70 | **8.20** | 0.6 |
| 3/8 | 3/8 | DM460 | ***New*** **4TL38** | 11.20 | **10.70** | 0.4 |
| 1/2 | 1/2 | DM580 | ***New*** **4TL41** | 13.90 | **13.17** | 0.7 |

New



**MALE NPT COUPLER** Used on F/R/L or compressor.

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | DM341 | **3X687** | $8.00 | **$7.65** | 0.3 |
| 3/8 | 1/4 | DM361 | **3X689** | 8.65 | **8.05** | 0.3 |
| 3/8 | 3/8 | DM461 | ***New*** **4TL39** | 11.05 | **10.41** | 0.4 |
| 1/2 | 1/2 | DM581 | ***New*** **4TL42** | 13.80 | **12.94** | 0.7 |

### HOSE BARB COUPLERS

New



| Connection Size NPT (In.) | Body Size (In.) | DynaQuip Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | DM36 | **4TL36** | $7.70 | **$6.92** | 0.3 |
| 3/8 | 1/4 | DM37 | **4TL37** | 7.90 | **7.13** | 0.3 |
| 3/8 | 3/8 | DM462 | **4TL40** | 12.15 | **11.65** | 0.4 |

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

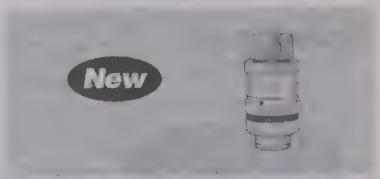
**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# AIR LINE QUICK CONNECT COUPLERS AND PLUGS

## SAFETY EXHAUST COUPLER

**Zero pressure connections** allows bleeding off of downstream air before tool is disconnected, eliminating the hazard of flying or snaking air hose (plugs can fly at speeds up to 75 MPH with conventional couplers). Unique twist lock design incorporated into the sleeve action prevents the plug from being released until the air has been bled off between the plug and the tool.

**Ported design provides up to 30% greater air flow** compared to standard couplings. Air tools operate more efficiently because of the reduced pressure drop across the coupling. Working pressure 500 PSI (34 bar).




**FEMALE COUPLER** Used on F/R/L, compressor, or end of hose.

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | DC040 | 6A685 | $12.95 | $12.15 | 0.2 |
| 3/8 | 3/8 | DCA60 | 6A686* | 14.78 | 13.64 | 0.5 |
| 1/2 | 1/2 | DC280 | 6A687 | 17.05 | 15.77 | 0.7 |

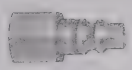
(*) Use 6A688 or 6A689 plugs.

**MALE COUPLER**

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | DC041 | 4TL33 | $12.75 | $12.03 | 0.2 |
| 1/4 | 3/8 | DCA41 | 4TL34 | 15.10 | 14.30 | 0.5 |
| 3/8 | 3/8 | DCA61 | 4TL35 | 14.70 | 13.92 | 0.5 |

## PLUGS

**Plugs** fit sleeve type, push type, and safety exhaust type couplers.





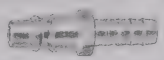
**FEMALE NPT PLUG** Used on end of hose.

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 | 1/4 | P340 | | 2X170 | $1.39 | $1.24 | 0.1 |
| 1/4 | 3/8 | P440.A | New | 4TL50 | 2.20 | 1.94 | 0.1 |
| 3/8 | 1/4 | P360 | | 4X795 | 3.00 | 2.96 | 0.1 |
| 3/8 | 3/8 | P460.A | New | 4TL51 | 2.55 | 2.25 | 0.1 |
| 1/2 | 1/2 | P580 | | 6X419 | 3.25 | 2.80 | 0.2 |
| 3/4 | 1/2 | P5120 | | 6X421 | 4.83 | 4.37 | 0.3 |

(*)Used only with 6A686 safety exhaust coupler.

**MALE NPT PLUG** Used on tool or equipment.

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/6 | 1/4 | P321 | 4X672 | $1.37 | $1.24 | 0.1 |
| 1/4 | 1/4 | P341 | 2X169 | 1.05 | 1.00 | 0.1 |
| 1/4 | 3/8 | P441 | 6A688* | 2.53 | 2.35 | 0.1 |
| 3/8 | 1/4 | P361 | 4X794 | 2.20 | 1.95 | 0.1 |
| 3/8 | 3/8 | P461 | 6A689* | 2.63 | 2.52 | 0.1 |
| 1/2 | 1/2 | P581 | 6X420 | 2.85 | 2.35 | 0.2 |



New

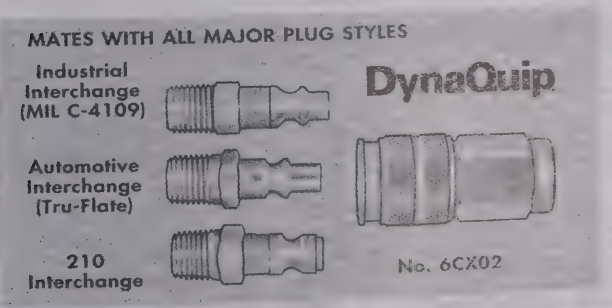
**HOSE BARB PLUGS**

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | New! Stock No. | | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 | 1/4 | P342 | 4TL46 | | $1.45 | $1.26 | 0.1 |
| 1/4 | 1/4 | P344 | 4TL47 | * | 2.45 | 2.20 | 0.1 |
| 3/8 | 1/4 | P362 | 4TL48 | | 1.50 | 1.30 | 0.1 |
| 3/8 | 1/4 | P364 | 4TL49 | * | 2.45 | 2.20 | 0.1 |

(*) Push-on Barb type.

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/8 | 3/8 | P462.A | 4TL52 | $2.55 | $2.25 | 0.1 |
| 3/8 | 1/2 | P562 | 4TL53 | 2.75 | 2.48 | 0.1 |
| 1/2 | 1/2 | P582 | 4TL54 | 2.90 | 2.61 | 0.1 |

## UNIVERSAL PNEUMATIC QUICK COUPLERS




**DynaQuip universal quick couplers** accept the 3 most popular plug interchange styles; industrial interchange (MIL-C-4109), ARO 210 interchange, and automotive (Tru-Flate) interchange. Universal coupler features push-to-connect action, high flow valve for maximum efficiency, an anti-snag sleeve design to prevent accidental disconnection, a zinc dichromate finish for extra corrosion protection, and Buna-N seal. Constructed from steel, these couplers are rated to 150 PSI working pressure. Fit all 1/4" connection size plug series shown above and on previous page.

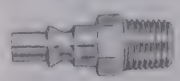
**ORDERING DATA**

| Coupler Type | Connect Size NPT (In.) | Body Size (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Female | 1/4 | 1/4 | DW340A | 6CX02 | $6.00 | $5.40 | 0.3 |
| Male | 1/4 | 1/4 | DW341A | 6CX03 | 6.00 | 5.40 | 0.3 |

## ARO 210 STYLE PLUGS

New





**FEMALE PLUGS**

| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | P240 | 4TL44 | $1.05 | $0.94 | 0.1 |

**MALE PLUGS**

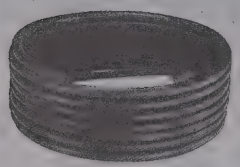
| Connection Size, NPT (In.) | Body Size (In.) | DynaQuip Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/8 | 1/4 | P221 | 4TL43 | $1.21 | $1.09 | 0.1 |
| 1/4 | 1/4 | P241 | 4TL45 | 1.00 | 0.90 | 0.1 |

# MULTI-PURPOSE HOSE

## PUSH-ON HOSE

GOODYEAR

No clamps, ferrules, or crimping devices needed



No. 5W553

CONSTRUCTION:
Tube: Chemigum™ (ORS)
Reinforcement: Synthetic cord
Cover: Black, smooth-finish Chemivic™

- Easy fitting installation, no clamps, ferrules, or crimping needed
- Push-on hoses provide excellent fitting retention
- Certified 4:1 safety factor (burst to working pressure)
- Dimensionally stable, minimum shrinkage
- Hose will handle air, water, lubricating oils
- Available in black, blue, or green
- Manufactured in the USA by the Goodyear Tire and Rubber Company

**Goodyear Acala™ multipurpose push-on hose** is designed with exclusive spiral reinforcement that provides exceptional fitting retention in "push-on" self-coupling applications. Synthetic cord is laid at a precisely controlled angle. The higher the pressure, the more tightly hose grips the fitting. Rated for a 250 PSI working pressure with a 4:1 safety factor. Temperature rating: -20°F to 180°F. Hose can handle air, water, oil, grease, sprays, and many solvents.

**Goodyear Insta Grip I premium multipurpose hose** for use at working pressures up to 300 PSI. Seamless, heat and oil resistant tube, reinforced with one braid of high strength synthetic yarn laid at the most effective angle for maximum strength and coupling holding ability. Cover is weather, abrasion, and oil resistant Carbryn (high ORS, RMA designation Class A), MSHA approved. Temperature rating: -40°F to 200°F. Insta Grip I will handle: air, water, lubricating oils and antifreeze.

### ACALA PUSH-ON HOSE SPECIFICATIONS AND ORDERING DATA

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Cover Color | Working (PSI) | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/4 x 250** | 35/64 | Black | 250 | **5W553** | $173.50 | **$160.50** | **$152.40** | 23.0 |
| **1/4 x 250** | 35/64 | Green | 250 | **4KT70** | 173.50 | **160.50** | **152.40** | 22.0 |
| **3/8 x 250** | 43/64 | Black | 250 | **5W554** | 194.60 | **181.00** | **171.95** | 32.0 |
| **3/8 x 250** | 43/64 | Green | 250 | **4KT71** | 194.60 | **181.00** | **171.95** | 31.0 |
| **1/2 x 150** | 53/64 | Black | 250 | **5W555** | 182.20 | **165.25** | **156.80** | 28.0 |
| **1/2 x 150** | 53/64 | Green | 250 | **4KT72** | 182.00 | **165.25** | **156.80** | 25.0 |
| **3/4 x 150** | 69/64 | Black | 250 | **4KT69** | 225.00 | **209.25** | **198.75** | 44.0 |

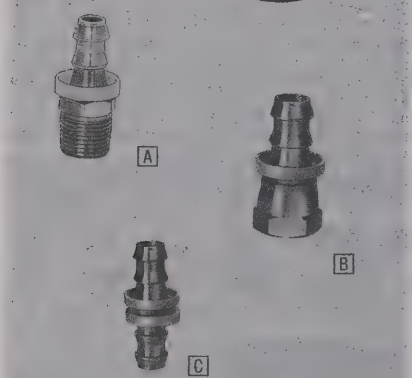
### INSTA GRIP I PUSH-ON HOSE SPECIFICATIONS AND ORDERING DATA

| Hose I.D. (In.) x Length (Ft.) | Cover Color | Working Pressure (PSI) | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/4 x 250** | Blue | 300 | **4KT66** | $230.05 | **$215.00** | **$204.25** | 25.0 |
| **3/8 x 250** | Blue | 300 | **4KT67** | 257.53 | **239.75** | **227.75** | 40.0 |
| **1/2 x 150** | Blue | 300 | **4KT68** | 239.75 | **223.50** | **212.30** | 25.0 |

## PUSH-ON HOSE FITTINGS FOR GOODYEAR, ACALA, AND INSTA GRIP HOSE

SPEEDAIRE®

New




Push-on brass hose barbs lock securely on push-on hose. They provide a secure lock without additional crimping devices—unlike standard hose barbs, which require crimped ferrule or clamp to secure barb to hose. Fitting is simply inserted manually into hose end. The higher the pressure through hose, the tighter fitting is gripped. Hose assemblies and repairs can be made at job site since no assembly equipment is needed. Can only be used with push-on style hose.

### PUSH-ON FITTING SPECIFICATIONS AND ORDERING DATA

| Key | Description | Hose I.D. (In.) | Pipe Size (In.)/ Thread Type | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A** | Lock-On Barb | 1/4 | 1/8 (M)NPT | **5A251** | $1.20 | **$1.15** | **$1.09** | 0.1 |
| **A** | Lock-On Barb | 1/4 | 1/4 (M)NPT | **5A252** | 1.20 | **1.15** | **1.09** | 0.1 |
| **A** | Lock-On Barb | 3/8 | 1/4 (M)NPT | **5A253** | 1.35 | **1.25** | **1.19** | 0.1 |
| **A** | Lock-On Barb | 3/8 | 3/8 (M)NPT | **5A254** | 1.60 | **1.48** | **1.41** | 0.1 |
| **A** | Lock-On Barb | 1/2 | 1/2 (M)NPT | **5A255** | 2.55 | **2.45** | **2.33** | 0.1 |
| **A** | Lock-On Barb | ½ | ⅜ (M)NPT | ***New* 4TT16** | 2.84 | **2.06** | **1.96** | 0.1 |
| **A** | Lock-On Barb | ¾ | ½ (M)NPT | ***New* 4TT17** | 5.03 | **3.79** | **3.60** | 0.2 |
| **A** | Lock-On Barb | ¾ | ¾ (M)NPT | ***New* 4TT18** | 5.52 | **4.83** | **4.59** | 0.2 |
| **B** | Swivel-Lock Barb | 3/8 | 3/8 (F) 45°SAE | **5A246** | 2.40 | **2.25** | **2.14** | 0.1 |
| **B** | Swivel-Lock Barb | 1/4 | 1/4 (F) 45°SAE, 37°JIC | **5A247** | 1.95 | **1.71** | **1.62** | 0.1 |
| **B** | Swivel-Lock Barb | 1/2 | 1/2 (F) 45°SAE, 37°JIC | **5A248** | 3.20 | **3.00** | **2.85** | 0.1 |
| **B** | Swivel-Lock Barb | ¾ | ¾ (F) 45 SAE | ***New* 4TT19** | 7.97 | **5.70** | **5.42** | 0.2 |
| **B** | Swivel-Lock Barb | ¾ | ¾ (F) 37 JIC | ***New* 4TT20** | 7.24 | **5.70** | **5.42** | 0.2 |
| **C** | Lock-On Mender Barb | 1/4 | — | **5A249** | 1.40 | **1.35** | **1.28** | 0.1 |
| **C** | Lock-On Mender Barb | 3/8 | — | **5A250** | 2.05 | **2.00** | **1.90** | 0.1 |
| **C** | Lock-On Mender | ½ | — | ***New* 4TT21** | 2.91 | **2.60** | **2.47** | 0.1 |
| **C** | Lock-on Mender | ¾ | — | ***New* 4TT22** | 5.79 | **4.21** | **4.00** | 0.1 |

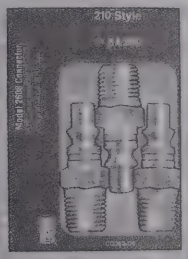
CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS.
THOUSANDS OF QUALITY PRODUCTS ARE LISTED

# AIR LINE ACCESSORIES

## HANSEN/ARO 210 STYLE COUPLERS AND PLUGS




No. 5A256



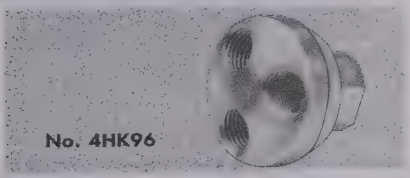

No. 5A259

- Automatic push-type couplers and plugs provide positive air line hookup with a quick snap of the retaining pins
- For 1/4", one-way shut-off operation
- Instant, air-tight connections
- Socket sleeve guard protects against accidental disconnect
- Buna-N seals are oil and solvent resistant
- Couplers rotate 360° to prevent hose twisting and kinking
- Sold in 2 and 3-piece convenience packages

**SPECIFICATIONS AND CONSTRUCTION**
**Maximum inlet pressure: 250 PSIG**
**Valve: Celcon®**
**Seals: Buna-N**
**Body: Zinc-plated steel**

| NPT Size (In.) | Description | Model | Stock No. | Quantity per Pkg. | Price per Pkg. List | Price per Pkg. Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 (F) | Coupler | 210 | 5A256 | 2 | $9.61 | $8.89 | 0.4 |
| 1/4 (M) | Plug | 2608 | 5A259 | 3 | 3.44 | 3.19 | 0.2 |
| 1/4 (F/M) | Coupler/Plug Assembly | 210, 2608 | 5A257 | 1 ea. | 5.93 | 5.53 | 0.3 |

## 3-WAY HOSE MANIFOLDS



No. 4HK96

DynaQuip 3-way coupling manifolds add versatility to your compressed air systems. Simplify multiple tool operations. Allow 3 work stations to use the same air supply. Each manifold accepts 3 quick couplers or outlet hoses. Manifold has female NPT inlet and 3 female NPT outlets.

**DynaQuip**

**ORDERING DATA**

| Inlet NPT (In.) | Outlet NPT (In.) | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | 315042.01 | 4HK96 | $7.00 | $6.22 | 0.4 |
| 3/8 | 1/4 | 315043.01 | 4HK97 | 7.28 | 6.48 | 0.4 |

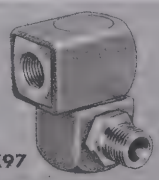
## NON-MAR AIR TOOL SWIVEL FITTINGS

- Ideal for chip and scratch reduction
- Improved maneuverability and ergonomics when using air tools and spray guns
- Lightweight plastic encapsulated aluminum body

Lightweight fittings connect portable air tools to an air line with a universal joint that swivels 360° at two locations. This allows the air hose to remain vertical at all times, reducing operator fatigue, repetitive motion trauma and fitting chafe. Male end fits directly into air inlet of tool and female end connects to quick coupler or hose fitting. Fittings allow high flow capacity with low pressure drop. Not for use with percussion tools. Maximum working pressure is 150 psi.

**DynaQuip**

New



No. 4TK97

| Inlet Thread (F) NPT (In.) | Outlet Thread (M) NPT (In.) | DynaQuip Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/8 | 1/4 | 190010 | 4TK97 | $30.60 | $20.36 | 0.4 |
| 3/8 | 3/8 | 190011 | 4TK98 | 31.45 | 20.91 | 0.4 |
| 1/2 | 1/2 | 190012 | 4TK99 | 35.80 | 23.86 | 0.7 |

## CLIP-ON BLOW GUN KIT




- 5" angled nozzle
- Handle pressure controls air flow
- Zinc plated finish

**Clip-on blow gun kit** attaches to Schrader-type right angle air chuck (No. 4X787) without tools. 5" nozzle is angled for ease of use. Handle pressure provides instant control of air flow. Designed for consistent fit and alignment with air chuck. Kit includes screw-in sports ball filler and lung saver tip for filling air mattresses, inflatable pools, etc. Zinc plated finish. Made in USA. Air Works brand (#2735).

**No. 6ZF43.** Shpg. wt. 0.5 lbs. List .....$9.95. Each .....**$7.19**

## AIR TOOL SWIVEL FITTINGS

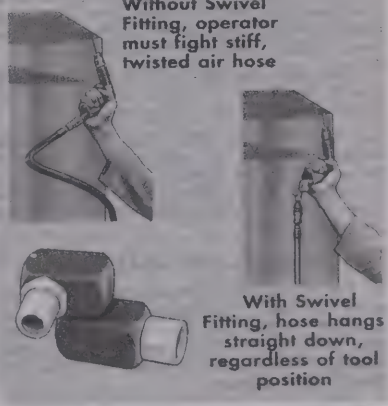
**Swivel fittings improve maneuverability and ergonomics** of handling air tools and spray guns. 360° swivel at two locations allows air hose to drop straight to floor, regardless of tool position. Reduces operator stress, fatigue and risk of repetitive motion injuries (i.e. carpal tunnel syndrome).

**For use with drills, screwdrivers,** grinders, polishers, sanders, spray guns and all other air operated tools.

**Not for use with percussion tools.** Fitting may be threaded directly into air inlet of tool or into standard quick disconnect coupler. Ingersoll-Rand brand.

Redesigned new 1/4" non-marring composite housing 6ZF41 has 32% more air flow capacity than the original model.

**INGERSOLL-RAND**
PROFESSIONAL TOOLS




| Inlet Thread (F)NPT (In.) | Outlet Thread (M)NPT (In.) | I-R Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4 | 1/4 | ASC-1/4 | 6ZF41 | $33.02 | $23.94 | 0.2 |
| 3/8 | 3/8 | AS-3/8 | 6ZF42 | 59.68 | 29.20 | 0.5 |

# BLOW GUNS

## HEAVY-DUTY BOOSTER BLOW GUNS AND ACCESSORIES

- Leakproof, rustproof brass valve
- Polished nickel-plated body
- Contoured design for user comfort
- Thumb lever with plastisol grip
- 1/4" (F)NPT inlet
- Large hanging hook
- Low noise levels

A **No. 2X492 non restricted blow gun** for applications where full air line pressure is needed. Can be used where compliance with OSHA SAFETY ACT is NOT required. NOTE: In order to conform with OSHA Regulations, inlet pressure should not exceed 30 PSI.

B and C **Nos. 6W181 and 5X786 self-relieving safety-type blow guns.** Nozzle relief vent holes and built-in flow restrictors limit maximum dead-ended nozzle tip pressure to less than 30 PSI when used with maximum inlet pressure of 150 PSI. Meets OSHA regulations section 1910.242(b) for pressure relief and 1910.95 for noise level. No. 6W181 uses a specially designed nozzle that creates air screen for effective chip guarding.

### OSHA SAFETY NOZZLES

Self-relieving nozzles have lateral holes that provide pressure relief if the nozzle tip is deadended. Meets OSHA regulations section 1910.242(b) for pressure relief and 1910.95 for noise level.

D **No. 4TL14 standard safety nozzle** is used in general blowing and drying applications. Made of brass.

E **No. 4TL19 air screen safety nozzle** reduces dust and chip flyback. Made of brass.

F, G, and H **Nos. 4TL20, 4TL21, and 4TL22 extension safety nozzles** are used for extending reach in difficult areas. Zinc-plated with brass base and copper tube.

I **No. 5X787 blow gun safety nozzle** converts standard DynaQuip blow gun No. 2X492 and most other makes to self-relieving, safety-type blow guns.

### NON-SELF-RELIEVING NOZZLES

The following are not self-relieving styles and should only be used on air lines regulated to 30 PSI or less.

J **No. 4TL18 rubber tip nozzle** protects delicate surfaces from being scratched and provides a tight seal for blowing out fluid lines. Made of rubber coated brass.

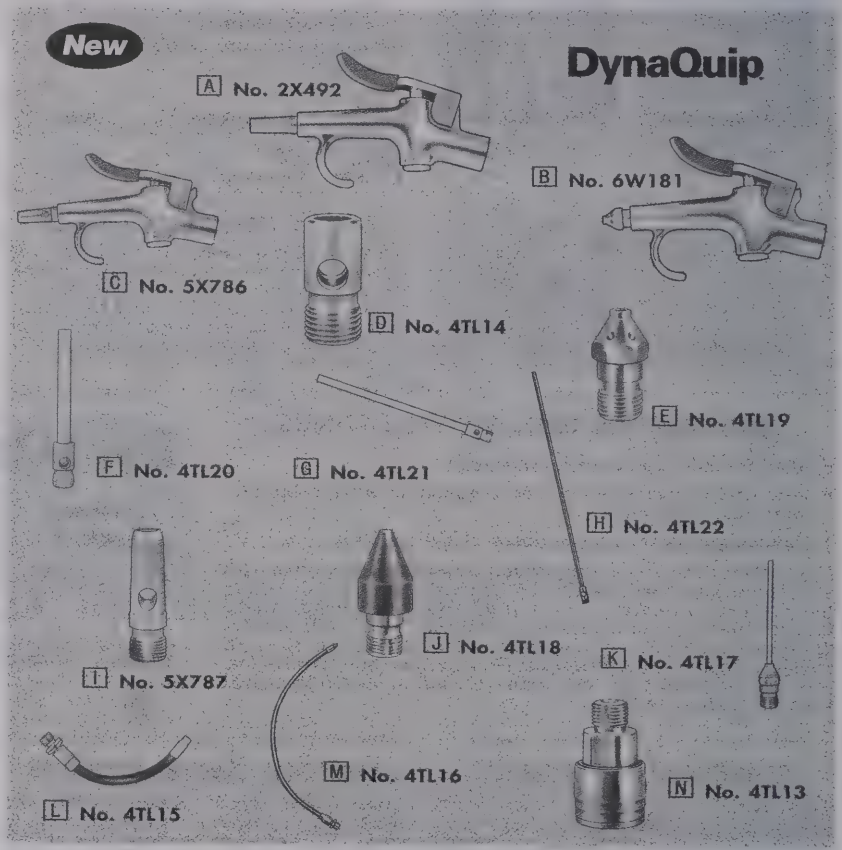
K **No. 4TL17 needle tip nozzle** provides a fine flow of air to clean in tight places. Made of brass with stainless steel tube.

L and M **Nos. 4TL15 and 4TL16 flexible extension nozzles** are used in hard-to-reach areas and can be bent and curved to direct air flow to where it is specifically needed. Zinc-plated with brass base and vinyl coated copper tube.

### QUICK CHANGE ADAPTER TIP

N **No. 4TL13 quick change adapter tip** allows user to switch nozzles easily. The tip attaches to the end of any DynaQuip blow gun and accepts all DynaQuip nozzles, except the 4" and 12" (4LT15 & 4LT16) flexible extensions.

**HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG**




### BLOW GUN ORDERING DATA

| Key | Inlet NPT (In.) | Overall Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| A | 1/4 | 4½ | **2X492** | $7.15 | **$5.85** | 0.6 |
| B | 1/4 | 4½ | **6W181** | 8.90 | **8.00** | 0.5 |
| C | 1/4 | 4½ | **5X786** | 7.25 | **6.25** | 0.5 |

### BLOW GUN ACCESSORIES

| Key | Nozzle Description | For Blow Gun Type | DynaQuip Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| D | Standard safety | Self-relieving | BGN1 | ***New* 4TL14** | $0.90 | **$0.86** | 0.1 |
| E | Air screen safety | Self-relieving | BGNB5 | ***New* 4TL19** | 2.95 | **2.62** | 0.1 |
| F | 3" extension safety | Self-relieving | BGX3 | ***New* 4TL20** | 3.85 | **3.80** | 0.1 |
| G | 6" extension safety | Self-relieving | BGX6 | ***New* 4TL21** | 3.95 | **3.07** | 0.1 |
| H | 12" extension safety | Self-relieving | BGX12 | ***New* 4TL22** | 6.65 | **5.18** | 0.1 |
| I | High flow safety | Non self-relieving | N5 | **5X787** | 1.45 | **1.25** | 0.1 |
| J | Rubber tip | Non self-relieving | BGN7 | ***New* 4TL18** | 1.80 | **1.48** | 0.1 |
| K | Needle tip | Non self-relieving | BGN6 | ***New* 4TL17** | 3.40 | **3.04** | 0.1 |
| L | 4" flexible extension | Non self-relieving | BGN2 | ***New* 4TL15*** | 10.90 | **9.94** | 0.1 |
| M | 12" flexible extension | Non self-relieving | BGN3 | ***New* 4TL16*** | 19.80 | **18.08** | 0.1 |
| N | Quick change adapter tip | Non self-relieving | 116450.1 | ***New* 4TL13** | 3.80 | **3.13** | 0.1 |

(*) Not for use with No. 4TL13 Quick change adapter tip.

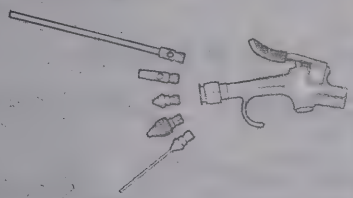
# QUICK-CHANGE BLOW GUN KIT AND NOZZLE KIT

**LIFETIME WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

No. 5A258 contains five nozzles and heavy-duty blow gun

No. 6W180 contains nozzles only



DynaQuip

**No. 5A258 Quick Change blow gun kit includes the following nozzles: 6" extension safety nozzle; high-flow safety nozzle; air screen safety nozzle; rubber tip nozzle* and needle tip nozzle***

(*) Non-safety type nozzles. Inlet pressure should not exceed 30 PSI.

- **U.S. patented, quick-change design uses push-type quick coupler for instant nozzle changes**
- **Blow gun combines quick-change design with features of blow guns on page 3026**

**Blow Gun Kit** contains five of the most popular nozzles for industrial and automotive uses. Unique quick-change feature allows user to switch nozzles quickly and easily. Kit contains lever-operated heavy-duty blow gun with patented quick-change coupler; high-flow safety nozzle; 6" extension safety nozzle; rubber-tip nozzle; needle tip nozzle; and air screen safety nozzle. Clear vinyl, compartmented snap storage pouch included. DynaQuip brand.

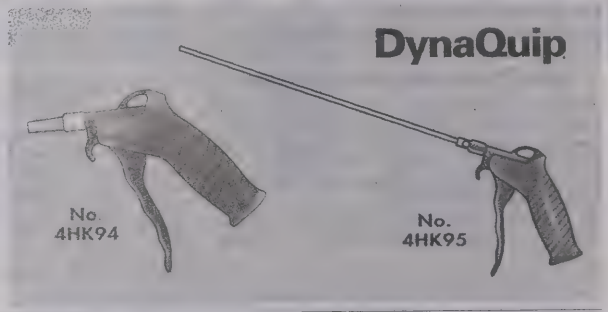
**No. 5A258**. Blow Gun Kit. Shpg. wt. 0.7 lbs. List $25.98. Each.....**$18.85**

**No. 6W180 Blow Gun Nozzle Kit** contains all nozzles shown with No. 5A258 listed above, but does not include blow gun. Nozzles can be used with Nos. 2X492, 5X786, 6W181, and 5A258.

**No. 6W180**, Blow Gun Nozzle Kit. Shpg. wt. 0.2 lbs. List $9.99. Each .....**$9.50**

# PISTOL STYLE SAFETY BLOW GUNS

**Pistol grip blow guns** are ergonomically designed for operator comfort and safety. Made from durable, lightweight nylon which helps insulate cold air. Valve mechanism, nozzle inlet fitting, and hose inlet fitting are made from machined brass for strength. Lever style trigger mechanism allows variable air flow to cover all types of jobs. Blow guns have 1/4" female NPT inlet and are rated to a maximum of 125 PSI inlet pressure. Meets OSHA regulations section 1910.242(b) for pressure relief and 1910.95 for noise level. Both models are equipped with safety style nozzles that reduce tip pressure to 30 PSI or less when dead-ended. DynaQuip brand.




| Inlet NPT (In.) | Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/4 | High flow safety | 4HK94 | $14.50 | $13.19 | 0.3 |
| 1/4 | 12" extension safety | 4HK95 | 16.20 | 14.17 | 0.4 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# TIRE GAUGES AND INFLATORS

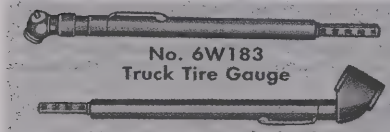
## ADJUSTABLE POCKET BLOW GUN

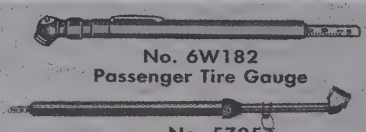


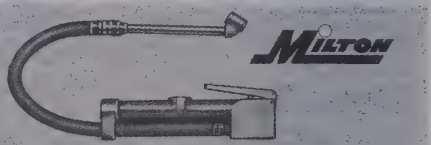

**Adjustable pocket blow gun** features easy two finger full air control adjustment. Fits directly into 1/4" Speedaire industrial standard coupler. No adapters needed. Aluminum body with pocket clip. Milton brand(115).

**No. 6W178.** Shpg. wt. 0.1 lbs. List $8.90. Each ..... **$6.19**

## MILTON TIRE INFLATORS/GAUGES




### TRUCK TIRE GAUGE

Features four-sided two-color indicator bar calibrated in 2 lb. PSI and 20 kPa increments. Range of 20 to 120 PSI and 120 to 820 kPa. Chrome/nickel plated brass construction with pocket clip and deflator tab. Milton brand (925).

**No. 6W183.** Truck Tire Gauge. Shpg. wt. 0.1 lbs. List $8.08. Each..... **$5.84**

### DUAL CHUCK TRUCK TIRE GAUGE

Features four-sided nylon indicator bar calibrated in 2 lb. PSI and 20 kPa increments. Range of 20 to 120 PSI and 120 to 820 kPa. Useful where valve stems are hard to reach. Plated brass body construction. Milton brand (927).

**No. 6W179.** Dual Chuck Truck Tire Gauge. Shpg. wt. 0.1 lbs. List $12.55. Each..... **$8.56**

### PASSENGER TIRE GAUGE

Features four-sided nylon indicator bar calibrated in 1 lb. PSI and 10 kPa increments. Range of 5 to 50 PSI and 40 to 350 kPa. Chrome/nickel plated brass construction with pocket clip and deflator tab. Milton brand (921).

**No. 6W182.** Passenger Tire Gauge. Shpg. wt. 0.1 lbs. List $8.25. Each ..... **$5.67**

### HEAVY-DUTY DUAL CHUCK TRUCK TIRE GAUGE

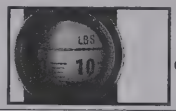
Features extra long nylon indicator bar precision calibrated in 2 lb. PSI and 20 kPa increments. Range of 10 to 160 PSI and 80 to 1100 kPa. Rugged chrome/nickel plated brass unit with master gauge accuracy. Rated for heavy-duty shop service. Milton brand (976).

**No. 5Z257.** Heavy-Duty Truck Tire Gauge. Shpg. wt. 0.7 lbs. List $26.35. Each..... **$18.93**

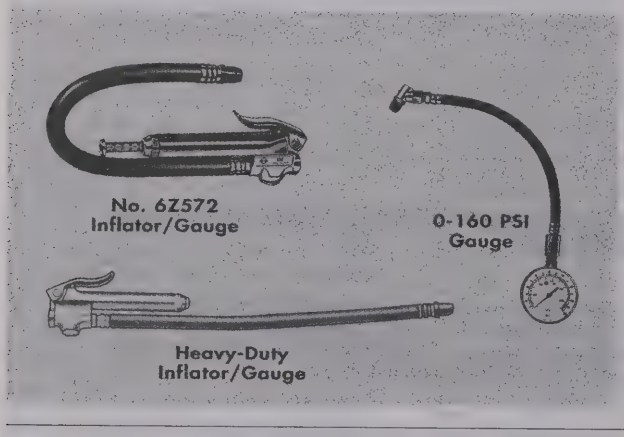
### TIRE INFLATOR/GAUGE

Easy to read magnifying lens enlarges pressure scale for accurate readings. Dual-head chuck allows access to inside dual wheels. Inflator is completely sealed and weather protected for durability. Two-pound graduations from 10 to 120 PSI. Durable die-cast zinc body. Factory tested for accuracy. 1/4" NPT inlet. Milton brand (506).

**No. 5Z256.** Tire Inflator/Gauge. Shpg. wt.1.5 lbs. List $70.90. Each ..... **$47.80**




**Tire inflator/gauge has magnified dial lens to enlarge reading area of scale**




## TIRE INFLATORS/GAUGES

**Passenger car tire inflator/gauge** features a compact, sturdy design. Chrome-plated castings with all brass internal parts. Solid brass bayonet type dial has extra large markings. Calibrated 10-90 PSI in 2 PSI increments. Includes 12" hose with straight-on tapered chuck. 1/4" NPT inlet. Amflo brand.

**Heavy-duty tire inflator/gauge** has a 12" hose with swivel dual-foot truck chuck. Heavy-duty chrome-plated castings. Protective vinyl sleeve over dial tube. Plated steel handle is riveted to body. Solid brass bayonet type dial can be read from any angle. Calibrated 10-120 PSI in 2 PSI increments. 1/4" NPT inlet.

**Dual-range master tire pressure gauge** includes a swivel tapered chuck for all types of tires, chrome-plated fittings for durability, and a button valve to bleed off excess pressure. Dual calibrations: 0-160 PSI in 2 PSI increments (black); 0-1100 kPa in 20 kPa increments (red).

| Description | MFr's Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Inflator/Gauge** | 150 | **6Z572** | $30.42 | **$28.50** | 1.0 |
| **H.D. Inflator/Gauge** | 101 | **6Z573** | 43.31 | **40.55** | 1.5 |
| **6-160 PSI Gauge** | 980-160 | **6Z574** | 44.15 | **36.65** | 1.2 |

control devices inc.

## AIR CHUCKS

DynaQuip

### BRASS AIR TANK VALVE



Filler valve for use with pumps and compressors. 1/8" (M) NPT. 1[Z\x]"L. 150 PSI max. Control Devices brand.

**No. 1X361.** Shpg. wt. 0.1 lbs. List $1.75. Each..... **$1.60**

### RIGHT ANGLE AIR CHUCK



Heavy-duty brass plated aluminum chuck. 1/4" (F) NPT. DynaQuip brand.

**No. 4X787.** Shpg. wt. 0.1 lbs. List $2.10. Each..... **$1.85**

### STRAIGHT BODY AIR CHUCK



Tapered head permits easy access. 1/4" (F) NPT. DynaQuip brand.

**No. 4X673.** Shpg. wt. 0.2 lbs. List $2.36. Each..... **$2.06**



*System components or tools — We're your one source for pneumatics.*

# BOSS & UNIVERSAL STYLE COUPLINGS

## "BOSS" STYLE FITTINGS

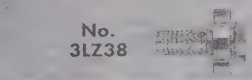
- Used with air, water, fluid petroleum, and chemicals
- Constructed of steel bar stock
- Fittings can be used in steam applications if "Boss" clamps are used




| Hose x NPT Size (In.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 x 1/4 | MS8X4 | 3LZ76 | $4.40 | $3.86 | 0.2 |
| 1/2 x 3/8 | MS8X6 | 3LZ77 | 4.40 | 3.86 | 0.2 |
| 1/2 x 1/2 | MS1 | 3LZ70 | 3.50 | 3.09 | 0.2 |
| 1/2 x 3/4 | MS8X12 | 3LZ75 | 10.00 | 8.83 | 0.5 |
| 3/4 x 1/2 | MS12X8 | 3LZ73 | 8.75 | 7.71 | 0.3 |
| 3/4 x 3/4 | MS6 | 3LZ74 | 5.85 | 4.92 | 0.4 |
| 3/4 x 1 | MS12X16 | 3LZ72 | 13.50 | 11.90 | 0.5 |
| 1 | MS11 | 3LZ71 | 8.80 | 7.82 | 0.6 |

## "EZ BOSS" GROUND JOINT COUPLINGS

- Coupler makeup: Hose shank stem, female thread wing nut, male wing nut thread x female NPT spud
- When used with Boss clamps, recommended for steam service up to 450°F




| Size (In.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 | GF6 | 3LZ39 | $17.15 | $15.15 | 0.7 |
| 3/4 | GF26 | 3LZ37 | 22.85 | 20.21 | 1.9 |
| 1 | GF36 | 3LZ38 | 23.35 | 20.29 | 1.9 |

## "BOSS" CLAMPS



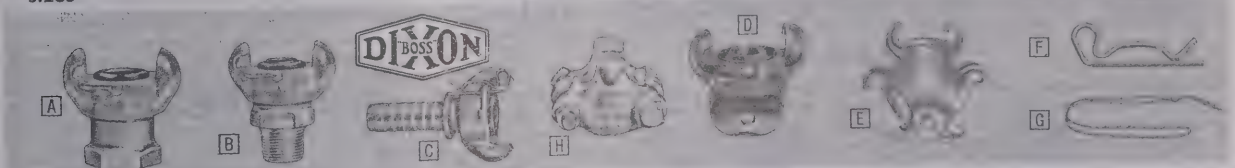

| Description | Size (In.) | For Hose O.D. (In.) From: | To: | Torque (Ft.-Lbs.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Two Bolt | 1/2 | 13/16 | 15/16 | 6 | DD | 3LZ27 | $4.30 | $3.79 | 0.3 |
| | 1/2 | 15/16 | 1 1/16 | 12 | B4 | 3LZ07 | 4.30 | 3.79 | 0.4 |
| | 1/2 | 1 1/16 | 1 3/16 | 12 | B5 | 3LZ08 | 4.75 | 4.18 | 0.4 |
| | 3/4 | 1 5/32 | 1 9/32 | 21 | BU9S | 3LZ12 | 5.30 | 4.68 | 0.7 |
| | 3/4 | 1 3/16 | 1 5/16 | 21 | BU9 | 3LZ11 | 5.30 | 4.68 | 0.6 |
| | 3/4 | 1 5/16 | 1 1/2 | 21 | B9 | 3LZ09 | 5.30 | 4.68 | 0.9 |
| | 3/4 | 1 1/2 | 1 11/16 | 21 | B10 | 3LZ04 | 7.00 | 6.13 | 0.9 |
| Four Bolt | 1/2 | 29/32 | 1 1/32 | 6 | 968 | 3LX78 | 7.00 | 6.14 | 0.4 |
| | 1 | 1 17/32 | 1 23/32 | 21 | BU14 | 3LZ10 | 10.40 | 9.16 | 1.6 |
| | 1 | 1 11/16 | 1 15/16 | 21 | B14 | 3LZ05 | 10.50 | 9.26 | 1.5 |
| | 1 | 1 15/16 | 2 1/8 | 21 | B15 | 3LZ06 | 11.25 | 9.88 | 1.8 |

Boss Clamps need to be sized up to both I.D. and O.D. of hose.

## "AIR KING" UNIVERSAL COUPLINGS

"Air King" universal couplings have a sexless common head design that eliminates mismatched fitting and allows direct connection between any two fittings from 1/4" to 1". Just push and a quarter turn to connect and disconnect. RATED FOR AIR SERVICE ONLY, UP TO 110 PSI. The use of an "Air King" safety clip, included with each coupling, or nylon lanyard retainer is recommended to assure that "Air King" universal coupling will not come apart, and guarantees that they are properly connected.

- Constructed of malleable iron
- Same gasket, safety clip, and lanyard for all coupling sizes
- Gasket temperature range: -20°F–160°F
- WARNING: Never use any "Air King" coupling for steam service!




| Key | Description | Size (In.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Female NPT End | 1/4 | AMC1 | 3LZ01 | $5.50 | $4.78 | 0.5 |
| | | 3/8 | AMC | 3LX99 | 5.40 | 4.69 | 0.5 |
| | | 1/2 | AM3 | 3LX92 | 4.20 | 3.70 | 0.6 |
| | | 3/4 | AM8 | 3LX96 | 4.30 | 3.79 | 0.6 |
| | | 1 | AM13 | 3LX90 | 5.50 | 4.85 | 0.4 |
| B | Male NPT End | 1/4 | AMB1 | 3LX98 | 6.20 | 5.45 | 0.4 |
| | | 3/8 | AMB | 3LX97 | 4.80 | 4.22 | 0.5 |
| | | 1/2 | AM2 | 3LX91 | 4.25 | 3.74 | 0.5 |
| | | 3/4 | AM7 | 3LX95 | 4.50 | 3.98 | 0.6 |
| | | 1 | AM12 | 3LX89 | 5.25 | 4.63 | 0.6 |
| C | Hose End | 3/8 | AMH | 3LZ02 | 6.25 | 5.48 | 0.5 |
| | | 1/2 | AM1 | 3LX86 | 4.00 | 3.53 | 0.5 |
| | | 5/8 | AM5 | 3LX93 | 5.60 | 4.94 | 0.5 |
| | | 3/4 | AM6 | 3LX94 | 3.90 | 3.44 | 0.6 |
| | | 1 | AM11 | 3LX88 | 5.40 | 4.75 | 0.8 |
| D | Blank End | — | AM0 | 3LX85 | 6.70 | 5.89 | 0.6 |

| Key | Description | Dixon Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| E | Triple Connection | AM10 | 3LX87 | $11.70 | $10.32 | 1.0 |
| F | Safety Clip | AC1 | 3LX83* | 2.25 | 1.92 | 0.2 |
| G | Nylon Lanyard | AC18 | 3LX84 | 3.62 | 3.16 | 0.1 |
| | Rubber Washer | AWR1 | 3LZ03 | 13.25 | 11.64 | 0.7 |

(*) Sold in Packages of 25. (†) Sold in Packages of 50.

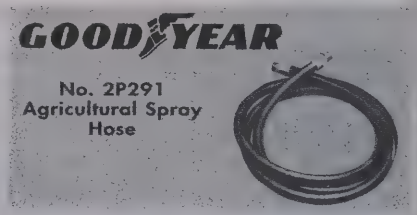
| Key | Description | Size (In.) | For Hose O.D. (In.) From: | To: | Torque (Ft.-Lbs.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| H | "Air King" Hose End Clamp | 3/8 | 11/16 | 7/8 | 6 | C1D | 3LZ20 | $4.30 | $3.79 | 0.2 |
| | | 1/2 | 1 | 1 1/16 | 6 | A1 | 3LX81 | 3.60 | 3.17 | 0.3 |
| | | 3/4 | 1 1/8 | 1 5/16 | 12 | A9 | 3LX82 | 4.25 | 3.76 | 0.4 |
| | | 1 | 1 3/16 | 1 1/2 | 12 | A10 | 3LX79 | 7.00 | 6.14 | 0.6 |
| | | 1 | 1 1/2 | 1 15/16 | 21 | A14 | 3LX80 | 9.00 | 7.96 | 0.7 |

# DEFINITE PURPOSE HOSE ASSEMBLIES

## AGRICULTURAL SPRAY HOSE

**Horizon™ agricultural spray hose** is a general-purpose air and water hose. Resists a variety of chemicals (including Monsanto's "Lasso") used in farm spray applications. Reinforced with synthetic fabric. EPDM synthetic rubber tube and cover (black) provide strength and flexibility. Handles working pressures from 150 to 250 PSI. Temperature range: -20° to 190°F. Fittings: nylon 3/4" (M)NPT on both ends. Goodyear brand.

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. Pressure (PSI) | Max. Temp. (°F) | Fittings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1 x 12** | 1.441 | 250 | 190 | Nylon | **2P291** | $29.40 | **$25.70** | 6.0 |

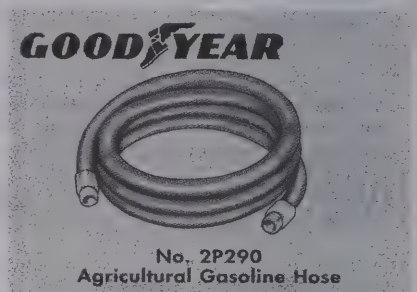



No. 2P291
Agricultural Spray Hose

## AGRICULTURAL GASOLINE HOSE

**Multi-use type for dispensing gasoline,** grease, kerosene, and petroleum oils from farm and barrel type pumps where UL listing is not required. High tensile reinforcement adds durability and good handling characteristics. Chemigum™ rubber tube offers high resistance to petroleum products. Black Chemivic™ synthetic rubber cover resists abrasion, sun, and weathering. Reinforced with synthetic cord. Fittings: Dichromate/steel 3/4" (M)NPT on both ends. Goodyear brand.

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. Pressure (PSI) | Fittings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/4 x 8** | 1.10 | 75 | Dichromate / Steel | **2P290** | $17.00 | **$13.52** | 4.5 |
| **3/4 x 12** | 1.10 | 75 | Dichromate / Steel | **3JT96** | 19.00 | **15.50** | 4.5 |
| **3/4 x 14** | 1.10 | 75 | Dichromate / Steel | **3JT97** | 21.00 | **17.50** | 5.0 |
| **1 x 12** | 1.375 | 75 | Dichromate / Steel | **3JT98** | 28.00 | **23.00** | 5.5 |
| **1 x 14** | 1.375 | 75 | Dichromate / Steel | **3JT99** | 31.00 | **26.00** | 6.5 |




No. 2P290
Agricultural Gasoline Hose

## GASOLINE PUMP HOSE

**Pacer™ softwall hose** is an economical alternative to hardwall hose. Handles all types of gasoline, oil, and petroleum-based products. Strong synthetic textile cord reinforcement gives hose excellent resistance to internal pressure. Highly resistant to abrasion and weathering. UL Listed. Static bonded for grounding purposes. Tube and cover (black) are synthetic rubber. Fittings: chrome/brass 3/4" (M)NPT on both ends.

**Flexsteel™ hardwall hose** is reinforced with wire braiding for greater strength, durability, and crush-resistance than softwall hose. Retains its shape even after vehicle run-over. Hose handles all types of gasoline, oil, and petroleum based products, and is extremely resistant to swelling, softening, and flaking. Black synthetic rubber tube and cover. 3/4" (M)NPT chrome/brass fittings on both ends. UL Listed. Goodyear brand.

### PACER™ SOFTWALL HOSE

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. Pressure (PSI) | Fittings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/4 x 12** | 1.15 | 150 | Chrome / Brass | **2P289** | $37.55 | **$36.00** | 5.0 |
| **3/4 x 14** | 1.15 | 150 | Chrome / Brass | **3P708** | 43.75 | **41.35** | 5.7 |

### FLEXSTEEL™ HARDWALL HOSE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **3/4 x 12** | 1.125 | 150 | Chrome / Brass | **3P709** | 52.55 | **43.75** | 6.1 |
| **3/4 x 14** | 1.125 | 150 | Chrome / Brass | **3P710** | 58.80 | **48.85** | 6.9 |




No. 2P289
Softwall Gasoline Pump Hose

## STEAM HOSE

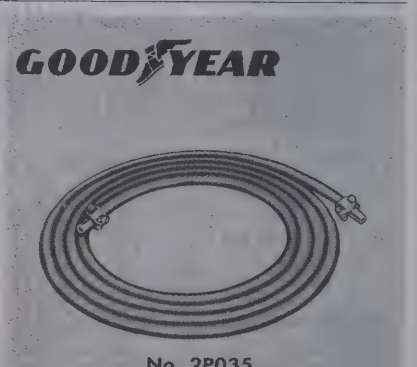
**Flexsteel 250™ steam hose** is designed for cleaning, heat control, fire prevention, purging, thawing, blow-out service, steam pumps and hoists in open-end or permanent installation operations. Reinforced with double wire braid (1/2" one wire braid). Black cover and tube are synthetic rubber. Bulk hose can use Dixon "Boss" Fittings and Clamps, found on page 3029 Assembled hose fittings are clamped. Goodyear brand.

### COUPLED ASSEMBLIES SPECIFICATIONS AND ORDERING DATA

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. Pressure (PSI) | Max. Temp. (°F) | (NPT) Fittings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/2 x 25** | 1 1/16 | 250 | 425 | 1/2" (M) x 1/2" (M) | **2P035** | $95.30 | **$85.95** | 11.0 |
| **1/2 x 50** | 1 1/16 | 250 | 425 | 1/2" (M) x 1/2" (M) | **2P036** | 168.15 | **151.50** | 20.0 |
| **1/2 x 50** | 1 1/16 | 250 | 425 | 1/2" (F) x 1/2" (M) | **4KT61** | 178.82 | **156.25** | 30.0 |
| **3/4 x 25** | 1 9/32 | 250 | 425 | 1/2" (M) x 1/2" (M) | **2P571** | 147.00 | **130.20** | 16.0 |
| **3/4 x 50** | 1 9/32 | 250 | 425 | 1/2" (M) x 1/2" (M) | **2P572** | 212.20 | **188.00** | 31.0 |
| **3/4 x 50** | 1 9/32 | 250 | 425 | 1/2" (F) x 1/2" (M) | **4KT62** | 220.15 | **193.00** | 33.0 |

### BULK HOSE LESS FITTINGS SPECIFICATIONS AND ORDERING DATA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **1/2 x 50** | 1 1/16 | 250 | 425 | Uncoupled | **4KT58** | 138.40 | **120.65** | 22.0 |
| **3/4 x 50** | 1 9/32 | 250 | 425 | Uncoupled | **4KT59** | 170.50 | **151.25** | 27.0 |
| **1 x 50** | 1 5/8 | 250 | 425 | Uncoupled | **4KT60** | 228.20 | **193.00** | 46.0 |

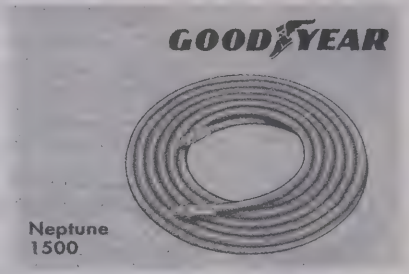



No. 2P035
Steam Hose

# PRESSURE WASHER, STEAM CLEANER AND WASHDOWN HOSE

## PRESSURE WASHER HOSE

- **Constructed of the highest quality materials to provide superior life**
- **Resistant to the effects of hot water and cleaning solutions**
- **Available in coupled assemblies**
- **Certified 4:1 Safety Factor (burst to working pressure)**
- **Manufactured in the USA by the Goodyear Tire & Rubber Company**




**Goodyear Neptune 1500 hose** is designed for pressure washer equipment up to 1500 PSI. Features a high tensile, braided textile reinforcement that will not rust. Nitrile tube and abrasion resistant neoprene cover (both RMA: Class B oil resistance). Temperature range: 0 to 200° F. Available in coupled assemblies with one each, (M) NPT and swivel (M) NPT crimped fittings.

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. (PSI) | Max. Temp. (°F) | Cover Color | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/4 x 25** | 0.63 | 1500 | 200 | Black | **2P768** | $42.00 | **$34.95** | 3.0 |
| **3/8 x 30** | 0.75 | 1500 | 200 | Black | **2P769** | 53.00 | **43.30** | 6.5 |
| **3/8 x 50** | 0.75 | 1500 | 200 | Black | **3JT35** | 85.00 | **69.00** | 11.0 |

**Goodyear Neptune 3000 hose** is designed for use on pressure washers with working pressures of up to 3000 PSI. Special tube and cover compound is resistant to the effects of hot water (up to 250° F) and the cleaning solutions used in the pressure water industry. Constructed with a wire braid enforcement, Neptune 3000 is designed for strength and flexibility. Blue Neptune 3000 features a non-marking cover for carpet cleaning applications. Both the tube & cover are oil resistant (RMA Class B oil resistance). Temperature range is 0 to 250° F. Available in coupled assemblies with one each, (M) NPT and swivel (M) NPT crimped fittings.

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Cover Color | Max. (PSI) | Max. Temp. (°F) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/4 x 30** | 0.59 | Black | 3000 | 250 | **2P763** | $46.35 | **$39.60** | 5.0 |
| **3/8 x 30** | 0.69 | Black | 3000 | 250 | **2P764** | 58.00 | **49.45** | 8.0 |
| **3/8 x 50** | 0.69 | Black | 3000 | 250 | **2P765** | 84.70 | **72.45** | 14.0 |
| **3/8 x 100** | 0.69 | Black | 3000 | 250 | **3JT36** | 164.00 | **136.55** | 26.0 |
| **1/4 x 50** | 0.59 | Blue | 3000 | 250 | **3JT38** | 94.00 | **72.90** | 9.0 |
| **1/4 x 100** | 0.59 | Blue | 3000 | 250 | **3JT37** | 173.00 | **134.65** | 18.0 |
| **3/8 x 50** | 0.69 | Blue | 3000 | 250 | **3JT40** | 105.00 | **86.10** | 13.0 |
| **3/8 x 100** | 0.69 | Blue | 3000 | 250 | **3JT39** | 197.00 | **158.25** | 26.0 |

**Goodyear Neptune 4500 hose** is specially designed for use on pressure washer with working pressures up to 4500 PSI. Complies with UL 1776 standards which require a 2" shroud (bend restrictor) on the trigger end of the hose. Unique tube & cover compound that resists the effects of hot water (250° F) and the cleaning solutions used in pressure washers. The two wire braid construction handles pressures of up to 4500 PSI, yet it is more flexible and lighter weight than standard two wire braid hoses. Neptune 4500 has a nitrile tube and an abrasion resistant neoprene cover (both RMA Class B oil resistance). Temperature range is 0 to 250° F. Available in coupled assemblies with (M) NPT crimped fittings both ends.

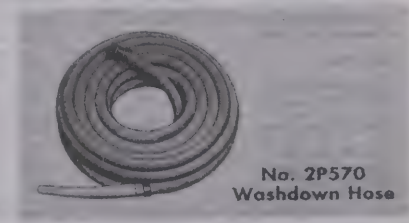
| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Cover Color | Max. (PSI) | Max. Temp. (°F) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/8 x 50** | 0.69 | Black | 4500 | 250 | **3JT42** | $122.00 | **$101.45** | 15.0 |
| **3/8 x 100** | 0.69 | Black | 4500 | 250 | **3JT41** | 239.00 | **194.25** | 30.0 |

**Goodyear Whitewater pressure washer/steam cleaner hose** is designed for use on either steam cleaner machine or combination steam cleaner/pressure washer machines. The heat resistant tube is designed to handle the chemicals used in pressure washer and steam cleaner applications (RMA Designation: Class B Oil Resistance). Whitewater has a one wire braid construction. Reduced flex fatigue and improved safety with a 2" shroud (bend restrictor). Available in coupled assemblies with (M) NPT crimped fittings both ends. Handles hot water up to 250° F at 3000 PSI (2500 PSI on 1/2")(4:1 Safety Factor). Handles steam up to 325° F at 350 PSI (10:1 Safety Factor).

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Cover Color | Max. (PSI) | Max. Temp. (°F) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/8 x 30** | 0.69 | Black | 3000 | 325 | **2P766** | $70.70 | **$59.25** | 8.0 |
| **3/8 x 50** | 0.69 | Black | 3000 | 325 | **2P767** | 120.50 | **105.40** | 11.0 |
| **3/8 x 100** | 0.69 | Black | 3000 | 325 | **3JT43** | 215.00 | **179.00** | 24.0 |
| **1/2 x 30** | 0.82 | Black | 2500 | 325 | **4KT64** | 90.13 | **81.05** | 12.0 |
| **1/2 x 50** | 0.82 | Black | 2500 | 325 | **4KT65** | 148.90 | **129.45** | 17.0 |
| **1/2 x 100** | 0.82 | Black | 2500 | 325 | **4KT63** | 236.44 | **205.75** | 33.0 |

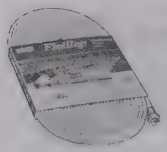
## WASHDOWN HOSE

**White "Creamery" washdown hose** efficiently and hygienically handles cleaning of equipment typically found in food plants, dairies, paper mills, and other industrial operations. Special EPDM tube and cover compound allows the use of extremely hot water for easy clean-up. Cover is pin-pricked for heat dissipation. Hose has tapered nozzle at one end, and a 3/4" long shank brass female fitting, double-banded on the other end. Garden hose threads.




| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. (PSI) | Max. Temp. (°F) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/4 x 50** | 1.25 | 200 | 200 | **2P570** | $128.55 | **$111.00** | 23.0 |

# WATER HOSE



## FLATLINE® REINFORCED VINYL HOSE

For pools, patios, campers, boats and RV's. USFDA-listed tube materials for drinking water safety. Drains automatically. Coils flat for storage. Non-corrosive nylon GRIPPER® couplings.



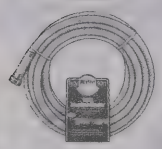
## COUNTRY CLUB® RT PROFESSIONAL DUTY HOSE

1" I.D., premium PVC hose. Flexible and lightweight. Industrial knit reinforcing for 450 PSI burst strength. For turf and nursery applications. Brass couplings.



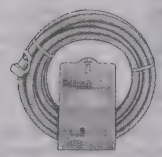
## CONTRACTOR HOSE

Heavy-duty PVC construction for strength, flexibility, and abrasion resistance. Industrial style reinforcing. Brass couplings.



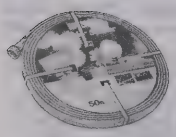
## WEATHER MASTER® REINFORCED VINYL HOSE

Strong 5-ply construction. All-weather tube. Dual reinforcing for excellent kink resistance. Non-corrosive nylon GRIPPER® coupling.



## EARTH QUENCHER® SOAKER HOSE

Drip irrigation style watering hose. Uses up to 70% less water than spray watering. Can be buried for direct underground soaking. Resists mold, fungal growth. Smooth cover.



## SPRINKLER SOAKER® TRIPLE TUBE HOSE

100% vinyl hose for wide-area spraying or direct ground soaking. With stripes up, it waters like gentle rain; stripes down for soaking. Color blends with landscape. End coupled for connecting hoses in series.



## COMMERCIAL DUTY REINFORCED RUBBER HOSE

Rubber cover resists oil, chemicals, abrasion, and weather. Withstands extensive hot water (200° F) use. Industrial knit reinforcing delivers 600 PSI burst pressure. Brass couplings.



## HOT WATER REINFORCED RUBBER HOSE

Withstands hot water use up to 200°F. Heavy-duty construction for maximum abrasion resistance. Industrial style reinforcing. Crush-resistant brass couplings.



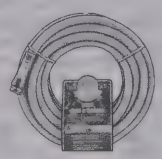
## PREMIUM REINFORCED RUBBER HOSE

Heavy-duty, all rubber construction. Handles hot water up to 160° F. High grade tube for great pressure capacity and flexibility. Dual radial reinforcing for maximum burst strength and kink resistance. SEAL-TITE™ brass coupling with permanent O-ring for leak proof use.



## PERFECT GARDENER® RUBBER/ VINYL REINFORCED HOSE

Special grooves in tube assure water flow even if hose is kinked. Premium rubber /vinyl striped cover for all-weather use. Dual spiral/knit reinforcing for high burst strength. Crush-resistant, machined brass couplings.



## SOFT & SUPPLE® RUBBER/VINYL HOSE

Heavy-duty 5-ply construction. Rubber/ vinyl cover provides excellent handling and flexibility. All-weather PVC inner tube offers optimum water pressure capacity. Dual reinforcing for maximum kink resistance.

## WATER HOSE SPECIFICATIONS AND ORDERING DATA

| Description | Hose Size ID (In.) x Length (Ft.) | Coupling* | Hose Color | Operating Temp. (°F) | Max. Pressure (PSI) | GPH ‡ | Swan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Flatline** | 5/8 x 50 | GHT* | White | † | 100 | 732 | FL5850 | **3W684** | $35.50 | **$23.81** | 7.6 |
| **Country Club RT** | 1 x 50 | 1" NPSH @ | Green | † | 125 | 1368 | CC0150 | **2P292** | 115.00 | **80.60** | 20.0 |
| **Country Club RT** | 1 x 100 | 1" NPSH @ | Green | † | 125 | 1368 | CC01100 | **2P293** | 202.55 | **140.65** | 39.0 |
| **Contractor** | 5/8 x 50 | GHT | Black | † | 150 | 732 | BG5850 | **2P561** | 34.65 | **24.73** | 8.8 |
| **Contractor** | 3/4 x 50 | GHT | Black | † | 150 | 918 | BG3450 | **2P562** | 44.00 | **30.35** | 11.0 |
| **Weather Master** | 5/8 x 50 | GHT | Lt. Green | † | 100 | 732 | WM5850 | **1P648** | 26.45 | **15.13** | 6.8 |
| **Weather Master** | 5/8 x 75 | GHT | Lt. Green | † | 100 | 732 | WM5875 | **1P863** | 30.90 | **20.34** | 10.0 |
| **Weather Master** | 5/8 x 100 | GHT | Lt. Green | † | 100 | 732 | WM58100 | **2P099** | 39.60 | **30.00** | 15.0 |
| **Earth Quencher** | 3/8 x 50 | GHT | Black | † | 30 | N/A | ER50 | **3W683** | 18.75 | **12.97** | 3.2 |
| **Sprinkler Soaker** | 3-Tube x 50 | GHT | Green | † | 40 | 210 | 3TEC50 | **2P100** | 13.25 | **9.64** | 3.0 |
| **Commercial Duty** | 3/4 x 50 | GHT | Black | -40 to 200 | 150 | 918 | CD3450 | **1P650** | 69.85 | **48.30** | 21.0 |
| **Commercial Duty** | 1 x 50 | 1" NPSH @ | Black | -40 to 200 | 150 | 1368 | CD0150 | **1P865** | 105.00 | **72.65** | 23.0 |
| **Hot Water** | 5/8 x 50 | GHT | Red | -40 to 200 | 100 | 732 | HW5850 | **1P864** | 49.25 | **34.05** | 11.0 |
| **Premium Rubber** | 5/8 x 50 | GHT | Black | -20 to 160 | 100 | 732 | PM5850 | **1P649** | 36.30 | **24.91** | 9.4 |
| **Premium Rubber** | 5/8 x 75 | GHT | Black | -20 to 160 | 100 | 732 | PM5875 | **2P098** | 54.80 | **37.85** | 15.0 |
| **Perfect Gardener** | 5/8 x 50 | GHT | Green | † | 100 | 732 | PG5850 | **3W682** | 32.95 | **22.77** | 11.0 |
| **Soft & Supple** | 5/8 x 50 | GHT | Lt. Green | † | 100 | 732 | SS5850 | **3W680** | 33.35 | **22.94** | 9.0 |
| **Soft & Supple** | 3/4 x 50 | GHT | Lt. Green | † | 100 | 918 | SS3450 | **1P755** | 43.20 | **29.85** | 13.0 |
| **Soft & Supple** | 3/4 x 75 | GHT | Lt. Green | † | 100 | 918 | SS3475 | **3W681** | 62.75 | **43.25** | 19.0 |

(*) GHT = Garden Hose Thread. (†) Not intended for hot water. (‡) GPH = Gallons per Hour. (@) NPSH – National Pipe Straight Hose

## GOODYEAR RUBBER WATER SUCTION HOSE

**Plicord™ Water suction and discharge hose** handles light to medium-duty suction applications. Balanced construction of synthetic fiber and wire helix reinforcements provides strength without weight or stiffness. Tube and cover (black) are compounded with synthetic rubber to resist internal abrasion, and provide the external toughness to resist abrasion, cuts, and gouges. Assembled units come with aluminum shank coupling with (M)NPSM threads, and aluminum shank coupling with brass pin-lug swivel and (F)NPSM threads. Gasket included. Bulk hose can be used with Dixon "Andrews" style cam and groove coupling. "King" short shank coupling, or combination nipple. Either double bolt or band clamps are recommended. Goodyear brand.

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. Pressure (PSI) | Max. Temp. (°F) | Bend Raidus (in.) | Description | Fittings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1½ x 20 | 1 15/16 | 100 | 180 | 4 | | Aluminum / Brass | 3P572 | $95.20 | $84.00 | 20.0 |
| 2 x 20 | 2 7/16 | 100 | 180 | 5 | | Aluminum / Brass | 3P573 | 130.50 | 111.75 | 31.0 |
| 3 x 10 | 3 15/32 | 100 | 180 | 7 | Assembled | Aluminum / Brass | 3P583 | 132.80 | 113.40 | 28.0 |
| 3 x 20 | 3 15/32 | 100 | 180 | 7 | | Aluminum / Brass | 3P634 | 209.69 | 180.25 | 50.0 |
| 4 x 20 | 4 17/32 | 100 | 180 | 10 | | Aluminum / Brass | 3P657 | 318.88 | 273.25 | 74.0 |
| 1½ x 100 | 1 15/16 | 100 | 180 | 4 | | — | 3JT44 | 294.00 | 245.00 | 72.0 |
| 2 x 100 | 2 7/16 | 100 | 180 | 5 | Bulk | — | 3JT45 | 330.00 | 275.00 | 94.0 |
| 3 x 100 | 3 15/32 | 100 | 180 | 7 | | — | 3JT46 | 486.00 | 405.00 | 157.0 |
| 4 x 100 | 4 17/32 | 100 | 180 | 10 | | — | 3JT47 | 726.00 | 605.00 | 231.0 |

## GOODYEAR RUBBER WATER DISCHARGE HOSE

**Plicord™ water discharge hose** is especially suited for jobs where mobility is important. Lightweight and flexible for easy installation in fixed-position operations. Black Plioflex synthetic rubber tube and cover provide high resistance to abrasion, aging and weathering. Synthetic fabric reinforcement is mildew and moisture resistant. Assembled hose has Aluminum shank coupling with (M)NPSM threads and aluminum shank coupling with brass lug-pin swivel and (F)NPSM threads. Gasket included. Bulk hose can be used with Dixon "Andrew" style cam and groove coupler or "King" short shank coupler and combination nipple. Either double bolt or band clamps are recommended. Goodyear brand.



No. 3P574

| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. Pressure (PSI) | Max. Temp. (°F) | Description | Fittings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1½ x 25 | 1¾ | 125 | 180 | | Aluminum / Brass | 3P574 | $80.00 | $71.30 | 13.0 |
| 2 x 25 | 2¼ | 125 | 180 | Assembled | Aluminum / Brass | 3P575 | 98.65 | 90.15 | 19.0 |
| 3 x 25 | 3 5/16 | 125 | 180 | | Aluminum / Brass | 3P584 | 151.40 | 135.35 | 17.0 |
| 4 x 25 | 4 5/16 | 125 | 180 | | Aluminum / Brass | 2P086 | 217.99 | 190.25 | 41.0 |
| 1½ x 100 | 1¾ | 125 | 180 | | — | 3JT48 | 246.00 | 205.00 | 34.0 |
| 2 x 100 | 2¼ | 125 | 180 | Bulk | — | 3JT49 | 274.00 | 228.00 | 45.0 |
| 3 x 100 | 3 5/16 | 125 | 180 | | — | 3JT50 | 402.00 | 335.00 | 86.0 |
| 4 x 100 | 4 5/16 | 125 | 180 | | — | 3JT51 | 534.00 | 445.00 | 114.0 |

## TIGERFLEX PVC WATER SUCTION HOSE

**Green PVC hose** is designed for water suction and discharge in construction and septic tank cleaning operations. Also used in general industrial and agricultural applications where mild chemical resistance is required. 50% lighter than conventional hose made for the same service. Especially suited to outdoor applications because it remains flexible at temperatures from 15 to 150°F. Flexes 90° without kinking. Cover and tube is constructed of green PVC compound and reinforced with rigid PVC helix. Fittings: aluminum shank coupling with (M)NPSM threads, and aluminum shank coupling with brass pin-lug swivel and (F)NPSM threads. Gasket included. Tigerflex brand.



No. 2P566

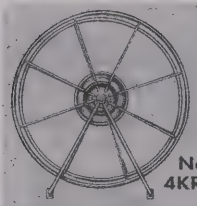
| Hose I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Max. Pressure (PSI) | Max. Temp. (°F) | Bend Radius (In.) | Fittings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1½ x 20 | 1¾ | 70 | 150 | 6 | Aluminum / Brass | 2P566 | $61.00 | $48.10 | 9.0 |
| 2 x 20 | 2¼ | 65 | 150 | 8 | Aluminum / Brass | 2P567 | 86.00 | 70.00 | 17.0 |
| 3 x 20 | 3½ | 65 | 150 | 12 | Aluminum / Brass | 2P568 | 160.50 | 130.00 | 29.0 |
| 4 x 20 | 4½ | 55 | 150 | 16 | Aluminum / Brass | 2P569 | 254.00 | 212.00 | 47.0 |

## VINYLFLOW PVC WATER DISCHARGE HOSE

**Blue lay-flat hose** handles a wide range of applications in construction, industry, mining, agriculture, and marine service. Reinforced with two spiral plies and one longitudinal ply of strong fiber for excellent burst resistance. PVC tube and cover. Fittings: aluminum shank coupling with (M)NPSM threads and aluminum/brass swivel coupling with (F)NPSM threads. Gasket included. Vinylflow brand.

| Hose I.D. (In.) x Length (Ft.) | Max. Pressure (PSI) | Max. Temp. (°F) | Fittings | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1½ x 25 | 80 | 150 | Aluminum / Brass | 1P960 | $37.45 | $31.70 | 5.0 |
| 1½ x 50 | 80 | 150 | Aluminum / Brass | 6ZF12 | 55.15 | 46.60 | 9.5 |
| 2 x 25 | 80 | 150 | Aluminum / Brass | 1P961 | 45.00 | 38.50 | 8.5 |
| 2 x 50 | 80 | 150 | Aluminum / Brass | 6ZF11 | 69.10 | 58.55 | 12.0 |
| 3 x 25 | 70 | 150 | Aluminum / Brass | 1P962 | 87.85 | 75.90 | 17.0 |
| 4 x 25 | 70 | 150 | Aluminum / Brass | 6ZF13 | 128.55 | 108.45 | 19.0 |

# FIRE HOSE, RACKS AND NOZZLES

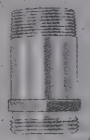

No. 4KR25

EX2257


Assembled Pin Rack

No. 6ZF17


No. 4LL10 Pin Rack


No. 4KR28 Rack Nipple


No. 4KR29 Wall Bracket


No. 4KR36 Angle Valve

## SINGLE-JACKET FIRE HOSE

**Single-jacket 100% polyester hose** is recommended for emergency fire protection in industrial environments. Does not require drying, and is immune to mildew and rot.

**Ideal for applications where hose is stored in swing wall reels** for prolonged periods of time. Rubber lined for smooth water flow and extra strength. (Do not use on pin racks).

**300 PSI proof test/150 PSI service test.** Brass male coupling on one end; female swivel on other end. **50 ft. lengths.** FM Listed. National Fire Hose Division, Snap Tite Hose, Inc. brand

| Size (In.) | NHT TPI | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1½ | 9 | **3P711** | $149.50 | **$136.35** | 15.0 |
| 2½ | 7½ | **1P957** | 230.30 | **218.25** | 27.0 |

## SINGLE-JACKET PIN RACK FIRE HOSE

**Single-jacket, synthetic hose** is a lightweight, compact, easy to handle, thermoplastic lined hose which is provided **pre-folded** for use in pin rack storage. Designed to be totally immune to deterioration from mildew and rot. Replaces unlined linen hose foot for foot. Can easily be re-folded after use.

**500 PSI proof test/250 PSI service test.** Brass male coupling on one end; female swivel on other end. NST threads (9 TPI). UL and FM Listed. National Fire Hose Division, Snap Tite Hose, Inc. brand.

| Size (In.) | Length (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1½ | 50 | **6ZF17** | $102.00 | **$96.50** | 7.0 |
| 1½ | 75 | **6ZF18** | 141.50 | **132.35** | 9.0 |
| 1½ | 100 | **6ZF19** | 179.99 | **168.75** | 12.0 |

## FIRE HOSE SWING WALL REELS & PIN RACKS

**Swing wall reels** have red finish, all steel construction, compact design that provides fast easy deployment with collapsible hose. Pivot mount allows reel to swing to proper angle. Open sides for fast hose drying.

- **No. 4KR25 holds 1½" hose x 150 ft. length**
- **No. 4KR26 holds 1½" hose x 300 ft. length**

**Swing wall reel assembly** consists of: Nos. 4KR25 or 4KR26 reel, No. 4KR36 angle valve, No. 4KR28 nipple, and optional No. 4KR24 reel cover.

**Pin rack** is constructed of heavy gauge steel, with red finish. Rack only accepts single jacket pin rack fire hose.

No. 4LL10 pin rack holds 50, 75, and 100 ft. lengths of 1½" hose. No. 4KR28 rack nipple has 1½" (M)NPT x 1½" (M)NST threads. No. 4KR29 wall mount bracket for pin rack.

**Pin rack valve mount assembly** consists of: No. 4LL10 pin rack, No. 4KR28 rack nipple, and No. 4KR36 angle valve.

**Pin rack wall mount assembly** consists of: No. 4LL10 pin rack, No. 4KR29 wall mount bracket, No. 4KR28 rack nipple, and No. 4KR36 angle valve. Optional pin rack cover, No. 4KR27 for valve or wall mount assemblies.

**No. 4KR36 brass angle valve** has 1½ x 1½" female NPT threads. Max. 300 PSI. UL listed and FM approved. New York City Board of Standards and Appeals approved.

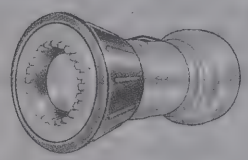
| Description | Dixon Model | Stock No. | List | Each | Shpg.Wt. |
|---|---|---|---|---|---|
| **150' Swing Wall Reel** | V2 | **4KR25** | $278.95 | **$254.75** | 23.0 |
| **300' Swing Wall Reel** | V5 | **4KR26** | 296.20 | **270.50** | 25.0 |
| **Swing Reel Cover** | FHR-C | **4KR24** | 164.55 | **146.85** | 1.7 |
| **Pin Rack** | FHPR150 | **4LL10** | 81.25 | **72.30** | 4.5 |
| **Wall Bracket** | PRWB | **4KR29** | 57.50 | **51.70** | 1.0 |
| **Pin Rack Cover** | PRC | **4KR27** | 100.35 | **88.65** | 1.0 |
| **Brass Rack Nipple** | PRN150F | **4KR28** | 28.60 | **26.00** | 1.0 |
| **Brass Angle Valve** | AVF150 | **4KR36** | 86.25 | **78.35** | 5.0 |

## HOSE NOZZLES


No. 6ZF46


No. 6ZF47


No. 6ZF48


No. 4KR33

## BRASS FIRE HOSE NOZZLES

**Combination fog and straight stream nozzles** feature rugged cast brass construction with satin finish. NST threads. Twist shutoff. Nos. 6ZF47 and 6ZF48 for use with Rack and Reel Fire Hose in industrial environments. No. 6ZF46 for use with Pin Rack Fire Hose in commercial businesses. All models FM approved (except No. 6ZF48) and UL Listed. **Nozzles are not for use on Class "C" hazards (electrical fires).** 200 PSI maximum. Elkhart Brass brand.

| Size (In.) | Description | GPM | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1½ | Commercial | 60 | **6ZF46** | $34.05 | **$31.40** | 1.7 |
| 1½ | Industrial | 95 | **6ZF47** | 124.80 | **100.90** | 3.0 |
| 2½ | Industrial | 100 | **6ZF48** | 249.60 | **208.25** | 7.7 |

## THERMOPLASTIC NOZZLES

- **FM approved**
- **Water only, 100 PSI maximum**
- **Adjusts from straight stream to fog**
- **Opens and closes in a 30° fog pattern-up to 120°**

| Size (In.) | Thread | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/4 | GHT | FNB75GHT | **4KR35*** | $28.60 | **$25.85** | 0.5 |
| 1 | NPSM | FNB100S | **4KR32** | 31.65 | **28.00** | 0.8 |
| 1½ | NPSM | FNB150S | **4KR34** | 23.50 | **20.82** | 0.9 |
| 1½ | NST | FNB150NST | **4KR33** | 23.50 | **20.82** | 0.9 |

(*) GHT to NPT adapters, see index in back of catalog under Couplings, Hose.

# HIGH VELOCITY, HIGH VOLUME AIR MOVERS

No. 6F594



Used as either exhauster or amplifier for the dispersing of fumes or for ventilating confined areas in refineries, chemical plants, utilities, fabrication shops, ship yards, and other industrial areas.

- Explosion proof (when properly grounded)
- Aluminum inlet housing
- Only setup required is air supply line from compressor, plant air, or steam supply
- Galvanized steel diffusers
- No blind rivets. Stainless steel cap screw nuts for easy maintenance
- High static pressure capacity allows long runs of flexible duct on outlet diffuser so confined areas not accessible by unit can be reached with a blower hose (available below)
- Made in USA; Universal Tool brand

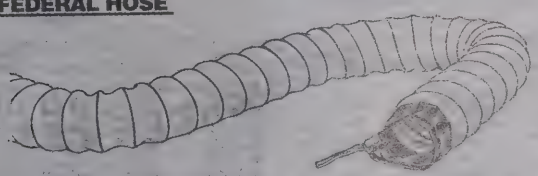
## AIR MOVER SPECIFICATIONS AND ORDERING DATA

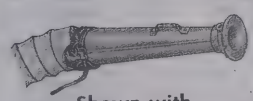
| Air Flow CFM* | Air Cons. SCFM* | Induction Ratio | NPT Air Inlet (In.) | Inlet Dia. (In.) | Length (In.) | Top Cone Dia. (In.) | Base Dia. (In.) | Bolt Circle Dia. (In.) | Base Slot Dia. (In.) | Univ. Tool Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1400 | 64 | 21.9:1 | 1/2 | 3 | 16½ | 6 | 7¾ | 6½ | 0.4 | UT-9210 | 6F592 | $195.00 | $185.00 | 5.5 |
| 1540 | 63 | 24.4:1 | 1/2 | 3 | 32½ | 8 | 7¾ | 6½ | 0.4 | UT-9220 | 6F593 | 215.00 | 205.00 | 8.5 |
| 4020 | 132 | 30.0:1 | 1 | 6 | 44½ | 12 | 11¼ | 10½ | 0.4 | UT-9230 | 6F594 | 295.00 | 280.00 | 19.0 |
| 6260 | 235 | 26.6:1 | 1 | 8 | 46 | 14 | 14⅓ | 13⅜ | 0.5 | UT-9240 | 6F595 | 395.00 | 375.00 | 29.0 |

(*) Air flow and consumption based on 80 PSI air pressure. Maximum inlet pressure 150 PSI.

# UTILITY BLOWER HOSE FOR AIR MOVERS

FEDERAL HOSE®





Shown with Air Mover

Hose—Air Mover Sold Separately

Used with portable blowers and fans for fume removal or ventilating enclosed areas. Also used with portable evacuators for smoke removal in manholes, tanks, or other confined spaces.

- Moves large volumes of air with low friction loss
- Compressable—from 15 feet to 11 inches—saves space on repair and emergency trucks
- Spring loaded steel helix assures hose retains its size when flexed and smoothly extends to full length when removed from storage
- Abrasion protected with vulcanized wear-strip designed to withstand everyday, on-the-job abuse
- Fire resistant vinyl on polyester fabric
- Safety yellow color
- Includes sewn cuff, belt and buckle on each end for fast, easy connection

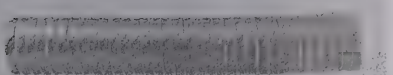
## UTILITY BLOWER HOSE SPECIFICATIONS AND ORDERING DATA

| Hose ID (In.) x Length (Ft.) | Use with Air Mover | No. of Plies | Material | Operating Temperature (°F) | Federal Hose Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6 x 15 | 6F592 | 1 | Vinyl/ Polyester | -20° to 180° | WPVW-6 | 6F596 | $129.00 | $113.00 | 11.0 |
| 8 x 15 | 6F593 | | | | WPVW-8 | 6F597 | 138.00 | 120.00 | 22.0 |
| 12 x 15 | 6F594 | | | | WPVW-12 | 6F598 | 223.00 | 193.00 | 24.0 |
| 14 x 15 | 6F595 | | | | WPVW-14 | 6F599 | 260.00 | 226.00 | 26.0 |

# INDUSTRIAL DUCTING HOSE

FEDERAL HOSE®

E141605



Two-ply, strip wound hose made of neoprene coated polyester fabric reinforced with carbon steel wire helix. Flexible, with good abrasion resistance and high tensile strength. For use in air movement to transport dust, fumes, smoke, odors, wood chips, cold and hot air. Operating temperature range of -40° to 250°F continuous (300°F intermittent). Resistant to most chemical fumes. UV resistant. Recognized by UL Laboratories Flame Retardancy test to UL-94-V0. Not recommended for garage exhaust. 25 ft. lengths. Black color

## SPECIFICATIONS AND ORDERING DATA

| Hose ID (In.) x Length (Ft.) | Bend Radius (In.) | Max. PSI | Tensile Strength (Lbs.) | Crush Resistance (Lbs.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3 x 25 | 5 | 27 | 285 | 465 | 6ZC17 | $144.00 | $124.80 | 11.0 |
| 4 x 25 | 6½ | 25 | 330 | 375 | 6ZC18 | 163.00 | 142.00 | 14.0 |
| 5 x 25 | 7½ | 24 | 365 | 350 | 6ZC19 | 189.00 | 165.00 | 19.0 |
| 6 x 25 | 9 | 23 | 385 | 335 | 6ZC20 | 196.00 | 171.00 | 22.0 |
| 8 x 25 | 10 | 21 | 435 | 305 | 6ZC16 | 253.00 | 219.00 | 37.0 |

# CAM AND GROOVE COUPLINGS

Precision machined to rigid tolerances, these fittings feature durable stainless steel cam arm pins that will not rust or bind for greater strength and safety. Suitable for most water, dry bulk, petroleum, and chemical applications. Cam and Groove couplers and adapters are produced to interchange with all product produced to Milc-27487F. Working pressures: 250 PSI up to 2", 125 PSI for 3", and 100 PSI for 4". Dixon brand. WARNING: Not recommended for air service or compressed gas. Threaded end has male NPT thread. Example; 2" nipple has 2" NPT thread and fits 2" I.D. hose.

DIXON "BOSS"

## MALE ADAPTER X FEMALE NPT.



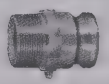
| NPT Size (In.) | Material | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | Aluminum | 100-A-AL | 3LW92 | $5.70 | $5.31 | 0.1 |
| 1 | Stainless Steel | 100-A-SS | 3LW93 | 34.15 | 31.90 | 0.4 |
| 1 1/2 | Aluminum | 150-A-AL | 3LX09 | 7.55 | 7.05 | 0.3 |
| 1 1/2 | Stainless Steel | 150-A-SS | 3LX10 | 40.00 | 37.35 | 0.8 |
| 2 | Aluminum | 200-A-AL | 3LX26 | 9.30 | 8.66 | 0.4 |
| 2 | Stainless Steel | 200-A-SS | 3LX27 | 43.45 | 40.55 | 1.0 |
| 3 | Aluminum | 300-A-AL | 3LX42 | 17.80 | 16.59 | 0.7 |
| 3 | Stainless Steel | 300-A-SS | 3LX43 | 84.85 | 79.15 | 2.1 |
| 4 | Aluminum | 400-A-AL | 3LX59 | 41.50 | 38.75 | 1.4 |
| 4 | Stainless Steel | 400-A-SS | 3LX60 | 148.95 | 138.95 | 3.2 |

## FEMALE COUPLER X FEMALE NPT.



| NPT Size (In.) | Material | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | Aluminum | 100-D-AL | 3LW98 | $12.90 | $12.02 | 0.4 |
| 1 | Stainless Steel | 100-D-SS | 3LW99 | 57.90 | 54.05 | 0.8 |
| 1 1/2 | Aluminum | 150-D-AL | 3LX15 | 17.65 | 16.45 | 0.9 |
| 1 1/2 | Stainless Steel | 150-D-SS | 3LX16 | 74.05 | 69.10 | 1.6 |
| 2 | Aluminum | 200-D-AL | 3LX32 | 19.00 | 17.71 | 1.1 |
| 2 | Stainless Steel | 200-D-SS | 3LX33 | 84.85 | 79.15 | 2.1 |
| 3 | Aluminum | 300-D-AL | 3LX48 | 32.30 | 30.40 | 2.1 |
| 3 | Stainless Steel | 300-D-SS | 3LX49 | 165.45 | 154.75 | 5.0 |
| 4 | Aluminum | 400-D-AL | 3LX65 | 49.60 | 46.85 | 3.3 |
| 4 | Stainless Steel | 400-D-SS | 3LX66 | 209.50 | 196.25 | 7.1 |

## MALE ADAPTER X MALE NPT.



| NPT Size (In.) | Material | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | Aluminum | 100-F-AL | 3LX07 | $7.10 | $6.62 | 0.2 |
| 1 | Stainless Steel | 100-F-SS | 3LX08 | 45.05 | 42.10 | 0.6 |
| 1 1/2 | Aluminum | 150-F-AL | 3LX23 | 9.55 | 8.90 | 0.3 |
| 1 1/2 | Stainless Steel | 150-F-SS | 3LX24 | 57.10 | 53.25 | 1.2 |
| 2 | Aluminum | 200-F-AL | 3LX40 | 12.00 | 11.19 | 0.9 |
| 2 | Stainless Steel | 200-F-SS | 3LX41 | 63.15 | 59.00 | 1.8 |
| 3 | Aluminum | 300-F-AL | 3LX56 | 24.15 | 22.76 | 1.1 |
| 3 | Stainless Steel | 300-F-SS | 3LX57 | 125.15 | 117.25 | 3.6 |
| 4 | Aluminum | 400-F-AL | 3LX73 | 45.45 | 42.55 | 1.7 |
| 4 | Stainless Steel | 400-F-SS | 3LX74 | 188.20 | 176.00 | 6.6 |

## FEMALE COUPLER X MALE NPT.



| NPT Size (In.) | Material | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | Aluminum | 100-B-AL | 3LW94 | $13.20 | $12.31 | 0.4 |
| 1 | Stainless Steel | 100-B-SS | 3LW95 | 59.40 | 55.40 | 0.7 |
| 1 1/2 | Aluminum | 150-B-AL | 3LX11 | 16.70 | 15.57 | 0.8 |
| 1 1/2 | Stainless Steel | 150-B-SS | 3LX12 | 71.85 | 67.05 | 1.5 |
| 2 | Aluminum | 200-B-AL | 3LX28 | 18.50 | 17.25 | 1.0 |
| 2 | Stainless Steel | 200-B-SS | 3LX29 | 86.20 | 80.40 | 2.0 |
| 3 | Aluminum | 300-B-AL | 3LX44 | 33.10 | 31.45 | 1.8 |
| 3 | Stainless Steel | 300-B-SS | 3LX45 | 162.80 | 152.50 | 4.4 |
| 4 | Aluminum | 400-B-AL | 3LX61 | 51.20 | 48.30 | 2.8 |
| 4 | Stainless Steel | 400-B-SS | 3LX62 | 218.00 | 203.75 | 6.3 |

## MALE ADAPTER X HOSE SHANK



| Hose I.D. Size (In.) | Material | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | Aluminum | 100-E-AL | 3LX05 | $7.45 | $6.95 | 0.2 |
| 1 | Stainless Steel | 100-E-SS | 3LX06 | 37.40 | 34.95 | 0.6 |
| 1 1/2 | Aluminum | 150-E-AL | 3LX21 | 9.10 | 8.48 | 0.4 |
| 1 1/2 | Stainless Steel | 150-E-SS | 3LX22 | 45.30 | 42.35 | 1.4 |
| 2 | Aluminum | 200-E-AL | 3LX38 | 11.40 | 10.64 | 0.7 |
| 2 | Stainless Steel | 200-E-SS | 3LX39 | 51.60 | 48.20 | 2.0 |
| 3 | Aluminum | 300-E-AL | 3LX54 | 21.45 | 20.00 | 1.3 |
| 3 | Stainless Steel | 300-E-SS | 3LX55 | 98.65 | 92.05 | 3.8 |
| 4 | Aluminum | 400-E-AL | 3LX71 | 44.95 | 42.00 | 7.3 |
| 4 | Stainless Steel | 400-E-SS | 3LX72 | 191.90 | 179.50 | 7.1 |

## FEMALE COUPLER X HOSE SHANK



| Hose I.D. Size (In.) | Material | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | Aluminum | 100-C-AL | 3LW96 | $12.45 | $11.61 | 0.4 |
| 1 | Stainless Steel | 100-C-SS | 3LW97 | 55.65 | 51.95 | 0.9 |
| 1 1/2 | Aluminum | 150-C-AL | 3LX13 | 16.85 | 15.71 | 0.9 |
| 1 1/2 | Stainless Steel | 150-C-SS | 3LX14 | 62.70 | 58.50 | 1.8 |
| 2 | Aluminum | 200-C-AL | 3LX30 | 18.75 | 17.48 | 1.2 |
| 2 | Stainless Steel | 200-C-SS | 3LX31 | 78.65 | 73.40 | 2.3 |
| 3 | Aluminum | 300-C-AL | 3LX46 | 31.30 | 29.20 | 2.2 |
| 3 | Stainless Steel | 300-C-SS | 3LX47 | 148.95 | 138.65 | 5.6 |
| 4 | Aluminum | 400-C-AL | 3LX63 | 46.95 | 44.35 | 3.4 |
| 4 | Stainless Steel | 400-C-SS | 3LX64 | 210.55 | 197.00 | 8.3 |

## MALE ADAPTER DUST PLUG



| I.D. Size (In.) | Material | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | Aluminum | 100-DP-AL | 3LX03 | $7.35 | $6.86 | 0.1 |
| 1 | Stainless Steel | 100-DP-SS | 3LX04 | 31.50 | 29.50 | 0.5 |
| 1 1/2 | Aluminum | 150-DP-AL | 3LX19 | 9.40 | 8.77 | 0.2 |
| 1 1/2 | Stainless Steel | 150-DP-SS | 3LX20 | 39.05 | 36.45 | 0.7 |
| 2 | Aluminum | 200-DP-AL | 3LX36 | 10.10 | 9.42 | 0.3 |
| 2 | Stainless Steel | 200-DP-SS | 3LX37 | 46.30 | 43.25 | 1.1 |
| 3 | Aluminum | 300-DP-AL | 3LX52 | 15.35 | 14.31 | 0.6 |
| 3 | Stainless Steel | 300-DP-SS | 3LX53 | 74.55 | 69.60 | 2.0 |
| 4 | Aluminum | 400-DP-AL | 3LX69 | 23.45 | 21.87 | 1.3 |
| 4 | Stainless Steel | 400-DP-SS | 3LX70 | 108.40 | 101.15 | 3.1 |

## FEMALE COUPLER DUST CAP



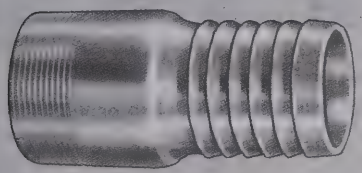
| I.D. Size (In.) | Material | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1 | Aluminum | 100-DC-AL | 3LX01 | $13.65 | $12.73 | 0.3 |
| 1 | Stainless Steel | 100-DC-SS | 3LX02 | 49.60 | 46.35 | 0.6 |
| 1 1/2 | Aluminum | 150-DC-AL | 3LX17 | 16.85 | 15.00 | 0.8 |
| 1 1/2 | Stainless Steel | 150-DC-SS | 3LX18 | 60.30 | 56.25 | 1.1 |
| 2 | Aluminum | 200-DC-AL | 3LX34 | 16.40 | 15.29 | 0.9 |
| 2 | Stainless Steel | 200-DC-SS | 3LX35 | 75.65 | 70.60 | 1.4 |
| 3 | Aluminum | 300-DC-AL | 3LX50 | 23.20 | 21.63 | 1.3 |
| 3 | Stainless Steel | 300-DC-SS | 3LX51 | 96.35 | 89.90 | 2.4 |
| 4 | Aluminum | 400-DC-AL | 3LX67 | 33.80 | 31.65 | 1.9 |
| 4 | Stainless Steel | 400-DC-SS | 3LX68 | 129.95 | 121.25 | 4.4 |

## "KING" COMBINATION NIPPLES

- Male NPT threaded hose ends, made from tubular stock, to fit straight end hose
- Combination nipples are recommended for low pressure suction and discharge service
- Threaded end has male NPT thread, same size as hose.

Example: 2" nipple has 2" NPT threads and fits 2" I.D. hose

- Not recommended for pressures exceeding 100 PSI on hose 3" and over
- Not intended for compressed air
- Uses double bolt or band clamps



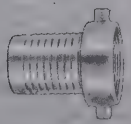
No. 3LZ85

### "KING" COMBINATION NIPPLES SPECIFICATIONS AND ORDERING DATA

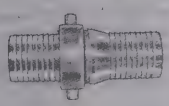
| Construction | Size (In.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Plated Steel | 1/2 | STC1 | 3LZ92 | $2.45 | $2.12 | 0.2 |
| | 3/4 | STC5 | 3MC01 | 2.55 | 2.28 | 0.3 |
| | 1 | STC10 | 3LZ93 | 2.60 | 2.25 | 0.3 |
| | 1 1/4 | STC15 | 3LZ94 | 3.05 | 2.69 | 0.5 |
| | 1 1/2 | STC20 | 3LZ95 | 3.65 | 3.20 | 0.6 |
| | 2 | STC25 | 3LZ96 | 4.50 | 3.95 | 0.9 |
| | 2 1/2 | STC30 | 3LZ97 | 9.80 | 8.83 | 1.8 |
| | 3 | STC35 | 3LZ98 | 11.80 | 10.60 | 2.6 |
| | 4 | STC40 | 3LZ99 | 18.50 | 16.52 | 4.9 |
| 316 Stainless Steel | 1/2 | RST1 | 3LZ83 | 13.00 | 11.51 | 0.3 |
| | 3/4 | RST5 | 3LZ91 | 11.70 | 10.34 | 0.3 |
| | 1 | RST10 | 3LZ84 | 13.50 | 11.96 | 0.4 |
| | 1 1/4 | RST15 | 3LZ85 | 15.60 | 13.80 | 0.8 |
| | 1 1/2 | RST20 | 3LZ86 | 17.85 | 15.63 | 0.9 |
| | 2 | RST25 | 3LZ87 | 26.00 | 22.97 | 1.0 |
| | 2 1/2 | RST30 | 3LZ88 | 52.50 | 44.50 | 1.9 |
| | 3 | RST35 | 3LZ89 | 72.00 | 64.00 | 2.4 |
| | 4 | RST40 | 3LZ90 | 105.00 | 93.20 | 4.4 |

## "KING" STEEL SHORT SHANK COUPLING

- Complete set of straight threaded pin lug swivel nut female and male hose ends to fit straight end hose
- The most common fitting in use by contractors for low cost, low pressure, suction and discharge hose connections
- For use with water and other compatible liquids
- Not recommended for pressures exceeding 100 PSI on hose 3" and over
- 3LZ24 and 3LZ17 allow for direct connection to most fire equipment and hydrants for low cost, low pressure, suction and discharge hose connections
- Uses double bolt or band clamps
- WARNING: Not recommended for air service or compressed gas



No. 4KR30



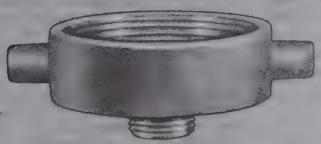
No. 3LZ23

### "KING" STEEL SHORT SHANK COUPLING SPECS AND ORDERING DATA

| Construction | Size (In.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Steel with Brass Nut | 1 1/4 | CSB125 | 3LZ21 | $19.55 | $17.22 | 0.8 |
| | 1 1/2 | CSB150 | 3LZ22 | 13.95 | 12.11 | 1.0 |
| | 2 | CSB200 | 3LZ23 | 15.40 | 13.52 | 1.5 |
| | 2 1/2 | CSB250 | 3LZ24 | 24.00 | 21.16 | 2.8 |
| | 3 | CSB300 | 3LZ25 | 36.10 | 31.75 | 4.4 |
| | 4 | CSB400 | 3LZ26 | 56.50 | 49.85 | 7.6 |
| Aluminum with Brass Nut | 1 1/2 | CAB150 | 3LZ13 | 8.00 | 7.13 | 0.6 |
| | 2 | CAB200 | 3LZ15 | 11.65 | 10.38 | 0.8 |
| | 2 1/2 | CAB250 | 3LZ16 | 24.70 | 21.76 | 1.5 |
| | 3 | CAB300 | 3LZ18 | 26.75 | 23.93 | 2.6 |
| | 4 | CAB400 | 3LZ19 | 49.45 | 44.10 | 4.4 |
| Aluminum with Brass Nut (M) NST Thread | 1 1/2 | CAB150N | 3LZ14 | 30.00 | 26.60 | 0.6 |
| | 2 1/2 | CAB250N | 3LZ17 | 36.10 | 32.00 | 1.5 |
| Aluminum with Brass Nut (F) NST Thread | 1 1/2 | FAB150N | 4KR30 | 20.00 | 18.26 | 0.8 |
| | 2 1/2 | FAB250N | 4KR31 | 22.00 | 20.23 | 1.3 |

## BRASS HYDRANT ADAPTERS

- Allows the connection of hose of a different size, or thread, to the most common fire hydrant thread, 2 1/2" male NST (NH).
- Cast brass pin lug design
- WARNING: Not recommended for air service or compressed gas



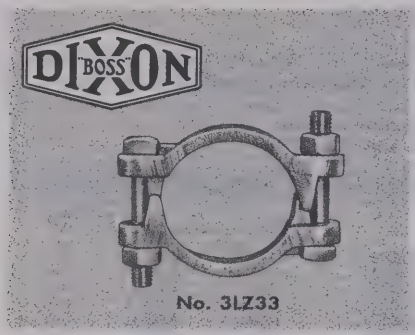
No. 3LZ40

### BRASS HYDRANT ADAPTERS SPECIFICATIONS AND ORDERING DATA

| Size and Description (In.) Female | Male | Dixon Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2 1/2 NST | 3/4 GHT | HA2576 | 3LZ45 | $27.15 | $23.98 | 1.3 |
| 2 1/2 NST | 1 1/2 NPSH | HA2515 | 3LZ40 | 22.75 | 19.15 | 1.3 |
| 2 1/2 NST | 2 NPSH | HA2520 | 3LZ43 | 32.75 | 27.55 | 1.7 |
| 2 1/2 NST | 1 1/2 NST | HA2515F | 3LZ41 | 22.75 | 19.15 | 1.3 |
| 2 1/2 NST | 1 1/2 NPT | HA2515T | 3LZ42 | 24.75 | 20.83 | 1.3 |
| 2 1/2 NST | 2 NPT | HA2520T | 3LZ44 | 32.75 | 27.55 | 1.7 |

# BOLT AND BAND CLAMPS

## DOUBLE BOLT CLAMPS




- For use with low pressure couplings
- Rugged, durable, malleable iron
- Ideal for suction and discharge water hose

| For Hose O.D. (In.) From | To | Torque (Ft.-Lbs.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 5/8 | 1 13/16 | 40 | DL14 | 3LZ28 | $6.80 | $6.02 | 0.9 |
| 1 3/4 | 2 3/64 | 27 | DL20 | 3LZ29 | 6.40 | 5.69 | 0.3 |
| 2 7/64 | 2 19/64 | 27 | DL24 | 3LZ30 | 6.80 | 6.03 | 0.7 |
| 2 5/16 | 2 5/8 | 40 | DL32 | 3LZ33 | 7.75 | 6.89 | 1.0 |
| 2 1/2 | 2 3/4 | 40 | DL275 | 3LZ31 | 9.20 | 8.18 | 1.1 |
| 2 3/4 | 3 1/16 | 60 | DL306 | 3LZ32 | 9.95 | 8.88 | 1.9 |
| 3 1/4 | 3 1/2 | 60 | DL350 | 3LZ34 | 10.20 | 9.10 | 1.7 |
| 3 1/2 | 3 13/16 | 40 | 400 | 3LX58 | 11.40 | 10.07 | 1.6 |
| 3 25/32 | 4 1/16 | 40 | 431 | 3LX75 | 13.20 | 11.56 | 2.0 |
| 4 1/32 | 4 9/32 | 40 | 463 | 3LX76 | 12.50 | 11.02 | 1.8 |
| 4 1/4 | 4 15/16 | 60 | 525 | 3LX77 | 15.35 | 13.53 | 2.2 |

## BAND CLAMPS




- I.D. size is clamp I.D. Must be greater than hose O.D.
- Double wrapped for firm and easy locking
- Galvanized or stainless steel
- Install with Nos. 3LZ35 or 3LZ36 tools shown below
- Sold in packages of 10

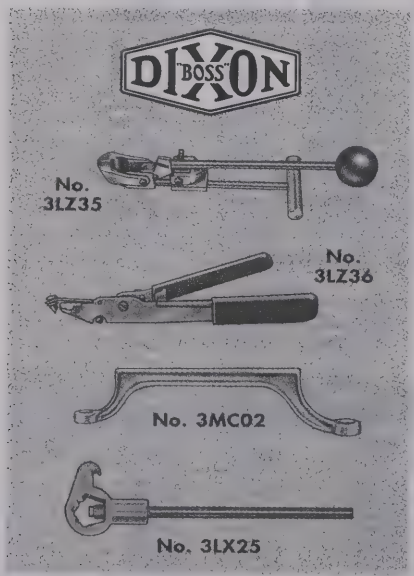
### GALVANIZED STEEL BAND CLAMPS

| I.D. Size (In.) | Dixon Model | Stock No. | List | Each Pkg. of 10 | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/8" WIDE** | | | | | |
| 13/16 | K3 | 3LZ50 | $5.26 | $4.65 | 0.4 |
| 1 3/8 | K311 | 3LZ51 | 5.56 | 4.89 | 0.5 |
| **5/8" WIDE** | | | | | |
| 1 | K4 | 3LZ52 | 7.66 | 6.65 | 0.9 |
| 1 1/4 | K5 | 3LZ53 | 7.87 | 6.82 | 1.0 |
| 1 1/2 | K6 | 3LZ54 | 8.19 | 7.12 | 1.0 |
| 1 3/4 | K7 | 3LZ55 | 8.54 | 7.45 | 1.1 |
| 2 | K8 | 3LZ56 | 8.85 | 7.69 | 1.2 |
| 2 1/4 | K9 | 3LZ57 | 9.28 | 8.05 | 1.3 |
| 2 1/2 | K10 | 3LZ46 | 9.83 | 8.60 | 1.4 |
| 2 3/4 | K11 | 3LZ47 | 10.57 | 9.25 | 1.6 |
| 3 | K12 | 3LZ48 | 10.84 | 9.47 | 1.6 |
| 4 | K16 | 3LZ49 | 12.84 | 11.23 | 2.1 |

### STAINLESS STEEL BAND CLAMPS

| I.D. Size (In.) | Dixon Model | Stock No. | List | Each Pkg. of 10 | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/8" WIDE** | | | | | |
| 13/16 | KS3 | 3LZ62 | $8.85 | $7.76 | 0.4 |
| 1 3/8 | KS311 | 3LZ63 | 9.98 | 8.72 | 0.5 |
| **5/8" WIDE** | | | | | |
| 1 | KS4 | 3LZ64 | 14.50 | 12.73 | 0.9 |
| 1 1/4 | KS5 | 3LZ65 | 15.33 | 13.53 | 0.9 |
| 1 1/2 | KS6 | 3LZ66 | 16.38 | 14.41 | 1.0 |
| 1 3/4 | KS7 | 3LZ67 | 17.44 | 15.37 | 1.1 |
| 2 | KS8 | 3LZ68 | 18.74 | 16.55 | 1.2 |
| 2 1/4 | KS9 | 3LZ69 | 20.02 | 17.59 | 1.3 |
| 2 1/2 | KS10 | 3LZ58 | 21.41 | 18.79 | 1.5 |
| 2 3/4 | KS11 | 3LZ59 | 23.32 | 20.48 | 1.6 |
| 3 | KS12 | 3LZ60 | 24.70 | 21.70 | 1.6 |
| 4 | KS16 | 3LZ61 | 29.97 | 26.35 | 4.0 |

## BAND CLAMP TOOLS




- For installing band clamps pictured above
- No. 3LZ35 is used for high-production clamping
- No. 3LZ36 economic alternative for intermittent use

**No. 3LZ35.** F100 Clamp tool. Shpg. wt. 2.9 lbs. List $270.60. Each.....**$228.75**

**No. 3LZ36.** F40 Clamp tool. Shpg. wt. 1.7 lbs. List $88.90. Each.....**$75.10**

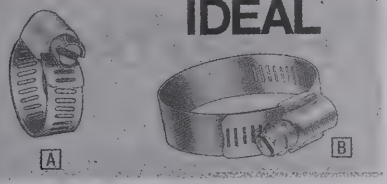
## SPANNER/HYDRANT WRENCHES

**No. 3MC02 double end combination pin lug and No. 3MC03 4" spanner wrench** fit pin lugs found on common suction and discharge couplings. Use the smaller end for 1½" and 2", and the larger end for 2½" and 3". Also fits pin lugs in these sizes for fire hose couplings. 3MC03 fits 4" pin lugs.

**No. 3LX25 heavy-duty adjustable hydrant wrench** and spanner adjusts to fit pentagon nuts up to 1¾" from point to flat, and notched to fit 1¼" square hydrant nut. Spanner for pin or rocker (sensible) lug couplings sizes 1½" through 6". Plated malleable iron head with 7/8" plated steel handle, with overall length, 18".

| Size (In.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1½, 2, 2½ & 3 | SW153 | 3MC02 | $14.00 | $12.31 | 0.9 |
| 4 | SW40 | 3MC03 | 12.00 | 10.56 | 1.3 |
| 1½–6 | 189 | 3LX25 | 38.70 | 32.40 | 4.6 |

## IDEAL




- Interlocked construction for maximum anti-shear protection
- No spot welds or staking to prevent corrosion, rupture and clamp failure
- Rectangular band slots permit higher loads over conventional crescent shaped slots
- Standard clamps with wider bands (Key B) have more sealing area over conventional 1/2" bands

## HIGH TORQUE STAINLESS STEEL HOSE CLAMPS

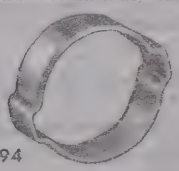
| Materials of Construction Band | Screw | Band Width | SAE No. | Screw Size (In.) | Clamp Dia. (In.) Min. | Max. | Fits Hose Inside Dia. (In.) Min. | Max. | Ideal Model | Stock No. | List | Box of 10, Each Box | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MINIATURE CLAMP ORDERING DATA** | | | | | | | | | | | | | |
| 201SS | Zinc Plated | 5/16 | 4 | 1/4 | 1/4 | 5/8 | 1/8 | 5/16 | 6202 | 5X441 | $10.35 | $6.41 | 0.1 |
| 201SS | Zinc Plated | 5/16 | 6 | 1/4 | 5/16 | 7/8 | 1/4 | 7/16 | 6203 | 5X442 | 10.35 | 6.41 | 0.2 |
| 301SS | 302SS | 5/16 | 4 | 1/4 | 1/4 | 5/8 | 1/8 | 5/16 | 62602 | 1A527 | 14.15 | 8.72 | 0.1 |
| 301SS | 302SS | 5/16 | 6 | 1/4 | 5/16 | 7/8 | 1/4 | 7/16 | 62606 | 1A528 | 14.15 | 8.72 | 0.1 |
| **STANDARD CLAMP ORDERING DATA** | | | | | | | | | | | | | |
| 301SS | 410SS | 9/16 | 6 | 5/16 | 3/8 | 7/8 | 5/16 | 3/8 | 6806 | 5X443 | 17.95 | 11.24 | 0.4 |
| 301SS | 410SS | 9/16 | 10 | 5/16 | 1/2 | 1 5/16 | 3/8 | 5/8 | 6810 | 5X444 | 17.95 | 11.24 | 0.5 |
| 301SS | 410SS | 9/16 | 12 | 5/16 | 1/2 | 1 5/8 | 3/8 | 3/4 | 6812 | 1A529 | 18.25 | 11.38 | 0.5 |
| 301SS | 410SS | 9/16 | 20 | 5/16 | 3/4 | 1 1/4 | 1 3/4 | 1 1/4 | 6820 | 5X445 | 18.50 | 11.59 | 0.5 |
| 301SS | 410SS | 9/16 | 24 | 5/16 | 1 | 2 | 7/8 | 1 3/8 | 6824 | 2W402 | 18.50 | 11.59 | 0.6 |
| 301SS | 410SS | 9/16 | 28 | 5/16 | 1 5/16 | 2 1/4 | 1 1/4 | 1 3/8 | 6828 | 1A530 | 18.65 | 11.77 | 0.6 |
| 301SS | 410SS | 9/16 | 32 | 5/16 | 1 5/16 | 2 5/8 | 1 1/4 | 1 3/8 | 6832 | 2W403 | 18.65 | 11.77 | 0.6 |
| 301SS | 410SS | 9/16 | 36 | 5/16 | 7/8 | 2 3/4 | 3/4 | 2 | 6836 | 2W404 | 19.65 | 12.32 | 0.6 |
| 301SS | 410SS | 9/16 | 44 | 5/16 | 1 5/16 | 2 3/4 | 3 1/4 | 2 1/2 | 6844 | 2W405 | 25.15 | 15.75 | 0.8 |
| 301SS | 410SS | 9/16 | 64 | 5/16 | 2 5/8 | 4 1/2 | 2 1/2 | 3 1/2 | 6864 | 5X446 | 28.99 | 18.18 | 0.8 |
| 301SS | 410SS | 9/16 | 72 | 5/16 | 2 1/4 | 5 | 3 | 5 | 6872 | 1A531 | 30.85 | 19.43 | 1.0 |
| 301SS | 410SS | 9/16 | 104 | 5/16 | 5 | 7 | 4 3/4 | 6 1/2 | 68104 | 1A532 | 37.10 | 23.22 | 1.0 |

## CRIMP CLAMPS

OETIKER®



No. 4E571



No. 4E594

New



No. 4E607

| Nominal Size (In.) | Inches Closed-Open | MM Closed-Open | Band Width | Oetiker Model | Stock No. | Package of 100 Clamps List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A STAINLESS STEEL STEPLESS CLAMPS** | | | | | | | | |
| 1/2 | 0.425-0.524 | 10.8-13.3 | 0.276 | 16700993 | 4E571 | $31.90 | $26.10 | 0.5 |
| 35/64 | 0.453-0.551 | 11.5-14.0 | 0.276 | 16700997 | 4E572 | 32.20 | 26.35 | 0.5 |
| 9/16 | 0.472-0.571 | 12.0-14.5 | 0.276 | 16700999 | 4E573 | 32.50 | 26.60 | 0.5 |
| 39/64 | 0.520-0.618 | 13.2-15.7 | 0.276 | 16701005 | 4E574 | 32.85 | 26.85 | 0.6 |
| 21/32 | 0.571-0.669 | 14.5-17.0 | 0.276 | 16701009 | 4E575 | 33.08 | 27.05 | 0.6 |
| 1 11/64 | 1.063-1.185 | 26.9-30.1 | 0.276 | 16701136 | 4E576 | 42.40 | 34.70 | 1.1 |
| 1 15/64 | 1.122-1.244 | 28.4-31.6 | 0.276 | 16701165 | 4E577 | 43.08 | 35.15 | 1.1 |
| 1 23/64 | 1.240-1.362 | 31.4-34.6 | 0.276 | 16701225 | 4E578 | 44.24 | 36.15 | 1.2 |
| 3 7/16 | 3.323-3.445 | 84.3-87.5 | 0.276 | 16701562 | 4E579 | 65.40 | 53.40 | 2.4 |
| 3 39/64 | 3.500-3.622 | 88.8-92.0 | 0.276 | 16701710 | 4E580 | 67.15 | 54.80 | 2.6 |
| 3 3/4 | 3.677-3.799 | 93.3-96.5 | 0.276 | 16701750 | 4E581 | 68.99 | 56.35 | 2.1 |
| 3 7/8 | 3.795-3.917 | 96.3-99.5 | 0.276 | 16701774 | 4E582 | 70.10 | 57.30 | 2.8 |
| **B 2-EAR ZINC PLATED CLAMPS** | | | | | | | | |
| 1/4 | 0.197-0.276 | 5.0-7.0 | 0.236 | 10100004 | 4E595 | 22.17 | 18.33 | 0.2 |
| 5/16 | 0.276-0.354 | 7.0-9.0 | 0.276 | 10100008 | 4E596 | 22.92 | 18.58 | 0.5 |
| 7/16 | 0.354-0.433 | 9.0-11.0 | 0.276 | 10100013 | 4E597 | 24.15 | 19.75 | 0.5 |
| 1/2 | 0.433-0.512 | 11.0-13.0 | 0.276 | 10100016 | 4E598 | 25.95 | 21.36 | 0.6 |
| 9/16 | 0.512-0.591 | 13.0-15.0 | 0.295 | 10100019 | 4E599 | 27.50 | 22.13 | 0.8 |
| 5/8 | 0.591-0.708 | 15.0-18.0 | 0.315 | 10100024 | 4E600 | 29.80 | 23.97 | 1.2 |
| 3/4 | 0.699-0.787 | 17.0-20.0 | 0.335 | 10100027 | 4E601 | 31.95 | 25.85 | 1.5 |
| 7/8 | 0.787-0.905 | 20.0-23.0 | 0.354 | 10100030 | 4E602 | 36.75 | 29.95 | 2.0 |
| 1 | 0.905-1.063 | 23.0-27.0 | 0.394 | 10100034 | 4E603 | 42.85 | 34.75 | 2.7 |
| 1 3/16 | 1.102-1.220 | 28.0-31.0 | 0.394 | 10100039 | 4E604 | 49.05 | 40.00 | 3.0 |
| 1 1/2 | 1.457-1.575 | 37.0-40.0 | 0.394 | 10100045 | 4E605 | 57.15 | 45.75 | 3.8 |
| 1 3/4 | 1.693-1.811 | 43.0-46.0 | 0.394 | 10100049 | 4E606 | 63.10 | 50.45 | 4.0 |
| **B 2-EAR STAINLESS STEEL CLAMPS** | | | | | | | | |
| 1/4 | 0.197-0.276 | 5.0-7.0 | 0.236 | 15100003 | 4E583 | 34.90 | 28.50 | 0.1 |
| 5/16 | 0.276-0.354 | 7.0-9.0 | 0.276 | 15100004 | 4E584 | 36.50 | 29.80 | 0.4 |
| 7/16 | 0.354-0.433 | 9.0-11.0 | 0.276 | 15100005 | 4E585 | 38.03 | 31.10 | 0.5 |
| 1/2 | 0.433-0.512 | 11.0-13.0 | 0.276 | 15100006 | 4E586 | 39.60 | 32.35 | 0.5 |
| 9/16 | 0.512-0.591 | 13.0-15.0 | 0.295 | 15100007 | 4E587 | 41.15 | 33.60 | 0.6 |
| 5/8 | 0.591-0.708 | 15.0-18.0 | 0.315 | 15100009 | 4E588 | 48.88 | 39.90 | 0.8 |
| 3/4 | 0.669-0.787 | 17.0-20.0 | 0.335 | 15100010 | 4E589 | 56.50 | 46.15 | 1.1 |
| 7/8 | 0.787-0.905 | 20.0-23.0 | 0.354 | 15100012 | 4E590 | 62.80 | 51.25 | 1.4 |
| 1 | 0.905-1.063 | 23.0-27.0 | 0.394 | 15100014 | 4E591 | 72.05 | 58.85 | 2.0 |
| 1 3/16 | 1.102-1.220 | 28.0-31.0 | 0.394 | 15100017 | 4E592 | 85.79 | 70.05 | 2.0 |
| 1 1/2 | 1.457-1.575 | 37.0-40.0 | 0.394 | 15100020 | 4E593 | 99.70 | 81.40 | 3.0 |
| 1 3/4 | 1.693-1.811 | 43.0-46.0 | 0.394 | 15100022 | 4E594 | 108.99 | 88.90 | 2.9 |

### A STEPLESS EAR CLAMPS

**Stepless ear clamps** guarantee a 360° seal by using a patented tongue and groove design; leave no steps, gaps, or unbridged parts on the inner circumference of clamp. Clamps are made of 304 AISI stainless steel. Built-in spring action permits clamp to "breath" without loosening, eliminating need to retighten. Oetiker brand.

### B 2-EAR HOSE CLAMPS

**Medium pressure clamps** are easily applied by positioning clamp on hose and firmly squeezing each ear with pincers (sold separately below). One-piece design for positive clamping action and a tamperproof seal. Comes in your choice of zinc plated or stainless steel. Oetiker brand.

### C 2-EAR HOSE CLAMP KIT

Kit contains: No. 4E607 straight jaw pincer; 15 each 5/16", 7/16", 1/2", 9/16", 5/8", and 15/16" zinc plated 2-ear clamps; and 12 each 3/4" and 7/8" zinc-plated 2-ear clamps. Packed in a compartmented box.

***New!*** **No. 4TX96.** Hose Clamp Kit (SK1098). Shpg. wt. 27.0 Lbs. List $55.00. Each.....$47.15

### JAW PINCERS

Used for closing ear clamps. Constructed of forged steel. Available in straight jaw model No. 4E607 for normal use and side jaw model No. 4E608 for use in confined areas with tool held parallel to application.

**No. 4E607.** Straight Jaw Pincer (14100082). Shpg. wt. 0.8 lbs. List $20.20. Each.....$19.56

**No. 4E608.** Side Jaw Pincer (14100083). Shpg. wt. 0.6 lbs. List $24.24. Each.....$23.74

# PVC FOOD HOSE AND FITTINGS

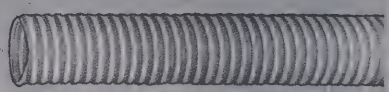
## NUTRIFLEX LIGHTWEIGHT FOOD HOSE

- Handles virtually all types of liquid food and dry bulk materials
- Up to 30% lighter than comparable hoses
- Handles pressure, vacuum, and gravity flow applications
- Corrugated wall construction for maximum flexibility and strength
- Smooth inner bore surface provides high flow rates and easy cleaning
- Non-contaminating. Will not impart or retain odors or affect taste.
- Conforms to FDA, USDA, and 3-A Sanitary Standards

### LIGHTWEIGHT FOOD HOSE ORDERING DATA

| Hose Size I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Working Pressure (PSI) | Max Temp. (° F) | Bend Radius (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1 x 100** | 1.24 | 60 | 150 | 1.5 | **3JT83** | $126.00 | **$105.00** | 21.0 |
| **1¼ x 100** | 1.52 | 50 | 150 | 2.5 | **3JT84** | 150.00 | **125.00** | 27.0 |
| **1½ x 100** | 1.79 | 50 | 150 | 3.2 | **3JT85** | 179.00 | **149.00** | 32.0 |
| **2 x 100** | 2.36 | 40 | 150 | 3.2 | **3JT86** | 239.00 | **199.00** | 49.0 |
| **3 x 100** | 3.50 | 35 | 150 | 6.5 | **3JT87** | 450.00 | **375.00** | 106.0 |
| **4 x 100** | 4.50 | 35 | 150 | 10.4 | **3JT88** | 762.00 | **635.00** | 129.0 |

GOODYEAR



No. 3JT83

FDA/USA/3-A Approved

## NUTRIFLO HEAVY-DUTY FOOD HOSE

- Ideal for almost every type of dry bulk or liquid food handling
- Handles pressure, vacuum, and gravity flow applications
- Lightweight for ease of handling
- Heavy duty PVC construction handles higher pressures and provides long life in demanding applications
- Smooth inner bore surface provides high flow rates and easy cleaning
- Non-contaminating. Will not impart or retain odors or affect taste.
- Conforms to FDA, USDA, and 3-A Sanitary Standards
- Clear PVC construction allows visual monitoring of flow

### HEAVY-DUTY FOOD HOSE ORDERING DATA

| Hose Size I.D. (In.) x Length (Ft.) | Hose O.D. (In.) | Working Pressure (PSI) | Max Temp. (° F) | Bend Radius (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1 x 100** | 1.24 | 106 | 150 | 4.5 | **3JT89** | $151.00 | **$126.00** | 24.0 |
| **1¼ x 100** | 1.53 | 99 | 150 | 5.0 | **3JT90** | 192.00 | **159.00** | 35.0 |
| **1½ x 100** | 1.78 | 89 | 150 | 6.0 | **3JT91** | 215.00 | **179.00** | 42.0 |
| **2 x 100** | 2.31 | 79 | 150 | 8.0 | **3JT92** | 323.00 | **269.00** | 67.0 |
| **2½ x 100** | 2.85 | 65 | 150 | 10.0 | **3JT93** | 467.00 | **389.00** | 88.0 |
| **3 x 100** | 3.38 | 65 | 150 | 12.0 | **3JT94** | 594.00 | **495.00** | 108.0 |
| **4 x 100** | 4.43 | 55 | 150 | 16.0 | **3JT95** | 1019.00 | **849.00** | 169.0 |

GOODYEAR



No. 3JT89

FDA/USA/3-A Approved

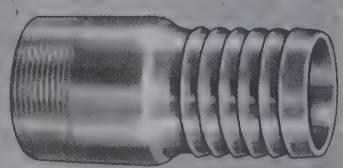
## 316 STAINLESS STEEL "KING" COMBINATION NIPPLES

- Male NPT threaded hose ends, made from tubular stock, to fit straight end hose
- Combination nipples are recommended for low pressure suction and discharge service
- Not recommended for pressures exceeding 100 PSI on hose 3" and over
- Not intended for compressed air
- Uses band clamps or double bolt clamps

### "KING" COMBINATION NIPPLES SPECIFICATIONS AND ORDERING DATA

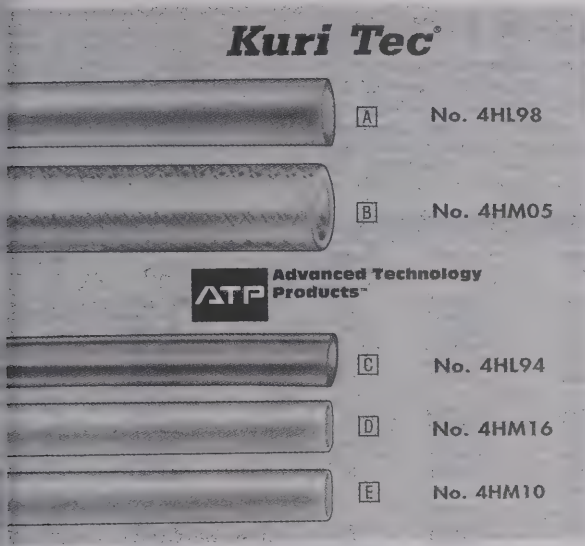
| Construction | Size (In.) | Dixon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **316 Stainless Steel** | 1/2 | RST1 | **3LZ83** | $13.00 | **$11.51** | 0.3 |
| | 3/4 | RST5 | **3LZ91** | 11.70 | **10.34** | 0.3 |
| | 1 | RST10 | **3LZ84** | 13.50 | **11.96** | 0.4 |
| | 1¼ | RST15 | **3LZ85** | 15.60 | **13.80** | 0.8 |
| | 1½ | RST20 | **3LZ86** | 17.85 | **15.63** | 0.9 |
| | 2 | RST25 | **3LZ87** | 26.00 | **22.97** | 1.0 |
| | 2½ | RST30 | **3LZ88** | 52.50 | **44.50** | 1.9 |
| | 3 | RST35 | **3LZ89** | 72.00 | **64.00** | 2.4 |
| | 4 | RST40 | **3LZ90** | 105.00 | **93.20** | 4.4 |

DIXON BOSS



No. 3LZ85

# TUBING AND TUBING CUTTERS




**A** **PVC clear flexible tube** features a service temperature range of +25°F(-4°) to +150°F (+65°C). Non-toxic food and beverage grade. FDA approved CFR Title 21 parts 170 to 199. Applications: beverage dispensing units, laboratory, and water drainage lines.

Note: if used in conjunction with push-to-connect fitting, a tube support is recommended.

**B** **PVC braided flexible tube** food and beverage grade features a service temperature range of +25°F (-4°C) to +150°F (+65°C). FDA certified CFR Title 21 parts 170 to 199. NSF certified under Standard 51.Potable Water approval. 3-A sanitary standard as product contact surfaces for dairy equipment. Applications: potable water transfer lines, and air & water lines.

**C** **Polyurethane clear light blue tube** features a temperature range of -68°F to +140°F. No need for tube support when used with push-to-connect fittings. Highly abrasion resistant and non-marking. Provides resistance to algae growth. Applications: air & water lines, robotics, car wash, and painting equipment.

**D** **Polyethylene tube** features a service temperature range of -100°F (-73°C) to +200°F (93°C). Linear low density polyethylene tube. Greater resistance to stress cracking caused by chemical, soaps, solvents, and oils. Applications: food processing, air lines, and water lines.

**E** **Nylon tube** features a service temperature range of -60°F to +200°F. Low moisture absorption. Excellent abrasion resistance. Applications: air, coolant, and fresh & salt water.

| Key | Description | I.D. (In.) | O.D. (In.) | Max. Working Pressure at 70°F* | Min. Bend Radius (In.)† | Roll Length (Ft.) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | PVC Clear Tube | 1/8 | 0.250 | 65 | 1.750 | 100 | Kuriyama | K010-0204 | **4HL96** | $19.00 | **$10.15** | 2.0 |
| | | 1/4 | 0.375 | 55 | 3.500 | 100 | Kuriyama | K010-0406 | **4HL97** | 13.54 | **11.40** | 3.4 |
| | | 3/8 | 0.500 | 45 | 5.250 | 100 | Kuriyama | K010-0608 | **4HL98** | 30.00 | **18.00** | 4.7 |
| | | 1/2 | 0.625 | 30 | 7.500 | 100 | Kuriyama | K010-0810 | **4HL99** | 35.00 | **25.45** | 6.0 |
| | | 5/8 | 0.750 | 35 | 9.500 | 100 | Kuriyama | K010-1012 | **4HM01** | 40.00 | **31.55** | 8.2 |
| | | 3/4 | 1.000 | 35 | 10.500 | 100 | Kuriyama | K010-1216 | **4HM02** | 85.00 | **76.25** | 19.0 |
| B | PVC Braided Tube | 1/4 | 0.438 | 250 | 2.000 | 100 | Kuriyama | K3150-04 | **4HM03** | 59.00 | **50.10** | 5.7 |
| | | 3/8 | 0.594 | 225 | 3.000 | 100 | Kuriyama | K3150-06 | **4HM04** | 93.00 | **85.50** | 9.0 |
| | | 1/2 | 0.750 | 200 | 4.000 | 100 | Kuriyama | K3150-08 | **4HM05** | 150.00 | **95.60** | 13.0 |
| | | 3/4 | 1.031 | 150 | 6.000 | 100 | Kuriyama | K3150-12 | **4HM06** | 175.00 | **152.25** | 14.0 |
| | | 1 | 1.300 | 125 | 8.000 | 100 | Kuriyama | K3150-16 | **4HM07** | 220.00 | **195.25** | 20.0 |
| C | Polyurethane Clear Light Blue Tube | 0.063 | 1/8 | 140 | 0.375 | 100 | ATP | ATP18CBA | **4HL93** | 23.00 | **22.35** | 0.5 |
| | | 0.094 | 5/32 | 140 | 0.500 | 100 | ATP | ATP532CBA | **4HL95** | 27.00 | **20.76** | 1.0 |
| | | 0.156 | 1/4 | 140 | 0.750 | 100 | ATP | ATP14CBA | **4HL92** | 48.00 | **36.95** | 2.0 |
| | | 0.250 | 3/8 | 140 | 1.500 | 100 | ATP | ATP38CBA | **4HL94** | 98.00 | **79.35** | 3.5 |
| | | 0.328 | 1/2 | 140 | 2.000 | 100 | ATP | ATP12CBA | **4HL91** | 188.00 | **144.20** | 7.0 |
| D | Polyethylene Tube | 0.170 | 1/4 | 150 | 1.000 | 100 | ATP | PE14NA | **4HM13** | 12.00 | **6.40** | 2.0 |
| | | 0.170 | 1/4 | 150 | 1.000 | 1000 | ATP | PE14ND | **4HM14** | 99.00 | **53.60** | 18.0 |
| | | 0.295 | 3/8 | 125 | 1.500 | 100 | ATP | PE38NA | **4HM15** | 17.00 | **9.95** | 2.5 |
| | | 0.295 | 3/8 | 125 | 1.500 | 1000 | ATP | PE38ND | **4HM16** | 140.00 | **76.25** | 21.0 |
| | | 0.375 | 1/2 | 100 | 2.500 | 100 | ATP | PE12NA | **4HM12** | 30.00 | **14.75** | 3.5 |
| E | Nylon Tube | 0.080 | 1/8 | 250 | 0.750 | 100 | ATP | N18-NA | **4HM09** | 40.00 | **20.75** | 0.5 |
| | | 0.106 | 5/32 | 250 | 1.000 | 100 | ATP | N532-NA | **4HM11** | 35.00 | **17.60** | 1.0 |
| | | 0.180 | 1/4 | 250 | 1.500 | 100 | ATP | N14-NA | **4HM08** | 80.00 | **39.95** | 2.0 |
| | | 0.275 | 3/8 | 250 | 2.250 | 100 | ATP | N38-NA | **4HM10** | 120.00 | **68.40** | 4.0 |

(*) Working pressure decreases as temperature increases. (†) Bend radius is defined as the radius of a bent section of hose/tube measured to the innermost surface of the curved portion, in normal conditions at room temperature.

## KWIKCUT HOSE, TUBING, AND PLASTIC PIPE CUTTER

- **Cuts plastic tubing, rubber non-wire reinforced hose, schedule 40 PVC pipe through 1" I.D.**
- **Fast, clean cut, no burrs**
- **Blade closes into its own handle**
- **High carbon Teflon® coated steel blade for fast cuts and long life**

| Overall Length (In.) | Dawn Indus. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **8.5** | T100 | **4HL90** | $30.50 | **$16.75** | 3.0 |




## SNIP TUBE CUTTER

- **Cuts PVC, braided PVC, nylon, polyethylene, polyurethane tubing through 5/8" O.D.**
- **Fast, clean, square cuts**
- **Easy to carry**
- **Durable long non-replaceable lasting blade**

| Overall Length (In.) | Anderson Brass Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3.0** | AF20307 | **4HL89** | $10.50 | **$6.25** | 0.1 |

# PUSH-IN FITTINGS

## JG Super Speedfit® PUSH-IN FITTINGS

- Use with PVC tube, polyethylene, nylon, polyurethane, brass, copper, mild steel tubing. (Not recommended for stainless steel tube, or braided PVC tube).
- Temperature- Air: -14°F to +167°F (-25°C to 75°C), Water: 33°F to 140°F (1°C to 60°C)
- Faucet connector for drinking water/ice maker connections, reverse osmosis
- Approvals include: NSF 51 approved for potable water, FDA for food handling, and Water Quality Association

No special tools for assembly. Insert tube until tubing bottoms into fitting. To disconnect tubing, push collet against body. Ideal for dispensing foodstuffs, potable fluids, and compressed air. Maximum pressure, 150 PSI.

### PUSH-IN FITTINGS SPECIFICATIONS AND ORDERING DATA

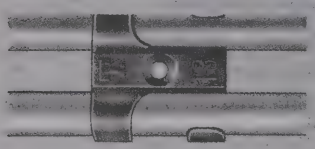
| Fitting Type | Tube OD (In.) | Tube ID (In.) | Thread NPT (In.) | John Guest Model | Stock No. | Quantity Each Pkg. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Male Connector**  | 1/4 | — | 1/8 | PI-010821-S | **4HN10** | 10 | $16.24 | **$11.20** | 0.3 |
| | 1/4 | — | 1/4 | PI-010822-S | **4HN11** | 10 | 18.48 | **12.75** | 0.3 |
| | 3/8 | — | 1/4 | PI-011222-S | **4HN12** | 10 | 27.69 | **19.10** | 0.4 |
| | 3/8 | — | 3/8 | PI-011223-S | **4HN13** | 10 | 32.04 | **22.10** | 0.5 |
| | 1/2 | — | 3/8 | PI-011623-S | **4HN14** | 10 | 42.99 | **29.65** | 0.4 |
| | 1/2 | — | 1/2 | PI-011624-S | **4HN15** | 10 | 46.40 | **32.00** | 0.4 |
| **Fixed Elbow**  | 1/4 | — | 1/8 | PI-480821-S | **4HN25** | 10 | 25.23 | **17.40** | 0.4 |
| | 1/4 | — | 1/4 | PI-480822-S | **4HN26** | 10 | 28.63 | **19.75** | 0.4 |
| | 1/4 | — | 3/8 | PI-480823-S | **4HN27** | 10 | 34.07 | **23.50** | 0.4 |
| | 3/8 | — | 1/4 | PI-481222-S | **4HN28** | 10 | 43.13 | **29.75** | 0.4 |
| | 3/8 | — | 3/8 | PI-481223-S | **4HN29** | 10 | 47.12 | **32.50** | 0.7 |
| **Union Connector**  | 1/4 | — | — | PI-0408-S | **4HN22** | 10 | 25.23 | **17.40** | 0.4 |
| | 3/8 | — | — | PI-0412-S | **4HN23** | 10 | 33.93 | **23.40** | 0.6 |
| | 1/2 | — | — | PI-0416-S | **4HN24** | 10 | 39.36 | **27.15** | 0.4 |
| **Union Elbow**  | 1/4 | — | — | PI-0308-S | **4HN19** | 10 | 28.63 | **19.75** | 0.5 |
| | 3/8 | — | — | PI-0312-S | **4HN20** | 10 | 43.13 | **29.75** | 0.5 |
| | 1/2 | — | — | PI-0316-S | **4HN21** | 10 | 51.11 | **35.25** | 0.6 |
| **Union Tee**  | 1/4 | — | — | PI-0208-S | **4HN16** | 10 | 36.75 | **25.35** | 0.4 |
| | 3/8 | — | — | PI-0212-S | **4HN17** | 10 | 45.02 | **31.05** | 0.4 |
| | 1/2 | — | — | PI-0216-S | **4HN18** | 10 | 54.66 | **37.70** | 0.4 |
| **Faucet Connector**  | 1/4 | — | 7/16-24* | CI-3208U7-S | **4HN08** | 10 | 33.71 | **23.25** | 0.4 |
| | 3/8 | — | 7/16-24* | CI-3212U7-S | **4HN09** | 10 | 38.06 | **26.25** | 0.4 |
| **Tube Support**  | 5/16 | 1/4 | — | TS-1250-S | **4HN30** | 10 | 2.10 | **1.45** | 0.4 |
| | 3/8 | 5/16 | — | TS-1312-S | **4HN31** | 10 | 2.97 | **2.05** | 0.4 |
| | 1/2 | 3/8 | — | TS-1375-S | **4HN32** | 10 | 2.97 | **2.05** | 0.4 |

(*)Standard compression thread. Use in place of brass compression fittings.

### SHUT OFF VALVES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Union Connector**  | 1/4 | — | — | PPSV-040808-W | **4HN35** | 5 | 70.83 | **48.85** | 0.6 |
| | 3/8 | — | — | PPSV-041212-W | **4HN36** | 5 | 74.67 | **51.50** | 1.0 |
| **Tube X Male NPT**  | 1/4 | — | 1/4 | PPSV-010822-W | **4HN33** | 5 | 70.83 | **48.85** | 0.6 |
| | 3/8 | — | 3/8 | PPSV-011223-W | **4HN34** | 5 | 74.67 | **51.50** | 0.6 |

Intech Industries, Inc.



## T-CLIPS FASTENING SYSTEM

- T-Clips snap onto hose, pipe, tubing, wire or any circular sectioned item with a quick quarter turn
- Holds one or two lengths of material
- Temperature range -40 to 212°F
- Polyacetal with ultraviolet inhibitors

### T-CLIP SPECIFICATIONS AND ORDERING DATA

| Holding Capacity Range (Outside Diameter In.) Min. | Max. | Center Hole Size (In.) | Pkg. Qty. | Intech Model | Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **5/32** | **1/4** | 0.12 | 50 | T4 | **6ZF03** | $20.62 | **$15.83** | 0.2 |
| **1/4** | **5/16** | 0.12 | 50 | T6 | **6ZF04** | 26.05 | **20.01** | 0.2 |
| **5/16** | **3/8** | 0.16 | 50 | T8 | **6ZF05** | 26.55 | **20.41** | 0.3 |
| **3/8** | **1/2** | 0.16 | 50 | T10 | **6ZF06** | 27.13 | **20.83** | 0.5 |
| **1/2** | **5/8** | 0.17 | 50 | T12 | **6ZF07** | 31.56 | **24.21** | 0.8 |
| **5/8** | **3/4** | 0.20 | 25 | T15 | **6ZF08** | 22.78 | **17.48** | 0.6 |
| **3/4** | **7/8** | 0.22 | 25 | T18 | **6ZF09** | 26.90 | **20.65** | 1.0 |
| **7/8** | **1** | 0.27 | 25 | T22 | **6ZF10** | 37.16 | **28.55** | 1.8 |

# PARKER PRESTOLOCK® FITTINGS

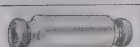
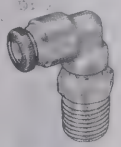
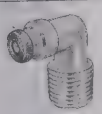
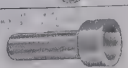
**Compact, one-piece brass fittings** are for use with polyethylene, nylon, or soft metal tubing. Designed for low-pressure circuits, where fast assembly, disassembly, reassembly are important.

**No special tools are need for assembly**—just insert the tube inside the fitting until it bottoms. Push in the release collar to disengage the radial-claw stainless steel grab ring, and tubing can be pulled out. It's instant and simple. Fittings can be assembled and disassembled repeatedly without impairing the Nitrile O-ring seal. No support ferrules or ID tube supports required.

**Note:** For use only with air, water, oil, and nonreactive gases. Do not use where accidental separation of tube and fitting could cause injury. Not recommended for continuous-pressure cycling applications.

**Pressure Range:** Vacuum to 300 PSI. Vacuum applications depend on temperature and tubing type.

**Temperature Range:** 0 to 150°F.

| Description | Illustration | OD Tube Size x Pipe Size (In.) | Parker Model | Stock No. | Packages of 10 Fittings List | Each Pkg. | Lots 5 Pkgs. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Union** |  | 1/8 | 62PL-2 | **2P638** | $33.06 | **$26.45** | **$23.77** | 0.3 |
| | | 1/4 | 62PL-4 | **2P614** | 24.72 | **19.78** | **17.83** | 0.3 |
| | | 3/8 | 62PL-6 | **2P615** | 39.75 | **31.80** | **28.44** | 0.7 |
| **Bulkhead Union** |  | 1/4† | 62PLBH-4 | **2P616** | 40.62 | **32.50** | **29.19** | 0.7 |
| | | 3/8† | 62PLBH-6 | **2P617** | 94.50 | **75.60** | **67.86** | 1.1 |
| | | 5/32† | 62PLBH-5/32-2 | **2P639** | 61.75 | **49.40** | **44.31** | 0.5 |
| **Female Connector** |  | 1/8 x 1/8 | 66PL-2-2 | **2P640** | 57.25 | **45.80** | **41.07** | 0.5 |
| | | 5/32 x 1/8 | 66PL-5/32-2 | **2P641** | 58.37 | **46.70** | **41.89** | 0.4 |
| | | 5/32 x 1/4 | 66PL-5/32-4 | **2P642** | 67.12 | **53.70** | **48.19** | 1.0 |
| | | 1/4 x 1/8 | 66PL-4-2 | **2P643** | 37.43 | **29.95** | **26.82** | 0.4 |
| | | 1/4 x 1/4 | 66PL-4-4 | **2P618** | 48.81 | **39.05** | **34.97** | 0.8 |
| | | 3/8 x 1/4 | 66PL-6-4 | **2P619** | 88.81 | **71.05** | **63.74** | 1.0 |
| | | 3/8 x 3/8 | 66PL-6-6 | **2P644** | 105.93 | **84.75** | **76.04** | 1.0 |
| **Male Connector** |  | 1/8 x 1/8 | 68PL-2-2 | **2P620** | 18.07 | **14.46** | **12.96** | 0.2 |
| | | 5/32 x 1/8 | 68PL-5/32-2 | **2P621** | 18.34 | **14.67** | **13.20** | 0.2 |
| | | 5/32 x 1/4 | 68PL-5/32-4 | **2P645** | 33.12 | **26.50** | **23.81** | 0.4 |
| | | 1/4 x 1/8 | 68PL-4-2 | **2P622** | 17.82 | **14.26** | **12.85** | 0.1 |
| | | 1/4 x 1/4 | 68PL-4-4 | **2P623** | 22.23 | **17.79** | **15.99** | 0.5 |
| | | 1/4 x 3/8 | 68PL-4-6 | **2P646** | 25.10 | **20.08** | **18.21** | 0.8 |
| | | 3/8 x 1/8 | 68PL-6-2 | **2P647** | 35.12 | **28.10** | **25.20** | 0.5 |
| | | 3/8 x 1/4 | 68PL-6-4 | **2P624** | 32.50 | **26.00** | **23.71** | 0.5 |
| | | 3/8 x 3/8 | 68PL-6-6 | **2P625** | 37.93 | **30.35** | **27.19** | 0.6 |
| | | 3/8 x 1/2 | 68PL-6-8 | **2P648** | 70.25 | **56.20** | **50.42** | 1.4 |
| | | 1/4 x 10/32‡ | 68PL-4-10x32 | **2P649** | 45.81 | **36.65** | **32.84** | 0.4 |
| **Union Tee** |  | 1/4 | 164PL-4 | **2P626** | 42.56 | **34.05** | **30.42** | 0.8 |
| | | 3/8 | 164PL-6 | **2P627** | 60.18 | **48.15** | **43.13** | 1.3 |
| **Male Elbow Swivel*, 90°** |  | 1/8 x 1/8 | 169PL-2-2 | **2P628** | 31.04 | **24.83** | **22.36** | 0.5 |
| | | 5/32 x 1/8 | 169PL-5/32-2 | **2P631** | 32.25 | **25.80** | **23.20** | 0.5 |
| | | 5/32 x 1/4 | 169PL-5/32-4 | **2P651** | 40.56 | **32.45** | **29.12** | 0.7 |
| | | 1/4 x 1/8 | 169PL-4-2 | **2P629** | 30.83 | **24.67** | **22.12** | 0.7 |
| | | 1/4 x 1/4 | 169PL-4-4 | **2P630** | 35.75 | **28.60** | **25.66** | 0.8 |
| | | 1/4 x 3/8 | 169PL-4-6 | **2P650** | 70.87 | **56.70** | **50.76** | 1.1 |
| | | 3/8 x 1/8 | 169PL-6-2 | **2P652** | 48.43 | **38.75** | **34.74** | 1.2 |
| | | 3/8 x 1/4 | 169PL-6-4 | **2P632** | 49.25 | **39.40** | **35.30** | 1.4 |
| | | 3/8 x 3/8 | 169PL-6-6 | **2P633** | 52.18 | **41.75** | **37.38** | 1.6 |
| | | 3/8 x 1/2 | 169PL-6-8 | **2P653** | 117.12 | **93.70** | **84.10** | 2.2 |
| | | 1/4 x 10/32‡ | 169PL-4-10x32 | **2P654** | 67.37 | **53.90** | **53.11** | 0.5 |
| **Male Elbow, 90°** |  | 1/8 x 1/8 | 169PLNS-2-2 | **2P655** | 35.62 | **28.50** | **25.59** | 0.4 |
| | | 5/32 x 1/8 | 169PLNS-5/32-2 | **2P656** | 35.93 | **28.75** | **25.81** | 0.4 |
| | | 5/32 x 1/4 | 169PLNS-5/32-4 | **2P657** | 38.62 | **30.90** | **26.74** | 0.6 |
| | | 1/4 x 1/8 | 169PLNS-4-2 | **2P658** | 27.34 | **21.87** | **19.71** | 0.4 |
| | | 1/4 x 1/4 | 169PLNS-4-4 | **2P659** | 29.99 | **24.00** | **21.54** | 0.8 |
| | | 3/8 x 1/4 | 169PLNS-6-4 | **2P660** | 57.75 | **46.20** | **41.50** | 1.3 |
| | | 3/8 x 3/8 | 169PLNS-6-6 | **2P661** | 62.75 | **50.20** | **45.01** | 1.3 |
| **Male Branch Tee Swivel*** |  | 5/32 x 1/8 | 172PL-5/32-2 | **2P634** | 49.75 | **39.80** | **35.65** | 0.1 |
| | | 1/4 x 1/8 | 172PL-4-2 | **2P635** | 42.75 | **34.20** | **32.02** | 0.6 |
| | | 1/4 x 1/4 | 172PL-4-4 | **2P636** | 47.18 | **37.75** | **33.89** | 0.9 |
| | | 3/8 x 1/4 | 172PL-6-4 | **2P637** | 88.00 | **70.40** | **63.22** | 1.5 |
| | | 3/8 x 3/8 | 172PL-6-6 | **2P662** | 107.75 | **86.20** | **74.68** | 2.0 |
| **Plug** |  | 1/8 | 639PL-2 | **2P663** | 6.92 | **5.54** | **5.03** | 0.1 |
| | | 5/32 | 639PL-5/32 | **2P664** | 7.86 | **6.29** | **6.25** | 0.1 |
| | | 1/4 | 639PL-4 | **2P665** | 7.20 | **5.77** | **5.22** | 0.1 |
| | | 3/8 | 639PL-6 | **2P666** | 9.03 | **7.23** | **7.00** | 0.1 |

(*) Swivel models are for positioning purposes only; not for live swivel applications
(†) Size of hole needed to mount fitting through bulkhead; 1/4" = 0.55", 3/8" = 0.71", 5/32" = 0.44".
(‡) UNF

## VINYL, POLYETHYLENE, AND NYLON TUBING AVAILABLE

See Index for Ordering Information

# PARKER BRASS COMPRESSION FITTINGS

- Manufactured from CA 360, CA 345, or CA 377 brass rod
- Listed with Underwriter's Laboratories for flammable liquid
- Compression fittings meet functional requirements of SAE J-512, ASA, and ASME
- Temperature range: -65 to 250°F

Parker compression fittings eliminate the need to flare, solder, or otherwise prepare tubing before assembly. For use where excessive vibration or tube movement is not involved. Use with copper, brass, or aluminum. Installs easily. All sealing surfaces precision machined for reliable and leakproof closures. Fittings include sleeve and nut. See chart below for maximum working pressures. Parker brand.

## COMPRESSION FITTING ORDERING DATA

| Description | Illustration | OD Tube Size x Pipe Size (In.) | Parker Model | Stock No. | Packages of 10 Fittings List | Each Pkg. | Lot 5 Pkgs. | Shpg. Wt./Pkg. |
|---|---|---|---|---|---|---|---|---|
| **Sleeve** |  | 1/4 | 60C-4 | **2P211** | $1.94 | **$1.56** | **$1.40** | 0.1 |
| | | 3/8 | 60C-6 | **2P212** | 2.27 | **1.82** | **1.70** | 0.1 |
| | | 1/2 | 60C-8 | **2P213** | 2.96 | **2.37** | **2.06** | 0.1 |
| | | 5/8 | 60C-10 | **2P214** | 2.47 | **1.98** | **1.78** | 0.1 |
| **Tubing Insert** |  | 1/4 | 63PT-4-40 | **2P207** | 1.98 | **1.59** | **1.42** | 0.1 |
| | | 3/8 | 63PT-6-62 | **2P208** | 2.03 | **1.63** | **1.47** | 0.1 |
| | | 1/2 | 63PT-8-62 | **2P209** | 4.04 | **3.23** | **2.91** | 0.1 |
| | | 5/8 | 63PT-10-62 | **2P210** | 5.65 | **4.52** | **4.12** | 0.1 |
| **Nut** |  | 1/4 | 61C-4 | **2P215** | 3.29 | **2.63** | **2.38** | 0.1 |
| | | 3/8 | 61C-6 | **2P216** | 4.65 | **3.73** | **3.31** | 0.2 |
| | | 1/2 | 61C-8 | **2P217** | 8.21 | **6.57** | **5.91** | 0.5 |
| | | 5/8 | 61C-10 | **2P261** | 10.14 | **8.12** | **7.14** | 0.6 |
| **Union** |  | 1/4 | 62C-4 | **2P218** | 14.28 | **11.43** | **10.25** | 0.5 |
| | | 3/8 | 62C-6 | **2P219** | 20.33 | **16.26** | **14.56** | 0.8 |
| | | 1/2 | 62C-8 | **2P220** | 33.56 | **26.85** | **24.69** | 1.6 |
| | | 5/8 | 62C-10 | **2P221** | 45.43 | **36.35** | **32.64** | 2.0 |
| **Male Connector** |  | 1/8 x 1/8 NPT | 68C-2-2 | **2P236** | 10.18 | **8.15** | **7.33** | 0.3 |
| | | 1/4 x 1/8 | 68C-4-2 | **2P237** | 9.06 | **7.25** | **6.48** | 0.4 |
| | | 1/4 x 1/4 | 68C-4-4 | **2P238** | 13.63 | **10.91** | **9.82** | 0.6 |
| | | 3/8 x 1/4 | 68C-6-4 | **2P239** | 13.63 | **10.91** | **9.82** | 0.6 |
| | | 3/8 x 3/8 | 68C-6-6 | **2P240** | 16.14 | **12.91** | **11.57** | 0.8 |
| | | 3/8 x 1/2 | 68C-6-8 | **2P241** | 23.01 | **18.41** | **16.57** | 1.1 |
| | | 1/2 x 3/8 | 68C-8-6 | **2P242** | 22.24 | **17.80** | **15.97** | 1.2 |
| | | 1/2 x 1/2 | 68C-8-8 | **2P243** | 27.51 | **22.01** | **19.76** | 1.5 |
| | | 5/8 x 1/2 | 68C-10-8 | **2P244** | 34.93 | **27.95** | **25.13** | 1.7 |
| **Female Connector** |  | 1/4 x 1/8 NPT | 66C-4-2 | **2P229** | 11.41 | **9.13** | **8.19** | 0.5 |
| | | 1/4 x 1/4 | 66C-4-4 | **2P230** | 16.93 | **13.55** | **12.18** | 0.7 |
| | | 3/8 x 1/4 | 66C-6-4 | **2P231** | 19.01 | **15.21** | **13.68** | 0.8 |
| | | 3/8 x 3/8 | 66C-6-6 | **2P232** | 21.81 | **17.45** | **15.71** | 0.9 |
| | | 1/2 x 3/8 | 66C-8-6 | **2P233** | 31.43 | **25.15** | **22.50** | 1.2 |
| | | 1/2 x 1/2 | 66C-8-8 | **2P234** | 34.18 | **27.35** | **24.50** | 1.8 |
| | | 5/8 x 1/2 | 66C-10-8 | **2P235** | 41.75 | **33.40** | **30.02** | 1.5 |
| **Union Elbow** |  | 1/4 | 165C-4 | **2P226** | 28.09 | **22.47** | **20.19** | 0.6 |
| | | 3/8 | 165C-6 | **2P227** | 33.62 | **26.90** | **24.11** | 0.8 |
| | | 1/2 | 165C-8 | **2P228** | 50.75 | **40.60** | **36.49** | 1.9 |
| **Male Elbow** |  | 1/8 x 1/8 NPT | 269C-2-2 | **2P248** | 17.47 | **13.98** | **12.56** | 0.4 |
| | | 1/4 x 1/8 | 269C-4-2 | **2P249** | 13.71 | **10.97** | **9.86** | 0.6 |
| | | 1/4 x 1/4 | 269C-4-4 | **2P250** | 16.71 | **13.37** | **12.37** | 0.7 |
| | | 3/8 x 1/4 | 269C-6-4 | **2P251** | 21.12 | **16.90** | **15.14** | 0.9 |
| | | 3/8 x 3/8 | 269C-6-6 | **2P252** | 26.40 | **21.12** | **18.94** | 0.6 |
| | | 3/8 x 1/2 | 169C-6-8 | **2P253** | 42.56 | **34.05** | **30.59** | 1.5 |
| | | 1/2 x 3/8 | 169C-8-6 | **2P254** | 36.68 | **29.35** | **26.29** | 1.5 |
| | | 1/2 x 1/2 | 169C-8-8 | **2P255** | 51.00 | **40.80** | **36.48** | 1.9 |
| | | 5/8 x 1/2 | 169C-10-8 | **2P256** | 54.81 | **43.85** | **39.20** | 2.3 |
| **Female Elbow** |  | 1/4 x 1/8 NPT | 170C-4-2 | **2P245** | 23.44 | **18.76** | **16.84** | 0.6 |
| | | 1/4 x 1/4 | 170C-4-4 | **2P246** | 31.81 | **25.45** | **22.74** | 0.9 |
| | | 3/8 x 3/8 | 170C-6-6 | **2P247** | 37.62 | **30.10** | **27.01** | 1.3 |
| **Union Tee** |  | 1/4 | 164C-4 | **2P222** | 40.00 | **32.00** | **31.38** | 0.4 |
| | | 3/8 | 164C-6 | **2P223** | 50.93 | **40.75** | **36.54** | 1.4 |
| | | 1/2 | 164C-8 | **2P224** | 76.81 | **61.45** | **55.13** | 2.7 |
| | | 5/8 | 164C-10 | **2P225** | 112.81 | **90.25** | **80.97** | 4.0 |

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.

## TUBING WORKING PRESSURE RANGES

Temperature and type of tubing used are important factors; however, the following table is a good guide for proper selection. Temperature 73°F.

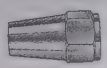
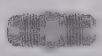
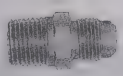
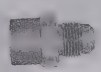
| PSI | Tube O.D. (In.) | Tube Wall (In.) |
|---|---|---|
| 400 | 1/8 | 0.030 |
| 400 | 3/16 | 0.030 |
| 300 | 1/4 | 0.030 |
| 300 | 5/16 | 0.032 |
| 200 | 3/8 | 0.032 |
| 200 | 1/2 | 0.032 |
| 150 | 5/8 | 0.035 |
| 100 | 3/4 | 0.035 |
| 75 | 7/8 | 0.035 |

# PARKER 45° BRASS FLARE FITTINGS

- Brass construction
- UL Listed for flammable liquids
- Meets specifications and standards of SAE, ASA, ASME and MS
- Working temperature range of -65° to 250°F

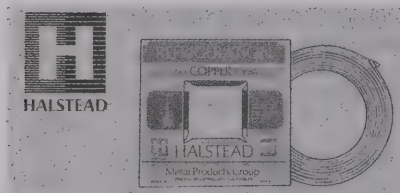
Applications include refrigeration equipment, air compressors, oil burners and machinery. Use with thinwall tubing where application requires joints to withstand high pressures

Can be used with flareable copper, brass, aluminum and welded steel hydraulic tubing. Flare tubing seals remain leak-free even when disconnected and reconnected. Resists mechanical pull-out. Seal faces precision machined.

| Description | Illustration | O.D Tube Size x Pipe Size (In.) | Parker Model | Stock No. | List | Packages of 10 Fittings Each Pkg. | Lot 5 Pkgs. | Shpg. Wt./Pkg. |
|---|---|---|---|---|---|---|---|---|
| **Long Nut** |  | 1/4 | 41FL-4 | **2P143** | $7.35 | **$5.89** | **$5.27** | 0.4 |
| | | 3/8 | 41FL-6 | **2P144** | 13.42 | **10.74** | **9.64** | 0.8 |
| | | 1/2 | 41FL-8 | **2P145** | 20.96 | **16.77** | **15.08** | 1.2 |
| | | 5/8 | 41FL-10 | **2P146** | 41.81 | **33.45** | **29.90** | 2.1 |
| **Refrigeration Long Nut** |  | 1/4 | 14FL-4 | **2P147** | 19.91 | **15.94** | **14.33** | 0.5 |
| | | 3/8 | 14FL-6 | **2P148** | 23.50 | **18.81** | **16.85** | 0.8 |
| | | 1/2 | 14FL-8 | **2P149** | 26.86 | **21.49** | **19.29** | 1.0 |
| | | 5/8 | 14FL-10 | **2P150** | 42.87 | **34.30** | **30.62** | 1.8 |
| **Short Nut** |  | 1/4 | 41FS-4 | **2P151** | 7.25 | **5.81** | **5.28** | 0.1 |
| | | 3/8 | 41FS-6 | **2P152** | 9.94 | **7.96** | **6.80** | 0.8 |
| | | 1/2 | 41FS-8 | **2P153** | 15.16 | **12.13** | **10.90** | 0.8 |
| | | 5/8 | 41FS-10 | **2P154** | 24.92 | **19.94** | **17.88** | 1.7 |
| **Refrigeration Short Nut** |  | 1/4 | 14SX-4 | **2P155** | 18.58 | **14.87** | **12.68** | 0.6 |
| | | 3/8 | 14SX-6 | **2P156** | 24.33 | **19.46** | **16.68** | 0.8 |
| | | 1/2 | 14SX-8 | **2P157** | 29.14 | **23.32** | **19.93** | 0.8 |
| | | 5/8 | 14SX-10 | **2P158** | 21.64 | **17.31** | **15.57** | 1.2 |
| **Plug** |  | 1/4 | 639F-4 | **2P174** | 8.04 | **6.43** | **5.99** | 0.2 |
| | | 3/8 | 639F-6 | **2P175** | 11.72 | **9.38** | **8.36** | 0.6 |
| | | 1/2 | 639F-8 | **2P176** | 16.96 | **13.57** | **12.20** | 0.9 |
| | | 5/8 | 639F-10 | **2P177** | 24.76 | **19.81** | **17.92** | 1.3 |
| **Union** |  | 1/4 | 42F-4 | **2P159** | 7.00 | **5.61** | **5.08** | 0.3 |
| | | 3/8 | 42F-6 | **2P160** | 12.97 | **10.38** | **9.34** | 0.9 |
| | | 1/2 | 42F-8 | **2P161** | 19.11 | **15.29** | **13.74** | 1.3 |
| | | 5/8 | 42F-10 | **2P162** | 27.56 | **22.05** | **19.86** | 2.0 |
| **Male Connector** |  | 1/4 x 1/8 NPT | 48F-4-2 | **2P178** | 6.23 | **4.99** | **4.39** | 0.3 |
| | | 1/4 x 1/4 | 48F-4-4 | **2P179** | 9.87 | **7.90** | **7.05** | 0.4 |
| | | 3/8 x 1/4 | 48F-6-4 | **2P180** | 12.33 | **9.87** | **8.96** | 0.7 |
| | | 3/8 x 3/8 | 48F-6-6 | **2P181** | 14.41 | **11.53** | **10.39** | 0.9 |
| | | 3/8 x 1/2 | 48F-6-8 | **2P182** | 22.99 | **18.40** | **16.42** | 1.3 |
| | | 1/2 x 3/8 | 48F-8-6 | **2P183** | 16.37 | **13.10** | **11.82** | 1.3 |
| | | 1/2 x 1/2 | 48F-8-8 | **2P184** | 23.11 | **18.50** | **16.64** | 1.7 |
| | | 5/8 x 1/2 | 48F-10-8 | **2P185** | 22.35 | **17.88** | **16.07** | 2.0 |
| **Female Connector** |  | 1/4 x 1/8 NPT | 46F-4-2 | **2P186** | 7.78 | **6.23** | **5.60** | 0.4 |
| | | 3/8 x 1/4 | 46F-6-4 | **2P187** | 13.52 | **10.82** | **9.71** | 0.8 |
| | | 3/8 x 3/8 | 46F-6-6 | **2P188** | 26.55 | **21.25** | **18.52** | 1.0 |
| | | 1/2 x 3/8 | 46F-8-6 | **2P189** | 20.80 | **16.64** | **15.01** | 1.0 |
| | | 1/2 x 1/2 | 46F-8-8 | **2P190** | 29.15 | **23.32** | **20.88** | 2.0 |
| | | 1/2 x 3/4 | 46F-8-12 | **2P191** | 54.12 | **43.30** | **38.80** | 2.6 |
| | | 5/8 x 1/2 | 46F 10-8 | **2P192** | 28.52 | **22.82** | **20.50** | 2.0 |
| **Union Elbow** |  | 1/4 | 155F-4 | **2P167** | 22.70 | **18.17** | **16.34** | 0.6 |
| | | 3/8 | 155F-6 | **2P168** | 29.26 | **23.41** | **21.01** | 1.0 |
| | | 1/2 | 155F-8 | **2P169** | 35.43 | **28.35** | **25.48** | 1.7 |
| | | 5/8 | 155F-10 | **2P170** | 57.93 | **46.35** | **41.42** | 2.3 |
| **Male Elbow** |  | 3/8 x 1/4 NPT | 149F-6-4 | **2P193** | 21.86 | **17.49** | **15.76** | 0.9 |
| | | 3/8 x 3/8 | 149F-6-6 | **2P194** | 23.14 | **18.51** | **16.65** | 1.0 |
| | | 3/8 x 1/2 | 149F 6-8 | **2P195** | 33.37 | **26.70** | **23.81** | 1.5 |
| | | 1/2 x 1/2 | 149F-8-8 | **2P196** | 37.12 | **29.70** | **26.65** | 1.9 |
| | | 5/8 x 1/2 | 149F 10-8 | **2P197** | 42.12 | **33.70** | **30.14** | 2.4 |
| **Female Elbow** |  | 1/4 x 1/8 NPT | 150F-4-2 | **2P198** | 16.84 | **13.48** | **12.44** | 0.4 |
| | | 1/4 x 1/4 | 150F-4-4 | **2P199** | 28.72 | **22.98** | **20.57** | 0.9 |
| | | 3/8 x 3/8 | 150F-6-6 | **2P200** | 29.23 | **23.39** | **20.98** | 1.2 |
| | | 3/8 x 1/2 | 150F-6-8 | **2P201** | 71.25 | **57.00** | **51.20** | 1.7 |
| | | 1/2 x 3/8 | 150F-8-6 | **2P202** | 34.50 | **27.60** | **24.76** | 1.3 |
| | | 1/2 x 1/2 | 150F-8-8 | **2P203** | 42.93 | **34.35** | **30.70** | 2.0 |
| **Union Tee** |  | 1/4 | 144F-4 | **2P163** | 25.63 | **20.50** | **18.47** | 0.5 |
| | | 3/8 | 144F-6 | **2P164** | 39.00 | **31.20** | **27.88** | 1.4 |
| | | 1/2 | 144F-8 | **2P165** | 48.56 | **38.85** | **34.86** | 2.0 |
| | | 5/8 | 144F-10 | **2P166** | 76.87 | **61.50** | **55.01** | 3.3 |
| **Male Branch Tee** |  | 1/4 x 1/4 NPT | 145F-4-4 | **2P204** | 37.06 | **29.65** | **26.56** | 0.7 |
| | | 3/8 x 3/8 | 145F-6-6 | **2P205** | 75.43 | **60.35** | **53.98** | 1.4 |
| | | 1/2 x 1/2 | 145F-8-8 | **2P206** | 83.12 | **66.50** | **59.63** | 2.7 |
| **Cap Nut** |  | 3/8 | 640F-6 | **2P171** | 14.84 | **11.88** | **10.18** | 0.4 |
| | | 1/2 | 640F-8 | **2P172** | 13.73 | **10.99** | **9.92** | 0.6 |
| | | 5/8 | 640F-10 | **2P173** | 22.39 | **17.91** | **16.15** | 1.1 |

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG

## AIR CONDITIONING AND REFRIGERATION TUBING




- Meets ASTM Spec. B280
- 50 ft. coils
- Coils cleaned and capped

**Halstead 90 Day Limited Warranty**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Prices on these items are subject to change without notice. Contact local branch for current pricing.

Copper refrigeration tubing connects air conditioning and refrigeration equipment. Lengths of tubing are easily joined by sweating or using flare fittings. Made according to the American Society for Testing and Materials (ASTM) Standard Specification B280. All coils are cleaned and capped to keep contaminants from entering the tubing. Sold in 50 ft. coils. Halstead brand.

| Size (In.) | Nominal Dimensions (In.) OD | ID | Wall | Max. PSI* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 0.250 | 0.190 | 0.030 | 1450 | 3P669 | $17.92 | $16.27 | 4.2 |
| 5/16 | 0.312 | 0.248 | 0.032 | 1230 | 3P670 | 24.57 | 19.04 | 5.4 |
| 3/8 | 0.375 | 0.311 | 0.032 | 1010 | 3P671 | 59.80 | 25.20 | 7.0 |
| 1/2 | 0.500 | 0.436 | 0.032 | 740 | 3P672 | 49.12 | 28.65 | 9.0 |
| 5/8 | 0.625 | 0.555 | 0.035 | 640 | 3P673 | 51.46 | 39.10 | 13.0 |
| 3/4 | 0.750 | 0.680 | 0.035 | 650 | 3P674 | 57.88 | 45.85 | 16.0 |
| 7/8 | 0.875 | 0.785 | 0.045 | 590 | 4P866 | 80.01 | 69.00 | 18.0 |

(*) Rated internal working pressure up to 100°F.

## TYPE L COPPER WATER TUBING




- Meets ASTM spec. B88
- 60 ft. coils

**Halstead 90 Day Limited Warranty**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Prices on these items are subject to change without notice. Contact local branch for current pricing.

Type L tubing for above- or below-ground water service and hydronic heater applications. Made according to the American Society for Testing and Materials (ASTM) Standard Specification B88. Soft copper tubing sold in 60 ft. coils. Halstead brand.

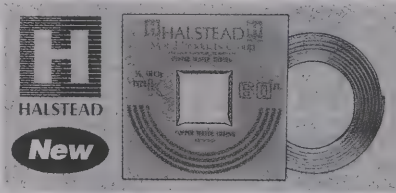
| Size (In.) | Nominal Dimensions (In.) OD | ID | Wall | Max. PSI* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 0.375 | 0.315 | 0.030 | 810 | 3P665 | $39.76 | $32.60 | 7.6 |
| 3/8 | 0.500 | 0.430 | 0.035 | 675 | 3P666 | 70.77 | 54.60 | 12.0 |
| 1/2 | 0.625 | 0.545 | 0.040 | 625 | 3P667 | 63.01 | 55.05 | 17.0 |
| 3/4 | 0.875 | 0.785 | 0.045 | 495 | 3P668 | 87.80 | 86.50 | 27.0 |

(*) Rated internal working pressure up to 150°F.

## TYPE K COPPER TUBING

- Lightweight, handles easily and takes up less space
- Easy to join with copper fittings
- Easily formed to eliminate elbows and joints

Tubing has superior thermal conductivity and requires no maintenance because joint fillings don't break down or pull apart. Melting point near 2000° F helps tubing maintain pressure when subjected to flames, making it preferred for fire sprinkler systems. Also ideal for domestic water service and distribution, fire protection, solar, fuel and fuel oil, HVAC and snow melting systems. Meets or exceeds building codes in all 50 states. 60 ft. length.




**Halstead 90 Day Limited Warranty**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

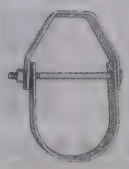
- Meets ASTM spec. B88

| Size (In.) | Nominal Dimensions (In.) OD | ID | Wall | Max. PSI | New! Stock No. | List | Each | Shg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/4 | .875 | .745 | .065 | 705 | 4LW30 | $128.01 | $115.25 | 38.0 |
| 1 | 1.125 | .995 | .065 | 545 | 4LW31 | $168.50 | 152.00 | 50.0 |

## ADJUSTABLE CLEVIS HANGERS

- Carbon steel with copper finish
- For suspension of non-insulated, copper tubing; light-duty
- Locknut above clevis yoke must be tightened securely after each adjustment to assure full rated load
- Threaded for 3/8" rod
- Complies with Federal Specification WW-H-171E, Type 12
- Made in USA • Grinnell brand

| Pipe Size (In.) | Grinnell Model | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 0500406517 | 5E601▲ | $1.50 | $1.24 | $1.12 | 25 | 0.3 |
| 3/4 | 0500406525 | 5E602▲ | 1.64 | 1.36 | 1.23 | 25 | 0.3 |
| 1 | 0500406533 | 5E603▲ | 1.89 | 1.56 | 1.41 | 25 | 0.4 |
| 1¼ | 0500406541 | 5E604▲ | 2.03 | 1.68 | 1.51 | 25 | 0.2 |
| 1½ | 0500406558 | 5E605▲ | 2.15 | 1.78 | 1.61 | 25 | 0.4 |
| 2 | 0500406566 | 5E606▲ | 2.65 | 2.19 | 1.98 | 25 | 0.5 |



(▲) Net prices, not subject to discounts.

## SPLIT TUBING CLAMP

- Threaded for 3/8" rod
- Malleable iron with copper finish
- Provides tight fit on copper tubing
- Complies with Federal Specification WW-H-171E, Type 25
- Max. load rating: 180 lbs.
- Made in USA • Grinnell brand



| Pipe Size (In.) | Grinnell Model | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 0500422514 | 5E607▲ | $2.51 | $2.08 | $1.88 | 25 | 0.1 |
| 3/4 | 0500422522 | 5E608▲ | 2.68 | 2.23 | 2.01 | 25 | 0.1 |
| 1 | 0500422530 | 5E609▲ | 2.87 | 2.38 | 2.14 | 25 | 0.1 |
| 1¼ | 0500422548 | 5E610▲ | 3.06 | 2.54 | 2.29 | 25 | 0.2 |
| 1½ | 0500422555 | 5E611▲ | 3.75 | 3.11 | 2.80 | 25 | 0.2 |
| 2 | 0500422563 | 5E612▲ | 4.08 | 3.38 | 3.04 | 25 | 0.4 |

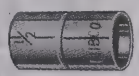
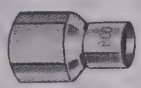
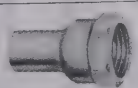
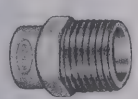
(▲) Net prices, not subject to discounts.

# NIBCO COPPER FITTINGS

- Wrot copper fittings are made from commercially pure copper mill products per ASTM Specifications B75 Alloy C12200; materials and workmanship are in accordance with ASME/ANSI B16.22
- To select proper fittings for plumbing use, use nominal size column; for air conditioning and refrigeration use, use the OD size column to find correct fitting.

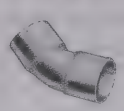
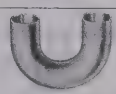
Abbreviations: C = Female solder cup; Ftg. = Male solder end; F = Female NPT thread; M = Male NPT thread

- Cast fittings are made from copper alloy C84400, consisting of 81% copper, 7% lead, 3% tin, and 9% zinc per ASTM Specification B584; meet ANSI Standard B16.18
- All fittings are designed and manufactured to meet or exceed all current applicable standards

| Description | Illustration | Nibco Series | Nominal Size (In.) | OD Size (In.) | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **WROT FITTINGS** | | | | | | | | | | |
| **Coupling C x C (Rolled Tube Stop)** |  | 600-RS | 1/8 | 1/4 | 5P170 | $0.38 | $0.35 | $0.32 | 100 | 0.1 |
| | | | 3/16 OD | 3/16 | 5P171 | 0.38 | 0.35 | 0.32 | 100 | 0.1 |
| | | | 1/4 | 3/8 | 5P172 | 0.38 | 0.35 | 0.32 | 25 | 0.1 |
| | | | 5/16 OD | 5/16 | 5P173 | 0.38 | 0.35 | 0.32 | 100 | 0.1 |
| | | | 3/8 | 1/2 | 5P174 | 0.50 | 0.46 | 0.41 | 25 | 0.1 |
| | | | 1/2 | 5/8 | 5P175 | 0.19 | 0.18 | 0.16 | 50 | 0.1 |
| | | | 5/8 | 3/4 | 5P176 | 1.11 | 1.01 | 0.91 | 100 | 0.1 |
| | | | 3/4 | 7/8 | 5P177 | 0.42 | 0.39 | 0.35 | 50 | 0.1 |
| | | | 1 | 1 1/8 | 5P178 | 1.52 | 1.39 | 1.25 | 10 | 0.1 |
| | | | 1 1/4 | 1 3/8 | 5P179 | 2.61 | 2.38 | 2.14 | 25 | 0.2 |
| | | | 1 1/2 | 1 5/8 | 5P180 | 3.47 | 3.16 | 2.84 | 10 | 0.3 |
| | | | 2 | 2 1/8 | 5P181 | 5.37 | 4.89 | 4.40 | 5 | 0.5 |
| | | | 2 1/2 | 2 5/8 | 5P182 | 11.31 | 10.29 | 9.26 | 5 | 0.7 |
| **Reducing Coupling C x C** |  | 600 | 1/4 x 1/8 | 3/8 x 1/4 | 5P183 | 2.10 | 1.91 | 1.72 | 50 | 0.1 |
| | | | 1/4 x 5/16 | 3/8 x 5/16 | 5P184 | 2.10 | 1.91 | 1.72 | 50 | 0.1 |
| | | | 3/8 x 1/4 | 1/2 x 3/8 | 5P185 | 0.83 | 0.76 | 0.68 | 25 | 0.1 |
| | | | 1/2 x 1/4 | 5/8 x 3/8 | 5P186 | 0.73 | 0.67 | 0.60 | 25 | 0.1 |
| | | | 1/2 x 3/8 | 5/8 x 1/2 | 5P187 | 0.84 | 0.77 | 0.69 | 25 | 0.1 |
| | | | 5/8 x 1/2 | 3/4 x 5/8 | 5P188 | 1.85 | 1.69 | 1.52 | 50 | 0.1 |
| | | | 3/4 x 1/2 | 7/8 x 5/8 | 5P189 | 1.35 | 1.23 | 1.11 | 30 | 0.1 |
| | | | 3/4 x 5/8 | 7/8 x 3/4 | 5P190 | 1.38 | 1.26 | 1.13 | 50 | 0.1 |
| | | | 1 x 1/2 | 1 1/8 x 5/8 | 5P191 | 2.35 | 2.14 | 1.93 | 25 | 0.1 |
| | | | 1 x 3/4 | 1 1/8 x 7/8 | 5P192 | 2.34 | 2.13 | 1.92 | 25 | 0.1 |
| | | | 1 1/4 x 3/4 | 1 3/8 x 7/8 | 5P193 | 3.32 | 3.02 | 2.72 | 25 | 0.2 |
| | | | 1 1/4 x 1 | 1 3/8 x 1 1/8 | 5P194 | 3.30 | 3.00 | 2.70 | 25 | 0.1 |
| **Fitting Reducer Ftg. x C** |  | 600-2 | 1/4 x 1/8 | 3/8 x 1/4 | 5P195 | 0.86 | 0.79 | 0.71 | 50 | 0.1 |
| | | | 3/8 x 1/4 | 1/2 x 3/8 | 5P196 | 1.02 | 0.93 | 0.84 | 25 | 0.1 |
| | | | 1/2 x 1/4 | 5/8 x 3/8 | 5P197 | 0.86 | 0.79 | 0.71 | 25 | 0.1 |
| | | | 1/2 x 3/8 | 5/8 x 1/2 | 5P198 | 0.90 | 0.82 | 0.74 | 25 | 0.1 |
| | | | 5/8 x 1/2 | 3/4 x 5/8 | 5P199 | 1.94 | 1.77 | 1.59 | 50 | 0.1 |
| | | | 3/4 x 1/2 | 7/8 x 5/8 | 5P200 | 1.36 | 1.24 | 1.12 | 30 | 0.1 |
| | | | 3/4 x 5/8 | 7/8 x 3/4 | 5P201 | 1.41 | 1.29 | 1.16 | 25 | 0.1 |
| | | | 1 x 1/2 | 1 1/8 x 5/8 | 5P202 | 2.09 | 1.90 | 1.71 | 25 | 0.1 |
| | | | 1 x 3/4 | 1 1/8 x 7/8 | 5P203 | 2.09 | 1.90 | 1.71 | 25 | 0.1 |
| | | | 1 1/4 x 1 | 1 3/8 x 1 1/8 | 5P204 | 3.58 | 3.26 | 2.93 | 25 | 0.1 |
| | | | 1 1/2 x 1 | 1 5/8 x 1 1/8 | 5P205 | 4.75 | 4.32 | 3.89 | 10 | 0.2 |
| | | | 1 1/2 x 1 1/4 | 1 5/8 x 1 3/8 | 5P206 | 4.73 | 4.30 | 3.87 | 10 | 0.2 |
| **Coupling C x C (Without Stop)** |  | 601 | 1/2 | 5/8 | 5P207 | 0.24 | 0.22 | 0.20 | 25 | 0.1 |
| | | | 3/4 | 7/8 | 5P208 | 1.13 | 1.03 | 0.93 | 25 | 0.1 |
| | | | 1 | 1 1/8 | 5P209 | 2.14 | 1.95 | 1.76 | 25 | 0.1 |
| **Adapter C x F (Female)** |  | 603 | 1/2 x 3/8 | 5/8 x 3/8 | 5P210 | 2.40 | 2.19 | 1.97 | 25 | 0.1 |
| | | | 1/2 x 1/4 | 5/8 x 1/4 | 5P014 | 2.43 | 2.21 | 1.99 | 25 | 0.1 |
| | | | 1/2 | 5/8 x 1/2 | 5P015 | 0.82 | 0.75 | 0.68 | 30 | 0.1 |
| | | | 1/2 x 3/4 | 5/8 x 3/4 | 5P016 | 3.53 | 3.21 | 2.89 | 25 | 0.1 |
| | | | 3/4 x 1/2 | 7/8 x 1/2 | 5P017 | 3.44 | 3.13 | 2.82 | 30 | 0.1 |
| | | | 3/4 | 7/8 x 3/4 | 5P018 | 1.18 | 1.08 | 0.97 | 30 | 0.2 |
| | | | 1 | 1 1/8 x 1 | 5P019 | 4.45 | 4.05 | 3.65 | 5 | 0.3 |
| | | | 1 1/4 | 1 3/8 x 1 1/4 | 5P020 | 7.24 | 6.59 | 5.93 | 10 | 0.4 |
| | | | 1 1/2 | 1 5/8 x 1 1/2 | 5P021 | 11.18 | 10.17 | 9.15 | 10 | 0.5 |
| **Fitting Adapter Ftg. x F (Female)** |  | 603-2 | 3/8 | 1/2 x 3/8 | 5P022 | 3.70 | 3.37 | 3.03 | 50 | 0.1 |
| | | | 1/2 | 5/8 x 1/2 | 5P023 | 3.16 | 2.88 | 2.59 | 25 | 0.1 |
| | | | 3/4 | 7/8 x 3/4 | 5P024 | 4.11 | 3.74 | 3.37 | 25 | 0.1 |
| **Adapter C x M (Male)** |  | 604 | 3/8 | 1/2 x 3/8 | 5P025 | 2.40 | 2.19 | 1.97 | 25 | 0.1 |
| | | | 1/2 | 5/8 x 1/2 | 5P026 | 0.45 | 0.41 | 0.37 | 50 | 0.1 |
| | | | 1/2 x 3/8 | 5/8 x 3/8 | 5P027 | 2.43 | 2.21 | 1.99 | 25 | 0.1 |
| | | | 1/2 x 3/4 | 5/8 x 3/4 | 5P028 | 3.11 | 2.83 | 2.55 | 25 | 0.2 |
| | | | 3/4 x 1/2 | 7/8 x 1/2 | 5P029 | 2.99 | 2.72 | 2.45 | 30 | 0.1 |
| | | | 3/4 | 7/8 x 3/4 | 5P030 | 1.69 | 1.54 | 1.39 | 50 | 0.1 |
| | | | 3/4 x 1 | 7/8 x 1 | 5P031 | 4.96 | 4.51 | 4.06 | 25 | 0.3 |
| | | | 1 | 1 1/8 x 1 | 5P032 | 4.21 | 3.83 | 3.45 | 20 | 0.2 |
| | | | 1 1/4 | 1 3/8 x 1 1/4 | 5P033 | 6.61 | 6.01 | 5.41 | 10 | 0.4 |
| | | | 1 1/2 | 1 5/8 x 1 1/2 | 5P034 | 7.39 | 6.72 | 6.05 | 10 | 0.5 |
| | | | 2 | 2 1/8 x 2 | 5P035 | 11.71 | 10.65 | 9.59 | 5 | 0.9 |
| **45° Fitting Ell Ftg. x C** |  | 606-2 | 1/2 | 5/8 | 5P045 | 1.03 | 0.94 | 0.85 | 20 | 0.1 |
| | | | 3/4 | 7/8 | 5P046 | 1.68 | 1.53 | 1.38 | 20 | 0.1 |
| | | | 1 | 1 1/8 | 5P047 | 4.90 | 4.46 | 4.01 | 10 | 0.2 |

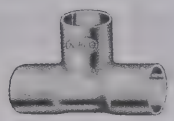
# NIBCO COPPER FITTINGS

## SPECIFICATIONS AND ORDERING INFORMATION

| Description | Illustration | Nibco Series | Nom. Size (In.) | OD Size (In.) | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **45° Ell C x C** |  | 606 | 1/4 | 3/8 | **5P036** | $2.62 | **$2.39** | **$2.15** | 50 | 0.1 |
| | | | 3/8 | 1/2 | **5P037** | 2.16 | **1.97** | **1.77** | 25 | 0.1 |
| | | | 1/2 | 5/8 | **5P038** | 0.49 | **0.45** | **0.41** | 50 | 0.1 |
| | | | 5/8 | 3/4 | **5P039** | 4.18 | **3.80** | **3.42** | 50 | 0.1 |
| | | | 3/4 | 7/8 | **5P040** | 0.82 | **0.75** | **0.68** | 50 | 0.1 |
| | | | 1 | 1 1/8 | **5P041** | 3.75 | **3.41** | **3.07** | 10 | 0.2 |
| | | | 1 1/4 | 1 3/8 | **5P042** | 5.17 | **4.70** | **4.23** | 10 | 0.3 |
| | | | 1 1/2 | 1 5/8 | **5P043** | 6.24 | **5.68** | **5.11** | 10 | 0.4 |
| | | | 2 | 2 1/8 | **5P044** | 9.86 | **8.97** | **8.07** | 5 | 0.7 |
| **90° Ell C x C (Close Rough)** |  | 607 | 1/8 | 1/4 | **5P048** | 1.36 | **1.24** | **1.12** | 50 | 0.1 |
| | | | 1/4 | 3/8 | **5P049** | 1.36 | **1.24** | **1.12** | 25 | 0.1 |
| | | | 3/8 | 1/2 | **5P050** | 0.93 | **0.85** | **0.77** | 25 | 0.1 |
| | | | 1/2 | 5/8 | **5P051** | 0.34 | **0.31** | **0.28** | 50 | 0.1 |
| | | | 3/4 | 7/8 | **5P053** | 0.61 | **0.56** | **0.50** | 50 | 0.1 |
| | | | 1 | 1 1/8 | **5P054** | 1.92 | **1.75** | **1.58** | 10 | 0.2 |
| | | | 1 1/4 | 1 3/8 | **5P055** | 4.09 | **3.72** | **3.35** | 10 | 0.3 |
| | | | 1 1/2 | 1 5/8 | **5P056** | 6.35 | **5.78** | **5.20** | 5 | 0.5 |
| | | | 2 | 2 1/8 | **5P057** | 10.74 | **9.77** | **8.79** | 5 | 0.9 |
| | | | 2 1/2 | 2 5/8 | **5P058** | 20.39 | **18.54** | **16.69** | 2 | 1.6 |
| **90° Reducing Ell C x C (Short Radius)** | | | 1/2 x 3/8 | 5/8 x 1/2 | **5P059** | 3.75 | **3.41** | **3.07** | 25 | 0.1 |
| | | | 3/4 x 1/2 | 7/8 x 5/8 | **5P060** | 2.65 | **2.41** | **2.17** | 25 | 0.1 |
| | | | 1 x 3/4 | 1 1/8 x 7/8 | **5P061** | 4.93 | **4.49** | **4.04** | 10 | 0.2 |
| **90° Fitting Ell Ftg. x C (Close Rough)** |  | 607-2 | 1/4 | 3/8 | **5P062** | 2.45 | **2.23** | **2.01** | 50 | 0.1 |
| | | | 3/8 | 1/2 | **5P063** | 1.50 | **1.37** | **1.23** | 25 | 0.1 |
| | | | 1/2 | 5/8 | **5P064** | 0.47 | **0.43** | **0.39** | 50 | 0.1 |
| | | | 3/4 | 7/8 | **5P065** | 1.03 | **0.94** | **0.85** | 25 | 0.1 |
| | | | 1 | 1 1/8 | **5P066** | 3.99 | **3.63** | **3.27** | 10 | 0.2 |
| | | | 1 1/4 | 1 3/8 | **5P067** | 6.05 | **5.50** | **4.95** | 10 | 0.4 |
| **90° Intermediate Fitting Ell Ftg. x C (Short Radius)** | | 607-2I | 1/2 | 5/8 | **5P068** | 1.79 | **1.63** | **1.47** | 50 | 0.1 |
| | | | 5/8 | 3/4 | **5P069** | 3.01 | **2.74** | **2.47** | 25 | 0.1 |
| | | | 3/4 | 7/8 | **5P070** | 2.94 | **2.68** | **2.41** | 25 | 0.2 |
| | | | 1 | 1 1/8 | **5P071** | 4.01 | **3.65** | **3.29** | 10 | 0.2 |
| **90° Fitting Ell Ftg. x C (Long Radius)** |  | 607-2-LT | 1/4 | 3/8 | **5P072** | 2.45 | **2.23** | **2.01** | 50 | 0.1 |
| | | | 3/8 | 1/2 | **5P073** | 4.59 | **4.18** | **3.76** | 100 | 0.2 |
| | | | 1/2 | 5/8 | **5P074** | 3.46 | **3.15** | **2.84** | 50 | 0.1 |
| | | | 5/8 | 3/4 | **5P075** | 4.02 | **3.66** | **3.29** | 50 | 0.1 |
| | | | 3/4 | 7/8 | **5P076** | 4.34 | **3.95** | **3.56** | 25 | 0.2 |
| | | | 1 | 1 1/8 | **5P077** | 6.68 | **6.08** | **5.47** | 10 | 0.3 |
| | | | 1 1/4 | 1 3/8 | **5P078** | 9.82 | **8.93** | **8.04** | 5 | 0.4 |
| **90° Intermediate Ell C x C (Short Radius)** |  | 607-I | 1/2 | 5/8 | **5P079** | 1.45 | **1.32** | **1.19** | 100 | 0.1 |
| | | | 5/8 | 3/4 | **5P080** | 2.91 | **2.65** | **2.39** | 50 | 0.1 |
| | | | 3/4 | 7/8 | **5P081** | 2.72 | **2.48** | **2.23** | 50 | 0.1 |
| | | | 1 | 1 1/8 | **5P082** | 3.49 | **3.18** | **2.86** | 25 | 0.2 |
| **90° Ell C x C (Long Radius)** |  | 607-LT | 1/8 | 1/4 | **5P083** | 2.07 | **1.89** | **1.70** | 50 | 0.1 |
| | | | 1/4 | 3/8 | **5P084** | 2.10 | **1.91** | **1.72** | 50 | 0.1 |
| | | | 5/16 OD | 5/16 | **5P085** | 2.33 | **2.12** | **1.91** | 50 | 0.1 |
| | | | 3/8 | 1/2 | **5P086** | 2.57 | **2.34** | **2.11** | 50 | 0.1 |
| | | | 1/2 | 5/8 | **5P087** | 2.46 | **2.24** | **2.02** | 25 | 0.1 |
| | | | 5/8 | 3/4 | **5P088** | 2.68 | **2.44** | **2.20** | 50 | 0.1 |
| | | | 3/4 | 7/8 | **5P089** | 2.47 | **2.25** | **2.03** | 25 | 0.2 |
| | | | 1 | 1 1/8 | **5P090** | 4.78 | **4.35** | **3.92** | 10 | 0.3 |
| | | | 1 1/4 | 1 3/8 | **5P091** | 7.57 | **6.89** | **6.20** | 5 | 0.4 |
| | | | 1 1/2 | 1 5/8 | **5P092** | 10.26 | **9.33** | **8.40** | 5 | 0.7 |
| | | | 2 | 2 1/8 | **5P093** | 21.85 | **19.87** | **17.88** | 5 | 1.2 |
| **Cap C** |  | 617 | 1/2 | 5/8 | **5P121** | 0.24 | **0.22** | **0.20** | 25 | 0.1 |
| | | | 3/4 | 7/8 | **5P122** | 0.59 | **0.54** | **0.49** | 25 | 0.1 |
| | | | 1 | 1 1/8 | **5P123** | 1.44 | **1.31** | **1.18** | 5 | 0.1 |
| | | | 1 1/4 | 1 3/8 | **5P124** | 2.04 | **1.86** | **1.67** | 25 | 0.1 |
| | | | 1 1/2 | 1 5/8 | **5P125** | 2.18 | **1.99** | **1.79** | 25 | 0.2 |
| | | | 2 | 2 1/8 | **5P126** | 5.12 | **4.66** | **4.19** | 10 | 1.0 |
| **Return Bend** |  | 638 | 1/4 x 1 1/2 | 3/8 x 1 1/2 | **5P136** | 1.38 | **1.26** | **1.13** | 50 | 0.1 |
| | | | 3/8 x 1 1/2 | 1/2 x 1 1/2 | **5P137** | 1.96 | **1.79** | **1.61** | 50 | 0.1 |
| | | | 1/2 x 1 9/16 | 5/8 x 1 9/16 | **5P138** | 3.56 | **3.24** | **2.92** | 25 | 0.1 |
| | | | 3/4 x 2 1/2 | 7/8 x 2 1/2 | **5P139** | 6.35 | **5.78** | **5.20** | 10 | 0.3 |
| | | | 1 x 3 | 1 1/8 x 3 | **5P140** | 14.58 | **13.26** | **11.93** | 5 | 0.4 |
| **Suction Line P-Trap** |  | 698 | 1/2 | 5/8 | **5P141** | 13.12 | **11.93** | **10.74** | 10 | 0.4 |
| | | | 5/8 | 3/4 | **5P142** | 18.89 | **17.18** | **15.46** | 10 | 0.5 |
| | | | 3/4 | 7/8 | **5P143** | 15.46 | **14.06** | **12.65** | 5 | 0.6 |
| | | | 1 | 1 1/8 | **5P144** | 21.98 | **19.99** | **17.99** | 25 | 0.1 |
| | | | 1 1/4 | 1 3/8 | **5P145** | 34.98 | **31.80** | **28.62** | 3 | 0.8 |
| **Tee C x C x C** |  | 611 | 1/8 | 1/4 | **5P094** | 2.93 | **2.67** | **2.40** | 50 | 0.1 |
| | | | 1/4 | 3/8 | **5P095** | 2.97 | **2.70** | **2.43** | 25 | 0.1 |
| | | | 5/16 OD | 5/16 | **5P096** | 2.93 | **2.67** | **2.40** | 50 | 0.1 |
| | | | 3/8 | 1/2 | **5P097** | 2.34 | **2.13** | **1.92** | 25 | 0.1 |
| | | | 1/2 | 5/8 | **5P098** | 0.45 | **0.41** | **0.37** | 50 | 0.1 |

# NIBCO COPPER FITTINGS

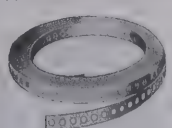
## SPECIFICATIONS AND ORDERING INFORMATION

| Description | Illustration | Nibco Series | Nominal Size (In.) | OD Size (In.) | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Tee C x C x C** |  | 611 | 1/2 x 1/2 x 3/4 | 5/8 x 5/8 x 7/8 | **5P099** | $3.28 | **$2.99** | **$2.69** | 25 | 0.1 |
| | | | 3/4 x 1/2 x 1/2 | 7/8 x 5/8 x 5/8 | **5P100** | 2.29 | **2.09** | **1.88** | 25 | 0.1 |
| | | | 3/4 x 1/2 x 3/4 | 7/8 x 5/8 x 7/8 | **5P101** | 2.18 | **1.99** | **1.79** | 25 | 0.2 |
| | | | 3/4 x 3/4 x 1/2 | 7/8 x 7/8 x 5/8 | **5P102** | 2.18 | **1.99** | **1.79** | 25 | 0.1 |
| | | | 3/4 | 7/8 | **5P103** | 1.30 | **1.19** | **1.07** | 25 | 0.2 |
| | | | 3/4 x 3/4 x 1 | 7/8 x 7/8 x 1 1/8 | **5P104** | 4.60 | **4.19** | **3.77** | 10 | 0.2 |
| | | | 1 x 3/4 x 3/4 | 1 1/8 x 7/8 x 7/8 | **5P105** | 4.93 | **4.49** | **4.04** | 10 | 0.3 |
| | | | 1 x 3/4 x 1 | 1 1/8 x 7/8 x 1/8 | **5P106** | 3.96 | **3.60** | **3.24** | 10 | 0.3 |
| | | | 1 x 1 x 1/2 | 1 1/8 x 1 1/8 x 5/8 | **5P107** | 4.05 | **3.69** | **3.32** | 10 | 0.3 |
| | | | 1 x 1 x 3/4 | 1 1/8 x 1 1/8 x 7/8 | **5P108** | 4.16 | **3.79** | **3.41** | 25 | 0.3 |
| | | | 1 | 1 1/8 | **5P109** | 4.37 | **3.98** | **3.58** | 10 | 0.3 |
| | | | 1 1/4 x 1 1/4 x 1/2 | 1 3/8 x 1 3/8 x 5/8 | **5P110** | 6.36 | **5.79** | **5.21** | 5 | 0.4 |
| | | | 1 1/4 x 1 1/4 x 3/4 | 1 3/8 x 1 3/8 x 7/8 | **5P111** | 6.36 | **5.79** | **5.21** | 5 | 0.4 |
| | | | 1 1/4 x 1 1/4 x 1 | 1 3/8 x 1 3/8 x 1 1/8 | **5P112** | 6.36 | **5.79** | **5.21** | 5 | 0.4 |
| | | | 1 1/4 | 1 3/8 | **5P113** | 8.67 | **7.89** | **7.10** | 5 | 0.5 |
| | | | 1 1/2 x 1 1/2 x 1/2 | 1 5/8 x 1 5/8 x 5/8 | **5P114** | 8.67 | **7.89** | **7.10** | 5 | 0.4 |
| | | | 1 1/2 x 1 1/2 x 3/4 | 1 5/8 x 1 5/8 x 7/8 | **5P115** | 8.67 | **7.89** | **7.10** | 5 | 0.4 |
| | | | 1 1/2 x 1 1/2 x 1 | 1 5/8 x 1 5/8 x 1 1/8 | **5P116** | 8.67 | **7.89** | **7.10** | 5 | 0.5 |
| | | | 1 1/2 | 1 5/8 | **5P117** | 12.08 | **10.99** | **9.89** | 5 | 0.7 |
| | | | 2 x 2 x 3/4 | 2 1/8 x 2 1/8 x 7/8 | **5P118** | 13.18 | **11.99** | **10.79** | 5 | 0.7 |
| | | | 2 x 2 x 1 | 2 1/8 x 2 1/8 x 1 1/8 | **5P119** | 13.18 | **11.99** | **10.79** | 4 | 1.0 |
| | | | 2 | 2 1/8 | **5P120** | 17.56 | **15.97** | **14.37** | 5 | 1.3 |

## CAST FITTINGS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Reducing Fitting Adapter Ftg x F** |  | 703-2-R | 1/2 x 1/4 | NA | **5P146** | 4.00 | **3.64** | **3.28** | 50 | 0.1 |
| **Adapter C x M** |  | 704-F | 1/2 | NA | **5P147** | 3.55 | **3.23** | **2.91** | 100 | 0.1 |
| **Baseboard Tee C x F x C** |  | 705 | 3/4 x 1/8 x 3/4 | NA | **5P148** | 5.00 | **4.55** | **4.10** | 25 | 0.2 |
| **90° Ell C x F** |  | 707-3 | 1/2 x 3/8 | NA | **5P149** | 3.30 | **3.00** | **2.70** | 25 | 0.1 |
| | | | 1/2 | NA | **5P150** | 2.58 | **2.35** | **2.12** | 25 | 0.1 |
| | | | 3/4 | NA | **5P151** | 4.36 | **3.97** | **3.57** | 25 | 0.2 |
| | | | 1 | NA | **5P152** | 11.73 | **10.67** | **9.60** | 25 | 0.4 |
| **90° Drop Ell C x F** |  | 703-3-5 | 1/2 x 3/8 | NA | **5P153** | 5.33 | **4.85** | **4.37** | 25 | 0.1 |
| | | | 1/2 | NA | **5P154** | 3.63 | **3.30** | **2.97** | 25 | 0.2 |
| | | | 3/4 | NA | **5P155** | 6.07 | **5.52** | **4.97** | 25 | 0.2 |
| **90° Ell C x M** |  | 707-4 | 1/2 | NA | **5P156** | 2.67 | **2.43** | **2.19** | 25 | 0.1 |
| | | | 3/4 | NA | **5P157** | 5.28 | **4.80** | **4.32** | 25 | 0.2 |
| **90° Drop Ell C X C** |  | 707-5 | 1/2 | NA | **5P158** | 3.09 | **2.81** | **2.53** | 25 | 0.1 |
| **Tee C x C x F** |  | 712 | 1/2 | NA | **5P159** | 4.34 | **3.95** | **3.56** | 10 | 0.1 |
| | | | 3/4 | NA | **5P160** | 7.65 | **6.96** | **6.26** | 10 | 0.2 |
| | | | 3/4 x 3/4 x 1/2 | NA | **5P161** | 7.61 | **6.92** | **6.23** | 10 | 0.2 |
| **Union C x C** |  | 733 | 1/2 | NA | **5P162** | 4.77 | **4.34** | **3.91** | 10 | 0.2 |
| | | | 3/4 | NA | **5P163** | 6.10 | **5.55** | **5.00** | 10 | 0.3 |
| | | | 1 | NA | **5P164** | 10.21 | **9.29** | **8.36** | 10 | 0.6 |
| | | | 1 1/4 | NA | **5P165** | 16.40 | **14.91** | **13.42** | 10 | 0.8 |
| | | | 1 1/2 | NA | **5P166** | 21.54 | **19.59** | **17.63** | 5 | 1.1 |
| | | | 2 | NA | **5P167** | 36.63 | **33.30** | **29.97** | 5 | 1.8 |
| **Union C x M** |  | 733-4 | 1/2 | NA | **5P168** | 8.16 | **7.42** | **6.68** | 25 | 0.4 |
| | | | 3/4 | NA | **5P169** | 12.61 | **11.47** | **10.32** | 10 | 0.4 |

### HANGING STRAP



Roll of copper hanging strap is 25 ft. long. Nibco brand (623).

**No. 5P127.** Shpg. wt. 1.9 lbs. List .....$30.63. Each .....**$27.85**

### TUBE STRAPS



- **Copper straps help secure tubing to walls, studs, etc. and help form a rigid system**

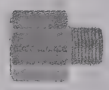
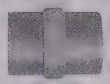
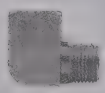
| Nominal Size (In.) | OD Size (In.) | Nibco Series | Stock No. | List | Each Pkg. | Pkg. Qty. | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/8** | 1/4 | 624 | **5P128** | $1.13 | **$1.03** | 5 | **$0.93** | 5 | 0.1 |
| **1/4** | 3/8 | | **5P129** | 1.13 | **1.03** | 5 | **0.93** | 5 | 0.1 |
| **3/8** | 1/2 | | **5P130** | 1.13 | **1.03** | 5 | **0.93** | 5 | 0.1 |
| **1/2** | 5/8 | | **5P131** | 1.13 | **1.03** | 5 | **0.93** | 5 | 0.1 |
| **3/4** | 7/8 | | **5P132** | 1.94 | **1.77** | 5 | **1.59** | 5 | 0.1 |
| **1** | 1 1/8 | | **5P133** | 2.23 | **2.03** | 5 | **1.83** | 5 | 0.1 |
| **1 1/4** | 1 3/8 | | **5P134** | 2.64 | **2.40** | 5 | **2.16** | 5 | 0.1 |
| **1 1/2** | 1 5/8 | | **5P135** | 3.19 | **2.90** | 5 | **2.61** | 5 | 0.1 |

# PARKER BRASS PIPE FITTINGS

- **Connectors, unions, nuts and extruded elbows and tees are machined from CA 360 and CA 345 brass rod; forged elbows and tees are machined from CA 377 brass**
- **Meets SAE, ASME and ASA functional requirements**
- **Manufactured for low and medium pressure line connection work**
- **Temperature and working pressure ranges from -65 to 250°F at 1000 PSI**

Brass pipe fittings can be used with air, water, oil, fuels, and various gases connected by brass, copper or iron pipe. These fittings are applied in a wide variety of applications including: Industrial plants, construction equipment, and plumbing systems. Parker brand.

## BRASS PIPE FITTINGS SPECIFICATIONS AND ORDERING DATA

| Description | Illustration | Pipe Thread (NPT) | Parker Model | Box Qty. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Hex Nipple** |  | 1/8 Male | 216P-2 | 25 | **3P873** | $20.35 | **$16.29** | 0.6 |
| | | 1/4 Male | 216P-4 | 25 | **3P874** | 33.06 | **26.45** | 1.4 |
| | | 3/8 Male | 216P-6 | 25 | **3P875** | 34.62 | **27.70** | 2.2 |
| | | 1/2 Male | 216P-8 | 25 | **3P876** | 55.50 | **44.40** | 3.6 |
| **Tee** |  | 1/8 Female | 2203P-2 | 25 | **3P885** | 52.50 | **42.00** | 2.1 |
| | | 1/4 Female | 2203P-4 | 25 | **3P886** | 82.12 | **65.70** | 4.5 |
| | | 3/8 Female | 2203P-6 | 10 | **3P887** | 52.18 | **41.75** | 2.3 |
| | | 1/2 Female | 2203P-8 | 10 | **3P888** | 85.50 | **68.40** | 4.4 |
| **Hex Head Plug** |  | 1/8 Male | 219P-2 | 25 | **3P877** | 10.02 | **8.02** | 0.2 |
| | | 1/4 Male | 219P-4 | 25 | **3P878** | 15.07 | **12.06** | 0.5 |
| | | 3/8 Male | 219P-6 | 10 | **3P879** | 9.98 | **7.98** | 0.3 |
| | | 1/2 Male | 219P-8 | 10 | **3P880** | 13.26 | **10.61** | 0.7 |
| **Bushing** |  | 1/4 Male x 1/8 Female | 209P-4-2 | 25 | **3P869** | 15.08 | **12.07** | 0.7 |
| | | 3/8 Male x 1/4 Female | 209P-6-4 | 25 | **3P870** | 24.10 | **19.28** | 1.1 |
| | | 1/2 Male x 1/4 Female | 209P-8-4 | 25 | **3P871** | 43.00 | **34.40** | 2.8 |
| | | 1/2 Male x 3/8 Female | 209P-8-6 | 25 | **3P872** | 32.50 | **26.00** | 1.9 |
| **Adapter** |  | 1/4 Female x 1/8 Male | 222P-4-2 | 25 | **3P889** | 30.48 | **24.39** | 1.8 |
| | | 3/8 Female x 1/4 Male | 222P-6-4 | 25 | **3P890** | 43.81 | **35.05** | 2.7 |
| | | 1/2 Female x 3/8 Male | 222P-8-6 | 10 | **3P891** | 28.84 | **23.07** | 1.8 |
| **Coupling** |  | 1/8 Female | 207P-2 | 25 | **3P865** | 21.02 | **16.82** | 0.8 |
| | | 1/4 Female | 207P-4 | 25 | **3P866** | 37.68 | **30.15** | 2.3 |
| | | 3/8 Female | 207P-6 | 25 | **3P867** | 41.87 | **33.50** | 2.7 |
| | | 1/2 Female | 207P-8 | 25 | **3P868** | 77.43 | **61.95** | 5.1 |
| **90° Street Elbow** |  | 1/8 Male x 1/8 Female | 2202P-2-2 | 25 | **3P881** | 48.37 | **38.70** | 1.2 |
| | | 1/4 Male x 1/4 Female | 2202P-4-4 | 25 | **3P882** | 74.87 | **59.90** | 2.0 |
| | | 3/8 Male x 3/8 Female | 2202P-6-6 | 25 | **3P883** | 69.50 | **55.60** | 3.2 |
| | | 1/2 Male x 1/2 Female | 2202P-8-8 | 10 | **3P884** | 52.87 | **42.30** | 3.2 |

## MODERN PLUMBING

By E.K. Blankenbaker. *Modern Plumbing* provides basic information about tools, materials and equipment. Colorfully illustrated photographs, drawings and charts. Excellent coverage of piping materials, fittings, valves, meters, blueprint reading, soldering, brazing, welding, lead wiping, and safety. Some charts included are "Length Conversions," "English Metric Conversion Factors—Volume and Mass," "Building Material Symbols" and "Head Loss for Standard Galvanized Pipe." 1997 edition. 384 pages, 700 illustrations, hard cover.

**No. 5H580.** Shpg. wt. 2.5 lbs. List .....$50.50. Each .....**$39.00**

**No. 5H580**



# GRINNELL MALLEABLE IRON FITTINGS



- Class 150 malleable fittings and unions
- 150 PSI saturated steam pressure
- Fittings conform to American National Standards Institute ANSI 16.3; Unions, ANSI B-16.39
- Material specification is ASTM A-197
- 300 PSI WOG at 150°F
- Fitting dimensions conform to Federal Specifications WW-P-521; Unions, WW-U-531

| Description | Pipe Size (In.) Run x Run x Tee | Black Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. | Galvanized Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **90° Elbow** | 1/8 | 6P932 | $1.50 | $1.44▲ | $1.30▲ | 100 | 0.1 | 5P795 | $1.78 | $1.47▲ | $1.33▲ | 35 | 0.1 |
| | 1/4 | 5P434 | 1.05 | 0.87▲ | 0.78▲ | 25 | 0.1 | 5P796 | 1.68 | 1.40▲ | 1.26▲ | 25 | 0.1 |
| | 3/8 | 5P435 | 1.07 | 0.89▲ | 0.80▲ | 20 | 0.2 | 5P797 | 1.70 | 1.42▲ | 1.28▲ | 20 | 0.2 |
| | 1/2 | 5P436 | 0.83 | 0.70▲ | 0.63▲ | 50 | 0.3 | 5P798 | 0.81 | 0.68▲ | 0.61▲ | 50 | 0.3 |
| | 3/4 | 5P437 | 0.93 | 0.78▲ | 0.70▲ | 35 | 0.5 | 5P799 | 0.92 | 0.77▲ | 0.69▲ | 35 | 0.5 |
| | 1 | 5P438 | 2.18 | 1.81▲ | 1.63▲ | 20 | 0.8 | 5P800 | 2.66 | 2.21▲ | 1.98▲ | 20 | 0.8 |
| | 1¼ | 5P439 | 3.54 | 2.94▲ | 2.65▲ | 10 | 1.1 | 5P801 | 4.16 | 3.45▲ | 3.11▲ | 12 | 1.3 |
| | 1½ | 5P440 | 4.63 | 3.84▲ | 3.46▲ | 5 | 1.3 | 5P802 | 5.62 | 4.66▲ | 4.20▲ | 8 | 2.2 |
| | 2 | 5P441 | 7.33 | 6.07▲ | 5.46▲ | 10 | 2.3 | 5P803 | 8.34 | 6.90▲ | 6.21▲ | 10 | 2.3 |
| **Reducing Elbow** | 3/8 x 1/4 | 5P442 | 1.84 | 1.53▲ | 1.38▲ | 25 | 0.1 | 5P804 | 2.52 | 2.09▲ | 1.88▲ | 25 | 0.2 |
| | 1/2 x 3/8 | 5P443 | 1.77 | 1.47▲ | 1.33▲ | 75 | 0.2 | 5P805 | 1.94 | 1.61▲ | 1.45▲ | 25 | 0.1 |
| | 1/2 x 1/4 | 5P444 | 1.81 | 1.50▲ | 1.35▲ | 15 | 0.2 | 5P806 | 2.10 | 1.74▲ | 1.56▲ | 15 | 0.2 |
| | 3/4 x 1/2 | 5P445 | 1.89 | 1.57▲ | 1.42▲ | 14 | 0.4 | 5P807 | 2.33 | 1.93▲ | 1.74▲ | 45 | 0.4 |
| | 3/4 x 3/8 | 5P446 | 2.45 | 2.03▲ | 1.82▲ | 20 | 0.3 | 5P808 | 3.03 | 2.52▲ | 2.26▲ | 20 | 0.3 |
| | 1 x 3/4 | 5P447 | 2.27 | 1.89▲ | 1.70▲ | 20 | 0.6 | 5P809 | 3.01 | 2.50▲ | 2.25▲ | 20 | 0.6 |
| | 1 x 1/2 | 5P448 | 2.37 | 1.96▲ | 1.77▲ | 24 | 0.5 | 5P810 | 3.16 | 2.62▲ | 2.36▲ | 25 | 0.5 |
| | 1¼ x 1 | 5P449 | 3.94 | 3.27▲ | 2.94▲ | 14 | 0.9 | 5P811 | 5.03 | 4.16▲ | 3.74▲ | 15 | 0.9 |
| | 1¼ x 3/4 | 5P450 | 4.40 | 3.65▲ | 3.28▲ | 14 | 0.7 | 5P812 | 5.94 | 4.93▲ | 4.43▲ | 15 | 0.7 |
| | 1½ x 1¼ | 5P451 | 5.69 | 4.72▲ | 4.25▲ | 8 | 1.3 | 5P813 | 6.39 | 5.30▲ | 4.77▲ | 8 | 2.0 |
| | 1½ x 1 | 5P452 | 5.63 | 4.67▲ | 4.20▲ | 12 | 1.1 | 5P814 | 7.70 | 6.39▲ | 5.75▲ | 12 | 1.3 |
| | 1½ x 3/4 | 5P453 | 6.32 | 5.23▲ | 4.71▲ | 12 | 0.8 | 5P815 | 7.64 | 6.34▲ | 5.70▲ | 12 | 1.1 |
| | 2 x 1½ | 5P454 | 8.74 | 7.24▲ | 6.52▲ | 12 | 1.8 | 5P816 | 10.16 | 8.42▲ | 7.57▲ | 12 | 2.3 |
| | 2 x 1¼ | 5P455 | 9.80 | 8.12▲ | 7.31▲ | 12 | 1.5 | 5P817 | 11.42 | 9.46▲ | 8.51▲ | 12 | 2.0 |
| | 2 x 1 | 5P456 | 9.77 | 8.09▲ | 7.28▲ | 14 | 1.4 | 5P818 | 11.30 | 9.36▲ | 8.43▲ | 5 | 1.4 |
| **90° Street Elbow** | 1/8 | 5P457 | 1.93 | 1.60▲ | 1.44▲ | 40 | 0.1 | 5P819 | 2.38 | 1.98▲ | 1.78▲ | 40 | 0.1 |
| | 1/4 | 5P458 | 1.93 | 1.60▲ | 1.44▲ | 30 | 0.1 | 5P820 | 2.31 | 1.91▲ | 1.72▲ | 30 | 0.1 |
| | 3/8 | 5P459 | 1.96 | 1.63▲ | 1.46▲ | 20 | 0.2 | 5P821 | 2.33 | 1.93▲ | 1.74▲ | 20 | 0.2 |
| | 1/2 | 5P460 | 1.96 | 1.63▲ | 1.46▲ | 75 | 0.2 | 5P822 | 2.31 | 1.91▲ | 1.72▲ | 25 | 0.1 |
| | 3/4 | 5P461 | 2.01 | 1.67▲ | 1.50▲ | 40 | 0.4 | 5P823 | 2.41 | 2.00▲ | 1.80▲ | 40 | 0.5 |
| | 1 | 5P462 | 2.72 | 2.26▲ | 2.03▲ | 14 | 0.7 | 5P824 | 3.29 | 2.73▲ | 2.46▲ | 15 | 0.7 |
| | 1¼ | 5P463 | 4.49 | 3.72▲ | 3.35▲ | 10 | 1.1 | 5P825 | 5.55 | 4.60▲ | 4.14▲ | 10 | 1.2 |
| | 1½ | 5P464 | 6.00 | 4.97▲ | 4.47▲ | 8 | 1.5 | 5P826 | 7.09 | 5.87▲ | 5.28▲ | 8 | 2.4 |
| | 2 | 5P465 | 9.00 | 7.46▲ | 6.72▲ | 10 | 2.7 | 5P827 | 11.05 | 9.16▲ | 8.25▲ | 10 | 2.8 |
| **45° Elbow** | 1/8 | 5P466 | 1.87 | 1.55▲ | 1.40▲ | 50 | 0.1 | 5P830 | 2.53 | 2.11▲ | 1.90▲ | 50 | 0.1 |
| | 1/4 | 5P467 | 1.90 | 1.57▲ | 1.41▲ | 35 | 0.1 | 5P831 | 2.24 | 1.86▲ | 1.67▲ | 35 | 0.1 |
| | 3/8 | 5P468 | 1.76 | 1.46▲ | 1.31▲ | 20 | 0.2 | 5P832 | 2.26 | 1.88▲ | 1.69▲ | 20 | 0.2 |
| | 1/2 | 5P469 | 1.20 | 1.00▲ | 0.90▲ | 75 | 0.2 | 5P833 | 1.37 | 1.13▲ | 1.02▲ | 75 | 0.1 |
| | 3/4 | 5P470 | 1.49 | 1.24▲ | 1.11▲ | 40 | 0.4 | 5P834 | 1.92 | 1.59▲ | 1.43▲ | 40 | 0.4 |
| | 1 | 5P471 | 2.27 | 1.89▲ | 1.70▲ | 24 | 0.6 | 5P835 | 2.89 | 2.39▲ | 2.15▲ | 25 | 0.6 |
| | 1¼ | 5P472 | 4.42 | 3.67▲ | 3.30▲ | 14 | 0.9 | 5P836 | 5.24 | 4.34▲ | 3.91▲ | 15 | 0.9 |
| | 1½ | 5P473 | 5.52 | 4.58▲ | 4.12▲ | 8 | 1.3 | 5P837 | 6.51 | 5.39▲ | 4.85▲ | 8 | 2.0 |
| | 2 | 5P474 | 7.65 | 6.35▲ | 5.72▲ | 6 | 2.0 | 5P838 | 8.86 | 7.33▲ | 6.60▲ | 6 | 2.4 |
| **Tee** | 1/2 | — | — | — | — | — | — | 5P839 | 2.49 | 2.07▲ | 1.86▲ | 25 | 0.1 |
| | 3/4 | — | — | — | — | — | — | 5P840 | 4.11 | 3.41▲ | 3.07▲ | 20 | 0.4 |
| **Tee** Run Run Tee | 1/8 | 5P475 | 1.77 | 1.47▲ | 1.32▲ | 25 | 0.3 | 5P841 | 2.57 | 2.14▲ | 1.92▲ | 25 | 0.3 |
| | 1/4 | 5P476 | 1.96 | 1.63▲ | 1.46▲ | 20 | 0.3 | 5P842 | 2.25 | 1.87▲ | 1.68▲ | 20 | 0.4 |
| | 3/8 | 5P477 | 2.01 | 1.67▲ | 1.50▲ | 15 | 0.5 | 5P843 | 2.30 | 1.91▲ | 1.72▲ | 15 | 0.5 |
| | 1/2 | 5P478 | 1.02 | 0.85▲ | 0.77▲ | 40 | 0.4 | 5P844 | 1.09 | 0.90▲ | 0.81▲ | 5 | 0.4 |
| | 3/4 | 5P479 | 1.46 | 1.21▲ | 1.09▲ | 20 | 0.6 | 5P845 | 1.64 | 1.36▲ | 1.22▲ | 20 | 0.7 |
| | 1 | 5P480 | 3.04 | 2.52▲ | 2.27▲ | 12 | 0.9 | 5P846 | 3.34 | 2.78▲ | 2.50▲ | 12 | 1.0 |
| | 1¼ | 5P481 | 5.39 | 4.47▲ | 4.03▲ | 8 | 1.5 | 5P847 | 6.19 | 5.14▲ | 4.62▲ | 8 | 1.5 |
| | 1½ | 5P482 | 6.74 | 5.59▲ | 5.03▲ | 4 | 2.0 | 5P848 | 7.90 | 6.55▲ | 5.90▲ | 5 | 2.5 |
| | 2 | 5P483 | 9.84 | 8.16▲ | 7.34▲ | 10 | 2.9 | 5P849 | 11.90 | 9.85▲ | 8.87▲ | 10 | 2.9 |
| Made in U.S.A. | 1/2 x 1/2 x 3/8 | 5P484 | 2.43 | 2.01▲ | 1.81▲ | 24 | 0.3 | 5P850 | 3.10 | 2.58▲ | 2.32▲ | 25 | 0.3 |
| | 1/2 x 1/2 x 1/4 | 5P485 | 2.01 | 1.67▲ | 1.50▲ | 10 | 0.5 | 5P851 | 2.65 | 2.20▲ | 1.98▲ | 10 | 0.3 |
| | 3/4 x 3/4 x 1/2 | 5P486 | 2.55 | 2.11▲ | 1.90▲ | 20 | 0.5 | 5P852 | 3.22 | 2.67▲ | 2.40▲ | 20 | 0.5 |
| | 3/4 x 3/4 x 3/8 | 5P487 | 2.66 | 2.20▲ | 1.98▲ | 30 | 0.4 | 5P853 | 3.31 | 2.75▲ | 2.48▲ | 30 | 0.4 |
| | 3/4 x 3/4 x 1/4 | 5P488 | 2.85 | 2.36▲ | 2.13▲ | 34 | 0.4 | 5P854 | 3.30 | 2.74▲ | 2.47▲ | 35 | 0.4 |
| | 3/4 x 1/2 x 3/4 | 5P489 | 2.59 | 2.15▲ | 1.94▲ | 20 | 0.6 | 5P855 | 3.37 | 2.79▲ | 2.51▲ | 20 | 1.4 |
| | 3/4 x 1/2 x 1/2 | 5P490 | 2.37 | 1.96▲ | 1.77▲ | 34 | 0.5 | 5P856 | 3.24 | 2.69▲ | 2.42▲ | 35 | 0.5 |
| | 1/2 x 1/2 x 3/4 | 5P491 | 2.57 | 2.13▲ | 1.92▲ | 30 | 0.5 | 5P857 | 3.66 | 3.04▲ | 2.73▲ | 30 | 0.5 |
| | 1 x 1 x 3/4 | 5P492 | 2.97 | 2.47▲ | 2.23▲ | 14 | 0.9 | 5P858 | 3.92 | 3.25▲ | 2.92▲ | 15 | 0.9 |
| | 1 x 1 x 1/2 | 5P493 | 2.93 | 2.43▲ | 2.19▲ | 14 | 0.7 | 5P859 | 3.92 | 3.25▲ | 2.93▲ | 15 | 0.8 |
| | 1 x 3/4 x 1 | 5P494 | 3.43 | 2.84▲ | 2.55▲ | 14 | 0.9 | 5P860 | 5.14 | 4.26▲ | 3.83▲ | 15 | 0.9 |

(▲) Net prices, not subject to discount.

CONTINUED ON NEXT PAGE

# GRINNELL MALLEABLE IRON AND STEEL FITTINGS

| Description | Pipe Size (In.) Run x Run x Tee | Black Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. | Galvanized Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tee (Cont.)** | 1 x 3/4 x 3/4 | 5P495 | $3.22 | $2.67▲ | $2.40▲ | 14 | 0.9 | 5P861 | $5.14 | $4.26▲ | $3.83▲ | 15 | 0.9 |
| | 1 x 3/4 x 1/2 | 5P496 | 3.18 | 2.64▲ | 2.37▲ | 20 | 0.6 | 5P862 | 5.10 | 4.23▲ | 3.81▲ | 20 | 0.7 |
| | 1 x 1/2 x 1 | 5P497 | 3.42 | 2.83▲ | 2.55▲ | 14 | 0.8 | 5P863 | 5.11 | 4.24▲ | 3.82▲ | 15 | 0.8 |
| | 3/4 x 3/4 x 1 | 5P498 | 3.45 | 2.85▲ | 2.56▲ | 14 | 0.7 | 5P864 | 5.10 | 4.23▲ | 3.81▲ | 15 | 0.7 |
| Run Run | 1¼ x 1¼ x 1 | 5P499 | 5.81 | 4.81▲ | 4.33▲ | 20 | 1.3 | 5P865 | 6.29 | 5.20▲ | 4.68▲ | 20 | 1.3 |
| | 1¼ x 1¼ x 3/4 | 5P500 | 5.74 | 4.75▲ | 4.28▲ | 8 | 1.1 | 5P866 | 6.29 | 5.20▲ | 4.68▲ | 8 | 1.3 |
| | 1¼ x 1¼ x 1/2 | 5P501 | 6.48 | 5.38▲ | 4.84▲ | 10 | 1.0 | 5P867 | 6.96 | 5.76▲ | 5.19▲ | 10 | 1.1 |
| | 1 x 1 x 1¼ | 5P502 | 6.43 | 5.32▲ | 4.79▲ | 10 | 1.2 | 5P868 | 8.12 | 6.73▲ | 6.05▲ | 10 | 1.2 |
| Tee | 1½ x 1½ x 1¼ | 5P503 | 8.75 | 7.24▲ | 6.52▲ | 6 | 1.5 | 5P869 | 8.27 | 6.86▲ | 6.17▲ | 6 | 1.7 |
| | 1½ x 1½ x 1 | 5P504 | 7.23 | 6.00▲ | 5.40▲ | 6 | 1.3 | 5P870 | 7.30 | 6.05▲ | 5.44▲ | 6 | 1.5 |
| | 2 x 2 x 1½ | 5P505 | 11.94 | 9.89▲ | 8.90▲ | 10 | 2.7 | 5P871 | 15.83 | 13.11▲ | 11.80▲ | 5 | 2.7 |
| | 2 x 2 x 1¼ | 5P506 | 11.86 | 9.83▲ | 8.85▲ | 10 | 2.4 | 5P872 | 15.88 | 13.15▲ | 11.84▲ | 5 | 2.4 |
| **Hex Bushing** | 1/4 x 1/8 | 5P507* | 0.41 | 1.32▲ | 0.31▲ | 100 | 0.1 | 5P874* | 0.56 | 0.46▲ | 0.42▲ | 100 | 0.1 |
| | 3/8 x 1/8 | 5P508* | 0.47 | 0.40▲ | 0.36▲ | 100 | 0.1 | 5P875* | 0.62 | 0.52▲ | 0.47▲ | 100 | 0.1 |
| | 3/8 x 1/4 | 5P509* | 0.46 | 0.39▲ | 0.35▲ | 100 | 0.1 | 5P876* | 0.62 | 0.52▲ | 0.46▲ | 100 | 0.1 |
| | 1/2 x 1/8 | 5P510* | 0.72 | 0.60▲ | 0.54▲ | 100 | 0.1 | 5P877* | 0.98 | 0.82▲ | 0.74▲ | 100 | 0.1 |
| | 1/2 x 1/4 | 5P511* | 0.73 | 0.61▲ | 0.54▲ | 100 | 0.1 | 5P878* | 0.97 | 0.81▲ | 0.73▲ | 100 | 0.1 |
| | 1/2 x 3/8 | 5P512* | 0.73 | 0.61▲ | 0.54▲ | 100 | 0.1 | 5P879* | 0.97 | 0.81▲ | 0.73▲ | 100 | 0.1 |
| | 3/4 x 1/4 | 5P513* | 1.44 | 1.20▲ | 1.08▲ | 50 | 0.2 | 5P880 | 2.63 | 2.18▲ | 1.96▲ | 25 | 0.4 |
| | 3/4 x 3/8 | 5P514* | 1.45 | 1.21▲ | 1.09▲ | 50 | 0.1 | 5P881 | 2.88 | 2.39▲ | 2.15▲ | 25 | 0.3 |
| | 3/4 x 1/2 | 5P515* | 1.41 | 1.17▲ | 1.06▲ | 50 | 0.1 | 5P882 | 2.40 | 1.99▲ | 1.79▲ | 25 | 0.1 |
| | 1 x 3/8 | 5P516 | 1.97 | 1.63▲ | 1.47▲ | 25 | 0.2 | 5P883 | 4.85 | 4.02▲ | 3.62▲ | 25 | 0.2 |
| | 1 x 1/2 | 5P517 | 1.59 | 1.32▲ | 1.19▲ | 50 | 0.2 | 5P884 | 2.98 | 2.48▲ | 2.23▲ | 25 | 0.2 |
| | 1 x 3/4 | 5P518 | 1.58 | 1.31▲ | 1.18▲ | 50 | 0.2 | 5P885 | 2.98 | 2.48▲ | 2.23▲ | 25 | 0.2 |
| Grinnell CORPORATION | 1¼ x 1/2 | 5P519 | 2.51 | 2.09▲ | 1.88▲ | 35 | 0.4 | 5P886 | 4.02 | 3.34▲ | 3.00▲ | 35 | 0.4 |
| | 1¼ x 3/4 | 5P520 | 2.51 | 2.09▲ | 1.88▲ | 25 | 0.4 | 5P887 | 3.83 | 3.18▲ | 2.86▲ | 35 | 0.4 |
| | 1¼ x 1 | 5P521 | 2.37 | 1.97▲ | 1.78▲ | 50 | 0.3 | 5P888 | 3.81 | 3.16▲ | 2.84▲ | 25 | 0.3 |
| | 1½ x 1/2 | 5P522 | 2.77 | 2.30▲ | 2.07▲ | 25 | 0.1 | 5P889 | 5.83 | 4.84▲ | 4.36▲ | 25 | 0.1 |
| | 1½ x 3/4 | 5P523 | 2.77 | 2.30▲ | 2.07▲ | 25 | 0.1 | 5P890 | 5.83 | 4.84▲ | 4.36▲ | 20 | 0.1 |
| Made In U.S.A. | 1½ x 1 | 5P524 | 2.68 | 2.22▲ | 1.99▲ | 25 | 0.5 | 5P891 | 5.83 | 4.84▲ | 4.36▲ | 25 | 0.1 |
| | 1½ x 1¼ | 5P525 | 2.99 | 2.49▲ | 2.24▲ | 30 | 0.3 | 5P892 | 3.98 | 3.80▲ | 3.42▲ | 30 | 0.3 |
| | 2 x 1/2 | 5P526 | 4.23 | 3.50▲ | 3.15▲ | 20 | 0.2 | 5P893 | 5.89 | 5.61▲ | 5.05▲ | 15 | 0.2 |
| | 2 x 3/4 | 5P527 | 3.36 | 2.79▲ | 2.51▲ | 20 | 0.7 | 5P894 | 5.89 | 5.61▲ | 5.05▲ | 15 | 0.2 |
| | 2 x 1 | 5P528 | 3.37 | 2.79▲ | 2.51▲ | 20 | 0.2 | 5P895 | 5.89 | 5.61▲ | 5.05▲ | 15 | 0.2 |
| | 2 x 1¼ | 5P529 | 3.37 | 2.79▲ | 2.51▲ | 20 | 0.2 | 5P896 | 5.89 | 5.61▲ | 5.05▲ | 15 | 0.2 |
| | 2 x 1½ | 5P530 | 3.85 | 3.20▲ | 2.88▲ | 20 | 0.7 | 5P897 | 4.70 | 4.48▲ | 4.03▲ | 20 | 0.7 |
| **Pipe Cap** | 1/8 | 5P531* | 0.68 | 0.57▲ | 0.52▲ | 100 | 0.1 | 5P898* | 0.67 | 0.64▲ | 0.57▲ | 100 | 0.1 |
| | 1/4 | 5P532* | 0.74 | 0.61▲ | 0.55▲ | 100 | 0.1 | 5P899* | 0.71 | 0.68▲ | 0.61▲ | 100 | 0.1 |
| | 3/8 | 5P533* | 0.98 | 0.82▲ | 0.74▲ | 100 | 0.1 | 5P900* | 1.15 | 1.10▲ | 0.99▲ | 100 | 0.1 |
| | 1/2 | 5P534 | 0.81 | 0.68▲ | 0.61▲ | 75 | 0.1 | 5P901 | 0.77 | 0.73▲ | 0.65▲ | 75 | 0.1 |
| | 3/4 | 5P535 | 1.10 | 0.91▲ | 0.82▲ | 60 | 0.1 | 5P902 | 1.16 | 1.11▲ | 1.00▲ | 60 | 0.2 |
| | 1 | 5P536 | 1.37 | 1.14▲ | 1.03▲ | 35 | 0.4 | 5P903 | 1.31 | 1.25▲ | 1.12▲ | 35 | 0.4 |
| | 1¼ | 5P537 | 2.17 | 1.80▲ | 1.62▲ | 25 | 0.6 | 5P904 | 2.44 | 2.33▲ | 2.10▲ | 25 | 0.6 |
| | 1½ | 5P538 | 2.97 | 2.47▲ | 2.22▲ | 20 | 0.8 | 5P905 | 3.12 | 2.98▲ | 2.68▲ | 20 | 0.8 |
| | 2 | 5P539 | 3.89 | 3.23▲ | 2.91▲ | 12 | 1.1 | 5P906 | 4.04 | 3.85▲ | 3.47▲ | 12 | 1.4 |
| **Square Head Pipe Plug** | 1/8 | 5P540* | 0.20 | 0.17▲ | 0.15▲ | 50 | 0.1 | 5P907* | 0.19 | 0.18▲ | 0.17▲ | 100 | 0.1 |
| | 1/4 | 5P541* | 0.26 | 0.21▲ | 0.19▲ | 50 | 0.1 | 5P908* | 0.25 | 0.24▲ | 0.22▲ | 100 | 0.1 |
| | 3/8 | 5P542* | 0.34 | 0.28▲ | 0.25▲ | 50 | 0.1 | 5P909* | 0.33 | 0.31▲ | 0.28▲ | 100 | 0.1 |
| | 1/2 | 5P543* | 0.51 | 0.43▲ | 0.38▲ | 50 | 0.1 | 5P910* | 0.39 | 0.37▲ | 0.34▲ | 100 | 0.1 |
| | 3/4 | 5P544 | 0.77 | 0.64▲ | 0.57▲ | 25 | 0.2 | 5P911 | 1.20 | 1.15▲ | 1.03▲ | 100 | 0.1 |
| | 1 | 5P545 | 0.85 | 0.71▲ | 0.63▲ | 60 | 0.3 | 5P912 | 0.97 | 0.92▲ | 0.83▲ | 60 | 0.3 |
| | 1¼ | 5P546 | 1.33 | 1.10▲ | 0.99▲ | 30 | 0.5 | 5P913 | 2.31 | 2.20▲ | 1.98▲ | 30 | 0.2 |
| | 1½ | 5P547 | 1.99 | 1.65▲ | 1.49▲ | 25 | 0.5 | 5P914 | 3.13 | 2.99▲ | 2.69▲ | 25 | 0.2 |
| | 2 | 5P548 | 2.56 | 2.12▲ | 1.91▲ | 15 | 0.8 | 5P915 | 4.23 | 4.03▲ | 3.63▲ | 15 | 0.3 |
| **Right Hand Coupling** | 1/8 | 5P549 | 1.39 | 1.15▲ | 1.04▲ | 40 | 0.1 | 5P916 | 1.73 | 1.65▲ | 1.48▲ | 40 | 0.1 |
| | 1/4 | 5P550 | 1.60 | 1.33▲ | 1.20▲ | 35 | 0.1 | 5P917 | 1.70 | 1.63▲ | 1.46▲ | 35 | 0.1 |
| | 3/8 | 5P551 | 1.60 | 1.33▲ | 1.19▲ | 30 | 0.2 | 5P918 | 1.70 | 1.63▲ | 1.46▲ | 30 | 0.1 |
| | 1/2 | 5P552 | 1.32 | 1.10▲ | 0.99▲ | 20 | 0.2 | 5P919 | 1.40 | 1.33▲ | 1.20▲ | 20 | 0.2 |
| | 3/4 | 5P553 | 1.59 | 1.32▲ | 1.19▲ | 60 | 0.3 | 5P920 | 1.63 | 1.55▲ | 1.40▲ | 60 | 0.3 |
| | 1 | 5P554 | 2.04 | 1.70▲ | 1.53▲ | 25 | 0.3 | 5P921 | 2.67 | 2.55▲ | 2.29▲ | 25 | 0.5 |
| | 1¼ | 5P555 | 3.16 | 2.63▲ | 2.36▲ | 15 | 0.9 | 5P922 | 3.69 | 3.52▲ | 3.17▲ | 15 | 0.7 |
| | 1½ | 5P556 | 4.17 | 3.45▲ | 3.11▲ | 10 | 1.0 | 5P923 | 4.29 | 4.09▲ | 3.68▲ | 10 | 1.1 |
| | 2 | 5P557 | 6.32 | 5.24▲ | 4.71▲ | 5 | 2.3 | 5P924 | 6.24 | 5.95▲ | 5.36▲ | 5 | 1.6 |
| **Reducer Coupling** | 1/4 x 1/8 | 5P558 | 1.55 | 1.29▲ | 1.16▲ | 25 | 0.1 | 5P925 | 1.61 | 1.53▲ | 1.38▲ | 25 | 0.1 |
| | 3/8 x 1/4 | 5P559 | 1.55 | 1.29▲ | 1.16▲ | 25 | 0.1 | 5P926 | 1.61 | 1.53▲ | 1.38▲ | 25 | 0.1 |
| | 3/8 x 1/8 | 5P560 | 1.72 | 1.43▲ | 1.29▲ | 30 | 0.1 | 5P927 | 1.93 | 1.85▲ | 1.67▲ | 30 | 0.1 |
| | 1/2 x 3/8 | 5P561 | 1.36 | 1.13▲ | 1.02▲ | 25 | 0.2 | 5P928 | 1.40 | 1.33▲ | 1.20▲ | 25 | 0.2 |
| | 1/2 x 1/4 | 5P562 | 1.41 | 1.17▲ | 1.05▲ | 25 | 0.1 | 5P929 | 1.45 | 1.37▲ | 1.24▲ | 25 | 0.2 |
| | 1/2 x 1/8 | 5P563 | 1.56 | 1.30▲ | 1.17▲ | 20 | 0.2 | 5P930 | 1.81 | 1.73▲ | 1.56▲ | 20 | 0.2 |
| | 3/4 x 1/2 | 5P564 | 1.59 | 1.32▲ | 1.19▲ | 60 | 0.3 | 5P931 | 1.64 | 1.57▲ | 1.41▲ | 60 | 0.3 |
| | 3/4 x 3/8 | 5P565 | 1.80 | 1.49▲ | 1.34▲ | 50 | 0.3 | 5P932 | 1.85 | 1.76▲ | 1.58▲ | 50 | 0.3 |
| | 3/4 x 1/4 | 5P566 | 1.77 | 1.47▲ | 1.32▲ | 12 | 0.2 | 5P933 | 1.85 | 1.76▲ | 1.58▲ | 12 | 0.3 |
| | 1 x 3/4 | 5P567 | 2.15 | 1.78▲ | 1.60▲ | 35 | 0.5 | 5P934 | 2.18 | 2.09▲ | 1.88▲ | 35 | 0.5 |
| | 1 x 1/2 | 5P568 | 2.44 | 2.02▲ | 1.82▲ | 45 | 0.4 | 5P935 | 2.35 | 2.23▲ | 2.01▲ | 45 | 0.4 |
| | 1¼ x 1 | 5P569 | 3.11 | 2.58▲ | 2.32▲ | 20 | 0.7 | 5P936 | 3.50 | 3.34▲ | 3.01▲ | 20 | 0.7 |
| | 1¼ x 3/4 | 5P570 | 3.11 | 2.58▲ | 2.32▲ | 20 | 0.7 | 5P937 | 3.50 | 3.34▲ | 3.01▲ | 20 | 0.7 |
| | 1¼ x 1/2 | 5P571 | 3.53 | 2.93▲ | 2.64▲ | 15 | 0.6 | 5P938 | 4.30 | 4.09▲ | 3.69▲ | 15 | 0.7 |
| | 1½ x 1¼ | 5P572 | 3.97 | 3.29▲ | 2.96▲ | 10 | 1.0 | 5P939 | 4.30 | 4.10▲ | 3.69▲ | 10 | 1.0 |
| | 1½ x 1 | 5P573 | 4.52 | 3.74▲ | 3.37▲ | 15 | 0.9 | 5P940 | 4.53 | 4.32▲ | 3.89▲ | 15 | 1.0 |

(▲) Net prices, not subject to discounts. (*) Steel construction.

CONTINUED ON NEXT PAGE

# GRINNELL MALLEABLE AND CAST IRON FITTINGS AND SCHEDULE 40 WELDED STEEL NIPPLES

| Description | Pipe x Pipe (In.) | Black Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. | Galvanized Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Reducer Coupling (Cont.)** | 1½ x 3/4 | 5P574 | $5.10 | $4.23▲ | $3.81▲ | 15 | 1.0 | 5P941 | $4.53 | $4.32▲ | $3.89▲ | 15 | 1.0 |
| | 1½ x 1/2 | 5P575 | 4.50 | 3.72▲ | 3.35▲ | 15 | 0.8 | 5P942 | 5.07 | 4.84▲ | 4.36▲ | 15 | 0.9 |
| | 2 x 1½ | 5P576 | 5.90 | 4.89▲ | 4.40▲ | 5 | 2.0 | 5P943 | 6.36 | 6.05▲ | 5.45▲ | 5 | 2.1 |
| | 2 x 1¼ | 5P577 | 6.67 | 5.53▲ | 4.98▲ | 5 | 2.0 | 5P944 | 6.68 | 6.37▲ | 5.73▲ | 5 | 2.0 |
| | 2 x 1 | 5P578 | 6.30 | 5.22▲ | 4.70▲ | 5 | 1.8 | 5P945 | 6.29 | 5.99▲ | 5.39▲ | 5 | 1.8 |
| **Union** Grinnell CORPORATION | 1/8 | 5P588 | 6.22 | 5.15▲ | 4.64▲ | 10 | 0.2 | 5P955 | 6.28 | 5.99▲ | 5.39▲ | 10 | 0.2 |
| | 1/4 | 5P589 | 4.74 | 3.93▲ | 3.53▲ | 20 | 0.5 | 5P956 | 4.66 | 4.44▲ | 4.00▲ | 20 | 0.5 |
| | 3/8 | 5P590 | 4.25 | 3.52▲ | 3.17▲ | 20 | 0.4 | 5P957 | 4.19 | 4.00▲ | 3.60▲ | 20 | 0.4 |
| | 1/2 | 5P591 | 3.87 | 3.21▲ | 2.89▲ | 20 | 0.4 | 5P958 | 3.93 | 3.74▲ | 3.37▲ | 20 | 0.5 |
| | 3/4 | 5P592 | 4.05 | 3.36▲ | 3.02▲ | 30 | 0.6 | 5P959 | 4.03 | 3.84▲ | 3.45▲ | 30 | 0.6 |
| | 1 | 5P593 | 5.13 | 4.25▲ | 3.83▲ | 15 | 1.0 | 5P960 | 5.13 | 4.89▲ | 4.40▲ | 20 | 1.0 |
| | 1¼ | 5P594 | 8.97 | 7.44▲ | 6.69▲ | 85 | 1.5 | 5P961 | 8.66 | 8.25▲ | 7.42▲ | 15 | 1.5 |
| | 1½ | 5P595 | 10.10 | 8.37▲ | 7.53▲ | 15 | 1.8 | 5P962 | 10.68 | 10.17▲ | 9.15▲ | 10 | 1.8 |
| | 2 | 5P596 | 13.72 | 11.36▲ | 10.23▲ | 6 | 2.7 | 5P963 | 13.23 | 12.60▲ | 11.34▲ | 10 | 0.9 |
| | 3/4 x 1/2 | — | — | — | — | — | — | 5P964 | 5.61 | 5.35▲ | 4.81▲ | 10 | 1.8 |
| **Floor Flange** | 1/4 | 5P597* | 3.80 | 3.16▲ | 2.84▲ | 10 | 0.3 | 5P965* | 3.66 | 3.49▲ | 3.14▲ | 10 | 0.4 |
| | 3/8 | 5P598* | 3.80 | 3.16▲ | 2.84▲ | 10 | 0.3 | 5P966* | 3.62 | 3.45▲ | 3.10▲ | 10 | 0.2 |
| | 1/2 | 5P599 | 4.08 | 3.38▲ | 3.04▲ | 30 | 0.6 | 5P967 | 3.89 | 3.70▲ | 3.33▲ | 30 | 0.6 |
| | 3/4 | 5P600 | 3.40 | 2.81▲ | 2.53▲ | 20 | 0.6 | 5P968 | 4.00 | 3.82▲ | 3.43▲ | 20 | 0.7 |
| | 1 | 5P601 | 3.94 | 3.26▲ | 2.93▲ | 15 | 0.9 | 5P969 | 4.53 | 4.32▲ | 3.88▲ | 15 | 0.9 |
| | 1¼ | 5P602 | 5.88 | 4.87▲ | 4.39▲ | 25 | 1.0 | 5P970 | 5.67 | 5.40▲ | 4.86▲ | 10 | 1.0 |
| | 1½ | 5P603 | 6.89 | 5.71▲ | 5.14▲ | 10 | 1.2 | 5P971 | 6.62 | 6.30▲ | 5.67▲ | 10 | 1.3 |
| | 2 | 5P604 | 7.95 | 6.59▲ | 5.93▲ | 15 | 2.1 | 5P972 | 7.64 | 7.28▲ | 6.55▲ | 15 | 2.1 |
| **Wrot Steel Merchant Pipe Coupling** | 1/8 | 5P579 | 0.83 | 0.69▲ | 0.63▲ | 100 | 0.1 | 5P946 | 0.89 | 0.85▲ | 0.76▲ | 100 | 0.1 |
| | 1/4 | 5P580 | 1.15 | 0.95▲ | 0.86▲ | 100 | 0.1 | 5P947 | 1.37 | 1.31▲ | 1.18▲ | 100 | 0.1 |
| | 3/8 | 5P581 | 1.37 | 1.13▲ | 1.02▲ | 100 | 0.1 | 5P948 | 1.46 | 1.40▲ | 1.26▲ | 50 | 0.1 |
| | 1/2 | 5P582 | 1.41 | 1.16▲ | 1.05▲ | 100 | 0.2 | 5P949 | 1.48 | 1.42▲ | 1.28▲ | 50 | 0.2 |
| | 3/4 | 5P583 | 1.80 | 1.49▲ | 1.34▲ | 50 | 0.3 | 5P950 | 1.88 | 1.79▲ | 1.61▲ | 50 | 0.3 |
| | 1 | 5P584 | 2.19 | 1.81▲ | 1.63▲ | 25 | 0.4 | 5P951 | 2.63 | 2.51▲ | 2.26▲ | 25 | 0.4 |
| | 1¼ | 5P585 | 3.24 | 2.69▲ | 2.42▲ | 25 | 0.5 | 5P952 | 3.37 | 3.21▲ | 2.89▲ | 25 | 0.5 |
| | 1½ | 5P586 | 4.43 | 3.67▲ | 3.30▲ | 25 | 0.7 | 5P953 | 4.20 | 4.00▲ | 3.60▲ | 25 | 0.7 |
| | 2 | 5P587 | 5.83 | 4.84▲ | 4.35▲ | 15 | 0.8 | 5P954 | 6.30 | 6.01▲ | 5.41▲ | 15 | 1.1 |
| **Hex Locknut** Made in U.S.A. | 1/4 | — | — | — | — | — | — | 5P977 | 0.90 | 0.86▲ | 0.78▲ | 50 | 0.1 |
| | 3/8 | — | — | — | — | — | — | 5P978 | 1.06 | 1.01▲ | 0.91▲ | 50 | 0.1 |
| | 1/2 | — | — | — | — | — | — | 5P979 | 0.92 | 0.88▲ | 0.79▲ | 50 | 0.2 |
| | 3/4 | — | — | — | — | — | — | 5P980 | 1.19 | 1.14▲ | 1.02▲ | 50 | 0.3 |
| | 1 | — | — | — | — | — | — | 5P981 | 2.17 | 2.07▲ | 1.86▲ | 25 | 0.2 |
| | 1¼ | — | — | — | — | — | — | 5P982 | 1.99 | 1.90▲ | 1.71▲ | 25 | 0.2 |
| | 1½ | — | — | — | — | — | — | 5P983 | 2.58 | 2.46▲ | 2.21▲ | 15 | 0.2 |
| | 2 | — | — | — | — | — | — | 5P984 | 4.57 | 4.35▲ | 3.92▲ | 25 | 0.4 |
| **Cross** | 1/2 | — | — | — | — | — | — | 5P985 | 4.64 | 4.42▲ | 3.98▲ | 15 | 0.2 |
| | 3/4 | — | — | — | — | — | — | 5P986 | 5.69 | 5.41▲ | 4.87▲ | 15 | 0.7 |

(*) Cast iron construction.

## WELDED STEEL STANDARD SCHEDULE 40 NIPPLES

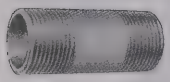
- Black and galvanized
- Both ends threaded NPT threads
- Manufacturing conforms to ASTM A-733
- Material Specifications conform to ASTM-A-53 Type E or F
- Federal Specification is WWN 351
- When used in conjunction with standard malleable iron fittings and unions, nipples have compatible steam and WOG working pressure

| Description | Pipe x Pipe (In.) | Black Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. | Galvanized Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pipe Nipple** | 1/8 x Close | 5P605 | $0.41 | $0.34▲ | $0.30▲ | 25 | 0.1 | 5P987 | $0.54 | $0.51▲ | $0.46▲ | 25 | 0.1 |
| | 1/8 x 1½ | 5P606 | 0.43 | 0.37▲ | 0.33▲ | 25 | 0.1 | 5P988 | 0.57 | 0.55▲ | 0.49▲ | 25 | 0.1 |
| | 1/8 x 2 | 5P607 | 0.46 | 0.39▲ | 0.35▲ | 25 | 0.1 | 5P989 | 0.59 | 0.57▲ | 0.51▲ | 25 | 0.1 |
| | 1/8 x 2½ | 5P608 | 0.48 | 0.40▲ | 0.36▲ | 25 | 0.1 | 5P990 | 0.63 | 0.60▲ | 0.54▲ | 25 | 0.1 |
| | 1/8 x 3 | 5P609 | 0.52 | 0.43▲ | 0.39▲ | 25 | 0.1 | 5P991 | 0.72 | 0.69▲ | 0.62▲ | 25 | 0.1 |
| | 1/8 x 3½ | 5P610 | 0.71 | 0.59▲ | 0.53▲ | 25 | 0.1 | 5P992 | 0.82 | 0.79▲ | 0.71▲ | 25 | 0.1 |
| | 1/8 x 4 | 5P611 | 0.67 | 0.56▲ | 0.50▲ | 25 | 0.1 | 5P993 | 0.89 | 0.85▲ | 0.77▲ | 25 | 0.1 |
| | 1/8 x 4½ | 5P612 | 0.76 | 0.64▲ | 0.58▲ | 25 | 0.1 | 5P994 | 1.02 | 0.98▲ | 0.88▲ | 25 | 0.1 |
| | 1/8 x 5 | 5P613 | 1.01 | 0.84▲ | 0.76▲ | 25 | 0.1 | 5P995 | 1.33 | 1.27▲ | 1.14▲ | 25 | 0.1 |
| | 1/8 x 5½ | 5P614 | 1.09 | 0.91▲ | 0.82▲ | 25 | 0.1 | 5P996 | 1.43 | 1.37▲ | 1.23▲ | 25 | 0.1 |
| Grinnell CORPORATION | 1/8 x 6 | 5P615 | 1.16 | 0.97▲ | 0.87▲ | 25 | 0.1 | 5P997 | 1.62 | 1.54▲ | 1.39▲ | 25 | 0.1 |
| | 1/8 x 8 | 5P616 | 1.50 | 1.25▲ | 1.12▲ | 25 | 0.2 | 5P998 | 1.93 | 1.84▲ | 1.65▲ | 25 | 0.2 |
| | 1/8 x 10 | 5P617 | 1.71 | 1.42▲ | 1.28▲ | 25 | 0.2 | 5P999 | 2.20 | 2.10▲ | 1.89▲ | 25 | 0.2 |
| | 1/8 x 12 | 5P618 | 1.84 | 1.53▲ | 1.38▲ | 25 | 0.2 | 6P933 | 2.42 | 2.31▲ | 2.08▲ | 25 | 0.2 |
| | 1/4 x Close | 5P619 | 0.48 | 0.40▲ | 0.36▲ | 25 | 0.1 | 6P756 | 0.57 | 0.55▲ | 0.49▲ | 25 | 0.1 |
| Made in U.S.A. | 1/4 x 1½ | 5P620 | 0.48 | 0.40▲ | 0.36▲ | 25 | 0.1 | 6P757 | 0.58 | 0.56▲ | 0.50▲ | 25 | 0.1 |
| | 14 x 2 | 5P621 | 0.48 | 0.40▲ | 0.36▲ | 25 | 0.1 | 6P758 | 0.62 | 0.59▲ | 0.53▲ | 25 | 0.1 |
| | 1/4 x 2½ | 5P622 | 0.56 | 0.46▲ | 0.42▲ | 25 | 0.1 | 6P759 | 0.70 | 0.67▲ | 0.60▲ | 25 | 0.1 |
| | 1/4 x 3 | 5P623 | 0.61 | 0.51▲ | 0.46▲ | 25 | 0.1 | 6P760 | 0.76 | 0.72▲ | 0.65▲ | 25 | 0.1 |
| | 1/4 x 3½ | 5P624 | 0.68 | 0.57▲ | 0.51▲ | 25 | 0.1 | 6P761 | 0.84 | 0.81▲ | 0.73▲ | 25 | 0.1 |

▲) Net prices, not subject to discounts.

CONTINUED ON NEXT PAGE

# GRINNELL SCHEDULE 40 WELDED STEEL NIPPLES



Grinnell CORPORATION

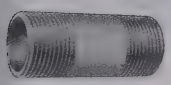
Made in U.S.A.

| Description | Pipe x Pipe (In.) | Black Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. | Galvanized Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe Nipple (Cont.) | 1/4 x 4 | 5P625 | $0.76 | $0.64 ▲ | $0.58 ▲ | 25 | 0.1 | 6P762 | $0.93 | $0.88 ▲ | $0.79 ▲ | 25 | 0.1 |
| | 1/4 x 4½ | 5P626 | 0.90 | 0.75 ▲ | 0.68 ▲ | 25 | 0.1 | 6P763 | 1.06 | 1.01 ▲ | 0.91 ▲ | 25 | 0.1 |
| | 1/4 x 5 | 5P627 | 1.23 | 1.02 ▲ | 0.92 ▲ | 25 | 0.2 | 6P764 | 1.50 | 1.43 ▲ | 1.29 ▲ | 25 | 0.2 |
| | 1/4 x 5½ | 5P628 | 1.30 | 1.08 ▲ | 0.97 ▲ | 25 | 0.2 | 6P765 | 1.57 | 1.50 ▲ | 1.35 ▲ | 25 | 0.2 |
| | 1/4 x 6 | 5P629 | 1.42 | 1.18 ▲ | 1.06 ▲ | 25 | 0.2 | 6P766 | 1.69 | 1.62 ▲ | 1.46 ▲ | 25 | 0.2 |
| | 1/4 x 8 | 5P630 | 1.76 | 1.47 ▲ | 1.32 ▲ | 25 | 0.3 | 6P767 | 2.09 | 2.00 ▲ | 1.80 ▲ | 25 | 0.3 |
| | 1/4 x 10 | 5P631 | 2.01 | 1.67 ▲ | 1.50 ▲ | 25 | 0.3 | 6P768 | 2.38 | 2.27 ▲ | 2.04 ▲ | 25 | 0.3 |
| | 1/4 x 12 | 5P632 | 2.17 | 1.81 ▲ | 1.63 ▲ | 25 | 0.4 | 6P769 | 2.59 | 2.47 ▲ | 2.22 ▲ | 25 | 0.4 |
| | 3/8 x Close | 5P633 | 0.49 | 0.41 ▲ | 0.37 ▲ | 25 | 0.1 | 6P770 | 0.60 | 0.58 ▲ | 0.52 ▲ | 25 | 0.1 |
| | 3/8 x 1½ | 5P634 | 0.54 | 0.45 ▲ | 0.41 ▲ | 25 | 0.1 | 6P771 | 0.64 | 0.61 ▲ | 0.55 ▲ | 25 | 0.1 |
| | 3/8 x 2 | 5P635 | 0.56 | 0.46 ▲ | 0.42 ▲ | 25 | 0.1 | 6P772 | 0.68 | 0.65 ▲ | 0.59 ▲ | 25 | 0.1 |
| | 3/8 x 2½ | 5P636 | 0.63 | 0.53 ▲ | 0.47 ▲ | 25 | 0.1 | 6P773 | 0.75 | 0.71 ▲ | 0.64 ▲ | 25 | 0.1 |
| | 3/8 x 3 | 5P637 | 0.83 | 0.69 ▲ | 0.62 ▲ | 25 | 0.1 | 6P774 | 0.84 | 0.81 ▲ | 0.73 ▲ | 25 | 0.1 |
| | 3/8 x 3½ | 5P638 | 0.79 | 0.66 ▲ | 0.60 ▲ | 25 | 0.1 | 6P775 | 0.89 | 0.85 ▲ | 0.77 ▲ | 25 | 0.1 |
| | 3/8 x 4 | 5P639 | 0.83 | 0.69 ▲ | 0.62 ▲ | 25 | 0.2 | 6P776 | 1.06 | 1.01 ▲ | 0.91 ▲ | 25 | 0.2 |
| | 3/8 x 4½ | 5P640 | 0.97 | 0.81 ▲ | 0.73 ▲ | 25 | 0.5 | 6P777 | 1.20 | 1.14 ▲ | 1.03 ▲ | 25 | 0.2 |
| | 3/8 x 5 | 5P641 | 1.30 | 1.08 ▲ | 0.97 ▲ | 25 | 0.2 | 6P778 | 1.57 | 1.50 ▲ | 1.35 ▲ | 25 | 0.2 |
| | 3/8 x 5½ | 5P642 | 1.38 | 1.14 ▲ | 1.02 ▲ | 25 | 0.2 | 6P779 | 1.69 | 1.62 ▲ | 1.46 ▲ | 25 | 0.2 |
| | 3/8 x 6 | 5P643 | 1.49 | 1.24 ▲ | 1.11 ▲ | 25 | 0.3 | 6P780 | 1.80 | 1.71 ▲ | 1.54 ▲ | 25 | 0.3 |
| | 3/8 x 7 | 5P644 | 1.74 | 1.44 ▲ | 1.29 ▲ | 25 | 0.3 | 6P781 | 2.08 | 1.98 ▲ | 1.79 ▲ | 25 | 0.3 |
| | 3/8 x 8 | 5P645 | 1.87 | 1.55 ▲ | 1.39 ▲ | 25 | 0.4 | 6P782 | 2.24 | 2.13 ▲ | 1.92 ▲ | 25 | 0.4 |
| | 3/8 x 9 | 5P646 | 1.97 | 1.64 ▲ | 1.47 ▲ | 25 | 0.4 | 6P783 | 2.38 | 2.27 ▲ | 2.04 ▲ | 25 | 0.4 |
| | 3/8 x 10 | 5P647 | 2.54 | 2.11 ▲ | 1.90 ▲ | 25 | 0.5 | 6P784 | 2.44 | 2.33 ▲ | 2.10 ▲ | 25 | 0.1 |
| | 3/8 x 11 | 5P648 | 2.23 | 1.85 ▲ | 1.66 ▲ | 25 | 0.5 | 6P785 | 2.68 | 2.55 ▲ | 2.30 ▲ | 25 | 0.5 |
| | 3/8 x 12 | 5P649 | 2.31 | 1.92 ▲ | 1.73 ▲ | 25 | 0.5 | 6P786 | 2.81 | 2.68 ▲ | 2.41 ▲ | 25 | 0.5 |
| | 1/2 x Close | 5P650 | 0.46 | 0.39 ▲ | 0.35 ▲ | 25 | 0.1 | 6P787 | 0.54 | 0.51 ▲ | 0.46 ▲ | 25 | 0.1 |
| | 1/2 x 1½ | 5P651 | 0.48 | 0.40 ▲ | 0.36 ▲ | 25 | 0.1 | 6P788 | 0.57 | 0.55 ▲ | 0.49 ▲ | 25 | 0.1 |
| | 1/2 x 2 | 5P652 | 0.50 | 0.42 ▲ | 0.38 ▲ | 25 | 0.1 | 6P789 | 0.60 | 0.58 ▲ | 0.52 ▲ | 25 | 0.1 |
| | 1/2 x 2½ | 5P653 | 0.54 | 0.45 ▲ | 0.41 ▲ | 25 | 0.1 | 6P790 | 0.65 | 0.62 ▲ | 0.56 ▲ | 25 | 0.1 |
| | 1/2 x 3 | 5P654 | 0.57 | 0.47 ▲ | 0.43 ▲ | 25 | 0.2 | 6P791 | 0.71 | 0.68 ▲ | 0.61 ▲ | 25 | 0.2 |
| | 1/2 x 3½ | 5P655 | 0.64 | 0.54 ▲ | 0.48 ▲ | 25 | 0.2 | 6P792 | 0.82 | 0.79 ▲ | 0.71 ▲ | 25 | 0.2 |
| | 1/2 x 4 | 5P656 | 0.71 | 0.59 ▲ | 0.53 ▲ | 25 | 0.3 | 6P793 | 0.88 | 0.84 ▲ | 0.76 ▲ | 25 | 0.3 |
| | 1/2 x 4½ | 5P657 | 0.74 | 0.61 ▲ | 0.55 ▲ | 25 | 0.3 | 6P794 | 0.93 | 0.88 ▲ | 0.79 ▲ | 25 | 0.3 |
| | 1/2 x 5 | 5P658 | 0.83 | 0.69 ▲ | 0.62 ▲ | 25 | 0.3 | 6P795 | 1.05 | 1.00 ▲ | 0.90 ▲ | 25 | 0.3 |
| | 1/2 x 5½ | 5P659 | 0.93 | 0.78 ▲ | 0.70 ▲ | 25 | 0.4 | 6P796 | 1.16 | 1.11 ▲ | 1.00 ▲ | 25 | 0.4 |
| | 1/2 x 6 | 5P660 | 1.01 | 0.84 ▲ | 0.76 ▲ | 25 | 0.4 | 6P797 | 1.25 | 1.20 ▲ | 1.08 ▲ | 25 | 0.4 |
| | 1/2 x 7 | 5P661 | 1.65 | 1.38 ▲ | 1.24 ▲ | 25 | 0.5 | 6P798 | 2.02 | 1.93 ▲ | 1.74 ▲ | 25 | 0.5 |
| | 1/2 x 8 | 5P662 | 1.79 | 1.49 ▲ | 1.34 ▲ | 25 | 0.6 | 6P799 | 2.20 | 2.10 ▲ | 1.89 ▲ | 25 | 0.6 |
| | 1/2 x 9 | 5P663 | 1.95 | 1.63 ▲ | 1.47 ▲ | 25 | 0.6 | 6P800 | 2.37 | 2.26 ▲ | 2.03 ▲ | 25 | 0.6 |
| | 1/2 x 10 | 5P664 | 2.12 | 1.76 ▲ | 1.58 ▲ | 25 | 0.7 | 6P801 | 2.58 | 2.46 ▲ | 2.21 ▲ | 25 | 0.7 |
| | 1/2 x 11 | 5P665 | 2.20 | 1.83 ▲ | 1.65 ▲ | 25 | 0.8 | 6P802 | 2.76 | 2.64 ▲ | 2.37 ▲ | 25 | 0.8 |
| | 1/2 x 12 | 5P666 | 2.37 | 1.96 ▲ | 1.76 ▲ | 25 | 0.8 | 6P803 | 2.94 | 2.80 ▲ | 2.52 ▲ | 25 | 0.8 |
| | 3/4 x Close | 5P667 | 0.52 | 0.43 ▲ | 0.39 ▲ | 25 | 0.1 | 6P804 | 0.63 | 0.60 ▲ | 0.54 ▲ | 25 | 0.1 |
| | 3/4 x 1½ | 5P668 | 0.54 | 0.45 ▲ | 0.41 ▲ | 25 | 0.1 | 6P805 | 0.65 | 0.62 ▲ | 0.56 ▲ | 25 | 0.1 |
| | 3/4 x 2 | 5P669 | 0.57 | 0.47 ▲ | 0.43 ▲ | 25 | 0.1 | 6P806 | 0.71 | 0.68 ▲ | 0.61 ▲ | 25 | 0.2 |
| | 3/4 x 2½ | 5P670 | 0.65 | 0.55 ▲ | 0.49 ▲ | 25 | 0.2 | 6P807 | 0.81 | 0.78 ▲ | 0.70 ▲ | 25 | 0.2 |
| | 3/4 x 3 | 5P671 | 0.72 | 0.60 ▲ | 0.54 ▲ | 25 | 0.3 | 6P808 | 0.88 | 0.84 ▲ | 0.76 ▲ | 25 | 0.3 |
| | 3/4 x 3½ | 5P672 | 0.98 | 0.82 ▲ | 0.74 ▲ | 25 | 0.3 | 6P809 | 0.98 | 0.93 ▲ | 0.84 ▲ | 25 | 0.3 |
| | 3/4 x 4 | 5P673 | 1.05 | 0.87 ▲ | 0.78 ▲ | 25 | 0.3 | 6P810 | 1.07 | 1.02 ▲ | 0.92 ▲ | 25 | 0.3 |
| | 3/4 x 4½ | 5P674 | 1.13 | 0.95 ▲ | 0.85 ▲ | 25 | 0.4 | 6P811 | 1.19 | 1.13 ▲ | 1.02 ▲ | 25 | 0.4 |
| | 3/4 x 5 | 5P675 | 1.30 | 1.08 ▲ | 0.97 ▲ | 25 | 0.4 | 6P812 | 1.35 | 1.29 ▲ | 1.16 ▲ | 25 | 0.4 |
| | 3/4 x 5½ | 5P676 | 1.45 | 1.21 ▲ | 1.09 ▲ | 25 | 0.5 | 6P813 | 1.50 | 1.43 ▲ | 1.29 ▲ | 25 | 0.5 |
| | 3/4 x 6 | 5P677 | 1.57 | 1.30 ▲ | 1.17 ▲ | 25 | 0.5 | 6P814 | 1.64 | 1.56 ▲ | 1.41 ▲ | 25 | 0.5 |
| | 3/4 x 7 | 5P678 | 2.45 | 2.04 ▲ | 1.83 ▲ | 25 | 0.6 | 6P815 | 2.06 | 1.96 ▲ | 1.77 ▲ | 25 | 0.7 |
| | 3/4 x 8 | 5P679 | 2.65 | 2.21 ▲ | 1.99 ▲ | 25 | 0.7 | 6P816 | 2.28 | 2.17 ▲ | 1.96 ▲ | 25 | 0.7 |
| | 3/4 x 9 | 5P680 | 2.87 | 2.38 ▲ | 2.14 ▲ | 25 | 0.8 | 6P817 | 2.44 | 2.33 ▲ | 2.10 ▲ | 25 | 0.8 |
| | 3/4 x 10 | 5P681 | 3.09 | 2.56 ▲ | 2.30 ▲ | 25 | 0.9 | 6P818 | 2.62 | 2.50 ▲ | 2.25 ▲ | 25 | 0.9 |
| | 3/4 x 11 | 5P682 | 3.27 | 2.71 ▲ | 2.44 ▲ | 25 | 1.0 | 6P819 | 2.69 | 2.56 ▲ | 2.31 ▲ | 25 | 1.1 |
| | 3/4 x 12 | 5P683 | 3.50 | 2.91 ▲ | 2.62 ▲ | 25 | 1.1 | 6P820 | 2.94 | 2.80 ▲ | 2.52 ▲ | 25 | 1.1 |
| | 1 x Close | 5P684 | 0.85 | 0.70 ▲ | 0.63 ▲ | 25 | 0.1 | 6P821 | 0.79 | 0.76 ▲ | 0.68 ▲ | 25 | 0.1 |
| | 1 x 2 | 5P685 | 0.93 | 0.78 ▲ | 0.70 ▲ | 25 | 0.2 | 6P822 | 0.83 | 0.80 ▲ | 0.72 ▲ | 25 | 0.2 |
| | 1 x 2½ | 5P686 | 0.93 | 0.78 ▲ | 0.70 ▲ | 25 | 0.3 | 6P823 | 0.87 | 0.83 ▲ | 0.75 ▲ | 25 | 0.3 |
| | 1 x 3 | 5P687 | 1.04 | 0.86 ▲ | 0.77 ▲ | 25 | 0.3 | 6P824 | 1.00 | 0.96 ▲ | 0.86 ▲ | 25 | 0.3 |
| | 1 x 3½ | 5P688 | 1.17 | 0.98 ▲ | 0.88 ▲ | 25 | 0.4 | 6P825 | 1.15 | 1.10 ▲ | 0.99 ▲ | 25 | 0.4 |
| | 1 x 4 | 5P689 | 1.28 | 1.07 ▲ | 0.96 ▲ | 25 | 0.5 | 6P826 | 1.37 | 1.30 ▲ | 1.17 ▲ | 25 | 0.5 |
| | 1 x 4½ | 5P690 | 1.43 | 1.20 ▲ | 1.08 ▲ | 25 | 0.6 | 6P827 | 1.47 | 1.41 ▲ | 1.27 ▲ | 25 | 0.6 |
| | 1 x 5 | 5P691 | 1.64 | 1.37 ▲ | 1.23 ▲ | 25 | 0.6 | 6P828 | 1.68 | 1.60 ▲ | 1.44 ▲ | 25 | 0.6 |
| | 1 x 5½ | 5P692 | 1.68 | 1.40 ▲ | 1.26 ▲ | 25 | 0.7 | 6P829 | 1.77 | 1.69 ▲ | 1.52 ▲ | 25 | 0.7 |
| | 1 x 6 | 5P693 | 1.94 | 1.62 ▲ | 1.46 ▲ | 25 | 0.8 | 6P830 | 1.98 | 1.89 ▲ | 1.70 ▲ | 25 | 0.8 |
| | 1 x 7 | 5P694 | 2.91 | 2.42 ▲ | 2.18 ▲ | 25 | 0.9 | 6P831 | 2.67 | 2.54 ▲ | 2.29 ▲ | 25 | 0.9 |
| | 1 x 8 | 5P695 | 3.23 | 2.68 ▲ | 2.41 ▲ | 25 | 1.1 | 6P832 | 2.96 | 2.82 ▲ | 2.54 ▲ | 25 | 1.1 |
| | 1 x 9 | 5P696 | 3.52 | 2.92 ▲ | 2.63 ▲ | 25 | 1.2 | 6P833 | 3.52 | 3.36 ▲ | 3.02 ▲ | 25 | 2.0 |
| | 1 x 10 | 5P697 | 3.72 | 3.09 ▲ | 2.78 ▲ | 25 | 1.4 | 6P834 | 3.79 | 3.61 ▲ | 3.25 ▲ | 25 | 1.4 |
| | 1 x 11 | 5P698 | 4.01 | 3.33 ▲ | 2.99 ▲ | 25 | 1.5 | 6P835 | 4.07 | 3.89 ▲ | 3.50 ▲ | 25 | 1.5 |
| | 1 x 12 | 5P699 | 4.30 | 3.57 ▲ | 3.21 ▲ | 25 | 1.6 | 6P836 | 4.37 | 4.17 ▲ | 3.75 ▲ | 25 | 1.6 |
| | 1¼ x Close | 5P700 | 1.19 | 0.99 ▲ | 0.89 ▲ | 25 | 0.2 | 6P837 | 1.07 | 1.02 ▲ | 0.92 ▲ | 25 | 0.2 |

(▲) Net Prices, not subject to discounts.

# GRINNELL WELDED STEEL SCHEDULE 40 NIPPLES AND CUT PIPE

| Description | Pipe x Pipe (In.) | Black Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. | Galvanized Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pipe Nipple (Cont.)** | 1¼ x 2 | **5P701** | $2.89 | **$2.40▲** | **$2.16▲** | 25 | 0.3 | **6P838** | $1.15 | **$1.10▲** | **$0.99▲** | 25 | 0.3 |
| | 1¼ x 2½ | **5P702** | 1.21 | **1.01▲** | **0.91▲** | 25 | 0.4 | **6P839** | 1.19 | **1.13▲** | **1.02▲** | 25 | 0.4 |
| | 1¼ x 3 | **5P703** | 1.31 | **1.09▲** | **0.98▲** | 25 | 0.5 | **6P840** | 1.37 | **1.30▲** | **1.17▲** | 25 | 0.5 |
| | 1¼ x 3½ | **5P704** | 1.42 | **1.18▲** | **1.06▲** | 25 | 0.6 | **6P841** | 1.57 | **1.50▲** | **1.35▲** | 25 | 0.6 |
| | 1¼ x 4 | **5P705** | 1.63 | **1.35▲** | **1.21▲** | 25 | 0.6 | **6P842** | 1.90 | **1.82▲** | **1.63▲** | 25 | 0.6 |
| | 1¼ x 4½ | **5P706** | 1.75 | **1.45▲** | **1.30▲** | 25 | 0.8 | **6P843** | 2.07 | **1.97▲** | **1.78▲** | 25 | 0.7 |
| | 1¼ x 5 | **5P707** | 2.04 | **1.69▲** | **1.52▲** | 25 | 0.9 | **6P844** | 2.25 | **2.14▲** | **1.93▲** | 25 | 0.9 |
| | 1¼ x 5½ | **5P708** | 2.20 | **1.83▲** | **1.65▲** | 25 | 0.9 | **6P845** | 2.63 | **2.51▲** | **2.26▲** | 25 | 0.9 |
| | 1¼ x 6 | **5P709** | 2.41 | **2.00▲** | **1.80▲** | 25 | 1.0 | **6P846** | 2.83 | **2.70▲** | **2.43▲** | 25 | 1.0 |
| | 1¼ x 7 | **5P710** | 3.49 | **2.90▲** | **2.61▲** | 25 | 1.3 | **6P847** | 4.10 | **3.91▲** | **3.52▲** | 25 | 1.2 |
| | 1¼ x 8 | **5P711** | 3.87 | **3.21▲** | **2.89▲** | 25 | 1.5 | **6P848** | 4.53 | **4.32▲** | **3.88▲** | 25 | 1.4 |
| | 1¼ x 9 | **5P712** | 4.21 | **3.50▲** | **3.15▲** | 25 | 1.6 | **6P849** | 4.93 | **4.70▲** | **4.23▲** | 25 | 1.5 |
| | 1¼ x 10 | **5P713** | 4.54 | **3.77▲** | **3.39▲** | 10 | 1.8 | **6P850** | 5.32 | **5.07▲** | **4.56▲** | 10 | 1.7 |
| | 1¼ x 11 | **5P714** | 4.94 | **4.10▲** | **3.69▲** | 10 | 2.1 | **6P851** | 5.78 | **5.51▲** | **4.96▲** | 10 | 2.0 |
| | 1¼ x 12 | **5P715** | 5.22 | **4.33▲** | **3.89▲** | 10 | 2.2 | **6P852** | 6.24 | **5.94▲** | **5.35▲** | 10 | 2.1 |
| | 1½ x Close | **5P716** | 1.28 | **1.07▲** | **0.96▲** | 25 | 0.3 | **6P853** | 1.24 | **1.18▲** | **1.06▲** | 24 | 0.3 |
| | 1½ x 2 | **5P717** | 1.37 | **1.13▲** | **1.02▲** | 25 | 0.4 | **6P854** | 1.30 | **1.24▲** | **1.12▲** | 24 | 0.4 |
| | 1½ x 2½ | **5P718** | 1.41 | **1.17▲** | **1.05▲** | 25 | 0.5 | **6P855** | 1.43 | **1.37▲** | **1.23▲** | 24 | 0.5 |
| | 1½ x 3 | **5P719** | 1.56 | **1.29▲** | **1.16▲** | 25 | 0.6 | **6P856** | 1.62 | **1.54▲** | **1.39▲** | 24 | 0.6 |
| | 1½ x 3½ | **5P720** | 1.69 | **1.41▲** | **1.27▲** | 25 | 0.7 | **6P857** | 2.05 | **1.95▲** | **1.76▲** | 25 | 0.7 |
| | 1½ x 4 | **5P721** | 1.95 | **1.63▲** | **1.47▲** | 25 | 0.8 | **6P858** | 2.37 | **2.26▲** | **2.03▲** | 25 | 0.8 |
| | 1½ x 4½ | **5P722** | 2.05 | **1.70▲** | **1.53▲** | 25 | 0.9 | **6P859** | 2.49 | **2.37▲** | **2.14▲** | 25 | 0.8 |
| | 1½ x 5 | **5P723** | 2.38 | **1.97▲** | **1.77▲** | 25 | 1.1 | **6P860** | 2.83 | **2.70▲** | **2.43▲** | 25 | 1.0 |
| | 1½ x 5½ | **5P724** | 2.39 | **1.98▲** | **1.78▲** | 25 | 1.2 | **6P861** | 3.05 | **2.91▲** | **2.62▲** | 25 | 1.1 |
| | 1½ x 6 | **5P725** | 2.72 | **2.26▲** | **2.03▲** | 25 | 1.3 | **6P862** | 3.29 | **3.13▲** | **2.82▲** | 25 | 1.3 |
| | 1½ x 7 | **5P726** | 4.01 | **3.33▲** | **2.99▲** | 25 | 1.6 | **6P863** | 4.68 | **4.46▲** | **4.02▲** | 10 | 1.5 |
| | 1½ x 8 | **5P727** | 4.44 | **3.68▲** | **3.31▲** | 25 | 1.4 | **6P864** | 5.23 | **4.99▲** | **4.49▲** | 10 | 1.7 |
| | 1½ x 9 | **5P728** | 4.79 | **3.98▲** | **3.58▲** | 10 | 2.1 | **6P865** | 5.60 | **5.33▲** | **4.80▲** | 10 | 2.0 |
| | 1½ x 10 | **5P729** | 5.22 | **4.33▲** | **3.89▲** | 10 | 2.1 | **6P866** | 6.13 | **5.84▲** | **5.25▲** | 10 | 2.0 |
| | 1½ x 11 | **5P730** | 5.50 | **4.57▲** | **4.11▲** | 10 | 2.5 | **6P867** | 6.49 | **6.18▲** | **5.57▲** | 10 | 3.0 |
| | 1½ x 12 | **5P731** | 6.01 | **4.98▲** | **4.49▲** | 10 | 2.5 | **6P868** | 7.02 | **6.69▲** | **6.02▲** | 25 | 2.4 |
| | 2 x Close | **5P732** | 2.10 | **1.75▲** | **1.57▲** | 25 | 0.5 | **6P869** | 2.07 | **1.97▲** | **1.78▲** | 24 | 0.2 |
| | 2 x 2½ | **5P733** | 2.31 | **1.92▲** | **1.73▲** | 25 | 0.7 | **6P870** | 2.30 | **2.19▲** | **1.98▲** | 24 | 0.7 |
| | 2 x 3 | **5P734** | 2.52 | **2.09▲** | **1.88▲** | 25 | 0.8 | **6P871** | 2.56 | **2.45▲** | **2.20▲** | 24 | 0.8 |
| | 2 x 3½ | **5P735** | 2.76 | **2.29▲** | **2.06▲** | 25 | 0.9 | **6P872** | 2.79 | **2.66▲** | **2.39▲** | 25 | 0.9 |
| | 2 x 4 | **5P736** | 3.08 | **2.55▲** | **2.29▲** | 25 | 1.1 | **6P873** | 3.17 | **3.02▲** | **2.72▲** | 25 | 1.1 |
| | 2 x 4½ | **5P737** | 3.31 | **2.75▲** | **2.47▲** | 25 | 1.2 | **6P874** | 3.38 | **3.22▲** | **2.90▲** | 25 | 1.2 |
| | 2 x 5 | **5P738** | 3.80 | **3.16▲** | **2.84▲** | 25 | 1.3 | **6P875** | 3.95 | **3.77▲** | **3.39▲** | 25 | 1.3 |
| | 2 x 5½ | **5P739** | 4.19 | **3.48▲** | **3.13▲** | 25 | 1.6 | **6P876** | 4.36 | **4.16▲** | **3.74▲** | 25 | 1.6 |
| | 2 x 6 | **5P740** | 4.49 | **3.73▲** | **3.35▲** | 20 | 1.7 | **6P877** | 4.66 | **4.44▲** | **4.00▲** | 10 | 1.7 |
| | 2 x 7 | **5P741** | 6.80 | **5.64▲** | **5.08▲** | 20 | 2.0 | **6P878** | 6.85 | **6.53▲** | **5.88▲** | 10 | 2.0 |
| | 2 x 8 | **5P742** | 7.43 | **6.15▲** | **5.54▲** | 25 | 2.2 | **6P879** | 7.51 | **7.15▲** | **6.44▲** | 10 | 2.2 |
| | 2 x 9 | **5P743** | 8.17 | **6.77▲** | **6.10▲** | 10 | 2.7 | **6P880** | 8.23 | **7.84▲** | **7.06▲** | 10 | 2.7 |
| | 2 x 10 | **5P744** | 8.79 | **7.28▲** | **6.55▲** | 10 | 2.8 | **6P881** | 8.86 | **8.44▲** | **7.60▲** | 10 | 2.8 |
| | 2 x 11 | **5P745** | 9.53 | **7.90▲** | **7.11▲** | 10 | 3.3 | **6P882** | 9.60 | **9.15▲** | **8.23▲** | 10 | 3.3 |
| | 2 x 12 | **5P746** | 10.15 | **8.40▲** | **7.56▲** | 10 | 3.4 | **6P883** | 10.22 | **9.73▲** | **8.76▲** | 10 | 3.4 |



Grinnell CORPORATION

Made In U.S.A.

## STANDARD SCHEDULE 40 CUT PIPE

- **Black and galvanized, both ends have NPT threads**
- **Manufacturing conforms to ASTM A-733**
- **Material specifications conform to ASTM A-53 Type E or F**
- **Federal specification is WWN 351**
- **When used with standard malleable iron fittings, pipe has compatible steam and WOG working pressures**

| Description | Pipe x Pipe (In.) | Black Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. | Galvanized Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cut Pipe** | 1/2 x 18 | **5P747** | $4.14 | **$3.44▲** | **$3.09▲** | 5 | 1.3 | **6P884** | $3.72 | **$3.54▲** | **$3.18▲** | 5 | 1.3 |
| | 1/2 x 24 | **5P748** | 5.52 | **4.58▲** | **4.12▲** | 5 | 1.7 | **6P885** | 4.95 | **4.71▲** | **4.24▲** | 5 | 1.7 |
| | 1/2 x 30 | **5P749** | 6.66 | **5.52▲** | **4.96▲** | 5 | 2.1 | **6P886** | 5.94 | **5.66▲** | **5.09▲** | 5 | 2.1 |
| | 1/2 x 36 | **5P750** | 8.52 | **7.06▲** | **6.36▲** | 5 | 2.6 | **6P887** | 7.63 | **7.27▲** | **6.54▲** | 5 | 2.6 |
| | 1/2 x 48 | **5P751** | 11.34 | **9.39▲** | **8.45▲** | 5 | 3.4 | **6P888** | 10.15 | **9.67▲** | **8.70▲** | 5 | 3.4 |
| | 1/2 x 60 | **5P752** | 14.20 | **11.77▲** | **10.59▲** | 5 | 4.3 | **6P889** | 12.71 | **12.11▲** | **10.90▲** | 5 | 4.3 |
| | 1/2 x 72 | **5P753** | 16.59 | **13.75▲** | **12.37▲** | 5 | 5.1 | **6P890** | 14.84 | **14.13▲** | **12.72▲** | 5 | 5.1 |
| | 3/4 x 18 | **5P755** | 5.12 | **4.24▲** | **3.81▲** | 5 | 1.7 | **6P892** | 4.59 | **4.37▲** | **3.93▲** | 5 | 1.7 |
| | 3/4 x 24 | **5P756** | 6.81 | **5.65▲** | **5.08▲** | 5 | 2.3 | **6P893** | 6.10 | **5.82▲** | **5.24▲** | 5 | 2.3 |
| | 3/4 x 30 | **5P757** | 9.01 | **7.47▲** | **6.73▲** | 5 | 2.8 | **6P894** | 8.06 | **7.68▲** | **6.91▲** | 5 | 2.8 |
| | 3/4 x 36 | **5P758** | 10.47 | **8.67▲** | **7.80▲** | 5 | 3.4 | **6P895** | 9.37 | **8.93▲** | **8.03▲** | 5 | 3.4 |
| | 3/4 x 48 | **5P759** | 13.82 | **11.45▲** | **10.30▲** | 5 | 4.5 | **6P896** | 12.37 | **11.78▲** | **10.60▲** | 5 | 4.5 |
| | 3/4 x 60 | **5P760** | 17.19 | **14.24▲** | **12.81▲** | 5 | 5.7 | **6P897** | 15.38 | **14.65▲** | **13.18▲** | 5 | 5.7 |
| | 3/4 x 72 | **5P761** | 16.05 | **13.30▲** | **11.97▲** | 5 | 6.8 | **6P898** | 18.37 | **17.50▲** | **15.75▲** | 5 | 6.8 |
| | 1 x 18 | **5P763** | 7.02 | **5.82▲** | **5.24▲** | 5 | 2.5 | **6P900** | 6.28 | **5.99▲** | **5.39▲** | 5 | 2.5 |
| | 1 x 24 | **5P764** | 9.37 | **7.76▲** | **6.99▲** | 5 | 3.4 | **6P901** | 8.39 | **7.99▲** | **7.19▲** | 5 | 3.4 |
| | 1 x 30 | **5P765** | 12.00 | **9.93▲** | **8.94▲** | 5 | 4.2 | **6P902** | 10.74 | **10.23▲** | **9.20▲** | 5 | 4.2 |
| | 1 x 36 | **5P766** | 14.39 | **11.93▲** | **10.74▲** | 5 | 5.0 | **6P903** | 12.87 | **12.26▲** | **11.04▲** | 5 | 5.0 |
| | 1 x 48 | **5P767** | 19.20 | **15.90▲** | **14.31▲** | 5 | 6.7 | **6P904** | 17.18 | **16.36▲** | **14.72▲** | 5 | 6.7 |
| | 1 x 60 | **5P768** | 24.01 | **19.89▲** | **17.90▲** | 5 | 8.4 | **6P905** | 21.48 | **20.46▲** | **18.42▲** | 5 | 8.4 |
| | 1 x 72 | **5P769** | 28.79 | **23.85▲** | **21.46▲** | 5 | 10.0 | **6P906** | 25.75 | **24.53▲** | **22.08▲** | 5 | 10.0 |



Made In U.S.A.

Grinnell CORPORATION

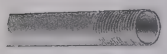
▲) Net prices, not subject to discounts.

CONTINUED ON NEXT PAGE

# SCHEDULE 40 CUT PIPE

| Description | Pipe x Pipe (In.) | Black Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. | Galvanized Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cut Pipe (Cont.) | 1¼ x 18 | 5P771 | $9.02 | $7.48 ▲ | $6.73 ▲ | 5 | 3.4 | 6P908 | $8.08 | $7.70 ▲ | $6.93 ▲ | 5 | 3.4 |
| | 1¼ x 24 | 5P772 | 11.43 | 9.47 ▲ | 8.52 ▲ | 5 | 4.5 | 6P909 | 10.23 | 9.74 ▲ | 8.77 ▲ | 5 | 4.5 |
| | 1¼ x 30 | 5P773 | 15.46 | 12.81 ▲ | 11.53 ▲ | 5 | 5.7 | 6P910 | 13.83 | 13.18 ▲ | 11.86 ▲ | 5 | 5.7 |
| | 1¼ x 36 | 5P774 | 18.36 | 15.21 ▲ | 13.69 ▲ | 5 | 6.8 | 6P911 | 16.43 | 15.65 ▲ | 14.08 ▲ | 5 | 6.8 |
| | 1¼ x 48 | 5P775 | 21.54 | 17.84 ▲ | 16.06 ▲ | 5 | 9.1 | 6P912 | 20.88 | 19.89 ▲ | 17.90 ▲ | 5 | 9.1 |
| | 1¼ x 60 | 5P776 | 29.94 | 24.80 ▲ | 22.32 ▲ | 5 | 11.0 | 6P913 | 26.82 | 25.55 ▲ | 23.00 ▲ | 5 | 11.0 |
| | 1¼ x 72 | 5P777 | 36.98 | 30.75 ▲ | 27.68 ▲ | 5 | 14.0 | 6P914 | 35.22 | 33.55 ▲ | 30.20 ▲ | 5 | 14.0 |
| | 1½ x 18 | 5P779 | 10.16 | 8.41 ▲ | 7.57 ▲ | 3 | 4.2 | 6P916 | 9.07 | 8.64 ▲ | 7.78 ▲ | 3 | 4.3 |
| | 1½ x 24 | 5P780 | 13.31 | 11.03 ▲ | 9.93 ▲ | 3 | 9.1 | 6P917 | 7.74 | 7.37 ▲ | 6.63 ▲ | 3 | 9.1 |
| | 1½ x 30 | 5P781 | 17.32 | 14.35 ▲ | 12.91 ▲ | 3 | 11.0 | 6P918 | 15.83 | 15.08 ▲ | 13.57 ▲ | 3 | 11.0 |
| | 1½ x 36 | 5P782 | 19.61 | 16.25 ▲ | 14.62 ▲ | 3 | 14.0 | 6P919 | 17.90 | 17.05 ▲ | 15.35 ▲ | 3 | 14.0 |
| | 1½ x 48 | 5P783 | 25.97 | 21.52 ▲ | 19.37 ▲ | 3 | 18.0 | 6P920 | 23.72 | 22.60 ▲ | 20.34 ▲ | 3 | 18.0 |
| | 1½ x 60 | 5P784 | 32.60 | 27.05 ▲ | 24.35 ▲ | 3 | 23.0 | 6P921 | 29.87 | 28.45 ▲ | 25.61 ▲ | 3 | 23.0 |
| | 1½ x 72 | 5P785 | 50.68 | 42.10 ▲ | 37.89 ▲ | 3 | 27.0 | 6P922 | 52.86 | 50.35 ▲ | 45.32 ▲ | 3 | 27.0 |
| | 2 x 18 | 5P787 | 13.45 | 11.14 ▲ | 10.03 ▲ | 3 | 4.9 | 6P924 | 12.29 | 11.71 ▲ | 10.54 ▲ | 3 | 9.1 |
| | 2 x 24 | 5P788 | 17.42 | 14.44 ▲ | 12.99 ▲ | 3 | 12.0 | 6P925 | 15.92 | 15.16 ▲ | 13.65 ▲ | 3 | 12.0 |
| | 2 x 30 | 5P789 | 23.69 | 19.63 ▲ | 17.67 ▲ | 3 | 15.0 | 6P926 | 22.05 | 21.00 ▲ | 18.90 ▲ | 3 | 15.0 |
| | 2 x 36 | 5P790 | 27.12 | 22.46 ▲ | 20.21 ▲ | 3 | 18.0 | 6P927 | 25.24 | 24.05 ▲ | 21.64 ▲ | 3 | 18.0 |
| | 2 x 48 | 5P791 | 35.20 | 29.20 ▲ | 26.28 ▲ | 3 | 24.0 | 6P928 | 32.76 | 31.20 ▲ | 28.08 ▲ | 3 | 24.0 |

(▲) Net prices, not subject to discounts.



Grinnell CORPORATION

Made In U.S.A.

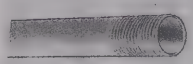
# WHEATLAND SCHEDULE 40 BLACK AND GALVANIZED PIPE

WHEATLAND

Made In U.S.A.



No. 5E550



No. 5E556

- Threaded at both ends
- Yield: 25,000 PSI min.; 30,000 PSI typical
- Tensile: 45,000 PSI min.; 50,000 PSI typical
- Hardness Range B: Rockwell "B" 55.0-65.0
- Max. pressure rating; WOG 720 PSI at 250°F, steam 600 PSI at 400°F

- Continuously welded to ASTM A-53 and Federal Specification WW-P404
- Black or galvanized 10 ft. lengths

| Nominal Pipe Size (In.) | Diameter (In.) Outside | Diameter (In.) Inside | Wall Thickness (In.) | Wt. Per Ft. Threads (Lbs.) | Wheatland Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **BLACK STANDARD PIPE** | | | | | | | | | |
| 1/2 | 0.840 | 0.622 | 0.109 | 0.85 | A53-F½ | 5E550 | $10.37 | $8.67 ▲ | 8.0 |
| 3/4 | 1.050 | 0.824 | 0.109 | 1.13 | A53-F¾ | 5E551 | 12.25 | 10.24 ▲ | 11.0 |
| 1 | 1.315 | 1.049 | 0.125 | 1.68 | A53-F1 | 5E552 | 16.91 | 14.22 ▲ | 16.0 |
| 1¼ | 1.660 | 1.380 | 0.141 | 2.28 | A53-F1¼ | 5E553 | 21.98 | 18.39 ▲ | 22.0 |
| 1½ | 1.900 | 1.610 | 0.141 | 2.73 | A53-F1½ | 5E554 | 26.11 | 21.75 ▲ | 26.0 |
| 2 | 2.375 | 2.067 | 0.156 | 3.68 | A53-F2 | 5E555 | 35.18 | 29.45 ▲ | 35.0 |
| **GALVANIZED STANDARD PIPE** | | | | | | | | | |
| 1/2 | 0.840 | 0.622 | 0.109 | 0.85 | A53-F½ | 5E556 | 13.92 | 11.75 ▲ | 8.0 |
| 3/4 | 1.050 | 0.824 | 0.109 | 1.13 | A53-F¾ | 5E557 | 16.67 | 13.75 ▲ | 11.0 |
| 1 | 1.315 | 1.049 | 0.125 | 1.68 | A53-F1 | 5E558 | 22.92 | 19.72 ▲ | 16.0 |
| 1¼ | 1.660 | 1.380 | 0.141 | 2.28 | A53-F1¼ | 5E559 | 31.55 | 25.45 ▲ | 22.0 |
| 1½ | 1.900 | 1.610 | 0.141 | 2.73 | A53-F1½ | 5E560 | 32.50 | 27.45 ▲ | 26.0 |
| 2 | 2.375 | 2.067 | 0.156 | 3.68 | A53-F2 | 5E561 | 47.82 | 40.25 ▲ | 35.0 |

(▲) Net prices, not subject to discounts.

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

## THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.

It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.

# GRINNELL PIPE HANGERS/ATTACHMENTS

## C-CLAMPS



- Black malleable iron
- Upper attachment to secure pipe lines to American Standard I-beam
- Wide flange beam and channels where thickness of flange does not exceed 0.75 inches
- Setscrews should not be overtightened
- Includes locknut
- Complies with Federal Specification WW-H-171E Type 23
- Grinnell brand

| Rod Size (In.) | Grinnell Model 91007 | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8 | 0003 | 5E562▲ | $1.90 | $1.58 | $1.42 | 35 | 0.2 |
| 1/2 | 0029 | 5E563▲ | 2.38 | 1.98 | 1.78 | 35 | 0.3 |

## ONE HOLE CLAMPS



- Black malleable iron
- For support of standard conduit, cable for wrought iron and steel pipe on walls or sides of beams
- Not recommended for use horizontally on ceilings, bottoms of beams or similar installations
- Maximum temperature is 450°F
- Grinnell brand

| Pipe Size (In.) | Grinnell Model 910007 | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8 | 2561 | 5E574▲ | $0.44 | $0.37 | $0.34 | 100 | 0.2 |
| 1/2 | 2587 | 5E575▲ | 0.66 | 0.55 | 0.50 | 100 | 0.1 |
| 3/4 | 2603 | 5E576▲ | 0.78 | 0.65 | 0.58 | 50 | 0.1 |
| 1 | 2629 | 5E577▲ | 1.16 | 0.96 | 0.86 | 75 | 0.1 |
| 1¼ | 2645 | 5E578▲ | 1.35 | 1.13 | 1.01 | 100 | 0.5 |
| 1½ | 2660 | 5E579▲ | 1.49 | 1.24 | 1.11 | 70 | 0.2 |
| 2 | 2686 | 5E580▲ | 2.19 | 1.81 | 1.63 | 35 | 0.2 |

## SOCKETS



- Black malleable iron
- Rod threaded
- Intermediate attachment in hanger assembly
- Complies with Federal Specification WW-H-171E, Type 16
- Normally used with split pipe ring
- Grinnell brand

| Rod Size (In.) | Load Rating (Lbs.) | Grinnell Model 91007 | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 650 | 1902 | 5E565▲ | $1.07 | $0.89 | $0.80 | 50 | 0.1 |
| 3/8 | 800 | 1928 | 5E566▲ | 1.14 | 0.95 | 0.86 | 100 | 0.1 |
| 1/2 | 1000 | 1944 | 5E567▲ | 1.38 | 1.15 | 1.04 | 50 | 0.1 |

## ROD COUPLINGS



- Straight coupling
- Black malleable iron
- For connecting straight sizes of rod lengths
- Visual inspection provided
- UL Listed and Factory Mutual Approved
- Grinnell brand

| Coupling Size (In.) | Load Rating (Lbs.) | Grinnell Model 910007 | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 230 | 3163 | 5E581▲ | $1.09 | $0.91 | $0.82 | 50 | 0.1 |
| 3/8 | 610 | 3189 | 5E582▲ | 1.12 | 0.93 | 0.84 | 75 | 0.1 |
| 1/2 | 1130 | 3206 | 5E583▲ | 1.52 | 1.26 | 1.13 | 40 | 0.2 |
| 5/8 | 1810 | 3221 | 5E584▲ | 1.78 | 1.48 | 1.33 | 25 | 0.3 |
| 3/4 | 2710 | 3247 | 5E585▲ | 2.48 | 2.05 | 1.85 | 20 | 0.5 |

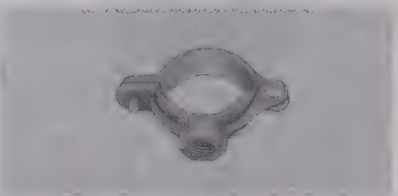
## U-BOLTS



- Black carbon steel
- Light-duty
- For support, anchor or guide of pipe line
- Normally used with two hex nuts (not supplied)
- Maximum temperature is 650°F
- Maximum recommended load: 485 lbs.
- Grinnell brand

| Pipe Size x Rod Size (In.) | Grinnell Model 910007 | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 x 1/4 | 2264 | 5E568▲ | $0.90 | $0.75 | $0.68 | 50 | 0.1 |
| 3/4 x 1/4 | 2280 | 5E569▲ | 0.87 | 0.73 | 0.65 | 50 | 0.1 |
| 1 x 1/4 | 2306 | 5E570▲ | 1.35 | 1.12 | 1.01 | 50 | 0.1 |
| 1¼ x 1/4 | 2322 | 5E571▲ | 1.14 | 0.95 | 0.86 | 50 | 0.1 |
| 1½ x 1/4 | 2348 | 5E572▲ | 1.20 | 0.99 | 0.89 | 50 | 0.3 |
| 2 x 1/4 | 2363 | 5E573▲ | 1.26 | 1.05 | 0.94 | 50 | 0.1 |

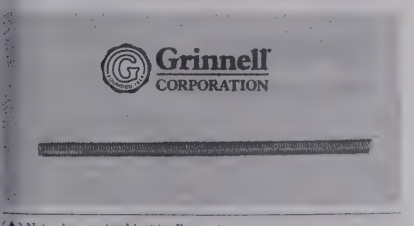
## EXTENSION SPLIT PIPE CLAMPS



- Black malleable iron
- For 3/8" threaded rod
- For non-insulated stationary pipe lines
- Complies with Federal Specification WW-H-171E, Type 25
- Maximum temperature is 450°F
- Maximum recommended load: 180 lbs.
- Grinnell brand

| Pipe Size (In.) | Grinnell Model 910007 | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/8 | 3882 | 5E586▲ | $2.49 | $2.06 | $1.85 | 25 | 0.1 |
| 1/2 | 3908 | 5E587▲ | 2.71 | 2.25 | 2.02 | 25 | 0.2 |
| 3/4 | 3924 | 5E588▲ | 2.82 | 2.34 | 2.11 | 25 | 0.2 |
| 1 | 3940 | 5E589▲ | 2.92 | 2.42 | 2.18 | 25 | 0.2 |
| 1¼ | 3965 | 5E590▲ | 3.99 | 3.31 | 2.98 | 25 | 0.1 |
| 1½ | 3981 | 5E591▲ | 4.82 | 4.00 | 3.60 | 15 | 0.3 |
| 2 | 4006 | 5E592▲ | 6.46 | 5.36 | 4.82 | 10 | 0.4 |

## CONTINUOUS THREADED ROD




- 6 Feet long
- Carbon steel
- Standard black finish
- Grinnell brand

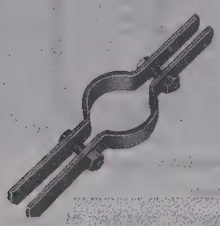
| Rod Size (In.) | Thread Size | Load Rating (Lbs.) | Grinnell Model 910007 | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 20 | 240 | 6406 | 5E593▲ | $1.25 | $1.04 | $0.93 | 50 | 0.6 |
| 3/8 | 16 | 610 | 6422 | 5E594▲ | 2.17 | 1.81 | 1.63 | 20 | 1.9 |
| 1/2 | 13 | 1130 | 6448 | 5E595▲ | 4.69 | 3.89 | 3.50 | 12 | 3.3 |

(▲) Net prices, not subject to discounts.

# RISER CLAMPS, FLEXIBLE COUPLINGSAND SADDLE VALVES

## RISER CLAMPS

Grinnell CORPORATION



No. 5E596

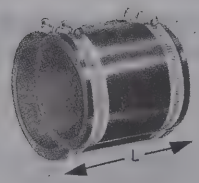
- Black carbon steel
- For support and steadying of steel pipe risers either insulated or bare
- Complies with Federal Specification WW-H-171E, Type 8
- Maximum temperature is 650°F
- Made in USA
- UL Listed
- Grinnell brand

| Clamp Size (IPS) | Grinnell Model | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/4 | 0500173521 | 5E596 | $3.07 | $2.55▲ | $2.30▲ | 25 | 1.2 |
| 1 | 0500173539 | 5E597 | 3.07 | 2.55▲ | 2.30▲ | 25 | 1.1 |
| 1 1/4 | 0500173547 | 5E598 | 3.80 | 3.16▲ | 2.85▲ | 10 | 1.2 |
| 1 1/2 | 0500173554 | 5E599 | 4.09 | 3.39▲ | 3.05▲ | 10 | 1.3 |
| 2 | 0500173562 | 5E600 | 4.17 | 3.46▲ | 3.11▲ | 10 | 1.3 |

(▲) Net prices, not subject to discounts.

## FLEXIBLE COUPLINGS

FERNCO®



No. 4P003

- Flexible PVC construction
- Resist corrosion, rot, and chemical and sunlight degradation
- 305 stainless steel bands; 301 stainless steel screws
- Max. PSI: 4.3
- Max. temperature: 70°F

Couplings connect any combination of these plain end drainage materials; service weight and extra heavy cast iron; black or galvanized steel; copper; and DWV Schedule 40, Schedule 30, sewer and drain plastic. Fernco brand.

### COUPLINGS ADAPT TO THE FOLLOWING OUTSIDE PIPE DIAMETERS

| Material | Outside Pipe Diameter (In.) 1 1/4 | 1 1/2 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| Extra Heavy Cast Iron | — | — | 2.38 | 3.50 | 4.50 |
| Service Weight Cast Iron | — | — | 2.30 | 3.30 | 4.30 |
| Plastic, ABS/PVC, (DWV Schedule 30, 40) | 1.660 | 1.900 | 2.375 | 3.500 | 4.500 |
| Plastic, Sewer & Drain | — | — | — | 3.250 | 4.215 |
| Copper | 1.375 | 1.625 | 2.125 | 3.125 | 4.125 |
| Steel | 1.660 | 1.900 | 2.375 | 3.500 | 4.500 |

### COUPLINGS SPECIFICATIONS AND ORDERING DATA

| Pipe Size, ID (In.) | Length (In.) | Fernco Model | Stock No. | List | Each | Shpg. Wt |
|---|---|---|---|---|---|---|
| 1 1/4 x 1 1/4 | 3 1/2 | P1056-125 | 4P003 | $4.19 | $3.56 | 0.3 |
| 1 1/2 x 1 1/4 | 3 1/2 | P1056-150/125 | 4P004 | 4.65 | 3.97 | 0.4 |
| 1 1/2 x 1 1/2 | 3 1/2 | P1056-150 | 4P005 | 4.49 | 3.83 | 0.4 |
| 2 x 1 1/2 | 3 1/2 | P1056-215 | 4P006 | 5.15 | 4.38 | 0.3 |
| 2 x 2 | 3 1/2 | P1056-22 | 4P007 | 4.85 | 4.13 | 0.5 |
| 3 x 2 | 4 | P1056-32 | 4P008 | 5.99 | 5.09 | 0.8 |
| 3 x 3 | 4 | P1056-33 | 4P009 | 6.55 | 5.56 | 1.1 |
| 4 x 3 | 4 | P1056-43 | 4P010 | 8.79 | 7.50 | 1.1 |
| 4 x 4 | 4 | P1056-44 | 4P011 | 8.19 | 6.99 | 1.1 |

## 1/4" SADDLE VALVES

Used to provide water supply for humidifiers, refrigerators, automatic ice makers, and similar applications. Complete with fittings for either 1/4" OD copper tubing or 1/4" OD plastic tubing, brass tubing inserts and instructions. Tubing not included.

**Self-Piercing Type** easily installed on 3/8 to 1 3/8" OD copper tubing. Stainless steel piercing pin, sturdy turning handle. Not for iron pipe.

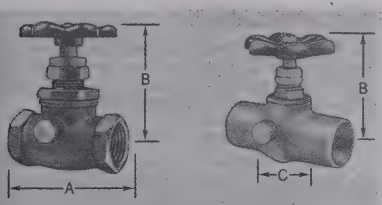
**Conventional Type** installed on 1/2 or 3/4" galvanized iron water pipe by drilling 1/4" hole in pipe, installing pilot tube and tightening. Parker brand.

| Type | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Self-Piercing | 5X867 | $6.06 | $4.85 | 0.2 |
| Conventional | 1X527 | 6.59 | 5.28 | 0.3 |

Parker



No. 5X867

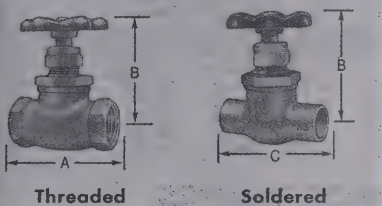



Threaded Soldered

## BRONZE STOP AND WASTE VALVES

Valves are rated at 125 lb. WOG to 180°F. Solid bronze with aluminum handwheels.

| Nominal Size (In.) | Dimensions (In.) A | B | C | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THREADED CONNECTION** | | | | | | | | | | |
| 1/2 | 2 3/16 | 2 9/16 | — | 76CL | **5E400** | $7.63 | **$6.94** | **$6.25** | 10 | 0.6 |
| 3/4 | 2 5/16 | 2 9/16 | — | 76CL | **5E401** | 7.61 | **6.92** | **6.23** | 10 | 0.6 |
| **SOLDERED CONNECTION** | | | | | | | | | | |
| 1/2 | — | 2 9/16 | 1 3/16 | 726CL | **5E403** | 5.84 | **5.31** | **4.78** | 10 | 0.4 |
| 3/4 | — | 2 9/16 | 1 3/16 | 726CL | **5E404** | 5.96 | **5.42** | **4.88** | 10 | 0.6 |




Threaded Soldered

## BRONZE STOP VALVES

Rated at 125 lb. WOG to 180°F. Solid bronze with aluminum handwheels.

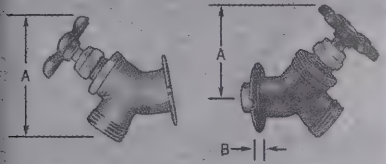
| Nominal Size (In.) | Dimensions (In.) A | B | C | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THREADED CONNECTION** | | | | | | | | | | |
| 1/2 | 2 3/16 | 2 9/16 | — | 75CL | **5E395** | $6.18 | **$5.62** | **$5.06** | 10 | 0.5 |
| 3/4 | 2 5/16 | 2 9/16 | — | 75CL | **5E396** | 6.99 | **6.36** | **5.72** | 10 | 0.6 |
| **SOLDERED CONNECTION** | | | | | | | | | | |
| 1/2 | — | 2 9/16 | 1 3/16 | 725CL | **5E398** | 5.50 | **5.00** | **4.50** | 10 | 0.3 |
| 3/4 | — | 2 9/16 | 1 3/16 | 725CL | **5E399** | 5.96 | **5.42** | **4.88** | 10 | 0.6 |



## REPLACEMENT WASTE VALVE CAP

Cap for drain port with 1/8" threads. Used to replace lost or stolen cap.

| Drain Port Size | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Any** | R000100 | **5E405** | $0.30 | **$0.28** | **$0.25** | 10 | 0.1 |

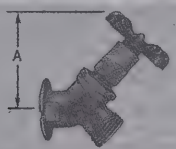



Threaded Soldered

## BRONZE ANGLE SILLCOCKS

Rated at 125 lb WOG to 180°F. Made of solid bronze with aluminum handwheels.

| Nominal Size (In.) | Dimensions (In.) A | B | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **THREADED CONNECTION** | | | | | | | | | |
| 1/2 | 2 1/2 | — | 63CL | **5E406** | $6.30 | **$5.73** | **$5.16** | 10 | 0.5 |
| 3/4 | 2 1/2 | — | 63CL | **5E407** | 6.53 | **5.94** | **5.35** | 10 | 0.6 |
| **SOLDERED CONNECTION** | | | | | | | | | |
| 1/2 | 2 1/2 | 5/32 | 763CL | **5E408** | 6.42 | **5.84** | **5.26** | 10 | 0.5 |
| 3/4 | 2 1/2 | 9/32 | 763CL | **5E409** | 6.42 | **5.84** | **5.26** | 10 | 0.6 |

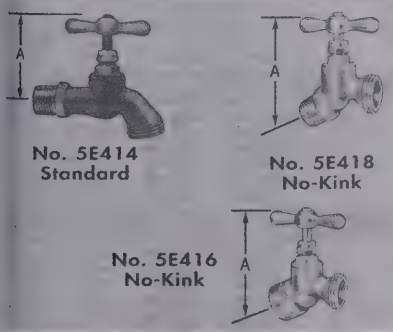



No. 5E410

## BRONZE SILLCOCKS WITH LOCKSHIELD

Rated at 125 lb. WOG to 180°F. Lockshield design prevents unwanted use when handle has been removed. Solid bronze with aluminum handwheels.

| Nominal Size (In.) | Dimensions (In.) A | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 2 3/16 | 63LS | **5E410** | $8.55 | **$7.78** | **$7.00** | 10 | 0.7 |
| 3/4 | 1 15/16 | 63LS | **5E411** | 9.60 | **8.73** | **7.86** | 10 | 0.7 |




No. 5E414 Standard

No. 5E418 No-Kink

No. 5E416 No-Kink

## BRONZE HOSE BIBBS

**Standard hose bibbs** (No. 5E414 and 5E415) are rated at 125 lb WOG to 180°F. Solid bronze with iron cross handwheels.

**No-Kink hose bibbs** (Nos. 5E416-5E419) feature an angled outlet tip to help eliminate hose kinking.

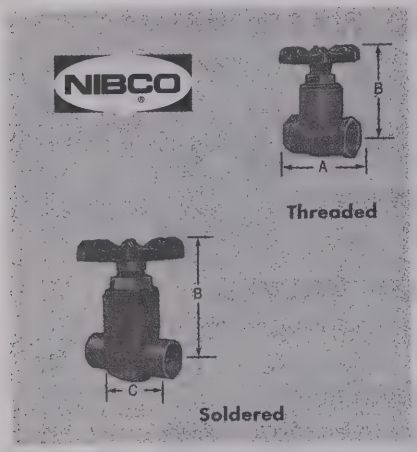
5E414 and 5E418 are sized for alternate sweat/solder fit. 125 PSI WOG to 180°F.

| Nominal Size (In.) | Threaded Connection | Dimensions, In. A | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **STANDARD HOSE BIBBS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | |
| 1/2 | Male (MIPT or CxC) | 2 5/8 | 46U | **5E414** | $4.56 | **$4.15** | **$3.74** | 10 | 0.6 |
| 3/4 | Male (MIPT) | 2 7/8 | 46U | **5E415** | 1.91 | **4.47** | **4.02** | 10 | 0.5 |
| **NO-KINK HOSE BIBBS SPECIFICATIONS AND ORDERING DATA** | | | | | | | | | |
| 1/2 | Female (FIPT) | 2 5/8 | 45U | **5E416** | 4.59 | **4.18** | **3.76** | 10 | 0.4 |
| 3/4 | Female (FIPT) | 2 7/8 | 45C | **5E417** | 1.84 | **4.40** | **3.96** | 10 | 0.1 |
| 1/2 | Male (MIPT or CxC) | 2 5/8 | 44U | **5E418** | 4.70 | **4.28** | **3.85** | 10 | 0.4 |
| 3/4 | Male (MIPT) | 2 7/8 | 44U | **5E419** | 4.90 | **4.46** | **4.01** | 10 | 0.4 |

# NIBCO COMMERCIAL BRONZE VALVES

## FLAT-TOP GATE VALVES

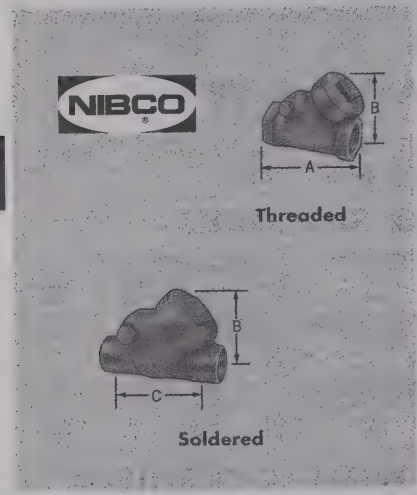
Nibco bronze flat-top gate valves with nonrising stems are rated at 200 PSI up to 200°F. Cast bronze body, wedge and threaded bonnet conform to ASTM Specifications B-584. Handwheel is aluminum, and handwheel screw is stainless steel. Not recommended for use with hydrocarbons. Nibco brand.




| Nominal Size (In.) | Dimensions (In.) A | B | C | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THREADED CONNECTION** | | | | | | | | | | |
| **1/2** | 1 13/16 | 2 1/2 | — | T29 | **6P964** | $10.36 | **$9.42** | **$8.48** | 10 | 0.5 |
| **3/4** | 2 | 2 7/8 | — | T29 | **6P965** | 13.59 | **12.36** | **11.12** | 10 | 0.7 |
| **1** | 2 5/16 | 3 9/16 | — | T29 | **6P966** | 18.26 | **16.60** | **14.94** | 30 | 1.2 |
| **1 1/4** | 2 5/8 | 3 11/16 | — | T29 | **6P967** | 24.35 | **22.14** | **19.93** | 25 | 1.5 |
| **1 1/2** | 2 3/4 | 4 3/16 | — | T29 | **6P968** | 30.08 | **27.35** | **24.62** | 10 | 2.3 |
| **2** | 2 7/8 | 4 7/8 | — | T29 | **6P969** | 41.96 | **38.15** | **34.34** | 10 | 3.3 |
| **SOLDERED CONNECTION** | | | | | | | | | | |
| **1/2** | — | 2 1/2 | 13/16 | S29 | **6P970** | 10.36 | **9.42** | **8.48** | 10 | 0.4 |
| **3/4** | — | 2 7/8 | 7/8 | S29 | **6P971** | 13.54 | **12.31** | **11.08** | 10 | 0.7 |
| **1** | — | 3 9/16 | 1 1/16 | S29 | **6P972** | 18.27 | **16.61** | **14.95** | 30 | 1.7 |
| **1 1/4** | — | 3 11/16 | 1 1/8 | S29 | **6P973** | 24.35 | **22.14** | **19.93** | 25 | 1.4 |
| **1 1/2** | — | 4 3/16 | 1 13/16 | S29 | **6P974** | 30.14 | **27.40** | **24.66** | 10 | 2.1 |
| **2** | — | 4 7/8 | 1 5/16 | S29 | **6P975** | 41.96 | **38.15** | **34.34** | 10 | 3.3 |

## Y-PATTERN CHECK VALVES

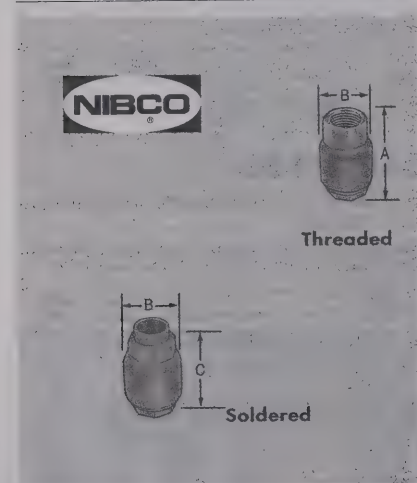
These valves are rated at 200 PSI for shock cold water, oil or gas. 125 PSI for both saturated steam to 353°F and fluid to 406°F. Bronze body, seat bonnet, hinge assembly. Conform to ASTM Specifications. Can be installed in horizontal and vertical positions and will operate in a declining plane of no more than 15°. Not for use with reciprocating air compressor service. Conform to Federal Specifications MSS SP-80. Nibco brand.




| Nominal Size (In.) | Dimensions (In.) A | B | C | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THREADED CONNECTION** | | | | | | | | | | |
| **1/2** | 2 7/16 | 1 11/16 | — | T413B | **6P988** | $21.93 | **$19.94** | **$17.95** | 10 | 0.6 |
| **3/4** | 2 15/16 | 1 7/8 | — | T413B | **6P989** | 26.45 | **24.05** | **21.65** | 10 | 0.1 |
| **1** | 3 9/16 | 2 7/16 | — | T413B | **6P990** | 37.62 | **34.20** | **30.78** | 30 | 1.6 |
| **1 1/4** | 4 3/16 | 2 11/16 | — | T413B | **6P991** | 50.54 | **45.95** | **41.36** | 20 | 2.3 |
| **1 1/2** | 4 1/2 | 2 15/16 | — | T413B | **6P992** | 60.00 | **54.55** | **49.10** | 10 | 3.0 |
| **2** | 5 1/4 | 3 13/16 | — | T413B | **6P993** | 87.67 | **79.70** | **71.73** | 10 | 4.8 |
| **SOLDERED CONNECTION** | | | | | | | | | | |
| **1/2** | — | 1 11/16 | 1 1/2 | S413B | **5E377** | 20.98 | **19.08** | **17.17** | 10 | 0.5 |
| **3/4** | — | 1 7/8 | 1 7/8 | S413B | **5E378** | 32.34 | **29.40** | **26.46** | 10 | 0.8 |
| **1** | — | 2 7/16 | 2 1/4 | S413B | **5E379** | 48.07 | **43.70** | **39.33** | 30 | 1.2 |
| **1 1/4** | — | 2 11/16 | 2 3/4 | S413B | **5E380** | 66.99 | **60.90** | **54.81** | 20 | 1.8 |
| **1 1/2** | — | 2 15/16 | 3 1/8 | S413B | **5E381** | 79.42 | **72.20** | **64.98** | 10 | 2.5 |
| **2** | — | 3 13/16 | 3 3/4 | S413B | **5E382** | 116.32 | **105.75** | **95.18** | 10 | 4.1 |

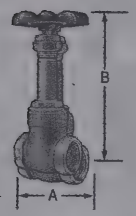
## RING CHECK VALVES

Rated at 250 PSI nonshock WOG to 180°F. Buna disc. Body and body end made of red bronze and conform to ASTM B-584. Actuated by #316 stainless steel spring. Can be installed in both horizontal and vertical positions with upward flow. Not for use as a foot valve or reciprocating air compressor service. ½" valves require 1.5 PSI to open; ¾ through 2" valves require 0.5 PSI to open. Nibco brand.

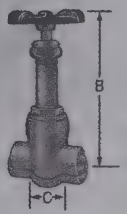



| Nominal Size (In.) | Dimensions (In.) A | B | C | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THREADED CONNECTION** | | | | | | | | | | |
| **1/2** | 2 1/16 | 1 3/8 | — | T480 | **6P976** | $13.13 | **$11.94** | **$10.75** | 10 | 0.4 |
| **3/4** | 2 1/4 | 1 5/8 | — | T480 | **6P977** | 16.09 | **14.63** | **13.17** | 10 | 0.5 |
| **1** | 2 5/8 | 2 | — | T480 | **6P978** | 19.74 | **17.95** | **16.16** | 10 | 0.8 |
| **1 1/4** | 2 15/16 | 2 3/8 | — | T480 | **6P979** | 29.09 | **26.45** | **23.81** | 5 | 1.1 |
| **1 1/2** | 3 5/16 | 2 3/4 | — | T480 | **6P980** | 36.02 | **32.75** | **29.48** | 5 | 1.5 |
| **2** | 3 3/4 | 3 3/8 | — | T480 | **6P981** | 51.75 | **47.05** | **42.35** | 5 | 2.3 |
| **SOLDERED CONNECTION** | | | | | | | | | | |
| **1/2** | — | 1 3/8 | 1 3/16 | S480 | **6P982** | 14.36 | **13.06** | **11.75** | 10 | 0.4 |
| **3/4** | — | 1 5/8 | 1 5/16 | S480 | **6P983** | 16.08 | **14.62** | **13.16** | 10 | 0.5 |
| **1** | — | 2 | 1 1/2 | S480 | **6P984** | 22.04 | **20.04** | **18.04** | 10 | 0.9 |
| **1 1/4** | — | 2 3/8 | 1 11/16 | S480 | **6P985** | 27.47 | **24.98** | **22.48** | 30 | 1.3 |
| **1 1/2** | — | 2 3/4 | 2 | S480 | **6P986** | 36.02 | **32.75** | **29.48** | 30 | 1.7 |
| **2** | — | 3 3/8 | 2 5/16 | S480 | **6P987** | 51.75 | **47.05** | **42.35** | 10 | 3.5 |

## CLASS 125 BRONZE GATE VALVES




Threaded Gate Valve

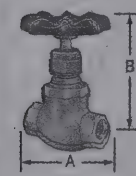



Solder Gate Valve

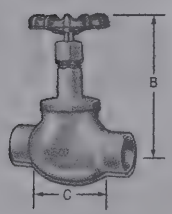
These valves are rated 200 PSI non-shock cold water, oil, or gas, and at 125 PSI saturated steam to 353°F and fluid to 406°F. Body, wedge, and screw-in bonnet conform to ASTM R-62. Packing is aramid fibers with graphite. Aluminum hand wheel conforms to MSS SP-80. Rising stem. Nibco brand.

| Nominal Size (In.) | Dimensions (In.) A | B | C | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THREADED CONNECTION** | | | | | | | | | | |
| 3/8 | 1 11/16 | 4 5/8 | — | T111 | 5E454 | $19.36 | $17.60 | $15.84 | 10 | 0.8 |
| 1/2 | 1 15/16 | 4 7/8 | — | T111 | 5E455 | 16.92 | 15.39 | 13.85 | 10 | 0.9 |
| 3/4 | 2 1/16 | 5 13/16 | — | T111 | 5E456 | 21.45 | 19.50 | 17.55 | 10 | 1.2 |
| 1 | 2 7/16 | 7 3/32 | — | T111 | 5E457 | 28.43 | 25.85 | 23.27 | 30 | 2.0 |
| 1 1/4 | 2 5/8 | 8 1/8 | — | T111 | 5E458 | 40.59 | 36.90 | 33.21 | 20 | 2.9 |
| 1 1/2 | 2 7/8 | 9 13/16 | — | T111 | 5E459 | 48.89 | 44.45 | 40.01 | 10 | 3.8 |
| 2 | 3 1/16 | 11 9/16 | — | T111 | 5E460 | 61.10 | 55.55 | 50.00 | 10 | 5.8 |
| **SOLDERED CONNECTION** | | | | | | | | | | |
| 3/8 | — | 4 5/8 | 11/16 | S111 | 5E461 | 18.86 | 17.15 | 15.44 | 10 | 0.7 |
| 1/2 | — | 4 7/8 | 3/4 | S111 | 5E462 | 17.57 | 15.98 | 14.38 | 10 | 0.7 |
| 3/4 | — | 5 13/16 | 4/8 | S111 | 5E463 | 21.14 | 19.22 | 17.30 | 10 | 1.1 |
| 1 | — | 7 3/32 | 1 | S111 | 5E464 | 26.56 | 24.15 | 21.74 | 30 | 1.8 |
| 1 1/4 | — | 8 1/8 | 1 3/16 | S111 | 5E465 | 44.99 | 40.90 | 36.81 | 2 | 0.4 |
| 1 1/2 | — | 9 13/16 | 1 1/4 | S111 | 5E466 | 51.26 | 46.60 | 41.94 | 10 | 3.5 |
| 2 | — | 11 9/16 | 1 5/16 | S111 | 5E467 | 70.12 | 63.75 | 57.38 | 10 | 5.5 |

## BRONZE GLOBE VALVES




Threaded Globe Valve



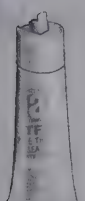

Solder Globe Valve

Valves are rated at 200 PSI non-shock cold water, oil or gas and at 125 PSI, saturated steam to 353°F, and fluids to 406°F. Bronze body, screw-in bonnet, seat disc, disc holder and nut, packing gland and nut meet ASTM B-62 specifications. Packing is aramid fibers with graphite. Conform to MSS SP-80. Nibco brand.

| Nominal Size (In.) | Dimensions (In.) A | B | C | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THREADED CONNECTION** | | | | | | | | | | |
| 1/4* | 2 3/8 | 3 3/8 | — | T211Y | 5E468 | $28.05 | $25.50 | $22.95 | 5 | 0.9 |
| 3/8* | 2 3/8 | 3 3/8 | — | T211Y | 5E469 | 28.05 | 25.50 | 22.95 | 5 | 0.8 |
| 1/2* | 2 9/16 | 3 3/8 | — | T211Y | 5E470 | 28.05 | 25.50 | 22.95 | 5 | 0.9 |
| 3/4 | 3 1/16 | 4 3/4 | — | T211Y | 5E471 | 36.90 | 33.55 | 30.20 | 30 | 1.6 |
| 1 | 3 11/16 | 5 11/16 | — | T211Y | 5E472 | 50.32 | 45.75 | 41.18 | 20 | 2.6 |
| 1 1/4 | 4 5/16 | 6 1/8 | — | T211Y | 5E473 | 65.28 | 59.35 | 53.42 | 10 | 3.5 |
| 1 1/2 | 4 11/16 | 7 5/16 | — | T211Y | 5E474 | 84.92 | 77.20 | 69.48 | 10 | 5.5 |
| 2 | 5 5/8 | 7 15/16 | — | T211Y | 5E475 | 128.53 | 116.85 | 105.17 | 6 | 8.0 |
| **SOLDERED CONNECTION** | | | | | | | | | | |
| 1/4* | — | 3 3/8 | 1 13/16 | S211Y | 5E476 | 28.32 | 25.75 | 23.18 | 5 | 0.8 |
| 3/8* | — | 3 3/8 | 1 13/16 | S211Y | 5E477 | 28.16 | 25.60 | 23.04 | 5 | 0.8 |
| 1/2* | — | 3 3/8 | 1 11/16 | S211Y | 5E478 | 28.16 | 25.60 | 23.04 | 5 | 0.8 |
| 3/4 | — | 4 3/4 | 2 1/4 | S211Y | 5E479 | 37.29 | 33.90 | 30.51 | 30 | 1.7 |
| 1 | — | 5 11/16 | 2 13/16 | S211Y | 5E480 | 51.20 | 46.55 | 41.90 | 5 | 2.7 |
| 1 1/4 | — | 6 1/8 | 3 1/16 | S211Y | 5E481 | 65.94 | 59.95 | 53.96 | 2 | 3.3 |
| 1 1/2 | — | 7 5/16 | 3 9/16 | S211Y | 5E482 | 85.91 | 78.10 | 70.29 | 2 | 4.9 |
| 2 | — | 7 15/16 | 4 5/16 | S211Y | 5E483 | 130.18 | 118.35 | 106.52 | 6 | 7.8 |

(*) Stem and disc (or disc holder) are integral.

## THREAD SEALANTS




A




B

A & B **TFE Pipe Thread Sealant and Teflon Tape** are reliable sealants for all pipe threads, including plastic. Prevents corrosion, seizing, and galling. Withstands temperatures to 500°F and pressures to 10,000 PSI liquid or 2000 PSI gas. Meets UL Standards, MIL Specifications T-27703A. Anti-Seize Technology brand.

### SEALANT SPECIFICATIONS AND ORDERING DATA

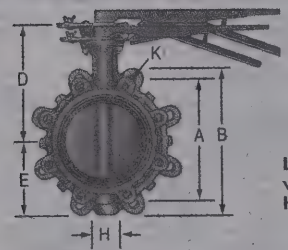
| Key | Description | Size | Anti-Seize Model | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | TFE Pipe Thread Sealant | 3 fl. oz. tube | 14003 | 5X998 ❸ | $12.00 | $8.40 | $7.14 | 0.3 |
| | | 8 fl. oz. brush | 14012 | 4X222 ❸ | 23.16 | 16.29 | 13.85 | 0.8 |
| B | Teflon® Tape | 1/2 x 260" | 16030 | 4X227 | 1.88 | 1.05▲ | — | 0.1 |
| | | 1/2 x 520 | 16035 | 4X543 | 3.67 | 1.99▲ | — | 0.1 |
| | | 3/4 x 520 | 16050 | 5X584 | 6.74 | 2.96▲ | — | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available.

See page opposite inside back cover ▲ Net pricing, not subject to discounts

# COMMERCIAL BRONZE VALVES

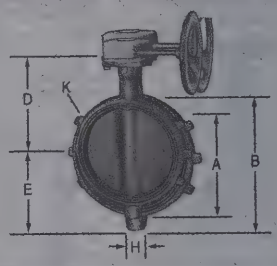
## BUTTERFLY VALVES




Lug Style with Leverlock Handle

NIBCO

Wafer Style with Handwheel Handle



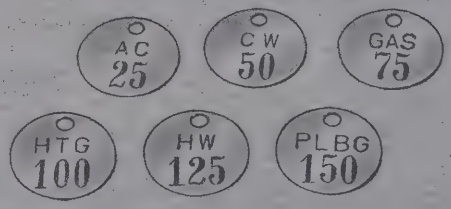

These butterfly valves are rated to 200 PSI, vacuum to 27" mercury. Max. temperature: 225°F. Dead end service is at 200 PSI. Ductile iron body meets ASTM A-536. Extended neck allows for pipe insulation. Upper and lower bushings are standard. Molded in EPDM rubber liner fully supports valve body at flange seals. Quarter turn operation for full open or full close. Meets MSS-SP67, MSS SP25 and API-609. Not recommended for steam service. Nibco brand.

| Nominal Size (In.)† | Dimensions (In.) A | B | D | E | Metal H | Rubber H | K* | Capscrew/Stud Operation Type | Thread Size | Lug Length (In.) | Wafer Length (In.) | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LUG STYLE BUTTERFLY VALVES** | | | | | | | | | | | | | | | | | | |
| **2** | 2 17/32 | 4 | 5 3/8 | 2 5/8 | 1 11/16 | 1 13/16 | 4 | Lever | 5/8-11 | 1 1/2 | — | LD2000 | **5E484** | $110.05 | **$100.05** | **$90.05** | 4 | 9.4 |
| **2 1/2** | 2 29/32 | 4 3/4 | 5 7/8 | 3 1/8 | 1 13/16 | 1 15/16 | 4 | Lever | 5/8-11 | 1 1/2 | — | LD2000 | **5E485** | 112.14 | **101.95** | **91.76** | 4 | 12.0 |
| **3** | 3 5/32 | 3 1/4 | 6 1/8 | 3 3/8 | 1 13/16 | 1 15/16 | 4 | Lever | 5/8-11 | 1 5/8 | — | LD2000 | **5E486** | 122.98 | **111.80** | **100.62** | 4 | 12.0 |
| **4** | 4 5/32 | 6 3/4 | 6 7/8 | 4 | 2 1/16 | 2 3/16 | 8 | Lever | 5/8-11 | 1 7/8 | — | LD2000 | **5E487** | 150.09 | **136.45** | **122.81** | 4 | 18.0 |
| **5** | 5 5/32 | 7 5/8 | 7 3/8 | 4 3/4 | 2 3/16 | 2 5/16 | 8 | Lever | 3/4-10 | 2 | — | LD2000 | **5E488** | 211.47 | **192.25** | **173.03** | 4 | 22.0 |
| **6** | 6 5/32 | 8 5/8 | 8 | 5 1/4 | 2 3/16 | 2 5/16 | 8 | Lever | 3/4-10 | 2 | — | LD2000 | **5E489** | 245.02 | **222.75** | **200.48** | 4 | 26.0 |
| **8** | 8 5/32 | 10 7/8 | 9 1/4 | 6 1/2 | 2 3/8 | 2 1/2 | 8 | Gear | 3/4-10 | 2 1/4 | — | LD2000 | **5E490** | 446.32 | **405.75** | **365.18** | 10 | 40.0 |
| **10** | 10 5/32 | 13 1/4 | 10 1/2 | 8 | 2 11/16 | 2 13/16 | 12 | Gear | 7/8-9 | 2 1/4 | — | LD2000 | **5E491** | 577.50 | **525.00** | **472.50** | 10 | 75.0 |
| **12** | 1 25/32 | 16 | 12 | 9 1/4 | 3 | 3 1/8 | 12 | Gear | 7/8-9 | 2 1/2 | — | LD2000 | **5E492** | 839.85 | **763.50** | **687.15** | 10 | 98.0 |
| **WAFER STYLE BUTTERFLY VALVES** | | | | | | | | | | | | | | | | | | |
| **2** | 2 17/32 | 4 | 5 3/8 | 2 5/8 | 1 11/16 | 1 13/16 | 4 | Lever | — | — | 4 | WD2000 | **5E493** | 94.76 | **86.15** | **77.54** | 4 | 8.0 |
| **2 1/2** | 2 29/32 | 4 3/4 | 5 7/8 | 3 1/8 | 1 13/16 | 1 15/16 | 4 | Lever | — | — | 4 1/4 | WD2000 | **5E494** | 99.11 | **90.10** | **81.09** | 4 | 10.0 |
| **3** | 3 5/32 | 3 1/4 | 6 1/8 | 3 3/8 | 1 13/16 | 1 15/16 | 4 | Lever | — | — | 4 1/4 | WD2000 | **5E495** | 105.76 | **96.15** | **86.54** | 4 | 11.0 |
| **4** | 4 5/32 | 6 3/4 | 6 7/8 | 4 | 2 1/16 | 2 3/16 | 8 | Lever | — | — | 5 | WD2000 | **5E496** | 128.53 | **116.85** | **105.17** | 4 | 14.0 |
| **5** | 5 5/32 | 7 5/8 | 7 3/8 | 4 3/4 | 2 3/16 | 2 5/16 | 8 | Lever | — | — | 5 1/4 | WD2000 | **5E497** | 177.37 | **161.25** | **145.13** | 4 | 18.0 |
| **6** | 6 5/32 | 8 5/8 | 8 | 5 1/4 | 2 3/16 | 2 5/16 | 8 | Lever | — | — | 5 1/4 | WD2000 | **5E498** | 213.67 | **194.25** | **174.83** | 4 | 21.0 |
| **8** | 8 5/32 | 10 7/8 | 9 1/4 | 6 1/2 | 2 3/8 | 2 1/2 | 8 | Gear | — | — | 5 3/4 | WD2000 | **5E499** | 424.32 | **385.75** | **347.18** | 10 | 34.0 |
| **10** | 10 5/32 | 13 1/4 | 10 1/2 | 8 | 2 11/16 | 2 13/16 | 12 | Gear | — | — | 6 1/4 | WD2000 | **5E500** | 540.10 | **491.00** | **441.90** | 10 | 59.0 |
| **12** | 1 25/32 | 16 | 12 | 9 1/4 | 3 | 3 1/8 | 12 | Gear | — | — | 6 3/4 | WD2000 | **5E501** | 893.75 | **812.50** | **731.25** | 10 | 78.0 |

(*) Number of holes. (†) 2-6" sizes have leverlock handle; 8-12" sizes have handwheel handle.

## STANDARD BRASS VALVE TAGS

Six different consecutively numbered legends available. Round, 18-gauge solid brass tags are 1½" in diameter with a 3/16" tophole. Feature 1/4" black-filled characters above 1/2" black-filled numbers. Tags satisfy ANSI A13.1-1981-3.4. (For identification of materials in pipes of less than 3/4" in diameter. Use of permanently legible tags is suggested for valve and fitting identification). Sold in consecutively numbered lots of 25. Legends available are: AC (air conditioning), CW (cold water), HW (hot water), GAS, HTG (heating), and PLBG (plumbing). Made in USA. C.H. Hanson brand.

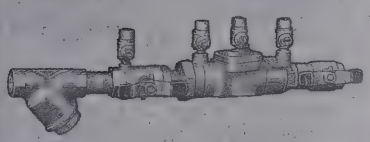



THE C.H. Hanson COMPANY

| Number Series | AC Tags Hanson Model | AC Tags Stock No. | CW Tags Hanson Model | CW Tags Stock No. | HW Tags Hanson Model | HW Tags Stock No. | GAS Tags Hanson Model | GAS Tags Stock No. | HTG Tags Hanson Model | HTG Tags Stock No. | PLBG Tags Hanson Model | PLBG Tags Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1-25** | AC25 | **1F048** | CW25 | **1F056** | HW25 | **1F064** | GAS25 | **1F072** | HTG25 | **1F080** | PLBG25 | **1F088** | $23.99 | **$21.57** | 0.7 |
| **26-50** | AC50 | **1F049** | CW50 | **1F057** | HW50 | **1F065** | GAS50 | **1F073** | HTG50 | **1F081** | PLBG50 | **1F089** | 23.99 | **21.57** | 0.7 |
| **51-75** | AC75 | **1F050** | CW75 | **1F058** | HW75 | **1F066** | GAS75 | **1F074** | HTG75 | **1F082** | PLBG75 | **1F090** | 23.99 | **21.57** | 0.6 |
| **76-100** | AC100 | **1F051** | CW100 | **1F059** | HW100 | **1F067** | GAS100 | **1F075** | HTG100 | **1F083** | PLBG100 | **1F091** | 23.99 | **21.57** | 0.6 |
| **101-125** | AC125 | **1F052** | CW125 | **1F060** | HW125 | **1F068** | GAS125 | **1F076** | HTG125 | **1F084** | PLBG125 | **1F092** | 23.99 | **21.57** | 0.6 |
| **126-150** | AC150 | **1F053** | CW150 | **1F061** | HW150 | **1F069** | GAS150 | **1F077** | HTG150 | **1F085** | PLBG150 | **1F093** | 23.99 | **21.57** | 0.5 |
| **151-175** | AC175 | **1F054** | CW175 | **1F062** | HW175 | **1F070** | GAS175 | **1F078** | HTG175 | **1F086** | PLBG175 | **1F094** | 23.99 | **21.57** | 0.6 |
| **176-200** | AC200 | **1F055** | CW200 | **1F063** | HW200 | **1F071** | GAS200 | **1F079** | HTG200 | **1F087** | PLBG200 | **1F095** | 23.99 | **21.57** | 0.5 |

# BACKFLOW PREVENTER VALVES

WATTS REGULATOR



A

Replacement Parts Available
1-800-323-0620

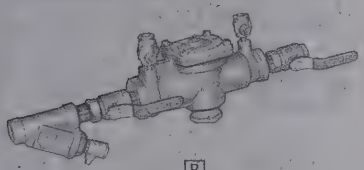
## A DOUBLE CHECK VALVE ASSEMBLY

- Ball-type test cocks
- Full port bronze, quarter turn ball valve shutoffs
- Bronze strainer/stainless steel screen
- Supply pressure up to 175 PSI
- Water temperatures up to 180°F
- Replaceable seats
- CSA Certified (LM39769)

For protection of potable water supply in accordance with national plumbing codes, low hazard cross connections, and continuous pressure applications. Tested and Certified under the following standards for double check valve assemblies: ASSE Standard 1015 and AWWA Standard C-510-89. Designed to comply with FCCCHR of USC Manual, Section 10. IAPMO Listed. Watts brand (007QT Series).

| NPT Size (In.) | Dimensions (In.) L | W | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/4 | 19 1/4 | 6 7/8 | 007-M3/4QTS | 6A767 | $182.29 | $129.80 | 11.0 |
| 1 | 22 1/2 | 7 1/4 | 007-M1QTS | 6A768 | 209.79 | 148.80 | 13.0 |
| 2 | 31 1/2 | 8 3/4 | 007-M2QTS | 6A769 | 419.75 | 303.00 | 35.0 |

## B REDUCED PRESSURE ZONE BACKFLOW PREVENTERS



B

- Ball-type test cocks
- Full port bronze, quarter turn ball valve shutoffs
- Bronze strainer/stainless steel screen
- Supply pressure up to 175 PSI
- Water temperature up to 180°F
- Replaceable seats
- CSA Certified (LM39769)

For protection of potable water supply in accordance with national plumbing codes and water utility authority requirements. For high hazard cross connections in plumbing systems, or for containment at the service line entrance. Tested and Certified under the following standards for reduced pressure zone backflow preventers: ASSE Standard 1013, and AWWA Standard C-511-89. Comply with FCCCHR of USC Manual, Section 10. IAPMO Listed. Watts brand (009QT Series).

| NPT Size (In.) | Dimensions (In.) L | W | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/4 | 19 1/4 | 5 7/8 | 009-M2QTS | 6A770 | $283.18 | $165.00 | 14.0 |
| 1 | 22 1/2 | 6 1/4 | 009-M1QTS | 6A771 | 352.84 | 207.50 | 15.0 |

## C BACKFLOW PREVENTER VALVES



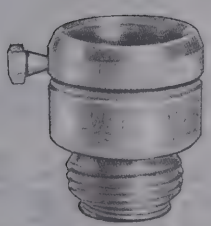

C

- With intermediate atmospheric vent
- Female union inlet and outlet connections
- Bronze body with stainless steel working parts
- Integral strainer and durable rubber discs
- Maximum pressure: 175 PSI
- Maximum emergency backflow temperature 250°F
- CSA Certified (LM39769)

For use under continuous pressure in laboratory/dairy equipment, processing tanks, sterilizers, and low hazard applications. For boiler feed lines to prevent backflow when supply pressure falls below system pressure. Tested and Certified under ASSE Standard 1012 and CSA Standard B64.3. Watts brand (9D Series).

| FNPT Size (In.) | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 | 9DM3 | 4A810 | $57.39 | $33.00 | 1.6 |
| 3/4 | 9DM2 | 4A811 | 57.36 | 35.00 | 1.6 |

## D HOSE CONNECTION VACUUM BREAKER



D

- Breakaway setscrew
- 3/4" Female hose thread inlet x 3/4" male hose outlet
- Maximum pressure: 125 PSI
- Maximum temperature: 180°F

Specially made for portable hoses attached to hose thread faucets. Prevents the flow of contaminated water back into potable water supply. Screws directly to sill cock.

Can be used at service sinks, pools, developing tanks, laundry tubs, dairy barns, marinas, and outside gardening applications. Important: Valves should only be used in areas where water spillage will not cause damage. Tested and Certified under ASSE Standard 1011 and CSA Standard B64.2. Watts brand.

**No. 6A766.** Vacuum Breaker. Shpg. wt. 0.3 lbs. List $15.90. Each.....**$11.41**

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# HYDRONIC SPECIALTY VALVES

## A 2-WAY FLOW CHECK VALVES

- **Maximum temperature: 250°F**
- **Maximum pressure: 50 PSI**

Valves are used on hot water heating systems to maintain flow in one direction.

**Nos. 4A816 and 4A817** provide positive gravity shutoff when circulator pump is not running. Easily opened for gravity circulation.

**Nos. 4A813, 4A814, and 4A815** combine angle and horizontal checks. Extra expansion tank connection when installed at angle check. Watts brand (2000 Series).

| Pipe Size (In.) | Dimens. (In.) H | Dimens. (In.) L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **NPT THREADED CONNECTIONS (Cast Iron)** | | | | | | |
| **3/4** | 5 | 4 1/8 | **4A813** | $32.79 | **$29.35** | 3.4 |
| **1** | 5 | 4 1/4 | **4A814** | 34.98 | **31.30** | 3.1 |
| **1 1/4** | 5 5/8 | 4 3/4 | **4A815** | 39.83 | **35.60** | 4.6 |
| **SWEAT CONNECTIONS (Bronze)** | | | | | | |
| **3/4** | 3 5/8 | 3 | **4A816** | 47.45 | **42.45** | 1.1 |
| **1** | 3 7/8 | 3 3/4 | **4A817** | 50.67 | **45.25** | 1.9 |

## B AUTOMATIC VENT VALVES

- **Vent size: 1¼" dia., 3⅛" high**
- **Min. working pressure: 1.42 PSI**
- **Max. working pressure: 150 PSI**
- **Max. working temperature: 240°F**

Provide automatic air venting for hot or cold water distribution systems. Not for use with steam. Valves purge air that may be in system. Can also operate on an anti-vacuum device allowing air to enter the system when it must be drained. Repairable. Watts brand.

| Pipe Size (NPT)* (In.) | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/8 | FV-4-1/8 | 4A820 | $6.08 | $4.10 | 0.3 |
| 1/4 | FV-4-1/4 | 4A821 | 6.02 | 4.82 | 0.3 |

(*) Male

## C ASME PRESSURE SAFETY RELIEF VALVES

- **Wetted parts of bronze construction**

Heat resistant diaphragm isolates spring and working parts from water during release. Nonmechanical seat-to-disc alignment. Above drain seal eliminates water trapping and sediment fouling. Meet Military Specifications MIL-V-136-RD, Type III. Rating ASME. NB & HV. Watts brand (174A Series).

| Pipe Size (In.) | Dimensions H | Dimensions L | BTU | PSI | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/4** | 5⅛ | 2½ | 650,000 | 30 | **2P074** | $42.39 | **$30.00** | 1.2 |
| **1** | 5¾ | 3 | 1,005,000 | 30 | **4P948** | 113.02 | **80.00** | 2.1 |
| **1** | 5¾ | 3 | 2,055,000 | 75 | ***New*4UV68** | 129.47 | **117.70** | 2.3 |
| **1** | 5¾ | 3 | 2,635,000 | 100 | ***New*4UV69** | 129.47 | **117.70** | 2.3 |
| **1** | 5¾ | 3 | 3,215,000 | 125 | ***New*4UV70** | 117.59 | **106.90** | 2.3 |

## D 1/2" BOILER FEED VALVES

- **Factory set at 15 PSI; fully adjustable from 10-25 lbs.**
- **Max. pressure: 100 PSI**
- **Max. temperature: 212°F**
- **Cast-iron body, complete units painted bronze**
- **Fast fill and purge lever permits rapid filling of system and sustained flow for air purging**
- **Unitized seat, stem, and disc with strainer screen for complete replacement maintenance**

No 4A824 has sweat union (1/2") on inlet only; other is 1/2" female NPT pipe thread. No. 3A558 is 1/2" female NPT pipe thread on both ends. Watts brand.

| Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1156F | **3A558** | $37.32 | **$23.99** | 2.0 |
| S1156F | **4A824** | 41.75 | **24.95** | 2.0 |

## E HIGH CAPACITY PURGE & BALANCING VALVE

- **Maximum pressure: 50 PSI**
- **Maximum temperature: 250°F**

Specially designed for exceptionally high capacity purging with a self-contained, tight seating ball-type purge valve. Balancing adjustment is by the same means and can be secured tightly by a packing compression nut to guard against accidental tampering while maintaining balanced adjustment. Bronze construction with 3/4" sweat connections. 3/4" hose thread connection for blow-off. 3¾"H x 2¾"L. Watts brand (PB56).

**No. 4A812.** Shpg. wt. 0.8 lbs. List $21.08. Each ..... **$16.87**




## NIBCO BOILER DRAIN VALVES



No. 5E389

- **Rated at 125 PSI water, oil, gas (WOG) to 180°F**
- **Made of solid bronze with aluminum handwheels**
- **3/4" garden hose thread-on outlet**

All valves have identical stem and bonnet assemblies. May be used interchangeably with any body type, in their respective pattern. Nibco brand.

| Nominal Size (In.) | Thread Type | Dim. A (In.) | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/2** | Male | 3¼ | 74CL | **5E389** | $4.34 | **$3.95** | **$3.56** | 10 | 0.4 |
| **3/4** | Male | 3 5/16 | 74CL | **5E390** | 4.78 | **4.35** | **3.92** | 10 | 0.5 |
| **1/2** | Female | 3 11/16 | 73CL | **5E392** | 5.65 | **5.14** | **4.63** | 10 | 0.5 |
| **3/4** | Female | 3¾ | 73CL | **5E393** | 6.12 | **5.57** | **5.01** | 10 | 0.5 |

(*) 3/4" furnished in male threads to hose only.

WATTS REGULATOR



A



B



C



D



E



F



G



H

## A FEED WATER PRESSURE REGULATOR

- Iron body diaphragm relief valve
- 1/2" threaded inlet connection
- Pressure relief valve opens at 30 PSI
- Feed valve set at 15 PSI and adjusts from 10-25 PSI
- Maximum temperature: 212°F
- Nonmechanical seat-to-disc alignment
- 5⅝H x 6½"L
- Watts brand (1450F)

**No. 4A822.** Shpg. wt. 3.1 lbs. List $70.05.
Each ..... $47.80

## B MULTI-ORIFICE FLOW CONTROL

- 1/2" sweat connections
- Adjusts to 2½, 3, 3½, or 4 GPM
- Maximum pressure: 150 PSI
- Maximum temperature: 250°F

For use with tankless heater installations. Select desired flows at 50 PSI by turning the cap to required setting. Watts brand (P3).

**No. 4A823.** Shpg. wt. 0.4 lbs. List $15.73.
Each ..... $12.62

## C TEMPERING VALVES

- Brass construction
- Solid wall hydraulic thermostat
- Sweat connections
- Maximum pressure: 150 PSI
- Maximum temperature: 180°F
- Standard temperature range: 120 to 160°F

For domestic hot water service. Mixes cold and hot water. Adjusting dial for temperature control. Heavy-duty stainless springs. Watts brand (70A Series). **Not to be used as an anti-scald device.**

| Size* (In.) | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 | 70A-1/2 | 4A818 | $43.34 | $29.60 | 0.6 |
| 3/4 | 70A-3/4 | 4A819 | 46.22 | 30.95 | 0.9 |

(*) Sweat connections.

## D CALIBRATED PRESSURE RELIEF VALVES

- Brass construction with stainless steel spring
- Not to be used as an operating control
- Adjustable range: 50-175 lbs.
- Maximum temperature: 180°F
- Male pipe thread inlet; 1/2" female pipe thread outlet

| Inlet MNPT | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2" | 530-1/2 | 1X624 | $22.97 | $12.25 | 0.4 |
| 3/4 | 530-3/4 | 2X318 | 24.61 | 16.95 | 0.6 |

## E VACUUM RELIEF VALVE

- 1/2" male inlet connection
- Maximum water working pressure: 200 PSI
- Maximum temperature: 250°F

Automatically vents closed system to atmosphere when a vacuum is created. Prevents vacuum conditions which could siphon water from the system and burn out a heater or collapse a tank. Opens at less than 1/2" vacuum. Also suitable for steam service. Maximum pressure for steam service: 15 PSI. Tested and rated under ANSI Z21.22. AGA Certified. Watts brand (N36).

**No. 6A772.** Shpg. wt. 0.6 lbs. List $19.70.
Each ..... $13.99

## F WATER PRESSURE REDUCING VALVES

- Bronze body with integral stainless steel strainer and bypass feature
- Standard setting: 50 lbs.
- Maximum temperature: 180°F

Can be adjusted from 25-75 lbs. delivery pressure to the system. Nos. 2P080 and 2P081 include a union fitting that can be used on either side, and both ends are NPT threaded. Meets ASSE Standard 1003 (ANSI A112.26.2) and is listed by IAPMO.

| Size | Max. Supply PSI | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2" | 400 | N35-BU-1/2 | 2P080 | $53.07 | $37.95 | 2.8 |
| 3/4 | 400 | N35-BU-3/4 | 2P081 | 59.07 | 41.95 | 2.7 |
| 1 | 300 | 25AUB-1 | 3A557 | 100.87 | 72.95 | 5.5 |

## G WATER PRESSURE REGULATOR

- Brass body
- Initial pressures up to 300 PSI
- 1/2" NPT female inlet and outlet connections
- Maximum temperature: 140°F
- 1/4" pressure gauge connection

Use for water, No. 2 fuel, and other liquids. Meets requirements for beverage dispensing equipment, paint spraying, pressure washers, drinking fountains, and many other services. Reduced pressure regulation from 3-50 PSI. Strainers (listed below) are recommended for use with regulators. Watts brand (263A).

**No. 2A645.** Shpg. wt. 1.3 lbs. List $45.59.
Each ..... $32.95

## H V-TYPE STRAINERS

V-type water strainers are used for beverage dispensers, ice cube makers, and instrument control systems. Bodies are constructed of cast bronze and have screwed end connections. Efficient and compact design has stainless steel strainer-screen which is easily cleaned by removing bottom cap. Working water pressure up to 250 PSI. Available in 4 sizes ranging from 1/8 to 1/2" NPT pipe. Watts brand (27 Series).

| Inlet / Outlet | Dimensions (In.) W | H | Screen Mesh | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/8" | 1 | 1 | 40 | 3P855 | $11.76 | $11.82 | 0.3 |
| 1/4 | 2 | 1 | 40 | 3P856 | 15.80 | 12.63 | 0.4 |
| 3/8 | 2 | 2 | 24 | 3P857 | 19.21 | 15.77 | 0.4 |
| 1/2 | 2 | 2 | 24 | 3P858 | 23.85 | 19.06 | 1.0 |

# FLOAT VALVE ASSEMBLIES, BALL VALVES, GATE VALVES AND FLOATS

## BRONZE FLOAT VALVE ASSEMBLIES

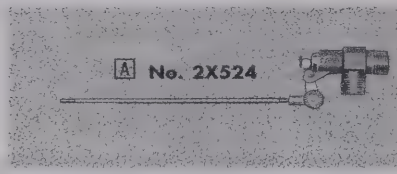
WATTS REGULATOR

### A 3/8 TO 1" ASSEMBLIES

Valve features machined-in seat and Buna N seals, cotter pin pivot assembly and fully adjustable float arm, male pipe threaded inlet and outlet. Float rod is solid brass with 1/4"-20 thread both ends. Watts brand.

### B 1¼ TO 2" ASSEMBLIES

Valve features machined-in seat and Buna N seals, cotter pin pivot assembly and fully adjustable float arm. Female pipe thread inlet and 2 x 1/2" free-flow outlet. Solid brass float rod with 3/8"-16 thread both ends. Watts brand.




**RECOMMENDED FLOAT SIZES**

| Valve Size (In.) | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 |
|---|---|---|---|---|---|---|---|---|
| 3/8 | 4" Diam. Float | | 4 x 5" Float | 5" Diam. Float | 6" Diam. Float | | | |
| 1/2 | 4" Diam. Float | 4 x 5" Float | 5" Diam. Float | 6" Diam. Float | | | 8" Diam. Float | |
| 3/4 | 4" Diam. Float | 4 x 5" Float | 5" Diam. Float | 6" Diam. Float | 7" Diam. Float | | | |
| 1 | 7" Diam. Float | 8" Diam. Float | | 10" Diam. Float | | | 12" Diam. Float | |
| 1¼ to 2 | 8" Diam. Float | | 10" Diam. Float | | 12" Diam. Float | | — | |

| Key | NPT Size (In.) (Inlet x Outlet) | Stem Length (In.) | Stem Fitting | Valve Flow Pressure | Valve Flow Flow | Valve Flow Pressure | Valve Flow Flow | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3/8 Male x 3/8 Male | 10 | 1/4-20 | 50 | 14 GPM | 100 | 21GPM | ST375 | **3P936** | $15.35 | **$10.95** | 0.8 |
| A | 1/2 Male x 1/2 Male | 10 | 1/4-20 | 50 | 20 | 100 | 31 | ST500 | **2X524** | 15.12 | **12.46** | 0.9 |
| A | 3/4 Male x 3/4 Male | 10 | 1/4-20 | 50 | 40 | 100 | 60 | ST750 | **2X525** | 16.38 | **13.10** | 0.9 |
| A | 1 Male x 1 Male | 12 | 1/4-20 | 50 | 100 | 100 | 150 | ST1000 | **3P937** | 34.37 | **27.60** | 1.5 |
| B | 1¼ Female x 2 x ½ Oval Outlet | 12 | 3/8-16 | 50 | 250 | 100 | 348 | 1250 | **3P938** | 60.39 | **44.00** | 3.1 |
| B | 1½ Female x 2 x ½ Oval Outlet | 12 | 3/8-16 | 50 | 250 | 100 | 348 | 1500 | **3P939** | 59.97 | **48.45** | 2.9 |
| B | 2 Female x 2 x ½ Oval Outlet | 12 | 3/8-16 | 50 | 250 | 100 | 348 | 2000 | **3P940** | 60.96 | **45.80** | 3.4 |

## BRASS SOLDER-END BALL VALVES

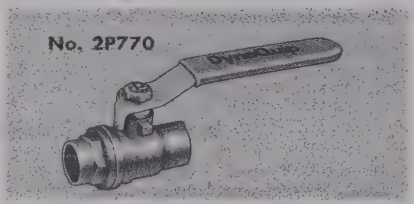
**Industrial quality** two-piece brass ball valves have standard porting and solder (sweat) ends at both ends. Suitable for standard and lead-free solder.

**Features include:** PTFE seats, brass ball, silicon bronze blowout-proof stem, and graphite filled PTFE stem packing.

Each valve is individually tested for leaks. 400 PSI WOG* (125 PSI with saturated steam).

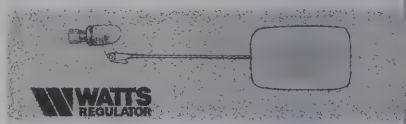
**Corrosion-resistant** zinc dichromate plated steel handle and nut with dipped plastisol handle grip. Meets Federal Specification WW-V-35C, Type II, Composition BZ, Style 3, End Connection C, Class 400.

(*) Maximum working pressure, water, oil, gas.




| Inlet & Outlet (In.) | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 | **2P770** | $8.15 | **$6.55** | **$6.22** | 0.6 |
| 3/4 | **2P771** | 11.65 | **9.10** | **8.65** | 0.8 |
| 1 | **2P772** | 18.50 | **14.88** | **14.14** | 1.3 |

## COMPLETE FLOAT VALVE ASSEMBLY

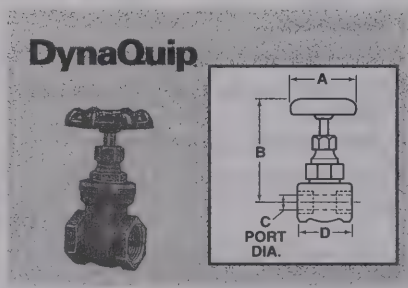



- 3 GPM @ 100 PSI
- Solid brass body
- 304 Stainless steel seat (orifice)
- Adjustable level control
- Polypropylene float and copper stem
- 1/4" Brass compression fitting for 1/4" OD tubing
- Watts brand (M1/4FSS)

**No. 2X768.** Shpg. wt. 0.3 lbs. List.....$4.54. Each.....**$3.49**

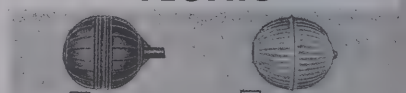
## BRASS GATE VALVES

Brass gate valves to be used as main fluid shutoff in plumbing systems and liquid piping systems where positive shutoff is required. Valve features adjustable packing which allows easy adjustments to be made in the operating system if stem is leaking or easy replacement when system is down for maintenance. Non-rising stem provides stable height dimension for system design. Bonnet type, screw-in design. 200 PSI WOG maximum pressure. Temperature range of -20 to 150°F. For use only with fluids compatible with valve material construction. Dynaquip brand.




| Size (In.) | Dimensions (In.) A | B | C | D | Dynaquip Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 2.09 | 2.91 | 0.31 | 1.57 | 183001 | **2A136** | $5.77 | **$5.11** | **$4.86** | 0.6 |
| 3/8 | 2.09 | 2.91 | 0.39 | 1.61 | 183002 | **2A137** | 5.77 | **5.11** | **4.86** | 0.6 |
| 1/2 | 2.09 | 3.00 | 0.51 | 1.70 | 183003 | **2A138** | 5.77 | **5.12** | **4.87** | 0.7 |
| 3/4 | 2.09 | 3.54 | 0.75 | 1.89 | 183004 | **2A139** | 7.44 | **6.62** | **6.29** | 0.8 |
| 1 | 2.28 | 3.94 | 0.98 | 2.09 | 183005 | **2A140** | 9.27 | **8.22** | **7.81** | 1.1 |
| 1¼ | 2.87 | 4.65 | 1.26 | 2.32 | 183006 | **2A141** | 13.79 | **12.26** | **11.65** | 1.7 |
| 1½ | 2.87 | 5.12 | 1.50 | 2.48 | 183007 | **2A142** | 17.34 | **15.45** | **14.67** | 2.1 |
| 2 | 3.31 | 5.75 | 1.97 | 2.72 | 183008 | **2A143** | 25.84 | **21.73** | **20.65** | 2.9 |

## FLOATS




For float valves, sump pumps, etc. 4" diameter x 5" long. Highly buoyant design. Float No. 2P010 is same model used on Tee pumps, Nos. 3P611 and 3P612. Copper float No. 2P009 has 1/4"-20 thread. Copper float No. 5P231 has 3/8"-16 thread.

| Key | Stock No. | List | Each | Lots 12 | Shpg Wt. |
|---|---|---|---|---|---|
| A* | **2P010** | $3.30 | **$2.45** | **$1.99** | 0.2 |
| B | **2P009** | 7.00 | **5.22** | **4.18** | 0.2 |
| B | **5P231** | 7.00 | **5.25** | **4.18** | 0.3 |

(*) Not threaded, will self thread 1/4"-20 rod.

# FLOATS AND PLUMBING SPECIALTY PRODUCTS

## HEAVY-DUTY FLOAT BALLS

**Copper Float Balls.** High grade copper construction. •Firmly bonded overlapping joints.

**Plastic Float Balls.** Non-electrolytic floats are highly corrosion resistant. Feature all injection molded polyethylene construction and is resistant to sunlight deterioration.

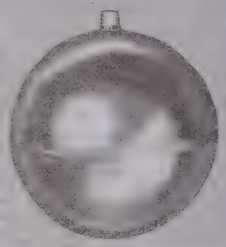
**No. 4UX70. Threaded adapter** has male 3/8"-16 x female 1/4"-20 threaded connection.

***New* No. 4UX70.** Shpg. wt. 0.1 List $12.70. Each.....$11.55

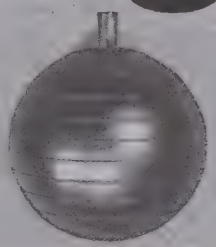
| Float Dia. (Inc.) | Thread Connection (In.) | Watts Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **COPPER FLOAT BALLS** | | | | | | |
| **6** | 1/4-20 | C6FLT | **4UV75** | $24.69 | **$22.45** | 0.1 |
| **8** | 3/8-16 | C8FLT | **4UV76** | 66.38 | **60.35** | 0.3 |
| **10** | 3/8-16 | C10FLT | **4UV71** | 129.52 | **117.75** | 4.0 |
| **12** | 3/8-16 | C12FLT | **4UV72** | 238.97 | **217.25** | 4.0 |
| **PLASTIC FLOAT BALLS** | | | | | | |
| **6** | 1/4-20 | P6FLT | **4UV73** | 8.14 | **7.40** | 0.1 |
| **8** | 3/8-16 | P8FLT | **4UV74** | 9.73 | **8.85** | 0.1 |

WATTS REGULATOR

*New*



No. 4UV75, 4UV76, 4UV71, 4UV72 Copper



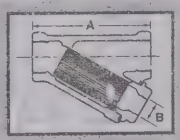
No. 4UV73, 4UV74, Plastic

## Y-TYPE STRAINERS

WATTS REGULATOR



No. 3P849



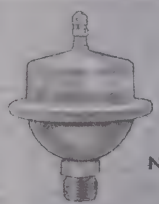

20 mesh, 840 micron stainless steel strainer screen; 250 lb. iron body with screwed ends. Used for liquid or steam service and install upstream to protect valves, regulators, solenoids, and meters from dirt, rust, and pipe scale. Self-clean by opening valve or plug connected to blow-off outlet. Closure plug not included. Working pressure: steam 250 PSI @ 406°F; water, oil, and gas 400 PSI @ 100°F. Watts brand (77SI Series).

| Inlet / Outlet (In.) | Dimensions (In.) A | B* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4** | 3 9/16 | 1/4 | **3P847** | $11.20 | **$8.97** | 2.1 |
| **3/8** | 3 9/16 | 1/4 | **3P848** | 11.20 | **9.24** | 1.4 |
| **1/2** | 3 9/16 | 3/8 | **3P849** | 11.83 | **9.45** | 1.8 |
| **3/4** | 3 3/4 | 3/8 | **3P850** | 15.75 | **12.59** | 2.5 |
| **1** | 4 | 3/4 | **3P851** | 21.29 | **17.91** | 4.0 |
| **1 1/4** | 5 | 3/4 | **3P852** | 31.80 | **22.95** | 4.5 |
| **1 1/2** | 5 3/4 | 1 | **3P853** | 51.62 | **30.95** | 6.4 |
| **2** | 7 | 1 | **3P854** | 62.86 | **45.00** | 10.0 |

(*) Female NPT pipe size.

## WATER HAMMER ARRESTOR

WATTS REGULATOR



No. 3A559

- **1/2" Male NPT pipe connection**
- **Maximum working pressure: 150 PSI**
- **Maximum shock pressure: 200 PSI**
- **Maximum velocity: 10 FPS**
- **Total volume: 10 cu-in.**
- **Maximum temperature: 180°F**

Permanent precharged air chamber (to 30 PSI) and sealed-in diaphragm flexes to absorb shock. Use in installation of dishwashers, washing machines, and other quick closing fixtures. Watts brand (150A).

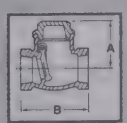
**No. 3A559.** Shpg. wt. 0.7 lbs. List $23.28.
Each.....$16.95

## DYNAQUIP SWING CHECK VALVES

DynaQuip



No. 2A130




Swing check valves of cast brass designed to prevent fluid backflow in plumbing or liquid piping systems. Positive seating disc allows flow only in one direction. Screw-in cap provides easy access for periodic cleaning. Rated for 200 PSI WOG. Operating temperature range: -20 to 150°F. For use only with fluids compatible with the valve materials of construction.

| Size (In.) | Dimensions (In.) A | B | Dynaquip Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/2** | 1.38 | 2.17 | 184003 | **2A130** | $5.77 | **$5.04** | **$4.79** | 0.4 |
| **3/4** | 1.54 | 2.36 | 184004 | **2A131** | 7.45 | **6.58** | **6.25** | 0.6 |
| **1** | 1.77 | 2.68 | 184005 | **2A132** | 10.17 | **8.91** | **8.46** | 0.8 |
| **1 1/4** | 1.97 | 3.07 | 184006 | **2A133** | 14.67 | **12.98** | **12.33** | 1.2 |
| **1 1/2** | 2.21 | 3.50 | 184007 | **2A134** | 20.25 | **17.79** | **16.90** | 1.9 |
| **2** | 2.56 | 4.13 | 184008 | **2A135** | 31.19 | **27.10** | **25.75** | 2.8 |

# NIBCO SPECIALTY AND COMMERCIAL VALVES

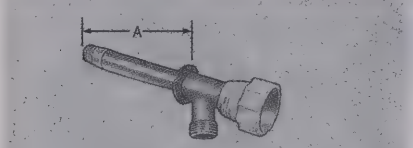


No. 5E420

## GARDEN HOSE VALVES

Valves have threaded end, solder end to hose outlet. Rated at 125 lb. WOG to 180°F.

| Nominal Size (In.) | Dimensions A (In.) | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 | 3 5/8 | 61 | 5E420 | $8.03 | $7.30 | $6.57 | 10 | 0.6 |
| 3/4 | 3 3/4 | 61 | 5E421 | 8.03 | 7.30 | 6.57 | 10 | 0.6 |

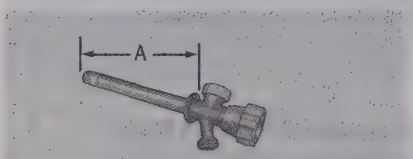


No. 5E422

## 1/2" FROSTPROOF SILLCOCKS

Semi-red bronze body with a brass stem with TFE impregnated asbestos packing, and a Buna-N disc for positive shut-off. Built-in lockshield. Hose should always be removed in freezing weather. Allow 1/8" pitch per foot when installing.

| Dimension A (In.) | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4 | 80 | 5E422 | $14.85 | $13.50 | $12.15 | 10 | 1.2 |
| 6 | 80 | 5E423 | 16.56 | 14.15 | 12.74 | 10 | 1.3 |
| 8 | 80 | 5E424 | 17.21 | 15.65 | 14.09 | 10 | 1.5 |
| 10 | 80 | 5E425 | 16.66 | 15.15 | 13.64 | 10 | 1.6 |
| 12 | 80 | 5E426 | 17.54 | 15.95 | 14.36 | 10 | 1.7 |

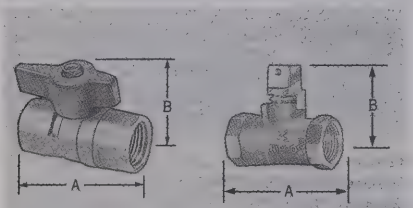


No. 5E430

## 1/2" ANTI-SIPHON FROSTPROOF SILLCOCKS

Constructed of precision machined bronze/copper components and have a Buna-N disc for positive shut-off. Prevents backflow and drains automatically. Allow 1/8" pitch per foot when installing. Nibco brand.

| Dimension A (In.) | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 4 | 90 | 5E428 | $19.80 | $18.00 | $16.20 | 20 | 1.1 |
| 6 | 90 | 5E429 | 21.83 | 19.85 | 17.87 | 20 | 1.2 |
| 8 | 90 | 5E430 | 21.28 | 19.35 | 17.42 | 20 | 1.4 |
| 10 | 90 | 5E431 | 22.42 | 20.39 | 18.35 | 20 | 1.4 |
| 12 | 90 | 5E432 | 22.66 | 20.60 | 18.54 | 20 | 1.5 |

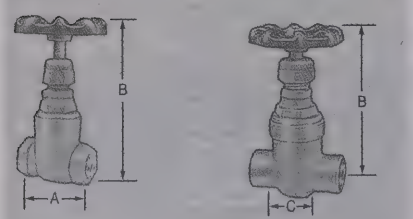


No. 5E434 Lever Handle
No. 5E436 Square Handle

## GAS BALL VALVES

Tested and certified by the American Gas Association and conform to ANSI Z21.15B for natural, manufactured, and mixed liquid petroleum, and LP gas-air mixtures. Capacities: 1/2" 301,800 BTUs per hour and 3/4" 788,000 BTUs per hour. Cast brass body and plug, brass stem, gland and stem gland screw and chrome-plated brass ball. AGA rated at 2 PSI. Made in Italy. Nibco brand.

| Nominal Size (NPT) (In.) | Dimensions (In.) A | B | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **LEVER HANDLE** | | | | | | | | | |
| 1/2 | 2 1/4 | 1 1/4 | GB-1 | 5E434 | $4.01 | $3.65 | $3.29 | 10 | 0.3 |
| 3/4 | 2 1/2 | 1 3/8 | GB-1 | 5E435 | 5.94 | 5.40 | 4.86 | 10 | 0.6 |
| **SQUARE HANDLE** | | | | | | | | | |
| 1/2 | 2 1/2 | 1 1/4 | GB-2 | 5E436 | 5.11 | 4.65 | 4.19 | 10 | 0.4 |
| 3/4 | 2 1/2 | 1 3/8 | GB-2 | 5E437 | 7.04 | 6.40 | 5.76 | 10 | 0.6 |



No. 5E443 Threaded Connection
No. 5E446 Solder Connection

## COMMERCIAL GATE VALVES

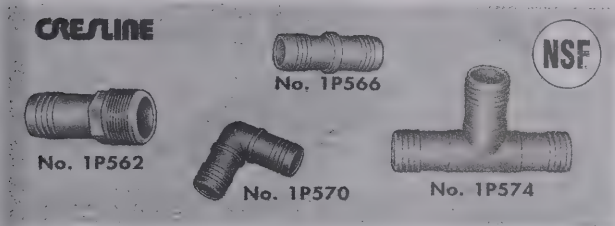
Block shaped wedge provides better control over wedge travel, eliminating damage to seating surface due to chatter. Pressure ratings: 200 PSI nonshock cold water, oil or gas; 125 PSI saturated steam to 353°F and fluid to 406°F. Bronze body, wedge, screw-in bonnet, and stuffing box conform to ANTM B-62. Valve conforms to MSS SP-80. Non-rising stem. Nibco brand.

| Nominal Size (In.) | Dimensions (In.) A | B | C | Nibco Series | Stock No. | List | Each | Lots | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THREADED CONNECTION** | | | | | | | | | | |
| 3/8 | 1 11/16 | 3 3/8 | — | T113 | 5E439 | $17.76 | $16.15 | $14.54 | 10 | 0.7 |
| 1/2 | 1 15/16 | 3 5/8 | — | T113 | 5E440 | 15.71 | 14.29 | 12.86 | 10 | 0.6 |
| 3/4 | 2 1/16 | 3 29/32 | — | T113 | 5E441 | 19.52 | 17.75 | 15.98 | 10 | 1.1 |
| 1 | 2 7/16 | 4 11/16 | — | T113 | 5E442 | 24.91 | 22.65 | 20.39 | 30 | 1.8 |
| 1 1/4 | 2 5/8 | 5 7/32 | — | T113 | 5E443 | 36.68 | 33.35 | 30.02 | 30 | 2.6 |
| 1 1/2 | 2 7/8 | 6 1/4 | — | T113 | 5E444 | 43.17 | 39.25 | 35.33 | 10 | 3.5 |
| 2 | 3 1/16 | 7 1/16 | — | T113 | 5E445 | 56.43 | 51.30 | 46.17 | 10 | 5.1 |
| **SOLDERED CONNECTION** | | | | | | | | | | |
| 3/8 | — | 3 3/8 | 11/16 | S113 | 5E446 | 17.98 | 16.35 | 14.72 | 10 | 0.7 |
| 1/2 | — | 3 5/8 | 3/4 | S113 | 5E447 | 15.95 | 14.50 | 13.05 | 10 | 0.7 |
| 3/4 | — | 2 29/32 | 7/8 | S113 | 5E448 | 18.22 | 16.57 | 14.91 | 10 | 0.8 |
| 1 | — | 4 11/16 | 1 | S113 | 5E449 | 25.85 | 23.50 | 21.15 | 5 | 1.5 |
| 1 1/4 | — | 5 7/32 | 1 3/16 | S113 | 5E450 | 38.61 | 35.10 | 31.59 | 2 | 3.5 |
| 1 1/2 | — | 6 1/4 | 1 1/4 | S113 | 5E451 | 44.00 | 40.00 | 36.00 | 10 | 2.9 |
| 2 | — | 7 1/16 | 1 5/16 | S113 | 5E452 | 61.16 | 55.60 | 50.04 | 10 | 4.3 |


You'll find the perfect fit for all your plumbing needs — All right here.

# PLASTIC PIPE, PIPE FITTINGS AND HOSE FITTINGS

## PLASTIC PIPE FITTINGS




For use with 1/2 to 1¼" flexible plastic pipe (Nos. 3P486, 3P315, 3P316, and 3P317 or other plastic pipe which meets ASTM-2239 standard). Gray PVC plastic material. Use with hose clamps. Stainless steel parts. Fittings meet ASTM-D2609 and ASTM-D1784 standards. NSF Approved. Cresline brand.

| Type | Pipe Size (In.) | Cresline Model | Stock No. | List | Each | 10 Lots, Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Adapter | 1/2 | 75003 | **1P562** | $0.85 | **$0.41** | **$0.34** | 0.1 |
| | 3/4 | 75005 | **1P563** | 0.92 | **0.47** | **0.39** | 0.1 |
| | 1 | 75007 | **1P564** | 1.05 | **0.52** | **0.43** | 0.1 |
| | 1¼ | 75009 | **1P565** | 1.65 | **0.84** | **0.67** | 0.1 |
| Coupling | 1/2 | 75023 | **1P566** | 0.82 | **0.42** | **0.34** | 0.1 |
| | 3/4 | 75025 | **1P567** | 0.95 | **0.48** | **0.39** | 0.1 |
| | 1 | 75027 | **1P568** | 0.92 | **0.55** | **0.45** | 0.1 |
| | 1¼ | 75030 | **1P569** | 1.55 | **0.80** | **0.65** | 0.1 |
| Elbow | 1/2 | 75070 | **1P570** | 1.60 | **0.85** | **0.67** | 0.1 |
| | 3/4 | 75072 | **1P571** | 1.98 | **1.00** | **0.82** | 0.1 |
| | 1 | 75075 | **1P572** | 2.07 | **1.06** | **0.90** | 0.1 |
| | 1¼ | 75077 | **1P573** | 2.40 | **1.26** | **1.02** | 0.2 |
| Tee | 1/2 | 75049 | **1P574** | 1.69 | **0.87** | **0.70** | 0.1 |
| | 3/4 | 75052 | **1P575** | 1.92 | **0.98** | **0.79** | 0.1 |
| | 1 | 75054 | **1P576** | 2.44 | **1.24** | **1.01** | 0.2 |
| | 1¼ | 75055 | **1P577** | 3.90 | **1.99** | **1.60** | 0.1 |

## POLYETHYLENE PIPE




**CRESLINE 25 YEAR LIMITED WARRANTY**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Corrosion-proof, flexible black polyethylene pipe, easily installed. Lightweight. For water pump installations, including deep-well submersible to a depth of 140 ft. Max. working temperature 73.4°F, max 1HP pump. Meets ASTM-2239 standard. National Sanitation Foundation (NSF) Approved. Cresline brand.

| Pipe Size (In.) | O.D. (In.) | I.D. (In.) | Max. PSI | Cresline Model | Stock No. | 100-Ft. Coil List | 100-Ft. Coil Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/2** | 0.742 | 0.622 | 125 | 18200 | **3P486** | $17.80 | **$13.55** | 6.0 |
| **3/4** | 0.944 | 0.824 | 100 | 18316 | **3P315** | 20.55 | **16.97** | 8.0 |
| **1** | 1.169 | 1.049 | 80 | 18421 | **3P316** | 30.25 | **24.78** | 10.0 |
| **1¼** | 1.526 | 1.380 | 80 | 18436 | **3P317** | 58.45 | **41.95** | 15.0 |

## HOSE FITTINGS

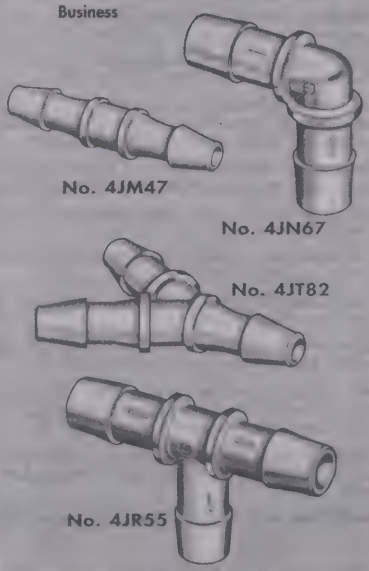
Single-barb hose fittings are available in two materials:

**Black Nylon:** Provides good tensile strength for general purpose.

**Natural PVDF (Polyvinylidene Fluoride):** Provides ultimate chemical resistance and mechanical strength and toughness.

- Precision molded, instrument quality
- Tubing ID ranges from 1/4 to 1"
- Sold only in packages of 10
- Eldon James brand

Women-Owned Business



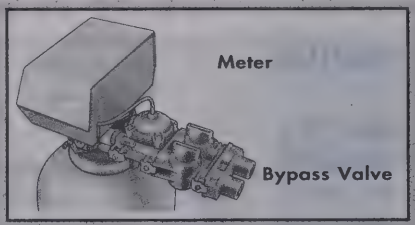

### HOSE FITTINGS SPECIFICATIONS AND ORDERING DATA

| Description | I.D. (In.) | BLACK NYLON Stock No. | List | Each Pkg. | NATURAL PVDF Stock No. | List | Each Pkg. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Coupler | 1/4 | **4JM47** | $3.60 | **$3.00** | **4JM48** | $17.76 | **$14.80** | 0.1 |
| | 3/8 | **4JM53** | 3.60 | **3.00** | **4JM54** | 19.56 | **16.30** | 0.1 |
| | 1/2 | **4JM56** | 3.60 | **3.00** | **4JM57** | 22.92 | **19.10** | 0.2 |
| | 5/8 | **4JM38** | 3.90 | **3.25** | **4JM39** | 26.16 | **21.80** | 0.3 |
| | 3/4 | **4JM41** | 6.90 | **5.75** | **4JM42** | 33.36 | **27.80** | 0.4 |
| | 1 | **4JM44** | 7.50 | **6.25** | **4JM45** | 43.32 | **36.10** | 0.6 |
| Elbow | 1/4 | **4JN67** | 4.20 | **3.50** | **4JN68** | 19.92 | **16.60** | 0.1 |
| | 3/8 | **4JN70** | 4.50 | **3.75** | **4JN71** | 21.12 | **17.60** | 0.1 |
| | 1/2 | **4JN73** | 4.50 | **3.75** | **4JN74** | 22.92 | **19.10** | 0.2 |
| | 5/8 | **4JN58** | 5.40 | **4.50** | **4JN59** | 30.12 | **25.10** | 0.4 |
| | 3/4 | **4JN61** | 6.00 | **5.00** | **4JN62** | 37.92 | **31.60** | 0.4 |
| | 1 | **4JN64** | 7.20 | **6.00** | **4JN65** | 47.52 | **39.60** | 0.7 |
| "Y" Adapter | 1/4 | **4JT82** | 15.00 | **12.50** | **4JT83** | 30.00 | **25.00** | 0.1 |
| | 3/8 | **4JT64** | 11.70 | **9.75** | **4JT65** | 67.86 | **56.55** | 0.2 |
| | 1/2 | **4JT67** | 12.60 | **10.50** | **4JT68** | 76.56 | **64.05** | 0.3 |
| "T" Adapter | 1/4 | **4JR55** | 4.50 | **3.75** | **4JR56** | 20.16 | **16.80** | 0.1 |
| | 3/8 | **4JR58** | 4.50 | **3.75** | **4JR59** | 22.92 | **19.10** | 0.1 |
| | 1/2 | **4JR61** | 4.80 | **4.00** | **4JR62** | 25.92 | **21.60** | 0.2 |
| | 5/8 | **4JR46** | 5.40 | **4.50** | **4JR47** | 33.36 | **27.80** | 0.4 |
| | 3/4 | **4JR49** | 5.70 | **4.75** | **4JR50** | 42.12 | **35.10** | 0.5 |
| | 1 | **4JR52** | 6.60 | **5.50** | **4JR53** | 54.12 | **45.10** | 0.9 |

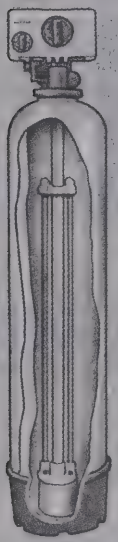
# RESIDENTIAL WATER SOFTENERS

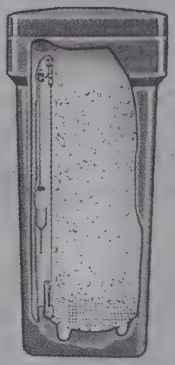
We recommend that your water be analyzed before selecting water treatment equipment. Water analysis service kit No. 3P991 is available, see page 3074.

## MacCLEAN®



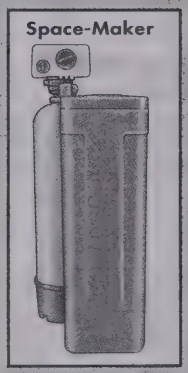

**FULL FLOW BYPASS VALUE is standard on all softeners.**





### MacCLEAN LIMITED WARRANTY

MacClean warrants all control valves on softeners and filters, including all internal and electrical components for up to 3 years and polyglass tanks for 5 years from date of manufacture. Text of warraanty available on request. See "Manufacturer's Warranties" on page opposite inside back cover.






**Microprocessor controlled models available for both time and meter initiated regeneration. Program is not lost even during power outages. Digital LCD read-out makes programming unit easy.**

**NSF** **Tested and listed under NSF Standard 44 for softening performance**

**Most MacCLEAN N Series softeners have been performance tested and validated by NSF (National Sanitation Foundation). This assures that components will not impart toxic chemicals to the water.**

**Standard Features:**

**Dependable, fully automatic motorized piston control valve** can be programmed to condition the hardest water and at the same time provide maximum salt efficiency. Rugged, glass filled Noryl control valve has only one moving part in water.

**Polyglass reinforced mineral tank** will never rust or corrode and is semi-transparent for visual inspection.

**Highest quality ion exchange resin** is stable and uniform for excellent exchange capacity and long life.

**Cyclone distributor** is a proprietary backwash system that vigorously scrubs the resin beads free of precipitated iron and other solids that ordinarily coat the beads.

**Meter water softeners** monitor water usage like a home water meter and signal regeneration according to amount of water used.

**Full Flow Bypass valve (included)** has 1" and 3/4" male pipe thread connections.

**Fully automatic, durable timer assembly** with heavy-duty gears makes programming simple.

**Float actuated safety brine valve** prevents overflow of brine maker during power outage.

**Heavy-duty polyethylene brine maker** has 250 lb. salt capacity that minimizes frequency of salt refill.

**Salt support assembly** allows use of almost any type of salt including inexpensive rock salt, and minimizes "mushing" and necessity of frequent cleanouts.

**Compact space-maker models** are available where space is limited, but still have the advantage of separate mineral tank and brine tank.

**Installation and service video provided with all units.**

**Mechanical timer or meter.** Mechanical timer models (3P978; 3P979; 3P981; 5P236, and 3P984 through 3P986 are rugged, uncomplicated units that only require one setting (time of day) to program.

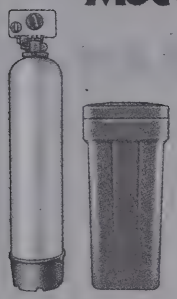
Nos. 3P977 and 3P982 are mechanical meter units. Utilize a simple and reliable turbine meter with mechanical valve to measure gallons of soft water used and to start regeneration based on actual water used rather than time. Eliminate costly premature regeneration, especially where water usage is highly unpredictable. Save water and salt. Turbine meter is accurate to 0.25 GPM.

**Microprocessor timer or meter.** All microprocessor units feature: 1. Quick and easy push button programming; 2. State of the art, Novram Memory that retains regeneration program even during power failures; 3. Digital display that show time of day, time of regeneration, length of regeneration cycles, and gallons consumed between regeneration; 4. Extra Cycle button that immediately initiates regeneration for additional soft water without disturbing normal program.

No. 3P975 is a microprocessor timer unit that uses an electronic time clock and mechanical valve. Can be set for 1-99 days between regeneration.

Nos. 3P973 and 3P974 are microprocessor meter units that use an electronic head, mechanical valve and a mechanical turbine meter to initiate regeneration after a programmed amount of soft water has been used. Turbine meter is accurate to 0.25 GPM. Microprocessor control uses a 9 volt battery backup.

# MacCLEAN®
# RESIDENTIAL WATER SOFTENERS



**MacCLEAN®**

**No. 3P981**
**RUST BUSTER**

**Superior iron removal and softening with one unit. Removes "clear water" iron up to 7 PPM. For best results, use Iron-X resin cleaner No. 3P966 with the salt. Private well systems should have precharged water tank only.**



**No. 5P236**
**ECONOMY SOFTENER**

**Built with same ruggedness as other units, but not equipped with the following features: bypass valve, salt support and cyclone. Use with block salt only.**

**Benefits of soft water:**

- **Removes hardness from water**
- **Improves the taste of beverages and foods cooked in water**
- **Washes clothing cleaner**
- **Makes bath soap and shampoo more effective**
- **Increases service life of water heaters and washers**
- **Removes small amounts of clear iron**

Water hardness is caused by dissolved calcium and magnesium compounds found in varying quantities in all municipal and well water supplies. These compounds form deposits similar to limestone and also combine with soap to produce soap scum. Deposits in pipes and appliances reduce water flow; interfere with operation. Soap scum causes streaks and spotting on glassware and accumulates on laundered fabrics causing discoloration and wear.

**HOW TO USE SIZING CHART:**

1. Determine adjusted water hardness by adding 3 times the amount of iron in the water in parts per million (PPM) to the hardness of the water in grains per gallon (GPG). Example: Water contains 19 GPG hardness and 2 PPM iron. Adjusted hardness equals 25 GPG [19+(3 x 2)]. Find the range on the left which includes this adjusted water hardness.
2. Locate the box intersected by Adjusted Water Hardness and No. of People in Household. Shading in box indicates which models would be suitable for your application. You may select a unit larger than indicated, but never smaller. Larger units allow you to regenerate less frequently.

| ADJUSTED WATER HARDNESS | NUMBER OF PEOPLE IN HOUSEHOLD | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1-10 | | | | | | | | | | |
| 11-20 | | | | | | | | | | |
| 21-30 | | | | | | | | | | |
| 31-40 | | | | | | | | | | |
| 41-50 | | | | | | | | | | |
| 51-60 | | | | | | | | | | |
| 61-70 | | | | | | | | | | |
| 71-80 | | | | | | | | | | |
| 81-90 | | | | | | | | | | |
| 91-100 | | | | | | | | | | |

3P978 — 3P984 3P975 5P236 3P977 3P973 — 3P985 3P979 3P981 3P974 — 3P986 3P982 — 3P983

Note: No. 3P983 light-duty commercial unit sold on page 3072.

| Max. Grain Capacity | Service Flow Rate (GPM) | Factory Salt Setting (Lbs.) | Salt Storage Capacity (Lbs.) | Tank Type | Dimensions (In.) W | D | H | MacCLEAN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MECHANICAL TIMER WATER SOFTENERS** | | | | | | | | | | | | |
| **15,000** | 4 | 6 | 125 | Space-Maker | 11 | 26 | 44 | ULS0501 | **3P978*** | $498.34 | **$428.25** | 61.0 |
| **22,500** | 6 | 6 | 300 | Two-Tank | 25 | 18 | 53 | US0751 | **3P984*** | 518.76 | **447.00** | 75.0 |
| **23,500** | 7 | 6 | 300 | Two-Tank | 26 | 18 | 53 | UTS0800 | **5P236†** | 466.55 | **285.75** | 82.0 |
| **30,000** | 7 | 6 | 300 | Two-Tank | 26 | 18 | 53 | US1001 | **3P985*** | 578.79 | **480.50** | 89.0 |
| **30,000** | 7 | 6 | 125 | Space-Maker | 11 | 26 | 44 | ULS1001 | **3P979*** | 579.22 | **474.00** | 83.0 |
| **34,000** | 8 | 12 | 300 | Rust Buster | 26 | 18 | 53 | USI1001 | **3P981** | 1029.00 | **822.00** | 142.0 |
| **45,000** | 8 | 9 | 300 | Two-Tank | 28 | 18 | 53 | US1501 | **3P986*** | 709.46 | **583.00** | 116.0 |
| **MECHANICAL METER WATER SOFTENERS** | | | | | | | | | | | | |
| **30,000** | 7 | 6 | 125 | Space-Maker | 11 | 26 | 42 | NLSM1001 | **3P977*** | 1307.09 | **790.00** | 84.0 |
| **60,000** | 8.5 | 12 | 300 | Two-Tank | 28 | 18 | 61 | NSM2001 | **3P982*** | 1083.18 | **655.50** | 142.0 |
| **MICROPROCESSOR TIMER WATER SOFTENERS** | | | | | | | | | | | | |
| **22,500** | 6 | 6 | 300 | Two-Tank | 25 | 18 | 51 | NES0751 | **3P975** | 1132.29 | **708.50** | 73.0 |
| **MICROPROCESSOR METER WATER SOFTENERS** | | | | | | | | | | | | |
| **30,000** | 7 | 6 | 125 | Space-Maker | 11 | 26 | 42 | NELSM1001 | **3P973** | 1396.44 | **840.50** | 84.0 |
| **45,000** | 8 | 9 | 300 | Two-Tank | 28 | 18 | 51 | NESM1501 | **3P974** | 1558.19 | **936.50** | 117.0 |

(*) Listed under NSF Standard 44. (†) Block salt only.

# MacCLEAN COMMERCIAL WATER SOFTENERS

## LIGHT-DUTY COMMERCIAL SOFTENER—90,000 GRAIN

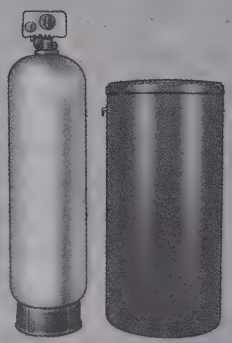
**High-capacity two-tank system** for use in boiler treatment, large home, office, and restaurant applications.

**1" glass-filled, Noryl control valve** has only one moving part in water and an easy to program timer. Dependable motorized piston control valve. Corrosion resistant fiberglass reinforced mineral tank. Stable and uniform high quality ion exchange resin.

**Safety brine valve** prevents overflow of brine maker. Brine maker holds 800 lbs. of salt. Salt support assembly allows use of almost any type of salt and minimizes mushing and frequent cleanouts.

**Unit designed** for temperatures to 100° F and pressure to 125 PSI.

**Installation and service video provided.**



MacCLEAN®

- **12 GPM service flow rate**

| Max. Grain Capacity | Service Flow Rate | Factory Salt Setting | Salt Storage | Dimensions (In.)* W | D | H | MacCLEAN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **90,000** | 12 GPM | 18 | 800 lbs. | 42 | 26 | 70 | US3000 | **3P983** | $1097.10 | **$1058.00** | 361.0 |

(*) Provides minimum work area around unit.

## COMMERCIAL WATER SOFTENERS—150,000 AND 360,000 GRAIN

**Two-tank systems** for use in schools, nursing homes, hospitals, motels, apartment buildings, car washes, laundries, and factories.

**2" Solid brass control valve** provides high service flow with minimal pressure drop. Durable solid brass motorized piston valve—6 cycle with timed brine refill. Can be programmed to regenerate during low demand periods.

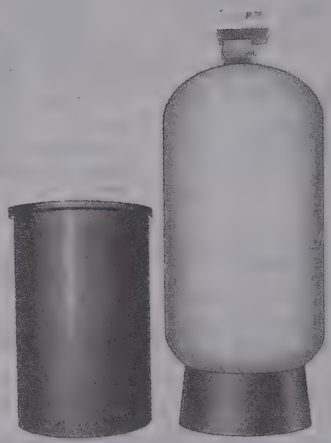
**Heavy-duty fiberglass mineral tank** never rusts or corrodes. High capacity ion exchange resin assures excellent exchange capacity and long life.

**Quartz gravel under drainage** assures multiple paths for water to exit tank, reducing pressure drop. Also provides uniform water flow across entire cross-sectional area of tank to prevent channeling.

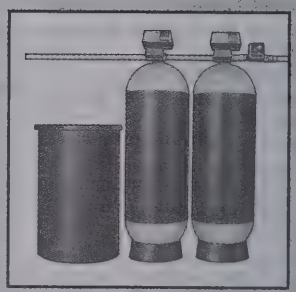
**Heavy-duty brine maker** complete with air check and salt support assembly to minimize brine tank cleanout. Large salt storage capacity for less frequent refills.

**Unit designed** for temperatures to 100°F and pressure to 125 PSI.

**Installation and service video provided.**



MacCLEAN®



**For higher flow rates, twenty-four hour soft water or emergency back-up multiple systems can be plumbed in parallel**

| Max. Grain Capacity | Service Flow Rate | Factory Salt Setting | Salt Storage | Dimensions (In.)* W | D | H | MacCLEAN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **150,000** | 22 GPM | 30 | 800 lbs. | 60 | 24 | 90 | KS05000 | **3P967** | $2490.81 | **$2086.00** | 549.0 |
| **360,000** | 65 | 72 | 1200 | 72 | 30 | 96 | KS12000 | **3P968** | 4322.24 | **3918.00** | 1102.0 |

(*) Provides minimum work area around unit.

## SIZING COMMERCIAL SOFTENERS

**Sizing:** Service flow rate is the most important factor in determining the correct unit for your application. If 24-hour soft water is required, multiple units are needed to handle the service flow during regeneration of each unit. After selecting the correct unit or units to handle the flow rate requirements, be sure the system is of adequate grain capacity.

**To calculate grain capacity:** Multiply maximum gallons of water used per day by the water hardness in grains per gallon. The result is the grains or capacity required per day. Compare the needed grain capacity with the capacity of the unit selected (based on flow rate) to insure that the unit is large enough. Example: application requires 5000 GPD x 20 grains/gal. = 100,000 grain. Application requires 100,000 grain unit or more.

# MacCLEAN RESIDENTIAL WATER FILTERS

## CHEM-FREE IRON FILTERS Nos. 3P976 AND 5P235

Remove most types of iron without the need for a chemical regenerant. Systems use air to oxidize iron from the water which can then be filtered by media. Come complete with hydrocharger air injector, tank, and media. Note: Either an air to water tank with an air release valve or a captive air type pressure tank are acceptable, but no air to water type without an air release. If the pH of your water is below 7, the filter media must be periodically replenished with MpH adder (No. 3P969 sold on page 3074). To ensure proper functioning of filter, water must be supplied by a submersible pump—not included. Tested and Listed under NSF Standard 42 for iron reduction.

## GREENSAND IRON FILTER No. 3P980

Automatically regenerates with No. 3P988 potassium permanganate. Removes up to 8 PPM clear water iron. Comes complete with potassium storage tank.

## UP-FLOW ACID NEUTRALIZER No. 3P990

Raises pH to stop blue/green stains, reduces corrosion in plumbing pipe and water using appliances. Uses no electricity, requires no backwashing. Up-flow design minimizes media "cementing". Requires annual replenishment with No. 3P970 neutralizer media, see page 3074.

## TASTE AND ODOR FILTER No. 3P971

Automatic whole house backwashing filter contains activated carbon to improve taste and odor of water by reducing the chlorine and musty smells.

## TURBIDITY FILTER No. 3P972

Reduces murkiness in water due to silt and other suspended materials from pond and lake water. Automatically backwashes suspended materials to drain. Can filter down to 20 microns. **Note:** If water supply is of unknown or questionable quality, it should be tested to ensure that it is microbiologically safe for consumption. Also, do not use for sand removal.

## SULFUR FILTER No. 3P987

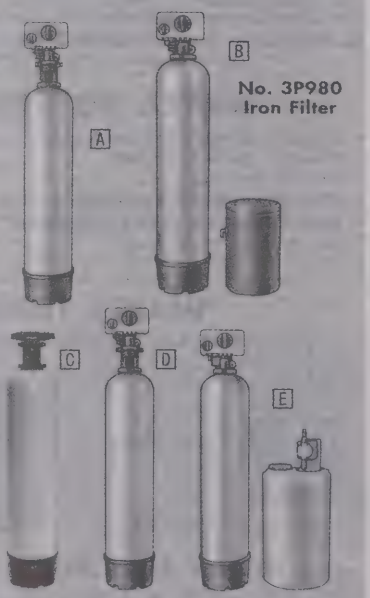
Removes up to 15 PPM of hydrogen sulfide gas. Shipped complete with electronic feed pump, solution tank, and automatic backwashing filter. Requires No. 3P989 Sul-X solution (sold separately).

**Note:** Pumping rate of well system is critical to operation of filters. Use following formula to check if your pump has adequate backwash requirements.

With pressure tank full, draw water into a container of known volume, measure the number of gallons drawn until the pump starts again. This is called Draw Down. Divide the number of gallons drawn by the cycle time and multiply the result by 60 to arrive at the pumping rate in gallons per minute (GPM).

## MacCLEAN®

- Iron filters eliminate rust stains, increase pH, improve taste, odor and color of water, use no salt or chemical regenerants, and conserve water
- Control valve design completes back washing quickly
- Temperature rating: 100°F at 125 PSI pressure
- 1" NPT water connection except No. 3P990 which is 3/4" NPT
- Installation and service video provided




No. 3P980 Iron Filter

| Fig. | Application | Filter Media | Flow Rates (GPM) Cont. | Service# | Pumping Rate Required | Dimensions (In.) W | D | H | MacCLEAN Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Iron | Chem-Free* | 3 | 5.7 | 7‡ | 12 | 18 | 58 | UIF1001 | 3P976 | $475.55 | $435.50 | 149.0 |
| A | Iron | Chem-Free* | 4 | 9 | 7‡ | 13 | 18 | 61 | UIF2001 | 5P235 | 546.63 | 518.00 | 243.0 |
| B | Iron | Greensand | 3 | 5 | 5 | 23 | 18 | 54 | UN1001G | 3P980 | 655.11 | 570.50 | 154.0 |
| C | Acid Neut. | Neutralizer Blend | 3 | 5 | 5† | 14 | 12 | 52 | UN1001 | 3P990 | 620.26 | 406.25 | 137.0 |
| D | Taste & Odor | Activated Carbon | 3 | 5 | 5 | 12 | 18 | 54 | UBW1001A | 3P971 | 493.47 | 460.00 | 86.0 |
| D | Turbidity | Filter Ag | 3 | 5 | 5 | 12 | 18 | 54 | UBW1001F | 3P972 | 472.37 | 421.25 | 83.0 |
| E | Sulfur | Sul-X | 3 | 6 | 5 | 26 | 18 | 54 | UX1001 | 3P987 | 1183.22 | 1150.00 | 155.0 |

(*) Requires addition of No. 3P969 MpH adder if untreated water has a pH below 7. (†) Requires annual addition of No. 3P970 neutralizer media. (‡) Chem-free filter Nos. 3P976 and 5P235 require a submersible pump that will deliver 7 GPM after the hydrocharger (comes with filter) is installed between pump and pressure tank. (#) 10 minutes or less with immediate recovery. No lawn sprinkling, no ground water heat pumps, no swimming pools

# WATER FILTER SELECTION CHART

| FILTER MODEL NO. | WATER PROBLEM: IRON | SULFUR | ACIDIC | CHLORINE | TURBIDITY |
|---|---|---|---|---|---|
| 3P976, 3P980, 5P235 | X | | | | |
| 3P987 | | X | | | |
| 3P990 | | | X | | |
| 3P971 | | | | X | |
| 3P972 | | | | | X |

**IRON:** Iron bearing water can leave rust stains on sinks, tubs, and toilets in addition to laundry, dishes, and glassware. Iron can also give a metallic flavor to water.

**SULFUR:** Hydrogen sulfide is an especially obnoxious contaminant. It produces a "rotten egg" odor and causes rapid deterioration of plumbing systems and water using appliances such as clothes washers, dishwashers, coffee makers, etc.

**ACIDIC WATER:** Acidic water is the result of a low pH. This condition can be very corrosive to the plumbing pipes and sometimes causes a blue/green stain.

**CHLORINE:** Many municipal water supplies as well as private well systems utilize chlorine as part of a method of water treatment. This can give a chlorine taste and odor to water.

**TURBIDITY:** Turbidity is caused by suspended material in water supply. The results of this can be a cloudy or murky water condition. Lakes and ponds often times have turbidity.

# WATER TEST KITS, WATER TREATMENT CHEMICALS AND FILTER MEDIA

## WATER ANALYSIS SERVICE KIT

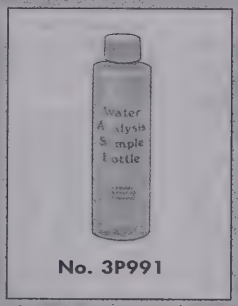
**For use when water testing information from local water company or municipal water service is not available.** Use the kit to send a sample of water to be treated, with completed data form, to MacCLEAN's laboratory. An analysis will be returned, together with a recommendation of proper softener or filter model. Kit includes plastic bottle, data sheet, and return shipping carton. Read and follow instruction on request for analysis form regarding proper sampling technique and fill out all requested information. Test for sulfur (rotten egg odor) must be performed on site.

**No. 3P991.** Shpg. wt. 0.1 lbs. List $2.08. Each ..... **$1.20**

## MASTER TEST KIT

**On-site test kit** accurately analyzes 7 water contaminants: hardness, iron, pH, manganese, tannic acid, hydrogen sulfide, and copper. Enough reagents are supplied to conduct approximately one hundred tests for each contaminant. Detailed instructions and premeasured reagents make this professional kit easy to use.

**No. 4P065.** Shpg. wt. 9.0 lbs. List $312.85. Each ..... **$297.75**




No. 3P991

MacCLEAN®



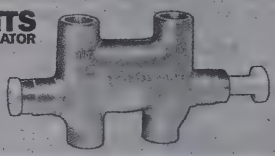
Master Test Kit
No. 4P065

## WATER SOFTENER BYPASS VALVE

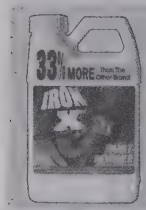
- **Rugged, durable bronze body, Noryl plunger, Buna N O-rings**
- **Easy to operate**
- **Eliminates need for grounding strap**
- **Interchangeable push rods change direction of water flow**
- **In and Out markings cast into body**
- **3/4" copper sweat connections**
- **3" center house ports**
- **Watts brand (M9500).**

**No. 6A773.** Shpg. wt. 2.5 lbs. List $41.10. Each ..... **$29.00**

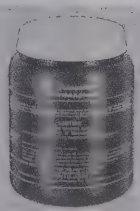
WATTS REGULATOR



## WATER TREATMENT CHEMICALS AND FILTER MEDIA




No. 3P966



No. 4P064




No. 3P969




No. 3P989

### IRON-X ALL PURPOSE RUST REMOVER

Restores capacity to iron fouled softener resin. Add 1/3 cup of Iron-X for each 100 lbs. of salt added to brine tank. Removes iron stains from clothing, bathroom fixtures, shower stalls, even house siding and concrete structures.

**No. 3P966.** Shpg. wt. 1.4 lbs. List $4.25. Each ..... **$4.10**

### POTASSIUM PERMANGANATE

**Used to regenerate greensand Iron Filter No. 3P980.** Technical grade of proper mesh size to assure proper dissolve rate in the saturator-regenerator tank. Be sure to read and follow special instruction on bottle for proper handling and usage.

**SPECIFICATIONS AND ORDERING DATA**

| Container Size | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1.5 lbs. | 3P988 | $13.72 | **$11.49** | 1.8 |
| 5 | 4P064 | 42.32 | **40.35** | 5.6 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

### MpH ADDER

**For Chem-Free Iron Filters, Nos. 3P976 and 5P235.** Used to remove iron when water pH is below 7.0. Add MpH Adder to replenish the filter's capability to adequately increase pH. Also beneficial when added to Up-Flow Neutralizer, No. 3P990, bed to improve pH adjustment when pH is 6.0 or lower.

**No. 3P969.** ❸ Shpg. wt. 4.2 lbs. List $10.83. Each ..... **$10.48**

### SUL-X SOLUTION

**Used to precipitate sulfur (rotten egg odor) from water** to a form that can be filtered by the Sulfur Filter, No. 3P987. Read and follow instructions on outside of bottle for proper handling and usage.

**No. 3P989.** ❸ Shpg. wt. 10.0 lbs. List $13.00. Each ..... **$10.95**

### ACID NEUTRALIZER FILTER MEDIA

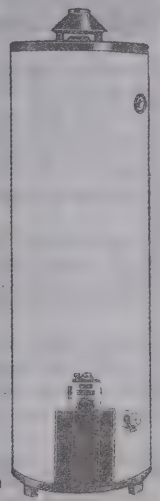
**A blend of calcium carbonate and magnesium oxide** used in the Up-Flow Neutralizer, No. 3P990. The neutralizing media will require periodic replenishment. Frequency and amount of replenishment depends on the volume of water used and its acidity prior to treatment. Filter media slightly increases the hardness of water, depending on raw water acidity and hardness.

**No. 3P970.** ❸ Shpg. wt. 47.0 lbs. List $33.41. Each ..... **$30.55**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Sheets (MSDS) are available. See page opposite inside back cover.

# ENERGY EFFICIENT GAS WATER HEATERS





- Not for use in mobile homes

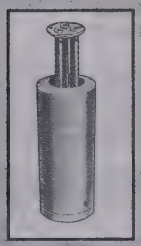
Rheem®

DESIGN AMERICAN GAS ASSOCIATION CERTIFIED

Replacement Parts Available 1-800-323-0620™

Nos. 6E700-6E711

Nos. 6E712-6E713



**High Efficiency Units (Nos. 6E712 & 6E713) Only:**

**Patented Unitized Heat Exchanger Core Design** welded before glass lining provides more heat transfer surface than a conventional single flue. Much higher BTU input can be employed, even while increasing thermal efficiency beyond conventional water heaters.

**NOTE: Conversion kits not available**

**All Units Feature:**

- Durable aluminized steel burner designed for efficient, quiet operation
- Temperature range: 60-160°F preset at 90°F
- 3/4" NPT water connections and relief valve opening
- Not supplied with T&P valve; order No. 4X563
- Stainless steel burners on LP units designed specifically for LP gas
- Meet or exceed National Appliance Energy Conservation Act (NAECA) requirements, ASHRAE Standard 90
- AGA Certified

**Energy Efficient Units Feature:**

- Four hole top providing easy access to 3/4" NPT water connection and relief valve opening
- Fuel efficient low input pilot
- Heavy gauge steel jacket with baked on enamel finish
- Glasslined tanks made of special materials, coated with an exclusive porcelain formula and fused to solid steel at 1600°F
- Energy cut-off device shuts off gas to pilot and burner if temperature exceeds safe limit

**High Efficiency Units Feature:**

- EverKleen™ — Patented, self-cleaning dip tube helps keep sediment in suspension through a spiraling, self-cleaning action
- Energy efficient flue baffle retains heat in flue longer for maximum heat transfer to tank water
- Simple but effective heat trap fittings cut convective heat loss by up to 60%
- Non-metallic corrosion-proof drain valve designed for quick draining
- Increased thermal efficiency resulting in lower operating cost
- High performance recovery
- Rigid polyurethane foam insulation for improved economy and fuel savings

## ENERGY EFFICIENT GAS WATER HEATERS

| Tank Size (Gallons) / Style | Gas Type | Recovery at 90° Rise* | Btu Input | Height (In.) to Top of Draft Hood | Height (In.) to Top of Heater | Jacket Dia. (In.) | Draft Hood Size (In.) | Height (In.) to Gas Connection | Height (In.) to T&P Opening | R-Factor | Energy Factor | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10 YEAR TANK WARRANTY; 2 YEAR PARTS WARRANTY** | | | | | | | | | | | | | | | |
| **40/Short** | Natural | 37.4 | 37,000 | 52 1/2 | 48 7/16 | 19 3/4 | 3 | 13 1/8 | 48 7/16 | 6.7 | 0.56 | **6E700** | $770.61 | **$391.50** | 138.0 |
| **50/Tall** | Natural | 40.4 | 40,000 | 60 15/16 | 56 7/8 | 19 3/4 | 3 | 13 1/8 | 56 7/8 | 7.3 | 0.54 | **6E701** | 843.67 | **423.75** | 158.0 |
| **8 YEAR TANK WARRANTY; 2 YEAR PARTS WARRANTY** | | | | | | | | | | | | | | | |
| **40/Tall** | Natural | 40.4 | 40,000 | 61 11/16 | 57 5/8 | 17 3/4 | 3 | 13 1/8 | 57 5/8 | 6.7 | 0.56 | **6E702** | 351.10 | **210.00** | 133.0 |
| **50/Tall** | Natural | 40.4 | 40,000 | 60 15/16 | 56 7/8 | 19 3/4 | 3 | 13 1/8 | 56 7/8 | 6.7 | 0.54 | **6E703** | 734.84 | **250.00** | 158.0 |
| **6 YEAR TANK WARRANTY; 2 YEAR PARTS WARRANTY** | | | | | | | | | | | | | | | |
| **30/Tall** | Natural | 32.3 | 32,000 | 59 | 55 5/8 | 15 3/4 | 3 | 13 1/8 | 55 5/8 | 6.7 | 0.57 | **6E704** | 191.40 | **167.00** | 102.0 |
| **40/Tall** | Natural | 34.3 | 34,000 | 59 7/8 | 56 1/2 | 17 3/4 | 3 | 13 1/8 | 56 1/2 | 6.7 | 0.56 | **6E705** | 264.80 | **170.00** | 125.0 |
| **50/Tall** | Natural | 36.4 | 36,000 | 59 3/8 | 56 | 19 3/4 | 3 | 13 1/8 | 56 | 6.7 | 0.55 | **6E706** | 231.12 | **195.00** | 150.0 |
| **75/Tall** | Natural | 76.3 | 75,500 | 64 1/8 | 60 1/2 | 26 1/4 | 4 | 14 5/8 | 54 7/16 | 17.3 | ‡ | **6E765** | 796.24 | **674.00** | 257.0 |
| **30/Short** | Natural | 26.3 | 26,000 | 48 3/8 | 45 1/4 | 17 3/4 | 3 | 13 7/16 | 45 1/4 | 6.7 | 0.57 | **6E708** | 198.80 | **172.00** | 102.0 |
| **40/Short** | Natural | 28.3 | 28,000 | 50 7/8 | 47 1/4 | 19 3/4 | 3 | 13 7/16 | 47 1/4 | 6.7 | 0.57 | **6E709** | 250.60 | **175.00** | 128.0 |
| **30/Tall** | LPG | 30.3 | 30,000 | 59 | 55 5/8 | 15 3/4 | 3 | 13 7/16 | 55 5/8 | 6.7 | 0.59 | **6E710** | 374.90 | **326.75** | 100.0 |
| **40/Tall** | LPG | 34.3 | 34,000 | 59 7/8 | 56 1/2 | 17 3/4 | 3 | 13 7/16 | 56 1/2 | 6.7 | 0.57 | **6E711** | 385.75 | **342.00** | 125.0 |
| **HIGH EFFICIENCY GAS WATER HEATERS** | | | | | | | | | | | | | | | |
| **10 YEAR TANK WARRANTY; 10 YEAR PARTS WARRANTY** | | | | | | | | | | | | | | | |
| **39** | Natural | 60.4 | 57,500 | 62 1/2 | 58 5/8 | 19 | 4 | 14 1/2 | 52 | 11.5 | 0.60 | **6E712** | 1017.10 | **517.00** | 167.0 |
| **50** | Natural | 81.0 | 75,000 | 62 15/16 | 59 1/16 | 21 | 4 | 14 1/2 | 52 1/4 | 11.5 | 0.58 | **6E713** | 1120.58 | **568.50** | 179.0 |

(*) D.O.E. test method in Gallons Per Hour. ❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch. (†) Not approved for sale in Massachusetts, North Carolina or the SCAQMD and BAAQMD of California. For these states, see page 3081.
(‡) Energy factors not available for BTU inputs above 75,000 BTUs.

# ENERGY EFFICIENT ELECTRIC WATER HEATERS



Replacement Parts Available
1-800-323-0620

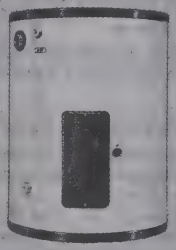
E11867

Rheem®

Tall and Low Boy



NOTE: Not for sale in Massachusetts, North Carolina, or California. See page 3016 for NC, MA, and CA models.



Tabletop

Compact

### TALL AND LOW BOY

- Available in 30 through 120 gallon sizes
- Rigid polyurethane foam insulation process for superior heat retention
- High-efficiency resistor heating elements specially treated magnesium oxide and tinned copper to resist corrosion
- Isolated tank design reduces heat loss
- Temperature range: 90-150°F preset at 120°F
- All water heaters have 6 year tank warranty with 2 year parts
- Low boy profile allows under counter installation

### TABLETOP*

- Baked enamel top is acid and heat resistant
- Cold water inlet, hot water outlet, relief valve and electrical connectors are at top of tank for easy access and fast economical installation, 36"H with 4" integral backsplash

### COMPACT*

- Energy efficient model for installation in limited spaces
- Anode rod designed to equalize aggressive water action
- Drain valve not included
- High efficiency heating element

### HIGH PERFORMANCE*

- Rigid 2Z\x" polyurethane foam with R-value of 20.0 (without pipe insulation, energy factor is 0.93)
- 21" diameter tanks
- High efficiency screw-type stainless steel premium resistor elements
- Exceeds toughest energy efficiency standards
- Temperature range: 90-150°F preset at 120°F
- 8 year tank and parts warranty

(*)Meets or exceeds National Appliance Energy Conservation Act (NAECA) requirements, ASHRAE Standard 90.

## SPECIFICATIONS AND ORDERING DATA

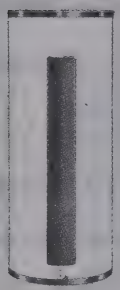
| Tank Size (Gals.) | Max. Watts/Element at 240V Upper | Lower | at 120V Single | Recovery GPH at 90° Rise D.O.E. Method | Height to Top of Heater (In.) | Jacket Diameter (In.) | R-Factor | Energy Factor | Stock No.* | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TALL WATER HEATERS** | | | | | | | | | | | | |
| **30** | 4,500 | 4,500 | — | 18 | 45 11/16 | 17 | 11.5 | 0.89 | **6E720** | $366.64 | **$160.00** | 84.0 |
| **40** | 4,500 | 4,500 | — | 18 | 46 1/8 | 19 | 11.5 | 0.90 | **6E721** | 410.94 | **165.00** | 105.0 |
| **50** | 4,500 | 4,500 | — | 18 | 57 1/16 | 19 | 11.5 | 0.86 | **6E722** | 428.75 | **190.00** | 125.0 |
| **65** | 4,500 | 4,500 | — | 18 | 58 13/16 | 21 | 11.5 | 0.84 | **6E723** | 621.78 | **275.00** | 154.0 |
| **80** | 4,500 | 4,500 | — | 18 | 59 | 23 | 11.5 | 0.82 | **6E724** | 704.87 | **299.00** | 200.0 |
| **120** | 4,500 | 4,500 | — | 18 | 61 7/8 | 28 1/4 | 16.3 | 0.81 | **6E725** | 797.01 | **589.50** | 330.0 |
| **LOW BOY WATER HEATERS** | | | | | | | | | | | | |
| **30** | 4,500 | 4,500 | — | 8 | 29 3/4 | 21 | 11.5 | 0.91 | **6E726** | 297.36 | **163.00** | 100.0 |
| **40** | 4,500 | 4,500 | — | 18 | 32 | 23 | 11.5 | 0.88 | **6E727** | 312.98 | **163.00** | 128.0 |
| **47** | 4,500 | 4,500 | — | 18 | 31 7/8 | 26 1/4 | 16.3 | 0.87 | **6E728** | 397.90 | **336.75** | 158.0 |
| **TABLE TOP WATER HEATERS** | | | | | | | | | | | | |
| **40** | 4,500 | 4,500 | — | 18 | 25 1/16D x 24W x 36H† | — | 16.7 | 0.88 | **6E768** | 837.99 | **425.75** | 148.0 |
| **COMPACT WATER HEATERS** | | | | | | | | | | | | |
| **6** | — | — | 2,000 | 8 | 15 1/8 | 15 3/4 | 14.4 | N/A | **6E729** | 192.40 | **152.00** | 41.0 |
| **10** | — | — | 2,000 | 8 | 22 7/8 | 15 3/4 | 14.4 | N/A | **6E730** | 208.07 | **165.00** | 53.0 |
| **15** | — | — | 2,000 | 8 | 24 1/4 | 17 3/4 | 14.4 | N/A | **6E731** | 368.71 | **175.00** | 65.0 |
| **20** | — | — | 2,000 | 8 | 25 1/8 | 19 3/4 | 14.4 | 0.90 | **6E732** | 441.65 | **205.00** | 76.0 |
| **30** | — | — | 2,000 | 8 | 29 3/8 | 21 | 11.5 | 0.89 | **6E733** | 266.34 | **210.00** | 99.0 |
| **HIGH PERFORMANCE TALL WATER HEATERS** | | | | | | | | | | | | |
| **40** | 4,500 | 4,500 | — | 18 | 45 3/4 | 20 7/16 | 20.0 | 0.93 | **6E718** | 611.72 | **311.25** | 105.0 |
| **50** | 4,500 | 4,500 | — | 18 | 56 1/2 | 20 7/16 | 20.0 | 0.93 | **6E719** | 664.66 | **337.25** | 125.0 |

(*) Not for sale in Massachusetts, North Carolina or California. See page 3081. (†) Add 4" to height to include backsplash.

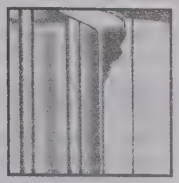
3/4" NPT water connections and relief valve opening. Not supplied with T & P valve, order No. 4X563. All models equipped with screw-type immersion elements. All models equipped with over temperature protector that automatically shuts off all power before temperature exceeds safe limits.

# HIGH EFFICIENCY AND INSTANTANEOUS ELECTRIC WATER HEATERS

## HIGH EFFICIENCY ELECTRIC WATER HEATERS



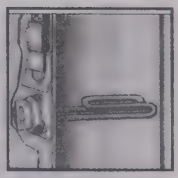
E11867



Rigid Polyurethane Foam Insulation for maximum heat retention.

Rheem

High efficiency screw-type stainless steel premium elements.



- Nos. 6E014-6E017 feature EverKleen™ patented self-cleaning dip tube which helps keep sediment in suspension through a spiraling, self cleaning action
- Temperature range: 90-150°F preset at 120°F
- Isolated tank design
- 4 ft. of pipe insulation
- Not supplied with T&P valve (order No. 4X563)
- 3/4" NPT water connections and relief valve opening
- Exceeds toughest energy efficiency standards including the National Appliance Energy Conservation Act (NAECA) requirements, ASHRAE Standard 90
- 10 Year tank and parts warranty

Replacement Parts Available 1-800-323-0620

| Tank Size (Gal.) | Std. Watts/Element at 240V Upper | Lower | Recovery GPH at 90° Rise D.O.E. Method | Height to Top of Heater (In.) | Jacket Diameter (In.) | Foam Insulation (In.) | R-Factor | Energy Factor | Stock No. * | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30** | 4500 | 4500 | 18 | 45 | 19 | 2½ | 20.0 | 0.93 | **6E014** | $551.47 | **$281.00** | 90.0 |
| **40** | 4500 | 4500 | 18 | 45¾ | 21 | 2½ | 20.0 | 0.93 | **6E716** | 640.81 | **325.50** | 112.0 |
| **50** | 4500 | 4500 | 18 | 56½ | 21 | 2½ | 20.0 | 0.93 | **6E717** | 700.51 | **355.75** | 146.0 |
| **80** | 4500 | 4500 | 18 | 58½ | 24½ | 2½ | 20.0 | 0.91 | **6E015** | 991.25 | **503.50** | 220.0 |
| **120** | 4500 | 4500 | 18 | 61⅞ | 28¼ | 1½ | 11.5 | 0.85 | **6E016** | 1079.07 | **671.00** | 330.0 |

(*) Not for sale in Massachusetts, North Carolina.

## POINT-OF-USE WATER HEATERS

**2-YEAR LIMITED WARRANTY**
See "Manufacturers' Warranties" on page opposite inside back cover.

E82572



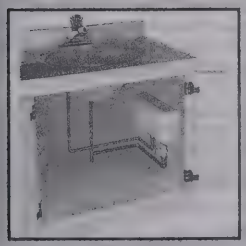
- Thermostat adjusts from 65 to 140°F
- Vidron-coated tank
- ABS molded plastic housing
- Polyurethane foam insulation
- 1/2" NPT inlet/outlet fittings

Wall mounting bracket and 5 ft. cord with plug included. 3/4" FPT relief valve opening. T & P valve not supplied; order No. 4X563. UL and IAPMO Listed. Meets all performance criteria for ASHRAE 90 A-1980 and the National Energy Compliance Act effective January 1, 1990. Ariston brand.

| Tank Capacity | Recovery @ 90°F Rise | Volts | Watts | Dimensions (In.) H | W | D | Ariston Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.5 Gal.** | 8.0 GPH | 120 | 1350 | 14 | 14 | 9.5 | P-10S | **4E185** | $154.99 | **$125.00** | 20.0 |
| **4.0** | 10.5 | 120 | 1350 | 14 | 11 | 12.5 | P-15S | **4E060** | 302.00 | **137.00** | 24.0 |

## INSTANTANEOUS ELECTRIC WATER HEATERS

POWERSTREAM New



E86070

- Mount in any direction
- Durable plastic housing
- Lead-free construction
- Copper sheathed heating elements
- Dual heat settings
- Complies with National Appliance Energy Conservation Act as of January 1, 1990

**No. 4P001.** 277V Heater designed for facilities such as factories, office buildings, and warehouses that have 440V service.

**No. 4P002.** Recommended where ground water temperatures exceed 60°F and flow rates are less than 1 GPM. Maximum outlet temperatures: 135°F. Not designed for use as a booster.

**WARNING:** Pay careful attention to unit selection. Temperature and volume of water are dependent on the kilowatt rating of heater. The higher the kilowatt rating, the greater the volume of hot water. Maximum outlet temperature: 135°F. These heaters are not designed to be used as boosters or preheaters.

**Install without a temperature/pressure relief valve** (refer to local codes) close to faucet or tap to eliminate long pipe runs. 3/8" NPT inlet and outlet.

12¼L x 3W x 6½"H. UL Listed. Powerstream brand.

| Wire Size (GA) | Volt-age | Amps | High kW | Low kW | Temp. Rise @ Flow Rate * 0.5 GPM | 0.75 GPM | 1 GPM | 1.5 GPM | 2.0 GPM | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8** | 240 | 40 | 9.5 | — | — | 84 | 64 | 42 | 32 | | | | | |
| **8** | 240 | 20 | — | 4.75 | 64 | 42 | 32 | 21 | 16 | RP1 | **4E186** | $438.00 | **$194.00** | 5.8 |
| **8** | 208 | 35 | 7.1 | — | — | 64 | 48 | 32 | 24 | | | | | |
| **8** | 208 | 18 | — | 3.5 | 48 | 32 | 24 | 16 | 12 | | | | | |
| **10** | 277 | 22 | 6 | — | — | 56 | 40 | 30 | 20 | RP2 | **4P001** | 438.00 | **194.00** | 5.8 |
| **10** | 277 | 11 | — | 3 | 41 | 28 | 20 | — | — | | | | | |
| **10** | 110 | 28 | 3 | — | 41 | 28 | 20 | — | — | RP3 | **4P002** | 438.00 | **194.00** | 5.8 |
| **10** | 240-220 | 15 | — | 3.5 | 98 | 82 | 74 | 66 | 62 | | | | | |
| **10** | 240 | 30 | 7 | — | — | 63 | 48 | 32 | 24 | RP7 | **New4LW35** | 265.00 | **219.00** | 6.0 |
| **10** | 240 | 15 | — | 3.5 | 48 | 32 | 24 | 16 | 12 | | | | | |

(*) °F at GPM. Gallons per minute/minimum water pressure 15 PSI/maximum water pressure 150 PSI.
Specifications subject to change without notice.

# HIGH EFFICIENCY ELECTRIC WATER HEATERS & PORTABLE WATER HEATER EXPANSION TANKS

## HIGH EFFICIENCY ELECTRIC WATER HEATERS



Marathon

**MARATHON LIMITED WARRANTY**

Tank is warranted not to leak for as long as you own your home. If you should sell your home, or if heater is installed in a barn or rental property, the warranty is for 15 years from the original date of purchase. Parts are warranted for 5-years.

No. 6E022

Replacement Parts Available
1-800-323-0620

- Seamless, blow-molded polybutylene inner tank is rust and corrosion-resistant
- Molded tank is reinforced with multiple layers of fiberglass for strength
- Nos. 6E022 and 6E023 feature 2 inches of precast polyurethane foam; No. 6E025, 3 inches of precast polyurethane foam, which surrounds tank
- Molded high impact plastic exterior resists scratches and corrosion
- No anode rod is necessary, eliminating potential odor and service problems
- Factory installed T & P valve
- Protected drain valve
- Bowl-shaped tank bottom for efficient draining
- Heat trap nipples for increased efficiency

Electric units have front-mounted wiring panels which make electrical connections easier. Operate on 240 volts with 4500/4500 total wattage. Because all wiring runs in conduit, these heaters can be readily converted to off-peak utility use. Upper element contains a thermal fuse which opens when operation is attempted with inadequate water levels, preventing damage to tank. Element must be replaced when this occurs. 20.5 gallon recovery GPH at 90° rise.

### ELECTRIC WATER HEATER SPECIFICATIONS AND ORDERING DATA

| Tank Capacity (Gallons) | R-Factor | Energy Factor | Exterior Dimensions (In.) Height to Top of Heater | Height to Top of Panel | Front to Back of Heater | Diameter | Water Connections Top (In.) Hot | Cold | Height to T&P Valve (In.) | Amp Draw at Full Load | Marathon Model | Stock No.* | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **40** | 16.7 | 0.95 | 61¼ | 60¾ | 21¾ | 21¾ | 65 | 64⅜ | 65¾ | 18.75 | MR40245 | **6E022** | $503.67 | **$492.75** | 97.0 |
| **50** | 16.7 | 0.94 | 62¼ | 61¾ | 23¾ | 23¾ | 66 | 65⅜ | 63¾ | 18.75 | MR50245 | **6E023** | 998.00 | **521.50** | 111.0 |
| **85** | 25.0 | 0.95 | 66¼ | 65¾ | 29⅞ | 29⅞ | 70 | 69⅜ | 70¾ | 18.75 | MR85245 | **6E025** | 1536.00 | **803.00** | 158.0 |

(*) Not for sale in New York City.

## POTABLE WATER HEATER EXPANSION TANKS

**SELECTION GUIDE**

| Water Temp. | Heater Tank Size in Gallons 30 | 40 | 52 | 66 | 82 |
|---|---|---|---|---|---|
| 140 | | | | | |
| 150 | | | | | |
| 160 | | | | | |
| 170 | | | | | |
| 180 | | | | | |

Use expansion tank No. 2P672
Use expansion tank No. 2P673
Temp. and/or volume beyond range of individual expansion tanks. Install multiple tanks in series for larger system.




No. 2P672

**5-YEAR LIMITED WARRANTY**

Text of warranty available on request See "Manufacturers' Warranties" on page opposite inside back cover.

**Diaphragm type potable water expansion tanks** are designed to accommodate the natural expansion of water in open water systems. Help eliminate the problem of weeping T & P valves and water hammer, when turning off hot water faucets. Water-logging, common in regular steel expansion tanks, is virtually eliminated.

**Drawn steel construction** with strong flexible double Butyl diaphragm. Steel retaining ring holds diaphragm securely. Epoxy finish protects tank exterior against rust. 3/4" NPTM connection on bottom of tank. Air changing valve on top of tank.

**Factory precharged to 40 PSI,** field adjustable. Maximum working pressure: 150 PSI. Maximum temperature: 200°F. For use in potable or open systems.

| Gals. | Dimensions (In.) H | x Dia. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2.1** | 11½ | 8½ | **2P672** | $93.00 | **$45.00** | 4.5 |
| **4.5** | 15 | 10 | **2P673** | 123.00 | **66.00** | 7.5 |

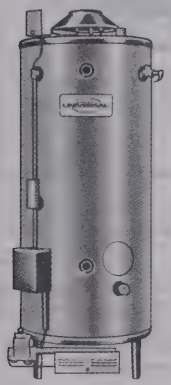
# ENERGY EFFICIENT COMMERCIAL WATER HEATERS

**Replacement Parts Available**
**1-800-323-0620**

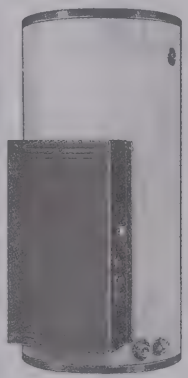
Rheem

FREE DELIVERY on orders of $900 or more
See Freight Policy

GAS



ELECTRIC



## [A] GAS PERFORMANCE

| Stock No. | Recovery in GPH, ANSI Method 50° | 70° | 90° | 100° | 110° | 120° | 130° | 140° |
|---|---|---|---|---|---|---|---|---|
| 6E741 | 145 | 104 | 81 | 73 | 66 | 61 | 56 | 52 |
| 6E737 | 736 | 526 | 409 | 368 | 334 | 306 | 283 | 263 |
| 6E743 | 402 | 287 | 223 | 201 | 183 | 167 | 154 | 143 |
| 6E738 | 736 | 526 | 409 | 368 | 334 | 306 | 283 | 263 |
| 6E740 | 402 | 287 | 223 | 201 | 183 | 167 | 154 | 143 |
| 6E742 | 142 | 104 | 81 | 73 | 66 | 61 | 56 | 52 |

## [B] ELECTRIC PERFORMANCE

| Stock No. | Recovery in GPH, ANSI Method 50° | 70° | 90° | 100° | 110° | 120° | 130° | 140° |
|---|---|---|---|---|---|---|---|---|
| 6E744 | 295 | 211 | 164 | 147 | 134 | 123 | 113 | 105 |
| 6E746 | 295 | 211 | 164 | 147 | 134 | 123 | 113 | 105 |
| 6E745 | 147 | 105 | 82 | 74 | 67 | 61 | 57 | 53 |
| 6E747 | 295 | 211 | 164 | 147 | 134 | 123 | 113 | 105 |

- **State and local codes may require installation of ASME rated features. No. 6E738 is ASME Coded. Consult applicable codes prior to purchase and installation.**
- **T & P valve is included with all water heaters on this page**

### [A] 3-YEAR WARRANTY GAS MODELS

- **Spark to pilot ignition (standing pilot on Nos. 6E741 and 6E742 models)**
- **All models equipped with a hand hole cleanout for inspection and ease of maintenance**
- **Heavy-duty models have patented unitized heat exchanger for increased heat transfer**
- **Internal flue damper models minimize heat loss during standby operation**
- **No. 6E738 is ASME Coded.**

Note: Gas conversion kits not available. Not for use in mobile homes.

### [B] 3-YEAR WARRANTY ELECTRIC MODELS

- **Electric units can be wired for 1 or 3 phase operation (18KW = 3-6000 watt elements; 36KW = 6-6000 watt elements)**
- **Screw in type stainless steel elements resist chemical corrosion and burnout**
- **Surface mounted thermostat fully adjustable up to 180°F, ensure instant shutoff for safety and economy of operation**
- **A light emitting diode diagnostic panel pinpoints a non-operating element when unlit**

## [A] GAS SPECIFICATIONS AND ORDERING DATA

| Tank Capacity (Gallons) | Recovery 100° F Rise GPH | Btu Input | Exterior Dimensions (In.) Ht. to top of Draft Hood | Jacket Dia. | Ht. to Top of Htr. | Vent Dia. (In.) | Water Connections (In.) Top Nip Size | Side Nip Size | Height to Top Nip | Top Nip Sp'd. | Height to Side Connection Hot | Height to Side Connection Cold | Gas Connections Size (In.) | Height (In.) to T & P Opening | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HEAVY-DUTY FLUE DAMPER ENERGY EFFICIENT NATURAL GAS WATER HEATERS** | | | | | | | | | | | | | | | | | | |
| **65** | 368 | 360,000 | 70¾ | 26¼ | 64 9/16 | 8 | — | 1½ | — | — | 58⅝ | 25 | 3/4 | 58⅝ | **6E737*** | $4223.45 | **$3574.00** | 640.0 |
| **65** | 368 | 360,000 | 70¾ | 26¼ | 64 9/16 | 8 | — | 1½ | — | — | 58⅝ | 25 | 3/4 | 58⅝ | **6E738‡** | 5112.42 | **4324.00** | 680.0 |
| **91** | 201 | 199,900 | 76⅜ | 26¼ | 71⅝ | 6 | 1½ | 1½ | 73⅜ | 20 | 66⅜ | 30⅝ | 3/4 | 66⅜ | **6E743‡** | 2772.00 | **2346.00** | 600.0 |
| **HEAVY-DUTY ENERGY EFFICIENT LP GAS WATER HEATERS** | | | | | | | | | | | | | | | | | | |
| **91** | 201 | 199,900 | 76⅜ | 26¼ | 71⅝ | 6 | 1½ | 1½ | 73⅜ | 20 | 66⅜ | 30⅝ | 3/4 | 66⅜ | **6E740*** | 2966.80 | **2511.00** | 600.0 |
| **LIGHT-DUTY ENERGY EFFICIENT NATURAL GAS WATER HEATERS** | | | | | | | | | | | | | | | | | | |
| **75** | 73 | 75,000 | 64⅜ | 26¼ | 60½ | 4 | 1 | — | 61⅞ | 11 | — | — | 1/2 | 54 | **6E741‡** | 1139.62 | **964.50** | 320.0 |
| **100** | 73 | 75,000 | 67⅞ | 26¼ | 64 | 4 | 1 | — | 61⅞ | 11 | — | — | 1/2 | 57⅝ | **6E742‡** | 1325.59 | **1122.00** | 360.0 |

(*) Not approved for sale in Illinois, Indiana, Massachusetts, Maryland, Michigan, Missouri, North Carolina, Oregon, Texas, Vermont, or Washington. These products are covered by California Proposition 66. California purchases or shipments, see first page of Grainger Branch listing or call any California branch. W.W. Grainger, Inc. does not assure compliance with state or local codes.
(‡) Not for sale in Massachusetts.

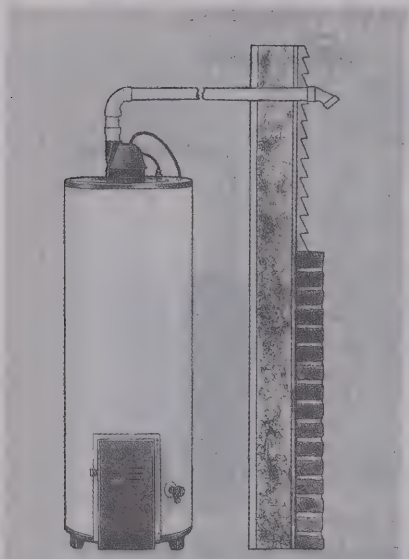
**Nos. 6E741 and 6E742 Have 1" Water Connections and 3/4" Female NPT Relief Valve Opening.**
**All Other Gas and Electric Models Have 1½" Water Connections with 1" Female NPT Relief Valve Opening.**

## [B] ELECTRIC SPECIFICATIONS AND ORDERING DATA

| Tank Capacity (Gallons) | Total Wattage | Voltage | Height to Top of Heater (In.) | Height to Top of Panel (In.) | Front to Back of Heater (In.) | Water Connections (In.) Diameter (In.) | (Hot Top / Cold Side) | Height (In.) to T&P Opening | Amp Draw at Full Load | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **85** | 36,000 | 240 | 57 9/16 | 36⅛ | 33⅜ | 28¾ | 1½ | 49¾ | 87 | **6E744** | $2787.11 | **$2054.00** | 430.0 |
| **120** | 18,000 | 240 | 67⅜ | 36⅛ | 35⅝ | 30½ | 1½ | 59⅜ | 43 | **6E745** | 2692.67 | **1777 00** | 430.0 |
| **120** | 36,000 | 240 | 67⅜ | 36⅛ | 35⅝ | 30½ | 1½ | 59⅜ | 87 | **6E746** | 2692.67 | **2227 00** | 430.0 |
| **120** | 36,000 | 480 | 67⅜ | 36⅛ | 35⅝ | 30½ | 1 | 59⅜ | 43 | **6E747*** | 2674.02 | **2264.00** | 430.0 |

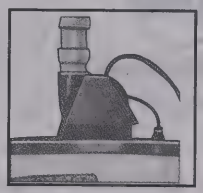
(*) 480V/6000 watt element available from Grainger Parts Operation. Call 1-800-323-0620 and ask for part number 8G2803 or 11E649.

# POWER VENT NATURAL GAS WATER HEATERS AND RV WATER HEATERS



Replacement Parts Available
1-800-323-0620

## NATURAL GAS WATER HEATERS



**Modular Blower Assembly** (included) designed for easy maintenance service and fast installation. 110V electrical service required.

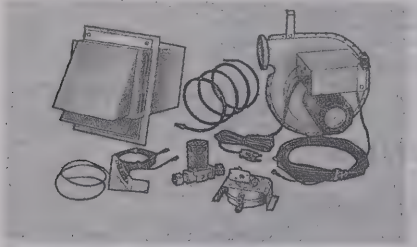
- **Power Glo™ Electronic Ignition System provides positive burner ignition without a pilot**
- **Honeywell Electronic Control Module controls ignition operation**
- **Rigid polyurethane foam insulation process for improved economy and fuel savings**
- **Exceeds requirements of the National Appliance Energy Conservation Act (NAECA), ASHRAE Standard 90**
- **3/4" NPT water connections and relief valve opening**
- **Horizontal or vertical venting**
- **Not supplied with T&P valve; order No. 4X563**
- **Temperature range: 60-160°F preset at 90°F**
- **Install up to 40 feet from outside wall using 3 inch PVC pipe for venting***
- **Exclusive power switch for vacation shutdown or servicing**
- **6 Year tank; 2 year parts warranty**
- **Conversion Kit not available**
- **Not for use in mobile homes**

* **Outside terminal fitting with screw included. Pipe is not included.**

### WATER HEATER SPECIFICATIONS AND ORDERING DATA

| Tank Size (Gallons) | Gas Type | Recovery at 90° Rise* | Btu Input | Height (In.) to top of vent connection | Height (In.) to top of Heater | Jacket Diameter (In.) | Draft Hood Size (In.) | Height (In.) to Gas Connection | Height (In.) to T&P Opening | R-Factor | Energy Factor | Stock † No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **40** | Natural | 40.6 | 40,000 | 64 | 56½ | 17¾ | 3 | 15 | 56½ | 6.7 | 0.57 | **6E714** | $596.88 | **$505.00** | 135.0 |
| **50** | Natural | 40.6 | 40,000 | 63⅝ | 56⅛ | 19¾ | 3 | 15 | 56⅛ | 6.7 | 0.56 | **6E715** | 651.21 | **552.00** | 155.0 |

(*) D.O.E. test method in Gallons Per Hour. (†) Not approved for sale in Massachusetts, North Carolina, or the SCAQMD and BAAQMD of California.
❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

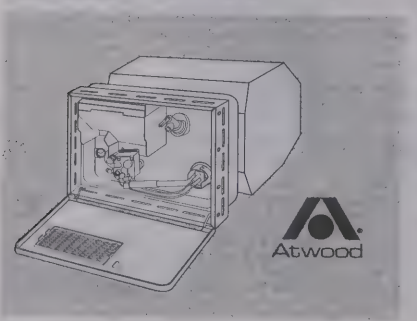


## WATER HEATER VENT PACKAGE

Includes components needed to vent gas water heaters up to 60,000 Btu input. AGA Certified. Tjernlund brand (VP-2).

- **Exhaust blower has 3" inlet and outlet, 115V motor with 6 ft. power cord**
- **24V Control relay and 24V solenoid switch**
- **Adjustable post-purge timer**
- **Gas diaphragm switch and 3" vent hood**
- **AGA Certified**

**No. 5C083.** Shpg. wt. 19.0 lbs. List $555.00.
Each ..... **$291.75**




## 6 GALLON RV WATER HEATER

Designed for use in recreational vehicles, approved by AGA/CGA, this water heater is powered by LP gas. Regular standing pilot used. Rough opening - cutout size is 16 1/4" wide; 12 5/8" height; 17 5/8" depth needed. Equipped with T & P valve with a maximum pressure not to exceed 150 PSI. Energy cut-off switch shuts off gas if temperature exceeds safe limits. 1/2" NPT female water connections, 3/8" male flare fitting on gas connection. External gas connection reduces possibility of gas leaking to inside of coach. Serviceable entirely from outside. Maximum input 8800 Btu. Atwood brand (96110).

**No. 5P762** ❷. Shpg. wt. 28.0 lbs. List $291.64.
Each ..... **$254.50**

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

# NC, MA, CA CODE AND NSF APPROVED WATER HEATERS

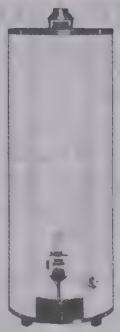


Electric Water Heater

Replacement Parts Available
1-800-323-0620

**Manufactured to meet specific regulations** for sale and installation in areas covered by North Carolina, Massachusetts, and California NOx (the South Coast Air Quality Management District of California and Bay Area Air Quality Management District) codes.

- **North Carolina models include factory installed T&P valve and high temperature dip tube. Other states order No. 4X563 T&P valve.**
- **Massachusetts models comply with labeling requirements**
- **All models meet or exceed requirements of the National Appliance Energy Conservation Act (NAECA) ASHRAE Standard 90.**
- **3/4" NPT water connections and relief valve opening**
- **6 year tank warranty; 2 year parts warranty**



Gas Water Heater

## COMPACT ELECTRIC WATER HEATERS

| State Code | Tank Size (Gallons) | Style | Max. Watts / Element at 240V Upper | Max. Watts / Element at 240V Lower | Max. Watts / Element at 120V Single | Recovery GPH at 90° Rise D.O.E. Method | Height (In.) to Top of Heater | Jacket Diameter (In.) | R-Factor | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NC | 6 | Compact | — | — | 2000 | 8 | 15¼ | 15¾ | 14.4 | 6E748 | $193.64 | $164.25 | 41.0 |
| NC | 10 | Compact | — | — | 2000 | 8 | 22⅞ | 15¾ | 14.4 | 6E749 | 225.71 | 191.25 | 53.0 |
| NC | 20 | Compact | — | — | 2000 | 8 | 25⅛ | 19¾ | 14.4 | 6E750 | 260.27 | 221.00 | 76.0 |

## ENERGY EFFICIENT ELECTRIC WATER HEATERS

| State Code | Tank Size (Gallons) | Style | Max. Watts / Element at 240V Upper | Max. Watts / Element at 240V Lower | Max. Watts / Element at 120V Single | Recovery GPH at 90° Rise D.O.E. Method | Height (In.) to Top of Heater | Jacket Diameter (In.) | R-Factor | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NC | 30 | Tall | 4500 | 4500 | — | 18 | 45 | 17 | 11.5 | 6E751 | 276.92 | 234.50 | 84.0 |
| NC | 40 | Tall | 4500 | 4500 | — | 18 | 45⅜ | 19 | 11.5 | 6E752 | 308.56 | 261.50 | 105.0 |
| NC | 50 | Tall | 4500 | 4500 | — | 18 | 56⅛ | 19 | 11.5 | 6E753 | 339.08 | 287.00 | 125.0 |
| NC | 40 | Undercounter | 4500 | 4500 | — | 18 | 31⅞ | 23¾ | 11.5 | 6E754 | 355.97 | 301.25 | 128.0 |
| MA | 30 | Tall | 4500 | 4500 | — | 18 | 45 | 17 | 11.5 | 6E755 | 400.91 | 204.25 | 84.0 |
| MA | 40 | Tall | 4500 | 4500 | — | 18 | 45⅜ | 19 | 11.5 | 6E756 | 423.00 | 215.00 | 105.0 |
| MA | 50 | Tall | 4500 | 4500 | — | 18 | 56⅛ | 19 | 11.5 | 6E757 | 368.86 | 228.00 | 125.0 |
| MA | 80 | Tall | 4500 | 4500 | — | 18 | 58⅜ | 23 | 11.5 | 6E758 | 448.55 | 380.00 | 200.0 |

## ENERGY EFFICIENT NATURAL GAS WATER HEATERS*

| State Code | Tank Capacity (Gallons) | Style | Recovery at 90° Rise | Btu Input | Height (In.) to Top of Draft Hood | Height (In.) to Top of Heater | Jacket Diameter (In.) | Draft Hood Size (In.) | Height (In.) to Gas Connection | Height (In.) to T&P Opening | R-Factor | Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NC | 30 | Tall | 32.3 | 32,000 | 59 | 55⅝ | 15¾ | 3 | 13⅝ | 55⅝ | 6.7 | 6E759 | $289.73 | $244.75 | 102.0 |
| NC | 40 | Tall | 34.3 | 34,000 | 59⅞ | 56½ | 17¼ | 3 | 13⅝ | 56½ | 6.7 | 6E760 | 491.45 | 249.25 | 125.0 |
| NC | 50 | Tall | 36.4 | 36,000 | 59⅞ | 56 | 19¾ | 3 | 13⅝ | 56 | 6.7 | 6E761 | 340.90 | 288.75 | 150.0 |
| CA NOx | 30 | Tall | 32.3 | 30,000 | 59 | 55⅝ | 15¾ | 3 | 13⅝ | 55⅝ | 6.7 | 6E762 | 444.52 | 226.00 | 100.0 |
| CA NOx | 40 | Tall | 34.3 | 34,000 | 59⅝ | 56½ | 17¼ | 3 | 13⅝ | 56½ | 6.7 | 6E763 | 486.33 | 246.75 | 116.0 |
| CA NOx | 50 | Tall | 35.4 | 35,000 | 59⅝ | 56 | 19¾ | 3 | 13⅝ | 56 | 6.7 | 6E764 | 376.31 | 263.50 | 138.0 |
| MA | 40 | Tall | 32.3 | 32,000 | 59⅞ | 56½ | 17¾ | 3 | 13⅝ | 56½ | 6.7 | 6E766 | 421.10 | 214.25 | 125.0 |
| MA | 50 | Tall | 36.4 | 36,000 | 59⅞ | 56 | 19¾ | 3 | 13⅝ | 56 | 6.7 | 6E767 | 478.71 | 243.25 | 150.0 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch. W.W. Grainger, Inc. does not assure compliance with state and local codes. (*) Conversion kit not available.

## NSF APPROVED 180°F SANITIZING COMMERCIAL WATER HEATERS

- **Water connection: 1¼" NPT brass nipples**
- **Adjustable thermostat from 100 to 190°F**
- **ASME T&P valve included • Glass lined storage tank**
- **Working pressure 150 PSI • Fused 120V control circuit**

These 240V single phase electric commercial water heaters are specifically designed for food service applications providing 180°F sanitizing rinse water to comply with National Sanitation Foundation and all Federal, State, County and local health department sanitation codes. These units can also be utilized as circulating tank commercial electric water heaters for gravity or pump circulations to an auxiliary storage tank. Heating elements are screw-in type made of Nichrome embedded in magnesium oxide sealed in a tinned copper tube for long life. A light emitting diode diagnostic panel pin points a non-operating element when unlit. Vanguard brand.

FREE DELIVERY on orders of $499 or more
See Freight Policy



| Stock No. | Recovery in GPH, ANSI Method 50° | 70° | 90° | 100° | 110° | 120° | 130° | 140° |
|---|---|---|---|---|---|---|---|---|
| 6E769 | 98 | 70 | 55 | 49 | 45 | 41 | 38 | 35 |
| 6E770 | 147 | 105 | 82 | 74 | 67 | 61 | 57 | 53 |

| Tank Capacity (Gallons) | Total Wattage | Voltage | Height to Top of Heater (In.) | Width (In.) | Front to Back of Heater (In.) | Water Connections (In.) (Hot/Cold) | Amp Draw at Full Load 1 Phase | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 12KW | 240 | 17 | 21½ | 21¾ | 1¼ / 1¼ | 50 | 6E769 | $1607.73 | $1362.00 | 110.0 |
| 10 | 18KW | 240 | 17 | 21½ | 21¾ | 1¼ / 1¼ | 75 | 6E770 | 1675.56 | 1418.00 | 110.0 |

(*) Dimensions from bottom of unit.

# IMMERSION WATER HEATER ELEMENTS

## CHROMALOX ELECTRIC REPLACEMENT WATER HEATER ELEMENTS

Elements are copper sheathed and tinned to minimize galvanic action. **Note:** Verify insertion length to ensure proper fit inside tank.

**High Watt Density Elements.** Supplied as original equipment on most domestic water heaters. Excellent for use in areas with normal water hardness and minimal mineral content.

**Low Watt Density Elements.** Low watt density elements are for use in areas with moderately hard water.

**"Water Wizard" Alloy Sheath Elements.** "Water Wizard" elements are recommended for use in areas with extremely hard water, high sulfur, and lime content. Constructed with a nickel base alloy sheath material. Due to their extremely low watt density, these elements are longer than those supplied on original equipment.

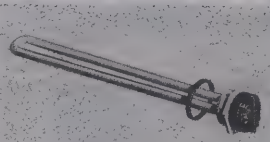
**Note:** All 240 volt elements may be used in 208 volt installations. However, resulting wattage at 208 volts will be 25% lower than rated wattage at 240 volts (i.e., No. 2E409, rated 240 volt, 4500 watt, will produce 3375 watts when used on 208 volts).

**Screw-in type elements** have 1" NPSM screw plug. Type AG-1 rubber gasket included. May be used with No. 2E483 adapt-o-flange to replace bolt-on flanged elements with 4 holes on 2½" diameter bolt circle.

**Bolt-on square flange type** elements fit all tank flanges with 4 bolt holes on 2½" diameter bolt circle. Flat 2½" square composition gasket and 1/2" thick round donut gasket are supplied.

**Note:** 6000 watt, 480 volt elements are available through Grainger Parts Operations. Call 1-800-323-0620 and ask for part number SG2603 or 413649.

**Replacement Parts Available**
**1-800-323-0620**



No. 2E457
Screw-In Type

LR48791 E65554

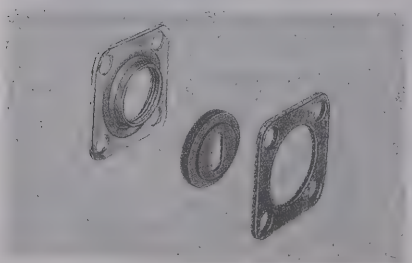


No. 2E491
Bolt-On Type

| Style | Watts | Volts @ 60 Hz* | Insert Length (in.) | Chromalox Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **HIGH WATT DENSITY MODELS** | | | | | | | | |
| **Screw-in** | 1500 | 120 | 7⅝ | SG1153L | **2E457** | $13.82 | **$6.29** | 0.6 |
| **Screw-in** | 1500 | 240 | 7⅝ | SG1153 | **2E460** | 13.82 | **6.90** | 0.5 |
| **Screw-in** | 2000 | 240 | 7⅝ | SG1203 | **2E756** | 13.96 | **5.59** | 0.6 |
| **Screw-in** | 2500 | 240 | 9⅜ | SG1253 | **2E757** | 14.52 | **6.70** | 0.6 |
| **Screw-in** | 3000 | 240 | 10⅜ | SG1303 | **2E758** | 15.18 | **6.29** | 0.7 |
| **Screw-in** | 3500 | 240 | 12⅜ | SG1353 | **2E759** | 15.90 | **6.29** | 0.6 |
| **Screw-in** | 4500 | 240 | 13⅜ | SG1453 | **2E760** | 16.61 | **5.79** | 0.8 |
| **Bolt-on** | 1500 | 120 | 7⅝ | TG1153L | **2E491** | 13.94 | **6.79** | 0.8 |
| **Bolt-on** | 1500 | 240 | 7⅝ | TG1153 | **2E494** | 13.94 | **6.99** | 0.9 |
| **Bolt-on** | 2000 | 240 | 7⅝ | TG1203 | **2E761** | 14.25 | **6.99** | 0.8 |
| **Bolt-on** | 2500 | 240 | 9⅜ | TG1253 | **2E762** | 14.85 | **6.99** | 0.9 |
| **Bolt-on** | 3000 | 240 | 10⅜ | TG1303 | **2E763** | 14.72 | **6.99** | 0.9 |
| **Bolt-on** | 4500 | 240 | 13⅜ | TG1453 | **2E764** | 15.02 | **5.95** | 1.0 |
| **LOW WATT DENSITY MODELS** | | | | | | | | |
| **Screw-in** | 750 | 240 | 7¾ | SG1077 | **2E458** | 12.93 | **6.91** | 0.5 |
| **Screw-in** | 1000 | 240 | 7¾ | SG1107 | **2E459** | 12.95 | **6.86** | 0.6 |
| **Screw-in** | 1500 | 120 | 7¾ | SG1157L | **2E295** | 14.85 | **8.79** | 0.5 |
| **Screw-in** | 1500 | 240 | 7¾ | SG1157 | **2E298** | 14.85 | **9.78** | 0.6 |
| **Screw-in** | 1650 | 120 | 9 15/16 | SG2167L | **2E754** | 18.74 | **9.79** | 0.8 |
| **Screw-in** | 2000 | 240 | 10 1/16 | SG1207 | **2E299** | 16.37 | **10.14** | 0.7 |
| **Screw-in** | 2500 | 240 | 7 1/16 | SG2257 | **2E300** | 17.14 | **10.70** | 0.7 |
| **Screw-in** | 3000 | 240 | 9 | SG2307 | **2E301** | 17.37 | **10.46** | 0.8 |
| **Screw-in** | 3500 | 240 | 9 15/16 | SG2357 | **2E302** | 17.92 | **9.59** | 0.8 |
| **Screw-in** | 4500 | 240 | 11¾ | SG2457 | **2E303** | 19.11 | **8.59** | 0.9 |
| **Bolt-on** | 1000 | 240 | 7 11/16 | TG1107 | **2E493** | 13.87 | **7.37** | 0.8 |
| **Bolt-on** | 1500 | 120 | 7 11/16 | TG1157L | **2E102** | 15.01 | **9.57** | 0.8 |
| **Bolt-on** | 1500 | 240 | 7 11/16 | TG1157 | **2E046** | 15.01 | **9.53** | 0.7 |
| **Bolt-on** | 1650 | 120 | 10⅝ | TG2167L | **2E755** | 19.65 | **11.19** | 1.1 |
| **Bolt-on** | 2000 | 240 | 10⅝ | TG1207 | **2E496** | 15.65 | **7.41** | 1.1 |
| **Bolt-on** | 2500 | 240 | 7⅝ | TG2257 | **2E105** | 17.19 | **10.50** | 1.0 |
| **Bolt-on** | 3000 | 240 | 8 15/16 | TG2307 | **2E048** | 17.90 | **10.33** | 1.0 |
| **Bolt-on** | 4500 | 240 | 11 11/16 | TG2457 | **2E049** | 19.15 | **9.89** | 1.1 |
| **WATER WIZARD MODELS** | | | | | | | | |
| **Screw-in** | 2000 | 240 | 8½ | SGW2207 | **2E765** | 29.08 | **13.13** | 0.8 |
| **Screw-in** | 3500 | 240 | 13⅞ | SGW2357 | **2E766** | 29.81 | **15.95** | 1.1 |
| **Screw-in** | 4500 | 240 | 16⅝ | SGW2457X1 | **2E673** | 29.94 | **18.99** | 1.3 |
| **Screw-in** | 5000 | 240 | 19¼ | SGW2507 | **2E767** | 32.90 | **22.86** | 1.7 |
| **Screw-in** | 6000 | 240 | 22⅝ | SGW2607 | **2E768** | 35.61 | **27.30** | 1.7 |
| **Bolt-on** | 2000 | 240 | 9 31/32 | TGW2207 | **2E769** | 29.34 | **14.25** | 1.1 |
| **Bolt-on** | 3500 | 240 | 13¾ | TGW2357 | **2E770** | 29.63 | **17.09** | 1.3 |
| **Bolt-on** | 4500 | 240 | 16¼ | TGW2457X1 | **2E674** | 29.66 | **21.76** | 1.7 |
| **Bolt-on** | 5000 | 240 | 19⅛ | TGW2507 | **2E675** | 33.02 | **29.35** | 1.7 |
| **Bolt-on** | 6000 | 240 | 22½ | TGW2607 | **2E676** | 34.65 | **34.10** | 2.0 |

(*) 240V elements can be used to replace 208V elements, resulting in a 25% lower recovery rate.

## CHROMALOX ADAPT-O-FLANGES



- **For use with screw-in elements**
- **Kit contains: two gaskets, 2½" diameter bolt circle adapter flange**
- **Not all parts required for each installation**
- **Chromalox brand (ADF-1)**

**No. 2E483.** . Shpg. wt. 0.3 lbs. List $8.98.
Each ..... **$4.69**

## DERATING HIGH ALTITUDE SETTING FOR GAS WATER HEATERS

Units are shipped as built to high altitude areas. User must use derated value indicated in chart below.

| Feet | Derate |
|---|---|
| 0-2000 | — |
| 2-3000 | 4% |
| 3-4000 | 8% |
| 4-5000 | 12% |
| 5-6000 | 16% |

**Replacement Parts Available**
**1-800-323-0620**

# WATER HEATER ACCESSORIES

## DIELECTRIC UNIONS

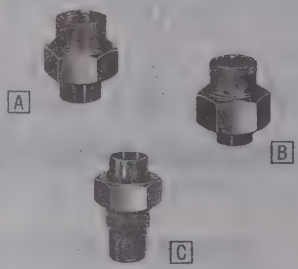
- **Rated at 250 PSI at 180° F**
- **Supplied with GA gaskets**

**Used to provide protection** against the destruction caused by galvanic and stray current corrosion. GA gaskets are suitable for water, air, oil, natural gas, propane, gasoline, kerosene, mineral oil, vegetable oil, and alkalines.

**Meet requirements of ANSI B16.39;** pipe threads are in accordance with ANSI B2.1 and solder joints meet National Plumbing Standards. Watts brand (3000 Series).

| Key | Type | Size (In.) Iron Pipe x Copper Solder Joint | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Union | 1/2 FNPT X 1/2 | 3001A-1/2 | **1A533** | $5.89 | **$4.71** | 0.4 |
| A | Union | 3/4 FNPT X 3/4 | 3001A-3/4 | **1A534** | 5.86 | **3.99** | 0.5 |
| A | Union | 1 FNPT X 1 | 3001A-1 | **1A535** | 10.20 | **8.22** | 0.5 |
| A | Union | 1¼ FNPT X 1¼ | 3001A-1¼ | **1A536** | 64.09 | **12.88** | 0.9 |
| A | Union | 1½ FNPT X 1½ | 3001A-1½ | **1A537** | 24.22 | **19.37** | 1.3 |
| A | Union | 2 FNPT X 2 | 3001A-2 | **1A538** | 33.55 | **26.90** | 2.5 |
| B | Reducing Union | 1/2 FNPT X 3/8 | 3002-1/2 X 3/8 | **1A539** | 6.07 | **4.87** | 0.3 |
| B | Reducing Union | 3/4 FNPT X 1/2 | 3002-3/4 X 1/2 | **1A540** | 5.65 | **4.66** | 0.4 |
| C | Union | 1/2 MNPT X 1/2 | 3005-1/2 | **1A541** | 8.10 | **6.44** | 0.4 |
| C | Union | 3/4 MNPT X 3/4 | 3005-3/4 | **1A542** | 8.29 | **4.99** | 0.5 |

WATTS REGULATOR




## WATER HEATER STAND

**Heavy 14-gauge,** galvanized steel deck and frame stand supports most commercial and residential water heaters up to 100-gallon capacity. Boltless frame can be assembled quickly using only a rubber mallet. Complies with Section 1310 of the Uniform Plumbing Code, and City of Los Angeles Code regarding water heater installation.

Dimensions: 24" square; 18" tall. Gorilla Rack brand.

**No. 2P885.** Shpg. wt. 30.0 lbs. List ..... $59.69. Each ..... **$46.55**

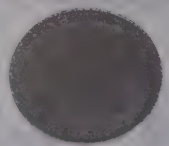



## WATER HEATER PANS

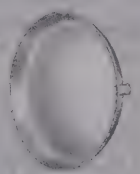
**High-impact polyethylene and aluminum** water heater pan protects floors, ceilings, moldings, and walls from leaky water heaters. Punch-out drain outlets accommodate three different drain positions. Manufactured in accordance with Southern Building Code international standards. Includes 1" PVC adapter with gasket and lock nut for connecting to 1" PVC pipe. Maximum temperature: 212° F.

| Material | Dimensions (In.) Depth x Dia. | Plastic Oddities Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Plastic** | 2¼ x 22 | PWP-22 | ***New*4UX76** | $9.13 | **$8.70** | 1.3 |
| **Plastic** | 2⅜ X 24 | PWP-24 | **4E221** | 13.50 | **8.66** | 1.5 |
| **Plastic** | 2¼ X 26 | PWP-26 | ***New*4UX77** | 12.78 | **12.17** | 1.1 |
| **Plastic** | 2¼ X 30 | PWP-30 | ***New*4UX78** | 15.08 | **14.36** | 2.5 |
| **Aluminum** | 2½ X 22 | AWP-22 | ***New*4UX71** | 18.49 | **17.61** | 2.4 |
| **Aluminum** | 2½ X 24 | AWP-24 | ***New*4UX72** | 20.68 | **19.70** | 2.7 |
| **Aluminum** | 1½ X 26 | AWP-26 | ***New*4UX73** | 13.14 | **12.52** | 2.8 |
| **Aluminum** | 2¾ X 30 | AWP-30 | ***New*4UX74** | 27.93 | **26.60** | 3.2 |
| **Aluminum** | 2⅜ X 36 | AWP-36 | ***New*4UX75** | 44.62 | **42.50** | 4.1 |

*New*



Plastic
No. 4E221



Aluminum
No. 4UX71

WATTS REGULATOR





ASME and AGA Rated. Meet FHA Specifications.

Nos. 1A543 & 4P947

No. 4X563

Replacement Parts Available 1-800-323-0620

## T & P RELIEF VALVES

**Accurate relief valves** for automatic temperature and pressure protection for hot water heaters and supply tanks. Factory set for 210° F, 150 PSI. Thermo-bond (non-metallic) protective coating on thermostat elements to protect them from the corrosive effects of hot water. Stainless steel spring and silicon seat washer. Manual test lever. ASME rated. CGA Listed. Meet FHA specifications, Mil. Spec. MIL-V-13612C and ANSI Z21.22 standard. Watts brand.

**Residential T & P Valve** rated by AGA for heaters up to 100,000 Btu/HR input. 4" thermostat. Brass body. UL Listed.

**Commercial T & P Valves** have bronze body and are also AGA Listed in addition to residential unit ratings/specifications and standards. Meet Military Spec. MIL-V-136-12D, Type 1. Temperature relief 210° F.

| Inlet (In.) | Outlet (In.) | Thermostat Length (In.) | Dimensions H (In.) * | W (In.) | AGA/CGA Temp. Rating (BtuH) | Watts Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **RESIDENTIAL VALVE ORDERING DATA** | | | | | | | | | | |
| 3/4 M | 3/4 F | 4 | 3½ | 1⅞ | 100,000 | 100XL-4 | 4X563 | $8.77 | **$4.99** | 0.6 |
| **COMMERCIAL VALVE ORDERING DATA** | | | | | | | | | | |
| 3/4 M | 3/4 F | 5 | 5½ | 2 | 200,000 | 40XL-5 | 1A543 | 52.54 | **37.00** | 1.6 |
| 1 F | 1 F | 6 | 5½ | 3 | 1,670,000 | 140X-6 | 4P947 | 106.85 | **78.95** | 2.4 |

(*) Less thermostat. M = Male; F = Female.

# CORRUGATED APPLIANCE CONNECTORS, GAS BALL VALVES, & GAS WATER HEATER CONTROLS

## WATER HEATER CONNECTORS

- Corrugated flexible copper tube connectors
- Brass swivel nuts with internal dielectric sleeves for easy hookup of water heaters and other water connected devices in exposed locations to hot or cold water supply lines
- Operating temperature: 30 to 180°F
- Working pressure: 125 PSI
- IAMPO Approved
- Brass Craft brand

Brass Craft



No. 3P933

**Material Specifications:** Copper tubing. UNS-C1220 (ASTM B68). Nuts and end fittings. C36000 (CDA360) brass. Seal washer, rubber nitrile.

**Designed and manufactured** in accordance with: IAMPO #452, the City of Los Angeles, Department of Bldg. and Safety, Mechanical Testing Laboratory #M-66120.

| Inlet x Outlet x Length (In.) | | | Brass Craft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/4 | F.I.P. x 3/4 | F.I.P. x 12 | WB00-12N | **3P933** | $8.48 | **$5.95** | 0.5 |
| 3/4 | F.I.P. x 3/4 | F.I.P. x 15 | WB00-15N | **3P934** | 9.54 | **6.95** | 0.5 |
| 3/4 | F.I.P. x 3/4 | F.I.P. x 18 | WB00-18N | **4P069** | 10.19 | **7.15** | 0.7 |
| 3/4 | F.I.P. x 3/4 | F.I.P. x 24 | WB00-24N | **4P070** | 12.51 | **8.95** | 0.8 |
| 3/4 | F.I.P. x 3/4 | Nom. Male Sweat (7/8 OD x 18) | WB034-18N | **3P935** | 10.26 | **7.15** | 0.5 |

## CORRUGATED FLEXIBLE GAS APPLIANCE CONNECTIONS

- Working pressure: 1/2 PSI
- Operating temperature: -40 to 140°
- IAMPO and New York Board of Standards Approved

No. 3P924



Brass Craft

No. 3P926



**Material specifications:** One-piece construction has no soldered joints. Tubing is uncoated, type 304 stainless steel. Nuts and end fittings are cadmium-plated 12L14 and 10L10 steel. Stainless steel connectors are provided only with steel flare nuts for durability and safety.

**For use with** natural, manufactured, mixed, liquified petroleum gases, and LP gas-air mixtures. Good for areas where natural gas has a high sulfur content.

| End Fittings x Length (In.) | | | Connector Flow Cap (Btu) | Brass Craft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/2 | F.I.P. x 1/2 | M.I.P. x 18 | 106.000 | SSD54-18 | **3P924** | $13.00 | **$7.75** | 0.6 |
| 1/2 | F.I.P. x 1/2 | M.I.P. x 24 | 85.000 | SSD54-24 | **3P930** | 15.38 | **11.95** | 0.6 |
| 1/2 | F.I.P. x 1/2 | M.I.P. x 36 | 72.750 | SSD54-36 | **3P932** | 18.69 | **13.95** | 0.8 |
| 1/2 | F.I.P. x 1/2 | M.I.P. x 24 | 40.000 | SSL54-24 | **4P066** | 12.70 | **9.95** | 0.6 |
| 1/2 | F.I.P. x 1/2 | M.I.P. x 36 | 34.100 | SSL54-36 | **4P067** | 16.21 | **12.95** | 0.6 |
| 1/2 | F.I.P. x 1/2 | M.I.P. x 48 | 28.300 | SSL54-48 | **4P068** | 21.05 | **15.95** | 0.8 |
| 1/2 | M.I.P. x 1/2 | M.I.P. x 36 | 128.000 | SSC44-36 | **3P925** | 19.22 | **14.95** | 1.0 |
| 3/4 | F.I.P. x 3/4 | F.I.P. x 36 | 128.000 | SSC22-36 | **3P926** | 19.22 | **14.95** | 1.0 |
| 3/4 | F.I.P. x 3/4 | F.I.P. x 48 | 106.000 | SSC22-48 | **3P927** | 24.45 | **15.95** | 1.2 |
| 1/2 | F.I.P. x 1/2 | F.I.P. x 24 | 150.000 | SSC55-24 | **3P928** | 16.14 | **12.95** | 0.8 |
| 1/2 | F.I.P. x 1/2 | F.I.P. x 36 | 128.000 | SSC55-36 | **3P929** | 17.75 | **13.95** | 1.0 |
| 1/2 | F.I.P. x 1/2 | M.I.P. x 48 | 60.500 | SSD54-48 | **3P931** | 22.79 | **15.95** | 0.9 |

## GAS BALL VALVES

Brass Craft



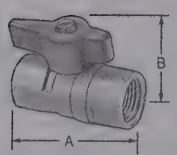
No. 3P843

- Design Certified by American Gas Association Laboratories Certificates
- For use with natural, manufactured and mixed gases plus LP gas and air mixtures
- ANSI Z21.15
- Forged brass construction with chrome-plated brass ball
- Maximum pressure rating of 175 W.O.G.
- Capacities: 3/8 and 1/2" 290,000 BtuH; 5/8" 795,000 BtuH
- Brass Craft brand

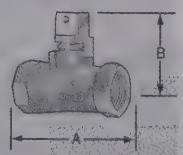
| Size (In.) | Flare x FNPT (In.) | Brass Craft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/8 | 3/8 OD Tube x 1/2 | TBV6-8 | **3P843** | $4.11 | **$3.29** | 0.3 |
| 1/2 | 1/2 OD Tube x 1/2 | TBV8-8 | **3P844** | 3.76 | **3.49** | 0.4 |
| 5/8 | 5/8 OD Tube x 3/4 | TBV10-12 | **3P845** | 6.12 | **5.32** | 0.8 |

## GAS BALL VALVES

NIBCO




No. 5E434
Lever Handle




No. 5E436
Square Handle

Tested and certified by the American Gas Association and conform to ANSI Z21.15B for natural, manufactured and mixed liquid petroleum and LP gas-air mixtures. Capacities: 1/2" 301,800 BTUs per hour and 3/4" 788,000 BTUs per hour. Cast brass body and plug, brass stem, gland and stem gland screw and chrome-plated brass ball. AGA rated at 2 PSI. Made in Italy. Nibco brand.

| Nominal Size (In.) (NPT) | Dimensions (In.) A | B | Nibco Series | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **LEVER HANDLE** | | | | | | | |
| 1/2 | 2 1/4 | 1 1/4 | GB-1 | **5E434** | $4.01 | **$3.65** | 0.3 |
| 3/4 | 2 1/2 | 1 3/8 | GB-1 | **5E435** | 5.94 | **5.40** | 0.6 |
| **SQUARE HANDLE** | | | | | | | |
| 1/2 | 2 1/2 | 1 1/4 | GB-2 | **5E436** | 5.11 | **4.65** | 0.4 |
| 3/4 | 2 1/2 | 1 3/8 | GB-2 | **5E437** | 7.04 | **6.40** | 0.6 |

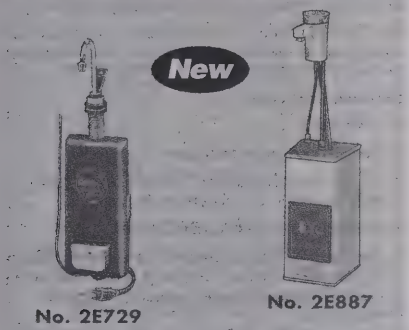
White-Rodgers and Robertshaw Gas Ball Valves Found on Page 3341.

# HOT WATER DISPENSERS AND COMPACT BOTTLED WATER COOLERS

## HOT WATER DISPENSERS

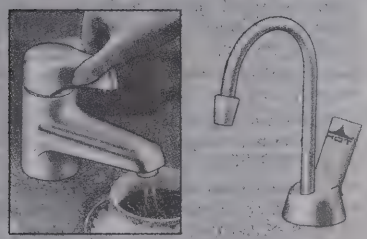
IN SINK ERATOR

E28492




No. 2E729

No. 2E887



Nos. 4PL50 & 4PL51

Nos. 4PL49 & 4PL48

Water is electrically heated to a brewing/cooking temperature of approximately 190°F by a compact copper tank that mounts under the sink. The system is vented, so there is never a pressure buildup; neither a T&P valve nor a drain is necessary. All units have a 3 ft., 16/3 SPT cord with 3-prong plug. All 1/2 gallon models have additional insulation for lower stand-by heat loss and increased energy efficiency. In-Sink-Erator brand.

### STANDARD DISPENSER

**No. 2E729 1/3 gallon tank** with lever operation and adjustable thermostat preset at 190°F. Has a stainless steel gooseneck spout. Mounting hole: 1⅜"; 3/8" IPS water connection. Installs in counter tops up to 2" thick.

### PREMIUM DISPENSER

**No. 2E887 1/2 gallon tank** has a twist handle operation. Adjustable thermostat is preset at 190°F and faucet is chrome-plated faucet. Mounting hole: 1¼" or standard sink opening; 3/8" IPS water connection.

### TWIST HANDLE DISPENSERS

**Nos. 4PL51 and 4PL50** have an easy-to-use twist handle and easy top installation. Pours 60 cups per hour from 1/2 gallon tank. Has adjustable thermostat. Available in white or chrome colors.

### GOOSENECK DISPENSER

**Nos. 4PL49 and 4PL48** feature a goose neck spout with lever operation. Adjustable thermostat provides 190° F cooking hot water. Units have a 1/2 gallon tank for 60 cups per hour. Available in white or chrome colors.

| Tank Size Gal. | Cups / Hour | Finish | Watts | Volts | Amps | Dimensions (In.) H | W | ISE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 40 | Stainless Steel | 500 | 115 | 4.3 | 19⅞ | 5¼ | Hot-1 | 2E729 | $137.06 | $95.00 | 4.0 |
| 1/2 | 60 | Chrome | 750 | 115 | 6.5 | 31²⁵⁄₃₂ | 6⅛ | H-770 | 2E887 | 174.26 | 137.00 | 9.0 |
| 1/2 | 60 | White | 750 | 120 | 6.5 | 32²⁵⁄₃₂ | 6⅛ | H-990W | New 4PL51 | 211.27 | 181.75 | 7.7 |
| 1/2 | 60 | Chrome | 750 | 120 | 6.5 | 32²⁵⁄₃₂ | 6⅛ | H-990C | New 4PL50 | 211.27 | 181.75 | 7.7 |
| 1/2 | 60 | White | 750 | 120 | 6.5 | 33²⁵⁄₃₂ | 6⅛ | GN-3W | New 4PL49 | 283.43 | 243.75 | 8.6 |
| 1/2 | 60 | Chrome | 750 | 120 | 6.5 | 33²⁵⁄₃₂ | 6⅛ | GN-3C | New 4PL48 | 232.27 | 199.75 | 8.6 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch. (▲) Net prices, not subject to discounts.

## COMPACT BOTTLED WATER COOLERS

- 115VAC
- Lead-free construction
- Refrigerant 134a (CFC free)
- 20-gauge steel panels
- Light touch lever action faucets
- Permanently lubricated 1/20 HP compressor plus refrigeration system dryer
- Removable plastic drip receptacle and splash resistant strainer grid
- Three-prong, six-foot power cord
- Adjustable thermostat (cold to 40°F). No. 3H261 has adjustable cold control, hot thermostat is not adjustable; No. 3H111 has adjustable cold control.
- Provide 0.6 GPH of 50°F cold water
- No. 3H261 delivers 45 six-ounce cups of 180°F hot water
- Recessed faucets are protected from abuse
- Insulated stainless steel reservoir and water lines
- No. 3H261 has stainless steel hot tank with 500 watt external heating element
- Bottles not included
- Mocha tan color

Replacement Parts Available
1-800-323-0620

| Water Temperature | Dimensions (In.) H | W | D | Amps | Oasis Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Cold | 38½ | 12¼ | 12¼ | 1.2 | BLF1A | 3H111 | $300.00 | $256.00 | 48.0 |
| Hot / Cold | 38½ | 12¼ | 12¼ | 5.5 | BLF1AHS | 3H261 | 420.00 | 350.00 | 52.0 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.




No. 3H111

No. 3H261

# FLOOR AND WALL-HUNG DRINKING WATER COOLERS

**ELKAY**

Replacement Parts Available
1-800-323-0620

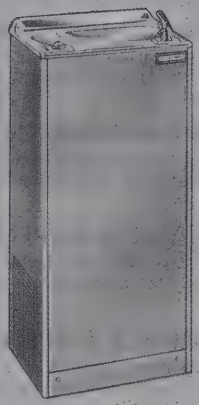
SA4569

LR29382



A

Compact
Floor Model
No. 3H016



B

Deluxe
Floor Model
No. 3H013

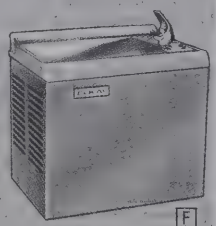


C

Wall-Hung
No. 5H790

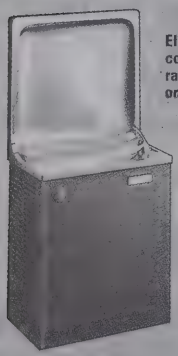
**ELKAY LIMITED WARRANTY**

Elkay warrants hermetically sealed refrigerant system and cooling coil 5 years; all other components 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



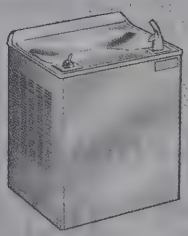
F

Compact
Wall-Hung
No. 3H231



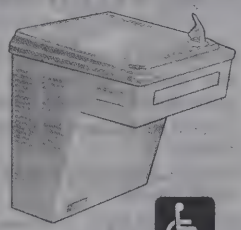
D

Simulated-Recess
Wall-Hung
No. 3H233



E

Standard
Wall-Hung
No. 3H022



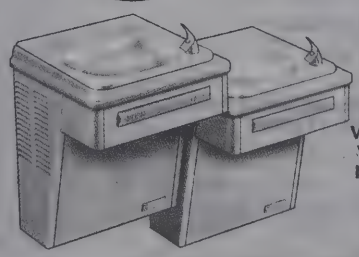
H

Wheelchair
Wall-Hung
No. 5H788

New

G

Wheelchair
Wall-Hung
No. 3H260



I

Two-Level
Wheel chair
Wall Hung
No. 7A887

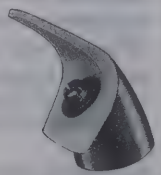
Manufactured with a waterway system utilizing copper components and completely lead free materials. All leaded materials, such as leaded brass, have been removed. All joints are brazed using only silver solder. Includes strainer with easily cleaned screen which traps water-borne particulate of 140 microns and larger prior to entry into water cooler. Features permanently lubricated compressor and fan motor, and refrigeration system dryer.

No. 7A887 Two-Level Water Cooler meets Americans with Disabilities Act requirements when properly installed.

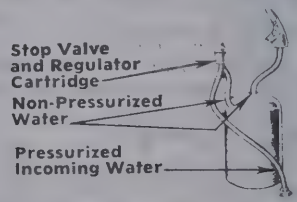
**Features Include:**

- **115VAC**
- **Lead-free construction**
- **Classified by UL in accordance with ANSI/NSF 61, Section 9**
- **Refrigerant134A (CFC free)**
- **Exclusive Flexi-Guard® safety bubbler flexes on impact to help prevent accidental mouth injury and is vandal resistant**
- **Stainless steel splash-resistant multi-level basin saves surrounding walls from splashing**
- **Separate push button is sanitary and easy to access**
- **In-line flow regulator maintains constant stream height at line pressures of 20-105 PSI**
- **Nonpressurized cooling tank is designed to eliminate water damage in case of rupture**
- **Drain outlet is 1¼" diameter with 4" long hook-up for 1¼" slip joint; maximum space inside cabinet for easy access**
- **Inlet connection is 3/8" O.D. tubing connection; unobstructed for easy installation**

**Flexi-Guard® safety bubbler made of soft, pliable elastomer. UL Listed for flame retardation. Abrasion resistant.**



**Nonpressurized cooling tank design**




CONTINUED ON NEXT PAGE

# DRINKING WATER COOLERS, PACKAGED WATER CHILLERS, AND REMOTE FOUNTAIN

## DRINKING WATER COOLER ORDERING DATA

| Key | GPH* | Type | Color† | Compressor HP | Water Connection | Dimensions (In.) H | W | D | Persons Served Per Hour Office† | Light Mfg. | Heavy Mfg. | Elkay Model | Stock No. # | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FLUSH OR FREE-STANDING FLOOR MODELS** | | | | | | | | | | | | | | | | |
| **A** | 2.8 | Compact | S | 1/10 | 3/8" IPS | 38 | 12 | 12 | 70 | 42 | 34 | FD-700-3T | **3H016** | $516.80 | **$368.00** | 64.0 |
| **A** | 8.1 | Compact | S | 1/6 | 3/8 | 38 | 12 | 12 | 203 | 122 | 97 | FD-700-8T | **3H031** | 537.94 | **430.75** | 61.0 |
| **A** | 9.8 | Compact | S | 1/5 | 3/8 | 38 | 12 | 12 | 245 | 147 | 118 | FD-700-10T | **3H032** | 658.65 | **459.50** | 70.0 |
| **B** | 8.9 | Deluxe | G | 1/6 | 3/8 | 40 | 18 | 14½ | 223 | 134 | 107 | EFA-8G | **3H013** | 626.34 | **501.56** | 83.0 |
| **B** | 14.0 | Deluxe | A | 1/5 | 3/8 | 40 | 18 | 14½ | 350 | 210 | 168 | EFA-14N | **3H014** | 647.45 | **518.00** | 86.0 |
| **B** | 8.9 | Deluxe Hot/Cold | A | 1/6 | 3/8 | 40 | 18 | 14½ | 223 | 134 | 107 | EFHA-8 | **5H789** | 964.58 | **681.50** | 90.0 |
| **WALL-HUNG MODELS** | | | | | | | | | | | | | | | | |
| **C** | 4.0 | Standard | G | 1/10 | 3/8 | 29½ | 18 | 14½ | 100 | 60 | 48 | EWA-4G | **5H790** | 544.47 | **435.75** | 69.0 |
| **C** | 8.9 | Standard | G | 1/6 | 3/8 | 29½ | 18 | 14½ | 223 | 134 | 107 | EWA-8G | **5H791** | 614.31 | **491.50** | 72.0 |
| **D** | 7.8 | Simulated-Recess | G | 1/6 | 3/8 | 37 | 18 | 9½ | 195 | 117 | 94 | ESWA-8G | **3H233** | 826.42 | **583.50** | 68.0 |
| **E** | 4.0 | Compact | G | 1/10 | 3/8 | 22 | 18 | 14½ | 100 | 60 | 48 | EWCA-4G | **5H792** | 571.54 | **399.50** | 64.0 |
| **E** | 8.9 | Compact | A | 1/6 | 3/8 | 22 | 18 | 14½ | 223 | 134 | 107 | EWCA-8N | **3H021** | 595.52 | **476.50** | 68.0 |
| **E** | 14.0 | Compact | A | 1/5 | 3/8 | 22 | 18 | 14½ | 350 | 210 | 168 | EWCA-14N | **3H022** | 623.83 | **504.50** | 70.0 |
| **F** | 1.0 | Compact Slant-Front | S | 1/15 | 3/8 | 15 | 15¾ | 13 | 25 | 15 | 12 | HEW-1T | **3H231** | 558.80 | **390.00** | 44.0 |
| **G** | 7.6 | Wheelchair | G | 1/5 | 3/8 | 23⅞ | 18 | 18¾ | 190 | 114 | 91 | EHFA-8G | **3H260** | 782.00 | **536.50** | 75.0 |
| **H** | 4.0 | Wheelchair | G | 1/5 | 3/8 | 23¾ | 18 15/16 | 19 | 100 | 60 | 48 | EBFSA-4G | **5H788** | 668.46 | **466.75** | 64.0 |
| **H** | 8.0 | Wheelchair | G | 1/5 | 3/8 | 23¾ | 18 15/16 | 19 | 200 | 120 | 96 | EBFSA-8G | **5P006** | 622.75 | **498.50** | 74.0 |
| **I** | 8.0 | Two-Level Wheelchair | G | 1/5 | 3/8 | 30⅝ | 37⅞ | 19 | 200 | 120 | 96 | EBFATL-8 | ***New*7A887** | 1391.60 | **809.50** | 108.0 |

(*) Standard rating: 90°F room, 80°F water in, 50°F water out. (†) S = sandalwood; G = gray-beige; A = natural almond. (‡) Or store or school. (#) All models use HFC134 refrigerant

# PACKAGED WATER CHILLERS AND REMOTE WATER FOUNTAIN

Compact, highly efficient water chillers can be used to provide chilled water to drinking fountains, medical and experimental laboratories, or production machines. Chillers comply with the lead-free definition in the Safe Drinking Water Act of 1986 and Lead Contamination Control Act of 1988.

### CHILLERS FEATURE:

- **115VAC**
- **Lead-free construction**
- **Refrigerant134A (CFC Free)**
- **Automatic thermostat adjustable for 47° to 55°F output**
- **No. 3H047 is classified by UL in accordance with ANSI/NSF 61, Section 8.**
- **No. 3H047 has adjustable thermostat. Adjusts from 47° to 68°F for photo processing**
- **No. 5H300 is mocha tan color; No. 3H047 has galvanized steel cabinet**
- **5H300 cabinet has an acrylic enamel finish**
- **No. 5H300 has stainless steel cooling tank and water ways**
- **No. 5H300 has 1/4" O.D. water supply water tube; No. 3H047 has 3/8" O.D. tube**
- **Meet exacting sanitary codes—American Refrigeration Institute Standard 1010-94; UL Listed; CSA Certified**

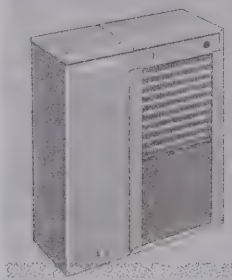
### REMOTE FOUNTAIN FEATURES:

- **Stainless steel top and durable sandstone vinyl on steel cabinet**
- **Dial-A-Drink® Bubbler assures a smooth, even flow of water**
- **Built-in pressure regulator adjusts easily for 20 to 120 PSI**
- **3/8" IPS water connection**
- **Can dispense ambient water**

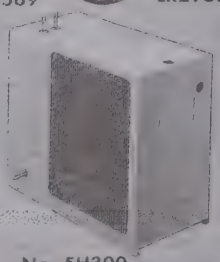
Replacement Parts Available
1-800-323-0620

OASIS®

SA4569 LR29382



No. 3H047
1/4 HP Water Chiller



No. 5H300
1/20 HP Water Chiller



No. 4H885
Remote Fountain

ELKAY

**LIMITED WARRANTY**

Manufacturers warrant hermetically sealed refrigerant system and cooling coil 5 years; all other components 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## COOLING CAPACITIES: GALLONS OF 50° F WATER PER HOUR

| Room Temperature | 70°F | | | 80°F | | | 90°F | | | 100°F | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inlet Water Temp. | 70° | 80° | 90° | 70° | 80° | 90° | 70° | 80° | 90° | 70° | 80° | 90° |
| Stock No. 5H300 | 1.0 | 1.2 | 0.7 | 1.3 | 1.1 | 0.8 | 1.3 | 1.0 | 0.8 | 1.0 | 0.8 | 0.7 |
| Stock No. 3H047 | 15.0 | 11.1 | 8.4 | 13.8 | 10.4 | 7.7 | 12.7 | 9.6* | 7.3 | 11.5 | 8.8 | 6.5 |

Photo Processing—Thermostat included on No. 3H047 is adjustable to chill water to 68°F, delivers 28 GPH when inlet water is 80°F, room temperature is 90°F. (*) ARI 1010 rating capacity.

## PACKAGED WATER CHILLER DATA

| Compressor HP | Reserve Gallons | Dimensions (In.) H | W | D | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/20** | 0.30 | 12 | 15 | 7 | Oasis | RLFIS | **5H300** | $350.00 | **$292.00** | 35.0 |
| **1/4** | 2.0 | 22 | 19 | 7⅞ | Elkay | ER-10 | **3H047** | 794.00 | **577.50** | 70.0 |

## REMOTE WATER FOUNTAIN—For Above or Other Water Chiller

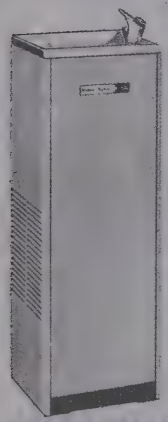
| Model | Dimensions (In.) H | W | D | Oasis Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Compact** | 16 | 17 | 13 | PLFCM | **4H885** | $174.00 | **$145.00** | 25.0 |

# INDUSTRIAL/COMMERCIAL DRINKING WATER COOLERS

Halsey Taylor

OASIS

New



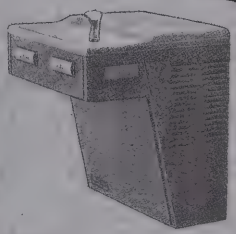
A Economy Floor Models



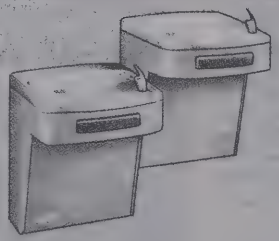
B Standard Floor Models



C Standard Wall Mount Models



D E Barrier free models meet ANSI ADA specifications fo barrier free water coolers



E



F Heavy Duty Free-Standing Model

**HALSEY TAYLOR LIMITED WARRANTY**

Halsey Taylor warrants evaporator/chiller for 10 years, refrigeration systems 5 years, all other parts and labor 1 year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Replacement Parts Available
1-800-323-0620

**All Halsey Taylor standard models feature:**

- Double Bubbler™ projector on all units (except Nos. 4LW34, 4W165 & 5W410 which are Dial-A-Drink®) with anti-squirt groove to prevent tampering and provide a fuller, more satisfying drink
- Nonpressurized water cooling system to prevent water damage in the unlikely event of a ruptured chiller tank
- Separate chrome-plated drain strainer assembly is removable for easy cleaning of drain line
- Automatic stream height regulator automatically maintains stream height under line pressures varying for 20 to 90 PSI on all units except Nos. 4W165 & 5W140 which have pressure up to 120 PSI
- Energy saving precooler boosts capacity up to 60%. Featured on Nos. 2W188, 2W191, 3W070, 4LW34, 4W165, 5W409, 5W410 and 5W412
- No. 5W408 features stainless steel cabinet

**All Halsey Taylor 115V water coolers feature:**

- Lead-free construction
- Rugged steel cabinet with platinum vinyl finish
- Refrigerant 134a (CFC free)
- Contour stainless steel cooler top ensures proper drainage and prevents standing water
- Certified to ANSI/NSF61 Section 9
- Hermetically-sealed, positive start compressor with lifetime lubrication and built-in thermal overload protection
- Positive sensing thermostat controls temperature of storage water
- Maximum insulating efficiency. One-piece construction stops air leakage
- Easy installation and easy service accessibility

**No. 7A888 Barrier-Free Oasis® Model features:**

- Oasis® Split-Level Versacooler® water cooler
- Meets ADA requirements
- Heavy gauge galvanized steel frame for long life
- Easy to install and service
- Finished underside eliminates snagged clothing

**Heavy-duty Oasis® Models feature:**

- Oasis® Dial-A-Drink® bubbler.
- Water cooled condenser
- Use where dust, dirt, lint or excessive heat are problems, or where lint or dust would reduce capacity of conventional air-cooled models
- Mocha tan acrylic enamel finish
- Nos. 4W165 & 5W410 use a pressurized tank

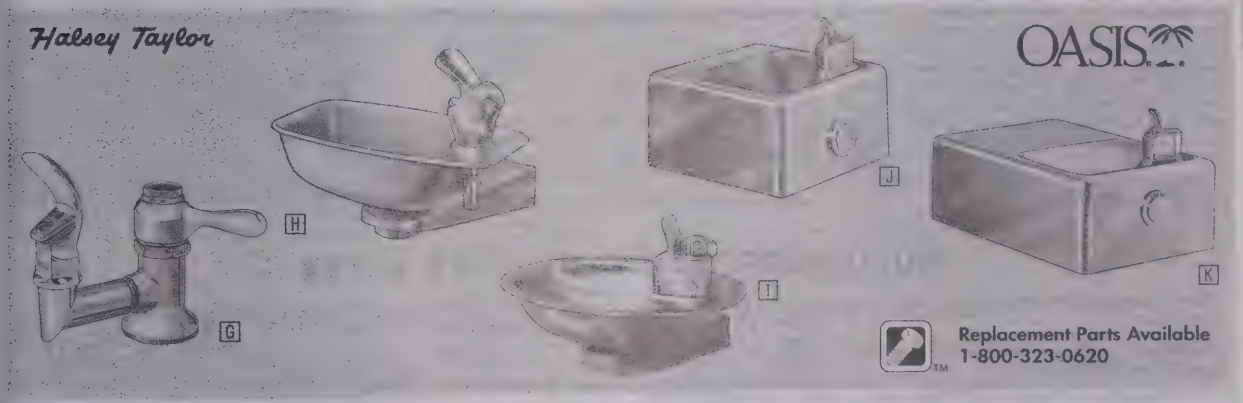
CONTINUED ON NEXT PAGE

# DRINKING WATER COOLERS AND WATER FOUNTAINS

## SPECIFICATIONS AND ORDERING DATA FOR DRINKING WATER COOLERS

| Rated GPH | Type | Compressor HP | Compressor Cooled | Overall Dimensions (In.) Height | Width | Depth | Persons Served Per Hour Hospitals, Stores, Hotels | Light Mfg. | Halsey Taylor Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **A ECONOMY FLOOR STANDING MODELS** | | | | | | | |
| **1.9** | Economy | 1/10 | Static | 37 | 12¼ | 12¼ | 47 | 28 | S300-2D | **2W154** | $522.05 | **$367.25** | 55.0 |
| **5.1** | Economy | 1/6 | Air | 37 | 12¼ | 12¼ | 127 | 76 | S500-5D | **2W155** | 583.74 | **417.00** | 62.0 |
| **9.6** | Economy | 1/4 | Air | 37 | 12¼ | 12¼ | 240 | 144 | S1000-10D | **2W156** | 640.80 | **454.00** | 69.0 |
| | | | | | | **B STANDARD UNIVERSAL FLOOR STANDING MODELS** | | | | | | | |
| **8.0** | Deluxe | 1/8 | Air | 40 | 16 | 13¼ | 200 | 120 | SCWT-8A | **5W409** | 584.60 | **487.25** | 75.0 |
| **14.0** | Deluxe | 1/5 | Air | 40 | 16 | 13¼ | 350 | 210 | SCWT-14A | **3W070** | 597.15 | **497.75** | 76.0 |
| | | | | | | **C STANDARD WALL MOUNT WATER COOLERS** | | | | | | | |
| **4.0** | Compact | 1/10 | Air | 23 | 18⅛ | 14¼ | 100 | 60 | SW4-A | **5W411** | 569.77 | **397.25** | 61.0 |
| **8.0** | Compact | 1/8 | Air | 23 | 18⅛ | 14¼ | 200 | 120 | SWS-A | **5W412** | 565.40 | **471.25** | 68.0 |
| **8.0** | Deluxe | 1/8 | Air | 28 | 18⅛ | 14¼ | 200 | 120 | WM-8A | **2W188** | 568.85 | **473.25** | 68.0 |
| **14.0** | Deluxe | 1/5 | Air | 28 | 18⅛ | 14¼ | 350 | 210 | WM-14A | **2W191** | 593.93 | **495.00** | 75.0 |
| | | | | | | **D BARRIER FREE WHEELCHAIR WALL HUNG WATER COOLERS** | | | | | | | |
| **8.0** | Front & Side Pushbar | 1/5 | Air | 21 11/16 | 18 | 18½ | 168 | 100 | HAC8-FS | **5W408** | 645.45 | **538.00** | 77.0 |
| **8.0** | Front Pushbar Only | 1/5 | Air | 21 11/16 | 18 | 18½ | 168 | 100 | HAC8 F | **5P008** | 504.26 | **420.25** | 77.0 |
| | | | | | | **E NEW! OASIS® BARRIER FREE WHEELCHAIR SPLIT-LEVEL WALL-HUNG WATER COOLER** | | | | | | | |
| **8.0** | Front Touch Pad | 1/4 | Air | 32½ | 35 | 18½ | 200 | 120 | PSAMSL | ***New*** **7A888** | 1404.00 | **780.00** | 124.0 |
| | | | | | | **F OASIS® HAZARDOUS-DUTY & HEAVY-DUTY WATER COOLERS** | | | | | | | |
| **13.5** | Heavy-duty | 1/5 | Water | 43¾ | 15 | 15 | 325 | 195 | PLF13P | ***New*** **4LW34** | 647.45 | **445.00** | 78.0 |
| **15.5** | Hazardous-duty | 1/5 | Water | 43⅞ | 17 | 14 | 400 | 240 | PL6FSWHD | **4W165** | 1039.00 | **835.00** | 101.0 |
| **15.7** | Heavy-duty | 1/5 | Water | 43⅞ | 17 | 14 | 400 | 240 | PLF16FSW | **5W410** | 741.60 | **618.00** | 77.0 |

## REMOTE WATER FOUNTAINS




Replacement Parts Available
1-800-323-0620

### ALL FOUNTAINS FEATURE:

- **Lead-free construction**
- **Durable, sturdy, and virtually maintenance-free design**
- **Applications include factories, warehouses, and outdoor use**
- **Nos. 5W414 and 5W416 feature Patented Double Bubbler™ projector with anti-squirt groove to prevent tampering and provide a fuller, more satisfying drink**
- **Water pressure: 90 PSI**
- **Self-closing stop**
- **3/8" IPS water connections**
- **Can be installed with remote chillers, sold separately on page 3087**

G **No. 5W416 Lever-handle Fountain Head** with tailpiece, and removable shut-off seat.

H **No. 5W414 Push Button Fountain** with single stream projector

I **No. 5W413 Bracket Fountain** with stainless steel satin finish and Dial-A-Drink® bubbler

J **No. 5W415 On-A-Wall Drinking Fountain** with stainless steel stain finish. Single push-button on the front of the cabinet keeps water flowing while button is depressed.

K **No. 5W417 Barrier Free On-A-Wall Fountain** with stainless steel satin finish. Single push-button on the front of the cabinet keeps water flowing while the button is depressed. Complies with ADA guidelines when properly installed.

## REMOTE WATER FOUNTAINS ORDERING INFORMATION

| Key | Fountain Type | Brand | Halsey Taylor Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **G** | Lever-handle | Double-Bubbler™ | 2507 | **5W416** | $144.57 | **$115.70** | 3.0 |
| **H** | Push Button | Double-Bubbler™ | 2501 | **5W414** | 200.93 | **131.50** | 3.0 |
| **I** | Bracket | Dial-A-Drink® | FLF120 | **5W413** | 126.00 | **105.00** | 8.0 |
| **J** | On-A-Wall | Continuous Flow | FLF110PM | **5W415** | 370.00 | **308.00** | 9.0 |
| **K** | Barrier-Free On-A-Wall | Continuous Flow | FLF140PM | **5W417** | 462.00 | **385.00** | 19.0 |

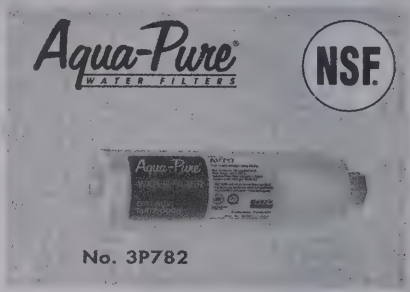
# WATER FILTERS

## IN-LINE ICE MAKER FILTER

- **Filters particulates as small as 5 microns**
- **Reduces bad taste and odors**
- **Protects equipment from scale and corrosion**
- **Installs easily on cold water line**

Disposable filter provides clean, fresh-tasting ice and water for residential refrigerators. Triple action filter reduces dirt and rust particles, improves taste of ice and water, and inhibits scale buildup on ice-making mechanisms of refrigerator. First: Rigid cellulose fiber traps particles; Second: water passes through a bed of activated carbon to reduce unpleasant tastes and odors; Third: water continues through scale-inhibiting crystals to reduce lime scale buildup. Includes 1/4" O.D. tube fittings. Maximum flow: 1/2 GPM. Maximum temperature: 100°F. Maximum pressure: 125 PSI. Tested and listed under NSF Standard 42 for the reduction of taste, odor, and chlorine (Class III). Service life is 1500 gallons. 8¼ x 2⁵⁄₁₆" maximum diameter. Aqua-Pure brand (AP717).

**No. 3P782.** Shpg. wt. 0.8 lbs. List .....$20.63.
Each .....**$10.59**



No. 3P782

## BEVERAGE DISPENSER/COLD WATER FILTER

- **Installs easily on cold water line**
- **Reduces bad taste and odors**
- **Built-in shut-off valve**
- **Quick mount bracket for easy installation and maintenance**
- **Brass head**

**Improves taste, smell, and overall quality of water** for hot and cold drink vending machines, office coffee makers, ice-making machines and other commercial beverage dispensers. Also greatly reduces scale buildup in water lines, mixing valves and heating elements by preventing hard water minerals from accumulating. Rigid cellulose fibers stop dirt, sand, silt, and rust particles; activated carbon granules reduce musty, stale, and metallic tastes and odors including chlorine; and scale-stopping crystals dissolve slowly to inhibit the formation of deposits.

**Replaceable cartridge is easily removed** from mounting head by simply backing off thumb screw and pulling down. A shut-off valve built inside the mounting head automatically shuts off water flow when cartridge is removed, resumes flow when new cartridge is replaced.

**Forged brass head and mounting frame** can be attached to appliance cabinet or nearby wall close to cold water supply line. 1/4" NPT female threaded head simplifies installation. Maximum capacities: 1/2 GPM flow; 125 PSI pressure; 100°F temperature. 11½H x 2⁵⁄₁₆" Dia. NSF Listed. Includes mounting head, bracket, and cartridge. Aqua-Pure brand (AP305).

**No. 2P077.** Shpg. wt. 2.5 lbs. List .....$114.60.
Each .....**$65.35**

**No. 2P078.** Filter Cartridge. Aqua-Pure brand (AP317). Shpg. wt. 0.8 lbs. List .....$42.42.
Each .....**$24.58**



No. 2P077 No. 2P078

## MULTI-PURPOSE COLD WATER FILTER

- **Dual-purpose for taste/odor and dirt/rust**
- **Compact, point-of-use filter for cold water installations**
- **Reduces chlorine for 2000 gallons**

Use in beverage dispensers, water coolers, wet bars and recreational vehicles. Provides clean, fresh tasting water from wells, cisterns, and municipal systems. Particles of sand, rust, and dirt up to 5 microns are trapped as water passes through a cellulose fiber element, then unpleasant taste and odors are reduced by activated carbon, and finally a postfilter removes any particles which may have escaped. Maximum capacities: 2 GPM flow; 125 PSI pressure; 100°F temperature. Compatible with water coolers on pages 3086,3087, 3088,3089.

White molded plastic body won't rust or corrode. 3/8" NPT threaded inlet and outlet ports. 8¹³⁄₁₆ x 4⅞" Dia. Includes one cartridge. Aqua-Pure brand (AP200).

**No. 2P075.** Shpg. wt. 2.2 lbs. List .....$92.61.
Each .....**$48.00**

**Replacement Cartridges.** Carton of two. Aqua-Pure Brand (AP217).

**No. 2P076.** Shpg. wt. 1.8 lbs. List .....$43.56.
Each .....**$25.85**

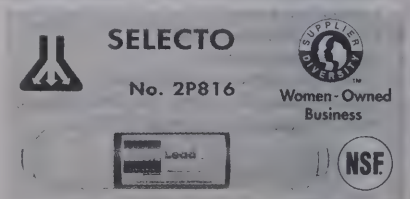


No. 2P075 No. 2P076

## LEADOUT™ LEAD-REMOVAL FILTER

Fits all water coolers. Reduces lead in drinking water below EPA drinking water standards. 500 Gallon or 1 year filter life. Stable flow rate over lifetime of filter. Functions over pH range of 6.5 to 9.5. All components are made of nontoxic materials. Maximum pressure: 125 PSI; maximum flow rate: 0.5 GPM. 10 x 2" filter size, 1/4" tube connector size. Not for use with hot water. Selecto brand (10)

**No. 2P816.** Shpg. wt. 1.0 lbs. List .....$90.78.
Each .....**$56.05**



No. 2P816

# WHOLE HOUSE/COMMERCIAL FILTERS AND DRINKING WATER SYSTEMS

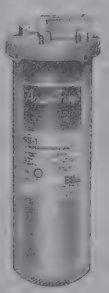
## SINGLE AND DOUBLE HEIGHT STAINLESS STEEL FILTERS

- **For industrial applications, homes, offices, schools, hospitals and high-rise buildings**
- **Easy to install on incoming water lines**
- **Quick cartridge replacement**
- **For high pressure/high temperature applications**
- **Maximum pressure: 300 PSI**

Cast brass head and stainless steel sump for use where unusually high pressures are common to protect hot/cold water appliances. For low flow rates use: single cartridge units, Nos. 1P747 and 2P516. For extra high flow rates use: double cartridge units Nos. 1P748 and 2P517. Can be used with dirt/rust cartridges. Nos. 1P753 and 2P369 or with taste/order cartridge, No. 1P754 (sold separately on page 3093.) See chart for maximum temperature and flow rate. Mounting bracket included. Aqua-Pure brand.

Aqua-Pure WATER FILTERS NSF

Replacement Parts Available 1-800-323-0620



No. 2P516



No. 2P517

**AQUA-PURE 10 YEAR WARRANTY**

Aqua-Pure warrants all single and double height filter sumps for 10 years. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

| Stock No. | Connection Size Inlet & Outlet (In.) | Clean Cartridge Service Flow Rate with Cartridge 1P753 / 2P369 | Clean Cartridge Service Flow Rate with Cartridge 1P754 | Clean Pressure Drop with Cartridge 1P753 / 2P369 | Clean Pressure Drop with Cartridge 1P754 |
|---|---|---|---|---|---|
| 2P516 | 3/8 NPT vertical | 6 GPM/210°F | 3GPM/100°F | 3.0 PSID | 3.0 PSID |
| 1P747 | 3/4 NPT in-line | 6 GPM/210°F | 3GPM/100°F | 3.0 PSID | 3.0 PSID |
| 1P748 | 3/4 NPT in-line | 12 GPM/210°F | 6GPM/100°F | 5.0 PSID | 7.0 PSID |
| 2P517 | 1 NPT in-line | 12 GPM/210°F | 6GPM/100°F | 2.0 PSID | 7.0 PSID |

(*) Based upon clean cartridge flow rates.

**SINGLE AND DOUBLE HEIGHT FILTER SUMPS**

| Cartridges Required | Dimensions (In.) H | Dia. | Aqua-Pure Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | 12 | 4 3/16 | SS1 | **2P516** | $206.44 | **$141.80** | 5.4 |
| 1 | 12 7/8 | 4 3/16 | SS1HA | **1P747** | 206.43 | **147.00** | 5.4 |
| 2 | 22 | 4 3/16 | SS2HA | **1P749** | 365.74 | **281.75** | 7.3 |
| 2 | 22 | 4 3/16 | SS2HB | **2P517** | 365.76 | **241.00** | 6.4 |

## DRINKING WATER SYSTEM

Remove dirt, rust, lead, cysts, bad taste and odor with this convenient, easy-to-install system. Features an advanced filtration and adsorption system. Pressure tested, high impact plastic design protects against pressure surges and water hammer. Exclusive quick-change cartridge design reduces spills and mess for fast, easy cartridges changes with 1/4 turn. Hardware, faucet and pipe connections included. System tested and certified NSF International. Note: Activated carbon filters are not intended for use where water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after system. Inlet/outlet size: 1/4". Max. water pressure: 125 psi. Dimensions: 14⅝ H x 3⅝" Dia. Max. water temp.: 100° F. Max. flow rate: 0.6 GPM. Degree of filtration: 0.5 micron. Capacity: 1400 gal. Aqua-Pure brand. (AP-DWS750)

Uses No. 4LW41 replacement cartridge sold on page 3093

***New!*** **No. 4LW47.** Shpg. wt. 6.0 lbs. List $304.90. Each ..... $193.25



Replacement Parts Available 1-800-323-0620

New

NSF

No. 4LW47

## MULTI-CARTRIDGE HIGH FLOW FILTER SUMPS

- **For hotels, offices, schools, restaurants, laundromats, commercial buildings, and industrial applications**
- **Easy to install on incoming water lines**
- **For high pressure/high temperature/high flow rate applications**
- **Filter cartridges available on page 3093**

Low-cost, high-efficiency filtration. Feature stainless steel housings and a single clamp for easy cartridge removal. Internal center rod with locking hand knob for quick cartridge changes. Housing and all internal parts constructed of noncorrosive 304 stainless steel. Rated at 150 PSI maximum water pressure. NSF Listed. See chart for maximum temperature and flow rate. Aqua-Pure brand.

Aqua-Pure WATER FILTERS NSF

Replacement Parts Available 1-800-323-0620



**AQUA-PURE 10 YEAR WARRANTY**

Aqua-Pure warrants all multi-cartridge high flow filter housings for 10 years. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

| Stock No. | Connection Size Inlet & Outlet (In.) | Maximum Inlet Pressure | Max. Flow Rate/Temp.* with Cartridge 1P753 / 2P369 | Max. Flow Rate/Temp.* with Cartridge 1P754 |
|---|---|---|---|---|
| 2P518 | 1½ | 150 PSI | 24 GPM / 210°F | 12 GPM / 100°F |
| 2P519 | 2 | 150 PSI | 48 GPM / 210°F | 24 GPM / 100°F |
| 2P520 | 2 | 150 PSI | 72 GPM / 210°F | 36 GPM / 100°F |

(*) Based upon clean cartridge flow rates.

**MULTI-CARTRIDGE HIGH FLOW FILTER SUMPS**

| Cartridges Required 10" | 20" | 30" | MNPT Size (In.) | Dimensions (In.) H | Dia. | Aqua-Pure Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | — | — | 1½ | 19 | 11 | SS1 | 2P518 | $1219.91 | $886.50 | 25.0 |
| 8 | 4 | — | 2 | 29 | 11 | SS8 | 2P519 | 1368.26 | 966.00 | 30.0 |
| 12 | — | 4 | 2 | 39½ | 11 | SS12 | 2P520 | 1440.19 | 991.00 | 40.0 |

# WHOLE HOUSE DIRT/RUST FILTERS

## SINGLE AND DOUBLE HEIGHT PLASTIC FILTERS

For use on cold water lines only. Depending on filter cartridges used, filters will reduce rust, silt, sand, and other suspended particles or taste and odor of chlorine, sulphur, and other common chemicals from household or small commercial systems. Nos. 2P275 and 2P276 include one No. 1P753 rust and dirt filter cartridge. For commercial and whole house systems (maximum flow in a home can be from 10 to 12 GPM) two or more of these filters can be installed in a parallel system to increase flow capacity. Meet NSF Standard 42. All units have large 3/4" NPTF inlet and outlet. Aqua-Pure brand.

### VALVE-IN-HEAD

**No. 2P275.** Saves on installation time and eliminates need for expensive shut-off valves. Internally actuated pressure relief valve automatically relieves line pressure to facilitate cartridge replacement. Head constructed of fatigue resistant Celcon plastic; transparent sump is highly break resistant. Aqua-Pure brand (AP101T). Includes one No. 1P753 cartridge.

### BUTTON HEAD PRESSURE RELEASE

**Nos. 2P276 and 2P277.** Fatigue resistant Celcon plastic head is equipped with manually operated pressure release button to relieve internal line pressure and simplify cartridge replacement. No. 2P276 has an opaque sump made of shatter-resistant polypropylene plastic; No. 2P277 has a transparent sump made of San Plastic. Aqua-Pure brand (AP11S; No. 2P276) and (AP12T; No. 2P277). No. 2P276 includes one No. 1P753 cartridge; cartridge for 2P277 sold separately. See page 3093.

- **Install easily on incoming cold water lines**
- **Quick cartridge replacement**
- **Accept various cartridges for specific applications**
- **Rated at 125 PSI and 100°F water temperature**

| Cartridges Required | Max. Flow Rate, GPM with Cartridge 1P753 | 1P754 | Dimensions (In.) H | Dia. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 | 6 | 3 | 14 13/32 | 4 9/16 | **2P275** | $73.79 | **$58.00** | 2.6 |
| 1 | 6 | 3 | 13 13/16 | 4 9/16 | **2P276** | 78.69 | **42.00** | 2.8 |
| 2 | 12 | 6 | 23 3/8 | 4 9/16 | **2P277** | 109.91 | **57.00** | 4.0 |




Replacement Parts Available 1-800-323-0620

**Products bearing the NSF seal have been tested and listed under NSF International standards for water treatment claims. Contact your local branch for Product Sales Fact Sheets.**

## HEAVY-DUTY 1" WHOLE HOUSE WATER FILTERS

- **Built-in pressure relief button makes changing cartridges simple**
- **Easy installation**
- **Unrestricted flow design**
- **For use with cold water applications**

Ideal for larger homes and commercial applications, these water filters are made of FDA CFR-21 compliant materials to conform to public health requirements for water purification. Suitable for drinking and cooking water and all food applications. 1"NPT inlet/outlet connections provide high flow rates. Units deliver high filtration efficiency and high sediment capacity. Pressure tested high-impact plastic design protects against pressure surges and water hammer. Aqua-Grip filter wrench and manual included. Note: Cartridges should be replaced every 3-4 months or sooner or when noticeable pressure drop occurs.

Replacement filter available, see page 3093. Aqua-Pure brand.




### *New!* HEAVY-DUTY WHOLE HOUSE WATER FILTERS

| Cartridges Required | Max. Flow Rate GPM with Cartridge 4LW37 4RP82, 4RP88 | 4RP86 | 4RP83 4RP84, 4RP89 | 4RP87 | Max. Water Temp. (°F) | Max. Water Pressure (PSI) | Dimensions (In.) H | Dia. | Aqua-Pure Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20 | 5 | | | 100 | 100 | 12 1/16 | 8 1/4 | AP801 | **4LW42** | $107.93 | **$82.30** | 7.0 |
| 1 | | | 45 | 10 | 100 | 100 | 23 3/8 | 8 1/8 | AP802 | **4RP85** | 147.52 | **113.50** | 7.0 |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# REPLACEMENT FILTER CARTRIDGES AND UNDERSINK WATER FILTER

## REPLACEMENT FILTER CARTRIDGES

Filters have 1" center hole. Fit Aqua-Pure and most other filter units. For proper operation, water must be microbiologically safe.

**No. 4LW36 Micron Dirt/Rust Water Filter Cartridge** is rated for long life under extra-heavy dirt loading. Non-fiber-shredding resin bonded construction withstands high pressure drop and stressful conditions. One cartridge can be used for cold and hot water up to 210°F. Manufactured from FDA CFR-21 compliant materials. Conforms to all public health requirements for water purification.

**No. 2P369 Rust and Dirt Economy Filter** of white cellulose fiber. Traps particles of 25 microns and larger. Maximum pressure 125 PSI. Maximum temperature 210°F.

**No. 1P753 Rust and Dirt Filtering Cartridges** made of white cellulose fibers with graded density; collect particles as small as 5 microns (two ten-thousandths of an inch). Lasts for months under normal use. Can be used for either hot or cold water, maximum temp. 210°F.

**No. 4LW37, 4RP82, 4RP83, 4RP84, 4RP88, and 4RP89 Large Diameter Filters** are rated heavy duty for long life. Superior design is unchallenged in dirt holding capacity. Fully ported to handle high flow rates. For use on cold water applications in larger homes and light commercial applications.

**No. 1P754 Double Action Cartridges** for taste/odor; rust/dirt filled with activated carbon. For use on cold water applications only. Max. temp. 100°F.

**4RP86 and 4RP87 Large Diameter, Low Height Filters** for taste/odor and dirt/rust applications. Cartridges are heavy duty for long life and capable of handling large flow rates. For use on cold water applications.

**No. 3P775 Double Action Cartridge** for scale, dirt and rust, uses a scale-inhibiting compound to reduce scale buildup in water heaters, cooling towers, and piping. When installed in a variety of housings on water heater feed line, cartridge traps dirt and rust, as small as 5 microns, in a rigid cellulose prefilter. Water is then channeled through scale-stopping crystals which inhibit the precipitation of scale-causing minerals. Good for high capacity installations. 100 GPH recovery rate at 100°F rise, per cartridge. Maximum temperature: 100°F.

**No. 4LW41 Multi-composite Carbon Filtration Cartridge** filters water slowly through the .5 micron filter. Intricate carbon matrix removes lead, chlorine, cysts, bad taste and odor.

Aqua-Pure WATER FILTERS NSF

New





No. 1P753



No. 1P754 No. 3P775 No. 4LW37

**Note: Activated carbon filters should not be used on water that is microbiologically unsafe or of unknown quality without proper disinfection before or after unit.**

| Flow Rate GPM* | Micron Rating | Cartridge | Application | Dimensions (In.) H | Dia. | Aqua-Pure Model | Stock No. | List | Each | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 50 | Rust & Dirt | Hot/Cold | 9¾ | 2⅝ | AP124H/C | **New 4LW36** | $23.78 | **$16.25** | 2 | 0.9 |
| **6** | 25 | Rust & Dirt | Hot/Cold | 9¾ | 2⅝ | AP111H/C | **2P369** | 20.62 | **10.71** | 2 | 1.0 |
| **6** | 5 | Rust & Dirt | Hot/Cold | 9¾ | 2⅝ | AP110H/C | **1P753** | 18.32 | **9.79** | 2 | 0.8 |
| **20** | 50 | Rust & Dirt | Cold | 9¾ | 4¼ | AP811 | **New 4RP88** | 28.00 | **21.54** | 1 | 1.3 |
| **20** | 25 | Rust & Dirt | Cold | 9¾ | 4¼ | AP811 | **New 4RP82** | 36.15 | **27.85** | 1 | 1.3 |
| **20** | 5 | Rust & Dirt | Cold | 9¾ | 4⅝ | AP810 | **New 4LW37** | 27.63 | **19.07** | 1 | 1.3 |
| **45** | 50 | Rust & Dirt | Cold | 20 | 4⅝ | AP814-2 | **New 4RP89** | 52.63 | **40.50** | 1 | 2.3 |
| **45** | 25 | Rust & Dirt | Cold | 20 | 4⅝ | AP811-2 | **New 4RP84** | 58.04 | **44.65** | 1 | 2.3 |
| **45** | 5 | Rust & Dirt | Cold | 20 | 4⅝ | AP810-2 | **New 4RP83** | 40.06 | **30.85** | 1 | 2.3 |
| **3** | 5 | Taste & Odor/Rust & Dirt | Cold | 9¾ | 3 | AP117 | **1P754** | 41.26 | **21.79** | 2 | 2.0 |
| **5** | 5 | Taste & Odor/Rust & Dirt | Cold | 9¾ | 4⅝ | AP815 | **New 4RP86** | 39.99 | **30.80** | 1 | 3.0 |
| **10** | 5 | Taste & Odor/Rust & Dirt | Cold | 20 | 4⅝ | AP815-2 | **New 4RP87** | 78.90 | **60.70** | 1 | 5.8 |
| **6** | 5 | Scale Inhibitor/Rust & Dirt | Cold | 9¾ | 2⅝ | AP420 | **3P775** | 73.38 | **39.80** | 2 | 2.2 |
| **0.6** | 0.5 | Cyst/Lead/Taste & Odor | Cold | 12¾ | 3⅝ | AP-DW85 | **New 4LW41** | 95.55 | **59.95** | 1 | 6.5 |

(*) When used in two high sump, flow rate will double.

## UNDERSINK POINT-OF-USE WATER FILTER

- **Maximum capacities: 2 GPM flow; 125 PSI pressure; 100°F temperature**
- **Built-in automatic "shut-off" valve makes cartridge changes spill free**
- **Pressure tested, high-impact plastic design protects against stressful conditions**
- **Premium Graded-Density depth pre-filter extends the life of the filter**

Triple action filtration and treatment provides sparkling clear water that ideal for clear ice cubes and fresh tasting water, coffee and beverages. Specially formulated high adsorption activated carbon media provides longer cartridge life and filtration of chlorine and taste/odor. Propietary scale and corrosion system protects equipment and icemakers from scale build-up and damaging corrosion. Manufactured from FDA CFR-21 comoliant materials suitable for drinking and cooking water and all food applications. System tested and certified by NSF International. 2-year limited warranty. Note: Cartridges should be replace every 4-6 months or 2000 gallons (7500 liters). Aqua-Pure brand (AP510).

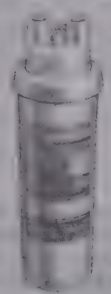
***New* No. 4LW46.** Shpg. wt. 3.8 List $143.09.
Each ..... **$75.65**

**Cartridges for No. 4LW46** have a rated life of 2000 gallons for chlorine reduction. Rigid cellulose fibers trap microscopic particles while a bed of activated carbon reduces bad tastes and odors. Scale-inhibiting crystal dissolve to reduce buildup of lime scale. Aqua-Pure brand (AP517).

**No. 3P781.** Shpg. wt. 1.8 lbs. List $44.71.
Each ..... **$24.95**

Aqua-Pure WATER FILTERS NSF

New



No. 4LW46

# SCALE FILTERS

## UNDERSINK TRIPLE ACTION FILTER

- **Protects ice machines and other equipment from scale buildup**
- **Built in valve-in-head design for easy maintenance**
- **Reduces dirt, rust, and taste/odor problems**
- **Provides quality drinking water for home, boat, or RV**
- **10 Year warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

Convenient and simple 3-way protection against dirt, rust, bad taste, and odor, plus scale. Valve-in-head design eliminates need for extra shut-off valves. Change cartridges easily by turning and pulling cartridge to automatically shut off water supply; insert and turn replacement cartridge to restore water supply. Includes 1 cartridge; replacement cartridges sold below.

Installs on cold water line with 3/8" NPT female connections. Maximum capacities: 2 GPM flow; 125 PSI pressure; 100°F temperature. 11 1/16 x 3 3/8" maximum diameter. Tested and listed under NSF Standard 42 for reduction of chlorine, taste, and odor (Class II). NOTE: Activated carbon filters should not be used with water that is microbiologically unsafe or of unknown quality. Aqua-pure brand (AP500).

**No. 3P780.** Shpg. wt. 4.0 lbs. List $105.33. Each ..... **$71.95**

**Cartridges for No. 3P780** have a rated life of 2000 gallons for chlorine reduction. Ridgid cellulose fibers trap microscopic particles while a bed of activated carbon reduces bad taste and orders. Scale-inhibiting crystal dissolve to reduce buildup of lime scale. Aqua-Pure brand (AP617).

**No. 3P781.** Shpg. wt. 1.8 lbs. List ..... $44.71. Each ..... **$24.95**




No. 3P780 No. 3P781

## HOT WATER HEATER SCALE INHIBITOR

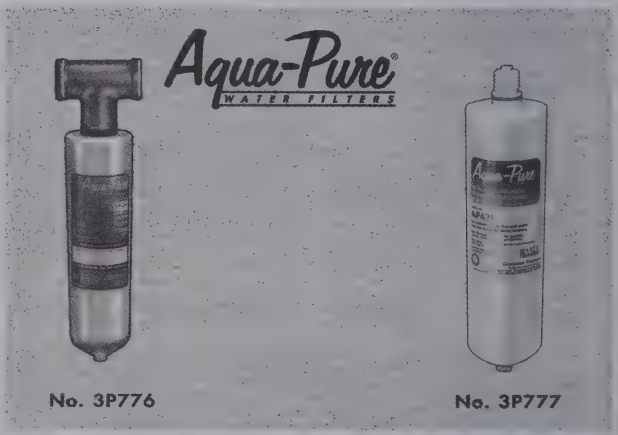
- **Inhibits hard water scale in water heaters and pipes**
- **Works on boiler, tank (gas and electric), and tankless hot water systems**

Hot water system protector uses proprietary scale-inhibiting compound to inhibit scale buildup in residential and small commercial hot water heaters. Crystal compound slowly dissolves inside of water heater. This forms a slick, microscopic coating making it difficult for scale and hardness to attach and build up on water heater walls. Unit is not a softener and does not impart any taste or odor. Easy installation on cold water side of hot water system, using 3/4" female NPT connections. Max. hot water heater size is 50 GPH recovery rate at 100°F rise. Maximum capacities: 6 GPM flow; 125 PSI pressure; 100°F temperature. Includes one cartridge; replacements sold separately below. Aqua-Pure brand (AP430).

**No. 3P776.** Shpg. wt. 2.0 lbs. List $84.51. Each ..... **$56.35**

**Replacement Cartridge for No. 3P776, above.** Easily removed by shutting off water flow and unscrewing old cartridge from head of No. 3P776. Maximum temperature: 100°F. Maximum flow: 6 GPM. 8 13/16H x 2 1/4" Dia. Aqua-Pure brand (AP431).

**No. 3P777.** Shpg. wt. 1.3 lbs. List $34.39. Each ..... **$21.99**

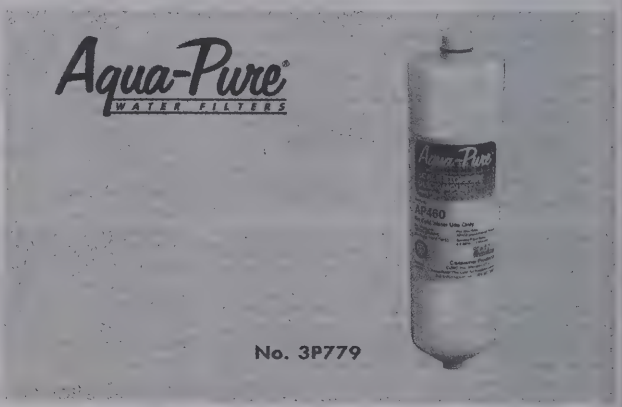



No. 3P776 No. 3P777

## SCALE INHIBITOR CARTRIDGE

**Replacement Cartridge for Aqua-Pure AP450 Scale Inhibitor.** Easily removed from mounting head by simply backing off the thumb screw (after shutting off water supply) and pulling down. Maximum temperature: 100°F. Maximum flow rate: 1/2 GPM. 9 3/4H x 3" Dia. Aqua-Pure brand (AP460).

**No. 3P779.** Shpg. wt. 0.8 lbs. List $56.21. Each ..... **$31.10**




No. 3P779

### A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

# REVERSE OSMOSIS DRINKING WATER SYSTEM

Five-stage unit processes up to 14 gallons per day of high quality drinking water. Uses ordinary tap water and household water pressure for processing—no electricity required. Combines commercial quality 5 micron prefiltration with dechlorination. 0.0005 Micron ultra filtration, reverse osmosis, and final carbon post filtration.

**Specifications:** 9-14 Gallons per day at 50 PSI with 77°F feed water. Requires 40-100 PSI feed water pressure. 40 to 100°F feed water temperature range. Maximum 2000 parts per million of dissolved solids in feed water. Automatic "Full Tank" feed water shut-off valve. Tested at 95% removal of dissolved solids. Maximum 0.1 PPM iron and 0.5 PPM manganese in feed water. Water Quality Association Gold Seal Approved.

**Construction:** 2 Gallon polyethylene water storage tank. Chrome long reach plumbing code approved air gap faucet. Installation parts included.

**Replacement parts:** Uses one No. 1P753 and two No. 1P754 as pre and post filters. Yearly replacement is recommended, more often on lower quality feed water. Nos. 1P753 and 1P754 sold on page 3093. No. 3P784 replacement reverse osmosis module cartridges sold below. Replace as indicated by dissolved solids removal test or as indicated by optional percent rejection monitor, sold below. Typical life of module is 2 years on properly maintained system. Aqua-Pure brand (APR05000).

**No. 3P774.** Shpg. wt. 29.0 lbs. List $709.36. Each.....$453.00

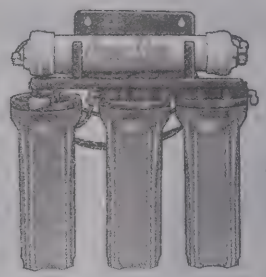
**Replacement Membrane for No. 3P774,** above. Reduces dissolved solids in feed water. Tested for guaranteed 95% minimum rejection of dissolved solids. Quick-disconnect fittings allow for rapid service. New check valve and reject water screen built into each module. Aqua-Pure brand.

**No. 3P784.** Shpg. wt. 3.0 lbs. List $151.67. Each .....$96.95

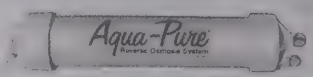
Aqua-Pure WATER FILTERS

NSF

- State-of-the-art drinking water system
- Comes complete, ready for installation
- Reduces many hazardous volatile chemicals (lead, VOCs) by 95% or more



No. 3P774




No. 3P784

# PERCENT REJECTION MONITOR

**Percent Rejection Monitor** installs on No. 3P774. Press test button to display when reverse osmosis module needs replacing. Uses 9 volt battery, included. True percent rejection monitor, reads feed water and product water quality. Easy Velcro installation. 4½W x 2½H x 1¼"D. Aqua-Pure brand.

**No. 3P783.** Shpg. wt. 0.3 lbs. List .....$53.27. Each .....$47.80

Aqua-Pure WATER FILTERS



No. 3P783

# CHEMICAL CONTAMINANT FILTER

- Reduces many hazardous volatile organic chemicals (VOCs) by 95% or more
- Reduces bad tastes, odors, chlorine, and chloramines
- Installs easily on cold water line under sinks.

**Advanced drinking water system reduces** chemicals including THMs, PCE, benzene, and more. Filters microscopic impurities (dirt, rust, sand, and silt) as small as 5 microns. Equally effective on municipal and private well water.

**Comes complete with faucet,** self-tapping valve, all connections and fittings, and opaque plastic housing.

**Service flow rate:** 1/2 GPM. Max. temperature: 100°F. Max. pressure: 125 PSI. Connection size: 3/8" NPT.

**Includes one cartridge;** replacement cartridges sold separately, below. Tested and listed under NSF Standard 53 for reduction of volatile organic chemicals. **Note:** Activated carbon filters should not be used on water that is microbiologically unsafe or of unknown quality. Aqua-Pure brand (APCRF).

**No. 3P772.** Shpg. wt. 6.0 lbs. List $217.60. Each .....$120.00

**Replacement Cartridge for No. 3P772,** above, has a life of 200 gallons and installs easily. Aqua-Pure brand (APC77).

**No. 3P773.** Shpg. wt. 1.4 lbs. List $28.65. Each .....$16.99

Aqua-Pure WATER FILTERS

NSF

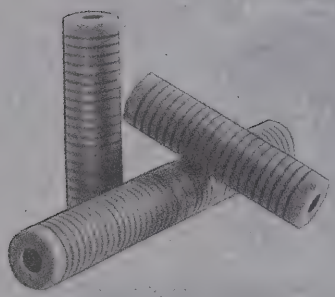


No. 3P772 No. 3P773

# RESIN-BONDED FILTER CARTRIDGES AND HOUSINGS

## RESIN-BONDED CARTRIDGES

CUNO
Water Filter Systems
A unit of Commercial Intertech Corp.



Cuno resin-bonded cartridges are manufactured using quality engineered short fiber technology combined with resin polymerization to produce a high quality, rigid, depth media that resists bypass, channeling, and collapse. This media is excellent for gel removal, while holding a wide range of dirt particles. Structure is rigid and self-supporting; no center core is required for support. This is an advantage in disposal of the spent filter cartridges that are ideally suited for incineration, shredding, and compacting. **Cartridges sold in packages of 2.**

**Applications:** Variety of paints and resins, oils, chemicals, inks, solvents, industrial water.

**Note: Not for use with potable water applications.**

### NOMINAL FLOW IN GPM PER CARTRIDGE @ 5 PSID*

| Cartridge Length | 5 Micron | | | 10 Micron | | | 25 Micron | | | 50 Micron | | | 125 Micron | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 CP† | 50 CP‡ | 100 CP# | 1 CP† | 50 CP‡ | 100 CP# | 1 CP† | 50 CP‡ | 100 CP# | 1 CP† | 50 CP‡ | 100 CP# | 1 CP† | 50 CP‡ | 100 CP# |
| 9¾" | 5 | 2 | 1 | 5 | 2.5 | 1.5 | 6 | 4 | 2 | 7 | 4 | 2.5 | 8 | 8 | 6 |
| 29¼ | 15 | 6 | 3 | 15 | 7.5 | 4.5 | 18 | 12 | 6 | 21 | 12 | 7.5 | 24 | 24 | 18 |

(*) Flow decreases as cartridge life diminishes. Replace when flow is unsatisfactory. PSID is difference in pressure between two points. (†) Water, for example. (‡) Peanut oil, for example. (#) #5 Fuel oil, for example.

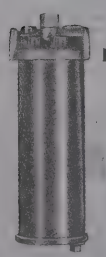
### CROSS-REFERENCE AND ORDERING INFORMATION

| Micron Rating | Nominal Length (In.) | Flow List (GPM) | Max. Temp. (° F) | Manufacturers' Cross-Reference Cuno | Commercial | Filterite | Stock No. | Per Package of Two List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **5** | 9¾ | 5 | 250 | G78B8-1 | RBC5-9GP | 5RPN9.75 | **3P758** | $16.89 | **$14.70** | 0.9 |
| **10** | 9¾ | 5 | 250 | G78C8-1 | RBC10-9GP | 10RPN9.75 | **3P759** | 16.89 | **14.72** | 1.0 |
| **25** | 9¾ | 6 | 250 | G78F8-1 | RBC25-9GP | 25RPN9.75 | **3P760** | 16.89 | **14.71** | 0.8 |
| **50** | 9¾ | 6 | 250 | G78L8-1 | RBC50-9GP | 50RPN9.75 | **3P761** | 16.89 | **14.71** | 0.7 |
| **125** | 9¾ | 8 | 250 | G78V8-1 | RBC125-9GP | 125RPN9.75 | **3P762** | 16.89 | **14.70** | 0.7 |
| **5** | 29¼ | 15 | 250 | G78B8-3 | RBC5-29GP | 5RPN29.75 | **3P763** | 49.62 | **42.50** | 2.4 |
| **10** | 29¼ | 15 | 250 | G78C8-3 | RBC10-29GP | 10RPN29.75 | **3P764** | 49.62 | **42.50** | 2.0 |
| **25** | 29¼ | 18 | 250 | G78F8-3 | RBC25-29GP | 25RPN29.75 | **3P765** | 49.62 | **42.50** | 2.0 |
| **50** | 29¼ | 18 | 250 | G78L8-3 | RBC50-29GP | 50RPN29.75 | **3P766** | 49.62 | **42.50** | 2.0 |
| **125** | 29¼ | 24 | 250 | G78V8-3 | RBC125-29GP | 125RPN29.75 | **3P767** | 49.62 | **42.50** | 2.0 |

See Cross-Reference Information on page opposite inside back cover.

## RESIN-BONDED CARTRIDGE HOUSINGS

CUNO
Water Filter Systems
A unit of Commercial Intertech Corp.



No. 3P768



Nos. 3P769, 3P770, 3P771

Cartridge filter housings, constructed of durable, low-cost cast-iron and steel are quality-built housings that satisfy general-purpose industrial and commercial filtration needs. Models feature three-piece housing and center-post construction. Long-lasting stainless steel internal components for quick and easy maintenance.

**Maximum temperature:** 250°F. Maximum pressure: 150 PSI. Models range from a 1-cartridge model rated at 16 GPM to an 18-cartridge model rated at 105 GPM.

**Features:** Fits modular cartridges from 9¾ to 10" for greater flexibility. Recessed gasket grooves prevent shell gaskets from falling off during assembly or reassembly. Easy to clean and maintain, for reduced down time. Cartridges are quick and easy to change. Shoulder seal plates assure alignment and positive seal.

**Filter house sizing:** To determine correct filter housing size, first determine the number of cartridges required to filter liquid at the required system flow rate (GPM).

**Cartridge seal assemblies:** All models (except 3P768) feature spring seal plate assemblies which permit use of cartridges from 9¾ to 10" long and their multiples. For 9¾ and 9⅞" cartridges, use the spring seal plate with spacer. For 10" cartridges, remove spacer.

### ORDERING INFORMATION

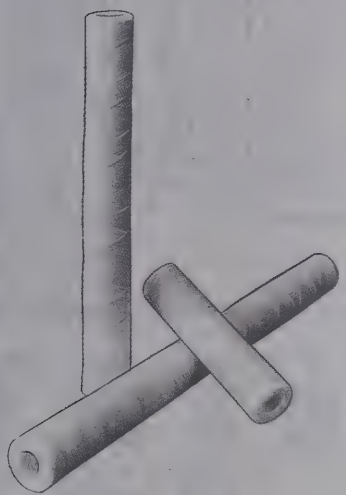
| Connections Inlet/Outlet (In.) | No. of Equivalent 9¾" Cartridges | No. of Equivalent 29¼" Cartridges | Cuno Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/4** | 1 | — | 1B1 | **3P768** | $110.86 | **$103.85** | 7.1 |
| **1½** | 3 | — | 3AL1 | **3P769** | 540.86 | **496.25** | 43.0 |
| **2** | 6 | — | 6AL1 | **3P770** | 658.65 | **604.00** | 65.0 |
| **2** | 18 | 6 | 6AL3 | **3P771** | 831.14 | **796.50** | 96.0 |

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# WOUND FILTRATION CARTRIDGES

Parker Filtration





See Cross-Reference Information on page opposite inside back cover.

How To Order Cartridges Guide found on page 3100.

**Fulflo® Honeycomb wound depth cartridges** are made by diagonally winding a precise pattern of carefully selected fibers on a center core. The pattern is designed to create hundreds of identical, tapered, spiral passageways. Fibers are combed across these passageways and locked in place by succeeding layers. Solid particles are removed by entrapment in filter media throughout the depth of entire cartridge.

**Nominal measurements:** 1" inside dia.; 2½" outside dia.

**Applications:** Typically applied in industries such as: plating, printing, printed circuits, well service, pharmaceutical, photographic, oil, gas, process water and laboratories.

**Available in 1, 5, 10, 25, and 50 micron filtration sizes.** Each cartridge is individually wrapped to protect the filtration surface. **Cartridges sold in packages of 6.**

**Note: Cartridge Selection Guide on bottom half of page 3100.**

## CROSS-REFERENCE AND ORDERING DATA

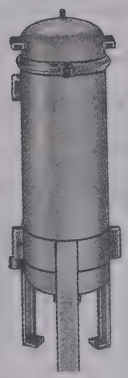
| Nominal Micron Rating | Nominal Length (In.) | Flow Rate (GPM) | Max. Temp. (° F) | Manufacturers' Cross-Reference Parker | Filterite | Johnson | Cuno | Stock No. | Per Pkg. of Six List | Per Pkg. of Six Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **COTTON WINDING/POLYPROPYLENE CORE** | | | | | | | | | | | |
| 1 | 10 | 3 | 140 | 39R10A | C1A10U | JC1R10P | CS09YCPN | **3P811** | $33.97 | **$25.55** | 2.9 |
| 1 | 20 | 6 | 140 | 39R20A | C1AW20U | JC1R20P | CS20YCPN | **5P254** | 68.97 | **51.15** | 5.8 |
| 1 | 30 | 9 | 140 | 39R30A | C1AW30U | JC1R30P | CS30YCPN | **5P259** | 102.94 | **76.80** | 9.3 |
| 5 | 10 | 4 | 140 | 23R10A | C3A10U | JC5R10P | CS09BCPN | **3P812** | 32.92 | **24.24** | 2.9 |
| 5 | 20 | 8 | 140 | 23R20A | C3AW20U | JC5R20P | CS20BCPN | **5P255** | 65.85 | **48.60** | 5.8 |
| 5 | 30 | 12 | 140 | 23R30A | C3AW30U | JC5R30P | CS30BCPN | **5P260** | 97.75 | **72.95** | 9.0 |
| 10 | 10 | 5 | 140 | 19R10A | C10A10U | JC10R10P | CS09CCPN | **3P813** | 31.88 | **23.67** | 2.8 |
| 10 | 20 | 10 | 140 | 19R20A | C10AW20U | JC10R20P | CS20CCPN | **5P256** | 63.77 | **47.45** | 5.8 |
| 10 | 30 | 15 | 140 | 19R30A | C10AW30U | JC10R30P | CS30CCPN | **5P261** | 95.65 | **71.20** | 9.0 |
| 25 | 10 | 6 | 140 | 15R10A | C25A10U | JC25R10P | CS09RCPN | **3P814** | 29.83 | **22.59** | 2.8 |
| 25 | 20 | 12 | 140 | 15R20A | C25AW20U | JC25R20P | CS20RCPN | **5P257** | 60.70 | **45.30** | 5.8 |
| 25 | 30 | 18 | 140 | 15R30A | C25AW30U | JC25R30P | CS30RCPN | **5P262** | 91.56 | **68.05** | 9.0 |
| 50 | 10 | 6 | 140 | 11R10A | C50A10U | JC50R10P | CS09LCPN | **3P815** | 28.80 | **21.01** | 2.2 |
| 50 | 20 | 12 | 140 | 11R20A | C50AW20U | JC50R20P | CS20LCPN | **5P258** | 56.57 | **42.10** | 4.5 |
| 50 | 30 | 18 | 140 | 11R30A | C50AW30U | JC50R30P | CS30LCPN | **5P263** | 84.34 | **63.20** | 7.0 |
| **COTTON WINDING/TINNED STEEL CORE** | | | | | | | | | | | |
| 1 | 10 | 3 | 250 | 39R10 | C1A10T | JC1R10T | CS09YCRN | **3P795** | 32.93 | **24.86** | 3.1 |
| 1 | 20 | 6 | 250 | 39R20 | C1AW20T | JC1R20T | CS20YCRN | **5P283** | 67.92 | **50.10** | 7.2 |
| 1 | 30 | 9 | 250 | 39R30 | C1AW30T | JC1R30T | CS30YCRN | **3P799** | 99.83 | **74.85** | 10.0 |
| 5 | 10 | 4 | 250 | 23R10 | C5A10T | JC5R10T | CS10BCRN | **5P282** | 30.87 | **23.33** | 3.6 |
| 5 | 20 | 8 | 250 | 23R20 | C5AW20T | JC5R20T | CS20BCRN | **5P284** | 63.80 | **46.70** | 7.0 |
| 5 | 30 | 12 | 250 | 23R30 | C5AW30T | JC5R30T | CS30BCRN | **3P800** | 92.62 | **69.75** | 9.5 |
| 10 | 10 | 5 | 250 | 19R10 | C10A10T | JC10R10T | CS09CCRN | **3P796** | 30.86 | **22.62** | 2.9 |
| 10 | 20 | 10 | 250 | 19R20 | C10AW20T | JC10R20T | CS20CCRN | **5P285** | 60.69 | **45.40** | 6.2 |
| 10 | 30 | 15 | 250 | 19R30 | C10AW30T | JC10R30T | CS30CCRN | **5P288** | 91.55 | **68.20** | 9.6 |
| 25 | 10 | 6 | 250 | 15R10 | C20A10T | JC25R10T | CS09RCRN | **3P797** | 28.81 | **21.52** | 2.8 |
| 25 | 20 | 12 | 250 | 15R20 | C20AW20T | JC25R20T | CS20RCRN | **5P286** | 57.62 | **43.25** | 6.1 |
| 25 | 30 | 18 | 250 | 15R30 | C20AW30T | JC25R30T | CS30RCRN | **3P801** | 86.44 | **64.80** | 8.9 |
| 50 | 10 | 6 | 250 | 11R10 | C50A10T | JC50R10T | CS09LCRN | **3P798** | 26.75 | **19.83** | 2.6 |
| 50 | 20 | 12 | 250 | 11R20 | C50AW20T | JC50R20T | CS20LCRN | **5P287** | 54.53 | **39.95** | 6.1 |
| 50 | 30 | 18 | 250 | 11R30 | C50AW30T | JC50R30T | CS30LCRN | **5P269** | 80.26 | **59.65** | 8.2 |
| **COTTON WINDING/316 STAINLESS STEEL CORE** | | | | | | | | | | | |
| 1 | 10 | 3 | 250 | 39R10S | C1A10S | JC1R10A | CS09YCTN | **3P802** | 42.20 | **32.50** | 3.1 |
| 1 | 20 | 6 | 250 | 39R20S | C1AW20S | JC1R20A | CS20YCTN | **5P289** | 88.51 | **65.35** | 7.4 |
| 1 | 30 | 9 | 250 | 39R30S | C1AW30S | JC1R30A | CS30YCTN | **3P807** | 134.75 | **97.60** | 10.0 |
| 5 | 10 | 4 | 250 | 23R10S | C5A10S | JC5R10A | CS09BCTN | **3P803** | 43.23 | **31.85** | 3.1 |
| 5 | 20 | 8 | 250 | 23R20S | C5AW20S | JC5R20A | CS20BCTN | **5P271** | 85.42 | **63.60** | 6.4 |
| 5 | 30 | 12 | 250 | 23R30S | C5AW30S | JC5R30A | CS30BCTN | **3P808** | 128.65 | **95.30** | 9.5 |
| 10 | 10 | 5 | 250 | 19R10S | C10A10S | JC10R10A | CS09CCTN | **3P804** | 42.19 | **29.15** | 2.9 |
| 10 | 20 | 10 | 250 | 19R20S | C10AW20S | JC10R20A | CS20CCTN | **5P290** | 83.31 | **58.40** | 6.2 |
| 10 | 30 | 15 | 250 | 19R30S | C10AW30S | JC10R30A | CS30CCTN | **3P809** | 126.56 | **93.65** | 9.5 |
| 25 | 10 | 6 | 250 | 15R10S | C20A10S | JC25R10A | CS09RCTN | **3P805** | 41.18 | **29.75** | 2.8 |
| 25 | 20 | 12 | 250 | 15R20S | C20AW20S | JC25R20A | CS20RCTN | **5P291** | 80.30 | **59.55** | 6.1 |
| 25 | 30 | 18 | 250 | 15R30S | C20AW30S | JC25R30A | CS30RCTN | **3P810** | 119.43 | **89.25** | 8.9 |
| 50 | 10 | 6 | 250 | 11R10S | C50A10S | JC50R10A | CS09LCTN | **3P806** | 38.08 | **28.20** | 2.6 |
| 50 | 20 | 12 | 250 | 11R20S | C50AW20S | JC50R20A | CS20LCTN | **5P270** | 76.17 | **56.45** | 5.5 |
| 50 | 30 | 18 | 250 | 11R30S | C50AW30S | JC50R30A | CS30LCTN | **5P292** | 114.26 | **84.70** | 8.5 |
| **POLYPROPYLENE WINDING/POLYPROPYLENE CORE** | | | | | | | | | | | |
| 1 | 10 | 3 | 140 | T39R10A | U1A10U | JP1R10P | CS09YPPN | **3P786** | 29.84 | **20.70** | 3.0 |
| 1 | 20 | 6 | 140 | T39R20A | U1AW20U | JP1R20P | CS20YPPN | **5P264** | 59.68 | **41.55** | 5.8 |
| 1 | 30 | 9 | 140 | T39R30A | U1AW30U | JP1R30P | CS30YPPN | **5P790** | 87.46 | **62.35** | 9.6 |
| 5 | 10 | 4 | 140 | T23R10A | U5A10U | JP5R10P | CS09BPPN | **3P787** | 28.80 | **20.08** | 2.6 |
| 5 | 20 | 8 | 140 | T23R20A | U5AW20U | JP5R20P | CS20BPPN | **5P265** | 57.60 | **40.45** | 6.0 |
| 5 | 30 | 12 | 140 | T23R30A | U5AW30U | JP5R30P | CS30BPPN | **3P791** | 84.34 | **60.70** | 9.3 |
| 10 | 10 | 5 | 140 | T19R10A | U10A10U | JP10R10P | CS09CPPN | **3P788** | 27.79 | **19.61** | 2.8 |
| 10 | 20 | 10 | 140 | T19R20A | U10AW20U | JP10R20P | CS20CPPN | **5P266** | 55.58 | **39.35** | 5.8 |
| 10 | 30 | 15 | 140 | T19R30A | U10AW30U | JP10R30P | CS30CPPN | **3P792** | 95.73 | **59.00** | 8.8 |
| 25 | 10 | 6 | 140 | T15R10A | U20A10U | JP25R10P | CS09RPPN | **3P789** | 26.76 | **18.88** | 2.6 |
| 25 | 20 | 12 | 140 | T15R20A | U20AW20U | JP25R20P | CS20RPPN | **5P267** | 53.51 | **38.05** | 6.0 |
| 25 | 30 | 18 | 140 | T15R30A | U20AW30U | JP25R30P | CS30RPPN | **3P793** | 80.27 | **56.85** | 8.2 |
| 50 | 10 | 6 | 140 | T11R10A | U50A10U | JP50R10P | CS10CPPN | **5P297** | 25.68 | **18.31** | 3.1 |
| 50 | 20 | 12 | 140 | T11R20A | U50AW20U | JP50R20P | CS20CPPN | **5P268** | 51.30 | **36.40** | 5.2 |
| 50 | 30 | 18 | 140 | T11R30A | U50AW30U | JP50R30P | CS30LPPN | **3P794** | 77.07 | **54.50** | 7.4 |

# HIGH FLOW BAG FILTER HOUSINGS

## STANDARD HOUSINGS

- Carbon or stainless steel housings
- Quick open V band clamp for speedy bag filter removal
- Patented safety latch design cover with handles and standard air vent
- Adjustable legs
- 2" NPT side inlet and bottom outlet
- Includes 316 stainless steel bag support

Parker Filtration

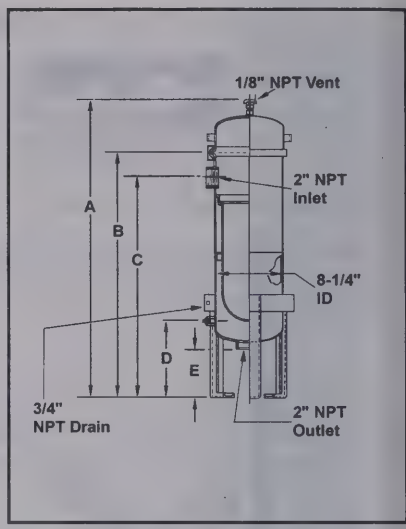


**Economical FCB series housings** are for manufacturing, commercial and industrial applications requiring fluid filtration. Units come complete with bag support; use with filter bag (order bags separately on facing page) for attaining varying degrees of filtration. Bag filtration assemblies can be used for filtering water and thick liquids such as coolants, cutting oils, inks, lubricants, paints, resins, solvents, adhesives, and petroleum oils. For use with nonflammable liquids compatible with filter component materials.

**Handle flow rates to 100 GPM** (water), liquid pressures to 100 PSI and liquid temperatures to 200°F.

**Construction:** Carbon or 304 stainless steel housings depending on model. Buna N O-ring cover seal. 316 SS bag support. Check application for chemical compatibility.

**Two housing lengths:** Filter housings for (single) size 1 or (double) size 2 length bags depending on filtering needs and preference.




| Material | Maximum Flow (GPM) | Filter Bag Size | Dimensions (In.) A | B | C | D | E | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Carbon Steel** | 80 | 1 | 35½ | 29½ | 26⅞ | 9¼ | 5½ | FCB-11 | **2P839** | $1028.74 | **$985.00** | 37.0 |
| **Carbon Steel** | 100 | 2 | 47⅛ | 41¼ | 38⅝ | 9¼ | 5½ | FCB-12 | **2P840** | 1171.68 | **1124.00** | 49.0 |
| **304 Stainless Steel** | 80 | 1 | 35½ | 29½ | 26⅞ | 9¼ | 5½ | 4FCB-11 | **2P841** | 1865.76 | **1755.00** | 37.0 |
| **304 Stainless Steel** | 100 | 2 | 47⅛ | 41¼ | 38⅝ | 9¼ | 5½ | 4FCB-12 | **2P842** | 2025.59 | **1922.00** | 49.0 |

## ASME-CODED HOUSINGS

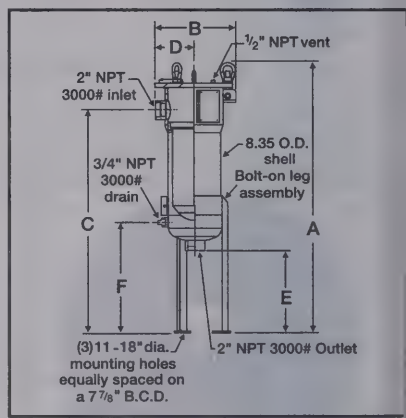


- ASME Coded (UM Stamp) to meet requirements for boilers and pressure vessels
- Carbon and 304L stainless steel housings
- Welded design provides a smooth interior for easy washout and cleaning
- Swing bolts with eyenuts for fast, easy opening and closing of hinged cover

Parker Fulflo® FB bag filter housings are designed for economical filtration of liquids such as: potable and process water, edible oils, coatings, lubricants, coolants, cutting oils, solvents, and other liquids. Maximum operating pressure is 150 PSI at 250°F.

Single Buna N O-ring seal design assures quick, positive cover seal. Housing also features height adjustable legs, side inlet with bottom outlet and threaded vent and drain connections. Filter housings are available in two lengths for either (single) size 1 or (double) size 2 filter bags.

Manufacturer's ASME Code Data Report (UM) is included with each bag filter housing. Parker Filtration brand.




| Material | Maximum Flow (GPM) | Filter Bag Size | Dimensions (In.) A | B | C | D | E | F | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Carbon Steel** | 80 | 1 | 43 | 12½ | 35 11/16 | 6 | 13 3/16 | 17¾ | FSB11-2 | **5P293** | $1398.82 | **$1250.00** | 103. |
| **Carbon Steel** | 160 | 2 | 53 | 12½ | 45¾ | 6 | 13 3/16 | 17¾ | FSB12-2 | **5P294** | 1483.74 | **1378.00** | 110. |
| **304L Stainless Steel** | 80 | 1 | 43 | 12½ | 35 11/16 | 6 | 13 3/16 | 17¾ | 4LFSB11-2 | **5P295** | 2320.13 | **2249.00** | 103. |
| **304L Stainless Steel** | 160 | 2 | 53 | 12½ | 45¾ | 6 | 13 3/16 | 17¾ | 4LFSB12-2 | **5P296** | 2477.18 | **2337.00** | 110. |

## FILTER HOUSING CROSS-REFERENCE

| Stock No. | Parker Model | Strainrite | Filter Specialists Inc. | Rosedale | Filtration Systems/Component |
|---|---|---|---|---|---|
| 2P839 | FCB-11 | UFI-90 | BFNS11-1-CS-150-2 | 8152P1NCBN-2B | — |
| 2P840 | FCB-12 | UFI-180 | BFNS12-1-CS-150-2 | 8302P1NCBN-2B | — |
| 2P841 | 4FCB-11 | UFI-90-304 | BFNS11-1-304-150-2 | 8152P1NSBN-2B | — |
| 2P842 | 4FCB-12 | UFI-180-304 | BFNS12-1-304-150-2 | 8302P1NSBN-2B | — |
| 5P293 | FB11-2 | UFI-90 | FSP40 | 8152P2UMCBPP | C112 |
| 5P294 | FB12-2 | UFI-180 | FSP85 | 8302P2UMCBPP | C122 |
| 5P295 | 4LFB11-2 | UFI-90-304 | FSP40 (304SS) | 8152P2UMSBPP | S112 |
| 5P296 | 4LFB12-2 | UFI-180-304 | FSP85 (304SS) | 8302P2UMSBPP | S122 |

**See Cross-Reference Information on page opposite inside back cover.**

# PARKER FULFLO® FILTER BAGS




- **Ideal for applications associated with high flow rates and higher viscosities**
- **Bags are fast and easy to replace**
- **Ratings from 5 to 100 microns (5 microns equal 2 ten thousandths of an inch)**
- **Support ring provides a positive seal within vessel**

Fulflo filter bags are for fine straining and filtering of fluids. Bags are made to fit Parker filter housings (sold on facing page) and other manufacturers' filter housings. Bags can also replace other manufacturers' bag models. See cross-reference chart below. Suitable for high viscosity liquids to 10,000 CPS. Additional outer cover prevents filter fibers from migrating downstream. For use with nonflammable liquids compatible with bag materials.

**Operating temperatures:** Polyester bags have a maximum operating temperature of 275°F; polypropylene bags have a maximum operating temperature of 200°F.

**Applications:** Typical filter bag applications include water, inks, petroleum oils, solvents, adhesives, paints, coolants, and resins.

**FDA:** Polyester bags comply with all FDA regulations governing food grade materials.

**Dimensions:**

**Size 1:** 16½" long bag has 7" diameter, 2.0 sq.-ft. surface area, and 2.1 gallon volume.

**Size 2:** 30½" long bag has 7" diameter, 4.4 sq.-ft. surface area, and 4.6 gallon volume.

**Operating pressure differential:** Initial pressure differential across filter bag is less than 0.2 PSI for water. It is recommended that the filter bag be replaced when this differential pressure is approximately 35 PSI for all fluids.

## FILTER COMPATIBILITY*

| Substance | Compatibility Polyester | Polypropylene |
|---|---|---|
| Organic Solvents | Excellent | Excellent |
| Animal, Petroleum, and Vegetable Oils | Excellent | Excellent |
| Micro-organisms | Excellent | Excellent |
| Alkalies | Good | Excellent |
| Organic Acids | Good | Excellent |
| Oxidizing Agents | Good | Good |
| Mineral Acids | Good | Good |

(*) Use chart as a guide only. Chemical compatibility should be checked for specific fluid.

## CROSS-REFERENCE AND ORDERING DATA

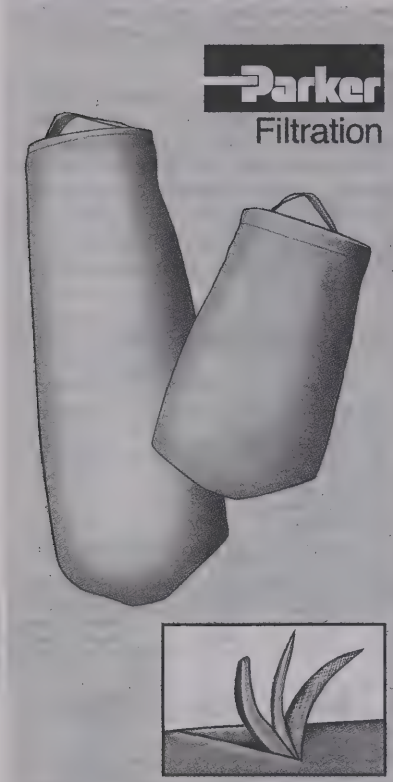
| Micron Size | MaxFlow Rate* (GPM) | Manufacturers' Cross-Reference AFF | Rosedale | Filter Specialists Inc. | Parker Model | Stock No. | List Pkg.† | Each Pkg.† | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SIZE 1 POLYESTER BAGS** | | | | | | | | | |
| **5** | 80 | PE5P1S | PE5P1S; PE5G1S | PEIF5P1S; PEIG5P1S | G1PE5 | **2P817** | $30.64 | **$30.55** | 4.2 |
| **10** | 80 | PE10P1S | PE10P1S; PE10G1S | PEF10P1S; PEIG10P1S | G1PE10 | **2P818** | 30.64 | **30.60** | 4.1 |
| **25** | 80 | PE25P1S | PE25P1S; PE25G1S | PEIF25P1S; PEIG25P1S | G1PE25 | **2P819** | 30.64 | **30.60** | 4.0 |
| **50** | 80 | PE50P1S | PE50P1S; PE50G1S | PEIF50P1S; PEIG50P1S | G1PE50 | **2P820** | 30.64 | **30.60** | 4.0 |
| **75** | 80 | PE75P1S | PE75P1S; PE75G1S | PEIF75P1S; PEIG75P1S | G1PE75 | **2P821** | 30.63 | **30.60** | 4.3 |
| **100** | 80 | PE100P1S | PE100P1S; PE100G1S | PEIF100P1S; PEIG100P1S | G1PE100 | **2P822** | 30.63 | **30.60** | 4.3 |
| **SIZE 2 POLYESTER BAGS** | | | | | | | | | |
| **5** | 160 | PE5P2S | PE5P2S; PE5G2S | PEIF5P2S; PEIG5P2S | G2PE5 | **2P823** | 55.20 | **48.85** | 5.8 |
| **10** | 160 | PE10P2S | PE10P2S; PE10G2S | PEIF10P2S; PEIG10P2S | G2PE10 | **2P824** | 55.19 | **48.75** | 5.9 |
| **25** | 160 | PE25P2S | PE25P2S; PE25G2S | PEIF25P2S; PEIG25P2S | G2PE25 | **2P825** | 55.18 | **48.80** | 6.5 |
| **50** | 160 | PE50P2S | PE50P2S; PE50G2S | PEIF50P2S; PEIG50P2S | G2PE50 | **2P826** | 55.20 | **48.85** | 5.7 |
| **75** | 160 | PE75P2S | PE75P2S; PE75G2S | PEIF75P2S; PEIG75P2S | G2PE75 | **2P827** | 55.20 | **48.80** | 5.5 |
| **100** | 160 | PE100P2S | PE100P2S; PE100G2S | PEIF100P2S; PEIG100P2S | G2PE100 | **2P828** | 55.19 | **48.75** | 6.0 |
| **SIZE 1 POLYPROPYLENE BAGS** | | | | | | | | | |
| **5** | 80 | PO5P1S | PO5P1S; PO5G1S | POIF5P1S; POIG5P1S | G1P5 | **2P829** | 35.70 | **31.75** | 4.5 |
| **10** | 80 | PO10P1S | PO10P1S; PO10G1S | POIF10P1S; POIG10P1S | G1P10 | **2P830** | 35.70 | **31.75** | 4.3 |
| **25** | 80 | PO25P1S | PO25P1S; PO25G1S | POIF25P1S; POIG25P1S | G1P25 | **2P831** | 35.56 | **31.70** | 4.3 |
| **50** | 80 | PO50P1S | PO50P1S; PO50G1S | POIF50P1S; POIG50P1S | G1P50 | **2P832** | 35.57 | **31.70** | 3.8 |
| **100** | 80 | PO100P1S | PO100P1S; PO100G1S | POIF100P1S; POIG100P1S | G1P100 | **2P833** | 35.58 | **31.75** | 3.6 |
| **SIZE 2 POLYPROPYLENE BAGS** | | | | | | | | | |
| **5** | 160 | PO5P2S | PO5P2S; PO5G2S | POIF5P2S; POIG5P2S | G2P5 | **2P834** | 50.24 | **49.70** | 6.0 |
| **10** | 160 | PO10P2S | PO10P2S; PO10G2S | POIF10P2S; POIG10P2S | G2P10 | **2P835** | 50.25 | **49.80** | 5.5 |
| **25** | 160 | PO25P2S | PO25P2S; PO25G2S | POIF25P2S; POIG25P2S | G2P25 | **2P836** | 50.25 | **49.80** | 5.3 |
| **50** | 160 | PO50P2S | PO50P2S; PO50G2S | POIF50P2S; POIG50P2S | G2P50 | **2P837** | 50.25 | **49.75** | 5.9 |
| **100** | 160 | PO100P2S | PO100P2S; PO100G2S | POIF100P2S; POIG100P2S | G2P100 | **2P838** | 50.26 | **49.80** | 6.0 |

(*) Flow rate depends on fluid viscosity (thickness), temperature, and the amount of contamination. Flow rates listed assume clear water at 70°F and 1 PSI drop across filter.
(†) 10 bags per package. **See Cross-Reference Information on page opposite inside back cover.**

## LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!

**Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# PARKER FULFLO® HIGH EFFICIENCY FILTER BAGS




- **Higher efficiency (80–98%) vs. standard bag filters; comparable to cartridge filtration efficiencies**
- **Twice the dirt holding capacity of other high efficiency filter bags**
- **3–Layer polypropylene construction of scrim, microfiber and felt**
- **Complies with all FDA Regulations governing food grade materials**
- **Lifting handle for ease and speed of changing bag**

**For use when dirt holding capacity** of a filter bag and efficiency of a wound cartridge is desired. Bags are scientifically designed series depth filters. Each layer of polypropylene felt and microfiber combine to trap as much particulate in one pass as two or three passes through an ordinary filter bag. Lower filtration costs due to the purchase of fewer bags, less often bag changes and fewer hours spent on maintenance. Maximum flow rates to 44 GPM for single length (size 1) and 80 GPM for double length (size 2) filter bags with a low initial pressure drop. 200°F max. operating temperature. A broad range of chemical compatibility results from an all polypropylene construction. Bags are made to fit most brands of filter housings. Can be used to replace 3M 100 Series and some 500 Series applications. Parker Filtration brand.

**Applications:** Edible oils, solvents, adhesives, machine tool coolants, waste water, bulk chemicals, magnetic coatings, and pharmaceuticals.

## FILTER COMPATIBILITY*

| Substance | Compatibility |
|---|---|
| Organic Solvents | Excellent |
| Animal, Petroleum, and Vegetable Oils | Excellent |
| Micro-organisms | Excellent |
| Alkalies | Excellent |
| Organic Acids | Excellent |
| Oxidizing Agents | Good |
| Mineral Acids | Good |

(*) Use chart as a guide only. Chemical compatibility should be checked for specific fluid.

## DIMENSIONS AND CAPACITY

| Bag Size | Dimensions (In.) L | Dia. | Surface Area (Sq. Ft.) | Gallon Volume |
|---|---|---|---|---|
| 1 | 16½ | 7 | 2.0 | 2.1 |
| 2 | 30½ | 7 | 4.4 | 4.6 |

## CROSS-REFERENCE AND ORDERING DATA

| Micron Size | Max. Flow Rate (GPM)* | Manufacturers' Cross-Reference 3M | Parker | Stock No. | List Pkg. † | Each Pkg. † | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **SIZE 1 POLYPROPYLENE BAGS** | | | | | | | |
| **1** | 44 | 113A | G1P1XLH | **5P272** | $232.40 | **$206.25** | 6.4 |
| **2.5** | 44 | 114A | G1P2.5XLH | **5P273** | 215.03 | **191.75** | 6.4 |
| **5** | 44 | 115A | G1P5XLH | **5P274** | 200.82 | **178.50** | 6.3 |
| **10** | 44 | 116A | G1P10XLH | **5P275** | 185.97 | **169.00** | 6.3 |
| **25** | 44 | 117A | G1P25XLH | **5P276** | 173.42 | **155.50** | 6.2 |
| **SIZE 2 POLYPROPYLENE BAGS** | | | | | | | |
| **1** | 80 | 123A | G2P1XLH | **5P277** | 333.45 | **298.00** | 6.1 |
| **2.5** | 80 | 124A | G2P2.5XLH | **5P278** | 312.60 | **279.25** | 9.2 |
| **5** | 80 | 125A | G2P5XLH | **5P279** | 292.66 | **261.00** | 9.2 |
| **10** | 80 | 126A | G2P10XLH | **5P280** | 272.65 | **243.75** | 9.1 |
| **25** | 80 | 127A | G2P25XLH | **5P281** | 255.35 | **228.00** | 9.1 |

(*) Flow rate depends on fluid viscosity (thickness), temperature and the amount of contamination. Flow rates listed assume clear water at 70°F and 1 PSI drop across filler. (†) 10 bags per package.

# HOW TO ORDER CARTRIDGES

**(Refer to page 3097 for selection of Parker cartridges)**

First determine whether filtration efficiency or flow rate is the top priority. If filtration efficiency is the top priority, refer to the "Nominal Flow" chart and locate the required filtration level. Read down the column labeled with the proper liquid viscosity to the desired filter length. This number is the flow (in GPM) per cartridge. The number of cartridges required is simply the total flow desired, divided by the flow per cartridge:

**Total Flow** ÷ **Flow per Cartridge** = **Number of Cartridges**

If a high flow rate is required, use a multi-cartridge high-flow sump, or install several single or double-high filter sumps in parallel.

## APPLICATIONS

| Winding/ Core | Max. Temp. | Typical Uses |
|---|---|---|
| **Cotton/ Polypropylene** | 140°F/60°C | Water*, potable liquids, beverages, vegetable oil, organic solvents, dilute acids, petroleum oils. Cartridge materials meet FDA requirements |
| **Cotton/ Tinned Steel** | 250°F/121°C | Organic solvents, dilute acids, petroleum oils |
| **Cotton/ 316SS** | 250°F/121C° | Water*, potable liquids, beverages, vegetable oil, organic solvents, dilute acids, petroleum oils. Cartridge materials meet FDA requirements |
| **Polypropylene/ Polypropylene** | 140°F/60°C | Water, organic acids, alkalies, oxidating and reducing agents |

(*) Water must be bacteria-free.

## NOMINAL FLOW IN GPM PER CARTRIDGE @ 5 PSID*

| Cartridge Length (In.) | 1 Micron 1 CP† | 1 Micron 50 CP‡ | 1 Micron 100 CP# | 5 Micron 1 CP† | 5 Micron 50 CP‡ | 5 Micron 100 CP# | 10 Micron 1 CP† | 10 Micron 50 CP‡ | 10 Micron 100 CP# | 25 Micron 1 CP† | 25 Micron 50 CP‡ | 25 Micron 100 CP# | 50 Micron 1 CP† | 50 Micron 50 CP‡ | 50 Micron 100 CP# |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 4.5 | 0.18 | 0.11 | 5 | 0.5 | 0.25 | 6 | 1 | 0.5 | 7 | 3 | 1.5 | 8 | 6 | 4 |
| 20 | 9 | 0.38 | 0.22 | 10 | 1.0 | 0.50 | 12 | 2 | 1.0 | 14 | 6 | 3.0 | 16 | 12 | 8 |
| 30 | 13.5 | 0.54 | 0.33 | 15 | 1.5 | 0.75 | 18 | 3 | 1.5 | 21 | 9 | 4.5 | 24 | 18 | 12 |

(*) Flow decreases as cartridge gets full. Replace when flow is unsatisfactory. PSID is difference in pressure between two points. (†) Water, for example. (‡) Peanut oil, for example. (#) #5 Fuel oil, for example.

## IN-LINE SCREEN FILTERS

**ll-purpose plastic filters** remove particulate natter as small as 22 microns. Suitable for se on small water and hydraulic systems uch as drinking fountains, dishwashers, arden sprinklers, air conditioners, refrigrators, and hydraulic instruments, eters, and gauges.

**hemical-resistant units** are suited for photo nd X-ray developers, chemical laboratoies, and other applications with chemicals ompatible with polyester.

**luid flows along longitudinal axis of cylinder,** esulting in minimal pressure drop. iltered particles collect at end of cylinder, where they can be flushed out with a ushing ball valve, without removing filter om system. (Chemical-resistant unit does ot have clean-out valve.)

**igh pressure, noncorrosive, acetal body withands water hammer.**

**op and bottom O-rings** eliminate the possiility of fluid bypass and assure complete uid filtration.

**eusable, color-coded filter screens** come in 55, 200 and 450 mesh sizes, in both stanard and chemical-resistant types. All filer screens are chemical-resistant polyster. Amiad brand.

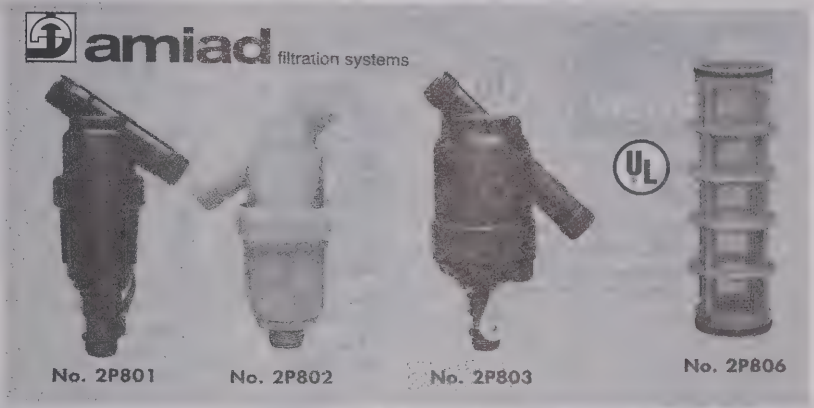
### PECIFICATIONS

**laximum working temperature:** 140°F

**laximum working pressure:** 150 PSI

**laximum flow rate:** 13 GPM on 3/4" units; 30 PM on 1" units.

**Vetted parts:** polyester, acetal, polyrethane, and neoprene or viton.




### FILTER HOUSING SPECIFICATIONS AND ORDERING DATA

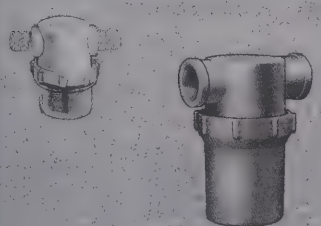
| NPT Size (In.) | Type | Housing Material | Max. GPM | Overall Dimens. (in.) H | W | Amiad Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | Standard | Acetal | 13 | 10¼ | 6⅜ | 1-0701-1151-0000 | 2P801 | $22.30 | $16.90 | 0.8 |
| 3/4 | Chemical Resistant | Polyester | 13 | 10¼ | 6⅜ | 1-0702-3251-0000 | 2P802 | 23.14 | 16.91 | 0.8 |
| 1 | Standard | Acetal | 30 | 9⅞ | 8 | 1-1201-1151-0000 | 2P803 | 60.53 | 45.45 | 1.2 |

### FILTER SCREEN SPECIFICATIONS AND ORDERING DATA

| NPT Size (In.) | Type | Mesh Size | Micron Size | Color | Amiad Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 3/4 | Standard | 450 | 22 | Brown | 11-0703-8002 | 2P804 | $21.24 | $15.88 | 0.2 |
| 3/4 | Standard | 200 | 80 | Black | 11-0703-8008 | 2P805 | 21.24 | 15.88 | 0.2 |
| 3/4 | Standard | 155 | 100 | Yellow | 11-0703-8010 | 2P806 | 21.24 | 15.88 | 0.2 |
| 3/4 | Chemical Resistant | 450 | 22 | Brown | 11-0803-8002 | 2P807 | 33.97 | 25.30 | 0.3 |
| 3/4 | Chemical Resistant | 200 | 80 | Black | 11-0803-8008 | 2P808 | 33.97 | 25.30 | 0.3 |
| 3/4 | Chemical Resistant | 155 | 100 | Yellow | 11-0803-8010 | 2P809 | 33.97 | 25.30 | 0.3 |
| 1 | Standard | 450 | 22 | Brown | 11-1203-8002 | 2P810 | 36.11 | 27.40 | 0.2 |
| 1 | Standard | 200 | 80 | Black | 11-1203-8008 | 2P811 | 36.11 | 27.40 | 0.2 |
| 1 | Standard | 155 | 100 | Yellow | 11-1203-8010 | 2P812 | 36.11 | 27.40 | 0.2 |

## LINE STRAINERS

- 1/4" Through 1¼" NPT ports
- 40 Mesh screen
- Opaque nylon or clear polyamide bowls
- Viton gasket




**Line strainers deliver full liquid flow at low pressure drops,** while filtering foreign matter from pump inlet or discharge lines. Recommended for agricultural spray pumps and turbine pumps to prolong pump life and minimize clogging of spray nozzles. Install at inlet side of most spray pumps, or at the discharge side of centrifugal pumps, depending on pump rating. **Due to the effects of water hammer, not for use with home or domestic water systems.**

**Bowls unscrew from cap for easy cleaning,** without removing the entire strainer from the fluid line. Two styles are available: clear polyamide or opaque type 6 Nylon. (Models with polyamide bowls are not recommended for use with alcohol.) For use with nonflammable liquids compatible with line strainer component materials. Not recommended for strong acids or alkalis.

**All strainers have 40 mesh,** 420 microns, Type 304 stainless steel screen; Viton gasket; and type 6 Nylon caps. Maximum liquid temperature is 125°F. Maximum pressure rating is 150 PSI at 70°F; 100 PSI at 125°F.

### LINE STRAINER SPECIFICATIONS AND ORDERING DATA

| Key | Ports (In.) | Screen Area | Dimensions H | W | L | Bowl Material | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/4 MPT | 4.27 | 2¾ | 2 | 3⅛ | Polyamide | 2P129 | $6.35 | $5.50 | 0.4 |
| A | 3/8 MPT | 4.27 | 2⅞ | 2 | 3⅛ | Polyamide | 2P130 | 6.35 | 5.50 | 0.4 |
| A | 1/2 MPT | 4.27 | 2¾ | 2 | 3⅛ | Polyamide | 2P131 | 6.35 | 5.50 | 0.4 |
| B | 1/2 FPT | 19.0 | 5⅜ | 3 | 3⅝ | Nylon | 2P132 | 12.25 | 10.60 | 0.6 |
| B | 1/2 FPT | 19.0 | 5⅜ | 3 | 3⅝ | Polyamide | 2P581 | 17.55 | 15.25 | 0.4 |
| B | 3/4 FPT | 19.0 | 5⅜ | 3 | 3⅝ | Nylon | 2P133 | 12.25 | 10.60 | 0.6 |
| B | 3/4 FPT | 19.0 | 5⅜ | 3 | 3⅝ | Polyamide | 2P582 | 17.55 | 15.25 | 0.4 |
| B | 1 FPT | 33.0 | 6⅜ | 4⅛ | 5 | Nylon | 2P134 | 21.85 | 19.00 | 1.1 |
| B | 1 FPT | 33.0 | 6⅜ | 4⅛ | 5 | Polyamide | 2P583 | 28.75 | 25.00 | 1.0 |
| B | 1¼ FPT | 36.0 | 7 | 4⅛ | 5 | Nylon | 2P135 | 21.85 | 19.00 | 1.1 |

# RESIDENTIAL FOOD WASTE DISPOSERS

## ISE RESIDENTIAL FOOD WASTE DISPOSERS

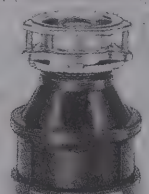
IN SINK ERATOR

E17939

New

**IN-SINK-ERATOR LIMITED IN-HOME WARRANTY**

See "Manufacturers' Warranties" on page opposite inside back cover.



**No. 5H502**
- 1/3 HP
- 1 Year Warranty



**No. 4PL46**
- 5/8 HP Heavy Duty
- 3 Year Warranty
- Sound Shell



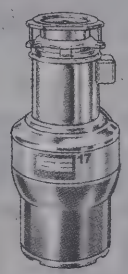
**No. 4PL43**
- 3/4 HP Heavy Duty
- 4 Year Warranty
- Quiet Plus
- Stainless Steel Grind System



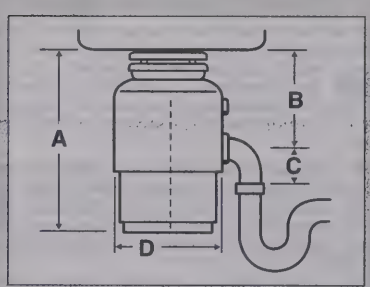
**No. 4PL44**
- 3/4 HP Heavy Duty
- 5 Year Warranty
- Extra Quiet
- Full Stainless Steel Grind System



**No. 4PL45**
- 1 HP Heavy Duty
- 7 Year Warranty
- Ultra Quiet
- Full Stainless Steel Grind System
- Two-way Grinding Action



**No. 4PL42**
- 3/4 HP
- 5 Year Warranty




| ISE Model | Dimensions (In.) A | B* | C** | D | E |
|---|---|---|---|---|---|
| 5H502 | 11⅜ | 6" | 4" | 6⁵⁄₁₆" | 5" |
| 5H877 | 12⅝ | 6 | 4 | 6¾ | 5" |
| 4PL46 | 12⅝ | 6 | 4 | 6¾ | 5" |
| 4PL43 | 12⅝ | 6 | 4 | 7¼ | 5" |
| 4PL44 | 12¾ | 6¹¹⁄₁₆ | 4 | 8¼ | 5⅞ |
| 4PL45 | 12¾ | 6¹¹⁄₁₆ | 4 | 8½ | 5¾ |
| 4PL42 | 15⅞ | 9⁹⁄₁₆ | 4 | 7½ | 5¾ |

*Distance from bottom of sink to center line of disposer outlet. Add 1/2" when stainless steel sinks are used.
**Length of tailpipe from center line of disposer outlet to end of tailpipe.
NOTE: Plumb 1½" waste line to prevent standing water in disposer motor housing.

**In-Sink-Erator residential food waste disposers** grind food scraps, vegetable peelings, fruit rinds, coffee grounds, and other kitchen wastes. Continuous feed operation, no batch-type. Disposers operate quietly and are built for dependable operation. Feature quick-lock mounting system which makes installation easier in either new or replacement service. Fit standard 3 ½" OD sink opening.

All models use Dura-Drive™ split phase induction motors and have permanently lubricated upper and lower bearings for long life. Include two 360° stainless steel swivel swivel impellers, dishwasher drain connection, and stainless steel sink flange. Self-service wrench included. No. 4PL46 features two-way grinding which reduces possibility of jamming. All motors have overload protection and manual reset. Nos. 4PL45 and 4LP44 features a full stainless steel grind system, an extra level of sound insulation, and built-in wrench holder. UL Listed (E17939). In-Sink-Erator brand.

No. 4PL42 Batch Feed Disposer has heavy duty motor to grind toughest food waste. Automatic reversing action for trouble free operation. Stainless steel grind chamber resists corrosion for longer life and corrosions shield protects motor from damage.

### DISPOSER ELBOW

For use with In-Sink-Erator, disposers 8½H x 4¹³⁄₁₆W x 1¹³⁄₁₆"D. PlumbShop brand (PSC482).

**No. 5E512.** Shpg. wt. 0.1 lbs. List .....$3.65.
Each .....**$2.99**

### DISPOSER GASKET

For use with In-Sink-Erator, Busboy and Whirlaway disposers. Rubber construction. 4H x 3W x ⁴⁵⁄₆₄"D. PlumbShop brand (PSC2102).

**No. 5E513.** Shpg. wt. 0.1 lbs. List .....$3.72.
Each .....**$3.03**

**Replacement Parts Available**
**1-800-323-0620**

| Motor HP | Warranty | Volts | Amps | Hz | RPM | Sound Insulation: Upper Shell | Lower Shell | Double Baffle | S.S. Grinding Elements: Grind Chamber | Lugs | Shredder Ring | Turn-Table | Grinding Capacity | Two-Way Grind | Anti-Jam Wrench | ISE Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1 Yr. | 115V | 6.7 | 60 | 1725 | — | — | — | — | Yes | — | — | Lg. | — | Wr. Only | BADG. 1 | **5H502** | $69.72 | **$50.00▲** | 14. |
| 1/2 | 2 Yr. | 115V | 6.9 | 60 | 1725 | — | — | — | — | Yes | — | — | Lg. | — | Wr. Only | BADG. 5 | **5H877** | 96.12 | **60.00▲** | 15. |
| 5/8 | 3 Yr. | 115V | 7.3 | 60 | 1725 | Yes | — | — | — | Yes | — | — | Lg. | — | Wr. Only | BADG. 5+ | ***New*4PL46** | 108.29 | **89.00▲** | 16. |
| 3/4 | 4 Yr. | 115V | 8.1 | 60 | 1725 | Yes | — | — | — | Yes | Yes | Yes | Lg | — | Wr. Only | 444 | ***New*4PL43** | 143.91 | **129.00▲** | 17. |
| 3/4 | 5 Yr. | 115V | 8.1 | 60 | 1725 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | X-Lg. | — | W/Holder | 555SS | ***New*4PL44** | 198.40 | **159.00▲** | 19. |
| 1.0 | 7 Yr. | 115V | 10.2 | 60 | 1725 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | X-Lg. | Yes | W/Holder | 777SS | ***New*4PL45** | 252.59 | **199.00▲** | 20. |
| **BATCH FEEDER DISPOSER** | | | | | | | | | | | | | | | | | | | | |
| 3/4 | 5 Yr. | 115 | 7.6 | 60 | 1725 | — | Yes | — | Yes | Yes | Yes | Yes | X-Lg. | Yes | Wr. Only | 17 | ***New*4PL42** | 326.28 | **239.00** | 20. |

(▲) Net prices, not subject to discounts.

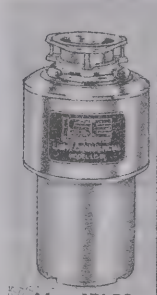
# COMMERCIAL & SEPTIC FOOD WASTE DISPOSERS

## LIGHT COMMERCIAL FOOD WASTE DISPOSER

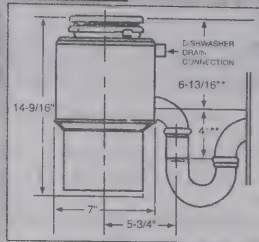
- **Speeds clean-ups, no more bagging; simply toss down drain**
- **Reduces dumpster pick-up costs**
- **Dependable performance**

Commercial design with the ease and flexibility of a household unit. Ideal for convenience and grocery store delis, fast food restaurants, church and office kitchens, and bed and breakfast inns. Automatic reversing motor for longer life and trouble-free operation. Stainless steel grind chamber. Disposer mounting included. Mounting fits standard 3½-4" sink opening. No welding required. Standard wall switch operates unit. Cast nickel chrome cutting elements. Features 3/4HP, 1725 RPM continuous-duty, single-phase commercial motor; 120VAC, 60 Hz., 6.2 Amps. 1 Year Warranty. ISE brand (LC-50).

**New No. 4PL52.** Shpg. wt. 35.0 lbs. List $578.90.
Each ..... $497.75


No. 4PL52

IN SINK ERATOR New




*Distance from bottom of sink to center line of disposer outlet. Add 1/2" when stainless steel sinks are used.
**Length of tailpipe from center line of disposer outlet to end of tailpipe.
NOTE: Plumb waste line to prevent standing water in disposer motor housing.

## SEPTIC DISPOSER™

- **Specially designed to work with any size septic system**
- **Bio-Charge™ Enzyme Treatment automatically goes to work**
- **Easy to install — just like a conventional disposer**
- **No increase in pumping frequency needed**

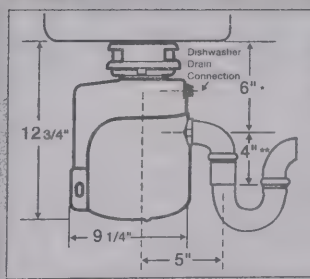
Disposer works with your septic system. Installs and mounts to the sink drain like a conventional disposer. Finely grinds food waste, such as meat, bones, fruit and vegetables, for discharge down the plumbing line. Each time the unit is operated, a measured amount of **Bio-Charge™** Enzyme Treatment is injected to break down food and other household waste. Millions of active aircoorganisms are completely mixed with ground waste inside the disposer. Waste digesting enzyme action begins even before the waste reaches the septic tank and accelerates in the septic tank itself as the enzymes help break down household waste and reduce the accumulation of scum and sludge. Disposer features exclusive Quick-Lock™ mounting for fast, easy installation. One twist locks the dispenser in place. Grind chamber is corrosion-proof for long life, and stainless steel 360° swivel impellers improve grinding efficiency and reduce jamming. Stainless steel shredder ring has super-tough cutting teeth that grind even the toughest waste. Heavy-duty 3/4HP, 120 VAC, 60 HZ, 1725 RPM, 8.1 AMPS, induction motor provides maximum grinding power. Tests show that disposing of food waste with Septic Disposer will not increase septic system loading. It won't harm or add load to the drain field. The high-speed grinding means only small amounts of water are needed to flush waste into the septic system. 3 Year Warranty.

**New No. 4PL53.** Shpg. wt. 19.0 lbs. List $213.93.
Each ..... $184.00

**Bio-Charge™ Refill for No. 4PL53.** Easy-to-replace cartridge equals 4 bottles of other septic treatments. Reduces pipe build-up and controls odors. Lasts up to 4 months.
**No. 4PL47.** Shpg. wt. 1.4 lbs. List $14.60.
Each ..... $12.55


No. 4PL47

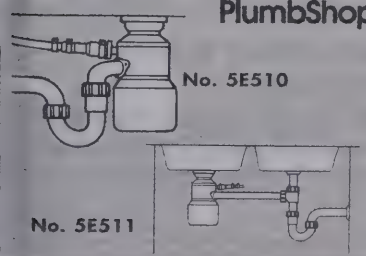
IN SINK ERATOR New




*Distance from bottom of sink to center line of disposer outlet. Add 1/2" when stainless steel sinks are used.
**Length of tailpipe from center line of disposer outlet to end of tailpipe.
NOTE: Plumb waste line to prevent standing water in disposer motor housing.

## DISPOSER INSTALLATION KITS

PlumbShop®




### No. 5E510 FOR SINGLE BOWL SINKS WITH WALL DRAIN

**Kit Contains:**

- **One Rubber Connection Boot, Barbed Adapter & Clamp**
- **One 1½" OD P-Trap**

| Bowl (Sink) Type | PlumbShop Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Single | PS1069 | 5E510 | $15.39 | $12.46 | 0.7 |
| Double | PS1072 | 5E511 | 26.33 | 25.50 | 13.0 |

### No. 5E511 FOR DOUBLE BOWL SINKS WITH WALL DRAIN

**Kit Contains:**

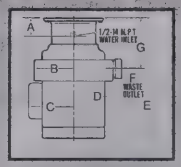
- **One 1½" OD x 6" Flanged Tailpiece**
- **One 1½" OD x 14" Flanged Tailpiece**
- **One 1½" OD x 7" Slip-Joint Waste Arm**
- **One Slip-Joint End Outlet Tee**
- **One 90° Elbow**
- **One Rubber Connection Boot with Barbed Adapter & Clamp**
- **One 1½" OD P-Trap**
- **Five 1½" ID Polyethylene Washers**
- **One Reducing Washer**

# COMMMERCIAL FOOD WASTE DISPOSERS AND DISPOSER INSTALLATION KITS



IN SINK ERATOR

Replacement Parts Available
TM 1-800-323-0620




**Mounting Adapters Available. Call 1-800-323-0620.**

- **Base units only—For new installations, mounting adapter must be ordered**
- **Stainless steel grind chamber is corrosion resistant**
- **Double-tapered Timken roller bearings provide a shock absorbing cushion**
- **Rubber mounting above grind chamber isolates sound and eliminates vibration**
- **Centrifugal moisture shield protects bearings and motor**
- **Controlled power air flow cools motor for longer life**
- **1 year warranty**

**Applications:** For continuous operation in hotels, restaurants, hospitals, cafeterias and snack bars. Quickly and efficiently removes food waste, including steak bones.

**Construction:** Stainless steel and chrome plated finish for lasting sanitation. Triple lip motor seal protects motor from water damage. Secondary spring-loaded oil seal provides double protection against water and loss of grease. Cast-nickel chrome alloy stationary and rotating shredding elements provide long life and corrosion resistance and are designed for reverse action grinding. Choose from 3/4, 1 and 1½ HP models.

## RECOMMENDED SIZING CHART

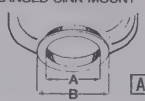
| Persons per Meal | Soiled Dish Table | Vegetable Prep Area | Salad Prep Area | Pot Sink | Meat Prep Area |
|---|---|---|---|---|---|
| Up to 100 | 5H974 | 5H973 | — | — | — |
| 100-150 | 5H974 | 5H974 | 5H973 | 5H973 | — |
| 150-175 | 5H975 | 5H974 | 5H974 | 5H973 | 5H975 |
| 175-200 | 5H975 | 5H975 | 5H974 | 5H974 | 5H975 |
| 200-300 | — | 5H975 | 5H974 | 5H974 | — |
| 300-750 | — | 5H975 | 5H974 | 5H974 | — |
| 750-1500 | — | — | 5H975 | 5H975 | — |
| 1500-2500 | — | — | 5H975 | 5H975 | — |

| Motor HP | Volts | Phase | Amps | Dimensions (In.) A | B | C | D | E | F | G | ISE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 115/208/230 | 1 | 10.0/4.3/5.0 | 3⅜ | 4⅞ | 6 13/16 | 6⅜ | 17 | 1½ | 7 11/16 | SS-75 | **5H973** | $1343.52 | **$1060.00** | 47.0 |
| 1 | 115/208/230 | 1 | 8.8/3.3/4.4 | 3⅜ | 4⅞ | 6 13/16 | 6⅜ | 17 | 1½ | 7 11/16 | SS-100 | **5H974** | 1274.13 | **1121.00** | 50.0 |
| 1½ | 208/230/460 | 3 | 3.2/4.6/2.3 | 2¾ | 6 | 6 13/16 | 7⅜ | 18 7/16 | 2 | 7¾ | SS-150 | **5H975** | 1787.11 | **1581.00** | 64.0 |

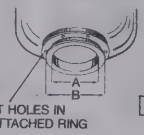
## MOUNTING ADAPTER SELECTION GUIDE

1. Disconnect existing disposer from sink bowl or cone.
2. Find matching sink bowl or cone in the pictures shown.
3. Measure A and B dimensions (also C, D and E if indicated).
4. Find area on chart that deals with that type of sink bowl or cone. Then find the dimensions you've measured.
5. Read across to find the adapter number. Call Grainger Parts Operations at 1-800-323-0620 to place your order.

FLANGED SINK MOUNT



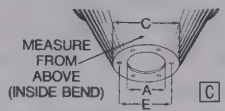

A



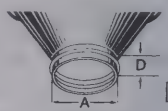

BOLT HOLES IN UNATTACHED RING

B

New




C




D

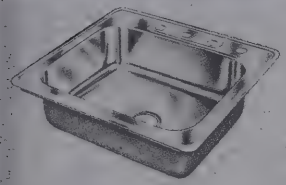
| Key (Bowl Type) | Normally Used by | "A" Dia. (In.) Sink or Bowl Opening | "B" Dia. (In.) (Outside Flange) | "C" Dia. (In.) (Inside Bend) | "D" Height (In.) | "E" Dia. (In.) (Bolt Hole Circle) | No. of Bolt Holes | Order Adapter Ring No. | Special Information | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Waste King, ISE, Toledo, Nat'l | 4½ | 5⅛ | — | — | — | — | 11327A | Discard previous adapter parts | 4PL35 | $82.86 | $71.25 | 4.0 |
| A | Nat'l Hobart, Toledo | 7 | 7⅜ | — | — | — | — | 11327G | Discard previous adapter parts—Nat'l mounting has 10 bolt circle on split ring | 4PL37 | 82.86 | 71.25 | 4.0 |
| A | Bus Boy | 6 | 6⅞ | — | — | — | — | 11327K | Discard previous adapter parts (has 3-piece split ring) | 4PL39 | 82.86 | 71.25 | 4.0 |
| B | Waste King | 6 | 6½ | — | — | — | — | 11327D | Loose ring on sink not used with this adapter—OD of loose ring is 7½" with 6 bolts; 7" bolt hole circle dia. | 4PL36 | 82.86 | 71.25 | 4.0 |
| C | Hobart | 4½ | — | 6⅞ | — | 5½ | 6 | 11327H | Discard previous adapter parts | 4PL38 | 82.86 | 71.25 | 4.0 |
| D | Salvajor | 6⅝ | — | — | 1 | — | — | 11378B | Re-use rubber connection sleeve and clamping bands. Disposer requires support legs with this adapter kit | 4PL40 | 82.86 | 71.25 | 4.0 |
| D | Salvajor | 6⅝ | — | — | 1 | — | — | 11599-H | Substitute for 11378B (4PL40) when rubber connection sleeve cannot be reused. Disposer requires support legs with this kit | 4PL41 | 82.86 | 71.25 | 4.0 |

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

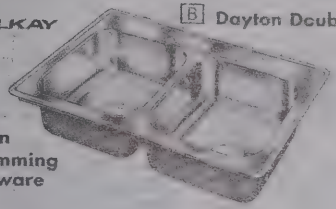
**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# STAINLESS STEEL SINKS AND INSTALLATION KITS

## STAINLESS STEEL SINKS



DAYTON by ELKAY



[B] Dayton Double



[D] Kingsford Bar Sink/Faucet Combination

- Seamless drawn
- Includes self-rimming mounting hardware
- 4" centers

[A] Elite Single
[C] Kingsford Single

### [A] SINGLE AND DOUBLE BOWL

- Premium grade; high nickel content stainless steel
- 8" deep compartments
- Highly polished satin finish
- Fully sound deadened on sides and bottom

### [B] DOUBLE BOWL

- Standard grade; high nickel content stainless steel
- 6½" deep compartments
- Satin buffed finish; highlighted accents
- Sound deadened on sides and bottom

### [C] SINGLE AND DOUBLE BOWL

- Economy grade; 23-gauge high nickel content stainless steel
- 6" deep compartments
- Buffed finish
- Sound deadened on bottom only

| Key / Style | Overall Size (In.) L | W | Inside Each Compartment (In.) L | W | D | Gauge | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A / Elite Double | 33 | 22 | 14 | 15¾ | 8 | 20 | DSE-23322 | 3H325 | $147.38 | $122.70 | 18.0 |
| A / Elite Single | 25 | 22 | 21 | 15¾ | 8 | 20 | DSE-12522 | 3H326 | 106.32 | 88.65 | 15.0 |
| B / Dayton Double* | 33 | 22 | 14 | 15¾ | 6½ | 22 | D-23322 | 3H327 | 79.96 | 66.65 | 12.0 |
| C / Kingsford Double | 33 | 22 | 14 | 15¾ | 6 | 23 | K-23322 | 3H328 | 66.38 | 55.30 | 12.0 |
| C / Kingsford Single | 25 | 22 | 21 | 15¾ | 6 | 23 | K-12522 | 3H329 | 50.84 | 42.40 | 9.5 |
| D / Kingsford Bar Sink | 15 | 15 | 12 | 10 | 5⅛ | 23 | KP2-11515-C | 3H330 | 81.13 | 67.60 | 7.0 |

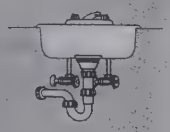
*) Trademark of Dayton Products, Inc. Not to be confused with Dayton Electric Mfg. Co.

### [D] BAR SINK/FAUCET

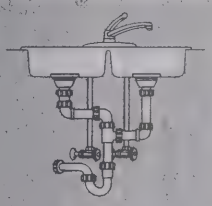
- 5⅛" deep compartment
- Polished to a satin finish
- Sound deadened on bottom only
- Two-handle goose neck swing spout faucet
- 2" drain opening with strainer basket
- Economy grade; high nickel content stainless steel.

## PLASTIC SINK INSTALLATION KITS

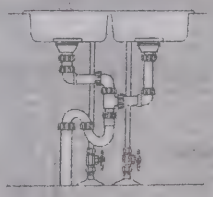
PlumbShop®



[A] No. 5E514



[B] No. 5E515



[C] No. 5E516

All Kits Contain:

- Two 1/2" FIP x 3/8" OD tube angle valves, except No. 5E516 which has straight valves
- Two 5/8" OD tube compression x 1/2" MIP unions
- Two 1/2" MIP x 3/8" FIP reducer bushings

| Key | For Use with Sink Type | Water Supply and Drain Location | PlumbShop Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Single bowl | Wall | PS1051 | 5E514 | $34.45 | $33.45 | 2.4 |
| B | Double bowl | Wall | PS1054 | 5E515 | 58.03 | 57.15 | 10.0 |
| C | Double bowl | Floor | PS1059 | 5E516 | 59.01 | 48.95 | 10.0 |

- Two 3/8" OD x 14½" PEX supply tubes, except No. 5E516 which has 19½" supply tubes
- Two 3½" OD basket strainers, except No. 5E514 which has one
- One 1½" OD x 6" flanged tailpiece, except No. 5E516 which has two
- One 1/2 x 40" Teflon thread tape

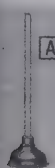
No. 5E514 Also Includes:

- One 1½" OD P-trap
- Two 1½" polyethylene washers

Nos. 5E515 and 5E516 Also Include:

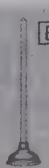
- One 1½" OD x 6" end outlet tee with tailpiece
- Two 1½" OD x 7" slip-joint waste arms
- One 90° elbow
- One Hi-line nipple
- No. 5E515 has one 1½" OD P-trap; No. 5E516, one S-trap and five 1½" ID poyethylene washers; No. 5E516 has six washers

## FORCED CUP PLUNGERS

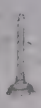


[A] No. 5E517

PlumbShop®



[B] No. 5E518



[C] No. 5E519

Cup creates suction to dislodge obstructions and unclog drains and toilets. Durable rubber construction with wood handle.

| Key | Cup Size (In.) | Handle Length (In.) | PlumbShop Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 6 | 19 | PS2453 | 5E517 | $7.79 | $5.95 | $5.65 | 1.1 |
| B | 5 | 19 | PS2451 | 5E518 | 4.88 | 3.95 | 3.75 | 0.7 |
| C | 4 | 9 | PS2450 | 5E519 | 2.58 | 1.49 | 1.42 | 0.3 |

## PLASTIC DRAINAGE SYSTEMS

Designed and manufactured in accordance with:

- ASTM F409
- NSF Standard 14 and 24
- IAPMO # 1916
- PlumbShop brand

### PLASTIC DRAINAGE SYSTEM ORDERING DATA

| Description | Plumb Shop Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **SLIP-JOINT TO 1¼" OR 1½" O.D. TUBE** | | | | | |
| J-Bend | PSB476 | 3YZ50 | $2.54 | $1.82 | 0.3 |
| Repair Trap | PSB434 | 3YZ32 | 2.61 | 2.06 | 0.4 |
| P-Trap | PSB414 | 3YZ23 | 2.57 | 1.33 | 0.4 |
| Drain Arm, 7" Slip-Joint or Direct Connect | PSB443 | 3YZ38 | 2.43 | 1.91 | 0.3 |
| Center Outlet Tee with Baffle and Tailpiece | PSB461 | 3YZ44 | 2.39 | 2.09 | 0.2 |
| 90° Drain Elbow | PSB464 | 3YZ46 | 3.23 | 2.82 | 0.2 |
| **LAVATORY 1¼" O.D. TUBE** | | | | | |
| J-Bend | PSB423 | 3YZ26 | 2.81 | 2.45 | 0.3 |
| S-Trap | PSB424 | 3YZ27 | 8.68 | 7.65 | 0.8 |
| Wall Tube, 7" L | PSB422 | 3YZ25 | 2.40 | 2.13 | 0.3 |
| Extension Tube, 6" L | PSB401 | 3YZ22 | 3.70 | 3.20 | 0.2 |
| Extension Tube, 12" L | PSB421 | 3YZ24 | 4.03 | 3.49 | 0.2 |
| **KITCHEN 1½" O.D. TUBE** | | | | | |
| Two-Bowl End Outlet Drain, Slip-Joint or Direct Connect | PSB436 | 3YZ34 | 6.58 | 5.13 | 0.7 |
| Two-Bowl Center Outlet Drain, Slip-Joint or Direct Connect | PSB438 | 3YZ36 | 6.41 | 4.99 | 0.7 |

## BRASS DRAINAGE SYSTEMS

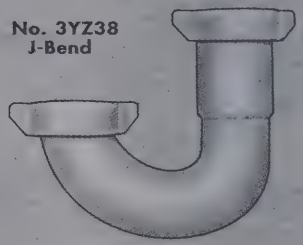
- 17 or 20 Gauge brass tube
- Chrome finish, except No. 3YZ84, which is Stainless Steel
- Nitrile rubber washer
- Approved for City of Los Angeles, Department of Building & Safety, and Mechanical Testing Laboratory
- PlumbShop brand

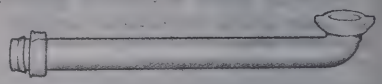
### BRASS DRAINAGE SYSTEM ORDERING DATA

| Description | Plumb Shop Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **LAVATORY 1¼" O.D. TUBE** | | | | | |
| J-Bend, 17 Gauge, Chrome | PSB7050 | 3YZ55 | $10.82 | $7.31 | 0.6 |
| Repair Trap, Slip-Joint, 20 Gauge, Chrome | PSB7108 | 3YZ57 | 20.17 | 13.55 | 0.8 |
| Wall Tube, 6½" L, Chrome | PSB7030 | 3YZ53 | 4.43 | 2.86 | 0.2 |
| P-Trap with Clean-Out Plug and Flange, 17 Gauge, Chrome | PSB7150 | 3YZ64 | 16.72 | 10.98 | 1.2 |
| Extension Tube, Slip-Joint, 12" L, Chrome | PSB7406 | 3YZ73 | 6.51 | 4.23 | 0.4 |
| Coupling, Slip-Joint Both Ends, Chrome | PSB351 | 3YZ82 | 6.42 | 3.88 | 0.3 |
| 90° Slip-Joint Elbow, Chrome | PSB7600 | 3YZ80 | 7.42 | 4.47 | 0.3 |
| **KITCHEN 1½" O.D. TUBE** | | | | | |
| J-Bend, 17 Gauge, Chrome | PSB7060 | 3YZ56 | 10.92 | 7.16 | 0.8 |
| Repair Trap, Slip-Joint, 20 Gauge, Chrome | PSB7113 | 3YZ58 | 20.37 | 13.68 | 1.1 |
| Wall Tube, 7" L, Chrome | PSB7035 | 3YZ54 | 5.13 | 3.31 | 0.3 |
| P-Trap with Clean-Out Plug and Flange, 17 Gauge, Chrome | PSB7160 | 3YZ65 | 18.30 | 12.01 | 1.4 |
| Drain Arm, Slip-Joint, 15" L, Chrome | PSB7506 | 3YZ79 | 9.03 | 5.96 | 0.9 |
| Flanged Tailpiece, 12"L, Chrome | PSB7206 | 3YZ67 | 4.86 | 3.20 | 0.4 |
| Extension Tube, Slip-Joint, 12" L, Chrome | PSB7416 | 3YZ75 | 6.50 | 4.37 | 0.5 |
| End Outlet Tee with Baffle and Tailpiece, Chrome | PSB7231 | 3YZ68 | 12.29 | 7.64 | 0.9 |
| Center Outlet Tee and Tailpiece, Chrome | PSB7241 | 3YZ69 | 13.35 | 8.30 | 0.9 |
| Coupling, Slip-Joint Both Ends, Chrome | PSB356 | 3YZ83 | 6.77 | 4.22 | 0.3 |
| 90° Slip-Joint Elbow, Chrome | PSB7606 | 3YZ81 | 7.27 | 4.38 | 0.5 |
| Basket Sink Strainer, Stainless Steel with 17 Gauge Tailpiece | PSB7915 | 3YZ84 | 14.62 | 10.47 | 1.1 |

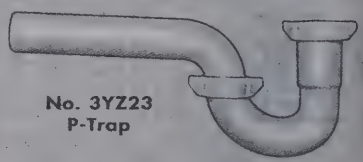
PlumbShop®

No. 3YZ38
J-Bend

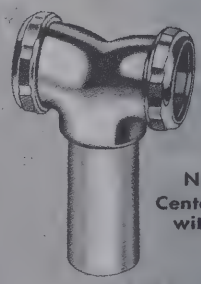




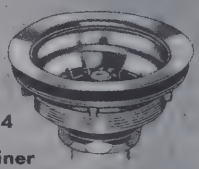
No. 3YZ26
Drain Arm



No. 3YZ23
P-Trap



No. 3YZ69
Center Outlet Tee
with Tailpiece

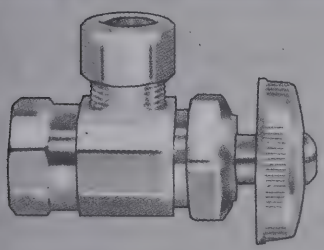


No. 3YZ84
Basket Strainer

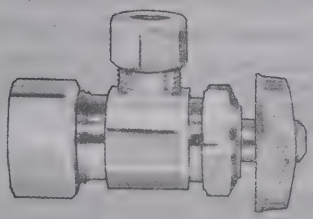
### IF YOU'RE IN A BIND, CALL GRAINGER

If it's an emergency, chances are Grainger's got the items you need today. Grainger has more than 35( well-stocked branches nationwide. So you can replace, build, or repair it right away. And we're con veniently located. To find the branch nearest you, check the Branch Locations listed in the front of thi catalog.

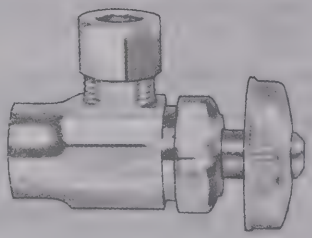
# POTABLE WATER SUPPLY STOPS



No. 3YX84
F.I.P. Inlet



No. 3YX39
Compression Inlet



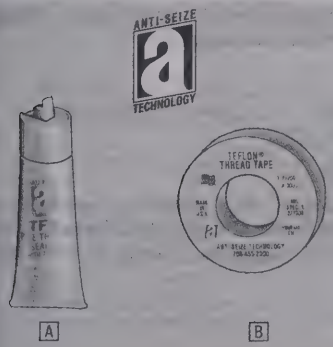
No. 3ZD03
Sweat Inlet

- Oval turn stop
- Working pressure: 125 PSI max.
- Operating temperature: 40 to 180°F
- ANSI A112.18.1M-1979
- IAPMO Listed #645
- Federal Specification WWP-541
- Canadian Standard CAN3-B125-M85
- Classified by UL to ANSI/NSF61

Brass Craft

## SUPPLY STOP SPECIFICATIONS AND ORDERING DATA

| Supply Stop Description | Stop Inlet x Riser Outlet (In.) | Brass Craft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **F.I.P. INLET** | | | | | | |
| Angle Stop, Chrome | 1/2 F.I.P. x 3/8 O.D. Comp. | OR17 C | 3YX84 | $7.20 | $2.69 | 0.3 |
| Straight Stop, Chrome | 1/2 F.I.P. x 3/8 O.D. Comp. | OR12 C | 3YX83 | 7.50 | 2.93 | 0.4 |
| Angle Stop, Chrome | 1/2 F.I.P. x (1/2 & 7/16 O.D. Tube) Slip-Joint | O3301 C | 3YX36 | 7.01 | 2.98 | 0.4 |
| Straight Stop, Chrome | 1/2 F.I.P. x (1/2 & 7/16 O.D. Tube) Slip-Joint | O3305 C | 3YX37 | 7.78 | 3.28 | 0.4 |
| Angle Stop, Chrome | 1/2 F.I.P. x 3/8 O.D. Flare | 0FR17 C | 3YX81 | 6.68 | 2.93 | 0.4 |
| Angle Stop, Chrome | 1/2 F.I.P. x 1/2 O.D. Flare | OFR37 C | 3YX82 | 11.51 | 4.86 | 0.4 |
| Dual Outlet Stop, Rough | 1/2 F.I.P. x 3/8 O.D. Comp. x 3/8 O.D. Comp. | R1701LR R | 3ZD01 | 15.02 | 6.68 | 0.4 |
| Dual Outlet Stop, Rough | 1/2 F.I.P. x 1/2 O.D. Comp. x 3/8 O.D. Comp. | R3701L R | 3ZD02 | 19.11 | 12.02 | 0.4 |
| Dual Outlet Stop, Rough | 1/2 F.I.P. x 1/2 O.D. Comp. x 3/8 O.D. Comp. | R3701R R | 3ZD05 | 19.11 | 12.02 | 0.4 |
| **COMPRESSION INLET** | | | | | | |
| Angle Stop, Chrome | 1/2 Nom. Comp. x 3/8 O.D. Comp. | OCR19C | 3YX73 | 7.86 | 2.67 | 0.3 |
| Straight Stop, Chrome | 1/2 Nom. Comp. x 3/8 O.D. Comp. | OCR14 C | 3YX71 | 8.30 | 3.12 | 0.4 |
| Angle Stop, Chrome | 1/2 Nom. Comp. x (1/2 x 7/16 O.D.Tube) Slip Joint | O3341 C | 3YX39 | 7.77 | 3.28 | 0.4 |
| Dual Outlet Stop, Rough | 1/2 Nom. Comp. x 3/8 O.D. Comp. x 3/8 O.D. Comp. | CR1901LR R | 3YX62 | 15.69 | 6.94 | 0.3 |
| **SWEAT INLET** | | | | | | |
| Angle Stop, Chrome | 1/2 Nom. Sweat x 3/8 O.D. Comp. | R19 C | 3ZD03 | 7.26 | 2.65 | 0.3 |
| Straight Stop, Chrome | 1/2 Nom. Sweat x 3/8 O.D. Comp. | R14 C | 3ZC97 | 7.85 | 3.11 | 0.3 |
| Angle Stop, Chrome | 1/2 Nom. Sweat x 3/8 O.D. Flare | FR19 C | 3YX67 | 7.21 | 2.90 | 0.3 |




A B

# THREAD SEALANTS

A & B **TFE Pipe Thread Sealant and Teflon Tape** are reliable sealants for all pipe threads, including plastic. Prevent corrosion, seizing, and galling. Withstand temperatures to 500°F and pressures to 10,000 PSI liquid or 2000 PSI gas. Meet UL Standards, MIL Specifications T-27703A. Anti-Seize Technology brand.

## SEALANT SPECIFICATIONS AND ORDERING DATA

| Key | Description | Size | Anti-Seize Model | Stock No. | | List | Each | Lots Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | TFE Pipe Thread Sealant | 3 fl. oz. tube | 14003 | 5X998 | ❸ | $12.00 | $8.40 | 12 | 0.3 |
| | | 3 fl. oz. brush | 14012 | 4X222 | ❸ | 23.16 | 16.29 | 12 | 0.8 |
| B | Teflon® Tape | 1/2 x 260" | 16030 | 4X227 | | 1.88 | 1.05 ▲ | — | 0.1 |
| | | 1/2 x 520 | 16035 | 4X543 | | 3.67 | 1.99 ▲ | — | 0.1 |
| | | 3/4 x 520 | 16050 | 5X584 | | 6.74 | 2.96 ▲ | — | 0.1 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS)are available. See page opposite inside back cover. (▲) Net pricing, not subject to discounts.

# FLEXIBLE COPPER RISER TUBES AND SPEEDI PLUMB PLUS® BRAIDED CONNECTORS

- For use with potable hot and cold water
- Ideal for sink riser, water closet, dishwasher, and washing machine installations
- Speedi Plumb PLUS® connectors are made from a PVC coated polyester yarn braid over EPDM rubber tube with plated brass end connections. Designed for maximum flexibility and corrosion resistance. No cutting, bending or flaring required. Install without washers, rings, inserts or sleeves.
- Working Pressure: 125 PSI max.
- Operating Temperature: 40 to 180°F
- Speedi Plumb PLUS® is listed with IAPMO (PS74), UL (NSF61), CSA, and several individual city listings including Los Angeles and New York

## FLEXIBLE COPPER RISER TUBES

| Application | Riser Tube Description (In.) | Length (In.) | Brass Craft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Faucet | 3/8 O.D. One-Piece Riser with Insert, Chrome | 12 | 1-12A CF | 3YX40 | $4.27 | $1.73 | 0.1 |
| Faucet | 3/8 O.D. One-Piece Riser with Insert, Chrome | 20 | 1-20A CF | 3YX44 | 6.12 | 2.08 | 0.2 |
| Toilet | 3/8 O.D. with Insert Gasket Nosepiece, Chrome | 12 | 1-12DL CF | 3YX43 | 4.54 | 1.89 | 0.1 |
| Toilet | 3/8 O.D. with Insert Gasket Nosepiece, Chrome | 20 | 1-20DL CF | 3YX47 | 6.43 | 2.72 | 0.2 |
| Toilet | 1/2 O.D. with Insert Gasket Nosepiece, Chrome | 12 | 3-12DL CF | 3YX50 | 7.65 | 3.34 | 0.2 |

## BRAIDED STAINLESS STEEL CONNECTORS

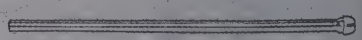
| Application | Connector Description (In.) | Length (In.) | Brass Craft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Toilet | 3/8 Comp. x 7/8 Ballcock Nut | 9 | BI-9DL F | 3ZD08 | $8.84 | $7.15 | 0.2 |
| Toilet | 3/8 Comp. x 7/8 Ballcock Nut | 12 | B1-12DL F | 3ZD06 | 9.65 | 4.80 | 0.2 |
| Toilet | 1/2 Comp. x 7/8 Ballcock Nut | 9 | B3-9DL F | 3ZD10 | 9.19 | 4.80 | 0.2 |
| Toilet | 1/2 Comp. x 7/8 Ballcock Nut | 12 | B3-12DL F | 3ZD09 | 10.22 | 5.43 | 0.2 |
| Low Boy Toilet | 1/2 Comp. x 7/8 Ballcock Nut | 6 | BL3-6DL F | 3ZD16 | 9.66 | 7.52 | 0.2 |
| Low Boy Toilet | 1/2 Comp. x 7/8 Ballcock Nut | 9 | BL3-9DL F | 3ZD17 | 11.23 | 8.73 | 0.2 |
| Washing Machine | 3/4 FHT x 3/4 FHT* | 48 | BL12-48WA | 3ZD13 | 21.00 | 13.17 | 0.7 |
| Washing Machine | 3/4 FHT x 3/4 FHT* | 60 | BL12-60WA | 3ZD14 | 23.94 | 15.02 | 0.9 |
| Faucet | 3/8 Comp x 1/2 FIP | 12 | B1-12AF | 5E503 | 5.62 | 4.75 | 0.2 |
| Faucet | 3/8 Comp x 1/2 FIP | 16 | B1-16AF | 5E504 | 6.26 | 5.26 | 0.2 |
| Faucet | 3/8 Comp x 1/2 FIP | 20 | B1-20AF | 5E505 | 7.51 | 5.50 | 0.2 |
| Faucet | 1/2 Comp x 1/2 FIP | 12 | B3-12AF | 5E506 | 6.19 | 5.20 | 0.2 |
| Faucet | 1/2 Comp x 1/2 FIP | 20 | B3-20AF | 5E507 | 8.37 | 7.05 | 0.3 |
| Faucet | 1/2 FIP x 1/2 FIP | 20 | B8-20AF | 5E502 | 8.39 | 7.06 | 0.3 |
| Faucet | 3/8 Comp x 3/8 OD (Pigtail) | 12 | B1-12KCF | 5E508 | 6.19 | 5.21 | 0.2 |
| Faucet | 3/8 Comp x 3/8 OD (Pigtail) | 20 | B1-20KCF | 5E509 | 8.52 | 7.17 | 0.1 |

(*) FHT = Female Hose Thread

## STAINLESS STEEL ESCUTCHEONS

| Description | Brass Craft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2" Iron Pipe Shallow | 647 | 3YX54 | $0.60 | $0.45 | 0.1 |
| 1/2" Nom. (5/8" O.D.) Shallow | 649 | 3YX55 | 0.60 | 0.45 | 0.1 |

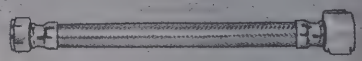
Brass Craft



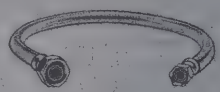
No. 3YX40



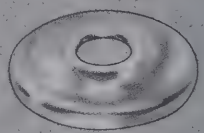
No. 3ZD06



No. 3ZD16
Compression Inlet



No. 5E503
Compression Inlet



No. 3YX54
Escutcheon

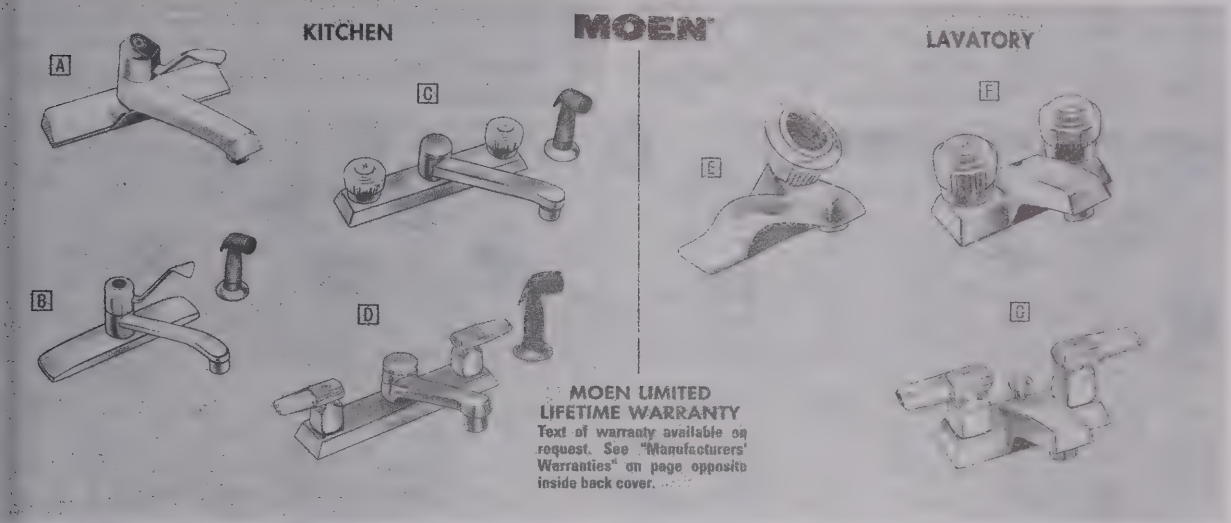
## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

## DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# RESIDENTIAL FAUCETS




**MOEN LIMITED LIFETIME WARRANTY**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Washerless design cartridges** eliminate leaks. Long lasting metal construction with bright chrome, easy-to-clean finish resists chips and rust. Kitchen models mount in installations with 8" drilling centers: lavatory models, 4" drilling centers. All kitchen and lavatory models are equipped with an energy-saving aerator which limits water flow.

**Single handle models** have a single push-pull control to regulate volume and temperature of flow.

**Double handle models** are engineered to respond to a feather touch. Handles never need "cranking".

**Wing handle models** are supplied with two interchangeable sets of handles; clear acrylic and oak wood.

**Valve body has no working parts** and all operating parts are easily removed without disconnecting faucets from fixtures.

**Cartridges for single handle faucets** make back-to-back installations easy because cross-piping is eliminated by simply rotating the cartridge stem 180°.

**Nos. 2P321, 2P324 and 2P421** come equipped with hose and spray attachment.

**Nos. 2P322 and 2P326** come equipped with pop-up drain waste assembly.

**No. 2P314** includes all supplies necessary for installation. Two 20" flexible polybutylene supply tubes equipped with brass connectors are packed with faucet for quick, easy plumbing installations direct to 3/8" compression shut-off valves (not included).

### REPLACEMENT CARTRIDGES FOR ALL MOEN FAUCETS

**Single handle replacement cartridge**
**No. 2P318.** Moen brand (1225). Shpg. wt. 0.2 lbs. List $23.90. Each ..... **$19.14**

**Double handle replacement cartridge.**
**No. 2P319.** Moen brand (1224). Shpg. wt. 0.2 lbs. List $12.41. Each ..... **$9.85**

| Key | Faucet Type | GPM | Handle Type | Handle Material | Cartridge Accepted | Plumbing Connections (In.) | Mounting Ctrs. (In.) | Moen Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Kitchen | 2.2 | Single | Chrome | 2P318 | 3/8 Copper Supply w 1/2 MIPS Connector | 8 | 7425 | **2P314** | $113.02 | **$89.90** | 3.3 |
| **B** | Kitchen w/Spray | 2.2 | Single | Chrome | 2P318 | 1/2 MIPS* Nipple for 4 Hole Sinks | 8 | 7430 | **2P321** | 159.51 | **127.65** | 3.4 |
| **C** | Kitchen w/Spray | 2.2 | Double | Acrylic | 2P319 | 1/2 MIPS* Nipple for 4 Hole Sinks | 8 | 7910 | **2P324** | 115.17 | **89.95** | 3.7 |
| **D** | Kitchen w/Spray | 2.2 | Double | Acrylic/Wood | 2P319 | 1/2 MIPS* Nipple | 8 | 87415 | **2P421#** | 145.48 | **115.60** | 3.8 |
| **E** | Lavatory w/Waste | 2.0 | Single | Acrylic | 2P318 | 3/8 Copper Supply w 1/2 MIPS* Connector | 4 | 4621 | **2P322** | 136.44 | **108.75** | 3.3 |
| **F** | Lavatory | 2.0 | Double | Acrylic | 2P319 | 1/2 MIPS* Nipple | 4 | 4900 | **2P325** | 67.42 | **53.65** | 2.2 |
| **F** | Lavatory w/Waste | 2.0 | Double | Acrylic | 2P319 | 1/2 MIPS* Nipple | 4 | 4920 | **2P326** | 110.95 | **88.15** | 3.5 |
| **G** | Lavatory w/Waste | 2.0 | Double | Acrylic/Wood | 2P319 | 1/2 MIPS* Nipple | 4 | 84425 | **2P420#** | 141.93 | **112.85** | 3.2 |

* ) MIPS—Male Iron Pipe Straight Thread. (#) Acrylic and wood handles both included for customer installation.
❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

## DELTA LOTION OR SOAP DISPENSER



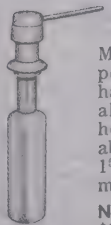
- **10 Ounce capacity**

Features clear plastic bottle and chrome pump. Refill above sink.

Can be used for handsoap or lotion. Delta brand (RP1000).

**No. 5E386.** Shpg. wt. 0.6 lbs. List $32.10. Each ..... **$27.20**

## SOAP DISPENSER



- **8½ ounce capacity**
- **Heavy-duty pump**

Mounts on kitchen sink to dispense detergent, soap, or hand lotion. Features a large all-brass chrome-finished head. Can be refilled from above the sink. Fits 1 1/16 to 1 5/8" diameter sink hole. Moen model (3910).

**No. 2P419.** Shpg. wt. 1.5 lbs. List $65.11. Each ..... **$51.75**

## PINK LOTION HANDSOAP

Rich, natural soap-intended for light industrial use. Concentrated formula. 1-gallon bottle. Go-Jo brand (1807).

**No. 5W208.** ❶ Shpg. wt. 9.0 lbs. List $9.74. Each ..... **$8.76**

❶ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

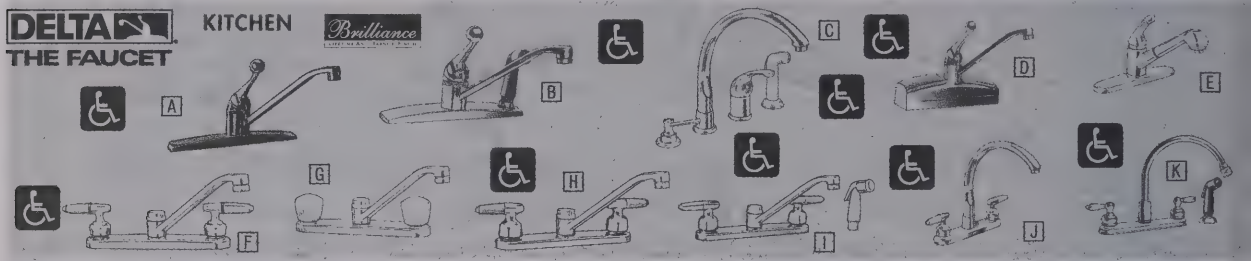
**OTHER HAND CLEANING PRODUCTS AVAILABLE SEE INDEX FOR LISTINGS**

# RESIDENTIAL FAUCETS

Delta Faucets have solid brass bar stock bodies to eliminate pin hole leaks. Triple chrome-plated for durability and appearance. All washerless construction allows for simplified maintenance. Heavy-duty commercial products (Nos. 2PC58, 6P944, 6P956, 6P959, 6P961, and 5E384) with vandal-resistant aerator/handles. Polished brass models have durable finish.

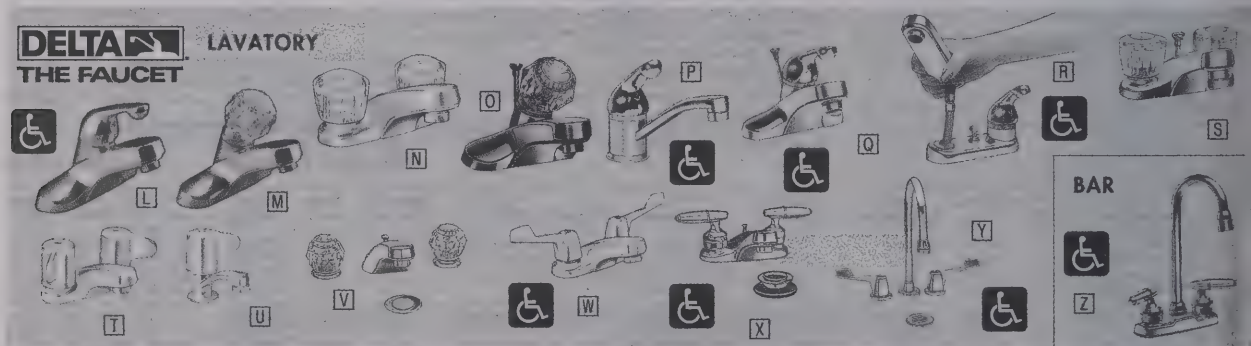
**Delta Lifetime Faucet and Finish Warranty (5 years for HDF models) on parts and finishes.** Water saving 2.0 GPM at 80 PSI. **Single-handle faucets** have stainless steel ball for long life in all water conditions. **Two-handle faucets** have half-turn valves and stainless steel stems for easy, lead-free operation. **Replacement Parts Available. Call 1-800-323-0620.**

DELTA THE FAUCET — KITCHEN — Brilliance




| Key | Faucet Type | Handle Type | Finish | Spout (In.) | Installation Information # Holes | Connections | Mtg Ctrs (In.) | Delta Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Kitchen | Single Lever | Chrome | 8 | 3 | 1/2" MIPS | 8 | 100WF | 2PC57† | $104.45 | $91.00 | 3.2 |
| A | Kitchen w/spray | Single Lever | Chrome | 8 | 4 | 1/2" MIPS | 8 | 400WF | 2PC63† | 132.05 | 120.95 | 3.7 |
| A | Kitchen | Single Lever | Chrome | 8 | 1 | 1/2" MIPS | N/A | 101WFELHHDF | 2PC58† | 121.10 | 109.55 | 2.8 |
| B | Kitchen w/spray | Single Lever | Chrome | 8 | 3 | 1/2" MIPS | 8 | 300WF | 6P940† | 132.05 | 117.60 | 4.1 |
| C | Kitchen w/spray & soap dispenser | Single Lever | Chrome | 9½ | 4 | 1/2" MIPS | 8 | 174WF | 6P941† | 262.75 | 235.50 | 5.9 |
| D | Kitchen | Single Lever | Chrome | 8 | Wall Mnt. | 1/2" MIPS | 8 | 200 | 6P942† | 138.30 | 126.80 | 4.4 |
| E | Kitchen Pullout | Single Level Pull | Chrome | 9¼ w/38" hose | 1 or 3 | 1/2" MIPS | 8 | 462 | 6P943##† | 268.00 | 253.50 | 5.3 |
| F | Kitchen | Double Lever | Chrome | 8 | 3 | 1/2" MIPS | 8 | 2100HDF | 6P944† | 128.75 | 110.85 | 3.2 |
| G | Kitchen w/spray | Double Knob | Acrylic | 8 | 4 | 1/2" MIPS | 8 | 2402 | 6P945** | 104.15 | 85.80 | 3.7 |
| H | Kitchen | Double Lever | Chrome | 8 | 3 | 1/2" MIPS | 8 | 2102LHP w/H22 &A22 | 6E855† | 111.39 | 94.45 | 2.9 |
| I | Kitchen w/spray | Double Lever | Chrome | 8 | 4 | 1/2" MIPS | 8 | 2402LHP w/H22 &A22 | 6E857† | 134.25 | 113.10 | 3.4 |
| J | Kitchen | Double Lever | Chrome | 9½ | 3 | 1/2" MIPS | 8 | 2176LHP w/H22 &A22 | 6E858† | 161.90 | 145.45 | 3.3 |
| K | Kitchen w/spray | Double Lever | Chrome | 8¼ | 4 | 1/2" MIPS | 8 | 2467LHP w/H25 | 6E859† | 183.40 | 159.50 | 5.4 |

DELTA THE FAUCET — LAVATORY — BAR

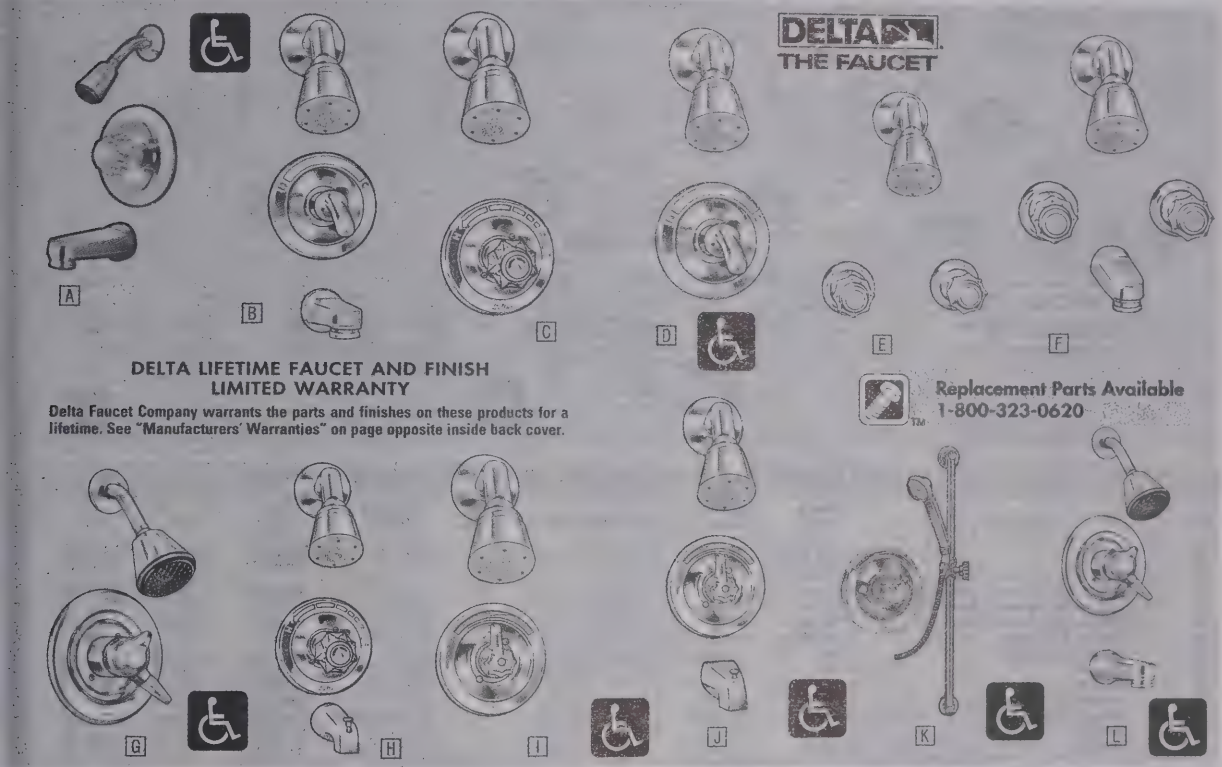



| Key | Faucet Type | Handle Type | Finish | Spout (In.) | Installation Information # Holes | Connections | Mtg Ctrs* | Delta Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | Lavatory | Single Lever | Chrome | N/A | 2-3 | 1/2" MIPS | 4 | 500WF | 2PC62*† | $99.85 | $84.65 | 2.7 |
| M | Lavatory | Single Knob | Acrylic | N/A | 2-3 | 1/2 MIPS | 4 | 502WF | 2PC64* | 99.85 | 86.95 | 2.7 |
| N | Lavatory | Double Knob | Acrylic | N/A | 2-3 | 1/2 MIPS | 4 | 2502 | 2PC61* ** | 62.70 | 55.80 | 2.2 |
| O | Lavatory w/pop-up | Single Knob | Acrylic | N/A | 3 | 1/2 MIPS | 4 | 522WFMPU | 6P949 | 122.20 | 106.45 | 4.3 |
| O | Lavatory w/pop-up | Single Knob | Acrylic | N/A | 3 | 1/2 MIPS | 4 | 522PBWF | 6P950 | 207.60 | 185.25 | 4.4 |
| P | Lavatory | Single Lever | Chrome | 4 | 1 | 1/2 MIPS | N/A | 570WF | 6P951† | 103.85 | 90.70 | 2.9 |
| Q | Lavatory w/pop-up | Single Lever | Chrome | N/A | 3 | 1/2 MIPS | 4 | 520WFMPU | 6P952† | 122.20 | 104.25 | 4.3 |
| Q | Lavatory w/pop-up | Single Lever | Polished Brass | N/A | 3 | 1/2 MIPS | 4 | 520PBWF | 6P953† | 207.60 | 175.00 | 4.3 |
| R | Lavatory w/pop-up and pullout | Single Lever Pull | Chrome | 4 w/33" hose | 3 | 1/2 MIPS | 4 | 550 | 6P954**† | 194.60 | 173.25 | 4.3 |
| S | Lavatory w/pop-up | Double Knob | Acrylic | N/A | 3 | 1/2 MIPS | 4 | 2522MPU | 6P955** | 89.20 | 79.00 | 3.4 |
| T | Lavatory self close | Double Timer Handle | Chrome | N/A | 2-3 | 1/2 MIPS | 4 | 2508HDF | 6P956* ** | 216.72 | 181.75 | 3.4 |
| U | Lavatory self close | SingleTimer Handle | Chrome | 3½ | 1 | 1/2 MIPS | N/A | 708HDF | 6P957* ** | 91.86 | 78.15 | 1.6 |
| V | Lavatory w/pop-up | Double Knob | Polished Brass | 4¾ | 3 | 1/2 MIPS | 6-16 | 3544PBWF | 6P958** | 257.85 | 217.75 | 5.4 |
| W | Lavatory w/grid strainer | Double Wrist Blade | Chrome | N/A | 2-3 | 1/2 MIPS | 4 | 2529HDF | 6P959**† | 138.50 | 117.00 | 3.6 |
| X | Lavatory w/pop-up | Double Lever | Chrome | N/A | 3 | 1/2 MIPS | 4 | 2521LHP w/H22&A22 | 6E860† | 125.30 | 106.70 | 4.1 |
| Y | Lavatory w/grid strainer | Double Wrist Blade | Chrome | 5¾ | 3 | 1/2 MIPS | 6-16 | 3579-WFHDF | 6P961**† | 228.20 | 219.50 | 5.3 |
| Z | Bar Faucet | Double Lever | Chrome | N/A | 2 | 1/2 MIPS | 4 | 2171HDF | 5E384**† | 146.50 | 131.55 | 2.5 |

(*) Lavatory product dimension is center set instead of mounting center. (†) Meets the Americans with Disabilities Act Requirements. ❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch. (#) With lift rod hole. (‡) With 8" rigid valve and screw-in escutcheons. (**) With red and blue labels. (##) With antisiphon valves. (††) Copper sweat inlets.

# TUB/SHOWER VALVES AND SHOWER HEADS

Shower heads have 2.5 GPM at 80 PSI water-saving design. Pressure balance series valves (Nos. 6P899, 6P995 thru 6P999) include stainless steel Scald-Guard® pressure balance valve that maintains a balanced pressure of hot and cold water, even when a valve is turned on or off elsewhere in the system. Nos. 6P995 and 6P997 shower and tub shower valves have separate volume and temperature controls. Nos. 6P998, 6P996, 6P999 and 6P899 have temperature controls only. Nos. 6P996 and 6P999 are heavy-duty commercial products with vandal-resistant handles. All Monitor® valves, Nos. 6P899, 6P995 through 6P999 have a rotational limit stop which can be easily adjusted at installation for proper temperature control. Delta brand.




**DELTA LIFETIME FAUCET AND FINISH LIMITED WARRANTY**

**Delta Faucet Company warrants the parts and finishes on these products for a lifetime. See "Manufacturers' Warranties" on page opposite inside back cover.**

**Replacement Parts Available 1-800-323-0620**

| Key | Faucet Type | Handle Type | Handle Finish | Installation Information # Holes | Installation Information Connections | Delta Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Tub Shower | Single Knob | Acrylic | 3 | 1/2" CWT†† | 642C | 2PC65 | $120.65 | $100.15 | 3.8 |
| B | Tub Shower | Single Lever | Chrome | 3 | 1/2" CWT†† | 641C | 6P962 | 127.30 | 102.95 | 3.9 |
| C | Shower | Single Knob | Acrylic | 2 | 1/2" CWT†† | 622C | 6E854 | 101.30 | 83.00 | 3.5 |
| D | Shower | Single Lever | Chrome | 2 | 1/2" CWT†† | 621C | 6P994* | 106.95 | 99.90 | 3.4 |
| E | Shower | Double Knob | Acrylic | 3 | 1/2" CWT†† | 2872C | 6P907** | 110.85 | 95.60 | 2.6 |
| F | Tub Shower | Double Knob | Acrylic | 4 | 1/2" CWT†† | 2882C | 5E383** | 141.45 | 125.30 | 3.7 |
| G | Shower | Single Lever | Acrylic | 2 | 1/2" CWT†† | 1724C | 6P995** | 154.44 | 134.25 | 4.6 |
| H | Tub Shower | Single Knob | Acrylic | 3 | 1/2" CWT†† | 1348C | 6P998** | 123.75 | 102.95 | 5.3 |
| I | Shower | Single Institutional | Chrome | 2 | 1/2" CWT†† | 1325CWSHDF | 6P999** | 135.00 | 125.50 | 5.4 |
| J | Tub Shower | Single Institutional | Chrome | 3 | 1/2" CWT†† | 1345CWSHDF | 6P899** | 165.75 | 150.75 | 5.9 |
| K | Valve/Hand Shower | Single Institutional | Chrome White | 1 | 1/2" CWT†† | 1473-CHDF | 6P996** | 310.20 | 296.75 | 9.0 |
| L | Tub Shower | Single Lever | Acrylic | 3 | 1/2" CWT†† | 1748C | 6P997** | 171.76 | 148.20 | 5.1 |

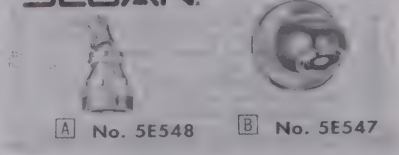
Meets the Americans with Disabilities Act Requirements. ❷ These products are covered by California proposition 65. California purchases or shipments, see first page of Grainger Branch listing call any California branch. (‡) With 8" rigid valve and screw-on escutcheons. (**) With red and blue labels. (††) Copper sweat inlets/outlets.

## SLOAN SHOWER HEADS

**Act-O-Matic Shower Head.** Chrome-plat-, cast brass with universal ball joint and umb screw volume control; 2.5 GPM aximum flow. Water is turned on and the disc moves downward, delivering a cone-within-cone spray for maximum efficiency. When water is turned off the disc moves upward automatically, allowing discharge of particles. 1/2" FNPT.

**B Act-O-Matic Self-Cleaning, Vandalproof Shower Head.** Chrome-plated, integral cast brass wall mounting, adjustable spray direction, and mounting plate. 1/2" FNPT. 2.5 Gallon flow control is standard

| y | Head Type | Sloan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| | Self-cleaning | AC-11 | 5E548 | $72.63 | **$60.55** | 1.5 |
| | Vandalproof | AC-450 | 5E547 | 130.41 | **109.45** | 3.2 |



# INDUSTRIAL FAUCETS

Chicago Faucet bodies and cartridges are mated by compression, greatly reducing the possibility of freezing together. Close with water pressure not against it, providing a consistent seal with less wear. All parts exposed to valve waterway are constructed of Monel, a very hard and corrosion resistant nickel/copper alloy. Standard cartridges are "Quaturn"—for their quarter turn from full close to full open. Every handle, inlet, arm, spout and outlet is interchangeable. All are CSA, and state of California and Wisconsin Approved. Exceed ANSI A112.18.1 for workmanship, materials, and mechanical performance. Certified to ANSI/NSF-61, Section 9..




## KITCHEN & LAVATORY FAUCET SPECIFICATIONS AND ORDERING DATA

| Key | Faucet Type | Handle Type | Handle Material | Plumbing Connections | Mntg. Ctrs. (In.) | Chicago Model | Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Kitchen | Single Wing | Metal | 1/2" MNPS threads | 8 | 1100 CP | **2P943*** | $132.85 | **$118.90** | 6.5 |
| B | Kitchen | Single Wing | Metal | 1/2 MNPT threads | 8 | 1888 CP | **2P945*** | 103.01 | **92.25** | 4.5 |
| C | Kitchen 3½" spread Gooseneck | 4" Blade | Brass | 1/2 MNPS threads | 8 | 785 CP | **2P950*** | 153.59 | **136.80** | 5.7 |
| C | Kitchen 5⅜" spread Gooseneck | 4" Blade | Brass | 1/2 MNPS threads | 8 | 786E3 CP | **2P951*** | 149.37 | **134.10** | 6.0 |
| C | Kitchen 3½" spread Gooseneck | 4" Blade | Brass | 1/2 MNPS threads | 4 | 895-317 CP | **2P953*** | 115.35 | **103.40** | 4.5 |
| D | Kitchen with Spray | Single Wing | Metal | 1/2 MNPS threads | 8 | 1102CP | **5E965*** | 162.22 | **139.35** | 1.0 |
| E | Kitchen with Spray | Lever | Metal | 1/2 MNPS threads | 8 | 200CP | **5E969*** | 211.00 | **172.25** | 7.5 |
| F | Kitchen | Lever | Metal | 1/2 MNPS threads | 8 | 201CP | **5E970*** | 142.14 | **127.55** | 7.0 |
| G | Lavatory | Single Wing | Metal | 1/2 MNPS threads | 4 | 1802A CP | **2P944*** | 91.02 | **83.65** | 4.5 |
| G | Lavatory | Lever | Metal | 1/2 MNPS threads | 4 | 802A | **2P952*** | 90.51 | **80.90** | 4.5 |
| H | Lavatory | Double | Cast Brass | 1/2 MNPS threads | 4 | 802A-665 CP | **2PC71***† | 173.05 | **156.25** | 4.8 |
| I | Lavatory | 3 Wing | Metal | 1/2 MNPS threads | 8 | 1404A CP | **2PC66** | 148.43 | **133.35** | 6.3 |
| J | Lavatory | 4" Blade | Brass | 1/2 MNPT threads | 8 | 404A-317 CP | **2PC68*** | 162.73 | **146.70** | 6.5 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
(*) Meets the Americans with Disabilities Act Requirements. (†) Auto shutoff.




## LABORATORY FAUCET SPECIFICATIONS AND ORDERING DATA

| Key | Faucet Type | Handle Type | Handle Material | Plumbing Connections (In.) | Mntg. Ctrs. | Chicago Model | Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| K | Laboratory Cold 5⅜" spread Gooseneck | Lever | Metal | 1/2 MNPS threads | 1 hole | 350 CP | **2P947*** | $76.52 | **$68.20** | 3.0 |
| L | Laboratory Hot and Cold 5⅜" Gooseneck | Lever | Metal | 3/8 Copper supply tubes | — | 50 CP | **2P948*** | 128.24 | **115.00** | 5.0 |
| M | Laboratory with vacuum breaker | 4 Wing | Brass | 1/2 MNPS threads | — | 928 CP | **2PC72** | 117.26 | **105.10** | 4.5 |
| N | Laboratory Cold | 4 Wing | Brass | 1/2 MNPS threads | 1 hole | 927 CP | **5E971** | 78.41 | **70.80** | 3.5 |
| O | Laboratory Hot and Cold | 4 Wing | Brass | 3/8 Copper supply tubes | 1 hole | 929 CP | **5E972** | 121.82 | **117.90** | 6.5 |
| P | Laboratory Hot and Cold with vacuum breaker | 4 Wing | Brass | 3/8 Copper supply tubes | 1 hole | 930 CP | **5E973** | 163.22 | **159.00** | 6.5 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
(*) Meets the Americans with Disabilities Act Requirements.

# INDUSTRIAL FAUCETS AND FITTINGS

CHICAGO FAUCETS
THE SYMBOL OF QUALITY

## SPECIAL USE



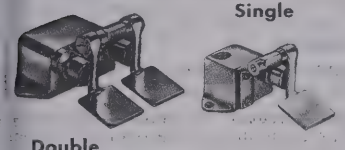

Replacement Parts Available
1-800-323-0620

## SPECIAL USE FAUCET SPECIFICATIONS AND ORDERING DATA

| Key | Faucet Type | Handle Type | Handle Material | Plumbing Connections | Mntg. Ctrs. | Chicago Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Specialty Mop sink with pail hook | Lever | Metal | 1/2 MNPS threads | 4-8⅓ | 305 VBRCRCF | 2P946* | $144.59 | $137.45 | 5.7 |
| B | Specialty Mop sink with pail hook, wall brace | Lever | Metal | 1/2 MNPS threads | 4-8⅓ | 897 RCF | 2P954* | 177.26 | 160.00 | 6.5 |
| C | Specialty Backmount | Lever | Metal | 1/2 MNPS threads | 4-8⅓ | 445 CP | 2PC69* | 141.39 | 127.20 | 4.6 |
| D | Specialty Hose faucet with vacuum breaker | Single | Brass | 3/4 MNPS threads | — | 952 CP | 2P955 | 113.71 | 102.00 | 2.5 |
| E | Mop Sink with pail hook | Lever | Metal | 1/2 MNPS threads | 4-8⅓ | 305 RCF | 5E962* | 93.19 | 84.70 | 4.0 |
| F | Single Sink | Single | Brass | 1/2 MNPS threads | 1 hole | 293 CP | 5E963 | 42.64 | 38.35 | 1.0 |
| G | Backmount | Lever | Metal | 1/2 MNPS threads | 7¼-8¾ | 540 LD | 5E964 | 141.37 | 127.25 | 5.6 |
| H | Deck Mount Gooseneck | N/A | N/A | 1/2 MNPS threads | 1 hole | 626E3CP | 5E987 | 47.90 | 45.15 | 2.0 |
| I | Wall Mount Gooseneck | N/A | N/A | 1/2 MNPS threads | 1 hole | 629E3CP | 5E988 | 58.90 | 55.20 | 2.0 |
| J | Bubbler | Single | Cast Brass | 1/2 MNPS threads | 1 hole | 748-665PSHCP | 5E989† | 139.03 | 130.40 | 2.5 |
| K | Deck Mount Pre-Rinse | Lever | Metal | 1/2 MNPS threads | 1 hole | 919 CP | 5E966 | 295.34 | 292.75 | 14.0 |
| L | Backmount Pre-Rinse | Lever | Metal | 1/2 MNPS threads | 4-8¼ | 923 CP | 5E967 | 292.54 | 288.25 | 5.3 |
| M | Bar Faucet | Single Wing | Metal | 1/2 MNPT threads | 4 | 1895 CP | 5E995 | 92.53 | 87.25 | 5.0 |

These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
(*) Meets the Americans with Disabilities Act Requirements. (†) Auto shutoff.

## FOOT PEDALS

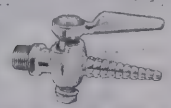



CHICAGO FAUCETS
THE SYMBOL OF QUALITY

- Aluminum Pedal(s)
- 1/2" FNPT inlet x 3/8" FNPT outlet

| Description | Chicago Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Chrome-Plated Double | 625 CP | 2P949 | $147.31 | $132.65 | 5.0 |
| Rough Chrome Double | 625 RCF | 5E983 | 137.05 | 123.40 | 7.6 |
| Chrome-Plated Single | 628 CP | 5E985 | 132.17 | 127.15 | 5.0 |
| Rough Chrome Single | 628 RCF | 5E986 | 119.08 | 115.30 | 4.1 |

## LABORATORY HOSE COCKS



- Low pressure
- Air, gas or vacuum
- 3/8" IPS male inlet
- Non-removable nozzle

| Description | Chicago Model | Stock No. | Per Pkg. of Two List | Per Pkg. of Two Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Hose cock for air | 907 BAIRCP | 5E974 | $39.36 | $36.05 | 0.5 |
| Hose cock for gas | 907 BGASCP | 5E975 | 20.88 | 18.84 | 0.5 |
| Hose cock for vacuum | 907 BVACCP | 5E976 | 39.96 | 36.05 | 0.5 |

## SINK GRID STRAINER



CHICAGO FAUCETS
THE SYMBOL OF QUALITY

- 1¼" Tailpiece
- Non-removable

No. 5E994. Shpg. wt. 0.8 lbs.
List $19.06. Each ..... $18.25

## LABORATORY ELECTRICAL BOXES




- Furnished with 3/4" shank and locknut
- 110 Volt service only
- UL Listed
- Brushed aluminum finish

| Description | Chicago Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Single gang, single face | 1310 | 5E979 | $58.28 | $54.75 | 1.5 |
| Single gang, double face | 1311 | 5E980 | 51.51 | 48.60 | 1.5 |
| Double gang, single face | 1312 | 5E981 | 61.59 | 58.10 | 1.9 |
| Double gang, double face | 1313 | 5E982 | 65.11 | 61.15 | 2.0 |

# SHOWERS AND TOILET TANK REPAIR KITS

## SHOWERS AND ACCESSORIES

**A Hand Shower Full Spray White.** Features energy saving push-button water control and swivel wall mount. Includes flexible 60" Voral hose. 2.0 GPM. Meets Americans with Disabilities Act (ADA) requirements. Alsons brand (410PB PK).

**No. 3P838.** Shpg. wt. 1.0 lbs. List $42.68. Each ..... **$34.25**

**B Massage Hand Shower.** Chrome finished unit offers a choice of stimulating massage spray or a soothing full spray. Arm mount fitting attaches directly to shower arm pipe and holds hand shower in position as a shower head. Simply remove to use as hand-held shower. 60" flexible Voral hose. 2.5 GPM. Meets ADA requirements. Alsons brand (48C-PK).

**No. 3P839.** Shpg. wt. 1.5 lbs. List $53.78. Each ..... **$46.65**

**C Adjustable Spray Shower Head.** Features a polished chrome finish and white trim. Spray adjusts from fine to coarse. 2.5 GPM. Alsons brand (3130CW).

**No. 3P841.** Shpg. wt. 0.3 lbs. List $7.07. Each ..... **$6.11**

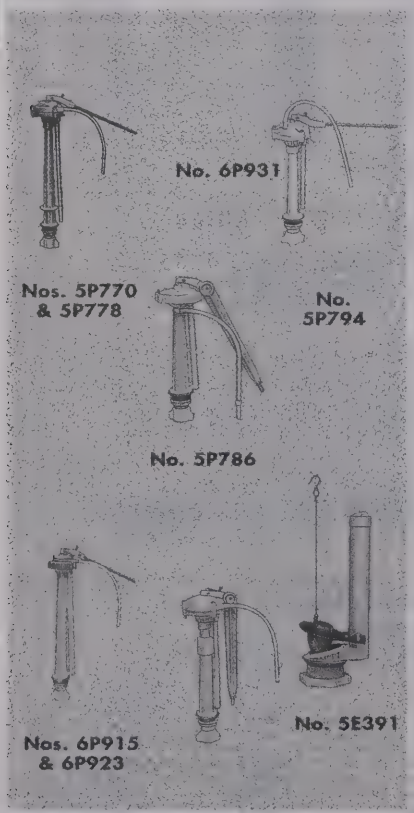
**D Massage Shower Head.** All chrome shower head. Spray adjusts from pulsating massage spray to regular spray. 2.5 GPM. Alsons brand (665C PK).

**No. 3P840.** Shpg. wt. 0.7 lbs. List $39.37. Each ..... **$31.55**

**E Ultra Flex Hose With Lifetime Warranty.** 69" hose fits all hand showers. Durable, flexible hose is easy to clean and is soft and gentle to the touch. Constructed of spirals of nylon cord and chrome foil reinforced with polyester cords over PVC liner. Coated with sheath of clear PVC. Alsons brand (490-70-PK)

**No. 3P842.** Shpg. wt. 0.7 lbs. List $21.47. Each ..... **$16.58**




## TOILET CONTROL VALVES

**Ballcocks** have a patented shut-off action for instantaneous shutoff without gurgle.

**Anti-siphon valves** have been approved by all coded areas and by the International Association of Plumbing and Mechanical Officials (IAPMO). They also meet the requirements of the American Society of Sanitary Engineers standards (ASSE1002). Plastic valves resist corrosive and abrasive action of water. Coast brand.

**No. 5P770, 10" and No. 5P778 12" fill valves** have one-piece design with vinyl refill tube. 8" brass float rod and screws. Include locknut, coupling nut, and washers. No. 5P770 for 2-piece water saver toilets. No. 5P778 for 2-piece full flush toilets. Code listed anti-siphon.

**No. 5P786 fill valve** fits any tank. Regular ballcock, positive shutoff. Includes locknut, coupling nut, and all washers. Not for use in coded areas.

**No. 5P794 fill valve** has regular ballcock and fits any tank. Includes rod and refill, locknut, coupling nut, and all washers. Not for use in coded areas.

**No. 6P915, 10¾ and No. 6P923 12" fill valves** have one-piece design with vinyl refil tube. Include locknut, coupling nut, and al washers. No. 6P915 for 2-piece water save toilets. No. 6P923 for 2-piece full flush toi lets. Code listed anti-siphon.

**No. 6P931, 9½ to 13" adjustable fill valve** fit most toilet tanks. Includes locknut, cou pling nut, and all washers. Code listed anti siphon.

**No. 5E391 flush valve** fits most 2-piece toile designs. Features vinyl flapper, stainles steel chain, and hex nut. Includes washe and flange nut.

**No. 5E397 flapper/chain** has vinyl flappe with stainless steel chain.

**No. 5E402 flapper** fits most flush valve with ear attachments or overflow tubes Vinyl with pull strap.

**No. 5E999 repair kit** includes No. 6P931 fil valve, No. 5P794 fill valve, piston, and sea ring. For nos. 5P770, 5P778, 5P794, an 6P931.

**Note: Normal household water pressure ma range from 0.07 MPa (10 to 100 PSI) an plumbing codes mandate that a valve withstan the pressure of 0.86 MPa (125 PSI).**

### TOILET CONTROL VALVE ORDERING DATA

| Description | Coast Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **10" Fill Valve** | 12114 | **5P770** | $6.47 | **$5.39** | 0.8 |
| **12" Fill Valve** | 12164 | **5P778** | 6.47 | **5.39** | 0.8 |
| **Standard Size Fill Valve** | 10804 | **5P786** | 5.30 | **4.39** | 0.6 |
| **Standard Size Fill Valve** | 12704 | **5P794** | 6.11 | **5.09** | 0.7 |
| **10¾" Fill Valve** | 13314 | **6P915** | 6.01 | **4.99** | 0.8 |
| **12" Fill Valve** | 13364 | **6P923** | 6.01 | **4.99** | 0.8 |
| **Adjustable Fill Valve** | 14044 | **6P931** | 8.27 | **6.89** | 0.7 |
| **Flush Valve** | 30014 | **5E391** | 4.69 | **3.91** | 0.8 |
| **Flapper/Chain** | 53206 | **5E397** | 2.00 | **1.69** | 0.1 |
| **Flapper Only** | 53176 | **5E402** | 1.61 | **1.34** | 0.1 |
| **Repair Kit** | 55014 | **5E999** | 1.19 | **0.99** | 0.1 |

# BEDPAN WASHING SYSTEM AND TOILET SEATS

## SLIM LINE BEDPAN WASHING SYSTEM

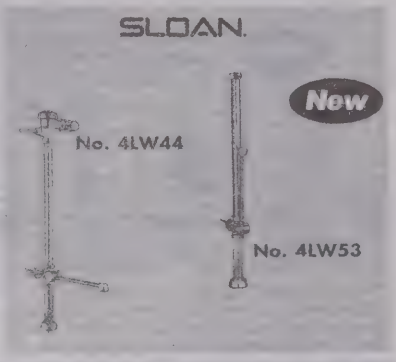
- **Spray head offers maximum water force to thoroughly clean bedpans in seconds without splash or after-drip**
- **Fixed spray arm position helps prevent water from spilling on floor**
- **Keeps bedpans clean for same patient, saving on replacement costs**
- **Reduces chances of cross-contamination**

Unique bedpan washing system helps eliminate the need for unsanitary hose that sprays and the additional housekeeping that hoses require. Ideal for hospitals, assisted living facilities and nursing homes. Patented one-piece construction body design maintains spray arm in an upright position. O-ring design of pivot with counter balance spring provides long life and easy maintenance. Valve body, stop body, diverter body and diverter pivot are made from brass casting using semi-red brass for durability and long life. Integral vacuum breaker simplifies water supply rough-in. Sloan brand (Royal BPW 1000).

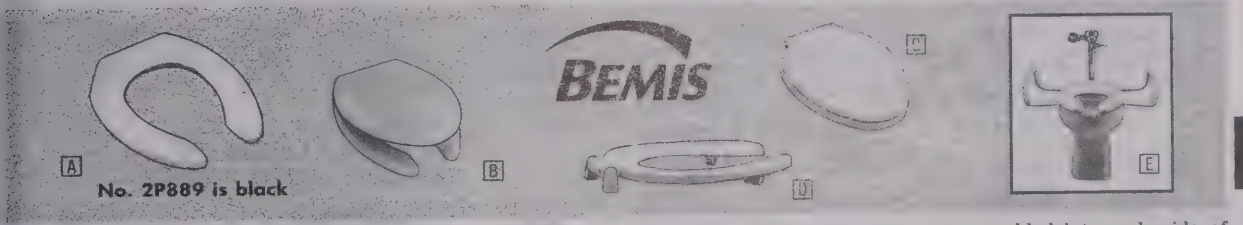
***New* No. 4LW44.** Shpg. wt. 12.0 lbs. List $411.40. Each.....$337.00

**Slimline Retrofit Diverter Assembly** for use in retrofit installations where Flushometers currently are installed and for replacing older in-line type bedpan washers. Royal brand (DV100).

***New* No. 4LW53.** Shpg. wt. 7.0 lbs. List $266.40. Each.....$218.25




## BEMIS TOILET SEATS




All Bemis plastic toilet seats are manufactured of tough, chemical-resistant Duraloy® and feature integrally molded bumpers. All seats white color, except No. 2P889, which is black. Meet and comply with federal specification WW-P-541/1A.

No. 2P892. Features an integrally molded lift, allowing for an additional 2" of height above the rim of the bowl.

No. 2P893. Medic-aid seat without cover features "Safety-side" stainless steel arms. Finger grooves molded into underside of support arms for added grip security. Eight stainless steel screws hold arms to seat. Fits tank type toilet or flush valve mounted bowl.-

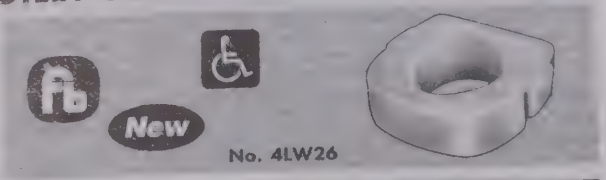
| Key | For Bowl Type | Front Type | Cover | Hinge Design | Mounting Bolt To Seat Front (In.) | Width (In.) | Applications | Bemis Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Regular | Open | No | Stainless steel check hinge | 16 1/8 | 14 1/4 | Hotel/motel, most commercial | 955C | **2P886** | $30.50 | **$21.50** | 4.7 |
| B | Regular | Open | Yes | Top-tite plastic with hinge covers | 16 7/8 | 14 3/4 | Hotel/motel, most commercial | 950 | **2P887** | 40.75 | **32.60** | 6.0 |
| A | Elongated | Open | No | Stainless steel check hinge, washer, bolt and nut | 18 1/2 | 14 1/4 | Most commercial uses, light and heavy | 1955CW | **2P888** | 30.95 | **20.50** | 4.0 |
| A | Elongated | Open | No | Stainless steel check hinge, washer, bolt and nut | 18 1/2 | 14 1/4 | Most commercial uses, light and heavy, schools | 1955CB | **2P889** | 30.95 | **20.50** | 4.0 |
| C | Elongated | Closed | Yes | Top-tite plastic with hinge covers | 18 3/4 | 14 1/16 | Office buildings, light commercial | 1900SS | **2P890** | 47.60 | **40.50** | 6.0 |
| B | Elongated | Open | Yes | 1-piece stainless steel encased with plastic | 17 3/4 | 14 1/16 | Hotel/motel, most commercial | 1950SS | **2P891** | 58.65 | **47.00** | 7.8 |
| D | Elongated | Open | No | Stainless steel | 19 | 14 1/4 | Hospitals, nursing homes, other special care use | 2L2155 | **2P892** | 106.65 | **68.00** | 6.5 |
| E | Elongated | Open | No | Stainless steel check hinge, washer, bolt and nut | 18 5/8 | 14 1/2 | Hospitals, nursing homes, other special care use | MA2155 | **2P893*** | 208.35 | **167.50** | 13.0 |

*) Center to center hand rail is 26".

## ELEVATED TOILET SEAT

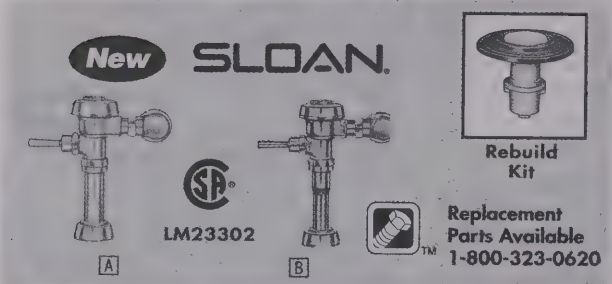
This elevated height toilet seat makes it easier to sit and rise. Manufactured of rugged molded plastic, it's easy to clean and maintain. Raises seat 5" in front and 6" in back and installs quickly and easily. Seat is ready to use and requires no assembly. Fits both regular and elongated toilets. Includes handy travel bag. Meets ADA standards.

***New* No. 4LW26.** Shpg. wt. 4.3 lbs. List...$33.00. Each.....$28.90



# FLUSH VALVES AND REBUILD KITS

## SLOAN ROYAL FLUSH VALVES




Chrome-plated, quiet operating flush valves feature factory adjustment and nonhold open oscillating handle. Integral vacuum breaker prevents back siphoning. Meets following standards: Corps of Engineers; ASSE; ANSI; CSA.

**Water Saver Toilet** Valve is for 1½" top spud connection flushometer siphon jet bowl.

**Urinal Valves** are for 3/4 or 1¼" top spud connection flushometer urinals.

| Dimensions (In.) Wall / Spud Flanges | Bak-Chek Stop | Bak-Chek Rough-in | Gallons Per Flush | Sloan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **A TOILET FLUSH VALVES** | | | | | | | | |
| 1 / 1½ | 1 | 11½ | 3.5 | 110 | **5P009** | $127.29 | **$110.05** | 6.5 |
| 1 / 1½ | 1 | 11½ | 1.6 | 111 | **New4LW39** | 133.20 | **109.10** | 7.0 |
| 1 / 1½ | 1 | 27 | 1.6 | 116-1.6 | **New4LW40** | 145.50 | **113.30** | 8.0 |
| 1 / 1½ | 1 | 27 | 3.5 | 116 | **5P011** | 132.31 | **113.85** | 8.0 |
| **B URINAL FLUSH VALVES** | | | | | | | | |
| 1 / 1¼ | 1 | 11½ | 3.0 | 180 | **5P012** | 127.29 | **110.05** | 6.5 |
| 3/4 / 3/4 | 3/4 | 11½ | 1.5 | 186 | **5P013** | 127.29 | **110.05** | 6.5 |
| 3/4 / 3/4 | 3/4 | 11½ | 1.0 | 186.1 | **New4LW43** | 133.20 | **109.10** | 7.0 |

### FLUSHOMETER REBUILDING KITS FOR TOILETS

Delivers 4 to 5 gallons per flush.

**No. 5P211.** (A-36-A). Shpg. wt. 0.5 lbs. List $12.83. Each ..... **$10.65**

### FLUSHOMETER REBUILDING KITS FOR URINALS

3/4" inlet x 3/4" outlet. Delivers 1.5 gallons per flush max.

**No. 5P212.** (A-37-A). Shpg. wt. 0.4 lbs. List $12.83. Each ..... **$10.65**

## DIAPHRAGM KITS

- **Perfect for any new or retrofit markets requiring low consumption applications**

Discharge curves of the flush are maximized with the Para-Flo refill head while maintaining proper bowl refill. Water delivery is precisely metered, assuring proper flushing while maintaining the low consumption discharge. No. 4LW51 is 1.6 gallons per flush. No. 4LW52 is 1.0 gallons per flush. Sloan Valve brand (A41A and A42A).

***New*No. 4LW51.** Toilet Kit. Shpg. wt. 0.5 lbs. List $18.70. Each ..... **$14.52**

***New*No. 4LW52.** Urinal Kit. Shpg. wt. 0.5 lbs. List $18.70. Each ..... **$14.52**

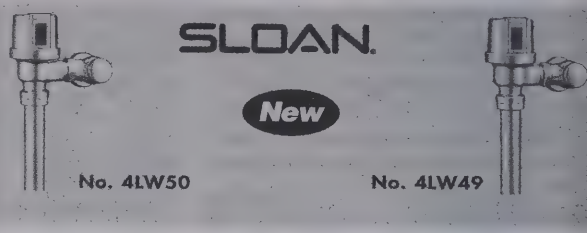
## VANDAL-RESISTANT CONTROL TOP CAPS

Help eliminate vandalism and theft thanks to no-hex design that also creates a contemporary look on Sloan Flushometers. Caps have all-metal construction and install quickly and easily. After installation, cap spins freely to help eliminate leverage and vandalism. Brass contruction provides long life and durability, while protecting the screwdriver slotted regulating stem from unauthorized tampering. Sloan Valve brand (H-1009A) and H-1010A).

***New*No. 4LW58.** 3/4" Cap (H1009A). Shpg. wt. 0.5 lbs. List $10.95. Each ..... **$8.50**

***New*No. 4LW59.** 1" Cap (H1010A). Shpg. wt. 0.5 lbs. List $10.95. Each ..... **$8.50**

## BATTERY-OPERATED OPTIMA PLUS® FLUSH VALVES

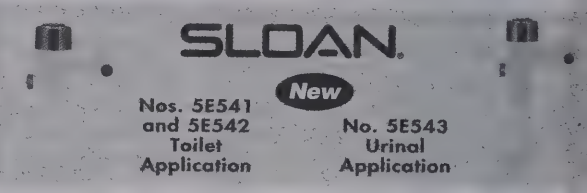



- **Helps prevent spread of infectious diseases**
- **Infrared sensor detect user presence and guarantee automatic flush after every use**
- **Requires only one trade for installation**
- **Delivers up to 4,000 flushes after low-battery indicator light flashes, assuring ample time for battery replacement.**

| Description* | Sloan No. | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1.0 GPF urinal** | 8186-1-LH-MC | **4LW45** | $389.50 | **$318.75** | 8.5 |
| **1.5 GPF urinal** | 8186-LH-MC | **4LW48** | 389.50 | **318.75** | 8.5 |
| **1.6 GPF water closet** | 8111-LH-MC | **4LW50** | 410.50 | **336.25** | 8.5 |
| **3.5 GPF water closet** | 8110-LH-MC | **4LW49** | 410.50 | **336.25** | 8.5 |

* GPF = Gallons Per Flush

## BATTERY OPERATED RETROFIT FLUSH VALVES




- **Automatic flushing system**
- **No AC hookup needed**

**Optima Plus® Flushometers** turn manual Royal flushometers into automatic, sensor-operated flushing systems. No need for AC hookup. Self-contained systems use just four AA batteries to provide at least three years of operation under normal use. Infrared systems detect the presence of a user and automatically flush after each use. Deliver up to 4000 flushes after low battery indicator light flashes, assuring ample time for battery replacement. Keeps bowl clean with "Sentinel" flushing—24 hours after last flushing cycle. Includes: new cover assembly with sensor operation mounted on top of solenoid and attached to inside cover, four AA batteries, strap wrench, screwdriver, handle opening cover, and decorative stop cap. Optima Plus brand by Sloan.

| Type | Gallons Per Flush | Sloan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Urinal** | 1.0 | RESS 1.0U | ***New*4LW56** | $300.00 | **$241.75** | 3.0 |
| **Toilet** | 1.6 | RESS 1.6C | ***New*4LW57** | 310.00 | **249.75** | 3.0 |
| **Toilet** | 4.5 | RESS 4.5 | **5E541** | 267.09 | **249.25** | 5.0 |
| **Toilet** | 3.5 | RESS 3.5 | **5E542** | 267.09 | **249.25** | 3.0 |
| **Urinal** | 1.5 | RESS 1.5 | **5E543** | 281.12 | **253.25** | 3.0 |

### UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY

**Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.**

# FLUSH VALVES, REBUILD KITS, AND INFRARED SENSOR FAUCETS

## HANDLE REPAIR KIT



For part B-32-A used on all Royal, Regal, and Crown flush valves, and Zurn Z6000MK. Sloan brand (B-50-A).

**No. 5E545.** Shpg. wt. 0.1 lbs. List $2.70. Each ..... **$2.13**

## VACUUM BREAKER KIT



For model V-500-A and V-500-AA Royal, Regal, and Crown valves, and Zurn Z6000A and Delany 50. Sloan brand (V-551-A).

**No. 5E546.** Shpg. wt. 0.1 lbs. List $2.39. Each ..... **$1.93**

## WATER-SAVER KITS FOR TOILETS

For toilets other than blowout and large 1¼" top spud urinals. Delivers 3 to 3.5 gallon flush.

**No. 5P213.** Shpg. wt. 0.4 lbs. List $12.83. Each ..... **$10.65**

## ADA RETROFIT TOILET HANDLE



Used to flush on less than 5 lbs. operating pressure with line pressure on 20-80 lbs. Meets ADA specifications. Sloan brand.

**No. 5E544.** Shpg. wt. 0.6 lbs. List $10.84. Each ..... **$9.20**

## CHICAGO URINAL VALVES

**Nos. 5E991 and 5E992**
- **Adjustable MVP slow closing push button**
- **Straight valve**
- **No. 5E991 has 1/2" IPS female inlet and outlet;**

**No. 5E992 has 3/8" IPS female inlet and outlet**
- **Tubular brass handle**

**Nos. 5E990 and 5E993**
- **Adjustable MVP slow closing push button**
- **Angle valve**
- **No. 5E990 has 3/8" IPS female inlet and outlet;**

**No. 5E993 has ½" IPS female inlet and outlet**
- **Tubular brass handle**




| Description | Female Inlet & Outlet Size (In.) | Chicago Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Straight Valve | 1/2 IPS | 339-669 | **5E991** | $50.11 | **$47.35** | 1.0 |
| Straight Valve | 3/8 | 338-669PSHCP | **5E992** | 63.88 | **49.70** | 1.0 |
| Angle Valve | 3/8 | 388-669PSHCP | **5E990** | 61.80 | **59.95** | 1.0 |
| Angle Valve | 1/2 | 389-669 | **5E993** | 69.75 | **58.10** | 1.0 |

## OPTIMA PLUS® BATTERY OPERATED INFRARED SENSOR FAUCETS

### OPTIMA PLUS® BATTERY OPERATED FIBEROPTIC FAUCET

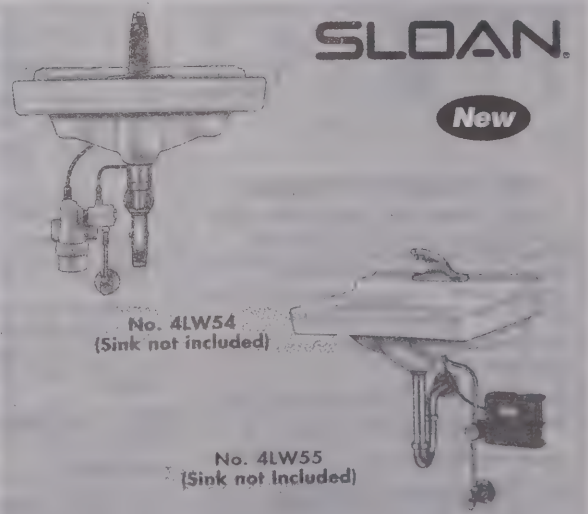
Revolutionary faucet uses infrared light to sense the presence of user's hands to turn water on and off. An adaptive infrared sensor is linked to the faucet by a fiber optic cable. Faucet features chrome-plated brass spout and integral throat plate. Moisture-proof, electronic module includes self-adaptive detection circuit with audible low-battery indicator and compartment for four C size batteries. Also has latching solenoid valve with self-cleaning bypass and clean-out strainer, and flow controlling aerator with optional back checks. Sloan Valve brand (EBF-85M).

**New No. 4LW54.** Shpg. wt. 7.2 lbs. List $473.70. Each ..... **$388.00**

### OPTIMA PLUS® BATTERY-OPERATED ADA COMPLIANT FAUCET

Automatic operation saves water and reduces maintenance and operation costs while meeting the Americans with Disabilities Act. The battery-powered, sensor-operated 4" centerset electronic hand-washing faucet is designed for use with tempered or hot/cold applications. Ideal in commercial, education, healthcare or institutional settings where there is high traffic and threats of vandalism. Waterproof circuit control module provides long life. Sensor range has adjustment screw for custom settings and the aerator/spray head has pressure compensating flow control. Metal jacket wire protection for sensor lead. Includes four C-size alkaline batteries and all appropriate mounting hardware. Sloan Valve brand (EBF 650M).

**New No. 4LW55.** Shpg. wt. 6.3 lbs. List $357.90. Each ..... **$293.25**



# ALPHA/FRY SOLVENT CEMENTS AND CLEANERS

**All solvents meet the maximum volatile organic compound limits of 450 grams per liter per SCAQMD 1168-316A.**

## ALL PURPOSE CLEANER

- A clear surface cleaner for all size pipes. For use with all cements on this page. Cleans dirt, oil, and grease from plastic pipes and fittings made from PVC, CPVC, ABS, and styrene
- To be applied in temperatures ranging from 40 to 100°F
- Available in 8 and 16 oz. cans

### ALL PURPOSE CLEANER

| Size (Oz.) | Alpha/Fry Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 8 | 72062 | 5E523 | $2.61 | $2.34 | 0.7 |
| 16 | 72061 | 5E524 | 3.36 | 3.10 | 1.3 |

## PRIMER

- A purple surface cleaner for all size pipes. For use with all cements on this page. Cleans and slightly dissolves surface of plastic pipes and fittings made from PVC, CPVC, ABS, and styrene
- To be applied in temperatures ranging from 40 to 100°F
- Available in 8, 16, and 32 oz. cans
- NSF and IAPMO (UPC) Listed
- Meets ASTM F-656

### PRIMER

| Size (Oz.) | Alpha/Fry Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 8 | 72052 | 5E520 | $3.06 | $2.74 | 0.7 |
| 16 | 72051 | 5E521 | 4.90 | 4.35 | 1.3 |
| 32 | 72050 | 5E522 | 8.13 | 7.22 | 2.3 |

## PVC CEMENT, REGULAR

- A clear cement for joining PVC pipes and fittings up to 2" in diameter. Applications include, water pressure pipe (schedule 40), DWV (drain, waste, vent) sewer and gas pipe, irrigation and electrical conduit
- To be applied in temperatures ranging from 40 to 90°F
- Available in 8, 16, and 32 oz. cans
- NSF and IAPMO (UPC) Listed
- Meets ASTM D-2564

### PVC CEMENT, REGULAR

| Size (Oz.) | Alpha/Fry Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 8 | 72012 | 5E525 | $2.83 | $2.53 | 0.7 |
| 16 | 72011 | 5E526 | 5.59 | 4.41 | 1.3 |
| 32 | 72010 | 5E527 | 8.32 | 7.44 | 2.3 |

## PVC CEMENT, HEAVY

- A gray cement for joining PVC pipe and fittings up to 12" in diameter. Applications are the same as PVC Cement, Regular. Can be used for larger pipes and also with schedule 80 pipes and fittings.
- To be applied in temperatures ranging from 40 to 90°F
- Available in 8 and 16 oz. cans
- NSF and IAPMO (UPC) Listed
- Meets ASTM D-2564

### PVC CEMENT, HEAVY

| Size (Oz.) | Alpha/Fry Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 8 | 72003 | 5E528 | $4.28 | $3.75 | 1.3 |
| 16 | 72002 | 5E529 | 7.35 | 6.42 | 1.3 |

## PVC WET/DRY CEMENT

- A blue cement for joining PVC pipes and fittings up to 6" in diameter, when wet conditions exist. Applications are the same as PVC Cement, Regular, but this cement includes schedule 80 pipes and fittings
- To be applied in temperatures ranging from 40 to 90°F
- Available in 8 and 16 oz. cans
- NSF and UPC Listed
- Meets ASTM D-2564

### PVC WET/DRY CEMENT

| Size (Oz.) | Alpha/Fry Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 8 | 72072 | 5E530 | $4.16 | $3.21 | 1.3 |
| 16 | 72071 | 5E531 | 6.54 | 5.29 | 1.3 |

## ALL PURPOSE CEMENT

- A clear cement for joining all types of plastic pipes and fittings (PVC, CPVC, ABS) up to 6" in diameter
- Applications include potable water pressure pipe, hot water up to 180°F, DWV (drain, waste, and vent), sewer and gas pipe, irrigation and electrical conduit
- To be applied in temperatures ranging from 40 to 100°F
- Available in 8, 16, and 32 oz. cans

### ALL PURPOSE CEMENT

| Size (Oz.) | Alpha/Fry Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 8 | 72042 | 5E532 | $3.86 | $3.40 | 1.3 |
| 16 | 72041 | 5E533 | 6.80 | 5.97 | 1.3 |
| 32 | 72040 | 5E534 | 11.50 | 10.25 | 2.3 |




## CPVC REGULAR CEMENT

- An orange cement for joining CPVC pipe and fittings up to 2" in diameter, including schedule 40. Applications include cold and hot water plumbing systems up to 180°F in residential, mobile homes, recreational vehicles, commercial, and industrial piping systems where code allow
- To be applied in temperatures ranging from 40 to 90°F
- Available in 8 and 16 oz. cans
- NSF and IAPMO (UPC) Listed
- Meets ASTM F-493

### CPVC REGULAR CEMENT

| Size (Oz.) | Alpha/Fry Model | Stock No. ❸ | List | Each | Shp Wt |
|---|---|---|---|---|---|
| 8 | 72032 | 5E535 | $4.41 | $3.85 | 1.1 |
| 16 | 72031 | 5E536 | 8.06 | 6.73 | 1.3 |

## ABS CEMENT

- A black cement for joining ABS pipe and fittings up to 6" in diameter. Applications include DWV (drain, waste, vent), sewer pipes, irrigation and electrical conduit; also includes schedule 40 and 60 pipes and fitting
- To be applied in temperatures ranging from 40 to 90°F
- Available in 8 and 16 oz. cans
- NSF and IAPMO (UPC) Listed
- Meets ASTM D-2235

### ABS CEMENT

| Size (Oz.) | Alpha/Fry Model | Stock No. ❸ | List | Each | Shp Wt |
|---|---|---|---|---|---|
| 8 | 72022 | 5E537 | $2.87 | $2.57 | 0.6 |
| 16 | 72021 | 5E538 | 4.31 | 3.89 | 1.3 |

**WARNING: PRODUCTS ON THIS PAGE ARE EXTREMELY FLAMMABLE, HANDLE/USE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.**

❸ These products are covered by OSHA Hazard Communication Standard, and the Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# 1/3 TO 3 HP STRAIGHT CENTRIFUGAL PUMPS

- Up to 168 gallons per minute
- 1/3 to 3 HP, single or 3-phase motors

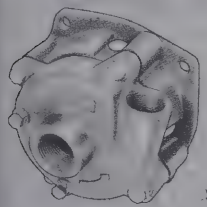
Replacement Parts Available 1-800-323-0620

TEEL®

Repair Service Available Contact Your Local Branch

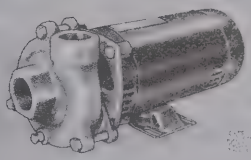
PUMP PEDESTALS FOR THESE PUMP HEADS FOUND ON PAGE 3124

New



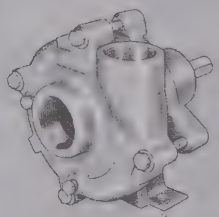
1/3 HP-1 HP Cast Iron, Bronze or Stainless Steel

No. 4RH56



1/3 HP-3 HP Cast Iron, Bronze or Stainless Steel

No. 4RH65



1/3 HP-3 HP Bronze or Stainless Steel

No. 4RH92

- High performance, low pressure pumps
- Directly replaces TEEL cast Iron pumps 1P831 through 1P837. Bronze Pumps 1P787 through 1P793 and Stainless Steel Pumps 1V258, 1V277, 1V275, 1V267,1V265, 1V279, 1V269. Also pump heads only Cast Iron 2P501 through 2P503, Bronze 2P498 through 2P500 and Stainless Steel 1V263,1V283, 1V273.
- Type 21 mechanical seals and o-ring static seal for booster applications
- Pumps mounted on single and 3-phase motors. Pump heads only or Pedestal style also offered.
- Cast iron, bronze, and 300 stainless steel construction for a wide variety of fluid applications
- Temperatures from -20° to 210°F

### Pump Selection Guide

Read down the Head in Feet column (total of system head plus desired discharge head to the desired GPM. Read over to the Stock No. or the required pump or pump head.

Multiply horsepower by specific gravity of liquid to obtain minimum motor HP.

Select Dayton base-mounted jet pump motor with horsepower rating greater than the minimum required.

**Description:** Pump continuously at low pressure in situations that do not require self-priming. Discharge port rotates 360° in 90° increments. For use with nonflammable and nonabrasive liquids that are compatible with pump component materials.

**Maintenance-free ball bearings.** Easily accessible front drain plug for draining liquid. All units handle inlet pressures to 100 PSI for booster applications.

**Construction:** Cast iron, bronze or stainless steel pump and impeller. Buna-N and o-ring seals for cast iron and bronze models. (Viton seal and o-ring on stainless steel models.) Seals are carbon/ceramic banded seat and stainless steel spring. 303 stainless steel shaft.

**Driver:** Dayton 3450 RPM, 60 Hz, single- or three-phase motor with shielded ball bearings. NEMA 56J frame with threaded shaft. Automatic overload protection on single-phase units. Nos. 4RH42, 4RH46, 4RH50, 4RH56, 4RH60, 4RH64, 4RH79, 4RH83, 4RH87 are pump less motor. Refer to the pump selection guide and motor selection chart for specific applications. The pedestal models may be ordered separately or with the proper motor. For direct mounting of pumps, choose at least one 5/8" coupling body from Page 357. See page 3124 for mounting base.

To be used in chemical processing, utility, boiler feed, general transfer, filtration, cooling towers, condensate return, marine applications, fountains and boosters.

Higher performance and maximum features at a good price.

Made in USA

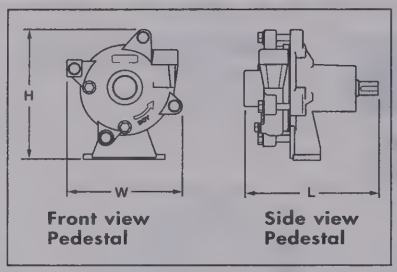
## MOTOR SELECTION GUIDE FOR PUMPS LESS MOTOR

| Motor Enclosure and Phase | Phase | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP |
|---|---|---|---|---|---|---|---|---|
| ODP | 1 | 6K695 | 6K704 | 3K983 | 6K709 | 5K475 | 5K475 | — |
| ODP with base | 1 | 6K578 | 6K580 | 6K581 | 6K582 | 6K516 | 4K122 | — |
| ODP with base | 3 | — | — | 3N088 | — | 3N090 | — | — |
| TEFC | 3 | — | 3N723 | 3N724 | 3N725 | 3N729 | 3N727 | 3N718 |
| TEFC with base | 3 | — | 3N680 | 3N234 | 3N235 | 3N236 | 3N681 | 3N682 |

## CROSS REFERENCE

| Former Grainger Pump Stock No. | New Grainger Pump Stock No. | Former Grainger Pump Stock No. | New Grainger Pump Stock No. | Former Grainger Pump Stock No. | New Grainger Pump Stock No. |
|---|---|---|---|---|---|
| 1P831 | 4RH55 | 1P792 | 4RH45 | 1V273 | 4RH87 |
| 1P832 | 4RH57 | 1P793 | 4RH49 | 1V275 | 4RH81 |
| 1P833 | 4RH58 | 1P796A | 4RH92 | 1V277 | 4RH80 |
| 1P834 | 4RH61 | 1P797A | 4RH93 | 1V279 | 4RH82 |
| 1P835 | 4RH62 | 1P798A | 4RH94 | 1V281 | 4RJ11 |
| 1P836 | 4RH59 | 1V258 | 4RH78 | 1V283 | 4RH83 |
| 1P837 | 4RH63 | 1V261 | 4RJ10 | 2P498 | 4RH42 |
| 1P787 | 4RH41 | 1V263 | 4RH79 | 2P499 | 4RH46 |
| 1P788 | 4RH43 | 1V265 | 4RH85 | 2P500 | 4RH50 |
| 1P789 | 4RH44 | 1V267 | 4RH84 | 2P501 | 4RH56 |
| 1P790 | 4RH47 | 1V269 | 4RH86 | 2P502 | 4RH60 |
| 1P791 | 4RH48 | 1V271 | 4RJ12 | 2P503 | 4RH64 |

# 1/3 TO 3 HP STRAIGHT CENTRIFUGAL PUMPS

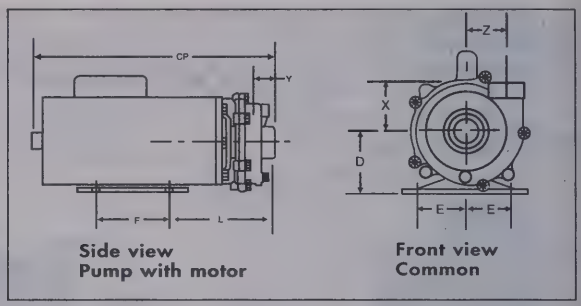



Front view Pedestal

Side view Pedestal

TEEL®

New




Side view Pump with motor

Front view Common

## PUMP DIMENSIONS AND ORDERING DATA

| Stock No. Cast Iron | Stock No. Bronze | Stock No. SS* | HP | Motor Type | Dimensions (In.) CP** | D | E | F | L | X | Y | Z | GPM @ Total Feet Head 10 | 15 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | Max. Head (Ft.) | Max. PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4RH55 | 4RH41 | 4RH78 | 1/3 | Split Phase | 12 25/32 | 3½ | 2 7/16 | 3 | 6¼ | 1⅞ | 1 7/16 | 1⅞ | 40.6 | 37 | 33.5 | 24.5 | 9.5 | — | — | — | — | 44 | 19.0 |
| 4RH57 | 4RH43 | 4RH80 | 1/2 | Capacitor | 13 3/16 | 3½ | 2 7/16 | 3 | 6 5/16 | 2⅜ | 1 7/16 | 2 1/16 | 55 | 50 | 44.5 | 33 | 10 | — | — | — | — | 42 | 18.2 |
| 4RH58 | 4RH44 | 4RH81 | 3/4 | Capacitor | 13 3/16 | 3½ | 2 7/16 | 3 | 6 5/16 | 2⅜ | 1 7/16 | 2 1/16 | 72 | 68 | 63 | 53 | 40.5 | 22 | — | — | — | 55 | 23.8 |
| 4RH61 | 4RH47 | 4RH84 | 1 | Capacitor | 14⅝ | 3½ | 2 7/16 | 3 | 6 5/16 | 2½ | 1¼ | 2 1/32 | 108 | 104 | 98 | 86 | 71 | 47 | — | — | — | 58 | 25.1 |
| 4RH62 | 4RH48 | 4RH85 | 1½ | Capacitor | 13¼ | 3½ | 2 7/16 | 3 | 6 5/16 | 2½ | 1¼ | 2 1/32 | 115 | 110 | 104 | 94 | 81 | 64 | 40 | — | — | 67 | 29.0 |
| 4RH59 | 4RH45 | 4RH82 | 3/4 | 3-Phase | 12⅝ | 3½ | 2 7/16 | 3 | 6 5/16 | 2⅜ | 1 7/16 | 2 1/16 | 72 | 68 | 63 | 53 | 40.5 | 22 | — | — | — | 55 | 23.8 |
| 4RH63 | 4RH49 | 4RH86 | 1½ | 3-Phase | 13½ | 3½ | 2 7/16 | 3 | 6 5/16 | 2½ | 1¼ | 2 1/32 | 115 | 110 | 104 | 94 | 81 | 64 | 40 | — | — | 67 | 29.0 |
| 4RH65 | 4RH51 | 4RH88 | 2 | 3-Phase | 14 3/16 | 3½ | 2 7/16 | 3 | 7⅛ | 3½ | 1 9/16 | 2⅜ | 123.5 | 117 | 110 | 95 | 80 | 74 | 60 | 34 | — | 80 | 34.6 |
| 4RH67 | 4RH53 | 4RH90 | 3 | 3-Phase | 14 3/16 | 3½ | 7 1/16 | 3 | 7⅛ | 3½ | 1 9/16 | 2⅜ | 168 | 164 | 155 | 148 | 137 | 124 | 110 | 80 | 40 | 83 | 35.9 |
| 4RH56 | 4RH42 | 4RH79 | 1/3† | Head Only | 5 13/16 High x 5 13/16 Wide x 3 25/32 Long | | | | | | | | 40.6 | 37 | 33.5 | 24.5 | 9.5 | — | — | — | — | 44 | 19.0 |
| 4RH60 | 4RH46 | 4RH83 | 3/4† | Head Only | 6⅝ High x 6⅝ Wide x 3¾ Long | | | | | | | | 72 | 68 | 63 | 53 | 40.5 | 22 | — | — | — | 55 | 23.8 |
| 4RH64 | 4RH50 | 4RH87 | 1½† | Head Only | 16 11/32 High x 7 1/16 Wide x 3 29/32 Long | | | | | | | | 115 | 110 | 104 | 94 | 81 | 64 | 40 | — | — | 67 | 29.0 |
| 4RH66 | 4RH52 | 4RH89 | 2† | Head Only | 6 13/16 High x 7 15/32 Wide x 7 15/32 Long | | | | | | | | 123.5 | 117 | 110 | 95 | 80 | 74 | 60 | 34 | — | 80 | 34.6 |
| 4RH68 | 4RH54 | 4RH91 | 3† | Head Only | 6 13/16 High x 7 13/32 Wide x 7 21/32 Long | | | | | | | | 168 | 164 | 155 | 148 | 137 | 124 | 110 | 80 | 40 | 83 | 35.9 |
| — | 4RH92 | 4RJ10 | 1/3 | Pedestal | 6 11/32 High x 5 11/16 Wide x 6⅝ Long | Shaft: 3½ OC 5/8 Dia | | | | | | | 40.6 | 37 | 33.5 | 24.5 | 9.5 | — | — | — | — | 44 | 19.0 |
| — | 4RH93 | 4RJ11 | 3/4 | Pedestal | 6 13/16 High x 6 ⅝ Wide x 6⅝ Long | Shaft: 3½ OC 5/8 Dia | | | | | | | 72 | 68 | 63 | 53 | 40.5 | 22 | — | — | — | 55 | 23.8 |
| — | 4RH94 | 4RJ12 | 1½ | Pedestal | 6 21/32 High x 7 1/16 Wide x 6¾ Long | Shaft: 3½ OC 5/8 Dia | | | | | | | 115 | 110 | 104 | 94 | 81 | 64 | 40 | — | — | 67 | 29.0 |
| — | 4RH95 | 4RJ13 | 2 | Pedestal | 7 5/32 High x 7 13/32 Wide x 7¾ Long | Shaft: 3½ OC 5/8 Dia | | | | | | | 123.5 | 117 | 110 | 95 | 80 | 74 | 60 | 34 | — | 80 | 34.6 |
| — | 4RH96 | 4RJ14 | 3 | Pedestal | 7 5/32 High x 7 11/32 Wide x 7 11/16 Long | Shaft: 3½ OC 5/8 Dia | | | | | | | 168 | 164 | 155 | 148 | 137 | 124 | 110 | 80 | 40 | 83 | 35.9 |

(*) SS=Stainless steel. (**) Dimensions may vary due to motor manufacturers specifications
(†) HP required to drive pump head. Select proper base-mounted NEMA 56J, 3450 RPM jet pump motor

## New! PUMP SELECTION AND ORDERING DATA

| HP | Motor Type | Volts 60 HZ | Inlet (In.) | Outlet (In.) | CAST IRON New! Stock No. | List | Each | Shpg Wt. | BRONZE New! Stock No. | List | Each | Shpg Wt. | STAINLESS STEEL New! Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | Split Phase | 115 | 1 | 3/4 | 4RH55 | $275.45 | $196.75 | 23.0 | 4RH41 | $344.05 | $245.75 | 24.0 | 4RH78 | $419.51 | $310.75 | 23.0 |
| 1/2 | Capacitor | 115/230 | 1¼ | 1 | 4RH57 | 308.35 | 220.25 | 26.0 | 4RH43 | 383.95 | 274.25 | 28.0 | 4RH80 | 478.23 | 354.25 | 27.0 |
| 3/4 | Capacitor | 115/230 | 1¼ | 1 | 4RH58 | 335.65 | 239.75 | 28.0 | 4RH44 | 406.35 | 290.25 | 30.0 | 4RH81 | 504.56 | 373.75 | 29.0 |
| 1 | Capacitor | 115/230 | 1½ | 1¼ | 4RH61 | 360.15 | 257.25 | 34.0 | 4RH47 | 443.45 | 316.75 | 36.0 | 4RH84 | 540.00 | 400.00 | 35.0 |
| 1½ | Capacitor | 115/230 | 1½ | 1¼ | 4RH62 | 431.55 | 308.25 | 38.0 | 4RH48 | 516.60 | 369.00 | 40.0 | 4RH85 | 556.20 | 412.00 | 38.0 |
| 3/4 | 3-Phase | 208-220/440 | 1¼ | 1 | 4RH59 | 348.25 | 248.75 | 28.0 | 4RH45 | 426.30 | 304.50 | 30.0 | 4RH82 | 542.02 | 401.50 | 29.0 |
| 1½ | 3-Phase | 208-220/440 | 1½ | 1¼ | 4RH63 | 465.85 | 332.75 | 38.0 | 4RH49 | 550.55 | 393.25 | 40.0 | 4RH86 | 632.47 | 468.50 | 38.0 |
| 2 | 3-Phase | 208-220/440 | 1½ | 1¼ | 4RH65 | 966.00 | 690.00 | 68.0 | 4RH51 | 980.00 | 700.00 | 56.0 | 4RH88 | 1196.10 | 886.00 | 56.0 |
| 3 | 3-Phase | 208-220/440 | 2 | 1½ | 4RH67 | 966.00 | 690.00 | 68.0 | 4RH53 | 1071.00 | 765.00 | 68.0 | 4RH90 | 1338.52 | 991.50 | 69.0 |
| 1/3*** | Head Only | — | 1 | 3/4 | 4RH56 | 132.02 | 94.30 | 8.8 | 4RH42 | 194.60 | 139.00 | 11.0 | 4RH79 | 255.15 | 189.00 | 9.3 |
| 3/4*** | Head Only | — | 1½ | 1 | 4RH60 | 136.43 | 97.45 | 9.8 | 4RH46 | 213.50 | 152.50 | 12.0 | 4RH83 | 286.53 | 212.25 | 11.0 |
| 1½*** | Head Only | — | 1½ | 1¼ | 4RH64 | 141.40 | 101.00 | 13.0 | 4RH50 | 221.90 | 158.50 | 15.0 | 4RH87 | 314.55 | 233.00 | 13.0 |
| 2 *** | Head Only | — | 1½ | 1¼ | 4RH66 | 273.00 | 195.00 | 15.0 | 4RH52 | 392.00 | 280.00 | 17.0 | 4RH89 | 594.67 | 440.50 | 17.0 |
| 3 *** | Head Only | — | 2 | 1½ | 4RH68 | 280.00 | 200.00 | 19.0 | 4RH54 | 420.00 | 300.00 | 18.0 | 4RH91 | 664.53 | 492.25 | 19.0 |
| 1/3 | Pedestal | — | 1 | 3/4 | — | — | — | — | 4RH92 | 187.92 | 139.20 | 11.0 | 4RJ10 | 297.00 | 220.00 | 9.3 |
| 3/4 | Pedestal | — | 1¼ | 1 | — | — | — | — | 4RH93 | 238.61 | 176.75 | 12.0 | 4RJ11 | 317.25 | 235.00 | 11.0 |
| 1½ | Pedestal | — | 1½ | 1¼ | — | — | — | — | 4RH94 | 250.76 | 185.75 | 15.0 | 4RJ12 | 329.40 | 244.00 | 13.0 |
| 2 | Pedestal | — | 1½ | 1¼ | — | — | — | — | 4RH95 | 405.00 | 300.00 | 17.0 | 4RJ13 | 553.50 | 410.00 | 17.0 |
| 3 | Pedestal | — | 2 | 1½ | — | — | — | — | 4RH96 | 499.50 | 370.00 | 19.0 | 4RJ14 | 688.50 | 510.00 | 19.0 |

(***) HP required to drive pump head. Select proper base-mounted NEMA 56J, 3450 RPM jet pump motor or No. 2P486 pump pedestal.

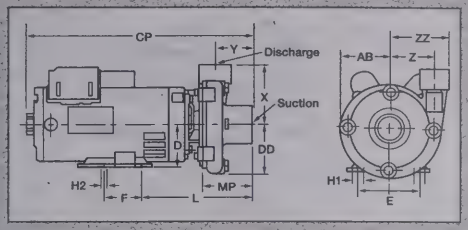
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

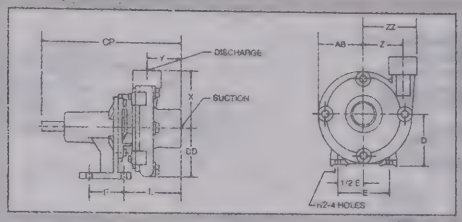
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

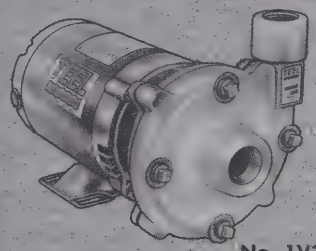


*If we don't have a pump for it, chances are it can't be pumped.*

# 1/2 TO 3 HP STAINLESS STEEL HIGH HEAD STRAIGHT CENTRIFUGAL PUMPS



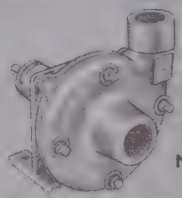



No. 1V300

TEEL®

Replacement Parts Available 1-800-323-0620

- Enclosed impellers
- Delivers pressures to over 60 PSI
- 1¼ x 1" & 1½ x 1¼" NPT
- All 316 stainless steel two piece construction
- Type 21 mechanical seal with carbon/ceramic, Viton, and stainless steel parts



No. 1V312

Pedestal Pump

Repair Service Available Contact Your Local Branch

- **Single and three-phase ODP 3450 RPM motors**
- **All units with motors are close-coupled designs**
- **Viton O-ring casing seal with 302 stainless steel spring**
- **Front drain plugs**
- **Discharge port rotates in 90° increments**
- **Permanently lubricated and sealed ball bearings**

**or continuous-duty high pressure** applications. Uses include liquid transfer, cooling, ressure boosting and circulating. 'edestal pumps are for direct or belt drive rom 3/4" diameter 303 stainless steel haft. Shaft key dimensions: 3/16 x 3/16 x ".

**esigned for use with** nonflammable liquids /hich are compatible with pump compoent materials.

**emperature range** is 40° to 200°F. laximum casing pressure is 150 PSI. Units re not self-priming. Teel brand.

## PUMP PERFORMANCE

| HP | Stock No. | GPM of Water at Total Feet of Head 10′ | 20′ | 50′ | 70′ | 90′ | 110′ | 130′ | Max.* Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1V304, 1V306 | 48 | 45 | 32 | 30 | — | — | — | 85 |
| 3/4 | 1V308, 1V310 | 52 | 48 | 36 | 27 | 11 | — | — | 96 |
| 1 | 1V300, 1V302 | 61 | 56 | 45 | 35 | 23 | — | — | 112 |
| 1½ | 1V318, 1V320 | 94 | 90 | 71 | 55 | 32 | — | — | 110 |
| 2 | 1V322, 1V324 | 106 | 102 | 88 | 80 | 55 | 32 | 2 | 131 |
| 3 | 1V314, 1V316 | 118 | 114 | 98 | 84 | 70 | 49 | 26 | 148 |

(*) Shut off; to convert to PSI divide by 2.31

## PEDESTAL PUMP PERFORMANCE

| Port Size (In.) | Stock No. | Pump RPM | HP Required | GPM of Water @ Total Feet of Head 10′ | 20′ | 40′ | 60′ | 80′ | 100′ | 120′ | Max.* Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1¼ x 1 | 1V312 | 3450 | 1½ | 59 | 56 | 48 | 40 | 29 | 15 | – | 112 |
| | | 2800 | 3/4 | 47 | 43 | 32 | 18 | – | – | – | 75 |
| | | 2300 | 1/2 | 37 | 31 | 14 | – | – | – | – | 50 |
| | | 1725 | 1/4 | 23 | 14 | – | – | – | – | – | 28 |
| 1½ x 1¼ | 1V326 | 3450 | 5 | 118 | 113 | 102 | 90 | 77 | 61 | 42 | 148 |
| | | 2800 | 2 | 92 | 85 | 71 | 54 | 30 | – | – | 95 |
| | | 2300 | 1 | 73 | 64 | 44 | 12 | – | – | – | 64 |
| | | 1725 | 1/2 | 52 | 39 | – | – | – | – | – | 35 |

(*) Shut off; to convert to PSI divide by 2.31

## CLOSE-COUPLED CENTRIFUGAL PUMP ORDERING DATA

| HP | Phase | Volts | Inlet (In.) | Outlet (In.) | Dimensions (In.) # AB | CP† | D | DD | E | F | H1 | H2 | L | X | Y | Z | ZZ | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1 | 115/230 | 1¼ | 1 | 3 9/16 | 13 | 3½ | 3 23/32 | 4 7/8 | 3 | 7/8 | 11/32 | 7 23/64 | 4 51/64 | 2 5/32 | 3 23/64 | 4 57/64 | 1V304 | $555.08 | $427.50 | 43.0 |
| 1/2 | 3 | 230/460 | 1¼ | 1 | 3 9/16 | 13½ | 3½ | 3 23/32 | 4 7/8 | 3 | 7/8 | 11/32 | 7 23/64 | 4 51/64 | 2 5/32 | 3 23/64 | 4 57/64 | 1V306 | 594.58 | 457.75 | 43.0 |
| 3/4 | 1 | 115/230 | 1¼ | 1 | 3 9/16 | 13½ | 3½ | 3 23/32 | 4 7/8 | 3 | 7/8 | 11/32 | 7 23/64 | 4 51/64 | 2 5/32 | 3 23/64 | 4 57/64 | 1V308 | 577.95 | 444.75 | 44.0 |
| 3/4 | 3 | 230/460 | 1¼ | 1 | 3 9/16 | 13¾ | 3½ | 3 23/32 | 4 7/8 | 3 | 7/8 | 11/32 | 7 23/64 | 4 51/64 | 2 5/32 | 3 23/64 | 4 57/64 | 1V310 | 610.18 | 470.00 | 44.0 |
| 1 | 1 | 115/230 | 1¼ | 1 | 3 9/16 | 15¾ | 3½ | 3 23/32 | 4 7/8 | 3 | 7/8 | 11/32 | 7 23/64 | 4 51/64 | 2 5/32 | 3 23/64 | 4 57/64 | 1V300 | 595.61 | 458.75 | 47.0 |
| 1 | 3 | 230/460 | 1¼ | 1 | 3 9/16 | 14 | 3½ | 3 23/32 | 4 7/8 | 3 | 7/8 | 11/32 | 7 23/64 | 4 51/64 | 2 5/32 | 3 23/64 | 4 57/64 | 1V302 | 640.33 | 492.75 | 45.0 |
| 1½ | 1 | 115/230 | 1½ | 1¼ | 3 15/16 | 15 | 3½ | 4 3/64 | 4 7/8 | 3 | 7/8 | 11/32 | 8 7/8 | 4 15/16 | 3 | 3 49/64 | 4 49/64 | 1V318 | 723.45 | 557.50 | 57.0 |
| 1½ | 3 | 230/460 | 1½ | 1¼ | 3 15/16 | 15¼ | 3½ | 4 3/64 | 4 7/8 | 3 | 7/8 | 11/32 | 8 7/8 | 4 15/16 | 3 | 3 49/64 | 4 49/64 | 1V320 | 788.99 | 607.50 | 54.0 |
| 2 | 1 | 115/230 | 1½ | 1¼ | 3 15/16 | 15¾ | 3½ | 4 3/64 | 4 7/8 | 3 | 7/8 | 11/32 | 8 7/8 | 4 15/16 | 3 | 3 49/64 | 4 49/64 | 1V322 | 779.57 | 601.00 | 63.0 |
| 2 | 3 | 230/460 | 1½ | 1¼ | 3 15/16 | 15¾ | 3½ | 4 3/64 | 4 7/8 | 3 | 7/8 | 11/32 | 8 7/8 | 4 15/16 | 3 | 3 49/64 | 4 49/64 | 1V324 | 816.00 | 629.00 | 58.0 |
| 3 | 1 | 230 | 1½ | 1¼ | 3 15/16 | 16 55/64 | 3½ | 4 1/64 | 4 7/8 | 3 | 7/8 | 11/32 | 8 7/8 | 4 15/16 | 3 | 3 49/64 | 4 49/64 | 1V314 | 862.75 | 664.50 | 69.0 |
| 3 | 3 | 230/460 | 1½ | 1¼ | 3 15/16 | 16 5/8 | 3½ | 4 3/64 | 4 7/8 | 3 | 7/8 | 11/32 | 8 7/8 | 4 15/16 | 3 | 3 49/64 | 4 49/64 | 1V316 | 900.22 | 693.50 | 64.0 |

## PEDESTAL PUMPS ORDERING DATA

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pedestal Pump | 1¼ | 1 | 3 35/64 | 11 35/64 | 4½ | 3 21/64 | 4 1/2 | 3 | — | 1/2" | 4 5/8 | 4 39/64 | 2 5/32 | 3 25/64 | 4 13/32 | 1V312 | 589.14 | 454.25 | 34.0 |
| Pedestal Pump | 1½ | 1¼ | 3 15/16 | 12 11/64 | 4½ | 3 5/8 | 4½ | 3 | — | 1/2" | 4 65/64 | 4 39/64 | 3 | 3 49/64 | 4 49/64 | 1V326 | 625.84 | 481.50 | 36.0 |

) This dimension will vary on nonpedestal pump units due to motor manufacturer's specifications. Pedestal pump shaft length: 1.97"
) All dimensions have a tolerance of ± 0.13. Frame size 56J. (*) Diameter of holes.

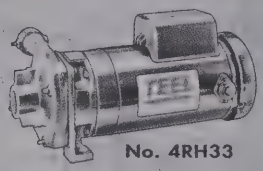
# 1/2 TO 3 HP CAST IRON HIGH HEAD STRAIGHT CENTRIFUGAL PUMPS

TEEL®

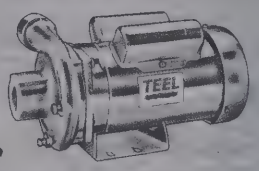
New

E61535 LR47013

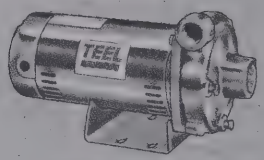
Nos. 4RJ58, 4RJ60, 4RJ62, 4RJ64, 4RJ70, 4RJ72, 4RJ74, and 4RJ76 only



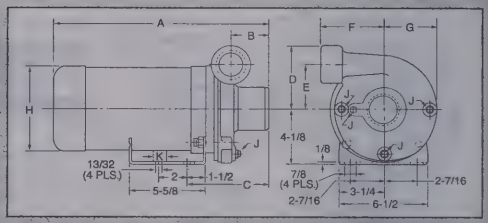
No. 4RH33



No. 4RJ79



No. 4RJ74




- Close-grained cast iron body and seal plate
- Pressures to over 60 PSI
- Close-coupled design
- Easy access drain plugs
- Discharge port rotates in 90° increments
- Heavy gauge motor base
- Available with silicon brass or Noryl® plastic impellers

Designed for continuous duty applications. Use includes liquid transfer, cooling, pressure boosting, and circulating. Pumps with Noryl® impellers are abrasion-resistant for normal applications with working temperatures to 140°F. Pumps with silicon brass impellers are rated for temperatures to 225°F. Maximum working pressure is 125 PSI. Units with single and three-phase motors available. Permanently lubricated and sealed ball bearings. Designed for use with nonflammable liquids which are compatible with pump components.

## PUMP PERFORMANCE

| HP | Stock No. | GPM of Water at Total Feet of Head 10 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | Max Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 4RJ70, 4RJ58, 4RJ71, 4RJ59 | * | 37 | 31 | 19 | — | — | — | — | 83 |
| 3/4 | 4RJ72, 4RJ60, 4RJ73, 4RJ61 | * | 46 | 40 | 31 | 21 | — | — | — | 100 |
| 1 | 4RJ74, 4RJ62, 4RJ75, 4RJ63 | * | 60 | 53 | 45 | 36 | 22 | — | — | 113 |
| 1½ | 4RJ76, 4RJ64, 4RJ77, 4RJ65 | * | 70 | 66 | 57 | 48 | 35 | — | — | 118 |
| 2 | 4RJ79, 4RJ67, 4RJ78, 4RJ66 | * | 83 | 76 | 67 | 55 | 41 | 22 | — | 131 |
| 2½ | 4RJ81, 4RJ69, 4RJ80, 4RJ68 | * | 92 | 85 | 77 | 67 | 53 | 37 | — | 142 |
| 3 | 4RH33, 4RH34 | * | * | * | * | * | 68 | 55 | 38 | 148 |

(*) Operating pump at or below indicated levels is not recommended and can cause motor overheat

## *New!* CLOSE-COUPLED CENTRIFUGAL PUMP ORDERING DATA

| HP | Motor Encl. | Phase | Volts | Inlet | Outlet | Dimensions (In.) A | B | C | D | E | F | G | H | Npt J | Dia. K | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SILICON BRASS IMPELLER** | | | | | | | | | | | | | | | | | | | |
| **1/2** | ODP | 1 | 115/230 | 1¼ | 1 | 13 | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ58** | $371.80 | **$286.00** | 32.0 |
| **1/2** | ODP | 3 | 208-230/460 | 1¼ | 1 | 13⅝ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ59** | 381.22 | **293.25** | 31.0 |
| **3/4** | ODP | 1 | 115/230 | 1¼ | 1 | 13⅜ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ60** | 401.05 | **308.50** | 34.0 |
| **3/4** | ODP | 3 | 208-230/460 | 1¼ | 1 | 13⅝ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ61** | 410.15 | **315.50** | 32.0 |
| **1** | ODP | 1 | 115/230 | 1¼ | 1 | 13⅞ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ62** | 434.52 | **334.25** | 38.0 |
| **1** | ODP | 3 | 208-230/460 | 1¼ | 1 | 13⅞ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ63** | 436.47 | **335.75** | 35.0 |
| **1½** | ODP | 1 | 115/230 | 1¼ | 1 | 14¾ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ64** | 474.50 | **365.00** | 42.0 |
| **1½** | ODP | 3 | 208-230/460 | 1¼ | 1 | 14⅝ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ65** | 486.20 | **374.00** | 39.0 |
| **2** | TEFC | 1 | 230 | 1½ | 1¼ | 16¾ | 2 13/16 | 6 5/16 | 4 27/32 | 3 13/32 | 4⅝ | 4 | 6 7/16 | 1/4 | 3/8 | **4RJ67** | 802.75 | **617.50** | 63.0 |
| **2** | TEFC | 3 | 208-230/460 | 1½ | 1¼ | 17 | 2 13/16 | 6 5/16 | 4 27/32 | 3 13/32 | 4⅝ | 4 | 6 7/16 | 1/4 | 3/8 | **4RJ66** | 826.80 | **636.00** | 57.0 |
| **2½** | TEFC | 1 | 230 | 2 | 1½ | 17¾ | 2 13/16 | 6 5/16 | 4 27/32 | 3 13/32 | 4⅝ | 4 | 6 7/16 | 1/4 | 3/8 | **4RJ69** | 897.00 | **690.00** | 67.0 |
| **2½** | TEFC | 3 | 208-230/460 | 2 | 1½ | 17¼ | 2 13/16 | 6 5/16 | 4 27/32 | 3 13/32 | 4⅝ | 4 | 6 7/16 | 1/4 | 3/8 | **4RJ68** | 919.75 | **707.50** | 60.0 |
| **3** | TEFC | 1 | 230 | 1½ | 1¼ | 16 15/16 | 5 | 10 | 5¼ | 6 | 5 | 4⅛ | 6 7/16 | 1/4 | — | **4RH33** | 1270.00 | **1016.00** | 76.0 |
| **3** | TEFC | 3 | 208-230/460 | 1½ | 1¼ | 16 15/16 | 5 | 10 | 5¼ | 6 | 5 | 4⅛ | 6 7/16 | 1/4 | — | **4RH34** | 879.37 | **703.50** | 71.0 |
| **NORYL IMPELLER** | | | | | | | | | | | | | | | | | | | |
| **1/2** | ODP | 1 | 115/230 | 1¼ | 1 | 13 | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ70** | 353.27 | **271.75** | 38.0 |
| **1/2** | ODP | 3 | 208-230/460 | 1¼ | 1 | 13⅝ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ71** | 364.32 | **280.25** | 30.0 |
| **3/4** | ODP | 1 | 115/230 | 1¼ | 1 | 13⅜ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ72** | 386.10 | **297.00** | 32.0 |
| **3/4** | ODP | 3 | 208-230/460 | 1¼ | 1 | 13⅝ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ73** | 396.17 | **304.75** | 31.0 |
| **1** | ODP | 1 | 115/230 | 1¼ | 1 | 13⅞ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ74** | 422.17 | **324.75** | 34.0 |
| **1** | ODP | 3 | 208-230/460 | 1¼ | 1 | 13⅞ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ75** | 425.42 | **327.25** | 34.0 |
| **1½** | ODP | 1 | 115/230 | 1¼ | 1 | 14¾ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ76** | 466.37 | **358.75** | 38.0 |
| **1½** | ODP | 3 | 208-230/460 | 1¼ | 1 | 14⅝ | 2 1/16 | 5 5/16 | 4½ | 3 7/16 | 3⅜ | 3 15/16 | 5⅝ | 1/4 | 3/8 | **4RJ77** | 479.05 | **368.50** | 34.0 |
| **2** | TEFC | 1 | 230 | 1½ | 1¼ | 16¾ | 2 13/16 | 6 5/16 | 4 27/32 | 3 13/32 | 4⅝ | 4 | 6 7/16 | 1/4 | 3/8 | **4RJ79** | 828.10 | **637.00** | 63.0 |
| **2** | TEFC | 3 | 208-230/460 | 1½ | 1¼ | 17 | 2 13/16 | 6 5/16 | 4 27/32 | 3 13/32 | 4⅝ | 4 | 6 7/16 | 1/4 | 3/8 | **4RJ78** | 854.75 | **657.50** | 57.0 |
| **2½** | TEFC | 1 | 230 | 2 | 1½ | 17¾ | 2 13/16 | 6 5/16 | 4 27/32 | 3 13/32 | 4⅝ | 4 | 6 7/16 | 1/4 | 3/8 | **4RJ81** | 932.10 | **717.00** | 66.0 |
| **2½** | TEFC | 3 | 208-230/460 | 2 | 1½ | 17¼ | 2 13/16 | 6 5/16 | 4 27/32 | 3 13/32 | 4⅝ | 4 | 6 7/16 | 1/4 | 3/8 | **4RJ80** | 956.15 | **735.50** | 59.0 |

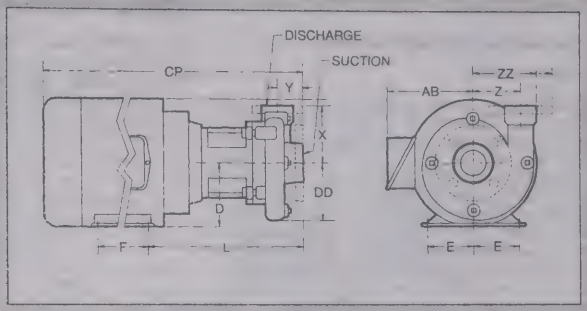


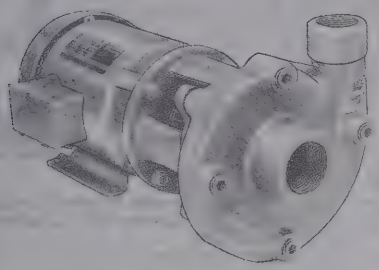
*If we don't have a pump for it, chances are it can't be pumped.*

# 2 TO 15 HP, THREE-PHASE STRAIGHT CENTRIFUGAL PUMPS

TEEL®

Replacement Parts Available
1-800-323-0620



No 3P604

Repair Service Available
Contact Your Local Branch



No. 3P605

- High flow or high head units
- Naval bronze or bronze fitted cast iron construction
- Self-cleaning semi-open bronze impellers

FREE DELIVERY on orders of $900 or more
See Freight Policy

**Description:** Industrial close-coupled pumps are suited for liquid transfer, heating and cooling, recirculation, booster service, and other industrial applications. Naval bronze units are suited for salt water handling and sized for salt water (specific gravity 1.03). Semi-open impeller features self-cleaning ability that makes the unit useful in applications involving muddy or dirty liquids, as well as clean, clear fluids. Discharge position can be adjusted in 90° increments, with vent and drain plugs for all positions. Maximum case pressure 100 PSI; temperature range 40 to 160°F. For use with nonflammable liquids compatible with pump component materials. Pumps are not self priming, and require flooded suction.

**Construction:** Dual volute casing on all pumps except No. 4P939. Large peripheral chamber permits ample circulation around the seal faces. Built-in seal wash on naval bronze units retards salt crystallization on seal faces. Cast iron or naval bronze casing and adapter, bronze impeller. Mechanical seal has stainless steel and Buna N parts; carbon/ceramic faces.

**Driver:** NEMA JM shaft integral motors. TEFC 3600 RPM, 3-phase, 230/460V, 60 Hz (190/380V, 50 Hz). See table below for HP. Teel brand.

## PUMP PERFORMANCE—HIGH FLOW PUMP*

| HP | Stock No. | GPM of Water at Total Feet of Head 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | NPSHR‡ | Max** Head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 3P604 | 170 | 150 | 130 | 100 | 65 | 25 | — | — | — | — | — | 23 | 62 Ft. |
| 3 | 3P605, 3P606 | * | * | 165 | 145 | 125 | 95 | 60 | 15 | — | — | — | 22 | 82 |
| 5 | 3P607, 3P608, 3P737 | * | * | * | * | 200 | 185 | 165 | 145 | 120 | 90 | 50 | 25 | 115 |
| 7½ | 3P663 | * | * | * | 425 | 385 | 340 | 285 | 200 | 75 | — | — | 23 | 94 |
| 10 | 3P664, 3P738 | * | * | * | 500 | 450 | 385 | 340 | 270 | 165 | — | — | 25 | 98 |

## PUMP PERFORMANCE—HIGH HEAD MODELS*

| HP | Stock No. | GPM of Water at Total Feet of Head 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | NPSHR‡ | Max** Head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7½ | 4P939 | * | 207 | 196 | 178 | 158 | 130 | 92 | 40 | — | 19 | 170 Ft. |
| 10 | 4P940 | * | * | * | 333 | 280 | 210 | 100 | — | — | 16 | 145 |
| 15 | 4P941 | * | * | * | 385 | 345 | 305 | 255 | 196 | 115 | 22 | 194 |

(*) Operation of pumps out of performance ranges indicated will result in reduced pump life and/or motor damage.
(**) Shut-off; to convert to PSI, divide by 2.31. (‡) NPSHR: Net Positive Suction Head Required by pump in feet of water at GPM indicated, under flooded suction conditions. Insufficient NPSH can cause pump cavitation, resulting in a noisy pump and reduced pump life.

| HP | Connection | Construction | Inlet (In.) | Outlet (In.) | Dimensions (In.) AB | CP | D | DD | E | F | L | X | Y | Z | ZZ | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | NPT | CI/BR† | 2 | 1½ | 5⅞ | 18½ | 3½ | 4⅝ | 2⅜ | 5 | 11 | 4¹⁄₁₆ | 2½ | 4 | 5¼ | 3P604 | $1098.03 | $675.50 | 75.0 |
| 3 | Flange* | CI/BR† | 2 | 1½ | 7¹⁄₁₆ | 20¼ | 4½ | 4⅝ | 3⅜ | 4½ | 11¾ | 4¹⁄₁₆ | 2½ | 4 | 6½ | 3P605 | 1303.95 | 825.00 | 109.0 |
| 3 | NPT | CI/BR† | 2 | 1½ | 7¹⁄₁₆ | 20¼ | 4½ | 4⅝ | 3¾ | 4½ | 11¾ | 4¹⁄₁₆ | 2½ | 4 | 6½ | 3P606 | 1222.60 | 750.50 | 100.0 |
| 5 | Flange* | CI/BR† | 2 | 1½ | 7¹⁄₁₆ | 21¹¹⁄₁₆ | 4½ | 4⅝ | 3¾ | 5½ | 11¾ | 4¹⁄₁₆ | 2½ | 4 | 6½ | 3P607 | 1403.95 | 914.00 | 112.0 |
| 5 | NPT | CI/BR† | 2 | 1½ | 7¹⁄₁₆ | 21¹¹⁄₁₆ | 4½ | 4⅝ | 3¾ | 5½ | 11¾ | 4¹⁄₁₆ | 2½ | 4 | 6½ | 3P608 | 1337.20 | 888.50 | 113.0 |
| 5 | NPT | Naval Bronze | 2 | 1½ | 7¹⁄₁₆ | 21¹¹⁄₁₆ | 4½ | 4⅝ | 3¾ | 5½ | 11¾ | 4¹⁄₁₆ | 2½ | 4 | 6½ | 3P737 | 1158.05 | 1105.00 | 110.0 |
| 7½ | NPT | CI/BR† | 2 | 1½ | 7¹⁄₁₆ | 21⁷⁄₁₆ | 4½ | 5⅝ | 3¾ | 5½ | 11⁷⁄₁₆ | 5½ | 2⅝ | 4¹³⁄₁₆ | 6¾ | 4P939 # | 1714.67 | 1134.00 | 106.0 |
| 7½ | NPT | CI/BR† | 2 | 1½ | 7¹⁄₁₆ | 21⁷⁄₁₆ | 4½ | 5⅝ | 3¾ | 5½ | 11⁷⁄₁₆ | 5½ | 2⅝ | 4¹³⁄₁₆ | 6¾ | 3P663 | 1775.67 | 1179.00 | 130.0 |
| 10 | NPT | CI/BR† | 3 | 2 | 7¹⁄₁₆ | 22½ | 4½ | 5⅝ | 3¾ | 5½ | 12½ | 6½ | 2¾ | 4⅝ | 6¾ | 4P940 # | 1836.36 | 1193.00 | 117.0 |
| 10 | NPT | CI/BR† | 3 | 2 | 7¹⁄₁₆ | 22½ | 4½ | 5⅝ | 3¾ | 5½ | 12½ | 6½ | 2¾ | 4⅝ | 6¾ | 3P664 | 1755.07 | 1173.00 | 124.0 |
| 10 | NPT | Naval Bronze | 3 | 3 | 7¹⁄₁₆ | 22½ | 4½ | 5⅝ | 3¾ | 5½ | 12½ | 6½ | 2¾ | 4⅝ | 6¾ | 3P738 | 1584.66 | 1462.00 | 175.0 |
| 15 | NPT | CI/BR† | 3 | 2 | 7¹⁄₁₆ | 21¹¹⁄₁₆ | 4½ | 5⅝ | 3¾ | 5½ | 11¹¹⁄₁₆ | 5 | 2⅜ | 4¼ | 6¼ | 4P941 # | 2164.71 | 1430.00 | 192.0 |

(*) STD 125 PSI cast iron flanges. (†) Cast iron casing and cover with bronze impeller. (#) High head models.

# PUMP PEDESTALS AND MOUNTING BASES

## TEEL PUMP PEDESTALS

- **Sealed-for-life ball bearings**
- **Epoxy paint**

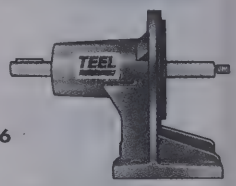
Attaches to pump heads to form pumps which may by belt- or direct-driven. Pump head not included; order separately. Speed may be varied up to 4000 RPM using belt/pulley combinations or adjustable speed drives. Provides greater flexibility in matching horsepower available to motor HP required for fluid flow, total head, viscosity and specific gravity of liquid. Cast iron housing and adapter. Steel shaft. Epoxy paint protection for excellent corrosion resistance. Sealed double heavy duty ball bearings; 3/4" shaft. 9⅜L x 6W x 6⅞"H OC shaft height.

**No. 2P486** has threaded stainless steel shaft and mounting dimensions of NEMA 56J jet pump motors for easy attachment to these pump heads: Nos. 1P947-1P949, 2P393 and 2P394, 2P498-2P500, 2P501-2P503, 1V263, 1V273 and 1V283..

**No. 2P422** keyed shaft and mounting dimensions of NEMA 56C face motors for easy attachment to pump heads and other C-face equipment.

| Shaft | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Keyed | 2P422 | $131.74 | **$88.80** | 10.0 |
| Threaded | 2P486 | 154.40 | **103.70** | 10.0 |

**Replacement Parts Available**
**1-800-323-0620**




No. 2P486

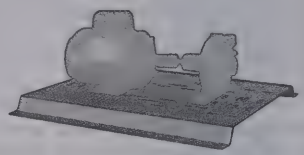
**Repair Service Available**
**Contact Your Local Branch**

## MOUNTING BASE

- **Heavy 10-gauge (9/64") steel**
- **For direct drive/pulley drive installations**

Sturdy, stamped steel construction. Bed dimensions: 22L x 18W (14½" surface) x 1⅜" H. Includes 1" flange at each side (see picture). Wide combination of predrilled holes for many pump/motor combinations. Additional holes can be drilled if needed. Metallic gray finish.

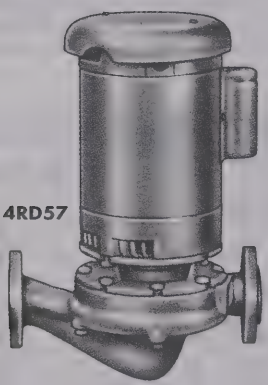
**No. 1P675.** Shpg. wt. 17.0 lbs. List $47.31.
Each ..... **$35.75**



No. 1P675

Bell & Gossett

## IN-LINE CENTRIFUGAL PUMPS



No. 4RD57

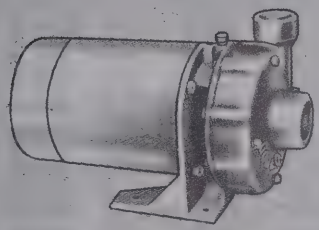
- **Internally self-flushing Buna/Carbon-Ceramic mechanical seal allows a maximum 225°F and 175 PSI working pressure**
- **Vertical and horizontal in-line mounting saves space and alleviates the need for special mounting pads or foundations**
- **Wide hydraulic coverage for a large range of pumping requirements**
- **Bronze fitted construction with open drip proof motors**
- **Companion flanges supplied**
- **Gauge, drain and vent tappings to accommodate any installed position**
- **Applications: Hydronic heating & cooling systems, general service, refrigeration and cooling towers**

FOR COMPLETE SPECIFICATIONS AND ORDERING DATA, SEE PAGE 3267.

NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

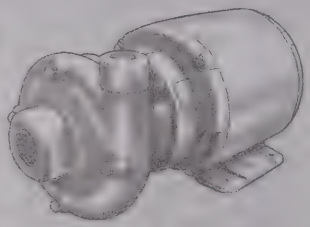
# CLOSE-COUPLED CENTRIFUGAL PUMPS



No. 1N521

GOULDS PUMPS, INC.
WATER TECHNOLOGIES GROUP

Replacement Parts Available
1-800-323-0620



No. 1N487

- Cast iron construction; bronze impeller
- 1/3 to 20 HP single and three-phase models
- Continuous-duty operation
- Capacities to 570 GPM, heads to 280 feet
- Back pull-out close-coupled pump design for ease of maintenance
- 1/3 to 2 HP discharge can be rotated 360° in 45° increments
- 3 to 20 HP discharge can be rotated 360° in 90° increments
- Vent and drain plugs in all positions
- Piping is female pipe thread (NPT), except Nos. 1N456 thru 1N460 which are ANSI flat-faced flanges

**Description:** For medium to high volume liquid transfer, water circulation, booster service, irrigation, spraying systems, jockey pump service and other general purpose pumping. 1/3 to 2 HP units have 125 PSIG maximum case working pressure. 3 to 20 HP units have 175 PSIG (12 bars) maximum case working pressure, maximum suction pressure is 100 PSIG (7 bars). Maximum fluid temperature: 212°F (100°C). Goulds brand.

**Driver:** 1/3—2 HP single and three-phase units are NEMA 56J frame, 3500 RPM, open dripproof or TEFC, and have Type 303 stainless steel shaft and sleeve. Single-phase units are 115/230V or 230V only. Three-phase units are 208-230/460V, except Nos. 1N462 and 1N467 which are 230/460V only.

Overload protection not supplied on three-phase units and must be provided in starter units. Pump control box must be ordered separately, see page 3234.

**Construction:** Cast iron casings, bronze impeller, mechanical shaft seal with stainless steel, Buna N carbon/ceramic parts. 300 Series stainless steel shaft and sleeve. Renewable bronze wear ring on 3—20 HP models only. Blue baked-on electro-coat paint.

## PUMP SPECIFICATIONS AND ORDERING DATA

| HP | Motor Enclosure | Full Load Amps** | Service Factor | Imp. Dia. (In.) | Pump Size (In.) Inlet NPT | Outlet NPT | Dimensions (In.) L | W | H | Goulds Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE PHASE, 115/230V PUMPS, 1/3—2 HP** | | | | | | | | | | | | | | |
| **1/3** | ODP | 10.8/5.4 | 1.6 | 3 3/16 | 1 1/4 | 1 | 13 7/8 | 8 7/8 | 9 | 1BF40312 | **1N524** | $387.00 | **$320.25** | 35.0 |
| **1/3** | ODP | 10.8/5.4 | 1.6 | 3 9/16 | 1 1/4 | 1 | 13 7/8 | 8 7/8 | 9 | 1BF10312 | **1N544** | 387.00 | **320.00** | 36.0 |
| **1/2** | ODP | 10/5 | 1.6 | 3 7/8 | 1 1/4 | 1 | 14 1/8 | 8 7/8 | 9 | 1BF10512 | **1N542** | 404.00 | **333.75** | 37.0 |
| **3/4** | ODP | 14/7 | 1.5 | 4 9/16 | 1 1/4 | 1 | 14 5/8 | 8 7/8 | 9 | 1BF10712 | **1N540** | 456.00 | **377.25** | 40.0 |
| **1** | ODP | 17.4/8.7 | 1.4 | 5 1/8 | 1 1/4 | 1 | 15 1/8 | 8 7/8 | 9 | 1BF11012 | **1N538** | 490.00 | **404.75** | 45.0 |
| **1 1/2** | ODP | 21.4/10.7 | 1.3 | 5 5/8 | 1 1/4 | 1 | 16 1/4 | 8 7/8 | 9 | 1BF11512 | **1N536** | 608.00 | **502.00** | 48.0 |
| **1/2** | TEFC | 6.2/3.1 | 1.0 | 3 3/16 | 1 1/4 | 1 | 14 1/8 | 8 7/8 | 9 | 1BF50512 | **1N522** | 484.00 | **400.00** | 39.0 |
| **1/2** | TEFC | 6.2/3.1 | 1.0 | 3 9/16 | 1 1/4 | 1 | 14 1/8 | 8 7/8 | 9 | 1BF20512 | **1N534** | 484.00 | **400.00** | 39.0 |
| **3/4** | TEFC | 8.8/4.4 | 1.0 | 3 7/8 | 1 1/4 | 1 | 14 5/8 | 8 7/8 | 9 | 1BF20712 | **1N532** | 536.00 | **443.00** | 43.0 |
| **1** | TEFC | 11.6/5.8 | 1.0 | 4 9/16 | 1 1/4 | 1 | 15 1/8 | 8 7/8 | 9 | 1BF21012 | **1N530** | 572.00 | **472.75** | 46.0 |
| **1 1/2** | TEFC | 16.2/8.1 | 1.0 | 5 1/8 | 1 1/4 | 1 | 16 1/4 | 8 7/8 | 9 | 1BF21512 | **1N528** | 676.00 | **558.50** | 54.0 |
| **2** | TEFC | 20.8/10.4 | 1.0 | 5 5/8 | 1 1/4 | 1 | 17 1/8 | 8 7/8 | 9 | 1BF22012 | **1N526** | 757.00 | **627.00** | 59.0 |
| **1/2** | ODP | 10/5 | 1.6 | 2 7/8 | 1 1/2 | 1 1/4 | 14 3/8 | 8 7/8 | 9 | 2BF40512 | **1N502** | 418.00 | **345.25** | 38.0 |
| **1/2** | ODP | 10/5 | 1.6 | 3 1/8 | 1 1/2 | 1 1/4 | 14 5/8 | 8 7/8 | 9 | 2BF10512 | **1N520** | 418.00 | **345.50** | 37.0 |
| **3/4** | ODP | 14/7 | 1.5 | 3 5/8 | 1 1/2 | 1 1/4 | 14 7/8 | 8 7/8 | 9 | 2BF10712 | **1N518** | 463.00 | **382.75** | 41.0 |
| **1** | ODP | 17.4/8.7 | 1.4 | 3 7/8 | 1 1/2 | 1 1/4 | 15 1/8 | 8 7/8 | 9 | 2BF11012 | **1N516** | 499.00 | **412.75** | 45.0 |
| **1 1/2** | ODP | 21.4/10.7 | 1.3 | 4 9/8 | 1 1/2 | 1 1/4 | 17 1/8 | 8 7/8 | 9 | 2BF11512 | **1N514** | 594.00 | **490.00** | 48.0 |
| **2** | ODP | 26.8/13.4 | 1.25 | 5 | 1 1/2 | 1 1/4 | 17 1/8 | 8 7/8 | 9 | 2BF12012 | **1N512** | 673.00 | **556.50** | 55.0 |
| **3/4** | TEFC | 8.8/4.4 | 1.0 | 2 7/8 | 1 1/2 | 1 1/4 | 14 7/8 | 8 7/8 | 9 | 2BF50712 | **1N500** | 559.00 | **461.75** | 45.0 |
| **3/4** | TEFC | 8.8/4.4 | 1.0 | 3 1/8 | 1 1/2 | 1 1/4 | 14 7/8 | 8 7/8 | 9 | 2BF20712 | **1N510** | 559.00 | **461.50** | 44.0 |
| **1** | TEFC | 11.6/5.8 | 1.0 | 3 5/8 | 1 1/2 | 1 1/4 | 15 1/8 | 8 7/8 | 9 | 2BF21012 | **1N508** | 590.00 | **488.25** | 46.0 |
| **1 1/2** | TEFC | 16.2/8.1 | 1.0 | 3 7/8 | 1 1/2 | 1 1/4 | 17 1/8 | 8 7/8 | 9 | 2BF21512 | **1N506** | 599.00 | **494.25** | 57.0 |
| **2** | TEFC | 20.8/10.4 | 1.0 | 4 5/8 | 1 1/2 | 1 1/4 | 17 1/8 | 8 7/8 | 9 | 2BF22012 | **1N504** | 673.00 | **558.00** | 59.0 |

(**) 115/230 volts.

CONTINUED ON NEXT PAGE

# CLOSE-COUPLED CENTRIFUGAL PUMPS

## PMP SPECIFICATIONS AND ORDERING DATA

| HP | Motor Enclosure | Full Load Amps | Service Factor | Imp. Dia. | Pump Size (In.) Inlet NPT | Pump Size (In.) Outlet NPT | Dimensions (In.) L | Dimensions (In.) W | Dimensions (In.) H | Gould Model # | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **THREE PHASE**, 208-230/460V PUMPS, 1/3—2 HP** | | | | | | | | | | | | | | |
| **1/3** | ODP | 2/1 | 1.75 | 3 3/16 | 1 1/4 | 1 | 13 7/8 | 8 7/8 | 9 | 1BF40334 | **1N523** | $410.00 | **$339.25** | 37.0 |
| **1/3** | ODP | 2/1 | 1.75 | 3 9/16 | 1 1/4 | 1 | 13 7/8 | 8 7/8 | 9 | 1BF10334 | **1N543** | 410.00 | **339.25** | 37.0 |
| **1/2** | ODP | 2.6/1.3 | 1.6 | 3 7/8 | 1 1/4 | 1 | 14 1/8 | 8 7/8 | 9 | 1BF10534 | **1N541** | 426.00 | **352.25** | 38.0 |
| **3/4** | ODP | 3.4/1.7 | 1.5 | 4 9/16 | 1 1/4 | 1 | 14 5/8 | 8 7/8 | 9 | 1BF10734 | **1N539** | 478.00 | **395.00** | 41.0 |
| **1** | ODP | 4.2/2.1 | 1.4 | 5 1/8 | 1 1/4 | 1 | 15 3/8 | 8 7/8 | 9 | 1BF11034 | **1N537** | 515.00 | **425.75** | 43.0 |
| **1 1/2** | ODP | 5.8/2.9 | 1.3 | 5 5/8 | 1 1/4 | 1 | 16 3/4 | 8 7/8 | 9 | 1BF11534 | **1N535** | 608.00 | **503.00** | 46.0 |
| **1/2** | TEFC | 1.9/0.95 | 1.0 | 3 3/16 | 1 1/4 | 1 | 14 1/8 | 8 7/8 | 9 | 1BF50534 | **1N521** | 484.00 | **399.75** | 38.0 |
| **1/2** | TEFC | 1.9/0.95 | 1.0 | 3 9/16 | 1 1/4 | 1 | 14 1/8 | 8 7/8 | 9 | 1BF20534 | **1N533** | 484.00 | **399.75** | 38.0 |
| **3/4** | TEFC | 2.3/1.15 | 1.0 | 3 7/8 | 1 1/4 | 1 | 14 5/8 | 8 7/8 | 9 | 1BF20734 | **1N531** | 536.00 | **443.25** | 47.0 |
| **1** | TEFC | 3.2/1.6 | 1.0 | 4 9/16 | 1 1/4 | 1 | 15 3/8 | 8 7/8 | 9 | 1BF21034 | **1N529** | 572.00 | **472.50** | 41.0 |
| **1 1/2** | TEFC | 4.8/2.4 | 1.0 | 5 1/8 | 1 1/4 | 1 | 16 3/4 | 8 7/8 | 9 | 1BF21534 | **1N527** | 673.00 | **556.50** | 48.0 |
| **2** | TEFC | 5.4/2.7 | 1.0 | 5 5/8 | 1 1/4 | 1 | 17 1/8 | 8 7/8 | 9 | 1BF22034 | **1N525** | 757.00 | **627.00** | 54.0 |
| **1/2** | ODP | 2.6/1.3 | 1.6 | 2 7/8 | 1 1/2 | 1 1/4 | 14 3/8 | 8 7/8 | 9 | 2BF40534 | **1N501** | 443.00 | **366.00** | 40.0 |
| **1/2** | ODP | 2.6/1.3 | 1.6 | 3 1/8 | 1 1/2 | 1 1/4 | 14 3/8 | 8 7/8 | 9 | 2BF10534 | **1N519** | 443.00 | **366.25** | 39.0 |
| **3/4** | ODP | 3.4/1.7 | 1.5 | 3 3/8 | 1 1/2 | 1 1/4 | 14 7/8 | 8 7/8 | 9 | 2BF10734 | **1N517** | 490.00 | **405.25** | 41.0 |
| **1** | ODP | 4.2/2.1 | 1.4 | 3 7/8 | 1 1/2 | 1 1/4 | 15 5/8 | 8 7/8 | 9 | 2BF11034 | **1N515** | 527.00 | **435.75** | 44.0 |
| **1 1/2** | ODP | 5.8/2.9 | 1.3 | 4 3/8 | 1 1/2 | 1 1/4 | 17 1/8 | 8 7/8 | 9 | 2BF11534 | **1N513** | 617.00 | **509.50** | 48.0 |
| **2** | ODP | 6.6/3.3 | 1.25 | 5 | 1 1/2 | 1 1/4 | 17 1/8 | 8 7/8 | 9 | 2BF12034 | **1N511** | 697.00 | **576.50** | 54.0 |
| **3/4** | TEFC | 2.3/1.15 | 1.0 | 2 7/8 | 1 1/2 | 1 1/4 | 14 7/8 | 8 7/8 | 9 | 2BF50734 | **1N499** | 557.00 | **460.25** | 40.0 |
| **3/4** | TEFC | 2.3/1.15 | 1.0 | 3 1/8 | 1 1/2 | 1 1/4 | 14 7/8 | 8 7/8 | 9 | 2BF20734 | **1N509** | 557.00 | **460.25** | 40.0 |
| **1** | TEFC | 3.2/1.6 | 1.0 | 3 5/8 | 1 1/2 | 1 1/4 | 15 5/8 | 8 7/8 | 9 | 2BF21034 | **1N507** | 587.00 | **486.25** | 43.0 |
| **1 1/2** | TEFC | 4.8/2.4 | 1.0 | 3 7/8 | 1 1/2 | 1 1/4 | 17 1/8 | 8 7/8 | 9 | 2BF21534 | **1N505** | 684.00 | **566.50** | 48.0 |
| **2** | TEFC | 5.4/2.7 | 1.0 | 4 3/8 | 1 1/2 | 1 1/4 | 17 1/8 | 8 7/8 | 9 | 2BF22034 | **1N503** | 762.00 | **631.00** | 54.0 |
| **SINGLE PHASE*, 115/208-230V PUMPS, 3—10 HP** | | | | | | | | | | | | | | |
| **3** | ODP | 34/17 | 1.15 | 5 1/8 | 2 | 1 1/2 | 19 1/2 | 12 7/8 | 9 | 3BF13012 | **1N498** | 1308.00 | **1082.00** | 107.0 |
| **3** | TEFC | 16.5 | 1.15 | 4 3/4 | 2 | 1 1/2 | 20 1/2 | 12 7/8 | 9 | 3BF23012 | **1N492** | 1849.00 | **1529.00** | 110.0 |
| **3"H"** | ODP | 34/17 | 1.15 | 5 15/16 | 2 | 1 1/2 | 19 1/2 | 12 7/8 | 9 | 3BF13012H* | **1N497** | 1308.00 | **1082.00** | 106.0 |
| **3"H"** | TEFC | 16.5 | 1.15 | 5 5/8 | 2 | 1 1/2 | 20 1/2 | 12 7/8 | 9 | 3BF23012H* | **1N491** | 1849.00 | **1531.00** | 106.0 |
| **5** | ODP | 26 | 1.15 | 5 15/16 | 2 | 1 1/2 | 20 1/2 | 12 7/8 | 9 | 3BF15013 | **1N494** | 1592.00 | **1318.00** | 110.0 |
| **5** | TEFC | 22 | 1.0 | 5 5/8 | 2 | 1 1/2 | 22 1/8 | 13 13/16 | 9 3/4 | 3BF25013 | **1N488** | 2065.00 | **1709.00** | 155.0 |
| **3** | ODP | 34/17 | 1.15 | 4 1/8 | 3 | 2 1/2 | 19 1/2 | 13 | 10 1/2 | 4BF13012 | **1N483** | 1363.00 | **1127.00** | 128.0 |
| **3** | TEFC | 16.5 | 1.15 | 4 1/8 | 3 | 2 1/2 | 20 1/2 | 13 | 10 1/2 | 4BF23012 | **1N475** | 1902.00 | **1573.00** | 140.0 |
| **5** | ODP | 26 | 1.15 | 4 15/16 | 3 | 2 1/2 | 20 1/2 | 13 | 10 1/2 | 4BF15013 | **1N481** | 1634.00 | **1351.00** | 136.0 |
| **5** | TEFC | 22 | 1.0 | 4 3/4 | 3 | 2 1/2 | 22 1/8 | 14 7/8 | 11 1/4 | 4BF25013 | **1N473** | 2106.00 | **1737.00** | 182.0 |
| **7 1/2** | ODP | 42 | 1.15 | 5 7/16 | 3 | 2 1/2 | 22 1/8 | 14 7/8 | 11 1/4 | 4BF17512 | **1N479** | 1923.00 | **1589.00** | 184.0 |
| **10** | ODP | 53 | 1.15 | 5 7/8 | 3 | 2 1/2 | 22 5/8 | 14 7/8 | 11 1/4 | 4BF11112 | **1N486** | 2119.00 | **1751.00** | 205.0 |
| **7 1/2** | ODP | 42 | 1.15 | 6 1/4 | 2 | 1 1/2 | 22 1/8 | 14 9/16 | 10 3/4 | 5BF17512 | **1N466** | 1968.00 | **1623.00** | 169.0 |
| **10** | ODP | 53 | 1.15 | 6 3/4 | 2 | 1 1/2 | 23 5/8 | 14 9/16 | 10 3/4 | 5BF11112 | **1N470** | 2106.00 | **1740.00** | 197.0 |
| **7 1/2** | ODP | 42 | 1.15 | 5 1/8 | 4‡ | 3‡ | 22 1/8 | 17 13/16 | 11 1/4 | 6BF17512 | **1N457** | 2091.00 | **1723.00** | 315.0 |
| **10** | ODP | 53 | 1.15 | 5 1/2 | 4‡ | 3‡ | 23 5/8 | 17 13/16 | 11 1/4 | 6BF11112 | **1N460** | 2294.00 | **1896.00** | 222.0 |
| **THREE PHASE**, 208-230/460V PUMPS, 3—20 HP** | | | | | | | | | | | | | | |
| **3** | ODP | 8.2/4.1 | 1.15 | 5 1/8 | 2 | 1 1/2 | 18 3/8 | 10 5/8 | 8 | 3BF13035 | **1N496** | 1029.00 | **850.50** | 83.0 |
| **3** | TEFC | 9.0/4.5 | 1.15 | 4 3/4 | 2 | 1 1/2 | 19 1/2 | 12 7/8 | 9 | 3BF23035 | **1N490** | 1188.00 | **982.00** | 95.0 |
| **3"H"** | ODP | 8.2/4.1 | 1.15 | 5 15/16 | 2 | 1 1/2 | 18 3/8 | 10 5/8 | 8 | 3BF13035H* | **1N495** | 1029.00 | **851.00** | 85.0 |
| **3"H"** | TEFC | 9.0/4.5 | 1.15 | 5 5/8 | 2 | 1 1/2 | 19 1/2 | 12 7/8 | 9 | 3BF23035H* | **1N489** | 1188.00 | **980.00** | 95.0 |
| **5** | ODP | 14.0/5.0 | 1.15 | 5 15/16 | 2 | 1 1/2 | 19 1/2 | 12 7/8 | 9 | 3BF15035 | **1N493** | 1163.00 | **960.50** | 108.0 |
| **5** | TEFC | 13.6/6.8 | 1.15 | 5 5/8 | 2 | 1 1/2 | 19 1/2 | 12 7/8 | 9 | 3BF25035 | **1N487** | 1295.00 | **1041.00** | 114.0 |
| **3** | ODP | 8.2/4.1 | 1.15 | 4 1/8 | 3 | 2 1/2 | 18 3/8 | 11 1/16 | 9 1/2 | 4BF13035 | **1N482** | 1073.00 | **887.00** | 103.0 |
| **3** | TEFC | 9.0/4.5 | 1.15 | 4 1/8 | 3 | 2 1/2 | 19 1/2 | 13 | 10 1/2 | 4BF23035 | **1N474** | 1236.00 | **1022.00** | 126.0 |
| **5** | ODP | 14.0/4.0 | 1.15 | 4 15/16 | 3 | 2 1/2 | 19 1/2 | 13 | 10 1/2 | 4BF15035 | **1N480** | 1215.00 | **1004.00** | 126.0 |
| **5** | TEFC | 13.6/6.8 | 1.15 | 4 3/4 | 3 | 2 1/2 | 20 1/2 | 13 | 10 1/2 | 4BF25035 | **1N472** | 1351.00 | **1118.00** | 139.0 |
| **7 1/2** | ODP | 20/10 | 1.15 | 5 7/16 | 3 | 2 1/2 | 20 1/2 | 13 | 10 1/2 | 4BF17535 | **1N478** | 1403.00 | **1039.00** | 132.0 |
| **7 1/2** | TEFC | 21.2/10.6 | 1.15 | 5 1/4 | 3 | 2 1/2 | 22 1/8 | 14 7/8 | 11 1/4 | 4BF27535 | **1N471** | 1627.00 | **1343.00** | 169.0 |
| **10** | ODP | 28/14 | 1.15 | 5 7/8 | 3 | 2 1/2 | 22 1/8 | 14 7/8 | 11 1/4 | 4BF11135 | **1N485** | 1606.00 | **1330.00** | 167.0 |
| **10** | TEFC | 26.4/13.2 | 1.15 | 5 5/8 | 3 | 2 1/2 | 23 5/8 | 14 7/8 | 11 1/4 | 4BF21135 | **1N477** | 1822.00 | **1504.00** | 193.0 |
| **15** | ODP | 41/20.5 | 1.15 | 6 1/4 | 3 | 2 1/2 | 23 5/8 | 14 7/8 | 11 1/4 | 4BF11635 | **1N484** | 1807.00 | **1497.00** | 180.0 |
| **15** | TEFC | 39.4/19.7 | 1.15 | 6 5/8 | 3 | 2 1/2 | 23 5/8 | 14 7/8 | 11 1/4 | 4BF21635 | **1N476** | 1941.00 | **1604.00** | 225.0 |
| **7 1/2** | ODP | 20/10 | 1.15 | 6 1/4 | 2 | 1 1/2 | 20 1/2 | 13 5/8 | 10 | 5BF17535 | **1N465** | 1271.00 | **1049.00** | 132.0 |
| **7 1/2** | TEFC | 21.2/10.6 | 1.15 | 5 3/4 | 2 | 1 1/2 | 22 1/8 | 14 9/16 | 10 3/4 | 5BF27535 | **1N461** | 1619.00 | **1339.00** | 163.0 |
| **10** | ODP | 28/14 | 1.15 | 6 3/4 | 2 | 1 1/2 | 22 1/8 | 14 9/16 | 10 3/4 | 5BF11135 | **1N469** | 1584.00 | **1310.00** | 165.0 |
| **10** | TEFC | 26.4/13.2 | 1.15 | 6 1/4 | 2 | 1 1/2 | 23 5/8 | 14 9/16 | 10 3/4 | 5BF21135 | **1N464** | 1807.00 | **1493.00** | 190.0 |
| **15** | ODP | 41/20.5 | 1.15 | 7 5/8 | 2 | 1 1/2 | 23 5/8 | 14 9/16 | 10 3/4 | 5BF11635 | **1N468** | 1795.00 | **1483.00** | 180.0 |
| **15** | TEFC | 39.4/19.7 | 1.15 | 7 | 2 | 1 1/2 | 23 5/8 | 14 9/16 | 10 3/4 | 5BF21635 | **1N463** | 1935.00 | **1599.00** | 208.0 |
| **20†** | ODP | 54.4/27.2 | 1.15 | 8 1/16 | 2 | 1 1/2 | 26 | 16 5/16 | 11 3/4 | 5BF12135 | **1N467** | 2038.00 | **1685.00** | 152.0 |
| **7 1/2** | ODP | 20/10 | 1.15 | 5 1/8 | 4‡ | 3‡ | 20 1/2 | 16 7/8 | 10 1/2 | 6BF17535 | **1N456** | 1579.00 | **1303.00** | 155.0 |
| **7 1/2** | TEFC | 21.2/10.6 | 1.15 | 4 11/16 | 4‡ | 3‡ | 22 1/8 | 17 13/16 | 11 1/4 | 6BF27535 | **1N454** | 1802.00 | **1488.00** | 191.0 |
| **10** | ODP | 28/14 | 1.15 | 5 1/2 | 4‡ | 3‡ | 22 1/8 | 17 13/16 | 11 1/4 | 6BF11135 | **1N459** | 1773.00 | **1459.00** | 310.0 |
| **15** | ODP | 41/20.5 | 1.15 | 6 3/8 | 4‡ | 3‡ | 23 5/8 | 17 13/16 | 11 1/4 | 6BF11635 | **1N458** | 1960.00 | **1621.00** | 204.0 |

(*) Single phase pumps: ODP, 3 HP, 115/208-230; 5-10 HP, 208-230V. TEFC, 3 HP 115/208-230, 5-10 HP 30V. (**) Three phase pumps: 3-15 HP 208-230/460V; 20 HP, 230/460.
(†) 215JM shaft extension motor. (‡) Units have 12516 ANSI flat-faced flanges. (#) "H" at end of Model number indicates high head impeller.

PERFORMANCE DATA ON NEXT PAGE

CONTINUED ON NEXT PAGE



*If we don't have a pump for it, chances are it can't be pumped.*

# CLOSE-COUPLED & SUBMERSIBLE FOUNTAIN PUMPS

## PERFORMANCE DATA FOR 1/3—2 HP PUMPS

| HP | Pump Size (In.) Inlet | Outlet | Stock No. 3Ø | 1Ø | GPM of Water @ Total Feet of Head 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | Max. Head† |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1¼ | 1 | 1N523 | 1N524 | * | 32 | 30 | 29 | 27 | 26 | 24 | 20 | 18 | 16 | 10 | 6 | — | — | — | — | — | — | — | — | 40 |
| 1/3 | 1¼ | 1 | 1N543 | 1N544 | * | 40 | 38 | 37 | 36 | 35 | 33 | 32 | 30 | 28 | 26 | 25 | 22 | 6 | — | — | — | — | — | — | 52 |
| 1/2 | 1¼ | 1 | 1N541 | 1N542 | * | 45 | 44 | 43 | 42 | 41 | 39 | 38 | 37 | 36 | 34 | 33 | 31 | 23 | — | — | — | — | — | — | 60 |
| 1/2 | 1¼ | 1 | 1N521 | 1N522 | * | 32 | 30 | 29 | 27 | 26 | 24 | 20 | 18 | 16 | 10 | 6 | — | — | — | — | — | — | — | — | 40 |
| 1/2 | 1¼ | 1 | 1N533 | 1N534 | * | 40 | 38 | 37 | 36 | 35 | 33 | 32 | 30 | 28 | 26 | 25 | 22 | 6 | — | — | — | — | — | — | 52 |
| 3/4 | 1¼ | 1 | 1N539 | 1N540 | * | * | * | * | * | * | * | 50 | 49 | 49 | 48 | 48 | 47 | 42 | 36 | 27 | 10 | — | — | — | 83 |
| 3/4 | 1¼ | 1 | 1N531 | 1N532 | * | 45 | 44 | 43 | 42 | 41 | 39 | 38 | 37 | 36 | 34 | 33 | 31 | 23 | — | — | — | — | — | — | 60 |
| 1 | 1¼ | 1 | 1N537 | 1N538 | * | * | * | * | * | * | * | * | * | * | * | * | 55 | 52 | 49 | 44 | 37 | 30 | 21 | — | 108 |
| 1 | 1¼ | 1 | 1N529 | 1N530 | * | * | * | * | * | * | * | 50 | 49 | 49 | 48 | 48 | 47 | 42 | 36 | 27 | 10 | — | — | — | 83 |
| 1½ | 1¼ | 1 | 1N535 | 1N536 | * | * | * | * | * | * | * | * | * | * | * | * | 58 | 56 | 53 | 49 | 45 | 39 | 31 | 22 | 118 |
| 1½ | 1¼ | 1 | 1N527 | 1N528 | * | * | * | * | * | * | * | * | * | * | * | * | 55 | 52 | 49 | 44 | 37 | 30 | 21 | — | 108 |
| 2 | 1¼ | 1 | 1N525 | 1N526 | * | * | * | * | * | * | * | * | * | * | * | * | 58 | 56 | 53 | 49 | 45 | 39 | 31 | 22 | 118 |
| 1/2 | 1½ | 1¼ | 1N501 | 1N502 | 60 | 58 | 52 | 48 | 42 | 34 | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | 29 |
| 1/2 | 1½ | 1¼ | 1N519 | 1N520 | * | * | 68 | 66 | 62 | 58 | 54 | 48 | 42 | 34 | 12 | — | — | — | — | — | — | — | — | — | 36 |
| 3/4 | 1½ | 1¼ | 1N517 | 1N518 | * | * | * | * | * | * | 84 | 80 | 78 | 76 | 74 | 70 | 66 | 36 | — | — | — | — | — | — | 52 |
| 3/4 | 1½ | 1¼ | 1N499 | 1N500 | 60 | 58 | 52 | 48 | 42 | 34 | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | 29 |
| 3/4 | 1½ | 1¼ | 1N509 | 1N510 | * | * | 68 | 66 | 62 | 58 | 54 | 48 | 42 | 34 | 12 | — | — | — | — | — | — | — | — | — | 36 |
| 1 | 1½ | 1¼ | 1N515 | 1N516 | * | * | * | * | * | * | * | * | * | 90 | 88 | 86 | 84 | 66 | 20 | — | — | — | — | — | 61 |
| 1 | 1½ | 1¼ | 1N507 | 1N508 | * | * | * | * | * | * | 84 | 80 | 78 | 76 | 74 | 70 | 66 | 36 | — | — | — | — | — | — | 52 |
| 1½ | 1½ | 1¼ | 1N513 | 1N514 | * | * | * | * | * | * | * | * | * | * | * | * | 96 | 82 | 64 | — | — | — | — | — | 79 |
| 1½ | 1½ | 1¼ | 1N505 | 1N506 | * | * | * | * | * | * | * | * | * | * | * | * | 84 | 66 | 20 | — | — | — | — | — | 61 |
| 2 | 1½ | 1¼ | 1N511 | 1N512 | * | * | * | * | * | * | * | * | * | * | * | * | * | 104 | 96 | 84 | 68 | 32 | — | — | 102 |
| 2 | 1½ | 1¼ | 1N503 | 1N504 | * | * | * | * | * | * | * | * | * | * | * | * | * | 96 | 82 | 64 | — | — | — | — | 79 |

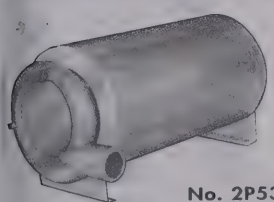
*) Operation of pump in this range will result in reduced pump life and/or motor damage. (†) To convert head to equivalent PSI, dvide by 2.31.

## PERFORMANCE DATA FOR 3—20 HP PUMPS

| HP | Pump Size (In.) Inlet | Outlet | Stock No. 3Ø | 1Ø | GPM of Water @ Total Feet of Head 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 240 | 260 | 280 | Max. Head† |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 2 | 1½ | 1N496 | 1N498 | * | * | * | 152 | 147 | 140 | 130 | 120 | 100 | 75 | — | — | — | — | — | — | — | — | — | 113 |
| 3 | 2 | 1½ | 1N490 | 1N492 | * | * | 145 | 138 | 130 | 120 | 107 | 88 | 45 | — | — | — | — | — | — | — | — | — | — | 95 |
| 3 | 2 | 1½ | 1N495 | 1N497 | * | * | 137 | 133 | 128 | 122 | 115 | 107 | 100 | 92 | 67 | — | — | — | — | — | — | — | — | 139 |
| 3 | 2 | 1½ | 1N489 | 1N491 | * | * | 130 | 126 | 121 | 115 | 107 | 100 | 92 | 80 | 40 | — | — | — | — | — | — | — | — | 134 |
| 5 | 2 | 1½ | 1N493 | 1N494 | * | * | * | * | * | * | 177 | 170 | 162 | 152 | 120 | 60 | — | — | — | — | — | — | — | 150 |
| 5 | 2 | 1½ | 1N487 | 1N488 | * | * | * | * | * | 168 | 162 | 153 | 142 | 130 | 85 | — | — | — | — | — | — | — | — | 134 |
| 3 | 3 | 2½ | 1N482 | 1N483 | * | 230 | 210 | 182 | 140 | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | 61 |
| 3 | 3 | 2½ | 1N474 | 1N475 | * | 175 | 145 | 110 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 50 |
| 5 | 3 | 2½ | 1N480 | 1N481 | * | * | 260 | 230 | 210 | 185 | 155 | 90 | — | — | — | — | — | — | — | — | — | — | — | 89 |
| 5 | 3 | 2½ | 1N472 | 1N473 | * | * | 240 | 215 | 190 | 160 | 120 | — | — | — | — | — | — | — | — | — | — | — | — | 75 |
| 7½ | 3 | 2½ | 1N478 | 1N479 | * | * | * | 315 | 300 | 280 | 260 | 230 | 200 | 160 | 100 | — | — | — | — | — | — | — | — | 125 |
| 7½ | 3 | 2½ | 1N471 | — | * | * | * | 290 | 270 | 245 | 215 | 180 | 140 | 50 | — | — | — | — | — | — | — | — | — | 109 |
| 10 | 3 | 2½ | 1N485 | 1N485 | * | * | * | * | * | 360 | 345 | 330 | 310 | 285 | 230 | 130 | — | — | — | — | — | — | — | 149 |
| 10 | 3 | 2½ | 1N477 | — | * | * | * | * | 330 | 310 | 290 | 270 | 240 | 200 | 140 | — | — | — | — | — | — | — | — | 130 |
| 15 | 3 | 2½ | 1N484 | — | * | * | * | * | * | * | * | * | * | 400 | 370 | 330 | 275 | 200 | — | — | — | — | — | 200 |
| 15 | 3 | 2½ | 1N476 | — | * | * | * | * | * | * | * | * | 380 | 365 | 325 | 270 | 180 | — | — | — | — | — | — | 179 |
| 7½ | 2 | 1½ | 1N465 | 1N466 | * | * | * | * | * | * | 215 | 200 | 195 | 190 | 165 | — | — | — | — | — | — | — | — | 165 |
| 7½ | 2 | 1½ | 1N461 | — | * | * | * | * | 195 | 185 | 180 | 170 | 160 | 150 | 125 | — | — | — | — | — | — | — | — | 140 |
| 10 | 2 | 1½ | 1N469 | 1N470 | * | * | * | * | * | * | * | * | * | 225 | 210 | 190 | 160 | 125 | — | — | — | — | — | 200 |
| 10 | 2 | 1½ | 1N464 | — | * | * | * | * | * | * | 220 | 210 | 205 | 195 | 175 | 150 | 100 | — | — | — | — | — | — | 165 |
| 15 | 2 | 1½ | 1N468 | — | * | * | * | * | * | * | * | * | * | * | * | * | 250 | 230 | 210 | 185 | 135 | — | — | 260 |
| 15 | 2 | 1½ | 1N463 | — | * | * | * | * | * | * | * | * | * | * | * | * | 225 | 200 | 175 | 125 | — | — | — | 215 |
| 20 | 2 | 1½ | 1N467 | — | * | * | * | * | * | * | * | * | * | * | * | * | * | * | 250 | 235 | 210 | 175 | 125 | 290 |
| 7½ | 4‡ | 3‡ | 1N456 | 1N457 | * | * | 450 | 420 | 390 | 350 | 310 | 260 | 110 | — | — | — | — | — | — | — | — | — | — | 91 |
| 7½ | 4‡ | 3‡ | 1N454 | — | * | * | 400 | 360 | 310 | 250 | 150 | — | — | — | — | — | — | — | — | — | — | — | — | 75 |
| 10 | 4‡ | 3‡ | 1N459 | 1N460 | * | * | * | 490 | 470 | 440 | 410 | 380 | 330 | 280 | — | — | — | — | — | — | — | — | — | 110 |
| 15 | 4‡ | 3‡ | 1N458 | — | * | * | * | * | * | 570 | 550 | 530 | 510 | 480 | 420 | 320 | — | — | — | — | — | — | — | 160 |

*) Operation of pump in this range may result in reduced pump life and/or motor damage. (‡) Units have 12516 ANSI flat-faced flanges.

## BARNES PUMPS, INC.



No. 2P536

E81854

Replacement Parts Available
1-800-323-0620

## SUBMERSIBLE FOUNTAIN PUMPS

**Description:** Installs in horizontal position, no need for pump pit. Discharge rotates 360°, in 90° increments. Handles liquid temperatures to 145°F. UL Listed (E81854). Barnes Pumps Inc. brand.

**Construction:** Heavy-duty wrap-around stainless steel. Corrosion-resistant materials. Special suction chamber draws water from top of unit (when installed in horizontal position), keeping motor 2/3 submerged for cool operation. 12 ft. three-wire cable (plug not included).

All pump parts are bronze, brass, silicon-bronze, and stainless steel. Mechanical seal has Buna N, stainless steel and carbon/ceramic parts.

**Driver:** PSC permanent split-capacitor, oil-filled motor has diaphragm pressure equalizer and automatic current and thermal overload protection.

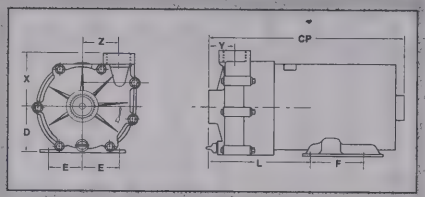
| HP | Outlet Hose ID | Volts 60 Hz | Dimensions (In.) L | W | H | GPM of Water @ Total Head in Feet 10' | 20' | 30' | 40' | 50' | Max.† Head | BP Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1½ | 115 | 14⅞ | 7¾ | 8⅛ | 74 | 54 | 30 | — | — | 34 ft. | SFU31 | 2P536 | $693.60 | $671.50 | 47.0 |
| 1/2 | 1½ | 115 | 14⅞ | 7¾ | 8⅛ | 90 | 74 | 54 | 30 | — | 46 | SFU51 | 2P537 | 714.00 | 690.50 | 52.0 |
| 3/4 | 1½ | 115 | 15¾ | 7¾ | 8⅛ | 100 | 85 | 68 | 46 | — | 50 | SFU71 | 2P538 | 733.38 | 710.50 | 55.0 |
| 1 | 1¼ | 230 | 15¾ | 7¾ | 8⅛ | 114 | 101 | 88 | 68 | 40 | 56 | SFU102 | 2P539 | 795.60 | 769.50 | 56.0 |

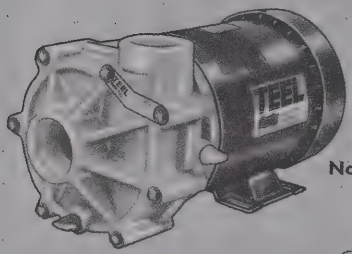
(*) Use with hose clamp. Inlet screened. (†) Shutoff; to convert to PSI, divide by 2.31.

# POLYPROPYLENE AND NORYL STRAIGHT CENTRIFUGAL PUMPS

TEEL®

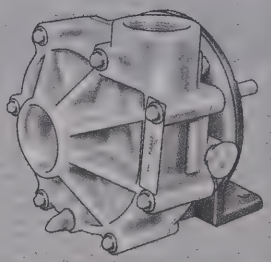
New




No. 2P691

- No metal contact with fluid
- Water flush seal



No. 4RJ04

Replacement Parts Available
1-800-323-0620

**Description:** Designed for continuous medium pressure circulation and transfer of aggressive liquids, and other applications where no suction lift is required. Pumps produce high flow rates under moderate head conditions. Maximum liquid temperature: 190°F. No metal contact with fluid. Maximum inlet pressure: 30 PSI. For use with nonflammable liquids compatible with pump component materials. 1½" NPT inlet and outlet ports. Teel brand.

**Construction:** Polypropylene or Noryl construction offers resistance to most acids, alkalis, and inorganic solvents. Internal design isolates motor shaft from fluid. Noncorrosive thermoplastic mechanical stationary shaft seal isolates all metal parts from liquid contact. Stainless steel components are sealed in polypropylene. Unique seal guarantees reliability through simplicity and balance of design. Water flush seal: a seal flush port is provided for the decontamination of chemicals on the seal, and seat elastomers.

Polypropylene body, housing, and impeller, and mechanical seal with carbon/ceramic seal/seat faces with Viton elastomer. Viton seal seat, and o-ring. Pedestal mount models feature a 5/8", Carpenter 20, stainless steel solid shaft, a corrosion resistant coated cast iron bearing housing and a double row of sealed ball bearings.

**Driver:** Motor mounted pumps use either 56J, TEFC design, 3-phase or 56J ODP single-phase motors. Pedestal pumps may be either long-coupled or pulley-driven with any base-mounted motor such as open dripproof, totally enclosed fan-cooled (TEFC) or washdown motors.

Made in USA.

## PUMP DIMENSIONS AND PERFORMANCE DATA

| HP | Motor Type | Motor Phase | Volts 60 Hz | Dimensions (in.) CP | D | E | F | L | X | Y | Z | GPM of Water @ Total Feet of Head 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | Max. Head (Ft.)† | Poly Stock No. | Noryl Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | DP* | 1 | 115 | 14 7/16** | 3½ | 2 7/16 | 3.0 | 7 13/16 | 4 | 2 9/64 | 2 13/16 | 33 | 30 | 27 | 22 | 17 | 13 | 6 | — | 72 | 2P688 | 4RH69 |
| 1/2 | DP* | 1 | 115/230 | 14 11/16** | 3½ | 2 7/16 | 3.0 | 7 13/16 | 4 | 2 9/64 | 2 13/16 | 47 | 43 | 38 | 33 | 28 | 24 | 15 | 3 | 82 | 2P689 | 4RH71 |
| 3/4 | DP* | 1 | 115/230 | 15 5/16** | 3½ | 2 7/16 | 3.0 | 7 13/16 | 4 | 2 9/64 | 2 13/16 | — | — | 58 | 53 | 48 | 40 | 30 | 17 | 88 | 2P690 | 4RH72 |
| 3/4 | TEFC | 3 | 220/440 | 15 5/16** | 3½ | 2 7/16 | 3.0 | 7 13/16 | 4 | 2 9/64 | 2 13/16 | 37 | 33 | 29 | 24 | 17 | 10 | 2 | — | 72 | 3P963 | 4RH70 |
| 1 | TEFC | 3 | 220/440 | 15 11/16** | 3½ | 2 7/16 | 3.0 | 7 13/16 | 4 | 2 9/64 | 2 13/16 | 47 | 43 | 38 | 33 | 28 | 24 | 15 | 3 | 82 | 2P691 | 4RH72 |
| 1½ | TEFC | 3 | 220/440 | 15 5/8** | 3½ | 2 7/16 | 3.0 | 7 13/16 | 4 | 2 9/64 | 2 13/16 | — | — | 78 | 73 | 65 | 56 | 45 | 26 | 90 | 2P692 | 4RH74 |
| 2 | TEFC | 3 | 220/440 | 15 7/8** | 3½ | 2 7/16 | 3.0 | 7 13/16 | 4 | 2 9/64 | 2 13/16 | 114 | 112 | 106 | 99 | 88 | 76 | 61 | 33 | 88 | 3P962 | 4RH75 |
| 3 | TEFC | 3 | 220/440 | 15 7/8** | 3½ | 2 7/16 | 3.0 | 7 13/16 | 4 | 2 9/64 | 2 13/16 | 121 | 117 | 106 | 97 | 88 | 78 | 65 | 47 | 88 | 4RH77 | 4RH76 |
| For 1/3 | Pedestal | — | — | 9 5/16 | 3½ | 1¾ | 1⅛ | 5 13/16 | 4 | 2 9/64 | 2 13/16 | 33 | 30 | 27 | 22 | 17 | 13 | 6 | — | 72 | 4RJ04 | 4RH97 |
| For 1/2 | Pedestal | — | — | 9 5/16 | 3½ | 1¾ | 1⅛ | 5 13/16 | 4 | 2 9/64 | 2 13/16 | 47 | 43 | 38 | 33 | 28 | 24 | 15 | 3 | 82 | 4RJ05 | 4RH98 |
| For 3/4 | Pedestal | — | — | 9 5/16 | 3½ | 1¾ | 1⅛ | 5 13/16 | 4 | 2 9/64 | 2 13/16 | 37 | 33 | 29 | 24 | 17 | 10 | 2 | — | 72 | 4RJ06 | 4RH99 |
| For 1 | Pedestal | — | — | 9 5/16 | 3½ | 1¾ | 1⅛ | 5 13/16 | 4 | 2 9/64 | 2 13/16 | 47 | 43 | 38 | 33 | 28 | 24 | 15 | 3 | 82 | 4RJ07 | 4RJ01 |
| For 1½ | Pedestal | — | — | 9 5/16 | 3½ | 1¾ | 1⅛ | 5 13/16 | 4 | 2 9/64 | 2 13/16 | — | — | 78 | 73 | 65 | 56 | 45 | 26 | 90 | 4RJ08 | 4RJ02 |
| For 3 | Pedestal | — | — | 9 5/16 | 3½ | 1¾ | 1⅛ | 5 13/16 | 4 | 2 9/64 | 2 13/16 | 114 | 112 | 106 | 99 | 88 | 76 | 61 | 33 | 88 | 4RJ09 | 4RJ03 |

(*) Open, dripproof. († To convert head to equivalent PSI, divide by 2.31. (**) Dimensions may vary due to motor manufacturers specifications.

## PUMP ORDERING DATA

| HP | Motor Type | Phase | 60 Hz | POLYPROPYLENE Stock No. | List | Each | Shpg. Wt. | NORYL New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | DP* | 1 | 115 | **2P688** | $626.77 | **$486.50** | 21.0 | **4RH69** | $559.00 | **$430.00** | 28.0 |
| **1/2** | DP* | 1 | 115/230 | **2P689** | 635.24 | **493.50** | 26.0 | **4RH71** | 565.50 | **435.00** | 30.0 |
| **3/4** | DP* | 1 | 115/230 | **2P690** | 686.16 | **529.00** | 29.0 | **4RH73** | 604.50 | **465.00** | 32.0 |
| **3/4** | TEFC | 3 | 220/440 | **3P963** | 1417.28 | **1269.00** | 83.0 | **4RH70** | 637.00 | **490.00** | 32.0 |
| **1** | TEFC | 3 | 220/440 | **2P691** | 798.09 | **623.00** | 32.0 | **4RH72** | 702.00 | **540.00** | 36.0 |
| **1½** | TEFC | 3 | 220/440 | **2P692** | 870.30 | **674.50** | 37.0 | **4RH74** | 767.00 | **590.00** | 39.0 |
| **2** | TEFC | 3 | 220/440 | **3P962** | 380.60 | **254.25** | 56.0 | **4RH75** | 858.00 | **660.00** | 53.0 |
| **3** | TEFC | 3 | 220/440 | ***New*4RH77** | 1214.85 | **934.50** | 64.0 | **4RH76** | 1066.00 | **820.00** | 64.0 |
| **For 1/3** | Pedestal | — | — | ***New*4RJ04** | 455.00 | **350.00** | 12.0 | **4RH97** | 474.50 | **365.00** | 12.0 |
| **For 1/2** | Pedestal | — | — | ***New*4RJ05** | 455.00 | **350.00** | 12.0 | **4RH98** | 474.50 | **365.00** | 12.0 |
| **For 3/4** | Pedestal | — | — | ***New*4RJ06** | 455.00 | **350.00** | 12.0 | **4RH99** | 474.50 | **365.00** | 12.0 |
| **For 1** | Pedestal | — | — | ***New*4RJ07** | 455.00 | **350.00** | 12.0 | **4RJ01** | 474.50 | **365.00** | 12.0 |
| **For 1½** | Pedestal | — | — | ***New*4RJ08** | 455.00 | **350.00** | 12.0 | **4RJ02** | 474.50 | **365.00** | 12.0 |
| **For 3** | Pedestal | — | — | ***New*4RJ09** | 455.00 | **350.00** | 12.0 | **4RJ03** | 475.80 | **366.00** | 12.0 |

(*) Open, dripproof. (†) To convert head to equivalent PSI, divide by 2.31.



*If we don't have a pump for it, chances are it can't be pumped.*

# GENERAL PURPOSE AND CHEMICAL-RESISTANT PUMPS

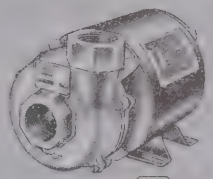
## 1/4 HP GENERAL PURPOSE CENTRIFUGAL PUMP

**Description:** Manually operated. For gravity-feed pumping operations specially suited for laundry water needs to move from tub to overhead sewer areas. Required by regulations in many local areas. Mounts below laundry tub with motor shaft in vertical or horizontal position. 1¼" NPT discharge port rotates in 90° steps. For use with non-flammable liquids compatible with pump component materials. Not self-priming. Pump will work with suction lifts up to 4 feet with foot value and suction piping completely filled. Maximum liquid temperature 120°F. 10½L x 6½W x 6½"H.

**Construction:** 1¼" NPT suction, discharge. Pump materials selected specifically for laundry applications. Cast aluminum casing, impeller, and adapter. Mechanical seal has stainless steel, Buna N parts, and carbon/ceramic seats. **Driver:** 1/4 HP Dayton, 1725 RPM, 115V, 60 Hz split phase motor. NEMA 56Z frame, nonstandard 1/2" diameter shaft with flat.

| CAPACITY: GPH OF WATER, @ HEAD IN FEET | | | | | |
|---|---|---|---|---|---|
| 2 Ft. | 4 Ft. | 6 Ft. | 8 Ft. | 10 Ft. | 11 Ft. |
| 1400 | 1200 | 1000 | 700 | 250 | Shutoff |

**No. 1P795.** Shpg. wt. 13.0 lbs. List ..... $185.15.
Each ..... **$127.00**



TEEL®

No. 1P795

Replacement Parts Available 1-800-323-0620

Repair Service Available Contact Your Local Branch

## 1/2 TO 3 HP STRAIGHT CENTRIFUGAL CHEMICAL-RESISTANT PUMPS

**Description:** Chemical transfer or booster pumps for nonflammable, nonabrasive fluids compatible with pump component materials. Not recommended for trichloroethylene. Available with or without motors. Pumps without motors require NEMA 56J motor, or 56J pump pedestal with appropriate motor. Develop limited suction lift; approximately 15 ft. with foot valve. Handle solids to 1/4" diameter. Maximum liquid temperatures: 180°F.

**Construction:** Deep-drawn from stainless steel sheet. Surfaces are smoother than those of cast pumps, and have superior corrosion resistance to casting of comparable material. All pumps have closed impellers, except No. 1P799, which has a semi-open impeller. All pumps 125 PSI working pressure except No. 1P799 which is 20 PSI. Type 304 stainless steel housing, impeller, shaft sleeve/impeller, bolts and extenders. Viton O-ring. Mechanical seal has 316 stainless steel, Viton, carbon and ceramic parts.

**Driver:** Single-phase, 115/230V motors are capacitor-start, open dripproof type with automatic reset thermal protection and 303 stainless steel shaft. 3-Phase, 208-220/440 VAC motors are TEFC with 416 stainless steel shaft. All motors are 3450 RPM, NEMA 56J frame with base.

### PUMP HEAD SELECTION GUIDE

Read down the HEAD IN FEET column total of system head plus desired discharge head) to desired GPM. Read over to stock number of required pump or pump head. Multiply horsepower by specific gravity of liquid to obtain minimum motor HP. Divide 15 ft. (maximum suction lift) by specific gravity of liquid to obtain maximum suction lift with foot valve. Select Dayton base-mounted jet pump motor with HP rating greater than the minimum required. Or, use No. 2P486 pump pedestal, direct coupled or belt driven, with appropriate horsepower motor.

### VITON SEAL AND GASKET KIT

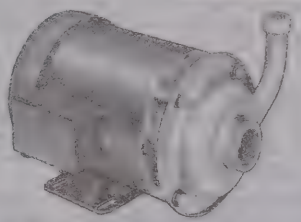
Viton seals are recommended for certain mild acids or other liquids compatible with Viton. Fit pumps Nos. 1P701, 1P702, 1P800, 1P801, 1P802, 1P803, 2P391, 2P392 and unassembled pumps No. 1P947, 1P948, 1P949, 2P393, 2P394. Kit includes Viton seal seat, cartridge, and Teflon® O-ring.

**No. 1R267.** Shpg. wt. 0.2 lbs. List ..... $0.00.
Each ..... **$0.00**

New

TEEL®

No. 1P801



Replacement Parts Available 1-800-323-0620

### PUMP HEAD SPECIFICATIONS AND ORDERING DATA

| Motor HP Required* | Inlet NPT (In.) | Outlet NPT (In.) | Dimensions (In.) H | W | L | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 3/4 | 1/2 | 7 | 7½ | 14¼ | | New 4NW92 | $219.68 | **$175.75** | 3.0 |
| **3/4** | 1¼ | 3/4 | 7¼ | 9¼ | 3⅜ | | **1P947** | 315.81 | **247.75** | 4.0 |
| **1** | 1½ | 1¼ | 7¼ | 9¼ | 3⅜ | | **1P948** | 340.42 | **260.00** | 4.1 |
| **1½** | 1½ | 1¼ | 7¼ | 9¼ | 3⅜ | | **1P949** | 346.44 | **264.75** | 4.5 |
| **2** | 2 | 1½ | 7¾ | 9¼ | 3⅜ | | **2P393** | 401.67 | **316.00** | 4.5 |
| **3** | 2 | 1½ | 7¾ | 9¼ | 3⅜ | | **2P394** | 376.54 | **290.50** | 4.5 |

(*) HP required to drive pump head. Select proper base-mounted NEMA 56J, 3450 RPM jet pump motor or No. 2P486 pump pedestal.

### PUMP SPECIFICATIONS AND ORDERING DATA

| Motor HP | Type Motor | Volts 60 Hz | Inlet NPT (In.) | Outlet NPT (In.) | Dimensions (In.) High | Wide | Long | GPM of Water @ Total Head in Feet 5 Ft. | 10 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | Capacitor | 115/230 | 3/4 | 1/2 | 7 | 7½ | 14¼ | 23 | 21 | 16 | 5 | — | — | — | **1P799** | $563.10 | **$310.50** | 21.0 |
| **3/4** | Capacitor | 115/230 | 1¼ | 3/4 | 8 | 9¼ | 14 | 59 | 54 | 48 | 39 | 30 | 18 | 6 | **1P701** | 674.50 | **371.00** | 23.0 |
| **1** | Capacitor | 115/230 | 1½ | 1¼ | 8½ | 9¼ | 15 | 95 | 89 | 76 | 60 | 43 | 21 | 5 | **1P800** | 781.82 | **397.00** | 28.0 |
| **1½** | Capacitor | 115/230 | 1½ | 1¼ | 8 | 9¼ | 13½ | 117 | 110 | 97 | 84 | 62 | 36 | 8 | **1P702** | 771.18 | **448.75** | 32.0 |
| **3/4** | 3-Phase | 208-220/440 | 1¼ | 3/4 | 8 | 9¼ | 12¼ | 59 | 54 | 48 | 39 | 30 | 18 | 6 | **1P801** | 725.77 | **392.25** | 28.0 |
| **1** | 3-Phase | 208-220/440 | 1½ | 1¼ | 8 | 9¼ | 12¼ | 95 | 89 | 76 | 60 | 43 | 21 | 5 | **1P802** | 670.29 | **428.50** | 28.0 |
| **1½** | 3-Phase | 208-220/440 | 1½ | 1¼ | 8 | 9¼ | 13½ | 117 | 110 | 97 | 84 | 62 | 36 | 8 | **1P803** | 768.07 | **443.00** | 31.0 |
| **2** | 3-Phase | 208-220/440 | 2 | 1½ | 8 | 10 | 13½ | 125 | 118 | 113 | 90 | 74 | 56 | 20 | **2P391** | 921.97 | **520.50** | 48.0 |
| **3** | 3-Phase | 208-220/440 | 2 | 1½ | 8 | 10 | 15 | 140 | 131 | 126 | 116 | 106 | 88 | 70 | **2P392** | 947.76 | **545.50** | 43.0 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# EPOXY-ENCAPSULATED AND NAVAL BRONZE SALTWATER PUMPS

## EPOXY-ENCAPSULATED MAGNETIC DRIVEN SALTWATER PUMP

- **Designed to be saltwater compatible**
- **For submerged or in-line use**
- **UL Listed (E134976); CSA Certified (LR19315)**

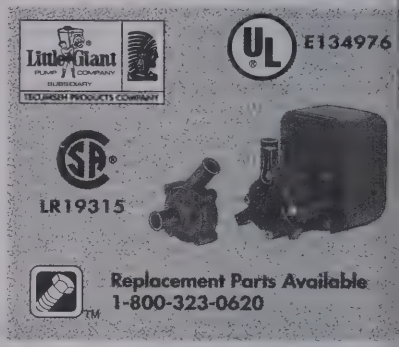
**Description:** Compact, corrosion resistant sealed pump usable for submerged or in-line applications. Suitable for mild chemicals at moderate temperatures. Pumps handle mild acids and mild alkalies plus saltwater. For liquids from 32 to 150°F and pH ranges from 5 to 9. For use with nonflammable liquids compatible with pump component materials. 1/2" ID hose inlet and outlet. 3⅝H x 4³⁄₁₆L x 3⅝"W.

**Construction:** Epoxy-encapsulated motor housing. Removable volutes for easy cleaning. Includes 2 volutes: one standard screened volute is mounted to pump; one converts pump to an in-line intake (included). 1/2" OD connections. Pumps supplied with 18/3, 6 ft. SJT cord with 3-prong plug.

Glass-filled polypropylene pump heads, ceramic magnet and spindle shaft, Rulon J thrust washers, Nitrile O-ring, 316 stainless steel hardware. Little Giant (1-EUAA-MD).

**No. 2P875.** Shpg. wt. 3.0 lbs. List $85.40. Each **$72.60;** Lots 3 ..... **$68.94**

| GPH of Water at Total Feet of Head | | | | |
|---|---|---|---|---|
| 1 Ft. | 2 Ft. | 3 Ft. | 4 Ft. | 5 Ft. |
| 150 | 130 | 105 | 65 | Shutoff |




## 1/8 HP NAVAL BRONZE STRAIGHT CENTRIFUGAL PUMP

- **All naval bronze wetted parts**

**Description:** Straight centrifugal low pressure pump with semi-open impeller **designed for saltwater** recirculating and wash down applications in aquaculture and general marine settings. Pump sized for saltwater (specific gravity 1.03). For use with nonflammable liquids compatible with pump component materials. Temperature range 40 to 160°F. Includes On/Off switch and line cord.

**Construction:** Pull-from-the-rear design with O-ring seal. Built-in seal wash capability. Front drain plug. Permanently lubricated sealed bearings. 3/4" suction x 1/2" NPT discharge ports. Overall dimensions: 10¹⁄₁₆L x 8W x 5½"H. Naval bronze casing, adapter, and impeller. Stainless steel hardware. Mechanical seal has stainless steel and Buna N parts. Ceramic seat.

**Driver:** Totally enclosed fan cooled (TEFC) 1/8 HP capacitor start induction motor with ball bearings, splash protected, 4-pole, 1800 RPM, 115V. Stainless steel shaft. Standard plug/cord end.

**No. 3P736.** Shpg. wt. 21.0 lbs. List $234.69. Each ..... **$209.25**

| GPM of Water at Total Feet of Head | | | | | | |
|---|---|---|---|---|---|---|
| 1 Ft. | 2 Ft. | 3 Ft. | 4 Ft. | 5Ft. | 6 Ft. | 7 Ft. |
| 11 | 10 | 8 | 6 | 4 | 2 | Shut-Off |




**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

## 1, 2, AND 3-STAGE HIGH VOLUME PRESSURE BOOSTER PUMPS

**Description:** For continuous-duty high flow, pressure boosting applications such as increasing water pressure from city mains or private water systems. Units are not self-priming but will lift water up to 25 ft. with foot valve and pump suction piping filled with water. Important for proper operation of water softeners and filtration equipment in high-rise buildings and multi-family dwellings. Balanced impellers do not restrict flow when pump is not operating. Maximum case pressure: 100 PSI on Nos. 2PC24-2PC29; 160 PSI on other models. Maximum fluid temperature: 200°F.

**Construction:** Two-piece design with pump coupled to double ball bearing motors. Normal wearing parts are easily removed for service and replacement. 1½" NPT suction ports and 1¼" NPT discharge ports.

Heavy-duty cast-iron body, brass impellers, and mechanical seal with stainless steel, Buna N and carbon/ceramic parts.

**Driver:** Dayton 3450 RPM, single or 3-phase continuous duty motor with shielded ball bearings and NEMA 56J frame with threaded shaft.




### SPECIFICATIONS AND ORDERING DATA

| Key | Motor HP | Phase | Volts | Hz. | Dimensions (In.) L | W | H | Impeller Stages | GPM of Water at Pressure Boost in PSI 15 | 20 | 25 | 30 | 35 | 40 | 50 | 60 | 70 | 80 | Maximum Pressure‡ | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/3 | 1 | 115/230 | 60 | 13¼ | 8¼ | 9¼ | 1 | 41 | 30 | 12 | — | — | — | — | — | — | — | 27 PSI | 2PC24 | $396.34 | $275.75 | 35.0 |
| A | 1/2 | 1 | 115/230 | 60 | 13½ | 8¼ | 9¼ | 1 | 48 | 40 | 27 | — | — | — | — | — | — | — | 30 | 2PC25 | 417.12 | 290.50 | 27.0 |
| A | 3/4 | 1 | 115/230 | 60 | 14 | 8¼ | 9¼ | 1 | 62 | 58 | 46 | 31 | — | — | — | — | — | — | 33 | 2PC26 | 452.21 | 314.75 | 45.0 |
| A | 1 | 1 | 115/230 | 60 | 14½ | 8¼ | 9¼ | 1 | 70 | 66 | 58 | 48 | 34 | — | — | — | — | — | 40 | 2PC27 | 486.37 | 338.75 | 45.0 |
| A | 1½ | 1 | 115/230 | 60 | 15⅛ | 8¼ | 9¼ | 1 | * | 75 | 70 | 61 | 51 | 36 | — | — | — | — | 44 | 2PC28 | 530.88 | 369.75 | 50.0 |
| A | 2 | 1 | 115/230 | 60 | 15⅝ | 8¼ | 9¼ | 1 | * | * | 79 | 77 | 68 | 57 | — | — | — | — | 45 | 2PC29 | 589.60 | 410.00 | 54.0 |
| B | 3/4 | 1 | 115/230 | 60 | 17⅞ | 7 | 8¾ | 2 | * | * | 34 | 32 | 29 | 25 | 17 | — | — | — | 57 | 2PC18 | 585.71 | 410.75 | 56.0 |
| B | 1 | 1 | 115/230 | 60 | 18⅜ | 7 | 8¾ | 2 | * | * | 38 | 36 | 33 | 30 | 24 | 10 | — | — | 63 | 2PC19 | 639.51 | 448.00 | 61.0 |
| B | 1½ | 1 | 115/230 | 60 | 19 | 7 | 8¾ | 2 | * | * | 44 | 42 | 39 | 37 | 31 | 22 | — | — | 69 | 2PC21 | 732.67 | 514.50 | 65.0 |
| B | 2 | 1 | 115/230 | 60 | 19½ | 7 | 8¾ | 2 | * | * | 50 | 46 | 45 | 42 | 37 | 29 | 16 | — | 72 | 2PC22 | 813.41 | 571.50 | 69.0 |
| B | 2 | 1 | 115/230 | 60 | 21⅜ | 7 | 8¾ | 3 | * | * | 45 | 44 | 43 | 41 | 37 | 33 | 29 | 25 | 100 | 2PC30 | 909.63 | 639.00 | 81.0 |
| B | 1 | 3 | 230/460† | 50/60 | 18⅜ | 7 | 8¾ | 2 | * | * | 38 | 36 | 33 | 30 | 24 | 10 | — | — | 63 | 2PC20 | 642.62 | 451.25 | 65.0 |
| B | 2 | 3 | 230/460† | 50/60 | 19½ | 7 | 8¾ | 2 | * | * | 50 | 46 | 45 | 42 | 37 | 29 | 16 | — | 72 | 2PC23 | 790.65 | 556.00 | 68.0 |
| B | 2 | 3 | 230/460† | 50/60 | 21⅜ | 7 | 8¾ | 3 | * | * | 45 | 44 | 42 | 41 | 37 | 33 | 29 | 25 | 100 | 2PC31 | 888.94 | 623.50 | 80.0 |

* Operation of pump in this range may result in reduced pump life and/or motor damage.
† Operable on 230/460V, 50 Hz. @ 5/6 of 60 Hz. flow and 7/10 of 60 Hz. pressure. (‡) To convert to feet of head, multiply by 2.31.

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# MULTI-STAGE PRESSURE BOOSTER PUMPS

**Description:** Teel booster pumps increase water pressure from city mains or private water systems. Especially important for proper operation of water softeners and filtration equipment. Units pump water from cisterns, tanks, or ponds, with suction lifts up to 10 ft., with foot valve and pump suction piping completely filled with water. Applications include: providing high water pressure for washing buildings, dairy walls or floors, hog parlors, poultry houses, rinsing or spray cooling equipment; lawn sprinkling; fire protection; and insecticide spraying. Stainless steel models can handle saltwater and contaminated water in reverse osmosis filters and other aggressive water applications. Maximum casing working pressure: 300 PSI. Maximum fluid temperature: 180°F. For use with nonflammable liquids compatible with pump component materials.

**Construction:** 6 to 16-stage replaceable impeller and diffuser cartridge assemblies. Radial bearing is incorporated into each diffuser cup. 3/4 or 1" NPT inlet and discharge ports.

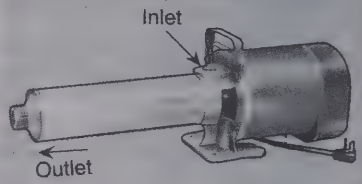
Noryl and Delrin impeller and diffuser, 304 stainless steel radial bearing, 304 stainless steel housing. Standard pumps have cast iron suction and discharge housings, and mechanical seal with stainless steel, Buna N, and carbon/ceramic parts. Stainless steel models have 316 stainless steel suction and discharge housings and mechanical seal has stainless steel, Viton, and carbon/ceramic parts.

**Driver:** Dayton 3450 RPM, single or 3-phase, open drip-proof, 65° C rise, continuous duty motor with shielded ball bearings and NEMA 56J frame with threaded shaft. **Single Phase:** 1/3-2 HP, 115/230V; 3 HP, 230V only. Built-in overload with automatic reset, capacitor type. 1/3, 1/2 and 3/4 HP models are wired for 115V with 8 foot, 16/3 cord and plug, but can easily be rewired for 230V. 1 to 3 HP models have no cord and must be field wired. **3-Phase:** 3/4 to 3 HP, 230/460V, 50/60 Hz models must be field wired.

TEEL®

LR90197

Replacement Parts Available
1-800-323-0620




Repair Service Available
Contact Your Local Branch

## MULTI-STAGE BOOSTER PUMP PERFORMANCE DATA

| HP | Stock Nos. | Impeller Stages | Gallons of Water Per Minute at Pressure Boost in PSI 10 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | Max. Pressure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 2P372 | 8 | 10.0 | 9.4 | 8.1 | 6.4 | 4.4 | — | — | — | — | — | — | 90 PS |
| 1/2 | 1P879, 2PC42 | 12 | 10.2 | 9.7 | 8.8 | 7.8 | 6.8 | 5.6 | 4.1 | 1.5 | — | — | — | 135 |
| 3/4 | 2P019, 2P423, 2PC43, 2PC44 | 12 | 14.1 | 13.6 | 12.4 | 11.3 | 10.0 | 8.8 | 7.2 | 5.2 | 2.1 | — | — | 160 |
| 1 | 2P280, 2P424, 2PC45, 2PC46 | 14 | * | * | 15.4 | 14.4 | 13.2 | 12.0 | 10.6 | 8.8 | 6.9 | 4.0 | — | 185 |
| 1½ | 2PC32, 2PC33, 2PC47, 2PC48 | 16 | * | * | 15.8 | 15.1 | 14.2 | 13.1 | 12.0 | 11.0 | 9.8 | 8.2 | 5.5 | 200 |
| 2 | 2PC34, 2PC35 | 11 | * | * | 31.0 | 28.5 | 26.5 | 23.0 | 18.8 | 7.5 | — | — | — | 145 |
| 2 | 2PC36, 2PC37 | 6 | 31.6 | 30.5 | 26.7 | 15.0 | — | — | — | — | — | — | — | 65 |
| 3 | 2PC38, 2PC39 | 14 | * | * | 32.1 | 30.6 | 28.5 | 26.6 | 23.8 | 21.5 | 17.5 | 8.0 | — | 185 |
| 3 | 2PC40, 2PC41 | 8 | 33.0 | 31.6 | 29.5 | 25.0 | 12.7 | — | — | — | — | — | — | 85 |

## SPECIFICATIONS AND ORDERING DATA

| HP | Stages | Phase | Volts | Hz | Ports NPT (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD MULTI-STAGE PUMPS WITH CAST-IRON HOUSINGS** | | | | | | | | | | | | |
| **1/3** | 8 | 1 | 115/230 | 60 | 3/4 | 9 | 61/2 | 201/4 | **2P372** | $385.36 | **$260.00** | 35.0 |
| **1/2** | 12 | 1 | 115/230 | 60 | 3/4 | 9 | 61/2 | 233/8 | **1P879** | 498.57 | **300.00** | 38.0 |
| **3/4** | 12 | 1 | 115/230 | 60 | 3/4 | 9 | 61/2 | 237/8 | **2P019** | 525.25 | **308.00** | 42.0 |
| **1** | 14 | 1 | 115/230 | 60 | 3/4 | 9 | 61/2 | 271/4 | **2P280** | 575.00 | **340.00** | 48.0 |
| **1½** | 16 | 1 | 115/230 | 60 | 3/4 | 9 | 61/2 | 293/4 | **2PC32** | 608.64 | **375.00** | 51.0 |
| **2** | 11 | 1 | 115/230 | 60 | 1 | 9 | 61/2 | 271/2 | **2PC34** | 667.80 | **413.00** | 52.0 |
| **2** | 6 | 1 | 115/230 | 60 | 1 | 9 | 61/2 | 257/8 | **2PC36** | 642.24 | **400.00** | 51.0 |
| **3** | 14 | 1 | 230 | 60 | 1 | 9 | 61/2 | 305/8 | **2PC38** | 761.64 | **470.00** | 54.0 |
| **3** | 8 | 1 | 230 | 60 | 1 | 9 | 61/2 | 291/4 | **2PC40** | 722.88 | **445.00** | 53.0 |
| **3/4** | 12 | 3 | 208-230/460 | 50/60 | 3/4 | 9 | 61/2 | 237/8 | **2P423‡** | 528.11 | **358.75** | 42.0 |
| **1** | 14 | 3 | 208-230/460 | 50/60 | 3/4 | 9 | 61/2 | 271/4 | **2P424‡** | 578.06 | **393.25** | 48.0 |
| **1½** | 16 | 3 | 208-230/460 | 50/60 | 3/4 | 9 | 61/2 | 293/4 | **2PC33** | 596.41 | **405.75** | 51.0 |
| **2** | 11 | 3 | 208-230/460 | 50/60 | 1 | 9 | 61/2 | 271/2 | **2PC35** | 646.39 | **439.50** | 52.0 |
| **2** | 6 | 3 | 208-230/460 | 50/60 | 1 | 9 | 61/2 | 257/8 | **2PC37** | 620.90 | **422.50** | 51.0 |
| **3** | 14 | 3 | 208-230/460 | 50/60 | 1 | 9 | 61/2 | 305/8 | **2PC39** | 714.71 | **485.75** | 54.0 |
| **3** | 8 | 3 | 208-230/460 | 50/60 | 1 | 9 | 61/2 | 291/4 | **2PC41** | 673.93 | **458.75** | 53.0 |
| **316 STAINLESS STEEL/VITON MULTI-STAGE PUMPS** | | | | | | | | | | | | |
| **1/2** | 12 | 1 | 115/230 | 60 | 3/4 | 9 | 61/2 | 233/8 | **2PC42** | 846.39 | **576.00** | 38.0 |
| **3/4** | 12 | 1 | 115/230 | 60 | 3/4 | 9 | 61/2 | 237/8 | **2PC43** | 869.81 | **592.00** | 42.0 |
| **1** | 14 | 1 | 115/230 | 60 | 3/4 | 9 | 61/2 | 271/4 | **2PC45** | 920.79 | **626.50** | 48.0 |
| **1½** | 16 | 1 | 115/230 | 60 | 3/4 | 9 | 61/2 | 293/4 | **2PC47** | 969.72 | **659.50** | 51.0 |
| **3/4** | 12 | 3 | 208-230/460 | 50/60 | 3/4 | 9 | 61/2 | 237/8 | **2PC44** | 874.93 | **596.00** | 40.0 |
| **1** | 14 | 3 | 208-230/460 | 50/60 | 3/4 | 9 | 61/2 | 271/4 | **2PC46** | 923.85 | **628.50** | 48.0 |
| **1½** | 16 | 3 | 208-230/460 | 50/60 | 3/4 | 9 | 61/2 | 293/4 | **2PC48** | 957.49 | **651.50** | 51.0 |

(†) To convert to feet of head, multiply by 2.31. (‡) Operable on 230/460V, 50 Hz @ 5/6 of 60 Hz flow and 7/10 of 60 Hz pressure.
(*) Operation of pump in this range may result in reduced pump life and/or motor damage.

### BOOSTER PUMP SELECTION GUIDE

1) Determine pressure boost required above existing pressure.
2) Determine GPM needed to be pumped.
3) Read across top of specification column for pressure boost required.
4) Read down column to GPM required.

**Example: You have 20 PSI supply. You require 40 PSI at 10 GPM. Your boost requirement is 20 PSI. Read across pressure boost column to 20 PSI. Read down vertical column to gallons required (10 GPM) or next larger size. Correct pumps are Nos. 2P019, 2P423, 2PC43 and 2PC44.**



*If we don't have a pump for it, chances are it can't be pumped.*

# 1/3 TO 1 HP SELF-PRIMING CENTRIFUGAL PUMPS

**Description:** Designed for dewatering, circulating, booster, and dozens of other applications in commerce and industry. Units are provided with large peripheral circulation areas around the mechanical seal which provide cooling and constant cleaning of the seal faces. Self-primes to 15 feet; handle fluids from 40 to 160°F. Deliver flows to 4900 GPH or 70 feet of head. Choose a close-coupled model or pump head only. For use with nonflammable liquids compatible with pump component materials.

**Construction:** Casing incorporates self-priming dual volute; impeller is semi-open design, threaded to a stainless steel shaft (close-coupled units only). Cast iron mounting base has 7/16" mounting holes 6" OC. Casing is sealed by O-ring. Close-coupled units have convenient carrying handle for portability.

Cast iron casing, impeller and adapter; stainless steel shaft. Mechanical seal has stainless steel and Buna N parts, carbon/ceramic seat.

**Driver:** Dayton 1/3, 1/2, 3/4, or 1 HP 3450 RPM, NEMA 56J, continuous duty motors. Automatic reset thermal protection and shielded ball bearings locked onto shaft end. 3-Phase units have open drip-proof 230/460V, 50/60 Hz motors with double sealed ball bearings locked on both ends.

**No. 1P884 Pump Head Only.** For direct or belt drive from 5/8" diameter carbon steel shaft with 3/16 x 3/32" keyway. Shaft height 3 9/16". 1¼" NPT inlet and outlet ports. 3/8" Mounting slots are 3½" OC. Adapts to universal pump mounting base No. 1P675 (see Index). Maximum suction lift 20 ft. at 3450 RPM maximum speed. Teel brand.

## PUMP HEAD ONLY—PERFORMANCE

| Key | NPT Port Size (In.) | Stock No. | Pump RPM | Min. Motor Required | GPH of Water at Total Feet of Head 10 Ft. | 15 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | Max.* Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1¼ | 1P884 | 1725 | 1/4 HP | 1240 | 120 | — | — | — | — | — | 16 |
| | | | 2300 | 1/3 | 2245 | 1740 | 1040 | — | — | — | — | 28 |
| | | | 2800 | 1/2 | 3040 | 2740 | 2325 | 1220 | — | — | — | 34 |
| | | | 3450 | 1 | 3950 | 3780 | 3560 | 2970 | 2170 | 1160 | — | 55 |

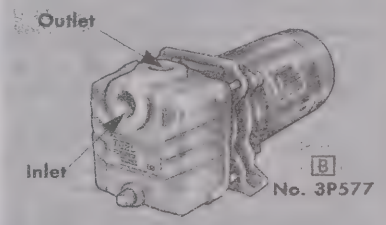
## CLOSE-COUPLED PUMP/MOTOR COMBINATIONS PERFORMANCE

| Key | NPT Port Size (In.) | Stock No. | HP | Motor Volts / 60 Hz | GPH of Water at Total Feet of Head 10 Ft. | 15 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | Max.* Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE PHASE MOTOR DRIVEN PUMPS** | | | | | | | | | | | | |
| B | 1 | 3P577 | 1/3 | 115/230 | 3000 | 2750 | 2500 | 2000 | 1400 | — | — | 52 |
| B | 1¼ | 1P852 | 1/2 | 115/230 | 4000 | 3800 | 3600 | 3000 | 2200 | 1200 | — | 59 |
| B | 1¼ | 1P853 | 3/4 | 115/230 | 4650 | 4475 | 4300 | 3700 | 3000 | 2000 | 830 | 65 |
| B | 1¼ | 1P854 | 1 | 115/230 | 4900 | 4650 | 4400 | 3800 | 3200 | 2450 | 1500 | 70 |
| **3-PHASE MOTOR DRIVEN PUMPS†** | | | | | | | | | | | | |
| B | 1¼ | 1P952 | 3/4 | 230/460 | 4650 | 4475 | 4300 | 3700 | 3000 | 2000 | 830 | 65 |
| B | 1¼ | 1P953 | 1 | 230/460 | 4900 | 4650 | 4400 | 3800 | 3200 | 2450 | 1500 | 70 |

*) Shut-off; to convert to PSI, divide by 2.31.
†) Operable on 230/460, 50 Hz at 5/6 of 60 Hz flow and total head performance.

## PUMP ORDERING DATA

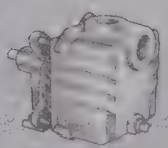
| Key | HP | Motor Phase | Description | Suction Discharge (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | — | — | Head Only | 1¼ | 7 9/16 | 6⅝ | 11 | **1P884** | $216.08 | **$136.75** | 23.0 |
| B | 1/3 | 1 | Close-Coupled | 1 | 10 | 5¾ | 17 1/16 | **3P577** | 362.08 | **255.00** | 38.0 |
| B | 1/2 | 1 | Close-Coupled | 1¼ | 10 | 5¾ | 17 7/16 | **1P852** | 392.83 | **276.00** | 39.0 |
| B | 3/4 | 1 | Close-Coupled | 1¼ | 10 | 5¾ | 18⅛ | **1P853** | 423.51 | **305.50** | 43.0 |
| B | 1 | 1 | Close-Coupled | 1¼ | 10 | 5¾ | 18⅞ | **1P854** | 448.92 | **315.25** | 45.0 |
| B | 3/4 | 3 | Close-Coupled | 1¼ | 9 | 5¾ | 16 9/16 | **1P952** | 493.44 | **315.25** | 43.0 |
| B | 1 | 3 | Close-Coupled | 1¼ | 9 | 5¾ | 16⅞ | **1P953** | 530.51 | **338.75** | 45.0 |




- Cast iron construction
- Single or 3-phase motors
- Medium head
- Clog-resistant cast iron impeller

TEEL®

Replacement Parts Available 1-800-323-0620




# 1" SELF-PRIMING CENTRIFUGAL UTILITY PUMP

**Description:** Medium volume general purpose pump for a wide variety of applications including irrigation, dewatering, and general water transfer. Handles clear nonflammable liquids compatible with pump component materials, and liquids that contain some sediment and/or solids up to 1/8" diameter. Self-primes to 6 feet. Handles fluids from 40 to 180°F. Measures 13¾L x 7½W x 8¾" H. Teel brand.

**Construction:** Center line discharge resists vapor binding. Unit has 1" suction and discharge connections. Closed impeller becomes with two 1" NPT x 3/4" brass garden hose adapters.

Cast aluminum casing, adapter, and impeller. Mechanical seal has stainless steel, Buna N parts, and carbon/ceramic seats.

**Driver:** Dayton 1/2 HP continuous-duty 3450 RPM, NEMA 56J, 115 VAC, 60 Hz, automatic reset thermal overload protection, split phase motor with 303 stainless steel shaft and 8 ft., 16/3 cord and plug.

**No. 2P390.** Shpg. wt. 19.0 lbs. List $236.74. Each **$174.25**; Lots 3.....$165.28

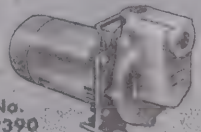
## SPECIFICATIONS DATA

| GPH of Water at Total Feet of Head† 10 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | Max. Head Ft. | PSI |
|---|---|---|---|---|---|---|
| 2280 | 1920 | 1440 | 900 | 360 | 57 | 25 |

(*) Shut-off (†) Flow rate based on 1" pipe; flow rate and pressure will decrease with smaller pipe and/or base.

- Up to 2280 GPH; up to 25 PSI
- 1/2 HP continuous-duty electric motor
- Lightweight aluminum construction
- Clog-resistant cast aluminum impeller

Replacement Parts Available 1-800-323-0620




TEEL®

Repair Service Available Contact Your Local Branch

# SELF-PRIMING CENTRIFUGAL HIGH-VOLUME LIQUID TRANSFER PUMPS

- Single and three-phase motors
- 1½ to 3" NPT suction and discharge
- 1/2 to 7½ HP
- Cast-iron construction
- Semi-open clog-resistant impeller
- Built-in check valve

**Description:** For high-volume applications in commerce and industry. Pumps clear semi-solids in suspension to 3/8" diameter. Self-prime to 20 feet; handle fluids from 40 to 160°F. Casing working pressure to 100 PSI. Choose single or three-phase motor, or order the pump head only. For use with nonflammable liquids compatible with pump component materials. Teel brand.

**Construction:** Self-priming dual volute; clog-resistant impeller and built-in check valve. Close-coupled units have carrying handle. Cast iron mounting base has 3/8" mounting slots 3⅛ x 4½" OC.

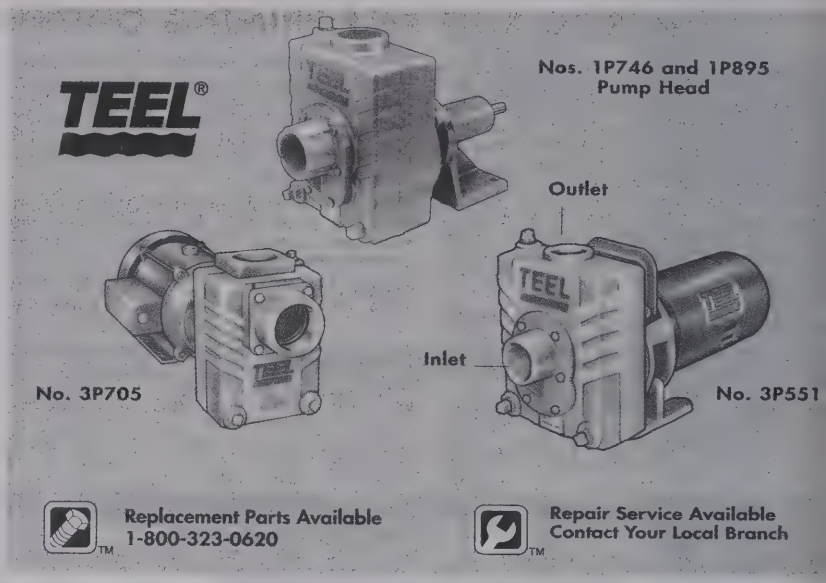
Cast iron casing, impeller and adapter (except Nos. 3P705, 3P706, and 3P707, which have bronze impeller); stainless steel shaft or shaft sleeve on close-coupled models; carbon steel protected shaft on pump heads. Mechanical seal has stainless steel, Buna N and carbon ceramic parts.

**Driver:** Single phase units have Dayton capacitor-start, 3450 RPM, 115/230V, 60 Hz NEMA 56J, continuous duty motors with automatic reset thermal protection. Sealed ball bearings at both ends of motors. 3-phase motors have double-sealed ball bearings locked on both ends. Open drip-proof construction, 230/460V, 50/60 Hz. 3, 5, and 7½ HP motors are 184JM frame, 3450 RPM, TEFC, with 1.0 service factor.

**Pump heads only:**

**No. 1P746:** 1½" NPT suction and discharge, 5/8" diameter carbon steel shaft with 3/16 x 3/32" keyway. 4½" shaft height. Mounting slots 4½" C.

**No. 1P895:** 2" suction and discharge ports, 3/4" double sealed ball bearings. 3/4" carbon steel shaft with stainless steel shaft sleeve and 3/16 x 3/32" keyway. 4⅝" shaft height. Four mounting holes 3¾"C, 2½" front to rear.




## PUMP HEADS ONLY—PERFORMANCE DATA

| Port Size | Pump Head Stock No. | Pump RPM | Min. Motor Required | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | 80 Ft. | 90 Ft. | Max.* Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½" NPT | 1P746 | 2300 | 3/4 HP | 4200 | 3000 | 1260 | — | — | — | — | — | — | 34 |
| | | 2800 | 1 | — | 4380 | 3600 | 2400 | 600 | — | — | — | — | 52 |
| | | 3450 | 2 | — | 6360 | 5880 | 5280 | 4500 | 3600 | 2400 | 1200 | — | 88 |
| 2 | 1P895 | 2300 | 1 | 5040 | 3540 | 1440 | — | — | — | — | — | — | 33 |
| | | 2800 | 1½ | — | 5650 | 4440 | 2940 | 600 | — | — | — | — | 52 |
| | | 3450 | 3 | — | 8100 | 7320 | 6000 | 5100 | 4260 | 3000 | 1260 | — | 84 |

## CLOSE-COUPLED PUMP/MOTOR COMBINATION—PERFORMANCE DATA

| Port Size (In.) | Stock No. | HP | Motor Volts, 60 Hz | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | 80 Ft. | 90 Ft. | Max.* Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE-PHASE MOTOR DRIVE PUMPS** | | | | | | | | | | | | | |
| 1½ NPT | 3P551 | 1/2 | 115 / 230 | 3,450 | 3,075 | 2,650 | 2,200 | 1,650 | 1,100 | 400 | — | — | 74 |
| 1½ | 3P552 | 3/4 | 115 / 230 | 4,650 | 4,300 | 3,850 | 3,350 | 2,750 | 2,100 | 1,200 | — | — | 78 |
| 1½ | 3P553 | 1½ | 115 / 230 | 5,950 | 5,500 | 5,010 | 4,500 | 3,900 | 3,250 | 2,550 | 1,800 | 900 | 93 |
| 1½ | 1P851 | 2 | 115 / 230 | 7,000 | 6,700 | 6,100 | 5,500 | 4,900 | 4,200 | 3,350 | 2,500 | 1,450 | 95 |
| 2 | 1P896 | 1½ | 115 / 230 | 6,600 | 5,760 | 5,100 | 4,500 | 3,600 | 2,880 | 1,800 | 900 | — | 86 |
| 2 | 1P897 | 2 | 115 / 230 | 7,620 | 6,900 | 6,180 | 5,400 | 4,560 | 3,600 | 2,400 | 1,200 | — | 86 |
| **3-PHASE MOTOR DRIVEN PUMPS†** | | | | | | | | | | | | | |
| 1½ | 1P954 | 1½ | 230 / 460 | 5,950 | 5,500 | 5,010 | 4,500 | 3,900 | 3,250 | 2,550 | 1,800 | 900 | 93 |
| 2 | 1P955 | 2 | 230 / 460 | 7,620 | 6,900 | 6,180 | 5,400 | 4,560 | 3,600 | 2,400 | 1,200 | — | 86 |
| 3 | 3P705 | 3 | 230 / 460 | 15,000 | 13,500 | 12,000 | 9,900 | 7,800 | 4,800 | — | — | — | 65 |
| 3 | 3P706 | 5 | 230 / 460 | 18,300 | 16,800 | 15,600 | 14,100 | 12,300 | 10,800 | 8,700 | 6,300 | — | 90 |
| 3 | 3P707 | 7½ | 230 / 460 | 22,500 | 21,600 | 20,100 | 18,600 | 17,100 | 15,600 | 14,000 | 12,000 | 9,000 | 110 |

(*) Shut-off; to convert to PSI, divide by 2.31. (†) Operable on 230/460V, 50 Hz at 5/6 of 60 Hz flow and total head performance.

## PUMP ORDERING DATA

| Motor HP | Motor Phase | Description | Suction & Discharge (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| — | — | Head Only | 1½ | 10⅛ | 7⅛ | 11⅛ | **1P746** | $321.04 | **$204.75** | 33.0 |
| **1/2** | 1 | Close-Coupled | 1½ | 11 | 7⅛ | 16 1/16 | **3P551** | 534.15 | **342.50** | 49.0 |
| **3/4** | 1 | Close-Coupled | 1½ | 11 | 7⅛ | 17⅝ | **3P552** | 571.48 | **365.50** | 53.0 |
| **1½** | 1 | Close-Coupled | 1½ | 11 | 7⅛ | 16⅞ | **3P553** | 695.98 | **444.25** | 58.0 |
| **2** | 1 | Close-Coupled | 1½ | 11 | 7⅛ | 17⅝ | **1P851** | 715.68 | **497.50** | 68.0 |
| — | — | Head Only | 2 | 10⅞ | 7⅛ | 15¾ | **1P895** | 449.03 | **315.50** | 41.0 |
| **1½** | 1 | Close-Coupled | 2 | 11 13/16 | 7⅛ | 18⅜ | **1P896** | 726.04 | **464.25** | 66.0 |
| **2** | 1 | Close-Coupled | 2 | 11 13/16 | 7⅛ | 19⅛ | **1P897** | 807.98 | **517.50** | 73.0 |
| **1½** | 3 | Close-Coupled | 1½ | 11 | 7⅛ | 16⅝ | **1P954** | 727.14 | **462.75** | 58.0 |
| **2** | 3 | Close-Coupled | 2 | 11 13/16 | 7⅛ | 19⅛ | **1P955** | 831.85 | **531.50** | 73.0 |
| **3** | 3 | Close-Coupled | 3 | 11⅞ | 12 | 24¾ | **3P705** | 951.27 | **777.00** | 143.0 |
| **5** | 3 | Close-Coupled | 3 | 11⅞ | 12 | 24¾ | **3P706** | 1065.70 | **867.00** | 143.0 |
| **7½** | 3 | Close-Coupled | 3 | 11⅞ | 12 | 24¾ | **3P707** | 1145.70 | **933.00** | 150.0 |



*If we don't have a pump for it, chances are it can't be pumped.*

# 1/3 AND 1½ HP STAINLESS STEEL TRANSFER PUMP

- **For compatible chemicals with specific gravity up to and including 1.6-perchloroethylene (PCE)**

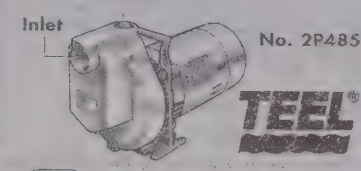
**Description:** Type 316 stainless steel, self-priming centrifugal pump for transferring perchloroethylene and other nonflammable solvents from drums and storage tanks. Pump should be used ONLY with nonflammable liquids compatible with pump component materials. **Not recommended for trichloroethylene.** Pump will lift liquid 6 feet without a foot valve. Fluid temperature range: 40 to 200°F.

**Construction:** 1" NPT inlet and outlet. Centerline discharge and self-priming casing minimize gas entrapment problems. Semi-open impeller resists clogging. Rear type disassembly makes it easy to clean without disassembly. Casing is sealed with Viton O-ring.

Stainless steel casing, casing cover, and impeller. Cast iron motor adapter. Mechanical seal has Viton, stainless steel parts and carbon/ceramic seats.

**Driver:** 1/3 and 1½ HP, 3450 RPM, Dayton motor with ball bearings. NEMA 56J mounting face. Open, dripproof construction. Automatic reset thermal protection. Stainless steel motor shaft. Single-phase units are 115/230 VAC, 60 Hz motors. Three-phase unit is 230/260 VAC, 50/60 Hz motor.

Repair Service Available
Contact Your Local Branch




Replacement Parts Available
1-800-323-0620

## PERFORMANCE DATA

| Stock Nos. | Total Head | GPM of Water at Total Feet of Head | | | | | | | | | Max. Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Feet | 0 | 5 | 15 | 25 | 35 | 45 | 55 | 60 | 65 | |
| | PSI (Water) | 0 | 2.0 | 6.5 | 10.8 | 15.2 | 19.5 | 23.8 | 26.0 | 28.1 | |
| | PSI (PCE)* | 0 | 3.5 | 10.3 | 17.3 | 24.2 | 31.2 | 38.1 | 41.6 | 45.0 | |
| | Flow (GPM) | | | | | | | | | | |
| 2P485 | 1/3 HP | 31 | 28 | 21 | 12 | 0 | | | | | 31.5 |
| 4P909, 4P910 | 1½ HP | 68 | 66 | 61 | 54 | 46 | 37 | 27 | 20 | 10 | 68.0 |

) PSI based on specific gravity of perchloroethylene; 1.6.

## SPECIFICATIONS & ORDERING DATA

| HP | PH | Motor Type | Volts 60 Hz | Ports NPT (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1 | ODP* | 115/230 | 1 | 8¾ | 6½ | 16½ | **2P485** | $750.69 | **$510.00** | 45.0 |
| 1½ | 1 | ODP* | 115/230 | 1 | 8¾ | 6½ | 19½ | **4P909** | 853.00 | **742.00** | 49.0 |
| 1½ | 3 | ODP* | 230/460 | 1 | 8¾ | 6½ | 18 | **4P910** | 895.28 | **778.50** | 48.0 |

) Open Dripproof.

# ALUMINUM TRANSFER PUMP

**escription:** Lightweight aluminum self-riming pump for general purpose chemi-al transfer from drums or storage tanks. ump should be used ONLY with nonflam-able liquids compatible with pump com-onent materials. **Not recommended for per-loroethylene or trichloroethylene.** Pump ill lift liquid 10 feet without a foot valve. uid temperature range 40° to 200°F. easures: 6W x 9¼H x 16⅝"L.

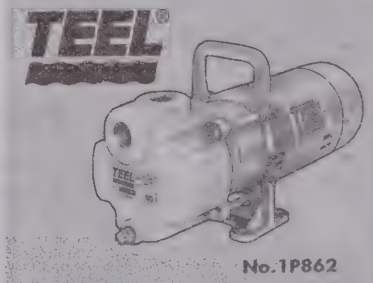
**onstruction:** 1" NPT inlet and outlet. enterline discharge and self-priming cas-g minimize gas entrapment problems. emi-open impeller resists clogging. Rear pe disassembly makes it easy to clean without disassembly. Casing is sealed with Viton O-ring.

Aluminum casing, adapter, and impeller. Mechanical seal has Viton, stainless steel parts and carbon/ceramic seats.

**Driver:** 1/3 HP, 3450 RPM, 115/230V, 60 Hz Dayton motor with ball bearings. NEMA 56J mounting face. Open dripproof construction. Automatic reset thermal protection. Stainless steel motor shaft.

**No. 1P862.** Shpg. wt. 25.0 lbs. List ..... $429.24.
Each ..... **$275.50**

Repair Service Available
Contact Your Local Branch




No. 1P862

Replacement Parts Available
1-800-323-0620

## PUMP PERFORMANCE

| | GPM of Water at Total Feet of Head | | | | | | Max. Head (Ft.) |
|---|---|---|---|---|---|---|---|
| Total Head (Feet) | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 31.5 |
| Equivalent PSI, (Water) † | 0 | 2.0 | 4.3 | 6.5 | 8.6 | 10.8 | 13.0 | 13.6 |
| Flow (GPM) | 31 | 28 | 25 | 21 | 17 | 12 | 4 | 0 |

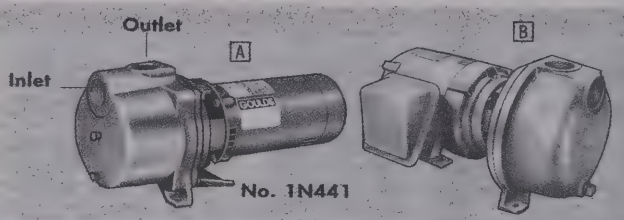
PSI based on specific gravity of water; 1.0.

**HAVE YOU SELECTED THE PROPER PUMP?**
**CHECK THE CHEMICAL RESISTANCE (COMPATIBILITY) CHART**
**LOCATED IN THE TERMINOLOGY SECTION**
**STARTING ON PAGE 3642**

# SELF-PRIMING CLOSE-COUPLED PUMPS

GOULDS PUMPS, INC.
WATER TECHNOLOGIES GROUP

Replacement Parts Available
1-800-323-0620




FREE DELIVERY
on orders of
$900 or more
See Freight Policy

- **Capacities to 137 GPM**
- **Heads to 135 ft.**
- **Casing design prevents the seal from running dry**
- **Back pull out design for ease of maintenance**
- **Continuous-duty**

**Description:** Designed for lawn sprinkling, irrigation, air conditioning systems, heat pump and water transfer. Once primed, pump stays primed. Pump handles temperatures to 160°F (71°C). **For use with nonflammable liquids which are compatible with pump component materials.** Goulds brand.

**Construction:**

A Cast iron with blue baked-on electrocoat paint. Cast iron casing. Enclosed impeller is 20% glass-filled Noryl on 3/4-3 HP models. Mechanical shaft seal has stainless steel, Buna N carbon/ceramic parts.

B Cast Iron Casings, Bronze Impeller and 300 series stainless steel sleeve. Blue baked-on electro-coat paint. Mechanical shaft seal has stainless steel Buna N, carbon/ceramic parts.

**Driver:** 3500 RPM stainless steel shaft. **Single-phase:** 3/4-5 HP, Built-in overload with automatic reset. Capacitor type. **Three-phase:** 2 and 5 HP, Overload protection must be provided in starter unit. Starter and heaters must be ordered separately. See page 3234 for complete pump control boxes.

## PERFORMANCE DATA

| Fig. | HP | Stock No. | Suction Lift (Ft.) | GPM of Water at Discharge Pressure in PSI 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | Max. Head Ft. | PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3/4 | 1N441 | 5 | 46 | 45 | 44 | 40 | 34 | 26 | 10 | — | — | 104 | 45 |
| | | | 10 | 42 | 41 | 41 | 37 | 31 | 21 | 4 | — | — | — | — |
| | | | 15 | 37 | 36 | 36 | 35 | 26 | 15 | — | — | — | — | — |
| | | | 20 | 32 | 31 | 31 | 29 | 22 | 10 | — | — | — | — | — |
| | | | 25 | 24 | 24 | 24 | 22 | 14 | — | — | — | — | — | — |
| A | 1 | 1N440 | 5 | 60 | 56 | 53 | 47 | 43 | 38 | 29 | 18 | — | 118 | 51 |
| | | | 10 | 59 | 54 | 51 | 46 | 41 | 34 | 22 | 11 | — | — | — |
| | | | 15 | 53 | 52 | 49 | 44 | 38 | 31 | 16 | — | — | — | — |
| | | | 20 | 48 | 47 | 46 | 42 | 36 | 26 | 8 | — | — | — | — |
| | | | 25 | 43 | 42 | 41 | 38 | 32 | 21 | — | — | — | — | — |
| A | 1.5 | 1N439 | 5 | 63 | 63 | 63 | 63 | 60 | 55 | 45 | 33 | — | 122 | 53 |
| | | | 10 | 59 | 59 | 59 | 58 | 55 | 51 | 38 | 25 | — | — | — |
| | | | 15 | 54 | 54 | 54 | 52 | 51 | 47 | 33 | 10 | — | — | — |
| | | | 20 | 49 | 49 | 49 | 47 | 46 | 42 | 20 | — | — | — | — |
| | | | 25 | 39 | 39 | 39 | 38 | 37 | 36 | 14 | — | — | — | — |
| A | 2 | 1N437, 1N438 | 5 | 86 | 86 | 86 | 85 | 80 | 73 | 65 | 57 | 41 | 125 | 55 |
| | | | 10 | 77 | 77 | 77 | 74 | 72 | 68 | 60 | 51 | 30 | — | — |
| | | | 15 | 70 | 70 | 70 | 69 | 67 | 62 | 57 | 45 | — | — | — |
| | | | 20 | 59 | 59 | 59 | 58 | 57 | 55 | 50 | 30 | — | — | — |
| | | | 25 | 46 | 46 | 46 | 45 | 44 | 44 | 43 | — | — | — | — |
| A | 3 | 1N435, 1N436 | 5 | 110 | 109 | 105 | 100 | 92 | 85 | 73 | 61 | 46 | 129 | 56 |
| | | | 10 | 100 | 100 | 100 | 96 | 90 | 81 | 67 | 55 | 32 | — | — |
| | | | 15 | 88 | 88 | 88 | 86 | 84 | 76 | 60 | 50 | — | — | — |
| | | | 20 | 76 | 76 | 76 | 75 | 75 | 71 | 55 | 40 | — | — | — |
| | | | 25 | 60 | 60 | 60 | 59 | 57 | 56 | 50 | — | — | — | — |
| B | 3 | 1N453, 1N447,1N451, 1N445 | 5 | 130 | 130 | 130 | 125 | 97 | 72 | — | — | — | 101 | 44 |
| | | | 10 | 120 | 120 | 120 | 112 | 85 | 55 | — | — | — | — | — |
| | | | 15 | 100 | 100 | 100 | 97 | 75 | 30 | — | — | — | — | — |
| | | | 20 | 85 | 85 | 85 | 82 | 55 | — | — | — | — | — | — |
| | | | 25 | — | — | — | — | — | — | — | — | — | — | — |
| B | 3 | 1N452, 1N446,1N450, 1N444 | 5 | 120 | 117 | 111 | 105 | 95 | 87 | 75 | 60 | 40 | 135 | 58 |
| | | | 10 | 114 | 114 | 109 | 100 | 92 | 82 | 72 | 50 | 25 | — | — |
| | | | 15 | 93 | 93 | 93 | 93 | 87 | 77 | 63 | 40 | — | — | — |
| | | | 20 | 77 | 77 | 77 | 77 | 77 | 70 | 55 | 25 | — | — | — |
| | | | 25 | — | — | — | — | — | — | — | — | — | — | — |
| B | 5 | 1N449, 1N443,1N448, 1N442 | 5 | 137 | 137 | 137 | 137 | 137 | 135 | 125 | 110 | 70 | 126 | 54 |
| | | | 10 | 122 | 122 | 122 | 122 | 122 | 122 | 118 | 95 | — | — | — |
| | | | 15 | 105 | 105 | 105 | 105 | 105 | 105 | 102 | 80 | — | — | — |
| | | | 20 | 87 | 87 | 87 | 87 | 87 | 87 | 85 | — | — | — | — |
| | | | 25 | 62 | 62 | 62 | 62 | 62 | 62 | 60 | — | — | — | — |

## SPECIFICATIONS AND ORDERING DATA

| Fig. | HP | Motor Phase | Motor Type | Volts 60 Hz | Inlet (In.) | Outlet (In.) | Dimensions (In.) H | W | L | Goulds Model* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3/4 | 1 | ODP | 115/230 | 1½ NPT | 1½ NPT | 9¼ | 8¼ | 19 3/16 | GT07 | 1N441 | $357.00 | $300.00 | 54.0 |
| A | 1 | 1 | ODP | 115/230 | 1½ | 1½ | 9¼ | 8¼ | 19⅞ | GT10 | 1N440 | 373.00 | 313.50 | 57.0 |
| A | 1½ | 1 | ODP | 115/230 | 1½ | 1½ | 9¼ | 8¼ | 21 13/16 | GT15 | 1N439 | 400.00 | 336.00 | 63.0 |
| A | 2 | 1 | ODP | 230 | 1½ | 1½ | 9¼ | 8¼ | 20 9/16 | GT20 | 1N438 | 563.00 | 473.25 | 66.0 |
| A | 3 | 1 | ODP | 230 | 1½ | 1½ | 9¼ | 8¼ | 21 11/32 | GT30 | 1N436 | 813.00 | 684.00 | 102.0 |
| A | 2 | 3 | ODP | 230/460 | 1½ | 1½ | 9¼ | 8¼ | 20 1/16 | G203 | 1N437 | 612.00 | 514.50 | 67.0 |
| A | 3 | 3 | ODP | 230/460 | 1½ | 1½ | 9¼ | 8¼ | 21 1/16 | G303 | 1N435 | 860.00 | 723.00 | 88.0 |
| B | 3 | 1 | ODP | 115/230 | 2 | 2 | 11½ | 13⅜ | 21½ | SPB13012 | 1N453 | 1438.00 | 1183.00 | 154.0 |
| B | 3 | 1 | TEFC | 230 | 2 | 2 | 11½ | 13⅜ | 22½ | SPB23012 | 1N447 | 2039.00 | 1685.00 | 132.0 |
| B | 3 | 1 | ODP | 115/230 | 2 | 2 | 11½ | 13⅜ | 21½ | SPB13012H | 1N452 | 1431.00 | 1177.00 | 143.0 |
| B | 3 | 1 | TEFC | 230 | 2 | 2 | 11½ | 13⅜ | 21½ | SPB23012H | 1N446 | 2030.00 | 1675.00 | 135.0 |
| B | 5 | 1 | ODP | 230 | 2 | 2 | 11½ | 15⅜ | 21½ | SPB15013 | 1N449 | 1837.00 | 1514.00 | 164.0 |
| B | 5 | 1 | TEFC | 230 | 2 | 2 | 11½ | 14 13/16 | 24¼ | SPB25013 | 1N443 | 2363.00 | 1949.00 | 140.0 |
| B | 3 | 3 | ODP | 200-230/460 | 2 | 2 | 11½ | 11⅝ | 20⅜ | SPB13035 | 1N451 | 1303.00 | 1073.00 | 125.0 |
| B | 3 | 3 | TEFC | 200-230/460 | 2 | 2 | 11½ | 13⅜ | 21½ | SPB23035 | 1N445 | 1485.00 | 1222.00 | 140.0 |
| B | 3 | 3 | ODP | 200-230/460 | 2 | 2 | 11½ | 11⅝ | 20⅜ | SPB13035H | 1N450 | 1303.00 | 1072.00 | 122.0 |
| B | 3 | 3 | TEFC | 200-230/460 | 2 | 2 | 11½ | 13⅜ | 21½ | SPB23035H | 1N444 | 1485.00 | 1222.00 | 145.0 |
| B | 5 | 3 | ODP | 200-230/460 | 2 | 2 | 11½ | 13⅜ | 21½ | SPB15035 | 1N448 | 1384.00 | 1139.00 | 147.0 |
| B | 5 | 3 | TEFC | 200-230/460 | 2 | 2 | 11½ | 13⅜ | 22½ | SPB25035 | 1N442 | 1528.00 | 1258.00 | 154.0 |

(*) "H" at the end of Model number indicates high head impeller.

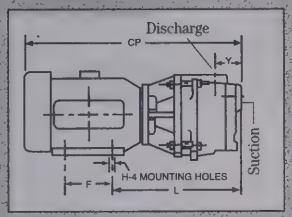


*If we don't have a pump for it, chances are it can't be pumped.*

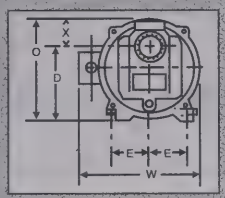
# HIGH-PRESSURE SELF-PRIMING PUMPS

## STAINLESS STEEL FITTED LAWN SPRINKLER/BOOSTER PUMPS

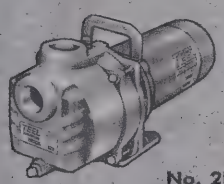
**Modification & Service Available**
**Contact Your Local Branch**




TEEL®




**Replacement Parts Available**
**1-800-323-0620**



No. 2P004

- **316SS Enclosed impellers**
- **Casing working pressures to 175 PSI**
- **Self-priming to 25 ft.**
- **Single and 2-stage units**

### PUMP DIMENSIONAL DATA (In.)

| Stock No. | CP+ | D | E | F | H | L | O | W | X | Y |
|---|---|---|---|---|---|---|---|---|---|---|
| 2P004 | 17 5/16 | 6 3/8 | 2 1/4 | 3 | 1/2 | 6 13/32 | 10 11/16 | 8 | 2 5/8 | 3 1/8 |
| 2P005 | 17 13/16 | 6 3/8 | 2 1/4 | 3 | 1/2 | 6 13/32 | 10 11/16 | 8 | 2 5/8 | 3 1/8 |
| 2P006 | 18 17/32 | 6 3/8 | 2 1/4 | 3 | 1/2 | 6 13/32 | 10 11/16 | 8 | 2 5/8 | 3 1/8 |
| 1V285 | 17 25/32 | 6 3/8 | 2 1/4 | 3 | 1/2 | 6 13/32 | 10 11/16 | 8 | 2 5/8 | 3 1/8 |
| 2P104 | 18 3/4 | 6 3/8 | 2 1/4 | 3 | 1/2 | 6 13/32 | 10 11/16 | 8 | 2 5/8 | 3 1/8 |
| 2P582, 1V294 | 18 3/4 | 6 3/8 | 2 1/4 | 3 | 1/2 | 6 13/32 | 9 1/4 | 8 | 2 5/8 | 3 1/8 |
| 1V289, 1V296 | 19 1/4 | 6 3/8 | 2 1/4 | 3 | 1/2 | 6 13/32 | 9 1/4 | 8 | 2 5/8 | 3 1/8 |
| 3P704, 3P703 | 25 1/4 | 5 9/16 | 3 3/4 | 5 1/2 | 13/32 | 15 13/16 | 10 1/2 | 12 | 2 5/8 | 3 1/8 |

(+) This dimension may vary due to motor manufacturer's specifications. **NOTE:** All dimensions have a tolerance of ± 1/8".

### SPECIFICATIONS DATA

| HP | Stock No. | Suction Lift (Ft.) | GPM of Water at Discharge Pressure in PSI* 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | Max. PSI† |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 2P004 | 5 | 48 | 45 | 38 | 34 | 26 | 15 | — | — | — | — | — | — | — | 39 |
| | | 10 | 43 | 40 | 37 | 30 | 21 | 9 | — | — | — | — | — | — | — | 36 |
| | | 15 | 39 | 37 | 33 | 27 | 16 | — | — | — | — | — | — | — | — | 34 |
| | | 20 | 31 | 28 | 25 | 20 | 10 | — | — | — | — | — | — | — | — | 32 |
| | | 25 | 26 | 24 | 20 | 15 | — | — | — | — | — | — | — | — | — | 30 |
| 1 | 2P005 | 5 | 57 | 51 | 45 | 39 | 32 | 23 | 14 | — | — | — | — | — | — | 44 |
| | | 10 | 48 | 45 | 42 | 36 | 28 | 19 | 8 | — | — | — | — | — | — | 42 |
| | | 15 | 44 | 42 | 39 | 32 | 25 | 15 | — | — | — | — | — | — | — | 40 |
| | | 20 | 37 | 35 | 32 | 28 | 21 | 10 | — | — | — | — | — | — | — | 37 |
| | | 25 | 30 | 26 | 21 | 14 | 6 | — | — | — | — | — | — | — | — | 34 |
| 1½ | 2P006, 1V285 | 5 | 77 | 71 | 64 | 57 | 49 | 41 | 31 | 19 | — | — | — | — | — | 50 |
| | | 10 | 74 | 68 | 62 | 54 | 46 | 36 | 26 | 12 | — | — | — | — | — | 47 |
| | | 15 | 72 | 65 | 58 | 50 | 42 | 32 | 21 | — | — | — | — | — | — | 45 |
| | | 20 | 66 | 62 | 55 | 47 | 38 | 28 | 14 | — | — | — | — | — | — | 43 |
| | | 25 | 46 | 45 | 44 | 42 | 34 | 23 | 8 | — | — | — | — | — | — | 41 |
| 2 | 2P104 | 5 | 89 | 82 | 75 | 66 | 57 | 47 | 37 | 24 | 10 | — | — | — | — | 54 |
| | | 10 | 86 | 79 | 71 | 62 | 53 | 43 | 31 | 18 | 4 | — | — | — | — | 52 |
| | | 15 | 83 | 75 | 67 | 59 | 49 | 37 | 26 | 12 | — | — | — | — | — | 50 |
| | | 20 | 80 | 72 | 64 | 54 | 42 | 32 | 21 | 7 | — | — | — | — | — | 48 |
| | | 25 | 77 | 69 | 60 | 50 | 39 | 27 | 15 | — | — | — | — | — | — | 45 |
| 2 | 2P852, 1V294 | 5 | 62 | 61 | 59 | 55 | 52 | 48 | 45 | 41 | 36 | 32 | 28 | 22 | 15 | 75 |
| | | 10 | 61 | 60 | 56 | 52 | 49 | 46 | 41 | 37 | 33 | 27 | 23 | 16 | — | 73 |
| | | 15 | 56 | 56 | 54 | 50 | 47 | 43 | 38 | 35 | 30 | 26 | 20 | — | — | 71 |
| | | 20 | 55 | 55 | 53 | 49 | 46 | 42 | 37 | 34 | 29 | 23 | — | — | — | 69 |
| | | 25 | 54 | 54 | 52 | 48 | 45 | 40 | 36 | 32 | 26 | — | — | — | — | 67 |
| 3 | 1V289, 1V296 | 5 | 79 | 78 | 75 | 71 | 69 | 67 | 63 | 60 | 58 | 52 | 42 | 37 | 25 | 77 |
| | | 10 | 78 | 77 | 74 | 70 | 68 | 65 | 62 | 59 | 54 | 50 | 41 | 34 | 22 | 75 |
| | | 15 | 77 | 75 | 73 | 69 | 67 | 64 | 60 | 58 | 52 | 46 | 40 | 28 | 15 | 73 |
| | | 20 | 76 | 74 | 72 | 68 | 65 | 62 | 59 | 54 | 50 | 42 | 34 | 24 | 8 | 71 |
| | | 25 | 74 | 73 | 70 | 67 | 63 | 60 | 58 | 52 | 46 | 40 | 29 | 15 | — | 69 |
| 5 | 3P704 | 5 | 122 | 115 | 107 | 99 | 90 | 82 | 72 | 62 | 50 | 37 | 26 | 14 | — | 70 |
| | | 10 | 119 | 112 | 104 | 96 | 87 | 79 | 68 | 57 | 45 | 33 | 22 | — | — | 68 |
| | | 15 | 116 | 109 | 100 | 93 | 84 | 75 | 64 | 53 | 43 | 27 | 15 | — | — | 65 |
| | | 20 | 112 | 104 | 96 | 87 | 79 | 68 | 57 | 45 | 33 | 18 | — | — | — | 63 |
| | | 25 | 109 | 100 | 93 | 84 | 75 | 64 | 53 | 40 | 27 | 13 | — | — | — | 61 |
| 7½ | 3P703 | 5 | 157 | 152 | 148 | 140 | 132 | 124 | 114 | 101 | 87 | 73 | 56 | 38 | 20 | 78 |
| | | 10 | 155 | 151 | 143 | 137 | 129 | 120 | 109 | 96 | 82 | 67 | 48 | 30 | — | 76 |
| | | 15 | 153 | 149 | 141 | 134 | 125 | 116 | 104 | 90 | 76 | 61 | 40 | 24 | — | 74 |
| | | 20 | 151 | 143 | 137 | 129 | 120 | 109 | 96 | 82 | 67 | 50 | 35 | 17 | — | 71 |
| | | 25 | 149 | 141 | 134 | 125 | 116 | 104 | 90 | 76 | 61 | 44 | 25 | 10 | — | 69 |

(*) Does not include pressure losses in suction and discharge piping. (†) To convert PSI to head in feet of water, multiply by 2.31

**Description:** Designed for both lawn sprinkling and booster applications. Once primed, pump stays primed. Self-primes to 25 ft. Multi-staged models can handle multi-head sprinkler applications. Handles fluids from 40° to 160°F. For use with non-flammable liquids compatible with pump component materials.

**Construction:** Easy clean-out design. Removable and replaceable volute/diffusers. Front drain plug. Carrying handles on 3/4 HP-2 HP single stage pumps.

Cast-iron casing, volute/diffusers and adapter with 316SS enclosed impellers.

Buna N O-ring casing seal. Type 21 mechanical seal has stainless steel, Buna N and ceramic parts.

**Driver:** Single-phase motors are 3450 RPM capacitor-start, with automatic reset thermal protection, 40°C rise, and continuous-duty open drip-proof construction. 5 HP and 7½ HP three-phase motors are (TEFC) totally enclosed, fan-cooled 3450 RPM with double shielded pre-lubricated ball bearings; 40°C rise and continuous-duty range. Teel brand.

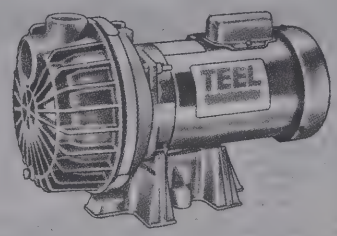
### ORDERING DATA

| Pump HP | Stages | Volts, 60 Hz | Phase | RPM | NEMA Frame | Ports (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 1 | 115 / 230 | 1 | 3450 | 56J | 1½ NPT | 2P004 | $451.75 | $298.50 | 58.0 |
| 1 | 1 | 115 / 230 | 1 | 3450 | 56J | 1½ | 2P005 | 473.86 | 308.75 | 61.0 |
| 1½ | 1 | 115 / 230 | 1 | 3450 | 56J | 1½ | 2P006 | 555.72 | 360.00 | 61.0 |
| 1½ | 1 | 230 / 460 | 3 | 3450 | 56J | 1½ | 1V285 | 533.13 | 410.25 | 61.0 |
| 2 | 1 | 115 / 230 | 1 | 3450 | 56J | 1½ | 2P104 | 624.68 | 404.00 | 71.0 |
| 2 | 2 | 115 / 230 | 1 | 3450 | 56C | 1½ | 2P852 | 863.37 | 530.50 | 77.0 |
| 2 | 2 | 230 / 460 | 3 | 3450 | 56C | 1½ | 1V294 | 730.41 | 562.50 | 77.0 |
| 3 | 2 | 230 | 1 | 3450 | 56C | 1½ | 1V289 | 783.11 | 603.00 | 91.0 |
| 3 | 2 | 230 / 460 | 3 | 3450 | 56C | 1½ | 1V296 | 774.71 | 626.50 | 86.0 |
| 5 | 1 | 230 / 460 | 3 | 3450 | JM | 2 | 3P704 | 1303.54 | 843.50 | 113.0 |
| 7½ | 1 | 230 / 460 | 3 | 3450 | JM | 2 | 3P703 | 1395.77 | 904.00 | 130.0 |

# SELF-PRIMING CENTRIFUGAL PUMPS

- **Heavy-duty 3/4 - 2½ HP TEFC motors**
- **Continuous duty**
- **Corrosion-resistant thermoplastic construction**
- **Stainless steel fasteners and inserts**
- **Viton® fitted mechanical shaft seal**
- **Capacities to 92 GPM**

Use for water transfer, dewatering, and lawn sprinkling applications. Specially fitted to be resistant to brine or salt water. Fiberglass reinforced thermoplastic pump body has ribs for added strength. Noryl® impeller and stainless steel shaft. Residential or commercial use. 3/4 - 1½ HP, 115/230V, 60 Hz capacitor start motor, factory wired for 230V. 2 - 2½ HP models are 230V only. Maximum operating temperature is 140°. Seal has ceramic seat, carbon head, stainless steel springs, and Viton elastomers.




No. 4RJ44

TEEL®

New

## SELF-PRIMING CENTRIFUGAL PUMP PERFORMANCE DATA

| Stock No. | HP | Lift Suction (Ft.) | Pump Performance in Gallons per Minute @ Discharge Pressure in PSI 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | Maximum Pressure PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4RJ44 | 3/4 | 5 | 49.0 | 46.0 | 40.0 | 34.0 | 28.0 | 21.0 | 15.0 | — | — | 42 |
| | | 10 | 44.0 | 41.0 | 38.0 | 31.0 | 25.0 | 17.0 | 12.0 | — | — | — |
| | | 15 | 43.0 | 40.0 | 35.0 | 29.0 | 22.0 | 14.0 | 7.0 | — | — | — |
| | | 20 | 40.0 | 39.0 | 33.0 | 26.0 | 18.0 | 10.0 | — | — | — | — |
| | | 25 | — | — | — | — | — | — | — | — | — | — |
| 4RJ41 | 1 | 5 | 55.0 | 51.0 | 45.0 | 38.0 | 31.0 | 23.0 | 17.0 | — | — | 46 |
| | | 10 | 49.0 | 46.0 | 42.0 | 35.0 | 28.0 | 19.0 | 13.0 | — | — | — |
| | | 15 | 48.0 | 42.0 | 39.0 | 32.0 | 24.0 | 16.0 | 8.0 | — | — | — |
| | | 20 | 45.0 | 44.0 | 37.0 | 29.0 | 20.0 | 11.0 | — | — | — | — |
| | | 25 | — | — | — | — | — | — | — | — | — | — |
| 4RJ42 | 1½ | 5 | 67.0 | 66.0 | 61.0 | 55.0 | 48.0 | 39.0 | 33.0 | 18.0 | — | 50 |
| | | 10 | 61.0 | 58.0 | 56.0 | 52.0 | 45.0 | 37.0 | 27.0 | 14.0 | — | — |
| | | 15 | 56.0 | 55.0 | 54.0 | 51.0 | 44.0 | 34.0 | 20.0 | 8.0 | — | — |
| | | 20 | 46.0 | 45.0 | 44.0 | 43.0 | 37.0 | 28.0 | 11.0 | — | — | — |
| | | 25 | — | — | — | — | — | — | — | — | — | — |
| 4RJ43 | 2 | 5 | 69.0 | 64.0 | 59.0 | 53.0 | 47.0 | 40.0 | 34.0 | 24.0 | 14.0 | 58 |
| | | 10 | 67.0 | 62.0 | 56.0 | 50.0 | 45.0 | 38.0 | 30.0 | 18.0 | 7.0 | — |
| | | 15 | 65.0 | 60.0 | 54.0 | 48.0 | 42.0 | 35.0 | 27.0 | 13.0 | — | — |
| | | 20 | 62.0 | 57.0 | 52.0 | 46.0 | 40.0 | 32.0 | 23.0 | 10.0 | — | — |
| | | 25 | 59.0 | 54.0 | 49.0 | 43.0 | 37.0 | 28.0 | 19.0 | 6.0 | — | — |
| 4RJ40 | 2½ | 5 | 92.0 | 86.0 | 80.0 | 73.0 | 66.0 | 61.0 | 55.0 | 48.0 | 40.0 | 61 |
| | | 10 | 83.0 | 80.0 | 76.0 | 71.0 | 66.0 | 60.0 | 54.0 | 46.0 | 38.0 | — |
| | | 15 | 81.0 | 78.0 | 75.0 | 70.0 | 65.0 | 59.0 | 53.0 | 45.0 | 37.0 | — |
| | | 20 | 78.0 | 76.0 | 74.0 | 68.0 | 64.0 | 58.0 | 52.0 | 44.0 | 36.0 | — |
| | | 25 | 64.0 | 62.0 | 59.0 | 57.0 | 55.0 | 52.0 | 50.0 | 42.0 | 34.0 | — |

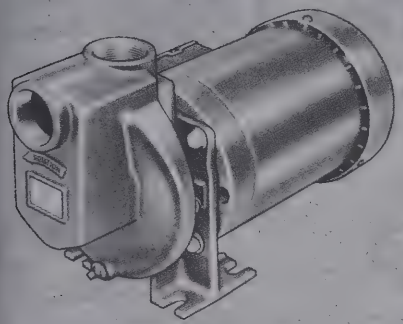
## SELF-PRIMING CENTRIFUGAL PUMP ORDERING DATA

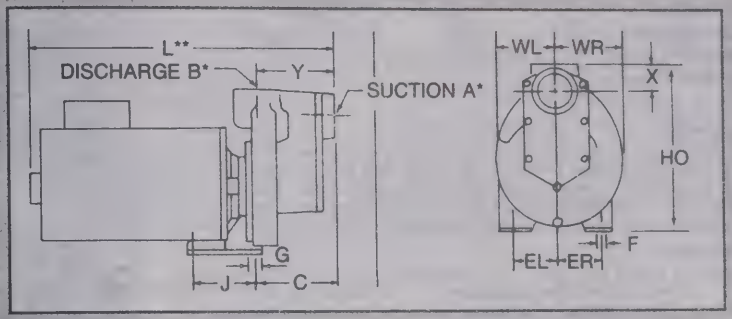
| HP | RPM | Motor Voltage | PH | Port Size, NPT Inlet | Outlet | Dimensions (In.) H | W | L | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/4** | 3450 | 115/230 | 1 | 1½ | 1½ | 11 13/16 | 6 7/16 | 18⅝ | **4RJ44** | $597.37 | **$442.50** | 44.0 |
| **1** | 3450 | 115/230 | 1 | 1½ | 1½ | 11 13/16 | 6 7/16 | 18⅝ | **4RJ41** | 617.28 | **457.25** | 46.0 |
| **1½** | 3450 | 115/230 | 1 | 1½ | 1½ | 11 13/16 | 6 7/16 | 18⅝ | **4RJ42** | 729.00 | **540.00** | 50.0 |
| **2** | 3450 | 230 | 1 | 2 | 2 | 12¾ | 6 7/16 | 21 | **4RJ43** | 886.27 | **656.50** | 59.0 |
| **2½** | 3450 | 230 | 1 | 2 | 2 | 12¾ | 6 7/16 | 21 | **4RJ40** | 965.92 | **715.50** | 64.0 |

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# BRONZE AND STAINLESS STEEL SELF-PRIMING CENTRIFUGAL PUMPS WITH TEFC MOTORS






TEEL®

- Teflon and Viton seals
- 3/4 to 2 HP
- Stainless Pumps—Type 316

Replacement Parts Available
TM 1-800-323-0620

Repair Service Available
Contact Your Local Branch
TM

**Description:** These close-coupled pumps are designed to handle specific gravities up to 1.3 (See Performance Data). Clog resistant impellers handle solids to 3/8" diameter. Pumps self prime to 6 feet and handle liquids with entrapped gases. Maximum viscosity is 100 SSU. Maximum casing working pressure is 75 PSI. Bronze units handle temperatures to 200°F; stainless steel units handle temperatures to 250°F. For use with non-flammable liquids compatible with pump component materials. Teel brand.

## PERFORMANCE DATA

| Max. S.G.* | Stock Nos. | GPM of Water at Total Feet of Head 0 Ft. | 10 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | Max.† Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1.3 | 2P121, 2P123, 2P373, 2P375 | 75 | 67 | 57 | 45 | 28 | — | — | 50 |
| 1.3 | 2P122, 2P124, 2P374, 2P376 | 108 | 99 | 87 | 70 | 48 | 10 | — | 54 |
| 1.1 | 2P125, 2P377 | 130 | 123 | 113 | 99 | 82 | 61 | 26 | 63 |

(*) Maximum allowable specific gravity.
(†) To convert Feet of Head to PSI, divide by 2.31 and multiply by the specific gravity of the liquid.

## DRIVER DATA

| Stock No. | HP | Phase | Type | NEMA Frame | Motor Voltage 60 Hz | RPM |
|---|---|---|---|---|---|---|
| 2P121 | 3/4 | 1 | TEFC | 56J | 115/230 | 3450 |
| 2P122 | 1½ | 1 | TEFC | 56J | 115/230 | 3450 |
| 2P123 | 3/4 | 3 | TEFC | 56J | 208-230/460 | 3450 |
| 2P124 | 1½ | 3 | TEFC | 56J | 208-230/460 | 3450 |
| 2P125 | 2 | 3 | TEFC | 56J | 208-230/460 | 3450 |
| 2P373 | 3/4 | 1 | TEFC | 56J | 115/230 | 3450 |
| 2P374 | 1½ | 1 | TEFC | 56J | 115/230 | 3450 |
| 2P375 | 3/4 | 3 | TEFC | 56J | 208-230/460 | 3450 |
| 2P376 | 1½ | 3 | TEFC | 56J | 208-230/460 | 3450 |
| 2P377 | 2 | 3 | TEFC | 56J | 208-230/460 | 3450 |

## CONSTRUCTION DATA

| Stock No. | Port Size NPT | Casing | Cover | Impeller | Adapter | Suction Plate | Shaft Seal | Casing Seal | Seal Faces |
|---|---|---|---|---|---|---|---|---|---|
| 2P121 | 1½" | SS | SS | SS | SS | SS | Teflon* w/SS | Teflon En. O-Ring | Carbon/Ceramic |
| 2P122 | 1½ | SS | SS | SS | SS | SS | Teflon* w/SS | Teflon En. O-Ring | Carbon/Ceramic |
| 2P123 | 1½ | SS | SS | SS | SS | SS | Teflon* w/SS | Teflon En. O-Ring | Carbon/Ceramic |
| 2P124 | 1½ | SS | SS | SS | SS | SS | Teflon* w/SS | Teflon En. O-Ring | Carbon/Ceramic |
| 2P125 | 1½ | SS | SS | SS | SS | SS | Teflon* w/SS | Teflon En. O-Ring | Carbon/Ceramic |
| 2P373 | 1½ | BR | BR | BR | CI | BR | Viton w/SS | Viton O Ring | Carbon/Ceramic |
| 2P374 | 1½ | BR | BR | BR | CI | BR | Viton w/SS | Viton O-Ring | Carbon/Ceramic |
| 2P375 | 1½ | BR | BR | BR | CI | BR | Viton w/SS | Viton O-Ring | Carbon/Ceramic |
| 2P376 | 1½ | BR | BR | BR | CI | BR | Viton w/SS | Viton O-Ring | Carbon/Ceramic |
| 2P377 | 1½ | BR | BR | BR | CI | BR | Viton w/SS | Viton O Ring | Carbon/Ceramic |

(*) Optional Neoprene seal with Ni-resist seat is available for pumping caustic solutions with abrasive precipitates.

| HP | Dimensions (In.) # A* | B* | C | EL | ER | F | G | HO | J | L** | WL | WR | X | Y | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STAINLESS STEEL CLOSE-COUPLED PUMPS ORDERING DATA** | | | | | | | | | | | | | | | | | | |
| 3/4 | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 15 13/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P121 | $1282.76 | $891.50 | 44.0 |
| 1½ | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 17 5/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P122 | 1432.01 | 956.00 | 55.0 |
| 3/4 | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 15 13/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P123 | 1344.55 | 896.00 | 40.0 |
| 1½ | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 16 5/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P124 | 1447.48 | 964.50 | 48.0 |
| 2 | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 16 9/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P125 | 1514.11 | 1009.00 | 50.0 |
| **BRONZE CLOSE-COUPLED PUMPS ORDERING DATA** | | | | | | | | | | | | | | | | | | |
| 3/4 | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 15 13/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P373 | 650.54 | 442.75 | 44.0 |
| 1½ | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 17 5/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P374 | 760.38 | 512.50 | 56.0 |
| 3/4 | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 15 13/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P375 | 662.93 | 451.00 | 40.0 |
| 1½ | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 16 5/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P376 | 765.85 | 521.00 | 48.0 |
| 2 | 1½ | 1½ | 4 9/16 | 2¼ | 2¼ | 1/2 | 3/4 | 9½ | 3 | 16 9/16 | 2 7/8 | 3½ | 1¼ | 3 15/16 | 2P377 | 831.74 | 566.00 | 50.0 |

(*) Standard pipe thread, female.
(**) This dimension may vary due to motor manufacturing specifications.
(#) All dimensions have a tolerance of ± 1/8".

PUMPS: CANNED MOTORS

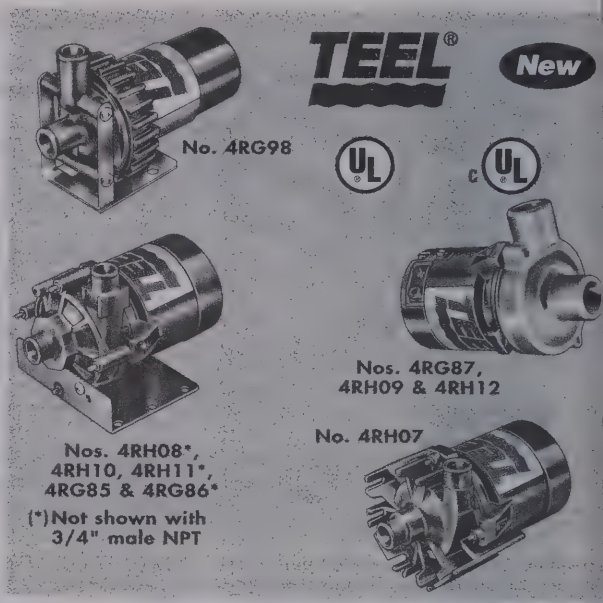
# SEALLESS CENTRIFUGAL CANNED MOTOR PUMPS

- **Compact**
- **Gravity fed**
- **Whisper quiet**
- **Self-lubricating**
- **Fluid temperatures to 230°F**

**Applications:**
Suitable for a variety of water and chemical circulation or transfer services handling fluids up to 140°F and line pressures up to 50 PSI on Noryl plastic housing models, and fluids to 230°F and 150 PSI line pressures on stainless steel housing models. Suitable for specific gravities to 1.5 and viscosities to 30 CPS.

**Construction:**
Pump and motor are built into one integral unit with fluid-wetted parts consisting of Noryl plastic or 316 stainless steel pump housing. Noryl impeller, carbon graphite/ceramic bearing system, EPDM gasket and all other parts of 316 stainless steel. Motors are 115VAC, 1 Phase, 60 cycle. Motors are weather-resistant design. Pumps have 6 ft. 18/3 cord with 3-prong grounded plug. Housing connections provided: 3/4" hose barb and 3/4" Male NPT on Noryl housing models, and 3/4" female NPT on stainless steel housing models. Mounting bracket is provided on all plastic housing pump models.

Sealless, leakproof centrifugal canned motor pumps eliminate problem shafts, seals and bearings common to conventional mechanically-sealed and magnetic drive pumps. Spherical rotor shaft-less design results in a pump that is simple, compact, lightweight and quiet. All units are UL and C-UL Listed.




## SEALLESS/LEAKPROOF CANNED MOTOR PUMP PERFORMANCE

| Stock No. | GPM of Water @Total Ft. Head 2 | 3 | 6 | 9 | 15 | 18 | 21 | Max. Ft. Head | Equiv. PSI |
|---|---|---|---|---|---|---|---|---|---|
| 4RG98 | 4 | 3 | — | — | — | — | — | 6 | 2.6 |
| 4RH07 | 7 | 6 | 4 | 3 | — | — | — | 14 | 6.1 |
| 4RH08 | 7 | 6 | 4 | 3 | — | — | — | 14 | 6.1 |
| 4RH10 | 12 | 11 | 9 | 8 | 4 | — | — | 18 | 7.8 |
| 4RH11 | 12 | 11 | 9 | 8 | 4 | — | — | 18 | 7.8 |
| 4RG85 | 12 | 11 | 10 | 9 | 8 | 6 | 5 | 29 | 12.5 |
| 4RG86 | 12 | 11 | 10 | 9 | 8 | 6 | 5 | 29 | 12.5 |
| 4RH09 | 7 | 6 | 4 | 3 | — | — | — | 14 | 6.1 |
| 4RH12 | 12 | 11 | 9 | 8 | 4 | — | — | 18 | 7.8 |
| 4RG87 | 12 | 11 | 10 | 9 | 8 | 6 | 5 | 29 | 12.5 |

## *New!* SEALLESS CENTRIFUGAL PUMP ORDERING DATA

| HP | Housing | Inlet / Outlet (In.) | Volts AC | F.L. Amps | Dimensions (In.) Width | Length | *New!* Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/150** | Noryl | 3/4" Hosebarb | 115V | 0.3 | 3½ | 6 | **4RG98** | $123.00 | **$82.00** | 4.0 |
| **1/50** | Noryl | 3/4 Hosebarb | 115V | 0.6 | 5 | 6¼ | **4RH07** | 174.00 | **116.00** | 7.0 |
| **1/50** | Noryl | 3/4 Male NPT | 115V | 0.6 | 5 | 6¼ | **4RH08** | 174.00 | **116.00** | 7.0 |
| **1/20** | Noryl | 3/4 Hosebarb | 115V | 0.9 | 5 | 6¼ | **4RH10** | 207.00 | **138.00** | 7.0 |
| **1/20** | Noryl | 3/4 Male NPT | 115V | 0.9 | 5 | 6¼ | **4RH11** | 207.00 | **138.00** | 7.0 |
| **1/15** | Noryl | 3/4 Hosebarb | 115V | 1.3 | 5 | 6¼ | **4RG85** | 217.50 | **145.00** | 7.0 |
| **1/15** | Noryl | 3/4 Male NPT | 115V | 1.3 | 5 | 6¼ | **4RG86** | 217.50 | **145.00** | 7.0 |
| **1/50** | 316 SS | 3/4 Female NPT | 115V | 0.6 | 5 | 6 | **4RH09** | 411.00 | **274.00** | 9.0 |
| **1/20** | 316 SS | 3/4 Female NPT | 115V | 0.9 | 5 | 6 | **4RH12** | 447.00 | **298.00** | 9.0 |
| **1/15** | 316 SS | 3/4 Female NPT | 115V | 1.3 | 5 | 6 | **4RG87** | 486.00 | **324.00** | 9.0 |

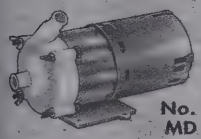

## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# CHEMICAL-RESISTANT MAGNETIC-DRIVE CENTRIFUGAL PUMPS



No. 2P037
MD Series

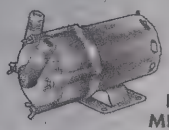


No. 2P579
MD Series



New

No. 2P041
MD-SC Series



No. 2P039
MD-HC Series

Little Giant PUMP COMPANY SUBSIDIARY
TECUMSEH PRODUCTS COMPANY

LR19315

E34370

Replacement Parts Available
1-800-323-0620

**Drive magnet is separated from impeller magnet,** preventing fluids from contacting the motor drive shaft, and allowing the motor to drive the impeller without a mechanical shaft seal. Eliminates seal-caused friction loss, wear, contamination, and leakage. Encapsulated impeller magnet handles corrosives and magnetic (ferrous) solutions. Gravity-feed design requires the pump inlet to be lower than liquid level. Mount pumps in the horizontal position. Volute rotates in 90° intervals, except No. 2P044, which rotates at 60° intervals.

UL Recognized under the Component Recognition Program. CSA Component certified. For use with nonflammable liquids compatible with pump component materials. Maximum specific gravity; 1.1 Maximum viscosity; 100 SSU.

## MD SERIES PUMPS

**Description:** Pumps can handle photographic and plating solutions, mild acids, mild alkalies, and other nonflammable liquids compatible with pump component materials. Maximum operating pressure, 50 PSI.

**Construction:** Glass-filled polypropylene pump head and impeller. Rigid aluminum pump mounting bracket, Buna-N O-ring, titanium spindle shaft (except No. 2P037, which has 316 stainless steel shaft) Viton O" ring, Rulon "J" thrust washers, and thrust washers, 300-series stainless steel hardware. Volute can be easily rotated at 90° intervals. 6-ft., 3-conductor SJO cord, except No. 2P037 which has 3 ft. strip. 18/3 wire leads. Pump can be easily dismantled for cleaning, without tools. Parts are field replaceable.

**Driver:** Heavy-duty, fan-cooled 1/50 or 1/25 HP, 115V, 60 Hz. motor with automatic reset thermal protection.

## MD-SC SERIES PUMPS

**Description:** For mild chemicals at moderate temperatures (32 to 150°F) or pressures to 50 PSI‡. Pumps handle mild acids, mild alkalis, and salt water.

**Construction:** Polypropylene pump housing, impeller. Epoxy encapsulated ceramic magnet. Ceramic shaft and thrust bearings. Nitrile O-ring gasket. 316 Stainless steel hardware.

**Driver:** Open and open fan-cooled motors. Motors have 6 ft., 3 conductor SJO cord with 3-prong plug.

## MD-HC SERIES PUMPS

**Description:** For highly corrosive chemicals (pH 3 to 11) at temperatures from 32 to 200°F or pressures to 60 PSI‡. Handle photographic and plating solutions, acids, alkalies, brines, and distilled water.

**Construction:** Ryton pump housing, impeller, and encapsulated ceramic magnet. Ceramic shaft and thrust bearings. Viton O-ring gasket, 316 stainless steel hardware. Carbon bushings.

**Driver:** Open fan-cooled and totally enclosed fan-cooled motors. Motors have 6 ft., 3-conductor SJO cord with 3-prong plug, except No. 2P044 which must be field wired.

(‡) Pump cannot operate at maximum temperature and pressure simultaneously. See MAXIMUM TEMPERATURE VS SYSTEM PRESSURE table on this page.

### MAXIMUM TEMPERATURE VS SYSTEM PRESSURE

| Stock No. | Operating Pressure at Max. Temp. Temp. | Operating Pressure at Max. Temp. Pressure | Operating Temp. at Max. Pressure Pressure | Operating Temp. at Max. Pressure Temp. |
|---|---|---|---|---|
| 2P041<br>2P042 | 150°F | 0 PSI | 50 PSI | 110°F |
| 4RL30 | 150 | 0 | 50 | 140 |
| 2P037<br>2P038<br>2P579<br>2P580 | 150 | 10 | 50 | 140 |
| 4RL34 | 180 | 0 | 40 | 140 |
| 4RL31<br>4RL32<br>4RL33 | 200 | 0 | 50 | 130 |
| 4RL35 | 200 | 0 | 40 | 120 |
| 2P039<br>2P040<br>2P043 | 200 | 0 | 60 | 150 |
| 2P044 | 200 | 40 | 60 | 180 |

## MAGNETIC-DRIVE CHEMICAL PUMP PERFORMANCE

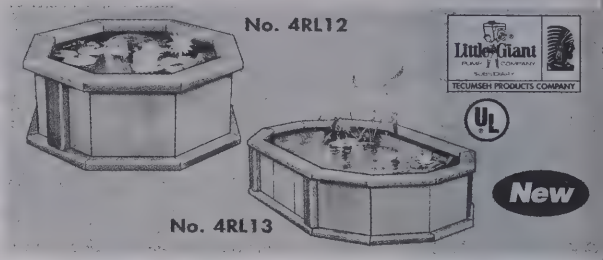
| Stock No. | Series | HP | Full Load Volts, # 60 Hz. | Full Load Amps 115V | Type | Enclosure | GPM of Water @ Total Feet of Head 1 Ft. | 3 Ft. | 6 Ft. | 9 Ft. | 15 Ft. | 18 Ft. | 24 Ft. | 40 Ft. | 50 Ft. | Max. Head (Ft.) | Equiv. PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2P037 | MD | 1/200 | 115 | 0.4 | SP | Open | 2.6 | 1.6 | — | — | — | — | — | — | — | 5.4 | 2.4 |
| 2P580 | MD | 1/50 | 115 | 0.94 | SP | OPFC | 5.8 | 5.0 | 3.3 | — | — | — | — | — | — | 7 | 3.0 |
| 2P579 | MD | 1/25 | 115 | 1.65 | SP | OPFC | 7.6 | 7.0 | 6.8 | 6.0 | — | — | — | — | — | 19 | 8.2 |
| 4RL36 | MD-SC | 1/35 | 115 | 0.9 | — | Sub | 5.4 | 5.0 | 3.9 | 2.7 | — | — | — | — | — | 12.8 | 5.5 |
| 4RL30 | MD-SC | 1/25 | 115 | 1.43 | — | TEFC | 8.5 | 7.5 | 6.5 | 5.5 | — | — | — | — | — | 14.6 | 6.3 |
| 2P038 | MD-SC | 1/12 | 115 | 2.4 | SP | OPFC | 12.5 | 11.8 | 11.1 | 10.0 | 7.1 | 5.0 | — | — | — | 21.9 | 9.5 |
| 4RL31 | MD-HC | 1/30 | 115 | 1.7 | — | TEFC | 8.5 | 7.5 | 6.5 | 5.5 | — | — | — | — | — | 14.6 | 6.3 |
| 2P039 | MD-HC | 1/25 | 115 | 1.3 | SP | OPFC | 8.3 | 7.6 | 7.1 | 5.9 | 1.7 | — | — | — | — | 16.2 | 7.0 |
| 2P040 | MD-HC | 1/25 | 115 | 1.3 | SP | TEFC | 9.8 | 9.1 | 8.2 | 6.5 | 2.6 | — | — | — | — | 16.3 | 7.1 |
| 2P041 | MD-SC | 1/10 | 115 | 1.7 | PSC | OPFC | 14.2 | 13.5 | 12.8 | 11.8 | 9.2 | 7.5 | 1.0 | — | — | 24.3 | 10.5 |
| 4RL32 | MD-HC | 1/10 | 111 | 1.7 | PSC | TEFC | 14.1 | 13.2 | 12.7 | 11.8 | 9.1 | 7.2 | — | — | — | 24.3 | 10.5 |
| 4RL33 | MD-HC | 1/10 | 115 | 1.7 | PSC | OPFC | 14.1 | 13.2 | 12.7 | 11.8 | 9.1 | 7.2 | — | — | — | 24.3 | 10.5 |
| 2P042 | MD-SC | 1/8 | 115 | 2.0 | PSC | OPFC | 17.5 | 16.5 | 15.3 | 14.0 | 10.9 | 9.2 | 4.4 | — | — | 27.5 | 11.9 |
| 2P043 | MD-HC | 1/8 | 115 | 3.0 | PSC | TEFC | 20.0 | 19.2 | 18.2 | 17.0 | 14.8 | 12.7 | 8.4 | — | — | 29.3 | 12.7 |
| 4RL34 | MD-HC | 1/3 | 115/230 | 5.0/2.5 | PSC | TEFC | – | – | 31.8 | 30.7 | 28.1 | 26.8 | 23.9 | 6.4 | — | 42.0 | 18 |
| 4RL35 | MD-HC | 1/2 | 115/230 | 11.6/9.4 | PSC | TEFC | – | – | 38.0 | 36.2 | 34.0 | 33.1 | 30.5 | 21.6 | 2 | 51.0 | 22 |
| 2P044 | MD-HC | 3/4 | 115/230 | 11.8 | PSC | TEFC | 53.0 | 51.0 | 48.8 | 46.5 | 45 | 43 | 40 | 30.8 | 21.7 | 58.9 | 25.6 |

| HP | Series | Dimensions (In.) H | W | L | Inlet (In.) | Outlet (In.) | Little Giant Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/200 | MD | 3¾ | 2½ | 4½ | 1/2 OD | 1/2 OD | 1-AA-MD | 2P037 | $65.15 | $53.30 | 2.1 |
| 1/50 | MD | 5⅛ | 3¾ | 7⅞ | 5/8 OD | 5/8 OD | 3X-MDX | 2P580 | 102.80 | 84.80 | 5.2 |
| 1/25 | MD | 5⅛ | 3¾ | 8¼ | 5/8 OD | 5/8 OD | 3MDX | 2P579 | 102.79 | 84.95 | 6.0 |
| 1/35 | MD-SC | 3¼ | 7⅛ | 9 | 1/2 MPT | 1/4 MPT | PE 1.5-MDI-SC | New 4RL36 | 120.75 | 105.00 | 5.0 |
| 1/30 | MD-HC | 5 | 4 | 9 | 1/2 FPT | 1/2 MPT | 2-MD-HC | New 4RL31 | 168.15 | 146.25 | 5.5 |
| 1/12 | MD-SC | 5 | 4 | 9 | 3/4 FPT | 1/2 MPT | 3-MD-SC | 2P038 | 167.84 | 137.70 | 8.1 |
| 1/25 | MD-SC | 5 | 4 | 9 | 1/2 FPT | 1/2 MPT | 2-MD-SC | New 4RL30 | 140.81 | 122.45 | 6.5 |
| 1/25 | MD-HC | 5½ | 4 | 8 | 1/2 MPT | 1/2 MPT | 3-MD-MT-HC | 2P039 | 150.47 | 130.90 | 7.1 |
| 1/25 | MD-HC | 5 | 4 | 10 | 1/2 FPT | 1/2 MPT | TE-4-MD-HC | 2P040 | 226.08 | 185.50 | 8.4 |
| 1/10 | MD-SC | 5 | 5½ | 9 | 1 FPT | 1/2 FPT | 4-MD-SC | 2P041 | 201.41 | 165.75 | 9.4 |
| 1/10 | MD-HC | 5 | 5½ | 11 | 1 FPT | 1/2 MPT | TE-4-MD-HC | New 4RL32 | 277.72 | 241.50 | 10.0 |
| 1/10 | MD-HC | 5 | 5½ | 9½ | 1 FPT | 1/2 MPT | 4-MD-HC | New 4RL33 | 277.72 | 224.00 | 9.2 |
| 1/8 | MD-SC | 5½ | 5½ | 8½ | 1 MPT | 1/2 MPT | 5-MD-HC | 2P042 | 288.45 | 236.50 | 9.2 |
| 1/8 | MD-HC | 7½ | 5½ | 11½ | 1 MPT | 1/2 MPT | TE-5-MD-HC | 2P043 | 472.09 | 386.50 | 17.0 |
| 1/3 | MD-HC | 7 | 8½ | 15⅝ | 1 FPT | 3/4 MPT | TE-5.5-MD-HC | New 4RL34 | 500.57 | 440.50 | 28.0 |
| 1/2 | MD-HC | 7 | 8½ | 15⅝ | 1 FPT | 3/4 MPT | TE-6-MD-HC | New 4RL35 | 524.08 | 456.25 | 29.0 |
| 3/4 | MD-HC | 8½ | 8 | 17½ | 1 MPT | 1 MPT | TE-7-MD-HC | 2P044 | 811.81 | 668.00 | 42.0 |

# WATER GARDEN PUMPS

## ABOVE GROUND POND KITS

Attractive kiln dried redwood frame unit with glazed ceramic tiles. Includes a durable 20 mil PVC flexible Liner, 1/40 HP, 115V, 60Hz 100 GPH submersible pump and a 6' power cord. Convenient built-in flow control system, plus fountain Nozzle with telescoping stem. Nozzle has a waterbell and tulip spray pattern. Water surface area of 4.8 cubic feet. UL/CSA listed pump. Ideal for use on porches, patios, terraces, and decks. No. 4RL12 is an octagonal shape and No. 4RL13 is an elongated decagonal shape.




| Description | GPH @ Total Ft. of Head 1 | 3 | 4 | Dimensions (In.) H | W | L | Little Giant Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Octagon Elongated | 95 | 50 | Shut-off | 13½ | 25 | 32 | PK-2 | 4RL12 | $199.81 | $173.75 | 44.0 |
| Decagon Elongated | 95 | 50 | Shut-off | 13½ | 40 | 65 | PK-4 | 4RL13 | 341.83 | 297.25 | 78.0 |

## 115V, 60Hz RECIRCULATING POND AND FOUNTAIN PUMPS

### A No. 4RK99 COMPACT FOUNTAIN PUMP

Submersible energy efficient, compact design for areas where the use of smaller units is critical. Built-in, adjustable flow control. Bottom intake. UL Listed and Canada UL Listed. Ideal for use in statuary fountains.

### B No. 4RL01 1/160 HP RECIRCULATING PUMP

Fully submersible pump with 1/4" MNPT discharge. Resilient nylon housing protects unit. Impedance protected. Includes a 15' power cord. UL Listed. Ideal for use in recirculatiing water and mild fluids, aerating bait tanks, statuary, and waterfalls.

### C No. 4RK97 1/125 HP RECIRCULATING PUMP

Fully submersible, epoxy-encapsulated pump with a corrosion resistant polyester housing. 1/4" MNPT discharge and 1/8" MNPT outlet with 3/5" barb. Includes a 15' power cord. Unit is impedance protected plus includes a snap-off inlet screen. UL Listed. Ideal for use in recirculating liquid, statuary and waterfall applications, and also to recirculate and aerate bait tanks.

### D No. 4RK85 1/40 HP RECIRCULATING PUMP

This dual purpose pump can be used as submersible or in-line. Sturdy cast aluminum housing protects motor. 3/8" FNPT intake and 1/4" MNPT discharge. Includes 15' power cord and is thermally protected. UL Listed. Ideal for the circulation and aeration of bait tanks, statuary and waterfall applications, recirculation of mild soaps, and liquid transfer.

### E No. 4RK86 1/15 HP RECIRCULATING PUMP

Dual purpose, submersible or in line pump has 1/15 HP motor. Cast aluminum housing protects motor. 1/2" FNPT intake and 1/2" MNPT discharge. 15' power cord. Thermally protected. UL Listed. Ideal for the circulation and aeration of bait tanks, statuary and waterfall applications, recirculation of mild soaps, and liquid transfer.

### F No. 4RK87 1/8 HP RECIRCULATING PUMPS

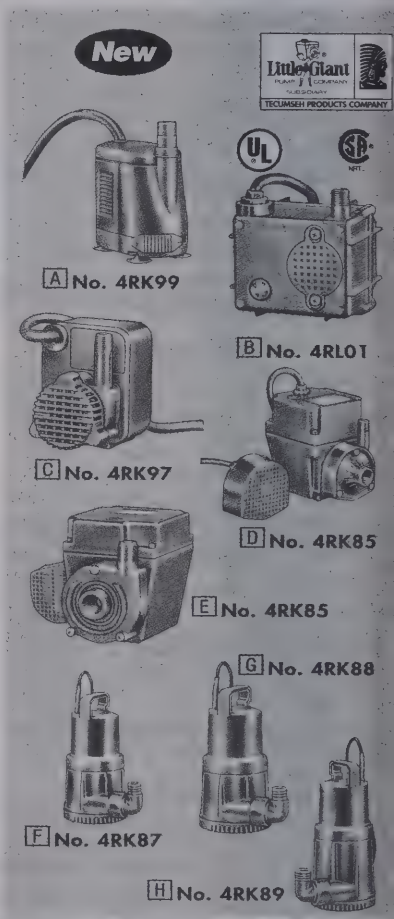
Completely oil-free construction and corrosion resistant-body. Energy efficient unit is environmentally safe and fully submersible. 1¼" FNPT discharge equipped with 1" barbed elbow. Includes 16' power cord. CSA and NRTL/C Listed. Ideal for use in waterfall and stream applications.

### G No. 4RK88 1/4 HP RECIRCULATING PUMP

Completely oil-free construction and corrosion resistant-body. Energy efficient, 1/4 HP unit is environmentally safe and fully submersible. 1¼" FNPT discharge equipped with 1" barbed elbow. Includes 16' power cord. CSA and NRTL/C listed. Ideal for use in waterfall and stream applications.

### H No. 4RK89 5/8 HP RECIRCULATING PUMP

Completely oil-free construction and corrosion resistant-body. Energy efficient, 5/8 HP unit is environmentally safe and fully submersible. 1¼" FNPT discharge equipped with 1" barbed elbow. 16' power cord. CSA and NRTL/C listed. Ideal for use in waterfall and stream applications.




| Key | HP | GPH @ Total Head Ft. 1 | 2 | 3 | 5 | 10 | Shut-off (Ft.) | Dimensions (In.) H | W | L | Little Giant Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | — | 70 | 25 | — | — | — | 2.6 | 3.4 | 1.8 | 2.7 | PSM-001 | 4RK99 | $25.46 | $22.14 | 0.8 |
| B | 1/160 | 120 | — | 70 | — | — | 4.6 | 3.88 | 3.0 | 3.88 | P-AAA-WG | 4RL01 | 66.18 | 55.00 | 3.5 |
| C | 1/125 | 170 | — | 140 | 100 | — | 7.0 | 3.6 | 2.8 | 3.5 | PE-1-WG | 4RK97 | 66.12 | 50.00 | 3.0 |
| D | 1/40 | 300 | — | 255 | 205 | 70 | 11.8 | 4.75 | 3.5 | 5.5 | 2E-38N-WG | 4RK85 | 86.76 | 70.00 | 5.3 |
| E | 1/15 | 500 | — | 435 | 337 | 210 | 17.3 | 5.5 | 4.5 | 7.0 | 3E-12N-WG | 4RK86 | 142.14 | 110.00 | 8.7 |
| F | 1/8 | 1450 | — | — | 1250 | 900 | 18.0 | 10.6 | 5.5 | 6.25 | WGP-60 | 4RK87 | 159.10 | 130.00 | 9.0 |
| G | 1/4 | 1950 | — | — | 1650 | 1100 | 20.0 | 10.6 | 5.5 | 6.25 | WGP-70 | 4RK88 | 184.86 | 150.00 | 7.7 |
| H | 5/8 | 4100 | — | — | 3800 | 3350 | 28.0 | 12.0 | 5.5 | 6.25 | WGP-90 | 4RK89 | 235.46 | 200.00 | 11.0 |

## WATER GARDEN STARTER KIT

Completely equipped with everything you need to build your own water garden. This thermally protected pump kit includes 300 GPH 1/40 HP epoxy encapsulated pump, 15' power cord, 8' x 10', 45 mil EDPM liner, 2-way diverter valve, mechanical pond filter, 3-tier fountain nozzle and 15' of 1/2" ID black tubing. UL and CSA Listed.




| GPH at Total Head Ft. 1 | 3 | 5 | 10 | Shut-off (Ft.) | Little Giant Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 300 | 255 | 205 | 70 | 12.2 | SK-WG-2PE | 4RL11 | $288.93 | $251.25 | 37.0 |



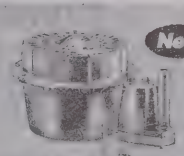
*If we don't have a pump for it, chances are it can't be pumped.*

# WATER GARDEN PUMP, FILTER AND ACCESSORIES

## POND FILTRATION SYSTEM

System includes 1120 GPH 1/6 HP submersible pump, 15' power cord, garden hose adapter, and sacrifical anode. Filter basin has 1" NFPT discharge. UL/CSA listed. For filtration of ponds 2,200 gallons or less.

| GPH at Total Head Ft. 1 | 5 | 10 | Shut-off (Ft.) | Little Giant Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1120** | 1100 | 805 | 22.6 | FK-WG-5R | ***New*4RL10** | $223.96 | **$194.75** | 17.0 |

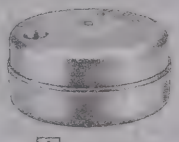



## PUMP FILTERS

### A No. 4RL23 MECHANICAL WATER GARDENING FILTER

This high volume mechanical filter is submersible, has a corrosion-resistant body and is very easy to install. Compact design allows this unit to be installed in areas of restricted space. Prevents debris from clogging pump and fountain nozzle. Recommended for Nos. 4RK87, 4RK88, and 4RK89. Little Giant brand (FB-40).

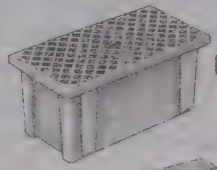
***New*No. 4RL23.** Mechanical Filter. Shpg. wt. 5.5 lbs. List $84.23. Each ..... **$73.25**




### B SUBMERSIBLE MECHANICAL FILTER BOX

Provides filtration of pumps and waterfalls. Includes a fine and coarse filter pad and easy to remove snap action screen. Features power cord strain relief. Filter can be used with PE-A, PE-2, PE-2.5, PE-300, PES-500. Little Giant brand (FB).

***New*No. 4RL21.** Shpg. wt. 1.3 lbs. List $34.44. Each ..... **$29.95**

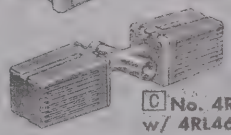



### C PUMP INLET FILTER AND KIT

Filter No.4RL46 has an ABS plastic case and urethane filter material. Fits existing Grainger pumps: 2P495, 3P374 and 1P374. Little Giant brand. No. 4RL22 filter kit is designed to press onto the outside diameter of the pump intake. Additional filters can be added as needed. Kit No.4RL22 includes adapter cap and 4RL46 pump filters. Nos. 4RL46 and 4RL22 offer filtration of dirt and debris from the pump inlet.

***New*No. 4RL46.** Inlet Filter. Shpg. wt. 0.3 lbs. List $14.42. Each ..... **$12.54**

***New*No. 4RL22.** Inlet Filter Kit. Shpg. wt. 1.0 lbs. List $28.34. Each ..... **$24.65**




## SUBMERSIBLE LIGHT KIT

20 watt submersible lighting for waterfalls or statuary fountains. Kit is UL/CSA listed. Weatherproof transformer with automatic on/off timer is UL listed. Includes 4 snap-in colored lenses, 1 each: red, yellow, blue & green and brackets with 4 mounting options. Little Giant brand (LVLT).

**Replacement light.** Includes 20W submersible light, 20' power cord, quartz halogen lamp, 4 colored lenses(red, yellow, blue, & green), 20 ft. power cord. Little Giant brand (LVL).

***New*No. 4RL17. Light Kit.** Shpg. wt. 8.0 lbs. List $134.20. Each ..... **$116.70**

***New*No. 4RL18.** Replacement Light. Shpg. wt. 2.2 lbs. List $63.99. Each ..... **$55.65**




## POND LINERS

Tough, puncture-resistant liners require no underlayment. Ideal for aquatic life. Embossed surface doubles area for bacteria colonizing. Minimum depth is 18". 20 mil thick. 20 year warranty. Little Giant brand.

| Liner Size (Ft.) | Fits Finished Pond (Ft.) | Capacity (Gals.) | Little Giant Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **8 x 10** | 4 x 6 | 270 | PLS-810 | ***New*4RL28** | $87.05 | **$75.70** | 13.0 |
| **10 x 15** | 5 x 10 | 550 | PLS-1015 | ***New*4RL19** | 162.55 | **141.35** | 24.0 |
| **15 x 20** | 10 x 15 | 1650 | PLS-1520 | ***New*4RL20** | 326.45 | **283.00** | 45.0 |



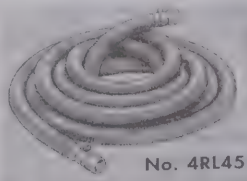

## FLEXIBLE BLACK TUBING

Black Flexible Tubing. For use with finished ponds, waterfalls and fountains. Invisible in water. Ideal for applications where convenient pre-cut tubing lengths are required. 3/8" ID tubing. 20 ft. long. Little Giant brand (T-3/8-20-BK)

***New*No. 4RL43.** Shpg. wt. 1.0 lbs. List $10.25. Each ..... **$8.92**

Flexible Black Corrugated Tubing. Includes 24 ft. of tubing, two stainless steel clamps, and two 1¼" MNPT x 1¼ barbed adapters. Little Giant brand (WGWF-114).

***New*No. 4RL45.** Shpg. wt. 5.0 lbs. List $22.57. Each ..... **$19.63**



## TUBING CLAMP

Metal clamp restricts flow through tubing. Easy threaded adjustment. Will not slip from postition. Fits tubing 3/8" ID x 1/2" OD & 1/2" ID x 5/8" OD. Little Giant brand (C-2)

**New No. 4RL49.** Shpg. wt. 0.1 lbs. List $5.31. Each ..... $4.62

## CORROSION BAR

4" magnesium bar easily adapts to all aluminum body pumps to protect from galvanic corrosion. Little Giant brand (SA-1).

**New No. 4RL48.** Shpg. wt. 0.2 lbs. List $14.38. Each ..... $12.51




## FOUNTAIN NOZZLES

A Telescoping 3-tier Fountain Nozzle. 8" high retracted, extends to 12½" high. Fountain head fits pumps No. 2P495, 3P374, 1P323, 1P372, 2P017, 4RK86, 4RK85, 4RL01, and 4RK97. Little Giant brand (FHT-1090).

**New No. 4RL14.** Shpg. wt. 0.3 lbs. List $21.52. Each ..... $18.72

B Mushroom Spray Fountain Head. Fits pumps with 120 to 500 GPH flow capacity. 1/2" NPT stem. Fits pump Nos. 2P495, 3P374, 1P323, 1P372, 2P017, 4RK86, 4RK85, 4RL01, and 4RK97. Little Giant brand (FH-1280).

**New No. 4RL15.** Shpg. wt. 0.6 lbs. List $32.14. Each ..... $27.95

C 3 Fountain Nozzle Kit. Includes nozzles for daisy, waterbell, and tulip spray patterns. Telescoping stem has built-in flow control valve. Extends from 6" to 12"H. Also has an extra outlet for use with 3/8" ID waterfall tubing. Fits pump Nos. 2P495 , 3P374, 4RL01, and 4RK97. Little Giant brand (FHK-1).

**New No. 4RL16.** Shpg. wt. 0.2 lbs. List $14.32. Each ..... $12.46

D Water Tulip Spray Pattern Fountain Nozzle. Quick couple connection. Requires No. 4RL27 nozzle stem and diverter valve for hookup to pumps. Fits pump Nos. 4RK87, 4RK88, and 4RK89. Little Giant brand (FH-20).

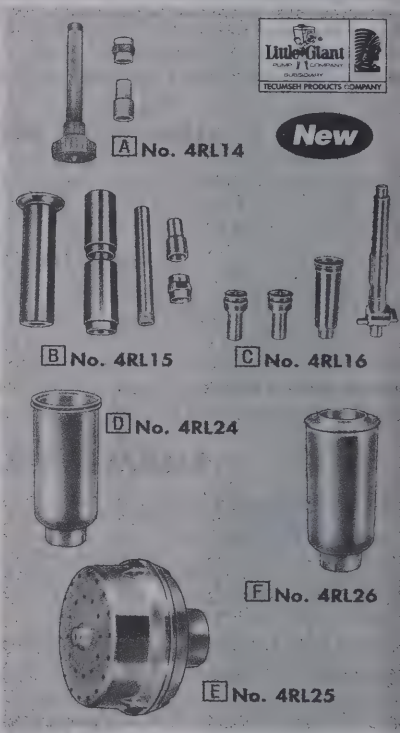
**New No. 4RL24.** Shpg. wt. 0.3 lbs. List $35.36. Each ..... $30.75

E Three-tier Fountain Nozzle. Quick couple connection. Requires No. 4RL27 nozzle stem and diverter valve to fit to pumps. Use with pump Nos. 4RK87, 4RK88, and 4RK89. Little Giant brand (FH-21).

**New No. 4RL25.** Shpg. wt. 0.4 lbs. List $35.36. Each ..... $30.75

F Foaming Fountain Nozzle. Quick couple connection. Requires No. 4RL27 nozzle stem and diverter valve (sold separately) to fit to pumps. Fits pump nos. 4RK87, 4RK88, and 4RK89. Little Giant brand (FH-23).

**New No. 4RL26.** Shpg. wt. 0.3 lbs. List $35.36. Each ..... $30.75




## FLOW CONTROL AND DIVERTER VALVES

G Flow Control and Diverter Valve. Valve inlet: 1/2" MNPT with 1/2" FNPT adapter. Valve outlet: 1/2" FNPT. Diverter connection: 1/2" MNPT, 1/2" NPT pipe. Little Giant brand (FHV-2549).

**New No. 4RL29.** Shpg. wt. 0.2 lbs. List $20.97. Each ..... $18.24

H Flow Control Valve. Fits pumps with 1/4" MNPT discharge. Accepts 3/8" or 1/2" ID tubing. Little Giant brand (FC-1/4).

**New No. 4RL47.** Shpg. wt. 0.2 lbs. List $5.80. Each ..... $5.05

I Telescoping Nozzle Stem and Diverter Valve. Telescoping stem extends 7½" to 11"H. Built-in adjustable diverter valve. Use with 1" ID vinyl tubing. Adapts to 1¼" FNPT outlets. Fits pump Nos. 4RK87, 4RK88, and 4RK89. Little Giant brand (FHTV-35).

**New No. 4RL27.** Shpg. wt. 0.6 lbs. List $39.27. Each ..... $34.15






*If we don't have a pump for it, chances are it can't be pumped.*

# COMPACT SUBMERSIBLE CENTRIFUGAL PUMPS

## LITTLE GIANT COMPACT SUBMERSIBLE CENTRIFUGAL PUMPS

**Description:** Low-pressure, high-volume centrifugal pumps for evaporative coolers, fountains, water gardens, and coolant systems. Not recommended for salt water. Pumps handle liquids from 30 to 120°F. Nos. 1P372, 1P323, and 3P733 can be run submerged or in open air. For use with nonflammable liquids compatible with pump component materials. UL Listed (E81811N) except No. 1P553.

**Construction:** Epoxy-coated die-cast aluminum motor housings (except No. 2P495, which has nylon housing and No. 3P734 which has epoxy encapsulated motor and polyester case). Removable volutes for cleaning. Pumps have 6-ft., 3-conductor, oil-resistant cords (except No. 1P553, which comes with 3-ft. cord). Nos. 3P734, 4RK92, 4RK93, and 4RK94 have removable inlet screens. No. 4RK94 has an adapter for use with 1/2" NPT fountain nozzle.

All pumps are die-cast aluminum (except No. 2P495, which is nylon, and Nos. 3P734, 4RK92, 4RK93, and 4RK94 which are polyester). Nylon volute and impeller (except Nos. 2P495, 1P322, and 1P323, which have a glass-filled nylon head, and impeller). No. 2P495 has glass-filled nylon screen; Nos. 1P322 and 1P323 have polypropylene screen. No. 1P553 has polypropylene head and impeller and polyethylene screen. Nos. 1P939 and 3P734 have polypropylene impeller and screen. Nos. 2P495, 1P553, 1P939, and 3P734 have single-lip Nitrile seals. Nos. 1P321, 3P372, and 1P372 have double-lip Nitrile seals. Nos. 1P322 and 1P323 have double-lip Viton seals.

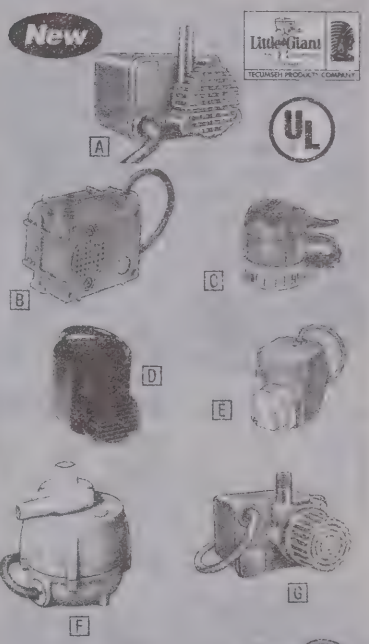
**Driver:** 1/250 to 1/12 HP, 115V, 60 Hz, oil-filled motor with stainless steel shaft.

### PUMP CAPACITIES WITH INLET—OUTLET SIZES

| Key | Stock No. | Inlet FPT (In.) | Outlet MPT (In.) | Delivery in Gallons Per Hour 1 Ft. | 3 Ft. | 5 Ft. | 9 Ft. | 11 Ft. | 13 Ft. | 22 Ft. | Max. Head (Ft.) | Equiv. PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 4RK92 | Hooded | 1/8 | 80 | 50 | — | — | — | — | — | 4.5 | 2.0 |
| B | 2P495 | Smooth | 1/4 | 120 | 70 | — | — | — | — | — | 4.6 | 2.0 |
| C | 1P553 | Smooth | 1/4 | 170 | 140 | 100 | — | — | — | — | 7.0 | 3.0 |
| C | 1P939 | Smooth | 1/4 | 170 | 140 | 100 | — | — | — | — | 7.0 | 3.0 |
| D | 3P734 | Smooth | 1/4 | 170 | 140 | 100 | — | — | — | — | 7.0 | 3.0 |
| D | 4RK93 | Hooded | 1/4 | 300 | 255 | 205 | — | — | — | — | 12.20 | 5.3 |
| E | 1P321 | Hooded | 1/4 | 300 | 255 | 205 | 115 | 55 | — | — | 11.8 | 5.1 |
| F | 3P733 | 1/4 (1/2" MPT) | 1/4 | 205 | 168 | 120 | — | — | — | — | 7.4 | 3.2 |
| G | 4RK94 | Smooth | 3/8 | 475 | 440 | 395 | — | — | — | — | 13.4 | 5.8 |
| H | 1P372 | 3/8 | 1/4 | 300 | 255 | 205 | 115 | 55 | — | — | 11.8 | 5.1 |
| H | 1P323 | 1/2 | 1/2 | 500 | 435 | 337 | 255 | 200 | 163 | — | 17.3 | 7.5 |
| H | 1P322 | 3/4 | 1/2 | 810 | 790 | 745 | 630 | 575 | 475 | 80 | 24.5 | 10.6 |

### COMPACT SUBMERSIBLE PUMP SPECIFICATIONS

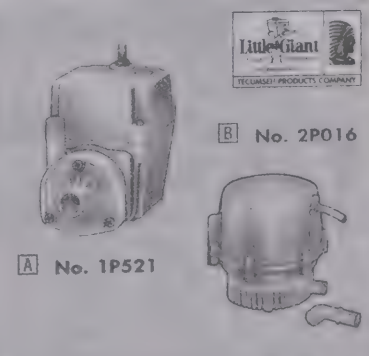
| Key | Motor HP | Dimensions (In.) Height | Width | Length | Little Giant Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 1/250 | 2¼ | 3 | 2⅞ | PE-A | *New* 4RK92 | $47.55 | $40.00 | 2.8 |
| B | 1/160 | 3⅞ | 3 | 3⅝ | P-AAA | 2P495 | $52.68 | $44.40 | 2.8 |
| C | 1/200 | 4 | 3¾ | 4¼ | 1-AA | 1P553 | 55.78 | 46.60 | 3.0 |
| C | 1/200 | 4 | 3¾ | 4¼ | 1-A | 1P939 | 58.88 | 49.00 | 3.1 |
| D | 1/125 | 3⅝ | 2¾ | 3¼ | PE-1 | 3P734 | 55.21 | 47.00 | 2.6 |
| D | 1/40 | 4 1⁵⁄₁₆ | 2 1⁵⁄₁₆ | 4 1⁵⁄₁₆ | PE-2H | *New* 4RK93 | 68.54 | 54.00 | 4.1 |
| E | 1/40 | 4½ | 3½ | 5½ | 2E-N | 1P321 | 77.47 | 65.10 | 4.6 |
| F | 1/150 | 4⅞ | 4½ | 4½ | 1-42 | 3P733 | 59.91 | 54.40 | 3.2 |
| G | 1/28 | 4 | 4 | 4½ | PE-2.5F | *New* 4RK94 | 94.07 | 80.00 | 4.6 |
| H | 1/40 | 4½ | 3½ | 5½ | 2E-38N | 1P372 | 80.56 | 67.30 | 4.6 |
| H | 1/15 | 5½ | 4½ | 7 | 3E-12N | 1P323 | 124.27 | 104.45 | 8.0 |
| H | 1/12 | 5½ | 4½ | 7 | 4E-34NR | 1P322 | 175.77 | 147.10 | 8.0 |




**A 300 GPH Mild Acid Pump.** Noncorrosive, nontoxic centrifugal pump designed for circulating or dispensing fruit juices, beverages or other mildly acidic liquids with a pH range of 6 to 7; cleaning solution, photo processing solutions, machine coolants, etc., at 30 to 120°F. **Nonsubmersible;** For in-line use only. Liquid may be piped through pump head. Pump head and impeller of acid-resistant nylon. Stainless steel backplate and 2 double-lip Viton seals on stainless steel motor shaft, die-cast aluminum motor housing. 1/40 HP, 115V, 60 Hz motor operates in oil, is hermetically sealed in die-cast aluminum housing. Epoxy coated with double prime base coats. 6 ft., 3-conductor SJTOW-A cord set. 3/8" FPT inlet, plus adapter to accept 1/2" ID vinyl tubing. 1/4" MPT outlet. Overall dimensions, 4⅝H x 3½W x 5½"L (less adapter). For use with nonflammable liquids compatible with pump component materials.

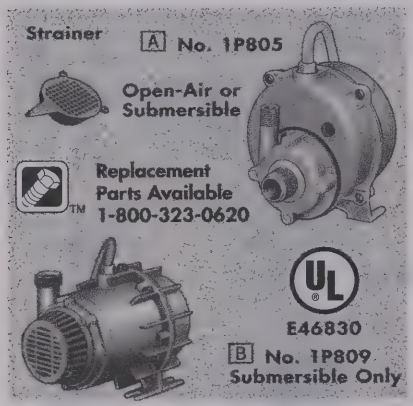
**B No-Korode Submersible Chemical Pumps.** Operate horizontally or vertically fully submerged in mild acids and alkalis, machine tool coolants up to 100 SSU and other nonflammable liquids compatible with pump component materials. Pumps are highly resistant to corrosion; motor housing is glass-filled nylon; impeller, pumping head and removable screen are nylon. Viton shaft seal. 1/4" male NPT discharge. 115V, 60 Hz thermal overload protected motor. Pumps come with 6 ft., 3-conductor cord set. 4 9⁄16H x 5 1⁄16W x 5½"L. Handles pH range from 5 to 9.

| Key | Motor HP | Capacity GPH @ Total Feet of Head 1 Ft. | 3 Ft. | 5 Ft. | 7 Ft. | 9 Ft. | Max. Head (Ft.) | Equiv. PSI | Little Giant Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/40 | 300 | 255 | 205 | — | 115 | 11.8 | 5.1 | 2E-NDVR | 1P521 | $109.50 | $90.25 | 5.0 |
| B | 1/150 | 210 | 180 | 150 | 105 | 50 | 10.1 | 4.4 | NK-1 | 2P016 | 69.21 | 57.05 | 3.6 |
| B | 1/40 | 325 | 300 | 270 | 230 | 185 | 12.3 | 5.3 | NK-2 | 2P017 | 83.68 | 68.65 | 4.2 |



# SUBMERSIBLE CENTRIFUGAL PUMPS

## TEEL COMPACT SUBMERSIBLE CENTRIFUGAL PUMPS




- **Heavy-duty zinc alloy housing with epoxy-coated finish**
- **All pumps include strainer/filter**

Hermetically sealed, high output, centrifugal pumps suitable for use in countless home and industrial uses including fountains, vaporizers, condensate removal, and machine coolant recirculation; for use with nonflammable liquids compatible with pump component materials. Thermal protected shaded pole motors, hermetically sealed in oil for permanent lubrication. Encased in die cast zinc alloy (Zamac No. 3) housing, double coated with epoxy finish to assure maximum protection against corrosion. Pumps operate on 115V, 60 Hz, 6 ft. UL Listed, water and oil resistant, 3-conductor SJTO cord set.

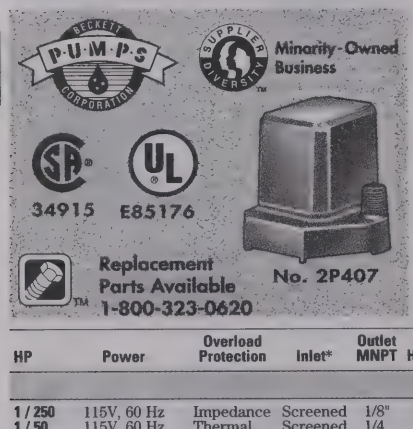
A Type 440 stainless steel shaft and Nitrile lip seal for trouble-free service. Pump volute and impeller of hi-impact Celcon compound for added strength. Polypropylene strainer can be used to mount pump vertically. Max. temp 160°F. Will operate in any position, submerged or in open air as long as inlet is located below liquid level. Delivery may be resisted at discharge without damage to motor. Meets Los Angeles Dept. of Bldg. and Safety Codes. All units are UL-Listed.

B High capacity submersible pump has same features as above units but with Type 416 stainless steel shaft. Maximum temperature 120°F. Thermal protected 1/10 HP, 115V, 60 Hz style motor and ball type thrust bearing. Also, has detachable strainer and 3/4" garden hose threaded outlet. Impeller of die-cast Zamac No. 3. **For submersible use only.**

| Key | HP | Full Load Amps | Full Load Watts | Inlet NPT (In.) | Outlet NPT (In.) | Mounting (In.) Slots | Mounting (In.) OC | Dimensions (In.) H | W | L | GPH @ Total Feet of Head 1 Ft. | 3 Ft. | 5 Ft. | 9 Ft. | 13 Ft. | 20 Ft. | 25 Ft. | Max. Head† | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/100 | 0.7 | 43 | 1/2 M | 1/4 M | 1/4 | 2⅞ | 5 | 5 | 4½ | 200 | 140 | 105 | — | — | — | — | 8.2 | **1P805** | $75.75 | **$51.55** | 4.0 |
| A | 1/90 | 0.9 | 50 | 1/2M | 1/4M | 1/4 | 2⅞ | 5 | 5 | 4½ | 245 | 215 | 185 | 60 | — | — | — | 9.8 | **1P807** | 75.65 | **54.85** | 4.8 |
| A | 1/50 | 1.5 | 75 | 3/4GH* | 3/8M | 1/4 | 2⅞ | 5 | 5 | 4½ | 400 | 340 | 300 | 180 | — | — | — | 11.0 | **1P808** | 90.90 | **59.65** | 4.6 |
| B | 1/10 | 4.5 | 330 | screened | 3/4GH* | 1/4 | 2x2⅞ | 5 | 4½ | 6¾ | 900 | 880 | 855 | 800 | 740 | 570 | 250 | 30.0 | **1P809** | 162.00 | **117.80** | 9.2 |

(*) Garden hose. (†) Shut-off. To convert to PSI, divide by 2.31.

## EPOXY-ENCAPSULATED SUBMERSIBLE CENTRIFUGAL PUMPS




**Description:** Compact black submersible pumps are designed for many applications such as water fountains, displays, fresh water aquariums, and fluid transfer. For submerged operation only (except Nos. 2P396, 2P397, and 2P398, which are suitable for submerged and/or open air). Liquid temperature range: 40 to 120°F. Maximum viscosity: 100 SSU. 115V models are UL Listed for water applications only. For use with nonflammable liquids compatible with pump component materials.

**Construction:** Corrosion-resistant epoxy-encapsulated motor with removable plastic pump parts, designed for convenient cleaning. 115V models come with 6-ft., 18/3 SJTOW-A UL Listed cord and plug. No. 2P403 has 20 ft. cord. 230V units do not have plug. Nos. 2P398 through 2P402 have 3/8" MNPT fitting at cord outlet, for pipe or conduit (not included) connection to protect cord.

Stainless steel shaft and screws; acetal plastic pump parts. Viton or Rulon lip seal (depending on model). Rulon seals are single-lip design with nickel-plated brass retainer. Viton seals are double-lip design.

**Driver:** Shaded-pole design fractional horsepower motors with impedance or thermal protection and moisture-proof windings. Nos. 2P406-2P408 are for intermittent-duty, others for continuous duty.

| HP | Power | Overload Protection | Inlet* | Outlet MNPT | Outlet Hose ID | Seal | Dimensions (In.) H | W | L | GPH @ Total Feet of Head‡‡ 1 Ft. | 2 Ft. | 4 Ft. | 6 Ft. | 8 Ft. | 10 Ft. | 12 Ft. | 14 Ft. | Max.† Head (Ft.) | Beckett Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SUBMERSIBLE PUMPS** | | | | | | | | | | | | | | | | | | | | | | | |
| 1/250 | 115V, 60 Hz | Impedance | Screened | 1/8" | 3/8" | Viton | 2⅛ | 3 | 2⅞ | 92 | 74 | 21 | — | — | — | — | — | 4.3 | G90AG | **2P873** | $49.00 | **$44.50** | 0.6 |
| 1/50 | 115V, 60 Hz | Thermal | Screened | 1/4 | 1/2 | Rulon | 4½ | 2⅝ | 4⅜ | 268 | 254 | 223 | 188 | 151 | 102 | — | — | 11.6 | G300A | **2P400** | 63.00 | **44.10** | 3.3 |
| 1/30 | 115V, 60 Hz | Thermal | 3/4GHT# | 3/8 | 5/8 | Viton | 4½ | 2⅝ | 4⅞ | 403 | 381 | 344 | 303 | 262 | 192 | 25 | — | 12.1 | G500A20 | **2P403** | 101.00 | **70.55** | 3.7 |
| 1/12 | 115V, 60 Hz | Thermal | Screened | 1/2 | 3/4 | Viton | 4⅛ | 4¾ | 4¼ | 558 | 525 | 505 | 464 | 425 | 395 | 320 | 245 | 19.5 | G600A | **2P406** | 90.00 | **72.25** | 4.6 |
| **SUBMERSIBLE AND/OR OPEN AIR PUMPS** | | | | | | | | | | | | | | | | | | | | | | | |
| 1/200 | 115V, 60 Hz | Impedance | Screened | 1/4 | 1/2 | Rulon | 3½ | 2⅝ | 3 | 134 | 109 | 43 | — | — | — | — | — | 4.7 | G100 | **2P396** | 60.00 | **41.95** | 2.4 |
| 1/150 | 115V, 60 Hz | Impedance | Screened | 1/4 | 1/2 ‡ | Rulon | 4½ | 2⅝ | 3⅝ | 154 | 132 | 84 | 21 | — | — | — | — | 6.2 | G150 | **2P397** | 49.00 | **34.20** | 3.5 |
| 1/150 | 115V, 60 Hz | Impedance | 1/2NPT | 1/4 | 1/2 ‡ | Rulon | 4½ | 2⅝ | 3¼ | 154 | 132 | 84 | 21 | — | — | — | — | 6.2 | G150AIL | **2P398** | 49.00 | **34.30** | 2.6 |
| **MILD ACID AND CHEMICAL PUMPS** | | | | | | | | | | | | | | | | | | | | | | | |
| 1/150 | 115V, 60 Hz | Impedance | Screened | 1/4 | 1/2 ‡ | Viton | 4½ | 2⅝ | 3⅝ | 154 | 132 | 84 | 21 | — | — | — | — | 6.2 | G150AVS | **2P399** | 56.00 | **39.30** | 2.8 |
| 1/50 | 115V, 60 Hz | Thermal | Screened | 1/4 | 1/2 ‡ | Viton | 4½ | 2⅝ | 4⅜ | 268 | 254 | 223 | 188 | 151 | 102 | — | — | 11.6 | G300AVS | **2P401** | 70.00 | **49.15** | 3.4 |
| 1/50 | 230V, 50/60 Hz ** | Thermal †† | Screened | 1/4 | 1/2 ‡ | Viton | 4½ | 2⅝ | 4⅜ | 268 | 254 | 223 | 188 | 151 | 102 | — | — | 11.6 | G300CVS | **2P402** | 77.00 | **53.80** | 4.0 |
| 1/30 | 115V, 60 Hz | Thermal | 3/4GHT# | 3/8 | 5/8 | Viton | 4½ | 2⅝ | 4⅞ | 403 | 381 | 344 | 303 | 262 | 192 | 25 | — | 12.1 | G500AVS | **2P404** | 95.00 | **66.80** | 3.7 |
| 1/30 | 230V, 50/60 Hz ** | Thermal †† | 3/4GHT# | 3/8 | 5/8 | Viton | 4½ | 2⅝ | 4⅞ | 403 | 381 | 344 | 303 | 262 | 192 | 25 | — | 12.1 | G500CVS | **2P405** | 104.00 | **72.50** | 3.7 |
| 1/12 | 115V, 60 Hz | Thermal | Screened | 1/2 | 3/4 | Viton | 4⅛ | 4¾ | 4¼ | 558 | 525 | 505 | 464 | 425 | 395 | 320 | 245 | 19.5 | G600AVS | **2P407** | 122.00 | **76.70** | 4.5 |
| 1/12 | 230V, 60 Hz | Thermal †† | Screened | 1/2 | 3/4 | Viton | 4⅛ | 4¾ | 4¼ | 558 | 525 | 505 | 464 | 425 | 395 | 320 | 245 | 19.5 | G600CVS | **2P408** | 131.00 | **91.80** | 4.8 |

(*) All inlets except No. 2P398 have snap-on or screw-in screens. (†) Shut-off. To convert to PSI, divide by 2.31. (‡) 3/8" MNPT fitting at cord outlet for applications where cord must be isolated from liquid with piping. (#) Male garden-hose thread, includes screw-on screen. (**) Operable on 50 HZ at 5/6 Performance. (††) Not UL Listed or CSA certified. (‡‡) Performance is ±10% at rated voltage.

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

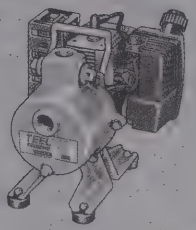


*If we don't have a pump for it, chances are it can't be pumped.*

# 1" ENGINE-DRIVEN UTILITY PUMP

TEEL®

Replacement Parts Available 1-800-323-0620



Repair Service Available Contact Your Local Branch

- Tecumseh 2-cycle engine fueled by 24:1 gasoline/oil mixture
- Chrome-plated piston and electronic ignition for longer engine life
- Spark arrester screened muffler
- Pump has sand cast aluminum body, volute and impeller
- Carbon/ceramic, Buna N/stainless steel shaft seal
- Includes two 1 x 3/4" hex brass garden hose adapters, 8 oz. 2-cycle oil
- Self-primes to 15 feet

**Applications:** Dewatering excavations, sump pits, ditches, pools, and boats. Can also be used for lawn sprinkling, washing cars and buildings. For use wherever electrical power is not readily available. For use with nonflammable liquids compatible with pump materials. Teel Brand.

## SPECIFICATIONS DATA

| Suction Lift (Ft.) | GPH of Water at Discharge Pressure in PSI* 5 | 10 | 15 | 20 | 25 | 30 | 35 | Maximum Pressure (PSI)† |
|---|---|---|---|---|---|---|---|---|
| 0 | 3600 | 3350 | 3100 | 2760 | 2410 | 2040 | 1580 | 47 |
| 5 | 3250 | 3050 | 2750 | 2450 | 2100 | 1700 | 1240 | 46 |
| 10 | 2800 | 2600 | 2370 | 2100 | 1750 | 1350 | 830 | 44 |
| 15 | 2400 | 2200 | 2000 | 1750 | 1420 | 1070 | 680 | 42 |

(*) Does not include pressure losses in suction and discharge piping. (†) To convert PSI to feet of head, multiply by 2.31.

## PUMP ORDERING DATA

| Inlet / Outlet | HP | Engine Displacement (cc) | RPM | Fuel Tank Capacity (Qt.) | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1" NPT | 2.0 | 49.2 | 5650 | 1¼ | 12½ | 9½ | 12½ | 1V287 | $401.44 | $309.25 | 18.0 |

# 1½" PORTABLE 2-STAGE SPRAYER/HIGH PRESSURE PUMP

- 2-Stage centrifugal
- Pump is cast iron construction
- 4 Cycle Kohler Command 6 HP OHV engine (4000 RPM)
- High efficiency enclosed stainless steel impellers
- Removable/replaceable diffusers
- Self-primes to 20 ft.
- O-ring casing seal
- 40 to 160°F liquid handling range
- Two cast-iron hex nipples included
- Tubular steel roll frame
- Type 21 mechanical seal is carbon/ceramic, Buna N and stainless steel

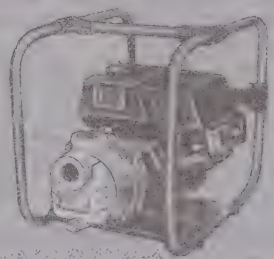
For spraying, pressure boosting and high head dewatering applications. For use with nonflammable liquids which are compatible with pump component materials. Use of a check valve will reduce time required for self-priming.

6 HP Kohler Command Engine: Overhead valve design with electronic ignition and automatic decompression. Aluminum block with cast iron sleeve. Recoil start. Quiet muffler and low oil sensor. Teel brand.

TEEL®

FREE DELIVERY on orders of $99 or more* See Freight Policy

Repair Service Available Contact Your Local Branch



Replacement Parts Available 1-800-323-0620

## SPECIFICATIONS DATA

| ction t (Ft.) | GPM at Discharge Pressure in PSI 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | Shut-Off* PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 82 | 76 | 72 | 68 | 62 | 54 | 50 | 42 | 31 | 18 | 102 |
| 10 | 81 | 75 | 71 | 66 | 60 | 53 | 47 | 40 | 30 | – | 100 |
| 15 | 75 | 72 | 68 | 65 | 59 | 52 | 46 | 38 | 26 | – | 98 |
| 20 | 65 | 64 | 62 | 61 | 58 | 51 | 44 | 36 | 24 | – | 96 |
| 25 | 57 | 56 | 54 | 53 | 51 | 49 | 42 | 33 | 20 | – | 94 |

hut off; to convert to feet of head, multiply by 2.31.

## PUMP SPECIFICATIONS AND ORDERING DATA

| Type | Tank Size (Qt.) | Port NPT (In.) | Dimension (In.) H | W | L | Pump and Casing Adapter | Impellers | Diffusers | Mechanical Seal | Roll Bar Frame | Stock No. | List | Each | Shpg. Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kohler | 3 | 1½ | 20½ | 16½ | 22 | CI | BR | CI | Buna/SS* | Steel | 1V298 | $1317.01 | $1044.00 | 108.0 |

lechanical seal has ceramic seat. Note: Pump fitted with stainless steel shaft sleeve.

DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

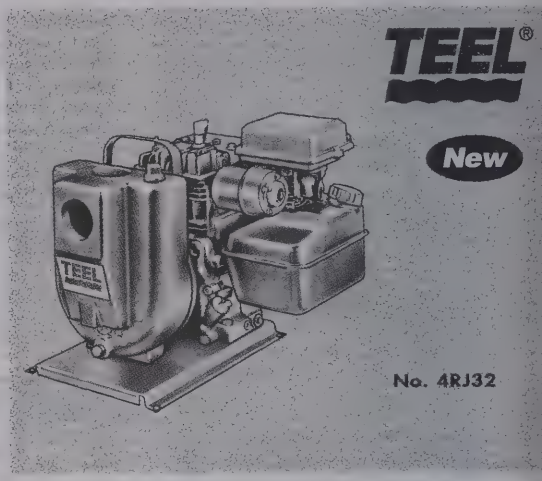
Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# CAST IRON AND ALUMINUM ENGINE-DRIVEN PUMPS

## 3.5 HP CAST IRON ENGINE-DRIVEN PUMPS

- Engine-driven pumps can be used where electrical power is not available
- Powerful 4-cycle engine
- Self primes to 20 Ft.
- Rugged cat iron body and impeller
- 40 to 160°F liquid handling capability
- Close-coupled or frame-mounted

For liquid transfer applications, including clear and sediment-laden liquids. Use with non-flammable liquids which are compatable with pump component materials. No. 4RJ32 has pump and engine close-coupled on all steel base. No. 4RJ33 has pump and engine frame-mounted on all-steel base. Semi-open impeller.




### CAST IRON PUMP PERFORMANCE DATA

| Suction Lift in Ft. | GPM of Water At Total Ft. Hd. 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 142 | 135 | 126 | 116 | 104 | 90 | 70 | 45 | 12 |
| 10 | 132 | 125 | 118 | 110 | 100 | 88 | 70 | 45 | 12 |
| 15 | 116 | 110 | 105 | 100 | 94 | 85 | 70 | 45 | 12 |
| 20 | 90 | 89 | 88 | 86 | 84 | 80 | 70 | 45 | 12 |

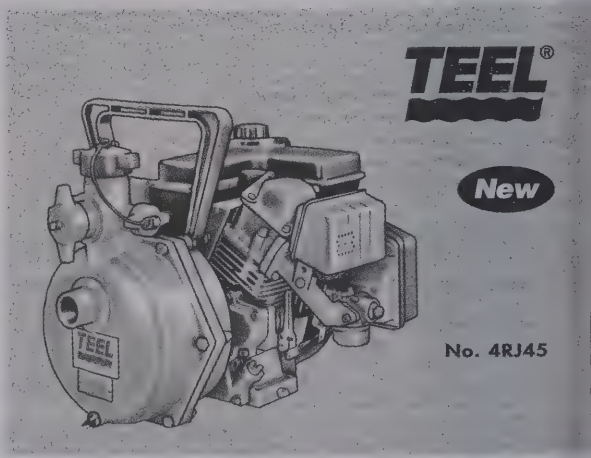
### CAST IRON PUMP ORDERING DATA

| HP | Driver Type | Tank Size (Qts.) | NPT (In.) | Dimensions (In.) H | W | L | Casing Adapter | Casing Impeller | Volute/ Wear Plate | Mechanical Seal | Check Valve | Max. Solid Dia. (In.) | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3½ | B & S | 3 | 2 | 13⅛ | 14 | 16 | CI | CI | CI | Buna SS | Buna | 3/8 | **4RJ32** | $636.00 | **$424.00** | 65.0 |
| 3½ | B & S | 3 | 2 | 13⅛ | 14 | 18 1⁄16 | CI | CI | CI | Buna SS | Buna | 3/8 | **4RJ33** | 691.50 | **461.00** | 72.0 |

## 5 HP ALUMINUM HIGH PRESSURE/LAWN SPRINKLER PUMP

- Self-priming to 20 Ft.
- Inlet Port 1½" NPT
- Multiport discharge (1, 1½, and 2" NPT)
- Die-cast aluminum body and impeller
- Built-in check valve
- 40 to 160°F liquid handling
- High pressure applications

For water transfer, high pressure and lawn sprinkling applications. Pump is lightweight for portability, with sturdy carrying handle. Use for continuous, trouble-free clean and dirty water operation. Closed impeller. Use with nonflammable liquids which are compatible with pump component materials.




### ALUMINUM HIGH-PRESSURE PUMP PERFORMANCE DATA

| Suction Lift In Ft. | 5 HP PUMP PERFORMANCE IN GPM Discharge Pressure–PSI 25 | 35 | 45 | 55 | 65 | Maximum Pressure PSI |
|---|---|---|---|---|---|---|
| 0 | 85 | 82 | 70 | 57 | 38 | 76 |
| 5 | 85 | 79 | 68 | 54 | 31 | 74 |
| 10 | 85 | 77 | 65 | 50 | 24 | 72 |
| 15 | 85 | 75 | 62 | 44 | 18 | 70 |
| 20 | 82 | 73 | 60 | 40 | 10 | 68 |

### ALUMINUM HIGH PRESSURE PUMP ORDERING DATA

| HP | Driver Type | Tank Size (Qts.) | Size NPT (In.) | Dim. (In.) H | W | L | Casing Adapter | Impeller | Volute/ Wear Plate | Mechanical Seal | Check Valve | Max. Solid Dia. (In.) | New! Stock No. | List | Each | Sl W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | Tecumseh | 3 | 1, 1½, 2 | 17 | 15½ | 18½ | AI | AI | AI | Buna SS | Buna | 3/8 | **4RJ45** | $1024.50 | **$683.00** | 7 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact yo local branch for more information.**

# 1 1/2 INCH SELF-PRIMING ENGINE-DRIVEN PUMPS

## 3.5 HP CAST IRON GENERAL PURPOSE PUMP

- Integral dual volute casing
- Self-primes to 20 ft.
- O-ring casing seal
- 40 to 160°F liquid handling range
- Two cast iron hex nipples included
- Tubular steel roll frame

For liquid transfer applications including clear, semi-solid and sediment laden liquids.

For use with nonflammable liquids which are compatible with pump component materials. Fits Wheel Kits Nos. 2P514 and 2P515.

### SPECIFICATIONS DATA

| Model | HP | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 30 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | Max. Head* |
|---|---|---|---|---|---|---|---|---|
| P855 | 3.5 | 5000 | 4500 | 4000 | 2450 | 1360 | — | 70 ft. |

*) Shut-off; to convert to PSI, divide by 2.31.

## 3.5 HP SOLIDS HANDLING PUMPS

- Cast iron and aluminum construction
- Removable volute/easy cleanout
- Self-primes to 20 ft.
- O-ring casing seal
- 40 to 160°F liquid handling range
- Two cast iron hex nipples included
- Tubular steel roll frame

For liquid transfer applications requiring 3/8" solids handling capability.

For use with nonflammable liquids which are compatible with pump component materials. Fits Wheel Kits Nos. 2P514 and 2P515 (see page 3152).

### SPECIFICATIONS DATA

| Model | HP | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 40 Ft. | 60 Ft. | 80 Ft. | 90 Ft. | Max. Head* |
|---|---|---|---|---|---|---|---|---|
| P868 | 3.5 | 6720 | 6420 | 5460 | 3700 | 1200 | — | 87 ft. |
| P525 | 3.5 | 6720 | 6420 | 5460 | 3700 | 1200 | — | 87 |

* Shut-off; to convert to PSI, divide by 2.31.

## 3.5 AND 5 HP ALUMINUM HIGH PRESSURE/ LAWN SPRINKLER PUMPS

- 3.5 HP and 5 HP engines
- Cast aluminum construction
- Removable cast iron volute
- Self-primes to 20 ft.
- O-ring casing seal
- 40 to 160°F liquid handling range
- Two cast iron hex nipples included
- Tubular steel roll frame

For high head dewatering, lawn sprinkling and muddy water removal.

For use with nonflammable liquids which are compatible with pump component materials. Fits Wheel Kits Nos. 2P514 and 2P515 (see page 3152).

### No. 2P007 PERFORMANCE* IN GPM

| Suction Lift in Feet | 3.5 HP PUMP Discharge Pressure (PSI) 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | Maximum Pressure (PSI) |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 62 | 56 | 50 | 42 | 39 | 26 | 17 | 8 | 50 |
| 10 | 59 | 53 | 47 | 39 | 30 | 22 | 14 | 5 | 47 |
| 15 | 56 | 51 | 43 | 35 | 27 | 18 | 9 | — | 45 |
| 20 | 48 | 45 | 40 | 32 | 23 | 14 | 6 | — | 42 |
| 25 | 33 | 32 | 30 | 26 | 19 | 11 | — | — | 40 |

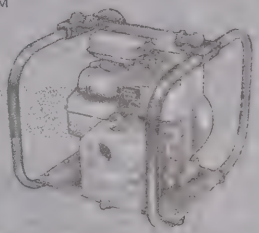
### No. 2P008 PERFORMANCE* IN GPM

| Suction Lift in Feet | 5 HP PUMP Discharge Pressure (PSI) 10 | 20 | 30 | 40 | 50 | 55 | 60 | 65 | Maximum Pressure (PSI) |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 72 | 67 | 60 | 49 | 36 | 28 | 21 | 12 | 71 |
| 10 | 66 | 65 | 58 | 47 | 34 | 26 | 17 | 8 | 68 |
| 15 | 58 | 56 | 55 | 44 | 30 | 22 | 13 | — | 65 |
| 20 | 49 | 48 | 47 | 41 | 26 | 18 | 9 | — | 63 |
| 25 | 33 | 32 | 31 | 30 | 23 | 14 | 5 | — | 61 |

Does not include pressure losses in suction and discharge piping.

TEEL®

Repair Service Available Contract Your Local Branch



No. 1P855

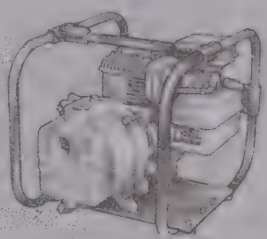
2 Hex Nipples included with all units

Replacement Parts Available 1-800-323-0620



No. 1P868

- Solids handling design
- Cast iron & cast aluminum construction



No. 2P007

- High pressure design
- 3.5 & 5 HP Briggs & Stratton engine

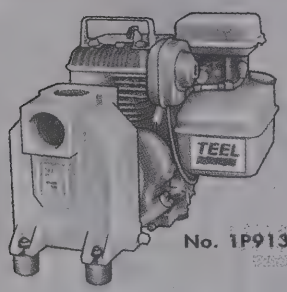
### PUMP ORDERING DATA

| Driver Type | Tank Size (Qt.) | Port Size NPT (In.) | Dimensions (In.) H | W | L | Casing Adapter | Impeller | Volute/ Wear Plate | Mechanical Seal | Check Valve | Roll-Bar Frame | Max. Solid Dia. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B&S | 3 | 1½ | 15 | 15 | 20 | CI | CI** | N/A | Buna/SS* | — | Steel | 3/8 | 1P855 | $589.80 | $416.50 | 54.0 |
| B&S | 3 | 1½ | 15 | 15 | 20 | AL | AL** | AL | Buna/SS* | Buna | Steel | 3/8 | 3P525 | 660.92 | 440.50 | 49.0 |
| B&S | 3 | 1½ | 15 | 15 | 20 | CI | CI** | CI | Buna/SS* | Buna | Steel | 3/8 | 1P868 | 698.00 | 456.00 | 63.0 |
| B&S | 3 | 1½ | 15 | 15 | 20 | AL | AL** | CI | Buna/SS* | Buna | Steel | 1/8 | 2P007 | 665.73 | 467.50 | 45.0 |
| B&S | 3 | 1½ | 19¼ | 17 | 22 | AL | AL** | CI | Buna/SS* | Buna | Steel | 1/8 | 2P008 | 1053.20 | 682.50 | 77.0 |

*Mechanical seals have ceramic seats. (**) Impellers are semi-open clog resistant. Note: All pumps are fitted with stainless steel shaft sleeves.

# 2 INCH SELF-PRIMING, GENERAL PURPOSE ENGINE-DRIVEN PUMPS

TEEL®



- Single piece construction
- 3.5 and 5 HP engines

No. 1P913

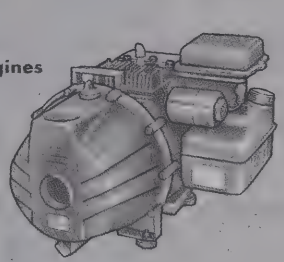


2 Nipples included with all units

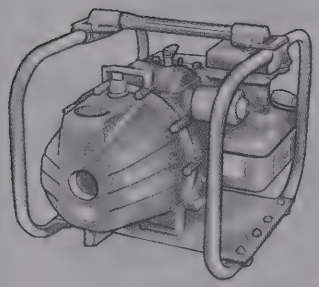
Replacement Parts Available
1-800-323-0620

- 3.5 HP engines

No. 1P985



Repair Service Available
Contact Your Local Branch



- 3.5 and 5 HP engines
- Tubular steel roll frame
- 2" NPT polyester nipple, 90° elbow, suction strainer

No. 1P986

## 3.5 AND 5 HP CAST IRON PUMPS

- Single piece dual volute construction
- Self-primes to 20'
- 40 to 160°F liquid handling range
- Fiber gasket casing seal
- 2 Cast iron hex nipples incl.

**Application:** For use with non flammable liquids compatible with component materials. Fo liquid transfer applications including herbicides, liquid fer tilizers, insecticides, muddy o sandy water. See Pump Ordering Data for seal materia construction.

### SPECIFICATIONS DATA

| Stock No. | HP | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 40 Ft. | 60 Ft. | 70 Ft. | 80 Ft. | Max. Head* |
|---|---|---|---|---|---|---|---|---|
| 1P913<br>1P946 | 3.5 | 7800 | 7320 | 6000 | 5220 | 2400 | — | 76 ft. |
| 2P103 | 5 | 9600 | 9000 | 7500 | 6540 | 4080 | 2400 | 90 |

(*) Shut-off; to convert to PSI, divide by 2.31.

### VITON SEAL

Viton seals are recommended when pumping alachlor herbicide (e.g. Monsanto Lasso® or other compatible liquids. For pump Nos. 1P855, 1P868, 1P895, 1P913, 1P946, 1P950, 2P007, 2P00 2P103, 3P325, 3P526, and 3P600. Viton seal No. 1R245 seat an cartridge included.

**No. 1R245.** Shpg. wt. 0.1 lbs. List $22.77. Each.....$16.2

## 3.5 AND 5 HP THERMOPLASTIC PUMPS

- Lightweight corrosion resistant glass-filled polyester components
- Stainless steel hardware
- 40 to 130°F liquid handling range
- Nos. 1P986 and 3P957 include 90° elbow and suction strainer
- 2" NPT polyester hose nipples included
- Self-primes to 20 ft.
- Removable/replaceable volute
- O-ring casing seal
- Tubular steel roll frame

**Application:** For use with no flammable liquids compatibl with component materials. Fo liquid transfer applicatio including herbicides.

### SPECIFICATIONS DATA

| Stock No. | HP | GPH of Water @ Total Feet of Head 10 Ft. | 20 Ft. | 50 Ft. | 60 Ft. | 80 Ft. | 90 Ft. | Max. Head* |
|---|---|---|---|---|---|---|---|---|
| 1P985<br>1P986 | 3.5 | 8460 | 7680 | 5100 | 4140 | 2100 | 840 | 94 ft. |
| 3P957 | 5 | 8460 | 7920 | 6360 | 5760 | 4200 | 3360 | 125 |

(*)Shut-off; to convert to PSI, divide by 2.31.

### EPDM SEAL KIT

Seal kit is recommended with pumping alachlor herbicides (e. Monsanto Lasso®) or other liquids compatible with EPD (Ethylene Propyline Diene-Monomer) elastomers. Includes 1 EPDM O-rings, 1 EPDM check valve, 1 EPDM mechanical sha seal seat and cartridge.

**No. 1R320.** Shpg. wt. 0.5 lbs. List $51.47. Each .....$34.3

### PUMP ORDERING DATA

| HP | Driver Type | Driver Tank Size (Qt.) | Port Size NPT (In.) | Dimensions (In.) H | W | L | Casing Adapter | Impeller * | Volute/ Wear Plate | Mechanical Seal † | Check Valve | Roll Bar Frame | Max. Solid Dia. (In.) | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.5 | B&S | 3 | 2 | 13 | 13¼ | 16¾ | CI | CI | — | Buna/SS | — | — | 3/8 | **1P913** | $524.16 | **$345.25** | 62.0 |
| 3.5 | B&S | 3 | 2 | 13 | 13¼ | 16¾ | CI | CI | — | Viton/SS | — | — | 3/8 | **1P946** | 538.88 | **353.50** | 62.0 |
| 5 | B&S | 3 | 2 | 14½ | 14 | 17¼ | CI | CI | — | Viton/SS | — | — | 3/8 | **2P103** | 686.14 | **423.50** | 62.0 |
| 3.5 | B&S | 3 | 2 | 18 | 15 | 18 | TP | TP | TP | Buna/SS | Buna | — | 3/8 | **1P985** | 424.62 | **271.00** | 34.0 |
| 3.5 | B&S | 3 | 2 | 15 | 15 | 20 | TP | TP | TP | Buna/SS | Buna | Steel | 3/8 | **1P986** | 577.00 | **342.25** | 46.0 |
| 5 | B&S | 3 | 2 | 15 | 15 | 20 | TP | TP | TP | Buna/SS | Buna | Steel | 3/8 | **3P957** | 632.66 | **389.75** | 52.0 |

(*) Impellers are semi-open clog resistant. Note: Nos. 1P913, 1P946 and 2P103 are fitted with stainless steel shaft sleeves. CI = Cast Iron, TP = Thermoplastic, SS = Stainless Steel. (†) Mechanical seals have ceramic seats.



*If we don't have a pump for it, chances are it can't be pumped.*

# 2 INCH, 3.5 TO 6 HP SELF-PRIMING ENGINE-DRIVEN PUMPS

## 3.5 AND 5 HP SOLIDS-HANDLING PUMPS

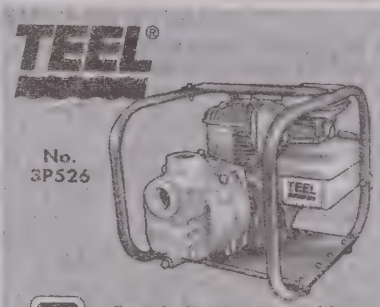
- Cast-iron and aluminum construction
- Removable volute/easy cleanout
- 3.5 HP and 5 HP Briggs & Stratton engines
- Self primes to 20 ft.
- O-ring casing seal, Buna N, stainless steel, carbon/ceramic, mechanical seal
- 40 to 160°F liquid handling range
- Two cast-iron hex nipples included
- Semi-open clog resistant impeller
- Tubular steel roll frame

For liquid transfer applications requiring 3/8" solids handling capability. For use with nonflammable liquids which are compatible with pump component materials. Fits Wheel Kits Nos. 2P514 and 2P515 (see page 3152).

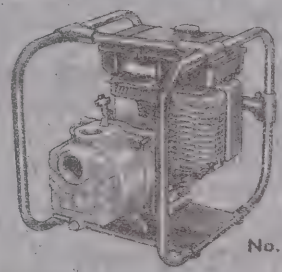
### SPECIFICATIONS DATA

| Stock No. | HP | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 40 Ft. | 60 Ft. | 80 Ft. | 90 Ft. | Max. Head* (Ft.) |
|---|---|---|---|---|---|---|---|---|
| P869, 3P526 | 3.5 | 9000 | 8400 | 6960 | 4800 | 1250 | — | 87 |
| 1P950 | 5 | 10,200 | 9270 | 8220 | 6000 | 3000 | 1200 | 98 |

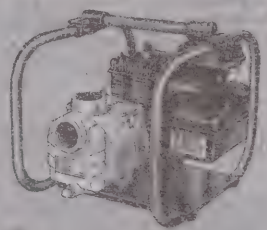
) Shutoff; to convert to PSI, divide by 2.31.

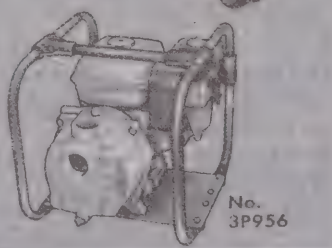



Repair Service Available
Contact Your Local Service




Replacement Parts Available
1-800-323-0620




## 3.5, 5, 5.5 AND 6 HP TRASH PUMPS

- Briggs & Stratton I/P, Honda and Kohler Command engines
- All cast iron construction
- Silicon carbide shaft seal
- O-ring casing seal
- Suction strainer
- Removable volute/easy cleanout
- Two cast-iron hex nipples included
- Tubular steel roll frame
- Self primes to 20 ft.
- Semi-open clog resistant impeller
- 40 to 160°F liquid handling range

or pumping water containing stones, icks, mud and other solids up to 1" in ameter for 3.5 HP units; 1⅛" in diameter r 5, 5.5 and 6 HP units (up to 25% by vol- ne).

For use with nonflammable liquids which are compatible with pump component materials. Fits Wheel Kits Nos. 2P514 and 2P515 (see page 3152).

**Driver:**

**No. 2P333 has Briggs & Stratton** 5 HP I/P 4000 RPM gasoline engine. Recoil start, 4-quart fuel tank. Low oil alert. Aluminum block with cast-iron sleeve, quiet muffler and low oil sensor.

**No. 3P956**
**Honda** 5.5 HP, 3600 RPM gasoline engine. Overhead valve design with electronic ignition and automatic decompression release. Aluminum block with cast-iron sleeve. Recoil start, 3.8 quart fuel tank. Quiet muffler.

**No. 3P958**
**Kohler Command** 6 HP, 4000 RPM gasoline engine. Overhead valve design with electronic ignition and automatic decompression release. Aluminum block with cast-iron sleeve. Recoil start, 3 quart fuel tank. Quiet muffler and low oil sensor.

### SPECIFICATION DATA

| Stock No. | HP | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 40 Ft. | 60 Ft. | 80 Ft. | 90 Ft. | Max. Head* (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1V256 | 3.5 | 8500 | 8100 | 5960 | 3240 | — | — | 54 |
| 2P333 | 5 | 10,800 | 9840 | 7920 | 5580 | 2940 | 1200 | 94 |
| 3P956 | 5.5 | 10,800 | 9840 | 7920 | 5580 | 2940 | 1200 | 94 |
| 3P958 | 6 | 10,800 | 9840 | 7920 | 5580 | 2940 | 1200 | 94 |

Shutoff; to convert to PSI, divide by 2.31.

### SOLIDS HANDLING AND TRASH PUMP ORDERING DATA

| HP | Driver Type | Tank Size (Qt.) | Port Size NPT | Dimensions (In.) H | W | L | Casing Adapter | Impeller# | Volute / Wear Plate | Mechanical Seal | Check Valve | Roll Bar Frame | Max. Solid Dia. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .5 | B&S | 3 | 2" | 16½ | 15½ | 19½ | CI | CI | CI | Buna/SS | Buna | Steel | 3/8 | 1P869 | $730.66 | $479.50 | 74.0 |
| .5 | B&S | 3 | 2 | 16½ | 15½ | 19½ | AL | AL | AL | Buna/SS | Buna | Steel | 3/8 | 3P526 | 691.27 | 461.75 | 49.0 |
| .5 | B&S | 3 | 2 | 16½ | 15½ | 19½ | CI | CI | CI | Buna/SS | Buna | Steel | 1 | 1V256 | 619.68 | 482.25 | 76.0 |
| | B&S | 3 | 2 | 16½ | 15½ | 19½ | CI | CI | CI | Buna/SS | Buna | Steel | 3/8 | 1P950 | 856.17 | 560.50 | 77.0 |
| | B&S | 3 | 2 | 16½ | 15½ | 19½ | CI | CI | CI | Buna/SS | Buna | Steel | 3/8 | 2P333 | 1149.72 | 833.00 | 100.0 |
| | B&S I/P | 4 | 2 | 20½ | 16½ | 22 | CI | CI | CI | Buna/SS* | Buna | Steel | 1⅛ | 3P956 | 1537.41 | 1094.00 | 105.0 |
| .5 | Honda | 3.8 | 2 | 20½ | 16½ | 22 | CI | CI | CI | Buna/SS* | Buna | Steel | 1⅛ | 3P958 | 1491.12 | 1065.00 | 105.0 |
| | Kohler Cmnd. | 3 | 2 | 20½ | 16½ | 22 | CI | CI | CI | Buna/SS* | Buna | Steel | 1⅛ | | | | |

Silicon carbide seal. (#) Impellers are semi-open clog resistant. Note: All pumps are fitted with stainless steel shaft sleeves.

# 3-INCH SELF-PRIMING CAST ALUMINUM ENGINE-DRIVEN PUMPS

## 5 AND 8 HP GENERAL PURPOSE PUMPS

- **Briggs & Stratton Standard engines on Nos. 3P600 and 3P582**
- **Briggs & Stratton Industrial Plus electric start engine on No. 3P656 (battery not included)**
- **Integral dual volute casing**
- **Removable cast iron wear plate**
- **Self-primes to 20 ft. (No. 2P015 requires 3600 RPM for 20 ft. prime)**
- **40 to 160°F liquid handling range**
- **Two cast iron hex nipples**

**Application:** For liquid transfer applications requiring 3/4" solids handling capability. For use with nonflammable liquids which are compatible with pump component materials. Fits Wheel Kits Nos. 2P514 and 2P515 below. Pump head No. 2P015 has 1⅛" keyed shaft diameter.

| Stock No. | Pump Head RPM | HP | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 40 Ft. | 60 Ft. | 80 Ft. | 90 Ft. | Max. Head* (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 3P600 | — | 5 | 13000 | 12000 | 10020 | 7260 | 3180 | — | 89 |
| 3P582, 3P656 | — | 8 | 18000 | 16740 | 14220 | 10980 | 7200 | 4500 | 100 |
| 2P015 | 2800# | 5** | 13500 | 12000 | 8160 | 840 | — | — | 61 |
| | 3450† | 7½** | 17100 | 15900 | 13200 | 9900 | 5100 | 1500 | 92 |

(†) Use 3450 RPM motor, direct drive or belt drive. (#) Use 3600 RPM motor, belt drive only. (**) Minimum motor HP required at indicated speed to drive pump head. (*) Shut-off; to convert to PSI, divide by 2.31.

## 8 AND 9 HP TRASH PUMPS

- **Briggs & Stratton 8 HP I/P engines on Nos. 3P712 and 3P601**
- **Honda 9 HP electric start engine on No. 3P655 (battery not included)**
- **O-ring casing seal**
- **40 to 160°F liquid handling range**
- **Two cast iron hex nipples included**
- **Self-primes to 20 ft. (No. 3P609 requires 3600 RPM for 20 ft. prime)**

**No. 3P712**

- **Removable cast iron volute and wear plate**
- **Suction cleanout cover with quick release handles**

**Nos. 3P601, 3P609, 3P655**

- **Removable cast iron wear plates and suction plate**
- **Discharge cleanout with quick release handles**
- **Integral volute design**

**Application:** For pumping water containing stones, sticks, mud and other solids up to 1½" in diameter (up to 25% by volume). For use with nonflammable liquids which are compatible with pump component materials. Fits Wheel Kits Nos. 2P514 and 2P515 below. Pump head No. 3P609 has 1⅛" keyed shaft diameter.

| Stock No. | Pump Head RPM | HP | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 40 Ft. | 60 Ft. | 80 Ft. | Max. Head* (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 3P712 | — | 8 | 20880 | 18960 | 14000 | 8800 | 2400 | 86 |
| 3P601 | — | 8 | 22680 | 21600 | 16800 | 10680 | 5400 | 89 |
| 3P655 | — | 9 | 22680 | 21600 | 16800 | 10680 | 5400 | 89 |
| 3P609 | 2800# | 5** | 17880 | 14940 | 7800 | — | — | 53 |
| | 3450† | 7½** | — | 21360 | 16620 | 10200 | 2100 | 83 |

(†) Use 3450 RPM motor, direct drive or belt drive. (#) Use 3600 RPM motor, belt drive only. (**) Minimum motor HP required at indicated speed to drive pump head. (*) Shut-off; to convert to PSI, divide by 2.31.

## WHEEL MOUNTING KITS

Many Teel engine driven pumps have been redesigned with rectangular frames for easier transportation and greater protection than non-rectangular frames.

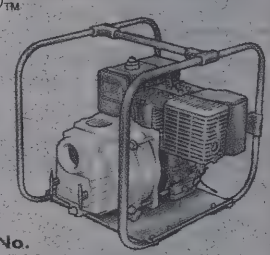
**Wheel kits fit these pumps with rectangular frames only:** 1P855, 1P868A, 1P869, 1P869A, 1P950, 1P950A, 1P986, 2P007, 2P008, 2P333, 3P525C, 3P526B, 3P582E, 3P600B, 3P601B, 3P655, 3P656, 3P712, 3P956, 3P957, 3P958. They cannot be used on pumps without tubular frames.

No. 2P514 has 10" semi-pneumatic for lighter weight pumps; No. 2P515 has 16" pneumatic wheels for the heavier trash pumps.

| Wheels (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **10** | **2P514** | $129.62 | **$94.70** | 22.0 |
| **16** | **2P515** | 175.95 | **128.50** | 26.0 |

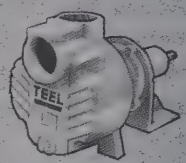
TEEL®

Repair Service Available
Contact Your Local Branch

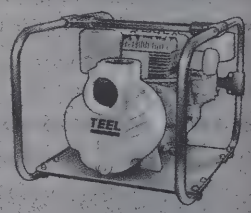


No. 3P712

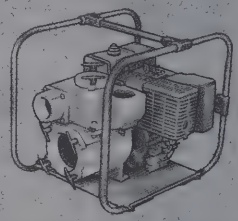
Replacement Parts Available
1-800-323-0620



No. 2P015 Pump Head



No. 3P582



No. 3P601

## GENERAL PURPOSE AND TRASH PUMP ORDERING DATA

| HP | Driver Type | Size (Qt.) | Port Size NPT (In.) | Dimensions (In.) H | W | L | Casing Adapter | Impeller ** | Volute/ Wear Plate | Mechanical Seal | Check Valve | Roll Bar Frame | Max. Solid Dia. (In.) | Stock No. | List | Each | Shp W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5** | B&S | 3 | 3 | 19¼ | 17 | 22 | AL | CI | CI | Buna/SS | Buna | Steel | ¾ | **3P600** | $1022.04 | **$723.50** | 7 |
| **8** | B&S | 4 | 3 | 19 | 20 | 25 | AL | CI | CI | Buna/SS | Buna | Steel | ¾ | **3P582** | 1364.00 | **966.00** | 10 |
| **8** | B&S I/P† | 4 | 3 | 19 | 20 | 25 | AL | CI | CI | Buna/SS | Buna | Steel | ¾ | **3P656** | 2112.80 | **1514.00** | 11 |
| — | — | — | 3 | 13 | 8¼ | 20½ | AL | CI | CI | Buna/SS | Buna | Steel | ¾ | **2P015** | 703.36 | **501.50** | 5 |
| **8** | B&S I/P | 4 | 3 | 19 | 20 | 27 | AL | CI | CI | Buna/SS* | Buna | Steel | 1½ | **3P712** | 1719.02 | **1231.00** | 14 |
| **8** | B&S I/P | 4 | 3 | 19 | 20 | 27 | AL | CI | CI | Buna/SS* | Buna | Steel | 1½ | **3P601** | 2080.39 | **1516.00** | 12 |
| **9** | Honda† | 4 | 3 | 19 | 20 | 27 | AL | CI | CI | Buna/SS* | Buna | Steel | 1½ | **3P655** | 2536.44 | **1966.00** | 15 |
| — | — | — | 3 | 16½ | 13⅜ | 23⅛ | AL | CI | CI | Buna/SS* | Buna | Steel | 1½ | **3P609** | 1517.32 | **1073.00** | 7 |

(*) Silicon carbide seal. (**) Impellers are semi-open clog resistant. Note: All pumps are fitted with stainless steel shaft sleeves. (†) Use standard 12V/13A lawn/garden tractor battery (not includ



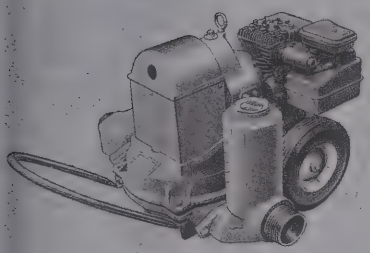
*If we don't have a pump for it, chances are it can't be pumped.*

# ENGINE, ELECTRIC & AIR MOTOR-DRIVEN SOLIDS-HANDLING DIAPHRAGM PUMPS

TEEL®

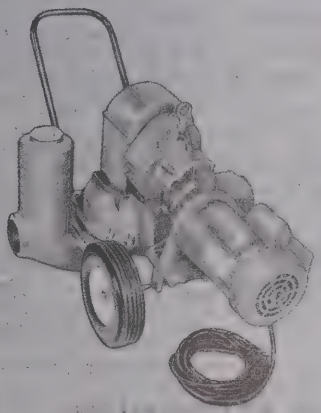
Replacement Parts Available
1-800-323-0620

Repair Service Available
Contact Your Local Branch

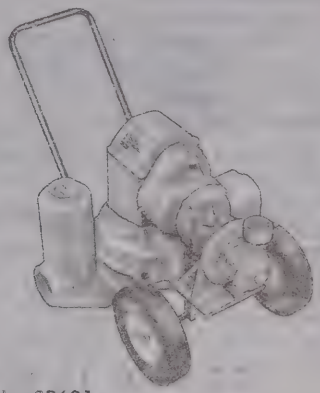


No. 3P613
Gas Engine

FREE DELIVERY on orders of $900 or more
See Freight Policy



No. 3P682
Electric Motor



No. 3P681
Air Motor

- **Pumps mud and thick liquids**
- **Rugged nylon-reinforced diaphragm**
- **Rigid cast plunger**
- **Triple reduction high strength steel spur gears**
- **Extra heavy-duty precision bearings**
- **Cast aluminum guard covers moving parts**
- **40 to 160°F liquid handling range**

**escription:** For pumping thick mud, slurries, sewage and liquids with solids up to /8" diameter. Can be used to pump out onds, excavations, septic tanks, and ccumulated seepage in trenches. Choose n engine, electric, or air motor driven odel. For use with nonflammable liquids ompatible with pump component materials.

**onstruction:** Aluminum suction and discharge castings with extra heavy-duty flapper type check valves are connected to the sand-cast aluminum pump well. Nodular iron crank casting. Includes suction line strainer and 3" NPT suction and discharge hex nipples. 22" tubular handle and two 10" semi-pneumatic wheels.

Nylon reinforced neoprene diaphragm and polyurethane flappers. Aluminum suction and discharge castings, aluminum pump well.

**Driver: No. 3P613.** 3.5 HP Briggs & Stratton I/P engine with cast-iron cylinder sleeves, magnetron electronic ignition (points not required). Stellite exhaust valves, dual air cleaner, spark arresting Lo-Tone muffler, 3-qt. fuel tank and recoil starter.

**Driver: No. 3P682.** 1½ HP Dayton 1725 RPM, 115/230V, 60 Hz single phase NEMA 56C, keyed shaft, TEFC, capacitor-start, capacitor-run, ball bearing motor with manual reset overload protection. 20 ft. cord and weatherproof On/Off switch mounted on conduit box.

**Driver: No. 3P681.** 1¾ HP Air Motor, 56C frame flange mount. Provides 6.5 to 57 in.-lbs. torque and 300 to 3000 RPM speed through the use of an air regulator valve placed between air source and motor (not included) No. 1Z696 air regulator is recommended. Self-sealing and self-adjusting vanes.

## SPECIFICATIONS AND ORDERING DATA

| Driver | HP | Dimensions (In.) H | W | L | Port Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Engine** | 3.5 | 22 | 30 | 44 | 3 | **3P613** | $2112.48 | **$1369.00** | 158.0 |
| **Electric Motor** | 1½ | 22 | 30 | 44 | 3 | **3P682** | 2369.49 | **1522.00** | 190.0 |
| **Air Motor** | 1¾ | 22 | 30 | 39 | 3 | **3P681** | 2262.46 | **1354.00** | 134.0 |

## PUMP PERFORMANCE* IN GPH

| Static Discharge Head in Feet | Height of Pump Above Liquid 8 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft |
|---|---|---|---|---|---|
| **No. 3P613 or 3P681, 60 Strokes / Minute** | | | | | |
| 0 | 5280 | 5220 | 4500 | 3840 | 3540 |
| 5 | 4560 | 4500 | 4380 | 3480 | 3420 |
| 10 | 4320 | 4260 | 4200 | 3360 | 3300 |
| 15 | 4140 | 3960 | 3480 | 3060 | 2940 |
| 20 | 3480 | 3360 | 3180 | 2940 | 2700 |
| 25 | 3120 | 3000 | 2700 | 2460 | 2400 |
| **No. 3P682, 40 Strokes / Minute** | | | | | |
| 0 | 3520 | 3480 | 3000 | 2560 | 2360 |
| 5 | 3040 | 3000 | 2920 | 2320 | 2280 |
| 10 | 2880 | 2840 | 2800 | 2240 | 2200 |
| 15 | 2760 | 2640 | 2320 | 2040 | 1960 |
| 20 | 2320 | 2240 | 2120 | 1960 | 1800 |
| 25 | 2080 | 2000 | 1800 | 1640 | 1600 |

(*) Requires reinforced hose on both suction and discharge sides. See reinforced suction hoses listed on nearby page Performance greatly reduced if collapsible hose is used on discharge.



## SUCTION STRAINERS

Prevent large particles of sediment, sewage, mud or solids from entering suction port of drainage pumps. 16 gauge steel with "zinc with clear" plating. Federal Specifications QQZ-325B, Type 2. No. 1P931 has 1½" square openings for use on trash and diaphragm pumps; others have 3/8" round openings.

## ORDERING DATA

| Internal NPT (In.) | Openings (In.) | Dia. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1½** | 3/8 | 5 | **1P689** | $9.38 | **$6.98** | 1.7 |
| **2** | 3/8 | 6 | **1P690** | 10.42 | **7.90** | 2.5 |
| **3** | 3/8 | 7 | **1P812** | 17.46 | **13.04** | 3.4 |
| **3** | 1½ | 7 | **1P931** | 17.46 | **13.04** | 3.4 |

(*) Conduit pipe thread.

# 4 INCH SELF-PRIMING ENGINE-DRIVEN PUMPS

## 11 HP CAST ALUMINUM SOLIDS HANDLING PUMP

- Integral dual volute design
- Removable cast iron volute
- Self-primes to 20 ft.
- O-ring casing seal
- 40 to 160°F liquid handling range
- Two cast iron hex nipples and suction strainer included
- Discharge manifold
- Wheeled transport dolly

For liquid transfer applications requiring 2" solids handling capability. For use with non-flammable liquids which are compatible with pump component materials. Transport dolly equipped with 16" pneumatic ball bearing wheels and swing down brake feet. Driver: 11 HP Briggs & Stratton I/P engine with recoil starter; aluminum block with cast iron cylinder sleeve. Low oil shutdown. 1.5 gallon fuel tank.

Engine features exhaust valves and exhaust rotators for long wear. Furnished with Magnetron electronic ignition; dual element air cleaner, and spark-arresting Lo-Tone muffler.

### SPECIFICATIONS DATA

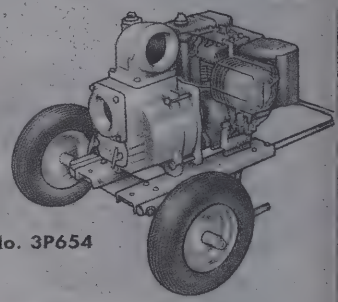
| Stock No. | HP | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 40 Ft. | 60 Ft. | 80 Ft. | 100 Ft. | Max. Head* |
|---|---|---|---|---|---|---|---|---|
| 3P654 | 11 | 31800 | 30300 | 26400 | 21000 | 14400 | 6900 | 118 ft. |

(*) Shut-off; to convert to PSI, divide by 2.31.

TEEL®

FREE DELIVERY on orders of $900 or more

See Freight Policy



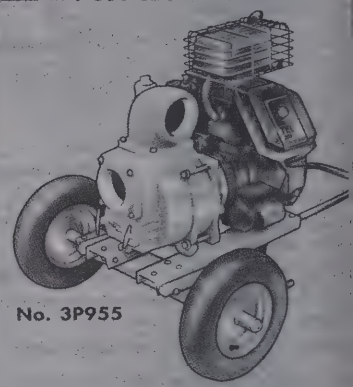
No. 3P654

Replacement Parts Available™ 1-800-323-0620

## 13 AND 16 HP CAST ALUMINUM TRASH PUMPS

- Briggs & Stratton and Kohler Command overhead valve engines
- Silicon carbide seal
- Integral dual volute design
- Removable cast iron volute and wear plate
- Suction cleanout cover with quick release handles
- Self-primes to 20 ft.
- O-ring casing seal
- 40 to 160°F liquid handling range
- Two cast iron hex nipples and suction strainer included
- Discharge manifold
- Wheeled transport dolly

For pumping water containing stones, sticks, mud, and other solids up to 2" in diameter (up to 25% by volume). For use with non-flammable liquids which are compatible with pump component materials. Transport dolly equipped with 16" pneumatic ball bearing wheels and swing down brake feet.



No. 3P955

### SPECIFICATIONS DATA

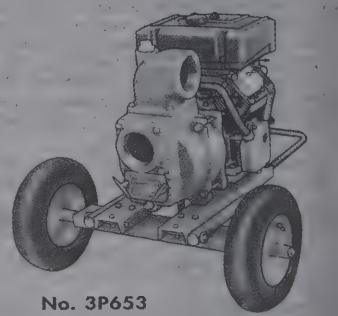
| Stock No. | HP | GPH of Water at Total Feet of Head 10 Ft. | 20 Ft. | 40 Ft. | 60 Ft. | 80 Ft. | 100 Ft. | Max. Head* |
|---|---|---|---|---|---|---|---|---|
| 3P955 | 13 | 37800 | 36000 | 31200 | 25500 | 18600 | 10200 | 120 ft. |
| 3P653 | 16 | 37800 | 36000 | 31200 | 25500 | 18600 | 10200 | 120 |

(*) Shut-off; to convert to PSI, divide by 2.31.

**Driver: No. 3P955 has 13 HP Honda gasoline engine. "Overhead valve design."** Aluminum block with cast iron sleeve. Electronic ignition with 12 volt electric start, 15 amp alternator. Key switch and alternate manual recoil start. (Battery not included.*) Automatic low oil alert. 1.7 gallon fuel tank.

**No. 3P653 has 16 HP Briggs & Stratton Vanguard V-Twin gasoline engine,** overhead valve design, and aluminum block with cast iron sleeves. Electronic ignition with 12 volt electric start. Key switch and alternate manual recoil start*, and low oil alert. 1.25 gallon fuel tank.

(*) Note: Uses standard 12V/13 Amp lawn and garden tractor battery (not included).



No. 3P653

### SOLIDS HANDLING AND TRASH PUMP ORDERING DATA

| HP | Driver Type | Driver Tank Size | Port Size NPT (In.) | Dimensions (In.) H | W | L | Casing / Adapter | Impeller** | Volute / Wear Plate | Mechanical Seal | Check Valve | Max. Solid Dia. (In.) | Stock No. | List | Each | Sh Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | B&S I/P | 1.5 gal. | 4 | 31½ | 37½ | 44½ | AL | CI | CI | Buna/SS | Buna | 2 | 3P654 | $2695.62 | $1932.00 | |
| 13 | Honda | 1.7 | 4 | 33 | 37½ | 44½ | AL | CI | CI | Buna/SS† | Buna | 2 | 3P955 | 4696.91 | 3329.00 | |
| 16 | Vanguard | 1.25 | 4 | 31½ | 37½ | 44½ | AL | CI | CI | Buna/SS† | Buna | 2 | 3P653 | 4718.14 | 3420.00 | |

(†) Silicon carbide seal. (**) Impellers are semi-open clog resistant. Note: All pumps are fitted with stainless steel shaft sleeves.



*If we don't have a pump for it, chances are it can't be pumped.*

# PORTABLE FIRE PUMPS AND LIQUID STORAGE TANKS

## 1½" PORTABLE FIRE PUMP

**Description:** Portable, floating fire pump is particularly useful in pool and marine applications. Pumps up to 140 GPM at 25 PSI. Weighs just 49 pounds, and can be handled by one person. Carrying weight with full tank and accessories: 79 lbs. Exclusive auto-prime system immediately removes entrapped air to ensure instant and complete prime once engine is started and pump is launched. For use with non-flammable liquids compatible with pump component materials. 28H x 20W x 16"L. U.S.D.A. Forest Service Approved. Hale brand (20FV-C8).

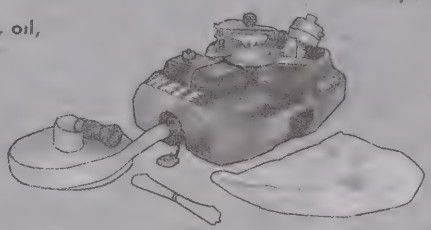
**Construction:** Pump has lightweight, corrosion-resistant aluminum alloy body bolted directly to the engine. Compact polyethylene float includes dual carrying handles and splash-suppression collar for engine protection in water. 2" nonthreaded suction has easily removable oversized screen. 1½" (M)NST discharge port accepts 1½" NHT fire hose.

Aluminum alloy volute, bronze impeller, and bronze clearance rings. Mechanical seal with Buna N, stainless steel, and carbon/ceramic parts.

- **Lightweight (pump weighs only 49 lbs.)**
- **Floats on pond, pool or stream**
- **Auto prime system**
- **Includes hose, nozzle, tool kit, oil, tether rope, and carrying bag**
- **8 HP 2-cycle engine**

FREE DELIVERY on orders of $900 or more
See Freight Policy

HALE
Hale Fire Pumps



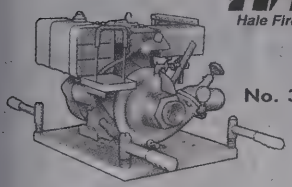
**Driver:** Force Marine 2-cycle, pull-start, air-cooled, single cylinder engine with solid-state ignition; rated 8 HP at 7000 RPM. 6-quart fuel tank provides up to 1½ hours of continuous operation. Automatic engine speed control and electrically operated overspeed control.

**Stowaway accessory package** (included) contains an adjustable nozzle, 100 ft. of 1½" hose, 20 ft. of 1/4" tether rope, tune-up kit, and 2-cycle oil, in a canvas carry bag.

**No. 2P395.** Shpg. wt. 70.0 lbs. List.....$2222.00.
Each.....$1852.00

## 2½" PORTABLE FIRE PUMP

HALE
Hale Fire Pumps



No. 3P636

- **Manual and 12V electric start**
- **Semi-automatic priming**
- **Rugged steel base**

FREE DELIVERY on orders of $900 or more
See Freight Policy

**Description:** Centrifugal fire pump supplements fire-fighting equipment in forest service, fire departments, industrial parks, and lumber yards. Fast, reliable semi-automatic exhaust primer. Lockable check valve prevents loss of prime Compound gauge measures 30" Hg vacuum to 300 PSI. 2½" NST suction and discharge ports. Suction port converts to 3" NPT by unscrewing reducing adapter. 3" NPT pipe nipple included. Carrying weight with battery and full gas tank: 146 lbs., 21½W x 18⅜H x 22"L. Red enamel finish. Hale brand (25FB-B25).

**Construction:** Lightweight aluminum alloy body, mounted on a steel base with 3-position lock-type carrying handles. 6-quart gas tank allows up to 1½ hours of continuous operation. 5⁹⁄₁₆ x 4⅝ x 7" high battery holder takes 14 amp-hour, UASA Type B64-12 battery (not included).

Aluminum alloy body and head, bronze impeller and clearance rings. Mechanical seal with Buna N, carbon/ceramic, and stainless steel parts.

**Driver:** 11 HP Briggs & Stratton I/C gasoline engine. Comes with both manual recoil starter and 12V electric starter with starter button..

**No. 3P636.** Shpg. wt. 130.0 lbs. List $3665.00.
Each.....$3053.00

| GPM* | PSI | Equivalent Ft. of Head |
|---|---|---|
| 25 | 115 | 266 |
| 100 | 90 | 208 |
| 200 | 45 | 104 |
| 240 | 30 | 69 |

(*) Flow rate of water at 10 ft. suction lift. Maximum suction lift is 22 ft. at which point flow rate is reduced by 5%.

## LIQUID STORAGE TANKS

**I/C coated nylon water tanks** provide a safe, conomical way to transport liquids to ywhere water sources are scarce. Used r hauling water and other liquids. Also ed for storing drinking water. Ideal for atering livestock and storage of gray ater.

**eets FDA 21CFR121.2514** of subpart F of e Food Additive Regulation, making em safe for drinking water for human nsumption.

**sists chemical contamination, mildew, rot, and solar heat exposure.**

**Fills and empties in minutes** with a centrifugal force pump, or drains by gravity. Comes complete with 10" fill sleeve and a 1½" gate valve on an 8" extension pipe.

**Fits pickups, many standard wagon boxes, and is self-supporting.**

**Available in storage capacities of 275, 525, and 1340 gallons.** All units collapse and fold for storage into an 18 cubic inch carton. Burch brand.

| Capacity* Gallons | Liters | Dimensions (In.)† L | W | H | Burch Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 275 | 1040 | 73 | 80 | 16 | FDA73MT | **2P797** | $466.52 | **$447.25** | 23.0 |
| 525 | 1987 | 98 | 65 | 18 | FDA98MT | **2P798** | 596.83 | **557.50** | 33.0 |
| 1340 | 5072 | 168 | 84 | 24 | FDA714MT | **2P799** | 1096.52 | **1022.00** | 64.0 |

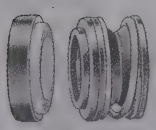
*Approximate. (†) Dimensions when tank is filled with liquid.

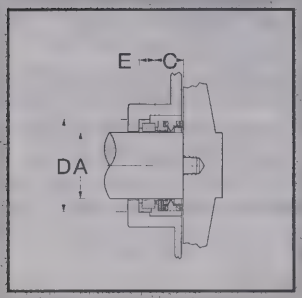


Typical Application

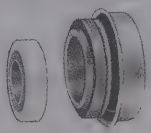
# JOHN CRANE PUMP SHAFT SEALS

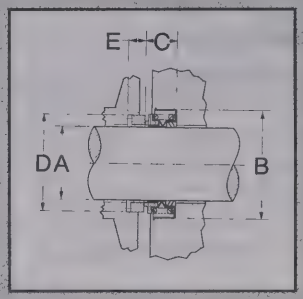
**Type 6**



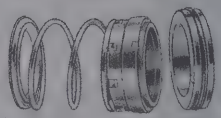


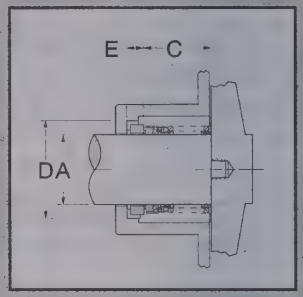

**Type 6A**



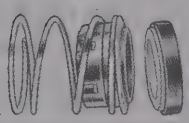


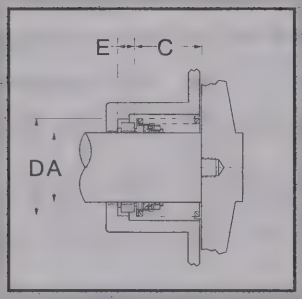

**Type 1 O-Ring Design**





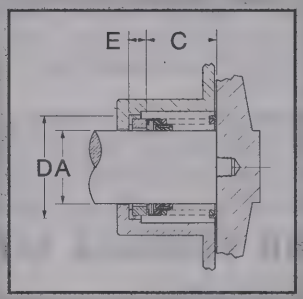

**Type 2**





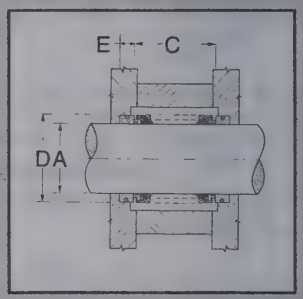

**Type 21**






**Type 21 Dbl**






**Type 6**—Elastomer bellows seal designed for use in small centrifugal water pumps, deep and shallow well jet pumps, and other positive displacement pumps. Full convolution elastomer bellows provide maximum flexibility in compensating for shaft movement and wear. Pressures: Up to 75 PSIG. Speeds: Up to 1000 FPM or 3600 RPM.

**Type 6A**—Elastomer bellow seal for use in low pressure, small diameter rotary shaft applications. One piece construction allows for fast, easy production line installation by press fitting seal in equipment housing bore.

**Type 1**—Designed for use in pumps, mixers, blenders and other rotary shaft equipment. Can handle pressures to 425 PSIG. Can be field repaired to minimize costs, downtime, and lost revenue.

**Type 2**—Designed for confined space requirements and limited gland depth in pumps, mixers, and other rotary shaft equipment. Can handle pressures up to 425 PSIG.

**Type 21**—General purpose seal made of stainless steel. Can handle pressures up to 150 PSIG.

**Type 21, Double Seal**—Recommended where corrosives, sewerage type or abrasive liquids are being pumped. Liquid is circulated at 5 to 20 PSI pressure above the pressure against the inboard seal to create a sealing barrier.

**TEMPERATURE RATINGS:** Buna Seals: -40 to 225°F
Viton Seals: -20 to 350°F

CONTINUED ON NEXT PAGE



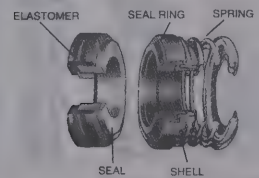
*If we don't have a pump for it, chances are it can't be pumped.*

# JOHN CRANE PUMP SHAFT SEALS

## REPLACEMENT SEAL SPECIFICATIONS AND ORDERING DATA

| Seal Type | A Shaft Size (In.) | B Seal Bore (In.) | C Nom. Working Length (In.) | D Seat Bore (In.) | E Seat Thickness (In.) | Material Content Code | John Crane Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 5/8 | — | 23/32 | 13/16 | 11/32 | BT1C1 | M30538 | 5P403 | $10.00 | $6.64 | $6.05 | 0.1 |
| 6 | 5/8 | — | 23/32 | 13/16 | 11/32 | BT1C1 | M30539 | 5P404† | 10.00 | 6.27 | 5.73 | 0.1 |
| 6 | 5/8 | — | 23/32 | 1¼ | 13/32 | BT2C1 | M30540 | 5P405 | 8.00 | 6.46 | 5.89 | 0.2 |
| 6 | 5/8 | — | 23/32 | 1¼ | 13/32 | BT1C1 | M30541 | 5P406 | 8.00 | 6.09 | 5.57 | 0.1 |
| 6 | 5/8 | — | 23/32 | 1¼ | 13/32 | BF1C1 | M30542 | 5P407 | 16.00 | 8.07 | 7.32 | 0.1 |
| 6 | 5/8 | — | 23/32 | 1¼ | 13/32 | XF1C1 | M30543 | 5P408 | 25.00 | 15.48 | 14.09 | 0.1 |
| 6 | 5/8 | — | 13/16 | 1¼ | 13/32 | BT2C1 | M30544 | 5P409 | 10.00 | 8.03 | 7.30 | 0.1 |
| 6 | 5/8 | — | 13/16 | 1¼ | 13/32 | BT1C1 | M30545 | 5P410 | 8.00 | 7.23 | 6.56 | 0.1 |
| 6 | 3/4 | — | 23/32 | 1⅜ | 13/32 | BT2C1 | M30546 | 5P411 | 11.00 | 9.21 | 8.31 | 0.1 |
| 6 | 3/4 | — | 23/32 | 1⅜ | 13/32 | BT1C1 | M30547 | 5P412 | 13.00 | 7.03 | 6.42 | 0.1 |
| 6 | 3/4 | — | 23/32 | 1⅜ | 13/32 | XF1C1 | M30548 | 5P413 | 26.00 | 19.65 | 17.14 | 0.1 |
| 6 | 3/4 | — | 23/32 | 1⅜ | 13/32 | BF1C1 | M30549 | 5P414 | 16.00 | 11.70 | 10.75 | 0.1 |
| 6 | 3/4 | — | 13/16 | 1⅜ | 13/32 | BT1C1 | M30551 | 5P416 | 13.00 | 7.16 | 6.54 | 0.1 |
| 6 | 1 | — | 13/16 | 1⅜ | 7/16 | BT2C1 | M30552 | 5P417 | 37.00 | 30.15 | 27.50 | 0.2 |
| 6A | 5/8 | 17/16 | 39/64 | Shaft Mtd. | 7/32 | BT2C1 | M30537 | 5P402 | 11.00 | 5.13 | 4.67 | 0.1 |
| 6A | 5/8 | 17/16 | 39/64 | Shaft Mtd. | 7/32 | BF1C1 | M30500 | 5P365# | 34.00 | 22.31 | 19.64 | 0.1 |
| 6A | 5/8 | 17/16 | 39/64 | 1 5/64 | 7/32 | BT1C1 | M30501 | 5P366 | 13.00 | 6.87 | 6.21 | 0.1 |
| 6A | 5/8 | 17/16 | 39/64 | 3/16 | 11/32 | BT2C1 | M30502 | 5P367 | 31.00 | 25.15 | 23.48 | 0.1 |
| 6A | 5/8 | 17/16 | 39/64 | 1¼ | 13/32 | BT2C1 | M30503 | 5P368 | 12.00 | 8.84 | 7.89 | 0.1 |
| 6A | 5/8 | 17/16 | 39/64 | 1¼ | 13/32 | BT1C1 | M30504 | 5P369 | 13.00 | 11.08 | 9.78 | 0.1 |
| 1 | 1 | — | 1 9/16 | 1⅝ | 7/16 | BF2C1 | M30505 | 5P370 | 58.00 | 33.40 | 30.92 | 0.2 |
| 1 | 1 1/16 | — | 1 9/32 | 1¾ | 13/32 | BF1C1 | M30506 | 5P371† | 177.00 | 144.20 | 134.19 | 0.3 |
| 1 | 1⅛ | — | 1 3/16 | 1¾ | 7/16 | BF271 | M30507 | 5P372†‡ | 147.00 | 78.10 | 71.25 | 0.3 |
| 1 | 1⅛ | — | 1⅝ | 1¾ | 7/16 | BF2C1 | M30508 | 5P373 | 88.00 | 87.15 | 79.47 | 0.3 |
| 1 | 1¼ | — | 1⅝ | 1⅞ | 7/16 | BF2C1 | M30509 | 5P374 | 121.00 | 108.90 | 99.32 | 0.3 |
| 1 | 1 7/16 | — | 1 1/16 | 2 1/16 | 7/16 | BF1C1 | M 30510 | 5P375† | 198.00 | 165.50 | 150.81 | 0.3 |
| 1 | 1⅝ | — | 2 | 2 5/16 | 1/2 | BF271 | M30511 | 5P376 | 180.00 | 149.70 | 136.52 | 0.6 |
| 1 | 1⅝ | — | 2 | 2 5/16 | 1/2 | BF2C1 | M30512 | 5P377 | 192.00 | 149.65 | 136.47 | 0.5 |
| 1 | 1¾ | — | 2 | 2½ | 1/2 | BF2C1 | M30513 | 5P378 | 177.00 | 135.45 | 123.55 | 0.5 |
| 1 | 2 1/16 | — | 2⅜ | 2⅝ | 9/16 | BF2C1 | M30514 | 5P379† | 552.00 | 261.50 | 238.45 | 0.8 |
| 2 | 1/2 | — | 13/16 | 1 | 5/16 | BF2C1 | M30515 | 5P380 | 23.00 | 18.92 | 17.62 | 0.1 |
| 2 | 5/8 | — | 7/8 | 1¼ | 3/8 | BF1C1 | M30516 | 5P381† | 26.00 | 21.11 | 19.67 | 0.2 |
| 2 | 5/8 | — | 7/8 | 1¼ | 13/32 | BF2C1 | M30517 | 5P382 | 20.00 | 16.19 | 15.13 | 0.1 |
| 2 | 3/4 | — | 7/8 | 1⅜ | 13/32 | BF2C1 | M30518 | 5P383 | 21.00 | 17.99 | 16.84 | 0.2 |
| 2 | 1 | — | 1 1/16 | 1⅝ | 7/16 | BF1C1 | M30558 | 5P423 | 58.00 | 47.75 | 44.22 | 0.2 |
| 2 | 1⅛ | — | 1 1/16 | 1¾ | 7/16 | BF271 | M30559 | 5P424‡ | 101.00 | 83.65 | 76.43 | 0.3 |
| 2 | 1⅛ | — | 1 1/16 | 1¾ | 7/16 | BF2C1 | M30560 | 5P425‡ | 97.00 | 80.45 | 73.58 | 0.3 |
| 2 | 1¼ | — | 1 1/16 | 1⅞ | 7/16 | BF2C1 | M30561 | 5P426†‡ | 86.00 | 64.80 | 60.04 | 0.3 |
| 21 | 1/2 | — | 13/16 | 1 | 5/16 | BF1C1 | M30553 | 5P418 | 14.00 | 12.13 | 10.90 | 0.1 |
| 21 | 9/16 | — | 27/32 | 11/32 | 5/16 | BF141 | M30554 | 5P419 | 15.00 | 12.16 | 11.32 | 0.1 |
| 21 | 5/8 | — | 23/32 | ¼ | 13/32 | BF1C1 | M30555 | 5P420 | 15.00 | 12.79 | 11.71 | 0.1 |
| 21 | 5/8 | — | 1 3/16 | 1 5/32 | 5/16 | BT1C1 | M30556 | 5P421 | 12.00 | 9.48 | 8.87 | 0.1 |
| 21 | 5/8 | — | 7/8 | 1¼ | 3/8 | BF171 | M30557 | 5P422† | 20.00 | 16.40 | 15.29 | 0.1 |
| 21 | 5/8 | — | 7/8 | 1¼ | 13/32 | BF1C1 | M30519 | 5P384‡ | 12.19 | 11.59 | 11.01 | 0.1 |
| 21 | 5/8 | — | 7/8 | 1¼ | 13/32 | BF1C1 | M30520 | 5P385 | 12.19 | 11.59 | 11.01 | 0.1 |
| 21 | 5/8 | — | 7/8 | 1¼ | 13/32 | BF1C1 | M30521 | 5P386† | 12.13 | 11.59 | 11.01 | 0.1 |
| 21 | 5/8 | — | 1 31/64 | 1 9/64 | 5/16 | BF1C1 | M30522 | 5P387‡ | 20.00 | 11.11 | 10.14 | 0.1 |
| 21 | 3/4 | — | 7/8 | 1⅜ | 13/32 | BF1C1 | M30524 | 5P389 | 20.00 | 6.76 | 6.31 | 0.1 |
| 21 | 3/4 | — | 7/8 | 1⅜ | 13/32 | XF1C1 | M30523 | 5P388 | 60.00 | 50.45 | 44.70 | 0.1 |
| 21 | 1 | — | 1 | 1⅝ | 7/16 | BF1C1 | M30525 | 5P390 | 54.00 | 35.80 | 32.63 | 0.2 |
| 21 | 1⅛ | — | 1 1/16 | 1¾ | 7/16 | BF1C1 | M30526 | 5P391 | 77.00 | 17.43 | 16.02 | 0.2 |
| 21 | 1⅛ | — | 1 1/16 | 1¾ | 7/16 | BF171 | M30527 | 5P392 | 79.00 | 57.60 | 52.54 | 0.3 |
| 21 | 1⅛ | — | 1 1/16 | 1¾ | 7/16 | BF171 | M30528 | 5P393† | 106.00 | 61.95 | 56.48 | 0.3 |
| 21 | 1¼ | — | 1 1/16 | 1⅞ | 7/16 | BF1C1 | M30529 | 5P394 | 79.00 | 20.05 | 18.22 | 0.1 |
| 21 | 1¼ | — | 1⅜ | 1⅞ | 7/16 | BF1C1 | M30530 | 5P395‡# | 92.00 | 57.25 | 52.20 | 0.3 |
| 21 | 1¼ | — | 1 1/16 | 1⅞ | 7/16 | BF171 | M30531 | 5P396 | 83.00 | 66.95 | 61.04 | 0.3 |
| 21 | 1¾ | — | 1⅛ | 2 | 7/16 | BF1C1 | M30532 | 5P397 | 100.00 | 77.05 | 70.30 | 0.1 |
| 21 | 1½ | — | 1⅛ | 2⅛ | 7/16 | BF1C1 | M30533 | 5P398 | 123.00 | 71.35 | 65.08 | 0.3 |
| 21 | 1¾ | — | 1⅜ | 2½ | 1/2 | BF171 | M30534 | 5P399† | 228.00 | 88.55 | 80.80 | 0.7 |
| 21 DBL | 1⅞ | — | 1¾ | 2⅝ | 1/2 | BF1C1 | M30535 | 5P400 | 311.00 | 241.50 | 220.40 | 0.8 |
| 21 DBL | 2¼ | — | 3¼ | 3½ | 5/8 | BF171 | M30536 | 5P401† | 486.00 | 405.00 | 369.31 | 2.2 |

Material content is listed below with typical construction details. (†) O-Ring design. (‡) Does not include spring retainer. (#) Conical spring.




### MATERIAL CODE FOR SEALS

**ELASTOMER**
B=BUNA
X=VITON

**SEAL RING**
F=CARBON
T=MOLDED PLASTIC

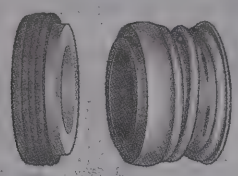
**HARDWARE OR SHELL**
1=STAINLESS STEEL
2=BRASS

**STATIONARY SEAT**
C=CERAMIC
7=NI RESIST
4=BRONZE

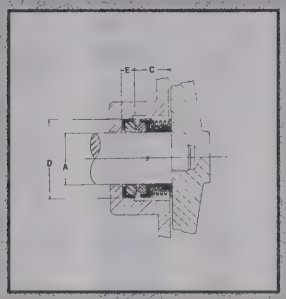
**SPRING**
1=STAINLESS STEEL

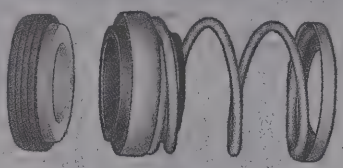
# REPLACEMENT PUMP SHAFT SEALS

PAC-SEAL INC. INTERNATIONAL

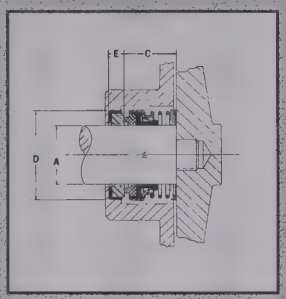


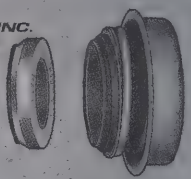
Type 16



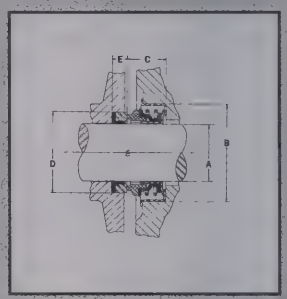



Type 21



Type 68




Pac-Seal mechanical shaft seals are designed for replacement and OEM use on self-priming and straight centrifugal pumps, fertilizer and chemical pumps, trash pumps, pressure booster pumps, home water systems and sump pumps.

Seal components are locked together by a crimped outer shell which provides a unitized construction for the diaphragm and drive gasket preventing reverse thrusts from dislodging the seal components. This mechanical lock eliminates the need for bonding adhesives and prevents leakage between the seal ring and the diaphragm. All springs and spring retainers are Type 302 stainless steel. Packed individually in protective plastic containers. Pac-Seal brand.

**Type 16**—For fluid sealing up to 100 PSI. Type 302 stainless steel spring coils provide equal load distribution for even seal ring wear. Interlocking hex shaped outer shell transmits torque over metal-to-metal contact to eliminate strain on the diaphragm.

**Type 21**—Designed for dependable sealing in mechanical pumps where liquids reach pressures up to 250 PSI. Hex shaped outer shell reduces stress on seal components.

**Type 68**—A press fit, face-type seal for working pressures up to 75 PSI. Spring and spring retainers are Type 302 stainless steel. All seal components are mechanically locked together. Designed to accommodate shaft sleeves.

## PUMP SHAFT SEAL ORDERING DATA

| Seal Type | A Shaft Size (In.) | B Seal Bore (In.) | C Nominal Working Length (In.) | D Seat Bore (In.) | E Seat Thickness (In.) | Material Content Code *† | Standard Industry Seal Nos. | Stock No. | List | Each | Lots 6 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16** | 5/8 | — | 0.718 | 1.187 | 0.343 | BPRH | RS 100 | **1R311** | $7.55 | **$3.36** | **$3.09** | 0.1 |
| **16** | 5/8 | — | .718 | 1.250 | .406 | BPRH | RS 200 | **1R312** | 7.24 | **3.31** | **3.04** | 0.1 |
| **16** | 5/8 | — | .718 | 1.250 | .406 | BCRH | RS 516 | **1R303** | 9.31 | **6.94** | **6.37** | 0.1 |
| **16** | 5/8 | — | .718 | 1.250 | .406 | VCRH | RS 200V | **1R300** | 24.84 | **18.10** | **16.62** | 0.1 |
| **16** | 5/8 | — | .812 | 1.250 | .406 | BPRH | RS 501, 909 | **1R315** | 8.79 | **6.24** | **5.73** | 0.1 |
| **16** | 3/4 | — | .718 | 1.375 | .406 | BPRH | RS 201 | **1R313** | 8.28 | **4.76** | **4.37** | 0.1 |
| **16** | 3/4 | — | .718 | 1.375 | .406 | VCRH | RS 201V | **1R245** | 22.77 | **16.25** | **14.92** | 0.1 |
| **16** | 3/4 | — | .718 | 1.375 | .406 | BCRH | RS 851 | **1R299** | 10.35 | **8.08** | **7.42** | 0.1 |
| **16** | 3/4 | — | .812 | 1.437 | .406 | BPRH | RS 101 | **1R319** | 10.14 | **5.12** | **4.70** | 0.1 |
| **21** | 1/2 | — | .812 | 1.000 | .312 | BPRH | RS 631 | **1R305** | 14.49 | **10.52** | **9.65** | 0.1 |
| **21** | 9/16 | — | 1.320 | 1.031 | .312 | BCDG | RS 500 | **1R314** | 21.21 | **15.44** | **14.17** | 0.1 |
| **21‡** | 5/8 | — | .718 | 1.250 | .406 | BPRH | RS 10648 | **1R298** | 8.69 | **6.34** | **5.82** | 0.1 |
| **21‡** | 5/8 | — | .875 | 1.250 | .406 | BCRH | RS 508 | **1R316** | 15.52 | **10.97** | **10.07** | 0.1 |
| **21** | 5/8 | — | .875 | 1.250 | .406 | BCRH | RS 359, 471 | **1R310** | 14.49 | **10.45** | **9.60** | 0.1 |
| **21#** | 5/8 | — | .875 | 1.250 | .406 | BCRH | RS 10622 | **1R304** | 17.59 | **12.81** | **11.76** | 0.1 |
| **21‡** | 5/8 | — | 1.320 | 1.148 | .312 | BCDH | RS 800 | **1R307** | 11.74 | **8.38** | **7.70** | 0.1 |
| **21** | 3/4 | — | .875 | 1.375 | .406 | BCRH | RS 877 | **1R308** | 15.37 | **11.18** | **10.26** | 0.1 |
| **21** | 3/4 | — | .875 | 1.375 | .406 | VCRH | RS 877V | **1R309** | 31.05 | **22.48** | **20.63** | 0.1 |
| **21** | 3/4 | — | .718 | 1.375 | .406 | BXRX | — | **4P973** | 61.06 | **54.60** | **50.11** | 0.3 |
| **21** | 1 1/8 | — | 1.062 | 1.750 | .437 | BXRX | — | **4P974** | 66.75 | **60.05** | **55.10** | 0.3 |
| **21‡** | 1 1/8 | — | 1.062 | 1.750 | .437 | BCRH | RS 11141 | **1R301** | 20.70 | **15.21** | **13.97** | 0.1 |
| **21** | 1 1/4 | — | 1.062 | 1.875 | .437 | BCRH | RS 185, 786 | **1R439** | 23.80 | **17.37** | **15.94** | 0.2 |
| **68** | 5/8 | 1.437 | .615 | Shaft Mounted | .225 | BPRS | RS 80613 | **1R306** | 9.72 | **7.07** | **6.49** | 0.1 |
| **68** | 5/8 | 1.437 | .615 | Shaft Mounted | .225 | VCRS | RS 80613V | **1R324** | 25.87 | **18.73** | **17.20** | 0.1 |
| **68** | 5/8 | 1.437 | .615 | 1.078 | .210 | BPRH | RS 298 | **1R302** | 8.28 | **5.89** | **5.41** | 0.1 |
| **68** | 5/8 | 1.437 | .615 | 1.250 | .406 | BPDH | RS 1000 | **1R317** | 10.35 | **7.50** | **6.89** | 0.1 |
| **68** | 5/8 | 1.437 | .615 | 1.250 | .406 | BPRH | RS 1000SS | **1R318** | 12.42 | **5.85** | **5.37** | 0.1 |

(*) Material content is given on page 3159). (†) Temperature ratings - Buna Seals: -40 to 225°F, Viton Seals: -20 to 350°F. (‡) Does not use spring retainer. (#) O-Ring design.



*If we don't have a pump for it, chances are it can't be pumped.*

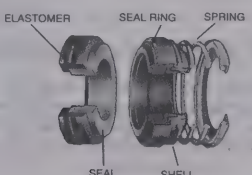
# CROSS-REFERENCE GUIDE FOR PUMP SHAFT SEALS



| Pac-Seal Model | John Crane Model | Fits Teel Brand Pumps |
|---|---|---|
| 1R245 | 5P413 | 1P946; optional for 1P855, 1P868, 1P869, 1P895, 1P913, 2P007, 2P008, 3P525, 3P526, 3P600, 1P950 |
| 1R298 | 5P420 | 3P511, 3P579, 3P512, 1P861 |
| 1R299 | 5P414 | 1P855, 1P868, 1P869, 1P895, 2P007, 2P008, 3P525, 3P526, 3P600, 1P913, 1P950, 2P333 |
| 1R300 | 5P408 | 1P862; 2P486 optional for 1P746, 1P851-1P854, 1P856-1P860, 1P884, 1P896, 1P897, 1P952-1P955, 1P996-1P998, 2P004-2P006, 2P290, 3P551-3P553, 3P577 |
| 1R301 | 5P391 | 3P601, 3P604-3P609, 3P582, 2P015, 3P653-3P656, 3P663, 3P664, 3P703, 3P704, 3P705, 3P706, 3P707, 3P712, 3P737, 3P955 |
| 1R302 | 5P366 | 1P795 |
| 1R303 | 5P407 | 1P746, 1P851-1P860, 1P896, 1P897, 1P952-1P955, 1P996-1P998, 2P004-2P006, 2P390, 3P551-3P553, 3P577, 2P091, 2P092 |
| 1R304 | 5P386 | 1P898, 3P569A, 3P570A |
| 1R305 | 5P418 | 1P610, 1P609 |
| 1R306 | 5P402 | 1P787-1P793, 1P796-1P798, 1P831-1P837, 2P498-2P503, 2P852, 3P736 |
| 1R307 | 5P387 | 1P879, 3P547-3P550, 1P849, 1P850, 3P571, 3P599, 3P648, 1P979-1P984, 2P019, 2P280, 2PC18-2PC56 |
| 1R308 | 5P389 | Optional for 1P700, 1P702, 1P799, 1P803, 1P947, 1P949, 2P391, 2P392, 2P393, 2P394 |
| 1R309, | 5P388 | 1P700, 1P702, 1P799, 1P803, 1P947, 1P949, 2P391, 2P392, 2P393, 2P394 |
| 1R310 | 5P385 | 1P804, 1P555, 3P569, 3P570 |
| 1R311 | 5P404 | 2P141, 2P894-2P899, 3P683, 3P684, 3P685, 3P686, 3P687, 3P690-3P692, 3P715, 3P716 |
| 1R317 | 5P368 | 2P356-2P360, 2P363-2P366 |
| 1R324 | 5P365 | Optional for 1P787-1P793, 1P796-1P798, 1P831-1P837, 2P498-2P503 |
| 1R439 | 5P394 | 2P142, 3P660, 3P661, 3P662 (I-R Brand) |

| Pac-Seal Model | John Crane Model | Replaces Standard Industry Seals |
|---|---|---|
| 1R311 | 5P404 | Standard Industry Seal No. 100 |
| 1R312 | 5P406 | Standard Industry Seal No. 200 |
| 1R313 | 5P412 | Standard Industry Seal No. 201 |
| 1R314 | 5P419 | Standard Industry Seal No. 500 |
| 1R315 | 5P410 | Standard Industry Seal No. 501 |
| 1R316 | 5P384 | Standard Industry Seal No. 508 |
| 1R317 | 5P368 | Standard Industry Seal No. 1000 |
| 1R318 | 5P369 | Standard Industry Seal No. 1000SS |
| 1R319 | 5P416 | Standard Industry Seal No. 101 |
| 1R299 | 5P414 | Standard Industry Seal No. 851, 972 |
| 1R300 | 5P408 | Standard Industry Seal No. 200V |
| 1R303 | 5P407 | Standard Industry Seal No. 516, 958 |
| 1R307 | 5P387 | Standard Industry Seal No. 800 |
| 1R308 | 5P389 | Standard Industry Seal No. 877 |
| 1R309 | 5P388 | Standard Industry Seal No. 877V |
| 1R310 | 5P385 | Standard Industry Seal No. 359 |
| 1R439 | 5P394 | Standard Industry Seal No. 185, 786 |

| Teel Pump No. | Pac-Seal No. | John Crane Seal Nos. | Teel Pump No. | Pac-Seal No. | John Crane Seal Nos. | Teel Pump No. | Pac-Seal No. | John Crane Seal Nos. | Teel Pump No. | Pac-Seal No. | John Crane Seal Nos. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1P555 | 1R310 | 5P385 | 1P858 | 1R303, 1R300 | 5P407, 5P408 | 2P091 | 1R303 | 5P407 | 3P570A | 1R304 | 5P386 |
| 1P609 | 1R305 | 5P418 | 1P859 | 1R303, 1R300 | 5P407, 5P408 | 2P092 | 1R303 | 5P407 | 3P571 | 1R307 | 5P387 |
| 1P610 | 1R305 | 5P418 | 1P860 | 1R303, 1R300 | 5P407, 5P408 | 2P094 | 1R317 | 5P368 | 3P577 | 1R303, 1R300 | 5P407, 5P408 |
| 1P700 | 1R309, 1R308 | 5P388, 5P389 | 1P861 | 1R298 | 5P420 | 2P095 | 1R317 | 5P368 | 3P579 | 1R298 | 5P420 |
| 1P701 | 1R309, 1R308 | 5P388, 5P389 | 1P862 | 1R300 | 5P408 | 2P096 | 1R317 | 5P368 | 3P582 | 1R301 | 5P391 |
| 1P702 | 1R309, 1P308 | 5P388, 5P389 | 1P868 | 1R299, 1R245 | 5P414, 5P413 | 2P103 | 1R245 | 5P413 | 3P599 | 1R307 | 5P387 |
| 1P746 | 1R303, 1R300 | 5P407, 5P408 | 1P869 | 1R299, 1R245 | 5P414, 5P413 | 2P104 | 1R303, 1R300 | 5P407, 5P408 | 3P600 | 1R299, 1R245 | 5P414, 5P413 |
| 1P787 | 1R306, 1R324 | 5P402, 5P365 | 1P879 | 1R307 | 5P387 | 2P141 | 1R311 | 5P404 | 3P601 | 1R301 | 5P391 |
| 1P788 | 1R306, 1R324 | 5P402, 5P365 | 1P884 | 1R303, 1R300 | 5P407, 5P408 | 2P142 | 1R439 | 5P394 | 3P604 | 1R301 | 5P391 |
| 1P789 | 1R306, 1R324 | 5P402, 5P365 | 1P895 | 1R299, 1R245 | 5P414, 5P413 | 2P280 | 1R307 | 5P387 | 3P605 | 1R301 | 5P391 |
| 1P790 | 1R306, 1R324 | 5P402, 5P365 | 1P896 | 1R303, 1R300 | 5P407, 5P408 | 2P333 | 1R299 | 5P414 | 3P606 | 1R301 | 5P391 |
| 1P791 | 1R306, 1R324 | 5P402, 5P365 | 1P897 | 1R303, 1R300 | 5P407, 5P408 | 2P356 | 1R317 | 5P368 | 3P607 | 1R301 | 5P391 |
| 1P792 | 1R306, 1R324 | 5P402, 5P365 | 1P898 | 1R304 | 5P386 | 2P357 | 1R317 | 5P368 | 3P608 | 1R301 | 5P391 |
| 1P793 | 1R306, 1R324 | 5P402, 5P365 | 1P913 | 1R299, 1R245 | 5P414, 5P413 | 2P358 | 1R317 | 5P368 | 3P609 | 1R301 | 5P391 |
| 1P795 | 1R302 | 5P366 | 1P946 | 1R245 | 5P413 | 2P359 | 1R317 | 5P368 | 3P648 | 1R307 | 5P387 |
| 1P796 | 1R306, 1R324 | 5P402, 5P365 | 1P947 | 1R309, 1R308 | 5P388, 5P389 | 2P360 | 1R317 | 5P368 | 3P653 | 1R301 | 5P391 |
| 1P797 | 1R306, 1R324 | 5P402, 5P365 | 1P948 | 1R309, 1R308 | 5P388, 5P389 | 2P390 | 1R303, 1R300 | 5P407, 5P408 | 3P654 | 1R301 | 5P391 |
| 1P798 | 1R306, 1R324 | 5P402, 5P365 | 1P949 | 1R309, 1R308 | 5P388, 5P389 | 2P391 | 1R309, 1R308 | 5P388, 5P389 | 3P655 | 1R301 | 5P391 |
| 1P799 | 1R309, 1R308 | 5P388, 5P389 | 1P950 | 1R299, 1R245 | 5P414, 5P413 | 2P392 | 1R309, 1R308 | 5P388, 5P389 | 3P656 | 1R301 | 5P391 |
| 1P800 | 1R309, 1R308 | 5P388, 5P389 | 1P952 | 1R303, 1R300 | 5P407, 5P408 | 2P393 | 1R309, 1R308 | 5P388, 5P389 | 3P660 | 1R439 | 5P394 |
| 1P801 | 1R309, 1R308 | 5P388, 5P389 | 1P953 | 1R303, 1R300 | 5P407, 5P408 | 2P394 | 1R309, 1R308 | 5P388, 5P389 | 3P661 | 1R439 | 5P394 |
| 1P802 | 1R309, 1R308 | 5P388, 5P389 | 1P954 | 1R303, 1R300 | 5P407, 5P408 | 2P486 | 1R300 | 5P408 | 3P662 | 1R439 | 5P394 |
| 1P803 | 1R309, 1R308 | 5P388, 5P389 | 1P955 | 1R303, 1R300 | 5P407, 5P408 | 2P498 | 1R306, 1R324 | 5P402, 5P365 | 3P663 | 1R301 | 5P391 |
| 1P804 | 1R310 | 5P385 | 1P978 | 1R307 | 5P387 | 2P852 | 1R306 | 5P402 | 3P664 | 1R301 | 5P391 |
| 1P831 | 1R306, 1R324 | 5P402, 5P365 | 1P979 | 1R307 | 5P387 | 3P511 | 1R298 | 5P420 | 3P683 | 1R311 | 5P404 |
| 1P832 | 1R306, 1R324 | 5P402, 5P365 | 1P980 | 1R307 | 5P387 | 3P512 | 1R298 | 5P420 | 3P684 | 1R311 | 5P404 |
| 1P833 | 1R306, 1R324 | 5P402, 5P365 | 1P981 | 1R307 | 5P387 | 3P525 | 1R299, 1R245 | 5P414, 5P413 | 3P685 | 1R311 | 5P404 |
| 1P834 | 1R306, 1R324 | 5P402, 5P365 | 1P982 | 1R307 | 5P387 | 3P526 | 1R299, 1R245 | 5P414, 5P413 | 3P686 | 1R311 | 5P404 |
| 1P835 | 1R306, 1R324 | 5P402, 5P365 | 1P983 | 1R307 | 5P387 | 3P547 | 1R307 | 5P387 | 3P687 | 1R311 | 5P404 |
| 1P836 | 1R306, 1R324 | 5P402, 5P365 | 1P984 | 1R307 | 5P387 | 3P548 | 1R307 | 5P387 | 3P690 | 1R311 | 5P404 |
| 1P837 | 1R306, 1R324 | 5P402, 5P365 | 1P996 | 1R303, 1R300 | 5P407, 5P408 | 3P549 | 1R307 | 5P387 | 3P691 | 1R311 | 5P404 |
| 1P849 | 1R307 | 5P387 | 1P997 | 1R303, 1R300 | 5P407, 5P408 | 3P550 | 1R307 | 5P387 | 3P692 | 1R311 | 5P404 |
| 1P850 | 1R307 | 5P387 | 1P998 | 1R303, 1R300 | 5P407, 5P408 | 3P551 | 1R303, 1R300 | 5P407, 5P408 | 3P703 | 1R301 | 5P391 |
| 1P851 | 1R303, 1R300 | 5P407, 5P408 | 2P004 | 1R303, 1R300 | 5P407, 5P408 | 3P552 | 1R303, 1R300 | 5P407, 5P408 | 3P704 | 1R301 | 5P391 |
| 1P852 | 1R303, 1R300 | 5P407, 5P408 | 2P005 | 1R303, 1R300 | 5P407, 5P408 | 3P553 | 1R303, 1R300 | 5P407, 5P408 | 3P705 | 1R301 | 5P391 |
| 1P853 | 1R303, 1R300 | 5P407, 5P408 | 2P006 | 1R303, 1R300 | 5P407, 5P408 | 3P569 | 1R310 | 5P385 | 3P706 | 1R301 | 5P391 |
| 1P854 | 1R303, 1R300 | 5P407, 5P408 | 2P007 | 1R299, 1R245 | 5P414, 4P413 | 3P569A | 1R304 | 5P386 | 3P707 | 1R301 | 5P391 |
| 1P855 | 1R299, 1R245 | 5P414, 5P413 | 2P008 | 1R299, 1R245 | 5P414, 5P413 | 3P570 | 1R310 | 5P385 | 3P712 | 1R301 | 5P391 |
| 1P856 | 1R303, 1R300 | 5P407, 5P408 | 2P015 | 1R301 | 5P391 | | | | 3P736 | 1R306 | 5P402 |
| 1P857 | 1R303, 1R300 | 5P407, 5P408 | 2P019 | 1R307 | 5P387 | | | | 3P737 | 1R301 | 5P391 |
| | | | | | | | | | 3P955 | 1R301 | 5P391 |




## MATERIAL CODE FOR PAC-SEAL REPLACEMENT SEALS

**ELASTOMER (1st LETTER)**
B = Buna
V = Viton

**SEAL RING (2nd LETTER)**
C = Carbon
P = Molded Plastic
X = Silicon Carbide

**SHELL (3rd LETTER)**
D = Brass
R = Stainless Steel

**SEAT (4th LETTER)**
H = Ceramic
G = Bronze
S = Stainless Steel
X = Silicon Carbide

# LOC-LINE® MODULAR FLEXIBLE HOSE SYSTEMS

- Fully hand adjustable hose for coolants, air, or vacuum
- No springback. Creep due to machine vibration is eliminated
- Ball and socket design allows full use of inside diameter when bent
- Constructed of premium grade acetal copolymer for durability
- Design completely eliminates kinking
- Most coolants, petroleum products, and chemicals handled easily (check compatibility)
- Max. operating temperature: 170°F






**LINE PRESSURE AND FLOW RATES**

| System | PSI | Gal./ Hour |
|---|---|---|
| 1/4" | 30-50 | 250 |
| 1/2 | 20-30 | 478 |
| 3/4 | 10-20 | 1140 |

## 1/4" AND 1/2" SYSTEMS

| Item | Description | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| | **Hose Kits** are 13" long.<br>**1/4"** Includes 1/8, 1/16" nozzles, and 1/4, 1/8" MNPT connectors. | 3P816 | $10.29 | 0.1 |
| | **1/2"** includes 1/4, 3/8, 1/2 nozzles, 3/8, 1/2" MNPTconnectors | 3P823 | 11.60 | 0.1 |
| | **90° Nozzle Kit**<br>**1/4**: (1) 1/16, 1/8, 1/4" and spray bar nozzles | 6Y671 | 6.67 | 0.1 |
| | **1/2**: (1) 1/4, 3/8, 1/2" and spray bar nozzles | 6Y702 | 6.21 | 0.1 |
| | (2) 5¾" Segments. | 3P817 | 7.76 | 0.1 |
| | 1/4" Segments bulk 25 ft. | 6Y679 | 162.00 | 2.1 |
| | (2) 51/2" Segments. | 3P824 | 8.71 | 0.1 |
| | 1/2" Segments bulk 25 ft. | 6Y711 | 157.00 | 4.0 |
| | (4) 1/4" Round nozzles | 3P820 | 5.12 | 0.1 |
| | (4) 1/2" Round nozzles | 6Y688 | 5.55 | 0.1 |
| | (4) 1/8" Round nozzles | 3P821 | 5.12 | 0.1 |
| | (4) 3/8" Round nozzles | 3P827 | 5.84 | 0.1 |
| | (4) 1/16" Round nozzles | 6Y657 | 4.88 | 0.1 |
| | (4) 1/2" Round nozzles | 6Y687 | 5.55 | 0.1 |
| | (2) 1" Flare nozzles | 3P818 | 7.74 | 0.1 |
| | (20) 1" Flare nozzles | 6Y680 | 42.75 | 0.1 |
| | (2) 1¼" Flare nozzles | 3P825 | 8.72 | 0.1 |
| | (2) 2½" Flare nozzles | 3P829 | 10.04 | 0.1 |
| | (4)1/16" 90° Nozzles | 6Y667 | 5.56 | 0.1 |
| | (4) 1/8" 90° Nozzles | 6Y668 | 5.56 | 0.1 |
| | (4) 1/4" 90° Nozzles | 6Y669 | 5.56 | 0.1 |
| | (4) 1/4" 90° Nozzles | 6Y698 | 6.32 | 0.1 |
| | (4) 3/8" 90° Nozzles | 6Y699 | 6.32 | 0.1 |
| | (4) 1/2" 90° Nozzles | 6Y700 | 6.32 | 0.1 |
| | (2) 1/4" 90° Spray bar nozzles (6 holes, 0.100" dia.) | 6Y670 | 6.03 | 0.1 |
| | (2) 1/2" 90° Spray bar nozzles (6 holes, 0.171" dia.) | 6Y701 | 6.78 | 0.1 |
| | (4) 1/4" Element clamps | 6Y674 | 6.67 | 0.1 |
| | (20) 1/4" Element clamps | 6Y684 | 25.20 | 0.1 |
| | (4) 1/2" Element Clamps | 6Y704 | 7.80 | 0.1 |
| | (2) 1/4" Y Fittings | 3P822 | 7.74 | 0.1 |
| | (20) 1/4" Y Fittings | 6Y681 | 42.75 | 0.1 |
| | (2) 1/2" Y Fittings | 6Y689 | 8.29 | 0.1 |
| | (2) 1/2" - 1/4" Y Reducers | 6Y692 | 6.78 | 0.1 |
| | (4) 1/4" SlideFlow nozzles | 6Y675 | 6.67 | 0.1 |
| | (4) 1/8" NPT connectors | 6Y658 | 4.88 | 0.1 |
| | (4) 1/8" BSPT connectors | 6Y665 | 3.99 | 0.1 |
| | (4) 1/4" NPT connectors | 3P819 | 5.12 | 0.1 |
| | (4) 1/4" BSPT connectors | 6Y666 | 3.99 | 0.1 |
| | (4) 3/8" NPT Connector | 3P828 | 5.84 | 0.1 |
| | (4) 3/8" BSPT * | 6Y696 | 4.54 | 0.1 |
| | (4) 1/2" NPT Connector | 3P826 | 5.85 | 0.1 |
| | (4) 1/2" BSPT * | 6Y697 | 4.54 | 0.1 |
| | (4) 1/4" Extended Elements | 6Y673 | 8.90 | 0.1 |
| | (20) 1/4" Extended Elements | 6Y683 | 35.75 | 0.1 |
| | (4) 1/2" Extended Elements | 6Y703 | 10.03 | 0.1 |
| | (2) 1/4" Elbow fittings | 6Y663 | 6.80 | 0.1 |
| | (20) 1/4" Elbow fittings | 6Y682 | 43.40 | 0.1 |
| | (2) 1/2" Elbow Fittings | 6Y694 | 6.32 | 0.1 |

| Item | Description | Stock No. | Each | Sh W |
|---|---|---|---|---|
| | (4) 3/8" SAE Flare Nut Adapters | 6Y693 | $6.23 | 0 |
| | (4) 3/8 SAE Flare Nut Adapters | 6Y661 | 6.03 | 0 |
| | (4) 1/4" SAE Flare Nut Adapters | 6Y662 | 6.03 | 0 |
| | (2) 1/2 - 1/4" Adapters | 6Y691 | 6.12 | 0 |
| | (2) 1/4" T-Fittings | 6Y664 | 6.67 | 0 |
| | (2) 1/2" T-Fittings | 6Y695 | 7.45 | 0 |
| | (4) 1/4" End Caps | 6Y676 | 3.99 | 0 |
| | (4) 1/4" Double Sockets | 6Y659 | 4.43 | 0 |
| | (4) 1/2" Double Sockets | 6Y690 | 5.05 | 0 |
| | (4) 1/4" Socket to 1/8" FNPT | 6Y660 | 5.05 | 0 |
| | (4) 1/4" Slide flow nozzles | 6Y675 | 6.67 | 0 |
| | (4) 1/2" Slide flow nozzles | 6Y705 | 7.54 | 0 |
| | (2) 1/4" In-line check valves | 6Y685 | 10.03 | 0 |
| | (2) 1/2" In-line check valves | 6Y707 | 12.27 | 0 |
| | (2) 1/4" MNPT valves | 3P830 | 12.91 | 0 |
| | (2) 1/2" Male NPT valves | 6Y708 | 12.27 | 0 |
| | (2) 1/4" In-line valves | 3P831 | 12.91 | 0 |
| | (2) 1/2" In-line valves | 6Y710 | 15.00 | 0 |
| | (2) 1/4" FNPT valves | 6Y686 | 10.03 | 0 |
| | (2) 1/2" FNPT valves | 6Y709 | 12.27 | 0 |
| | 1/4" Hose assembly pliers | 3P832 | 10.95 | 0 |
| | 1/2" Hose assembly pliers | 3P833 | 10.95 | 0 |
| | 1/4" Flared tubing replacement rack:<br>(8) 5¾" segments<br>(1) 1" Flare nozzle:<br>(4) 3/8" Flare nut adapters<br>(4) 1/8" Round nozzles<br>(4) 1/4" Round nozzles | 6Y656 | 29.15 | 0 |
| | (2) Swivel nozzles. (16 holes, 0.040 dia.) | 6Y677 | 8.90 | 0 |
| | (2) Swivel nozzles. (16 holes, 0.060 dia.) | 6Y678 | 8.90 | 0 |
| | 14" Extended element kit with element clamps:<br>(4) 1/4" extended elements<br>(4) 1/4" element clamps | 6Y672 | 13.38 | 0 |

### ORDERING HAS NEVER BEEN EASIER!

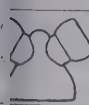
**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**



*If we don't have a pump for it, chances are it can't be pumped.*

# LOC-LINE® MODULAR, FLEXIBLE HOSE SYSTEMS

## 3/4" SYSTEM

| Item | Description | Loc-Line Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
|  | 3/4" Hose kit is 14" long with fittings. Includes: 5/8" and 3/4" nozzles, and 3/4" male NPT connector | 60513 | **6Y712** | $14.33 | **$13.62** | 0.3 |
|  | 3/4" Segment rack (2) 5¾" pieces | 61501 | **6Y713** | 8.90 | **8.47** | 0.2 |
|  | (4) 5/8" Round nozzles | 61503 | **6Y715** | 5.86 | **5.56** | 0.1 |
|  | (4) 3/4" Round nozzles | 61502 | **6Y714** | 5.86 | **5.56** | 0.1 |
|  | (2) 3" Flare nozzles | 61507 | **6Y717** | 9.37 | **8.90** | 0.1 |
|  | (4) 3/4" NPT connectors | 61505 | **6Y716** | 5.86 | **5.56** | 0.1 |
|  | (2) 3/4" Y fittings | 61511 | **6Y719** | 9.37 | **8.90** | 0.1 |
|  | (2) 3/4" to 1/2" Y reducers | 61512 | **6Y720** | 9.37 | **8.90** | 0.1 |
|  | (2) 3/4" to 1/2" adapters | 61508 | **6Y718** | 6.43 | **6.12** | 0.1 |

## 1/4" ACID RESISTANT SYSTEM

- **Loc-Line® Acid Resistant Hose is excellent for rinsing cycles in plating operations**
- **Acid environments won't corrode the Loc-Line® Acid Resistant Hose because of its polyester composition**

**CAUTION: Loc-Line® Acid Resistant Hose is not intended for conveying acids or high pressure applications**

| Item | Description | Loc-Line Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
|  | 1/4" Acid resistant hose kit 13" Length with fittings: 1/4, 1/8, 1/16" nozzles 1/4 and 1/8" male NPT connectors | 45463 | **6Y724** | $10.56 | **$10.03** | 0.1 |
|  | Acid resistant segment pack, (2) 5¾" pieces | 45401 | **6Y725** | 7.87 | **7.49** | 0.1 |
|  | (4) Acid resistant nozzles, 1/16" | 45402 | **6Y726** | 5.27 | **5.01** | 0.1 |
|  | (4) Acid resistant nozzles, 1/8" | 45403 | **6Y727** | 5.27 | **5.01** | 0.1 |
|  | (4) Acid resistant nozzles, 1/4" | 45404 | **6Y728** | 5.27 | **5.01** | 0.1 |
|  | (2) Acid resistant flares 1" | 45407 | **6Y729** | 7.87 | **7.49** | 0.1 |
|  | (4) Acid resistant NPTs 1/8" | 45405 | **6Y730** | 5.27 | **5.01** | 0.1 |
|  | (4) Acid resistant NPTs 1/4" | 45406 | **6Y731** | 5.27 | **5.01** | 0.1 |
|  | (2) 1/4" Acid resistant Y fittings | 45408 | **6Y732** | 7.87 | **7.49** | 0.1 |

## CIRCLE FLOW SYSTEMS

**LOC-LINE®**

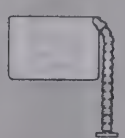


Circle flow system kits include 15 side flow nozzles and 1 end cap. Choose from 1/4" or 1/2" systems.

| System (In.) | Loc-Line Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/4** | 41479 | **3P834** | $17.54 | **$16.66** | 0.3 |
| **1/2** | 51837 | **3P835** | 19.74 | **18.75** | 0.4 |

## LOC-LINE® QUICK-SET SHIELD KITS

**LOC-LINE®**



**No. 6Y721**

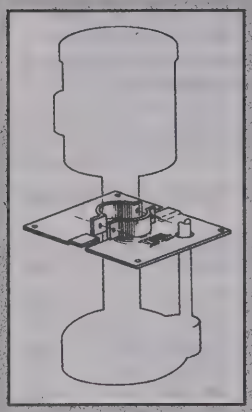
Shields adjust quickly and easily in both position and length to provide additional protection from chips and splashing fluids. Includes 2 mounting options: a movable magnetic base or direct mount. Rotates full 360°. 1/8" thick, durable polycarbonate shield. Filled magnetic base prevents chip entrapment. Loc-Line brand.

| Dimensions (In.) | Loc-Line Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **SHIELD KIT ORDERING DATA** | | | | | |
| **6 x 8** | 60525 | **6Y721** | $30.54 | **$29.05** | 1.1 |
| **8½ x 12** | 60527 | **3P836** | 32.92 | **31.30** | 1.4 |
| **REPLACEMENT SHIELD DATA** | | | | | |
| **6 x 8** | 60528 | **6Y722** | 8.20 | **7.80** | 0.4 |
| **8½ x 12** | 60530 | **6Y723** | 12.91 | **12.27** | 0.5 |

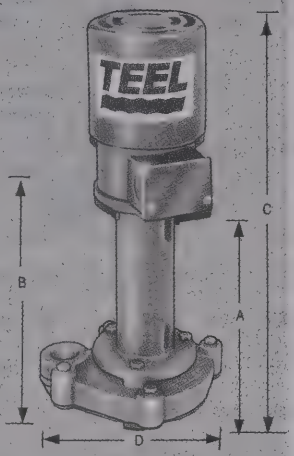
# UNIVERSAL INDUSTRIAL COOLANT PUMPS

TEEL®

Repair Service Available
Contact Your Local Branch



- Universal mounting to fit most existing tanks
- All cast-iron construction with bronze impellers
- Pump liquids with viscosities up to 500 SSU
- Handle dirty, abrasive liquids, no bottom bearing to wear out
- Dual volute on larger units for hydraulic balance
- 4-Pole TEFC motors
- Maximum fluid temperature: 200°F




No. 3P949

Mounting Brackets

Replacement Parts Available
1-800-323-0620

**Description:** Units drop into existing tank using universal mounting brackets (liste below). Pumps can be used with dirty, er sive coolant fluids commonly used fo machining lubricants and cooling, flush ing, cleaning, and circulation. For no flammable liquids compatible with pum component materials.

**Construction:** Vertical all cast-iron constru tion. Self-cleaning impeller has back van to balance pressure and eliminate need fo mechanical seal. All models except No 3P949 and 3P950 (which have extende motor shafts) are provided with a prec sion aligning rigid coupling between sha and motor which is mounted on a cast co umn concentrically machined at both end Two-piece casing with dual volute to elir inate all radial thrust and need for botto bearing (single volute on Nos. 3P949 a 3P950).

Cast-iron casing and column; bron impeller; stainless steel shaft. Casing bo ed together with stainless bolts and parc ment gasket to minimize any problem liquid compatibility with pump materials

**Drivers:** All drivers are TEFC. Single pha model No. 3P949 is shaded pole type. A other single phase units are standard face keyed shaft 110/220 volt, 1750 RP Three phase units are 230/460, 1750 RP (except No. 3P950 is 208/230 volt).

## PUMP DIMENSIONS, INCHES

| Stock No. | A* | B | C | D | E† | Discharge Size PNPT |
|---|---|---|---|---|---|---|
| 3P949 | 6 3/8 | 8 7/64 | 14 7/64 | 5 9/16 | 2 57/64 | 3/4 |
| 3P950 | 6 3/8 | 8 7/64 | 14 7/64 | 5 9/16 | 2 57/64 | 3/4 |
| 3P945 | 8 1/4 | 11 47/64 | 20 57/64 | 8 37/64 | 4 3/4 | 1 1/4 |
| 3P946 | 8 1/4 | 11 47/64 | 20 57/64 | 8 37/64 | 4 3/4 | 1 1/4 |
| 3P943 | 6 3/8 | 9 3/4 | 19 1/4 | 8 37/64 | 4 3/4 | 1 1/4 |
| 3P944 | 6 3/8 | 9 3/4 | 19 1/4 | 8 37/64 | 4 3/4 | 1 1/4 |
| 3P952 | 6 3/8 | 9 51/64 | 20 | 10 3/4 | 4 55/64 | 1 1/2 |
| 3P953 | 6 3/8 | 9 51/64 | 20 | 10 3/4 | 4 55/64 | 1 1/2 |
| 3P951 | 12 1/4 | 15 51/64 | 26 | 10 3/4 | 4 55/64 | 1 1/2 |
| 3P954 | 12 1/4 | 15 51/64 | 26 | 10 3/4 | 4 55/64 | 1 1/2 |

(*) Maximum immersion depth. (†) Distance from center line of pump to center line of discharge.

| Stock No. | Total Feet of Head With Water (GPM) 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | Max. Head | Total Feet of Head With Oil 500 SSU (GPM) 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | Max. Head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3P949, 3P950 | 14 | 11 | 6 | — | — | — | — | — | — | — | 12 ft. | 8 | 6 | 5 | — | — | — | — | — | — | — | 10 ft. |
| 3P945, 3P946 | 46 | 43 | 36 | 30 | 22 | — | — | — | — | — | 17 | 26 | 23 | 19 | 15 | 10 | — | — | — | — | — | 17 |
| 3P943, 3P944 | 48 | 46 | 42 | 38 | 34 | 21 | — | — | — | — | 21 | 40 | 38 | 35 | 30 | 25 | 19 | — | — | — | — | 21 |
| 3P952, 3P953 | — | — | — | 67 | 58 | 49 | 38 | 27 | 26 | 12 | 32 | 50 | 46 | 42 | 37 | 32 | 27 | 21 | 12 | — | — | 27 |
| 3P951, 3P954 | — | — | — | 67 | 58 | 49 | 38 | 27 | 26 | 12 | 32 | 50 | 46 | 42 | 37 | 32 | 27 | 21 | 12 | — | — | 27 |

## MOUNTING BRACKETS

Mounting brackets clamp to pump colun at desired position for optimal pun depth. Brackets sold separately, s below.

| Stock No. | Replaces Garymills Model | Replaces Gusher Model | Replac Brown Shar Mode |
|---|---|---|---|
| 3P949, 3P950 | HR35<br>HR45 | 1P3 | — |
| 3P945, 3P946 | TN33 | 9040 (Short)<br>9040 (Long) | 205<br>206 |
| 3P943, 3P944 | TN41 | 9025 (Short) | — |
| 3P952, 3P953 | — | 9040 (Short) | — |
| 3P951, 3P954 | FM68H<br>TN46<br>TN56 | 9040 (Long)<br>9025 (Long)<br>RL (X-Long) | 212 |

See Cross-Reference information on page opposite inside back cover.

## PUMP SPECIFICATIONS AND ORDERING DATA

| Phase | HP | Nominal Tank Depth (In.) | Minimum Immersion Depth (In.) | Maximum Immersion Depth (In.) | Discharge Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/8 | 8 | 2 | 6 3/8 | 3/4 NPT | **3P949** | $186.31 | **$144.40** | 16.0 |
| 3 | 1/8 | 8 | 2 | 6 3/8 | 3/4 | **3P950** | 186.31 | **144.40** | 15.0 |
| 1 | 1/4 | 10 | 3 | 8 1/4 | 1 1/4 | **3P945** | 481.71 | **371.00** | 41.0 |
| 3 | 1/4 | 10 | 3 | 8 1/4 | 1 1/4 | **3P946** | 481.71 | **371.00** | 41.0 |
| 1 | 1/3 | 8 | 2 | 6 3/8 | 1 1/4 | **3P943** | 542.43 | **408.50** | 43.0 |
| 3 | 1/3 | 8 | 2 | 6 3/8 | 1 1/4 | **3P944** | 542.43 | **408.50** | 43.0 |
| 1 | 3/4 | 8 | 3 | 6 3/8 | 1 1/2 | **3P952** | 718.42 | **539.00** | 53.0 |
| 3 | 3/4 | 8 | 3 | 6 3/8 | 1 1/2 | **3P953** | 718.42 | **539.00** | 53.0 |
| 1 | 3/4 | 14 | 3 | 12 1/4 | 1 1/2 | **3P951** | 760.62 | **567.50** | 56.0 |
| 3 | 3/4 | 14 | 3 | 12 1/4 | 1 1/2 | **3P954** | 760.62 | **567.50** | 56.0 |

## MOUNTING BRACKETS

| Stock No. | List | Each | Shp W |
|---|---|---|---|
| **3P948** | $43.20 | **$40.35** | 12 |
| **3P948** | 43.20 | **40.35** | 12 |
| **3P947** | 43.20 | **40.35** | 9 |
| **3P947** | 43.20 | **40.35** | 9 |
| **3P947** | 43.20 | **40.35** | 9 |
| **3P947** | 43.20 | **40.35** | 9 |
| **3P947** | 43.20 | **40.35** | 9 |
| **3P947** | 43.20 | **40.35** | 9 |
| **3P947** | 43.20 | **40.35** | 9 |
| **3P947** | 43.20 | **40.35** | 9 |



*If we don't have a pump for it, chances are it can't be pumped.*

# OIL COOLANT PUMPS

**Fuji Oil Coolant Pumps** deliver superior reliability for the machine tool industry.

**Construction:** All have cast-iron bodies, carbon steel shafts, and cast bronze impellers (except Nos. 3P726 and 3P744 with plastic impellers). Self-priming models have ceramic stationary seal face, carbon graphite rotating seal face, Buna-N elastomers, and steel springs.

**Nos. 3P726, 3P727, 3P728, 3P741, 3P742, 3P743.** Self-priming models with mechanical seals are for the circulation of coolant and spraying of cutting oil in all types of machines, except grinders. Maximum recommended viscosity*: 800 at 50 Hz.; 300 at 60 Hz. Max. liquid temperature: 104°F.

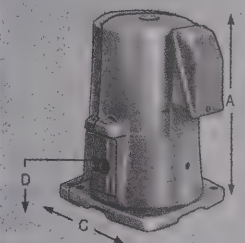
**Nos. 3P744 through 3P749 and 4PC73 through 4PC76.** Self-venting immersion-style pumps with no mechanical seals. For circulation of coolant and spraying of cutting oil in all machines, including grinders and applications with higher temperatures. Used with nonflammable fluids that are compatible with pump construction materials. Maximum recommended viscosity*: 1200 at 50 Hz; 600 at 60 Hz. Maximum liquid temperature: 104°F.

New

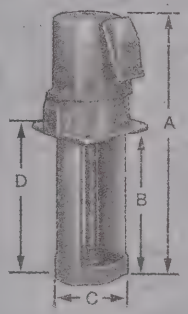
FUJI

CE

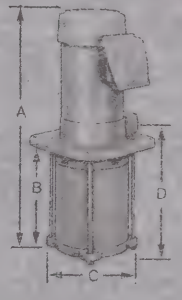
- Exact OEM replacement



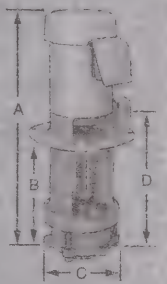
No. 3P726



No. 3P744



No. 4PC73



No. 4PC75

| Stock No. | Dimensions (In.) A | B | C | D |
|---|---|---|---|---|
| 3P726 | 7 13/64 | — | 4 5/64 | 1 47/64 |
| 3P727 | 8 1/64 | — | 5 1/16 | 2 13/64 |
| 3P728 | 8 1/64 | — | 5 1/16 | 2 13/64 |
| 3P741 | 9 1/64 | — | 5 29/32 | 2 31/64 |
| 3P742 | 9 39/64 | — | 6 15/64 | 2 51/64 |
| 3P743 | 12 13/32 | — | 7 1/64 | 3 11/32 |

| Stock No. | Dimensions (In.) A | B | C | D |
|---|---|---|---|---|
| 3P744 | 11 47/64 | 5 29/32 | 3 5/64 | 6 31/64 |
| 3P745 | 12 15/64 | 5 15/16 | 3 5/64 | 6 17/32 |
| 3P746 | 12 15/64 | 5 29/32 | 3 5/64 | 6 31/64 |
| 3P747 | 14 7/32 | 7 5/64 | 4 33/64 | 7 1/8 |
| 3P748 | 17 7/16 | 9 27/32 | 5 1/32 | 10 53/64 |
| 3P749 | 21 45/64 | 11 1/64 | 5 9/16 | 12 13/64 |

| Stock No. | Dimensions (In.) A | B | C | D |
|---|---|---|---|---|
| 4PC73 | 15 | 7 | 8 1/16 | 8 |
| 4PC74 | 15 | 7 | 8 1/16 | 8 |
| 4PC75 | 21 5/16 | 9 7/8 | 8 1/16 | 11 3/16 |
| 4PC76 | 22 7/8 | 13 | 8 1/16 | 11 3/16 |

## SPECIFICATIONS AND PERFORMANCE DATA

| Stock Nos. | HP | Full Load Amps @ 230 / 460V-3Ø | Inlet and / or Outlet (In.) | GPM at Total Feet of Head† 3 | 7 | 10 | 13 | 16 | 20 | 23 | 26 | 33 | 39 | Shut Off |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3P726, 3P744 | 0.05 | .27/.135 | 1/4 | 8.0 | 6.9 | 5.9 | 4.5 | 2.6 | — | — | — | — | — | 19.0 |
| 3P727, 3P745 | 0.08 | .35/.175 | 3/8 | — | 8.0 | 6.9 | 5.3 | 3.4 | — | — | — | — | — | 19.0 |
| 3P728, 3P746 | 0.13 | .50/.25 | 3/8 | — | 16.3 | 14.4 | 11.7 | 8.8 | 5.3 | — | — | — | — | 21.0 |
| 3P741, 3P747 | 0.24 | 1/.5 | 1/2 | — | — | 32.0 | 30.0 | 26.0 | 22.0 | 19.0 | 15.0 | 7.0 | — | 34.0 |
| 3P742, 3P748 | 0.33 | 1.5/.75 | 3/4 | — | 52.0 | 47.0 | 44.0 | 41.0 | 36.0 | 31.0 | 26.0 | 14.0 | — | 34.0 |
| 3P743, 3P749 | 0.53 | 2.4/1.2 | 1 | — | 61.0 | 58.0 | 56.0 | 55.0 | 51.0 | 48.0 | 45.0 | 36.0 | 25.0 | 40.0 |

| Stock No. | HP | Full load Amps @ 230 / 460V-3Ø | Outlet (In.) | GPM at Total Feet of Head† 26 | 33 | 39 | 49 | 59 | 65 | 81 | 98 | 114 | 130 | Shut Off |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4PC73 | 0.53 | 3.3/1.65 | 3/4 | 16 | 16 | 15 | 14 | 14 | 13 | 11 | 9 | 7 | — | 127 |
| 4PC74 | 1.00 | 4.0/2.0 | 3/4 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 18 | 16 | 13 | 159 |
| 4PC75 | 1.00 | 3.4/1.7 | 1½ | 77 | 70 | 53 | 27 | 13 | — | — | — | — | — | 60 |
| 4PC76 | 2.00 | 7.0/3.5 | 1½ | 89 | 87 | 83 | 79 | 74 | 69 | 43 | 38 | 7 | — | 117 |

## CROSS-REFERENCE AND ORDERING DATA

| Fuji | Old Fuji No. | Manufacturers' Cross-Reference Mitsubishi | Toshiba | Hitachi | Yasukawa | Kykuto | Grundfos |
|---|---|---|---|---|---|---|---|
| VKN-043A | VKN-041A | — | — | CPS-041 | VFPC-01F | — | — |
| VKN-053A | VKN-051A | NP-60J | OPF-60M | CPS-063 | VFPC-061F | — | — |
| VKN-063A | VKN-061A | NP-100J | OPF-100M | CPS-103 | VFPC-101JF | — | — |
| VKN-073A | VKN-071A | NP-180J | OPF-180M | CPS-183 | VFPC-181JF | — | — |
| VKN-083A | VKN-081A | NP-250J | OPF-250M | CPS-253 | VFPC-251JF | — | — |
| VKN-093A | VKN-091A | NP-400J | OPF-400M | CPS-403 | VFPC-401JF | — | — |
| VKP-043A | VKP-041A | — | — | CPD-041 | VFPC-01DL | — | — |
| VKP-053A | VKP-051A | NQ-60J | OPF-60M | CPD-063 | VFPC-06DIF | — | — |
| VKP-063A | VKP-061A | NQ-100J | OPF-100M | CPD-103 | VFPC-100 | — | — |
| VKP-073A | VKP-071A | NQ-180J | OPF-180M | CPD-183 | VFPC-180JF | — | — |
| VKP-083A | VKP-081A | NQ-250J | OPF-250M | CPD-253 | VFPC-250JF | — | — |
| VKP-093A | VKP-091A | NQ-400J | OPF-400M | CPD-403 | VFPC-400JF | — | — |
| VKR-092AB | — | — | — | — | — | LHW203A0.4 | SPK-XX/5 CRK2-XX/30 |
| VKR-112AC | — | — | — | — | — | — | SPK4-XX/B CRK2-XX/40 |
| VKS-114AA | VKS-113AA | NQD-751 | — | — | — | LPW401A-0.75 | — |
| VKS-134AB | — | NQD-1502 | — | — | — | LPW402A-1.5 | SPK8-XX/5 CRK8-XX/20 |

| Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|
| 3P726 | $295.01 | $279.00 | 11.0 |
| 3P727 | 318.60 | 301.75 | 16.6 |
| 3P728 | 348.60 | 326.00 | 18.0 |
| 3P741 | 450.00 | 418.50 | 27.0 |
| 3P742 | 535.00 | 508.00 | 33.0 |
| 3P743 | 644.19 | 610.50 | 45.0 |
| 3P744 | 295.01 | 277.75 | 11.5 |
| 3P745 | 316.60 | 302.25 | 15.6 |
| 3P746 | 343.40 | 326.25 | 20.0 |
| 3P747 | 441.86 | 418.50 | 31.0 |
| 3P748 | 532.60 | 508.00 | 38.0 |
| 3P749 | 644.19 | 612.00 | 42.0 |
| New 4PC73 | 1508.42 | 1433.00 | 42.0 |
| New 4PC74 | 1666.31 | 1583.00 | 60.0 |
| New 4PC75 | 2054.73 | 1952.00 | 75.0 |
| New 4PC76 | 2449.47 | 2327.00 | 105.0 |

Viscosity based on No. 1 Red Wood Second. Use of fluid with viscosity beyond maximum recommendations will shorten operating life of pump and motor.
Flow chart based on water at 68°F.

TERMINOLOGY AND TECHNICAL DATA
See Pages at back of Catalog

# OIL COOLANT AND COOLANT PUMPS

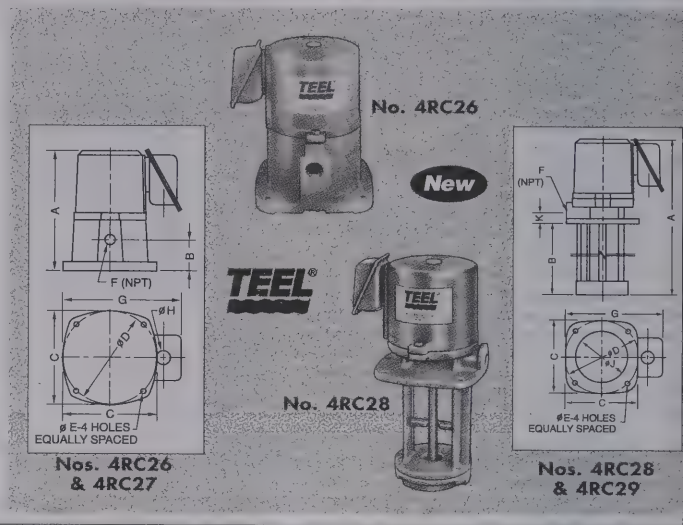
## STANDARD SUCTION AND IMMERSION OIL COOLANT PUMPS

**Construction:** All units have cast iron pump bodies and volutes, stainless steel impellers, and carbon steel shafts. Suction pumps include a carbon/ceramic shaft seal with Buna-N elastomers. Pumps are equipped with a 3450 RPM motor with sealed, permanently lubricated bearings.

**Nos. 4RC28 and 4RC29:** Immersion-type pumps require no bearings, seals, or packing, ideally suiting them for pumping liquids containing fine contaminants. For circulation of coolant and spraying if cutting oil in all machines, including grinders and applications with higher temperatures.

**Nos. 4RC26 and 4RC27:** Suction-type pumps may be mounted above the liquid level as well as other remote locations, featuring a 2 ft. maximum suction lift. For circulating coolant and spraying cutting oil in all types of machines, except grinders.

**Maximum recommended viscosity:** 500 SSU. Maximum liquid temperature: 180°F. For use with nonflammable liquids compatible with pump component materials.




### PUMP PERFORMANCE DATA

| HP | Stock No. | 5' | 10' | 15' | 20' | 30' | 40' | 50' | Shut Off |
|---|---|---|---|---|---|---|---|---|---|
| 1/8 | **4RC26, 4RC28** | 9 | 5 | — | — | — | — | — | 13 |
| 1/4 | **4RC27, 4RC29** | — | 20 | 16 | 13 | 3 | — | — | 32 |

### PUMP SPECIFICATIONS AND ORDERING DATA

| HP | Phase | Voltage | A | B | C | D | E | F-NPT | G | H | J | K | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/8** | 1 | 115/230 | 6.88 | 1.75 | 5.50 | 5.50 | 0.25 | 3/8 | 6.75 | 0.82 | — | — | **4RC26** | $208.52 | **$167.00** | 14.0 |
| **1/4** | 1 | 115/230 | 8.75 | 2.56 | 6.75 | 7.25 | 0.31 | 3/4 | 7.88 | 0.82 | — | — | **4RC27** | 380.54 | **304.50** | 27.0 |
| **1/8** | 1 | 115/230 | 11.75 | 6.00 | 4.88 | 5.00 | 0.25 | 3/8 | 6.75 | 0.82 | 3.50 | 0.75 | **4RC28** | 179.91 | **143.95** | 15.0 |
| **1/4** | 1 | 115/230 | 13.63 | 7.00 | 6.31 | 6.19 | 0.31 | 3/4 | 7.88 | 0.82 | 4.75 | 0.94 | **4RC29** | 998.90 | **799.50** | 26.0 |

### MANUFACTURER'S CROSS- REFERENCE DATA

| TEEL | Fuji | Old Fugi No. | Mitsubishi | Toshiba | Hitachi | Yasukawa | Graymills | Gusher |
|---|---|---|---|---|---|---|---|---|
| **4RC26** | VKN-043A | VKN-041A | — | — | CPS-041 | VFPC-01F | VBH-08 | 1MS-08 |
| **4RC27** | VKN-063A | VKN-061A | NP-100J | OPF-100M | CPS-103 | VFPC-101JF | VBH-25 | 1MS-25 |
| **4RC28** | VKP-043A | VKP-041A | — | — | CPD-041 | VFPC-01DL | VBV-08 | 1MV-08 |
| **4RC29** | VKP-063A | VKP-061A | NQ-100J | OPF-100M | CPD-103 | VFPC-00JF | VBV-25 | 1MV-25 |

## A 1/25 HP BRONZE COOLANT PUMPS

**Description:** For industrial and commercial applications where longer-life is needed. Deliver up to 500 GPH. 3/8" FNPT outlet. 3 foot 3-conductor cord. 6" dia. x 12½"H. For use with nonflammable liquids compatible with pump component materials.

**Construction:** All bronze/brass components consist of tubular shaft, direct-connected to cast bronze impeller. Bronze casing, casing cover, motor plate. Tubular brass column. No bottom bearing—allows handling of erosive liquids. All cast bronze/brass.

**Driver:** Dayton 1/25 HP TEFC, 115V or 230V, 60 Hz motor with oil reservoirs for long bearing life.

| Volts 60 Hz | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **115** | **1P295** | $168.17 | **$115.50** | 8.8 |
| **230** | **1P630** | 171.38 | **117.75** | 8.0 |

| Outlet Piping (In.) | GPH of Water at Total Feet of Head 1 Ft. | 3 Ft. | 5 Ft. | 8 Ft. | 10 Ft. | Shut-Off (Ft.) |
|---|---|---|---|---|---|---|
| 3/4 NPT | 500 | 425 | 350 | 210 | 50 | 10.2 |
| 1/2 | 400 | 325 | 250 | 120 | 35 | 10.2 |
| 3/8 | 300 | 200 | 130 | 70 | 15 | 10.2 |

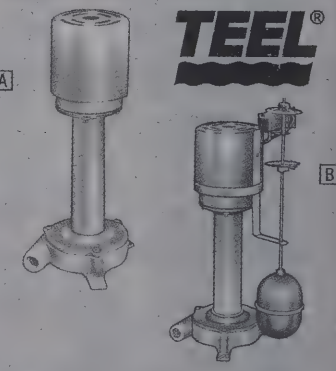
## B 1/25 HP AUTOMATIC COOLANT PUMP

**500 GPH Pump with Automatic Float Switch.** Easily adaptable as sump, bilge or condensate disposal pump. For use with nonflammable liquids compatible with pump component materials. Float controlled On/Off switch. Delivers 500 GPH at 1-ft. head; 210 GPH at 8-ft. head. Brass tube, bronze impeller and base. 3/8" FNPT outlet. Powered by 1/25 HP totally-enclosed, fan cooled 115V, 60 Hz Dayton motor.

Float, microswitch and bracket packed separately with instructions for easy assembly. Rust resistant metal parts. 10 amp microswitch. 8 ft. cord. 14" high. Teel brand.

**No. 7P008.** Shpg. wt. 10.0 lbs. List .....$203.00. Each .....**$142.90**

Repair Service Available Contact Your Local Branch




Replacement Parts Available 1-800-323-0620

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!



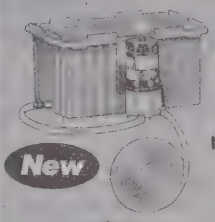
*If we don't have a pump for it, chances are it can't be pumped.*

# COOLANT PUMPS

## COIL CLEANING KIT

or residential or commercial use in boiling out coils. Ideal for compressor urnouts. Applications include water eaters, steam converters, shell and tube eat exchangers, vessel heating, fin tube oils, pool heaters, unit heater cleaning, ar wash heaters, oil supply lines to fuel il heaters, A/C coils, sea water distillaion, and outboard motor flushing. )elivers 310 GPH @ 1 ft. head; 300 GPH @ 2 ft. head; 285 GPH @ 3 ft. head; 230 GPH @ 6 ft. head. 1/25HP, 115V, 60 Hz, 1.43A motor. Magnetic drive pump with mounting bracket, 18" of 1/2" dia. Tygon® tubing, 5 gal. polyethylene tank, cover, baffle, and 6 ft, 3-cond. power cord. Dimensions: 8H x 16½W x 11"L. Little Giant brand (GKPK-SC).

***New* No. 4RL09.** Coil Cleaning Kit.
Shpg. wt. 11.0 lbs. List $239.48. Each...**$208.25**




## COOLANT AND RECIRCULATING PUMPS

For recirculating applications as replacements in original equipment. Evaporative coolers, displays, laboratories, water transfer, and other applications. Use with nonflammable liquids compatible with pump component materials. One-piece steel motor shaft; heavy-duty, fan-cooled motor with moisture-proof windings and oversize sleeve bearings; snap-out base; snap-on hose adapters; and large oil reservoir for motor bearing.

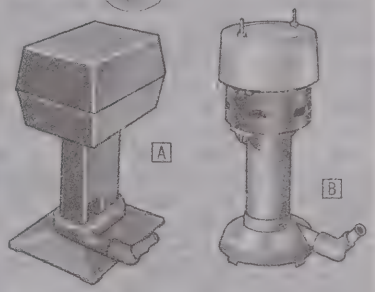
**No. 2P531.** is for light-duty evaporative cooler applications up to 5000 CFM. 45° elbow. C-frame shaded-pole motor. 3-ft. power cord without plug.

**No. 2P532.** For applications up to 4500 CFM. 45° elbow. 3.3" diameter motor. 3-ft. power cord without plug.

**No. 2P533.** For applications up to 6500 CFM. 45° elbow. 3.3" diameter motor. 3-ft. power cord without plug.

**No. 2P534.** Same as No. 2P533, with 4-ft. power cord and 3-prong molded plug. 3.3" diameter motor. Thermally protected.

**No. 2P535.** For applications up to 11,000 CFM. 90° elbow. 3.3" diameter motor. 3-ft. power cord without plug.

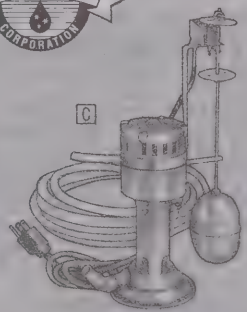



| Key | HP | GPH of Water @ Total Head 2 Ft. | 5 Ft. | 9 Ft. | Shutoff (Ft.) | Volts 60 Hz | LG Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/150 | 115 | 55 | — | 6.0 | 115 | CK-5 | **2P531** | $23.48 | **$11.00** | 2.0 |
| B | 1/70 | 190 | 105 | — | 6.8 | 115 | CP-4500 | **2P532** | 36.79 | **20.00** | 2.0 |
| B | 1/70 | 250 | 200 | 25 | 9.5 | 115 | CP-6500 | **2P533** | 37.79 | **22.00** | 2.0 |
| B | 1/70 | 250 | 200 | 25 | 9.5 | 115 | CP-6500T | **2P534** | 41.29 | **23.00** | 2.0 |
| B | 1/50 | 433 | 276 | 151 | 11.0 | 115 | CP-10000 | **2P535** | 58.79 | **34.00** | 2.0 |

## C AUTOMATIC COOLANT PUMP KIT

For fountains, condensate removal, air conditioners, dehumidifiers. High-impact polystyrene pump highly resistant to corrosive effects of salt water, alkali, etc. Use with nonflammable liquids compatible with pump component materials. Delivers 340 GPH at 1-ft. head; 40 GPH at 10-ft. head. Two vane impeller, 1/70 HP, 115V, 60 Hz, fan cooled motor with 10 amp. microswitch. 8 ft. 18/3 cord. Spring-mounted actuator discs on 11" brass float rod set the differential in pumping cycle. 6" aluminum mounting bracket. Copper float. 100 ft. of 3/8" O.D. plastic tubing. Shipped unassembled..

**No. 7P022.** Shpg. wt. 6.6 lbs. List .....$109.50.
Each .....**$79.25**




## COOLANT AND RECIRCULATING PUMPS

For evaporative coolers, coolants, laboratories, decorative fountains, etc. Brass or high-impact polystyrene. Resistant to mildly corrosive liquids. Use with nonflammable liquids compatible with pump component materials. Adaptable discharge ports (3/8 and 1/2" OD). Impeller mounted on steel shaft. 3 ft., 3-conductor 18-ga. SJ cord with leads. No. 2P370 has 6-foot cord. Beckett brand.

D **No. 2P370.** 1/100 HP, 115V, 60 Hz, encapsulated motor. Polystyrene construction. 8½H x 4½ x 5¾" base. Removable bottom plate. UL Listed (E85176).

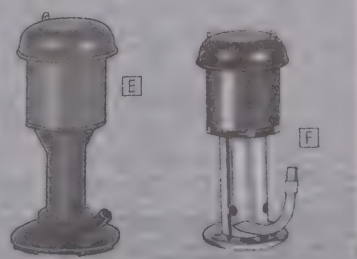
E **No. 1P618.** 1/70 HP, 115V, 60 Hz, fan-cooled motor. Polystyrene construction. 9"H, 4½" diameter base. Removable bottom plate.

E **No. 1P632.** 1/70 HP, 230V, 60 Hz, fan-cooled motor. Polystyrene construction. 9"H, 4½" diameter base. Removable bottom plate.

F **No. 1P928.** 1/70 HP, 115V, 60 Hz, 3000 RPM motor. Solid brass body. Rust resistant. 9⅛H x 3¾" diameter base.

F **No. 2P371.** 1/70 HP, 230V, 60 Hz, 3000 RPM motor. Solid brass body. Rust resistant. 9½H x 3¾" Dia. base.




| Key | GPH of Water @ Total Feet of Head* 1 Ft. | 4 Ft. | 6 Ft. | 8 Ft. | 10 Ft. | Shut-off (Ft.) | Volts 60 Hz | Beckett Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 250 | 170 | 80 | — | — | 7.0 | 115 | UL6500 | **2P370** | $48.43 | **$31.15** | 2.6 |
| E | 340 | 255 | 200 | 130 | 40 | 10.1 | 115 | BJ5A | **1P618** | 55.74 | **35.85** | 2.8 |
| E | 340 | 255 | 200 | 120 | — | 9.6 | 230 | BJ5C | **1P632** | 57.03 | **36.65** | 2.8 |
| F | 360 | 260 | 185 | 100 | — | 9.1 | 115 | D40A | **1P928** | 77.60 | **50.00** | 3.2 |
| F | 360 | 260 | 185 | 100 | — | 9.1 | 230 | D40C | **2P371** | 72.80 | **46.90** | 2.6 |

(*) Performance is ± 10% at rated voltage.

Minority Owned Business

E85176

# PARTS WASHER PUMPS AND MACHINE TOOL COOLANT PUMPS

## SUBMERSIBLE PARTS WASHER PUMPS

**Description:** Specially designed centrifugal pumps for submerged use in parts washers. Suitable for circulating unheated Stoddard solvent, deodorized kerosenes and other UL Classified parts-cleaning solutions. Caution: The low flash point of these solutions presents a potential fire hazard; the entire pump must be submerged while operating. For use with non-flammable liquids compatible with pump component materials. UL Recognized Component (MH14261). Little Giant brand.

**Construction:** Nos. 4RK95 and 4RK96 have corrosion-resistant polyester housings and fully submersible epoxy-encapsulated pumps. Nos. 1P929 and 4RK84 have unpainted, die-cast aluminum motor housing. All have 6-ft., 3-conductor SJTO cord with 1/2" MPT builders fitting and cord outlet. Metal stand pipe or conduit (not included) must be attached to builders fitting to protect cord from solvent attack or damage. Nylon pumping head with 1/4" MNPT outlet. Double-lip Viton seal on stainless steel motor shaft.

Nylon volute and impeller, polyethylene integral strainer. Viton seals, stainless steel motor shaft and hardware.

**Driver:** 115, 60Hz thermally protected, oil-filled motor.




| HP | Amps | Capacity GPH 1Ft. | 3Ft. | 5Ft. | 10Ft. | Shut-Off (Ft.) | PSI | Dimensions (In.) H | W | L | Little Giant Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYESTER HOUSING WITH EPOXY ENCAPSULATED PUMP** | | | | | | | | | | | | | | | |
| **1/125** | 0.6 | 180 | 135 | 90 | | 6.0 | 2.8 | 5 3/64 | 2 3/32 | 4 3/4 | PE-1YSA | ***New*4RK95** | $61.98 | **$53.90** | 4.0 |
| **1/40** | 0.8 | 300 | 270 | 240 | 130 | 12.0 | 5.3 | 5 5/16 | 2 9/32 | 5 13/32 | PE-2YSA | ***New*4RK96** | 77.56 | **67.45** | 4.6 |
| **DIE CAST ALUMINUM HOUSING** | | | | | | | | | | | | | | | |
| **1/150** | 1.1 | 205 | 168 | 120 | | 7.5 | 3.2 | 4 | 3 3/4 | 4 1/2 | 1-YS | **1P929** | 81.61 | **67.25** | 3.3 |
| **1/40** | 1.7 | 300 | 255 | 205 | | 11.8 | 5.1 | 4 3/4 | 3 1/2 | 5 1/2 | 2E-NYS | ***New*4RK84** | 86.30 | **75.05** | 4.8 |

## MACHINE TOOL COOLANT PUMPS

**Machine tool coolant pumps** are available without tanks, or in any of eight pump/tank combinations. Coolant flow can be regulated to a desired amount, or completely shut off without harming the pump. Flexible discharge hose has flow-control valve. Submersible centrifugal pumps are used in all units except No. 2P343, which has an upright centrifugal pump. Screen and chip collector remove easily for fast cleaning.

**Tanks are described below.** For complete pump description see main pump listing. (Consult Stock Number/ Page Number Guide at rear of Catalog.)




### COOLANT TANKS

**No. 2P344 5-gallon tank** for use on single-spindle drill presses, bench mills, tool grinders, single-spindle tapping, machines, cut off saws, small lathes using water soluble or light cutting oil. Includes 5 gallon polyethylene tank, metal chip collector basket, baffle, 6 ft. plastic hose, flex nozzle and brass control valve. Pump not included. 8H x 10 15/16W x 16 9/16"L. Little Giant brand (MCT-5P).

**No. 2P344.** Shpg. wt. 5.1 lbs. List .....$128.10.
Each .....**$105.15**

**No. 2P345 10-gallon tank** for use on medium size lathes, grinders, and drills that use water soluble or light cutting oil. 10 gallon painted metal tank with baffle provides more settling capacity and coolant volume. 4 ft. neoprene hose with brass nuts. Flex nozzle and brass control valve. Removable chip collector tray and splash deflector. For use with cutting oils up to 300 SSU viscosity. Pump not included. 11 3/8H x 10W x 24"L. Little Giant brand (MCT-10).

**No. 2P345.** Shpg. wt. 31.0 lbs. List .....$298.41
Each .....**$248.75**

**SYNTHETIC COOLANT AVAILABLE**
**See Index under "Coolant, Synthetic"**

### PERFORMANCE

| Tank Size Gal. | Stock No. | Water GPM 1 Ft. | Water Soluble Oil* 50 SSU GPH 1 Ft. | 3 Ft. | 6 Ft. | 12 Ft. | Shut Off (Ft.) | Cutting Oil* 100 SSU GPH 1 Ft. | 3 Ft. | 6 Ft. | 12 Ft. | Shut Off (Ft.) | Cutting Oil* 300 SSU GPH 1 Ft. | 3 Ft. | 6 Ft. | 12 Ft. | Shut Off (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2P343 | 3.8 | 108 | 100 | 86 | — | 11.5 | — | — | — | — | — | — | — | — | — | — |
| 5 | 7P078 | 3.0 | 72 | 60 | 36 | — | 7.4 | 24 | 14 | 6 | — | 3.5 | — | — | — | — | — |
| 5 | 7P079 | 3.5 | 70 | 60 | 40 | — | 10.2 | 24 | 14 | 6 | — | 5.0 | — | — | — | — | — |
| 5 | 7P080 | 5.4 | 82 | 78 | 64 | 6 | 12.2 | 35 | 29 | 19 | — | 6.1 | — | — | — | — | — |
| 5 | 7P081 | 8.3 | 127 | 123 | 113 | 89 | 22.4 | 89 | 86 | 79 | 62 | 16.8 | 70 | 65 | 60 | 47 | 15. |
| 5 | 7P082 | 13.5 | 134 | 128 | 119 | 100 | 24.3 | 95 | 89 | 81 | 68 | 18.3 | 75 | 71 | 64 | 54 | 17. |
| 10 | 7P083 | 8.3 | 197 | 192 | 182 | 155 | 22.4 | 139 | 133 | 123 | 105 | 16.8 | 108 | 100 | 93 | 80 | 15. |
| 10 | 7P084 | 20.4 | 212 | 208 | 198 | 167 | 26.8 | 161 | 159 | 154 | 129 | 21.4 | 127 | 125 | 123 | 102 | 20. |

(*) At 72°F ambient.

### PUMP/TANK COMBINATIONS

**No. 2P343 tank and pump** for use on small drill presses, tool grinders, tapping machines and small lathes. Fan cooled, thermally protected 1/50 HP, 115V motor. 4 ft., 3-conductor cord with molded plug. Includes pump, one-gallon tank, tubing, plastic nozzle and control valve. Not recommended for cutting oil. 9 1/4H x 6W x 12"L. Little Giant brand (VMC-1-M).

**No. 2P343.** Shpg. wt. 6.5 lbs. List .....$119.82.
Each .....**$98.75**

| Tank Size Gal. | Pump† | Stock No. | List | Each | Shp W |
|---|---|---|---|---|---|
| **5** | 1P929 | **7P078** | $185.00 | **$157.00** | 8. |
| **5** | 2P016 | **7P079** | 174.00 | **147.60** | 8 |
| **5** | 2P017 | **7P080** | 187.00 | **158.25** | 9. |
| **5** | 1P323 | **7P081** | 241.08 | **197.25** | 13. |
| **5** | 1P322 | **7P082** | 291.92 | **238.50** | 13. |
| **10** | 1P323 | **7P083** | 398.65 | **328.50** | 39 |
| **10** | 2P352 | **7P084** | 400.00 | **333.75** | 38 |

(†) For complete description, consult Stock Number / Page Number Guide at rear of Catalog.

# BRONZE AND CAST-IRON ROTARY GEAR PUMP HEADS




## BRONZE PUMP HEADS

**escription:** Bronze rotary gear pumps for recirculating, pressure oosting, filtering, spraying, or general transfer in medium pressure applications. Limited self-priming capability with gears wetted. Temperature range: -40 to 210°F. Maximum pressure: 100 PSI. 'or use with nonflammable liquids compatible with pump component materials. Not suitable for pumping suspended solids.

**onstruction:** Bronze body and cover with precision-machined spur ears. Available in three variations: bronze bearings; carbon raphite bearings; and carbon graphite bearings with adjustable elief valves. Bronze bearing models (intermittent duty only) have ;erk-type grease fittings requiring periodic lubrication. Carbon raphite bearings are self-lubricating. Adjustable relief valve nodels are designed for occasional pressure relief of up to 1 ninute. If blockage can be expected longer than one minute or on regular basis, an external relief valve is required.

Bronze gears, 303 stainless steel shafts, carbon bearings (depending on model), Kevlar packing.

**Driver:** Not included. Pump heads can be directly coupled to a notor or power take-off; use of ball bearing pillow block recommended if pump is belt driven.

## CAST-IRON PUMP HEADS

**Description:** Pedestal mount rotary gear pumps for fluid transfer, recirculation, lubrication, and chemical handling of nonabrasive, nonflammable liquids compatible with pump component materials. Limited self-priming capability. 1725 RPM maximum speed. Maximum flow, 24 GPM. Maximum pressure, 100 PSI. Nos. 1P825 through 1P830 can be operated from -40 to 210°F; Nos. 2P295 through 2P299 from -40 to 350°F. Teel brand. Not suitable for pumping suspended solids.

**Not recommended for intermittent water pumping service.** A suitable relief valve must be installed if there is any restriction or closing of the discharge while the pump is operating. See Index under "Relief Valves".

**Construction:** All cast-iron body and cover, carbon steel shafts and gears. Nos. 1P825 through 1P830 have Buna N lip seal. Nos. 2P295 through 2P299 have Kevlar packing and Zerk fittings for grease lubrication.

**Driver:** Not included. Pump heads can be directly coupled to a motor or power take-off; use of ball bearing pillow block recommended if pump is belt driven.

## PUMP PERFORMANCE

PUMP PERFORMANCE AND MOTOR HP REQUIRED FOR WATER @ 60 TO 90°F

| Pipe Size | Pump RPM* | Free Flow GPM | Free Flow HP | 20 PSI GPM | 20 PSI HP | 40 PSI GPM | 40 PSI HP | 60 PSI GPM | 60 PSI HP | 80 PSI GPM | 80 PSI HP | 100 PSI GPM | 100 PSI HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4"† | 900 | 1.2 | 1/6 | 1.0 | 1/6 | 0.8 | 1/6 | 0.4 | 1/4 | 0.2 | 1/4 | — | — |
| | 1200 | 1.6 | 1/6 | 1.3 | 1/6 | 1.1 | 1/4 | 0.9 | 1/4 | 0.6 | 1/3 | 0.3 | 1/2 |
| | 1725 | 2.2 | 1/6 | 2.0 | 1/4 | 1.8 | 1/4 | 1.5 | 1/3 | 1.3 | 1/3 | 1.0 | 1/3 |
| 1/4 | 900 | 2.2 | 1/6 | 1.8 | 1/6 | 1.5 | 1/4 | 1.2 | 1/4 | 1.0 | 1/3 | 0.8 | 1/3 |
| | 1200 | 2.9 | 1/6 | 2.5 | 1/4 | 2.2 | 1/3 | 2.0 | 1/3 | 1.8 | 1/2 | 1.6 | 1/2 |
| | 1725 | 3.8 | 1/4 | 3.7 | 1/3 | 3.5 | 1/2 | 3.2 | 1/2 | 3.0 | 3/4 | 2.8 | 3/4 |
| 3/8 | 900 | 4.1 | 1/6 | 3.6 | 1/4 | 3.2 | 1/3 | 2.8 | 1/2 | 2.4 | 1/2 | 2.1 | 3/4 |
| | 1200 | 5.5 | 1/6 | 5.0 | 1/3 | 4.7 | 1/2 | 4.3 | 1/2 | 3.9 | 3/4 | 3.5 | 3/4 |
| | 1725 | 7.0 | 1/3 | 6.9 | 1/2 | 6.9 | 3/4 | 6.8 | 1 | 6.8 | 1½ | 6.6 | 1½ |
| 1/2 | 900 | 5.4 | 1/4 | 4.9 | 1/4 | 4.4 | 1/2 | 4.0 | 1/2 | 3.6 | 3/4 | 3.3 | 3/4 |
| | 1200 | 7.5 | 1/4 | 7.0 | 1/3 | 6.5 | 1/2 | 6.0 | 3/4 | 5.6 | 1 | 5.2 | 1 |
| | 1725 | 11.3 | 1/3 | 10.8 | 1/2 | 10.3 | 3/4 | 9.9 | 1 | 9.5 | 1½ | 8.9 | 1½ |
| 3/4 | 900 | 10.3 | 1/2 | 9.8 | 3/4 | 9.4 | 3/4 | 9.0 | 1 | 8.5 | 1½ | 8.0 | 1½ |
| | 1200 | 13.8 | 1/2 | 13.3 | 3/4 | 13.0 | 1 | 12.6 | 1½ | 12.0 | 2 | 11.9 | 2 |
| | 1725 | 19.9 | 1 | 19.6 | 1½ | 19.4 | 1½ | 19.0 | 2 | 18.5 | 2 | 18.0 | 3 |
| 1 | 900 | 12.5 | 1/3 | 12.3 | 1/2 | 12.1 | 3/4 | 11.9 | 1 | 11.5 | 1½ | 11.0 | 2 |
| | 1200 | 16.6 | 1/2 | 16.4 | 3/4 | 16.3 | 1 | 16.1 | 1½ | 15.6 | 2 | 15.2 | 2 |
| | 1725 | 24.0 | 1 | 24.0 | 1½ | 24.0 | 1½ | 23.9 | 2 | 23.4 | 3 | 23.1 | 3 |

(*) RPM and GPM are in proportion; i.e., at 860 RPM, pump output is approximately 1/2 GPM figure for 1725 RPM.

## SPECIFICATIONS AND ORDERING DATA FOR BRONZE PUMP HEADS

| Pipe Size (In.) | Shaft Dia. (In.) | Shaft Height (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **A BRONZE BEARING PUMPS WITHOUT RELIEF VALVE** | | | | | | | | | |
| 1/4 † | 1/2 | 1 7/8 | 2 3/4 | 2 5/16 | 5 7/16 | 1P765 | $123.48 | $90.90 | 3.3 |
| 1/4 | 1/2 | 2 29/64 | 3 3/8 | 3 | 6 1/4 | 1P766 | 148.23 | 107.95 | 4.9 |
| 3/8 | 5/8 | 2 3/8 | 4 | 3 3/8 | 6 7/8 | 1P767 | 190.44 | 138.70 | 5.9 |
| 1/2 | 5/8 | 2 5/8 | 4 | 3 3/8 | 7 | 1P768 | 225.10 | 164.00 | 6.6 |
| 3/4 | 5/8 | 3 9/16 | 5 1/4 | 4 | 7 | 1P769 | 295.60 | 215.50 | 9.4 |
| 1 | 5/8 | 3 9/16 | 5 1/4 | 4 | 7 1/2 | 1P770 | 325.72 | 237.75 | 9.9 |
| **A CARBON BEARING PUMPS WITHOUT RELIEF VALVE** | | | | | | | | | |
| 1/4 † | 1/2 | 1 7/8 | 2 3/4 | 2 5/16 | 5 5/16 | 1P771 | 135.33 | 98.30 | 2.7 |
| 1/4 | 1/2 | 2 29/64 | 3 3/8 | 3 | 6 1/4 | 1P772 | 163.36 | 118.95 | 4.2 |
| 3/8 | 5/8 | 2 3/8 | 4 | 3 3/8 | 6 7/8 | 1P773 | 212.74 | 159.00 | 5.6 |
| 1/2 | 5/8 | 2 5/8 | 4 | 3 3/8 | 7 | 1P774 | 248.53 | 182.00 | 6.3 |
| 3/4 | 5/8 | 3 9/16 | 5 1/4 | 4 | 7 | 1P775 | 319.29 | 236.75 | 10.0 |
| 1 | 5/8 | 3 9/16 | 5 1/4 | 4 | 7 1/4 | 1P776 | 348.49 | 254.50 | 9.6 |
| **B CARBON BEARING PUMPS WITH RELIEF VALVE** | | | | | | | | | |
| 1/4 | 1/2 | 2 29/64 | 3 3/8 | 3 | 7 1/4 | 1P777 | 188.91 | 134.45 | 5.2 |
| 3/8 | 5/8 | 2 3/8 | 4 | 3 3/8 | 8 | 1P778 | 266.35 | 193.75 | 6.2 |
| 1/2 | 5/8 | 2 5/8 | 4 | 3 3/8 | 8 1/8 | 1P779 | 357.05 | 212.50 | 7.0 |
| 3/4 | 5/8 | 3 9/16 | 5 1/4 | 4 | 8 1/8 | 1P780 | 376.58 | 275.75 | 10.0 |
| 1 | 5/8 | 3 9/16 | 5 1/4 | 4 | 9 1/8 | 1P781 | 399.26 | 293.00 | 11.0 |

## SPECIFICATIONS AND ORDERING DATA FOR CAST-IRON PUMP HEADS

| Pipe Size (In.) | Shaft Dia. (In.) | Shaft Height (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **C LIP SEAL MODELS** | | | | | | | | | |
| 1/4 † | 1/2 | 1 7/8 | 2 3/4 | 2 5/16 | 5 5/16 | 1P825 | $104.67 | $77.25 | 2.4 |
| 1/4 | 1/2 | 2 29/64 | 3 3/8 | 3 | 5 1/4 | 1P826 | 122.76 | 90.60 | 3.9 |
| 3/8 | 5/8 | 2 3/8 | 4 | 3 3/8 | 5 3/8 | 1P827 | 157.96 | 117.65 | 5.2 |
| 1/2 | 5/8 | 2 5/8 | 4 | 3 3/8 | 5 3/4 | 1P828 | 170.68 | 126.45 | 5.9 |
| 3/4 | 5/8 | 3 9/16 | 5 1/4 | 4 | 5 3/4 | 1P829 | 219.84 | 163.25 | 7.9 |
| 1 | 5/8 | 3 9/16 | 5 1/4 | 4 | 6 | 1P830 | 234.69 | 174.75 | 9.6 |
| **D PACKING SEAL MODELS WITH ZERK FITTINGS** | | | | | | | | | |
| 1/4 | 1/2 | 2 29/64 | 3 3/8 | 3 | 6 3/8 | 2P295 | 121.87 | 93.25 | 3.9 |
| 3/8 | 5/8 | 2 3/8 | 4 | 3 3/8 | 6 7/8 | 2P296 | 148.38 | 101.50 | 5.2 |
| 1/2 | 5/8 | 2 5/8 | 4 | 3 3/8 | 7 | 2P297 | 170.71 | 127.05 | 6.3 |
| 3/4 | 5/8 | 3 9/16 | 5 9/16 | 4 | 7 | 2P298 | 196.71 | 163.50 | 7.9 |
| 1 | 5/8 | 3 9/16 | 5 9/16 | 4 | 7 1/4 | 2P299 | 235.75 | 176.50 | 9.0 |

(†) Pumps were originally 1/8" ports. They have been resized to 1/4" but still perform at 1/8" pump flow rates.

# BRONZE AND CAST-IRON PEDESTAL-MOUNT HEAVY-DUTY GEAR PUMPS

- **Available with or without relief valve**
- **Capacity to 24 GPM and 125 PSI**
- **Sealed ball bearing**
- **Mechanical shaft seal**
- **Pumps in either direction**
- **Bronze units have Ryton gears for quiet operation; cast-iron units have steel gears**

**Description:** Self-priming (see suction lift data), positive displacement, external spur gear pumps are recommended for non-abrasive, nonflammable liquids compatible with pump components. Ball bearing supported drive shaft allows for direct pulley drive without additional shaft and pillow block assemblies. For pumping viscous fluids where motor speed needs to be reduced for specific flow requirements (flow proportional to speed). Temperature range: -40 to 210°F. Pump shaft can be rotated in either direction.

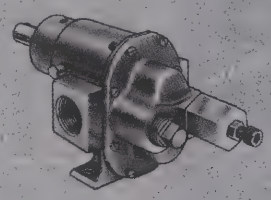
**Applications:** Liquid circulation or lubrication, pressure boosting, filtering, medium pressure spraying, tank and barrel filling or draining, and general fluid transfer. Bronze material should be selected for water based fluids. Cast-iron construction should be selected for some caustics and oil based fluids. Check compatibility before using. Not suitable for pumping suspended solids.

**Construction:** The pump consists of a bronze or cast-iron body and cover assembly, spur gears. Sealed ball bearing supports drive shaft for direct pulley drive applications. Other features include oversized bearing surfaces for increased longevity, and mechanical shaft seal with flush chamber. Pre-filling the seal chamber is recommended for use with viscous fluids which have difficulty lubricating the seal chamber during initial startup and operation.

Bronze models have 303 stainless steel shafts, carbon graphite bushings, and Ryton carbon fiber gears. Cast-iron models have carbon steel shafts, cast-iron bushings, and steel gears. All pumps have Type 21 Nitrile mechanical shaft seals with stainless steel, Buna N, and carbon/ceramic parts.

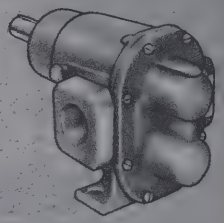
Adjustable Relief Valve Pumps: designed for internal pressure relief of up to one minute. If blockage is expected longer than one minute or on a regular basis, continuous external relief plumbing is required. Relief valve can be ported either externally or internally for regulated continuous or intermittent pressure control.

**Driver:** The driver is not included. The pump can be either pulley driven or direct driven at motor speed. See the performance chart for recommended horsepower. Pump shims are included with pump for proper motor shaft alignment in direct drive applications. Teel brand.



No. 1V432

TEEL®



No. 1V450

Replacement Parts Available
1-800-323-0620

## CAST-IRON PEDESTAL GEAR PUMPS (10 Wt. Oil @ 70°F and 500 SSU)†

| Port Size | Pump RPM | Suction* Lift (Ft.) | Free Flow GPM | Free Flow HP | 25PSI GPM | 25PSI HP | 50PSI GPM | 50PSI HP | 75PSI GPM | 75PSI HP | 100PSI GPM | 100PSI HP | 125PSI GPM | 125PSI HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 900 | 1.5 | 2.5 | 1/4 | 2.5 | 1/4 | 2.4 | 1/3 | 2.3 | 1/3 | 2.1 | 1/2 | 1.8 | 1/2 |
| | 1200 | 2.2 | 3.3 | 1/3 | 3.3 | 1/3 | 3.2 | 1/2 | 3.1 | 1/2 | 2.9 | 3/4 | 2.6 | 3/4 |
| | 1725 | 3.5 | 4.8 | 1/2 | 4.8 | 1/2 | 4.7 | 3/4 | 4.6 | 3/4 | 4.4 | 1 | 4.1 | 1 |
| 3/8 | 900 | 2.8 | 3.7 | 1/3 | 3.6 | 1/3 | 3.5 | 1/2 | 3.4 | 1/2 | 3.2 | 3/4 | 2.8 | 3/4 |
| | 1200 | 5.2 | 4.9 | 1/2 | 4.8 | 1/2 | 4.7 | 3/4 | 4.6 | 3/4 | 4.4 | 1 | 4.0 | 1 |
| | 1725 | 7.9 | 7.0 | 3/4 | 6.9 | 3/4 | 6.8 | 1 | 6.7 | 1 | 6.5 | 1½ | 6.1 | 1½ |
| 1/2 | 900 | 5.1 | 5.6 | 1/3 | 5.5 | 1/3 | 5.4 | 1/2 | 5.3 | 1/2 | 5.0 | 3/4 | 4.5 | 3/4 |
| | 1200 | 6.7 | 7.5 | 1/2 | 7.4 | 1/2 | 7.3 | 3/4 | 7.2 | 3/4 | 6.9 | 1 | 6.4 | 1 |
| | 1725 | 12.3 | 10.8 | 3/4 | 10.7 | 3/4 | 10.6 | 1 | 10.5 | 1 | 10.2 | 1½ | 9.7 | 1½ |
| 3/4 | 900 | 6.6 | 10.8 | 3/4 | 10.6 | 1 | 10.5 | 1 | 10.4 | 1 | 10.0 | 1 | 9.4 | 1½ |
| | 1200 | 9.3 | 14.3 | 1 | 14.2 | 1 | 14.1 | 1½ | 13.9 | 1½ | 13.5 | 2 | 12.9 | 2 |
| | 1725 | 15.2 | 20.6 | 1½ | 20.5 | 1½ | 20.3 | 2 | 20.2 | 2 | 19.8 | 2 | 19.2 | 3 |
| 1 | 900 | 8.1 | 12.6 | 3/4 | 12.5 | 1 | 12.3 | 1 | 12.1 | 1 | 11.7 | 2 | 11.1 | 2 |
| | 1200 | 11.7 | 16.7 | 1 | 16.6 | 1 | 16.4 | 1½ | 16.2 | 2 | 15.8 | 2 | 15.2 | 2 |
| | 1725 | 19.5 | 24.8 | 1½ | 24.7 | 1½ | 24.5 | 2 | 24.3 | 2 | 23.9 | 3 | 23.3 | 3 |

## BRONZE PEDESTAL GEAR PUMPS (WATER 60 TO 90°F)

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 900 | 1.2 | 2.4 | 1/6 | 2.3 | 1/6 | 2.1 | 1/4 | 1.8 | 1/4 | 1.5 | 1/3 | 1.1 | 1/3 |
| | 1200 | 1.8 | 3.2 | 1/4 | 3.1 | 1/4 | 2.9 | 1/3 | 2.6 | 1/3 | 2.3 | 1/2 | 1.9 | 1/2 |
| | 1725 | 3.0 | 4.6 | 1/3 | 4.5 | 1/3 | 4.2 | 1/2 | 4.0 | 1/2 | 3.7 | 3/4 | 3.3 | 3/4 |
| 3/8 | 900 | 2.5 | 3.6 | 1/4 | 3.3 | 1/4 | 2.8 | 1/3 | 2.5 | 1/3 | 2.1 | 1/2 | 1.5 | 1/2 |
| | 1200 | 4.0 | 4.8 | 1/3 | 4.5 | 1/3 | 4.0 | 1/2 | 3.7 | 1/2 | 3.3 | 3/4 | 2.7 | 3/4 |
| | 1725 | 7.0 | 6.9 | 1/2 | 6.6 | 1/2 | 6.1 | 3/4 | 5.8 | 3/4 | 5.4 | 1 | 4.8 | 1 |
| 1/2 | 900 | 4.5 | 5.5 | 1/4 | 5.1 | 1/4 | 4.5 | 1/3 | 4.1 | 1/3 | 3.7 | 1/2 | 3.1 | 1/2 |
| | 1200 | 6.0 | 7.3 | 1/3 | 7.0 | 1/3 | 6.3 | 1/2 | 5.9 | 1/2 | 5.5 | 3/4 | 4.9 | 3/4 |
| | 1725 | 11.0 | 10.5 | 1/2 | 10.2 | 1/2 | 9.5 | 3/4 | 9.1 | 3/4 | 8.7 | 1 | 8.1 | 1 |
| 3/4 | 900 | 5.5 | 10.6 | 1/2 | 10.1 | 3/4 | 9.1 | 3/4 | 8.4 | 1 | 7.5 | 1 | 6.7 | 1½ |
| | 1200 | 7.8 | 14.2 | 1/3 | 14.0 | 3/4 | 12.7 | 1 | 12.0 | 1 | 11.0 | 1½ | 10.3 | 2 |
| | 1725 | 13.0 | 20.4 | 1* | 20.0 | 1 | 18.9 | 1½ | 18.2 | 1½* | 17.3 | 2 | 16.5 | 3 |
| 1 | 900 | 7.0 | 12.6 | 1/2 | 12.0 | 3/4 | 10.9 | 3/4 | 10.1 | 1 | 9.1 | 1½ | 8.1 | 2 |
| | 1200 | 10.0 | 16.7 | 3/4 | 16.1 | 3/4 | 15.0 | 1 | 14.2 | 1½ | 13.0 | 2 | 12.2 | 3 |
| | 1725 | 17.0 | 24.0 | 1* | 23.0 | 1 | 22.3 | 1½ | 21.5 | 2 | 21.0 | 3 | 19.5 | 3 |

(*) With wetted gears. (†) RPM and GPM are approximately proportional.

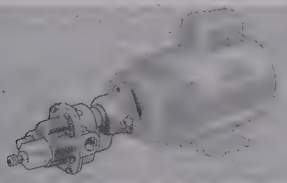
## PEDESTAL GEAR PUMP ORDERING DATA

| Pipe Size (In.) | Shaft Diameter (In.) | Shaft Height (In.) | Dimensions (In.) H | W | L | CAST-IRON PUMPS Stock No. | List | Each | Shpg. Wt. | BRONZE PUMPS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PUMPS WITHOUT RELIEF VALVE** | | | | | | | | | | | | | |
| **1/4** | 1/2 | 2 3/64 | 3 7/64 | 2 17/64 | 6 7/16 | **1V434** | $168.98 | **$130.05** | 5.2 | **1V414** | $237.25 | **$182.75** | 5. |
| **3/8** | 5/8 | 2 5/8 | 3 45/64 | 3 1/4 | 7 7/64 | **1V438** | 218.08 | **168.00** | 6.7 | **1V418** | 312.24 | **240.50** | 6 |
| **1/2** | 5/8 | 2 5/8 | 3 45/64 | 3 1/4 | 7 31/64 | **1V442** | 233.37 | **179.75** | 7.4 | **1V422** | 334.15 | **257.25** | 7 |
| **3/4** | 3/4 | 3 3/16 | 5 1/8 | 4 | 8 15/32 | **1V446** | 295.26 | **227.25** | 13.0 | **1V426** | 403.31 | **310.50** | 12 |
| **1** | 3/4 | 3 3/16 | 5 1/8 | 4 1/16 | 8 23/32 | **1V450** | 319.28 | **245.75** | 13.0 | **1V430** | 429.36 | **330.50** | 12 |
| **PUMPS WITH RELIEF VALVE** | | | | | | | | | | | | | |
| **1/4** | 1/2 | 2 23/64 | 3 27/64 | 2 47/64 | 9 27/64 | **1V436** | 193.06 | **148.55** | 6.1 | **1V416** | 261.33 | **201.25** | 6 |
| **3/8** | 5/8 | 2 5/8 | 3 45/64 | 3 1/4 | 10 1/16 | **1V440** | 251.00 | **193.25** | 8.0 | **1V420** | 345.05 | **265.75** | 8 |
| **1/2** | 5/8 | 2 5/8 | 3 45/64 | 3 1/4 | 10 25/64 | **1V444** | 266.15 | **205.00** | 8.6 | **1V424** | 366.95 | **282.50** | 8 |
| **3/4** | 3/4 | 3 3/16 | 5 1/8 | 4 | 11 5/8 | **1V448** | 337.98 | **260.25** | 15.0 | **1V428** | 446.08 | **343.25** | 14 |
| **1** | 3/4 | 3 3/16 | 5 1/8 | 4 1/16 | 11 7/8 | **1V452** | 362.00 | **278.75** | 15.0 | **1V432** | 472.13 | **363.25** | 14 |



*If we don't have a pump for it, chances are it can't be pumped.*

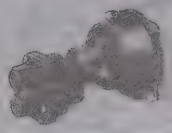
# BRONZE AND CAST-IRON MOTOR-MOUNTED HEAVY-DUTY GEAR PUMPS



No. 1V360

TEEL®

Replacement Parts Available
1-800-323-0620



No. 1V379

- **Available with or without relief valve**
- **Capacity to 24 GPM and 125 PSI**
- **Mechanical shaft seal**
- **Close-coupled pump and motor**
- **Bronze units have Ryton gears for quiet operation; cast-iron units have steel gears**

**escription:** Self-priming (see Suction Lift ata), positive displacement, external spur ear pumps are recommended for clear, on-abrasive, nonflammable liquids com- atible with pump components. Pump can e rotated in either direction. Temperature ange: -40 to 210°F. Close-coupled design ermits direct coupling to standard elec- ic motors, eliminating the cost associat- d with belts, pulleys, or external gear box rive systems.

**pplications:** Liquid circulation or lubrica- on, pressure boosting, filtering, medium ressure spraying, tank and barrel filling r draining, and general fluid transfer. ronze material should be selected for ater-based fluids. Cast-iron construction hould be selected for some caustics and il-based fluids. Check compatibility efore using. Not suitable for pumping sus- ended solids.

**onstruction:** The pump consists of a bronze r cast-iron body and cover assembly, spur ears, over-sized self-lubricating bearing urfaces for increased longevity and echanical shaft seal with flush chamber. re-filling the seal chamber is recommend- d for use with viscous fluids which have ifficulty lubricating the seal chamber dur- ng initial startup and operation. Pumps ome with a four bolt cast-iron mounting racket with spline coupling for easy ssembly.

ronze pumps have 303 stainless steel hafts, carbon graphite bushings, Ryton arbon fiber gears. Cast-iron pumps have arbon steel shafts, cast-iron bushings, teel gears. All come with Type 21 Nitrile echanical seal with stainless steel, Buna- , and carbon/ceramic parts.

**djustable Relief Valve:** Designed for inter- al pressure relief of up to one minute. If lockage is expected longer than one inute or on a regular basis, continuous xternal relief plumbing is required. Relief alve can be ported either externally or nternally for regulated continuous or ntermittent pressure control.

**river:** Motor not included. Pumps can be lose coupled to five different motor frame izes (1725 RPM max.). See performance hart for recommended horsepower. Teel rand.

## CAST IRON CLOSE-COUPLED GEAR PUMP HEADS (10 Wt. Oil @ 70°F and 500 SSU)

| Port Size | Pump† RPM | Suction* Lift (Ft.) | Free Flow GPM | Free Flow HP | 25PSI GPM | 25PSI HP | 50PSI GPM | 50PSI HP | 75PSI GPM | 75PSI HP | 100PSI GPM | 100PSI HP | 125PSI GPM | 125PSI HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/8 | 1200 | 5.2 | 4.9 | 1/2 | 4.8 | 1/2 | 4.7 | 3/4 | 4.6 | 3/4 | 4.4 | 1 | 4.0 | 1 |
| | 1725 | 7.9 | 7.0 | 3/4 | 6.9 | 3/4 | 6.8 | 1 | 6.7 | 1 | 6.5 | 1½ | 6.1 | 1½ |
| 1/2 | 1200 | 6.7 | 7.5 | 1/2 | 7.4 | 1/2 | 7.3 | 3/4 | 7.2 | 3/4 | 6.9 | 1 | 6.4 | 1 |
| | 1725 | 12.3 | 10.8 | 3/4 | 10.7 | 3/4 | 10.6 | 1 | 10.5 | 1 | 10.2 | 1½ | 9.7 | 1½ |
| 3/4 | 1200 | 9.3 | 14.3 | 1 | 14.2 | 1 | 14.1 | 1½ | 13.9 | 1½ | 13.5 | 2 | 12.9 | 2 |
| | 1725 | 15.2 | 20.6 | 1½ | 20.5 | 1½ | 20.3 | 2 | 20.2 | 2 | 19.8 | 2 | 19.2 | 3 |
| 1 | 1200 | 11.7 | 16.7 | 1 | 16.6 | 1 | 16.4 | 1½ | 16.2 | 2 | 15.8 | 2 | 15.2 | 2 |
| | 1725 | 19.5 | 24.8 | 1½ | 24.7 | 1½ | 24.5 | 2 | 24.3 | 2 | 23.9 | 3 | 23.3 | 3 |

## BRONZE CLOSE-COUPLED GEAR PUMP HEADS (WATER @ 60 TO 90°F)

| Port Size | Pump† RPM | Suction* Lift (Ft.) | Free Flow GPM | Free Flow HP | 25PSI GPM | 25PSI HP | 50PSI GPM | 50PSI HP | 75PSI GPM | 75PSI HP | 100PSI GPM | 100PSI HP | 125PSI GPM | 125PSI HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/8 | 1200 | 4.0 | 4.8 | 1/3 | 4.5 | 1/3 | 4.0 | 1/2 | 3.7 | 1/2 | 3.3 | 3/4 | 2.7 | 3/4 |
| | 1725 | 7.0 | 6.9 | 1/2 | 6.6 | 1/2 | 6.1 | 3/4 | 5.8 | 3/4 | 5.4 | 1 | 4.8 | 1 |
| 1/2 | 1200 | 6.0 | 7.3 | 1/3 | 7.0 | 1/3 | 6.3 | 1/2 | 5.9 | 1/2 | 5.5 | 3/4 | 4.9 | 3/4 |
| | 1725 | 11.0 | 10.5 | 1/2 | 10.2 | 1/2 | 9.5 | 3/4 | 9.1 | 3/4 | 8.7 | 1 | 8.1 | 1 |
| 3/4 | 1200 | 7.8 | 14.2 | 1/3 | 14 | 3/4 | 12.7 | 1 | 12.0 | 1 | 11 | 1½ | 10.3 | 2 |
| | 1725 | 13.0 | 20.4 | 1 | 20 | 1 | 18.9 | 1½ | 18.2 | 1½ | 17.3 | 2 | 16.5 | 3 |
| 1 | 1200 | 10.0 | 16.7 | 3/4 | 16 | 3/4 | 15.0 | 1 | 14.2 | 1½ | 13 | 2 | 12.2 | 3 |
| | 1725 | 17.0 | 24.0 | 1 | 23 | 1 | 22.3 | 1½ | 21.5 | 2 | 21 | 3 | 19.5 | 3 |

(*) With wetted gears. (†) RPM and GPM are approximately proportional.

## MOTOR-MOUNTED PUMP ORDERING DATA

| Pipe Size (In.) | Dimensions (In.) H | W | L | Motor Frame | Cast Iron Pumps Stock No. | List | Each | Shpg. Wt. | Bronze Pumps Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PUMP HEADS WITHOUT RELIEF VALVES** | | | | | | | | | | | | |
| 3/8 | 5 5/8 | 5 5/8 | 7 5/8 | 56C | 1V370 | $287.71 | $221.50 | 11.0 | 1V350 | $385.06 | $296.50 | 12.0 |
| 1/2 | 5 5/8 | 5 7/8 | 7 31/32 | 56C | 1V374 | 301.87 | 232.50 | 11.0 | 1V354 | 405.69 | 312.50 | 13.0 |
| 3/4 | 6 5/16 | 5 5/8 | 8 1/2 | 56C/143TC/145TC | 1V379 | 362.43 | 279.00 | 14.0 | 1V358 | 474.37 | 365.00 | 15.0 |
| 1 | 6 5/16 | 5 5/8 | 8 3/4 | 56C/143TC/145TC | 1V383 | 386.24 | 297.50 | 15.0 | 1V362 | 502.82 | 387.00 | 15.0 |
| 1 | 8 27/32 | 8 27/32 | 9 3/4 | 182TC/184TC | 1V385 | 404.97 | 311.75 | 17.0 | 1V364 | 521.51 | 401.50 | 17.0 |
| **PUMP HEADS WITH RELIEF VALVES** | | | | | | | | | | | | |
| 3/8 | 5 5/8 | 5 5/8 | 10 1/2 | 56C | 1V372 | 320.28 | 246.50 | 12.0 | 1V352 | 417.13 | 321.00 | 11.0 |
| 1/2 | 5 5/8 | 5 5/8 | 10 7/8 | 56C | 1V377 | 334.33 | 257.50 | 13.0 | 1V356 | 437.89 | 337.25 | 11.0 |
| 3/4 | 6 5/16 | 5 5/8 | 11 5/8 | 56C/145TC | 1V381 | 404.86 | 311.75 | 16.0 | 1V360 | 516.10 | 397.25 | 13.0 |
| 1 | 6 5/16 | 5 5/8 | 11 7/8 | 56C/145TC | 1V387 | 428.53 | 330.00 | 17.0 | 1V366 | 544.31 | 419.00 | 13.0 |
| 1 | 8 27/32 | 8 27/32 | 12 15/16 | 182TC/184TC | 1V389 | 447.27 | 344.25 | 19.0 | 1V368 | 563.15 | 433.25 | 15.0 |

## MOTORS FOR CLOSE-COUPLED GEAR PUMP HEADS#

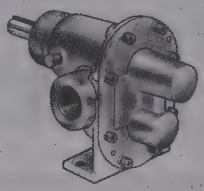
| Frame | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP |
|---|---|---|---|---|---|---|---|
| 56C | 5K109 | 5K110 | 1K084 | 2K678 | — | — | — |
| | 1K077 | 1K079 | 1K081 | 6K045 | 5N117 | 1K083 | — |
| 143TC-145TC | — | — | — | — | 6N044 | 6N046 | — |
| | — | — | — | — | 5N130 | 5N118 | — |
| 182TC-184TC | — | — | — | — | — | 4K813 | 5N135 |
| | — | — | — | — | — | — | 3N345 |

(#) Screened motor Stock Nos. represent ODP motors; others are TEFC. All motors are 1725 RPM (maximum recommended pump speed) with base. Refer to Index for page where additional motor specifications are located. Hazardous environments and special applications may require alternate motor selections.

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# 316 STAINLESS STEEL GEAR PUMPS



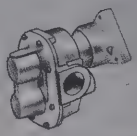
No. 1V458

FREE DELIVERY on orders of $900 or more

See Freight Policy

Replacement Parts Available
1-800-323-0620

TEEL®



No. 1V408

- Capacity to 24 GPM and 125 PSI
- Corrosive chemical compatibility
- Mechanical shaft seal with flush ports
- Pedestal-mount or motor-mount pumps
- Ryton carbon fiber gears for quiet operation

**Description:** Positive displacement, external spur gear pumps are recommended for nonabrasive, nonflammable liquids compatible with pump component materials. Temperature range: -40 to 210°F. Pumps can be rotated in either direction. Pumps have limited, self-priming capability (See Performance Chart).

Pedestal-mounted version with ball bearing supported drive shaft allows for direct pulley drive without additional shaft and pillow block assemblies. Ideal for pumping viscous fluids where speed needs to be reduced for specific flow requirements (flow proportional to speed). Pedestal-mounted pumps can be rotated in either direction.

Close coupled motor mounted version permits direct coupling to standard electric motors, eliminating the cost associated with belts, pulleys, or external gear box drive systems. Design allows flexibility where space is limited.

**Applications:** Liquid circulation or lubrication, pressure boosting, filtering, medium pressure spraying, sump draining, drum and vat filling, and general fluid transfer of acids and organic and inorganic chemicals. Not suitable for pumping suspended solids.

**Construction:** Body and cover assembly, spur gears, oversized bushings, mechanical shaft seal with flush chamber. Flush chamber enables the seal to be flushed, extending seal life in corrosive applications. Pre-filling the chamber is recommended for use with viscous fluids which have difficulty lubricating the seal during initial startup and operation.

316 stainless steel body, cover, and shaft; Ryton gears for reduced operational noise; and carbon graphite bushings. Come with Type 21 mechanical seal with stainless steel, Viton, carbon/ceramic parts.

**Driver:** The driver is not included. The pedestal-mounted pumps can be either pulley driven or direct driven at motor speed. Close-coupled motor-mounted pumps can be mounted to three different motor frame sizes. Pump model 1V408 is supplied with 56C motor frame coupling. Order one 4X192 coupling half to adapt model 1V408 to 143TC-145TC motor frame size. Order one 182TC-184TC flange kit from Grainger Parts Operations to adapt model 1V408 to 182TC-184TC motor frame size. Teel brand.

## GEAR PUMP SELECTION GUIDE

1. Select the port size, GPM, pressure and RPM required (for close-coupled pumps, Nos. 1V404, 1V406, and 1V408, use 1725 RPM only) from the "Pump Performance and Motor HP Required" chart. For example: 1/2" port size, 9.5 GPM, 50 PSI and 1725 RPM.

2. Select the corresponding pump. For the example given above, the pump is No 1V406.

3. Read necessary HP required. The example above requires a 3/4 HP.

4. Read "Recommended Motors For Close Coupled Gear Pumps Heads" chart. Fo 3/4 HP, the motor would be No. 1K084 o 1K081.

| Pipe Size | Shaft Diameter | Shaft Height | Dimensions, In. H | W | L | Motor Frame | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **PEDESTAL GEAR PUMP** | | | | | | | | | | |
| **3/8** | 1/2 | 2 64/81 | 4 7/32 | 3 | 8 3/16 | — | **1V454** | $575.43 | **$442.75** | 5.1 |
| **1/2** | 5/8 | 3 3/20 | 4 21/32 | 3 1/2 | 9 21/64 | — | **1V456** | 833.48 | **641.50** | 7.8 |
| **1** | 3/4 | 3 47/50 | 5 53/64 | 4 13/32 | 11 3/8 | — | **1V458** | 1222.06 | **940.50** | 12.0 |
| **CLOSE-COUPLED MOTOR-MOUNT GEAR PUMP HEADS** | | | | | | | | | | |
| **3/8** | — | — | 6 7/16 | 5 5/8 | 11 11/64 | 56C | **1V404** | 836.87 | **643.50** | 8.9 |
| **1/2** | — | — | 6 7/16 | 5 5/8 | 11 31/32 | 56C | **1V406** | 1090.24 | **839.50** | 10.0 |
| **1** | — | — | 6 7/16 | 5 5/8 | 13 37/64 | 56C/145TC/182TC* | **1V408** | 1516.96 | **1168.00** | 16.0 |

*Pump No. 1V408 is supplied with 56C motor frame coupling. Order No. 4X192 coupling half to adapt No. 1V408 to 143TC-145TC motor frame size. Order one 182TC-184TC flange kit from Grainger Parts Operations to adapt No. 1V408 to 182TC-184TC motor frame size.

## MOTORS FOR CLOSE-COUPLED GEAR PUMP HEADS#

| Frame | 1/3 HP | 1/2 HP | 3/4 HP | 1 HP | 1½ HP | 2 HP | 3 HP |
|---|---|---|---|---|---|---|---|
| 56C | 5K109 | 5K110 | 1K084 | 2K678 | — | — | — |
| | 1K077 | 1K079 | 1K081 | 6K045 | 5N117 | 1K083 | — |
| 143TC-145TC | — | — | — | — | 6N044 | 6N046 | — |
| | — | — | — | — | 5N130 | 5N118 | — |
| 182TC-184TC | — | — | — | — | — | 4K813 | 5N135 |
| | — | — | — | — | — | — | 3N345 |

(#)Screened motor Stock Nos. represent ODP motors; others are TEFC. All motors are 1725 RPM with base. Refer to Index for page where additional motor specifications are located. Hazardous environments and special applications

## PUMP PERFORMANCE AND MOTOR HP REQUIRED (WATER 60 to 90°F)

| Port Size NPT | Pump† RPM | Suction* Lift (Ft.) | Free Flow GPM | HP | 25PSI GPM | HP | 50PSI GPM | HP | 75PSI GPM | HP | 100PSI GPM | HP | 125PSI GPM | HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/8" | 900 | 1.2 | 2.4 | 1/6 | 2.3 | 1/6 | 2.1 | 1/4 | 1.8 | 1/4 | 1.5 | 1/3 | 1.1 | 1 |
| | 1200 | 1.8 | 3.2 | 1/4 | 3.1 | 1/4 | 2.9 | 1/3 | 2.6 | 1/3 | 2.3 | 1/2 | 1.9 | 1/ |
| | 1725 | 3.0 | 4.6 | 1/3 | 4.5 | 1/3 | 4.2 | 1/2 | 4.0 | 1/2 | 3.7 | 3/4 | 3.3 | 3 |
| 1/2 | 900 | 4.5 | 5.5 | 1/4 | 5.1 | 1/4 | 4.5 | 1/3 | 4.1 | 1/3 | 3.7 | 1/2 | 3.1 | 1 |
| | 1200 | 6.0 | 7.3 | 1/3 | 7.0 | 1/3 | 6.3 | 1/2 | 5.9 | 1/2 | 5.5 | 3/4 | 4.9 | 3 |
| | 1725 | 11.0 | 10.5 | 1/2 | 10.2 | 1/2 | 9.5 | 3/4 | 9.1 | 3/4 | 8.7 | 1 | 8.1 | |
| 1 | 900 | 7.0 | 12.6 | 1/2 | 12.0 | 3/4 | 10.9 | 3/4 | 10.1 | 1 | 9.1 | 1½ | 8.1 | |
| | 1200 | 10.0 | 16.7 | 3/4 | 16.1 | 3/4 | 15.0 | 1 | 14.2 | 1½ | 13.2 | 2 | 12.2 | |
| | 1725 | 17.0 | 24.0 | 1.0 | 23.4 | 1 | 22.3 | 1½ | 21.5 | 2 | 20.5 | 3 | 19.5 | |

(*) With wetted gears. (†) RPM and GPM are approximately proportional.

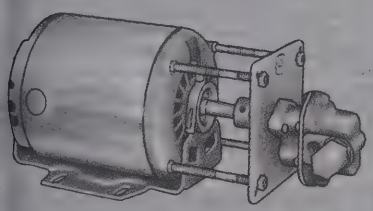


*If we don't have a pump for it, chances are it can't be pumped.*

# POSITIVE DISPLACEMENT ROTARY GEAR PUMPS

**TEEL®** • Bronze construction

Replacement Parts Available 1-800-323-0620™



No. 7P046

**6-MONTH DAYTON LIMITED WARRANTY**

ext of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## GPM OF WATER AT TOTAL PSI

| ipe ize | Req'd HP | Free Flow | 20 PSI | 40 PSI | 60 PSI | 90 PSI | 100 PSI |
|---|---|---|---|---|---|---|---|
| /4" | 1/3 | 2.2 | 2.1 | 1.9 | 1.7 | 1.5 | 1.3 |
| /8 | 1/3 | 4.4 | 4.1 | — | — | — | — |
| /8 | 1/2 | 4.4 | 4.1 | 3.8 | 3.5 | 3.3 | 3.0 |

**Description:** Rotary gear pumps for intermittent duty in medium pressure pump applications. For oil, water, brine, viscous liquids, and nonabrasive, nonflammable liquids compatible with pump component materials. Designed for recirculating, pressure boosting, filtering, spraying, and general transfer applications. Limited self-priming capability with gears wetted (up to 5 feet). Max. liquid temperature: 210°F. max. system pressure: 100 PSI (including pump discharge). Max. RPM: 1750. Not suitable for pumping suspended solids.

**Construction:** Two-piece cast bronze body and cover with precision machined spur gears. Self-lubricating carbon bearings for heavy-duty pump operation. Available with or without adjustable relief valves; relief valve permits internal recirculation of liquid at reduced pressure to avoid damage to pump when blockage of discharge line occurs for less than one minute. If blockage lasts longer, external relief valve is required.

Bronze gears, 303 stainless steel shafts, and carbon bearings. Buna N lip seal.

**Driver:** Overload protected, 1725 RPM. 1/3 HP, split phase or 1/2 HP capacitor run motors in NEMA 48 or 56 frame. (No. 4X177 coupling body required for 56 frame motors; order separately.) Maximum RPM 1800.

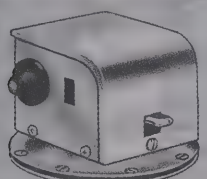
Table shows pump performance when pumping abrasive-free water at 60 to 90°F, through piping of the same size as pump inlet and discharge ports. Deliveries shown are for 1725 pump RPM; at lower speeds, GPM and RPM are proportional. For performance with other materials or different conditions, see "Pump Selection/Feature Guide" below.

## GEAR PUMP & PUMP/MOTOR COMBINATIONS—WITH OR WITHOUT RELIEF VALVE

| Port Pipe Size | Dayton Motor† HP | Volts 60 Hz | Less Adjustable Relief Valve Stock No. | List | Each | Shpg. Wt. | With Adjustable Relief Valve Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/4" | Pump Head Only* | | 1P782 | $189.39 | $138.15 | 4.0 | 1P784 | $214.29 | $156.00 | 4.6 |
| 3/8 | Pump Head Only* | | 1P783 | 204.59 | 148.75 | 4.5 | 1P785 | 234.88 | 171.00 | 5.0 |
| 1/4 | 1/3 | 115 | 7P041 | 289.00 | 206.75 | 19.0 | 7P046 | 320.00 | 223.00 | 19.6 |
| 1/4 | 1/3 | 230 | 7P042 | 297.00 | 212.25 | 19.0 | 7P047 | 320.00 | 228.50 | 19.6 |
| 3/8 | 1/3 | 115 | 7P043 | 303.00 | 216.50 | 19.5 | 7P048 | 331.00 | 237.00 | 20.0 |
| 3/8 | 1/3 | 230 | 7P044 | 311.00 | 222.00 | 19.5 | 7P049 | 331.00 | 237.00 | 20.0 |
| 3/8 | 1/2 | 115/230 | 7P045 | 361.00 | 264.00 | 25.5 | 7P050 | 389.00 | 284.25 | 26.0 |

(*) Includes pump head, NEMA 48 and 56 frame motor mounting hardware, and instructions.
(†) 1/2 HP motor is capacitor start, all others are split phase. All motors are NEMA 48 frame.

# VACUUM-ON SWITCH



No. 1V346

**Vacuum-On Switch** is a control device which automatically shuts off the electric motor when the liquid source is depleted or vacuum/suction drops. Switch protects pump and motor from dry running operation.

**Switch is mounted on suction side of pump** so it can sense a loss of vacuum. For temperatures up to 140°F. Switch is not explosion-proof. Wetted parts are constructed with 300 series stainless steel and Buna-N rubber components. If used in corrosive environment, switch may be subject to attack by chemicals and corrosive fumes.

**Designed to operate on a minimum vacuum** of 1½ inches of mercury. The switch, or pump, whichever is closer to the liquid, must be mounted at least 21" above the liquid supply.

**Can be used with either AC or DC motors** in the following ratings: DC (32-115-230V): up to 1/2 HP; Single phase at 110V: up to 1½; at 220V, 3 HP.

**No. 1V346.** Shpg. wt. 1.3 lbs. List.....$43.16.
Each.....**$33.45**

## ROTARY GEAR PUMPS SELECTION/FEATURE GUIDE

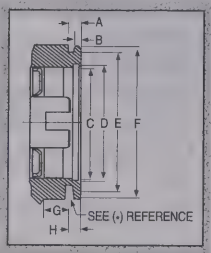
| Material | Pump Nos. | Seal Type | Bearing | Relief Valve | Materials Pumped |
|---|---|---|---|---|---|
| ronze | 1P765 to 1P770 | Kevlar Packing* | Bronze Bushing | No | Water Based Fluids Compatible with Bronze |
| ronze | 1P771 to 1P778 | | Carbon Bushing | No | |
| ronze | 1V414, 1V418, 1V422, 1V426, 1V430 | Type 21, Mechanical Seal, St. Steel, Buna N, Carbon/Ceramic Parts | Ball Bearing and Extended Carbon Bushing | No | |
| ronze | 1P777 to 1P781 | Kevlar Packing* | Carbon Bushing | Intermittant Internal Relief | |
| ronze | 1V416, 1V420, 1V424, 1V428, 1V432 | Type 21, Mechanical Seal, St. Steel, Buna N, Carbon/Ceramic Parts | Ball Bearing and ExtendedCarbon Bushing | Full Flow Internal or External | |
| ast-Iron | 1P825 to 1P830 | Lip Seal | Cast-Iron Bushing | No | Clean Lubricating Oils Only |
| ast-Iron | 2P295 to 2P299 | Kevlar Packing* | | No | Petroleum Products and Caustics |
| ast-Iron | 1V434, 1V438, 1V442, 1V446, 1V450 | Type 21, Mechanical Seal, St. Steel, Buna N, Carbon/Ceramic Parts | Ball Bearing and Extended Carbon Bushing | No | Oils and Caustics |
| ast-Iron | 1V436, 1V440, 1V444, 1V448, 1V452 | | | Full Flow Internal or External | |
| 16 St. Steel | 1V454, 1V456, 1V458 | Type 21, Mechanical Seal, St. Steel, Viton, Carbon/Ceramic Parts | Ball Bearing and Extended Carbon Bushing | No | Acids and Aggressive Fluids |

*Packing will drip and requires periodic adjustment.

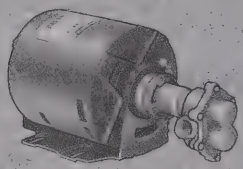
# ROTARY GEAR PUMPS AND FAT FRYER FILTER PUMPS

## CARBONATOR-MOUNT ROTARY GEAR PUMPS

TEEL®




Replacement Parts Available
1-800-323-0620



No. 7P086

**6 Month Dayton Limited Warranty**

Text of warranty available on request. See "Manufacturer's Warranties" on page opposite inside back cover.

**Many Brands of Carbonator Motors Available—See Page 170**

### NEMA HUB DIMENSIONS FOR CARBONATOR PUMP MOTORS

| Ref. | Dimensions | Ref. | Dimensions |
|---|---|---|---|
| A | .286/.276" | E | 1.640/1.685" Dia. |
| B | .155/.145" | F | 1.862/1.870" Dia. |
| C | 1.43" Min. Dia. | G | .52" Minimum |
| D | 1.504/1.507" Dia. | H | .14" Minimum |

(*) REFERENCE IN DRAWING: Dayton and GE motors meet NEMA standard of .09" dia. hole centered in bottom of undercut. Westinghouse motors are non-NEMA with .187" dia. hole centered .43" from end of hub.

**Description:** For self-priming, intermittent-duty service, medium- to high-pressure pump requirements. Excellent for water, oil, brine, and other nonabrasive, nonflammable liquids compatible with pump component materials. Designed for recirculating, pressure boosting, filtering, spraying, or general transfer applications. Handles liquid temperatures from –40 to 210°F.

**Construction:** Two-piece cast body and cover of bronze or cast-iron with precision machined spur gears. Available with or without adjustable relief valves. Relief valve permits internal recirculation of liquid at reduced pressure to avoid damage to pump when blockage of discharge line occurs for less than one minute. If blockage lasts longer, external relief valve is required.

Bronze models have bronze gears and 303 stainless steel shafts; cast iron models have steel gears and steel shafts. All models have Type 21 mechanical seals and Buna-N O-rings.

**Driver:** Included only on Stock Nos. beginning with 7P. These models include split-phase, open dripproof, 1725 RPM, NEMA 48 YZ frame motor with 1.0 service factor 40°C ambient. Rated for continuous operation. 1/3 HP motor is 115V, 60 Hz. 1/2 HP motor is 115/230V, 60 Hz.

### PUMP PERFORMANCE AND REQUIRED MOTOR HP

Table below shows pump performance when pumping abrasive-free water at 60 to 90°F thru piping of same size as pump inlet and discharge ports. Maximum pump RPM is 1725 for which deliveries are shown; at lower speeds, GPM and RPM are approximately proportional. For performance with other materials or different conditions, see "Pump Selection" information given in "Terminology Section."

| GPM @ Total PSI (72° Water) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Pipe Size | Req'd. HP | Free Flow | 20 PSI | 40 PSI | 60 PSI | 90 PSI | 10 PS |
| 1/4" | 1/3* | 2.2 | 2.1 | 1.9 | 1.7 | 1.5 | 1.3 |
| 3/8 | 1/3 | 4.4 | 4.1 | — | — | — | — |
| 3/8 | 1/2 | 4.4 | 4.1 | 3.8 | 3.5 | 3.3 | 3.0 |

(*) 1/4 HP motor (6K160) may be used for pumping water at free flow to 40 PSI.

### BRONZE PUMPS

**GEAR PUMP AND PUMP/MOTOR COMBINATIONS—WITH OR WITHOUT RELIEF VALVE**

| Port Pipe Size | HP | Dayton Motor Volts 50/60 Hz | Less Adjustable Relief Valve Stock No. | List | Each | Shpg. Wt. | With Adjustable Relief Valve Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/4" | Pump Head Only | | 2P381 | $148.34 | $108.25 | 4.0 | 2P383 | $164.46 | $120.70 | 4.5 |
| 3/8 | Pump Head Only | | 2P382 | 162.40 | 119.75 | 4.5 | 2P384 | 180.79 | 132.25 | 5.4 |
| 1/4 | 1/3 | 115/230 | 7P086 | 235.00 | 168.50 | 19.0 | 7P089 | 250.00 | 180.00 | 19.5 |
| 3/8 | 1/3 | 115/230 | 7P087 | 248.00 | 179.00 | 19.5 | 7P090 | 265.00 | 190.75 | 18.4 |
| 3/8 | 1/2 | 115/230 | 7P088 | 283.00 | 216.75 | 22.5 | 7P091 | 300.00 | 228.25 | 21.4 |

**CAST-IRON PUMPS***

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/4" | Pump Head Only | | 2P385 | 129.40 | 89.00 | 3.5 | 2P387 | 148.38 | 102.30 | 4.5 |
| 3/8 | Pump Head Only | | 2P386 | 147.36 | 101.80 | 3.9 | 2P388 | 164.26 | 113.10 | 4.7 |
| 1/4 | 1/3 | 115/230 | 7P092 | 220.00 | 152.50 | 18.5 | 7P095 | 237.00 | 164.25 | 19.5 |
| 3/8 | 1/3 | 115/230 | 7P093 | 236.00 | 164.00 | 18.9 | 7P096 | 252.00 | 174.50 | 19.7 |
| 3/8 | 1/2 | 115/230 | 7P094 | 271.00 | 200.50 | 21.9 | 7P097 | 287.00 | 212.25 | 22.7 |

(*) Not recommended for intermittant water pumping service.

## FAT FRYER FILTER PUMPS

**Description:** Designed for commercial fat fryer filtering applications. Pump heads are available to fit both carbonator-mount motors and Y48Y frame motors used with Viking pumps. No. 1V412 with adapter will replace Viking pumps. No. 7P098 is a carbonator-mount pump/motor combination and can be used to replace pump on major manufacturer's fat fryer filtering equipment. Nos. 2P398 and 1V410 are carbonator motor mount, pumps only. Pump and components are accepted by the National Sanitation Foundation (NSF) for fat fryer filter applications. For use with non-flammable liquids compatible with pump component materials.

**Construction:** Two-piece cast-iron body and cover with precision machined spur gears. Body and cover are coated with NSF accepted VHT white paint. Steel gears, hardened 303 stainless steel shafts, and NSF accepted shaft seal and O-ring for hot oil use to 375°F.

**Driver:** (No. 7P098) Split-phase, open dripproof, 1725 RPM, NEMA 48 YZ frame motor with 1.0 service factor. 40°C ambient. Rated for continuous 115V, 60 Hz operation. Pump only is NSF listed.

**PUMP PERFORMANCE (GPM)**

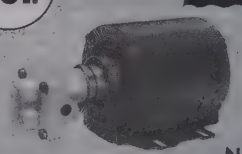
| | HP | Free Flow | 20 PSI | 40 PSI | 60 PSI | 80 PSI |
|---|---|---|---|---|---|---|
| * | 1/3 | 4.50 | 4.00 | 3.75 | — | — |
| * | 1/2 | 4.50 | 4.00 | 3.75 | 3.50 | 3.25 |
| † | 1/3 | 5.30 | 5.00 | — | — | — |
| † | 1/2 | 5.30 | 5.00 | 4.70 | 4.40 | — |
| † | 3/4 | 5.30 | 5.00 | 4.70 | 4.40 | 4.10 |

(*) 2P839. (†) 1V410, 1V412

| Port Size | HP | Volts, 60 Hz | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2" | | Head Only | 2P389* | $176.18 | $121.60 | 3.5 |
| 1/2 | 1/3 | 115/230 | 7P098* | 263.00 | 182.50 | 18.5 |
| 1/2 | | Head Only | 1V410 | 155.45 | 119.60 | 4.3 |
| 1/2 | | Head With Y48Y Frame Adapter for Viking Pumps | 1V412 | 173.82 | 133.75 | 4.8 |

(*) Carbonator mount.

NSF TEEL®



No. 7P098

Replacement Parts Available
1-800-323-0620

No. 1V410





*If we don't have a pump for it, chances are it can't be pumped.*

# ROTARY GEAR PUMPS

- Herringbone gears provide smooth, quiet reversible operation
- Between-the-bearing design for low shaft deflection and longer life
- Self-priming design
- Can handle liquids up to 5,000 SSU and 200 PSI
- Models with pressure relief valve available; see table below
- Should not be used for water, gasoline, kerosene, No. 1 fuel oil, and other explosive or flammable fluids
- Cast iron construction
- Temperature range: -20 to 240°F
- Fitted with mechanical seals (carbon vs. Ni-resist faces, Buna elastomers)
- Replaceable carbon sleeve bearings
- Belt or direct drive

## PUMP PERFORMANCE AND MOTOR HP REQUIRED FOR FLUIDS OF 400 SSU* VISCOSITY

| Pipe Size | Suction Lift (Ft.) | Pump RPM | 0 PSI GPM | 0 PSI HP | 50 PSI GPM | 50 PSI HP | 100 PSI GPM | 100 PSI HP | 150 PSI GPM | 150 PSI HP | 200 PSI GPM | 200 PSI HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 25 | 1750 | 2.4 | 1/8 | 2.2 | 1/8 | 2 | 1/4 | 1.9 | 1/4 | 1.6 | 1/3 |
| | 25 | 1170 | 1.5 | 1/8 | 1.4 | 1/8 | 1.2 | 1/4 | 1 | 1/4 | 0.75 | 1/3 |
| 1/2 | 25 | 1750 | 4.7 | 1/4 | 4.5 | 1/3 | 4.2 | 1/2 | 3.8 | 1/2 | 3.2 | 3/4 |
| | 25 | 1170 | 3.1 | 1/4 | 2.8 | 1/4 | 2.6 | 1/3 | 2.1 | 1/3 | 1.8 | 1/2 |
| 3/4 | 25 | 1750 | 9.8 | 1/2 | 9.5 | 3/4 | 9.1 | 1 | 8.8 | 1½ | 8.4 | 1½ |
| | 25 | 1170 | 6.3 | 1/4 | 6 | 1/2 | 5.5 | 3/4 | 5.3 | 1 | 5 | 1 |
| 1 | 25 | 1750 | 18.0 | 3/4 | 17 | 1½ | 16 | 2 | 15 | 3 | 15 | 3 |
| | 25 | 1170 | 12.0 | 1/2 | 11 | 1 | 10 | 1½ | 9.0 | 2 | 8.5 | 2 |
| 1 | 22 | 1750 | 28.0 | 1 | 26 | 2 | 25 | 3 | 24 | 5 | 23 | 5 |
| | 22 | 1170 | 18.0 | 3/4 | 17 | 1 | 16 | 2 | 15 | 3 | 13 | 3 |
| 1½ | 22 | 1750 | 40.0 | 3 | 38 | 5 | 37 | 5 | 36 | 7½ | 34 | 7½ |
| | 22 | 1170 | 27.0 | 2 | 25 | 3 | 24 | 3 | 22 | 5 | 20 | 5 |
| 1½ | 17 | 1750 | 57.0 | 3 | 54 | 5 | 51 | 7½ | 50 | 7½ | 47 | 10 |
| | 17 | 1170 | 35.0 | 2 | 36 | 3 | 32 | 5 | 30 | 5 | 26 | 7½ |

*) Saybolt Seconds Universal; refer to Rotary Gear Pump Selection Guide on page 3171.

## FOOT MOUNTED GEAR PUMPS

| Pipe Size (In.) | Shaft (In.) Dia. | Shaft (In.) Height | Dimensions (In.) H | W | L | IDP Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **PUMPS WITHOUT RELIEF VALVES** | | | | | | | | | | |
| **1/2** | 1/2 | 2.38 | 3.56 | 3.25 | 6.06 | 0GASI0D0 | **4UR09** | $262.50 | **$193.50** | 11.0 |
| **1/2** | 1/2 | 2.38 | 3.56 | 3.25 | 6.06 | 1GASI0D0 | **4UR13** | 302.50 | **238.50** | 11.0 |
| **3/4** | 5/8 | 3 | 4.68 | 4.25 | 8.12 | 2GASI0D0 | **4UR17** | 345.00 | **265.50** | 18.0 |
| **1** | 3/4 | 3.87 | 5.68 | 5.5 | 9.87 | 3GASI0D0 | **4UR21** | 432.50 | **330.00** | 29.0 |
| **1** | 3/4 | 3.87 | 5.68 | 5.5 | 10.5 | 4GASI0D0 | **4UR25** | 522.50 | **390.00** | 33.0 |
| **1½** | 7/8 | 4.75 | 7.06 | 6.5 | 11.87 | 5GASI0D0 | **4UR27** | 652.50 | **460.00** | 46.0 |
| **1½** | 7/8 | 4.75 | 7.06 | 6.5 | 12.62 | 6GASI0D0 | **4UR29** | 806.25 | **580.00** | 52.0 |
| **PUMPS WITH RELIEF VALVES** | | | | | | | | | | |
| **1/2** | 1/2 | 2.37 | 3.56 | 3.25 | 9.31 | 0GAS11D0 | **4UR10** | 311.25 | **231.75** | 13.0 |
| **1/2** | 1/2 | 2.37 | 3.56 | 3.25 | 9.75 | 1GAS12D0 | **4UR14** | 357.50 | **280.75** | 13.0 |
| **3/4** | 5/8 | 3 | 4.68 | 4.25 | 11.68 | 2GAS13D0 | **4UR18** | 402.50 | **300.00** | 20.0 |
| **1** | 3/4 | 3.87 | 5.68 | 5.5 | 13.12 | 3GAS14D0 | **4UR22** | 366.18 | **348.75** | 30.0 |
| **1** | 3/4 | 3.87 | 5.68 | 5.5 | 13.75 | 4GAS15D0 | **4UR26** | 585.00 | **440.00** | 35.0 |
| **1½** | 7/8 | 4.75 | 7.06 | 6.5 | 16.12 | 5GAS16D0 | **4UR28** | 735.00 | **510.00** | 48.0 |
| **1½** | 7/8 | 4.75 | 7.06 | 6.5 | 16.62 | 6GAS17D0 | **4UR30** | 880.00 | **650.00** | 54.0 |

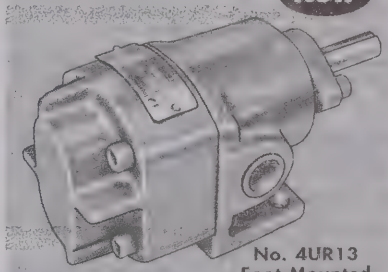
## CLOSED-COUPLED GEAR PUMPS WITH MOTOR*

| HP | Pipe Size (In.) | Motor Frame | Dimensions (In.) H | W | L | IDP Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **PUMPS WITHOUT RELIEF VALVES** | | | | | | | | | | |
| **1/2** | 1/2 | 56C | 6.87 | 8.37 | 16.75 | 0GACM0D1 | **4UR07** | $525.00 | **$450.00** | 42.0 |
| **3/4** | 1/2 | 56C | 6.87 | 8.37 | 16.93 | 1GACM0D1 | **4UR11** | 600.00 | **500.00** | 47.0 |
| **1½** | 3/4 | 56C | 6.87 | 10 | 19.68 | 2GACM0D1 | **4UR15** | 647.50 | **560.00** | 61.0 |
| **3** | 1 | 182TC | 9 | 12.37 | 23.62 | 3GACM0D3 | **4UR19** | 885.00 | **698.00** | 93.0 |
| **5** | 1 | 184TC | 9 | 12.37 | 25 | 4GACM0D3 | **4UR23** | 1015.00 | **805.50** | 116.0 |
| **PUMPS WITH RELIEF VALVES** | | | | | | | | | | |
| **1/2** | 1/2 | 56C | 6.87 | 8.37 | 19.5 | 0GACM1D1 | **4UR08** | 575.00 | **500.00** | 44.0 |
| **3/4** | 1/2 | 56C | 6.87 | 8.37 | 19.68 | 1GACM1D1 | **4UR12** | 645.00 | **550.00** | 49.0 |
| **1½** | 3/4 | 56C | 7.5 | 10 | 23 | 2GACM1D1 | **4UR16** | 700.00 | **590.00** | 66.0 |
| **3** | 1 | 182TC | 9 | 12.37 | 26.37 | 3GACM1D3 | **4UR20** | 950.00 | **760.00** | 95.0 |
| **5** | 1 | 184TC | 9 | 12.37 | 28.25 | 4GACM1D3 | **4UR24** | 1080.00 | **865.00** | 119.0 |

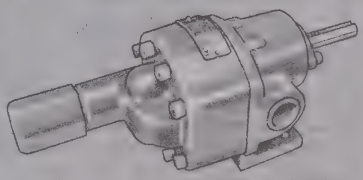
*) All Motors are TEFC, 3 phase, 230/460V 60Hz, 1750 RPM.

Ingersoll-Dresser Pumps

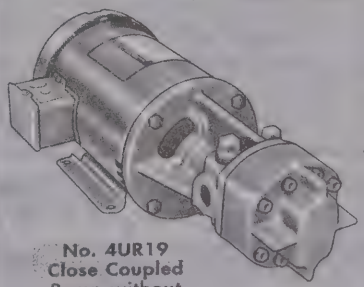
New



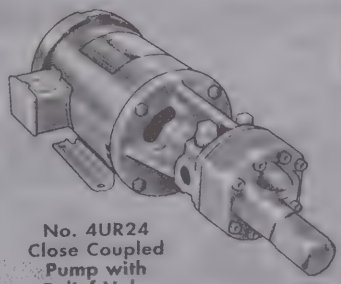
No. 4UR13 Foot-Mounted Pump without Relief Valve



No. 4UR18 Foot-Mounted Pump with Relief Valve



No. 4UR19 Close Coupled Pump without Relief Valve



No. 4UR24 Close Coupled Pump with Relief Valve

TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# BRONZE AND 316 STAINLESS STEEL MOTOR-MOUNTED FLEXIBLE IMPELLER PUMPS

- **Self-priming, Nitrile flexible impeller pump**
- **Capacity to 20.6 GPM and 26 PSI continuous**
- **For liquids that are non-lubricating, lubricating or liquids that have suspended particles**
- **Carrying handle for portability (Nos. 1V393, 1V395, 1V391)**

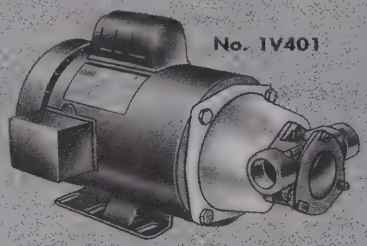
**Description:** Positive displacement pumping action without metal-to-metal contact. Pumps self-prime with wet impeller up to 10 ft.; up to 15 ft. with foot valve and pumps flooded. Not to be operated in a dry condition. Recommended for liquids that are non-lubricating, lubricating, or have suspended particles. For use with non-flammable liquids compatible with pump component materials. Liquid temperature range: 40 to 120°F.

**Applications:** Bronze models are recommended for fluid transfer and circulation, lawn and garden watering, additive injection, salt or brackish water handling, copper line de-scaling, low pressure spraying, tank or drum emptying, and numerous plant utility uses, including oils and mild sludges. Stainless steel models are for use with mild to medium corrosive chemicals in the above applications. Check compatibility before use.

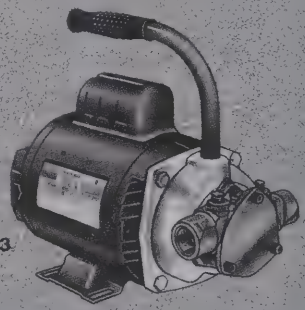
**Construction:** Bronze models have bronze housing with stainless steel cover and wear plates, nitrile impeller (neoprene replacement impeller available), 303 stainless steel shaft, and nitrile lip seal and O-rings. Stainless steel models have Teflon coated 316 stainless steel housing and wear plates, nitrile impeller with 316 stainless steel insert, 316 stainless steel shaft, Viton mechanical seal and O-rings.

**Driver:** Motor-mounted pumps are close coupled on 56C face motors. Bronze models feature carrying handle. **Note:** To prevent dry running, a vacuum switch, No. 1V346, is available, see page 3171. **Motors are included. 115/230 Volt, 60 Hz, 1-phase.**

TEEL®



No. 1V401



No. 1V393

Replacement Parts Available
1-800-323-0620

## PUMP PERFORMANCE DATA (WATER @ 60 TO 90°F)

| HP | Inlet & Outlet (In.) | GPM of Water @ Total Feet of Head 10 | 20 | 40 | 60 | 80† | Max Head** (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BRONZE MOTOR-MOUNTED FLEXIBLE IMPELLER PUMPS** | | | | | | | | | | | |
| **1/3** | 1/2** | 7.1 | 6.7 | 5.5 | 3.8 | — | 76 | **1V393** | $382.39 | **$294.50** | 24.0 |
| **1/2** | 3/4 | 11.9 | 10.5 | 8.6 | 5.4 | 2.0 | 85 | **1V395** | 410.10 | **315.75** | 27.0 |
| **3/4** | 1 | 20.6 | 19.5 | 16.5 | 11.0 | 5.5 | 92 | **1V391** | 546.65 | **420.75** | 32.0 |
| **316 STAINLESS STEEL MOTOR-MOUNTED FLEXIBLE IMPELLER PUMPS** | | | | | | | | | | | |
| **3/4** | 3/4 | 7.1 | 6.7 | 5.5 | 3.8 | — | 76 | **1V399** | 985.05 | **758.50** | 31.0 |
| **1** | 1 | 11.9 | 10.5 | 8.6 | 5.4 | 2.0 | 85 | **1V401** | 1121.27 | **863.00** | 37.0 |
| **1 1/2** | 1 1/4 | 20.6 | 19.5 | 16.5 | 11.0 | 5.5 | 92 | **1V397** | 1354.75 | **1043.00** | 54.0 |

(*) Shutoff; to convert to PSI, divide by 2.31. (†) Extended operation beyond 60 ft. of head will result in reduced impeller life.
(**) No. 1V393 has 1/2" internal ports and 3/4" garden hose fitting external ports.

### BRONZE NITRILE REPLACEMENT IMPELLERS/SHAFT ASSEMBLIES

| To Fit Pump | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1V393 | **1V334** | $56.20 | **$43.25** | 0.3 |
| 1V395 | **1V336** | 58.29 | **44.85** | 0.4 |
| 1V391 | **1V338** | 73.65 | **56.70** | 0.6 |

### BRONZE NEOPRENE REPLACEMENT IMPELLERS/SHAFT ASSEMBLIES

| To Fit Pump | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1V393 | **1V340** | $52.15 | **$40.10** | 0.3 |
| 1V395 | **1V342** | 53.18 | **40.95** | 0.4 |
| 1V391 | **1V344** | 71.66 | **40.95** | 0.7 |

### STAINLESS STEEL NITRILE REPLACEMENT IMPELLERS

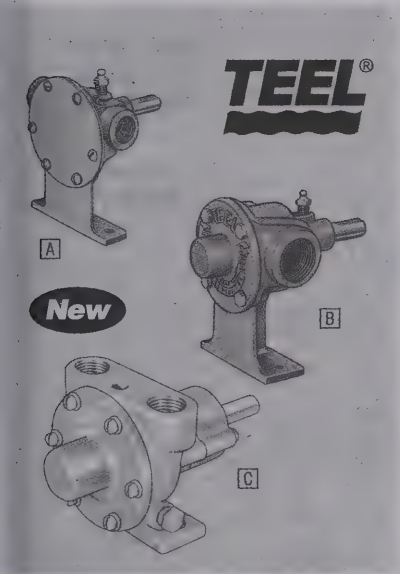
| To Fit Pump | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1V399 | **1V328** | $29.59 | **$21.63** | 0.1 |
| 1V401 | **1V332** | 40.90 | **31.50** | 0.3 |
| 1V397 | **1V330** | 53.21 | **40.95** | 0.5 |

**UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY**

**Grainger has over 350 branches nationwide, so we're close by. Check the Branch Locatons listed in the front of the catalog.**

# SELF-PRIMING FLEXIBLE IMPELLER PUMPS

## SELF-PRIMING FLEXIBLE IMPELLER PUMPS




**Description:** For intermittent service in fluid transfer, filter systems, spraying, chemical injection, plus lawn and garden applications. Pumps self-prime with wet impeller up to 15 feet; with foot valve and pumps flooded, up to 20 feet. Not to be run dry. Liquid temperature range: 40 to 120°F. For use with nonflammable liquids compatible with pump component materials.

**Construction:** Pumping action is a continuous, uniform flow of liquid. Since there is no metal-to-metal contact in the pumps, they are suitable for nonlubricating liquids.

**Housing:** Bronze/brass housing and cover, neoprene impeller (nitrile impeller available), and 303 stainless steel shaft. Nos. 1P816, 1P817, and 1P818 are constructed with Buna N lip seal and bronze shaft bearings lubricated through a zerk fitting. Nos. 1P817 and 1P818 include a graphite bushing on the end cover. Nos. 1P816, 1P817, and 1P818 are recommended for intermittent duty in direct drive applications at a maximum 1750 RPM.

Nos. 4UN81, 4UN82, and 4UN80 are designed with mechanical seals, carbon bushing wet end shafts support, and ball bearing drive end shaft support for continuous duty with either direct or belted drive at speeds of 1750 PRM and 3500 RPM.

**Driver:** Driver not included. Pumps can be directly coupled or belt driven. Ball bearing pillow block is recommended for all belt drives. Capacitor-start electric motors with sufficient starting torque must be used to power flexible impeller pumps; see recommendations in chart.

### NITRILE REPLACEMENT IMPELLERS

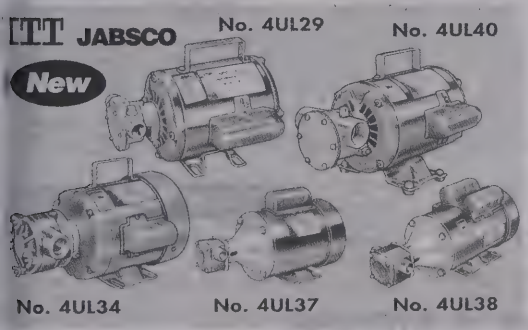
| To Fit Pump | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1P816 | **1R218** | $32.37 | **$23.98** | 0.2 |
| 1P817 | **1R219** | 37.33 | **27.20** | 0.3 |
| 1P818 | **1R220** | 53.08 | **38.70** | 0.4 |
| 4UN81 | **1R218** | 32.37 | **23.98** | 0.2 |
| 4UN82 | **1R219** | 37.33 | **27.20** | 0.3 |

### NEOPRENE REPLACEMENT IMPELLERS

| To Fit Pump | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1P816 | **1R215** | $29.92 | **$22.21** | 0.1 |
| 1P817 | **1R216** | 31.96 | **23.77** | 0.3 |
| 1P818 | **1R217** | 49.86 | **36.55** | 0.4 |
| 4UN81 | **1R215** | 29.92 | **22.21** | 0.1 |
| 4UN82 | **1R216** | 31.96 | **23.77** | 0.3 |

| HP | Inlet & Outlet (In.) | Shaft Dia. (In.) | Size Ht. OC (In.) | Mntg. Holes (In.) | Dimensions (In.) H | W | L | Min. Start Torque (Ft. Oz.) | RPM | GPH of Water @ Total Feet of Head 10 | 20 | 30 | 40 | 50 | 60 | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1/2 | 1/2 | 3 | 2½ OC | 4½ | 3⅞ | 4⅛ | 24 | 1750 | 300 | 270 | 233 | 187 | 142 | 82 | **1P816** | $122.37 | **$91.85** | 2.6 |
| 1/2 | 3/4 | 5/8 | 3 | 2¾ | 4½ | 4⅜ | 5 | 39 | 1750 | 600 | 540 | 458 | 373 | 270 | 165 | **1P817** | 148.17 | **111.20** | 4.0 |
| 3/4 | 1 | 5/8 | 3½ | 2¾ | 5⅛ | 4⅝ | 6⅜ | 51 | 1750 | 990 | 945 | 810 | 675 | 540 | 330 | **1P818** | 194.82 | **148.10** | 5.5 |
| 1/3 | 1/2 | 1/2 | 1⅝ | 2⅛ | 3 15/16 | 2⅞ | 5⅝ | 30 | 1750 | 310 | 300 | 288 | 273 | 258 | 246 | *New* **4UN81** | 185.00 | **126.75** | 4.5 |
| 1/2 | | | | | | | | | 3500 | 630 | 612 | 597 | 576 | 558 | 540 | | | | |
| 3/4 | 3/4 | 5/8 | 2¼ | 2¼ | 3¾ | 3⅞ | 5 29/32 | 45 | 1750 | 687 | 660 | 635 | 605 | 540 | 468 | *New* **4UN82** | 189.00 | **129.75** | 5.5 |
| 1 | | | | | | | | | 3500 | 1410 | 1650 | 1314 | 1233 | 1164 | 1056 | | | | |
| 1 | 1 | 5/8 | 2⅛ | 2¾ | 4¼ | 4 1/16 | 5 11/16 | 52 | 1750 | 1176 | 1130 | 1080 | 1017 | 960 | 882 | *New* **4UN80** | 220.00 | **150.00** | 7.0 |
| 1½ | | | | | | | | | 3500 | 2040 | 1950 | 1902 | 1842 | 1770 | 1650 | | | | |

## SELF-PRIMING FLEXIBLE IMPELLER UTILITY PUMPS




**Nos. 4UL29 and 4UL40 Bronze Flexible Impeller Pumps** - General liquid transfer, circulation and processing; filling and circulating machine tool coolants. Empty pools, tubs, aquariums and basements. Fill and empty drums, vats, tanks. Fill tractor tires, empty silo pits and transfer liquid fertilizer. All brass/stainless steel pump head. Open drip-proof motors. All nitrile impellers and lip seals. Dry primes to 10 ft. Wet suction lift to 22 ft. Pressures up to 20 PSI. Temp. range 50 to 180°F.

**No. 4UL34 Epoxy Flexible Impeller Pumps** - General liquid transfer, circulation, filtration, processing, filling and pumping pure solutions. No metal parts to contaminate photochemcials, plating solutions, cosmetics, dyes, insecticides, fertilizers, acids and alkalis. Fill and empty vats and drums. Collect spills and waste. All glass-filled epoxy pump parts. TEFC motor with all-nitrile impeller. 1/2" NPT ports. Carbon-on-ceramic mechanical seal. Pressures up to 20 PSI. Temp. ranges: 50 to 180°F.

**Nos. 4UL37 and 4UL38.** Immediate self-priming and handles wide viscosity range. Able to transfer fluids with solids. Dry primes to 10 ft. of lift, wet suction lift to 22 ft. Shipped with neoprene impeller, optional nitrile, viton, and EPDM impellers are available. Highly chemically resistant epoxy pump head with no metal parts in contact with pumped fluid. Close-coupled to TEFC motors. Use to circulate and transfer corrosive liquids. Return spilled liquids to process. Transfer foaming liquids (soap, detergents). Easily handles pure solutions, acids, alkalis. Excellent for dyes, waxes, gels, solutions with suspended solids and emulsions.

| HP | Volts 60 Hz | Inlet & Outlet (In.) | GPM @ Feet of Head 10 | 20 | 30 | 40 | 60 | ITT-Jabsco Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BRONZE FLEXIBLE IMPELLER PUMPS** | | | | | | | | | | | | |
| 1/3 | 115 | 1/2 NPT & 3/4 Garden Hose | 9.6 | 8.1 | 6.8 | 4.4 | — | 11810-0003 | **4UL29** | $352.53 | **$335.75** | 22.0 |
| 3/4 | 115 | 1 NPT | 23 | 22 | 20.7 | 19.5 | 15.5 | 6050-0003 | **4UL40** | 442.57 | **421.50** | 37.0 |
| **EPOXY FLEXIBLE IMPELLER PUMPS** | | | | | | | | | | | | |
| 1/2 | 115 | 1/2 NPT | 11.3 | 10.2 | 9.0 | — | — | 17430-0003 | **4UL34** | 873.60 | **832.00** | 34.0 |
| 3/4 | 115 | 3/4 NPT | 7.2 | 5.1 | 2.2 | — | — | 30510-5001 | **4UL37** | 865.20 | **824.00** | 35.0 |
| 1½ | 115/230 | 1 NPT | 19.9 | 17 | 13.9 | — | — | 30520-5001 | **4UL38** | 1046.85 | **997.00** | 55.0 |

# CARBONATOR-MOUNT ROTARY VANE PUMPS

**Description:** Rotary vane displacement pumps run quietly and require no maintenance. For clean fluids at low flows and high pressures. Brass pumps are designed for pumping water and moderately aggressive liquids. 316 Stainless steel pumps are designed for pumping water and aggressive liquids. Both pumps are superior for nonabrasive and nonflammable liquids that are compatible with pump component materials. 150° F Max. temperature.

**Applications:** Carbonated water for beverage dispensers, ultra-filtration, deionized water, reverse osmosis systems, espresso coffee machines, lubrication spraying, insecticide spraying, soap dispensing, distilled water, fire resistant fluids, hydraulic oil, steam cleaning machines with clean water, cooling circulation, pressure booster, atomizing/misting humidification systems, laboratory pumps, pilot plants, boiler feeds, textile machines, carwash machines, water purification, and fire jockey pumps.

**Construction:** Two piece brass or 316 stainless steel bodies, carbon graphite pump chamber and vanes. Available with and without built-in cleanable strainer. 71 Mesh filter. 316 Stainless steel shaft. Carbonator clamp style mounting on all except Nos. 4RM69 through 4RM74. Four bolt mounting on Nos. 4RM69-4RM74—requires mounting kit (sold separately on page 3177).

NEMA hub dimensions for carborator pump motors. Adapter Kits available for mounting NEMA 56C, 143TC and 145TC frame motors.

Carbon rotating seal, ceramic stationary seal with Buna N bellows and stainless steel spring. Built-in relief valves on all units except Nos. 4MR65 through 4MR74. Unit without relief valves require an external relief valve. Nos. 3P751, 3P753, 3P755 and 3P757 have built-in strainers. Buna N seals and O-ring and sealed isolated ball bearing. Pressure relief valve is factory set at 170 PSI and is adjustable through the full range of the pump. Teel brand.

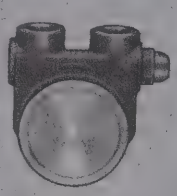
TEEL®

New

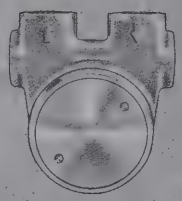


No. 3P751

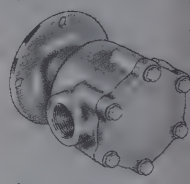
• Exact OEM replacement



No. 4P917



No. 4RM62



No. 4RM69

## ROTARY VANE PERFORMANCE CHART

GALLONS PER HOUR AT PRESSURE IN POUNDS PER SQUARE INCH GAUGE (PSI)

| Stock No. | 20 PSI GPM | 20 PSI HP | 80 PSI GPM | 80 PSI HP | 140 PSI GPM | 140 PSI HP | 200 PSI GPM | 200 PSI HP | 260 PSI GPM | 260 PSI HP | Max. PSI | Nominal GPH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4RM62, 4RM63, 4RM64 | 34 | 0.25 | 31 | 0.25 | 28 | 0.25 | 24 | 0.25 | 0 | — | 240 | 30 |
| 3P750, 3P751, 4P917, 4RM65 | 49 | 0.25 | 46 | 0.25 | 42 | 0.25 | 39 | 0.25 | 0 | — | 240 | 45 |
| 3P752, 3P753,4P918, 4RM66 | 78 | 0.25 | 75 | 0.25 | 71 | 0.25 | 68 | 0.33 | 0 | — | 240 | 75 |
| 3P754, 3P755, 4P919, 4RM67 | 111 | 0.25 | 108 | 0.25 | 104 | 0.33 | 101 | 0.5 | 0 | — | 240 | 105 |
| 3P756,3P757, 4P920, 4RM68 | 144 | 0.25 | 141 | 0.25 | 137 | 0.33 | 134 | 0.5 | 0 | — | 240 | 140 |
| 4P921,4P924 | 201 | 0.25 | 197 | 0.33 | 194 | 0.5 | 190 | 0.5 | 0 | — | 240 | 195 |
| 4P922, 4P925 | 264 | 0.25 | 260 | 0.33 | 256 | 0.5 | 253 | 0.75 | 0 | — | 240 | 260 |
| 4P923, 4P926 | 327 | 0.33 | 323 | 0.5 | 320 | 0.75 | 316 | 0.75 | 0 | — | 240 | 320 |
| 4RM69 | 245 | 0.5 | 340 | 0.75 | 335 | 1 | 330 | 1.5 | 325 | 1.5 | 260 | 340 |
| 4RM70 | 410 | 0.5 | 405 | 0.75 | 400 | 1 | 395 | 1.5 | 390 | 2 | 260 | 405 |
| 4RM71 | 475 | 0.5 | 470 | 0.75 | 465 | 1 | 460 | 1.5 | 455 | 2 | 260 | 470 |
| 4RM72 | 540 | 0.75 | 535 | 1 | 530 | 1.5 | 525 | 2 | 520 | 2 | 260 | 535 |
| 4RM73 | 605 | 1 | 600 | 1.5 | 595 | 2 | 590 | 3 | 585 | 3 | 260 | 600 |
| 4RM74 | 670 | 1 | 665 | 1.5 | 660 | 2 | 655 | 3 | 650 | 3 | 260 | 665 |

CONTINUED ON NEXT PAGE

OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!

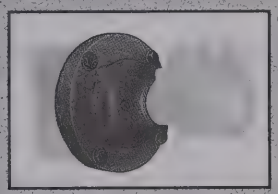
In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.

# CARBONATOR-MOUNT ROTARY VANE PUMPS, MOTOR ADAPTER AND COUPLING KIT

## PUMP ORDERING DATA

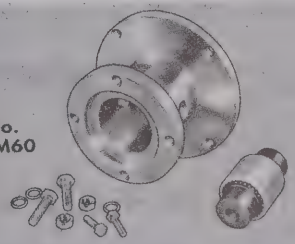
| Construction | Max PSI | Nominal GPH | Filter Strainer | By-Pass | Inlet/ Outlet FNPT (In.) | External Relief Required | Manufactureres Cross-Reference Procon | Berns Corp | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Brass** | 240 | 45 | No | Yes | 3/8 | No | CO1505B, CO51505B, CO1521B, CO51521B | PA101 | **3P750** | $89.26 | **$83.15** | 2.5 |
| **Brass** | 240 | 45 | Yes | Yes | 3/8 | No | CO1305B, CO51305B, CO1321B, CO51321B | PA101X | **3P751** | 102.97 | **95.95** | 3.1 |
| **Brass** | 240 | 75 | No | Yes | 3/8 | No | CO1509B, CO51509B, CO1510B, CO51510B | PA201 | **3P752** | 89.26 | **83.15** | 2.5 |
| **Brass** | 240 | 75 | Yes | Yes | 3/8 | No | CO1309B, CO51309B, CO1310B, CO51310B | PA201X | **3P753** | 102.97 | **95.95** | 3.1 |
| **Brass** | 240 | 105 | No | Yes | 3/8 | No | CO1504B, CO51504B, CO1507B, CO51507B, CO1508B, CO51508B | PA301 | **3P754** | 89.26 | **83.15** | 2.5 |
| **Brass** | 240 | 105 | Yes | Yes | 3/8 | No | CO1304B, CO51304V, CO1307B, CO51307B, CO1308B, CO51308B | PA301X | **3P755** | 102.97 | **95.95** | 3.1 |
| **Brass** | 240 | 140 | No | Yes | 3/8 | No | 2502, 52502, 2503, 52503 | PA401 | **3P756** | 89.26 | **83.15** | 2.5 |
| **Brass** | 240 | 140 | Yes | Yes | 3/8 | No | | PA401X | **3P757** | 102.97 | **95.95** | 3.1 |
| **Stainless Steel** | 240 | 45 | No | Yes | 3/8 | No | CO1605B, CO51605B, CO1510B, CO51510B | PA111 | **4P917** | 178.65 | **149.75** | 2.7 |
| **Stainless Steel** | 240 | 75 | No | Yes | 3/8 | No | CO1608B, CO51608B, CO1509B, CO51509B | PA211 | **4P918** | 178.65 | **149.75** | 2.7 |
| **Stainless Steel** | 240 | 105 | No | Yes | 3/8 | No | CO1604B, CO51604B, CO1507B, CO51507B | PA311 | **4P919** | 178.65 | **149.75** | 2.7 |
| **Stainless Steel** | 240 | 140 | No | Yes | 3/8 | No | CO1608B, CO51608B, CO1509B, CO51509B | PA411 | **4P920** | 178.65 | **149.75** | 2.7 |
| **Stainless Steel** | 240 | 195 | No | Yes | 1/2 | No | 2602, 52602, 2603, 52603 | PA611 | **4P921** | 308.63 | **259.25** | 4.5 |
| **Stainless Steel** | 240 | 260 | No | Yes | 1/2 | No | 2606, 52606, 2607, 52607 | PA811 | **4P922** | 308.63 | **259.25** | 4.5 |
| **Stainless Steel** | 240 | 320 | No | Yes | 1/2 | No | 3605 | PA1011 | **4P923** | 308.63 | **259.25** | 4.5 |
| **Brass** | 240 | 195 | No | Yes | 1/2 | No | 2504, 52504, 2505, 52505 | PA601 | **4P924** | 168.20 | **160.50** | 4.5 |
| **Brass** | 240 | 260 | No | Yes | 1/2 | No | 2506, 52506, 2507, 52507 | PA801 | **4P925** | 168.20 | **160.50** | 4.5 |
| **Brass** | 240 | 320 | No | Yes | 1/2 | No | | PA1001 | **4P926** | 168.11 | **160.50** | 4.5 |
| **Brass** | 240 | 30 | No | No | 3/8 | No | CO1522, CO51522 | PO070 | ***New* 4RM62** | 93.79 | **87.40** | 2.5 |
| **Brass** | 240 | 30 | No | Yes | 3/8 | No | CO1522B, CO51522B | PA074 | ***New* 4RM63** | 94.96 | **88.45** | 2.5 |
| **Brass** | 240 | 30 | Yes | Yes | 3/8 | No | CO1322B, CO51322B | PA074X | ***New* 4RM64** | 99.37 | **92.60** | 2.5 |
| **Brass** | 240 | 45 | No | No | 3/8 | Yes | CO1505, CO51505, CO1521, CO51521 | PO100 | ***New* 4RM65** | 93.79 | **87.40** | 2.5 |
| **Brass** | 240 | 75 | No | No | 3/8 | Yes | CO1509, CO51509, CO1510, CO51510 | PO200 | ***New* 4RM66** | 93.79 | **87.40** | 2.5 |
| **Brass** | 240 | 105 | No | No | 3/8 | Yes | CO1504, CO51504, CO1507, CO51507, CO1508, CO51508 | PO300 | ***New* 4RM67** | 93.79 | **87.40** | 2.5 |
| **Brass** | 240 | 140 | No | No | 3/8 | Yes | CO1608, CO51608, CO1509, CO51509 | PO400 | ***New* 4RM68** | 93.79 | **87.40** | 2.5 |
| **Stainless Steel** | 260 | 345 | No | No | 1 | Yes | | PO4010 | ***New* 4RM69** | 888.34 | **844.00** | 13.0 |
| **Stainless Steel** | 260 | 410 | No | No | 1 | Yes | | PO4020 | ***New* 4RM70** | 888.42 | **844.00** | 13.0 |
| **Stainless Steel** | 260 | 475 | No | No | 1 | Yes | | PO4040 | ***New* 4RM71** | 888.42 | **844.00** | 13.0 |
| **Stainless Steel** | 260 | 540 | No | No | 1 | Yes | | PO4060 | ***New* 4RM72** | 888.42 | **844.00** | 13.0 |
| **Stainless Steel** | 260 | 605 | No | No | 1 | Yes | | PO4080 | ***New* 4RM73** | 888.42 | **844.00** | 13.0 |
| **Stainless Steel** | 260 | 670 | No | No | 1 | Yes | | PO4100 | ***New* 4RM74** | 888.42 | **844.00** | 13.0 |

## MOTOR ADAPTER AND COUPLING KIT



No. 4P945

New



No. 4RM60

TEEL®

Consists of coupler, adapter and motor bolts and washers. **For rotary vane pumps only.**

When using adapter and pump as noted with ODP motors, use horsepower listed in chart on page 3176. When using TEFC, TENF, and explosion-proof enclosed motors, multiply the above HP rating by 1.15 to compensate for the difference in service factors.

### MOTOR ADAPTER AND COUPLING KIT ORERING DATA

| Pump Stock Nos. | Motor Shaft (In.) | Pump Shaft | Pump Mounting | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3P750 thru 3P757, 4P917 thru 4P926, 4RM62 thru 4RM68** | 5/8 NEMA 56C | Double Flat (Slot) | Clamp | **4P945** | $50.51 | **$47.20** | 1.8 |
| **4RM69 thru 4RM74** | 5/8" NEMA 56C | 16mm Single Flat | 4 Bolt | ***New* 4RM60** | 199.87 | **186.25** | 6.6 |
| **4RM69 thru 4RM74** | 7/8" NEMA 143TC & 145TC | | | ***New* 4RM61** | 208.63 | **194.50** | 6.6 |

**UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY**

Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.

# PROGRESSING CAVITY PUMPS

## CLOSE-COUPLED PUMPS

**Description:** For high-pressure needs up to 70 PSI, or low-pressure, high volume to 14.5 GPM. For nonflammable coolants, nonabrasive solids in suspension, or oil base inks. Also for transfer jobs handling nonflammable liquids compatible with pump component materials. Pumps self-prime to 25 feet with wetted rotor and stator. Feature quiet operation and minimum turbulence, non-aerating, with constant pressure. Max. liquid temperature: 160°F. Do not run dry.

**Construction:** Cast iron housing and adapter with nitrile stator and chrome-plated stainless steel rotor. Nitrile seals are spring-loaded stainless steel with carbon and ceramic faces. Stainless steel motor shaft.

**Driver:** 1/2 HP 1725 RPM, 115/230V 60 Hz capacitor-start, totally enclosed, fan-cooled motor with automatic thermal protection.

## PUMPS ONLY

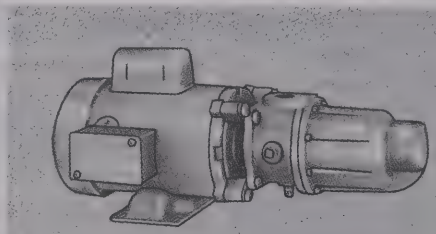
**Description:** For moderate capacity and pressure applications, popular for non-pulsating, metered flow. Pumps nonflammable liquids and abrasive slurries.

**Applications:** Shallow wells, spraying, lawn sprinkling, feed additives, liquid manure, lubricants, anti-freeze, machine tool coolant, EDM dielectric fluids and applying metered amounts of glue or ink.

**Construction:** No. 1P898 has cast iron body, No. 1P610 has aluminum body. Both come with nitrile stator, chrome-plated stainless steel rotor. Spring loaded mechanical seal has carbon rotating face, nitrile, and ceramic parts. Pre-lubricated ball bearings and stainless steel shaft. Clockwise rotation as seen facing pump shaft.

**Driver:** Not included. Pumps 1P610 and 1P898 are base-mounted and may be direct-coupled to an electric motor of appropriate RPM and horsepower or may be belt driven at any speed above 200 RPM. No. 1P610 has 2" OC shaft height and 1/2" OD shaft dimensions. No. 1P898 has 2¾" OC shaft height and 5/8" OD shaft.

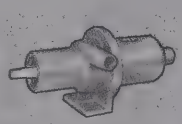
**Pump Selection Hints:** As fluid viscosity increases, pump RPM must be reduced. For fluids with viscosity over 200 CP (1000 SSU), pump capacity is reduced by 20%. Both pump speed and pressure should be reduced when handling abrasive fluids to ensure maximum pump life. (Refer to Table 1).



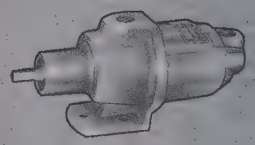
A No. 3P569

TEEL®

Replacement Parts Available 1-800-323-0620



B No. 1P610



C No. 1P898

**Proportionate Flow Example:** Pumps were designed to be either direct driven or belt driven. Speeds can range from 200-1800 RPM and flow will vary proportionately. Example from "Pump Head Only" chart Key B: At 900 RPM free flow, GPM = 2.6 therefore at 300 RPM free flow, GPM = .87 (300/900 = .87/2.6).

### TABLE 1, PUMP SPEEDS FOR VISCOUS & ABRASIVE FLUIDS

| Viscosity (CP) | 100 to 300 | 300 to 500 | 500 to 1000 | 1000 to 2000 | 2000 to 5000 | 5000 to 10,000 | 10,000 to 20,000 |
|---|---|---|---|---|---|---|---|
| Max. RPM | 1400 | 1200 | 950 | 700 | 350 | 180 | 100 |
| Abrasion | Light | | Medium | | | Heavy | |

### CLOSE-COUPLED PUMPS PERFORMANCE—GPM @ TOTAL FEET OF HEAD

| Key | Stock No. | 115 / 230V Hz | RPM | 0 ft. 0 PSI | 25 ft. 10 PSI | 45 ft. 20 PSI | 70 ft. 30 PSI | 90 ft. 40 PSI | 115 ft. 50 PSI | 140 ft. 60 PSI | 160 ft. 70 PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3P569 | 60 | 1725 | 4.8 | 4.5 | 4.2 | 3.9 | 3.6 | 3.3 | 3.0 | 2.7 |
| A | 3P570 | 60 | 1725 | 14.5 | 14.0 | 12.0 | 10.3 | — | — | — | — |

### PUMP HEAD ONLY PERFORMANCE WITH MOTOR REQUIRED

| Key | Stock No. | Pump RPM† | Free Flow GPM | Free Flow HP | 10 PSI GPM | 10 PSI HP | 20 PSI GPM | 20 PSI HP | 40 PSI GPM | 40 PSI HP | 50 PSI GPM | 50 PSI HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | 1P610 | 900 | 2.6 | 1/6 | 2.3 | 1/6 | 2.1 | 1/6 | 1.6 | 1/4 | — | — |
| | | 1200 | 3.5 | 1/6 | 3.1 | 1/6 | 2.8 | 1/6 | 2.2 | 1/4 | — | — |
| | | 1750 | 5.1 | 1/6 | 4.7 | 1/6 | 4.2 | 1/4 | 3.2 | 1/4 | — | — |
| C | 1P898 | 900 | 4.6 | 1/3 | 4.5 | 1/3 | 3.9 | 1/3 | 2.7 | 1/2 | 2.3 | 1/2 |
| | | 1200 | 6.0 | 1/3 | 5.7 | 1/3 | 5.1 | 1/3 | 3.4 | 1/2 | 3.0 | 1/2 |
| | | 1750 | 9.3 | 1/3 | 8.3 | 1/3 | 7.2 | 1/3 | 4.9 | 1/2 | 4.5 | 1/2 |

(†) RPM and GPM are in proportion; i.e., at 900 RPM, pump output is approx. 3/4 GPM figure for 1200 RPM.

### CLOSE-COUPLED PUMPS AND PUMP ONLY SPECIFICATIONS

| Key | Type Pump | Port Size (In.) Suction | Port Size (In.) Discharge | Particle Max. Size (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | High pressure | 3/4 | 3/4 | 5/32 | 8 | 6½ | 18¾ | **3P569** | $986.07 | **$750.00** | 35.0 |
| A | High volume | 3/4 | 3/4 | 3/16 | 8 | 6½ | 18¾ | **3P570** | 966.28 | **734.00** | 35.0 |
| B | Moderate capacity | 1/2 | 1/2 | 3/32 | 3⅜ | 3⅞ | 8⅛ | **1P610** | 412.11 | **310.25** | 2.8 |
| C | Moderate capacity | 3/4 | 3/4 | 3/16 | 6⅛ | 3⅛ | 12⅝ | **1P898** | 530.49 | **402.25** | 13.0 |

## REPLACEMENT NITRILE RUBBER STATORS AND NITRILE SEALS FOR ABOVE PUMPS

Under proper use, pumps will provide long service. Pump's performance, after normal wear, is generally renewed by easy replacement of seal or stator. **For pumping liquid temperatures to 260°F, order Viton stator from Grainger Parts Operations, 1-800-323-0620.**

| Pump No. | Replacement Seal Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1P610 | **1R305** | $14.49 | **$10.52** | 0.1 |
| 1P804, 3P569, 3P570 | **1R310** | 14.49 | **10.45** | 0.1 |
| 1P898, 3P569 A & B, 3P570 A & B | **1R304** | 17.59 | **12.81** | 0.1 |

| Pump No. | Replacement Stator Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1P610 | **1P613** | $11.00 | **$8.12** | 0.3 |
| 1P804 | **1P556** | 36.23 | **27.40** | 0.5 |
| 1P898 | **1R240** | 27.15 | **14.35** | 0.5 |
| 3P569 | **1R446** | 29.67 | **24.08** | 0.5 |
| 3P570 | **1R447** | 43.94 | **33.00** | 0.5 |

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# PROGRESSIVE CAVITY PUMPS AND ROTARY GEAR PUMP SELECTION GUIDE

## PROGRESSIVE-CAVITY PUMPS

- **Pressures to 175 PSI**
- **Reversible**

**Applications:** Uses including, but not limited to, the following industries: waste water treatment, chemical and petrochemical, paper, soap and fat, ceramics, agriculture, and construction.

**Features:** Reversible progressive cavity pump is positive displacement and self-priming. Can handle neutral or corrosive liquids, uncontaminated or abrasive liquids, liquids containing gases or that tend to froth, and liquids of high or low viscosity containing fibrous materials. Operates with liquids up to 300°F. Cannot be run dry.

**Construction:** Spring loaded mechanical seal has carbon rotating face, nitrile, and ceramic parts. 316 stainless steel rotors. Buna N stator (optional viton stator available thru Grainger Parts).

### SPECIFICATIONS AND ORDERING DATA

| Max. RPM | Flow Max. GPM | Suction Port (In.) | Discharge Port (In.) | Particle Size (In.) | Fiber Length (In.) | Tuskin Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **PUMP HEAD ONLY (Requires 1 HP motor)** | | | | | | | | | | |
| **1800** | 0.42 | 0.75 | 0.50 | 0.02 | 1.00 | P1054 | **4JV19**† | $933.60 | **$778.00** | 8.0 |
| **1800** | 0.83 | 0.75 | 0.75 | 0.03 | 1.00 | P1055 | **4JV20**† | 933.60 | **778.00** | 8.0 |
| **1800** | 1.60 | 0.75 | 1.00 | 0.04 | 1.18 | P1056 | **4JV21**† | 933.60 | **778.00** | 9.0 |
| **1200** | 2.20 | 1.00 | 1.00 | 0.04 | 1.38 | P1153 | **4JV22**‡ | 1192.20 | **993.50** | 28.0 |
| **1200** | 4.70 | 1.00 | 1.00 | 0.06 | 1.38 | P1154 | **4JV23**‡ | 1192.20 | **993.50** | 28.0 |
| **1200** | 8.90 | 1.25 | 1.25 | 0.08 | 1.38 | P1155 | **4JV24**‡ | 1192.20 | **993.50** | 29.0 |
| **115V PROGRESSIVE-CAVITY WITH NEMA 1 SCR CONTROL 1/2 HP DC** | | | | | | | | | | |
| **500** | 0.125 | 0.75 | 0.50 | 0.02 | 1.00 | P1042 | **4JV16**† | 2623.20 | **2186.00** | 80.0 |
| **500** | 0.251 | 0.75 | 0.75 | 0.03 | 1.00 | P1043 | **4JV17**† | 2623.20 | **2186.00** | 80.0 |
| **500** | 0.471 | 0.75 | 1.00 | 0.04 | 1.18 | P1044 | **4JV18**† | 2623.20 | **2186.00** | 81.0 |
| **500** | 0.941 | 1.00 | 1.00 | 0.04 | 1.38 | P1001 | **4JT91**‡ | 2877.60 | **2398.00** | 98.0 |
| **500** | 1.882 | 1.00 | 1.00 | 0.06 | 1.38 | P1002 | **4JT92**‡ | 2877.60 | **2398.00** | 98.0 |
| **500** | 3.765 | 1.25 | 1.25 | 0.08 | 1.38 | P1003 | **4JT93**‡ | 2877.60 | **2398.00** | 99.0 |
| **230V PROGRESSIVE - CAVITY WITH 1/2 HP AC MOTOR AND CONTROL** | | | | | | | | | | |
| **500** | 0.125 | 0.75 | 0.50 | 0.02 | 1.00 | P1156 | **4JV25**† | 2983.20 | **2486.00** | 98.0 |
| **500** | 0.251 | 0.75 | 0.75 | 0.03 | 1.00 | P1157 | **4JV26**† | 2983.20 | **2486.00** | 98.0 |
| **500** | 0.471 | 0.75 | 1.00 | 0.04 | 1.18 | P1158 | **4JV27**† | 2984.40 | **2487.00** | 99.0 |
| **500** | 0.941 | 1.00 | 1.00 | 0.04 | 1.38 | P1159 | **4JV28**† | 3243.60 | **2703.00** | 108.0 |
| **500** | 1.882 | 1.00 | 1.00 | 0.06 | 1.38 | P1160 | **4JV29**† | 3243.60 | **2703.00** | 108.0 |
| **500** | 3.765 | 1.25 | 1.25 | 0.08 | 1.38 | P1161 | **4JV30**† | 3244.80 | **2704.00** | 109.0 |
| **VARIABLE SPEED PROGRESSIVE - CAVITY WITH 1/2 HP DC MOTOR AND CONTROL** | | | | | | | | | | |
| **500** | 0.125 | 0.75 | 0.50 | 0.02 | 1.00 | P1162 | **4JV31**† | 2281.20 | **1901.00** | 75.0 |
| **500** | 0.251 | 0.75 | 0.75 | 0.03 | 1.00 | P1163 | **4JV32**† | 2281.20 | **1901.00** | 75.0 |
| **500** | 0.471 | 0.75 | 1.00 | 0.04 | 1.18 | P1164 | **4JV33**† | 2281.20 | **1901.00** | 76.0 |
| **500** | 0.941 | 1.00 | 1.00 | 0.04 | 1.38 | P1165 | **4JV34**‡ | 2540.40 | **2117.00** | 93.0 |
| **500** | 1.882 | 1.00 | 1.00 | 0.06 | 1.38 | P1166 | **4JV35**‡ | 2540.40 | **2117.00** | 93.0 |
| **500** | 3.765 | 1.25 | 1.25 | 0.08 | 1.38 | P1167 | **4JV36**‡ | 2540.40 | **2117.00** | 93.0 |

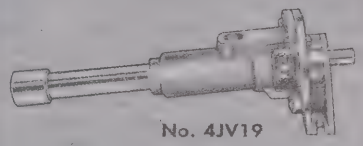
(*) Variable Frequency Drive (†) 316 Stainless Steel Body (‡) Cast Iron Body

TUSKIN CORPORATION

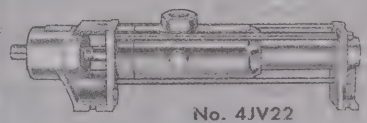
New

Replacement Parts Available 1-800-323-0620

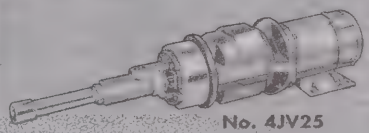
SUPPLIER DIVERSITY



No. 4JV19



No. 4JV22



No. 4JV25 and 4JV31




See Freight Policy

## ROTARY GEAR & ROTARY SCREW PUMP SELECTION INFORMATION

**How to determine total pump discharge pressure:** Add suction lift (in feet) to discharge elevation in feet; divide total by 2.31. To this figure add the discharge pressure required, in PSI. This sum is the total pump pressure needed. Select pump and motor HP delivering GPM required, at or above Total PSI figure calculated.

$$\frac{\text{Suction Lift (Ft.)} + \text{Discharge Elev. (Ft.)}}{2.31} + \text{Discharge PSI Req'd.} = \text{Total Pump PSI Req'd.}$$

**Viscous liquids:** The viscosity/temperature of liquid pumped will affect the pump speed (RPM). Where the viscosity/temperature SSU (Saybolt Seconds Universal) is greater than 500 SSU, recommended pump RPM is given below.

**PERFORMANCE FOR VISCOUS MATERIALS**

| Viscosity SSU | Recommended Pump RPM | Viscosity SSU | Recommended Pump RPM |
|---|---|---|---|
| 50 to 500 | 1725 | 6000 to 9000 | 900 |
| 600 to 5000 | 1200 | 10,000 to 40,000 | 650 |

**Specific gravity:** Specific gravity of fluid pumped will affect horsepower requirements. Where specific gravity of the liquid is **below** 1.0 (specific gravity of water), the motor HP recommendation in Pump Performance Table for Water should be used. Where specific gravity of the fluid is **greater** than 1.0, multiply specific gravity of the liquid times the recommended horsepower in Pump Performance Table for water; the result is the motor HP required.

**Liquid compatibility:** Liquids being pumped must be compatible with pump construction. See individual listings of pumps for the specific materials used in the construction of the pump. These pumps are not intended for use with flammable liquids unless stated otherwise in the description of a particular model.

If in doubt, refer the application to the nearest Grainger location, including information as to the liquid being pumped, temperature, viscosity, specific gravity, GPM required, and total pump PSI required.

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# ROLLER SPRAY PUMPS

**Description:** Self-priming roller pumps are commonly used in agricultural and lawn/garden chemical spraying and various chemical transfer applications. For use with nonflammable liquids such as liquid fertilizers, insecticides, herbicides, and soil fumigants up to a maximum temperature of 140°F.

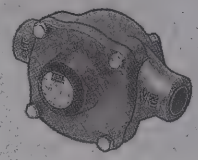
**Construction:** Housings in cast iron, Ni-Resist, or SilverCast™. Cast iron is an economical housing. Ni-Resist is a high nickel-content alloy for better corrosion resistance. Silver cast is a custom alloy that provides corrosion resistance when used with corrosive chemicals, such as the herbicide Roundup®. All pumps are built standard with Super Rollers, Viton shaft seals, and double sealed heavy-duty ball bearings. Super Rollers can be used with water soluble chemicals, abrasive wettable powders, and emulsifiable concentrates. Super Rollers do not swell in water and maintain their performance when exposed to chemical carriers such as xylene. A scoopless rotor design provides improved priming with more volume at higher pressures, while prolonging roller life.

**Driver:** 4-roller models only are coupled to a 12VDC motor. Drivers not included for 6- and 8-roller models. 6- and 8-roller models easily adapt to tractor power take-offs, matching their speeds of 540 - 1200 RPM while running efficiently. Optional tractor PTO quick couplers listed below (order separately). Pump rotation is counter-clockwise facing pump shaft. Rotation is easily reversed for gas engine drivers by turning rotor assembly end for end without changing rotor position on shaft (gas engines must be gear reduced or belt driven down to desired pump speed). 3/4" FNPT inlet and outlet side ports. Teel brand.

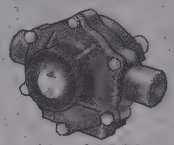
TEEL®

New

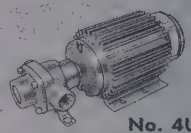
- 4, 6 & 8-Roller units
- Cast iron, Ni-Resist or SilverCast™ construction
- Flow to 22.5 GPM
- SilverCast™ pumps can pump Roundup®
- For Agricultural or lawn and garden applications



No. 2P057



No. 2P058



No. 4UN49

## PUMP PERFORMANCE WITH WATER AT REQUIRED AMPS

| Stock No. | Models | | 0 PSI | 5 PSI | 10 PSI | 15 PSI | 20 PSI | 25 PSI | 30 PSI | 35 PSI | 40 PSI | 45 PSI | 50 PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4UN49 | 12.0V (battery) Engine Off | AMPS | 10.0 | 11.3 | 12.5 | 13.7 | 15.1 | 16.7 | 18.6 | 20.3 | 22.3 | 24.1 | 25.7 |
| | | GPM | 6.3 | 6.0 | 5.8 | 5.6 | 5.4 | 5.2 | 5.0 | 4.8 | 4.6 | 4.4 | 4.2 |
| 4UN50 | 13.5V (alternator) Engine Running | AMPS | 10.4 | 11.7 | 13.0 | 14.2 | 15.8 | 17.4 | 19.6 | 20.9 | 22.5 | 24.3 | 26.1 |
| | | GPM | 7.5 | 7.0 | 6.6 | 6.4 | 6.2 | 6.0 | 5.8 | 5.6 | 5.4 | 5.2 | 5.0 |

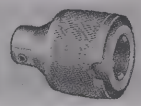
## PUMP PERFORMANCE WITH WATER AT REQUIRED MOTOR HP

| Pump Stock No. | RPM | 0 PSI GPM | 0 PSI HP | 50 PSI GPM | 50 PSI HP | 100 PSI GPM | 100 PSI HP | 200 PSI GPM | 200 PSI HP | 300 PSI GPM | 300 PSI HP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2P057 | 540 | 9.7 | 0.08 | 8.0 | 0.38 | 7.2 | 0.68 | 5.6 | 1.29 | 4.3 | 1.91 |
| 4P911 | 800 | 14.5 | 0.13 | 12.7 | 0.55 | 12.0 | 0.98 | 10.5 | 1.86 | 9.1 | 2.77 |
| | 1200 | 21.8 | 0.30 | 20.1 | 0.90 | 19.1 | 1.51 | 17.3 | 2.84 | 15.7 | 4.17 |
| 2P058 | 540 | 12.0 | 0.33 | 11.1 | 0.74 | 10.3 | 1.25 | 8.6 | 2.26 | 7.1 | 3.30 |
| 2P059 | 800 | 18.3 | 0.89 | 17.5 | 1.26 | 16.9 | 1.95 | 15.5 | 3.40 | 13.7 | 4.90 |
| 4P912 | 1000 | 22.5 | 1.56 | 22.0 | 1.78 | 21.3 | 2.53 | 20.0 | 4.2 | 18.0 | 6.10 |

## SPRAY PUMP ORDERING DATA

| Pump Description | Construction | Shaft Size (In.) | Dimensions (In.) Width | Length | Height | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **4-Roller** | Ni-Resist | — | 5 | 12 | 5 | ***New*4UN49** | $507.00 | **$347.50** | 19.0 |
| **4-Roller** | SilverCast | — | 5 | 12 | 5 | ***New*4UN50** | 589.00 | **403.00** | 19.0 |
| **6-Roller** | Cast Iron | 5/8 | 6 | 5 1/32 | 5 1/32 | **2P057** | 115.62 | **86.00** | 8.4 |
| **6-Roller** | SilverCast | 5/8 | 6 | 5 1/32 | 5 1/32 | **4P911** | 336.75 | **252.50** | 8.6 |
| **8-Roller** | Cast Iron | 15/16 | 6 3/16 | 6 3/16 | 5 15/16 | **2P058** | 128.76 | **117.10** | 13.0 |
| **8-Roller** | Ni-Resist | 15/16 | 6 3/16 | 6 3/16 | 5 15/16 | **2P059** | 250.00 | **184.75** | 13.0 |
| **8-Roller** | SilverCast | 15/16 | 6 3/16 | 6 3/16 | 5 15/16 | **4P912** | 397.69 | **298.25** | 13.0 |

## PTO QUICK COUPLING



**For safe and convenient mounting** of roller pumps to PTO shaft of tractor. Snaps on or off, no tools needed. PTO Quick Couplings are for both 6-spline tractor shafts turning 540 RPM and 21 involute splines turning at 1000 RPM. Choice of two sizes fit most agricultural pump shafts.

| For Pump No. | Shaft Dia. Pump | PTO | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 2P057,4P911 | 5/8" | 1 3/8" | **2P060** | $32.36 | **$23.00** | 2.1 |
| 2P058, 2P059, 4P912 | 15/16 | 1 3/8 | **2P061** | 35.20 | **26.10** | 2.8 |

### ORDER DIRECT FROM GRAINGER

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**

## ROLLER KITS

4-, 6- and 8-roller replacement kits for pumps listed above. Includes rollers, two Viton shaft seals and one O-ring for end plate. Teel brand.

### ROLLER KIT ORDERING DATA

| For Pump No. | No. of Rollers | Roller Type | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| 4UN49, 4UN50 | 4 | Super Roller | ***New*4UN48** | $22.15 | **$17.04** | 0.8 |
| 2P057, 4P911 | 6 | Super Roller | **1R360** | 26.02 | **18.78** | 0.3 |
| 2P058, 2P059, 2P912 | 8 | Super Roller | **1R361** | 43.00 | **28.90** | 0.5 |
| 2P057, 4P911 | 6 | Polypropylene | **4P949** | 25.32 | **17.77** | 0.3 |
| 2P058, 2P059, 4P912 | 8 | Polypropylene | **4P950** | 40.51 | **27.45** | 0.7 |

## PUMP INLET FILTERS

SUPPLIER DIVERSITY™ Minority-Owned Business

Replacement Parts Available 1-800-323-0620

BECKETT P·U·M·P·S CORPORATION



No. 2P011

**Installs at pump inlet** to prevent particles from clogging impeller and restricting flow. Can be used on centrifugal, rotary gear, rotary screw, flexible impeller, and piston type pumps. For pumping water, coolants, liquid detergents, lubricants, etc. For use with nonflammable liquids compatible with filter component materials. Filter constructed of 20 mesh Type 304 stainless steel with molded polypropylene plastic retainers secured by three stainless steel nuts and bolts. Easily disassembles for cleaning. Maximum pressure drop across filter at full flow is 1/4 PSI. Maximum liquid temperature, 180°F. Beckett brand.

| Port Size (In.) | Capacity* | Diameter (In.) | Width (In.) | Beckett Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3/8 FNPT** | 300 GPH | 3 | 1 | | **2P011** | $18.37 | **$12.81** | 0.2 |
| **1/2** | 300 | 3 | 1 | 77-12 | **2P012** | 18.37 | **12.78** | 0.3 |
| **3/4** | 500 | 3 | 1 1/2 | 88-34 | **2P013** | 19.55 | **14.53** | 0.3 |

(*) Two or more filters may be connected with tee fittings to double filter capacity.



*If we don't have a pump for it, chances are it can't be pumped.*

# HIGH-PRESSURE PISTON PUMPS PLUNGER PUMPS AND ACCESSORIES

## TWIN PISTON HIGH PRESSURE PUMPS

**Description:** Twin piston positive displacement pumps for low volume, high pressure industrial and commercial spraying of water, soap, detergent, and other nonflammable liquids compatible with pump component materials. Max. liquid temperature: 140°F for all pumps (Nos. 2P338, 2P339, and 2P341 180°F max.). and operate direct-drive in either direction. 1800 RPM maximum pump speed. A safety relief device such as a pressure relief valve (order separately) must be used to protect pump and system when a shut-off gun is used, or from discharge shut-off.

**Solid shaft models** Nos. 2P336 and 2P339 include a steel base with 1 13/16 x 4 1/4" on center 5/16" bolt holes. 3 1/2" shaft height.

**Hollow shaft models** make flotation motor mounting easy and quick. Torque arm makes shimming unnecessary and alignment automatic.

**Pumps with liquid injector** feed solutions such as liquid soaps, detergents, or waxes into pump's water output. Adjustable, calibrated needle regulates amount of solution fed into the pump. Cast-iron injector body is one of the cylinder heads. Pumps require pressure regulator valves to ensure inlet pressure to 20 PSI or less (order No. 2A645 pressure reducing valve separately). Injector includes 1/8" FNPT inlet port. Brass 1/8" MNPT x 1/4" hose barb fitting included. Features are same as twin piston positive displacement pumps listed above.

**Construction:** Machined cast-iron body and cylinder heads, replaceable NiResist cylinder sleeves. 5/8" ID hollow or 5/8" OD solid Melonite-protected steel shaft design. Spring loaded check valves of unitized construction with stainless steel spring, seal, and poppets. Piston assembly has Buna-impregnated fabric piston cups and Teflon seal rings. Double precision heavy-duty main bearing supports shaft against side loads. Inlet and outlet ports are 1/2" NPT. Teel brand.




A No. 1P987 Twin Piston Pump

B No. 2P334 Pump with Liquid Injector

| Max. PSI | Max GPM | 50 PSI GPM | 50 PSI HP | 100 PSI GPM | 100 PSI HP | 200 PSI GPM | 200 PSI HP | 300 PSI GPM | 300 PSI HP | 400 PSI GPM | 400 PSI HP | 500 PSI GPM | 500 PSI HP | 600 PSI GPM | 600 PSI HP | 800 PSI GPM | 800 PSI HP | 1000 PSI GPM | 1000 PSI HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 500 | 1.5 | 1.56 | 1/4 | 1.52 | 1/4 | 1.50 | 1/3 | 1.47 | 1/3 | 1.45 | 1/2 | 1.44 | 3/4 | – | — | — | — | | |
| 500 | 2.2 | 2.2 | 1/3 | 2.1 | 1/2 | 2.1 | 1/2 | 2.1 | 3/4 | 2.1 | 1 | 2.1 | 1 | — | — | — | — | — | — |
| 500 | 3.0 | 3.0 | 1/2 | 3.0 | 3/4 | 3.0 | 3/4 | 2.9 | 1 | 2.9 | 1 1/2 | 2.9 | 1 1/2 | — | | – | — | — | — |
| 800 | 3.0 | 3.0 | 1/2 | 3.0 | 3/4 | 3.0 | 3/4 | 3.0 | 1 | 2.9 | 1 1/2 | 2.9 | 1 1/2 | 2.9 | 1 1/2 | 2.9 | 2 | — | — |
| 1000 | 2.2 | 2.2 | 1/4 | 2.2 | 1/3 | 2.2 | 1/2 | 2.2 | 3/4 | 2.2 | 1 | 2.2 | 1 | 2.2 | 1 | 2.2 | 1 1/2 | 2.2 | 1 1/2 |

NOTE: Performance based on constant speed, 1725 RPM, dynamometer tests pumping water at approximately 1 ft. suction lift. Performance can change with application variances.

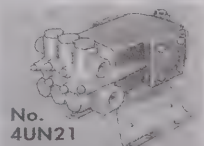
| Key | Max. GPM | Max. PSI | Pump Dim. (In.) H | W | D | Shaft Type* | Key (In.) | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1.5 | 500 | 5 1/4 | 5 1/8 | 5 7/32 | Hollow | 3/16 x 1/32 | New | 4UN51 | $282.00 | $141.00 | 10.0 |
| A | 2.2 | 500 | 5 3/4 | 5 1/8 | 5 7/32 | Hollow | 3/16 x 1/32 | | 1P987 | 199.83 | 147.80 | 9.7 |
| A | 3.0 | 500 | 5 3/4 | 5 1/8 | 5 7/32 | Hollow | 3/16 x 3/32 | | 1P988 | 199.84 | 147.80 | 9.7 |
| A | 3.0 | 800 | 6 1/4 | 5 1/8 | 5 9/16 | Hollow | 3/16 x 1/32 | | 2P340 | 214.70 | 162.25 | 10.0 |
| A | 2.2 | 1000 | 6 1/4 | 5 1/8 | 5 9/16 | Hollow | 3/16 x 1/32 | | 2P341 | 224.78 | 169.75 | 11.0 |
| B | 2.2 | 500 | 8 3/16 | 5 1/8 | 5 7/32 | Hollow | 3/16 x 1/32 | | 2P334 | 223.67 | 169.00 | 11.0 |
| B | 3.0 | 500 | 8 3/16 | 5 1/8 | 5 7/32 | Hollow | 3/16 x 1/32 | | 2P335 | 223.67 | 169.00 | 11.0 |
| B | 3.0 | 800 | 9 3/16 | 5 1/8 | 5 9/16 | Solid | 3/16 x 3/32 | | 2P336 | 244.87 | 185.50 | 13.0 |
| B | 3.0 | 800 | 8 13/16 | 5 1/8 | 5 9/16 | Hollow | 3/16 x 1/32 | | 2P337 | 244.88 | 185.50 | 12.0 |
| B | 2.2 | 1000 | 8 13/16 | 5 1/8 | 5 9/16 | Hollow | 3/16 x 1/32 | | 2P338 | 256.90 | 194.00 | 12.0 |
| B | 2.2 | 1000 | 9 3/16 | 5 1/8 | 5 9/16 | Solid | 3/16 x 1/32 | | 2P339 | 256.89 | 191.75 | 13.0 |

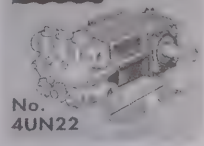
(*) Hollow shaft is 7/8" long x 5/8" ID. Torque arm included—solid shaft is 1 1/4" long x 5/8" OD. Steel base included 1 13/16" x 4 1/4" OC with four 5/16" bolt holes.

**Piston pump repair kits Nos. 1R322, 1R323, 1R432, 1R433 and 1R321 are available from Grainger Parts Operations (1-800-323-0620)**

## THREE PLUNGER PUMP

For use in car wash, truck wash, industrial cleaning, sewer jetting, hydrostatic testing, and other applications using pressurized water for cleaning. Precision-machined, stainless steel valve and seats resists chemicals. Reciprocating double lip seals, hardened stainless steel lower plungers, single replaceable cartridge. Stainless steel plunger rods, forged brass heads, 100% ceramic plungers. Easy-to-service pin and clip connecting rod assembly. Remove pump head to service crankcase oil seals and all wet end seals. No. 4UN22 has a graphite piston guide and standard base.



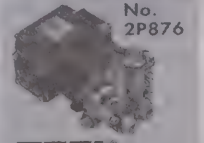

| Stock No. | Flow Capacity | @ Shaft Speed (RPM) | Electric Motor HP Required at Various Pressures (PSI) 500 | 700 | 1000 | 1300 | 1500 | 1800 | 2500 |
|---|---|---|---|---|---|---|---|---|---|
| 4UN21 | 4.3 | 1725 | 1.3 | 1.9 | 2.6 | 3.3 | 3.9 | 4.7 | 6.6 |
| | 2.5 | 1000 | 0.8 | 1.1 | 1.5 | 1.9 | 2.2 | 2.7 | 3.9 |
| 4UN22 | 8.1 | 1725 | 3.9 | 4.9 | 6.2 | 7.8 | 8.7 | 10.2 | 14.1 |
| | 5.0 | 1000 | 2.2 | 2.8 | 3.7 | 4.7 | 5.2 | 5.9 | 8.2 |

| Max. Pressure | Max. GPM | Inlet FNPT Port (In.) | Discharge FNPT Port (In.) | Shaft Ctr. Line Ht. (In.) | Shaft Dia. (In.) | Shaft Keyway (In.) | Dimensions (In.) H | W | L | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2500 | 4.3 | 1/2 | 3/8 | 4 1/2 | 3/4 Solid | 3/16 | 6 13/16 | 7 1/2 | 9 7/16 | 4UN21 | $494.00 | $320.00 | 18.0 |
| 2500 | 8.1 | 3/4 | 1/2 | 4 1/2 | 1 Solid | 1/4 | 7 1/4 | 10 | 12 1/4 | 4UN22 | 849.00 | 550.00 | 38.0 |

## DUPLEX AND TRIPLEX HIGH PRESSURE PLUNGER PUMPS

**Description:** Couple directly to standard U.S. manufactured motors having a 5/8" output shaft. For car wash, pressure washer, agriculture, and other applications where durability, dependability and long life are essential. Feature sight gauge and dipstick, brass manifolds, dual 1/2" inlet, 3/8" outlet ports, ceramic plungers. Duplex model mates to any 56 frame motor. Triplex model mounts directly to a NEMA 56 "C" face motor. Hollow shafted pumps eliminate complicated belt and pulley problems. Includes: mounting flange (triplex), rubber cushion foot assembly (duplex), crankcase oil, key, and operating manual. crankcase, noncorrosive brass pump head, complete oil bath crankcase lubrication. Buna N seals capable of water temperatures to 160°F. Externally accessible stainless steel check valve assemblies, ceramic plunger sleeves, brass pump head.

**Driver:** 56 Frame "C" face or standard electric motor with 5/8" shaft—1725 RPM.





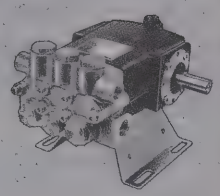


| Stock No. | Type | Flow (GPM) | Pressure (PSI) | RPM | Motor HP / PSI 500 | 1000 | 1500 |
|---|---|---|---|---|---|---|---|
| 2P876 | Duplex | 2.2 | 1500 | 1725 | 0.75 | 1.5 | 2.0 |
| 2P877 | Triplex | 3.0 | 1500 | 1725 | 1.50 | 2.0 | 3.0 |

| GPM / PSI | Dimensions (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2.2 / 1500 | 12 1/2 x 12 1/2 x 8 | 2P876 | $338.65 | $235.00 | 14.0 |
| 3.0 / 1500 | 12 1/2 x 12 1/2 x 8 | 2P877 | 506.00 | 322.50 | 19.0 |

# POSITIVE DISPLACEMENT DIRECT MOUNT PLUNGER PUMPS

TEEL®



No. 2P417

- Pressures to 3600 PSI
- Flow rates: 2.2 to 7.1 GPM
- Bronze heads
- Ceramic plungers

Replacement Parts Available 1-800-323-0620™

**Description:** Duplex (2 plunger) and triplex (3 plunger) positive displacement plunger pumps for pressure wash, car wash, hydrostatic testing of tanks and pipes, and other cleaning applications. Pump water, soap, detergent, and other nonflammable liquids compatible with pump component materials. Max. liquid temperature, 160°F for all models.

**Construction and Wetted Parts:** Oil bath crankcase, forged bronze head, polished ceramic plungers, stainless steel unitized valves, high-temperature self-loading Buna N seals and one-piece connecting rods. Single, replaceable cartridge for easy oil seal replacement. Forged steel crankshaft with double heavy-duty needle bearings. Shaft rotation is in either direction.

**Driver:** Not included. Pumps may be belt driven from an electric motor or gasoline engine. Pumps can also be directly driven from 1740 RPM electric motor or directly mounted to gasoline engines using an appropriate gear reduction kit. Nos. 2P411, 2P414, 2P415, 2P416, and 2P417 will direct drive off 3-5 HP engines using a 2:1 reducing gearbox No. 183-2683 on 5 HP Briggs & Stratton engines (Nos. 4Z683 or 4Z685). Nos. 3P965 and 3P964 will direct drive on 8-18 HP gas engines with 1" engine shaft using a 1.8:1 reducing gearbox No. 269 9479 or use gearbox 8000-0015 for Kohler engines 5Z006 and 5Z008. All pumps have 1/2" (F) NPT inlet ports, 3/8" (F) NPT outlet ports, and 3/4" solid shafts, except Nos 3P965 and 3P964 have 3/4" (F) NPT inlet, 1/2" (F) NPT outlet, and 1" solid shaft.

**Note:** A safety relief device, such as No 2P591 unloader valve or No. 2P590 safety valve, should be used to protect pump and system from sudden blockage in the pump discharge while pump power source is still operating. The unloader valve must be installed when shut-off spray guns are used, or when discharge line can be blocked or closed.

## PLUNGER PUMP PERFORMANCE DATA

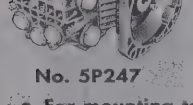
| Stock No. | Flow Capacity (GPM) | Shaft Speed (RPM) | Electric Motor HP Required at Various Pressures (PSI) 500 | 700 | 1000 | 1300 | 1500 | 2000 | 2500 | 3000 | 3600 | No. Pistons |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2P411 | 2.2 | 1725 | 0.8 | 1.0 | 1.4 | 1.8 | 2.0 | — | — | — | — | 2 |
| | 1.3 | 1000 | 0.5 | 0.6 | 0.8 | 1.1 | 1.2 | — | — | — | — | 2 |
| 2P414 | 3.1 | 1725 | 1.2 | 1.5 | 2.1 | 2.6 | 2.9 | — | — | — | — | 2 |
| | 1.9 | 1000 | 0.7 | 0.9 | 1.3 | 1.6 | 1.8 | — | — | — | — | 2 |
| 2P415 | 3.1 | 1725 | 1.0 | 1.3 | 1.9 | 2.4 | 2.9 | — | — | — | — | 3 |
| | 1.8 | 1000 | 0.6 | 0.8 | 1.1 | 1.4 | 1.6 | — | — | — | — | 3 |
| 2P416 | 4.7 | 1725 | 1.5 | 2.0 | 2.9 | 3.7 | 4.3 | — | — | — | — | 3 |
| | 2.8 | 1000 | 0.8 | 1.2 | 1.7 | 2.2 | 2.5 | — | — | — | — | 3 |
| 2P417 | 4.1 | 1725 | 1.2 | 1.7 | 2.4 | 3.1 | 3.6 | 4.8 | — | — | — | 3 |
| | 2.4 | 1000 | 0.7 | 1.0 | 1.4 | 1.8 | 2.1 | 2.8 | — | — | — | 3 |
| 3P965 | 7.1 | 1725 | 2.7 | 3.6 | 4.8 | 6.2 | 7.1 | 9.1 | 11.3 | — | — | 3 |
| | 4.3 | 1000 | 1.5 | 2.0 | 2.8 | 3.6 | 4.1 | 5.3 | 6.6 | — | — | 3 |
| 3P964 | 4.3 | 1725 | 1.8 | 2.5 | 3.1 | 3.9 | 4.4 | 5.8 | 7.2 | 8.5 | 10.0 | 3 |
| | 2.5 | 1000 | 1.0 | 1.3 | 1.7 | 2.4 | 2.5 | 3.2 | 4.0 | 4.7 | 5.6 | 3 |

| Maximum Pressure | Maximum GPM | Inlet FNPT Port (In.) | Discharge FNPT Port (In.) | Shaft Ctr. Line Hgt. (In.) | Shaft Dia. (In.) | Shaft Key Way (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1500 | 2.2 | 1/2 | 3/8 | 3 1/2 | 3/4 | 3/16 x 3/32 | 5 11/16 | 5 3/16 | 8 11/16 | 2P411 | $355.79 | $246.00 | 12. |
| 1500 | 3.1 | 1/2 | 3/8 | 3 1/2 | 3/4 | 3/16 x 3/32 | 5 11/16 | 5 3/16 | 8 11/16 | 2P414 | 355.70 | 245.75 | 23. |
| 1500 | 3.1 | 1/2 | 3/8 | 4 1/2 | 3/4 | 3/16 x 3/32 | 6 11/16 | 7 1/2 | 9 7/16 | 2P415 | 486.45 | 324.75 | 23. |
| 1500 | 4.7 | 1/2 | 3/8 | 4 1/2 | 3/4 | 3/16 x 3/32 | 6 11/16 | 7 1/2 | 9 7/16 | 2P416 | 489.17 | 326.50 | 19. |
| 2000 | 4.1 | 1/2 | 3/8 | 4 1/2 | 3/4 | 3/16 x 3/32 | 6 11/16 | 7 1/2 | 9 7/16 | 2P417 | 509.41 | 349.25 | 23. |
| 2500 | 7.1 | 3/4 | 1/2 | 4 1/2 | 1 | 1/4 x 1/4 | 7 1/4 | 10.0 | 12 1/8 | 3P965 | 989.32 | 684.50 | 37. |
| 3600 | 4.3 | 3/4 | 1/2 | 4 1/2 | 1 | 1/4 x 1/4 | 7 1/4 | 10.0 | 12 1/8 | 3P964 | 929.60 | 685.00 | 35. |

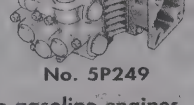
TEEL®



No. 5P251



No. 5P247



No. 5P249

- For mounting to gasoline engines or electric motors
- Pressure to 3500 PSI
- Flow rates: 2.0 to 4.0 GPM
- Triplex ceramic plungers
- Brass head (except No. 5P247 which is aluminum head)

Replacement Parts Available 1-800-323-0620™

## DIRECT MOUNT PLUNGER PUMPS

**Description:** Industrial designed, direct-mount, plunger pumps are equipped with flanges and hollow shafts for easy coupling to 56C-face electric motors or gasoline engines to eliminate the cost of belts, pulleys, gearbox drive systems, and potential alignment problems.

**Construction:** Forged brass heads (except No. 5P247 which is aluminum) with 1/2" FNPT inlet and 3/8" FNPT outlet ports. Aluminum, anodized and hardened crankcase features large oil capacity and cooling fins for high duty cycles. Separation between crankcase and pump head helps prevent crankcase contamination. All pumps have forged steel hardened crankshafts. Industrial strength ball bearings used in Nos. 5P247, 5P248, and 5P249 taper roller bearings in Nos. 5P250 and 5P251. Extra large alloyed aluminum connecting rods used up to 1600 PSI, bronze used over 1600 PSI. Interlock bore between crankcase and pump head for superior piston concentricity and longer packing life. Ceramic plungers and compression loaded nitrile/Buna N packing assembly with state-of-the-art low and high pressure packing design. Max. temperature: 165°F. Pumps factory tested shipped with break-in oil.

**Note:** Same safety procedures should be followed as stated above.

### ELECTRIC MOTOR DRIVEN

| Max. Pressure | Max. GPM | RPM | Shaft Size (In.) | Dimensions (In.) H | W | L | HP | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | 2.0 | 3450 | 5/8 | 5 1/2 | x 7 1/4 | x 8 3/8 | 1 1/2 | 5P247 * | $294.37 | $205.25 | 13.0 |

### GASOLINE ENGINE DRIVEN

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1600 | 3.0 | 3450 | 3/4 | 5 | x 7 5/8 | x 8 3/8 | 5 | 5P248 | 339.14 | 236.00 | 14.0 |
| 2000 | 3.0 | 3450 | 3/4 | 5 | x 7 5/8 | x 8 3/8 | 6 | 5P249 | 361.61 | 251.75 | 16.0 |
| 3000 | 4.0 | 3450 | 1 | 6 1/2 | x 8 7/8 | x 9 3/4 | 8 | 5P250 | 545.32 | 380.00 | 25.0 |
| 3500 | 4.0 | 3450 | 1 | 6 1/2 | x 8 7/8 | x 9 3/4 | 12 | 5P251 | 611.40 | 425.25 | 25.0 |

(*) This is the only pump with aluminum head. All others feature brass head.



*If we don't have a pump for it, chances are it can't be pumped.*

# BELT-DRIVE PLUNGER PUMPS

**Description:** General/InterPump belt-drive uplex (2-plunger) and triplex (3-plunger) ositive displacement pumps are built for igh-pressure cleaning systems, car washrs, spraying equipment, water curtain pray booths and hydrostatic tank and ipe pressure testing. For pumping water, oap, detergent, and other nonflammable quids compatible with pump component aterials.

upplied with keys, mounting rails, and rankcase oil. Self-priming to 8"H and 125 SI maximum inlet pressure. All pumps ave two 1/2" inlets and two 3/8" discharge orts. Maximum liquid temperature; 165°F.

**onstruction:** Precision-forged and mached brass manifold. Case-hardened forged teel crankshaft with heavy-duty ball or apered roller bearings. The crankcase has il bath lubrication with convenient oil ight gauge, dip stick and drain plug.

ronze manifold, corrosion-resistant eramic plungers, stainless steel valves, alve seats and springs, Buna N seals, -rings, oversized aluminum alloy conecting rods and anodized aluminum rankcase.

**river:** Not included. Pumps have 24 mm hafts, and can be belt-driven by electric otor or gas engine. Shaft rotates in either irection. Order belts and pulleys sepaately; refer to index for page listings. Use o. 5A021 split taper bushing for Browning eaves.

**Note:** A safety relief device, such as No. 2P591 unloader valve or No. 2P590 relief valve should be used to protect pump and system from sudden blockage in the discharge while power source is still operating. This device must be installed when shut-off spray guns are used, or discharge line can be blocked or closed.




Replacement Parts Available
1-800-323-0620

| Stock No. | Flow Capacity | Shaft Speed | Electric Motor HP Required at Various Pressures (PSI) 500 | 700 | 1000 | 1200 | 1500 | 2000 | 3000 | No. Plungers |
|---|---|---|---|---|---|---|---|---|---|---|
| 2P585 | 3 | 1450 | 1.1 | 1.5 | 2.1 | 2.5 | | | | 2 |
| | 2.5 | 1208 | 0.9 | 1.2 | 1.7 | 2.1 | | | | |
| | 2 | 967 | 0.7 | 1.0 | 1.4 | 1.7 | | | | |
| 2P586 | 3.5 | 1531 | 1.5 | 2.0 | 3.0 | 3.0 | 5.0 | | | 3 |
| | 3 | 1313 | 1.5 | 1.5 | 3.0 | 3.0 | 5.0 | | | |
| | 2.5 | 1094 | 1.0 | 1.5 | 2.0 | 3.0 | 3.0 | | | |
| 2P587 | 4 | 1450 | 1.4 | 2.0 | 2.8 | 3.3 | 4.1 | 5.5 | | 3 |
| | 3.5 | 1269 | 1.2 | 1.7 | 2.4 | 2.9 | 3.6 | 4.8 | | |
| | 3 | 1088 | 1.1 | 1.5 | 2.1 | 2.5 | 3.1 | 4.2 | | |
| 2P588 | 5.6 | 1450 | 2.0 | 2.7 | 3.9 | 4.6 | 5.8 | 7.7 | 11.6 | 3 |
| | 5.0 | 1295 | 1.8 | 2.4 | 3.4 | 4.2 | 5.2 | 6.9 | 10.3 | |
| | 4.0 | 1036 | 1.4 | 2.0 | 2.8 | 3.3 | 4.2 | 5.5 | 8.3 | |

| Max. GPM | Type | Discharge Pressure, PSI | Max. Pump Speed, RPM | Dimensions (In.) L | W | H | General Pump Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3.0** | Duplex | 1200 | 1450 | 8.8 | 6.8 | 5.4 | T731B | **2P585** | $494.75 | **$347.50** | 15.0 |
| **4.0** | Triplex | 1450 | 1750 | 9.3 | 8.3 | 5.4 | T991 | **2P586** | 653.22 | **422.75** | 19.0 |
| **4.0** | Triplex | 2000 | 1450 | 11.4 | 8.8 | 6.9 | TS1011B | **2P587** | 837.64 | **534.50** | 30.0 |
| **5.6** | Triplex | 3500 | 1450 | 12.2 | 8.9 | 7.0 | TS2021B | **2P588** | 1086.23 | **686.50** | 33.0 |

# DIRECT-DRIVE PLUNGER PUMPS




| | HP REQUIRED AT PSI 1000 | 1500 | 2000 | 2500 | 3000 |
|---|---|---|---|---|---|
| 5P237 | 1.5 | 3.0 | — | — | — |
| 5P238 | 1.5 | 3.0 | — | — | — |
| 5P239 | 2.0 | 3.0 | — | — | — |
| 5P240 | 4.0 | 6.0 | — | — | — |
| 5P241 | 10.0 | 10.0 | 10.0 | 15.0 | 15.0 |
| 5P242 | 10.0 | 10.0 | 15.0 | 15.0 | 20.0 |

**escription:** General/InterPump EZ Mount umps feature flanged crankcases and hol-w crankshafts that permit direct cou-ing to standard electric motors with 5/8" utput shafts or gasoline engines with 3/4" 1" output shafts. These pumps eliminate osts associated with complicated belt and lley or external gear box drive systems. eal for portable high pressure cleaning stems where durability and dependabili-are essential.

**Construction:** Precision forged and machined brass manifolds. Hardened forged steel crankshafts with heavy-duty bearing system. Corrosion resistant ceramic plungers, externally accessible stainless steel valve assemblies, self-loading Buna N packings and O-rings, oversized aluminum alloy connecting rods and large oil bath anodized aluminum crankcases with convenient oil sight gauge, dip stick and drain plug. Dual symmetrical inlet and discharge ports. Maximum inlet pressure 125 PSI. Maximum fluid temperature: 165°F. Pumps shipped with break-in oil.

**Note:** A safety relief device, such as Nos. 5P243 or 5P244 pressure regulating unloader valve or No. 2P590 relief valve should be used to protect pump and system from sudden blockage in discharge while power source is still operating. This device must be installed when shut-off spray guns are used, or discharge line can be blocked or closed.

| Driver | Max. PSI | Max. GPM | Ports (In.) Inlet | Discharge | Hollow Shaft ID | RPM | Dimensions (In.) L | W | H | General Pump Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **lectric Motor** | 1500 | 2.1 | 3/8 | 1/4 | 5/8 | 1750 | 7.2 | 6.9 | 5.5 | TT9051 EBF | **5P237** | $370.71 | **$305.25** | 14.0 |
| **ectric Motor** | 1500 | 2.1 | 3/8 | 1/4 | 5/8 | 3400 | 7.2 | 6.9 | 5.5 | TT9061 EBF | **5P238** | 342.00 | **281.75** | 10.0 |
| **ectric Motor** | 1500 | 2.8 | 3/8 | 1/4 | 5/8 | 3400 | 7.2 | 6.9 | 5.5 | TT9071 EBF | **5P239** | 370.79 | **305.75** | 10.0 |
| **as Engine** | 1500 | 2.8 | 3/8 | 1/4 | 3/4 | 3400 | 7.0 | 7.2 | 5.5 | TT9071 GBF | **5P240** | 373.04 | **308.25** | 13.0 |
| **as Engine** | 3000 | 3.5 | 1/2 | 3/8 | 1.0 | 3400 | 8.8 | 9.7 | 6.5 | EZ 3035G | **5P241** | 552.72 | **455.25** | 20.0 |
| **as Engine** | 3000 | 4.0 | 1/2 | 3/8 | 1.0 | 3400 | 8.8 | 9.7 | 6.5 | EZ 3040G | **5P242** | 510.21 | **455.25** | 20.0 |

# SPRAY GUNS FOR HIGH-PRESSURE PLUNGER PUMPS

## SHUT-OFF SPRAY GUNS AND WANDS

**All guns feature** sturdy pistol-grip for secure and comfortable control of high pressure water flow. They are designed for handling water and other nonflammable liquids compatible with the forged brass body and stainless steel plunger, spring, and seat. Durable plastic handle remains cool even when operated at maximum fluid temperature of 212°F. Spray gun will automatically shut off if accidentally dropped. Low force trigger and balanced design reduces operator fatigue. All spray guns feature 3/8" NPT inlet and 1/4" NPT outlet.

**No. 2P592 Front-Entry Gun and Lance.** 8 GPM, 2200 PSI, 212°F with 24" lance, insulated handle, 1/4" female nozzle bushing and rubber nozzle protector.

**No. 2P592.** General Pump brand (YGL2200). Shpg. wt. 2.6 lbs. List $64.88. Each.....**$43.15**

**No. 2P593 Rear Entry Gun.**10 GPM, 4000 PSI, 300°F.

**No. 2P593.** General Pump brand (YG4000). Shpg. wt. 1.8 lbs. List $55.08. Each.....**$34.30**

**No. 2P594 59" Extension Wand.** 1/4" steel with insulated handle, and 1/4" female nozzle steel bushing and nozzle protector, 3500 PSI, 220°F.

**No. 2P594.** General Pump brand (ZZ15). Shpg. wt. 3.2 lbs. List $52.53. Each.....**$37.15**

**No. 2P595 40" Double Lance.** 1/4" Stainless steel with insulated handle, two 1/8" stainless steel extension with 1/4" female nozzle bushings, stainless steel valve with chromeplated brass body, side grip. Maximum temperature, 220°F. 4000 PSI; 15GPM.

**No. 2P595.** General Pump brand (YDL4155). Shpg. wt. 2.9 lbs. List $76.08. Each.....**$51.60**




## SHUT-OFF SPRAY GUNS

- **Stainless steel ball and seat**
- **Ergonomic design**
- **Sturdy pistol grip for greater control**
- **3/8" NPT (F) Inlet, 1/4" NPT (F) Outlet**
- **Locking trigger for safe operation**

Designed for handling water and other nonflammable liquids compatible with forged brass body and stainless steel plunger, spring and seat. Low force trigger and balanced design reduce operator fatigue. The best choice for effective equipment cleaning.

**No. 4UL19 Spray Gun** 9.0 GPM, 3600 PSI, 160°F Max, 3/8" NPT-F inlet, 1/4" NPT-F outlet.

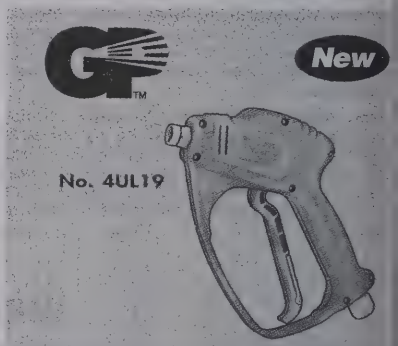
***New* No. 4UL19.** General Pump brand (YG3600). Shpg. wt. 2.5 lbs. List $31.95. Each.....**$26.35**

**No. 4UL20 Rear Inlet Spray Gun** 10.5 GPM, 3650 PSI, 320°F Max, 3/8" NPT-F inlet, 1/4" NPT-F outlet.

***New* No. 4UL20.** General Pump brand (YG4001). Shpg. wt. 3.0 lbs. List $39.40. Each.....**$32.50**

**No. 4UL26 Spray Gun** 13.2 GPM, 3650 PSI, 320°F Max, 3/8" BSPP-F inlet and outlet.

***New* No. 4UL26.** General Pump brand (YRL50). Shpg. wt. 3.3 lbs. List $70.00. Each.....**$57.25**




## SHUT-OFF SPRAY GUNS AND LANCE

- **Stainless steel ball and seat**
- **Ergonomic Design**
- **Sturdy pistol grip for greater control**
- **3/8" NPT (F) Inlet, 1/4" NPT (F) Outlet**
- **Trigger lock for safety**
- **320°F maximum**
- **Insulated wand**

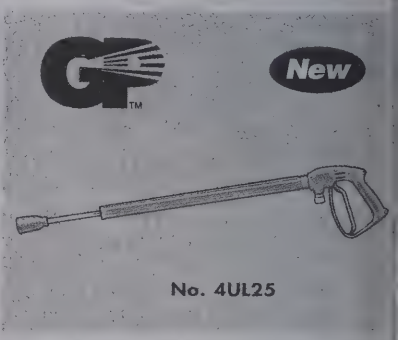
Designed for handling water and other nonflammable liquids compatible with forged brass body and stainless steel plunger, spring and seat. Low force trigger and balanced design reduce operator fatigue. The best choice for effective equipment cleaning.

**No. 4UL25 Spray Gun** with insulated 20" lance. 8 GPM, 2900 PSI, 320°F Max. 3/8" NPT-F inlet, 1/4" NPT-F outlet.

***New* No. 4UL25.** General Pump brand (YRL20L). Shpg. wt. 2.5 lbs. List $39.00. Each .....**$32.60**

**No. 4UL27 Rear Inlet Spray Gun** with lance. 7.8 GPM 5100 PSI, 320°F Max. 3/8" BSPP-F inlet, 1/4" BSPP-F outlet.

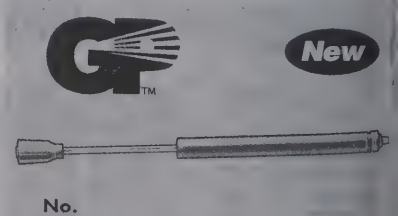
***New* No. 4UL27.** General Pump brand (YRL55L). Shpg. wt. 4.0 lbs. List $130.00. Each .....**$112.65**




## INSULATED EXTENSION LANCES

- **Insulated handle protects against burning due to hot water**
- **Nozzle protector**
- **3000 PSI rated**
- **1/4" NPT (M) Inlet, 1/4" NPT (F) Outlet**
- **320°F maximum**
- **Corrosion resistant**
- **Lances available in straight or bent styles and a variety of lengths**

| Description | Length (In.) | General Pump Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Straight Lance** | 20 | YL 20 PNS | **4UL21** | $18.00 | **$15.13** | 2.8 |
| **Straight Lance** | 35 | YL 35 PNS | **4UL22** | 20.10 | **16.97** | 3.5 |
| **Straight Lance** | 36 | YL 36 B | **4UL23** | 19.85 | **16.77** | 3.5 |
| **Bent Lance** | 59 | YL 59 PNB | **4UL24** | 27.55 | **17.77** | 4.0 |






*If we don't have a pump for it, chances are it can't be pumped.*

# SPRAY NOZZLES AND FLEXIBLE METAL HOSE

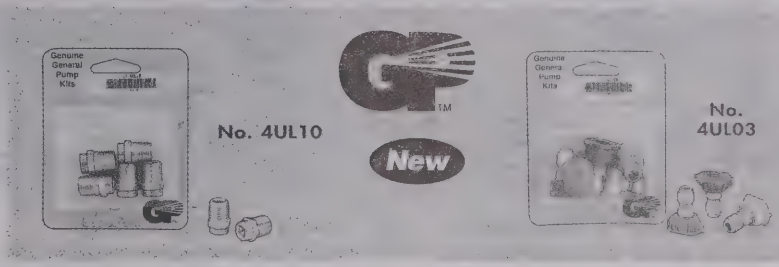
## HIGH PRESSURE SPRAY TIPS

### HIGH PRESSURE SPRAY TIPS—1/4" MALE CONNECTION

- 1/4" NPT male, 15° spray pattern
- Operating pressure up to 5000 PSI
- Through hardened stainless steel
- Resistant to most chemicals
- Laser engraved part numbers
- Package includes 5 individual 15" nozzles

### HIGH PRESSURE SPRAY TIPS—1/4" ST QUICK CONNECTION

- 0, 15, 25, 40° and soap injector nozzle
- Operating pressure up to 5000 PSI
- Through hardened stainless steel
- Resistant to most chemicals
- Laser engraved part numbers
- Large color-coded ring on Q-type nozzle permits rapid identification of fan angle. Red 0° yellow 15°, green 25°, white 40°



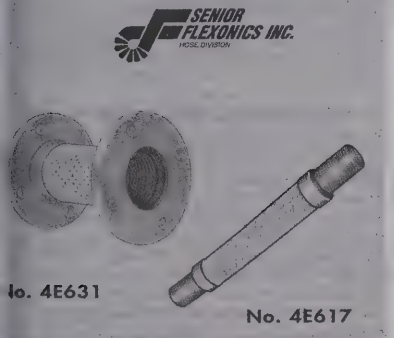

### 1/4" MALE CONNECTION NOZZLES

| Size | Gallons per Minute @ PSI 1000 | 2000 | 3000 | 4000 | 5000 | General Pump Model | New! Stock No. | List | Each Pkg. of 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 040 | 2.00 | 2.83 | 3.46 | 4.00 | 4.47 | 105062 | 4UL11 | $35.50 | $26.70 | .50 |
| 040 | 2.25 | 3.18 | 3.90 | 4.50 | 5.03 | 105059 | 4UL14 | 35.50 | 26.70 | .50 |
| 050 | 2.50 | 3.54 | 4.33 | 5.00 | 5.59 | 105053 | 4UL12 | 35.50 | 26.70 | .50 |
| 050 | 2.75 | 3.89 | 4.76 | 5.50 | 6.15 | 105058 | 4UL10 | 35.50 | 26.70 | .50 |
| 065 | 3.25 | 4.60 | 5.63 | 6.50 | 7.27 | 105061 | 4UL15 | 35.50 | 26.70 | .50 |
| 080 | 3.75 | 5.30 | 6.50 | 7.50 | 8.39 | 105057 | 4UL13 | 35.50 | 26.70 | .50 |
| 080 | 4.00 | 5.66 | 6.93 | 8.00 | 8.94 | 105060 | 4UL09 | 35.50 | 26.70 | .50 |

### 1/4" ST QUICK CONNECTION NOZZLES

| Size | Gallons per Minute @ PSI 1000 | 2000 | 3000 | 4000 | 5000 | General Pump Model | New! Stock No. | List | Each Pkg. of 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 040 | 2.00 | 2.83 | 3.46 | 4.00 | 4.47 | 105084 | 4UL03 | $35.50 | $25.40 | .50 |
| 045 | 2.25 | 3.18 | 3.90 | 4.50 | 5.03 | 105085 | 4UL04 | 35.50 | 25.40 | .50 |
| 050 | 2.50 | 3.54 | 4.33 | 5.00 | 5.59 | 105086 | 4UL05 | 35.50 | 25.40 | .50 |
| 055 | 2.75 | 3.89 | 4.76 | 5.50 | 6.15 | 105087 | 4UL06 | 35.50 | 25.40 | .50 |
| 060 | 3.00 | 4.24 | 5.20 | 6.00 | 6.71 | 105088 | 4UL07 | 35.50 | 25.40 | .50 |
| 065 | 3.25 | 4.60 | 5.63 | 6.50 | 7.27 | 105089 | 4UL08 | 35.50 | 25.40 | .50 |

## FLEXIBLE METAL HOSE




**scription:** Pump connectors give flexibili- to piping systems. Provide thermal wth absorption, misalignment compen- ion, vibration isolation, and noise luction. Connectors also minimize ess forces on pump and compressor usings.

**plications:** For use with air compressors, uid pumps, and vacuum pumps.

**nstruction:** Hose and braid constructed of ) series stainless steel. Carbon steel fit- gs and flanges are standard.

**cifications:** Fittings: Schedule 40 carbon el or stainless steel male NPT. Flanges: el plate flanges drilled 150 lbs. A.S.A.

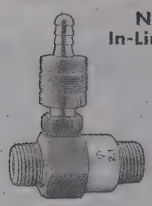
### FLEXIBLE METAL HOSE SPECIFICATIONS AND ORDERING DATA

| Diamater (In.) | Length (In.) | Max. Working Pressure @ 70° F | Max. Temperature (°F) | Min. Bend Radius (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **FLEXIBLE METAL HOSE WITH CARBON STEEL MALE NPT THREADED END NIPPLES** | | | | | | | | |
| 1/2 | 12 | 1040 PSI | 850 | 6 | 4E727 | $18.00 | $16.16 | 0.4 |
| 3/4 | 12 | 600 | 850 | 6 | 4E728 | 21.35 | 19.10 | 0.6 |
| 1 | 12 | 580 | 850 | 7 | 4E729 | 23.65 | 23.13 | 1.0 |
| 1 1/4 | 18 | 450 | 850 | 12 | 4E730 | 33.45 | 31.10 | 2.0 |
| 1 1/2 | 18 | 410 | 850 | 14 | 4E731 | 40.20 | 38.25 | 2.0 |
| 2 | 18 | 370 | 850 | 16 | 4E732 | 52.75 | 48.80 | 3.1 |
| 2 1/2 | 18 | 370 | 850 | 16 | 4E733 | 121.30 | 108.15 | 4.4 |
| **FLEXIBLE METAL HOSE WITH STAINLESS STEEL MALE NPT THREADED END NIPPLES** | | | | | | | | |
| 1/2 | 12 | 1040 | 850 | 6 | 4E617 | 28.39 | 25.35 | 0.5 |
| 3/4 | 12 | 600 | 850 | 6 | 4E618 | 33.55 | 30.10 | 0.5 |
| 1 | 12 | 580 | 850 | 7 | 4E619 | 39.90 | 35.60 | 1.0 |
| 1 1/4 | 18 | 450 | 850 | 12 | 4E620 | 52.10 | 46.45 | 1.5 |
| 1 1/2 | 18 | 410 | 850 | 14 | 4E621 | 57.30 | 51.35 | 2.0 |
| 2 | 18 | 370 | 850 | 16 | 4E622 | 74.45 | 64.95 | 3.0 |
| 2 1/2 | 18 | 370 | 850 | 16 | 4E623 | 154.10 | 137.30 | 4.0 |
| **PUMP CONNECTORS WITH CARBON STEEL MALE NPT FITTINGS** | | | | | | | | |
| 3/8 | 6 | 840 | 850 | 4 | 4E624 | 19.45 | 17.35 | 0.2 |
| 1/2 | 6 1/2 | 1040 | 850 | 6 | 4E625 | 19.29 | 17.25 | 0.4 |
| 3/4 | 7 | 600 | 850 | 6 | 4E626 | 22.80 | 20.29 | 0.5 |
| 1 | 8 | 580 | 850 | 7 | 4E627 | 27.00 | 24.08 | 1.0 |
| 1 1/4 | 8 1/2 | 450 | 850 | 12 | 4E628 | 32.20 | 28.75 | 1.0 |
| 1 1/2 | 9 | 410 | 850 | 14 | 4E629 | 35.85 | 32.20 | 1.5 |

### FLEXIBLE METAL HOSE WITH 150 LBS. A.S.A. PLATE FLANGES

| Diameter (In.) | Length (In.) | Max. Working Pressure (PSI) | Min. Bend Radius (In.) | Bolt Holes No. | Bolt Holes Dia. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 9 | 275 | 12 | 4 | 3/4 | 4E631 | $69.15 | $59.05 | 10.0 |
| 2 1/2 | 9 | 275 | 13 | 4 | 3/4 | 4E632 | 123.95 | 106.00 | 13.0 |
| 3 | 9 | 250 | 14 | 4 | 3/4 | 4E734 | 127.90 | 109.35 | 15.0 |
| 4 | 9 | 210 | 18 | 8 | 3/4 | 4E735 | 180.95 | 147.65 | 21.0 |
| 6 | 11 | 165 | 28 | 8 | 7/8 | 4E633 | 277.00 | 226.25 | 30.0 |

# PLUNGER PUMP ACCESSORIES



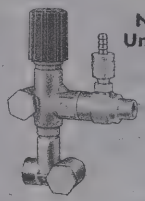
No. 2P596 In-Line Chemical Injector

No. 2P590 Safety Pressure Valve



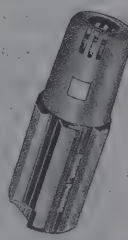


No. 2P591 Regulating Unloader Valve

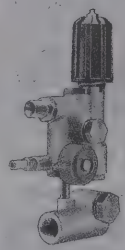


Nos. 4UL28 Unloader with Injector

New



No. 5P252 Rotating Nozzle



No. 5P244 Control set Unloader with Injector



Nos. 5P245 & 5P246 Pump Saver

## IN-LINE CHEMICAL INJECTOR

Injector is mounted after pressure pump and regulating unloader valve, for metering of liquid detergents or cleaning agents downstream at low pressure. Use in conjunction with a double lance or roll-over nozzle so when chemical is required, pressure can be reduced from full high pressure to 125 PSI or less. A chemical metering adjusting knob allows you to regulate chemical usage. Constructed of brass and stainless steel to withstand corrosion. Rated for 2.5 to 4 GPM pumps. Pressure to 3000 PSI, 3/8" male inlet and discharge ports. Chemical pickup line hose barb 5/16". Weight: 10 oz. Measures 1 x 2¾ x 3¼". General Pump brand (YAINJ21).

**No. 2P596.** Shpg. wt. 0.6 lbs. List.....$30.09
Each.....**$21.33**

## SAFETY PRESSURE VALVE

For use as a back-up safety valve or for open gun pressure wash applications when an unloader valve is not used to protect system components from over-pressure conditions. Brass and stainless steel construction. Fully adjustable for pressure ranges of 100-3000 PSI. (Use at flows from 1.3 to 10 GPM.) 3/8" MNPT inlet port and 1/4" MNPT discharge port. Temperature rating: 285°F. 1¼" HEX by 4¾" height. General Pump brand (ZKSR).

**No. 2P590.** Shpg. wt. 1.0 lbs. List.....$58.20
Each.....**$40.95**

## CONTROL SET UNLOADERS

Designed and built to mount directly to the manifold of a pump. These adjustable pressure regulating unloaders are complete with an internal by-pass system and built-in adjustable chemical injector that eliminates need for an external by-pass hose, separate chemical injector and related fittings.

Built to by-pass pump flow at low pressure to tank or pump inlet when discharge pressure exceeds valve pressure setting. This pressure sensitive feature permits low pressure by-pass, and reduces horsepower while permitting a wide range of flow adjustments. High pressure maintained in discharge line allows instant return to operating pressure following by-pass. Unloader valve is required for protection of pumps and system components from damaging pressure surges caused by trigger gun shutoff. Units are built to handle water and other nonflammable liquids compatible with their forged brass bodies, stainless steel plungers and internal parts. Maximum fluid temperature: No. 5P244, 165°F; No. 4UL28, 195°F. Maximum pressure (PSI): No. 4UL28 is 2600 PSI and No. 5P244 is 3000 PSI. General Pump brand.

| GPM Range | Ports (In.) Inlet | Ports (In.) Discharge | Chemical Discharge (In.) * | For Use with Pumps, Nos. | General Pump Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 6.5 | 3/8 | 3/8 | 5/16 | 5P237 - 5P240 | YVB135KDMI18 | *New* | **4UL28** | $80.30 | **$66.60** | 2.5 |
| 2.9-4.5 | 1/2 | 3/8 | 5/16 | 5P241 and 5P242 | ZKW2 | | **5P244** | 108.42 | **103.00** | 4.0 |

(*) Hose barb.

## PUMP SAVERS

Thermal pump protectors provide double protection for the pump. Protects against damage due to heat buildup while pump is operating in the by-pass mode, by maintaining maximum water temperature of 145°F. Protects against excessive inlet water pressure. Mounts easily to the pump inlet water port or by-pass plumbing loop. General Pump brand.

| Mounts to Pumps, Nos. | Thread Size (In.) | General Pump Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **5P237-5P240** | **3/8 NPT** | 100513 | **5P245** | $19.00 | **$18.10** | 0.3 |
| **5P241 & 5P242** | **1/2 NPT** | 100514 | **5P246** | 19.00 | **18.10** | 0.3 |

## ROTOMAX ROTATING NOZZLES

Designed to improve cleaning efficiency of high pressure washers. Adjustable high speed rotating spray provides blasting power of zero degree nozzle over a greatly expanded cleaning stream area. 1/4" BSPP-F. **Not recommended for washing cars or other flat metal surfaces.** General Pump brand.

| GPM Range | Max. Pressure (PSI) | For Use with Pumps, Nos. | General Pump Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2.1 to 2.8** | 3500 | 5P237-5P240 | ZROTOMAX1 | | **5P252** | $81.24 | **$77.00** | 0.7 |
| **2.9 to 4.0** | 3500 | 5P241 and 5P242 | ZROTOMAX2 | | **5P253** | 81.24 | **77.00** | 0.7 |
| **3.2 to 5.0** | 5000 | — | 100487 | *New* | **4UL02** | 115.00 | **84.10** | 2.2 |
| **3.9 to 6.2** | 5000 | — | 100467 | *New* | **4UL01** | 115.00 | **84.10** | 2.2 |

## REGULATING UNLOADER VALVE

Adjustable pressure-regulating unloade valve is built to by-pass pump flow at lo pressure to tank or pump inlet when dis charge pressure exceed the valve pressur setting. This pressure sensitive featur permits low pressure by-pass and reduce horsepower while permitting a wide rang of flows. The high pressure maintained i the discharge line allows instant return t operating pressure following by-pass.

An unloader valve is required for protec tion of pumps and system component from damage from surge shocks caused b high-pressure shut-off of spray guns.

This unloader is built to handle water an other nonflammable liquids compatibl with brass body, stainless steel plunge and spring. Maximum fluid temperature 165°F. Built for maximum flow of 8 GPM and 3000 PSI maximum pressure, thi unloader features a lockable pressur adjustment, one 3/8" FNPT inlet port, on 3/8" FNPT discharge, and one 3/8" FNPT by-pass port. General Pump bran (YU831RK).

**No. 2P591.** Shpg. wt. 1.7 lbs. List.....$73.4
Each.....**$51.1**



*If we don't have a pump for it, chances are it can't be pumped.*

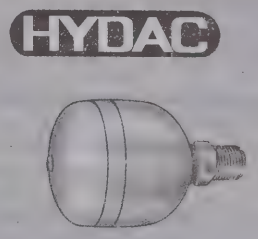
# HIGH PRESSURE PUMP ACCESSORIES

## HYDAC PULSATION DAMPENERS

Pulsation dampeners mount in pump discharge line to reduce pressure pulses and noise in high pressure systems where plunger, piston, gear, diaphragm and other positive displacement pumps are used. Reduce wear and increase life of all pump system components. Pressure pulses are absorbed by 10 cu.-in. diaphragm accumulator. Diaphragm is precharged with nitrogen gas (see chart below) and factory sealed with welded steel plug. Construction: Dampeners have carbon steel body, zinc internal coating, and 1/2" MNPT port. Buna N diaphragm. Not suitable for salt water service.

Handle system flows up to 10 GPM. Maximum temperature: 200°F. 3" Diameter, 4¾" high. Hydac brand.

NOTE: Not to be used in aircraft applications.

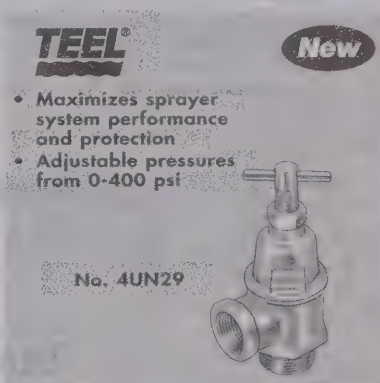


No. 4P928

| Precharge (PSI) | Recommended Working Pressure Range | Maximum Working Pressure | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **100** | 150-600 PSI | 750 | **4P928** | $112.50 | **$101.35** | 2.0 |
| **500** | 650-1500 | 1500 | **3P837** | 112.35 | **101.35** | 1.5 |
| **1250** | 1550-3000 | 3000 | **4P929** | 112.50 | **101.35** | 2.0 |

## PRESSURE RELIEF VALVES

Permit pressure in spray boom to build up to preselected point, then it bypasses liquid back to supply tank while maintaining set pressure. Prevents damage to positive displacement type pumps (piston, gear, roller, etc.) where discharge blockage or shut-off can occur during pumping operation. Brass models handle nonflammable liquids compatible with brass body and seat, stainless steel spring. Maximum temperature of liquid is 180°F. All models feature free-floating seat and extra-large valve passage to handle full flow from supply line. Pressure setting securely locks in place with locknut. Can be operated in any position. Not for hot water heaters, boilers, or steam service.For users of positive displacement pumps. Install only on pressure side of pump to regulate pressure. Made in the USA.



No. 4UN29

| PSI Range | Max GPM | Body Material | Valve Material | Inlet Ports (In.) | Outlet Ports (In.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **0-400** | 6 | Bronze | S.S. ball | 3/4 MNPT | 3/4 FNPT | **4UN28** | $32.50 | **$25.00** | 1.1 |
| **0-200** | 6 | Bronze | S.S. ball | 1/2 MNPT | 1/2 FNPT | **4UN29** | 32.50 | **25.00** | 0.8 |
| **0-150** | 13 | Nylon | Nylon | 3/4 MNPT | 3/4 FNPT | **4UN30** | 21.45 | **16.50** | 0.3 |
| **0-300** | 25 | Bronze | S.S. ball | 3/4 MNPT | 3/4 FNPT | **4UN31** | 32.50 | **25.00** | 1.0 |
| **0-150** | 40 | Bronze | S.S. ball | 1 MNPT | 1 FNPT | **4UN32** | 109.20 | **84.00** | 1.0 |
| **0-250** | 22 | Nylon | Nylon | 3/4 MNPT | 3/4 FNPT | **4UN33** | 25.15 | **19.35** | 0.3 |

## LIQUID INJECTOR HEAD

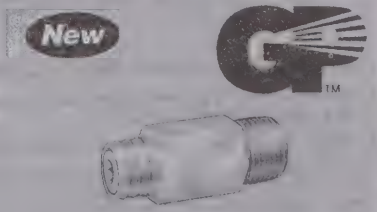
Liquid injector head is designed to feed water solutions containing liquid soaps, detergents, chemicals, or waxes into twin piston pumps, mixing the solution with the pump's regular output. Adjustable brass needle valve with calibrated control knob regulates amount of solution fed into the pump. Cast iron injector body replaces one of the cylinder heads on 500 PSI Teel Pumps Nos. 1P987, 1P988, 2P334, 2P335, and Hypro Series 5300. 500 PSI maximum pressure. Pumps require pressure regulating or reducing valve at inlet if inlet pressure exceeds 20 PSI, see index under Valves, Water Reducing for No. 2A645. 1/8" FNPT inlet port. Brass 1/8" x 1/4" MNPT hose barb fitting included..


No. 2P020

**No. 2P020.** Shpg. wt. 1.5 lbs. List .....$59.12. Each **$42.90;** Lots 4 .....**$40.73**

## SAFETY RELIEF VALVES

This fully adjustable valve is designed as a safety relief valve to protect the pump and system from over-pressurization. PSI can be adjusted from 1000-3600. Intended to be a secondary safety device; should always be used in conjunction with a pressure regulator or unloader. Available in 1/4, 3/8, and 1/2" NPT (M). Maximum flow rate is 6 GPM. Maximum temperature of 180°F. 1/2" Hose barb - discharge.



No. 4UL16

| NPT Port (In.) | Max. Cracking PSI | Max. GPM | General Pump Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/8** | 3600 | 6 | GRV36638 | **4UL18** | $19.95 | **$18.08** | 1.5 |
| **1/4** | 3600 | 6 | GRV36614 | **4UL17** | 19.75 | **17.90** | 1.5 |
| **1/2** | 3600 | 6 | GRV36612 | **4UL16** | 20.75 | **18.79** | 1.5 |

**HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG**

# DIAPHRAGM PUMPS AND ACCESSORIES

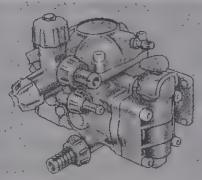
## DIAPHRAGM PUMPS

- **Built with two desmopan diaphragms for long life and reliability**
- **Epoxy-coat, anodized aluminum or stainless steel on all wetted parts**
- **Wide chemical compatibility range**
- **Low cost; minimum maintenance**

Introducing a new line of Shur-Flow® heavy-duty, positive displacement, self-priming diaphragm pumps that are best used in spraying applications for the industrial, agricultural, horticulture, lawn and turf care, and pest control markets. Pumps can be run dry. Handles pressures of up to 550 PSI, flow rates to 14 gpm and a maximum fluid temperature of 140°F. Control units include high pressure adjustable relief valves and quick change pressure release knobs. No. 4UN73 includes a pulsation dampener. All models have a visual oil-level sight glass. These pumps are adaptable for 3⅜" male splined shaft, 1⅜" female splined shaft, 1" solid shaft, or gear reduction drive options.

Perfect for spraying herbicides, pesticides, liquid fertilizers and hard-to-handle fluids.

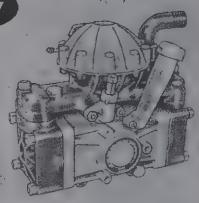
Durable, low cost, low maintenance pumps can be powered by a PTO or gas engine.



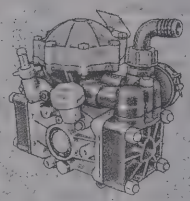
A No. 4UN73

TEEL®

New



C No. 4UN75



B No. 4UN74

Replacement Parts Available 1-800-323-0620

### DIAPHRAGM PUMP SPECIFICATIONS AND ORDERING DATA

| Key | Max. GPM | Max. PSI | Max. Speed | No. of Diaphragms | Diaphragms Material | Inlet Port (In.) | Outlet Port (In.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 6 | 290 | 3600 | 2 | Desmopan | 3/4 NPT | 1/2 NPT | **4UN73** | $652.00 | **$427.50** | 13.0 |
| B | 9.5 | 580 | 550 | 2 | Desmopan | 1 NPT | 1/2 HB* | **4UN74** | 585.00 | **400.00** | 23.0 |
| C | 14 | 580 | 550 | 2 | Desmopan | 1¼ NPT | 1/2 HB* | **4UN75** | 829.00 | **547.00** | 37.0 |

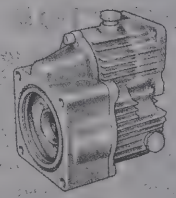
(*) HB = Hose barb.

## DIAPHRAGM PUMP GEAR BOX

- **Direct mounts No. 4UN74 to a 5 HP gasoline engine with a flange mounting and 3/4" solid shaft**
- **6:1 gear box ratio**

Specifically for use by owners of diaphragm pump No. 4UN74 who prefer a gas drive option. This is best method available for adapting this pump to a gasoline engine.

***New*** **No. 4UN77.** Shpg. wt. 6.5 lbs. List.....$369.00.
Each.....**$251.50**



No. 4UN77

TEEL®

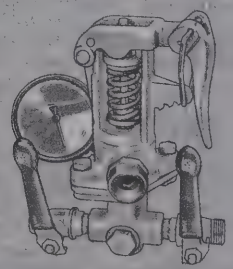
New

## DIAPHRAGM CONTROL UNIT

- **Direct mounts on Nos. 4UN74 and 4UN75**
- **Includes one high pressure relief valve; two 1/2" HB outlets with individual shut-offs**
- **Flows to 21 gpm; pressures to 580 PSI**

Specifically for owners of diaphragm pump Nos. 4UN74 and 4UN75. Use to control pressure on diaphragm pumps. Installs easily and provides clear, accurate pressure readings.

***New*** **No. 4UN76.** Shpg. wt. 3.5 lbs. List.....$159.00
Each.....**$108.50**



No. 4UN76

TEEL®

New

# AGRICULTURAL SPRAY GUNS AND PLASTIC LINE STRAINERS

## SPRAY GUNS

### A 4UN46 & B 4UN47 Heavy-Duty Spray Guns

**Maximum capacity of 11 GPM**
**Port—NPT: 3/8" - 1/2" hose barb**
**Standard 2.3 mm spray tip**

p-drip shut-off mechanism at the nozzle id trigger locks for both safety lock-off id spray angle adjustments. Aluminum rrel. Spray angle adjusts from a straight ream to a wide cone. Hose barb fits both 3/8" and 1/2" hoses. Simply remove the hose barb for 1/2" NPT (M) inlet.

For spraying shrubs, trees, pests, greenhouses, landscaping, and a variety of similar applications.

### C No. 4UN45 Spot Spray Gun with Adjustable Fan Spray Nozzle

**Maximum capacity of 78 oz.**
**Port—NPT: 3/8" - 1/2" hose barb**

or use in agricultural and industrial mar- ts to spray weed killers, insecticides, fungicides, fertilizers and other liquids. Lightweight and easy to use.

### D No. 4UN44 Turbo Spray Gun

**Long-lasting, rugged design allows for easy spraying of ag chemicals**
**Maximum capacity of 10 GPM**
**Port—NPT: 1/2: inlet (M)**

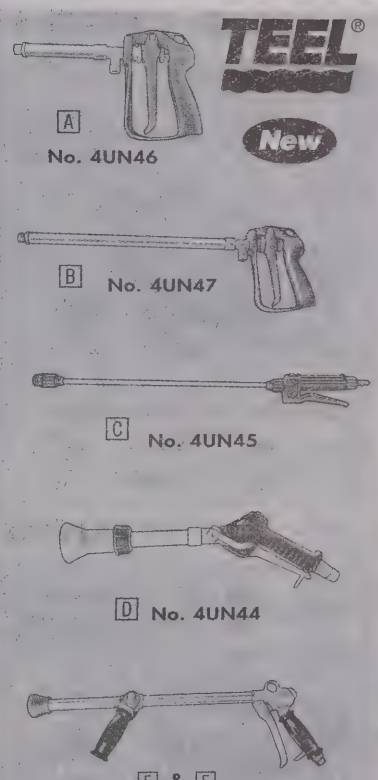
ray pattern and flow requires only one nd operation. Creates an ideal chemical ist or fog for complete and even foliage verage. Constructed of stainless steel, uminum, brass and nylon. Has one 3.0 m diameter cone spray tip, hand lock clip and 1/2" hose barb inlet. For use in agricultural and industrial applications. Particularly effective for spraying vineyards, vegetables and other items where uniform coverage is desired.

### E and F No. 4UN42 and No. 4UN43 Long-Range Spray Guns

**Versatile gun with long-range capabilities**
**Port—NPT: 1/2: inlet (M)**
**Maximum capacity for No. 4UN42 is 25 GPM and No. 4UN43 is 30 GPM**

ecision-built, lightweight design for rability and operator comfort. ljustable pattern for maximum performance. Formed dual handles permit easier n control with less fatigue. No. 4UN42 comes with a 3 mm spray tip; No. 4UN43 comes with a 4mm spray tip. Used in agricultural and industrial applications for tree and shrub spraying, fire fighting, deicing, and similar spraying applications.

| Key | Max. PSI | Max. GPM | Barrel Length (In.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 600 | 11.00 | 18 | **4UN46** | $69.68 | **$55.75** | 1.3 |
| B | 600 | 11.00 | 7 | **4UN47** | 78.43 | **62.75** | 1.9 |
| C | 60 | 0.61 | 21 | **4UN45** | 17.81 | **14.25** | 0.7 |
| D | 700 | 5.40 | 7 | **4UN44** | 116.56 | **93.25** | 1.8 |
| E | 850 | 6.00 | 17 | **4UN42** | 135.00 | **108.00** | 3.6 |
| F | 850 | 15.00 | 21 | **4UN43** | 188.12 | **150.50** | 3.6 |




## POLYPROPYLENE AND NYLON LINE STRAINERS

### G Nos. 4UN34 and No. 4UN38 3/4" Suction Strainers

**For use with wettable powders and other liquids with small particles**
**50 mesh screen for spray nozzle screens**
**Nylon construction; 7⅛" long**
**Model No. 4UN34 has 3/4" hose barb and Model No. 4UN38 has 3/4" MNPT threads**

vents solid materials from passing through mps. Used in agricultural and industrial plications with spray pump systems. Adds to life of this strainer.

*New* **No. 4UN34.** Shpg. wt. 0.3 lbs. List.....$8.45. Each .....**$6.50**

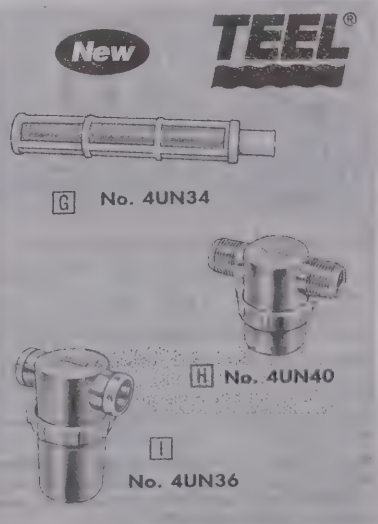
*New* **No. 4UN38.** Shpg. wt. 0.3 lbs. List...$10.72. Each .....**$8.25**

### H and I Low-Profile, Polypropylene Strainers

**Both 1/4" NPT internal and 1/2" NPT external threads on 4UN40**
**Screen is 50 mesh stainless steel**
**EPDM gasket**
**Ratings: 80 PSI at 70°F**

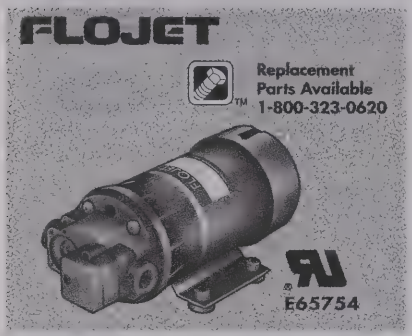
Optimum protection for your pumps, valves, and nozzles from foreign particles. Used in agricultural and industrial markets where liquids being pumped contain sediment. Captures sediment to keep nozzles and orifices from clogging or plugging.

| Key | Ports (In.) | Dimensions (In.) H | W | L | *New!* Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| H | 1/4 FPT | 2.4 | 1.9 | 3.1 | **4UN40** | $7.15 | **$5.50** | 0.1 |
| I | 1/2 FPT | 5.35 | 2.95 | 3.60 | **4UN36** | 10.07 | **7.75** | 0.3 |
| I | 3/4 FPT | 5.35 | 2.95 | 3.60 | **4UN35** | 11.05 | **8.50** | 0.3 |
| I | 1 FPT | 6.35 | 4.1 | 5.0 | **4UN37** | 15.60 | **12.00** | 0.7 |
| I | 1¼ FPT | 7.0 | 4.1 | 5.0 | **4UN39** | 17.55 | **13.50** | 0.8 |
| I | 1½ FPT | 8.13 | 4.1 | 5.0 | **4UN41** | 19.17 | **14.75** | 1.0 |



# CARPET EXTRACTOR/SPRAYING/DISPENSING AND ICE MACHINE PUMPS

## FLOJET CARPET EXTRACTOR/SPRAYING/DISPENSING PUMPS




- **For direct replacement of most carpet cleaner pumps, spraying and dispensing system pumps**
- **Runs dry without damage**
- **Operates quietly**
- **Pressure switch operates on demand**
- **Recognized by UL under Component Recognition Program (E65754)**
- **Sealless design prevents leakage for longer motor life**

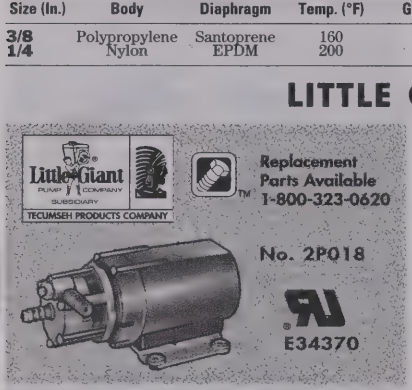
**Description:** Industrial demand diaphragm pumps used as direct replacement in carpet cleaners, spraying systems, and dispensing systems. Sealless design eliminates the troublesome shaft seal an potential fluid leakage into the moto Pumps operate on 115V, 50/60 Hz and sel prime to 6 ft. Operating pressure must b at least 10 PSI below the switch (Off) se ting. For nonflammable liquids compat ble with pump component material Flojet brand.

**Construction:** No. 2P795 has polypropylen housing, santoprene diaphragm and Vito check valves with 304 SS springs. N 2P796 has reinforced nylon housin EPDM diaphragm and Viton check valve with 304 SS springs. Pump housings (po locations) can be rotated in 90° incr ments for ease of installation.

### SPECIFICATIONS AND ORDERING DATA

| NPT Size (In.) | Construction Body | Construction Diaphragm | Max. Temp. (°F) | Max GPM of Water | Motor Type | Volts 50/60 Hz | Pressure Control On | Pressure Control Off | Flojet Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/8 | Polypropylene | Santoprene | 160 | 1.8 | TENV | 115 | 40 PSI | 60 PSI | 2100-953 | **2P795** | $129.00 | **$116.75** | 4.0 |
| 1/4 | Nylon | EPDM | 200 | 1.6 | TEFC | 115 | 75 | 95 | 2130-571 | **2P796** | 168.00 | **150.50** | 4.0 |

## LITTLE GIANT CARPET CLEANER PUMP



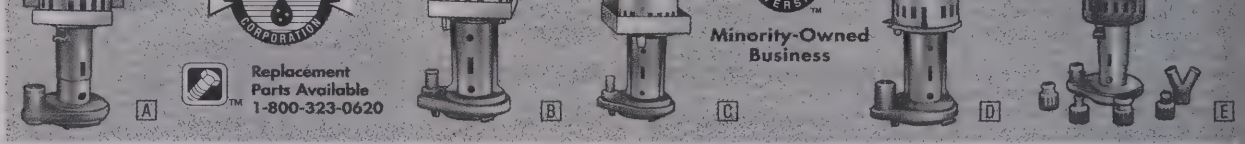

**For Carpet Cleaners, Displays, and Pressure Washers**

Compact medium-pressure pump for mild detergents, hot water (190°F), and nonflammable liquids compatible with pump component materials. Used in carpet cleaners, pressure washers, displays, etc. Glass-filled nylon pumping head. Glass reinforced Ryton impeller. 3/8" barbed intake and discharge ports. 1/8" barbed bypass port. Carbon ceramic mechanical seal. 1/11 HP, 9000 RPM, 115V, 1.25 amps, 60 Hz double insulated motor (no ground wires required). Thermoplastic moto housing with 94-V-O rating. Two 24" lea wires. Recognized by UL under th Component Recognition Progra (E34370). Size 6⅞L x 4W x 2⅞"H. Litt Giant brand (35-OM).

| Capacity, GPH of Water (Ft.) 10 | 20 | 30 | 50 | 70 | Max. Head | PS |
|---|---|---|---|---|---|---|
| 170 | 155 | 140 | 110 | 60 | 81 Ft. | 35 |

**No. 2P018.** Shpg. wt. 2.6 lbs. List $108.49.
Each ..... **$88.9**

## ICE MACHINE PUMPS




**Exact original replacement pumps** meet or exceed the rigid specifications of original equipment manufacturers including Crystal Tips, Ice-O-Matic, Manitowoc, and Scotsman. Beckett recirculating pumps meet all OEM performance specifications.

**Motors have dual ball bearings,** stainless steel shaft and thermal overload protection. Cord connections and lengths are as specified by the original equipment manufacturers.

**No. 2P794** is a dual-voltage universal replacement pump with discharge adapters and impellers for use in most commercial ice makers.

### SPECIFICATIONS AND ORDERING DATA

| Key | Voltage | Disch. OD (In.) | GPH of Water @ 2' | Shut-off* | Bracket or Cup | Fits Ice Machine | Beckett Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 115 | 1 | 630 | 9.5 | Yes | Crystal Tip | M15-1 | **2P789** | $88.40 | **$66.15** | 4.5 |
| | 230 | 1 | 630 | 9.5 | Yes | Crystal Tip | M15-2 | **2P790** | 89.49 | **66.90** | 4.5 |
| **B** | 115 | 1/2 | 160 | 3.5 | Yes | Ice-O-Matic | MH1-1A | **2P791** | 79.77 | **60.00** | 4.0 |
| | 115 | 5/8 | 160 | 3.5 | N/A | Ice-O-Matic | MH1-1B | **2P784** | 70.99 | **53.40** | 3.5 |
| | 115 | 5/8 | 345 | 9.0 | N/A | Ice-O-Matic | MH3-1B | **2P792** | 71.76 | **53.80** | 3.5 |
| **C** | 115 | 1/2 | 220 | 9.0 | Yes | Manitowoc | MA5-1 | **2P787** | 77.10 | **58.10** | 4.3 |
| | 230 | 1/2 | 220 | 10.0 | Yes | Manitowoc | MA5-2 | **2P800** | 85.12 | **63.70** | 4.3 |
| | 115 | 1 | 770 | 10.5 | Yes | Manitowoc | MA8-1 | **2P788** | 81.49 | **61.15** | 4.3 |
| | 230 | 1 | 770 | 9.5 | Yes | Manitowoc | MA8-2 | **2P793** | 84.32 | **63.20** | 4.3 |
| **D** | 115 | 1/2 | 165 | 6.5 | N/A | Scotsman | S5-1 | **2P785** | 67.67 | **51.10** | 3.7 |
| | 115 | 3/4 | 350 | 6.5 | N/A | Scotsman | S8-1 | **2P786** | 67.67 | **51.10** | 3.7 |
| **E** | 115/230 | † | † | — | No | ‡ | BRPAP1 | **2P794** | 93.86 | **66.00** | 4.5 |

(*) Feet of head. (†) Depends on choice of impeller and discharge. (‡) Fits most brands.



*If we don't have a pump for it, chances are it can't be pumped.*

# GENERAL INDUSTRIAL TRANSFER PUMPS & ACCESSORIES

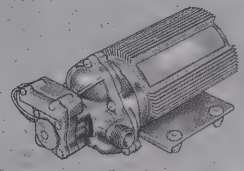
## CARPET EXTRACTORS / AGRICULTURAL SPRAYING / CHEMICAL TRANSFER

**SHURflo®**

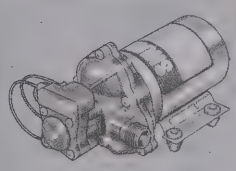
UL E65846

CSA LR80359

Replacement Parts Available 1-800-323-0620

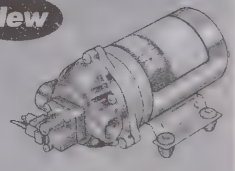


No. 4UN18



Nos. 4UN19/20

New



Nos. 4UN54/55/56

**Diaphragm pumps for** commercial carpet cleaners, agricultural spraying equipment, and general purpose chemical transfer applications. Widely used in 115VAC carpet extractors and on ATV or tractor-mounted 12 VDC agricultural spraying systems.

**Three chamber positive displacement diaphragm** design allows pump to self-prime, run dry without damage. No rotating seals to wear or leak. Pressure demand switch automatically turns pump off when outlet is closed. Built-in outlet check valve prevents supply tank form draining through the pump when the pump is mounted up to 4 ft. below tank liquid level (Nos 4UN55 and 4UN56).

**For use with** nonflammable liquids compatible with materials of pump construction. Maximum allowable liquid temperature is 140°F for polypropylene models and 160°F for nylon models. To extend pump life, flush pump after chemical use. Purge pump prior to exposure to freezing temperatures. Not for use in potable water systems. Not for use with gasoline.

**Motors are thermally protected** (except No. 4UN20). No. 4UN18 has heavy-duty heat sink for continuous duty operation. 115VAC 50/60 Hz models are UL and CSA recognized components. Please refer to pump label for fuse size and type. Use 15A fuse for 12V models. 12" motor leads. Baseplate fits all standard carpet cleaning and agricultural pump brands of this type.

Nos. 4UN54-4UN56 pumps have 3/8" NPT(F) inlet and outlet ports. 2088 Series ports fit SHURflo brand fittings only. Nos. 4UN18-4UN20 pumps come with 1/2" straight barb swivel fitting, and one 1/2" 90° elbow barb swivel fitting.

For other barb fitting sizes, call Grainger Parts Operation at 1-800-323-0620.

### DIMENSIONS (In.)

| Stock No. | L | W | H |
|---|---|---|---|
| 4UN54 | 7.56 | 3.28 | 4.08 |
| 4UN55 | 8.38 | 3.28 | 4.11 |
| 4UN56 | 8.38 | 3.28 | 4.24 |
| 4UN20 | 8.60 | 5.00 | 4.40 |
| 4UN18 | 9.90 | 5.00 | 4.40 |
| 4UN19 | 8.60 | 5.00 | 4.45 |

### INDUSTRIAL TRANSFER PUMP ORDERING DATA

| Voltage | Materials of Construction: Body | Diaphragm | Valves | Prime in Ft. | Flow Rate in GPM: 0 PSI | 20 PSI | 40 PSI | 80 PSI | Switch Setting (PSI) | SHURflo Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 115VAC | Polypro | Santoprene | Viton | 8.0 | 1.4 | 1.1 | 0.9 | – | 60 | 8000-533-236 | **4UN54** | $173.40 | **$112.70** | 5.0 |
| 115VAC | Nylon | Santoprene | Viton | 8.0 | 1.4 | 1.2 | 1.1 | 0.9 | 100 | 8000-813-238 | **4UN55** | 199.15 | **122.35** | 6.0 |
| 115VAC | Nylon | Santoprene | Viton | 6.0 | 1.2 | 1.0 | 0.9 | 0.7 | 105 | 8000-811-288 | **4UN56** | 188.20 | **122.35** | 6.0 |
| 115VAC | Polypro | Santoprene | Viton | 9.0 | 3.0 | 2.2 | 1.8 | – | 45 | 2088-394-154 | **4UN20** | 213.25 | **149.25** | 6.0 |
| 12VDC | Polypro | Santoprene | Viton | 8.0 | 3.3 | 2.8 | 2.2 | – | 45 | 2088-313-145 | **4UN18** | 249.55 | **174.75** | 8.0 |
| 12VDC | Polypro | Santoprene | Viton | 8.0 | 3.0 | 2.6 | 2.0 | – | 45 | 2088-343-135 | **4UN19** | 156.45 | **109.50** | 6.0 |

## REPLACEMENT PARTS AND ACCESSORIES

**In-Line Strainer.** Heavy-duty strainer No. 4UN23 with patented ultra-flow design drops only 1 PSI at 5.5 GPM. Up to three times more straining capacity than standard strainers. Protects pumps from dirt or debris. Clear, easy-open cover for inspection and cleaning. Locking tab prevents accidental opening. 50 mesh stainless steel screen, 7 sq-in. area. UV and vibration resistant. Mount on suction side of pump only. 1/2" NPT(F) ports. Kit includes two 1/4" nylon hose barb adapters.

**Twist-On Water Strainer.** Twist-on strainer mounts directly to pump inlet for debris protection. Adapter included for 8000 series pumps. 50 mesh stainless steel screen, 1.5 sq-in. area. EPDM O-ring. No. 4UN17 has 1/2" NPT(M) inlet. No. 4UN16 has 1/2" barb inlet.

**Diaphragm Kits.** Nos. 4UN71 and 4UN72 include Santoprene diaphragm, replacement pistons and hardware. No. 4UN67 is for 2088 Series pumps and include the complete diaphragm/drive assembly.

**Valve Kits.** Includes complete Viton valve assembly.



No. 4UN67
4UN71/72

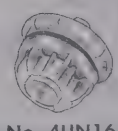
New



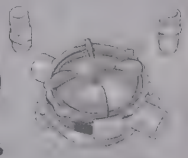
Nos. 4UN66
4UN68/69/70



No. 4UN17



No. 4UN16

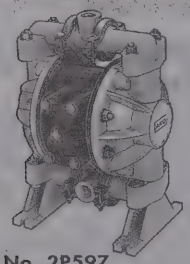


No. 4UN23

| Description | For Model Nos. | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Diaphragm Kit, Santoprene/Polypro** | 4UN54 | **4UN71** | $13.58 | **$12.60** | 1.0 |
| **Diaphragm Kit, Santoprene/Nylon** | 4UN55 | **4UN72** | 13.58 | **12.60** | 1.0 |
| **Diaphragm Drive Kit, Santoprene** | 4UN18-20, 4UN56 | **4UN67** | 24.92 | **23.30** | 1.0 |
| **Valve Kit, Viton/Polypro** | 4UN54 | **4UN68** | 29.92 | **28.00** | 1.0 |
| **Valve Kit, Viton/Nylon** | 4UN55 | **4UN69** | 35.54 | **33.30** | 1.0 |
| **Valve Kit, Viton/Nylon w/bypass*** | 4UN56 | **4UN70** | 32.20 | **32.20** | 1.0 |
| **Valve Kit, Viton/Polypro** | 4UN19, 4UN18, 4UN20 | **4UN66** | 14.32 | **13.30** | 1.0 |
| **Twist-On Strainer, 1/2" Barb Inlet** | * | **4UN16** | 9.02 | **8.40** | 1.0 |
| **Twist-On Strainer, 1/2" NPT(M) Inlet** | * | **4UN17** | 9.02 | **8.40** | 1.0 |
| **In-Line Strainer, 1/2" NPT(F) ports** | All Models | **4UN23** | 20.95 | **12.55** | 1.0 |

(*) For SHURflo pumps only.

# AIR-OPERATED DIAPHRAGM PUMPS NON-METALLIC CONSTRUCTION



No. 2P597

ARO®

FREE DELIVERY on orders of $900 or more

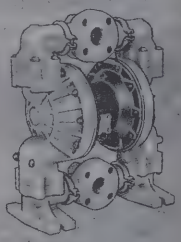
See Freight Policy



No. 2P774

INGERSOLL-RAND FLUID PRODUCTS

Replacement Parts Ava 1-800-323-0620



No. 5U680

- **Twin diaphragm design, double acting**
- **No-stall air motor design**
- **Self-priming 15 ft. wet; 10 ft. dry**
- **For pumping water, solvents, slurries, waste oils, paints, and adhesives compatible with pump component materials**

Flow rate depends on air pressure and fluid viscosity. Max flow rates are achieved at 100 PSI for 1/2" pumps and 120 PSI for others. Verify materials of construction with Chemical Resistance Chart, listed in the Terminology section.

**NonMetallic Pumps:**

Polypropylene (Polypro) pumps offer wide material compatibility (acids, alkalis, stabilizers, aliphatic solutions, polar substances, etc.), high fatigue endurance and superior abrasion resistance. Maximum temperature 150°F.

## PUMP CROSS-REFERENCE

| Stock No. | Wilden Model | Warren/Rupp Model | Aro Model |
|---|---|---|---|
| **NONMETALLIC PUMPS** | | | |
| 5U668 | M1/PO/PU/PU/KU | PB1/2-A/TR-3-PP | 66605J-388 |
| 5U669 | M1/PO/WF/WF/PP | PB1/2-A/TR-3-PP | 66605J-3EB |
| 5U670 | M1/PT/TF/TF/KT | PB1/2-A/TGR-3-PP | 66605J-344 |
| 2P597 | M1/PO/PU/PU/KU | PB1/2-A/TR-3-PP | 666053-388 |
| 5U663 | M1/PO/WF/WF/PP | PB1/2-A/TR-E-PP | 666053-3EB |
| 2P773 | M1/PT/TF/TF/KT | PB1/2-A/TGR-1-PP | 666053-344 |
| 2P774 | M2R/PT/TF/TF/PT | PB1-A/TGN-1-PP | 6661A3-34-C4 |
| 5U667 | M2R/PT/WF/WF/WF | — | 6661A3-34B-C |
| 5U674 | M4/PT/TF/TF/PT | PB1-1-1/2-A/TGN-2PP | 6661U3-344-C |
| 5U675 | M4/PC/PU/NE/PB | PB1-1-1/2-A/TN-2-PP | 6661U3-311-CC |
| 5U679 | M8/PY/TF/TF/PT | PB1-A/TH-3-PP | 6662B3-344-C |
| 5U680 | M8/PS/PU/NE/PP | PB1-1-1/2-A/TN-2-PP | 6662B3-311-C |

| GPM Flow Typical† | Max. GPM* | Max CFM | Max. PSI Oper. Pressure | Materials of Construction: Pump Body Material | Diaphragm | Ball | Check Seat | Air Inlet FNPT | Fluid Inlet/Outlet FNPT | Port Type # | Susp. Solids Max. Dia. | ARO Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NONMETALLIC PUMPS** | | | | | | | | | | | | | | | | |
| 10 | 13 | 19 | 100 | Polypro | Urethane | Polyurethane | Polypro | 1/4" | 1/2" | Single | 3/32" | 66605J-388 | **5U668** | $348.58 | **$306.25** | 8 |
| 10 | 13 | 19 | 100 | Polypro | Santoprene | Santoprene | Polypro | 1/4 | 1/2 | Single | 3/32 | 66605J-3EB | **5U669** | 362.78 | **318.75** | 8 |
| 9 | 11 | 18 | 100 | Polypro | Teflon | Teflon | Polypro | 1/4 | 1/2 | Single | 3/32 | 66605J-344 | **5U670** | 477.52 | **419.00** | 9 |
| 10 | 13 | 19 | 100 | Polypro | Urethane | Urethane | Polypro | 1/4 | 1/2 | Three | 3/32 | 666053-388 | **2P597** | 370.43 | **361.25** | 7 |
| 10 | 13 | 19 | 100 | Polypro | Santoprene | Santoprene | Polypro | 1/4 | 1/2 | Three | 3/32 | 666053-3EB | **5U663** | 384.64 | **337.75** | 9 |
| 9 | 11 | 18 | 100 | Polypro | Teflon | Teflon | Polypro | 1/4 | 1/2 | Three | 3/32 | 666053-344 | **2P773** | 499.37 | **472.00** | 9 |
| 35 | 44 | 53 | 120 | Polypro | Teflon | Teflon | Polypro | 1/4 | 1 | Flange | 1/8 | 6661A3-344-C | **2P774** | 1078.52 | **1036.00** | 25 |
| 30 | 40 | 44 | 120 | Polypro | Santoprene | Teflon | Polypro | 1/4 | 1 | Flange | 1/8 | 6661A3-34B-C | **5U667** | 867.62 | **724.50** | 25 |
| 85 | 120 | 128 | 120 | Polypro | Teflon | Teflon | Polypro | 1/2 | 1½ | Flange | 1/4 | 6661U3-344-C | **5U674** | 2397.44 | **2062.00** | 85 |
| 85 | 120 | 128 | 120 | Polypro | Neoprene | Neoprene | Polypro | 1/2 | 1½ | Flange | 1/4 | 6661U3-311-C | **5U675** | 2107.87 | **1757.00** | 85 |
| 92 | 139 | 145 | 120 | Polypro | Teflon | Teflon | Polypro | 1/2 | 2 | Flange | 1/4 | 6662B3-344-C | **5U679** | 3327.35 | **2748.00** | 82 |
| 92 | 139 | 145 | 120 | Polypro | Neoprene | Neoprene | Polypro | 1/2 | 2 | Flange | 1/4 | 6662B3-311-C | **5U680** | 3065.09 | **2741.00** | 82 |

(*) GPM pumping water with no back pressure (0 PSI fluid back pressure), CFM required for this flow at 100 PSI (air inlet pressure). (†) Typical flow rate at 70 PSI (air inlet pressure) with 15 PSI (fluid back pressure), pumping a material with 20 poise (1000 SSU) viscosity. (#) Single = Single piece nonrotating manifold ports. Three = Three-piece inlet/outlet manifolds which can be rearranged to create multiple inlet/outlet configurations. Flange = Flanges and flange adapters included.

## New NON-METALLIC PUMP SERVICE/REPAIR KITS

Contents include: 4 (ball) checks, 2 diaphragms, and all related seals and o-rings.

### FLUID SECTION KITS

| Pump Ports (In.) | Ball/ Diamphragm Material | ARO Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/4** | Teflon | 637313-PT | **4RN18** | $100.93 | **$98.90** | 0.3 |
| **1/4** | Santoprene | 637313-PA | **4RN17** | 43.02 | **42.80** | 0.3 |
| **1/2** | Polyurethane | 637140-88 | **4RN01** | 60.23 | **59.40** | 0.5 |
| **1/2** | Santoprene | 637140-EB | **4RN02** | 71.03 | **69.90** | 0.5 |
| **1/2** | Teflon | 637140-44 | **4RM99** | 305.47 | **302.50** | 0.5 |
| **1** | Teflon | 637161-44-C | **4RN04** | 489.76 | **488.75** | 1.2 |
| **1** | Teflon/Santoprene | 637161-EB-C | **4RN05** | 156.82 | **153.75** | 1.0 |
| **1½, 2** | Teflon | 637165-44 | **4RN07** | 652.32 | **648.50** | 4.5 |
| **1½, 2** | Neoprene | 637165-11 | **4RN06** | 164.72 | **163.75** | 4.9 |

Contents include all necessary air valve retaining rings, gaskets seals and u-cups.

### AIR SECTION KITS

| Pump Ports (In.) | ARO Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1/4** | 637276 | **4RN08** | $54.89 | **$53.90** | 0.5 |
| **1/2** | 637141 | **4RN03** | 48.96 | **47.75** | 0.2 |
| **1, 1½** | 637118-C | **4RM92** | 92.67 | **90.60** | 0.2 |
| **2, 3** | 637302 | **4RN09** | 62.23 | **61.15** | 0.4 |

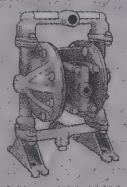
**CHECK THIS COMPREHENSIVE CATALOG FOR YOUR NEEDS.**
**THOUSANDS OF QUALITY PRODUCTS ARE LISTED**

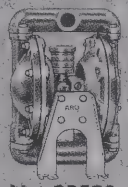
# AIR-OPERATED DIAPHRAGM PUMPS METALLIC CONSTRUCTION

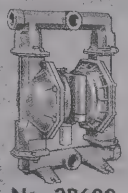
**ARO®**

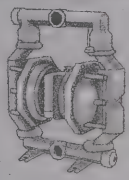
**New**

**INGERSOLL-RAND FLUID PRODUCTS**


No. 4RN37


No. 2P598


No. 2P600


No. 4RN43


No. 4RN42

Replacement Parts Available
1-800-323-0620

FREE DELIVERY on orders of $900 or more
See Freight Policy

- **Twin diaphragm design, double acting**
- **No-stall air motor design**
- **Self-priming 15 ft. wet; 10 ft. dry**
- **For pumping water, solvents, slurries, waste oils, paints, and adhesives compatible with pump component materials**

Flow rate depends on air pressure and fluid viscosity. Max flow rates are achieved at 100 PSI for 1/2" pumps and 120 PSI for others. Verify materials of construction with Chemical Resistance Chart in the Terminology and Technical Data section.

**METALLIC PUMPS:** High strength, heat-treated aluminum alloy pumps offer high impact strength and good abrasion resistance. Aluminum pumps are the pump of choice in general industrial applications. **WARNING: ALUMINUM IS NOT COMPATIBLE WITH HALOGENATED HYDROCARBON SOLVENTS.** Stainless steel pumps offer high impact strength along with good corrosion resistance, making them a wise choice for use in marine or washdown operations, as well as areas where highly caustic or corrosive materials are in use. Max. temperature 150°F for aluminum pumps, 90°F for stainless steel, and 190°F for cast iron.

## PUMP CROSS-REFERENCE

| Stock No. | Wilden Model | Warren/Rupp Model | Aro Model |
|---|---|---|---|
| **METALLIC PUMPS** | | | |
| 4RN37 | M1/SDPC/TF/TF/STF | SB1/2-A TGR-2-5 | PD05P-ASS-STT |
| 2P598 | M2/00/BN/BN/AP | SB1-A/SB-2-A | 666100-362-C |
| 5U664 | M2/TO/TF/TF/AT | SB1-A/SGN-3-A | 666100-244-C |
| 4RN27 | M2/WAAB/WF/WF/WFF | EB1-M TN-3-2 | 666102-2EB-C |
| 5U665 | M2/ST/TF/TF/ST | SB1-A/SGN-3-SS | 666111-244-C |
| 5U666 | M2/ST/WF/WF/WF | SB1 A/SGN-3-SS | 666101-24B-C |
| 2P599 | M4/OP/BN/BN/BF | SB1-1/2-A/SB-4-A | 666150-362-C |
| 5U671 | M4/TO/TF/TF/AT | SB1-1/2-A/SGN-5-A | 666150-244-C |
| 5U672 | M4/ST/FT/TF/ST | SB1-1/2-A/SSN-3-S1 | 666161-244-C |
| 4RN28 | M4/WMAB/WF/WF/WF | EB 11/2-A TN-2-CI | 666152-2EB-C |
| 5U673 | M4/ST/TF/TF/ST | SB1-1/2-1/S1-3-SS | 666151-24B-C |
| 2P600 | M8/FO/BN/BN/BN | SB1-1/2-I/SI-3-55 | PD20A-AAP-GGG |
| 4RN38 | M8/WAAD/WF/WF/WF | EB2-M TN-3-1 | PD20A-ACS-HAA |
| 5U676 | M8/TO/TF/TF/AT | EB2-M/TGN-2-A | PD20A-AAP-KTT |
| 5U678 | M8/ST/TF/TF/ST | SB2-A/TGN-2-S | PD20C-ASS-KTT |
| 5U677 | M8/54/TF/TF/ST | — | PD20A-ASP-AAA |
| 4RN43 | — | SA2-A DP-S-A | PF20A-AAP-SAA |
| 4RN39 | M15/AAAB/WF/WF/WF | EB-SM TN-3-A | PD30A-AAS-AAA |

## SCREENED INLET PUMP

Used in applications where unwanted solids pose a problem to the pump's intake. Pump has a special strainer to prevent solids from entering.

**New No. 4RN46.** ARO brand. Shpg. wt. 95.0 lbs. List $1147.36. Each ..... **$1012.00**

## METALLIC PUMPS

| GPM Flow Typical† | Max. GPM* | Max. CFM | Max. PSI Oper. Pressure | Materials of Construction: Pump Body Material | Diaphragm | Ball | Check Seat | Air Inlet FNPT | Fluid Inlet/ Outlet FNPT | Port Type # | Susp. Solids Max. Dia. | ARO Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 13 | 20 | 100 | Stainless Steel | Teflon | Teflon | Stainless Steel | 1/4 | 1/2 | Single | 3/32 | PD05P-ASS-STT | *New* | 4RN37 | $939.74 | $817.50 | 15.0 |
| 22 | 35 | 38 | 120 | Aluminum | Buna | Acetal | Polypro | 1/4 | 1 | Single | 1/8 | 666100-362-C | | 2P598 | 546.36 | 513.50 | 19.0 |
| 22 | 35 | 38 | 120 | Aluminum | Teflon | Teflon | Stainless Steel | 1/4 | 1 | Single | 1/8 | 666100-244-C | | 5U664 | 874.18 | 767.50 | 21.0 |
| 22 | 35 | 38 | 120 | Cast Iron | Santoprene | Santoprene | Stainless Steel | 1/4 | 1 | Single | 1/8 | 666102-2EBC | *New* | 4RN27 | 874.18 | 766.00 | 15.0 |
| 22 | 35 | 38 | 120 | Stainless Steel | Teflon | Teflon | Stainless Steel | 1/4 | 1 | Single | 1/8 | 666150-244-C | | 5U665 | 1469.71 | 1291.00 | 16.0 |
| 22 | 35 | 38 | 120 | Stainless Steel | Santoprene | Teflon | Stainless Steel | 1/4 | 1 | Single | 1/8 | 666101-24B-C | | 5U666 | 1245.70 | 1094.00 | 36.0 |
| 80 | 90 | 112 | 120 | Aluminum | Buna | Acetal | Polypro | 1/2 | 1½ | Single | 1/4 | 666150362-C | | 2P599 | 693.88 | 669.00 | 44.0 |
| 80 | 90 | 112 | 120 | Aluminum | Teflon | Teflon | Stainless Steel | 1/2 | 1½ | Single | 1/4 | 666150244-C | | 5U671 | 1245.70 | 1091.00 | 54.0 |
| 80 | 90 | 112 | 120 | Stainless Steel | Teflon | Teflon | Stainless Steel | 1/2 | 1½ | Single | 1/4 | 666161244-C | | 5U672 | 2617.08 | 2291.00 | 118.0 |
| 80 | 90 | 112 | 120 | Stainless Steel | Santoprene | Teflon | Stainless Steel | 1/2 | 1½ | Single | 1/4 | 666151244B-C | | 5U673 | 2322.04 | 2034.00 | 86.0 |
| 80 | 90 | 112 | 120 | Cast Iron | Santoprene | Teflon | Stainless Steel | 1/2 | 1½ | Single | 1/4 | 666152-2EB-C | *New* | 4RN28 | 901.50 | 796.00 | 81.0 |
| 125 | 160 | 125 | 120 | Santoprene | Santoprene | Santoprene | Stainless Steel | 1/2 | 2 | Single | 1/4 | PD20A-ACS-HAA | *New* | 4RN38 | 1726.50 | 1525.00 | 160.0 |
| 125 | 160 | 125 | 120 | Aluminum | Santoprene | Santoprene | Santoprene | 1/2 | 2 | Single | 1/4 | PS20A-AAS-AAA | *New* | 4RN46 | 1147.36 | 1012.00 | 95.0 |
| 125 | 160 | 125 | 120 | Aluminum | Geolast | Geolast | Geolast | 3/4 | 2 | Single | 1/4 | PD20A-AAP-GGG | | 2P600 | 896.03 | 849.50 | 46.0 |
| 125 | 160 | 125 | 120 | Aluminum | Teflon | Teflon | Kynar | 3/4 | 2 | Single | 1/4 | PD20A AAP-KTT | | 5U676 | 1431.47 | 1258.00 | 54.0 |
| 125 | 160 | 125 | 120 | Stainless Steel | Teflon | Teflon | Kynar | 3/4 | 2 | Single | 1/4 | PD20A-ASP-AAA | | 5U678 | 2606.15 | 2288.00 | 182.0 |
| 125 | 160 | 125 | 120 | Stainless Steel | Santoprene | Acetal | Santoprene | 3/4 | 2 | Single | 1/4 | PD20C-ASS-KTT | | 5U677 | 3857.32 | 3292.00 | 210.0 |
| 125 | 160 | 125 | 120 | Aluminum | Santoprene | Santoprene | Stainless Steel | 1/2 | 2 | Single | 1/4 | PF20A-AAS-SAA | *New* | 4RN43 | 1759.29 | 1544.00 | 104.0 |
| 125 | 160 | 125 | 120 | Stainless Steel | Teflon | Viton | Teflon | 1/2 | 2 | Single | 1/4 | PF20C-ASS-SVT | *New* | 4RN45 | 4895.41 | 4283.00 | 222.0 |
| 125 | 160 | 125 | 120 | Cast Iron | Santoprene | Santoprene | Stainless Steel | 1/2 | 3 | Single | 3/8 | PF20C-ACS-SAA | *New* | 4RN44 | 2529.66 | 2228.00 | 200.0 |
| 200 | 275 | 125 | 120 | Aluminum | Santoprene | Santoprene | Santoprene | 3/4 | 3 | Single | 3/8 | PD30A-AAS-AAA-1 | *New* | 4RN39 | 1327.66 | 1173.00 | 124.0 |
| 200 | 275 | 125 | 120 | Aluminum | Teflon | Teflon | Stainless Steel | 3/4 | 3 | Single | 3/8 | PD30A-APS-STT-1 | *New* | 4RN40 | 2879.43 | 2560.00 | 128.0 |
| 200 | 275 | 125 | 120 | Cast Iron | Santoprene | Santoprene | Stainless Steel | 3/4 | 3 | Single | 3/8 | PD30A-ACS-HAA-1 | *New* | 4RN41 | 2305.65 | 2041.00 | 210.0 |
| 200 | 275 | 125 | 120 | Stainless Steel | Teflon | Teflon | Stainless Steel | 3/4 | 3 | Single | 3/8 | PD305-ASS-STT 1 | *New* | 4RN42 | 7621.77 | 6645.00 | 210.0 |

GPM pumping water with no back pressure (0 PSI fluid back pressure), CFM required for this flow at 100 PSI (air inlet pressure). (†) Typical flow rate at 70 PSI (air inlet pressure) with 15 PSI fluid back pressure), pumping a material with 20 poise (1000 SSU) viscosity. (#) Single = Single piece nonrotating manifold ports. Three = Three-piece inlet/outlet manifolds which can be arranged to create multiple inlet/outlet configurations. Flange = Flanges and flange adapters included.

# METALLIC PUMP SERVICE/REPAIR KITS

**FLUID SECTION KITS:**

Contents include: 4 (ball) checks, 2 diaphragms, and all related seals and o-rings.

| Section Kit Description | Ports (In.) | Ball/ Diaphragm Material | ARO Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Fluid** | 1/2 | Teflon | 637140-44 | **4RM99** | $305.47 | **$302.50** | 0.5 |
| **Fluid** | 1 | Acetal/Nitrile | 637119-62-C | **4RM94** | 120.23 | **119.95** | 0.9 |
| **Fluid** | 1 | Teflon | 637119-44-C | **4RM93** | 363.78 | **360.75** | 0.9 |
| **Fluid** | 1 | Teflon/Santoprene | 637119-EB-C | **4RM95** | 87.68 | **85.65** | 0.9 |
| **Fluid** | 1½ | Acetal/Nitrile | 637124-62 | **4RM97** | 138.46 | **137.80** | 3.1 |
| **Fluid** | 1½ | Teflon | 637124-44 | **4RM96** | 653.48 | **647.50** | 2.9 |
| **Fluid** | 1½ | Teflon/Santoprene | 637124-EB | **4RM98** | 173.36 | **171.50** | 2.5 |
| **Fluid** | 2 | Geolast | 637309-GG | **4RN13** | 142.25 | **140.15** | 3.1 |
| **Fluid** | 2 | Teflon | 637309-TT | **4RN14** | 780.43 | **776.50** | 3.2 |

**AIR SECTION KITS:**

Contents include all necessary air valve retaining rings, gaskets seals and o-rings.

| Section Kit Description | Ports (In.) | Ball/ Diaphragm Material | ARO Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Fluid** | 2 | Santoprene | 637309-AA | **4RN12** | $176.89 | **$175.00** | 3.0 |
| **Fluid** | 2 (Flap) | Viton/Teflon | 637310-VT | **4RN16** | 663.08 | **659.00** | 3.2 |
| **Fluid** | 2 (Flap) | Santoprene | 637310-AA | **4RN15** | 220.36 | **211.00** | 2.8 |
| **Fluid** | 3 | Santoprene | 637303-AA | **4RN10** | 210.47 | **209.50** | 6.0 |
| **Fluid** | 3 | Teflon | 637303-TT | **4RN11** | 1025.68 | **1022.00** | 11.0 |
| **Air** | 1/2 | Teflon | 637141 | **4RN03** | 48.96 | **47.75** | 0.2 |
| **Air** | 1, 1½ | Teflon | 637118-C | **4RM92** | 92.67 | **90.60** | 0.2 |
| **Air** | 2, 3 | Teflon | 637302 | **4RN09** | 62.23 | **61.15** | 0.4 |

# 1/4" LOW-FLOW, AIR-OPERATED DIAPHRAGM TRANSFER PUMPS

- **360° Mounting**
- **No-stall air valve**
- **No-lube air valve**
- **Pump solvents or lubricants**
- **Sealless design**
- **20 Ft. suction lift with water**

**Description:** ARO low-flow air operated diaphragm pumps are self-priming and portable. Designed for pumping water, solvents, acids, and other liquids compatible with pump component materials. Acetal models can also be used with solvents. Patented unstallable air valve. Unlimited mounting flexibility make these pumps exceptionally versatile.

**Max. Temperature:** 150°F for polypropylene; 180°F for acetal.

**Flow Rate:** 3 GPM at 70 PSI with 32 PSI fluid back pressure. 2 GPM at 50 PSI with 30 PSI fluid back pressure.

**Driver:** Driven by compressed air. Air inlets are 1/4" FNPT. Maximum operating pressure: 100 PSI.

**Dimensions:** 5⅝H x 7½W x 5½"D.




| GPM Flow Typical | Max. GPM | Air Consumption | Maximum Operating Pressure (PSI) | Pump Body Material | Diaphragm | Fluid Inlet / Outlet FNPT (In.) | Air Inlet FNPT (In.) | Pass Solids Max Dia. (In.) | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0-3** | 4.5 | 1 CFM/1 GPM | 100 | Polypropylene | Teflon | 3/8 / 1/4 | 1/4 | 1/32 | PD02P-APS-PTT | **4P971** | $278.64 | **$235.25** | 4.0 |
| **0-3** | 4.5 | 1 CFM/1 GPM | 100 | Polypropylene | Santoprene | 3/8 / 1/4 | 1/4 | 1/32 | PD02P-APS-PTA | **4P970** | 196.69 | **174.50** | 4.0 |
| **0-3** | 4.5 | 1 CFM/1 GPM | 100 | Acetal | Teflon | 3/8 / 1/4 | 1/4 | 1/32 | PD02P-ADS-DTT | **5U682** | 322.35 | **283.25** | 4.7 |
| **0-3** | 4.5 | 1 CFM/1 GPM | 100 | Acetal | Santoprene | 3/8 / 1/4 | 1/4 | 1/32 | PD02P-ADS-DTA | **5U681** | 240.40 | **211.25** | 4.7 |

ARO® INGERSOLL-RAND FLUID PRODUCTS



UL MH13434

Replacement Parts Available 1-800-323-0620™

# UL LISTED, AIR-OPERATED DIAPHRAGM FUEL PUMP

- **Meets UL Specification 79, by limiting dispensing pressure to 50 PSI**
- **Handles: gasoline, aviation and diesel fuel, fuel oil and kerosene**
- **Relief valve (can be plumbed to return bleed off to supply)**
- **Reversible ball seats (double their service life/keep maintenance costs down)**
- **Air inlet 1/4" FNPT**
- **Fluid ports 1" FNPT**
- **Portable, lightweight design**
- **High volume delivery**

Flow rate (fuel) at 50 PSI (air inlet pressure) with 15 PSI (fluid back pressure) is 19 GPM Maximum flow (water) at 50 PSI (air inlet pressure) with 0 PSI (fluid back pressure, 1 ft. discharge hose) is 29 GPM Maximum air inlet pressure is 50 PSI; 30 CFM Max. Maximum suspended solids: 1/8 dia., flow is reduced.

**Construction:** Aluminum pump with Kyna seats, acetal balls, Viton diaphragms and O-rings. Identical inlet/outlet manifolds allow variable, interchangeable and reversible installation options. ARO brand

**No. 3P785.** (650717-C). Shpg. wt. 18.0 lbs. List $879.64. Each ..... **$809.00**

THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.

**Our branches are conveniently located and stocked with commonly used items from this catalog. If you need it now, call Grainger. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# AIR-OPERATED FLUID TRANSFER PUMPS

## DRUM, WALL, CART-MOUNTED FLUID TRANSFER PUMPS

### A 1:1 OIL DRUM PUMPS Nos. 2P529 AND 3P960

- **For use with: motor oil, gear oil,and transmission fluid**
- **Up to 9 GPM max. flow rate**
- **Fits 2" bung opening**

**lo. 2P529.** Delivers up to 9 gallons of oil and other low-viscosity liquids) per ninute. Includes basic pump, bung dapter, air line coupler/connector, needle alve. 1:1 pressure ratio between inlet and utlet. Carbon steel plunger and suction ube with a cast iron foot valve. Carbon teel and Buna N wetted parts. Buna N acking. 2" Air motor. Aluminum outlet asting.

**lo. 3P960.** Same as No. 2P529 above, xcept has Teflon packing for greater ompatibility with fluids such as anti-reeze. Will handle fluids up to 200 cen-ipoise.

### B 2:1 STAINLESS STEEL PUMP No. 2P687

- **For use with: anti-freeze, solvents**
- **Fits 4.0 GPM max. flow rate**
- **2" Bung openings**

or high-volume, short-run delivery of low iscosity materials compatible with 316 tainless steel. For adhesives, food addi-ves, lacquers, solvents, varnishes, water nd water-base fluids. Abrasive-resistant ardened stainless steel cylinder and tube. eflon packing. 2:1 pressure ratio between ılet and outlet. 2" Diameter air motor ith 6" stroke. Delivers 8.0 cubic inches er cycle. 2" Bung opening. Will pump liq-ids up to 1000 centipoise.

### C 4:1 CARBON STEEL TRANSFER PUMP No. 3P961

- **For use with: lubricants, adhesives, paints, sealers, lacquers, and resins**
- **6 GPM max. flow flow rate**
- **Fits 2" bung opening**

or delivery of medium-viscosity fluids (to )00 cps) direct from containers. Also sed to transfer low-viscosity fluids rough long piping runs such as hose els in central piping systems. Stub style mp can be wall-mounted or used with -gallon drum with suction tube (includ-l). Carbon steel construction, and Teflon cking. 3" Diameter air motor with 2¾" roke delivers 6.2 cubic inches per cycle.

### D 2:1 STUB (WALL-MOUNTED), 55-GALLON DRUM PUMPS Nos. 4RN20 AND 4RN19

- **For use with paints, stains, varnishes, coatings, solvents**
- **Up to 4 GPM maximum flow rate**

**. 4RN20** features stainless steel con-ruction with Teflon packings. Can be all-mounted (use No. 4RM91 bracket).

**. 4RN19** carbon steel-constructed pump atures Teflon packings. Mounts directly 55-gallon drum.

### E 4:1 STUB (WALL MOUNT), 55-GALLON DRUM PUMPS, STAINLESS STEEL CONSTRUCTION Nos. 4RN35 AND 4RN36

- **Stainless steel construction for use in corrosive environments, with fluids that include water-based paints and coatings**
- **4.2 GPM maximum flow rate**

**No. 4RN35** features glass-filled Teflon packings for high fluid compatibility. Mounts to wall using No. 4RM91 wall mounting bracket.

**No. 4RN36** 55-gallon pump mounts directly on drum. Features glass-filled Teflon packings for water-based fluid compatibility.

### F 9:1 STUB (WALL MOUNT), 55 GALLON DRUM PUMPS, STAINLESS STEEL CONSTRUCTION Nos. 4RN21 AND 4RN22

- **Higher ration for higher outlet pressure demand; 1,000 PSI at 100 PSI air inlet**
- **4.0 GPM maximum flow rate**

**No. 4RN21** stub-type mounts to wall using No. 4RM91 wall mounting bracket. Features Teflon packings for wide fluid compatibility, including water-based.

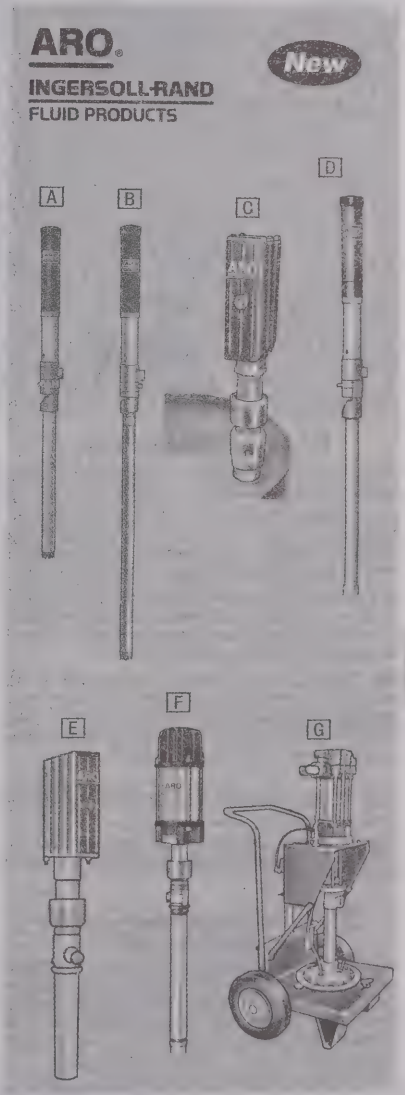
**No. 4RN22** 55-gallon pump mounts directly on drum. Teflon packings for wide material compatibility.

### G 43:1 CART-MOUNTED, 5-GALLON EXTRUSION PUMPS Nos. 4RN23 AND 4RN24

- **High ratio/pressure pumps used for supply of high-viscosity materials: caulk, RTV, adhesives, sealants**
- **0.85 GPM maximum flow rate**

**No. 4RN23** carbon steel-constructed pump features abrasion-resistant UHMW-PE packings. Unit shipped assembled with pump, air regulator, cart, follower.

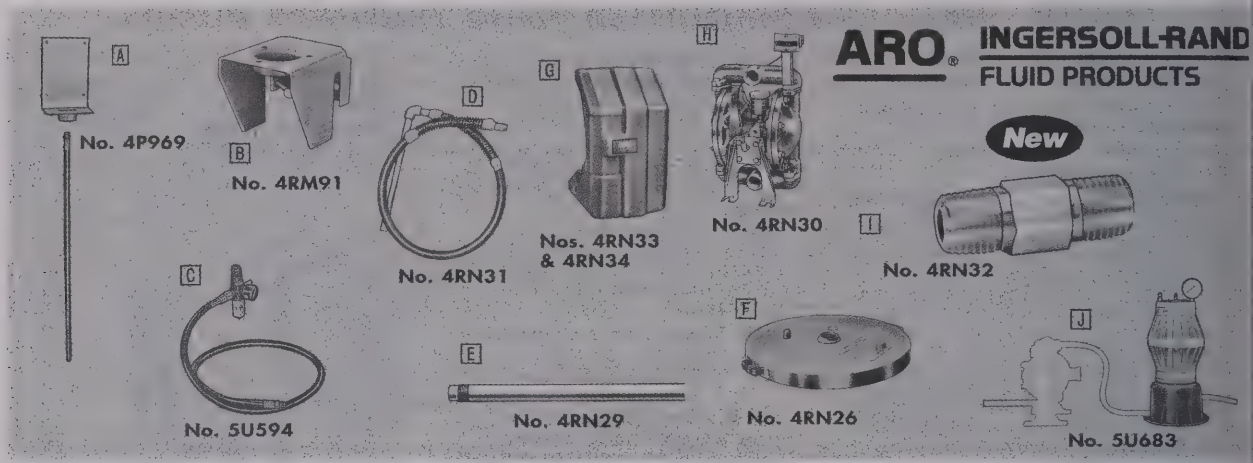
**No. 4RN24** stainless steel-constructed pump offers maximum corrosion resistance with abrasive-resistant UHME-PE packings. Unit shipped complete/assembled with pump, air regulator, cart, and follower.




### TRANSFER PUMP ORDERING DATA

| Key | Ratio | Max. Flow Rate (GPM) | Discharge FPT (In.) | Body Material | Packing | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1:1 | 9 | 3/4 | Carbon Steel | Buna-N | 612041-1 | 2P529 | $725.63 | $718.50 | 18.0 |
| A | 1:1 | 9 | 3/4 | Carbon Steel | Teflon | 612041-3-G | 3P960 | 647.98 | 580.50 | 18.0 |
| B | 2:1 | 4 | 1/2 | Stainless Steel | Teflon | 650133 | 2P687 | 1147.36 | 1060.00 | 21.0 |
| C | 4:1 | 6 | 1/2 | Carbon Steel | Teflon | NM2304A-1G-311 | 3P961 | 1147.36 | 1073.00 | 21.0 |
| D | 2:1 | 4 | 1/2 | Stainless Steel | Teflon | 650132-C | New 4RN20 | 1141.90 | 993.00 | 17.0 |
| D | 2:1 | 4 | 1/2 | Carbon Steel | Teflon | 650110-1C | New 4RN19 | 977.89 | 851.50 | 49.0 |
| E | 4:1 | 4 | 3/4 | Stainless Steel | Teflon | NM2304B-11-311 | New 4RN35 | 1420.64 | 1317.00 | 24.0 |
| E | 4:1 | 4 | 3/4 | Stainless Steel | Teflon | NM2304B-41-311 | New 4RN36 | 1595.38 | 1485.00 | 36.0 |
| F | 9:1 | 4 | 3/4 | Stainless Steel | Teflon | 650408-B | New 4RN21 | 2103.49 | 1830.00 | 35.0 |
| F | 9:1 | 4 | 3/4 | Stainless Steel | Teflon | 650409 | New 4RN22 | 2327.50 | 2026.00 | 45.0 |
| F | 9:1 | 4 | 3/4 | Carbon Steel | UHMW | 650540-1 | New 4RN23 | 3534.97 | 3094.00 | 166.0 |
| G | 43:1 | 0.85 | 1/2 | Stainless Steel | UHMW | 650541-1 | New 4RN24 | 4414.61 | 3860.00 | 185.0 |

# PUMP ACCESSORIES




### A DRUM KIT ASSEMBLIES

Kits come with down tube sized for 55-gallon drum. Can be cut to length.

**No. 4P969.** For any 1/4" (port) pump. Stainless steel L-shaped bracket with bung adapter built-in and Teflon suction tube with pump inlet fittings.

**No. 4P968.** For mounting any 1/2" (port) pump. Kit features stainless steel flat plate bracket with bung adapter built-in and stainless steel tube and fittings.

**No. 2P601.** PVC siphon tube with bung adapter converts No. 2P597 to drum type pump. 37.65" Long 1/2" PVC pipe with 90° elbow glued to pipe and threaded on other end of elbow and bung adapter.

### B WALL-MOUNT BRACKET No. 4RM91

Has 2" NPT(F) opening to accept "stub"-type pumps. Bracket can be mounted on wall or can be slipped over rim of open head drum.

### C DIAPHRAGM PUMP AIR LINE CONNECTION KITS

Air line kits include air line filter/regulator with gauge (0-160 PSI), FNPT air coupler, MNPT air connector, pipe nipple and 5-foot section of air hose MNPT at both ends. ARO brand.

### D 55-GALLON SIPHON KIT No. 4RN31

Stainless steel tube for 55-gallon containers includes 16" wand and 5 ft. of 3/4" I.D. hose.

### E PVC EXTENSION TUBE No. 4RN29

Adapts "stub"-type pumps to direct 55-gallon drum transfer capacity.

### F 55-GALLON DRUM COVER No. 4RN26

For direct mounting of "drum"-style pumps. Cover includes hinged access covers, 2" NPT(F) bung opening. Can accept material agitator.

### G HIGH FLOW DIAPHRAGM PUMP MUFFLERS Nos. 4RN33 AND 4RN34

Mufflers help reduce pump sound levels and ice-up. No. 4RN33 recommended for continuous duty, No. 4RN34 recommended for intermittent operations.

### H DIAPHRAGM PUMP CYCLE COUNTER KIT No. 4RN30

Easy-to-install counter records up to 999,999 pump cycles. Kit comes complete with installation hardware. Perfect for fluid inventory, preventative maintenance and fluid metering.

### I PRESSURE RELIEF VALVE No. 4RN32

Relief valve is preset to 125 PSI (±10 PSI) to be used in systems where thermal expansion or excess back pressure can develop in fluid lines. Valve should be installed in a piping tee located near the outlet of the pump. Tubing or hose will be required to return bleed-off to fluid container. Valve is 1/4-1/8(M) inlet/outlet threaded.

### J DIAPHRAGM (1" PORTS OR SMALLER) PUMP PULSATION DAMPENERS Nos. 5U683 AND 5U684

Patented, modular dampener design permits either manual or automatic fluid pulsation reduction (up to 90%) with the same unit. Mounting base hardware included. For plumbing dampener to pipe 1" (NPT) pipe or larger, use order No. 4RN25 base.

### K PULSATION DAMPENER BASE No. 4RN25

For plumbing No. 5U683 or 5U684 pulsation dampeners to 1" (NPT) or larger pipe.

| Key | Description | For Pump Size (In.)/Type | ARO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | Drum Kit | 1/4 / Diaphragm | 65031 | **4P969** | $144.24 | **$103.05** | 7.5 |
| A | Drum Kit | 1/2 / Diaphragm | 65938 | **4P968** | 154.07 | **138.00** | 7.0 |
| A | Drum Kit | 1/2 / Diaphragm | 61409 | **2P601** | 69.93 | **32.85** | 2.5 |
| B | Wall Bracket | All / Stub | 61113 | ***New* 4RM91** | 96.43 | **84.15** | 3.0 |
| C | Air Line Kit | 1/4, 1/2, 1 / Diaphragm | 66073-1 | **5U594** | 113.64 | **76.45** | 2.0 |
| C | Air Line Kit | 1½, 2, 3 / Diaphragm | 66084-1 | **5U595** | 165.00 | **134.30** | 6.0 |
| D | Siphon Kit | All/Stub | 67140-2 | ***New* 4RN31** | 322.35 | **307.00** | 10.0 |
| E | PVC Ext. Tube | All/Stub | 66717 | ***New* 4RN29** | 77.03 | **73.25** | 2.0 |
| F | 55-Gal. Drum Cover | All/Drum | 66197 | ***New* 4RN26** | 253.67 | **252.50** | 18.0 |
| G | Muffler (Continual duty) | 2,3 / Diaphragm | 94085 | ***New* 4RN33** | 97.52 | **94.15** | 10.0 |
| G | Muffler (interim duty) | 2,3 / Diaphragm | 94117 | ***New* 4RN34** | 60.10 | **57.80** | 2.2 |
| H | Cycle Counter | 1/2 to 3 / Diaphragm | 66975 | ***New* 4RN30** | 333.28 | **315.75** | 2.0 |
| I | Pressure Relief valve | All / Diaphragm | 93368-1 | ***New* 4RN32** | 69.93 | **66.20** | 0.3 |
| J | Pulsation Dampener Polypropylene Body, Teflon Bladder | 1/4 to 1 / Diaphragm | 667003-01 | **5U683** | 677.49 | **595.00** | 8.1 |
| J | Pulsation Dampener Polypropylene Body, Santoprene Bladder | 1/4 to 1 / Diaphragm | 667003-01 | **5U684** | 351.85 | **309.00** | 8.1 |
| K | Pulsation Dampener Base | 1+ / Diaphragm | 66108 | ***New* 4RN25** | 25.67 | **24.67** | 2.0 |



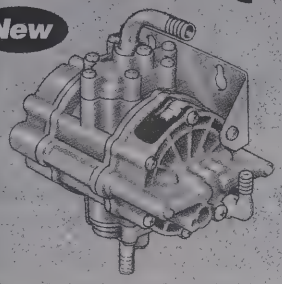
*If we don't have a pump for it, chances are it can't be pumped.*

# CAR WASH, SOAP DISPENSING AND CHEMICAL TRANSFER PUMPS

## CHEMICAL TRANSFER, SOAP DISPENSING, LIQUID FERTILIZER INJECTION PUMPS

SHURflo® CE

New



Nos. 4UN12, 4UN13, 4UN14, & 4UN15

Air-driven pump has two-chamber double diaphragm design and patented fast action switching mechanism to provide smooth flow and consistent pressure. For chemical transfer, soap dispensing, liquid fertilizer injection and agricultural spraying where a compressed gas source is available. Santoprene and EPDM models are NSF listed.

Diaphragm design allows pump to self prime and run dry without damage. Pump operates when supplied with clean, dry compressed air, $CO_2$ or Nitrogen. Pumping begins when liquid outlet port is opened, and stops automatically when liquid outlet port is closed. Pump consumes .5 CFM of 60 psi supply air when delivering .45 gpm. Performance varies with liquid viscosity. For maximum life, flow rate should not exceed 1 gpm. Liquid inlet and outlet ports are 3/8" barb type. Air inlet is 1/4" barb type.

**Pump body and shaft** are constructed of chemically resistant Polypropylene. Internal materials include choice of Viton, Buna, EPDM or Santoprene elastomers. Can be used with caustic or acidic fluids which are compatible with materials of construction.

**LIQUID OUTLET PRESSURE**

| Flow GPM | Air Inlet Pressure 20 PSI | 40 PSI | 60 PSI |
|---|---|---|---|
| 0.25 | 17 | 36 | 52 |
| 0.75 | 13 | 32 | 48 |
| 1.25 | 8 | 27 | 42 |

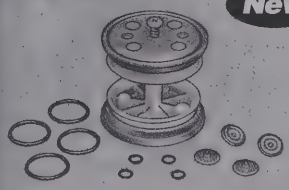
**AIR-OPERATED DIAPHRAGM PUMP ORDERING DATA**

| Materials of Construction Body | Diaphragm | Valves | Shaft | Air-in Pressure Min. - Max. (PSI) | Suction Lift Wet | Temperature Limits (°F) | Dimensions (In.) H | W | L | SHURflo Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Polypropylene | Viton | Viton | Polypro | 25 - 60 | 25" Hg | 34 - 120 | 6.75 | 3.8 | 5.8 | 166-200-36 | **4UN12** | $165.30 | **$115.65** | 2.0 |
| Polypropylene | Buna | Buna | Polypro | 25 - 60 | 25" Hg | 34 - 120 | | | | 166-200-46 | **4UN13** | 129.00 | **90.30** | 2.0 |
| Polypropylene | EPDM | EPDM | Polypro | 25 - 60 | 25" Hg | 34 - 120 | | | | 166-200-56 | **4UN14** | 126.55 | **88.55** | 2.0 |
| Polypropylene | Santoprene | Santoprene | Polypro | 25 - 60 | 25" Hg | 34 - 120 | | | | 166-200-57 | **4UN15** | 129.00 | **90.30** | 2.0 |

## REPLACEMENT PARTS KITS

SHURflo®

New



Nos. 4UN62, 4UN65, 4UN63 & 4UN64

Replacement elastomer kits include a complete piston drive assembly with shaft plus all elastomer parts including diaphragm, valves and O-ring seals.

**Replacement Parts Available**
**1-800-323-0620**

**REPLACEMENT PARTS KITS ORDERING DATA**

| Description | For Stock No. | SHURflo Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Elastomer Kit, Viton** | 4UN12 | 94-175-05 | **4UN62** | $55.23 | **$51.90** | 1.0 |
| **Elastomer Kit, Buna** | 4UN13 | 94-175-08 | **4UN65** | 14.64 | **13.60** | 1.0 |
| **Elastomer Kit, EPDM** | 4UN14 | 94-175-06 | **4UN63** | 14.38 | **13.36** | 1.0 |
| **Elastomer Kit, Santoprene** | 4UN15 | 94-175-07 | **4UN64** | 12.20 | **11.30** | 1.0 |

### VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

### UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# DIAPHRAGM PUMP AND FLOWMETERS

## 12V DIAPHRAGM PUMP

- Reciprocating spring-driven, patented dual diaphragm design (patent pending) optimizes flow rate
- Transfers fluid viscosities up to 1000+ cps (SAE 80-90 oil at 31°F)
- Can also transfer particulate fluids to 1/10"
- Polypropylene, stainless steel and Zircon® wetted parts allow safe transfer of compatible industrial fluids and chemicals
- Outlet ports can be easily oriented for installation flexibility
- Self-priming
- Explosion-proof UL Listed 1/4 HP motor
- Heavy-duty switch, thermal overload protection and junction box
- 3-Wire battery cable
- Pump may be padlocked
- 13 GPM flow rate with water

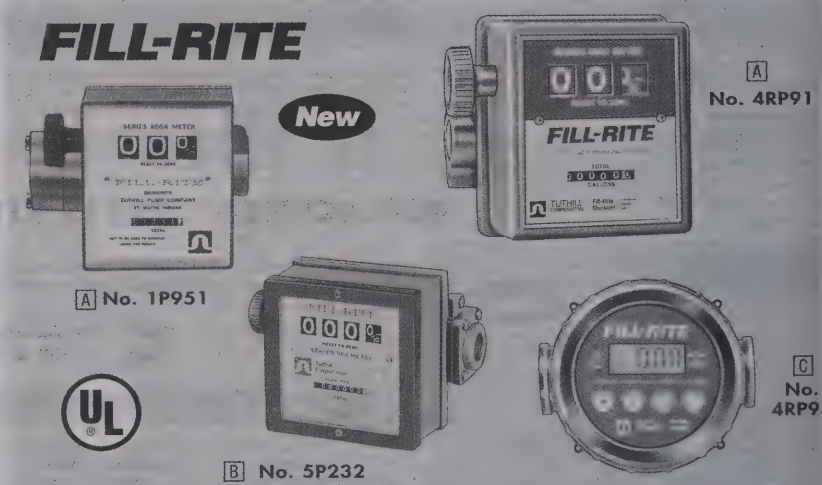
For transferring heavy fluids such as lube and gear oils. Dual diaphragm design counters internal load pressures to optimize flow rate while drawing only 18 amps of current under normal operating loads. Includes 1" x 12 ft. Buna hose, 1" manual nozzle and telescoping suction pipe. Not for use with gasoline or low flash point fluids. Fill-Rite brand (410).

**No. 5P233.** Shpg. wt. 35.0 lbs. List .....$710.67.
Each .....**$600.00**




## LIQUID FLOWMETERS

- Nos. 1P951 and 5P232 are economical, accurate meters for fuel dispensing pumps and industrial flow measurement. Construction materials include nickel-plated aluminum housing, 40% glass-filled polyester chamber, viton seal and Type 416 stainless steel shaft. Handles petroleum products, water, liquid feed and compatible chemicals. Not for resale measuring use.
- Nos. 4RP91 and 4RP92 have corrosion-resistant aluminum housings. Not to be used with water applications.
- Mechanical register with large easy-to-read numbers and convenient reset knob with a positive, zero stop
- Meter can be completely disassembled without disturbing piping. Ports can be rotated in 90° increments for installation flexibility
- Measures flow in liquids up to SAE 30 at 70°F




A **Nos. 4RP91 and 1P951.** Resettable counter measures flow to 100 U.S. gallons in 1/10 gallon increments; ±1% accuracy. 5-20 GPM flow range to 150°F; 50 PSI max. pressure. 100,000 gallon non-resettable totalizer shows cumulative use. No. 4RP91 has non-nickel plated aluminum housing and should not be used to handle water. UL Listed (MH8290).

B **Nos. 4RP92 and 5P232.** Operates at 6 to 40 GPM with accuracy to ±2%. Measures liquid flow to 1000 gallons. The non-resettable master totalizer registers up to 1,000,000 gallons. 50 PSI maximum pressure, to 150°F. No. 4RP92 has non-nickel plated aluminum housing and should not be used to handle water. UL Listed (MH8290).

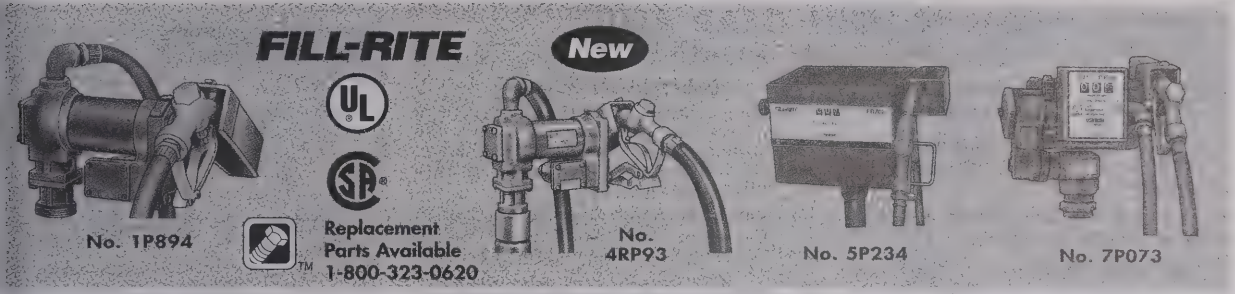
C **No. 4RP95.** Digital flow meter can be calibrated without dispensing fluids. Easy to read LCD display, can be calibrated to measure ounces, pints, quarts, liters and gallons. Resettable 1000 gallon counter Accurate to ±0.5%. Unit has 1" NP inlet/outlet ports adjustable for horizonta or vertical mounting. Flow range is 2-2( GPM. Glass filled polypropylene Weatherproof construction with Ryton an 302 stainless steel chanmber, and fluorcar bon seal. Operates on two alkaline batter ies (included). Fill-Rite brand (FR820).

### FLOWMETER ORDERING DATA

| Key | Flow (Gal.) | Port Size/ No. Ports | Dimensions (In.) L | W | H | Fill-Rite Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 20 | 1" NPT / 2 | 8 | 6 | 6 | 807C-1 | ***New*** **4RP91** | $139.00 | **$124.80** | 6.0 |
| A | 20 | 1" NPT / 2 | 8 | 6 | 6 | 807BN-1 | **1P951*** | 164.16 | **142.10** | 5.0 |
| B | 40 | 1½" / 2 | 8 | 6 | 6 | 901-N-1½ | **5P232*** | 242.10 | **220.75** | 7.9 |
| B | 40 | 1½" NPT / 2 | 8½ | 6½ | 5½ | 901-1½ | ***New*** **4RP92** | 234.00 | **172.75** | 8.0 |
| C | 20 | 1" NPT | 5½ | 5¼ | 5 | FR820 | ***New*** **4RP95** | 285.00 | **265.25** | 3.0 |

(*) For up to 50 PSI system pressure. Should be installed after valve or nonpressurized side of system to prevent water hammer and shock damage.

# TRANSFER PUMPS




**ugged, direct drive transfer pumps** for dispensing gasoline, erosene, and diesel fuel. Includes 12 ft. x 3/4" hose with static round wire and aluminum nozzle. Positive displacement rotary esign has carbon/ceramic seal and Viton O-rings. All units iclude carbon vanes. Heavy-duty switch, thermal overload pro-ection, permanently lubricated ball bearings and junction box for easy power source connection. Self-priming with built-in check valve and strainer. Easily mounts to standard 2" NPT opening. Pump inlet is 1" NPT. Corrosion-resistant construction with fully weatherized, sealed motor compartment. Pumps may be padlocked. Pump liquids compatible with pump component materials. Not intended for pumping water.

### No. 1P894 12VDC FUEL TRANSFER PUMP

elivers up to 13 GPM. Driven by 1/4 HP, 8-20 amp, 12 VDC explosion-proof, permanent magnet motor. Includes heavy-uty 15 ft. power cable and adjustable (22 › 40") suction tube for installation on tank r drum with 2" NPT opening. Operates up › 30 minutes continuously. UL Listed MH7817).

### No. 4RP93 12VDC TRANSFER PUMP

elivers up to 20 GPM. Driven by 1/4 HP, 2 amp, 12 VDC explosion-proof, permanent magnet motor. Includes hose, nozzle, able and adjustable suction tube for stallation on tank or drum with 2" NPT pening. UL and C-UL Listed.

### No. 4RP94 115VAC FUEL TRANSFER PUMP

For dispensing fuel into any vehicle and/or fuel-powered equipment. Delivers up to 14 GPM. Driven by 1/4 HP. 115V, 60 Hz, explosion-proof motor. Thermal overload protection. Self-priming with check valve. Compatible with gas, diesel, and kerosene. Includes hose, nozzle, and suction tube. UL and C-UL Listed.

### No. 2P279 115VAC UTILITY PUMP

Delivers up to 18 GPM. Driven by 1/3 HP, 115V, 60 Hz, 1725 RPM explosion-proof motor. For installation on underground or above ground tank systems. Does not include suction tube. Order No. 2P094 suction tube separately. UL Listed (MH5329).

### No. 5P234 115VAC COMPACT CABINET PUMP

Delivers up to 18 GPM in a reliable, direct drive cabinet unit. Pump has a 2" NPT threaded opening. Specifically designed for direct mounting with above ground tank systems; can also be used with underground tanks. Driven by 1/3 HP, 115V, 60 Hz, 1725 RPM explosion-proof motor. Includes a U.S. gallon register which measures flow to 100 gallons in 1/10 gallon increments and has a non-resettable totalizer to 100,000 gallons. Convenient, large reset knob has positive, zero stop. Does not include suction pipe. Order No. 2P094 suction tube separately. Not for resale measuring use. Includes manual nozzle with standard spout for unleaded gasoline. UL Listed (MH5329).

### No. 7P073 115VAC METERED FUEL TRANSFER PUMP

Pump consists of No. 1P951 flowmeter and No. 2P279, 115VAC fuel transfer pump. Includes 12' hose and unleaded aluminum nozzle. Not for resale measuring use.

| Power | Max. GPM | Metered | HP | Fill-Rite Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2VDC** | 13 | No | 1/4 | 1210 | **1P894** | $318.77 | **$268.00** | 31.0 |
| **2VDC** | 20 | No | 1/4 | FR4210GR | ***New* 4RP93** | 429.00 | **390.00** | 39.0 |
| **15VAC** | 14 | No | 1/4 | FR610GR | ***New* 4RP94** | 336.60 | **306.00** | 33.0 |
| **15VAC** | 18 | No | 1/3 | FR700 | **2P279** | 508.98 | **443.25** | 47.0 |
| **15VAC** | 18 | Yes | 1/3 | FR702RU | **5P234** | 615.00 | **564.00** | 75.0 |
| **15VAC** | 18 | Yes | 1/3 | FR701 | **7P073** | 615.00 | **533.00** | 52.0 |

## ROTARY TRANSFER PUMP

**For gasoline, diesel, oils up to SAE 40, and antifreeze**
**Provides smooth, continuous transfer up to 10 gallons per 100 revolutions**

or compatible medium viscosity liquids. icludes built-in check valve and strainer. perating mechanism easily accessible for ervice by removing face plate. Buna N eals.

icludes 22 to 40" telescoping suction pe, 2" bung adapter, 8 ft. hose and non-sparking nozzle. Pump can be padlocked. Pump body has 1" inlet and 3/4" outlet. Pump alone measures 12¾L x 6½W x 7¼H. Fill-Rite brand (122).

**No. 1P893.** Shpg. wt. 17.0 lbs. List .....$127.72.
Each.....**$109.85**

## PISTON HAND TRANSFER PUMP

**Ideal for gasoline, diesel fuel, oil, and kerosene**
**Compact, dual-action design delivers up to 20 gallons per 100 strokes**

low can be reversed by rotating piston 2 turn. Self priming. Rugged design feares stainless steel inner liner, cast aluinum body, steel faceplate, and zinc-plat-l, built-in strainer. Buna N seals. icludes 22 to 40" telescoping suction pe, 2" bung adapter, 8 ft. hose and non-sparking nozzle. Pump can be padlocked. Pump body has 1" inlet and 3/4" outlet. Pump alone meaures 19L x 6½W x 8" H. Fill-rite brand (FR162).

**No. 1P892.** Shpg. wt. 15.0 lbs. List .....$130.57.
Each.....**$110.00**



## HIGH TORQUE GEAR AND DIAPHRAGM PUMPS

- 12 Volt DC pumps available individually or in convenient Caddy systems
- Transfer concentrated non-flammable agricultural chemicals to secondary containers
- 1" diameter suction tube and 2" NPT bung adapter included
- Flow rates from 4 to 14 U.S. GPM

### GEAR PUMP

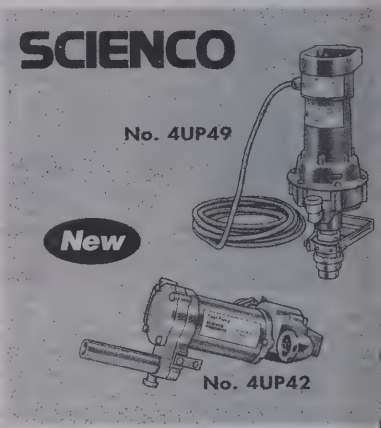
**No. 4UP42.** High-torque, horizontally mounted gear pump is ideal for the transfer of low to medium viscosity pesticides, herbicides and industrial chemicals.

### DIAPHRAGM PUMPS

Positive-displacement, self-priming pumps mount vertically or horizontally. Suitable for stationary or portable usage. Simple, no-seal design allows pumps to operate dry without damage.

**No. 4UP48.** Discharge pressure rating of 25 PSI; this pump handles even the thickest pesticides, down to temperatures as low as 40°F (4°C).

**No. 4UP49.** Handles various viscosities, from light liquids to heavy flowable pesticides. Automatic pressure-relief valve operates at 19 psi for internal bypass. Includes 1/2" x 12", 2-braid, 4-ply EPDM discharge hose and 1" 4-bolt ball valve and spout with reducer.




### GEAR/DIAPHRAGM PUMPS SPECIFICATIONS AND ORDERING DATA

| Gear/Diaphragm | Description | Construction | GPM | Mfr. Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Ryton plastic** | High-torque gear | Aluminum, Viton, plastic | 8 to 14 | EP-12H | **4UP42** | $373.80 | **$356.00** | 19.0 |
| **6-cell Santoprene** | Double diaphragm | Stainless steel, Viton, plastic | 6 to 8 | SS6 | **4UP48** | 669.90 | **638.00** | 19.0 |
| **3-cell Santoprene** | Double diaphragm | Polypropylene, stainless steel and Viton | Up to 4 | TF-04 SYS | **4UP49** | 390.86 | **372.25** | 15.0 |

## CADDY SYSTEMS

Portable and rugged closed transfer systems featuring pump and flow meter or batch/flow meter pre-installed in tubular steel cradle for maximum flexibility and handling. Ideal for the user of multiple mini-bulk containers. Suction, discharge hoses and 4-bolt ball valve and spout included.




### CADDY SPECIFICATIONS AND ORDERING DATA

| Meter Type | Discharge Hose (In.) | Suction Hose (In.) | Pump | Scienco Model No. | New! Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **SEM-30 Flow** | 1 x 12 EPDM | 1 x 8 | 4UP42 | CADDY-EP | **4UP36** | $850.50 | **$810.00** | 37.0 |
| **SEM-30B Batch/Flow** | 1 x 12 EPDM | 1 x 8 | 4UP42 | CADDY-EP-B | **4UP37** | 1249.50 | **1190.00** | 37.0 |
| **SEM-30 Flow** | 1x 12 EPDM | 1 x 8 | 4UP48 | CADDY-SS | **4UP38** | 1236.90 | **1178.00** | 46.0 |
| **SEM-30B Batch/Flow** | 1 x 12 EPDM | 1 x 8 | 4UP48 | CADDY-SS-B | **4UP39** | 1672.65 | **1593.00** | 46.0 |
| **SEM-30 Flow** | 1/2 x 12 EPDM | 1 x 8 | 4UP49 | CADDY-TRIFLEX | **4UP40** | 872.55 | **831.00** | 34.0 |
| **SEM-30B Batch/Flow** | 1/2 x 12 EPDM | 1 x 8 | 4UP49 | CADDY-TRIFLEX-B | **4UP41** | 1292.55 | **1231.00** | 34.0 |

### FLOW METERS AND BATCH/FLOW METERS

| Description | Scienco Model No. | New! Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| **Totalizing flow meter up to 30GPM.** | SEM-20 | **4UP43** | $215.77 | **$205.50** | 4.0 |
| **Totalizing flow meter up to 30GPM. Three calibration modes, operates to 100 psi. Includes 4AA batteries.** | SEM-30 | **4UP44** | 342.03 | **325.75** | 4.0 |
| **Electronic batch/flow meter. Similar to 4UP44, with batch electronics and air sensor designed to shut down the system if air is detected in the meter.** | SEM-30B | **4UP45** | 762.82 | **726.50** | 6.0 |
| **Two-inch flow meter assembly. Includes paddle-wheel flow sensor, electronic LCD flow monitor with three totalizers, 10-foot sensor and power cables, and pipe-mounting kit for 2" PVC installation. Flow rate to 150 GPM.** | SEM-40 | **4UP46** | 901.95 | **859.00** | 6.0 |
| **Two-inch batch/flow meter assembly. Same as 4UP46 with built-in batch electronics.** | SEM-40B | **4UP47** | 1360.80 | **1296.00** | 6.0 |

# DRUM AND BARREL PUMPS AND FUEL FILTER AND CARTRIDGE

## A QUART STROKE PUMP

- **For accurate quart dispensing of oils and other non-corrosive liquids**
- **May also be adjusted for liter measurement.**

urable, rugged design for tough applicaons. Discharge spout has small tube for extra convenience in bottle filling. Includes swing return drain, threaded base (for 2" drum openings) and telescoping suction pipe to fit 15 to 55 gallon drums. Fill-Rite brand (31).

**No. 2P530.** Shpg. wt. 17.0 lbs. List .....$91.05. Each .....**$87.75**

## B VOLUMETRIC HAND PUMP

- **Safe, accurate and economical**
- **Visual, volumetric accuracy**
- **Piston design works like a syringe**
- **Mount directly on drum, container, or tank**
- **Self priming**
- **No switches or levers make it very easy to use**

This ready-to-use pump is equipped with 2" NPS threaded inlet, telescoping suction tube, hose, ball valve, and anti-drip spout. Wetted materials are polypropylene, flourocarbon, with Barex (BP™) chamber. Large viewing window allows customer to monitor the amount of fluid dispensed right down to an ounce. Made in the USA. Fill-Rite brand (381).

***New* No. 4RP90.** Shpg. wt. 8.0 lbs. List....$217.50. Each .....**$208.50**

## C OIL PUMP AND D SUCTION TUBE

- **10 GPM**
- **Rotary hand crank**
- **Installs on barrels, tanks, drums, etc.**

ast iron constructed for dispensing and ansfer pumping fuel oil, lubricating oil, asoline, antifreeze (ethylene glycol) and her non-corrosive liquids. Not for use ith water. Sliding vane type design has rbon vanes. Self-priming. Easy turning nd crank. Delivers 10 GPM at 135 RPM. NPT inlet and 3/4" NPT discharge port. ung adapter included. Buna N seals. equires 1" NPT pipe suction tube (not pplied) or No. 2P094 adjustable suction be listed on this page. Teel brand.

**o. 2P093.** Oil Pump. Shpg. wt. 10.0 lbs. List 9.21. Each .....**$58.10**

### D NPT SUCTION TUBE

Adjusts 22 to 40". Steel construction. For use on Teel Nos. 2P093 and 2P363; Fill-Rite models 1210, 112, F152, FR700B fuel transfer pumps, and other pumps having 1" NPT inlet ports. Teel brand.

**No. 2P094.** Suction Tube. Shpg. wt. 2.8 lbs. List $22.06. Each .....**$16.33**

#### PUMP AND SUCTION TUBE

Includes No. 2P093 oil pump and No. 2P094 suction tube listed above. Packed in separate cartons.

**No. 7P071.** Pump and Tube. Shpg. wt. 12.8 lbs. List $95.60. Each .....**$70.60**

## E POLYPROPYLENE ROTARY PUMP

olypropylene Rotary Pump for dispensing nd transferring chemicals such as alkalis, etergents, mild acids, waxes and water sed chemicals. Self-priming with easy rning hand crank. Lightweight and easy transfer from drum to drum. 1" OD port ze. Delivers 8 GPM @ 135 RPM. Includes bung adapter and 1⅛" OD x 40" long 3-piece polypropylene suction tube. Wetted components; Viton, Teflon, Ryton and 304SS. Ideal for 15, 30 and 55 gallon drums. 4 Ft. pump hose accessory kit can be ordered separately, PVC Hose Kit No. 1N415. See page 3202. Teel brand.

**No. 1N417.** Polypropylene Rotary Pump. Shpg. wt. 4.0 lbs. List $84.50. Each.....**$75.00**

## F FUEL FILTER AND G CARTRIDGE

uel filters remove sediment and other purities to ensure clean fuel for proper eration of machinery. Designed for use ith gasoline, kerosene and diesel fuel, as ell as oils up to 10-weight. Thoroughly lters impurities down to 20 microns and ndles flows up to 15 GPM. Max. pressre of 150 PSI. Cast-iron head and domed eel shell offer sturdy construction and akproof performance. For connection -line to 3/4" NPT ports. Convenient drain ug releases water and sediment settled bottom of cavity. Cartridge can be placed with fuel filter in-line. Filters come with one cartridge. Order replacement cartridges below. 12⅞L x 4⁵⁄₁₆W x 3⅝" Dia.

**No. 2P695.** Fuel Filter and Cartridge. Shpg. wt. 5.7 lbs. List $91.18. Each .....**$79.60**

#### REPLACEMENT CARTRIDGES

Pleated 20 micron paper replacement cartridges are impregnated with a phenolic resin, formed around a tin steel core. Buna N gasket provides a positive seal between inlet and outlet ports.

**No. 2P696.** Replacement Cartridge. Shpg. wt. 0.4 lbs. List $9.64. Each .....**$8.70**



# DRUM AND BARREL PUMPS

## [A] RYTON® ROTARY DRUM PUMP

Ryton constructed pump for dispensing and transfer-pumping chemicals such as esters, bases and hydrocarbons compatible with Ryton and Viton. Self-priming. Delivers 7.5 GPM at 135 RPM. 1" OD stainless steel discharge tube. 1¼ OD x 40" long. 3-piece stainless steel suction tube. 2" Chemical resistant Epoxy® coated bung adapter. Ryton® vanes. Viton® lip seal and O-rings. Teel brand.

**No. 4P908.** Ryton Rotary Drum Pump. Shpg. wt. 8.0 lbs. List.....$147.93.
Each.....**$134.05**

## [B] STAINLESS STEEL ROTARY DRUM PUMP

An investment cast stainless steel construction with Teflon O-rings and seals make it ideal for use in dispensing and transferring chemicals and liquids including acids, acetones, alcohols, trichloroethylene, solvents, photographic chemicals, etc. compatible with stainless steel and Teflon. Carbon vanes and a cast rotary hand crank provide smooth operation and deliver 10 GPM at 135 RPM. Unit includes 3/4" NPT stainless steel discharge spout, 1" NPT x 40"L stainless steel suction tube and bung adapter for easy adaptation to barrels and drum.

***New*** **No. 4RC45.** Stainless Steel Rotary Drum Pump. Shpg. wt. 16.0 lbs. List.....$888.17.
Each.....**$711.00**

## [C] HIGH FLOW OIL DRUM PUMP

Rugged cast-iron construction with Buna seals for dispensing and transfer of fuel oil, lubricating oil, gasoline, antifreeze (ethylene glycol), vegetable oil and other noncorrosive liquids. Carbon vanes and cast rotary crank handle provide smooth operation and deliver 15 GPM at 135 RPM. Unit includes 1" NPT discharge spout, 1" NPT x 40"L suction tube and bung adapter for easy adaptation to barrels and drums.

***New*** **No. 4RC46.** High Flow Iron Rotary Drum Pump. Shpg. wt. 18.0 lbs. List.....$97.07.
Each.....**$77.70**

## [D] HIGH FLOW DRUM PUMP

- **27 GPM @ 120 strokes per minute**

Die cast aluminum pump for dispensing and transfering fuel oil, kerosene, gasoline, anti-freeze (ethylene glycol), and other non-corrosive liquids compatible with pump materials of construction. Not for use with water. Has highly machined steel rotors and separate gear box. Easy turning hand crank. Self-priming. Has 1" NPT cast iron inlet adapter with #60 mesh polyethylene suction strainer. 1" NPT discharge port. Requires 1" NPT pipe suction tube (not included) or No. 2P094 adjustable suction tube, listed separately. Buna N seals. Teel brand.

**No. 7P085.** Pump and Tube. Shpg. wt. 16.8 lbs. List $220.60. Each.....**$177.25**
**No. 2P363.** High Flow Drum Pump. Shpg. wt. 14.0 lbs. List $218.22. Each.....**$177.00**

## [E] PVC HOSE KIT

PVC tubing with a 1" ID x 4 feet long. 1¼" OD. For use with waxes, detergents, solvents and other liquids compatible with PVC. Comes with a hose clamp to fit tubing. For use with Nos. 1N417, 2P093, 2P363, 4P908, and 1N423.

**No. 1N415.** PVC Hose Kit. Shpg. wt. 1.2 lbs. List.....$21.50.
Each.....**$15.73**

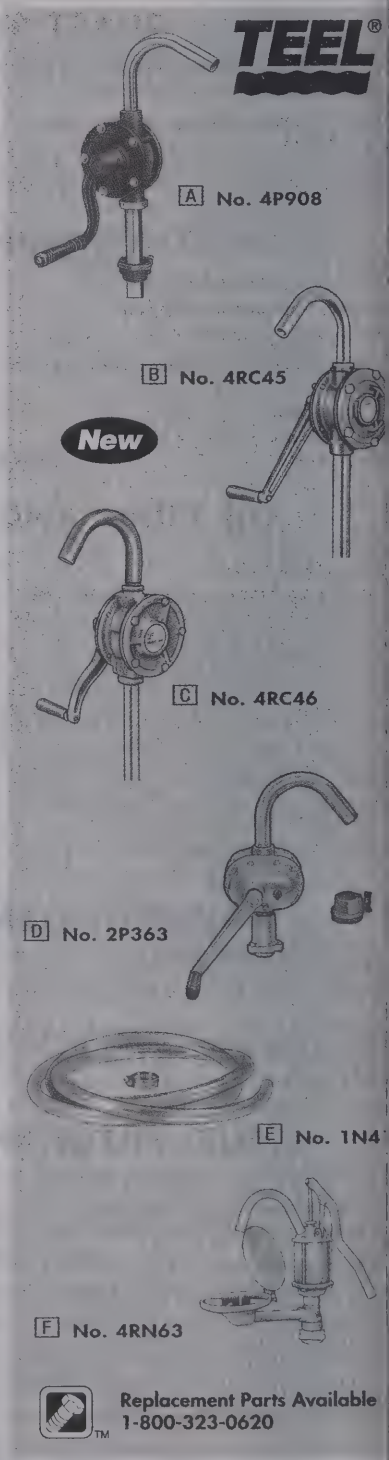
## [F] CAST-IRON LEVER ACTION PUMP

Durable pump comes complete with covered drip tray which returns spills back to drum. 1 pint per stroke fits 2" NPT bung. For motor oils, gear oils, and many other viscous liquids up to 2000 CPS. Teel brand.

***New*** **No. 4RN63.** Lever Action Pump. Shpg. wt. 14.0 lbs. List.....$138.55.
Each.....**$117.80**

### A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**




Replacement Parts Available
1-800-323-0620

# LEVER ACTION PUMP AND BARREL PUMPS

## HIGH VISCOSITY LEVER ACTION PUMP



TEEL®

No. 1N419

elivers 32 ounces per stroke. Comes with telescoping intake tube, 2" bung adapter, elrin piston, die cast pump body, neorene and ethylene propylene seals, high ngle discharge spout with screen and a ormal curved discharge spout. Can be used for pumping paraffin, motor oil, gear oil, cutting oils, and many other viscous lubricants. Teel brand.

**No. 1N419.** High Viscosity Lever Action Pump. Shpg. wt. 7.0 lbs. List $74.50. Each.....**$65.55**

## BLACKMER BARREL PUMPS

ast-iron constructed pump designed for ransferring or dispensing oils, solvents nd other non-corrosive liquids. This self-riming pump is designed for installation n barrels, drums or tanks.

**M Approved General Duty Transfer Pumps**

ransfer model is offered with a 3/4" x 8' nti-static hose, spout, non-sparkling alu-inum nozzle, flame arresting baffle and acuum breaker. FM model includes a tele-coping suction pipe with strainer basket.

**eneral-duty Transfer Pump.** These rugged nodels have earned a world-wide reputa-ion for durability and longevity. Typical pplications include dispensing of light to nedium weight cutting oils, solvents and uels.

**leavy-duty Transfer Pumps.** These larger eavy-duty models offer increased outputs nd are generally used for rapid transfer of uel, lube oils, and non-corrosive industri-l process fluids.

**leavy-duty High Volume Transfer Pumps.** eature gear drive for fast, high volume utput of light liquids. Commonly used for efueling construction equipment and off-oad vehicles from mobile supply tanks.

**Applications:**

**FM Approved Pumps (No. 4RN53):** Handle Class 1 and Class 2 flammable and combustible liquids like, naphtha, solvents and thinners.

**Dispensing Type Pumps (Nos. 1P667, 4RN54, 4RN56):** Liquid dispensing-pumping petroleum products, solvents, coolants or curing agents from barrels or drums into smaller containers for convenient handling, sales, or small quantity use.

**Transfer Type Pumps (Nos. 4RN52, 4RN55, 4RN57):** Liquid transfer-moving fuels, solvents, commercial and process liquids from drums to other large tanks with hose and nozzle, as in refueling diesel or gasoline powered vehicles or equipment.

**FM Approved General-duty Transfer Pump** No. 4RN53 includes pump, grip, 40" pipe, bung adapter, and spout.

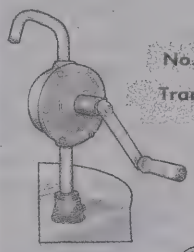
**Dispensing-type Pumps** Nos. 1P667, 4RN54, and 4RN56 include pump, grip, crank, 40" pipe, bung adapter, and spout.

**Heavy-duty Transfer Pumps** Nos. 4RN52, 4RN55, and 4RN57 include pump, grip, crank, 40" pipe, bung adapter, spout, and 8" rubber hose.

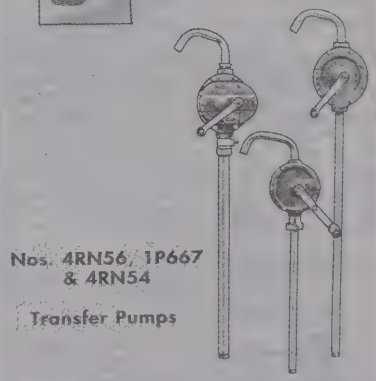
**Repair Kits.** Nos. 4RN47, 4RN48, and 4RN49 include vanes, springs, gaskets, packing, and nut.

**Drip Pan Kits** Nos. 4RN50 and 4RN51 hold container during dispensing and include built-in bung adapter and drain return to barrel.

BLACKMER New



No. 1P667
Transfer/Dispensing Pump



Nos. 4RN56, 1P667 & 4RN54
Transfer Pumps

| Description | GPM @ 115 RPM | Max. PSI | Ports (In.) | Blackmer Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **GENERAL TRANSFER BARREL PUMPS** | | | | | | | | |
| M Approved | 10 | 10 | 3/4 | BRF210A | 4RN53 | $170.00 | $154.25 | 20.0 |
| ispensing | 10 | 10 | 3/4 | AT210 | 1P667 | 99.40 | 86.25 | 17.0 |
| ransfer | 10 | 10 | 3/4 | BR210A | 4RN52 | 129.00 | 106.70 | 20.0 |
| epair Kit for Nos. 4RN53, 1P667, & 4RN52 | | | | 10049 | 4RN49 | 34.25 | 25.55 | 1.0 |
| rip Pan Kit for Nos. 4RN53, 1P667, & 4RN52 | | | | 10053 | 4RN50 | 60.36 | 57.35 | 7.0 |
| **HEAVY-DUTY TRANSFER BARREL PUMPS** | | | | | | | | |
| ispensing | 14 | 20 | 1¼ | AT414B | 4RN54 | 178.00 | 174.75 | 31.0 |
| ransfer | 14 | 20 | 1¼ | BR414B | 4RN55 | 214.00 | 192.50 | 36.0 |
| epair Kit for Nos. 4RN54 & 4RN55 | | | | 10032 | 4RN48 | 46.00 | 35.70 | 1.0 |
| rip Pan Kit for Nos. 4RN54 & 4RN55 | | | | 10054 | 4RN51 | 75.15 | 71.40 | 7.0 |
| **HEAVY-DUTY, HIGH VOLUME TRANSFER BARREL PUMPS** | | | | | | | | |
| ispensing | 28 | 10 | 1¼ | AT828B | 4RN56 | 303.00 | 192.25 | 44.0 |
| ransfer | 28 | 10 | 1¼ | BR828B | 4RN57 | 339.00 | 323.75 | 52.0 |
| epair Kit for Nos. 4RN56 & 4RN57 | | | | 10029 | 4RN47 | 55.80 | 39.10 | 1.0 |
| rip Pan Kit for Nos. 4RN56 & 4RN57 | | | | 10054 | 4RN51 | 75.15 | 71.40 | 7.0 |

UPTOWN, DOWNTOWN, CROSSTOWN, GRAINGER IS NEARBY
Grainger has over 350 branches nationwide, so we're close by. To find the location nearest you, check the Branch Locations listed in the front of this catalog.

# PAIL, DRUM AND BARREL PUMPS, ADAPTERS AND LOCK KIT

**Hand operated piston pumps** are for industrial use, farm, shop, anywhere liquids need to be transferred out of 5, 15, 30, and 55 gallon drums. All pumps come standard with a 2" bung adapter. Teel brand.

**Steel Pumps, Nos. 1P634 and 1N433.** For use with degreasers, waxes, light detergents and other chemicals compatible with polyethylene and steel. No. 1P634 comes with a 22" long polyethylene extension tube and pumps 8 oz. per stroke. No. 1N433 comes with a full length pump body and pumps 16 oz. per stroke.

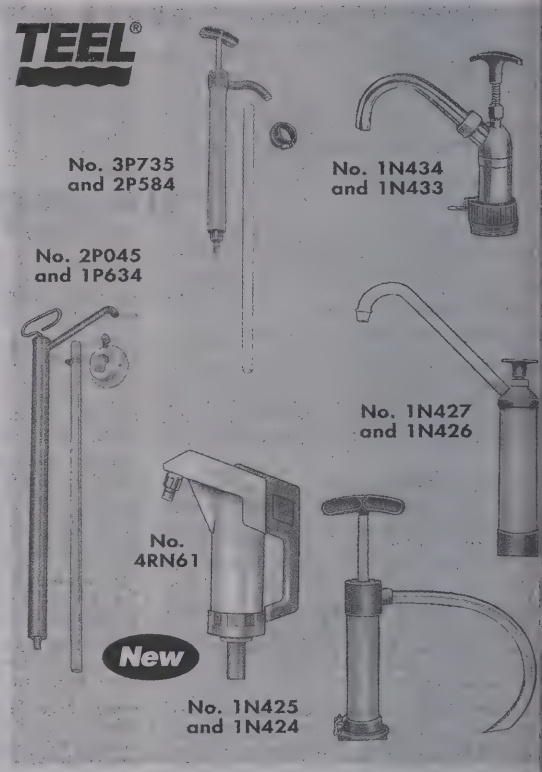
**Stainless Steel Pumps, No. 2P045 and 1N434.** For use with many acids such as acetone, toluol, trichloroethylene, solvents, photographic chemicals, etc. compatible with 316 stainless steel and Teflon. No. 2P045 comes with a 22" long Teflon extension tube and pumps 8 oz. per stroke. No. 1N434 comes with a full length pump body and pumps 16 oz. per stroke.

**PVC Acid Pumps, No. 2P584 and 3P735.** Can be used with water, chlorine, solvents, degreasers, anti-freeze and other chemicals compatible with pump components. No. 2P584 drip-resistant design ideal for light acids; pumps 8 oz. per stroke and also fits a 3/4" thread. No. 2P584 comes with a polyethylene extension tube. No. 3P735 is an all PVC 38" long body and delivers 22 oz. per stroke.

**PVC Maintenance Pumps, Nos. 1N424 and 1N425.** Ideal for pumping into other containers and can be used with waxes, degreasers, floor cleaners, glass cleaners, chlorines and many other chemicals compatible with pump component materials. No. 1N424 delivers 8 oz. per stroke and fits a 3/4" thread; comes standard with a 0.621 OD x 22" PVC discharge hose and a polyethylene extension tube. No. 1N425 has an all PVC 38" long body and comes standard with a 0.621 OD x 36" PVC hose; pumps 22 oz. per stroke.

**Polypropylene Lever Pump, No. 4RN61.** A reliable, durable lightweight pump with high chemical resistence. Delivers one pint per stroke. Fits 15,30, and 55 gallon drums with standard 2" NPT. Viton seal PE piston. No-drip discharge nozzle. Self-priming. For oils, detergents, lubricants, water, antifreeze and many others.

**Polypropylene/PE Pumps, Nos. 1N426 and 1N427.** Polypropylene body, polyethylene internal parts and extension tube. Spout can be rotated to prevent dripping. Comes standard to fit 3/4" and 2" IPS drum openings. Also includes adapters to adjust stroke depending on unit from 2, 4, 6, 8, 12, or 16 ounces. Fits 5, 15, 30 and 55 gallon drums. Flexspout for 5 gallon pails included. No. 1N426 pumps 8 oz. per stroke. No. 1N427 pumps 16 oz. per stroke.



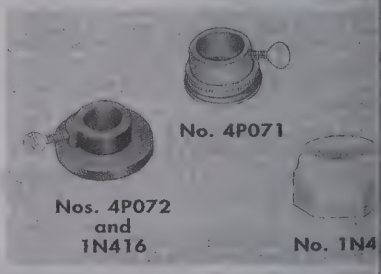

## SPECIFICATIONS AND ORDERING DATA

| Pump Body | Piston | Tube | Oz. Per Stroke | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Steel** | Polyethylene | Polyethylene | 8 | **1P634** | $35.00 | **$26.40** | 2.4 |
| **Stainless Steel** | Teflon | Teflon | 8 | **2P045** | 148.00 | **101.85** | 2.8 |
| **PVC** | PVC | Polyethylene | 8 | **2P584** | 22.00 | **18.74** | 1.0 |
| **PVC** | PVC | PVC | 22 | **3P735** | 46.00 | **31.30** | 2.0 |
| **Steel** | Polyethylene | Polyethylene | 16 | **1N433** | 38.00 | **28.50** | 5.0 |
| **Stainless Steel** | Teflon | Teflon | 16 | **1N434** | 139.00 | **97.40** | 5.0 |
| **Polypropylene** | Polyethylene | Polypropylene | 8 | ***New*** **4RN61** | 74.09 | **63.00** | 3.0 |
| **Polypropylene** | Polyethylene | Polyethylene | 2, 4, 6, 8 | **1N426** | 14.75 | **10.60** | 0.8 |
| **Polypropylene** | Polyethylene | Polyethylene | 4, 8, 12, 16 | **1N427** | 19.10 | **15.45** | 1.0 |
| **PVC** | PVC | Polyethylene | 8 | **1N424** | 22.36 | **18.94** | 1.0 |
| **PVC** | PVC | PVC | 22 | **1N425** | 46.90 | **35.50** | 2.2 |

## DRUM AND PAIL ADAPTERS

Drum adapter No. 1N418 converts 2" Buttress drums to accept 2" IPS bung adapters, commonly supplied with pumps. Pail adapters are for use with the following barrel pumps: Nos. 1P634 and 2P045, above. No. 4P071 permits use on 5 gallon pails with 1¾ " male threaded opening. No. 4P072 permits use on 2⅝" flexspout openings. No. 1N416 permits use on 2⅝" flexspout openings to be used with pump Nos. 2P584, 1N424.

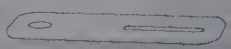
| Adapter Type | Permits Use On | For Pumps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Pail** | 2⅝" Flexspout openings | 2P584 & 1N424 | **1N416** | $10.75 | **$5.62** | 0.5 |
| **Drum** | 2" Buttress drums using 2" IPS bung adapters | | **1N418** | 16.00 | **13.36** | 0.5 |
| **Pail** | 5 Gallon pails with 1¾" male threads | 1P634 & 2P045 | **4P071** | 7.00 | **6.60** | 0.3 |
| **Pail** | 2⅝" Flexspout openings | 1P634 & 2P045 | **4P072** | 7.00 | **5.97** | 0.1 |




## PUMP LOCK KIT

Pump Lock Kit can be used on Stock Nos. 1P634 and 2P045 to prevent unauthorized use of pump while it is still in the drum. Installs in just seconds. To be used with Lock No. 4T085.

**No. 1N432.** Shpg. wt. 0.2 lbs. List $15.00. Each ..... **$12.51**





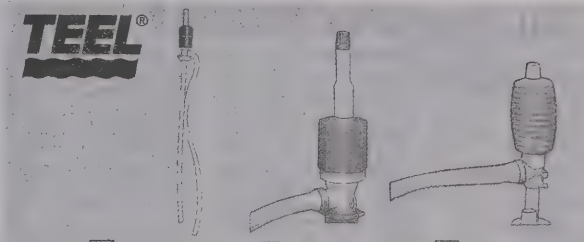
*If we don't have a pump for it, chances are it can't be pumped.*

# SIPHON AND DRUM PUMPS

## POLYETHYLENE SIPHON PUMPS

ellows action allows for quick and easy transferring or empty-ıg of 5, 15, 30 and 55 gallon drums. Can be used for water based uids, mild corrosives, detergents, waxes, soaps, antifreeze and ther liquids compatible with polyethylene. Pumps to higher lev-ls, siphons to lower levels. Nos. 1N420 and 1N421 (for use on rums) come with a standard 2" IPS bung adapter. No. 1N422 omes with a standard adapter to fit 5 gallon pails with plastic ull out spouts. Teel brand.

| y | Max. GPM | For use on | Discharge Tube Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 5 | 15, 30 & 55 gal. drums | 46 | **1N420** | $13.75 | **$8.97** | 1.0 |
| B | 7 | 15, 30 & 55 gal. drums | 46 | **1N421** | 19.90 | **16.89** | 1.0 |
| C | 2 | 5 gal. pails | 22 | **1N422** | 5.26 | **3.69** | 0.5 |




## PVC HEAVY-DUTY SIPHON PUMP

**and operated,** only a few strokes starts the phoning action. Delivers 7 GPM. Pumps phill and siphons downhill. Can be used ith chemicals compatible with PVC, educing the possibility for corrosion or rust. Comes with a 2" PVC bung adapter and 4 feet of PVC discharge tubing. Fits 15, 30 and 55 gallon drums. Teel brand.

**No. 1N423.** Shpg. wt. 3.0 lbs. List $55.75.
Each ..... **$44.60**




## THERMOPLASTIC HAND DRUM PUMPS

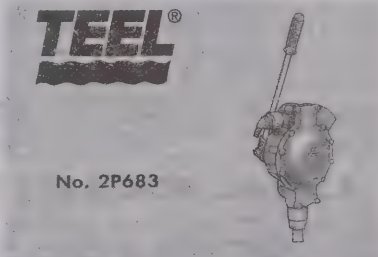
**ouble-action, self-priming piston type drum umps** deliver up to 17 gallons per 100 rokes.

**vailable in glass-filled red nylon and glass-lled black polypropylene pump bodies.** Nylon ump is resistant to most lubricants, oils, etergents, and aromatic materials. olypropylene pump is resistant to most rganic acids, plating solutions, alcohols, id water soluble inorganic chemicals.

**emicals being pumped must be compatible ith pump component materials.** No. 2P683 as nylon, stainless steel, Viton, Teflon and Nitrile parts with stainless steel hardware. No. 2P684 has polypropylene, stainless steel, Viton, Teflon, and nitrile parts with stainless steel hardware.

**Pumps come complete with** 3/4" discharge port, 5/8" eight-foot hose (No. 2P683 has nylon hose; No. 2P684 polyethylene hose) and no-lead style nozzles. 2" bung adapter and 40" suction tube included. Teel brand.

| Material | pH Range | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Nylon | 7-9 | 2P683 | $165.73 | **$106.20** | 11.0 |
| Polypropylene | 4-11 | 2P684 | 165.75 | **106.25** | 7.0 |




## HEAVY-DUTY DRUM PUMPS

**mp tubes and motors are separate and inter-angeable.** Easy to assemble, and disas-mble for maintenance and service. Pump be has fewer parts than other drum mps. Sealless design allows pump to run y up to 30 minutes.

**terchangeable electric and air motors.** eavy-duty 115VAC electric motor has eather-protected cover, 16 ft. power rd. Rotary air motor has exhaust muf-er. 1/8" Air inlet.

**lypropylene, stainless steel pump, or Kynar bes.** Polypropylene tube has Tefzel mpeller, Viton vapor barrier, and arpenter 20 shaft. Stainless steel tube has efzel impeller, Teflon vapor barrier, and 6 stainless steel shaft. Kynar tube has efzel impeller, PTFE vapor barrier, and astelloy shaft. All pump tubes have 1" ip on hose discharge port.

For complete pump assembly, select a pump tube and motor that fit your application.

**For use with nonflammable liquids compatible with pump component materials.**

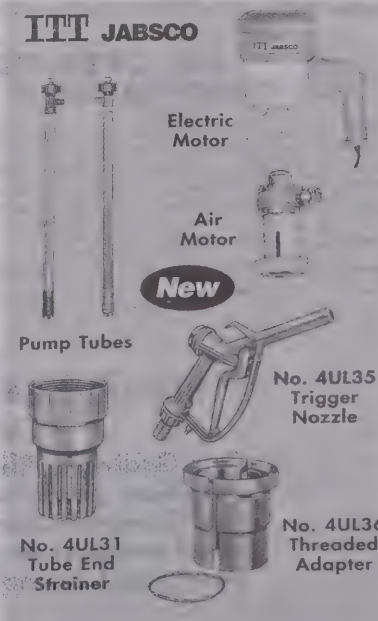
### PUMP TUBE ORDERING DATA

| Material | Length (In.) | ITT Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Polypropylene | 35½ | 16400-7351 | **2P700** | $336.30 | **$278.50** | 3.6 |
| Stainless Steel | 35½ | 16410-7351 | **2P701** | 613.91 | **507.50** | 7.5 |
| Kynar | 35½ | 16520-7350 | **4UL33** | 603.22 | **574.50** | 6.0 |

### PUMP MOTOR ORDERING DATA

| Type | Max. GPM Water* | Oil† | ITT Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| Electric | 27 | 21 | 16420-7115 | **2P702** | $371.98 | **$308.25** | 7.8 |
| Air | 22 | 20 | 16440-7000 | **2P703** | 314.34 | **259.75** | 1.2 |

(*) Water at 70°F. (†) 500 SSU oil at 70°F.



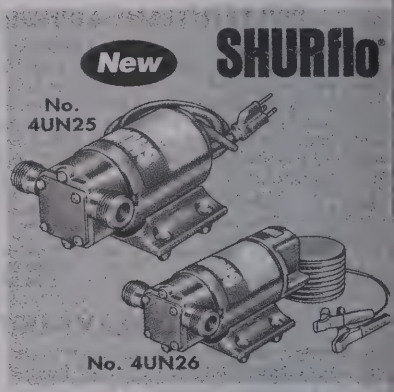

### *New!* PUMP ACCESSORY ORDERING DATA

| Description | ITT Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| all Bracket | 16470-0000 | **4UL30** | $41.58 | **$39.60** | 1.0 |
| be End Strainer For Nos. 2P700 and 2P701 | 16490-1000 | **4UL31** | 31.18 | **29.70** | 0.5 |
| be End Strainer For No. 4UL33 | 16490-1001 | **4UL32** | 51.76 | **49.30** | 0.5 |
| justable Trigger Nozzle | 18753-0077 | **4UL35** | 117.12 | **111.55** | 1.0 |
| readed Adpater | 18753-0080 | **4UL36** | 41.31 | **39.35** | 0.5 |

# OIL TRANSFER AND POLYETHYLENE AND LIQUID VACUUM PUMPS

## OIL TRANSFER FLEXIBLE IMPELLER PUMPS

Versatile flexible impeller pumps can be used for many applications including oil and transmission fluid transfer in cars, trucks, farm equipment and center pivot irrigation systems, and water pumping. Pump primes itself to 7.5 vertical feet. Maximum flow is 3.8 gpm. Maximum head is 40 feet (17 psi). Buna-N impeller and lip seal, stainless steel shaft. Dual port design allows inlet and outlet to connect to 3/8" NPT(M) or 3/4" female garden hose fittings. Runs smoothly with a thermally protected motor. 4UN25 has 6' cord. 4UN24 has 12" leads. 4UN26 includes an 8 ft. cable with battery clips and on/off/reverse switch enable pump to be used to fill or empty tank without moving hoses. Liquid temperature range is 40°F to 185°F. Use with liquids compatible with the materials of construction. Not for use with gasoline or other flammable liquids. Do not use in a flammable environment. Not for potable water systems. SHURflo brand.




| Voltage | Prime (Ft.) | Flow Rate in GPM 0 Ft. | 11 Ft. | 23 Ft. | Description | Shurflo Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **115 VAC** | 7.5 | 3.8 | 3.4 | 2.5 | 6 ft. cord | 3000-100 | **4UN25** | $158.00 | **$121.05** | 5.0 |
| **12 VDC** | 7.5 | 3.8 | 3.4 | 2.5 | 12 in. leads | 3000-050 | **4UN24** | 140.25 | **106.95** | 6.0 |
| **12 VDC** | 7.5 | 3.8 | 3.4 | 2.5 | 8 ft. cable and reverse switch | 3000-350 | **4UN26** | 146.75 | **111.75** | 5.0 |

## OIL CHANGE PUMP SYSTEM

Makes a messy job clean and easy. Install oil probe in the engine oil dipstick tube, attach the battery clips, and flip a switch. Oil is safely removed and stored in the easy to carry 3.5 gallon container. Includes flexible impeller pump with thermal protection, Buna-N impeller and seals, suction and discharge hose, on/off/reverse switch, and 8 ft. cable with battery clips.

Do not use with gasoline or other flammable liquids. Do not use in flammable environment. 20 psi maximum pressure. SHURflo brand.

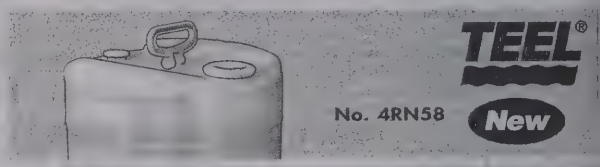



| Voltage | Prime (Ft.) | Shurflo Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 VDC** | 7.5 | 3000-400 | **4UN27** | $210.50 | **$160.50** | 8.0 |

## 15 GAL. PORTABLE CONTAINER

Drum has 2" NPT bung opening, and a 3/4" opening. Lightweight polyethylene construction. 15 gallon storage. 14 7/16 OD x 26 1/3 H. Meets DOT #UN1H1/Y1.8/100. Includes sturdy handle for easy carrying. Smooth, seamless design. Teel brand.

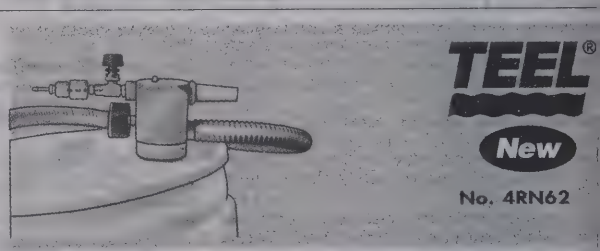
***New*** **No. 4RN58.** Shpg. wt. 7.5 lbs. List $44.13. Each.....**$37.55**




## AIR-OPERATED LIQUID VACUUM PUMP

Automatically shuts off when receiving container is full. No moving parts. Air operated, quiet operating universal pump can handle most fluids, even those containing loose particles. Use for removing cutting fluids, waste oil, paint sludge, contaminated liquids, etc. Rust proof aluminum body. Comes complete with suction hose and air connection kit. Portable container. No. 4RN58 can be used with this unit. Teel brand.

***New*** **No. 4RN62.** Shpg. wt. 6.0 lbs. List $544.00. Each .....**$462.50**



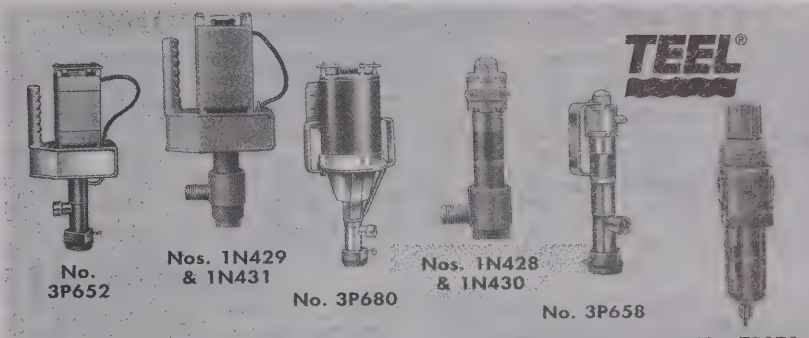

DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# TRANSFER PUMPS

## TRANSFER PUMPS

- Heavy-duty pumps handle many non-flammable fluids compatible with pump component materials: some acids, alkalies, chlorines, and photographic chemicals. Check chemical compatibility before using. Handles fluids up to 500 SSU. Not for gasoline, kerosene, and diesel fuel
- 5 ft. discharge tubing included; ready to use
- Pump intake tube is 35½" long and fits standard 2" drum/barrel bung adapter
- Electric pumps (Nos. 3P652, 3P680, 1N429 & 1N431) include an 8 ft. SJT 16/3 power cord. Intermittent-duty, except No. 3P680 which is continuous-duty
- Air drive units include No. 4Z411 Gast air motor, operate at 20 to 80 PSI inlet pressure, and require lubricated/filtered air supply. No. 7P072 includes pump, air motor, filter, regulator and lubricator. When installed in accordance with applicable codes and practices, air driven pumps can be used with flammable fluids




### TRANSFER PUMP CONSTRUCTION MATERIALS

| Stock No. | Pump Body | Internal Parts | Discharge Tubing | Seals | Gasket |
|---|---|---|---|---|---|
| 3P652 | 316 Stainless Steel | 316 Stainless Steel | EPDM† | Teflon | Viton |
| 1N429 | Polypropylene | Carpenter 20 | PVC | Teflon | — |
| 1N431 | CPVC* | Hastelloy C | PVC | Teflon | — |
| 3P680 | 316 Stainless Steel | 316 Stainless Steel | EPDM† | Teflon | Viton |
| 3P658 | 316 Stainless Steel | 316 Stainless Steel | EPDM† | Teflon | Viton |
| 1N428 | Polypropylene | Carpenter 20 | PVC | Teflon | — |
| 1N430 | CPVC* | Hastelloy C | PVC | Teflon | — |
| 7P072 | 316 Stainless Steel | 316 Stainless Steel | EPDM† | Teflon | Viton |

(*) CPVC= Chlorinated Poly Vinyl Chloride. (†) EPDM=Ethylene Propylene Diene-Monomer.

### TRANSFER PUMP ORDERING DATA

| Pump Body | HP | Motor | Max. Head (Ft.) | RPM | GPM | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 316 Stainless Steel | 1/2 | Electric | 20.7 | 10,000 | 17.0 | 48 | 6 | 8 | **3P652** | $681.00 | **$577.50** | 18.0 |
| Polypropylene | 1/2 | Electric | 20.7 | 10,000 | 17.0 | 48 | 6 | 8 | **1N429** | 525.00 | **428.25** | 18.0 |
| CPVC* | 1/2 | Electric | 20.7 | 10,000 | 17.0 | 48 | 6 | 8 | **1N431** | 603.75 | **540.00** | 18.0 |
| 316 Stainless Steel | 1/3 | Electric | 10.0 | 3450 | 9.5 | 50 | 6 | 7 | **3P680** | 730.00 | **618.50** | 34.0 |
| 316 Stainless Steel | 1/2 | Air | 17.8 | 6000 | 12.0 | 46 | 6 | 7 | **3P658** | 688.00 | **573.00** | 11.0 |
| Polypropylene | 1/2 | Air | 17.8 | 6000 | 12.0 | 46 | 6 | 7 | **1N428** | 830.00 | **427.75** | 12.0 |
| CPVC* | 1/2 | Air | 17.8 | 6000 | 12.0 | 46 | 6 | 7 | **1N430** | 605.75 | **539.50** | 12.0 |
| 316 Stainless Steel | 1/2† | Air | 17.8 | 6000 | 12.0 | 46 | 6 | 7 | **7P072** | 780.60 | **606.50** | 14.3 |

(*) CPVC= Chlorinated Poly Vinyl Chloride. (†) HP with filter, regulator and lubricator.

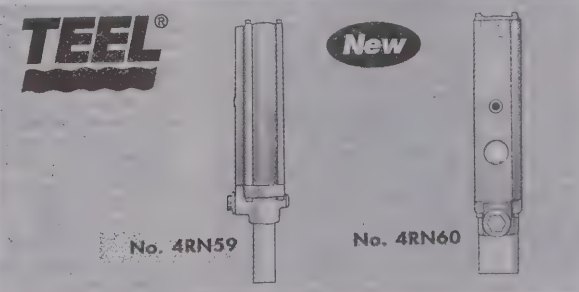
## AIR-OPERATED FLUID TRANSFER PUMPS

- Very low air consumption.
- Extremely efficient and reliable
- Low noise levels
- No lubrication required
- 2" Bung adapter included
- Lightweight design

Teel Oil Pumps are designed for use with motor oil, gear oil, hydraulic oil, transmission fluids and many other oils. Carbon steel shafts with zinc foot valve and stainless steel ball valve. **No. 4RN59 is a 1:1 Ratio Pump.** It delivers 10.6 GPM and is ideal for direct liquid transfers up to 1000 centipoise. **No. 4RN64 is a 3:1 Ratio Pump** which delivers 5.6 GPM and is ideal for central piping systems with long or short runs and also for direct transfer of fluids up to 2500 centipoise.

**1:1 Stainless Steel Fluid Pump**

**No. 4RN60** is designed to handle antifreeze, mild solvents, water-based fluids and varnishes. It is ideal for high volume short runs and delivers 10.6 GPM and comes complete for use in 55 gallon drums, or it can be wall or tank mounted.




### TRANSFER PUMP ORDERING DATA

| Ratio | Max. Flow Rate | Body Material | Packing | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3:1 | 5.6 GPM | Carbon Steel | Nitrile | **4RN64** | $538.60 | **$458.00** | 8.0 |
| 1:1 | 10.6 GPM | Carbon Steel | Nitrile | **4RN59** | 520.26 | **442.25** | 8.0 |
| 1:1 | 10.6 GPM | Stainless Steel | Nitrile | **4RN60** | 1037.29 | **882.00** | 8.0 |

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**Our branches are conveniently located and stocked with commonly used items from this catalog. If you need it now, call Grainger. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.**

# SUBMERSIBLE UTILITY PUMPS

## 1/4 HP SUBMERSIBLE UTILITY PUMPS

This commercial quality pump has a non-clogging Vortex impeller that passes 1/2" solids such as leaves, pebbles and other debris. The 3/4" adjustable discharge connects to a standard garden hose, while 1¼" discharge allows large volumes of water removal. Pump drains water down to 1/8" of surface. Features a 1/4 HP, 115V, 60Hz, single phase, oil-filled motor with overload protection. Built-in handle makes pump easy to carry.



TEEL®

New

No. 4PM24

| GPM of Water in Total Feet with 1" Pipe | | | | | | New! | | | Shpg. |
|---|---|---|---|---|---|---|---|---|---|
| 3 Ft. | 5 Ft. | 10 Ft. | 15 Ft. | 18 Ft | Shut-Off | Stock No. | List | Each | Wt. |
| **33** | 31 | 22 | 14 | 5 | 20 Ft. | **4PM24** | $108.62 | **$74.95** | 9.5 |

## SUBMERSIBLE UTILITY PUMPS



TEEL®

New

47013 E85176

No. 4RJ35

Submersible utility pumps designed for intermittent dewatering of shallow flooded areas such as basements, boats, ponds, stock tanks, window wells etc. Removes standing water down to 3/16" depth. For use with nonflammable liquids compatible with materials of construction. Easily converted to automatic operation with use of No. 4RK04 mechanical float switch. Bottom suction design has screened inlet that prevents debris from entering pump.

Water jacket design cools motor as wate passes by to 1" NPT discharge por Includes 3/4" nylon garden hose adapte ABS corrosion-resistant plastic shell an bottom with nylon top. Noryl impelle Die-cast zinc motor housing, 416 stainles steel shaft, Buna-N lip and O-ring seals.

115V, 60Hz, single-phase, oil-filled moto with overload protection and 8-foot, prong plug-in grounded power cord. 9⅛ x 5⅞" dia. Teel brand.

| HP | Volts @ 60 Hz | GPM of Water @ Discharge Head in Ft. with 1" Pipe* 3 Ft. | 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/6** | 115 | 22.0 | 20.8 | 15.5 | 11.0 | — | **1P914** | $126.93 | **$80.00** | 15.( |
| **1/4** | 115 | 26.7 | 25.4 | 21.0 | 15.4 | 6.2 | ***New* 4RJ35** | 142.48 | **95.00** | 28.( |

(*) Flow rate is reduced when using garden hose.

## 1/2 HP PORTABLE SELF-PRIMING PUMP



TEEL®

Replacement Parts Available 1-800-323-0620

**Teel 1/2 HP portable self-priming pump** can be used anywhere there is 115V AC/DC power. For filling swimming pools, watering livestock, boat bailing, watering lawns, high pressure washing, pumping out flooded basements. Capable of boosting waterline pressure by 40 PSI. Max. water temp: 120°F. Pump housing is solid one-piece aluminum, with priming port in handle. Rustproof Valox® 420 impeller, heatproof shaft seal and volute seal of Buna N. Cold rolled steel motor shaft, permanently lubricated and shielded ball bearings, 115V AC/DC series wound motor. Max. amp 8.0, external brush holders, three rubbe mounting feet. 9½L x 8H x 5¾"W. Inl and outlet ports 3/4" NPT. Comes with tw 3/4" garden hose adapters, plastic inl strainer and 8 ft. 18/3 SJTO cord wi 3-prong grounding plug. For intermitte use with nonflammable liquids compatib with pump component materials. Te brand.

**No. 2P110.** Shpg. wt. 14.0 lbs. List .....$208.00
Each .....$125.00▲

| Suction Lift in Feet | GPH of Water at Discharge Pressure in PSI* 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | Max. P |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 1450 | 1370 | 1250 | 1140 | 1020 | 890 | 750 | 610 | 45 |
| 5 | 1420 | 1300 | 1190 | 1070 | 950 | 820 | 680 | 540 | 42 |
| 10 | 1350 | 1230 | 1120 | 1000 | 880 | 750 | 620 | 480 | 41 |
| 15 | 1270 | 1160 | 1040 | 930 | 810 | 570 | 550 | 410 | 38 |

(*) Performance does not include pressure losses in suction and discharge piping. To determine feet of head, multiply discharge pressure by 2.31. (▲) Net prices, not subject to discounts.

## 1/6 HP SUBMERSIBLE UTILITY PUMP

Designed for draining garages and basements and powering waterfalls. Removes water to 1/8" from floor. Converts to automatic sump pump operation by using the optional No. 2P353 Automatic Switch listed on page 3216. 5 amp, 380 watt, 1/6 HP motor. Oil-filled cast aluminum motor housing for cooler running and longer life. 1" NPT outlet with 3/4" garden hose adapter included. Viton shaft seal, 302 stainless steel shaft, 18 ft. 18/3 SJTW-A cord with 3-prong grounding plug. 120°F max. temperature. Dimensions: 7¾H x 6⅛W x 4¼"D. Little Giant brand (5-MSP-18).

**No. 2P352.** Shpg. wt. 7.0 lbs. List .....$113.57.
Each .....$84.00

### PERFORMANCE CHART

| Total Head in Feet in GPM of Water 1 Ft. | 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | Shut-Off |
|---|---|---|---|---|---|
| 20 | 18.3 | 16.7 | 14 | 8.7 | 26.3' |

Little Giant PUMP COMPANY SUBSIDIARY TECUMSEH PRODUCTS COMPANY

E81811N LR19315

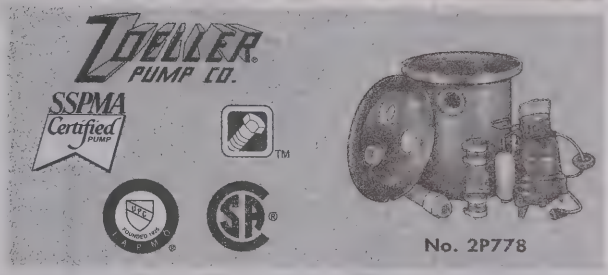


# DRAIN PUMP AND UTILITY PUMP KITS AND SUMP PUMP

## DRAIN PUMP KIT

Drain pump kit removes water from laundry trays, sinks, wet bars, or where gravity drainage is impractical. Compact kit installs easily. Maximum fluid temperature: 130°F. Includes No. 2P547 UL Listed cast-iron pump (see above), with special cord seal; 8 gallon capacity, 16" Dia. x 15½"H sealed polyethylene basin and lid, internal 1½" discharge pipe to lid, and check valve. Nonclogging vortex impeller passes solids 1/2" in diameter and requires no screen on inlet pipe. Comes complete with 1¼" or 1½" slip x slip union full flow check valve. Passes 10 ft. stack test. APMO Approved. Zoeller brand (105).

**No. 2P778.** Shpg. wt. 31.0 lbs. List .....$242.00.
Each .....**$208.75**

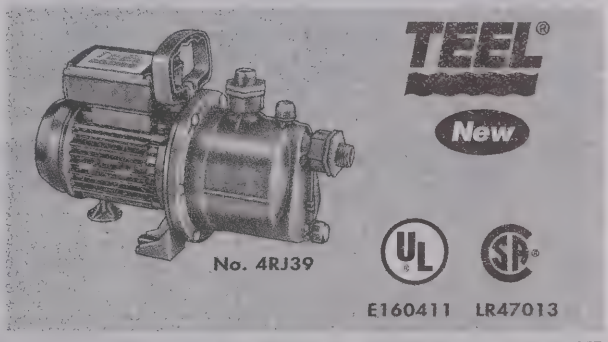



## 1/2 HP PORTABLE SPRINKLER/UTILITY PUMP

Self-priming pump ideal for lawn sprinkling. Draw from city water or from lakes, ponds and streams. Can boost city water pressure up to 30 PSI for washing cars, boats, and farm equipment. Corrosion-resistant thermoplastic pump housing. 1" BSP threaded discharge and suction. On-off switch, convenient carrying handle, and 2 garden hose adapters included. 1/2 HP TEFC motor, 115V 60Hz, single-phase, overload protection, and 6-ft. grounded power cord. Dimensions: 14 L x 8.2 H x 6.5" W. UL listed (E160411). CSA (LR47013). Teel brand.

**New No. 4RJ39.** Shpg. wt. 16.0 lbs. List .....$205.38.
Each .....**$146.70**

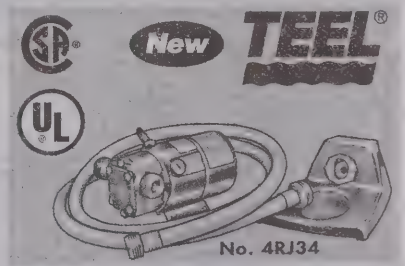
| Suction Lift in Feet | GPM of Water at Discharge Pressure in PSI | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 5 | 9.2 | 8.7 | 8.1 | 5.9 | 4.8 | 3.3 | 2.3 | 1.5 |
| 10 | 7.1 | 6.7 | 6.2 | 4.8 | 4.1 | 2.8 | 1.8 | 1.1 |
| 15 | 5.1 | 4.7 | 4.4 | 3.8 | 3.4 | 2.4 | 1.3 | 0.7 |
| 20 | 4.1 | 3.9 | 3.6 | 3.2 | 2.8 | 2.3 | 0.9 | 0.3 |
| 25 | 3.1 | 3.0 | 2.8 | 2.6 | 2.3 | 1.8 | 0.6 | 0.1 |




## GARDEN HOSE UTILITY PUMP KIT

Puddle Gulper™ suction strainer pumps down to 1/8" standing water. Threaded fitting connects strainer to garden hose. Includes pump, 6-ft. suction hose, and suction strainer. Ideal for emptying waterbeds, aquariums, pool covers, sinks, etc. Extra impeller, cam ring, and o-ring included for quick repairs. For use with nonflammable liquids compatible with pump component materials. Do not use in flammable or explosive atmospheres. Self-priming pump has corrosion-resistant body. Pump is not submersible. Ports have 3/4" OD threaded fittings for garden hose. Air-cooled, enclosed brush-style motor has thermal overload protection and 6-ft. grounded power cord. UL listed (E61535) and CSA approved (LR47013). Teel brand.

| HP | Volts, 60 Hz | GPM of Water at Head in Feet 5 ft. | 10 ft. | 20 ft. | 30 ft. | 40 ft. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/12 | 115 | 5.5 | 5.0 | 4.0 | 2.4 | 1.0 | **4RJ34** | $134.98 | **$90.00** | 26.0 |




## AUTOMATIC HIGH TEMPERATURE SUMP PUMP

Check valve, conduit, cable, motor windings, gaskets and thermal overload meet NEC requirements for 200°F service. Heavy duty cast iron construction. 1½NTP discharge, check valve included. Float-operated mechanical switch does not contact water. 15 ft. electrical cord. 3 ft. conduit length.

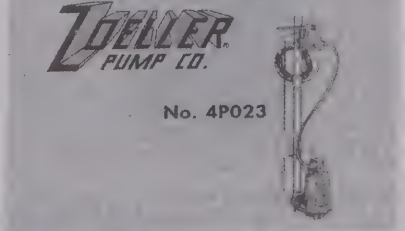
**Applications:** Dewatering with up to 1/2" diameter solids near boiler dump valves and other commercial industrial uses. Features stainless steel screws, guards, handles, control arm and seal assemblies.

**NOTE:** Basin material must be designed for the elevated temperatures anticipated.

**Driver:** 1/2 HP, 115V, 60 Hz. Single phase. 9.4 Amp oil filled PSC motor. Max. "On" point: 24"; "Off" point: 3". Measures: 12H x 10¼"W. Zoeller brand (M3098).

**No. 4P023.** Shpg. wt. 62.0 lbs. List .....$639.10.
Each .....**$575.50**

| GPM of Water @ 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | Shut-Off |
|---|---|---|---|---|
| 66 | 57 | 40 | 22 | 22 ft. |



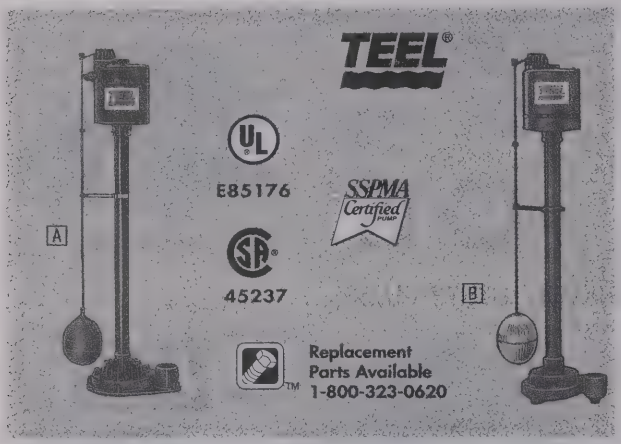

## DRILL-DRIVEN PUMP KIT

**Powered by user's 1/4 or 3/8" electric drill—** drains oil from auto, marine and garden equipment engines, removes water from aquariums, washers, sinks, pool covers, window wells, etc., transfers chemical solutions compatible with pump materials. For use with nonflammable liquids compatible with materials of pump construction. Selfprimes 8 to 10 ft. Delivers up to 200 GPH at 2000 RPM. Maximum pressure 20 PSI. Liquid temperature 40 to 120°F. Phenolic plastic body, Buna N impeller, seal, and O-ring, 1/4" diameter shaft. 3/4" male hose thread inlet & outlet. Kit includes pump, 30" oil probe tube, and 36" discharge hose. Drill not included.

**No. 1P866.** Shpg. wt. 1.2 lbs. List .....$16.52.
Each .....**$11.36**



# RESIDENTIAL AUTOMATIC UPRIGHT SUMP PUMPS




- For intermittent-duty, residential applications
- Top screened inlet reduces clogging
- Thermoplastic, cast iron or cast bronze construction
- Motor not submersible in water
- Fit 18" diameter x 24" deep or larger sump pits
- Automatic adjustable float operation
- UL Listed (E85176); CSA Certified (45237)

**Applications:** For emptying residential sump pits, laundry drainage, and dewatering flooded areas. Intended for use with nonflammable liquids compatible with materials of construction. Maximum liquid temperature should not exceed 140°F (120°F for No. 3P611). Pumps come ready-to-install, completely assembled except for float rod and float which are packed in carton with pump.

**Driver:** Split phase, NEMA 48K frame, 115VAC, 60 Hz, single phase sump pump motors. Automatic thermal overload protection. 3 Prong, 18/3 grounded power cords. Pump bearing is bronze, oil impregnated. 2-Pole switch provides positive on-off action. On-Off levels are fully adjustable. Teel brand.

## SUMP PUMP SPECIFICATIONS DATA

| Key | HP | Stock No. | Amps @ 115VAC | Discharge NPT (In.)* | GPM of Water @ Total Head in Feet, Using Max. Dia. Pipe 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-Off, Ft. | Column Height (C/H) (In.) | On Point (In.) | Off Point (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/3 | 3P611 | 4.6 | 1½ | 42 | 40 | 25 | — | — | 18.2 | 24 | 12-14 | 4 |
| B | 1/3 | 4P899 | 4.6 | 1½ | 42 | 40 | 25 | — | — | 18.2 | 25 | 13-15 | 5 |
| B | 1/2 | 4P900 | 6.7 | 1½ | 62 | 53 | 43 | 30 | 6 | 25.6 | 25 | 13-15 | 5 |
| B | 1/3 | 4P901 | 4.6 | 1½ | 42 | 40 | 25 | — | — | 18.2 | 25 | 13-15 | 5 |
| B | 1/2 | 4P902 | 6.7 | 1½ | 62 | 53 | 43 | 30 | 6 | 25.6 | 25 | 13-15 | 5 |

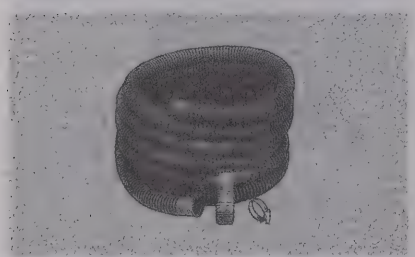
(*) 1½ x 1¼" Reducer included and installed; easily removed for 1½" discharge.

## SUMP PUMP ORDERING DATA

| Key | HP | Operation | Pump Materials† Volute | Impeller | Column | Float | Shaft | Dimensions H (In.) | Diameter (In.) | Cord Length (Ft.) | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/3 | Automatic | ABS | ABS/GF | ABS | Plastic | SS | 34¾ | 12 | 8 | 3P611 | $120.00 | $64.50▲ | 17.0 |
| B | 1/3 | Automatic | Cast Iron | Cast Iron | Steel | Copper | SS | 34¾ | 12 | 8 | 4P899 | 166.00 | 90.50▲ | 20.0 |
| B | 1/2 | Automatic | Cast Iron | Cast Iron | Steel | Copper | SS | 34¾ | 12 | 8 | 4P900 | 199.00 | 117.00▲ | 22.0 |
| B | 1/3 | Automatic | Bronze | Bronze | Brass | Copper | SS | 34¾ | 12 | 8 | 4P901 | 246.00 | 145.00▲ | 20.0 |
| B | 1/2 | Automatic | Bronze | Bronze | Brass | Copper | SS | 34¾ | 12 | 8 | 4P902 | 278.00 | 165.00▲ | 22.0 |

(†) SS=Stainless steel; ABS/GF = Glass-filled ABS. (▲) Net prices, not subject to discount.

## SUMP DRAIN HOSES

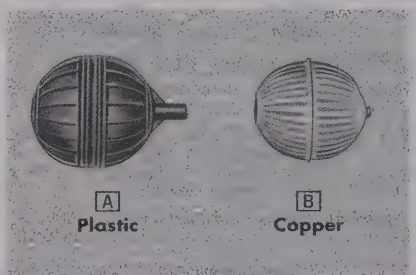


**Flexible polyethylene hoses** for cellar drainers, centrifugal and submersible pumps. Ready to install, fit over adapter (included), screw into outlet of users pump. For temporary or emergency installations, 24' long, 1¼ or 1½" inside diameter. Withstand pressures up to 10 PSI, have double cuffs every 6 ft. Include hose, 1¼" male polyethylene adapter and hose clamp.

**No. 1P887.** 1¼" **Drain hose.** Shpg. wt. 2.0 lbs. List $12.50. Each **$6.99;** Lots 8.....**$6.64**

**No. 4P972.** 1½" **Drain hose.** Shpg. wt. 3.3 lbs. List $15.20. Each **$8.99;** Lots 8.....**$8.54**

## COPPER OR PLASTIC FLOATS

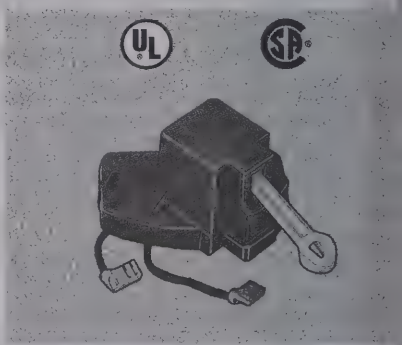



**For float valves, sump pumps, etc.** 4" Diameter x 5" long. Highly buoyant design. Float No. 2P010 is same model used on Teel pumps Nos. 3P611 and 3P612. Copper float No. 2P009 has 1/4"-20 thread and is used on Teel pumps Nos. 4P899-4P902. Copper float, No. 5P231 has 3/8"-16 thread.

| Key | Stock No. | List | Each | Lots 12 | Shpg. Wt. |
|---|---|---|---|---|---|
| A* | 2P010 | $3.30 | $2.45 | $1.99 | 0.2 |
| B | 2P009 | 7.00 | 5.22 | 4.18 | 0.2 |
| B | 5P231 | 7.00 | 5.25 | 4.18 | 0.3 |

(*) Not threaded, will self thread 1/4"-20 rod.

## SUMP PUMP SWITCH



**Replacement switch** for Teel upright sump pumps Nos. 3P610B, 3P611B, C, D, & E, 3P612B & C, 4P899, 4P900, 4P901 and 4P902. Corrosion resistant plastic body with nylon operating lever. Rated 5 Amps 250 VAC; 10 Amps, 125 VAC, 1/2 HP, 12 VAC. UL Listed, CSA Certified.

**No. 1R363.** Shpg. wt. 0.2 lbs. List .....$31.00. Each **$16.35;** Lots 12.....**$13.27**



*If we don't have a pump for it, chances are it can't be pumped.*

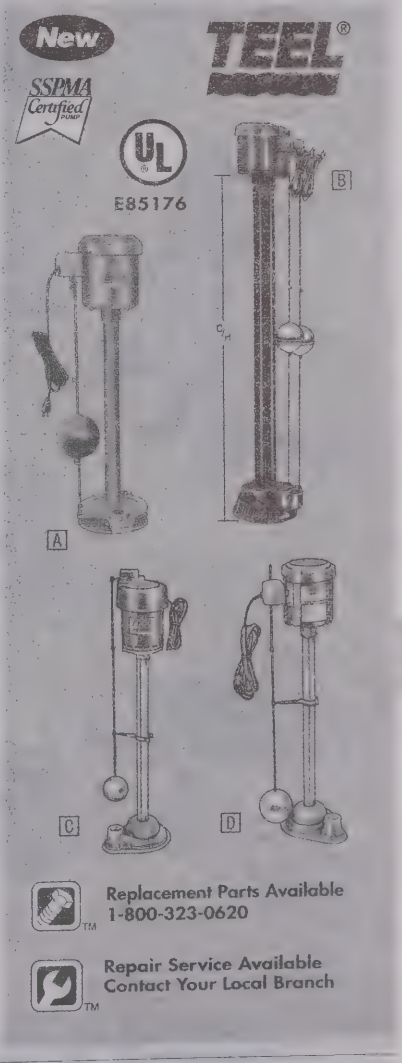
# HEAVY-DUTY UPRIGHT SUMP PUMPS

## STAINLESS STEEL, BRONZE, AND CAST IRON SUMP PUMPS

- 1¼, 1½ and 2" NPT discharge
- Suitable for hot water applications to 200°F
- All metal construction
- Automatic operation
- Clog resistant semi-open impellers
- Heavy-duty Square D switch with TEFC motor models.
- Nos. 4RC20 and 4RC21 have open drip-proof motors
- Stainless steel shaft, journal and hardware

**Applications:** For pumping clear water or effluent from wet pits, loading docks, boiler dump pits, below ground vaults, elevator pits, and other residential, commercial, and industrial applications. Clog resistant semi-open impellers. 2" NPT models handle 3/4" solids. For use with nonflammable liquids compatible with pump component materials. Sump pit of not less than 18" diameter and 24" deep. 7" Minimum cut-in depth. Check valve recommended. SSPMA Certified; UL Listed (E85176).

**Driver:** 1/3 or 1/2 HP Dayton 1725 RPM, open dripproof or TEFC continuous duty motors, 115V, 60 Hz, split phase, automatic reset thermal overload. Includes 8 ft. 16/3 cord. Double-shielded ball bearings at both ends.




Replacement Parts Available 1-800-323-0620

Repair Service Available Contact Your Local Branch

### CONSTRUCTION

| Model No. | Volute | Screen | Impeller | Column | Float | Bearing |
|---|---|---|---|---|---|---|
| 3P544 4P029 | Cast-iron | St. Steel | Bronze | Brass | Copper | Bronze |
| 3P545 4P031 | Bronze | St. Steel | Bronze | Brass | Copper | Bronze |
| 3P546 4P033 | Cast-iron | — | Cast-iron | St. Steel | Copper | Bronze |
| 3P649 4RC20 4RC21 4RC22 4RC23 4RC24 4RC25 | St. Steel | St. Steel | St. Steel | St. Steel | St. Steel | Carbon |

### PUMP PERFORMANCE

| Key | HP | Stock No. | C / H Base to Motor Height (In.) | GPM of Water @ Total Head in Feet 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | Shut-Off (Ft.) |
|---|---|---|---|---|---|---|---|---|
| A | 1/3 | 3P544, 3P545 | 24 | 48 | 37 | 21 | 8 | 20½ |
| C | 1/3 | 4RC20, 4RC22 | 29 | 55 | 44 | 30 | — | 20 |
| A | 1/3 | 4P029, 4P031 | 36 | 48 | 37 | 21 | 8 | 20½ |
| C | 1/3 | 4RC23 | 41 | 55 | 44 | 30 | — | 20 |
| D | 1/2 | 4RC21, 4RC24 | 29 | 65 | 58 | 48 | 35 | 25 |
| D | 1/2 | 4RC25 | 41 | 65 | 58 | 48 | 35 | 25 |
| B | 1/2 | 3P546, 3P649 | 30 | 103 | 71 | 29 | 12 | 20½ |
| B | 1/2 | 4P033 | 42 | 103 | 71 | 29 | 12 | 20½ |

### PUMP SPECIFICATIONS AND ORDERING DATA

| HP | Pump Base | Motor Type # | Discharge NPT (In.) | Dimensions (In.) H | W | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1/3 | Cast-iron | TEFC | 1¼ | 35* | 12 | **3P544** | $489.32 | **$347.25** | 40.0 |
| 1/3 | Cast-iron | TEFC | 1¼ | 47 | 12 | **4P029** | 620.09 | **441.75** | 51.0 |
| 1/3 | Bronze | TEFC | 1¼ | 35* | 12 | **3P545** | 669.53 | **436.50** | 37.0 |
| 1/3 | Bronze | TEFC | 1¼ | 47 | 12 | **4P031** | 804.51 | **512.00** | 49.0 |
| 1/3 | St. Steel | ODP | 1½ | 39.5 | 10.9 | ***New* 4RC20** | 361.85 | **289.50** | 28.0 |
| 1/3 | St. Steel | TEFC | 1½ | 38 | 10.9 | ***New* 4RC22** | 542.27 | **434.00** | 36.0 |
| 1/3 | St. Steel | TEFC | 1½ | 50 | 10.9 | ***New* 4RC23** | 565.96 | **453.00** | 38.0 |
| 1/2 | St. Steel | ODP | 1½ | 40 | 10.9 | ***New* 4RC21** | 380.41 | **304.50** | 31.0 |
| 1/2 | St. Steel | TECC | 1½ | 38.2 | 10.9 | ***New* 4RC24** | 566.72 | **453.50** | 39.0 |
| 1/2 | St. Steel | TEFC | 1½ | 50.2 | 10.9 | ***New* 4RC25** | 590.25 | **472.25** | 41.0 |
| 1/2 | Cast-iron | TEFC | 2 | 41* | 15 | **3P546** † | 593.36 | **433.00** | 46.0 |
| 1/2 | Cast-iron | TEFC | 2 | 53 | 15 | **4P033** † | 731.98 | **524.00** | 51.0 |
| 1/2 | St. Steel | TEFC | 2 | 41* | 15 | **3P649** † | 1302.28 | **914.00** | 49.0 |

(*) Standard length columns are units that are 35" and 41" high. (†) Handles 3/4" solids.
(#) ODP=Open Drip Proof, TEFC=Totally Enclosed Fan Cooled.

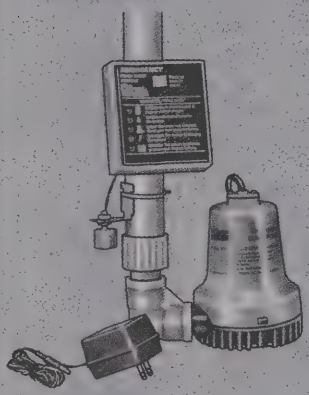
SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

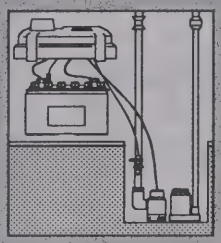
# BATTERY BACK-UP SUMP PUMPS

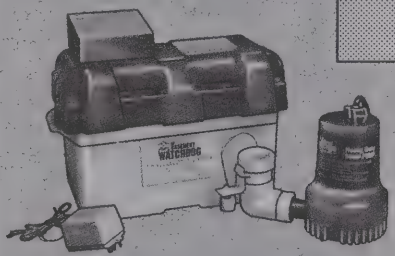
New

THE BASEMENT WATCHDOG

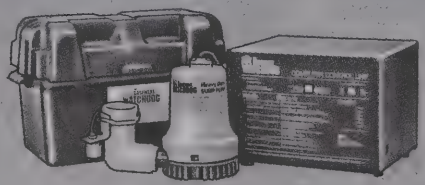


No. 4RC50
Basement Watchdog
Emergency Sump Pump





No. 4P050
Basement
Watchdog
Special



No. 4RC49
Basement Watchdog
Computer-Controlled
AC/DC Sump Pump

Back-up sump pumps are battery-powered 12VDC sump pumps with battery chargers. Provide emergency back-up service when an electrical interruption or mechanical failure prevents main sump pump from operating, or when water inflow exceeds main pump capacity. All units are for use with nonflammable liquids compatible with pump component materials.

## BASEMENT WATCHDOG EMERGENCY SUMP PUMP SYSTEM

- **Pumps 1000 GPH @ 10′ lift to empty the sump pit rapidly**
- **Compact pump fits even in small or narrow sump pits**
- **User-friendly control panel lights up with a warning and describes what to do for easy maintenance**
- **Easy to install**

**No. 4RC50 Emergency Sump Pump System** monitors battery, power and pump activity and sounds an alarm when it detects the following situations: the battery power is low, the battery fluid is low, the pump was activated, the AC power was interrupted. Includes an independently-mounted micro reed float switch which only needs to move 1/4" to activate the pump. Requires No. 4RC47 Emergency Standby Sump Pump Battery for up to 6 hours of continuous pumping power (sold separately).

## BASEMENT WATCHDOG SPECIAL

- **1.6 Amp maintenance charger. Controller indicates when pump is activated or blocked, power is interrupted, battery is discharged, or fluid is low**
- **Integral battery case with cover (battery not included)**
- **2300 GPH submersible pump (1730 GPH @ 10 ft. total head draws 10 amps)**

**General: No. 4P050** requires No. 4P052, 95 amp deep cycle battery or better. Includes battery fluid level sensor, adjustable micro reed float switch, and battery cable. Safety fuse protects pump if clogged.

Pump materials: Plastic pump with stainless steel pump shaft, Rulon seals, and heavy-duty 12VDC permanent magnet motor. 1½" FNPT PVC outlet. Basement Watchdog Special brand (BWS-12A).

## BASEMENT WATCHDOG COMPUTER-CONTROLLED AC/DC SUMP PUMP

- **20 amp charge computer-operated controller tests battery and pump automatically everyday**
- **Indicates with audible and visual alarm when battery fluid is low, battery is discharged or defective, power failure, pump failure, pump was activated, battery hooked up in reverse, or safety fuse has blown**
- **Indicates number of hours of pumping energy remaining in battery**
- **3500 GPH submersible pump (2200 GPH @ 10 ft. total head draws 12 amps)**

**General: No. 4RC49** has a computerized controller and sensor to battery cell that accurately determines battery and pump conditions. Adjustable micro reed float switch. Requires No. 4P051 7.5 hr. standby deep cycle battery (sold separately on page 3213).

Pump materials: Plastic pump with stainless steel pump shaft, Rulon seals, and heavy-duty 12VDC permanent magnet motor. 1½" FNPT PVC outlet. Basement Watchdog brand (BWD12-120).

CONTINUED ON NEXT PAGE

# BATTERY BACK-UP SUMP PUMPS

## BASEMENT WATCHDOG WATER ALARM

- **Solid state circuitry is extremely sensitive and reliable**
- **Detects water only 1/32" deep when the alarm is placed on the floor**
- **Sensor has a 6 ft. wire so it can be extended into a sump pit, or mounted on a wall and stretched to another location (100+ ft. of wire may be added to the sensor)**
- **Loud 110dB alarm can be heard throughout the house**
- **Battery-saver feature keeps batteries fresh longer from 24 to 48 months**

inimize the risk of water damage with this early warning sys-m. For installation in sump pits or near areas requiring water onitoring like hot water heaters, air conditioners, near washers under sinks. Requires a 9V alkaline battery (not included).

**ewNo. 4RC48.** Shpg. wt. 0.3 lbs. List $20.00. Each.....**$12.95▲**

## EMERGENCY SUMP PUMP BATTERY

his is the matching battery for the No. 4RC50 emergency sump mp system, and is not recommended for use in other Basement atchdog pump systems. It accommodates the battery cap pro-ded in the Emergency Sump Pump to measure the fluid level of e battery. Deep cycle plates provide power for 6 continuous ours of pumping time. Standby construction allows 5 to 7 years service. Threaded marine terminals for easy hookup. 11.34L x 85W x 10"H. Rope carrying handles. One year free replacement arranty, Requires 4.2 qts. of battery acid (not included).

**ewNo. 4RC47.** Shpg. wt. 25.0 lbs. List $78.00. Each.....**$67.00▲**

## BASEMENT WATCHDOG STAND-BY DEEP CYCLE BATTERIES

**pplications:** For powering battery-powered 12VDC back-up sump mps. Excellent operating and charging characteristics. May so be used for running RV and marine accessories, trolling otors or for starting gasoline and diesel engines. And used in any uninterruptible power supply (UPS) systems.

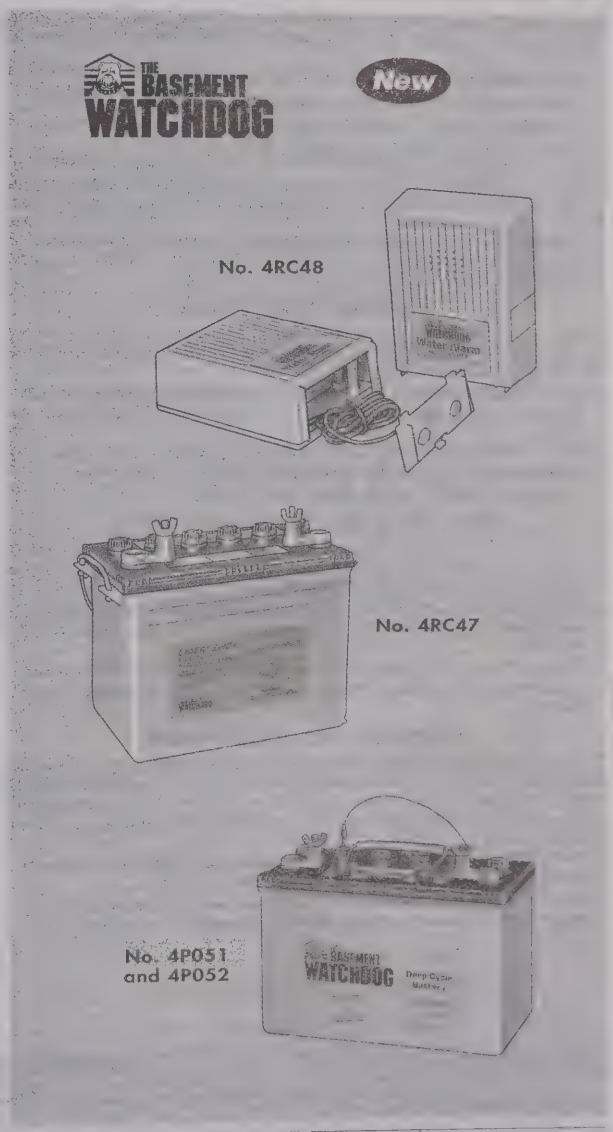
**onstruction:** Thick, dense lead plates with fiberglass mat separa-rs. Polypropylene container with heavy-duty dual purpose arine terminals and convenient carrying handle. Screw-type ll caps match Basement Watchdog sump pump fluid sensor. OTE: These batteries are shipped with completely dry, hermet-ally sealed cells. Safe and UPS shippable. User must supply cor-ct battery acid, available locally at most automotive supply ops. Basement Watchdog brand.

**o. 4P052.** Features 520 cold cranking amps at 0°F, 95 amp hours id a reserve capacity of 140 minutes. Requires 4.2 qts. of battery id (not included). Battery Council International (BCI) dimen-on group size No. 24. 10¾L x 6¾W x 10"H. Basement Watchdog and. (M24-6)

**o. 4P052.** Shpg. wt. 28.0 lbs. List $101.30. Each.....**$82.35▲**

**o. 4P051.** Features 680 cold cranking amps at 0°F, 140 amp ours and a reserve capacity of 180 minutes. Requires 6.0 qts. of ttery acid (not included). BCI No. 30H, 13L x 6¾W x 10"H. asement Watchdog brand (30HDC140S).

**o. 4P051.** Shpg. wt. 37.0 lbs. List $169.10. Each.....**$105.00▲**




| No. 4RC50 | | | No. 4P050 | | | No. 4RC49 | | |
|---|---|---|---|---|---|---|---|---|
| Head in Feet | GPH of Water | Amp Draw | Head in Feet | GPH of Water | Amp Draw | Head in Feet | GPH of Water | Amp Draw |
| 0 | 2000 | 8.0 | 0 | 2300 | 12.0 | 0 | 3500 | 15.0 |
| 5 | 1420 | 7.3 | 5 | 2050 | 11.0 | 5 | 2800 | 13.5 |
| 10 | 1000 | 6.5 | 10 | 1730 | 10.0 | 10 | 2200 | 12.0 |
| 15 | 100 | 3.0 | 15 | 150 | 5.0 | 15 | 200 | 5.0 |

## BACK-UP SUMP PUMP ORDERING DATA

| Description | Max Battery Size (In.) L | W | H | Battery Selection Guide: Hours of Protection | 55 AMP No. 4RC47 | Hours of Protection | 95 Amp No. 4P052 | Hours of Protection | 140 Amp No. 4P051 | Basement Watchdog Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| nergency | 13¼ | 7¾ | 10 | 6 | X | 7.5 | X | 12 | X | BWE | *New* 4RC50 | $167.00 | $128.00▲ | 60 |
| ecial | 13¼ | 7¾ | 10 | — | — | 6 | X | 7.5 | X | BWS 12A | 4P050 | 367.95 | 223.00▲ | 120 |
| mputer Controlled | 13¼ | 7¾ | 10 | — | — | — | — | 7.5 | X | BWD12-120W | *New* 4RC49 | 735.00 | 480.00▲ | 310 |

) Net prices, not subject to discounts.

# RESIDENTIAL SUBMERSIBLE SUMP PUMPS

Submersible sump pumps are ideal for emptying residential sump pits, swimming pools, laundry facilities and dewatering flooded areas.

- **For intermittent-duty, residential applications**
- **Top screened inlet reduces clogging**
- **Maximum liquid temperature: 120°F**
- **Use with nonflammable liquids only**

Driver: Shaded pole 115 VAC, 60 Hz, single-phase motors, oil-filled and sealed for cooler running and improved lubrication. Carbon steel shaft, Buna-N lip seal and O-ring or Buna-N, carbon/ceramic shaft seal. Permanently lubricated sleeve bearings, automatic thermal overload protection, 3-prong, 18/3 grounded power cords. Motor amp draw: 1/6 HP - 5 amps, 1/3 HP - 8 amps (except No. 2P088 - 10 amps), 1/2 HP - 10 amps.

## ECONOMY SUMP PUMPS

An economical solution for residential applications. constructed of glass-filled thermoplastic or polypropylene housing and base that will not rust or corrode.

- **Nos. 2P088, 4P903 and 4P904 have tethered float switch for automatic operation. Fits into sump pit 14" diameter or larger.**
- **Nos. 2P087 and 2P556 are manual operation. Can be converted to automatic operation with the use of No. 4RK15 or 4RK29 mechanical float switch.**

## HEAVY-DUTY CAST IRON SUMP PUMPS

Teel heavy-duty sump pumps feature a cast iron base and steel motor housing for long life and quiet operation. Available with a tethered float switch or mechanical float switch.

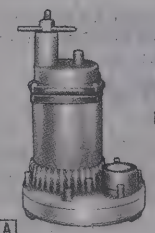
- **Nos. 4P905 and 4P906 have tethered float switch for automatic operation. Fits into sump pit 14" diameter or larger.**
- **Nos. 4PM20 and 4PM21 have mechanical float switch for automatic operation. Fits into sump pit 11" diameter or larger.**

## STAINLESS STEEL SUMP PUMPS

Teel stainless steel sump pumps offer the ultimate in corrosion resistance. These premium pumps have 304 series stainless steel motor housing and a thermoplastic base that will not rust or corrode. Available with a tethered float switch or a mechanical float switch.

- **No. 4PM22 has tethered float switch for automatic operation. Fits into sump pit 14" diameter or larger.**
- **No. 4PM23 has mechanical float switch for automatic operation. Fits into sump pit 11" diameter or larger.**

New TEEL® SSPMA Certified



UL E85176

47013

A

No. 2P087

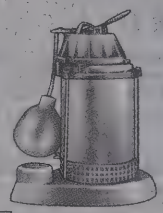


UL E85176

47013

B

No. 2P088

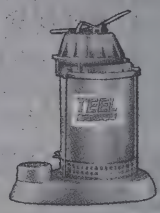


UL E85176

45237

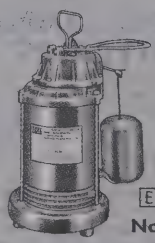
C

No. 4P903



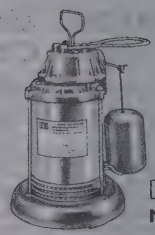
D

No. 2P556



E

No. 4PM20



F

No. 4PM23

Replacement Parts Available
1-800-323-0620

## SUMP PUMP ORDERING DATA

| Key | HP | Operation | Discharge NPT (In.) | GPM of Water @ Total Head Using Max. Dia. Pipe 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-Off Ft. | On-Point (In.) | Off-Point (In.) | Dimensions (In.) Ht. | Dia. | Cord Lgth. | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ECONOMY SUMP PUMPS** | | | | | | | | | | | | | | | | | | |
| **A** | 1/6 | Manual | 1* | 17.5 | 14.0 | 8.0 | — | — | 20.0 | # | # | 9 | 6 | 6 ft. | **2P087** | $95.87 | **$64.00** | 6 |
| **B** | 1/3 | Auto | 1¼ | 39.2 | 31.8 | 22.5 | — | — | 20.5 | 12 | 6 | 9¾ | 7⅞ | 8 | **2P088** | 158.84 | **100.00** | 12 |
| **C** | 1/3 | Auto | 1½† | 47.0 | 38.0 | 27.0 | 9.0 | — | 21.0 | 13 | 7 | 11½ | 9¾ | 9 | **4P903** | 155.00 | **95.00** | 15 |
| **C** | 1/2 | Auto | 1½† | 62.0 | 54.0 | 45.0 | 33.0 | 10.0 | 26.0 | 13 | 7 | 11½ | 9¾ | 9 | **4P904** | 190.00 | **120.00** | 17 |
| **D** | 1/3 | Manual | 1½† | 47.0 | 38.0 | 27.0 | 9.0 | — | 21.0 | # | # | 11½ | 9¾ | 20 | **2P556** | 159.00 | **92.00** | 14 |
| **CAST IRON SUMP PUMPS** | | | | | | | | | | | | | | | | | | |
| **E** | 1/3 | Auto | 1½ | 47.0 | 38.0 | 27.0 | 9.0 | — | 21.0 | 8 | 3 | 11½ | 9¾ | 8 | ***New* 4PM20** | 178.98 | **115.00** | 17 |
| **E** | 1/2 | Auto | 1½ | 62.0 | 54.0 | 45.0 | 33.0 | 10.0 | 26.0 | 8 | 3 | 11½ | 9¾ | 8 | ***New* 4PM21** | 204.49 | **141.10** | 20 |
| **C** | 1/3 | Auto | 1½† | 47.0 | 38.0 | 27.0 | 9.0 | — | 21.0 | 13 | 7 | 11½ | 8½ | 9 | **4P905** | 174.00 | **105.00** | 15 |
| **C** | 1/2 | Auto | 1½† | 62.0 | 54.0 | 45.0 | 33.0 | 10.0 | 26.0 | 13 | 7 | 11½ | 8½ | 9 | **4P906** | 200.00 | **130.00** | 21 |
| **STAINLESS STEEL SUMP PUMPS** | | | | | | | | | | | | | | | | | | |
| **C** | 1/3 | Auto | 1½ | 62.0 | 54.0 | 45.0 | 33.0 | 10.0 | 26.0 | 9 | 4 | 11½ | 9¾ | 8 | ***New* 4PM22** | 218.11 | **150.50** | 16 |
| **F** | 1/2 | Auto | 1½ | 62.0 | 54.0 | 45.0 | 33.0 | 10.0 | 26.0 | 8 | 3 | 11½ | 9¾ | 8 | ***New* 4PM23** | 222.82 | **153.75** | 16 |

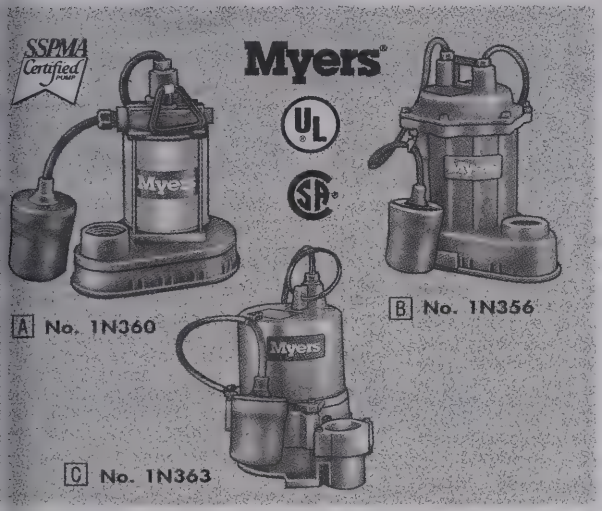
(*) 3/4" Garden hose adapter included. (†) Nylon 1½ x 1¼" reducer included. (#) Manual, will pump water down to 3/16" from surface being drained (within 2" for No. 2P556). For extended manual operation (longer than 15 minutes). pump should be in 4" of water for proper cooling.



*If we don't have a pump for it, chances are it can't be pumped.*

# RESIDENTIAL SUBMERSIBLE SUMP PUMPS AND SINK PUMP SYSTEM

## RESIDENTIAL SUBMERSIBLE SUMP PUMPS




- Shaded-pole motors; no starting switches or relays required
- Automatic internal overloads for motor protection
- Heavy-duty cast iron or aluminum motor housing
- Corrosion-resistant polypropylene or thermoplastic motor cap, discharge base and impeller
- Available in automatic models with built-in or piggy-back mercury-free mechanical float switch
- Oil-filled motor for superior cooling and continuous lubrication of bearings
- Mechanical shaft seal with Buna N and stainless steel parts, carbon/ceramic seats
- UL Listed; CSA Certified; SSPMA Certified

**Applications:** For emptying residential sump pits, laundry drainage and dewatering flooded areas. For use with nonflammable liquids compatible with materials of construction with an intermittent maximum liquid temperature of 140°F.

**Driver:** Shaded-pole, oil-filled, 115VAC 60 Hz motor. Automatic thermal overload protection. 10 ft. or 20 ft., 3-prong, 16/3 SJTW/SJTW-A power cord. Myers brand.

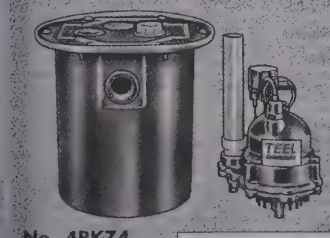
### SUBMERSIBLE SUMP PUMP SPECIFICATIONS AND PERFORMANCE DATA

| Stock No. | HP | Amps 115VAC | Discharge NPT (In.) | Max. Dia. Solids (In.) | GPM @ Total Head 5' | 10' | 15' | 20' | Shut Off (Ft.) | On-Point (In.) | Off-Point (In.) | Cord Length (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1N360 | 1/4 | 8.0 | 1¼ | 1/8 | 24 | 21 | 14 | 6 | 21.0 | 10½ | 5 | 10 |
| 1N356 | 1/4 | 9.0 | 1½ | 1/4 | 30 | 26 | 22 | 12.5 | 24.0 | 10½ | 3½ | 10 |
| 1N358 | 1/4 | 9.0 | 1½ | 1/4 | 30 | 26 | 22 | 12.5 | 24.0 | 10½ | 3½ | 20 |
| 1N357 | 1/4 | 9.0 | 1½ | 1/4 | 30 | 26 | 22 | 12.5 | 24.0 | † | † | 20 |
| 1N363 | 1/3 | 7.5 | 1½ | 1/2 | 31 | 29 | 25 | 12 | 23.0 | 10 | 4⅛ | 20 |
| 1N362 | 1/3 | 7.5 | 1½ | 1/2 | 31 | 29 | 25 | 12 | 23.0 | † | † | 20 |

### SUBMERSIBLE SUMP PUMP ORDERING DATA

| HP | Operation | Pump Materials* Base | Housing | Top | Impeller | Dimensions (In.) H | D | Myers Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/4 | Automatic | Poly | Aluminum | Poly | Poly | 9 3/16 | 7 5/8 | SP25A1 | **1N360** | $143.94 | **$92.50** | 9.0 |
| 1/4 | Automatic | Poly | Cast Iron | Thermo | Thermo | 12¼ | 9 11/16 | S25A1 | **1N356** | 169.20 | **108.25** | 18.0 |
| 1/4 | Automatic | Poly | Cast Iron | Thermo | Thermo | 12¼ | 9 11/16 | S25PC-1 | **1N358** | 199.76 | **129.40** | 21.0 |
| 1/4 | Manual | Poly | Cast Iron | Thermo | Thermo | 12¼ | 9 11/16 | S25M1C | **1N357** | 175.18 | **113.10** | 17.0 |
| 1/3 | Automatic | Thermo | Cast Iron | Cast Iron | Thermo | 11½ | 8½ | SSM33PC-1 | **1N363** | 223.22 | **133.00** | 26.0 |
| 1/3 | Manual | Thermo | Cast Iron | Cast Iron | Thermo | 11½ | 8½ | SSM33M1C | **1N362** | 217.55 | **135.00** | 26.0 |

Poly = polypropylene; Thermo = thermoplastic. (†) Manual units. On-Off points dependent on the type of level control used.




TEEL®

LR47013

No. 4RK74

| PUMP SYSTEM PERFORMANCE DATA | | | | |
|---|---|---|---|---|
| GPM of Water at Total Head in Feet | | | | |
| 5 ft. | 10 ft. | 15 ft. | 20 ft. | SHUT-OFF |
| 48.0 | 40.0 | 29.0 | 15.0 | 24 ft. |

## 1/3 HP SINK PUMP SYSTEM

Removes wastewater from laundry tray, sinks, wet bars, dehumidifiers, water softeners, etc. Pre-assembled unit is self-contained and is easily installed above floor. System includes 5 gallon, 16½ dia. 16" high, polypropylene tank and gas-tight lid, 1½" inlet, 1½" vent, and 1½" discharge openings. 1/3HP heavy-duty cast iron sump pump provides 48 GPM @ 5 FT. head, mechanical shaft seal with Buna-N and stainless steel parts, carbon/ceramic seat, Noryl® impeller. 115V, 60 Hz, 9.8 amps with automatic overload protection. Maximum liquid temperature 130°F. Includes 10-ft, grounded power cord and piggyback vertical switch.

***New*** **No. 4RK74.** Shpg. wt. 32.0 lbs. List $333.25.
Each.....$215.00

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

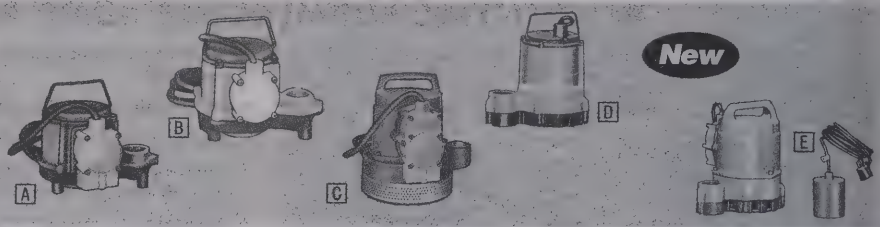
# RESIDENTIAL SUMP/EFFLUENT PUMPS

Little Giant PUMP COMPANY SUBSIDIARY TECUMSEH PRODUCTS COMPANY

E81811N

LR19315

Replacement Parts Available 1-800-323-0620




For draining flooded excavations, basements, construction sites, swimming pools. Come with 3-conductor cord. Do not run dry. Use with nonflammable liquids compatible with pump component materials. Manual pumps convert to automatic with No. 2P353 switch below.

**A and B 3/10 & 4/10 HP Sump Pumps**—Epoxy coated cast iron or corrosion resistant bronze housings, polypropylene bases with intake screen, polycarbonate tops and glass-filled polypropylene impellers. Steel motor shafts never touch water. Automatic pumps with preset diaphragm switch cut-in at approximately 7-10" and cut-out at 1-3" from bottom of pump. Manual pumps start and run continuously. 1½" NPT discharge.* No. 3P640 is equipped with a 3/4" garden hose adapter. 3/10 and 4/10 HP, 1500 RPM, 115VAC, 60 Hz single phase thermally protected motors sealed in oil for cool running. Sleeve bearings.

**C 1/2 HP Sump Pump**—Automatic pump with preset diaphragm switch which cuts-in at 8½-12" and cuts-out at 1½-4" from pump base. Epoxy coated cast iron housing and base with intake screen and glass-filled nylon impeller. Steel motor shaft never touches water. 1½" NPT discharge.* 1/2 HP, 1500 RPM, 115VAC, 60 Hz shaded pole motor with ball bearings, permanently lubricated and thermally protected.

**D and E Manual/Automatic Effluent Pumps**—set for manual or automatic operation. Handle liquids and solid waste to 3/4" diameter. Automatic operation: 4/10 HP No. 4RK90 cuts in at 9-14" and cuts out at 2 to 6"; 1/2HP No. 4RK91 cuts in at 11-15 and cuts out at 5-9". Both models feature cast iron epoxy coated pump housing for corrosion and rust resistance. Stainless steel screws, bolts, handle and seal assembly. Mechanical seals—stainless steel spring, nitrile parts, carbons and ceramic faces. Oil-filled motor housing provides lifetime lubrication and heat dissipation. 1½" NPT discharge. 115VAC, 60Hz, thermally-protected motors. 15-ft. power cord.

(*) Plastic adapter included to convert to 1¼" discharge.

| Key | Stock No. | HP | NPT Discharge (In.) | GPM of Water @ Total Head in Feet, Maximum Diameter Pipe 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | Shut-Off (Ft.) | Dimensions (In.) H | W | Length (Ft |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3P639 | 3/10 | 1½ | 45.8 | 29.2 | 12.5 | — | 18.0 | 6¼ | 9¼ | 8 |
| A | 3P641 | 4/10 | 1½ | 54.1 | 49.7 | 25.8 | 7.5 | 22.9 | 6¼ | 9¼ | 10 |
| B | 3P640 | 3/10 | 1½ | 45.8 | 29.2 | 12.5 | — | 18.0 | 6¼ | 9¼ | 10 |
| B | 3P642 | 4/10 | 1½ | 54.2 | 41.7 | 25.8 | 7.5 | 22.9 | 6¼ | 9¼ | 25 |
| C | 3P643 | 1/2 | 1½ | 70.0 | 63.3 | 45.0 | 30.4 | 23.0 | 10½ | 9½ | 25 |
| D | 4KR90 | 4/10 | 1½ | 57.0 | 53.0 | 40.0 | 33.0 | 23.0 | 9 | 6.9 | 15 |
| E | 4KR91 | 1/2 | 1½ | 80.0 | 67.0 | 52.0 | 33.0 | 26.0 | 10¼ | 8¼ | 15 |

## SPECIFICATIONS AND ORDERING DATA

| Key | HP | Operation | Housing | Pump Materials Base | Top | Impeller | Little Giant Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3/10 | Automatic | Cast Iron | Polypro.* | Polycarb.† | Polypro.‡ | 6-CIA | **3P639** | $171.68 | **$100.00** | 19.0 |
| A | 4/10 | Automatic | Cast Bronze | Polypro. | Polycarb. | Polypro. | 8-CBA | **3P641** | 326.39 | **205.00** | 19.0 |
| B | 3/10 | Manual** | Cast Iron | Polypro. | Polycarb. | Polypro. | 6-CIMR | **3P640** | 160.63 | **93.00** | 16.0 |
| B | 4/10 | Manual** | Cast Iron | Polypro. | Polycarb. | Polypro. | 8-CIM | **3P642** | 289.17 | **180.00** | 19.0 |
| C | 1/2 | Automatic | Cast Iron | Cast Iron | Cast Iron | Nylon# | 10-CIA | **3P643** | 490.52 | **305.00** | 38.0 |
| D | 4/10 | Manual/Automatic | Cast Iron | ABS | Nylon# | Nylon# | 9E-CIA-RFS | ***New*** **4RK90** | 300.15 | **250.00** | 27.0 |
| E | 1/2 | Manual/Automatic | Cast Iron | ABS | Cast Iron | Nylon# | 10E-CIA-RFS | ***New*** **4RK91** | 404.22 | **335.00** | 37.0 |

(*) Polypropylene. (†) Polycarbonate. (‡) Glass-filled polypropylene. (#) Glass filled nylon. (**) Can be converted to automatic operation by using No. 2P353 switch below.

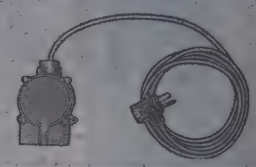
## AUTOMATIC SWITCH

Converts manual Little Giant pumps as large as 1/2 HP to automatic operation. Has ties for attaching to discharge pipe of other sump pumps for automatic operation. Switch has an On/Off differential of approximately 6 inches. Cut in at approximately 6-10"; cut out at approximately 1-4". 10 amp, 115V, switch comes with an 18 ft., 18/2 SJTW-A cord and piggy back 3-prong grounding plug/receptacle. Not for use with split-phase, capacitor start or 3-phase motors. 110°F Max. temperature. Little Giant brand (RS-5-18).

**No. 2P353.** Shpg. wt. 1.8 lbs. List .....$49.20. Each .....**$38.00**

LR19315

E81811N



## LOW LEVEL AUTOMATIC SWITCH

Pressure activated diaphragm switch converts any manual pump through 1/3 HP to automatic operation. Useful for pool covers, roof drainage or any area requiring a low "On" level for minimum standing water. On lever: 2 to 3" deep. Off level 0.5 to 1.5" deep. 115V, 10 amp switch. 18-ft. power cord. Switch dimensions: 4¾ H x 1¾ x 3" L. Little Giant brand (RS-5-LL).

***New*** **No. 4RL50.** Shpg. wt. 1.7 lbs. List $53.70. Each .....**$46.70**

No. 4RL50





*If we don't have a pump for it, chances are it can't be pumped.*

# RESIDENTIAL SUMP PUMPS

## RESIDENTIAL CAST-IRON SUBMERSIBLE SUMP PUMPS

- **Rugged cast-iron construction with tapped 1½" NPT discharge and screened bottom inlet. Plastic adapter included for conversion to 1¼" discharge.**
- **Automatic models have a piggyback, mercury-free mechanical float switch to provide switch overriding capability for manual pump operation**
- **Manual pumps start and run continuously**
- **Shaded pole motors with automatic overload protection, oil-filled for superior cooling and continuous bearing lubrication**

For draining flooded excavations, construction sites, and basements. DO NOT run pump dry. 3/10 and 4/10 HP models have cast iron pump body with bottom inlet screen to screen loose debris, and Noryl® impeller. Automatic pumps with tethered float switch have 13.0" ON and 5.0" OFF settings. No. 4RJ19 includes a 3/4" garden hose adapter. Manual pumps are easily converted to automatic operations by using switch No. 4RK15.

Single phase, thermally-protected, oil-cooled, shaded pole motors have sleeve/sleeve bearing construction.

Maximum liquid temperature is 130°F. All pumps come with UL/CSA approved 3-prong grounded cord. For use with nonflammable liquids compatible with materials of construction. UL listed (E61535); CSA and SSPMA certified. Teel brand.




### SUBMERSIBLE SUMP PUMP PERFORMANCE

| Key | Stock No. | HP | Volts @ 60 Hz | Amps | Discharge Npt. (In.) | DISCHARGE GPM OF WATER @ TOTAL HEAD FEET 5 Ft. | 10 Ft. | 15 Ft. | 18 Ft. | 23 Ft. | Shut off (Ft.) | On Point (In.) | Off Point (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 4RJ19 | 3/10 | 115 | 9.0 | 1½ | 45.8 | 29.2 | 12.5 | — | — | 18.0 | — | — |
| A | 4RJ21 | 4/10 | 115 | 13.0 | 1½ | 54.2 | 41.7 | 25.8 | 15.0 | — | 23.0 | — | — |
| B | 4RJ20 | 3/10 | 115 | 9.0 | 1½ | 45.8 | 29.2 | 12.5 | — | — | 18.0 | 13 | 5 |
| B | 4RJ22 | 4/10 | 115 | 13.0 | 1½ | 54.2 | 41.7 | 25.8 | 15.0 | — | 23.0 | 13 | 5 |
| C | 4RJ23 | 1/2 | 115 | 12.0 | 1½ | 62.0 | 53.0 | 46.0 | 42.0 | 32.0 | 32.0 | 12½ | 3½ |

### *New!* SUBMERSIBLE SUMP PUMP ORDERING DATA

| Key | HP | Operation | Pump Materials Base | Housing | Top | Impeller | Dimensions H | Dia.. | Cord Length (Ft.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 3/10 | Manual | CI | Epoxy Coated Zinc | Polypro | Noryl | 11⅜ | 12⅝ | 8 | **4RJ19** | $122.48 | **$98.00** | 17.0 |
| **A** | 4/10 | Manual | CI | Epoxy Coated Zinc | Polypro | Noryl | 11⅜ | 12⅝ | 20 | **4RJ21** | 231.25 | **185.00** | 18.0 |
| **B** | 3/10 | Automatic | CI | Epoxy Coated Zinc | Polypro | Noryl | 11⅜ | 12⅝ | 8 | **4RJ20** | 131.62 | **105.30** | 18.0 |
| **B** | 4/10 | Automatic | CI | Epoxy Coated Zinc | Polypro | Noryl | 11⅜ | 12⅝ | 8 | **4RJ22** | 261.56 | **209.25** | 19.0 |
| **C** | 1/2 | Automatic | Polypro | CI | CI | Nylon | 11½ | 14 | 25 | **4RJ23** | 400.62 | **320.50** | 34.0 |

## RESIDENTIAL SUBMERSIBLE SUMP PUMPS

- **Complete stainless steel motor housing/composite construction with screen bottom inlet**
- **Compact design with vertical style piggyback switch allowing automatic or manual operation**
- **Long service life from stainless steel shaft with ceramic-sleeve wear surface and two double lip seals**
- **1¼" NPT discharge with check valve**
- **Fits in sump pits as small as 10" diameter**

For draining flooded basements, excavations, and construction sites of rain, and clear or dirty water. These highly energy-efficient pumps can be operated automatically or manually. All pumps have glass-filled polypropylene housing and base. Non-clogging composite impeller and two Buna-N lip seals with ceramic shaft sleeve. Vertical float switch turns on at 7-9" and off at 1-2". Has 11/4" NPT discharge. The single-phase, permanent split capacitor motor has permanently lubricated ball bearings and automatic thermal overload protection. 304 stainless steel motor casing, shaft, and external hardware. 10-ft., three-prong grounded cord. For use with nonflammable liquids compatible with pump components. Maximum liquid temperature, 77°F. UL listed (E160411) and CSA certified (LR47013). Teel brand.



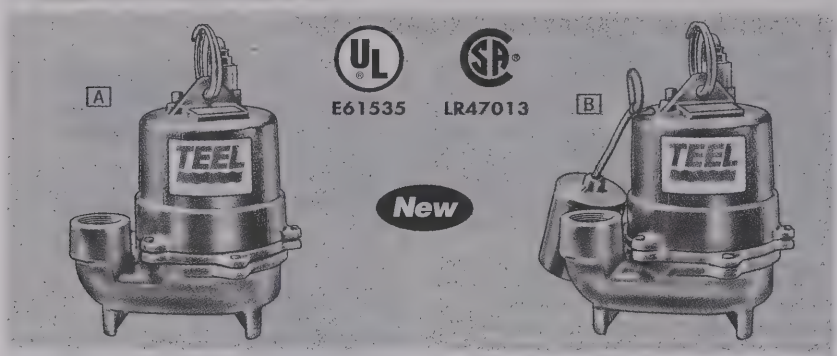

### SUBMERSIBLE SUMP PUMP PERFORMANCE

| Stock No. | HP | Volts @ 60hz | Amps | Discharge Npt. (In.) | GPM of Water @ Total Head In Feet 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut Off Ft. | On Point (In.) | Off Point (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4RJ27 | 1/4 | 115 | 2.3 | 1¼ | 30.9 | 24.0 | 16.9 | — | — | 20 | 7-9 | 1-2 |
| 4RJ28 | 1/3 | 115 | 2.5 | 1¼ | 35.2 | 28.0 | 20.8 | 11.4 | — | 24 | 7-9 | 1-2 |
| 4RJ29 | 1/2 | 115 | 2.9 | 1¼ | 42.0 | 33.8 | 25.0 | 15.5 | 4.8 | 27 | 7-9 | 1-2 |

### *New!* SUBMERSIBLE SUMP PUMP ORDERING DATA

| HP | Operation | Pump Materials Base | Housing | Top | Impeller | Dimensions H | Dia. | Cord Length (Ft.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | Automatic | Polypro | Polypro | Polypro | Polyphenylene Oxide | 11¼ | 8¾ | 10 | **4RJ27** | $181.62 | **$145.30** | 7.0 |
| **1/3** | Automatic | PolyPro | Polypro | Polypro | Polyphenylene Oxide | 11½ | 8¾ | 10 | **4RJ28** | 211.25 | **169.00** | 8.0 |
| **1/2** | Automatic | PolyPro | Polypro | Polypro | Polyphenylene Oxide | 11½ | 8¾ | 10 | **4RJ29** | 274.56 | **219.75** | 10.0 |

# SUBMERSIBLE COMMERCIAL SUMP PUMPS




TEEL®

SSPMA Certified PUMP

**Replacement Parts Available**
**1-800-323-0620**

Use for wastewater removal from residential and commercial sump pits, draining ground water from excavations and coffer dams. Use with nonflammable liquids compatible with materials of construction. Liquid temperature 130°F. Maximum 1/2" spherical solids handling capability.

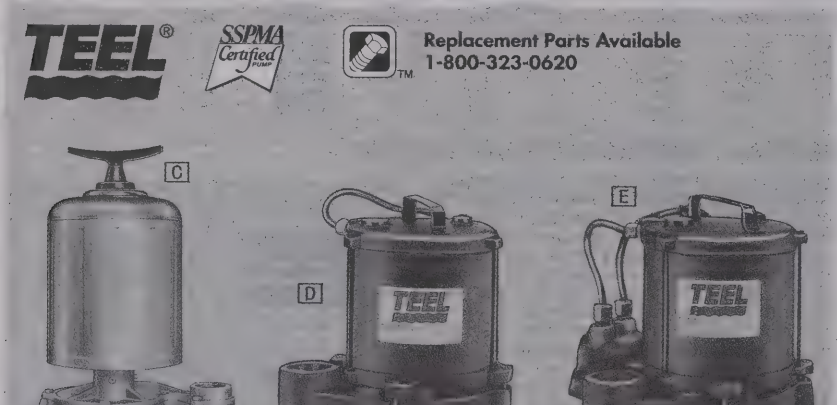
**Heavy-duty, cast iron construction.** Tethered piggyback float switch allows automatic or manual operation. Operates in 18" diameter x 24" deep or larger sump pits.

**Single phase, 115 VAC, 60 Hz oil-filled motors** with automatic reset thermal overload protection and class B insulation. Pumps have mechanical shaft seal with Buna-N and stainless steel parts, carbon/ceramic seat. Lifetime ball-bearing lubrication. Hermetically sealed motors are continuously cooled and lubricated. UL Listed/CSA approved 3-prong 16/3 grounded power cords.

| Key | Stock No. | HP | Amp. | Discharge NPT (In.) | GPM of Water @ Total Head in Ft., Using Max. Diam. Pipe 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-Off Ft. | On-Point (In.) | Off-Point (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 4RJ16 | 1/3 | 7.5 | 1½* | 75.0 | 65.0 | 53.0 | 38.0 | — | 25.0 | — | — |
| A | 4RJ18 | 1/2 | 9.3 | 1½* | 90.0 | 80.0 | 67.0 | 50.0 | — | 26.0 | — | — |
| B | 4RJ15 | 1/3 | 7.5 | 1½* | 75.0 | 65.0 | 53.0 | 38.0 | — | 25.0 | 15¾ | 6½ |
| B | 4RJ17 | 1/2 | 9.3 | 1½* | 90.0 | 80.0 | 67.0 | 50.0 | — | 26.0 | 15¾ | 6½ |

| Key | HP | Operation | Pump Materials: Base | Housing | Top | Impeller | Dimen. (In.) H | Dia. | Cord Lgth. (Ft.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 1/3 | Manual | CI | CI | CI | CI | 12⅝ | 14⅜ | 20 | **4RJ16** | $361.41 | **$245.00** | 30.0 |
| **A** | 1/2 | Manual | CI | CI | CI | CI | 12⅝ | 14⅜ | 20 | **4RJ18** | 413.25 | **285.00** | 34.0 |
| **B** | 1/3 | Auto | CI | CI | CI | CI | 12⅝ | 14⅜ | 10 | **4RJ15** | 375.91 | **255.00** | 32.0 |
| **B** | 1/2 | Auto | CI | CI | CI | CI | 12⅝ | 14⅜ | 10 | **4RJ17** | 419.77 | **289.50** | 36.0 |

(*) Nylon 1½ x 1¼" Reducer included and installed; easily removed for 1½" discharge. CI = Cast iron. SS = Stainless steel.




TEEL®

SSPMA Certified PUMP

**Replacement Parts Available**
**1-800-323-0620**

For emptying residential, motel, school, commercial, underground utility vault, and industrial sump pits. Draining ground water from excavations and coffer dams. For use with nonflammable liquids compatible with materials of construction. Maximum temperature of liquid being pumped should not exceed 120° F. Maximum diameter of solids is 1/2".

**Heavy-duty cast iron or cast bronze construction.** Higher flow and head than standard sump pumps. Lifetime lubricated ball bearings. Diaphragm automatic, Franklin submatic or manual operation. Fit 18" diameter x 24" deep or larger sump pits.

**Split phase 115 VAC, 60 Hz, 1725 RPM, single phase motors.** Nos. 3P576 and 3P530 have Franklin Submatic 1/3 HP motors and automatic switch totally enclosed in corrosion resistant Type 304 stainless steel housing which acts as a float and controls pump. Pumps have mechanical shaft seal with Buna N and stainless steel parts, carbon/ceramic seat. Motors have Type 416 stainless steel shaft, automatic reset thermal overload protection, and 3-prong 18/3 grounded power cords, except Nos. 1P861 and 3P579 which have 16/3 power cords. Nos. 3P511 and 3P579 have air operated diaphragm switch. Manual pumps Nos. 1P861 and 3P512 convert to automatic operation with use of No. 4RK04 mechanical float switch. Teel brand.

**Replacement Pressure Switch.** Fits pumps Nos. 3P511 and 3P579. Automatically starts motor when water level is 2" above pump, shuts off when water level drops to 5" above pump base. O-ring included. Robertshaw Controls brand.

**No. 1R235.** Shpg. wt. 0.2 lbs. List.....$21.00
Each.....**$16.40**

| Key | Stock No. | HP | Amp. | Discharge NPT (In.) | GPM of Water @ Total Head in Ft., Using Max. Diam. Pipe 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-Off Ft. | On-Point (In.) | Off-Point (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 3P576 | 1/3 | 6.0 | 1¼ | 48.0 | 38.0 | 21.0 | — | — | 18.0 | 9¼ | 6¼ |
| C | 3P530 | 1/3 | 6.0 | 1¼ | 48.0 | 38.0 | 21.0 | — | — | 18.0 | 9¼ | 6¼ |
| D | 3P512 | 1/3 | 6.0 | 1½* | 74.0 | 65.0 | 53.0 | 38.0 | — | 25.0 | — | — |
| D | 1P861 | 1/2 | 8.5 | 1½* | 90.0 | 80.0 | 67.0 | 50.0 | — | 26.0 | — | — |
| E | 3P511 | 1/3 | 6.0 | 1½* | 74.0 | 65.0 | 53.0 | 38.0 | — | 25.0 | 12½ | 7 |
| E | 3P579 | 1/2 | 8.5 | 1½* | 90.0 | 80.0 | 67.0 | 50.0 | — | 26.0 | 12½ | 7 |

| Key | HP | Operation | Pump Materials: Base | Housing | Top | Impeller | Dimen. (In.) H | Dia. | Cord Lgth. (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C** | 1/3 | Auto | CI | SS | SS | Bronze | 14½ | 10 | 10 | **3P576** | $347.00 | **$239.50** | 26.0 |
| **C** | 1/3 | Auto | Bronze | SS | SS | Bronze | 14½ | 10 | 10 | **3P530** | 397.00 | **250.00** | 28.0 |
| **D** | 1/3 | Manual | CI | Steel | CI | CI | 10¼ | 9¼ | 20 | **3P512** | 331.00 | **215.00** | 34.0 |
| **D** | 1/2 | Manual | CI | Steel | CI | CI | 10½ | 10¾ | 20 | **1P861** | 377.00 | **259.75** | 38.0 |
| **E** | 1/3 | Auto | CI | Steel | CI | CI | 10¼ | 10¾ | 8 | **3P511** | 350.00 | **241.75** | 34.0 |
| **E** | 1/2 | Auto | CI | Steel | CI | CI | 10½ | 10¾ | 8 | **3P579** | 390.00 | **269.50** | 37.0 |

(*) Nylon 1½ x 1¼" Reducer included and installed; easily removed for 1½" discharge. CI = Cast iron. SS = Stainless steel.



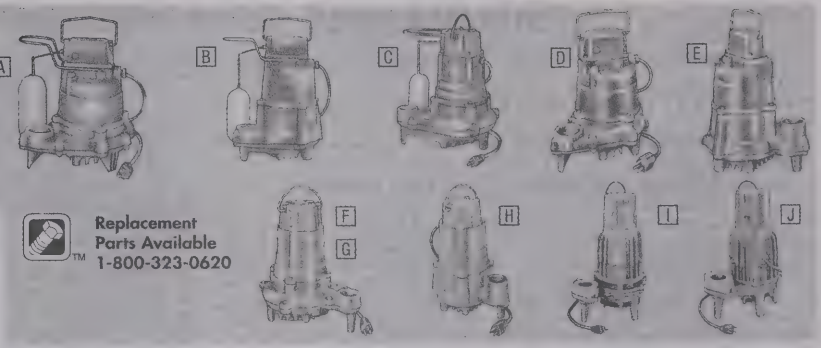
*If we don't have a pump for it, chances are it can't be pumped.*

# SUBMERSIBLE SUMP/EFFLUENT PUMPS

ZOELLER PUMP CO.

New

E80793 LR40384




Replacement Parts Available 1-800-323-0620

For residential, commercial, and intermittent-duty industrial applications. Designed to pump either clear water or effluent. Can be used in elevator pits, home sumps, loading docks, or in other areas where conventional sump pumps would clog or freeze-up due to the accumulation of light debris. Unique vertical-path float switch allows pumps to be mounted in narrow pits (12" minimum width with check valve installed) where a conventional arc-path switch would be inoperable. 1½" NPT discharge.

**Snap-action switch** automatically turns pump on and off at factory-preset fluid depths (automatic models only). Maximum fluid temperature: 130°F.

**Pumps come with the following features:** A non-clogging screenless suction inlet. Auto operation models have automatic-reset thermal overload protection. Hermatically sealed, oil-filled, with single-phase motors. Has a mechanical seal with stainless steel, Buna N, and carbon/ceramic parts.

## PUMP MATERIALS, PERFORMANCE, AND ORDERING DATA

| Key | Materials: Housing & Top | Materials: Impeller & Base | GPM of Water @ Total Head in Feet: 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-Off (Ft.) | Zoeller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AUTOMATIC OPERATION PUMPS** | | | | | | | | | | | | | |
| A | Cast iron | Polypropylene† | 43 | 34 | 19 | — | — | 19 | M53 | **2P547** | $146.50 | **$105.00** | 22.0 |
| A | Cast bronze | Polypropylene† | 43 | 34 | 19 | — | — | 19 | M55 | **2P548** | 378.60 | **313.75** | 25.0 |
| A | Cast iron | Cast iron | 43 | 34 | 19 | — | — | 19 | M57 | **2P549** | 159.60 | **120.00** | 27.0 |
| B | Cast iron | Cast iron | 72 | 61 | 45 | 25 | — | 23 | M98 | **2P550** | 230.70 | **180.00** | 38.0 |
| C | Cast iron | Cast iron | 93 | 79 | 64 | 36 | 8 | 26 | M137 | **2P551** | 340.00 | **260.00** | 47.0 |
| **NONAUTOMATIC OPERATION PUMPS** | | | | | | | | | | | | | |
| D | Cast iron | Polypropylene† | 43 | 34 | 19 | — | — | 19 | N53 | **New 4NW36** | 136.20 | **115.10** | 22.0 |
| D | Cast iron | Cast iron | 43 | 34 | 19 | — | — | 19 | E57 | **New 4NW37** | 175.40 | **147.95** | 27.0 |
| E | Cast iron | Cast iron | 72 | 61 | 45 | 25 | — | 23 | N98 | **New 4NW38** | 217.50 | **183.75** | 35.0 |
| E | Cast iron | Cast iron | 72 | 61 | 45 | 25 | — | 23 | E98 | **New 4NW39** | 242.20 | **204.00** | 35.0 |
| F | Cast iron | Cast iron | 93 | 79 | 64 | 36 | 8 | 26 | N137 | **New 4NV97** | 312.80 | **263.75** | 47.0 |
| F | Cast iron | Cast iron | 93 | 79 | 64 | 36 | 8 | 26 | E137 | **New 4NV98** | 361.80 | **303.75** | 47.0 |
| G | Cast bronze | Cast iron | 93 | 79 | 64 | 36 | 8 | 26 | E139 | **New 4NV99** | 965.10 | **797.00** | 52.0 |

| Key | Materials: Housing & Top | Materials: Impeller & Base | GPM of Water @ Total Head in Feet: 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 FT. | 80 Ft. | 90 Ft. | 100 Ft. | 110 Ft. | 120 Ft. | 130 Ft. | Shut-Off (Ft.) | Zoeller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H | Cast iron | Bronze | 91 | 84 | 76 | 68 | 59 | 49 | 21 | — | — | — | — | — | — | — | — | — | 46 | N140 | **New 4NW01** | $420.00 | **$351.25** | 48.0 |
| H | Cast iron | Bronze | 91 | 84 | 76 | 68 | 59 | 49 | 21 | — | — | — | — | — | — | — | — | — | 46 | E140 | **New 4NW02** | 447.30 | **373.50** | 48.0 |
| I | Cast iron | Cast iron | 100 | 93 | 85 | 78.5 | 70 | 61.5 | 45 | 20 | — | — | — | — | — | — | — | — | 56 | N161 | **New 4NW04** | 603.90 | **527.00** | 87.0 |
| I | Cast iron | Cast iron | 61 | 60.5 | 60 | 58 | 57 | 55 | 46 | 33 | 15 | — | — | — | — | — | — | — | 66 | E163 | **New 4NW05** | 631.60 | **549.00** | 85.0 |
| I | Cast iron | Cast iron | 61 | 60.5 | 60.5 | 60 | 59 | 58 | 55 | 50 | 39 | 22.5 | 10 | — | — | — | — | — | 86.5 | E165 | **New 4NW09** | 708.20 | **612.00** | 88.0 |
| I | Cast iron | Cast iron | 61 | 60.5 | 60.5 | 60 | 58 | 58 | 55 | 50 | 39 | 22.5 | 10 | — | — | — | — | — | 86.5 | G4165 | **New 4NW33** | 879.90 | **754.00** | 98.0 |
| J | Cast iron | Cast iron | * | * | * | * | * | 85 | 70 | 51 | 32 | 9 | — | — | — | — | — | — | 73 | E185 | **New 4NW15** | 701.70 | **606.50** | 88.0 |
| J | Cast iron | Cast iron | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 52 | 45 | 30.5 | 16 | 4 | — | — | 114 | E186 | **New 4NW16** | 796.80 | **684.50** | 90.0 |
| J | Cast iron | Cast iron | 145 | 140 | 133 | 128 | 121 | 116 | 103.5 | 90 | 71 | 51 | 28 | 2 | — | — | — | — | 91 | E188 | **New 4NW17** | 796.80 | **684.50** | 90.0 |
| J | Cast iron | Cast iron | 145 | 140 | 133 | 128 | 121 | 116 | 103.5 | 90 | 71 | 51 | 28 | 2 | — | — | — | — | 91 | J188 | **New 4NW18** | 861.80 | **737.50** | 90.0 |
| J | Cast iron | Cast iron | 145 | 140 | 133 | 130.5 | 125 | 120 | 109 | 97 | 85 | 69 | 51 | 34 | 17 | — | — | — | 110 | G189 | **New 4NW19** | 907.40 | **775.00** | 90.0 |
| J | Cast iron | Cast iron | 145 | 140 | 133 | 130.5 | 125 | 120 | 109 | 97 | 85 | 69 | 51 | 34 | 17 | — | — | — | 110 | E191 | **New 4NW20** | 859.10 | **735.50** | 91.0 |
| J | Cast iron | Cast iron | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 15 | 45 | 45 | 10 | 30 | 20 | 10 | 137 | | | | | |

(†) Glass-filled polypropylene. (*) Operation at these heads or below will result in motor overload, reduced pump life, and/or motor failure or damage.

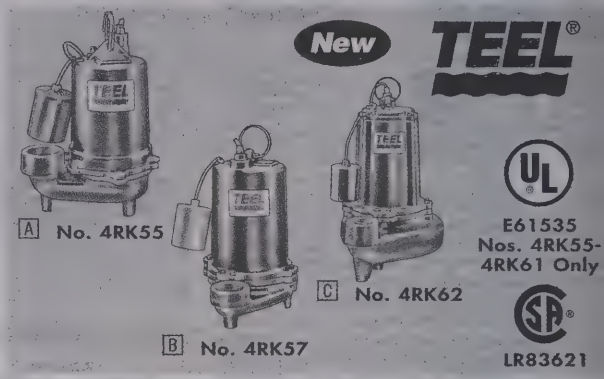
| Key | Stock No. | HP | PH | Volts 60 Hz | Amps | RPM | Dim. (In.) H | Dim. (In.) W | Cord Length (Ft.) | Gauge | Max. Solid Dia. (In.) | On Point (In.) | Off Point (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 2P547 | 3/10 | 1 | 115 | 8.0 | 1550 | 10 1/16 | 10 1/4 | 9 | 18/3 SJTW-A | 1/2 | 8 | 3½ |
| A | 2P548 | 3/10 | 1 | 115 | 8.0 | 1550 | 10 1/16 | 10 1/4 | 9 | 18/3 SJTW-A | 1/2 | 8 | 3¼ |
| A | 2P549 | 3/10 | 1 | 115 | 8.0 | 1550 | 10 1/16 | 10 1/4 | 9 | 18/3 SJTW-A | 1/2 | 8 | 3¼ |
| B | 2P550 | 1/2 | 1 | 115 | 9.4 | 1725 | 12 | 10 | 15 | 18/3 SJTW-A | 1/2 | 8 | 3 |
| C | 2P551 | 1/2 | 1 | 115 | 10.4 | 1725 | 13 | 11¾ | 10 | 18/3 SOW-A | 5/8 | 10 | 2¾ |
| D | 4NW36 | 3/10 | 1 | 115 | 8.0 | 1550 | 10 1/16 | 10 3/32 | 15 | 18/3 SJTW-A | 1/2 | — | — |
| D | 4NW37 | 3/10 | 1 | 230 | 4.0 | 1550 | 10 1/16 | 10 3/32 | 15 | 16/3 SJEOW-A | 1/2 | — | — |
| E | 4NW38 | 1/2 | 1 | 115 | 9.4 | 1550 | 12 | 10 1/8 | 15 | 16/3 SJEOW-A | 1/2 | — | — |
| E | 4NW39 | 1/2 | 1 | 230 | 4.7 | 1550 | 12 | 10 1/4 | 15 | 16/3 SJEOW-A | 1/2 | — | — |
| F | 4NV97 | 1/2 | 1 | 115 | 10.7 | 1725 | 13 | 12 | 15 | 18/3 SOW-A | 5/8 | — | — |
| F | 4NV98 | 1/2 | 1 | 230 | 5.8 | 1725 | 13 | 12 | 15 | 18/3 SOW-A | 5/8 | — | — |
| G | 4NV99 | 1/2 | 1 | 230 | 5.8 | 1725 | 13 | 12 | 15 | 18/3 SOW-A | 5/8 | — | — |
| H | 4NW01 | 1 | 1 | 115 | 15.0 | 3480 | 12 5/8 | 10 1/4 | 15 | 16/3 SOW-A | 1/2 | — | — |
| H | 4NW02 | 1 | 1 | 230 | 7.5 | 3480 | 12 5/8 | 10 1/4 | 15 | 18/3 SOW-A | 1/2 | — | — |
| I | 4NW04 | 1/2 | 1 | 115 | 15.5 | 3450 | 18 5/16 | 12¾ | 20 | 14/3 SOW-A | 3/4 | — | — |
| I | 4NW05 | 1/2 | 1 | 230 | 7.5 | 3450 | 18 5/16 | 12¾ | 20 | 16/3 SOW-A | 3/4 | — | — |
| I | 4NW09 | 1 | 1 | 230 | 10.2 | 3450 | 18 5/16 | 12¾ | 20 | 16/4 SOW-A | 3/4 | — | — |
| I | 4NW33 | 1 | 3 | 460 | 3.7 | 3450 | 20 7/16 | 12¾ | 20 | 16/3 SOW-A | 3/4 | — | — |
| J | 4NW15 | 1 | 1 | 230 | 9.8 | 3450 | 18 5/16 | 12¾ | 20 | 14/3 SOW-A | 3/4 | — | — |
| J | 4NW16 | 1½ | 1 | 230 | 13.7 | 3450 | 18 5/16 | 12¾ | 20 | 14/3 SOW-A | 3/4 | — | — |
| J | 4NW17 | 1½ | 1 | 230 | 13.3 | 3450 | 18 5/16 | 12¾ | 20 | 16/4 SOW-A | 3/4 | — | — |
| J | 4NW18 | 1½ | 3 | 200-208 | 10.3 | 3450 | 18 5/16 | 12¾ | 20 | 12/3 SO | 3/4 | — | — |
| J | 4NW19 | 2 | 3 | 460 | 6.0 | 3450 | 18 5/16 | 12¾ | 20 | 14/5 SOW-A | 3/4 | — | — |
| J | 4NW20 | 2 | 1 | 230 | 14.5 | 3450 | | | | | | | |

# SUBMERSIBLE SUMP/EFFLUENT PUMPS

## SUBMERSIBLE SUMP/EFFLUENT PUMPS

- **High-efficiency oil-filled motor with heavy-duty ball bearings**
- **Large 2" NPT discharge port passes solid up to 3/4"diameter**
- **Automatic-reset thermal overload protector on single-phase units**
- **Mechanical seal with stainless steel, Buna N and carbon/ceramic parts**

Heavy-duty submersible sump/effluent pumps are designed to pump either clear water or effluent. Can be use in elevator pits, homes, sumps, loading docks, or in other areas where conventional sump pumps could clog or seize up due to accumulation of light debris. Cast iron impellers, except for Nos. 4RK55, 4RK56 and 4RK59, which have Noryl impellers. Single phase models have capacitor-run motor. Automatic models come with a heavy-duty mechanical float switch. For residential and commercial applications. Handle spherical solids up to 3/4" dia. 115V single phase pumps have 3 prong grounded power cord. For use with nonflammable liquids compatible with pump construction. Maximum fluid temperature 130°F.




### PUMP PERFORMANCE

| Key | Stock No. | Hp. | Volts @ 60hz. | Phase | Amps | Discharge Npt. (In.) | GPM Of Water @ Total Head In Feet 10 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | 80 Ft. | Shut Off ft. | On Point (in.) | Off Poin (in.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 4RK55 | 4/10 | 115 | 1 | 9.7 | 2 | 53.0 | 38.0 | 21.0 | — | — | — | — | — | 40.0 | 16¾ | 7¾ |
| A | 4RK56 | 4/10 | 230 | 1 | 5.0 | 2 | 53.0 | 38.0 | 21.0 | — | — | — | — | — | 40.0 | 16¾ | 7¾ |
| A | 4RK59 | 1/2 | 115 | 1 | 12.0 | 2 | 68.0 | 53.0 | 38.0 | 15.0 | — | — | — | — | 45.0 | 16¾ | 7¾ |
| B | 4RK57 | 1/2 | 115 | 1 | 13.0 | 2 | 109.0 | 95.0 | 82.0 | 65.0 | 35.0 | — | — | — | 59.0 | 18½ | 9½ |
| B | 4RK58 | 1/2 | 230 | 1 | 6.4 | 2 | 109.0 | 95.0 | 82.0 | 65.0 | 35.0 | — | — | — | 59.0 | 18½ | 9½ |
| B | 4RK60 | 1 | 230 | 1 | 6.6 | 2 | 98.0 | 96.0 | 90.0 | 82.0 | 68.0 | 40.0 | 8.0 | — | 72.0 | 18⅛ | 9⅛ |
| B | 4RK61 | 1 | 230/460† | 3 | 5.8/3.0 | 2 | 98.0 | 96.0 | 90.0 | 82.0 | 68.0 | 40.0 | 8.0 | — | 72.0 | — | — |
| C | 4RK62 | 2 | 230 | 1 | 11.0 | 2 | 160.0 | 155.0 | 137.0 | 120.0 | 100.0 | 78.0 | 53.0 | 20.0 | 85.0 | 18½ | 9½ |
| C | 4RK63 | 2 | 230/460† | 3 | 7.5/3.8 | 2 | 160.0 | 155.0 | 137.0 | 120.0 | 100.0 | 78.0 | 53.0 | 20.0 | 85.0 | — | — |

### PUMP ORDERING DATA

| Key | Hp | Operation | Pump Materials ‡ Base | Housing | Top | Impeller | Dimensions H | Diam. | Cord Length (Ft.) | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 4/10 | Automatic | CI | CI | CI | Noryl | 14⅝ | 14⅜ | 15 | **4RK55** | $304.75 | **$265.00** | 40.0 |
| **A** | 4/10 | Automatic | CI | CI | CI | Noryl | 14⅝ | 14⅜ | 15 | **4RK56** | 304.75 | **265.00** | 40.0 |
| **A** | 1/2 | Automatic | CI | CI | CI | Noryl | 14⅝ | 14⅜ | 20 | **4RK59** | 345.00 | **300.00** | 43.0 |
| **B** | 1/2 | Automatic | CI | CI | CI | CI | 14 | 15⅛ | 20 | **4RK57** | 632.50 | **550.00** | 59.0 |
| **B** | 1/2 | Automatic | CI | CI | CI | CI | 14 | 15⅛ | 20 | **4RK58** | 684.82 | **595.50** | 60.0 |
| **B** | 1 | Automatic | CI | CI | CI | CI | 14 | 15⅛ | 20 | **4RK60** | 1006.25 | **875.00** | 63.0 |
| **B** | 1 | *Manual | CI | CI | CI | CI | 14 | 15⅛ | 20 | **4RK61** | 1048.22 | **911.50** | 60.0 |
| **C** | 2 | Automatic | CI | CI | CI | CI | 18½ | 16⅞ | 20 | **4RK62** | 1483.50 | **1290.00** | 120.0 |
| **C** | 2 | *Manual | CI | CI | CI | CI | 18½ | 16⅞ | 20 | **4RK63** | 1251.20 | **1088.00** | 120.0 |

(*)Manual models do not include float switches. (†) Pre-wired for 230V. (‡) CI = Cast Iron.

## SUBMERSIBLE EFFLUENT PUMPS

- **Produce higher heads than standard effluent pumps**
- **PSC high efficient ball bearing motor provides longer life**
- **Designed to handle 3/4" spherical solids**

Two-vane bronze non-clogging impellers with pump out vanes on back side. Mechanical seal has stainless hardware. Buna N elastomers, carbon (rotating) and ceramic (stationary) faces which are oil lubricated to ensure long life. Seal assembly is located inboard in an oil-filled reservoir with a secondary exclusion seal for maximum long life service. Pump shaft is Type 416 stainless steel.

**Description:** Can be installed on the discharge side of septic tanks to pump tank effluent to gravity interceptors, lagoons or remote leach fields. Pumps are to be used only with nonflammable liquids that are compatible with pump component materials. Operating temperature range: 35 to 104°F.

**Construction:** All cast-iron construction with corrosion-resistant stainless steel fasteners and Buna N elastomers, ensure maintenance free operation and long life.

**Driver:** 3450 RPM capacitor start motor with thermal overload protection and automatic reset and are oil-filled for superior heat dissipation. Motors have oil lubricated, ball type thrust bearing. 15 ft. 3-prong 14/3 water and oil resistant grounded SJTOW-A/SJTOW power cords.




| HP | Discharge (In.) | Motor Specifications Volts | Watts | Amps | RPM | Dimen. (In.) H | W | GPM of Water @ Total Feet of Head* 20 Ft. | 25 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | Shut-Off (Ft.) | New! Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 2 | 115 | 1075 | 11.0 | 3450 | 18 | 13½ | 52 | 45 | 37 | 20 | 4 | — | — | 52 | **4NW98** | $634.00 | **$485.00** | 80.0 |
| **1** | 2 | 230 | 1550 | 8.2 | 3450 | 18 | 13½ | 75 | 72 | 68 | 57 | 43 | 30 | 15 | 80 | **4NW99** | 785.00 | **499.00** | 80.0 |

(*) Operation at these heads or below will result in motor overload, reduced pump life and/or motor failure/damage.



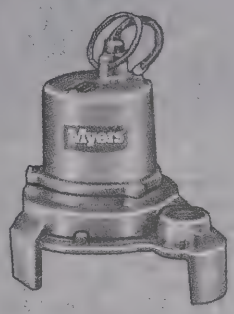
*If we don't have a pump for it, chances are it can't be pumped.*

# SUBMERSIBLE EFFLUENT PUMPS

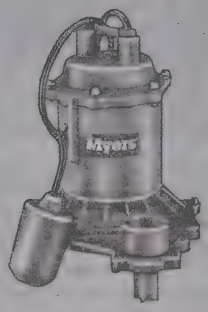
- Cast iron motor housing, single, carbon and ceramic seal plus stainless steel hardware
- Oil-filled motor (Class A insulation for Nos. 1N189-1N192, 1N205 and 1N206; all other pumps have Class B insulation) for superior cooling and continuous lubrication of bearings
- Capacitor-start motor for high starting torque (single-phase models except Nos. 1N205, 1N206, 1N191, 1N189, 1N192 and 1N190 which have shaded-pole motors)
- Automatic-reset built-in overload to protect motor (single-phase models)
- High-efficiency enclosed two-vane impellers (except Nos. 1N205 and 1N206 which have recessed vortex)
- 3/4" solids handling
- Heavy-duty lower ball bearing (except Nos. 1N205, 1N206, 1N191, 1N189, 1N192, and 1N190)
- Mechanical carbon-ceramic shaft seal
- 20' SJOW/SJOW-A cord, 16/3 on 1/3 thru 1/2 HP, 14/3 on others
- Standard 1½ and 2" NPT discharge ports
- Manual models can be used with control panel and level controls (3 for simplex, 4 for duplex) for proper operation (see pages 3234 and 3235).
- All pumps are UL Listed and SSPMA Certified; Nos. 1N189, 1N191-1N200 and 1N205 are also CSA Certified

Submersible effluent pumps are designed for reliable pumping of either clear water or septic tank effluent with suspended solids up to 3/4" in diameter. Nos. 1N205 and 1N206 have vortex, thermoplastic impeller; all others have enclosed, thermoplastic impeller. Nos. 1N189-1N192 have thermoplastic volute; all others have cast iron volute. Ideal for residential or light commercial applications to pump septic tank effluent to gravity interceptors, pressure dosing fields or leach fields. Intermittent max. fluid temperature: 140°F. Myers brand.

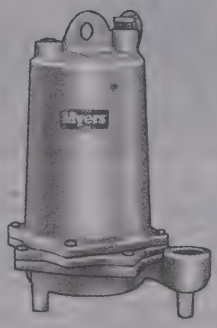
Myers®



A



B



C

## PUMP SPECIFICATIONS

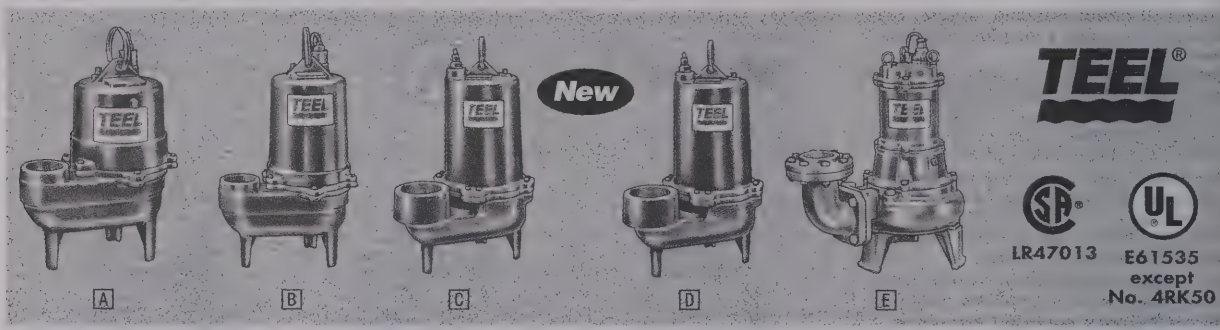
| Key | Stock No. | Motor Specifications HP | Volts 60 Hz | Phase | Amps | RPM | Dimensions (In.) H | W | Discharge NPT (In.) |
|---|---|---|---|---|---|---|---|---|---|
| A | 1N205 | 1/3 | 115 | 1 | 12.0 | 1625 | 10¾ | 11⅛ | 1½ |
| A | 1N206 | 1/3 | 230 | 1 | 6.0 | 1625 | 10¾ | 11⅛ | 1½ |
| B | 1N191 | 4/10 | 115 | 1 | 12.0 | 1625 | 12⅜ | 11 11/16 | 1½ |
| B | 1N189 | 4/10 | 115 | 1 | 12.0 | 1625 | 12⅜ | 11 11/16 | 1½ |
| B | 1N192 | 4/10 | 230 | 1 | 6.0 | 1625 | 12⅜ | 11 11/16 | 1½ |
| B | 1N190 | 4/10 | 230 | 1 | 6.0 | 1625 | 12⅜ | 11 11/16 | 1½ |
| C | 1N193 | 1/2 | 115 | 1 | 12.1 | 3450 | 14 11/16 | 11½ | 2 |
| C | 1N201 | 1/2 | 230 | 1 | 6.0 | 3450 | 14 11/16 | 11½ | 2 |
| C | 1N194 | 1/2 | 230 | 3 | 3.2 | 3450 | 14 11/16 | 11½ | 2 |
| C | 1N202 | 3/4 | 230 | 1 | 6.9 | 3450 | 16 13/16 | 11½ | 2 |
| C | 1N195 | 3/4 | 230 | 3 | 4.7 | 3450 | 16 13/16 | 11½ | 2 |
| C | 1N196 | 3/4 | 460 | 3 | 2.3 | 3450 | 16 13/16 | 11½ | 2 |
| C | 1N203 | 1 | 230 | 1 | 9.3 | 3450 | 16 13/16 | 11½ | 2 |
| C | 1N197 | 1 | 230 | 3 | 6.0 | 3450 | 16 13/16 | 11½ | 2 |
| C | 1N198 | 1 | 460 | 3 | 3.0 | 3450 | 16 13/16 | 11½ | 2 |
| C | 1N204 | 1½ | 230 | 1 | 12.8 | 3450 | 16 13/16 | 11½ | 2 |
| C | 1N199 | 1½ | 230 | 3 | 8.0 | 3450 | 16 13/16 | 11½ | 2 |
| C | 1N200 | 1½ | 460 | 3 | 4.0 | 3450 | 16 13/16 | 11½ | 2 |

## PUMP PERFORMANCE AND ORDERING DATA

| Key | Operation | Gallons per Minute of Water @ Total Head in Feet 5' | 10' | 15' | 20' | 25' | 30' | 35' | 40' | 45' | 50' | 55' | 60' | 65' | 70' | 75' | 80' | 85' | 90' | Shut Off (Ft.) | Myers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Manual | * | 34 | 31 | 27 | 23 | 16 | 5 | — | — | — | — | — | — | — | — | — | — | — | 37.0 | ME3H-11 | 1N205 | $374.88 | $242.25 | 68.0 |
| A | Manual | * | 34 | 31 | 27 | 23 | 16 | 5 | — | — | — | — | — | — | — | — | — | — | — | 37.0 | ME3H-21 | 1N206 | 383.79 | 248.00 | 68.0 |
| B | Automatic | 80 | 70 | 58 | 45 | 28 | 7 | — | — | — | — | — | — | — | — | — | — | — | — | 32.0 | ME40PC-1 | 1N191 | 292.25 | 170.00 | 29.0 |
| B | Manual | 80 | 70 | 58 | 45 | 28 | 7 | — | — | — | — | — | — | — | — | — | — | — | — | 32.0 | ME40MC-11 | 1N189 | 271.05 | 160.00 | 26.0 |
| B | Automatic | 80 | 70 | 58 | 45 | 28 | 7 | — | — | — | — | — | — | — | — | — | — | — | — | 32.0 | ME40PC-21 | 1N192 | 337.96 | 223.00 | 29.0 |
| B | Manual | 80 | 70 | 58 | 45 | 28 | 7 | — | — | — | — | — | — | — | — | — | — | — | — | 32.0 | ME40MC-21 | 1N190 | 284.82 | 183.75 | 26.0 |
| C | Manual | * | 87 | 84 | 79 | 75 | 66 | 60 | 52 | 40 | 23 | — | — | — | — | — | — | — | — | 54.0 | ME50S-11 | 1N193 | 779.62 | 448.00 | 68.0 |
| C | Manual | * | 87 | 84 | 79 | 75 | 66 | 60 | 52 | 40 | 23 | — | — | — | — | — | — | — | — | 54.0 | ME50S-21 | 1N201 | 812.31 | 524.50 | 68.0 |
| C | Manual | * | 87 | 84 | 79 | 75 | 66 | 60 | 52 | 40 | 23 | — | — | — | — | — | — | — | — | 54.0 | ME50S-23 | 1N194 | 854.49 | 552.00 | 68.0 |
| C | Manual | * | 87 | 84 | 79 | 75 | 66 | 60 | 52 | 40 | 23 | — | — | — | — | — | — | — | — | 64.0 | ME75S-21 | 1N202 | 957.89 | 617.50 | 77.0 |
| C | Manual | * | 99 | 95 | 89 | 84 | 77 | 71 | 62 | 53 | 43 | 30 | 10 | — | — | — | — | — | — | 64.0 | ME75S-23 | 1N195 | 976.62 | 631.00 | 77.0 |
| C | Manual | * | 99 | 95 | 89 | 84 | 77 | 71 | 62 | 53 | 43 | 30 | 10 | — | — | — | — | — | — | 64.0 | ME75S-43 | 1N196 | 1024.05 | 661.50 | 77.0 |
| C | Manual | * | * | 112 | 106 | 103 | 97 | 90 | 85 | 77 | 70 | 64 | 54 | 45 | 30 | 18 | 9 | — | — | 85.0 | ME100S-21 | 1N203 | 975.27 | 630.50 | 80.0 |
| C | Manual | * | * | 112 | 106 | 103 | 97 | 90 | 85 | 77 | 70 | 64 | 54 | 45 | 30 | 18 | 9 | — | — | 85.0 | ME100S-23 | 1N197 | 1041.23 | 672.50 | 80.0 |
| C | Manual | * | * | 112 | 106 | 103 | 97 | 90 | 85 | 77 | 70 | 64 | 54 | 45 | 30 | 18 | 9 | — | — | 85.0 | ME100S-43 | 1N198 | 1042.32 | 672.50 | 80.0 |
| C | Manual | * | * | * | 118 | 115 | 110 | 105 | 100 | 94 | 88 | 82 | 74 | 65 | 56 | 45 | 29 | 15 | 8 | 95.0 | ME150S-21 | 1N204 | 1132.67 | 732.00 | 81.0 |
| C | Manual | * | * | * | 118 | 115 | 110 | 105 | 100 | 94 | 88 | 82 | 74 | 65 | 56 | 45 | 29 | 15 | 8 | 95.0 | ME150S-23 | 1N199 | 1196.68 | 774.00 | 81.0 |
| C | Manual | * | * | * | 118 | 115 | 110 | 105 | 100 | 94 | 88 | 82 | 74 | 65 | 56 | 45 | 29 | 15 | 8 | 95.0 | ME150S-43 | 1N200 | 1196.68 | 774.00 | 81.0 |

*) Operation at these heads or below will result in motor overload, reduced pump life and/or motor failure/damage.

# SUBMERSIBLE SEWAGE PUMPS AND PACKAGED SIMPLEX SEWAGE SYSTEMS




For residential and commercial sewage, effluent, and wastewater removal and transfer. Also used for sump drainage, dewatering, and flood control. For use only with nonflammable liquids, compatible with pump component materials.

**Construction:** All cast iron construction with corrosion resistant stainless steel fasteners and Buna-N elastomers, ensure maintenance free operation and long life. Cast iron non-clogging vortex or open-vane type impellers. Nos. 4RK64, 4RK65, and 4RK66 have Noryl impellers. Mechanical seal has stainless hardware. Buna-N elastomers, oil-lubricated carbon (rotating) ceramic (stationary) faces for long life. Pump shaft is stainless steel.

**Driver:** Single phase models utilize high-efficiency permanent split capacitor motor (except No. 4KR64 which has a shaded pole motor) with thermal protection and automatic reset. Three-phase models require appropriate control box with built-in thermal protection. All drivers have oil lubricated, ball type thrus bearings and are oil-filled for superio heat dissipation. 115 Volt pumps have 3 prong, grounded power cords.

**General:** 115V, automatic operatio requires 4RK17 wide angle on/off leve control float switch. 230V single phas units (1/2 and 1 HP) require No. 4RK1 float switch; other pumps need appropri ate control box with float switch No 4RK31 (remove series plug). Teel brand.

## *New!* SUBMERSIBLE SEWAGE PUMP ORDERING DATA

| Key | Discharge NPT (In.) | Motor Specifications HP | Phase | Volts | Amps | RPM | Max. Liquid Temp.† (°F) | SOW-A Cord | GPM of Water @ Total Head, Ft. 5' | 10' | 15' | 20' | 25' | 30' | 40' | Shutoff (Ft.) | Dimensions (In.) H | W | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 2 | 4/10 | 1 | 115 | 13.0 | 1725 | 130 | 10' | 120 | 90 | 45 | — | — | — | — | 18 | 15¼ | 14⅜ | **4RK64** | $303.60 | **$264.00** | 36. |
| **B** | 2 | 1/2 | 1 | 115 | 9.5 | 1725 | 130 | 10' | 160 | 125 | 80 | 20 | — | — | — | 22 | 17¼ | 14⅜ | **4RK65** | 420.32 | **365.50** | 38. |
| **B** | 2 | 1/2 | 1 | 230 | 5.0 | 1725 | 130 | 10' | 160 | 125 | 80 | 20 | — | — | — | 22 | 17¼ | 14⅜ | **4RK66** | 409.68 | **356.25** | 36. |
| **C** | 3 | 1/2 | 3 | 230 | 3.5 | 1725 | 130 | 20' | 124 | 100 | 76 | 43 | — | — | — | 25 | 17¼ | 15⅜ | **4RK43** | 586.50 | **510.00** | 64. |
| **C** | 3 | 1/2 | 3 | 460 | 1.8 | 1725 | 130 | 20' | 124 | 100 | 76 | 43 | — | — | — | 25 | 17¼ | 15⅜ | **4RK44** | 592.25 | **515.00** | 64. |
| **D** | 3 | 1 | 1 | 230 | 8.5 | 1725 | 130 | 20' | 200 | 185 | 165 | 145 | 120 | 82 | — | 38 | 20½ | 16⅞ | **4RK45** | 603.75 | **525.00** | 117. |
| **D** | 3 | 1 | 3 | 230/460* | 8.5/4.1 | 1725 | 130 | 20' | 200 | 185 | 165 | 145 | 120 | 82 | — | 38 | 20½ | 16⅞ | **4RK46** | 684.25 | **595.00** | 121. |
| **D** | 3 | 1½ | 1 | 230 | 12.0 | 1725 | 130 | 20' | 230 | 215 | 195 | 175 | 155 | 125 | 45 | 43 | 20½ | 16⅞ | **4RK47** | 1377.70 | **1198.00** | 122. |
| **D** | 3 | 1½ | 3 | 230/460* | 9.0/4.7 | 1725 | 130 | 20' | 230 | 215 | 195 | 175 | 155 | 125 | 45 | 43 | 20½ | 16⅞ | **4RK48** | 1237.40 | **1076.00** | 121. |
| **D** | 3 | 2 | 1 | 230 | 13.0 | 1725 | 130 | 20' | 250 | 235 | 215 | 195 | 165 | 150 | 100 | 54 | 20½ | 16⅞ | **4RK49** | 1469.70 | **1278.00** | 122. |
| **E** | 3 | 2 | 3 | 230/460* | 9.5/4.8 | 1725 | 130 | 20' | 340 | 325 | 300 | 270 | 230 | 185 | 75 | 42 | 27 | 22 | **4RK50** | 1307.55 | **1137.00** | 165. |

(*) Dual voltage (230/460V). Factory wired for 230V. Can be rewired for 460V use. (†) For intermittent service. (‡) SO Type cord. (#) UL Listed (E85176).

# SIMPLEX SEWAGE PACKAGE SYSTEM

**Systems Include:**

**Heavy-Duty Sewage Pump** with rugged cast-iron body. 4/10 HP No. 4HX01 has a molded impeller; 1/2 HP Nos. 4NX02 and 4NX03 have cast iron impellers.

**Level Control mercury switch** molded inside of waterproof float. Single control turns pump On and Off automatically.

**Polyethylene Basin,** 18" dia. x 30"D, with 4" inlet.

**Flexible Pipe Fitting Inlet** with tough sanoprene construction.

**Vertical Check Valve** with hose adaptors and clamps.

**Nos. 4NX01 and 4NX02** have a steel cover with 2" vent and 2" discharge. 14/3 SJTOW-A cord.

**No. 4NX03** has a steel cover with black powder coating, 2" vent and 2" discharge, and cord openings. 14/3 SJTOW-A cord.

**For residences and small industrial sewage** or sump applications. Designed to handle wastes from lavatories, laundry tubs, floor drains, water closets. Pumps push the water from below ground up to where normal drainage will handle it. Nos. 4NX01 and 4NX02 are unassembled; No. 4NX03 comes preassembled. Teel brand.




## *New!* SIMPLEX SEWAGE SYSTEM ORDERING DATA

| HP | Volt | Ph. | Nominal RPM | NEMA Start Code | Full Load Amps | GPM @ Total Head in Feet 5' | 10' | 11.5' | 15' | 17' | 20' | 22' | 25' | Shutoff (Ft.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.4** | 115 | 1 | 1750 | C | 12.0 | 116 | 95 | 90 | 70 | 60 | 37.5 | 30 | 5 | 25.5 | **4NX01** | $501.00 | **$399.50** | 93.0 |
| **1/2** | 230 | 1 | 1750 | E | 5.8 | 160 | 130 | 120 | 100 | 90 | 65 | 50 | 25 | 27 | **4NX02** | 610.00 | **477.50** | 130.0 |
| **1/2** | 115 | 1 | 3250 | H | 9.5 | * | * | 71 | 56 | 50 | 34 | 24 | — | 25 | **4NX03** | 435.00 | **359.50** | 83.0 |

(*) Operation at these heads or below will result in motor overload, reduced pump life and/or motor failure/damage.

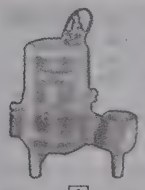
**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**



*If we don't have a pump for it, chances are it can't be pumped.*

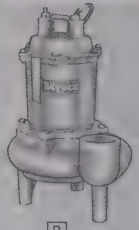
# SUBMERSIBLE SEWAGE & GRINDER PUMPS

- Cast-iron motor housing and volute plus stainless steel hardware
- Single, carbon and ceramic mechanical seal
- Oil-filled motor for superior cooling and continuous lubrication of bearings
- Capacitor-start motor for high starting torque (single-phase models except Nos. 1N354 and 1N355 which have shaded-pole motors)
- Automatic-reset, built-in overload to protect motor (single-phase models)
- High-efficiency impellers
- 2" solids handling
- Heavy-duty ball bearings for long life except Nos. 1N354, 1N355, 1N341 and 1N342 which have ball/sleeve bearings
- Mechanical shaft seal with Buna N and stainless steel parts, carbon/ceramic seat
- 20' 16/3 SJOW/SJOW-A cord
- Standard 2" NPT discharge port
- Manual operation, can easily be made automatic using float switch, order separately.
- Control panels and level controls available if required. (3 for simplex, 4 for duplex) See pages 3234 and 3235.
- All pumps UL Listed; all pumps CSA Certified except Nos. 1N342, 1N350-1N353 and 1N355; Nos. 1N354 and 1N355 are SSPMA Approved


A

Myers®

Replacement Parts Available
1-800-323-0620


B


C

Designed for reliable pumping of wastewater with suspended solids. Nos. 1N354 and 1N355 have a vortex, thermoplastic impeller; Nos. 1N341 and 1N342 have an enclosed, thermoplastic impeller; and Nos. 1N343-1N353 have an enclosed, cast-iron impeller. For use in residential, light commercial and industrial applications. Max. intermittent fluid temp.: 140°F. Myers brand.

## PUMP SPECIFICATIONS

| Key | Stock No. | Motor Specifications HP | Volts 60 Hz | Phase | Amps | RPM | Dimensions (In.) H | W |
|---|---|---|---|---|---|---|---|---|
| A | 1N354 | 4/10 | 115 | 1 | 12.0 | 1625 | 12½ | 9 13/16 |
| A | 1N355 | 4/10 | 230 | 1 | 6.0 | 1625 | 12½ | 9 13/16 |
| B | 1N341 | 1/2 | 115 | 1 | 10.6 | 1625 | 14 3/4 | 11 7/16 |
| B | 1N342 | 1/2 | 230 | 1 | 5.3 | 1625 | 14 3/4 | 11 7/16 |
| C | 1N350 | 1/2 | 230 | 1 | 6.9 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N343 | 1/2 | 230 | 3 | 4.7 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N351 | 1 | 230 | 1 | 9.3 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N344 | 1 | 230 | 3 | 6.0 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N345 | 1 | 460 | 3 | 3.0 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N352 | 1½ | 230 | 1 | 12.8 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N346 | 1½ | 230 | 3 | 7.0 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N347 | 1½ | 460 | 3 | 3.5 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N353 | 2 | 230 | 1 | 13.1 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N348 | 2 | 230 | 3 | 7.7 | 3450 | 17 1/8 | 18 15/16 |
| C | 1N349 | 2 | 460 | 3 | 3.9 | 3450 | 17 1/8 | 18 15/16 |

## PERFORMANCE AND ORDERING DATA

| ay | Gallons per Minute of Water @ Total Head in Feet 5' | 10' | 15' | 20' | 25' | 30' | 35' | 40' | 45' | 50' | 55' | 60' | 65' | 70' | Shut Off | Myers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 87 | 60 | 35 | — | — | — | — | — | — | — | — | — | — | — | 19.0 ft. | SRM4M1C | **1N354** | $474.90 | **$277.00** | 37.0 |
| | 87 | 60 | 35 | — | — | — | — | — | — | — | — | — | — | — | 19.0 | SRM4M2C | **1N355** | 514.50 | **299.00** | 37.0 |
| | * | 135 | 105 | 66 | 15 | — | — | — | — | — | — | — | — | — | 27.0 | MW50-11 | **1N341** | 607.82 | **360.00** | 41.0 |
| | * | 135 | 105 | 66 | 15 | — | — | — | — | — | — | — | — | — | 27.0 | MW50-21 | **1N342** | 607.82 | **360.00** | 41.0 |
| | * | * | 120 | 95 | 70 | 42 | 18 | — | — | — | — | — | — | — | 37.0 | MWH50-21 | **1N350** | 1023.26 | **661.00** | 87.0 |
| | * | * | 120 | 95 | 70 | 42 | 18 | — | — | — | — | — | — | — | 37.0 | MWH50-23 | **1N343** | 1101.76 | **712.00** | 87.0 |
| | * | * | * | 138 | 112 | 91 | 70 | 42 | 20 | — | — | — | — | — | 48.0 | MW100-21 | **1N351** | 1043.97 | **674.00** | 91.0 |
| | * | * | * | 138 | 112 | 91 | 70 | 42 | 20 | — | — | — | — | — | 48.0 | MW100-23 | **1N344** | 1129.64 | **730.00** | 91.0 |
| | * | * | * | 138 | 112 | 91 | 70 | 42 | 20 | — | — | — | — | — | 48.0 | MW100-43 | **1N345** | 1129.53 | **730.00** | 91.0 |
| | * | * | * | * | * | * | 140 | 111 | 81 | 57 | 30 | 8 | — | — | 62.0 | MW150-21 | **1N352** | 1130.34 | **730.50** | 95.0 |
| | * | * | * | * | * | * | 140 | 111 | 81 | 57 | 30 | 8 | — | — | 62.0 | MW150-23 | **1N346** | 1198.73 | **774.00** | 95.0 |
| | * | * | * | * | * | * | 140 | 111 | 81 | 57 | 30 | 8 | — | — | 62.0 | MW150-43 | **1N347** | 1198.73 | **774.00** | 95.0 |
| | * | * | * | * | * | * | 140 | 111 | 81 | 57 | 30 | 8 | — | — | 62.0 | MW200-21 | **1N353** | 1213.90 | **784.00** | 96.0 |
| | * | * | * | * | * | * | 167 | 140 | 114 | 86 | 67 | 40 | 20 | — | 70.0 | MW200-23 | **1N348** | 1285.56 | **829.50** | 96.0 |
| | * | * | * | * | * | * | 167 | 140 | 114 | 86 | 67 | 40 | 20 | — | 70.0 | MW200-43 | **1N349** | 1285.56 | **829.50** | 96.0 |

) Operation at these heads or below will result in motor overload, reduced pump life and/or motor failure/damage.

## SUBMERSIBLE GRINDER PUMPS


No. 1N216

Myers®

- Heavy-duty cast-iron pump, motor housings, volute, and recessed impeller
- Include leg kit and 15 ft. SOW/SOW-A cable
- 2 HP
- 3450 RPM

Grinder pumps macerate solids contained in normal sewage into a fine slurry which is pumped through the discharge pipe. Ideal for residential applications and also commercial applications such as motels, shopping centers, schools, office buildings. 1¼" NPT discharge.

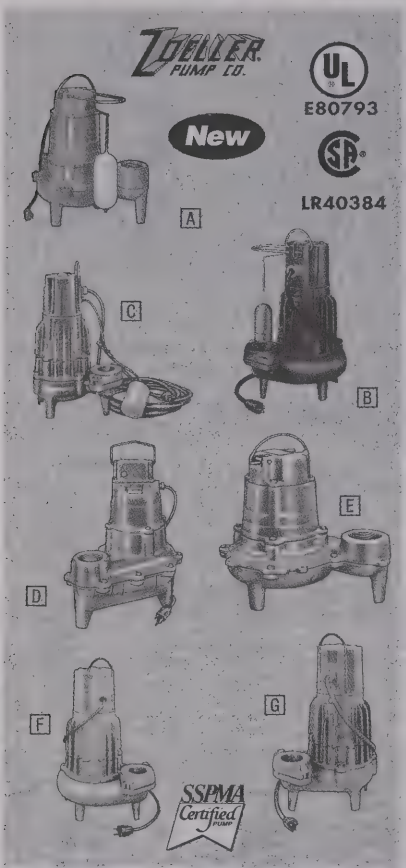
Shredding ring, radial cutter, and hardware are Type 440 stainless steel. Double mechanical seal has stainless steel, Buna N and carbon/ceramic parts, and "seal-leak" sensor to detect moisture in seal cavity. Motor is oil-filled, Class B insulation for superior cooling and continuous lubrication of bearing. Myers brand.

Pumps require control panel and level controls (3 for simplex, 4 for duplex) for proper operation (See pages 3230, 3234, and 3235).

| Volts @ 60 Hz | Ph | Amps | Dimen. (In.) H | W | GPM @ Total Head in Feet 20 | 40 | 60 | 80 | 100 | Shut-Off (Ft.) | Myers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 230 | 1* | 12.5 | 18⅞ | 9⅜ | 40 | 40 | 38 | 28 | 7 | 105 | WGL20-21 | **1N216** | $2175.41 | **$1405.00** | 84.0 |
| 460 | 3† | 4.2 | 18⅞ | 9⅜ | 40 | 40 | 38 | 28 | 7 | 105 | WGL20-43 | **1N217** | 2175.41 | **1405.00** | 84.0 |

(*) Single phase pump comes with appropriate start and run capacitor and starting relay for easy installation into capacitor control box. Order control box separately.
(†) 3-phase pump requires appropriate control box and heater coils, order separately.

# SUBMERSIBLE SEWAGE PUMPS




- Cast-iron construction with stainless steel hardware and accessories
- Automatic units have 2-pole float-operated submersible NEMA 6 mechanical switch
- Large 2 or 3" NPT discharge (depending on model) and a full 2" inlet
- Nonclogging vortex impeller which passes 2" spherical solids
- Automatic-reset thermal overload protection (single-phase motors only)
- Hermetically sealed, oil-filled motors
- Mechanical seal with stainless steel, Buna N, and carbon/ceramic parts

Handle solids-laden waste water without clogging. Ready to operate. Automatic units have a snap-action float switch that permits automatic On/Off operation at preset fluid levels. Float switch follows straight vertical path, allowing pump to be positioned in narrow pits (18" minimum width with check valve installed). No. 4TR67 has an adjustable integral float switch (9-22" range). Cast-iron base on all units except Nos. 4NW06, 4NW07, 4NW08, and 4NW14 which have engineered plastic base. For residential, commercial, and industrial applications. Maximum fluid temperature: 130°F.

| Key | Stock No. | Discharge NPT (In.) | HP | Volts @ 60 Hz Ph | Volts @ 60 Hz Amps | RPM | Dimen. (In.) H | Dimen. (In.) W | Cord Length (Ft.) | On Point (In.) | Off Point (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AUTOMATIC PUMPS** | | | | | | | | | | | |
| A | 4NW06 | 2 | 4/10 | 1 | 115 9.4 | 1725 | 14¾ | 13⅛ | 15 | 12½ | 4½ |
| A | 2P552 | 2 | 1/2 | 1 | 115 10.4 | 1725 | 14¼ | 12½ | 10 | 12 | 4 |
| B | 2P553 | 3 | 1/2 | 1 | 115 10.3 | 1725 | 18 13/16 | 13⅜ | 10 | 15¼ | 5¼ |
| B | 2P554 | 3 | 1 | 1 | 230 8.9 | 1725 | 18 13/16 | 13⅜ | 10 | 15¼ | 5¼ |
| C | 2P555 | 2 | 1/2 | 1 | 115 15.0 | 3450 | 18⅜ | 12⅞ | 20 | 14¾ | 5 |
| C | 4P020 | 2 | 1 | 1 | 230 10.2 | 3450 | 18⅜ | 12⅞ | 20 | 14¾ | 5 |
| C | 4P021 | 2 | 1½ | 1 | 230 13.7 | 3450 | 18⅜ | 12⅞ | 20 | 14¾ | 5 |
| C | 4TR67* | 2 | 2 | 1 | 230 16.6 | 3450 | 18⅜ | 12⅞ | 20 | * | * |
| **NONAUTOMATIC PUMPS** | | | | | | | | | | | |
| D | 4NW07 | 2 | 4/10 | 1 | 115 9.4 | 1725 | 14¾ | 13⅛ | 15 | — | — |
| D | 4NW08 | 2 | 4/10 | 1 | 230 4.7 | 1725 | 14¾ | 13⅛ | 15 | — | — |
| E | 4NW10 | 2 | 1/2 | 1 | 115 10.4 | 1725 | 14¼ | 13 1/16 | 15 | — | — |
| E | 4NW11 | 2 | 1/2 | 1 | 230 5.5 | 1725 | 14¼ | 13 1/16 | 15 | — | — |
| E | 4NW12 | 2 | 1/2 | 3 | 230 2.6 | 1725 | 14¼ | 13 1/16 | 15 | — | — |
| E | 4NW13 | 2 | 1/2 | 3 | 460 1.3 | 1725 | 14¼ | 13 1/16 | 15 | — | — |
| E | 4NW14 | 2 | 1 | 1 | 115 15.0 | 3450 | 15 | 13 1/16 | 15 | — | — |
| F | 4NW30 | 2 | 1/2 | 1 | 115 10.3 | 1750 | 20 1/16 | 13⅜ | 15 | — | — |
| F | 4NW31 | 2 | 1 | 1 | 230 8.9 | 1750 | 20 1/16 | 13⅜ | 15 | — | — |
| F | 4NW32 | 2 | 1 | 3 | 200/208 5.5 | 1750 | 20 1/16 | 13⅜ | 15 | — | — |
| G | 4NW21 | 2 | 1/2 | 1 | 115 15.0 | 3450 | 20⅞ | 12⅞ | 20 | — | — |
| G | 4NW22 | 2 | 1 | 1 | 230 10.2 | 3450 | 20⅞ | 12⅞ | 20 | — | — |
| G | 4NW23 | 2 | 1 | 3 | 230 7.6 | 3450 | 20⅞ | 12⅞ | 20 | — | — |
| G | 4NW24 | 2 | 1 | 3 | 460 4.0 | 3450 | 20⅞ | 12⅞ | 20 | — | — |
| G | 4NW25 | 2 | 1½ | 1 | 230 13.7 | 3450 | 20⅞ | 12⅞ | 20 | — | — |
| G | 4NW26 | 2 | 2 | 1 | 230 16.6 | 3450 | 20⅞ | 12⅞ | 20 | — | — |
| G | 4NW27 | 2 | 2 | 3 | 230 12.2 | 3450 | 20⅞ | 12⅞ | 20 | — | — |
| G | 4NW28 | 2 | 2 | 3 | 460 6.1 | 3450 | 20⅞ | 12⅞ | 20 | — | — |

## PUMP PERFORMANCE AND ORDERING DATA

| Key | Impeller | GPM of Water @ Total Head in Feet 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | Shut-Off (Ft.) | Zoeller Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AUTOMATIC PUMPS** | | | | | | | | | | | | | | | | | | |
| A | Glass filled, plastic | 90 | 60 | 22.5 | — | — | — | — | — | — | — | — | 18 | M264 | ***New* 4NW06** | $292.40 | **$203.00** | 40.0 |
| A | Polypropylene | 128 | 89 | 50 | 10 | — | — | — | — | — | — | — | 21.5 | M267 | **2P552** | 348.70 | **265.00** | 51.0 |
| B | Cast-iron | 130 | 95 | 63 | 33 | — | — | — | — | — | — | — | 26 | M282 | **2P553** | 576.80 | **459.00** | 72.0 |
| B | Cast-iron | 180 | 158 | 135 | 106 | 76 | 43 | — | — | — | — | — | 35 | D284 | **2P554** | 709.90 | **535.00** | 76.0 |
| C | Cast-bronze | 140 | 124 | 108 | 91 | 75 | 56 | 10 | — | — | — | — | 42 | M292 | **2P555** | 710.50 | **545.00** | 89.0 |
| C | Cast-bronze | † | † | 118 | 108 | 96 | 82 | 48 | — | — | — | — | 50 | D293 | **4P020** | 781.70 | **670.00** | 78.0 |
| C | Cast-bronze | 196 | 181 | 165 | 150 | 136 | 121 | 94 | 58 | 13 | — | — | 62 | D294 | **4P021** | 873.30 | **756.50** | 83.0 |
| C | Cast-bronze | 214 | 199 | 184 | 168 | 154 | 140 | 115 | 89 | 59 | 23 | — | 75 | WD295 | ***New* 4TR67** | 1058.10 | **903.00** | 92.0 |
| **NONAUTOMATIC PUMPS** | | | | | | | | | | | | | | | | | | |
| D | Glass filled, plastic | 90 | 60 | 22.5 | — | — | — | — | — | — | — | — | 18 | N264 | ***New* 4NW07** | 264.70 | **185.00** | 39.0 |
| D | Glass filled, plastic | 90 | 60 | 22.5 | — | — | — | — | — | — | — | — | 18 | E264 | ***New* 4NW08** | 307.60 | **215.00** | 39.0 |
| E | Engineered plastic | 128 | 89 | 50 | 10 | — | — | — | — | — | — | — | 21.5 | N267 | ***New* 4NW10** | 310.30 | **220.00** | 49.0 |
| E | Engineered plastic | 128 | 89 | 50 | 10 | — | — | — | — | — | — | — | 21.5 | E267 | ***New* 4NW11** | 360.70 | **303.25** | 49.0 |
| E | Cast-iron | 128 | 89 | 50 | 10 | — | — | — | — | — | — | — | 21.5 | F267 | ***New* 4NW12** | 425.70 | **356.25** | 50.0 |
| E | Cast-iron | 128 | 89 | 50 | 10 | — | — | — | — | — | — | — | 21.5 | G267 | ***New* 4NW13** | 425.70 | **356.25** | 50.0 |
| E | Bronze | 132 | 101 | 77 | 56 | 29 | — | — | — | — | — | — | 29 | N270 | ***New* 4NW14** | 471.50 | **393.25** | 48.0 |
| F | Cast-iron | 130 | 95 | 63 | 33 | 5 | — | — | — | — | — | — | 26 | N282 | ***New* 4NW30** | 515.90 | **435.25** | 80.0 |
| F | Cast-iron | 180 | 158 | 135 | 106 | 76 | 43 | — | — | — | — | — | 35 | E284 | ***New* 4NW31** | 563.00 | **544.00** | 84.0 |
| F | Cast-iron | 180 | 158 | 135 | 106 | 76 | 43 | — | — | — | — | — | 35 | J284 | ***New* 4NW32** | 743.30 | **622.00** | 85.0 |
| G | Bronze | 140 | 124 | 108 | 91 | 75 | 56 | 10 | — | — | — | — | 42 | N292 | ***New* 4NW21** | 642.80 | **540.00** | 87.0 |
| G | Bronze | † | † | 118 | 108 | 96 | 82 | 48 | — | — | — | — | 50 | E293 | ***New* 4NW22** | 713.60 | **598.00** | 87.0 |
| G | Bronze | † | † | 118 | 108 | 96 | 82 | 48 | — | — | — | — | 50 | F293 | ***New* 4NW23** | 778.60 | **651.00** | 87.0 |
| G | Bronze | † | † | 118 | 108 | 96 | 82 | 48 | — | — | — | — | 50 | G293 | ***New* 4NW24** | 826.90 | **651.00** | 87.0 |
| G | Bronze | 196 | 181 | 165 | 150 | 136 | 121 | 94 | 58 | 13 | — | — | 62 | E294 | ***New* 4NW25** | 803.20 | **671.50** | 90.0 |
| G | Bronze | 214 | 199 | 184 | 168 | 154 | 140 | 115 | 89 | 59 | 23 | — | 75 | E295 | ***New* 4NW26** | 840.60 | **702.00** | 90.0 |
| G | Bronze | 214 | 199 | 184 | 168 | 154 | 140 | 115 | 89 | 59 | 23 | — | 75 | F295 | ***New* 4NW27** | 905.60 | **755.00** | 90.0 |
| G | Bronze | 214 | 199 | 184 | 168 | 154 | 140 | 115 | 89 | 59 | 23 | — | 75 | G295 | ***New* 4NW28** | 953.90 | **755.00** | 90.0 |

(*) Has adjustable integral float switch (9-22" range). (†) Operation of pump in this range will result in reduced pump life and or motor damage.



*If we don't have a pump for it, chances are it can't be pumped.*

# SEWAGE AND AGRICULTURAL SUBMERSIBLE PUMPS

## SUBMERSIBLE NON-CLOGGING SEWAGE PUMPS

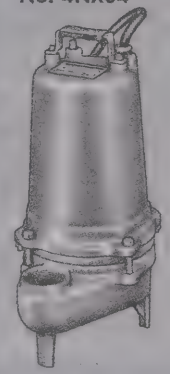
**Efficiently pump residential and industrial sewage**
**PSC high efficiency ball bearing motor provides longer life**
**No. 4NX04 has an inboard seal design that keeps seal rotating surface from coming into contact with sewage**
**Heavy-duty class 30 cast-iron construction**
**Stainless steel shaft**
**2" solids handling**

All cast-iron construction with corrosion-resistant stainless steel fasteners and Buna N elastomers, ensure maintenance-free operation and long life.

Two-vane open impellers with pump out vanes on back side. Mechanical seal has Buna N elastomers, carbon (rotating) and ceramic (stationary) faces which are oil lubricated to ensure long life. Pump shaft is Type 416 stainless steel.

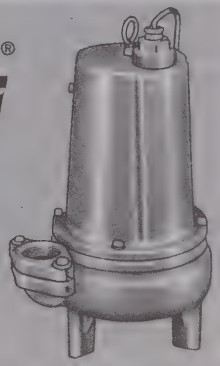
1750 RPM capacitor start motor has thermal overload protection and automatic reset and is oil-filled for superior heat dissipation. Motors have oil lubricated ball bearings. 15 ft. 3-prong 14/3 water and oil-resistant grounded SJTOW-A power cords with pressure grommet for sealing and strain relief. Teel brand.

No. 4NX04



TEEL®

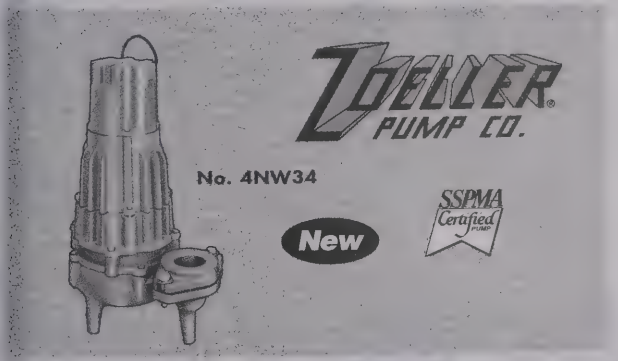
New



No. 4NX05

| HP | Discharge (In.) | Motor Specifications Volts | Amps | RPM | Dimen. (In.) H | W | GPM of Water @ Total Feet of Head 5 | 10 | 15 | 20 | 25 | 30 | 35 | Shut-Off (Ft.) | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 2 | 115 | 12.5 | 1750 | 16¾ | 10¾ | 137 | 114 | 87 | 45 | — | — | — | 25 | 4NX04 | $439.00 | $312.50 | 56.0 |
| 1/2 | 2 | 230 | 5.8 | 1750 | 19 | 12 15/16 | 160 | 129 | 100 | 63 | 24 | — | — | 27 | 4NX05 | 483.00 | 370.25 | 92.0 |
| 1 | 3 | 200-230 | 6.8/6.0 | 1750 | 19 | 13¼ | 200 | 177 | 155 | 130 | 102 | 70 | 25 | 38 | 4NX06 | 731.00 | 507.00 | 93.0 |

## HIGH HEAD AGRICULTURAL PUMPS



ZOELLER PUMP CO.

No. 4NW34

New

SSPMA Certified PUMP

- **Designed specifically for lagoon or sump pit applications**
- **Submersible**
- **Rugged cast-iron construction with stainless steel screws and handle**
- **Motor is oil-filled, hermetically sealed and has thermal overload protection with automatic reset**
- **Double shaft seals, carbon and ceramic**
- **50 ft. UL Listed neoprene jacketed power cable**

Handle up to 1½" spherical solids. Non-clogging vortex impeller. Neoprene gaskets and seals. Maximum operating temperature is 130°F (54°C). Pump and hose floats are available. Zoeller brand.

| HP | Volts | Amps | Discharge Port (In.) | Max. Dia. Solids (In.) | Dimensions (In.) H | W | GPM of Water @ Total Feet of Head 5 | 10 | 20 | 30 | 40 | Shut-Off (Ft.) | Zoeller Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 230 | 9.0 | 2 | 1½ | 20½ | 12⅞ | 143 | 127 | 96 | 68 | 37 | 49 | E4290 | 4NW34 | $977.80 | $817.00 | 107.0 |
| 2 | 230 | 14.5 | 2 | 1½ | 20½ | 12⅞ | 190 | 176 | 148 | 120 | 96 | 65 | E4291 | 4NW35 | 1065.40 | 888.50 | 107.0 |

## PUMP AND HOSE FLOATS FOR AGRICULTURAL PUMPS

### AGRICULTURAL PUMP FLOAT

Properly suspends pump in a lagoon beneath the water. Float maintains pump in an upright and vertical position thereby ensuring proper lubrication and cooling of pump. Designed for 2" discharge conduit/hose. Zoeller brand.

**New No. 4NV95.** Shpg. wt. 36.0 lbs. List $254.00. Each .....$213.75

### AGRICULTURAL HOSE FLOAT

Suspends discharge pipe/hose on top of water to prevent it from sinking in hog lagoon applications. Includes four polyethylene floats with nylon straps. Zoeller brand.

***New* No. 4NV96.** Shpg. wt. 4.0 lbs. List $50.00. .....Each $41.55

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

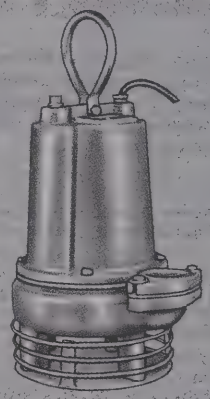
# DEWATERING PUMPS

Submersible dewatering pumps are compact, lightweight units. Portable design for easy transport and use. No priming, suction hose or foot valves required. Cast-iron units may be totally submerged in the site to be dewatered. 140°F max. temperature.

Single phase pumps feature permanent split capacitor (PSC) high efficient ball bearing motors for long life. Cast iron housing and impeller. All units feature inboard seal design for longer seal life. Buna-N seals with carbon/ceramic faces. For use at construction sites, ponds, dump sites, underground vaults and truck docks. Electrically operated, must be properly installed per national electrical codes. 2" discharge. Dimensions: 17.22 H x 12.88" W. Prosser brand.

PROSSER® PUMPS

New



No. 4NX07

## DEWATERING PUMP SPECIFICATION DATA

| Stock No. | HP | Volts | Ph | Hz | RPM (Nom.) | NEMA Start Code | Full Load Amps | Locked Rotor Amps | Cord Size 30 Ft. Long | Cord Type |
|---|---|---|---|---|---|---|---|---|---|---|
| 4NX07 | 1/2 | 115 | 1 | 60 | 1750 | D | 11.6 | 18.4 | 14/3C w/plug | SO |
| 4NX08 | 3/4 | 230 | 1 | 60 | 1750 | C | 7.0 | 12.5 | 14/3C w/plug | SO |
| 4NX09 | 1 | 230 | 1 | 60 | 3450 | B | 8.2 | 13.8 | 14/3C w/plug | SO |
| 4NX10 | 1 | 230 | 3 | 60 | 3450 | K | 5.4 | 21.2 | 14/4C — | SO |

## DEWATERING PUMP ORDERING DATA

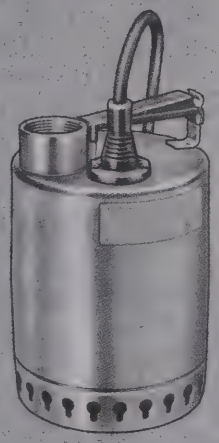
| HP | Gallons per Minute of Water @ Total Head in Feet 10 | 20 | 30 | 40 | 50 | Shutoff (Ft.) | Prosser Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 115 | 50 | — | — | — | 26 | SED50 | **4NX07** | $496.00 | **$471.00** | 94.0 |
| **3/4** | 140 | 102 | 20 | — | — | 32 | SED75 | **4NX08** | 483.00 | **459.00** | 95.0 |
| **1** | 147 | 122 | 95 | 67 | 33 | 57 | SEDH100 | **4NX09** | 707.00 | **671.00** | 95.0 |
| **1** | 147 | 122 | 95 | 67 | 33 | 57 | SEDH103 | **4NX10** | 685.00 | **657.00** | 89.0 |

## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

## COMMERCIAL STAINLESS STEEL SUMP PUMPS

GRUNDFOS®



New

No. 4PD14

- **Submersible to 26 ft. for pumping waste water**
- **Flow up to 54 gallons per minute at 3350 RPM for quick liquid removal**
- **Can be used to fill tanks, or pump solids up to 3/8"**
- **Built-in motor overload protection and stainless steel construction provide extra durability for heavy-duty use**

Grundfos stainless steel sump pumps are perfect for draining clear or dirty water from pools and ponds, pits and tanks, dewatering construction sites, as well as extracting water from fountains or flooded basements. Temperature ranges from 32° to 122°F. Single phase, 115V, 60 Hz operation.

**Construction:** 304 stainless steel strainer, pump housing, impeller, fasteners, stator housing, wear plate, locknut and washer. 431 stainless steel shaft. Compounded carbon bearings. Neoprene power cord jacket.

**NOTE:** Not recommended for sewage and flammable or highly corrosive liquids.

**GPM OF WATER AT TOTAL FEET OF HEAD**

| Stock No. | 2½ Ft. | 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-Off (Ft.) |
|---|---|---|---|---|---|---|---|
| 4PD14 | 38 | 35 | 25 | 12¼ | — | — | 18 |
| 4PD15 | 54 | 50 | 42 | 33 | 23 | 7½ | 26 |

**COMMERCIAL SUMP PUMP SPECIFICATIONS AND ORDERING DATA**

| HP | Amps | Watts | RPM | Dimensions (In.) H | Dia. | Max. Dia. Solids | Discharge Port (In.) | Grundfos Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/5** | 2.9 | 310 | 3350 | 9 | 6 | 3/8 | 1½ | KP150A10 | **4PD14** | $341.00 | **$266.50** | 14.0 |
| **1/3** | 4.9 | 450 | 3350 | 9 | 6 | 3/8 | 1½ | KP250A10 | **4PD15** | 375.00 | **293.00** | 17.0 |

DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG
TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guidewhich features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road.
Contact your local branch for more information.

# AUTOMATIC TOILET INSTALLATION AND SEPTIC TANK FILTER

## AUTOMATIC TOILET INSTALLATION/SEWAGE SYSTEM

- **Includes 30 gallon tank, UL Listed pump, float switch, and hardware**
- **Nonclogging vortex impeller passes up to 2" solids**
- **Maximum temperature: 130°F**
- **Allows a bathroom to be installed almost anywhere**
- **Can be free-standing or built-in which eliminates destroying concrete floor and reduces construction costs**

**Applications:** Easy installation of toilets in new homes, basements, commercial buildings, industrial plants, workshops, pool house, etc. Accommodates toilet, lavatory, and bathtub/shower.

**Construction:** Polyethylene tank measures 42$^{3}/_{16}$L x 17H x 24½"W. Tank has lid, gasket with 2" discharge, 3" vent and adapt-a-flex seals for additional fixtures. Includes float switch, 2" check valve, discharge pipe thru lid, floor flange, seal extender kit, and hardware pack.

**Driver:** 1/2 HP, 115V, 60 Hz, single phase, 10.4 Amp split phase motor within cast-iron sewage pump. Zoeller Qwik Jon brand (102).

**No. 4P024.** . Shpg. wt. 89.0 lbs. List..... $831.20.
Each..... **$718.00**

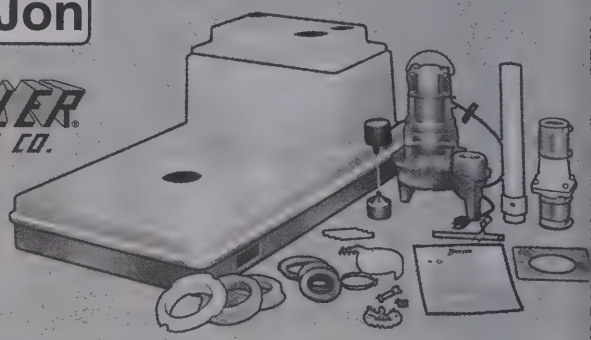
| GPM OF WATER @ TOTAL HEAD | | | |
|---|---|---|---|
| 5 Ft. | 10 Ft. | 15 Ft. | Shut-Off |
| 100 | 72 | 34 | 18.4 |

LR40384

Qwik Jon

ZOELLER PUMP CO.

BOCA ES™



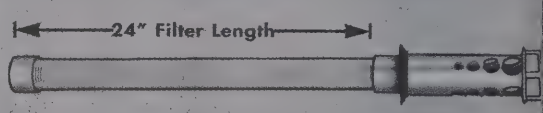
## RESIDENTIAL SEPTIC TANK FILTER

- **Filter area: 61 linear feet**
- **Flow rate: 850 GPD**

The Zoeller septic tank filter will improve the performance of septic systems and protect lateral fields from clogging. The filter removes solids larger than 1/16" from the effluent, helps control surges, allows only clear effluent to pass to the drain field, saves maintenance costs and allows monitoring of tank condition. Septic tank filter fits inside any 4" sanitary tee. Zoeller brand (170-0023).

***New* No. 4NW03.** Shpg. wt. 3.0 lbs. List $39.95.
Each..... **$33.15**

ZOELLER PUMP CO.




New

No. 4NW03

## A NATIONWIDE NETWORK OF BRANCH LOCATIONS

**Across the street or across the country, finding the Grainger branch location nearest you is a snap when you reference our Branch Locations listed in the front of this catalog. We have more than 350 locations, ready to serve you in all 50 states.**

# SUMP/SEWAGE BASINS AND ACCESSORIES

- **Corrosion-resistant polyethylene**
- **Covers sold separately, except No. 4RK42, No. 4RK10**
- **Seamless construction**

asins and covers for new construction or novation. Sump/sewage basins can be ounted to extend water standpipe and ovide convenient pump installation. No. RK10 Sink Tray used as an above-the-oor sump to solve water problems for undry tubs, washing machines, wet bars, humidifiers etc. No. 4RK42 is a basin id cover assembly which includes all ttings.




## *New!* SUMP/SEWAGE BASINS AND COVERS

| Key | Typical Application | Gallon Capacity | Dimensions (In.) L | W | H | Inlet Npt (In.) | Outlet (In.) | Vent (In.) | Cord Access (In.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SUMP/SEWAGE BASINS** | | | | | | | | | | | | | |
| A | Sink Tray w/Cover | 10 | 17 | 11¾ | 14 | 1½ | 1¼ & 1½ | 2 | 2½ | **4RK10** | $46.31 | **$37.05** | 9.0 |
| B | Sump Basin | 22 | 18 dia. | — | 22 | — | — | — | — | **4RK40** | 36.56 | **29.25** | 2.0 |
| B | Sewage Basin | 30 | 18 dia. | — | 30 | 4† | — | — | — | **4RK36** | 56.75 | **45.40** | 12.0 |
| B | Sewage Basin | 71 | 24 dia. | — | 36 | 4† | — | — | — | **4RK37** | 172.12 | **137.70** | 22.0 |
| B | Sewage Basin w/ Cover | 110 | 30 dia. | — | 36 | 4† | 2 | 2 | 2½ | **4RK42** | 530.93 | **424.75** | 65.0 |
| **SUMP/SEWAGE BASIN COVERS** | | | | | | | | | | | | | |
| C | Sump/Slotted | — | 18 dia. | — | — | — | — | 2½ x 11½ | — | **4RK41** | 16.42 | **13.14** | 2.0 |
| D | Sewage | — | 18 dia. | — | — | — | 2 | 2 or 3 | 2½ | **4RK38** | 40.81 | **32.65** | 8.0 |
| E | Sewage | — | 24 dia. | — | — | — | 2 | 2 | 2½ | **4RK39** | 101.31 | **81.05** | 14.0 |

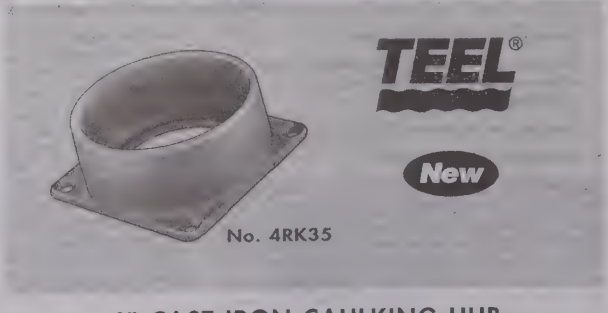
) These units have special flange to accept either No. 4RK34 flexible 4" fitting or No. 4RK35 cast-iron 4" caulking hub, shown below.




## 4" FLEXIBLE FITTING

olymer fitting seals against flat or curved surfaces. Weather-ight and gas-tight. Fits all basins shown above, and most other asins. No tools or sealants are required.

*New* **No. 4RK34.** Shpg. wt. 1.0 lbs. List ..... $18.76.
ach ..... **$15.02**




## 4" CAST-IRON CAULKING HUB

Cast-iron hub bolts to basin for installations where 4" inlet pipe is required. For cast iron, plastic or ductile iron pipe. Fits all basins shown above, and most other basins.

*New* **No. 4RK35.** Shpg. wt. 5.0 lbs. List ..... $38.37.
Each ..... **$30.70**

## RADON SUMP BASIN

**elps prevent radon gas from entering dwelling.**

**18 x 22" heavy-duty polyethylene basin.**

**Metal lid, gasket, 3" vent and 1½" discharge pipe seals.**

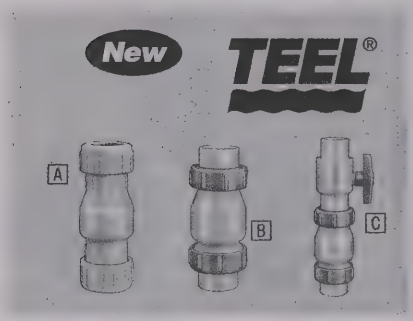
deal for residential, commercial and industrial applications. One-piece, seam-free basin omes ready to install and includes necessary sealing hardware and flanges. olyethylene sewage pump basin is IAPMO approved, includes non-sealed polyethylene id. Zoeller brand (31-0973).

*New* **No. 4NW29.** Shpg. wt. 16.0 lbs. List $57.00. Each ..... **$49.40**



# PUMP ACCESSORIES

## WASTE WATER CHECK VALVES




Compression swing, true union swing, and ball valve/check valve combinations are for use in preventing backflow of sump disposal lines, waste water lines, sewage lift stations or ejector systems. Corrosion-resistant PVC thermoplastic construction. Full flow design. Angle seat and weighted flapper for low-pressure seal. Can be used horizontally or vertically. Compression swing check valve end can be used a union connections. True union swin check valve is designed for easy remova of body for regular inspections or clean ing. Ball valve/check valve for application requiring in-line ball and check valve design allows for easy removal for clean ing or repairs. Maximum pressure: 125 PS @ 72°F. Teel brand.

| Key | Type | Inlet (In.) | Outlet (In.) | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **A** | Check (Swing) | 1½ comp. | 1½ comp. | **4RG88** | $28.93 | **$23.14** | 1.0 |
| **A** | Check (Swing) | 2 comp. | 2 comp. | **4RG89** | 50.75 | **40.60** | 1.6 |
| **B** | Check (Swing) | 1½ comp.-union | 1½ comp.-union | **4RG90** | 21.92 | **17.54** | 0.7 |
| **B** | Check (Swing) | 2 comp.-union | 2 comp.-union | **4RG91** | 35.56 | **28.45** | 1.1 |
| **C** | Check/Ball Valve | 1½ slip-union | 1½ slip-union | **4RG92** | 39.68 | **31.75** | 1.9 |
| **C** | Check/Ball Valve | 2 slip-union | 2 slip-union | **4RG93** | 61.50 | **49.20** | 3.1 |

## SUMP PUMP CHECK VALVES

These thermoplastic rubber check valves adapt to fit either 1¼ or 1½" O.D. cast-iron, galvanized, or plastic pipe. Valve construction eliminates metal to metal contact, cushioning the pipe to minimize clatter, reduce vibration, and prevent electrolysis. Valves are designed to operate in a vertical position. Avoid more than 10 ft. static head above the check valve. Teel brand.

**No. 4UN78 Screw-in Check Valve** has one reversible rubber pipe adapter which fits 1¼ or 1½" O.D. pipe and molded body with male threads to fit sump pumps with 1¼" discharge. Sealed thermoplastic and rubber body prevents metal corrosion inside sump pit. Two steel hose clamps included.

**No. 4UN79 In-Line Check Valve** has a thermoplastic molded body with two reversible rubber pipe adapters which fit 1¼ or 1½" pipe. Four steel hose clamps included.

| Check Valve | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Screw-In** | **4UN78** | $10.70 | **$8.56** | 0.6 |
| **In-Line** | **4UN79** | 13.22 | **10.58** | 0.6 |




## MECHANICAL PUMP SWITCHES

- **Heavy-duty construction**
- **Air pressure operated switch provides automatic 115VAC or 230VAC operation**
- **Mounts in narrow (4 x 4") space**
- **Contains no mercury**

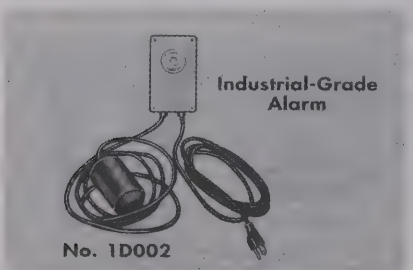
**Applications:** Controls On-Off operation of submersible or upright sump, sewage and grinder pumps. Easily installed in sump and sewage basins or wet pits using bolt holes or installed to stand pipe (up to 3¼" dia.) using stainless steel clamps provided. For use with nonflammable liquids compatible with cast iron "cow-bell" and Nylon air tubing. Maximum liquid temperature: 180°F.

**Construction:** Cast iron "cow-bell" air chamber is submerged in liquid and connected to heavy-duty UL Listed air pressure switch, single-pole type. On/Off level is determined by adjustment of air pressure switch. On point: 18-28"; Off point: 3-18". Mounted in corrosion-resistant control box which may be mounted up to 10 ft. from "cow-bell" via Nylon tubing. 1½ HP @ 115VAC max. 2 HP @ 230VAC, 60 Hz. Inrush current not to exceed 65 amps or 20 amps running current. Features 10 ft. 16/3 neoprene power cord with 3-prong grounded piggyback plug. Teel brand.

| HP | Volts AC | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1½** | 115 | **5P217** | $103.00 | **$79.35** | 4.0 |
| **2** | 230 | **5P218** | 103.00 | **79.35** | 4.3 |




## HIGH WATER ALARM




Self-contained unit with metallic enclosure. For installation in sump pits or areas requiring high water monitoring. Operates on 120VAC and uses a weighted float mechanism (10' float switch cable assembly). Installer sets pre-determined height of float. Alarm gives a loud (80 dbA @ 10 ft.) audible sound in the event of risin water. Also provides a 10 Amp, 230VA contact for switching remote alarms o telephone dialing equipment. 6 ft. molde cord plug.

| Type | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **120VAC** | 6½ | 3½ | 2⅝ | **1D002** | $100.82 | **$63.00** | 2.5 |

## PACKAGED SIMPLEX SEWAGE SYSTEMS

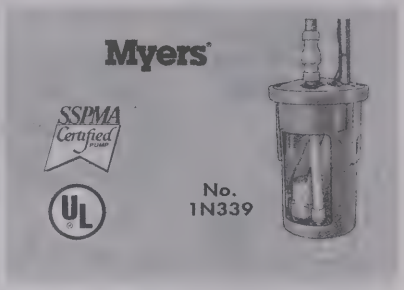
**Ideal for new basement toilet installations and removing sewage from basements and other remote locations**

**Includes everything except PVC pipe for ease of installation**

ckage includes: No. 1N354 Sewage mp (shown on page 3223) with automat- piggy-back mechanical float switch and cords (2" solids handling), 18 x 30" lythylene basin (30 gallon capacity), d 4" plastic slip-type inlet fitting. No. 340 features solid steel cover; No. 339, plastic cover. Both systems have a 2" discharge fitting, 2" and 3" vent fittings, cable sealing grommets, and PVC swing-type compression type check valve. Systems must be properly vented. Pump motor is 4/10 HP, 115V, 12 amps, 1 phase, 60 Hz, 12.0 amps. UL Listed; SSPMA Certified; No. 1N340 is also IAPMO Approved. Myers brand.

**ORDERING DATA**

| IAPMO Approval | Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| No | SR1830 | **1N339** | $632.04 | **$360.00** | 71.0 |
| Yes | SR1830I | **1N340** | 690.22 | **400.00** | 71.0 |




## SUMP PUMP CHECK VALVES




Sump pump check valves have molded ABS plastic bodies and reversible rubber adapters which fit either 1¼ or 1½" OD cast iron, galvanized, or plastic pipe. The rubber adapters separate metal to metal contact, cushion the pipes to minimize clatter, reduce vibration, and prevent electrolysis. Valves are designed to operate in a vertical position. Rated at 4.3 PSI at 130°F. Avoid more than 10 ft. static head above the check valve.

A **Screw-In Check Valve** comes with one reversible rubber pipe adapter which fits 1¼ or 1½" OD pipe and has male threads which fit 1¼" discharge pumps. Electronically sealed plastic body has no metal parts to corrode inside sump pit; hole prevents air lock. Two stainless steel hose clamps included.

**No. 1P994.** Shpg. wt. 0.3 lbs. List $8.75. Each ..... **$6.00**

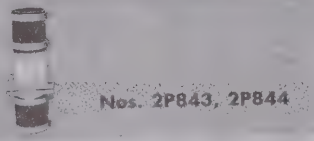
B **In-Line Check Valve** comes with two reversible rubber pipe adapters which fit 1¼ or 1½" OD pipe. Four stainless steel hose clamps included.

**No. 1P995.** Shpg. wt. 0.5 lbs. List ..... $10.88. Each ..... **$7.25**

## ZOELLER FULL FLOW CHECK VALVES

ull flow design with no restrictions and an be installed in either a vertical or hor- zontal line. Valves stop the back flow of ater and sewer gas. Feature neoprene askets and flappers with stainless steel ardware. Zoeller brand.

**os. 2P843 and 2P844 ABS Plastic Check alves.** Require no threading of pipe. Slip asily over ABS, PVC, steel pipe, or copper iping. Flexible neoprene slip x slip unions nclude stainless steel clamps and screws nd extra wide hinges. Rated at 4.3 PSI at 30°F. Avoid more than 10 ft. static head bove check valve.







**No. 2P845. Cast-Iron Check Valve.** 2" female NPT pipe connection. Stainless steel bolts. Suitable for installation below basin cover. Rated at 50 PSI (115 feet of head) at 130°F.

| Fits Pipe (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1¼ or 1½ | **2P843** | $15.00 | **$10.50** | 0.8 |
| 2 | **2P844** | 25.00 | **18.75** | 1.6 |
| 2 | **2P845** | 58.40 | **42.25** | 11.0 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

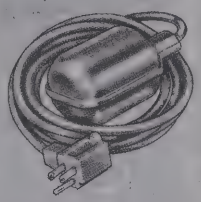
# MECHANICAL FLOAT AND PUMP SWITCHES

## PIGGYBACK MICRO-SWITCH, AND MECHANICAL FLOAT SWITCHES

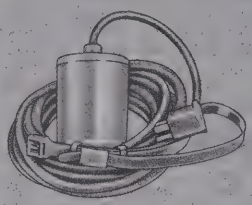
TEEL®

New

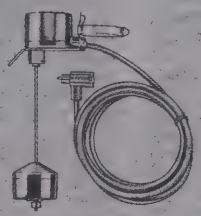
E94522 LR54245



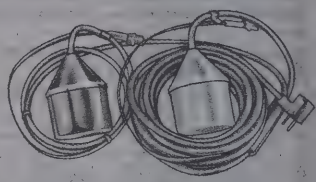
No. 4RK04



No. 4RK17



No. 4RJ46



No. 4RK19

Mechanically activated wide-angle pump float switches provide automatic control of pumps in sump/sewage and non-potable water applications. Use with pumps that have integral thermal overload protection. Use only with liquids compatible with switch construction. Not for use in direct control of 3-phase motors. Corrosion-resistant polypropylene or PVC float housings. Switches are not sensitive to rotation or turbulence, allowing them to be used in both calm and turbulent applications. See chart below to choose correct switch for your application.

**Economy, heavy-duty and extra-heavy-duty float switches** serve in typical sump, sewage and effluent applications. They vary in cord length, wire gauge, voltage rating, starting amps and max running amps. Maximum temperture: 140° F. Mounting strap included.

**Vertical float switches** are ideal for use with limited space; small sump chambers, laundry/sink trays, or sump and effluent applications. Switch bracket provided allows easy installation to most discharge piping. Maximum temperature: 125°F.

**Normally closed float switches** turn on (close) when the float drops slightly below horizontal, signaling a low level, and turns off (opens) when the float tips slightly above horizontal. Maximum temperature: 140° F. Mounting strap included.

**Double float switches** are mercury-activated and consist of two floats for applications requiring accurate, large differential, pumping ranges, with one float containing a holding relay which enables them to function in series. Maximum temperature: 140° F. Mounting strap included.

**Chemical-resistant float switches.** Mechanical blue, ABS (Acrytonitrile Butadiene Styrene) float with 16 gauge SJTOW cord 15 or 30 ft. long, with 115V or 220V series plugs. Maximum temperature: 140° F. Use only with chemicals compatible with switch construction. Mounting strap included.

**Special application, mercury-activated float switches.** No. 4RK31 is a "control panel/pilot duty" model, and has a pre-set tether length (Min/Max, On/Off). Maximum temperature: 140° F. No. 4RK33 can be used in hotwater sump applications. Maximum temperature: 200° F. Mounting strap included.

| Length (Ft.) | Volts @60 Hz | Wire Gauge | Max. Amps Running | Starting Amps | Pumping Range Min-Max (in.) | Tether Length Min-Max (in.) | New! Stock No. | List | Each | Shp Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **ECONOMY FLOAT SWITCHES** | | | | | | | | | | |
| **10** | 115 | 18 | 10 | 60 | 8-36 | 3-22 | **4RK04** | $28.11 | **$22.49** | 1.3 |
| **15** | 115 | 18 | 10 | 60 | 8-36 | 3-22 | **4RK05** | 40.87 | **32.70** | 1.6 |
| **15** | 230 | 16 | 8 | 60 | 8-36 | 3-22 | **4RK06** | 40.87 | **32.70** | 1.6 |
| **HEAVY-DUTY FLOAT SWITCHES** | | | | | | | | | | |
| **30** | 115 | 16 | 13 | 85 | 7-36 | 3½-24 | **4RK21** | 75.74 | **54.10** | 3.0 |
| **30** | 230 | 16 | 13 | 85 | 7-36 | 3½-24 | **4RK22** | 75.74 | **54.10** | 3.0 |
| **60** | 115 | 16 | 13 | 85 | 7-36 | 3½-24 | **4RK24** | 104.58 | **74.70** | 5.6 |
| **60** | 230 | 16 | 13 | 85 | 7-36 | 3½-24 | **4RK26** | 104.65 | **74.75** | 5.7 |
| **20** | 115 | 16 | 13 | 85 | 7-36 | 3½-24 | **4RK15** | 56.91 | **40.65** | 3.0 |
| **10** | 115 | 16 | 13 | 85 | 7-36 | 3½-24 | **4RK29** | 44.03 | **31.45** | 2.0 |
| **20** | 230 | 16 | 13 | 85 | 7-36 | 3½-24 | **4RK16** | 56.84 | **40.60** | 3.0 |
| **EXTRA HEAVY-DUTY FLOAT SWITCHES** | | | | | | | | | | |
| **20** | 115 | 14 | 15 | 85 | 7-36 | 3½-24 | **4RK17** | 90.09 | **64.35** | 2.0 |
| **30** | 115 | 14 | 15 | 85 | 7-36 | 3½-24 | **4RK23** | 96.39 | **68.85** | 3.0 |
| **20** | 230 | 14 | 15 | 85 | 7-36 | 3½-24 | **4RK18** | 90.09 | **64.35** | 2.0 |
| **30** | 230 | 14 | 15 | 85 | 7-36 | 3½-24 | **4RK25** | 96.39 | **68.85** | 3.0 |
| **VERTICAL FLOAT SWITCHES** | | | | | | | | | | |
| **8** | 115 | 16 | 13 | 60 | ¾-6½ | N/A | **4RJ46** | 51.12 | **40.90** | 1.7 |
| **10** | 115 | 16 | 13 | 60 | ¾-6½ | N/A | **4RJ97** | 66.00 | **52.80** | 1.8 |
| **20** | 115 | 16 | 13 | 60 | ¾-6½ | N/A | **4RJ98** | 76.31 | **61.05** | 2.5 |
| **NORMALLY-CLOSED FLOAT SWITCHES** | | | | | | | | | | |
| **10** | 115 | 18 | 10 | 60 | 8-36 | 3-22 | **4RK07** | 33.18 | **26.55** | 1.3 |
| **15** | 115 | 18 | 10 | 60 | 8-36 | 3-22 | **4RK08** | 46.62 | **37.30** | 1.9 |
| **20** | 115 | 16 | 13 | 85 | 7-36 | 3½-24 | **4RK32** | 63.07 | **45.05** | 3.0 |
| **10** | 115 | 16 | 13 | 85 | 7-36 | 3½-24 | **4RK30** | 48.65 | **34.75** | 2.0 |
| **DOUBLE FLOAT SWITCHES** | | | | | | | | | | |
| **20** | 115 | 14 | 15 | 55 | 1¾-48 | PRE-SET | **4RK19** | 142.38 | **101.70** | 3.0 |
| **20** | 230 | 14 | 15 | 35 | 1¾-48 | PRE-SET | **4RK20** | 142.66 | **101.90** | 4.0 |
| **30** | 115 | 14 | 15 | 55 | 1¾-48 | PRE-SET | **4RK27** | 145.39 | **103.85** | 5.0 |
| **30** | 230 | 14 | 15 | 35 | 1¾-48 | PRE-SET | **4RK28** | 145.39 | **103.85** | 5.0 |
| **CHEMICAL RESISTANT FLOAT SWITCHES** | | | | | | | | | | |
| **15** | 115 | 16 | 13 | 58 | 6-28 | 2½-15 | **4RK51** | 84.64 | **73.60** | 1.6 |
| **15** | 230 | 16 | 13 | 58 | 6-28 | 2½-15 | **4RK53** | 84.64 | **73.60** | 1.6 |
| **30** | 115 | 16 | 13 | 58 | 6-28 | 2½-15 | **4RK52** | 100.68 | **87.55** | 3.2 |
| **30** | 230 | 16 | 13 | 58 | 6-28 | 2½-15 | **4RK54** | 100.68 | **87.55** | 3.2 |
| **CONTROL PANEL/PILOT DUTY SWITCH** | | | | | | | | | | |
| **20** | 115/230 | 18 | 5 | N/A | N/A | PRE-SET | **4RK31** | 45.08 | **32.20** | 3.0 |
| **HIGH TEMPERATURE SWITCH** | | | | | | | | | | |
| **20** | 115 | 16 | 13 | 35 | 9-14* | 3-8* | **4RK33** | 97.37 | **69.55** | 2.0 |

* Results @70°F may vary with temperature

**DON'T DELAY... ORDER FROM GRAINGER NOW!**

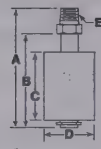
**Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.**



*If we don't have a pump for it, chances are it can't be pumped.*

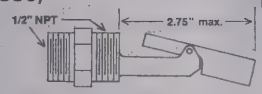
Madison

# LIQUID LEVEL CONTROLS




Reference Diagram for Dimensions

NSF (Except 2A553)




No. 2XC13

CSA General Purpose LR56150
Explosion Proof LR26414
(No. 2A551 only)

UL General Purpose E54633
Explosion Proof E150881
(No. 2A551 only)



No. 2A553



No. 2A551

**All Models**

- Magnetically actuated dry reed switch
- Used for alarm circuits controlling motor starters, contactors, solenoids, and relays
- User selectable normally open or normally closed switch operation
- NSF approved for food equipment except 2A553
- Switches have 22 gauge, 24" leads

| Watts | Voltage | Current (Resistive)* |
|---|---|---|
| 30 | 220VAC | 0.14A |
| | 110VAC | 0.28 |
| | 120VDC | 0.07 |
| | 24VDC | 0.28 |
| 60 | 220VAC | 0.4 |
| | 110VAC | 0.5 |
| | 120VDC | 0.2 |
| | 24VDC | 0.5 |

*) For inductive loads, use arc suppression to maximize control life

**Nos. 2A554 and 2A552**

- Polypropylene switch for general purpose applications and acidic conditions
- Seamless foamed floats
- FDA approved materials

**No. 2XC13**

- FDA approved materials
- Polypropylene float and stem
- Mounts inside tank or outside tank
- For general purpose and highly acidic conditions

**No. 2A553**

- Buna N float with brass stem for fuels
- Excellent for low specific gravity fluids
- Use with lubricating/hydraulic oils and many solvents

**No. 2A551**

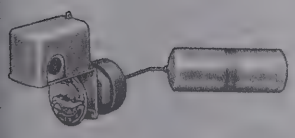
- 316 stainless steel for high temperature, high pressure, or corrosive conditions
- Highly polished for applications such as food processing
- Explosion proof for hazardous locations Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III

| Float Material | Max. Temp. | Max. Pres. | Watts | Dimensions (In.) A | B | C | D | E | Madison Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Polypropylene | 105°C | 100 PSI | 30 | 2¼ | 1¹¹/₁₆ | 1 | 1" | 1/8 NPT | M8000 | **2A554** | $14.00 | **$10.50** | 0.1 |
| Polypropylene | 105 | 100 | 60 | 3⅞ | 2⅝ | 2 | 1½ | 1/4 | M8800 | **2A552** | 34.50 | **34.35** | 0.2 |
| Polypropylene | 105 | 100 | 30 | See diagram | | | | | M8700 | **2XC13** | 19.00 | **14.25** | 0.1 |
| Buna N | 105 | 150 | 60 | 3⅜ | 2⅝ | 2 | 1½ | 1/4 | M4300 | **2A553** | 27.00 | **26.90** | 0.4 |
| 316 SS | 200 | 200 | 60 | 3⅜ | 2⅝ | 2 | 2⅛ | 1/4 | M5600 | **2A551** | 38.50 | **38.35** | 0.4 |

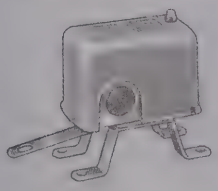
SQUARE D
GROUPE SCHNEIDER

UL E12158

CSA LR25490



No. 2FH90



No. 2FH59

# FLOAT SWITCHES

- NEMA type 1
- Closed tank switches are mounted using 2.5 screw-in connection. (2½" NPT mount)
- Open tank switch used on open tank or sump applications with mounting feet
- Can be used to control small motor loads directly
- Temperature limitations (ambient): -22°F to 220°F
- Rated for 10 amps at 600 volts

### ACCESSORY FLOAT KIT

For use with open tank float switch No. 2FH59. 5 Ft. brass rod with 7" diameter float. Square D brand (9049A6).

**No. 2FJ26.** Shpg. wt. 6.0 lbs. List $92.00. Each.....$78.60

## CLOSED TANK FLOAT SWITCH SPECIFICATIONS AND ORDERING DATA

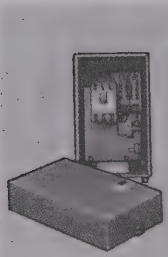
| Description | HP Rating 1 Phase 115 | 1 Phase 230 | 3 Phase 230 | Water Level Adjustable (In.) Min. | Max. | Float Rod Angle | Square D Model 9037 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.5" NPT 2 pole, close on rise | 2 | 3 | 5 | 2 | 5 | 45° offset right | HG33 | **2FH90** | $96.00 | **$82.00** | 4.4 |
| | | | | 2 | 11½ | 90° offset right | HG31 | **2FH85** | 96.00 | **82.00** | 4.8 |
| | | | | 2 | 5 | 45° offset left | HG34 | **2FH92** | 96.00 | **82.00** | 4.4 |
| | | | | 2 | 11½ | 90° offset left | HG32 | **2FH86** | 96.00 | **82.00** | 4.9 |

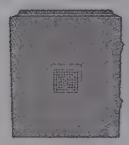
## OPEN TANK FLOAT SWITCH SPECIFICATIONS AND ORDERING DATA

| Description | Square D Model 9036 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 Pole, single lever operated. Close on rise switch only. | DG2 | **2FH59** | $35.60 | **$30.45** | 1.2 |

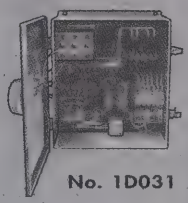
# PUMP CONTROL BOXES

## SIMPLEX AND DUPLEX CONTROL BOXES AND PANELS


No. 2P544


No. 1D012


No. 1D011


No. 1D031

FREE DELIVERY on orders of $900 or more

See Freight Policy

### CONTROL PANEL SELECTION GUIDE

1. Select voltage and phase required by the pump or motor.

2. Determine the maximum "Run" current in amps required by the pump or motor.

3. Select the simplex or duplex control panel which has a larger amp rating than the pump or motor full load amp rating. Simplex panels control a single pump or motor.

Duplex panels control two pumps or motors, alternating each.

4. 3-Phase control panels require overload heaters, refer to page 3235 for the heater coils required.

**Control boxes and panels operate pumps and motors** with float, pressure or other switch inputs. Switches not included, sold separately. For residential, commercial, and industrial applications controlling surface water, underground water, sewage and waste water systems. Common applications: lift stations, pump chambers, pump basins, irrigation systems, and air compressor systems. Wiring diagrams for float and other applications included.

### Simplex Control Boxes Nos. 2P544, 2P545, and 2P546

- **NEMA 1 enclosure**

Single-phase control box (No. 2P544) contains magnetic motor starter with 230V coil, two control fuses, test button, and terminal strip for control leads. Recommended for use with No. 2P055 or other float switches. 3-phase units (Nos. 2P545 and 2P546) contain magnetic motor starter. No. 2P544 and No. 2P545 have 230V coil; No. 2P546, 115 volt coil. Both units have holding contacts, selector switch with ON-OFF-AUTO selections, terminal strips for control leads, and control fuses. No. 2P546 may be used for 208 or 230V by moving primary control transformer tap to desired voltage. UL listed.

### Simplex Control Panels Nos. 1D012-1D015, 1D021-1D025

- **Hand-Off automatic switch**
- **Plug-in control relay**
- **100 Decibel alarm**
- **NEMA 4 enclosure**

Units provide contacts for remote alarms or for interfacing with telephone dialing equipment. For applications requiring circuit breaker protection and motor starters for motor-driven equipment. Have terminal strips for field connections, high level alarm, circuit breaker protection for the pump, and Test-Off switch for the alarm circuit.

115V coil. 3-Phase units feature magnetic starters. UL listed.

### Alternating Duplex Control Panels Nos. 1D010, 1D011, 1D016-1D020, 1D026, and 1D030-1D032

- **All Simplex panel features plus:**
- **Magnetic starter for each pump**
- **Connections for three or four floats to control operations**
- **Lockable latches on the NEMA 4 enclosure**
- **Solid-state plug-in alternator**
- **Overload heater relays for all 3-phase units**
- **Auxiliary terminal connections for remote alarm or telephone interface**
- **Run-light for each pump**
- **Control circuit protection**

These control boxes provide override control should either pump fail. In the event of an alarm condition, these units provide audio alarms with a standard dry contact connection for remote alarms or telephone interface. 115V coil. UL listed.

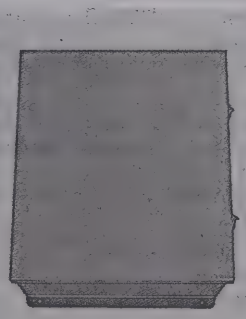
| Control Type | Phase | Volts | Amps | Thermal Unit Size(†) | Enclosure | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Simplex Box** | 1 | 230 | 32 | N/A | NEMA 1 | 10¼ | 5½ | 5 | **2P544** | $162.30 | **$111.15** | 6.0 |
| **Simplex Box** | 3 | 208/230 | 26 | 00, 0 + 1 | NEMA 1 | 13¼ | 9 | 6¾ | **2P545** | 408.79 | **275.25** | 12.0 |
| **Simplex Box** | 3 | 460* | 26 | 00, 0 + 1 | NEMA 1 | 13¼ | 9 | 6¾ | **2P546** | 440.29 | **296.75** | 15.0 |
| **Simplex Panel** | 1 | 115 | 32 | N/A | NEMA 4 | 14½ | 8¼ | 7¼ | **1D012** | 696.42 | **464.75** | 24.0 |
| **Simplex Panel** | 1 | 208/230 | 32 | N/A | NEMA 4 | 14½ | 8¼ | 7¼ | **1D013** | 771.53 | **514.50** | 25.0 |
| **Simplex Panel** | 3 | 208/230* | 25 | 00, 0 + 1 | NEMA 4 | 17½ | 14½ | 8½ | **1D014** | 1124.73 | **749.50** | 34.0 |
| **Simplex Panel** | 3 | 208/230* | 58 | 3 | NEMA 4 | 17½ | 14½ | 8½ | **1D021** | 924.19 | **616.50** | 48.0 |
| **Simplex Panel** | 3 | 208/230* | 85 | 3 | NEMA 4 | 25¼ | 21 | 8½ | **1D022** | 2698.42 | **1801.00** | 102.0 |
| **Simplex Panel** | 3 | 208/230* | 133 | 4 | NEMA 4 | 25¼ | 21 | 8½ | **1D023** | 3396.90 | **2264.00** | 93.0 |
| **Simplex Panel** | 3 | 460 | 18 | 00, 0 + 1 | NEMA 4 | 17½ | 14½ | 8½ | **1D015** | 1305.53 | **869.50** | 37.0 |
| **Simplex Panel** | 3 | 460 | 26 | 00, 0 + 1 | NEMA 4 | 17½ | 14½ | 8½ | **1D024** | 1700.49 | **1131.00** | 45.0 |
| **Simplex Panel** | 3 | 460 | 58 | 3 | NEMA 4 | 25¼ | 21 | 8½ | **1D025** | 2250.76 | **1494.00** | 84.0 |
| **Duplex Panel** | 1 | 115/230 | 16 | N/A | NEMA 1 | 16¼ | 14 | 5¾ | **1D011** | 875.85 | **598.00** | 27.0 |
| **Duplex Panel** | 1 | 115/230 | 18 | N/A | NEMA 4 | 17½ | 14½ | 8½ | **1D030** | 1092.01 | **733.50** | 43.0 |
| **Duplex Panel** | 1 | 115/230 | 32 | N/A | NEMA 1 | 16¼ | 14 | 5¾ | **1D018** | 1080.30 | **719.00** | 28.0 |
| **Duplex Panel** | 1 | 208/230 | 32 | N/A | NEMA 4 | 17¼ | 14½ | 8½ | **1D031** | 1162.08 | **781.50** | 41.0 |
| **Duplex Panel** | 3 | 208/230* | 16 | 00, 0 + 1 | NEMA 4 | 17½ | 14½ | 8½ | **1D032** | 1839.87 | **1242.00** | 46.0 |
| **Duplex Panel** | 3 | 208/230* | 58 | 3 | NEMA 4 | 25¼ | 21 | 8½ | **1D016** | 3768.57 | **2512.00** | 123.0 |
| **Duplex Panel** | 3 | 208/230* | 85 | 3 | NEMA 4 | 25¼ | 21 | 8½ | **1D017** | 5288.38 | **3516.00** | 123.0 |
| **Duplex Panel** | 3 | 208/230* | 133 | 4 | NEMA 4 | 28 | 27 | 8¾ | **1D026** | 6460.95 | **4299.00** | 126.0 |
| **Duplex Panel** | 3 | 460 | 18 | 00, 0 + 1 | NEMA 4 | 17½ | 14½ | 8½ | **1D010** | 1927.33 | **1299.00** | 56.0 |
| **Duplex Panel** | 3 | 460 | 26 | 2 | NEMA 4 | 17½ | 14½ | 8½ | **1D019** | 2857.83 | **1897.00** | 50.0 |
| **Duplex Panel** | 3 | 460 | 58 | 3 | NEMA 4 | 25¼ | 21 | 8½ | **1D020** | 4039.55 | **2678.00** | 97.0 |

(*) Operable on 208 or 230V, 3-phase by moving control transformer's primary connections. (†) To select overload Thermal Units from column C NEMA Size Chart. (Do not exceed panel max amp range.)



*If we don't have a pump for it, chances are it can't be pumped.*

# PUMP CAPACITOR CONTROL BOXES



No. 1D027

**HOW TO SELECT A CAPACITOR BOX**

1. Select panel (with or without disconnect).

2. Check pump/motor for capacitor sizes and pump starter relay required. External capacitors and starting relays are usually included with the pump or ordered separately as a kit.

3. Check pump or motor specifications to see if overload protection is required. If required, size overload heaters.

4. When using capacitor box with overload relays, select the proper ampacity heater for the pump or motor running amperes. Capacitors and relays are found on pages 196,116,197,198, 474.

NEMA 4 enclosed capacitor boxes are used for controlling single phase pumps or motors where the capacitors and starting relays are mounted remote from the pump or motor. Suitable for most environmental conditions such as waste water, surface water or irrigation applications.

Easy mounting is provided in each panel with terminal blocks for connection. Boxes include terminal points for adding capacitors and starting relays. Teel brand.

**No. 1D027.** NEMA 4 enclosure for easy installation of starting capacitors and relays.

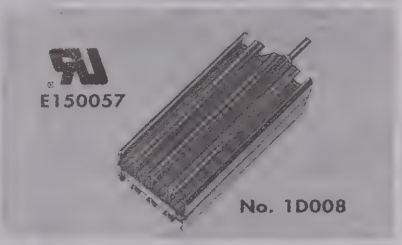
**No. 1D028.** 58 Amp starting contactor and Square D overload block which can be used for either NEMA 4 enclosure starter or multiple purpose. For installing most capacitors and starting relays.

**No. 1D029.** Non-fused combination starter and circuit breaker. Rated 58 amp using a Square D overload relay block. Includes contactor.

| Control Type | Phase | Volts | Max. Amps | Enclosure | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacitor | 1 | 115/230 | N/A | NEMA 4 | 8 | 12½ | 7¼ | **1D027** | $387.40 | **$261.00** | 28.0 |
| Contactor | 1 | 115/230 | 58 | NEMA 4 | 14¼ | 17½ | 8½ | **1D028** | 977.97 | **653.50** | 39.0 |
| Combination | 1 | 115/230 | 58 | NEMA 4 | 33 | 15¼ | 8½ | **1D029** | 1056.99 | **711.50** | 42.0 |

# HEATERS FOR CONTROL BOXES

uitable for maintaining a condensation-ee environment of control boxes and nels, electrical switch-gear, and other ectrical or electronic cabinets. These nergy-efficient heaters are self-regulating and do not require any additional thermostat controls. Easily mounted on standard "DIN" rail as found in most control box installations. Also include one NEMA 4 vent (easily installed).

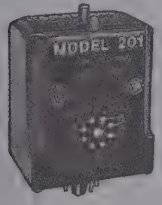



No. 1D008

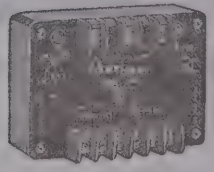
| Watts | Volts | Amps | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30** | 120 | 1.2 | 2⅝ | 2¾ | 2 | **1D008** | $72.02 | **$48.80** | 0.5 |
| **80** | 120 | 2.0 | 8¾ | 2¾ | 2 | **1D009** | 123.41 | **83.25** | 1.0 |

# PUMP/MOTOR PROTECTORS

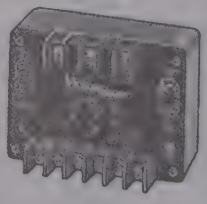
**SymCom, Inc.**




No. 1D003



No. 1D005



No. 1D007

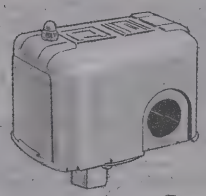
ll units protect 3-phase pumps and motors from: Loss of any hase (single-phasing), low voltage (10% of setting), voltage nbalance (greater than 5%), and phase reversal. Will detect a ngle phase condition even on lightly loaded motors. Nos. 1D005 nd 1D006 also protect 3-phase motors from high voltage (10% of etting, any or all phases), and short cycling.

No. 1D007 protects pump or motor from contact failure, and high voltage. Other features for No. 1D007 include: Automatic power system range sensing (200-480V), adjustable trip delay, restart delay, voltage unbalance trip point, and LED status indicators. SymCom brand.

| Type | Phase | Volts | Output Contact Rating Pilot-Duty—480 VA | Dimensions (In.) H | W | D | SymCom Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Octal Socket w/Base** | 3 | 200-240 | 120/240VAC SPDT | 1⅓ | 2⅜ | 1 9/16 | 201-200 | **1D003** | $147.54 | **$98.25** | 15.0 |
| **Octal Socket w/Base** | 3 | 440-480 | 120/240VAC SPDT | 1⅓ | 2⅜ | 1 9/16 | 201-400 | **1D004** | 147.80 | **98.45** | 0.8 |
| **Microprocessor** | 3 | 200-240 | 240VAC DPDT | 2⅞ | 5⅛ | 2⅛ | 250-200 | **1D005** | 224.69 | **151.25** | 1.0 |
| **Microprocessor** | 3 | 440-480 | 240VAC DPDT | 2⅞ | 5⅛ | 2⅛ | 250-400 | **1D006** | 224.69 | **151.25** | 1.0 |
| **Microprocessor** | 3 | 200-480 | 120/240VAC SPDT | 2⅞ | 5¼ | 2⅛ | 455 | **1D007** | 253.35 | **171.00** | 1.1 |

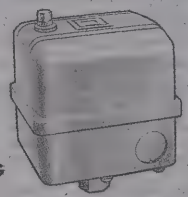
# PRESSURE SWITCHES FOR PUMPS

SQUARE D
GROUPE SCHNEIDER



Class 9013

Type F



Type G

## PUMPTROL® PRESSURE SWITCHES

### WATER PUMP PRESSURE SWITCH TYPE F

- Type FSG is the standard water pump switch suitable for all types of pumps: jets, submersible, reciprocating, etc.
- Type FYG is designed to meet higher horsepower and pressure requirements
- NEMA 1 enclosure
- Nos. 5B416, 1V630, and 6B452 are reverse action pressure switches-contacts open on falling pressure, all other switches are standard action pressure switches-contacts open on rising pressure
- 1/4"NPSF (internal)
- All pressure switches are two pole
- Replacement contacts for Nos. 5B410 & 5B411 available below
- FRG models rated for 10 amps (continuous) @ 300VAC max

### COMMERCIAL PRESSURE SWITCH TYPE G

- Designed for the control of electrically driven water pumps or air compresors
- Type G devices cover higher electrical ratings for direct control of motors in pumps and compressor applications
- NEMA 1 enclosure
- Contacts open on pressure rise (except reverse acting)
- 2-Pole models
- 1/4" NPSF (internal)
- Diaphragm actuated
- UL Listed and CSA Certified

E12158

LR25490

| Pressure Range Cut In-Out (PSIG) | Differential (PSIG) | Factory Setting On/Off (PSIG) | HP Rating | Additional Features | Square D Model 9013 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **TYPE F WATER PUMP PRESSURE SWITCH** | | | | | | | | | |
| **45-4** | 6-20 | 10-5 | A | Reverse Action | FRG-22J36 | **6B452** | $35.20 | **$28.60** | 0.1 |
| **5-65** | 15-30 | 20-40 | B | — | FSG-2J20 | **5B415** | 17.60 | **13.77** | 0.9 |
| | 15-30 | 20-40 | B | Load Side Quick Connects | FSG-2J20U | **2FH01** | 17.30 | **14.05** | 0.9 |
| | 15-30 | 20-40 | B | Pulsation Plug | FSG-2J20P | **5B413** | 18.10 | **14.16** | 0.9 |
| | 15-30 | 20-40 | B | Manual Lever (Auto-Off) | FSG-2J20M1 | **2FG98** | 20.90 | **16.97** | 1.0 |
| | 15-30 | 20-40 | B | Low Pressure Cut Off* | FSG-2J20M4 | **5B414** | 23.20 | **18.12** | 1.0 |
| | 15-30 | 30-50 | B | — | FSG-2J21 | **2FH02** | 17.60 | **14.29** | 0.9 |
| | 15-30 | 30-50 | B | Pulsation Plug | FSG-2J21P | **5B412** | 18.10 | **14.13** | 0.9 |
| | 15-30 | 30-50 | B | Manual Lever (Auto-Off) | FSG-2J21M1 | **2FH05** | 20.90 | **16.97** | 1.0 |
| | 15-30 | 30-50 | B | Low Pressure Cut Off* | FSG-2J21M4 | **2FH06** | 23.20 | **18.86** | 1.0 |
| | 15-30 | 40-60 | B | — | FSG-2J24 | **2FH08** | 17.60 | **14.29** | 0.9 |
| | 15-30 | 40-60 | B | Low Pressure Cut Off* | FSG-2J24M4 | **2FH10** | 23.20 | **18.86** | 1.0 |
| **65-8** | 15-30 | 40-20 | A | Reverse Action | FRG-2J23 | **5B416** | 32.10 | **25.10** | 0.9 |
| **5-80** | 20-30 | 20-40 | C | — | FYG-2J20 | **5B411** | 25.70 | **20.08** | 0.9 |
| | 20-30 | 20-40 | C | Pulsation Plug | FYG-2J20P | **2DC10** | 26.10 | **24.63** | 0.8 |
| | 20-30 | 30-50 | C | — | FYG-2J21 | **5B410** | 25.70 | **20.08** | 0.9 |
| | 20-30 | 30-50 | C | Pulsation Plug | FYG-2J21P | **2DC11** | 26.10 | **24.63** | 0.8 |
| **100-20** | 20-30 | 40-20 | A | Reverse Action | FRG-62J23 | **1V630** | 32.10 | **30.35** | 0.9 |
| **TYPE G COMMERCIAL PRESSURE SWITCH** | | | | | | | | | |
| **5-80** | 15-30 | 20-40 | D | — | GSG-2J20 | **6B446** | 55.00 | **44.05** | 2.0 |
| | 15-30 | 20-40 | D | Pulsation Plug | GSG-2J20P | **6B447** | 55.00 | **44.05** | 2.0 |
| | 15-30 | 20-40 | D | Manual Lever (On-Auto-Off) | GSG-2J20E | **6B449** | 75.00 | **60.00** | 2.0 |
| | 15-30 | 30-50 | D | Pulsation Plug | GSG-2J21P | **6B448** | 55.00 | **44.05** | 1.9 |
| | 15-30 | 50-30 | D | Reverse Action | GSG-2J21R | **6B437** | 64.00 | **51.25** | 2.0 |
| **40-200** | 20-40 | 75-100 | D | — | GHG-2J29 | **6B438** | 55.00 | **44.05** | 2.0 |
| | 20-40 | 75-100 | D | Manual Lever (On-Auto-Off) | GHG-2J29E | **6B440** | 75.00 | **60.00** | 1.9 |
| | 20-40 | 80-100 | D | — | GHG-2J30 | **6B441** | 55.00 | **44.05** | 2.0 |
| | 20-40 | 80-100 | D | Manual Lever (On-Auto-Off) | GHG-2J30E | **6B443** | 75.00 | **60.00** | 1.9 |
| | 20-40 | 145-175 | D | — | GHG-2J63 | **5B409** | 55.00 | **42.40** | 2.2 |
| **35-250** | 24-45 | 130-175 | D | — | GHG-5J61 | **6B444** | 55.00 | **44.05** | 2.0 |

(*) Auto-Start-Off: Operates at 10 PSI below set cut-in pressure, also .25 HP DC rating does not apply.

## HP RATING SPECIFICATIONS

| Rating Key | Single Phase 115V | Single Phase 230V | Single Phase 460V | DC 115/230 |
|---|---|---|---|---|
| **A** | 1 | 1 | — | 0.25 |
| **B** | 1.5 | 2 | — | 0.25 |
| **C** | 2 | 3 | — | 0.5 |
| **D** | 2 | 3 | 5 | 1 |

- No. 5B339 contains replacement contacts for pressure switch
- Contacts are two pole

## REPLACEMENT CONTACT KITS

| Equipment to be serviced | Square D Model 9998 . . . | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Nos. 5B410, 5B411 2DC10, 2DC11** | PC242 | **5B339** | $12.40 | **$10.40** | 0.2 |



*If we don't have a pump for it, chances are it can't be pumped.*

# LIQUID & AIR FLOW SWITCHES

## GENERAL PURPOSE LIQUID FLOW SWITCHES

r starting or stopping electrically operated equipment such as gnal lights, alarms, motors, automatic burners and metering vices. Switches have sensitivity adjusting screw for easy flow justment. Single pole, double throw snap switch. 120/240 VAC eration. Amps: Full load—7.4 @ 120V, 3.7 @ 240V; Locked tor—44.4 @ 120V, 22.2 @ 240V.

**os. 4RC65 and 4RC66** have four monel paddles. Fit 1", 2", and 3" pe, or the extended paddle can be trimmed to fit other pipe zes.

## HIGH SENSITIVITY LIQUID FLOW SWITCHES

r heavy-duty applications where high sensitivity is required, ch as water treatment systems, cooling systems for electronic rcuits, compressors, booster pumps, and bearings, and other plications that need instant switching. Sensitivity adjusting rew makes flow adjustment easy. Single pole, double throw ap switch. Full load Amps: 7.4@120V; 3.7@240V. Locked Rotor: .4@120V; 22.2@ 240V.

**o. 4RC69** for applications requiring a water-tight, dust-tight, or a EMA4X rated flow switch.

## INDUSTRIAL LIQUID FLOW SWITCHES

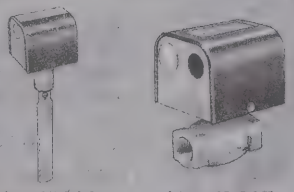
niversal design serves the widest variety of large pipe applica- ons, including heating and hydronic systems, air conditioning, frigeration and process work. Single pole, double throw snap vitch. Paddles can be trimmed to suit application needs. ensitivity adjusting screw makes flow adjustment easy. 120/240 AC operation. Full load amps: 7.4@120V; 3.7@ 240V. Locked otor amps: 44.4@120V; 22.2@240V.

**os. 4RC72 and 4RC73** for applications requiring a water-tight, ust-tight or a NEMA 4X rated flow switch.

**os. 4RC74 and 4RC75** for hazardous environment applications quiring a NEMA 7 (Class I, Group C or D) or NEMA 9 Class II, roup E,F, or G) rated flow switch.

McDonnell & Miller

New



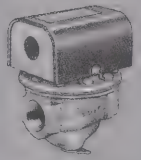
No. 4RC65



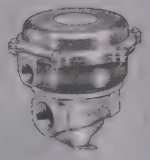
No. 4RC67



No. 4RC66



No. 4RC68



No. 4RC69



No. 4RC72 Thru 4RC75



No. 4RC70 & 4RC71

## *New!* LIQUID FLOW SWITCHES

| Flow Rate Range, gpm Min. | Flow Rate Range, gpm Max. | NPT Pipe Sizes | Connection NPT (in.) | Wetted Parts: Brass | S/S | Monel | EPDM | Solder | Buna N | Viton | Bronze | Teflon | Max. Press. | Fluid Temp., °F Min. | Fluid Temp., °F Max. | Min. Ambient Temp., °F | Switch Enclosure | Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GENERAL PURPOSE** | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 166 | 1-6 | 1 | X | — | X | — | X | — | — | — | — | 150 | 32 | 300 | 32 | NEMA1 | FS4-3 | **4RC65** | $97.69 | **$69.75** | 2.0 |
| 1.5 | 15 | 3/4 | 3/4 | X | — | — | — | — | — | — | — | — | 150 | 32 | 250 | 32 | NEMA1 | FS5-3/4 | **4RC67** | 160.73 | **114.75** | 3.0 |
| 4.9 | 245 | 1-6 | 1 | X | X | X | — | X | — | — | — | — | 150 | 32 | 225 | 32 | NEMA 4X | FS8-W | **4RC66** | 133.41 | **95.25** | 2.0 |
| **HIGH SENSITIVITY** | | | | | | | | | | | | | | | | | | | | | | |
| 0.12 | 2.5 | 1 | 1 | X | X | — | — | — | X | — | — | — | 100 | 32 | 225 | 32 | NEMA1 | FS6-1 | **4RC68** | 241.61 | **172.50** | 5.0 |
| 0.12 | 2.5 | 1 | 1 | X | X | — | — | — | X | X | — | — | 100 | 32 | 225 | 32 | NEMA 4X | FS6-W-1 | **4RC69** | 266.82 | **190.50** | 6.0 |
| **INDUSTRIAL/HEAVY DUTY** | | | | | | | | | | | | | | | | | | | | | | |
| 4.8 | 998 | 1¼-16 | 1¼ | X | X | — | — | — | — | — | X | X | 300 | 32 | 300 | 32 | NEMA1 | FS7-4 | **4RC70** | 258.42 | **184.50** | 6.0 |
| 4.8 | 998 | 1¼-16 | 1¼ | — | X | — | — | — | — | — | — | X | 1000 | 32 | 300 | 32 | NEMA1 | FS7-4S | **4RC71** | 432.83 | **309.00** | 6.0 |
| 4.8 | 998 | 1¼-16 | 1¼ | X | X | — | — | — | — | — | X | X | 300 | -65 | 300 | -65 | NEMA 4X | FS7-4W | **4RC72** | 314.06 | **224.25** | 13.0 |
| 4.8 | 998 | 1¼-16 | 1¼ | — | X | — | — | — | — | — | — | X | 1000 | -65 | 300 | -65 | NEMA 4X | FS7-4SW | **4RC73** | 507.38 | **362.25** | 12.0 |
| 4.8 | 998 | 1¼-16 | 1¼ | X | X | — | — | — | — | — | X | X | 300 | 32 | 300 | 32 | NEMA 7,9 | FS7-4E | **4RC74** | 370.80 | **264.75** | 12.0 |
| 4.8 | 998 | 1¼-16 | 1¼ | — | X | — | — | — | — | — | — | X | 1000 | 32 | 300 | 32 | NEMA 7,9 | FS7-4SE | **4RC75** | 547.31 | **390.75** | 12.0 |

## AIR FLOW SWITCHES

or general purpose applications with medium and high velocity equirements. Paddle fits 8" minimum duct size or 6" if trimmed. ensitivity adjusting screw allows easy flow adjustment. laximum temperature 300° F; minimum temperature (fluid or mbient) 32° F. Single pole, double throw snap switch. 120/240 AC. Amps: Full load—7.4 @ 120V, 3.7 @ 240 V; Locked rotor—44.4 @ 120V, 22.2 @ 240V.

McDonnell & Miller

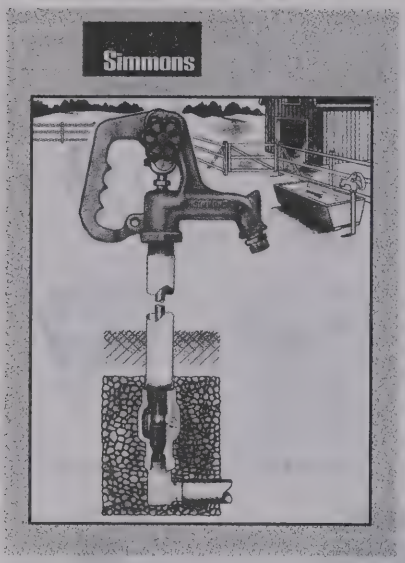
New



No. 4RC76

| Operating Velocity Range, Horizontal (fpm) Min. | Operating Velocity Range, Horizontal (fpm) Max. | Max. Operating Velocity (fpm) | Max. Duct Size (In.) | Vane Material Brass | Vane Material Steel | Seal Material Steel | Seal Material Teflon | Air Temp., °F Min. | Air Temp., °F Max. | Min. Ambient Temp., °F | Switch Enclosure | Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **910** | **1610** | 2500 | 7⅛ | X | X | X | X | 32 | 300 | 32 | NEMA1 | AF1 | **4RC76** | $139.72 | **$99.75** | 2.0 |

# FROSTPROOF YARD HYDRANTS AND SHALLOW WELL JET PUMPS




## FROSTPROOF YARD HYDRANTS

- **Dual by-pass valve delivers approximately 27 GPM at 30 PSI**
- **Cast-iron construction**
- **Brass hardware resists corrosion**
- **Pistol type handle is easily padlocked to hydrant head**
- **Hand wheel locks water flow at desired rate**
- **One-piece molded Buna N plunger can be replaced easily without removing hydrant from ground**
- **Threaded brass nozzle accepts standard hose connector**
- **Convenient bucket holder on spout**

### ORDERING DATA

| Bury* Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2 ft. | 2P813 | $73.14 | **$46.00** | 14.0 |
| 3 | 2P814 | 77.45 | **49.00** | 17.0 |
| 5 | 2P815 | 88.35 | **57.00** | 22.0 |

(*)Actual length is 24" longer than bury depth, to allow 24" exposure above ground.

Frostproof yard hydrants assure wate availability, even in subzero temperatures Shut-off valve is located below the fros line to prevent hydrant from freezing When hydrant is in Off position, water i the stand pipe drains out a freeze-proo waterway located below the frost line.

Ideal for barnyards, kennels, and livestoc areas where year-round availability o water is essential.

Hydrants operate under the same principl as a faucet or spigot. When cast-iron han dle is lifted, a shut-off valve opens an pressurized water flow through the spout.

Available in three bury depths*. Choos according to frost line in your area. 5-ft hydrants are for northern states wher frost line is deepest. 2 and 3-ft. hydrant are for southern and western states. Pip size: 3/4" NPT. Simmons brand.

### GPM OF WATER @ SYSTEM PSI

| 10 PSI | 20 PSI | 30 PSI | 40 PSI | 50 PSI |
|---|---|---|---|---|
| 12 GPM | 20 GPM | 27 GPM | 32 GPM | 34 GPM |

## STANDARD SHALLOW WELL JET PUMPS

- **1/3, 1/2 or 3/4 HP A.O. Smith pump motor**
- **Square D pressure switch**

**"True" shallow well pumps** for single pipe (to the well) service; incorporate a built-in ejector in the nose of the pump body so there is **no separate ejector to purchase.** Fiberglass reinforced thermoplastic body provides excellent corrosion and abrasion resistance. Housings are lightweight and exceptionally strong. Pump body copper heat sink provides maximum cooling of mechanical shaft seal—important in high pressure-low flow applications. Impeller, diffuser, jet nozzle and venturi are noncorrosive. UL Listed (E85176).

**A.O. Smith motor has stainless steel shaft,** ball/ball bearing design with rear access motor controls protected by rain-proof cover. 1/3 HP is 115/230V, 60 Hz split phase design; 1/2 and 3/4 HP models are dual voltage 115/230, 60 Hz capacitor-start design and is factory connected for 230V. Instructions on motor label show how to switch two wires for voltage change to 115V.

**All motors have NEMA 48 frame,** common square flange face (Y) mounting with rear compartment that opens for easy servicing of motor components without motor removal or disassembly. Pressure switch is adjustable for cut-in pressure; factory set for 30-50 PSI. Pumps have 3/4" discharge and 1¼" suction. Maximum operating temperature: 125°F continuous duty. Maximum pressure: 75 PSI. Not recommended for pressure boosting applications. Overall dimensions: 8¾H x 9½W x 19¾"L.

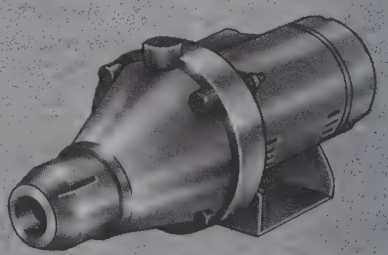
**Shallow well installations**—only use when vertical distance pump to water level is less than 25 feet—units will not operate at greater than 25 feet. Install as a single (suction) pipe system with piping in a drilled well or driven well point of at least 1¼" size. Check valve not included. See page 3256

| HP | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1/3 | 3P683 | $277.20 | **$185.00** | 23.0 |
| 1/2 | 3P684 | 292.29 | **195.75** | 25.0 |
| 3/4 | 2P899 | 333.15 | **222.50** | 30.0 |

TEEL®

UL® E85176

CSA® 47013



| Stock No. | HP | PSI | Gallons per Minute at Depth to Water 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-off |
|---|---|---|---|---|---|---|---|---|
| 3P683 | 1/3 | 20 | 8.4 | 8.4 | 7.0 | 5.8 | 4.7 | 60 PSI |
| | | 30 | 8.2 | 8.2 | 7.0 | 5.8 | 4.7 | |
| | | 40 | 7.0 | 6.7 | 6.0 | 5.1 | 4.3 | |
| | | 50 | 3.7 | 3.3 | 3.0 | 2.6 | 1.9 | |
| 3P684 | 1/2 | 20 | 10.3 | 9.3 | 7.9 | 6.5 | 4.8 | 60 |
| | | 30 | 9.3 | 8.8 | 7.8 | 6.4 | 4.8 | |
| | | 40 | 7.3 | 7.3 | 7.2 | 6.3 | 4.7 | |
| | | 50 | 4.0 | 4.0 | 3.9 | 3.8 | 3.8 | |
| 2P899 | 3/4 | 20 | 14.7 | 12.6 | 9.8 | 8.5 | 6.0 | 61 |
| | | 30 | 13.3 | 11.9 | 9.7 | 8.5 | 6.0 | |
| | | 40 | 10.5 | 10.4 | 8.9 | 8.3 | 6.0 | |
| | | 50 | 5.3 | 5.3 | 5.2 | 4.2 | 3.0 | |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# SHALLOW WELL JET PUMPS

## STAINLESS STEEL SHALLOW WELL JET PUMPS

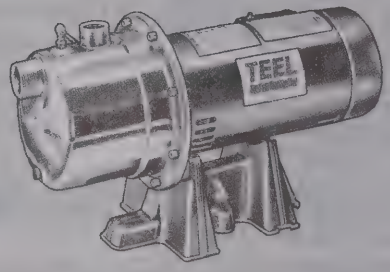
- 3/4 or 1 HP A.O. Smith motor
- Rugged stainless steel, corrosion-resistant construction
- Built-in shallow well jet
- Stainless steel motor shaft, heavy-duty ball bearings, and dust-proof cover to protect all electrical components
- UL Listed, CSA Approved

For use in shallow well applications where vertical distance from pump to water is less than 25 ft. 1¼" suction pipe, 1" discharge pipe. 3/4 and 1 HP motors are 115/230V, 60 Hz capacitor start motor, factory wired for 230V. Square D adjustable pressure switches factory set for 30-50 PSI cut-in, cut-out operation. UL listed (E61535) and CSA Approved (LR47013). Dimensions: 11W x 21L x 12"H.

| Stock No. | HP | PSI | Gallons per Minute at Depth to Water 5 Ft. | 10 Ft. | 15 Ft. | 20Ft. | 25 Ft. | Shut Off (PSI) |
|---|---|---|---|---|---|---|---|---|
| RJ36 | 3/4 | 20 | 18.8 | 16.7 | 14.3 | 11.8 | 8.7 | 52 |
| | | 30 | 15.5 | 13.9 | 12.4 | 10.9 | 8.6 | |
| | | 40 | 9.0 | 7.6 | 6.6 | 5.4 | 4.3 | |
| | | 50 | 3.2 | 2.7 | 1.8 | 0.8 | 0.2 | |
| RJ38 | 1 | 20 | 18.9 | 16.8 | 14.6 | 12.0 | 9.1 | 68 |
| | | 30 | 18.6 | 16.5 | 14.4 | 12.0 | 9.1 | |
| | | 40 | 18.2 | 16.2 | 14.2 | 11.8 | 9.0 | |
| | | 50 | 13.6 | 12.0 | 10.3 | 9.1 | 7.1 | |

| HP | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 3/4 | 4RJ36 | $630.37 | $420.25 | 36.0 |
| 1 | 4RJ38 | 696.37 | 464.25 | 39.0 |

TEEL® New UL E61535 CSA LR47013




No. 4RJ36

## HEAVY-DUTY SHALLOW WELL JET PUMPS

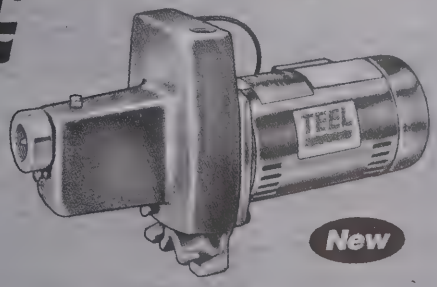
Cast iron jet pumps for shallow well water system service. Large water housing makes initial priming simple by easily dispelling air from suction pipe. Offers quiet operation. Pump units provide continuous duty operation design. Features noncorrosive impeller and diffuser, pump drain plug for freeze avoidance, air volume control port, pressure gauge port. Adjustable pressure switch set for 30-50 PSI cut-in, cut-out operation. Maximum pressure: 80 PSI. Not recommended for pressure boosting applications. UL Listed (E85176).

A.O. Smith motor has stainless steel shaft, ball/ball bearing design with rear access motor controls protected by rain-proof cover. 1/3 HP is 115/230V, 60 Hz split phase design; 1/2 through 1½ HP are dual voltage 115/230V, 60 Hz, factory connected for 230V. All motors have NEMA 48 frame, common square flange face (Y) mounting, with rear easy-opening compartment for servicing of motor components without motor removal or disassembly.

Maximum operating temperature: 140°F continuous duty. Overall dimensions: 13¼H x 9½W x 24½"L.

Shallow well installation only. For use when vertical distance to water is less than 25 feet and installed as a single pipe system to water source. Check valve included.

TEEL® UL E85176 CSA 47013 New




| Stock No. | HP | PSI | Gallons per Minute at Depth to Water 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-off |
|---|---|---|---|---|---|---|---|---|
| 4RJ51 | 1/3 | 20 | 8.0 | 7.3 | 6.3 | 5.1 | 3.9 | 69 PSI |
| | | 30 | 8.0 | 7.3 | 6.3 | 5.1 | 3.9 | |
| | | 40 | 7.3 | 6.6 | 5.8 | 4.8 | 3.9 | |
| | | 50 | 3.8 | 3.2 | 2.5 | 2.1 | 1.7 | |
| 4RJ53 | 1/2 | 20 | 9.4 | 8.3 | 7.4 | 6.0 | 4.6 | 69 |
| | | 30 | 9.4 | 8.3 | 7.4 | 6.0 | 4.6 | |
| | | 40 | 8.5 | 7.8 | 6.8 | 5.6 | 4.6 | |
| | | 50 | 4.4 | 3.8 | 3.0 | 2.5 | 1.9 | |
| 4RJ54 | 3/4 | 20 | 15.3 | 13.5 | 12.0 | 9.5 | 7.4 | 70 |
| | | 30 | 15.3 | 13.5 | 12.0 | 9.5 | 7.4 | |
| | | 40 | 14.4 | 12.8 | 11.8 | 9.4 | 7.3 | |
| | | 50 | 9.0 | 8.3 | 7.0 | 6.1 | 5.5 | |
| 2P897 | 1 | 20 | 21.5 | 19.3 | 16.8 | 13.3 | 9.5 | 70 |
| | | 30 | 21.5 | 19.3 | 16.8 | 13.3 | 9.5 | |
| | | 40 | 21.5 | 18.8 | 16.7 | 13.2 | 9.3 | |
| | | 50 | 15.0 | 12.8 | 10.8 | 8.2 | 3.3 | |
| 2P898 | 1½ | 20 | 29.8 | 25.7 | 22.1 | 17.8 | 13.0 | 70 |
| | | 30 | 29.8 | 25.7 | 22.1 | 17.8 | 13.0 | |
| | | 40 | 29.7 | 25.4 | 21.6 | 17.7 | 13.0 | |
| | | 50 | 24.2 | 20.3 | 17.2 | 12.6 | 4.7 | |

- 1/3 to 1½ HP, NEMA 48, A.O. Smith pump motor
- Large cast-iron housing for easy priming
- Include built-in ejector for shallow well operation. Nos. 2P897 and 2P898 include bolt-on ejector
- Noryl impellers
- Square D pressure switch

| HP | Motor Type | Volts | Suction (In.) | Discharge (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/3 | Split phase | 115/230 | 1¼ | 1 | New 4RJ51 | $308.25 | $205.50 | 41.0 |
| 1/2 | Cap. start | 115/230 | 1¼ | 1 | New 4RJ53 | 313.87 | 209.25 | 41.0 |
| 3/4 | Cap. start | 115/230 | 1¼ | 1 | New 4RJ54 | 401.25 | 267.50 | 44.0 |
| 1 | Cap. start | 115/230 | 1¼ | 1 | 2P897 | 491.30 | 328.25 | 63.0 |
| 1¼ | Cap. start | 115/230 | 1¼ | 1 | 2P898 | 546.66 | 365.25 | 71.0 |

# HEAVY-DUTY CONVERTIBLE JET PUMPS AND WELL EJECTORS

**Heavy-duty cast-iron jet pumps** are designed for either shallow well or deep well water system service, depending on separate ejector selection. Pump units provide continuous duty operation with noncorrosive impeller and diffuser along with pump drain plug for freeze avoidance. UL Listed (E85176).

**Motor has stainless steel shaft,** ball/ball bearing design with rear access motor controls protected by rainproof cover. 1/3 HP is 115/230V, 60 Hz split phase design; 1/2 to 1½ HP are dual voltage 115/230V, 60 Hz capacitor start design and are factory connected for 230V. All motors have NEMA 48 frame, common square flange face (Y) mounting, with rear compartment that opens for easy servicing of motor components without motor removal, disassembly.

**Units have 1" discharge.** 1" pressure pipe connection and 1¼" suction pipe connection. Appropriate ejector package must be used to obtain proper performance and long motor life. Maximum operating temperature 140°F continuous duty. Overall dimensions: 12H x 9¼W x 14½"L.

**Shallow well installation.** Use bolt-on ejector when vertical distance to water is less than 25 ft. and install as a single pipe system to water source. Water well installation requires the well point or drilled well suction pipe be 1¼" for best performance.

**Deep well installation.** For well water depths of 20 to 110 ft. Use double pipe ejector package for wells having 4" or larger diameter with 1" pressure and 1¼" suction pipes. Use single pipe (packer) ejector with wells of 2" diameter having double to single pipe adapter at top of well.

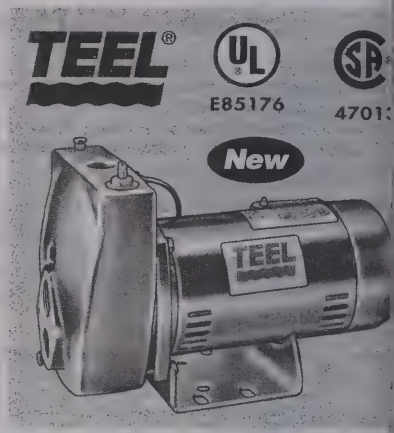
| HP | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1/3 | *New* 4RJ47 | $307.12 | **$204.75** | 37.0 |
| 1/2 | *New* 4RJ48 | 318.37 | **212.25** | 36.0 |
| 3/4 | *New* 4RJ50 | 400.12 | **266.75** | 40.0 |
| 1 | 4P035 | 478.60 | **320.00** | 70.0 |
| 1½ | 4P036 | 506.46 | **338.00** | 75.0 |

**Large cast iron housings easily dispel air for quick initial prime and quiet operation.**

**For shallow or deep well service to 110 ft. Requires separate ejector.**

**Includes:**

- **1/3 to 1½ HP, NEMA 48, A.O. Smith motor. Square flange face with rear service access**
- **Drain plug**
- **Air volume control port**
- **Built-in pressure regulator**
- **Pressure gauge**
- **Square D adjustable pressure switch set for 30-50 PSI cut-in, cut-out operation**

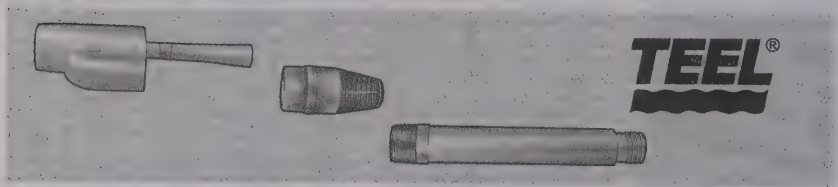



## HEAVY-DUTY CAST-IRON CONVERTIBLE PUMP PERFORMANCE

| Stock No. | HP | PSI | Gallons per Minute at Depth to Water: Shallow Well Performance (Ft.) 5 | 10 | 15 | 20 | 25 | Deep Well Performance (Ft.) 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | Shut PSI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4RJ47 | 1/3 | 20 | 9.0 | 9.0 | 7.2 | 6.1 | 5.4 | 8.8 | 7.5 | 6.5 | 5.0 | — | — | — | — | — | 69 |
| | | 30 | 9.0 | 9.0 | 7.2 | 6.1 | 5.4 | 6.5 | 5.3 | 4.1 | 2.9 | — | — | — | — | — | |
| | | 40 | 7.8 | 7.2 | 6.3 | 5.3 | 4.7 | 4.1 | 3.2 | 2.0 | 1.2 | — | — | — | — | — | |
| | | 50 | 4.2 | 3.8 | 3.3 | 2.8 | 2.5 | 2.0 | 1.3 | — | — | — | — | — | — | — | |
| 4RJ48 | 1/2 | 20 | 14.3 | 13.1 | 11.4 | 9.7 | 8.6 | 15.0 | 11.7 | 8.3 | 6.8 | 5.6 | 4.0 | — | — | — | 69 |
| | | 30 | 14.3 | 13.1 | 11.4 | 9.7 | 8.6 | 11.5 | 9.0 | 6.4 | 5.0 | 4.0 | 2.5 | — | — | — | |
| | | 40 | 13.9 | 12.8 | 11.1 | 9.4 | 8.3 | 7.0 | 4.5 | 4.0 | 3.0 | 1.8 | 0.8 | — | — | — | |
| | | 50 | 7.5 | 6.9 | 6.0 | 5.1 | 4.5 | 2.5 | 2.2 | 2.0 | 1.0 | — | — | — | — | — | |
| 4RJ50 | 3/4 | 20 | 15.0 | 13.8 | 12.0 | 10.2 | 9.0 | 20.0 | 16.0 | 11.9 | 8.4 | 7.2 | 5.4 | 4.2 | — | — | 70 |
| | | 30 | 15.0 | 13.8 | 12.0 | 10.2 | 9.0 | 15.3 | 11.5 | 8.6 | 5.8 | 5.7 | 4.3 | 3.3 | — | — | |
| | | 40 | 14.3 | 13.1 | 11.4 | 9.7 | 8.6 | 9.8 | 6.0 | 5.2 | 5.0 | 4.1 | 2.9 | 2.0 | — | — | |
| | | 50 | 13.1 | 12.1 | 10.5 | 8.9 | 7.9 | 3.0 | 2.6 | 2.5 | 2.5 | 2.5 | 1.5 | 0.8 | — | — | |
| 4P035 | 1 | 20 | 17.0 | 15.2 | 13.0 | 10.8 | 7.8 | 22.0 | 19.3 | 17.2 | 10.0 | 8.8 | 7.8 | 5.3 | 4.7 | 4.2 | 70 |
| | | 30 | 16.8 | 14.8 | 12.7 | 10.4 | 7.6 | 17.7 | 15.2 | 13.3 | 8.0 | 7.0 | 6.2 | 4.2 | 3.8 | 3.3 | |
| | | 40 | 16.3 | 14.5 | 12.4 | 10.1 | 7.4 | 13.6 | 11.2 | 9.8 | 6.2 | 5.3 | 4.8 | 3.2 | 2.8 | 2.6 | |
| | | 50 | 15.2 | 13.8 | 12.0 | 9.6 | 7.1 | 9.7 | 7.3 | 6.4 | 4.3 | 3.8 | 3.3 | 2.3 | 2.0 | 1.8 | |
| 4P036 | 1½ | 20 | 22.3 | 20.0 | 17.1 | 14.3 | 10.3 | 24.8 | 21.8 | 19.3 | 11.8 | 10.7 | 9.2 | 6.7 | 5.8 | 5.2 | 70 |
| | | 30 | 22.0 | 19.8 | 16.9 | 14.1 | 10.0 | 20.0 | 17.2 | 15.0 | 10.3 | 9.4 | 7.8 | 5.8 | 5.0 | 4.4 | |
| | | 40 | 21.6 | 19.7 | 16.6 | 13.9 | 9.8 | 15.4 | 12.7 | 10.7 | 8.5 | 7.5 | 5.9 | 4.8 | 4.2 | 3.6 | |
| | | 50 | 18.8 | 18.8 | 16.2 | 13.7 | 9.6 | 11.0 | 8.3 | 6.7 | 6.0 | 5.2 | 3.6 | 3.8 | 3.2 | 2.7 | |

## DEEP WELL DOUBLE PIPE EJECTOR

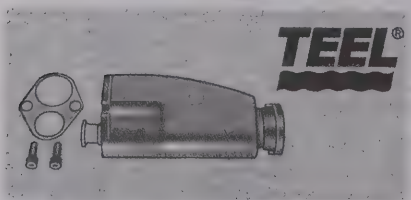
**In-the-well ejector requiring 4" or larger well diameter. For suction and drive pressure pipes.**




- **For cast-iron heavy-duty and corrosion resistant premium jet pumps Nos. 3P685 thru 3P687, 3P716, 3P740, 4P035 thru 4P039, 4RJ47 thru 4RJ50 and 4RJ96**
- **Plastic suction pipe adapter**
- **Foot valve**
- **2½" Foot valve pipe nipple**
- **Extra nozzles and venturies for various horsepowers and depths**

**No. 2P430.** Shpg. wt. 5.0 lbs. List.....$72.3
Each.....$48.0

## CAST-IRON BOLT-ON SHALLOW WELL EJECTORS




Ejector package required when installing pump in new installations or motor overloading will occur. Performance dependent upon both ejector and pump. Replacing one and not the other could result in performance deliveries other than those listed. New ejector must be installed in all shallow well convertible pump applications where pump model or brand is different from pump stock numbers.

- **For cast-iron, heavy-duty jet pumps Nos. 4PO35, 4P036, 4RJ47, 4RJ48, 4RJ49, 4RJ50**
- **Check valve and venturi adapter**
- **Extra nozzles and venturies for various horsepowers and depths**
- **Gasket/bolts included**

**No. 2P429.** Shpg. wt. 7.5 lbs. List.....$39.40
Each.....$23.9



*If we don't have a pump for it, chances are it can't be pumped.*

# PREMIUM CONVERTIBLE CORROSION-RESISTANT JET PUMPS

- **High performance**
- **Fast prime**
- **Advanced design, materials, and construction for maximum pump life and serviceability**
- **For shallow or deep wells to 110 feet requires separate ejectors, sold below**

**rge pump housing** holds more water, creasing air removal capability and eeding up initial priming.

**mp body** is fiberglass thermoplastic; peller, nozzles and venturies are Noryl® astic, and impeller diffuser is reinforced lypropylene. All parts that contact water e resistant to corrosives and abrasives und in most wells.

**ilt-in regulator** sets drive pressure in deep ell installation; pressure gauge included. ain plug allows draining in freezing environments.

**otor has stainless steel shaft,** ball/ball bearg design with rear access motor controls otected by stamped steel rainproof ver.

**l motors are 115/230V, 60 Hz capacitorrt.** Factory wired for 230V, factory set r 30-50 PSI. All units have 1" discharge. ector piping sizes of 1" drive pressure id 1¼" suction. Maximum operating temrature 125°F continuous duty. Not recmmended for pressure-boosting applicaons. 10¾W x 18¾L x 11"H.

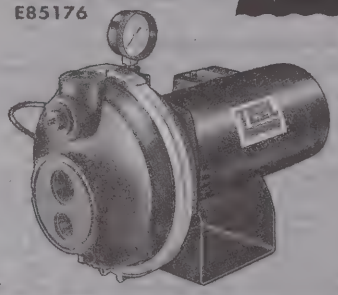
**Includes:**

- 3/4 to 1½ HP, NEMA 48, A.O. Smith pump motor. Square flange face with rear service access
- Rustproof construction
- Drain plug
- Air volume control port
- Built-in pressure regulator
- Pressure gauge
- Square D pressure switch
- UL Listed (E85176)

E85176

47013

TEEL®



**DAYTON 3-YEAR LIMITED WARRANTY**

Dayton Electric Mfg. Co. warrants Teel premium jet water well pumps for 3-years. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Replacement Parts Available 1-800-323-0620

## PUMP ORDERING DATA

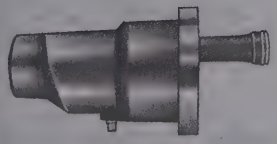
| P | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 4 | 3P685 | $442.91 | **$294.75** | 28.0 |
| | 3P686 | 512.26 | **341.50** | 30.0 |
| /2 | 3P687 | 605.36 | **403.75** | 36.0 |

## PREMIUM CORROSION-RESISTANT PUMP PERFORMANCE

| Stock No. | HP | PSI | GALLONS PER MINUTE @ DEPTH TO WATER — Shallow Well Performance 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Deep Well Performance 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | 80 Ft. | 90 Ft. | 100 Ft. | 110 Ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 20 | 16.2 | 14.2 | 12.2 | 9.7 | 7.2 | 10.0 | 9.5 | 8.3 | 6.8 | 5.6 | 4.0 | — | — | — |
| | | 30 | 15.8 | 14.0 | 12.0 | 9.7 | 6.8 | 8.8 | 7.5 | 6.4 | 5.0 | 4.0 | 2.5 | — | — | — |
| 3P685 | 3/4 | 40 | 15.3 | 13.8 | 11.8 | 9.2 | 6.8 | 6.5 | 5.1 | 4.0 | 3.0 | 1.8 | 0.8 | — | — | — |
| | | 50 | 8.7 | 7.2 | 5.3 | 3.7 | — | 4.1 | 3.0 | 2.0 | 1.0 | — | — | — | — | — |
| | | 60 | 1.3 | — | — | — | — | 2.1 | 1.0 | — | — | — | — | — | — | — |
| | | 20 | 21.3 | 18.8 | 16.0 | 12.8 | 8.5 | 11.0 | 9.6 | 9.5 | 8.3 | 7.2 | 5.4 | 4.2 | 2.9 | — |
| | | 30 | 21.0 | 18.7 | 15.8 | 12.7 | 8.5 | 10.0 | 9.2 | 8.1 | 6.6 | 5.7 | 3.9 | 3.3 | 2.0 | — |
| 3P686 | 1 | 40 | 20.7 | 18.3 | 15.7 | 12.3 | 8.5 | 8.4 | 7.3 | 6.2 | 5.0 | 4.1 | 2.9 | 2.0 | 1.1 | — |
| | | 50 | 13.2 | 11.0 | 8.9 | 5.7 | 5.7 | 6.6 | 4.5 | 4.5 | 3.3 | 2.5 | 1.5 | 0.8 | — | — |
| | | 60 | 4.2 | 1.7 | — | — | — | 4.8 | 3.6 | 2.8 | 1.9 | 1.0 | — | — | — | — |
| | | 20 | 26.3 | 23.7 | 20.3 | 16.2 | 11.5 | 23.5 | 19.0 | 13.0 | 10.0 | 8.4 | 6.2 | 5.0 | 3.5 | 2.5 |
| | | 30 | 26.2 | 23.3 | 20.2 | 16.0 | 11.3 | 19.0 | 14.5 | 9.8 | 8.2 | 7.0 | 5.5 | 4.4 | 3.2 | 2.3 |
| 3P687 | 1½ | 40 | 26.2 | 23.2 | 20.0 | 15.8 | 11.3 | 13.3 | 9.5 | 8.0 | 6.5 | 5.3 | 4.4 | 3.2 | 2.2 | 1.5 |
| | | 50 | 21.3 | 19.2 | 16.3 | 11.2 | — | 9.4 | 7.5 | 6.2 | 4.8 | 3.6 | 2.9 | 1.9 | 1.1 | — |
| | | 60 | 7.7 | 3.5 | — | — | — | 7.3 | 5.6 | 4.3 | 3.0 | 2.0 | 1.4 | — | — | — |

## CORROSION-RESISTANT CLAMP-ON SHALLOW WELL EJECTOR

TEEL®



No. 2P431

- **For corrosion-resistant premium jet pumps Nos. 3P685, 3P686, 3P687, and 3P716 only**
- **Built-in check valve**
- **Extra nozzles for various horsepowers and depths**
- **Stainless steel clamp**
- **An ejector package is required when installing pump in new installations or motor overloading will occur**
- **Performance is dependent upon both the ejector and the pump**
- **A new ejector must be installed in all shallow well convertible pump applications where the pump model or brand is different from pump Stock Nos.**
- **1¼" Suction**
- **Teel brand.**

**No. 2P431.** Shpg. wt. 5.0 lbs. List .....$69.35.
Each .....$46.30

## SINGLE PIPE 2" DEEP WELL PACKER




**Single pipe "in the well ejector"** for pumps Nos. 3P685 thru 3P687, 4RJ47 thru 4RJ50, 3P716, 4P035, and 4P036. Requires 2" cased well in good condition for sealing drive and suction water. Includes: cast iron body with packer cup type seals and check valve, nozzles and venturies for all pump horsepowers and depths, pump side tappings—1" drive and 1¼" suction, well seal for 2" O.D. casing, tapped for 1¼" galvanized suction pipe (do not use plastic pipe), 10 turned suction pipe couplings. Estimate 10% performance loss from pump performance charts with use of packer.

**No. 2P484.** Shpg. wt. 12.0 lbs. List ..... $176.86.
Each .....$118.00

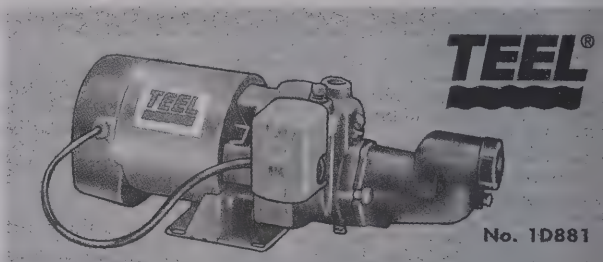
# HIGH-EFFICIENCY CAST-IRON SHALLOW WELL JET PUMPS

## HIGH-EFFICIENCY CAST-IRON SHALLOW WELL JET PUMPS

- **Unique patented motor mounting ring allows replacement with any standard NEMA 56J motor**
- **1/2 and 3/4 HP Dayton pump motor with rear access service**
- **Large cast-iron pump housing**
- **Includes removable, bolt-on shallow well ejector**
- **Precision modeled thermoplastic impellers and diffusers**
- **Square D pressure switch**
- **CSA Certified**

**Applications:** Shallow well jet pumps are designed for installations with driven well points, dug wells, drilled wells or cisterns where higher operating efficiencies are desired. For use when vertical distance to water is less than 25 feet and installed as a single pipe system to the water source. Pumps feature large cast iron housing with open case design and top located priming ports for easy priming. Removable bolt-on, cast-iron ejector with nozzle cleanout port and air volume control tapping. Features non-corrosive impeller and diffuser, 1/4" NPT drain plug and reusable Buna N internal sealing rings. Adjustable Square D pressure switch for 30-50 PSI cut-in, cut-out pressure.

**Motor:** High efficiency Dayton single phase, 60 Hz, 3450 RPM, capacitor start motor. Copper start and run windings, permanently lubricated and shielded ball/ball bearings, thermal overload protection with automatic restart. Rear motor cover provides quick access to all electrical components. Fully enclosed motor switch protects contact points from dirt, dust and insects. Capacitor start motor is factory connected for 115V. Spade connectors enable quick voltage change. Maximum operating temperature: 140°F continuous-duty. Teel brand.




Repair Service Available
Contact Your Local Branch

LR90197

Replacement Parts Available
1-800-323-0620

### PUMP PERFORMANCE

| Stock No. | HP | PSI | Gallons per Minute at Depth to Water 5' | 10' | 15' | 20' | 25' | Shut Off* |
|---|---|---|---|---|---|---|---|---|
| 1D881 | 1/2 | 20 | 11.3 | 10.0 | 8.5 | 7.2 | 5.3 | 72 PS |
| | | 30 | 10.7 | 9.3 | 8.2 | 7.0 | 5.3 | 72 |
| | | 40 | 8.3 | 7.8 | 6.8 | 6.3 | 5.3 | 72 |
| | | 50 | 6.0 | 5.0 | 4.3 | 4.0 | 3.3 | 72 |
| 1D880 | 3/4 | 20 | 16.0 | 14.5 | 12.5 | 10.2 | 7.5 | 74 |
| | | 30 | 15.7 | 14.3 | 12.3 | 10.0 | 7.5 | 74 |
| | | 40 | 13.0 | 12.0 | 11.7 | 9.7 | 7.5 | 74 |
| | | 50 | 9.0 | 8.3 | 7.0 | 6.2 | 5.5 | 74 |

(*) At 5 feet suction lift

### ORDERING INFORMATION

| HP | Motor Type | Volts | Amps | Suction (In.) | Discharge (In.) | Dimensions (In.) L | W | H | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | Cap. Start | 115/230 | 6.0/3.0 | 1¼ | 3/4 | 19⅜ | 9⅞ | 6¾ | **1D881** | $301.08 | **$199.25** | 40. |
| **3/4** | Cap. Start | 115/230 | 10.4/5.2 | 1¼ | 3/4 | 20 | 9⅞ | 6¾ | **1D880** | 326.95 | **216.75** | 42. |

## EJECTORS FOR PREMIUM CAST-IRON OR STAINLESS STEEL CONVERTIBLE JET PUMPS

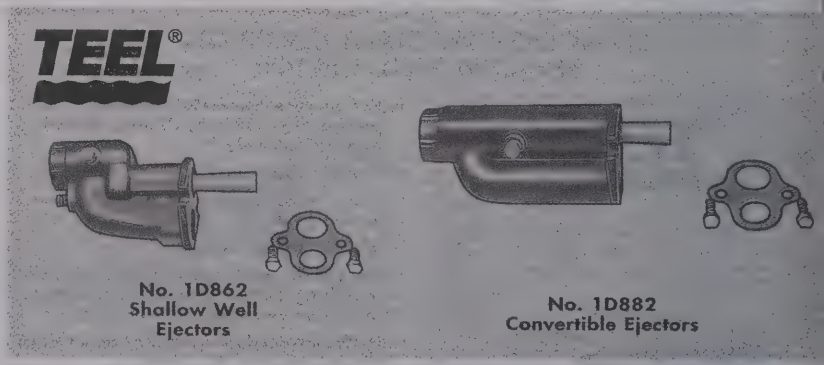
Ejector package is required when installing pump in new installations, to optimize operating efficiencies and prevent motor overloading. Performance is dependent upon both ejector and pump. Replacing one and not the other could result in performance deliveries other than those listed. A new ejector must be installed in all shallow and deep well applications when a new pump is installed. Teel brand.

### SHALLOW WELL EJECTORS

- **Extra nozzle and venturies for optimizing efficiencies of various horsepower pumps (1/2-1 HP)**
- **Gaskets and bolts included**

### DEEP WELL EJECTORS

- **For 4" minimum diameter deep well installations**
- **Extra nozzles and venturies for optimizing efficiencies of various horsepower pumps and depths**
- **Gasket and bolts included**




| Material* | For Use with Pump Nos. | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|
| | **SHALLOW WELL EJECTORS** | | | | |
| **CI** | 1D873, 1D875, 1D877, 1D879 | **1D863** | $39.94 | **$27.45** | 4.8 |
| **SS** | 1D865, 1D867, 1D869, 1D871 | **1D862** | 126.00 | **91.35** | 5.2 |
| | **DEEP WELL EJECTORS** | | | | |
| **CI** | 1D873, 1D875, 1D877, 1D879 | **1D883** | 56.18 | **47.15** | 5.6 |
| **SS** | 1D865, 1D867, 1D869, 1D871 | **1D882** | 172.00 | **119.75** | 6.0 |

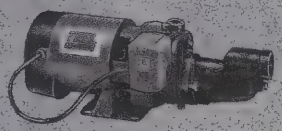
(*) CI = Cast iron. SS = Stainless steel.



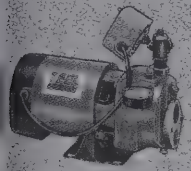
*If we don't have a pump for it, chances are it can't be pumped.*

# HIGH EFFICIENCY CAST IRON OR STAINLESS STEEL SHALLOW WELL & CONVERTIBLE JET PUMPS

TEEL®



Shallow Well



LR90197

Convertible

Replacement Parts Available
1-800-323-0620

Repair Service Available
Contact Your Local Branch

**3-YEAR TEEL LIMITED WARRANTY**
**on stainless steel models; 1-year on cast iron.**

- **Unique patented motor mounting ring allows replacement with any standard NEMA 56J motor**
- **High operating efficiencies**
- **Cast iron or Type 303 stainless steel pump housings**
- **For shallow well (0-25 ft.) or deep well service to 110 ft.**
- **Shallow well pumps include bolt-on shallow well ejector**
- **Convertible pumps require separate ejector (see page 3242)**
- **Non-corrosive, precision molded impellers and diffusers**
- **Adjustable Square D pressure switch**

**hallow well pumps:** For applications where ne vertical distance to water is less than 5 feet and installed as a single (suction) ipe system to the water source. May also e used as a booster pump to augment low ity water pressure. Includes motor, quare D pressure switch and removable hallow well ejector.

**onvertible jet pumps:** Adaptable to either ingle pipe (suction) shallow well or dou- le pipe (suction and pressure) deep well stallations. Includes motor, pressure reg- lator, Square D pressure switch and pres- ure gauge. For max. capacities on shallow ell applications, a shallow well ejector ould be used. A deep well ejector can be sed for wells where the pumping water vel is from 30 feet to 110 feet.

**onstruction:** Cast-iron or Type 303 stain- ss steel pump housing and motor mount- g bracket. Top located priming port and rge water cavities enable quick water fill and fast evacuation of air for easy priming. Separate 1/4" tappings are provided for the convenient mounting of the pressure gauge, the pressure switch and for pump draining. 1/4" NPT air volume control tapping also provided. All pumps feature reusable, internal Buna N sealing rings and shaft seal with carbon/ceramic parts. Impellers and diffusers on 1/2 thru 1 HP are non-corrosive and non-fusing thermoplastic. Impeller is lead-free brass on 1½ HP models. Adjustable Square D pressure switch for 30-50 PSI cut-in, cut-out pressure, 1¼" suction, 3/4" discharge, and 1" pressure ports.

**Motor:** High efficiency uni-frame Dayton 115/230V, NEMA J electric motor with copper start and run windings, permanently lubricated and shielded ball/ball bearings, and thermal overload protection with automatic reset. Rear motor cover provides quick access to all electrical components without motor disassembly or removal. Motor switch is fully enclosed protecting contact points from dust, dirt and insects. Capacitor start motor is factory connected for 115V on 1/2 HP motors and 230V on 3/4-1½ HP motors. Spade connectors enable quick voltage change. Maximum operating temperature: 140°F continuous-duty. Teel brand.

## SHALLOW WELL PUMP PERFORMANCE#

| Stock No. | HP | Tank PSI | Gallons per Minute at Depth to Water 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut Off* Pressure |
|---|---|---|---|---|---|---|---|---|
| 1D868, 1D876, 1D869, 1D877 | 1/2 | 20 | 15.7 | 14.0 | 12.2 | 9.8 | 6.8 | 69 PSI |
| | | 30 | 15.3 | 13.5 | 11.8 | 9.5 | 6.8 | 69 |
| | | 40 | 11.6 | 10.8 | 10.8 | 9.0 | 6.7 | 69 |
| | | 50 | 8.3 | 6.8 | 6.5 | 5.5 | 4.7 | 69 |
| 1D866, 1D874, 1D867, 1D875 | 3/4 | 20 | 20.2 | 18.2 | 15.7 | 13.2 | 10.3 | 65 |
| | | 30 | 20.0 | 17.8 | 15.7 | 12.8 | 10.2 | 65 |
| | | 40 | 19.8 | 17.7 | 15.0 | 12.7 | 10.0 | 65 |
| | | 50 | 19.3 | 17.2 | 14.7 | 12.3 | 9.7 | 65 |
| 1D864, 1D872, 1D865, 1D873 | 1 | 20 | 23.5 | 21.2 | 18.2 | 15.0 | 11.7 | 70 |
| | | 30 | 23.2 | 21.0 | 17.8 | 14.8 | 11.5 | 70 |
| | | 40 | 23.0 | 20.7 | 17.7 | 14.7 | 11.3 | 70 |
| | | 50 | 22.5 | 20.5 | 17.3 | 14.5 | 11.2 | 70 |
| 1D870, 1D878, 1D871, 1D879 | 1½ | 20 | 29.0 | 26.5 | 23.0 | 19.7 | 15.2 | 77 |
| | | 30 | 29.0 | 26.3 | 22.8 | 19.5 | 15.0 | 77 |
| | | 40 | 28.8 | 26.2 | 22.7 | 19.3 | 15.0 | 77 |
| | | 50 | 28.7 | 25.8 | 22.5 | 19.2 | 15.0 | 77 |
| | | 60 | 24.2 | 21.5 | 18.7 | 15.0 | 8.5 | 77 |

(*) Shut off at 5 feet suction lift. (#) For convertible pumps only, order shallow well ejector separately.

## CONVERTIBLE PUMP PERFORMANCE#

| Stock No. | HP | Tank PSI | Shallow Well Performance 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Deep Well Performance 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | 80 Ft. | 90 Ft. | 100 Ft. | 110 Ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1D869, 1D877 | 1/2 | 20 | 16.2 | 14.7 | 12.7 | 10.3 | 7.5 | 12.3 | 10.3 | 8.3 | 6.7 | 5.7 | 4.3 | 3.3 | — | — |
| | | 30 | 15.7 | 14.3 | 12.3 | 10.0 | 7.3 | 11.2 | 9.2 | 7.5 | 5.5 | 4.5 | 3.3 | 2.5 | — | — |
| | | 40 | 12.3 | 11.5 | 10.7 | 9.7 | 7.2 | 7.5 | 6.0 | 4.5 | 4.2 | 3.3 | 2.5 | 1.7 | — | — |
| | | 50 | 8.7 | 7.8 | 6.8 | 6.0 | 5.0 | 5.5 | 3.8 | 2.3 | 3.3 | 2.5 | 1.7 | 0.8 | — | — |
| 1D867, 1D875 | 3/4 | 20 | 20.3 | 18.2 | 15.8 | 13.3 | 10.3 | 15.0 | 13.3 | 11.0 | 9.5 | 8.2 | 6.5 | 5.2 | 4.5 | 3.8 |
| | | 30 | 20.2 | 17.8 | 15.3 | 12.8 | 10.2 | 14.5 | 12.5 | 10.7 | 9.2 | 7.8 | 6.2 | 4.8 | 4.3 | 3.7 |
| | | 40 | 19.8 | 17.7 | 15.2 | 12.7 | 10.0 | 12.2 | 9.7 | 9.2 | 8.0 | 6.7 | 5.3 | 4.0 | 3.7 | 3.5 |
| | | 50 | 19.3 | 17.2 | 14.8 | 12.3 | 9.8 | 8.5 | 5.2 | 7.2 | 5.7 | 4.3 | 3.2 | 3.3 | 3.0 | 2.7 |
| | | 60 | 11.2 | 11.2 | 2.0 | — | — | 4.7 | 2.0 | 3.3 | 2.8 | 2.2 | 1.0 | 2.7 | 2.3 | 1.8 |
| 1D865, 1D873 | 1 | 20 | 22.0 | 19.7 | 17.2 | 14.5 | 11.8 | 16.0 | 13.7 | 13.2 | 11.0 | 9.5 | 7.8 | 5.7 | 5.2 | 4.7 |
| | | 30 | 21.8 | 19.5 | 17.0 | 14.3 | 11.7 | 15.3 | 13.2 | 12.8 | 10.7 | 9.2 | 7.7 | 5.5 | 5.0 | 4.5 |
| | | 40 | 21.7 | 19.3 | 16.7 | 14.2 | 11.5 | 12.8 | 12.2 | 11.3 | 9.3 | 7.7 | 6.3 | 5.3 | 4.7 | 4.2 |
| | | 50 | 21.2 | 19.0 | 16.5 | 14.0 | 11.5 | 7.5 | 11.0 | 9.7 | 8.0 | 6.3 | 5.2 | 4.7 | 4.2 | 3.7 |
| | | 60 | 16.0 | 14.7 | 13.0 | 11.3 | 9.5 | 2.5 | 10.0 | 8.2 | 6.5 | 4.7 | 3.7 | 4.2 | 3.7 | 3.0 |
| 1D871, 1D879 | 1½ | 20 | 23.7 | 20.8 | 18.0 | 14.5 | 11.0 | 18.2 | 13.5 | 13.2 | 11.2 | 9.5 | 8.0 | 6.5 | 5.3 | 5.2 |
| | | 30 | 23.5 | 20.5 | 17.7 | 14.2 | 10.7 | 18.0 | 13.3 | 12.7 | 10.8 | 9.2 | 7.7 | 6.3 | 5.3 | 5.2 |
| | | 40 | 23.3 | 20.3 | 17.5 | 14.0 | 10.7 | 17.0 | 12.5 | 12.2 | 10.3 | 8.7 | 7.3 | 5.8 | 5.3 | 5.0 |
| | | 50 | 23.0 | 20.3 | 17.3 | 13.8 | 10.5 | 11.7 | 12.0 | 11.7 | 9.8 | 8.0 | 6.8 | 5.2 | 4.8 | 4.2 |
| | | 60 | 18.7 | 17.5 | 16.3 | 13.3 | 10.3 | 2.0 | 11.2 | 10.8 | 9.2 | 7.3 | 6.2 | 4.7 | 2.7 | — |

(#) Order ejector separately, see page 3242.

| HP | Dimensions (In.) L | W | H | Cast Iron Stock No. | List | Each | Shpg. Wt. | Stainless Steel Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHALLOW WELL JET PUMPS** | | | | | | | | | | | |
| 1/2 | 20 | 9⅞ | 6¾ | 1D876 | $337.29 | **$219.00** | 42.0 | 1D868 | $713.00 | **$496.75** | 45.0 |
| 3/4 | 20¼ | 10⅞ | 7¾ | 1D874 | 415.93 | **270.00** | 50.0 | 1D866 | 819.00 | **570.50** | 53.0 |
| 1 | 21 | 10⅞ | 7¾ | 1D872 | 492.53 | **319.50** | 55.0 | 1D864 | 869.00 | **606.00** | 58.0 |
| 1½ | 21¾ | 10⅞ | 7¾ | 1D878 | 578.44 | **375.25** | 59.0 | 1D870 | 980.00 | **683.50** | 61.0 |
| **CONVERTIBLE JET PUMPS** | | | | | | | | | | | |
| 1/2 | 13⅞ | 6½ | 12¼ | 1D877† | 320.77 | **212.25** | 37.0 | 1D869* | 617.00 | **429.75** | 39.0 |
| 3/4 | 14⅜ | 7½ | 13⅞ | 1D875† | 384.91 | **254.75** | 45.0 | 1D867* | 718.00 | **500.50** | 47.0 |
| 1 | 14⅞ | 7½ | 13⅞ | 1D873† | 450.12 | **298.25** | 50.0 | 1D865* | 768.00 | **535.00** | 52.0 |
| 1½ | 15½ | 7½ | 13⅞ | 1D879† | 491.50 | **331.75** | 54.0 | 1D871* | 852.00 | **594.00** | 56.0 |

(*) Order No. 1D862 shallow well ejector or No. 1D882 deep well ejector separately. See page 3242.
(†) Order No. 1D863 shallow well ejector or No. 1D883 deep well ejector separately. See page 3242.

# VERTICAL CONVERTIBLE JET PUMPS

- **1/2 to 1½ HP, NEMA 48 Frame, A.O. Smith motor, square flange face with rear service access**
- **Precision automatic pressure regulator**
- **Square D pressure switch set for 30-50 PSI cut-in, cut-out operation**
- **Pressure gauge**
- **Air volume control port**
- **Deep wells to 300 ft. require separate ejector, see page 3240 and 3244.**

Deep well installation. For well water depths of 30 to 300 ft. Use double pipe ejector package for wells having 4" or larger diameter. Use single pipe (packer) ejector with wells of 2" diameter having double to single pipe adapter at top of well. Performances shown below are double pipe; single pipe slightly less at greater depths.

**Applications:** Vertical design for limited space and over-the-well installations. For deep well service to 300 ft. Large cast-iron housings easily dispel air for quick initial prime and quiet operation. NOTE: Nos. 3P740 and 4RJ96 are 2- and 3-stage designs for higher operating pressures and deeper well applications.

**Construction:** Precision machined, close grained cast-iron pump body and base, Noryl impeller and diffuser, and carbon/ceramic Buna N shaft seal. Maximum operating temperature: 140°F.

**Motor:** Stainless steel shaft, ball/ball bearing design with rear access motor controls protected by dustproof canopy. Dual voltage 115/230V 60 Hz design comes connected for 230V. All motors have NEMA 48 frame with rear compartment that opens for easy servicing or motor components without motor removal or disassembly.

**Replacement Parts Available 1-800-323-0620**

TEEL®




## PUMP PERFORMANCE

| Stock No. | HP | Stages | Disch Press PSI | Deep Well Performance† Gallons per Minute at Depth to Water — In Feet 30 | 50 | 70 | 90 | 120 | 130 | 180 | 200 | 220 | 260 | 300 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4P037 | 1/2 | 1 | 20 | 15.0 | 10.0 | 5.6 | 2.9 | 1.2 | — | — | — | — | — | — |
| | | | 30 | 11.5 | 6.5 | 4.0 | 2.4 | 1.1 | — | — | — | — | — | — |
| | | | 40 | 7.0 | 4.0 | 2.4 | 1.5 | 0.3 | — | — | — | — | — | — |
| | | | 50 | 4.1 | 2.4 | 1.4 | 0.6 | — | — | — | — | — | — | — |
| 4P038 | 3/4 | 1 | 20 | 20.0 | 11.3 | 7.3 | 4.8 | 2.3 | — | — | — | — | — | — |
| | | | 30 | 15.3 | 8.5 | 5.9 | 3.9 | 1.3 | — | — | — | — | — | — |
| | | | 40 | 10.0 | 6.5 | 4.3 | 2.6 | — | — | — | — | — | — | — |
| | | | 50 | 6.6 | 4.7 | 2.6 | 1.1 | — | — | — | — | — | — | — |
| 4P039 | 1 | 1 | 20 | 23.3 | 13.0 | 9.3 | 6.3 | 3.3 | 2.5 | — | — | — | — | — |
| | | | 30 | 19.0 | 11.4 | 8.4 | 4.0 | 2.3 | 1.5 | — | — | — | — | — |
| | | | 40 | 13.2 | 9.6 | 7.0 | 3.3 | 1.1 | 0.6 | — | — | — | — | — |
| | | | 50 | 9.7 | 7.2 | 4.8 | 1.8 | — | — | — | — | — | — | — |
| 3P740 | 1 | 2 | 20 | 12.2 | 12.2 | 11.5 | 8.5 | 5.0 | 4.8 | 3.8 | 3.2 | 2.5 | 1.9 | 1.3 |
| | | | 30 | 12.2 | 11.7 | 10.6 | 7.9 | 5.0 | 4.8 | 3.6 | 2.9 | 2.3 | 1.7 | 1.2 |
| | | | 40 | 12.1 | 11.6 | 10.2 | 7.8 | 5.0 | 4.8 | 3.3 | 2.7 | 2.0 | 1.3 | 1.0 |
| | | | 50 | 12.0 | 11.0 | 9.6 | 7.4 | 4.9 | 4.7 | 2.9 | 2.3 | 1.7 | 1.2 | 0.8 |
| | | | 60 | 11.7 | 10.3 | 8.7 | 6.7 | 4.7 | 4.5 | 2.6 | 2.1 | 1.4 | 1.0 | 0.7 |
| 4RJ96 | 1½ | 3 | 20 | 12.2 | 12.2 | 11.7 | 11.0 | 8.5 | 7.0 | 4.9 | 4.7 | 4.0 | 3.2 | 2.0 |
| | | | 30 | 12.2 | 12.2 | 11.7 | 10.8 | 8.4 | 7.0 | 4.9 | 4.7 | 4.0 | 3.2 | 1.8 |
| | | | 40 | 12.2 | 12.2 | 11.7 | 10.7 | 8.3 | 7.0 | 4.9 | 4.7 | 4.0 | 3.0 | 1.7 |
| | | | 50 | 12.1 | 12.1 | 11.7 | 10.6 | 8.1 | 7.0 | 4.9 | 4.6 | 3.9 | 2.9 | 1.4 |
| | | | 60 | 12.0 | 12.0 | 11.6 | 10.5 | 7.8 | 6.8 | 4.8 | 4.5 | 3.8 | 2.8 | 1.3 |

(†) Requires deep well ejector, use Nos. 2P430 (double pipe) or 4P061 (2" single pipe).

## ORDERING INFORMATION

| HP | Stages | Suction Pipe (In.) | Pressure Pipe (In.) | Discharge Pipe (In.) | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 1 | 1¼ NPT | 1 NPT | 1 | 14 | 14 | 18 | **4P037** | $435.45 | **$291.50** | 53.0 |
| **3/4** | 1 | 1¼ NPT | 1 NPT | 1 | 14 | 14 | 18 | **4P038** | 494.57 | **324.75** | 53.0 |
| **1** | 1 | 1¼ NPT | 1 NPT | 1 | 14 | 14 | 18 | **4P039** | 537.86 | **359.25** | 65.0 |
| **1** | 2 | 1¼ NPT | 1¼ NPT | 1 | 15¼ | 11 | 18⅜ | **3P740** | 574.15 | **383.50** | 73.0 |
| **1½** | 3 | 1¼ NPT | 1¼ NPT | 1 | 15¼ | 11 | 20⅞ | ***New* 4RJ96** | 853.50 | **569.00** | 84.0 |

# SINGLE PIPE DEEP WELL PACKER FOR VERTICAL JET PUMPS

**Single pipe "in the well ejector"** requires 2" case well in good condition for sealing drive and suction water. Includes: cast iron body with packer cup type seals and check valve; nozzles and venturies for most pump horsepowers and depths; bolts and gaskets; well seal for 2" O.D. casing; tapped for 1¼" galvanized suction pipe (do not use plastic pipe); 11 turned suction pipe couplings. Estimate 10% performance loss from pump performance charts with use of packer. For pump Nos. 3P740, 4RJ96, and 4P037 through 4P039 only.

**No. 4P061.** Shpg. wt. 12.0 lbs. List.....$169.45. Each.....**$112.80**

TEEL®





*If we don't have a pump for it, chances are it can't be pumped.*

# SHALLOW AND DEEP WELL WATER SYSTEMS

## CONVERTIBLE JET SYSTEM

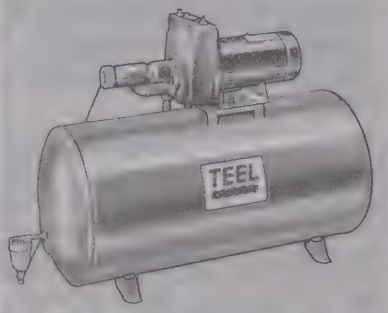
**Heavy-duty cast-iron jet pump with 1/2 HP A.O. Smith motor**
**30 Gallon standard tank with special epoxy powder protection**
**Delivers up to 14.3 GPM at 5 feet head**

onvertible jet system is assembled ready or hookup to a 25 ft.—pump to water—hallow well application. Remove bolt-on ector and install "in the well" for a dou-le pipe deep well application to 80 feet eep —pump to water—having well dia. of ' or larger. System includes: 1/2 HP Teel ump connected air volume control, quare D pressure switch, built-in deep ell ejector pressure regulator and gauge, ombination shallow well or deep well ejector with check valve. Pump is driven by A.O. Smith 1/2 HP capacitor-start, 115/230V, 60 Hz, square flange face motor, with easy rear service access. Motor is factory connected for 230V. Adjustable Square D pressure switch is factory set to turn pump on at 30—off at 50 psi. Shallow well capacities based on 1¼" suction pipe. Deep well capacities based on 1¼" suction and 1" ejector drive pressure piping. Pump unit has 1" discharge. Overall dimensions: 29½H x 16W x 40½"L.

***New* No. 4RJ49.** Shpg. wt. 115.0 lbs. List $717.37. Each.....**$478.25**

TEEL® New 47013

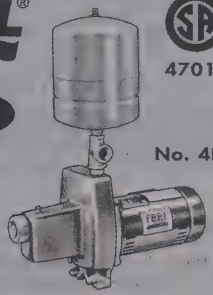
Replacement Parts Available 1-800-323-0620™




### GALLONS PER MINUTE AT DEPTH TO WATER

| HP | PSI | Shallow Well Installation 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Deep Well Installation 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | 80 Ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 20 | 14.3 | 13.1 | 11.4 | 9.7 | 8.6 | 15.0 | 11.7 | 8.3 | 6.8 | 5.6 | 4.0 |
| | 30 | 14.3 | 13.1 | 11.4 | 9.7 | 8.6 | 11.5 | 9.0 | 6.4 | 5.0 | 4.0 | 2.5 |
| | 40 | 13.9 | 12.8 | 11.1 | 9.4 | 8.3 | 7.0 | 4.5 | 4.0 | 3.0 | 1.8 | 0.8 |
| | 50 | 7.5 | 6.9 | 6.0 | 5.1 | 4.5 | 2.5 | 2.2 | 2.0 | 1.0 | — | — |

TEEL® New 47013



No. 4RJ52

Replacement Parts Available 1-800-323-0620™

## SHALLOW WELL SYSTEM

- **Heavy-duty jet pump with check valve**
- **1/3 HP A.O. Smith jet pump motor**
- **Precharged 2-gallon capacity tank**
- **Draw capacity to 1/2 gallon at 30-50 PSI**

Designed for installation with driven well points, dug wells, drilled wells, ponds, springs or cisterns to 25 feet deep. System comes partially assembled, easily installed in residences, vacation homes, mobile trailers, resort cabins, etc. May also be used as a booster system pump to supplement low city water pressure. 1¼" suction size, 1" discharge. Maximum suction lift: 25 feet. Pump is driven by a A.O. Smith 1/3 HP split phase, 115/230V, 60 Hz, square flange face motor, with easy rear service access. Motor is factory connected for 230V. Adjustable Square D pressure switch preset at factory to turn On at 30, Off at 50 psi. Overall dimensions 21½H x 12W x 21"L. Teel brand.

| PSI | Gallons per Minute at Depth to Water 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-Off PSI |
|---|---|---|---|---|---|---|
| 20 | 8.0 | 7.3 | 6.3 | 5.1 | 3.9 | 69 |
| 30 | 8.0 | 7.3 | 6.3 | 5.1 | 3.9 | |
| 40 | 7.3 | 6.6 | 5.8 | 4.8 | 3.9 | |
| 50 | 3.8 | 3.2 | 2.5 | 2.1 | 1.7 | |

***New* No. 4RJ52.** Shpg. wt. 50.0 lbs. List $467.25. Each.....**$311.50**

### HOSE CONNECTION VACUUM BREAKER

**tisiphon vacuum breaker** prevents back phonage of contaminated water in rtable hoses connected to hose thread ıcets. For indoor or outdoor use. 3/4" ndard hose threads. Not for use under ntinuous pressure or where there is a ssibility that a back pressure condition y develop. Not for use in areas where illage could cause damage. Features lude: breakaway setscrew for locking to se bib; brass body; stainless steel work-g parts; tough rubber diaphragm and ic; and tamper protection. Meets quirements of ANSI A112.1.3 and ASSE ndard 1011. 1½H x 1⅜"W. Maximum ssure: 125 PSI. Maximum temperature: 0°F. Watts brand (8B).

**. 6A766.** Shpg. wt. 0.3 lbs. List.....$15.90. ch .....**$11.41**

**DON'T FORGET THE BACK OF THE BOOK!**
**MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

**WE OFFER A WIDE RANGE OF ENERGY SAVING PRODUCTS**

Electric motors, controls, blowers, fans and ventilators, lighting, boilers, ballasts, pumps, furnaces, water heaters, and other products. See Index under Energy Saving Products for complete listings.

# SHALLOW AND DEEP WELL WATER SYSTEMS

- **Corrosion resistant jet pumps with A.O. Smith motors**
- **Assembled and ready for hookup (No. 3P716 requires ejector, purchase separately. See below.)**
- **Heavy-gauge steel tanks with tough polyester exterior finish**
- **Replaceable seamless vinyl air/water separator bags (plastisol, PVC compound) keeps water from touching metal; helps prevent "water logging" and eliminates need for air volume controls.**

Pumps are driven by a 1/2 (No. 3P715) or 3/4 (No. 3P716) HP, 115/230V, 60 Hz capacitor-start motor, factory wired for 230V. Square flange face motor with easy rear service access. Square D pressure switch on pump is adjustable for cut-in pressure; factory set for 30-50 PSI. CSA Certified. Teel brand.

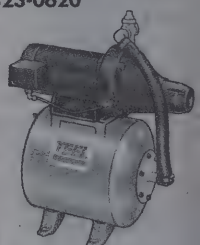
**No. 3P715 is a shallow well jet system with 6 gallon pre-charged squat tank** (equivalent to 15 gallon standard tank), and 1/2 HP A.O. Smith motor. For use in shallow applications where vertical distance of pump to water level is less than 25 feet. 1¼" Suction pipe, 3/4" discharge pipe. Maximum suction lift: 25 feet. Delivers up to 615 GPH at 5 feet of head.

**No. 3P716 is a convertible jet system with 19 gallon pre-charged tank,** and 3/4 HP A.O. Smith motor. For use in shallow or deep wells to 80 feet deep—pump to water—depending on the ejector selected **(purchase ejector separately).** Built-in pressure regulator for setting deep well ejector, pressure gauge. 1" Discharge with 1" drive pressure and 1¼" suction pipe size. Delivers up to 970 GPH at 5 feet of head.

TEEL®

47013

Replacement Parts Available 1-800-323-0620



No. 3P715



No. 3P716

## GALLONS PER MINUTE AT DEPTH TO WATER

| Stock No. | HP | PSI | Shallow Well Installation 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Deep Well Installation 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | 80 Ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3P715 | 1/2 | 20 | 10.3 | 9.3 | 7.9 | 6.5 | 4.8 | — | — | — | — | — | — |
| | | 30 | 9.3 | 8.8 | 7.8 | 6.4 | 4.8 | — | — | — | — | — | — |
| | | 40 | 7.3 | 7.3 | 7.2 | 6.3 | 4.7 | — | — | — | — | — | — |
| | | 50 | 4.0 | 4.0 | 3.9 | 3.8 | 3.8 | — | — | — | — | — | — |
| 3P716 | 3/4 | 20 | 16.2 | 14.2 | 12.2 | 9.7 | 7.2 | 10.0 | 9.5 | 8.3 | 6.8 | 5.6 | 4.0 |
| | | 30 | 15.8 | 14.0 | 12.0 | 9.7 | 6.8 | 8.8 | 7.5 | 6.4 | 5.0 | 4.0 | 2.5 |
| | | 40 | 15.3 | 13.8 | 11.8 | 9.2 | 6.8 | 6.5 | 5.1 | 4.0 | 3.0 | 1.8 | 0.8 |
| | | 50 | 8.7 | 7.2 | 5.3 | 3.7 | — | 4.1 | 3.0 | 2.0 | 1.0 | — | — |
| | | 60 | 1.3 | — | — | — | — | 2.1 | 1.0 | — | — | — | — |

## WELL WATER SYSTEM ORDERING DATA

| HP | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/2 | 24⅜ | 12¼ | 19⅝ | 3P715 | $493.46 | $329.25 | 45.0 |
| 3/4 | 37⅜ | 22½ dia. | | 3P716 | 646.96 | 432.00 | 90.0 |

**DAYTON LIMITED WARRANTY**

Dayton warrants system tank for 5 years; No. 3P715 pum 1 year; No. 3P716 pump for 3 years. Text of warranty avai able on request. See "Manufacturers' Warranties" on pag opposite inside back cover.

## EJECTORS FOR USE WITH JET SYSTEM No. 3P716 ABOVE

**Deep Well Convertible Double Pipe Ejector.** For features and performance, see page 3240.

**No. 2P430.** Shpg. wt. 5.0 lbs. List $72.33. Each.....**$48.05**

**Deep Well Single Pipe Packer.** For features and performance, see page 3241.

**No. 2P484.** Shpg. wt. 12.0 lbs. List $176.86. Each.....**$118.00**

**Shallow Well Corrosion-resistant Clamp-Ejector.** For features and performance, s page 3241.

**No. 2P431.** Shpg. wt. 5.0 lbs. List $69.35. Each.....**$46.**

## 3/4 HP STAINLESS STEEL SHALLOW WELL WATER SYSTEM

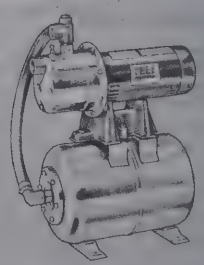
- **Assembled and ready for hook-up**
- **Rugged stainless steel pump and tank for maximum corrosion resistance**
- **Precharged stainless steel 6-gallon tank (equivalent to 15-gallon standard tank)**
- **Replaceable seamless butyl-blend air/water separator cell helps prevent "water logging" and eliminates need for an air volume control**
- **AO Smith pump motor**

For use in shallow well applications where vertical distance from pump is less than 25 feet. 1¼" suction pipe, 1" discharge pipe. 3/4 HP motor is 115/230V, 60 Hz capacitor start motor, factory wired for 230V. Square D adjustable pressure switch, factory set for 30-50 PSI cut-in, cut-out operation. Built-in shallow well jet. Overall dimensions: 14¼H x 23½W x 27½"L

***New* No. 4RJ37.** Shpg. wt. 54.0 lbs. List $804.75. Each .....**$536.50**

TEEL®

New



No. 4RJ37

| HP | PSI | Gallons per Minute at Depth to Water 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | Shut-O |
|---|---|---|---|---|---|---|---|
| 3/4 | 20 | 18..8 | 16.7 | 14.3 | 11.8 | 8.7 | 52 P |
| | 30 | 15.5 | 13.9 | 12.4 | 10.9 | 8.6 | |
| | 40 | 9.0 | 7.6 | 6.6 | 5.4 | 4.3 | |
| | 50 | 3.2 | 2.7 | 1.8 | 0.8 | 0.2 | |

# WELL POINTS AND ACCESSORIES




**COOK LIMITED WARRANTY**

**1-Year on standard product; 3-years on stainless steel accessories. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

### A & B WELL POINTS

Well points are used in the construction of driven wells or can be used as sand screens. Provide quick and economical method for developing ground water wells, draining excavation areas, providing water for irrigation and dewatering. Screens on well points prevent sand, rock and other debris from entering well system. Longer lengths are required for higher flows.

A **Well Points** have cast iron hexagon shaped points, No. 60 stainless steel gauze screens.

B **Cook Well Points** have Type 304 stainless steel points and fittings, and slotted (0.010") stainless steel screens. These points are corrosion resistant, superior to brass, and have 0% lead content. Can handle alkaline water, mildly acidic water and brackish sea water.

C **Drive Coupling** is used to connect sections of pipe as well point is driven deeper into the ground. Coupling is constructed to withstand the force encountered when driving a well. Galvanized steel or Type 304 stainless steel construction.

D **Drive Cap** is designed to withstand the impact of driving a well and protect threads of pipe sections. Galvanized steel or Type 304 stainless steel construction.

## WELL POINTS AND ACCESSORIES ORDERING DATA

| ty | Pipe Size (In.) | Screen Length (In.) | Material | Mfr. Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1¼ NPT | 24 | Stainless Steel | — | **2P269** | $60.77 | **$34.60** | **$29.15** | 6.0 |
| 1 | 1¼ | 36 | Stainless Steel | — | **2P270** | 72.95 | **43.20** | **36.41** | 9.0 |
| 1 | 1¼ x 1¼ | Cplng. | Steel | — | **2P272** | 17.06 | **10.88** | **9.17** | 1.1 |
| 1 | 1¼ | Cap. | Cast Iron | — | **2P271** | 13.32 | **8.49** | **6.99** | 1.3 |
| 1 | 1¼ | 24 | Stainless Steel | DP125x24 | **3L622** | 131.93 | **94.30** | **81.58** | 6.0 |
| 1 | 1¼ | 36 | Stainless Steel | DP125x36 | **3L623** | 157.30 | **111.95** | **96.80** | 8.0 |
| 1 | 1¼ | 48 | Stainless Steel | DP125x48 | **3L624** | 181.24 | **129.45** | **111.89** | 11.0 |
| 1 | 1¼ | 60 | Stainless Steel | DP125x60 | **3L625** | 204.41 | **146.20** | **126.41** | 13.0 |
| 1 | 1¼ x 1¼ | Cplng. | Stainless Steel | CPL114DR4 | **3L640** | 30.88 | **22.24** | **19.26** | 2.0 |
| 1 | 1¼ | Cap. | Stainless Steel | CAP114DR4 | **3L642** | 54.71 | **38.05** | **32.88** | 2.0 |
| 1 | 2 | 24 | Stainless Steel | DP200x24 | **3L626** | 159.83 | **114.30** | **100.37** | 16.0 |
| 1 | 2 | 36 | Stainless Steel | DP200x36 | **3L627** | 193.23 | **137.90** | **119.27** | 13.0 |
| 1 | 2 | 48 | Stainless Steel | DP200x48 | **3L628** | 222.23 | **158.50** | **136.97** | 16.0 |
| 1 | 2 | 60 | Stainless Steel | DP200x60 | **3L629** | 252.46 | **180.50** | **155.96** | 19.0 |
| 1 | 2 x 2 | Cplng. | Stainless Steel | CPL2DR4 | **3L641** | 58.00 | **41.30** | **35.72** | 3.0 |
| 1 | 2 | Cap | Stainless Steel | CAP2DR4 | **3L643** | 69.53 | **49.60** | **42.77** | 4.0 |

Cast Iron; SS = Type 304 Stainless Steel.

DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# GUIDE TO SUBMERSIBLE PUMP SELECTION

**A deep well submersible water system is used to supply domestic water** automatically to the plumbing system of a home or building from a private well. The complete pumping unit is submerged in the well below water level. Basic components of the system are the pump, pressure switch, and tank.

**Before planning or installation can begin,** two questions must be answered: How much water will be required for daily use; ar can the well produce enough water to meet daily requirements

**The following discussion will assist you** in answering the questio above and help you choose the right size pump.

## 1. WELL CAPACITY

How much water will the well produce in GPM (gallons per minute)? Determine this by : a) well drillers log, or b) use of an older cleanout pump to determine flow rate. NOTE: Never use a new pump for this service. After cleanout pump operates for 30 minutes at free flow, fill a 5 gallon bucket and make a note of the time it takes to fill. Use this data in the following formula:

$$\frac{\text{gal. of water (5)}}{\text{seconds}} \times 60 = \text{GPM (gallons per minute)}$$

**GPH (gallons per hour) = GPM x 60**

NOTE: If at any time during the 30 minutes of free flow water fails to flow, pump should be turned off immediately. Wait 3-4 hours, lower pump deeper into well, and throttle (use a gate valve) pump back by closing valve 1/4 turn. The above procedure should be repeated until water flows continuously for 30 minutes. Not doing so could result in dry running and destroy the pump. The pump should never be closer than 10 feet to the bottom of the well.

## 2. DEPTH OF WELL

This can be determined by one of the following: a) well drillers log, or b) tie a heavy weight to a string, lower into well until it reaches bottom and measure this distance.

## 3. DEPTH TO WATER (WATER PUMPING LEVEL)

To determine this, two vertical distances must be added together: a) total vertical feet from the highest service outlet to ground level and b) total vertical feet from ground level to the pumping level of the water. The water pumping level is defined as the standing water level in the well when the pump is operating, and the water being pumped out equals the water entering the well. This level is generally several feet lower than the water level in the well when pump is not operating.

It should be understood that pump setting depth does not determine pump performance. Main criteria is the water pumping level. The depth of the pump below this water level is of no significance regarding gallons and pressure delivered by the pump.

## 4. VOLUME

Each outlet that may be left on for continuous use will require about 3 gallons per minute (GPM). A one bathroom house is usually sized for two continuous use outlets and a two bathroom house is usually sized for three continuous use outlets. Livestock requirements are in addition to home requirements and, of course must be added to arrive at the final volume requirement.

## 5. PRESSURE

Many homes use a 20-40 pressure (PSI) setting. Higher cut-in and cut-out (30-50 PSI) settings may be needed where automatic appliances require higher pressure for proper operation.

## 6. 2-WIRE VS. 3-WIRE

Three-wire pumps have the advantage of high starting torque motors. A high starting torque is sometimes needed to break free mineral deposits that may adhere to the pump's moving parts. Two-wire pumps should not be used where abrasives or heavy water scale is present.

## 7. CONSTRUCTION MATERIALS

a. Cast iron basic construction represents good value and is useful in many applications.

b. Bronze construction resists corrosion but applicable lead content specifications should be determined.

c. Type 316 stainless steel construction has superior corrosion-resistance.

## USING THE SELECTION CHART

From the Catalog's product listing page (see Index under De Well Pumps), find the section in the pump selection chart th accurately reflects your well's capacity as determined in St 1.**Low capacity wells** generally deliver 4 GPM (gallons per minut or less; **average capacity wells** deliver 10 GPM; **high capacity we** deliver 20 or 27 GPM; **very high capacity** wells deliver 35 or mo GPM.

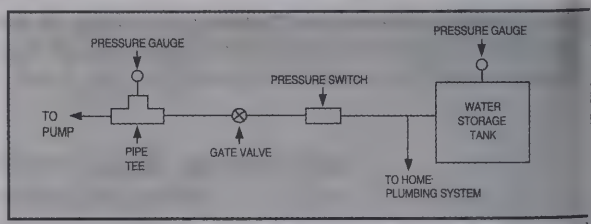
On the horizontal line at the top of the chart locate your depth water (water pumping level), go vertically down the column un the volume required (GPH) or slightly greater appears in t same column within the pressure (cut-in PSI) you have chose **Do not select a pump that will deliver more water than the well can p duce.** Select a pump based upon the DEPTH TO WATER (wat pumping level) not the pump setting level (depth of the pump the well). Once the proper volume has been found on the cha locate the pump group letter in the far left column. Any pur listed in the specification chart with the same pump group lett will satisfy your requirements.

### EXAMPLE

Knowing 500 GPH is desired (based upon volume required and well capacity) with a total vertical distance of 150 feet to the water pumping level and a 20 PSI cut-in pressure setting, move across to 150 feet and down to read 500 GPH. At 20 PSI (590 GPH) you could have two choices in pump 4P859 or 4P860.

### CAUTION

Should your selection be on or off the far left of the chart and not have a gallon per hour rating shown, the pump must be restricted or throttled before the water system tank, or pump damage may occur. Example: No. 4P862 at 60 feet and 20 PSI has no rating shown. Pumps at less than 20 feet have no rating.




Should the above situation occur, the following installation d gram is to be followed utilizing the pump you have selected:

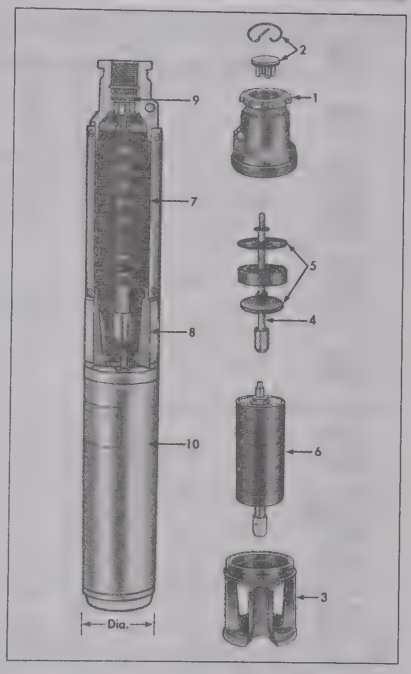
With the pump running, adjust gate valve until pressure gau located on pump side of the valve reads 10 PSI higher than t highest tank pressure gauge reading i.e., if the system is set 20-40 PSI the pressure gauge on the pump side of gate va would show 50 PSI.

# 1/3 TO 5 HP, 2 AND 3-WIRE PREMIUM SUBMERSIBLE PUMPS

**Cast iron, stainless steel or thermoplastic intake and discharge**

**For wells having 4" ID or larger diameter.**

**remium submersible pumps** for water well ystems. Volume of water delivered over ie range of pressure switch settings is ore consistent than a jet pump. lectrical power consumption can run 50 ) 75% less than jet pump operation for the ime amount of water delivered. Pumps id motors are designed and manufac- ired to ensure quiet, trouble-free service and long life in home, farm, ranch, commercial, and industrial applications. Motors are Franklin Electric watercooled and can be installed in any position—vertical or horizontal.. 3-Wire models require an above ground control box between pressure switch and pump motor. 2-Wire models have "in the motor" controls and wire directly to water system pressure switch or power supply. Assembled units include pump, motor and built-in or external check valve. Splice kit included on Teel models.




**PM Series**—For low capacity wells where a higher series would "overpump" the well, using pump failure.

**GPM Series**—For low capacity wells where a higher series would "overpump" the well, using pump failure.

**) GPM Series**—For average capacity wells—the most popular choice in farm and home pplications.

**)-27 GPM Series**—For high capacity wells where more than normal water supply is quired: ranches, dairy farms, light irrigation and light industrial water systems.

**-85 GPM Series**—For very high capacity wells and/or very deep wells. For irrigation and dustrial water systems where higher water volume is needed.

TEEL®

**DAYTON 18-MONTH LIMITED WARRANTY**

**Dayton Electric Mfg. Co. warrants Teel deep well submersible pumps for 18 months except Nos 4P867 thru 4P877 which are warranted for 3 years.**

UL® E85176

**Replacement Parts Available 1-800-323-0620**

## TEEL PUMPS

| Component | Glass Reinforced Thermoplastic 4RG76-84, 4RG94-97, 4RG99, 4RH01-06 | Cast Iron Nos. 4P847 - 4P865 | Stainless Steel Nos. 4RC09-4RC19 | High Capacity, Cast Iron Nos. 2PC08-2PC14 |
|---|---|---|---|---|
| Discharge housing (NPT) | 1¼" | 1¼" | 304 Stainless Steel 1-1/4" NPT | No. 2PC08 - 1-1¼"; all others 2" |
| Built-in check valve | Acetal Plastic | Silicon Brass | Internal spring loaded plastic poppet w/Elastomer sealing ring | No. 2PC08 - S.S. poppet w/Elastomer sealing ring All other - External 2" No lead bronze check valve |
| Suction Housing-motor acket | Glass Reinforced Thermoplastic | Glass reinforced thermoplastic design entirely encloses pump/motor coupling to eliminate spline wear from abrasive or sandy water | 304 Stainless Steel - NEMA faced | Cast Iron - NEMA faced |
| Shaft fasteners and cou- ng | Stainless steel provides strength, rigidity, and prevents rust | Stainless Steel | Stainless Steel | Stainless Steel |
| Impellers and diffusers | Delrin Impellers, ABS diffusers with ceramic wear rings | Delrin Impellers, ABS diffusers with stainless steel wear rings | Noryl® diffusers and impellers with 304 SS bearing insert | Noryl® diffusers and impellers with 304 SS bearing insert |
| Cartidge assembly | Not applicable | Not applicable | Includes shaft, fasteners, coupling, impellers and diffusers. Makes pumps easily field serviceable | Includes shaft, fasteners, coupling, impellers and diffusers. Makes pumps easily field serviceable |
| Pump-Motor shell | Heavy wall Type 304 or 301 stainless steel for corrosion protection | Heavy wall Type 304 or 301 stainless steel for corrosion protection | Heavy wall type 304 SS | Heavy wall type 304 SS |
| Suction screen | Corrosion resistant plastic | Corrosion-resistant plastic | 304 Stainless Steel | Polypropylene snap-on screen |
| Pump bearings | Sand resistant Nylatron® | Sand resistant Nylatron® | GTX Noryl® | Sintered lead free sleeve bearing |
| Submersible motor | Franklin motors, water lubricated; NEMA standard; built in lightning arrestors. UL 778 recognized stainless steel exterior construction and splined shaft. | Franklin motors, water lubricated; NEMA standard; built in lightning arrestors. UL 778 recognized stainless steel exterior construction, splined shaft | Franklin motors, water lubricated; NEMA standard, built in lightening arrestors. UL 778 recognized stainless steel exterior construction and splined shaft | Pump end only - order Franklin motor separately |
| tor wire leads gth in inches) | 48" | 48" | 48" | Motor lead included with Franklin motor |
| w ranges (GPM) | 5-10-20 | 5-10-20 | 10 - 27GPM | 27 - 85 GPM |
| | 1/3 - 1½ | 1/3 - 1½ | 1/2 - 1-1/2HP | 2, 3, 5HP |
| side Diameter | 5 GPM - 3¾<br>10-20 GPM - 3⅞ | 5 - 10 - 20 GPM - 3⅞ | 3-7/8 | 3-7/8 |

ron® is a registered trademark of Polymer Corp.

CONTINUED ON NEXT PAGE

# TEEL 1/3 TO 5 HP, 2 AND 3-WIRE PREMIUM SUBMERSIBLE PUMPS

## PUMP PERFORMANCE

| Stock Nos. | Well Capacity | HP | Tank PSI | Gallons Per Minute at Vertical Depth to Water (Not Pump Setting Depth 20 Ft. | 40 Ft. | 60 Ft. | 80 Ft. | 100 Ft. | 125 Ft. | 150 Ft. | 175 Ft. | 200 Ft. | 250 Ft. | 300 Ft. | 350 Ft. | 400 Ft. | 450 Ft. | 500 Ft. | 550 Ft. | Suggested Tank† |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 20 | * | * | 5.7 | 5.3 | 5.0 | 4.7 | 4.2 | 3.2 | 2.3 | — | — | — | — | — | — | — | |
| | | | 30 | 5.7 | 5.5 | 5.3 | 5.0 | 4.7 | 4.2 | 3.7 | 2.2 | 1.7 | — | — | — | — | — | — | — | |
| 4P848 | | | 40 | 5.5 | 5.2 | 4.8 | 4.5 | 4.2 | 3.7 | 3.0 | 1.0 | — | — | — | — | — | — | — | — | 4R834 |
| 4P847 | Low | 1/3 | 50 | 5.0 | 4.8 | 4.5 | 4.2 | 3.7 | 3.0 | 2.3 | — | — | — | — | — | — | — | — | — | 4RK68 |
| | | | 60 | 4.8 | 4.5 | 4.0 | 3.7 | 3.0 | 2.3 | 1.3 | — | — | — | — | — | — | — | — | — | |
| | | | 20 | * | * | * | 7.4 | 7.3 | 7.0 | 6.7 | 6.3 | 5.7 | 4.5 | 2.8 | — | — | — | — | — | |
| 4P849 | | | 30 | * | * | 7.4 | 7.2 | 7.1 | 6.8 | 6.3 | 5.8 | 5.2 | 3.6 | 1.5 | — | — | — | — | — | 4P835 |
| 4P850 | | | 40 | * | 7.4 | 7.2 | 7.0 | 6.8 | 6.4 | 5.8 | 5.3 | 4.6 | 2.9 | — | — | — | — | — | — | 4P836 |
| 4RG99 | Low | 1/2 | 50 | 7.3 | 7.2 | 7.0 | 6.7 | 6.4 | 5.9 | 5.3 | 4.7 | 3.7 | 1.7 | — | — | — | — | — | — | 4RK68 |
| 4RH03 | | | 60 | 7.2 | 6.9 | 6.7 | 6.3 | 5.9 | 5.3 | 4.7 | 3.8 | 3.0 | — | — | — | — | — | — | — | |
| 4RH04 | | | | | | | | | | | | | | | | | | | | |
| | | | 20 | * | * | * | * | * | 7.4 | 7.3 | 7.1 | 6.9 | 6.5 | 5.7 | 4.8 | 3.5 | 2.2 | — | — | |
| | | | 30 | * | * | * | * | 7.4 | 7.3 | 7.1 | 7.0 | 6.7 | 6.1 | 5.3 | 4.2 | 3.0 | 1.1 | — | — | 4P835 |
| 4P851 | | | 40 | * | * | * | 7.4 | 7.3 | 7.2 | 7.0 | 6.8 | 6.5 | 5.7 | 4.9 | 3.6 | 2.4 | — | — | — | 4P836 |
| 4RH01 | Low | 3/4 | 50 | * | * | 7.4 | 7.3 | 7.2 | 7.0 | 6.8 | 6.5 | 6.2 | 5.4 | 4.3 | 3.1 | 1.3 | — | — | — | 4RK68 |
| 4RH05 | | | 60 | 7.5 | 7.4 | 7.3 | 7.1 | 7.0 | 6.8 | 6.5 | 6.2 | 5.8 | 4.9 | 3.6 | 2.4 | — | — | — | — | |
| | | | 20 | * | * | * | * | * | * | 7.5 | 7.4 | 7.2 | 7.0 | 6.6 | 6.0 | 5.3 | 4.5 | 3.5 | 2.5 | |
| | | | 30 | * | * | * | * | * | 7.5 | 7.4 | 7.3 | 7.2 | 6.9 | 6.3 | 5.8 | 5.1 | 4.1 | 3.1 | 1.7 | 4P835 |
| 4RH02 | | | 40 | * | * | * | * | 7.5 | 7.4 | 7.3 | 7.2 | 7.0 | 3.7 | 6.1 | 5.4 | 4.6 | 3.6 | 2.6 | 0.3 | 4P836 |
| 4RH06 | Low | 1 | 50 | * | * | * | 7.5 | 7.4 | 7.3 | 7.2 | 7.0 | 6.9 | 6.4 | 5.8 | 5.1 | 4.1 | 3.1 | 1.9 | — | 4RK68 |
| | | | 60 | * | * | 7.5 | 7.4 | 7.3 | 7.2 | 7.0 | 6.9 | 6.7 | 6.1 | 5.5 | 4.7 | 3.6 | 2.7 | 0.7 | — | |
| | | | 20 | 11.0 | 11.0 | 10.0 | 8.0 | 5.0 | — | — | — | — | — | — | — | — | — | — | — | |
| | | | 30 | 11.0 | 9.7 | 7.9 | 4.7 | — | — | — | — | — | — | — | — | — | — | — | — | |
| 4P852 | | | 40 | 9.5 | 7.5 | 4.3 | — | — | — | — | — | — | — | — | — | — | — | — | — | 4P837 |
| 4P853 | Avg. | 1/3 | 50 | 7.2 | 3.8 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4RK69 |
| 4P854 | | | 60 | 3.7 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | | 20 | 15.6 | 14.8 | 14.0 | 13.0 | 11.8 | 10.2 | 8.2 | 5.7 | 2.1 | — | — | — | — | — | — | — | |
| 4P855,4P856 | | | 30 | 14.6 | 13.7 | 12.8 | 11.6 | 10.3 | 8.3 | 6.0 | 2.5 | — | — | — | — | — | — | — | — | |
| 4P857,4P858 | | | 40 | 13.6 | 12.6 | 11.5 | 10.1 | 8.6 | 6.1 | 2.8 | — | — | — | — | — | — | — | — | — | 4P837 |
| 4RG76 | Avg. | 1/2 | 50 | 12.5 | 11.3 | 9.9 | 8.2 | 6.2 | 3.0 | — | — | — | — | — | — | — | — | — | — | 4RK69 |
| 4RG80 | | | 60 | 11.0 | 9.6 | 8.0 | 6.0 | 3.2 | — | — | — | — | — | — | — | — | — | — | — | |
| 4RG81 | | | | | | | | | | | | | | | | | | | | |
| | | | 20 | * | 15.8 | 15.0 | 14.4 | 13.7 | 12.8 | 11.7 | 10.5 | 9.2 | 5.7 | — | — | — | — | — | — | |
| | | | 30 | 15.5 | 15.0 | 14.3 | 13.5 | 12.8 | 11.8 | 10.6 | 9.3 | 7.7 | 3.5 | — | — | — | — | — | — | 4P838 |
| 4P859 | | | 40 | 14.9 | 14.2 | 13.5 | 12.7 | 11.9 | 10.7 | 9.4 | 7.9 | 6.0 | — | — | — | — | — | — | — | 4RK72 |
| 4P860 | Avg. | 3/4 | 50 | 14.1 | 13.4 | 12.5 | 11.7 | 10.8 | 9.4 | 8.0 | 6.1 | 4.1 | — | — | — | — | — | — | — | 4RK73 |
| 4RG77 | | | 60 | 13.2 | 12.4 | 11.6 | 10.6 | 9.5 | 8.1 | 6.3 | 4.2 | — | — | — | — | — | — | — | — | |
| 4RG82 | | | | | | | | | | | | | | | | | | | | |
| | | | 20 | * | * | 15.7 | 15.3 | 14.8 | 14.2 | 13.4 | 12.6 | 11.8 | 9.8 | 7.2 | 3.8 | — | — | — | — | |
| | | | 30 | * | 15.6 | 15.2 | 14.7 | 14.2 | 13.5 | 12.8 | 11.8 | 10.8 | 8.5 | 5.8 | 2 | — | — | — | — | 4P838 |
| 4P861 | | | 40 | 15.6 | 15.1 | 14.6 | 14.1 | 13.5 | 12.9 | 11.9 | 10.9 | 9.8 | 7.4 | 4.2 | — | — | — | — | — | 4RK72 |
| 4RG78 | Avg. | 1 | 50 | 15.1 | 14.5 | 14.0 | 13.4 | 12.9 | 11.9 | 10.9 | 9.9 | 8.8 | 5.9 | 2.2 | — | — | — | — | — | 4RK73 |
| 4RG83 | | | 60 | 14.4 | 13.9 | 13.3 | 12.8 | 12.0 | 11.0 | 10.0 | 8.8 | 7.5 | 4.5 | — | — | — | — | — | — | |
| | | | 20 | * | * | * | * | 15.8 | 15.4 | 14.9 | 14.4 | 14.9 | 12.8 | 11.6 | 10.3 | 8.7 | 6.9 | 4.4 | — | |
| | | | 30 | * | * | * | 15.7 | 15.4 | 14.9 | 14.5 | 14.9 | 13.4 | 12.3 | 11.0 | 9.6 | 7.9 | 5.8 | 2.9 | — | 4P838 |
| 4P862 | | | 40 | * | 16.0 | 15.6 | 15.3 | 15.0 | 14.5 | 14.0 | 13.5 | 12.9 | 11.7 | 10.4 | 8.9 | 7.1 | 4.6 | 1 | — | 4RK72 |
| 4RG79 | Avg. | 1½ | 50 | 15.9 | 15.5 | 15.3 | 14.9 | 14.5 | 14.0 | 13.5 | 12.9 | 12.4 | 11.0 | 9.7 | 8 | 6 | 3.2 | — | — | 4RK73 |
| 4RG84 | | | 60 | 15.5 | 15.2 | 14.8 | 14.4 | 14.0 | 13.5 | 13.0 | 12.4 | 11.7 | 10.5 | 9.0 | 7.3 | 4.7 | 1.2 | — | — | |
| | | | 20 | 12.5 | 11.8 | 11.1 | 10.4 | 9.4 | 8.1 | 6.5 | — | 1.6 | — | — | — | — | — | — | — | |
| | | | 30 | 11.6 | 10.9 | 10.1 | 9.2 | 8.2 | 6.6 | 4.8 | — | — | — | — | — | — | — | — | — | |
| 4RC09 | | | 40 | 10.8 | 10.0 | 9.1 | 8.0 | 6.8 | 4.9 | 2.2 | — | — | — | — | — | — | — | — | — | 4P837 |
| 4RC10 | Avg. | 1/2 | 50 | 10.0 | 9.0 | 7.9 | 6.5 | 5.0 | 2.4 | — | — | — | — | — | — | — | — | — | — | |
| 4RC11 | | | 60 | 8.8 | 7.6 | 6.4 | 4.8 | 2.5 | — | — | — | — | — | — | — | — | — | — | — | |
| 4RC12 | | | | | | | | | | | | | | | | | | | | |
| | | | 20 | * | 13.3 | 12.5 | 12.0 | 11.5 | 10.7 | 9.8 | — | 7.6 | — | — | — | — | — | — | — | |
| | | | 30 | 13.0 | 12.5 | 12.0 | 11.3 | 10.7 | 9.9 | 8.9 | — | 6.5 | — | — | — | — | — | — | — | |
| 4RC13 | | | 40 | 12.5 | 11.9 | 11.3 | 10.6 | 10.0 | 9.0 | 7.8 | — | 5.0 | — | — | — | — | — | — | — | 4P838 |
| 4RC14 | Avg. | 3/4 | 50 | 11.8 | 11.2 | 10.5 | 9.8 | 9.0 | 7.8 | 6.7 | — | 3.4 | — | — | — | — | — | — | — | |
| | | | 60 | 11.0 | 10.4 | 9.60 | 8.9 | 8.0 | 6.8 | 5.2 | — | — | — | — | — | — | — | — | — | |
| | | | 20 | * | * | 13.1 | 12.8 | 12.4 | 11.9 | 11.2 | — | — | 8.2 | 6.0 | 3.1 | — | — | — | — | |
| | | | 30 | * | 13.0 | 12.7 | 12.3 | 11.9 | 11.2 | 10.7 | — | — | 7.1 | 4.9 | 1.6 | — | — | — | — | |
| | | | 40 | 13.0 | 12.7 | 12.2 | 11.8 | 11.2 | 11.2 | 10.7 | — | — | 6.2 | 3.5 | — | — | — | — | — | 4P838 |
| 4RC15 | Avg. | 1 | 50 | 12.6 | 12.1 | 11.7 | 11.2 | 10.7 | 10.0 | 9.2 | — | 7.3 | 5.0 | 1.8 | — | — | — | — | — | |
| | | | 60 | 12.0 | 11.6 | 11.1 | 10.7 | 10.0 | 9.2 | 8.4 | — | 6.3 | 3.7 | — | — | — | — | — | — | |
| | | | 20 | * | * | * | * | 13.9 | 13.5 | 13.0 | — | 12.2 | 11.2 | 10.1 | 9.0 | 7.6 | 3.8 | — | — | |
| | | | 30 | * | * | * | 13.8 | 13.5 | 13.0 | 12.7 | — | 11.8 | 10.8 | 9.7 | 8.4 | 7.0 | 2.5 | — | — | |
| | | | 40 | * | 14.1 | 13.7 | 13.5 | 13.1 | 12.7 | 12.2 | — | 11.3 | 10.2 | 9.1 | 7.7 | 6.2 | 0.9 | — | — | 4P838 |
| 4RC16 | Avg. | 1½ | 50 | 14.0 | 13.6 | 13.5 | 13.0 | 12.7 | 12.2 | 11.9 | — | 10.9 | 9.7 | 8.5 | 7.0 | 5.3 | — | — | — | |
| | | | 60 | 13.6 | 13.4 | 13.0 | 12.6 | 12.2 | 11.9 | 11.4 | — | 10.2 | 9.2 | 7.9 | 6.4 | 4.0 | — | — | — | |
| | | | 20 | 29.0 | 27.5 | 25.9 | 24.0 | 22.4 | 20.0 | 17.8 | — | 14.1 | — | — | — | — | — | — | — | |
| | | | 30 | 27.3 | 25.5 | 23.8 | 22.0 | 20.0 | 17.6 | 13.6 | — | 5.8 | — | — | — | — | — | — | — | |
| 4RC17 | | | 40 | 25.4 | 23.6 | 21.8 | 19.9 | 17.6 | 13.5 | 5.8 | — | — | — | — | — | — | — | — | — | 4P838 |
| 4RC18 | High | 1 | 50 | 23.1 | 21.5 | 19.3 | 17.1 | 13.5 | 5.9 | — | — | — | — | — | — | — | — | — | — | |
| | | | 60 | 21.0 | 19.0 | 16.5 | 12.5 | 6.5 | — | — | — | — | — | — | — | — | — | — | — | |
| | | | 20 | 30.0 | 29.0 | 27.8 | 26.5 | 25.1 | 23.5 | 22.5 | — | 18.5 | 9.6 | — | — | — | — | — | — | |
| | | | 30 | 28.8 | 27.5 | 26.3 | 25.0 | 23.6 | 21.9 | 21.1 | — | 15.3 | — | — | — | — | — | — | — | |
| | | | 40 | 27.5 | 26.0 | 24.8 | 23.3 | 22.0 | 20.1 | 18.5 | — | 11.1 | — | — | — | — | — | — | — | 4P839 |
| 4RC19 | High | 1½ | 50 | 25.9 | 24.6 | 23.0 | 21.8 | 20.2 | 18.5 | 15.5 | — | 0.5 | — | — | — | — | — | — | — | |
| | | | 60 | 24.1 | 22.9 | 21.5 | 20.0 | 18.3 | 16.5 | 9.5 | — | — | — | — | — | — | — | — | — | |
| | | | 20 | 30.2 | 28.8 | 27.0 | 25.1 | 23.3 | 20.8 | 17.9 | 12.5 | 4.5 | — | — | — | — | — | — | — | |
| 4P863 | | | 30 | 28.4 | 26.7 | 24.8 | 22.9 | 20.9 | 18.0 | 13.0 | 5.0 | — | — | — | — | — | — | — | — | |
| 4P864 | | | 40 | 26.4 | 24.7 | 22.7 | 20.7 | 18.4 | 14.0 | 5.9 | — | — | — | — | — | — | — | — | — | 4P838 |
| 4RG94 | High | 1 | 50 | 24.2 | 22.4 | 20.1 | 17.9 | 14.1 | 6.1 | — | — | — | — | — | — | — | — | — | — | 4RK8 |
| 4RG96 | | | 60 | 21.9 | 19.9 | 17.2 | 13.0 | 6.7 | — | — | — | — | — | — | — | — | — | — | — | |

(*) Pump motors will overload depths less than 20 ft. or at depths indicated. See "Caution" in Guide for Submersible Pumps Selection" on page 3248. (†) Suggested tanks are sized to provide d down sufficient to allow approximately 2 minutes cycling at 80 ft. depth to water, daily peak use. For shallower wells, use next size larger tank. Tank models with extra number shown indicate number of tank needed to pride sufficient drawdown at pressure setting shown.



*If we don't have a pump for it, chances are it can't be pumped.*

# TEEL 1/3 TO 5 HP, 2- AND 3-WIRE PREMIUM SUBMERSIBLE PUMPS

## PUMP PERFORMANCE CONTINUED

| Stock Nos. | Well Capacity | HP | Tank PSI | 20 Ft. | 40 Ft. | 60 Ft. | 80 Ft. | 100 Ft. | 125 Ft. | 150 Ft. | 175 Ft. | 200 Ft. | 250 Ft. | 300 Ft. | 350 Ft. | 400 Ft. | 450 Ft. | 500 Ft. | 550 Ft. | Suggested Tank † |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4P865 | | | 20 | 31.2 | 30.2 | 29.0 | 27.6 | 26.2 | 24.5 | 22.7 | 20.6 | 18.5 | 10.1 | — | — | — | — | — | — | |
| 4RG95 | | | 30 | 30.0 | 28.8 | 27.4 | 26.0 | 24.7 | 22.8 | 20.9 | 18.7 | 15.3 | 3.0 | — | — | — | — | — | — | |
| 4RG97 | High | 1½ | 40 | 28.6 | 27.2 | 25.8 | 24.3 | 22.9 | 21.0 | 18.8 | 15.4 | 11.2 | — | — | — | — | — | — | — | 4P839 |
| | | | 50 | 27.0 | 25.7 | 24.1 | 22.7 | 21.1 | 18.9 | 15.5 | 11.5 | 5.0 | — | — | — | — | — | — | — | 4RK67 |
| | | | 60 | 25.2 | 23.9 | 22.3 | 20.9 | 19.1 | 16.1 | 9.5 | 5.5 | — | — | — | — | — | — | — | — | |
| | | | 20 | * | * | 33.5 | 33 | 31.5 | 30 | 28 | 24 | 18 | 11 | 2.5 | — | — | — | — | — | |
| | | | 30 | * | * | 32.5 | 31.5 | 30.5 | 28.5 | 27 | 22 | 16 | 9 | — | — | — | — | — | — | |
| 2PC08 | High | 2 | 40 | * | * | 31.5 | 30.5 | 28.5 | 27.2 | 25.5 | 19 | 11.5 | 3 | — | — | — | — | — | — | 4P853 or 4P838 |
| | | | 50 | * | * | 30.2 | 28.3 | 27.2 | 25 | 22.2 | 16.2 | 8 | — | — | — | — | — | — | — | (2) |
| | | | 60 | * | * | 28 | 27 | 25 | 22.2 | 18.2 | 13 | 3 | — | — | — | — | — | — | — | |
| | | | 20 | * | 47 | 45 | 42 | 39 | 36 | 31 | 1.2 | — | — | — | — | — | — | — | — | |
| 2PC09 | High | 2 | 40 | * | 41 | 38 | 35 | 32 | 28 | 25 | — | — | — | — | — | — | — | — | — | 4P883 or 4P839 |
| | | | 60 | * | 34 | 31 | 26 | 19 | — | — | — | — | — | — | — | — | — | — | — | (2) |
| | | | 20 | * | * | 48 | 47 | 45 | 43 | 40 | 35 | 28.5 | 18 | — | — | — | — | — | — | |
| 2PC10 | High | 3 | 40 | * | * | 45 | 43 | 41 | 38 | 36 | 29 | 19.5 | — | — | — | — | — | — | — | 4P884 or 4P838 |
| | | | 60 | * | * | 40 | 38 | 36 | 34 | 29.5 | 20 | — | — | — | — | — | — | — | — | (3) |
| | | | 20 | * | * | * | * | 50 | 49 | 47.5 | 45 | 42 | 39 | 36 | 32 | — | — | — | — | |
| 2PC12 | High | 5 | 40 | * | * | * | 49 | 47.5 | 46 | 45 | 42 | 39.5 | 36 | 32 | 27 | — | — | — | — | 4P884 or 4P839 |
| | | | 60 | * | * | * | 47 | 46 | 44 | 42.5 | 40 | 36 | 33.5 | 28 | 22 | — | — | — | — | (3) |
| | | | 20 | * | 75 | 70 | 65 | 59 | 53 | 42 | — | — | — | — | — | — | — | — | — | |
| 2PC11 | Very High | 3 | 40 | * | 63 | 57 | 50 | 43 | 34 | — | — | — | — | — | — | — | — | — | — | 4P885 or 4P839 |
| | | | 60 | * | 48 | 40 | 32 | — | — | — | — | — | — | — | — | — | — | — | — | (3) |
| | | | 20 | * | * | 78 | 76 | 73 | 70 | 65.5 | 56 | 44.5 | 31 | — | — | — | — | — | — | |
| 2PC13 | Very High | 5 | 40 | * | * | 72 | 69 | 66 | 63 | 57 | 45 | 32.5 | — | — | — | — | — | — | — | 4P886 or 4P839 |
| | | | 60 | * | * | 65 | 62 | 58 | 53 | 46.5 | 33 | — | — | — | — | — | — | — | — | (4) |
| | | | 20 | 114 | 108 | 102 | 94 | 86 | 77 | 58 | 46 | 10 | — | — | — | — | — | — | — | |
| 2PC14 | Very High | 5 | 40 | 100 | 91 | 83 | 75 | 67 | 58 | 47 | 25 | — | — | — | — | — | — | — | — | 4P882 or 4P839 |
| | | | 60 | 81 | 73 | 65 | 57 | 49 | 40 | 26.5 | — | — | — | — | — | — | — | — | — | (5) |

Pump motors will overload at depths less than 20 ft. or at depths indicated. See "Caution" in Guide for Submersible Pumps Selection" on page 3248. (†) Suggested tanks are sized to provide wdown sufficient to allow approximately 2 minute cycling at 80 ft. depth to water, daily peak use. For shallower wells, use next size larger tank. Tank models with extra number shown indicate number of tank needed to provide sufficient drawdown at pressure setting shown.

| ries | No. of Wires | Control Box Required* | HP | Volts 60 Hz | S.F. Amps | Stages | Stock No.† | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CAST IRON ASSEMBLED PUMPS** | | | | | | | | | | |
| | 3 | 4P840 | 1/3 | 115 | 9.2 | 10 | **4P847** | $515.87 | **$312.00** | 37.0 |
| | 3 | 4P841 | 1/3 | 230 | 4.6 | 10 | **4P848** | 515.22 | **312.00** | 33.0 |
| 5 | 3 | 4P843 | 1/2 | 230 | 4.2 | 13 | **4P849** | 543.16 | **330.00** | 38.0 |
| | 2 | No | 1/2 | 230 | 5.9 | 13 | **4P850** | 612.48 | **369.75** | 41.0 |
| | 3 | 4P844 | 3/4 | 230 | 5.7 | 18 | **4P851** | 679.75 | **405.00** | 43.0 |
| | 3 | 4P840 | 1/3 | 115 | 9.2 | 4 | **4P852** | 414.84 | **235.00** | 27.0 |
| | 3 | 4P841 | 1/3 | 230 | 4.6 | 4 | **4P853** | 414.84 | **235.00** | 27.0 |
| | 2 | No | 1/3 | 230 | 4.4 | 4 | **4P854** | 501.81 | **305.00** | 28.0 |
| | 3 | 4P842 | 1/2 | 115 | 12 | 6 | **4P855** | 435.53 | **240.00** | 29.0 |
| | 3 | 4P843 | 1/2 | 230 | 4.2 | 6 | **4P856** | 435.53 | **240.00** | 29.0 |
| 10 | 2 | No | 1/2 | 115 | 11.9 | 6 | **4P857** | 516.25 | **280.00** | 29.0 |
| | 2 | No | 1/2 | 230 | 5.9 | 6 | **4P858** | 516.25 | **280.00** | 29.0 |
| | 3 | 4P844 | 3/4 | 230 | 5.7 | 8 | **4P859** | 533.81 | **305.00** | 32.0 |
| | 2 | No | 3/4 | 230 | 8.6 | 8 | **4P860** | 582.46 | **335.00** | 32.0 |
| | 3 | 4P845 | 1 | 230 | 7 | 10 | **4P861** | 671.50 | **395.00** | 36.0 |
| | 3 | 4P846 | 1½ | 230 | 11.6 | 14 | **4P862** | 891.98 | **549.00** | 43.0 |
| | 3 | 4P845 | 1 | 230 | 7 | 7 | **4P863** | 577.36 | **350.25** | 36.0 |
| 20 | 2 | No | 1 | 230 | 9.6 | 7 | **4P864** | 657.08 | **398.50** | 36.0 |
| | 3 | 4P846 | 1½ | 230 | 11.6 | 9 | **4P865** | 778.18 | **473.25** | 41.0 |

**AST IRON PUMP HEAD SPECIFICATIONS AND ORDERING DATA**

| Rated low Rate | Required Motor HP # | Stages | Discharge (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 27 | 2 | 12 | 1¼ | **2PC08** | $521.62 | **$344.50** | 14.0 |
| 35 | 2 | 7 | 2 | **2PC09** | 488.80 | **322.50** | 17.0 |
| 35 | 3 | 10 | 2 | **2PC10** | 609.73 | **402.75** | 19.0 |
| 35 | 5 | 16 | 2 | **2PC12** | 784.98 | **519.50** | 24.0 |
| 55 | 3 | 7 | 2 | **2PC11** | 614.86 | **407.00** | 19.0 |
| 55 | 5 | 11 | 2 | **2PC13** | 851.62 | **565.50** | 21.0 |
| 85 | 5 | 10 | 2 | **2PC14** | 942.80 | **624.50** | 27.0 |

| Series GPM | No. of Wires | Control Box Required | HP | Volts @ 60 Hz | S.F. Amps | Stages | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **THERMOPLASTIC ASSEMBLED PUMPS ORDERING INFORMATION** | | | | | | | | | | |
| | 3 | 4P843 | 1/2 | 230 | 6.0 | 13 | **4RG99** | $562.50 | **$375.00** | 26.0 |
| | 2 | No | 1/2 | 115 | 12.0 | 13 | **4RH03** | 625.50 | **417.00** | 26.0 |
| | 2 | No | 1/2 | 230 | 6.0 | 13 | **4RH04** | 622.50 | **415.00** | 25.0 |
| 5 | 3 | 4P844 | 3/4 | 230 | 8.0 | 18 | **4RH01** | 720.00 | **480.00** | 31.0 |
| | 2 | No | 3/4 | 230 | 8.0 | 18 | **4RH05** | 787.50 | **525.00** | 31.0 |
| | 3 | 4P845 | 1 | 230 | 9.8 | 22 | **4RH02** | 832.50 | **555.00** | 35.0 |
| | 2 | No | 1 | 230 | 9.8 | 22 | **4RH06** | 900.00 | **600.00** | 35.0 |
| | 3 | 4P843 | 1/2 | 230 | 6.0 | 6 | **4RG76** | 390.00 | **260.00** | 24.0 |
| | 2 | No | 1/2 | 115 | 12.0 | 6 | **4RG80** | 448.50 | **299.00** | 24.0 |
| | 2 | No | 1/2 | 230 | 6.0 | 6 | **4RG81** | 448.50 | **299.00** | 24.0 |
| | 3 | 4P844 | 3/4 | 230 | 8.0 | 8 | **4RG77** | 495.00 | **330.00** | 27.0 |
| 10 | 2 | No | 3/4 | 230 | 8.0 | 8 | **4RG82** | 562.50 | **375.00** | 27.0 |
| | 3 | 4P845 | 1 | 230 | 9.8 | 10 | **4RG78** | 592.50 | **395.00** | 31.0 |
| | 2 | No | 1 | 230 | 9.8 | 10 | **4RG83** | 652.50 | **435.00** | 30.0 |
| | 3 | 4P846 | 1½ | 230 | 11.5 | 14 | **4RG79** | 765.00 | **510.00** | 37.0 |
| | 2 | No | 1½ | 230 | 13.1 | 14 | **4RG84** | 862.50 | **575.00** | 41.0 |
| | 3 | 4P845 | 1 | 230 | 9.8 | 7 | **4RG94** | 547.50 | **365.00** | 30.0 |
| | 2 | No | 1 | 230 | 9.8 | 7 | **4RG96** | 615.00 | **410.00** | 30.0 |
| 20 | 3 | 4P846 | 1½ | 230 | 11.5 | 9 | **4RG95** | 705.00 | **470.00** | 36.0 |
| | 2 | No | 1½ | 230 | 13.1 | 9 | **4RG97** | 802.50 | **535.00** | 39.0 |
| **STAINLESS STEEL ASSEMBLED PUMPS ORDERING DATA** | | | | | | | | | | |
| | 3 | 4P842 | 1/2 | 115 | 12.0 | 6 | ***New*4RC09** | 543.77 | **319.00** | 25.0 |
| | 3 | 4P843 | 1/2 | 230 | 4.2 | 6 | ***New*4RC11** | 543.77 | **319.00** | 25.0 |
| | 2 | No | 1/2 | 115 | 11.9 | 6 | ***New*4RC10** | 600.88 | **352.50** | 25.0 |
| | 2 | No | 1/2 | 230 | 5.9 | 6 | ***New*4RC12** | 600.88 | **352.50** | 25.0 |
| 10 | 3 | 4P844 | 3/4 | 230 | 5.7 | 8 | ***New*4RC13** | 680.91 | **399.50** | 29.0 |
| | 2 | No | 3/4 | 230 | 8.6 | 8 | ***New*4RC14** | 744.96 | **437.00** | 29.0 |
| | 3 | 4P845 | 1 | 230 | 7.0 | 10 | ***New*4RC15** | 790.79 | **464.00** | 33.0 |
| | 3 | 4P846 | 1½ | 230 | 11.6 | 14 | ***New*4RC16** | 969.89 | **569.00** | 40.0 |
| | 3 | 4P845 | 1 | 230 | 7.0 | 7 | ***New*4RC17** | 744.50 | **436.75** | 30.0 |
| 27 | 2 | No | 1 | 230 | 9.6 | 7 | ***New*4RC18** | 831.48 | **487.75** | 30.0 |
| | 3 | 4P846 | 1½ | 230 | 11.6 | 9 | ***New*4RC19** | 908.46 | **533.00** | 36.0 |

Control box not included; order separately on page 3252. (†) Requires adequate tank size for proper operation. See "Tank Selection Guide" on page 3253. (#) Pump heads do not include motor. er Franklin submersible motor separately by horsepower, see page 172 and 173. A separate motor control box is also required; order separately. See page 172, 3252 and Franklin motor selection rmation on pages 172 and 173.

**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

**Check your frequently-ordered product categories for line extensions and new product offerings.**
**Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.**

# MOTOR CONTROL BOXES AND SUBMERSIBLE PUMP CABLE

## SUBMERSIBLE MOTOR AND PUMP CONTROL BOXES




E79319

LR54766

Replacement Parts Available 1-800-323-0620

- Includes starting capacitors and running capacitors
- Easy wiring, box type terminal lugs accept up to #10 AWG wire on 1/3-1 HP and up to #2 AWG wire on 1½-15 HP boxes
- Pre-punched holes for pole or wall mounting
- Type 3R enclosure, suitable for outdoor use

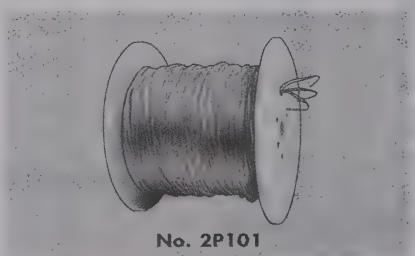
For Franklin single-phase, 3-wire submersible motors and submersible well pumps driven by these motors. Not suitable for pumps with Dayton oil filled motors or motors manufactured by a company other than Franklin. For outdoor mounting with operation temperature ranges of 14°F to 122°F (-10°C to 50°C). Designed for vertical upright mounting only. Do not mount in direct sunlight, high temperature locations, damp well pit or other humid locations. CSIR (Capacitor start, induction run) boxes are quick disconnect relay type. CSCR (Capacitor sta capacitor run) models for greater electrical efficiency and long pump life. Deluxe CSCR boxes include a magnetic contact eliminating the need for auxiliary boxes, contactors and hea duty pressure switch. Deluxe box is recommended for water sy tems that utilize a pressure switch. Franklin brand. **Note:** phase motors require a 3-phase motor starter with correct ove load (heater) coils installed.

| Motor/Pump HP | Volts 60 Hz | Phase | Control Box Type | For Motor No. † | Franklin No. | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 115V | 1 | CSIR | 1D128 | 280 10249 | 8½ | 4⅞ | 2⅞ | **4P840**‡ | $90.81 | **$46.90** | 2.7 |
| 1/3 | 230V | 1 | CSIR | 1D129 | 280 10349 | 8½ | 4⅞ | 2⅞ | **4P841**‡ | 90.80 | **46.85** | 2.9 |
| 1/2 | 115V | 1 | CSIR | 1D130 | 280 10449 | 8½ | 4⅞ | 2⅞ | **4P842**‡ | 93.04 | **48.30** | 2.7 |
| 1/2 | 230V | 1 | CSIR | 1D131 | 280 10549 | 8½ | 4⅞ | 2⅞ | **1D146** | 69.49 | **47.55** | 2.7 |
| 1/2 | 230V | 1 | CSCR | 1D131 | 282 40550 | 8½ | 4⅞ | 2⅞ | **4P843** | 135.54 | **70.25** | 6.3 |
| 3/4 | 230V | 1 | CSIR | 1D132 | 280 10749 | 8½ | 4⅞ | 2⅞ | **1D147** | 73.95 | **51.05** | 2.7 |
| 3/4 | 230V | 1 | CSCR | 1D132 | 282 40750 | 8½ | 4⅞ | 2⅞ | **4P844** | 146.67 | **75.90** | 6.3 |
| 1 | 230V | 1 | CSIR | 1D133 | 280 10849 | 8½ | 4⅞ | 2⅞ | **1D145** | 74.97 | **51.75** | 2.7 |
| 1 | 230V | 1 | CSCR | 1D133 | 282 40850 | 8½ | 4⅞ | 2⅞ | **4P845** | 148.83 | **77.35** | 6.3 |
| 1½ | 230V | 1 | CSCR | 1D134 | 282 30081 | 10½ | 8 | 5⅞ | **4P846** | 172.18 | **89.20** | 6.3 |
| 2 | 230V | 1 | CSCR | 3K990 | 282 30181 | 10½ | 8 | 5⅞ | **2PC15** | 234.48 | **121.05** | 6.3 |
| 2 | 230V | 1 | Deluxe CSCR* | 3K990 | 282 30183 | 10½ | 8 | 5⅞ | **1D152** | 257.06 | **167.75** | 7.0 |
| 3 | 230V | 1 | CSCR | 3K991 | 282 30281 | 10½ | 8 | 5⅞ | **2PC16** | 287.02 | **149.15** | 8.0 |
| 3 | 230V | 1 | Deluxe CSCR* | 3K991 | 282 30283 | 10½ | 8 | 5⅞ | **1D151** | 283.98 | **185.00** | 7.6 |
| 5 | 230V | 1 | CSCR | 3K992, 1D095 | 282 11381 | 10½ | 8 | 5⅞ | **1D153** | 308.00 | **224.25** | 8.0 |
| 5 | 230V | 1 | Deluxe CSCR* | 3K992, 1D095 | 282 11383 | 10½ | 8 | 5⅞ | **2PC17** | 476.38 | **247.25** | 13.0 |
| 7½ | 230V | 1 | Deluxe CSCR* | 1D097 | 282 20193 | 17⅛ | 8 | 5⅞ | **1D148** | 516.77 | **336.25** | 13.0 |
| 10 | 230V | 1 | Deluxe CSCR* | 1D119 | 282 20293 | 17⅛ | 8 | 5⅞ | **1D149** | 760.67 | **495.25** | 16.0 |
| 15 | 230V | 1 | Deluxe CSCR* | 1D120 | 282 20393 | 17⅛ | 8 | 5⅞ | **1D150** | 1199.51 | **780.50** | 16.0 |

(*) Deluxe box includes magnetic contractor. Recommended for water systems that utilize a pressure switch and safety relief valve.
(†) ... and most pumps powered by Franklin Electric submersible pump motors. (‡) CSA Certified (LR9862).

## 4-WIRE SUBMERSIBLE PUMP CABLE

- Premium grade PVC insulation for wet or dry applications
- Resists oil, lubricants, acids, alkalis, ozone and abrasion
- Color-code: Black, yellow, red and green ground
- Twisted construction, 600V rated type THW
- Temperature range: –4 to 167°F
- 500 ft. reel
- UL Listed (E24939)
- Capital brand

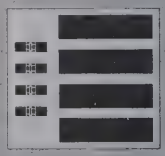

No. 2P101

| Gauge/ Cond. | Capital Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 12/4 | 44123T32 | **2P101** | $342.10 | **$259.50** | 54.0 |
| 10/4 | 44103T32 | **2P102** | 451.55 | **375.25** | 75.0 |

### MAXIMUM LENGTH OF CABLE BY WIRE GAUGE

| Motor HP | Motor V | Control Box to Power (Ft.) 14 | 12 | 10 | 8 | 6 | 4 | Pump to Control Box (Ft.) 14 | 12 | 10 | 8 | 6 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 115 | 25 | 40 | 65 | 105 | 165 | 260 | 110 | 165 | 260 | — | — | — |
| 1/2 | 115 | 20 | 30 | 58 | 59 | 125 | 200 | 80 | 130 | 195 | 310 | — | — |
| 1/2 | 230 | 75 | 120 | 195 | 310 | 490 | 775 | 315 | 490 | 775 | 1230 | — | — |
| 3/4 | 230 | 70 | 110 | 175 | 280 | 445 | 710 | 280 | 450 | 705 | 1120 | 1780 | — |
| 1 | 230 | 50 | 80 | 125 | 200 | 315 | 500 | 200 | 310 | 495 | 790 | 1260 | — |
| 1½ | 230 | 50 | 75 | 120 | 190 | 305 | 485 | 190 | 300 | 480 | 765 | 1210 | 1930 |

## CABLE SPLICE KIT


No. 2P031

**Self-sealing heat shrinkable tubing** provid quick, leakproof cable splicing. Lighter match can be used to shrink tubing waterproof seal. Excellent dielect strength. Resistant to moisture, fungus a weathering. For wire sizes 14, 12 and Kit contains four shrink tubes and b connectors.

**No. 2P031.** Shpg. wt. 0.1 lbs. List .....$9.6
Each **$4.97**; Lots 3 .....**$4.**

# STANDARD WATER TANKS

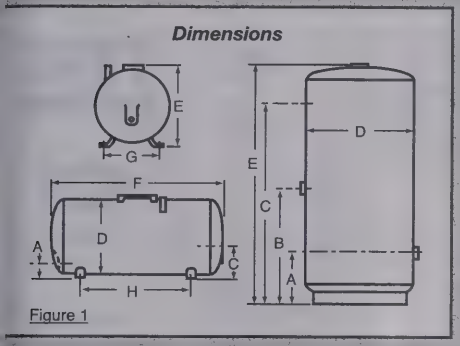


Figure 1



No. 3P557

**DAYTON 3-YEAR LIMITED WARRANTY**

**Dayton warrants Teel water tanks in this listing for 3 years. Text of Warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

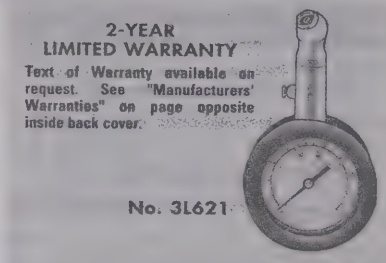
**For all domestic cold water systems**
**Meet 100 PSI test pressure and 75 PSI working pressure standards**
**Maximum temperature 120°F**
**Epoxy coating inside; blue polyester coating outside.**

**ter tanks** are made of high-grade steel, emically cleaned and dried, then coated h epoxy on the inside and out for sani- y storage of domestic use water.

**mounting bracket designed to accept a vari- of pumps** is welded to the top of the 12 l 30 gallon capacity horizontal style ks. Tanks are suitable for all domestic d water systems. Horizontal units, Nos. 56 and 3P557 have bottom discharge 3/4" FNPT-3/4" OD standpipe for hose connection to jet pump discharge and 1/4" FNPT connection for jet pump air volume control. No. 3P272 has 1¼" FNPT inlet and outlet with 1¼" FNPT connection for submersible well pump air release float air volume control and 1/4" FNPT connection for air volume control of a jet pump. Teel brand.

**NOTE:** Always use a pressure relief valve with pressurized tanks. Pressure relief valve must be capable of discharging the full output of pump. Output must be at maximum rated pressure of lowest rated components in system. **Failure to use relief valve may result in property damage or serious injury.**

## WATER TANK GAUGE




- **Steel case**
- **Rubber "shock absorber" cover**
- **Polycarbonate window**
- **Full geared brass movement**
- **Easy-to-read dial face**
- **Dual scale: 0-100 PSI, 0-700 KPa (Kilo Pascal = PSI x 6.895)**
- **Phosphor bronze bourdon tube**
- **±1% Full-scale accuracy**
- **Stop-hand indicates and holds pressure reading until released**
- **Release valve allows bleeding of air to exact tank pressure**
- **Nickel-plated swivel-angle tip and valve**

**Applications:** Accurately and conveniently measures air pressure in precharged water tanks and other equipment with Schrader valve connections. Correct tank pressure assures proper operation of water well pumps, thereby increasing pump life.

**No. 3L621.** Shpg. wt. 0.6 lbs. List .....$19.50.
Each .....**$9.95**

## TEEL STANDARD WATER TANK ORDERING DATA

| nk acity al.) | Tank Style | Tank Capacity in Gallons of Drawdown Water* PSI Range 10-30 | 20-40 | 30-50 | 40-60 | 50-70 | Outlet A (In.)† Distance# | Size ( Dia.) | Outlet B (In.)† Distance# | Size ( Dia.) | Outlet C (In.)† Distance# | Size (Dia.) | D | Dimensions (In.) E | F | G | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Horiz. | 3.2 | 1.9 | 1.2 | 0.9 | 0.6 | 2½ | 3/4 | — | — | 5⅞ | 1/4 | 12 | 13½ | 26⅝ | 10 | 14½ | **3P556** | $146.85 | **$83.50** | 20.0 |
| 0 | Horiz. | 8.0 | 4.6 | 3.0 | 2.2 | 1.6 | 2½ | 3/4 | — | — | 7 | 1/4 | 16 | 17½ | 36½ | 12¾ | 22 | **3P557** | 199.58 | **112.75** | 41.0 |
| 2 | Vert. | 11.2 | 6.5 | 4.3 | 3.0 | 2.3 | 8 | 1¼ | 28 | 1¼ | 45 | 1/4 | 16 | 53½ | — | — | — | **3P272** | 210.89 | **119.75** | 44.0 |

sable water in tank between pumping cycles. Data based on atmospheric pressure at sea level. Proper drawdown relies upon a properly installed and operating air olume control. (†) Measured to center of outlet. (#) Tolerance ±1/4". Note: All outlets are FNPT.

## TANK SELECTION GUIDE

ecting the correct tank is important. If replacing a precharged k, use a comparable size or larger, or use the sizing instruc- ns and table below. Always choose the largest tank possible, ause it lengthens pump life by reducing the operating cycles, reduced pump cycling can save electricity.

charged tanks have more than twice the drawdown capacity tandard tanks of the same size.

TE: More than one tank can be used to obtain the required wdown, but all tanks should be either standard or precharged. all tank between the water source and the service outlet.

**NOTE:** Always use a pressure relief valve with pressurized tanks. Pressure relief valve must be capable of discharging the full output of pump. Output must be at maximum rated pressure of lowest rated components in system. **Failure to use relief valve may result in property damage or serious injury.**

**Sizing instructions:**

- **Determine the flow rate of your pump in Gallons Per Hour**
- **Choose your pressure switch setting**
- **Select the tank from the chart below with drawdown at your chosen switch setting that is equal to or above your pump GPH**

| mp GPH | 240 | 300 | 360 | 420 | 480 | 540 | 600 | 720 | 840 | 960 | 1080 | 1200 | 1320 | 1500 | 1800 | 2100 | 2400 | 2700 | 3000 | 3600 | 4800 | 6000 | 7200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| wdown* ons | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 13 | 17 | 20 | 25 | 30 | 36 | 44 | 60 | 70 | 80 | 90 | 100 | 120 | 160 | 200 | 240 |

he amount of usable water discharged between pump cycles of an automatic water system.

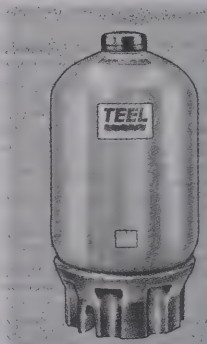
# PRECHARGED FIBREWOUND WATER TANKS

- **Tough composite construction is rust and dent resistant, extends tank life**
- **Only air cell which can be replaced with tank plumbed in place**
- **Heaviest thermoplastic base in the industry**
- **50% lighter than steel tanks**
- **33% greater burst strength than steel tanks**

Use wherever pressurized tanks are needed in water systems applications. Tank utilizes a durable, FDA approved air cell which is resistant to chlorine and will not promote taste or odor problems associated with iron bacteria that may be present in the water supply.

Each tank is wrapped with more than three miles of overlapping, continuous fiberglass strands, sealed with high grade epoxy resin, then oven-cured. Tanks will not rust, corrode, dent, or scratch. Composite construction is tougher and half the weight of steel tanks. Installation is faster, easier, and can be handled by one person.

One piece, high density polyethylene base rotates 360° for ease of service hook-up. Air cell is fabricated from durable and extensively tested ethyl-vinyl-acetate (EVA). Inner liner is one piece, high density polyethylene. Brass body, Schrader core assembly air valve. Generous top air cell opening provides easy access and serviceability to the air cell with the tank plumbed in place.




TEEL®

New

No. 4RK69

## SPECIFICATIONS

| Stock No. | Gallon Capacity | Standard Tank Style Equivalent | | Maximum Drawdown (Gal.) | Gallon Drawdown* at Given PSI Range 20-40 | 30-50 | 40-60 | 50-70 | 60-80 | 70-90 | 80-100 | Prechar Pressu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4RK68 | 20 | 42 | Vertical | 8.2 | 6.9 | 5.9 | 5.2 | 4.6 | 4.1 | 3.7 | 3.4 | 40 |
| 4RK69 | 35 | 82 | Vertical | 14.4 | 12.1 | 10.3 | 9.0 | 8.0 | 7.2 | 6.5 | 6.0 | 40 |
| 4RK72 | 60 | 120 | Vertical | 24.7 | 20.7 | 17.7 | 15.5 | 13.7 | 12.3 | 11.2 | 10.2 | 40 |
| 4RK73 | 85 | 220 | Vertical | 35.0 | 29.3 | 25.1 | 21.9 | 19.5 | 17.5 | 15.9 | 14.5 | 40 |
| 4RK67 | 119 | 315 | Vertical | 48.9 | 41.1 | 35.1 | 30.7 | 27.2 | 24.5 | 22.2 | 20.3 | 40 |

(*) The amount of usable water discharge between pump cycles of an automatic water system.

## PRECHARGED FIBREWOUND WATER TANKS ORDERING DATA

| Capacity | Dimensions (In.) Dia. | H | Bottom Connector Fitting (In.) | Pump Mount | Bulkhead Dome | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **20** | 16 | 36 | 1 NPTF | None | No | **4RK68** | $263.50 | **$170.00** | 28.0 |
| **35** | 20 | 39½ | 1 NPTF | None | No | **4RK69** | 418.50 | **270.00** | 43.0 |
| **60** | 24 | 45¾ | 1¼ NPTF | None | No | **4RK72** | 709.90 | **458.00** | 69.0 |
| **85** | 24 | 59½ | 1¼ NPTF | None | No | **4RK73** | 802.90 | **518.00** | 84.0 |
| **119** | 28 | 62¼ | 1¼ NPTF | None | No | **4RK67** | 1139.25 | **735.00** | 118.0 |

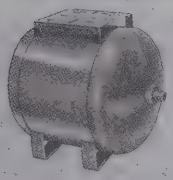
## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# PRECHARGED WATER TANKS

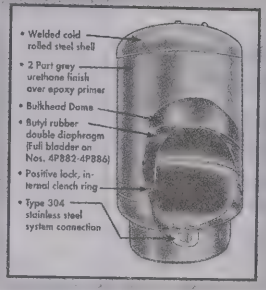
TEEL®



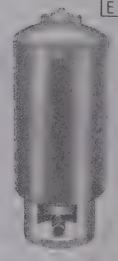










D No. 4P836




**DAYTON 5-YEAR LIMITED WARRANTY**

**Dayton Electric Mfg. Co. warrants Teel water tanks in this listing for 5 years. Nos. 4P882-4P885 have 1-year warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

**pplications:** Jet and submersible water ell systems, Reverse Osmosis (R.O.) fil- r systems and car wash holding tank sys- ms. Materials compatible with distilled d deionized water. Reduces number of mping cycles and helps extend pump e. Precharged design allows up to three nes the drawdown capacity of standard yle tanks. Greater drawdown is available increasing range between pump cut-in d cut-out pressure settings. Tank deliv- s maximum amount of water each time, d virtually eliminates water-logging. rtical and horizontal tanks available. ximum working pressure: 100 PSI; ximum temperature: 160°F, except Nos. 882-4P886 have 125 PSI max. working essure, 200°F max. working tempera- e, and are ASME Section VIII Certified.

**scription:** All air charging-valves and pip- connections are conveniently located eliminate elbows and joints, and reduce ie/materials required for installation. System connections accept all threaded standard pipe (NPT) fittings. Vertical tanks, Nos. 4P835-4P839, Nos. 4P882-4P886 and 5P229, 5P230 have bottom discharge with Type 304 stainless steel elbow installed and prealigned to skirt opening. Nos. 3P676, 4P833, and 4P834 have stainless steel pipe nipple. Brass air charge valve can be repaired or replaced without disconnecting plumbing. Most units have universal pump stand which can be easily installed or put aside if not required. Pump stands for Nos. 4P838, 4P839, 5P229 and 5P230 are available from Grainger Parts Operations (Call 1-800-323-0620 for Part No. PS2126).

**Construction:** Durable and airtight shell of welded cold rolled steel. Durable finish with high luster except Nos. 4P882-4P886 which have a coat of gray primer paint and heavy-duty top and side lifting rings. FDA approved butyl rubber double diaphragm separates water from tank's inside and air charge so no taste or odor enters water. Clench ring maintains diaphragm form. Nos. 4P882-4P886 have full butyl rubber bladder. Diffuser directs water flow upward and outward. System connection is corrosion resistant stainless steel. **NOTE:** Always use a pressure relief valve with pressurized tanks. Pressure relief valve must be capable of discharging full output of pump. This output must be at the maximum rated pressure of the lowest rated components in the system. **Failure to use a relief valve may result in property damage or serious injury.**

**No. 3P676.** Compact design for cramped installations such as mobile homes.

**No. 4P835.** Compact, squat design that fits in tight spots such as under sink or staircase. 23 gallon capacity is roughly equivalent to a 60 gallon standard tank.

**Nos. 5P229 and 5P230.** Tall, narrow design for closet or well house installations.

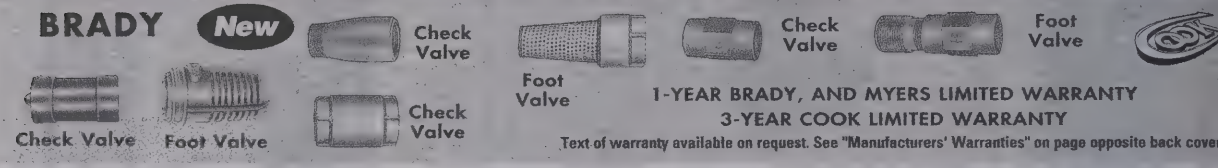
| Stock No. | Gallon Capacity | Std. Tank Equivalent | Style | Maximum Drawdown (Gal.) | Gallons Drawdown* at Given PSI Range 20-40 | 30-50 | 40-60 | 50-70 | 60-80 | 70-90 | 80-100 | Precharge Pressure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3P676 | 2.1 | 6 | Vertical | 1.1 | 0.8 | 0.7 | 0.6 | 0.5 | 0.4 | 0.4 | 0.4 | 30 PSI |
| 4P833 | 8.5 | 25 | Horizontal | 4.3 | 3.1 | 2.6 | 2.3 | 2.0 | 1.8 | 1.6 | 1.5 | 28 |
| 4P834 | 14.0 | 40 | Horizontal | 5.6 | 5.1 | 4.3 | 3.8 | 3.3 | 3.0 | 2.7 | 2.4 | 28 |
| 4P835 | 23.0 | 60 | Squat | 9.5 | 8.4 | 7.1 | 6.2 | 5.4 | 4.9 | 4.4 | 4.0 | 28 |
| 4P836 | 20.0 | 60 | Vertical | 8.0 | 7.4 | 6.2 | 5.4 | 4.7 | 4.2 | 3.8 | 3.5 | 28 |
| 4P837 | 32.0 | 100 | Vertical | 15.0 | 11.7 | 9.9 | 8.6 | 7.5 | 6.7 | 6.1 | 5.6 | 28 |
| 5P229 | 33.0 | 105 | Tall-Vertical | 13.4 | 12.4 | 10.2 | 8.9 | 7.9 | 6.9 | 6.5 | 5.7 | 28 |
| 5P230 | 81.0 | 235 | Tall-Vertical | 32.0 | 29.5 | 25.0 | 21.8 | 19.1 | 17.0 | 15.4 | 14.1 | 28 |
| 4P838 | 85.0 | 260 | Vertical | 34.0 | 31.1 | 26.3 | 23.0 | 20.1 | 17.9 | 16.2 | 14.8 | 38 |
| 4P839 | 119.0 | 360 | Vertical | 47.0 | 43.5 | 36.8 | 32.1 | 28.1 | 25.1 | 22.7 | 20.7 | 38 |
| 4P882 | 158.0 | 440 | Vertical | 62.0 | 57.8 | 48.8 | 42.3 | 37.3 | 33.4 | 30.2 | 27.5 | 28 |
| 4P883 | 211.0 | 590 | Vertical | 83.0 | 77.1 | 65.2 | 56.5 | 49.8 | 44.6 | 40.3 | 36.8 | 28 |
| 4P884 | 264.0 | 730 | Vertical | 104.0 | 96.5 | 81.6 | 70.7 | 62.3 | 55.8 | 50.4 | 46.0 | 28 |
| 4P885 | 317.0 | 880 | Vertical | 125.0 | 116.0 | 98.0 | 84.9 | 74.8 | 66.9 | 60.5 | 55.2 | 28 |
| 4P886 | 370.0 | 1030 | Vertical | 146.0 | 135.0 | 114.0 | 99.1 | 87.4 | 78.1 | 70.7 | 64.5 | 28 |

he amount of usable water discharge between pump cycles of an automatic water system.

| Gallon Capacity | Dimensions (In.) Dia. | H | L | Bottom Connection Fitting (In.) | Pump Mount | Bulkhead Dome | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2.1 | 9 | 11¼ | — | 3/4 NPTM | — | No | **3P676** | $61.00 | **$40.00** | 7.0 |
| 8.5 | 12⅝ | 14 | 19¼ | 3/4 NPTM | Universal Stand | No | **4P833** | 156.00 | **84.00** | 11.0 |
| 14.0 | 16 | 18 | 19 | 3/4 NPTM | Universal Stand | No | **4P834** | 228.00 | **126.00** | 29.0 |
| 23.0 | 21 | 23¼ | — | 1 NPTF | Universal Stand | No | **4P835** | 258.00 | **157.00** | 52.0 |
| 20.0 | 16 | 29¾ | — | 1 NPTF | Universal Stand | Yes | **4P836** | 226.30 | **128.00** | 35.0 |
| 32.0 | 21 | 28¾ | — | 1 NPTF | Universal Stand | Yes | **4P837** | 378.00 | **209.00** | 65.0 |
| 33.0 | 16 | 43 | — | 1 NPTF | ‡ | Yes | **5P229** | 365.00 | **202.00** | 135.0 |
| 81.0 | 21 | 62 | — | 1¼ NPTF | ‡ | Yes | **5P230** | 566.00 | **315.00** | 57.0 |
| 85.0 | 26 | 44½ | — | 1¼ NPTF | ‡ | Yes | **4P838** | 616.00 | **340.00** | 103.0 |
| 119.0 | 26 | 62 | — | 1¼ NPTF | ‡ | Yes | **4P839** | 958.00 | **521.00** | 185.0 |
| 158.0 | 30 | 73⅜ | — | 3 NPTF | No | No | **4P882** | 5239.00 | **3796.00** | 626.0 |
| 211.0 | 30 | 91¼ | — | 3 NPTF | No | No | **4P883** | 5796.00 | **4200.00** | 760.0 |
| 264.0 | 36 | 82 | — | 3 NPTF | No | No | **4P884** | 6958.00 | **5042.00** | 810.0 |
| 317.0 | 36 | 94 | — | 3 NPTF | No | No | **4P885** | 7353.00 | **5328.00** | 914.0 |
| 370.0 | 36 | 106 | — | 3 NPTF | No | No | **4P886** | 7786.00 | **5642.00** | 1018.0 |

required, order Part No. PS2126 separately from Grainger Parts Operations at 1-800-323-0620.

# CHECK AND FOOT VALVES




**1-YEAR BRADY, AND MYERS LIMITED WARRANTY**
**3-YEAR COOK LIMITED WARRANTY**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite back cover

**Brady combination check/foot valves** are used in water well and irrigation or fertilizer systems to prevent backflow or loss of prime. Patented "nose cone" design reduces turbulence and increases flow thru the valves. Made of DuPont Delrin with a stainless steel spring and Buna N Seal. **3-In-1 Valves.** Shipped as spring-loaded foot valves; can be converted to check valves by removing strainer. With spring removed, they convert to check/float valves, ideal for low pressure applications. Maximum temperature: 180°F. Valves contain no leaded components. Brady brand.

**Positive-action no-lead silicon bronze check and foot valves** are for use with cold water. Cast bronze construction. Foot valves have No. 6 perforated strainer. One piece cast silicon bronze poppets are equipped with corrosion-resistant stainless steel spring and Buna N seat. Maximum temperature: 190°F. Valves contain no leaded components. Teel brand.

**Teel PVC Spring Check Valves** for use in stopping backflow and siphoning. Use on potable water lines, swimming pools, hot tubs, spas, and solar installations. Maintenance-free operation. Tapered valve body design and enlarged valve chamber reduce chatter and turbulence. Feature stainless steel spring, raised radius valve seat for positive seal and excess solvent trap to prevent excess cement or softened material from entering body and sealing area during installation. Max. temperature: 120°F. Teel brand.

**Teel High Strength Ductile Iron Check Valves** for use with high flow submersible well pumps. No. 4RK71 for pumps with 2" NPT, No. 4RK70 for pumps with 3" NPT. Valves have ductile iron poppet, Buna N seal and stainless steel spring loaded springs and fasteners. Max. temperature: 180°F. Valves contain no leaded components. Teel brand.

**Cook Type 304 stainless steel check and foot valves** are corrosion-resistant and used in potable (drinking) water and alkaline water applications. Also used where non-leaded valves are required. Valves have Neoprene flapper and Type 304 stainless steel seat. Foot valves have 1/8" slotted strainer. Maximum temperature: 160°F. Cook Screen Technologies brand.

**Cook positive-action Type 316 stainless steel check and foot valves** are corrosion-resistant and used in water and chemicals compatible with component materials. Foot valves have 1/8" slotted strainer. One piece cast stainless steel poppets are equipped with stainless steel spring and Viton O-ring. Maximum temperature: 190°F. Valves contain no leaded components. Cook Screen Technologies brand.

| Type | Inlet NPT (In.) | Outlet NPT (In.) | Working Pressure (PSI) | Maximum Pressure (PSI) | Mfr's. Model | Stock No. | List | Each | Lots 3 | Sh W |
|---|---|---|---|---|---|---|---|---|---|---|
| **DUPONT DELRIN CONSTRUCTION—BRADY BRAND** | | | | | | | | | | |
| C & F* | Screen/3/4 (F) | 3/4 (F) | 100 | 175 | SFV-75 | 2A646 | $16.25 | $11.47 | $8.92 | 0 |
| C & F* | Screen/1 (F) | 1 (F) | 100 | 175 | SFV-1002 | 2A647 | 19.52 | 12.43 | 9.80 | 0 |
| C & F* | Screen/1¼ (F) | 1¼ (F) | 100 | 175 | SFV-1252 | 2A648 | 26.05 | 15.60 | 12.63 | 0 |
| C & F* | Screen/1½ (F) | 1½ (F) | 100 | 175 | SFV-1502 | 2A649 | 31.48 | 19.23 | 15.51 | 0 |
| **SILICON BRONZE CONSTRUCTION** | | | | | | | | | | |
| Check | 3/4 (F) | 3/4 (F) | 200 | 400 | — | 2X611 | 20.63 | 13.72 | 11.89 | 1 |
| Check | 1 (F) | 1 (F) | 200 | 400 | — | 2X612 | 24.07 | 15.97 | 13.85 | 1 |
| Check | 1¼ (F) | 1¼ (F) | 200 | 400 | — | 2X613 | 31.91 | 21.19 | 18.37 | 1 |
| Foot | Screen | 3/4 (F) | 200 | 400 | — | 2X610 | 15.96 | 10.49 | 9.09 | 0 |
| Foot | Screen | 1 (F) x 1¾ (M) | 200 | 400 | — | 4X568 | 22.20 | 14.54 | 12.60 | 0 |
| Foot | Screen | 1½ (F) | 200 | 400 | — | 2X746 | 36.44 | 24.16 | 20.94 | 1 |
| Foot | Screen | 2 (F) | 200 | 400 | — | 6X149 | 58.90 | 38.90 | 33.68 | 2 |
| ***New!* PVC THERMOPLASTIC CONSTRUCTION—TEEL BRAND** | | | | | | | | | | |
| Check (Spring) | 1/2 FIPT | 1/2 FIPT | 100 | 200 | — | *New* 4RG64 | 11.68 | 9.35 | 8.42 | 0 |
| Check (Spring) | 3/4 FIPT | 3/4 FIPT | 100 | 200 | — | *New* 4RG65 | 11.96 | 9.57 | 8.61 | 0 |
| Check (Spring) | 1 FIPT | 1 FIPT | 100 | 200 | — | *New* 4RG66 | 17.99 | 14.40 | 12.96 | 0 |
| Check (Spring) | 1¼ FIPT | 1¼ FIPT | 100 | 200 | — | *New* 4RG67 | 23.07 | 18.46 | 16.61 | 0 |
| Check (Spring) | 1½ FIPT | 1½ FIPT | 100 | 200 | — | *New* 4RG68 | 24.59 | 19.67 | 17.70 | 0 |
| Check (Spring) | 2 FIPT | 2 FIPT | 100 | 200 | — | *New* 4RG69 | 35.75 | 28.60 | 25.74 | 1 |
| Check (Spring) | 1/2 SLIP | 1/2 SLIP | 100 | 200 | — | *New* 4RG70 | 11.68 | 9.35 | 8.42 | 0 |
| Check (Spring) | 3/4 SLIP | 3/4 SLIP | 100 | 200 | — | *New* 4RG71 | 11.96 | 9.57 | 8.61 | 0 |
| Check (Spring) | 1 SLIP | 1 SLIP | 100 | 200 | — | *New* 4RG72 | 17.99 | 14.40 | 12.96 | 0 |
| Check (Spring) | 1¼ SLIP | 1¼ SLIP | 100 | 200 | — | *New* 4RG73 | 23.30 | 18.64 | 16.78 | 0 |
| Check (Spring) | 1½ SLIP | 1½ SLIP | 100 | 200 | — | *New* 4RG74 | 24.59 | 19.67 | 17.70 | 0 |
| Check (Spring) | 2 SLIP | 2 SLIP | 100 | 200 | — | *New* 4RG75 | 35.81 | 28.65 | 25.79 | 1 |
| ***New!* DUCTILE IRON CONSTRUCTION—TEEL BRAND** | | | | | | | | | | |
| Check | 2 NPT (M) | 2 NPT (F) | 100 | 400 | — | *New* 4RK71 | 126.86 | 81.85 | 73.67 | 4 |
| Check | 3 NPT (M) | 3 NPT (F) | 100 | 400 | — | *New* 4RK70 | 163.91 | 105.75 | 95.18 | 8 |
| **TYPE 304 STAINLESS STEEL CONSTRUCTION—COOK BRAND** | | | | | | | | | | |
| Check | 3/4 (M) | 3/4 (F) | 50 | 150 | CVLD0750 | 1D907 | 57.00 | 40.70 | 35.16 | 0 |
| Check | 1 (M) | 1 (F) | 50 | 150 | CVLD1000 | 1D906 | 72.00 | 51.60 | 44.62 | 0 |
| Check | 1¼ (M) | 1¼ (F) | 50 | 150 | CVLD1250 | 1D905 | 94.00 | 67.25 | 58.14 | 1 |
| Check | 1½ (M) | 1½ (F) | 50 | 150 | CVLD1500 | 1D904 | 113.00 | 80.50 | 69.62 | 1 |
| Check | 2 (M) | 2 (F) | 50 | 150 | CVLD2000 | 1D903 | 124.00 | 88.30 | 76.38 | 1 |
| Check (Reducing) | 1/2 (F) | 3/4 (F) | 50 | 150 | CVLDR0750 | 1D902 | 80.83 | 58.00 | 50.17 | 0 |
| Check (Reducing) | 3/4 (F) | 1 (F) | 50 | 150 | CVLDR1000 | 1D901 | 99.70 | 71.55 | 61.87 | 0 |
| Check (Reducing) | 1 (F) | 1¼ (F) | 50 | 150 | CVLDR1250 | 1D900 | 127.75 | 91.40 | 79.01 | 2 |
| Check (Reducing) | 1¼ (F) | 1½ (F) | 50 | 150 | CVLDR1500 | 1D899 | 148.11 | 106.30 | 91.85 | 1 |
| Check (Reducing) | 1½ (F) | 2 (F) | 50 | 150 | CVLDR2000 | 1D898 | 165.01 | 117.95 | 101.96 | 1 |
| Foot | Screen | 3/4 (F) | 50 | 150 | FVLD0750 | 1D225 | 99.68 | 71.10 | 61.41 | 2 |
| Foot | Screen | 1 (F) | 50 | 150 | FVLD1000 | 1D226 | 112.81 | 80.50 | 69.55 | 2 |
| Foot | Screen | 1¼ (F) | 50 | 150 | FVLD1250 | 1D227 | 137.26 | 98.20 | 84.90 | 4 |
| Foot | Screen | 1½ (F) | 50 | 150 | FVLD1500 | 1D228 | 161.10 | 114.90 | 99.37 | 3 |
| Foot | Screen | 2 (F) | 50 | 150 | FVLD2000 | 1D229 | 217.03 | 154.75 | 133.86 | 2 |
| **TYPE 316 STAINLESS STEEL CONSTRUCTION—COOK BRAND** | | | | | | | | | | |
| Check | 3/4 (F) | 3/4 (F) | 250 | 1000 | CV0750 | 3L630 | 100.34 | 71.40 | 61.74 | 1 |
| Check | 1 (F) | 1 (F) | 250 | 1000 | CV1000 | 3L631 | 110.21 | 78.85 | 68.17 | 1 |
| Check | 1¼ (F) | 1¼ (F) | 250 | 1000 | CV1250 | 3L632 | 144.02 | 103.10 | 89.13 | 2 |
| Check | 1½ (F) | 1½ (F) | 250 | 1000 | CV1500 | 3L633 | 165.69 | 118.70 | 102.60 | 3 |
| Check | 2 (F) | 2 (F) | 250 | 1000 | CV2000 | 3L634 | 227.00 | 162.00 | 140.02 | 4 |
| Check (Reducing) | 1 (M) | 3/4 (F) | 250 | 1000 | CVR0750 | 1D897 | 108.29 | 77.60 | 67.05 | 1 |
| Check (Reducing) | 1¼ (M) | 1 (F) | 250 | 1000 | CVR1000 | 1D896 | 123.00 | 88.20 | 76.27 | 1 |
| Check (Reducing) | 1½ (M) | 1¼ (F) | 250 | 1000 | CVR1250 | 1D895 | 147.00 | 105.20 | 90.95 | 2 |
| Check (Reducing) | 2(M) | 1½ (F) | 250 | 1000 | CVR1500 | 1D894 | 170.00 | 121.10 | 104.66 | 3 |
| Foot | Screen | 3/4 (M) | 250 | 1000 | FV0750 | 3L635 | 153.59 | 109.55 | 94.70 | 2 |
| Foot | Screen | 1 (M) | 250 | 1000 | FV1000 | 3L636 | 160.37 | 114.15 | 98.76 | 3 |
| Foot | Screen | 1¼ (M) | 250 | 1000 | FV1250 | 3L637 | 184.16 | 131.50 | 113.65 | 3 |
| Foot | Screen | 1½ (M) | 250 | 1000 | FV1500 | 3L638 | 221.18 | 158.00 | 136.52 | 4 |
| Foot | Screen | 2 (M) | 250 | 1000 | FV2000 | 3L639 | 291.00 | 208.00 | 179.87 | 5 |

(*) C & F = Check and Foot Valves (Combination).

## PUMP NOZZLE/STRAINERS



2" Nozzle/ Strainer

COOK 3-YEAR LIMITED WARRANTY

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Nozzle/Strainers** can process flow in either direction. Can be used as pump inlet strainer or with ion exchange resin and water softeners, sand filters and carbon filters. Type 316L stainless steel. Male or female fittings. Max. 1 PSI differential pressure. 60 mesh openings.

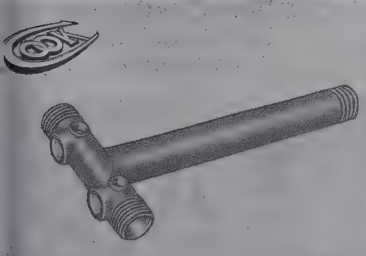
**Applications:** Constructed of Type 304 or 316 stainless steel with profile wire screen for strength and durability.

**Strainers** are used at pump inlets to protect pump and system. Also used at pump outlets to prevent clogging or contamination of carbon or filter media. Max. temperature: 260°F. Can be used on centrifugal, rotary gear, rotary screw, flexible impeller and piston type pumps. For use with fluids compatible with Type 304 or 316 stainless steel.

| Pipe Size (In.) | Slot Size (In.) | GPM* | Max. Pressure (PSI) | Dimensions (In.) Diameter | Dimensions (In.) Length | Cook Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 FNPT | 0.010 | 2.8 | 200 | 2 | 3¼ | NZL2D6L-34F | 3L657 | $50.96 | $36.35 | $31.41 | 0.6 |
| 3/4 MNPT | 0.010 | 2.8 | 200 | 2 | 3¼ | NZL2D6L-34M | 3L658 | 43.45 | 31.25 | 27.03 | 0.6 |
| 1 FNPT | 0.010 | 2.8 | 200 | 2 | 3¼ | NZL2D6L-1F | 3L659 | 52.59 | 37.55 | 32.49 | 0.6 |
| 1 MNPT | 0.010 | 2.8 | 200 | 2 | 3¼ | NZL2D6L-1M | 3L660 | 49.50 | 35.50 | 30.66 | 0.6 |

At 0.5 FPS (feet per second) velocity.

## STAINLESS STEEL TANK TEES



COOK 3-YEAR LIMITED WARRANTY

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Corrosion-resistant;** used to connect submersible water well pumps to standard and pre-charged water tanks. Used for potable (drinking) and alkaline water applications, or where non-leaded components are required. 1 and 1¼" Tank tees have two 1/4" gauge ports, two 1/2" control ports, and three 1 or 1¼" male tank connections. Plugs, gauges, controls and tank are not included; order separately. Cook Screen Technologies brand.

### TANK TEE ORDERING DATA

| Tee Size | Cook Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1" | TT1000 | 1D224 | $134.08 | $95.45 | $82.52 | 2.6 |
| 1¼ | TT1250 | 1D892 | 147.60 | 105.50 | 91.26 | 4.1 |

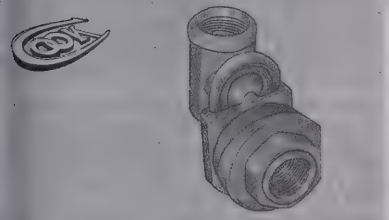
## PITLESS ADAPTER



**Prevents well contamination** by forming a tight seal between vertical drop pipe and horizontal service pipe connection. Seal is achieved by compressing an O-ring at the casing to precision machined elbow and slide. Brass construction with neoprene gasket. Unit fits 5 to 12" I.D. well casing and 1" service pipe. For installations up to 500 ft. Tested to over 150 PSI working pressure. 2500 lb. weight capacity. **Not for sale in Wisconsin.** Check state and local codes for compliance.

**No. 2P028.** Shpg. wt. 3.2 lbs. List $48.76. Each **$31.85;** Lots 3 ..... **$27.58**

## STAINLESS STEEL PITLESS ADAPTER



COOK 3-YEAR LIMITED WARRANTY

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Corrosion-resistant** for use in potable (drinking) and alkaline water applications. Also used where nonleaded adapters are required. Construction cast Type 304 stainless steel with neoprene gaskets. Unit fits 5 to 11" I.D. well casing and 1¼" service pipe. Two 1¼ x 1" stainless steel reducing bushings are included to fit 1" service pipe. For pump installations up to 500 ft. Working pressure: 150 PSI; max. weight capacity: 2500 lbs. **Not for sale in Wisconsin.** Check state and local codes for compliance. Will reduce I.D. of casing by 1⅜" for passage of pump by the adapter and into the well. Cook Screen Technologies brand (PA1250).

**No. 1D893.** Shpg. wt. 7.0 lbs. List ..... $249.80. Each ..... **$178.50;** Lots 3 **$154.29**

## TORQUE ARRESTOR



**Installs directly** above the pump, holds it centered in well. Snubs starting torque to prevent drop pipe whipping or power cable damage. Submersible, two-piece design of non-toxic PVC installs quickly. Securely fastens to 1 or 1¼" drop pipe with two stainless steel clamps provided. Field adjustable; fits well casings from 4 to 8" I.D.

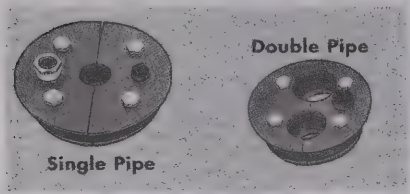
**No. 2P029.** Shpg. wt. 2.2 lbs. List ..... $13.60. Each ..... **$7.08;** Lots 3 **$5.77**

GRAINGER HAS OVER 350 BRANCHES NATIONWIDE

We're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who care about your business. To find the branch nearest you, check the Branch Locations listed in the front of this catalog.

# WATER WELL ACCESSORIES

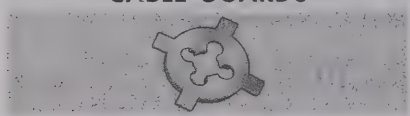
## CAST IRON SANITARY WELL SEALS




**Sanitary well seals** keep dirt, liquids and impurities from entering the well from the top. Seal plates are thick gray iron castings split into halves for greater flexibility. Four chrome plated steel bolts allow maximum torque to compress a 3/4" thick virgin rubber gasket against the well casing and water pipe to make the seal tight. 3/4" diameter hole provides an opening for cable in submersible well applications. Washers and grommets for control wires included.

| Well Casing Size | Drop Pipe Size | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **SINGLE PIPE SEAL SPECIFICATIONS** | | | | | | |
| 4" | 1" | 2P022 | $25.51 | $16.28 | $13.04 | 3.5 |
| 4 | 1¼ | 2P023 | 25.51 | 16.28 | 13.04 | 3.5 |
| 6 | 1 | 2P025 | 39.59 | 25.10 | 20.09 | 8.2 |
| 6 | 1¼ | 2P026 | 38.59 | 24.46 | 19.58 | 7.9 |
| **DOUBLE PIPE SEAL SPECIFICATIONS** | | | | | | |
| 4 | 1¼ x 1 | 2P024 | 25.57 | 16.32 | 13.07 | 2.7 |
| 6 | 1¼ x 1 | 2P027 | 39.90 | 25.30 | 20.25 | 7.9 |

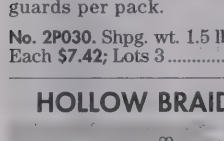
## CABLE GUARDS



Used to prevent scraping of power cable against well casing causing abrasion of insulation. Polyethylene guards fit 6" well casing with tabs that can be cut to fit 5 and 4" casings. Recommended spacing is one every 20 ft. inside well. Twelve guards per pack.

**No. 2P030.** Shpg. wt. 1.5 lbs. List .....$18.70.
Each **$7.42;** Lots 3 .....**$6.04**

## HOLLOW BRAID WELL ROPE

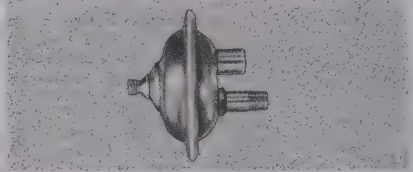


1/4" hollow braid monofilament polypropylene rope for use in anchoring deep well submersible pumps. Color black. Resistant to mildew, dry rot and the effects of sun light and weather. Sold in reels of 500 and 1000 feet. Duraline brand by Crowe Rope Co.

**No. 2W658.** 500 feet. Shpg. wt. 6.0 lbs.
List $24.02. Each.....**$19.36**

**No. 2W659.** 1000 feet. Shpg. wt. 11.0 lbs.
List $48.01. Each.....**$38.60**

## AIR VOLUME CONTROLS

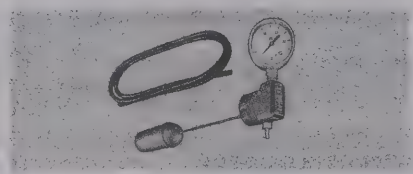


Maintains air volume in standard water system pressure tanks, reduces cycling frequency, resulting in longer pump life. A built-in check valve on tank side of No. 2A650 allows the control to displace a much greater volume of air into the tank per pump cycle. It also allows proper control operation in installations where a high static water table is prevalent or a minimal amount of vacuum is created by the pump. Factory sealed, non-repairable controls are constructed of zinc chromated steel with a molded butyl rubber diaphragm. Pump side connections are 7/16"-24 thread, which accept compression nut and sleeve for 1/4" O.D. tubing. Tank connections: 1/4" MPT, No. 3A421; 3/8" MPT, No. 2A650. Brady brand.

| Tank Size Gallons* | Brady No. | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6-42 | AV45 | 3A421 | $14.10 | $10.61 | $8.59 | 0.7 |
| 6-120 | AV100 | 2A650 | 19.54 | 11.72 | 9.53 | 0.8 |

(*) Controls may be manifolded together for use on larger tanks.

## FLOAT AIR VOLUME CONTROL



Maintains air volume in shallow well water tank. When pressure drops, float opens the air inlet valve inside the control drawing air inside the tank. Air is drawn into the pump through the air inlet valve, connecting tubing and snifter valve, and carried out with water into the tank. This action continues until pressure inside the water tank causes the float to lower and close the air inlet valve. Kit includes 2" diameter 0-100 PSI gauge and 48" polyethylene 1/4" tubing. 1/4" tubing connector installed. 2 extra 1/4" connectors (1 male, 1 female) included for ease of installation. Tank connector has 1¼"NPT. Use on tanks having minimum 9" diameter. 200°F maximum temperature; 120 PSI maximum pressure. U.S. Gauge brand (300L).

**No. 7P020.** Shpg. wt. 1.1 lbs. List .....$25.45.
Each .....**$17.50**

### AIR VOLUME CONTROL, LESS GAUGE

Air volume control as listed above, but without pressure gauge.

**No. 1P733.** Shpg. wt. 0.9 lbs. List..... $21.00.
Each .....**$17.05**

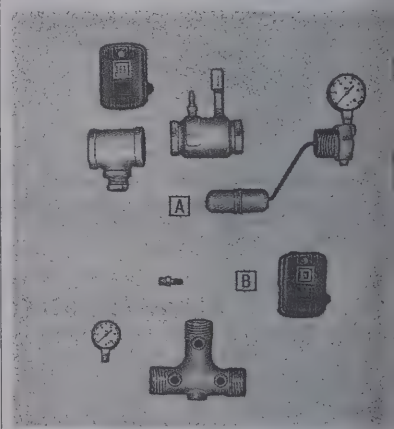
## JET PUMP/ PRESSURE TANK INSTALLATION PACKAGE



Fittings package contains all par required to connect Teel jet pumps to pre sure tanks having top mount bracket ar 1" pipe fittings. Includes galvanized te elbow, nipples, plastic hose adapter, 1 34" long hose, clamps, nuts, bolts, ar washers.$19.50

**No. 1P978.** Shpg. wt. 4.0 lbs. List .....$27.8(
Each .....**$23.3**

## SUBMERSIBLE PUMP CONTROLS INSTALLATION PACKAGE




A **No. 1P918.** Contains controls and fittin to install a submersible pump to standa nonpressurized water tank: bleeder orifi valve, 1" galvanized tee, 1/4 x 3" brass ni ple, Heyco knockout plug, snifter valve, NPT check valve, air volume control, pre sure gauge and Square D pressure switc All parts fit together for easy installatio

B **No. 1P920.** Contains controls and fittin to install a submersible pump to pre-pre surized water tank; universal tank, tee, 1 x 3" brass nipple, Heyco knockout plu 1/4" brass plug, 1/8 brass plug, pressu gauge and Square D pressure switch. parts mount on tank tee for easy instal tion.

| Key | For Pumps | Water Tank Type | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|
| A | To 2 HP | Standard | 1P918 | $101.00 | $84.55 | 5 |
| B | To 2 HP | Pre-Pressurized | 1P920 | 75.00 | 63.30 | 3 |

# MARINE AND BILGE PUMPS

## rule® SUBMERSIBLE BILGE PUMPS

ll pumps [A] thru [J] offer compact, efficient design which is ble to run dry. Features silent vibrationless operation, ignition rotection, stainless steel shafts and rust/corrosion protection.

] **No. 4NX11** offers high pumping capacity and reliability.

] **No. 4NX12 and 3P998** high capacity bilge pump is engineered commercial standards; 4NX12 is 24VDC.

] **No. 4NX13 and 3P797** 12 VDC bilge pumps allows for 36 ounting variations and offers a gasoline-resistant strainer base.

] **Nos. 4NX15 and 4NX17** offer automatic operation with no float witch required.

] **Nos. 4NX16 and 4NX18 Platinum®** Series bilge pumps offer fully utomatic operation, no float switch required. Patented "soft-tart" system for quiet operation with computer chip self-learning eature for maximum cycling mode efficiency. Internally self-pro-ected against jamming, freezing, and overloading.

## CENTRIFUGAL PUMPS

] **No. 4P016** is used primarily for boat/RV wash down, live ells, bait tanks, and other general purpose applications. NOTE: ump is not self-priming and must have flooded suction.

onstruction: Polyacetal plastic housing and stand; stainless steel haft; permanent magnet 12VDC motor; exclusive Teflon shaft eal.

## SHOWER DRAIN SYSTEM

] **No. 4P019** 12VDC system is compact but full capacity. ontains 800 GPH submersible pump with strainer and Rule-A-atic float switch, plus 1½ gallon basin with clear screw down over.




## PUMP SPECIFICATIONS

| Key | Stock No. | Hose Outlet (In.) | Delivery in Gallons per Hour of Water at Total Head 0 Ft. | 3.35 Ft. | 6.7 Ft. | 15 Ft. | 20 Ft. | Max. Head (Ft.) | DC Volts | Amps |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 4NX14 | 3/4 | 360 | 265 | 190 | — | — | 10.4 | 12 | 2.1 |
| A | 3P996 | 3/4 | 500 | 360 | 260 | — | — | 12.5 | 12 | 2.5 |
| B | 3P999 | 1½ | 3700 | 3100 | 2500 | 1200 | 600 | 23.5 | 12 | 15.0 |
| B | 4P012 | 2 | 4000 | 3400 | 2800 | 1700 | 1000 | 26.5 | 12 | 20.0 |
| C | 4P014 | 1⅛ | 2000 | 1620 | 1300 | 500 | — | 20.0 | 12 | 12.0 |
| D | 4NX11 | 1⅛ | 1500 | 1200 | 800 | — | — | 10.2 | 12 | 4.8 |
| E | 4NX12 | 1⅛ | 2000 | 1620 | 1300 | 700 | — | 16.0 | 24 | 4.0 |
| E | 3P998 | 1⅛ | 2000 | 1620 | 1300 | 500 | — | 20.0 | 12 | 12.0 |
| F | 4NX13 | 3/4 | 800 | 615 | 425 | 120 | — | 14.4 | 12 | 2.8 |
| F | 3P997 | 1⅛ | 1000 | 720 | 480 | — | — | 12.7 | 12 | 4.0 |
| G | 4NX17 | 1⅛ | 1100 | 860 | 600 | — | — | 11.5 | 12 | 3.3 |
| G | 4NX15 | 3/4 | 500 | 360 | 260 | — | — | 9.5 | 12 | 1.9 |
| H | 4NX16 | 3/4 | 500 | 360 | 260 | — | — | 9.5 | 12 | 1.9 |
| H | 4NX18 | 1⅛ | 1100 | 860 | 600 | — | — | 11.95 | 12 | 3.3 |
| I | 4P016 | 1½ | 3800 | 3185 | 3570 | 1600 | 800 | 25.9 | 12 | 20.0 |
| J | 4P019 | 3/4 | 800 | 615 | 425 | 120 | — | 12.5 | 12 | 5.0 |

## ORDERING INFORMATION

| Key | Max. GPH | Dimensions (In.) Height | Width | Length | Rule Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 360 | 3½ | 2⅜ | 2⅞ | 24 | New 4NX14 | $13.93 | $11.90 | 0.6 |
| A | 500 | 3½ | 2⅜ | 2⅜ | 25D | 3P996 | 24.72 | 15.99 | 0.7 |
| B | 3700 | 7¼ | 4⅜ | 4⅞ | 44A | 3P999 | 144.20 | 104.30 | 5.5 |
| B | 4000 | 7¾ | 4⅞ | 2⅛ | 56D | 4P012 | 172.01 | 125.00 | 5.5 |
| C | 2000 | 7¾ | 4¾ | 2⅞ | 53S* | 4P014 | 212.18 | 158.50 | 4.2 |
| D | 1500 | 6 | 4¼ | 4¼ | 02 | New 4NX11 | 66.20 | 56.55 | 2.7 |
| E | 2000 | 6 | 4¼ | 4⅛ | 12 | New 4NX12 | 96.80 | 82.45 | 2.9 |
| E | 2000 | 6 | 4¼ | 4⅛ | 10 | 3P998 | 104.03 | 74.20 | 3.1 |
| F | 800 | 4½ | 2⅛ | 4⅞ | 20F | New 4NX13 | 29.40 | 25.05 | 0.9 |
| F | 1000 | 4 | 2⅛ | 2⅛ | 20A | 3P997 | 41.20 | 24.99 | 1.0 |
| G | 1100 | 4 | 2⅜ | 2⅜ | 27S* | New 4NX17 | 78.29 | 66.40 | 0.8 |
| G | 500 | 4 | 2⅜ | 2⅜ | 25S* | New 4NX15 | 51.40 | 43.65 | 0.7 |
| H | 500 | 4½ | 2⅜ | 2⅜ | 25S-PLT* | New 4NX16 | 71.22 | 60.40 | 0.7 |
| H | 1100 | 4½ | 2⅜ | 2⅜ | 27S-PLT* | New 4NX18 | 98.33 | 83.35 | 0.8 |
| I | 3800 | 5¼ | 5¾ | 2⅞ | 17A | 4P016 | 160.68 | 118.70 | 6.3 |
| J | 800 | 5 | 9½ | 2⅜ | 98GRA | 4P019 | 107.12 | 72.85 | 3.6 |

Automatic Computerized Model. (†) Can act as a replacement pump for many back-up sump pump systems.

# SUBMERSIBLE, UTILITY, & HAND PUMPS

## SUBMERSIBLE UTILITY SUMP PUMPS




- **Manual or automatic models**
- **Computerized automatic pump No. 3P993 senses presence of water without external floats or switches to tangle, stick or fall**
- **Heavy-duty, compact construction**
- **Snap-off strainer for easy cleaning**
- **Anti-airlock design is able to run dry**

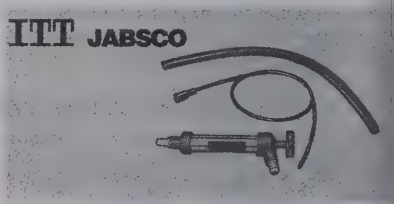
**Applications:** For draining flooded basements, boats, ponds, sumps, etc. Fully submersible in fresh or saltwater. 120VAC, 60 Hz, 1 Amp. 1/2" Pump cut-off depth.

**Pump materials:** Acetal plastic housing and strainer base, glass-filled nylon impeller, stainless steel shaft, heavy-duty double insulated permanent magnet motor, Rule exclusive Teflon® shaft seal. Allows pump to run dry. For use with nonflammable liquids compatible with pump component materials. Includes 90° elbow with 1⅛ to 1" NPT pipe thread and 8 ft., 16/3 SJTW cord with 3-prong grounding plug. Rule brand.

### PUMP SPECIFICATIONS, PERFORMANCE AND ORDERING DATA

| Operation | Dimensions (In.) H | Dia. | GPH of Water @ Total Head in Feet 0 Ft. | 5 Ft. | 10 Ft. | 15 Ft. | Rule Model | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Automatic** | 7¾ | 4¾ | 1800 | 1250 | 700 | Shut-off | A53S | **3P993** | $159.65 | **$106.40** | 4 |
| **Manual** | 7¾ | 4¾ | 1800 | 1250 | 700 | Shut-off | A53D | **3P992** | 143.17 | **104.50** | 4 |

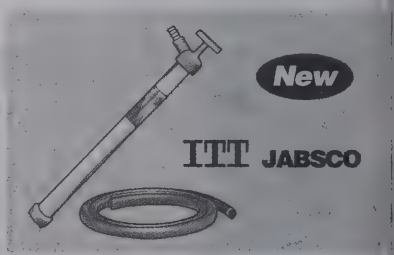
## MULTI-PURPOSE HAND PUMP




**Compact multi-purpose hand pump** does many draining and liquid transfer jobs. Small enough to fit in tool box. Seamless 1¼" diameter brass cylinder with brass plunger shaft. Neoprene suction and discharge ports for 1/2" ID hose; adapter from 1/2 to 1/4" ID hose included. Snap action self seating neoprene disc valve. Delivers one gallon per 40 strokes. Includes 2 ft. of 1/2" discharge hose and 40" of 1/4" suction hose. Can be used for bilge pumping, oil draining or diesel fuel transfer. Jabsco brand (34060-7010).

**No. 2P138.** Shpg. wt. 1.0 lbs. List $41.22.
Each ..... **$25.15**

## BRASS UTILITY HAND PUMP




- **Quick, easy pumpout of flooded areas**
- **Quick prime on the first pull**
- **Oil-resistant plunger and end caps**
- **Ideal for boaters, contractors, plumbers, farmers and sportspeople**
- **Complete with 5 ft. of 1/2" discharge hose**

Compact, multi-purpose, hand-operated pump is ideal for many small drainage and liquid transfer jobs. Seamless 1¼" diameter brass tube and plunger shaft. Neoprene suction and discharge caps. Overall length 17"; delivers 1 gallon per 15 strokes. Jabsco brand (33760-0000).

***New*** **No. 4UL39.** Shpg. wt. 2.5 lbs. List $40.63. Each ..... **$38.70**

## PORTABLE HAND PUMP




**Constructed of sturdy ABS plastic,** has comfort-grip handle for smooth, firm strokes. Includes 4 ft. of 1⅛" ID polyethylene hose. Pump is 36" long and has 10 GPM capacity at 30 strokes per minute. For use with nonflammable liquids compatible with pump component materials. Rule brand (168).

**NOTE:** All Rule marine pumps and switches are for use with nonflammable liquids compatible with pump component materials.

**No. 4P018.** Shpg. wt. 1.0 lbs. List $35.02.
Each ..... **$24.91**

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONI CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guid which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch fo more information.**

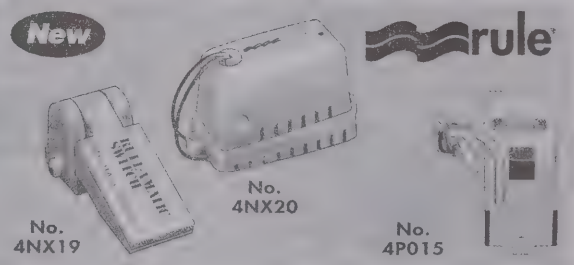
# MARINE AND RV PUMPS

## AUTOMATIC MARINE FLOAT SWITCHES

**Switches feature ultrasonic welding for a perfect hermetic seal**
**Ignition protected with no battery drain**

witches turn on at 2⅞" and turn off at 7/8" water level. onstructed of ABS plastic with 26"L abrasion-resistant wire eads. Nos. 4P015 and 4NX20 have strainer cover which protects gainst debris and jamming. Rule brand.

| DC Volts | Max. Amps | Dimensions (In.) H | L | W | Rule Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 2-24-32 | 14 | 2 | 4½ | 1½ | 35 | **New 4NX19** | $22.98 | **$19.48** | 0.2 |
| 2-24-32 | 20 | 2¾ | 4⅝ | 2½ | 40 | **New 4NX20** | 30.93 | **26.25** | 0.3 |
| 2-24-32 | 20 | 3 | 5¼ | 2¼ | 37WG | **4P015** | 53.56 | **35.75** | 0.5 |




## DIAPHRAGM HAND PUMP

**xcellent for saltwater** or applications involving sand, stones, and ther small solids and debris. Hand operated diaphragm pump is ounted to cast-iron platform/base that accommodates handle orage and pump hanging capability. Self-priming suction lift up 20 ft. Delivers up to 30 GPM at 150 strokes per minute. Suction id discharge accommodates either 2" hose or 1½" pipe. Male raight pipe threads provided. Brass handle is 17⅞"L. Cast-iron latform is 20½L x 9W x 4"H.

**onstruction:** Bronze pump with stainless steel hardware. eoprene diaphragm and flapper valves. For use with nonflam- able liquids compatible with pump component materials.

**o. 3P739.** Shpg. wt. 31.0 lbs. List $292.32. Each.....$278.00







## BRONZE CENTRIFUGAL PUMPS

- **12 or 32VDC Operation**
- **All bronze construction with stainless steel hardware**

**Applications:** Live well filling and circulation, bait tanks, boat/RV wash down, intermittent hot water circulation, and other general purpose applications. Intermittent duty. Max. temperature: 180°F. For use with nonflammable liquids compatible with materials of pump construction. Not for use in flammable and/or explosive atmospheres. Meets United States Coast Guard (USCG) Electrical Standards (Title 33, Chapter 1, Part 183, Subpart 1) for ignition protection on gasoline powered vessels.

**Driver:** Permanent magnet, fully enclosed, ball bearing ignition protected DC motor with stainless steel shaft. Pump must be mounted in a dry location where motor is protected from dampness.

**Sherwood units are not self-priming** and must have flooded suction. Pump head can be rotated in 90° increments. Can be mounted in any position or on thru-hull fitting and seacock for applications requiring overboard water to be pumped aboard. Viton lip seal and O-ring.

**Teel unit is self-priming** up to 4½ ft. above water level and can be mounted up to 45° off vertical. Can be piped over gunwale with seacock or on thru-hull fitting with seacock for applications requiring overboard water to be pumped aboard. Vortex-type impeller resists clogging by seaweed. Buna N carbon/ceramic mechanical shaft seal.

### PUMP SPECIFICATIONS DATA

| Stock No. | Inlet (In.) | Outlet (In.) | Delivery in GPH of Water at Total Head 0 Ft. | 5 Ft. | 10 Ft. | 15 Ft. | Shutoff (Ft.) | DC Volts | Max. Amps |
|---|---|---|---|---|---|---|---|---|---|
| 4P062 | 3/4 NPTF | 3/4 NPTF | 1080 | 810 | 450 | 30 | 23.0 | 12 | 8.5 |
| 4P907 | 3/4 NPTF | 3/4 NPTF | 1080 | 810 | 450 | 30 | 22.5 | 32 | 3.0 |
| 4P888 | 3/4 NPTF | 3/4 NPTF | 1140 | 840 | 480 | — | 14.0 | 12 | 10.5 |

Based on 3/4" NPT discharge pipe and 12.8VDC or 33VDC.

### PUMP ORDERING DATA

| Type | Max. GPH | Dimensions (In.) H | W | L | Brand | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Straight | 1380 | 3¾ | 4 | 6¾ | Sherwood | AT120 | **4P062** | $175.27 | **$116.80** | 6.1 |
| Straight | 1300 | 3¾ | 4 | 6¾ | Sherwood | AT320 | **4P907** | 179.80 | **119.75** | 5.6 |
| Self-priming | 1140 | 5 | 4 | 7 | Teel | | **4P888** | 229.85 | **153.75** | 10.0 |

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# MARINE AND RV SYSTEMS

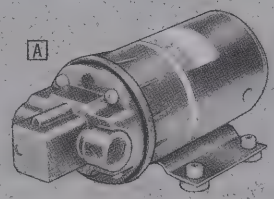
FLOJET

Replacement Parts Available
1-800-323-0620

TEEL®

TEEL®

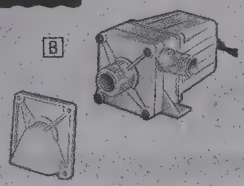
A



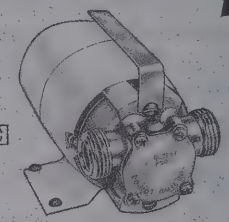
FLOJET 2 YEAR LIMITED WARRANTY

Text of warranty available on request. See "Manufacturers' Warranties" on page oopposite inside back cover.

B



C



E85176
1P579

90 DAY DAYTON LIMITED WARRANTY

LR81550
1P579

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## A FLOJET AUTOMATIC MARINE/RV POTABLE WATER SUPPLY PUMP

**Compact pump designed for recreational vehicles and marine potable water systems.** Built-in pressure switch automatically turns pump On when system pressure drops to 20 PSI and Off when pump raises system pressure to 30 PSI. Pumps up to 156 GPH. Maximum pressure is 30 PSI. Maximum water temperature is 160°F. Self-primes to 6 feet. Pump can run dry, thereby, protecting the pump if the water supply is lost. Constructed of corrosion resistant polypropylene. Duplex diaphragm design of Santoprene. No liquid touches metal parts. Pump inlet and outlet are 3/8" FNPT. Pump has permanent magnet 12 VDC motor with ball bearings, replaceable brushes, two 11" lead wires and rubber mounting feet to reduce noise and vibration. Motor draws 3.5 amps at 0 PSI (full flow) and up to 7.0 amps at 30 PSI. Intermittent duty. For use as water system pump only. For potable water use only. Not for use with hydrocarbon based or other chemicals. Overall dimensions are 8⅛ L x 3¾ H x 3¼"W. Meets United States Coast Guard (USCG) Electrical Standards. All parts that contact water are constructed of Food and Drug Administration (FDA) Approved material International Association of Plumbing an Mechanical Officials (IAPMO) Liste Flojet brand (2100-12).

| GPH OF WATER @ TOTAL DISCHARGE PRESSURE* | | | |
|---|---|---|---|
| 0 PSI | 10 PSI | 20 PSI | 30 PSI |
| 156 | 129 | 120 | 111 |

(*) Operating pump above 30 PSI is not recommended.

**No. 2P366.** Shpg. wt. 3.9 lbs. List .....$108.5
Each .....**$64.3**

## B MARINE AND CAMPER 12V DC PUMP

**Compact 12V DC centrifugal pump** for boats, camper-trailers, etc., as bilge or water system pump. Low-profile design. May be mounted in any position, submerged or in open air, as long as inlet is at or below level of liquid pumped. Fits in tight, out-of-the-way places. Large capacity—pumps up to 339 GPH, yet draws only 1.0 to 1.8 amps at 12 volts DC, the higher the back pressure, the lower the current draw. For water up to 160°F. Constructed of Food & Drug Administration (FDA) and National Sanitation Foundation (NSF)approved high-impact plastic and stainless steel. For use with nonflammable liquids compatible with materials of pump construction.

**Comes complete** with hooded screened inlet for bilge pumping and alternate 1/2" male NPT threaded inlet plate for water syste use. 5 ft. leads. Outlet has 3/8" male pi fitting and accepts 5/8" ID hose. Nomi size 2 x 2 x 5½", plus outlet and mounti feet; 1/4" mounting slots, 2⅞" OC. F intermittent use only in open air and su merged applications.

| GPH of Water at Total Head | | | | | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|
| 1 Ft. | 3 Ft. | 6 Ft. | 10 Ft. | 14.9 Ft. | | | | |
| 339 | 268 | 191 | 95 | Shut Off | **1P811** | $45.00 | **$22.99** | 1.0 |

## C COMPACT SELF-PRIMING MARINE-UTILITY PUMPS

**Widely used for marine and general** commercial and industrial applications. Used for dewatering, liquid transfer, and bilge applications. No. 1P579 self-primes to 10 ft.; No. 1P580 to 7 ft.

**Chrome plated brass pump body** with stainless steel shaft. Buna N impellers and lip-type seals. AC-DC series motors with external brush holders. Motor on No. 1P579 is fan-cooled, with thermal protection. Dual threaded inlet and outlet; 3/8" ID NPT, and 3/4" OD hose thread. Water temperature range 40 to 140°F. Overall, 6⅝L x 3½H x 4"W. For use with nonflammable liquids compatible with materials of pump construction. Do not use in flammable or explosive atmospheres. Includes 2 extra impellers and gaskets. For intermittent use only. Teel brand.

### DOUBLE REPAIR KITS

Repair kit No. 1R230 for pumps No. 1P579 and 1P580 models B and C. Includes two O-rings, 2 impellers and one cam. Repa kit No. 1R387 fits pumps Nos. 1P579 a 1P580 models D,E and F and Proven Pur models 360 and 365. Includes 2 impelle and 2 cover gaskets. Order kits for old model pumps from Grainger Pa Operations.

| Fits Pump | Stock Nos. | List | Each | Lots 12 | Sh W |
|---|---|---|---|---|---|
| B & C | **1R230** | $15.95 | **$11.58** | **$10.00** | 0. |
| D, E & F | **1R387** | 12.50 | **9.66** | **8.35** | 0 |

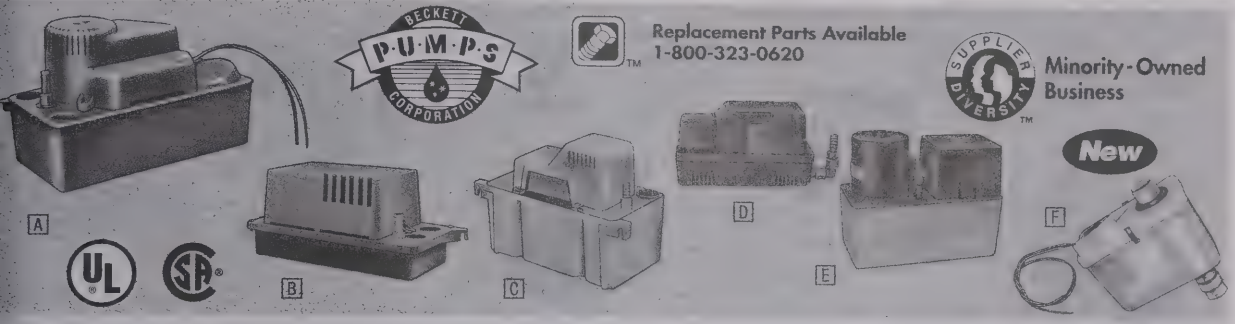
### TEEL MARINE-UTILITY PUMP SPECIFICATIONS

| Motor | Motor Amps | Cord | GPH OF WATER AT TOTAL FEET OF HEAD 1 Ft. | 5 Ft. | 10 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | Shut-Off | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **115VAC-DC** | 1.4 to 1.7 | 6 ft. 3-Cond | 360 | 342 | 300 | 270 | 198 | 90 | 48.3 ft. | **1P579** | $123.95 | **$70.00** | 5 |
| **12VDC** | 6.5 to 10.0 | Two 10" Leads | 300 | 258 | 240 | 202 | 150 | 96 | 46 | **1P580** | 100.50 | **59.00** | 4 |



*If we don't have a pump for it, chances are it can't be pumped.*

# SHALLOW PAN AND VERTICAL CONDENSATE REMOVAL PUMPS




- **Fit most mechanical refrigeration or air conditioning units**
- **For condensation removal in high efficiency gas furnaces and air conditioning units, disposal or waste water from drinking fountains, ice makers, humidifiers, etc.**
- **Rated for continuous-duty**
- **UL Listed; CSA Certified**

Shallow pan and vertical condensate removal pumps are used where there is no gravity drainage. These continuous-duty pumps are for use with nonflammable liquids compatible with pump component materials. All units feature 6 ft. power cord with 3-prong molded 115V plug, snap action safety switch and thermal overload protector. Beckett brand.

A **Nos. 4NW93-4NW96.** Use for the removal of water from ice makers, drinking fountains, beverage machines, dehumidifiers, water coolers, computer room A/C equipment, furnaces, refrigeration and many other applications. Constructed of flame-retardant plastic with a large high-impact ABS tank. Duck-bill check valve design, microswitch float mechanism, three intake holes and convenient discharge with barbs and threads. Stainless steel shaft, thermal overload protection. Can be mounted from either side. Nos. 4NW93 and 4NW95 include 20 ft. of tubing.

B **Nos. 5P227 and 5P228 Compact Pumps.** For use where space is limited. Features: ABS plastic housing, polyethylene safety float, stainless steel shaft, and check valve with 3/8" OD barbed discharge hose connection.

C **No 5P225 Large Tank Pump.** For large refrigeration and air conditioning units. Features: High impact-resistant polystyrene base, metal impeller and polystyrene volute, and stainless steel shaft. 3/8" OD barbed discharge hose connection with 20 ft. of 3/8" ID clear tubing.

D **Nos. 5P219 and 5P220 High Flow Rate Shallow Pan Pumps.** For use in limited space. These completely submersible pumps feature a screen to keep floating debris out of pump, epoxy encapsulated motor with molded plastic volute, check valve and impeller. Diaphragm activated switch mechanism cuts in at approx. 2½". All brass or stainless steel parts. No. 5P219 does not include safety control switch.

**No. 5P220** includes No. 5P219 with polystyrene sump pan, 20 ft., 3/8" ID clear tubing and safety control switch No. 2P874. Pump cuts in at approx. 2¼". Tank dimensions: 10¼L x 4½W x 3½"H.

E **No. 5P226 Heavy-duty Vertical Pump.** Features: Maximum corrosion-resistant construction including, rust-resistant polymer condensate collecting tank, stainless steel shaft and galvanized steel tank cover and switch housing. Safety switch (included) can be wired to shut off low voltage thermostat controlling air conditioner if malfunction occurs. Includes fan cooled motor, integral sump tank and control float, 1/2" OD copper tube discharge.

F **No. 4NW97 Condensate Overflow Protector** reduces risk of flooded carpets, sub-floor and sheetrock damage, insurance claims, and costly installation. May be used on primary and secondary drain lines. Takes minutes to install. Pre-wired, with a float-activated switch rated at 30V, 5A. Wire length 18". Up to 5 cup capacity. Threaded bottom fittings for easy installation; eliminate leaks. Dimensions: 7.25H x 6.25" x 3.75"H. PVC adapter fittings included.

***New* No. 4NW97.** Beckett Condensate Overflow Protector (COP5). Shpg. wt. 1.0 lbs. List $29.79. Each ..... **$19.36**

## PUMP PERFORMANCE

| Key | Stock No. | GPH at Total Head in Feet 1 Ft. | 3 Ft. | 5 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | Shut Off | Max. PSI | Tank Size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 4NW94 | 85 | 77 | 70 | 39 | — | — | — | — | 15 ft. | 6.5 | 1.7 qt. |
| A | 4NW93 | 85 | 77 | 70 | 39 | — | — | — | — | 15 | 6.5 | 1.7 qt. |
| A | 4NW96 | 105 | 100 | 95 | 75 | 36 | — | — | — | 20 | 8.7 | 1.7 qt. |
| A | 4NW95 | 105 | 100 | 95 | 75 | 36 | — | — | — | 20 | 8.7 | 1.7 qt. |
| B | 5P227 | 95 | 88 | 80 | 55 | — | — | — | — | 15 | 6.5 | 0.85 qt. |
| B | 5P228 | 115 | 103 | 92 | 62 | 33 | — | — | — | 20 | 8.7 | 0.85 qt. |
| C | 5P225 | 108 | 99 | 90 | 67 | 45 | — | — | — | 20 | 8.7 | 1 gal. |
| D | 5P219 | 286 | 245 | 205 | 85 | — | — | — | — | 13 | 5.6 | — |
| D | 5P220 | 286 | 245 | 205 | 85 | — | — | — | — | 13 | 5.6 | 1 qt. |
| E | 5P226 | 476 | 460 | 441 | 396 | 351 | 306 | 216 | 126 | 48 | 20.8 | 1 gal. |

## SPECIFICATIONS AND ORDERING DATA

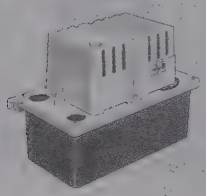
| Key | Pump Description | HP | Amps | Watts | Dimensions (In.) H | W | L | Discharge (In.) | Beckett Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Vertical | 1/50 | 1.7 | 60 | 6¼ | 5 | 11⅝ | 3/8 OD Barb Fitting | CB151UL | *New* **4NW94** | $72.15 | **$40.00** | 26.0 |
| A | Vertical | 1/50 | 1.7 | 60 | 6¼ | 5 | 11⅝ | 3/8 OD Barb Fitting | CB151TUL | *New* **4NW93** | 75.92 | **45.00** | 21.0 |
| A | Vertical | 1/30 | 2.2 | 85 | 6 | 5 | 6¾ | 3/8 OD Barb fitting | CB201UL | *New* **4NW96** | 76.28 | **42.00** | 24.0 |
| A | Vertical | 1/30 | 2.2 | 85 | 6 | 5 | 6¾ | 3/8 OD Barb fitting | CB201TUL | *New* **4NW95** | 82.76 | **46.00** | 28.0 |
| B | Shallow | 1/50 | 1.1 | 60 | 4¾ | 5 | 11⅝ | 3/8 OD Barb Fitting | CL15-1UL | **5P227** | 86.96 | **46.00** | 4.5 |
| B | Shallow | 1/30 | 2.0 | 90 | 4¾ | 5 | 11⅝ | 3/8 OD Barb Fitting | CL20-1UL | **5P228** | 92.27 | **50.00** | 5.0 |
| C | Large | 1/25 | 1.5 | 120 | 9¼ | 6 | 12 | 3/8 OD Barb Fitting | CL40-1TUL | **5P225** | 107.00 | **62.55** | 6.8 |
| D | Shallow | 1/50 | 0.9 | 66 | 3⅞ | 3⅜ | 9 | 3/8 OD Barb Fitting | 1PCT3A | **5P219** | 99.42 | **55.75** | 4.7 |
| D | Shallow | 1/50 | 0.9 | 66 | 3⅞ | 3⅜ | 9 | 3/8 OD Barb Fitting | 1PCT3AT | **5P220** | 121.10 | **68.00** | 6.5 |
| E | Large | 1/5 | 4.0 | 360 | 10⅛ | 8 | 12 | 1/2 OD Copper Tube | CU55-1UL | **5P226** | 307.57 | **159.00** | 13.0 |

# SHALLOW PAN AND VERTICAL CONDENSATE REMOVAL PUMPS

Little Giant PUMP COMPANY SUBSIDIARY TECUMSEH PRODUCTS COMPANY

E81811 LR19315

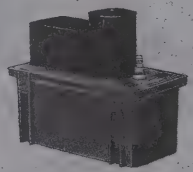
Replacement Parts Available 1-800-323-0620



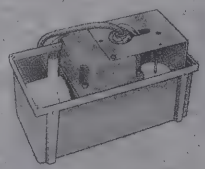
[A] Nos. 2P350 & 2P351



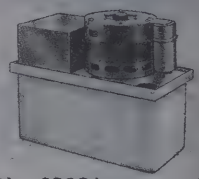
[B] No. 3P730



[C] Nos. 3P731 & 3P732



[D] No. 2P095



[E] No. 2P096

- **Fit most mechanical refrigeration or air conditioning units**
- **Use for removal of condensation in high efficiency gas furnaces and air conditioning units**
- **Also may be used for disposal of waste water from drinking fountains, ice makers, humidifiers and beverage machines**

Used where gravity drainage is impossible or impractical. Include 6-ft. power cord with 3 prong molded 115V plug and thermal overload protector (except No. 2P096 has 3-foot cord). All models (except No. 2P095) include low voltage safety switch with polypropylene float that can be wired to cut off air conditioners or other low voltage circuits in case of malfunction, etc. Safety switch should be connected to a Class II low voltage safety device. Switch has 3 terminals marked COMMON, NO, and NC. Connect NO terminal to turn off electrical equipment in case of overflow; connect NC terminal to activate an alarm bell or buzzer. All are UL Listed and CSA Certified except Nos. 2P095 and 2P096. Pumps cannot be run dry without damage to the unit and are recommended for intermittent duty only. For use with nonflammable liquids compatible with pump component materials. Maximum temperature: 110°F. Little Giant brand.

[A] **Nos. 2P350 and 2P351.** Automatic condensate removal pumps accommodate acidic condensate with 120°F maximum liquid temperature often produced by high-efficiency gas furnaces. Two mounting slots on end of tank cover. Reinforced tank sides. Can be mounted on either side of an air conditioning unit or on a wall, but inlet must be below coil drain. Outlet piping should be flexible tubing or pipe. Evacuates 2/3 quarts per cycle. 3/8" OD barb type discharge fitting with built-in check valve. High impact polystyrene tanks. ABS motor cover, tank cover, volute, and impeller. All stainless steel hardware. C-Frame, thermally protected motors with extended stainless steel motor/pump shaft.

**No. 2P350.** Compact unit recommended for installations where a low head self contained pump is preferred.

**No. 2P351.** For high acid level conditions.

[B] **No. 3P730.** Low-profile, compact unit for use where space is limited. Pump unit is constructed of durable ABS plastic housing, polypropylene float, and stainless steel shaft. Pump cuts in at approx. 1". Includes check valve with 3/8" OD barbed discharge hose connection.

[C] **Nos. 3P731 and 3P732.** Large tank units for large mechanical refrigeration and air conditioning units. Constructed of hig impact resistant polystyrene base, AB impeller and volute, and stainless stee shaft. 3/8" OD barbed discharge hose con nection.

[D] **No. 2P095.** High flow rate shallow pa pump for use in limited space applica tions. Pump is a compact in-pan unit and i completely submersible. Screen keep floating debris out of pump. Die cast alu minum motor housing with epoxy finish nylon volute and impeller, ABS plasti float, epoxy coated metal switch mecha nism and all brass or stainless part ensure maximum corrosion resistance Includes polystyrene sump pan. Als includes control float and filter screen 1/4" MNPT 1/2" OD nylon discharge.

[E] **No. 2P096.** Heavy-duty vertical pum with rust resistant polymer condensat collecting tank. Constructed of material providing maximum resistance to corro sion including high impact polymer pum base, stainless steel shaft, and galvanize steel tank cover and switch housing Includes fan cooled motor, integral sum tank, and control float. 3/8" OD coppe tube discharge.

## PUMP PERFORMANCE

| Key | Stock No. | GPH of Water at Total Head in Feet 1 Ft. | 3 Ft. | 5 Ft. | 9 Ft. | 12 Ft. | 15 Ft. | 22 Ft. | 30 Ft. | 40 Ft. | Shut-off | Max. PSI | Tan Size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 2P350 | 65 | 58 | 50 | 30 | 18 | — | — | — | — | 15.0 | 6.5 | 2 qt |
| A | 2P351 | 80* | 74* | 70* | 55* | 35* | 25* | — | — | — | 20.0 | 8.6 | 2 |
| B | 3P730 | 80* | 74* | 70* | 55* | 35* | 25* | — | — | — | 20.0 | 8.6 | 1 |
| C | 3P731 | 200 | 187 | 170 | 125 | 67 | — | — | — | — | 14.0 | 6.1 | 4 |
| C | 3P732 | 270 | 260 | 250 | 210 | 187 | 175 | 105 | — | — | 24.0 | 10.4 | 4 |
| D | 2P095 | 300 | 255 | 205 | 105 | — | — | — | — | — | 11.8 | 5.1 | 3/4 |
| E | 2P096 | 450 | 445 | 440 | 415 | 400 | 380 | 330 | 250 | 135 | 45.0 | 19.5 | 4 |

## SPECIFICATIONS AND ORDERING DATA

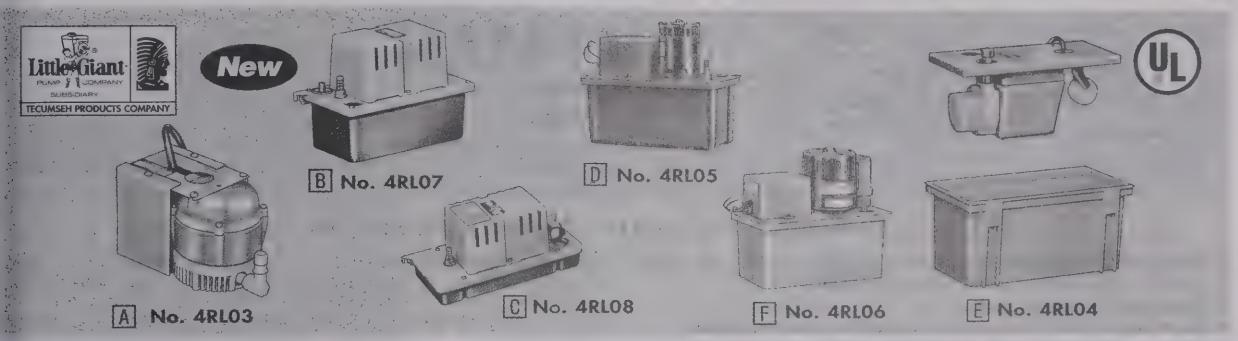
| Key | Pump Description | HP | Amps @ 115VAC | Watts | Dimensions (In.) H | L | W | Discharge | Little Giant Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Vertical | 1/50 | 1.0 | 60 | 7 | 9¼ | 4½ | 3/8" OD barb fitting | VCM-15ULS | **2P350** | $62.00 | **$43.25** | 4. |
| **A** | Vertical | 1/30 | 1.5 | 93 | 7 | 9¼ | 4½ | 3/8" OD barb fitting | VCM-20ULS | **2P351** | 69.00 | **49.75** | 5. |
| **B** | Compact | 1/30 | 1.5 | 93 | 5⅛ | 12 | 5 | 3/8" OD barb fitting | VCC-20ULS | **3P730** | 90.00 | **55.00** | 5. |
| **C** | Large | 1/50 | 1.0 | 78 | 9¾ | 12 | 6 | 3/8" OD barb fitting | VCL-14ULS | **3P731** | 114.32 | **82.00** | 6. |
| **C** | Large | 1/18 | 2.0 | 148 | 10½ | 12 | 6 | 3/8" OD barb fitting | VCL-24ULS | **3P732** | 122.69 | **87.00** | 7. |
| **D** | Shallow Pan | 1/40 | 1.7 | 100 | 4⅞ | 9 | 4½ | 1/4" NPT nylon | 2EC-SPT | **2P095** | 112.22 | **85.00** | 6. |
| **E** | Vertical | 1/5 | 3.5 | 185 | 10½ | 12 | 6 | 3/8" OD copper tube | VCL-45S | **2P096** | 267.47 | **190.00** | 13. |

Tubing available, see page 3041. (*) Flow rates with check valve.



*If we don't have a pump for it, chances are it can't be pumped.*

# CONDENSATE PUMPS




**Fit most mechanical refrigeration or air conditioning units**
**Use for removal of condensation in high efficiency gas furnaces and air conditioning units**
**Also may be used for disposal of waste water from drinking fountains, ice makers, humidifiers and beverage machines**

sed where gravity drainage is impossible or impractical. Include 6- power cord with 3 prong molded 115V plug and thermal overload rotector on 4RL03 and 4RL04. The 4RL07, 4RL08, 4RL05, and 4RL06 30V units have no plug. All models (except No. 4RL03) include low oltage safety switch with polypropylene float that can be wired to ut off air conditioners or other low voltage circuits in case of malnction. Safety switch should be connected to a Class II low voltage afety device. Switch has 3 terminals marked COMMON, NO and NC. onnect NO terminal to turn off electrical equipment in case of overow; connect NC terminal to activate an alarm bell or buzzer. All are L Listed except No. 4LR03. Nos. 4RL05 and 4RL06 are CSA ertified. Pumps can not be run dry without damage to the unit and re recommended for intermittent duty only. For use with nonflamable liquids compatible with pump component materials. Little iant brand.

**No. 4RL03.** For removing waste water from beverage dispensers nd water from air ducts. Completely submersible pump features aluinum housing and is designed for in-pan mounting. Float operated witch engages in 1" of water and automatically disengages in 1/2" ater, 1/2" MNPT discharge.

**No. 4LR07.** Vertical pump unit for removing waste water from rinking fountains, humidifiers and ice makers. Features 1/2 gallon akproof, rustproof, high impact polystyrene tank. Stainless steel naft. Thermal overload protection. Includes check valve, safety witch and 3/8" O.D. barbed discharge.

**No. 4RL08.** Low profile, compact design for use in limited space installations. Vertical type pump removes waste water from drinking fountains, humidifiers and ice makers. Engages in 1" of water and disengages in 0.45" of water. Features thermal overload protection. Includes safety switch, check valve and 3/8" O.D. barbed discharge.

**No. 4RL05.** Large tank unit for removal of condensate in most larger air conditioners and mechanical refrigeration units. One gallon tank is constructed of leakproof, rustproof, high impact polystyrene. Features stainless steel shaft and snap action switch. Engages in 3.56" of water; disengages in 2.6" of water. Includes safety switch and 3/8" O.D. barbed discharge.

**No. 4RL04.** Shallow pan tank for use in limited space installations. Fully submersible pump features sealed motor housing and 1/2" MNPT discharge. For removing waste water in drinking fountains, humidifiers, ice makers and beverage machines. Float operated switch engages in 4.45" of water; disengages in 3.45" of water. Includes 3/8" check valve, 1/2 " MNPT discharge.

**No. 4RL06.** For removing condensate from air conditioning and mechanical refrigeration units and waste water from drinking fountains, humdifiers and ice makers. One gallon tank is constructed of leakproof, rustproof, high impact polystyrene and features a stainless steel shaft. Pump engages in 3.56" of water and disengages in 2.6" of water. Includes snap-action switch, safety switch and 3/8" O.D. barbed discharge.

## ACCESSORIES FOR CONDENSATE PUMPS

**No. 4LR02.** Tank kit for condensate pump No. 4LR03 includes 1/2 gallon nylon tank, check valve and 20 ft. of 1/4" I.D. tubing.

## CONDENSATE PUMPS

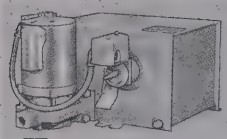
| Key | HP | Amps | Volts | Watts | GPH @ Head in Ft. 1 | 3 | 5 | 9 | 15 | 22 | Shut-off (Ft.) | Dimensions (In.) H | W | L | Little Giant Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/150 | 1.1 | 115 | 70 | 205 | 180 | 145 | — | — | — | 10 | 4.44 | 3.75 | 7.44 | 1-ABS | 4RL03 | $70.66 | $59.00 | 4.3 |
| B | 1/30 | 0.5 | 230 | 75 | 80† | 74† | 70† | 55† | 25† | — | 17 | 6.97 | 4.85 | 10.35 | VCM-20ULS | 4RL07 | 72.10 | 59.00 | 5.0 |
| C | 1/30 | 0.5 | 230 | 75 | 80† | 74† | 70† | 55† | 25† | — | 17 | 5.12 | 5.0 | 12.0 | VCC-20ULS | 4RL08 | 85.27 | 69.00 | 5.6 |
| D | 1/18 | 1.15 | 230 | 148 | 270 | 260 | 250 | 210 | 175 | 105 | 24 | 10.5 | 6.0 | 12.0 | VCL-24ULS | 4RL05 | 121.38 | 100.00 | 8.6 |
| E | 1/12 | 3.5 | 115 | 210 | 310 | 290 | 280 | 260 | — | — | 26 | 5.75 | 6.0 | 12.0 | 34C-SPT | 4RL04 | 182.85 | 150.00 | 11.0 |
| F | 1/5 | 1.0 | 230 | 250 | 450 | 445 | 440 | 415 | 380 | 330 | 45 | 10.5 | 6.0 | 12.0 | VCL-45ULS | 4RL06 | 288.65 | 235.00 | 14.0 |

) Flow rates are with check valve.

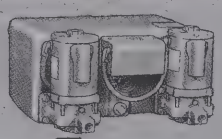
## ACCESSORIES FOR CONDENSATE PUMPS

| Description | Little Giant Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Tank Kit for 4RL03** | TKT | 4RL02 | $17.87 | $15.54 | 5.0 |
| **Check Valve for Nos. 4RL03 & 2P095** | CV-2 | 4RL37 | 4.16 | 3.62 | 1.0 |
| **Check Valve for No. 2P096** | CV-35 | 4RL38 | 12.40 | 10.79 | 0.1 |
| **Check Valve for Nos. 3P730, 2P350, 2P351, 3P731 & 3P732** | CV-44-24 | 4RL39 | 4.64 | 4.04 | 1.0 |
| **Check Valve for Nos. 3P730, 2P350, 2P351, 3P731 & 3P732** | CV-10 | 4RL40 | 4.15 | 3.61 | 1.0 |
| **10 Ft. Flexible Black Tubing, 1/2 ID x 5/8" OD** | T-1-2-10-BK | 4RL41 | 11.05 | 9.61 | 0.7 |
| **20 Ft. Flexible Black Tubing, 1/4 ID x 3/8" OD** | T-1-4-20-BK | 4RL42 | 6.18 | 5.38 | 0.3 |
| **20 Ft. Flexible Black Tubing, 3/8 ID x 1/2" OD** | T-3-8-20-BK | 4RL43 | 10.25 | 8.92 | 1.0 |

# CONDENSATE RETURN PUMPS



A No. 4RD29



B No. 4RD33

## HOFFMAN

New

Replacement Parts Available
1-800-323-0620



C No. 4RD67



D No. 4RD34

## A & B HOFFMAN WATCHMAN CONDENSATE RETURN PUMPS

- **Heavy-duty cast iron pump construction**
- **Cast iron or welded steel receivers (tanks)**
- **Simplex or duplex systems**
- **Replacement continuous-duty pump fits most systems**

**Applications:** Condensate transfer for residential, commercial, and industrial steam heating and industrial processing: dry cleaning plants, chemical refineries, wood pulp processing, textile mills and manufacturing facilities. For use with nonflammable liquids compatible with materials of construction. Maximum liquid temperature 210°F.

**Construction:** Pump has cast iron volute with bronze impeller and wear ring, and 3/4" NPT pump discharge port. John Crane Type 6 Buna N/carbon/ceramic shaft seal rated for 250°F. 4-bolt flang mounting. Flange adapters available. Cast iron or welded stee receivers. Simplex units have single pump with heavy duty no mally-open float switch. Duplex units have mechanical alternato which equalizes running time between two pumps and provide emergency backup in case of excessive liquid return or pump fai ure. Receivers have 2" NPT low return inlet port, 1-1/4" NPT ver line port, 2" NPT overflow port, and 1-1/4" NPT (cast iron receiv er) or 1/2" NPT (steel receiver) drain port.

**Driver:** 1/3 HP, capacitor start, 115/230 VAC, 60 Hz, 3540 RPM open-dripproof motor, single phase motors. Permanently lubr cated ball bearings, threaded stainless steel shaft. Internal the mal overload protection.

| Key | System Type | No. of Pumps | System Sq. Ft. EDR* | Tank Material | Pump Capacity GPM | Discharge Pressure PSIG | Receiver Size (Gal.) | Dimensions (In.) L | W | H | Hoffman Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Simplex | 1 | 8,000 | Cast Iron | 12 | 21 | 9 | 22-3/4 | 16½ | 12–15/16 | WC8-20B | **4RD31** | $918.02 | **$779.00** | 160.0 |
| A | Simplex | 1 | 12,000 | Welded Steel | 18 | 20 | 14 | 22-7/8 | 15 | 12–15/16 | WCS12-20B | **4RD29** | 947.78 | **804.50** | 130.0 |
| A | Simplex | 1 | 12,000 | Cast Iron | 18 | 20 | 14 | 22-3/4 | 22½ | 12–15/16 | WC12-20B | **4RD32** | 1121.93 | **952.00** | 215.0 |
| B | Duplex | 2 | 12,000 | Welded steel | 18 | 20 | 14 | 22-7/8 | 15 | 12–15/16 | WCSD12-20B-MA | **4RD30** | 1575.85 | **1337.00** | 170.0 |
| B | Duplex | 2 | 12,000 | Cast Iron | 18 | 20 | 14 | 22-3/4 | 22½ | 12–15/16 | WCD12-20B-MA | **4RD33** | 1754.25 | **1489.00** | 250.0 |

(*) EDR=Equivalent Direct Radiation.

## C 1/3 HP REPLACEMENT PUMP

This replacement pump fits most systems. Adapter may be required. Hoffman brand.

| HP | Full-Load Amps @ 115/230VAC | GPM of Water at Total Head (in Feet) 30 Ft. | 35 Ft. | 40 Ft. | 45 Ft. | 50 Ft. | 52.5 Ft. | Max. Head | Dimensions (In.) H | W | L | Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | 7.2/4.0 | 33 | 30 | 26 | 21 | 12 | 0 | 53 | 12⅝ | 6¼ | 9 1/16 | 609PF | **4RD67** | $652.14 | **$553.50** | 50.0 |




No. 4RD68

### PUMP ADAPTER FLANGE KITS

Enable you to install a Hoffman Centriflo® Series pump as a direct replacement on other manufacturer's condensate units. Kits include adapter flange, gaskets, and bolts. Drilled and tapped adapter flange makes installation easy.

| Manufacturer | Dimen. Ctr to Ctr (In.) L | W | Hoffman Model | New! Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|
| **Aurora** | 6¼ | 3¼ | **180035** | **4RD72** | $116.97 | **$93.50** | 6.0 |
| **Economy** | 4¼ | 4 | **180037** | **4RD74** | 116.97 | **93.50** | 6.0 |
| **Federal** | 6¼ | 3½ | **180036** | **4RD73** | 116.97 | **93.50** | 6.0 |
| **Mepco (D-B)** | 3¼ | 3¼ | **180032** | **4RD69** | 116.97 | **93.50** | 6.0 |
| **Skidmore / Teel** | 4¼ | 4¼ | **180034** | **4RD71** | 116.97 | **93.50** | 6.0 |
| **Sterling** | 3¾ | 3¾ | **180031** | **4RD68** | 116.97 | **93.50** | 6.0 |
| **Weinman** | 4⅛ | 4⅛ | **180033** | **4RD70** | 116.97 | **93.50** | 6.0 |

## D HOFFMAN BOILER FEED PUMPS

- **Heavy duty cast iron pump construction**
- **Welded steel receivers (tanks)**
- **Simplex systems**
- **Replacement continuous-duty pump fits most systems**

**Applications:** Small boiler feed systems handling condensate from steam heating or process applications. For use with nonflammable liquids compatible with materials of construction. Maximum liquid temperature 210°F.

**Construction:** Pump has cast iron volute with bronze impeller and wear ring, and 3/4" NPT pump discharge port. John Crane Type Buna N/carbon/ceramic shaft seal rated for 250°F. 4-bolt flang mounting. Flange adapters available. Welded steel receiver. Flo operated internal water make-up water feeder with 1/2" NPT co nection. Water level gauge with protective brass rods and shut-o valves. Receiver has 2" NPT low return inlet port, 2" NPT vent lir port, 2" NPT overflow port, and 1/2" NPT drain port.

**Driver:** 1/3 HP, capacitor start, 115/230 VAC, 60 Hz, 3540 RPM open-dripproof motor, single phase motors. Permanently lubr cated ball bearings, threaded stainless steel shaft. Internal the mal overload protection.

| Key | System Type | No. of Pumps | System Sq. Ft. EDR* | Boiler HP | Tank Material | Pump Capacity GPM | Discharge Pressure PSIG | Receiver Size (Gal.) | Dimensions (In.) L | W | H | Hoffman Model | New! Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | Simplex | 1 | 7000 | 50 | Welded Steel | 15 | 20 | 50 | 33½ | 27 | 30¼ | 50VBFS-B | **4RD34** | $1591.40 | **$1351.00** | 200.0 |

(*) EDR=Equivalent Direct Radiation.

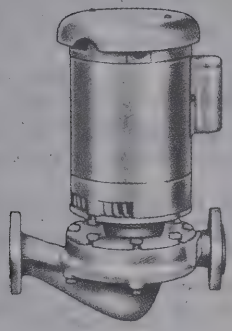


*If we don't have a pump for it, chances are it can't be pumped.*

# IN-LINE CENTRIFUGAL PUMPS

**Bell & Gossett**

New



No. 4RD57

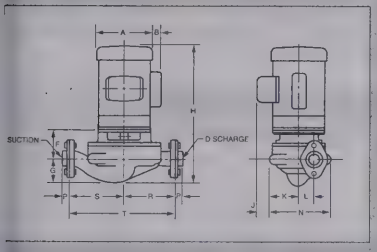



Fig. 1

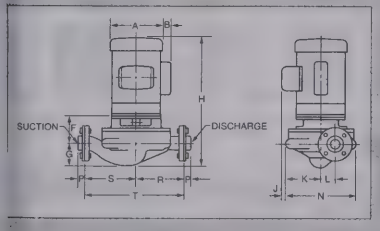



Fig. 2

Close-coupled pump with back pull-out design allows for easy maintenance without disturbing piping.

- **Internally self-flushing Buna/Carbon-Ceramic mechanical seal allows a maximum 225°F and 175 PSI working pressure**
- **Vertical and horizontal in-line mounting saves space and alleviates the need for special mounting pads or foundations**
- **Wide hydraulic coverage for a large range of pumping requirements**
- **Bronze fitted construction with open drip proof motors**
- **Companion flanges supplied**
- **Gauge, drain and vent tappings to accommodate any installed position**
- **Applications: Hydronic heating & cooling systems, general service, refrigeration and cooling towers**

## IN-LINE CENTRIFUGAL PUMP DIMENSIONS (IN.)

| Fig. | Stock No. | Max A | B | J | F | G | Max H | K | L | N | P | R | S | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4RD57 | 7½ | 1½ | – | 2¾ | 3 11/16 | 15½ | 3⅝ | 1⅜ | 7½ | 3/4 | 5 | 6 | 11 |
| 1 | 4RD58 | 7½ | 1½ | – | 2⅞ | 3⅞ | 16¼ | 3¾ | 1⅜ | 7⅞ | 3/4 | 5 | 6½ | 11½ |
| 1 | 4RD59 | 7½ | 1½ | – | 3 1/16 | 3½ | 16¾ | 4⅝ | 1 | 9½ | 3/4 | 6½ | 7 | 13½ |
| 1 | 4RD60 | 7½ | 1½ | – | 3 1/16 | 3½ | 17¾ | 4⅝ | 1 | 9½ | 3/4 | 6½ | 7 | 13½ |
| 1 | 4RD61 | 7½ | 1½ | – | 3 1/16 | 3½ | 18½ | 4⅝ | 1 | 9½ | 3/4 | 6½ | 7 | 13½ |
| 1 | 4RD63 | 7½ | 1½ | – | 3 1/16 | 3¾ | 18¾ | 4¾ | 1 | 9⅞ | 13/16 | 6½ | 7½ | 14 |
| 1 | 4RD47 | 7½ | – | – | 2¾ | 3 11/16 | 17¼ | 3⅝ | 1⅜ | 7½ | 3/4 | 5 | 6 | 11 |
| 1 | 4RD62 | 7½ | – | – | 3 1/16 | 3½ | 17¼ | 4⅝ | 1 | 9½ | 3/4 | 6½ | 7 | 13½ |
| 2 | 4RD50 | 7½ | – | – | 3 1/16 | 3½ | 18½ | 4⅝ | 1 | 9½ | 3/4 | 6½ | 7 | 13½ |
| 2 | 4RD51 | 7½ | – | – | 3 1/16 | 3½ | 20 | 4⅝ | 1 | 9½ | 3/4 | 6½ | 7 | 13½ |
| 2 | 4RD52 | 11¾ | – | 3½ | 4 5/16 | 3½ | 23⅜ | 4⅝ | 1 | 9½ | 3/4 | 6½ | 7 | 13½ |
| 2 | 4RD53 | 14 | – | 4⅛ | 4 5/16 | 3½ | 27⅜ | 4⅝ | 1 | 9½ | 3/4 | 6½ | 7 | 13½ |
| 1 | 4RD64 | 7½ | – | – | 3 1/16 | 3¾ | 17½ | 4¾ | 1 | 9⅞ | 13/16 | 6½ | 7½ | 14 |
| 1 | 4RD65 | 7½ | – | – | 3 1/16 | 3¾ | 18 | 4¾ | 1 | 9⅞ | 13/16 | 6½ | 7½ | 14 |
| 1 | 4RD66 | 7½ | – | – | 3 1/16 | 3¾ | 18½ | 4¾ | 1 | 9⅞ | 13/16 | 6½ | 7½ | 14 |
| 1 | 4RD48 | 7½ | – | – | 3 | 4 | 18¼ | 3¾ | 1⅜ | 8 | 13/16 | 5 | 6½ | 11½ |
| 1 | 4RD49 | 7½ | – | – | 3 | 4 | 19¾ | 3¾ | 1⅜ | 8 | 13/16 | 5 | 6½ | 11½ |
| 2 | 4RD54 | 11¾ | – | 3⅜ | 4 5/16 | 3¾ | 23⅝ | 4¾ | 1 | 9⅞ | 13/16 | 6½ | 7½ | 14 |
| 2 | 4RD55 | 14 | – | 4 | 4 5/16 | 3¾ | 27⅝ | 4¾ | 1 | 9⅞ | 13/16 | 6½ | 7½ | 14 |
| 2 | 4RD56 | 14 | – | 4 | 4 5/16 | 3¾ | 27⅝ | 4¾ | 1 | 9⅞ | 13/16 | 6½ | 7½ | 14 |

## IN-LINE CENTRIFUGAL PUMP ORDERING DATA

| Suction & Discharge Size NPT | RPM | HP | NEMA Frame | Phase | Flange Bolts | B&G Model No. | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1¼ | 1750 | 1/4 | 56CZ | 1 | 2 | 90-31S | **4RD57** | $522.59 | **$391.50** | 46.0 |
| 1½ | 1750 | 1/2 | 56CZ | 1 | 2 | 90-33S | **4RD58** | 608.62 | **455.00** | 55.0 |
| 1½ | 1750 | 1/2 | 56CZ | 1 | 2 | 90-35S | **4RD59** | 873.10 | **655.00** | 75.0 |
| 1½ | 1750 | 3/4 | 56CZ | 1 | 2 | 90-36S | **4RD60** | 934.12 | **700.00** | 75.0 |
| 1½ | 1750 | 1 | 56CZ | 1 | 2 | 90-37S | **4RD61** | 1108.04 | **832.00** | 85.0 |
| 2 | 1750 | 1 | 56CZ | 1 | 4 | 90-39S | **4RD63** | 1167.79 | **876.00** | 95.0 |
| 1¼ | 3500 | 1½ | 56CZ | 3 | 2 | 90-4T | **4RD47** | 739.09 | **555.00** | 58.0 |
| 1½ | 1750 | 1 | 56CZ | 3 | 2 | 90-37T | **4RD62** | 1045.85 | **785.00** | 80.0 |
| 1½ | 3500 | 3 | 56CZ | 3 | 2 | 90-15T | **4RD50** | 1161.81 | **875.00** | 85.0 |
| 1½ | 3500 | 5 | 56CZ | 3 | 2 | 90-16T | **4RD51** | 1382.83 | **1040.00** | 100.0 |
| 1½ | 3500 | 7½ | 184JM | 3 | 2 | 90-17T | **4RD52** | 1497.32 | **1120.00** | 150.0 |
| 1½ | 3500 | 10 | 213JM | 3 | 2 | 90-18T | **4RD53** | 1883.74 | **1410.00** | 185.0 |
| 2 | 1750 | 1 | 56CZ | 3 | 4 | 90-39T | **4RD64** | 1113.45 | **835.50** | 90.0 |
| 2 | 1750 | 1½ | 56CZ | 3 | 4 | 90-40T | **4RD65** | 1194.37 | **895.00** | 95.0 |
| 2 | 1750 | 2 | 56CZ | 3 | 4 | 90-41T | **4RD66** | 1236.66 | **930.00** | 95.0 |
| 2 | 3500 | 3 | 56CZ | 3 | 4 | 90-13T | **4RD48** | 987.88 | **742.00** | 75.0 |
| 2 | 3500 | 5 | 56CZ | 3 | 4 | 90-14T | **4RD49** | 1257.26 | **950.00** | 85.0 |
| 2 | 3500 | 7½ | 184JM | 3 | 4 | 90-19T | **4RD54** | 1550.42 | **1155.00** | 160.0 |
| 2 | 3500 | 10 | 213JM | 3 | 4 | 90-20T | **4RD55** | 1958.59 | **1460.00** | 195.0 |
| 2 | 3500 | 15 | 215JM | 3 | 4 | 90-21T | **4RD56** | 2345.11 | **1755.00** | 215.0 |

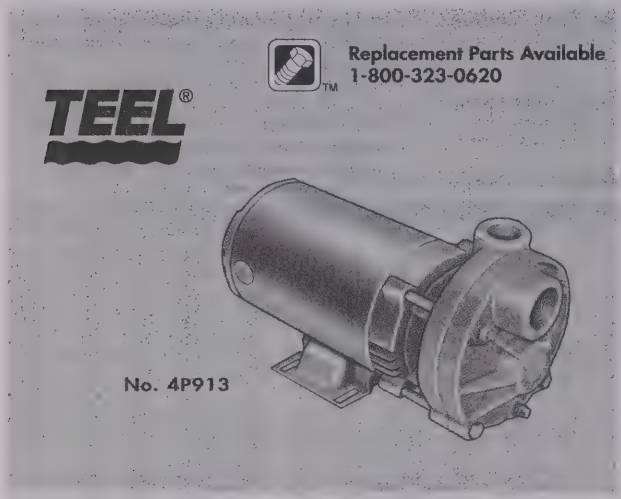
**Note:** ODP motors, Single phase - 115/230 Volt 60 HZ, Three phase - 208-230-460 Volt 60 HZ

## IN-LINE CENTRIFUGAL PUMP QUICK SELECTION TABLE

| Stock No. | Gallons Per Minute 10 GPM | 20 GPM | 30 GPM | 40 GPM | 50 GPM | 60 GPM | 70 GPM | 80 GPM | 90 GPM | 100 GPM | 110 GPM | 120 GPM | 130 GPM | 140 GPM | 150 GPM | 160 GPM | 170 GPM | 180 GPM | 190 GPM | 200 GPM | 210 GPM | Best Efficiency Point GPM*FT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RD57 | 23' | 21' | 18' | 13' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 33*17 |
| RD59 | 35' | 33' | 29' | 23' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 30*29 |
| RD60 | 44' | 43' | 40' | 34' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 35*37 |
| RD61 | 56' | 55' | 53' | 50' | 44' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 12*48 |
| RD62 | 56' | 55' | 53' | 50' | 44' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 12*48 |
| RD58 | – | 27' | 26' | 24' | 21' | 19' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 52*21 |
| RD47 | – | 88' | 85' | 80' | 74' | 66' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 57*68 |
| RD50 | – | 119' | 117' | 110' | 105' | 97' | 87' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 60*97 |
| RD51 | – | 150' | 149' | 144' | 139' | 130' | 123' | 113' | – | – | – | – | – | – | – | – | – | – | – | – | – | 72*120 |
| RD63 | – | 38' | 37' | 37' | 36' | 35' | 33' | 32' | 30' | – | – | – | – | – | – | – | – | – | – | – | – | 80*32 |
| RD64 | – | 38' | 37' | 37' | 36' | 35' | 33' | 32' | 30' | – | – | – | – | – | – | – | – | – | – | – | – | 80*32 |
| RD52 | – | – | 202' | 198' | 193' | 185' | 177' | 167' | 159' | 148' | – | – | – | – | – | – | – | – | – | – | – | 85*164 |
| RD53 | – | – | 224' | 221' | 216' | 209' | 202' | 193' | 182' | 170' | – | – | – | – | – | – | – | – | – | – | – | 90*182 |
| RD65 | – | – | 45' | 45' | 44' | 43' | 41' | 40' | 37' | 36' | 34' | – | – | – | – | – | – | – | – | – | – | 90*37 |
| RD66 | – | – | 55' | 54' | 53' | 52' | 50' | 48' | 47' | 45' | 43' | – | – | – | – | – | – | – | – | – | – | 95*46 |
| RD48 | – | – | – | 72' | 71' | 70' | 68' | 66' | 64' | 62' | 60' | 58' | 55' | 53' | 50' | – | – | – | – | – | – | 130*55 |
| RD49 | – | – | – | 98' | 97' | 96' | 95' | 94' | 92' | 90' | 88' | 86' | 84' | 82' | 78' | 75' | – | – | – | – | – | 150*77 |
| RD54 | – | – | – | – | – | 140' | 138' | 136' | 135' | 133' | 130' | 128' | 125' | 120' | 118' | 115' | – | – | – | – | – | 140*120 |
| RD55 | – | – | – | – | – | 182' | 180' | 179' | 177' | 175' | 172' | 170' | 168 | 165' | 162' | 160 | 156' | 154' | 150' | 145' | – | 170*155 |
| RD56 | – | – | – | – | – | 215' | 214' | 212' | 210' | 208' | 206' | 204' | 202 | 200' | 198' | 194' | 191' | 188 | 185' | 180' | 176' | 190*185 |

# TURBINE PUMPS

## BRONZE-FITTED TURBINE PUMPS




**Description:** For boiler feed and condensate return service. Liquid temperature: -20° to 230°F. Handles vapors up to 20% by volume minimizing the possibility of vapor lock. Pumps are designed for low flows at high discharge pressures while maintaining high efficiency. Top vertical discharge for self-venting and end suction connections. For use with nonflammable liquids compatible with pump component materials.

**Construction:** Close coupled pumps with standard NPT threaded suction and discharge ports. Designed for 300 PSI max. casing pressure. Impeller utilizes balancing holes to promote hydraulic self centering, eliminating side wear and need for external adjustment. Replaceable shaft sleeve provided to protect shaft from wear.

Cast iron cover and motor bracket plated with hard electroless nickel for longer life. Bronze impeller and shaft sleeve. Buna N "O" ring gaskets. Mechanical seal with Buna N and stainless steel parts, carbon/ceramic seats. Rated for 230°F water service.

**Driver:** Dayton 3450 RPM 60 Hz single phase 115/230V with capacitor start and automatic reset thermal protection. NEMA 56 mounting face motor with keyed shaft, ball bearings and open dripproof enclosure.

**Note:** A suitable relief valve, such as No. 4UN31, should be installed to assure maximum PSI is not exceeded; otherwise, electric motor/pump may be damaged.

### BOILER FEED SELECTION GUIDE

| Boiler HP | Operating PSI 15 & 50 Stock Nos. | 75 & 100 Stock Nos. | 125 & 150 Stock Nos. |
|---|---|---|---|
| 5, 10 | — | — | 4P913 |
| 15, 20 | 4P914 | 4P914 | 4P915 |
| 25, 30 | 4P914 | 4P915 | 4P915 |
| 40, 50 | 4P916 | 4P916 | — |

### PUMP PERFORMANCE GUIDE

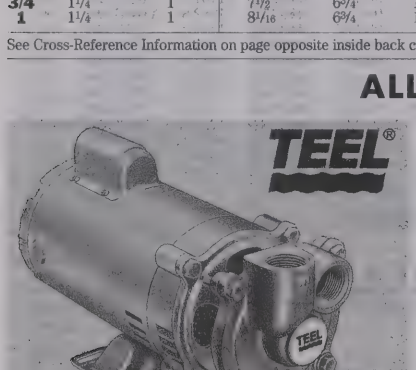
| HP | Stock No. | GPM of Water @ Total Pressure (PSI) 10 | 20 | 30 | 50 | 75 | 100 | 125 | 15 |
|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 4P913 | 4.2 | 4.1 | 4.0 | 3.8 | 3.5 | 3.2 | 2.9 | 2 |
| 1/2 | 4P914 | 5.8 | 5.6 | 5.4 | 5.2 | 4.8 | 4.4 | 4.1 | – |
| 3/4 | 4P915 | 7.5 | 7.3 | 7.1 | 6.8 | 6.3 | 6.0 | 5.5 | 5 |
| 1 | 4P916 | 11.1 | 10.8 | 10.6 | 10.2 | 9.4 | 9.0 | — | – |

### TURBINE PUMP ORDERING DATA

| HP | Inlet (In.) | Outlet (In.) | Dimensions (In.) H | W | L | Pump Cross Reference Aurora | Burks | MTH | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 1¼ | 1 | 7⅞ | 6¾ | 14⅞ | A1B1052D | 5CT5M | T51B-BF-1/2 | **4P913** | $491.94 | **$430.25** | 41 |
| **1/2** | 1¼ | 1 | 7⅞ | 6¾ | 14⅞ | B1B1052D | 5CT6M | T51C-BF-1/2 | **4P914** | 468.67 | **430.25** | 41 |
| **3/4** | 1¼ | 1 | 7½ | 6¾ | 15⅛ | C1B1072D | 7CT7M | T51D-BF-3/4 | **4P915** | 543.78 | **452.75** | 43 |
| **1** | 1¼ | 1 | 8 1/16 | 6¾ | 13¾ | D1B1102D | 10CS5M | T51E-BF-1 | **4P916** | 657.07 | **529.00** | 45 |

See Cross-Reference Information on page opposite inside back cover.

## ALL BRONZE TURBINE PUMPS




**Description:** For high-pressure liquid transfer applications up to 130 PSI where no suction lift is required; boiler feed, condensation return, pressure-booster service, reverse-osmosis filtration. Not for use with highly viscous or abrasive liquids. Liquid temperature range, 40 to 160°F. Handles entrapped gases without vapor locking. Maximum viscosity, 100 SSU. Inlet strainer should be used on most applications. For use with nonflammable liquids compatible with pump component materials.

**Construction:** Heavy-duty cast-bonze construction for elevated pressures. Easily accessible front drain plug for draining liquid. Double shielded, prelubricated ball bearings. 40°C rise.

All metal wetted parts are bronze. Buna N carbon/ceramic, and stainless steel seal.

**Driver:** Dayton 3450 RPM, 60 Hz. ball bearing motor. NEMA 56J mounting face motor with threaded stainless steel shaft. Single phase units have capacitor-start, open drip-proof motors with automatic reset thermal protection. 3-Phase units have TEFC motors.

**Note:** A suitable relief valve, such as No. 2P073 should be installed to assure maximum PSI is not exceeded; otherwise, electric motor/pump may be damaged.

### BRONZE TURBINE PUMP ORDERING DATA

| HP | Motor Type | Volts 60 Hz | Inlet & Outlet (In.) | Dimensions (In.) H | W | L | GPM of Water @ Total Pressure (PSI)* 0 | 10 | 20 | 40 | 60 | 80 | 100 | 120 | Max. PSI† | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/4** | Capacitor | 115/230 | 1 | 6⅝ | 6½ | 13¼ | 5.6 | 5.2 | 4.9 | 4.3 | 3.8 | 3.3 | 2.8 | 2.2 | 120 | **2P105** | $624.05 | **$430.00** | 33 |
| **1½** | Capacitor | 115/230 | 1 | 6⅝ | 6½ | 14¼ | 9.0 | 8.9 | 8.7 | 8.1 | 7.2 | 6.3 | 5.3 | 4.3 | 130 | **2P106** | 718.05 | **503.50** | 41 |
| **3/4** | 3-Phase | 208-220/440 | 1 | 6⅝ | 6½ | 13¼ | 5.6 | 5.2 | 4.9 | 4.3 | 3.8 | 3.3 | 2.8 | 2.2 | 120 | **2P107** | 685.46 | **473.50** | 31 |
| **1½** | 3-Phase | 208-220/440 | 1 | 6⅝ | 6½ | 14¼ | 9.0 | 8.9 | 8.7 | 8.1 | 7.2 | 6.3 | 5.3 | 4.3 | 130 | **2P108** | 768.09 | **537.50** | 38 |

(*) With 1 PSI positive suction head (flooded suction). (†) To convert to feet of head, multiply by 2.31.



If we don't have a pump for it, chances are it can't be pumped.

# TURBINE PUMPS

## BRONZE-FITTED TURBINE PUMPS

**Description:** For boiler feed and condensate return service, jockey pumps on fire and sprinkler systems, or any application requiring moderate to high head, low flow, pumping clean fluids. Liquid temperature: -20° to 230°F. Handles vapors up to 20% by volume, minimizing the possibility of vapor lock. Pumps are designed for low flows at high discharge pressures while maintaining high efficiency, thus requiring less horsepower. Top vertical discharge for self-venting and end suction connections. For use with nonflammable liquids compatible with pump component materials.

**Construction:** Close coupled pumps with standard NPT threaded suction and discharge ports. Designed for 300 PSI max. casing pressure. Impeller utilizes balancing holes to promote hydraulic self centering, eliminating side wear and need for external adjustment.

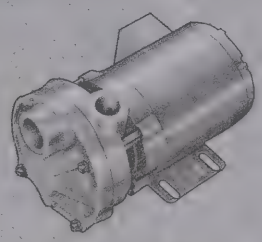
Nos. 4UP50 & 4UP51 are all bronze. Nos. 4UP52 thru 4UP66 have cast iron cover and motor bracket with hard electroless nickel plating for longer life and replaceable bronze shaft sleeve. All models have bronze impeller, Buna N "O" ring gaskets, mechanical seal with Buna N and stainless steel parts, carbon/ceramic seats. Rated for 230°F water service.

**Driver:** 3450 RPM, 60 Hz ball bearing C face motor. Single-phase capacitor-dripproof. Three phase units have TEFC motors.

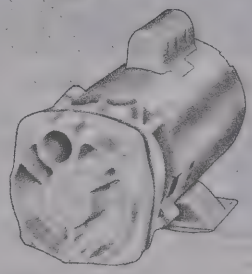
**Note:** A suitable relief valve, such as No. 4UN31, should be installed to assure maximum PSI is not exceeded; otherwise, electric motor/pump may be damaged.

TEEL®

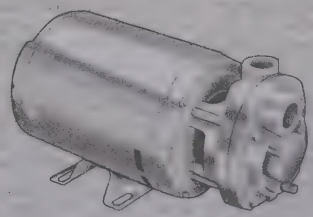
New



No. 4UP59



No. 4UP52



No. 4UP50

Replacement Parts Available
1-800-323-0620

### PUMP PERFORMANCE GUIDE

| HP | Stock No. | GPM of Water at Total Pressure (PSI) 10 | 20 | 30 | 50 | 75 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 4UP50 | 3.3 | 3.1 | 2.9 | 2.6 | 2.2 | 1.9 | 1.5 | — |
| 1/2 | 4UP51 | 6.2 | 5.8 | 5.5 | 4.8 | 4.0 | 3.2 | — | — |
| 1/2 | 4UP52 | 6.8 | 6.6 | 6.3 | 5.8 | 5.2 | 4.6 | 4.1 | — |
| 3/4 | 4UP53 | 8.9 | 8.6 | 8.2 | 7.7 | 6.8 | 6.3 | 5.5 | — |
| 1½ | 4UP54 | 10.4 | 9.8 | 9.3 | 8.8 | 7.7 | 7.2 | 6.4 | 5.5 |
| 2 | 4UP55 | 13.6 | 13.2 | 12.5 | 11.5 | 10.5 | 9.5 | | |
| 2 | 4UP56 | 21.0 | 19.5 | 18.5 | 17.2 | 15.0 | 13.0 | — | — |
| 2 | 4UP58 | 25.0 | 23.7 | 22.8 | 21.0 | 19.0 | — | — | — |
| 2 | 4UP59 | 13.4 | 13.0 | 12.8 | 12.5 | 11.8 | 11.3 | — | — |
| 3 | 4UP57 | 21.0 | 19.5 | 18.5 | 17.2 | 15.0 | 13.0 | 11.5 | — |
| 3 | 4UP60 | 17.0 | 16.7 | 16.2 | 15.7 | 15.0 | 14.4 | 13.5 | — |
| 3 | 4UP62 | 25.5 | 25.0 | 24.5 | 23.7 | 22.5 | 21.5 | — | — |
| 3 | 4UP63 | 32.2 | 31.2 | 30.7 | 29.2 | 27.0 | — | — | — |
| 3 | 4UP64 | 32.0 | 31.2 | 30.7 | 29.2 | — | — | — | — |
| 5 | 4UP61 | 22.3 | 22.0 | 21.3 | 20.5 | 19.3 | 18.2 | 16.8 | |
| 5 | 4UP65 | 41.0 | 40.6 | 40.0 | 38.0 | — | — | — | — |
| 7½ | 4UP66 | 41.0 | 40.6 | 40.0 | 38.0 | 36.0 | 34.5 | 32.0 | — |

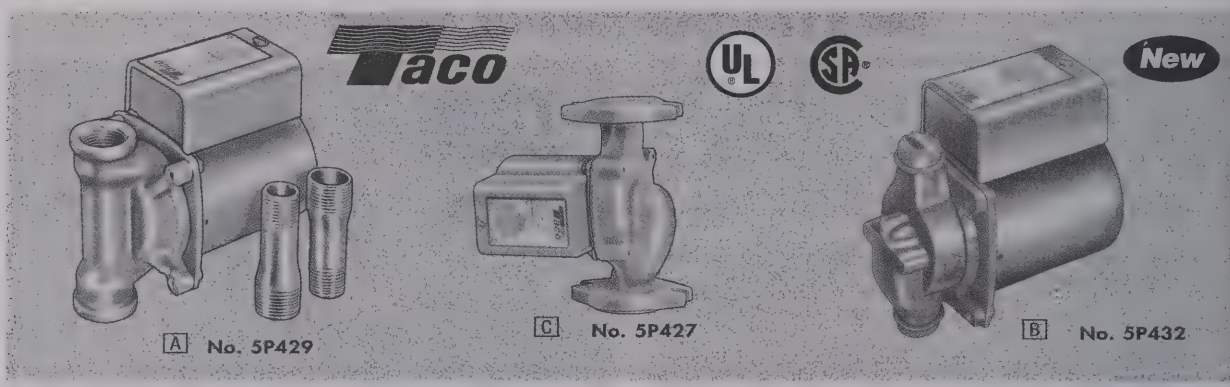
### TURBINE PUMP ORDERING DATA

| HP | Motor Enclosure | Type | Volts 60 Hz | Dimensions (In.) Inlet | Outlet | H | W | L | Manufacturer's Cross Reference MTH Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/3** | ODP | Capacitor | 115/208-230 | 3/4 | 3/4 | 4⅜ | 5⅝ | 12⅜₂ | T31C-AB-1/3 | **4UP50** | $420.00 | **$383.75** | 25.0 |
| **1/2** | ODP | Capacitor | 115/208-230 | 3/4 | 3/4 | 4⅜ | 5⅝ | 13⅛₂ | T31F-AB-1/2 | **4UP51** | 432.60 | **396.25** | 30.0 |
| **1/2** | ODP | Capacitor | 115/208-230 | 1 | 1 | 6½ | 6½ | 14⅜₆ | T41D-BF-1/2 | **4UP52** | 468.30 | **430.50** | 40.0 |
| **3/4** | ODP | Capacitor | 115/208-230 | 1 | 1 | 6½ | 6½ | 15⅛₆ | T41E-BF-3/4 | **4UP53** | 515.55 | **473.55** | 42.0 |
| **1½** | TEFC | Capacitor | 115/208-230 | 1 | 1 | 6½ | 8⅛ | 16½ | T41G-BF-1.5 | **4UP54** | 795.90 | **730.00** | 60.0 |
| **2** | TEFC | Capacitor | 115/208-230 | 1 | 1 | 6½ | 8½ | 16⅝ | T41J-BF-2 | **4UP55** | 913.50 | **837.00** | 65.0 |
| **2** | TEFC | Capacitor | 115/208-230 | 1 | 1 | 6½ | 8½ | 16⅝ | T41M-BF-2 | **4UP56** | 913.50 | **837.00** | 65.0 |
| **3** | TEFC | 3-Phase | 208-230/460 | 1 | 1 | 6½ | 8⅜ | 16⅓ | T41M-BF-3 | **4UP57** | 993.30 | **908.00** | 62.0 |
| **2** | TEFC | 3-Phase | 208-230/460 | 1 | 1 | 6½ | 8⅜ | 15⅝ | T41P-BF-2 | **4UP58** | 837.90 | **767.50** | 57.0 |
| **2** | TEFC | Capacitor | 115/208-230 | 1¼ | 1 | 7½ | 8½ | 16⅛₂ | T51G-BF-2 | **4UP59** | 1003.80 | **917.00** | 60.0 |
| **3** | TEFC | 3-Phase | 208-230/460 | 1¼ | 1 | 7½ | 8¼ | 16⅛₆ | T51J-BF-3 | **4UP60** | 1086.75 | **993.00** | 65.0 |
| **5** | TEFC | 3-Phase | 208-230/460 | 1¼ | 1 | 7½ | 8¼ | 17⅛ | T51L-BF-5 | **4UP61** | 1393.35 | **1284.00** | 130.0 |
| **3** | TEFC | 3-Phase | 208-230/460 | 1¼ | 1 | 7½ | 8⅜ | 16⅛₆ | T51M-BF-3 | **4UP62** | 1086.75 | **993.00** | 65.0 |
| **3** | ODP | Capacitor | 230 Only | 1¼ | 1 | 7½ | 6⅜₆ | 16⅞₂ | T51P-BF-3 | **4UP63** | 979.65 | **899.00** | 78.0 |
| **3** | TEFC | 3-Phase | 208-230/460 | 1¼ | 1 | 7½ | 8⅜ | 16⅛₆ | T51P-BF-3 | **4UP64** | 1086.75 | **993.00** | 65.0 |
| **5** | TEFC | 3-Phase | 208-230/460 | 1¼ | 1 | 7½ | 8¼ | 17⅛ | T51R-BF-5 | **4UP65** | 1393.35 | **1284.00** | 130.0 |
| **7½** | TEFC | 3-Phase | 208-230/460 | 1¼ | 1 | 7½ | 8⅜ | 17⅛₂ | T51R-BF-7.5 | **4UP66** | 1705.56 | **1625.00** | 135.0 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# HOT WATER CIRCULATING PUMPS




- **Bronze or cast-iron construction**
- **Compact design**
- **Maintenance-free cartridge permanent split capacitor motor 3250 RPM**
- **Quiet, efficient operation**
- **Taco brand**

**Applications:**

**Nos. 4PC85-4PC87, 4PC91, 5P429-5P433, 4P977.** Bronze construction, used in higher head heat recovery systems, water source heat pumps, and open lop solar systems. **No. 4PC92,** Cast-iron construction, used in higher head hydronic systems, radiant heating, and closed loop solar.

**Nos. 5P428 and 4PC90.** Bronze construction, used in hydronic heating, chilled fresh water, and domestic water systems. **Nos. 5P427, 4P975, 4PC89.** Cast-iron construction, used in hydronic heating, add a zone additions, and zoning with circulators.

**Nos. 4PC93 and 4PC82.** Bronze construction, used in higher head/higher flow open loop domestic fresh water, and heat recovery/earthloop systems. **Nos. 4PC94, 4PC78, 4PC82.** Cast-iron construction, used in higher head/higher flow closed loop hydronic systems, high pressure drop boilers, fan coils, heat exchangers, and larger radiant systems.

**Nos. 4PC79 and 4PC83.** Bronze construction, used in high velocity open loop fresh water systems, and recirculation loops. Nos 4PC77, 4PC80, 4PC84. Cast-iron construction, used in high velocity closed loop hydronic systems, with large BTUH boilers, primary-secondary loops, and heating/cooling systems.

**Construction:**

**Nos. 4PC85-4PC87 and 5P429-5P432.** Bronze construction, used for domestic hot water circulation, heat recovery units, water source heat pumps, drain down open loop solar systems, and potable water systems.

**All units feature a replaceable cartridge circulator** which contains all moving parts and allows circulator to be serviced instead of replacing entire pump. Quiet direct-drive cartridge-type circulator is self-lubricating, contains no mechanical seal, and requires no maintenance. Compact low power consumption design. Permanent split capacitor motor at 3250 RPM is impedance protected. Feature non-metallic impeller, ceramic shaft, carbon bearings. Max. Pressure: 125 PSI. Nos. 4PC89 and 4PC90 temperature rating: 240°F max. Nos. 4PC77-4PC84, 4PC91-4PC92, 4P975, 4P976, 4P977, 5P428, and 5P433 temperature rating: 230°F max. Nos. 4PC85-4PC88, 5P429-5P432 temperature rating: 220°F max.

## HOT WATER CIRCULATING PUMP PERFORMANCE DATA

| Key | Taco | Stock Nos. | HP | Gallons per Minute of Water at Total Feet of Head | | | | | | | | | | | | | | Shut-Off (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 Ft. | 2 Ft. | 3 Ft. | 4 Ft. | 5 Ft. | 6 Ft. | 7 Ft. | 8 Ft. | 9 Ft. | 10 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | 30 Ft. | 35 Ft. | |
| B | 003-BF | **4PC85** | 1/40 HP | 6 | 5 | 3.5 | 1.5 | 0 | – | – | – | – | – | – | – | – | – | – | 4.5 |
| B | 003-BC4 | **4PC86** | 1/40 HP | 6 | 5 | 3.5 | 1.5 | 0 | – | – | – | – | – | – | – | – | – | – | 4.5 |
| C | 005-F2-3 | **5P427** | 1/35 HP | 17 | 16 | 14.5 | 13 | 11.5 | 10 | 8 | 5 | 0 | – | – | – | – | – | – | 9 |
| C | 005-BF2-2 | **5P428** | 1/35 HP | 17 | 16 | 14.5 | 13 | 11.5 | 10 | 8 | 5 | 0 | – | – | – | – | – | – | 9 |
| C | 005-F3Y-1 | **4P975** | 1/35 HP | 17 | 16 | 14.5 | 13 | 11.5 | 10 | 8 | 5 | 0 | – | – | – | – | – | – | 9 |
| C | 005-BF3Y-1 | **4P976** | 1/35 HP | 17 | 16 | 14.5 | 13 | 11.5 | 10 | 8 | 5 | 0 | – | – | – | – | – | – | 9 |
| B | 006-B4 | **4PC87** | 1/40 HP | 10.5 | 10 | 9 | 8.5 | 7.5 | 6.5 | 5 | 3.5 | 2 | 0 | – | – | – | – | – | 9.5 |
| A | 006-BT4-1 | **5P429** | 1/40 HP | 10.5 | 10 | 9 | 8.5 | 7.5 | 6.5 | 5 | 3.5 | 2 | 0 | – | – | – | – | – | 9.5 |
| A | 006-BT5Y-1 | **5P430** | 1/40 HP | 10.5 | 10 | 9 | 8.5 | 7.5 | 6.5 | 5 | 3.5 | 2 | 0 | – | – | – | – | – | 9.5 |
| B | 006-BC5Y-4 | **5P431** | 1/40 HP | 10.5 | 10 | 9 | 8.5 | 7.5 | 6.5 | 5 | 3.5 | 2 | 0 | – | – | – | – | – | 9.5 |
| B | 006-B4-4 | **5P432** | 1/40 HP | 10.5 | 10 | 9 | 8.5 | 7.5 | 6.5 | 5 | 3.5 | 2 | 0 | – | – | – | – | – | 9.5 |
| C | 007-BF5 | **4PC89** | 1/25 HP | 21 | 19.5 | 18 | 16 | 14 | 12 | 10 | 7 | 4 | 0 | – | – | – | – | – | 10 |
| C | 007-F5 | **4PC90** | 1/25 HP | 21 | 19.5 | 18 | 16 | 14 | 12 | 10 | 7 | 4 | 0 | – | – | – | – | – | 10 |
| B | 008-BC6 | **4PC91** | 1/25 HP | 14.5 | 14 | 13.5 | 13 | 12 | 11.5 | 11 | 10 | 9 | 8 | 1 | 0 | – | – | – | 16 |
| C | 008-F6 | **4PC92** | 1/25 HP | 14.5 | 14 | 13.5 | 13 | 12 | 11.5 | 11 | 10 | 9 | 8 | 1 | 0 | – | – | – | 16 |
| C | 008-BF6Y-1 | **4P977** | 1/25 HP | 14.5 | 14 | 13.5 | 13 | 12 | 11.5 | 11 | 10 | 9 | 8 | 1 | 0 | – | – | – | 16 |
| C | 008-BF5-1 | **5P433** | 1/25 HP | 14.5 | 14 | 13.5 | 13 | 12 | 11.5 | 11 | 10 | 9 | 8 | 1 | 0 | – | – | – | 16 |
| C | 009-BF5 | **4PC93** | 1/8 HP | 11.3 | 11 | 10.8 | 10.5 | 10.3 | 10 | 9.75 | 9.5 | 9.25 | 9 | 8 | 6.5 | 5 | 2.5 | 0 | 35 |
| C | 009-F5 | **4PC94** | 1/8 HP | 11.3 | 11 | 10.8 | 10.5 | 10.3 | 10 | 9.75 | 9.5 | 9.25 | 9 | 8 | 6.5 | 5 | 2.5 | 0 | 35 |
| C | 0010-F2 | **4PC77** | 1/8 HP | 30 | 28.5 | 27.5 | 25 | 22.5 | 20 | 18 | 15 | 11 | 4 | 0 | – | – | – | – | 11 |
| C | 0011-F4 | **4PC78** | 1/8 HP | 31 | 30 | 29 | 28.5 | 27.5 | 26.5 | 25.5 | 24.5 | 24 | 23 | 18 | 12.5 | 6.5 | 0 | – | 30 |
| C | 0012-BF4 | **4PC79** | 1/8 HP | 48 | 46 | 44 | 42 | 40 | 37 | 35 | 32 | 28 | – | 0 | – | – | – | – | 14 |
| C | 0012-F4-2 | **4PC80** | 1/8 HP | 48 | 46 | 44 | 42 | 40 | 37 | 35 | 32 | 28 | 25 | 0 | – | – | – | – | 14 |
| C | 0013-BF3 | **4PC81** | 1/8 HP | 29 | 28.5 | 28 | 27.5 | 27.3 | 27 | 26.5 | 26 | 25.5 | 24.5 | 22 | 18 | 12 | 5 | 0 | 34 |
| C | 0013-F3 | **4PC82** | 1/8 HP | 29 | 28.5 | 28 | 27.5 | 27.3 | 27 | 26.5 | 26 | 25.5 | 24.5 | 22 | 18 | 12 | 5 | 0 | 34 |
| C | 0014-BF1 | **4PC83** | 1/8 HP | 32.5 | 31.5 | 30.5 | 29 | 28 | 27 | 25.5 | 24 | 23 | 21.5 | 13 | 3 | 0 | – | – | 22 |
| C | 0014-F1 | **4PC84** | 1/8 HP | 32.5 | 31.5 | 30.5 | 29 | 28 | 27 | 25.5 | 24 | 23 | 21.5 | 13 | 3 | 0 | – | – | 22 |

(*) Maximum Head in Feet.



*If we don't have a pump for it, chances are it can't be pumped.*

# HOT WATER CIRCULATING PUMPS

## HOT WATER CIRCULATING PUMP ORDERING DATA

| Key | HP | Pump Body | Impeller# | Volts | Phase | Full-Load Amps | Thermal Protection | Face to Face (In.) | Dimensions (In.) W | Dimensions (In.) L | Inlet & Outlet (In.) | Taco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/40 | Bronze | Non-metallic | 115 | 1 | 0.52 | Imped | 4 1/32 | 3 9/16 | 5 3/8 | 3/4 FNPT† | 006-BT4-1 | 5P429 | $168.00 | $98.00 | 4.7 |
| A | 1/40 | Bronze | Non-metallic | 230 | 1 | 0.40 | Imped | 4 1/32 | 3 9/16 | 5 3/8 | 3/4 FNPT† | 006-BT5Y-1 | 5P430 | 168.00 | 120.75 | 5.3 |
| B | 1/40 | Bronze | Non-metallic | 115 | 1 | 0.43 | Imped | 4 1/32 | 3 9/16 | 5 1/4 | 3/4 sweat | 003-B4-1 | New4PC85 | 157.50 | 114.15 | 4.5 |
| B | 1/40 | Bronze | Non-metallic | 115 | 1 | 0.43 | Imped | 4 1/4 | 3 9/16 | 5 1/4 | 1/2 sweat | 003-BC4-2 | New4PC86 | 157.50 | 114.15 | 4.5 |
| B | 1/40 | Bronze | Non-metallic | 115 | 1 | 0.52 | Imped | 4 1/32 | 3 9/16 | 5 1/4 | 3/4 sweat | 006-B4-12 | New4PC87 | 157.50 | 116.95 | 4.6 |
| B | 1/40 | Bronze | Non-metallic | 115 | 1 | 0.52 | Imped | 4 1/4 | 3 9/16 | 5 1/4 | 1/2 sweat | 006-B4-4 | 5P432 | 163.00 | 98.00 | 5.5 |
| B | 1/40 | Bronze | Non-metallic | 230 | 1 | 0.40 | Imped | 4 1/4 | 3 9/16 | 5 1/4 | 1/2 sweat | 006-BC5Y-4 | 5P431 | 163.00 | 117.30 | 5.2 |
| C | 1/35 | Cast Iron | Non-metallic | 115 | 1 | 0.53 | Imped | 6 3/8 | 4 5/8 | 5 5/8 | Flanged‡ | 005-F2-3 | 5P427 | 100.00 | 58.00 | 7.8 |
| C | 1/35 | Cast Iron | Non-metallic | 230 | 1 | 0.39 | Imped | 6 3/8 | 4 5/8 | 5 5/8 | Flanged‡ | 005-F3Y-1 | 4P975 | 100.00 | 72.00 | 7.8 |
| C | 1/35 | Bronze | Non-metallic | 115 | 1 | 0.53 | Imped | 6 3/8 | 4 5/8 | 5 5/8 | Flanged‡ | 005-BF2-2 | 5P428 | 166.00 | 96.15 | 7.8 |
| C | 1/35 | Bronze | Non-metallic | 230 | 1 | 0.40 | Imped | 6 3/8 | 4 5/8 | 5 5/8 | Flanged‡ | 005-BF3Y-1 | 4P976 | 166.00 | 119.30 | 7.8 |
| C | 1/25 | Bronze | Non-metallic | 115 | 1 | 0.84 | Imped | 6 3/8 | 4 5/8 | 6 | Flanged‡ | 008-BF6-1 | 5P433 | 237.00 | 159.00 | 8.4 |
| C | 1/25 | Bronze | Non-metallic | 230 | 1 | 0.49 | Imped | 6 3/8 | 4 5/8 | 6 | Flanged‡ | 008-BF7Y-1 | 4P977 | 237.00 | 170.75 | 8.4 |
| B | 1/25 | Bronze | Non-metallic | 115 | 1 | 0.84 | Imped | 6 3/8 | 4 3/4 | 5 3/4 | 3/4 sweat | 008-BC6-3 | New4PC91 | 240.50 | 170.25 | 6.0 |
| C | 1/25 | Cast Iron | Non-metallic | 115 | 1 | 0.79 | Imped | 6 3/8 | 4 3/4 | 6 | Flanged‡ | 008-F6-1 | New4PC92 | 125.00 | 77.50 | 7.0 |
| C | 1/25 | Bronze | Non-metallic | 115 | 1 | 0.70 | Imped | 6 3/8 | 4 3/4 | 6 1/8 | Flanged‡ | 007-BF5-3 | New4PC89 | 225.00 | 135.00 | 7.5 |
| C | 1/25 | Cast Iron | Non-metallic | 115 | 1 | 0.70 | Imped | 6 3/8 | 4 3/4 | 6 1/8 | Flanged‡ | 007-F5-9 | New4PC90 | 120.00 | 60.00 | 7.3 |
| C | 1/8 | Cast Iron | Non-metallic | 115 | 1 | 1.10 | Imped | 6 3/4 | 5 3/8 | 7 1/4 | Flanged‡ | 0010-F2-1 | New4PC77 | 217.50 | 158.00 | 9.5 |
| C | 1/8 | Bronze | Non-metallic | 115 | 1 | 1.33 | Imped | 8 1/2 | 6 | 8 5/8 | Flanged‡ | 0012-BF4-3 | New4PC79 | 386.50 | 280.75 | 15.0 |
| C | 1/8 | Cast Iron | Non-metallic | 115 | 1 | 1.33 | Imped | 8 1/2 | 6 | 8 5/8 | Flanged‡ | 0012-F4-2 | New4PC80 | 288.50 | 210.00 | 13.0 |
| C | 1/8 | Bronze | Non-metallic | 115 | 1 | 1.40 | Imped | 6 3/8 | 4 1/8 | 7 | Flanged‡ | 009-BF5-3 | New4PC93 | 292.50 | 212.25 | 9.5 |
| C | 1/8 | Cast Iron | Non-metallic | 115 | 1 | 1.40 | Imped | 6 3/8 | 4 1/8 | 7 | Flanged‡ | 009-F5-1 | New4PC94 | 198.00 | 143.85 | 9.0 |
| C | 1/8 | Bronze | Non-metallic | 115 | 1 | 1.55 | Imped | 6 1/2 | 6 | 7 3/4 | Flanged‡ | 0014-BF1-1 | New4PC83 | 338.00 | 245.00 | 11.0 |
| C | 1/8 | Cast Iron | Non-metallic | 115 | 1 | 1.55 | Imped | 6 1/2 | 6 | 7 3/4 | Flanged‡ | 0014-F1-1 | New4PC84 | 235.00 | 171.00 | 11.0 |
| C | 1/8 | Cast Iron | Non-metallic | 115 | 1 | 1.76 | Imped | 6 1/2 | 6 | 7 5/8 | Flanged‡ | 0011-F4-1 | New4PC78 | 217.00 | 158.25 | 12.0 |
| C | 1/8 | Bronze | Non-metallic | 115 | 1 | 2.0 | Imped | 6 1/2 | 6 | 7 3/4 | Flanged‡ | 0013-BF3-1 | New4PC81 | 355.50 | 258.00 | 13.0 |
| C | 1/8 | Cast Iron | Non-metallic | 115 | 1 | 2.0 | Imped | 6 1/2 | 6 | 7 3/4 | Flanged‡ | 0013-F3-1 | New4PC82 | 249.50 | 181.75 | 13.0 |

) Impedance protected, auto. (‡) Use standard Teel 3/4, 1, 1¼, 1½" flanges. Four bolts and four nuts nuts supplied. (†) Includes (2) 3/4 x 1/2" reducers.
) Glass-filled polypropylene.

## "00" CLOCK TIMER

**Domestic Hot Water Recirculation - circulates on peak demand**

**24 Hour clock timer - 15 minute intervals**

**Rugged construction - steel timer enlosure**

he Clock timer is retro-fittable to any "00" eries Circulator. This user-friendly clock has an hour hand, raised minute hand for ease of adjustment, two directional arrows, and AM/PM settings. The timer can be mounted in any direction, by attaching it to the capacitor box electrical connection hole. 115 VAC/60 Hz/ 1 Phase and 16A

***New* No. 4PC95.** Shpg. wt. 0.5 lbs. List.....$67.60
Each .....**$48.85**




## TEMPERATURE AQUASTAT

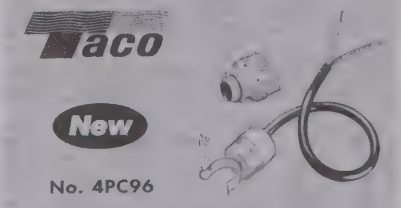
**Temperature control - 95°F On and 115°F Off Aquastat**

**Fits all "00" Series; can be used with "00" Clock Timer**

**Connects to 1/2" and 3/4" pipe**

emperature Aquastat is retro-fittable to ıy "00" Series Circulator. The circulator ycles continuously to maintain a temperature between 95°F and 115°F. The Aquastat snaps directly onto 3/4" pipe and, for 1/2" applications, it snaps directly onto the discharge of the 1/2" bronze body.

***New* No. 4PC96.** Temperature Aquastat. Shpg. wt. 0.3 lbs. List .....$22.90
Each .....**$17.55**




## ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

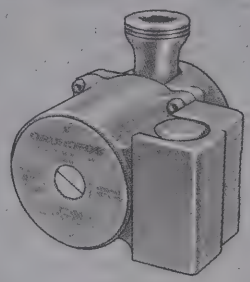
# HOT WATER CIRCULATOR PUMPS FOR HYDRONIC AND SOLAR APPLICATIONS

- **Single stage, direct drive centrifugal pumps**
- **Cast-iron, bronze, or stainless steel pump bodies**
- **Efficient wet rotor motor design**
- **Maximum fluid temperature: 230°F**
- **Maximum system pressure: 145 PSI**
- **UL Listed, CSA Certified**

**Applications:** Nos. 2P310, 4P309 and 2P410 are designed for domestic and light commercial closed loop water circulating systems such as hydronic heating, heat pumps, low pressure boosting, and general water circulating systems. No. 2P311, 4P907–13 are designed for open loop systems such as domestic hot water recirculation, solar thermal heating, and heat recovery systems. Mixtures of water and glycol solutions of up to 50% by volume may be pumped. Flange bolts and gaskets are included with Nos. 2P310 and 2P410. Order flanges separately, see page 3274. Threaded connections on No. 2P311 are adapted to piping systems using threaded half union kit No. 2P312, sold separately below.

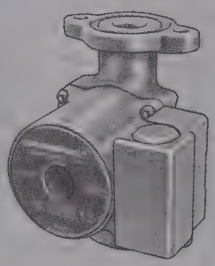
**Pump Body Construction:** Nos. 2P311, 4PD07-08 and 4PD10-11 stainless steel; Nos. 4PD12-13 bronze; Nos. 2P310, 2P410, and 4PD09 are cast iron.

**Impeller construction:** 2P310-11, 4PD10-13 are polyether sulfone; Nos. 2P410, 4PD07-09 are stainless steel.



New

A
Threaded

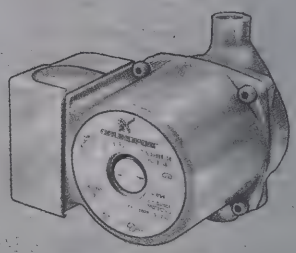


B
Flanged

GRUNDFOS®

E58326 LR44734

GRUNDFOS
18 MONTH WARRANTY
on Stock Nos. 2P311, and 2P410.
36 MONTH WARRANTY
on Stock Nos. 2P310.
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



C
Sweat

## PUMP PERFORMANCE

| Key | Speed RPM | Stock No. | Gallons per Minute of Water at Total Feet of Head 1 Ft. | 2 Ft. | 3 Ft. | 4 Ft. | 5 Ft. | 6 Ft. | 7 Ft. | 9 Ft. | 11 Ft. | 13 Ft. | 15 Ft. | 20 Ft. | 25 Ft. | 30 Ft. | Shut Off* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 2865 | 2P311 | 10.0 | 9.0 | 7.8 | 6.5 | 5.1 | 3.4 | 1.8 | — | — | — | — | — | — | — | 7.4 |
| B | 2590 | 2P310 | 18.5 | 17.4 | 16.4 | 15.4 | 14.5 | 13.5 | 12.4 | 10.2 | 7.7 | 5.0 | 1.4 | — | — | — | 15.6 |
| B | 2450 | 2P410 | 23.9 | 23.1 | 22.6 | 21.9 | 21.2 | 20.3 | 19.8 | 18.5 | 17.0 | 15.5 | 14.2 | 10.2 | 6.0 | 0.8 | 31.0 |
| A | 1750 | 4PD10 | 15 | 13.5 | 13.5 | 11.2 | 10 | 8.5 | 7.5 | 4.5 | 1.5 | — | — | — | — | — | 12 |
| B | 1750 | 4PD11 | 15 | 13.8 | 13.5 | 11.2 | 10 | 8.5 | 7.5 | 4.5 | 1.5 | — | — | — | — | — | 12 |
| C | 1500 | 4PD12 | 5.8 | 5 | 4 | 2.5 | — | — | — | — | — | — | — | — | — | — | 4.5 |
| C | 1500 | 4PD13 | 9.8 | 8 | 6 | 3.5 | — | — | — | — | — | — | — | — | — | — | 4.5 |
| A | 2750 | 4PD07 | 20 | 19.3 | 18.5 | 17.8 | 16.8 | 15.8 | 15 | 14 | 11 | 8.8 | 6.5 | — | — | — | 20 |
| B | 2750 | 4PD08 | 20 | 19.3 | 18.5 | 17.8 | 16.8 | 15.8 | 15 | 14 | 11 | 8.8 | 6.5 | — | — | — | 20 |
| B | 3150 | 4PD09 | 44.5 | 43 | 41.8 | 40.3 | 39 | 37.5 | 36 | 34.5 | 29.8 | 26.5 | 23 | 13.5 | 3.5 | — | 26 |

(*) Maximum Head in Feet

## PUMP ORDERING DATA

| Key | HP | Pump Body | Volts | Phase | Full-Load Amps | Thermal Protection* | Dimensions (In.) Face to Face | W | L | Inlet | Outlet | Grundfos Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1/25 | SS | 115 | 1 | 1.0 | Auto | 6 | 3 7/16 | 5 | Threaded† | Threaded† | UP15-18SU | 2P311 | $185.27 | $110.00 | 6.5 |
| B | 1/25 | CI | 115 | 1 | 0.74 | Auto | 6½ | 4 9/16 | 5 3/8 | Flanged | Flanged | UP15-42F | 2P310 | 114.40 | 70.00 | 7.9 |
| B | 1/12 | CI | 115 | 1 | 1.85 | Auto | 6½ | 4 9/16 | 6 3/8 | Flanged | Flanged | UP26-96F | 2P410 | 249.30 | 155.00 | 11.9 |
| A | 1/25 | SS | 115 | 1 | 0.74 | Auto | 6 | 3¼ | 5 1/16 | Threaded | Threaded | UP15-42SU | New4PD10 | 258.00 | 163.00 | 5.5 |
| B | 1/25 | SS | 115 | 1 | 0.74 | Auto | 6½ | 3¼ | 5¼ | Flanged | Flanged | UP15-42SF | New4PD11 | 268.00 | 167.00 | 6.6 |
| C | 1/25 | BZ | 115 | 1 | 0.74 | Auto | 5 | 3¼ | 4 1/16 | 1/2" Sweat | 1/2" Sweat | UM15-10B7 | New4PD12 | 211.00 | 147.00 | 6.3 |
| C | 1/25 | BZ | 115 | 1 | 0.74 | Auto | 6⅜ | 3¼ | 5⅛ | 3/4" Sweat | 3/4" Sweat | UM15-10B7 | New4PD13 | 218.00 | 151.00 | 6.3 |
| A | 1/25 | SS | 115 | 1 | 1.7 | Auto | 5⅞ | 3½ | 5 13/16 | Threaded | Threaded | UP25-64SU | New4PD07 | 324.00 | 210.00 | 8.6 |
| B | 1/25 | SS | 115 | 1 | 1.7 | Auto | 6½ | 3½ | 6 1/16 | Flanged | Flanged | UP25-64SF | New4PD08 | 330.00 | 215.00 | 9.2 |
| B | 1/6 | CI | 115 | 1 | 2.15 | Auto | 8½ | 3½ | 6 1/16 | Flanged | Flanged | UP45-75F | New4PD09 | 306.00 | 213.00 | 14.4 |

(*) Have built-in electric motor protection. (†) 3/4" Male straight thread.

## HOT WATER CIRCULATOR PUMP INSTALLATION KIT

- **Threaded half union set**
- **For connecting pump No. 2P311 to suction and discharge piping**
- **Kit contains 2 complete threaded half unions**
- **3/4" FPT, bronze construction**
- **EPDM rubber gaskets**
- **Grundfos brand.**

**No. 2P312.** Shpg. wt. 0.6 lbs. .....List $26.50
Each .....$23.12



GRUNDFOS®

No. 2P312



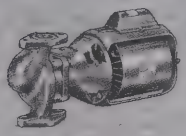
*If we don't have a pump for it, chances are it can't be pumped.*

# IN-LINE CIRCULATOR PUMPS

## CAST IRON CONSTRUCTION



A No. 4RD04



B No. 4RD16




C No. 4RD35

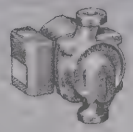
Bell & Gossett

Replacement Parts Available
1-800-323-0620

## BRONZE CONSTRUCTION



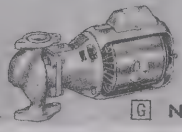
D No. 4RD07



E No. 4RD08



F No. 4RD05



G No. 4RD17



H No. 4RD39

### A CAST IRON WET ROTOR CIRCULATORS

Up to 80% more starting torque than the competition DuraGlide™ Bearing System assures whisper-quiet, maintenance-free operation. One-piece, high nickel stainless steel stator can isolate the stator from system fluid and maintains precision bearing alignment for longer bearing life. Carbon bearings, diamond-like ceramic shaft and generous clearances are more resistant to lime, chloride and oxide build-up for years of trouble-free service. Closed impeller design improves operating efficiency. Maximum working pressure: 150 PSI. Maximum temperature: 240° F.

### B THREE-PIECE OIL LUBRICATED BOOSTER PUMPS

Powerful motor provides years of trouble-free service. Flexible spring design coupler adds to quiet operation. Cast Iron sleeve bearings maintain exact shaft alignment and provde constant circulation of oil over bearing surfaces for long operating life. Mechanical seal is designed to withstand the wide range of temperatures and resist calcium and chloride build-up found in potable water systems. Centrifugal impeller prevents accumulation of air at seal faces to assure long life.Close impeller/body tolerances minimize water slippage and maximize efficiency. Maximum working pressure: 125 PSI. Maximum temperature: 225° F.

### C & H SERIES 60

Needs only normal pipe support for direct in-line mounting. Companion flanges furnished on all sizes. Suction and discharge gauge and vent tappings are standard. Quiet operation from specially designed flexible coupling and long bronze sleeve bearings in both pump and motor. Hydraulically and dynamically balanced impellers. Back pull-out feature for ease in servicing. Working pressure: 175 PSI. Maximum temperature: 225° F.

### D, E & F BRONZE WET ROTOR CIRCULATORS

100% lead-free bronze body exceeds code requirements for potable water systems. 150 PSI working pressure equals of exceeds doe requirements. Three types of system connections (flanged, union and sweat) make installation easier and less expensive. Up to 80% more starting torque than other models. DuraGlide™ Bearing System assures whisper-quiet, maintenance-free operation. One-piece, high nickel stainless steel stator can isolate the stator from system fluid and maintains precision bearing alignment for longer bearing life. Carbon bearings, diamond-like ceramic shaft and generous clearances are more resistant to lime, chloride and oxide build-up for trouble-free service. Closed impeller design improves operating efficiency. Maximum temperature: 230° F.

### G BRONZE THREE-PIECE OIL LUBRICATED BOOSTER PUMPS

Powerful motor provides years of trouble-free service. Flexible spring design coupler adds to quiet operation. Bronze sleeve bearings maintain exact shaft alignment and provide constant circulation of oil over bearing surfaces for long operating life. Mechanical seal is designed to withstand the wide range of temperatures and resist calcium and chloride build-up found in potable water systems. Centrifugal impeller prevents accumulation of air at seal faces to assure long life. Close impeller/body tolerances minimize water slippage and maximize efficiency. Maximum working pressure: 125 PSI. Maximum temperature: 225° F.

## SEAL BEARING ASSEMBLY ORDERING DATA



I No. 4RD83



J No. 4RD78



K N. 4RD75

| Key | Bell & Gosset Models Bearing Ass'y | Pump | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| I | 189134* | 4RD16 | 4RD83 | $98.45 | $65.00 | 2.5 |
| I | 189034 | 4RD17 | 4RD79 | 134.21 | 91.00 | 2.5 |
| I | 189136*† | 4RC93, 4RC95 | 4RD84 | 275.44 | 182.00 | 3.2 |
| I | 189122 | 4RC94, 4RC96 | 4RD82 | 243.12 | 165.00 | 3.5 |
| I | 189105 | 4RC91, 4RC97, 4RC99, 4RD02, 4RC92, 4RC98, 4RD01, 4RD03 | 4RD80 | 248.86 | 165.00 | 3.8 |
| J | 186863 | 4RD13, 4RD14, 4RD35, 4RD36, 4RD37, 4RD39, 4RD40, 4RD38 | 4RD78 | 363.02 | 240.00 | 5.3 |
| K | 185260 | 4RD15, 4RD41, 4RD42, 4RD43, 4RD44, 4RD45, 4RD46 | 4RD75 | 916.85 | 618.00 | 24.0 |

# IN-LINE CIRCULATOR PUMPS

## CAST IRON IN-LINE PUMP PERFORMANCE DATA

| Key | Stock No. | GALLONS PER MINUTE (GPM) 3 GPM | 5 GPM | 8 GPM | 10 GPM | 15 GPM | 18 GPM | 20 GPM | 25 GPM | 30 GPM | 40 GPM | 50 GPM | 60 GPM | 70 GPM | 80 GPM | 90 GPM | 100 GPM | 110 GPM | 120 GPM | 130 GPM | Best Efficiency GPM @ Head Ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 4RD04 | 13' | 12' | 10' | 8' | 5' | 3' | 2' | – | – | – | – | – | – | – | – | – | – | – | – | 10 GPM @ 8' |
| B | 4RD16 | – | 8' | 7' | 7' | 7' | 6' | 5' | 4' | 2' | – | – | – | – | – | – | – | – | – | – | 17 GPM @ 6' |
| B | 4RC93 | – | 12' | 12' | 12' | 11' | 11' | 10' | 9' | 7' | – | – | – | – | – | – | – | – | – | – | 28 GPM @ 8' |
| B | 4RC91 | – | 17' | 16' | 16' | 14' | 13' | 12' | 6' | – | – | – | – | – | – | – | – | – | – | – | 18 GPM @ 12' |
| B | 4RC95 | – | 10' | 10' | 10' | 10' | 10' | 10' | 10' | 9' | 8' | 6' | 4' | 2' | – | – | – | – | – | – | 40 GPM @ 8' |
| B | 4RC97 | – | 16' | 15' | 15' | 15' | 15' | 14' | 14' | 14' | 13' | 12' | 11' | 9' | 8' | 6' | 4' | – | – | – | 65 GPM @ 11' |
| B | 4RC99 | – | 16' | 15' | 15' | 15' | 15' | 14' | 14' | 14' | 13' | 12' | 11' | 9' | 8' | 6' | 4' | – | – | – | 65 GPM @ 11' |
| B | 4RD02 | – | – | – | 19' | 18' | 18' | 18' | 18' | 17' | 16' | 15' | 14' | 12' | 11' | 9' | 7' | 5' | – | – | 70 GPM @ 12' |
| B | 4RD13 | – | – | – | 23' | 22' | 22' | 22' | 21' | 21' | 20' | 19' | 18' | 17' | 15' | 13' | 11' | 9' | – | – | 80 GPM @ 15' |
| B | 4RD14 | – | – | – | 29' | 29' | 29' | 29' | 28' | 28' | 27' | 26' | 26' | 24' | 22' | 21' | 19' | 17' | 16' | 12' | 85 GPM @ 21' |
| B | 4RD15 | – | – | – | 32' | 32' | 32' | 32' | 32' | 32' | 32' | 31' | 30' | 30' | 29' | 27' | 25' | 23' | 21' | 18' | 100 GPM @ 25' |
| C | 4RD35 | – | – | – | 24' | 23' | 22' | 22' | 20' | 19' | 14' | – | – | – | – | – | – | – | – | – | 34 GPM @ 17' |
| C | 4RD36 | – | – | – | 28' | 28' | 27' | 27' | 26' | 26' | 25' | 22' | 19' | 16' | – | – | – | – | – | – | 50 GPM @ 22' |
| C | 4RD37 | – | – | – | 31' | 31' | 30' | 30' | 29' | 29' | 28' | 27' | 26' | 25' | 23' | 22' | 20' | 18' | – | – | 85 GPM @ 23' |
| C | 4RD41 | – | – | – | 34' | 33' | 33' | 32' | 30' | 28' | – | – | – | – | – | – | – | – | – | – | 30 GPM @ 28' |
| C | 4RD42 | – | – | – | 44' | 44' | 43' | 43' | 41' | 40' | 35' | – | – | – | – | – | – | – | – | – | 40 GPM @ 30' |
| C | 4RD43 | – | – | – | 56' | 56' | 55' | 55' | 54' | 53' | 50' | 45' | – | – | – | – | – | – | – | – | 45 GPM @ 45' |
| C | 4RD44 | – | – | – | 38' | 38' | 37' | 37' | 37' | 36' | 35' | 34' | 33' | 31' | 29' | 27' | 23' | – | – | – | 81 GPM @ 33' |
| C | 4RD45 | – | – | – | 45' | 45' | 45' | 45' | 45' | 45' | 44' | 43' | 42' | 41' | 40' | 38' | 36' | 33' | 31' | – | 82 GPM @ 38' |
| C | 4RD46 | – | – | – | 55' | 55' | 55' | 55' | 54' | 54' | 53' | 52' | 51' | 50' | 49' | 47' | 45' | 43' | 41' | 38' | 85 GPM @ 47' |

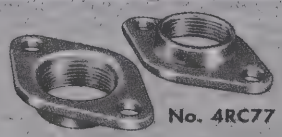
## *New!* CAST-IRON IN-LINE PUMP ORDERING DATA

| Key | HP | Volts | Phase | FLA | Thermal Protection | Face to Face | Dimensions (In.) W | L | Inlet & Outlet | Flange Included | B&G | *New!* Stock No. | List | Each | Shpg. Wt. | Manufacturer's Cross Reference Armstrong | Taco | Grundfos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 1/25 | 115 | 1 | 0.8 | Imped* | 6⅜ | 4⅞ | 5⅝ | Flg** | no | NRF-22 | **4RD04** | $83.19 | **$64.00** | 9.3 | Astro 50 | 007 | UP15-42F |
| **B** | 1/12 | 115 | 1 | 1.75 | auto | 6⅜ | 4¼ | 14⅞ | Flg** | no | 100 NFI | **4RC16** | 217.07 | **176.00** | 19.0 | S-25 | 110 | — |
| **B** | 1/6 | 115 | 1 | 1.9 | auto | 8½ | 6½ | 15⅜ | Flg** | no | HV NFI | **4RC93** | 407.31 | **319.50** | 28.0 | H-32 | 111 | — |
| **B** | 1/6 | 115 | 1 | 1.9 | auto | 8½ | 7⅛ | 15¼ | Flg** | no | PR | **4RC91** | 525.98 | **412.50** | 35.0 | H-41 | 113 | — |
| **B** | 1/6 | 115 | 1 | 1.9 | auto | 8½ | 6¹⁵⁄₁₆ | 16⅝ | 2" Flg | yes | 2 NFI | **4RC95** | 473.70 | **383.00** | 40.0 | S-35 | 120 | — |
| **B** | 1/4 | 115 | 1 | 3 | auto | 10 | 7⅜ | 17¼ | 2½ Flg | yes | 2½ | **4RC97** | 772.89 | **538.00** | 58.0 | S-45 | 121 | — |
| **B** | 1/4 | 115 | 1 | 3 | auto | 10 | 7⅜ | 17¼ | 3" Flg | yes | LD3 | **4RC99** | 696.83 | **545.00** | 55.0 | S-45 | 122 | — |
| **B** | 1/3 | 115/230 | 1 | 4.2/2.1 | auto | 10 | 7⅜ | 17½ | 3" Flg | yes | HD3 | **4RD02** | 940.29 | **739.00** | 55.0 | S-46 | 131 | — |
| **B** | 1/2 | 115/230 | 1 | 5.2/2.6 | auto | 12 | 8⅛ | 20¼ | 3" Flg | yes | PD-35S | **4RD13** | 985.48 | **770.00** | 75.0 | S-55 | 132 | — |
| **B** | 3/4 | 115/230 | 1 | 7.0/3.5 | auto | 12 | 8⅛ | 20½ | 3" Flg | yes | PD-37S | **4RD14** | 1156.45 | **908.00** | 75.0 | S-57 | 133 | — |
| **B** | 1 | 115/230 | 1 | 13/6.5 | auto | 14½ | 10⅛ | 24 | 3" Flg | yes | PD-38S | **4RD15** | 1641.25 | **1285.00** | 128.0 | S-69 | 138 | — |
| **C** | 1/4 | 115 | 1 | 3 | auto | 11 | 7½ | 19¼ | 1.25" Flg | yes | 60-11S | **4RD35** | 736.73 | **569.00** | 44.0 | 51,51B,5 | 1600 | — |
| **C** | 1/2 | 115/230 | 1 | 5.2/2.6 | auto | 11½ | 7⅞ | 20⅝ | 1.5" Flg | yes | 60-13S | **4RD36** | 919.71 | **710.00** | 54.0 | H53,53B | — | — |
| **C** | 3/4 | 115/230 | 1 | 7.0/3.5 | auto | 11½ | 8 | 20⅞ | 2" Flg | yes | 60-14S | **4RD37** | 991.52 | **760.00** | 68.0 | H54,66 | 1632 | — |
| **C** | 1/2 | 115/230 | 1 | 5.2/2.6 | auto | 11½ | 9½ | 24 | 1.5" Flg | yes | 60-15S | **4RD41** | 1161.75 | **895.00** | 88.0 | H63 | 1612 | — |
| **C** | 3/4 | 115/230 | 1 | 7.0/3.5 | auto | 11½ | 9½ | 24 | 1.5" Flg | yes | 60-16S | **4RD42** | 1280.14 | **985.00** | 90.0 | H64 | 1614 | — |
| **C** | 1 | 208-230/460 | 3 | 4.0/2.0 | no | 11½ | 10⅜ | 23 | 1.5" Flg | yes | 60-17T | **4RD43** | 1422.67 | **1095.00** | 96.0 | H65 | 1616 | — |
| **C** | 1 | 208-230/460 | 3 | 4.0/2.0 | no | 14 | 10⅝ | 23¼ | 2" Flg | yes | 60-19T | **4RD44** | 1506.02 | **1160.00** | 100.0 | H67 | 1634 | — |
| **C** | 1½ | 208-230/460 | 3 | 5.4/2.7 | no | 14 | 10⅝ | 24⅛ | 2" Flg | yes | 60-20T | **4RD45** | 1630.41 | **1255.00** | 108.0 | H68 | 1636 | — |
| **C** | 2 | 208-230/460 | 3 | 7.0/3.5 | no | 14 | 10⅝ | 24⅞ | 2" Flg | yes | 60-21T | **4RD46** | 1743.95 | **1345.00** | 114.0 | — | 1638 | — |

* Impedance protected, auto

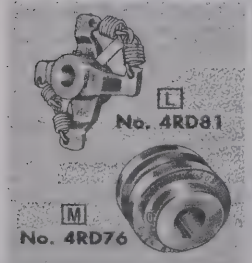
** Various size flanges available. See chart below for selection.

## CAST IRON FLANGES FOR CAST IRON IN-LINE PUMPS




| Pipe Size (In.) | For Pumps | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | 4RD04, 4RD16, 4RC91, 2P310, 2P410, 5P427, 4P975 | **4RC77** | $12.11 | **$8.00** | 1.1 |
| 1 | | **4RC78** | 12.11 | **8.00** | 1.0 |
| 1¼ | | **4RC79** | 12.11 | **8.00** | 1.0 |
| 1½ | | **4RC80** | 12.27 | **8.00** | 1.5 |
| 1 | 4RC93 | **4RC81** | 13.42 | **9.00** | 1.0 |
| 1¼ | | **4RC82** | 13.42 | **9.00** | 1.0 |
| 1½ | | **4RC83** | 13.58 | **9.00** | 1.5 |

## CIRCULATING PUMP COUPLERS




| Key | Fits Pump | Fits Shaft Size | Coupling Material | Manufacturer's Cross-Reference Bell & Gossett | Armstrong | Teel | *New!* Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| L | 4RD16, 4RC93, 4RC95, 4RC91, 4RD17, 4RC94, 4RC92, 4RC96 | 1/2 x 1/2 | Steel | 189110 | 806026-002 | — | **4RD81** | $11.32 | **$8.00** | 0.2 |
| L | 4RC97, 4RC99, 4RD02, 4RC98, 4RD01, 4RD03 | 1/2 x 1/2 | Cast Iron | 118723 | 806168-001 | 1R463 | **4RD27** | 22.52 | **16.00** | 0.4 |
| L | 4RD13, 4RD14, 4RD35, 4RD36, 4RD37, 4RD39, 4RD40, 4RD38 | 1/2 x 1/2 | Cast Iron | 118473 | 810120-003 | 1R464 | **4RD26** | 38.78 | **27.50** | 0.5 |
| L | 4RD15, 4RD41, 4RD42, 4RD43, 4RD44, 4RD45, 4RD46 | 5/8 x 5/8 | Cast Iron | 186410 | — | — | **4RD77** | 48.20 | **35.00** | 0.8 |
| M | 4RD15, 4RD41, 4RD42, 4RD43, 4RD44, 4RD45, 4RD46 | 5/8 x 5/8 | Stl. Rubber | 186004 | 816665-000 | 1R466 | **4RD76** | 69.95 | **50.00** | 0.7 |



*If we don't have a pump for it, chances are it can't be pumped.*

# IN-LINE CIRCULATOR PUMPS

## BRONZE IN-LINE PUMP PERFORMANCE DATA

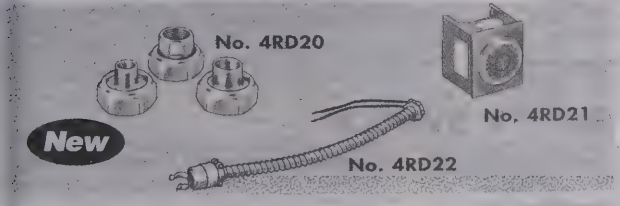
| Key | Stock No. | GALLONS PER MINUTE (GPM) 3 GPM | 4 GPM | 5 GPM | 6 GPM | 7 GPM | 8 GPM | 9 GPM | 10 GPM | 12 GPM | 15 GPM | 18 GPM | 20 GPM | 25 GPM | 30 GPM | 40 GPM | 50 GPM | 60 GPM | 70 GPM | 80 GPM | 90 GPM | 100 GPM | 110 GPM | Best Efficiency GPM @ Head Ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 4RD07 | 5' | 4' | 3' | 2' | 1' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 4 GPM @ 4' |
| D | 4RD09 | 11' | 9' | 7' | 6' | 4' | 3' | 1' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 5 GPM @ 7½' |
| D | 4RD12 | 13' | 12' | 11' | 10' | 8' | 7' | 6' | 5' | 2' | – | – | – | – | – | – | – | – | – | – | – | – | – | 7 GPM @ 8½' |
| E | 4RD08 | 6' | 5' | 5' | 4' | 3' | 3' | 2' | 1' | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 6 GPM @ 4' |
| E | 4RD11 | 11' | 10' | 9' | 8' | 7' | 7' | 6' | 5' | 3' | 1' | – | – | – | – | – | – | – | – | – | – | – | – | 7 GPM @ 7' |
| E | 4RD06 | 13' | 12' | 12' | 11' | 10' | 10' | 9' | 8' | 7' | 5' | 3' | 2' | – | – | – | – | – | – | – | – | – | – | 10 GPM @ 8' |
| F | 4RD10 | 11' | 10' | 9' | 8' | 7' | 7' | 6' | 5' | 3' | 1' | – | – | – | – | – | – | – | – | – | – | – | – | 7 GPM @ 7' |
| F | 4RD05 | 13' | 12' | 12' | 11' | 10' | 10' | 9' | 8' | 7' | 5' | 3' | 2' | – | – | – | – | – | – | – | – | – | – | 10 GPM @ 8' |
| G | 4RD17 | – | – | 8' | 8' | 8' | 7' | 7' | 7' | 7' | 7' | 6' | 5' | 4' | 2' | – | – | – | – | – | – | – | – | 17 GPM @ 6' |
| G | 4RC94 | – | – | 12' | 12' | 12' | 12' | 12' | 12' | 11' | 11' | 11' | 10' | 10' | 7' | – | – | – | – | – | – | – | – | 28 GPM @ 8' |
| G | 4RC92 | – | – | 17' | 17' | 16' | 16' | 16' | 16' | 15' | 14' | 13' | 12' | 6' | – | – | – | – | – | – | – | – | – | 18 GPM @ 12' |
| G | 4RC96 | – | – | 10' | 10' | 10' | 10' | 10' | 10' | 10' | 10' | 10' | 10' | 9' | 9' | 8' | 6' | 4' | 2' | – | – | – | – | 40 GPM @ 8' |
| G | 4RC98 | – | – | 16' | 15' | 15' | 15' | 15' | 15' | 15' | 15' | 15' | 14' | 14' | 14' | 13' | 12' | 11' | 9' | 8' | 6' | 4' | – | 65 GPM @ 11' |
| G | 4RD01 | – | – | 16' | 15' | 15' | 15' | 15' | 15' | 15' | 15' | 15' | 14' | 14' | 14' | 13' | 12' | 11' | 9' | 8' | 6' | 4' | – | 65 GPM @ 11' |
| G | 4RD03 | – | – | – | – | – | – | – | 19' | 19' | 18' | 18' | 18' | 18' | 17' | 16' | 15' | 14' | 12' | 11' | 9' | 7' | 5' | 70 GPM @ 12' |
| H | 4RD39 | – | – | – | – | – | – | – | 24' | 24' | 23' | 22' | 22' | 20' | 19' | 14' | – | – | – | – | – | – | – | 34 GPM @ 17' |
| H | 4RD40 | – | – | – | – | – | – | – | 28' | 28' | 27' | 27' | 27' | 26' | 26' | 25' | 22' | 19' | 16' | – | – | – | – | 50 GPM @ 22' |
| H | 4RD38 | – | – | – | – | – | – | – | 31' | 31' | 30' | 30' | 30' | 29' | 29' | 28' | 27' | 26' | 25' | 23' | 22' | 20' | 18' | 85 GPM @ 23' |

## *New!* BRONZE IN-LINE PUMP ORDERING DATA

| Key | HP | Volts | Phase | FLA | Thermal Protection | Face to Face | Dimensions (In.) W | L | Inlet & Outlet | Flg/Union Included | B & G | *New!* Stock No. | List | Each | Shpg. Wt. | Manufacturer's Cross Reference Armstrong | Taco | Grundfos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 1/40 | 115 | 1 | 0.38 | Imped* | 5⅛ | 4⅞ | 5⅛ | 1/2" sweat | N/A | NBF-8S/LW | 4RD07 | $137.14 | $107.50 | 9.0 | — | 003-BC4 | UM 15-10B5 |
| D | 1/40 | 115 | 1 | 0.46 | Imped* | 5⅛ | 4⅞ | 5⅛ | 1/2" sweat | N/A | NBF-10S/LW | 4RD09 | 141.67 | 110.00 | 9.0 | — | 006-BC4 | UP-15-18B5 |
| D | 1/25 | 115 | 1 | 0.74 | Imped* | 5⅛ | 4⅞ | 5⅛ | 1/2" sweat | N/A | NBF-18S | 4RD12 | 173.14 | 136.00 | 9.0 | — | — | UP-15-42B5 |
| E | 1/40 | 115 | 1 | 0.4 | Imped* | 6⅛ | 4⅞ | 4⅞ | Union** | No | NBF-9U/LW | 4RD08 | 141.67 | 110.00 | 9.0 | — | 006-BC4-1 | UP 18-18SU |
| E | 1/40 | 115 | 1 | 0.48 | Imped* | 6⅛ | 4⅞ | 4⅞ | Union** | No | NBF-12U/LW | 4RD11 | 146.20 | 115.00 | 9.3 | — | — | UP 15-42SU |
| E | 1/25 | 115 | 1 | 0.8 | Imped* | 6⅛ | 4⅞ | 4⅞ | Union** | No | NBF-22U | 4RD06 | 177.73 | 140.00 | 9.3 | — | — | UP 25-64SU |
| F | 1/40 | 115 | 1 | 0.48 | Imped* | 6⅜ | 4⅞ | 5⅜ | Fig*** | No | NBF-12F/LW | 4RD10 | 150.79 | 118.00 | 9.5 | — | 005-BF2 | UP 15-42SF |
| F | 1/25 | 115 | 1 | 0.8 | Imped* | 6⅜ | 4⅞ | 5⅜ | Fig*** | No | NBF-22 | 4RD05 | 182.38 | 143.50 | 9.5 | Astro 50B | 007-BF5 | UP 25-64SF |
| G | 1/12 | 115 | 1 | 1.75 | auto | 6⅜ | 5¼ | 14⅞ | Fig*** | No | 100 BNFI | 4RD17 | 330.34 | 296.00 | 20.0 | S-25B | 110B | — |
| G | 1/6 | 115 | 1 | 1.9 | auto | 8½ | 6½ | 15⅝ | Fig*** | No | HV BNFI | 4RC94 | 619.64 | 488.00 | 30.0 | H-32B | 111B | — |
| G | 1/6 | 115 | 1 | 1.9 | auto | 8½ | 7⅛ | 15¼ | Fig*** | No | PR AB | 4RC92 | 738.01 | 580.00 | 37.0 | H-41B | 113B | — |
| G | 1/6 | 115 | 1 | 1.9 | auto | 8½ | 6 11/16 | 16⅝ | 2" Fig | Yes | 2 BNFI | 4RC96 | 895.63 | 628.00 | 42.0 | S-35B | 120B | — |
| G | 1/4 | 115 | 1 | 3 | auto | 10 | 7⅛ | 17¼ | 2½" Fig | Yes | 2½ AB | 4RC98 | 1401.14 | 980.00 | 62.0 | S-45B | 121B | — |
| G | 1/4 | 115 | 1 | 3 | auto | 10 | 7⅛ | 17¼ | 3" Fig | Yes | LD3 AB | 4RD01 | 1292.45 | 1020.00 | 60.0 | S-45B | 122B | — |
| G | 1/3 | 115/230 | 1 | 4.2/2.1 | auto | 10 | 7⅛ | 17½ | 3" Fig | Yes | HD3 AB | 4RD03 | 1576.39 | 1245.00 | 60.0 | S-46B | 131B | — |
| H | 1/4 | 115 | 1 | 3 | auto | 11 | 7½ | 19½ | 1.25" Fig | Yes | 60-B11S | 4RD39 | 1253.85 | 975.00 | 44.0 | — | — | — |
| H | 1/2 | 115/230 | 1 | 5.2/2.6 | auto | 11½ | 7⅞ | 20⅝ | 1.5" Fig | Yes | 60-B13S | 4RD40 | 1476.07 | 1150.00 | 58.0 | — | — | — |
| H | 3/4 | 115/230 | 1 | 7.0/3.5 | auto | 11½ | 8 | 20⅞ | 2" Fig | Yes | 60-B14S | 4RD38 | 1596.80 | 1235.00 | 73.0 | — | — | — |

* Impedance, auto
** Unions available in 3/4" NPT, 1/2" or 3/4" sweat—see chart below for selection
*** Various size flanges available—see chart below for selection

## ACCESSORIES FOR BRONZE IN-LINE PUMPS




### *New!* ACCESSORIES

| Description | Used with Pumps | *New!* Stock No. | List | Each Set | Shpg. Wt. |
|---|---|---|---|---|---|
| TC-1 Timer | 4RD07, 4RD08, 4RD09, | 4RD21 | $45.90 | $40.00 | 0.7 |
| 1/2" Aquastat | 4RD10, 4RD11, 4RD12, | 4RD22 | 18.36 | 16.00 | 0.3 |
| 3/4" Aquastat | 4RD05, 4RD06 | 4RD23 | 18.36 | 16.00 | 0.3 |

### *New!* BRONZE FLANGES

| Pipe Size (In.) | For Pumps | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3/4 | 4RD10, 4RD05, 4RD17, 4RC92, 5P428, 5P433, 4P976, 4P977 | 4RC84 | $29.46 | $19.50 | 2.0 |
| 1 | | 4RC85 | 29.46 | 19.50 | 2.0 |
| 1¼ | | 4RC86 | 29.46 | 19.50 | 2.0 |
| 1½ | | 4RC87 | 29.46 | 19.50 | 2.0 |
| 1 | 4RC94 | 4RC88 | 37.37 | 25.00 | 2.0 |
| 1¼ | | 4RC89 | 37.37 | 25.00 | 2.0 |
| 1½ | | 4RC90 | 37.37 | 25.00 | 2.0 |

### *New!* BRONZE UNION CONNECTIONS

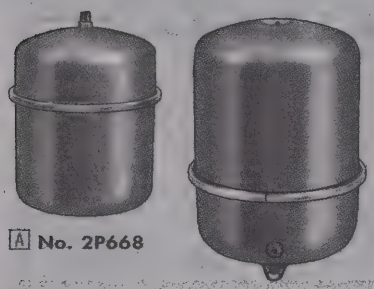
| Pipe Size (In.) | Used with Pumps | *New!* Stock No. | List | Each Set | Shpg. Wt. |
|---|---|---|---|---|---|
| 1/2 Sweat | 4RD08, 4RD11, 4RD06 | 4RD20 | $30.05 | $21.50 | 0.6 |
| 3/4 Sweat | | 4RD18 | 29.99 | 25.45 | 0.4 |
| 3/4 NPT | | 4RD19 | 31.29 | 22.25 | 0.4 |

## *New!* MOTOR MOUNT RINGS FOR IN-LINE CIRCULATOR PUMPS

| Fits Pump | Bell & Gossett Motor Mount | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4RD16, 4RC93, 4RC95, 4RD17, 4RC94, 4RC96 | 118223 | 4RD24 | $17.48 | $12.50 | 0.2 |
| 4RC97, 4RC99, 4RD02, 4RD13, 4RD14, 4RC98, 4RD01, 4RD03, 4RD35, 4RD36, 4RD37, 4RD41, 4RD43, 4RD39, 4RD40, 4RD38 | 118228 | 4RD25 | 23.73 | 17.00 | 0.3 |
| 4RC91, 4RC92 | 118848 | 4RD28 | 20.62 | 17.00 | 0.3 |

# CIRCULATING PUMP ACCESSORIES

## HIGH-TEMPERATURE HYDRONIC EXPANSION TANKS



A No. 2P668

B No. 2P670

5-YEAR LIMITED WARRANTY

**Diaphragm type high-temperature expansion tanks** are designed to accommodate the natural expansion of water in closed-loop hydronic and solar heater systems. **Not intended for potable water.** Water-logging, common in regular steel expansion tanks, is virtually eliminated. Strong flexible Butyl diaphragm is securely attached to inner tank wall with steel retaining ring. Epoxy finish protects tank exterior against rust.

**1/2" NPT connection on bottom of tank;** air charging valve on top of tank (Nos. 2P670 and 2P671 have 1" MPT connection on top of tank and air charging valve on bottom.) Factory precharged to 12 PSI, field adjustable. Maximum working pressure: 100PSI. Maximum temperature: 240°F. Not for use in potable or open systems.

| Key | Gallons | Dim. (In.) H x Dia. | | Connection Size (In.) NPT | Net Boiler Output in 1000's of Btu's | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | 2.1 | 11¼ | 9⅜ | 1/2 | 25-50 | **3P675** | $61.00 | **$34.00** | 4.5 |
| A | 4.5 | 15⅜ | 11½ | 1/2 | 75-150 | **2P668** | 75.00 | **36.00** | 7.5 |
| A | 6.1 | 16 | 13⅛ | 1/2 | 175-250 | **2P669** | 152.00 | **73.00** | 11.0 |
| B | 13.2 | 21½ | 15¾ | 3/4 | 200-400 | **2P670** | 228.00 | **131.50** | 25.0 |
| B | 21.0 | 21⅛ | 20¾ | 1 | 425-600 | **2P671** | 241.00 | **138.50** | 29.0 |

## POTABLE WATER HEATER EXPANSION TANKS

**Diaphragm type potable water expansion tanks** are designed to accommodate the natural expansion of water in open water systems. Help eliminate the problem of weeping T & P valves and water hammer, when turning off hot water faucets. Water-logging, common in regular steel expansion tanks, is virtually eliminated.

**Drawn steel construction** with strong flexible double-Butyl diaphragm. Steel retaining ring holds diaphragm securely. Epoxy finish protects tank exterior against rust. 3/4" NPTM connection on bottom of tank. Air changing valve on top of tank.

**Factory precharged to 40 PSI,** field adjustable. Maximum working pressure: 150 PSI. Maximum temperature: 200°F. For use in potable or open systems.

| Gals. | Dimensions (In.) H | Dia. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **2.1** | 11½ | 8½ | 2P672 | $93.00 | **$45.00** | 4.5 |
| **4.5** | 15 | 10 | 2P673 | 123.00 | **66.00** | 7.5 |

**SELECTION GUIDE**

| Water Temp. | Heater Tank Size in Gallons 30 | 40 | 52 | 66 | 82 |
|---|---|---|---|---|---|
| 140 | | | | | |
| 150 | | | | | |
| 160 | | | | | |
| 170 | | | | | |
| 180 | | | | | |

Use expansion tank No. 2P672
Use expansion tank No. 2P673
Temp. and/or volume beyond range of individual expansion tanks. Install multiple tanks in series for larger size system.



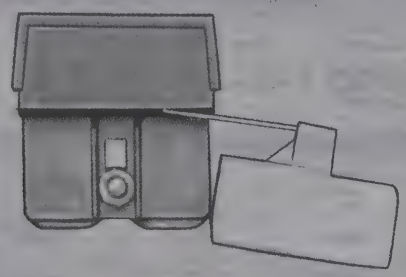
**5-YEAR LIMITED WARRANTY**

**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

## FLOAT CONTROL SAFETY SWITCH

BECKETT P·U·M·P·S CORPORATION

SUPPLIER DIVERSITY™ Minority-Owned Business



No. 2P874

MH16153

- **Shuts off equipment if water levels become too high**
- **Easy-to-use switch wires directly to appliances.**

**Beckett Float Control Switch** provides a reliable means of controlling electrical circuits in response to rising water levels. Wire switch directly to appliances to shut down systems producing water. Typically used to turn off equipment such as air conditioners or furnaces if water level becomes too high. Prewired at the factory for **normally closed** operation. 18 in., 18 gauge stranded copper wire. Rated: 10 Amp, 115-230VAC, 24VDC normally closed (N.C.) contact. Check local codes to ensure that wire size is adequate for amperage load. Easily converted to normally open contact operation. UL Recognized (MH16153).

**No. 2P874.** Shpg. wt. 0.2 lbs. List .....$13.20. Each .....**$7.99**

# EXPANSION TANKS AND BOOSTERS

**A Nos. 4UP02, 4UN99 and 4UP01.** Therm-X-Trol Expansion Tanks are pre-pressurized for closed loop potable water heating systems. Feature heavy-duty butyl diaphragm with flexible polypropylene liner that resists tearing, cracking, leakage and corrosion. Precharged air cushion controls pressure build-up and eliminates relief valve spillage. Max. working pressure of 150 PSIG. Max. working temperature: 200° F.

**B Nos. 4UN85, 4UN87 and 4UN91.** Expansion Tanks are pre-pressurized for use in hydronic heating systems. Welded construction for safe operation up to 100 PSIG. Butyl diaphragm retains a 100% airtight air cushion to prevent loss of pressure. Max. operating temperature: 240° F.

**C Nos. 4UN83 and 4UN84.** Fill-Trol System consists of a pressure reducing fill valve used in conjunction with pre-pressurized diaphragm tank. Automatically maintain the tank fill pressure to 12 PSIG in closed hydronic heating systems. Max. working pressure: 100 PSI.

| Total Volume (Gals.) | Max. Accept. Volume (Gals.) | Dimensions (In.) Diameter | Dimensions (In.) Height | Connections (In.) | Amtrol Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **A THERMAL EXPANSION TANKS** | | | | | | | | | |
| **2.0** | — | 8 | 12⅝ | 3/4 NPTM | ST-5 | **4UP02** | $48.98 | **$45.00** | 5.0 |
| **4.4** | — | 11 | 15 | 3/4 NPTM | ST-12 | **4UN99** | 65.99 | **53.00** | 9.0 |
| **10.3** | — | 15⅜ | 19¼ | 1 NPTF | ST-25V | **4UP01** | 139.54 | **132.00** | 23.0 |
| **B EXPANSION TANKS** | | | | | | | | | |
| **2.0** | 1.0 | 8 | 12⅝ | 1/2 NPTM | 15 | **4UN85** | 37.05 | **25.20** | 5.0 |
| **4.4** | 2.5 | 11 | 15½ | 1/2 NPTM | 30 | **4UN87** | 45.14 | **33.00** | 5.0 |
| **7.6** | 2.5 | 11 | 23 | 1/2 NPTM | 60 | **4UN91** | 92.13 | **75.00** | 14.0 |
| **C FILL-TROL SYSTEM** | | | | | | | | | |
| **2.0** | 1.0 | 8 | 14¾ | 1/2 NPTF | 109 | **4UN83** | 62.16 | **42.30** | 6.0 |
| **4.4** | 2.5 | 11 | 17⅞ | 1/2 NPTF | 110 | **4UN84** | 72.55 | **53.00** | 10.0 |

**D American Float Type Air Vents.** Designed to fit any residential hydronic application. Constructed of cast bronze. Compact design for use in small spaces. Measure 3⅝H x 2" Diameter. Max. working pressure: 150 PSI. Max. working temperature: 230° F.

**E Air Purgers.** Designed to continuously remove trapped air in a hydronic heating system. Measures 6 x 4 x 2½". Cast iron construction. Max. working pressure: 125 PSI.

## D AIR VENTS

| System Connection (In.) | Dimensions (In.) H | Dimensions (In.) Dia. | Amtrol Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/8** | 3⅝ | 2 | 700-C | **4UN92** | $6.67 | **$6.00** | 0.5 |
| **1/4** | 3⅝ | 2 | 701-C | **4UN93** | 7.16 | **6.25** | 0.5 |

## E AIR PURGERS

| Size (In.) | Dimensions (In.) A | B | C | Tappings NPT (In.) U | V | Z | Amtrol Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 6 | 4 | 2½ | 1 | 1/8 | 1/2 | 443 | **4UN89** | $15.60 | **$12.00** | 4.0 |
| **1¼** | 6 | 4 | 2½ | 1¼ | 1/8 | 1/2 | 444 | **4UN90** | 15.60 | **12.00** | 4.0 |

**F Residential and Commercial Pressurisers.** 1/2 HP pumps designed to ensure sufficient water pressure to sinks, showers, dishwashers and washing machines where inadequate and fluctuating pressure occur. No. 4UN98 is a 1-1/2 HP pressure booster that delivers constant pressure and handles flows up to 50 GPM at 30 PSI boost. Pipe size 1½" inlet, 1" outlet. Max. working pressure is 100 PSIG. 115/230 V, 60 Hz.

## F PRESSURISERS

| Dimensions (In.) Height | Dimensions (In.) Width | Tank Size Gal. | Boost (PSI) Pressure | Boost GPM Flow | Pressure Switch Setting (PSIG) | Amtrol Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **29½** | 16¾ | 14 | 40 | 12 | 30-50 | RP-10 | **4UN95** | $770.39 | **$499.00** | 59.0 |
| **41½** | 16¾ | 20 | 40 | 14 | 30-50 | RP-15 | **4UN96** | 810.73 | **529.00** | 73.0 |
| **40½** | 24 | 34 | 55 | 12 | 30-50 | RP-25 | **4UN97** | 1303.64 | **849.00** | 85.0 |

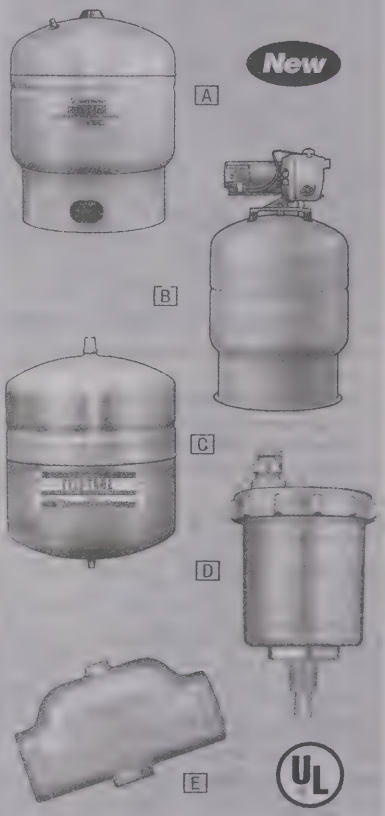
## PRESSURE BOOSTER

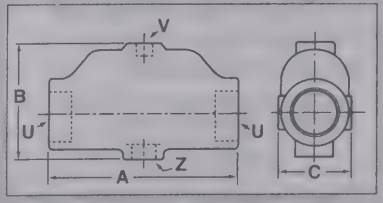
| Pipe Size (In.) | Volts 60 Hz | Tank Size, Gal. | Dimensions (In.) H | L | W | Amtrol Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1½** | 115/230 | 44 | 37 | 41½ | 22½ | PB-50 | **4UN98** | $2381.40 | **$2100.00** | 205.0 |

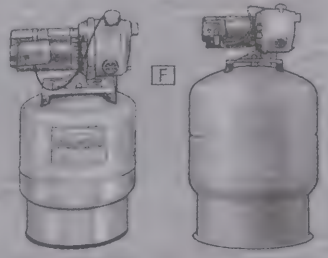
**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names, Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

AMTROL INC.

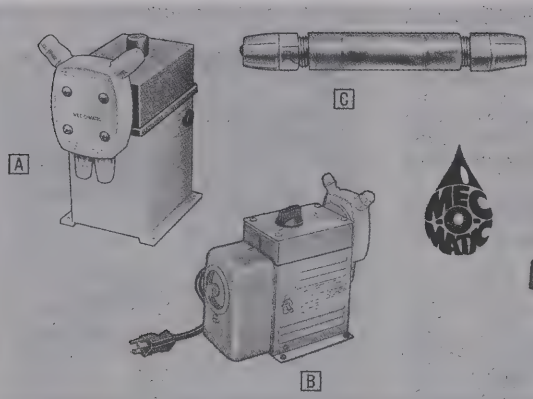


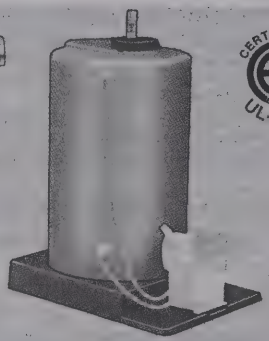



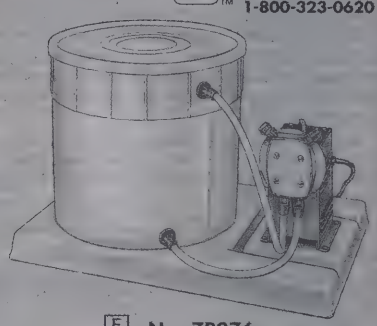

No. 4UN95 No. 4UN97

# CHEMICAL METERING PUMPS, SOLUTION TANKS AND SYSTEMS



D No. 2P307
(Pump not included)



Replacement Parts Available 1-800-323-0620

E No. 7P076

## A & B LIQUID FEED PUMPS

- **Adjustable metering pumps—8, 12 and 30 GPD**
- **Corrosion/chemical resistant**
- **Anti-fouling injection point and pressure relief/release included**
- **Strong 7½ or 15 gallon polyethylene tanks**
- **Systems include pump, tank and necessary fittings**

**Applications:** Chemical treatment of well water, swimming pools, spas, waste water, boilers, cooling towers; feeding liquid fertilizers and insecticides into sprinkling systems, and hydroponics. Maximum suction lift is 4 ft. and maximum viscosity is 300 CPS. For metered pumping of nonflammable chemicals compatible with component materials, including liquid chlorine, fluorine, bromine, acids, caustics, biocides, fertilizers and detergents.

**Nos. 1P679, 2P300 and 2P301** automatically inject controlled amounts of chlorine solution into pressure tank of residential water systems.

**No. 2P120** has ten minute percentage timer to interrupt normal pumping of feed pump, allowing pump to regulate flow down to 0.25 gallon per day. No. 2P301 will handle larger well systems and cooling towers for air conditioners. When connected directly to water system motor terminals, chemicals are metered when water well pump is running.

**Construction:** Fluid contacts Teflon diaphragm, Viton valve seats, ceramic ball checks, PVC head, pressure relief-release valve, anti-fouling injection fitting and foot valve strainer. 12 ft. of 3/8" OD polyethylene tubing.

**Pressure relief-release valve** in pump provides easy priming; clearing and changing chemical bath without disconnecting tubing; diverts pressure back to supply, preventing ruptured lines or motor burnout. 115VAC, 60 Hz Gearmotor with 6 ft., 3-conductor cord set. Polycarbonate housing. Installation/Operation/Maintenance manual is included. Mec-O-Matic brand.

### REPLACEMENT VALVE KIT

Kit (not shown) has one suction and one discharge valve, fits Nos. 1P679, 2P120, 2P300, 2P301 pumps. PVC valve with Viton seals. Mec-O-Matic brand (8800704)

**No. 1R252.** Shpg. wt. 0.1 lbs.
List $25.65. Each.....**$20.06**

| Key | Max. Feed*(GPD) | Max. Operating Pressure (PSI) | Min. Flow Rate (GPD) | Dimensions (In.) H | W | D | Mec-O-Matic Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 8 | 100 | 2.5 | 9 | 4⅝ | 6¼ | SR105 | **1P679** | $304.45 | **$191.75** | 7.9 |
| A | 12 | 100 | 5.8 | 9 | 4⅜ | 6¼ | SR110 | **2P300** | 309.70 | **196.00** | 8.0 |
| A | 30 | 100 | 11.7 | 9 | 4⅝ | 6¼ | SR125 | **2P301** | 316.17 | **197.25** | 8.0 |
| B | 8 | 100 | 0.25 | 9 | 4⅝ | 9 | SR105-CTG | **2P120**† | 495.83 | **311.50** | 9.5 |

(*) Max. feed rate per 24-hr. day at 0 PSI. (†) No. 2P120 is not Agency listed.

## C 3/8" FLOW INDICATOR

- **Maximum Pressure: 100 PSI**
- **Maximum Flow: 60 GPD**
- **Provides quick visual indication of fluid flow in pump system**

Installs into pump discharge line for convenience. For nonflammable fluids compatible with component materials. Acrylic sight glass. PVC fittings and Viton O-rings for 3/8" OD tubing. Indicator should be mounted in vertical position for best results. Meets NSF Standard 29, Item 4x4. Will fit on diaphragm and piston chemical metering pumps including Nos. 1P679, 2P120, 2P300, 2P301, 4UP25, 4UP26, 4UP27, 4UP28, 4UP29, 4UP30, and 4UP31. Mec-O-Matic brand (7012309).

**No. 2P362.** Shpg. wt. 0.1 lbs. List $28.34. Each.....**$20.47**

## D CHEMICAL SOLUTION TANKS

7½ and 15 gallon chemical solution tanks for use with Mec-O-Matic pumps listed above. Tight fitting covers on supply tank minimize contamination and chemical odors. All fittings, tubing and instructions for tank assembly included with pump. No. 2P306 includes integral base/tray and chlorine test kit.

Strong polyethylene tank resists chemical attack and mechanical abuse. No. 2P307 has liquid level monitor to check liquid level without opening tank lid. Mec-O-Matic brand.

| Gal. | M-O-M Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 7½ | 8800449 | **2P306** | $114.21 | **$78.35** | 7.5 |
| 15 | 8800667 | **2P307** | 140.55 | **95.15** | 12.0 |

## E SOLUTION PUMP SYSTEMS

Chemical solution tank systems consist of a tank and feeder pump. See chart below for tank size and pump feed rate.

Injection point fittings, 12 ft., 3/8" polyethylene tubing, pump with 6 ft. 3-conductor cord, tank, chlorine test kit and operating manual included. Chlorine test kit not included with No. 7P077. Packed in separate cartons. Agency listed. Note: 7P075-7P077 use Mec-O-Matic brand pumps.

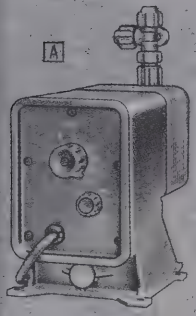
| Incl. Pump | Incl. Tank | Pump Rate (GPD) | Tank Size (Gal.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1P679 | 2P306 | 8 | 7½ | **7P075** | $399.00 | **$238.75** | 15.4 |
| 2P300 | 2P306 | 12 | 7½ | **7P076** | 404.00 | **250.00** | 15.5 |
| 2P301 | 2P307 | 30 | 15 | **7P077** | 435.00 | **269.50** | 20.0 |



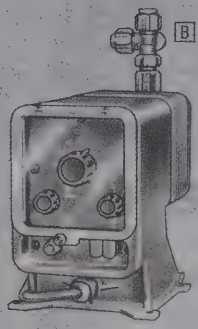
*If we don't have a pump for it, chances are it can't be pumped.*

# CHEMICAL METERING PUMPS

PULSAFEEDER®

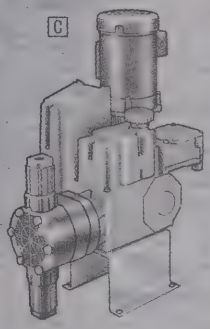


No. 4UP25

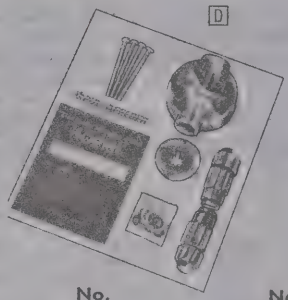


No. 4UP30

New

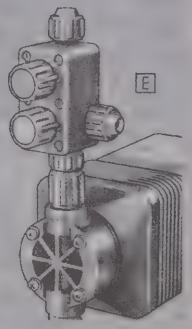


No. 4UP18



No. 4UP12

No. 4UP22




## A, B, AND C CHEMICAL METERING PUMPS

- **For continuous-duty action**
- **±2% accuracy and repeatability**
- **Chemical-resistant pump head and valves; check compatibility chart in Terminology and Technical Data listed at back of catalog**
- **Pressure capability up to 305 PSI**
- **Internally dampened to reduce noise**
- **Guided ball check valve systems**
- **Leak-free, sealless, liquid end**

**A and B Applications:** Chemical treatment of well water, swimming pools, municipalities, waste water, boilers and sprinkling systems. For metered pumping of nonflammable chemicals compatible with component materials, including acids, caustics, biocides, fertilizers, and detergents. Includes foot valve/strainer assembly, backpressure injection valve assembly, bleed valve, 4 ft. suction tubing, 8 ft. discharge tubing, and 4 ft. bleed valve tubing. 100:1 turn down ratio. 115VAC, 60 Hz.

**C Applications:** Municipal and industrial, including pH, disinfection and waste water treatment. Provides greater flow at higher pressure for more demanding applications. Rugged motor-driven pump designed for reliable and capable metering, simple installation, small footprint and multiple motor orientations to fit into any space. 115/230 VAC. 0-100% adjustable.

| Key | Max. Feed Rate (GPD) | Max. Operating Pressure (PSI) | Suction Lift (Ft.) | Diaphragm | Head & Fittings | Balls | Seals & O-Rings | Dimensions (In.) H | W | D | Pulsafeeder Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 6.0 | 150 | 4 | Teflon-faced | GFPPL | Ceramic | Teflon | 9.6 | 5.0 | 9.5 | LB02SA-PTC1 | **4UP25** | $317.00 | **$273.00** | 10.0 |
| A | 12.0 | 150 | 4 | Teflon-faced | GFPPL | Ceramic | Teflon | 9.9 | 5.0 | 9.5 | LB03SA-PTC1 | **4UP26** | 317.00 | **273.00** | 10.0 |
| A | 30.0 | 100 | 4 | Teflon-faced | GFPPL | Ceramic | Teflon | 9.9 | 5.0 | 9.5 | LB04SA-PTC1 | **4UP27** | 317.00 | **273.00** | 10.0 |
| B | 40.0 | 250 | 4 | Teflon-faced | GFPPL | Ceramic | Teflon | 11.1 | 6.2 | 11.2 | LPH4SA-PTC1 | **4UP30** | 953.00 | **818.50** | 21.0 |
| B | 44.0 | 100 | 4 | Teflon-faced | GFPPL | Ceramic | Teflon | 10.6 | 5.4 | 11.2 | LPE4SA-PTC1 | **4UP28** | 549.00 | **472.00** | 15.0 |
| B | 94.0 | 100 | 4 | Teflon-faced | GFPPL | Ceramic | Teflon | 11.0 | 5.4 | 11.7 | LPG5SA-PTC3 | **4UP29** | 738.00 | **634.50** | 18.0 |
| B | 120.0 | 100 | 4 | Teflon-faced | GFPPL | Ceramic | Teflon | 11.3 | 6.2 | 11.2 | LPH6SA-PTC3 | **4UP31** | 775.00 | **666.50** | 21.0 |
| B | 240.0 | 35 | 4 | Teflon-faced | GFPPL | Ceramic | Teflon | 11.7 | 6.1 | 11.2 | LPH7SA-PTC3 | **4UP32** | 838.00 | **720.50** | 21.0 |
| C | 64.0 | 305 | 10 | Teflon-faced | PVC | Ceramic | PVC/PTFE | 29 | 12.75 | 19.5 | L2F7EMSAP | **4UP18** | 1868.00 | **1385.00** | 100.0 |
| C | 127.0 | 305 | 10 | Teflon-faced | PVC | Ceramic | PVC/PTFE | 29 | 12.75 | 19.5 | L2F9EMSAP | **4UP19** | 1868.00 | **1385.00** | 100.0 |
| C | 292.0 | 160 | 10 | Teflon-faced | PVC | Ceramic | PVC/PTFE | 29 | 12.75 | 19.5 | L2G5EMSAP | **4UP20** | 2038.00 | **1526.00** | 100.0 |
| C | 439.0 | 160 | 10 | Teflon-faced | PVC | Ceramic | PVC/PTFE | 29 | 12.75 | 19.5 | L2H1EMSAP | **4UP21** | 2038.00 | **1526.00** | 100.0 |

Material Code: GFPPL-Glass-filled ploypropylene, PVC-Polyvinyl chloride

## D KOPKITS

**Contains wet-end spare parts recommended for preventative maintenance**

**Guards against unnecessary downtime**

Even the best equipment requires a minimal amount of maintenance. KOPkits are designed to assure you of the highest level of efficient and uninterrupted service from PULSAtron pumps A and B, above.

| For Stock No. | Pulsatron Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4UP25 | K2PTC1 | **4UP12** | $65.06 | **$59.15** | 0.5 |
| 4UP26 | K3PTC1 | **4UP13** | 39.76 | **36.15** | 0.5 |
| 4UP27, 4UP28, 4UP30 | K4PTC1 | **4UP14** | 76.06 | **69.15** | 0.5 |
| 4UP29 | K5PTC3 | **4UP15** | 89.26 | **81.15** | 0.6 |
| 4UP31 | K6PTC3 | **4UP16** | 92.56 | **84.15** | 0.6 |
| 4UP32 | K7PTC3 | **4UP17** | 100.32 | **91.20** | 0.8 |

## E FIVE FUNCTION VALVE

- **Relieves pressure**
- **Aids priming**
- **Controls back pressure**
- **Prevents siphoning**
- **Drains discharge line**

Easy to install. Upgrades existing pumps. Durable, chemical-resistant wetted end with recessed screws to withstand corrosive solution. Only service required is cleaning or replacement of diaphragms when changing pump diaphragm. All parts easily replaced. Valve material is GFPPL. Note: Can be used with Nos. 4UP25-4UP32.

***New* No. 4UP22.** 3/8" OD Tubing Connection. Shpg. wt. 0.2 lbs.
List $39.65. Each ..... **$36.05**

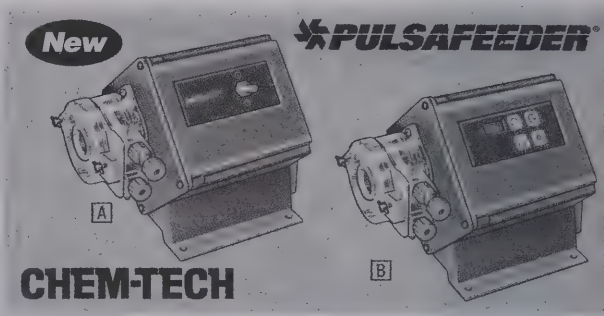
***New* No. 4UP23.** 1/2" OD Tubing Connection. Shpg. wt. 0.2 lbs.
List $39.65. Each ..... **$36.05**

# PERISTALTIC METERING PUMPS AND PUMP ACCESSORIES

## HI-PRESSURE PERISTALTIC PUMPS

- **Self-priming**
- **Chemical-resistant rugged ABS housing**
- **Automatic de-gassing**
- **Adjustable feed rate and incremental control on Nos. 4UP06, 4UP07, and 4UP08. 10:1 turn down ratio**

Applications: Automatic de-gassing allows trouble-free metering of hypochlorite, peroxide and other gas-producing solutions. Self-priming, clear polycarbonate head assembly with high-strength peristaltic tubing maximizes safety when metering solutions. Includes foot valve, injection assembly, spare tube assembly, and 15 ft. of suction/discharge tubing. 115 volt, 60 Hz with 6-ft. 3-wire power cord.




| Key | Max. Feed Rate (GPD) | Max. Operating Pressure (PSI) | Suction Lift (Ft.) | Tubing Material | Dimensions (In.) H | W | L | Pulsafeeder Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 3.5 | 110 | 24 | Norprene | 8.22 | 7.72 | 9.62 | CTPA3HEA | 4UP03 | $344.00 | $221.00 | 10.0 |
| A | 13.0 | 100 | 24 | Norprene | 8.22 | 7.72 | 9.62 | CTPA4HEA | 4UP04 | 344.00 | 221.00 | 10.0 |
| A | 30.0 | 80 | 24 | Norprene | 8.22 | 7.72 | 9.62 | CTPA6HEA | 4UP05 | 344.00 | 221.00 | 10.0 |
| B | 14.0 | 110 | 24 | Norprene | 8.22 | 7.72 | 9.62 | CTPD3HSA | 4UP06 | 714.00 | 456.50 | 11.0 |
| B | 24.0 | 100 | 24 | Norprene | 8.22 | 7.72 | 9.62 | CTPD4HSA | 4UP07 | 714.00 | 456.50 | 11.0 |
| B | 56.0 | 80 | 24 | Norprene | 8.22 | 7.72 | 9.62 | CTPD6HSA | 4UP08 | 714.00 | 456.50 | 11.0 |
| — | Replacement Tube Assembly for Nos. 4UP03 and 4UP06 | | | | — | — | — | NC90XX3HPA | 4UP33 | 26.42 | 24.02 | 0.1 |
| — | Replacement Tube Assembly for Nos. 4UP04 and 4UP07 | | | | — | — | — | NC90XX4HPA | 4UP34 | 26.42 | 24.02 | 0.1 |
| — | Replacement Tube Assembly for Nos. 4UP05 and 4UP08 | | | | — | — | — | NC90XX6HPA | 4UP35 | 26.42 | 24.02 | 0.1 |

## MULTI-PURPOSE PERISTALTIC PUMPS

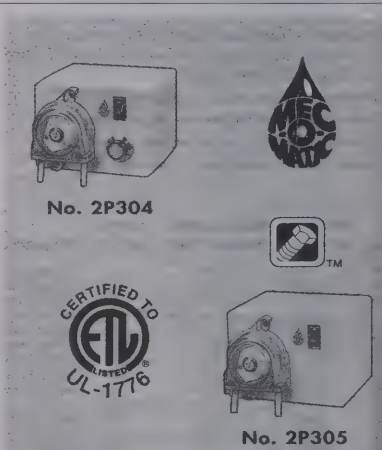
- **Self-priming to 15 ft. suction lift**
- **Valveless, nonclogging design**
- **Corrosion/chemical-resistant**
- **Quick disconnect heads for easy maintenance**

**Applications:** Chemical treatment of swimming pools, spas, waste water, food processing (where the chemical being pumped must be kept pure). Use where discharge pressure does not exceed 25 PSI. Metered pumping of nonflammable chemicals compatible with pump component materials, including liquid chlorine, weak acids, enzymes, detergents, polymers and wetting agents. Handles viscosities to 15,000 CPS. Mec-O-Matic brand.

**Construction:** Norprene/polyethylene tubing, PVC injection fitting and strainer. Lubricated Norprene tubing is 7/16" OD x 1/4" ID and has a broader chemical resistance than EPDM, Silicone or Viton. All metal 120VAC gearmotor turns roller which moves fluid through tubing. Polycarbonate housing. 5 1/16W x 8 1/2L x 5 1/16"H. UL Listed (E51844). ETL Approved.

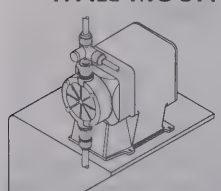
**No. 2P304** for general purpose applications. Output controlled by manually adjusted 120VAC variable speed gearmotor. Max. flow rate 20 GPD.

**No. 2P305** for high output pool/spa applications. 120VAC motor. Output controlled by current interrupter that varies the pump on time. Max. flow rate 60 GPD.




| Max. Flow Rate, GPD | Max. Feed Rate, GPH | cc/ Min. | Max. PSI | Max. Strokes/ Min. | Mec-O-Matic Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 20 | 0.83 | 52.6 | 25 | 13 | VSP | 2P304 | $291.91 | $180.25 | 6.0 |
| 60 | 2.50 | 157.6 | 25 | 39 | D50 | 2P305 | 283.60 | 179.00 | 7.0 |

## WALL MOUNT BRACKET



- **Heavy-duty ABS plastic**
- **Mounting hardware included**
- **Universal pump mounting**

Wall mount bracket allows a pump to be mounted on a wall or other vertical support in applications where it is necessary to have the pump mounted above a tank or drum.

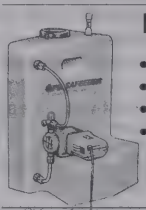
***New*** **No. 4UP24.** Shpg. wt. lbs. List.....$39.93. Each.....$36.30

## NORPRENE® TUBING KIT FOR PERISTALTIC PUMPS

Kit comes complete with parts necessary to change pump head tubing on peristalti pumps Nos. 2P304 and 2P305. Tubing: 7/16" OD x 1/4" ID x 9" long. Mec-O-Matic brand

**No. 1R422.** Shpg. wt. 0.3 lbs. List $21.21. Each.....$15.3

## ITS SYSTEM (INTEGRATED TANK SYSTEMS)



- **Liquid level wand**
- **Childproof lid**
- **Flooded suction**
- **Universal pump mount**

***New***

Completely integrated tank system constructed high density, UV-resistant polyethylene with a 1 gallon capacity. System is translucent with 5-ga lon increments. Tank's low level indicator allow visual monitoring of chemicals without openi the tank. System consists of a chemical tank wi lid and bulkhead fittings; a liquid level indicat float assembly; and feeder mounting hardware.

| ITS System | For Stock Nos. | Pulsafeeder Model | New! Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| 1/4" PVC bulkhead | 4UP03-4UP08 | J40488 | 4UP09 | $148.00 | $137.05 | 13.( |
| 3/8" PVC bulkhead | 4UP25-4UP28, 4UP30 | J40492 | 4UP10 | 148.00 | 137.05 | 13.( |
| 3/8" PVC bulkhead | 1P679, 2P300, 2P301, 2P120 | J40498 | 4UP11 | 148.00 | 137.05 | 13.( |



*If we don't have a pump for it, chances are it can't be pumped.*

# PERISTALTIC PUMPS

## PERISTALTIC PUMPS

- **Versatile, compact, self priming**
- **Heat, chemical, and impact-resistant**
- **Quick change tubing**
- **Easy set-up, operation, and cleaning**

**Applications:** Agriculture, chemical, food processing, laboratory, lubricants, machine tools, water treatment, printing, plastics-liquid color, transferring materials, waste removal, metering. Use when situations require a self-priming pump, pumping caustic or corrosive materials, or when a sanitized condition must be maintained.

**A PANEL MOUNT/NEMA 1 ENCLOSURE.** Panel mount or NEMA 1 table unit. Motors are 115VAC, 50/60 Hz, thermally protected. Class F insulation. Use with Tube Kits Nos. 4JV37-4JV40.

**B MICROPROCESSOR CONTROLLED.** Anodized brushed aluminum enclosure. For operation in the metered, continuous, or proportional mode. Speed range 2-60 RPM. Operates on 120/240 VAC, 50/60 Hz with temperatures to 140°F and pressures to 40 PSI. Use with Tube Kits Nos. 4JV41-4JV43.

**C VARIABLE-SPEED.** Anodized brushed aluminum enclosure. Speed range 2-100 RPM on 120/240 VAC, 50/60 Hz, with temperatures to 140°F, and pressures to 40 PSI. Pump No. 4JV13 use Tube Kits Nos. 4JV37-4JV40. Pumps 4JV14-4JV15 use Tube Kits Nos. 4JV41-4JV43.

| Key | RPM | Flow Rate (ML/Min.) 1/8"ID | 3/16"ID | 1/4"ID | Tuskin Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **NEMA 1 ENCLOSURE** | | | | | | | | | |
| | 1 | — | 2.2 | 3.6 | P1013 | **4JT94** | $299.40 | **$249.50** | 9.0 |
| | 2 | — | 4.5 | 8 | P1014 | **4JT95** | 299.40 | **249.50** | 9.0 |
| | 5 | — | 13.5 | 18 | P1015 | **4JT96** | 299.40 | **249.50** | 9.0 |
| | 12 | — | 25 | 45 | P1016 | **4JT97** | 299.40 | **249.50** | 9.0 |
| A | 30 | — | 65 | 112 | P1017 | **4JT98** | 299.40 | **249.50** | 9.0 |
| | 60 | — | 130 | 225 | P1018 | **4JT99** | 299.40 | **249.50** | 9.0 |
| | 100 | — | 220 | 360 | P1019 | **4JV01** | 299.40 | **249.50** | 9.0 |
| | 200 | — | 430 | 720 | P1020 | **4JV02** | 320.70 | **267.25** | 9.0 |
| | 300 | — | 650 | 1050 | P1021 | **4JV03** | 320.70 | **267.25** | 9.0 |
| **PANEL MOUNT** | | | | | | | | | |
| | 1 | — | 2.2 | 3.6 | P1022 | **4JV04** | 182.10 | **151.75** | 5.5 |
| | 2 | — | 4.5 | 8 | P1023 | **4JV05** | 182.10 | **151.75** | 5.5 |
| | 5 | — | 13.5 | 18 | P1024 | **4JV06** | 182.10 | **151.75** | 5.5 |
| | 12 | — | 25 | 45 | P1025 | **4JV07** | 182.10 | **151.75** | 5.5 |
| A | 30 | — | 65 | 112 | P1026 | **4JV08** | 182.10 | **151.75** | 5.5 |
| | 60 | — | 130 | 225 | P1027 | **4JV09** | 182.10 | **151.75** | 5.5 |
| | 100 | — | 220 | 360 | P1028 | **4JV10** | 182.10 | **151.75** | 5.5 |
| | 200 | — | 430 | 720 | P1029 | **4JV11** | 197.40 | **164.50** | 5.5 |
| | 300 | — | 650 | 1050 | P1030 | **4JV12** | 197.40 | **164.50** | 5.5 |
| **MICROPROCESSOR-CONTROLLED** | | | | | | | | | |
| B | 2-60 | 4-120 | 10-293 | 18-537 | P1031 | **4JV13** | 1399.20 | **1166.00** | 22.0 |
| **VARIABLE SPEED** | | | | | | | | | |
| C | 2-100 | — | 4.4-220 | 9-489 | P1032 | **4JV14** | 626.40 | **522.00** | 18.0 |
| | 2-100 | 2-200 | 10-500 | 18-900 | P1033 | **4JV15** | 862.20 | **718.50** | 19.0 |

## TUBING KITS

**D E-D PLEX KITS.** Black, thermoplastic rubber is resistant to many acids and bases. Material is also UV resistant, withstands temperatures to 265° F, and exhibits good abrasion resistance. Has 65 durometer (Shore A) rating. Kit contains a 1-oz. bottle of Tube Lube.

**E CILRAN KITS.** Translucent white thermoplastic rubber is resistant to many acids and bases. Working temperature is 290° F, meets USP VI specifications, and is 55 durometer (Shore A). Kit contains a 1-oz. bottle of Tube Lube.

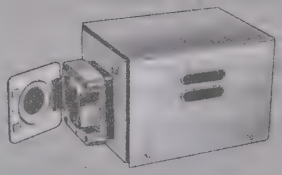
**F POLYURETHANE KITS.** Resistant to attack from moisture, humidity, and fungus with a working temperature to 200° F. 85 durometer (shore A). Use with pump Nos. 4JV13 and 4JV14 sold above.

**G TUBE LUBE.** Used to reduce friction between rollers and tube for increased tube life in the Cilran and E-D Plex kits.

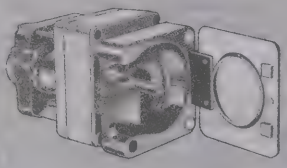
| Key | Type | ID (In.) | OD (In.) | Qty. (ft.) | Tuskin Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| D | E-D Plex | 3/16 | 3/8 | 25 | P2000 | **4JV37** | $21.67 | **$18.06** | 1.0 |
| | E-D Plex | 1/4 | 7/16 | 25 | P2001 | **4JV38** | 24.73 | **20.61** | 1.0 |
| E | Cilran | 3/16 | 3/8 | 25 | P2002 | **4JV39** | 26.26 | **21.89** | 1.0 |
| | Cilran | 1/4 | 7/16 | 25 | P2003 | **4JV40** | 30.90 | **25.75** | 1.0 |
| F | Polyurethane | 1/8 | 1/4 | 25 | P2004 | **4JV41** | 16.31 | **13.59** | 1.0 |
| | Polyurethane | 3/16 | 5/16 | 25 | P2005 | **4JV42** | 11.41 | **9.51** | 1.0 |
| | Polyurethane | 1/4 | 3/8 | 25 | P2006 | **4JV43** | 19.99 | **16.66** | 1.0 |
| G | Tube Lube | – | – | 1 Pint | P2500 | **4JV44** | 14.71 | **12.26** | 1.0 |

**TUSKIN**
CORPORATION

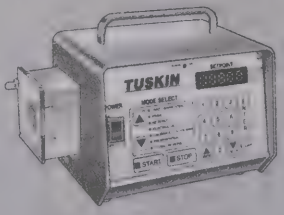
New



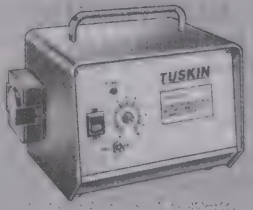
A No. 4JT94



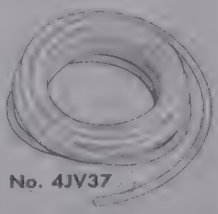
A No. 4JV04



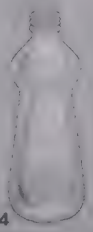

B No. 4JV13




C No. 4JV14



D No. 4JV37

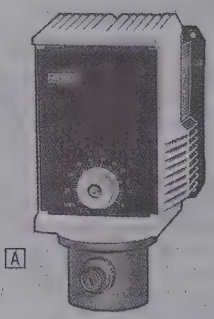


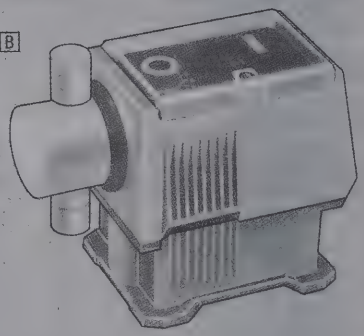
G No. 4JV44

# CHEMICAL METERING PUMPS

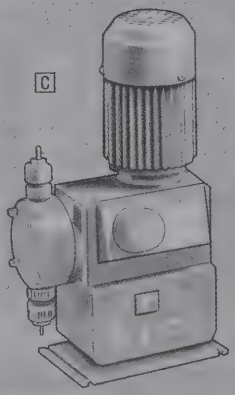
- **For continuous-duty operation**
- **±2% Accuracy and repeatability**
- **Chemical resistant pump head and valves-check compatibility chart on pages in Terminology section**
- **Constant flow over pressures to 145 PSI**
- **Quiet operation**
- **Double ball valves**
- **115 VAC, 60 Hz motor**

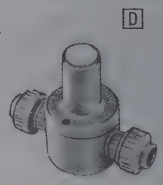
Replacement Parts Available 1-800-323-0620




ALLDOS




A **Applications:** Chemical treatment of well water, swimming pools, spas, waste water, boilers and sprinkling systems. Teflon diaphragm driven by continuous duty synchronous gear motor. For metered pumping of nonflammable chemicals compatible with component materials, including acids, caustics, biocides, fertilizers and detergents. Includes strainer, ejector fitting, 6 ft. clear polyethylene suction tubing and 12 ft. polyethylene discharge tubing. Alldos brand (M190 series).

B **Applications:** Meter liquids into drinking water systems, swimming pools, boilers and sprinkling systems. Teflon diaphragm driven by continuous duty synchronous gear motor. Includes strainer and ejector fitting, 6 ft. clear polyethylene suction tubing and 12 ft. polyethylene discharge tubing. Alldos brand (M205 Series).

C **Applications:** Commercial/industrial metering of chemicals into cooling towers, waste treatment systems, irrigation, municipal water systems, food processing, pulp and paper, and car wash systems. Teflon-coated diaphragm driven by TEFC gear motor. **NOTE:** For feed pressures less than 30 PSI, a back pressure retention valve, No. 4P063 (available separately, see below) should be used. Alldos brand (M220 Series).

## BACK PRESSURE RETENTION VALVE

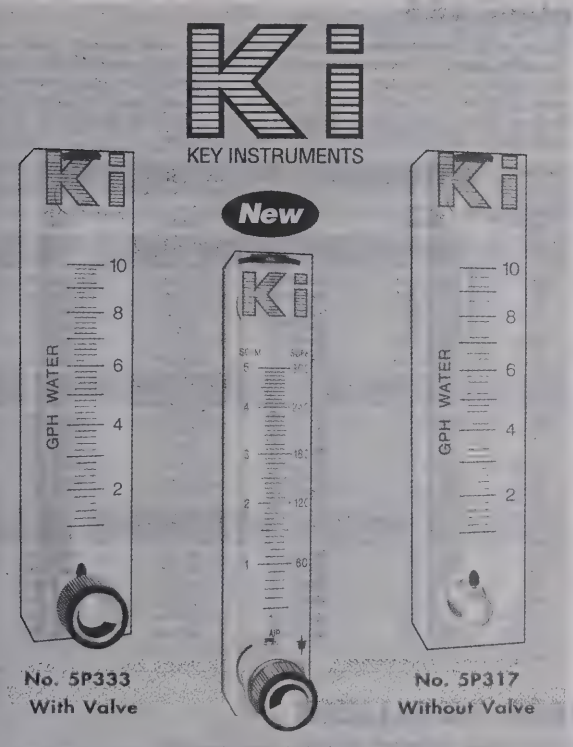
D **Applications:** For chemical metering where feed pressures are less than 30 PSI, such as into open tanks or basins. Also prevents siphoning back to tank. 1/2" MPT fittings. Suitable for use with most Alldos, Bran & Luebbe, Milton-Roy, Pulsafeeder, and Wallace & Tiernan chemical metering pumps. 4L x 4W x 3½"H. Alldos brand (BPV050-P).

**No. 4P063.** Shpg. wt. 1.9 lbs. List .....$256.18. Each .....**$216.00**

| Key | Max.* Feed Rate (GPD) | Max. Operating Pressure (PSI) | Motor Amps @ 115 VAC | Suction Lift (Ft.) | Diaphragm | Head and Valves | O.D. Fittings (In.) | Dimensions (In.) H | W | D | Alldos Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | 1.5 | 100 | 0.1 | 3 | Teflon | PP | 1/4 | 7 | 4½ | 7 | M190-0.2 | **3L617** | $282.36 | **$204.25** | 7. |
| **A** | 6.0 | 100 | 0.2 | 3 | Teflon | PP | 1/4 | 7 | 4½ | 7 | M190-0.8 | **3L618** | 290.76 | **213.25** | 7. |
| **A** | 12.0 | 100 | 0.3 | 3 | Teflon | PP | 1/4 | 7 | 4½ | 7 | M190-1.6 | **3L619** | 293.67 | **215.25** | 7. |
| **B** | 12.0 | 145 | 0.4 | 3 | Teflon | PP | 1/4 | 7½ | 4½ | 7½ | M205-1.6 | **4P041** | 448.82 | **324.75** | 8. |
| **B** | 23.0 | 116 | 0.5 | 3 | Teflon | PP | 1/4 | 7½ | 4½ | 7½ | M205-3.0 | **4P042** | 459.21 | **331.75** | 8. |
| **B** | 46.0 | 87 | 0.6 | 3 | Teflon | PP | 1/4 | 7½ | 4½ | 7½ | M205-6.0 | **4P040** | 528.05 | **380.50** | 8. |
| **B** | 76.0 | 73 | 0.8 | 3 | Teflon | PP | 1/4 | 7½ | 4½ | 7½ | M205-10 | **3L620** | 562.71 | **407.25** | 8. |
| **C** | 60.0 | 145 | 1.0 | 9 | Teflon-coated | PVC | 1/2 | 15 | 6¾ | 9 | M220-8 | **4P043** | 1392.00 | **1024.00** | 16. |
| **C** | 108.0 | 145 | 1.5 | 9 | Teflon-coated | PVC | 1/2 | 15 | 6¾ | 9 | M220-14 | **4P044** | 1489.00 | **1094.00** | 16. |
| **C** | 204.0 | 145 | 1.5 | 9 | Teflon-coated | PVC | 1/2 | 15 | 6¾ | 9 | M220-27 | **4P045** | 1542.00 | **1130.00** | 16. |

(*) Minimum feed rate = 1/10 max. feed rate. (#) Polypropylene.

# KEY INSTRUMENTS FLOW ROTAMETERS




- Easy-to-read English or Metric scales
- Durable one-piece clear acrylic construction
- Full scale accuracy of ±3% for FR4000/FR4500 models and ±2% for FR5000 models
- Brass or stainless steel fittings on FR4000 (1/8" FNPT) and on FR4500 (1/4" FNPT); 1" FNPT PVC Fittings on FR5000
- 100 PSIG Max. liquid pressure
- 150°F/65°C Max. liquid temperature
- 10-32 threaded brass inserts for quick installation
- FR4000/FR4500 models available with valves
- Stable, easy-to-read floats
- Easy disassembly and assembly for maintenance

For measuring liquid or gas flows in air sampling equipment, chromatography systems, desalinization equipment, gas analyzers, medical systems, photo processing equipment, water treatment and distribution systems, and in aquaculture systems. For use with gases and liquids compatible with component materials.

Flowmeters with brass and PVC fittings feature nitrile o-rings; flowmeters with stainless steel fittings have Viton o-rings. Valves isolate/connect flowmeter to fluid flow.

| Model | Dimensions (In.) H | W | D | Center-to-Center Fittings | Center-to-Center Inserts |
|---|---|---|---|---|---|
| FR4000 | 6½ | 1⅜ | 1⅛ | 5½* | 3½ |
| FR4500 | 6⅝ | 1⅜ | 1⅛ | 5½* | 3½ |
| FR4500PS | 10⅜ | 1¾ | 2 | 8½ | 4½ |
| FR5000PI | 13½ | 1¼ | 2 | ** | 4½ |

*) Back connections. (**) End connections.

## FLOWMETERS WITH STAINLESS FITTINGS AND VALVES

| Flow Rates Range | Key Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 10-100 SCFH of Air | FR4000A34SV | 5P361 | $102.23 | $73.05 | 0.7 |
| 15-150 | FR4000A35SV | 5P362 | 102.23 | 73.05 | 0.7 |
| 20-200 | FR4000A36SL | 5P363 | 102.23 | 73.05 | 0.7 |
| 0.3-3 SCFM Of Air | FR4000A37SL | 5P364 | 102.23 | 73.05 | 0.7 |
| 4-50 CCM of Water | FR4000L38SV | 5P353 | 102.23 | 73.05 | 0.7 |
| 0-120 | FR4000L56SV | 5P354 | 102.23 | 73.05 | 0.7 |
| 5-225 | FR4000L51SV | 5P355 | 102.23 | 73.05 | 0.7 |
| 0-400 | FR4000L50SV | 5P356 | 102.23 | 73.05 | 0.7 |
| 0-650 | FR4000L52SV | 5P357 | 102.23 | 73.05 | 0.7 |
| 00-1500 | FR4000L53SL | 5P358 | 102.23 | 73.05 | 0.7 |
| 00-3000 | FR4000I54SL | 5P359 | 102.23 | 73.05 | 0.7 |
| 00-3700 | FR4000L55SL | 5P360 | 102.23 | 73.05 | 0.7 |
| 1-10 GPH of Water | FR4000L45SV | 5P349 | 102.23 | 73.05 | 0.7 |
| 2-25 | FR4000L48SL | 5P350 | 102.23 | 73.05 | 0.7 |
| 4-50 | FR4000L49SL | 5P351 | 102.23 | 73.05 | 0.7 |
| 6-60 | FR4000L46SL | 5P352 | 102.23 | 73.05 | 0.7 |
| 1-10 SCFM of Air | FR4500A65SV | *New* 4UM98 | 183.05 | 130.75 | 1.0 |
| .6-5 | FR4500A67SV | *New* 4UN01 | 183.05 | 130.75 | 1.0 |
| .2-2.5 GPM of Water | FR4500L64SV | *New* 4UN03 | 183.05 | 130.75 | 1.0 |
| .4-5 | FR4500L66SV | *New* 4UN05 | 183.05 | 130.75 | 1.0 |

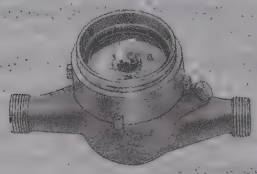
## SPECIFICATIONS AND ORDERING DATA

| Flow Rates Range | Key Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **FLOWMETERS WITH PVC FITTINGS (NO VALVES)** | | | | | |
| 3-25 SCFM of Air | FR5000A50PS | *New* 4UN06 | $226.45 | $161.75 | 2.0 |
| 4-50 | FR5000A51PS | *New* 4UN07 | 226.45 | 161.75 | 2.0 |
| 10-100 | FR5000A52PS | *New* 4UN08 | 226.45 | 161.75 | 2.0 |
| 1-10 GPM of Water | FR5000L57PI | *New* 4UN09 | 226.45 | 161.75 | 2.0 |
| 2-20 | FR5000L58PI | *New* 4UN10 | 226.45 | 161.75 | 2.0 |
| 0.4-5 | FR5000L56PI | *New* 4UN11 | 226.45 | 161.75 | 2.0 |
| **FLOWMETERS WITH BRASS FITTINGS (NO VALVES)** | | | | | |
| 10-100 SCFH of Air | FR4000A34BN | 5P330 | $71.01 | $50.90 | 0.6 |
| 20-200 | FR4000A36BN | 5P331 | 71.01 | 50.90 | 0.6 |
| 1-10 GPH of Water | FR4000L45BN | 5P317 | 71.01 | 50.90 | 0.6 |
| 2-25 | FR4000L48BN | 5P318 | 71.01 | 50.90 | 0.6 |
| 4-50 | FR4000L49BN | 5P319 | 71.01 | 50.90 | 0.6 |
| 6-60 | FR4000L46BN | 5P320 | 71.01 | 50.90 | 0.6 |
| 0.2-2.5 GPM of Water | FR4000L64BN | 5P321 | 71.01 | 50.90 | 0.6 |
| **FLOWMETERS WITH BRASS FITTINGS AND VALVES** | | | | | |
| 10-100 SCFH Of Air | FR4000A34BV | 5P345 | 83.94 | 59.80 | 0.7 |
| 15-150 | FR4000A35BV | 5P346 | 83.94 | 59.80 | 0.7 |
| 20-200 | FR4000A36BL | 5P347 | 83.94 | 59.80 | 0.7 |
| 0.3-3 SCFM of Air | FR4000A37BL | 5P348 | 83.94 | 59.80 | 0.7 |
| 4-50 CCM of Water | FR4000L38BV | 5P337 | 83.94 | 59.80 | 0.7 |
| 25-225 | FR4000L51BV | 5P339 | 83.94 | 59.80 | 0.7 |
| 40-400 | FR4000L50BV | 5P340 | 83.94 | 59.80 | 0.7 |
| 50-650 | FR4000L52BV | 5P341 | 83.94 | 59.80 | 0.7 |
| 100-1500 | FR4000L53BL | 5P342 | 83.94 | 59.80 | 0.7 |
| 1-10 GPH of Water | FR4000L45BV | 5P333 | 83.94 | 59.80 | 0.7 |
| 2-25 | FR4000L48BL | 5P334 | 83.94 | 59.80 | 0.7 |
| 4-50 | FR4000L49BL | 5P335 | 83.94 | 59.80 | 0.7 |
| 6-60 | FR4000L46BL | 5P336 | 83.94 | 59.80 | 0.7 |
| 1-10 SCFM OF Air | FR4500A65BV | *New* 4UM97 | 150.99 | 107.85 | 1.0 |
| 0.6 - 5 | FR4500A67BV | *New* 4UM99 | 150.99 | 107.85 | 1.0 |
| 0.2 - 2.5 GPM of Water | FR4500L64BV | *New* 4UN02 | 150.99 | 107.85 | 1.0 |
| 0.4- 5 | FR4500L66BV | *New* 4UN04 | 150.99 | 107.85 | 1.0 |

NOTE: SCFH = Standard Cubic Feet per Hour (English); CCM = Cubic Centimeters per Minute (Metric); SCFM = Standard Cubic Feet per Minute (English); GPH = Gallons per Hour (English); GPM = Gallons per Minute (English)

# HAYS PULSE FLOWMETERS AND DIGITAL FLOW RATE/TOTALIZER

## PULSE FLOWMETERS



No. 5P298

**FLOW LIMITS (GPM)**

| | | |
|---|---|---|
| 3/4" size | 0.25 min. | 20 max. |
| 1½" size | 0.5 min. | 50 max. |
| 2" size | 1.0 min. | 130 max. |

**These pulse flowmeters measure liquid flow and provide reed switch contact output.** Connect to metering pumps, regeneration controls and remote counters. They transmit signals to pumps based on rate of flow (volume) or to No. 5P316 flow rate/totalizer shown below. Flow rates range from 0.25 to 130 GPM. Includes 12 ft., conductor. 24 AWG wire cable. Hays brand.

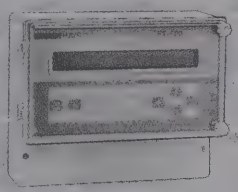
- For cold water use
- 105°F max. operating temperature
- 3/4, 1½, and 2" sizes
- Accuracy: ±1% full scale
- 150 PSI working pressure
- Maximum voltage: 24VDC
- Maximum reed switch current: 100mA
- Built-in union ends with union couplings
- Cast bronze case; thermoplastic rotor and gearing
- 7-Digit mechanical counter display

**SPECIFICATIONS AND ORDERING DATA**

| Pulses Per Gallon | Hays Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|
| **3/4" SIZE (7½" W, 3/4" THREADS*)** | | | | | |
| **20** | MR-20-3/4 | **5P298** | $200.00 | **$159.75** | 5. |
| **10** | MR-10-3/4 | **5P299** | 200.00 | **159.75** | 5. |
| **2** | MR-2-3/4 | **5P300** | 200.00 | **159.75** | 5. |
| **1** | MR-1-3/4 | **5P301** | 200.00 | **159.75** | 5. |
| **0.2** | MR-X2-3/4 | **5P302** | 200.00 | **159.75** | 5. |
| **0.1** | MR-X1-3/4 | **5P303** | 200.00 | **159.75** | 5. |
| **1½" SIZE (12⅝" W, 1½" THREADS*)** | | | | | |
| **10** | MR-10-1½ | **5P304** | 528.00 | **422.25** | 18. |
| **5** | MR-5-1½ | **5P305** | 528.00 | **422.25** | 20. |
| **1** | MR-1-1½ | **5P306** | 528.00 | **422.25** | 18. |
| **0.2** | MR-X2-1½ | **5P307** | 528.00 | **422.25** | 18. |
| **0.1** | MR-X1-1½ | **5P308** | 528.00 | **422.25** | 18. |
| **0.02** | MR-X02-1½ | **5P309** | 528.00 | **422.25** | 18. |
| **2" SIZE (10⅝" W, 2" THREADS*)** | | | | | |
| **10** | MR-10-2 | **5P310** | 583.00 | **466.00** | 21. |
| **5** | MR-5-2 | **5P311** | 583.00 | **466.00** | 21. |
| **1** | MR-1-2 | **5P312** | 583.00 | **466.00** | 21. |
| **0.2** | MR-X2-2 | **5P313** | 583.00 | **466.00** | 20. |
| **0.1** | MR-X1-2 | **5P314** | 583.00 | **466.00** | 21. |
| **0.02** | MR-X02-2 | **5P315** | 583.00 | **466.00** | 21. |

(*) Straight male iron pipe threads.

## DIGITAL FLOW RATE/TOTALIZER



No. 5P316

- Includes 115VAC-12VDC power supply
- For use with Hays and most other pulse flowmeters
- 12-16VDC, 4 watt power for remote totalizing
- 0.4" LCD, 20 character alpha-numeric display with contrast control
- Dry contact closure or 12VDC powered sensor input
- 0.3 to 600 pulses/second input frequency or 12VDC powered sensor
- NEMA 4X enclosure.

Displays flow with large LCD numerals. Features Microprocessor that allows easy front panel programming with prompts and touch controls, and programmable pulse output. Total flow (in gallons, imperial gallons, fluid ounces, cc, liters, mL, cubic meters) and flow rate (units per hour, minute or second). Features high and low alarms and two Form C relay contact outputs (max. 3 amps @ 24VDC). Best performance is achieved with Nos. 5P298, 5P299, 5P304 and 5P310 pulse flow meters described above. Hays brand (FT500).

**No. 5P316.** Shpg. wt. 3.8 List $960.00. Each ..... $769.00

**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# SWIMMING POOL COVER PUMPS

## SWIMMING POOL COVER PUMPS

- **For draining swimming pool covers to reduce weight and prolong cover life**
- **Also used to drain building roofs**
- **Can be used as utility pumps where longer than normal electric cords are required**
- **For use with nonflammable liquids compatible with pump component materials**
- **Nos. 3P994 and 3P995 suitable for saltwater applications**




A Manual On/Off operation pump draws down to 1/8" of standing water. Epoxy-coated, die-cast aluminum motor housing with removable nylon volute for easy cleaning. Oil-filled, 115VAC, 60 Hz motor has stainless steel shaft, nylon impeller and single-lip nitrile seal. Includes garden hose adapter and an 18 ft., 3-conductor, oil-resistant cord with 3-prong plug. Little Giant brand.

B Pump draws to 2.5" on level and 1.38" off level. Solid state switch and 3/4" Garden hose thread discharge. Corrosion resistant polyester housing has snap-off screen for easy cleaning. Includes 25 ft. power cord. UL Listed and CSA Certified. Little Giant brand.

C and D Heavy-duty, compact submersible pumps have computerized automatic operation that senses presence of water without external floats or switches to tangle, stick, or fail. Draws down to 3/4" of standing water. Acetal plastic housing, glass-filled nylon impeller and base, and exclusive Rule Teflon shaft seal. Heavy-duty double insulated 115VAC, 60 Hz permanent magnet motor has stainless steel shaft. Snap-off strainer provides easy cleaning. Anti-airlock design is able to run dry. Includes: 24 ft. (No. 3P994) or 18 ft. (No. 3P995), 3-conductor, oil-resistant cord with 3-prong grounded plug; garden hose adapter and 90° elbow/pipe adapter for connection to 1" NPT (No. 3P994) or 1¼" NPT (No. 3P995) rigid piping systems. Rule brand.

| Key | Operation | Motor | Outlet (In.) | GPH of Water Total Head in Feet 1 Ft. | 3 Ft. | 5 Ft. | 10 Ft. | 15 Ft. | Max. Head (Ft.) | Dimensions (In.) H | W | L | Mfrs'. Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Manual | 1/200 HP | 1/4 MPT | 170 | 140 | 100 | — | — | 7.0 | 4 | 3¾ | 4¼ | Little Giant/1-AA-18 | | **2P526** | $76.43 | **$64.60** | 4.1 |
| B | Automatic | 45W | 3/4 GHT | 475 | 396 | 293 | — | — | 9.7 | 4⅞ | 4⅛ | 5¾ | Little Giant/500-APCP | *New* | **4RK98** | 142.77 | **120.00** | 6.4 |
| C | Automatic | 100W | 1⅛ OD | 1700 | 1500 | 1250 | 700 | — | 15.0 | 7¾ | 4¾ | 4¾ | Rule/A53S-24 | | **3P994** | 166.86 | **113.00** | 5.0 |
| D | Automatic | 175W | 1½ OD | 2700 | 2400 | 2000 | 1100 | 100 | 15.5 | 8¾ | 4⅞ | 4⅞ | Rule/A55S-18 | | **3P995** | 228.66 | **155.00** | 7.6 |

**DESK SPACE AT A PREMIUM?
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG
TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.




**DON'T DELAY... ORDER FROM GRAINGER NOW!**

Place your order with your local Grainger branch, and you'll be assured of prompt service, technical support, and our "No Hassle" return policy on any product ordered.

# SWIMMING POOL PUMPS

## SELF-PRIMING CAST-IRON SWIMMING POOL PUMPS

**Description:** Designed for use with above and below ground swimming pools. Units are self-priming to 20 ft. and handle liquid temperatures from 40 to 160°F. Built-in oversized suction trap and strainer basket with easy access lid. For use with non-flammable liquids compatible with pump component materials.

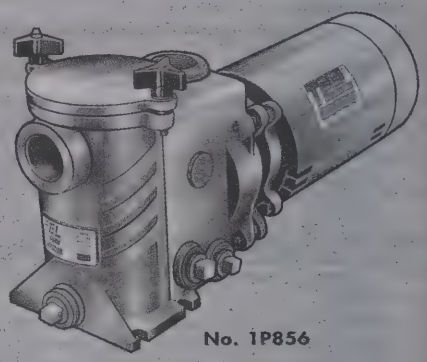
**Construction:** 1½" NPT suction and discharge ports. Pull-from-rear design permits complete disassembly without disconnecting piping or disturbing pump. Clog resistant semi-open impellers. Not to be used where positive pressure on suction side exceeds 5 PSI.

Heavy-duty cast-iron casing, impeller and adapter. Mechanical seal has stainless steel and Buna N parts with ceramic seat.

**Driver:** Heavy-duty swimming pool service motors with ball bearings at pump end. Motors are capacitor-start, NEMA 56J frame, continuous duty, 3450 RPM, 115/230 VAC, 60 Hz with automatic reset thermal overload protection and stainless steel shaft. Teel brand.

TEEL®

- Cast-iron construction
- Medium head, self-priming design
- Integral strainer
- Semi-open impellers
- 1½" Suction and discharge
- Pull from rear motor design for easier servicing



No. 1P856

### PUMP PERFORMANCE—Gallons of Water Per Minute @ Total Feet of Head

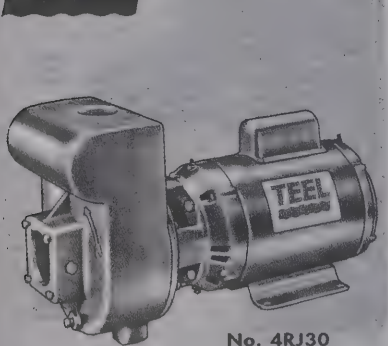
| HP | Type | Stock No. | 10 Ft. | 20 Ft. | 30 Ft. | 40 Ft. | 50 Ft. | 60 Ft. | 70 Ft. | Maximum Head (Ft.) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | Medium Head | 1P856 | 68 | 61 | 51 | 37 | 13 | — | — | 58 |
| 3/4 | Medium Head | 1P857 | 74 | 68 | 60 | 48 | 35 | 13 | — | 65 |
| 1 | Medium Head | 1P858 | 81 | 74 | 66 | 57 | 47 | 32 | 2 | 71 |

### PUMP ORDERING DATA

| HP | Type | Motor Voltage, 60 Hz | Suction & Discharge (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | Medium Head | 115/230 | 1½ | 10¼ | 6½ | 18¾ | **1P856** | $398.22 | **$292.50** | 51.0 |
| **3/4** | Medium Head | 115/230 | 1½ | 10¼ | 6½ | 19⅜ | **1P857** | 421.49 | **305.50** | 55.0 |
| **1** | Medium Head | 115/230 | 1½ | 10¼ | 6½ | 19¾ | **1P858** | 439.90 | **310.25** | 58.0 |

## COMMERCIAL SWIMMING POOL PUMPS

TEEL® New




No. 4RJ30

- Cast iron pump with bronze closed impeller
- Self-priming, maximum suction lift is 25 ft.
- Centerline discharge for easy installation
- NSF listed (with hair and lint strainer installed)
- Must order hair and lint strainer package separately (4RJ99, 4RK02, 4RK01)

Teel cast iron, self-priming, high performance, medium head pump for commercial swimming pools and spas. Bronze impeller is precision cast, machined, and dynamically balanced for long seal life and quiet operation. Available in 3 and 5 HP, 60 Hz 230V single-phase models. Motors are open dripproof, continuous-duty rated 3450 RPM. Back pull-out design allows entire motor to be removed for servicing impeller, seal or motor without disturbing plumbing. 2" discharge on 3 HP No. 4RJ30, 2½" discharge on 5 HP No. 4RJ31.

### PUMP PERFORMANCE DATA

| HP | Type | Stock No. | GPM of Water @ Total Feet of Head † 20 | 40 | 60 | 80 | 100 | 120 | 130 | 135 | Max. Head (Ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | Medium Head | 4RJ30 | * | 161.0 | 135.0 | 105.0 | 65.0 | — | — | — | 108 |
| 5 | Medium Head | 4RJ31 | * | 205.0 | 178.0 | 155.0 | 126.0 | 92.0 | 65.0 | 35.0 | 140 |

### *New!* PUMP ORDERING DATA

| Type | HP | Volts | RPM | Dimensions (In.) H | W | L | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Medium Head** | 3 | 230 | 3450 | 13⅜ | 9½ | 20¾ | **4RJ30** | $1287.50 | **$1030.00** | 146.0 |
| **Medium Head** | 5 | 230 | 3450 | 13⅜ | 9½ | 21¾ | **4RJ31** | 1575.00 | **1260.00** | 178.0 |

(*) Operating pump at or below indicated levels is not recommended. Can cause motor to overheat.
(†) To convert to PSI, divide by 2.31.



*If we don't have a pump for it, chances are it can't be pumped.*

# SWIMMING POOL & SPA PUMPS

## 1½" BRONZE POOL/SPA PUMPS

- All bronze construction
- Self-venting center line discharge
- Self-priming casing, eliminates vapor binding
- Semi-open impellers
- 1½" Suction and discharge
- Pull-from-rear motor design for easier servicing
- UL 1081 Listed

**escription:** Underwriters Laboratories 1081) listed design for use with spas, hot ubs, health club spa pools and for swim- ing pool water circulation. Self-priming o 12 ft. when used with No. 1P999 strain- r basket and foot valve. Separate casting etween motor and pump provides heat arrier that permits handling of tempera- ures up to 180° F. For use with nonflam- able liquids compatible with pump com- onent materials.

**onstruction:** 1½" NPT suction and dis- harge ports. Pull-from-rear design per- its easy servicing and cleaning without isturbing piping. Clog resistant semi- pen impeller. Precision machined suc- on port for reliable O-ring seal when sing No. 1P999 strainer basket.

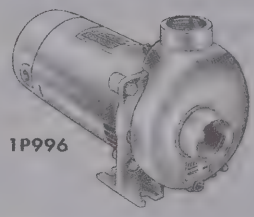
ronze casing, impeller, and casing cover. luminum motor adapter. Mechanical seal s Buna N, stainless steel and ceramic rts. Buna N O-rings.

**Driver:** Motors are open dripproof enclosure with permanently lubricated ball bearings. NEMA 56J frame, capacitor start, 115/230 VAC, 60 Hz, 3450 RPM with automatic reset thermal overload protection and stainless steel shaft.

**No. 2P092** is close-coupled to a 2-speed 1725/3450 RPM, 230 VAC only, 60 Hz motor. Switch is mounted on side of motor for speed selection. The low speed is generally used for the circulation of hot water in spas and hot tubs, while the high speed is used for water agitation and filtration.

TEEL®

UL E125101



No. 1P996

| Motor HP | Stock No. | Gallons Per Minute@ Total Feet of Head 5 | 10 | 20 | 30 | 40 | 50 | 55 | Shut-off (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1P996 | 52 | 48 | 40 | 27 | 14 | — | — | 49 |
| 3/4 | 1P997 | 72 | 67 | 57 | 46 | 32 | 14 | — | 55 |
| 1 | 1P998 | 87 | 82 | 72 | 61 | 47 | 28 | 15 | 58 |
| 1-1/2 | 2P091 | 110 | 105 | 92 | 78 | 60 | 34 | 14 | 57 |
| 2 Hi-Spd | 2P092 | 128 | 123 | 112 | 98 | 81 | 58 | 42 | 61 |
| 2 Lo-Spd | 2P092 | 52 | 36 | — | — | — | — | — | 15 |

### BRONZE POOL PUMP ORDERING DATA

| HP | Motor Voltage, 60 Hz | Suction & Discharge (In.) | Dimensions (In.) Height | Width | Length | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 115/230 | 1½ | 9 | 7 | 12¼ | **1P996** | $399.94 | **$250.00** | 25.0 |
| **3/4** | 115/230 | 1½ | 9 | 7 | 12½ | **1P997** | 413.40 | **262.00** | 29.0 |
| **1** | 115/230 | 1½ | 9 | 7 | 13 | **1P998** | 443.43 | **279.00** | 32.0 |
| **1½** | 115/230 | 1½ | 9 | 7 | 13½ | **2P091** | 468.30 | **308.25** | 36.0 |
| **2** | 230 | 1½ | 9 | 7 | 15 | **2P092** | 705.59 | **462.25** | 45.0 |



No. 1P999

## STRAINER BASKET

Designed to trap harmful debris before it enters pump. Extra large ABS plastic strainer basket removes easily for cleaning and has clear plastic lid for inspection. 1½" NPT inlet and outlet connections. Buna N O-ring provides positive seal. Built-in check valve. For use with swimming pool /spa pumps above. 5 PSI max. inlet pressure.

**No. 1P999.** Shpg. wt. 2.8 lbs. List..... $61.76.
Each..... $40.00

## 1½" BRONZE POOL/SPA PUMPS

- All-bronze construction
- Self-priming
- UL Listed
- Semi-open impeller
- 1½" suction and discharge

**scription:** 3/4 through 2½HP models for sidential and commercial swimming pool d spa circulation systems. Use for spas, t tubs, health club spa pools, and for imming pool water circulation. All- onze centrifugal-type pump with a 5" ir and lint strainer integral with pump.

**nstruction:** 1½" NPT suction and dis- large ports. Non-clogging, semi-open peller coupled to the motor by means of adjustable stub shaft. Rear access otor allows easy servicing and cleaning thout disturbing piping.

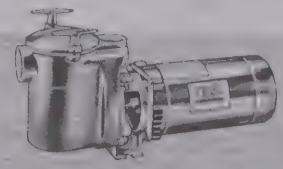
**tor:** Open dripproof enclosure with per- nently lubricated ball bearings. 3/4 ough 1½HP are 115/230V, 60 Hz; 2 and HP models are 230V, energy-saving pacitor start/capacitor run motors.

TEEL®

UL E53415

New

No. 4RH37



### PUMP PERFORMANCE DATA

| Motor HP | Stock No. | Gallons per Minute @ Total Feet of Head 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 4RH37 | 64.0 | 54.0 | 43.0 | 31.0 | 18.0 | — | — | — |
| 1 | 4RH39 | 66.0 | 58.0 | 49.0 | 40.0 | 29.0 | 16.0 | — | — |
| 1½ | 4RH40 | 80.0 | 71.0 | 62.0 | 52.0 | 42.0 | 30.0 | 12.0 | — |
| 2 | 4RH38 | * | 88.0 | 78.0 | 69.0 | 58.0 | 47.0 | 33.0 | — |
| 2½ | 4RH36 | * | 103.0 | 92.0 | 81.0 | 70.0 | 56.0 | 40.0 | 17.0 |

(*) Operating pump at or below indicated levels is not recommended and can cause motor to overheat.

### PUMP ORDERING DATA

| HP | Motor Voltage @ 60 Hz | Suction/ Discharge | Dimensions (In.) H | W | L | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **3/4** | 115/230 | 1½ | 11⅜ | 9¾ | 21⅛ | **4RH37** | $673.75 | **$539.00** | 46.0 |
| **1** | 115/230 | 1½ | 11⅜ | 9¾ | 21⅛ | **4RH39** | 698.12 | **558.50** | 51.0 |
| **1½** | 115/230 | 1½ | 11⅜ | 9¾ | 22⅜ | **4RH40** | 742.50 | **594.00** | 57.0 |
| **2** | 230 | 1½ | 11⅜ | 9¾ | 22⅜ | **4RH38** | 847.50 | **678.00** | 57.0 |
| **2½** | 230 | 1½ | 11⅜ | 9¾ | 23⅛ | **4RH36** | 945.62 | **756.50** | 67.0 |

# SWIMMING POOL, JETTED TUB AND SPA PUMPS

Specifically engineered for jet tubs, spas and above- and below-ground swimming pools. Precision-molded used a blend of glass-reinforced thermoplastic that is highly corrosion-resistant. Do not use as booster pumps or install in such a way that they can be pressurized above their normal operating pressure.

[A] **Nos. 4RJ85, 4RJ86 and 4RJ87 and 4RJ88.** Corrosion-resistant engineered thermoplastic pumps are fully self-draining to meet needs of jetted bathtub installations. Designed for quiet, reliable operation. Semi-open impeller will not clog with hair or lint. 1/2 through 1½ HP models with 115V, 3450 RPM, 60 Hz motors. Union connectors included. 1½" IPS, slip union on both the inlet and discharge ports. UL Listed (E53415).

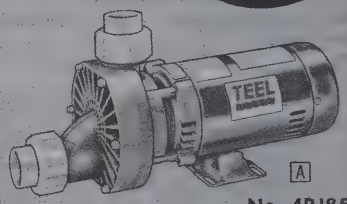
[B] **Nos. 4RJ89, 4RJ90 and 4RJ91 and 4RJ92.** Designed for those who need both value and performance in an above-ground pool pump. Reliable rapid priming for moderate lift applications. Constructed of rugged, weather- and corrosion-resistant engineered thermoplastic. Hair and lint strainer has "see through" polycarbonate trap lid. Continuous-duty rated all-weather 115V 60 Hz motor is exceptionally quiet running. 1½" NPT inlet, 1½" IPS slip port discharge union connection. UL Listed (E53415).

[C] **Nos. 4RJ82, 4RJ83 and 4RJ84.** Weather- and corrosion-resistant engineered thermoplastic spa pumps are designed for high performance and warm environment of portable-type spas. Closed impeller. Hair and lint strainer and spigot tees available through Grainger Parts Operations. Call 1-800-323-0620. AO Smith motors provide two speeds (1725 or 3450 RPM) to allow low flow circulation for prolonged periods of time, and high volume water movement on command. Union connectors included. 1½" IPS, slip union on both the inlet and discharge ports. UL Listed (E53415).

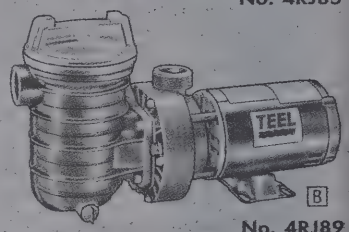
[D] **Nos. 4RJ93, 4RJ94 and 4RJ95.** Rapid, self-priming, medium head pumps in 1, 1½ and 2 HP. Extra-large, integral hair and lint strainer has "see-through" polycarbonate trap lid, and holds a large amount of debris without diminishing pump efficiency. Noryl® closed impeller. Motor: 115/230V on 1 and 1½ HP models, 230V on 2 HP; 3450 RPM, 60 Hz. Designed for swimming pool use and variable temperature conditions. Union connectors included. UL Listed (E53415). NSF Listed (STD 50).

TEEL®

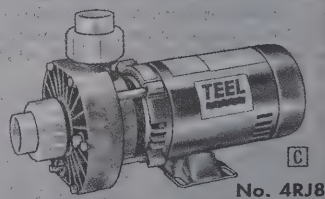
New



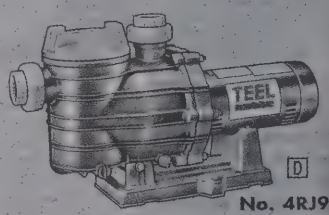

No. 4RJ85




No. 4RJ89




No. 4RJ82




No. 4RJ93

| HP | Stock No. | GPM of Water @ Total Feet of Head † —High Speed 20 | 25 | 30 | 35 | 40 | 45 | 50 | 60 | 70 | 75 | Max. Head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 4RJ85 | 55.0 | 45.0 | 30.0 | 5.0 | – | – | – | – | – | – | 34 Ft. |
| 3/4 | 4RJ86 | 80.0 | 70.0 | 60.0 | 48.0 | 28.0 | – | – | – | – | – | 44 |
| 1 | 4RJ87 | * | * | 75.0 | 63.0 | 50.0 | 30.0 | – | – | – | – | 47 |
| 1½ | 4RJ88 | * | * | * | 80.0 | 70.0 | 54.0 | 15.0 | – | – | – | 51 |
| 3/4 | 4RJ82 | 85.0 | 75.0 | 65.0 | 50.0 | 33.0 | – | – | – | – | – | 44 |
| 1 | 4RJ83 | * | * | 82.0 | 75.0 | 63.0 | 50.0 | – | – | – | – | 47 |
| 1½ | 4RJ84 | * | * | * | 90.0 | 80.0 | 68.0 | 50.0 | – | – | – | 49 |
| 1/2 | 4RJ89 | 50.0 | 41.0 | 32.0 | 19.0 | – | – | – | – | – | – | 38 |
| 3/4 | 4RJ90 | 63.0 | 56.0 | 48.0 | 35.0 | 14.0 | – | – | – | – | – | 41 |
| 1 | 4RJ91 | * | 70.0 | 62.0 | 55.0 | 44.0 | 20.0 | – | – | – | – | 47 |
| 1½ | 4RJ92 | * | * | 76.0 | 70.0 | 60.0 | 50.0 | 30.0 | – | – | – | 51 |
| 1 | 4RJ93 | * | 100.0 | 92.0 | 85.0 | 78.0 | 70.0 | 60.0 | 35.0 | – | – | 66 |
| 1½ | 4RJ94 | * | * | 120.0 | 113.0 | 106.0 | 98.0 | 90.0 | 74.0 | 53.0 | 20.0 | 75 |
| 2 | 4RJ95 | * | * | * | * | 126.0 | 118.0 | 108.0 | 88.0 | 63.0 | 50.0 | 78 |

| HP | Stock No. | GPM of Water @ Total Feet of Head † —Low Speed 5 | 6 | 7 | 8 | 9 | 10 | 11.5 | 13 | 15 | 17 | Max. Head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 4RJ82 | * | 38.0 | 35.0 | 30.0 | 28.0 | 20.0 | – | – | – | – | 11 Ft. |
| 1 | 4RJ83 | * | * | * | * | 40.0 | 36.0 | 30.0 | 20.0 | – | – | 14 |
| 1½ | 4RJ84 | * | * | * | * | * | 42.0 | 40.0 | 35.0 | 20.0 | – | 15 |

(*) Operating pump at or below indicated levels is not recommended, and can cause motor to overheat.
(†) To convert to PSI, divide by 2.31.

## PUMP ORDERING DATA

| Key | Pump Type | HP | Volts | RPM | Dimensions (In.) H | W | L | New! Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Self-Draining Jetted Tub Pump | 1/2 | 115 | 3450 | 8 | 7½ | 17⅛ | 4RJ85 | $225.62 | $180.50 | 21.0 |
| A | Self-Draining Jetted Tub Pump | 3/4 | 115 | 3450 | 8 | 7½ | 17¾ | 4RJ86 | 234.68 | 187.75 | 21.0 |
| A | Self-Draining Jetted Tub Pump | 1 | 115 | 3450 | 8 | 7½ | 17¾ | 4RJ87 | 249.06 | 199.25 | 24.0 |
| A | Self-Draining Jetted Tub Pump | 1½ | 115 | 3450 | 8 | 7½ | 17¾ | 4RJ88 | 293.43 | 234.75 | 26.0 |
| B | Above Ground Pool Pump | 1/2 | 115 | 3450 | 12¾6 | 7½ | 21⅛ | 4RJ89 | 284.68 | 227.75 | 24.0 |
| B | Above Ground Pool Pump | 3/4 | 115 | 3450 | 12¾6 | 7½ | 21⅛ | 4RJ90 | 293.43 | 234.75 | 24.0 |
| B | Above Ground Pool Pump | 1 | 115 | 3450 | 12¾6 | 7½ | 22⅛ | 4RJ91 | 300.93 | 240.75 | 27.0 |
| B | Above Ground Pool Pump | 1½ | 115 | 3450 | 12¾6 | 7½ | 21½ | 4RJ92 | 361.56 | 289.25 | 30.0 |
| C | Two-Speed Spa Pump | 3/4-1/8 | 115 | 3450/1725 | 8 | 7½ | 15⅛ | 4RJ82 | 297.18 | 237.75 | 23.0 |
| C | Two-Speed Spa Pump | 1-1/8 | 115 | 3450/1725 | 8 | 7½ | 15½ | 4RJ83 | 327.18 | 261.75 | 24.0 |
| C | Two-Speed Spa Pump | 1½-1/6 | 230 | 3450/1725 | 8 | 7½ | 15½ | 4RJ84 | 361.56 | 289.25 | 23.0 |
| D | Self-priming Pool Pump | 1 | 115/230 | 3450 | 14⅞6 | 10²³⁄₃₂ | 25½ | 4RJ93 | 503.75 | 403.00 | 37.0 |
| D | Self-priming Pool Pump | 1½ | 115/230 | 3450 | 14⅞6 | 10²³⁄₃₂ | 26½ | 4RJ94 | 551.25 | 441.00 | 44.0 |
| D | Self-priming Pool Pump | 2 | 230 | 3450 | 14⅞6 | 10²³⁄₃₂ | 27 | 4RJ95 | 642.50 | 514.00 | 45.0 |

# POOL AND SPA FILTERS

## POOL AND SPA FILTERS

**pplications:** Filtering water for swimming pools, spas, and jetted tubs. Corrosion-resis-ant design.

### CARTRIDGE FILTERS

**For residential/ commercial pools and spas.** Installed indoors or outdoors. Precision-olded of a proprietary blend of glass-reinforced thermoplastic. Extremely efficient, alanced flow cartridge yields high dirt-loading capacity. No other cartridge filter pro-ides more value to any pool or spa. Filter element included. Element can be cleaned nd reused. Maximum pressure: 50 PSI. Maximum temperature: 104°F. Tank port size is ½".

### SAND FILTERS

**High rate sand filter for residential, commercial, or public swimming pools** ranging in size rom 16,000 to 48,000 gallons capacity. Permanent media high rate sand filters in 20, 24, nd 30" diameter models. Durable, non-corrosive thermoplastic construction in low-pro-le, two-piece design. Available with choice of slide or multiport valving. Maximum mperature 104°F. Maximum pressure 50 PSI. Tank port size is 2".

**Top-mount high rate sand filter for residential in-ground or above pools** ranging in size from 2,000 to 58,800 gallons capacity. Permanent media high rate sand filters in 20, 24, and )" diameter models accommodate large and small pools, offering the best combination f economy, durability and ease of maintenance. Corrosion-resistant, one-piece, extra-ick molded polyethylene tank assures long service life. Top-mounted, corrosion-resis-nt multiport selector valve included. Convenient union connectors, tank winterizing rain, continuous air relief system. Maximum temperature 95°F. Maximum pressure 50 SI. Valve port size 1½" on 4RK75 and 4RK76, and 2" on 4RK77.

### DIATOMACEOUS EARTH FILTERS

**For residential, commercial or public swimming pools** from 17,000 to 80,000 gallons in apacity, or larger if multiple filters are installed. Maximum flow rates 72 to 166 GPM. iatomaceous earth media filtration is available in three model sizes from 36 to 83 sq. of filter media. Molded 2-piece, glass-reinforced thermoplastic tanks are non-corro-ve. Maximum temperature 104°F. Maximum pressure 50 PSI. Tank port size is 2".

**OTE:** Sand (Nos. 4RJ55, 4RJ56, 4RJ57) and DE (Nos. 4RJ24, 4RJ25, 4RJ26) filters require ne of the following valves which must be purchased separately; see page 3290.

2"ABS slip-side valve (No. 4RK82) with 2" PVC unions for filter to valve connection.

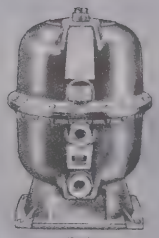
1½" NPT ABS multiport valve (No. 4RK83) with 2" PVC unions for filter-to-valve con-ection.

TEEL®

New



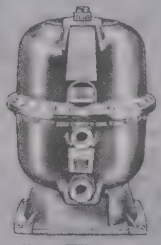
A
No. 4RK14



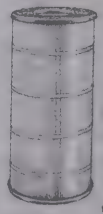
B
No. 4RJ55



C
No. 4RK76



D
No. 4RJ24



No. 4RK78 Replacement Element for Cartridge Filters

## REPLACEMENT ELEMENTS FOR CARTRIDGE FILTERS

| Description | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **50 sq. ft. polyester replacement element** | **4RK78** | $81.94 | **$60.70** | 4.0 |
| **70 sq. ft. polyester replacement element** | **4RK79** | 100.17 | **74.20** | 5.0 |
| **100 sq. ft. polyester replacement element** | **4RK80** | 132.16 | **97.90** | 7.0 |
| **135 sq. ft. polyester replacement element** | **4RK81** | 169.76 | **125.75** | 9.0 |

## POOL AND SPA FILTER ORDERING DATA

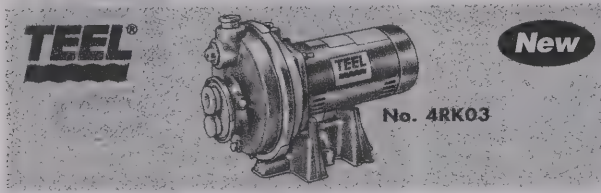
| ey | Type | Required Clearance (In.) | Filter Height (In.) | Filter Areas (Sq. Ft.) | GPM Per Sq. Ft. Filter | Total GPM | 8-Hour Turnover (Gal.) | Material | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | CARTRIDGE | 40H | 29½ | 50 | 1 | 50 | 24,000 | Glass-Reinforced Thermoplastic | **4RK13** | $290.25 | **$215.00** | 22.0 |
| A | CARTRIDGE | 45H | 29½ | 70 | 1 | 70 | 33,600 | Glass-Reinforced Thermoplastic | **4RK14** | 333.11 | **246.75** | 23.0 |
| A | CARTRIDGE | 53H | 36⅞ | 100 | 1 | 100 | 48,000 | Glass-Reinforced Thermoplastic | **4RK11** | 457.65 | **339.00** | 27.0 |
| A | CARTRIDGE | 61H | 42⅝ | 135 | 1 | 135 | 64,800 | Glass-Reinforced Thermoplastic | **4RK12** | 565.98 | **419.25** | 33.0 |
| B | SAND | 60H | 33 13/16 | 2.2 | 20 | 44 | 21,000 | Glass-Reinforced Thermoplastic | **4RJ55** | 653.12 | **522.50** | 70.0 |
| B | SAND | 60H | 33 15/16 | 3.1 | 20 | 62 | 29,760 | Glass-Reinforced Thermoplastic | **4RJ56** | 768.12 | **614.50** | 92.0 |
| B | SAND | 60H | 33 1/16 | 4.9 | 20 | 98 | 47,040 | Glass-Reinforced Thermoplastic | **4RJ57** | 1042.50 | **834.00** | 160.0 |
| C | SAND | 44H | 38½ | 2.2 | 20 | 44 | 21,200 | Polyethylene | **4RK75** | 406.35 | **301.00** | 38.0 |
| C | SAND | 50H | 42 | 3.1 | 20 | 62 | 29,760 | Polyethylene | **4RK76** | 461.70 | **342.00** | 60.0 |
| C | SAND | 60H | 51¼ | 4.9 | 20 | 98 | 47,040 | Polyethylene | **4RK77** | 743.85 | **551.00** | 74.0 |
| D | DE | 60H | 33 15/16 | 36 | 2 | 72 | 34,560 | Glass-Reinforced Thermoplastic | **4RJ24** | 890.62 | **712.50** | 83.0 |
| D | DE | 60H | 33 15/16 | 51 | 2 | 102 | 48,960 | Glass-Reinforced Thermoplastic | **4RJ25** | 1043.75 | **835.00** | 108.0 |
| D | DE | 60H | 33 1/16 | 83 | 2 | 166 | 79,680 | Glass-Reinforced Thermoplastic | **4RJ26** | 1646.25 | **1317.00** | 188.0 |

ELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust.
More than 900 national brands are listed in the Brand Index at the back of this catalog.

# POOL PUMPS AND ACCESSORIES

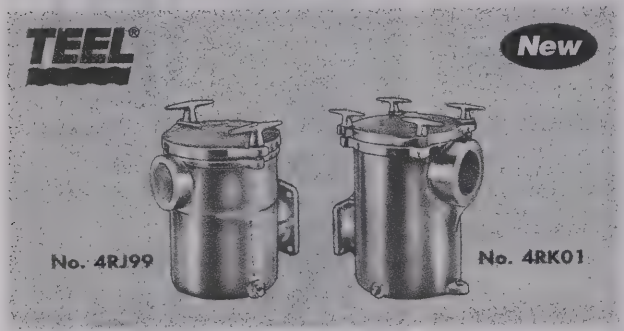
## 1/2 HP HIGH PRESSURE BOOSTER PUMP




High pressure, corrosion-resistant booster pump used to powe automatic swimming pool cleaners, solar heating, or other sys tems requiring high pressure. 1/2 HP, 115/230V, 60 Hz motor, fac tory wired for 230V. Precision molded fiberglass-reinforced ther moplastic construction. Alternate discharge ports for variou pipe installations. Delivers 80 to 90 ft. of head at 10 - 25 GPM Maximum load amps 13.4/6.7. 1¼" inlet and 1" outlet with 3/4 reducer bushings supplied.

***New* No. 4RK03.** Shpg. wt. 29.0 lbs. List..... $406.70.
Each..... **$290.50**

## POOL HAIR AND LINT STRAINER PACKAGES




- **Fits commercial pool pumps Nos. 4RJ30 and 4RJ31**

**Cast Iron Pump Strainer No. 4RJ99**—6" cast iron pump strainer an lint trap with threaded locking handles and stainless steel baske for commercial pool pumps. 2" NPT suction port.

***New* No. 4RJ99.** Shpg. wt. 20.0 lbs. List $123.12. Each..... **$98.5**

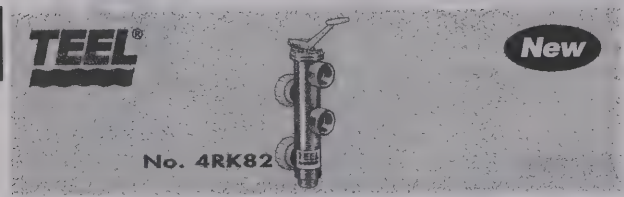
**Cast Iron Pump Strainer No. 4RK01**—8" cast iron pump strainer an lint trap with threaded locking handles and stainless steel baske for commercial pool pumps. 3" NPT suction port.

***New* No. 4RK01.** Shpg. wt. 46.0 lbs. List $362.50. Each..... **$290.0**

**Bronze Pump Strainer No. 4RK02**—8" bronze pump strainer and lin trap with threaded locking handles and stainless steel basket, fo commercial pool pumps with 3" NPT suction port.

***New* No. 4RK02.** Shpg. wt. 56.0 lbs. List $1068.75. Each..... **$855.0**

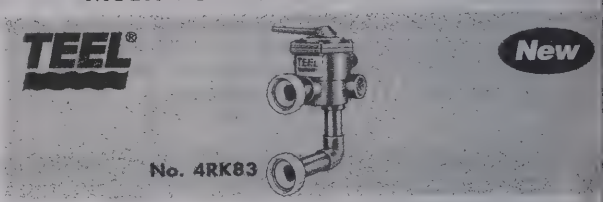
## SLIDE VALVE




Two-position ABS backwash valve has minimal flow restriction. Unique handle design allows easier operation; pin locks valve in filter position. Connects directly to side ports in DE or Sand fil ters wtih 2" PVC unions. 2" (F) NPT ports. Corrosion-resistant.

***New* No. 4RK82.** Shpg. wt. 15.0 lbs. List..... $118.86.
Each..... **$88.05**

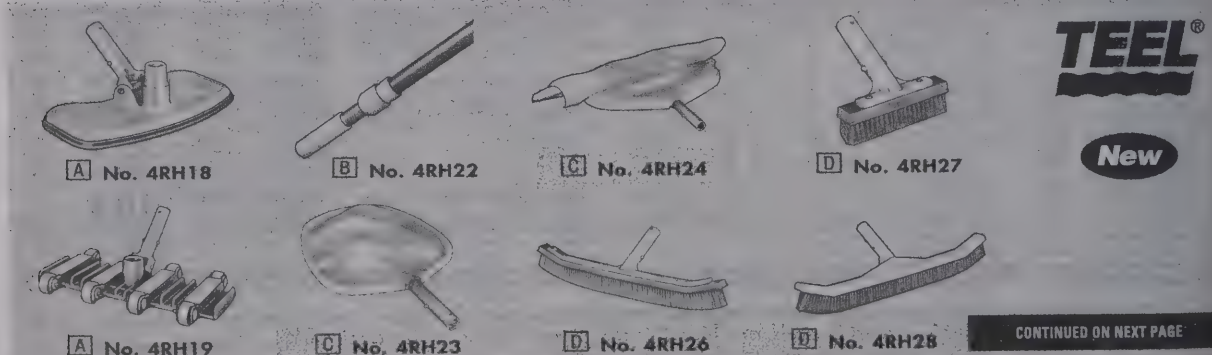
## MULTI-PORT VALVE—SIDE MOUNT




Six-position ABS dial-type valves offer convenience, ease of us and efficient operation. Includes connecting pipe to match sid ports in DE or Sand filters. 2" PVC unions for filter-to-valve co nection. 1½" (F) NPT ports. Positive seal prevents leaka between ports. Corrosion-resistant.

***New* No. 4RK83.** Shpg. wt. 10.0 lbs. List $139.86. Each..... **$103.6**

## POOL ACCESSORIES & MAINTENANCE EQUIPMENT




CONTINUED ON NEXT PAGE



*If we don't have a pump for it, chances are it can't be pumped.*

# POOL ACCESSORIES AND MAINTENANCE EQUIPMENT




E No. 4RH29









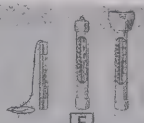

E No. 4RH31

E No. 4RH30

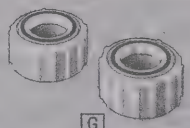
E No. 4RH32



F Nos. 4RH13 & 4RH14



F No. 4RH15, 4RH16 & 4RH17



G No. 4RH35

TEEL®

New

## A POOL/SPA VACUUM HEADS

**Vinyl Liner Vacuum.** Weighted vacuum with spring-loaded UniDapt® handle and bumper. Utilizes replaceable brushes to channel debris to vortex. Fits 1¼" and 1½" hoses.

**New No. 4RH18.** Shpg. wt. 2.5 lbs. List ..... $27.41.
Each ..... **$21.93**

**Concrete Pool Vaccum.** Flexible five-pound vaccum for concrete pools with pool-saver side bumpers. 14" wide. Fully enclosed weights help hug pool walls. comes with UniDapt® ABS handle and adjustable wheels.

**New No. 4RH19.** Shpg. wt. 3.5 lbs. List ..... $38.93.
Each ..... **$31.15**

**Deluxe Concrete Pool Vacuum.** Same flexible 5-lb. pool vacuum as above, but with extra-sturdy metal UniDapt® handle.

**New No. 4RH20.** Shpg. wt. 4.0 lbs. List ..... $40.43.
Each ..... **$32.35**

## B TELEPOLES

**LOUR-LOK 8 to 15 Ft. Telepole.** 8-ft. pole extends to 15 feet. External locking cam won't slip. Bicycle grip. Blue anodized finish. Fits vacuums, brushes, and skimmers.

**New No. 4RH21.** Shpg. wt. 2.2 lbs. List ..... $30.59.
Each ..... **$24.48**

**LOUR-LOK 6 to 11 Ft. Telepole.** 6-ft. pole extends to 11 feet. External locking cam won't slip. Bicycle grip. Blue anodized finish. Fits vacuums, brushes, and skimmers.

**New No. 4RH22.** Shpg. wt. 1.7 lbs. List ..... $27.03.
Each ..... **$21.63**

## C SKIMMERS AND RAKES

**Leaf Skimmer.** Rugged aluminum frame skimmer with no-mar plastic rim. Heavy-duty reversible net stands up to tough wear. Includes kwik-snap handle for pole mounting. Order telepole separately.

**New No. 4RH23.** Shpg. wt. 0.6 lbs. List ..... $12.42.
Each ..... **$9.94**

**Leaf Rake.** Deep 16" heavy-duty bag with woven sides and a sturdy 1/2" aluminum frame. Includes kwik-snap handle for pole mounting. Order telepole separately.

**New No. 4RH24.** Shpg. wt. 0.6 lbs. List ..... $17.60.
Each ..... **$14.08**

**Leaf Skimmer.** Blue, ultra-light and durable one-piece molded frame is practically indestructible. Includes kwik-snap handle for pole mounting. Webbing contains UV inhibitor. Order telepole separately.

**New No. 4RH25.** Shpg. wt. 0.3 lbs. List ..... $7.40.
Each ..... **$5.92**

## D POOL BRUSHES

**18" Wallbrush.** Curved blue back with die-cast aluminum reinforcement. No sharp edges. Heavy bristles and kwik-snap assembly. (Order telepole separately.)

**New No. 4RH26.** Shpg. wt. 1.0 lbs. List ..... $15.15.
Each ..... **$12.13**

**6" Algae Brush.** Straight blue back with die-cast aluminum reinforcement. No sharp edges. Heavy stainless steel bristles and kwik-snap assembly. (Order telepole separately.)

**New No. 4RH27.** Shpg. wt. 0.5 lbs. List ..... $13.99.
Each ..... **$11.19**

**18" Wallbrush.** One-piece molded white body has curved ends and no sharp edges. Five rows of bristles for easy cleaning. Includes kwik-snap assembly. (Order telepole separately.)

**New No. 4RH28.** Shpg. wt. 0.5 lbs. List ..... $10.43.
Each ..... **$8.35**

## E POOL AND SPA SIGNS

Teel pool and spa signs are weather proof plastic, grommeted and ready to hang. Conform to most state and municipal codes.

**"No Lifeguard" Sign** posts warning for commercial pools that children under 14 should not use pool without an adult in attendance. 24 x 18".

**New No. 4RH29.** Shpg. wt. 0.6 lbs. List ..... $14.49.
Each ..... **$11.59**

**Commercial "Pool Rules" Sign** posts rules and pool hours. 18 x 24".

**New No. 4RH30.** Shpg. wt. 0.7 lbs. List ..... $14.52.
Each ..... **$11.62**

**Commercial "No Diving" Sign.** 18 x 12".

**New No. 4RH31.** Shpg. wt. 0.4 lbs. List ..... $8.74.
Each ..... **$6.99**

**Commercial "Occupant Capacity" Sign.** 18 x 24".

**New No. 4RH32.** Shpg. wt. 0.8 lbs. List ..... $8.88.
Each ..... **$7.10**

## F ACCESSORIES

**5 x 9" blue and white float** for standard float lines.

**New No. 4RH13.** Shpg. wt. 0.3 lbs. List ..... $4.44.
Each ..... **$3.56**

**3 x 5" blue and white float** for standard float lines.

**New No. 4RH14.** Shpg. wt. 0.1 lbs. List ..... $2.29.
Each ..... **$1.84**

**Deluxe Thermometer.** Solid brass with chrome finish. Lens magnifies temperature readings. Easy-to-read Fahrenheit and Celcius scales and shatterproof lens. Includes 18" lanyard tie.

**New No. 4RH15.** Shpg. wt. 0.2 lbs. List ..... $15.45.
Each ..... **$12.36**

**Spa Buoy Thermometer.** Injection-molded plastic body. Head floats above water while temperature scale remains submerged. Easy-to-read Fahrenheit and Celcius scales and shatterproof lens.

**New No. 4RH16.** Shpg. wt. 0.3 lbs. List ..... $8.53.
Each ..... **$6.83**

**Jumbo Jim Thermometer.** Injection-molded housing with weighted body. Easy-to-read Fahrenheit and Celcius scales, and shatterproof lens.

**New No. 4RH17.** Shpg. wt. 0.2 lbs. List ..... $7.88.
Each ..... **$6.31**

## G BULK HEAD UNION SET

**Bulk Head Union Set.** Allows disconnect at swimming pool filter valve and spa/tub pumps. Required for use on top-mount valve sand filter and spa/tub pump applications where quick disconnect is desired. Set includes: two union collars, two 1½" slip adapters, and two o-rings.

**New No. 4RH35.** Shpg. wt. 1.0 lbs. List ..... $22.73.
Each ..... **$18.19**

# POOL AND SPA LIGHTS

### A Nos. 4RG55 thru 4RG63

Large stainless steel incandescent underwater pool lights provide a safe, reliable source of light for pools or spas. Feature simple light replacement and stainless steel construction. May be used in concrete (gunite) and vinyl-liner pools. Available in 300 and 500 watt 120V, and 300 watt 12V models. UL Listed (E41102). Order housing or niche separately. Light fits many American Products, Hayward, and Pac Fab niches.

### B Nos. 4RG51 and 4RG52

Light niches for vinyl or fiberglass pools. Large stainless steel pool light niches, with rear conduit hole, for metallic or nonmetallic conduit. Stainless steel trim ring and extra length sealing screws. Available for 3/4" and 1" conduit sizes. UL Listed (E41102). Order light separately.

### B No. 4RG53

PVC light niche for gunite pools. Large PVC pool light niche and 1" conduit connection, for metallic or nonmetallic conduit. UL Listed (E41102). Order light separately.

### B No. 4RG54

PVC light niche for vinyl or fiberglass pools. Large PVC pool light niche, with ABS trim ring and 1" conduit connection, for metallic or nonmetallic conduit. UL Listed (E41102). Order light separately.

### C Nos. 4RG48 thru 4RG50

Light niches for concrete/gunite pools. Large stainless steel pool light niches, with 45° side conduit hole, for metallic or nonmetallic conduit. Available in 1/2, 3/4 and 1" conduit sizes. UL Listed (E41102). Order light separately.

### D Nos. 4RG45 thru 4RG47

Junction boxes. Lexan® cover, brass body construction. Available with three 1/2" taps; three 3/4" taps; or 3/4", 1", 3/4" tap configuration. All junction boxes are UL Listed (E41102) and CSA Certified.

## STAINLESS STEEL POOL LIGHTS WITH INCANDESCENT LAMP

| Key | Watts | Volts | Cord Length (Ft.) | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| A | 300 | 12 | 15 | 4RG55 | $148.75 | $119.00 | 7.0 |
| A | 300 | 12 | 30 | 4RG56 | 170.93 | 136.75 | 14.0 |
| A | 300 | 12 | 50 | 4RG57 | 202.18 | 161.75 | 18.0 |
| A | 300 | 120 | 15 | 4RG58 | 147.87 | 118.30 | 8.0 |
| A | 300 | 120 | 30 | 4RG59 | 158.37 | 126.70 | 9.0 |
| A | 300 | 120 | 50 | 4RG60 | 174.00 | 139.20 | 10.0 |
| A | 500 | 120 | 15 | 4RG61 | 147.87 | 118.30 | 8.0 |
| A | 500 | 120 | 30 | 4RG62 | 158.37 | 126.70 | 9.0 |
| A | 500 | 120 | 50 | 4RG63 | 174.00 | 139.20 | 10.0 |

## POOL LIGHT NICHES

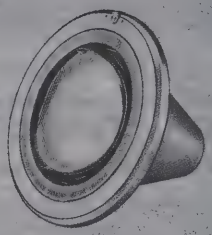
| Key | Pool Type | Material | Conduit Size (In.) | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| B | Concrete | PVC | 1 | 4RG53 | $42.18 | $33.75 | 2.0 |
| B | Vinyl Liner | PVC | 1 | 4RG54 | 84.75 | 67.80 | 6.0 |
| B | Vinyl Liner | SS | 3/4 | 4RG51 | 105.25 | 84.20 | 7.0 |
| B | Vinyl Liner | SS | 1 | 4RG52 | 105.25 | 84.20 | 7.0 |
| C | Concrete | SS | 1/2 | 4RG48 | 58.81 | 47.05 | 7.0 |
| C | Concrete | SS | 3/4 | 4RG49 | 58.12 | 46.50 | 4.0 |
| C | Concrete | SS | 1 | 4RG50 | 58.81 | 47.05 | 7.0 |

## POOL LIGHT JUNCTION BOXES

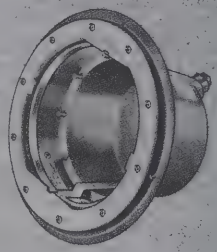
| Key | Conduit Size (In.) | No. of Tappings | Material Cover | Material Base | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| D | 1/2 | 3 | Lexan | Brass | 4RG45 | $25.91 | $20.73 | 1.8 |
| D | 3/4 | 3 | Lexan | Brass | 4RG46 | 25.91 | 20.73 | 1.8 |
| D | 3/4 1 3/4 | 3 | Lexan | Brass | 4RG47 | 28.87 | 23.10 | 1.8 |

TEEL®

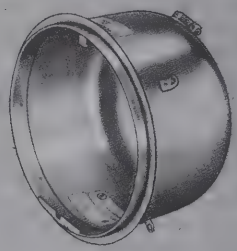
New



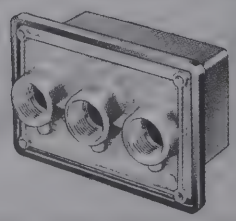
A No. 4RG55



B No. 4RG53



C No. 4RG48



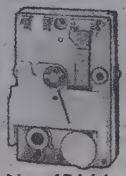
D No. 4RG46



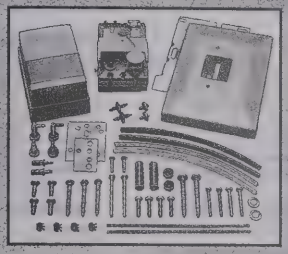
*If we don't have a pump for it, chances are it can't be pumped.*

# PNEUMATIC THERMOSTATS

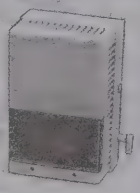
## LANDIS & STAEFA



No. 4E666



No. 4E668



No. 4E673
(Cover Not Included)

- Replacements for competitive models available
- Factory calibrated
- Wallplate and screws included with each thermostat
- Internal, field adjustable limit stops
- Ability to check output pressure without removing cover
- Field adjustable sensitivity for each setpoint dial

Designed to control pneumatic valves and damper actuators in HVAC equipment in schools, office buildings, hospitals, clean rooms, and other commercial or institutional facilities.

**Single Setpoint Pneumatic Room Thermostats** are for room control when only one setpoint condition is required. Designed for heating or cooling applications.

**Heating/Cooling, Dual Setpoint Pneumatic Room Thermostats** automatically switch from the heating to the cooling setpoint. Unit operates by changing the system supply pressure as heating and cooling requirements change for the building.

**Day/Night, Dual Setpoint Pneumatic Room Thermostats** conserve energy. Designed for day to night (or weekend) temperature setback. Comfort is ensured with a manual override selector switch that allows individual room or zone "day" control during the night cycle. Landis & Staefa brand.

## PNEUMATIC THERMOSTAT SPECIFICATIONS DATA

| Thermostat Type | Supply Air Pressure | Factory Calibration Set Point | Factory Calibration Sensitivity | Scale Range | Ambient Operating Temperature | Nominal Air Consumption | Cover |
|---|---|---|---|---|---|---|---|
| Single Setpoint (Heating or Cooling) | Recommended: 25 PSIG Maximum: 30 PSIG | 7.5 PSIG 72°F | 2.5 PSIG/°F | 45-85°F | 40-140°F | 20 SCIM* | Plastic, Desert Beige |
| Dual Setpoint Heating and Cooling) | Cooling: 18 PSIG Heating: 25 PSIG | 7.5 PSIG 72°F | 2.5 PSIG/°F | 45-85°F | 40-140°F | 25 SCIM* | Plastic, Desert Beige |
| Dual Setpoint (Day/Night) | Day: 18 PSIG Night: 25 PSIG | 7.5 PSIG 72°F | 2.5 PSIG/°F | 45-85°F | 40-140°F | 25 SCIM* | Plastic, Desert Beige |

*) Standard cu.-in. per minute.

## PNEUMATIC THERMOSTAT ORDERING DATA

| Thermostat Type | Control Action* | Remarks | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Single Setpoint (Heating or Cooling)** | Direct | Cover not included, order No. 4E679 | 192-202 | **4E666** | $117.00 | **$58.50** | 0.5 |
| | Reverse | Cover not included, order No. 4E679 | 192-203 | **4E667** | 117.00 | **58.50** | 0.6 |
| **Single Setpoint (Heating or Cooling)** | Direct | Cover, mounting adaptor, and tubing adaptor included | 192-840 | **4E668** | 134.00 | **67.00** | 1.7 |
| | Reverse | | 192-841 | **4E669** | 134.00 | **67.00** | 1.7 |
| **Dual Setpoint (Heating and Cooling)** | Heating-Direct Cooling-Reverse | Cover not included, order No. 4E679 | 192-208 | **4E670** | 191.00 | **95.50** | 0.6 |
| **Dual Setpoint (Heating and Cooling) Honeywell Replacement** | Heating-Direct Cooling-Reverse | Cover, mounting adaptor and tubing adaptor included | 194-3082 | **4E671** | 208.00 | **104.00** | 1.7 |
| **Dual Setpoint (Heating and Cooling) Johnson Replacement** | Heating-Direct Cooling-Reverse | Cover, mounting adaptor and tubing adaptor included | 194-3083 | **4E672** | 208.00 | **104.00** | 1.7 |
| **Dual Setpoint (Day/Night)** | Direct | Cover not included, order No. 4E680 Tubing adaptor not included, order No. 4E682 | 192-204 | **4E673** | 205.00 | **102.50** | 0.5 |
| **Dual Setpoint (Day/Night) Honeywell Replacement** | Direct | Cover, mounting adaptor and tubing adaptor included | 194-3042 | **4E674** | 222.00 | **111.00** | 1.8 |
| **Dual Setpoint (Day/Night) Johnson Replacement** | Direct | Cover, mounting adaptor and tubing adaptor included | 194-3043 | **4E675** | 222.00 | **111.00** | 1.7 |
| **Dual Setpoint (Day/Night)** | Reverse | Cover not included, order No. 4E680 Tubing adaptor not included, order No. 4E682 | 192-205 | **4E676** | 205.00 | **102.50** | 0.5 |
| **Dual Setpoint (Day/Night) Honeywell Replacement** | Reverse | Cover, mounting adaptor and tubing adaptor included | 194-3052 | **4E677** | 222.00 | **111.00** | 1.7 |
| **Dual Setpoint (Day/Night) Johnson Replacement** | Reverse | Cover, mounting adaptor and tubing adaptor included | 194-3053 | **4E678** | 222.00 | **111.00** | 1.7 |

ee Cross-Reference Information on page opposite inside cover. (*) Temperature and control line pressure for direct action controls are correlative (when temperature rises, ontrol line pressure rises); temperature and control line pressure for reverse action controls are inverse (when temperature falls, control line pressure rises).

ORDER ACCESSORIES ON PAGE 3294

# PNEUMATIC THERMOSTAT ACCESSORIES, THERMOSTATS & CONTROLLERS

## ACCESSORIES FOR PNEUMATIC THERMOSTATS

**Test Probe** with 0 to 30 PSI gauge and calibration wrench included. Landis & Staefa brand (192-633).

**No. 4E681.** Shpg. wt. 0.1 lbs. List .....$31.50.
Each .....**$29.85**

**Tubing Adapter.** Ten preassembled 8" plastic tubing loops with plug-in adapters and mating plastic tube barb fitting. Landis & Staefa brand (192-481).

**No. 4E682.** Shpg. wt. 0.2 lbs. List $96.00.
Each .....**$47.50**

**Cover for Single and Dual Set Point Thermostats.** Desert beige. Landis & Staefa brand (192-256).

**No. 4E679.** Shpg. wt. 0.1 lbs. List $12.00.
Each .....**$5.99**

**Cover for Day/Night Thermostats.** Desert beige. Landis & Staefa brand (192-262).

**No. 4E680.** Shpg. wt. 0.1 lbs. List $12.00.
Each .....**$5.99**

**No. 4E736.** Shpg. wt. 4.4 lbs. List $74.00.
Each .....**$40.80**

**Polyethylene Tubing.** For compressed air systems. Flame retardant. ¼" OD, 5/32" ID, 250 ft. lengths.

| Stripe Color | L&S Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Blue** | 141-252 | **4E736** | $74.00 | **$40.80** | 4.4 |
| **White** | 141-253 | **4E737** | 74.00 | **40.80** | 4.2 |

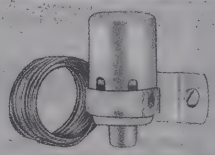
**Calibration and Cover Screw Wrench.** With pocket clip. Landis & Staefa brand (192-632). Package of 5.

**No. 4E737.** Shpg. wt. 4.2 List .....$74.00.
Each .....**$40.80**

## PNEUMATIC LIMITEM THERMOSTATS



No. 4E683



No. 4E684

### LANDIS & STAEFA

**Application:** Use as a primary controller for an air handling unit or a low limit control for air flow to a controlled space

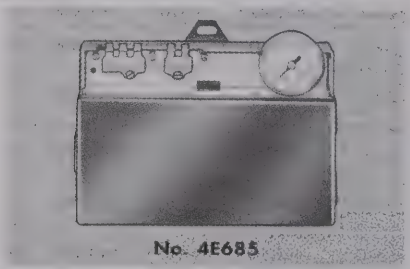
### LIMITEM THERMOSTAT SPECIFICATIONS

| Thermostat Type | Operating Conditions Pressure (Max. PSI) | Temp. Range (°F) | Sensitivity Range Factory Setting (PSI/°F) | Adjustable (PSI) | Maximum Ambient Temp. (°F) Case | Bulb Direct |
|---|---|---|---|---|---|---|
| Rigid Bulb | 30 | 30-180 | 1.25 | 0.25—2 | 200 | 225 |
| Remote Bulb | 30 | 35-145 | 1.25 | 0.33—3.5 | 180 | 211 |

### LIMITEM THERMOSTAT ORDERING DATA

| Thermostat Type | Control Action | Sensing Element | Length | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Rigid Bulb** | Direct | Invar Steel Rod | 18 in. | 356-0750 | **4E683** | $197.00 | **$98.50** | 1.5 |
| **Remote Bulb** | Direct | Liquid Fill Averaging Bulb | 8 ft. | 357-0001 | **4E684** | 290.00 | **145.00** | 1.8 |

## PNEUMATIC RECEIVER CONTROLLERS



No. 4E685

### LANDIS & STAEFA

**Application:** Commonly used to control temperature, humidity, and pressure of mechanical equipment in commercial buildings such as offices, hospitals, universities, and schools.

- **Plug-in air connectors for easy installation**
- **Internal restrictors provided for transmitter inputs**
- **Capable of being used in other manufacturers' systems**

### RECEIVER CONTROLLER SPECIFICATIONS

| Controller Type | Operating Action | Input Pressure (PSI) | Control Output (PSI) | Operating Temperature (°F) | Supply Pressure (PSI) | Air Consumption |
|---|---|---|---|---|---|---|
| Single Input | Input #1 Direct<br>Input #2 Reverse | 3-15 | 0 to 2 | 40 to 120 | 22 OP;<br>30 max. | 60 SCIM† |
| Multiple Input | Input #1 Direct<br>Input #2 Reverse<br>Input #3 Reset | 3-15 | 0 to 22 | 40 to 120 | 22 OP;<br>30 max. | 60 SCIM† |

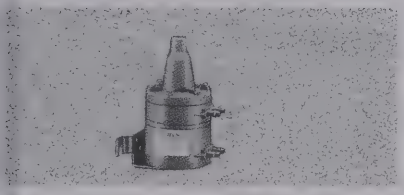
### RECEIVER CONTROLLER ORDERING DATA

| Controller Type | Dimensions (In.) H | W | D | Reset Capability* | Gauge Included | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Single Input** | 5 1/16 | 6¼ | 3½ | No | No | 195-011 | **4E686** | $286.00 | **$147.45** | 4.0 |
| **Multiple Input** | 5 1/16 | 6¼ | 3½ | Yes | Yes | 195-0003 | **4E685** | 424.00 | **212.00** | 3.9 |

(*) Reset capability allows set point to be reset due to a change in temperature, pressure, or humidity. (†) Standard cu.-in. per minute.

# PNEUMATIC RELAYS

## MULTIPURPOSE RELAY



### LANDIS & STAEFA

- Pneumatic auxiliary device designed to amplify, reverse, advance, or pass a minimum control signal to a controlled device

**MULTIPURPOSE PNEUMATIC RELAY ORDERING DATA**

| Spring Adjustment Range | Max. Air Supply Pressure | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-25 PSI** | 30 PSI | 243-0046 | **4E720** | $118.00 | **$61.00** | 0.6 |

## SWITCHING RELAY



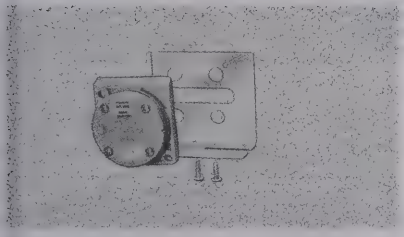
### LANDIS & STAEFA

- Compact, three-way air valve that can be used to perform a variety of switching and diverting functions

**SWITCHING PNEUMATIC RELAY ORDERING DATA**

| Adjustable Change-Over Range | Change-Over Differential | Standard Change-Over Setting | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0-25 PSI** | 1.5 PSI | 9 PSI | 243-0001 | **4E721** | $125.00 | **$64.55** | 0.8 |

## HIGHEST PRESSURE SIGNAL SELECTOR



### LANDIS & STAEFA

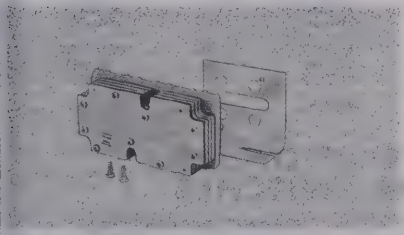
- Dual input, single output logic device used in pneumatic control systems

- Used where two proportional air signals must be compared; the highest of the two signals is transmitted to another logic or final control device

**HIGHEST PRESSURE SIGNAL SELECTOR ORDERING DATA**

| Action | Air Supply Pressure | Operating Temperature | Air Capacity 2 PSI | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Direct** | 30 PSIG | 40 to 140°F | 130 SCIM* | 243-0018 | **4E722** | $44.00 | **$22.78** | 0.3 |

## LOWEST AND HIGHEST SIGNAL SELECTOR



### LANDIS & STAEFA

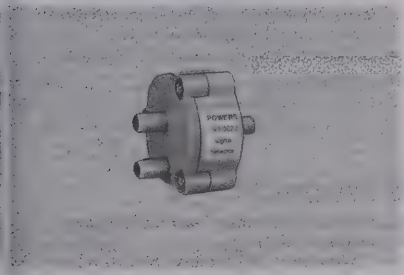
- Six input, dual output logic device used in pneumatic control systems

- Used where up to six input air signals must be compared and the lowest and/or highest of the signals transmitted to another logic or final control device

**LOWEST & HIGHEST SIGNAL SELECTOR ORDERING DATA**

| Action | Max. Air Supply Pressure | Operating Temperature | Air Capacity @ 2 PSI Highest | Air Capacity @ 2 PSI Lowest | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Direct** | 30 PSIG | 40 to 140°F | 5 SCIM* | 10 SCIM* | 243-0019 | **4E723** | $151.00 | **$77.95** | 0.5 |

## LOWEST PRESSURE SIGNAL SELECTOR



### LANDIS & STAEFA

- Dual input, single output logic device used in pneumatic control systems

- Used where two input air signals must be compared and the lowest of the two signals transmitted to another logic or final control device

**LOWEST PRESSURE SIGNAL SELECTOR ORDERING DATA**

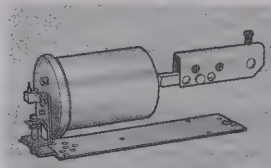
| Action | Air Supply Pressure | Operating Temperature | Air Capacity 2 PSI | Air Consumption | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Direct** | 30 PSIG | 40 to 140°F | 82 SCIM* | 29 SCIM* | 243-0020 | **4E724** | $55.00 | **$28.30** | 0.1 |

(*) Standard cu-in per minute.

# PNEUMATIC ACTUATORS & SWITCHES

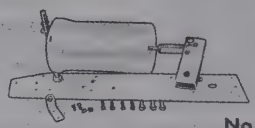
## PNEUMATIC ACTUATORS

**Applications—Recommended for control of outdoor air, return air, mixed air, exhaust, face and bypass, discharge, multisection, dampers, fan inlet vanes and other special applications. Includes universal mounting kit.**

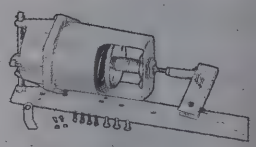


No. 4E702

### LANDIS & STAEFA



No. 4E705



No. 4E708

### DAMPER AREA RATINGS

### THRUST/TORQUE RATINGS

| Stock No. | Max. Air Flow Velocity (Ft. / Min.) | Nominal Damper Area Served by One Actuator (Sq. Ft.) | | | Maximum Thrust (Lb.) | | | | Torque Rating (In.-Lb.) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Gradual Operation | 2-Position Operation | | Full Stroke Forward | | | Spring Return 0 PSIG | Gradual Operation | 2-Position Operation | |
| | | | 18 PSI | 25 PSI | 15 PSI | 18 PSI | 25 PSI | | | 18 PSI | 25 PSI |
| 4E702 | 1200 | 4.6 | 6.7 | 6.7 | 27 | 37 | 61 | 10 | 5.7 | 8.4 | 8.4 |
| 4E703 | 1200 | 4.6 | 11.0 | 11.0 | 17 | 27 | 50 | 17 | 5.7 | 14.3 | 14.3 |
| 4E704 | 1200 | 4.6 | 11.0 | 11.0 | 6 | 17 | 40 | 27 | 5.7 | 14.3 | 22.7 |
| 4E705 | 1200 | 24.0 | 37.0 | 37.0 | 88 | 121 | 198 | 33 | 30.0 | 46.0 | 46.0 |
| 4E706 | 1200 | 24.0 | 62.0 | 62.0 | 55 | 88 | 165 | 55 | 30.0 | 77.0 | 77.0 |
| 4E707 | 1200 | 24.0 | 49.0 | 111.0 | 22 | 55 | 132 | 88 | 30.0 | 77.0 | 124.0 |
| 4E708 | 1200 | 32.0 | 60.0 | 60.0 | 125 | 179 | 304 | 54 | 50.0 | 75.0 | 75.0 |

### PNEUMATIC ACTUATOR SPECIFICATION DATA

| Effective Diaphragm Area | Stroke Length (In.) | Housing | Maximum Air Pressure (PSIG) | Operating Temperature Range (°F) | Bearing | Stock No. |
|---|---|---|---|---|---|---|
| 8 in.² | 2 3/8 | Aluminum | 30 | 35 to 140 | Delrin | 4E702<br>4E703<br>4E704 |
| 11 | 4 | Steel | 30 | 35 to 140 | Delrin | 4E705<br>4E706<br>4E707 |
| 17.9 | 4 | Aluminum | 30 | -20 to 160 | Oilite Bronze | 4E708 |

### PNEUMATIC ACTUATOR ORDERING DATA

| Mounting Style | Stroke Length (In.) | Description | Nominal Spring Range (PSI) | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Universal | 2 3/8 | Actuator, Integral Pivot with Pivot Post Mounted on Plate for Extended Shaft or Frame Mounting with Clevis for 3/8", 7/16", or 1/2" Diameter Shaft | 3-7 | 331-4311 | **4E702** | $136.00 | **$68.00** | 3.5 |
| | | | 8-13 | 331-4811 | **4E703** | 136.00 | **68.00** | 3.5 |
| | | | 5-10 | 331-4511 | **4E704** | 136.00 | **68.00** | 3.5 |
| | 4 | | 3-7 | 331-3000 | **4E705** | 220.00 | **110.00** | 12.0 |
| | | | 5-10 | 331-3002 | **4E706** | 220.00 | **110.00** | 12.0 |
| | | | 8-13 | 331-2973 | **4E707** | 220.00 | **110.00** | 12.0 |
| | 4 | | 3-8 | 331-3012 | **4E708** | 386.00 | **193.00** | 18.0 |

### LANDIS & STAEFA



No. 4E715

## PNEUMATIC POSITIONING AND SELECTOR SWITCHES

### POSITIONING SWITCH

- **Delivers to operating equipment any manually selected pressure from 0 to 30 PSI. Locking ring included**
- **Landis & Staefa brand (141-0600)**

**No. 4E715.** Shpg. wt. 0.5 lbs. List.....$80.00. Each.....**$40.00**

### THREE-POSITION SELECTOR SWITCH

- **Delivers or stops the flow of compressed air to selected controllers, valves, or damper actuator**
- **Landis & Staefa brand (786-0610)**

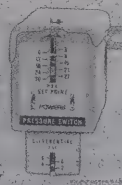
**No. 4E716.** Shpg. wt. 0.2 lbs. List.....$98.00. Each.....**$52.55**

### WE OFFER A WIDE RANGE OF ENERGY SAVING PRODUCTS

**Electric motors, controls, blowers, fans and ventilators, lighting, boilers, ballasts, pumps, furnaces, water heaters, and other products. See Index under Energy Saving Products for complete listings.**

## PRESSURE ELECTRIC SWITCHES

LANDIS & STAEFA



No. 4E717

**Applications: Pressure operated, snap action switches actuate electrical circuits from pneumatic control signals. Used to start and stop fans, pumps, and chillers, or to energize electric heating elements, pilot lights, etc. UL Listed (E35198).**

| Electrical Ratings | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Full Load | | | Locked Rotor | | | Non-Inductive Amps | | | |
| 120 VAC | 208 VAC | 240 VAC | 120 VAC | 208 VAC | 240 VAC | 120 VAC | 208 VAC | 240 VAC | 277 VAC |
| 6.0 | 3.4 | 3.0 | 36.0 | 20.4 | 18.0 | 10.0 | 5.7 | 5.0 | 4.3 |

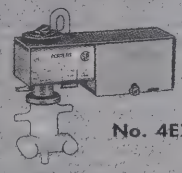
| No. of Stages | Max. Pressure, (PSI) | Differential Pressure | Switch Action | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1** | 30 | Adj., 2-8 PSI | SPDT | 251-0001 | **4E717** | $105.00 | **$52.50** | 1.0 |
| **2** | 30 | Adj., 1-25 | 2, SPDT | 251-0008 | **4E718** | 176.00 | **88.00** | 2.0 |
| **Dual Input** | 30 | Adj., 3-8 | 3, SPDT (NC) | 251-0011 | **4E719** | 256.00 | **128.00** | 2.0 |

## ELECTRO-PNEUMATIC VALVE

LANDIS & STAEFA

LR63273

MH4922



No. 4E725

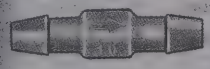
- **General purpose, electrically operated valve**
- **Two-position, three-way valve is designed to control air flow**
- **Used to apply pressure to and exhaust pressure from pneumatically controlled devices such as valves, dampers, and actuators**

| Fluid | Max. Air Supply Pressure | Air Flow Capacity Inlet | Air Flow Capacity Differential | Air Flow (SCIM) |
|---|---|---|---|---|
| Air (only) | 50 PSIG | 20 PSIG | 1 PSI | 600 |

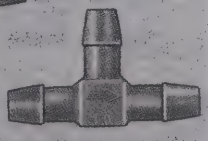
| VAC | Watts | Current Drain Inrush | Current Drain Holding | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **120** | 5.7 | 17.3VA | 9.2VA | 265-1002 | **4E725** | $65.00 | **$32.50** | 0.5 |

## EXTERNAL RESTRICTORS

LANDIS & STAEFA



No. 4E709



No. 4E712

- **External restrictors are used to change the velocity pressure in a pneumatic system to static pressure**

| Air Supply Pressure | Percent of Max. Flow Capacity | Nominal Air Capacity (SCIM)† 10 | 20 | 40 | 80 | 320 |
|---|---|---|---|---|---|---|
| 22 PSI | 100% | 10 | 20 | 40 | 80 | 320 |
| 10 | 70 | 7 | 14 | 28 | 56 | 224 |
| 5 | 50 | 5 | 10 | 20 | 40 | 160 |
| 2.5 | 35 | 3.5 | 7 | 14 | 28 | 112 |

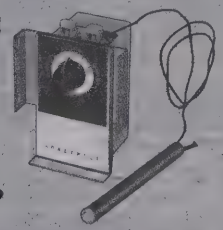
| Nominal Air Capacity | Orifice Diameter | Description | Landis & Staefa Model | Stock No. | List | Each* | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **10 SCIM†** | 0.0035" | In-Line Barbed | 184-115 | **4E709** | $21.20 | **$10.60** | 0.1 |
| **20** | 0.0051 | In-Line Barbed | 184-116 | **4E710** | 37.50 | **18.75** | 0.1 |
| **40** | 0.0074 | In-Line Barbed | 184-117 | **4E711** | 21.20 | **10.60** | 0.1 |
| **10** | 0.0035 | Tee Barbed | 184-112 | **4E712** | 21.20 | **10.60** | 0.1 |
| **20** | 0.0051 | Tee Barbed | 184-113 | **4E713** | 37.50 | **18.75** | 0.1 |
| **40** | 0.0074 | Tee Barbed | 184-114 | **4E714** | 21.20 | **10.60** | 0.1 |

(*) Packages or 5. (†) Standard cu.-in. per minute.

**Applications: Provide air flow time delays when used with a check valve. Also used when installed tubing lengths exceed maximum recommended value**

## PNEUMATIC THERMOSTAT

Honeywell



No. 3UC09

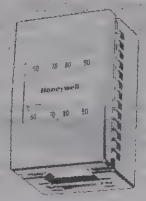
- **Use single temperature WARMER/COOLER scale**

**Application: Two-pipe, single temperature, unit mounted, remote bulb pneumatic thermostat used to provide proportional control of pneumatic valves or damper actuators in heating and air conditioning systems.**

| Type of Element | Approx. Case Dim., (In.) H | W | D | Capillary Length, (In.) | Max. Safe Air Pressure, PSI | Air Consumption, SCFM | Max. Safe Operating Temp., °F | Scale Range, °F | Throttling Range (Fixed) |
|---|---|---|---|---|---|---|---|---|---|
| Liquid filled remote bulb | 4¾ | 3¾ | 3 | 36 | 25 | 0.011 w/0.005 in. restriction; 0.022 w/ 0.007 in. restriction | 135 | 65-85 | 3.5 °F |

| Model | Restriction, (In.) | Bulb Size, (In.) | Mounting Bracket | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Direct Acting** | 0.007 | 1/2 x 57/8 | Integral | LP916A1019 | **3UC09** | $193.53 | **$123.10** | 2.0 |
| **Direct Acting** | 0.005 | 3/8 x 9 | Integral | LP916A1134 | **3UC10** | 193.56 | **123.25** | 3.0 |
| **18 PSI DA heating and 13 PSI RA cooling** | 0.005 | 3/8 x 9 | Order separately | LP916B1074 | **3UC11** | 193.27 | **123.25** | 2.0 |
| **18 PSI DA heating and 13 PSI RA cooling** | 0.005 | 3/8 x 9 | Integral | LP916B1082 | **3UC12** | 193.32 | **123.45** | 2.5 |

# PNEUMATIC THERMOSTATS




No. 3UC87

**Application:**

One or two-pipe, single or two temperature, pneumatic thermostat used to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems.

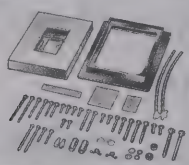
- **Direct Acting (DA), Reverse Acting (RA) and Heating/Cooling (DA/RA) models are available.**
- **Pilot operated for high capacity models are available**
- **Night setback models are available**
- **Backplate has molded air connections-no separate fittings needed**
- **Universal locking cover with satin chrome finish models are available**

## PNEUMATIC THERMOSTAT SPECIFICATIONS

| Model | Approx. Case Dimensions (In.) H | W | D | Max. Safe Air Pressure (PSI) | Air Consumption (SCFM) | Max. Safe Operating Temp. (°F) | Max. Safe Storage Temp. (°F) | Setpoint Range (°F) | Throttling Range (°F) |
|---|---|---|---|---|---|---|---|---|---|
| DA/RA | 4 | 2 3/4 | 1 7/8 | 25 | 0.011 | 100 | 150 | 60 to 90 | 2 to 10 (Factory set at 4) |
| DA or RA | 3 1/4 | 2 | 1 5/8 | 25 | 0.011 | 100 | 150 | 60 to 90 | 2 to 10 (Factory set at 4) |

## PNEUMATIC THERMOSTAT ORDERING DATA

| Model | Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| DA; 2-pipe; 1-temp | Order cover separately. | TP970A2004 | 3UC87 | $117.78 | $82.85 | 0.4 |
| DA; 2-pipe; 1-temp | Convertastat Kit includes: thermostat, universal adapter, wall plate and universal satin chrome cover. Use to replace late model competitive thermostats. | TP970A2145 | 3UC88 | 130.31 | 91.70 | 0.6 |
| DA; 2-pipe; 1-temp | TRADELINE® Kit includes: thermostat, and satin chrome cover with vertical and blank window options. | TP970A2259 | 3UC89 | 126.59 | 88.50 | 0.5 |
| RA; 2-pipe; 1-temp | Order cover separately | TP970B2002 | 3UC90 | 117.78 | 82.85 | 0.5 |
| RA; 2-pipe; 1-temp | Convertastat Kit includes: thermostat, universal adapter, wall plate and universal satin chrome cover. Use to replace late model competitive thermostats. | TP970B2077 | 3UC91 | 130.31 | 91.70 | 1.0 |
| DA; 2-pipe; 2-temp | Day 13 PSI, Night 18 PSI. Order cover separately. | TP971A2003 | 3UC92 | 194.62 | 136.60 | 0.5 |
| DA; 2-pipe; 2-temp | Day 13 PSI, Night 18 PSI. Covertastat Kit includes: thermostat, universal adapter, wall plate and universal satin chrome cover. Use to replace late model competitive thermostats. | TP971A2102 | 3UC93 | 218.39 | 153.00 | 1.0 |
| DA; 2-pipe; 2-temp | Day 13 PSI), Night 18 PSI. TRADELINE® Kit concludes: thermostat and satin chrome cover with vertical and blank window options. | TP971A2191 | 3UC94 | 211.01 | 147.30 | 1.0 |
| DA/RA; 2-pipe; 1-temp | DA Heating @ 18 PSI k, RA cooling @ 13 PSI. Order cover separately. | TP972A2002 | 3UC95 | 173.07 | 121.10 | 0.5 |
| DA/RA; 2-pipe; 1-temp | DA Heating @ 18 PSI, RA cooling @ 13 PSI. Covertastat Kit includes: thermostat, universal adapter, wall plate and universal satin chrome cover. Use to replace late model competitive thermostats. | TP972A2192 | 3UC96 | 203.04 | 142.05 | 2.0 |
| DA/RA; 2-pipe; 2-temp | DA Heating @ 18 PSI, RA cooling @ 13 PSI. Energy Conservation model with 78°F minimum setpoint cooling and 72°F maximum setpoint heating. TRADELINE® Kit includes: thermostat, and satin chrome cover with vertical and blank window options. | TP972A2218 | 3UC97 | 199.30 | 139.85 | 1.0 |
| DA 1- or 2-pipe; 1-temp | Low capacity. Modernization Kit includes: thermostat, universal adapter and universal satin chrome cover. Requires an external 0.005 in. restrictor for one-pipe installation. | TP973A2068 | 3UC98 | 220.74 | 154.75 | 2.0 |
| DA 1- or 2-pipe; 1-temp | Low capacity. Order cover separately. Requires external 0.005 In. restrictor for one-pipe installation. | TP973A2076 | 3UC99 | 95.26 | 66.50 | 2.0 |



No. 3TZ77

Honeywell

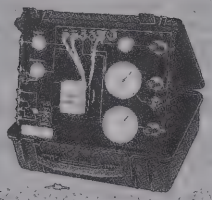
Nos. 3TZ82, 3TZ83, and 3TZ84



## PNEUMATIC THERMOSTAT ACCESSORIES ORDERING DATA

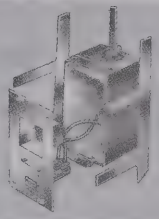
| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Heavy duty thermostat guard (not applicable for TP979 Dual Thermostats) | 14002430-001 | 3TZ76 | $46.83 | $32.65 | 0.7 |
| Thermostat Modernization Kit, 1 and 2 pipe (includes universal adaptor and universal cover) | 14002573-001 | 3TZ77 | 107.16 | 74.65 | 1.0 |
| TRADELINE® thermostat cover kit in satin chrome color (includes setpoint slot cover and 6 window inserts) | 14004406-910 | 3TZ82 | 24.77 | 17.32 | 0.1 |
| TRADELINE® thermostat cover kit in beige color (includes setpoint slot cover and 6 window inserts) | 14004407-910 | 3TZ83 | 23.54 | 16.48 | 0.1 |
| TRADELINE® thermostat cover kit in Premier White™ color (includes setpoint slot cover and 6 window inserts) | 14004878-910 | 3TZ84 | 40.16 | 28.10 | 0.1 |

## PNEUMATIC ACCESSORIES



No. 3TZ94

Honeywell



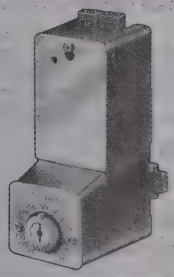
No. 3TZ75

### PNEUMATIC ACCESSORIES ORDERING DATA

| Item | Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Balljoint (actuator shaft)** | 3/8-16 UNC. | 315781 | **3TZ86** | $12.95 | **$9.00** | 0.3 |
| **Wall box assembly** | TRADELINE™ thermostat aspirator with stud mounting bracket and screw | 14002424-002 | **3TZ75** | 243.29 | **170.25** | 1.0 |
| **TRADELINE™ in-line restrictor** | .005 restrictor 1/4 in. x 5/32 in. x 1/4 in. | 14002913-001 | **3TZ78** | 9.24 | **6.10** | 0.1 |
| **TRADELINE™ in-line restrictor** | .007 restrictor 1/4 in. x 1/4 in. x 1/4 in. | 14002913-002 | **3TZ79** | 8.81 | **6.10** | 0.1 |
| **TRADELINE™ in-line restrictor** | .007 restrictor 1/4 in. x 1/4 in. x 5/32 in. | 14002913-003 | **3TZ80** | 8.74 | **6.10** | 0.1 |
| **Cover** | For HP970 (15-75% rh) | 14004406-124 | **3TZ81** | 36.95 | **25.80** | 0.1 |
| **Controller cover** | Clear plastic cover | 43188057-010 | **3TZ87** | 24.10 | **16.82** | 0.1 |
| **TRADELINE™ thermostat** | Tool kit includes gage port needle, thermostat tool and calibration wrench | AK3863 | **3TZ88** | 42.31 | **29.55** | 1.0 |
| **TRADELINE™ thermostat calibration tool and cover remover** | Thermostat calibration tool and cover remover | CCT735A | **3TZ89** | 7.86 | **5.50** | 0.1 |
| **TRADELINE™ slide rule** | For pneumatic controller settings | CCT813 | **3TZ90** | 14.74 | **10.33** | 1.0 |
| **TRADELINE™ slide rule** | For valve and air main sizing | CCT814 | **3TZ91** | 16.80 | **10.06** | 0.1 |
| **Relay proportional band and authority adjustment knob** | Relay proportional band and authority adjustment knob | CCT819 | **3TZ92** | 2.71 | **1.80** | 0.1 |
| **Thermostat thermometer calibration tool** | Thermostat thermometer calibration tool | CCT970 | **3TZ93** | 31.06 | **21.70** | 0.5 |
| **Pneumatic calibration and training kit** | Pneumatic calibration and training kit | DSP5356 | **3TZ94** | 2404.49 | **1531.00** | 17.0 |
| **Pneumatic fitting kit** | Contains an assortment of pneumatic fittings used For replacement and repair of pneumatic devices. | MJK100 | **3UC20** | 178.89 | **113.65** | 7.0 |
| **Pneumatic calibration kit** | Contains pressure bulb assembly, 10 ft. of 11/32 O.D. x 5/32 I.D. in flexible latex tubing, in-line gage tee, two 0-30 PSI gages, slide rule for sensor settings, and thermostat tool kit. | MQP800 | **3UC32** | 146.77 | **93.20** | 2.0 |

## REMOTE BULB PNEUMATIC TEMPERATURE SENSOR

Honeywell



No. 3UC13

**Application:**

Two-pipe, single temperature, remote bulb pneumatic temperature sensor used to provide proportional control of pneumatic valves or damper actuators in heating and air conditioning systems.

- **Pilot operated for high capacity**
- **Direct Acting (DA) and Reserve Acting (RA) models are available**
- **Replaceable filter cartridge**
- **Single point or averaging elements**

### REMOTE BULB PNEUMATIC TEMPERATURE SENSOR SPECIFICATIONS

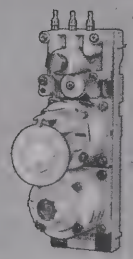
| Type of Element | Approximate Case Dimensions (In.) H | W | D | Max Safe Air Pressure (PSI) | Air Consumption (SCFM) | Max. Safe Operating Temperature (°F) | Maximum Safe Storage Temperature (°F) | Setpoint Range (°F) | Throttling Range (adjustable) (°F) |
|---|---|---|---|---|---|---|---|---|---|
| **Liquid filled remote bulb** | 5 9/16 | 3 1/8 | 2 11/16 | 30 | 0.011 | Element: 230 Controller: 150 | 150 | 60 to 90 | 5 to 25 |

### REMOTE BULB PNEUMATIC TEMPERATURE SENSOR ORDERING DATA

| Model | Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **DA** | 8 ft. averaging element for duct mounting | LP920A1005 | **3UC13** | $277.52 | **$176.75** | 2.0 |
| **DA** | 3/8 x 5 1/4 in. bulb with 10 in. capillary | LP920A1021 | **3UC14** | 277.58 | **177.00** | 2.5 |
| **DA** | 3/8 x 5 1/4 in. bulb with 5 ft. capillary | LP920A1039 | **3UC15** | 277.52 | **176.75** | 2.0 |
| **RA** | 3/8 x 5 1/4 in. bulb with 10 in. capillary | LP920B1029 | **3UC16** | 277.52 | **176.75** | 2.0 |

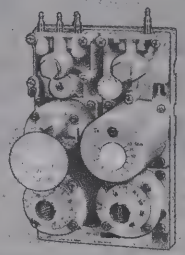
# PNEUMATIC CONTROLLERS AND ELECTRONIC PNEUMATIC TRANSDUCER

## PNEUMATIC CONTROLLERS



No. 3UC58

Honeywell



Nos. 3UC59 and 3UC60

**Application:** Proportional, high capacity, single or dual input pneumatic controller used in conjunction with remote sensors to provide proportional (P) or proportional plus integral (P+I) control of temperature, humidity, pressure or dewpoint for heating and air conditioning systems.

- **P+I control option minimizes offset (No. 3UC60 only)**
- **Miniature diaphragm technology provides high degree of accuracy and reliability (No. 3UC60)**
- **Direct Acting (DA) models are field reversible**
- **Field adjustable compensation start point**
- **Integral action cut-off provides trouble free automatic startup**
- **Corrosion resistant construction**
- **Adjustable proportional band of 2.5 to 50% of primary sensor span**
- **Integral reset time is 0.5 to 20 minutes adjustable**

### PNEUMATIC CONTROLLER SPECIFICATIONS

| Model | Approximate Dimensions (In.) H | W | D | Output Signal Range (PSI) | Operating Range (PSI) | Ambient Temp. Limits (F°) | Input Signal (PSI) | Output Signal PSI) | Air Capacity |
|---|---|---|---|---|---|---|---|---|---|
| Single Sensor | 5 7/8 | 1 7/8 | 3 1/4 without cover or 3 3/8 with cover | 3 to 13 | 17 to 30 | 40 to 130 | 3 to 15 | 3 to 13 nominal main pressure minus 1/2 maximum | 0.07 SCFM with 1 PSI pressure drop at 18 PSI main air supply |
| Dual Sensor | 5 7/8 | 3 13/16 | 3 13/16 without cover or 3 3/8 with cover | 0 to 1 | 17 to 30 | 40 to 130 | 3 to 15 | 3 to 13 nominal main pressure minus 1/2 maximum | 0.07 SCFM with 1 PSI pressure drop at 18 PSI main air supply |

### PNEUMATIC CONTROLLER ORDERING DATA

| Model | Air Consumption (SCFM) | Authority | Compensation Start Point | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Single sensor** | 0.021 | 5 to 300% of primary sensor span, adjustable | 0 to 100% of compensation sensor span, adjustable | RP920A1033 | **3UC58** | $249.22 | **$158.75** | 1.1 |
| **Dual sensor** | 0.046 | | | RP920B1031 | **3UC59** | 326.34 | **208.25** | 1.0 |
| **Single sensor with P+I** | 0.021 | | | RP920C1039 | **3UC60** | 377.04 | **240.00** | 2.0 |

## ELECTRONIC PNEUMATIC TRANSDUCER

Honeywell



No. 3UC56

**Application:** Used in electronic pneumatic control systems to convert a proportional electric output signal from a controller into a direct-acting (DA), proportional pneumatic signal.

- **Screw mounting or snap rail (model with cover)**
- **Factory calibrated**
- **Dual barb fittings**
- **High accuracy**
- **Internal power supply of 24V, +10-15%, 50/60 Hz**

### ELECTRONIC PNEUMATIC TRANSDUCER SPECIFICATIONS

| Model | Approx. Dimensions (In.) (with cover) H | W | D | Operating Range (PSI) | Maximum Safe Air Pressure (PSI) | Ambient Temperature Limits °F | Ambient Humidity Limit (% rh) | Air Handling Capacity | Air Connections (In.) |
|---|---|---|---|---|---|---|---|---|---|
| 3-wire | 2 1/16 | 3 5/8 | 2 | 0 to 18 | 30 | 41 to 131 | 5 to 95 | 0.45 SCFM | Dual barb for 1/4 or 5/32 O.D. polyethylene tubing |

### ELECTRONIC PNEUMATIC TRANSDUCER ORDERING DATA

| Model | Input Signal | Power Consumption | Electrical Connections | Nominal High End PSI with 18 PSI Main Pressure | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **3-wire with power supply and cover** | 2 to 10 VDC at 0.1 mA max. | 1.7 VA | 30 in. leadwires | 17 at 12 VDC or 16 at 11 VDC (minimum) | RP7517B1016 | **3UC56** | $144.93 | **$92.05** | 1.0 |

# PNEUMATIC THERMOSTAT, TEMPERATURE SENSOR, AND PNEUMATIC HUMIDISTAT



Honeywell

No. 3UC01

## AIRSTREAM INSERTION PNEUMATIC THERMOSTAT

**Application:** One-pipe, single temperature pneumatic thermostat used to provide proportional control of pneumatic valves or damper actuators in heating and air conditioning systems. Commonly used as discharge controllers for unit ventilators.

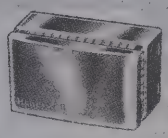
- Rod and tube insertion sensing element
- Wide throttling range
- Gauge tee and tank valve facilitate checking line pressures

### THERMOSTAT SPECIFICATIONS

| Type of Element | Approx. Case Dimensions (In.) H | W | D | Max. Safe Air Pressure (PSI) | Air Consumption (SCFM) | Max. Safe Operating Temp (°F) | Operating Temp Range (°F) | Setpoint Range (°F) | Throttling Range (adjustable) (°F) |
|---|---|---|---|---|---|---|---|---|---|
| Rod and tube insertion | 5⅜ | 1 | 2¼ | 25 | 0/011 | 150 | 20 to 250 | 40 to 140 | 10 to 70 |

### THERMOSTAT ORDERING DATA

| Model | Element Size (In.) | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Direct Acting (DA, low capacity)** | 18 ¾ long by 1 1/32 | LP907A1002 | **3UC01** | $169.69 | **$107.90** | 1.0 |



Honeywell

## ROOM TEMPERATURE SENSOR

**Application:** One or two-pipe, Direct Acting (DA) temperature sensor used with pneumatic controllers to provide proportional control of pneumatic valves and damper actuators in heating and air conditioning systems.

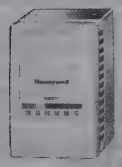
- Plug-in air connections
- High efficiency air filter
- Bimetal element
- Continuous temperature indication available by using receiver gauge.

### SENSOR SPECIFICATIONS

| Approx. Case Dimensions (In.) H | W | D | Output Pressure (PSI) | Max. safe air pressure (PSI) | Air Consumption (SCFM) | Max Safe Temp. Supply Air Pressure (PSI) | Sensing Range (°F) | Mounting |
|---|---|---|---|---|---|---|---|---|
| 3 | 1⅞ | 1½ | 3 to 15 over temp. sensing range | 25 | 0.019 with 0.007 in. restricted air supply | 150 | 18 | 50 to 100 | Horizontal or vertical wall mounted with plug-in backplate |

### SENSOR ORDERING DATA

| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **One or two pipe, DA, less fittings and cover** | TP974A2000 | **3UD01** | $186.46 | **$118.70** | 1.0 |



Honeywell

No. 3TZ97

## PNEUMATIC HUMIDISTAT

Application: Two-pipe, single temperature, pneumatic humidistat used to provide proportional control of pneumatic valves on humidification or dehumidification systems.

- Pilot operated for high capacity
- Direct Acting (DA) and Reverse Acting (RA) models are available
- Vertical or horizontal mounting
- Backplate has molded air connections; no separate fitting needed

### HUMIDISTAT SPECIFICATIONS

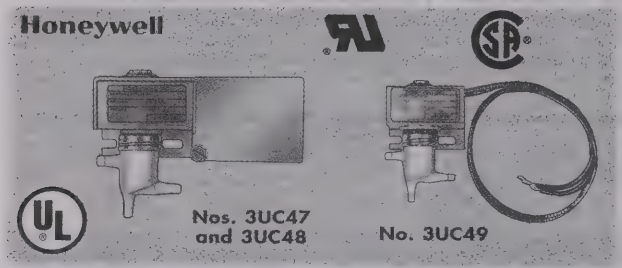
| Approx. Dimensions (In.) H | W | D | Max. Safe Air Pressure (PSI) | Air Consumption (SCFM) | Safe Operating Temp. (°F) | Safe Storage Temp. Range(°F) | Setpoint Range (% rh) | Throttling Range (adjustable) (% rh) |
|---|---|---|---|---|---|---|---|---|
| 3¼ | 2 | 1⅝ | 25 | 0.011 | 45 to 125 | -30 to 150 | 15 to 75 | 3 to 15 |

### HUMIDISTAT ORDERING DATA

| Model | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **DA (Direct Acting)** | HP970A1009 | **3TZ97** | $271.19 | **$173.50** | 2.0 |
| **RA (Reverse Acting)** | HP970B1007 | **3TZ98** | 271.56 | **173.50** | 2.0 |

# PNEUMATIC RELAYS AND SWITCHES

## ELECTRIC PNEUMATIC RELAYS




**Application:** Used to interlock an electric system and a pneumatic control system.

- **Usable as a diverting relay, a selector relay or a stop and bleed relay**
- **Mount and operate in any position**
- **Available with lead wires or junction box**
- **Surface mounted models are UL Listed; panel mounted model is UL Recognized Component and CSA Certified**

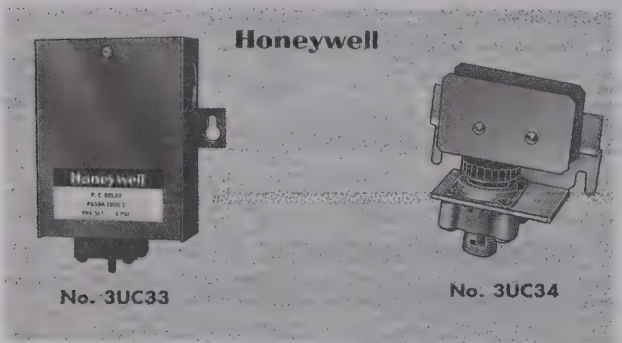
### RELAY SPECIFICATIONS

| Model | Approx. Dimensions (In.) H | W | D | Electrical Connections (In.) | Power Consumption VA | Ambient Temperature Limits (°F) | Pressure Rating (PSI) | Air Capacity | Capacity Index (Cv) | Air Connections |
|---|---|---|---|---|---|---|---|---|---|---|
| Surface Mounted | 2 7/8 | 3 13/16 | 1 1/4 | Junction box and 15 leads | 12.5 inrush, 7.1 holding | to 100 | 50 maximum air | 0.42 SCFM at 20 PSI supply with 1 PSI pressure drop | 0.075 | Barb for 1/4 plastic tubing |
| Panel Mounted | 2 7/8 | 1 3/4 | 1 1/4 | 15 leads | 12.5 inrush, 7.1 holding | 0 to 100 | 50 maximum air | 0.42 SCFM at 20 PSI supply with 1 PSI pressure drop | 0.075 | Barb for 1/4 plastic tubing |

### RELAY ORDERING DATA

| Model | Voltage (VAC) | Frequency (Hz) | Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Surface Mounted** | 120V | 50Hz | Includes splice box | RP418A1057 | **3UC47** | $43.97 | **$28.10** | 1.0 |
| **Surface Mounted** | 120V | 60Hz | Includes splice box | RP418A1107 | **3UC48** | 44.01 | **28.10** | 1.0 |
| **Panel Mounted** | 110V | 50Hz | Open coil without splice box | RP418B1071 | **3UC49** | 44.25 | **28.05** | 1.0 |
| | 120V | 60Hz | | | | | | |

## PNEUMATIC ELECTRIC SWITCHES




**Application:** Used to convert a pneumatic signal from a controller to an electric switching action (SPDT) to provide start and stop control of equipment such as fans and pumps.

- **Models available for surface or panel mounting**
- **Neoprene diaphragm element**
- **Barb protected by open cage**
- **All ferrous parts plated to prevent corrosion**
- **Factory calibrated setpoint is field adjustable to meet job requirements**

### ELECTRICAL RATINGS

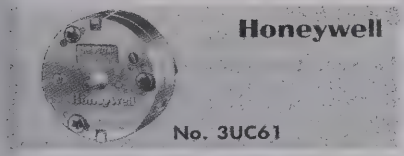
| Motor Load HP | VAC | Resistive Load | Pilot Duty |
|---|---|---|---|
| 1 | 125 | 25A at 125, 250 | 750 VA at 125, |
| 2 | 250/277 | or 480 VAC | 250 or 277 VAC |

### SWITCH SPECIFICATIONS

| Model | Agency Listings | Approximate Dimensions (In.) H | W | D | Max. Safe Air Pressure (PSI) | Operating Temperature Range (°F) | Operating Humidity Range (% rh) | Air Connections (In.) | Electric Connections | Differential (Fixed) (PSI) |
|---|---|---|---|---|---|---|---|---|---|---|
| Surface Mount With Case | UL Listed, CSA Certified | 5 3/8 | 3 3/8 | 2 | 30 | -20 to 160 | 5 to 95; 80°F maximum wet-bulb temperature | Push on, sharp-barb fitting for 1/4 O.D. plastic tubing | Screw terminals | 2 |
| Surface Mount Without Case | UL Component Recognized and CSA Certified | 3 7/16 | 3 1/4 | 1 3/4 | 30 | -20 to 160 | 5 to 95 | Push on, sharp-barb fitting for 1/4 O.D. plastic tubing | Screw terminals | 2 |

### SWITCH ORDERING DATA

| Model | Setpoint Factory Set in PSI | Setpoint Field Adjustable in PSI | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Surface mount with case** | 10 | 2 to 24 | P658A1013 | **3UC33** | $61.07 | **$39.10** | 1.0 |
| **Surface mount without case** | 10 | 2 to 24 | P658B1012 | **3UC34** | 61.70 | **39.10** | 2.0 |




## PNEUMATIC CAPACITY RELAY

**Application:** Used to provide increased capacity of the branchline pressure to the final control device.

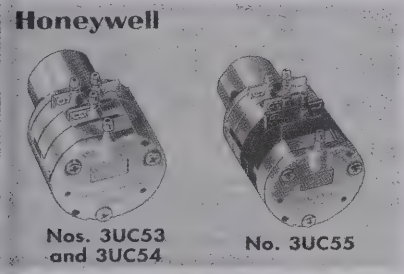
- Sharp barb connections
- Molded plastic construction with neoprene diaphragms
- Mounting clip provided

### RELAY SPECIFICATIONS

| Approx. Dimensions (In.) | Operating Range (PSI) | Max. Safe Air Pressure (PSI) | Ambient Temp. Limits (°F) | Ambient Humidity Limits(%rh) | Air Capacity (SCFM) | Mounting | Air Connections (In.) |
|---|---|---|---|---|---|---|---|
| Dia: 1<br>Deep: 1½ | 0 to 18 | 30 | 0 to 140 | 5 to 95 | 0.039 at 1 PSI differential | In-line, wall, or panel mounted | Barb fitting, Port 1 for 1/4 O.D. plastic tubing; all others for 5/32 O.D. plastic tubing |

### RELAY ORDERING DATA

| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Direct Acting (DA) modulating Relay | RP970A1008 | **3UC61** | $52.57 | **$33.65** | 0.1 |




## PNEUMATIC SWITCHING RELAYS

**Application:** Used to block, divert or bleed pneumatic air lines when pilot pressure is changed from one specific value to another. Commonly applied in Day-Night, Summer-Winter, Start-Stop, On-Off-Auto and other multiple condition systems where control sequence is changed as conditions change

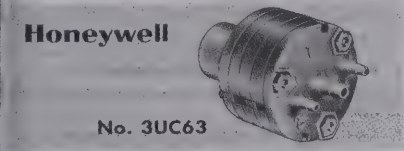
- Available with either single pole double throw (SPDT) or double pole double throw (DPDT) switching action
- Second switch on dpdt model is molded in black for identification
- Molded plastic construction with neoprene diaphragms, stainless steel lever and music wire spring
- In-line, wall or panel mounting with provided metal spring clip

### RELAY SPECIFICATIONS

| Model | Approximate Dimensions (In.) Diameter | Deep | Operating Range (PSI) | Maximum Safe Air Pressure (PSI) | Ambient Temperature Limits (°F) | Ambient Humidity Limit (% rh) | Air Handling Capacity (SCFM) | Air Connections (In.) |
|---|---|---|---|---|---|---|---|---|
| SPDT Relay | 1½ | 2 ¼ | 0 to 22 | 30 | 32 to 125 | 5 to 95 | 0.039 at 1 differential | Barb for 5/32 O.D. plastic tubing |
| DPDT Relay | 1 ½ | 2 13/16 | 0 to 22 | 30 | 32 to 125 | 5 to 95 | 0.039 at 1 differential | Barb for 5/32 O.D. plastic tubing |

### RELAY ORDERING DATA

| Model | Switching Pressure (PSI) | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **SPDT** | 3 and 7 | RP670A1001 | **3UC53** | $58.41 | **$37.35** | 1.0 |
| **SPDT** | 13 and 17 | RP670A1019 | **3UC54** | 58.60 | **37.35** | 1.0 |
| **DPDT** | 13 and 17 | RP670B1017 | **3UC55** | 120.01 | **76.60** | 0.3 |




## PNEUMATIC REVERSING RELAY

**Application:** Used to reverse and increase the capacity of the branchline pressure to the final control element. The output varies inversely with the input with an adjustable offset.

- Reverse acting
- Neoprene diaphragm
- Stainless steel valve seats
- Mounting clip provided

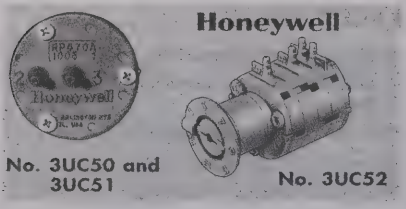
### RELAY SPECIFICATIONS

| Approximate Dimensions (In.) | Operating Main Pressure (PSI) | Operating Pilot Pressure (PSI) | Maximum Safe Air Pressure (PSI) | Ambient Temperature Limits (°F) | Ambient Humidity Limit (% rh) | Air Capacity (SCFM) | Mounting | Air Connections (In.) |
|---|---|---|---|---|---|---|---|---|
| Dia: 1¼<br>Deep: 2¼ | 18 | 3 to 15 | 30 | 0 to 140 | 5 to 95 | 0.039 at 1 differential | In-line, wall, or panel mounted | Barb fitting, Port 1 for 1/4 O.D. plastic tubing; all others for 5/32 O.D. plastic tubing |

### RELAY ORDERING DATA

| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Four port modulating relay | RP972A1006 | **3UC63** | $55.78 | **$35.50** | 2.0 |

# PNEUMATIC RELAYS AND PNEUMATIC LOAD ANALYZER




## PNEUMATIC RELAYS

**Nos. 3UC50 and 3UC51:**

**Selector relays** are three-port and used in heating and air conditioning systems to transmit the higher of two input signals, lockout one pressure signal when a second signal is higher, or transmit the lower of two pressure signals.

- **Select models use diaphram-logic technology**
- **Molded plastic construction**

**No. 3UC52:**

**Snap-acting relay** is four-port and converts a proportional air pressure change from a controller to a positive (two-position) pressure change or to divert a supply line to one of two branches.

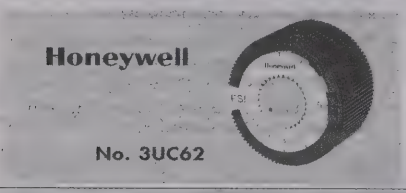
- **Molded plastic construction**

### RELAY SPECIFICATIONS

| Type | Approximate Dimensions (In.) | Operating Range (PSI) | Maximum Safe Air Pressure (PSI) | Ambient Temperature Limits (°F) | Ambient Humidity Limit (% rh) | Air Capacity (SCFM) | Mounting | Air Connections (In.) |
|---|---|---|---|---|---|---|---|---|
| **Selector** | 1 1/2 dia. 1 deep | 0 to 18 | 30 | 0 to 140 | 5 to 95 | 0.039 at 1 differential | In-line, wall, or panel mounted | Barb for 5/32 O.D.plastic tubing |
| **Snap-Acting** | 1 1/2 dia. 2 3/4 deep | 0 to 18 | 30 | 0 to 140 | 5 to 95 | 0.039 at 1 differential | Mounts in any position with mounting clip | Barb for 5/32 O.D.plastic tubing |

### RELAY ORDERING DATA

| Type | Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Selector** | Higher-of-two-pressures selector relay; includes mounting clip | RP470A1003 | **3UC50** | $36.45 | **$22.95** | 1.0 |
| **Selector** | Lockout, lower-of-two-pressures or repeater relay; includes mounting clip | RP470B1001 | **3UC51** | 36.45 | **22.95** | 1.0 |
| **Snap-Acting** | Snap-acting relay; includes mounting clip; 1 psi max nonadjustable differential; 3 to 15 PSI adjustable setpoint. | RP471A1002 | **3UC52** | 58.46 | **37.35** | 1.0 |




## PNEUMATIC RATIO RELAY

Application: Used to control pneumatic valves or damper actuators in sequence from a single thermostat by producing a modulating pressure output proportional in a fixed ratio to pilot input changes.

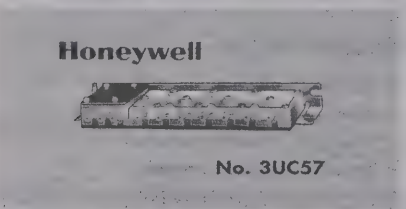
- **Adjustable pilot start point pressures**
- **Four sharp barb air connections**
- **Molded plastic construction with neoprene diaphragms and stainless steel valve seats**
- **100 mesh stainless steel screens in main and branch ports**
- **Mounting clip provided**

### RELAY SPECIFICATIONS

| Approximate Dimensions (In.) | Operating Main Pressure (PSI) | Operating Pilot Pressure ( PSI) | Ambient Temp. Limits (°F) | Ambient 3 to 15 0 to 140 | Start Point (PSI) | Air Capacity | Mounting | Air Connections (In.) |
|---|---|---|---|---|---|---|---|---|
| Dia: 2 Deep: 2 5/8 | 18 | 3 to 15 | 0 to 140 | 5 to 95 | 0 to 10 adjustable | 0.039 scfm at 1 PSI differential | In-line, wall, or panel mounted | Barb fitting, Port 1 for 1/4 O.D plastic tubing; all others for 5/32 O.D. plastic tubing |

### RELAY ORDERING DATA

| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Four port nonbleed pneumatic relay** | RP971A1007 | **3UC62** | $85.46 | **$54.45** | 3.0 |




## PNEUMATIC LOAD ANALYZER

Application: Used to select the highest and/or lowest branch pressure input from zone thermostats to operate final control elements in pneumatic control applications.

- **Seven input manifold containing logic diaphragm, air filter and restrictions**
- **Ten sharp barb connectors for all piping requirements**
- **Large integral filter assures clean air to the manifold**
- **Requires no field adjustment**
- **Minimum maintenance due to plastic construction**
- **Can add an analyzer to increase inputs to twelve**

### PNEUMATIC LOAD ANALYZER ORDERING DATA

| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Diaphragm logic pressure selector** | RP913A1008 | **3UC57** | $150.17 | **$95.45** | 4.0 |

### PNEUMATIC LOAD ANALYZER SPECIFICATIONS

| Approximate Dimensions (In.) H | L | D | Operating Range (PSI) | Maximum Safe Air Pressure (PSI) | Ambient Temperature Limits (°F) | Ambient Humidity Limit (%rh) | Air Capacity (SCFM) | Air Consumption (SCFM) | Mounting | Air Connections (In.) |
|---|---|---|---|---|---|---|---|---|---|---|
| ¾ | 6½ | 2⅛ | 0 to 18 | 25 | 0 to 140 | 5 to 95 | 0.039 at 1 differential | 0.039 at 1 | In-line, wall, or panel mounted | 10 barb for 1/4 O.D.plastic tubin |

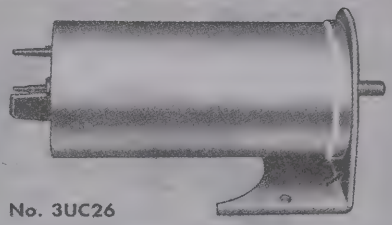
# PNEUMATIC DAMPER ACTUATOR

## PNEUMATIC DAMPER ACTUATOR

**Application:** Used to provide pneumatic proportional control of dampers and high velocity mixing box air valves. Available in various operating ranges for either independent operation or sequence operation with other actuators.

- Corrosion resistant materials
- Low friction shaft bearing
- Adjustable stroke feature option
- Close tolerance on operating range and stroke
- Non-overlapping spring ranges for sequencing
- Rolling diaphragm operated
- Versatile mounting and connecting hardware options
- Models available for use with UL Classified leakage rated (smoke) dampers

Honeywell



No. 3UC26

### NET FORCE EXERTED

| Pressure Range (PSI) | Force in lb. at 0 PSI | Force in lb. at 18 PSI |
|---|---|---|
| 3 to 13 | 19.8 | 3.3 |
| 9 to 13 | 59.4 | 3.3 |

### PNEUMATIC DAMPER ACTUATOR SPECIFICATIONS

| Approximate Dimensions (less Bracket) (In.) | Approximate Dimensions (with Bracket) (In.) L | W | H | Maximum Safe Air Pressure (PSI) | Ambient Temperature Limits (°F) | Diaphragm Type | Diaphragm Effective (Sq. In.) | Stroke (In.) |
|---|---|---|---|---|---|---|---|---|
| 8⅝ long add 1 in. for shaft, 3½ in. diameter | 17 | 6⅞ | 6⅜ | 29 | -28 to 160 | Neoprene, rolling | 6⅗ | 3.1 or 4 |

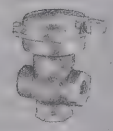
### PNEUMATIC DAMPER ACTUATOR ORDERING DATA

| Spring Range (PSI) | Stroke (In.) | Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3 to 13** | 4 | Includes fixed external mounting bracket and balljoint | MP909E1018 | **3UC26** | $130.25 | **$82.85** | 4.0 |
| **3 to 13** | 4 | Actuator only; no mounting bracket or linkage | MP909E1026 | **3UC27** | 118.33 | **75.30** | 2.0 |
| **9 to 13** | 3.1 | Includes fixed external mounting bracket and balljoint | MP909E1174 | **3UC28** | 130.23 | **82.70** | 3.0 |

## PNEUMATIC CONTROL VALVES



No. 4E696



No. 4E698

LANDIS & STAEFA

- Direct-coupled design allows easier installation
- Cartridge type packing for easy service
- Modified equal percentage throttling characteristics
- Hole type plug design provides quieter operation
- ANSI Class 250 rated valve bodies

Used to provide pneumatic proportional control of water, steam, and ethylene glycol solutions. Varying Cv and operating ranges for use in all cooling and heating applications.

### PNEUMATIC VALVE SPECIFICATIONS AND ORDERING DATA

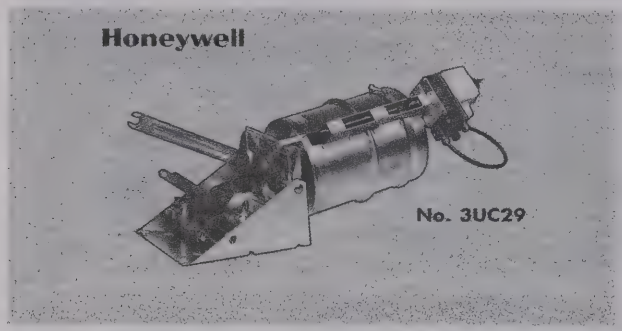
| Valve Type | Valve Size (In.) | Body Style | Cv | Spring Span (PSI) | Change in Pressure* (PSI) | Max. Pressure (PSI) | Landis & Staefa Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Normally Open | 1/2 | Globe Union | 2.1 | 3-8 | 20 | 15 | 656-0001 | **4E696** | $188.00 | **$94.00** | 2.8 |
| Normally Open | 3/4 | Globe Union | 4.6 | 3-8 | 20 | 15 | 656-0005 | **4E697** | 216.00 | **108.00** | 3.6 |
| Normally Closed | 1/2 | Globe Screwed | 2.7 | 10-15 | 20 | 15 | 656-0013 | **4E698** | 188.00 | **94.00** | 2.8 |
| Three-Way | 1/2 | Globe Screwed | 3.4 | 3-8 | 25 | — | 656-0014 | **4E699** | 222.00 | **111.00** | 3.0 |
| Normally Open | 1/2 | Globe Screwed | 1.0 | 3-8 | 25 | 15 | 26803162 | **New 4TP42** | 165.46 | **120.35** | 5.1 |
| Normally Open | 1/2 | Globe Screwed | 2.5 | 3-8 | 25 | 15 | 26803164 | **New 4TP43** | 165.46 | **120.35** | 5.1 |
| Normally Open | 3/4 | Globe Screwed | 6.3 | 3-8 | 25 | 15 | 26803166 | **New 4TP44** | 177.87 | **129.40** | 6.4 |
| Normally Open | 1/2 | Globe Union | 2.5 | 3-8 | 25 | 15 | 26803272 | **New 4TP45** | 176.93 | **128.70** | 5.5 |
| Three-Way | 1/2 | Globe Screwed | 2.5 | 5-10 | 25 | 15 | 26903200 | **New 4TP46** | 190.02 | **138.20** | 6.5 |
| Three-Way | 3/4 | Globe Screwed | 6.3 | 5-10 | 25 | 15 | 26903202 | **New 4TP47** | 182.33 | **132.65** | 5.5 |

*) Change in Pressure=Pressure drop across the valve seat. Exceeding of limits will cause loss of control or valve failure.

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG

# PNEUMATIC DAMPER ACTUATORS

## PNEUMATIC DAMPER ACTUATOR




**Application:** Used to provide pneumatic proportional control o medium to large size dampers in heating and air conditioning sys tems.

- **Low friction shaft bearing**
- **Close tolerance on operating range and stroke**
- **Nonoverlapping spring ranges for sequencing**
- **Rolling diaphragm operated**
- **Versatile mounting and connecting hardware options**
- **Models available for use with UL Classified leakage rated (smoke) dampers**

### NET FORCE EXERTED

| Pressure Range (PSI) | Force in lb. at 0 PSI | Force in lb. at 18 PSI |
|---|---|---|
| 3 to 13 | 50 | 89 |
| 8 to 13 | 160 | 83 |

### PNEUMATIC DAMPER ACTUATOR SPECIFICATIONS

| Model | Approximate Dimensions (In.) L | H | Diameter | Maximum Safe Air Pressure (PSI) | Ambient Temperature Limits (°F) | Diaphragm Type | Diaphragm Effective Area (Sq. In.) | Stroke (In.) | Air Connections (In.) |
|---|---|---|---|---|---|---|---|---|---|
| **With positive positioner** | 20½ | 8 | 6⅝ | 25 | -20 to 158 | Neoprene, rolling | 234/5 | 31/2 | 5/32 push-on barb (pilot) and 1/4 push-on barb (main) |
| **Without positive positioner** | 18¼ | 6⅞ | 6⅝ | 29 | -40 to 158 | Neoprene, rolling | 234/5 | 31/2 | 1/4 push-on barb |

### PNEUMATIC DAMPER ACTUATOR ORDERING DATA

| Model | Spring Range (PSI) | Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **With positive positioner** | 8 to 13 | Includes external mounting bracket and crankarm assembly | MP918A1024 | **3UC29** | $306.24 | **$195.25** | 1.0 |
| **Without positive positioner** | 3 to 13 | Includes external mounting bracket and crankarm assembly | MP918B1006 | **3UC30** | 185.31 | **117.80** | 11.0 |
| **Without positive positioner** | 3 to 13 | Actuator only. No mounting bracket or linkage | MP918B1030 | **3UC31** | 156.85 | **99.75** | 8.0 |

## PNEUMATIC DAMPER ACTUATOR




**Application:** Used to provide pneumatic proportional control o variable volume terminal units and small dampers. Available in various operating ranges for either individual or sequence opera tion with other actuators.

- **Rugged ribbed aluminum body**
- **Low friction shaft bearing**
- **Close tolerance on operating range and stroke**
- **Protected barb connector**
- **Versatile mounting and connecting hardware options**
- **Positive leakproof seal**

### NET FORCE EXERTED

| Pressure Range (PSI) | Force in lb. at 0 PSI | Force in lb. at 20 PSI |
|---|---|---|
| 3 to 8 | 9 | 36 |
| 5 to 10 | 15 | 30 |
| 8 to 13 | 24 | 21 |

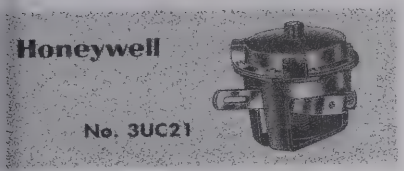
### PNEUMATIC DAMPER ACTUATOR SPECIFICATIONS

| Approx. Dimensions (less bracket) (In.) | Maximum Safe Air Pressure (PSI) | Ambient Temp. Limits (°F) | Ambient Humidity Limits (% rh) | Diaphragm Type | Diaphragm Effective Area | Stroks (In.) | Air Connection (In.) |
|---|---|---|---|---|---|---|---|
| 6⅝ in. long (add 1 in. for shaft) 2¹³⁄₃₂ in. diameter | 30 | 50 to 140 | 5 to 95 | Neoprene, rolling | 3 Sq. In | 2.4 or 3 | 5/32 or 1/4 barb fitting |

### PNEUMATIC DAMPER ACTUATOR ORDERING DATA

| Spring Range (PSI) | Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3 to 8** | 2.4 in. stroke. No bracket or ball joint. For direct replacement | MP909D1201 | **3UC22** | $39.09 | **$25.05** | 1.0 |
| **8 to 13** | 2.4 in. stroke. No bracket or ball joint. For direct replacement | MP909D1219 | **3UC23** | 39.09 | **25.05** | 1.0 |
| **5 to 10** | 2.4 in. stroke. No bracket or ball joint. For direct replacement | MP909D1227 | **3UC24** | 39.09 | **25.05** | 1.0 |
| **5 to 10** | 3 in. stroke. Includes 1/4 in. barb air connection, clevis with clevis pin and cotter pin; no bracket | MP909D1441 | **3UC25** | 39.09 | **25.05** | 1.0 |

## PNEUMATIC UNIT VENTILATOR DAMPER ACTUATOR




**Application:** Used to provide pneumatic proportional control of damper on unit ventilators. May be adapted to various unit ventilator control cycles.

- **Die cast zinc construction**
- **Hesitation feature available for unit ventilator cycles requiring a minimum percentage of outdoor air**

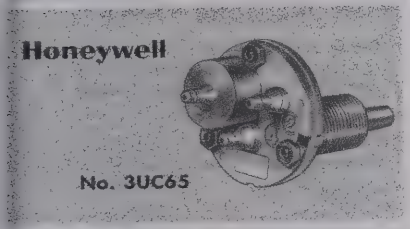
### PNEUMATIC UNIT VENTILATOR DAMPER ACTUATOR SPECIFICATIONS

| Approx. Dimensions (In.) H | W | Max. Safe Air Pressure in (PSI) | Ambient Temperature Limits (°F) | Damper Load Rating (Sq. Ft.) | Mounting | Stroke (Adjustable) (In) | Air Connections |
|---|---|---|---|---|---|---|---|
| 4½ | 6⅞ | 25 | -20 to 160 | 2.7 | 3/4 16 stud for mounting on bracket or compartment partitions | 2⅛ to 2½ | 1/8 In. FPT |

### PNEUMATIC UNIT VENTILATOR DAMPER ACTUATOR ORDERING DATA

| Spring Range (PSI) | Description | Honeywell Model | Minimum stroke No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 to 12 | Minimum stroke factory set at 33% (field adjustable from 0 to 100%) of full stroke at 3 PSI; hesitates from 3 to 8 PSI; full storke form 8 to 12 PSI. | MP516A1087 | **3UC21** | $146.89 | **$93.35** | 5.0 |

## PNEUMATIC MANUAL OR MINIMUM POSITION SWITCH




**Application:** Used to manually position a remote damper actuator, reset the setpoint of a pneumatic controller or provide minimum damper position by setting a minimum pressure limit in the branch line to the damper actuator.

| SELECTABLE SPANS FOR PSI | | |
|---|---|---|
| 188° Knob Rotation | 244° Knob Rotation | 300° Knob Rotation |
| 10 PSI | 13 PSI | 16 PSI |

- **Three-port pneumatic manual or minimum switch with pilot bleed**
- **Two breakaway stops on the knob allow for 244 and 300 degrees of rotation**
- **Wall or panel mounting**
- **Complete with knob, 0 to 100% scaleplate, locknuts, and wall mounting bracket**

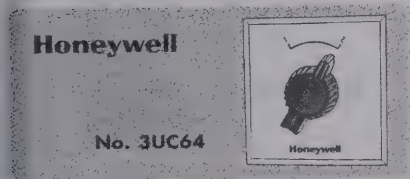
### PNEUMATIC MANUAL OR MINIMUM POSITION SWITCH SPECIFICATIONS

| Approx. Dimensions (In.) Depth | Diameter | Main Operating Pressure in (PSI) | Branch and Pilot Operating Pressure in (PSI) | Max. Safe Air Pressure in (PSI) | Air Capacity | Air Consumption (SCFM) | Air Connections (In.) |
|---|---|---|---|---|---|---|---|
| 3 | 11/2 | 18 | 3 to 15 | 25 | 0.021 SCFM below minimum position, device feeding pilot determines capacity. | 0.022 | Barb for 5/32 O.D. plastic tubing |

### PNEUMATIC MANUAL OR MINIMUM POSITION SWITCH ORDERING DATA

| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Three-port pneumatic manual or minimum switch with pilot bleed** | SP970A1005 | **3UC65** | $49.64 | **$31.80** | 1.0 |

## PNEUMATIC DIVERTING SWITCH




**Application:** Used to manually divert, block or bleed air in pneumatic air lines to revise control sequence with a change in conditions. Commonly applied on Day-Night, Summer-Winter, On-Off-Auto, or Start-Stop functions.

- **Mounts on a panel up to one inch (25mm) thick**
- **Complete with knob, 0 to 100% scaleplate, locknuts, and wall mounting bracket**

### PNEUMATIC DIVERTING SWITCH SPECIFICATIONS

| Approx. Dimensions (In.) H | W | D | Normal Operating Pressure(PSI) | Input Pressure (any port) (PSI) | Max. Safe Air Pressure (PSI) | Ambient Temp. Limits (°F) | Ambient Humidity Limit (% rh) | Air Capacity |
|---|---|---|---|---|---|---|---|---|
| 1⅝ | 1⁹/₁₆ | 3 | 0 to 18 | 0 to 25 | 30 | 0 to 140 | 5 to 95 | 0.175 SCFM at 1 PSI pressure drop |

### PNEUMATIC DIVERTING SWITCH ORDERING DATA

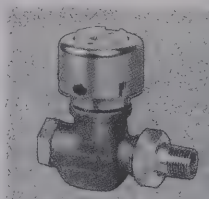
| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Pneumatic two-position diverting switch** | SP470A1000 | **3UC64** | $80.61 | **$51.45** | 4.0 |

# PNEUMATIC RADIATOR VALVES

## PNEUMATIC RADIATOR VALVE

**Application:** Normally-open, single-seated pneumatic radiator valve with straight through construction used to provide proportional control of two-pipe hot water or steam systems.

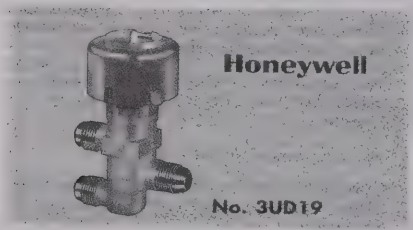
- **Available in several capacities and spring ranges for various application requirements**
- **Easily replaceable actuator assembly for service convenience**
- **Compact size**
- **Can be repacked without shutting down system**
- **Rotating actuator for aligning air connection with control air piping**




| Approx. Case Dimensions (In.) | Max. Safe Air Pressure (PSI) | Spring Range (PSI) | Ambient Temp. (°F) | Body Pressure Rating (PSI) | Max. Controlled Medium Temperature (°F) | Air Connection |
|---|---|---|---|---|---|---|
| 4⅞ High<br>3¾ Wide | 30 | 2 to 5<br>or 3 to 10 | 160 | 150 | 180 | Push-on for 1/4 in. O.D. plastic tubing |

### PNEUMATIC RADIATOR VALVE ORDERING DATA

| Pipe Size (In.) | Spring Range (PSI) | Cv | Valve Pattern | Close Off Rating @ Main Pressure in PSI | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/2 NPT** | 3-10 | 2 | Straight, male union | 30 @ 13 | VP525A1077 | **3UD13** | $147.43 | **$94.15** | 2.0 |
| **1/2 NPT** | 3-10 | 3 | Straight, male union, integral seats | 15 @ 13 | VP525A1101 | **3UD14** | 147.42 | **94.10** | 1.9 |
| **3/4 NPT** | 3-10 | 3 | Straight, male union | 15 @ 13 | VP525A1150 | **3UD15** | 174.27 | **110.80** | 3.0 |
| **3/4 NPT** | 3-10 | 5 | Straight, male union | 12 @ 13 | VP525A1192 | **3UD16** | 174.27 | **110.80** | 3.0 |
| **3/4 NPT** | 2-5 | 5 | Straight, male union | 12 @ 13 | VP525A1200 | **3UD17** | 174.38 | **110.85** | 5.0 |
| **1/2 NPT** | 2-5 | 2 | Straight, male union | 30 @ 13 | VP525A1416 | **3UD18** | 147.45 | **94.15** | 2.5 |




## PNEUMATIC THREE-WAY HIGH PRESSURE VALVE

**Application:** Three-way pneumatic mixing valve provides proportional control of hot and/or cold water in unit air conditioners and fan coil systems.

- **Direct Acting (DA), rolling diaphragm actuator with integral high temperature plastic air connector**
- **Spring loaded, self-adjusting Buna-N "V"-ring packing replaceable**
- **Brass seats (lower is integral, upper is removable) and contoured plug provide metal-to-metal seating**
- **Stainless steel stem**
- **Linear and constant total flow throughout full plug travel**
- **Compact size**

| Approx. Case Dimensions (In.) | Max.Safe Air Pressure (PSI) | Spring Range (PSI) | Body Pressure Rating (PSI) | Controlled Medium Temperature (°F) | Port Connections | Air Connection |
|---|---|---|---|---|---|---|
| 4⅞ High<br>3⅛ Wide | 29 | 2 to 5 | 250 | 35° to 250° | 1/2 or 5/8 in. O.D., SAE Flare | Push-on for 1/4 in. O.D. plastic tubing |

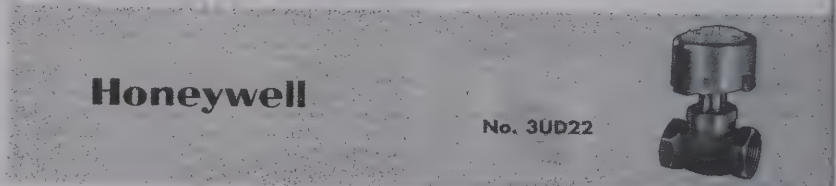
### HIGH PRESSURE WATER VALVE ORDERING DATA

| Pipe Size (In.) | Spring Range (PSI) | Cv | Valve Pattern | Close Off Rating @ Main Pressure in PSI | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5/8 NPT** | 2-5 | 1.6 | N.O., 3-way mixing | 58 @ 13 | VP526A1027 | **3UD19** | $180.69 | **$115.20** | 2.0 |
| **1/2 NPT** | 2-5 | 1.6 | N.O., 3-way mixing | 58 @ 13 | VP526A1092 | **3UD20** | 180.69 | **115.20** | 2.0 |

## PNEUMATIC TERMINAL UNIT VALVE

**Application:** Normally-open (N.O.), single-seated valve provides proportional control of steam or hot and/or cold water in terminal units.

- **Easily replaceable actuator assembly for convenience of service**
- **Compact size**

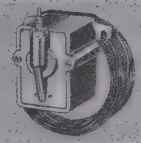



| Approx. Case Dimensions (In.) | Max.Safe Air Pressure (PSI) | Spring Range (PSI) | Body Pressure Rating (PSI) | Max. Controlled Medium Temperature (°F) | Face-to-Face Approx. Dimensions (In.) | Air Connection |
|---|---|---|---|---|---|---|
| Pipe centerline to top of actuator is 3½ | 30 | 2 to 5<br>or 3 to 10 | 250 | 180 | 1/2 in. NPT:2 9/32;<br>3/4 in. NPT:2 13/32 | Push-on for 1/4" O.D. plastic tubing |

### PNEUMATIC TERMINAL UNIT VALVE ORDERING DATA

| Pipe Size (In.) | Spring Range (PSI) | Cv | Valve Pattern | Close Off Rating @ Main Pressure (PSI) | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/2 NPT** | 2-5 | 1.6 | N.O., Straight-through | 15 @ 8 | VP531A1004 | **3UD22** | $156.40 | **$99.60** | 2.0 |
| **1/2 NPT** | 3-10 | 1.6 | N.O., Straight-through | 15 @ 13 | VP531A1012 | **3UD23** | 156.40 | **99.60** | 2.0 |
| **3/4 NPT** | 2-5 | 3.3 | N.O., Straight-through | 15 @ 8 | VP531A1061 | **3UD24** | 170.55 | **108.80** | 2.0 |
| **5/8 O.D. Solder** | 2-5 | 1.6 | N.O., Straight-through 1/2" nominal | 15 @ 8 | VP531A1087 | **3UD25** | 152.08 | **96.85** | 2.0 |

## PNEUMATIC TEMPERATURE SENSOR



**Honeywell**

- Corrosion resistant
- Indicates continuous temperature with receiver gauge



**Application:** One-pipe, direct acting temperature sensor used with P908 or RP920 Controllers to provide proportional control of neumatic valve or damper actuators. One type of sensor is a rod nd tube insertion element for duct, well, or through-the-wall ıounting. The second type is an averaging liquid-filled element or duct mounting.

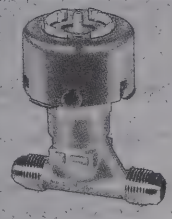
### PNEUMATIC TEMPERATURE SENSOR SPECIFICATIONS

| Output Pressure (PSI) | Maximum Safe Air Pressure (PSI) | Air Consumption (SCFM) | Supply Air Pressure (PSI) | Air Connections (In.) |
|---|---|---|---|---|
| 3 to 15 over temp. sensing range | 25 | 0.019 | 18 | Push-on barb for 5/32 and 1/4 O.D. tubing |

### PNEUMATIC TEMPERATURE SENSOR ORDERING DATA

| Type of Element | Mounting | Element Length | Temp. Sensing Range (°F) | Max. Safe Temp. Element (°F) | Approx. Case Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Rod/tube insertion** | Duct | 15 in. | -40 - 160 | 265 | 4 7/8 | 2 1/2 | 2 | LP914A1003 | **3UC02** | $163.99 | **$104.25** | 1.5 |
| **Rod/tube insertion** | Well | 27 in. | -40 - 160 | 265 | 4 7/8 | 2 1/2 | 2 | LP914A1011 | **3UC03** | 163.79 | **104.30** | 1.5 |
| **Rod/tube insertion** | Duct | 7 in. | -40 - 160 | 265 | 4 7/8 | 2 1/2 | 2 | LP914A1045 | **3UC04** | 163.33 | **104.10** | 1.0 |
| **Rod/tube insertion** | Well | 7 in. | 40 - 240 | 265 | 4 7/8 | 2 1/2 | 2 | LP914A1052 | **3UC05** | 157.69 | **100.60** | 1.5 |
| **Rod/tube insertion** | Well | 7 in. | -40 - 160 | 265 | 4 7/8 | 2 1/2 | 2 | LP914A1060 | **3UC06** | 163.52 | **104.30** | 1.5 |
| **Rod/tube insertion** | Duct | 15 in. | 25 - 125 | 265 | 4 7/8 | 2 1/2 | 2 | LP914A1144 | **3UC07** | 163.62 | **104.50** | 1.5 |
| **Averaging liquid filled** | Duct | 18½ ft. | 0 - 200 | 225 | 3 | 1 7/8 | 1 1/2 | LP915A1044 | **3UC08** | 186.74 | **119.25** | 1.0 |

## PNEUMATIC WATER VALVE



**Honeywell**

**No. 3UD21**

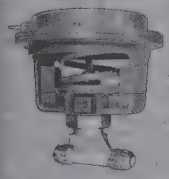
**Application:** Normally-open, single-seated, straight-through, high-pressure valve provides proportional control of hot and/or cold water in unit air conditioners and fan coil systems.

- Spring loaded, self-adjusting Buna-N "V"-ring packing replaceable without shutting the system down
- Integral seat and brass plug with removable composition disc provides equal percentage flow
- High temperature rolling diaphragm actuator and plastic diaphragm retaining cup with integral air connection
- 1/2-In. port connection—SAE flare nuts required
- Push-on air connection for 1/4-in. O.D. plastic tubing
- Stainless steel stem has 3/16-in. diameter
- Compact size

### PNEUMATIC WATER VALVE SPECIFICATIONS & ORDERING DATA

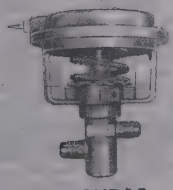
| Pipe Size (In.) | Cv | Maximum Safe Air Pressure (PSI) | Spring Range (PSI) | Body Pressure Rating (PSI) | Close Off Rating Air Pressure (PSI) | Controlled Medium Temperature (°F) | Approx. Case Dimen. (In.) H | W | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2 O.D.** | 1.6 | 30 | 3 to 10 | 250 | 45 @ 13 | 35 to 250 | 4 1/8 | 3 1/8 | VP527A1034 | **3UD21** | $173.34 | **$110.25** | 2.0 |

## PNEUMATIC WATER VALVE



**Honeywell**

**No. 3UD11**



**No. 3UD12**

**Application:** Used to provide proportional control of unit air conditioners using hot and/or chilled water.

- Proportional normally-open (N.O.) or normally-closed (N.C.) models available
- Straight-through pattern
- Rotating actuator for aligning air connection with control air piping
- Molded replaceable composition disc for tight shut-off
- Flare tube connections
- Compact size

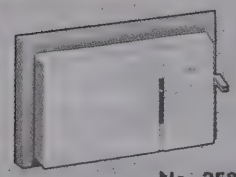
### PNEUMATIC WATER VALVE SPECIFICATIONS

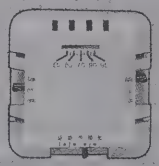
| Valve Type | Maximum Safe Air Pressure (PSI) | Close-Off Rating @ Main Pressure (PSI) | Spring Range (PSI) | Ambient Operating Temperature (°F) | Ambient Operating Humidity (% rh) | CV | Pipe Size Flare (In.) | Air Connection |
|---|---|---|---|---|---|---|---|---|
| N.O. | 30 | 79 @ 13 | 3 to 7 | 0 to 140 | 5 to 95 | 2.5 | ⅝ O.D. | 1/8 NPT |
| N.C. | 30 | 50 @ 7 | 9 to 13 | 0 to 140 | 5 to 95 | 2.5 | ⅝ O.D. | 1/8 NPT |

### PNEUMATIC WATER VALVE ORDERING DATA

| Valve Type | Approx. Case Dimensions, (In.) H | Dia. | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **N.O.** | 5 3/4 | 5 1/8 | VP513A1188 | **3UD11** | $185.50 | **$118.30** | 5.0 |
| **N.C.** | 6 7/8 | 5 1/8 | VP513B1053 | **3UD12** | 185.52 | **118.30** | 5.0 |

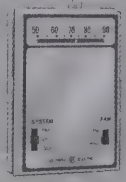
# LOW VOLTAGE SNAP-ACTION THERMOSTATS


No. 2E830

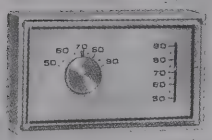

No. 5E267

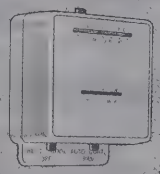
Columbus Electric

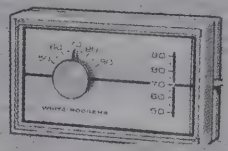
Honeywell


No. 2E514


No. 3TZ44


No. 2E632


No. 3TZ46


No. 4E035


No. 3TZ47

## SNAP-ACTION THERMOSTAT SPECIFICATIONS

| Type | Fan Switch | Application | Stock No. | Subbase | Control Range (°F) | Switch Action | Anticipation |
|---|---|---|---|---|---|---|---|
| Heat only | None | Gas, oil | 2E830 | Not Required | 45-85 | SPST | Heat: Adj. 0.18 to 0.8A |
| Heat only | None | Gas, oil | 2E156 | Not Required | 50-90 | SPST | Heat: Adj. 0.1 to 1.0A |
| Heat-Cool | Auto-On | Gas, oil | 5E267 | Not Required | 50-90 | SPST | Heat: Mv to 1.0A; Cool: Fixed |
| Cool only | None | 24VAC | 2E278 | Not Required | 50-90 | SPST | Cool: fixed |
| Heat only | None | Gas, oil | 3TZ44 | Not Required | 50-90 | SPST | Heat: Adj. 0.18 to 1.0A |
| Cool only | None | 24 VAC | 3TZ45 | Not Required | 50-90 | SPST | Cool: Fixed |
| Heat-Cool | Auto-On | Gas, oil, electric | 2E514 | Not Required | 50-90 | DPST | Heat: Mv to 1.0A; Cool: Fixed |
| Heat only | None | Gas, oil | 2E632 | Not Required | 50-90 | SPDT | Heat: Adj. 0.1 to 1.0A |
| Cool only | None | | | | | | |
| Heat-Cool | Auto-On | | | 2E634 | | | |
| Heat-Cool | Auto-On | Gas, oil, 24 VAC | 3TZ46 | Not Required | 50-90 | SPDT | Heat: Adj. .18 to 1.0A; Cool: Fixed |
| Heat-Cool | Auto-On | Gas, oil, electric 24V systems and single stage heat pumps | 1N173 | Not Required | 50-90 | SPDT | Heat: Adj. 0.15 to 1.2A Cool: Fixed |
| Heat only | None | Gas, oil | 4E035 | Not Required | 50-90 | SPST | Heat: Adj. 0.15 to 1.A |
| Heat only | None | Gas, oil | 3TZ47 | Not Required | 50-90 | SPST | Heat: Adj. 0.15 to 1.0A |

## SNAP-ACTION THERMOSTAT ORDERING DATA

| Type | Color | Dimensions (In.) H | W | D | Mfr. | Mfr's Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Heat only** | Beige | 2 7/8 | 4 5/8 | 1 1/16 | Honeywell | T810D1003 | **2E830** | $33.19 | **$13.79** | 0.2 |
| **Heat only*** | White | 2 3/4 | 4 1/2 | 1 3/16 | Columbus Electric | RSV120LAW | **2E156** | 29.57 | **12.45** | 0.3 |
| **Heat-Cool** | White | 3 1/4 | 3 | 1 3/16 | Columbus Electric | RK420AAG | **5E267** | 39.19 | **16.59** | 0.2 |
| **Cool only*** | White | 2 3/4 | 4 1/2 | 1 3/16 | Columbus Electric | RSV310LAW | **2E278** | 32.94 | **14.55** | 0.3 |
| **Heat-Cool*** | White | 2 3/4 | 4 1/2 | 1 3/16 | Columbus Electric | RSV420GAW | **2E514** | 45.25 | **17.06** | 0.2 |
| **Heat only** | Light Gray | 4 1/2 | 4 1/2 | 1 3/16 | White-Rodgers | 1C20-1 | **3TZ44** | 22.40 | **10.75** | 0.3 |
| **Cool only** | Light Gray | 4 1/2 | 4 1/2 | 1 3/16 | White-Rodgers | 1C21-1 | **3TZ45** | 23.04 | **11.90** | 0.3 |
| **Heat only, Cool only†, Heat-Cool†** | Beige | 2 3/4 | 4 1/2 | 1 1/2 | White-Rodgers | 1D36-316 | **2E632** | 47.87 | **18.99** | 0.4 |
| **Heat-Cool** | Light Gray | 4 1/2 | 4 1/2 | 1 5/8 | White-Rodgers | 1C26-1 | **3TZ46** | 33.86 | **16.58** | 0.4 |
| **Heat-Cool** | Beige | 3 1/4 | 4 1/2 | 1 5/8 | White-Rodgers | 1D56-347 | **1N173** | 88.11 | **26.40** | 0.4 |
| **Heat only** | Beige | 2 1/4 | 4 1/2 | 1 1/2 | White-Rodgers | 1D30-316 | **4E035** | 48.50 | **19.35** | 0.4 |
| **Heat only** | Beige | 4 1/2 | 2 3/4 | 1 1/2 | White-Rodgers | 1C30-302 | **3TZ47** | 48.54 | **21.84** | 0.4 |

(†) Requires additional subbase, sold separately below. (*) Vertical or horizontal mount.

## SUBBASES FOR SELECTED THERMOSTATS ABOVE

| Use with Thermostat | Type | Fan Switch | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **2E632** | Heat-Cool | Auto-On | S21-3 | **2E634** | $34.36 | **$15.64** | 0.2 |

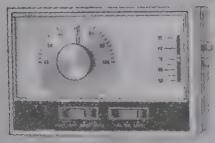
# LOW VOLTAGE THERMOSTATS

## AUTOMATIC CHANGE-OVER THERMOSTATS

### AUTOMATIC CHANGE-OVER THERMOSTAT SPECIFICATIONS

| Stages (24V) Heat | Stages (24V) Cool | Stock No. | Min. Interlock, °F | Subbase | Control Range* | Switch Rating 24VAC | Anticipation |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 2E397 | 3 | Not Required | Heat: 50-85°F<br>Cool: 55-90°F | Heat: 1A<br>Cool: 1.5A | Heat: Adj. 0.15 to 1.2A<br>Cool: Fixed 0 to 1.5A |
| 2 | 2 | 2E996† | 3 | Not Required | Heat: 50-85°F<br>Cool: 55-90°F | Heat: 1A<br>Cool: 1.5A | Heat: Adj. 0.15 to 1.2A<br>Cool: Fixed 0 to 1.5A |

*) Separate slide-lever adjustments for temperature ranges. (†) No. 2E996 is CSA Certified (LR6246).



No. 2E397

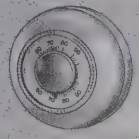
### AUTOMATIC CHANGE-OVER THERMOSTAT ORDERING DATA

| Stages (24V) Heat | Stages (24V) Cool | Color | Dimensions (In.) H | W | D | System Switch Positions Type | Fan | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | Gold | 3 1/8 | 4 3/4 | 2 1/16 | Heat-Off-Cool-Auto | On-Auto | 1C74-2 | **2E397** | $140.35 | **$88.05** | 0.7 |
| 2 | 2 | Gold | 3 1/8 | 4 3/4 | 2 1/16 | Heat-Off-Cool-Auto | On-Auto | 1C70-1 | **2E996** | 225.46 | **138.50** | 0.7 |

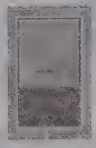
## LOW VOLTAGE MERCURY SWITCH THERMOSTATS



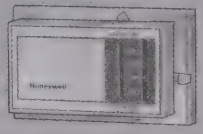
A Nos. 3XK94 and 3XK95



B Nos. 4E879, 2E096, and 4E087



C No. 2E515



D No. 1D280

### LOW VOLTAGE MERCURY SWITCH THERMOSTAT SPECIFICATIONS

| Key | Type | Fan Switch | Application | Remarks | Stock No. |
|---|---|---|---|---|---|
| A | Cool only | None | Use on cooling systems only | Cooling anticipation provided by fixed carbon heater. | 3XK94 |
| A | Heat only | None | Gas or oil | | 3XK95 |
| B | Heat only | None | Gas or oil | 2 Terminal heat only; wall plate included. | 4E879<br>2E096 |
| B | Heat or Cool only | None | Gas or oil | 3 Terminal heat only or cool only; wall plate included. | 4E087 |
| B | Heat or Cool only | None | Gas or oil | Enlarged scale, raised designations. 3-Terminal heat only or cool only. Wall plate included. | 4E244 |
| C | Heat-Cool | Auto-On | Gas or oil | | 4TL95 |
| D | Heat-Cool | Auto-On | Gas or oil | Heat-Cool subbase included. Vertical mount. | 2E515 |
| E | Heat-Cool | Auto-On | Gas or oil | Heat-Cool subbase included. Horizontal mount. | 1D280 |

### LOW VOLTAGE MERCURY SWITCH THERMOSTAT ORDERING DATA

| Key | Color | Temp. Range °(F) | Dimensions (In.) H | W | D | Honeywell Model | Optional Subbase | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Beige | 55 - 95 | 4 3/4 | 2 7/8 | 1 3/8 | T822C1090 | Not Required | **3XK94** | $48.20 | **$29.85** | 0.3 |
| A | Beige | 55 - 95 | 4 3/4 | 2 7/8 | 1 3/8 | T822D1024 | Not Required | **3XK95** | 38.75 | **23.95** | 0.3 |
| B | White | 40 - 90 | | 3 1/4 diameter | | T87F3855 | See Below | **4E879** | 57.96 | **24.15** | 0.3 |
| B | Gold | 40 - 90 | | 3 1/4 diameter | | T87F2873 | See Below | **2E096** | 45.60 | **22.97** | 0.3 |
| B | Gold | 40 - 90 | | 3 1/4 diameter | | T87F1859 | See Below | **4E087** | 45.70 | **24.53** | 0.4 |
| B | Gold | 40 - 90 | | 4 diameter | | T87F3467 | See Below | **4E244** | 58.25 | **31.45** | 0.5 |
| D | Beige | 55 - 95 | 4 3/4 | 2 7/8 | 1 5/16 | T834C1137 | Included | **2E515** | 50.21 | **26.75** | 0.3 |
| E | Beige | 55 - 95 | 2 7/8 | 4 3/4 | 1 5/16 | T8034C1085 | Included | **1D280** | 36.64 | **23.82** | 0.3 |

❷ Warning: These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

### SUBBASES AND ACCESSORIES FOR SFLECTED THERMOSTATS ABOVE

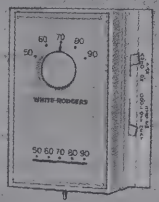
| Type | Fan Switch | Remarks | Use with Thermostat | Color | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Heat-Cool | On-Auto | For single transformer systems | 2E096, 4E087, 4E244 | Gold | Q539A1014 | **2E151** | $22.73 | **$14.37** | 0.2 |
| Heat-Cool | On-Auto | For single transformer systems | 4E879 | White | Q539A1469 | **4E877** | 23.20 | **14.35** | 0.1 |
| Heat-Cool | On-Auto | Independent heat–cool circuits | 2E096, 4E087, 4E244 | Gold | Q539A1147 | **2E855** | 23.72 | **16.13** | 0.1 |
| Heat-Cool | On-Auto | Automatic fan on both heat and cool, for electric or heat pump | 2E096, 4E087, 4E244 | Gold | Q539J1006 | **2E778** | 22.70 | **14.45** | 0.2 |
| Heat-Cool | On-Auto | Use on cooling systems only | 2E096, 4E087, 4E244 | Gold | Q539C1020 | **4E088** | 24.05 | **15.27** | 0.1 |
| Cool only | On-Auto | Use on cooling systems only | 2E096, 4E244, 4E087 | Gold | 129044A | **2E235** | 16.11 | **8.50** | 0.1 |
| Adapter Plate Assembly | | 6" Dia. "goof" plate | | | | | | | |

# LOW VOLTAGE MERCURY SWITCH THERMOSTATS



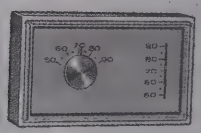
A

No. 2E466



B

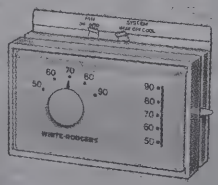
No. 1F947



C

No. 2E165

LR27935



D

No. 4E947

## THERMOSTAT SPECIFICATIONS

| Key | Type | Fan Switch | Application | Remarks | Stock No. |
|---|---|---|---|---|---|
| A | Heat only | None | Gas or oil | Field installable stop kit included.* Vertical mount | 2E466 |
| A | Heat only | None | Gas or oil | Vertical mount | 4E032 |
| A | Heat only | None | 750 millivolt | Vertical mount | 4E033 |
| A | Heat only or Cool only | None | Gas or oil | Vertical mount | 2E215 |
| B | Heat-Cool | Auto-On | Gas, oil, electric or single stage heat pump | Can be used w/2 transformer systems. Vertical mount | 1F947 1N174 |
| C | Heat-Cool | None | 3-wire zone valve | Horizontal mount | 2E165 |
| C | Heat only | None | Gas or oil | Horizontal mount | 4E031 |
| D | Heat-Cool | Auto-On | Gas, oil, electric or single stage heat pump | Can be used w/2 transformer systems. Horizontal mount | 4E947 |
| D | Heat-Cool | Auto-On | Gas or Oil | Can be used w/2 transformer systems. Horizontal mount | 4E028 |
| D | Heat-Cool | Auto-On | Electric | Can be used w/2 transformer systems. Horizontal mount | 4E029 |
| D | Heat-Cool | Auto-On | Gas, oil, electric or single stage heat pump | Can be used w/2 transformer systems. Horizontal mount | 4E030 |

(*) Stop kit may be used for limiting maximum setting, or to lock the temperature adjustment lever to a fixed setting.

## THERMOSTAT ORDERING DATA

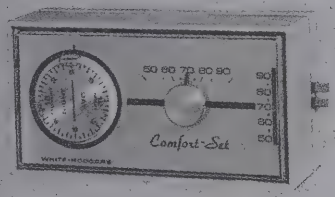
| Key | Color | Temp. Range, °F | Dimensions (In.) H | W | D | White-Rodgers Model | Optional Subbase | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Beige | 40-80 | 4½ | 2¾ | 1½ | 1E30-329 | — | 2E466 | $48.00 | $20.05 | 0.4 |
| A | Beige | 50-90 | 4½ | 2¾ | 1½ | 1E30-910 | — | 4E032 | 51.11 | 21.89 | 0.4 |
| A | Beige | 50-90 | 4½ | 2¾ | 1½ | 1E30-913 | — | 4E033 | 51.91 | 23.43 | 0.3 |
| A | White | 50-90 | 4½ | 2¾ | 1½ | 1E36-303 | — | 2E215 | 52.95 | 20.66 | 0.4 |
| B | Beige | 50-90 | 4½ | 3¼ | 1⅝ | 1E56W-444 | Included | 1F947 | 87.61 | 27.00 | 0.3 |
| C | Beige | 50-90 | 4½ | 3¼ | 1⅝ | 1E56-444 | Included | 1N174 | 87.61 | 25.85 | 0.4 |
| C | Beige | 50-90 | 4½ | 2¾ | 1½ | 1F35-910 | — | 2E165 | 50.30 | 22.05 | 0.3 |
| D | Beige | 50-90 | 4½ | 2¾ | 1½ | 1F36-910 | See Below | 4E031 | 51.39 | 22.79 | 0.3 |
| D | White | 50-90 | 3¼ | 4½ | 1⅝ | 1F56W-444 | Included | 4E947 | 87.61 | 26.90 | 0.4 |
| D | Beige | 50-90 | 3¼ | 4½ | 1⅝ | 1F56-301 | Included | 4E028 | 85.17 | 24.96 | 0.4 |
| D | Beige | 50-90 | 3¼ | 4½ | 1⅝ | 1F56-306 | Included | 4E029 | 85.17 | 24.96 | 0.4 |
| D | Beige | 50-90 | 3¼ | 4½ | 1⅝ | 1F56-444 | Included | 4E030 | 87.61 | 25.40 | 0.4 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

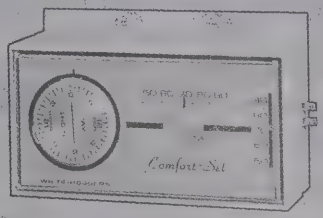
## SUBBASES AND ACCESSORIES FOR SELECTED THERMOSTATS ABOVE

| Type | Fan Switch | Remarks | Use with Thermostat | Color | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Heat-Cool | On-Auto | For 2 transformer systems | 4E031, 2E632 | Beige | S21-3 | 2E634 | $34.36 | $15.64 | 0.2 |
| Wallplate | | | 4E028, 4E029, 4E030, 4E031, 4E032, 2E215 | Beige | F61-2068 | 2E150 | 11.59 | 6.20 | 0.3 |

# LOW VOLTAGE ELECTROMECHANICAL THERMOSTASTS

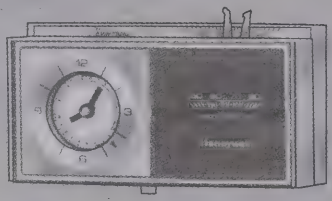


No. 2E901 Less Subbase
No. 2E994 Subbase Not Required



No. 2E995 Subbase Included

Honeywell



No. 4E394 Less Subbase

ENERGY RIGHT®

- Electromechanical thermostats help minimize fuel costs by automatically raising and lowering temperature for one or more periods of time every 24 hours
- For use with 24V systems
- Units with battery powered quartz clock maintain correct time in the event of power interruption; require no additional wiring which eliminates system compatibility problems
- Easily programmed by placing colored indicators in the clock dial at the desired setback times. Indicators are color coded; red, for high setting; blue, for low setting. 2 indicators required for setback cycle
- For No. 4E394, if subbase No. 4E395 is used, clock power is selectable from: 24V system transformer, system circuit (power stealing) or battery
- Nos. 2E994, 2E901, and 2E995 are powered by standard AA alkaline battery

## SPECIFICATIONS AND SELECTION DATA

| Type | Application | Stock No. | Subbase | Program Advance | Clock Type | Clock Power | Battery Included | No. of Indicators | Anticipation |
|---|---|---|---|---|---|---|---|---|---|
| Heat only | Gas or oil | 2E994 | Not Required | No | Quartz | Battery | No | 4 | Heating: Adj. 0.15 to 1.2A; cooling: 0 to 1.5A |
| Heat only/Cool only | Gas or oil | 2E901 | Not Required | Yes | Quartz | Battery | Yes | 4 | |
| Heat-Cool | | | 2E912 | | | | | | |
| Heat-Cool | Gas, oil, electric, or single stage heat pump | 2E995 | Included | No | Quartz | Battery | No | 4 | |
| Heat only/Cool only | Gas or oil | 4E394 | Not Required | Yes | Quartz | Battery | Yes | 6 | Heating: Adj. 0.1 to 1.2A |
| Heat-Cool | Gas, oil, electric or single stage heat pump | | 4E395 | | | | | | |

## THERMOSTAT ORDERING DATA

| Type | Color | Dimensions (In.) H | W | D | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Heat only | Beige | 3¼ | 6¹⁄₁₆ | 2⁵⁄₁₆ | White-Rodgers | 1F70-358 | ✓2E994 | $155.08 | $67.75 | 0.9 |
| Heat only/ Cool only | Beige | 3¼ | 6¹⁄₁₆ | 2⁵⁄₁₆ | White-Rodgers | 1F72-351 | ✓2E901 | 162.88 | 72.45 | 1.1 |
| Heat-Cool | | | | | | | | | | |
| Heat-Cool | Beige | 3¼ | 6¹⁄₁₆ | 2⁵⁄₁₆ | White-Rodgers | 1F76-357 | ✓2E995 | 171.36 | 77.45 | 1.0 |
| Heat only/Cool only | Beige | 3⁹⁄₁₆ | 6³⁄₄ | 1¾ | Honeywell | T8090A1007 | ✓4E394 | 247.31 | 102.25 | 0.9 |
| Heat-Cool | | | | | | | | | | |

## SUBBASES FOR SELECTED THERMOSTATS ABOVE

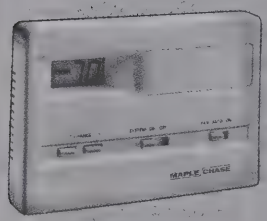
| Use with Thermostat | Type | Mfr. | Mfr's Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 2E901 | System & Fan switching for heat-cool | White-Rodgers | S25-55 | 2E912 | $25.44 | $15.26 | 0.2 |
| 4E394 | System & Fan switching for heat-cool | Honeywell | Q682B1201 | 4E395 | 28.52 | 20.14 | 0.2 |

(✓) Denotes Energy efficient product.

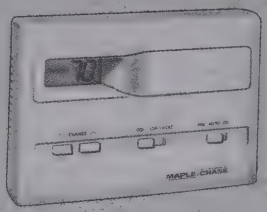
# NON-PROGRAMMABLE ELECTRONIC THERMOSTATS

**Digital non-programmable electronic thermostat for mercury-free replacement of mechanical thermostats.**

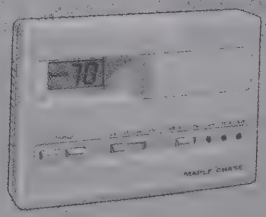
MAPLE CHASE™



No. 3GD25



No. 3GD24



No. 3GD26

**MAPLE CHASE 5-YEAR LIMITED WARRANTY**

Text of warranty available upon request. See "Manufacturer's Warranties" on page opposite inside back cover.

**Thermostats Feature:**

- Large LCD display shows room and setpoint temperatures
- Battery powered to allow replacement of all standard 24VAC mechanical thermostats (battery included)
- Easy non-programmable operation for trouble-free use
- Low temperature protection heat turns on when temperature goes below 40°F
- Mercury-free, environmentally safe temperature control
- Quick-wiring terminal block for fast, dependable installations
- Adjustable temperature differential
- Low battery indicator
- Temperature range 45-90°F
- UL Listed

**No. 3GD25** is fully compatible with all standard 24 volt AC and Millivolt heating systems. Provides positive-off and fan control switching for total comfort and efficiency. Contemporary white housing. Maple Chase brand.

**No. 3GD24** is fully compatible with all standard 24 volt AC heating/cooling systems. O and B terminals provide complete zoning system compatibility. Automatic compressor short cycle protection. Contemporary white housing. Maple Chase brand.

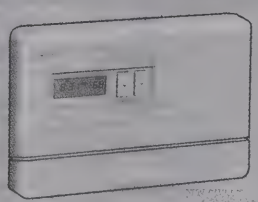
**No. 3GD26** is fully compatible with all standard 24VAC multistage heat pump systems—up to 2 stage heat, 2 stage cool. Accurate staging control for increased system efficiency. Automatic compressor short cycle protection. Zone system compatible. Maple Chase brand.

## THERMOSTAT SPECIFICATIONS AND ORDERING DATA

| Application | Thermostat Type | Stages Heat | Stages Cool | Power Method | Maple Chase Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 24VAC and Millivolt Heating Systems 24VAC Heating/Cooling Systems | Heat-Off | 1 | — | Battery | 09505 | **3GD25** | $39.00 | **$32.60** | 0.6 |
| & Single Stage Heat Pumps | Heat-Off-Cool | 1 | 1 | Battery | 09500 | **3GD24** | 42.00 | **35.00** | 0.6 |
| 24VAC Multistage Heat Pump Systems | Heat-Off-Cool | 2 | 2 | Battery with 24VAC | 09520 | **3GD26*** | 55.00 | **46.15** | 0.7 |

(*) Requires extra 24 volt neutral wire from transformer to power thermostat.

# NON-PROGRAMMABLE MICROELECTRONIC THERMOSTAT



No. 4DG50

**No. 4DG50 Features:**

- Heat-Off-Cool system switch
- On-Auto fan switch and low battery indicator
- Mercury free, environmentally safe
- 1 Heat and 1 cool stage
- 45-90°F Operating temperature range
- Battery powered (3 'AA' batteries included)
- Built-in 5 minute time delay for compressor protection in cooling
- High and low temperature protection limits
- White case
- Back-lit display

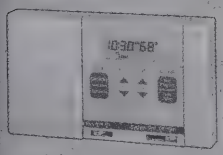
## THERMOSTAT SPECIFICATIONS AND ORDERING DATA

| Applications | Thermostat Type | Battery Included | Power Req'd | Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gas, oil, 24V electric and single stage heat pumps | Heating-Cooling | Yes | 24V | 4¼ | 6¼ | 1¼ | 1F86-444 | **4DG50** | $84.72 | **$37.85** | 0.9 |

# PROGRAMMABLE THERMOSTATS

## ELECTRONIC PROGRAMMABLE THERMOSTATS

Honeywell

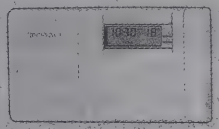


No. 3UC86
Displayd without control panel door



No. 4TL95

New



No. 4CZ54

- Easy to program and install
- LCD continuously indicates time-of-day, day of week, current program period, and room temperature
- Separate programs for weekdays and weekends (5 day/2 day)
- Provides up to 4 temperature settings per weekday schedule
- Heating cycle rates may be adjusted for different heating systems
- Includes mounting wallpate and batteries
- Features energy-saving winter setback and summer setup

For No. 4TL95:

- Large display
- Two period programming
- Selectable heating cycle rate (1,3,6 or 9 cph)
- Set points permanetly held in memory (no batteries needed) and retained during power outages
- power stealing for all equipment and application needs gas, oil, electric forced air, condensing gas furnaces, hydronic heat, gravity and radient heat systems

**CURRENT RATINGS**

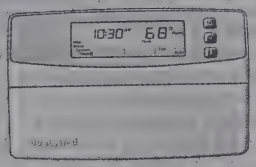
| Relay | Running (A) | Inrush (A) | Relay | Running (A) | Inrush (A) |
|---|---|---|---|---|---|
| Heating | 0.03 to 1.2 | 3.5 | Cooling | 0.03 to 1.2 | 7.5 |
| Heating | .02 to 1.2 | 5 | Cooling | .02 to 1.2 | 6 |

| Application | Color | Dimen., (In.) H | W | D | Honeywell Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Gas, oil or electric 24VAC systems with independently controlled fan | Taupe | 4 | 7 | 1½ | T8112C1007 | | **3UC86** | $86.82 | **$52.00** | 0.5 |
| | Taupe | 4 | 7 | 1½ | T8132C1003 | | **4CZ54** | 97.85 | **75.30** | 1.0 |
| | White | – | 5½ | 1½ | T8700C1005 | *New* | **4TL95** | 85.00 | **57.00** | 0.8 |

| Switching System | Fan | Operating Ambient Temperature Range (°F) | Setpoint Temperature Range, (°F) | Operating Relative Humidity | Electrical Rating in VAC | Stock No. |
|---|---|---|---|---|---|---|
| Cool-Off-Heat | Auto-On | 45 - 88 | 45 - 88 | 5% to 90% rh, noncondensing | 15 to 30 | 3UC86 |
| Cool-Off-Heat | Auto-On | 40 - 110 | 45 - 88 | 5% to 90% rh, noncondensing | 15 to 30 | 4CZ54 |
| Cool-Off-Heat | Auto-On | 30 - 110 | 40 - 99 | 5% to 90% rh, noncondensing | 18 to 30 | 4TL95 |

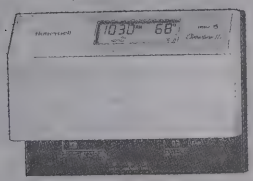
## MICROELECTRONIC CHRONOTHERM® IV THERMOSTATS

Honeywell



New

No. 4TL92



No. 4CZ55

- Full seven-day program capability
- Programmable fan operation
- Adaptive Intelligent Recovery™
- Setpoints are permanently held in memory (no batteries used)
- Outdoor air sensor available through GPO #1-800 (C7089B1000)

### CHRONOTHERM IV THERMOSTAT SPECIFICATIONS

| Switching System | Fan | Application | Power Method | Dual Transformer Compatible | Stages Heat | Stages Cool | Stock No. |
|---|---|---|---|---|---|---|---|
| Heat-Off-Cool-Auto | On-Auto | Gas, oil, electric, 24V and single stage, heat pump | 24V | Yes | 1 | 1 | 4TL92 |
| Heat-Off-Cool-Auto | On-Auto | | Battery | Yes | 1 | 1 | 4TL93 |
| Heat-Off-Cool-Auto | On-Auto | | 24V | Yes | 1 | 1 | 4TL94 |
| Heat-Off-Cool-Auto | On-Auto | Gas, oil | 24V | Yes | 2 | 2 | 4CZ55 |

### CHRONOTHERM IV THERMOSTAT ORDERING DATA

| Type of Thermostat | Color | Dimensions (In.) H | W | D | Honeywell Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Heating-Cooling | Taupe | 4 1/16 | 7 | 1 1/4 | T8600D2028 | *New* | **4TL92** | $175.00 | **$117.00** | 1.5 |
| Heating-Cooling | Taupe | 4 1/16 | 7 | 1 3/4 | T8602D2000 | *New* | **4TL93** | 180.00 | **120.00** | 1.5 |
| Heating-Cooling | Taupe | 4 1/16 | 7 | 1 3/4 | T8611G2002 | *New* | **4TL94** | 240.00 | **167.00** | 1.5 |
| Heating-Cooling | Taupe | 4 1/16 | 7 | 1 3/4 | T8624D2004 | | **4CZ55** | 205.99 | **174.00** | 1.5 |

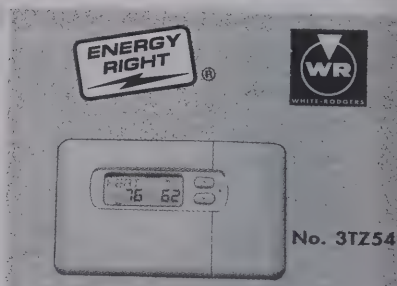
**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

Check your frequently-ordered product categories for line extensions and new product offerings.
Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.

# PROGRAMMABLE ELECTRONIC THERMOSTATS

**FEATURES:**

- Automatically raises or lowers temperature at preselected times
- Programmable blower control. Whenever fan is required to run continuously during specific times of the day
- "Hold Temp" key provides indefinite program override
- Programmable vacation mode
- Selectable Energy Management Recovery (computed recovery) system
- Key pad lockout (partial or full)
- Remote sensing available (order No. 4DG57 or 4E726)
- Filter change-out indicator
- Automatic heat/cool changeover option available
- Classic white color
- Back-Lit display
- Daylight savings time reset button




No. 3TZ54

No subbase required

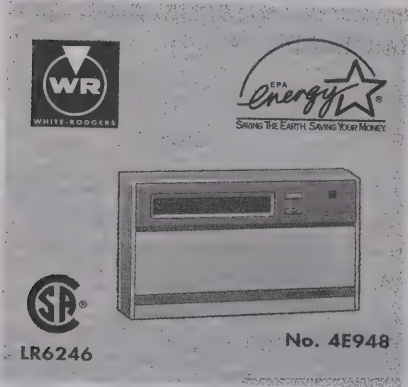
## PROGRAMMABLE THERMOSTAT SPECIFICATIONS

| Switching System | Fan Heat | Stock No. | Application | Power Req'd. (V) | Battery Backup | Dual Transformer Compatible | Temp. Setting Per Day | Programs Per Week | Stages Heat | Stages Cool |
|---|---|---|---|---|---|---|---|---|---|---|
| Heat-Off-Cool-Auto | On-Auto | 3TZ52 | Gas, oil, and electric 24V systems, millivolt, and 3-wire zone valves, and single stage heat pumps | 24 | Yes | Yes | 4 | 2 or 3* | 1 | 1 |
| Heat-Off-Cool-Auto | On-Auto | 3TZ54 | | 24 | Yes | Yes | 4 | 7 | 1 | 1 |

(*) Selectable 5-day/2-day or 5/1/1-day programming.

## PROGRAMMABLE THERMOSTAT ORDERING DATA

| Thermostat Type | Programmable Fan Feature | Battery Included | Remote Sensing Capability | Key Pad Lockout | Dimensions, (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Heating-Cooling** | Yes | Yes | Yes | Yes | 4 | 6 7/8 | 1 1/2 | 1F90-371 | **3TZ52** | $268.15 | **$126.60** | 0.9 |
| **Heating-Cooling** | Yes | Yes | Yes | Yes | 4 | 6 7/8 | 1 1/2 | 1F97-371 | **3TZ54** | 284.00 | **135.80** | 0.9 |




LR6246

No. 4E948

**FEATURES:**

- Automatically raises or lowers temperature at preselected times
- LCD displays setpoint temperature continuously and alternately shows actual time and temperature
- "Hold Temp" key provides indefinite program override
- Temperature keys allow for a temporary program override
- Programmable fan feature. Whenever fan is required to run continuously during specific times of the day
- Nos. 4E171, 4E172 and 1N179 feature optional remote sensing up to 200 ft. when used with No. 4E726 or 4DG57 remote sensor (sold on page 3321.) 18-gauge, 3 conductor shielded cable not included
- EMR™ (Energy Management Recovery) automatically calculates when to begin raising or lowering temperature in order to reach programmed temperature at preset time. Activated by installer
- 60 second time delay on fan in cooling cycle—increases efficiency
- No subbase required

**TEMPERATURE RANGE: 40-99°F**
**ELECTRICAL RATING: 17-30VAC. 50/60 Hz, 0.05 to 1.5 amps**

| Switching System | Fan | Stock No. | Application | Power Req'd (V) | Battery Backup | Dual Transformer Compatible | Temp Setting per Day | Programs per Week | Stages Heat | Stages Cool |
|---|---|---|---|---|---|---|---|---|---|---|
| Heat-Off | — | 4E182 | Gas, oil and electric 24V systems, millivolt and 3-wire zone valves | 24 | Yes | No | 4 | 2* | 1 | — |
| Heat-Off-Cool | On-Auto | 4E183 | Gas, oil and electric 24V systems | 24 | Yes | Yes | 4 | 2* | 1 | 1 |
| Heat-Off-Cool | On-Auto | 4E948 | Gas, oil and electric 24V systems | 24 | Yes | Yes | 4 | 2* | 1 | 1 |
| Heat-Off-Cool | On-Auto | 4E184 | Gas, oil and electric 24V systems | 24 | Yes | Yes | 4 | 7 | 1 | 1 |
| Heat-Off-Cool-Auto | On-Auto | 4E171 | Gas, oil and electric 24V systems, millivolt and 3-wire zone valves | 24 | Yes | Yes | 4 | 2* | 1 | 1 |
| Heat-Off-Cool-Auto | On-Auto | 4E172 1N179 | | 24 | Yes | Yes | 4 | 7 | 1 | 1 |

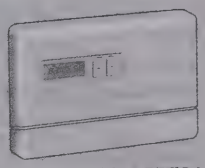
(*) One program for weekdays and one program for weekends.

| Thermostat Type | Color | Programmable Fan Feature | Battery Included | Remote Sensing Capability | Optional Key Pad Lockout | Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Heating Only** | Beige | No | Yes | No | No | 3 5/8 | 6 3/8 | 1 3/4 | 1F90-60 | **4E182** | $227.32 | **$103.80** | 1.0 |
| **Heating-Cooling** | Beige | Yes | Yes | No | No | 3 5/8 | 6 3/8 | 1 3/4 | 1F90-51 | **4E183** | 232.97 | **111.35** | 1.2 |
| **Heating-Cooling** | White | Yes | Yes | No | No | 3 5/8 | 6 3/8 | 1 3/4 | 1F90W-51 | **4E948** | 230.93 | **104.95** | 1.3 |
| **Heating-Cooling** | Beige | Yes | Yes | No | No | 3 5/8 | 6 3/8 | 1 3/4 | 1F97-51 | **4E184** | 255.42 | **120.00** | 1.0 |
| **Heating-Cooling** | Beige | Yes | Yes | Yes | Yes | 3 5/8 | 6 3/8 | 1 3/4 | 1F90-71 | **4E171** | 244.73 | **116.70** | 1.2 |
| **Heating-Cooling** | Beige | Yes | Yes | Yes | Yes | 3 5/8 | 6 3/8 | 1 3/4 | 1F97-71 | **4E172** | 275.78 | **131.85** | 1.2 |
| **Heating-Cooling** | White | Yes | Yes | Yes | Yes | 3 5/8 | 6 3/8 | 1 3/4 | 1F97W-71 | **1N179** | 261.70 | **124.35** | 1.3 |

# PROGRAMMABLE MICROELECTRONIC THERMOSTATS



- Built-in 5 minute time delay for compressor protection in cooling
- Heat-Off-Cool system switch
- 1 heat and 1 cool stage
- On-Auto fan switch
- 45-90°F operating temperature range
- Two-hour override without changing program
- 4 temperature settings
- Battery powered for maximum compatibility (3 "AA" batteries included)
- White case
- Built-in high/low temperature limit protection
- Low-battery indicator



No. 5E756

## THERMOSTAT SPECIFICATIONS AND ORDERING DATA

| Thermostat Type | Application | Programs Per Week | Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Heating-Cooling** | Gas, oil, or 24V | One 24 Hour | 4 1/2 | 6 3/4 | 1 3/8 | 1F80-24 | ✓**1N177** | $100.63 | **$51.55** | 0.9 |
| **Heating-Cooling** | electric & single stage | 5 + 2* | 4 1/2 | 6 3/4 | 1 3/8 | 1F80-51 | ✓**5E756** | 108.87 | **60.10** | 1.0 |
| **Heating-Cooling** | heat pumps | 7 | 4 1/2 | 6 3/4 | 1 3/8 | 1F87-51 | ✓**4DG51** | 136.39 | **52.45** | 0.9 |

(✓) Denotes energy efficient product. (*) 1 Program for weekdays, 1 program for weekends. (*) One program for weekdays, one program for weekends.

### MAPLE CHASE THERMOSTATS FEATURE:

- Fully compatible with all standard 24VAC/750 mV heating/cooling systems and single stage heat pumps
- Low temperature protection—heat turns on when temperature goes below 40°F
- Automatic compressor short-cycle protection for cool operation
- Memory and Relay switching battery powered. This is not a "Current" Robbing thermostat
- Low battery indication

### NO. 3GD27 FEATURES:

- Four Temperature changes a day for weekdays. Weekend program automatically eliminates middle two setbacks for all-day comfort

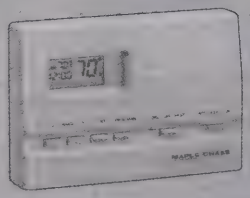
### NO. 3GD28 FEATURES:

- Seven separate daily programs with four time and temperature changes per day for maximum flexibility
- QuickSet™ programming allows all seven programs to be simultaneously entered
- Residual cooling feature provides up to a 90-second fan delay on break for maximum cooling efficiency
- O and B terminals provide complete zoning system compatibility

### NO. 3ZP74 FEATURES:

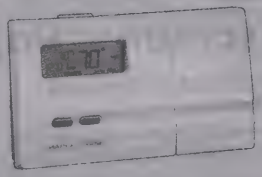
- QuickSet™ programming mode makes daily programming easy
- Auto-changeover feature with installer override switch
- Programmable fan feature allows independent programming of fan operation to meet commercial code requirements
- Residual cooling fan feature allows user to program up to 90 second delay on break during cool mode
- NiteView™ LCD display backlight
- Temporary override for up to 4 hours to meet commercial code requirements
- Remote sensor capable—averages up to 4 thermistor sensor inputs (including thermostat sensor). Part no. 09015 available from Grainger Parts Operations, call 1-800-323-0620
- 5-Year Limited Warranty

MAPLE/CHASE™



No. 3GD27

873



No. 3ZP74

## THERMOSTAT SPECIFICATIONS

| Switching System | Fan | Stock No. | Application | Power Req'd (V) | Battery Backup | Temp. Setting per Day | Programs per Week | Stages Heat | Stages Cool |
|---|---|---|---|---|---|---|---|---|---|
| Heat-Off-Cool | On-Auto | 3GD27 | 24VAC/Millivolt Heating/ Cooling Systems & Single Stage Heat Pumps* | Battery | Yes | 4 | 5 + 2 | 1 | 1 |
| Heat-Off-Cool | On-Auto | 3GD28 | | Battery | Yes | 4 | 7 | 1 | 1 |
| Heat-Off-Cool-Auto | On-Auto | 3ZP74 | | Battery | Yes | 4 | 7 | 1 | 1 |

## THERMOSTAT ORDERING DATA

| Thermostat Type | Color | Dimensions (In.) H | W | D | Maple Chase Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Heat/Cool** | White | 3 3/4 | 5 1/2 | 1 5/16 | 09600 | **3GD27*** | $49.99 | **$41.95** | 0.6 |
| **Heat/Cool** | White | 3 3/4 | 5 1/2 | 1 5/16 | 09610 | **3GD28** | 63.78 | **53.25** | 0.7 |
| **Heat/Cool** | White | 4 3/16 | 7 | 1 7/16 | 09700-1 | **3ZP74** | 123.71 | **102.70** | 1.4 |

(*) 3GD27 not for heat pump applications.

# HEAT PUMP THERMOSTATS

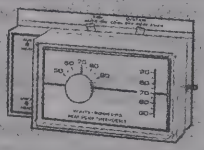
## NON-PROGRAMMABLE HEAT PUMP THERMOSTATS

**NOS. 4E034, 3TZ48, AND 3TZ49 FEATURE:**

- 24VAC operation
- Dual mercury bulb design on a single bimetal coil
- Nos. 4E034 and 3TZ48 energize reversing valve in cooling mode only
- No. 3TZ49 energize reversing valve in heating or cooling mode
- Manual change-over
- Emergency heat provides source of heat other than heat pump's compressor (typically electric resistance heat)

**NO. 2E856 FEATURES:**

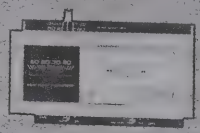
- Manual changeover
- Indicators: Emergency Heat, Auxiliary Heat and Check LED to indicate compressor failure



No. 4E034
Subbase
Included



No. 2E974
No Subbase
Required



No. 2E856
Subbase
Included

Honeywell

### HEAT PUMP THERMOSTAT SPECIFICATIONS DATA

| Switching System | Fan | Stock No. | Temp. Range (°F) | Stages Heat | Stages Cool | Anticipation Heating Stage 1 (fixed) | Anticipation Heating Stage 2 | Anticipation Cooling Stage 1 (fixed) |
|---|---|---|---|---|---|---|---|---|
| Emergency, Heat-Off-Cool | Auto-On | 4E034 | 50-90 | 2 | 1 | 0.15-1.0A | 0.15-1.0A | 0-1.5A |
| Emergency, Heat-Off-Cool | Auto-On | 3TZ48 | 50-90 | 2 | 1 | 0.15-1.0A | 0.15-1.0A | 0-1.5A |
| Emergency, Heat-Off-Cool | Auto-On | 3TZ49 | 50-90 | 2 | 1 | 0.15-1.0A | 0.15-1.0A | 0-1.5A |
| Emergency Heat, Heat-Off-Cool | Auto-On | 2E974 | 45-85 | 2 | 1 | 0-1.5A | 0.1-1.2A (adj.) | — |
| Emergency Heat, Heat-Off-Cool | Auto-On | 2E856 | 42-88 | 2 | 1 | 0-1.0A | 0-1.0A (fixed) | — |

### HEAT PUMP THERMOSTAT ORDERING DATA

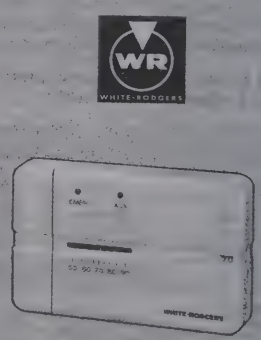
| Type | Color | Dimensions (In.) H | W | D | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Heating-Cooling** | Beige w/brass faceplace | 3 3/4 | 5 3/4 | 2 1/8 | White-Rodgers | 1F58-58 | **4E034** | $131.03 | **$41.60** | 0.7 |
| **Heating-Cooling** | White | 3 3/4 | 5 3/4 | 2 1/8 | White-Rodgers | 1F58W-58 | **3TZ48** | 131.07 | **42.15** | 0.7 |
| **Heating-Cooling** | White | 3 3/4 | 5 3/4 | 2 1/8 | White-Rodgers | 1F58W-72 | **3TZ49** | 131.07 | **42.15** | 0.7 |
| **Heating-Cooling** | Beige | 3 1/2 | 5 1/4 | 2 1/16 | Honeywell | T841A1050 | **2E974** | 114.90 | **45.20** | 0.6 |
| **Heating-Cooling** | Beige w/ brushed gold | 3 9/16 | 5 5/8 | 2 9/16 | Honeywell | Y594R1425 | **2E856** | 176.98 | **76.50** | 0.9 |

## ELECTRONIC NON-PROGRAMMABLE HEAT PUMP THERMOSTAT

**WHITE-RODGERS THERMOSTAT FEATURES:**

- Thermostat design eliminates the need for an outdoor thermistor
- Microcomputer based design provides digital accuracy
- Rotary temperature dial
- Mercury-free design
- Low profile design and soft white color
- Adjustable compressor cycle rate

**ELECTRICAL RATINGS: 18-30VAC; 0.01 to 1.5 amps (load per terminal) 2.5 amps max. total load (all terminals combined)**



No. 1N176

### HEAT PUMP THERMOSTAT SPECIFICATIONS DATA

| Switching System | Fan | Temp. Range (°F) | Stages Heat | Stages Cool | Rated Differential (Adjustable) Heating Stage 1 (°F) | Heating Stage 2 (°F) | Cooling (°F) |
|---|---|---|---|---|---|---|---|
| Cool-Off-Heat, Emergency Heat | Auto-On | 40-90 | 2 | 1 | 1.3 (max.) | 0.9 (max.) | 1.3 (max.) |

### HEAT PUMP THERMOSTAT ORDERING DATA

| Type of Thermostat | Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Heating-Cooling** | 3 1/2 | 5 1/2 | 1 | 1F59-11 | **1N176** | $82.84 | **$43.50** | 0.6 |

# PROGRAMMABLE HEAT PUMP THERMOSTATS

**WHITE-RODGERS THERMOSTATS FEATURE:**

- Automatically raise or lower temperature at preselected times
- LCD displays set point temperature and system mode continuously; time and room temperature alternately
- Temperature adjustment keys allow for a 2 hour manual override
- Remote sensing capabilities on all models, except No. 4DG49; Order remote sensor, No. 4E726 or 4DG57 on page 3321
- EMR™ (Energy Management Recovery) automatically calculates when to begin raising or lowering temperature in order to reach programmed temperature at preset time
- Compressor short cycle protection
- CSA Certified (LR27935)

ELECTRICAL RATINGS: 20-30VAC 50/60 Hz; 0.01-1.5 Amps (normal load) 0.01-2.5 Amps (total combined load)



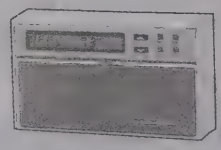
No. 4DG49

## HEAT PUMP THERMOSTAT SPECIFICATIONS DATA

| Switching System | Fan | Stock No. | Power Method | Battery Backup | Temp. Range, °F | Temp. Setting per Day | Programs per Week | Stages Heat | Stages Cool |
|---|---|---|---|---|---|---|---|---|---|
| Cool-Off-Heat-Emergency Heat | On-Auto | 4DG49 | 24V | Yes | 45-90 | 4 | 2 | 2 | 1 |
| Auto-Heat-Emergency Off-Cool | On-Auto | 4E949 | 24V | Yes | 40-99 | 4 | 2 | 3 | 2 |
| Auto-Heat-Emergency Off-Cool | On-Auto | 4E660 | 24V | Yes | 40-99 | 4 | 2 | 3 | 2 |
| Auto-Heat-Emergency Off-Cool | On-Auto | 4E663 | 24V | Yes | 40-99 | 4 | 7 | 3 | 2 |

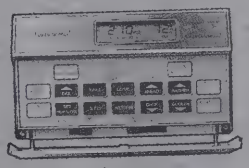
## HEAT PUMP THERMOSTAT ORDERING DATA

| Thermostat Type | Battery Included | Program. Fan Feature | Key Pad Lockout | Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Heat-Cool** | Yes | Yes | No | 4 1/2 | 6 3/4 | 1 3/8 | 1F82-51 | **4DG49** | $125.57 | **$63.20** | 1.1 |
| **Heat-Cool** | Yes | Yes | No | 3 3/4 | 6 1/2 | 1 3/4 | 1F92W-71 | **4E949** | 302.32 | **151.25** | 1.2 |
| **Heat-Cool** | Yes | Yes | No | 3 3/4 | 6 1/2 | 1 3/4 | 1F92-71 | **4E660** | 290.89 | **149.15** | 1.1 |
| **Heat-Cool** | Yes | No | Yes | 3 3/4 | 6 1/2 | 1 3/4 | 1F94-71 | **4E663** | 352.89 | **183.00** | 1.1 |



Nos. 4E660 and 4E663

**Honeywell**



No. 4E189
Subbase Included

**HONEYWELL THERMOSTAT FEATURES:**

- Automatically raises or lowers temperature at preselected times
- LCD indicates time-of-day, day-of-week, current program period and room temperature
- Temporary program override available
- "Hold Temp" key provides programmable override for vacations and holidays
- Manual or auto change-over

ELECTRICAL RATINGS: 15-30 VAC; 1.6A max.

## HEAT PUMP THERMOSTAT ORDERING DATA

| Thermostat Type | Battery Included | Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Heat-Cool** | Yes | 5 5/16 | 7 | 1 3/4 | T8611R1000 | **4E189†** | $263.46 | **$145.65** | 1.1 |

(† Limited availability; contact or call branch

## HEAT PUMP THERMOSTAT SPECIFICATIONS DATA

| Switching System | Fan | Power Method | Battery Back-up | Temp. Range, °F | Temp. Settings per Day | Programs per Week | Stages Heat | Stages Cool |
|---|---|---|---|---|---|---|---|---|
| Emergency Heat, Heat-Off-Cool | Auto-On | 24V | Yes | 45-88 | 4 | 7 | 2 | 1 |

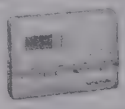
**MAPLE CHASE THERMOSTATS FEATURE:**

- Emergency heat switch
- Compatible with all standard 24VAC heat pumps—up to 2-stage heat/2-stage cool
- Battery powered microprocessor allows replacement of all standard 24VAC thermostats
- Energy Efficient Recovery (EER™) mode
- Automatic compressor short-cycle protection
- Remote sensor capable: averages up to 4 thermistor sensor inputs (including thermostat sensor). Part No. 09015 available from Grainger Parts Operations, Call 1-800-323-0620

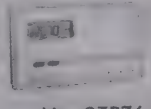
**MAPLE/CHASE™**

**MAPLE CHASE 5-YEAR LIMITED WARRANTY**

Text of warranty available upon request. See "Manufacturers' Warranty" on page opposite inside back cover.



No. 3GD29



No. 3ZP76

## HEAT PUMP THERMOSTAT ORDERING DATA

| Thermostat Type | Battery Included | Dimensions, (In.) H | W | D | Maple Chase Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Heat-Cool** | Yes | 3 1/4 | 5 1/2 | 1 5/16 | 09020 | **3GD29** | $68.91 | **$57.45** | 0.7 |
| | Yes | 3 1/4 | 5 1/2 | 1 5/16 | 09720 | **3ZP76** | 150.17 | **124.80** | 1.4 |

## HEAT PUMP SPECIFICATIONS

| Switching System | Fan | Stock No. | Power Method | Temp. Range (°F) | Temp. Settings per Day | Programs per Week | Stages Heat | Stages Cool |
|---|---|---|---|---|---|---|---|---|
| Emergency-Heat-Off-Cool | Auto On | **3GD29** | Battery | 45-90 | 4 | 7 | 2 | 2 |
| Auto-Emergency Heat- Heat-Off-Cool | | **3ZP76** | 24V | 45-90 | 4 | 7 | 3 | 2 |

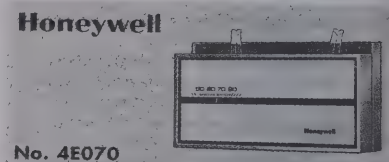
# MULTI-STAGE THERMOSTATS

## HONEYWELL ELECTROMECHANICAL MULTI-STAGE THERMOSTATS

**Features:**

- Coiled bimetal elements operate mercury switches
- Dimensions are 3 9/16H x 5 5/8W x 2 3/16"D
- Includes thermometer
- Subbases sold separately below
- Honeywell brand

**TEMPERATURE RANGE: 42-88°F**
**ELECTRICAL RATING: 24-27VAC**




No. 4E070

### THERMOSTAT SPECIFICATIONS DATA

| Type | Fan | Application | Stock No. | Subbase | Stages Heat | Stages Cool | Anticipator Range Heating (adj.) Stage 1 | Heating (adj.) Stage 2 | Cooling (fix) Stage 1 | Cooling (fix) Stage |
|---|---|---|---|---|---|---|---|---|---|---|
| Heat-Auto-Cool<br>Heat-Off-Cool<br>Off-Heat-Auto-Cool | On-Auto<br>On-Auto<br>On-Auto | Gas, oil, and electric 24V systems with independently controlled fan in heat mode | 4E070 | 4E073<br>4E074<br>4E075 | 1 | 1 | 0.1-1.2 | — | 0-1.5 | — |
| Heat-Auto-Cool<br>Heat-Off-Cool<br>Off-Heat-Auto-Cool | On-Auto<br>On-Auto<br>On-Auto | | 4E071 | 4E073<br>4E074<br>4E075 | 2 | 1 | 0.1-1.2 | 0.1-1.2 | 0-1.5 | — |
| Heat-Auto-Cool<br>Heat-Off-Cool<br>Off-Heat-Auto-Cool | On-Auto<br>On-Auto<br>On-Auto | | 4E072 | 4E073<br>4E074<br>4E075 | 2 | 2 | 0.1-1.2 | 0.1-1.2 | 0-1.2 | 0-1.0 |

### THERMOSTAT ORDERING DATA

| Type | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Heating-Cooling*** | T874A1036 | **4E070** | $141.54 | **$64.40** | 0.5 |
| **Heating-Cooling** | T874C1018 | **4E071** | 192.39 | **90.10** | 0.6 |
| **Heating-Cooling** | T874D1165 | **4E072** | 220.67 | **103.30** | 0.8 |

(*) Includes locking cover and locking lever assembly.

### SUBBASES FOR THERMOSTATS ABOVE

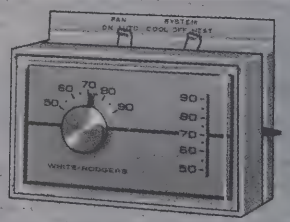
| Type | System | Honeywell Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|
| **Heating-Cooling** | Heat-Auto-Cool | Q674A1019 | **4E073** | $29.13 | **$20.53** | 0.2 |
| **Heating-Cooling** | Heat-Off-Cool | Q674B1034 | **4E074** | 29.13 | **20.53** | 0.2 |
| **Heating-Cooling** | Off-Heat-Auto-Cool | Q674E1049 | **4E075** | 32.55 | **22.37** | 0.3 |

## WHITE-RODGERS MULTI-STAGE THERMOSTAT

**Features:**

- Single bimetal construction
- Dust-proof sealed mercury cells for reliable operation
- Controls up to 2 stages of heat and 2 stages of cooling
- Switching subbase included
- Manual system changeover

**TEMPERATURE RANGE: 50 to 90°F**
**ELECTRICAL RATING: 30 VAC maximum**



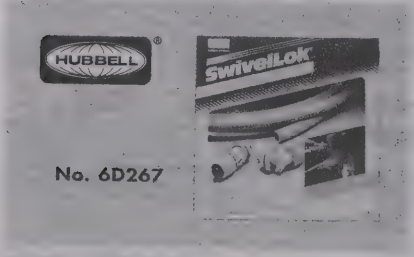

No. 1N175

### THERMOSTAT SPECIFICATIONS DATA

| Switching System | Fan | Application | Stock No. | Stages Heat | Stages Cool | Anticipation Heating Stage 1 | Heating Stage 2 | Cooling Stage 1 | Cooling Stage 2 |
|---|---|---|---|---|---|---|---|---|---|
| **Heat-Off-Cool** | Auto-On | Gas or Oil | 1N175 | 2 | 2 | 0.15 to 1.2 amps (adj.) | Non-anticipated | 0 to 1.5 amps (fixed) | Non-anticipate |

### THERMOSTAT ORDERING DATA

| Type | Dimensions (In.) H | W | D | White-Rogers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Heating-Cooling** | 2¾ | 4½ | 2 | 1F57-306 | **1N175** | $114.88 | **$49.15** | 0.6 |




No. 6D267

## FLEXIBLE CONDUIT KITS

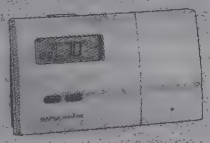
SwivelLok™ Flexible conduit kits contain 2 SwivelLok multi-position nylon connectors and 6 ft. of Polytuff I liquidtight, flexible, nonmetallic conduit. This kit offers a convenient way to make short connections to air conditioners, hot tubs, and other outside electrical equipment. Available in 1/2" and 3/4" trade sizes. Corrosion-resistant. UL Listed for outside use. Hubbell-Kellems brand.

**No. 6D267** 1/2" Kit contains 2 gray SwivelLok connectors and 6' PolyTuff I conduit Kellems brand (PS05GY-KIT). Shpg. wt. 1.2 lbs. List $13.86. Each.....$11.0

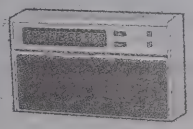
**No. 6D268** 3/4" Kit contains 2 gray SwivelLok connectors and 6' PolyTuff I conduit Kellems brand (PS07GY-KIT). Shpg. wt. 1.7 lbs. List $21.76. Each.....$17.4

# MULTISTAGE PROGRAMMABLE ELECTRONIC THERMOSTATS

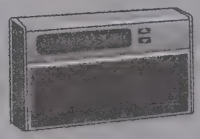
## MAPLE/CHASE™



No. 3ZP75



No. 4E661



Nos. 4E662 aned 1N178

**MAPLE CHASE THERMOSTAT, NO. 3ZP75, FEATURES:**

- QuickSet™ programming mode makes daily programming easy
- Auto-changeover feature with installer override switch
- Energy Efficient Recovery (EER™) mode automatically calculates when to begin recovery period
- Adjustable second stage differential for maximum system control
- Programmable fan feature allows independed programming of fan operation to meet commercial code requirements
- Residual cooling fan feature allows user to program up to 90 second delay on break during cool mode
- NiteView™ LCD display backlight
- Temporary override for up to 4 hours to meet commercial code requirements
- Remote sensor capable—averages up to 4 thermistor sensor inputs (including thermostat sensor) parts number 09015 from GPO 1-800-323-0620

**ELECTRICAL RATINGS: 24 VAC (18-30VAC); 1.5 amp maximum load per terminal (relay outputs), 4 amp total maximum load (all terminals combined)**

**WHITE-ROGERS THERMOSTATS, NOS. 4E661, 4E662, 1N178, FEATURE:**

- Automatically raise or lower temperature at preselected times
- LCD displays set point and system mode continuously; time and room temperature alternately
- 2-hour manual program override
- "Hold" key provides indefinite program override
- Remote sensing capabilities up to 200 ft. (Remote sensors sold separately below). 3-Conductor wire not included
- EMR™ (Energy Management Recovery) automatically calculates when to begin raising or lowering the temperature in order to reach programmed temperature at preset time (optional on No. 1N178)
- No. 4E662 has automatic system changeover only; Nos. 4E661 and 1N178 offer optional automatic or manual system change-over (installer adjusted)
- No. 1N178 has an "A" terminal energized during the occupied mode for fresh air damper control
- No subbase required

**Note: These controls are designed for use where both the "hot" and "common" sides of the 24VAC are supplied to the thermostat**

**ELECTRICAL RATINGS: 20-30VAC; 0.01 to 1.5 amps (normal load), 0.01 to 2.5 amps (total combined load)**

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

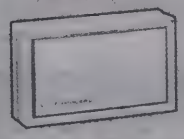
## THERMOSTAT SPECIFICATIONS DATA

| Switching System | Fan | Stock No. | Application | Temp. Range (°F) | Power Method | Battery Backup | Key Pad Lockout | Temp Setting per Day | Programs per Week | Stage Heat | Stage Cool |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Heat-Off-Cool-Auto | On-Auto | 3ZP75 | Gas, oil, electric 24V multi-stage systems | 45 - 90 | 24V | Yes | Yes | 4 | 7 | 3 | 2 |
| Heat-Off-Cool-Auto | On-Auto | 4E661 | Gas, oil, electric | 40 - 99 | 24V | Yes | No | 4 | 2 | 3 | 2 |
| Heat-Off-Cool-Auto | On-Auto | 4E662 | | 40 - 99 | 24V | Yes | Yes | 2 | 7 | 3 | 2 |
| Heat-Off-Cool-Auto | On-Auto | 1N178 | | 40 - 99 | 24V | Yes | Yes | 2 | 7 | 2 | 2 |

## THERMOSTAT ORDERING DATA

| Thermostat Type | Battery Included | Program Fan Feature | Remote Sensing | Dimensions (In.) H | W | D | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Heating-Cooling | Yes | Yes | Yes | 4 3/16 | 7 | 1 7/16 | Maple Chase | 09710-1 | 3ZP75 | $141.35 | $117.25 | 1.4 |
| Heating-Cooling | Yes | Yes | Yes | 3 3/4 | 6 1/2 | 1 3/4 | White-Rodgers | 1F91-71 | 4E661 | 295.20 | 149.25 | 1.5 |
| Heating-Cooling | Yes | Yes | Yes | 3 3/4 | 6 1/2 | 1 3/4 | White-Rodgers | 1F95-71 | 4E662 | 311.54 | 156.75 | 1.5 |
| Heating-Cooling | Yes | Yes | Yes | 3 3/4 | 6 1/2 | 1 3/4 | White-Rodgers | 1F95-80 | 1N178 | 340.98 | 169.50 | 1.5 |

## REMOTE SENSORS FOR SELECTED WHITE-RODGERS THERMOSTATS



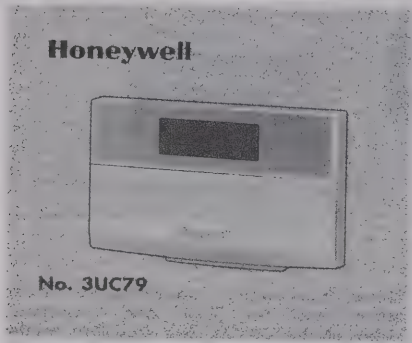
Nos. 4E726 and 4DG57

For use in applications where it is desirable to locate sensing device in an area remote from the thermostat. Can be located up to 200 ft. from the thermostat. For indoor use only. 18 gauge, 3-conductor thermostat. Use with thermostat Nos. 4E171, 4E172, 4E660, 4E661, 4E662, 4E663, 1N178, 1N179, 3TZ52, 3TZ54, and 4E949. Cable not included. Measures 4½W x 2¾H x 1½"D.

| Color | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Beige with gold faceplate | F145-1049 | 4E726 | $37.95 | $29.80 | 0.2 |
| White | F145-1170 | 4DG57 | 37.60 | 25.05 | 0.9 |

# PROGRAMMABLE COMMERCIAL THERMOSTATS, ELECTRONIC THERMOSTATS & SENSORS

## PROGRAMMABLE COMMERCIAL THERMOSTATS



No. 3UC79

**Application:** Used to control 24VAC multi-stage commercial single zone heating, ventilating and air conditioning equipment.

- 7-day flexible programming with 2 occupied/unoccupied periods per day
- Installer self-test mode simplifies troubleshooting
- Individual heat and cool setpoints available for each period
- Proportional plus integral (P+I) control eliminates temperature fluctuation
- Convenient override allows temporary setpoint changes
- Intelligent Recovery® algorithm automatically optimizes start time depending on building load
- Reversing valve operation configurable in heat pump models
- Automatic changeover from heat/coo
- Locking setpoint prevents tampering
- Three hour override

**OUTPUT RELAY CONTACT RATINGS AT 30 VAC**

| Relay | Running (A) | Inrush (A) |
|---|---|---|
| Fan | 1.6 | 3.5 |
| Heat (all stages) | 1.6 | 3.5 |
| Cool (all stages) | 1.6 | 7.5 |
| Auxiliary (economizer) | 1.6 | 3.5 |

### THERMOSTAT AND SUBBASE SPECIFICATIONS

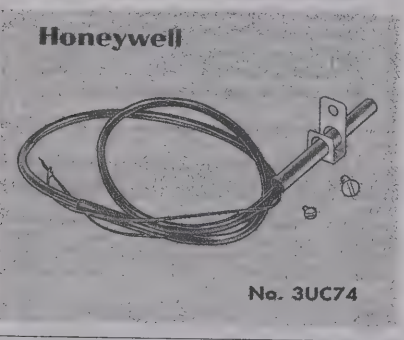
| Electrical Rating, 50/60 Hz | System Current Draw @ 30VAC | Operating Ambient Temperature Range (°F) | Setpoint Temperature Range (°F) | Setpoint Differential (°F) | Humidity Ratings, Noncondensing | Thermostat Approximate Dimensions (In.) H | W | D | Subbase Approximate Dimensions (In.) H | W | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24± 10% VAC | 6 VA maximum | 40 - 110 | 45 - 95 | 2 | 5% to 90% rh | 5 | 7 5/16 | 7/8 | 4 3/4 | 6 3/4 | 13/16 |

### THERMOSTAT & SUBBASE ORDERING DATA

| Item | Application | Color | Honeywell Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| **Thermostat** | Conventional heat and cool system† | Taupe | T7300D2007 | **3UC79†** | $234.15 | **$149.30** | 0.8 |
| **Thermostat** | Heat pump heat and cool system† | Taupe | T7300E2020 | **3UC82†** | 234.76 | **149.25** | 0.8 |
| **Subbase** | Conventional 1-stage heat and 1-stage cool system | Taupe | Q7300A2008 | **3UC36** | 73.86 | **46.85** | 0.4 |
| **Subbase** | Conventional 2-stage heat and 2-stage cool system* | Taupe | Q7300A2016 | **3UC37** | 144.93 | **92.05** | 0.4 |
| **Subbase** | Heat pump 2-stage heat and 1-stage cool system* | Taupe | Q7300C2004 | **3UC40** | 141.57 | **90.20** | 0.4 |
| **Subbase** | Heat pump 3-stage heat and 2-stage cool system* | Taupe | Q7300C2012 | **3UC41** | 215.98 | **137.50** | 0.4 |
| **Subbase** | Heat pump 3-stage heat and 2-stage cool system | Taupe | Q7300C2053 | **3UC44** | 217.03 | **137.95** | 0.8 |
| **Subbase** | Conventional 3-stage heat and 3-stage cool system* | Taupe | Q7300G2005 | **3UC46** | 213.82 | **135.95** | 0.8 |

(*) Includes terminals for economizer hookup. (†) Must be used with subbase

## ELECTRONIC RETURN AIR TEMPERATURE SENSOR



No. 3UC74

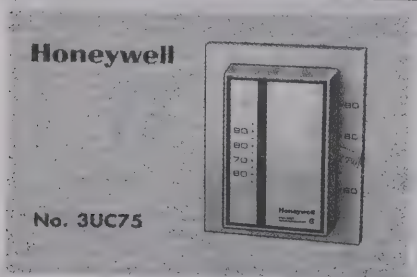
**Application:** Use to sense return air temperature. For use with thermostats above.

- Senses air temperature and sends modulating resistance signal to electronic transmitter or electronic sequencer
- Calculates setpoint at electronic transmitter or sequencer
- Includes mounting bracket and screws to mount to return air stream
- Requires continuous fan

### ELECTRONIC RETURN AIR TEMPERATURE SENSOR ORDERING DATA

| Temperature Sensor | Operating Temperature Range (°F) | Standard Insertion, (In.) | Sensor Resistance in ohms nominal at 75°F | Honeywell Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **Thermistor-resistor element, negative temp. coefficient** | 60 - 90 | 2 3/4 | 1420 | T7022A1010 | **3UC74** | $93.97 | **$59.80** | 1.0 |

## ELECTRONIC TEMPERATURE SENSORS



No. 3UC75

Use with T-7300 thermostats shown above for remote temperature sensing and/or averaging temperature.

- Thermistor sensor element
- Screws provided to mount on wall or 2 x 4" vertical outlet box

Approximate Case Dimensions (models with thermometer and external setting lever): 4 5/8"H, 3 5/8"W, 1 5/16"D.

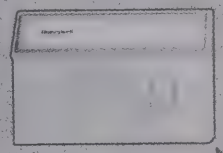
### ELECTRONIC SPACE THERMOSTAT/SENSOR ORDERING DATA

| Description | Sensor Resistance at 75°F | Sensitivity in ohms per °F | Color | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2-wire sensor; use with Honeywell T775** | 1420 ohms nominal | 15 | Taupe | T7047C2007 | **3UC75** | $88.58 | **$56.55** | 0.3 |
| **2 wire dual thermistor sensor for averaging; Use with t7300** | 710 ohms | 7.5 | Beige | T7047G2008 | **3UC77** | 106.09 | **67.40** | 0.1 |

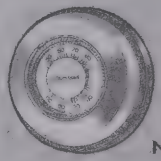
# THERMOSTAT GUARDS

## ONEYWELL CUSTOM GUARDS
## ATURE:

- Custom made to fit specific thermostats
- No measuring required
- Thermostat Nos. 2E777 & 2E975 must be mounted on a Honeywell Q539 subbase, sold separately on page 3311



No. 4E293

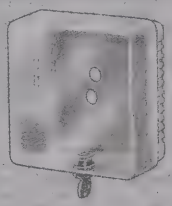


No. 2E777

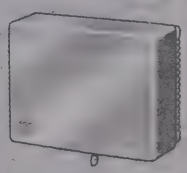
| Description | For Use With Thermostat | Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| eige, Plastic | Honeywell—T8600, T8601, T8602 T8603, T8611, T8621 Grainger—4E292, 4E089, 4E090, 4E091, 4E187 | 4 15/16 | 7 3/16 | 1 1/8 | TG586A1000 | 4E293 | $47.58 | $30.60 | 0.5 |
| ey Lock Cover with Window | Honeywell— T87F1859, T87F2873 (with date code after 7626) Grainger— 2E096, 4E087 | 4 1/32 dia. x 2 | | | TG587F1008 | 2E777 | 52.44 | 21.46 | 0.5 |
| ey Lock Cover without Window | | | | | TG587F1016 | 2E975 | 52.44 | 21.46 | 0.1 |

## ONEYWELL UNIVERSAL GUARDS FEATURE:

- Protect virtually any thermostat including Honeywell, White-Rodgers, and Robertshaw
- Nos. 4E646, 4E648 and 4E651 can also be mounted on exposed J-box; includes mounting hardware
- Patented double wall design provides vents in the base to allow for optimal thermostat performance while second inner wall prevents most tampering
- Include solid wallplate, ring base, and two keys; units of the same model are keyed alike
- Mounts horizontally or vertically



No. 4E644

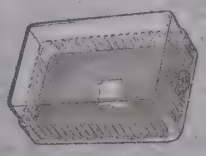



No. 4E651

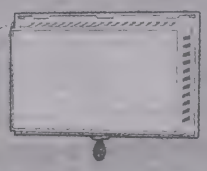
| Description | Inside Dimensions (In.) H | W | D | Outside Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Clear | 4 7/16 | 4 7/16 | 2 1/4 | 5 7/8 | 5 7/8 | 2 1/2 | TG510A1001 | 4E644 | $27.97 | $20.38 | 0.9 |
| Opaque | 4 7/16 | 4 7/16 | 2 1/4 | 5 7/8 | 5 7/8 | 2 1/2 | TG510B1009 | 4E645 | 26.09 | 19.00 | 0.9 |
| Metal | 4 7/16 | 4 7/16 | 2 1/4 | 5 11/16 | 5 11/16 | 2 7/16 | TG510D1005 | 4E646 | 33.17 | 23.64 | 1.3 |
| Clear | 5 1/16 | 6 1/16 | 2 5/8 | 6 1/2 | 7 1/2 | 2 15/16 | TG511A1000 | 2E430 | 26.08 | 19.00 | 1.3 |
| Opaque | 5 1/16 | 6 1/16 | 2 5/8 | 6 1/2 | 7 1/2 | 2 15/16 | TG511B1008 | 4E647 | 26.10 | 19.00 | 1.3 |
| Metal | 5 1/16 | 6 1/16 | 2 5/8 | 6 3/8 | 7 3/8 | 2 7/8 | TG511D1004 | 4E648 | 35.54 | 26.65 | 1.6 |
| Clear | 5 7/8 | 8 3/8 | 3 | 7 1/4 | 9 3/4 | 3 3/8 | TG512A1009 | 4E649 | 28.58 | 19.52 | 1.8 |
| Opaque | 5 7/8 | 8 3/8 | 3 | 7 1/4 | 9 3/4 | 3 3/8 | TG512B1007 | 4E650 | 28.58 | 19.52 | 1.8 |
| Metal | 5 7/8 | 8 3/8 | 3 | 7 1/8 | 9 5/8 | 3 1/4 | TG512D1003 | 4E651 | 42.64 | 30.65 | 2.4 |

## WHITE-RODGERS UNIVERSAL GUARDS
## EATURE:

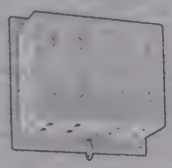
- Protect virtually any thermostat including Honeywell, White-Rodgers, and Robertshaw
- All solid base guards can be mounted on an exposed J-box; includes mounting hardware
- Tamper-resistant design and reliability
- Includes 2 keys; all White-Rodgers thermostat guards are keyed alike
- Mount vertically or horizontally



Nos. 3TZ57, 2E379, 2E999 and 2E706



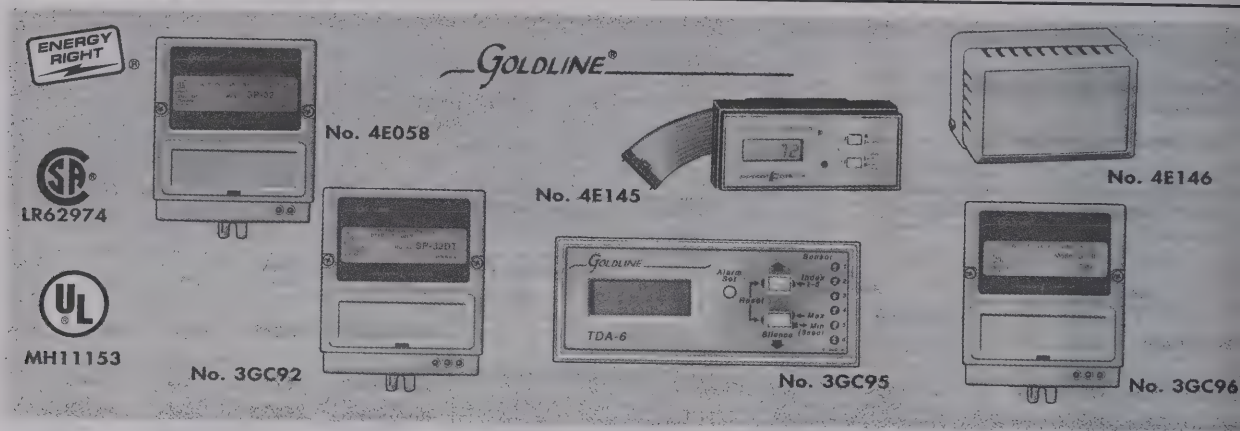
Nos. 4E018



Nos. 3TZ58, 2E602, 2E601, 2E851 and 2E850

| Material | Finish | Base(s) Included | Hinged | Inside Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Plastic | Clear | Solid | No | 3 7/8 | 3 1/2 | 2 1/2 | F29-0225 | 3TZ57 | $25.33 | $14.14 | 0.8 |
| Plastic | Clear | Solid & Ring | No | 3 1/2 | 6 5/8 | 3 | F29-0143 | 2E379 | 25.34 | 14.07 | 0.8 |
| Plastic | Clear | Solid & Ring | No | 4 1/4 | 7 5/8 | 2 1/8 | F29-0231 | 2E999 | 27.31 | 15.32 | 1.0 |
| Plastic | Clear | Solid & Ring | No | 5 5/8 | 8 1/4 | 3 1/2 | F29-0198 | 2E706 | 30.15 | 15.99 | 1.4 |
| Plastic | Beige | Solid & Ring | No | 4 1/4 | 7 5/8 | 2 1/8 | F29-0232 | 4E018 | 27.31 | 15.32 | 1.2 |
| Metal | Beige | Solid | No | 3 1/2 | 3 7/8 | 2 1/2 | F29-0233 | 3TZ58 | 32.95 | 16.67 | 1.1 |
| Metal | Beige | Ring | Yes | 3 11/16 | 6 | 3 1/8 | F29-0193 | 2E602 | 42.15 | 20.90 | 1.6 |
| Metal | Beige | Solid | Yes | 4 3/4 | 6 1/4 | 3 | F29-0192 | 2E601 | 42.15 | 20.90 | 2.0 |
| Metal | Beige | Ring | No | 4 1/2 | 6 5/8 | 3 3/8 | F29-0222 | 2E851 | 47.30 | 24.83 | 2.0 |
| Metal | Beige | Solid | No | 4 5/8 | 7 1/8 | 3 1/4 | F29-0220 | 2E850 | 47.30 | 24.83 | 2.0 |

# TEMPERATURE CONTROLLERS AND ACCESSORIES




## ELECTRONIC TEMPERATURE CONTROLLERS

- **Remote sensor may be located 1000 ft. from controller with 18 AWG wire**
- **Adjustable setpoint and differential temperatures**
- **One well sensor, No. 4E147, included**

**Nos. 4E058 and 3GC93.** Single stage controllers can be used in refrigeration, air conditioning, heating and process control applications. Dimensions are 5⅝H x 4⅞W x 2⅜"D.

**Nos. 4E222 and 3GC94.** Two-stage controllers can be used in energy management, 2-stage heat, 2-stage cool, or single stage heat/single stage cool. Auto changeover. Dimensions are 5⅝H x 4⅞W x 1⅜"D. UL Listed. CSA Certified (LR62974).

| No. of Switches | Switch Action | Voltage Input (VAC) | Contact Rating @120VAC | Temp. Range (°F) Ambient | Temp. Range (°F) Setpoint | Temp. Setpoint Differential (°F) | Temp. Accuracy (°F) | Independent Energy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPDT | 24, 120 or 240 | 9.8A | -30 to 130 | -26 to 90 | 1 to 25 | ±1 | SP-32 | ✓4E058 | $95.06 | **$55.95** | 1.6 |
| 1 | SPDT | 24, 110 or 220 | | | 90 to 200 | 1 to 25 | ±1 | SP-34 | ✓3GC93 | 78.52 | **56.15** | 2.0 |
| 2 | SPDT | 24, 120 or 240 | 9.8A | -30 to 130 | -26 to 90 | 1 to 25 | ±1 | SP-322 | ✓4E222 | 162.93 | **93.00** | 1.8 |
| 2 | SPDT | 24, 110 or 220 | | | 90 to 200 | 1 to 25 | ±1 | SP-342 | ✓3GC94 | 128.15 | **91.30** | 2.0 |

(✓) Denotes energy efficient product.

## TEMPERATURE CONTROLLER ACCESSORIES FOR GOLDLINE/INDEPENDENT ENERGY BRAND ONLY

| Item | Description | Dimensions (In.) L | H | D | Use with Controllers | Independent Energy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Snap-In Temperature Display Module** | Continuous display (°C or °F); Indication range -26 to 226°F | 4¼ | 1¾ | 1⅝ | 3GC93, 3CG94 4E058 or 4E222 | TD-SP | **4E145** | $108.24 | **$63.50** | 0.4 |
| **Wall Mount Sensor Housing** | Off-White Cover; Slotted for Ventilation | 3 | 2 | 1¼ | | SH-1 | **4E146** | 24.03 | **15.94** | 0.3 |

## 10K OHM THERMISTOR SENSORS

| Sensor Type | Length (In.) | Leads* Description | Temp. Range (°F) | Accuracy (°F) | Independent Energy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Well*** | 10 | 18 AWG Stranded; Silicon Insulated | -40 to 400 | ±0.5 | SW | **4E147** | $14.81 | **$9.50** | 0.1 |
| **Bolt-On** | 10 | | -40 to 400 | ±0.5 | SB | **4E148** | 14.45 | **9.00** | 0.1 |
| **Duct** | 10 | | -40 to 400 | ±0.5 | SD | **4E149** | 21.71 | **14.13** | 0.1 |

(*) Included with Nos. 4E058, 4E222, 3GC93 and 3GC94 (well supplied by customer).

## REFRIGERATION TEMPERATURE CONTROL WITH DEFROST TIMER

| Setpoint Range (°F) | Adjustable Differential (°F) | Temp. Accuracy (°F) | Defrost Timer Selectable Intervals (Hr.) | Defrost Timer Selectable Modes | Defrost Timer Adj. Time Termination (Min.) | Defrost Timer Adj. Temp. Termination (°F) | Independent Energy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **-26 to 90** | 1° to 25 | ±1 | 2 to 30 | Electric or Hot Gas | 15 to 60 | 40° to 70 | SP-32DT | **3GC92** | $146.54 | **$104.35** | 1.8 |

## SIX-POINT TEMPERATURE MONITOR WITH ALARM

| Voltage Input | Display Range (°F) | Alarm Audible | Alarm Visual | Alarm Output | Sensor | Independent Energy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **24 VAC 50/60 Hz** | -50 to 250 | Horn | LED | Class 2, SPDT | Remote Temp. or 4-20 milliamp | TDA-6 | **3GC95** | $240.51 | **$172.25** | 1.0 |

## SOLAR DIFFERENTIAL TEMPERATURE CONTROL

| System Switch | Output Rating (A) | Adj. Differential (°F) | Temp. Accuracy (°F) | Independent Energy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **On, Auto, Off** | 20 | 8-24 | ±1 | GL-30 | **3GC96** | $109.29 | **$78.10** | 2.0 |

# ELECTRONIC TEMPERATURE CONTROLLERS

**plication:** Used to provide on/off, modulating or reset control in applications where ectronic accuracy and remote sensing is desired. Uses include On/Off control for fans, otors and heaters, outdoor reset control of heating and cooling systems. Honeywell and.

- **Electronic control accuracy**
- **Linear platinum temperature sensor included**
- **Keypad allows precise temperature selection; easy on-finger programming**
- **Heating and cooling stages independently programmable**
- **LCD display for mode and sensed temperature**
- **Adjustable temperature range and differential**
- **Remote sensing up to 1000 ft. (Use 3UC75)**
- **±1°F temperature accuracy**
- **No. 3UC83 includes NEMA 4X enclosure**



Honeywell

Nos. 4E242 and 4E243

ENERGY RIGHT®



No. 3UC83



No. 3UC84

## ELECTRONIC REMOTE TEMPERATURE CONTROLLER SPECIFICATIONS

| No. of Relay Inputs | No. of Relay Outputs | Voltage Input VAC | Contact Ratings 120VAC | Contact Ratings 240VAC | Ambient Temp. Range, °F | Setpoint Range, °F | Adjustable Differential, °F | Stock No. |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 24/120/240 | 9.8A | 4.9A | -40 - 140 | -40 - 220 | 1 - 35 | 4E242 |
| 1 | 2 | 24/120/240 | 9.8A | 4.9A | -40 - 140 | -40 - 220 | 1 - 35 | 4E243 |
| 1 | 4 | 24/120/240 | 9.8A | 4.9A | -40 - 125 | -40 - 220 | 1 - 35 | 3UC83 |
| 1 | 1 | 24/120/240 | 9.8A | 4.9A | -40 - 140 | -40 - 220 | 1 - 35 | 3UC84 |
| 2 | 2 | 24/120/240 | 9.8A | 4.9A | -40 - 140 | -40 - 220 | 1 - 35 | 3UC85 |

## ELECTRONIC REMOTE TEMPERATURE CONTROLLER ORDERING DATA

| Model | Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| SPDT | 8½ | 4¾ | 2⅜ | T775A1001 | **4E242** | $383.52 | **$181.25** | 2.8 |
| SPDT | 8½ | 4¾ | 2⅜ | T775A1019 | **4E243** | 473.48 | **218.75** | 2.8 |
| SPDT | 9 | 6 | 3½ | T775C1009 | **3UC83** | 595.11 | **379.00** | 4.0 |
| Electronic Series 90* Reset† | 8½ | 4¾ | 2⅜ | T775E1015 | **3UC84** | 364.65 | **233.00** | 3.0 |
| | 8½ | 4¾ | 2⅜ | T775J1076 | **3UC85** | 659.98 | **420.00** | 3.0 |

(*) Denotes energy efficient product.
No. 3UC84 has a 2° to 30°F throttling range. (†) No. 3UC85 has adjustable reset ratio of 30:1 or 1:30.

## REPLACEMENT WATER RESISTANT SENSOR FOR UNITS ABOVE

**3TZ85.** 60 in. Liquid tight-fighting replacement sensor. Honeywell brand. (198212CA).
Shpg. wt. 1.0 lbs. List $106.54. Each ..... $74.70



No. 3ZP77

RANCO



No. 3ZP81

**Application:** User selectable heating/cooling modes for used in hundreds of commercial HVACR applications. Replaces most electromechanical and electronic temperature controls. Ranco brand.

- **Digital display allows simple and accurate setting of controls**
- **Diagnostic program checks for hardware, software, or system problems and displays different error codes for easy troubleshooting**
- **Keypad lockout switch prevents tampering**
- **EEPROM memory retains control settings during power outage**
- **On power up, time delay protects equipment from simultaneous restarts**
- **Contacts (NO) are 16A at 120 VAC; 8A at 208/240 VAC**
- **Contacts (NC) are 5.8A at 120 VAC; 2.9A at 208/240 VAC**

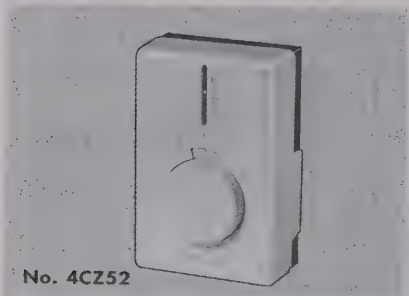
## TEMPERATURE CONTROL SPECIFICATIONS

| Switch Action | Sensor | 0 to 10V Output Impedance | Setpoint Range, °F | Differential Range, °F | Ambient Humidity |
|---|---|---|---|---|---|
| SPDT | Thermistor, 2-in. long x 1/4-in. dia. 8-ft. cable | 1 K ohms | -30 to 220 | 1 to 30 | 0 to 95% RH, noncondensing |

## ELECTRONIC TEMPERATURE CONTROL ORDERING DATA

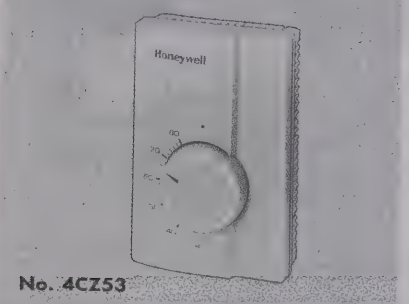
| Enclosure | No. of Stages | Voltage Input VAC | 0 to 10 Volt Output | Dimensions, (in.) H | W | D | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NEMA 1 | 1 | 120/208/240 | No | 6.52 | 2.7 | 2.48 | ETC-111000-000 | **3ZP77** | $68.47 | **$49.85** | 1.0 |
| NEMA 1 | 1 | 120/208/240 | Yes | 6.52 | 2.7 | 2.48 | ETC-111100-000 | **3ZP78** | 92.72 | **67.45** | 1.0 |
| NEMA 1 | 1 | 24 | No | 6.52 | 2.7 | 2.48 | ETC-112000-000 | **3ZP79** | 64.10 | **46.70** | 1.0 |
| NEMA 1 | 1 | 24 | Yes | 6.52 | 2.7 | 2.48 | ETC-112100-000 | **3ZP80** | 88.27 | **64.25** | 1.0 |
| NEMA 4X | 1 | 120/208/240 | No | 7.84 | 2.7 | 2.48 | ETC-141000-000 | **3ZP81** | 141.94 | **103.25** | 1.0 |
| NEMA 1 | 2 | 120/208/240 | No | 6.52 | 2.7 | 2.48 | ETC-211000-000 | **3ZP82** | 118.37 | **86.10** | 1.0 |
| NEMA 1 | 2 | 120/208/240 | Yes | 6.52 | 2.7 | 2.48 | ETC-211100-000 | **3ZP83** | 142.62 | **103.80** | 1.0 |
| NEMA 1 | 2 | 24 | No | 6.52 | 2.7 | 2.48 | ETC-212000-000 | **3ZP84** | 113.92 | **82.90** | 1.0 |
| NEMA 1 | 2 | 24 | Yes | 6.52 | 2.7 | 2.48 | ETC-212100-000 | **3ZP85** | 138.17 | **100.55** | 1.0 |
| NEMA 4X | 2 | 120/208/240 | No | 7.84 | 2.7 | 2.48 | ETC-241000-000 | **3ZP86** | 152.87 | **111.25** | 1.0 |

# ELECTRIC HEAT & LINE VOLTAGE THERMOSTATS



No. 4CZ52

Honeywell




No. 4CZ53

## DUAL-DIAPHRAGM ELECTRIC HEAT THERMOSTAT

- **For replacement and upgrade applications**
- **Unique dual diaphragm technology for precise, accurate temperature control**
- **Sensitive to 2°F temperature changes**

**Provides precise line voltage** control of resistive-rated electric heating equipment. Controls both fan-forced and baseboard electric heaters. Rugged, thermoplastic mounting base. Contoured, Euro-white cover. Honeywell brand.

## ELECTRONIC ELECTRIC HEAT THERMOSTAT

- **High performance and accuracy with 1°F temperature sensitivity and 5 to 7 cycles per hour**
- **Patented CoolSwitch™ technology reduces wear on contacts and provides longer themostat life**
- **2 wires (no need to pull a third wire for installation)**
- **Mounts directly on 2 x 4 outlet box**

Electronic non-programmable thermostat provides precise, accurate control of resistive-rated electric heating equipment. For high-end new construction or upgrades. LED indicator light on cover. White contoured design. Honeywell brand.

### ELECTRIC HEAT THERMOSTAT SPECIFICATIONS

| Switch Type | Sensing Element | Resistive Contact Ratings 120/208/240VAC | 240VAC | 277VAC | Temperature Range, °F | Diff. °F | Stock No. |
|---|---|---|---|---|---|---|---|
| SPST | Vapor-filled dual-diaphragm Thermistor | 22A | — | 19A | 50 - 80 | 2 | 4CZ52 |
| SPST | | — | 16A | — | 40 - 90 | 1 | 4CZ53 |

### ELECTRIC HEAT THERMOSTAT ORDERING DATA

| Thermostat Type | Dimensions, (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Dual-diaphram** | 4½ | 2⅞ | 2⅝ | T4398A1021 | **4CZ52** | $30.32 | **$17.16** | 0.5 |
| **Electronic** | 3¾ | 3⅛ | 2⅝ | T4800A1015 | **4CZ53** | 73.67 | **46.10** | 0.7 |

## CHRONOTHERM® PROGRAMMABLE LINE VOLTAGE THERMOSTAT

Honeywell




No. 5M209

Application: Used to provide line voltage electronic programmable temperature control of resistance-rated electric heating equipment, such as baseboards and fan-forced heaters.

- **Patented CoolSwitch™ electronic switch provides long life and reliable performance**
- **Easy to program using keys on the front cover**
- **Directly replaces any two-wire (spst), 240 Vac resistive-rated (up to 2500 watts) line voltage electrochemical or electronic thermostat**
- **User-selectable options for Time-of-day format (am/pm or 24 hour) and temperature scale (F/C)**
- **Conforms to NEMA Standard DC3 for scale accuracy**
- **Developed with assistance from the Electric Power Research Institute (EPRI), representing the electric power industry of the U.S.**

### CHRONOTHERM® LINE VOLTAGE THERMOSTAT SPECIFICATIONS

| Switch Type | Sensing Element | Electrical Ratings | Temperature Range (°F) | Temp. Settings Per Day | Differential (°F) | Accuracy (°F) |
|---|---|---|---|---|---|---|
| SPST patented CoolSwitch™ | Electronic Thermistor | 2500 watts maximum load | 45 to 80 | 4 | 1.0 | 2 Max. drop w/2500W load |

### CHRONOTHERM® LINE VOLTAGE THERMOSTAT ORDERING DATA

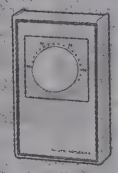
| Thermostat Type | Programs Per Week | Dimensions, (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Programmable line voltage** | 5 - 2 | 4¾ | 3⅛ | 1⅞ | T4600A1082 | **5M209** | $137.00 | **$87.35** | 0.5 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG O REVIEW THOUSANDS OF PRODUCTS!**

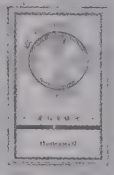
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# LINE VOLTAGE THERMOSTATS

## ELECTRIC HEAT LINE VOLTAGE THERMOSTATS



No. 4E036



No. 2E831

**APPLICATIONS:** Non-inductive electric heating loads; electric infrared; heat cable, electric baseboard or glass panels

**FEATURES:**

- **Self-cleaning slide action contact for noiseless operation**
- **Nos. 2E831 and 2E832 have a room thermometer**
- **UL Listed**

**MOUNTING:** Standard 2 x 4" electrical box

**ELECTRICAL RATINGS (Non-Inductive VAC)**

| Stock No. | 120VAC | 240VAC | 277VAC |
|---|---|---|---|
| 4E036 | 22 | 22 | 18 |
| 4DG48 | 22 | 22 | 18 |
| 4E037 | — | 22 | 18 |
| 4DG47 | — | 22 | 18 |
| 2E831 | 22 | 22 | 19 |
| 2E832 | 22 | 22 | 19 |

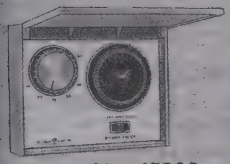
### LINE VOLTAGE THERMOSTAT ORDERING DATA

| Switch Type | Switch Action | Temp. Range (°F) | Diff. (°F) | Color† | Dimensions (In.) H | W | D | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPST | Open on Rise | 40-80 | 1 | Beige | 4 1/2 | 2 3/4 | 1 1/4 | White-Rodgers | 1A65-641 | 4E036 | $43.59 | $20.42 | 0.6 |
| SPST | Open on Rise | 40-80 | 1 | White | 4 1/2 | 2 3/4 | 1 1/4 | White-Rodgers | 1A65W-641 | 4DG48 | 43.57 | 20.46 | 1.3 |
| SPST* | Open on Rise | 40-80 | 1 | Beige | 4 1/2 | 2 3/4 | 1 1/4 | White-Rodgers | 1A66-641 | 4E037 | 48.71 | 24.40 | 0.6 |
| DPST* | Open on Rise | 40-80 | 1 | White | 4 1/2 | 2 3/4 | 1 1/4 | White-Rodgers | 1A66W-641 | 4DG47 | 48.69 | 24.61 | 1.3 |
| SPST | Open on Rise | 40-80 | 3 | Gold | 4 9/16 | 2 7/8 | 1 15/16 | Honeywell | T498A1778 | 2E831 | 52.83 | 24.91 | 0.4 |
| DPST* | Open on Rise | 40-80 | 3 | Gold | 4 9/16 | 2 7/8 | 1 15/16 | Honeywell | T498B1512 | 2E832 | 62.81 | 30.40 | 0.4 |

*) Double pole disconnect with "off" position which mechanically breaks both sides of line. (†) All have metal faceplates.

## LINE VOLTAGE SETBACK THERMOSTATS

Columbus Electric



No. 4E289

E46315

ENERGY RIGHT®

**APPLICATIONS:** Noninductive electric heating loads; electric baseboard, heat cable or ceiling panels.

**FEATURES:**

- **Automatically raises or lowers temperature at preselected times**
- **3-Position switch has option at full setback (12°F), half setback (6°F) or override with no setback**
- **Positive Off**
- **Beige case with gold aluminum faceplate**
- **UL Listed (E46315)**
- **Columbus Electric brand**

ELECTRICAL RATINGS: 208-277VAC; 22A

### SETBACK THERMOSTAT ORDERING DATA

| Switch Type | Switch Action | Temp. Range (°F) | Diff. (°F) | No. of Settings | Min. Increments | Clock Type | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DPST | Open on Rise | 50-90 | 3 | 96 | 15 min | 24 hr | 4 3/4 | 5 29/32 | 1 15/64 | 4E290 | $163.87 | $83.50 | 1.5 |
| DPST | Open on Rise | 50-90 | 3 | 84 | 2 hrs | 7 day | 4 3/4 | 5 29/32 | 1 15/64 | 4E289 | 163.83 | 83.50 | 1.5 |

(✓) Denotes energy efficient product.

## PORTABLE HEATER THERMOSTAT

JOHNSON CONTROLS PEAK

Columbus Electric



No. 2E535

**APPLICATIONS:** Fan-forced gas and oil-fired space heaters

**FEATURES:**

- **6 ft. HSJ cord with piggyback plug**
- **Suspension chain/wire hanger**
- **Positive Off on No. 2E535**
- **No. 2E535 has gray finish and stainless steel sensing element**
- **No. 2E817, black finish**
- **3°F Differential**
- **No. 2E817 is UL Listed and CSA Certified**

**MOUNTING:** Wall or suspension

**ELECTRICAL RATINGS: 120 VAC**

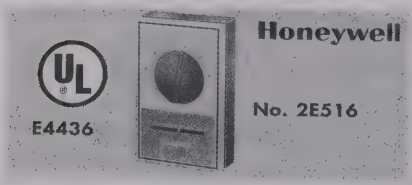
| Full Load Amps | Locked Rotor | Stock No. |
|---|---|---|
| 15.0 | 90.0 | 2E535 |
| 9.8 | 58.8 | 2E817 |

### PORTABLE HEATER THERMOSTAT ORDERING DATA

| Switch Type | Switch Action | Temp. Range (°F) | Sensor Type | Dimensions (In.) H | W | D | Brand | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SPST | Open on Rise | 35-95 | Hydraulic Capillary | 5 1/2 | 2 9/16 | 2 9/16 | Johnson Controls | 2E535 | $138.45 | $53.65 | 1.6 |
| SPST | Open on Rise | -10-100 | Bimetal | 5 1/2 | 2 3/5 | 2 | Columbus Electric | 2E817 | 78.36 | 39.95 | 1.7 |

# LINE VOLTAGE THERMOSTATS

## HONEYWELL LIGHT-DUTY THERMOSTAT




**APPLICATIONS:** Fan coil units, motor starters, valves, contactors, and circulator motors in heating and cooling applications.

**FEATURES:**

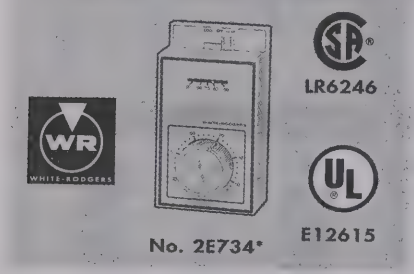
- **Locking cover setting lever**
- **Adjustable range stops**
- **55-95°F thermometer**
- **Silver bronze color, brushed gold faceplate**
- **UL Listed (E4436)**

**MOUNTING:** Standard 2 x 4" vertical box.

| VAC | 120 | 208 | 240 | 277 |
|---|---|---|---|---|
| Full Load | 8A | 4A | 4A | 4A |
| Locked Rotor | 48A | 24A | 24A | 24A |
| Resistive | 7.2A | 7.2A | 7.2A | 7.2A |

| Switch Type | Switch Action | Temp. Range (°F) | Diff. (°F) | Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPDT** | — | 35-95 | 2 | 4 17/32 | 2 13/16 | 1 13/16 | T651A2028 | **2E516** | $108.67 | **$43.50** | 0. |

## WHITE-RODGERS LIGHT AND HEAVY-DUTY THERMOSTATS




**APPLICATIONS:**

**No. 2E347.** For use with unit heaters, heating fan coil unit, hot water circulators.

**No. 2E734 and 3TZ43.** For use with fan motors, circulator motors, contactors, motor starter, and valves.

**FEATURES:**

- **Two dial stops for locking dial settin or limiting temperature range**
- **Large, easy-to-adjust knob**
- **Beige case with aluminum faceplate**
- **UL Listed (E12615); CSA Certified (LR6246)**

**MOUNTING:** Standard 2 x 4" vertical box.

| Stock No. | VAC | 120 | 240/277 |
|---|---|---|---|
| 2E347 & 2E734 | Full Load | 8A | 4A |
| | Locked Rotor | 48A | 24A |
| 3TZ43 | Full Load | 16A | 8A |
| | Locked Rotor | 96A | 48A |

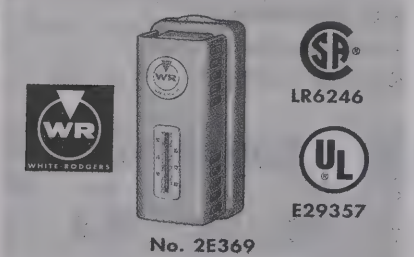
| Switch Type | Switch Action | Temp. Range (°F) | Diff. (°F) | Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPST** | Open on Rise | 36-90 | 1.5 | 4 3/4 | 2 7/8 | 1 1/8 | 1A10-604 | **2E347** | $91.85 | **$41.55** | 0.7 |
| **SPDT** | — | 36-90 | 1.5 | 4 1/2 | 2 3/4 | 1 3/8 | 1A10-651 | **2E734*** | 93.64 | **43.05** | 1.0 |
| **SPDT** | — | 36-90 | 1.5 | 4 3/4 | 2 3/4 | 1 3/8 | 1A16-51 | **3TZ43** | 143.19 | **85.35** | 0.7 |

(*)Shown with optional subbase

**No. 2E735 Heating-Cooling Subbase.** For use with No. 2E734 and 3TZ43 thermostat above White-Rodgers brand (S29-21).

**No. 2E735.** Shpg. wt. 0.3 lbs. List $37.54. Each ..... **$21.8**

## WHITE-RODGERS HEAVY-DUTY THERMOSTATS




**APPLICATIONS:**

**Nos. 2E369 and 2E477.** Unit heaters and fan coil units.

**No. 2E997.** Heating or cooling control

**FEATURES:**

- **Nos. 2E369 and 2E997 have set point dial and manual On position**
- **No. 2E477 has concealed temperature dial with locking case**
- **2°F differential on Nos. 2E369 and 2E477. 3°F differential on No. 2E997**
- **Dustproof enclosures**
- **Hydraulic element**
- **Gray finish**
- **UL Listed (E29357)**

**MOUNTING:** Standard 2 x 4" vertical box o flush to wall.

| Stock No. | Inductive 120 VAC | Inductive 240 VAC | Noninductive 120 VAC | Noninductive 240 VAC |
|---|---|---|---|---|
| 2E369 | 14A | 7A | 25A | 22A |
| 2E997 | 7.4A | 3.7A | 24A | 20A |
| 2E477 | 14A | 7A | 25A | 22A |

| Switch Type | Switch Action | Temp. Range (°F) | Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SPST** | Open on Rise | 55-85 | 6 | 2 3/4 | 2 1/2 | 152-9 | **2E369** | $154.20 | **$69.80** | 1.8 |
| **SPST** | Open on Rise | 55-95 | 6 | 2 3/4 | 2 1/2 | 152-10 | **2E477** | 148.48 | **69.95** | 1.8 |
| **SPDT** | — | 55-95 | 6 | 2 3/4 | 2 1/2 | 179-1 | **2E997** | 154.30 | **70.25** | 1.8 |

## HONEYWELL HEAVY-DUTY THERMOSTAT




**APPLICATIONS:** Fan coils, fans, contactors and circulator motors.

**FEATURES:**

- **Removable locking cover**
- **Removable set point knob to prevent tampering**
- **UL Listed (E4436); CSA Certified (LR95329)**

**MOUNTING:** Standard 2 x 4" vertical or hor izontal box.

| Type | Heating 120 VAC | Heating 240 VAC | Cooling 120 VAC | Cooling 240 VAC | Resistive 120 / 240 | Resistive 277 VAC |
|---|---|---|---|---|---|---|
| Full Load | 16 | 8 | 8 | 4 | 22A | 19A |
| Locked Rotor | 96 | 48 | 48 | 24 | — | — |

| Switch Type | Switch Action | Temp. Range (°F) | Diff. (°F) | Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPDT** | — | 50-80 | 1 | 5 | 3 1/8 | 1 5/8 | T6051A1016 | **2E517** | $165.53 | **$76.45** | 1.3 |

# LINE VOLTAGE AND FAN COIL THERMOSTATS

## ATTIC FAN THERMOSTAT

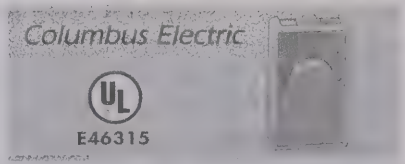
**APPLICATIONS:** Attic ventilators, fans, and dampers

**FEATURES:**

- **Heavy-duty snap action switch**
- **Ivory color case**
- **Columbus Electric brand**

**MOUNTING:** Standard 2 x 4" vertical box

**ELECTRICAL DATA:** 3/4 HP @ 115VAC; 1½ HP @ 230VAC, 13.8 Amp Inductive.




| Switch Type | Switch Action | Temp. Range (°F) | Diff. (fixed) (°F) | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| DPST | Close on Rise | 90-130 | 15 | 4 3/4 | 2 3/4 | 2 | **2E340** | $27.12 | **$18.34** | 0.7 |

| VAC | 120 | 240 |
|---|---|---|
| Full Load | 13.8 | 10 |
| Locked Rotor | 82.8 | 60 |

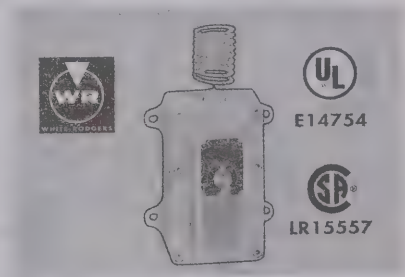
## HAZARDOUS LOCATION THERMOSTAT

**APPLICATIONS:** For controlling heating systems in explosive environments; Class I, Group D and Class II, Groups E, F, and G locations.

**FEATURES:**

- **7/32" thick cast aluminum housing**
- **Coiled hydraulic sensing element**
- **1/2" female pipe thread in bottom of case**
- **White-Rodgers brand (2A20-2)**

**MOUNTING:** Flush




| Inductive | | Resistive | |
|---|---|---|---|
| 120VAC | 240VAC | 120VAC | 240VAC |
| 14A | 7A | 25A | 20A |

| Switch Type | Switch Action | Temp. Range (°F) | Diff. (fixed) (°F) | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| DPST | Open on Rise | 40-90 | 3 | 9 | 5 3/8 | 4 3/4 | **2E449** | $399.56 | **$236.25** | 4.6 |

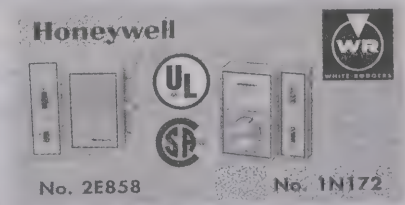
## FAN COIL THERMOSTATS

**APPLICATIONS:** Provide thermostatic control of one or two line voltage valve(s) in automatic change-over (2E858 only) heating-cooling fan coil unit systems

**FEATURES:**

- **3-speed (High-Med-Low) manual fan control**
- **No. 1N172 includes thermometer**
- **Off position breaks both heating and cooling circuits**

**MOUNTING:** Standard 4 x 4" vertical box; No. 1N172 also mounts on two-gang outlet box




| Switch Type | Temp. Range(°F) | Dimensions (In.) H | W | D | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| SPDT | 55-95 | 4 5/8 | 4 15/16 | 1 5/16 | Honeywell | T4039M1004 | **2E858** | $187.99 | **$78.60** | 0.7 |
| SPDT | 36-90 | 4 1/2 | 4 1/2 | 1 3/4 | White-Rodgers | 1A11-2 | **1N172** | 152.07 | **65.40** | 1.1 |

| Heating | | Cooling |
|---|---|---|
| 120VAC | 240VAC | 120-240VAC |
| 16A | 8A | 8A |

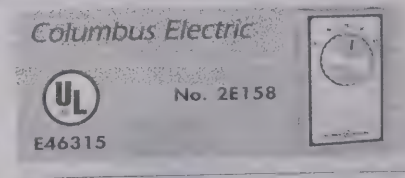
## SPDT AND DPST THERMOSTATS

**APPLICATIONS:** Blowers, furnace fans, and baseboard and ceiling heaters

**FEATURES:**

- **Bimetal operated snap switch**
- **Temperature range 50-90°F**
- **Positive off (5E266 only)**

**MOUNTING:** Standard 4 x 4" vertical box




| Stock No. | Resistive | Inductive 125VAC | Inductive 277VAC |
|---|---|---|---|
| 2E158 | 22A @ 125/277 VAC | 3/4 HP | 1½ HP |
| 5E266 | 22A @ 120/240 VAC | 3/4 HP | 1¼ HP |

| Switch Type | Diff. (fixed) | Case Color | Dimensions (In.) H | W | D | Columbus Electric Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| SPDT | 2°F Heat | Beige | 4 3/4 | 2 3/4 | 2 3/4 | ETD-5S-6 | **2E158** | $28.57 | **$12.35** | 0.8 |
| DPST Heating Only | 2°F Heat | White | 4 1/2 | 3 | 2 | D2022H15DC | **5E266** | 30.42 | **15.50** | 0.6 |

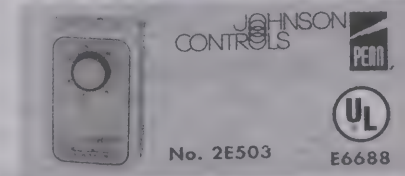
## MULTIPURPOSE THERMOSTAT

**APPLICATIONS:** Unit heaters, fan coils, unitary coolers, and refrigeration equipment

**FEATURES:**

- **3-way setup: external knob over full range; external knob over restricted range; and internal adjustment (removable external adjustment knob)**
- **Includes faceplate for horizontal mounting.**
- **Thermometer**
- **Hydraulic sensing element**
- **Johnson Controls/Penn brand (T26T-3E)**

**MOUNTING:** Standard 2 x 4" electrical box



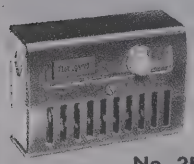

| VAC | 120 | 240 |
|---|---|---|
| Full Load | 13.8 | 10.0 |
| Locked Rotor | 82.8 | 60.0 |

| Switch Type | Temp. Range (°F) | Diff. (fixed) | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| SPDT | 40-90 | 3°F Heat 3.5°F Cool | 4 11/16 | 3 | 1 11/16 | **2E503** | $127.64 | **$70.10** | 1.0 |

# LINE VOLTAGE THERMOSTATS & REMOTE BULB SENSORS

## LINE VOLTAGE HEATING, COOLING AND VENTILATION CONTROLS

Honeywell



No. 2E724



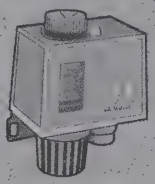
Dayton

Nos. 2E815, 2E869 and 2E816

Nos. 2E728, 2E206 and 2E207

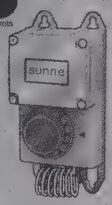


RANCO



No. 1A021

sunne controls




No. 4E636

| Stock No. | Electrical Rating | | | |
|---|---|---|---|---|
| | Inductive | | Resistive | |
| | 120VAC | 240VAC | 120VAC | 240VAC |
| 2E724 | 16 | 8 | 10 | 5 |
| 2E815 | 13.8 | 10 | 22 | 22 |
| 2E869 | 13.8 | 10 | 22 | 22 |
| 2E816 | 13.8 | 10 | 22 | 22 |
| 1A021 | 16 | 8 | 16 | 8 |
| 2E728 | 16 | 8 | 22 | 22 |
| 2E206 | 16 | 8 | 22 | 22 |
| 2E207 | 16 | 8 | 16 | 8 |
| 4E664 | 16 | 12 | 25 | 25 |
| 4E665 | 16 | 12 | 25 | 25 |
| 4E636 | 16 | 12 | 25 | 25 |
| 4LZ94 | 16 | 8 | 22 | 22 |
| 4LZ95 | 16 | 8 | 16 | 8 |

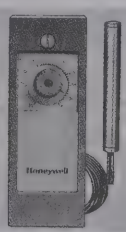
**For use in Agricultural, Commercial, a Industrial Applications**

- **Nos. 1A021, 4LZ94, 4LZ95, 4E636, 4E664 and 4E665 feature NEMA 4X enclosures; tolerate continuous spray ing with water, high humidity, air-borne contaminants and moderately corrosive conditions**
- **Nos. 4E664 and 4E665 have over-sized enclosures to accommodate internally mounted relays or termina blocks**
- **No. 2E815 have contacts that open on temperature rise for heating applications. 2E869 and 2E728 have contacts that close on temperature rise for cooling applications.**
- **Nos. 2E206, 2E728, 2E724, 2E815, 4E636, 4E664 and 4E665 are CSA Certified**
- **Nos. 4E664, 4E665, 4LZ94, 4LZ95, 1A021, and 4E636 comply with Article 547 of the NEC**
- **All units are UL Listed**
- **Nos. 2E206, 2E207, and 2E728 have stainless steel elements to resist corrosion**

| Range | Diff. | Switch Type | Element Type | Application | Dimensions (In.) H | W | D | Mfr. | Mfr's. Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **–30-100** | 5 | SPDT | Hydraulic Cap | Heating or Cooling | 4 5/16 | 6 1/16 | 2 7/8 | Honeywell | T631C1103 | **2E724** | $158.12 | **$83.20** | 1.9 |
| **0-100** | 3 1/2 | SPST | Bimetal | Heating Only | 5 1/2 | 2 | 2 | Dayton | — | **2E815** | 65.43 | **33.40** | 1.0 |
| **0-100** | 3 1/2 | SPST | Bimetal | Cooling Only | 5 1/2 | 2 | 2 | Dayton | — | **2E869** | 66.30 | **33.85** | 0.8 |
| **0-100** | 3 1/2 | SPDT | Bimetal | Heating or Cooling | 5 1/2 | 2 | 2 | Dayton | — | **2E816** | 54.45 | **33.20** | 1.0 |
| **30 - 95** | 2 | SPDT | Hydraulic Cap | Heating or Cooling | 5 1/4 | 4 | 2 3/4 | Ranco | 052-6910-70 | **1A021** | 139.68 | **62.20** | 1.4 |
| **30-110** | 3 1/2 | SPST | Hydraulic Cap | Cooling Only | 5 1/2 | 2 | 2 | Dayton | — | **2E728** | 107.26 | **39.75** | 1.0 |
| **30-110** | 3 1/2 | SPDT | Hydraulic Cap | Heating or Cooling | 5 1/2 | 2 | 2 | Dayton | — | **2E206** | 115.63 | **42.35** | 1.0 |
| **30-110** | 3 1/2 | SPDT/ SPDT | Hydraulic Cap | 2-Stage Heating or Cooling | 7 1/3 | 3 1/2 | 4 | Dayton | — | **2E207** | 183.87 | **65.80** | 1.0 |
| **40-100** | 3 | SPDT | Hydraulic Cap | Heating or Cooling | 7 1/3 | 3 1/2 | 4 | Sunne | TC109 | **4E664** | 112.27 | **48.85** | 1.3 |
| **40-100** | 3 | SPST/ SPDT | Hydraulic Cap | 2-Speed Cooling | 7 1/3 | 3 1/2 | 4 | Sunne | TJ109 | **4E665** | 146.30 | **59.00** | 1.3 |
| **40-110** | 3 | SPDT | Hydraulic Cap | Heating or Cooling | 7 | 3 | 2 39/64 | Sunne | TF115 | **4E636** | 86.00 | **38.05** | 1.0 |
| **40-110** | 3 1/2 | SPDT | Hydraulic Cap | Heating or Cooling | 7 | 3 1/4 | 3 1/2 | Dayton | — | ***New* 4LZ94** * | 49.90 | **29.90** | 1.3 |
| **40-110** | 3 | SPDT | Hydraulic Cap | 2-Stage Heating or Cooling | 7 | 3 1/4 | 3 1/2 | Dayton | — | ***New* 4LZ95** * | 99.50 | **59.55** | 1.5 |

(*) Pilot duty rated 125 VA @ 24/600 VAC

Honeywell



No. 3UC71

## REMOTE BULB SENSOR

**Application:** Use to regulate temperature of air or liquids in ducts, pipes, tanks or boilers

- **Mounts in any position outside the sensing area**
- **Provides good temperature control by using ambient temperature compensation**

### ELECTRICAL RATINGS

| | 120 VAC | 240 VAC | 277 VAC |
|---|---|---|---|
| Full Load | 8.0 | 5.1 | 4.2 |
| Locked Rotor | 48.0 | 30.6 | 25.2 |

### REMOTE BULB CONTROLLER SPECIFICATIONS

| Temperature, °F Range | Maximum | Adjustable Differential, (°F) | Copper Capillary Length, (Ft.) | Switching | Stock No. |
|---|---|---|---|---|---|
| 55 - 175 | 200 | 3.6 to 12 | 20 | SPDT switch breaks R-B and | **3UC71** |
| 0 - 100 | 125 | 3 to 10 | 20 | makes R-W at setpoint on temp. rise. | **3UC72** |
| 0 - 100 | 125 | 3 to 10 between switches each switch is fixed at 3 - | 20 | Two SPDT switches operating in sequence. Right switch breaks R-B and makes R-W at setpoint on a temp. rise. Left switch breaks R-B and makes R-W if temp. continues to rise through interstage differential. | **3UC73** |

### REMOTE BULB CONTROLLER ORDERING DATA

| Description | Approx. Dimensions, (In.) H | W | D | Approx. Bulb Dimensions, (In.) | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Without bulb holder** | 5 5/8 | 2 | 2 5/8 | 1/2 x 3 9/16 | T675A1425 | **3UC71** | $148.21 | **$94.70** | 1.6 |
| **With bulb holder** | 5 5/8 | 2 | 2 5/8 | 1/2 x 4 5/16 | T675A1565 | **3UC72** | 153.61 | **98.15** | 2.0 |
| **Two-stage, without bulb holder** | 5 5/8 | 2 | 2 5/8 | 1/2 x 4 5/16 | T678A1015 | **3UC73** | 211.82 | **135.30** | 2.0 |

# REMOTE BULB CONTROLLERS

## REMOTE BULB THERMOSTATS

JOHNSON CONTROLS PEAN

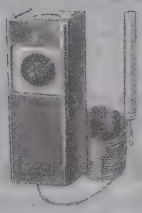


No. 4E047



No. 2E740

Honeywell



No. 2E834



No. 2E848

**Application:** Wide range controlling for applications where remote mounting of sensing element is required.

**Nos. 2E399, 2E740, 2E609, 2E834 and 4E047 have dustproof NEMA 1 enclosures; UL Listed and CSA Certified**

**No. 2E848 has raintight NEMA 4X enclosure—Requires use of UL Listed watertight connectors appropriate for the specific electrical conduit or cord being used (Connectors are sold separately on page 710); UL Listed (E29357); Meets Article 547 of National Electrical Code; CSA Certified**

**No. 2E609 features extra-long air sensitive bulb that enables quick response to temperature changes**

**No. 2E740 has close-on-rise switch action**

| ELECTRICAL RATINGS | | | | |
|---|---|---|---|---|
| Stock No. | Inductive 120VAC | Inductive 240VAC | Resistive 120VAC | Resistive 240VAC |
| 4E047 | 16 | 8 | 22 | 22 |
| 2E740 | 16 | 8 | 25 | 22 |
| 2E399 | 7 | 4 | 24 | 20 |
| 2E609 | 7 | 4 | 24 | 20 |
| 2E834 | 8 | 5 | — | — |
| 2E848 | 16 | 12 | 25 | 25 |

### THERMOSTAT SPECIFICATIONS & ORDERING DATA

| Temperature (°F) Range | Diff. | Switch Type | Application | Bulb Size (In.) | | Cap Length (Ft.) | Dimensions (In.) H | W | D | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -30 - 100 | 3-12 | SPDT | Heating/Cooling | 4 | | 8 | 4 7/16 | 2 1/16 | 2 1/16 | Jhnsn/Cntrls/Penn | A19ABC-24 | 4E047 | $85.29 | $42.50 | 1.0 |
| -30 - 90 | 31/2-40 | SPST | Cooling | 5 | 3/8 | 8 | 5 1/8 | 2 1/16 | 2 1/16 | White-Rodgers | 1609102 | 2E740 | 79.11 | 42.60 | 2.0 |
| -30 - 90 | 41/2-40 | SPDT | Heating/Cooling | 5 | 3/8 | 8 | 5 1/4 | 2 5/16 | 2 5/16 | White -Rodgers | 1687-9 | 2E399 | 85.55 | 43.35 | 1.7 |
| -30 - 90 | 31/2-40 | SPDT | Heating/Cooling | 14½ | 3/8 | 8 | 5 3/4 | 2 5/16 | 2 1/4 | White-Rodgers | 1687-22 | 2E609 | 94.50 | 46.90 | 2.0 |
| -30 - 90 | 31/2-16 | SPDT | Heating/Cooling | 5½ | 7/32 | 8 | 5 3/8 | 2 | 2 1/4 | Honeywell | T6031A1136 | 2E834 | 87.82 | 43.00 | 1.3 |
| 0 - 120 | 5 | SPDT | Heating/Cooling | 3½ | 3/8 | 5 | 7 | 3½ | 3 | Sunne | TC119 | 2E848 | 115.00 | 46.50 | 1.3 |

## PROPORTIONAL TEMPERATURE CONTROLLERS

**Application:** For modulating control of water or air temperature in ducts, tanks and similar applications.

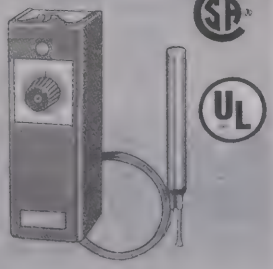
**Ambient temperature compensated for the case and tubing**

**Sensing element capillary tubing allows remote mounting of sensing element**

**Set point may be read and adjusted through cover**

**Throttling dial inside case adjusts proportioning range**

Honeywell



No. 3XL01

### CONTROLLER ORDERING DATA

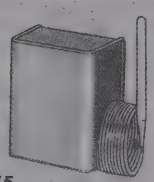
| Description | Setpoint Temp. Range, °F | Adjust. Throttling Range, °F | Copper Capillary Lgth., (Ft.) | Bulb Dimens. (In.) | Potential Resistance (Ohms) | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Controller with duct bulb holder | 0-100 | 3-30 | 6 | 1/2 x 4 7/16 | 135 | T991A1426 | 3XL01 | $261.94 | $162.25 | 1.7 |

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

**Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.**

# LINE VOLTAGE THERMOSTATS

## REMOTE BULB SPST THERMOSTATS



No. 2E375

LR6246

MP1228

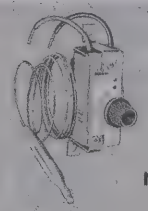
- **Open on rise, fail-safe switch**
- **Insertion-type element**

**Five-foot capillary tube allows switch mechanism to be mounted** remotely from sensing bulb. Unit can be used as a high limit or low limit operating control on hot water or other system media non-corrosive to copper.

**Fail-safe switch opens control** circuit if remote bulb loses charge. Supplied with 1/2" NPT male threaded packing nut for direct insertion in liquid temperature control applications. Set point range adjustable 140 to 240F. differential adjustable 10-35f. Full-load contact ratings: 8A @ 120 VAC. 6A @ 240VAC. 4.8 @ 25VAC, 0.25A @ 0.25 to 12 VDC. CSA Certified. 3½ H x 3W x 2¼"D. Gray enamel finish. White-Rodgers brand (11C06-401).

**No. 2E375.** Shpg. wt. 1.4 lbs. List .....$151.52
Each .....**$76.60**

## REMOTE BULB OUTDOOR THERMOSTATS



LR6246

E12615

No. 2E552

- **Open-on-rise switch action**

**Used with heat pumps to turn on auxiliary strip heaters** during very cold weather, and also to control resistance and fan-forced heaters used to prevent freezing such as in well houses and boat houses. "Lockout" keeps heaters off during mild weather.

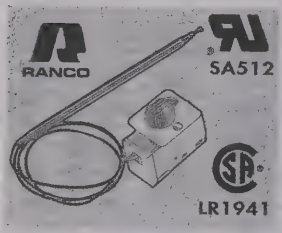
**Features open-on-rise switch action,** self-contained mounting bracket, and calibrated temperature dial. 1½W x 3½ L x 2½"H. 48" capillary length. 3¾" x 3/8" bulb size and 6" lead length. 0 to 50°F temperature range and fixed 6°F differential. CSA Certified.

**No. 2E552.** Remote bulb thermostat with plastic temperature dial. White-Rodgers brand (2B61-186). Shpg. wt. 0.6 lbs.
List $56.06. Each .....**$30.7**

**No. 2E998.** Remote bulb thermostat with metal slide indicator. White-Rodgers brand (2B61-430). Shpg. wt. 0.5 lbs.
List $47.39 Each .....**$26.6**

| Heaters | | | Motor Inductive | | | |
|---|---|---|---|---|---|---|
| Non-Inductive | | | Full-Load | | Locked Rotor | |
| 120V | 240V | 277V | 120V | 240V | 120V | 240 |
| 25A | 25A | 22A | 10A | 6A | 60A | 36A |

## HEAT/COOL CONTROL



SA512

LR1941

**Single stage control** for packaged terminal, room and thru-the-wall heat/cool units. Control replaces many OEM controls on heat/cool units. SPDT switch. 60 to 98°F temperature range. 3/4" dial shaft. 3°F differential. 36" capillary with 3/8 x 9" bulb sensing element. Includes dial plate and knob. Ranco brand (C12-5010).

**No. 4E912.** Heat/Cool Control.
Shpg. wt. 1.0 lbs. List.....$90.00.
Each .....**$40.70**

| Voltage | Contacts |
|---|---|
| 240V<br>277V | 25 Amps<br>16 Amps |

## TWO-STAGE HEAT/COOL CONTROL



SA512

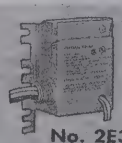
LR1941

**This control replaces** many OEM controls on two-stage cooling and heat/cool units. Two SPDT switches are staged with a 3.5°F deadband. 71 to 101°F cooling temperature range; 64 to 94°F heating temperature range. 26" capillary with 3/8 x 8⁹⁄₁₆" bulb sensing element. Ranco brand (C17-100).

**No. 4E919.** Two-Stage Heat/Cool Control Shpg. wt. 1.0 lbs.
List $127.98. Each .....**$56.70**

| Voltage | Contacts |
|---|---|
| 120V<br>240V | 20 Amps<br>20 Amps |

## LEVEL TEMPERATURE CONTROL



No. 2E346

E12615

LR6246

**Provides silent operation** and narrow differential control for heating or cooling installations for use with a 2-wire, 24 volt thermostat. UL Listed (E12615).

- **Conduit hub or screw mounting**
- **Universal break-off tabs**

**SWITCH ACTION:** SPST normally open (NO)
**AVERAGE TIME DELAY:** 45 Seconds
**LEAD LENGTH:** 18"
**AMBIENT TEMPERATURE RANGE:** -20 to 140°F

| Input Voltage | Resistive 240VAC | Contact Rating Inductive Full Load 240VAC | Locked Rotor | Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **240VAC, 60 Hz** | 25A/6000W | 12A | 72A | 2 7/16 | 4½ | 1⅞ | 24A01G-3 | **2E346** | $105.72 | **$52.25** | 1.4 |

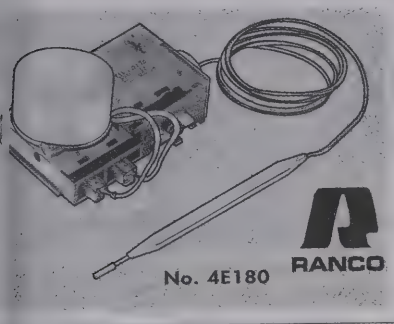
## UNIVERSAL SERVICE REFRIGERATOR CONTROL



Works with old or new refrigerators to provide temporary cold control when an exact replacement is not available. Has two suction cups, SPST switch rated 20A @ 120V AC, and 12" leads for quick-connect terminals. Air Coil Sensing. Dial range: 27 to 53°F. Differential: 6°F. Ranco brand (US1-1000).

**No. 4E913.** Shpg. wt. 1.0 lbs. List.....$56.88.
Each.....**$34.80**

# HEAT PUMP DE-ICE CONTROL




- SPDT switch action
- 30, 45, or 90 minute timer control for de-icing of heat pump outdoor coils
- UL Recognized (SA512); CSA Certified (LR32079)
- Interlock prevents more than one de-ice cycle per time period
- Interlock requires temperature of 28°F or lower at initiation to start

Function of de-ice control is to remove frost and ice from outdoor coils of central or window unit heat pumps. Features frequency selection of de-ice cycle and field adjustment of termination temperature. Ranco brand.

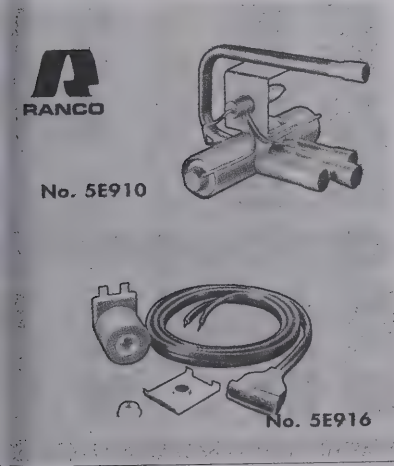
## ELECTRICAL RATINGS

| Motor Ratings | SPDT 240VAC | SPDT 277VAC | SPST 240VAC | SPST 277VAC |
|---|---|---|---|---|
| Full Load Amps | 10 | 10 | 20 | 10 |
| Lock Rotor Amps | 40 | 40 | 80 | 40 |
| Pilot Duty | 240 | 240 | 240 | 240 |
| Resistive Load Amps | 25 | 16 | 25 | 16 |

## THERMOSTAT ORDERING DATA

| itch ion | Timer Voltage | Initiation Timing | Termination Temp. (°F) | Sensing Element | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| DT | 240 | Field Select: 30, 45, or 90 minutes | Adjustable 55 to 78 | 60" Capillary with 5/16 x 5 1/16" bulb | E15-2601 | **4E180** | $113.52 | **$48.60** | 1.1 |

# HEAT PUMP REVERSING VALVES & SOLENOID




**Reversing Valves** are 4-way, coil-operated, slide type and operate under the full pressure of a heat pump system. These valves are used on unitary, split-system, and window-type heat pump applications. (Solenoids not included.) UL Recognized (MH5961); CSA Certified (LR1942). Ranco brand.

## REVERSING VALVE ORDERING DATA

| Capacity (Tons) R22 | | | Capacity (Tons) R502 | | | Tube Size ID (In.) Suction | Tube Size ID (In.) High Press. | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.75** | to | **2.0** | 0.75 | to | 1.6 | 1/2 | 3/8 | V2-100 | **5E910** | $139.24 | **$69.15** | 1.0 |
| **0.75** | to | **2.0** | 0.75 | to | 1.6 | 5/8 | 3/8 | V2-150 | **5E911** | 141.41 | **70.75** | 1.0 |
| **1.0** | to | **5.5** | 1.0 | to | 4.3 | 3/4 | 1/2 | V6-2101 | **5E912** | 224.35 | **111.70** | 2.1 |
| **1.0** | to | **5.5** | 1.0 | to | 4.3 | 7/8 | 1/2 | V6-2103 | **5E913** | 224.35 | **111.70** | 2.2 |
| **1.0** | to | **5.5** | 1.0 | to | 4.3 | 7/8 | 1/2 | V10-2500 | **5E914** | 307.93 | **144.80** | 3.2 |
| **3.0** | to | **8.5** | 2.75 | to | 6.8 | 7/8 | 1/2 | V10-2762 | **5E915** | 315.12 | **147.95** | 3.4 |
| **3.0** | to | **9.5** | 2.75 | to | 7.7 | 1 1/8 | 7/8 | | | | | |

**Solenoid Coils** for use with valves above.

## SOLENOID COIL ORDERING DATA

| Voltage | Watts 50 Hz | Watts 60 Hz | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **24** | 6 | 4 | L30-0024 | **5E916** | $44.20 | **$21.06** | 0.8 |
| **208/240** | 6 | 4 | L30-0240 | **5E917** | 44.19 | **21.06** | 0.8 |

Honeywell

RANCO

Robertshaw ...the energy control company®

WR WHITE RODGERS

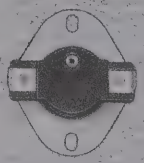
OUR HVAC CONTROLS PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!

MAPLE/CHASE

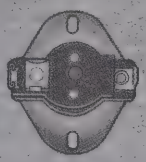
JOHNSON CONTROLS PENN®

VULCAN ELECTRIC COMPANY

# SNAP DISC CONTROLS

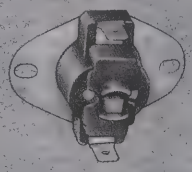


No. 2E245

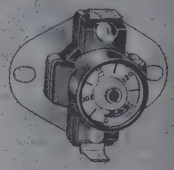


No. 2E365

E19279 LR10281



No. 2E362



No. 4E116

**Fixed or adjustable temperature ranges.** SPST single-circuit type for fan/blower control and high limit safety, SPDT 2-circuit type for universal use such as controlling 2-speed blowers, high limit alarms, etc. SPST limit controls available in automatic and manual push-button reset models. See specifications below. Fast, positive snap-action of bimetal disc assures precise control at a times. Mounting holes, 1⅝" O.C., match standard ¾" snap dis controls. 1½H x 1¾W x 1"D. UL Recognized Componer (E19279). CSA Certified (LR10281). White-Rodgers brand.

## SPST FIXED TEMPERATURE SNAP-DISC CONTROLS

| Application | Differential Close | Differential Open | Switch Action | Inductive Rating 120VAC | Inductive Rating 240VAC | Resisitive Rating 240VAC | Pilot Duty Rating | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fan Control** | 110°F | 90°F | | 10A | 5A | 25A | 125VA, 120-277V | 3F01-111 | **2E245** | $11.34 | **$7.03** | 0.1 |
| | 120 | 110 | | 10A | 5A | 25A | 125VA, 120-277V | 3F01-121 | **2E246** | 11.34 | **7.03** | 0.1 |
| | 130 | 115 | Close on | 10A | 5A | 25A | 125VA, 120-277V | 3F01-131 | **2E247** | 11.34 | **7.03** | 0.1 |
| | 140 | 120 | Temp. Rise | 10A | 5A | 25A | 125VA, 120-277V | 3F01-141 | **2E248** | 11.34 | **7.03** | 0.1 |
| | 150 | 130 | | 10A | 5A | 25A | 125VA, 120-277V | 3F01-151 | **2E249** | 11.34 | **7.03** | 0.1 |
| | 160 | 140 | | 10A | 5A | 25A | 125VA, 120-277V | 3F01-161 | **2E250** | 11.34 | **7.03** | 0.1 |
| **Limit Control Auto. Reset** | 140°F | 180°F | Open on | 10A | 5A | 25A | 125VA, 120-277V | 3L01-181 | **2E251** | 11.34 | **7.03** | 0.1 |
| | 150 | 190 | Temp. Rise | 10A | 5A | 25A | 125VA, 120-277V | 3L01-191 | **2E252** | 11.34 | **7.03** | 0.1 |
| | 160 | 200 | | 10A | 5A | 25A | 125VA, 120-277V | 3L01-201 | **2E253** | 11.34 | **7.03** | 0.1 |
| **Limit Control Man. Reset** | Man. | 160°F | Open on | 10A | 5A | 25A | 125VA, 120-277V | 3L02-161 | **2E362** | 15.11 | **9.30** | 0.1 |
| | Man. | 180 | Temp. Rise | 10A | 5A | 25A | 125VA, 120-277V | 3L02-181 | **2E363** | 15.11 | **9.30** | 0.1 |
| | Man. | 200 | | 10A | 5A | 25A | 125VA, 120-277V | 3L02-201 | **2E364** | 15.11 | **9.30** | 0.1 |

## SPST ADJUSTABLE SNAP-DISC CONTROLS

| Application | Temp. Range °F | Diff. °F | Switch Action | Inductive Rating 120VAC | Inductive Rating 240VAC | Resistive Rating 240VAC | Pilot Duty Rating | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fan Control** | 90-130 | 20 | Close | 14 | 10 | 25A | 125VA, 120-240V | 3F05-1 | **4E116** | $20.01 | **$17.82** | 0.1 |
| | 140-180 | 20 | on Rise | 14 | 10 | 25A | 125VA, 120-240V | 3F05-2 | **4E117** | 20.01 | **17.82** | 0.1 |
| **Limit Control** | 135-175 | 40 | Open | 14 | 10 | 25A | 125VA, 120-240V | 3L05-1 | **4E118** | 20.01 | **17.82** | 0.1 |
| | 175-215 | 40 | on | 14 | 10 | 25A | 125VA, 120-240V | 3L05-2 | **4E119** | 20.01 | **17.82** | 0.1 |
| | 210-250 | 40 | Rise | 14 | 10 | 25A | 125VA, 120-240V | 3L05-3 | **4E120** | 20.01 | **17.82** | 0.1 |

## SPDT FIXED TEMPERATURE SNAP-DISC CONTROLS

| Application | Diff. Circuit #1 Close | Diff. Circuit #1 Open | Diff. Circuit #2 Close | Diff. Circuit #2 Open | Ind. Rating Cir. #1 120 VAC | Ind. Rating Cir. #1 240 VAC | Ind. Rating Cir. #2 120 VAC | Ind. Rating Cir. #2 240 VAC | Res. Rating Cir. #1 120 & 240 VAC | Pilot Rating Circuit #1 | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal Control** | 120°F | 140°F | 140°F | 120°F | 5.8A | 2.9A | 10A | 5A | 25A | 125VA, 120-277V | 3L03-141 | **2E365** | $15.11 | **$9.30** | 0.1 |
| | 170 | 190 | 190 | 170 | 5.8 | 2.9 | 10 | 5 | 25 | 125VA, 120-277V | 3L03-191 | **2E366** | 15.11 | **9.30** | 0.1 |

## SURFACE MOUNT CONVERSION BRACKET

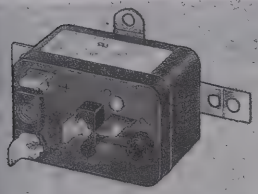
Use for converting Snap-Disc controls from air stream to surface mount.

**No. 2E853.** Shpg. wt. 0.2 lbs. List $1.72. Each.....**$0.79**

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

## ENCLOSED AND HEAVY-DUTY FAN RELAYS

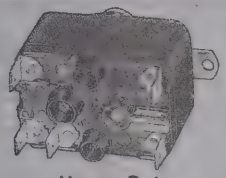


Enclosed Fan Relay
No. 4E658

steveco

E12139

LR13360



Heavy-Duty
Enclosed Fan Relay
No. 1N184

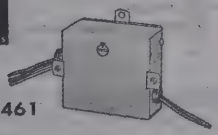
- Totally enclosed
- Quick connect push on terminals
- Heavy duty relays feature quiet operation

Used to switch single or two-speed fan motors, solenoids, relays, resistive loads, and other general purpose switching.

| Switch Type | Contact Ratings: Inductive 120VAC | Contact Ratings: Resistive 120VAC | Contact Ratings: Inductive 240VAC | Contact Ratings: Resistive 240VAC | Coil Voltage (50 / 60 Hz) | Steveco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **ENCLOSED FAN RELAYS** | | | | | | | | | | |
| SPNO | 8 Amps | 16 Amps | 8 Amps | 16 Amps | 24 VAC | 90-290Q | **4E658** | $11.48 | **$8.25** | 0.3 |
| SPDT | 8 | 16 | 8 | 16 | 24 VAC | 90-293Q | **4E659** | 11.96 | **8.51** | 0.3 |
| SPDT | 8 | 16 | 8 | 16 | 115/120 VAC | 90-294Q | **4E941** | 13.65 | **8.47** | 0.3 |
| SPDT | 8 | 16 | 8 | 16 | 208/240 VAC | 90-295Q | **4E942** | 18.22 | **8.65** | 0.3 |
| **HEAVY DUTY ENCLOSED FAN RELAYS** | | | | | | | | | | |
| SPDT | 12 Amps | 25 Amps | 8 Amps | 25 Amps | 24VAC | 90-370 | **1N184** | 12.61 | **8.04** | 0.2 |
| SPNO/SPNC | 12 | 25 Amps | 8 | 25 Amps | 24 | 90-380 | **1N185** | 12.61 | **8.04** | 0.3 |

## FAN RELAY

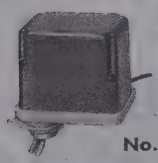
steveco



No. 2E461

E29357
E12139

LR13360



No. 1N183

- Permits control of single or two speed fan motors
- 1/2" conduit hub permits mounting to standard junction box
- Provision for mounting to a flat surface (2E461 only)
- UL Listed (E29357 and E12139)

For 24VAC control of blowers and other line voltage loads on heating, cooling, or heating/cooling systems where 24V power supply is already available.

| Dimensions H | Dimensions W | Dimensions D | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2¾ | 3 | 1½ | White-Rodgers | 8A04-1 | **2E461** | $73.41 | **$34.35** | 0.8 |
| 2¾ | 2⅝ | 3⅛ | Steveco | 90-123 | **1N183** | 46.85 | **28.15** | 0.8 |

| Stock No. | Coil Voltage | Switch Action | Contact Ratings, Amps: NO (Black-Red) 120VAC | NO (Black-Red) 240VAC | NC (Black-Brown) 120VAC | NC (Black-Brown) 240VAC |
|---|---|---|---|---|---|---|
| 2E461 | 24VAC | SPDT | 16.0 | 8.0 | 9.8 | 6.9 |
| 1N183 | 24VAC | SPDT | 16.0 | 8.0 | 16 | 8 |

## FAN CENTERS

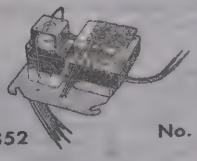
Provide low voltage control of line voltage fans, pump motors, forced air or hydronic heating/cooling systems

Combine transformer and relay in one product

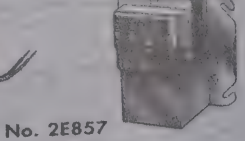
Nos. 2E852, 1N182, 4E393 and 3TZ56 have plug-in relays; No. 2E857 has enclosed relay

Mount directly to any 4 x 4" junction box

steveco

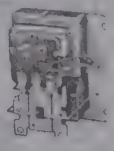


No. 2E852



No. 2E857

Honeywell



No. 4E393

## FAN CENTER SPECIFICATIONS AND ORDERING DATA

| Transformer: Primary | Transformer: Secondary | Switch Action | Contact Ratings, Amps: 120VAC Full Load | 120VAC Locked Rotor | 120VAC HP | 208 / 240VAC Full Load | 208 / 240VAC Locked Rotor | 208 / 240VAC HP |
|---|---|---|---|---|---|---|---|---|
| .20V | 24V | SPDT | 13.8 | 82.8 | 3/4 | 6.9 | 41.4 | 3/4 |
| .20V | 24V | SPNO/SPNC | 13.8 | 82.8 | 3/4 | 6.9 | 41.4 | 3/4 |
| .20V | 24V | DPDT | 13.8 | 82.8 | 3/4 | 6.9 | 41.4 | 3/4 |
| .20V | 24V | SPDT | 12 | 72 | 3/4 | 6.9 | 41.4 | 3/4 |
| .20V | 24V | SPDT | 12 | 72 | 3/4 | 6 | 35 | 3/4 |

| Brand | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Steveco | 90-113 | **2E852** | $32.60 | **$19.75** | 2.4 |
| Steveco | 90-118E | **1N182** | 34.54 | **19.87** | 2.5 |
| Steveco | 90-112 | **3TZ56** | 41.42 | **25.15** | 2.4 |
| Honeywell | R8239A1052 | **2E857** | 89.99 | **26.20** | 2.9 |
| Honeywell | R8285A1048 | **4E393** | 62.08 | **19.90** | 2.4 |

# SWITCHING RELAYS

## LINE VOLTAGE SWITCHING RELAYS




For controlling line voltage loads with a low voltage circuit.

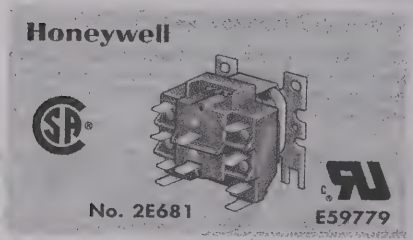
### RELAY SPECIFICATIONS DATA

| Stock No. | Full Load Amps 120VAC | Full Load Amps 240VAC | Locked Rotor Amps 120VAC | Locked Rotor Amps 240VAC | Resistive Amps 120VAC | Resistive Amps 240VAC | Pilot Duty 24VAC |
|---|---|---|---|---|---|---|---|
| 2E553 | 10.0 | 6.0 | 60.0 | 36.0 | — | — | 50VA |
| 2E554 | 8.0 | 4.0 | 48.0 | 24.0 | — | — | — |
| 2E555 | 10.0 | 6.0 | 60.0 | 36.0 | — | — | — |
| 2E866 | 10.2 | 5.1 | 61.2 | 30.6 | 10.0 | 6.0 | 50VA |
| 2E867 | 7.4 | 3.7 | 44.4 | 22.2 | 10.0 | 6.0 | 50VA |
| 2E868 | 7.4 | 3.7 | 44.4 | 22.2 | 10.0 | 6.0 | 50VA |

### RELAY ORDERING DATA

| Input Voltage | Switching Action | Dimensions (In.) H | W | D | Brand | Mfr's. Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|
| 120VAC, 60 Hz | SPST | 5¼ | 4¼ | 2⅞ | White-Rodgers | 809A-189 | **2E553** | $101.19 | **$42.25** | 2.5 |
| 120VAC, 60 Hz | DPST: one pole line voltage, the other low voltage or millivolt | 5¼ | 4¼ | 2⅞ | White-Rodgers | 829A-832 | **2E554** | 110.55 | **53.60** | 2.5 |
| 120VAC, 60 Hz | DPST: one pole for line voltage, the other for line or low voltage | 5¼ | 4¼ | 2⅞ | White-Rodgers | 829A-845 | **2E555** | 102.97 | **49.40** | 2.5 |
| 120VAC, 60 Hz | SPST | 5¼ | 4¼ | 2⅝ | Honeywell | RA89A1074 | **2E866** | 116.18 | **43.85** | 2.4 |
| 120VAC, 60 Hz | DPST: one pole for line voltage, the other low voltage or millivolt | 5¼ | 4¼ | 2⅝ | Honeywell | RA832A1066 | **2E867** | 143.16 | **55.15** | 2.4 |
| 120VAC, 60 Hz | DPST: one pole for line voltage, the other for line or low voltage | 5¼ | 4¼ | 2⅝ | Honeywell | R845A1030 | **2E868** | 139.98 | **54.00** | 2.4 |

## 24 VOLT SWITCHING RELAYS




General purpose relays for use in refrigeration, air conditioning equipment, appliances, and vending machines.

- **Double quick connect coil terminals**
- **UL Recognized (E59779)**
- **Certified**
- **Honeywell brand**

**AMBIENT TEMPERATURE RANGE: -20 to 155°F**

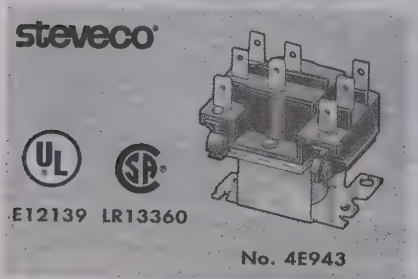
### RELAY SPECIFICATIONS—CONTACT RATINGS

| Volts AC | Full Load Amps | Locked Rotor Amps | Resistive Amps | Horsepower |
|---|---|---|---|---|
| 120VAC | 12 | 60 | 15 | 1/2 |
| 208 / 240 / 277 | 6 | 35 | 15 | 1/2 |
| 480 | 3 | 18 | 10 | 1/2 |

### RELAY ORDERING DATA

| Coil Rating | Switch Action | Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 24VAC | SPDT | 1⅞ | 2⅝₃₂ | 2⅜ | R8222B1067 | **2E681** | $22.00 | **$13.20** | 0.5 |
| 24VAC | DPDT | 1⅞ | 2⅝₃₂ | 2⅜ | R8222D1014 | **2E682** | 23.83 | **14.27** | 0.5 |

## SWITCHING RELAYS




- **Semi-enclosed**
- **Two pole double throw control**
- **2⅛ x 1⅞x2¼"**
- **40° to 130° F**
- **Stevco brand**

For general purpose. Relays for use in vending machines, appliances, fan controls, heating, and air conditioning applications.

### RELAY ORDERING DATA

| Coil Voltage 50/60 Hz | Volts, AC | Contact Ratings Full Load | Locked Rotor | Resistive | HP | Stevco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 125 | 13.8 | 82.8 | 15 | 1/2 | 90-340 | **4E943** | $12.11 | **$11.31** | 0.5 |
| 115 / 120 | 250 | 6 | 35 | 15 | 1/2 | 90-341 | **4E944** | 12.44 | **11.83** | 0.5 |
| 208 / 240* | 277 | † | — | 15 | — | 90-342 | **4E945** | 12.44 | **11.83** | 0.5 |

(*) 60 Hz only. (†) At 75% power factor.

**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.**

# ELECTRIC FAN/HEAT ELEMENT SEQUENCERS

rovide automatic On-Off time delay quencing of fans or heating elements.

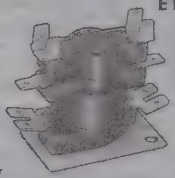
- 24V input control
- Ambient temperature: -40 to 165°F
- Multipoise mounting
- Double quick-connect terminals for combination loads
- Normally open switch
- UL Recognized (E19279)
- CSA Certified (LR62037)
- White-Rodgers brand

LR62037

E19279



Nos. 2E603, 2E604



Nos. 2E605, 2E606



Nos. 2E607, 2E608

## SINGLE LOAD CONTACT RATINGS

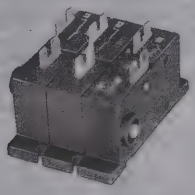
| Volts AC | Motor | | Resistive | | Pilot Duty, VA |
|---|---|---|---|---|---|
| | Full Load Amps | Locked Rotor Amps | Amps | Watts | |
| 120 | 10 | 60 | 25 | 3000 | 125 |
| 240 | 5 | 30 | 25 | 6000 | 125 |
| 480 | 3 | 18 | 12.5 | 6000 | 125 |

## SEQUENCER ORDERING DATA

| No. of witches | No. of Timings | On Time, Seconds | Off Time, Seconds | Dimensions (In.) H | W | D | Therm-O-Disc Model | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1-20 | 40-110 | 1½ | 1⅝ | 1⅝ | 15SH1309571 | 24A34-1 | **2E603** | $25.13 | **$11.85** | 0.1 |
| 1 | 1 | 30-90 | 1-30 | 1½ | 1⅝ | 1⅝ | 15SH1309572 | 24A34-2 | **2E604** | 25.13 | **11.85** | 0.1 |
| 2 | 1 | 1-20 | 40-110 | 1⅞ | 2 | 1⅝ | 15SH1309573 | 24A34-3 | **2E605** | 31.40 | **14.29** | 0.2 |
| 2 | 1 | 30-90 | 1-30 | 1⅞ | 2 | 1⅝ | 15SH1309574 | 24A34-4 | **2E606** | 31.40 | **14.29** | 0.2 |
| 3 | 2* | 1-110 | 1-110 | 1⅞ | 3¼ | 2 | 15SH1309575 | 24A34-5 | **2E607** | 59.04 | **27.50** | 0.4 |
| 4 | 2* | 1-110 | 1-110 | 1⅞ | 3¼ | 2 | 15SH1309576 | 24A34-6 | **2E608** | 65.41 | **29.95** | 0.4 |

) M1, M2 and M3, M4 are simultaneous. For No. 2E608, M5, M6 and M7, M8 are simultaneous.

# ELECTRIC HEAT ELEMENT SEQUENCERS



No. 2E377

E12615

Provide highly versatile circuitry on electric furnaces, duct heaters, heat pumps, auxiliary heaters and other heating equipment.

- 24VAC input
- Ambient temperature: -20 to 165°F
- Multipoise mounting
- Double quick-connect terminals
- UL Recognized (E12615)

## SEQUENCER SPECIFICATIONS

| VAC | Resistive | | Motor Rating | |
|---|---|---|---|---|
| | Watts | Amps | Full Load | Lock Rotor |
| 120 | 3000 | 25.0 | 16.0A | 96.0A |
| 240 | 6000 | 25.0 | 12.0A | 72.0A |
| 277 | 6000 | 22.0 | — | — |
| 600 | 6000 | 12.0 | 4.0A | 24.0A |

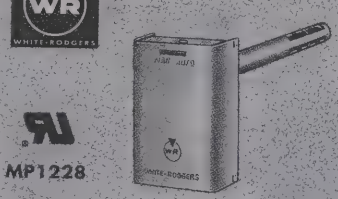
## SEQUENCER ORDERING DATA

| No. of Switches | On Time, Seconds Main Switch | Aux. Switch | Off Time, Seconds Main Switch | Aux. Switch | Dimensions (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Main | 18 | — | 90 | — | 1⅝ | 3½ | 1⅜ | 24A51-6 | **2E378** | $59.58 | **$31.15** | 0.5 |
| Main & Aux. | 35 | 35 | 35 | 25 | 1⅝ | 3½ | 2⅜ | 24A54-2 | **2E377** | 82.53 | **34.60** | 0.5 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

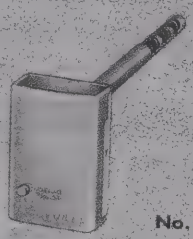
# FAN AND LIMIT CONTROLS



MP1228

No. 2E232

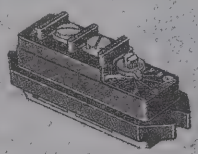
Honeywell



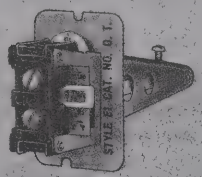
LR1322

MP3387

No. 2E518

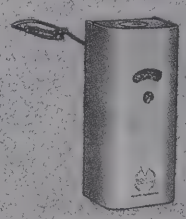


No. 2E371



MP1228

No. 2E148



No. 2E381

## FAN AND LIMIT CONTROLS

- **Single element-type for applications with narrow space limitations. Regulates fan or blower operation and acts as high limit safety control**
- **Manual fan switch to override fan setpoint and keep fan running continuously**
- **Limit setpoint is adjustable up to "Stop"; factory shipped at 200°F**
- **Nos. 2E518 and 2E519 have rigid mounting bracket, allowing installer to vary element to fit application**

| Stock Nos. | Type | Temp. Range (°F) | Differential | Switch Action | Motor Rating (Full Load) 120VAC | 240VAC | Valves and Relay 24 | 0.3-120 |
|---|---|---|---|---|---|---|---|---|
| 2E232, 2E372, & 2E139 | Fan | 50 to 265 | Adj. 15°F min | Close on Rise | 14.0A | 7.0A | — | — |
| | Limit | 100 to 300 | Fixed 25°F | Open on Rise | 10.0A | 6.0A | 6.0A | 1.0A |
| 2E818-2E820, 2E518 & 2E519 | Fan | 50 to 200 | Adj. 22°F min | Close on Rise | 14.0A | 7.0A | 2.0A | 0.25 |
| | Limit | 100 to 250 | Fixed 25°F | Open on Rise | 8.0A | 4.0A | 2.0A | 0.25 |
| 1D293, 1D292, & 1D291 | Fan | 50 to 250 | Timed* | Close on Rise | 14.0A | 7.0A | 2.0A | 0.25 |
| | Limit | 100 to 250 | Fixed 25°F | Open on Rise | 8.0A | 4.0A | 2.0A | 0.25 |

(*) Fan comes on 20 to 90 seconds after call for heat.

| Insertion Element (In.) | Dimensions (In.) H | W | D | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 5 3/8 | 3 1/8 | 1 3/4 | White-Rodgers | 5D51-35 | 2E232 | $116.27 | $32.10 | 1.4 |
| 8 | 5 3/8 | 3 1/8 | 1 3/4 | White-Rodgers | 5D51-90 | 2E372 | 116.28 | 32.10 | 1.1 |
| 11½ | 5 3/8 | 3 1/8 | 1 3/4 | White-Rodgers | 5D51-78 | 2E139 | 116.26 | 32.10 | 1.6 |
| 5 | 4 5/16 | 3 | 2 | Honeywell | L4064B2228 | 2E818 | 87.15 | 34.40 | 0.9 |
| 8 | 4 5/16 | 3 | 2 | Honeywell | L4064B2236 | 2E819 | 86.28 | 34.40 | 1.3 |
| 11½ | 4 5/16 | 3 | 2 | Honeywell | L4064B2210 | 2E820 | 86.28 | 34.40 | 1.2 |
| 5 | 5 3/8 | 3 | 2 | Honeywell | L4064B1469 | 2E518 | 100.21 | 42.80 | 1.3 |
| 11½ | 5 3/8 | 3 | 2 | Honeywell | L4064B1451 | 2E519 | 100.21 | 42.80 | 1.7 |
| 5 | 4 5/16 | 3 | 2 | Honeywell | L4064W1080 | 1D293 | 73.18 | 53.60 | 1.4 |
| 8 | 4 5/16 | 3 | 2 | Honeywell | L4064W1098 | 1D292 | 73.18 | 53.60 | 1.4 |
| 11½ | 4 5/16 | 3 | 2 | Honeywell | L4064W1106 | 1D291 | 73.18 | 53.60 | 1.4 |

## FLUSH MOUNT AND INSERTION-TYPE CONTROLS

**Control blower operation or provide high limit protection for warm air furnace**

**Nos. 2E370 and 2E371: For use where space is limited**

- **Bimetal sensing element in air stream gives quick response**
- **Fan control has adjustable range with direct reading temperature dial**
- **Limit control has adjustable cut-out setting**

**Nos. 2E148, 2E368, 2E147, and 2E367:**

- **Adjustable differentials remain constant through entire range of control**
- **Limit control has "universal" contacts handling millivolts to 240VAC**
- **Limit control equipped with adjustable stop to limit setting;**

| Control | Type | Temp. Range (°F) | Differential (°F) | Switch Action | Motor Rating (Full Load) 120VAC | 240VAC | Valves and Relays 24VAC |
|---|---|---|---|---|---|---|---|
| Flush | Fan | 70 to 160 | 25 | Close on Rise | 6.0A | 3.0A | — |
| Flush | Limit | 110 to 200 | 25 | Open on Rise | 4.0A | 2.0A | 3.2A |
| Insertion | Fan | 70 to 125 | 25-50 | Close on Rise | 8.0A | 6.0A | — |
| Insertion | Limit | 150 to 250 | 25 | Open on Rise | 10.0A | 6.0A | 4.0A |

| Type | Element Length | Description | Dimensions (In.)* H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Flush | — | Fan Type | 1 | 3 | 1 1/4 | 757-1 | 2E370 | $40.78 | $22.94 | 0.1 |
| Flush | — | Limit Type | 1 | 3 | 1 1/4 | 758-1 | 2E371 | 40.78 | 22.94 | 0.1 |
| Insertion | 3 | Fan Type | 2 3/4 | 2 | 4 1/2 | 5C22-2 | 2E148 | 71.52 | 32.25 | 0.4 |
| Insertion | 7 | Fan Type | 2 3/4 | 2 | 8 1/2 | 5C22-52 | 2E368 | 73.65 | 34.65 | 0.7 |
| Insertion | 3 | Limit Type | 2 3/4 | 2 | 4 1/2 | 5C02-1 | 2E147 | 51.36 | 27.70 | 0.4 |
| Insertion | 7 | Limit Type | 2 3/4 | 2 | 8 1/2 | 5C02-51 | 2E367 | 56.67 | 35.30 | 0.6 |

(*) Including mounting plate.

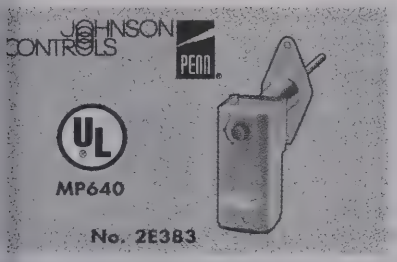
## SINGLE FAN OR LIMIT CONTROL

Starts and stops fan or provides positive reliable high limit protection on warm air furnaces.

- **Specially designed hydraulic action element can be bent to any position**
- **Easy-to-set temperature dial**
- **Differential remains constant through entire range of control**

| Temp. Range, °F | Diff. °F | Element Length | Switch Action | Motor Rating Full Load 120VAC / 240VAC | Valves and Relays 24VAC | Dimensions, (In.) H | W | D | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-350 | Fixed 20 | 9" | SPDT | 7.4A/3.7A | 2.9A | 5 3/8 | 2 5/16 | 1 7/8 | 416-4 | 2E381 | $129.26 | $72.55 | 1.7 |

# LIMIT CONTROLS AND DUCT MOUNTED SMOKE DETECTORS




## MANUAL RESET LIMIT CONTROL

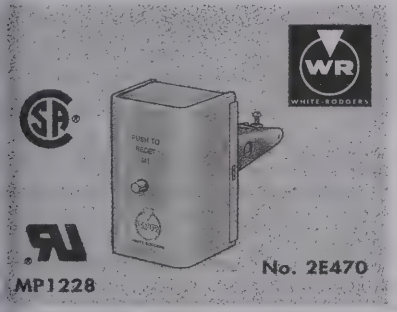
- **Trip-free reset lever prevents contacts from being blocked in closed position**
- **Unit conforms to Section 172, National Board of Fire Underwriters Pamphlet No. 90A**
- **Replaces most similar controls**
- **Adjustable dial stop**

**MAXIMUM ELEMENT TEMPERATURE:** 300°F

**CONTACT RATING:** 16A @ 120VAC, 8A @ 240VAC inductive and 16A @ 120-277VAC non-inductive

**PILOT DUTY RATING:** 125VA @ 24-600VAC

| Temp. Range (°F) | Element Length (In.) | Switch Action | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **25 - 215** | 9 21/64 | SPST—Open on rise | **2E383** | $121.92 | **$55.55** | 2.0 |




## MANUAL RESET FIRESTAT/LIMIT CONTROL

- **Noncycling manual reset-type; once the contacts open, they remain open until the reset button is pushed**
- **Designed to break a line voltage (or low voltage) circuit if air temperature at element location ever reaches its predetermined cut-out setting**
- **May be used as a firestat to protect against fire hazards in air conditioning and ventilation systems by shutting off the blower if circulated air reaches a temperature indicative of fire**

| Cut-Out Temperature | Element Length (In.) | Switch Action | Motor Rating (Full Load) 120V / 240V | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **125°F (52°C)** | 3 | SPST-NC | 10.0A/6.0A | 5C06-125 | **2E470** | $75.49 | **$43.70** | 0.9 |
| **165°F (74°C)** | 3 | Open on Rise | 10.0A/6.0A | 5C06-165 | **2E471** | 75.49 | **43.70** | 0.9 |
| **200°F (93°C)** | 3 | Manual Reset | 10.0A/6.0A | 5C06-200 | **2E472** | 75.49 | **43.70** | 0.9 |




## DUCT MOUNTED SMOKE DETECTOR

Designed for early detection of smoke and particles of combustion present in air conditioning or ventilation ducts.

- **Ionization-type detector**
- **Provides contacts for direct fan control and capability for remote communication or alarm panel operation**
- **MEA #427-91-E Approved for New York City**

**OPERATING VOLTAGE:** 240VAC/120VAC/24VAC/24VDC

**AIR DUCT VELOCITY:** 300 to 4000 ft. per minute

### SAMPLING TUBES FOR SMOKE DETECTOR

| Duct Width (Ft.) | Usable Tube Length (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1 to 2** | 15½ | **4E176** | $17.72 | **$6.31** | 0.5 |
| **2 to 4** | 33½ | **4E177** | 23.46 | **9.04** | 0.9 |
| **4 to 8** | 57 | **4E178** | 34.30 | **11.31** | 1.5 |
| **8 to 10** | 125 | **4E179** | 49.85 | **22.17** | 3.0 |

| Current Consumption Standby Typical) | Current Consumption Alarm (Max.) | Alarm Auxiliary Contact (DPDT) 30VDC | 277VDC | 240VAC | 120VAC | Alarm Initiation Contacts (SPDT) 30VAC/DC | Ambient Temp. Limits | Robertshaw Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15mA** | 180mA | 10A | 10 | 240VA, 1/4 HP | 1/8 HP | 2.0A | 32 to 120°F | 15% TO 93% | **4E175** | $336.98 | **$138.25** | 4.0 |




## DUCT MOUNTED SMOKE DETECTOR

Designed for early detection of smoke and particles of combustion present in air conditioning or ventilation ducts.

- **Ionization-type detector**
- **Provides contacts for direct fan control and capability for remote communication or alarm panel operation**
- **MEA # 73-92-E Approved for New York City**

**OPERATING VOLTAGE:** 240VAC/120VAC/24VAC/24VDC

**AIR DUCT VELOCITY:** 300 to 4000 ft. per minute

### SMOKE DETECTOR SPECIFICATIONS & ORDERING DATA

| Description | Ambient Temp. Limits (°F) | Humidity | Operating Voltage | Maple Chase Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Ionization** | -5 to 155 | 10% to 85% | 24VAC, 24VDC, | 0550H | **3ZP71** | $152.67 | **$117.45** | 4.0 |
| **Photoelectric** | 32 to 120 | 10% to 85% | 115VAC, 230VAC | 0551H | **3ZP72** | 156.67 | **120.55** | 4.0 |

### SAMPLING TUBES FOR DUCT MOUNTED SMOKE DETECTORS

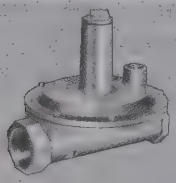
| Duct Width (Ft.) | Actual Tube Length (Ft.) | Maple Chase Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1 to 2.5** | 2.5 | 0532 | **3ZP68** | $6.11 | **$4.70** | 0.7 |
| **2.5 to 5.0** | 5.0 | 0533 | **3ZP69** | 10.13 | **7.79** | 0.8 |
| **5.0 to 10.0** | 5.0 (2 pc. kit) | 0534 | **3ZP70** | 15.67 | **12.05** | 4.0 |

### WEATHERPROOF ENCLOSURE FOR SMOKE DETECTORS

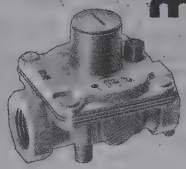
| Description | Maple Chase Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **For indoor/outdoor use. Includes mounting screws, sampling tube, gaskets, & instructions.** | 0590 | **3ZP73** | $119.51 | **$91.95** | 9.0 |

# GAS PRESSURE REGULATORS

MAXITROL



**No. 3UP33**
**Lever Acting Regulator**



**No. 3UP35**
**Poppet-Type Regulator**



**No. 3UP36 Straight-Thru-Flow Regulator**



**No. 3UP32**
**Balanced-Valve Regulator**

**NOTE: All Maxitrol appliance regulators should be installed and operated in accordance with Maxitrol's "Safety Warning" Bulletin (included with product).**

These Maxitrol gas pressure regulators are for use with natural, manufactured, mixed, LP, or LP gas-air mixtures. For residential, commercial, and industrial applications. Housings are corrosion-resistant aluminum alloy. Some models include optional use automatic vent limiting device (ball check permits free inhalation for fast regulator-diaphragm response on opening cycle, but limits gas escapement to allowable ANSI limits should a diaphragm rupture). To insure fast response of the regulator when equipped with a ball check type automatic vent limiting device, regulators must be mounted in upright position (see installation instructions). No. 3UP35 has integral vent limiting orifice. External venting must be in accordance with government and plumbing codes and regulations.

**Nos. 4E224, 4E225, and 3UP33 Lever Acting Gas Regulators.** Used to reduce intermediate pressure (up to 10 PSI) to a level usable by standard low pressure controls (4-12" WC). For main burner and pilot load applications requiring positive dead-end lock-up (reduced pressure maintained under static conditions when no gas is flowing to downstream controls) and precise regulating control from full flow down to pilot flow. Nos. 4E224 and 4E225 include optional automatic vent limiting device. (Max. 5 PSI Nat, 2 PSI LP, with automatic vent limiting device.)

**These regulators provide no downstream over-pressure protection in the event of failure. They should not be used if the appliance controls downstream will not safely contain gas when exposed to supply pressure.**

**For use on commercial ranges,** baking ovens, commercial water heaters, boilers, unit heaters, steam generators, and furnaces. May be used as single stage regulator reducing pounds pressure to normal burning pressure, or as first stage (line) regulator of 2-stage systems on equipment already fitted with an appliance regulator; i.e., 2 PSIG house piping systems. AGA and CGA Design Certified.

**Nos. 4E226 and 3UP35 Poppet-Type Regulators.** For burner and pilo load applications where precise control of tiny flows is an essen tial operating requirement. **Range of regulation:** Main burner an pilot No. 4E226 @ 250 CFH, No. 3UP35 @ 90 CFH; individual loa - No. 4E226 @ 160 CFH; No. 3UP35 @ 40 CFH. AGA and CG Certified for 1/2 PSIG rated pressure under the ANSI standard fo gas pressure regulators. No. 3UP35 includes integral vent limitin orifice. No. 4E226 includes optional automatic vent limitin device.

**Nos. 4E227 and 3UP36 Straight-Thru-Flow Regulators.** For main burn er only applications not requiring a lock-up type regulato Should NOT be used as a line regulator ahead of low pressur controls. For gas-fired appliances and equipment used on lo pressure gas supply. Under static conditions when no gas is flow ing, outlet pressure will rise to the line pressure. This conic straight-thru-flow design permits gas to flow straight through th regulator without changing directions, unlike other design Frictional flow resistance is reduced, resulting in greater capac ty. Improved flow pattern provides sensitive regulation extremely low pressure differentials. May be used with all fue gases, and air or other non-corrosive gases within its pressur limits. AGA and CGA Certified for 1/2 PSIG rated pressure unde ANSI standard for gas pressure regulators. No. 4E227 include optional automatic vent limiting device.

**Nos. 3UP32 and 3UP34 Balanced Valve Regulators.** For main burne and pilot applications. Balanced valve design virtually eliminate inlet pressure effect acting on the valve. No. 3UP32 - regulatin stability is improved and hunting tendencies reduced. Precis regulation over a broad range of pressures and flow rates. Fo gas-fired boilers, steam generators, industrial furnaces, oven and similar high-demand equipment. No. 3UP34 - relatively sma size regulator body with greater capacity characteristics. Ideall suited for infra-red heaters, and pilot lines of large industri heaters and boilers.

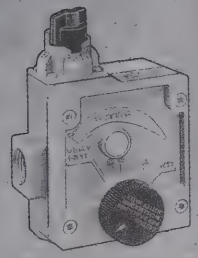
## CUBIC FEET PER HOUR @ PRESSURE DROP (IN. W.C.)

| Stock No. | 0.3 | 1.0 | 2.0 | 3.0 | 4.0 | 7.0 | 1/2 PSI | 3/4 PSI | 1 PSI |
|---|---|---|---|---|---|---|---|---|---|
| 4E224 | 30 | 55 | — | 95 | — | 145 | 204 | 250 | 289 |
| 4E225 | 70 | 128 | — | 221 | — | 338 | 476 | 583 | 673 |
| 3UP33 | — | 260 | — | 450 | — | 690 | 972 | 1191 | 1375 |
| 3UP35 | 60 | 110 | 155 | — | — | — | — | — | — |
| 4E226 | 150 | 274 | 387 | — | — | — | — | — | — |
| 4E227 | 262 | 478 | 676 | 828 | 956 | — | — | — | — |
| 3UP36 | 675 | 1200 | 1742 | 2134 | 2464 | — | — | — | — |
| 3UP32 | — | 1200 | — | 2100 | — | 3200 | 4500 | 5500 | 6350 |
| 3UP34 | — | 438 | 620 | 760 | 876 | — | — | — | — |

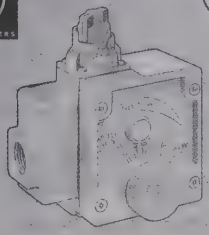
## GAS PRESSURE REGULATOR ORDERING DATA

| Type | Pipe Size (In.) | Max. Inlet Pressure, PSI | Outlet Pressure Range (In $H_2O$) | Inlet Emerg. Exposure Limits, PSI | Ambient Temp. Limits, °F | Mounting Position | Maxitrol Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lever Acting** | 1/2 x 1/2 | 2, 5, 10 | 4-12" | 65 | -40 to 205 | Upright | 325-3 | **4E224** | $65.29 | **$26.05** | 0.9 |
| **Lever Acting** | 1 x 1 | 2, 5, 10 | 4-12 | 65 | -40 to 205 | Upright | 325-5A | **4E225** | 137.47 | **55.10** | 2.0 |
| **Lever Acting** | 1¼ x 1¼ | 10 | 4-12 | 65 | -40 to 225 | Multipoise | 325-7 | **3UP33** | 157.90 | **92.15** | 3.0 |
| **Poppet** | 1/2 x 1/2 | 1/2 | 3-6 | 2.5 | 32 to 225 | Multipoise | RV47L | **3UP35** | 27.25 | **15.85** | 0.1 |
| **Poppet** | 3/4 x 3/4 | 1/2 | 3-6 | 2.5 | 32 to 225 | Upright | RV48 | **4E226** | 41.42 | **16.42** | 0.6 |
| **Straight-thru-flow** | 3/4 x 3/4 | 1/2 | 3-6 | 3 | -40 to 205 | Upright | RV52 | **4E227** | 76.56 | **30.35** | 1.0 |
| **Straight-thru-flow** | 1¼ x 1¼ | 1 | 3-6 | 5 | -40 to 205 | Multipoise | RV61 | **3UP36** | 110.19 | **64.35** | 48.0 |
| **Balanced Valve** | 1¼ x 1¼ | 10 | 3-6 | 25 | -40 to 205 | Upright | 210D | **3UP32** | 462.45 | **270.25** | 56.0 |
| **Balanced Valve** | 3/4 x 3/4 | 5 | 3-6 | 12.5 | -40 to 205 | Multipoise | R500S | **3UP34** | 85.46 | **49.90** | 1.0 |

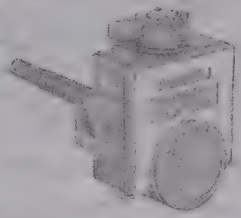
# GAS WATER HEATER CONTROLS



No. 2E704



No. 2E705



No. 4E121



No. 4E122

- For replacement of standard gas water heater controls
- Automatic shutoff of main and pilot gas in the event of pilot failure
- 4E121 has special style pointer knob for limited clearance applications
- Temperature adjustment
- Manifold pressure tap
- Built-in energy cut-off, noncycling high limit switch

PIPE SIZE: Inlet 1/2" NPT. Outlet 1/2" inverted flare

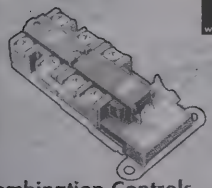
PILOT CONNECTION: 1/4" Compression fitting

MOUNTING: 3/4" NPT

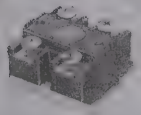
## SPECIFICATIONS AND ORDERING DATA

| as pe | Pressure Regulation Main Burner | BTUH Capacity | Pilot | Sensing Element (In.) | Temperature Range°F | Shank Length (In.) | Brand | Mfr's Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| at | 3.5" WC | 75,000 | Fixed | 4½ | 70-160 | 1¼ | White-Rodgers | 37C73U-168 | **2E704** | $174.49 | **$79.30** | 2.5 |
| P | 10.0" WC | 140,000 | Fixed | 4½ | 70-160 | 1¼ | White-Rodgers | 37C72U-169 | **2E705** | 266.41 | **166.50** | 2.5 |
| at | 4.0" WC | 40,000 | Fixed | 5½ | 160 | 1⅜ | Robertshaw | 110-202 | **4E121** | 169.89 | **67.25** | 2.0 |
| P | 10.0" WC | 100,000 | Fixed | 5½ | 160 | 1¼ | Robertshaw | 110-262 | **4E122** | 350.20 | **138.50** | 2.8 |

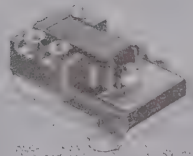
# ELECTRIC WATER HEATER THERMOSTATS AND LIMIT CONTROLS



Combination Controls
Nos. 2E679, 2E680



Limit Control
No. 2E104



Thermostats
Nos. 2E050, 2E051

**No. 2E104 Electric Water Heater Limit Control.** Features DPST open on rise switch. Manual reset.

**No. 2E050 Electric Water Heater Thermostat.** Features SPST control.

**No. 2E051 Electric Water Heater Thermostat.** Features SPDT control. Terminal 1 is common and on temperature rise, it opens circuit 1 & 2, and closes circuits 1 & 4.

**No. 2E679 Combination Control.** Factory assembled combination of No. 2E104 limit control and No. 2E050 thermostat.

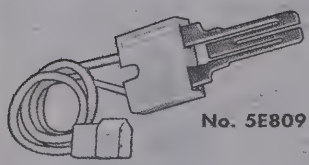
**No. 2E680 Combination Control.** Factory assembled combination of No. 2E104 limit control and No. 2E051 thermostat.

## SPECIFICATIONS AND ORDERING DATA

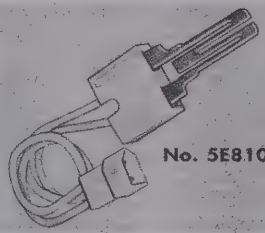
| Description | Switch Action | Temp. Range | Electrical Ratings: Non-Inductive 120 / 240V | Non-Inductive 277V | Non-Inductive 480V | Pilot Duty 120 / 480V | Watts 120V | Watts 240V | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PST Limit | Open on Rise | 170°F | — | 40A | 25A | 125VA | — | — | 754-1 | **2E104** | $19.54 | **$11.13** | 0.2 |
| PST hermostat | Open on Rise | 90-150°F | 30A | 25A | 12.5A | 125VA | 3000 | 6000 | 755-1 | **2E050** | 20.50 | **12.26** | 0.2 |
| PDT hermostat | — | 90-150°F | 30A | 25A | 12.5A | 125VA | 3000 | 6000 | 756-1 | **2E051** | 26.61 | **15.01** | 0.2 |
| os. 2E104 2E050 | — | — | — | — | — | — | — | — | 755-50 | **2E679** | 39.45 | **23.44** | 0.4 |
| os. 2E104 2E051 | — | — | — | — | — | — | — | — | 756-50 | **2E680** | 44.00 | **25.95** | 0.4 |

# GAS BURNER CONTROLS

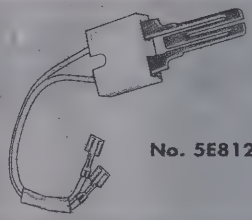
## HOT SURFACE IGNITORS



No. 5E809



No. 5E810



No. 5E812

- **All universal replacements have 5.5" leads rated at 250°F**
- **Usable with either 15, 17, or 45 second H.S.I. systems**
- **AGA Design Certified and CGA Certified**
- **120V, 60Hz, 5.0 amps**
- **White-Rodgers brand**

### HOT SURFACE IGNITOR ORDERING DATA

| Replaces OEM No. 767A- | Electrical Connection | Ceramic Insulator Mounting Locator | Mfr's. Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|
| **309, 356** | 2 Terminal receptacle with .093 male pins | Sealed combustion | 767A-356 | **5E809** | $35.54 | **$21.95** | 0. |
| **303, 353, 357** | 2 Terminal receptacle with .093 male pins | Tab on left hand side | 767A-357 | **5E810** | 39.70 | **23.83** | 0. |
| **301, 306, 350, 354, 361** | 2 Terminal receptacle with .093 male pins | Tab on left hand side | 767A-361 | **5E811** | 35.66 | **21.96** | 0. |
| **310, 365** | 1/4" Female spade terminals, uninsulated | Tab on right hand side | 767A-365 | **5E812** | 35.55 | **21.96** | 0. |
| **311, 364, 366** | 2 Terminal receptacle with .084 male pins | Tab on right hand side | 767A-366 | **5E813** | 35.55 | **21.96** | 0. |

### HOT SURFACE IGNITION CROSS REFERENCE

| Mfr. | Mfr's. Model | Stock No. | Mfr. | Mfr's. Model | Stock No. | Mfr. | Mfr's. Model | Stoc No. |
|---|---|---|---|---|---|---|---|---|
| Amana | B1336102 | 5E809 | Majestic | 75-92-105 | 5E810 | Roberts Gordon | 90436600 | 5E81 |
| Amana | D99182 | 5E809 | Metzger | 201N | 5E810 | Smith HB | 50018 | 5E81 |
| Amana | 10041601 | 5E809 | Metzger | 201W | 5E810 | Superior Fireplace | 94851 | 5E81 |
| American Road Equipment | 201W | 5E810 | Mor-Flo | 3200618 | 5E810 | Trane Company | 340039P01 | 5E81 |
| Armstrong Air | 38322B001 | 5E810 | Nordyne | 105141000 | 5E810 | Trane Company | IGN23 | 5E81 |
| Claire Brothers | C-238 | 5E810 | Nordyne | 632-0880 | 5E810 | Wayne Home Equip. | 62821-001 | 5E81 |
| Claire Brothers | C-242 | 5E810 | Nordyne | 632-0770 | 5E810 | Wayne Home Equip. | 62821-002 | 5E81 |
| Coleman | 1474-051 | 5E810 | Norton | 201D | 5E811 | White L.B. Co. | 120-07549 | 5E81 |
| Coleman | 1474-052 | 5E810 | Norton | 201K | 5E810 | White-Rodgers | 767A-356 | 5E8 |
| Detroit Radiant | 201D | 5E811 | Norton | 201L | 5E810 | White-Rodgers | 767A-361 | 5E81 |
| DMO Industries | 20834 | 5E810 | Norton | 201N | 5E810 | White-Rodgers | 767A-357 | 5E8 |
| Dornback Furnace | 271W | 5E810 | Norton | 201R | 5E810 | Williamson | 09050 | 5E81 |
| Enerco Tech | 10399 | 5E810 | Norton | 201W | 5E810 | York International | 025-27766-000 | 5E81 |
| Evcon | 1474-051 | 5E810 | Norton | 271P | 5E811 | York International | 025-27774-000 | 5E81 |
| Evcon | 1474-052 | 5E810 | Norton | 271N | 5E810 | York International | 025-29043-000 | 5E81 |
| Hupp Industries | 09050 | 5E810 | Norton | 271W | 5E810 | York International | 025-29050-000 | 5E81 |
| Majestic | 75-92-104 | 5E810 | Rheem | 62-22441-01 | 5E810 | | | |

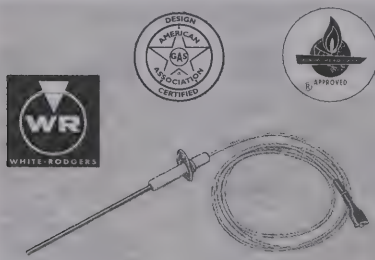
## HARNESS CONNECTOR



For hot surface ignition systems. Harness connects 5E809-5E813 ignitors to 4E95 4E956 ignition modules (p. 3343). Wire (18 ga.) and connectors are rated at 105°( Features 24" control lead length. White-Rodgers brand (F115-0100).

**No. 4E946.** Shpg. wt. 0.3 lbs. List.....$11.2
Each.....**$9.7**

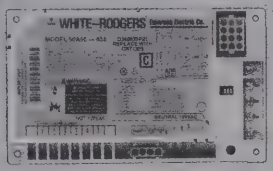
## FLAME SENSOR



- **For hot surface ignition systems**
- **Can be mounted remotely on multiple burner or adjacent to ignitor on other applications**
- **Designed to detect presence of flame**
- **Alumina ceramic insulator**
- **High temperature Kanthal flame rod material can withstand 1800°F**
- **Probe length is 3"**
- **Teflon insulated (250°C rating) lead wire**
- **30" lead length**
- **1/4" female spade terminal**
- **AGA Design Certified and CGA Certified.**

**No. 4E957.** Flame Sensor. White-Rodgers brand. (760-401). Shpg. wt. 0.1 lbs. List $47.49. Each.....**$32.**

## INTEGRATED FURNACE CONTROLS




These modules are automatic gas interrupted ignition controls, employing a microprocessor to continually monitor, analyze, and control the proper operation of the gas burner, inducer, and fan. Signals interpreted during continual surveillance of the thermostat, and flame sensing element initiate automatic ignition of the burner, sensing of the flame, and system shutoff during normal operation. The control incorporates system fault analysis for quick gas flow shutoff, coupled with automatic ignition retry upon sensing a fault correction. White-Rodgers brand.

**INPUT VOLTAGE: 25VAC 50/60Hz**

**MAX. INPUT CURRENT @ 25VAC: 0.35 amp**

**RELAY LOAD RATINGS:**

**VALVE RELAY: 1.5 amp @ 25VAC 50/60Hz 0.6 pf**

**IGNITOR RELAY: 6.0 amp @ 120VAC 50/60Hz resistive**

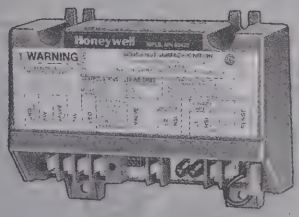
**OPERATING TEMPERATURE RANGE: -40 to 175°F**

**HUMIDITY RANGE: 5% to 93% relative humidity (non-condensing)**

### ORDERING DATA

| Lock-Out Time (Sec.) | Retries | Igniter Warm-Up Time (Sec.) | Valve Sequence | Pre-Purge Time (Sec.) | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **678** | 6 | 4 | 49 | 30 | 50A50-143 | **4DG53** | $173.92 | **$105.50** | 1.3 |
| **272** | 2 | 4 | 21 | 0 | 50A50-285 | **4DG54** | 173.92 | **105.50** | 1.3 |
| **272** | 2 | 4 | 21 | 0 | 50A50-286 | **4DG55** | 173.92 | **105.50** | 1.3 |
| **269** | 2 | 3 | 18 | 0 | 50A50-438 | **4DG56** | 173.92 | **105.50** | 1.3 |

## UNIVERSAL HOT SURFACE IGNITION MODULE



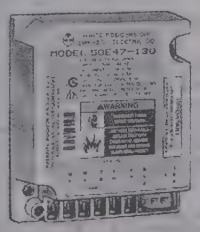

- **Replaces more than 100 HSI modules, including Honeywell, White-Rodgers, and Robertshaw**
- **Can be used on both single-rod and dual-rod hot surface ignition systems**
- **LED signals system lockout, weak flame signal or another internal error**
- **Selectable number of ignition trial (1 or 3), and selectable length of trial for ignition (4 or 7 seconds)**

Provides operating control of a direct ignition system using a 120VAC hot surface ignitor. **NOTE:** For use ONLY in 60 Hz systems. Honeywell brand.

### ORDERING DATA

| System Use | Ignitor Voltage | Igniter Warm-up Time (Sec.) | Pre-purge Time (Sec.) | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **60 Hz only** | 120VAC, 60 Hz | 34 | 32 | S8910U1000 | **4CZ50** | $134.46 | **$101.45** | 0.7 |

## IGNITION MODULES




These hot surface ignition units are microprocessor based gas ignition controls designed primarily for direct ignition and burner supervision applications such as gas furnaces, boilers, water heaters, and other similar devices. Dimensions: 1½H x 4W x 5"D. AGA Certified and CGA Certified. White-Rodgers brand.

**ELECTRICAL RATING: 24V AC, 60 Hz, 0.2 amps**

**AMBIENT OPERATING RANGE: -40 to +175°F (-40 to +70°C)**

**FLAME-OUT RECOGNITION TIME: 0.8 seconds maximum**

**MOUNTING: Panel mount or 4 x 4" junction box**

### CROSS-REFERENCE

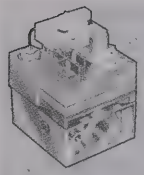
| No. 4E956 (50E47-50) Replaces White-Rodgers Models | No. 4E954 (50E47-130) Replaces White-Rodgers Models | No. 4E955 (50E47-150) Replaces White-Rodgers Models |
|---|---|---|
| 50E47-40 | 50E47-101 | 50E47-140 |
| 50E47-50 | 50E47-110 | 50E47-150 |
| 50E47-60 | 50E47-120 | 50E47-160 |
| 50E47-70 | 50E47-130 | 50E47-170 |

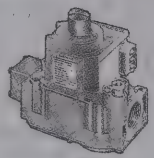
### ORDERING DATA

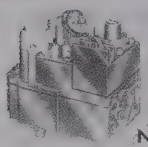
| Lock-out Time (Sec.) | Retries | Igniter Warm-up Time (Sec.) | Pre-purge Time (Sec.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **4** | 2 | 45 | 30 | **4E956** | $132.32 | **$76.45** | 0.8 |
| **7** | 0 | 45 | 30 | **4E954** | 132.32 | **76.45** | 0.8 |
| **7** | 2 | 45 | 30 | **4E955** | 132.32 | **76.45** | 0.8 |

# GAS BURNER CONTROLS

## HONEYWELL COMBINATION & COMBINATION DUAL GAS VALVES


No. 4E095


No. 1D278


No. 2E791


No. 4E098

- Valves may be mounted 0 to 90° in any direction from upright position of gas control
- Gas control knob, wiring connections, pressure regulator, gas pilot adjustments, and thermocouple connection are a on top of control for easy access

COMBINATION DUAL VALVES

- Solenoid-operated valve opens and closes on thermostat call for heat. Diaphragm-operated valve opens under control of regulator; closes if gas or power supply is interrupted

ALL VALVES:
REGULATOR SETTING: Natural gas, 3.5" WC
AMBIENT OPERATING RANGE: 32-175°F; Nos. 4E190 and 4E770, 0-175°F
MAXIMUM PRESSURE RANGE: 1/2 PSI
PILOT GAS CONNECTION: 1/4" compression fitting furnishe
PRESSURE TAP: 1/8" NPT
REGULATOR ADJUSTMENT: 2.0 to 5.0" WC

| Coil Voltage | Inlet/ Outlet Size, (In.) | BtuH Capacity | Gas Type | LP Conversion Kit | Reducer Bushing Kit, (In.) | Side Taps | Inlet Pressure Tap | Honeywell Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMBINATION VALVES** | | | | | | | | | | | | |
| **750 mV** | 1/2 x 3/4 | 250,000 | Nat. | No | 3/4 x 1/2<br>1/2 x 3/8 | Yes | Yes | VS820A1047 | **4E095** | $210.44 | **$95.30** | 3.0 |
| **750 mV** | 3/4 x 3/4 | 335,000 | Nat. | No | (2) 3/4 x 1/2<br>1/2 x 3/8 | Yes | Yes | VS820A1054 | **4E096** | 227.96 | **102.70** | 3.0 |
| **24V, 60 Hz** | 1/2 x 3/4 | 250,000 | Nat. | Yes | 1/2 x 3/4 | No | Yes | V800A1476 | **2E791** | 122.75 | **69.00** | 2.7 |
| **24V, 60 Hz** | 1/2 x 3/4 | 250,000 | Nat. | Yes | 3/4 x 1/2<br>1/2 x 3/8 | Yes | Yes | V800A1070 | **2E726** | 132.65 | **80.45** | 3.0 |
| **24V, 60 Hz** | 3/4 x 3/4 | 335,000 | Nat. | Yes | (2) 3/4 x 1/2 | Yes | Yes | V800A1088 | **2E520**† | 147.68 | **75.85** | 3.2 |
| **120V, 60 Hz** | 3/4 x 3/4 | 335,000 | Nat. | No | 3/4 x 1/2<br>1/2 x 3/8 | Yes | Yes | V400A1095 | **4E098** | 342.04 | **176.00** | 3.2 |
| **COMBINATION DUAL VALVES** | | | | | | | | | | | | |
| **24V, 60 Hz** | 1/2 x 1/2 | 130,000 | Nat. | Yes | 1/2 x 3/8 | No | Yes | VR8200A2132 | **4E190** | 140.71 | **53.65** | 2.2 |
| **24V, 60 Hz** | 1/2 x 1/2 | 150,000 | Nat. | Yes | 1/2 x 3/8 | No | Yes | VR8204A2076 | **1D279** | 99.79 | **68.20** | 1.8 |
| **24V, 60 Hz** | 3/4 x 3/4 | 300,000 | Nat. | Yes | (2) 3/4 x 1/2 | No | Yes | VR8304M4507 | **1D278*** | 138.07 | **80.45** | 1.9 |
| **24V, 60 Hz** | 1/2 x 3/4 | 190,000 | Nat. | Yes | 3/4 x 1/2 | No | Yes | VR8300A3500 | **4E770** | 92.05 | **59.70** | 3.0 |
| **24V, 60 Hz** | 1/2 x 3/4 | 190,000 | Nat. | Yes | 3/4 x 1/2 | No | Yes | VR8300A3518 | **5E763**† | 114.00 | **66.65** | 2.0 |
| **24V, 60 Hz** | 3/4 x 3/4 | 200,000 | Nat. | Yes | 3/4 x 1/2 | No | Yes | VR8300A4508 | **5E764** | 122.17 | **71.45** | 2.3 |
| **24V, 60 Hz** | 3/4 x 3/4 | 200,000 | Nat. | Yes | 3/4 x 1/2 | No | Yes | VR8300A4516 | **5E765**† | 128.15 | **75.40** | 2.4 |
| **24V, 60 Hz** | 1/2 x 3/4 | 270,000 | Nat. | Yes | 3/4 x 1/2 | No | Yes | VR8304M3509 | **5E766*** | 134.23 | **78.20** | 1.9 |
| **3/4" Straight Flange for Dual Valves (Nos. 4E190, 4E770, 5E763-5E766)** | | | | | | | | 393690-14 | **1D297** | 6.99 | **4.71** | 0. |

(†) Includes 36" thermocouple. (*) Intermittent pilot application.

## ROBERTSHAW COMBINATION & COMBINATION DUAL GAS VALVES


No. 4E124


No. 4E126

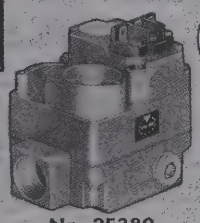

No. 4E287

- Combination valves feature a manual valve, automatic pilot safety valve, inlet/outlet screens, pilot outlet, pilot gas filter, and pressure regulator
- Dual valves are six function valves incorporating 2 automatic valves
- Valves may be mounted in any position except upside down

REGULATOR SETTING: Natural 3.5" WC
AMBIENT OPERATING RANGE: -40 to 175°F
MAXIMUM PRESSURE RATING: 1/2 PSI
PILOT GAS CONNECTION: 1/4" compression fitting furnish
PRESSURE TAP: 1/8" NPT
REGULATOR ADJUSTMENT RANGE: 3.0 to 4.0" WC

| Coil Voltage | Inlet/ Outlet Size (In.) | BtuH Capacity | Gas Type | LP Conversion Kit | Reducer Bushing Kit | Side Taps | Inlet Pressure Tap | Robertshaw Model | Stock No. | List | Each | Sl W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COMBINATION VALVES** | | | | | | | | | | | | |
| **24V, 60 Hz** | 1/2 x 3/4 | 240,000 | Nat. | Yes | 3/4 x 1/2" | No | No | 700-400 | **4E123** | $114.66 | **$53.35** | |
| **24V, 60 Hz** | 1/2 x 3/4 | 240,000 | Nat. | Yes | 3/4 x 1/2 | Yes | No | 700-402 | **4E124** | 126.85 | **60.00** | |
| **24V, 60 Hz** | 3/4 x 3/4 | 300,000 | Nat. | Yes | 3/4 x 1/2 | No | No | 700-406 | **4E125** | 171.69 | **62.60** | |
| **120V, 60 Hz** | 3/4 x 3/4 | 300,000 | Nat. | No | 3/4 x 1/2 | No | No | 700-454 | **4E126** | 228.75 | **84.05** | |
| **750mV** | 1/2 x 1/2 | 100,000 | Nat. | No | 1/2 x 3/4 | Yes | No | 700-502 | **4E127** | 173.21 | **69.65** | |
| **750mV** | 3/4 x 3/4 | 300,000 | Nat. | No | 3/4 x 1/2 | No | No | 700-506 | **4E128** | 174.97 | **76.90** | |
| **COMBINATION DUAL VALVES** | | | | | | | | | | | | |
| **24V, 60 Hz** | 1/2 x 3/4 | 200,000 | Nat. | Yes | 1/2 x 3/8<br>3/4 x 3/8 | No | Yes | 720-400 | **4E287** | 143.70 | **45.60** | |
| **24V, 60 Hz** | 1/2 x 3/4 | 200,000 | Nat. | Yes | 3/4 x 1/2 | Yes | Yes | 720-402 | **4E400** | 144.01 | **48.15** | |
| **24V, 60 Hz** | 3/4 x 3/4 | 200,000 | Nat. | Yes | 3/4 x 1/2 | No | Yes | 720-406 | **4E288** | 150.70 | **52.55** | |

## SINGLE FUNCTION MAIN GAS VALVE



No. 2E380

- Relay operated diaphragm valve with side taps
- Valve may be mounted in any position except upside down
- Natural or LP gas applications
- LP applications require a 100% shut off system
- AGA Certified; CGA Certified

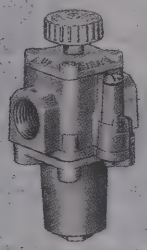
MAXIMUM PRESSURE RATING: 1/2 PSI (14"WC)

AMBIENT OPERATING RANGE: -40 to 175°F (-40 to 79°C)

| Coil Voltage | Inlet/Outlet Size (In.) | Capacity (BtuH) | Side Taps | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 250-750 mV | 1/2 x 1/2 | 250,000 | No | 36C21U-206 | **2E380** | $172.88 | **$92.10** | 2.2 |

## GAS PILOT SAFETY VALVE

MP1323



No. 2E374

- Gas cock safety valve is a nonregulated, safe light, in-line appliance control with 100% shutoff
- For use with approved natural or LP gas; vented systems only
- May be mounted horizontally, vertically, and 90° from horizontal
- Valve has optional pilot filter, adjusted pilot pressure and manual shutoff
- 100 PSI Protection
- AGA and CGA Certified
- Valve has pilot and thermocouple connections

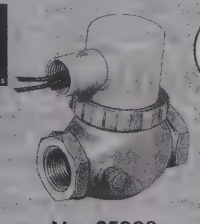
REGULATOR ADJUSTMENT RANGE: non-regulated

SWING RADIUS: 2.5"

AMBIENT OPERATING RANGE: 32 to 175°F

| Coil Voltage | Inlet/Outlet Size (In.) | Capacity (BtuH) | Electrical Connection | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 20 to 30 mV | 1/2 x 1/2 | 142,000 | Thermocouple | 764-742 | **2E374** | $79.12 | **$53.20** | 0.9 |

## SOLENOID VALVES



No. 2E228

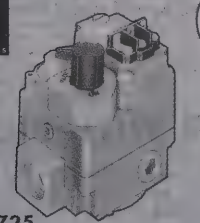
- For use on all types of gas burners, natural and LP
- Resilient-mounted coil, sound deadening cover, compression spring closing, and soft seat construction give positive performance with the least possible noise
- AGA, CGA, and CSA Certified
- Normally closed

MAXIMUM PRESSURE RATING: 1/2 PSI (14" WC)

AMBIENT OPERATING RANGE: -40 to 125°F (-40 to 51°C)

| Coil Voltage | Inlet/Outlet Size (In.) | Capacity (BthH) | Gas Type | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 24VAC | 1/2 x 1/2 | 329,000 | Nat. & LP | 2509-254 | **2E228** | $153.89 | **$93.90** | 1.6 |
| 24VAC | 3/4 x 3/4 | 451,000 | Nat. & LP | 2509-256 | **2E229** | 168.96 | **101.95** | 2.0 |

## COMBINATION GAS VALVES



No. 2E725

- Valves may be mounted in any position except upside down
- Both main valve seat and line-interrupter seal with line pressure, assuring positive gas seal off
- Gas control knob, pilot adjustment screw, regulator adjustment, and thermocouple connection are located on top of control for easy access
- AGA and CGA Design Certified

REGULATOR SETTING: Natural gas, 3.5" WC; LP gas, 11.0" WC

AMBIENT OPERATING RANGE: -40 to 175°F

MAXIMUM PRESSURE RATING: 1/2 PSI (14.0" WC)

PILOT GAS CONNECTION: 1/4" compression fitting furnished

PRESSURE TAP: 1/8" NPT

REGULATOR ADJUSTMENT RANGE: 2.5 to 5.0" WC

| Coil Voltage | Inlet/ Outlet Size (In.) | Capacity (BtuH) | Gas Type | Side Taps | Inlet Pressure Tap | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 24VAC, 60 Hz | 1/2 x 3/4 | 230,000 | Nat. | Yes | No | 36C03-333 | **2E725** | $198.43 | **$48.50** | 2.4 |
| 24VAC, 60 Hz | 3/4 x 3/4 | 280,000 | Nat. | Yes | Yes | 36C03-433 | **2E402** | 195.80 | **63.40** | 2.5 |
| 750 mV | 1/2 x 3/4 | 230,000 | Nat. | Yes | No | 36C03U-333 | **2E854** | 267.99 | **76.50** | 2.3 |
| 750 mV | 3/4 x 3/4 | 280,000 | Nat. | Yes | Yes | 36C03U-433 | **2E401** | 273.41 | **87.55** | 2.4 |

**ushing Kit** for No. 2E725 or 2E854 gas valve. Includes 1/2 x 3/8" nd 3/4 x 1/2" reducer bushings.

**o. 2E730.** Shpg. wt. 0.1 lbs. List $6.89. Each ..... $5.33

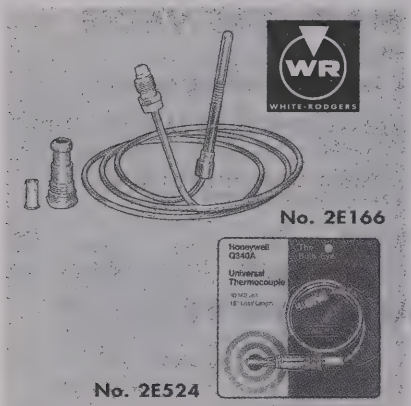
**LP Adapter Kit†.** Use to convert No. 2E725, 2E401, 2E402, or 2E854 valve from natural gas to LP gas applications.

**No. 2E731.** Shpg. wt. 0.1 lbs. List $2.79. Each ..... $1.36

† When using No. 2E731, an external regulator must be in the gas line ahead of the valve and properly set for LP (11-14.0" WC).

# GAS BURNER CONTROLS

## REPLACEMENT THERMOCOUPLES




- For any standing pilot system
- Stainless steel tip construction

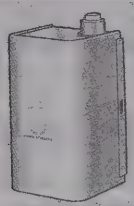
**For 30 millivolt systems.** Come with adapters that fit virtually any pilot and provide positive "on target" positioning. Long-life stainless steel tip construction. Instructions included.

**Nos. 2E166, 2E140-2E142 & 2E337.** Stainless steel tip. Each thermocouple is individually packed with universal adapter fittings included. White-Rodgers brand.

**Nos. 2E720, 2E524, 2E721 & 2E525.** Stainless steel outer jacket, heavy 0.108" inner element. Universal adapter. In bubble pack. Honeywell brand.

| Length (In.) | Brand | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 18 | White-Rodgers | 2E166 | $8.18 | $5.02 | 0.1 |
| 18 | Honeywell | 2E720 | 12.40 | 5.89 | 0.1 |
| 24 | White-Rodgers | 2E140 | 8.65 | 5.12 | 0.2 |
| 24 | Honeywell | 2E524 | 14.92 | 6.23 | 0.1 |
| 30 | White-Rodgers | 2E141 | 8.87 | 5.25 | 0.2 |
| 30 | Honeywell | 2E721 | 13.12 | 5.88 | 0.2 |
| 36 | White-Rodgers | 2E142 | 9.44 | 5.35 | 0.2 |
| 36 | Honeywell | 2E525 | 13.73 | 6.77 | 0.2 |
| 48 | White-Rodgers | 2E337 | 10.62 | 5.91 | 0.2 |

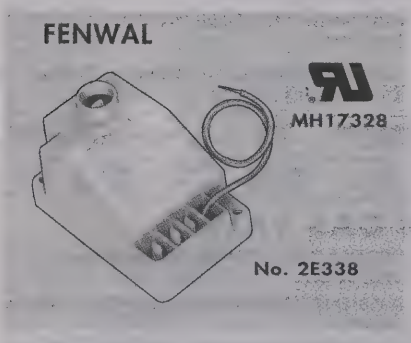
## THERMOCOUPLE PILOT SWITCH




- Manual reset switch interrupts main gas valve circuit if pilot flame goes out
- Bright red reset button provides visual indication when switch is open
- Manual reset provides safe light feature
- SPST switch
- White-Rodgers brand (30E02-1)

| Non-Inductive 120AC | 240AC | 24VDC | Pilot Duty 120VAC | 240VAC | 30VAC | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8.0A | 3.0A | 0.06A | 125VA | 125VA | 90VA | 3¾ | 2 | 2¼ | 2E231 | $95.32 | $54.50 | 0.7 |

## AUTOMATIC GAS PILOT RE-LIGHTER

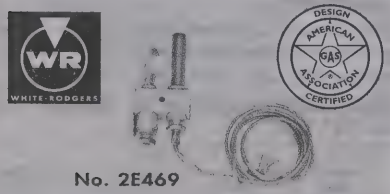



- For all natural or propane gas-fired standing pilot systems
- Use with most gas heaters, furnaces, dryers, ovens and water heaters which incorporate a safety shutdown device
- Instantly senses pilot outage and provides constant electrical spark until pilot re-ignites—before safety shutdown occurs
- Unit consists of sensor/electrode element and control circuitry housed in fire retardant ABS plastic case
- Standard thermocouple mounting hardware included
- No changes to existing equipment necessary
- UL Recognized (MH17328)

**Note:** Control is for use with standing pilot systems only. Any other use voids warranty and may create unsafe conditions. Fenwal brand (05-379000-250).

| Electrical Ratings | Electrode Lead (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 24/120VAC, 50/60 Hz, 25mA | 24 L | 2E338 | $91.23 | $40.95 | 0.5 |

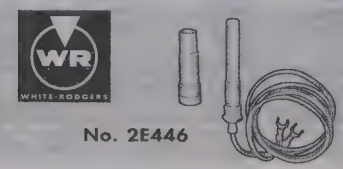
## 750 MILLIVOLT GENERATOR WITH PILOT




- Provides power for 750 millivolt self-generation control systems
- For natural gas only
- For replacement of similar screw-in type generators
- Has 32" long armored cable leads with spade terminals
- Use with millivolt thermostat No. 4E033 and gas valves Nos. 2E380, 2E401 or 2E854
- Replaceable generator cartridge
- AGA Certified
- White-Rodgers brand (G01A432)

**No. 2E469.** Shpg. wt. 0.2 lbs. List $69.8
Each ..... $38.4

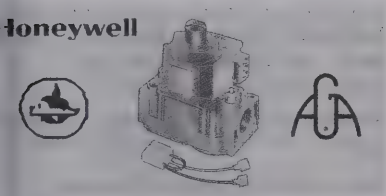
## 750mV POWER GENERATOR CARTRIDGE




- Replacement power cartridge for 750 millivolt self-generating heating control systems
- Screw-in type adapter
- 36" Armored cable leads with spade terminals
- White-Rodgers brand (G01A332)

**No. 2E446.** Shpg. wt. 0.2 lbs. List $53.4
Each ..... $31.0

## UNIVERSAL ELECTRONIC IGNITION GAS VALVE

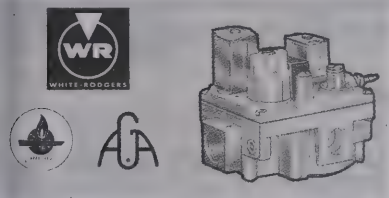



- **Replaces more than 100 standard-opening IP, HSI or DSI valves**
- **415,000 BtuH max. reg., N.G.**
- **Uses 2 simple adapters to convert between IP and HSI/DSI applications**

Universal electronic ignition combination gas control for use with direct spark ignition, hot surface ignition or intermittent pilot ignition in 24VAC, gas-fired appliances, with capacities from 30 to 415 cfh. Includes manual valve, two automatic operators, pressure regulator, pilot adjustment, pilot plug, and ignition adapter. For use with natural or manufactured gas or LP gas. Includes converter kit to adapt from natural to LP gas. All adjustments and wiring connections accessible from top of control. Honeywell brand.

| Coil Voltage | Inlet-Outlet Size (In.) | A.G.A Cert. Capacity cfh | A.G.A Cert. Capacity $m^3/r$ | Gas Type | Pressure Regulator | Includes | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24V, 50 Hz | 3/4 x 3/4 | 300 | 8.5 | Nat. | Standard | (2) 3/4 x 1/2-in. NPT bushings and (1) 1/2 x 3/8-in. NPT bushing | VR8345M4302 | **4CZ56** | $116.92 | **$93.75** | 1.8 |

## REDUNDANT GAS VALVES



Compact multifunction valves are designed to meet requirements for use with all types of intermittent ignition systems. All valve adjustments and features are located on top surface of control for easy accessibility. Valves may be mounted horizontal, vertical, and 90° from horizontal. Include pilot filter, adjustable pilot pressure, and manual shut-off valve. AGA and CGA Design Certified. White-Rodgers brand.

**ELECTRICAL RATING: 0.3 amps**
**REGULATOR SETTING: Natural gas, 3.5" W.C.; L.P. gas, 10.0" W.C.**
**MAXIMUM PRESSURE RATING: 1/2 PSI (14.0" W.C.)**
**AMBIENT OPERATING RANGE: -40 to +175°F (-40 to +79°C)**

| Coil Voltage | Inlet-Outlet Size (In.) | Capacity A.G.A. Std. Gas | System Usage | Slow/Step Opening | Gas Type | Side Taps | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **24V, 60 Hz** | 1/2 x 3/4 | 140,000 | Proven Pilot, HSI, DSI | — | Nat | Yes | 36E36-304 | **4E950*** | $135.35 | **$73.75** | 2.8 |
| **24V, 60 Hz** | 1/2 x 3/4 | 140,000 | Proven Pilot, HSI, DSI | 1.2" W.C. | Nat | Yes | 36E38-301 | **4E951*** | 143.96 | **82.80** | 3.4 |
| **24V, 60 Hz** | 1/2 x 3/4 | 226,800 | Proven Pilot, HSI, DSI | 2.5" W.C. | LP | Yes | 36E38-302 | **4E952*** | 143.96 | **82.80** | 3.0 |
| **24V, 60 Hz** | 1/2 x 3/4 | 140,000 | Proven Pilot, HSI, DSI | Slow | Nat | No | 36E98-304 | **4DG52*** | 135.35 | **77.20** | 2.4 |
| **24V, 60 Hz** | 1/2 x 3/4 | 140,000 | Proven Pilot w/pressure switch | — | Nat | No | 36E93-304 | **4E953** | 246.28 | **83.70** | 3.0 |

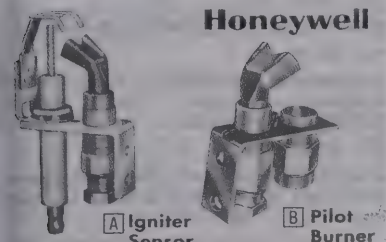
Pilot fittings included with valves.

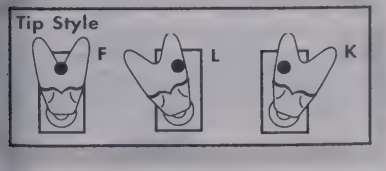
### REDUNDANT GAS VALVE CROSS-REFERENCE

| No. 4E950 Replaces these OEM Control Nos. | | | | | No. 4E951 Replaces these OEM Control Nos. | No. 4E952 Replaces these OEM Control Nos. | No. 4DG52 Replaces these OEM Control Nos. | No. 4E953 Replaces these Carrier Control Nos. |
|---|---|---|---|---|---|---|---|---|
| 36E01-103 | 36E01-225 | 36E01-245 | 36E36-106 | 36E36-237 | 36E03-205 | 36E03-206 | 36E98-201 | BDP5 |
| 36E01-105 | 36E01-226 | 36E01-248 | 36E36-201 | 36E36-238 | 36E03-209 | 36E03-215 | 36E98-202 | 340AX |
| 36E01-106 | 36E01-227 | 36E01-305 | 36E36-210 | 36E36-244 | 36E03-211 | 36E03-217 | 36E98-203 | 1316AY |
| 36E01-201 | 36E01-233 | 36E01-307 | 36E36-216 | 36E36-245 | 36E03-224 | 36E03-301 | 36E98-204 | 616AP361 1501 |
| 36E01-204 | 36E01-238 | 36E01-308 | 36E36-220 | 36E36-254 | 36E38-301 | 36E38-302 | 36E98-205 | EF32CW183 |
| 36E01-205 | 36E01-240 | 36E01-310 | 36E36-227 | 35E36-255 | | | 36E98-206 | |
| 36E01-206 | 36E01-241 | 36E36-1 | 36E36-230 | 36E36-303 | | | | |
| 36E01-221 | 36E01-243 | 36E36-2 | 36E36-232 | 36E36-304 | | | | |
| 36E01-223 | 36E01-244 | 36E36-105 | 36E36-235 | 36E36-305 | | | | |

**See Cross-Reference Information on page opposite inside back cover.**

## IGNITER SENSORS AND PILOT BURNERS




[A] Igniter Sensors. Nonprimary-aerated combination pilot burner and igniter. Used with ignition modules in intermittent pilot systems on page 3348. Honeywell brand.

[B] Pilot Burners. Nonprimary-aerated, insert orifice-type pilot burner for main burner ignition. Provide main burner ignition for natural and LP gas-fired equipment. Used with Honeywell Q340A (30 mv) thermocouple to provide automatic pilot safety control or with Honeywell Q313A (750 mv) thermopile in a self-powered system. Each pilot burner is shipped with .018" orifice for natural gas; also contains .010" orifice (unassembled) for LP gas. Honeywell brand.

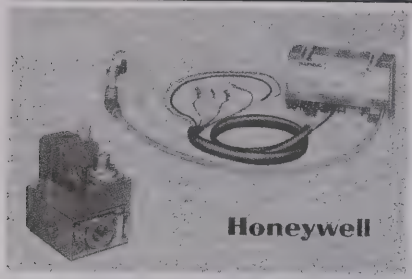
### [A] IGNITER SENSORS

| Orifice (In.) | Bracket | Tip | Fitting (In.) | Honeywell Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **.018** | B | F | 1/4 | Q345A1305 | **1D286** | $26.21 | **$18.24** | 0.2 |
| **.018** | B | L | 1/4 | Q345A1313 | **1D285** | 26.68 | **18.44** | 0.2 |
| **.018** | B | K | 1/4 | Q345A1321 | **1D284** | 26.19 | **18.23** | 0.2 |

### [B] PILOT BURNERS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **.018/.010** | B | F | 1/4 | Q314A4586 | **1D289** | 19.67 | **16.31** | 0.2 |
| **.018/.010** | B | L | 1/4 | Q314A6094 | **1D288** | 19.67 | **16.31** | 0.2 |
| **.018/.010** | B | K | 1/4 | Q314A6102 | **1D287** | 19.67 | **16.31** | 0.2 |

# GAS PILOT SYSTEMS




## HONEYWELL INTERMITTENT PILOT GAS IGNITION SYSTEM

- For converting conventional standing pilot systems to intermittent pilot systems
- Each kit includes: intermittent pilot module, dual combination valve, ignition cable, wiring harness, and misc. installation hardware
- Requires ignitor-sensor, see page 3347

REGULATOR SETTING: Natural gas, 3.5" WC; LP gas, 11" WC

AMBIENT OPERATING RANGE: 32-175°F

MAXIMUM PRESSURE RANGE: 1/2 PSI

PILOT GAS CONNECTION: 1/4"

PRESSURE TAP: 1/8" NPT

REGULATOR ADJUSTMENT RANGE Natural, 3.0 to 5.0" WC; LP, 8.0 to 12 WC

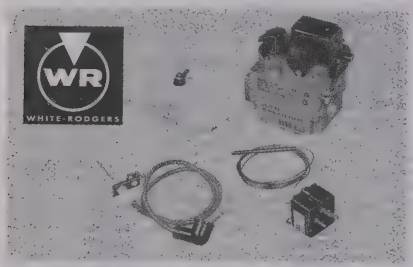
MAX LOCKOUT TIME: 90 seconds

SHUTOFF: 100%

| Control Voltage | Inlet/Outlet Size (In.) | BtuH Capacity | Gas Type | Reducer Bushing Kit (In.) | Side Taps | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 24V, 60 Hz | 1/2 x 3/4 | 270,000 | Nat. or LP | (2) 3/4 x 1/2 | No | Y8610U3003 | 5E757 | $265.85 | $192.75 | 3.6 |

### REPLACEMENT MODULES ORDERING DATA

| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Control Module for Natural Gas System | S8610F1008 | 5E761 | $126.36 | $84.90 | 1.0 |
| Control Module for Natural or LP Gas System | S8610U1003 | 5E758 | 136.73 | 89.70 | 0.9 |




## PILOT GAS IGNITION SYSTEM

- Natural gas only
- For converting conventional standing pilot systems to intermittent pilot systems
- Each kit includes: intermittent pilot module, dual combination valve, igniter-sensor assembly, ignition cable, and misc. installation hardware

REGULATOR SETTING: Natural gas, 3.5" WC

AMBIENT OPERATING RANGE: -20 to 150°F

MAXIMUM PRESSURE RANGE: 1/2 PSI

PILOT GAS CONNECTION: 1/4"

PRESSURE TAP: 1/8" NPT

REGULATOR ADJUSTMENT: 2.5-5.0" WC

SHUTOFF: Non 100%

| Control Voltage | Inlet/Outlet Size (In.) | BtuH Capacity | Gas Type | Reducer Bushing Kit (In.) | Side Taps | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 24V, 60 Hz | 3/4 x 3/4 | 335,000 | Natural | (2) 3/4 x 1/2<br>1/2 x 3/8 | No | 21D18-3 | 2E563 | $383.69 | $186.00 | 4.0 |




### PLUG-IN REPLACEMENT MERCURY SENSOR ORDERING DATA*

| Plug-In Bulb Style | Length (In.) | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| #19 | 48 | 3098-134 | 1N180 | $100.26 | $65.60▲ | 0.3 |
| #20 | 48 | 3098-156 | 1N181 | 100.26 | 65.60▲ | 0.3 |

*Replacement for many OEM type mercury sensors (▲) Net prices, not subject to discounts.

## ROBERTSHAW INTERMITTENT PILOT GAS IGNITION SYSTEM




- For converting conventional standing pilot systems to intermittent pilot systems
- Each kit includes: intermittent pilot module, dual combination valve, igniter-sensor assembly, ignition cable, and wiring harness

REGULATOR SETTING: Natural gas, 3.5" WC; LP gas, 11" WC

AMBIENT OPERATING RANGE: -40-175°F

MAXIMUM PRESSURE RANGE: 1/2 PSI

PILOT GAS CONNECTION: 1/4"

PRESSURE TAP: 1/8" NPT

REGULATOR ADJUSTMENT: 3-7" WC

No. 4E396:

MAXIMUM LOCKOUT TIME: None. Continuous trial for ignition SHUTOFF: Non-100%

No. 4E397:

MAXIMUM LOCKOUT TIME: 60 seconds SHUTOFF: 100% after 3 trials for ingnition.

| Control Voltage | Inlet/Outlet Size (In.) | BtuH Capacity | Gas Type | Reducer Bushing Kit (In.) | Side Taps | Robertshaw Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 24V, 60 Hz | 1/2 x 3/4 | 200,000 | Nat. | 3/4 x 1/2 | No | 712-017 | 4E396 | $282.76 | $141.80 | 3.5 |
| 24V, 60 Hz | 1/2 x 3/4 | 200,000 | LP | 3/4 x 1/2 | No | 712-008 | 4E397 | 424.70 | 174.25 | 3.7 |

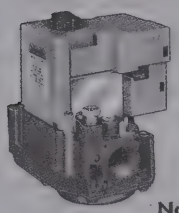
### REPLACEMENT MODULES ORDERING DATA

| Description | Robertshaw Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Control Module for Natural Gas System | 780-001 | 4E958 | $198.76 | $101.70 | 1.3 |
| Control Module for LP Gas System | 780-002 | 4E959 | 210.19 | 108.90 | 1.7 |

# GAS PILOT SYSTEM AND REPLACEMENT MOTORS

## SMARTVALVE™ SYSTEM

**Honeywell**



No. 3UC66

**Application:** Combines gas flow and electric intermittent pilot sequencing functions into a single unit.

- **Use in natural gas applications such as furnaces, rooftop furnaces, boilers, infrared heaters, space heaters and commercial cooking units**
- **Replaces Honeywell models SV9500M2603, SV9500M2645, SV9500M2674, and SV9500M2682**
- **American Gas Association and Canadian Gas Association design certified**

**IMPORTANT:** System is for direct replacement of only OEM installed controls. Do not attempt to apply this control except as a direct replacement for the specific Honeywell models listed at left.

**SMARTVALVE™ SYSTEM SPECIFICATIONS**

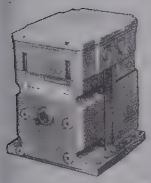
| Type of Gas | Inlet/Outlet Size (In.) | Pressure Regulator Setting in In.-WC | Type of Opening |
|---|---|---|---|
| Natural | 1/2 x 1/2 | 3.5 | Standard |

### SMARTVALVE™ ORDERING DATA

| Description | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **ıtural Gas Combination Control including gas flow control and electronic intermittent pilot** | SV9500M2603 | **3UC66** | $166.46 | **$105.95** | 2.1 |
| **eplacement Igniter/Flame Rod Assembly with 30 in. leadwires** | Q3400A1024 | **3UC35** | 69.59 | **44.45** | 0.2 |

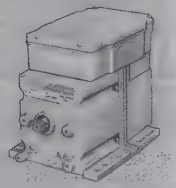
## MODUTROL IV™ MOTORS

**Honeywell**



Nos. 3UC17 & 3UC18

E4436 LR1620



No. 3UC19

**Application:** 3-Wire, reversing, SPDT proportional motors used to operate dampers and valves.

- **Electric drive circuit**
- **Drive up to 6 Modutrol™ motors**
- **No. 3UC19 contains integral helical springs to return motor shafts to normal position (full closed) on power interruption**
- **Adapter bracket included to match the height of MOD III motors**

**MODUTROL IV™ MOTORS SPECIFICATIONS**

| Stock No. | Ambient Temp. Range (°F) | Voltage (50/60Hz) | Power (W) | Norm. Running Torque (Lb.-In.) | Crankshaft (In.) | Timing (Seconds) | Stroke (Degrees) |
|---|---|---|---|---|---|---|---|
| **3UC17** | -40 to 150 @ 25% duty cycle | 24 | 15 | 150 | Double ended, 3/8 square | 30 to 60 | 90 to 160 |
| **3UC18** | | 24 | 16 | 75 | | 30 to 60 | 90 to 160 |
| **3UC19** | | 24 | 21 | 25 | | 30 to 60 | 90 to 160 |

**ELECTRICAL RATINGS**

| One Contact (40 VA pilot duty, 20/240 VAC on opposite contact) | 120V | 240V |
|---|---|---|
| **Full Load** | 7.2 | 3.6 |
| **Lock Rotor** | 43.2 | 21.6 |

### MODUTROL IV™ MOTORS ORDERING DATA

| Motor Style | Replaces Honeywell Motor(s) | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Non-spring return** | M644A-E | M6184D1035 | **3UC17** | $518.00 | **$329.50** | 8.0 |
| **Non-spring return** | M934 | M9174D1007 | **3UC18** | 567.50 | **361.75** | 8.0 |
| **Spring return** | M965, M975 | M9175D1014 | **3UC19** | 645.45 | **410.75** | 10.0 |

## MODUTROL IV MOTOR ACCESSORIES

**No. 4E391 Internal Transformer.** Converts Modutrol IV motors from low voltage to line voltage. Features multitap primary. 120/208/240VAC, 50/60 Hz, internally mounts in Modutrol IV motors. Honeywell brand (198162AA).

**No. 4E391.** Shpg. wt. 1.8 lbs. List ..... $119.09.
Each ..... **$48.05**

**No. 4E392 Internal Auxiliary Switch.** Controls equipment as a function of motor shaft position. Can be installed in any Tradeline Modutrol IV motor. Features 1 SPDT switch with selectable differentials of one or ten degrees. Electrical ratings 7.2/3.6 FLA (full load amps), 43.2/21.6 locked rotor amps at 120/240VAC. Honeywell brand (220736A).

**No. 4E392.** Shpg. wt. 0.3 lbs. List ..... $136.60.
Each ..... **$56.00**

**No. 1D298 Internal Auxiliary Switch.** Controls equipment as a function of motor shaft position. Can be installed in any Tradeline Modutrol IV motor. Features 2 SPDT switches with selectable differentials of one to four degrees. Electrical ratings, 7.2/3.6 FLA. 43.2/21.6 locked rotor amps at 120/240VAC. Honeywell brand (220736B).

**No. 1D298.** Shpg. wt. 0.2 lbs. List ..... $224.03.
Each ..... **$101.10**

**No. 1D281 Super Tradeline Damper Linkage for Internal or External Mounting.** Contains ball joints, motor crank arm, and damper arm for 1/2" diameter shaft. Honeywell brand (Q605D1069).

**No. 1D281.** Shpg. wt. 1.0 lbs. List ..... $188.28.
Each ..... **$79.40**

**No. 1D283 Tradeline Valve Linkage.** For Modutrol IV motors and Honeywell valves with 3/4" stem travel and 1⅜" bonnet diameter. Adjustable stem forces of 80 or 160 lbs. Honeywell brand (Q500D, 1000).

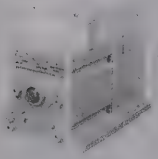
**No. 1D283.** Shpg. wt. 7.7 lbs. List ..... $243.91.
Each ..... **$97.80**

**No. 1D282** Tradeline Valve Linkage. For Modutrol IV motors and Honeywell valves with 3/4" stem travel and 1C\," bonnet diameter. Adjustable stem forces of 160 or 320 lbs.

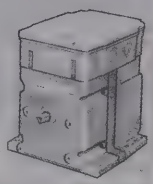
**No. 1D282.** Shpg. wt. 7.8 lbs. List ..... $243.91.
Each ..... **$97.80**

# MODUTROL MOTORS, VENT DAMPER, & PROPORTIONAL THERMOSTAT

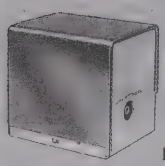
Honeywell



No. 4E388
Modutrol IV Motor



Nos. 4E389, 4E390 & 1D290 Modutrol IV Motor



E4436 LR95329

No. 2E976
Damper Motor

## MODUTROL MOTORS

**No. 4E388.** Two-position, spring-return motor used to operate dampers and valves. Integral helical spring returns motor shaft to fully closed position on power interruption.

**Nos. 4E389 and 4E390** are for use with Honeywell Series 90 controllers. Electronic drive circuit positions motor between fully open and fully closed according to demand of controller.

**No. 4E389.** Reversing, proportional spring return motor used to operate dampers and valves. Integral helical spring returns motor shaft to fully closed position on power interruption.

**No. 4E390 and 1D290** have reversing, proportional motor for operating dampers and valves.

**Nos. 4E388, 4E389, 4E390, and 1D29**

- **Double-ended crankshaft: 3/8"**
- **Ambient Temperature Rating: -40 to 140°F**
- **Timing: 30 to 60 seconds**
- **Stroke: 90 to 160 degrees**

**No. 2E976.** Spring-return motor for tw position zone or damper controls. Sprir returns motor to start position on pow failure. Internal SPDT switch for contro ling auxiliary equipment, addition motors, or a burner interlock switch.

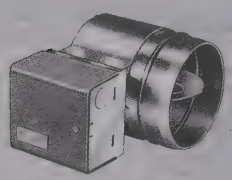
**No. 2E976:**

- **Crankshaft: 3/8" double-ended**
- **Ambient temperature: 32-125°F**
- **Timing: 30 seconds**
- **Stroke: 75 degrees**

| Application / Description | Voltage On / Off | Power Watts / VA | Torque lb.-in. | Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **For use with low voltage On/Off Signal** | 24 | 20 / 21 | 50 | 4 1/2 | 4 5/8 | 3 3/4 | M8185D1006 | **4E388** | $415.99 | **$295.50** | 9.7 |
| **For use with Series 90 Electronic Controllers** | 24<br>24 | 23 / 24<br>12 / 15 | 50<br>35 | 6 29/64<br>6 29/64 | 5 1/2<br>5 1/2 | 8 49/64<br>8 49/64 | M9185D1004<br>M9164D1009 | **4E389****<br>**4E390**** | 731.10<br>482.22 | **521.00**<br>**343.00** | 9.6<br>7.1 |
| **For use with Series 70 Electronic Controllers** | 24 | 18 / 19 | 150 | 7 | 6 | 9 | M9184D1021 | **1D290***† | 992.34 | **470.50** | 7.0 |
| **For use with two wire thermostats or other SPST Controllers** | 120 | 27 / — | 20 | 6 29/64 | 5 1/2 | 7 5/16 | M436A1116 | **2E976** | 294.70 | **211.50** | 5.2 |

(*) Includes tapped shaft. (**) For use with 3XK97 - 3XK99 and 3XL01 controllers. (†) For use with 4E242-4E243 and 3UC83 - 3UC85 controllers.

Honeywell



No. 1H807

## AUTOMATIC VENT DAMPER

- **Reduce heat loss by closing off the vent between heating cycles**
- **Use only on atmospheric-type, gas-fired furnaces and boilers equipped with drafthoods**
- **Direct spark ignition, intermittent pilot, or standing pilot control systems must have dual automatic valve combination gas control**
- **Interlock switch for safe operation**
- **Burner will fire only with damper in open position**
- **Prewire plug-in receptacle for use with Honeywell S8610F1008, Y861003003, and Penn Baso G60 or G66**

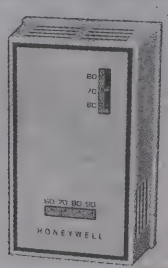
**CLOSING TIME: 20 seconds, nominal**

**POWER CONSUMPTION: 5W**

**HEAT ANTICIPATOR SETTING: 0.2 amps**

| Damper Size | Voltage | Honeywell Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| **4"** | 24 VAC, 60 Hz | D896A1186 | **1H807** | $226.73 | **$162.00** | 5.0 |
| **5** | | D896A1194 | **1H806** | 226.73 | **162.00** | 5.3 |
| **6** | | D896A1277 | **1H805** | 226.73 | **168.25** | 5.7 |

Honeywell




No. 3XK96

## PROPORTIONAL THERMOSTAT

**Provides low voltage,** 3-wire control for valve motors, damper motors, and balancing relays in heating or cooling system applications.

- **Bellows element adjusts potentiometer slider to regulate motor operation**
- **Removable setting knob prevents unathorized tampering with set point**

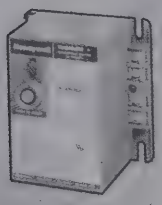
### PROPORTIONAL THERMOSTAT SPECIFICATIONS & ORDERING DATA

| Application | Temp. Range °F | Throttling Range F | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Heating or Cooling** | 56 to 84 | 2.5 | 1.4 | T921A1191 | **3XK96** | $297.72 | **$184.25** | 1.1 |

# OIL BURNER PRIMARY CONTROLS

## OIL PRIMARIES AND COMBINATION CONTROLS

Honeywell



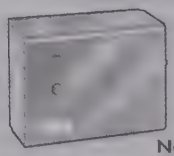
Nos. 2E864, 4E291



No. 2E521

LR95329-1

MP268



No. 2E865

**All models feature a** Protector relay unit which cycles burner on demand of thermostat and shuts down burner on loss of flame or system malfunction. All models except No. 2E521 feature a solid state flame sensing circuit which utilizes a cadmium sulfide sensor cell (not included). No. 2E521 employs helical bimetal to sense flame presence. Units feature intermittent ignition and external safety switch reset button. Honeywell brand.

**No. 2E864. Box-Mount Oil Primary Control with Remote Alarm Function.** L.E.D. for lockout indication. Manual safety lever on safety switch assures burner shutdown during servicing. Capable of remote lockout indication power. UL Listed (MP268); CSA Certified (LR95329).

**No. 4E291. Box or Burner Housing-Mount Oil Primary Control.** Used with a 24VAC thermostat. This unit has integral transformer which powers low voltage control circuit. Features manual trip safety switch lever and lockout indicator light on terminal strip. Exposed terminal strip with screw terminal for low voltage connections.

**No. 2E521. Stack-Mount Oil Primary Control.** Features a Pyrostat flame detector which senses temperature changes of flue gases. Manual trip safety switch and element length adjustable 3½" x 5½". UL Listed (MH11564); CSA Certified (LR95329).

**No. 2E865. Horizontal-Mount Combination Primary/Hydronic Control.** Combines oil primary control with high limit, low limit, and circulator control. 1½" insulation and 3/4" NPT spud. Includes well adapter and heat conductive compound. UL Listed (MP268); CSA Certified (LR95329).

### SPECIFICATIONS AND ORDERING DATA

| Mounting | Control Type | Type of Ignition | Ignition Rating (VA) | Safety Switch Timing (Sec.) | Uses Cadmium Cell | Rated Amps 120VAC | Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Box Mount | Primary | Intermit. | 360 | 45 | Yes | 7.4 | 4 1/8 | 4 3/8 | 2 1/2 | R8184G1025 | 2E864 | $202.37 | $76.00 | 1.8 |
| Box or Burner Housing | Primary | Intermit. | 360 | 45 | Yes | 7.4 | 4 1/4 | 4 3/8 | 2 1/2 | R8184G4009 | 4E291 | 164.39 | 68.15 | 1.3 |
| Stack Mount | Primary | Interrupt. | 550 | 75 | No | 7.4 | 6 | 5 3/16 | 3 3/16 | RA117A1047 | 2E521 | 206.88 | 103.50 | 3.6 |
| Horiz. Mount | Primary/Hydronic | Intermit. | 360 | 45 | Yes | 4.4 | 7 1/8 | 5 1/4 | 3 7/16 | R8182D1111 | 2E865 | 493.87 | 198.25 | 5.8 |

### REPLACEMENT CADMIUM SULFIDE SENSOR CELL

For use with Nos. 2E864, 2E865, and 4E291 above. Plugs into existing mounting bracket. Sealed in glass to guard against moisture contamination. 140°F maximum ambient. Honeywell brand (130367).

**No. 2E523.** Shpg. wt. 0.1 lbs. List $28.56. Each.....$15.66

### CADMIUM SULFIDE FLAME SENSING DEVICE

For use with Honeywell Protector relay controls (sold above). Includes cadmium sulfide sensor cell, mounting bracket and 60 inch lead wire assembly. Honeywell brand (C554A1463).

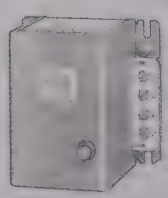
**No. 1D294.** Shpg. wt. 0.2. List $24.61. Each.....$15.99

## OIL PRIMARIES

**Fast-responding oil burner primary controls** have solid state control circuit. No. 2E341 can be used with 2-wire or 3-wire low voltage or line voltage thermostats. Nos. 2E727 and 2E343 use 2-wire thermostats only. Unit automatically opens electrical circuit of the thermostat, motor, or ignition transformer in event of flame or ignition failure. 45 second timing. No. 2E341 has safety switch indicator light. Ruggedly constructed with "high ambient" motor relay. Components not affected by vibration, high-temperatures, or fluctuating motor loads.

**Order flame detector separately.**

**Mounts on standard 4 x 4"** conduit box. External low voltage terminals. 120VAC, 60 Hz. 0.4A thermostat current. 10A full load motor rating. 3A ignition transformer rating. 4¼H x 4¼W x 2¾"D. UL Recognized Component (MP1323). CSA Certified (LR6246).



Oil Primary

LR6246



Flame Detector

MP1323

Order Flame Detector Separately

### OIL PRIMARY ORDERING DATA

| Ignition Type | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Intermittent | 668-401 | 2E727 | $178.65 | $57.85 | 2.3 |
| Intermittent | 668-430 | 2E341 | 206.85 | 66.95 | 2.0 |

### FLAME DETECTOR ASSEMBLY

**For use with Nos. 2E341, 2E343, and 2E727.** Includes cadmium sulfide sensor cell, socket, and mounting bracket assembly with 48" lead wires. White-Rodgers brand (956-1).

**No. 2E360.** Shpg. wt. 0.1. List $30.43. Each.....$16.13

# OIL BURNERS, TRANSFORMERS & PUMPS

## BLUE ANGEL PLUS™ HIGH EFFICIENCY OIL BURNERS

- **Uses #1 and #2 fuel oil only**
- **Fully assembled**

**The Blue Angel Plus** has a complete firing range from 0.5 GPH (70,000 Btu/hr.) to 3.00 GPH (420,000 Btu/hr.) **without changing any parts except the nozzle.** Burners have 0.75 GPH nozzle and primary control factory installed. Not for use with waste oil.

**Flame-lock flame retention head** keeps flame uniform. Prevents smoke and soot build-up. Prepositioned and factory installed.

**Motor.** Meets NEMA standard. Split phase, 3450 RPM, 115V, 60 Hz.

**Fuel pump.** Compact, 3450 RPM, standard single stage.

**"High static pressure firing",** forced air at the point of flame ignition, results in more efficient oil combustion and heat generation.

**Components.** Utilizes state-of-the-art components for ease of installation, simplified serviceability, and outstanding performance.

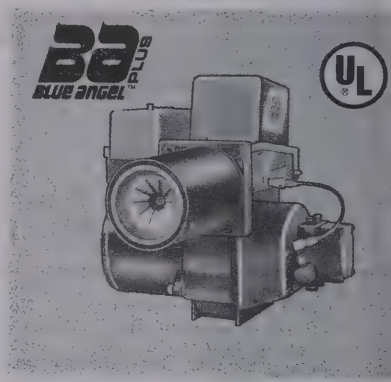
**Ignition.** 10,000V constant duty transformer.

**Air-cone.** Precision machined, cast iron construction. Requires no changes for entire firing range.

**Fan housing.** Aluminum alloy, die cast housing maintains alignment of all moving parts for lifetime of burner.

**UL Listed (MP98).** 12½H x 12⅞W x 7¾"D. Center line of tube to floor: 7". Adjustable mounting flange included.

**Replacement Parts Available**
**1-800-323-0620**
™




**BLUE ANGEL PLUS™**
**3-YEAR LIMITED WARRANTY**
Text of warranty available on request. See "Manufacturers Warranties" on page opposite inside back cover.

| Air Tube (In.) Length | Dia. | Blue Angel Plus Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6 | 4 | 300-711 | **2E747** | $434.00 | **$363.00** | 35.0 |
| 9 | 4 | 300-713 | **2E748** | 434.00 | **363.00** | 37.0 |

## OIL BURNER IGNITION TRANSFORMERS

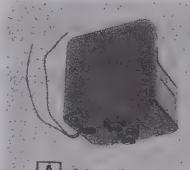
120V, 60 Hz, 23MA; 10,000V secondary. UL Listed (E12341) and CSA Certified (LR5310), except No. 2E538. France brand.

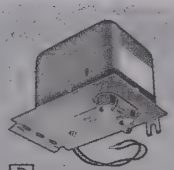
A **No. 2E538.** Connector may be mounted in knockout on end of case or either of two knockouts in base of case. Base multiple tapped to allow interchange with most original equipment units.

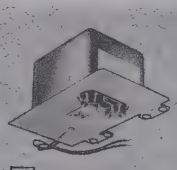
B **No. 2E507.** Interchangeable with France model LKG-4.

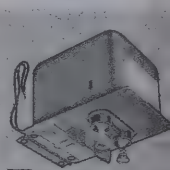
C **No. 2E508.** Interchangeable with France model LKG-2.

D **No. 2E509.** Interchangeable with France model LKT.


A No. 2E538

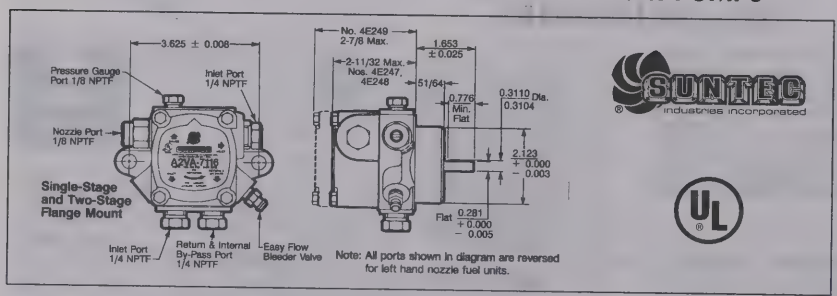

B No. 2E507


C No. 2E508


D No. 2E509

| Key | For | Base Dimen., (In.) Less Hinge W | L | France Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | General Use | 4 3/8 | 5 3/8 | LA4V | **2E538** | $95.33 | **$40.95** | 8.7 |
| B | Wayne (end hinge) | 4 7/16 | 6 3/8 | 5 LAY-03 | **2E507** | 91.43 | **37.55** | 8.5 |
| C | Wayne (side hinge) | 4 7/16 | 7 13/16 | 5 LAY-30 | **2E508** | 91.43 | **37.55** | 8.5 |
| D | Beckett | 4 | 5 27/32 | 5 LAY-04 | **2E509** | 91.43 | **37.55** | 8.5 |

## OIL BURNER PUMPS




SUNTEC industries incorporated

- **Two-stage gearsets (No. 4E249)**
- **Can be mounted in any position except No. 4E249 which cannot be mounted upside down**
- **Clockwise rotation facing shaft**
- **Suitable for No. 2, No. 1 fuel oil or kerosene**
- **Suntec brand**

**Nos. 4E247 and 4E248 Single-Stage Pumps.** Feature single pipe installations to 6" Hg vacuum, two-pipe installations to 12" Hg vacuum, and lift or gravity feed applications with 10 PSI max inlet/return pressure, 3 GPH capacities, factory set 100 PSI.

**No. 4E249 Two-Stage Pump.** Used for gravity feed and high lift, long run applications. The first stage draws oil to the pump; the second stage pressurizes oil to the nozzle. Feature two pipe installations up to 17" Hg vacuum, lift or gravity feed applications with 10 PSI max inlet/return pressure, 3 GPH capacities, factory set 100 PSI.

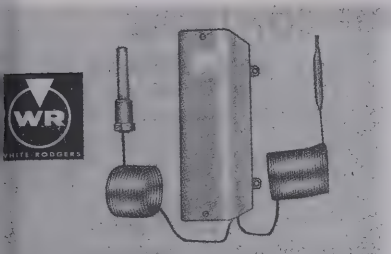
- **Oil Burner Pumps draw oil from the tank and pressurize oil to nozzle**
- **Patented positive drive gear and shaft assembly**

### OIL BURNER PUMPS ORDERING DATA

| Stage | RPM | Adjustable Range, PSI | Suntec Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1 | 1725 | 100-150 | A1VA-7112 | **4E247** | $74.43 | **$53.00** | 3.6 |
| 1 | 3450 | 100-200 | A2VA-7116 | **4E248** | 70.87 | **48.55** | 3.5 |
| 2 | 3450 | 100-200 | B2VA-8216 | **4E249** | 98.63 | **76.15** | 3.8 |

## INDOOR-OUTDOOR HOT WATER CONTROL

**Adjusts water temperature according to outdoor air temperature**



No. 2E398

**Used with conventional hot water heating systems to** correct system lag or overshoot when outdoor air temperature changes. Control increases or decreases frequency of burner operation to maintain proper balance between boiler temperature and outdoor temperature. Cuts fuel costs, provides closer temperature control.

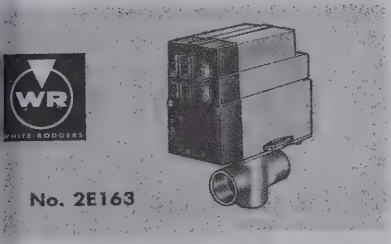
**Includes outdoor sensing bulb** with 30 ft. long capillary and indoor insertion bulb and well with 15 ft. long capillary. Insertion bulb well has 1/2 NPT thread and is 2⅞" long beyond thread.

**Adjustments provided for basic boiler temperature setting** and for heat loss of specific installation (reset ratio). Heavy-duty construction. **Control range:** 80-250°F. 10°F fixed differential. SPST open-on-rise switch rated inductive 14A @ 120VAC and 7A @ 240VAC. Case is 9H x 3½W x 4"D. White-Rodgers brand (1050-1).

**No. 2E398.** Shpg. wt. 5.8 lbs. List $405.85. Each ..... **$189.00**

## 24V HYDRONIC ZONE VALVES

**Quiet operation**



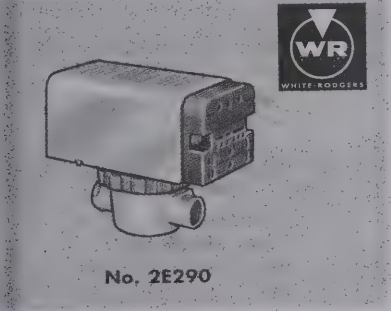
No. 2E163

**Self-aligning barrel-type valve system** uses line pressure to seal off without binding on opening and closing. Visible automatic recycling manual operator. Use with 3-wire thermostat, No. 2E165 or equivalent. Opens or closes in 45 sec. Max. water temp., 240°F; max. system pressure, 50 PSI; operating differential, 15 PSI across valve. 24V 0.40 amp. Auxiliary contacts rated 2 amps at 24 VAC. 4⅝W x 5⅞H x 2¾"D. White-Rodgers brand.

| Tubing Size | Max. Press. Diff. Across Valve | Cv | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3/4"** | 15 PSI | 23.5 | 1311-102 | **2E163** | $172.34 | **$74.40** | 3.1 |
| **1** | 15 | 37.0 | 1311-103 | **2E164** | 181.67 | **82.65** | 3.2 |

## COMPACT 24V HYDRONIC ZONE VALVES

**No "swing clearance" needed for installation**



No. 2E290

**These adjustable-flow valves are highly suited for baseboard units,** fan coils, convectors, etc. Unique design requires no "swing clearance" for installation. Sweat fittings and push-in type wiring simplify installation. Flow indicator dial simplifies system balancing. Special spring-loaded disc and seat construction assures seal-off. Non-synchronous torque motor operates valve: on command of a 2-wire thermostat, valves open. Open time, 30 sec.; close time, 20 sec. 150 PSI max. pressure, 40 to 250°F temp. range. Non-recycling manual operator provided. Both sizes have auxiliary switch circuit to control burner/chiller and/or circulator. Snap-off cover allows access to all components without removing valve body for convenient servicing. Operator rated 0.35A at 25VAC.

| Tubing Size | Body Length | Max. Press. Diff. Across Valve | Cv | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/2"** | 2⅝" | 30 PSI | 5.4 | 13A02-101 | **2E290** | $178.00 | **$79.45** | 2.3 |
| **3/4** | 2⅝ | 25 | 6.0 | 13A02-102 | **2E291** | 180.12 | **81.80** | 2.4 |

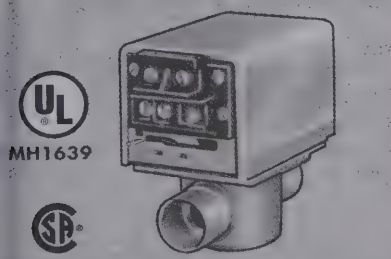
## MOTORIZED 24V HYDRONIC ZONE VALVES

**Honeywell**

**Installs without disassembling valve. Opens or closes in 15 seconds**

MH1639

LR95329-1



No. 2E789

**Provides two-position straight through control of supply water** for baseboard radiation, convectors, fan coil units and zone systems. Sweat fit design enables installation without disassembling valve. Manual opener for operation upon power failure. Valve returns to automatic position when power is restored. Rotating ball plug for leakproof sealing and longer life. Easy access assembly allows servicing without removal from the line. Integral auxiliary end switch permits sequencing of auxiliary equipment. High torque, constant speed motor operates valve on command of a 2-wire thermostat. Opens or closes in 15 sec. **Max. water temp.:** 240°F (115.5°C). **Max. static pressure:** 125 PSI; max. pressure differential across valve: 20 PSI. 3½"L. Honeywell brand.

| Tubing Size | Wiring | Cv | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2"** | 18" Leads | 3.5 | V8043E1004 | **2E870** | $180.08 | **$76.30** | 2.5 |
| **3/4** | 18" Leads | 3.5 | V8043E1012 | **2E787** | 187.74 | **78.50** | 2.2 |
| **3/4** | Terminal Block | 3.5 | V8043F1036 | **2E789** | 207.76 | **88.05** | 2.5 |
| **1** | 18" Leads | 3.5 | V8043E1020 | **2E788** | 218.28 | **92.15** | 2.3 |
| **1** | Terminal Block | 3.5 | V8043F1051 | **2E790** | 240.14 | **98.65** | 2.5 |

### REPLACEMENT POWERHEADS FOR HYDRONIC ZONE VALVES ABOVE

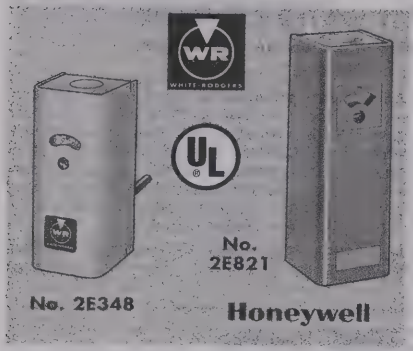
Complete powerhead may be replaced without breaking line connections or draining the system.

**No. 1D296. Replacement powerhead** for use with zone valve Nos. 2E870, 2E787, and 2E788. Honeywell brand (40003916-026). Shpg. wt. 1.0. List $94.27. Each ..... $66.35

**No. 1D295. Replacement powerhead** for use with zone valve Nos. 2E789 and 2E790. Honeywell brand (40003916-048). Shpg. wt. 1.0. List $102.17. Each ..... $71.30

# HOT WATER CONTROLS

## WELL IMMERSION CONTROLS




All units are for limiting or regulating temperature of liquids in boilers or tanks. Used as high limit, reverse action, or SPDT switching action. May be mounted horizontally or vertically.

### WHITE-RODGERS No. 2E348 SPST

Used as high limit operator control. Furnished with universal well adapter and tube of heat transfer compound to enable replacement without changing well on existing installation. UL Listed (MP2610). White-Rodgers brand (11C18-104).

### WHITE-RODGERS No. 2E146 SPDT

Provides SPDT switching for low limit and circulator control. Includes a 1/2" well adapter. UL Listed (MP2610). White-Rodgers brand (1131-128).

### HONEYWELL No. 2E821 SPDT

SPDT switching for high limit or low limit and circulator control. Includes 1/2" well adapter and tube of heat conductive compound. UL Listed; CSA Certified. Honeywell brand (L6006A1145).

| Switch | Adjustment Range, °F | Diff. °F | Contact Rating @ 24VAC | 120VAC | 240VAC | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| White-Rodgers SPST | 140-240 | 10-35 | 4.8A | 8A | 6A | 3 9/16 | 3 1/16 | 2 5/16 | **2E348** | $132.36 | **$56.05** | 1.6 |
| White-Rodgers SPDT | 100-240 | 7-45 | 2.9A | 7.4A | 3.7A | 5 13/32 | 3 13/32 | 2 39/64 | **2E146*** | 119.21 | **56.85** | 1.8 |
| Honeywell SPDT | 100-240 | 5-30 Adj. | — | 8A | 5.1A | 5 5/8 | 2 | 2 1/8 | **2E821** | 158.60 | **62.20** | 1.5 |

(*) Optional Thermal well 3XK90 (See Page 3356)

## STRAP-ON HOT WATER CONTROLS




- **All models may be attached directly to surface of pipe**
- **No tapping of boiler or draining of system necessary**
- **Hydraulic action element can be mounted in any position; no leveling is necessary**

### WHITE-RODGERS No. 2E349 SPST

"Open on temperature rise" control. Can be used as high limit control. UL Listed. CSA Certified (LR6246).

### WHITE-RODGERS No. 2E350 SPST

"Close on temperature rise" control. Can be used as operating control to start circulator pump or fan. UL Listed and CSA Certified.

### WHITE-RODGERS No. 2E145 SPDT

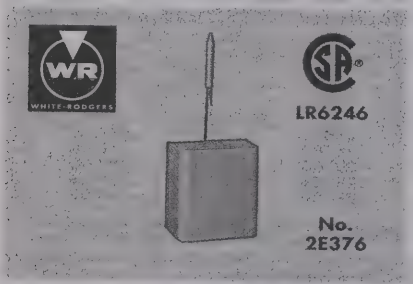
"Open/close on temperature rise" control. Provides high limit, low limit and circulator control. UL Listed and CSA Certified.

### HONEYWELL No. 2E859 SPDT

"Open/close on temperature rise" control. Provides high limit, low limit and circulator control. UL Listed (MP466); CSA Certified (LR95329).

| Switch Action | Range °F | Diff. °F | Contact Rating 120VAC | 240VAC | Brand | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| SPST | 100-240 | 10 | 10A | 6A | White-Rodgers | 11B02-1 | **2E349** | $104.96 | **$54.95** | 1.7 |
| SPST | 100-200 | 10 | 14A | 7A | White-Rodgers | 11B09-2 | **2E350** | 104.98 | **54.95** | 1.8 |
| SPDT | 100-240 | 10 | 7.4A | 3.7A | White-Rodgers | 1127-2 | **2E145** | 116.89 | **59.55** | 1.7 |
| SPDT | 65-200 | 5-30 Adj. | 8A | 5.1A | Honeywell | L6006C1018 | **2E859** | 149.60 | **53.40** | 1.4 |

## TRIPLE ACTION IMMERSION CONTROL

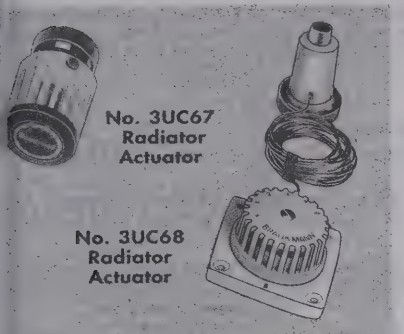



Designed for used on domestic hot water systems with a tankless coil to provide high limit protection, low limit control, and circulator control. Also used on other systems to replace dual high limit-low limit, or dual high limit circulator controls. High limit switch opens control circuit if element bulb loses charge. Furnished with universal well adapter, vertical-to-horizontal well adapter and tube of heat transfer compound. Gray enamel case with knockouts for electrical connections. 3½H x 3¾W x 2¼"D. White-Rodgers brand (11C61-103). CSA Certified (LR6246)

**No. 2E376.** Shpg. wt. 2.3 lbs. List $214.55. Each ..... **$100.05**

| Control | Range °F | Diff. °F | Switch Action | Motor Rating Full Load 120VAC | 240VAC | Valves & Relays 25VAC | 0.25 to 12VDC |
|---|---|---|---|---|---|---|---|
| High Limit | 140-240 | 10 to 35, adj. | Open on Rise SPDT | 8A | 6A | 3.2A | 0.25A |
| Low Limit/Circ. | 100-200 | | | | | | |

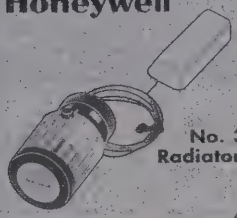
## HIGH CAPACITY THERMOSTATIC RADIATOR ACTUATORS AND VALVES



No. 3UC67 Radiator Actuator

No. 3UC68 Radiator Actuator

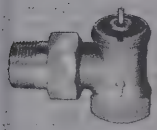
Honeywell



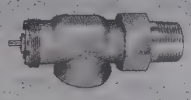
No. 3UC69 Radiator Actuator



No. 3UD02 Radiator Valve



No. 3UD05 Radiator Valve



No. 3UD08 Radiator Valve

**Application:** Used to provide precise and automatic control of room temperature in two-pipe systems by modulating the flow of hot water or steam through free-standing radiators, convectors and other heating units with high capacity requirements.

- **High capacity design prevents "too cool" complaints**
- **Continually monitor and adjust room temperature for consistent comfort and relief from underheating and overheating**
- **Tight shutoff on steam and hot water systems**
- **Valve seat disc is made of resilient material (EPDM)**
- **All working parts are replaceable while valve remains in service, in-line and under pressure (with a special tool; available at GPO)**
- **Meet ASHRAE Standard 102-1989**

### ACTUATOR AND VALVE SPECIFICATIONS

| Maximum Temperature, °F | Maximum System Pressure Ratings | Maximum Differential Pressure Ratings | Inlet Connections | Outlet Connections |
|---|---|---|---|---|
| 248 | 150 PSI hot water; 15 PSI steam | 17 PSI | Internally threaded | With union nut and tailpiece |

### CAPACITIES

| Size, (In.) | Cv Factor (Water) Cv=GPM 1 PSI Differential Pressure | Btu/hr (Steam) @ 7 PSI Drop Across Fully Opened Valve |
|---|---|---|
| 1/2 | 4.6 | 127,000 |
| 3/4 | 5.8 | 162,000 |

### HIGH CAPACITY THERMOSTATIC ACTUATOR ORDERING DATA

| Sensor Type | Setpoint Type | Temperature Range, °F | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Integral** | Integral | 43 - 79 | T104A1040 | **3UC67** | $74.44 | **$32.85** | 0.5 |
| **Remote** | Remote* | 48 - 79 | T104B1038 | **3UC68** | 181.57 | **80.50** | 1.0 |
| **Remote** | Integral* | 43 - 79 | T104F1512 | **3UC69** | 137.67 | **60.95** | 1.0 |

(*) Includes 6 ft, 8 in. capillary.

### HIGH CAPACITY THERMOSTATIC RADIATOR VALVE ORDERING DATA

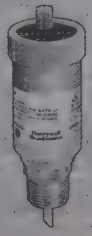
| Pipe Size (In.) | Cv | Body Style | Tailpiece | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/2** | 4.6 | Straight | Threaded | V110D1105 | **3UD02** | $96.69 | **$43.00** | 1.0 |
| **3/4** | 5.8 | Straight | Threaded | V110D1113 | **3UD03** | 101.90 | **45.25** | 0.2 |
| **1** | 7.0 | Straight | Threaded | V110D1016 | **3UD04** | 150.95 | **66.65** | 1.7 |
| **1/2** | 4.6 | Angle | Threaded | V110E1104 | **3UD05** | 96.69 | **42.90** | 1.0 |
| **3/4** | 5.8 | Angle | Threaded | V110E1112 | **3UD06** | 101.88 | **45.25** | 1.3 |
| **1** | 7.0 | Angle | Threaded | V110E1020 | **3UD07** | 150.95 | **66.95** | 2.0 |
| **1/2** | 4.6 | Horizontal Angle | Threaded | V110F1103 | **3UD08** | 96.70 | **42.95** | 0.2 |
| **3/4** | 5.8 | Horizontal Angle | Threaded | V110F1111 | **3UD09** | 101.86 | **45.25** | 2.5 |
| **1** | 7.0 | Horizontal Angle | Threaded | V110F1018 | **3UD10** | 150.95 | **66.95** | 2.0 |

## AIR VENTS

Honeywell



No. 3TZ95 Automatic Air Vent



No. 3TZ96 Industrial Air Vent

- **Built-in shutoff valve for servicing without system shutdown**
- **Built-in vacuum breaker**
- **Vent cap with leakage guard**
- **Removable float/valve assembly for easy servicing**
- **Internal parts made of corrosion-resistant and chemical-resistant materials for use with water systems containing propylene glycol, mineral oils or petroleum-based oils**

**Automatic Air Vent Applications, No. 3TZ95:**

Use to purge air trapped in closed hot or chilled water system

- **Body, cover, and float assembly made of thermoplastics**

**Industrial Air Vent Applications, No. 3TZ96:**

Use to purge air from high pressure mains and equipment in closed hot or chilled water systems

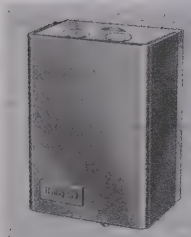
- **Brass shell construction**

### AIR VENT SPECIFICATIONS & ORDERING DATA

| NPT Connection, (In.) Male | NPT Connection, (In.) Female | Max. Temp. Rating, °F | Max. Pressure Rating, PSI | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **1/8** | — | 212 | 90 | EA122A1002 | **3TZ95** | $45.38 | **$22.69** | 0.5 |
| **3/4** | **1/2** | 250 | 150 | EA79A1004 | **3TZ96** | 128.32 | **62.55** | 1.1 |

# AQUASTAT RELAYS, EVAPORATIVE COOLING CONTROLS

## AQUASTAT® RELAYS



Honeywell

Vertical Mount No. 2E860



Horizontal Mount No. 2E861

**Immersion-type controllers** for use in hydronic heating system which include domestic hot water service. Both units requir 24VAC thermostats with heat anticipation set at .2A.

**Insertion length:** 3⅜"

**Bulb size:** 3/8 x 2⅞"

**Maximum ambient temperature:** 150°F

**No. 2E860** combines high limit protection with low limit and ci culator control.

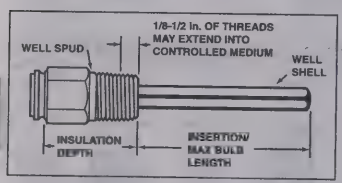
**No. 2E861** combines high limit protection with switching rela control of burner and circulator motors. High limit opens o burner circuit only.

### ELECTRICAL RATINGS

| Stock No. | Circulator Control Circuit Full Load Amps @ 120VAC | Circulator Control Circuit Full Load Amps @ 240VAC | Circulator Control Circuit Locked Rotor Amps @ 120VAC | Circulator Control Circuit Locked Rotor Amps @ 240VAC | Burner Control Circuit Full Load Amps @ 120VAC | Burner Control Circuit Full Load Amps @ 24VAC | Burner Control Circuit Full Load Amps @ Millivo |
|---|---|---|---|---|---|---|---|
| 2E860 | 7.4 | 3.7 | 44.4 | 22.2 | 7.4 | — | — |
| 2E861 | 7.4 | 3.7 | 44.4 | 22.2 | — | .8 | .25 |

### RELAY SPECIFICATIONS AND ORDERING DATA

| Burner Control Circuit | Range / Differential | Mounting | Dimensions (In.) H | W | D | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **120VAC** | 130-240° High Limit/10° 110-222 Low Limit/10-25° | Vertical | 6⅛ | 4⅜ | 3⅛ | L8124A1015 | **2E860** | $342.77 | **$132.45** | 3.9 |
| **24VAC or millivolt** | 140-240 High Limit/8° | Horizontal or Vertical | 4⁵⁄₁₆ | 6⅛ | 3⅛ | L8148J1009 | **2E861** | 248.53 | **104.10** | 4.8 |




## COPPER IMMERSION WELL

Immersion well accessory for Honeywell Aquastat® controls. Mounting clamp included

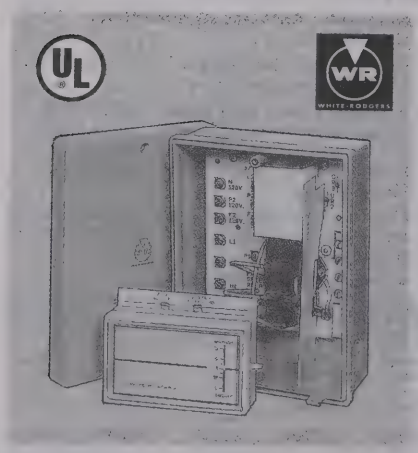
### IMMERSION WELL SPECIFICATIONS AND ORDERING DATA

| NPT | Bulb Diameter, (In.) | Insertion/Max. Bulb Length, (In.) | Insulation Depth, (In.) | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/4 | 3/8 | 3 | 1½ | 121371B | **3XK90** | $24.81 | **$15.36** | 0.4 |

**NOTE: Prices on these items are subject to change without notice. Contact your local Grainger branch for current market price.**

## EVAPORATIVE COOLING CONTROL

### For Pump Type Coolers (Not for use with Essick Coolers)



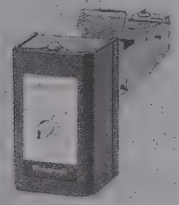
- System designed with fan delay (approximately 60 seconds) to pre-wet cooler pads before the fan starts
- Separate fan and pump relays
- High or low fan speed selection
- Raintight relay enclosure
- Relay panel is removable from enclosure to facilitate field wiring
- Transformer 120/240 to 24VAC, 60 Hz
- Control range 55 to 90°F, Off-Cool-Vent system with Hi-Lo fan switch

### ELECTRICAL RATINGS

| Input Voltage | Combined Relay Loads Full Load | Combined Relay Loads Locked Rotor | Pump Relay Full Load | Pump Relay Locked Rotor | Fan Relay Full Load | Fan Relay Locked Rotor |
|---|---|---|---|---|---|---|
| 120 | 16.0A | 96.0A | 10.0A | 60.0A | 12.0A | 72.0A |
| 240 | 8.0A | 48.0A | 5.0A | 30.0A | 6.0A | 36.0A |

### CONTROL SPECIFICATIONS AND ORDERING DATA

| Type | Thermostat | Relay | White-Rodgers Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Off-Cool-Vent** | 1F51-619 | 8A18Z-2 | 21D28-2 | **2E846** | $177.60 | **$89.10** | 0.8 |



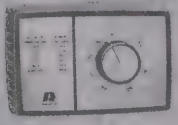
A
Duct-Mounted Humidistat
No. 2E073

Honeywell



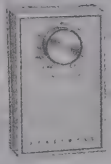
C
Humidistat
No. 2E453

autoFlo



RANCO

D
Humidistat
No. 2E741



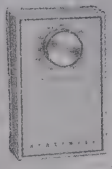
Honeywell

F
Wall Mount
Dehumidifer Control
No. 2E082

| CONTACT RATINGS | | |
|---|---|---|
| Stock No. | Volts AC | Amps |
| 2E073<br>2E484<br>2E453 | 120/240<br>120/240<br>24/120 | 7.5/3.8<br>4.4/2.2<br>2.0/4.4 |
| 2E741 | 24 | 2.5 |
| 2E574<br>2E082 | 120<br>120 | 7.5<br>7.5 |
| 4CZ46<br>4CZ47<br>4CZ48<br>4CZ49 | 24<br>24<br>24<br>24 | 2.0<br>2.0<br>2.0<br>2.0 |



B
Sail Switch
Humidistat
No. 2E484



E
Attic Ventilator
Dehumidification Control
No. 2E574



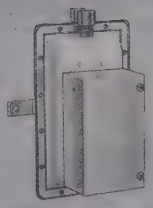
G
Humidifier
Control
No. 4CZ46

## HUMIDITY CONTROL SPECIFICATIONS & ORDERING DATA

| Key | Item | Mounting Location | Adjustable Range | Differential RH% | Switch Action* | Dimensions, (In.) H | W | D | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Humidistat | Return Duct | 15 to 50% | 4 to 6 | Open | 3 3/4 | 2 1/8 | 2 | Honeywell | H49A1019 | 2E073 | $62.12 | $43.70 | 1.0 |
| B | Sail Switch Humidistat | Return Duct | 15 to 50 | 4 to 6 | Open | 3 3/4 | 2 1/4 | 2 | Honeywell | H49B1017 | 2E484 | 80.94 | 58.35 | 1.0 |
| C | Humidistat | Wall or Return Duct | 10 to 60% | 4 to 6 | Open | 5 1/4 | 3 5/8 | 2 | AutoFlo | 052000 | 2E453 | 37.19 | 26.45 | 0.8 |
| D | Humidistat | Wall or Return Duct | 20 to 60% | 5 | Open | 3 1/8 | 4 1/2 | 1 7/8 | Ranco | J10-0808 | 2E741 | 43.59 | 19.75 | 0.4 |
| E | Attic Ventilator Dehumidification Control | Switch Box | 20 to 80 | 4 to 6 | Close | 4 3/4 | 3 | 2 1/8 | Honeywell | H46C1000 | 2E574 | 102.57 | 52.80 | 1.0 |
| F | Dehumidifier Control | Wall | 20 to 80 | 4 to 6 | Close | 4 3/4 | 2 1/4 | 1 7/8 | Honeywell | H46E1013 | 2E082 | 112.26 | 71.45 | 1.6 |
| G | Humidifier Control—Beige | Wall | 10 to 60 | 5 | Open | 4 1/8 | 3 1/4 | 2 1/8 | Honeywell | H8808B1003 | 4CZ46 | 79.42 | 57.80 | 0.5 |
| | Humidifier Control—White | Wall | 10 to 60 | 5 | Open | 4 1/8 | 3 1/4 | 2 1/8 | Honeywell | H8808B1011 | 4CZ47 | 79.42 | 57.80 | 0.5 |
| | Dehumidifier Control—Beige | Wall | 20 to 80 | 5 | Close | 4 1/8 | 3 1/4 | 2 1/8 | Honeywell | H8808C1001 | 4CZ48 | 75.41 | 54.95 | 0.5 |
| | Dehumidifier Control—White | Wall | 20 to 80 | 5 | Close | 4 1/8 | 3 1/4 | 2 1/8 | Honeywell | H8808C1019 | 4CZ49 | 75.41 | 54.95 | 0.5 |

*) On humidity increase.

Columbus Electric



No. 2E462

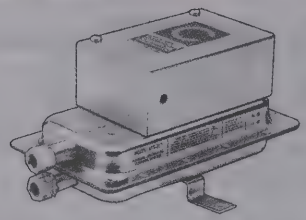
## MULTI-PURPOSE SPDT AIR SWITCH

More versatile than a sail switch and easier to install. Must be installed vertically. Widely used to control electronic air cleaners, humidifiers, refrigeration equipment and in many other applications where air flow must be proved. Can be activated by positive, negative or differential air pressure. Will not flutter or malfunction due to shock and vibration. Control range is field adjustable from 0.05" to 12"WC. Furnished with 1/4" OD tubing nuts, ferrules, and one 12" length of 1/4" OD flexible tubing. Operates in ambient temperatures of -40° to 180°F. SPDT switch rated 300VA pilot duty at 125-277VAC, 15A resistive at 125 to 277VAC, 1/4 HP at 125VAC, 1/2 HP at 250VAC, 490VA duty at 250VAC. Columbus Electric brand.

## AIR SWITCH SPECIFICATIONS & ORDERING DATA

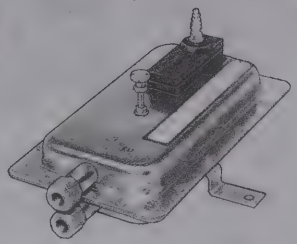
| Mounting Location | Adjustable Range WC | Differential WC | Switch Action | Dimensions, (In.) H | W | D | Columbus Electric Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Any Vertical Surface | 0.05" to 12" | 0.02" to 0.8" | SPDT | 6 1/8 | 3 5/8 | 3 3/8 | RH-3 | 2E462 | $86.06 | $28.40 | 1.3 |

# AIR SENSING SWITCHES



A B

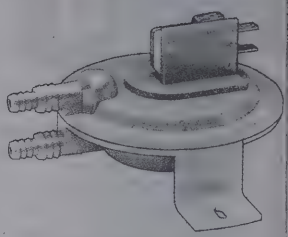
**General Purpose Air Switches Nos. 3ZM92 & 3ZM93**



D

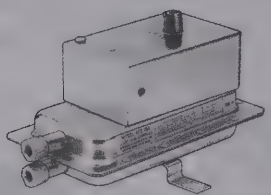
**Pneumatic Sensing Switch No. 3ZM95**



E

**Air Sensing Switches with Field Adjustable Kits Nos. 3ZM96 & 3ZM97**



C

**Air Switch with Manual Reset No. 3ZM94**

**Air sensing switches** offer unlimited versatility for proving air flow or air pressure. Models feature adjustable set point ranges as low a .05" to 12.0" wc. Other features are compact size, wide operating temperature range, reliability, long life and proven ability to wit stand high shock and vibration conditions. Cleveland Controls brand.

A For general purpose, HVAC, and energy management applications. Senses positive, negative, or differential air pressure; or when extreme low temperature or pressure is a critical factor. Includes 6-in. poly tube and 2 slip-on 1/4-in. OD tubing adapters. UL Listed, CSA Certified, and FM Approved.

**ELECTRICAL RATING: 300VA pilot duty @ 115 to 277VAC, 15 amps non-inductive**

B Air sensing switch with gold contacts for HVAC, energy management, and direct digital control applications. Senses positive, negative, or differential air pressure. Includes 6-in. poly tube and 2 slip-on tubing adapters. UL Listed and CSA Certified.

**ELECTRICAL RATING: 300VA pilot duty @ 115 to 277VAC, 10MA @ 5VAC dry circuit applications**

C Air sensing switch with manual re-set feature. Senses positive, negative, or differential air pressure in HVAC and energy management applications which require operator interface. Includes 6-in. poly tube and 2 slip-on tubing adapters. UL Listed and CSA Certified.

**ELECTRICAL RATING: 15 amps, non-inductive to 277VAC**

D Pneumatic sensing switch with adjustable set point. Senses positive, negative, or differential air pressure. Applicable for HVAC and energy management applications where a pneumatic output signal for actuation is required or in an intrinsically safe environment when electrical arcing must be avoided.

**OUTPUT PRESSURE: Fan On and Air Flow—20 PSIG @ 0.15" WC or more Fan Off and Air Flow—1/4 PSIG @ 0.015"WC or less**

E Air sensing switches with fiel adjustable kits are designed for residenti and mid-efficiency furnaces as well a light commercial applications. May b used to sense positive, negative, or diffe ential air pressure. Barbed sample lin connectors. UL Listed and CSA Approved

**ELECTRICAL RATING: SPDT contact arrangement—5 amp non-inductive to 277VAC; 1 amp pilot duty @ 120VAC**

## AIR SENSING SWITCHES CROSS REFERENCE

| Stock No. | Honeywell | White-Rodgers | Landis & Staefa | Robertshaw/ Barber Coleman | Penn/ Johnson Controls | Columbus Electric | Cleveland Controls | Tri Delta |
|---|---|---|---|---|---|---|---|---|
| 3ZM92 | CLEAFS222 | 770-1 | 141-0548 | R-436 | P-32 | RH-3 | | |
| 3ZM93 | CLEAFS405 | | | | | | | |
| 3ZM94 | CLEAFS460 | | 141-0575 | | | | | |
| 3ZM95 | CLEPAS2100 | | | | P-40 | | | |
| 3ZM96, 3ZM97 | | | | | | | ANA Series | 6000 Series |

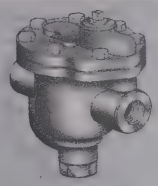
## AIR SENSING SWITCHES ORDERING DATA

| Key | Item | Switch Type | Set Point Range, "WC | Sample Line Connector | Cleveland Controls Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| A | General Purpose Air Switch | SPDT | .05 - 12.0 | Integral Compression | AFS-222 | **3ZM92** | $78.18 | **$25.30** | 1.2 |
| B | Air Switch with Gold Contacts | SPDT | .05 - 12.0 | Integral Compression | AFS-405 | **3ZM93** | 93.63 | **30.35** | 1.2 |
| C | Air Switch with Manual Reset | SPST NC | .4 - 12.0 | Integral Compression | AFS-460 | **3ZM94** | 101.36 | **32.85** | 1.2 |
| D | Pneumatic Sensing Switch | Adjustable Set Point | .15 - 2.0 | Integral Compression | PAS-2100 | **3ZM95** | 125.19 | **40.55** | 0.8 |
| E | Air Switches with Field Adustable Kits | SPDT | .20 - 1.0 | Barbed | RSS-495-11 | **3ZM96** | 57.43 | **18.56** | 0.3 |
| | | SPDT | 1.0 - 4.0 | Barbed | RSS-498-13 | **3ZM97** | 57.43 | **18.56** | 0.2 |

# STEAM TRAPS

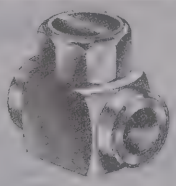


Float & Thermostatic Steam Traps
No. 3ZR64

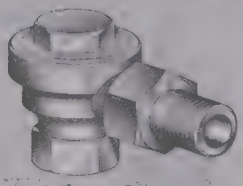


Inverted Bucket Steam Traps
No. 3ZT55

spirax sarco



Thermo-Dynamic Steam Traps
No. 3ZR91



Balance Pressure Thermostatic Steam Traps
No. 3ZT72

## FLOAT & THERMOSTATIC STEAM TRAPS

**Cast Iron Float & Thermostatic Steam Traps** discharge condensate at steam temperature continuously and modulate with the condensate load. They are recommended to drain low pressure steam mains, unit heaters, blast coils, heat exchangers, and all process applications requiring removal of condensate as quickly as it is formed. The condensate level is always above the main valve providing a positive water seal and preventing any steam leakage. The Spirax Sarco F&T traps range in pressure from 15 psig 200 psi with parrallel connections.

Air binding is impossible. These steam traps are equipped with separate thermostatic air vents which automatically and immediately remove all air and gases reaching the trap. The balanced pressure air vent self-adjusts to all operating pressures and its location above the condensate level assures discharge of all air and gases for best drainage and heat transfer. Spirax Sarco brand.

### STEAM TRAP SPECIFICATIONS & ORDERING DATA

| Max. Operating Pressure | Inlet/ Outlet NPT, (In.) | Spirax Sarco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 15 | 3/4 | FT-15 | **3ZR64*** | $147.18 | **$117.75** | 9.0 |
| 15 | 1 | FT-15 | **3ZR65*** | 174.43 | **139.55** | 9.0 |
| 15 | 1¼ | FT-15 | **3ZR73*** | 213.31 | **170.75** | 9.3 |
| 15 | 1½ | FT-15 | **3ZT06*** | 294.43 | **235.75** | 18.0 |
| 15 | 2 | FT-15 | **3ZT10*** | 560.06 | **448.25** | 26.0 |
| 30 | 3/4 | FT-30 | **3ZR66*** | 169.18 | **135.35** | 9.0 |
| 30 | 1 | FT-30 | **3ZR67*** | 184.93 | **147.95** | 9.0 |
| 75 | 3/4 | FT-75 | **3ZR68*** | 230.43 | **184.50** | 9.0 |
| 75 | 1 | FT-75 | **3ZR69*** | 258.06 | **206.50** | 9.0 |
| 125 | 3/4 | FT-125 | **3ZR70*** | 233.62 | **187.00** | 9.0 |
| 125 | 1 | FT-125 | **3ZR71*** | 255.56 | **204.50** | 9.0 |

(*) Limited availability - Contact local branch.

## INVERTED BUCKET STEAM TRAPS

**Cast Iron "B" Series Inverted Bucket Steam Traps** have a powerful camlift mechanism for greater discharge of condensate with no increase in size of the body. Inlet and outlet NPT connections are on the same level for easy installation in horizontal lines and the mechanism is easily lifted out for inspection or repair. The stainless steel valve is resistant to corrosion and waterhammer. Stainless steel strainers are provided for added protection against dirt. These steam traps have a self-priming design of the condensate seal required to operate all inverted bucket steam traps. Spirax Sarco brand.

### SPECIFICATIONS & ORDERING DATA

| Max. Operating Pressure | Inlet/ Outlet NPT, (In.) | Bucket Material | Spirax Sarco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 30 | 1/2 | Stainless Steel | B1HS-30 | **3ZT55*** | $105.18 | **$84.15** | 6.3 |
| 30 | 3/4 | Stainless Steel | B1HS-30 | **3ZT58*** | 105.18 | **84.15** | 6.3 |
| 125 | 1/2 | Stainless Steel | B1HS-125 | **3ZT56*** | 105.18 | **84.15** | 6.3 |
| 125 | 3/4 | Stainless Steel | B1HS-125 | **3ZT59*** | 105.18 | **84.15** | 6.3 |
| 250 | 1/2 | Stainless Steel | B1HS-250 | **3ZT57*** | 133.68 | **106.95** | 6.3 |
| 250 | 3/4 | Stainless Steel | B1HS-250 | **3ZT60*** | 133.68 | **106.95** | 6.3 |

(*) Limited availability - Contact local branch.

## THERMO-DYNAMIC STEAM TRAPS

**Steam Traps** are designed with a rugged simplicity providing efficiency and reliability unsurpassed in any steam trap of its type. This steam trap has only one moving part—a hardened stainless steel disc. Three balanced outlet ports assure parallel lift of the disc without tilting or rubbing. . . and eliminating the possibility of uneven or local wear. Seats are hardened stainless steel. Spirax Sarco brand.

Nos. 3ZR44 through 3ZR46 also feature a protective built-in strainer. Blowdown is unobstructed and steam flows from inside out through the screen.

### STEAM TRAP SPECIFICATIONS & ORDERING DATA

| Max. Operating Pressure | Inlet/ Outlet NPT, (In.) | Spirax Sarco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 600 | 3/8 | TD-52 | **3ZR91*** | $141.56 | **$113.25** | 0.8 |
| 600 | 1/2 | TD-52 | **3ZR92*** | 212.43 | **170.00** | 1.2 |
| 600 | 3/4 | TD-52 | **3ZR93*** | 270.37 | **216.50** | 1.9 |
| 600 | 1 | TD-52 | **3ZR94*** | 373.06 | **298.50** | 3.0 |
| 600 | 1/2 | TD-42L | **3ZR44*** | 249.62 | **199.75** | 1.6 |
| 600 | 3/4 | TD-42L | **3ZR45*** | 311.25 | **249.00** | 1.9 |
| 600 | 1 | TD-42L | **3ZR46*** | 578.43 | **462.75** | 2.4 |

(*) Limited availability - Contact local branch.

## BALANCED PRESSURE THERMOSTATIC STEAM TRAPS

**The thermostatic operation adjusts automatically** to varying steam pressures and has excellent air venting characteristics. These air venting characteristics are essential to a quick and efficient start-up and also a smooth uninterrupted operation.

Feature built-in strainers. Resistant to waterhammer and freezing. These traps are designed to be serviced without removal from the piping for ease of maintenance. Spirax Sarco brand.

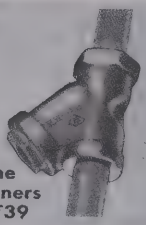
### SPECIFICATIONS AND ORDERING DATA

| Max. Operating Pressure | Inlet/ Outlet NPT, (In.) | Pipe Config. | Body Material | Spirax Sarco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 25 | 1/2 | Straight | Brass | TH-25 | **3ZT69*** | $81.18 | **$64.95** | 1.4 |
| 125 | 1/2 | Straight | Brass | TH-125 | **3ZT70*** | 95.93 | **76.75** | 1.4 |
| 125 | 3/4 | Straight | Brass | TH-125 | **3ZT71*** | 108.25 | **86.60** | 1.7 |
| 125 | 1/2 | Angle | Brass | TA-125 | **3ZT72*** | 60.25 | **48.20** | 1.0 |
| 125 | 3/4 | Angle | Brass | TA-125 | **3ZT73*** | 92.31 | **73.85** | 1.2 |
| 125 | 1 | Angle | Brass | TA-125 | **3ZT74*** | 209.18 | **167.50** | 2.7 |

(*) Limited availability - Contact local branch.



Pressure Pilot No. 3ZR98 (Shown with 25-Series Main Valve)

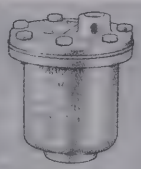


Pipeline "Y" Strainers No. 3ZT39

spirax sarco

**ADDITIONAL PRODUCTS AVAILABLE**

Order additional Spirax Sarco products through the Grainger CD-ROM or by visiting us online at http://www.grainger.com



Air & Gas Eliminators No. 3ZT61



Vacuum Breakers No. 3ZR55

## 25-SERIES PILOT OPERATED PRESSURE REGULATORS

**25-Series Pressure Pilot.** For most economical operation, steam should be used at the lowest pressure that will satisfy the temperature requirement of the application. The 25P is a reliable, accurate regulator to reduce steam from a high pressure supply to its most efficient lower pressure and to protect expensive equipment from dangerously high pressures. Steam coils, jackets, steam chests, drums, conveyor screws—whatever the steam space may be—can be supplied through a 25P pressure reducing valve with steam of the pressure and temperature at which this equipment is designed to operate best. Interchangeable pressure pilot springs are available in three standard color coded pressure range springs to provide pressure from 3 to 250 psig. Spirax Sarco brand.

### PRESSURE PILOT SPECIFICATIONS & ORDERING DATA

| Downstream Pressure Range | Pilot Valve Spring Color | Spirax Sarco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3-30** | Yellow | 25P | **3ZR98*** | $320.37 | **$256.50** | 9.0 |
| **20-100** | Blue | 25P | **3ZT37*** | 320.37 | **256.50** | 9.0 |
| **80-250** | Red | 25P | **3ZT38*** | 320.37 | **256.50** | 9.0 |

(*) Limited availability - Contact local branch.

**TERMINOLOGY AND TECHNICAL DATA**
**See Pages at back of Catalog**

## PIPELINE "Y" STRAINERS

**Strainers are a critical component** in any steam, liquid, or gas system. Designed to remove pipeline debris, such as rust and pipescale, strainers will protect components such as valves and pumps from possible damage, and help ensure that heat transfer surfaces are kept free from deposit build up. Spirax Sarco brand.

**Typical applications include:**

- **Steam systems to protect valves, pipeline components, and heat transfer equipment**
- **Liquid systems to protect pumps and valves**
- **Gas systems to protect filters and valve orifices**

### "Y" STRAINER SPECIFICATIONS AND ORDERING DATA

| Max. Steam Pressure | Inlet/ Outlet NPT (In.) | Body Material | Screen Size | Spirax Sarco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **250** | 1/4 | Cast iron | 20 mesh | IT | **3ZT39*** | $14.00 | **$11.20** | 1.1 |
| **250** | 3/8 | Cast iron | 20 mesh | IT | **3ZT40*** | 14.00 | **11.20** | 1.1 |
| **250** | 1/2 | Cast iron | 20 mesh | IT | **3ZT41*** | 15.81 | **12.65** | 1.3 |
| **250** | 3/4 | Cast iron | 20 mesh | IT | **3ZT42*** | 18.00 | **14.40** | 2.4 |
| **250** | 1 | Cast iron | 20 mesh | IT | **3ZT43*** | 22.75 | **18.20** | 4.3 |
| **250** | 1¼ | Cast iron | 20 mesh | IT | **3ZT44*** | 27.37 | **21.90** | 6.5 |
| **250** | 1½ | Cast iron | 20 mesh | IT | **3ZT45*** | 36.81 | **29.45** | 9.6 |
| **250** | 2 | Cast iron | 20 mesh | IT | **3ZT46*** | 57.93 | **46.35** | 13.0 |
| **250** | 2½ | Cast iron | 20 mesh | IT | **3ZT47*** | 108.37 | **86.70** | 22.0 |
| **250** | 3 | Cast iron | 20 mesh | IT | **3ZT48*** | 158.12 | **126.50** | 35.0 |
| **250** | 1/2 | Bronze | 20 mesh | BT | **3ZR76*** | 41.25 | **33.00** | 1.3 |
| **250** | 3/4 | Bronze | 20 mesh | BT | **3ZR77*** | 58.56 | **46.85** | 2.7 |
| **250** | 1 | Bronze | 20 mesh | BT | **3ZR78*** | 83.50 | **66.80** | 3.5 |
| **984** | 1/2 | Cast Steel | 20 mesh | CT | **3ZR84*** | 100.87 | **80.70** | 1.5 |
| **984** | 3/4 | Cast Steel | 20 mesh | CT | **3ZR85*** | 127.31 | **101.85** | 3.2 |
| **984** | 1 | Cast Steel | 20 mesh | CT | **3ZR86*** | 160.56 | **128.45** | 3.9 |

(*) Limited availability - Contact local branch.

## AIR & GAS ELIMINATORS

**Float operated air and gas eliminators,** when installed at points where gases collect, will quickly, efficiently, and economically purge the system. Use to vent air in both hot and cold liquid services. Spirax Sarco brand.

### SPECIFICATIONS AND ORDERING DATA

| Max. Operating Pressure | Inlet Outlet NPT, (In.) | Body Material | Spirax Sarco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **150** | 3/4 | Cast iron | 13WS | **3ZT61*** | $138.25 | **$110.60** | 4.7 |

(*) Limited availability - Contact local branch.

## VACUUM BREAKERS

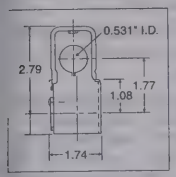
**In a steam system,** vacuum formation will prevent efficient condensate removal and lead to possible equipment or system damamge and poor process control. In condensate return systems, vacuum formation leads to waterhammer and noise problems. This selection of vacuum breakers offers a simple and effective solution, allowing air to enter a system as vacuum forms, thus restoring the system balance. Spirax Sarco brand.

### VACUUM BREAKER ORDERING DATA

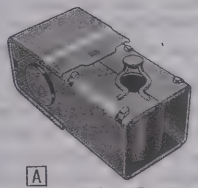
| Max. Operating Pressure | Inlet Outlet NPT, (In.) | Body Material | Valve Material | Spirax Sarco Model | Stock Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **304** | 1/2 | Brass | Stainless Steel | VB14 | **3ZR55*** | $79.31 | **$63.45** | 0.8 |
| **210** | 1/2 | Stainless Steel | Stainless Steel | VB21 | **3ZR56*** | 162.93 | **130.35** | 0.8 |

(*) Limited availability - Contact local branch.

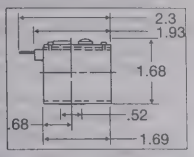
## SOLENOID VALVE COILS



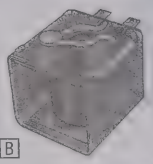

MP3242 3204



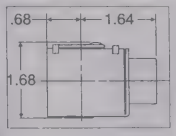
A Junction Box 7/8" Dia. Conduit Hole



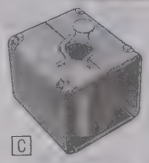

MP3242 3204



B 1/4" Spade Terminals




MP3242 3204



C 1/2" Conduit Connection

- Continuous duty
- Class F, H, and B insulation
- Not for use in hazardous atmospheres
- For NEMA applications only
- Coils and valves UL Listed when assembled
- Coils fit Dayton solenoid valve bodies on page 3363 only
- For steam valves use Class H type coil

) If using a 3-way valve purchased before ebruary 1994, you must order No. 6F574 ervice Nut Kit, sold below.

**o. 6F574. Service Nut Kit.** Dayton brand. Shpg. t. 1.3 lbs.
st $18.78. Each.....$16.37

### VALVE COIL ELECTRICAL RATINGS

| Voltage Rating | Inlet/Outlet Pipe Size (NPT) | Inrush va | Holding va | Holding Watts |
|---|---|---|---|---|
| 24V, 60 Hz | 1/8" | 26 | 18 | 8.3 |
| | 1/4 | 30 | 18 | 8.3 |
| | 3/8, 1/2, 3/4 | 53 | 16 | 7.5 |
| | 1 | 27 | 16 | 7.5 |
| | 1¼ , 1½ | 24 | 18 | 8.3 |
| 115V, 60 Hz | 1/8" | 23 | 19 | 9.0 |
| | 1/4 | 28 | 19 | 9.0 |
| | 3/8, 1/2, 3/4 | 57 | 19 | 8.5 |
| | 1 | 29 | 19 | 8.5 |
| | 1¼ , 1½ | 23 | 19 | 9.0 |
| 240V, 60 Hz | 1/8" | 26 | 19 | 9.0 |
| | 1/4 | 29 | 19 | 9.0 |
| | 3/8, 1/2, 3/4 | 60 | 24 | 10.6 |
| | 1 | 31 | 24 | 10.6 |
| | 1¼ , 1½ | 31 | 19 | 9.0 |

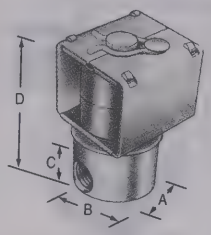
### SOLENOID COIL ORDERING DATA*

| Key | Volts AC 50/60 Hz | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **NEMA CLASS F (311°F)** | | | | | |
| A | 24 | **6X542** | $21.46 | **$18.72** | 0.7 |
| | 120 | **6X543** | 21.46 | **18.72** | 0.8 |
| | 208/240 | **6X544** | 21.46 | **18.72** | 0.6 |
| **NEMA CLASS H (356°F)** | | | | | |
| A | 24 | **2A203** | 41.73 | **36.55** | 0.6 |
| | 120 | **2A204** | 41.73 | **36.55** | 0.6 |
| | 208/240 | **2A205** | 41.73 | **36.55** | 0.6 |
| **NEMA CLASS B (266°F)** | | | | | |
| B | 24 | **3A439** | 20.05 | **17.49** | 0.4 |
| | 120 | **3A440** | 20.05 | **17.49** | 0.4 |
| | 208/240 | **3A441** | 20.05 | **17.49** | 0.4 |
| **NEMA CLASS F (311°F)** | | | | | |
| C | 24 | **4A705** | 21.46 | **18.72** | 0.6 |
| | 120 | **4A706** | 21.46 | **18.72** | 0.7 |
| | 208/240 | **4A707** | 21.46 | **18.72** | 0.6 |

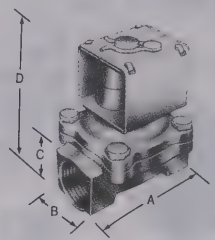
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# SOLENOID VALVES




1 2-Way NC Round Body

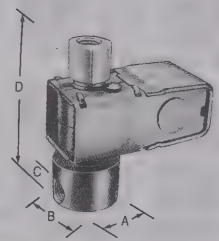



2 2-Way NC Forged Body

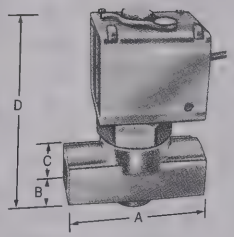
CSA 3204

Dayton

UL MP3242




3 3-Way NC/NO and Universal, and 2-Way NO Round Body




4 2-Way NC Brass Body

**Shown with Coils—Order coils separately on page 3361**

## HOW TO SELECT A SOLENOID VALVE

1. **Choose appropriate valve type and pipe size**
2. **Select valve body material (e.g., brass) compatible with gas or fluid in system. See Chemical Resistance Chart in Terminology and Technical Data Section**
3. **Ensure that minimum and maximum Operating Pressure Differentials (OPD) are suitable for system conditions. Valves having OPD ranges beginning with zero (e.g., 0-300 PSI) are direct acting; that is, they will open and clos properly as long as line pressures are within that range.**

   **Other OPD ranges (e.g., 5-150 PSI) designate pilot-operat ed valves. These open and close properly only if pressure differential between inlet and outlet is within the OPD range. To assure consistent operation, discharge pressure must be allowed to bleed down after the valve has closed.**
4. **Dayton valves require a coil, sold separately on page 3361. ASCO valves come complete with 120 Volt coils.**

## DESCRIPTION

Solenoid valve bodies are of packless construction, provide shut off in systems controlling the flow of water, air, and steam. **No for use in explosive atmospheres.** Rated in accordance with stan dards sanctioned by the Fluid Control Institute, Inc. and the National Fluid Power Association (NFPA). Valves are spring loaded and can be mounted in any position. All units have 400 stainless steel plungers with 300 stainless steel enclosing tubes.

## SOLENOID TYPES AVAILABLE

**General Purpose Types** with Buna N discs and gaskets available in 2 or 3 way types, normally open or closed, with brass or stainless steel bodies.

**Low Pressure Steam Types** with ethylene propylene discs and gaskets available in 2 way, normally closed brass bodies.

**High Pressure Steam Types** with Teflon reinforced discs and ethylene propylene gaskets available in 2 way, normally closed brass bodies. Note: some leakage can be expected with both air and water.

**Note: Maximum suggested cycling rate is 10 times per minute.**

## DIMENSIONS (In.)

| Stock No. | A Length | B Width | C Center Line Pipe Center | D Height |
|---|---|---|---|---|
| 1A574 | 1 3/16" | N/A | 1/4 | 2 3/4" |
| 1A575 | 1 1/2 | N/A | 5/8 | 2 7/8 |
| 1A576 | 2 3/4 | 2 5/16" | 9/16 | 3 1/2 |
| 1A577 | 2 3/4 | 2 5/16 | 9/16 | 3 1/2 |
| 1A578 | 2 13/16 | 2 5/16 | 11/4 | 3 3/4 |
| 1A579 | 4 5/32 | 2 5/16 | 27/8 | 4 21/32 |
| 1A580 | 4 9/16 | 3 | 1 11/32 | 5 25/32 |
| 1A581 | 5 1/4 | 3 7/16 | 1 1/2 | 6 9/32 |
| 1A582 | 2 3/4 | 2 5/16 | 9/16 | 3 1/2 |
| 1A583 | 2 13/16 | 2 5/16 | 11/4 | 3 3/4 |
| 2A194 | 4 | 1 1/2 | 11/4 | 4 |
| 2A195 | 1 1/2 | 1 1/2 | 5/8 | 2 7/8 |
| 2A196 | 1 1/2 | 1 1/2 | 5/8 | 2 7/8 |
| 2A197 | 1 1/2 | 1 1/2 | 5/8 | 2 7/8 |
| 2A198 | 2 1/2 | 1 5/8 | 7/8 | 4 3/16 |
| 2A199 | 3 1/4 | 2 1/16 | 1 1/16 | 4 3/4 |
| 2A200 | 4 1/16 | 2 5/8 | 1 3/16 | 5 5/16 |
| 2A201 | 4 9/16 | 3 | 1 11/32 | 5 25/32 |
| 2A202 | 5 1/4" | 3 7/16" | 1 13/32" | 6 9/32" |
| 3A422 | 1 13/16 | 1 13/16 | 1/4 | 2 3/4 |
| 3A423 | 1 13/16 | 1 13/16 | 1/4 | 2 3/4 |
| 3A424 | 1 1/2 | 1 1/2 | 5/8 | 4 |
| 3A425 | 1 1/2 | 1 1/2 | 5/8 | 2 7/8 |
| 3A426 | 1 1/2 | 1 1/2 | 5/8 | 4 |
| 3A427 | 1 1/2 | 1 1/2 | 5/8 | 4 |
| 3A428 | 1 1/2 | 1 1/2 | 5/8 | 4 |
| 3A429 | 1 1/2 | 1 1/2 | 5/8 | 4 |
| 3A430 | 1 1/2 | 1 1/2 | 5/8 | 4 |
| 3A431 | 1 1/2 | 1 1/2 | 5/8 | 2 7/8 |
| 3A432 | 1 1/2 | 1 1/2 | 5/8 | 2 7/8 |
| 3A433 | 2 3/8 | 1 3/16 | 9/16 | 3 5/16 |
| 3A434 | 2 1/4 | 2 5/16 | 9/16 | 3 1/2 |
| 3A435 | 2 1/2 | 1 5/8 | 7/8 | 4 3/16 |
| 3A436 | 2 13/16 | 2 5/16 | 11/4 | 3 1/4 |
| 3A437 | 3 1/4 | 2 1/16 | 1 1/32 | 4 3/4 |
| 3A438 | 4 1/16 | 2 5/8 | 1 3/16 | 5 5/16 |
| 4A688 | 1 3/16" | 1 3/16" | 1/4" | 2 3/4" |
| 4A689 | 1 3/16 | 1 3/16 | 1/4 | 2 3/4 |
| 4A690 | 1 3/16 | 1 3/16 | 1/4 | 2 3/4 |
| 4A691 | 1 1/2 | 1 1/2 | 5/8 | 2 7/8 |
| 4A692 | 1 1/2 | 1 1/2 | 5/8 | 2 7/8 |
| 4A693 | 1 1/2 | 1 1/2 | 5/8 | 2 7/8 |
| 4A694 | 2 1/4 | 2 5/16 | 9/16 | 3 1/2 |
| 4A695 | 4 5/32 | 4 5/16 | 27/8 | 4 21/32 |
| 4A696 | 2 13/16 | 2 5/16 | 9/16 | 3 3/4 |
| 4A697 | 2 3/4 | 2 5/16 | 9/16 | 2 5/16 |
| 4A699 | 2 3/8 | 1 1/16 | 9/16 | 3 5/16 |
| 4A700 | 2 3/8 | 1 3/16 | 9/16 | 3 7/16 |
| 4A701 | 2 1/2 | 1 5/8 | 7/8 | 4 3/16 |
| 4A702 | 2 1/2 | 1 5/8 | 7/8 | 4 3/16 |
| 4A703 | 1 1/2 | 1 1/2 | 5/8 | 4 |
| 4A704 | 1 1/2 | 1 1/2 | 5/8 | 4 |
| 4A715 | 2 1/8 | 1 1/16 | 9/16 | 3 5/16 |
| 4A776 | 2 1/4 | 2 5/16 | 9/16 | 3 1/2 |

## GASKET TYPE APPLICATION INFORMATION

| GASKET MATERIAL | DIAPHRAGM MATERIAL | APPLICATIONS |
|---|---|---|
| Buna N | Buna N | Air and Water. |
| Ethylene/Propylene | Ethylene/Propylene | Hot water and low pressure steam. |
| Teflon/Reinforced Teflon | Teflon/Reinforced Teflon | Excellent resistance to heat for steam applications. Product application limitations govern usage of Teflon. |

**Refer to the Chemical Resistance Chart located in the Terminology/Selection Guide section of this catalog or contact our Technical Support Department for additional assistance.**

CONTINUED ON NEXT PAGE

## GENERAL PURPOSE (180°F) SOLENOID VALVES

| Pipe Size (In.) | Orifice Size (In.) | OPD* Range (PSI) Water | OPD* Range (PSI) Steam | CV† | Safe Working Pressure (PSI) Water | Safe Working Pressure (PSI) Steam | Air SCFM | Flow (Water) (GPM) Max.‡ | Flow (Water) (GPM) Min.^ | Steam Lb./Hr.## | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2-WAY NORMALLY CLOSED, BRASS** | | | | | | | | | | | | | | |
| 1/8 | 1/16 | 0-500 | — | 0.12 | 500 | — | 31.3 | 2.7 | — | — | 3A422② | $19.10 | **$16.67** | 1.0 |
| 1/8 | 3/32 | 0-300 | — | 0.22 | 500 | — | 34.0 | 3.8 | — | — | 1A574② | 19.10 | **16.68** | 0.5 |
| 1/4 | 1/8 | 0-150 | — | 0.34 | 500 | — | 28.0 | 4.2 | — | — | 1A575② | 23.73 | **20.69** | 1.0 |
| 3/8 | 5/8 | 0-100 | — | 2.8 | 300 | — | 160 | 28 | — | — | 4A697② | 83.37 | **72.80** | 2.3 |
| 3/8 | 1/2 | 5-250 | — | 3.5 | 300 | — | 200(77) | 35 | 7.8 | — | 4A701② | 106.33 | **92.70** | 1.4 |
| 3/8 | 5/8 | 5-150 | — | 2.80 | 300 | — | 226(61.6) | 34.5 | 6.3 | — | 1A576② | 70.00 | **61.20** | 1.5 |
| 1/2 | 5/8 | 0-100 | — | 3.60 | 300 | — | 205 | 36 | — | — | 3A434② | 83.38 | **72.80** | 1.4 |
| 1/2 | 5/8 | 5-150 | — | 3.60 | 300 | — | 292(79.2) | 43.8 | 8.0 | — | 1A577② | 68.95 | **60.30** | 1.5 |
| 1/2 | 1/2 | 5-250 | — | 3.50 | 300 | — | 458.5(77.0) | 55.3 | 7.8 | — | 3A435② | 106.33 | **92.70** | 1.5 |
| 3/4 | 3/4 | 0-100 | — | 5.50 | 300 | — | 314 | 55.03 | — | — | 3A436② | 100.01 | **87.40** | 1.6 |
| 3/4 | 3/4 | 5-125 | — | 5.50 | 300 | — | 280(121) | 61.5 | 12.3 | — | 1A578② | 84.85 | **74.10** | 1.5 |
| 3/4 | 3/4 | 5-250 | — | 7.00 | 300 | — | 917(15.6) | 110.7 | 15.6 | — | 3A437② | 133.69 | **116.65** | 3.0 |
| 1 | 1 | 5-125 | — | 13.0 | 250 | — | 910(286) | 145.5 | 29.1 | — | 1A579② | 157.73 | **137.70** | 5.2 |
| 1 | 1 | 5-250 | — | 13.0 | 300 | — | 1703(286) | 205.5 | 29.1 | — | 3A438② | 189.49 | **165.75** | 4.3 |
| 1¼ | 1¼ | 5-250 | — | 16.0 | 300 | — | 2110(352) | 253 | 35.8 | — | 1A580② | 204.21 | **178.75** | 6.3 |
| 1½ | 1½ | 5-250 | — | 25.0 | 300 | — | 3300(550) | 395 | 55.9 | — | 1A581② | 291.58 | **254.75** | 9.0 |
| 1/4 | 1/4 | 2-150 | — | 1.20 | 350 | — | 97.2(14.4) | 14 | 1.7 | — | 3A433② | 65.37 | **57.10** | 1.3 |
| 3/8 | 1/4 | 2-150 | — | 1.20 | 350 | — | 97.2(14.4) | 14 | 1.7 | — | 4A699② | 65.44 | **57.10** | 0.1 |
| 3/8 | 3/8 | 2-150 | — | 2.20 | 350 | — | 179.3(26.4) | 28.0 | 3.1 | — | 4A700② | 65.43 | **57.10** | 1.0 |
| **2-WAY NORMALLY CLOSED, STAINLESS STEEL** | | | | | | | | | | | | | | |
| 1/8 | 1/16 | 0-500 | — | 0.12 | 500 | — | 6.8 | 1.2 | — | — | 4A688 | 27.10 | **23.57** | 1.0 |
| 1/8 | 3/32 | 0-300 | — | 0.22 | 500 | — | 34.0 | 3.8 | — | — | 3A423 | 26.84 | **23.41** | 1.0 |
| 1/8 | 1/8 | 0-150 | — | 0.34 | 500 | — | 28.0 | 4.2 | — | — | 4A689 | 27.10 | **23.57** | 1.0 |
| 1/8 | 5/32 | 0-100 | — | 0.48 | 500 | — | 28.0 | 4.8 | — | — | 4A690 | 27.10 | **23.57** | 1.0 |
| 1/4 | 3/64 | 0-950 | — | 0.05 | 1000 | — | 7.7 | 1.2 | — | — | 4A691 | 30.10 | **26.35** | 1.2 |
| 1/4 | 1/16 | 0-500 | — | 0.12 | 500 | — | 31.3 | 2.7 | — | — | 3A425 | 30.10 | **26.35** | 1.0 |
| 1/4 | 3/32 | 0-300 | — | 0.22 | 500 | — | 12.5 | 2.2 | — | — | 4A692 | 30.10 | **26.35** | 1.2 |
| 1/4 | 1/8 | 0-150 | — | 0.34 | 500 | — | 28.0 | 4.2 | — | — | 2A195 | 30.10 | **26.35** | 0.6 |
| 1/4 | 1/8 | 0-150 | — | 0.34 max. | 500 | — | 28.0 | 4.2 | — | — | 2A196# | 46.69 | **40.85** | 0.7 |
| 1/4 | 5/32 | 0-100 | — | 0.48 | 500 | — | 27.4 | 4.8 | — | — | 3A431 | 30.10 | **26.35** | 1.2 |
| 1/4 | 3/16 | 0-60 | — | 0.56 | 500 | — | 32.0 | 4.3 | — | — | 4A693 | 30.10 | **26.35** | 0.7 |
| 1/4 | 1/4 | 0-20 | — | 0.70 | 500 | — | 29.4 | 3.1 | — | — | 3A432 | 30.10 | **26.35** | 0.7 |
| **2-WAY NORMALLY OPEN, STAINLESS STEEL** | | | | | | | | | | | | | | |
| 1/4 | 1/16 | 0-150 | — | 0.09 | 500 | — | 7.3 | 1.1 | — | — | 3A424 | 79.22 | **69.25** | 1.0 |
| 1/4 | 3/32 | 0-125 | — | 0.17 | 500 | — | 11.7 | 1.9 | — | — | 3A428 | 79.22 | **69.25** | 1.0 |
| **3-WAY UNIVERSAL, BRASS** | | | | | | | | | | | | | | |
| 1/4 | 3/64 | 0-125 | — | 0.05/.06 | 500 | — | 3.4 | 0.55 | — | — | 4A703② | 58.69 | **51.30** | 1.0 |
| 1/4 | 1/16 | 0-100 | — | 0.12/.09 | 500 | — | 6.8 | 1.2 | — | — | 2A194② | 58.69 | **51.30** | 0.9 |
| 1/4 | 3/32 | 0-40 | — | 0.22/.17 | 500 | — | 14.0 | 2.4 | — | — | 4A704② | 58.69 | **51.30** | 1.0 |
| **3-WAY NORMALLY CLOSED, STAINLESS STEEL** | | | | | | | | | | | | | | |
| 1/4 | 1/16 | 0-100 | — | 0.12/.09 | 500 | — | 10.3 | 1.5 | — | — | 3A426 | 57.64 | **50.40** | 1.0 |
| 1/4 | 3/32 | 0-40 | — | 0.22/.17 | 500 | — | 11.2 | 2.1 | — | — | 3A429 | 57.64 | **50.40** | 1.0 |
| **3-WAY NORMALLY OPEN, STAINLESS STEEL** | | | | | | | | | | | | | | |
| 1/4 | 1/16 | 0-100 | — | 0.12/.09 | 500 | — | 8.3 | 1.3 | — | — | 3A427 | 75.32 | **65.80** | 1.0 |
| 1/4 | 3/32 | 0-40 | — | 0.22/.17 | 500 | — | 9.7 | 1.9 | — | — | 3A430 | 57.90 | **50.65** | 1.0 |

## LOW PRESSURE STEAM (250°F) SOLENOID VALVES

### 2-WAY NORMALLY CLOSED, BRASS

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/4 | 1/8 | — | 0-150 | 0.34 | 500 | 500** | — | — | — | 82 | 2A197② | 28.21 | **24.61** | 0.6 |
| 2 | 3/8 | 5/8 | 0-100 | 0-15 | 2.8 | 300 | 15** | — | 28 | 2 | 129(44.8) | 4A776② | 89.22 | **77.90** | 1.5 |
| 2 | 3/8 | 5/8 | 5-100 | 5-15 | 2.8 | 300 | 15** | — | 28 | 6.3 | 129(92.4) | 4A694② | 74.95 | **65.50** | 1.5 |
| 4 | 3/8 | 3/8 | — | 2-150 | 2.2 | 350 | 350** | — | — | — | 544(72.6) | 4A715② | 74.18 | **65.00** | 1.3 |
| 2 | 1/2 | 5/8 | 5-100 | 5-15 | 3.6 | 300 | 15** | — | 36 | 8 | 165(118) | 4A695② | 74.95 | **65.50** | 1.4 |
| 2 | 1/2 | 5/8 | 0-100 | 5-15 | 3.6 | 300 | 15** | — | 36 | 2.5 | 165.0(57.6) | 1A582② | 89.33 | **77.90** | 1.1 |
| 2 | 3/4 | 3/4 | 5-100 | 5-15 | 5.5 | 300 | 15** | — | 55 | 12.3 | 253(182) | 4A696② | 90.96 | **79.40** | 1.5 |
| 2 | 3/4 | 3/4 | 0-100 | 5-15 | 5.5 | 300 | 15** | — | 55 | 3.8 | 253(88) | 1A583② | 104.89 | **91.55** | 1.7 |

## HIGH PRESSURE STEAM (400°F) SOLENOID VALVES

### 2-WAY NORMALLY CLOSED, BRASS

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 3/8 | 1/2 | — | 5-150 | 3.50 | 300 | 300** | — | — | — | 865(116) | 4A702② | 141.21 | **125.80** | 1.5 |
| 2 | 1/2 | 1/2 | — | 5-150 | 3.50 | 300 | 300** | — | — | — | 865(116) | 2A198② | 147.93 | **129.05** | 1.4 |
| 2 | 3/4 | 3/4 | — | 5-150 | 7.0 | 300 | 300** | — | — | — | 1729(231) | 2A199② | 183.49 | **160.25** | 2.4 |
| 2 | 1 | 1 | — | 5-150 | 13.0 | 300 | 300** | — | — | — | 3210(429) | 2A200② | 307.79 | **269.25** | 4.5 |
| 2 | 1¼ | 1¼ | — | 5-150 | 16.0 | 300 | 300** | — | — | — | 3951(528) | 2A201② | 410.72 | **360.00** | 6.3 |
| 2 | 1½ | 1½ | — | 5-150 | 25.0 | 300 | 300** | — | — | — | 6171(825) | 2A202② | 520.24 | **453.75** | 7.8 |

*) OPD—Operating Pressure Differential. (†) Coefficient of Volume: the amount of water in GPM at standard conditions (60°F specific gravity 1) which will pass through the valve with a one PSI pressure drop and the valve in the full open position. (‡) Flow rates based on maximum OPD at inlet and AC operation. (#) Adjustable meter

**) Do not exceed temperature limitations. (##) Flow rates based on 15 PSIG inlet pressure. (^) Minimum flow required for proper valve operation. ② These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listings or call any California branch

# ASCO® RED-HAT® SOLENOID VALVES

Valves with the letter "G" or "H" in the ASCO model numbers (eg.: 8210G34) have coils completely encapsulated in a one-piece, molded epoxy enclosure with built-in 1/2" NPT conduit hubs with strain relief. Valves offer the following protection as standard:

NEMA Type 1—General Purpose

NEMA Type 2—Dripproof

NEMA Type 3, 3S, and 3R—Raintight, dust-tight and sleet (ice) resistant

NEMA Type 4—Watertight

NEMA Type 4X—Watertight, dusttight, corrosion resistant

Valves with letters other than "G" or "H" in the ASCO model number (eg.: 8210B20) have coils with metallic enclosures. These models offer NEMA Type 1 General Purpose protection only.

The prefix "EF" in the ASCO model number (eg.: EF8210G33) denotes that the valve offers NEMA Type 1, 2, 3, 3R, 3S, 4 and 4X protection plus:

NEMA Type 6 and 6P—Submersible

NEMA Types 7 and 9—Hazardous Locatio (Class I, Division I, Groups A, B, C & D and Class I, Division II).

### HOW TO ORDER

Match all valve specifications to th process being controlled. Be certain th maximum operating pressure differentia is equal to or greater than the pressur against which the valve must operate.

**For more solenoid valve ordering infor mation, see page 3280.**

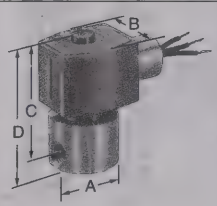
## 2-WAY GENERAL PURPOSE VALVES

- **Brass or stainless steel body**
- **Coil included**
- **Maximum fluid temperature of 180°F**
- **120V, 60Hz (110V, 50Hz)**

2-Way Valves have one inlet and one outlet, and are used to control the on/off flow of fluids: air, inert gas, water, light oil, as listed. UL Listed and CSA Certified.

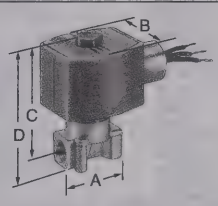
**Normally-Closed Valves** are closed when the coil is de-energized and open when energized. Construction Ref. Nos. 1-7 are FM Listed.

**Normally-Open Valves** are open when de-energized and closed when energized.

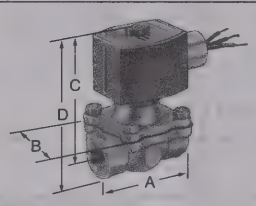



Construction Reference Nos. 1-3, 5-7, 28

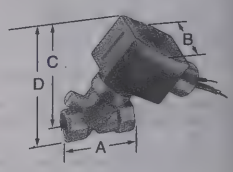
ASCO®
Red-Hat®




Construction Reference Nos. 4, 29, 30, 32-34




Construction Reference Nos. 8, 10, 11, 13-27, 31




Construction Reference Nos. 9, 12

### SOLENOID VALVE DIMENSIONS (In.)

| Construction Ref. No. | A Length | B Width | C Center Pipe | D Height |
|---|---|---|---|---|
| 1 | 1 3/16 Dia. | 1 11/16 | 2 3/16 | 2 9/16 |
| 2 | 1 9/16 | 1 11/16 | 2 9/16 | 2 15/16 |
| 3 | 1 1/4 Dia. | 1 11/16 | 2 19/32 | 3 |
| 4 | 1 9/16 | 1 31/32 | 2 13/16 | 3 7/32 |
| 5 | 1 9/16 | 1 31/32 | 2 13/16 | 3 9/16 |
| 6 | 1 9/16 | 1 31/32 | 2 13/16 | 3 7/16 |
| 7 | 1 9/16 | 1 31/32 | 2 13/16 | 3 9/16 |
| 8 | 1 11/16 | 2 | 2 1/2 | 2 15/16 |
| 9 | 1 29/32 | 1 11/16 | 3 13/32 | 3 27/32 |
| 10 | 2 3/4 | 2 5/16 | 3 11/32 | 3 29/32 |
| 11 | 2 3/4 | 2 5/16 | 2 27/32 | 3 13/32 |
| 12 | 2 3/4 | 1 15/16 | 4 | 4 13/16 |

### SOLENOID VALVE DIMENSIONS (In.)

| Construction Ref. No. | A Length | B Width | C Center Pipe | D Height |
|---|---|---|---|---|
| 13 | 2 13/16 | 2 5/16 | 3 7/16 | 4 5/32 |
| 14 | 2 13/16 | 2 5/16 | 3 | 3 5/8 |
| 15 | 2 13/16 | 2 5/16 | 3 7/16 | 4 1/8 |
| 16 | 3 25/32 | 2 3/4 | 3 17/32 | 4 5/32 |
| 17 | 2 13/16 | 2 5/16 | 4 19/32 | 5 1/4 |
| 18 | 3 3/4 | 2 15/16 | 4 | 5 5/8 |
| 19 | 3 3/4 | 3 1/4 | 5 1/4 | 6 1/16 |
| 20 | 3 3/4 | 3 27/32 | 4 15/32 | 5 11/32 |
| 21 | 3 15/16 | 3 1/4 | 5 23/32 | 6 17/32 |
| 22 | 3 21/32 | 3 3/8 | 4 | 5 5/8 |
| 23 | 3 21/32 | 3 1/4 | 5 1/2 | 6 1/2 |
| 24 | 4 3/8 | 3 3/4 | 4 5/32 | 6 1/8 |

### SOLENOID VALVE DIMENSIONS (In.)

| Construction Ref. No. | A Length | B Width | C Center Pipe | D Height |
|---|---|---|---|---|
| 25 | 4 3/8 | 3 29/32 | 5 3/4 | 6 7/8 |
| 26 | 5 1/16 | 4 11/16 | 4 9/16 | 7 5/16 |
| 27 | 5 1/2 | 5 3/16 | 4 9/16 | 7 5/16 |
| 28 | 1 3/16 | 1 11/16 | 2 13/16 | 3 5/32 |
| 29 | 1 1/4 | 1 31/32 | 2 7/8 | 3 9/32 |
| 30 | 1 9/16 | 1 31/32 | 2 13/16 | 3 7/32 |
| 31 | 2 3/4 | 2 9/32 | 3 25/32 | 4 11/32 |
| 32 | 2 13/16 | 2 13/32 | 3 29/32 | 4 21/32 |
| 33 | 2 13/16 | 2 13/32 | 3 7/16 | 4 9/16 |
| 34 | 2 13/16 | 2 9/32 | 3 16/16 | 4 9/16 |

### 2-WAY NORMALLY-OPEN SOLENOID VALVES ORDERING DATA

| Construction Ref. No. | Pipe Size (In.) | Orifice Size (In.) | Cv Flow Factor | Operating Pressure Diff. (PSI) Maximum Air, Inert Gas | Water | Light Oil | GPM Min. | GPM Max. | Watt Rating Class of Coil Insulation | Body Material | ASCO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **28** | 1/8 | 1/8 | 0.21 | 0 125 | 100 | 85 | 0.0 | 2.1 | 6.1/F | Brass | 8262G31 | **3UL55** | $66.99 | **$64.35▲** | 1.3 |
| **29** | 1/4 | 3/32 | 0.17 | 0 300 | 250 | 230 | 0.0 | 2.7 | 10.1/F | Brass | 8262G261 | **3UL67②** | 80.49 | **77.40▲** | 1.5 |
| **29** | 1/4 | 1/8 | 0.35 | 0 130 | 100 | 100 | 0.0 | 3.7 | 10.1/F | Brass | 8262G262 | **3UL68②** | 80.49 | **77.40▲** | 1.5 |
| **30** | 1/4 | 5/32 | 0.49 | 0 85 | 250 | 60 | 0.0 | 4.2 | 10.1/F | Brass | 8262G263 | **3UL69②** | 80.49 | **77.40▲** | 1.5 |
| **31** | 3/8 | 5/8 | 3.00 | 0 150 | 110 | 125 | 0.0 | 36.7 | 10.1/F | Brass | 8210G33 | **3UK85②** | 175.99 | **169.50▲** | 2.4 |
| **31** | 3/8 | 5/8 | 3.00 | 0 150 | 75 | 125 | 0.0 | 36.7 | 10.1/F | Brass | EF8210G33 | **3UK86②** | 242.99 | **233.50▲** | 2.4 |
| **32** | 1/2 | 5/8 | 3.00 | 0 150 | 150 | 100 | 0.0 | 36.7 | 10.1/F | Stainless | 8210G30 | **3UK83②** | 630.99 | **606.00▲** | 2.6 |
| **32** | 1/2 | 5/8 | 3.00 | 0 150 | 150 | 100 | 0.0 | 36.7 | 10.1/F | Stainless | EF82G10G30 | **3UK84** | 679.99 | **653.00▲** | 2.6 |
| **33** | 1/2 | 5/8 | 4.00 | 0 150 | 150 | 125 | 0.0 | 49.0 | 10.1/F | Brass | 8210G34 | **3UK87** | 175.99 | **169.50▲** | 2.3 |
| **33** | 1/2 | 5/8 | 4.00 | 0 150 | 150 | 125 | 0.0 | 49.0 | 10.1/F | Brass | EF8210G34 | **3UK88②** | 242.99 | **233.50▲** | 2.3 |
| **34** | 3/4 | 5/8 | 3.00 | 0 150 | 150 | 100 | 0.0 | 36.7 | 10.1/F | Stainless | 8210G38 | **3UK95②** | 650.99 | **625.50▲** | 2.5 |
| **34** | 3/4 | 5/8 | 3.00 | 0 150 | 150 | 100 | 0.0 | 36.7 | 10.1/F | Stainless | EF8210G38 | **3UK96** | 702.99 | **675.50▲** | 2.5 |
| **34** | 3/4 | 3/4 | 5.50 | 0 150 | 150 | 125 | 0.0 | 67.4 | 10.1/F | Brass | 8210G35 | **3UK89②** | 175.99 | **169.50▲** | 2.5 |
| **34** | 3/4 | 3/4 | 5.50 | 0 150 | 150 | 125 | 0.0 | 67.4 | 10.1/F | Brass | EF8210G35 | **3UK90②** | 244.99 | **235.75▲** | 2.5 |

② These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing call any California Branch.
(▲) Net prices, not subject to discounts.



Construction Ref. Nos. 1-3, 5-7, 28

ASCO®

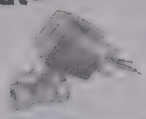


Construction Ref. Nos. 8,10, 11, 13-27, 31



Construction Ref. Nos. 4, 29, 30, 32-34

Red-Hat®



Construction Ref. Nos. 9, 12

## 2-WAY NORMALLY-CLOSED SOLENOID VALVES ORDERING DATA

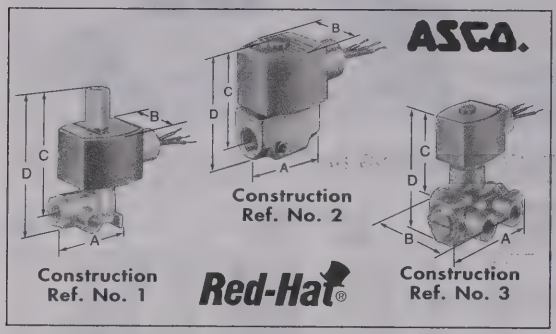
| Construction Ref. No. | Pipe Size (In.) | Orifice Size (In.) | Cv Flow Factor | Operating Pressure Diff. (PSI) Maximum Air Min. | Air Inert Gas | Water | Light Oil | GPM Min. | GPM Max. | Maximum Fluid Temp (°F) | Watt Rating / Class of Coil Insulation | Body* | ASCO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/8 | 3/64 | 0.06 | 0 | 750 | 750 | 530 | 0.0 | 1.6 | 180 | 6.1/F | B | 8262G1 | 3UL42 | $39.99 | $38.45▲ | 1.1 |
| 1 | 1/8 | 3/32 | 0.20 | 0 | 275 | 290 | 130 | 0.0 | 3.4 | 180 | 6.1/F | B | 8262G14 | 3UL50 | 133.99 | 128.60▲ | 2.0 |
| 1 | 1/8 | 1/8 | 0.34 | 0 | 155 | 180 | 140 | 0.0 | 4.6 | 180 | 6.1/F | B | 8262G2 | 3UL47 | 35.99 | 34.60▲ | 1.1 |
| 1 | 1/8 | 1/8 | 0.34 | 0 | 155 | 180 | 140 | 0.0 | 4.6 | 180 | 6.1/F | B | EF8262G2 | 3UL44 | 69.99 | 67.25▲ | 1.2 |
| 1 | 1/8 | 1/8 | 0.34 | 0 | 155 | 180 | 140 | 0.0 | 4.6 | 180 | 6.1/F | SS | 8262G6 | 3UL48 | 58.49 | 56.20▲ | 1.1 |
| 2 | 1/4 | 1/8 | 0.35 | 0 | 140 | 165 | 90 | 0.0 | 4.5 | 180 | 6.1/F | SS | 8262G7 | 3UL49 | 65.49 | 62.95▲ | 1.5 |
| 3 | 1/4 | 1/8 | 0.35 | 0 | 140 | 165 | 90 | 0.0 | 4.5 | 180 | 6.1/F | B | 8262G22 | 3UL51 | 42.99 | 41.30▲ | 1.2 |
| 3 | 1/4 | 1/8 | 0.35 | 0 | 140 | 165 | 90 | 0.0 | 4.5 | 180 | 6.1/F | B | EF8262G22 | 3UL52 | 80.49 | 77.40▲ | 1.3 |
| 4 | 1/4 | 5/32 | 0.50 | 0 | 180 | 200 | 145 | 0.0 | 7.1 | 180 | 10.1/F | B | 8262G202 | 3UL56 | 49.99 | 48.05▲ | 1.5 |
| 4 | 1/4 | 5/32 | 0.50 | 0 | 180 | 200 | 145 | 0.0 | 7.1 | 180 | 10.1/F | B | EF8262G202 | 3UL57 | 93.49 | 89.85▲ | 1.5 |
| 5 | 1/4 | 5/32 | 0.50 | 0 | 180 | 200 | 145 | 0.0 | 7.1 | 180 | 10.1/F | SS | 8262G220 | 3UL64 | 69.49 | 66.80▲ | 1.7 |
| 4 | 1/4 | 5/32 | 0.72 | 0 | 90 | 100 | 100 | 0.0 | 7.2 | 180 | 10.1/F | B | 8262G208 | 3UL59 | 52.99 | 50.90▲ | 1.5 |
| 4 | 1/4 | 7/32 | 0.72 | 0 | 90 | 100 | 100 | 0.0 | 7.2 | 180 | 10.1/F | B | EF8262G208 | 3UL60 | 93.49 | 89.85▲ | 1.5 |
| 5 | 1/4 | 7/32 | 0.72 | 0 | 90 | 100 | 100 | 0.0 | 7.2 | 180 | 10.1/F | SS | 8262G226 | 3UL65 | 69.49 | 66.80▲ | 1.7 |
| 6 | 1/4 | 5/32 | 0.88 | 0 | 90 | 100 | 90 | 0.0 | 8.8 | 180 | 17.1/F | B | 8262G212 | 3UL62 | 65.49 | 62.95▲ | 1.5 |
| 6 | 1/4 | 7/32 | 0.88 | 0 | 90 | 100 | 90 | 0.0 | 8.8 | 180 | 17.1/F | B | EF8262G212 | 3UL63 | 104.99 | 100.80▲ | 1.5 |
| 7 | 1/4 | 7/32 | 0.88 | 0 | 90 | 100 | 90 | 0.0 | 8.8 | 180 | 17.1/F | SS | 8262G230 | 3UL66 | 90.49 | 86.95▲ | 1.8 |
| 8 | 1/4 | 9/64 | 1.20 | 5 | 125 | 125 | — | 2.7 | 13.4 | 180 | 6.5/F | B | 8210B20 | 3UK18 | 63.49 | 61.00▲ | 0.9 |
| 8 | 3/8 | 9/64 | 1.20 | 5 | 125 | 125 | — | 2.7 | 13.4 | 180 | 6.5/F | B | 8210B21 | 3UK19 | 63.49 | 61.00▲ | 0.8 |
| 9 | 3/8 | 3/8 | 1.50 | 5 | 150 | 125 | — | 1.5 | 16.8 | 180 | 6.1/F | SS | 8210G36 | 3UK91 | 214.99 | 206.50▲ | 1.2 |
| 9 | 3/8 | 3/8 | 1.50 | 5 | 150 | 125 | — | 1.5 | 16.8 | 180 | 6.1/F | SS | EF8210G36 | 3UK92 | 248.99 | 239.50▲ | 1.2 |
| 9 | 3/8 | 3/8 | 1.50 | 0 | 150 | 125 | — | 1.5 | 16.8 | 180 | 6.1/F | B | 8210G73 | 3UL01 | 75.49 | 72.50▲ | 1.2 |
| 9 | 3/8 | 3/8 | 1.50 | 0 | 150 | 125 | – | 1.5 | 16.8 | 180 | 6.1/F | B | EF8210G73 | 3UL02 | 117.99 | 113.25▲ | 1.3 |
| 10 | 3/8 | 7/16 | 3.00 | 0 | 150 | 150 | — | 0.0 | 36.7 | 180 | 10.1/F | B | 8210G93 | 3UL10 | 100.98 | 97.00▲ | 2.3 |
| 10 | 3/8 | 7/16 | 3.00 | 0 | 150 | 150 | — | 0.0 | 36.7 | 180 | 10.1/F | B | EF8210G93 | 3UL12 | 155.99 | 149.70▲ | 2.3 |
| 11 | 3/8 | 7/16 | 3.00 | 5 | 200 | 150 | 135 | 6.7 | 36.7 | 180 | 6.1/F | B | 8210G1 | 3UK48 | 84.99 | 81.60▲ | 2.0 |
| 11 | 3/8 | 7/16 | 3.00 | 5 | 200 | 150 | 135 | 6.7 | 36.7 | 180 | 6.1/F | B | EF8210G1 | 3UK50 | 36.99 | 35.55▲ | 1.1 |
| 10 | 3/8 | 3/8 | 3.00 | 5 | 300 | 300 | 300 | 6.7 | 52.0 | 175 | 17.1/F | B | 8210G6 | 3UK64 | 122.99 | 118.05▲ | 2.3 |
| 10 | 3/8 | 3/8 | 3.00 | 5 | 300 | 300 | 300 | 6.7 | 52.0 | 175 | 17.1/F | B | EF8210G6 | 3UK65 | 164.99 | 158.75▲ | 2.4 |
| 12 | 1/2 | 7/16 | 2.20 | 5 | 150 | 125 | – | 2.2 | 24.6 | 180 | 6.1/F | B | 8210G15 | 3UK76 | 82.99 | 79.70▲ | 1.7 |
| 12 | 1/2 | 7/16 | 2.20 | 5 | 150 | 125 | — | 2.2 | 24.6 | 180 | 66.1/F | B | EF8210G15 | 3UK77 | 122.99 | 118.05▲ | 1.4 |
| 12 | 1/2 | 7/16 | 2.20 | 5 | 150 | 125 | — | 2.2 | 24.6 | 180 | 6.1/F | SS | 8210G37 | 3UK93 | 232.99 | 224.00▲ | 1.4 |
| 12 | 1/2 | 7/16 | 2.20 | 5 | 150 | 125 | — | 2.2 | 24.6 | 180 | 6.1/F | SS | EF8210G37 | 3UK94 | 266.99 | 256.50▲ | 1.6 |
| 13 | 1/2 | 3/4 | 4.00 | 0 | 150 | 150 | 125 | 0.0 | 49.0 | 175 | 17.1/F | SS | 8210G87 | 3UL05 | 397.99 | 382.25▲ | 2.6 |
| 13 | 1/2 | 3/8 | 4.00 | 0 | 150 | 150 | 125 | 0.0 | 49.0 | 175 | 17.1/F | SS | EF8210G87 | 3UL06 | 444.99 | 427.25▲ | 2.6 |
| 10 | 1/2 | 3/4 | 4.00 | 0 | 150 | 150 | — | 0.0 | 49.0 | 180 | 10.1/F | B | 8210G94 | 3UL13 | 98.98 | 95.10▲ | 2.3 |
| 10 | 1/2 | 3/8 | 4.00 | 0 | 150 | 150 | — | 0.0 | 49.0 | 180 | 10.1/F | B | EF8210G94 | 3UL15 | 155.99 | 149.70▲ | 2.2 |
| 11 | 1/2 | 3/8 | 4.00 | 5 | 200 | 150 | 135 | 8.9 | 49.0 | 180 | 6.1/F | B | 8210G2 | 3UK51 | 84.99 | 81.60▲ | 1.9 |
| 11 | 1/2 | 3/4 | 4.00 | 5 | 200 | 150 | 135 | 8.9 | 49.0 | 180 | 6.1/F | B | EF8210G2 | 3UK53 | 133.99 | 128.60▲ | 1.9 |
| 10 | 1/2 | 3/4 | 4.00 | 5 | 300 | 300 | 300 | 8.9 | 69.3 | 175 | 17.1/F | B | 8210G7 | 3UK66 | 122.99 | 118.05▲ | 2.2 |
| 10 | 1/2 | 3/8 | 4.00 | 5 | 300 | 300 | 300 | 8.9 | 69.3 | 175 | 17.1/F | B | EF8210G7 | 3UK67 | 164.99 | 158.75▲ | 2.3 |
| 13 | 1/2 | 5/8 | 5.00 | 0 | 150 | 150 | 125 | 0.0 | 61.2 | 175 | 17.1/F | SS | 8210G88 | 3UL07 | 404.99 | 389.25▲ | 2.4 |
| 13 | 1/2 | 3/4 | 5.00 | 0 | 150 | 150 | 125 | 0.0 | 61.2 | 175 | 17.1/F | SS | EF8210G88 | 3UL08 | 452.99 | 435.00▲ | 2.5 |
| 14 | 1/2 | 1/2 | 5.00 | 5 | 150 | 150 | 125 | 11.2 | 55.9 | 180 | 6.1/F | B | 8210G9 | 3UK70 | 98.49 | 94.55▲ | 2.0 |
| 14 | 1/2 | 1/2 | 5.00 | 5 | 150 | 150 | 125 | 11.2 | 55.9 | 180 | 6.1/F | B | EF8210G9 | 3UK72 | 141.99 | 136.30▲ | 2.1 |
| 14 | 1/2 | 1/2 | 5.00 | 5 | 150 | 150 | 125 | 11.2 | 55.9 | 180 | 10.1/F | B | 8210G95 | 3UL19 | 109.99 | 105.60▲ | 2.4 |
| 15 | 1/2 | 1/2 | 5.00 | 0 | 150 | 150 | — | 0.0 | 61.2 | 180 | 10.1/F | B | EF8210G95 | 3UL21 | 163.99 | 158.00▲ | 2.4 |
| 15 | 1/2 | 1/2 | 5.00 | 0 | 150 | 150 | — | 0.0 | 61.2 | 180 | 6.1/F | B | 8210G3 | 3UK58 | 136.99 | 131.50▲ | 3.2 |
| 16 | 1/2 | 1/2 | 6.50 | 5 | 250 | 150 | 100 | 14.5 | 79.6 | 180 | 6.1/F | B | EF8210G3 | 3UK59 | 191.99 | 184.75▲ | 3.3 |
| 16 | 1/2 | 1/2 | 6.50 | 5 | 250 | 150 | 100 | 14.5 | 79.6 | 180 | 15.4/F | B | 8210B26 | 3UK20 | 262.99 | 252.75▲ | 3.1 |
| 17 | 1/2 | 1/2 | 6.00 | 0 | 350 | 300 | 200 | 0.0 | 103.9 | 200 | 15.4/F | B | EF8210B26 | 3UK81 | 316.99 | 304.50▲ | 3.8 |
| 17 | 1/2 | 1/2 | 6.00 | 0 | 350 | 300 | 200 | 0.0 | 103.9 | 200 | 15.4/F | B | 8210G4 | 3UK60 | 173.98 | 167.50▲ | 1.5 |
| 18 | 1 | 1 | 13.00 | 5 | 150 | 150 | 100 | 29.1 | 159.2 | 180 | 6.1/F | B | EF8210G4 | 3UK61 | 229.98 | 221.00▲ | 1.5 |
| 18 | 1 | 1 | 13.00 | 5 | 150 | 150 | 100 | 29.1 | 159.2 | 180 | 15.4/F | B | 8210B54 | 3UK22 | 234.98 | 225.75▲ | 4.1 |
| 19 | 1 | 1 | 13.00 | 0 | 150 | 125 | 125 | 0.0 | 145.3 | 180 | 15.4/F | B | EF8210B54 | 3UK97 | 296.98 | 285.50▲ | 5.0 |
| 19 | 1 | 1 | 13.00 | 0 | 150 | 125 | 125 | 0.0 | 145.3 | 180 | 15.4/F | SS | 8210D89 | 3UK25 | 901.98 | 866.00▲ | 5.1 |
| 20 | 1 | 1 | 13.00 | 0 | 150 | 125 | 125 | 0.0 | 145.3 | 180 | 15.4/F | SS | EF8210D89 | 3UL09 | 931.98 | 898.00▲ | 5.7 |
| 20 | 1 | 1 | 13.00 | 0 | 150 | 125 | 125 | 0.0 | 145.3 | 180 | 20.0/F | B | 8210B27 | 3UK21 | 391.98 | 376.75▲ | 5.8 |
| 21 | 1 | 1 | 13.50 | 0 | 300 | 225 | 115 | 0.0 | 15.0 | 200 | 20.0/F | B | EF8210B27 | 3UK82 | 450.98 | 433.00▲ | 6.4 |
| 21 | 1 | 1 | 13.50 | 0 | 300 | 225 | 115 | 0.0 | 15.0 | 200 | 6.1/F | B | 8210G8 | 3UK68 | 211.98 | 203.75▲ | 5.3 |
| 22 | 1¼ | 1⅛ | 15.00 | 5 | 150 | 150 | 100 | 33.5 | 183.7 | 180 | 6.1/F | B | EF8210G8 | 3UK69 | 269.98 | 259.75▲ | 5.3 |
| 22 | 1¼ | 1⅛ | 15.00 | 5 | 150 | 150 | 100 | 33.5 | 183.7 | 180 | 15.4/F | B | 8210B55 | 3UK23 | 262.98 | 252.50▲ | 5.1 |
| 23 | 1¼ | 1⅛ | 15.00 | 0 | 150 | 125 | 125 | 0.0 | 167.7 | 180 | 15.4/F | B | EF8210B55 | 3UK98 | 316.98 | 304.50▲ | 5.7 |
| 23 | 1¼ | 1⅛ | 15.00 | 0 | 150 | 125 | 125 | 0.0 | 167.7 | 180 | 6.1/F | B | 8210G22 | 3UK79 | 323.98 | 311.25▲ | 6.4 |
| 24 | 1½ | 1¼ | 22.50 | 5 | 150 | 150 | 100 | 50.3 | 275.6 | 180 | 6.1/F | B | EF8210G22 | 3UK80 | 362.98 | 348.75▲ | 6.5 |
| 24 | 1½ | 1¼ | 22.50 | 5 | 150 | 150 | 100 | 50.3 | 275.6 | 180 | 15.4/F | B | 8210B56 | 3UK24 | 353.98 | 340.25▲ | 6.2 |
| 25 | 1½ | 1¼ | 22.50 | 0 | 150 | 125 | 125 | 0.0 | 251.6 | 180 | 15.4/F | B | EF8210I56 | 3UK99 | 416.98 | 400.75▲ | 6.9 |
| 25 | 1½ | 1¼ | 22.50 | 0 | 150 | 125 | 125 | 0.0 | 251.6 | 180 | 6.1/F | B | 8210G100 | 3UL25 | 571.97 | 549.50▲ | 11.0 |
| 26 | 2 | 1¾ | 43.00 | 5 | 150 | 125 | 90 | 96.2 | 480.8 | 180 | 6.1/F | B | EF8210G100 | 3UL26 | 606.97 | 583.00▲ | 11.0 |
| 26 | 2 | 1¾ | 43.00 | 5 | 150 | 125 | 90 | 96.2 | 480.8 | 180 | 6.1/F | B | 8210G101 | 3UL27 | 846.96 | 814.00▲ | 13.0 |
| 27 | 2½ | 1¾ | 45.00 | 5 | 150 | 125 | 90 | 100.6 | 503.1 | 180 | 6.1/F | B | EF8210G101 | 3UL28 | 883.96 | 849.00▲ | 13.0 |
| 27 | 2½ | 1½ | 45.00 | 5 | 150 | 125 | 90 | 100.6 | 503.1 | 180 | | | | | | | |

*) B=Brass, SS=Stainless Steel. (▲) Net prices, not subject to discounts.

These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listings or call any California Branch.

# SOLENOID VALVES

## 3-WAY QUICK EXHAUST VALVES




- **Brass body**
- **Coil included**
- **Maximum fluid temp. of 180°F**
- **120V, 60Hz (110V, 50Hz)**
- **UL Listed and CSA Certified**

These 3-way valves have three pipe connections and two orifices (when one is open, the other is closed, and vice versa). Used to externally pilot larger valves or valve actuators, and to operate single-actin cylinders. ASCO brand.

**Normally-Closed Valves** exhaust pressur when the solenoid is de-energized, appl pressure when energized.

**Normally-Open Valves** apply pressure whe the solenoid is de-energized, exhaust pres sure when energized.

**Universal Valves** have pressure at any port.

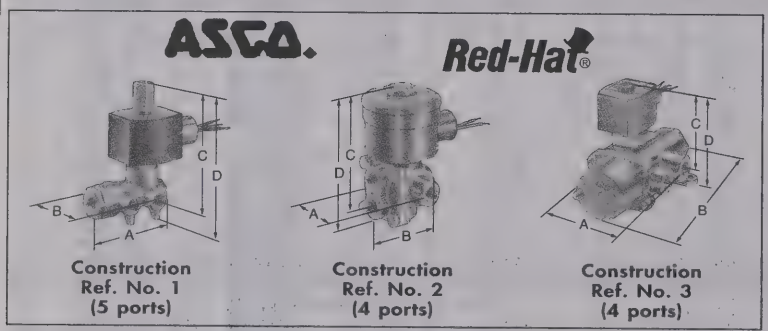
### DIMENSIONS (In.)

| Construction Ref. No. | A Length | B Width | C Center Pipe | D Height |
|---|---|---|---|---|
| 1 | 1 3/16 | 1 11/16 | 2 3/16 | 3 5/32 |
| 2 | 1 3/16 | 1 11/16 | 2 3/16 | 3 5/32 |
| 3 | 1 7/16 | 1 31/32 | 2 3/4 | 3 3/4 |

| Construction Ref. No. | Pipe Size (In.) | Orifice Size, (In.) Press. | Orifice Size, (In.) Exh. | Cv Flow Factor Press. | Cv Flow Factor Exh. | Operating Pressure Differential (PSI) Air, Water & Lt. Oil Minimum | Operating Pressure Differential (PSI) Air, Water & Lt. Oil Maximum | GPM Min. | GPM Max. | Watt Rating/ Class of Coil Insulation | ASCO Model | Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3-WAY, NORMALLY-CLOSED VALVES** | | | | | | | | | | | | | | | |
| 1 | 1/4 | 3/32 | 1/4 | 0.20 | 0.73 | 5 | 150† | 0.45 | 2.45 | 10.1 | 8317G35 | **3UL82** | $115.99 | **$111.35▲** | 1.7 |
| 1 | 1/4 | 3/32 | 1/4 | 0.20 | 0.73 | 5 | 150† | 0.45 | 2.45 | 10.1 | EF8317G35 | **3UL83** | 163.99 | **157.75▲** | 1.8 |
| 2 | 1/4 | 3/32 | — | 0.12 | — | 0* | 150 | 0.00 | 1.47 | 10.1/F | 8320G184 | **3UL95** | 83.48 | **80.25▲** | 1.6 |
| 2 | 1/4 | 3/32 | — | 0.12 | — | 0* | 150 | 0.00 | 1.47 | 10.1/F | EF8320G184 | **3UL96** | 126.99 | **121.90▲** | 1.7 |
| 3 | 3/8 | 9/32 | 11/32 | 0.80 | 1.20 | 10 | 200 | 2.53 | 11.31 | 6.1/F | 8321G2 | **3UM06** | 208.99 | **201.00▲** | 2.1 |
| 3 | 3/8 | 9/32 | 11/32 | 0.80 | 1.20 | 10 | 200 | 2.53 | 11.31 | 6.1/F | EF8321G2 | **3UM07** | 241.99 | **232.50▲** | 2.2 |
| **3-WAY, NORMALLY-OPEN VALVES** | | | | | | | | | | | | | | | |
| 2 | 1/4 | 1/16 | — | 0.09 | — | 0 | 125‡ | 0.00 | 1.03 | 10.1/F | 8320G172 | **3UL89** | $83.48 | **$80.25▲** | 1.6 |
| 2 | 1/4 | 1/16 | — | 0.09 | — | 0 | 125‡ | 0.00 | 1.03 | 10.1 | EF8320G172 | **3UL90** | 126.99 | **121.90▲** | 1.7 |
| 2 | 1/4 | 3/32 | — | 0.12 | — | 0 | 100 | 0.00 | 0.90 | 17.1/F | 8320G174 | **3UL91** | 83.48 | **80.25▲** | 1.6 |
| 2 | 1/4 | 3/32 | — | 0.12 | — | 0 | 100 | 0.00 | 0.90 | 17.1/F | EF8320G174 | **3UL92** | 123.99 | **119.00▲** | 1.7 |

(*) For Lt. Oil Minimum = 10 PSI and Maximum = 95 PSI. †95 PSI for Lt. oil. ‡130 PSI for water and Lt. oil.
❷ These products are covered by California Proposition or shipments, see first page of Grainger Branch Listings or call any California branch.
(▲) Net prices, not subject to discounts.

## 4-WAY VALVES




- **Brass body**
- **Coil included**
- **120V, 60Hz (110V, 50Hz)**
- **CSA Certified**
- **UL Listed (except Nos. 3UM15 & 3UM16)**

4-way, single solenoid valves are used to operat double-acting cylinders. Have 4 or 5 pipe connec tions: one pressure, two cylinder, and one or tw exhausts. They may be mounted in any position ASCO brand.

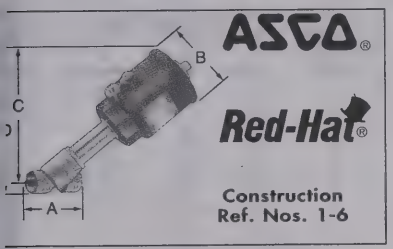
### DIMENSIONS (In.)

| Valve Type | A Length | B Width | C Center Pipe | D Height |
|---|---|---|---|---|
| 1 | 3 | 2 1/16 | 4 1/32 | 4 11/16 |
| 2 | 2 19/32 | 2 17/32 | 3 27/32 | 4 15/32 |
| 3 | 3 3/16 | 6 1/16 | 2 15/16 | 4 1/16 |

| Construction Ref. No. | Pipe Size (In.) | Orifice Size (In.) | Cv Flow Factor | Operating Pressure Diff. (PSI) Maximum Air Min. | Air Inert Gas | Water/Lt. Oil | GPM Min. | GPM Max. | Maximum Fluid Temp (°F) | Watt Rating / Class of Coil Insulation | ASCO Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/4 | 1/16 | 0.09 | 10 | 150 | 150 | 0.28 | 1.10 | 180 | 10.1/F | 8345G1* | **3UM17** | $154.99 | **$148.75▲** | 2.1 |
| 1 | 1/4 | 1/16 | 0.09 | 10 | 150 | 150 | 0.28 | 1.10 | 180 | 10.1/F | EF8345G1* | **3UM18** | 214.99 | **206.50▲** | 2.2 |
| 1 | 1/4 | 1/16 | 0.09 | 10 | 150 | — | — | — | 180 | 10.1/F | 8345H3* | **3UM30** | 138.99 | **133.40▲** | 2.0 |
| 1 | 1/4 | 1/16 | 0.09 | 10 | 150 | — | — | — | 180 | 10.1/F | EF8345H3* | **3UM31** | 182.99 | **176.00▲** | 2.0 |
| 2 | 1/4 | 3/16 | 0.70 | 0 | 125 | 100 | 0.00 | 7.00 | 160 | 20.0/F | 8342C1 | **3UK29** | 178.99 | **172.25▲** | 2.5 |
| 2 | 1/4 | 3/16 | 0.70 | 0 | 125 | 100 | 0.00 | 7.00 | 160 | 20.0/F | EF8342C1 | **3UM09** | 241.99 | **232.25▲** | 3.2 |
| 2 | 3/8 | 3/16 | 0.70 | 0 | 125 | 100 | 0.00 | 7.00 | 160 | 20.0/F | 8342C3 | **3UK30** | 184.99 | **178.00▲** | 2.6 |
| 2 | 3/8 | 3/16 | 0.70 | 0 | 125 | 100 | 0.00 | 7.00 | 180 | 20.0/F | EF8342C3 | **3UM10** | 241.99 | **232.25▲** | 3.1 |
| 3 | 1/2 | 3/8 | 1.40 | 10† | 150 | 125 | 4.43 | 15.65 | 180 | 10.1/F | 8344G74* | **3UM15** | 436.98 | **419.75▲** | 6.8 |
| 3 | 1/2 | 3/8 | 1.40 | 10† | 150 | 125 | 4.43 | 15.65 | 180 | 10.1/F | EF8344G74* | **3UM16** | 495.98 | **476.50▲** | 8.0 |

(*) A minimum operating pressure differential must be maintained between the pressure and exhausts ports. Supply and exhaust piping must be full area, unrestricted. Flow controls and other components must be installed in the cylinder lines only. (†) 25 PSI minimum on light oil.
❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listings or call any California branch.
(▲) Net prices, not subject to discounts.

## ANGLE BODY PISTON VALVES, 2-WAY NORMALLY CLOSED




- **Bronze body**
- **Requires 120V, 60Hz pilot valve shown in the chart below**
- **Minimum 60 to maximum 150 PSI operating pressure**

Auxiliary-piloted, 2-way angle body piston valves are designed to handle water, light slurries, and steam. Interchangeable with quarter-turn ball valves. Feature an extra stable cold-rolled stainless steel shaft with oversized bearings, a spring-loaded stem seal and a Dupont® Viton shaft wiper. Tested to over a million cycles. Asco brand.

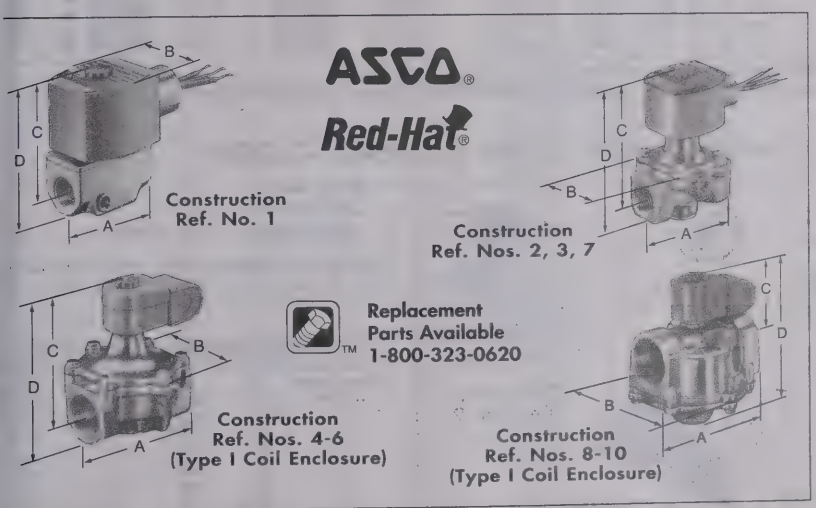
### DIMENSIONS (In.)

| Construction Ref. No. | A Length | B Width | C Center Pipe | D Height |
|---|---|---|---|---|
| 1 | 2 1/2 | 3 3/8 | 7 1/4 | 7 3/4 |
| 2 | 3 | 3 3/8 | 7 1/2 | 8 1/4 |
| 3 | 3 1/2 | 3 3/4 | 7 3/4 | 8 1/4 |
| 4 | 4 5/16 | 4 5/8 | 8 11/16 | 9 5/4 |
| 5 | 4 3/4 | 4 5/8 | 9 1/8 | 10 5/16 |
| 6 | 6 | 4 5/8 | 9 1/2 | 10 7/4 |

| Construction Ref. No. | Pipe Size (In.) | Orifice Size (In.) | CV Flow Factor | Maximum Operating Pressure Diff. (PSI) Fluids | Steam | GPM Min. | GPM Max. | Order Pilot Valve Stock No. | ASCO Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/2 | 1/2 | 5.6 | 240 | 150 | 0.0 | 86.8 | 3UL87 | 8290A2 | **3UK33** | $194.00 | **$186.50▲** | 2.1 |
| 2 | 3/4 | 3/4 | 11 | 240 | 150 | 0.0 | 170.4 | 3UL87 | 8290A5 | **3UK34** | 199.00 | **191.25▲** | 3.4 |
| 3 | 1 | 1 | 19 | 150 | 150 | 0.0 | 232.7 | 3UL87 | 8290A10 | **3UK35** | 209.00 | **200.75▲** | 4.2 |
| 4 | 1 1/4 | 1 1/4 | 25 | 180 | 150 | 0.0 | 335.4 | 3UL95 | 8290A17 | **3UK37** | 417.00 | **400.50▲** | 3.0 |
| 5 | 1 1/2 | 1 1/2 | 45 | 120 | 120 | 0.0 | 493.0 | 3UL95 | 8290A21 | **3UK38** | 440.00 | **422.50▲** | 3.0 |
| 6 | 2 | 2 | 63 | 90 | 90 | 0.0 | 597.7 | 3UL95 | 8290A25 | **3UK36** | 468.00 | **449.50▲** | 10.0 |

) Net prices not subject to discounts.

## COMBUSTION VALVES




- **Aluminum body**
- **Coil included**
- **120V, 60Hz (110V, 50Hz)**
- **Junction box included on 3UK39-3UK46**

All have 1/8" NPT downstream pipe taps to provide easy access for routine testing. Nos. 3UK39 thru 3UK46 have a built-in junction box. Series 8214 valves replace series 8215. Asco brand.

**Normally-Closed Shutoff Valves** for pilots and main fuel supplies. Shut down automatically in the event of a power interruption.

**Normally-Open Gas Vent Valves** for use in double block and vent gas burners.

### DIMENSIONS (In.)

| Construction Ref. No. | A Length | B Width | C Center Pipe | D Height |
|---|---|---|---|---|
| 1 | 2 | 1 11/16 | 2 5/16 | 2 3/4 |
| 2 | 2 3/4 | 2 23/64 | 3 15/32 | 4 1/32 |
| 3 | 3 5/16 | 2 23/64 | 3 21/32 | 4 15/32 |
| 4 | 5 | 5 3/8 | 5 15/32 | 6 13/16 |
| 5 | 5 | 5 3/8 | 5 17/32 | 6 13/16 |
| 6 | 6 3/32 | 6 13/16 | 5 29/32 | 7 13/32 |
| 7 | 3 5/16 | 3 11/16 | 4 1/23 | 4 7/8 |
| 8 | 5 | 5 3/8 | 3 5/8 | 6 13/16 |
| 9 | 5 | 5 3/8 | 3 9/16 | 6 13/16 |
| 10 | 6 3/32 | 6 5/16 | 3 13/16 | 7 7/16 |

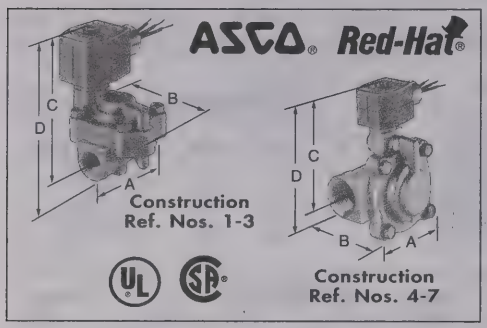
## SPECIFICATIONS AND ORDERING DATA

| Construction Ref. No. | Pipe Size (In.) | Orifice Size (In.) | CV Flow Factor | Gas Capacity* Btu/hr | Operating Pressure Differential (PSI) Min. | Operating Pressure Differential (PSI) Max. | Fluid & Ambient Temperature (°F) Min. | Fluid & Ambient Temperature (°F) Max. | Watt Rating/ Class of Coil Insulation | Agency Approvals | ASCO Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2-WAY NORMALLY-CLOSED GAS SHUTOFF VALVES** | | | | | | | | | | | | | | | | |
| 1 | 3/8 | 5/16 | 1.2 | 64,400 | 0 | 15 | -40 | 125 | 6.1/F | UL, FM, AGA, CGA, CSA | 8040H8 | | **3UM33** | $48.48 | **$46.55▲** | 1.1 |
| 2 | 1/2 | 3/4 | 4.4 | 238,500 | 0 | 5 | -40 | 125 | 17.1/F | UL, FM, AGA, CGA, CSA | 8214G20 | | **3UM27** | 99.89 | **96.05▲** | 1.7 |
| 3 | 3/4 | 3/4 | 5.1 | 247,500 | 0 | 5 | -40 | 125 | 17.1/F | UL, FM, AGA, CGA, CSA | 8214G30 | | **3UM28** | 102.99 | **98.95▲** | 1.8 |
| 4 | 1 | 1 3/8 | 21.0 | 1,119,000 | 0 | 5 | -40 | 125 | 20/F | AGA, CGA, CSA | JB821450CSA | † | **3UK39** | 192.99 | **185.75▲** | 1.0 |
| 5 | 1 1/4 | 1 5/8 | 32.0 | 1,730,000 | 0 | 5 | -40 | 125 | 20/F | AGA, CGA, CSA | JB821460CSA | † | **3UK40** | 192.99 | **185.75▲** | 1.0 |
| 5 | 1 1/2 | 1 5/8 | 35.0 | 1,900,003 | 0 | 5 | -40 | 125 | 20/F | AGA, CGA, CSA | JB821470CSA * | † | **3UK41** | 223.99 | **215.50▲** | 1.0 |
| 6 | 2 | 2 1/32 | 60.0 | 2,800,000 | 0 | 5 | -40 | 125 | 20/F | AGA, CGA, CSA | JB821480CSA * | † | **3UK42** | 323.98 | **311.50▲** | 5.6 |
| **2-WAY NORMALLY-OPEN GAS VENT VALVES** | | | | | | | | | | | | | | | | |
| 7 | 3/4 | 3/4 | 5.1 | 247,500 | 0 | 5 | -40 | 125 | 17.1/F | UL, AGA, CGA, CSA | 8214G33 | | **3UM29** | 163.99 | **157.75▲** | 1.9 |
| 8 | 1 | 1 3/8 | 21.0 | 1,119,000 | 0 | 5 | -40 | 125 | 20/F | AGA, CGA, CSA | JB821453CSA | † | **3UK43** | 259.98 | **241.25▲** | 4.2 |
| 9 | 1 1/4 | 1 5/8 | 32.0 | 1,538,000 | 0 | 5 | -40 | 125 | 20/F | AGA, CGA, CSA | JB821463CSA | † | **3UK44** | 287.99 | **276.75▲** | 4.2 |
| 9 | 1 1/2 | 1 5/8 | 35.0 | 1,615,250 | 0 | 5 | -40 | 125 | 20/F | AGA, CGA, CSA | JB821473CSA | † | **3UK45** | 333.98 | **321.00▲** | 4.1 |
| 10 | 2 | 2 3/32 | 60.0 | 2,924,500 | 0 | 5 | -40 | 125 | 20/F | AGA, CGA, CSA | JB821483CSA | † | **3UK46** | 403.98 | **388.25▲** | 5.7 |

*) Valves must be mounted vertical and upright. (†) NEMA Type I coil enclosure with junction box. (▲) Net prices not subject to discounts.

# SPECIAL PURPOSE SOLENOID VALVES

## SLOW CLOSING VALVES, 2-WAY NORMALLY-CLOSED




- Brass body
- Coil Included
- Maximum fluid temperature of 180°F
- 120V, 60Hz (110V, 50Hz)

2-way valves are designed to protect against the water hammer problems experienced in many water and light oil applications. Unique slow closing construction reduces the pressure spike which causes water hammer to a level eliminating the need for suppressors or other controls. UL Listed and CSA Certified.

### DIMENSIONS (In.)

| Construction Ref. Nos. | A Length | B Width | C Center Pipe | D Height |
|---|---|---|---|---|
| 1 | 2 23/32 | 3 13/32 | 3 19/32 | 4 11/32 |
| 2 | 2 25/32 | 3 13/32 | 3 3/4 | 4 17/32 |
| 3 | 3 3/4 | 3 5/32 | 4 1/32 | 5 5/8 |
| 4 | 3 21/32 | 3 9/16 | 4 1/32 | 5 9/16 |
| 5 | 4 3/8 | 4 1/8 | 4 5/16 | 6 1/8 |
| 6 | 5 1/16 | 4 23/32 | 4 19/32 | 7 3/8 |
| 7 | 5 1/16 | 4 23/32 | 5 15/32 | 8 7/32 |

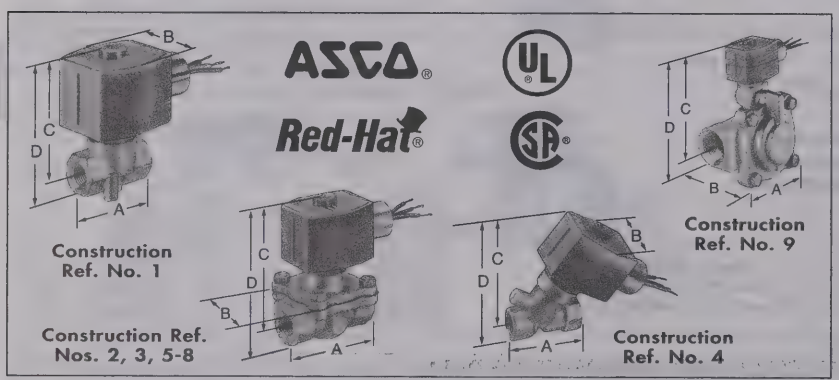
Replacement Parts Available 1-800-323-0620

### SLOW CLOSING VALVE SPECIFICATIONS AND ORDERING DATA

| Construction Ref. No. | Pipe Size (In.) | Orifice Size (In.) | CV Flow Factor | Operating Pressure Differential (PSI) Min. | Maximum Water / Light Oil | GPM Min. | GPM Max. | Watt Rating/ Class of Coil Insulation | ASCO Model | Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3/8 | 9/16 | 3.0 | 5 * | 150 | 6.7 | 36.7 | 6.1/F | 8221G1 | **3UL35** | $145.99 | **$140.15** ▲ | 2.7 |
| 2 | 1/2 | 9/16 | 3.5 | 5 * | 150 | 7.8 | 42.9 | 6.1/F | 8221G3 | **3UL36** | 145.99 | **140.15** ▲ | 2.7 |
| 3 | 3/4 | 3/4 | 5.5 | 5 * | 150 | 12.3 | 67.4 | 6.1/F | 8221G5 | **3UL37** | 156.99 | **150.75** ▲ | 2.9 |
| 4 | 1 | 1 | 11.5 | 5 * | 150 | 25.7 | 140.9 | 6.1/F | 8221G7 | **3UL38** | 321.98 | **309.25** ▲ | 4.6 |
| 5 | 1 1/4 | 1 1/8 | 13.0 | 5 * | 150 | 29.1 | 159.2 | 6.1/F | 8221G9 | **3UL39** | 382.98 | **368.00** ▲ | 5.4 |
| 6 | 1 1/2 | 1 1/4 | 24.0 | 5 * | 150 | 53.7 | 293.9 | 6.1/F | 8221G11 | **3UL40** | 557.98 | **536.00** ▲ | 5.0 |
| 7 | 2 | 1 3/4 | 36.0 | 5 * | 150 | 80.5 | 440.9 | 6.1/F | 8221G13 | **3UL41** | 674.96 | **648.50** ▲ | 12.0 |

(*) Valves require 5 PSI differential to open, once they are open they will remain open with 3 PSI differential.
❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listings or call any California branch.
(▲) Net prices, not subject to discounts.

## STEAM AND HOT WATER VALVES, 2-WAY NORMALLY-CLOSED




- Brass body
- Coil included
- 120V, 60Hz (110V, 50Hz)

Valves are designed to handle tough appli cations involving steam or hot water. Ul Listed and CSA Certified.

### DIMENSIONS (In.)

| Construction Ref. No. | A Length | B Width | C Center Pipe | D Height |
|---|---|---|---|---|
| 1 | 1 7/8 | 1 31/32 | 2 19/32 | 3 5/32 |
| 2 | 2 3/4 | 2 5/16 | 3 9/32 | 3 27/32 |
| 3 | 2 3/4 | 2 5/16 | 2 27/32 | 3 13/32 |
| 4 | 2 3/4 | 1 15/16 | 4 | 4 13/16 |
| 5 | 2 3/4 | 2 9/32 | 3 15/32 | 4 1/32 |
| 6 | 2 13/16 | 2 5/16 | 3 7/16 | 4 3/32 |
| 7 | 2 13/16 | 2 5/16 | 3 | 3 5/8 |
| 8 | 2 13/16 | 2 9/32 | 3 5/8 | 4 5/16 |
| 9 | 3 3/4 | 3 1/8 | 4 3/16 | 5 13/16 |

### STEAM AND HOT WATER VALVE SPECIFICATION AND ORDERING DATA

| Construction Ref. No. | Pipe Size (In.) | Orifice Size (In.) | CV Flow Factor | Operating Pressure Diff. (PSI) Maximum Min. | Hot Water | Steam | GPM Min. | GPM Max. | Max. Fluid Temp. (°F) Hot Water | Steam | Watt Rating/ Class of Coil Insulation | ASCO Model | Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/4 | 5/32 | 0.52 | 0 | — | 110 | 0.0 | 5.5 | — | 344 | 10.1/H | 8263G300 | **3UL70** | $99.99 | **$96.05** ▲ | 1.8 |
| 2 | 3/8 | 5/8 | 3.00 | 0 | 100 | — | 0.0 | 30.0 | 210 | — | 10.1/F | 8210G93HW | **3UL11** | 107.99 | **103.65** ▲ | 2.3 |
| 3 | 3/8 | 5/8 | 3.00 | 5 | 125 | — | 6.7 | 33.5 | 210 | — | 6.1/F | 8210G1HW | **3UK49** | 94.48 | **90.80** ▲ | 2.0 |
| 4 | 1/2 | 1/2 | 3.60 | 2 | — | 125 | — | — | — | 353 | 10.1/H | 8222G47 | **3UM24** | 181.99 | **175.25** ▲ | 2.3 |
| 2 | 1/2 | 5/8 | 4.00 | 0 | 100 | — | 0.0 | 40.0 | 210 | — | 10.1/F | 8210G94HW | **3UL14** | 107.99 | **103.65** ▲ | 2.2 |
| 3 | 1/2 | 5/8 | 4.00 | 5 | 125 | — | 8.9 | 44.7 | 210 | — | 6.1/F | 8210G2HW | **3UK52** | 94.48 | **90.80** ▲ | 1.8 |
| 5 | 1/2 | 5/8 | 4.00 | 5 | 150 | 50 | 8.9 | 49.0 | 210 | 300 | 10.1/F | 8220G3 | **3UL29** | 109.99 | **105.60** ▲ | 2.4 |
| 5 | 1/2 | 5/8 | 4.00 | 5 | 150 | 125 | 8.9 | 49.0 | 210 | 353 | 10.1/H | 8220G21 | **3UL31** | 149.99 | **143.95** ▲ | 2.5 |
| 4 | 3/4 | 1/2 | 4.60 | 2 | — | 125 | — | — | — | 353 | 10.1/H | 8222G49 | **3UM25** | 205.99 | **198.00** ▲ | 2.1 |
| 6 | 3/4 | 3/4 | 5.00 | 0 | 100 | — | 0.0 | 50.0 | 210 | — | 10.1/F | 8210G95HW | **3UL20** | 114.99 | **110.40** ▲ | 2.4 |
| 7 | 3/4 | 3/4 | 5.00 | 5 | 125 | — | 11.2 | 55.9 | 210 | — | 6.1/F | 8210G9HW | **3UK71** | 107.99 | **103.65** ▲ | 2.0 |
| 8 | 3/4 | 3/4 | 5.00 | 5 | 150 | 50 | 11.2 | 61.2 | 210 | 300 | 10.1/F | 8220G5 | **3UL30** | 116.99 | **112.30** ▲ | 2.6 |
| 8 | 3/4 | 3/4 | 5.00 | 5 | 150 | 125 | 11.2 | 61.2 | 210 | 353 | 10.1/H | 8220G23 | **3UL32** | 194.99 | **187.50** ▲ | 2.1 |
| 9 | 1 | 1 | 13.50 | 5 | 150 | 125 | 30.2 | 165.3 | 210 | 353 | 10.1/H | 8220G25 | **3UL34** | 390.98 | **375.75** ▲ | 4.9 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listings or call any California branch.
(▲) Net prices, not subject to discounts.

# STANDARD AND THUNDERBOLT™ CARTRIDGE HEATERS

## STANDARD CARTRIDGE HEATERS

| Diameter Size, (In.) | Length, (In.) | Watts | Volts | Watt Dens. W/Sq. In. | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| /16 | 2 | 30 | 120 | 34 | C1030A | **3HJ65** | $21.14 | **$16.09** | 0.1 |
| /16 | 4 | 65 | 120 | 32 | C1060A | **3HJ66** | 24.20 | **18.41** | 0.1 |
| /16 | 4 | 65 | 240 | 32 | C1060B | **3HJ67** | 24.20 | **18.41** | 0.1 |
| /4 | 7½ | 100 | 120 | 19 | C210A | **2E889** | 24.96 | **24.18** | 0.4 |
| /8 | 1½ | 50 | 120 | 43 | C3910A | **2E890** | 17.47 | **16.72** | 0.3 |
| /8 | 2⅜ | 75 | 120 | 34 | C3830A | **2E891** | 17.57 | **16.76** | 0.2 |
| /8 | 2⅜ | 75 | 240 | 34 | C3830B | **3HJ76** | 21.37 | **16.26** | 0.1 |
| /8 | 3 | 100 | 120 | 33 | C3840A | **2E892** | 19.24 | **18.43** | 0.2 |
| /8 | 3 | 100 | 240 | 33 | C3840B | **3HJ77** | 23.06 | **17.55** | 0.2 |
| /8 | 4 | 150 | 120 | 37 | C3930A | **2E893** | 20.80 | **19.98** | 0.4 |
| /8 | 4 | 150 | 240 | 37 | C3930B | **3HJ78** | 24.91 | **18.96** | 0.2 |
| /8 | 5 | 200 | 120 | 38 | C3940A | **2E894** | 19.50 | **18.48** | 0.1 |
| /8 | 5 | 200 | 240 | 38 | C3940B | **3HJ79** | 23.06 | **17.55** | 0.2 |
| /2 | 2 | 100 | 120 | 43 | C5180A | **2E895** | 19.76 | **18.89** | 0.3 |
| /2 | 2 | 100 | 240 | 43 | C5180B | **3HJ84** | 23.66 | **18.01** | 0.4 |
| /2 | 6 | 300 | 120 | 35 | C5170A | **2E896** | 22.88 | **22.34** | 0.6 |
| /2 | 6 | 300 | 240 | 35 | C5170B | **2E897** | 22.88 | **22.25** | 0.2 |
| 5/8 | 2⅜ | 150 | 120 | 41 | C6360A | **2E898** | 19.65 | **18.82** | 0.6 |
| 5/8 | 2⅜ | 150 | 240 | 41 | C6360B | **3HJ92** | 23.40 | **17.81** | 0.2 |
| 5/8 | 2⅜ | 180 | 120 | 49 | C6370A | **2E899** | 19.76 | **18.98** | 0.7 |
| 5/8 | 2⅜ | 180 | 240 | 49 | C6370B | **3HJ93** | 23.60 | **17.96** | 0.2 |
| 5/8 | 4½ | 240 | 120 | 31 | C627A | **3HJ87** | 26.32 | **20.03** | 0.3 |
| 5/8 | 4½ | 240 | 240 | 31 | C627B | **2E900** | 21.84 | **21.14** | 0.7 |
| 5/8 | 7 | 350 | 120 | 27 | C692A | **3HJ94** | 31.46 | **23.94** | 0.5 |
| 5/8 | 7 | 350 | 240 | 27 | C692B | **2E902** | 26.00 | **25.10** | 0.3 |
| 3/4 | 4 | 300 | 120 | 36 | C766A | **3HK06** | 32.63 | **24.83** | 0.4 |
| 3/4 | 4 | 300 | 240 | 36 | C766B | **3HK07** | 32.63 | **24.83** | 0.4 |
| 3/4 | 8 | 500 | 120 | 27 | C758A | **3HJ97** | 36.41 | **27.75** | 0.7 |
| 3/4 | 8 | 500 | 240 | 27 | C758B | **3HJ98** | 36.41 | **27.75** | 0.7 |
| | 6⅜ | 600 | 120 | 33 | C9770A | **3HK10** | 38.27 | **29.15** | 0.7 |
| | 6⅜ | 600 | 240 | 33 | C9770B | **3HK11** | 38.27 | **29.15** | 0.7 |

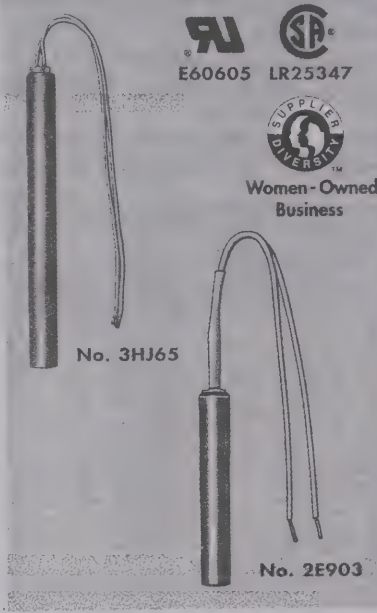
## THUNDERBOLT CARTRIDGE HEATERS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1/4 | 1¼ | 40 | 120 | 58 | TB101A | **2E903** | 26.00 | **24.02** | 0.2 |
| 1/4 | 2 | 80 | 120 | 68 | TB102A | **2E904** | 27.04 | **24.96** | 0.1 |
| 1/4 | 2 | 150 | 120 | 130 | TB1017A | **3HP72** | 24.37 | **18.54** | 0.1 |
| 3/8 | 1¼ | 100 | 120 | 115 | TB380A | **2E905** | 23.40 | **21.12** | 0.4 |
| 3/8 | 1¼ | 100 | 240 | 115 | TB380B | **2E906** | 21.84 | **20.55** | 0.2 |
| 3/8 | 1¼ | 150 | 120 | 172 | TB3815A | **2E907** | 23.40 | **21.06** | 0.2 |
| 3/8 | 1¼ | 150 | 240 | 172 | TB3815B | **3HR37** | 20.54 | **15.63** | 0.1 |
| 3/8 | 1½ | 100 | 120 | 86 | TB381A | **2E908** | 23.92 | **21.29** | 0.2 |
| 3/8 | 1½ | 100 | 240 | 86 | TB381B | **3HR45** | 21.08 | **16.04** | 0.1 |
| 3/8 | 2 | 150 | 120 | 86 | TB3816A | **2E909** | 20.54 | **18.65** | 0.2 |
| 3/8 | 2 | 150 | 240 | 86 | TB3816B | **3HR38** | 21.51 | **16.37** | 0.1 |
| 3/8 | 2 | 200 | 120 | 115 | TB3821A | **2E910** | 20.80 | **18.82** | 0.2 |
| 3/8 | 2 | 200 | 240 | 115 | TB3821B | **3HR48** | 21.51 | **16.37** | 0.1 |
| 3/8 | 2½ | 200 | 120 | 87 | TB3035A | **3HP98** | 22.31 | **16.98** | 0.1 |
| 3/8 | 2½ | 200 | 240 | 87 | TB3035B | **3HP99** | 22.31 | **16.98** | 0.1 |
| 3/8 | 4 | 300 | 120 | 74 | TB386A | **2E911** | 21.84 | **19.80** | 0.2 |
| 3/8 | 4 | 300 | 240 | 74 | TB386B | **2E913** | 21.84 | **19.80** | 0.2 |
| 3/8 | 5 | 500 | 120 | 96 | TB3070A | **3HR18** | 24.03 | **18.28** | 0.1 |
| 3/8 | 5 | 500 | 240 | 96 | TB3070B | **3HR19** | 24.03 | **18.28** | 0.1 |
| 3/8 | 6 | 500 | 120 | 79 | TB388A | **3HR55** | 24.88 | **18.94** | 0.2 |
| 3/8 | 6 | 500 | 240 | 79 | TB388B | **3HR56** | 24.88 | **18.94** | 0.2 |
| 1/2 | 1½ | 150 | 120 | 97 | TB501A | **3HR64** | 19.65 | **14.96** | 0.1 |
| 1/2 | 1½ | 150 | 240 | 97 | TB501B | **3HR65** | 19.65 | **14.96** | 0.1 |
| 1/2 | 2 | 200 | 120 | 86 | TB5013A | **2E914** | 21.58 | **19.37** | 0.2 |
| 1/2 | 2 | 200 | 240 | 86 | TB5013B | **3HR59** | 19.74 | **15.02** | 0.1 |
| 1/2 | 2¼ | 280 | 120 | 102 | TB503A | **2E915** | 22.10 | **19.97** | 0.2 |
| 1/2 | 2¼ | 280 | 240 | 102 | TB503B | **3HR74** | 20.20 | **15.37** | 0.1 |
| 1/2 | 2½ | 500 | 120 | 161 | TB5046A | **3HR78** | 20.48 | **15.59** | 0.2 |
| 1/2 | 2½ | 500 | 240 | 161 | TB5046B | **3HR79** | 20.48 | **15.59** | 0.2 |
| 1/2 | 3 | 250 | 120 | 64 | TB505A | **3HR88** | 20.80 | **15.83** | 0.2 |
| 1/2 | 3 | 250 | 240 | 64 | TB505B | **3HR89** | 20.80 | **15.83** | 0.2 |
| 1/2 | 3 | 400 | 240 | 104 | TB5015B | **3HR63** | 20.80 | **15.83** | 0.2 |
| 1/2 | 3 | 750 | 240 | 193 | TB5055B | **3HR85** | 20.80 | **15.83** | 0.2 |
| 1/2 | 4 | 250 | 120 | 46 | TB5065A | **3HR90** | 21.48 | **16.35** | 0.2 |
| 1/2 | 4 | 400 | 240 | 74 | TB5068B | **3HR94** | 21.48 | **16.35** | 0.2 |
| 1/2 | 4 | 550 | 120 | 100 | TB506A | **2E916** | 24.18 | **21.79** | 0.1 |
| 1/2 | 4 | 550 | 240 | 100 | TB506B | **3HR95** | 21.48 | **16.35** | 0.2 |
| 1/2 | 5 | 500 | 120 | 72 | TB507A | **2E917** | 24.96 | **22.60** | 0.5 |
| 1/2 | 5 | 500 | 240 | 72 | TB507B | **3HT01** | 22.48 | **17.11** | 0.2 |
| 5/8 | 1¼ | 200 | 120 | 137 | TB6002A | **3HT29** | 21.08 | **16.04** | 0.1 |
| 5/8 | 3 | 150 | 120 | 31 | TB6011A | **3HT30** | 21.20 | **16.13** | 0.2 |
| 5/8 | 3 | 350 | 240 | 71 | TB625B | **3HT54** | 21.43 | **16.31** | 0.2 |
| 5/8 | 3 | 500 | 240 | 102 | TB6213B | **3HT49** | 21.43 | **16.31** | 0.2 |
| 5/8 | 4 | 550 | 120 | 80 | TB6214A | **3HT50** | 22.00 | **16.74** | 0.3 |
| 5/8 | 4 | 550 | 240 | 80 | TB6214B | **2E918** | 24.44 | **22.02** | 0.2 |
| 5/8 | 5 | 500 | 240 | 57 | TB6025B | **3HT36** | 22.94 | **17.46** | 0.3 |
| 5/8 | 6 | 500 | 240 | 47 | TB6031B | **3HT37** | 23.02 | **18.20** | 0.4 |
| 3/4 | 3 | 500 | 240 | 85 | TB7003B | **3HT55** | 28.32 | **21.55** | 0.3 |
| 3/4 | 5 | 1000 | 240 | 95 | TB7009B | **3HT57** | 32.49 | **24.72** | 0.4 |
| 3/4 | 6 | 1000 | 240 | 78 | TB703B | **3HT64** | 34.69 | **26.40** | 0.5 |

VULCAN ELECTRIC COMPANY

E60605 LR25347

SUPPLIER DIVERSITY™ Women-Owned Business




### STANDARD CARTRIDGE HEATERS:

- **Corrosion resistant 304 stainless steel sheath with a 900°F max. temperature capability**
- **CSA Certified (LR25347)**

**Standard cartridge heaters** are designed for heating in a limited space. Ideal for insertion into dies, molds, and platens. Applications include packaging equipment, heat sealing equipment, laminating equipment, refrigeration, hot melt reservoirs or nozzles, and laboratory equipment.

### THUNDERBOLT CARTRIDGE HEATERS:

- **Corrosion resistant Incoloy sheath with a 1600°F max. sheath temperature capability**
- **Precision sheath diameter tolerance of +.000 - .004"**
- **UL Recognized construction (E60605)**

**Thunderbolt cartridge heaters** are designed to operate up to 5 times the watt density of standard cartridge heaters. Heaters are designed for concentrated heat in a limited space and - for close fit insertion. Application examples include plastic extruders, hot stamping, medical equipment, food processing, hot runner molds, and other plastics molding equipment.

# STEEL AND STAINLESS STEEL STRIP HEATERS

- Low profile
- 5/16Wx1/2"L slotted holes on each end
- 10-32 Screw
- UL Recognized (E60605)

Applications: Clamp on heat, dies, platens, vessels, tanks and heat transfer surfaces

Sheath temperature 750°F max. on 1010 carbon steel strips

Sheath temperature 1200°F max. on 304 stainless steel strips

VULCAN ELECTRIC COMPANY

Women-Owned Business



No. 2E919

E60605

## SPECIFICATIONS AND ORDERING DATA

| Overall Length (In.) | Mounting Dimension (In.) | Watts | Volts | Watt Dens. W/Sq. In. | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **STEEL STRIP HEATERS** | | | | | | | | | |
| 8 | 7 | 150 | 120 | 12 | OS1208-150A | **2E919** | $23.14 | **$20.95** | 0.5 |
| 8 | 7 | 150 | 240 | 12 | OS1208-150B | **4E259** | 23.40 | **21.18** | 0.5 |
| 12 | 11 | 250 | 120 | 10 | OS1212-250A | **2E920** | 26.52 | **24.08** | 0.7 |
| 12 | 11 | 250 | 240 | 10 | OS1212-250B | **2E921** | 27.82 | **25.25** | 0.7 |
| 14 | 13 | 300 | 120 | 10 | OS1214-300A | **4E260** | 29.12 | **26.20** | 1.0 |
| 14 | 13 | 300 | 240 | 10 | OS1214-300B | **4E261** | 29.12 | **26.20** | 1.0 |
| 15¼ | 14¼ | 325 | 120 | 10 | OS1215-325A | **3HL51** | 38.30 | **27.40** | 1.1 |
| 15¼ | 14¼ | 325 | 240 | 10 | OS1215-325B | **3HL52** | 38.35 | **27.40** | 1.2 |
| 17⅞ | 16⅞ | 500 | 120 | 12 | OS1217-500A | **3HL57** | 41.35 | **29.55** | 1.5 |
| 17⅞ | 16⅞ | 500 | 240 | 12 | OS1217-500B | **3HL58** | 41.35 | **29.55** | 1.5 |
| 19½ | 18½ | 350 | 120 | 8 | OS1219-350A | **3HL59** | 43.68 | **31.25** | 1.6 |
| 19½ | 18½ | 350 | 240 | 8 | OS1219-350B | **3HL60** | 43.68 | **31.25** | 1.6 |
| 21 | 20 | 500 | 120 | 10 | OS1221-500A | **2E922** | 37.70 | **34.40** | 1.3 |
| 21 | 20 | 500 | 240 | 10 | OS1221-500B | **4E262** | 38.22 | **34.70** | 1.0 |
| 23¾ | 22¾ | 750 | 120 | 12 | OS1223-750A | **3HL65** | 50.20 | **35.90** | 1.9 |
| 23¾ | 22¾ | 750 | 240 | 12 | OS1223-750B | **3HL66** | 50.20 | **35.90** | 1.9 |
| 25½ | 24½ | 500 | 120 | 8 | OS1225-500A | **3HL67** | 53.01 | **37.90** | 2.1 |
| 25½ | 24½ | 500 | 240 | 8 | OS1225-500B | **3HL68** | 53.01 | **37.90** | 2.1 |
| 26¾ | 25¾ | 700 | 120 | 10 | OS1226-700A | **4E263** | 42.64 | **39.25** | 1.4 |
| 26¾ | 25¾ | 700 | 240 | 10 | OS1226-700B | **4E264** | 42.64 | **39.30** | 1.6 |
| 35⅞ | 34⅞ | 1000 | 240 | 11 | OS1235-1000B | **3HL78** | 71.11 | **50.80** | 3.0 |
| 38½ | 37½ | 1000 | 240 | 10 | OS1238-1000B | **3HL80** | 75.76 | **54.15** | 3.3 |
| 42½ | 41½ | 1250 | 240 | 11 | OS1242-1250B | **3HL84** | 82.77 | **59.15** | 3.5 |
| **STAINLESS STEEL STRIP HEATERS** | | | | | | | | | |
| 8 | 7 | 250 | 120 | 19 | OS1408-250A | **4E250** | 29.12 | **26.30** | 0.3 |
| 8 | 7 | 250 | 240 | 19 | OS1408-250B | **4E251** | 29.12 | **26.30** | 0.3 |
| 10½ | 9½ | 400 | 120 | 19 | OS1410-400A | **3HL91** | 38.42 | **27.45** | 0.9 |
| 10½ | 9½ | 400 | 240 | 19 | OS1410-400B | **3HL92** | 38.42 | **27.45** | 0.9 |
| 12 | 11 | 350 | 120 | 16 | OS1412-350A | **4E252** | 33.28 | **30.10** | 0.9 |
| 12 | 11 | 350 | 240 | 16 | OS1412-350B | **4E253** | 33.28 | **30.00** | 0.6 |
| 14 | 13 | 500 | 120 | 16 | OS1414-500A | **3HL97** | 43.38 | **31.00** | 1.1 |
| 17⅞ | 16⅞ | 500 | 120 | 12 | OS1417-500A | **4E254** | 37.44 | **33.80** | 1.1 |
| 17⅞ | 16⅞ | 500 | 240 | 12 | OS1417-500B | **2E923** | 36.40 | **33.60** | 1.5 |
| 17⅞ | 16⅞ | 750 | 120 | 16 | OS1417-750A | **3HM04** | 46.27 | **33.10** | 1.4 |
| 17⅞ | 16⅞ | 750 | 240 | 16 | OS1417-750B | **3HM05** | 46.27 | **33.10** | 1.4 |
| 17⅞ | 16⅞ | 1000 | 240 | 21 | OS1417-1000B | **3HM03** | 46.27 | **33.10** | 1.4 |
| 21 | 20 | 750 | 120 | 14 | OS1421-750A | **3HM12** | 55.56 | **39.70** | 1.7 |
| 21 | 20 | 750 | 240 | 14 | OS1421-750B | **3HM13** | 55.56 | **39.70** | 1.7 |
| 23¾ | 22¾ | 700 | 120 | 11 | OS1423-700A | **4E255** | 44.72 | **41.10** | 1.6 |
| 23¾ | 22¾ | 700 | 240 | 11 | OS1423-700B | **4E256** | 44.72 | **41.15** | 1.4 |
| 23¾ | 22¾ | 1000 | 240 | 16 | OS1423-1000B | **3HM15** | 56.20 | **40.15** | 1.9 |
| 23¾ | 22¾ | 1500 | 240 | 21 | OS1423-1500B | **3HM17** | 56.20 | **40.15** | 1.9 |
| 26¾ | 25¾ | 1000 | 240 | 14 | OS1426-1000B | **3HM27** | 64.34 | **46.00** | 2.3 |
| 30½ | 29½ | 750 | 120 | 10 | OS1430-750A | **3HM32** | 72.94 | **52.15** | 2.5 |
| 30½ | 29½ | 750 | 240 | 10 | OS1430-750B | **3HM33** | 72.94 | **52.15** | 2.5 |
| 30½ | 29½ | 1250 | 240 | 15 | OS1430-1250B | **3HM31** | 72.94 | **52.15** | 2.5 |
| 33½ | 32½ | 950 | 120 | 10 | OS1433-950A | **4E257** | 61.36 | **55.65** | 2.0 |
| 33½ | 32½ | 950 | 240 | 10 | OS1433-950B | **4E258** | 61.36 | **55.65** | 2.0 |
| 35⅞ | 34⅞ | 1500 | 240 | 15 | OS1435-1500B | **3HM37** | 81.31 | **58.10** | 3.0 |
| 42½ | 41½ | 1500 | 240 | 13 | OS1442-1500B | **3HM43** | 95.92 | **68.55** | 3.3 |
| 47⅞ | 46⅞ | 2250 | 240 | 16 | OS1448-2250B | **3HM47** | 108.74 | **77.70** | 3.9 |

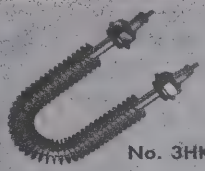
**THE RIGHT STUFF. RIGHT HERE. RIGHT NOW.**

**It's more than just a slogan with Grainger. More than 78,000 products, most in stock and available for same day shipping, are available with a call to your local branch. And when you need product selection assistance, count on our trained personnel for fast, accurate answers to your technical questions.**

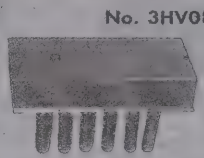
# FINNED STRIP, TUBULAR, AND TUBULAR AIR DUCT HEATERS AND ENCLOSURE HEATERS



No. 3HM48



No. 3HK19



No. 3HV08



No. 3HK15

VULCAN ELECTRIC COMPANY

SUPPLIER DIVERSITY™

Women-Owned Business

## STAINLESS STEEL FINNED STRIP HEATERS

- Corrosion resistant, welded 304 stainless steel sheath with nickel plated steel fins. 1200°F max. sheath temperature capability
- 5/16W x 1/2"L slotted holes on each end for mounting. 10 - 32 screw and nut terminations 1⅜H x 2"W across fins
- UL Recognized construction (E60605)
- Ideal for forced air systems, heat pumps, tempering air in air conditioning systems, convection heating, incubators, drying ovens, and food warming

## FINNED TUBULAR HEATING ELEMENTS

- Rugged 1010 carbon steel sheath with high temperature corrosion resistant finish designed for sheath operating temperatures up to 800°F
- 3/4 - 16 threaded mounting fittings with hardware provide convenient installation method. 8-32 screw and nut termination is included for wiring hookup. 2" center-to-center mounting

## FINNED TUBULAR AIR DUCT HEATER

- Designed for new and existing air duct heating applications. Ideal for comfort heating and air process heating. Provides highly efficient heating. Pre-drilled flange mount for convenient assembly into duct. Sheet metal terminal housing for wiring hookup and safety protection

## FINNED TUBULAR REPLACEMENT HEATING ELEMENTS FOR VULCAN VFT DUCT HEATERS ABOVE

- 3/4 - 16 threaded mounting fittings for assembly into housing

## ENCLOSURE HEATERS

- Low profile 1⅜H x 2"W finned strip heater design with mounting brackets for installation
- These rugged heaters provide a reliable method for freeze and condensation protection in cabinets, control panels, and other enclosures
- UL recognized construction (E60605)

## STAINLESS STEEL FINNED STRIP HEATERS

| Overall Length (In.) | Mtg. Dim. OC (In.) | Watts | Volts | Watt Dens. W/Sq. In. | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 10½ | 9½ | 350 | 120 | 17 | OSF1510-350A | 3HM48 | $41.89 | $29.95 | 2.1 |
| 10½ | 9½ | 350 | 240 | 17 | OSF1510-350B | 3HM49 | 42.29 | 30.25 | 2.1 |
| 10½ | 9½ | 475 | 120 | 23 | OSF1510-475A | 3HM50 | 41.89 | 29.95 | 2.1 |
| 10½ | 9½ | 475 | 240 | 23 | OSF1510-475B | 3HM51 | 42.29 | 30.25 | 2.1 |
| 10½ | 9½ | 725 | 120 | 35 | OSF1510-725A | 2E924 | 33.28 | 30.35 | 1.0 |
| 10½ | 9½ | 725 | 240 | 35 | OSF1510-725B | 4E265 | 33.80 | 30.70 | 1.1 |
| 12 | 11 | 900 | 120 | 34 | OSF1512-900A | 4E266 | 40.04 | 36.45 | 1.4 |
| 12 | 11 | 900 | 240 | 34 | OSF1512-900B | 2E925 | 39.52 | 36.20 | 2.0 |
| 14 | 13 | 750 | 120 | 21 | OSF1514-750A | 3HM54 | 52.03 | 37.20 | 2.9 |
| 14 | 13 | 750 | 240 | 21 | OSF1514-750B | 3HM55 | 52.83 | 37.75 | 2.9 |
| 15¼ | 14¼ | 1250 | 120 | 33 | OSF1515-1250A | 4E267 | 44.72 | 40.85 | 1.8 |
| 15¼ | 14¼ | 1250 | 240 | 33 | OSF1515-1250B | 2E926 | 44.46 | 40.55 | 2.0 |
| 17⅞ | 16⅞ | 750 | 120 | 16 | OSF1517-500A | 3HM60 | 64.36 | 46.00 | 3.4 |
| 17⅞ | 16⅞ | 750 | 240 | 16 | OSF1517-500B | 3HM61 | 64.36 | 46.00 | 3.4 |
| 17⅞ | 16⅞ | 1000 | 240 | 21 | OSF1517-1000B | 3HM59 | 64.36 | 46.00 | 3.4 |
| 17⅞ | 16⅞ | 1550 | 120 | 33 | OSF1517-1550A | 4E268 | 50.96 | 46.80 | 2.3 |
| 17⅞ | 16⅞ | 1550 | 240 | 33 | OSF1517-1550B | 4E269 | 50.96 | 43.85 | 2.0 |
| 19½ | 18½ | 1000 | 240 | 19 | OSF1519-1000B | 3HM63 | 67.26 | 48.05 | 3.9 |
| 21 | 20 | 1900 | 120 | 32 | OSF1521-1900A | 4E270 | 55.64 | 50.85 | 2.5 |
| 21 | 20 | 1900 | 240 | 32 | OSF1521-1900B | 4E271 | 55.64 | 50.60 | 1.8 |
| 23¾ | 22¾ | 1000 | 240 | 15 | OSF1523-1000B | 3HM67 | 74.19 | 53.00 | 4.3 |
| 23¾ | 22¾ | 1450 | 120 | 21 | OSF1523-1450A | 3HM68 | 74.19 | 53.00 | 4.3 |
| 25½ | 24½ | 1500 | 120 | 20 | OSF1525-1500A | 3HM70 | 78.71 | 56.25 | 4.5 |
| 25½ | 24½ | 1500 | 240 | 20 | OSF1525-1500B | 3HM71 | 78.71 | 56.25 | 4.5 |
| 26¾ | 25¼ | 1600 | 240 | 20 | OSF1526-1600B | 3HM73 | 89.80 | 64.15 | 4.7 |
| 30½ | 29½ | 1800 | 240 | 20 | OSF1530-1800B | 3HM75 | 100.13 | 71.55 | 5.1 |
| 33½ | 32½ | 2100 | 240 | 20 | OSF1533-2100B | 3HM76 | 105.70 | 75.55 | 5.4 |
| 48 | 47 | 2250 | 240 | 14 | OSF1548-2250B | 3HM79 | 145.88 | 104.25 | 7.9 |

## FINNED TUBULAR HEATING ELEMENTS

| Watts | Volts | Overall Length (In.) | Installation Depth (In.) | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 2000 | 240 | 12⅞ | 11⅜ | FTH20BB | 3HK19 | $97.90 | $69.95 | 2.6 |
| 3000 | 240 | 17⅞ | 16⅜ | FTH30BB | 3HK20 | 134.40 | 96.05 | 3.4 |
| 4000 | 240 | 22⅞ | 21⅜ | FTH40BB | 3HK21 | 144.74 | 103.40 | 4.2 |
| 5000 | 240 | 25⅛ | 24⅜ | FTH50BB | 3HK22 | 150.64 | 107.65 | 4.9 |

## FINNED TUBULAR REPLACEMENT HEATING ELEMENTS FOR VULCAN VFT DUCT

| Watts | Volts | Fits Vulcan " VFT " Series Duct Heater Models | Overall Length (In.) | Insertion Depth (In.) | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 240 | 38-3B, 68-6B, 98-9B | 8 | 7 | RE 8-1000B | 3HP14 | $67.23 | $53.80 | 2.2 |
| 1000 | 480 | 38-3C, 68-6C, 98-9C | 8⅞ | 7 | RE 8-1000C | 3HP15 | 67.23 | 53.80 | 2.2 |
| 1333 | 480 | 912-12C, 1212-16C | 12⅞ | 11 | RE 12-1333C | 3HP07 | 73.09 | 58.50 | 2.6 |
| 1667 | 480 | 612-10C | 12⅞ | 11 | RE 12-1667C | 3HP09 | 73.09 | 58.50 | 2.6 |

## FINNED TUBULAR AIR DUCT HEATERS

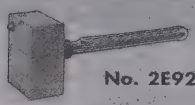
| Watts | Volts/Ph | Min. Duct Depth (In.) | Elements Width (In.) | Min.Air Flow (CFM) | Number of Elements | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3000 | 240/1 | 8 | 6 | 600 | 3 | VFT 38-3B | 3HV04 | $879.51 | $628.50 | 8.9 |
| 3000 | 480/3 | 8 | 6 | 600 | 3 | VFT 38-3C | 3HV05 | 879.51 | 628.50 | 8.9 |
| 6000 | 480/3 | 8 | 12 | 600 | 6 | VFT 68-6B | 3HV08 | 1185.73 | 847.00 | 16.0 |
| 6000 | 240/1 | 8 | 12 | 600 | 6 | VFT 68-6C | 3HV09 | 1185.73 | 847.00 | 16.0 |
| 6000 | 480/3 | 8 | 12 | 600 | 6 | VFT 98-9C | 3HV13 | 1494.38 | 1068.00 | 21.0 |
| 9000 | 480/3 | 8 | 18 | 600 | 9 | VFT-612 10C | 3HV07 | 1323.86 | 946.00 | 18.0 |
| 10000 | 480/3 | 12 | 12 | 600 | 6 | VFT 912-12C | 3HV10 | 1378.22 | 984.50 | 24.0 |
| 12000 | 480/3 | 12 | 18 | 600 | 9 | VFT 1212-16C | 3HT97 | 1905.85 | 1362.00 | 33.0 |
| 16000 | 480/3 | 12 | 24 | 600 | 12 | | | | | |

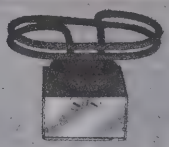
## ENCLOSURE HEATERS (304 STAINLESS STEEL)

| Watts | Volts | Overall Length (In.) | Mounting Dimension (In.) | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 200 | 120 | 12¾ | 11⅝ | E-OSF-1510-200A | 3HK15 | $72.56 | $56.45 | 2.8 |
| 350 | 120 | 15¾ | 14⅝ | E-OSF 1514-350A | 3HK16 | 79.14 | 61.60 | 3.3 |
| 450 | 120 | 19¾ | 18⅝ | E-OSF-1517-450A | 3HK17 | 90.13 | 70.15 | 4.0 |
| 700 | 120 | 25¾ | 24⅝ | E-OSF-1523-700A | 3HK18 | 111.11 | 86.45 | 4.6 |

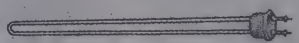
# IMMERSION HEATERS


No. 2E933


No. 2E927

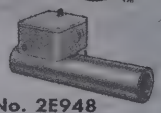

No. 2E929

VULCAN ELECTRIC COMPANY


No. 4E277


No. 3HT83

Women-Owned Business


No. 2E948

E76221

## THERMOSTATICALLY CONTROLLED BUSHING IMMERSION HEATERS

| Thread Size, (NPT, In.) | Sheath Material | Overall Length (In.) | Watts | Volts | Watt Dens. W/Sq. In. | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Steel | 18⅞ | 1500 | 120 | 25 | AUO215 | **2E933** | $460.20 | **$440.50** | 7.6 |
| 2 | Steel | 47½ | 5000 | 240 | 22 | AUO250B | **2E934** | 655.98 | **629.50** | 16.0 |
| 2 | Copper | 19 | 1500 | 120 | 48 | AUW215 | **2E931** | 403.52 | **387.25** | 10.0 |
| 2 | Copper | 15⅛ | 2000 | 120 | 50 | AUW220 | **4E280** | 426.40 | **408.75** | 9.2 |
| 2 | Copper | 15⅛ | 2000 | 240 | 50 | AUW220B | **4E281** | 426.40 | **408.75** | 9.8 |
| 2 | Copper | 19 | 3000 | 120 | 48 | AUW230 | **4E282** | 459.68 | **440.75** | 11.0 |
| 2 | Copper | 19 | 3000 | 240 | 48 | AUW230B | **4E283** | 459.68 | **440.50** | 10.0 |
| 2 | Copper | 26⅞ | 5000 | 240 | 47 | AUW250B | **2E932** | 512.72 | **491.50** | 12.0 |

## AUTOMATIC BUSHING IMMERSION HEATERS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Copper | 13⅛ | 1000 | 120 | 31 | WTP906 | **2E927** | 138.58 | **133.40** | 5.6 |
| 1 | Copper | 14⅛ | 1500 | 120 | 41 | WTP910 | **2E928** | 139.36 | **136.95** | 5.5 |

## BOTTOM OUTLET IMMERSION HEATERS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| — | Copper | 5⅝ | 1500 | 120 | 34 | ANW 115 | **2E929** | 139.10 | **133.65** | 4.4 |
| — | Copper | 5⅝ | 5000 | 240 | 44 | ANW 250 | **2E930** | 228.80 | **219.25** | 5.0 |

## BUSHING IMMERSION HEATERS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1¼ | Copper | 8⅝ | 1000 | 120 | 83 | ASW110 | **4E274** | 104.00 | **99.50** | 1.0 |
| 1¼ | Copper | 8⅝ | 1000 | 240 | 83 | ASW110B | **4E275** | 104.00 | **99.50** | 1.0 |
| 1¼ | Copper | 11⅝ | 1500 | 120 | 84 | ASW115 | **4E276** | 122.46 | **116.80** | 1.0 |
| 1¼ | Copper | 11⅝ | 1500 | 240 | 84 | ASW115B | **4E277** | 122.46 | **116.80** | 1.0 |
| 1¼ | Copper | 9⅛ | 2000 | 120 | 80 | ASW120 | **4E278** | 142.48 | **136.00** | 1.0 |
| 1¼ | Copper | 9⅛ | 2000 | 240 | 80 | ASW120B | **4E279** | 142.48 | **136.00** | 1.0 |

## OVER-THE-SIDE IMMERSION HEATERS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| — | Steel | 22 | 3000 | 240 | 20 | TS-33TB | **3HT88** | 838.84 | **638.50** | 56.0 |
| — | Steel | 40¼ | 6000 | 240 | 20 | TS-36TB | **3HT90** | 1035.61 | **788.00** | 44.0 |
| — | Steel | 58¼ | 9000 | 240 | 20 | TS-39TB | **3HT91** | 1216.63 | **926.00** | 57.0 |
| — | Steel | 13½* | 3000 | 240 | 20 | TSB-33TB | **3HT93** | 951.19 | **724.00** | 41.0 |
| — | Steel | 20* | 6000 | 240 | 20 | TSB-36TB | **3HT95** | 1154.39 | **878.50** | 49.0 |
| — | Steel | 27* | 9000 | 240 | 20 | TSB-39TB | **3HT96** | 1332.66 | **1014.00** | 54.0 |
| — | Incoloy | 13 | 3000 | 240 | 40 | TI-33SB | **3HT71** | 1028.65 | **783.00** | 32.0 |
| — | Incoloy | 13 | 3000 | 240 | 40 | TI-33TB | **3HT72** | 1072.22 | **816.00** | 38.0 |
| — | Incoloy | 22 | 6000 | 240 | 40 | TI-36TB | **3HT74** | 1185.82 | **902.50** | 49.0 |
| — | Incoloy | 31⅛ | 9000 | 240 | 40 | TI-39TB | **3HT75** | 1247.60 | **949.50** | 51.0 |
| — | Incoloy | 40¼ | 12000 | 240 | 40 | TI-312TB | **3HT66** | 1358.47 | **1034.00** | 84.0 |
| — | Incoloy | 10¾* | 3000 | 240 | 40 | TIB-33TB | **3HT83** | 1205.84 | **917.50** | 38.0 |
| — | Incoloy | 13½* | 6000 | 240 | 40 | TIB-36TB | **3HT85** | 1315.73 | **1002.00** | 38.0 |
| — | Incoloy | 17* | 9000 | 240 | 40 | TIB-39TB | **3HT86** | 1374.80 | **1047.00** | 40.0 |

(*) Circular element configuration. This dimension equals diameter.

**All immersion heaters feature:**

- Copper sheath suitable for clean water and liquids non-corrosive to copper
- Incoloy sheath suitable for process water, mild corrosive solutions, and cleaning solvents
- 1010 Carbon steel suitable for oils, degreasing solvents heat transfer media and non-corrosive materials

**Automatic bushing heaters include:**

- Thermostatic control from 110 to 190°F
- Automatic reset low water cutoff protection

**Bottom outlet heaters feature:**

- Units feature a ring clamp style mounting design with a bronze flange for mounting in a 2⁷⁄₁₆" diameter hole
- Low profile copper tubular heating elements with high wattage output
- 4" metal housing protects the heater termination and provides a convenient method for wiring installation to the heater assembly. Single phase hookup.
- Normally used in steam tables and coffee urns.

**Bushing immersion heaters feature:**

- #8-32 screw and nut terminals
- Copper sheath element

**Over-the-side heaters feature:**

- Incoloy or steel element
- 3-phase hook-up
- Sludge legs elevate element off bottom of open container
- Moisture resistant terminal housing

## SPA AND HOT TUB HEATERS

| KW | Inlet Size/ Bushing Size (In.) | Control Thermostat | Length (In.) | Amps | Volts | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | 1¼ NPT | Yes | 12* | 12.5 | 120 | HTTR015U | **2E943** | $166.40 | **$160.00** | 5.5 |
| 1.5 | 1¼ NPT | No | 12* | 12.5 | 120 | HTTR015US | **2E944** | 136.76 | **131.25** | 3.6 |
| 6.0 | 1¼ NPT | Yes | 20* | 25 | 240 | HTTR060U | **2E945** | 180.70 | **173.50** | 4.5 |
| 6.0† | 1¼ NPT | No | 20* | 25 | 240 | HTTR060US | **2E946** | 150.80 | **144.75** | 4.5 |
| 6.0† | 1½ NPT-F | Yes | 11½ | 25 | 240 | STX060U | **2E947** | 203.84 | **195.50** | 5.5 |
| 1.5/6.0† | 1½ NPT-F | No | 11½ | 25 | 120/240 | STX060US | **2E948** | 173.68 | **167.00** | 4.6 |

(*) Length under bushing hex (element length). (†) Heaters 2E945–2E948 require use of a suitably rated contactor. Consult heater wiring diagrams and equipment manufacturer's instructions.

**Vulcan Replacement Control Thermostats** for above spa and hot tub heaters. Range is 60°-107°F with a 2°F differential.

| Fits Heaters | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2E943, 2E944, 2E945, 2E946 | N15/3099 | **2E949** | $50.70 | **$46.00** | 0.3 |
| 2E947, 2E948 | N15/3103 | **2E951** | 53.04 | **47.90** | 0.6 |

**Vulcan Replacement High Limit Thermostats** for above spa and hot tub heaters.

| Fits Heaters | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2E943, 2E944, 2E945, 2E946 | N15/3100 | **2E950** | $59.28 | **$53.75** | 0.3 |
| 2E947, 2E948 | N15/3104 | **2E952** | 60.32 | **54.60** | 0.3 |

**Vulcan Elements** for above heaters. **No. 4E284.** 12"L under bushing hex, 12.5 amps. Min. flow: 5 gpm. **No. 4E285.** 20"L under bushing hex, 25.0 amps. Min. flow: 15 gpm. UL Recognized (E80296).

| Fits Heaters | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 2E943, 2E944 | 4E284 | $74.88 | **$71.50** | 1.7 |
| 2E945, 2E946 | 4E285 | 86.32 | **83.55** | 3.6 |

# THERMOSTATS AND ACCESSORIES

## CAL-STAT™ THERMOSTATS INCLUDE:

- Differential 1°F
- UL Recognition (E36322) on 1/2 and 5/8" diameter models
- CSA certification (LR 23541-4) on 5/8" diameter models
- -100° to +600°F

## CAL-STAT™ FOOD SERVICE THERMOSTATS INCLUDE:

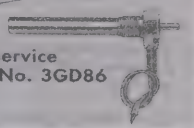
- 304 Stainless steel
- -100°F to +600°F
- UL Recognized (E36322), CSA Certified (LR23541-4)
- For fryers and other food service equipment and replacement units

VULCAN ELECTRIC COMPANY

Women-Owned Business



Pipe Thread Thermostat No. 2E941



Food Service Thermostat No. 3GD86

## CAL-STAT THERMOSTATS

| Type | Sheath Dia. (In.) | Thread NPT | Contact Action On Temperature Rise | Switch Ratings in Amps @120 VAC | @240 VAC | @120 VDC | Overall Length (In.) | Insertion Depth (In.) | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cartridge** | 1/4 | — | Open | 1 | — | — | 1 5/8 | 1 7/16 | 1A1D5 | **4E272** | $107.12 | **$102.40** | 0.1 |
| **Cartridge** | 1/4 | — | Close | 1 | — | — | 1 5/8 | 1 7/16 | 1A2D5 | **4E273** | 107.12 | **102.40** | 0.1 |
| **Cartridge** | 1/2 | — | Open | 5 | — | — | 3 1/4 | 2 1/2 | 1A1C9 | **2E937** | 67.60 | **64.35** | 0.2 |
| **Cartridge** | 1/2 | — | Close | 5 | 3 | 1 | 3 1/4 | 2 1/2 | 1A2C9 | **2E938** | 67.60 | **64.35** | 0.2 |
| **Pipe Thread** | 1/2 | 3/8-18 | Open | 5 | 3 | 1 | 3 1/4 | 2 | 1C1C9 | **2E941** | 82.16 | **78.60** | 0.2 |
| **Pipe Thread** | 1/2 | 3/8-18 | Close | 5 | 3 | 1 | 3 1/4 | 2 | 1C2C9 | **2E942** | 82.16 | **78.60** | 0.2 |
| **Coupling Head** | 1/2 | 3/8-18 | Open | 5 | 3 | 1 | 3 1/4 | 2 | 1E1C9 | **3GD96** | 105.94 | **82.45** | 0.2 |
| **Coupling Head** | 1/2 | 3/8-18 | Close | 5 | 3 | 1 | 3 1/4 | 2 | 1E2C9 | **3GD99** | 105.94 | **82.45** | 0.2 |
| **Cartridge** | 5/8 | — | Open | 10 | 3 | 1 | 4 3/8 | 3 3/8 | 1A1B9 | **2E935** | 67.60 | **64.35** | 0.2 |
| **Cartridge** | 5/8 | — | Close | 10 | 5 | 2 | 4 3/8 | 3 3/8 | 1A2B9 | **2E936** | 67.60 | **64.35** | 0.2 |
| **Pipe Thread** | 5/8 | 1/2-14 | Open | 10 | 5 | 2 | 4 3/8 | 3 | 1C1B9 | **2E939** | 84.24 | **80.15** | 0.2 |
| **Pipe Thread** | 5/8 | 1/2-14 | Close | 10 | 5 | 2 | 4 3/8 | 3 | 1C2B9 | **2E940** | 82.16 | **78.60** | 0.2 |
| **Coupling Head** | 5/8 | 1/2-14 | Open | 10 | 5 | 2 | 4 1/2 | 3 | 1E1B9 | **3GD95** | 107.28 | **83.45** | 0.2 |
| **Coupling Head** | 5/8 | 1/2-14 | Close | 10 | 5 | 2 | 4 1/2 | 3 | 1E2B9 | **3GD98** | 107.28 | **83.45** | 0.2 |

## CAL-STAT FOOD SERVICE THERMOSTATS

| Type | Sheath Dia (In.) | Contact Action On Temperature Rise | Switch Ratings In Amps @120 VAC | @240 VAC | @120 VDC | Lead Exit Style | Overall Length (In.) | Insertion Depth (In.) | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pipe Thread** | 5/8 | Open | 10 A | 5 A | 2 A | Rt. Angle | 4 31/32 | 2 13/16 | 1C1B9-J | **3GD86** | $140.20 | **$109.05** | 0.2 |
| **Pipe Thread** | 5/8 | Open | 10 A | 5 A | 2 A | Rt. Angle | 5 31/32 | 3 13/16 | 1C1B9-BJR | **3GD85** | 141.11 | **109.80** | 0.2 |
| **Pipe Thread** | 5/8 | Open | 10 A | 5 A | 2 A | Straight | 5 31/32 | 3 13/16 | 1C1B9-BJ | **3GD84** | 136.71 | **106.35** | 0.2 |

VULCAN ELECTRIC COMPANY

Women-Owned Business

## BULB AND CAPILLARY STYLE THERMOSTATS

- Direct acting, open on temperature rise, double pole single throw switch action with positive off position
- Electrical ratings of 30 Amps at 120 - 277 VAC and 21 Amps at 480 VAC
- UL Recognized component (E12103)

## THERMOSTAT KNOBS

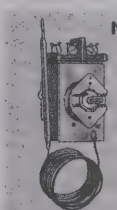
- Knobs for bulb and capillary style thermostats

## THERMOSTAT HOUSING

- Housing assembly for Nos. 3HL18, 3HL19, and 3HL20
- Mounting provisions and knockouts included

## ADJUSTABLE BAYONET STYLE THERMOCOUPLE PROBES

- Stainless steel probe tip, .187" diameter and 118° angled tip designed to fully contact drilled hole. Tip is 1/4" long. Maximum probe temperature of 900°F



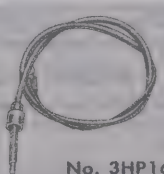
No. 3HL18



No. 3HL23



No. 3HL21



No. 3HP16

## DPST BULB AND CAPILLARY STYLE THERMOSTATS

| Temperature Range (°F) | Capillary Length (In.) | Sensing Bulb Dia. (In.) | Sensing Bulb Lgth. (In.) | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **0 - 100** | 84 | 3/8 | 4 5/32 | N15/3015-1 | **3HL18** | $310.71 | **$233.25** | 0.7 |
| **60 - 250** | 84 | 1/4 | 5 5/32 | N15/3015-2 | **3HL19** | 197.24 | **147.95** | 0.7 |
| **100 - 550** | 84 | 1/4 | 7 5/16 | N15/3015-3 | **3HL20** | 321.44 | **241.25** | 0.7 |

## THERMOSTAT KNOBS

| Temperature Range (°F) | Fits Vulcan Model | Fits Grainger Stock No. | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0 - 100** | N15/3015-1 | 3HL18 | N15/4000-10 | **3HL22** | $9.67 | **$7.25** | 0.2 |
| **60 - 250** | N15/3015-2 | 3HL19 | N15/4000-14 | **3HL23** | 9.77 | **7.33** | 0.2 |
| **100 - 550** | N15/3015-3 | 3HL20 | N15/4000-9 | **3HL24** | 9.37 | **7.03** | 0.2 |

## THERMOSTAT HOUSING

| Description | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Housing for Vulcan N15/3015-Series Thermostats** | N15/4000-1 | **3HL21** | $40.91 | **$30.70** | 0.7 |

## BAYONET STYLE THERMOCOUPLE PROBES

| Type | Length (In.) | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **J** | 36 | SAF-J-1 | **3HP16** | $40.57 | **$30.45** | 0.4 |
| **K** | 36 | SAF-K-1 | **3HP19** | 40.57 | **30.45** | 0.4 |

# THERMOCOUPLE WIRE, PLUGS AND RECEPTACLES, PROBES AND BAYONET ADAPTERS

## INSULATED THERMOCOUPLE WIRE

- **Type "J" (Iron Constantan) and Type "K" (Chromel - Alumel) ANSI calibration options**
- **20-gauge stranded and solid wire options with several insulation options**
- **Convenient 100 Ft. spools**

Type "J" is suitable for oxidizing, reducing, inert, or vacuum atmospheres. Not recommended for sub-zero temperatures. Type "K" is suitable for oxidizing and reducing atmospheres and is not recommended for use in sulfurous, vacuum, or alternating oxidizing and reducing atmospheres. Both types are limited by the insulation material as noted in the table.

Thermocouples are used in a variety of temperature sensing applications including medical, packaging, molding, food service, and industrial processes.

## THERMOCOUPLE PLUGS AND RECEPTACLES

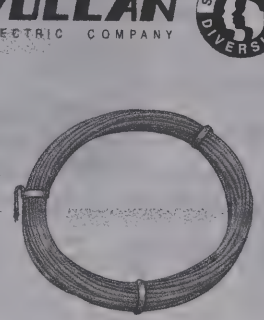
- **Type "J" (Iron - Constantan) and Type "K" (Chromel - Alumel) ANSI calibration options**
- **Rated for ambient service temperature of 375°F**
- **Plug and receptacles are color coded to sensor calibration type**
- **Connectors provide quick and accurate connection method for many temperature measurement applications**

## BAYONET ADAPTERS

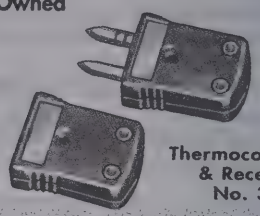
- **Straight adapters for installation of bayonet style thermocouple assemblies**
- **Ideal for installation of bayonet style thermocouples in molding equipment, food processing equipment, and other industrial processes**

VULCAN ELECTRIC COMPANY

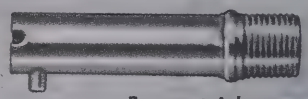
SUPPLIER DIVERSITY™ Women-Owned Business



Thermocouple Wire
No. 3HL37



Thermocouple Plugs & Receptacles
No. 3HL33



Bayonet Adapter
No. 3HL26

### INSULATED THERMOCOUPLE WIRE

| Type | Wire | Insulation | Max. Insulation Temp. (°F) | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| J | Solid | Glass Braid/Glass Braid | 900 | N56/07006 | **3HL37** | $155.99 | **$117.00** | 1.2 |
| J | Stranded | Glass Braid/Glass Braid | 900 | N56/07007 | **3HL38** | 89.32 | **67.00** | 1.2 |
| J | Solid | Teflon/Teflon | 500 | N56/07009 | **3HL39** | 111.52 | **83.65** | 1.2 |
| J | Solid | PVC/PVC | 221 | N56/07011 | **3HL40** | 40.42 | **30.35** | 1.2 |
| K | Solid | Glass Braid/Glass Braid | 900 | N56/07022 | **3HL41** | 238.19 | **178.75** | 1.2 |
| K | Solid | Glass Braid/Glass Braid | 900 | N56/07023 | **3HL42** | 122.65 | **92.00** | 1.2 |
| K | Solid | Teflon/Teflon | 500 | N56/07025 | **3HL43** | 155.99 | **117.00** | 1.2 |
| K | Solid | PVC/PVC | 221 | N56/07027 | **3HL44** | 64.85 | **48.65** | 1.2 |

### THERMOCOUPLE PLUGS AND RECEPTACLES

| Type | Plug Style | Color | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| J | Male | Black | N56/05012-J | **3HL33** | $7.67 | **$5.75** | 0.2 |
| K | Male | Yellow | N56/05012-K | **3HL34** | 7.67 | **5.75** | 0.2 |
| J | Female | Black | N56/05013-J | **3HL35** | 11.97 | **8.98** | 0.2 |
| K | Female | Yellow | N56/05013-K | **3HL36** | 11.97 | **8.98** | 0.2 |

### BAYONET ADAPTERS

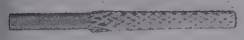
| Length (In.) | Dia. (In.) | Thread, NPT | Vulcan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **7/8** | 7/16 | 1/8-27 | N56/05000-1 | **3HL26** | $4.77 | **$3.58** | 0.2 |
| **1 3/8** | 7/16 | 1/8-27 | N56/05000-5 | **3HL29** | 5.73 | **4.30** | 0.2 |
| **2 1/2** | 7/16 | 1/8-27 | N56/05000-10 | **3HL27** | 7.70 | **5.78** | 0.3 |
| **4** | 7/16 | 1/8-27 | N56/05000-16 | **3HL28** | 13.70 | **10.28** | 0.4 |
| **6** | 7/16 | 1/8-27 | N56/05000-024 | **3HL25** | 19.44 | **14.58** | 0.5 |


## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.

# SELF-REGULATING PIPE HEATING CABLES

Raychem HeatSystems™ Self-Regulating™ Heating Products



No. 6E896



No. 4E512



No. 4E516

- **Fast and easy to install**
- **Reliable self-regulating performance**
- **Cut-to-length convenience and economy**
- **Cables for plastic and metal pipes**
- **Cables for roof and gutter de-icing**
- **Needs no thermostat**
- **UL System Listed and CSA Certified**
- **Use for water pipe systems**
- **Raychem 2-Year Limited Warranty**

/interGard self-regulating heating cables in be overlapped and insulated without verheating or burning out. Automatically ljust heat output at each point along the pe without using thermostats. Three pes of cable to choose from (depending on application). Available in TruckPaks® **WARNING:** To minimize the danger of fire if the heating cable is damaged or improperly installed, use a ground fault protection device (GFPD).

**All pipe heating applications of WinterGard cables require the use of pipe insulation material (see page 3376).**

**WinterGard®:** 3-Watt cable used to prevent freezing of small metal piping up to 2" in diameter. 120V, self-regulating heating system with a tough metal braid, designed for dry locations such as: unheated attics, basements, garages, intake and drainlines, and water meters. Heat System™ brand by Raychem.

**WinterGard Plus™:** 6-Watt cable offered in 120V or 240V. Designed for more demanding residential/commercial applications with a tough metal braid for use on larger plastic or metal pipes with diameters up to 8". Must be used in dry environments similar to WinterGard cable. Heat System™ brand by Raychem.

**WinterGard Wet™:** 120V or 240V, 6-watt cable same as WinterGard Plus, but also has a protective, waterproof outer jacket suitable for wet applications such as downspouts, roof drains, or marine applications. Use on metal and plastic pipes up to 8" dia. in both dry and wet environments. In addition WinterGard Wet may be used for roof and gutter applications when used with clip accessory No. 4E523.

## HEATING CABLE SPECIFICATIONS & ORDERING DATA

| Type | Voltage | Watt / Ft. @ 40°F† | Amps / Ft. @ 40°F† | Max. Circuit Length (Ft.) | 100-FT. TRUCK PAK®* WinterGard Model | Stock No. ❸ | List | Each | Shpg. Wt. | 250-FT. REEL** WinterGard Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WinterGard | 120 | 3 | 0.025 | 250 | H311100 | **6E896** | $302.86 | **$265.25** | 6.5 | H311250 | **6E895** | $570.10 | **$515.50** | 10.0 |
| WinterGard Plus | 120 | 6 | 0.050 | 200 | H611100 | **4E512** | 440.88 | **341.75** | 7.8 | H611250 | **4E511** | 936.74 | **706.50** | 15.0 |
| WinterGard Plus | 240 | 6 | 0.025 | 350 | H621100 | **4E514** | 462.32 | **360.00** | 8.0 | H621250 | **4E513** | 987.29 | **752.00** | 15.0 |
| WinterGard Wet | 120 | 6 | 0.050 | 200‡ | H612100 | **4E516** | 528.95 | **413.00** | 8.6 | H612250 | **4E515** | 1127.18 | **884.00** | 18.0 |
| WinterGard Wet | 240 | 6 | 0.025 | 350# | H622100 | **4E518** | 590.79 | **463.75** | 10.0 | H622250 | **4E517** | 1313.88 | **1012.00** | 18.0 |

) Complete kit. (†) On insulated pipe. (‡) Max. 150 ft. in ice and snow. (#) Max. 250 ft. in ice and snow. (**) Heating cable only. See separate accessories/connections on facing page 3527
OTE: Use only Wintergard connections; install per instructions supplied with No. 4E519. ❸ These products are covered by OSHA Hazard Communication Standard,
d Material Safety Date Sheets (MSDS) are available. See page opposite inside back cover.

## RAYCHEM WINTERGARD® PIPE HEATING ACCESSORIES

**'ermanent Power Connection Kit.** Can be sed with all WinterGard Heaters. Kit ncludes all materials needed for one hard vired power connection into a standard unction box (not included). WinterGard rand (H900).

**lo. 4E519.** ❸ Shpg. wt. 0.4 lbs. List .....$26.06.
Each .....**$19.95**

**'lug-In Cord Set (120 volt WinterGard cables nly):** Allows installer to cut the cable to ength in the field, attach the connection it, and insert the plug into a standard grounded outlet. This kit provides ground-ault protection of equipment. Powers up o 250 feet of cable. WinterGard brand H908).

**lo. 4DC48.** ❸ Shpg. wt. 1.6 lbs. List.....$56.15.
Each .....**$43.35**

**Splice and Tee Kit.** Good for all WinterGard heaters. Includes 1 end seal and materials for either 1 tee or 1 splice. WinterGard brand (H910).

**No. 4DC50.** Shpg. wt. 0.4 lbs. List.....$57.71.
Each .....**$18.16**

**Application Tape.** For attaching heating cable to pipe; includes 1 roll (66 ft.) glass cloth tape and 10 "electric traced" labels. WinterGard brand (H903).

**No. 4E521.** Shpg. wt. 1.0 lbs. List.....$13.99.
Each .....**$10.39**

**Downspout Hanger.** Provides for protected transition from gutter to downspout for one WinterGard Wet heating cable circuit. UL System Listed 877Z Roof and Gutter De-icing. WinterGard brand (H904).

**No. 4E522.** Shpg. wt. 0.2 lbs. List .....$28.12.
Each .....**$20.85**

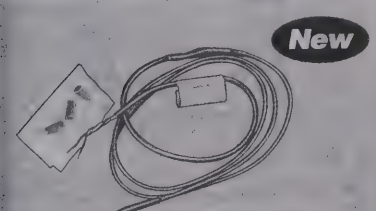
**Roof Clip Brackets.** For securing WinterGard Wet heating cables to roof (shake or shingle roofs only) surfaces and gutters.

**No. 4E523.** Contains 5 clips. WinterGard brand (H905). Shpg. wt. 0.1 lbs. List.....$19.16.
Each .....**$13.43**

**No. 4DC49.** Contains 25 clips. WinterGard brand (H909). Shpg. wt. 4.0 List.....$56.15.
Each .....**$43.35**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(†) Limited availability. Contact your local branch.

## GARDIAN® PIPE HEATING CABLES




No. 4MC04

**Keeps water pipes from freezing**

- **Suitable for plastic or metal pipes**
- **Waterproof**
- **No thermostat needed**

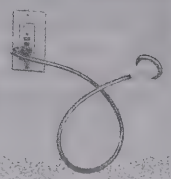
Energy efficient pipe heating cables are self-regualting and have low operating cost. Ideal for refigeration applications and short pipes. Prevent freeze up problems on freezer doors and in drain pan and drain lines. Long-lasting and reliable, these cables come in a variety of lengths. Come with prestripped 30" SJTW leads for easy connection and hardwiring. UL Listed, CSA Certified.

### GARDIAN® PIPE HEATING CABLES

| Description | Voltage | Max. Circuit Length (Ft.) | Watt./Ft. | Gardian Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Preassembled waterproof heater | 240 | 18 | 5 | W52-18L | **4MC04** | $34.93 | **$31.80** | 0.7 |
| | 240 | 24 | 5 | W52-24L | **4MC06** | 45.84 | **41.70** | 0.9 |
| | 240 | 6 | 5 | W52-6L | **4MC01** | 56.78 | **51.65** | 1.3 |
| | 240 | 12 | 5 | W52-12L | **4MC03** | 68.78 | **62.55** | 1.5 |

# PREASSEMBLED PIPE HEATING CABLES AND PIPE HEATING ACCESSORIES

## GARDI❄N™



No. 4E528

- For small applications and short pipes
- For water pipe systems only
- Reliable self-regulating performance
- No assembly required
- Suitable for plastic or metal pipes
- Needs no thermostat
- UL Listed; CSA Certified

## PREASSEMBLED PLUG-CONNECTED PIPE HEATING CABLES

**These plug-connected 120VAC heaters** are available in 6, 12, 18, 24, 50 and 100 ft. lengths. 5W waterproof heaters (nominal power at 40°F on insulated metal pipe) come complete with 30" SJTW leads and grounded plugs.

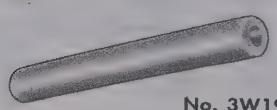
Easy to install: Attach to pipe, insulate, and plug into a ground fault protected outlet per instructions supplied with heate For pipes up to 2½ inches in diameter. F larger diameter pipes or longer lengt see WinterGard cut-to-length self-regul ing heating cables on page 3375.

**Warning:** To minimize the danger of fire the heating cable is damaged or improp ly installed, use a ground fault protecti device (GFPD).

| Heater Length (Ft.)* | Watts† | Watts# | Gardi❄n Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **6** | 30 | 20 | W51-6P | **4E528** | $37.91 | **$30.50** | 0.8 |
| **12** | 60 | 40 | W51-12P | **4E529** | 47.24 | **38.50** | 1.0 |
| **18** | 90 | 60 | W51-18P | **4E530** | 58.82 | **48.20** | 1.3 |
| **24** | 120 | 80 | W51-24P | **4E531** | 71.04 | **57.65** | 1.6 |
| **50** | 250 | 165 | W51-50P | **5E316** | 118.22 | **105.45** | 3.3 |
| **100** | 500 | 330 | W51-100P | **5E317** | 212.62 | **190.50** | 6.9 |

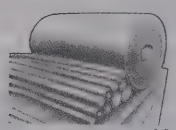
(*) For pipes up to 2½" dia. (†) Nominal power @ 40°F on insulated metal pipe. (#) Nominal power @ 40°F on insulated plastic pipe.

## therma-cel®



No. 3W190

## INSUL-TUBE®



No. 3F399

## CLOSED CELL PIPE SOLUTION

### POLYETHYLENE THERMA-CEL

- **Temperature range: -160 to +200°F**
- **Durable skin resists solvents, chemicals, and abuse**
- **Durable skin resists solvents, chemicals, and abuse**

Semi-slit can be cut with scissors to accommodate joints, elbows, or angle. Slip over pipe and seal with contact adhesive. Sold in 6 ft. lengths. Gray color. Rubatex brand.

### ELASTOMERIC INSUL-TUBE

- **Retards heat loss; prevents condensa tion**
- **Temperature range: -70 to +220°F**
- **For Insul-Sheet and contact adhesive see page 3433**

Supplied unslit can be slit lengthwise an snapped over piping already installed. Se with contact adhesive. Sold in 6 ft. length Black color. Rubatex brand.

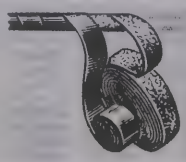
**INSUL-TUBE SPECIFICATION COMPLIANCE**

ASTM C-534 Type 1 (Tubing), Type 2 (Sheets)
ASTM D-1056 SCE-41
ASTM E84 25/50 (through 1")
HH-1573 (GSA-FSS)
UL 94-5V Flammability Classification (Recognition No. E61978)
MIL-P-15280, Form T (Tubing) and Form S (Sheets)
MIL-C-3133B (Mil Std 670B), Grade SBE 3

| INSULATION | | | | THERMA-CEL | | | | | | INSUL-TUBE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wall Thickness (In.) | Inside Diameter (In.) | Nom. Tube or Pipe Size (In.) Copper | Steel | Approx. R Factor | Rubatex Model | Stock No. ❸ | List | Each | Shpg. Wt. | Approx. R Factor | Rubatex Model | Stock No. ❸ | List | Each | Shpg. Wt. |
| **3/8** | 5/8 | 1/2 | 3/8 | 2.4 | TC58A | **3W190** | $4.50 | **$1.76** | 0.3 | 2.1 | 65838 | **3F399** | $3.95 | **$2.13** | 0.4 |
| **3/8** | 7/8 | 3/4 | 1/2 | 2.3 | TC78A | **3W192** | 5.39 | **2.27** | 0.3 | 1.9 | 67838 | **3F400** | 4.43 | **2.40** | 0.5 |
| **3/8** | 1⅛ | 1 | 3/4 | 2.1 | TC118A | **3W193** | 6.25 | **2.47** | 0.4 | 1.8 | 611838 | **3F401** | 4.95 | **2.68** | 0.6 |
| **3/8** | 1⅜ | 1¼ | 1 | 1.9 | TC138A | **3W195** | 7.39 | **2.92** | 0.5 | 1.8 | 613838 | **3F402** | 5.67 | **3.06** | 0.7 |
| **3/8** | 1⅝ | 1½ | 1¼ | 1.8 | TC158A | **3W298** | 9.29 | **3.67** | 0.7 | 1.7 | 615838 | **3F403** | 7.10 | **3.83** | 0.9 |
| **1/2** | 5/8 | 1/2 | 3/8 | 3.3 | TC58B | **3W299** | 6.33 | **2.51** | 0.3 | 3.0 | 65812 | **3F404** | 5.84 | **3.14** | 0.5 |
| **1/2** | 7/8 | 3/4 | 1/2 | 3.0 | TC78B | **3W300** | 7.42 | **2.93** | 0.5 | 2.8 | 67812 | **3F405** | 6.49 | **3.50** | 0.8 |
| **1/2** | 1⅛ | 1 | 3/4 | 2.8 | TC118B | **3W301** | 8.30 | **3.27** | 0.6 | 2.6 | 611812 | **3F406** | 7.23 | **3.89** | 0.9 |
| **1/2** | 1⅜ | 1¼ | 1 | 2.7 | TC138B | **3W302** | 10.55 | **4.16** | 0.7 | 2.5 | 613812 | **3F407** | 8.02 | **4.32** | 1.1 |
| **1/2** | 1⅝ | 1½ | 1¼ | 2.6 | TC158B | **3W303** | 12.88 | **4.56** | 0.8 | 2.4 | 615812 | **3F408** | 9.27 | **5.01** | 1.2 |
| **3/4** | 5/8 | 1/2 | 3/8 | 5.7 | TC58C | **3W304** | 9.60 | **3.77** | 0.7 | 5.0 | 65834 | **3F409** | 9.13 | **4.85** | 0.9 |
| **3/4** | 7/8 | 3/4 | 1/2 | 5.3 | TC78C | **3W305** | 12.24 | **4.84** | 0.8 | 4.6 | 67834 | **3F410** | 10.68 | **5.67** | 1.2 |
| **3/4** | 1⅛ | 1 | 3/4 | 5.0 | TC118C | **3W306** | 14.34 | **5.67** | 0.9 | 4.3 | 611834 | **3F411** | 13.07 | **7.04** | 1.5 |
| **3/4** | 1⅜ | 1¼ | 1 | 4.5 | TC138C | **3W307** | 18.41 | **7.28** | 1.3 | 4.1 | 613834 | **3F412** | 11.93 | **8.05** | 1.7 |
| **3/4** | 1⅝ | 1½ | 1¼ | 4.3 | TC158C | **3W308** | 24.27 | **9.60** | 1.6 | 4.0 | 615834 | **3F413** | 20.10 | **10.84** | 1.9 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

ENERGY RIGHT®



## 35 FT. FIBERGLASS PIPE WRAP

- **Insulates pipes, cable, and water/oil lines**
- **35 Ft. roll x 3" wide and 1/2" thick**
- **R value of 3, 180°F max. temperature**

(✓) Denotes energy efficient product.

✓**No. 1W709.** Shpg. wt. 0.6 List ..... $4.24.
Each ..... $2.54

**COVERAGE WITH ONE 35 FT. ROLL**

| Pipe Size | 1/2" | 3/4" | 1" | 1¼" | 1½" | 2 |
|---|---|---|---|---|---|---|
| Wrap Length | 14.7' | 11.9' | 8.4' | 7' | 6.3' | 4.9' |

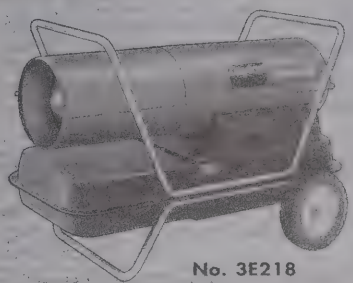
# COMMERCIAL OIL-FIRED SPACE HEATERS

Dayton®

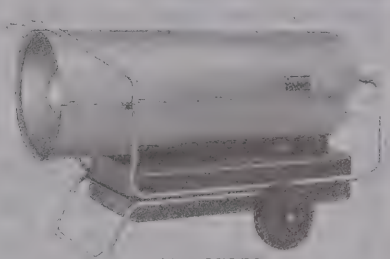
Replacement Parts Available 1-800-323-0620



No. 2E510



No. 3E218



No. 3E359

- **High output blower and balanced combustion system**
- **Built in afterburner to assure clean, efficient operation**
- **Key components are stainless steel for longer life**
- **Built in flame-out control automatically shuts down all systems if the flame fails or the unit runs out of fuel**
- **Easily serviced air and fuel filters**

**Dayton portable oil-fired space heaters** provide fast, dependable heat for workshops, job sites, warehouses, factories, and farms.

**Easy to operate-** just fill with kerosene or No. 1 fuel oil and plug into standard 120V, 60 Hz outlet. Use as is for continuous heat or with optional thermostat below for use with 35,000 to 150,000 BtuH models. 200,000, 350,000 and 600,000 BtuH models are equipped with built in thermostat.

These heaters are built to meet or exceed standards established by the Occupational Safety and Health Act of 1970 (OSHA) in effect at the time of manufacture. They are tested and certified by Applied Research Laboratories. For use in well ventilated areas only; user must supply at least 3 sq.-ft. of fresh air supply for each 100,000 BtuH of heater capacity. **Heaters may not be attached to ductwork.** Units must be used only in accordance with local codes and ordinances.

**Nos. 2E510 and 2E511-** These units generate enough low cost heat to warm a workshop. Their compact design and convenient handle make them easy to carry to any work area. Perfect for the do-it-yourselfer. No. 3E218-Heavy-duty for tough, large scale commercial heating needs. Comes equipped with heavy-duty wheels and handles for portability.

**No. 3E219-** Designed for the large heating needs of warehouses, factories, or construction sites. Allows contractors to pour concrete in cold weather. Unit includes heavy-duty wheels and handles.

**No. 3VG79-** Great for large open areas in even the coldest conditions. It can heat up to 37,000 cubic feet.

**No. 3E358-** Every hour this big unit delivers 350,000 BtuH of clean, economical heat for industrial, commercial, and agricultural uses. Includes a thermostat, heavy-duty wheels and handles. Heavy-duty transformer and continuous ignition system help assure instant starts even in sub-zero weather. 6 ft. power cord.

**No. 3E359-** Our most powerful unit for the largest industrial and commercial user. Unit includes thermostat and has the same features as No. 3E358, plus it operates as easily as our smaller unit. 6 ft. power cord.

**HEATER SIZING GUIDE:** To determine approximate BtuH requirement, multiply room size in cubic feet (room length x width x height) by 0.133, by desired temperature rise in °F.Example: Room 28 x 40 x 10 = 11,200 cu.-ft. Desired temperature 70°F minus actual temperature of 10°F equals 60°F rise. 11,200 x 0.133 x 60 = 89,376. Unit producing at least 89,376 BtuH required. Actual requirement will vary depending on amounts of outdoor air entering, etc.

| BtuH | Fan Motor HP | Total Amps 120V, 60 Hz | Fuel Tank Gals. | Approx. Fuel Consumption Gals. per Hour | Hours on One Filling | Dimensions, (In.) H | W | L | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **35,000** | 1/15 | 2.0 | 3.0 | .26 | 11 | 14 | 11 | 30 | **2E510** | $266.00 | **$159.00▲** | 36.0 |
| **55,000** | 1/15 | 2.0 | 5.0 | .40 | 12 | 16½ | 11 | 30 | **2E511** | 297.01 | **189.00▲** | 38.0 |
| **110,000** | 1/5 | 4.5 | 9.0 | .80 | 11 | 21 | 19 | 35 | **3E218** | 503.36 | **287.75▲** | 65.0 |
| **150,000** | 1/5 | 4.5 | 13.5 | 1.10 | 12 | 25 | 20 | 39 | **3E219** | 628.44 | **349.00▲** | 75.0 |
| **200,000** | 1/4 | 4.5 | 13.5 | 1.40 | 9½ | 21½ | 18 | 41 | **3VG79** | 777.64 | **479.00▲** | 70.0 |
| **350,000** | 1/3 | 7.1 | 30.0 | 2.50 | 12 | 31 | 30 | 56 | **3E358** | 1761.65 | **1192.00▲** | 220.0 |
| **600,000** | 1/2 | 11.0 | 36.0 | 4.00 | 9 | 42 | 30 | 76 | **3E359** | 2462.18 | **1931.00▲** | 390.0 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
(▲) Net prices, not subject to discounts.

## SPST THERMOSTATS FOR HEATERS ABOVE

**No. 2E817.** Bimetal Activated Sensor. Adjustable -10 to 100°F with ±1½°F differential. Shpg. wt. 1.7 lbs. List $78.36.
Each ..... **$39.95▲**

**No. 2E535.** Hydraulic Capillary Sensor. Adjustable 35 to 95°F with fixed 3½°F differential. Shpg. wt. 1.6 lbs. List $138.45.
Each ..... **$53.65▲**

(▲) Net prices, not subject to discounts.

## TUNE-UP KIT

Complete kit includes air filters, safety controls, spark plugs, rotor kits, and photocells to maintain proper operation of oil-fired heaters. See ordering chart for correct kit selection.

| For Use on Heater | Mfr.'s Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **2E510 and 2E511** | Kit 3350 | **5E196** | $65.00 | **$52.40▲** | 0.8 |
| **3E219A and 3E219B** | Kit 150 | **5E197** | 65.00 | **52.40▲** | 0.8 |
| **3E218 and 3E219C** | Kit 100 | **5E198** | 68.00 | **56.40▲** | 0.8 |

**Consult Applicable Codes and Authorities Before Purchase and Use.**

# FAN-FORCED COMMERCIAL GAS HEATERS

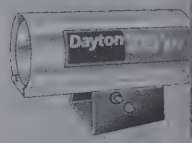
## FAN-FORCED PROPANE HEATERS

- **Spark ignition eliminates need for matches or pilot lights**
- **Solid state thermocouple sensor monitors flame and shuts off if flame should go out**
- **10 ft. UL-Listed hose and regulator included**
- **120V, 60 Hz**

Use these heaters for construction, industrial, commercial, and agricultural applications. Units are angled upward slightly on a wide base for better heat distribution. Heaters can not be attached to duct work. AGA approved. No. 4TM53 has three heat settings: 30,000, 40,000, and 50,000 BtuH output.

New

Dayton®



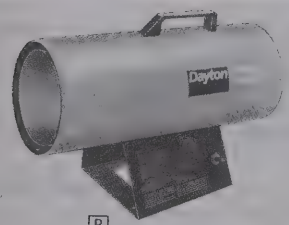

No. 4TM58

### *New!* HEATER SPECIFICATIONS & ORDERING DATA

| Type of Gas | BtuH | Fuel Rate Lbs/Hr | Fan CFM | Motor RPM | Dimensions (In.) H | W | L | Volts | Amps | DESA Model | Stock No. ❷ | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LP | 30,000 | 1.4 | 175 | 3045 | 12.8 | 7.7 | 18.5 | 120 | 0.6 | RLP30 | **4TM53** | $316.93 | **$209.00▲** | 17. |
| LP | Up to 50,000 | 1.4/2.32 | 275 | 3300 | 12.8 | 7.7 | 18.5 | 120 | 2.0 | BLP50V | **4TM58** | 204.43 | **141.00▲** | 17. |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
(▲) Net prices, not subject to discount.

## FAN-FORCED NATURAL GAS & PROPANE HEATERS




B No. 4E769

Dayton®

DESIGN AMERICAN GAS ASSOCIATION CERTIFIED

**Replacement Parts Available 1-800-323-0620**



E No. 4E236

- **Spark ignition eliminates need for matches or pilot lights**
- **Solid state or thermocouple sensor monitors flame and shuts gas off if flame should go out**
- **10 Ft. UL Listed hose and regulator included (except No. 3VG78)**
- **120V, 60 Hz**

**1-YEAR DAYTON LIMITED WARRANTY**

**Test of warranty available on request. See "Manufacturers' Warranties" on page inside opposite inside back cover**

**Heavy-duty forced air heaters** for construction, industrial, commercial and agricultural applications. Units are angled up slightly on wide base for better heat distribution. **Heaters may not be attached to duct work.** Nos. 3VG78 and 3VG81 come equipped with built-in thermostat; Optional thermostat, No. 2E817, can be used with No. 4E236.

A **Dependable heat for natural gas hook-ups.** Generates 150,000 BtuH's of heat for all kinds of environments where natural gas is available.

B **Runs for up to 12 hours on a 20 lb. LP tank (not included).** Features 35,000 BtuH output which heats 4700 cu.-ft. Operates at 65 decibel noise level. Cool shell design is AGA approved.

C **A great mid-sized LP forced air heater.** heat settings, 65,000/85,000/100,000 BtuH enable this heater to perform in a variet of intermediate-sized jobs. AGA approved

D **An LP forced air heater for the toughest job** Built-in thermostat for convenient tempe ature control with Hi-temperature lim switch and improved blower design. Spli shell design for easy servicing. AG approved.

E **For those big heating jobs.** Features var able output from 225,000 to 375,000 BtuH High capacity blower develops 1500 CFM hot air flow to heat up to 51,000 cu.-ft. o space. Removable service panel for eas access to parts and control valve. Quie operation with cool shell design. **Uses 100-lb. LP cylinders for proper operation.** AGA approved.

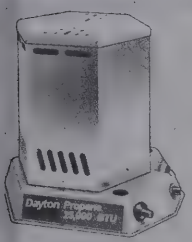
### HEATER SPECIFICATIONS & ORDERING DATA

| Key | Type of Gas | Burning Rate | MBtuH Output | Fuel Rate Lbs. / Hr. | Fan CFM | Motor HP | Amps | Dimensions, (In.) H | W | L | Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Natural Gas | Constant | 150 | 150 cu. ft. | 550 | 1/8 | 2.2 | 20 | 36 | 14½ | **3VG78** | $625.80 | **$399.00▲** | 31.0 |
| **B** | LP | Constant | 35 | 1.6 lbs./hr | 175 | 1/10 | 2.0 | 12.8 | 7.7 | 18½ | **4E769** | 258.00 | **179.00▲** | 16.0 |
| **C** | LP | Adjustable | 65/85/100 | 4.6 lbs./hr | 370 | 1/5 | 2.2 | 15½ | 9 | 26¼ | **3VG80** | 337.78 | **279.00▲** | 30.0 |
| **D** | LP | Constant | 155 | 7.0 lbs./hr | 550 | 1/8 | 2.2 | 20 | 36 | 14½ | **3VG81** | 610.01 | **379.00▲** | 36.0 |
| **E** | LP | Adjustable | 225-375 | 17.4 lbs./hr | 1500 | 1/5 | 4.2 | 19½ | 13 | 34 | **4E236** | 809.00 | **674.00▲** | 49.0 |

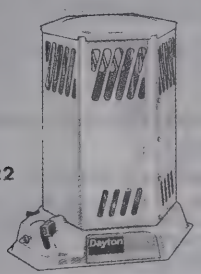
❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
(▲) Net prices, not subject to discounts.

**Consult Applicable Codes and Authorities Before Purchase and Use.**

## NATURAL GAS & PROPANE CONVECTION & RADIANT HEATERS



No. 3VH20



No. 3VH22

- For a variety of mid-sized and smaller applications
- All steel construction offers increased stability and durability with a rugged base design
- All units are equipped with flame safety systems
- No electrical power needed for operation
- Matchless Piezo ignition
- All L. P. models use 2-100 lb. cylinders, except No. 3VH20 uses 20 lb. cylinder
- 10-ft. UL Listed hose and regulator included with LP models
- AGA Approved (except No. 3VH21)
- Natural gas units require 5 psi supply

**Units cannot be equipped with thermostat controls.**

Replacement Parts Available
1-800-323-0620

Ⓐ **This radiant heater generates 100,000 BtuHs** for moderately-sized areas. For natural gas hook-ups.

Ⓑ **The ideal natural gas heater** for larger industrial uses.

Ⓒ **This reliable, portable convection heater** is perfect for workshops/sheds, outdoors, and other work/leisure activities. Heats for hours on 20 lb. propane cylinder. Quiet operation. Thermocouple flame-out sensor, P.O.L./excess flow device, and safety shield for operation. Variable heat control for 15,000/20,000/25,000 BtuHs per hour.

Ⓓ **Similar features to Ⓒ above,** however, this convection heater outputs 40,000 to 80,000 BtuHs.

Ⓔ **For moderately-sized areas,** this radiant model generates 100,000 BtuHs.

Ⓕ **High output adjustable propane convection heater** provides 100,000 to 200,000 BtuHs. Pilotless burner system. All components enclosed with single control knob operation. Brass and/or copper tubing and fittings for long life. Thermocouple monitors flame and shuts off safety valve if flame goes out. Unit shipped assembled.

### HEATER SPECIFICATIONS & ORDERING DATA

| Key | Type of Gas | Burning Rate | BtuH Output | Fuel Rate | Dimensions, (In.) H | W | L | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Natural Gas | Constant | 100,000 | 100 cu. ft. | 30 | 16 | 16 | 3VH19 | $430.31 | $239.00▲ | 25.0 |
| B | Natural Gas | Constant | 250,000 | 250 cu. ft | 46 | 16 | 16 | 3VH21 | 783.65 | 419.00▲ | 41.0 |
| C | LP | Adjustable | 15,000/20,000/25,000 | 1.2 lbs/hr | 12 | 11 | 12 | 3VH20 | 167.50 | 99.00▲ | 6.0 |
| D | LP | Adjustable | 40,000 to 80,000 | 3.4 lbs./hr | 20 | 15 | 16 | 3VH22 | 240.25 | 139.00▲ | 20.0 |
| E | LP | Constant | 100,000 | 4.6 | 30 | 16 | 16 | 3VH18 | 457.22 | 239.00▲ | 29.0 |
| F | LP | Adjustable | 100,000 to 200,000 | 4.64 to 9.23 | 30 | 15 | 16 | 4E237 | 176.99 | 124.55▲ | 19.0 |

These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

## NATURAL GAS & PROPANE HOT-TOT HEATERS

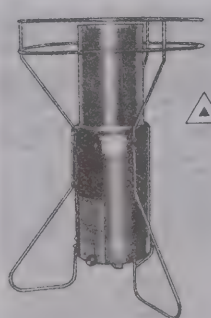
- Clean burning radiant surface
- All steel construction
- Heats instantly—no costly warm-up period
- Portable—only 28 lbs. with no installation required
- Heavy steel guard; chrome-plated to stay cool
- Safety tip-over switch
- No electricity required
- Manual valve adjustable 5,000 to 90,000 BtuH

**Hot Tot infrared portable gas heaters** provide comfortable warmth in unheated areas like warehouses, loading docks, and construction sites. By emitting radiant energy in a 360° pattern, it provides heat to all person and objects in the surrounding area. Perfection-Schwank brand.

### CLEARANCE TO COMBUSTIBLES

| Stock No. | Side | Top |
|---|---|---|
| 3VJ77, 3VJ76 | 55 | 68 |

Replacement Parts Available
1-800-323-0620



PERFECTION Schwank

No. 3VJ77

### HEATER SPECIFICATIONS & ORDERING DATA

| Type of Gas | BtuH Input | Approx. Fuel Use per Hour | Dimensions, (In.) H | W | Perfection-Schwank Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Natural Gas | 90,000 | 90 cu. ft. | 36 | 24 | HT090N | 3VJ77 | $861.00 | $269.25 | 28.0 |
| LP | 90,000 | 4.24 lbs./36 cu. ft. | 36 | 24 | HT090L | 3VJ76 | 428.00 | 319.25 | 29.0 |

These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

**Consult Applicable Codes and Authorities Before Purchase and Use.**

# PORTABLE GAS AND ELECTRIC HEATERS

## TANK TOP HEATERS

**No. 4TM59.** Ideal for outdoor projects or emergency uses. Three heat settings deliver 10,000, 12,000, or 15,000 BTU's of quiet, clean heat. Portable, easy to use and heats for pennies an hour on 5, 10, or 20 lb. propane cylinders.

**No. 4TM60.** Direct heat where needed... dual burner heads rotate up to 180° and operate independently. Perfect for construction sites, farm vehicle repairs and maintenance areas. Delivers 8,000 to 24,000 BTU's of portable, infra-red heat. Operates on 20 lb. propane cylinders with six heat settings.

Dayton® New



No. 4TM59



No. 4TM60

### PROPANE GAS HEATER SPECIFICATIONS AND ORDERING DATA

| No. of Heat Settings | BTUs | Propane Cylinder Size | DESA Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3 | 10,000, 12,000, or 15,000 | 5, 10 or 20 lb. | TT15 | **4TM59** | $75.78 | **$40.00▲** | 3.0 |
| 6 | 8,000-24,000 | 20 lb. | TT24B | **4TM60** | 152.08 | **90.00▲** | 8.0 |

(▲) Net prices, not subject to discounts.

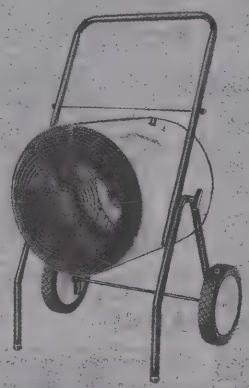
## PORTABLE ELECTRIC SALAMANDERS

fostoria® Quality Since 1917

FREE DELIVERY on orders of $900 or more — See Freight Policy

UL C UL E154159

CSA LR96337 (Except Nos. 3UD73 & 3UD74)



No. 5E168

- **Safe and easy—no need for fueling/refueling**
- **Clean, odor-free, instant heat**
- **Heating enclosure pivots for directing air**

For use in enclosed areas in factories, garages, building co struction where temporary localized heat is needed. Not inten ed for wide-open or high-bay applications or any outdoor app cation. For best results, use in area with ceiling height of 15' less.

Mounted on cart with 10" wheels for easy portability. Three-po tion switch: OFF/Thermostat Control/Continuous ON. Separa switch for FAN-ONLY operation. Protective high-limit therm cutout switch with auto reset.

Factory wired for 3-phase operation. Easy access terminal blo for attaching power cord (cord not included, to order call 1-80 323-0620).Units are UL and C-UL Listed (E154159) and CS Certified (LR96337), except Nos. 3UD73 and 3UD74 which are U Listed only. Fostoria/Sun-Mite brand.

### CUBIC FEET HEATED IN 2 HOURS WITH ONE HEATER†

| Temp. Rise | 30° | 40° | 50° | 60° | 70° | 80° | 90° |
|---|---|---|---|---|---|---|---|
| 15 KW Models | 25,700 | 19,200 | 15,400 | 12,800 | 11,000 | 9,600 | |
| 30 KW Models | 51,400 | 38,400 | 30,800 | 25,600 | 22,000 | 19,200 | 17,000 |

(†) Based on maximum 15' ceiling height

### HEATER SPECIFICATIONS AND ORDERING DATA

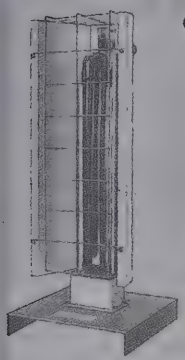
| KW | Volts 60 Hz | BtuH | Phase | Amps | CFM | Temp. Rise °F | Dimensions (In.) H | W | D | Fostoria Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **15** | 208 | 51,195 | 3 | 41.5 | 800 | 45 | 39 | 23¼ | 18 | FES-1520-3 | **3UD73** | $1301.00 | **$828.00** | 59.0 |
| **15** | 240 | 51,195 | 3 | 36 | 800 | 45 | 39 | 23¼ | 18 | FES-1524-3D | **3E216** | 995.13 | **774.00** | 52.0 |
| **15** | 480 | 51,195 | 3 | 18 | 800 | 45 | 39 | 23¼ | 18 | FES-1548-3D | **3E217** | 971.22 | **781.00** | 49.0 |
| **30** | 480 | 102,390 | 3 | 36 | 800 | 90 | 39 | 23¼ | 22 | FES-3048-3 | **5E168** | 1429.37 | **1233.00** | 72.0 |
| **30** | 600 | 102,390 | 3 | 30 | 800 | 90 | 39 | 23¼ | 22 | FES-3060-3 | **3UD74** | 2001.00 | **1274.00** | 73.0 |

## DON'T FORGET THE BACK OF THE BOOK!
## MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

**Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.**

# ELECTRIC INFRARED HEATERS

## HAND-CARRY AND ROLL-ABOUT INFRARED HEATERS

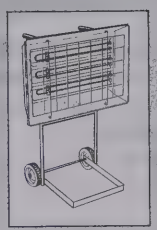


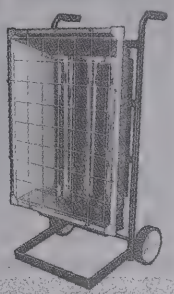
Hand-Carry Type No. 2E526

fostoria® Quality Since 1917

**Metal sheath elements have 5000 hour life expectancy**

**Adjustable Reflector for Desired Heat Pattern**





Roll-About Type No. 2E529

Replacement Parts Available™ 1-800-323-0620

Provide instant, clean, odor-free infrared heat for indoor and outdoor workstations and maintenance areas. Economical because infrared heat warms only persons and objects, not surrounding air. **Not to be used in hazardous or wet locations.**

**All models** have gold anodized aluminum reflectors, unbreakable U-shaped heavy-duty metal sheath heating elements with an imbedded nichrome coil, weather tight terminal box, protective wire screens, and reinforced front edge and corner construction.

**Hand-carry models** have tip-resistant design, rear-mounted carrying handle. All hand-carry models are for single phase operation. 1800-watt unit has 15 ft. cord with grounded plug. 4500 watt units have cast aluminum 3-wire terminal box for connecting cord; cord not included. For power cords call 1-800-323-0620

**Roll-about models** have reflectors that can be adjusted to horizontal or vertical position for best heat pattern, steel hand cart with semi-pneumatic wheels, twin hand grips, weather tight steel conduit box for connecting cord; cord not included. Units are factory-connected for 3-phase operation, field-convertible to single phase.

### INFRARED HEATER SIZING GUIDE

| Square Foot Heated Per Fixture | NON-PROTECTED AREA Below 35°F | NON-PROTECTED AREA Above 35°F | SEMI-PROTECTED AREA Below 35°F | SEMI-PROTECTED AREA Above 35°F |
|---|---|---|---|---|
| Fixture | Area Size Sq. Ft. | | Area Size Sq. Ft. | |
| 1.8 KW | 25 | 36 | 40 | 50 |
| 4.5 KW | 64 | 75 | 90 | 125 |
| 6.0 KW | 85 | 100 | 120 | 150 |
| 13.5 KW | 192 | 225 | 270 | 375 |

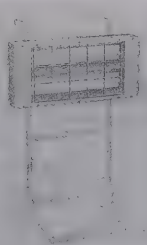
| Watts | Volts 60 Hz | Phase* | Amps 3 Ph. | Amps 1 Ph. | Type | Dimensions (In.)† H | Dimensions (In.)† W | Fostoria Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1800 | 120 | 1 | — | 15.0 | Hand-Carry | 27 | 12 | FHK-212-1CA | 2E526 | $281.57 | $240.00 | 15.0 |
| 4500 | 240 | 1 | — | 19.0 | Hand-Carry | 48 | 12 | FHK-424-1A | 2E527 | 331.20 | 244.00 | 17.0 |
| 4500 | 480 | 1 | — | 9.4 | Hand-Carry | 48 | 12 | FHK-448-1A | 2E528 | 331.19 | 244.00 | 19.0 |
| 5000 | 240 | 3 | 15.0 | 26.0 | Roll-About | 43½ | 20 | FHK-624-3A | 2E529 | 540.95 | 403.75 | 36.0 |
| 5000 | 480 | 3 | 8.0 | 13.0 | Roll-About | 43½ | 20 | FHK-648-3A | 2E530 | 540.96 | 403.75 | 34.0 |
| 9,500 | 240 | 3 | 33.0 | 57.0 | Roll-About | 58 | 27½ | FHK-1324-3A | 3E214 | 898.92 | 680.50 | 62.0 |
| 9,500 | 480 | 3 | 17.0 | 29.0 | Roll-About | 58 | 27½ | FHK-1348-3A | 3E215 | 874.30 | 684.00 | 68.0 |

*3-phase units field-convertible to single phase. (†) With reflector on roll-about models in vertical position.

## INFRARED HEATERS

fostoria® Quality Since 1917

Heater shown with optional cart, No. 4E527, sold separately below



No. 4E525

™ E154159

- **5000 Hour life expectancy**
- **No warmup needed**
- **Safety yellow color**
- **Does not produce fumes or vapors**

**Both heaters use efficient quartz tubes** with 5000 hr. life expectancy. Uniform heat pattern at 45° beam spread. Normally used up to 15 feet from area to be heated. No waiting for warmup, low maintenance. 15 ft., 3-wire cord set with NEMA L6-30P twistlock plug on No. 4E526, and molded 5-20P plug on No. 4E525. Heaters finished in durable, baked-on enamel paint. Chrome-plated steel grid-type guards standard.

**Heaters are constructed of durable 20-gauge steel housing** and high efficiency gold anodized aluminum reflectors, and include four raised slots and chain for permanent overhead installation without cart. Does not produce fumes, vapors, gases or other harmful by-products. 2000/1000W unit has two quartz tubes; 5700/2850W unit has four quartz tubes. Separate switches select high or low heat operation. Heaters must be installed in a horizontal position. Fostoria Sun-Mite brand.

| Watts | BtuH | Volts 60 Hz | Amps | Phase | Dimensions (In.) H | Dimensions (In.) W | Dimensions (In.) L | Fostoria Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2000 / 1000 | 6826 / 3413 | 120 | 16.7 / 8.33 | 1 | 11 | 3¾ | 23 | CH-2212-1C | 4E525 | $342.98 | $280.00 | 14.0 |
| 5700 / 2850 | 19,454 / 9727 | 240* | 23.75 / 11.9 | 1 | 19 | 3¾ | 32 | CH-6424-1C | 4E526 | 583.25 | 490.00 | 28.0 |

Units operated on 208V with 25% decrease in BtuH output.

## OPTIONAL CART FOR INFRARED HEATERS

**This commercial-type cart** is constructed of 3/16" thick steel with black baked-on paint finish. Has 6" wheels mounted to 1/2" dia. steel axle.

Heaters attach to cart at optional heights with four 3/8"-16 screws. **NOTE:** Cart can lay on its back with heater mounted for upward radiation—10" from floor. Cart stands 38" high and is 16" wide. Fostoria brand (FHK-1).

**No. 4E527.** Cart. Shpg. Wt. 11.0 lbs. List.....$122.00.
Each.....$68.65

**Consult Applicable Codes and Authorities Before Purchase and Use.**

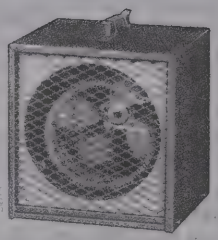
# ELECTRIC CONVECTION HEATERS

## 240V HEAVY-DUTY PORTABLE HEATERS

QMARK
A Division of Marley Electric Heating

E21609

No. 3UG52

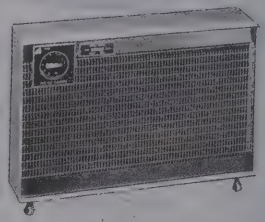


Replacement Parts Available
1-800-323-0620

20 Amp Plug Type

30 Amp Plug Type

HeatStream™



E10178

No. 5H437

**QMARK HEATERS FEATURE:**

- **Steel spiral fins brazed to metal sheath element**
- **Built-in thermostat**
- **Safety high temperature limit**
- **Built-in handle/cord storage (for 6-foot heavy duty cord)**
- **Permanently lubricated motor**

A lot of heat in a small, heavy-duty, light weight portable heater. Ideal for use in construction job sites, commercial workshops and other large unheated areas. Red baked enamel finish. Industrial, finger-proof, steel intake and discharge grilles. QMark brand.

**HEATSTREAM UNIT HEATER FEATURES:**

- **Automatic thermostat with Off position**
- **High-temperature cord and plug**
- **Nickel chrome element**
- **Quiet circulating fan**
- **High limit control**
- **Steel cabinet**

8" diameter heavy-duty fan; heavy-duty bulb-type hydraulic thermostat. Safety overheat automatic shut-off. Power indicator light. Safety overheat lights. Gray finish. HeatStream brand.

### HEATER SPECIFICATIONS AND ORDERING DATA

| Watts | Volts | Amps | BtuH | Plug Type | Dimensions (In.) H | W | D | Brand Name | Mfr's Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4000 / 3000** | 240/208 | 16.7 / 14.4 | 13,650 / 10,238 | 20 amp | 11 | 10½ | 9¾ | Q Mark | LFC402 | **3UG52** | $181.11 | **$98.50** | 17.0 |
| **4800 / 3600** | 240/208 | 20.0 / 17.3 | 16,380 / 12,285 | 30 amp | 11 | 10½ | 9¾ | Q Mark | LFC482 | **3UG53** | 195.72 | **106.20** | 17.0 |
| **5600 / 4200** | 240/208 | 23.3 / 20.2 | 19,110 / 14,335 | 30 amp | 12⅜ | 11⅜ | 10¾ | Q Mark | LFC562 | **3UG54** | 210.34 | **113.95** | 17.0 |
| **3200 / 5600** | 240 | 23.3 | 10,921 / 19,112 | 30 amp | 15¼ | 20½ | 5¼ | HeatStream | 24H16-01 | **5H437** | 221.77 | **170.25** | 18.0 |

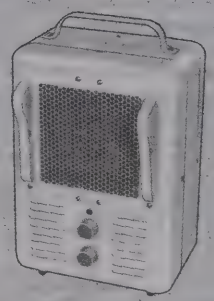
## ELECTRIC CONVECTION HEATERS

**"Milkhouse" Heaters** feature high temperature cord and plug, safety overheat protection, 20-gauge steel cabinet, and heavy-duty fan-forced operation with 1500W output. UL and C-UL Listed. Fahrenheat brand.

**No. 3UG66 "Milkhouse" dual-heat with 2-wire cord and polarized plug.** Northern white baked enamel finish.

**No. 3UG67 "Milkhouse" dual-heat with 3-wire cord and grounded plug, tip-over switch, power operating light.** Northern white with light gray trim band, chrome handle and standoffs.

**No. 3UG62 2-heat unit.** Features the comfort of both radiant and fan-forced heating. 600W radiant heating only on low setting, and 1500W radiant and fan-forced heat on high. Adjustable, built-in thermostat, chrome safety grille, tip-over switch, safety overheat protection, steel cabinet with baked-on white enamel finish, 3-wire cord, and grounded plug.



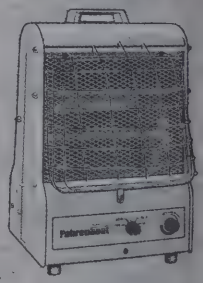
Nos. 3UG66 and 3UG67

Fahrenheat
A Division of Marley Electric Heating

E21609

1-15 Amp Plug Type

5-15 Amp Plug Type



No 3UG62

### HEATER SPECIFICATIONS & ORDERING DATA

| Watts | Volts | Amps* | BtuH | NEMA Plug Type | Dimensions, (In.) H | W | D | Fahrenheat Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1300 / 1500** | 120 | 12.5 | 4436 / 5120 | 1-15P | 16 | 10 | 8 | MHH1502T | **3UG66** | $55.01 | **$31.30▲** | 9.2 |
| **1300 / 1500** | 120 | 12.5 | 4436 / 5120 | 5-15P | 16 | 10 | 8 | MMHD1502T | **3UG67** | 60.08 | **34.00▲** | 9.2 |
| **600 / 900 / 1500** | 120 | 12.5 | 2047 / 3071/ 5120 | 5-15P | 15 | 11 | 8½ | MCM1503 | **3UG62** | 127.95 | **66.00▲** | 9.0 |

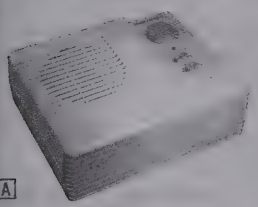
(*) At max. wattage. (▲) Net prices. Not subject to discounts.

**Consult Applicable Codes and Authorities Before Purchase and Use.**

# ELECTRIC CONVECTION HEATERS/FANS

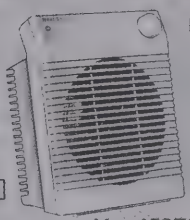
## Heat Stream™

E10178



A

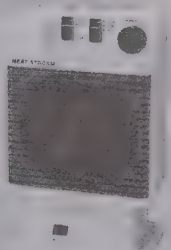
**No. 5H438**
**Low Profile Heater/Fan**



B

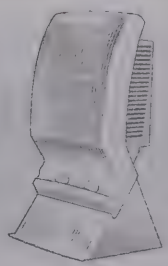
**No. 6E878**
**Personal Heater/Fan**

**New**



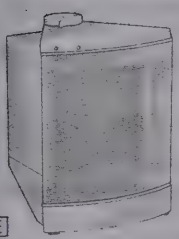
C

**No. 5H761**
**Oscillating Heater/Fan**



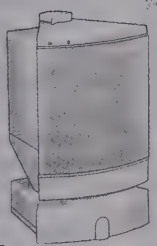
D

**No. 3UD81**
**Multi-Purpose Heater/Fan**



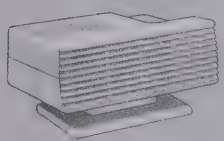
E

**No. 3UD82**
**Adjustable Base Ceramic Heater**



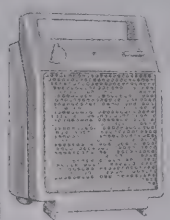
F

**No. 3UD83**
**Oscillating Ceramic Heater**



G

**No. 4LZ93**
**Office Pro Heater/Fan**



H

**No. 3UD84**
**Compact Heater/Fan**



I

**No. 3UD85**
**Cord-Free Wall-Hugger Heater/Fan**

A **2-Heat Low Profile Heater/Fan.** Quiet circulating fan. 2 Heat settings; fan forced heat or cooling breeze. Automatic thermostat and safety overheat switch. Adjustable tilt base. Neutral earth tone finish. 2-prong polarized plug. UL Listed (E10178).

B **2-Heat Personal Heater/Fan** 2 Heat settings; fan only for cooling. Safety overheat automatic shut-off. Fan-forced heat. Power indicator light. Neutral earthtone finish. UL Listed (E10178).

C **2-Heat Oscillating Heater/Fan.** 2 Heat settings; fan only for cooling. Fan forced operation. Oscillates in adjustable 90° arc. Automatic thermostat. Safety overheat automatic shut-off. On/Off and Heat/Cool settings. On/Off oscillator switch and indicator light. High temperature cord and plug. Earth tone finish. 2-prong polarized plug. UL Listed (E10178).

D **2-Heat Multi-Purpose Heater/Fan.** For floor, tabletop, and wall use. Base detaches from heater and can be used as wall mount bracket. Utilizes two power settings (1000/1500 watts) for optimal heating. Thermostat control maintains desired room temperature while dual protection safety system protects against accidental overheating. 2-prong polarized plug. UL Listed (E10178).

E **3-Heat Adjustable Tilt Base Ceramic Heater.** Directs heat where needed. Utilizes three power settings (600/900/1500 watts) for optimal heating. Thermostat control maintains desired room temperature. Dual protection safety system automatically shuts unit off in case of accidental overheating. Neutral taupe color. 2-prong polarized plug. UL Listed (E10178).

F **3-Heat Oscillating Ceramic Heater.** Oscillates for even heat distribution. Utilizes three power settings (600/900/1500 watts) for optimal heating. Thermostat control maintains desired room temperature. Dual protection safety system automatically shuts unit off in case of accidental overheating. Neutral taupe color. 2-prong polarized plug, fan has 70 CFM. UL Listed (E10178).

G ***New!* 2-Heat Office Pro Heater/Fan.** 2 Heat settings; fan is for cooling only. This quiet, portable low profile heater/fan is designed for indoor office use. A dual protection system protects against accidental overheating. An easily adjustable tilt base directs heat in any direction you choose. A clearly visible power light indicates heater is plugged in and capable of producing heat. Earth tone finish. UL listed. (29H40S).

H **2-Heat Compact Heater/Fan.** Powerful heating in a compact design. Utilizes two power settings (1000/1500 watts) for optimal heating. Thermostat control maintains desired room temperature while dual protection safety system protects against accidental overheating. 2-prong polarized plug, fan has 75 CFM. UL Listed (E10178).

I **Wall-Hugger 1-Heat Cord Free Heater/Fan.** Plugs directly into a wall outlet. Utilizes 1200 watt power setting. Thermostat control maintains desired room temperature while dual protection safety system protects against accidental overheating. Night light, fan 75 CFM. UL Listed (E10178).

## HEATER & HEATER/FAN SPECIFICATIONS & ORDERING DATA

| Key | Watts | Volts | Amps | BtuH | Dimensions, (In.) H | W | D | Heat Stream Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 800 / 1500 | 120 | 12.5 | 2731 / 5120 | 5¼ | 10¾ | 9 | 29H40 | **5H438** | $42.68 | **$29.20▲** | 4.3 |
| B | 1000 / 1500 | 120 | 12.5 | 3414 / 5120 | 11½ | 9½ | 5½ | 29H15 | **6E878** | 31.11 | **18.39▲** | 2.6 |
| C | 800 / 1500 | 120 | 12.5 | 2731 / 5120 | 13¾ | 8 | 6 | 29H85 | **5H761** | 63.20 | **42.25▲** | 6.5 |
| D | 750 /1500 | 120 | 12.5 | 3414 / 5120 | 16 | 9 | 12 | 29H50 | **3UD81** | 70.96 | **37.50▲** | 4.0 |
| E | 600 / 900 / 1500 | 120 | 12.5 | 2048 / 3073 / 5120 | 11 | 8 | 7½ | C1000 | **3UD82** | 101.99 | **48.35▲** | 4.3 |
| F | 600 / 900 / 1500 | 120 | 12.5 | 2048 / 3073 / 5120 | 13 | 8½ | 8 | C2000 | **3UD83** | 141.74 | **66.25▲** | 5.5 |
| G | 800/1500 | 120 | 12.5 | 2731/5120 | 5½ | 10¼ | 9 | 29H405 | **New 4LZ93** | 53.13 | **32.20▲** | 4.0 |
| H | 1000 / 1500 | 120 | 12.5 | 3414 / 5120 | 9 | 6½ | 7½ | MC20 | **3UD84** | 62.28 | **29.10▲** | 3.2 |
| I | 1200 | 120 | 10 | 4097 | 8 | 6½ | 4 | WH20 | **3UD85** | 62.29 | **29.00▲** | 2.3 |

1) All come with 2 prong polarized plug. (▲) Net prices, not subject to discounts.

# ELECTRIC RADIANT & BASEBOARD HEATERS

## ELECTRIC RADIANT HEATERS




**5-YEAR LIMITED WARRANTY**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Consult Applicable Codes and Authorities Before Purchase and Use**

**Units A, B, and C Feature:**

- Automatic thermostat with Off position
- High temperature cord and plug
- Quiet circulating fan
- Automatic tipover and safety overheat, automatic shutoff
- Power indicator light
- 2 Prong polarized plug
- UL Listed

A **No. 5H314 HeatStream 1-Heat Economy Heater.** Gray finish steel cabinet.

B **No. 5H439 HeatStream 1-Heat Slim Line Heater.** Gray finish steel cabinet.

B **No. 5H440 HeatStream 2-Heat Slim Line Heater.** Gray finish steel cabinet.

C **No. 4H270 HeatStream 2-Heat Perimeter Heater.** Gray steel cabinet.

**Unit D Features:**

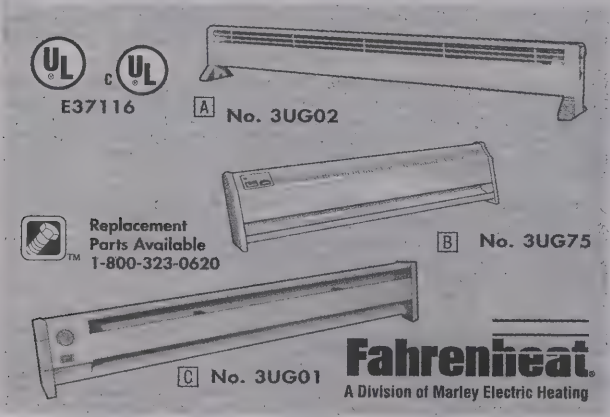
- Warning buzzer safety alarm and alert light
- Safety tipover switch
- Safety overload automatic shutoff
- Quiet circulating fan
- Automatic thermostat

D **No. 5H819 HeatStream 2-Heat Heater.** 5-Year limited warranty. UL Listed.

| Key | Watts | Volts | Amps | BtuH | Dimensions (In.) H | W | D | HeatStream Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1320 | 120 | 11.0 | 4505 | 12¼ | 20¾ | 7½ | 30H25-01 | **5H314** | $44.27 | **$31.55▲** | 7.8 |
| B | 1500 | 120 | 12.5 | 5120 | 13½ | 21 | 7¼ | 30H12 | **5H439** | 55.35 | **39.45▲** | 8.6 |
| B | 1250 / 1500 | 120 | 12.5 | 4266 / 5120 | 13½ | 21 | 7¼ | 30H21 | **5H440** | 66.38 | **47.05▲** | 8.8 |
| C | 1250 / 1500 | 120 | 12.5 | 4266 / 5120 | 11 | 43 | 7 | 49H20-01 | **4H270** | 91.53 | **60.95▲** | 13.0 |
| D | 1250 / 1500 | 120 | 12.5 | 4266 / 5120 | 13½ | 21 | 7¼ | 30H50 | **5H819** | 78.12 | **56.30▲** | 10.0 |

(▲) Net prices, not subject to discounts.

## LIQUID FILLED & CONVECTION BASEBOARD HEATERS




**All portable units are equipped with linear high temperature cut-outs to automatically shut off the heater in the event of accidental air blockage, and have operating light indicators.**

- 2 Prong polarized plug

A **No. 3UG02 Deluxe Portable Electric Hydronic Heater.** Features a no-maintenance sealed system and distinctive low profile design. Two heat settings (5120 or 2560 BtuHs) with built-in automatic thermostat that uses only the required wattage to keep an area warm. Made in U.S.A. Fahrenheat brand.

B **No. 3UG75 Portable Electric Heater.** Sturdy construction with solid steel cabinet, baked enamel finish, and unique protective grille. Dual-heat model (750 and 1500 watts) utilizes a specially formulated fluid that transfers warmth uniformly along the entire length of the heater. Built-in stat. Made in U.S.A. Fahrenheat brand.

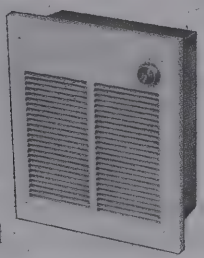
C **No. 3UG01 Distinctively Designed Baseboard-Type Portable Electric Convection Heater.** Chimney fin element moves air at a greater velocity, filling the room with even comfort. 1000/1500 watt heat settings, built-in stat and carrying handles in the end panels. Made in U.S.A. Fahrenheat brand.

### LIQUID FILLED & CONVECTION BASEBOARD HEATERS

| Key | Type | Volts | Amps* | Watts | BtuH | Dimensions (In.) H | L | D | Fahrenheat Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Deluxe /Portable/ Electric/ Hydronic | 120 | 12.5 | 750/1500 | 2560/5120 | 8.5 | 58 | 3 | LFP6152 | **3UG02** | $250.55 | **$126.20▲** | 21.0 |
| B | Portable/ Electric/Hydronic | 120 | 12.5 | 750/1500 | 2560/5120 | 7¼ | 46 | 4½ | PHH15002 | **3UG75** | 198.47 | **112.85▲** | 14.0 |
| C | Portable/ Electric/ Convection | 120 | 12.5 | 1000/1500 | 3413/5120 | 7½ | 45 | 5½ | FBE15002 | **3UG01** | 98.51 | **50.05▲** | 11.0 |

(*) At maximum wattage. (▲) Net prices, not subject to discounts.

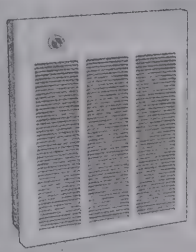
# ELECTRIC WALL HEATERS



QMARK
A Division of Marley Electric Heating

**QMARK LIMITED WARRANTY**

**5-years on element; 1-year on all other components and workmanship. See Manufacturer's Warranties on page opposite inside back cover.**



UL E21609

c UL

A

**Nos. 3UG12, 3UG13 and 3UG14:**

- **For entryways, dens, bathrooms, small offices, workshops**
- **Built-in fan delay switch energizes fan motor only after elements are heated**
- **Can be mounted vertically or horizontally with airflow up or down, left-to-right or right-to-left**
- **Built-in single-pole thermostat**

Heater dimensions (with grille) are 12½H x 10½W x 4¼"D. Wall opening required 11⅝H x 9⅜W x 4"D. QMark brand.

B

**Nos. 3UG55, 3UG56 and 3UG57:**

- **Used in reception rooms, game rooms, family rooms, offices and similar light-duty commercial and residential applications**
- **Built-in fan delay switch energizes fan motor only after elements are heated**
- **Integral double pole thermostat with positive off**

Steel finned metal sheath heating elements with low sheath temperatures provide uniform heat and long service life.

Rugged stamped steel front covers with Northern White baked enamel finish. Thermal overheat protector disconnects power in the event of overheating due to accidental blockage. Unit dimensions are 19⅛H x 15¾W x 5½"D. Wall opening required is 18¼H x 14⅜W x 4"D. Surface mount in standard 2 x 4" studwalls. Ideal mounting height is 18 to 24" from floor to bottom of back box. Do not install closer than 4" from floor or adjacent wall. Security front cover **No. 3UG58** and surface mounting frame **No. 3UF66**, for B. **No. 4TM75** surface mount frame for A. See page 3387.

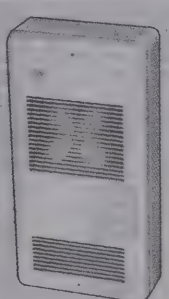
## HEATER ORDERING DATA

| Key | Watts 240V | Watts 208V | Watts 120V | BtuH 240V | BtuH 208V | BtuH 120V | Amps 120V | Amps 240V | Amps 208V | Q Mark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | — | — | 1500 | — | — | 5120 | 12.5 | — | — | FZ1500 | **3UG12** | $159.29 | **$113.75** | 10.0 |
| A | 1500 | 1125 | — | 5120 | 3839 | — | — | 6.3 | 5.4 | FZ1504 | **3UG13** | 159.29 | **113.75** | 10.0 |
| A | 2000 | 1500 | — | 6824 | 5120 | — | — | 8.3 | 7.2 | FZ2004 | **3UG14** | 159.29 | **113.75** | 10.0 |
| B | 3000 | — | — | 10,239 | — | — | — | 12.5 | — | LFK304 | **3UG55** | 290.99 | **208.75** | 22.0 |
| B | 4000 | 3000 | — | 13,652 | 10,239 | — | — | 16.7 | 14.4 | LFK404 | **3UG56** | 290.99 | **208.75** | 22.0 |
| B | 4800 | 3600 | — | 16,382 | 12,287 | — | — | 20.0 | 17.3 | LFK484 | **3UG57** | 290.99 | **208.75** | 22.0 |

# EURO-DESIGN BUILT-IN HEATERS

QMARK
A Division of Marley Electric Heating

CSA® NRTL/C



- **120V and 240V operation. Wall and ceiling mounted units**
- **Wall units can be recessed or surface mounted vertically or horizontally**
- **Automatic re-set thermal overload protection with indicator light**
- **White or polished chrome front covers**
- **Built-in thermostat on wall models, remote wall stat required on ceiling models**

For use where heat is needed quickly. . . entryways, bathrooms, laundry rooms and workshops. Heavy 18-gauge louvered steel grille. Grille dimensions 7 1/16W x 16 3/16H x ⅞"D. Housing is 6⅜W x 14⅜H x 3¼"D. Wall units must be installed a minimum of 8" from adjacent wall and floor.

### SURFACE MOUNTING KIT FOR BUILT-IN HEATERS

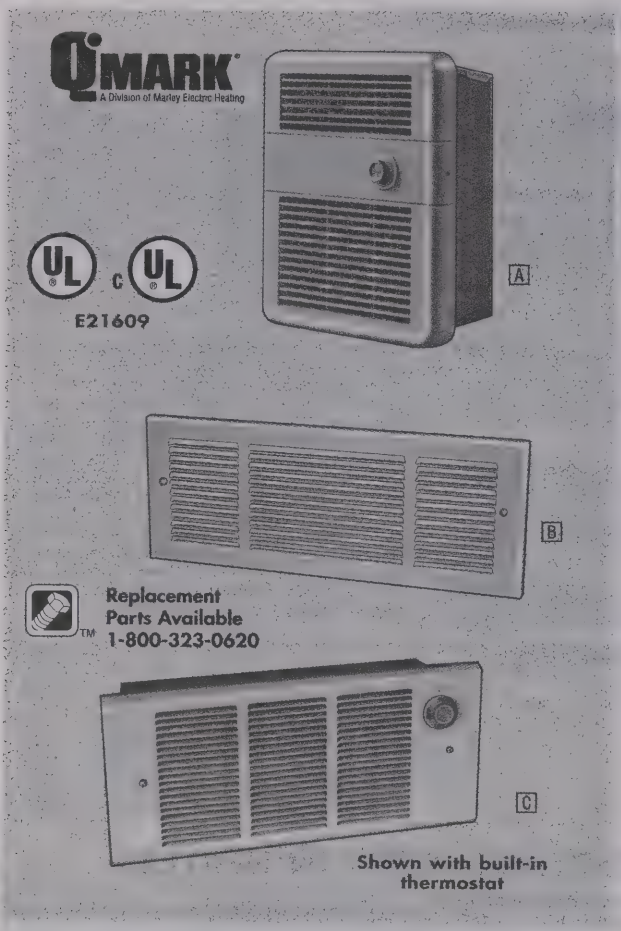
White baked enamel finish matches heaters. QMark brand (DSMK).

**No. 3UG04.** Shpg. wt. 2.0 lbs. List .....$31.67.
Each .....**$24.63**

## HEATER ORDERING DATA

| Watts | BtuH | Volts | Amps | Finish | Q Mark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **WALL MOUNT HEATERS** | | | | | | | | | |
| **1500** | 5120 | 120 | 12.5 | Chrome | D1151C | **3UF68** | $159.27 | **$109.75** | 12.0 |
| **1500/1125** | 5120/3839 | 240/208 | 6.3/5.4 | Chrome | D1154C | **3UF70** | 159.27 | **109.75** | 12.0 |
| **2000/1500** | 6824/5120 | 240/208 | 8.3/7.2 | Chrome | D1104C | **3UF67** | 159.27 | **109.75** | 12.0 |
| **1500** | 5120 | 120 | 12.5 | White | D2151 | **3UF72** | 159.27 | **109.80** | 12.0 |
| **2000/1500** | 6824/5120 | 240/208 | 8.3/7.2 | White | D2204 | **3UF73** | 159.27 | **109.80** | 12.0 |
| **CEILING MOUNT HEATERS** | | | | | | | | | |
| **1500** | 5120 | 120 | 12.5 | Chrome | D1151CLT | **3UF69** | 159.27 | **114.20** | 12.0 |
| **1500/1125** | 5120/3839 | 240/208 | 6.3/5.4 | Chrome | D1154CLT | **3UF71** | 159.27 | **114.20** | 12.0 |

# BUILT-IN ELECTRIC WALL HEATERS




**All heaters have operational protection with high temperature thermal cut-out to guard against overheating**

## A RESIDENTIAL FAN-FORCED ZONAL HEATERS

Quiet fan-forced heat for bathrooms, bedrooms, family and game rooms, utility rooms and other similar small areas in homes, apartments, condos and offices. High quality nickel chromium heating elements for fast heat response and uniform heat. High-impact Lexan® cover, steel bar insert grille, built-in thermostat. Unit mounted prior to wiring so both hands are free to make connections. Overall dimensions 12¼ H x 10½ W x 4¾ D. Designed for recess installation in 2x4 wall sections in a 11 H x 9⅛ W wall opening. For surface mounting frames, see information below.

## B ELECTRIC ZONAL WALL HEATERS

Attractive compact grille similar to central system. Centrifical, furnace-type blower for maximum air delivery and quiet operation. Open wound coil element for quick heat response. Heaters are field-adaptable for 4 wattages (750, 1100, 1500 and 2200 watts). Grille dimensions are 5⅝ H x 14⅛ W; Required wall opening is 4¾ H x 13 W. Units require optional remote mounted wall thermostat control, see table below.

## C FAN-FORCED HEATERS

With or without built-in thermostat, three models have multi-wattage capabilities, providing versatility to satisfy a wide range of applications. Heavy-gauge steel finned element, tangential blower, impedance-protected, permanently lubricated motor and constructed to make installation simple and quick. Grille dimensions are 7¾ H x 16⅞ W. Required wall opening is 7 H x 14¾ W.

## SURFACE MOUNT HOUSINGS FOR A

**Surface mounting frame.** Extends 3½". QMark brand (AFA-SM).
**No. 3UF30.** Shpg. wt. 2.0 lbs. List.....$27.41
Each.....**$20.92**

**1" Semi-recess mounting frame.** QMark brand (AFA-S1).
**No. 3UF28.** Shpg. wt. 2.0 lbs. List.....$27.41
Each.....**$20.92**

**2" Semi-recess mounting frame.** QMark brand (AFA-S2).
**No. 3UF29.** Shpg. wt. 2.0 lbs. List.....$27.41
Each.....**$20.92**

**Adapter plate.** White finish to match 22 H x 17 W. QMark brand (AFA-AP). **No. 3UF27.** Shpg. wt. 2.0 lbs. List.....$42.64
Each.....**$32.40**

## BUILT-IN ELECTRIC WALL HEATERS*

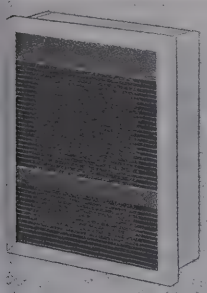
| Key | Watts* | BtuH | Volts 60 Hz | Amps | Q Mark Model | Uses Remote Thermostat | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 1500/750 | 5120/2560 | 120 | 12.6/6.3 | AFA1500T2 | — | **3UF23** | $139.99 | **$99.85** | 8.0 |
| A | 1500/750 | 5120/2560 | 240 | 6.3/3.1 | AFA1504T2 | — | **3UF24** | 139.99 | **99.85** | 8.0 |
| A | 2000/1000 | 6826/3413 | 240 | 8.3/4.2 | AFA2004T2 | — | **3UF25** | 139.99 | **99.85** | 8.0 |
| A | 2400/1200 | 8190/4096 | 240 | 10.0/5.0 | AFA2404T2 | — | **3UF26** | 139.99 | **99.85** | 8.0 |
| **WITHOUT BUILT-IN STAT** | | | | | | | | | | |
| B | 750/1100/1500/2200 | 2560/3754/5120/7509 | 120 | 6.3/9.2/12.5/18.3 | QVP1222 | 3UG59 | **3UG99** | 153.71 | **103.25** | 9.0 |
| B | 750/1100/1500/2200 | 2560/3754/5120/7509 | 208 | 3.6/5.3/7.2/10.6 | QVP2022 | 3UG59 | **3UH01** | 153.71 | **103.25** | 9.0 |
| B | 750/1100/1500/2200 | 2560/3754/5120/7509 | 240 | 3.1/4.6/6.3/9.2 | QVP2422 | 3UG59 | **3UH02** | 153.71 | **103.25** | 9.0 |
| C | 1500/1125/750/375 | 5120/3840/2560/1280 | 120 | 12.5/10.2/6.3/3.1 | GFR1500 | 3UG59 | **3UG15** | 189.18 | **126.85** | 10.0 |
| C | 2000/1500/1000/500 | 6826/5120/3413/1706 | 240 | 8.3/6.3/4.2/2.1 | GFR2004 | 3UG59 | **3UG17** | 189.18 | **126.85** | 10.0 |
| C | 2400/1200 | 8190/4096 | 240 | 10.0/5.0 | GFR2404 | 3UG59 | **3UG19** | 189.18 | **126.85** | 10.0 |
| **WITH BUILT-IN STAT** | | | | | | | | | | |
| C | 1500/1125/750/375 | 5120/3840/2560/1280 | 120 | 12.5/10.2/6.3/3.1 | GFR1500T2 | — | **3UG16** | 198.05 | **132.90** | 11.0 |
| C | 2000/1500/1000/500 | 6826/5120/3413/1706 | 240 | 8.3/6.3/4.2/2.1 | GFR2004T2 | — | **3UG18** | 198.05 | **132.90** | 11.0 |
| C | 2400/1200 | 8190/4096 | 240 | 10.0/5.0 | GFR2404T2 | — | **3UG20** | 198.05 | **132.90** | 11.0 |

(*) All units factory wired for highest wattage.

**ORDERING HAS NEVER BEEN EASIER!**

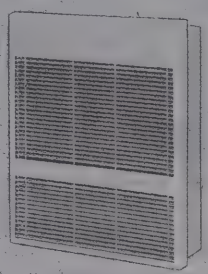
**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# BUILT-IN COUNTER FLOW ELECTRIC WALL HEATERS



ronze brown finish
No. 5E176

A



Navajo white finish
No. 5E177

QMARK
A Division of Marley Electric Heating

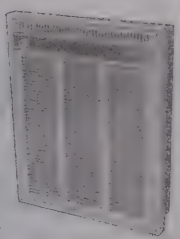
UL c UL
E21609

**BUILT-IN ELECTRIC WALL HEATERS FEATURE:**

- Heavy-duty steel finned metal sheath heating element
- Built-in fan delay switch energizes fan motor only after elements are heated
- Integral thermostat for quick installation
- Motors are totally enclosed, impedance protected with permanently lubricated bearings
- For use in applications where energy management is critical and acts a a deterrent to vandalism



No. 3UF58



No. 3UF60

B

## A TAMPER-RESISTANT HEATERS

mper-resistant, commercial-grade construction itures are ideal for small entryways, lobbies, cor-ors, stairwells, rest rooms, churches, schools, ices, stores and other public buildings where pplementary heat is required. Integral thermo-it is tamper-resistant and adjustable only by serting narrow blade screwdriver through front r grille of heater. Permanently lubricated totally closed fan motor provides long life and low intenance; gently distributes 100 CFM warm air roughout room area. Contemporary heavy-duty -gauge steel bar grille available in bronze brown ked enamel finish and satin finished aluminum me or Navajo white unit and frame. Recess ounts in standard 2" x 4" stud walls. Housing easures 14⅜W x 18¼H x 3¾"D. Use No. 5E188 ronze Brown) or No. 5E189 (Navajo White) mes for surface mounting applications.

### SURFACE MOUNTING FRAMES FOR TAMPER-RESISTANT HEATERS

r surface installation on brick, concrete block, od, and plaster walls. Frame extends 3⅜₁₆". rews and mounting hardware included.

**. 5E188.** Bronze brown frame. Q-Mark brand (AWH-D). Shpg. wt. 4.0 lbs. List $56.27. Each.....**$45.10**

**. 5E189.** Navajo white frame. Q-Mark brand (FRA-D). Shpg. wt. 4.0 lbs. List $56.27. Each.....**$45.10**

## ARCHITECTURAL /COMMERCIAL GRADE HEATERS

Highly styled design is ideal for supplementary heating of offices, reception rooms, game rooms, family rooms and similar light-duty commercial and residential applications. Rugged stamped steel front covers attractively finished in Navajo White baked enamel with a brushed gold and silver trimmed face plate. Hole plugs provided for tamper-resistant installations. Separate tamper resistant front cover, in Navajo White finish available for Nos. 3UF59 thru 3UF63. Nos. 3UF59 thru 3UF63 have a built-in fan only switch. Nos. 3UF60, 3UF61, 3UF59, 3UF62, and 3UF63 grille dimensions are 19¼ H x 15¾ W x 1½ D; Openings are 18¼ H x 14⅜ W x 3¾ D. No. 3UF58 grille dimensions are 14⅞ H x 11¾ W x 1⅛ D; Opening is 12⅜ H x 9¼ W x 3¾ D. QMark brand.

### SURFACE MOUNTING FRAMES

**No. 4TM74. Surface Mounting Frame.** Q-Mark brand (CWHSMI) Used with 3UF58 through 3UF63. Shpg. wt. 2.0. List.....$57.36.
Each.....**$43.05**

**No. 4TM75 Surface Mounting Frame.** Q-Mark brand (FZSM) used with 3UG12, 3UG13 and 3UG14 on page 3385. Shpg. wt. 2.0. List.....$44.02.
Each.....**$33.05**

**No. 3UF66.** Surface Mounting Frame. Frame extends 3 3/4". Q-Mark brand (CWH 3-SM). Shpg. wt. 2.0 lbs. List.....$55.43.
Each.....**$42.85**

**No. 3UF64.** Surface Mounting Frame. 1" Deep surface mounting sleeve for semi-recessed installation. Q-Mark brand (CWH3S-1).
Shpg. wt. 2.0 lbs. List.....$55.43.
Each.....**$42.85**

**No. 3UF65.** Surface Mounting Frame. 2" Deep Surface mounting sleeve for semi-recessed installation. Q-Mark brand (CWH3S-2). Shpg. wt. 2.0 lbs. List.....$55.43.
Each.....**$42.85**

**No. 3UG58.** Security Front Cover. For Nos. 3UF59 through 3UF63 and 3UG55 through 3UG57 (sold on page 3473.) 14-Gauge steel, Navajo White finish. Q-Mark brand (LFKS-FC). Shpg. wt. 6.0 lbs. List.....$85.27.
Each.....**$55.65**

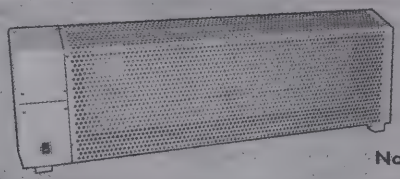
| Key | Heater Description | Watts | BtuH | Volts 60Hz | Amps | Enamel Finish | Q Mark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Tamper-Resistant | 1500 | 5120 | 277 | 5.5 | Brown | AWH-4157 | **5E176** | $433.00 | **$318.00** | 25.0 |
| | | 1500 | 5120 | 277 | 5.5 | White | AWH-4157MG | **5E177** | 433.00 | **318.00** | 25.0 |
| | | 2000 | 6842 | 208 | 10.0 | Brown | AWH-4208 | **5E178** | 433.00 | **318.00** | 25.0 |
| | | 2000 | 6842 | 208 | 10.0 | White | AWH-4208MG | **5E179** | 433.00 | **318.00** | 25.0 |
| | | 2000 | 6842 | 240 | 8.5 | Brown | AWH-4204 | **5E180** | 433.00 | **318.00** | 25.0 |
| | | 2000 | 6842 | 240 | 8.5 | White | AWH-4204MG | **5E181** | 433.00 | **318.00** | 25.0 |
| | | 4000 | 13,650 | 208 | 19.5 | Brown | AWH-4408 | **5E182** | 495.84 | **363.75** | 25.0 |
| | | 4000 | 13,650 | 208 | 19.5 | White | AWH-4408MG | **5E183** | 495.84 | **363.75** | 25.0 |
| | | 4000 | 13,650 | 240 | 16.7 | Brown | AWH-4404 | **5E184** | 495.84 | **363.75** | 25.0 |
| | | 4000 | 13,650 | 240 | 16.7 | White | AWH-4404MG | **5E185** | 495.84 | **363.75** | 25.0 |
| | | 4000 | 13,650 | 277 | 14.5 | Brown | AWH-4407 | **5E186** | 495.84 | **363.75** | 25.0 |
| | | 4000 | 13,650 | 277 | 14.5 | White | AWH-4407MG | **5E187** | 495.84 | **363.75** | 25.0 |
| B | Architectural/ Commercial Grade | 1500/750 2000/1000 | 5120/2560 6826/3413 | 208/240 | 7.2/3.6 8.3/4.2 | White | CWH2202 | **3UF58** | 183.78 | **126.45** | 13.0 |
| | | 3000/4000 | 10,239/13,652 | 208/240 | 14.5/16.7 | White | CWH3404 | **3UF60** | 364.54 | **250.50** | 22.0 |
| | | 3000/4000 | 10,239/13,652 | 240/277 | 12.5/14.5 | White | CWH3407 | **3UF61** | 364.54 | **250.50** | 22.0 |
| | | 3000 | 10,239 | 277 | 10.8 | White | CWH3307 | **3UF59** | 364.54 | **250.50** | 22.0 |
| | | 3600/4800 | 10,287/16,382 | 208/240 | 17.3/20.0 | White | CWH3504 | **3UF62** | 364.54 | **250.50** | 22.0 |
| | | 3600/4800 | 12,287/16,382 | 240/277 | 15.0/17.3 | White | CWH3507 | **3UF63** | 364.54 | **250.50** | 22.0 |

# INSTITUTIONAL CONVECTION AND RADIANT COVE HEATERS

## INSTITUTIONAL CONVECTION HEATERS

QMARK
A Division of Marley Electric Heating

Replacement Parts Available 1-800-323-0620



No. 3UG49

E21609

- 140°F maximum surface temperature in a 70° ambient means the unit is ideal for applications that require a low-operating temperature below that of most commercial convectors
- Internal tamper proof thermostat with 55° to 100°F range allows for temperature control of the unit with a high degree of security
- 12 gauge perforated steel, sloped top cover creates a rugged unit that is resistant to vandalism
- Built-in double pole disconnect switch is accessible without removing any covers for convenient servicing and cleaning
- A durable, baked enamel finish resists chipping, cracking, or rusting

Designed as an institutional unit with lo operating temperatures. This is a rugge wall mounted, tamper proof convecti heater designed to provide heating at co rectional or rehabilitational institutio where safety is a major concern.

Dimensions are 16"H x 5"D, with lengt from 24" to 98". UL and C-UL Liste QMark brand.

### HEATER ORDERING DATA

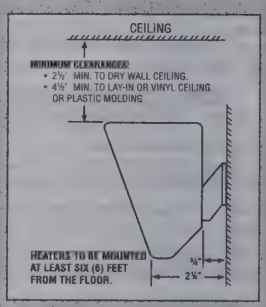
| Volts | Watts | BtuH | Amps | Dimensions (In.) H | L | D | QMark Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 240 | 400 | 1365 | 3.3 | 16 | 24 | 5 | KCJ404 | 3UG49 | $712.13 | $495.50 | 40 |
| 240 | 500 | 1706 | 4.2 | 16 | 28 | 5 | KCJ504 | 3UG50 | 712.10 | 496.75 | 45 |
| 240 | 750 | 2560 | 6.2 | 16 | 36 | 5 | KCJ754 | 3UG51 | 826.02 | 577.00 | 53 |
| 240 | 1000 | 3413 | 8.3 | 16 | 48 | 5 | KCJ1004 | 3UG45 | 939.94 | 657.00 | 65 |
| 240 | 1250 | 4266 | 10.4 | 16 | 60 | 5 | KCJ1254 | 3UG46 | 1025.33 | 718.50 | 80 |
| 240 | 1500 | 5120 | 12.5 | 16 | 72 | 5 | KCJ1504 | 3UG47 | 1139.22 | 799.50 | 95 |
| 240 | 2000 | 6826 | 16.7 | 16 | 98 | 5 | KCJ2004 | 3UG48 | 1509.56 | 1056.00 | 110 |

## RADIANT COVE HEATERS

QMARK
A Division of Marley Electric Heating



E21609




- Radiant, infrared-type heat warms people and objects, not the surrounding air
- Extruded aluminum front panel is coated with a lifetime vitreous enamel which has one of the highest levels for radiating heat energy of any known substance
- Mounts near the ceiling, up and out of the way

For supplemental heating of offices, reception rooms, game rooms, family rooms, bathrooms and similar light-duty commercial and residential applications.

In addition to radiant heat, cove heaters also heat air passing behind and over the heater by convection flow, mixing air in the room to achieve balanced heating. By heating people and objects and not the surrounding air, comfort levels are not dependent upon the air temperature. Room tem perature can be lowered 3 to 5 degre while maintaining the same comfort leve

Heaters are an off-white color. **Operat from remote wall thermostat, No. 3UG5** Dimensions are 4"H x 2⅞"D with length of 47" to 83". UL and C-UL Listed. QMa brand.

### HEATER ORDERING DATA

| Volts | Watts | BtuH | Amps | Length (In.) | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 240 | 600 | 2048 | 2.5 | 47 | RCC6024 | 3UH04 | $146.61 | $98.35 | 8.0 |
| 240 | 750 | 2560 | 3.1 | 59 | RCC7524 | 3UH05 | 167.01 | 111.95 | 9.0 |
| 240 | 900 | 3072 | 3.7 | 71 | RCC9024 | 3UH06 | 187.70 | 125.85 | 10.0 |
| 240 | 1050 | 3584 | 4.4 | 83 | RCC10524 | 3UH03 | 208.39 | 139.85 | 12.0 |

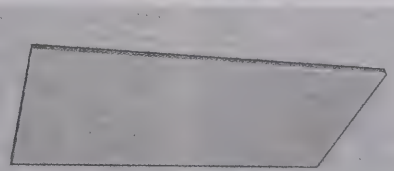
## RADIANT CEILING PANELS

- **Unique crystalline surface**
- **2 x 2' or 2 x 4' sizes available**
- **Combination earthquake/T-bar grip clips**
- **Cassette heating element**

eal for offsetting perimeter heat loss and utralizing downdrafts over glass. Panels diate energy to heat people and objects ther than all the air in a room. Perfect r spot heating in a variety of commercial, stitutional and residential applications. low full usage of floor and wall space.

ique crystalline surface, in a birch white ish, enhances radiant characteristics. capsulated cassette element assures iform temperatures. Heaters are ewired with wires housed in a 48 inch gth of flexible conduit and connector r J-Box mounting. Shells of units are rmed steel.

ly 1 inch in depth, units are designed to easily installed into any 2 x 2' or 2 x 4' Bar suspended ceiling system. **Panels st be controlled using optional remote, wall-unted thermostats.** QMark brand.



No. 3UF44

E21609

### CEILING PANEL ORDERING DATA

| Panel size (In.) W | L | Volts | Watts | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **24** | **24** | 120 | 375 | CP371 | **3UF44** | $183.24 | **$126.20** | 15.0 |
| **24** | **24** | 208 | 375 | CP378 | **3UF47** | 183.24 | **126.20** | 15.0 |
| **24** | **24** | 240 | 375 | CP372 | **3UF45** | 183.24 | **126.20** | 15.0 |
| **24** | **24** | 277 | 375 | CP377 | **3UF46** | 183.24 | **126.20** | 15.0 |
| **24** | **48** | 120 | 750 | CP751 | **3UF48** | 273.93 | **190.00** | 28.0 |
| **24** | **48** | 208 | 750 | CP758 | **3UF51** | 273.93 | **190.00** | 28.0 |
| **24** | **48** | 240 | 750 | CP752 | **3UF49** | 273.93 | **190.00** | 28.0 |
| **24** | **48** | 277 | 750 | CP757 | **3UF50** | 273.93 | **190.00** | 28.0 |
| **Surface Mounting Frames for 24 x 24" Panel** | | | | QSF2424 | **3UG94** | 58.77 | **48.45** | 3.5 |
| **Surface Mounting Frames for 24 x 48" Panel** | | | | QSF2448 | **3UG95** | 88.31 | **72.55** | 4.5 |
| **Recess Mounting Frames for 24 x 24" Panel** | | | | QRF2424 | **3UG92** | 47.02 | **38.70** | 2.5 |
| **Recess Mounting Frames for 24 x 48" Panel** | | | | QRF2448 | **3UG93** | 58.77 | **48.55** | 4.0 |

## DOWNFLOW CEILING MOUNTED HEATERS

- **Single person, hands-free installation**
- **Air delivery up to 14 feet**
- **Adjustable directional airflow**
- **Maximum control system variations**
- **Check installation requirements for accessories below**

**signed for recessed or surface heating appli-tions** for commercial and industrial areas ch as vestibules, hallways, workshops, strooms and entry ways. Enclosure xcluding back box) is heavy-guage steel, osphatized and finished with a baked amel electrostatic painting process.

**iet operation.** The five bladed aluminum n and the rugged impedance-protected, tally enclosed, permanently lubricated otor achieve whisper quiet operation. eel fins are copper brazed to low-watt nsity, steel sheathed, tubular heating ements arranged in a uniform grid pat-ing in uniform heating of all discharged air.

The 208 volt heaters can be converted from single to three phase operation. 277 volt single phase heater also available. The 5000 watt heater can be field converted to 3800 or 2500 watts. The 4000 watt heater is convertible to 3000 or 2000 watts. All heaters have automatic thermal cutout and reset, and built-in fan delay.

Surface Mounted Heaters are designed to mount flat on the ceiling and extend only six inches into the room. Louvers are adjustable to change directional air throw. 20L x 16½W x 5¾"D.

**Recessed Mounted Heaters** have no protrusions outside the recess box, allowing the heater to recess only seven inches into ceiling space. Mounts easily into standard 2 x 2 ceiling grids. Can mount into permanent ceiling with trim ring.



E37116

No. 3UF34

Every heater has spring clips to temporarily support heater section until mounting hardware is secured. Thumb pins then align and temporarily hold the enclosure cover to the heating section, freeing both hands to finish installation. QMark brand.

| Watts | MBtuH | Volts | Phase | Amps | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **SURFACE MOUNTED HEATERS** | | | | | | | | | |
| **4000/3000/2000** | 13.7/10.2/6.8 | 208 | 1-3 | 19.2/14.2/9.6 | CDF548SE | **3UF34** | $715.00 | **$548.00** | 38.0 |
| **4000/3000/2000** | 13.7/10.2/6.8 | 277 | 1 | 14.4/10.8/7.2 | CDF547SE | **3UF32** | 715.00 | **548.00** | 38.0 |
| **5000/3800/2500** | 17.1/13.0/8.5 | 208 | 1-3 | 24.0/18.3/12.0 | CDF558SE | **3UF38** | 786.24 | **602.50** | 37.0 |
| **5000/3800/2500** | 17.1/13.0/8.5 | 277 | 1 | 18.1/13.7/9.0 | CDF557SE | **3UF36** | 786.24 | **602.50** | 37.0 |
| **RECESSED MOUNTED HEATERS** | | | | | | | | | |
| **4000/3000/2000** | 13.7/10.2/6.8 | 208 | 1-3 | 19.2/14.2/9.6 | CDF548RE | **3UF33** | 714.95 | **548.50** | 45.0 |
| **4000/3000/2000** | 13.7/10.2/6.8 | 277 | 1 | 14.4/10.8/7.2 | CDF547RE | **3UF31** | 714.95 | **548.50** | 45.0 |
| **5000/3800/2500** | 17.1/13.0/8.5 | 208 | 1-3 | 24.0/18.3/12.0 | CDF558RE | **3UF37** | 786.19 | **602.50** | 45.0 |
| **5000/3800/2500** | 17.1/13.0/8.5 | 277 | 1 | 18.1/13.7/9.0 | CDF557RE | **3UF35** | 786.19 | **602.50** | 45.0 |
| **ACCESSORIES FOR HEATERS ABOVE** | | | | | | | | | |
| **it mount SPST Thermostat 45-90°F Range** | | | | | CDFT | **3UF40** | 65.15 | **53.75** | 1.0 |
| **wer Disconnect Switch, 3 pole, 30A, 600V, 3-Phase, 60Hz** | | | | | CDFDS | **3UF39** | 158.63 | **130.50** | 1.0 |
| **im-Ring for Mounting on Permanent Ceiling** | | | | | CDFTK | **3UF41** | 28.32 | **23.48** | 1.0 |
| **08/240V Primary Transformer, 24V Sec. and 24V Holding Coil Control Relay** | | | | | CDFTR4 | **3UF42** | 62.31 | **51.50** | 1.0 |
| **7V Primary Transformer, 24V Sec. and 24V Holding Coil Control Relay** | | | | | CDFTR7 | **3UF43** | 62.31 | **51.50** | 1.0 |
| **PST, 22A@ 120/240V; 18A@ 277 V Wall Mount Stat w/Positive Off, 45-75° F Range** | | | | | M602W | **3UG59** | 20.10 | **17.77** | 1.0 |

# DROP-IN, KICKSPACE, AND PUMP HOUSE HEATERS

## ELECTRIC FLOOR DROP-IN HEATER



No. 3UG09

E21609

Replacement Parts Available 1-800-323-0620

**Quiet, easy-to-install fan-forced electric heaters are** designed to provide a draft barrier for large window areas, sliding glass doors, entryways, hallways, open stairwells, and other problem areas. Produces a warm air flow pattern five feet wide, four feet above floor. Can also be used for supplementary heating in kitchens, bedrooms, recreation rooms, etc. **For floor mounting only.** Not for bathrooms. Push-on-tab wire terminals permit easy connection for desired wattage.

**Rugged, metal tube, finned, sheathed elements.** Easy-to-install unit mounts between joists, parallel or perpendicular. Heavy-gaug steel, duo directional grille has sanda wood baked enamel finish. **Thermal prote tor** prevents overheating due to obstruc tion of heater. Rough-in housing is 14⅛ 7¼", grille is 15¾ x 8¾". Units are 6⅝ deep. Heaters may be controlled by th built-in thermostat listed below. QMar brand.

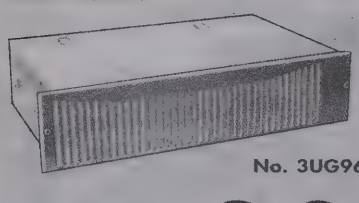
**BUILT-IN THERMOSTAT FOR HEATERS ABOV** Fast-acting, single pole thermostat kit. 5 145°F range. QMark model (FDITSP).

**No. 3UG11.** Shpg. wt. 3.0 lbs. List $59.3 Each ..... $47.8

### HEATER ORDERING DATA

| Watts | Volts | BtuH | Amps | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **750/1500** | 120 | 2560/5120 | 6.2/12.5 | FDI1500 | **3UG09** | $248.29 | **$167.25** | 15.0 |
| **562/1125**<br>**750/1500** | 208<br>240 | 1920/3840<br>2560/5120 | 2.7/5.4<br>3/1/6.2 | FDI1504 | **3UG10** | 248.29 | **167.25** | 15.0 |

## LOW PROFILE KICKSPACE HEATERS



No. 3UG96

E21609

Replacement Parts Available 1-800-323-0620

- **Multiple wattages in 120, 208, 240V**
- **Compact, slim-line design**
- **Quiet operation**

For heating applications where conventional heater placement is a problem. Fits in the kickspace/toe space of cabinets in kitchens, bathrooms, laundries, checkout counters, toll booths. Can also be easily installed in soffits 120 or 208/240V operation in 750 and 1500 watt units. Must be mounted in horizontal position.

Element has an automatic reset safety overheat protector; fan motor is thermally protected. Fan delay eliminates cold drafts, element heats up before fan cuts in.

Dimensions are 3½H x 14⅝W x 9" D; grill is 3⅝H x 15⅜"W.

Must be used with built-in thermostat No 3UG98 or a line voltage thermostat havin a rating of not less than 16.8 amps at 120 and 8.4 amps at 240V.

### BUILT-IN THERMOSTAT

For low profile heater sold above. Single pole thermostat kit, 55-145°F range mounts on right-hand side of heate QMark brand (QTSTSP).

**No. 3UG98.** Shpg. wt. 1.0 lbs. List $32.0 Each ..... $23.5

### HEATER ORDERING DATA

| Watts | Volts | BtuH | Amps | QMark Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|
| **1500/750** | 120 | 5120/2560 | 12.5/6.2 | QTS1500 | **3UG96** | $192.09 | **$130.20** | 18.0 |
| **1125/562**<br>**1500/750** | 208<br>240 | 3840/1920<br>5120/2560 | 5.4/2.7<br>6.2/3.1 | QTS1504 | **3UG97** | 192.09 | **130.20** | 11.0 |

## ELECTRIC PUMP HOUSE HEATERS

- **Provides automatic 24-hour protection**
- **Ideal for remote locations**
- **Thermostat accurately senses surrounding air for quick response. 40 to 100°F range**

**Install this unit where heat is needed** to prevent pipes, pumps and other water, hydraulic fluid or oil-filled equipment from freezing. Built-in thermostat controls warm air naturally convected to the desired area—no fans, motors, or other moving parts. Fast discharge of warm air prolongs element life.

Heavy-gauge steel housing with baked enamel finish. Built-in thermal cutout protects against overheating. Built-in mounting brackets. QMark brand.



No. 3UH18

E21609

Replacement Parts Available 1-800-323-0620

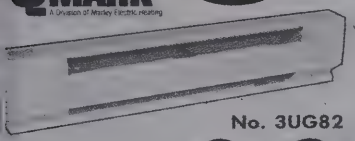
### HEATER ORDERING DATA

| Watts | Volts* | BtuH | Amps | Dimensions (in.) L | H | D | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **500** | 120/240 | 1706 | 4.2/2.0 | 20 | 5 | 4 | WHT500 | **3UH18** | $130.06 | **$95.95** | 7.0 |

(*) Factory wired at 240 volts; field convertible to 120 volts.

# ELECTRIC BASEBOARD HEATERS

QMARK A Division of Marley Electric Heating — New



No. 3UG82

E37116

Replacement Parts Available
1-800-323-0620

- **Easy to install without disassembly**
- **Built-in cable clamps for ease of field wiring**
- **Designed for quiet operation**

For use in residential construction such as single family homes, apartments, modular or mobile homes as well as commercial, industrial and institutional construction.

Constructed of precision formed, pre-painted cold-roll steel. Aluminum finned, steel tubular heating element is suspended in heater for quiet operation. Lead wires and multiple knockouts at each end allow for quick connection at either end. Ground wire pigtails and built-in cable clamp provided in each junction box. Mounting holes across the back of each unit for ease of installation to studs without drilling.

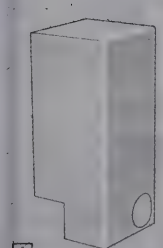
All units are 6¾" H, 2⅞" D at the top, 1¾" D at the bottom. UL and C-UL Listed (E37116) for installation on wall at floor level with wall-to-wall carpeting. Heaters stand unsupported during installation. Color is Northern white. QMark brand.

## HEATER SPECIFICATIONS AND ORDERING DATA

| gth .) | BtuH | Total Watts | Watts Per Ft. | Amps | Volts | Q-Mark Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1706/1283 | 500/376 | 200 | 2.1/1.8 | 240/208 | QMK2542-6NW | | **3UG82** | $39.95 | **$29.60** | 6.3 |
| 6 | 2560/1925 | 750/564 | 250 | 3.1/2.7 | 240/208 | QMK2543NW | | **3UG83** | 47.21 | **34.95** | 7.5 |
| 8 | 3413/2567 | 1000/752 | 250 | 4.2/3.6 | 240/208 | QMK2544NW | | **3UG84** | 57.37 | **42.65** | 10.0 |
| 0 | 4266/3208 | 1250/940 | 250 | 5.2/4.5 | 240/208 | QMK2545NW | | **3UG85** | 67.54 | **50.00** | 12.0 |
| 2 | 5120/3850 | 1500/1128 | 250 | 6.3/5.4 | 240/208 | QMK2546NW | | **3UG86** | 79.16 | **58.80** | 14.0 |
| 6 | 6826/5133 | 2000/1504 | 250 | 8.3/7.2 | 240/208 | QMK2548NW | | **3UG87** | 98.04 | **73.00** | 19.0 |
| 6 | 8532/6143 | 2500/2800 | 313 | 10.4/8.7 | 240/208 | QMK25408NW | *New* | **4TM76** | 146.27 | **89.60** | 19.0 |
| 0 | 1706 | 500 | 200 | 4.2 | 120 | QMK25126NW | | **3UG76** | 39.95 | **29.60** | 6.3 |
| 6 | 2560 | 750 | 250 | 6.3 | 120 | QMK2513NW | | **3UG77** | 47.21 | **34.95** | 7.5 |
| 8 | 3413 | 1000 | 250 | 8.3 | 120 | QMK2514NW | | **3UG78** | 57.37 | **42.65** | 10.0 |
| 0 | 4266 | 1250 | 250 | 10.4 | 120 | QMK2515NW | | **3UG79** | 67.54 | **50.00** | 12.0 |
| 2 | 5120 | 1500 | 250 | 12.5 | 120 | QMK2516NW | | **3UG80** | 79.16 | **58.80** | 14.0 |

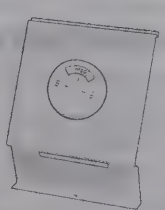
# ACCESSORIES FOR QMARK BASEBOARD HEATERS

QMARK A Division of Marley Electric Heating

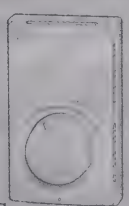


E37114

A



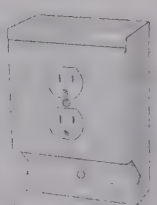
B



C

E53285

LR27080
(No. 3UH07 only)



D

E37114

**nside Corner Section**
**No. 3UG88**

**Unit Mount Thermostat**
**No. 3UG90**

**Wall Mount Thermostat**
**No. 3UH07**

**Duplex Receptacle**
**No. 3UG89**

### INSIDE CORNER SECTION

ns separate heater units at inside corner of wall. Color is ite. UL and C-UL Listed (E37114). QMark brand (QMKICANW).

**3UG88.** Shpg. wt. 1.0 lbs. List $14.01. Each.....**$11.16**

### UNIT-MOUNT THERMOSTAT

netal integral type thermostat comes with junction box cover easy installation and wiring. Rated 22 amps @ 120-277 volts. mperature range 40-100°F. UL and C-UL Listed (E37114).

**3UG90.** Thermostat with S.P. snap action. Q-Mark brand MKTA1ANW). Shpg. wt. 1.0 lbs. List $19.34. Each.....**$15.32**

**3UG91.** Thermostat with D.P. snap action. Q-Mark brand MKTA2ANW). Shpg. wt. 1.0 lbs. List $25.58. Each.....**$20.19**

### C WALL THERMOSTATS

Snap action, bimetal line voltage type. Temperature range 50-90°F. 22 amps @ 120/240 volts. 18 amps @ 277 volts. UL Listed (E53285); No. 3UH07 only is CSA Certified (LR27080).

**No. 3UH07.** Single pole, snap action. Q-Mark brand (MS26). Shpg. wt. 0.6 lbs. List $13.09. Each.....**$9.41**

**No. 3UF74.** Double pole, snap action. Q-Mark brand (MD26). Shpg. wt. 0.6 lbs. List $17.97. Each.....**$13.94**

### D 120 VOLT DUPLEX RECEPTACLE

Dual 120V outlets. Easily installs within junction box at either end of heater. UL and C-UL Listed (E37114). QMark brand (QMKRA1NW).

**No. 3UG89.** Shpg. wt. 0.7 lbs. List $16.14. Each.....**$12.82**

# ELECTRIC HYDRONIC AND SLOPE TOP BASEBOARD HEATERS

## HYDRONIC BASEBOARD HEATERS

- **Clean, quiet operation without the noise of a traditional hot water piping system**
- **No-maintenance sealed system—nothing to fill or replace, liquid solution is permanently sealed**
- **Safe. Low surface temperatures; high-temperature shutoff protection**

For heating of bedrooms, game rooms, family rooms and other areas in homes, apartments, condos and offices. Low profile design and off-white color blends with any decor.

Sheathed electric heating element is completely submerged in heat transfer fluid, totally sealed in a copper tube spanning the length of the heater. Heat transfers evenly across the entire length of heater. Even after the thermostat is off, soft warmth continues to radiate because of maximum heat retention of the hydronic element.

Just three inches deep, heaters mount flush to wall and flat on wood, tile or carpet. Large wiring compartment is accessible from either end or front, enabling easy, rapid hookup. High-impact Lexan® and heavy-gauge steel unitized body resists dents and scratches for long cabinet life. Dimensions are 8⅜ H x 3" D, 240 VAC.

End cap with double-pole thermostat (No. 3UG32 sold separately) is designed to mount easily at either end of the heater. QMark brand.

QMARK
A Division of Marley Electric Heating



E37116

**Replacement Parts Available**
**1-800-323-0620**

**10 YEAR LIMITED WARRANTY**
**QMark warrants the heater element and tube assembly for 10 years. See Manufacturer's Warranties on page opposite inside back cover.**

### HYDRONIC BASEBOARD HEATER SPECIFICATIONS AND ORDERING DATA

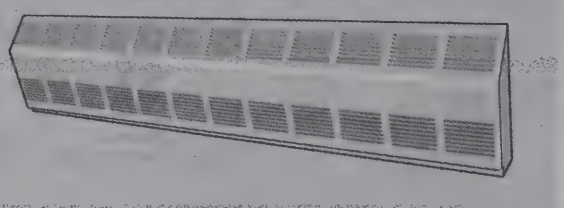
| Length (In.) | Total Watts | BtuH | Volts | Line Amps | QMark Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **28** | 500/375 | 1707/1280 | 240/208 | 2.1/1.8 | HBB504 | **3UG30** | $177.37 | **$136.55** | 10.0 |
| **34** | 750/562 | 2560/1918 | 240/208 | 3.1/2.7 | HBB754 | **3UG31** | 205.52 | **158.75** | 12.0 |
| **46** | 1000/750 | 3413/2560 | 240/208 | 4.2/3.1 | HBB1004 | **3UG27** | 225.22 | **174.25** | 15.0 |
| **70** | 1500/1125 | 5120/3840 | 240/208 | 6.3/5.4 | HBB1504 | **3UG28** | 281.52 | **218.75** | 22.0 |
| **94** | 2000/1500 | 6826/5120 | 240/208 | 8.3/6.3 | HBB2004 | **3UG29** | 323.73 | **252.25** | 30.0 |

### THERMOSTAT FOR HEATERS ABOVE

| Type | Mfr. | Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **End cap w/double pole thermostat** | QMark | HBBT2 | **3UG32** | $42.48 | **$35.15** | 1.0 |

## HEAVY-DUTY SLOPE TOP BASEBOARD HEATERS

E37116



**Replacement Parts Available**
**1-800-323-0620**

QMARK
A Division of Marley Electric Heating

Ruggedly designed for heavy-duty use i schools, offices, institutions, motels, apar ments and special residential application 16 gauge steel cover, white baked on enan el finish. Front cover design incorporates sloped top which prevents objects bein placed on the unit.

240/208 VAC operation. Single phase oper tion only; must be controlled by option built-in thermostat (No. 3UH14) or remot wall-mounted thermostat (sold separately

Mounts directly to the floor and carpetin can be brought up to the front of the uni Mounting holes are conveniently locate on the back of the unit for quick, easy fas tening to the wall. Thermal limit switc with linear type, full length, sensing bul provides constant protection against ove heating and automatically resets when no mal operating temperatures are restored.

### HEATER SPECIFICATIONS AND ORDERING DATA

| Length (In.) | Total Watts | BtuH | Volts | Line Amps | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **28** | 500/375 | 1707/1280 | 240/208 | 2.1/1.8 | STO2250241 | **3UH08** | $238.91 | **$184.00** | 17.0 |
| **35** | 750/562 | 2560/1918 | 240/208 | 3.1/2.7 | STO3250241 | **3UH09** | 270.23 | **208.25** | 21.0 |
| **47** | 1000/750 | 3413/2560 | 240/208 | 4.2/3.1 | STO4250241 | **3UH10** | 292.50 | **226.75** | 28.0 |
| **70** | 1500/1125 | 5120/3840 | 240/208 | 6.3/5.4 | STO6250241 | **3UH11** | 347.67 | **271.25** | 42.0 |
| **94** | 2000/1500 | 6826/5120 | 240/208 | 8.3/6.3 | STO8250241 | **3UH12** | 452.18 | **353.00** | 56.0 |
| **120** | 2500/1875 | 8533/6399 | 240/208 | 10.4/9.1 | ST10250241 | **3UH13** | 456.89 | **359.75** | 56.0 |

### ACCESSORIES FOR SLOPE-TOP BASEBOARD HEATERS

| Description | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Splice Plate for Joining Pieces** | STSP | **3UH17** | $64.33 | **$48.90** | 1.0 |
| **Inside Corner** | STIC | **3UH15** | 215.84 | **164.00** | 4.0 |
| **Outside Corner** | STOC | **3UH16** | 215.84 | **164.00** | 4.0 |
| **2-Pole Built-In Thermostat** | ST2T | **3UH14** | 211.77 | **160.75** | 2.0 |

**QMARK LIMITED WARRANTY**
**Heater element warranted for 10-years. See Manufacturer's Warranties on page opposite inside back cover.**

# HAZARDOUS LOCATION ELECTRIC CONVECTION HEATERS

QMARK A Division of Murray Electric Heating

CSA LR11895



Factory Mutual System Approved

FREE DELIVERY on orders of $900 or more

See Freight Policy

Replacement Parts Available 1-800-323-0620

No. 3UG34

**Certified for use in Class 1, Groups B, C and D, Division 1 and 2 atmosphere having ignition temperature code ratings down to 392°F (200°C, T3)**

- **Sloped top cabinet prevents objects from being set on top and restricting airflow**
- **Easily mounted with brackets provided for wall installation**
- **Heavy gauge steel with epoxy paint finish for excellent corrosion resistance**

esigned for typical applications involving petroleum refineries nd gasoline storage and dispensing areas, industrial firms that se flammable liquids in dip tanks for parts cleaning, petrochem-al companies manufacturing chemicals, dry cleaning plants, tility and natural gas plants, aircraft hangers, fueling areas, and any other hazardous areas covered by these classifications.

built-in automatic reset thermal limit for overtemperature pro-ection. Contactors, where required, will be supplied by cus-omer. Can be operated by a non explosion-resistant thermostat the stat is in an area remote from the hazardous location.

**Element**—High quality, long-life finned tubular elements with high grade resistance wire embedded in MGO, centered in a heavy gauge diameter sheath with 1⅛"diameter fins.

**Terminal Box**—Explosion proof stainless steel terminal box included, with provision for rigid metallic conduit entry and ease of wiring.

**Clearance**—Must be installed a minimum of 8" from the floor to provide sufficient area for air flow into the bottom of the heater.

## HAZARDOUS LOCATION ELECTRIC CONVECTION HEATERS

| Voltage | Output BtuH | Wattage | Phase | Amps | Number of Elements | Cabinet Size H x L x D (In.) | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T3 Temperature Rating (392° F)** | | | | | | | | | | | |
| **208** | 6140 | 1800 | 1 | 8.7 | 3 | 23 x 39 x 8 | ICG18081A-N | **3UG34** | $1258.26 | **$973.50** | 75.0 |
| **240** | 6140 | 1800 | 1 | 7.5 | 3 | 23 x 39 x 8 | ICG18041A-N | **3UG33** | 1258.26 | **973.50** | 75.0 |
| **T2A Temperature Rating (536° F)** | | | | | | | | | | | |
| **208** | 12,280 | 3600 | 1 | 17.4 | 3 | 23 x 39 x 8 | ICG36081A-N | **3UG37** | 1687.37 | **1305.00** | 75.0 |
| **240** | 12,280 | 3600 | 1 | 15.0 | 3 | 23 x 39 x 8 | ICG36041A-N | **3UG35** | 1687.37 | **1305.00** | 75.0 |
| **480** | 12,280 | 3600 | 3 | 4.4 | 3 | 23 x 39 x 8 | ICG360483A-N | **3UG36** | 1687.37 | **1305.00** | 75.0 |
| **T2 Temperature Rating (572° F)** | | | | | | | | | | | |
| **480** | 25,590 | 7500 | 3 | 9.1 | 3 | 23 x 67.5 x 8 | ICG750483A-N | **3UG38** | 2587.80 | **1981.00** | 117.0 |

## NATIONAL ELECTRICAL CODE CLASSIFICATIONS FOR HAZARDOUS LOCATIONS

bbreviated descriptions of Classes, Groups and Divisions. efore selecting any heater for a particular application, refer to rticle 500 of the National Electrical Code (NEC) as well as ational Fire Prevention Association and ANSI standards for fur-ier information.

### Class I

quipment does not have surface operating temperature in xcess of the ignition temperature of the specific gas or vapor.

### Class II

quipment does not have surface temperature greater than the nition temperature of the specified dust.

### Group B

tmospheres such as but not limited to acrolein (inhibited) (2), rsine, butadiene (1), ethylene oxide (2), hydrogen, manufac-red gases containing more than 30% hydrogen (by volume), ropylene oxide (2) and propylnitrate.

### Group C

tmospheres such as but not limited to acetaldehyde, allyl alco-ol, n-butyraldehyde, carbon monoxide, crotonaldehyde, cyclo-ropane, diethyl ether, diethylamine, epichlorohydrin, ethylene, thylenimine, ethyl mercaptan, ethyl sulphide, hydrogen cyanide, ydrogen sulfide, morpholine, 2-nitropropane, tetrahydrofuran nd unsymmetrical dimethyl hydrazine.

### Group D

Atmospheres such as but not limited to acetone, alcohol, gasoline, lacquer solvent vapors, natural gas, propane or other gases or vapors of equivalent hazard.

### Group E

Atmospheres containing combustible metal dust regardless of resistivity, or other combustible dust of similar hazard characteristics having resistivity of less than $10^5$ OHM-Centimeter.

### Group F

Atmospheres containing black, charcoal, coal, or coke dust.

### Group G

Atmospheres containing combustible dust having resistivity of $10^5$ OHM-Centimeter or greater.

### Division I

A location in which ignitable concentrations of flammable material exist under normal operating conditions.

### Division II

Locations in which flammable materials will normally be confined within closed containers and escape only in the case of accidental rupture, breakdown or during maintenance operations. Any equipment approved for Division I is automatically also approved for Division II.

# HAZARDOUS LOCATION AND CORROSION RESISTANT UNIT HEATERS

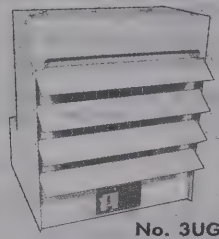
## HAZARDOUS LOCATION UNIT HEATERS

QMARK A Division of Marley Electric Heating

FREE DELIVERY on orders of $900 or more See Freight Policy

CSP LR11895

Factory Mutual System Approved



No. 3UG24

**HEAT EXCHANGER**—Advanced design allows lower operating temperatures from the liquid to air heat exhanger with steel tubes, aluminum fins, a non-toxic heat transfer fluid, and a 70PSIG relief valve.

**CONTROLS**—Prewired, self-contained control center. Standard controls include dual (redundant) automatic reset thermal limit, a magnetic contactor, and 24 volt control circuit.

**FAN & MOTOR**—Ball bearing permanently lubricated explosion resistant motor has built-in thermal overload protection.

**CABINET**—Epoxy coated heavy gauge steel cabinet surrounds a 14 gauge heavy duty steel frame which supports internal components.

Designed to heat areas classified as ha ardous locations designated as Class Group C and D or Class II, Groups F and Divisions 1 & 2, with a T3C ignition ter perature code rating (320°F, 160°C) to pr vide primary or supplementary heating f comfort or freeze protection. Typic applications include oil refineries, sewag treatment plants, petrochemical plants, c rigs, unattended pumping stations, chen cal storage and handling facilities, pai storage areas, and countless other ha ardous areas covered by these classific tions.

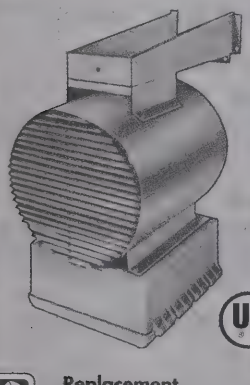
### HEATER SPECIFICATIONS AND ORDERING DATA

| Voltage | Wattage (KW) | Output BtuH | Phase | Total Amps | Dimensions (In.) L | H | D | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **480** | 3.0 | 10,236 | 3 | 4.8 | 21 | 25 | 21¾ | GUX3004832 | **3UG24** | $4760.83 | **$3894.00** | 190.0 |
| **480** | 5.0 | 17,060 | 3 | 7.3 | 21 | 25 | 21¾ | GUX5004832 | **3UG25** | 5012.81 | **4098.00** | 190.0 |
| **480** | 7.5 | 25,590 | 3 | 10.4 | 21 | 25 | 21¾ | GUX7504832 | **3UG26** | 5240.56 | **4279.00** | 190.0 |
| **480** | 10.0 | 34,120 | 3 | 13.5 | 21 | 25 | 21¾ | GUX10004832 | **3UG21** | 5416.59 | **4408.00** | 190.0 |
| **480** | 15.0 | 51,180 | 3 | 19.4 | 24¼ | 29 | 22¾ | GUX15004832 | **3UG22** | 5710.35 | **4671.00** | 225.0 |
| **480** | 20.0 | 68,240 | 3 | 25.9 | 24¼ | 29 | 22¾ | GUX20004832 | **3UG23** | 6034.45 | **4930.00** | 225.0 |

## WASHDOWN CORROSION RESISTANT UNIT HEATERS

QMARK A Division of Marley Electric Heating

FREE DELIVERY on orders of $900 or more See Freight Policy



No. 3UG43

UL E21609

Replacement Parts Available 1-800-323-0620

**ELEMENTS:**

High-quality, long life, type 304 stainless steel finned tubular elements with stainless steel threaded fittings for watertight seal between elements and junction box.

**MOTOR:**

Totally enclosed, permanently lubricated, ball bearing type, epoxy painted. Wired to a NEMA 4X enclosure.

**FAN:**

Dependable air flow from an epoxy coated aluminum fan, blade suitable for wet and corrosive areas.

**CASE, BRACKET AND HARDWARE:**

Heavy gauge stainless steel. Bracket for wall or ceiling mounting.

**GRILLES:**

Adjustable stainless steel louvered outlet grille can be rotated 90° to direct air flow up, down, left, or right. Heavy gauge plated rear grille protects against accidental contact with fan blade.

**JUNCTION BOX AND CONTROL ENCLOSURE:**

NEMA-4X rated junction box. Non-metall enclosure for element terminals and buil in controls meets NEMA-4X hose dow requirements.

**CONTROLS:**

Power contactor, motor contactor (heate over 12KW), fan delay relay, automat over temperature cutout, transformer f 24V control circuit.

**APPLICATIONS:**

Ideal for comfort heating or freeze prote tion in non-hazardous dusty/dirty enviro ments including: waste water treatme plants, coal handling areas, food proces ing plants, foundries, steel mills, cemer plants, car washes, swimming pool area canneries and dairies. This unit offers bot corrosion protection in harsh enviro ments and the ability to be hosed down f cleaning. QMark brand.

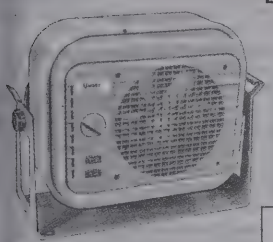
### HEATER SPECIFICATIONS AND ORDERING DATA

| Voltage | Output BtuH | Wattage (KW) | Phase | Total Amps | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **480** | 17,060 | 5.0 | 3 | 10.0 | JUW500483 | **3UG43** | $2364.46 | **$1979.00** | 70.0 |
| **480** | 25,590 | 7.5 | 3 | 13.0 | JUW750483 | **3UG44** | 2592.32 | **2171.00** | 70.0 |
| **480** | 34,120 | 10.0 | 3 | 16.0 | JUW1000483 | **3UG39** | 2820.20 | **2363.00** | 70.0 |
| **480** | 51,180 | 15.0 | 3 | 21.0 | JUW1500483 | **3UG40** | 3449.33 | **2896.00** | 140.0 |
| **480** | 68,240 | 20.0 | 3 | 27.0 | JUW2000483 | **3UG41** | 3564.59 | **3002.00** | 140.0 |
| **480** | 85,300 | 25.0 | 3 | 33.0 | JUW2500483 | **3UG42** | 4916.39 | **4122.00** | 140.0 |

# ELECTRIC UTILITY HEATERS

QMARK

E21609



Replacement Parts Available 1-800-323-0620

Plug Type 6-30P

## ELECTRIC UTILITY HEATER

- **Built-in thermostat, Hi-Lo heat selector and Fan Only switch**
- **Steel sheathed tube-type heating element with aluminum fins**
- **Compact, lightweight**
- **Quiet high velocity fan with totally enclosed, permanently lubricated motor**

**Ideal as primary, supplementary, spot or dual** system heating, such as construction sites and garages. Choice of 2.5 or 5KW, 8532 or 17,065 BtuH, and usable on 208, 220, or 240 volt systems. Pull through design draws ambient temperature air across elements for low element operating temperature and maximum life.

**Rugged high temperature polycarbonate grille** is styled with closely spaced webs for safety and greater air throw; low heat transfer rate makes grille safe to touch even on high heat setting. Heater can be ceiling or wall mounted at any angle, using predrilled 16" O.C. mounting holes. Three-way bracket enables heater to stand freely on floor, or to be carried by the handles. Heater can be easily converted to portable use by installing optional cord set listed below. Dimensions with bracket are 22H x 9.7W x 18.3"D. Meets all UL, CUL, NEC, and OSHA requirements. UL listed (E21609). QMark brand.

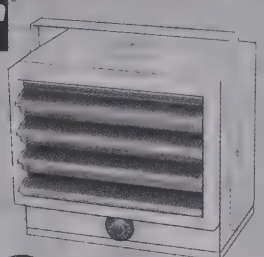
### OPTIONAL 6 FT. CORD SET

Converts heater No. 4E169 to portable heater. 30 Amp, 250V, NEMA No. 6-30P.

**No. 4E170.** Shpg. wt. 1.8 lbs. List ..... $46.28
Each ..... **$37.30**

| KW Range High / Low | BtuH | Volts | Amps | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3.7 / 2.5<br>5.0 / 3.3 | 12,628–8532<br>17,065–11,263 | 208<br>240 | 17.8 / 12.0<br>20.8 / 13.8 | PH-5HW | **4E169** | $440.26 | **$301.50** | 25.0 |

Dayton



No. 3UG73

E154218

## ELECTRIC UTILITY HEATERS

- **Horizontal and downflow in one unit**
- **Ceiling-mount bracket included**
- **Built-in thermostat, rugged plate fin element**
- **Automatic fan delay control**
- **High limit thermal cutout automatically shuts off heater in the event of overheating**

For primary or supplemental heating in factories, stores, garages, warehouses, public buildings, service stations, stockrooms, basements, toll booths, workshops, any large exposed areas or additions. Neutral gray baked enamel finish with contrasting bronze brown adjustable louvers. 208 and 240V models with multiple wattage, 12½ H x 14 W x 11¼" D, not including bracket.

### ELECTRIC UTILITY HEATERS

| KW | BtuH | Volts 60Hz. | Line Amps | Fan CFM | Temp. Rise (°F) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **5/4.1/3.3/2.5** | 17.1/14.0/11.3/8.5 | 240 | 20.8/17.1/13.8/10.4 | 270 | 60 | **3UG73** | $384.25 | **$259.00** | 25.0 |
| **3.7/3.1/2.5/1.8** | 12.6/10.6/8.5/6.1 | 208 | 17.8/14.9/10.4/8.7 | | | | | | |
| **5/4.1/3.3/2.5** | 17.1/14.0/11.3/8.5 | 208 | 20.8/17.1/13.8/10.4 | 270 | 60 | **3UG74** | 384.25 | **259.00** | 25.0 |

## QMARK UNIT HEATER ACCESSORIES (SEE PAGE 3396)

**Downblow Louver Diffusers** permit straight line air flow. Rectangular coverage. Can be turned in either direction. QMark brand (MLD-S, MLD-M).

| Fit KW | Max. Mtg. Ht. (Ft.) | Dif. Open. (Ft.) W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1, 5 | 9 | 25 | 12 | 2E589 | $102.02 | **$78.80** | 5.0 |
| 7.5, 10<br>15 | 14<br>18 | 39<br>50 | 19<br>25 | 2E590 | 107.19 | **83.00** | 6.6 |

**Downblow Radial Diffusers** increase floor coverage. Adjustable fins, in vertical mode, direct downward in tight pattern; at 45° angle, give up to 25% greater floor coverage, at relatively low mounting heights. QMark brand (MRD-S, MRD-M).

| Fit KW | Max. Mtg. Ht. (Ft.) | Dif. Open Dia. (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1, 5 | 9 | 20 | 2E591 | $92.59 | **$71.50** | 3.4 |
| 7.5, 10<br>15 | 14<br>18 | 31<br>40 | 2E592 | 106.29 | **82.20** | 4.7 |

Built-in SPST Thermostat for unit heaters. Temp. range: 40-85°F. Voltage: 120-240. QMark brand (MT-1).

**No. 2E569.** Shpg. wt. 0.6 lbs. List ..... $82.09.
Each ..... **$61.80**

Wall-Mount SPST Thermostat for 3 and 5KW QMark unit heaters. 1-Ph models. Temp range: 36-90°F. Voltage: 120-240. White-Rodgers brand.

**No. 2E347.** Shpg. wt. 0.7 lbs. List ..... $91.85
Each ..... **$41.55**

Wall-Mount SPST and DPST Thermostats for Dayton unit heaters. Temp. range: 40-100°F. NEMA 4X enclosures.

**No. 3UH19.** (SPST). Shpg. wt. 2.0 lbs.
List ..... $98.76.
Each ..... **$69.85**

**No. 3UH20.** (DSPT). Shpg. wt. 1.3 lbs.
List ..... $123.32.
Each ..... **$87.10**

**Wall-Mount SPST Thermostat** for all other models. **Temp range:** 40-90°F. **Voltage:** 24. Honeywell brand.

**No. 2E096.** Shpg. wt. 0.3 lbs. List ..... $45.60.
Each ..... **$22.97**

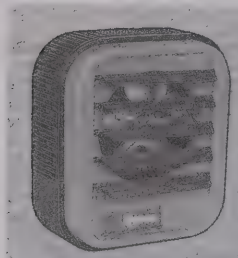
**SPDT Heat Recovery Thermostat.** Controls fan only to move stratified warm air. Use in addition to built-in or wall-mount thermostats. For all QMark and Dayton unit heaters. **Temp range:** 60-120°F. **Voltage:** 24-277VAC. QMark brand (MHRT).

**No. 3UG63.** Shpg. wt. 1.0 lbs. List ..... $111.83.
Each ..... **$71.60**

**Mounting Brackets** for horizontal-blow mounting (only), on wall or ceiling. Heater mount adjustable to allow control of air direction. QMark brand.

| Use With | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3, 5, 7.5, 10 KW | MMB-10 | 6X966 | $66.97 | **$52.20** | 8.0 |
| 15 KW | MMB-20 | 6X967 | 79.14 | **62.85** | 10.0 |

# ELECTRIC UNIT HEATERS AND ACCESSORIES



E21609

**Refer to Terminology and Technical Data Section for Determining Heat Requirements.**

**Steel sheathed tube type heating elements** with aluminum fins for faster heat dissipation. Widely spaced to resist dirt clogging. 24V contactors on all models except 3 and 5 KW, 208 and 240V units, which have contactors with line voltage holding coils. Select proper duty controls on facing page 3395.

**Pull-through design** draws air across heating element for more uniform air distribution.

**Die-formed steel housing,** two-tone neutral gray/statuary bronze finish.

**Automatic reset linear thermal cut-out** shuts off power to element overheating occurs. Fan delay feature eliminates cold drafts; el ments heat up before fan cuts in, fan continues to distribute he after elements shut off.

**Quiet, dynamically balanced fans;** totally enclosed, permanent lubricated fan motors, with automatic-reset thermal protectio and vibration isolators. Motors are same voltage as heaters.

**Individually adjustable louvers** for directing air flow; choice optional diffusers for heat concentration and coverage whe units are used in vertical position; see listing on facing pa 3395.

**Versatile units** can be mounted vertically or horizontally in fact ries, warehouses, garages, stores, shipping rooms, power st tions, and aircraft hangars, as primary, supplementary, spot dual-system heating. Completely self-contained; easy to install.

**Rugged construction** for long life; minimum maintenance.

**Mount on wall, ceiling or building support** members. All units ha recessed fasteners for suspension mounting using 5/16-18 threa ed rods (not supplied). Optional wall/ceiling brackets simpli mounting, see listing on facing page 3395.

**Meets UL and Canadian UL, NEC and OSHA requirements.** QMa brand.

**Heater controlled by thermostat,** see below.

## UNIT HEATER SPECIFICATIONS AND ORDERING DATA

| Volts 60 Hz | Phase* | Amps Per Ph. | Fan CFM | Horiz. Air Throw (Ft.) | Vert. Mtg. Ht.† (Ft.) | Vert. Floor Coverage† (Ft.) | Temp. Rise (°F) | Dimensions (In.) H | W | D | QMark Model | Stock No. | List | Each | Shp W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3KW, 10,239 BtuH MODELS** | | | | | | | | | | | | | | | |
| **208** | 1 | 14.5 | 350 | 12 | 9 | 18 | 27 | 16 | 14 | 7½ | MUH-03-81 | **4E297** | $414.31 | **$284.50** | 25. |
| **208 / 240** | 1 | 11.0 / 12.5 | 350 | 12 | 9 | 18 | 27 | 16 | 14 | 7½ | MUH-03-21 | **4E298** | 414.31 | **284.50** | 25. |
| **480** | 3 | 3.6 | 350 | 12 | 9 | 18 | 27 | 16 | 14 | 7½ | MUH-03-41 | **4E299** | 569.99 | **390.00** | 25. |
| **5KW, 17,065 BtuH MODELS** | | | | | | | | | | | | | | | |
| **208** | 1-3 | 24-14 | 350 | 12 | 9 | 18 | 45 | 16 | 14 | 7½ | MUH-05-81MG | **2E580** | 484.53 | **332.50** | 25. |
| **208 / 240‡** | 1-3 | 21-12 | 350 | 12 | 9 | 18 | 45 | 16 | 14 | 7½ | MUH-05-21MG | **2E581** | 484.53 | **332.50** | 25. |
| **480** | 3 | 6 | 350 | 12 | 9 | 18 | 45 | 16 | 14 | 7½ | MUH-05-41 | **2E582** | 619.16 | **424.00** | 29. |
| **7.5KW, 23,891 BtuH MODELS** | | | | | | | | | | | | | | | |
| **208** | 1-3 | 36-21 | 650 | 18 | 14 | 26 | 37 | 21¾ | 19 | 7½ | MUH-07-8 | **2E583** | 667.38 | **457.75** | 40. |
| **208 / 240‡** | 1-3 | 31-18 | 650 | 18 | 14 | 26 | 37 | 21¾ | 19 | 7½ | MUH-07-2 | **2E584** | 667.38 | **457.75** | 40. |
| **480** | 3 | 9 | 650 | 18 | 14 | 26 | 37 | 21¾ | 19 | 7½ | MUH-07-4 | **2E585** | 773.24 | **529.50** | 40. |
| **10KW, 34,130 BtuH MODELS** | | | | | | | | | | | | | | | |
| **208** | 1-3 | 48-28 | 650 | 18 | 14 | 26 | 49 | 21¾ | 19 | 7½ | MUH-10-8 | **2E586** | 717.80 | **491.75** | 40. |
| **208 / 240‡** | 1-3 | 42-24 | 650 | 18 | 14 | 26 | 49 | 21¾ | 19 | 7½ | MUH-10-2 | **2E587** | 717.95 | **491.75** | 40. |
| **480** | 3 | 12 | 650 | 18 | 14 | 26 | 49 | 21¾ | 19 | 7½ | MUH-10-4 | **2E588** | 801.43 | **548.50** | 40. |
| **15KW, 51,195 BtuH MODELS** | | | | | | | | | | | | | | | |
| **208** | 1-3 | 72-42 | 910 | 35 | 20 | 35 | 52 | 21¾ | 19 | 12¾ | MUH-15-8 | **3E307** | 1183.97 | **811.00** | 55. |
| **208 / 240‡** | 3 | 36 | 910 | 35 | 20 | 35 | 52 | 21¾ | 19 | 12¾ | MUH-15-2 | **3E308** | 1183.97 | **811.00** | 55. |
| **480** | 3 | 18 | 910 | 35 | 20 | 35 | 52 | 21¾ | 19 | 12¾ | MUH-15-4 | **3E309** | 1297.15 | **887.50** | 52. |

(*) Dual-rated models are field convertible. (†) Dia. of area covered, without optional diffuser (see below). (‡) Operation on 208V will result in 25% lower BtuH.

## QMARK UNIT HEATER ACCESSORY SELECTION GUIDE

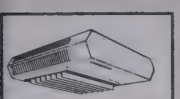
| Stock No. | QMark Model | Contactor Coil Voltage | Thermostat: Built In | Thermostat: Wall Mount | Thermostat: Heat Recovery | Mounting Bracket | Diffuser: Louver | Diffuser: Radia |
|---|---|---|---|---|---|---|---|---|
| 4E297 | MUH03-81 | — | 2E569 | 5E266 | 3UG63 | 6X966 | 2E589 | 2E59 |
| 4E298 | MUH03-21 | — | 2E569 | 5E266 | 3UG63 | 6X966 | 2E589 | 2E59 |
| 4E299 | MUH03-41 | 24 | 2E569 | 2E347 | 3UG63 | 6X966 | 2E589 | 2E59 |
| 2E580 | MUH05-81MG | 208 | 2E569 | 2E347 | 3UG63 | 6X966 | 2E589 | 2E59 |
| 2E581 | MUH05-21MG | 208-240 | 2E569 | 2E347 | 3UG63 | 6X966 | 2E589 | 2E59 |
| 2E582 | MUH05-41 | 24 | 2E569 | 2E096 | 3UG63 | 6X966 | 2E589 | 2E59 |
| 2E583 | MUH07-8 | 24 | 2E569 | 2E096 | 3UG63 | 6X966 | 2E590 | 2E59 |
| 2E584 | MUH07-2 | 24 | 2E569 | 2E096 | 3UG63 | 6X966 | 2E590 | 2E59 |
| 2E585 | MUH07-4 | 24 | 2E569 | 2E096 | 3UG63 | 6X966 | 2E590 | 2E59 |
| 2E586 | MUH10-8 | 24 | 2E569 | 2E096 | 3UG63 | 6X966 | 2E590 | 2E59 |
| 2E587 | MUH10-2 | 24 | 2E569 | 2E096 | 3UG63 | 6X966 | 2E590 | 2E59 |
| 2E588 | MUH10-4 | 24 | 2E569 | 2E096 | 3UG63 | 6X966 | 2E590 | 2E59 |
| 3E307 | MUH15-8 | 24 | 2E569 | 2E096 | 3UG63 | 6X967 | 2E590 | 2E59 |
| 3E308 | MUH15-2 | 24 | 2E569 | 2E096 | 3UG63 | 6X967 | 2E590 | 2E59 |
| 3E309 | MUH15-4 | 24 | 2E569 | 2E096 | 3UG63 | 6X967 | 2E590 | 2E59 |

FOR REPLACEMENT PARTS—SEE PAGE A2 IN FRONT OF CATALOG

Replacement Parts Available 1-800-323-0620

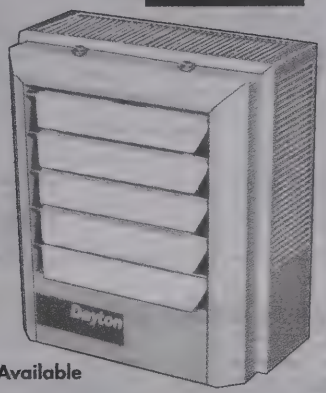
# 3.0 TO 50.0 KW HEAVY-DUTY ELECTRIC UNIT HEATERS





Vertical (Downflow)

E154218




Replacement Parts Available
1-800-323-0620

- **Adjustable outlet louvers**
- **All units 60 Hz fan forced, ceiling or wall mounted**
- **Meet NEC and OSHA requirements**

Designed for auxiliary, supplemental or primary heat source in factories, stores, garages, warehouses, public buildings, stock rooms, service stations, any large or exposed areas, or additions. Heavy-duty, totally enclosed motors. Aluminum-finned, copper clad steel sheath heating element. Advanced pull-through air flow design draws air across heating element for more even air distribution and cooler element operation. Automatic reset linear thermal protector provides protection over entire length of element area to disconnect heater if normal operating temperatures are exceeded. Specially designed venturi outlet with large dynamically balanced fan blade provides maximum air flow. Heavy gauge die-formed steel housing.

All heaters are 60Hz and 3-phase models are phased balanced. Some 5 through 15kw units are field convertible from single to three phase. 24 volt low voltage control circuit standard on all models except 3 and 5kw 208, 240/208 and 277V units (line voltage control on these models). All heaters have four top and four back threaded reinforced holes for field mounting with 5/16"-18 thread rods. Optional vertical and horizontal mounting brackets available. NOTE: Wall mounted or built-in thermostat (not included) must be used with these heaters 3395,3398. (see page 3327).

## UNIT HEATER SPECIFICATIONS AND ORDERING DATA

| KW | BtuH (1000's) | Heater Voltage | Phase | Maximum Amp Rating* | CFM at Outlet‡ | Air Rise At Outlet °F | Dimensions (In.) H | W | D | Maximum Mounting Ht. Horizontal | Horizontal Air Throw | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3.0†** | 10.2 | 208 | 1 | 14.5 | 350 | 27 | 16 | 14 | 8½ | 8 | 12 | **3UF78** | $466.84 | **$305.25** | 24.0 |
| **3.0/2.2†** | 10.2/7.5 | 240/208 | 1 | 12.5/11.0 | 350 | 27 | 16 | 14 | 8½ | 8 | 12 | **3UF75** | 466.84 | **305.25** | 24.0 |
| **3.0†** | 10.2 | 277 | 1 | 11.0 | 350 | 27 | 16 | 14 | 8½ | 8 | 12 | **3UF77** | 466.40 | **305.25** | 24.0 |
| **3.0** | 10.2 | 480 | 3 | 3.6 | 350 | 27 | 16 | 14 | 8½ | 8 | 12 | **3UF76** | 625.13 | **407.00** | 24.0 |
| **5.0†** | 17.0 | 208 | 1-3 | 24.0 | 350 | 45 | 16 | 14 | 8½ | 8 | 12 | **3UF82** | 418.08 | **274.00** | 24.0 |
| **5.0/3.7†** | 17.0/12.6 | 240/208 | 1-3 | 21.0/18.0 | 350 | 45 | 16 | 14 | 8½ | 8 | 12 | **3UF79** | 468.68 | **305.25** | 24.0 |
| **5.0†** | 17.0 | 277 | 1 | 18.0 | 350 | 45 | 16 | 14 | 8½ | 8 | 12 | **3UF81** | 470.52 | **305.25** | 24.0 |
| **5.0** | 17.0 | 480 | 3 | 6.0 | 350 | 45 | 16 | 14 | 8½ | 8 | 12 | **3UF80** | 594.77 | **387.75** | 24.0 |
| **7.5** | 25.6 | 208 | 1-3 | 36.0 | 650 | 37 | 21¾ | 19 | 8½ | 9 | 18 | **3UF85** | 633.80 | **415.00** | 36.0 |
| **7.5/5.6** | 25.6/19.1 | 240/208 | 1-3 | 31.3/27.0 | 650 | 37 | 21¾ | 19 | 8½ | 9 | 18 | **3UF83** | 645.75 | **423.00** | 36.0 |
| **7.5** | 25.6 | 480 | 3 | 9.0 | 650 | 37 | 21¾ | 19 | 8½ | 9 | 18 | **3UF84** | 689.92 | **451.50** | 36.0 |
| **10.0** | 34.1 | 208 | 1-3 | 48.0 | 650 | 49 | 21¾ | 19 | 8½ | 9 | 18 | **3UF88** | 706.95 | **462.25** | 36.0 |
| **10.0/7.5** | 34.1/25 6 | 240/208 | 1-3 | 42.0/36.0 | 650 | 49 | 21¾ | 19 | 8½ | 9 | 18 | **3UF86** | 730.24 | **477.25** | 36.0 |
| **10.0** | 34.1 | 480 | 3 | 12.0 | 650 | 49 | 21¾ | 19 | 8½ | 9 | 18 | **3UF87** | 787.00 | **514.00** | 36.0 |
| **15.0** | 51.2 | 208 | 1-3 | 72.0 | 910 | 52 | 21¾ | 19 | 13¾ | 11 | 35 | **3UF91** | 1098.37 | **718.50** | 56.0 |
| **15.011.2** | 51.2/38.2 | 240/208 | 3 | 36.1/31.3 | 910 | 52 | 21¾ | 19 | 13¾ | 11 | 35 | **3UF89** | 1098.37 | **718.50** | 56.0 |
| **15.0** | 51.2 | 480 | 3 | 18.0 | 910 | 52 | 21¾ | 19 | 13¾ | 11 | 35 | **3UF90** | 1214.32 | **793.00** | 56.0 |
| **20.0/15.0** | 68.2/51.2 | 240/208 | 3 | 48.0/41.2 | 1320 | 48 | 21¾ | 19 | 13¾ | 12 | 41 | **3UF92** | 1683.61 | **1096.00** | 63.0 |
| **20.0** | 68.2 | 480 | 3 | 24.0 | 1320 | 48 | 21¾ | 19 | 13¾ | 12 | 41 | **3UF93** | 1683.61 | **1096.00** | 63.0 |
| **30.0#** | 102.3 | 208 | 3 | 84.0 | 2100/1800 | 45/53 | 30 | 26⅝ | 13¾ | 12 | 50 | **3UF96** | 2412.08 | **1571.00** | 91.0 |
| **30.0/22.5#** | 102/77 | 240/208 | 3 | 72.3/63.0 | 2100/1800 | 45/53 | 30 | 26⅝ | 13¾ | 12 | 50 | **3UF94** | 2406.73 | **1566.00** | 91.0 |
| **30.0** | 102.3 | 480 | 3 | 36.0 | 2100/1800 | 45/53 | 30 | 26⅝ | 13¾ | 12 | 50 | **3UF95** | 2406.73 | **1566.00** | 91.0 |
| **50.0#** | 170.5 | 208 | 3 | 139.0 | 3000/2600 | 53/61 | 30 | 26⅝ | 18⅛ | 15 | 60 | **3UF99** | 3681.96 | **2393.00** | 125.0 |
| **50.0/37.5#** | 170/127 | 240/208 | 3 | 120.4/104.2 | 3000/2600 | 53/61 | 30 | 26⅝ | 18⅛ | 15 | 60 | **3UF97** | 3681.96 | **2393.00** | 125.0 |
| **50.0#** | 170.5 | 480 | 3 | 60.2 | 3000/2600 | 53/61 | 30 | 26⅝ | 18⅛ | 15 | 60 | **3UF98** | 3681.96 | **2393.00** | 125.0 |

) These models are wired for direct line voltage control. (*) Maximum AMP rating reflects single phase on combination single/three phase units.
obtain amperage draw on three phase power supply, divide single phase rating by 1.73 (#) 30 and 50 KW models are wired for single or two stage, low voltage control.
ese units also contain two speed motor for Hi-Lo fan selection. (‡) Air delivery data on dual voltage units reflects high voltage

# MOUNTING BRACKETS

ertical mounting is desirable in high bay areas or where heater cation does not interfere with plant operation. Horizontal ounted units should have air streams wipe exposed walls without blowing at them. All heaters must be mounted at least 8 feet above the floor and are not intended for use in potentially explosive atmospheres. Where square footage is large and comfort is essential, both vertical and horizontal installations may be used.

## MOUNTING BRACKET SELECTION GUIDE AND ORDERING DATA

| Use With Heaters | Mount Bracket For Horizontal Throw Stock No. | List | Each | Shpg. Wt. | Mount Bracket For Vertical Throw Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3.0 thru 5.0 KW** | **6X966** | $66.97 | **$52.20** | 8.0 | **3UG05** | $112.68 | **$88.00** | 8.0 |
| **7.5 thru 10.0 KW** | **6X966** | 66.97 | **52.20** | 8.0 | **3UG06** | 124.85 | **97.70** | 10.0 |
| **15.0 thru 20.0 KW** | **6X967** | 79.14 | **62.85** | 10.0 | **3UG06** | 124.85 | **97.70** | 10.0 |
| **30.0 KW** | **3UG64** | 109.60 | **72.60** | 13.0 | **3UG08** | 161.38 | **126.75** | 15.0 |
| **50.0 KW** | **3UG65** | 127.87 | **84.70** | 15.0 | **3UG08** | 161.38 | **126.75** | 15.0 |

# HEAVY DUTY ELECTRIC UNIT HEATER DIFFUSERS AND CONTROLS

## DIFFUSER OPTIONS FOR VERTICAL (DOWNFLOW) INSTALLATIONS

Standard louvers (included with heater) on Dayton electric unit heaters permit straight line air flow as in air curtain applications ov doorways. A rectangular pattern is formed and altered by turning in either direction to desired coverage. If these louvers are remove heater venturi permits general downflow air pattern distribution which can also be altered using optional diffusers for specific inst lations described below.

### OPTIONAL ANEMOSTAT DIFFUSER

Use for applications where draft restriction is required at lower unit mounting heights.

| For KW* | Max. Mtg. Ht. (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **7.5, 10.0 15.0, 20.0** | 12 15/17 | **3UG61** | $272.25 | **$193.75** | 10.0 |
| **30.0 50.0** | 17 20 | **3UG60** | 434.72 | **310.25** | 21.0 |

(*) Anemostat diffuser not recommended for models under 7.5 KW.

### OPTIONAL RADIAL DIFFUSER

Individually adjustable fins permit increased floor coverage 45° open. Additional throw is achieved when fins are 90° vertic Allow higher mounting height.

| For KW‡ | Max. Mtg. Ht. (Ft.) 45° | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| **7.5, 10.0 15.0, 20.0** | 14 20 | **2E592** | $106.29 | **$82.20** | 4.7 |
| **30.0 50.0** | 20 22 | **3UG70** | 230.75 | **164.50** | 10.0 |

(‡) Radial diffuser not recommended for models under 7.5 KW.

## CONTROL SPECIFICATIONS AND ORDERING DATA

| Type | Contact Form | Amp | Volts, Range | Temperature | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | **BUILT-IN** | | | | | |
| **POWER DISCONNECT SWITCHES** | 3 Pole<br>3 Pole | 25<br>63 | 120-600<br>120-600 | —<br>— | **3UG68**<br>**3UG69** | $168.75<br>254.69 | **$107.95**<br>**167.00** | 0.7<br>2.0 |
| **THERMOSTATS** | SPST<br>2-Stage | 25<br>25 | 24 to 277<br>24 to 277 | 45-85°F<br>45-85°F | **2E569**<br>**3UG72** | 82.09<br>101.63 | **61.80**<br>**71.60** | 0.6<br>0.8 |
| **HEAT RECOVERY THERMOSTATS**** | SPST | — | 24 to 277 | 60-120°F | **3UG63#** | 111.83 | **71.60** | 1.0 |
| **SUMMER FAN SWITCHES** | SPST | — | 24 to 277 | — | **3UG03** | 73.76 | **56.60** | 0.3 |
| | | | **WALL MOUNTED** | | | | | |
| **THERMOSTATS** | SPST<br>DPST | 25<br>25 | 24 to 277<br>24 to 277 | 40-100°F<br>40-100°F | **3UH19††**<br>**3UH20††** | 98.76<br>123.32 | **69.85**<br>**87.10** | 2.0<br>1.3 |

(**) Wall thermostat must be used in conjunction with built-in heat recovery thermostat. (#) Includes relay. (††) UL Listed (E50023) and CSA Certified (LR30247).

## CONTROL SELECTION GUIDE

| Heater Stock No. | BUILT-IN | | | | | WALL MOUNTED |
|---|---|---|---|---|---|---|
| | Disconnect Switch 1-Phase | 3-Phase | Thermostat† | Heat Recovery Thermostat† | Summer Fan Switch | Thermostat |
| **3UF75** | 3UG69 | — | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF77,3UF78** | 3UG68 | — | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF76** | — | 3UG68 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF81** | 3UG68 | — | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF79,3UF82** | 3UG68 | 3UG68 | 3UG72 | 3UG63 | 3UG03 | 3UH20 |
| **3UF80** | — | 3UG68 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF83,3UF85** | 3UG69 | 3UG69 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF84** | — | 3UG68 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF86,3UF88** | 3UG69 | 3UG69 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF87** | — | 3UG68 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF91,3UF89** | — | 3UG69 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF90** | — | 3UG68 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF92** | — | 3UG69 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF93** | — | 3UG68 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF94,3UF96** | — | — | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF95** | — | 3UG69 | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF97, 3UF99** | — | — | 2E569 | 3UG63 | 3UG03 | 3UH19 |
| **3UF98** | — | 3UG69 | 2E569 | 3UG63 | 3UG03 | 3UH19 |

(†) Wall thermostat must be used in conjunction with heat recovery thermostat. A heat recovery thermostat controls fan only to move stratified warm air. Heaters cannot accomodate two built-in controls. If built-in heat recovery thermostat is used, the control thermostat must be a wall mounted type.


### DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

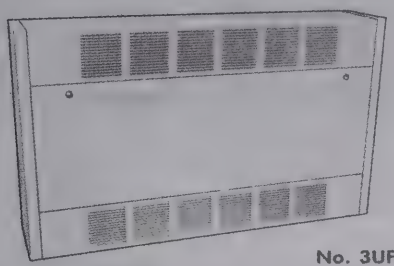
**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# ELECTRIC CABINET AND OIL-FIRED UNIT HEATERS

## ELECTRIC CABINET UNIT HEATERS

E21609

Replacement Parts Available
1-800-323-0620



No. 3UF52

QMARK
A Division of Marley Electric Heating

- 8 air inlet/discharge configurations easily field altered
- Neutral Gray baked enamel, 16-gauge steel cabinet
- Built-in thermostat and relays operated by internal 24 volt transformer
- Permanently lubricated, PSC motor, resiliently mounted
- Electrical leads easily accessed
- Tamper-resistant control compartment door lock
- May be controlled by field supplied thermostat
- May be field wired for load management control with external dry switch
- Disposable filter supplied
- Summer fan switch
- Hi/Lo heat settings on 208 and 240V models
- Easily accessible control panel

Quiet, controlled heat distributed with centrifugal blowers and a variety of air inlet and discharge arrangements. Designed for recessed, semi-recessed or surface mounting on walls, ceilings or floors. The high capacity and wide range of voltage/phase and control systems provide application versatility to meet most installation requirements. Built-in temperature controls minimize system design and installation time.

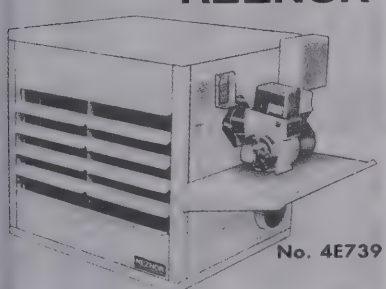
Particularly suited for use in lobbies, schools, offices, stores and other public buildings. QMark brand.

### HEATER ORDERING DATA

| Dimensions, (In.) L | H | D | KW Low | KW High | Fan Speed RPM Low | Fan Speed RPM High | CFM Output Low | CFM Output High | Amps @ 1-Phase | Amps @ 3-Phase | Volts | QMark Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 26 1/4 | 9 3/4 | 3.0 | 5.0 | 1450 | 1550 | 200 | 250 | 24.0 | 13.9 | 208 | CUG93505203FF | 3UF52 | $1629.64 | $1257.00 | 140.0 |
| 15 | 26 1/4 | 9 3/4 | 3.0 | 5.0 | 1450 | 1550 | 200 | 250 | 20.8 | 12.0 | 240 | CUG93505243FF | 3UF53 | 1629.64 | 1257.00 | 140.0 |
| 15 | 26 1/4 | 9 3/4 | 3.0 | 5.0 | 1450 | 1550 | 200 | 250 | — | 6.0 | 480* | CUG93505483FF | 3UF54 | 1629.64 | 1257.00 | 140.0 |
| | | | | | | | | | 18.1 | — | 277 | | | | | |
| 15 | 26 1/4 | 9 3/4 | 6.7 | 10.0 | 1450 | 1550 | 400 | 500 | 48.0 | 27.8 | 208 | CUG94510203FF | 3UF55 | 1783.95 | 1379.00 | 165.0 |
| 15 | 26 1/4 | 9 3/4 | 6.7 | 10.0 | 1450 | 1550 | 400 | 500 | 41.6 | 24.1 | 240 | CUG94510243FF | 3UF56 | 1783.95 | 1379.00 | 165.0 |
| 15 | 26 1/4 | 9 3/4 | 6.7 | 10.0 | 1450 | 1550 | 400 | 500 | — | 12.0 | 480 | CUG94510483FF | 3UF57 | 1783.95 | 1346.00 | 165.0 |
| | | | | | | | | | 36.1 | — | 277 | | | | | |

Field convertible from 480V/3-phase to 277V/1-phase.

REZNOR



No. 4E739

## HIGH EFFICIENCY OIL-FIRED UNIT HEATERS

MP3007

FREE DELIVERY on orders of $900 or more
See Freight Policy

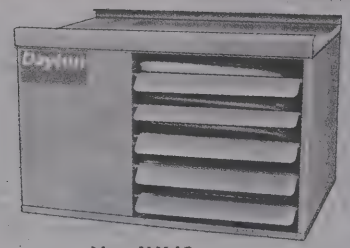
- Suspended heating unit for stores, factories, warehouses, service garages and similar areas
- Durable, easy access combustion chamber and heat exchanger
- No. 2 fuel oil only
- Single-Stage pump
- 115V/60 Hz
- Pressure atomizing, gun type oil burner with electric spark ignition
- Fan and limit control
- Heavy-gauge, corrosion-resistant cabinet
- Adjustable louvers
- Must be mounted 8 to 12 ft. above floor
- Minimum clearance required: 2" top, 6" bottom, 48" front, 24" rear, 18" to combustibles around flue

### HIGH EFFICIENCY UNIT HEATER SPECIFICATIONS AND ORDERING DATA

| BtuH Input | BtuH Output | Thermal Efficiency | Fuel Use GPH | Full Load Amps | Fan Motor HP | Fan Dia. (In.) | Fan Pitch (In.) | CFM | Air Throw at 12' Mtg. Ht. (Ft.) | Flue Dia. (In.) | Cabinet Overall, (In.) H | W | D | Reznor Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 118,000 | 97,000 | 82% | 0.85 | 5 | 1/8 | 18 | 33 | 2000 | 50 | 7 | 32 3/8 | 47 1/16 | 37 1/16 | OH95 | 4E739 | $2207.81 | $1910.00 | 340.0 |
| 173,000 | 142,000 | 82 | 1.25 | 6 | 1/4 | 22 | 36 | 3200 | 65 | 8 | 32 3/8 | 57 7/16 | 38 3/16 | OH140 | 4E740 | 2457.70 | 2041.00 | 405.0 |
| 229,000 | 188,000 | 82 | 1.65 | 6 | 1/4 | 22 | 36 | 3200 | 65 | 8 | 32 3/8 | 57 7/16 | 38 3/16 | OH190 | 4E741 | 2538.02 | 2187.00 | 409.0 |

These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

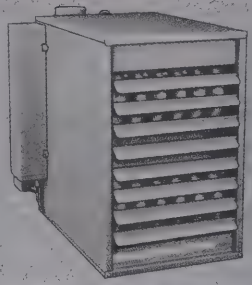
# GAS FIRED UNIT HEATERS



No. 4LX48

Dayton®

New



No. 4LX56

## DAYTON® TUBULAR GAS-FIRED UNIT HEATERS

- Power vented
- Inshot burner design
- Tubular style heat exchanger
- Hot surface pilot ignition system
- 20 gauge steel jacket and baked enamel finish
- 120/1/60 supply voltage
- 120/24 volt control transformer
- Isolated control panel
- Single stage gas valve
- 120/1/60 volt fan motor with internal overload protection
- Individually adjustable and removable louvers
- Two point suspension

## Residential Unit Heaters

Low profile design for installation in low clearance applications. Available in sizes ranging from 30 to 90 MBH, these two point suspension heaters are approved for installations in residential garage applications. Power vented, propeller type unit heaters include the latest tubular heat exchanger and inshot burner technology. Hot surface pilot ignition system assures positive and reliable burner ignition. Unit is AGA/CGA certified in accordance with both categories I and III venting requirements enabling the installer to utilize single or double wall vent pipe when venting vertically or single wall pipe when venting horizontally. 120/1/60 supply voltage, 120/24 volt control transformer, and 120/1/60 volt fan motor with internal overload protection.

## Commercial Gas-Fired Unit Heaters

Available in sizes ranging from 100 to 400 MBH, these tubular gas-fired units are a great alternative to the traditional clam shell designed unit. These power vented, propeller type unit heaters include the latest tubular heat exchanger and inshot burner technology with the quality and reliability you have come to depend on. A state-of-the-art hot surface pilot ignition system assures positive and reliable burner ignition. AGA/CGA certified in accordance with both categories I and III venting requirements enabling the installer to utilize single or double wall bent pipe when venting vertically or single wall pipe when venting horizontally. 120/1/60 supply voltage, 120/24 volt control transformer, and 120/1/60 volt fan motor with internal overload protection. Two point suspension with 20 gauge steel jacket and baked enamel finish for durability and strength.

## RESIDENTIAL

### *New!* TUBULAR GAS-FIRED UNIT HEATER SPECIFICATIONS AND ORDERING DATA

| Input | CFM | Fan Dia. (In.) | Motor HP | Gas Inlet Inlet (In.) | Flue (In.) | OC Mtg. Dimen. (In.) | Dimensions (In.) H | W | D† | Natl. Gas Stock No. | LP Gas Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30,000** | 500 | 10 | 1/20 | 1/2 | 4 | 21½ | 13 | 28⅝ | 25½ | **4LX42** | **4LX41** | **$629.00** | 72.0 |
| **45,000** | 750 | 10 | 1/20 | 1/2 | 4 | 21½ | 13 | 28⅝ | 25½ | **4LX44** | **4LX43** | **652.50** | 78.0 |
| **60,000** | 1000 | 10 | 1/20 | 1/2 | 4 | 21½ | 18¾ | 28⅝ | 26¾ | **4LX46** | **4LX45** | **678.50** | 102.0 |
| **75,000** | 1250 | 16 | 1/20 | 1/2 | 4 | 21½ | 18¾ | 28⅝ | 26¾ | **4LX48** | **4LX47** | **702.50** | 108.0 |
| **90,000** | 1325 | 16 | 1/20 | 1/2 | 4 | 21½ | 18¾ | 28⅝ | 26¾ | **4LX50** | **4LX49** | **742.50** | 110.0 |

(*) BTUH output: 81% input. (†) Depth shown includes propeller motor.

## COMMERCIAL

### *New!* TUBULAR GAS-FIRED UNIT HEATER SPECIFICATIONS AND ORDERING DATA

| BTUH* Input | CFM | Fan Dia. (In.) | Motor HP | Gas Inlet Inlet (In.) | Flue (In.) | OC Mtg. Dimen. (In.) | Dimensions (In.) H | W | D† | Natl. Gas Stock No. | LP Gas Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **100,000** | 1600 | 16 | 1/10 | 1/2 | 5 | 18⅝ | 33¾ | 25¼ | 43½ | **4LX52** | **4LX51** | **$788.50** | 173.0 |
| **125,000** | 2200 | 16 | 1/4 | 1/2 | 5 | 18⅝ | 33¾ | 25¼ | 43½ | **4LX54** | **4LX53** | **828.50** | 185.0 |
| **150,000** | 2400 | 16 | 1/4 | 1/2 | 5 | 18⅝ | 33¾ | 25¼ | 43½ | **4LX56** | **4LX55** | **869.00** | 195.0 |
| **175,000** | 2850 | 18 | 1/3 | 1/2 | 5 | 30⅝ | 33¾ | 37¼ | 43½ | **4LX58** | **4LX57** | **958.00** | 241.0 |
| **200,000** | 3200 | 18 | 1/3 | 1/2 | 5 | 30⅝ | 33¾ | 37¼ | 43½ | **4LX60** | **4LX59** | **1045.00** | 251.0 |
| **250,000** | 2450 | 18 | 1/3 | 1/2 | 5 | 30⅝ | 33¾ | 37¼ | 43½ | **4LX62** | **4LX61** | **1305.00** | 261.0 |
| **300,000** | 5000 | (2) 16 | (2) 1/4 | 3/4 | 6 | 48⅝ | 34 | 55¼ | 44¾ | **4LX64** | **4LX63** | **1568.00** | 367.0 |
| **350,000** | 5600 | (2) 18 | (2) 1/3 | 3/4 | 6 | 48⅝ | 34 | 55¼ | 44¾ | **4LX66** | **4LX65** | **1752.00** | 381.0 |
| **400,000** | 5800 | (2) 18 | (2) 1/3 | 3/4 | 6 | 48⅝ | 34 | 55¼ | 44¾ | **4LX68** | **4LX67** | **2016.00** | 395.0 |

(*) BTUH output: 81% input. (†) Depth shown includes power venter motor.

### ORDERING HAS NEVER BEEN EASIER!

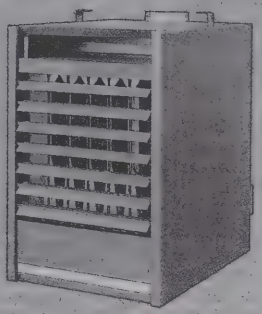
**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# GAS FIRED UNIT HEATERS

Replacement Parts Available
1-800-323-0620

Dayton®

No 3E229



DAYTON LIMITED WARRANTY

**10 years on heat exchanger draft diverter nd burners. 1 year on other components. This warranty does not cover loss due to corrosion by chemicals precipitated in the air, such as chlorine or halogenated hydrocarbon vapors. Text of warranty available on request. See Manufacturer's Warranties* on pages opposite back cover.**

- **Standing pilot**
- **Heat exchanger and burner design achieve over 80% thermal efficiency**
- **Comply with ANSI Standard Z83.8 unit heaters**
- **Install 8 to 20 ft. from floor**
- **Do not use with air duct**
- **Optional drafter kit available for sidewall venting/improved efficiency; not listed in catalog, to order call 1-800-323-0620**
- **For applications in altitudes above 2000 ft., the burner orifices need to be derated. For correct sizing by altitude call 1-800-323-0620.**

Economical, safe, clean. Removable access door for easy cleaning and servicing. Heater comes with all internal controls and wiring installed.

Uses 24-volt thermostat (not included, sold on pages 3228 to 3230) to eliminate expensive conduit installation. AGA and CGA Certified for natural or propane gas.

NOT FOR SALE IN CALIFORNIA.

## UNIT HEATER SPECIFICATIONS AND ORDERING DATA†

| BtuH Input* | CFM | Fan Dia. (In.) | Motor HP | Gas Inlet (In.) | Flue (In.) | O.C. Mtg. Dimen. (In.) | Overall (In.) H | W | D | Nat. Gas Stock No. | LP Gas Stock No. | List | Each | Approx. Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30,000** | 750 | 12 | 1/30 | 1/2 | 4 R,V | 8⅝ | 27½ | 14 | 27⅞ | **3E402** | **3E403** | $569.00 | **$421.75** | 72.0 |
| **45,000** | 800 | 12 | 1/30 | 1/2 | 4 R,V | 8¾ | 27½ | 14 | 27⅞ | **3E226** | **3E239** | 602.00 | **444.75** | 82.0 |
| **60,000** | 1050 | 14 | 1/30 | 1/2 | 5 R,V | 14⅛ | 27½ | 17½ | 27⅞ | **3E404** | **3E405** | 635.00 | **473.25** | 98.0 |
| **75,000** | 1100 | 14 | 1/30 | 1/2 | 5 R,V | 14⅛ | 27½ | 17½ | 27⅞ | **3E227** | **3E240** | 674.00 | **496.00** | 104.0 |
| **100,000** | 1480 | 14 | 1/20 | 1/2 | 6 R,V | 14¾ | 33¼ | 17⅞ | 32½ | **3E228** | **3E241** | 780.00 | **586.50** | 178.0 |
| **125,000** | 1650 | 16 | 1/10 | 1/2 | 6 R,V | 17½ | 33¼ | 20⅜ | 32½ | **3E229** | **3E242** | 886.00 | **662.50** | 200.0 |
| **150,000** | 2200 | 16 | 1/4 | 1/2 | 7 R,H | 17½ | 38¼ | 20⅝ | 36 | **3E230** | **3E243** | 933.00 | **693.00** | 209.0 |
| **175,000** | 2530 | 18 | 1/3 | 1/2 | 7 R,H | 20¼ | 38¼ | 23⅜ | 36 | **3E231** | — | 1029.00 | **768.50** | 232.0 |
| **200,000** | 2640 | 18 | 1/3 | 1/2 | 8 R,H | 23 | 38¼ | 26¼ | 36 | **3E232** | **3E244** | 1127.00 | **835.00** | 242.0 |
| **225,000** | 2700 | 18 | 1/3 | 3/4 | 8 R,H | 25½ | 39¼ | 28⅞ | 39⅛ | **3E233** | — | 1186.00 | **884.00** | 279.0 |
| **250,000** | 3100 | 18 | 1/3 | 3/4 | 8 R,H | 28¼ | 39¼ | 31⅝ | 39¼ | **3E234** | **3E245** | 1302.00 | **1011.00** | 301.0 |
| **300,000** | 4400 | 2@16 | 2@1/4 | 3/4 | 10 O,H | 33¼ | 39¼ | 37⅛ | 37¼ | **3E235** | **3E246** | 1541.00 | **1128.00** | 356.0 |
| **350,000** | 5000 | 2@18 | 2@1/3 | 3/4 | 10 O,H | 39¼ | 39¼ | 42⅝ | 38¼ | **3E236** | — | 1832.00 | **1346.00** | 415.0 |
| **400,000** | 5300 | 2@18 | 2@1/3 | 3/4 | 12 O,H | 44¼ | 39¼ | 48⅛ | 38¼ | **3E237** | **3E247** | 2078.00 | **1546.00** | 451.0 |

(*) BtuH output: varies from 80-81% of input. (R,H) Round, horizontal. (O,H) Oval, horizontal. (R,V) Round, vertical.
(†) Refer to Terminology and Technical Data section for determining heat requirements (page 3800). See page 3490 for cross-reference information.

## DAYTON AND DAYTON FUEL TRIMMER FAN-TYPE UNIT HEATER FEATURES

**A. Heat exchanger:** Designed to achieve over 80% thermal efficiency. 20-gauge aluminized steel tubes: two vertical seams. Heat exchanger tubes welded to heat exchanger top and bottom header panels. Headers of 18 gauge aluminized steel.

**B. Draft diverter:** Corrosion resistant aluminized steel.

**C. Housing:** 20-gauge galvanized steel with gray enamel finish.

**D. Louvers:** Independently adjustable for best air distribution. Stops prevent closure of louvers.

**E. Motors:** Shaded pole (SP) motor—sizes 30,000 to 125,000 BtuH. Permanent Split Capacitor (PSC) motor—sizes 150,000 to 400,000 BtuH. Automatic reset thermal protection. 115V, 60HZ.

**F. Fan:** Dynamically balanced, aluminum air foil blade assures quiet, efficient operation, while providing max. heat throw.

**G. Fan switch:** Has built-in heat anticipator to assure positive fan delay (not shown).

**H. Limit switch:** Prevents excessive outlet air temperature.

**I. Motor support:** Exclusive vibration isolators between fan and heater assure quiet operation. Motor and fan guard.

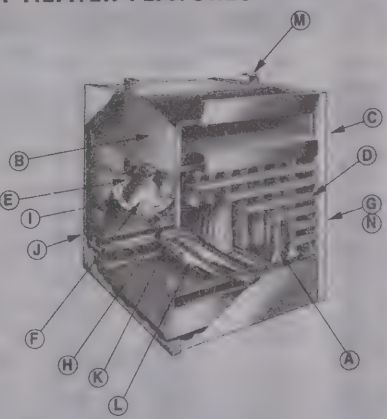
**J. Automatic gas valve:** 24VAC with 100% safety shut off.

**K. Air shutters:** Models have individually adjustable, friction locked, manually rotated air shutter adjustment.

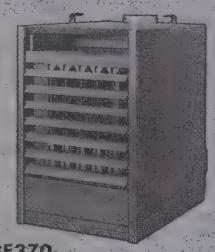
**L. Burners:** Stamped aluminized steel with stainless steel port protectors.

**M. Hangers:** Two point suspension bolted directly to heat exchanger with 9/16" dia. hanging holes provided at the top of the unit.

**N. Control Transformer:** 24VAC (not shown).



# ENERGY SAVING GAS-FIRED UNIT HEATERS



No. 3E370

Replacement Parts Available 1-800-323-0620

- **Heat exchanger and burner design achieve over 80% thermal efficiency**
- **Conversion kit for LP to natural gas only available. To order call 1-800-323-0620**
- **Optional drafter kit available for sidewall venting. To order call 1-800-323-0620**
- **Uses 24V thermostat, not included**
- **For applications in altitudes above 2000 feet, the burner orifices need to be derated. For correct sizing by altitude call 1-800-323-0620**

Same construction and operating features as Dayton gas unit heaters on page 3401, but with gas-saving automatic spark ignition system. This system reduces fuel consumption compared to standing pilot operation with constant-burning pilot flam because it allows fuel use only during peri ods when heating system thermostat call for heat. When heat is called for, solid state igniter generates spark at pilot burn er. When flame sensor proves that flam exists, spark ceases and main gas valv opens. When demand for heat ends, mai and pilot valves are de-energized, thereb shutting off the gas supply to the mai burners and pilot burner until the nex heating cycle. AGA and CGA Certifiec Dayton brand.

### DAYTON LIMITED WARRANTY

**10-years on heat exchanger, draft diverter and burners. 1-ye on other components. This warranty does not cover loss du to corrosion by chemicals precipitated in the air, such a chlorinated or halogenated hydrocarbon vapors. Text of wa ranty available upon request. See "Manufacturer Warranties" on page opposite inside back cover.**

| BtuH Input* | CFM | Fan Dia. | Motor HP | Gas Inlet | Flue | O.C. Mtg. Dim. | Overall (In.) H | W | D | Stock No. ● | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ENERGY SAVING NATURAL GAS-FIRED DAYTON UNIT HEATERS** | | | | | | | | | | | | | |
| **30,000** | 750 | 12" | 1/30 | 1/2" | 4" R,V | 8⅝" | 27½ | 14 | 27⅝ | **3E366** | $767.00 | **$500.50** | 72.0 |
| **45,000** | 800 | 12 | 1/30 | 1/2 | 4 R,V | 8⅝ | 27½ | 14 | 27⅝ | **3E367** | 801.00 | **544.50** | 82.0 |
| **60,000** | 1050 | 14 | 1/30 | 1/2 | 5 R,V | 14⅛ | 27½ | 17½ | 27⅝ | **3E406** | 833.00 | **573.50** | 98.0 |
| **75,000** | 1100 | 14 | 1/30 | 1/2 | 5 R,V | 14⅛ | 27½ | 17½ | 27⅝ | **3E368** | 872.00 | **598.00** | 104.0 |
| **100,000** | 1480 | 14 | 1/20 | 1/2 | 6 R,V | 14¾ | 33¼ | 17⅞ | 32½ | **3E369** | 983.00 | **669.00** | 178.0 |
| **125,000** | 1650 | 16 | 1/10 | 1/2 | 6 R,V | 17½ | 33¼ | 20⅝ | 32½ | **3E370** | 1088.00 | **747.00** | 200.0 |
| **150,000** | 2200 | 16 | 1/4 | 1/2 | 7 R,H | 17½ | 38¼ | 20⅝ | 36 | **3E371** | 1135.00 | **775.50** | 209.0 |
| **175,000** | 2530 | 18 | 1/3 | 1/2 | 7 R,H | 20¼ | 38¼ | 23⅜ | 36 | **3E372** | 1231.00 | **848.50** | 232.0 |
| **200,000** | 2640 | 18 | 1/3 | 1/2 | 8 R,H | 23 | 38¼ | 26⅛ | 36 | **3E373** | 1329.00 | **897.00** | 242.0 |
| **225,000** | 2700 | 18 | 1/3 | 3/4 | 8 R,H | 25½ | 39⅛ | 28⅞ | 38¼ | **3E374** | 1388.00 | **956.00** | 279.0 |
| **250,000** | 3100 | 18 | 1/3 | 3/4 | 8 R,H | 28¼ | 39⅛ | 31⅝ | 38¼ | **3E375** | 1504.00 | **1097.00** | 301.0 |
| **300,000** | 4400 | (2)16 | (2)1/4 | 3/4 | 10 O,H | 33¾ | 39⅛ | 37⅛ | 37¾ | **3E376** | 1743.00 | **1215.00** | 356.0 |
| **350,000** | 5000 | (2)18 | (2)1/3 | 3/4 | 10 O,H | 39¼ | 39⅛ | 42⅝ | 38¼ | **3E377** | 2034.00 | **1410.00** | 415.0 |
| **400,000** | 5300 | (2)18 | (2)1/3 | 3/4 | 12 O,H | 44¾ | 39⅛ | 48⅛ | 38¼ | **3E378** | 2281.00 | **1573.00** | 451.0 |
| **ENERGY SAVING PROPANE GAS-FIRED DAYTON UNIT HEATERS** | | | | | | | | | | | | | |
| **30,000** | 750 | 12 | 1/30 | 1/2 | 4 R,V | 8⅝ | 27½ | 14 | 27⅝ | **3E379** | 797.00 | **523.50** | 72.0 |
| **45,000** | 800 | 12 | 1/30 | 1/2 | 4 R,V | 8⅝ | 27½ | 14 | 27⅝ | **3E380** | 826.00 | **572.00** | 82.0 |
| **60,000** | 1050 | 14 | 1/30 | 1/2 | 5 R,V | 14⅛ | 27½ | 17½ | 27⅝ | **3E407** | 837.00 | **602.00** | 98.0 |
| **75,000** | 1100 | 14 | 1/30 | 1/2 | 5 R,V | 14⅛ | 27½ | 17½ | 27⅝ | **3E381** | 897.00 | **620.00** | 104.0 |
| **100,000** | 1480 | 14 | 1/20 | 1/2 | 6 R,V | 14¾ | 33¼ | 17⅞ | 32½ | **3E382** | 1010.00 | **695.00** | 178.0 |
| **125,000** | 1650 | 16 | 1/10 | 1/2 | 6 R,V | 17½ | 33¼ | 20⅝ | 32½ | **3E383** | 1116.00 | **797.00** | 200.0 |
| **150,000** | 2200 | 16 | 1/4 | 1/2 | 7 R,H | 17½ | 38¼ | 20⅝ | 36 | **3E384** | 1157.00 | **836.00** | 209.0 |
| **200,000** | 2640 | 18 | 1/3 | 1/2 | 8 R,H | 23 | 38¼ | 26⅛ | 36 | **3E385** | 1357.00 | **948.50** | 242.0 |
| **250,000** | 3100 | 18 | 1/3 | 3/4 | 8 R,H | 28¼ | 39⅛ | 31⅝ | 38¼ | **3E386** | 1536.00 | **1124.00** | 301.0 |
| **300,000** | 4400 | (2)16 | (2)1/4 | 3/4 | 10 O,H | 33¾ | 39⅛ | 37⅛ | 37¾ | **3E387** | 1778.00 | **1233.00** | 356.0 |
| **400,000** | 5300 | (2)18 | (2)1/3 | 3/4 | 12 O,H | 44¾ | 39⅛ | 48⅛ | 38¼ | **3E388** | 2314.00 | **1591.00** | 451.0 |

(*) BtuH output; varies from 77-81% of input. (R,H) Round, horizontal. (O,H) Oval, horizontal. (R,V) Round, vertical. (✓) Denotes energy efficient product.
● These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

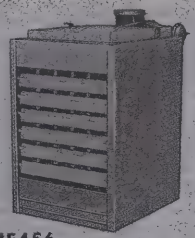
## MANUFACTURER'S CROSS REFERENCE† FOR DAYTON UNIT HEATERS ON PAGES 3401 and 3402

| Btu Size | Sterling Old | Sterling New | Reznor Old | Reznor New | Grinnell | Trane | Modine | Hastings | Janitrol | Empire | Lennox |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30,000 | CF-30 | QVF-30 | XL-30 | — | PTO-30A | GPND003 | PD-30 | — | — | — | — |
| 35,000 | — | — | — | — | — | — | — | — | WH-30 | — | — |
| 45,000 | CF-45 | QVF-45 | XL-45-1 | — | PTO-45A | GPND004 | — | — | — | — | — |
| 50,000 | — | — | — | F-50 | — | — | PD-50 | GF-50 | WH-50 | UH-1050 | LF-50 |
| 60,000 | CF-60 | QVF-60 | XL-60 | — | PTO-60A | GPND006 | — | — | — | — | — |
| 70,000 | — | — | — | — | — | — | — | — | WH-75 | — | — |
| 75,000 | CF-75 | QVF-75 | XL-75 | F-75 | PTO-75A | GPND007 | PD-75 | GF-75 | — | UH-1075 | LF-75 |
| 85,000 | — | — | — | — | — | — | — | — | — | — | — |
| 100,000 | CF-100 | QVF-100 | — | F-100 | PTO-100A | GPND010 | — | GF-100 | WH-100 | UH-1100 | LF-110 |
| 105,000 | — | — | XL-105 | — | — | — | PD-105 | — | — | — | — |
| 125,000 | CF-125 | QVF-125 | XL-125 | — | PTO-125A | GPND012 | — | GF-120 | WH-125 | UH-1125 | — |
| 130,000 | — | — | — | F-130 | — | — | PD-130 | — | — | — | — |
| 150,000 | CF-150 | QVF-150 | XL-140 | — | PTO-150A | GPND015 | PD-150 | GF-160 | WH-150 | UH-1150 | LF-165 |
| 175,000 | CF-175 | QVF-175 | XL-170 | F-165 | PTO-175A | GPND017 | PD-170 | — | — | UH-1175 | — |
| 200,000 | CF-200 | QVF-200 | XL-200 | F-200 | PTO-200A | GPND020 | PD-200 | GF-200 | WH-205 | UH-1200 | — |
| 225,000 | CF-225 | QVF-225 | XL-225 | — | PTO-225A | GPND022 | PD-225 | — | — | UH-1225 | LF-220 |
| 250,000 | CF-250 | QVF-250 | XL-250 | F-250 | PTO-250A | GPND025 | PD-250 | GF-250 | WH-250 | UH-1250 | — |
| 275,000 | — | — | — | — | — | — | — | — | — | — | LF-275 |
| 300,000 | CF-300 | QVF-300 | XL-300 | F-300 | PTO-300A | GPND030 | PD-300 | GF-300 | WH-300 | UH-1300 | — |
| 350,000 | CF-350 | QVF-350 | XL-350 | — | PTO-350A | GPND035 | PD-350 | GF-350 | WH-350 | UH-1350 | LF-330 |
| 400,000 | CF-400 | QVF-400 | XL-400 | F-400 | PTO-400A | GPND040 | PD-400 | GF-400 | WH-400 | UH-1400 | — |

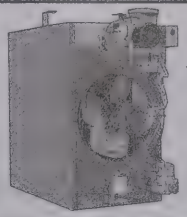
(†) Competitive model numbers shown in this chart are base models only. Determine fuel type (natural gas or propane) and ignition type (pilot or spark) of unit heater before cross-referencing to equivalent Dayton Stock No. See Cross Reference Information on page opposite inside back cover.

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# POWER VENTED GAS-FIRED UNIT HEATERS



Dayton®
Fuel-trimmer Plus



Air Switch provides safe venting before gas valve opens

Power Venter improves efficiency and reduces installation costs

No. 4E456

**DAYTON FUEL-TRIMMER PLUS LIMITED WARRANTY**

10-years on heat exchanger, draft diverter and burners. 1-year on other components. This warranty does not cover loss due to corrosion from chemicals precipitated in the air, such as chlorinated or halogenated hydrocarbon vapors. Text of warranty available upon request. See "Manufacturers' Warranties" on page opposite inside back cover.

Replacement Parts Available 1-800-323-0620

ENERGY RIGHT®

**Power vented for higher seasonal efficiency**

**Available in LP or Natural Gas operation**

**Allows for sidewall venting equivalent to 50-ft.**

**For applications in altitudes above 2000 ft., the burner orifices need to be derated. For correct sizing by altitude call 1-800-323-0620**

**Units cannot be converted to alternative fuel source**

**Uses 24V thermostat, not included**

**Dayton Fuel-Trimmer Plus Unit Heaters** are similar to Dayton unit heaters found on page 3330, but these have gas-saving automatic spark ignition system, power vent and sealed flue collector. Fuel costs are further reduced by eliminating loss of heated air through draft diverter during off-cycles.

**Horizontal power vent allows use** of smaller, single wall vent pipe, reducing heat loss. Power venter provides mechanical venting of all waste combustion products. A pressure switch within the power venter assembly operates the electric gas valve. AGA and CGA Certified. Dayton brand.

| BtuH Input | CFM | Fan Dia. | Motor HP | Gas Inlet | Flue* | O.C. Mtg. Dim. | Overall (In.) H | W | D | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FUEL-TRIMMER PLUS NATURAL GAS FIRED DAYTON UNIT HEATERS** | | | | | | | | | | | | | |
| **30,000** | 750 | 12" | 1/30 | 1/2" | 4" | 11" | 27½ | 14 | 30⅜ | ✔ **4E454** | $899.00 | **$686.00** | 79.0 |
| **60,000** | 1050 | 14 | 1/30 | 1/2 | 4 | 16½ | 27½ | 17½ | 30⅜ | ✔ **4E455** | 991.00 | **759.50** | 109.0 |
| **75,000** | 1100 | 14 | 1/30 | 1/2 | 4 | 16½ | 27½ | 17½ | 30⅜ | ✔ **4E456** | 1063.00 | **812.00** | 119.0 |
| **00,000** | 1480 | 14 | 1/20 | 1/2 | 4 | 14½ | 34⅛ | 17⅞ | 37½ | ✔ **4E457** | 1177.00 | **880.50** | 174.0 |
| **50,000** | 2200 | 16 | 1/4 | 1/2 | 4 | 17¼ | 39⅛ | 20⅝ | 37½ | ✔ **4E458** | 1347.00 | **982.00** | 253.0 |
| **00,000** | 2640 | 18 | 1/3 | 1/2 | 5 | 22¾ | 39⅛ | 26⅛ | 37½ | ✔ **4E459** | 1533.00 | **1125.00** | 249.0 |
| **50,000** | 3100 | 18 | 1/3 | 3/4 | 5 | 28¼ | 39⅛ | 31⅝ | 37½ | ✔ **4E460** | 1784.00 | **1311.00** | 305.0 |
| **00,000** | 4400 | (2)16 | (2)1/4 | 3/4 | 6 | 33¾ | 39⅛ | 37⅛ | 37½ | ✔ **4E461** | 2112.00 | **1545.00** | 350.0 |
| **00,000** | 5300 | (2)18 | (2)1/3 | 3/4 | 6 | 44¾ | 39⅛ | 48⅛ | 37½ | ✔ **4E462** | 2567.00 | **1880.00** | 461.0 |
| **FUEL-TRIMMER PLUS PROPANE FIRED DAYTON UNIT HEATERS** | | | | | | | | | | | | | |
| **30,000** | 750 | 12 | 1/30 | 1/2 | 4 | 11 | 27½ | 14 | 30⅜ | ✔ **4E463** | 899.00 | **733.00** | 79.0 |
| **60,000** | 1050 | 14 | 1/30 | 1/2 | 4 | 16½ | 27½ | 17½ | 30⅜ | ✔ **4E464** | 991.00 | **806.50** | 109.0 |
| **75,000** | 1100 | 14 | 1/30 | 1/2 | 4 | 16½ | 27½ | 17½ | 30⅜ | ✔ **4E465** | 1063.00 | **859.00** | 119.0 |
| **00,000** | 1480 | 14 | 1/20 | 1/2 | 4 | 14½ | 34⅛ | 17⅞ | 37½ | ✔ **4E466** | 1177.00 | **959.00** | 174.0 |
| **50,000** | 2200 | 16 | 1/4 | 1/2 | 4 | 17¼ | 39⅛ | 20⅝ | 37½ | ✔ **4E467** | 1347.00 | **1042.00** | 219.0 |
| **00,000** | 2640 | 18 | 1/3 | 1/2 | 5 | 22¾ | 39⅛ | 26⅛ | 37½ | ✔ **4E468** | 1533.00 | **1170.00** | 249.0 |
| **50,000** | 3100 | 18 | 1/3 | 1/2 or 3/4 | 5 | 28¼ | 39⅛ | 31⅝ | 37½ | ✔ **4E469** | 1784.00 | **1358.00** | 305.0 |
| **00,000** | 4400 | (2)16 | (2)1/4 | 1/2 or 3/4 | 6 | 33¾ | 39⅛ | 37⅛ | 37½ | ✔ **4E470** | 2113.00 | **1591.00** | 350.0 |
| **00,000** | 5300 | (2)18 | (2)1/3 | 1/2 or 3/4 | 6 | 44¾ | 39⅛ | 48⅛ | 37½ | ✔ **4E471** | 2565.00 | **1925.00** | 461.0 |

) Flues are round and shipped in vertical position. Venter can be repositioned in field for horizontal discharge.
These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
✔) Denotes energy efficient product.

## MANUFACTURERS' CROSS-REFERENCE† FOR DAYTON UNIT HEATERS LISTED ABOVE

| tuH Size | OLD Sterling | Sterling | Modine | Jackson & Church | Grinnell | Reznor | Trane |
|---|---|---|---|---|---|---|---|
| 30,000 | — | QVEF-30 | — | — | EP-PTO-30 | — | GHND-003 |
| 60,000 | — | QVEF-60 | PV-55 | — | EP-PTO-60 | — | GHND-006 |
| 75,000 | — | QVEF-75 | — | — | EP-PTO-75 | FE-75 | GHND-007 |
| 100,000 | CBEP-100 | QVEB-100 | BV-110 | UBEP-100 | EP-BLO-100A | BE-100 | GBND-010 |
| 150,000 | CBEP-150 | QVEB-150 | BV-150 | UBEP-150 | EP-BLO-150A | — | GBND-015 |
| 200,000 | CBEP-200 | QVEB-200 | BV-180 | UBEP-200 | EP-BLO-200A | BE-200 | GBND-020 |
| 250,000 | CBEP-250 | QVEB-250 | BV-240 | UBEP-250 | EP-BLO-25A0 | BE-250 | GBND-025 |
| 300,000 | CBEP-300 | QVEB-300 | BV-300 | UBEP-300 | EP-BLO-300A | BE 300 | GBND-030 |
| 400,000 | CBEP-400 | QVEB-400 | — | UBEP-400 | EP-BLO-400A | BE-400 | GBND-040 |

ompetitive model numbers shown in this chart are base models only. Determine fuel type (natural gas or propane) and ignition type (pilot or spark) f unit heater before cross-referencing to equivalent Dayton Stock No. See Cross Reference Information on page opposite inside back cover.

## VENT CAPS FOR UNITS ABOVE

**lo. 3TZ72.** 4" Vent Cap. Shpg. wt. 3.3 lbs. List $49.00. Each.....**$36.15**

**lo. 3TZ73.** 5" Vent Cap. Shpg. wt. 3.5 lbs. List $53.50. Each.....**$39.60**

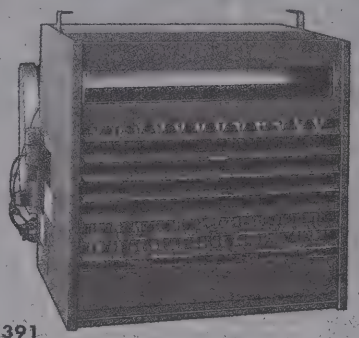
**lo. 3TZ74.** 6" Vent Cap. Shpg. wt. 4.8 lbs. List $76.30. Each.....**$56.65**

## SIDE WALL VENTING KIT

**4"-Side Wall Venting Kit.** Includes a 4" side wall vent cap, 4" wall thimble, 18" "B" vent, and "B" to "C" adapter. Required for venting single units through a side wall.

**No. 2C448.** Shpg. wt. 8.0 lbs. List .$78.75. Each.....**$65.05**

# BLOWER-TYPE AUTOMATIC GAS UNIT HEATERS



No. 3E391

## DAYTON LIMITED WARRANTY

10-years on heat exchanger, draft diverter, and burners. 1-year on other components. This warranty does not cover loss due to corrosion by chemicals precipitated in the air, such as chlorinated or halogenated hydrocarbon vapors. Text of warranty available upon request. See "Manufacturers' Warranties" on page opposite back cover.

**Replacement Parts Available**
**1-800-323-0620**

- **Heat exchanger and burner design achieve over 80% thermal efficiency**
- **Optional drafter kit available for sidewall venting and improved efficiency; not listed in catalog; to order call 1-800-323-0620**
- **Refer To Terminology And Technical Data Section for determining heat requirement**
- **For applications in altitudes above 2000 feet, the burner orifices need to be derated. For correct sizing by altitude call 1-800-323-0620**

Natural gas-fired blower-heater units f suspension mounting. Designed for u with standard louvers or with short du runs. Max. external static pressure, 0. W.C. Units include belt-driven, permanen ly lubricated, centrifugal blower, prop motor, and variable-pitch drive facto preset at min. RPM; increase blower RP depending on amount of duct work adde to heater.

Motors are 115V, 60 Hz, single-phas Removable access door for easy servicin All internal controls and wiring installed **Use 24-volt thermostat, not included.**

Long-life aluminized steel heat exchan ers. Aluminized steel burners with stai less steel port protectors. Gray high-te perature enamel finish.

Four-point suspension with 9/16" hangir holes provided at top of unit; two additio al stabilizing points with 9/16" dia. hol provided on blower housin Recommended mounting height is at lea 8 feet from floor to bottom of unit.

AGA and CGA Certified for installatio with natural gas. Comply with ANS Standard Z83.8 unit heaters.

### DAYTON MODELS (Not for sale in CA.)

Combination 24-volt gas valve whic includes manual shutoff valve, pilot safet valve and pressure regulator. Standin pilot ignition system.

### DAYTON FUEL-TRIMMER MODELS FOR NATURAL GAS ONLY; UNITS CANNOT BE CONVERTED FOR USE WITH LP GAS

Features "Automatic Spark Ignitio System which reduces fuel consumptio compared to standing pilot operation wit constant-burning pilot flame because allows fuel use only during periods whe heating system thermostat calls for hea When heat is called for, solid state ignito generates spark to pilot burner. Whe flame sensor proves that flame exists spark ceases and main gas valve opens When demand for heat ends, main an pilot valves are de-energized, thereby shut ting off the gas supply to the main burner and pilot burner until the next heatin cycle.

## MANUFACTURERS' CROSS-REFERENCE FOR BLOWER-TYPE HEATERS

| BtuH Input | Sterling | Old Sterling | Modine | Reznor | Trane |
|---|---|---|---|---|---|
| 100,000 | QVB-100 | CB-100 | BD-100 SP<br>BD-100 SPK | B-100 | GCND010 |
| 200,000 | QVB-200 | CB-200 | BD-200-SP<br>BD-200 SPK | B-200 | GCND020 |
| 300,000 | QVB-300 | CB-300 | BD-300 SP<br>BD-300 SPK | B-300 | GCND030 |
| 400,000 | QVB-400 | CB-400 | — | B-400 | GCND040 |

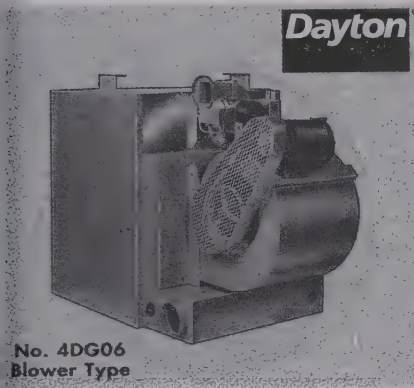
| BtuH Input | Stock No. | No. of Blowers | Blower Wheel Diameter(In.) | Free Air CFM | 80°F Rise CFM* | 65°Rise CFM* | Motor HP | Full-Load Amps | Gas Inlet (In.) | Flue |
|---|---|---|---|---|---|---|---|---|---|---|
| 100,000 | 3E248 | 1 | 9 | 1200 | 925 | 1140 | 1/4 | 5.1 | 1/2 | 6 R, V |
| 200,000 | 3E249 | 1 | 12 | 2400 | 1850 | 2280 | 3/4 | 12.0 | 1/2 | 8 R, H |
| 300,000 | 3E250 | 2 | 10 | 3950 | 2780 | 3400 | 3/4 | 12.0 | 3/4 | 10 O, H |
| 400,000 | 3E251 | 2 | 12 | 4800 | 3700 | 4550 | 1 | 15.4 | 3/4 | 12 O, H |
| 100,000 | 3E389† | 1 | 9 | 1200 | 925 | 1140 | 1/4 | 5.1 | 1/2 | 6 R, V |
| 200,000 | 3E390† | 1 | 12 | 2400 | 1850 | 2280 | 3/4 | 12.0 | 1/2 | 8 R, H |
| 300,000 | 3E391† | 2 | 10 | 3950 | 2780 | 3400 | 3/4 | 12.0 | 3/4 | 10 O, H |
| 400,000 | 3E392† | 2 | 12 | 4800 | 3700 | 4550 | 1 | 15.4 | 3/4 | 12 O, H |

(R,V) Round, Vertical. (R,H) Round, Horizontal. (O,H) Oval, Horizontal.

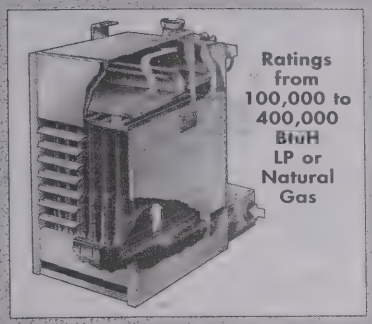
| BtuH Input† | Overall Dimensions (In.) H | W | D | Discharge Open (In.) H | W | O.C. Mtg. Dimension (In.) | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **DAYTON UNITS** | | | | | | | | | | |
| **100,000** | 33 1/4 | 17 7/8 | 42 5/8 | 18 | 15 3/8 | 14 3/4 | **3E248** | $1193.00 | **$924.50** | 253.0 |
| **200,000** | 38 1/4 | 26 1/8 | 47 | 18 | 23 5/8 | 23 | **3E249** | 1674.00 | **1227.00** | 351.0 |
| **300,000** | 38 1/4 | 37 1/8 | 48 1/4 | 18 | 34 5/8 | 33 3/4 | **3E250** | 2199.00 | **1703.00** | 459.0 |
| **400,000** | 38 1/4 | 48 1/8 | 51 | 18 | 45 5/8 | 44 3/4 | **3E251** | 2730.00 | **2057.00** | 582.0 |
| **DAYTON FUEL-TRIMMER UNITS** | | | | | | | | | | |
| **100,000** | 33 1/4 | 17 7/8 | 42 5/8 | 18 | 15 3/8 | 14 3/4 | ✓**3E389**❷ | 1396.00 | **1087.00** | 253.0 |
| **200,000** | 38 1/4 | 26 1/8 | 47 | 18 | 23 5/8 | 23 | ✓**3E390**❷ | 1876.00 | **1295.00** | 351.0 |
| **300,000** | 38 1/4 | 37 1/8 | 48 1/4 | 18 | 34 5/8 | 33 3/4 | ✓**3E391**❷ | 2401.00 | **1763.00** | 459.0 |
| **400,000** | 38 1/4 | 48 1/8 | 51 | 18 | 45 5/8 | 44 3/4 | ✓**3E392**❷ | 2932.00 | **2191.00** | 582.0 |

(†) BtuH output: 80% of input. (✓) Denotes energy efficient product.
❷These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

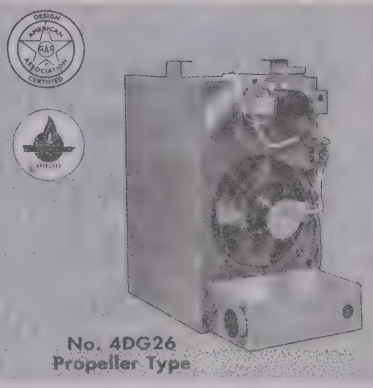
# SEPARATED COMBUSTION HEATERS



No. 4DG06
Blower Type



Ratings from 100,000 to 400,000 BtuH LP or Natural Gas



No. 4DG26
Propeller Type

**ayton Separated Combustion Unit Heaters** are milar to Dayton unit heaters, but these ffer increased fuel savings by using utside air for combustion. This type of nit is designed to overcome slight nega- ve pressures found in industrial work laces near exhaust fans and paint booths.

**pecial environments** can be effectively heat- d since these heaters isolate the burner om dust, humidity, and chemicals. Ideal or non-explosive contaminated areas, reenhouses, truck garages, and industrial pace with wood or textile dust. Not for se in areas requiring explosion-proof ppliances.

.GA and CGA Certified. Dayton brand.

**BLOWER TYPE HEATERS FEATURE:**

- **Blower unit designed to overcome up to .2" ESP**
- **Designed for space heating in dusty, dirty or mildly hostile environments**
- **Higher seasonal efficiency by using outside air for combustion**
- **Allows for venting lengths of 50 equivalent feet**
- **Overcomes problem areas with slight negative pressure**
- **115V, 60 Hz standard motor**

**PROPELLER TYPE HEATERS FEATURE:**

- **Designed for space heating in dusty, dirty or mildly hostile environments**
- **Higher seasonal efficiency by using outside air for combustion**
- **Allows for venting lengths of 50 equivalent feet**
- **Overcomes problem areas with slight negative pressure**
- **115V, 60 Hz standard motor**

## BLOWER TYPE HEATER SPECIFICATIONS AND ORDERING DATA

| BtuH* Input | CFM | Blower Dia. (In.) | Motor HP | Gas Inlet (In.) | Flue (In.) | O.C. Mtg. Dimen. (In.) | Overall Dimensions (In.) H | W | D† | Nat. Gas Stock No.❷ | LP Gas Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **100,000** | 1200 | 9 | 1/4 | 1/2 | 4 | 14 3/4 | 34 1/16 | 17 7/8 | 42 3/4 | **4DG07** | **4DG06** | $1985.00 | **$1618.00** | 298.0 |
| **125,000** | 1575 | 10 | 1/3 | 1/2 | 4 | 17 1/2 | 34 1/16 | 20 5/8 | 44 3/8 | **4DG09** | **4DG08** | 2110.00 | **1723.00** | 330.0 |
| **150,000** | 1975 | 10 | 1/2 | 1/2 | 4 | 17 1/2 | 39 1/16 | 20 5/8 | 44 3/8 | **4DG11** | **4DG10** | 2360.00 | **1927.00** | 362.0 |
| **175,000** | 2300 | 12 | 1/2 | 1/2 | 4 | 20 1/4 | 39 1/16 | 23 3/8 | 47 3/16 | **4DG13** | **4DG12** | 2500.00 | **2044.00** | 394.0 |
| **200,000** | 2400 | 12 | 3/4 | 1/2 | 5 | 23 | 39 1/16 | 26 1/8 | 47 3/16 | **4DG15** | **4DG14** | 2665.00 | **2175.00** | 426.0 |
| **225,000** | 2600 | 12 | 3/4 | 3/4 | 5 | 25 3/4 | 39 1/16 | 28 7/8 | 50 7/8 | **4DG17** | **4DG16** | 2885.00 | **2354.00** | 458.0 |
| **250,000** | 2850 | 12 | 3/4 | 3/4 | 5 | 28 1/2 | 39 1/16 | 31 5/8 | 48 | **4DG19** | **4DG18** | 3150.00 | **2571.00** | 490.0 |
| **300,000** | 3950 | (2)10 | (2)3/4 | 3/4 | 6 | 34 | 39 1/16 | 37 1/8 | 50 7/8 | **4DG21** | **4DG20** | 3475.00 | **2834.00** | 558.0 |
| **350,000** | 4600 | (2)12 | (2)1 | 3/4 | 6 | 39 1/2 | 39 1/16 | 42 5/8 | 50 7/8 | **4DG23** | **4DG22** | 3855.00 | **3145.00** | 618.0 |
| **400,000** | 4800 | (2)12 | (2)1 | 3/4 | 6 | 45 | 39 1/16 | 48 1/8 | 51 | **4DG25** | **4DG24** | 4210.00 | **3438.00** | 678.0 |

## PROPELLER TYPE HEATER SPECIFICATIONS AND ORDERING DATA

| BtuH* Input | CFM | Fan Dia. (In.) | Motor HP | Gas Inlet (In.) | Flue (In.) | O.C. Mtg. Dimen. (In.) | Overall Dimensions (In.) H | W | D† | Nat. Gas Stock No.❷ | LP Gas Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **100,000** | 1480 | 14 | 1/20 | 1/2 | 4 | 14 3/4 | 34 1/16 | 17 7/8 | 38 11/16 | **4DG27** | **4DG26** | $1435.00 | **$1172.00** | 200.0 |
| **125,000** | 1650 | 16 | 1/10 | 1/2 | 4 | 17 1/2 | 34 1/16 | 20 5/8 | 38 11/16 | **4DG29** | **4DG28** | 1595.00 | **1304.00** | 228.0 |
| **150,000** | 2200 | 16 | 1/4 | 1/2 | 4 | 17 1/2 | 39 1/16 | 20 5/8 | 38 11/16 | **4DG31** | **4DG30** | 1760.00 | **1437.00** | 256.0 |
| **175,000** | 2530 | 18 | 1/3 | 1/2 | 4 | 20 1/4 | 39 1/16 | 23 3/8 | 38 11/16 | **4DG33** | **4DG32** | 1795.00 | **1467.00** | 284.0 |
| **200,000** | 2640 | 18 | 1/3 | 1/2 | 5 | 23 | 39 1/16 | 26 1/8 | 38 11/16 | **4DG35** | **4DG34** | 1935.00 | **1581.00** | 312.0 |
| **225,000** | 2700 | 18 | 1/3 | 3/4 | 5 | 25 3/4 | 39 1/16 | 28 7/8 | 38 11/16 | **4DG37** | **4DG36** | 2035.00 | **1661.00** | 340.0 |
| **250,000** | 3100 | 18 | 1/2 | 3/4 | 5 | 28 1/2 | 39 1/16 | 31 5/8 | 38 11/16 | **4DG39** | **4DG38** | 2315.00 | **1892.00** | 368.0 |
| **300,000** | 4400 | (2)16 | (2)1/4 | 3/4 | 6 | 34 | 39 1/16 | 37 1/8 | 38 11/16 | **4DG41** | **4DG40** | 2475.00 | **2019.00** | 432.0 |
| **350,000** | 5000 | (2)18 | (2)1/3 | 3/4 | 6 | 39 1/2 | 39 1/16 | 42 5/8 | 38 11/16 | **4DG43** | **4DG42** | 2730.00 | **2229.00** | 488.0 |
| **400,000** | 5300 | (2)18 | (2)1/3 | 3/4 | 6 | 45 | 39 1/16 | 48 1/8 | 38 11/16 | **4DG45** | **4DG44** | 2860.00 | **2336.00** | 545.0 |

*) BTUH Output: 80% Input. (†) Depth shown includes motor. Refer to Terminology & Technical Data Section for determining heat requirements.
These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

## VENT CAPS FOR UNITS ABOVE

**No. 3TZ72.** 4" Vent Cap. Shpg. wt. 3.3 lbs. List .....$49.00.
Each .....**$36.15**

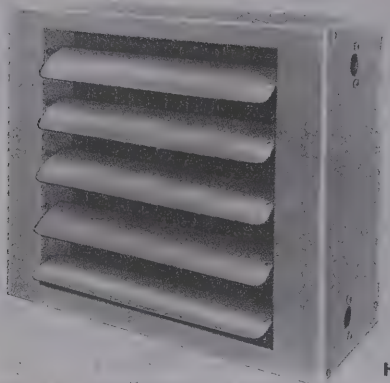
**No. 3TZ73.** 5" Vent Cap. Shpg. wt. 3.5 lbs. .....List $53.50.
Each .....**$39.60**

**No. 3TZ74.** 6" Vent Cap. Shpg. wt. 4.8 lbs. .....List $76.30.
Each .....**$56.65**

**4" Side Wall Venting Kit.** Includes a 4" side wall vent cap, 4" wall thimble, 18" "B" vent, and "B" to "C" adapter. Required for venting single units through a side wall..

**No. 2C448.** Shpg. wt. 8.0 lbs. List $78.75. Each.....$65.05

# HYDRONIC UNIT HEATERS



Horizontal Unit
No. 1H202

Dayton®



Vertical Units
No. 3E414

Replacement Parts Available
1-800-323-0620™

- **Steam and hot water type**
- **TEAO, thermal overload protected motors**
- **115V, 1 Ph, 60Hz standard motor**
- **CSA Certified (30747 Standard)**

## HORIZONTAL DELIVERY UNIT HEATERS

**Heat transfer element.** Single or double pass serpentine design uses .030" wall seamless copper tubing as a primary surface and wide spaced, heavy-gauge aluminum fins as the secondary surface. Wide fin spacing simplifies cleaning and prevents clogging from dirt, lint, and other airborne substances. The copper tubes are expanded mechanically for a tight bond between the tubes and the fins. Design allows the element to withstand severe temperature cycling conditions under continuous service.

**Inlet/Outlet** fittings are made of copper using a closely machined female thread to accept standard threaded fittings. Fittings are brazed to serpentine coil to insure integrity of the coil at the most critical point of fabrication. Inlet and outlet are located on side(s) to save headroom.

**Enclosure** is two-piece, front and rear halves, and finished with baked on enamel paint. A venturi type air inlet provides efficien air delivery across the heating element.

**All units are leak tested** and rated for operation up to 150 PSI with temperatures to 375°F.

## VERTICAL DELIVERY UNIT HEATERS

**Heat transfer element.** Parallel tube design uses 0.028" wall seam less copper tubing as a primary surface and aluminum fins as the secondary surface. The copper tubes are expanded mechanically for a tight bond between the tubes and the fins.

**Headers** are steel construction and use male thread which accepts standard fittings. Headers are brazed to parallel tube coil.

**Enclosure** is of two-piece, die formed construction. The top cover incorporates a cooling cone which shields the motor from the heat of the hot coil when the fan is not operating.

**All units are individually tested** and rated to 150 PSI with tempera tures to 375°F.

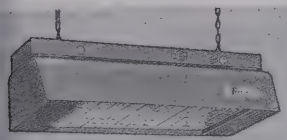
**Units are especially suited** for buildings with high ceilings.

## SPECIFICATIONS AND ORDERING DATA*†

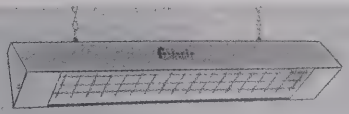
| Output, BtuH Steam 2 PSI | Output, BtuH 200°F Water Enter. 20°F Drop | CFM | Motor HP | Dimensions (In.) H | W | Dt | Supply and Return Connection (In.) | | Max. Mtg. Height (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HORIZONTAL DELIVERY UNIT HEATERS** | | | | | | | | | | | | | |
| **18,000** | 12,400 | 340 | 1/60 | 11½ | 12¾ | 6 | 1/2 | | 8 | **1H205** | $337.62 | **$270.50** | 16 |
| **33,000** | 21,600 | 630 | 1/25 | 15 | 17½ | 8¾ | 3/4 | | 10 | **1H202** | 464.10 | **371.50** | 34 |
| **47,000** | 30,800 | 730 | 1/12 | 15 | 17½ | 8¾ | 3/4 | | 12 | **1H201** | 541.62 | **433.50** | 36 |
| **63,000** | 44,800 | 1120 | 1/12 | 18½ | 21½ | 8¾ | 3/4 | | 14 | **1H200** | 609.96 | **488.75** | 48 |
| **86,000** | 62,600 | 1340 | 1/8 | 18½ | 21½ | 8¾ | 3/4 | | 15 | **1H199** | 639.54 | **512.50** | 52 |
| **121,000** | 91,900 | 1775 | 1/6 | 22½ | 25½ | 9½ | 3/4 | | 16 | **1H207** | 805.80 | **645.00** | 76 |
| **165,000** | 131,900 | 3240 | 1/3 | 26½ | 29½ | 9¼ | 3/4 | | 19 | **1H206** | 1009.80 | **808.00** | 92 |
| **193,000** | 145,200 | 2900 | 1/3 | 30 | 32½ | 9¼ | 1¼ | | 18 | **1H204**** | 1193.40 | **954.00** | 98 |
| **290,000** | 228,600 | 4590 | 1/2 | 38 | 38½ | 12½ | 1¼ | | 20 | **1H203**** | 1705.44 | **1365.00** | 168 |
| **VERTICAL DELIVERY UNIT HEATERS** | | | | | | | | | | | | | |
| **59,000** | 42,900 | 1155 | 1/30 | 24⅛ Dia. | | 5¼ | 1¼ | 1¼ | 14 | **3E414** | 599.76 | **505.00** | 36 |
| **95,000** | 69,800 | 1665 | 1/15 | 24⅛ | | 8¼ | 1¼ | 1¼ | 15 | **3E415** | 721.14 | **607.00** | 48 |
| **139,000** | 107,400 | 2660 | 1/6 | 34¼ | | 7 | 1½ | 1 | 18 | **3E416** | 838.44 | **709.00** | 70 |
| **161,000** | 124,200 | 3200 | 1/3 | 34¼ | | 8½ | 1½ | 1 | 20 | **3E417** | 996.54 | **847.00** | 80 |
| **193,000** | 148,800 | 3500 | 1/3 | 34¼ | | 10 | 1½ | 1 | 22 | **3E418** | 1186.26 | **1005.00** | 86 |
| **247,000** | 189,800 | 4820 | 1/2 | 34¼ | | 13 | 2 | 1¼ | 26 | **3E419** | 1337.22 | **1137.00** | 108 |
| **279,000** | 214,000 | 5460 | 1/2 | 34¼ | | 14½ | 2 | 1¼ | 30 | **3E420** | 1363.74 | **1158.00** | 112 |

(*) Refer to Terminology and Technical Data Section for Determing Heat Requirements.
(†) Depth shown is without motor.
(‡) Steam inlet at top; water inlet at bottom. (**) Pipe Fittings on left and right hand side.

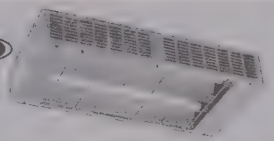
# ELECTRIC INFRARED HEATERS



No. 2V342



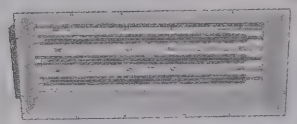
No. 5H374



No. 4E525



No. 3E431



No. 3E545

Replacement Parts Available 1-800-323-0620

**l Sun-Mite electric infrared heaters provide safe,** efficient electric frared heat without fumes, vapors or gases. Widely used in rm buildings, garages, factories, and store rooms. All models onsume up to 40-50% less energy than conventional forced-air stems, and feature gold anodized aluminum reflectors for maxnum reflectivity and precision heat patterns. Fostoria Sun-Mite rand.

## STANDARD UNITS

- **Quartz tubes rated for 5000 hr. life expectancy**
- **Mounting provisions with raised slots or tabs for chain suspension**
- **Two 4-ft. chains and four "S" hooks provided**

**o. 5H374 uses one 550W/120V quartz tube.** Protective chrome-lated steel wire-guard. Mount 2 to 6 ft. above area to be heated. ft., 3-wire grounded cordset with molded plug. Gold anodized uminum housing. UL Listed (E154519).

**o. 2V342 includes two 450W/120V quartz tubes.** Features separate witches for single or dual tube operation. Protective chrome-lated steel wire-guard. Mount 4 to 6 ft. above area to be heated. ft., 3-wire grounded cordset with molded plug. Steel housing ith high temperature baked-on brown enamel finish. UL Listed 2154519).

**os. 3E431 and 3E432:** No. 3E431 uses one 1500W/120V quartz ıbe; No. 3E432 uses one 3000W/240V quartz tube and NEMA 6-15P plug. Mount 7 to 10 ft. above area to be heated. 6 ft., 3-wire grounded cordset with molded plug. Steel housing with high temperature baked-on brown enamel finish. UL Listed (E32304).

**Nos. 4E525 and 4E526:** No. 4E525 uses two 1000W/120V quartz tubes with separate switches for single or dual tube operation; No. 4E526 uses four 1425W/240V quartz tubes with separate switches for either two tube or four tube operation. Protective chrome-plated steel wire-guards. No. 4E525 has 15 ft., 3-wire cordset with NEMA 5-20P molded plug; No. 4E526 has 15ft., 3-wire cordset with NEMA L6-30P twist-lock plug. UL Listed (E154519) for permanently installed or suspended applications only.

## HEAVY-DUTY UNITS

- **For high vibration and high abuse applications**
- **6000, 13,500, and 27,000 watts, 3-PH.**

**All Heavy Duty Models** have a 0.040" gold anodized aluminum housing with reinforced front and corner construction. Extruded aluminum reflector with bright aluminum insert. Rugged U-shaped metal sheath heating elements with high-temperature silicon lead wires for easy connection to supply wiring. May be suspended by 14- or 16-gauge hardware chain or by rigid mounting with angle iron. Must be mounted 36" apart; 36" from a vertical surface and 24" from ceiling. Integral hanger brackets. UL Listed (E32304); CSA Certified (LR62141); 27.0 models UL Listed only.

| Stock No. | Watts | HEAT PATTERN COVERAGE AT FLOOR (Ft.) 4 Ft. | 5 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | WATTS DELIVERED Per Sq. Ft. 4 Ft. | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD-DUTY ELECTRIC INFRARED HEATERS** | | | | | | | | | | | | | | | | | | | | | |
| 5H374 | 550 | 5x5 | 7x7 | 9x9 | — | — | — | — | — | — | — | 22 | 11 | 7 | — | — | — | — | — | — | — |
| 2V342 | 900 / 450 | 5x5 | 7x7 | 9x9 | — | — | — | — | — | — | — | 36 | 18 | 11 | — | — | — | — | — | — | — |
| 3E431 | 1500 | — | 10x8 | 12x10 | 14x12 | — | — | — | — | — | — | — | 19 | 12 | 9 | — | — | — | — | — | — |
| 4E525 | 1000/ 2000 | — | 7x7 | 9x9 | 11x11 | 13x13 | — | — | — | — | — | — | 45 | 22 | 15 | 12 | — | — | — | — | — |
| 3E432 | 3000 | — | 11x8 | 13x10 | 15x12 | 17x14 | — | — | — | — | — | — | 34 | 23 | 17 | 13 | — | — | — | — | — |
| 4E526 | 2850/ 5700 | — | — | 9x9 | 11x11 | 13x13 | 15x15 | — | — | — | — | — | 130 | 64 | 44 | 32 | 25 | — | — | — | — |
| **HEAVY-DUTY ELECTRIC INFRARED HEATERS** | | | | | | | | | | | | | | | | | | | | | |
| 2E971-2E973 | 6000 | — | — | — | 12x10 | 14x12 | 16x14 | 18x16 | — | — | — | — | — | 75 | 50 | 38 | 25 | 20 | — | — | — |
| 3E345-3E547 | 13,500 | — | — | — | — | 15x13 | 18x16 | 21x18 | 24x20 | 26x21 | — | — | — | 150 | 100 | 70 | 50 | 40 | 30 | — | — |
| 3UD71-3UD72 | 27,000 | — | — | — | — | — | 21x16 | 24x18 | 27x20 | 29x21 | 31x23 | — | — | — | — | — | 80 | 62 | 50 | 44 | 38 |

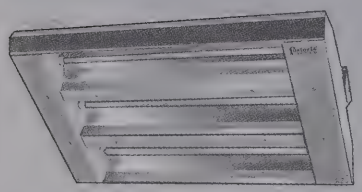
## ELECTRIC INFRARED HEATER ORDERING DATA

| Watts | BtuH | Volts 60 Hz* | Amps | Phase | Dimensions (In.) H | W | L | Fostoria Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **STANDARD-DUTY ELECTRIC INFRARED HEATERS** | | | | | | | | | | | | |
| **550** | 1877 | 120 | 4.6 | 1 | 3¼ | 4¼ | 22 | FFH-512A | **5H374** | $122.80 | **$81.40** | 3.0 |
| **900/450** | 3072 / 1536 | 120 | 7.5 / 3.8 | 1 | 4¼ | 5¼ | 16.5 | FFH-912B | **2V342** | 165.18 | **138.15** | 7.0 |
| **1500** | 5118 | 120 | 12.5 | 1 | 3⅜ | 5½ | 46 | CH-46C | **3E431** | 159.51 | **120.05** | 8.5 |
| **2000/1000** | 6826/ 3413 | 120 | 16.7 / 8.33 | 1 | 11 | 3¾ | 23 | CH-2212-1C | **4E525** | 342.98 | **280.00** | 14.0 |
| **3000** | 10,236 | 240* | 12.5 | 1 | 3⅜ | 5½ | 57 | CH-57C | **3E432** | 179.61 | **149.40** | 12.0 |
| **5700 /2850** | 19,454 / 9727 | 240* | 23.75 / 11.9 | 1 | 19 | 3¾ | 32 | CH-6424-1C | **4E526** | 583.25 | **490.00** | 28.0 |
| **HEAVY-DUTY ELECTRIC INFRARED HEATERS** | | | | | | | | | | | | |
| **6000** | 20,478 | 208 | 17.0 | 3† | 6½ | 20 | 27 | CH-620-3A | **2E971** | 176.14 | **343.25** | 24.0 |
| **6000** | 20,478 | 240 | 14.5 | 3† | 6½ | 20 | 27 | CH-624-3A | **2E972** | 539.62 | **343.25** | 24.0 |
| **6000** | 20,478 | 480 | 7.5 | 3† | 6½ | 20 | 27 | CH-648-3A | **2E973** | 539.62 | **343.25** | 24.0 |
| **13,500** | 46,076 | 208 | 37.5 | 3† | 6½ | 20 | 51 | CH-1320-3A | **3E545** | 751.71 | **536.50** | 34.0 |
| **13,500** | 46,076 | 240 | 33.0 | 3† | 6½ | 20 | 51 | CH-1324-3A | **3E546** | 751.71 | **536.50** | 34.0 |
| **13,500** | 46,076 | 480 | 17.0 | 3† | 6½ | 20 | 51 | CH-1348-3A | **3E547** | 751.71 | **536.50** | 34.0 |
| **27,000** | 92,151 | 240 | 64.8 | 3† | 14⅜ | 28⅛ | 96⅛ | CH-2724-3B | **3UD71** | 1835.00 | **1168.00** | 307.0 |
| **27,000** | 92,151 | 480 | 32.4 | 3† | 14⅜ | 28⅛ | 96⅛ | CH-2748-3B | **3UD72** | 1835.00 | **1168.00** | 307.0 |

*) 240V unit will operate on 208V, with 25% decrease in BtuH output. (†) Units can be field converted for single phase operation.

# 3-ELEMENT STAINLESS STEEL INDOOR/OUTDOOR INFRARED HEATERS

fostoria®
Quality Since 1917



No. 3UD60

UL® c UL®

E32304

Replacement Parts Available
1-800-323-0620™

## REFLECTOR BEAM PATTERNS AVAILABLE

**Indoor Mounting Heights of 10 ft. and Above**

30° Symmetric

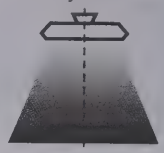


30° Asymmetric



**Indoor Mounting Heights of 8 ft. to 18 ft.**

60° Symmetric



60° Asymmetric



**Indoor Mounting Heights of 8 ft. to 10 ft.**

90° Asymmetric



Outdoor—Use 30° patterns at 7 ft. to 10 ft. mounting heights. Asymmetric patterns can be achieved by tilting fixture. Use optional mounting bracket No. 4E231 see page 3337.

- **UL and C-UL Listed for suspended, totally exposed outdoor and indoor applications**
- **Three reflectors for maximum pattern control**
- **Stainless steel housing, hardware, and brackets**
- **No ferrous metals used in the unit**
- **Gold anodized aluminum reflectors and end caps**
- **High temperature lead wires**
- **Single or three phase wiring**
- **Optional mounting bracket, No. 4E231, sold on page 3409**
- **Knockouts for 1/2" conduit on both ends and centered on top of the wiring channel**
- **Optional recessed mounting improves the appearance of indoor drop ceiling applications (see Recessed Mounting Frames on page 3UD75)**
- **Optional Ruby Red Vycor® sleeves filter out bright light**

The 3-element (lamp) Mul-T-Mount Series Infrared Heater has all of the features of the 2-lamp models, but also provides 50% more watt density for a given reflector pattern. They provide for a balanced 3-phase load when wiring to a 3-phase system. Can be used for indoor or outdoor industri and commercial applications.

For easy installation, a "T" tab on the to of the heater suspends it from its mountir bracket/wiring channel while it is beir wired—so only one person is needed t install heater. Wiring channels are the fu length of the unit to help when formir continuous rows of heaters. Fixtu should be mounted a minimum of 3" fro ceiling, 24" from vertical surface, and 3 apart. Any combustible surface or objec excluding people, should be a minimu 62" from direct radiation of the heater.

(*) These 3-element heaters provide for a balanced 3-phase load when wired to a 3 phase system. Can be wired for single phase operation also.

## HEATER SELECTION GUIDE—INDOOR AND OUTDOOR APPLICATIONS

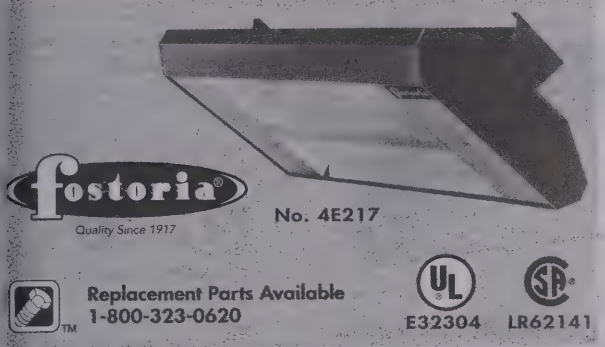
| Reflector Pattern (°) | Heater Output (kw) | Heat Pattern Coverage At Floor (Ft.) (L x W) 8 Ft. | 10 | 12 | 14 | 16 | 18 | 20 | 22 | Watts Delivered Per Square Foot 8 Ft. | 10 | 12 | 14 | 16 | 18 | 20 | 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 4.8 | 5½ x 6 | 6½ x 7 | 7½ x 8 | 8½ x 9 | 9½ x 10 | 10½ x 11 | 11½ x 12 | — | 145 | 105 | 80 | 63 | 51 | 42 | 35 | |
| 60 | 4.8 | 10½ x 11 | 13 x 13 | 15 x 15 | 17 x 17 | 19x19 | — | — | — | 42 | 28 | 21 | 17 | 13 | — | — | |
| 90 | 4.8 | 17 x 17 | 21 x 21 | — | — | — | — | — | — | 17 | 11 | — | — | — | — | — | |
| 30 | 10.95 | — | 9 x 7 | 9½ x 8 | 10½ x 9 | 11½ x 10 | 12½ x 11 | 13½ x 12 | 14½ x 13 | — | 174 | 144 | 115 | 95 | 80 | 68 | 5 |
| 60 | 10.95 | — | 15 x 13 | 17 x 15 | 19 x 17 | 21½ x 19 | 24 x 22 | — | — | — | 56 | 43 | 34 | 27 | 21 | — | |
| 90 | 10.95 | 7x4 | 23x21 | 27x25 | — | — | — | — | — | 34 | 23 | 16 | — | — | — | — | |

## INFRARED HEATER ORDERING DATA

| KW | BtuH | Volts 60 Hz | Amps 1-Ph / 3-Ph | Phase* | Beam Pattern | Dimensions, (In.) H | W | L | Fostoria Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4.8** | 16,382 | 208 | 23.1/13.3 | 1 or 3 | 30° Sym. | 7⅛ | 21½ | 24 | 223-30-TH-208V-SS | **3UD60** | $740.00 | **$470.75** | 25. |
| **4.8** | 16,382 | 240 | 20/11.6 | 1 or 3 | 30° Sym. | 7⅛ | 21½ | 24 | 223-30-TH-240V-SS | **3UD61** | 740.00 | **470.75** | 25. |
| **4.8** | 16,382 | 208 | 23.1/13.3 | 1 or 3 | 60° Sym. | 7⅛ | 21½ | 24 | 223-60-TH-208V-SS | **3UD62** | 740.00 | **470.75** | 25. |
| **4.8** | 16,382 | 240 | 20/11.6 | 1 or 3 | 60° Sym. | 7⅛ | 21½ | 24 | 223-60-TH-240V-SS | **3UD63** | 740.00 | **470.75** | 25. |
| **4.8** | 16,382 | 208 | 23.1/13.3 | 1 or 3 | 90° Sym. | 7⅛ | 21½ | 24 | 223-90-TH-208V-SS | **3UD64** | 740.00 | **470.75** | 25. |
| **4.8** | 16,382 | 240 | 20/11.6 | 1 or 3 | 90° Sym. | 7⅛ | 21½ | 24 | 223-90-TH-240V-SS | **3UD65** | 740.00 | **470.75** | 25. |
| **10.95** | 37,372 | 480 | 22.9/13.2 | 1 or 3 | 30° | 7⅛ | 21½ | 24 | 463-30-TH-480V-SS | **3UD68** | 1191.00 | **758.00** | 39. |
| **10.95** | 37,372 | 480 | 22.9/13.2 | 1 or 3 | 60° | 7⅛ | 21½ | 24 | 463-60-TH-480V-SS | **3UD69** | 1191.00 | **758.00** | 39. |
| **10.95** | 37,372 | 480 | 22.9/13.2 | 1 or 3 | 90° | 7⅛ | 21½ | 24 | 463-90-TH-480V-SS | **3UD70** | 1191.00 | **758.00** | 39. |

(*) These 3-element heaters provide for a balanced 3-phase load when wired to a 3-phase system. Can be wired for single phase operation also.

# INDOOR/OUTDOOR ELECTRIC INFRARED HEATERS




Replacement Parts Available
1-800-323-0620

E32304 LR62141

**REFLECTOR (BEAM) PATTERNS AVAILABLE**

| For Mounting Heights of 10′ and Above (Indoor) | | For Mounting Heights of 8′ to 18′ (Indoor) | | For Mounting Heights of 8′ to 10′ (Indoor) |
|---|---|---|---|---|
| 30° Symmetric | 30° Asymmetric | 60° Symmetric | 60° Asymmetric | 90° Asymmetric |



**OUTDOOR—Use 30° patterns at 7′ to 10′ mounting heights. Asymmetric patterns can be achieved by tilting fixture. Use Optional Mounting Bracket, No. 4E231, sold below.**

**ul-T-Mount series of electric infrared heaters** delivers 3200 (10,922 tu) or 7300 watts (24,915 Btu) of high efficiency electric ıfrared heat. **Can be used for indoor or outdoor** industrial or com-ıercial applications, such as: production or assembly areas, ›orting arenas, hangars, driveways, ice and snow melting at dewalks, or public entranceways.

**ll models are equipped with two clear quartz infrared lamps** (ele-ıents) which provide the highest infrared efficiency of any radi-nt heat source. Lamps deliver 94% of the installed load in the ›rm of direct infrared energy, directed toward the work area or ırface by gold-anodized aluminum reflectors. Optional red ycor® sleeves filter out light (to order sleeves, call 1-800-323-620.) Select from either a 30° symmetric, 60° symmetric, or 90° ymmetric beam pattern. Fixtures can be tilted to achieve any symmetric pattern, for wall mounted applications—see line rawings above. Can be individually staged to provide full On, 1/2 n, or full Off control.

**xture housing constructed of 20-gauge** corrosion-resistant steel. pecially designed T-tab wire channel enables "one-man" fixture ıstallation. Four high temperature lead wires provided for single r two-stage wiring, and for single or three phase heating sys-ems. Knockouts on both ends and centered on wire channel for rigid mounting; or heater can be chain suspended. 3" stand off mounting brackets included. For achieving 30° or 60° asymmetric pattern, use optional mounting bracket listed below. Fixture should be mounted a minimum 3" from ceiling, 24" from a vertical surface, and 36" apart. Any combustible surface or object should be a minimum 54" from direct radiation of the heater. All 3.2 kw heaters are UL and CSA Listed. Nos. 4E219 and 4E220 are UL Listed for operation at a max. of 7300W/600V and CSA Certified for operation at a max. of 6000W/480V. Fostoria brand.

These heaters are also available in 304 Stainless Steel, No. 3 Finish (grainline type), for any outdoor and many indoor applications. The entire housing is constructed of stainless steel. The hardware is stainless steel or aluminum. The reflectors and end caps are fabricated from highest quality gold anodized aluminum. These fixtures will not rust or corrode in damp or chemical laden atmospheres. Note: Recessing frames are available in Stainless Steel. (See Recessed Mounting Frames on page 3410). UL Listed.

## FOSTORIA® SUN-MITE® LIMITED WARRANTY

**Elements are warranted for 4-years, 5000 hour life expectancy. 1-year on all other parts. See "Mfrs.' Warranties" on page opposite inside back cover.**

## HEATER SELECTION GUIDE—INDOOR AND OUTDOOR APPLICATIONS

| eflector Pattern | Heater Output (kw) | Heat Pattern Coverage At Floor (Ft.) (L x W) 8′ | 10′ | 12′ | 14′ | 16′ | 18′ | 20′ | 22′ | Watts Delivered Per Square Foot 8′ | 10′ | 12′ | 14′ | 16′ | 18′ | 20′ | 22′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30° | 3.2 | | 6½ x 5½ | 7½ x 6½ | 8½ x 7½ | 9½ x 8½ | 10½ x 9½ | 11½ x 10½ | — | — | 90 | 66 | 50 | 39 | 32 | 26 | — |
| 60 | 3.2 | 10½ x 9½ | 13 x 12 | 15 x 14 | 17 x 16 | — | — | — | — | 32 | 20 | 15 | 12 | — | — | — | — |
| 90 | 3.2 | 17 x 16 | 21 x 20 | — | — | — | — | — | — | 12 | 8 | — | — | — | — | — | — |
| 30 | 7.3 | — | 9 x 6 | 9½ x 6½ | 10½ x 7½ | 11½ x 8½ | 12½ x 9½ | 13½ x 10½ | 14½ x 11½ | — | 135 | 118 | 93 | 75 | 61 | 51 | 44 |
| 60 | 7.3 | — | 15 x 12 | 17 x 14 | 19 x 16 | 21½ x 18½ | 24 x 21 | — | — | — | 41 | 31 | 24 | 18 | 14 | — | — |

## PAINTED INFRARED HEATER ORDERING DATA

| W | BtuH | Volts 60 Hz | Amps 1-Ph / 3-Ph | Phase* | Beam Pattern | Dimensions (In.) H | W | L | Fostoria Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .2 | 10,922 | 208 | 15.4 / 8.9 | 1 or 3 | 30° Sym. | 7½ | 15 | 24 | 222-30-TH / 208 | **5E159** | $403.67 | **$281.00** | 20.0 |
| .2 | 10,922 | 240 | 13.4 / 7.7 | 1 or 3 | 30 | 7½ | 15 | 24 | 222-30-TH / 240 | **4E217** | 380.78 | **281.00** | 20.0 |
| .2 | 10,922 | 277 | 11.6 / 6.7 | 1 or 3 | 30 | 7½ | 15 | 24 | 222-30-TH / 277 | **5E160** | 403.67 | **281.00** | 20.0 |
| .2 | 10,922 | 208 | 15.4 / 8.9 | 1 or 3 | 60 | 7½ | 15 | 24 | 222-60-TH / 208 | **5E161** | 403.67 | **281.00** | 20.0 |
| .2 | 10,922 | 240 | 13.4 / 7.7 | 1 or 3 | 60 | 7½ | 15 | 24 | 222-60-TH / 240 | **4E218** | 380.78 | **281.00** | 20.0 |
| .2 | 10,922 | 277 | 11.6 / 6.7 | 1 or 3 | 60 | 7½ | 15 | 24 | 222-60-TH / 277 | **5E162** | 403.67 | **281.00** | 20.0 |
| .2 | 10,922 | 208 | 15.4 / 8.9 | 1 or 3 | 90 | 7½ | 15 | 24 | 222-90-TH / 208 | **5E163** | 406.40 | **281.25** | 20.0 |
| .2 | 10,922 | 240 | 13.4 / 7.7 | 1 or 3 | 90 | 7½ | 15 | 24 | 222-90-TH / 240 | **5E164** | 406.40 | **281.25** | 20.0 |
| .2 | 10,922 | 277 | 11.6 / 6.7 | 1 or 3 | 90 | 7½ | 15 | 24 | 222-90-TH / 277 | **5E165** | 406.40 | **281.25** | 20.0 |
| .3 | 24,915 | 480 | 15.2 / 8.8 | 1 or 3 | 30 | 7½ | 15 | 46 | 462-30-TH / 480 | **4E219** | 621.64 | **529.50** | 32.0 |
| .3 | 24,915 | 480 | 15.2 / 8.8 | 1 or 3 | 60 | 7½ | 15 | 46 | 462-30-TH / 480 | **4E220** | 621.64 | **529.50** | 32.0 |
| | | | | | | | | | HAB-1-SS | **4E231** | 29.06 | **27.60** | 0.5 |

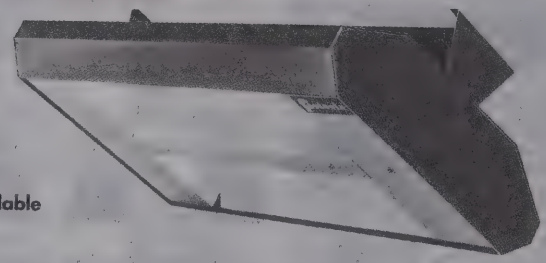
ptional Mounting Bracket: For tilting fixtures. Tilts fixture up to 30° from horizontal surface. 20-gauge ainless steel hinge bracket helps to convert symmetric coverage pattern to asymmetric pattern. urnished complete with hardware for easy mounting. Used on heaters on page 3408, 3407, and 3410.

*) Individual heaters are single phase, but can be wired for 3-phase service. 3 or more heaters are generally required for ballanced 3-phase wiring.

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# INFRARED HEATERS AND RECESSED FRAMES

fostoria® Quality Since 1917



For more information, see previous page.

Replacement Parts Available
1-800-323-0620

E32304 LR62141

## STAINLESS STEEL INFRARED HEATER ORDERING DATA

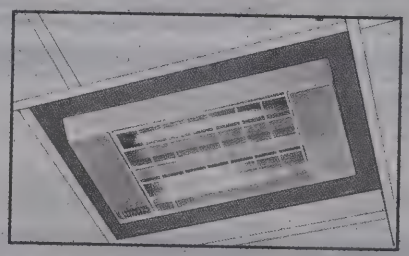
| KW | BtuH | Volts 60 Hz | Amps 1-Ph / 3-Ph | Phase* | Beam Pattern | Dimensions (In.) H | W | L | Fostoria Model | Stock No. | List | Each | Shp W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3.2** | 10,922 | 208 | 15.4 / 8.9 | 1 or 3 | 30° Sym. | 7½ | 15 | 24 | 222-30-TH / 208-SS | **3UD51** | $527.00 | **$335.25** | 18 |
| **3.2** | 10,922 | 240 | 13.4 / 7.7 | 1 or 3 | 30 | 7½ | 15 | 24 | 222-30-TH / 240-SS | **3UD52** | 527.00 | **335.25** | 18 |
| **3.2** | 10,922 | 277 | 11.6 / 6.7 | 1 or 3 | 30 | 7½ | 15 | 24 | 222-30-TH / 277-SS | **3UD53** | 527.00 | **335.25** | 18 |
| **3.2** | 10,922 | 208 | 15.4 / 8.9 | 1 or 3 | 60 | 7½ | 15 | 24 | 222-60-TH / 208-SS | **3UD54** | 527.00 | **335.25** | 18 |
| **3.2** | 10,922 | 240 | 13.4 / 7.7 | 1 or 3 | 60 | 7½ | 15 | 24 | 222-60-TH / 240-SS | **3UD55** | 527.00 | **335.25** | 18 |
| **3.2** | 10,922 | 277 | 11.6 / 6.7 | 1 or 3 | 60 | 7½ | 15 | 24 | 222-60-TH / 277-SS | **3UD56** | 527.00 | **335.25** | 18 |
| **3.2** | 10,922 | 208 | 15.4 / 8.9 | 1 or 3 | 90 | 7½ | 15 | 24 | 222-90-TH / 208-SS | **3UD57** | 527.00 | **335.25** | 18 |
| **3.2** | 10,922 | 240 | 13.4 / 7.7 | 1 or 3 | 90 | 7½ | 15 | 24 | 222-90-TH / 240-SS | **3UD58** | 527.00 | **335.25** | 18 |
| **3.2** | 10,922 | 277 | 11.6 / 6.7 | 1 or 3 | 90 | 7½ | 15 | 24 | 222-90-TH / 277-SS | **3UD59** | 527.00 | **335.25** | 18 |
| **7.3** | 24,915 | 480 | 15.2 / 8.8 | 1 or 3 | 30 | 7½ | 15 | 46 | 462-30-TH/480-SS | **3UD66** | 909.00 | **578.50** | 29 |
| **7.3** | 24,915 | 480 | 15.2 / 8.8 | 1 or 3 | 60 | 7½ | 15 | 46 | 462-60-TH/480-SS | **3UD67** | 909.00 | **578.50** | 29 |

(*) Individual heaters are single phase, but can be wired for 3-phase service. 3 or more heaters are generally required for balanced 3-phase wiring.

# RECESSED MOUNTING FRAMES

fostoria® Quality Since 1917

c UL E32304



No. 3UD75

The RMF Series recessing frames, fo indoor/outdoor infrared heaters, ar designed to mount the indoor/outdoor Mu T-Mount Heater when the application call for recessing heaters in overhead struc tures such as ceilings and canopies. Al heaters are C-UL Listed for recesse mounting. Frame holds and supports th heater in the ceiling and serves also t conceal the edges of the cut-out, for clean and attractive appearance. Frame are available to match painted or stainles steel 2- or 3-lamp models. Sturdy, steel o stainless steel one piece construction. T select the appropriate frame to match th heater being recessed, see below.

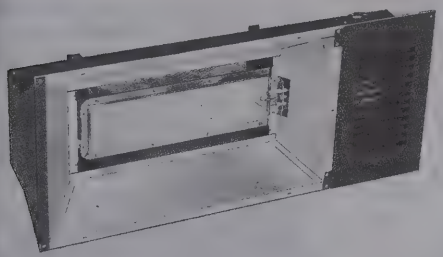
## RECESSED MOUNTING FRAME SELECTION GUIDE

| Finish | Use with Heater Series | Cut-Out Dimension (In.) | Fostoria Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Hi-Temp Painted Steel** | 3.2 KW, Painted Models | 27 x 18 | RMF-222-A | **3UD75** | $93.00 | **$59.15** | 7.2 |
| **Hi-Temp Painted Steel** | 7.3 KW, Painted Models | 49 x 18 | RMF-462-A | **3UD78** | 143.00 | **90.55** | 11.0 |
| **Stainless Steel** | 3.2 KW, Stainless Steel Models | 27 x 18 | RMF-222-SS-A | **3UD76** | 142.00 | **90.10** | 7.5 |
| **Stainless Steel** | 7.3 KW, Stainless Steel Models | 49 x 18 | RMF-462-SS-A | **3UD79** | 211.00 | **134.20** | 11.0 |
| **Stainless Steel** | 4.8 KW, Stainless Steel Models | 32 x 23 | RMF-223-SS | **3UD77** | 177.00 | **112.50** | 12.0 |
| **Stainless Steel** | 10.95 KW, Stainless Steel Models | 54 x 23 | RMF-463-SS | **3UD80** | 255.00 | **162.25** | 17.0 |

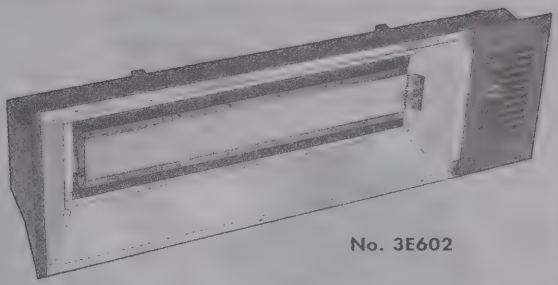
### ORDERING HAS NEVER BEEN EASIER!

**Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.**

# JNVENTED GAS-FIRED INFRARED HEATERS



No. 4E207



No. 3E602

PERFECTION-SCHWANK LIMITED WARRANTY

**15-Years on ceramics, steel burners; 1-Year on all other parts. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**



No. 3E604

**Replacement Parts Available**
**1-800-323-0620**

- **Natural and LP gas-fired infrared heaters**
- **Can be controlled by optional 24V thermostat**
- **No blowers required**

**ese natural and LP gas-fired infrared heaters** are used for spot, ea, and total heating applications. Ideal for loading docks, arehouses, shops, garages, factories, churches, and auto show oms, which require an attractive, enclosed heating system. nits heat people and objects, not air; save up to 50% in heating sts compared to conventional air warming heaters. Use for w, high ceiling installations, or upgrading existing heating sysms where better quality, longer life, and higher heating ficiencies are required.

**eassembled units** come ready to mount with easy installation and erating instructions.

**ounted horizontally** or up to a 30° angle from horizontal, for applition flexibility.

**or to heater distances,** ventilation requirements, and minimum earances to combustibles must be maintained.

**n be controlled by remote thermostat.** Use No. 2E156 or equivalent.

**quire no blowers,** venting or ductwork; however, must be used in ell-ventilated area.

**Heated area requires 4 CFM of exhaust ventilation** for every 1000 BtuH input for natural gas and 4.6 CFM for LP gas.

**Exclusive Schwank "effect" ceramic tile and stainless steel burner housing** used in all models. Provides high efficiency conversion of gas-air mixture to usable radiant energy. High temperature surface of ceramic tiles provides warming rays of heat.

**Highly polished aluminum reflectors** direct radiant heat to people and objects below.

**Solid state direct spark ignition system** provides positive ignition every time and 100% safety, through automatic gas shut-off control and pressure regulator.

**Gas and electric connections** are in convenient locations. Can use existing 1/2" NPT line for supply. **24VAC, 20VA, 60 Hz power required** (use No. 4X744 or equivalent transformer).

**Baked enamel steel cabinet** in chestnut brown color. Perfection-Schwank brand.

## MINIMUM CLEARANCE TO COMBUSTIBLES (In.)

| Model | Side | Rear | Top | Below | Front |
|---|---|---|---|---|---|
| 4E207, 4E208 | 30 | 30 | 30 | 60 | 60 |
| 3E602, 3E603 | 48 | 48 | 36 | 140 | 140 |
| 3E604, 3E605 | 48 | 48 | 36 | 140 | 140 |

## INFRARED HEATER SPECIFICATIONS AND ORDERING DATA

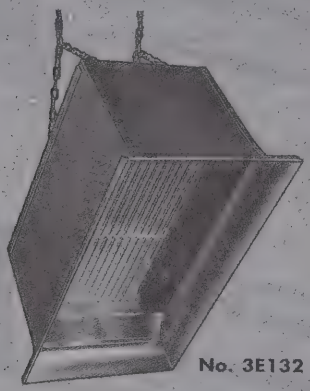
| BtuH Input | Dimensions (In.) H | W | D | Radiant Surface (Sq.-In.) | Typical Floor Coverage Dia. @ Mtg. Ht. | | Perfection-Schwank Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **NATURAL GAS** | | | | | | | | | | | |
| **35,000** | 10 1/16 | 19 | 39 1/8 | 93 | 20 ft. | 16 ft. | JK37QSSAN | **4E207** | $629.00 | **$502.00** | 42.0 |
| **71,500** | 10 3/16 | 19 | 57 7/16 | 186 | 25 | 24 | JK75QSSAN | **3E602** | 781.00 | **609.00** | 52.0 |
| **00,000** | 10 3/16 | 19 | 72 1/16 | 260 | 30 | 28 | JK1007QSSAN | **3E604** | 880.00 | **680.00** | 60.0 |
| **LP GAS** | | | | | | | | | | | |
| **35,000** | 10 1/16 | 19 | 39 1/8 | 93 | 20 | 16 | JK37QSSAL | **4E208*** | 629.00 | **502.00** | 42.0 |
| **71,500** | 10 3/16 | 19 | 57 7/16 | 186 | 25 | 24 | JK75QSSAL | **3E603** | 781.00 | **609.00** | 52.0 |
| **00,000** | 10 3/16 | 19 | 72 1/16 | 260 | 30 | 28 | JK100QSSAL | **3E605** | 880.00 | **680.00** | 60.0 |

30° Mounting only, on this unit.
These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

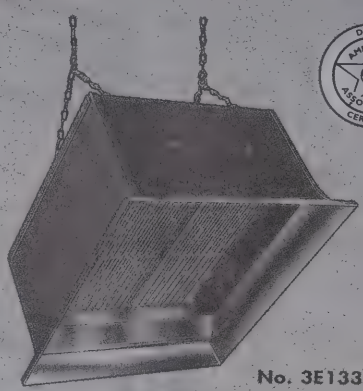
# UNVENTED GAS-FIRED INFRARED HEATERS

Dayton

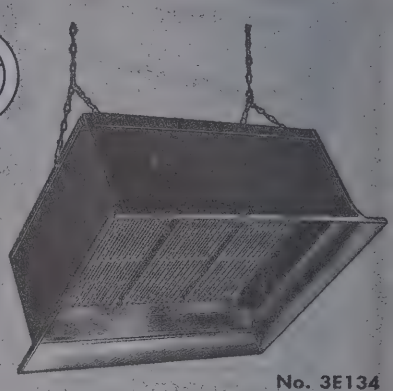
Replacement Parts Available
1-800-323-0620



No. 3E132



No. 3E133



No. 3E134

**DAYTON LIMITED WARRANTY**

10-Years on burners; 1-Year on all other parts. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- **NOT FOR RESIDENTIAL USE**
- **Superior ceramic grid**
- **Stainless steel radiating rods**
- **Noncorrosive materials throughout**
- **1/2" NPT gas inlet, 120V, 60 Hz power required**
- **Highly polished aluminum reflector**
- **Totally assembled; ready to hang**
- **Chain hanging set included**
- **Direct spark ignition**
- **Low maintenance; no moving parts**
- **Can be thermostatically controlled**

**These highly efficient infrared heaters are widely used for total or spot heating** in factories, warehouses, service garages, foundries, etc. 30-50% fuel savings over conventional systems. No warm up time needed. Impart instant, uniform heat directly to people and objects, which then heat surrounding air. Ideal for areas with large heat losses.

**Installation costs are low because units are preassembled** and ready to suspend on chains or steel brackets hung from ceilings, walls or beams. Gas and electrical connections are in convenient locations.

**All units acceptable** by Factory Insurance Association (FIA) and Factory Mutual (FM) insurance agencies. AGA Certified. 1/2" NPT gas line and 120V, 60 Hz power required.

**For high ceiling applications.** Gas-air mixture passes through a perforated ceramic refractory and ignites on its surface. This causes the ceramic material to heat to approximately 1780°F (high intensity) and generate large amounts of infrared radiation that is directed to the floor. Not recommended for car wash applications; see infrared tube heaters on page 3341.

**Aluminized and stainless steel construction** used throughout. Bright aluminum reflector. Equipped with 100% automatic gas shut-off control and pressure regulator. No blowers, venting or ductwork needed. Electronic ignition assures reliable operation. Can be controlled by remote thermostat, No. 2E347. Dayton brand.

**AREA HEATED**

| BtuH Input | Radiant Suface Square Inches | Typical Floor Coverage Dia. (Ft.) @ Mtg. Ht. (Ft.) | |
|---|---|---|---|
| 30,000 | 85 | 17-21 | 11-14 |
| 60,000 | 170 | 21-26 | 14-17 |
| 90,000 | 255 | 27-32 | 18-21 |

**Installation information**—Heated area requires 4 CFM of exhaust ventilation for every 1,000 BtuH of infrared heat (e.g. 120 CFM for a 30,000 BtuH heater, 240 CFM for a 60,000 BtuH heater, and 360 CFM for a 90,000 BtuH heater). Heaters must be mounted at a 20 to 35° angle from horizontal, preferably facing inward around the perimeter of heated area. See clearance to combustibles chart below.

**CLEARANCES TO COMBUSTIBLES**

| Stock No. | Side | Back | Top | Below |
|---|---|---|---|---|
| 3E132, 3E460 | 30" | 18" | 28" | 72" |
| 3E133, 3E461 | 32 | 18 | 40 | 72 |
| 3E134, 3E462 | 48 | 30 | 42 | 98 |

**DAYTON NATURAL GAS INFRARED HEATERS**

| BtuH Input | Overall Dimension (Inches) H | W | D | Radiant Surface (Sq. In.) | Typical Floor Coverage Dia. (Ft.) @ Mtg. Ht. (Ft.) | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **30,000** | 14⅜ | 12⅜ | 22½ | 85 | 17-21 @ 11-14 | **3E132** | $505.37 | **$354.50** | 25.0 |
| **60,000** | 14⅜ | 18⅞ | 22½ | 170 | 21-26 @ 14-17 | **3E133** | 609.35 | **452.50** | 35.0 |
| **90,000** | 14⅜ | 25⅜ | 22½ | 255 | 27-32 @ 18-21 | **3E134** | 724.67 | **544.00** | 46.0 |

**DAYTON LP GAS INFRARED HEATERS**

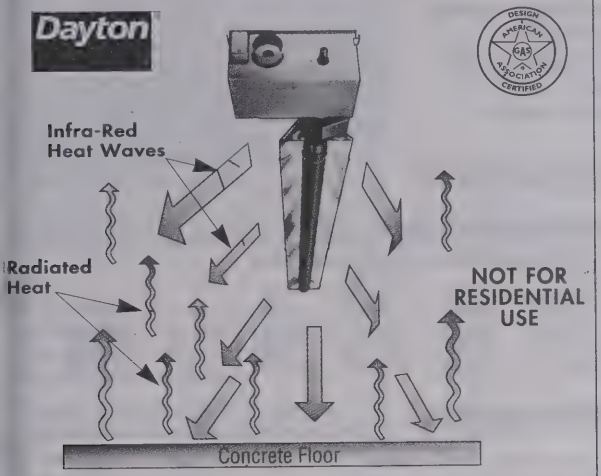
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **30,000** | 14⅜ | 12⅜ | 22½ | 85 | 17-21 @ 11-14 | **3E460** | 505.37 | **354.50** | 25.0 |
| **60,000** | 14⅜ | 18⅞ | 22½ | 170 | 21-26 @ 11-14 | **3E461** | 609.35 | **452.50** | 35.0 |
| **90,000** | 14⅜ | 25⅜ | 22½ | 255 | 27-32 @ 18-21 | **3E462** | 724.67 | **544.00** | 46.0 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

# GAS-FIRED INFRARED TUBE HEATERS

**HOW INFRA-RED WORKS:**

**An infra-red heater's tube and reflector heat the surface below. These surfaces warm up and return heat to the surrounding space.**




**Convert Single Tube Heaters into U-Tube or L-Shaped Heaters with 180° or 90° Bend Fittings, Nos. 3F835 & 3TZ71, sold separately below.**

- **100% Hot surface ignition provides reliability under adverse conditions**
- **4" Dia. interlocking tubes**
- **4" Dia. aluminized alloy combustion/heat exchangers enable high temperature and corrosion resistance—meet 500 hr. MIL salt spray tests**
- **Dual differential safety pressure switches**
- **Includes 24" stainless steel flex connector**
- **120V, 60 Hz power**
- **Ignition current amps, 4.8; running current amps, 1.1**
- **Chain mounting sets included**

**These infrared tube heaters** are an efficient way to heat factories, warehouses, service garages, car washes, and foundries—30-50% fuel savings over conventional systems. Units deliver low intensity heat and may be vented or unvented. For ceiling applications 12- to 40-ft. above finished floor. Compact blower/burner combination propels baffled hot gases through a 4" diameter, heavy-duty black-coated aluminized steel tube. Tube temperature reaches approximately 900°F (low intensity) and will radiate heat in the direction that the mirror polished aluminum reflector directs (adjustable 0° to 45°).

**Installation**—Heaters can be vented through a 4" flue or used unvented (see 3F839) which requires 4 CFM of mechanical ventilation per 1,000 btus of heater input capacity to indirectly vent the units. In a dusty, humid, or contaminated area, outside combustion air is highly recommended and can be supplied by using the standard 4" diameter intake collar. Sidewall venting requires a side wall venting kit, No. 2C448, sold below. Common vented units must be controlled by a single thermostat and must use a dual exhaust assembly, No. 3F817. 6" side wall venting kit, No. 2F211, sold separately below. Complete installation instructions included with each heater. AGA Design Certified. Dayton brand.

**DAYTON LIMITED WARRANTY**
**Five years on combustion and radiant exchangers. One year on all other components. Text available upon request. See "Manufacturers' Warranties on page opposite inside back cover.**

## HEATER SPECIFICATIONS & ORDERING DATA

| BtuH Input | Typical Heating Area (Ft.) Floor Coverage* | Minimum Mtg. Height | Clearance to Combustibles (In.) Ceiling | Below | Side | Dimensions (In.) H | W | L | NATURAL GAS Stock No. ❷ | PROPANE Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **75,000** | 24 x 44 | 12 | 15 | 70 | 24 | 8½ | 18 | 264 | **7A316** | **7A317** | $1147.50 | **$894.00** | 120.0 |
| **100,000** | 28 x 64 | 14 | 15 | 72 | 24 | 8½ | 18 | 496 | **7A318** | **7A319** | 1558.97 | **1205.00** | 180.0 |
| **125,000** | 30 x 64 | 15 | 15 | 74 | 30 | 8½ | 18 | 496 | **7A513** | **7A514** | 1679.95 | **1274.00** | 180.0 |
| **150,000** | 32 x 64 | 16 | 15 | 74 | 30 | 8½ | 18 | 496 | **7A515** | **7A516** | 1679.95 | **1274.00** | 180.0 |

These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
* Floor coverage based on total building heating. Spot heating coverage will vary.

## INFRARED TUBE HEATER ACCESSORIES

**ual Exhaust Assembly.** "Y"-shaped fitting used when common venting two heaters. Constructed of 16-gauge aluminized steel, black oated. Fitting is 4 x 4 x 6". Must be used when two units are eing common vented.

**o. 3F817.** Shpg. wt. 16.0 lbs. List $152.25. Each ..... **$138.50**

**" Side Wall Venting Kit.** Includes a 4" side wall vent cap, 4" wall himble, 18" "B" vent, and "B" to "C" adapter. Required for venting single units through a side wall.

**o. 2C448.** Shpg. wt. 8.0 lbs. List $78.75. Each ..... **$65.05**

**" Side Wall Venting Kit.** Includes a 6-in. side wall vent cap, 6-in. all thimble, 18-in. "B" vent, and "B" to "C" adapter. Required or common venting two units through a side wall.

**lo. 2F211.** Shpg. wt. 9.0 lbs. List $102.90. Each ..... **$96.55**

Unvented Outlet Cap. 4-in. OD with flapper. Required for use when installing a single tube heater unvented, insuring proper safety switch operation.

**lo. 3F839.** Shpg. wt. 2.0 lbs. List $26.33. Each ..... **$22.09**

**90° Elbow Pipe Fitting.** 90° L-shape Bend, 16-gauge aluminized steel elbow with black coating. Detroit Radiant brand (E-6).

**No. 3TZ71.** Shpg. wt. 7.0 lbs. List $73.00. Each ..... **$63.10**

**180° "U" Bend Fitting.** Used to turn a straight tube heater into a "U" configuration. Preferable for spot heating or when a wider heat floor coverage pattern is required. Constructed of 16-gauge aluminized steel, black coated tube, 4" diameter fitting with tube clamp and mounting materials included. Dayton brand.

**No. 3F835.** Shpg. wt. 18.0 lbs. List $94.50. Each ..... **$81.80**

**Outside Combustion Air Inlet Cap.** 4" OD with bird screen designed for connecting outside combustion air to a single unit with PVC or other suitable material. Mounts to the side wall of the building..

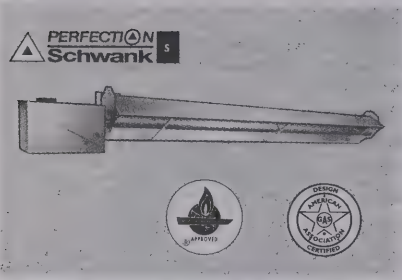
**No. 3F837.** Shpg. wt. 2.0 lbs. List $26.25. Each ..... **$15.95**

10-Ft. Tube & Reflector Extension. One of these extensions may be added to any of the above tube heaters. DO NOT use more than one per unit. Includes 10-ft. tube with black coating, reflector, tube clamp, and two wire hangers.

**No. 3VH27.** Shpg. wt. 45.0 lbs. List $209.00. Each ..... **$186.75**

# GAS INFRARED TUBE HEATERS

## INFRARED HEATERS




- **Positive pressure system**
- **Direct spark ignition with 100% shutoff for safety**
- **Easy service access through opening door to dust-free cabinet**
- **Approved for use in aircraft hangers and garages when installed in accordance with NFPA-54**
- **AGA/CGA Design Certified for natural or LP gas**

**Gas infrared tube systems** provide an energy efficient alternative to old outmoded boilers and hot air systems. Approved for vented, unvented, and sealed system applications. Infrared heats the floor slab and the machinery first, then the air. Personnel working in the "comfort zone" are blanketed by direct infrared from above, secondary infrared from below, and warm air rising from the floor. Gas infrared heating may be used in most commercial/industrial buildings—from low roof warehouses to high bay manufacturing areas. Realize 30-50% fuel savings over conventional type heating systems when applying infrared heat to your workspace. 120V, 60Hz, 1 amps required.

### HEATER SPECIFICATIONS & ORDERING DATA

| MBtuH Input | Typical Heating Area Floor Coverage | Typical Heating Area Min. Mtg. Ht. | Min. Clearance to Combustible Material Side | Ends | Top | Below | Dimensions, (In.) H | W | L * | NATURAL GAS MODELS Perfection-Schwank Model | Stock No.❷ | PROPANE GAS MODELS Perfection-Schwank Model | Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **80** | 24x30 | 12 | 36 | 18 | 12 | 59 | 13 | 13⅜ | 30.7 | STSP80N | **7A528** | STSP80L | **7A527** | $1417.23 | **$964.00** | 197.0 |
| **110** | 28x40 | 14 | 36 | 18 | 12 | 72 | 13 | 13⅜ | 40.3 | STSP110N | **7A524** | STSP110L | **7A523** | 1538.94 | **1047.00** | 239.0 |
| **130** | 30x40 | 15 | 36 | 18 | 12 | 72 | 13 | 13⅜ | 40.3 | STSP130N | **7A526** | STSP130L | **7A525** | 1582.22 | **1076.00** | 239.0 |

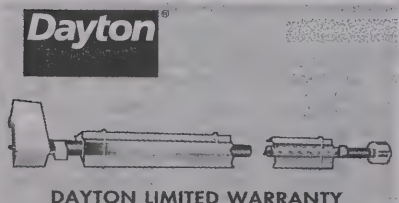
(*) Assembled length shown in feet.

### SHADE ASSEMBLY ORDERING DATA

| Elbow Angle | Description | Perfection-Schwank Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **90°** | Reflector material for left turn of system, 90° elbow, and coupling. Assembly required. | JA615 | **3VJ78*** | $142.00 | **$105.60** | 15.0 |
| **90°** | Reflector material for right turn of system, 90° elbow, and coupling. Assembly required. | JA616 | **3VJ79*** | 142.00 | **105.60** | 15.0 |
| **180°** | Reflector material for "U" bend in system, 180° elbow, and coupling. Assembly required. | JA617 | **3VJ80** | 231.00 | **172.25** | 20.0 |

(*) Select reflector from topview of heater.

## RESIDENTIAL GARAGE INFRARED TUBE HEATERS

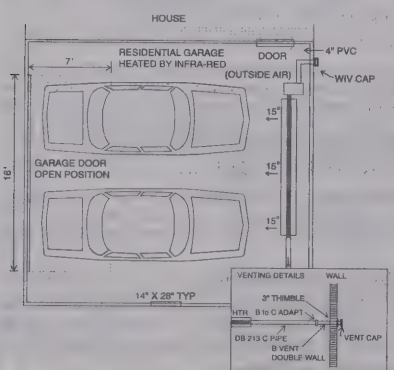



### DAYTON LIMITED WARRANTY

**Three years on combustion/heat exchanger. One year on all other parts. Text available upon request. See "Manufacturers' Warranties on page opposite inside back cover.**

- **Glo-Bar™ ignition system for reliability**
- **Dual safety pressure switches**
- **3' Dia. interlocking radiant tube with high emissive black coating**
- **Adjustable polished aluminum reflector directs heat**
- **Stainless steel internal baffle adds efficiency**
- **24" Stainless steel gas flexible connector included**
- **Sidewall or roof vented — sidewall vent package available below**
- **Up to 2 units may be common vented — order dual exhaust fitting below**

**These residential garage tube heaters ar** approved for attached garages, solariums enclosed patios, swimming pool areas farm shops, work shops, etc. They provid efficient infrared heat where and whe needed. Units come equipped to accep outside combustion air. 120VAC, 60 Hz.




### HEATER SPECIFICATIONS

| Heater Stock Nos. | Minimum Clearance to Combustible Materials, In. (Normal Mount / @45°) Ceiling | Front | Below | Back | Side | Running Amps | Ignition Amps | Floor Coverage Dia. @ Mtg. Hgt. | |
|---|---|---|---|---|---|---|---|---|---|
| **7A509, 7A510** | 4/9 | 18/18 | 26/20 | 4/4 | 6/6 | 0.6 | 4.8 | 18-20 ft. | 8-9 ft. |

### HEATER ORDERING DATA

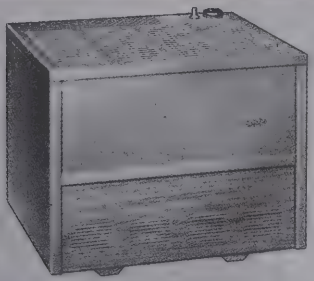
| BtuH Input | Dimensions, (In.) H | W | L | NATURAL GAS Stock No.❷ | PROPANE Stock No.❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **25,000** | 8½ | 18 | 135 | **7A509** | **7A510** | $1121.67 | **$826.00** | 80.0 |

### RESIDENTIAL GARAGE HEATERS ACCESSORY ORDERING DATA

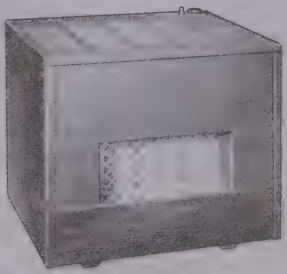
| Item | Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Sidewall Venting Package** | Includes 3" vent cap, wall thimble, 3x18" 'B' vent, and 'B' to 'C' adapter. | **3VH28** | $73.00 | **$65.40** | 9.0 |
| **Dual Exhaust Fitting** | Includes 3x3x4" Y-shaped fitting clamps. Use No. 2C448 vent package, sold separately. | **3VH29** | 137.00 | **122.00** | 14.0 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

# ENCLOSED & RADIANT FRONT VENTED GAS CONSOLE HEATERS



COZY



**Replacement Parts Available**
**1-800-323-0620**

Venting—These heaters are designed to be vented in accordance with National Fuel Gas Code ANSI-Z223.1 and must therefore be connected to a gas vent, chimney or single-wall metal pipe venting system that is engineered and constructed to develop a positive flow adequate to remove flue gases to the outside atmosphere.

- **Top Operated Controls**
- **Thermostat sensing bulb**
- **100% Safety Pilot/Built-in Pressure Regulator**
- **Built-In Draft Diverter**
- **Cast-iron, slotted port burner**
- **Side access door**
- **Multi-louvered top/lower casing front—Assures maximum heat transer. Directs warm air evenly throughout the area**
- **Continuous-seam welded combustion chamber—durably constructed of heavy-duty steel for maximum, rapid heat transer**
- **Matchless spark ignition for lighting pilot light**
- **Vent spill safety switch automatically shuts unit off in the event of flue blockage or incorrect vent installation**

Vented console heaters are available in closed front (20M, 35M, 50M, and 70M BtuH) offering high styling and circulating warmth, or radiant front (35M, 50M, and 70M BtuH) with radiating and circulating warmth.

**Infinite speed thermostatic blower** is optional for 35M and 50M BtuH units and is standard on 50M BtuH radiant and all 70M BtuH units. Blower tubes are built between legs on all units (except 20M BtuH). Air moves through unit casing, heated and distributed at floor level (counterflow action) for warm floor effect. Controls mount at unit upper left rear. Positive "Off", infinite-speed, 115V, 60Hz with 6' three-prong cord set.

**No. 3VJ31.** Shpg. wt. 6.0 lbs. List .....$241.28
Each .....**$169.50**

## ENCLOSED FRONT CONSOLE HEATER SPECIFICATIONS & ORDERING DATA

| BtuH Input | Dimensions (In.) H | W | D | Vent Size (In.) | Vent Center to Floor (In.) | NATURAL GAS Cozy Model | NATURAL GAS Stock No. ❷ | PROPANE Cozy Model | PROPANE Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20,000** | 20 | 24 | 15¼ | 3 | 16¼ | VC201A | **3VJ38** | VC202A | **3VJ39** | $625.11 | **$421.25** | 62.0 |
| **35,000** | 26 | 30 | 15¼ | 4 | 21¾ | VC351A | **3VJ40** | VC352A | **3VJ41** | 725.81 | **489.25** | 94.0 |
| **50,000** | 26 | 30 | 19¼ | 4 | 21¾ | VC501A | **3VJ42** | VC502A | **3VJ43** | 867.54 | **585.00** | 111.0 |
| **70,000** | 30 | 36 | 19¼ | 5 | 25½ | VC701A-BM | **3VJ44*** | VC702A-BM | **3VJ45*** | 1219.97 | **822.50** | 148.0 |

## RADIANT FRONT CONSOLE HEATER SPECIFICATIONS & ORDERING DATA

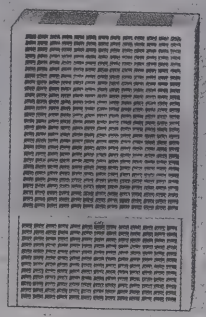
| BtuH Input | Dimensions (In.) H | W | D | Vent Size (In.) | Vent Center to Floor (In.) | NATURAL GAS Cozy Model | NATURAL GAS Stock No. ❷ | PROPANE Cozy Model | PROPANE Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **35,000** | 26 | 30 | 15¼ | 4 | 21¾ | VCR351A | **3VJ46** | VCR352A | **3VJ47** | $881.13 | **$594.00** | 96.0 |
| **50,000** | 26 | 30 | 19¼ | 4 | 21¾ | VCR501A-BM | **3VJ48*** | VCR502A-BM | **3VJ49*** | 1286.51 | **866.50** | 102.0 |
| **70,000** | 30 | 36 | 19¼ | 5 | 25½ | VCR701A-BM | **3VJ50*** | VCR702A-BM | **3VJ51*** | 1411.59 | **951.50** | 129.0 |

* Equipped with counterflow blowers.
These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch listing or call any California branch.


## DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# DIRECT VENT CONSOLE THRU-THE-WALL FURNACES



No. 3VJ20

COZY

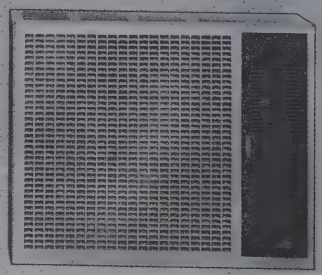
Replacement Parts Available
1-800-323-0620

DESIGN AMERICAN GAS ASSOCIATION CERTIFIED

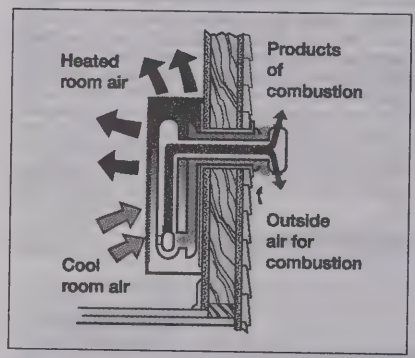
APPROVED

**COZY LIMITED WARRANTY**

10-Yrs non-pro rated on heat exchanger, 1-year on other components. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



No. 3VJ22




- Vent assembly included
- Cast-iron slotted port burner
- Matchless piezo ignition system for lighting pilot light
- 100% safety pilot and pressure regulator
- Bee and varmint-proof vent cap
- Burner observation glass and front access burner assembly removal
- 750 millivolt stat. included

Replacement Parts Available
1-800-323-0620

The sealed combustion direct vent mount on any outside wall and uses no room ai for combustion, making them safe t install in sleeping quarters. Standard ven telescopes to fit 5"-9" wall.

All units require 9" wall opening an include mounting template.

**VARIABLE SPEED CONTROL BLOWER No. 3VJ32 FOR MODEL Nos. 3VJ22, 3VJ23, 3VJ24, AND 3VJ25**

Blower enhances warm-air circulation an minimizes air stratification. Infinite speed control minimizes noise. 1500 RPM motor 115V, 60Hz with 6-ft., three-prong cord. No blower available for Nos. 3JV20 and 3JV21

**No. 3VJ32.** Shpg. wt. 7.0 lbs. List .....$166.27
Each.....**$116.50**

## HEATER SPECIFICATIONS & ORDERING DATA

| BtuH Input | Overall Dimensions (In.) H | W | D | NATURAL GAS Cozy Model | NATURAL GAS Stock No. ❷ | PROPANE Cozy Model | PROPANE Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **15,000** | 28¼ | 18 | 9¾ | CDV155A | **3VJ20** | CDV156A | **3VJ21** | $718.03 | **$483.75** | 70.0 |
| **25,000** | 31½ | 34½ | 9¾ | CDV255A | **3VJ22** | CDV256A | **3VJ23** | 875.46 | **590.50** | 115.0 |
| **33,000** | 31½ | 34½ | 9¾ | CDV335A | **3VJ24** | CDV336A | **3VJ25** | 933.65 | **629.00** | 115.0 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

**Vent Extension Kits** include new air intake and exhaust tubes and new gasket for each tube to replace standard vent kit for walls from 9" - 24" thick. **NOTE:** Nos. 3VJ24 and 3VJ25 can only be extended to 15" maximum wall thickness.

## VENT EXTENSION KITS ORDERING DATA

| Wall Thickness (In.) | Fits Wall Thermostat Nos. | Cozy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **9 - 15** | 3VJ20, 3VJ21 | VK15/9-15" | **3VJ53** | $81.59 | **$57.20** | 8.0 |
| **9 - 15** | 3VJ22, 3VJ23, 3VJ24* and 3VJ25* | VK2533/9-15" | **3VJ55** | 84.04 | **58.95** | 8.0 |
| **15 - 24** | 3VJ20, 3VJ21 | VK15/15-24" | **3VJ52** | 86.88 | **60.95** | 10.0 |
| **15 - 24** | 3VJ22, 3VJ23 | VK25/15-24" | **3VJ54** | 86.88 | **60.95** | 10.0 |

(*) Nos. 3VJ24 and 3VJ25 only accept extensions to a maximum of 15 in.

## SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

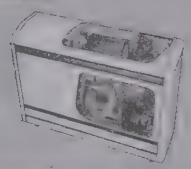
# DIRECT VENT GAS HEATERS

## FASHIONAIRE ELITE DIRECT VENT GAS SPACE HEATER

- **Convenient control center with high visibility LED status lights**
- **Oystershell finish**
- **Non-corrosive vent and inshot burners**
- **Easy access for heater maintenance**
- **Simple installation**
- **Insulated wall shroud included**

PERFECTION Schwank

New



No. 4MC21

) other space heater can offer you such an array of high-technology features. The con-)l center displays temperature range and heater setting all at the the touch of a button. ıergy saving vacation mode keeps heat at a constant temperature of 45°F. Special ild-proof mode prevents tampering of heat settings. A sophisticated built-in diagnos- center determines if and where there is a problem, then corrects it. Insulated cabinet eps outside cool to the touch. Rinnai brand.

### DIRECT VENT GAS SPACE HEATERS — SPECIFICATIONS

| ype of Gas | BTUH Input | Gas Inlet | Dimensions (In.) H | W | D | Model No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| atural | 38,000 | 1/2 | 29 | 37 | 11 | FAE38N | 4MC22 | $1531.58 | $1393.00 | 145.0 |
| ) | 38,000 | 1/2 | 29 | 37 | 11 | FAE38L | 4MC21 | 1531.65 | 1393.00 | 145.0 |

### DIRECT VENT GAS SPACE HEATERS — ACCESSORIES

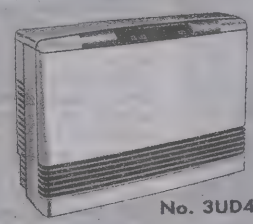
| Shipping Dim. (In.) | Application | Model No. | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 11 x 11 x 15½ | Vent kit for wall thickness 9" to 13" | TV380-13 | 4LZ83 | $130.52 | $118.70 | 8.0 |
| 11 x 11 x 15½ | Vent kit for wall thickness 13" to 20" | TV380-20 | 4LZ84 | 146.56 | 133.25 | 8.0 |
| 3 x 48 x 12 | Vent extension kit for up to 90° | BV380 | 4LZ81 | 1118.90 | 670.00 | 3.0 |
| 32 x 36 x 3 | Floor Pad | FP380 | 4LZ82 | 79.53 | 72.35 | 22.0 |

## HIGH EFFICIENCY VENTED GAS HEATERS

- **Heat Transfer—Stainless steel heat exchanger delivers 80% plus efficiency (depending on flue used)**
- **Dual Fans—Powerful and quiet, twin high-performance fans circulate huge volumes of clean, filtered, heated air**
- **Built-in humidifier**
- **Attractive, durable finish**
- **Automatic direct ignition**
- **Nos. 3UD47, 3UD48, 3UD49, and 3UD50 also feature: 7-step proportional gas valve/fan; LED temperature control with memory setting feature; child safety lock; economy mode**

eatures high efficiency direct vent design with sealed combus-on. Mounted and prewired to be plugged into 115V, 60Hz outlet. hese heaters require only one 3⅛" or 3¼" hole diameter thru all to provide both combustion and exhaust air. Vent kit includ-d covers 4½" to 9½" thick walls. Nos. 3UD47, 3UD48, 3UD49, and UD50 include No. 3UD27 vent kit. Nos. 5E132 and 5E134 include lo. 6U693 vent kit. Optional wall vent lengths available for walls ver 9½" thick. See chart below. Minimum clearance is 2" on side, 0" on top, 40" on front, and 0" on floor. Extension kits available o vent heater on inside wall or in basement application (below rade level) or console-type installation is preferred.

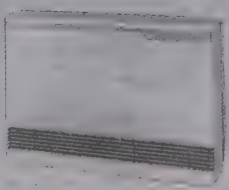
Rinnai



No. 3UD47

**RINNAI LIMITED WARRANTY**

**5 Years on all parts, 2 years on labor and shipping expenses associated with repair. Text of warranty available upon request. See "Manufacturers' Warranties" on page opposite inside back cover.**



Nos. 5E132 and 5E134

### WALL VENTING KITS

| Vent Hole Dia. (In.) | Extend (In.) From | To | Application | Mfr's. Model | Stock No.* | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3⅛ | 3 | 4½ | Thin Walls | FOT-150 | 3UD26 | $76.83 | $67.00 | 3.0 |
| 3⅛ | 4½ | 9½ | Wood Walls | FOT-151 | 3UD27 | 76.83 | 67.00 | 3.0 |
| 3⅛ | 9½ | 15¾ | Wood/Brick | FOT-152 | 3UD28 | 105.52 | 92.00 | 3.0 |
| 3⅛ | 15¾ | 23⅝ | Brick/Block | FOT-153 | 3UD29 | 105.52 | 92.20 | 4.0 |
| 3⅛ | 23⅝ | 31½ | Special | FOT-154 | 3UD30 | 159.27 | 139.15 | 4.0 |
| 3¼ | 4½ | 9½ | Wood Walls | A | 6U693 | 83.55 | 66.80 | 2.0 |
| 3¼ | 9½ | 15¾ | Wood/Brick | B | 5E135 | 111.65 | 91.90 | 2.3 |
| 3¼ | 15¾ | 23⅝ | Brick/Block | C | 5E136 | 111.65 | 91.90 | 3.3 |
| 3¼ | 23⅝ | 31½ | Special | D | 6U692 | 153.00 | 139.40 | 5.0 |

Note: Multiple lengths may be used to a max. 15' with 2, 90-bends with 15' lengths. Min. 12" above grade level and no closer than 9" to any air intake into structure NFPA-54 Code.

### VENT EXTENSION KITS

| Vent Hole Dia. (In.) | Extensions (In.) From | To | Mfr's. Model | Stock No.* | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3⅛ | 11.4 | 20.3 | FOT-155 | 3UD31 | $65.20 | $57.00 | 3.0 |
| 3⅛ | 21.0 | 39.6 | FOT-156 | 3UD32 | 92.62 | 80.80 | 4.0 |
| 3⅛ | 61.0 | 79.6 | FOT-157 | 3UD33 | 128.32 | 111.90 | 5.0 |
| 3⅛ | 90° Elbow & Clamps | | FOT-158 | 3UD34 | 37.70 | 32.95 | 1.0 |
| 3¼ | 11.4 | 20.3 | FOT-102 | 5E137 | 78.77 | 57.80 | 2.8 |
| 3¼ | 21.0 | 39.6 | FOT-103 | 5E138 | 105.76 | 80.85 | 3.0 |
| 3¼ | 61.0 | 79.6 | FOT-114 | 5E139 | 125.00 | 111.80 | 6.0 |
| 3¼ | 90° Elbow & Clamps | | FOT-115 | 6U691 | 49.31 | 34.05 | 1.0 |

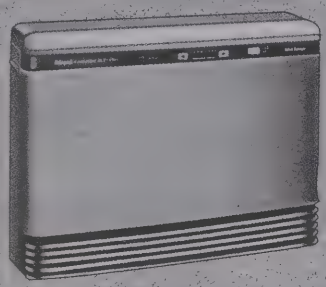
### HEATER ORDERING DATA

| Type of Gas | BtuH's Input | Output | Gas Inlet NPT | Overall Dimensions (In.) H | W | D | Rinnai Model | Stock No. ❷* | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Natural | 16,700 | 13,530 | 1/2" | 21⅜ | 29½ | 9⅛ | RHFE-431FA-IIIN | 3UD47* | $1344.88 | $1175.00 | 68.0 |
| Natural | 21,500 | 17,415 | 1/2 | 21⅜ | 29½ | 9⅛ | RHFE-556FA-IIIN | 3UD49* | 1527.42 | 1334.00 | 60.0 |
| Natural | 38,400 | 31,220 | 1/2 | 26⅛ | 36⅜ | 13 | RHFE-1001FA/VA-N | 5E132* | 1903.23 | 1627.00 | 119.0 |
| LP | 16,700 | 13,350 | 1/2 | 21⅜ | 29½ | 9⅛ | RHFE-431FA-LP | 3UD48* | 1344.88 | 1175.00 | 68.0 |
| LP | 20,700 | 16,770 | 1/2 | 21⅜ | 29½ | 9⅛ | RHFE-556FA-LP | 3UD50* | 1527.42 | 1334.00 | 60.0 |
| LP | 36,500 | 29,680 | 1/2 | 26⅛ | 35⅝ | 13 | RHFE-1001FA/VA-P | 5E134* | 1903.23 | 1627.00 | 119.0 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.
(*) Prices on these items are subject to change without notice. Contact local Grainger branch for current pricing.

# VENT-FREE GAS SPACE HEATERS

Rinnai



No. 3UD35

## SILENT SERVANT VENT-FREE CONVECTION HEATER

- Child safety lock
- Energy saving mode
- Filter indicator lamp
- No visible flame
- Oxygen depletion sensor
- Drafts are elminated by keeping heat at floor level with vents at base
- Super quiet operation
- Automatically modulates down to 5,000 Btu's (Constant burner flame)
- Nos. 3UD37 and 3UD38 include dual on/off timer and a remote control

**THREE-YEAR RINNAI LIMITED WARRANTY**

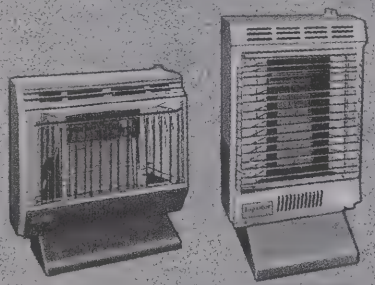
See "Manufacturer's Warranties" on page opposite inside back cover

### HEATER SPECIFICATIONS AND ORDERING DATA

| Type of Gas | BtuH Output | Dimensions (in.) H | W | D | Rinnai Model | Stock No.* | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Natural | 20,000 | 17½ | 22½ | 7¾ | RCE-506A-N | 3UD35† | $694.07 | $606.00 | 30.0 |
| Natural | 24,000 | 17½ | 22½ | 7¾ | RCE-606TRA-N | 3UD37 | 763.73 | 667.00 | 30.0 |
| LP | 19,000 | 17½ | 22½ | 7¾ | RCE-506A-P | 3UD36† | 694.07 | 606.00 | 30.0 |
| LP | 21,000 | 17½ | 22½ | 7¾ | RCE-606TRA-P | 3UD38 | 763.73 | 667.00 | 30.0 |

(*) Prices on these items are subject to change without notice. Contact your local branch for current pricing.
(†) Limited availability, contact your local branch.

Rinnai



No. 1K525 No. 1K539

## INFRARED GAS-FIRED HEATERS

**Vent-free heaters** deliver radiant and convection heat simultaneously for maximum comfort while preventing heat-loss through flues. Effective in hard to heat areas. No electricity needed—they work even when power fails. Can be wall or floor mounted with optional bases sold below. An oxygen depletion sensor shuts heater down if ventilation or oxygen levels become inadequate. A 100% fail-safe valve cuts off gas supply should the flame or pilot light become extinguished. Safety grill helps keep objects away from the burner plates. Top-mounted controls. Automatic piezo ignition. Heaters are slim-line designed and housed in champagne-beige colored cabinets that remain cool to the touch. AGA design certified. Rinnai brand.

**The Equator** heats small rooms like bathrooms and workrooms. 3-Year Warranty.

**The Bantam** heats mid to large size living areas. Available with a nonelectric thermostat that stays working even if the power fails. 3-Year Warranty

**The Glo-Ray** is suitable for supplemental heat in family room, basements and new additions. Complete with a built-in manually controlled, 2-speed fan. Base included for floor or wall mounting. 5-year warranty.

**The Tropic** heats mid-size rooms, a large living area, or even a small home with ease. Optional whisper quiet fan (not included see below). 3-position heat control LO/MED/HI. 4-year warranty.

**Prices on these items are subject to change without notice. Contact local branch for current pricing.**

| Item | Type of Gas | BtuH Output and Range | Heat Settings | Gas Inlet Size (In.) | Overall Dimensions (In.) H | W | D | Rinnai Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equator | Natural | 6000 | 1 | 3/8 NPT | 20⅜ | 13 1/16 | 7¼ | REH-6-3N | 1K521 | $188.96 | $164.00 | 14.0 |
| | Natural | 5500 - 10,000 | 2 | 3/8 | 20⅜ | 13 1/16 | 7¼ | REH-10-3N | 1K539 | 216.95 | 191.50 | 18.0 |
| | LP | 5600 | 1 | 3/8 | 20⅜ | 13 1/16 | 7¼ | REH-6-3P | 1K523 | 188.96 | 164.00 | 14.0 |
| | LP | 5000 - 9700 | 2 | 3/8 | 20⅜ | 13 1/16 | 7¼ | REH-10-3P | 1K541 | 216.95 | 191.50 | 18.0 |
| Bantam | Natural | 9000 - 18,000 | 2 | 3/8 | 19⅝ | 22 13/16 | 8⅜ | REH-18-3N | 1K537 | 253.41 | 231.50 | 24.0 |
| | Natural | 12,500 - 25,000 | 2 | 3/8 | 19⅝ | 27 | 8⅜ | REH-25-3N | 1K529 | 298.27 | 263.00 | 27.0 |
| | Natural | Pilot to 18,000 | Variable | 3/8 | 19⅝ | 22 13/16 | 8⅜ | REH-18T-3N | 1K533 | 335.98 | 296.00 | 24.0 |
| | Natural | Pilot to 25,000 | Variable | 3/8 | 19⅝ | 27 | 8⅜ | REH-25T-3N | 1K525 | 372.73 | 328.25 | 27.0 |
| | LP | 9100 - 17,000 | 2 | 3/8 | 19⅝ | 22 13/16 | 8⅜ | REH-18-3P | 1K515 | 259.14 | 231.50 | 24.0 |
| | LP | 13,000 - 24,000 | 2 | 3/8 | 19⅝ | 27 | 8⅜ | REH-25-3P | 1K531 | 298.27 | 263.00 | 27.0 |
| | LP | Pilot to 17,000 | Variable | 3/8 | 19⅝ | 22 13/16 | 8⅜ | REH-18T-3P | 1K535 | 335.98 | 296.00 | 24.0 |
| | LP | Pilot to 24,000 | Variable | 3/8 | 19⅝ | 27 | 8⅜ | REH-25T-3P | 1K527 | 372.73 | 328.25 | 27.0 |
| Glo-Ray | Natural | 7500 - 15,000 | 2 | 3/8 | 21 | 24 1/16 | 7 13/16 | REH-15DFN | 3UD39 | 519.23 | 446.00 | 36.0 |
| | Natural | 7500 - 23,000 | 3 | 3/8 | 21 | 24 1/16 | 7 13/16 | REH-23DFN | 3UD43 | 580.82 | 507.50 | 36.0 |
| | LP | 7500 - 14,000 | 2 | 3/8 | 21 | 24 1/16 | 7 13/16 | REH-15DFP | 3UD40 | 519.23 | 446.00 | 36.0 |
| | LP | 7500 - 21,000 | 3 | 3/8 | 21 | 24 1/16 | 7 13/16 | REH-23DFP | 3UD44 | 580.82 | 507.50 | 36.0 |
| Tropic | Natural | 6500 - 20,000 | 3 | 3/8 | 19 11/16 | 22 7/16 | 8 5/16 | REH-20DN | 3UD41 | 396.03 | 345.75 | 30.0 |
| | Natural | 6500 - 30,000 | 3 | 3/8 | 19 11/16 | 26 5/16 | 8 5/16 | REH-30DN | 3UD45 | 442.96 | 387.00 | 35.0 |
| | LP | 6500 - 19,500 | 3 | 3/8 | 19 11/16 | 22$>7/16 | 8 5/16 | REH-20DP | 3UD42 | 396.03 | 345.75 | 30.0 |
| | LP | 6500 - 29,000 | 3 | 3/8 | 19 11/16 | 26 5/16 | 8 5/16 | REH-30DP | 3UD46 | 442.96 | 387.00 | 35.0 |

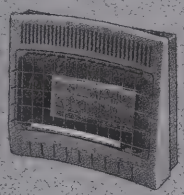
| Item | For Use With | Rinnai Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Floor Base | All Equator Heaters Above | REH6-100-3 | 1K509 | $45.80 | $37.70 | 3.0 |
| Floor Base | All Bantam Tropic Heaters Above | REH19D-150-3 | 1K511 | 60.43 | 48.35 | 20.0 |
| Fan | All Equator, Bantam, Tropic heaters listed | REH10-50 | 1K519 | 65.00 | 48.05 | 3.0 |
| Fan | All Equator, Bantam, Tropic heaters listed | REH18-60 | 1K513 | 60.28 | 53.95 | 3.0 |
| Thermostat Model Fan | Nos. 1K525, 1K527, 1K533, 1K535 | REH18-161 | 1K517 | 67.50 | 61.35 | 3.0 |

# VENT-FREE GAS WALL HEATERS

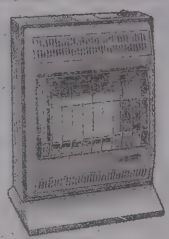
Comfort Glow

New

Not recommended for altitudes above 4500 ft.



Radiant Heater
No. 3ZK36



Blue Flame Heater
No. 2E782
with Optional Floor Base

- **The 99% heating efficient designs require no outside venting**
- **Provides easy economical installation**
- **With no vent or chimney required, and a built in regulator, installation is an easy job. Professional installation recommended**
- **No electricity needed**
- **Ideal for emergency heat during a power outage**
- **Startup is easy just push the piezo ignitor**
- **Clean quiet odorless operation**
- **Natural Gas and Propane Gas Models Available**

**Comfort Glow Vent-Free Gas Space Heaters** burner designs require no outside venting, to eliminate heat loss and provide 99.9% efficient heating.

**Infrared Plaque Heaters** direct heat from the radiant plaques, heating objects in the room before heating the air. They also perform well within nationally recognized guidelines for indoor air quality. The dual-purpose safety pilot system protects against oxygen depletion and any interruption in the fuel supply. If either occurs, gas flow to the burner is shut off.

**Blue Flame Convection Heaters** work much like a central heating system, heating the air first then objects.

**All Comfort Glow heaters** can be mounted to the wall with the hardware kit (included). Also, the 3ZK series heaters can be mounted to the floor (built in base). The 2E and 3E series heaters can be floor mounted with the optional 4E series bases (see below for matching base). The 4E086 Blower maximizes heat distribution (fits 2E and 3E heaters only). Inlet fitting size is 3/8" NPT. Operation above 4500 ft. altitude may cause nuisance pilot outages.

**TWO-YEAR COMFORT GLOW LIMITED WARRANTY**

**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

**DIANT HEAT UNITS BLUE FLAME UNITS**—Blue Flame convection works like a central heating system. These models warm the air first, en people and objects. Thermostat cycles heat "On" and "Off" for added comfort. Models have tempered, tinted glass.Direct heat om radiant plaques quickly warm people and objects in the room before heating the air. Plaques cast a warm, bright orange glow.

| Gas Type | Btu Output | Dimensions (In.) H | W | D | Comfort Glow Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **INFRARED HEATERS** | | | | | | | | | | |
| Natural | 6000 / 12,000 / 18,000 | 26 | 22 | 11 | CGR18N | | 3ZK30 | $334.95 | $222.00 | 25.0 |
| Natural | 6000 / 18,000 / 30,000 | 26 | 29.2 | 11 | CGR30N | | 3ZK36 | 377.59 | 324.50 | 34.0 |
| Natural | 6,600/12,000/18,000 | 26 | 21 | 12 | CJ18NL | New | 4TM55 | 285.70 | 187.50 | 25.0 |
| Natural | 6,600/18,000/30,000 | 26 | 28 | 12 | CJ30NL | New | 4TM57 | 390.28 | 256.25 | 33.0 |
| LP | 6000 / 11,000 / 16,500 | 26 | 22 | 11 | CGR18P | | 3ZK34 | 334.95 | 222.00 | 25.0 |
| LP | 6000 / 16,500 / 27,000 | 26 | 29.2 | 11 | CGR30P | | 3ZK37 | 377.59 | 324.50 | 34.0 |
| LP | 6,000/11,000/16,000 | 26 | 21 | 12 | CJ16PL | New | 4TM54 | 285.70 | 187.50 | 25.0 |
| LP | 6,000/16,000/26,000 | 26 | 28 | 12 | CJ26PL | New | 4TM56 | 390.28 | 256.25 | 33.0 |
| **INFRARED HEATERS WITH BUILT-IN THERMOSTATS** | | | | | | | | | | |
| Natural | 6000 / 12,000 / 18,000 | 26 | 22 | 11 | CGR18NT | | 3ZK33 | 345.00 | 302.25 | 26.0 |
| LP | 6000 / 11,000 / 16,500 | 26 | 22 | 11 | CGR18PT | | 3ZK35 | 345.00 | 302.25 | 26.0 |

**UE FLAME UNITS**—Blue Flame convection works like a central heating system. These models warm the air first, then people and ojects. Themostat cycles heat "On" and "Off" for added comfort. Models have tempered, tinted glass..

## BLUE FLAME HEATER SPECIFICATIONS AND ORDERING DATA

| BtuH Output | Dimensions, (In.) H | W | D | NATURAL GAS MODELS Comfort Glow Model | Stock No. | LP MODELS Comfort Glow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 10,000 / 20,000 | 23½ | 18½ | 8 | CGN20TL | 2E782 | CGP20TL | 2E783 | $247.94 | $242.75 | 23.0 |
| 15,000 / 30,000 | 23½ | 26 | 8 | CGN30TL | 3E466 | CGP30TL | 3E467 | 307.15 | 300.75 | 33.0 |

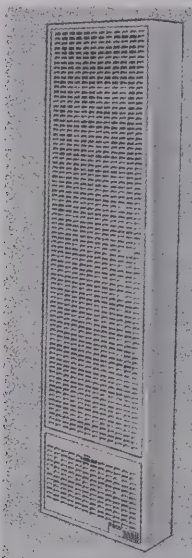
## COMFORT GLOW HEATER ACCESSORY ORDERING DATA

| Item | For Use With | Comfort Glow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Floor Mounting Kit | Nos. 2E782, 2E783, 6E904, 6E905 | GA4000 | 4E167 | $24.00 | $19.30 | 2.8 |
| Floor Mounting Kit | Nos. 3E466, 3E467, 6E906, 6E907 | GA4010 | 4E168 | 32.00 | 26.60 | 3.5 |
| 85 CFM Blower* | Blue Flame Heaters Only | GA3100A | 4E086 | 65.00 | 52.70 | 3.0 |

) 120V electric power needed if optional blower kit, No. 4E086, is used.

# GAS AND ELECTRIC WALL FURNACES

## COZY GAS WALL FURNACES



No. 3E588

**Cozy wall furnaces** permit individual temperature control in virtually any "hard-to-heat" area. They are available with either a built-in snap bulb thermostat, or a wall thermostat control. Circulated air rises through the furnace and into the room again, while the louvered front grill delivers radiated warmth. Minimum opening required: 65¾H x 14¼"W. Furnaces vent vertically using 4" oval vent B/W pipe No. 4E059, available below.

**Single wall models** can be installed on any inside or outside wall, with standard 16" center, 2 x 4" stud space.

**Dual wall models** install in standard stud space between any two adjoining rooms allowing one unit to do the work of two.

**Features cast iron, slotted-port burners** factory installed pressure regulator, 100% safety pilot, energy efficient low-BtuH pilot, 20-gauge aluminized combustion chamber, ½" gas connection and 4" venting. All units feature vent safety shutoff device which automatically shuts unit off in event of flue blockage or incorrect installation. High temperature, neutral bone color baked-enamel finish. Finished dimensions: 16½W, 68H, 6½"D. Cozy brand.

| Gas Type | Input BtuH* | Wall Type | Cozy Model | Stock No. ❷ | List | Each | Shpg Wt |
|---|---|---|---|---|---|---|---|
| **BUILT-IN BULB STAT FURNACES** | | | | | | | |
| **Natural** | 25,000 | Single | W251E | **4E300** | $658.59 | **$480.75** | 90.0 |
| **Natural** | 35,000 | Single | W351E | **4E301** | 695.22 | **497.25** | 90.0 |
| **Natural** | 50,000 | Dual | W501E | **4E302** | 955.98 | **670.00** | 134.0 |
| **LP** | 25,000 | Single | W252E | **4E303** | 658.59 | **481.25** | 90.0 |
| **LP** | 35,000 | Single | W352E | **4E304** | 695.22 | **497.25** | 90.0 |
| **LP** | 50,000 | Dual | W502E | **4E305** | 955.98 | **670.00** | 134.0 |
| **WALL THERMOSTAT FURNACES†** | | | | | | | |
| **Natural** | 25,000 | Single | W255E | **3E588** | 658.59 | **480.75** | 90.0 |
| **Natural** | 35,000 | Single | W355E | **3E589** | 695.22 | **507.50** | 90.0 |
| **Natural** | 50,000 | Dual | W505E | **3E590** | 955.98 | **698.00** | 134.0 |
| **LP** | 25,000 | Single | W256E | **3E592** | 658.59 | **480.75** | 90.0 |
| **LP** | 35,000 | Single | W356E | **3E593** | 695.22 | **507.50** | 90.0 |
| **LP** | 50,000 | Dual | W506E | **3E594** | 955.98 | **698.00** | 134.0 |

(*)Ratings shown are for elevations to 2000 ft. For elevations above 2000 ft., ratings should be reduced by 4% for each additional 1000 ft. above sea level. ❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch. (†)Wall mount thermostat included.

**COZY LIMITED WARRANTY**

**10-years on combustion chamber, 1-year on other components. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

**Replacement Parts Available**
**1-800-323-0620**

**Rear Register Kit.** Used on single wall models to circulate warm air into an adjoining room. Adjustable vent controls air flow. Knockout plate on rear of furnace body is provided for easy installation. Cozy brand (40542A).

**No. 4E161.** Shpg. wt. 5.0 lbs. List $53.53. Each.....**$43.50**

**Free Standing Kit.** For use with single wall models to eliminate need for cutting into wall. Ideal for masonry wall applications. Vent pipe not included. Adds 5" to depth of heater. Max. ceiling height: 8'6". Cozy brand (FSKA).

**No. 3E596.** Shpg. wt. 24.0 lbs. List $158.74. Each.....**$128.75**

**Fan Kit.** For installation at top of each furnace to incrase warm air circulation. Adds only 10½" to height of furnace and fits flush against wall. 115V operation. Cozy brand (WFF81B).

**No. 4E162.** Shpg. wt. 10.0 lbs. List $165.62. Each.....**$134.00**

**Night Setback Thermostat.** Energy-saving multivoltage thermostat provides automatic control of selected Heat-On/Off time periods in place of standard wall thermostat (for use on Nos. 3E588-3E954 only). Cozy brand (XL110).

**No. 4E163.** Shpg. wt. 0.5 lbs. List $84.21. Each**$70.30**

**4" Oval Vent Kit.** Contains two 24" long sections of double wall oval vent pipe, one 4" oval to round adapter, a holddown plate to maintain proper clearance, and two ceiling plate spacers. UL Listed. Cozy brand (40VK).

**No. 4E059.** Shpg. wt. 9.0 lbs. List $130.00. Each.....**$60.80**

## COUNTERFLOW ELECTRIC WALL FURNACE



E35660

No. 3E365

**Replacement Parts Available**
**1-800-323-0620**

**Provides counterflow circulation of warm air.** Large return air blower at top of furnace pushes air down over heating element and quietly delivers heated air. This type of warm air flow reduces operating costs because the heated air circulates at floor level.

**Powerful, lint-free blower features self-cleaning air scoop;** no filter required. Heavy-duty motor is equipped with self-aligning porous bearings. Both blower and motor have vibration-free mountings.

**Delivers 31,400 BtuH at 240V;** 24 volt thermostat has low differential to prevent excessive swings in temperature. Automatic safety limit switches protect against overheating. 9.2 KW input. 40 amps, 375 CFM. 80°F rise at 240V. Wiring controls are easily accessible from front of unit.

**Can be installed against wall or recessed** (maximum depth of recess 5⅜"). When recessed, furnace fits between standard wall studs; requires 75½ x 14⅜" opening. Steel cabinet with electrostatic powder coating of light almond. 72½H x 14⅛W x 7"D. UL Listed (E35660). Williams brand.

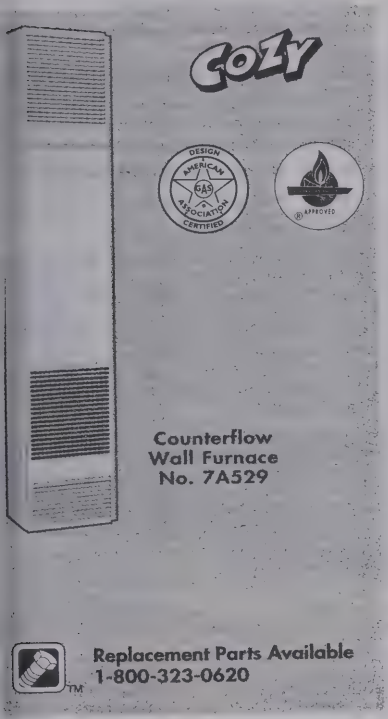
**No. 3E365.** Shpg. wt. 59.0 lbs. List $768.75. Each.....**$447.25**

**Optional Rear Outlet Package.** Directs some of the heated air to an adjoining room. Installs in wall behind furnace. Adjustable boot fits walls up to 10" thick.

**No. 2E667.** Shpg. wt. 6.5 lbs. List $80.00. Each.....**$57.55**

# COUNTERFLOW GAS WALL FURNACES

## TOP VENT & DIRECT VENT COUNTERFLOW FURNACES




**Replacement Parts Available**
**1-800-323-0620**

- **Wall thermostat standard**
- **Thermostatically controlled blower**
- **Standing pilot or electronic ignition control option (24VAC system)**
- **Optional side and rear heat outlet kits**
- **Stainless steel burner assembly**
- **Top vent and direct vent furnaces**
- **AGA/CGA Certified**

**Eliminate costly duct work.** Counterflow wall furnaces offer the answer to retrofit, remodeling or new construction zone heating needs. Counterflow wall furnaces combine contemporary styling, fan-forced efficiency and counter flow heat delivery. Cooler air is drawn into the top of the unit, heated and delivered at floor level where heat is needed most. Counterflow action provides uniform room temperatures and economic operation. Optional side and rear outlet (Top-Vent models only) kits are available to disperse air to unit sides and into adjacent rooms.

**Powerful, thermostatically controlled blower** delivers warm air evenly throughout the heated area. Vibration free mounting brackets minimize noise.

**Aluminized steel combustion chamber** maximizes heat transfer and is warranted for 10 years.

**Standard 24 volt wall thermostat** provides uniform comfort at the touch of a finger.

### TOP VENT COUNTERFLOW

Allows inside or outside wall installation and may be recessed on standard 16" center stud space up to 9¼" deep — wall thickness permitting. Unit is vented vertically, utilizing 4" oval BW vent (see item 4E059). No. 3VJ28 is equipped with an intermittent ignition device for even more efficiency. All top vent models feature a blocked flue safety device in the drafthood to safely extinguish unit in the event of flue blockage.

### DIRECT VENT COUNTERFLOW

May be recessed up to 10" on standard 16" center stud space. Direct vent counterflows mount on any outside wall and are perfect for multi-story, room addition, garage apartment, and vacation housing applications. Sealed combustion means they draw combustion air from outside and exhaust combustion products to the outside, making safety paramount and allowing installation in sleeping quarters. All units feature piezo matchless ignition for more convenient use. No. 7A531 and No. 3VJ28 feature an intermittent ignition device.

### COZY LIMITED WARRANTY

**10 Years non-prorated on heat exchanger and burner. 1-Year on other components. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

## FURNACE SPECIFICATIONS & ORDERING DATA

| Type of Gas | BtuH Input | BtuH Output | Vent Type | CFM 115V | Amps | Distance from Floor to Vent Pipe Center (In.) | Dimensions (In.) H | W | D | Cozy Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Natural | 35,000 | 28,000 | Top | 320 | 1.95 | — | 78⅝ | 14⅝16 | 10¼ | CF353C | **3VJ26** † | $1072.57 | **$722.50** | 95.0 |
| Natural | 35,000 | 28,000 | Top | 320 | 2.20 | — | 78⅝ | 14⅝16 | 10¼ | CF357C | **3VJ28** * † | 1322.38 | **891.50** | 95.0 |
| Natural | 65,000 | 52,000 | Top | 440 | 2.25 | — | 87⅝16 | 14⅝16 | 10¼ | CF653C | **3VJ29** † | 1222.49 | **823.50** | 116.0 |
| LP | 35,000 | 28,000 | Top | 320 | 1.95 | — | 78⅝ | 14⅝16 | 10¼ | CF354C | **3VJ27** † | 1072.57 | **722.50** | 95.0 |
| LP | 65,000 | 52,000 | Top | 440 | 2.25 | — | 87⅝16 | 14⅝16 | 10¼ | CF654C | **3VJ30** † | 1222.49 | **823.50** | 116.0 |
| Natural | 40,000 | 32,000 | Direct | 320 | 1.95 | 59 | 78⅝ | 14⅝16 | 11¾ | DVCF403B | **7A529** | 912.00 | **790.00** | 141.0 |
| Natural | 40,000 | 32,000 | Direct | 320 | 2.20 | 59 | 78⅝ | 14⅝16 | 11¾ | DVCF407B | **7A531** * | 1084.00 | **962.00** | 143.0 |
| Natural | 62,500 | 50,000 | Direct | 440 | 3.05 | 68½ | 87⅝16 | 14⅝16 | 11¾ | DVCF653B | **7A532** | 982.00 | **870.50** | 155.0 |
| LP | 40,000 | 32,000 | Direct | 320 | 1.95 | 59 | 78⅝ | 14⅝16 | 11¾ | DVCF404B | **7A530** | 912.00 | **790.00** | 141.0 |
| LP | 62,500 | 50,000 | Direct | 440 | 3.05 | 68½ | 87⅝16 | 14⅝16 | 11¾ | DVCF654B | **7A533** | 982.00 | **870.50** | 155.0 |

) Intermittent Ignition. ❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Listing or call any California branch.
) Requires 4" Oval Vent Kit No. 4E059, sold separately below.

**ent Enclosure** for use with Top Vent furnace to enclose unit to eiling in flush mount application. Conceals 4" oval vent. 24" igh. Cut to adjust to needed height..

**lo. 3VJ17.** Shpg. wt. 5.0 lbs. List.....$74.37.
ach.....**$52.15**

**ear Register Kit** for Top Vent furnaces. Diverts approximately 12% f heat into adjacent rear room. Includes 10" boot, plaster ground nd adjustable grille.

**lo. 3VJ16.** Shpg. wt. 14.0 lbs. List.....$92.56.
ach.....**$64.95**

**ide Outlet Kit** for use with Top Vent or Direct Vent units. Directs pproximately 12% of the heat to adjacent side room. Includes 0" boot, plaster ground, and adjustable damper.

**lo. 3VJ15.** Shpg. wt. 10.0 lbs. List.....$86.88.
ach.....**$60.85**

**Trim Kit** for use with Top Vent or Direct Vent counterflows in recess mount installations, to fill in and around unit and wall openings. Neutral bone finish. Adjusts to fit all units.

**No. 3VJ18.** Shpg. wt. 3.0 lbs. List.....$39.33.
Each.....**$27.55**

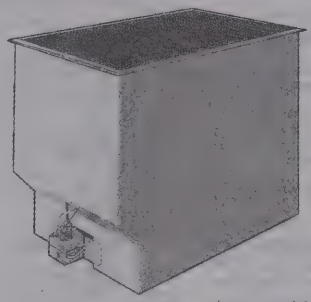
**4" Oval Vent Kit** consists of two 24" sections of oval "BW" vent, base plate, two ceiling straps base plate, and 4" oval to round adapter. Use with all Top Vent counterflows in recess or flush mount applications.

**No. 4E059.** Shpg. wt. 9.0 lbs. List.....$130.00.
Each.....**$60.80**

# FLOOR FURNACES AND GAS LOG HEATERS

## VENTED NATURAL GAS FLOOR FURNACES

COZY



No. 4E488

**COZY LIMITED WARRANTY**

10-years on combustion chamber, 1-year on other components. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- Piezo ignition eliminates need for matches or lighting tool
- Factory-mounted control with built-in pressure regulator
- Safety limit control; 100% safety pilo
- All millivoltage controls require no electricity; no need to worry about losing heat during power failure
- Easily installed between floor joists
- Wall thermostat included
- AGA Certified

**Cozy gas-fired floor furnaces provide warm even heat** through the natural convection of circulating warm air. This design assures high volume air exchange (as much as three to five times each hour), for uniform temperatures from floor to ceiling. Wall thermostat provides maximum comfort and convenience. **Note:** Drafthood for each unit included.

**Occupies no room space and easily installed between floor joists.** Four models available to fit virtually any application (see chart below). Heavy-duty steel baked enamel floor register blends perfectly with any flooring composition. Cozy brand.

### COZY FLOOR FURNACE CROSS REFERENCE

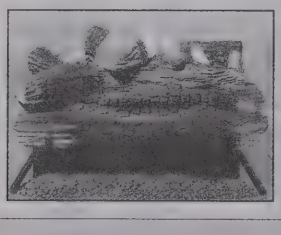
| Grainger Stock No. | Empire | Suburban | Martin | Temco | Coleman |
|---|---|---|---|---|---|
| 4E484 | 3588-2 | — | F1430 | GVF35-4 | 2002 |
| 4E486 | 5088-2 | FF45 | F1445 | GVF50-4 | 2003/A, 2003C/D |
| 4E488 | 7088-2 | FF65 | F1465 | GVF70-4 | 2004 |
| 4E490 | — | — | — | — | — |

### FURNACE SPECIFICATIONS & ORDERING DATA

| BtuH Input Per Hour | Overall Grille Size, (In.) | Size of Floor Opening, (In.) | Gas Pipe Size @ Furnace, (In.) | Vent Pipe Opening, (In.) | Floor to Center Line of Vent (In.) | Dimensions, (In.) D | W | L | Cozy Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30,000** | 16 x 34⅛ | 14¼ x 32¼ | 1/2 | 4 | 22 | 29¼ | 14 | 32 | 90N30A | **4E484** | $1067.03 | **$748.00** | 114.0 |
| **50,000** | 24 x 34 | 22⅛ x 32½ | 1/2 | 4 | 22 | 29¼ | 22 | 32 | 90N50A | **4E486** | 1172.64 | **836.00** | 140.0 |
| **62,500** | 26 x 40 | 24½ x 38½ | 1/2 | 5 | 22 | 29⅞ | 24 | 38 | 90N65A | **4E488** | 1453.51 | **1041.00** | 166.0 |
| **75,000** | 28 x 44 | 26½ x 42½ | 1/2 | 5 | 22½ | 30⅞ | 26 | 42 | 90N75A | **4E490** | 1601.29 | **1143.00** | 193.0 |

## VENT-FREE GAS LOG HEATERS

Comfort Flame



**Vent-Free Gas Log Heaters** are not only designed with the texture and aesthetics of real wood, but also with a high tech ceramic fiber that is more durable than ordinary artificial fireplace logs. And unlike real wood, the gas log heaters are clean burning, environmentally safe and 99% fuel efficient. Plus heating with vent-free gas logs means you'll never again be left in the cold with wet logs or without heat during an electrical power outage. Install in any masonry or UL Listed solid fuel burning fireplace or AGA Certified vent-free fire box. Convenient installation kit and operation and care video are supplied with each unit. Easy manual controls allow you to control the variable flame settings. Matchless Piezo ignition system for convenient starting. Available sizes of 18-, 24- and 30-in. for a variety of fireplaces. All log heaters come in natural gas and propane models. A hood, sold separately below, may be required to deflect heat away from the mantel shelf.

### COMFORT FLAME VENT-FREE GAS LOG HEATERS

| Log Size, (In.) | Max. BtuH | Dimensions, In. H | W | D | NATURAL GAS HEATERS Comfort Flame Model | Stock No. | PROPANE HEATERS Comfort Flame Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 26,000 | 21¼ | 22¼ | 14 | CFS18NV | **3VG82** | CFS18PV | **3VG83** | $375.42 | **$263.75** | 29.0 |
| **24** | 30,000 | 21¼ | 26 | 14 | CFS24NVA | **3VG84** | CFS24PVA | **3VG85** | 434.39 | **310.00** | 31.0 |
| **30** | 36,000 | 21¼ | 30¼ | 14 | CFS30NVA | **3VG86** | CFS30PVA | **3VG87** | 475.18 | **333.25** | 33.0 |

(✓) Denotes energy efficient product.

### FIREPLACE HOODS

Fit fireplace openings from 24- to 48-in. wide. Installs easily with glass doors or to the lentil of the fireplace opening. Log sets require a hood accessory if: 1. The underside of the mantel shelf is 14" or less above the top of the fireplace opening for 18" log sets (20" or less for 24 and 30" log sets);

2. The heat resistant material (i.e. brick, stone, etc.) surrounding the fireplace is less than 8" high for 18" log sets (less than 12" high for 24 and 30" log sets).

### ACCESSORY ORDERING DATA

| Item | Dimensions, In. H | W | D | Comfort Flame Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Black Fireplace Hood** | 6½ | 24½ | 7½ | GA6050 | **3VH09** | $59.99 | **$41.25** | 5.5 |
| **Brass Fireplace Hood** | 6½ | 24½ | 7½ | GA6052 | **3VH10** | 69.99 | **50.15** | 5.5 |
| **Volcanic Rock (2 lbs.)** | 6 | 6 | 5 | GA6060 | **3VH11** | 10.99 | **7.59** | 2.0 |

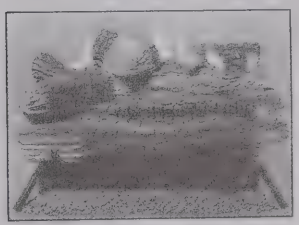
# VENT-FREE GAS FIREPLACE SYSTEMS

## CLASSIC HEARTH VENT-FREE GAS FIREPLACE SYSTEMS



Comfort Flame

**Vent-Free Gas Fireplace Systems** offer you an economical and convenient way to add the beauty and comfort of a fireplace to places you never thought possible. Install in hotel lobbies, office building reception areas, condos, and homes for instant heat and atmosphere. The Classic Hearth gives you the attractiveness of a real wood burning fireplace with the heating efficiency and warmth of vent-free gas space heating. All this for only a fraction of the cost of installing a wood burning fireplace. The Classic Hearth can heat up to 1,000 square feet with its maximum 28,000 BtuH of clean, quiet, odorless heat. Classic Hearth is 99% efficient due to its unique burner design. Unit requires no outside vent, the safety pilot system protects against oxygen depletion and any interruption in the fuel supply. If either occurs, the gas is shut off to the burner, turning the unit off. The vent free operation eliminates heat loss and cold air drafts. Heaters are design certified by the American Gas Association (AGA) and meet or exceed all government safety performance standards. Thermostat-controlled. User-friendly heater and blower controls concealed behind lower louvered door panel. Matchless Piezo ignition. Comfort Flame brand.



**Gas Log Heaters are sold separately on page 3422.**

### VENT-FREE GAS FIREPLACE SYSTEM ORDERING DATA

| Max. BtuH | System Includes | Dimensions, In. H | W | D | NATURAL GAS SYSTEM Comfort Flame Model | Stock No. | PROPANE SYSTEM Comfort Flame Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **28,000** | Zero clearance firebox w/flexible gas connector, high efficiency vent-free logs, brass trim and louvers. Heater/blower controls behind lower louvered door panel. | 34.25 | 32.2 | 18.2 | CSGF28NTA | **3VG94** | CSGF28PTA | **3VG95** | $1303.32 | **$755.50** | 80.0 |

### CLASSIC HEARTH ACCESSORIES

Choose between a variety of accessories and trim kits. Beautifully designed mantels are available in standard cabinet, space saving corner or face designs, each in either walnut or unfinished hardwood. Optional hardwood and slim marble laminate hearth bases are also available. These bases and trims are available in black onyx, sandtone, or jade marble.

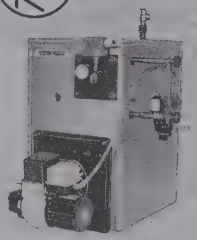
### HEARTH FIREPLACE ACCESSORY ORDERING DATA

| Item | Finish | Dimensions, (In.) H | W | D | Comfort Flame Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Cabinet Mantel** | Walnut hardwood | 56.75 | 48.75 | 20.6 | GM100FA | **3VH12** | $445.74 | **$335.50** | 85.0 |
| **Cabinet Mantel** | unfinished hardwood | 56.75 | 48.75 | 20.6 | GM101UA | **3VH13** | 410.42 | **311.25** | 85.0 |
| **Corner Mantel** | Walnut hardwood | 60.9 | 48.75 | 34.6 | GM200F | **3VH14** | 529.77 | **393.50** | 74.0 |
| **Corner Mantel** | unfinished hardwood | 60.9 | 48.75 | 34.6 | GM201U | **3VH15** | 484.66 | **361.25** | 74.0 |
| **Face Mantel** | Walnut hardwood | 56.75 | 48.75 | 7 | GM400F | **3VH16** | 226.83 | **162.75** | 50.0 |
| **Face Mantel** | unfinished hardwood | 56.75 | 48.75 | 7 | GM401U | **3VH17** | 289.00 | **212.25** | 50.0 |
| **Marble Laminate Mantel Trim** | Jade | 1 | 43.2 | 4.2 | G3002J | **3VG99** | 99.99 | **71.75** | 2.0 |
| **Marble Laminate Mantel Trim** | Sandstone | 1 | 43.2 | 4.2 | G3002S | **3VH01** | 99.99 | **71.75** | 2.0 |
| **Marble Laminate Mantel Trim** | Black Onyx | 1 | 43.2 | 4.2 | G3002B | **3VG98** | 99.99 | **71.75** | 2.0 |
| **Marble Laminate Slim Hearth Base** | Jade | 1 | 42 | 10 | G3005J | **3VH06** | 118.79 | **82.40** | 10.0 |
| **Marble Laminate Slim Hearth Base** | Sandstone | 1 | 42 | 10 | G3005S | **3VH07** | 118.79 | **82.40** | 10.0 |
| **Marble Laminate Slim Hearth Base** | Black Onyx | 1 | 42 | 10 | G3005B | **3VH05** | 118.79 | **82.40** | 10.0 |
| **Hardwood Hearth Base** | Walnut hardwood | 6.5 | 58 | 28 | G3000F | **3VG96** | 259.99 | **190.75** | 30.0 |
| **Hardwood Hearth Base** | unfinished hardwood | 6.5 | 58 | 28 | G3001U | **3VG97** | 249.00 | **179.25** | 30.0 |
| **Marble Laminate Hearth Base Trim** | Jade | 2 | 56 | 28 | G3003J | **3VH04** | 199.99 | **139.75** | 6.0 |
| **Marble Laminate Hearth Base Trim** | Sandstone | 2 | 56 | 28 | G3003S | **3VH03** | 199.99 | **139.75** | 6.0 |
| **Marble Laminate Hearth Base Trim** | Black Onyx | 2 | 56 | 28 | G3003B | **3VH02** | 201.57 | **139.75** | 6.0 |
| **Firebox Brick Liner** | Ceramic Fiber | 3 | 36 | 36 | G8000 | **3VH08** | 74.92 | **53.40** | 6.0 |

# CAST IRON OIL-FIRED BOILERS

**The HydroTherm CORPORATION**

I=B=R No. 6E772



FREE DELIVERY on orders of $900 or more
See Freight Policy

Replacement Parts Available 1-800-323-0620

- Packaged cast iron, oil-fired boilers with burners for use with hot water or steam heating systems
- Optional tankless domestic water heaters are listed below
- Combustion chamber service hatch
- Convenient side cleanouts
- Heavy gauge steel cabinet with 1" fiberglass insulation
- Beckett AFG flame retention burner with nozzle & cad cell relay
- Pre-formed high density fiber refractory target wall
- Cast iron smokehood with 6" collar (7" on PB-200 and PB-235)
- Hi-limit controls for water or steam
- Shipped with ASME relief valve (15 PSI steam/30 PSI water)
- Mounted on wooden skid in wooden crate
- I=B=R rated and approved
- Aquastat relay, No. 2E860, not included

**Proven wet base, cast iron design** assures years of reliable service. High AFUE rating offers economical operation. Gray hammertone finish resists dents and scratches. Boiler supplied with ASME pressure relief valve, temperature/pressure indicator, and controls. Hydronics Institute (I=B=R) rated & approved. Meets or exceeds National Appliance Energy Compliance Act (NAECA) standards.

| Boiler Type | Burner Cap. (GPH) | BtuH | D.O.E Htg. Cap. (BtuH) | Net Rating BtuH, I=B=R | Coil (GPM) | AFUE (%) | HydroTherm Model No. | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Water Boilers | .75 | 105,000 | 91,000 | 79,000 | 2.5 | 85.8 | PB-105/120W | 6E772 | $2299.62 | $1564.00 | 560.0 |
| | .95 | 133,000 | 113,000 | 98,000 | 2.5 | 84.1 | | | | | |
| | 1.10 | 152,000 | 131,000 | 114,000 | 3.3 | 85.9 | PB-150/180W | 6E773 | 2608.73 | 1775.00 | 682.0 |
| | 1.25 | 178,000 | 151,000 | 131,000 | 3.3 | 85.2 | | | | | |
| | 1.40 | 198,000 | 171,000 | 149,000 | 3.8 | 86.1 | PB-200/235W | 6E774 | 3131.99 | 2130.00 | 813.0 |
| | 1.70 | 236,000 | 201,000 | 175,000 | 4.5 | 84.8 | | | | | |
| Steam Boilers | .75 | 105,000 | 91,000 | 68,000 | 2.5 | 85.8 | PB-105/120S | 6E775 | 2299.31 | 1564.00 | 560.0 |
| | .95 | 133,000 | 113,000 | 84,000 | 2.5 | 83.4 | | | | | |
| | 1.10 | 152,000 | 131,000 | 98,000 | 3.3 | 85.9 | PB-150/180S | 6E776 | 2608.43 | 1774.00 | 682.0 |
| | 1.25 | 178,000 | 151,000 | 113,000 | 3.3 | 85.2 | | | | | |
| | 1.40 | 198,000 | 171,000 | 128,000 | 3.5 | 86.1 | PB-200/235S | 6E777 | 3134.34 | 2132.00 | 813.0 |
| | 1.70 | 236,000 | 201,000 | 151,000 | 3.5 | 84.8 | | | | | |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

## OPTIONAL TANKLESS HEATERS FOR OIL FIRED BOILERS

**Optional Tankless Heater for hot water oil fired boiler** offers front mounting. Allows four season use of your boiler. For Nos. 6E772 thru 6E774.

**No. 6E779.** Shpg. wt. 17.0 lbs. List $261.49. Each.....**$178.25**

**Optional Tankless Heater for steam oil fired boiler** supplies domestic hot water all year round. Located below the water line for quick heating even in steam boilers. Operating temperature control included. Side mount. For Nos. 6E775 thru 6E777.

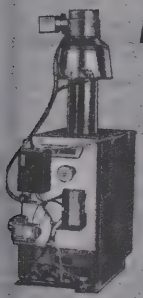
**No. 6E778.** Shpg. wt. 14.0 lbs. List $261.53. Each.....**$178.25**

## HYDROTHERM BOILER SPECIFICATIONS & ACCESSORIES

| Stock No. | Dimensions (In.) Vent | Supply | Pipe Size Return | Gas | Height | Draft Hood Height | Width | Depth w/ Circulator & Gas Valve | Circulator Pump† | Flange Kit | Boiler Feed Valve | Back Flow Valve | Exp. Tank ‡ | Air Vent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6E772 | Rear 7 | 2 | 1¼ | — | 34⅜ | — | 18 | 33 | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E773 | Rear 7 | 2 | 1¼ | — | 34⅜ | — | 18 | 37⅜ | 2P310 | 6X486 | 3A558 | 4A810 | 2P669 | 4A820 |
| 6E774 | Rear 7 | 2 | 1¼ | — | 34⅜ | — | 18 | 42½ | 2P410 | 6X486 | 3A558 | 4A810 | 2P669 | 4A820 |
| 6E775 | Rear 7 | 2 | 1¼ | — | 34⅜ | — | 18 | 33 | — | — | — | 4A810 | — | — |
| 6E776 | Rear 7 | 2 | 1¼ | — | 34⅜ | — | 18 | 37⅜ | — | — | — | 4A810 | — | — |
| 6E777 | Rear 7 | 2 | 1¼ | — | 34⅜ | — | 18 | 42½ | — | — | — | 4A810 | — | — |
| 6E780 | Top / Horiz. 4 | 1½ | 1¼ | 1/2 | 23⅝ | 8 1¼ | 17¼ | 40⅜ | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E781 | Top / Horiz. 4 | 1½ | 1¼ | 1/2 | 27 | 8 1¼ | 17¼ | 40⅜ | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E782 | Top / Horiz. 4 | 1½ | 1¼ | 1/2 | 30⅜ | 8 1¼ | 17¼ | 40⅜ | 2P410 | 6X486 | 3A558 | 4A810 | 2P669 | 4A820 |
| 6E783 | Top 5 | 1½ | 1¼ | 1/2 | 19½ | 16 1½ | 12¾ | 35 | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E784 | Top 5 | 1½ | 1¼ | 1/2 | 23¾ | 16 1½ | 12¾ | 35 | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E785 | Top 5 | 1½ | 1¼ | 1/2 | 23¾ | 16 1½ | 12¾ | 35 | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E786 | Top 6 | 1½ | 1¼ | 1/2 | 23¾ | 30 1½ | 12¾ | 35 | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E787 | Top 6 | 1½ | 1¼ | 1/2 | 27¼ | 33 1½ | 12¾ | 35 | 2P410 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E788 | Top 7 | 1½ | 1¼ | 1/2 | 29 | 32 1½ | 16 | 35 | 2P410 | 6X486 | 3A558 | 4A810 | 2P669 | 4A820 |
| 6E789 | Top 5 | 1½ | 1¼ | 1/2 | 23¾ | 17 1¾ | 12¾ | 35 | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E790 | Top 5 | 1½ | 1¼ | 1/2 | 27¼ | 17 1¾ | 12¾ | 35 | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E791 | Top 5 | 1½ | 1¼ | 1/2 | 27¼ | 17 1¾ | 12¾ | 35 | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E792 | Top 6 | 1½ | 1¼ | 1/2 | 27¼ | 21 1¾ | 12¾ | 35 | 2P310 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E793 | Top 6 | 1½ | 1¼ | 1/2 | 31½ | 34 | 12¾ | 35 | 2P410 | 6X486 | 3A558 | 4A810 | 2P668 | 4A820 |
| 6E794 | Top 7 | 1½ | 1¼ | 1/2 | 31½ | 33 1¼ | 12¾ | 35 | 2P410 | 6X486 | 3A558 | 4A810 | 2P669 | 4A820 |

(†) Based on 300 ft. pipe circuit. (‡) This is a rough estimate. Expansion tank should be sized on total capacity of a system. Contractor will have to determine size. Boilers are sized by (I=B=R) net rating. This rating is based on piping and pickup allowances of 1.15. D.O.E. heating capacity—boiler output excluding heat losses from interconnecting piping. Maximum pressure: Gas boilers—100 PSI; oil-fired water boilers—30 PSI; oil-fired steam boilers—15 PSI.

# CAST IRON HOT WATER AND POWER VENTED BOILERS



The HydroTherm CORPORATION

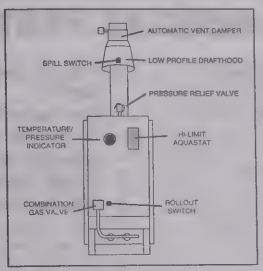
FREE DELIVERY on orders of $900 or more
See Freight Policy

DESIGN AMERICAN GAS ASSOCIATION CERTIFIED

I=B=R

Replacement Parts Available 1-800-323-0620

RATINGS from 65,000 to 165,000 BtuH Input




- Combination gas valve and 24-volt transformer
- Meets and exceeds 80% AFUE standard
- Lifetime Limited Warranty
- Requires AQUASTAT relay, 2E861 not Included

- Packaged cast iron, natural gas-fired boilers for use with hot water heating systems
- Intermittent pilot on Nos. 6E783-6E788 for maximum fuel savings
- Approved for closet (HC) installation
- Fully assembled, steel push nipple sectional design
- Heavy gauge steel cabinet with 1" fiberglass insulation
- Low water content heats quickly, reduces losses
- Up to 100 PSI ASME maximum allowable working pressure
- Pre-wired plug-in vent damper and drafthood supplied with boiler

**ın be used in new systems or as replacement** for old cast iron or eel boilers. Packaged design minimizes installation expense. oilers fit through standard 30" doorways. Cast iron heat rchanger and dome assure years of reliable service. Gray hamertone finish resists dents and scratches.

Boiler supplied with ASME pressure relief valve, temperature/pressure indicator, and controls. Use with baseboard radiation, convectors, or radiant panels. Hydronics Institute (I=B=R) rated & approved. Meets or exceeds National Appliance Energy Compliance Act (NAECA) standards.

| Ignition Type | AGA Input (BtuH) | D.O.E. Htg. (BtuH) | Net Rating BtuH, I = B = R | AFUE (%) | HydroTherm Model No. | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| Intermittent Pilot | 65,000 | 52,000 | 45,000 | 81.1 | HC-65D | **6E783** | $1613.93 | **$1098.00** | 267.0 |
| | 85,000 | 69,000 | 60,000 | 80.8 | HC-85D | **6E784** | 1785.99 | **1216.00** | 322.0 |
| | 100,000 | 80,000 | 70,000 | 80.1 | HC-100D | **6E785** | 1813.05 | **1234.00** | 327.0 |
| | 120,000 | 96,000 | 83,000 | 80.0 | HC-120D | **6E786** | 1942.07 | **1321.00** | 323.0 |
| | 145,000 | 118,000 | 103,000 | 81.0 | HC-145D | **6E787** | 2083.03 | **1417.00** | 398.0 |
| | 165,000 | 132,000 | 115,000 | 80.0 | HC-165D | **6E788** | 2298.57 | **1564.00** | 398.0 |
| Standing Pilot | 65,000 | 53,000 | 45,000 | 80.4 | HC-65E | **6E789** | 1582.95 | **1077.00** | 267.0 |
| | 85,000 | 70,000 | 60,000 | 81.6 | HC-85E | **6E790** | 1751.35 | **1192.00** | 322.0 |
| | 100,000 | 82,000 | 70,000 | 81.5 | HC-100E | **6E791** | 1781.04 | **1212.00** | 327.0 |
| | 120,000 | 102,000 | 83,000 | 81.0 | HC-120E | **6E792** | 1910.00 | **1300.00** | 333.0 |
| | 145,000 | 120,000 | 103,000 | 82.5 | HC-145E | **6E793** | 2049.41 | **1394.00** | 398.0 |
| | 165,000 | 136,000 | 115,000 | 81.3 | HC-165E | **6E794** | 2265.25 | **1542.00** | 439.0 |

## POWER VENTED CAST IRON GAS BOILERS

The HydroTherm CORPORATION

- Packaged cast iron natural gas boilers
- For use with hot water heating systems
- Delivers 82% AFUE

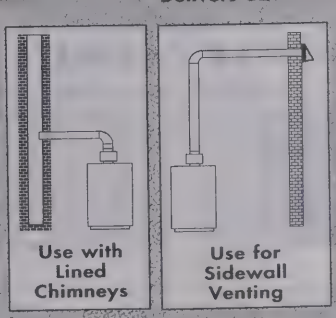
RATINGS from 85,000 to 165,000 BtuH Input

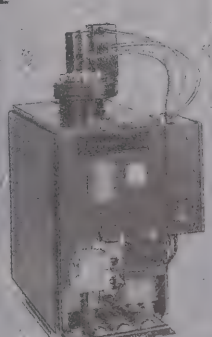
I=B=R

DESIGN AMERICAN GAS ASSOCIATION CERTIFIED

FREE DELIVERY on orders of $900 or more
See Freight Policy

Replacement Parts Available 1-800-323-0620



- Vents through chimney or sidewall
- Full assembled, sectional design
- Steel cabinet with 1" fiberglass insulation
- Fits through standard 30" doorways
- Low water content heats quickly
- Lifetime Limited Warranty
- I=B=R (Hydronics Inst.) rated & approved

**Power Vented** for flexible installation. This more efficient draft system allows placement in closets or alcoves. Sidewall venting facilitates conversion from electric heat. Smaller vent piping saves installation costs and fuel. Air prove switch assures complete boiler ventilation.

For use with single walled stainless steel vent pipe with proper vent termination. NOT FOR USE WITH PVC, CPVC, or other low temperature vent systems. Vent termination hood, No. 4C845, available. See page 3636.

| AGA Input (BtuH) | NATURAL GAS D.O.E. Htg. (BtuH) | Net Rating BtuH, I = B = R | AFUE (%) | HydroTherm Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **85,000** | 70,000 | 61,000 | 80.5 | ID-85A | **6E780** | $1860.36 | **$1265.00** | 282.0 |
| **125,000** | 102,000 | 89,000 | 80.1 | ID-125A | **6E781** | 2082.97 | **1417.00** | 352.0 |
| **165,000** | 136,000 | 118,000 | 81.1 | ID-165A | **6E782** | 2522.45 | **1716.00** | 422.0 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch

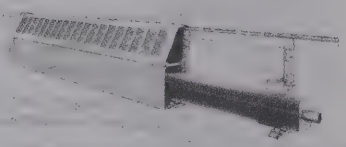
# HYDRONIC HEATERS

## COMMERCIAL HEATERS

Beacon/Morris

I=B=R

RATINGS from 600-1860 BtuH/linear foot



Accessories Sold Separately Below

- 2-piece design for simple installation, installs like baseboard
- For use with hot water or steam heating systems
- Slope top prevents blocking of louvers
- Capable of mounting two tiers of heating element
- Order heating element and cover assembly seperately
- IBR (Hydronics Institute) rated and approved

Partial backplate resists wall streaking. Die formed full heig brackets lock cover in place. Ball bearing hangers provide sile glide support for element. TwinPak comes conveniently pac aged with all required components in a single carton. Includ one length each top panel, front panel, and partial back plate. ft. through 6 ft. units include 2 brackets, 4 adjustable hange with hardware, and 4 slide cradles. 7 and 8 ft. units include brackets, 6 adjustable hangers with hardware, and 6 slide cr dles.

### PERFORMANCE DATA

| Steam (°F) 215 | Average Hot Water Temp.(°F) 200 | 190 | 180 | 170 | 160 | 150 |
|---|---|---|---|---|---|---|
| Factor 1.0 | Factor .86 | .78 | .69 | .61 | .53 | .45 |
| 1600 | 1375 | 1250 | 1100 | 975 | 850 | 720 |
| 2130 | 1830 | 1660 | 1470 | 1300 | 1130 | 960 |
| 2250 | 1935 | 1755 | 1550 | 1370 | 1190 | 1010 |
| 2510 | 2160 | 1960 | 1730 | 1530 | 1330 | 1130 |

### HEATER ELEMENT TECHNICAL

| Tube Size | Fin Size | Fin Per Ft. | Fin Thickness | Tiers & Centers | Mounting Ht. (in.) |
|---|---|---|---|---|---|
| 1¼" IPS | 4¼" Sq. | 40 | .024" Steel | 1 | 24 |
| 1¼" Copper | 4¼ x 3⅜" | 50 | .020" Aluminum | 1 | 24 |
| 1¼" IPS | 4¼" Sq. | 40 | .024" Steel | 2 @ 6" | 24 |
| 1¼" Copper | 4¼ x 3⅜" | 50 | .020" Aluminum | 2 @ 6" | 24 |

### HEATER ELEMENT ORDERING DATA

| Length (Ft.) | Element* | TwinPak Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 | Copper/Aluminum | STC-1435-3 | 5E301 | $48.95 | $44.85 | 6.0 |
| 4 | Copper/Aluminum | STC-1435-4 | 5E302 | 64.95 | 60.15 | 8.0 |
| 5 | Copper/Aluminum | STC-1435-5 | 5E303 | 80.95 | 74.45 | 10.0 |
| 6 | Copper/Aluminum | STC-1435-6 | 5E304 | 96.95 | 89.75 | 12.0 |
| 3 | Steel | STC-1435-4 | 5E305 | 44.51 | 41.25 | 18.0 |
| 4 | Steel | STC-1435-4 | 5E306 | 60.06 | 54.95 | 24.0 |
| 5 | Steel | STC-1435-4 | 5E307 | 74.57 | 68.70 | 30.0 |
| 6 | Steel | STC-1435-4 | 5E308 | 89.09 | 82.45 | 36.0 |

(*) Maximum PSI rating 1¼" aluminum is 194 PSI @ 300°F; 1¼" steel is 660 PSI @ 650°F.

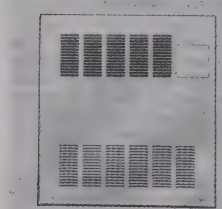
### 14" ENCLOSURE HEIGHT HEATER ACCESSORIES

| Description | TwinPak Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|
| 3 Ft. Cover Assembly | TP-14-3 | 5E295 | $34.15 | $31.70 | 14 |
| 4 Ft. Cover Assembly | TP-14-4 | 5E296 | 45.56 | 42.30 | 18 |
| 5 Ft. Cover Assembly | TP-14-5 | 5E297 | 56.96 | 52.85 | 23 |
| 6 Ft. Cover Assembly | TP-14-6 | 5E298 | 68.37 | 63.45 | 27 |
| 7 Ft. Cover Assembly | TP-14-7 | 5E299 | 79.77 | 74.00 | 32 |
| 8 Ft. Cover Assembly | TP-14-8 | 5E300 | 91.18 | 84.60 | 36 |
| End Cover L. H. | EC3L | 5E309 | 14.95 | 13.21 | 2 |
| End Cover R. H. | EC3R | 5E310 | 14.95 | 13.21 | 2 |
| Outside Corner 90° | OC90 | 5E312 | 43.95 | 40.75 | 13 |
| Wall Sleeve (8⅜" W) | WS4 | 5E313 | 9.95 | 9.13 | 2 |
| Inside Corner 90° | IC90 | 5E311 | 36.26 | 32.80 | 10 |

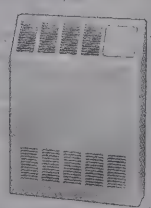
### NEW! 20" ENCLOSURE HEIGHT HEATER ACCESSORIES

| Description | Depth (In.) | TwinPak Model | *New!* Stock No. | Each | Shp Wt |
|---|---|---|---|---|---|
| 3 Ft. Cover Assembly | 5⅝ | TP-20-3 | 4LX69 | $40.70 | 17 |
| 4 Ft. Cover Assembly | 5⅝ | TP20-4 | 4LX70 | 54.00 | 21 |
| 5 Ft. Cover Assembly | 5⅝ | TP20-5 | 4LX71 | 67.45 | 26 |
| 6 Ft. Cover Assembly | 5⅝ | TP20-6 | 4LX72 | 80.90 | 31 |
| 7 Ft. Cover Assembly | 5⅝ | TP20-7 | 4LX73 | 94.80 | 39 |
| 8 Ft. Cover Assembly | 5⅝ | TP20-8 | 4LX74 | 108.25 | 44 |
| End Cover L.H. | — | EC3L-20 | 4LX75 | 14.98 | 2 |
| End Cover R.H. | — | EC3R-20 | 4LX76 | 14.98 | 2 |
| Outside Corner 90° | — | OC3R-20 | 4LX78 | 47.65 | 8 |
| Wall Sleeve | — | WS4-20 | 4LX79 | 10.85 | 1 |
| Inside Corner 90° | — | IC90-20 | 4LX77 | 36.25 | 7 |

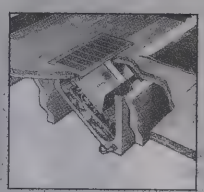
## WALL AND KICKSPACE HEATER CABINETS



Flush



Surface



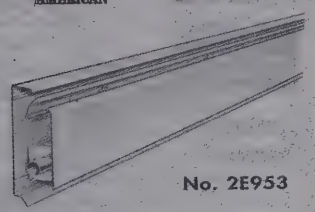
In-Floor

Wall, surface mount, and floor kits allo 4E448 and 4E449 to be mounted as flush surface wall units or as in-floor heater Fasten the appropriate kit in position an slide in the TwinFlo heater unit. Each k allows control of 2-speed feature and eas removal for cleaning. These enclosure require minimum space. Beige colo Beacon/Morris brand.

| Cabinet Type | Fits Heater No. | Dimensions (In.) Installation L | W | D | Front L | W | D | Beacon/Morris Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flush | 4E448 | 22⅛ | 14½ | 4 | 25 | 16 | 1/2 | W-42 | 4E450 | $111.06 | $104.60 | 15.0 |
| Flush | 4E449 | 22⅛ | 21¼ | 4 | 25 | 23 | 1/2 | W-84 | 4E451 | 111.06 | 104.60 | 20.0 |
| Surface | 4E448 | 23⅞ | 17⅛ | 1/2 | 24 | 18 | 4⅜ | F-42 | 4E452 | 111.06 | 104.60 | 20.0 |
| Surface | 4E449 | 23⅞ | 21⅞ | 1/2 | 24 | 22 | 4⅜ | F-84 | 4E453 | 111.06 | 104.60 | 21.0 |
| In-floor | 4E448 | 14½ | 14½ | 11 | Grille 13¾ L x 6 W | | | FK-42 | 5E314 | 222.15 | 207.75 | 18.0 |
| In-floor | 4E449 | 14½ | 21⅞ | 11 | Grille 21¾ L x 6 W | | | FK-84 | 5E315 | 222.07 | 207.75 | 23.0 |

# BASEBOARD HEATER

HEATRIM AMERICAN



No. 2E953

**Note: One set of joining pieces included with 5, 6, and 8 ft. baseboard heaters only.**

Replacement Parts Available 1-800-323-0620

**For use in hot water heating systems** with hot water boilers. Modern, low-silhouette appearance designed for fast, low cost installation. Stands 7 3/8" high, extends 2 11/16" into room when flush against wall. Back panels, filler and joining pieces can be positioned and fastened easily. Brackets, dampers, front panels and accessories snap on. IBR approved (Institute of Boiler and Radiator Manufacturers). Heatrim American brand.

**Enclosure top and back panel** is one piece steel construction. Lower portion extends 3/4" out from wall to cover openings between wall and finished flooring; panel stands unaided during installation.

**Snap-in brackets** are die-formed of one-piece heavy gauge steel to support front panel and element; can be located at any point along back panel.

**Enclosure front panel** is flat, dent-resisting steel. Snaps firmly onto brackets and is easily removed for cleaning.

**Air intake space** allows unrestricted circulation for maximum heating efficiency.

**Pivot-mounted damper** allows fingertip control for easy opening and closing; set in any position to regulate heat flow.

**High output heating element** is 3/4" with heat-reflecting interlocked aluminum fins bonded to seamless copper tubing.

**Element slide cradle** of heat resistant nylon material which provides sound insulation and allows smooth element expansion motion.

**White semi-gloss finish** with gray prime coat enclosure interior. Exterior can be repainted with an alkyd base paint to match room decor.

| ll dels | Water Flow Rate Lb. / Hr. | GPM | Heating Capacity (BtuH / Lin. Ft.) 140° | 150° | 160° | 170° | 180° | 190° | 200° | 210° | 220° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 4 | 335 | 400 | 460 | 530 | 590 | 670 | 730 | 800 | 870 |
| | 500 | 1 | 310 | 370 | 430 | 500 | 560 | 630 | 690 | 760 | 820 |

## BASEBOARD HEATER ORDERING DATA

| eater gth (Ft.) | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 2 | R-750-A2 | 2E953 | $15.13 | $13.27 | 5.0 |
| 3 | R-750-A3 | 2E954 | 22.42 | 19.68 | 7.0 |
| 4 | R-750-A4 | 3E536 | 29.77 | 26.10 | 9.0 |
| 5 | R-750-A5 | 3E537 | 36.09 | 32.65 | 12.0 |
| 6 | R-750-A6 | 3E538 | 44.14 | 38.90 | 13.0 |
| 7 | R-750-A7 | 3E539 | 49.49 | 44.90 | 16.0 |
| 8 | R-750-A8 | 3E540 | 56.46 | 50.50 | 18.0 |

## BASEBOARD HEATER ACCESSORIES

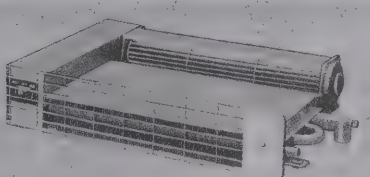
| Description | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3" End cap, right hand | RA-ECR-03 | 2E955 | $5.41 | $3.66 | 0.4 |
| 3" End cap, left hand | RA-ECL-03 | 2E956 | 5.41 | 3.66 | 0.4 |
| 90° Inside corner | RA-ICF-90 | 2E957 | 6.59 | 4.81 | 0.2 |
| 90° Outside corner | RA-OCF-90 | 2E958 | 9.93 | 7.10 | 0.5 |
| 3" Wall end piece | WEP-03 | 2E959 | 3.33 | 2.56 | 0.2 |

**Five foot enclosure** for aesthetic finishing of installations to conceal pipe. Assembled package includes one front and back panel, damper, support brackets, slide cradles, and set of joining pieces. Finished in same white enamel as complete baseboard heater. Enclosure can be cut to length or pieced together. Heatrim American brand (R-5-A).

**No. 3E570.** Shpg. wt. 10.0 lbs. List $22.80. Each ..... $20.46

# KICKSPACE HEATERS

Beacon/Morris



No. 4E448

**BEACON/MORRIS 5-YEAR LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Replacement Parts Available 1-800-323-0620

E89617

- Two sizes available
- 1/2 supply and return connections
- 2-Speed switch for high or low operation
- Triple ball bearing assembly for quiet operation
- Can be installed in recessed, surface-mount cabinets
- Now available with optional floor-mount kit

## HEATING CAPACITY BTUH 65°F ENTERING AIR

| Water Temp. (°F) | Water flow rate of 1 GPM* 4E448 | 1 GPM* 4E449 | 2 GPM* 4E448 | 2 GPM* 4E449 | 3 GPM* 4E448 | 3 GPM* 4E449 |
|---|---|---|---|---|---|---|
| 110† | 1480 | 3370 | 1520 | 3440 | 1560 | 3515 |
| 120† | 1800 | 4055 | 1840 | 4145 | 1875 | 4230 |
| 130† | 2175 | 4770 | 2220 | 4875 | 2260 | 4980 |
| 140 | 2590 | 5540 | 2640 | 5670 | 2690 | 5795 |
| 150 | 3050 | 6300 | 3120 | 6440 | 3190 | 6585 |
| 160 | 3510 | 7000 | 3590 | 7155 | 3670 | 7310 |
| 170 | 3895 | 7730 | 3980 | 7900 | 4065 | 8070 |
| 180 | 4278 | 8460 | 4375 | 8650 | 4470 | 8840 |
| 190 | 4660 | 9180 | 4770 | 9390 | 4875 | 9600 |
| 200 | 5015 | 9910 | 5127 | 10135 | 5240 | 10360 |
| Friction Loss | 0.17 ft. | 0.22 ft. | 0.8 ft. | 0.95 ft. | 1.2 ft. | 1.5 ft. |

(*) Correction factor for low speed is 0.89 for No. 4E448 and 0.83 for No. 4E449.
(†) Blower will not operate at water temperature below 140°F unless self-contained aquastat is bypassed.

**TwinFlo III® Heaters** are the alternative to baseboard units when there is limited or no space. Units are for commercial or residential use in hallways, under cabinets, over doors, in kitchens, baths, stair risers, or window sills.

**Feature Hi-Off-Low switch for control of air flow.** Air flow may be turned off completely to rooms not being used. UL Listed. Beacon/Morris brand.

| Dimensions (In.)* D | W | H | Voltage | Pipe Size Supply Return (In.) | Amp | Airflow CFM | Beacon / Morris Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12¾ | 12¼ | 3⅞ | 115V | 1/2 | .5 | 36 | K-42 | 4E448 | $193.97 | $183.50 | 10.0 |
| 12¾ | 19¼ | 3⅞ | 115V | 1/2 | .5 | 72 | K-81 | 4E449 | 306.22 | 290.00 | 14.0 |

(*) Width dimensions include an additional 2" clearance to combustible materials per UL requirements.

# RESIDENTIAL HIGH-EFFICIENCY GAS FURNACES

## 92+% AFUE DELUXE HIGH-EFFICIENCY NATURAL GAS FURNACES

- Spark ignition
- Heat exchanger is constructed of all stainless steel for maximum corrosion resistance and thermal fatigue reliability. Lifetime warranty
- Integrated control board manages all operational functions and provides hookups for humidifier and electronic air cleaner
- An insulated blower compartment, a slow opening gas valve and a specially designed inducer system make it one of the quietest furnaces on the market today
- Pre-paint galvanized steel cabinet
- Molded permanent filters
- Transformer and control fuse protection
- Control board diagnostics
- Schedule 40 pvc venting

**UPFLOW FURNACES FEATURE:**

- Left or right side gas, return plenum, electric, and condensate drainage connections
- Optional indoor or outdoor combustion air. In addition, combustion air may be piped to either the top or side of the cabinet on all upflow models. A special molded fitting is provided to ease installation

**DOWNFLOW/HORIZONTAL FURNACES FEATURE:**

- Top electrical connections, left or right gas and condensate drainage connections on downflow models
- Condensate drain for horizontal application provided




Upflow Natural Gas Furnace No. 3UH56

## UPFLOW FURNACE SPECIFICATIONS

| Stock No. | Unit & Plenum Dimensions (In.) H | W | L | Supply D | Supply W | Return Side H | Return Side D | Return Bottom W | Return Bottom D |
|---|---|---|---|---|---|---|---|---|---|
| 3UH56 | 34 | 17½ | 28⅛ | 20 | 16½ | 15 | 23 | 15 | 23½ |
| 3UH58 | 34 | 17½ | 28⅛ | 20 | 16½ | 15 | 23 | 15 | 23½ |
| 3UH60 | 34 | 21 | 28⅛ | 20 | 19½ | 15 | 23 | 18½ | 23½ |
| 3UH62 | 34 | 21 | 28⅛ | 20 | 19½ | 15 | 23 | 18½ | 23½ |
| 3UH64 | 34 | 21 | 28⅛ | 20 | 19½ | 15 | 23 | 18½ | 23½ |

## DOWNFLOW/HORIZONTAL FURNACE SPECIFICATIONS

| Stock No. | Unit & Plenum Dimensions (In.) H | W | L | Supply W | Supply D | Return W | Return D |
|---|---|---|---|---|---|---|---|
| 3UH66 | 34 | 17½ | 28⅛ | 16⅝ | 19⅞ | 16½ | 20⅛ |
| 3UH68 | 34 | 17½ | 28⅛ | 16⅝ | 19⅞ | 16½ | 20⅛ |
| 3UH70 | 34 | 21 | 28⅛ | 20⅛ | 19⅞ | 16½ | 20⅛ |

## UPFLOW FURNACE ORDERING DATA

| Heating Cap. BTU/HR Input | Output | Blower & A/C Performance CFM | Nom. Ton | Dayton Model | Stock No. ❷ | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|
| 60,000 | 56,000 | 645-1100 | 1.5-3 | MGRA-06EMAES | ✓ 3UH56 | $1844.79 | $1077.00 | 125 |
| 75,000 | 70,000 | 640-1100 | 1.5-3 | MGRA-07EMAES | ✓ 3UH58 | 1850.82 | 1081.00 | 125 |
| 75,000 | 70,000 | 1095-1625 | 2.5-4 | MGRA-07EYBGS | ✓ 3UH60 | 1979.08 | 1155.00 | 125 |
| 90,000 | 84,000 | 1120-1910 | 2.5-5 | MGRA-09EZAJS | ✓ 3UH62 | 2070.12 | 1209.00 | 149 |
| 105,000 | 97,000 | 1130-1810 | 2.5-5 | MGRA-10EZAJS | ✓ 3UH64 | 2182.60 | 1274.00 | 153 |

## DOWNFLOW/HORIZONTAL FURNACE ORDERING DATA

| Heating Cap. BTU/HR Input | Output | Blower & A/C Performance CFM | Nom. Ton | Dayton Model | Stock No. ❷ | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|
| 60,000 | 56,000 | 660-1180 | 1.5-3.0 | MGTA-06EMAES | ✓ 3UH66 | $2072.65 | $1209.00 | 120 |
| 75,000 | 69,000 | 635-1150 | 1.5-3.0 | MGTA-07EMAES | ✓ 3UH68 | 2092.50 | 1221.00 | 120 |
| 75,000 | 69,000 | 1030-1540 | 2.5-4.0 | MGTA-07EYBGS | ✓ 3UH70 | 2229.80 | 1301.00 | 120 |

❷ These products are covered by California Proposition 65. California purchases or shipments see first page of Grainger Branch Listing or call any California branch.
(✓) Denotes energy efficient product.

## ACCESSORIES FOR NATURAL GAS FURNACES

| Item | For Use With | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Neutralizer Kit | All 90% Dayton Furnaces | | 3UJ86 | $98.00 | $68.65 | 3.0 |
| Condensate Pump | All 90% Dayton Furnaces | | 3UJ87 | 185.00 | 129.50 | 7.0 |
| 2" Vertical Concentric Vent Kit | 90% Dayton Furnaces (Except 3UH62, 3UH64) | | 3UJ92 | 118.00 | 82.55 | 12.0 |
| 2" Horizontal Concentric Vent Kit | 90% Dayton Furnaces (Except 3UH62, 3UH64) | | 3UJ88 | 72.00 | 50.65 | 3.0 |
| 2" Horizontal 2 Pipe Vent Kit | 90% Dayton Furnaces (Except 3UH62, 3UH64) | | 3UJ89 | 47.00 | 32.65 | 3.0 |
| 3" Horizontal 2 Pipe Vent Kit | All 90% Dayton Furnaces | | 3UJ90 | 67.00 | 46.65 | 3.0 |
| 2½" Horizontal 2 Pipe Vent Kit | 120,000 Input BtuH Model Only | | 3UJ91 | 187.00 | 130.95 | 14.0 |
| Combustible Floorbase | 14" Furnace | New | 4MC09 | 56.00 | 38.95 | 9.0 |
| Combustible Floorbase | 17" Furnace | New | 4MC10 | 58.00 | 41.05 | 10.0 |
| Combustible Floorbase | 21" Furnace | New | 4MC11 | 70.00 | 49.05 | 10.0 |
| Combustible Floorbase | 24" Furnace | New | 4MC12 | 85.00 | 59.30 | 12.0 |
| Side Filter Rack | MGRA — MGPH | New | 4MC13 | 41.00 | 28.55 | 5.0 |
| Bottom Filter Rack | MGRA — MGPH | New | 4MC14 | 58.00 | 40.55 | 5.0 |
| Side Filter Rack | MGTA—Downflow | New | 4MC15 | 69.00 | 48.55 | 5.0 |
| LP Conversion Kit | 90% + Furnaces | New | 4MC17 | 33.00 | 23.63 | 5.0 |
| LP Conversion Kit | 80% + Furnaces | New | 4MC16 | 36.00 | 25.80 | 3.0 |
| High Altitude Kit*† | 105 MBTUH | New | 4MC18 | 43.00 | 30.35 | 3.0 |
| High Altitude Kit*† | 60/90 MBTUH | New | 4MC19 | 50.00 | 30.35 | 3.0 |
| High Altitude Kit*† | 75 MBTUH | New | 4MC20 | 50.00 | 30.35 | 3.0 |

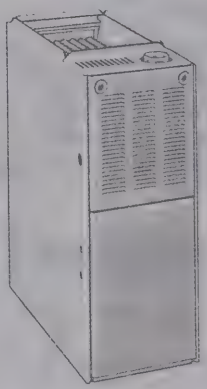
(†) For use above 5,000 ft. altitude.

# RESIDENTIAL GAS & OIL FURNACES

## 0+% AFUE NATURAL GAS UPFLOW/HORIZONTAL FURNACES

- Patented Turbulex® Heat Exchanger, constructed of both stainless and aluminized steel for the maximum in corrosion resistance
- Low profile 34 inch design is lighter and easier to handle, and leaves room for optional equipment
- Convertible from upflow to horizontal left or right without field conversion
- Left- or right-side gas and electric inlet connections with quick, simple change
- Hot surface ignition models equipped with remote sensor, feature an integrated board with humidifier and electronic air cleaner hookups
- Insulated blower compartment, a slow-open gas valve and a specially designed draft inducer motor make it one of the quietest furnaces on the market today
- Pre-paint galvanized steel cabinet
- Molded permanent filter
- Grab-holes in doors aid in easy door removal and replacement

Dayton®



### 0+% AFUE NATURAL GAS UPFLOW/HORIZONTAL FURNACE SPECIFICATIONS

| Stock No. | Unit & Plenum Dimensions, (In.) H | W | L | Flue Size, (In.) | Supply W | Supply D | Return Side H | Return Side D | Return Bottom W | Return Bottom D |
|---|---|---|---|---|---|---|---|---|---|---|
| 3UH46 | 34 | 14 | 28 1/16 | 3 | 12 3/32 | 20 | 15 | 23 | 11 1/2 | 23 1/32 |
| 3UH48 | 34 | 17 1/2 | 28 1/16 | 4* | 16 1/32 | 20 | 15 | 23 | 15 | 23 1/32 |
| 3UH50 | 34 | 17 1/2 | 28 1/16 | 4* | 16 1/32 | 20 | 15 | 23 | 15 | 23 1/32 |
| 3UH52 | 34 | 21 | 28 1/16 | 4* | 19 3/32 | 20 | 15 | 23 | 18 1/2 | 23 1/32 |
| 3UH54 | 34 | 24 1/2 | 28 1/16 | 4* | 23 1/32 | 20 | 15 | 23 | 22 | 23 1/32 |

*Requires 3 to 4" vent adapter, No. 440-6161. To order, call 1-800-323-0620.

### 0+% AFUE NATURAL GAS UPFLOW/HORIZONTAL FURNACE ORDERING DATA

| Heating Capacity BTU/HR Input | Heating Capacity BTU/HR Output | Blower & A/C Performance CFM | Blower & A/C Performance Nom. Ton | Dayton Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **50,000** | 41,000 | 585 - 1165 | 1.5 - 3 | MGPH-05EAUER | **3UH46** | $994.83 | **$580.50** | 100.0 |
| **75,000** | 60,000 | 730 - 1140 | 2 - 3 | MGPH-07EAUER | **3UH48** | 1050.07 | **613.00** | 108.0 |
| **100,000** | 80,000 | 810 - 1255 | 2 - 3 | MGPH-10EAMER | **3UH50** | 1118.29 | **653.50** | 114.0 |
| **100,000** | 81,000 | 1195 - 2060 | 3 - 5 | MGPH-10EBRJR | **3UH52** | 1154.42 | **673.50** | 127.0 |
| **125,000** | 99,000 | 1215 - 2115 | 3 - 5 | MGPH-12EARJR | **3UH54** | 1264.08 | **738.00** | 139.0 |

❷These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch.

### DAYTON LIMITED WARRANTY

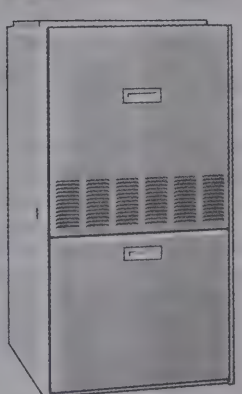
20-Years on heat exchanger. Text of warranty available upon request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Accessories and Replacement Parts Available**
**Call 1-800-323-0620**

## UPFLOW OIL FURNACES

Dayton®

FREE DELIVERY on orders of $900 or more
See Freight Policy



- Direct drive blower assemblies for heating and air conditioning applications
- A crimped design stainless steel heat exchanger for efficient heat transfer
- Removable flue box to easily clean secondary heat exchanger
- Standard oil furnace testing to be done by installer
- Factory tested prior to shipment, each furnace is operated and checked by factory quality control to reduce problems at installation
- All oil furnace models are completely factory assembled with burner mounted ready for operation
- Adjustable solid state fan cycle control
- UL and C-UL Listed

MP3361 ML398

### OIL FURNACE SPECIFICATIONS

| Stock No. | Unit & Plenum Dimensions, (In.) H | W | L | Supply W | Supply D | Return Side W | Return Side D | Return Bottom W | Return Bottom D |
|---|---|---|---|---|---|---|---|---|---|
| 3UJ14, 3UJ18, 3UJ22 | 46 | 24 1/2 | 28 3/4 | 23 | 20 | 15 | 23 | 22 | 19 3/8 |

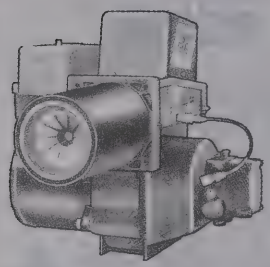
### OIL FURNACE ORDERING DATA

| Input BTU/HR | Heating Capacity BTU/HR | AFUE | Blower & A/C Performance CFM | Blower & A/C Performance Nom. Ton | Dayton Model | Stock No. ❷ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **105,000** | 84,000 | 82.0% | 1040-1500 | 2 1/2-5 | MOBC-084QBEA | **3UJ14** | $1927.86 | **$1126.00** | 208.0 |
| **119,000** | 95,200 | 81.4% | 1040-1500 | 2 1/2-5 | MOBC-095QBEA | **3UJ18** | 1942.91 | **1134.00** | 208.0 |
| **140,000** | 112,000 | 80.0% | 1040-1500 | 2 1/2-5 | MOBC-112QBGA | **3UJ22** | 1976.61 | **1155.00** | 208.0 |

❷These products are covered by California Proposition 65. California purchases or shipments, see first pageof Grainger Branch Listing or call any California branch.

# OIL BURNERS & TYPE B GAS VENT SYSTEMS

## BLUE ANGEL PLUS™ HIGH EFFICIENCY OIL BURNERS



BLUE ANGEL PLUS™
3-YEAR LIMITED WARRANTY
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

MP98

- Uses #1 and #2 fuel oil only
- Fully assembled

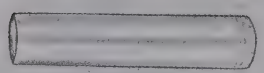
**The Blue Angel Plus** has a complete firing range from 0.5 GP (70,000 Btu/hr.) to 3.00 GPH (420,000 Btu/hr.) **without changi any parts except the nozzle.** Burners have 0.75 GPH , 80° solid co nozzle and primary control factory installed. Not for use wi waste oil. **UL Listed (MP98).** 12½H x 12⅞W x 7¾"D. Center line tube to floor: 7". Adjustable mounting flange included.

### OIL BURNER ORDERING DATA

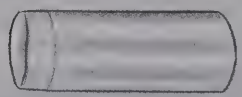
| Air Tube (In.) Length | Dia. | Blue Angel Plus Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| 6 | 4 | 300-711 | **2E747** | $434.00 | **$338.00** | 35.0 |
| 9 | 4 | 300-713 | **2E748** | 434.00 | **338.00** | 37.0 |

AMERI-VENT®
Type B Gas Vents

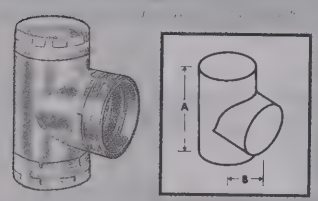
A



B

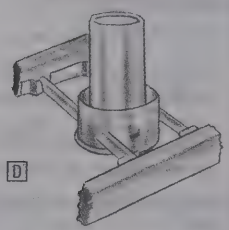


C

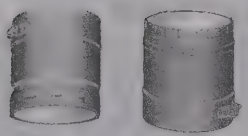



MH5102

D



E



F




MH5102

## TYPE B GAS VENT SYSTEMS

### A PIPE SECTIONS

Ameri-Vent pipe and fittings feature rugged, double-wall construction of corrosion-resistant galvanized steel and aluminum. Snaplock coupling ends. Lightweight. UL Listed (MH5102). Ameri-Vent brand.

| Round Size (In.) | Length Ft.* | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 | 2 | 3E24 | **3F378** | $11.55 | **$8.97** | 1.8 |
| 3 | 3 | 3E3 | **3F379** | 14.35 | **11.16** | 2.7 |
| 3 | 4 | 3E4 | **3F380** | 18.65 | **14.43** | 3.7 |
| 3 | 5 | 3E5 | **3F381** | 22.32 | **16.63** | 4.5 |
| 4 | 2 | 4E24 | **3F382** | 13.46 | **10.43** | 2.3 |
| 4 | 3 | 4E3 | **3F383** | 17.81 | **13.94** | 3.5 |
| 4 | 4 | 4E4 | **3F384** | 22.99 | **17.80** | 4.7 |
| 4 | 5 | 4E5 | **3F385** | 27.35 | **21.19** | 5.7 |
| 5 | 2 | 5E24 | **3F386** | 16.63 | **12.86** | 2.8 |
| 5 | 3 | 5E3 | **3F387** | 20.35 | **15.68** | 4.3 |
| 5 | 4 | 5E4 | **3F388** | 27.04 | **20.85** | 5.7 |
| 5 | 5 | 5E5 | **3F337** | 31.45 | **24.37** | 7.2 |
| 6 | 2 | 6E24 | **3F338** | 18.96 | **14.81** | 3.5 |
| 6 | 3 | 6E3 | **3F339** | 24.66 | **19.14** | 5.2 |
| 6 | 4 | 6E4 | **3F340** | 31.74 | **24.56** | 7.0 |
| 6 | 5 | 6E5 | **3F341** | 36.90 | **28.60** | 8.5 |

(*) Snap-lock joints overlap. To calculate height, deduct 1" for each joint.

### B ADJUSTABLE LENGTHS

Telescopes onto standard Ameri-Vent pipe sections for adjustments from 3 to 10" for 12" lengths. Ameri-Vent brand.

| Size (In.) | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 | 3E12A | **3F360** | $9.66 | **$7.47** | 0.2 |
| 4 | 4E12A | **3F361** | 11.24 | **8.74** | 1.7 |
| 5 | 5E12A | **3F362** | 13.13 | **10.22** | 1.7 |
| 6 | 6E12A | **3F363** | 14.48 | **11.18** | 1.8 |

### C STANDARD TEE

Branch and trunk diameters are the same size. For small branch sizes, use a reducing tee up to 6" size. For larger sizes use increaser with standard tee. UL Listed (MH5102). Ameri-Vent brand.

### STANDARD TEE ORDERING DATA

| Size (In.) | A | B | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3 | 7⅞ | 4⅛ | 3ET | 3F374 | $27.11 | $21.04 | 0.7 |
| 4 | 8⅞ | 4⅝ | 4ET | 3F375 | 29.21 | 22.61 | 1.1 |
| 5 | 10 | 5¼ | 5ET | 3F376 | 30.85 | 23.89 | 1.4 |
| 6 | 11½ | 5¾ | 6ET | 3F377 | 35.06 | 27.25 | 3.0 |

### D BUCKET SUPPORT

Use Ameri-Bucket and Hanger for starti a vent at ceiling level. Supports provi proper clearance and automatic positio ing. Designed to fit between 16" O. joints. Ameri-Vent brand.

| Size (In.) | Mfr. Model | Stock No. | List | Each | Shp Wt. |
|---|---|---|---|---|---|
| **BUCKET ORDERING DATA** | | | | | |
| 3 & 4 | 3-4AB | **3F368** | $5.11 | **$3.97** | 0.8 |
| 5 | 5AB | **3F369** | 8.17 | **6.28** | 0.9 |
| 6 | 6AB | **3F370** | 10.44 | **8.11** | 0.9 |
| **HANGER ORDERING DATA** | | | | | |
| 3 & 4 | 3-4ABH | **3F371** | 4.80 | **3.71** | 0.7 |
| 5 | 5ABH | **3F372** | 5.16 | **4.05** | 0.7 |
| 6 | 6ABH | **3F373** | 5.62 | **4.27** | 0.8 |

### E GAS VENT ADAPTORS

Universal adaptors feature "snap-loc couplings on one end and slip joints o other. When adaptors are used to join tw UL Listed gas vent systems, the entire sy tem maintains the listing.

### ADAPTOR ORDERING DATA

| Item | Ameri-Vent Model | Stock No. | List | Each | Shp Wt. |
|---|---|---|---|---|---|
| 3" Male | 3 EUA-M | **6E803** | $12.77 | **$10.36** | 0.7 |
| 3" Female | 3 EUA-F | **6E804** | 12.77 | **10.36** | 0.7 |
| 4" Male | 4 EUA-M | **6E805** | 14.27 | **11.44** | 0.8 |
| 4" Female | 4 EUA-F | **6E806** | 14.27 | **11.44** | 0.8 |
| 5" Male | 5 EUA-M | **6E807** | 15.70 | **12.38** | 0.9 |
| 5" Female | 5 EUA-F | **6E808** | 15.70 | **12.38** | 0.9 |
| 6" Male | 6 EUA-M | **6E809** | 16.38 | **12.87** | 1.0 |
| 6" Female | 6 EUA-F | **6E810** | 16.38 | **12.87** | 1.0 |

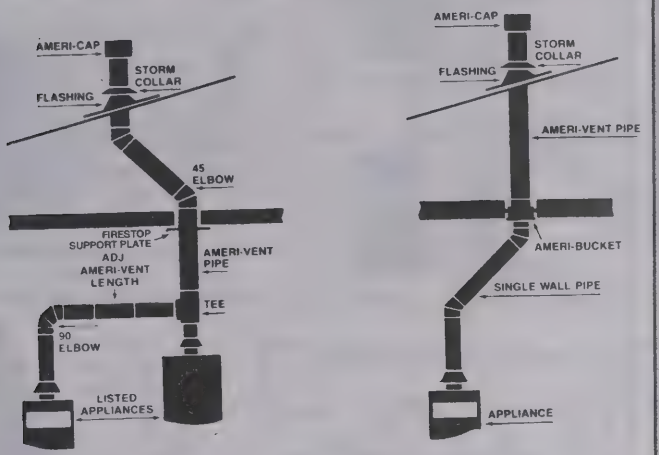
### F GAS VENT KITS FOR FURNACES AND WATER HEATERS

Each kit contains: Cap, storm collar, flash ing, draft hood connector, and 12 adjustable length. Some installations wil require additional pipe lengths and adjustable offset "L" connector. American Metal Products brand.

| Size (In.) | Ameri-Vent Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 | 3EK | **3F348** | $38.98 | **$33.70** | 3.0 |
| 4 | 4EK | **3F349** | 42.43 | **35.95** | 4.0 |
| 5 | 5EK | **3F350** | 54.67 | **41.75** | 5.0 |
| 6 | 6EK | **3F351** | 71.77 | **60.25** | 6.0 |

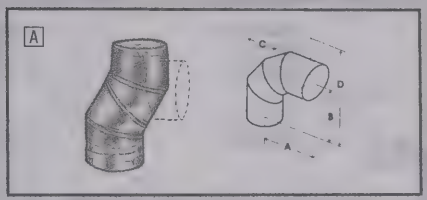
# TYPE B GAS VENT SYSTEMS

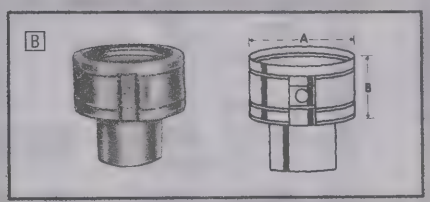
**Accepted by: AGA, NFPA, HUD, NBC, UBC**

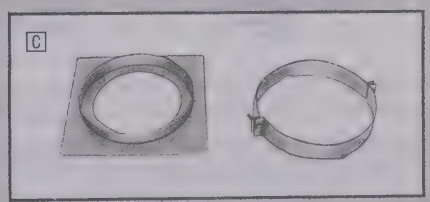



- **Requires only 1" clearance to combustible materials**
- **Snap-lock joints speed installations**

**AMERI-VENT** Type B Gas Vents — UL MH5102




**Type B designation is assigned to gas vent systems** meeting the erwriters Laboratories, Inc. safety requirements for forming ntinuous passageway from an approved gas appliance to ter- ıation of the vent above the roof of a structure.

**ri-Vent all-metal, double-wall gas vent is listed as Type B** by erwriters Laboratories, Inc. and is approved for such resi- ial and commercial applications as water heater, boiler, fur- e, space or wall heater venting.

**ri-Vent Type B gas vent uses a double wall of metal pipe.** The inner of reflecting aluminum heats quickly, containing the warm gases inside. Air space between the inner and outer pipes ides insulation against heat loss to keep the warmer flue s on rise. The outer pipe of corrosion-resistant galvanized l ensures strength, safety and durability. American Metal ducts brand.

**erial:**

er pipe is aluminum alloy 1100, 3003, or 3105.

er pipe is galvanized steel.

**al Thickness:**

| Pipe Size | Inner Pipe | Outer Pipe |
|---|---|---|
| , 4, 5, and 6" Round | 0.012" | 28 Gauge |

## A ADJUSTABLE 90° "L"

structed of 4 sections for smoother bends and less resis- ce. Adjusts from 0 to 90° easily to clear rafters or ceiling ts. Ameri-Vent brand.

| e | A | B | C | D | Ameri-Vent Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| | 5" | 5¼ | 1½ | 8" | 3EAL | **3F356** | $18.29 | **$14.13** | 0.8 |
| | 5 | 5½ | 1¼ | 8¾ | 4EAL | **3F357** | 21.63 | **16.67** | 1.1 |
| | 5½ | 6 | 2½ | 9¼ | 5EAL | **3F358** | 25.18 | **19.48** | 1.4 |
| | 6½ | 7 | 2½ | 10¼ | 6EAL | **3F359** | 29.78 | **23.14** | 1.8 |

## B AMERI-CAP VENT CAPS

- **Universal replacement cap for all type vents**
- **For use as ventilation cap as well as Type B gas vent termination**
- **Patented design of ports/baffles keeps rain and debris out of vent**
- **Permit termination of vents at minimum height necessary above roof**

Ameri-Cap is the first engineered vent cap to gain recognition across the country for its performance. Millions are installed on homes and business structures to protect against wind conditions that cause waste gases to spill back into structure through appliance draft hood. UL Listed (MH5102). Ameri-Vent brand.

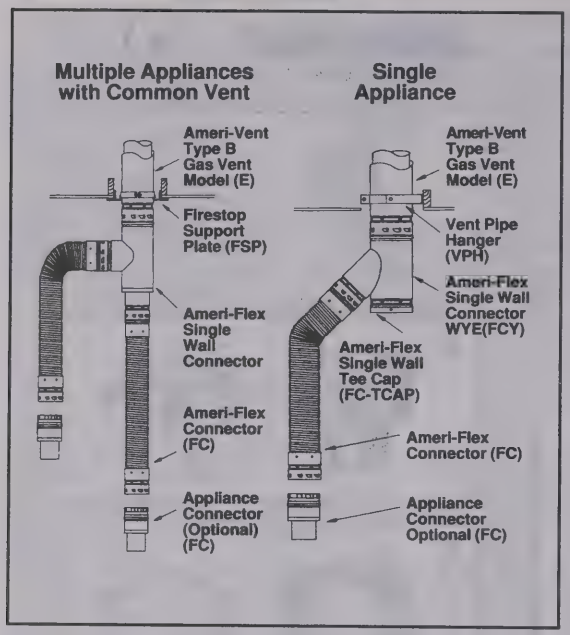
| Size | A | B | Ameri-Cap Model | Stock No. | List | Each | Stock No. |
|---|---|---|---|---|---|---|---|
| **3"** | 5" | 2½ | 3C | **3F352** | $9.93 | **$7.75** | 0.3 |
| **4** | 6¼ | 3 | 4C | **3F353** | 10.67 | **8.22** | 0.4 |
| **5** | 7¼ | 3¼ | 5C | **3F354** | 14.38 | **11.11** | 0.6 |
| **6** | 8¾ | 3¼ | 6C | **3F355** | 18.21 | **14.08** | 0.8 |

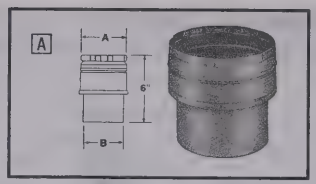
## C FIRESTOP SUPPORT PLATE

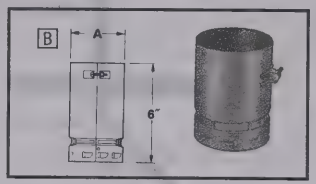
For supporting Type B Gas Vent starting at appliance level. Serves as firestop. Ameri-Vent brand.

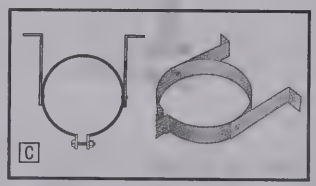
| Size | O.D. | Skirt | Ameri-Vent Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3"** | 3¾" | 5" | 3FSP | **3F364** | $10.21 | **$7.95** | 0.6 |
| **4** | 4⅝ | 6½ | 4FSP | **3F365** | 11.81 | **9.17** | 0.7 |
| **5** | 5⅝ | 7½ | 5SFP | **3F366** | 12.31 | **9.53** | 0.9 |
| **6** | 6⅝" | 8½ | 6FSP | **3F367** | 13.21 | **10.22** | 0.9 |

# SINGLE WALL FLEXIBLE GAS VENT SYSTEM

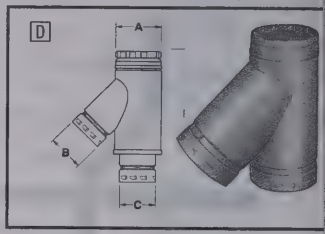


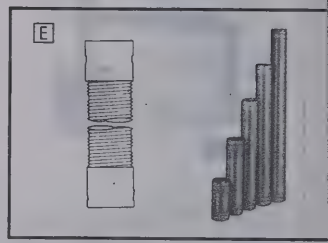




AMERI-VENT
Type B Gas Vents




The Ameri-Flex single wall connector system is UL Listed as a vent connector for installation as specified in the National Fuel Gas Code (ANSI Z 223.1, NFPA 54), NFPA 211, and other model codes such as Uniform Mechanical Code, National Mechanical Code, and Southern Mechanical Code.

Single wall flexible vent connector for connecting one or more appliances to double wall Type B Gas Vent. For listed gas appliances with a drafthood or other gas appliances listed for use with Type B Gas Vent.

**Material:**

**Flexible Pipe:** 0.012" Aluminum Alloy 3003.

**Single Wall Pipe Ends:** 0.018" Aluminum-zinc coated steel.

**Rigid Components:** 0.018" Aluminum-zinc coated steel.

**Clearance:**

1" to combustibles. Do not enclose. Do not pass through walls, floors, or ceilings.

## A SINGLE WALL APPLIANCE CONNECTOR

Sized to fit outlet. Use sheet metal screws for code approved appliance connection. Ameri-Flex brand.

| Dia. (In.) | Dimensions (In.) A | B | Ameri-Flex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3 | 3½ | 3 | 3FC-AC | **4E855** | $9.55 | **$7.98** | 1.0 |
| 4 | 4½ | 4 | 4FC-AC | **4E861** | 9.97 | **8.36** | 0.8 |

## B SINGLE WALL UNIVERSAL ADAPTOR

Short slip connection with Ameri-Flex single wall snaplock base. Ameri-Flex brand.

| Dia. (In.) | Dimensions (In.) A | Ameri-Flex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3 | 3½ | 3FCA | **4E856** | $6.95 | **$5.78** | 1.0 |
| 4 | 4½ | 4FCA | **4E862** | 7.57 | **6.43** | 0.8 |
| 5 | 5½ | 5FCA | **4E864** | 17.23 | **6.85** | 0.8 |

## C VENT PIPE HANGAR

Provides 1½" spacing (Order same size as Ameri-Flex). Ameri Flex brand.

| Pipe Dia. (In.) | Ameri-Flex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 | 3VPH | **4E857** | $4.19 | **$3.71** | 0.8 |
| 4 | 4VPH | **4E863** | 4.73 | **4.22** | 0.3 |
| 5 | 5VPH | **4E867** | 7.38 | **6.38** | 1.7 |

## D SINGLE WALL REDUCTION WYE

Features branch and/or base with smaller diameter than trun size. Convenient connection for furnace and water heater in com mon connector. Ameri-Flex brand.

| Dia. (In.) | Dimensions (In.) A | B | C | D | Ameri-Flex Model | Stock No. | List | Each | Shpg Wt |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 5½ | 3½ | 4½ | 12 | 5FCY-34 | **4E865** | $19.95 | **$15.10** | 1.7 |
| 5 | 5½ | 4½ | 4½ | 13½ | 5FCY-44 | **4E866** | 19.53 | **15.80** | 2.2 |

## E SINGLE WALL FLEXIBLE PIPE SECTION

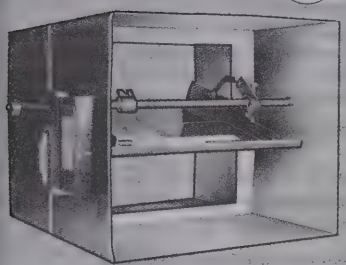
Single wall corrugated aluminum easily connects from the appli ance to Ameri-Vent Type B Gas Vent. May be compressed 4" pe foot to shorten lengths. Sturdy galvalume ends offer snaploc design. Ameri-Flex brand.

| Dia. (In.) | Max. Length (In.) | Ameri-Flex Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|
| 3 | 60 | 3FC5 | **4E852** | $36.46 | **$16.41** | 4.5 |
| 3 | 36 | 3FC3 | **4E853** | 15.55 | **12.85** | 2.7 |
| 3 | 12 | 3FC12 | **4E854** | 11.65 | **9.73** | 1.0 |
| 4 | 60 | 4FC5 | **4E858** | 24.33 | **19.91** | 5.7 |
| 4 | 36 | 4FC3 | **4E859** | 17.36 | **14.34** | 3.5 |
| 4 | 12 | 4FC12 | **4E860** | 12.59 | **10.46** | 1.3 |

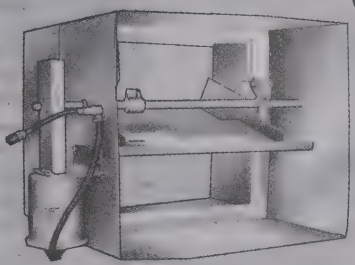
COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

# FIRE/SMOKE DAMPERS

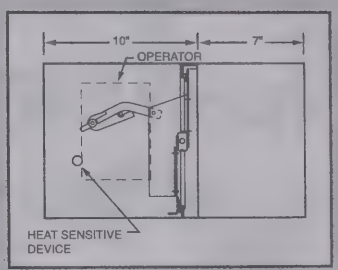
## COMBINATION FIRE/SMOKE DAMPERS



Electric Actuator



Pneumatic Actuator




- For use where HVAC ducts penetrate partitions with a fire resistance rating of less than 3 hours and are also to serve as a smoke barrier
- For use in low pressure HVAC systems (4 in. wg max. pressure)
- Fire rated for 1½ hours per UL Standard 555 and leakage rated as Class II (10 CFM @ 1 in. wg) per UL Standard 555S
- Temperature rated at 250°F per UL Standard 555S
- California State Fire Marshall (CSFM) Listed
- Integral sleeve/frame design of 20 ga. galvanized steel by 17-in. long as well as a single blade to provide maximum free area and lower pressure drop
- Dual direction airflow
- Externally mounted, factory installed actuator in electric (50/60 Hz - 115 VAC) or pneumatic (25 PSI supply)

### FIRE/SMOKE DAMPER ORDERING DATA

| Nominal Duct Size (In.) W | Nominal Duct Size (In.) H | Actual Damper Size (In.) W | Actual Damper Size (In.) H | Electric Actuator: California Aire Model No. | Electric Actuator: Stock No. | Electric Actuator: List | Electric Actuator: Each | Electric Actuator: Shpg. Wt. | Pneumatic Actuator: California Aire Model No. | Pneumatic Actuator: Stock No. | Pneumatic Actuator: List | Pneumatic Actuator: Each | Pneumatic Actuator: Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8** | **8** | 7¾ | 7¾ | LF2 250AE | **3ZW09** | $364.20 | **$261.00** | 15.0 | LF2 250AP | **3ZW14** | $330.26 | **$226.00** | 12.0 |
| **10** | **10** | 9¾ | 9¾ | LF2 250AE | **3ZW05** | 379.23 | **296.00** | 20.0 | LF2 250AP | **3ZW10** | 351.60 | **261.00** | 14.0 |
| **12** | **12** | 11¾ | 11¾ | LF2 250AE | **3ZW06** | 397.98 | **296.00** | 20.0 | LF2 250AP | **3ZW11** | 369.54 | **261.00** | 17.0 |
| **16** | **12** | 15¾ | 11¾ | LF2 250AE | **3ZW07** | 409.44 | **307.00** | 22.0 | LF2 250AP | **3ZW12** | 380.48 | **272.00** | 20.0 |
| **24** | **12** | 23¾ | 11¾ | LF2 250AE | **3ZW08** | 432.74 | **321.00** | 26.0 | LF2 250AP | **3ZW13** | 402.26 | **286.00** | 25.0 |

## INSUL-SHEET® INSULATION

RUBATEX®

- Durable skin finish resists solvents and chemicals
- Highly flexible
- Insulates ductwork, pipes, fittings, and tanks
- -160 to +220°F temperature
- Rubatex brand

### INSULATION ORDERING DATA

| Insulation Thickness (In.) | Sheet Size (In.) | Approx. "R" Factor | Rubatex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **1/2** | 36 x 48 | 2.0 | FS123648 | **3F414** | $30.91 | **$17.50** | 3.1 |
| **3/4** | 36 x 48 | 3.0 | FS343648 | **3F415** | 48.62 | **26.35** | 4.4 |
| **1** | 36 x 48 | 4.0 | FS13648 | **3F416** | 61.91 | **32.95** | 5.3 |

## CONTACT ADHESIVE



- Excellent for joining seams and butt joints of Insul-Tube, Insul-Sheet and Therma-Cel

Air drying contact adhesive will make a resilient, moisture resistant bond. Minimum drying time is 3 to 4 minutes under normal conditions. Can be used up to 220°F when installing pipe insulation and 200°F when applying sheet insulation. Rubatex brand. 1 pint.

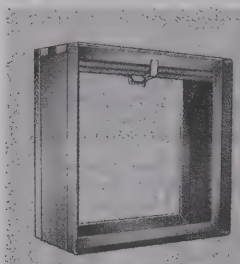
**No. 3F417.** ❸ Shpg. wt. 1.1 lbs. List.....$14.30. Each .....$7.61

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

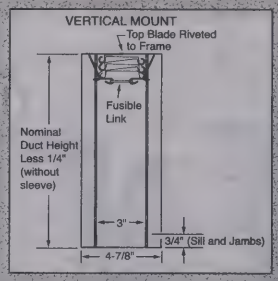
### VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

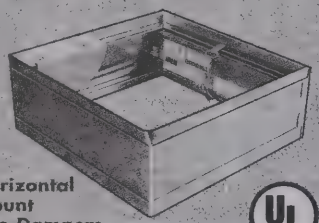
Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# FIRE DAMPERS

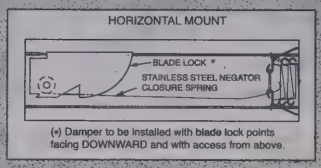


Vertical Mount Fire Dampers No. 3ZV97



Horizontal Mount Fire Dampers No. 3ZV81




**Fire Dampers Feature:**

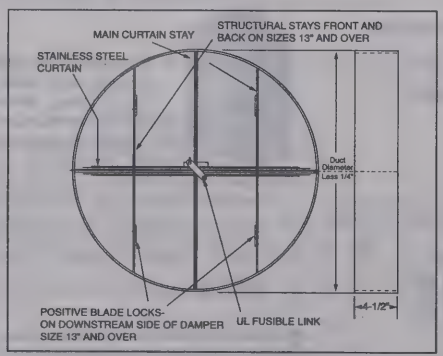
- For use where square, rectangular, and round HVAC ducts penetrate partitions with a fire resistance rating of less than 3 hours
- For use in low pressure HVAC systems (2 in. wg maximum pressure)
- Classified by UL as a 1½ hour fire protection rated fire damper, in accordance with UL Standard 555 and NFPA-90A
- California State Fire Marshall (CSFM) Listed
- Damper closes automatically upon elevated temperatures
- 165°F fusible link provided as standard
- Sleeves and perimeter mounting angles to be provided by others

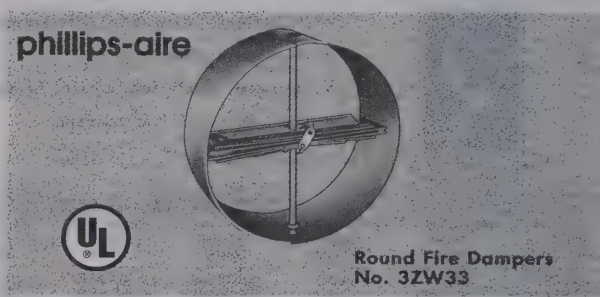
**Square and Rectangular Units Feature:**

- One-piece rolled 22-ga. galvanized steel frame
- 22-Ga. galvanized steel curtain-style blade
- Vertical and horizontal models for both wall and floor applications
- Horizontal models have a stainless steel negator spring to assist in closure

## VERTICAL AND HORIZONTAL MOUNT FIRE DAMPER ORDERING DATA

| Nominal Duct Size (In.) W | H | Actual Damper Size (In.) W | H | Damper Free Area (Sq. ft.) | Vertical Mount Phillips Aire Model No. | Stock No. | List | Each | Horizontal Mount Phillips Aire Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 6 | 5¾ | 5¾ | .12 | 119AV | **3ZV97** | $19.08 | **$15.00** | 119AH | **3ZV81** | $24.58 | **$19.00** | 2.0 |
| 8 | 8 | 7¾ | 7¾ | .26 | 119AV | **3ZV98** | 19.44 | **15.00** | 119AH | **3ZV82** | 24.94 | **19.00** | 3.0 |
| 10 | 6 | 9¾ | 5¾ | .23 | 119AV | **3ZV84** | 21.19 | **15.00** | 119AH | **3ZV68** | 26.69 | **19.00** | 3.0 |
| 10 | 10 | 9¾ | 9¾ | .45 | 119AV | **3ZV83** | 22.29 | **17.00** | 119AH | **3ZV67** | 27.67 | **21.00** | 4.0 |
| 12 | 6 | 11¾ | 5¾ | .28 | 119AV | **3ZV87** | 23.15 | **16.00** | 119AH | **3ZV71** | 28.52 | **20.00** | 5.0 |
| 12 | 8 | 11¾ | 7¾ | .43 | 119AV | **3ZV88** | 23.27 | **16.00** | 119AH | **3ZV72** | 28.65 | **20.00** | 5.0 |
| 12 | 10 | 11¾ | 9¾ | .56 | 119AV | **3ZV85** | 24.15 | **17.00** | 119AH | **3ZV69** | 29.40 | **21.00** | 5.0 |
| 12 | 12 | 11¾ | 11¾ | .68 | 119AV | **3ZV86** | 26.75 | **18.00** | 119AH | **3ZV70** | 32.50 | **22.00** | 6.0 |
| 14 | 12 | 13¾ | 11¾ | .82 | 119AV | **3ZV89** | 29.63 | **23.00** | 119AH | **3ZV73** | 35.38 | **28.00** | 6.0 |
| 14 | 14 | 13¾ | 13¾ | .97 | 119AV | **3ZV90** | 33.86 | **26.00** | 119AH | **3ZV74** | 39.36 | **32.00** | 7.0 |
| 16 | 8 | 15¾ | 7¾ | .59 | 119AV | **3ZV93** | 26.00 | **20.00** | 119AH | **3ZV77** | 31.25 | **24.00** | 6.0 |
| 16 | 12 | 15¾ | 11¾ | .95 | 119AV | **3ZV91** | 30.11 | **23.00** | 119AH | **3ZV75** | 35.86 | **28.00** | 7.0 |
| 16 | 16 | 15¾ | 15¾ | 1.32 | 119AV | **3ZV92** | 34.80 | **26.00** | 119AH | **3ZV76** | 40.30 | **32.00** | 10.0 |
| 18 | 18 | 17¾ | 17¾ | 1.73 | 119AV | **3ZV94** | 41.66 | **31.00** | 119AH | **3ZV78** | 46.78 | **38.00** | 11.0 |
| 24 | 12 | 23¾ | 11¾ | 1.48 | 119AV | **3ZV95** | 36.82 | **27.00** | 119AH | **3ZV79** | 42.20 | **34.00** | 9.0 |
| 24 | 24 | 23¾ | 23¾ | 3.28 | 119AV | **3ZV96** | 53.08 | **37.00** | 119AH | **3ZV80** | 57.45 | **45.00** | 15.0 |



Round Fire Dampers No. 3ZW33

**Round Units Also Feature:**

- 4½-in Deep x 16-ga. galvanized steel damper frame with a one-piece stainless steel curtain-style blade
- Damper can be mounted in vertical or horizontal position

## ROUND FIRE DAMPER ORDERING DATA

| Nominal Duct Size Dia. (In.) | Actual Damper Size Dia. (In.) | Phillips Aire Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 4 | 3¾ | S-3 | **3ZW33** | $32.71 | **$32.00** | 2.0 |
| 6 | 5¾ | S-3 | **3ZW34** | 34.71 | **34.00** | 2.0 |
| 8 | 7¾ | S-3 | **3ZW35** | 39.06 | **36.00** | 3.0 |
| 10 | 9¾ | S-3 | **3ZW31** | 43.94 | **38.00** | 3.0 |
| 12 | 11¾ | S-3 | **3ZW32** | 49.92 | **40.00** | 4.0 |
| 14 | 13¾ | S-4 | **3ZW36** | 75.09 | **54.00** | 8.0 |

phillips-aire

## DUCT ACCESS DOORS

**For use in HVAC ducts adjacent to each fire damper, smoke damper, combination fire/smoke damper and smoke detector to permit maintenance and resetting of the device**

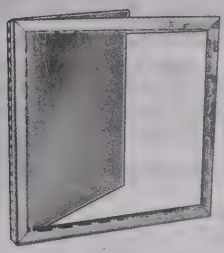
**For use in low pressure HVAC systems (2 in. wg maximum pressure)**

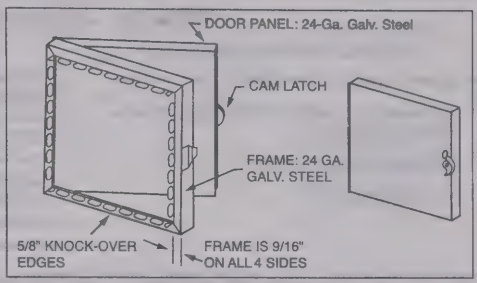
**Doors are 1" thick and insulated**

**Doors can be positively locked with the cam latch**

**Classified as to fire rating by UL**

**Carries UL 1½ HR B-Label (250°F Rating)**






### DUCT ACCESS DOORS ORDERING DATA

| Nominal Frame Size | Actual Door Size | Phillips-Aire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6 x 6 | 5 11/16 x 5 11/16 | FSA-100 | 3ZW03 | $14.21 | $13.00 | 2.0 |
| 8 x 8 | 7 11/16 x 7 11/16 | FSA-100 | 3ZW04 | 16.46 | 15.00 | 2.0 |
| 10 x 10 | x 9 11/16 x 9 11/16 | FSA-100 | 3ZV99 | 19.31 | 17.00 | 3.0 |
| 12 x 12 | 11 11/16 x 11 11/16 | FSA-100 | 3ZW01 | 21.69 | 19.00 | 3.0 |
| 14 x 14 | 13 11/16 x 13 11/16 | FSA-100 | 3ZW02 | 31.42 | 23.00 | 4.0 |

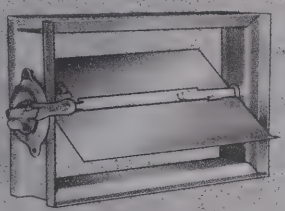
## BALANCING DAMPERS

**For use in low velocity (1500 FPM max.) and low differential pressure (1-in. wg max.) applications for both commercial and residential systems**

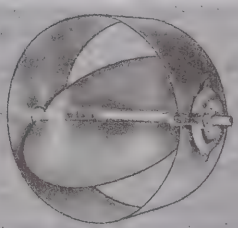
**Primary function is to balance a system and not intended to control airflow. This damper is not recommended for motorized applications**

- **Actuator shall be a 3/8" square manual locking quadrant, shipped loose for field mounting**

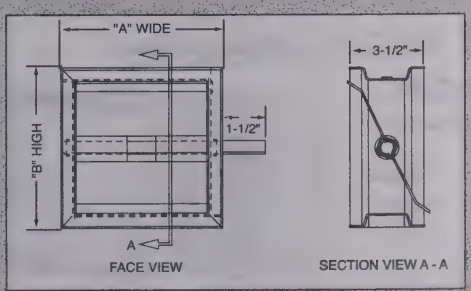
- **Damper frame is 3½" deep x ⅝" x 16-ga. galvanized steel with 20-ga. blades**

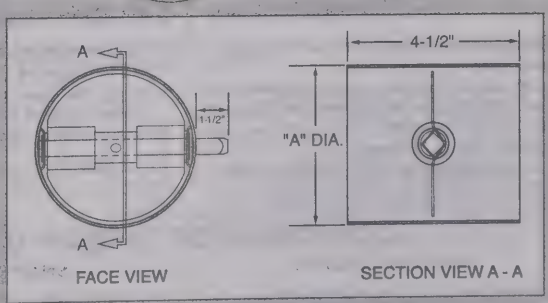


phillips-aire



- **Damper frame is 4½" deep x 20-ga. galvanized steel with 22-ga. blades**




### BALANCING DAMPER ORDERING DATA

| Nom. Duct Size, (In.) W x H | Actual Damper Size, (In.) W x H | Phillips-Aire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6 x 6 | 5¾ x 5¾ | PA-11 | 3ZW24 | $31.56 | $21.00 | 3.0 |
| 8 x 8 | 7¾ x 7¾ | PA-11 | 3ZW25 | 31.69 | 21.00 | 3.0 |
| 0 x 6 | 9¾ x 5¾ | PA-11 | 3ZW16 | 32.44 | 22.00 | 3.0 |
| 0 x 8 | 9¾ x 7¾ | PA-11 | 3ZW17 | 32.79 | 22.00 | 4.0 |
| 0 x 10 | 9¾ x 9¾ | PA-11 | 3ZW15 | 33.92 | 22.00 | 4.0 |
| 2 x 6 | 11¾ x 5¾ | PA-11 | 3ZW19 | 35.17 | 22.00 | 4.0 |
| 2 x 8 | 11¾ x 7¾ | PA-11 | 3ZW20 | 35.29 | 22.00 | 4.0 |
| 2 x 12 | 11¾ x 11¾ | PA-11 | 3ZW18 | 36.40 | 23.00 | 5.0 |
| 4 x 8 | 13¾ x 7¾ | PA-11 | 3ZW23 | 35.90 | 23.00 | 5.0 |
| 4 x 10 | 13¾ x 9¾ | PA-11 | 3ZW21 | 36.77 | 24.00 | 5.0 |
| 4 x 12 | 13¾ x 11¾ | PA-11 | 3ZW22 | 38.36 | 24.00 | 7.0 |

### BALANCING DAMPER ORDERING DATA

| Nominal Duct Size Dia., (In.) | Actual Damper Size Dia., (In.) | Phillips-Aire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 6 | 5¾ | PA-12 | 3ZW29 | $32.83 | $24.00 | 2.0 |
| 8 | 7¾ | PA-12 | 3ZW30 | 34.19 | 26.00 | 3.0 |
| 10 | 9¾ | PA-12 | 3ZW26 | 35.31 | 29.00 | 3.0 |
| 12 | 11¾ | PA-12 | 3ZW27 | 39.92 | 32.00 | 4.0 |
| 14 | 13¾ | PA-12 | 3ZW28 | 46.88 | 38.00 | 6.0 |

# DIFFUSERS AND DAMPERS

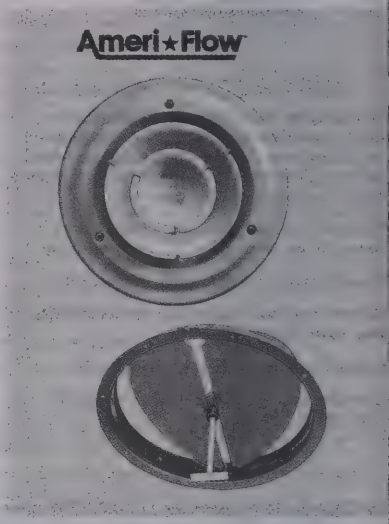
## ROUND CEILING DIFFUSERS AND BUTTERFLY DAMPERS

### ROUND CEILING DIFFUSERS

- Overlapping step-down ring design
- Compatible with Butterfly Dampers (listed below)
- All steel construction
- White finish

### ROUND BUTTERFLY DAMPERS

- Removable handle adjusts butterfly valve through the center hole of the Round Ceiling Diffuser (listed below)
- 2½ turns to full open or closed position
- Controls air volume through the diffuser
- All steel construction
- Brown finish




### ROUND CEILING DIFFUSER ORDERING DATA

| Duct Size (In.) | Overall Dia. (In.) | Free Area Sq. In. | For Use With Damper Stock No. | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **6** | 8 | 22 | 3CC50 | 1500W6 | **3CC47** | $11.03 | **$5.54** | 0.6 |
| **8** | 10½ | 39 | 3CC51 | 1500W8 | **3CC48** | 14.56 | **5.54** | 0.9 |
| **10** | 12½ | 61 | 3CC52 | 1500W10 | **3CC49** | 17.29 | **8.76** | 1.2 |

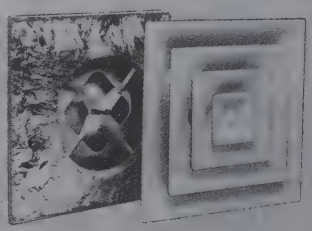
### ROUND BUTTERFLY DAMPER ORDERING DATA

| Duct Size (In.) | Overall Dia. (In.) | Fits Ceiling Diffuser Stock No. | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **6** | 7 | 3CC47 | 1800B6 | **3CC50** | $15.68 | **$7.39** | 0.4 |
| **8** | 9 | 3CC48 | 1800B8 | **3CC51** | 19.22 | **9.50** | 0.8 |
| **10** | 11 | 3CC49 | 1800B10 | **3CC52** | 23.33 | **11.18** | 1.0 |

## HIGH VOLUME T-BAR DIFFUSER

- Diffusers designed for T-bar suspended drop ceilings
- 360° air diffuser pattern
- One-piece stamped steel fins with welded support frame
- Outer cone covered with fiberglass insulation and aluminum foil vapor barrier
- One size fits 6 to 14" diameter duct collars
- White enamel finish
- 23⅞" square x 2⁵⁄₁₆"H
- Requires positive-lock snap-on duct collar (listed below)
- Ameri-Flow Model 6400W 24 x 24

**No. 3CC53.** Shpg. wt. 8.8 lbs. List.....$83.04.
Each.....**$40.55**



High Volume Diffuser

## PERFORATED T-BAR DIFFUSER

- Fiberglass plenum with perforated steel face
- 360° air diffusion pattern created by four adjustable air control deflectors
- Designed for installation in T-bar suspended drop ceilings
- One size fits 6 to 14" diameter duct collar
- White enamel finish
- 23¾" square
- Requires positive-lock snap-on duct collar (listed below)
- Ameri-Flow Model 6000W 24 x 24

**No. 3CC54.** Shpg. wt. 5.0 lbs. List.....$62.37.
Each.....**$28.05**




Perforated Diffuser

## ACCESSORIES FOR T-BAR DIFFUSERS

### SNAP-ON COLLARS

- Galvanized steel construction

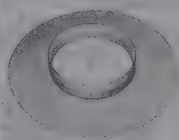
| Duct Size | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **For Use With No. 3CC53 Listed Above** | | | | | |
| **6"** | 6406C | **3CC55** | $13.93 | **$6.43** | 1.5 |
| **8** | 6408C | **3CC56** | 14.68 | **6.78** | 1.5 |
| **10** | 6410C | **3CC57** | 14.68 | **6.78** | 1.5 |
| **12** | 6412C | **6E799** | 12.99 | **6.72** | 1.2 |
| **14** | 6416C | **6E800** | 12.99 | **6.73** | 1.1 |
| **For Use With No. 3CC54 Listed Above** | | | | | |
| **6** | 5006C | **6D625** | 10.07 | **4.66** | 2.0 |
| **8** | 5008C | **6D626** | 9.90 | **4.56** | 3.0 |
| **10** | 5010C | **6D627** | 10.87 | **5.40** | 3.0 |
| **12** | 5012C | **6D628** | 11.60 | **6.20** | 4.0 |
| **14** | 5014C | **6D629** | 12.97 | **7.42** | 1.0 |

### SNAP-ON DAMPERS

- To be used with snap-on collars (listed at left) with same duct size
- Removable handle adjusts butterfly damper through center hole in diffuser
- 2½ turns to full open or close
- Steel construction, brown finish

### DAMPER ORDERING DATA

| Duct Size | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **6"** | 1700B6 | **3CC58** | $12.24 | **$6.13** | 0.3 |
| **8** | 1700B8 | **3CC59** | 13.47 | **6.13** | 0.5 |
| **10** | 1700B10 | **3CC60** | 16.14 | **8.27** | 0.8 |
| **12** | 1700B12 | **6E801** | 16.82 | **8.93** | 0.9 |
| **14** | 1700B14 | **6E802** | 14.98 | **7.93** | 1.2 |



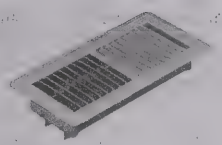
Snap-On Collar



Snap-On Damper

## FLOOR REGISTERS

- Extra-wide border compensates for oversized floor openings
- Stamped steel face bars set at graduated angles for wide diffusion of air flow
- Parallel damper blades direct air to wall or room
- Baked-on brown enamel finish

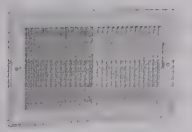


| Max. Duct Size W | H | Overall Size (In.) H | W | Free Area (Sq. In.) | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 12 | 4 | 13⅜ | 17 | 413B2x12 | 3CC20 | $8.86 | $3.72 | 1.0 |
| 10 | 10 | 5½ | 11⅜ | 26 | 413B4x10 | 3CC21 | 9.91 | 4.69 | 1.4 |
| 12 | 12 | 5½ | 13⅜ | 32 | 413B4x12 | 3CC22 | 10.72 | 4.88 | 1.7 |

## TWO-WAY SIDEWALL/CEILING REGISTER

Ameri★Flow

- Two or three grille bars to an inch
- Air is directed both left and right at 22° angle
- Damper adjusts from 135° (fully open) to fully closed position
- All steel construction
- Baked-on white enamel finish
- Full insulation gasket included

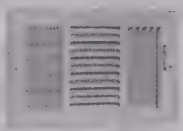


### REGISTER ORDERING DATA

| Max. Duct Size W | H | Overall Size (In.) W | H | Free Area (Sq. In.) | Grille Bar Spacing | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 4 | 11½ | 5½ | 26 | 1/3 | 356W10x4 | 3CC23 | $11.77 | $5.25 | 0.9 |
| 10 | 6 | 11½ | 7½ | 42 | 1/3 | 356W10x6 | 3CC24 | 12.76 | 5.88 | 2.5 |
| 12 | 4 | 13½ | 5½ | 32 | 1/3 | 356W12x4 | 3CC25 | 11.56 | 5.37 | 1.3 |
| 12 | 6 | 13½ | 7½ | 51 | 1/3 | 356W12x6 | 3CC26 | 12.83 | 5.64 | 3.5 |
| 10 | 4 | 11½ | 5½ | 27 | 1/2 | 382W10x4 | 3CC27 | 11.36 | 5.32 | 1.0 |
| 10 | 6 | 11½ | 7½ | 43 | 1/2 | 382W10x6 | 3CC28 | 12.01 | 5.48 | 1.5 |
| 12 | 4 | 13½ | 5½ | 33 | 1/2 | 382W12x4 | 3CC29 | 11.77 | 5.58 | 1.2 |
| 12 | 6 | 13½ | 7½ | 52 | 1/2 | 382W12x6 | 3CC30 | 13.13 | 5.81 | 1.5 |

## THREE-WAY SIDEWALL/CEILING REGISTERS

- Two or three grille bars to an inch
- Three-way air diffusion provides effective heating and cooling
- Damper adjusts from 135° (fully open) to fully closed position
- All steel construction
- Baked-on white enamel finish
- Full insulation gasket included



### REGISTER ORDERING DATA

| Max. Duct Size W | H | Overall Size (In.) W | H | Free Area (Sq. In.) | Grille Bar Spacing | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 4 | 9½ | 5½ | 20 | 1/3 | 357W8x4 | 3CC31 | $12.34 | $5.88 | 1.0 |
| 10 | 6 | 11½ | 7½ | 37 | 1/3 | 357W10x6 | 3CC32 | 11.62 | 5.31 | 0.4 |
| 12 | 6 | 13½ | 7½ | 44 | 1/3 | 357W12x6 | 3CC33 | 13.24 | 6.07 | 1.8 |
| 14 | 6 | 15½ | 7½ | 51 | 1/3 | 357W14x6 | 3CC34 | 14.78 | 6.82 | 2.1 |
| 8 | 6 | 9½ | 5½ | 22 | 1/2 | 383W8x4 | 3CC35 | 12.77 | 5.91 | 0.9 |
| 10 | 6 | 11½ | 7½ | 43 | 1/2 | 383W10x6 | 3CC36 | 12.13 | 5.48 | 1.5 |
| 12 | 6 | 13½ | 7½ | 52 | 1/2 | 383W12x6 | 3CC37 | 12.90 | 6.09 | 1.8 |
| 14 | 6 | 15½ | 7½ | 58 | 1/2 | 383W14x6 | 3CC38 | 15.61 | 7.10 | 1.9 |

## RETURN AIR GRILLES

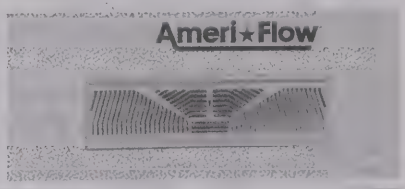
- Two grille bars to an inch
- Grille bars angled at 27°
- All steel construction
- White finish
- Actual wall opening needs to be 3/8" larger than max. duct size



| Max. Duct Size W | H | Overall Size (In.) W | H | Free Area (Sq. In.) | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 6 | 11½ | 7½ | 51 | 372W10x6 | 3CC39 | $5.85 | $2.67 | 1.0 |
| 12 | 6 | 13½ | 7½ | 61 | 372W12x6 | 3CC40 | 6.00 | 2.78 | 1.2 |
| 12 | 12 | 13½ | 13½ | 121 | 372W12x12 | 3CC41 | 10.76 | 5.19 | 1.7 |
| 14 | 6 | 15½ | 7½ | 71 | 372W14x6 | 3CC42 | 7.27 | 3.22 | 1.3 |
| 14 | 14 | 15½ | 15½ | 163 | 372W14x14 | 3CC43 | 13.69 | 6.46 | 2.4 |
| 20 | 20 | 21½ | 21½ | 336 | 372W20x20 | 3CC44 | 26.10 | 12.23 | 5.0 |
| 30 | 6 | 31½ | 7½ | 153 | 372W30x6 | 3CC45 | 15.60 | 6.55 | 2.2 |

## PERIMETER BASEBOARD DIFFUSER

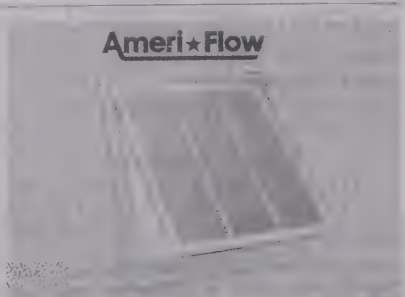
- Multi-pattern diffuser provides wide area of air dispersal
- One-piece damper with center control
- All steel construction
- White finish




| Max. Duct Size (In.) W | D | Overall Size (In.) W | H | D | Free Area (Sq. In.) | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 17½ | 2½ | 18 | 4½ | 3 | 36 | 3018W18 | 3CC46 | $16.27 | $7.53 | 2.2 |

## FILTER GRILLES

- Grille face is hinged for easy opening and filter replacement
- Grille bars are spaced 1/2" apart
- Use standard 1" size filters (not incl.)
- All steel construction
- White finish




| Max. Duct Size W | H | Overall Size (In.) W | H | Free Area (Sq. In.) | Ameri-Flow Model | Stock No. | List | Each | Shpg. Wt. | Recommended Filter Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 20 | 17⅜ | 23⅜ | 202 | 326W14x20 | 3CC61 | $50.26 | $23.64 | 5.0 | 2W015 |
| 16 | 20 | 19⅜ | 23⅜ | 230 | 326W16x20 | 3CC62 | 51.61 | 23.56 | 6.0 | 1W099 |
| 20 | 20 | 23⅜ | 23⅜ | 288 | 326W20x20 | 3CC63 | 56.84 | 24.51 | 8.0 | 1W097 |
| 20 | 25 | 23⅜ | 28⅜ | 360 | 326W20x25 | 3CC64 | 65.37 | 28.95 | 9.0 | 1W096 |
| 24 | 12 | 27⅜ | 15⅜ | 207 | 326W24x12 | 3CC65 | 53.31 | 23.66 | 5.0 | 5W502 |
| 24 | 20 | 28⅜ | 23⅜ | 360 | 326W25x20 | 3CC66 | 76.61 | 36.45 | 9.0 | 1W096 |

# FLEXIBLE DUCTS

## INSULATED FLEXIBLE DUCT




**Rated Positive Pressure:** 10" w.g. per UL 181.

**Recommended Operating Pressure:** 6" w.g. pos., 4-12" dia., 4" w.g. pos., 14-18" dia.: 3/4" w.g. neg., all dia.

**Velocity:** 5,000 FPM

**Standard Diameters:** 4-18"

**Flame Spread / Smoke Developed:** Less than 25 / Less than 50

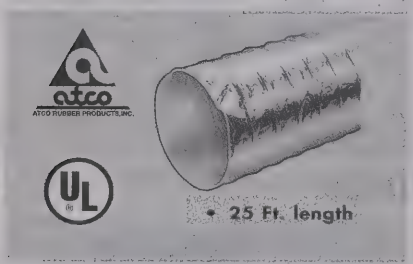
**Standard Lengths:** 25 ft.

**Maximum Operating Temperatures:** -20 to 140°F Continuous (@ maximum pressure).

-20 to 180°F Continuous (@ 2" pos. w.g. max.)

-20 to 250°F Intermittent (@ 1/2" pos. w.g. max.)

## UNINSULATED FLEXIBLE DUCT




An uninsulated, UL 181, Class 1 Air Connector constructed of a triple lamination of metalized polyester, aluminum foil and polyester film, encapsulating a steel wire helix.

**Rated Positive Pressure:** 10" w.g. per UL 181.

**Recommended Operating Pressures:** 6" w.g. pos., all dia.: 3/4" neg., all dia.

**Velocity:** 5,000 FPM

**Standard Diameters:** 3-18".

**Flame Spread / Smoke Developed:** Less than 25 / Less than 50

### CODE COMPLIANCE

UL 181, NFPA 90A & 90B, SBCC, ICBO, BOCA, HUD 515-2.1(b), Cities of Chicago, New York, San Francisco, County of Dade (Florida).

**Check with the local code body having jurisdiction in your area to determine applicable codes.**

## INSULATED FLEXIBLE DUCT ORDERING DATA

| UPC No. | Inside Dia. (In.) | Wall Thickness (In.) | Vapor Trans-Mission (Perms) | Atco Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **ALL PURPOSE INSULATED DUCT—Durable double ply, gray polyester vapor barrie with spiral reinforcements.** | | | | | | | | |
| **R-Value = 4.2*** | | | | **CLASS 1** | | | | |
| **070** | 4 | 1¼ | 0.6 | 07025-4 | **3F327** | $33.00 | **$22.32** | 6.8 |
| **070** | 6 | 1¼ | 0.6 | 07025-6 | **3F328** | 44.00 | **29.45** | 8.2 |
| **070** | 8 | 1¼ | 0.6 | 07025-8 | **3F329** | 52.00 | **34.90** | 10.0 |
| **070** | 10 | 1¼ | 0.6 | 07025-10 | **3F330** | 65.00 | **43.95** | 14.0 |
| **070** | 12 | 1¼ | 0.6 | 07025-12 | **3F331** | 81.00 | **54.35** | 17.0 |
| **070** | 14 | 1¼ | 0.6 | 07025-14 | **5E279** | 93.00 | **68.90** | 21.0 |
| **070** | 16 | 1¼ | 0.6 | 07025-16 | **5E280** | 111.00 | **82.70** | 25.0 |
| **070** | 18 | 1¼ | 0.6 | 07025-18 | **5E281** | 131.00 | **97.10** | 30.0 |
| **R-Value = 6.0*** | | | | | | | | |
| **076** | 4 | 2 | 0.6 | 07625-4 | **5E282** | 42.00 | **29.75** | 9.0 |
| **076** | 6 | 2 | 0.6 | 07625-6 | **5E283** | 55.00 | **39.10** | 12.0 |
| **076** | 8 | 2 | 0.6 | 07625-8 | **5E284** | 65.00 | **46.30** | 14.0 |
| **076** | 10 | 2 | 0.6 | 07625-10 | **5E285** | 82.00 | **58.20** | 18.0 |
| **076** | 12 | 2 | 0.6 | 07625-12 | **5E286** | 102.00 | **72.15** | 22.0 |
| **076** | 14 | 2 | 0.6 | 07625-14 | **5E287** | 124.00 | **87.15** | 26.0 |
| **076** | 16 | 2 | 0.6 | 07625-16 | **5E288** | 148.00 | **104.80** | 31.0 |
| **076** | 18 | 2 | 0.6 | 07625-18 | **5E289** | 173.00 | **122.60** | 36.0 |
| **PREMIUM INSULATED DUCT—Double ply, metalized polyester vapor barrier with spiral reinforcements.** | | | | | | | | |
| **R-Value = 4.2*** | | | | | | | | |
| **030** | 4 | 1¼ | 0.05 | 03025-4 | **3F322** | 38.00 | **24.95** | 6.8 |
| **030** | 6 | 1¼ | 0.05 | 03025-6 | **3F323** | 50.00 | **32.80** | 8.2 |
| **030** | 8 | 1¼ | 0.05 | 03025-8 | **3F324** | 59.00 | **38.90** | 10.0 |
| **030** | 10 | 1¼ | 0.05 | 03025-10 | **3F325** | 74.00 | **49.00** | 14.0 |
| **030** | 12 | 1¼ | 0.05 | 03025-12 | **3F326** | 92.00 | **60.80** | 17.0 |
| **030** | 14 | 1¼ | 0.05 | 03025-14 | **5E268** | 111.00 | **76.45** | 21.0 |
| **030** | 16 | 1¼ | 0.05 | 03025-16 | **5E269** | 133.00 | **91.90** | 25.0 |
| **030** | 18 | 1¼ | 0.05 | 03025-18 | **5E270** | 156.00 | **107.80** | 30.0 |
| **R-Value = 6.0*** | | | | | | | | |
| **036** | 4 | 2 | 0.05 | 03625-4 | **5E271** | 46.00 | **32.70** | 9.0 |
| **036** | 6 | 2 | 0.05 | 03625-6 | **5E272** | 61.00 | **43.10** | 12.0 |
| **036** | 8 | 2 | 0.05 | 03625-8 | **5E273** | 72.00 | **51.10** | 14.0 |
| **036** | 10 | 2 | 0.05 | 03625-10 | **5E274** | 91.00 | **64.10** | 18.0 |
| **036** | 12 | 2 | 0.05 | 03625-12 | **5E275** | 112.00 | **79.55** | 22.0 |
| **036** | 14 | 2 | 0.05 | 03625-14 | **5E276** | 136.00 | **96.25** | 26.0 |
| **036** | 16 | 2 | 0.05 | 03625-16 | **5E277** | 163.00 | **115.50** | 31.0 |
| **036** | 18 | 2 | 0.05 | 03625-18 | **5E278** | 191.00 | **135.30** | 36.0 |

(*)R-Values are in accordance with ADC Flexible Duct Performance and Installation Standards (1991) using ASTM C-518 at installed wall thickness on flat insulation only.

## UNINSULATED FLEXIBLE DUCT ORDERING DATA

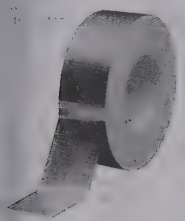
| UPC No. | Inside Diameter (In.) | High Temp Range (°F) | Low Temp Range (°F) | Atco Model | Stock No. | List | Each | Sh W |
|---|---|---|---|---|---|---|---|---|
| **050** | 3 | 180 | -20 | 05025-3 | **3F332** | $27.00 | **$17.44** | 1 |
| **050** | 4 | 180 | -20 | 05025-4 | **3F333** | 29.00 | **18.51** | 2 |
| **050** | 6 | 180 | -20 | 05025-6 | **3F334** | 38.00 | **24.78** | 2 |
| **050** | 8 | 180 | -20 | 05025-8 | **3F335** | 50.00 | **32.40** | 3 |
| **050** | 10 | 180 | -20 | 05025-10 | **3F336** | 62.00 | **41.05** | 5 |
| **050** | 12 | 180 | -20 | 05025-12 | **5E290** | 79.00 | **52.25** | 7 |
| **050** | 14 | 180 | -20 | 05025-14 | **5E291** | 94.00 | **63.55** | 10 |
| **050** | 16 | 180 | -20 | 05025-16 | **5E292** | 113.00 | **76.20** | 12 |
| **050** | 18 | 180 | -20 | 05025-18 | **5E293** | 132.00 | **89.15** | 15 |

## UV EXPOSURE

**Atco Flexible Duct is intended for indoor use only. Do not install product where exposure to direct or indirect sunlight can occur. Installations where sunlight enters through turbine vents, skylights, canopy windows, etc. should be avoided.**

# DUCT TAPE & CLOTH TAPE

Nashua



[A] **An excellent general purpose tape** for light duty applications. Conforms well to irregular surfaces.

[B] **Easy to apply tape** used in heating, ventilating, and air conditioning applications to seal aluminum backed insulated ducts and thermal insulation to maintain a vapor barrier. Ideal for permanently flexible seals. Conforms to pattern of any duct board when squeegeed down. 7.4 mils thick overall with 2-mil dead soft aluminum foil and permanent high tack adhesive. UL Std. 723 classified.

[C] **High strength printed aluminum foil duct** **ard tape** has an acrylic adhesive system that meets UL 181A-P quirement. Approved for bonding joints and seams on fiber- ass ductwork. Ideal for permanently flexible seals.

] **Economical polyethylene film-backed cloth tape** for a wide variety industrial grade applications. Highly conformable. Gauge 11 ils.

] **Highly durable professional grade duct tape** recommended for aling both metal and fibrous air handling system connections. so suitable for general contractor use. Gauge 12 mils.

] **High-strength premium grade duct tape** seals seams airtight at ints and overlaps in air handling systems for durable, consistent osures. Extremely high tack adhesive makes it suitable for use as a waterproof packaging tape and for holding and tabbing applications. Clean release, will not delaminate. Gauge 13 mils.

[G] **Foil, fiberglass scrim, and Kraft laminate** in a diamond pattern with high tack adhesive. Conforms readily to irregular surfaces. Used as fiberglass duct wrap where high tensile strength is required. Ideal for patching scrim-reinforced duct insulation. 10.5 mils thick. Backing is UL Std. 723 classified.

[H] **Scrim reinforced all service jacket (ASJ) tape** for pipe insulation closure. High tack, acrylic based adhesive provides immediate bonding. Flame resistant, vapor barrier jacketing is ideal where ASJ facings are used and for sealing seams. Thickness 14.5 mils. Backing material is white Kraft-laminated fiberglass scrim foil and UL Std. 723 classified.

[I] **Metallic duct tape** applies easily as a cloth tape. High tack rubber adhesive seals flexible duct work and insulation board. 11 mils thick.

[J] **Water-resistant tape** of high thread count, vinyl-impregnated cloth to resist ultraviolet rays and severe weather conditions. For use outdoors to seal exterior duct and insulated pipe systems; in film industry as gaffer's tape; and in packaging. 13 mils thick.

[K] **Double-face cloth tape** has adhesive on both sides. One side is faced with a silicone coated release liner that facilitates easy unwind. Features a high tack adhesive with exceptional holding strength. Excellent for mounting, holding, laying carpets and hanging polyethylene. 13 mils thick.

## TAPE ORDERING DATA

| ey | Item | Width, (In.) | Color | Yards Per Roll | Adhesion Oz. / In. | Tensile Strength, Lbs. / In. | Performance Temp. (°F) | Nashua Model | Stock No. | List | Each | Case Lot, Each | Rolls per Case | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | General Purpose Duct Tape | 2 | Silver | 60 | 49 | 21 | 200 | 396 | **5AD15** | $9.12 | **$6.95** | **$4.25** | 24 | 1.8 |
| | | 3 | Silver | 60 | 49 | 21 | 200 | 396 | **1P087** | 13.48 | **10.79** | **8.16** | 16 | 2.6 |
| | Aluminum Foil Duct Tape | 2 | Aluminum | 50 | 126 | 23 | 200 | 322 | **2W500** | 12.38 | **9.91** | **7.51** | 24 | 1.6 |
| | | 2½ | Aluminum | 50 | 126 | 23 | 200 | 322 | **6A062** | 15.77 | **12.62** | **9.57** | 16 | 2.0 |
| | | 3 | Aluminum | 50 | 126 | 23 | 200 | 322 | **6A063** | 18.65 | **14.92** | **11.22** | 16 | 3.8 |
| | Aluminum Foil Duct Tape | 2½ | Aluminum | 60 | 60 | 25 | 275 | 324 | **6A068** | 26.54 | **21.24** | **16.09** | 16 | 1.3 |
| | | 3 | Aluminum | 60 | 60 | 25 | 275 | 324 | **1P118** | 31.74 | **25.40** | **19.16** | 16 | 1.8 |
| | Industrial Grade Duct Tape | 1½ | Silver | 60 | 49 | 26 | 200 | 398 | **2W503** | 7.17 | **5.75** | **4.47** | 32 | 1.9 |
| | | 2 | Silver | 60 | 49 | 26 | 200 | 398 | **2W504** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Black | 60 | 49 | 26 | 200 | 398 | **1P073** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Red | 60 | 49 | 26 | 200 | 398 | **1P083** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | White | 60 | 49 | 26 | 200 | 398 | **1P085** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Yellow | 60 | 49 | 26 | 200 | 398 | **4BC15** | 10.26 | **8.21** | **5.75** | 24 | 1.9 |
| | | 2 | Blue | 60 | 49 | 26 | 200 | 398 | **1P079** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Olive Drab | 60 | 49 | 26 | 200 | 398 | **1P075** | 9.46 | **7.57** | **5.75** | 24 | 1.9 |
| | | 2 | Green | 60 | 49 | 26 | 200 | 398 | **1P081** | 9.46 | **7.57** | **5.75** | 24 | 2.6 |
| | | 2 | Brown | 60 | 49 | 26 | 200 | 398 | **1P077** | 9.46 | **7.57** | **5.75** | 24 | 3.6 |
| | | 3 | Silver | 60 | 49 | 26 | 200 | 398 | **2A240** | 14.27 | **11.41** | **8.64** | 16 | 1.9 |
| | | 4 | Silver | 60 | 49 | 26 | 200 | 398 | **6A060** | 18.81 | **15.05** | **11.41** | 12 | 3.0 |
| | Professional Grade Duct Tape | 2 | Silver | 60 | 54 | 29 | 200 | 345 | **2W502** | 13.20 | **10.57** | **8.05** | 24 | 2.4 |
| | | 3 | Silver | 60 | 54 | 29 | 200 | 345 | **1P116** | 19.74 | **15.80** | **11.97** | 16 | 2.5 |
| | Premium Grade Duct Tape | 2 | Silver | 60 | 55 | 45 | 200 | 357 | **6A061** | 17.08 | **13.67** | **10.35** | 24 | 2.5 |
| | | 2 | Olive Drab | 60 | 55 | 45 | 200 | 357 | **1P105** | 17.08 | **13.67** | **10.35** | 24 | 2.5 |
| | | 2 | White | 60 | 55 | 45 | 200 | 357 | **1P112** | 17.08 | **13.67** | **10.35** | 24 | 3.8 |
| | | 2 | Black | 60 | 55 | 45 | 200 | 357 | **1P099** | 17.08 | **13.67** | **10.35** | 16 | 3.8 |
| | | 3 | Olive Drab | 60 | 55 | 45 | 200 | 357 | **1P103** | 25.36 | **20.30** | **15.35** | 16 | 3.8 |
| | | 3 | Silver | 60 | 55 | 45 | 200 | 357 | **1P114** | 25.36 | **20.30** | **15.35** | 16 | 3.8 |
| | | 3 | Black | 60 | 55 | 45 | 200 | 357 | **1P097** | 25.36 | **20.30** | **15.35** | 16 | 5.0 |
| | | 3 | White | 60 | 55 | 45 | 200 | 357 | **1P107** | 25.36 | **20.30** | **15.35** | 16 | 1.3 |
| | | 4 | Olive Drab | 60 | 55 | 45 | 200 | 357 | **1P101** | 34.12 | **27.35** | **20.64** | 12 | 2.0 |
| | Foil Scrim Kraft Tape | 2 | Aluminum | 50 | 100 | 50 | 120 | FSK | **1P122** | 14.00 | **11.21** | **8.51** | 24 | 2.7 |
| | | 3 | Aluminum | 50 | 100 | 50 | 120 | FSK | **6A064** | 21.93 | **17.55** | **13.30** | 16 | 3.8 |
| | | 4 | Aluminum | 50 | 100 | 50 | 120 | FSK | **1P120** | 29.16 | **23.33** | **17.63** | 12 | 2.0 |
| | All Service Jacket Tape | 3 | White | 50 | 85 | 63 | 200 | ASJ | **6A065** | 37.06 | **29.70** | **21.24** | 16 | 2.5 |
| | Metallized Cloth Tape | 2 | Aluminum | 60 | 48 | 26 | 200 | 365 | **6A067** | 14.13 | **11.31** | **8.53** | 24 | 3.8 |
| | All Weather Cloth Tape | 2 | Silver | 60 | 55 | 35 | 200 | 510 | **6A066** | 26.66 | **21.33** | **16.13** | 24 | 2.5 |
| | | 3 | Silver | 60 | 55 | 35 | 200 | 510 | **1P095** | 34.80 | **27.90** | **22.63** | 16 | 2.5 |
| | | 2 | Black | 60 | 55 | 35 | 200 | 510 | **1P089** | 26.33 | **21.07** | **15.93** | 24 | 2.5 |
| | | 2 | Olive Drab | 60 | 55 | 35 | 200 | 510 | **1P091** | 26.33 | **21.07** | **15.93** | 24 | 2.5 |
| | | 2 | White | 60 | 55 | 35 | 200 | 510 | **1P093** | 26.33 | **21.07** | **15.93** | 24 | 2.5 |
| | Double Face Cloth Tape | 2 | N/A | 36 | 100 | 50 | 120 | 1000 | **6AH15** | 19.35 | **15.49** | **11.74** | 24 | 2.1 |

# HEATING & COOLING MATCHING GUIDE

## 90%+ DOWNFLOW* / HORIZONTAL GAS FURNACES

| Stock No. | SEER | Input MBtuH | A/C Tons | Outdoor Condenser | Indoor Evaporator Coil | Line Set 30 Foot | Line Set 50 Foot | Service Disconnect | Recommended Digital Thermostat 1st | Recommended Digital Thermostat 2nd | Condenser Mounting Pad | 4FT Electrical Connector | Coil Case | Thermal Expansio Valve |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3UH66 | 10 | 60.0 | 2.5 | 3UH30 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | N/A |
| 3UH66 | 10 | 60.0 | 3.0 | 3UH31 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ68 | N/A |
| 3UH68 | 10 | 75.0 | 2.5 | 3UH30 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | N/A |
| 3UH68 | 10 | 75.0 | 3.0 | 3UH31 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ68 | N/A |
| 3UH70 | 10 | 75.0 | 3.5 | 3UH32 | 3UJ61 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ69 | N/A |
| 3UH66 | 12 | 60.0 | 2.5 | 3UH23 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E875 | 3F320 | 3UJ68 | 3UJ74 |
| 3UH66 | 12 | 60.0 | 3.0 | 3UH24 | 3UJ60 | 4E871 | 48870 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | 3UJ75 |
| 3UH68 | 12 | 75.0 | 2.5 | 3UH23 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E875 | 3F320 | 3UJ68 | 3UJ74 |
| 3UH68 | 12 | 75.0 | 3.0 | 3UH24 | 3UJ60 | 4E871 | 4E870 | 1H224 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | 3UJ75 |
| 3UH70 | 12 | 75.0 | 3.5 | 3UH25 | 3UJ61 | 3F346 | 3F347 | 1H224 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |
| 3UH70 | 12 | 75.0 | 4.0 | 3UH26 | 3UJ63 | 3F346 | 3F347 | 1H224 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |

## 90 + % UPFLOW GAS FURNACES

| Stock No. | SEER | Input MBtuH | A/C Tons | Outdoor Condenser | Indoor Evaporator Coil | Line set 30 Foot | Line set 50 Foot | Service Disconnect | Recommended Digital Thermostat 1st | Recommended Digital Thermostat 2nd | Condenser Mounting Pad | 4FT Electrical Connector | Coil Case | Thermal Expansio Valve |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3UH56 | 10 | 60.0 | 2.5 | 3UH30 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | N/A |
| 3UH56 | 10 | 60.0 | 3.0 | 3UH31 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ68 | N/A |
| 3UH58 | 10 | 75.0 | 2.5 | 3UH30 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | N/A |
| 3UH58 | 10 | 75.0 | 3.0 | 3UH31 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ68 | N/A |
| 3UH60 | 10 | 75.0 | 3.5 | 3UH32 | 3UJ61 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ69 | N/A |
| 3UH60 | 10 | 75.0 | 4.0 | 3UH33 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ69 | N/A |
| 3UH62 | 10 | 90.0 | 3.5 | 3UH32 | 3UJ61 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ69 | N/A |
| 3UH62 | 10 | 90.0 | 4.0 | 3UH33 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ69 | N/A |
| 3UH64 | 10 | 105.0 | 3.5 | 3UH32 | 3UJ61 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ69 | N/A |
| 3UH64 | 10 | 105.0 | 4.0 | 3UH33 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ69 | N/A |
| 3UH56 | 12 | 60.0 | 2.5 | 3UH23 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E875 | 3F320 | 3UJ68 | 3UJ74 |
| 3UH56 | 12 | 60.0 | 3.0 | 3UH24 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | 3UJ75 |
| 3UH58 | 12 | 75.0 | 2.5 | 3UH23 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E875 | 3F320 | 3UJ68 | 3UJ74 |
| 3UH58 | 12 | 75.0 | 3.0 | 3UH24 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | 3UJ75 |
| 3UH60 | 12 | 75.0 | 3.5 | 3UH25 | 3UJ61 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |
| 3UH60 | 12 | 75.0 | 4.0 | 3UH26 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |
| 3UH62 | 12 | 90.0 | 3.5 | 3UH25 | 3UJ61 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |
| 3UH62 | 12 | 90.0 | 4.0 | 3UH26 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |
| 3UH64 | 12 | 105.0 | 3.5 | 3UH25 | 3UJ61 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |
| 3UH64 | 12 | 105.0 | 4.0 | 3UH26 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |

## 80+% UPFLOW* / HORIZONTAL GAS FURNACES

| Stock No. | SEER | Input MBtuH | A/C Tons | Outdoor Condenser | Indoor Evaporator Coil | Line set 30 Foot | Line set 50 Foot | Service Disconnect | Recommended Digital Thermostat 1st | Recommended Digital Thermostat 2nd | Condenser Mounting Pad | 4FT Electrical Connector | Coil Case | Thermal Expansio Valve |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3UH46 | 10 | 50.0 | 1.5 | 3UH28 | 3UJ57 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ67 | N/A |
| 3UH46 | 10 | 50.0 | 2.0 | 3UH29 | 3UJ58 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ67 | N/A |
| 3UH48 | 10 | 75.0 | 2.5 | 3UH30 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | N/A |
| 3UH48 | 10 | 75.0 | 3.0 | 3UH31 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ68 | N/A |
| 3UH50 | 10 | 100.0 | 2.5 | 3UH30 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | N/A |
| 3UH50 | 10 | 100.0 | 3.0 | 3UH31 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ68 | N/A |
| 3UH52 | 10 | 100.0 | 3.5 | 3UH32 | 3UJ61 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ69 | N/A |
| 3UH52 | 10 | 100.0 | 4.0 | 3UH33 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ69 | N/A |
| 3UH54 | 10 | 125.0 | 5.0 | 3UH34 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ70 | N/A |
| 3UH46 | 12 | 50.0 | 1.5 | 3UH21 | 3UJ57 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E875 | 3F320 | 3UJ67 | 3UJ72 |
| 3UH46 | 12 | 50.0 | 2.0 | 3UH22 | 3UJ58 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E875 | 3F320 | 3UJ67 | 3UJ73 |
| 3UH48 | 12 | 75.0 | 2.5 | 3UH23 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E875 | 3F320 | 3UJ68 | 3UJ74 |
| 3UH48 | 12 | 75.0 | 3.0 | 3UH24 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | 3UJ75 |
| 3UH50 | 12 | 100.0 | 2.5 | 3UH23 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4E183 | 4E875 | 3F320 | 3UJ68 | 3UJ74 |
| 3UH50 | 12 | 100.0 | 3.0 | 3UH24 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ68 | 3UJ75 |
| 3UH52 | 12 | 100.0 | 3.5 | 3UH25 | 3UJ61 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |
| 3UH52 | 12 | 100.0 | 4.0 | 3UH26 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E876 | 3F320 | 3UJ69 | 3UJ76 |
| 3UH54 | 12 | 125.0 | 5.0 | 3UH27 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ70 | 3UJ77 |

## 80 + % UPFLOW OIL FURNACES

| Stock No. | SEER | Input MBtuH | A/C Tons | Outdoor Condenser | Indoor Evaporator Coil | Line set 30 Foot | Line set 50 Foot | Service Disconnect | Recommended Digital Thermostat 1st | Recommended Digital Thermostat 2nd | Condenser Mounting Pad | 4FT Electrical Connector | Coil Case | Thermal Expansio Valve |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3UJ14 | 10 | 105.0 | 5.0 | 3UH34 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ70 | N/A |
| 3UJ18 | 10 | 119.0 | 5.0 | 3UH34 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ70 | N/A |
| 3UJ22 | 10 | 140.0 | 5.0 | 3UH34 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ70 | N/A |
| 3UJ14 | 12 | 105.0 | 5.0 | 3UH27 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ70 | 3UJ77 |
| 3UJ18 | 12 | 119.0 | 5.0 | 3UH27 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ70 | 3UJ77 |
| 3UJ22 | 12 | 140.0 | 5.0 | 3UH27 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4E183 | 4E873 | 3F320 | 3UJ70 | 3UJ77 |

**NOTE:** Horizontal drain panfor evaporator seepage, see page 3444. No. 3UJ71 is an overflow drain pan used above finished ceilings, etc.
(*) Downflow furnace combustible floor base see Furnace Accessories on page 3428.

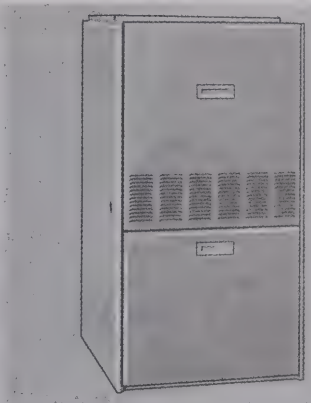
## ORDER DIRECT FROM GRAINGER

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check t Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**

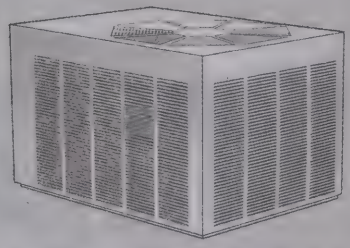
## HOW TO USE THIS GUIDE:

s matching guide has been designed to ow you to quickly and easily create a nplete Dayton heating and/or cooling tem. Based on efficiency, type and size, t can find all the components you need ne glance.

t pick the furnace or air handler tuH rating and size, then follow the row dentify all of the components needed to ate a system.



Dayton®



**Replacement Parts Available**
**1-800-323-0620**

| Stock No. | KW MBtuH | A/C Tons | Outdoor Condenser | Indoor Evaporator Coil | Line Set 30 foot | Line Set 50 foot | Service Disconnect | Recommended Digital Thermostat 1st | Recommended Digital Thermostat 2nd | Condenser Mounting Pad | 4FT Electrical Connector | Coil Case | Thermal Expansion Valve |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AIR HANDLERS W/WO ELECTRIC HEAT UP / DOWN / HORIZONTAL FLOW — 10 SEER A/C** | | | | | | | | | | | | | |
| UH37 | 0.0 | 1.5 | 3UH28 | 3UJ57 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | N/A |
| UH37 | 0.0 | 2.0 | 3UH29 | 3UJ58 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | N/A |
| UH38 | 5.0 | 1.5 | 3UH28 | 3UJ57 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | N/A |
| UH38 | 5.0 | 2.0 | 3UH29 | 3UJ58 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | N/A |
| UH39 | 0.0 | 2.5 | 3UH30 | 3UJ60 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | N/A |
| UH39 | 0.0 | 3.0 | 3UH31 | 3UJ60 | 4E871 | 4E870 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | N/A |
| UH40 | 7.0 | 2.5 | 3UH30 | 3UJ60 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | N/A |
| UH40 | 7.0 | 3.0 | 3UH31 | 3UJ60 | 4E871 | 4E870 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | N/A |
| UH41 | 0.0 | 3.5 | 3UH32 | 3UJ61 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | N/A |
| UH41 | 0.0 | 4.0 | 3UH33 | 3UJ63 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | N/A |
| UH42 | 10.0 | 3.5 | 3UH32 | 3UJ61 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | N/A |
| UH42 | 10.0 | 4.0 | 3UH33 | 3UJ63 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | N/A |
| UH43 | 0.0 | 5.0 | 3UH34 | 3UJ64 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | N/A |
| UH44 | 15.0 | 5.0 | 3UH34 | 3UJ64 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | N/A |
| **AIR HANDLERS W/WO ELECTRIC HEAT UP / DOWN / HORIZONTAL FLOW — 12 SEER A/C** | | | | | | | | | | | | | |
| UH37 | 0.0 | 1.5 | 3UH21 | 3UJ57 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E875 | 3F320 | N/A | 3UJ72 |
| UH37 | 0.0 | 2.0 | 3UH22 | 3UJ58 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E875 | 3F320 | N/A | 3UJ73 |
| UH38 | 5.0 | 1.5 | 3UH21 | 3UJ57 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E875 | 3F320 | N/A | 3UJ72 |
| UH38 | 5.0 | 2.0 | 3UH22 | 3UJ58 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E875 | 3F320 | N/A | 3UJ73 |
| UH39 | 0.0 | 2.5 | 3UH23 | 3UJ60 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E875 | 3F320 | N/A | 3UJ74 |
| UH39 | 0.0 | 3.0 | 3UH24 | 3UJ60 | 4E871 | 4E870 | 1H244 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | 3UJ75 |
| UH40 | 7.0 | 2.5 | 3UH23 | 3UJ60 | 4E871 | 4E870 | 5B663 | 4E661 | 4E183 | 4E875 | 3F320 | N/A | 3UJ74 |
| UH40 | 7.0 | 3.0 | 3UH24 | 3UJ60 | 4E871 | 4E870 | 1H244 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | 3UJ75 |
| UH41 | 0.0 | 3.5 | 3UH25 | 3UJ61 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | 3UJ76 |
| UH41 | 0.0 | 4.0 | 3UH26 | 3UJ63 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | 3UJ76 |
| UH42 | 10.0 | 3.5 | 3UH25 | 3UJ61 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | 3UJ76 |
| UH42 | 10.0 | 4.0 | 3UH26 | 3UJ63 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E876 | 3F320 | N/A | 3UJ76 |
| UH43 | 0.0 | 5.0 | 3UH27 | 3UJ64 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | 3UJ77 |
| UH44 | 15.0 | 5.0 | 3UH27 | 3UJ64 | 3F346 | 3F347 | 1H244 | 4E661 | 4E183 | 4E873 | 3F320 | N/A | 3UJ77 |

TE: "OVERFLOW" drain pan is 3UJ71 (used above finished ceilings, etc.); see page 3444.

## AIR HANDLERS UP / DOWN / HORIZONTAL HEAT PUMPS W/WO ELECTRIC HEAT A/C

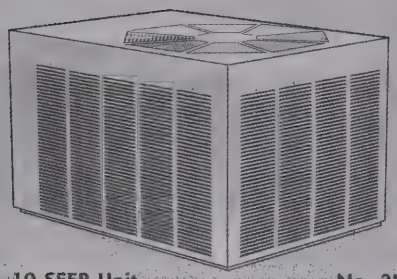
| Stock No. | KW MBtuH | A/C Tons | Heat Pump Outdoor Condenser | Indoor Evaporator coil | Line Set 30 foot | Line Set 50 foot | Service Disconnect | Recommended Digital Thermostat 1st | Recommended Digital Thermostat 2nd | Condenser Mounting Pad | 4FT Electrical Connector | Lift Kit | Low Ambient Control |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UH37 | 0.0 | 1.5 | 3UJ34 | 3UJ57 | 4E871 | 4E870 | 5B663 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH37 | 0.0 | 2.0 | 3UJ35 | 3UJ59 | 4E871 | 4E870 | 5B663 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH38 | 5.0 | 1.5 | 3UJ34 | 3UJ57 | 4E871 | 4E870 | 5B663 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH38 | 5.0 | 2.0 | 3UJ35 | 3UJ59 | 4E871 | 4E870 | 5B663 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH39 | 0.0 | 2.5 | 3UJ36 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH39 | 0.0 | 3.0 | 3UJ37 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH40 | 7.0 | 2.5 | 3UJ36 | 3UJ60 | 4E871 | 4E870 | 5B663 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH40 | 7.0 | 3.0 | 3UJ37 | 3UJ60 | 4E871 | 4E870 | 1H244 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH41 | 0.0 | 3.5 | 3UJ38 | 3UJ62 | 3F346 | 3F347 | 1H244 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH41 | 0.0 | 4.0 | 3UJ39 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH42 | 10.0 | 3.5 | 3UJ38 | 3UJ62 | 3F346 | 3F347 | 1H244 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH42 | 10.0 | 4.0 | 3UJ39 | 3UJ63 | 3F346 | 3F347 | 1H244 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH43 | 0.0 | 5.0 | 3UJ40 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |
| UH44 | 15.0 | 5.0 | 3UJ40 | 3UJ64 | 3F346 | 3F347 | 1H244 | 5E756 | 4DG49 | 4E873 | 3F320 | 3F317 | 3UK06 |

TE: Horizontal drain pan, see page 3444.

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS!

# RESIDENTIAL CONDENSING UNITS

Dayton®



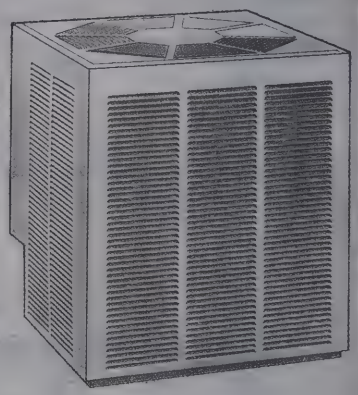
10 SEER Unit No. 3UH28

CERTIFIED AIR CONDITIONING ARI STANDARD 1010

UL c UL

SA10592

Dayton® Wattrimmer



12 SEER Unit No. 3UH21

Replacement Parts Available
1-800-323-0620™

FREE DELIVERY on orders of $900 or more
See Freight Policy

## CONDENSING UNITS FEATURE:

- 208/230V, 60 Hz, 1 Phase
- Attractive, wrap around louvered jacket protects the coil from yard hazards and weather extremes. Top grille is steel reinforced for extra strength
- Air is discharged upward away from bushes and shrubs. The discharge pattern of the top grille provides minimum air restriction, resulting in quiet fan operation
- Exclusive Combination Grille/Motor Mount secures the motor to the underside of the discharge grille. The grille protects the motor windings and bearings from rain and snow
- All controls are accessible by removing one service panel. Removable top grille provides access to the condenser fan motor, compressor and condenser coil
- Single speed motor designed for low speed, quiet, energy-saving operatio
- Copeland® Compliant Scroll® Compressors , feature low sound an vibration characteristics and tolerate small amounts of liquid flood back and system contaminations
- UL and C-UL Listed; ARI Certified

## 10 SEER CONDENSING UNIT ORDERING DATA

| Nominal Tons | Line Sizes Liquid | Line Sizes Suction | Minimum Circuit Ampacity Amperes | Breaker Amps Min./Max. | Dimensions (In.) H | W | L | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | 1/4 | 5/8 | 11 | 15/15 | 16 3/4 | 23 1/4 | 33 11/16 | MAKA-018JAZ | 3UH28 | $995.31 | $580.50 | 129.0 |
| 2.0 | 1/4 | 3/4 | 16 | 20/25 | 16 3/4 | 23 1/4 | 33 11/16 | MAKA-024JAZ | 3UH29 | 1025.19 | 599.00 | 136.0 |
| 2.5 | 1/4 | 3/4 | 19 | 25/30 | 20 3/4 | 23 1/4 | 33 11/16 | MAKA-030JAZ | 3UH30 | 1133.08 | 662.00 | 160.0 |
| 3.0 | 5/16 | 3/4 | 22 | 30/35 | 20 3/4 | 27 1/8 | 38 11/16 | MAKA-037JAZ | 3UH31 | 1267.78 | 740.00 | 180.0 |
| 3.5 | 5/16 | 3/4 | 24 | 30/40 | 20 3/4 | 27 1/8 | 38 11/16 | MAKA-042JAZ | 3UH32 | 1429.17 | 834.50 | 194.0 |
| 4.0 | 3/8 | 1 1/8 | 29 | 35/50 | 26 3/4 | 31 | 42 9/16 | MAKA-048JAZ | 3UH33 | 1656.92 | 967.00 | 245.0 |
| 5.0 | 3/8 | 1 1/8 | 39 | 50/60 | 26 3/4 | 31 | 42 9/16 | MAKA-060JAZ | 3UH34 | 1891.81 | 1104.00 | 246.0 |

## 12 SEER CONDENSING UNIT ORDERING DATA

| Nominal Tons | Line Sizes Liquid | Line Sizes Suction | Minimum Circuit Ampacity (Amps) | Breaker Amps Min. | Dimensions (In.) H | W | L | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | 1/4 | 3/4 | 13 | 20/20 | 26 1/8 | 23 5/16 | 23 5/16 | MAJB-019JAZ | ✓3UH21 | $1467.08 | $843.00 | 139.0 |
| 2.0 | 1/4 | 3/4 | 16 | 20/25 | 26 1/8 | 27 5/16 | 26 1/8 | MAJB-025JAZ | ✓3UH22 | 1549.46 | 904.50 | 185.0 |
| 2.5 | 1/4 | 3/4 | 18 | 25/30 | 26 1/8 | 31 5/16 | 31 5/16 | MAJB-031JAZ | ✓3UH23 | 1644.82 | 960.00 | 180.0 |
| 3.0 | 5/16 | 7/8 | 24 | 30/40 | 26 1/8 | 31 5/16 | 31 5/16 | MAJB-037JAZ | ✓3UH24 | 1735.85 | 1013.00 | 204.0 |
| 4.0/3.5 | 5/16 | 7/8 | 26 | 35/45 | 26 1/8 | 31 5/16 | 31 5/16 | MAJB-043JAZ | ✓3UH25 | 1930.90 | 1127.00 | 206.0 |
| 4.0 | 3/8 | 1 1/8 | 32 | 40/50 | 26 1/8 | 31 5/16 | 31 5/16 | MAJB-049JAZ | ✓3UH26 | 2226.25 | 1300.00 | 257.0 |
| 5.0 | 3/8 | 1 1/8 | 39 | 50/60 | 34 3/4 | 43 | 31 | MAJB-061JAZ | ✓3UH27 | 2664.41 | 1555.00 | 330.0 |

(✓) Denotes energy efficient product.

## LOW AMBIENT KIT — 0°F

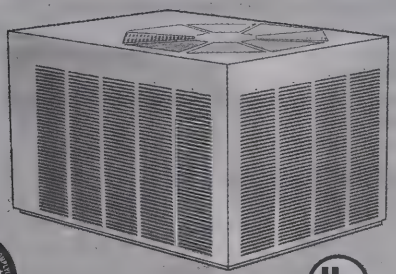
| Use With | Description | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 10- & 12-SEER Units | Cycles outdoor fan to maintain adequate condensing pressures, assuring liquid refrigerant flow to the coil. | MXAD-A04 | 3UJ65 | $92.00 | $64.25 | 1.0 |

# RESIDENTIAL HEAT PUMPS

## 1.5 TO 5 TON REMOTE HEAT PUMPS

Dayton®

Replacement Parts Available 1-800-323-0620



SA10592

**HEAT PUMPS FEATURE:**

- 10 SEER
- 208/230V, 60 Hz, 1-Phase
- Reversing valve energized in heat mode
- Full wrap-around powder-painted louvered grille protects the coil from yard hazards and weather extremes
- Air is discharged upward away from bushes and shrubs. The discharge pattern of the top grille provides minimum air restriction, resulting in quiet fan operation
- Condenser coil is constructed with copper tubes and aluminum fins mechanically bonded for maximum heat transfer
- Suction line accumulator standard to prevent compressor slugging
- Hot gas muffler, service valves, and high pressure control are standard
- Copeland® Compliant Scroll® compressors

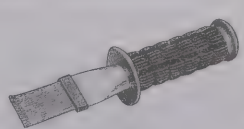
### 1.5 TO 5 TON REMOTE HEAT PUMP SPECIFICATIONS AND ORDERING DATA

| Nominal Tons | MBtuH Heating @ 47°F | COP | Line Sizes Liquid | Line Sizes Suction | Min. Circuit Ampacity (Amps) | Breaker Amps Min./Max. | Dimensions (In.) H | W | L | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | 18.8 | 3.06 | 1/4 | 5/8 | 13 | 20/20 | 16 3/4 | 27 1/8 | 38 11/16 | MPKA-018JAZ | 3UJ34 | $1456.70 | $850.50 | 170.0 |
| 2 | 24.0 | 3.02 | 1/4 | 3/4 | 18 | 20/30 | 20 3/4 | 27 1/8 | 38 11/16 | MPKA-024JAZ | 3UJ35 | 1528.29 | 892.50 | 172.0 |
| 2.5 | 28.2 | 3.10 | 1/4 | 3/4 | 19 | 25/30 | 20 3/4 | 27 1/8 | 38 11/16 | MPKA-030JAZ | 3UJ36 | 1685.01 | 983.50 | 196.0 |
| 3 | 34.0 | 3.02 | 5/16 | 3/4 | 26 | 35/45 | 26 3/4 | 31 | 42 9/16 | MPKA-036JAZ | 3UJ37 | 1940.25 | 1132.00 | 226.0 |
| 3.5 | 40.0 | 3.24 | 5/16 | 7/8 | 28 | 35/45 | 26 3/4 | 31 | 42 9/16 | MPKA-042JAZ | 3UJ38 | 2142.49 | 1251.00 | 244.0 |
| 4 | 46.5 | 3.14 | 3/8 | 1 1/8 | 39 | 50/60 | 26 3/4 | 31 | 42 9/16 | MPKA-048JAZ | 3UJ39 | 2429.27 | 1418.00 | 256.0 |
| 5 | 58.0 | 3.14 | 3/8 | 1 1/8 | 39 | 50/60 | 26 3/4 | 31 | 42 9/16 | MPKA-060JAZ | 3UJ40 | 2873.22 | 1677.00 | 268.0 |

## LOW AMBIENT CONTROL

ow Ambient control allows low temperature operation in the ooling cycle down to 0°F outdoor temperature. Recommended or cooling installations at outdoor temperatures under 65°F.

**lo. 3UK06.** Low Ambient Control. Dayton brand (MXPZ-C01). Shpg. wt. .0 lbs. List $115.00. Each ..... $80.65

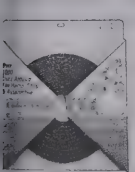


## METAL FIN COMB

Adjusts to fit all fin spacings. Rubber grip provides a sure hold. 1 3/16" wide tip, 1 3/4" maximum depth. Ma-Line brand.

**No. 5E265.** Shpg. wt. 0.2 lbs. List $12.51. Each ..... $9.79

## SPONGE RUBBER SEAL STRIP



ENERGY RIGHT®

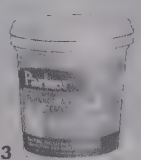
**Used for weather stripping,** cushioning, insulating, silencing, dustproofing, sealing, mounting, spacing and gap-filling on panels, covers, doors, windows, trailers, air conditioners, heating equipment, control boxes, freezers, packing boxes and office lab equipment. Easy-to-apply adhesive backing bonds well to metal, glass, wood and other smooth surfaces.

Open-cell seal strip is ade from flexible, resilient cellular mate- ial with individual cells interconnected. sed indoors. Max. temperature 200°F. ndividually cartoned, 25L x 3/4W x 7/16"D olls. Black color. Permatite brand (7625).

**No. 2X595.** Shpg. wt. 2.4 lbs. List $26.01. ach ..... $17.30

✓ Denotes energy efficient product.

## FURNACE CEMENT



Parker

Furnace Cement No. 5E263

- Refractory and retort cement for mortar facing, caulking, coating, etc.
- Seals metal to metal, joints on furnaces, boilers, stoves, incinerators, etc.
- Gray color, asbestos free, low shrinkage
- For temperatures up to 3000°F
- Parker Products brand (01354)

**No. 5E263.** Shpg. wt 4.7 lbs. List $7.50. Each ..... $5.35

## INSULATING CEMENT



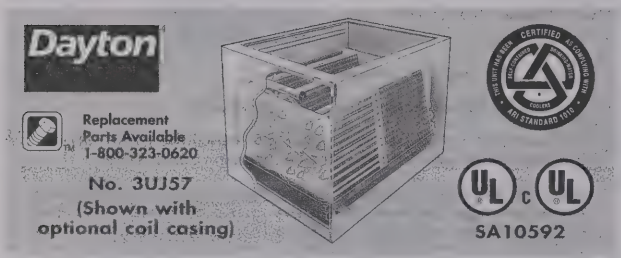
Insulating Cement No. 5E264

- Asbestos free
- Insulating cement for 0 to 1800°F applications
- Use on hot or cold surfaces
- Just mix with water and apply with trowel
- Covers 15 sq. feet at 3/8" thickness
- Parker Products brand (01525)

**No. 5E264.** Shpg. wt. 10.0 lbs. List $16.50. Each ..... $12.35

# RESIDENTIAL EVAPORATOR COILS AND AIR HANDLERS

## INDOOR EVAPORATOR COILS




- Constructed of aluminum fins bonded to inner grooved copper tubing
- Primary condensate drain connections are 3/4" F.N.P.T.
- Condensate drain pan is constructed of a high grade, hea resistant, corrosion-free polymer material
- Optional coil casing offers double-wall construction for sturdiness along with dead air space insulation and soun attenuation
- Horizontal applications require coil drain pan. Order separately below.

### INDOOR EVAPORATOR COIL SPECIFICATIONS AND ORDERING DATA

| Nominal Capacity, BtuH | Line Sizes Liquid | Line Sizes Suction | Cased Coil Unit Dimensions, (In.) H | W | L | Uncased Coil Unit Dimensions, (In.) H | W | L | Dayton Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18,000** | 3/8 | 3/4 | 17½ | 14 | 22 | 12²⁹/₃₂ | 12¼ | 21 | MCBA-2453A | **3UJ57** | $227.07 | **$132.65** | 14. |
| **24,000** | 3/8 | 3/4 | 17½ | 14 | 22 | 12²⁹/₃₂ | 12¼ | 21 | MCBA-2457A | **3UJ58** | 229.19 | **133.70** | 20. |
| **24,000*** | 3/8 | 3/4 | 17½ | 14 | 22 | 12²⁹/₃₂ | 12¼ | 21 | MCBA-2459A | **3UJ59*** | 231.31 | **134.80** | 26. |
| **30,000-36,000** | 3/8 | 3/4 | 17½ | 17½ | 22 | 12²⁹/₃₂ | 15¾ | 21 | MCBA-3765A | **3UJ60** | 294.88 | **172.50** | 21. |
| **42,000** | 3/8 | 7/8 | 17½ | 21 | 22 | 12²⁹/₃₂ | 19¼ | 21 | MCBA-4873A | **3UJ61** | 376.55 | **220.00** | 26. |
| **42,000*** | 3/8 | 7/8 | 17½ | 21 | 22 | 12²⁹/₃₂ | 19¼ | 21 | MCBA-4878A | **3UJ62*** | 379.75 | **221.25** | 34. |
| **48,000** | 3/8 | 7/8 | 17½ | 21 | 22 | 12²⁹/₃₂ | 19¼ | 21 | MCBA-4882A | **3UJ63** | 377.62 | **220.25** | 28. |
| **60,000** | 3/8 | 7/8 | 17½ | 24½ | 22 | 12²⁹/₃₂ | 22¾ | 21 | MCBA-6089A | **3UJ64** | 472.34 | **276.00** | 40. |

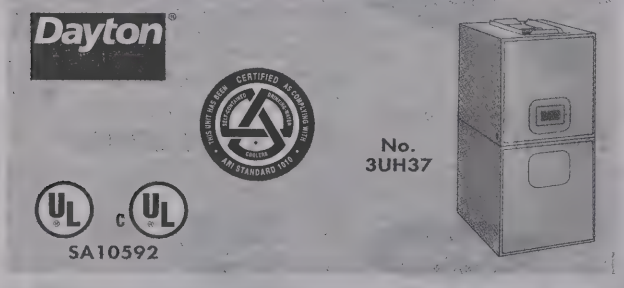
(*) Denotes heat pump use only.

### EVAPORATOR COIL CASINGS

| Cased Coil Width, (In.) | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **14** | MXBC-A14 | **3UJ67** | $65.00 | **$45.80** | 18.0 |
| **17½** | MXBC-A17 | **3UJ68** | 66.00 | **46.40** | 21.0 |
| **21** | MXBC-A21 | **3UJ69** | 67.00 | **46.85** | 23.0 |
| **24½** | MXBC-A24 | **3UJ70** | 67.00 | **47.05** | 24.0 |

### 12-SEER A/C EXPANSION VALVE KITS

| Nominal Tons | Dayton Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|
| **1½** | MXCT-BCA | **3UJ72** | $95.00 | **$55.35** | 2.0 |
| **2** | MXCT-BCB | **3UJ73** | 95.00 | **55.35** | 2.0 |
| **2½** | MXCT-BCC | **3UJ74** | 95.00 | **55.35** | 2.0 |
| **3** | MXCT-BCD | **3UJ75** | 95.00 | **55.35** | 2.0 |
| **3½ and 4** | MXCT-BCE | **3UJ76** | 95.00 | **55.35** | 2.0 |
| **5** | MXCT-BCF | **3UJ77** | 95.00 | **55.35** | 2.0 |




## AIR HANDLERS

- Versatile 3-way field convertible design for upflow, down flow and horizontal
- Sturdy double wall construction with .5 inches of dead air space provides thermal and sound insulation
- 208/240V, 60Hz, 1 Phase
- No. 3UH44 features watt restrictors that stage supplemen tal heat so only the necessary amount is engaged to main tain comfort in the conditioned space
- Circuit breaker meets UL and CSA requirements for servic disconnect

### AIR HANDLER SPECIFICATIONS AND ORDERING DATA

| Nominal CFM | HP | KW | Min. Circuit Ampacity | Breaker Amps. Min./Max. | Dimensions (In.) H | W | L | Dayton Model | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **600-800** | 1/8 | 0 | 1.8 | 15 | 35 | 14 | 22 | MBHA-14J00NUAA | **3UH37** | $497.63 | **$290.50** | 66. |
| **600-800** | 1/8 | 4.9 | 25.9/29.3 | 30/30 | 35 | 14 | 22 | MBHA-14J06SUAA | **3UH38** | 575.27 | **335.50** | 66. |
| **1000-1200** | 1/4 | 0 | 2.5 | 15 | 35 | 17½ | 22 | MBHA-17J00NUAA | **3UH39** | 534.65 | **311.75** | 72. |
| **1000-1200** | 1/4 | 7 | 35.9/40.8 | 40/45 | 35 | 17½ | 22 | MBHA-17J07SUAA | **3UH40** | 606.24 | **353.75** | 74. |
| **1400-1600** | 1/3 | 0 | 3.5 | 15 | 35 | 21 | 22 | MBHA-21J00NUAA | **3UH41** | 559.61 | **326.50** | 80. |
| **1400-1600** | 1/3 | 10.5 | 47.5/54.3 | 50/60 | 35 | 21 | 22 | MBHA-21J11SUAA | **3UH42** | 669.08 | **390.75** | 84. |
| **2000** | 1/2 | 0 | 4.3 | 15 | 35 | 24½ | 22 | MBHA-24J00NUAA | **3UH43** | 668.23 | **389.75** | 88. |
| **2000** | 1/2 | 14 | 69.2/79.3 | 70/80 | 35 | 24½ | 22 | MBHA-24J14SUAA | **3UH44** | 840.38 | **490.75** | 92. |

## ACCESSORIES FOR AIR HANDLERS ABOVE

**No. 3UJ71. Overflow Drain Pan Kit.** Use above fininshed ceilings, etc.. Shpg. wt. 15.0 lbs. List $50.00. Each.....**$39.50**

**No. 3UJ66. Combustible Floor Base.** Downflow only. Allows air handlers sold above to be installed on combustible flooring. Shpg. wt. 5.0 lbs. List $59.00. Each.....**$41.05**

***New*No. 4MC07. Horizontal Drain Pan for Evaporator.** Recommended when air handlers are mounted horizontally. 35L x 22¾W x 3¼"D. Rheem brand. (MXBD-CA). Shpg. wt. 5.0 lbs. List $73.50. Each.....**$44.**

***New*No. 4MC08. Horizontal Evaporator Drain Pan for use with all gas furnace** Rheem brand (MXBD-DA). Shpg. wt. 5.0 lbs. List $83.40. Each.....**$50.**

# SELF-CONTAINED AIR CONDITIONERS

All models feature Copeland® Compliant Scroll® compressors offering maximum reliability, efficiency, and quiet operation

One-piece top over the indoor section with drip lip, drawn painted base pan, and 1" raised flanges for supply/return air connections

Convertible horizontal and vertical airflow design allows maximum field flexibility and minimizes inventory requirements. Shipped vertical discharge

Standard full perimeter forkable baserail with lifting holes for easier maneuvering and installations

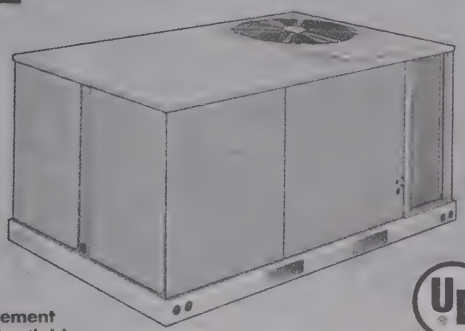
Factory installed one-inch throw away filter with provisions for two-inch filter

Easily removable filter, direct-drive blower, electric heat, and compressor/control access panels enable easy service

Belt drive units available. Call your local branch

Dayton®

FREE DELIVERY on orders of $900 or more
See Freight Policy



No. 3UJ02

Replacement Parts Available
1-800-323-0620

SA10592

- Number and color coded wiring helps facilitate service and maintenance
- Externally mounted refrigerant gauge ports for easy service diagnostics
- Side and base electric power entry helps minimize roof penetrations
- Quality powder paint finish offers long lasting protection against extreme weather conditions, capable of withstanding a 1000-hr salt spray test per ASTM B117
- UL and C-UL Listed (SA10592); ARI Certified

## PACKAGE AIR CONDITIONER DIMENSIONS

| Stock No. | Dimensions (In.) H | W | L | Supply (In.) W | D | Return (In.) W | D |
|---|---|---|---|---|---|---|---|
| 3UJ02, 3UJ04, 3UJ06, 3UJ08, 3UJ10, 3UJ12 | 35 | 46½ | 75½ | 20 | 13⅛ | 13⅛ | 20 |

## PACKAGE AIR CONDITIONER ORDERING DATA

| Nominal Tons | Cooling SEER | MBtuH | Heating KW | Volts Phase | 60 Hz | Minimum Circuit Ampacity (Amps) | Breaker Amps Min./Max. | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 10.20 | 36 | 6 | 3 | 208/230 | 21 | 25/30 | MLKA-A036CK006 | 3UJ02 | $3070.24 | $1792.00 | 495.0 |
| 3 | 10.20 | 36 | 6 | 1 | 208/230 | 28 | 35/45 | MLKA-A036JK006 | 3UJ04 | 3007.56 | 1755.00 | 495.0 |
| 4 | 10.40 | 48 | 10 | 3 | 208/230 | 22 | 30/35 | MLKA-A048CK010 | 3UJ06 | 3478.63 | 2030.00 | 520.0 |
| 4 | 10.40 | 48 | 10 | 1 | 208/230 | 35 | 45/50 | MLKA-A048JK010 | 3UJ08 | 3411.90 | 1992.00 | 520.0 |
| 5 | 10.10 | 60 | 15 | 3 | 208/230 | 30 | 35/45 | MLKA-A060CK015 | 3UJ10 | 3813.95 | 2226.00 | 525.0 |
| 5 | 10.10 | 60 | 15 | 1 | 208/230 | 40 | 60/70 | MLKA-A060JK015 | 3UJ12 | 3748.34 | 2188.00 | 525.0 |

## ACCESSORIES FOR PACKAGE UNITS AND HEAT PUMPS

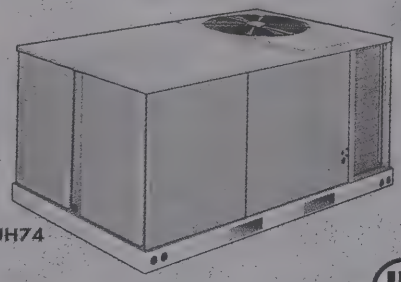
| Item | Dayton Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| Fully Modulating Economizer—0-100% | MXRD-CBM10 | 3UK07 | $1262.00 | $884.00 | 72.0 |
| 14" Hinged Full Perimeter Roofcurb | MXKG-AAB14 | 3UJ93 | 266.00 | 186.25 | 133.0 |
| 2-Sided Louver Panel Kit—3 tons | MXRX-AAD01A | 3UK16 | 65.00 | 45.70 | 8.0 |
| 3-Sided Louver Panel Kit—4& 5 tons | MXRX-AAD018B | 3UK17 | 74.00 | 51.70 | 8.0 |
| Low Ambient Kit for 3-5 Ton Package Heat Pumps | MXPZ-C01 | 3UK06 | 115.00 | 80.65 | 3.0 |

**DON'T FORGET THE BACK OF THE BOOK! MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# 3 TO 5 TON PACKAGE HEAT PUMPS

Dayton®



FREE DELIVERY on orders of $900 or more
See Freight Policy

No. 3UH74

Replacement Parts Available
1-800-323-0620

SA10592

## ACCESSORIES FOR HEAT PUMPS

Roofcurb. 14" Full perminter roofcurb wi hinged corner for fast assembly.

**No. 3UJ93.** Shpg. wt. 133.0 lbs. List $266.00. Each ..... $186.2

**Louver Kit Panel** protects three sides of th condenser coil.

**No. 3UK17.** \Shpg. wt. 8.0 lbs. List $74.00. Each ..... $51.7

**Low Ambient Kit.** Allows operation of AC 0°F.

**No. 3UK06.** Shpg. wt. 3.0 lbs. List $115.00. Each ..... $80.6

**Economizer.** Fully modulating economize from 0-100%.

**No. 3UK07.** Shpg. wt. 72.0 lbs. List $1262.00. Each ..... $884.0

- All models feature Copeland® Compliant Scroll® compressors for maximum reliability, efficiency, and quiet operation
- One-piece top over the indoor section with drip lip, drawn painted base pan, and 1" raised flanges for supply/return air connections
- Convertible horizontal and vertical airflow design allows maximum field flexibility and minimizes inventory requirements. Shipped vertical discharge
- ® Standard full perimeter forkable baserail with lifting holes for easier maneuvering and installations
- Factory installed one-inch throw away filter with provisions for two-inch filter
- Direct- or belt-drive to accommodate a wide range of design conditions as high as 1.0 inch of external static pressure
- Easily removable filter, blower, electric heat, and compressor/control access panels facilitate service
- Reversing valve energized in heat mode
- Number and color coded wiring help facilitate service and maintenance
- Externally mounted refrigerant gaug ports for easy service diagnostics
- Side and base electric power entry minimize roof penetrations
- Quality powder paint finish provides long lasting protection against extreme weather conditions
- UL and C-UL Listed (SA10592); ARI Certified

## HEAT PUMP DIMENSIONS

| Stock No. | Dimensions (In.) H | W | L | Supply (In.) W | D | Return (In.) W | D |
|---|---|---|---|---|---|---|---|
| 3UH74, 3UH76, 3UH78, 3UH80, 3UH82, 3UH84 | 35 | 46½ | 75½ | 20 | 13⅛ | 13⅛ | 20 |

## HEAT PUMP ORDERING DATA

| Cooling Tons | SEER | Heating MBtuH @ 47°F | COP | Aux. Heat KW | Volts, Phase | 60 Hz | Minimum Circuit Ampacity (Amps) | Breaker Amps Min./Max. | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 10.25 | 37 | 3.04 | 6 | 3 | 208/230 | 24 | 30/35 | MJKA-A036CK006 | **3UH74** | $3560.86 | **$2077.00** | 500.0 |
| 3 | 10.25 | 37 | 3.04 | 6 | 1 | 208/230 | 31 | 40/45 | MJKA-A036JK006 | **3UH76** | 3497.06 | **2041.00** | 500.0 |
| 4 | 10.50 | 48.5 | 3.20 | 10 | 3 | 208/230 | 29 | 35/45 | MJKA-A048CK010 | **3UH78** | 3730.58 | **2177.00** | 422.0 |
| 4 | 10.50 | 48.5 | 3.20 | 10 | 1 | 208/230 | 40 | 50/60 | MJKA-A048JK010 | **3UH80** | 3666.78 | **2140.00** | 422.0 |
| 5 | 10.00 | 57.5 | 3.04 | 15 | 3 | 208/230 | 34 | 40/50 | MJKA-A060CL015 | **3UH82** | 4555.98 | **2658.00** | 566.0 |
| 5 | 10.00 | 57.5 | 3.04 | 15 | 1 | 208/230 | 51 | 60/60 | MJKA-A060JL015 | **3UH84** | 4301.22 | **2510.00** | 566.0 |

## HEATING & COOLING MATCHING GUIDE.

Check out pages 3440 and 3441 and see how easy it is to create a complete Dayton heating and cooling system.

# 3-5 TON GAS HEAT/ELECTRIC COOLING PACKAGE UNITS

All models feature Copeland® Compliant Scroll® compressors offering maximum reliability, efficiency, and quiet operation

Aluminized steel heat exchanger with in-shot burners helps eliminate corrosion

Integrated blower/burner control board with built-in diagnostic capability permits on-site trouble shooting

One-piece top over the indoor section with drip lip, drawn painted base pan, and 1" raised flanges for supply/return air connections

Convertible horizontal and vertical airflow design allows maximum field flexibility and minimizes inventory requirements

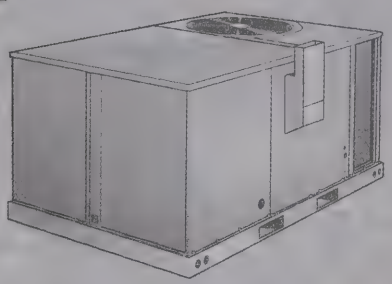
Standard full perimeter forkable baserail with lifting holes for easier maneuvering and installations

Factory installed one-inch throw away filter with provisions for two-inch filter

Direct or belt drive options to accommodate a wide range of design conditions as high as 1.0 inches of external static pressure. Direct drive models listed in catalog only. Call your local branch for belt drive units

Dayton®

Replacement Parts Available 1-800-323-0620



No. 3UH86

FREE DELIVERY on orders of $900 or more

See Freight Policy

SA10592

- Easily removable filter, blower, electric heat, and compressor/control access panels facilitate service
- Number and color coded wiring helps facilitate service and maintenance
- Standard freezestat control offers evaporator coil freeze protection
- Externally mounted refrigerant gauge ports for easy service diagnostics
- Side and base electric power entry helps minimize roof penetrations
- Optional quick assembly common roof curbs help save field labor and maximize size flexibility (see below)
- Quality powder paint finish offers long lasting protection against extreme weather conditions
- UL and C-UL Listed (SA10592); ARI Certified

## PACKAGE UNIT DIMENSIONS

| Stock No. | Dimensions (In.) H | W | L | Supply (In.) W | D | Return (In.) W | D |
|---|---|---|---|---|---|---|---|
| 3UH86, 3UH89, 3UH91, 3UH94, 3UH96, 3UH99 | 35 | 75½ | 46½ | 20 | 13⅛ | 13⅛ | 20 |

## PACKAGE UNIT SPECIFICATIONS AND ORDERING DATA

| Cooling ons | SEER | Heating MBtuH | Volts Phase | 60Hz | Minimum Circuit Ampacity (Amps) | Breaker Amps. Min./Max. | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 10.20 | 80 | 3 | 208/230 | 21 | 25/30 | MKKA-A036CK08E | 3UH86 | $3530.07 | $2060.00 | 450.0 |
| 3 | 10.20 | 80 | 1 | 208/230 | 28 | 35/40 | MKKA-A036JK08E | 3UH89 | 3467.39 | 2024.00 | 450.0 |
| 4 | 10.40 | 100 | 3 | 208/230 | 22 | 30/35 | MKKA-A048CK10E | 3UH91 | 3836.59 | 2239.00 | 450.0 |
| 4 | 10.40 | 100 | 1 | 208/230 | 35 | 45/50 | MKKA-A048JK10E | 3UH94 | 3772.80 | 2202.00 | 450.0 |
| 5 | 10.10 | 100 | 3 | 208/230 | 30 | 35/40 | MKKA-A060CK10E | 3UH96 | 4459.28 | 2602.00 | 560.0 |
| 5 | 10.10 | 100 | 1 | 208/230 | 44 | 60/70 | MKKA-A060JK10E | 3UH99 | 4393.67 | 2564.00 | 560.0 |

# ACCESSORIES FOR PACKAGE UNITS ABOVE

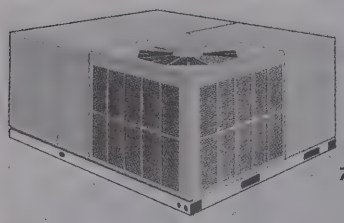
| Item | Nominal Tons | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| Sided Louver Panel Kit | 3 | 3UK16 | $65.00 | $45.70 | 8.0 |
| Sided Louver Panel Kit | 4 and 5 | 3UK17 | 74.00 | 51.70 | 8.0 |

| Item | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|
| Roofcurb-14" Hinged, Full perimeter | 3UJ93 | $266.00 | $186.25 | 133.0 |
| Fully modulating fresh air economizer | 3UK07 | 1262.00 | 884.00 | 72.0 |

DESK SPACE AT A PREMIUM?
SE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

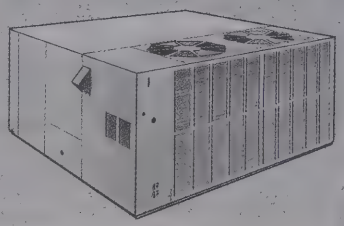
ur Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information om our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# COMMERCIAL COOLING/GAS HEATING & COOLING ONLY PACKAGE UNITS



No. 3UJ50
7.5 Ton Package Unit

Replacement Parts Available 1-800-323-0620



No. 3UJ53
10 Ton Package Unit

**7.5 & 10 TON UNITS FEATURE:**

- Powder coat painted cabinet and condenser base pan, capable of withstanding a 1000-HR Salt Spray Test per ASTM B 117
- Louvered inlet panels protecting condenser coils are standard
- Removable panels provide service access to control box, compressor, and refrigerant controls
- Condenser coil is constructed with copper tubes and aluminum fins mechanically bonded for maximum heat transfer
- Gas Heat: Natural Gas; Aluminized steel tubular heat exchangers; In-shot burners with induced draft combustion air have spark ignition (100% Lockout) system; Two stage heating/cooling
- Nos. 3UJ50, 3UJ52, 3UJ53 and 3UJ55 are UL and C-UL Listed (MH19582)
- Nos. 3UJ43, 3UJ44, 3UJ46 and 3UJ47 are UL and C-UL Listed (SA10592)
- ARI Certified

**10 TON UNITS FEATURE:**

- Standard high and low pressure controls

## 7.5 TON PACKAGE UNIT DIMENSIONS

| Stock No. | Dimensions (In.) H | W | L | Supply (In.) W | D | Return (In.) W | D |
|---|---|---|---|---|---|---|---|
| 3UJ50, 3UJ52, 3UJ43, 3UJ44 | 34 | 64 | 79⅜ | 20¼ | 29 | 25½ | 29 |

## 7.5 TON PACKAGE UNIT ORDERING DATA

| Cooling Tons | EER | Volts Phase | 60Hz | Heating MBtuH | Minimum Circuit Ampacity (Amps) | Breaker/ Fuse Amps, Max. | Dayton Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **7.5** | 8.9 | 3 | 208/230 | 135 | 42/40 | 50 | MRGF-131076CKR | **3UJ50** | $7422.06 | **$4330.00** | 940. |
| **7.5** | 8.9 | 3 | 460 | 135 | 21 | 25 | MRGF-131076DLR | **3UJ52** | 7524.47 | **4391.00** | 940. |
| **7.5** | 8.9 | 3 | 208/230 | — | 42/40 | 50 | MRCF-076CK | **3UJ43** | 6885.69 | **4018.00** | 826. |
| **7.5** | 8.9 | 3 | 460 | — | 21 | 25 | MRCF-076DK | **3UJ44** | 6885.69 | **4018.00** | 826. |

## ACCESSORIES FOR 7.5 TON UNITS

**No. 3UK08.** Full Perimeter Roofcurbs. Shpg. wt. 150.0 lbs. List.....$330.00.
Each.....**$231.50**

**No. 3UK14.** Low Ambient to 0° F. Head pressure controller cycles condenser fan. For 7.5 ton commercial package unit applications. Shpg. wt. 25.0 lbs. List...$136.00.
Each.....**$95.25**

**No. 3UK11.** Fresh Air Economizer. Shpg. wt. 154.0 lbs. List.....$1217.
Each.....**$852**

## 10 TON UNIT DIMENSIONS

| Stock No. | Dimensions (In.) H | W | L | Supply (In.) W | D | Return (In.) W | D |
|---|---|---|---|---|---|---|---|
| 3UJ53, 3UJ55, 3UJ46, 3UJ47 | 38 | 83½ | 84 | 20¼ | 29 | 25½ | 29 |

## 10 TON PACKAGE UNIT ORDERING DATA

| Cooling Tons | EER | Volts Phase | 60Hz | Heating MBtuH | Minimum Circuit Ampacity (Amps) | Breaker/ Fuse Amps, Max. | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 9.0 | 3 | 208/230 | 200,000 | 59.2/54 | 70 | MRGF-200100CKR | **3UJ53** | $10196.91 | **$5950.00** | 1388. |
| **10** | 9.0 | 3 | 460 | 200,000 | 28.5 | 35 | MRGF-200100DLR | **3UJ55** | 10300.43 | **6009.00** | 1388. |
| **10** | 9.0 | 3 | 208/230 | None | 59.2/54 | 70 | MRCF-100CK | **3UJ46** | 9279.79 | **5415.00** | 1234. |
| **10** | 9.0 | 3 | 460 | None | 28.5 | 35 | MRCF-100DK | **3UJ47** | 9279.79 | **5415.00** | 1234. |

## ACCESSORIES FOR 10 TON UNITS

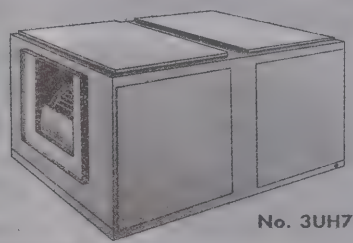
**No. 3UK09.** Full Perimeter Roofcurb. Shpg. wt. 150.0 lbs. List.....$388.00.
Each.....**$271.50**

**No. 3UK15.** Low Ambient to 0° F. Head pressure controller cycles condenser fan. For 10 ton commercial package unit applications. Shpg. wt. 25.0 lbs. List.....$125.00.
Each.....**$87.25**

**No. 3UK13.** Fresh Air Economizer. 208/230/46 volt, 3-phase. Horizontal or vertical airflow. Shpg. wt. 150.0 lbs. List.....$1273.
Each.....**$891**

## 7.5/10 TON BELT DRIVE AIR HANDLERS

- Powder coat painted cabinet. Matching discharge plenums and decorative supply and return air grilles are available for use when units are to be installed within conditioned space
- Inherently protected motors are mounted inside of insulated cabinet to reduce motor noise and provide a neat looking installation. A choice of motor horsepowers and drive combinations are available
- Low profile design allows for horizontal installation in most standard drop ceiling applications and the movement of units through most standard doorways for remodeling or replacement work
- Two circuit, interlaced raw evaporator coils are constructed with copper tubes and aluminum fins mechanically bonded to the tubes for maximum heat transfer. All coil assemblies are leak tested up to 450 PSIG (3100kPa) internal pressure prior to installation into units
- Field piping refrigerant connections are made through a fixed post between two side access panels on either side of unit. Allows flexibility to meet most field conditions as well as full accessibility after the installation is complete
- The galvanized steel drain pan is designed to trap condensate in either vertical or horizontal installations. Condensate drain connections are located on both sides of the unit allowing complete flexibility to meet most field conditions
- Two removable panels on top and each side of the unit are easily removed for service access to motors, blowers, sheaves and filters
- All models are designed for either horizontal or vertical application and can be installed in either position supplied from the factory
- All units are run tested at the factory prior to shipment. Units are shipped with a holding charge of nitrogen
- Heat pump, No. 3UH73, has factory installed check valves and adjustable TEX valves to allow for either straight cooling or heat pump applications
- UL Listed and C-UL Listed (E175255)



No. 3UH71

E175255

Replacement Parts Available
1-800-323-0620

### AIR HANDLER DIMENSIONS

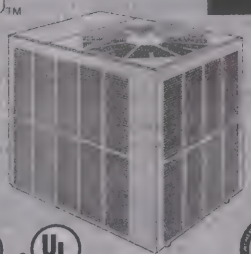
| Stock No. | Dimensions (In.) H | W | L | Supply (In.) H | W | Return (In.) H | W |
|---|---|---|---|---|---|---|---|
| 3UH71, 3UH72, 3UH73 | 27 | 52 | 52 | 19⅞ | 19⅞ | 19⅞ | 47⅛ |

### AIR HANDLER SPECIFICATIONS AND ORDERING DATA

| Item | Volts, 3-Phase | Nom. CFM In. SP | Motor HP | Min. Circuit Ampacity (Amps) | Breaker/Fuse Amps, Max. | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 7.5 Ton A/C | 208 - 230/460 | 3000 @ .25 | 1 | 15 | 15 | MHGE-075ZK | 3UH71 | $2504.54 | $1462.00 | 350.0 |
| 10.0 Ton A/C | 208 - 230/460 | 4000 @ .30 | 1½ | 15 | 15 | MHGE-100ZK | 3UH72 | 2700.78 | 1577.00 | 367.0 |
| 7.5 & 10.0 Ton Heat Pump | 208 - 230/460 | 4000 @ .30 | 1½ | 15 | 15 | MHGF-100ZK | 3UH73 | 3041.01 | 1775.00 | 367.0 |

## COMMERCIAL OUTDOOR CONDENSING UNITS

- Louver panels provide 100% condenser coil protection
- Powder coat paint finish withstands 1000-Hr. Salt Spray Test per ASTM - B117
- Removable panel provides service access to control box, compressor, and refrigerant controls
- Condenser coil is constructed with copper tubes and aluminum fins mechanically bonded for maximum heat transfer
- Vaporline muffler, low ambient control, high pressure control, low pressure control, and liquid line service valve are standard
- Energy Efficiency Ratings (EER's) to 9.5
- UL and C-UL Listed (SA10591)



No. 3UH35

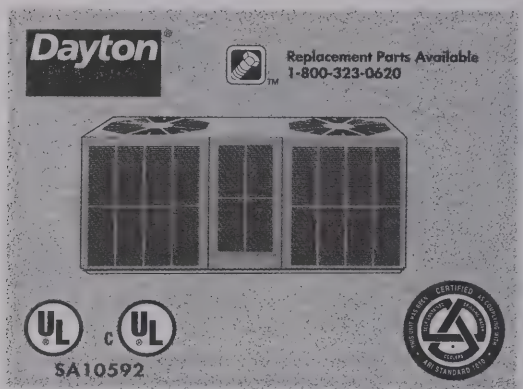
SA10591

### COMMERCIAL OUTDOOR CONDENSING UNIT SPECIFICATIONS AND ORDERING DATA

| Nominal Tons | Volts 60 Hz, 3-Phase | Min. Circuit Ampacity, (Amps) | Circuit Breaker Ampacity, (Amps) | Dimensions (In.) H | W | L | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.5 | 208/230 | 33.2 | 50 | 34 ¾ | 31 | 43 | MAWD-075CAS | 3UH35 | $3715.44 | $2169.00 | 358.0 |
| 10 | 208/230 | 46 | 70 | 35 ¾ | 31 | 80 | MAWD-100CAS | 3UH36 | 4665.86 | 2723.00 | 534.0 |

# COMMERCIAL HEAT PUMPS

## COMMERCIAL HIGH EFFICIENCY REMOTE HEAT PUMPS



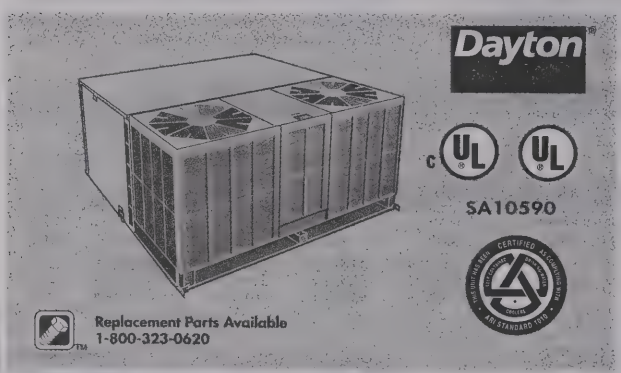

- The condenser section front and sides are formed with stamped louvers to provide protection for the condenser coils
- Powder coat paint finish withstands 1000-Hr. Salt Spray Test per ASTM - B117
- Removable panels provide service access to control box, compressor, and refrigerant controls
- Condenser coil is constructed with copper tubes and aluminum fins mechanically bonded for maximum heat transfer
- COP ratings up to 3.0
- EER ratings up to 9.6
- Suction line accumulator standard to prevent compressor slugging
- High pressure control, low pressure control and liquid line filter drier are standard
- 208/230V, 60Hz, 3-Phase
- UL and C-UL Listed (SA10592); ARI Certified

**No. 3UK05.** Low Ambient Kit. Shpg. wt 10.0 lbs. List.....$169.
Each.....$118.

### HEAT PUMP SPECIFICATIONS AND ORDERING DATA

| Cooling Tons | EER | Heating MBtuH 47°F | COP | Minimum Circuit Ampacity Amperes | Breaker Amps. Max. | Line Sizes Liquid | Line Sizes Suction | Dimensions (In.) H | W | L | Dayton Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **7.5** | 9.6 | 88 | 3.0 | 35 | 50 | 1/2 | 1 1/8 | 35 3/4 | 31 | 80 | MPWC-075CAS | **3UJ41** | $5348.78 | **$3121.00** | 1234 |
| **10** | 9.0 | 123 | 3.0 | 50 | 80 | 5/8 | 1 3/8 | 35 3/4 | 31 | 80 | MPWC-100CAS | **3UJ42** | 7251.10 | **4231.00** | 1234 |

## 7.5 & 10 TON COMMERCIAL PACKAGE HEAT PUMPS




- Condenser coil is constructed with copper tubes and aluminum fins mechanically bonded for maximum heat transfer
- Suction line accumulator standard to prevent compressor slugging
- Crankcase heaters, high pressure controls, discharge temperature limit control, filter drier, reversing valve and suction line accumulator are standard
- UL and C-UL Listed (SA10590); ARI Certified
- Accessories are UL and C-UL Listed (SA10589)
- EER ratings up to 9.0; COP ratings up to 3.0

- The condenser section front and sides are formed with stamped louvers to provide protection for the condenser coils
- Powder coat paint finish withstands 1000-Hr. Salt Spray Test per ASTM - B117
- Removable panels provide service access to control box, compressor, and refrigerant controls

### ACCESSORIES FOR 7.5 & 10 TON PACKAGE HEAT PUMP

| Item | Volts 60 Hz, 3-Phase | Stock No. | List | Each | Shp Wt |
|---|---|---|---|---|---|
| **Fresh Air Economizer** | 208/240/480 | **3UK04** | $1319.00 | **$924.00** | 209 |
| **Full Perimeter Roofcurb** | — | **3UK03** | 314.00 | **220.25** | 144 |
| **Electric Heater Kit-10KW** | 208/240 | **3UJ94** | 755.00 | **528.50** | 20 |
| **Electric Heater Kit-10KW** | 480 | **3UJ95** | 746.00 | **522.50** | 20 |
| **Electric Heater Kit-20KW** | 208/240 | **3UJ96** | 963.00 | **674.50** | 20 |
| **Electric Heater Kit-20KW** | 480 | **3UJ97** | 932.00 | **652.50** | 20 |
| **Electric Heater Kit-30KW** | 208/240 | **3UJ98** | 1003.00 | **702.50** | 20 |
| **Electric Heater Kit-30KW** | 480 | **3UJ99** | 972.00 | **680.50** | 20 |
| **Electric Heater Kit-40KW** | 208/240 | **3UK01** | 1066.00 | **746.50** | 20 |
| **Electric Heater Kit-40KW** | 480 | **3UK02** | 1026.00 | **718.50** | 20 |

### PACKAGE HEAT PUMP DIMENSIONS

| Stock No. | Dimensions, (In.) H | W | L | Supply (In.) W | D | Return (In.) W | D |
|---|---|---|---|---|---|---|---|
| 3UJ26, 3UJ28, 3UJ30, 3UJ32 | 41 | 80 | 80 | 20 | 20 | 45 | 20 |

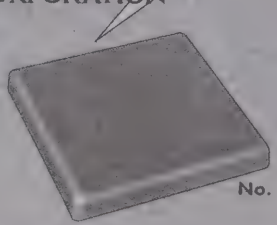
### PACKAGE HEAT PUMP SPECIFICATIONS AND ORDERING DATA

| Cooling Tons | EER | Heating MBtuH 47°F | COP | Volts 60 Hz, 3-Phase | Min. Circuit Ampacity (Amps) | Maximum Fuse Size | Dayton Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **7.5** | 9.0 | 93 | 3.1 | 208/230 | 47 | 60 | MPDC-075CKA | **3UJ26** | $10285.10 | **$6001.00** | 1205.0 |
| **7.5** | 9.0 | 93 | 3.1 | 460 | 26 | 35 | MPDC-075DLA | **3UJ28** | 10385.71 | **6059.00** | 1205.0 |
| **10** | 8.9 | 126 | 3.0 | 208/230 | 56 | 60 | MPDC-101CKA | **3UJ30** | 11405.05 | **6654.00** | 1295.0 |
| **10** | 8.9 | 126 | 3.0 | 460 | 33 | 35 | MPDC-101DLA | **3UJ32** | 11508.57 | **6714.00** | 1295.0 |

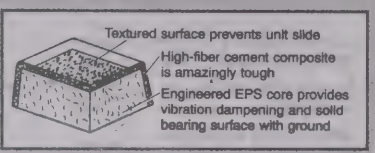
## ULTRALITE™ MOUNTING PADS

- A concrete pad at the weight of plastic (approximately 3 lbs. per square foot)
- Extremely impact and breakage resistant with excellent flexing qualities and strength
- Unaffected by UV, temperature extremes, and all other weather conditions unlike plastics
- Textured surface prevents unit slide and promotes moisture drainage
- Engineered EPS core is unaffected by soil conditions—will not support mold or fungus growth
- Solid EPS bottom dampens vibration and easily conforms to uneven ground conditions
- Solid bottom—larger bearing surface than hollow pads—resists settling
- DiversiTech brand

DIVERSITECH CORPORATION



No. 4E875



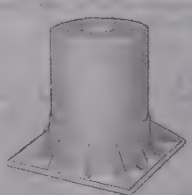

### MOUNTING PAD ORDERING DATA

| Dimensions (In.) L | W | D | Diversitech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 30 | 30 | 2 | U3030-2 | 4E875 | $46.13 | $31.35 | 19.0 |
| 36 | 36 | 2 | U3636-2 | 4E876 | 63.59 | 42.80 | 27.0 |
| 36 | 48 | 2 | U3648-2 | 4E873 | 94.42 | 61.60 | 36.0 |

## PUMP-UP™ ELEVATION UNIT

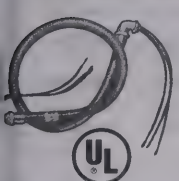
- Elevate heat pumps and air handling units
- Easy-to-install
- Outdoors: designed to allow maximum defrosting capability
- Allows better condensate draining
- Helps prevent corrosion of metal base
- Made of corrosion-resistant plastic
- Works best when used with mounting pads above
- Polymeric mastic included with each unit
- Absorbs vibration and noise

BRAMEC



**3F317.** 6" Height. Bramec brand (4008). Shpg. wt. 0.5 lbs. List $8.95. Each.....$6.05

## ASSEMBLED FLEXIBLE ELECTRICAL CONNECTORS



- Flexible non-metallic conduit
- For wiring condensing units, outdoor lighting, RV's, and irrigation pumps
- Color coded, stranded copper wire
- Metallic liquid-tight connectors
- Straight end and removable 90° elbow
- 12" leads
- Used in many outdoor applications
- Made in USA
- UL Listed

Building codes vary by area. Check your local codes for correct requirements.

### ELECTRICAL CONNECTOR ORDERING DATA

| Conduit Diameter | Length | Wire Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/2 | 4 ft. | #10 THHN | 3F318 | $24.95 | $16.95 | 1.6 |
| 1/2 | 6 | 10 THHN | 3F319 | 32.95 | 21.95 | 2.2 |
| 3/4 | 4 | 8 THHN | 3F320 | 40.95 | 27.95 | 3.0 |
| 3/4 | 6 | 8 THHN | 3F321 | 49.95 | 33.95 | 3.2 |

## INSULATED COPPER TUBE KITS



- 1/2" insulation on suction line
- Straight end and 90° bend on suction line

These copper tube kits are insulated with insulation for split-system air conditioning and heat pumps. Refrigeration quality tubing is manufactured to ASTM B 280 standards. Sweat fitting with straight end and 90° bend. Shipped with holding charge and sealed with sulphur-free rubber plugs.

### TUBE KIT ORDERING DATA

| Line Size O.D. Liquid | Suction | Length (Ft.) | Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 5/16" | 5/8" | 30 | 30510½B | 3F342 | $79.95 | $65.75 | 17.0 |
| 5/16 | 5/8 | 50 | 50510½B | 3F343 | 128.69 | 102.75 | 22.0 |
| 5/16 | 3/4 | 30 | 30512½B | 3F344 | 92.95 | 76.00 | 15.0 |
| 5/16 | 3/4 | 50 | 50512½B | 3F345 | 144.11 | 115.05 | 25.0 |
| 3/8 | 7/8 | 30 | 30614½B | 3F346 | 112.95 | 92.45 | 20.0 |
| 3/8 | 7/8 | 50 | 50614½B | 3F347 | 186.37 | 148.90 | 32.0 |
| 3/8 | 3/4 | 30 | 30612½B | 4E871 | 97.79 | 78.00 | 26.0 |
| 3/8 | 3/4 | 50 | 50612½B | 4E870 | 150.32 | 120.10 | 20.0 |

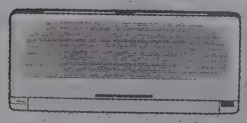
TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!

# DUCTLESS SPLIT SYSTEMS A/C AND HEAT PUMP

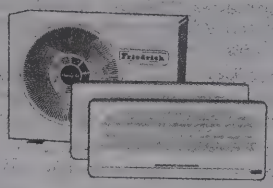
Friedrich AIR CONDITIONING

Floating Air

Replacement Parts Available 1-800-323-0620



Wall Mount Unit
No. 3ZG51



Wall Mount Dual-Zone Unit
No. 3ZG55



T-Bar Ceiling Mount Unit
No. 3ZG50

- **Contemporary styling, compact size, and quiet operation**
- **Easy installation, no costly ductwork required**
- **Ultra-quiet operation**
- **Sold as outdoor and indoor units only; Complete system requires lineset, sold below**

### FRIEDRICH LIMITED WARRANTY

**1-Year on all parts. 5-Years on sealed system.Text of warranty available upon request. See "Manufacturers' Warranties" on page opposite inside back cover.**

**When ductwork is impossible** or too costly to install, ductless split systems solve the problem. Exceptionally quiet, the slim compact indoor unit can be located virtually anywhere, making it suitable for any room configuration.

**Set room comfort conditions easily.** The wireless remote on all wall models enables complete control from chair, bed, desk—anywhere up to 20-ft. away. Outdoor condensing units are for areas where noise and space requirements must be kept to a minimum. The pre-charged outdoor unit's small footprint means it can be located out of sight and out of the way. Friedrich brand.

### A/C AND HEAT PUMP DIMENSIONS

| Stock No. | Indoor (In.) W | H | D | Outdoor (In.) W | H | D |
|---|---|---|---|---|---|---|
| 3ZG51 | 31 3/4 | 14 1/2 | 6 1/8 | 33 | 23 3/4 | 10 1/4 |
| 3ZG52 | 31 3/4 | 14 1/2 | 6 1/8 | 33 | 23 3/4 | 10 1/4 |
| 3ZG54 | 37 3/8 | 14 3/4 | 7 7/8 | 33 | 25 3/4 | 13 1/4 |
| 3ZG57 | 50 3/8 | 14 3/4 | 7 7/8 | 33 | 25 3/4 | 13 1/4 |
| 3ZG55 | 31 3/4 | 14 1/2 | 6 1/8 | 33 | 25 3/4 | 13 1/4 |
| 3ZG50 | 23 | 19 1/2 | 46 5/8 | 33 | 25 3/4 | 13 1/4 |
| 3ZG53 | 37 3/8 | 14 3/4 | 7 7/8 | 33 | 23 3/4 | 10 1/4 |
| 3ZG56 | 37 3/8 | 14 3/4 | 7 7/8 | 33 | 25 3/4 | 13 1/4 |

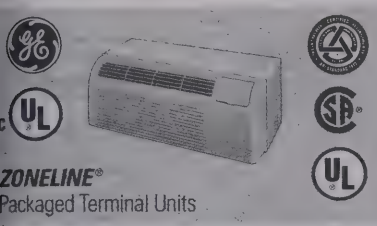
| BtuH Capacity | SEER | Volts 60Hz | Min. Amps | Total Input Watts | Max. Time Delay Fuse Amps | Refrigeration Line Liquid O.D. (In.) | Suction O.D. (In.) | Max. Lgth (Ft.) | Max. Height Diff. (Ft.) | Friedrich Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WALL MOUNT COOLING UNITS** | | | | | | | | | | | | | | |
| **9,000** | 11.0 | 115 | 13 | 940 | 20 | 1/4 | 3/8 | 50 | 33 | M09CD | **3ZG51** | $1700.00 | **$1365.00** | 131.0 |
| **11,500** | 10.5 | 115 | 15.7 | 1270 | 25 | 1/4 | 5/8 | 50 | 33 | M12CD | **3ZG52** | 2035.00 | **1625.00** | 131.0 |
| **17,400/17,000** | 10.0 | 230/208 | 12 | 1795/1735 | 20 | 3/8 | 5/8 | 50* | 33 | M18CD | **3ZG54** | 3285.00 | **2225.00** | 207.0 |
| **23,000/22,600** | 10.0 | 230/208 | 17 | 2525/2465 | 25 | 3/8 | 5/8 | 50** | 33 | M24CD | **3ZG57** | 3835.00 | **3065.00** | 236.0 |
| **WALL MOUNT DUAL-ZONE COOLING UNIT** | | | | | | | | | | | | | | |
| **18,200/18,000‡** | 10.3 | 230/208 | 15 | 1995/1935 | 20 | 2@1/4 | 2@1/2 | 50 | 33 | M18DCD | **3ZG55** | 3400.00 | **2725.00** | 205.0 |
| **RECESSED T-BAR CEILING MOUNT COOLING UNIT** | | | | | | | | | | | | | | |
| **24,600/23,400** | 10.2 | 230/208 | 16 | — | 25 | 1/4 | 5/8 | 50 | 33 | C24CC | **3ZG50** | 4483.00 | **3585.00** | 380.0 |
| **WALL MOUNT HEAT PUMPS** | | | | | | | | | | | | | | |
| **Cooling-12,000/12,000 Heating-12,000/11,000†** | 10.3 | 230/208 | 7.75 | 1360/1300 1170/1100 | 15 | 3/8 | 5/8 | 50 | 33 | M12YD | **3ZG53** | 3350.00 | **2680.00** | 174.0 |
| **Cooling-17,500/17,000 Heating-17,000/16,500†** | 10.0 | 230/208 | 12 | 2000/1940 1781/1728 | 20 | 3/8 | 5/8 | 50 | 33 | M18YD | **3ZG56** | 4570.00 | **2870.00** | 225.0 |

(*) Maximum line lengths may be extended up to 90 ft. with field installed accumulators. (**) Maximum line lengths may be extended up to 80 ft. with field installed accumulators.
(†) At 47°F. (‡) Expressed as total system capacity. Each evaporator has 9100 BtuH capacity.

### LINESETS AND ACCESSORIES FOR ABOVE UNITS

| Item | For Use With | Length | Dimensions Liquid | Suction | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Refrigerant Tubing Set** | 3ZG51 | 15 ft. | 1/4" | 3/8" | **4E964** | $39.08 | **$30.80** | 6.2 |
| | | 35 | 1/4 | 3/8 | **4E965** | 66.89 | **53.40** | 12.0 |
| **Refrigerant Tubing Set** | 3ZG55 | 15 | 1/4 | 1/2 | **4E966** | 48.35 | **33.85** | 6.2 |
| | | 35 | 1/4 | 1/2 | **4E967** | 77.19 | **61.65** | 7.2 |
| **Refrigerant Tubing Set** | 3ZG50, 3ZG52 | 15 | 1/4 | 5/8 | **4E968** | 46.29 | **36.95** | 8.0 |
| | | 35 | 1/4 | 5/8 | **4E969** | 87.49 | **69.80** | 16.0 |
| **Refrigerant Tubing Set** | 3ZG53, 3ZG56 | 15 | 3/8 | 5/8 | **3ZG59** | 172.00 | **127.00** | 10.0 |
| | | 35 | 3/8 | 5/8 | **3ZG60** | 285.00 | **215.00** | 18.0 |
| **Ultralite® Condensing Unit Mounting Pad** | All Models Above | 36"L | 16"W | 2"H | **4E963** | 38.88 | **25.60** | 18.0 |
| **Low Ambient Control#** | 3ZG51, 3ZG52 | Head pressure control regulates condenser fan speed; allows operation down to 30°F | | | **6D630** | 423.36 | **285.00** | 4.0 |

# PACKAGED TERMINAL AIR CONDITIONERS AND HEAT PUMPS



ZONELINE®
Packaged Terminal Units

**General Electric Zoneline Packaged Terminal Air Conditioners (PTAC's) and Heat Pumps (PTHP's)** are commonly used in hotels, motels, conference rooms, offices, institutions, schools, hospitals, and nursing homes. All units provide individual room heating and cooling functions.

**PTAC's and PTHP's** are offered in a Value Line (electromechanical controls/single fan) and Premium Line (microprocessor controls/dual fan). **Units require wall case, exterior grilles, and power connection kit—sold separately below.** Remote wall thermostats for heat pumps and electric heat and 30 amp permanent power connection kit available, to order call 1-800-323-0620.

**Heat pump models** operate in outdoor temperatures as low as 25°F.

**G.E. FULL 1-YEAR WARRANTY**

**1st year all parts and labor. 2nd thru 5th years sealed system parts and labor. See "Manufacturers' Warranties" on page opposite inside back cover**

| Item | Voltage | HEATING* Power Supply | BtuH | KW | Amps | COOLING BtuH | EER | GE Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2200 SERIES VALUE LINE PTAC — 230/208V units have line cord attached; 265 volt units have junction box** | | | | | | | | | | | | |
| PTAC w/RESISTANCE HEAT | 230/208 | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 9000/8800 | 11.3/11.3 | AZ22E09D3B | **4NW56** | $1563.68 | **$936.50** | 125.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 9000/8800 | 11.3/11.3 | AZ22E09D3C | **4NW57‡** | 1634.44 | **979.00** | 125.0 |
| | | 30A | 17,000/13,900 | 5.0/4.09 | 21.7/19.7 | 9000/8800 | 11.3/11.3 | AZ22E09D5B | **4NW58** | 1563.68 | **936.50** | 125.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 11,700/11,500 | 10.7/10.7 | AZ22E12D3B | **4NW61** | 1618.05 | **969.00** | 134.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 11,700/11,500 | 10.7/10.7 | AZ22E12D3C | **4NW62‡** | 1688.81 | **1012.00** | 134.0 |
| | | 30A | 17,000/13,900 | 5.0/4.09 | 21.7/19.7 | 11,700/11,500 | 10.7/10.7 | AZ22E12D5B | **4NW63** | 1617.82 | **969.00** | 134.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 14,600/14,300 | 9.6/9.6 | AZ22E15D3B | **4NW66** | 1748.93 | **1048.00** | 134.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 14,600/14,300 | 9.6/9.6 | AZ22E15D3C | **4NW67‡** | 1819.69 | **1090.00** | 134.0 |
| | | 30A | 17,000/13,900 | 5.0/4.09 | 21.7/19.7 | 14,600/14,300 | 9.6/9.6 | AZ22E15D5B | **4NW68** | 1748.93 | **1048.00** | 134.0 |
| | 265 | 20A | 13,600 | 4.0 | 15.1 | 9000 | 11.3 | AZ22E09E4B | **4NW59** | 1563.68 | **936.50** | 125.0 |
| | | 20A | 13,600 | 4.0 | 15.1 | 9000 | 11.3 | AZ22E09E4C | **4NW60‡** | 1634.44 | **979.00** | 125.0 |
| | | 20A | 13,600 | 4.0 | 15.1 | 11,700 | 10.7 | AZ22E12E4B | **4NW64** | 1618.05 | **969.00** | 134.0 |
| | | 20A | 13,600 | 4.0 | 15.1 | 11,700 | 10.7 | AZ22E12E4C | **4NW65‡** | 1688.81 | **1012.00** | 134.0 |

| Item | Voltage | HEATING Power Supply | BtuH | KW | Amps | COOLING BtuH | EER | REVERSE CYCLE HEAT BtuH | COP | GE Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3200 SERIES VALUE LINE PTHP — 230/208 volt units have line cord attached; 265 volt units have junction box** | | | | | | | | | | | | | | |
| PTHP | 230/208 | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 9,000/8,800 | 11.3/11.3 | 8,400/8,200 | 3.5/3.5 | AZ32H09D3B | **4NW69** | $1706.16 | **$1022.00** | 130.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 9,000/8,800 | 11.3/11.3 | 8,400/8,200 | 3.5/3.5 | AZ32H09D3C | **4NW70‡** | 1776.92 | **1065.00** | 130.0 |
| | | 30A | 17,000/13,900 | 5.0/4.09 | 21.7/19.7 | 9,000/8,800 | 11.3/11.3 | 8,400/8,200 | 3.5/3.5 | AZ32H09D5B | **4NW71** | 1706.16 | **1022.00** | 130.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 11,700/11,500 | 10.7/10.7 | 10,900/10,700 | 3.3/3.3 | AZ32H12D3B | **4NW74** | 1760.23 | **1055.00** | 142.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 11,700/11,500 | 10.7/10.7 | 10,900/10,700 | 3.3/3.3 | AZ32H12D3C | **4NW75‡** | 1830.99 | **1097.00** | 142.0 |
| | | 30A | 17,000/13,900 | 5.0/4.09 | 21.7/19.7 | 11,700/11,500 | 10.7/10.7 | 10,900/10,700 | 3.3/3.3 | AZ32H12D5B | **4NW76** | 1760.23 | **1055.00** | 142.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 14,600/14,300 | 9.6/9.6 | 13,400/13,200 | 3.1/3.1 | AZ32H15D3B | **4NW79** | 1890.46 | **1133.00** | 142.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 14,600/14,300 | 9.6/9.6 | 13,400/13,200 | 3.1/3.1 | AZ32H15D3C | **4NW80‡** | 1960.91 | **1175.00** | 142.0 |
| | | 30A | 17,000/13,900 | 5.0/4.09 | 21.7/19.7 | 14,600/14,300 | 9.6/9.6 | 13,400/13,200 | 3.1/3.1 | AZ32H15D5B | **4NW81** | 1890.15 | **1132.00** | 142.0 |
| PTHP | 265 | 20A | 13,600 | 4.0 | 15.1 | 9,000 | 11.3 | 8,400 | 3.5 | AZ32H09E4B | **4NW72** | 1706.16 | **1022.00** | 130.0 |
| | | 20A | 13,600 | 4.0 | 15.1 | 9,000 | 11.3 | 8,400 | 3.5 | AZ32H09E4C | **4NW73‡** | 1776.92 | **1065.00** | 130.0 |
| | | 20A | 13,600 | 4.0 | 15.1 | 11,700 | 10.7 | 11,900 | 3.3 | AZ32H12E4B | **4NW77** | 1760.23 | **1055.00** | 142.0 |
| | | 20A | 13,600 | 4.0 | 15.1 | 11,700 | 10.7 | 11,900 | 3.3 | AZ32H12E4C | **4NW78‡** | 1830.99 | **1097.00** | 142.0 |
| **5200 SERIES PREMIUM LINE PTHP — Uses Power Connector Kits Sold Below*** | | | | | | | | | | | | | | |
| PTHP | 230/208 | 15A | 8,600/7,000 | 2.55/2.09 | 11.1/10.0 | 9000/8800 | 11.3/11.3 | 8,400/8,200 | 3.5/3.5 | AZ52H09DAB | **4NW82** | 2001.31 | **1199.00** | 135.0 |
| | | 20A | 11,700/9,600 | 3.45/2.82 | 15.0/13.6 | 11,800/11,600 | 10.7/10.7 | 10,900/10,700 | 3.3/3.3 | AZ52H12DAB | **4NW83** | 2054.74 | **1231.00** | 142.0 |
| | | 30A | 17,000/13,900 | 5.00/4.09 | 21.7/19.7 | 14,700/14,400 | 10.0/10.0 | 13,400/13,200 | 3.1/3.1 | AZ52H15DAB | **4NW84** | 2199.10 | **1317.00** | 142.0 |

(*) Resistance heat values are determined by 15A, 20A or 30A power connection kit sold below. (†) Coefficient of Performance (COP) refers to relative efficiency of reverse cycle operation vs. resistance heat. A COP rating of 3.0 produces 3 times as much heat at rating point of 47°F outdoor temperature as the same input wattage used for resistance heat.
(‡) GE Model numbers ending in "C" are special corrosion resistant units.

## ACCESSORIES AND POWER CONNECTION KITS* PTAC/PTHP UNITS

**WALL CASE.** Wall case measures 42⅛W x 13⅞D x 16¼"H. Minimum wall opening is 1/4" larger than case dimensions. General Electric brand (RAB77A).

**No. 3EC13.** General Electric Wall Case. Shpg. wt. 27.0 lbs. List....$143.00. Each.....**$87.40**

**EXTERIOR GRILLES.** Protects coils, fan and other components while blending architectural finish to building's outside appearance. General Electric brand.

| Type | Color | GE Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Aluminum** | Aluminum | RAG60 | **4E758** | $43.00 | **$23.08** | 4.8 |
| **Lexan** | Beige | RAG61 | **4E759** | 114.00 | **63.70** | 5.0 |
| **Lexan** | Maple | RAG62 | **4E760** | 114.00 | **63.70** | 5.0 |
| **Lexan** | Dk. Brown | RAG63 | **4E761** | 114.00 | **63.70** | 5.0 |

**DRAIN KIT.** The drain adapter kit can be field installed to drain condensate water from the wall case. Kit can be used for draining condensate to inside or outside. Drain tube is 1/2" OD copper. General Electric brand (RADIO).

**No. 4E768.** Drain Kit. Shpg. wt. 0.3 lbs. List.....$11.00. Each.....**$7.89**

| Type | Voltage | Amps | Plug Type | General Electric Model | New! Stock No. | List | Each |
|---|---|---|---|---|---|---|---|
| **Line Cord** | 230/208 | 15 | 6-15p | RAK3152 | **4NW85** | $41.58 | **$24.90** |
| | 230/208 | 20 | 6-20p | RAK3202 | **4NW86** | 44.15 | **26.45** |
| | 230/208 | 30 | 6-30p | RAK3302 | **4NW87** | 54.43 | **32.60** |
| **Perm.** | 265 | 15 | — | RAK5152 | **4NW89** | 37.35 | **22.37** |
| | 265 | 20 | — | RAK5202 | **4NW90** | 37.35 | **22.37** |
| | 265 | 30 | — | RAK5302 | **4NW91** | 37.35 | **22.37** |

**TELL US WHAT YOU NEED—WE'LL DO OUR BEST TO HELP YOU!**

# ROOM AIR CONDITIONERS

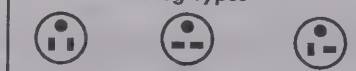
- High EER ratings for energy efficiency
- Solid-sided wall case
- Adjustable thermostat control
- Energy Saver switch
- 4-Way air direction
- Up front washable air filter
- 2 Fan speeds for cooling
- Heat pump units feature backup electric heat below 45°F outdoor ambient
- Fan-only setting for air circulation
- Units measure 26W x 15⅝H x 16⅞D inches with wall case
- AHAM Certified
- UL Listed

**Cool, Heat/Cool, and Heat Pump room air units** include attractive room-side grille of high-impact polystyrene. For installation, each unit requires a solid sided wall case and exterior grille, sold separately below. New installations only need No. 4DC67. General Electric brand.

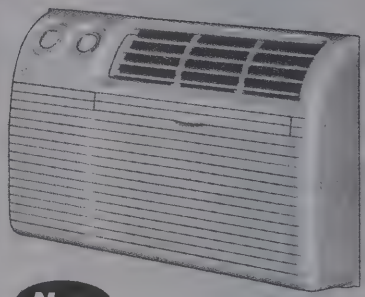
### GENERAL ELECTRIC LIMITED WARRANTY

**5-Year warranty on sealed system. 1-Year on all other parts. Text of warranty available upon request. See "Manufacturers' Warranties" on page opposite inside back cover.**

**Plug Types**



Parallel Tandem Perpendicular



**New**

No. 4NW49
Room Air Conditioner

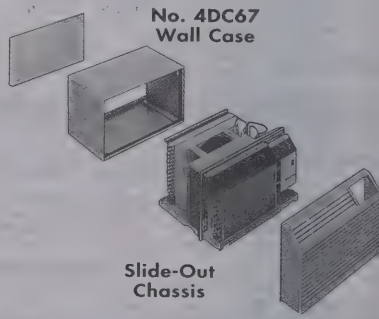
## *New!* THROUGH-THE-WALL AIR CONDITIONER ORDERING DATA

| Type | BtuH | Volts | Amps | General Electric Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Cool | 6,000 | 115 | 5.7 | AJCS06LC | **4NW49** | $971.10 | **$553.00** | 90.0 |
| Cool | 8,000 | 115 | 7.9 | AJCS08AC | **4NW44** | 1023.71 | **582.50** | 100.0 |
| Cool | 9,900 | 115 | 9.7 | AJCS10AC | **4NW46** | 1088.84 | **619.50** | 100.0 |
| Cool | 8,900/8,700 | 230/208 | 4.2/4.6 | AJCS09DC | **4NW45** | 1017.03 | **579.00** | 105.0 |
| Cool | 9,900/9,700 | 230/208 | 4.9/5.3 | AJCS10DC | **4NW47** | 1052.10 | **598.50** | 100.0 |
| Cool | 11,600/11,400 | 230/208 | 5.8/6.3 | AJCS12DC | **4NW48** | 1092.18 | **621.50** | 110.0 |
| High Mount Cool | 8,000 | 115 | 7.9 | AJCH08AC | **4NW40** | 1055.44 | **600.50** | 100.0 |
| High Mount Cool | 9,900 | 115 | 9.7 | AJCH10AC | **4NW41** | 1123.07 | **639.00** | 100.0 |
| High Mount Cool | 9,900/9,700 | 230/208 | 4.9/5.3 | AJCH10DC | **4NW42** | 1086.33 | **618.00** | 100.0 |
| High Mount Cool | 11,600/11,400 | 230/208 | 5.8/6.3 | AJCH12DC | **4NW43** | 1125.58 | **640.50** | 110.0 |
| Heat/Cool | 8,900/8,700 | 230/208 | 4.2/4.6 | AJES09DC | **4NW51** | 1244.15 | **708.00** | 105.0 |
| Heat/Cool | 9,900/9,700 | 230/208 | 4.9/5.3 | AJES10DC | **4NW52** | 1270.87 | **723.00** | 100.0 |
| Heat/Cool | 11,600/11,400 | 230/208 | 5.8/6.3 | AJES12DC | **4NW53** | 1292.58 | **735.50** | 105.0 |
| High Mount Heat/Cool | 11,600/11,400 | 230/208 | 5.8/6.3 | AJEH12DC | **4NW50** | 1294.25 | **736.50** | 110.0 |
| Heat Pump | Cool 8,000/7,800 Heat 7,700/7,500 | 230/208 | 4.0/4.9 | AJHS08DC | **4NW54** | 1467.93 | **835.00** | 105.0 |
| Heat Pump | Cool 9,800/9,600 Heat 9,700/9,500 | 230/208 | N/A | AJHS10DC | **4NW55** | 1571.47 | **894.00** | 110.0 |

## THROUGH-THE-WALL AIR CONDITIONER SPECIFICATIONS

| Type | EER | Plug Type | Dehumidification Pts./Hr. | Heat Watts | Max. Amps | Watts | Stock No. |
|---|---|---|---|---|---|---|---|
| Cool | 9.5 | Parallel | 1.4 | — | 5.7 | 630 | 4NW49 |
| Cool | 9.2 | Parallel | 2.0 | — | 7.9 | 870 | 4NW44 |
| Cool | 9.2 | Parallel | 2.7 | — | 9.7 | 1075 | 4NW46 |
| Cool | 9.5/9.5 | Tandem | 2.5 | — | 4.2/4.6 | 935/915 | 4NW45 |
| Cool | 9.2/9.2 | Tandem | 2.7 | — | 4.9/5.3 | 1075/1055 | 4NW47 |
| Cool | 9.0/9.0 | Tandem | 3.2 | — | 5.8/6.3 | 1290/1265 | 4NW48 |
| High Mount Cool | 9.2 | Parallel | 2.0 | — | 7.9 | 870 | 4NW40 |
| High Mount Cool | 9.2 | Parallel | 2.7 | — | 9.7 | 1075 | 4NW41 |
| High Mount Cool | 9.2/9.2 | Tandem | 2.6 | — | 4.9/5.3 | 1075/1055 | 4NW42 |
| High Mount Cool | 9.0/9.0 | Tandem | 3.2 | — | 5.8/6.3 | 1290/1265 | 4NW43 |
| Heat/Cool | 9.5/9.5 | Perpendicular | 2.5 | 3400/2780 | 15.5/14.0 | 935/915 | 4NW51 |
| Heat/Cool | 9.2/9.2 | Perpendicular | 2.6 | 3400/2780 | 15.5/14.0 | 1075/1055 | 4NW52 |
| Heat/Cool | 9.0/9.0 | Perpendicular | 3.2 | 3400/2780 | 15.7/14.2 | 1290/1265 | 4NW53 |
| High Mount Heat/Cool | 9.0 | Perpendicular | 3.2 | 3400/2780 | 15.7/14.2 | 1290/1265 | 4NW50 |
| Heat Pump | 9.2/9.2 | Perpendicular | 2.0 | 3400/2780 | 15.5/14.0 | 870/850 | 4NW54 |
| Heat Pump | 9.2/9.2 | Perpendicular | 2.6 | 3400/2780 | 15.5/14.0 | 1065/1045 | 4NW55 |

No. 4DC68
Exterior Grille




## INSTALLATION ACCESSORIES FOR THROUGH-THE-WALL MODELS

| Accessory | General Electric Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Wall Case w/ aluminum grille** | RAB46G1 | **4DC67** | $89.87 | **$59.95** | 20.0 |
| **Exterior Grille*** | RAG13 | **4DC68** | 28.71 | **19.14** | 3.0 |

(*)Drain kit, model RAD4, available. To order, call 1-800-323-0620. Must be used with exterior grille, No. 4DC68, to work correctly.

**Replacement Parts Available**
**1-800-323-0620**

## YOUR PRODUCT SOLUTION RESOURCE...CALL GRAINGER TODAY!

**Grainger will supply you with the dependable, brand name products you need to keep your operation running smoothly-plus the solutions you need to keep your operation running more profitably.**

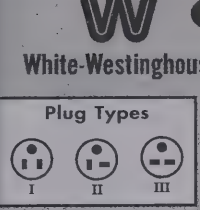
# ROOM AIR CONDITIONERS

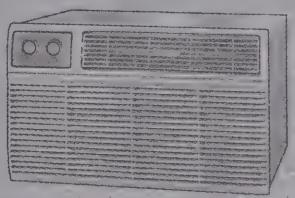
## THROUGH-THE-WALL AIR CONDITIONERS — SLEEVE MOUNT

New

White-Westinghouse

Plug Types



SA2130

ENERGY RIGHT®

The heat and cool line are offered in 230/208V models. Cooling only models are offered in both 115V and 230V sizes

- **Interior trim kit (covers perimeter of wall opening)**
- **Snap-off front panel**
- **Easy-to-clean filter**
- **Uses through-the-wall sleeve or window mount frame accessory below**
- **Units also fit in many existing competitive brand sleeves**
- **Sleeve adapter kit included**

### AIR CONDITIONER SPECIFICATIONS

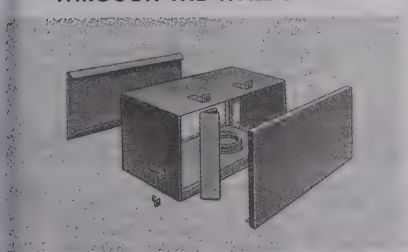
| Stock No. | Watts | Dehum. Pts. / Hr. | Exhaust | No. of Air Directions | Max. Wall Thick. (In.) | Cool/Fan Speeds | High CFM | Uses Receptacle Stock No. |
|---|---|---|---|---|---|---|---|---|
| 4TP61 | 940 | 1.7 | Yes | 4 | 18 | 3/3 | 260 | 5A078 |
| 4TP62 | 1000/965 | 2.0 | Yes | 4 | 18 | 3/3 | 260 | 1X993 |
| 4TP64 | 1175 | 2.5 | Yes | 4 | 18 | 3/3 | 260 | 5A078 |
| 4TP65 | 1175/1150 | 3.0 | Yes | 4 | 18 | 3/3 | 260 | 1X993 |
| 4TP66 | 1415/1355 | 3.7 | Yes | 4 | 18 | 3/3 | 275 | 1X993 |
| 4TP63 | Cool: 1000/965 Heat: 3450/2800 | 2.0 | Yes | 4 | 18 | 2/2/1 | 260 | 1X989 |
| 4TP67 | Cool: 1415/1355 Heat: 3450/2800 | 3.7 | Yes | 4 | 18 | 2/2/1 | 275 | 1X989 |

| Type | BtuH | Volts | Amps | EER | Plug Type | Dimensions (In.) H | W | D* | White-Westinghouse Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cool | 8000 | 115 | 8.4 | 8.5 | I | 14½ | 24 | 18½ | WAH086H1T | ✓4TP61 | $874.24 | **$523.50** | 95.0 |
| Cool | 8500/8200 | 230/208 | 4.6/5.0 | 8.5 | III | 14½ | 24 | 18½ | WAH096H2T | ✓4TP62 | 905.14 | **542.00** | 98.0 |
| Cool | 10,000 | 115 | 10.5 | 8.5 | I | 14½ | 24 | 18½ | WAH106H1T | ✓4TP64 | 1014.60 | **608.00** | 93.0 |
| Cool | 10,000/9803 | 230/208 | 5.5/6.0 | 8.5 | III | 14½ | 24 | 18½ | WAH106H2T | ✓4TP65 | 1014.60 | **608.00** | 93.0 |
| Cool | 12,000/11,500 | 230/208 | 6.5/7.0 | 8.5 | III | 14½ | 24 | 18½ | WAH126H2T | ✓4TP66 | 1077.55 | **645.50** | 105.0 |
| Cool | 8500/8200 | 230/208 | 4.6/5.0 | 8.5 | II | 14½ | 24 | 18½ | WAH09EH2T | ✓4TP63 | 981.12 | **587.50** | 99.0 |
| Heat | 10,600/8600 | | 15.5/14.0 | | | | | | | | | | |
| Cool | 12,000/11,500 | 230/208 | 6.5/7.0 | 8.5 | II | 14½ | 24 | 18½ | WAH12EH2T | ✓4TP67 | 1128.95 | **676.00** | 105.0 |
| Heat | 10,600/8600 | | 15.5/14.0 | | | | | | | | | | |

(*) Measurement with front cover 24¼. (✓) Denotes energy efficient product.

## OPTIONAL ACCESSORIES FOR WHITE-WESTINGHOUSE THROUGH-THE-WALL MODELS

### THROUGH-THE-WALL SLEEVE

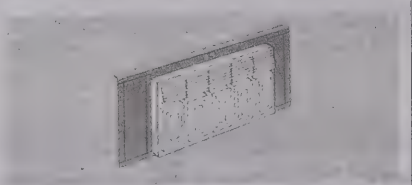


**Simplifies installation** of White-Westinghouse thru-the-wall room equipment. **Use with through-the-wall design models only.** Provides weather-tight seal, with or without unit installed. For finished walls up to 17¾" thick. Includes outside panel, sleeve, inside panel, construction support, weather seals and mounting hardware. Galvanized steel with epoxy primer and melamine finish coat; withstands 1000 hour salt spray test. 18" deep.

Recommended wall opening when mounting brackets are used is 26W x 15¾"H. Wall sleeve must be installed at a minimum of 3½" above floor and at a minimum of 7½" above top of baseboard heater if used. White-Westinghouse brand (EA90T).

**No. 4TP48.** Shpg. wt. 29.0 lbs. List .....$93.50.
Each .....**$77.15**

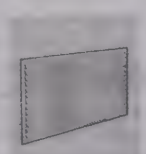
### WINDOW-MOUNT FRAME



**Adapts thru-the-wall models** for use with most double hung windows. Requires 30 to 40" wide opening with minimum height of 17½". Plastic frame with expandable vinyl panels, sash-seal and hardware. White-Westinghouse brand (EA74T).

**No. 5H879.** Shpg. wt. 7.0 lbs. List .....$46.25.
Each .....**$35.95**

### OUTDOOR ALUMINUM GRILLE



**Use with thru-the-wall sleeve No. 4TP48.** Provides permanent appearance with air conditioner in or out. 15H x 25½W x 1½"D. White-Westinghouse brand (EA73T).

**No. 5H443.** Grille. Shpg. wt. 4.9 lbs. List..$51.15.
Each .....**$39.00**

### INSIDE AIR CONDITIONING COVER

Chill STOP'R

- Antique White Color

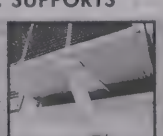


Measures 30L x 21H x 6½" Depth. Chill STOP'R brand. (1212-06)

**No. 5E169.** Shpg. wt. 5.3 lbs. List .....$54.50.
Each .....**$36.50**

### WINDOW A/C SUPPORTS

New



No. 4MH72

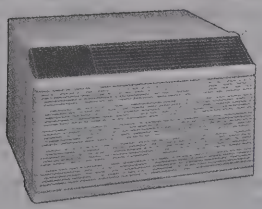
Adjustable bracket for any room air conditioner installation with wall thickness ranging from 4" to 11". Built-in level helps install unit at proper angle. No. 4MH72 for units up to 80 lbs. No. 4MH73 for units up to 160 lbs. Outland Engineering brand (AC-080) and (AC-169).

***New* No. 4MH72.** Shpg. wt. 2.3 lbs. List $54.70.
Each .....**$32.80**

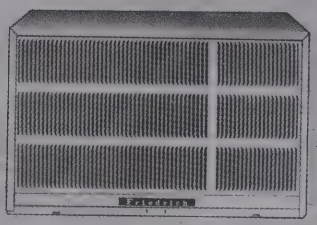
***New* No. 4MH73.** Shpg. wt. 3.6 lbs. List $75.16.
Each .....**$45.05**

# ROOM AIR CONDITIONERS

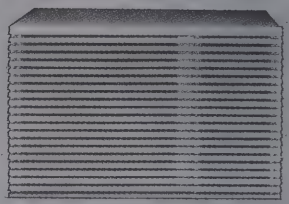
**Friedrich** AIR CONDITIONING



No. 3UF11



No. 3UF15



No. 3UD86

Designed for quiet, energy saving operation in any application—new construction, remodeling or replacement of existing units.

- **Ultra-quiet operation**
- **Ideal replacement for Fedders and other built-in units, measures only 27W x 16¾"D**
- **3-Speed fan**
- **Top mount controls**
- **Mounts flush with exterior wall**
- **Sleeve, No. 3UF15, is required for all units. See listing below**

## ACCESSORIES FOR THRU-THE-WALL AIR CONDITIONERS

**No. 3UF15.** WSC Sleeve-For All "W" models. Shipped with weather panel and standard grille.. Shpg. wt. 38.0 lbs. List $131.00. Each ..... **$99.95**

**No. 3UD86.** AG88-Architectural Grille-Optional enhanced appearance grille.. Shpg. wt. 5.0 lbs. List $102.00. Each..... **$61.25**

**No. 3UD93.** IDK-Interior Drain Kit-Designed for new construction application, normally used with heat pump units that are to be drained within the wall structure.. Shpg. wt. 1.0 lbs. List $35.00. Each..... **$26.90**

**No. 3UD88.** DK-Drain Kit-Installed at the back of the unit, allows for attachment to a permanent condensate disposal system.. Shpg. wt. 4.0 lbs. List $30.00. Each..... **$23.15**

**No. 3UF03.** SB-Sub Base for the unit when it is desired to place the cord and receptacle within the installation, or as a base when unit is mounted in the wall.. Shpg. wt. 1.0 lbs. List $86.00. Each..... **$54.75**

## ROOM A / C SIZE SELECTION GUIDE

Find the amount of space you want to cool by calculating square footage of rooms (length x width). If room is to be occupied by more than 2 people, add 600 BtuH per person. Add multiple rooms together to determine total BtuH needed. The total BtuH of two small units will provide better cold air circulation than one large unit.

| Square Footage | BtuH Required | Square Footage | BtuH Required |
|---|---|---|---|
| 100 | 5,000 | 600 | 12,000 |
| 200 | 6,000 | 1100 | 18,000 |
| 300 | 8,000 | 1300 | 21,000 |
| 400 | 9,000 | 1500 | 23,000 |
| 500 | 10,000 | 2000 | 29,000 |

**NEMA Plug Types**




## COOLING ONLY

| Type | BtuH | Volts | Amps | Watts | Max Wall Thick. (In.) | EER | Dehum. Pts./Hr | NEMA Plug Type | Dimensions (In.) W | H | D | Friedrich Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cool** | 7000 | 115 | 6.7 | 735 | 15 | 9.5 | 1.4 | 5-15p | 27 | 16¾ | 16¾ | WS07A10D | **3UF11** | $1065.00 | **$545.00** | 93.0 |
| **Cool** | 9000 | 115 | 9.0 | 980 | 15 | 9.2 | 2.1 | 5-15p | 27 | 16¾ | 16¾ | WS09A10D | **3UF12** | 1142.00 | **603.50** | 103.0 |
| **Cool** | 11500 | 115 | 11.5 | 1280 | 15 | 9.0 | 2.9 | 5-15p | 27 | 16¾ | 16¾ | WS12A10D | **3UF13** | 1233.00 | **631.50** | 112.0 |
| **Cool** | 9000/8800 | 230/208 | 4.5/4.9 | 980/980 | 15 | 9.2/9.0 | 2.1 | 6-15p | 27 | 16¾ | 16¾ | WS09A30D | **3UF16** | 1142.00 | **584.50** | 101.0 |
| **Cool** | 12,500/12,300 | 230/208 | 6.3/6.8 | 1435/1415 | 15 | 8.7/8.7 | 4.0 | 6-15p | 27 | 16¾ | 16¾ | WS13A30D | **3UF14** | 1347.00 | **689.50** | 119.0 |

## HEAT PUMPS

| Type | BtuH | Volts | Amps | Watts | Max. Wall Thick. (In.) | EER | Dehum. Pts./Hr | NEMA Plug Type | Dimensions (In.) W | H | D | Friedrich Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cool**<br>**Heat** | 9000/8800<br>8200/8200 | 230/208 | 4.5/4.8<br>4.1/4.2 | 1000/980<br>870/840 | 15 | 9.0/9.0 | 2.1 | 6-20p | 27 | 16¾ | 16¾ | WY09A33D | **3UF17** | $1550.00 | **$796.00** | 107.0 |
| **Cool**<br>**Heat** | 11,300/10,900<br>10,800/10,500 | 230/208 | 5.8/6.2<br>5.4/5.7 | 1315/1280<br>1200/1165 | 15 | 8.6/8.5 | 2.9 | 6-20p | 27 | 16¾ | 16¾ | WY12A33E | **3UF18** | 1634.00 | **836.50** | 116.0 |

## ELECTRIC HEAT MODELS

| Type | BtuH | Volts | Amps | Watts | Max. Wall Thick. (In.) | EER | NEMA Plug Type | Dimensions (In.) W | H | D | Friedrich Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cool**<br>**Heat** | 9000/8800<br>11,000/9100 | 230/208 | 4.5/4.9<br>16.0/14.7 | 980/980<br>3550/2950 | 15 | 9.2/9.0 | 6-20p | 27 | 16¾ | 16¾ | WE09A33D | **3UF06** | $1205.00 | **$617.00** | 103.0 |
| **Cool**<br>**Heat** | 12,500/12,300<br>11,000/9100 | 230/208 | 6.3/6.8<br>16.0/14.7 | 1435/1415<br>3550/2950 | 15 | 8.7/8.7 | 6-20p | 27 | 16¾ | 16¾ | WE13A33D | **3UF07** | 1387.00 | **710.50** | 121.0 |

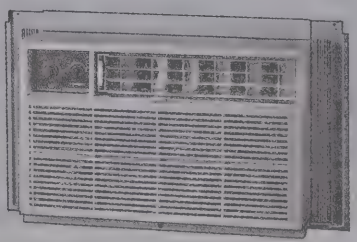
# ROOM AIR CONDITIONERS

White-Westinghouse

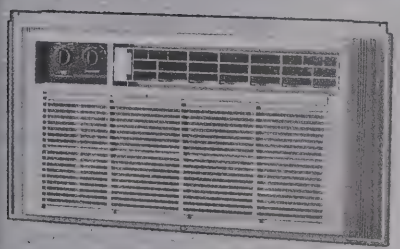
ENERGY RIGHT®

New

Replacement Parts Available 1-800-323-0620



[A] No. 3ZM73
Whisper Cool Compact Room Air Conditioner



[B] No. 3ZM76
Whisper Cool Intermediate Room Air Conditioner

Plug Type



5-15P

**ALL ROOM A/C UNITS FEATURE:**

- Rigid mesh slide-out filter
- Beige front panels
- Modular chassis
- Pleated quick-mount kit included

[A] Whisper Cool Compact Units Feature:

- Ideal for smaller rooms; Easy to install, operate, and service
- Fit windows from 23" - 30" wide and 14" min. opening height

[B] Whisper Cool Intermediate Units Feature:

- Higher cooling capacity added to the attractive styling, comfort, and convenience of the Custom Compact series
- Modular slide-out chassis
- Fit windows from 28" - 41" wide and 17½" min. opening height

**WHITE-WESTINGHOUSE LIMITED WARRANTY**

Warranty handled on site for 1 year, 5-year warranty on sealed system. 1 year on all other parts. NOTE: Certain commercial installations may void manufacturers' warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## AIR CONDITIONER SPECIFICATIONS

| Key | Watts | Side Louvers | Dehum. Pts. / Hr. | Slide-Out Chassis | Fresh Air/ Exhaust | No. of Air Directions | Cool/Fan Speeds | High CFM | Stock No. | Uses Receptacle Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 635 | Yes | 1.1 | No | Yes | 4 | 3/3 | 175 | 4E986 | 5A078 |
| A | 650 | Yes | 1.6 | No | Yes | 4 | 3/3 | 175 | 3ZM72 | 5A078 |
| A | 885 | Yes | 2.0 | No | Yes | 4 | 3/3 | 239 | 4MH05 | 5A078 |
| A | 845 | Yes | 2.0 | No | Yes | 4 | 3/3 | 250 | 3ZM73 | 5A078 |
| A | 1110 | Yes | 3.0 | No | Yes | 4 | 3/3 | 250 | 4MH06 | 5A078 |
| B | 1055 | Yes | 2.5 | Yes | Yes | 4 | 3/3 | 315 | 3ZM76 | 5A078 |
| B | 1265 | Yes | 3.4 | Yes | Yes | 4 | 3/3 | 270 | 3ZM77 | 5A078 |

## AIR CONDITIONER ORDERING DATA

| Key | BtuH | Volts | Amps | EER | Dimensions (In.) H | W | D | White-Westinghouse Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5200 | 115 | 6.2 | 8.2 | 13¾ | 19 | 17 | WAC053H7A | **4E986** | $365.73 | **$219.00▲** | 61.0 |
| A | 6200 | 115 | 6.0 | 9.5 | 13⅜ | 19 | 17 | WAC066H7A | **3ZM72** | 442.55 | **265.00▲** | 60.0 |
| A | 8000 | 115 | 7.5 | 9.5 | 13⅜ | 19 | 17 | WAC083H7A | **3ZM73** | 465.73 | **279.00▲** | 60.0 |
| A | 9950 | 115 | 10.5 | 9.0 | 13⅜ | 19 | 17 | WAC103H1A | **4MH06** | 589.53 | **349.00▲** | 75.0 |
| B | 10000 | 115 | 9.5 | 9.5 | 15¼ | 24 | 23⅜ | WAL103H1A | **3ZM76** | 710.00 | **379.00▲** | 88.0 |
| B | 12000 | 115 | 11.2 | 9.5 | 15⅜ | 24 | 23⅜ | WAL123H1A | **3ZM77** | 755.00 | **469.00▲** | 96.0 |

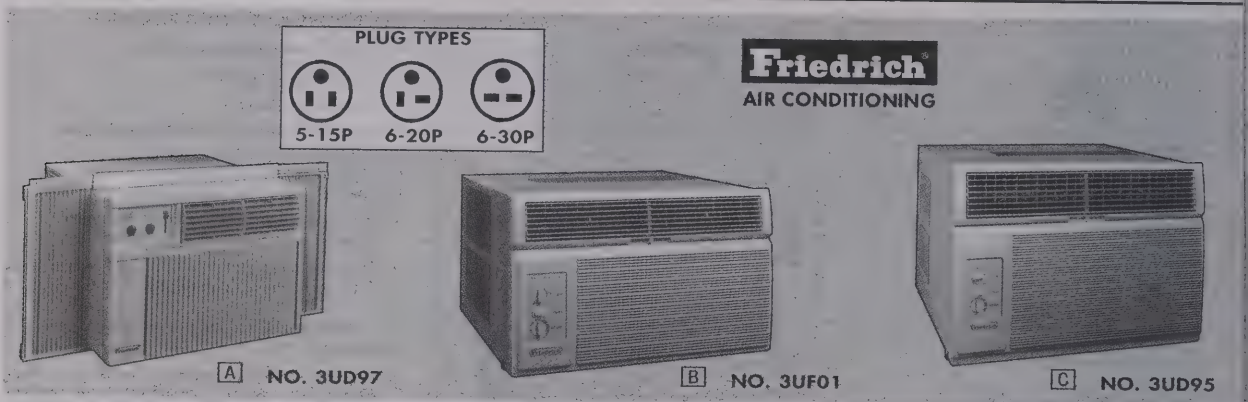
(▲) Net prices. Not subject to discounts.

**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information.

Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# ROOM AIR CONDITIONERS, HEAT PUMPS AND ELECTRIC HEAT UNITS




**A UNITS FEATURE:**
- Ultra-quiet operation
- 2 cooling speeds; 2 fan-only speeds
- Super high energy efficiency
- Slide-out chassis

**RECEPTACLE ORDERING GUIDE**

| For A/C Stock No. | Ivory Receptacle No. |
|---|---|
| 3UD97, 3UD98, 3UD99, 3UF01, 3UF02 | 3D196 |
| 3UD96, 3UD94, | 5Z832 |
| 3UF04, 3UD89, 3UD95 | 5Z833 |
| 3UF05, 3UD90, 3UD91, 3UD92 | 5Z895 |

**B, C UNITS FEATURE:**
- Ultra-quiet operation
- 3 Cooling speeds, plus fan-only
- Money Saver® feature
- Super high energy efficiency
- Fresh air intake/exhaust vent
- Slide-out chassis

**WINDOW WIDTHS**

A: .....Min. 26"—Max. 42"W
B: .....Min. 27⅞"—Max. 42"W
C: .....Min. 29⅞"—Max. 42"W

**WINDOW MOUNT KITS**

**No. 3UF10.** Window mount kit for room unit Nos. 3UD90, 3UD92 and 3UF19. Fits windows up to 42"W. Shpg. wt. 7.0 lbs. List.....$48.00 Each.....$30.45

**No. 3UF09.** Window mount kit for room unit Nos. 3UD90 and 3UF20. Fits windows up to 42"W. Shpg. wt. 7.0 lbs. List.....$48.00 Each.....$30.45

**No. 3UF08.** Window mount kit for room unit Nos. 3UF21, 3UF22 and 3UD89. Fits windows up to 42"W. Shpg. wt. 7.0 lbs. List.....$48.00 Each.....$30.45

## ROOM AIR CONDITIONERS WITH WINDOW MOUNT KIT

| Key | BtuH | Volts | Amps | Max. Wall Thick. (In.) | Watts | Dehum. Pts./Hr. | EER | Plug Type | Dimensions (In.) H | W | D | Friedrich Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5300 | 115 | 5.2 | 8½ | 590 | 1.5 | 9.0 | 5-15P | 14 | 19¼ | 21⅜ | KQ05J10A | **3UD97** | $676.00 | **$295.75▲** | 81.0 |
| A | 6200 | 115 | 5.8 | 8½ | 655 | 2.0 | 9.5 | 5-15P | 14 | 19¼ | 21⅜ | KQ06J10A | **3UD98** | 761.00 | **335.00▲** | 81.0 |
| A | 7900 | 115 | 7.5 | 8½ | 830 | 2.5 | 9.5 | 5-15P | 14 | 19¼ | 21⅜ | KQ08J10A | **3UD99** | 857.00 | **385.00▲** | 87.0 |
| B | 10,000 | 115 | 9.1 | 8¾ | 970 | 2.8 | 10.3 | 5-15P | 15 15/16 | 25 15/16 | 27⅞ | KS10J10 | **3UF01** | 1035.00 | **455.00▲** | 118.0 |
| B | 12,000 | 115 | 10.8 | 8¾ | 1265 | 3.5 | 9.5 | 5-15P | 15 15/16 | 25 15/16 | 27⅞ | KS12J10 | **3UF02** | 1096.00 | **495.00▲** | 121.0 |
| B | 18,000/18,000 | 230/208 | 8.3/9.1 | 8¾ | 1875/1875 | 5.5 | 9.6/9.6 | 6-20P | 17 15/16 | 25 15/16 | 27⅞ | KM18J30A | **3UD96** | 1287.00 | **713.50** | 148.0 |
| B | 20,500/20,500 | 230/208 | 10.3/11.4 | 8¾ | 2280/2280 | 7.0 | 9.0/9.0 | 6-20P | 17 15/16 | 25 15/16 | 27⅞ | KM21J30 | **3UD94** | 1589.00 | **881.00** | 203.0 |
| C | 25,000/24,700 | 230/208 | 13.5/15.0 | 16½ | 3010/3010 | 7.6 | 8.3/8.2 | 6-20P | 20 9/16 | 28 | 33⅝ | KL25J30A | **3UD95** | 1834.00 | **1017.00** | 210.0 |
| C | 28,000/27,500 | 230/208 | 14.0/15.5 | 16½ | 3110/3090 | 8.8 | 9.0/8.9 | 6-20P | 20 9/16 | 28 | 33⅝ | SL28J30A | **3UF04** | 2349.00 | **1202.00** | 221.0 |
| C | 33,000/32,500 | 230/208 | 17.0/18.0 | 16½ | 3665/3610 | 11.0 | 9.0/9.0 | 6-30P | 20 9/16 | 28 | 33⅝ | SL33J30 | **3UF05** | 2579.00 | **1320.00** | 236.0 |

## ELECTRIC HEAT ROOM AIR CONDITIONERS (WINDOW MOUNT KITS SOLD SEPARATELY ABOVE)

| Key | BtuH | Volts | Amps | Max. Wall Thick. (In.) | Watts | Dehum. Pts./Hr. | EER | Plug Type | Dimensions (In.) H | W | D | Friedrich Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | 12,500/12,500<br>10,700/8,900 | 230/208 | 5.8/6.2<br>16.0/14.7 | 8¾ | 1250/1250<br>3500/2900 | 3.5 | 10.0/10.0 | 6-20P | 15 15/16 | 25 15/16 | 27⅞ | EK12J33A | **3UD89** | $1362.00 | **$696.50** | 119.0 |
| B | 18,000/18,000<br>13,000/10,500 | 230/208 | 8.3/9.1<br>19.5/17.0 | 8¾ | 1875/1875<br>4200/3500 | 5.5 | 9.6/9.6 | 6-30P | 17 15/16 | 25 15/16 | 27⅞ | EK18J34A | **3UD90** | 1540.00 | **788.50** | 145.0 |
| C | 24,000/24,000<br>17,300/14,300 | 230/208 | 12.0/13.3<br>24.0/22.4 | 16½ | 2610/2640<br>5500/4650 | 7.7 | 9.2/9.1 | 6-30P | 20 9/16 | 28 | 33⅝ | EL24J35A | **3UD91** | 2148.00 | **1100.00** | 210.0 |
| C | 33,000/32,500<br>17,300/14,300 | 230/208 | 17.0/18.0<br>24.0/22.4 | 16½ | 3665/3610<br>5500/4650 | 11.0 | 9.0/9.0 | 6-30P | 20 9/16 | 28 | 33⅝ | EL33J35 | **3UD92** | 2827.00 | **1447.00** | 234.0 |

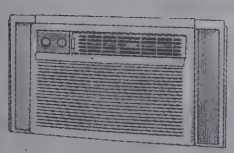
## HEAT PUMPS (WINDOW MOUNT KITS SOLD SEPARATELY ABOVE)

| Key | BtuH | Volts | Amps | Max. Wall Thick. (In.) | Watts | Dehum. Pts./Hr. | EER | Plug Type | Dimensions (In.) H | W | D | Friedrich Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | C-9000<br>H-8300 | 115 | 7.2<br>6.7 | 8¾ | 785<br>760 | 1.7 | 11.5<br>11.0 | 5-15P | 15 15/16 | 25 15/16 | 27⅞ | YS09J10 | **3UF21** | $1477.00 | **$756.00** | 124.0 |
| B | C:13,000/13,000<br>H:12,400/12,300 | 230/208 | 6.0/6.5<br>16.0 | 8¾ | 1325/1325<br>1340/1300 | 3.5 | 9.8/9.8<br>9.4/9.4 | 6-20P | 15 15/16 | 25 15/16 | 27⅞ | YS13J33 | **3UF22** | 1753.00 | **897.00** | 128.0 |
| C | C:17,500/17,500<br>H:16,500/16,300 | 230/208 | 8.3/9.0<br>7.6/8.3 | 8¾ | 1860/1860<br>1720/1700 | 5.2 | 9.4/9.4<br>9.5/9.5 | 6-30P | 17 15/16 | 25 15/16 | 27⅞ | YM18J34A | **3UF20** | 2151.00 | **1102.00** | 153.0 |
| C | C:24,000/23,800<br>H: 23,000/22,800 | 230/208 | 12.0/13.0<br>10.4/11.5 | 16½ | 2665/2645<br>2350/2340 | 7.0 | 9.0/9.0<br>9.8/9.8 | 6-30P | 20 9/16 | 28 | 33⅝ | YL24J35 | **3UF19** | 2599.00 | **1330.00** | 217.0 |

(▲) Net prices, not subject to discounts.

# ROOM AIR CONDITIONERS

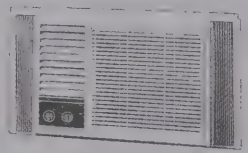
## HEAVY-DUTY & SLIDER CASEMENT ROOM AIR CONDITIONERS



No. 4TP74 A

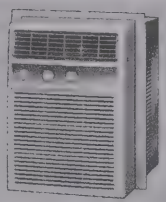
White-Westinghouse

New



No. 4TP75 B

SA2130



ENERGY RIGHT®

C

### A & B CUSTOM HEAVY-DUTY UNITS FEATURE:

- Large cooling capacity to cover larger applications
- Heat/Cool unit, No. 4TP75, offers all-season comfort.
- Units fit 32-43½" wide windows with 20½" minimum opening height.
- Removable beige front panel
- Rigid mesh slide-out filter
- Variable air directions
- Exhaust/Fresh air vent
- Modular slide-out chassis
- Pleated quick mount kit included

### C SLIDER/CASEMENT UNITS FEATURE:

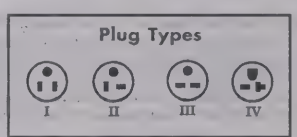
- Unique design combines high capacity and efficiency in an attractive air conditioner
- Fit slider/casement window openings from 21½ to 40" high, 15½" minimum opening width
- Beige front panel
- Variable air directions
- Vertical quick-mount kit

### AIR CONDITIONER SPECIFICATIONS

| Key | Watts | Side Louvers | Dehum Pts./Hr. | Side-Out Chassis | Vent | No. of Air Directions | Max. Wall Thick (In.) | Cool/Fan Speeds | High CFM | Stock No. | Uses Receptacle Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1440 | Yes | 3.0 | Yes | Fresh Air | 4 | 11 | 3/3 | 500 | 4TP70 | 5A078 |
| B | 1855/1815 | Yes | 5.5 | Yes | Fresh Air | 4 | 11 | 3/3 | 465 | 4TP72 | 5Z832 |
| B | 2950/2915 | Yes | 8.5 | Yes | Fresh Air | 4 | 11 | 3/3 | 525 | 4TP74 | 1X989 |
| B | 3360/3305 | Yes | 9.5 | Yes | Exhaust | 4 | 11 | 3/3 | 540 | 4TP73 | 5Z895 |
| B | 1855/1850 Cool 4250/3450 Heat | Yes | 5.5 | Yes | Exhaust | 4 | 11 | 3/3 | 465 | 4TP75 | 5Z895 |
| C | 760 | Yes | 2.0 | No | Exhaust | 4 | 8.5 | 3/3 | 235 | 3ZM74 | 5A078 |
| C | 1050 | Yes | 2.5 | No | Exhaust | 4 | 8.5 | 3/3 | 305 | 3ZM75 | 5A078 |
| C | 1260 | Yes | 3.6 | No | Exhaust | 4 | 8.5 | 3/3 | 305 | 4TP71 | 5A078 |

### WHITE-WESTINGHOUSE LIMITED WARRANTY

Warranty handled on site for 1 year, 5-year warranty on sealed system, 1 year on all other parts, NOTE: Certain commercial installations may void manufacturer's warranty. Text of warranty available on request. See "Manufacturer's Warranties" on page opposite inside back cover.




### AIR CONDITIONER ORDERING DATA

| Key | Type | BtuH | Volts | Amps | EER | Plug Type | Dimensions (In.) H | W | D | White Westinghouse Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Cool | 15,000 | 115 | 12 | 10.4 | I | 18⅜ | 26½ | 25⅜ | WAS155H1A | *New*4TP70 | $519.00▲ | 133.0 |
| B | Cool | 18,000/17,600 | 230/208 | 8.5/9.0 | 9.8 | II | 18⅜ | 26½ | 25⅜ | WAS185H2A | *New*4TP72 | 585.00 | 155.0 |
| B | Cool | 25,000/24,700 | 230/208 | 12.5/13.8 | 8.7 | III | 18⅜ | 26½ | 25⅜ | WAS256H2A | *New*4TP74 | 755.00 | 171.0 |
| B | Cool | 28,500/28,000 | 230/208 | 15.0/16.5 | 8.5 | III | 18⅜ | 26½ | 25⅜ | WAV296H2A | *New*4TP73 | 885.00 | 172.0 |
| B | Cool<br>Heat | 18,000/17,900<br>13,000/10,600 | 230/208 | 8.5/9.0<br>18.8/17.2 | 9.8 | IV | 18⅜ | 26½ | 25⅜ | WAV18EH2A | *New*4TP75 | 725.00 | 167.0 |
| C | Cool | 8,000 | 115 | 6.7 | 10.5 | I | 20¼ | 14½ | 23 | WAK083F7V | 3ZM74 | 520.00▲ | 92.0 |
| C | Cool | 10,000 | 115 | 8.8 | 9.5 | I | 20¼ | 14½ | 23 | WAK103F1V | 3ZM75 | 575.00▲ | 93.0 |
| C | Cool | 11,600 | 115 | 11.8 | 9.2 | I | 20¼ | 14½ | 23 | WAK123H1V | *New*4TP71 | 638.50▲ | 155.0 |

(▲) Net prices, not subject to discounts.

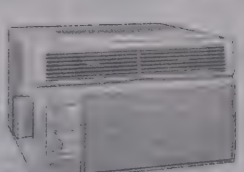
## HAZARDOUS LOCATION ROOM AIR CONDITIONERS

Designed to cool work areas and other enclosures in hazardous locations where specific volatile flammable liquids or flammable gases are handled or used within enclosed containers or systems.

Hazardgard® room air conditioners are designed to meet the National Electrical Code, Article 500 requirements for Class 1, Division 2, Group A, B, C, D hazardous locations and are the only room air conditioners UL Listed for this application.

- Totally enclosed fan motor has stainless steel shaft to resist corrosion; a hermetically sealed overload and electronic switch to prevent arcing
- Solid-state printed circuit board insulated against corrosion on conductor paths. Contains transient voltage suppressors to protect controls against transient voltage spikes
- High capacity compressor with internal hermetically sealed overload and solid state switch to prevent arcing
- Hot gas bypass low ambient control to permit operation without freezing up at outdoor ambient temperatures as low as-45°F
- Slide-out chassis design
- Accommodates direct wiring only

Friedrich HAZARDGARD



| BtuH 230 / 208 | Volts | Amps | Watts | EER | Dimensions (In.) H | W | D | Friedrich Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,000/14,000 | 230/208 | 7.8/8.5 | 1750/1750 | 8.0/8.0 | 15 | 25 | 27 | SH14J30A | 4E771 | $1747.11 | $1573.00 | 160.0 |
| 19,000/18,800 | 230/208 | 9.9/10.8 | 2295/2210 | 8.5/8.5 | 20 | 28 | 33 | SH20J30A | 4E772 | 2037.12 | 1834.00 | 175.0 |

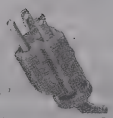
# PORTABLE AIR CONDITIONERS



Portable



Versatile



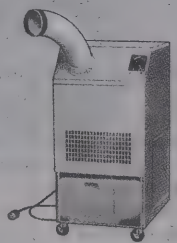
Economical

FREE DELIVERY on orders of $900 or more
See Freight Policy

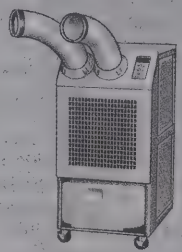
MOVINCOOL®

UL

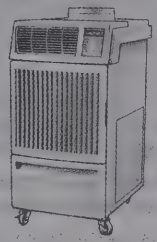
New



A



B C G



F

Replacement Parts Available
1-800-323-0620



D E

Wagon Kit is sold separately. See accessories on following page.

**MOVINCOOL® LIMITED WARRANTY**

Movincool® warrants all parts and labor for 1 year; 3 years on compressor. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Self-contained portable air conditioning** effectively spot cools heat-sensitive equipment, production processes, and people. Use to cool computers, telephone switching equipment, medical equipment, automotive service bays, temporary work stations, loading docks, tent events, athletic teams, production lines, restaurant kitchens, aircraft maintenance, and emergency back-up applications.

**Easy installation and operation.** All models simply plug in and start cooling right away. Accessories tailor each unit for a variety of uses. An optional condenser duct removes waste heat. Cold air hose extensions cool specific areas. Requires no plumbing. Locking casters provide mobility. All models have unique resin-treated coils to resist corrosion and extend life.

**Nos. 6E868, 5E352, & 5E353 FEATURE:**
- Automatic tank shut-off when condensate collection tank is full
- Return air and anti-freezing thermostat
- Auto restart
- Compressor short-cycle and overload protection
- Fan mode selector switch with fan motor protection
- Optional condensate pump kit (replaces tank to run directly to floor drain)
- Optional make-up air plenum available

**Nos. 5E354 and 3TZ38 FEATURE:**
- Compressor overload protection
- High pressure switch
- Fan motor protection
- Anti-freezing thermostat

**No. 4TM51 FEATURES:**
- Digital temperature control
- Automatic tank shut-off when condensate collection tank is full
- 2-speed fan

**No. 4TM52 FEATURES:**
- Programmable digital time and temperature control
- After hours and weekend operations
- Automatic tank shut-off when condensate collection tank is full
- 2-speed fan

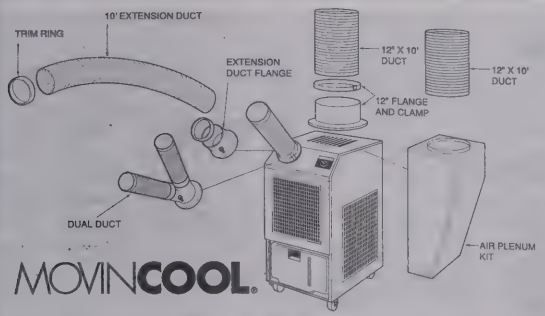
## APPLICATION GUIDE

| Key | Condensate Tank Cap. (Gal.) | Max. Sound Level (dB) | CFM Evap. | CFM Cond. | Temp. (°F) | Max. Operating Conditions Cold Duct Hose (Ft.) | Hot Duct Hose (Ft.) |
|---|---|---|---|---|---|---|---|
| A | 5.3 | 58 | 265 | 735 | 68-104 | 40 | 100 |
| B | 5.3 | 67 | 530 | 1177 | 68-104 | 50 | 80 |
| C | 5.3 | 69 | 708 | 1680 | 68-104 | 60 | 45 |
| D | (2) 5.3 | 72 | 1060 | 2650 | 77-113 | Varies | 40 |
| E | N/A | 72 | 1580 | 3800 | 77-113 | Varies | 45 |
| F | 4.0 | 60 | 630/750 | 800 | 65-95 | 20 | 40 |
| G | 5.0 | 30 | 800/700 | 975 | 70-115 | 20 | 40 |

## PORTABLE AIR CONDITIONER SPECIFICATIONS AND ORDERING DATA

| Key | BtuH | Volts @ 60 Hz | Amps | NEMA Plug | Power Use (KW) | Dimensions (In.) L | W | H | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 10,000 | 115 | 12.5 | 5-15 | 1.3 | 26.4 | 19.3 | 41.0 | CLASSIC 10 | **6E868** | $2733.00 | **$2543.00** | 175.0 |
| B | 18,000 | 230/208 | 10.0 | 6-15 | 2.1 | 26.4 | 19.3 | 41.0 | CLASSIC 18 | **5E352** | 4200.77 | **3785.00** | 200.0 |
| C | 26,000 | 230/208 | 12.8 | L6-20 | 2.8 | 19.3 | 28.7 | 46.0 | 24HFU-1 | **5E353** | 4959.03 | **4465.00** | 286.0 |
| D | 39,000 | 220 (3-PH) | 14.0 | L15-30 | 4.7 | 43.3 | 25.6 | 38.8 | CLASSIC 40 | **5E354** | 6718.95 | **6055.00** | 440.0 |
| E | 60,000 | 460 (3-PH) | 10.5 | N/A | 7.2 | 49.2 | 31.5 | 42.3 | CLASSIC 60 | **3TZ38** | 11177.95 | **9765.00** | 549.0 |
| F | 12,000 | 115 | 15.0 | N/A | 1.1 | 27.0 | 19.0 | 45.0 | OFFICE PRO 12 | ***New*4TM52** | 5719.84 | **3751.00** | 165.0 |
| G | 13,500 | 115 | 15.0 | N/A | 1.2 | 26.0 | 19.0 | 41.0 | CLASSIC PLUS 14 | ***New*4TM51** | 5202.34 | **3412.00** | 165.0 |

# PORTABLE AIR CONDITIONER ACCESSORIES




## ACCESSORIES FOR A, B, C, F & G

All units are easily field customized with a variety of accessories. 10-Ft. extension duct increases standard cold air ducts and reaches directly to remote areas that need cooling. (Extension duct flange is sold seperately.) A trim ring prevents the extension duct from unraveling and improves appearance. Dual duct converts cold air into two directions for more even distribution.

Warm exhaust air can be vented into auxiliary space or outdoors and away from cooled area by installing a 12" flange and clamp and one or more 12" x 10 ft. ducts. Air plenum kits are used to feed outside air to condenser, preventing negative air pressure in enclosed areas. (12" x 10 ft. duct attaches to top of air plenum kit and is sold seperately.)

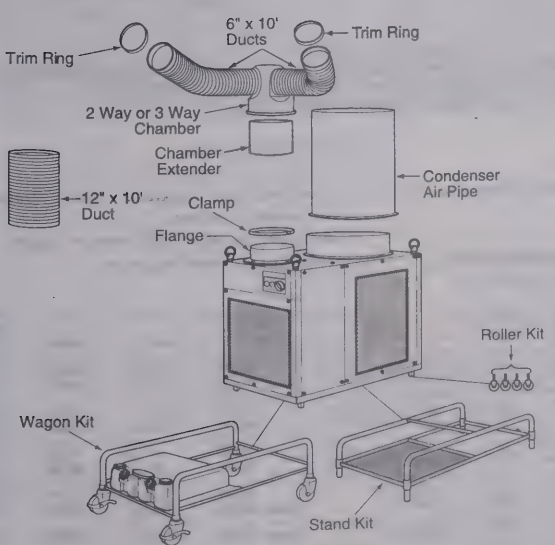
A condensate pump kit (not shown) can be direct wired to unit, allowing condensation to be pumped to a remote drain.

### ACCESSORY ORDERING DATA

| Description | Use with A/C Units: (Stock No.) | MovinCool Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Extension Duct Flange 5"** | 6E868, 3E352, 4TM51 | 481170-0180 | **5E356** | $49.31 | **$44.45** | 1.4 |
| **Extension Duct Flange 6"** | 5E353 | 481170-0250 | **5E357** | 63.70 | **57.40** | 1.9 |
| **10 ft. Extension Duct 5"** | 6E868, 5E352, 4TM51 | 481744-0090 | **5E358** | 98.38 | **88.60** | 6.0 |
| **10 ft. Extension Duct 6"** | 5E353 | 481744-0030 | **5E359** | 106.99 | **96.35** | 7.2 |
| **Trim Ring 5"** | 6E868, 5E352, 4TM51 | 481851-0200 | **5E360** | 6.05 | **5.45** | 0.3 |
| **Trim Ring 6"** | 5E353 | 481851-0210 | **5E361** | 7.50 | **6.75** | 0.3 |
| **Dual Duct kit 5"** | 6E868, 5E352, 4TM51 | 481209-0030 | **5E362** | 78.11 | **70.35** | 4.3 |
| **12" Flange / Clamp** | 6E868, 5E352 5E353, 4TM51, 4TM52 | 481170-0190 | **5E363** | 81.07 | **73.00** | 3.9 |
| **12" x 10 ft. Duct** | 6E868, 5E352 5E353, 4TM51, 4TM52 | 481744-0060 | **5E364** | 138.81 | **125.00** | 8.0 |
| **Air Plenum Kit** | 6E868, 5E352, 4TM51 | LA-146499-1400 | **5E365** | 433.95 | **390.75** | 34.0 |
| **Air Plenum Kit** | 5E353 | LA-146499-1500 | **5E366** | 442.01 | **398.00** | 35.0 |
| **Condensate Pump Kit (230V)** | 5E352, 5E353 | CPK1 | **5E367** | 156.29 | **140.70** | 7.7 |
| **Condensate Pump Kit (115V)** | 6E868, 4TM51, 4TM52 | CPK2 | **3TZ39** | 150.61 | **140.40** | 7.4 |

MOVINCOOL

New




## ACCESSORIES FOR D & E

Rugged accessories enable unit to perform a variety of industrial applications. Cold air can be moved to desired area using a 2-way or 3-way chamber which diverts into many directions by using 6" x 10 ft. ducts. Chamber extender, with 10" flange and clamp, raises chamber an additional 16" to improve air throw. Trim rings improve appearance and keep ducts from unraveling. Can also use a 12" flange and clamp and 12" x 10 ft. duct as a cold air feed to remote, multi-duct outlets. Condenser air pipe directs warm exhaust 3 feet above and away from cooled area. Unit can be mounted permanently off of ground on stand kits (without condensate tanks) or made portable with roller kit (set of 4 casters w/wrench). A wagon kit allows for portable, self-contained operation with two 5.3 gallon condensate tanks. A remote control kit (not shown) can be field installed where placement of unit makes controls manually inaccessible. No. 5E374 not for use with No. 3TZ38.

### ACCESSORY ORDERING DATA

| Description | MovinCool Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **10" Flange / Clamp** | 481170-0210 | **5E368** | $78.09 | **$70.35** | 5.0 |
| **12" Flange / Clamp** | 481170-0190 | **5E363** | 81.07 | **73.00** | 3.9 |
| **12 to 10" Flange / Reducer** | 481170-0150 | **3VG77** | 224.00 | **133.80** | 3.5 |
| **2 - Way Chamber*** | 481769-0041 | **5E369** | 115.83 | **104.30** | 4.7 |
| **3 - Way Chamber*** | 481769-0051 | **5E370** | 130.28 | **117.30** | 5.4 |
| **Chamber Extender** | 481849-1430 | **5E371** | 37.01 | **33.95** | 5.0 |
| **6" x 10 ft. Duct** | 481744-0030 | **5E359** | 106.99 | **96.35** | 7.2 |
| **12" x 10 ft. Duct** | 481744-0060 | **5E364** | 138.81 | **125.00** | 8.0 |
| **Casters** | 484709-0020 | New **4TM50** ‡ | 175.81 | **119.20** | 5.0 |
| **Roller Kit†** | 484709-0010 | **5E372** | 181.95 | **164.00** | 19.0 |
| **Stand Kit†** | 484750-0020 | **5E373** | 427.86 | **385.25** | 35.0 |
| **Wagon Kit†** | 484710-0020 | **5E374** | 462.17 | **416.25** | 46.0 |
| **Condenser Pipe** | 480680-0050 | **5E376** | 126.53 | **120.20** | 31.0 |
| **Remote Control Kit** | 484500-0430 | **5E375** | 229.29 | **206.75** | 1.1 |

(*) No. 3VG77 flange reducer must be used on these chambers on No. 3TZ38 Spot Cooler.
(†) For No. 5E354 only. (‡) For use with 4TM51 & 4TM52 on page 3460

# REFRIGERATORS AND COMBINATION UNITS

- Field reversible door hinges for left or right hand opening
- Can be freestanding or built-in under counter. No clearance required
- Door accepts 1/4" thick custom made panel to match decor
- Adjustable temperatures control
- 5 ft. power cord with 3-pronged polarized plug
- Commercial units include door lock (right hand hinged, non-reversible)
- Made in USA, 115V, 60Hz

## A REFRIGERATOR

- 6.0 cu.-ft. capacity
- 3 adjustable, tempered glass shelves
- Automatic defrost
- In-door storage and interior light
- Adjustable leveling legs

## B ICE MAKER/REFRIGERATOR

- No drain needed, 1½" clearance for water-line connection on back of unit
- No. 4E833 is manual defrost and produces up to 22 lbs. of ice a day
- No. 4CZ81 is Frost-free and produces up to 8 lbs. of ice a day
- 13 lbs. storage with removable ice bucket
- 4 adjustable, tempered glass shelves
- 4.2 cu.-ft. refrigerator
- In-door storage and interior light
- Adjustable leveling legs

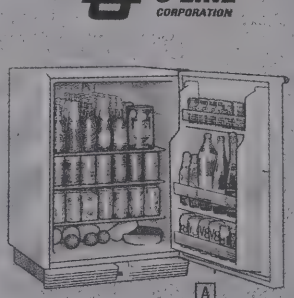
## C ICE MAKER/REFRIGERATOR

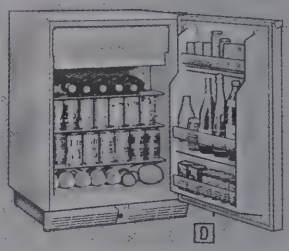
- No drain needed, 1½" clearance for water-line connection on back of unit
- No. 4E834 is manual defrost and produces up to 22 lbs. of ice a day
- No. 4CZ80 is FROST-FREE and produces up to 8 lbs. of ice a day
- 13 lbs. storage with removable ice bucket
- 2 adjustable, tempered glass shelves
- 2.1 cu.-ft. refrigerator
- In-door storage

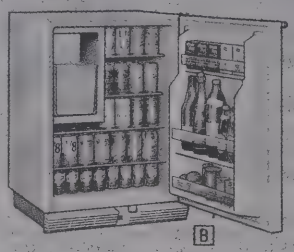
## D REFRIGERATOR/FREEZER

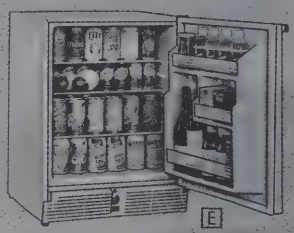
- Combines 5.0 cu.-ft. refrigerator with 1.0 cu.-ft. freezer. 2 full size ice trays included
- 3 adjustable, tempered glass shelves
- Frost-free
- In-door storage and interior light
- Adjustable leveling legs

U-LINE® CORPORATION


A

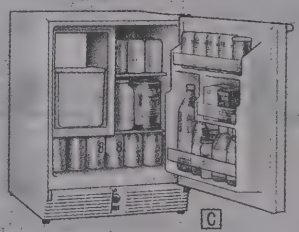

D


B


E

c UL

UL SA5573


C


F

U-LINE LIMITED WARRANTY
U-LINE CORPORATION WARRANTS ALL PARTS AND LABOR FOR 1 YEAR, WITH ADDITIONAL 4 YEAR ON COMPRESSOR. TEXTOF WARRANTY AVAILABLE ON REQUEST. SEE "MANUFACTURERS WARRANTIES" ON PAGE OPPOSITE INSIDE BACK PAGE.

## E REFRIGERATOR

- 3.5 cu.-ft. capacity
- 3 adjustable, tempered glass shelves
- Automatic defrost
- In-door storage
- Meets ADA height requirements

## F REFRIGERATOR

- 3.5 cu.-ft. capacity
- 4 adjustable, tempered glass shelves
- Automatic defrost
- In-door storage and interior light
- Adjustable leveling legs

| Key | Color | Type | Amps | Cu.-ft. Refrig. | Dimensions, (In.) H | W | D | Door Panel, (In.) H | W | U-Line Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | White | Refrig. | 2.4 | 6.0 | 34⅛ | 23⅞ | 23⅞ | 28⅝ | 22⅝ | 75R-White | 4CZ78 | $741.36 | **$654.00** | 116.0 |
| A | White | Refrig.* | 2.4 | 6.0 | 34⅛ | 23⅞ | 23⅞ | 28⅝ | 22⅝ | 75R-White | **New** 4TP37 | 1242.77 | **994.50** | 116.0 |
| B | White | Ice Maker/Refrig. | 2.5 | 4.2 | 34⅛ | 23⅞ | 24 | 28⅝ | 22⅝ | Combo 75A-White | 4E833 | 1005.58 | **930.00** | 121.0 |
| B | White | Ice Maker/Refrig. | 2.5 | 4.2 | 34⅛ | 23⅞ | 24 | 28⅝ | 22⅝ | Combo 75FF-White | 4CZ81 | 1165.48 | **1029.00** | 126.0 |
| C | White | Ice Maker/Refrig. | 2.5 | 2.1 | 28½ | 20⅛ | 24 | 21⅝ | 19⅛ | Combo 29A-White | 4E834 | 831.65 | **746.00** | 96.0 |
| C | White | Ice Maker/Refrig. | 2.5 | 2.1 | 28½ | 20⅛ | 24 | 21⅝ | 19⅛ | Combo 29FF-White | 4CZ80 | 985.73 | **852.00** | 101.0 |
| D | White | Refrig./Freezer | 2.4 | 5.0 | 34⅛ | 23⅞ | 23⅞ | 28⅝ | 22⅝ | 75RF-White | 4CZ77 | 876.94 | **774.00** | 120.0 |
| D | White | Refrig./Freezer* | 2.4 | 5.0 | 34⅛ | 23⅞ | 23⅞ | 28⅝ | 22⅝ | 75RF-White | **New** 4TP38 | 1456.32 | **1166.00** | 120.0 |
| E | White | Refrig. | 2.0 | 3.5 | 28½ | 20⅛ | 23 | 21⅝ | 19⅜ | 29R-White | **New** 4TP36 | 1036.51 | **829.50** | 92.0 |
| F | White | Refrig. | 2.4 | 3.5 | 34 | 14⅝ | 23⅛ | 28⅝ | 13⅝ | 15R-White | **New** 4TP35 | 1072.70 | **858.50** | 87.0 |

(*) Commercial - Heavy duty cord and plug.

# ICE MAKERS

**ODELS SHOWN FEATURE:**

- **Field reversible door hinges for left or right hand opening**
- **Can be freestanding or built-in under counter. No clearance required**
- **Door accepts 1/4" thick custom made panel to match decor**
- **White textured vinyl finish**
- **Adjustable temperature control**
- **115V, 60Hz**
- **5 ft. power cord with 3-prong grounded plug**
- **UL and C-UL Listed (SA5573)**
- **Made in USA**

stallation of all ice making nits requires a cold water inlet 1/4" OD copper tubing, shut-f valve.

he CLR-60 does require a ain. A gravity drain can be sed where the pitch is at least 4" per foot of run to the drain. the drain is above that level ie installation of the P60 rain Pump is needed.

**LINE LIMITED WARRANTY**
**Line Corporation warrants all parts and labor for 1 year, th the additional 4 years on compressor. Text of warranty ailable on request. See. "Manufacturer's Warranties" on ge opposite inside back cover.**

**A ICE MAKER**

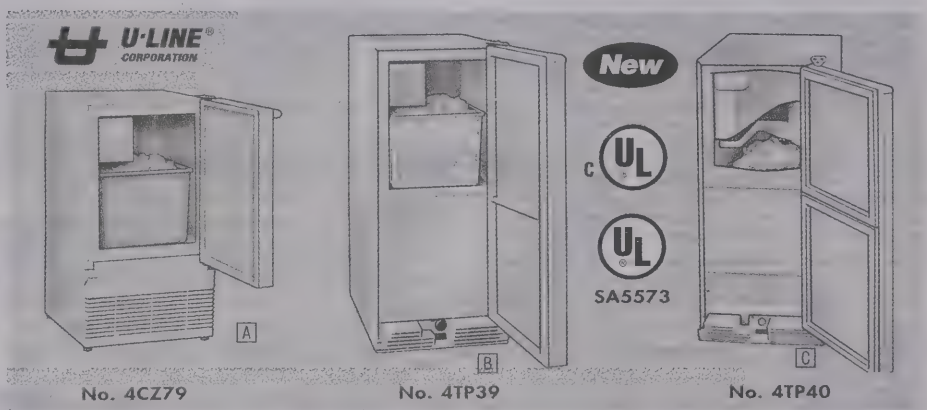
- **NO DRAIN needed**
- **Easy to install. Only requires a 1/4" water line connection**
- **Manual defrost**
- **Removable ice bucket**
- **High daily ice production and conserves on water**

**B ICE MAKER**

- **NO DRAIN needed**
- **Easy to install. Only requires a 1/4" water line connection**
- **Manual defrost**
- **Adjustable leveling legs**
- **High daily ice production and conserves on water**

**C CLEAR ICE MAKER**

- **Automatic electronic control module ensures maximum daily ice production**
- **FROST-FREE**
- **Durable ice scoop**
- **Adjustable leveling legs**
- **Easy self-cleaning process**




No. 4CZ79 No. 4TP39 No. 4TP40

## P60 DRAIN PUMP

- **Fully submersible and permanently sealed, lubricated and maintenance free.**
- **Sealed pump deters water overflow in the event of a power failure or restriction in the water line and is fully integrated with the automatic shut-off feature**

***New!*** **No. 4TP41.** Shpg. wt. 6.5 lbs. List $354.18. Each ..... **$283.50**

| Key | Color | Type | Amps | Ice Prod. Per Day | Ice Storage | Dimensions (In.) H | W | D | Door Panel, (In.) H | W | U-Line Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | White | Ice Maker | 2.5 | 25 lbs. | 25 lbs. | 27⅞ | 14⅛ | 20 | 15⅞ | 13⅝ | BI-98-White | **4CZ79** | $807.35 | **$713.00** | 79.0 |
| B | White | Ice Maker | 2.5 | 25 lbs. | 25 lbs. | 34 | 14⅛ | 23¾ | 28⅞ | 13⅛ | BI-15-White | **4TP39** | 1374.79 | **1100.00** | 95.0 |
| C | White | Ice Maker | 4.0 | 60 lbs. | 35 lbs. | 34 | 14⅛ | 24 | 28⅞ | 13⅝ | CLR60-White | **4TP40** | 1757.14 | **1406.00** | 104.0 |

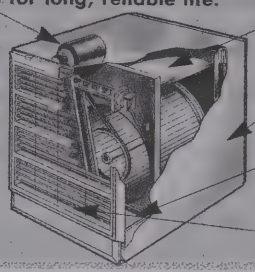
## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

# EVAPORATIVE COOLING SYSTEMS

ESSICK AIR the cool one

**RUGGED BLOWER MOTOR.** Moisture-protected, energy efficient motor designed for long, reliable life.



**BLOWER HOUSING.** Welded to cooler for unitized construction; provides smooth, quiet operation.

**LOW SILHOUETTE CABINET.** Easily converts from down to side discharge.

**NONRUSTING PVC PLASTIC RESERVOIR.**

**ROTO-BELT® SYSTEM REPLACES PUMP.** Pump and water distribution tube problems are eliminated.

**ROTO-BELT® PAD.** Durable, constant density polyester pad keeps its shape and thickness for superior water evaporation and air filtration.

**NONRUSTING PVC AIR LOUVERS.**

**Roto-Belt® evaporative coolers** are designed for long lasting service. All water contact parts such as water reservoirs, louvers, and louver frames are constructed of "rustfree" PVC plastic. Evaporative cooling is used where mechanical air conditioning is too expensive to use or where cooled air cannot be recirculated as in factories, dry cleaners, laundries, and restaurant kitchens. Also used in homes, apartments, garages, shops and green houses. Approximately 80% more economical than air conditioning.

**Units replace all existing evaporative cooling systems.** Roto-Belt evaporative coolers are used in place of aspen-type coolers where rust and corrosion of such products are undesirable.

**Motor-driven blower draws hot outside air** through "twin" rotating polyester filters in PVC plastic frames which turn through two PVC plastic water reservoirs that cannot rust. Cooler can be converted to down discharge or side discharge in minutes. (Switch and grille not included.) 1/4" copper line feed and garden hose drain connection.

**Evaporative cooling in residential use is restricted** to states where relative humidity is not over 50%. It is however, used in practically every state in commercial applications, industrial uses and make-up air in restaurant kitchens. Galvanized steel housing with neutral sand color baked enamel finish. UL Listed. Essick brand.

| Sizing Airflow Rating | Wind Tunnel CFM | Dimensions (In.) H | W | D | Motor Data (110 -120V, 60Hz) Speeds | HP | Volts | Amp-acity | Air Output Opening (In.) | | Essick Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3300** | 2000 | 25¼ | 29¼ | 25¼ | 2 | 1/3 | 115 | 6.4 | 13¾H | 13¾W | ECR3300 | **3C466** | $816.71 | **$537.00** | 107.0 |
| **4000** | 3000 | 29¾ | 36 | 29¾ | 2 | 1/3 | 115 | 6.4 | 17¾ | 17¾ | ECR4000 | **3C467** | 955.25 | **628.50** | 141.0 |
| **4500** | 3600 | 29¾ | 36 | 29¾ | 2 | 1/2 | 115 | 8.2 | 17¾ | 17¾ | ECR4500 | **3EC18** | 978.04 | **643.50** | 150.0 |
| **5200** | 4000 | 33¾ | 37½ | 33¾ | 2 | 1/2 | 115 | 8.2 | 19¾ | 19¾ | ECR5200 | **3C468** | 1224.87 | **806.00** | 185.0 |
| **6600** | 5000 | 36¾ | 42¾ | 36¾ | 2 | 3/4 | 115 | 10.9 | 19¾ | 19¾ | ECR6600 | **3C469** | 1335.62 | **879.00** | 236.0 |
| **7200** | 5600 | 36¾ | 42¾ | 36¾ | 2 | 1 | 115 | 13.2 | 19¾ | 19¾ | ECR7200 | **3EC19** | 1419.87 | **934.50** | 234.0 |

(✓) Denotes energy efficient product.

## REPLACEMENT PADS

| Fits Stock No. | Dimensions (In.) L | W | Pad Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **3C466** | 22⅛ | 19 | **4C694** | $20.52 | **$14.56** | 0.6 |
| **3C467, 3EC18** | 27⅛ | 24 | **4C695** | 23.65 | **16.67** | 1.0 |
| **3C468** | 31⅛ | 28 | **4C696** | 26.87 | **18.84** | 1.4 |
| **3C469,3EC19** | 34⅛ | 31 | **4C697** | 29.64 | **20.73** | 1.7 |

## SPECIAL ORDER OPTIONS

**The following options are available on special order:** bleed-off kit, 7-position switch, ceiling grille kit, roof mounting kit for sloping roofs. For flat roofs, refer to roof curbs on page 3563.

Replacement Parts Available 1-800-323-0620

**TELL US WHAT YOU NEED. WE'LL DO OUR BEST TO HELP YOU!**

## FIVE-POSITION SWITCH

Switch controls cooling and ventilating functions. Max. 15 amps. UL Listed. Essick brand(ECR-5).

| Switch Position | Blower Speed | Pad Operation |
|---|---|---|
| Off | Off | Off |
| Cool-Hi | Hi | Off |
| Cool-Lo | Lo | Off |
| Vent-Hi | Hi | Off |
| Vent-Lo | Lo | Off |

**No. 1A143.** Shpg. wt. 0.5 lbs. List $27.63. Each **$19.68**

## MOBILE HOME GRILLE KIT

Includes grille assembly and 6-position switch for mobile home installations. Essick brand (ERC MH).

**No. 4C693.** Shpg. wt. 10.0 lbs. List $157.43. Each ..... **$101.95**

# PORTABLE EVAPORATIVE COOLER

ESSICK AIR the cool one

ENERGY RIGHT®



- **Powerful 1/15 HP motor and separate water pump**
- **Three speed control for maximum cooling or ventilation**
- **Filters and cools the air at the same time**
- **Economical—approx. 2¢ per hour to operate**

**Designed for use as "spot cooling"** or small area cooling. Used in workshops, garages, homes, green houses, and a multitude of uses where portable, small area cooling is desired.

**Unit produces 415 actual CFM** of air cooling, with 1/15 HP motor and a separate water pump which pumps water from a plastic, nonrusting 3¼ gallon reservoir. Hot dry air is drawn in through a large 400 sq.-in. double thick filter which cools the air. Not recommended for use in high humidity climates.

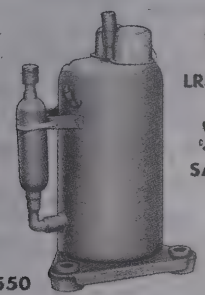
**Overall Dimensions:** 23¼H x 22W x 11¾"D. UL Listed. Essick brand (BFC-2000). 115 volts, 3.3 amps.

**✓No. 3EC17.** Shpg. wt. 31.0 lbs. List $216.38. Each ..... **$133.25**

(✓) Denotes energy efficient product

# ROTARY COMPRESSORS FOR R-22

**MATSUSHITA**



No. 4Z550

LR46130

SA4615

- Universal replacement
- Compact and hermetically sealed
- High efficiency with low sound level
- Dehydrated, completely oil charged
- Suction accumulators on all models
- 115, 208/230 and 265 volt
- UL Recognized (SA4615)

For replacement use in air conditioning and small systems using Refrigerant-22.

**Compact size** results in approximately 1/3 less weight than piston type compressors. Can be used in very tight installations.

**Units feature** very high efficiencies for energy saving applications. Pressure lubricated bearings. Designed for ±15% voltage variation from nominal.

**Conventional suction and discharge connections.** All units test run after assembly. Installation instructions, motor protector and mounting parts included. All units are CSA Certified (LR46130). Matsushita brand.

**HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES IN REAR OF CATALOG**

## COMPRESSOR SPECIFICATIONS DATA

| Stock No. | ASI Model | Run Amps BtuH Rating | Voltage 1 Phase | Run Capacitor MF / Volt | Functional Replacement For Tecumseh Model† |
|---|---|---|---|---|---|
| 4Z550 | ACH25X1U | 4.8 | 115 | 35/230 | — |
| 6D637 | ACH27X1U | 5.7 | 115 | 35/250 | — |
| 6D638 | ACH27X2U | 2.7 | 208/230 | 15/370 | — |
| 6D639 | ACH27X3U | 2.4 | 265/277 | 15/400 | — |
| 4Z551 | ACH28X1U | 6.9 | 115 | 35/250 | RK5480E |
| 6D640 | ACH28X2U | 3.6 | 208/230 | 15/370 | RK5480E |
| 6D641 | ACH29X1U | 7.5 | 115 | 40/250 | RK5490E |
| 6D642 | ACH29X2U | 3.8 | 208/230 | 30/300 | RK5490E |
| 6Z378 | ACH29X3U | 3.4 | 265/277 | 25/370 | RK5490E |
| 6D643 | ACH2121U | 9.3 | 115 | 45/250 | RK5512E |
| 6D644 | ACH2122U | 4.6 | 208/230 | 30/330 | RK5512E |
| 6D645 | ACH2123U | 4.1 | 265/277 | 25/400 | RK5512E |
| 4Z554 | ACH2131U | 10.6 | 115 | 45/260 | RK5513E |
| 4Z555 | ACH2132U | 5.2 | 208/230 | 30/370 | RK5513E |
| 6Z379 | ACH2133U | 4.6 | 265/277 | 30/400 | RK5513E |
| 4Z572 | ACH2152U | 6.2 | 208/230 | 40/370 | RK5515E |
| 6Z380 | ACH2153U | 5.4 | 265/277 | 35/440 | — |
| 4Z885 | ACH2182U | 7.6 | 208/230 | 35/370 | RK5518E |
| 6D646 | ACH2183U | 6.6 | 265/277 | 35/400 | RK5518E |
| 6Z381 | ACH2202U | 8.4 | 208/230 | 45/370 | — |
| 6D647 | ACH2232U | 9.6 | 208/230 | 45/370 | — |
| 6Z382 | ACH2252U | 10.6 | 208/230 | 50/370 | — |
| 6D648 | ACH2302U | 11.9 | 208/230 | 50/370 | — |

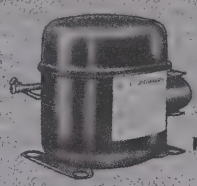
## COMPRESSOR ORDERING DATA

| Nominal HP | BtuH* | Line Connections, (In.) Discharge I.D. | Line Connections, (In.) Suction I.D. | Base Mounting Triangle, (In.) | Dimensions, (In.) H | W | L | Matsushita Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2** | 5595 | 1/4 | 3/8 | 5 1/8 | 10 19/32 | 4 21/64 | 6 19/64 | 2R8S3R126A | **4Z550** | $431.07 | **$289.25** | 21.0 |
| **5/8** | 6670 | 1/4 | 3/8 | 5 1/8 | 10 25/32 | 4 21/64 | 6 9/16 | 2R10S3R126A | **6D637** | 432.91 | **288.75** | 22.0 |
| **5/8** | 6625 | 1/4 | 3/8 | 5 1/8 | 10 25/32 | 4 21/64 | 6 9/16 | 2R10S3R236A | **6D638** | 432.91 | **288.75** | 22.0 |
| **5/8** | 6625 | 1/4 | 3/8 | 5 1/8 | 10 25/32 | 4 21/64 | 6 9/16 | 2R10S3R276A | **6D639** | 437.21 | **291.75** | 22.0 |
| **3/4** | 7955 | 1/4 | 3/8 | 5 1/8 | 10 61/64 | 4 21/64 | 6 9/16 | 2R12S3R126A | **4Z551** | 399.49 | **261.00** | 22.0 |
| **3/4** | 8550 | 1/4 | 3/8 | 5 1/8 | 10 63/64 | 4 21/64 | 6 45/64 | 2R13S3R236A | **6D640** | 444.69 | **290.75** | 22.0 |
| **7/8** | 9165 | 5/16 | 3/8 | 6 | 12 9/16 | 4 21/32 | 7 1/16 | 2P14S3R126B | **6D641** | 440.80 | **294.50** | 30.0 |
| **7/8** | 9165 | 5/16 | 3/8 | 6 | 12 5/16 | 4 21/32 | 7 1/16 | 2P14S3R236A | **6D642** | 439.77 | **294.75** | 30.0 |
| **7/8** | 9165 | 5/16 | 3/8 | 6 | 12 5/16 | 4 21/32 | 7 1/16 | 2P14S3R276A | **6Z378** | 442.12 | **296.25** | 30.0 |
| **1** | 11350 | 5/16 | 1/2 | 6 | 12 5/16 | 4 21/32 | 8 | 2P17S3R126B | **6D643** | 449.05 | **299.50** | 31.0 |
| **1** | 11350 | 5/16 | 1/2 | 6 | 12 5/16 | 4 21/32 | 8 | 2P17S3R236A | **6D644** | 451.79 | **302.50** | 32.0 |
| **1** | 11350 | 5/16 | 1/2 | 6 | 12 5/16 | 4 21/32 | 8 | 2P17S3R276A | **6D645** | 454.76 | **304.50** | 32.0 |
| **1 1/8** | 12700 | 5/16 | 1/2 | 6 | 12 29/32 | 4 21/32 | 8 | 2P19S3R126B | **4Z554** | 449.81 | **300.75** | 31.0 |
| **1 1/8** | 12660 | 5/16 | 1/2 | 6 | 12 29/32 | 4 21/32 | 8 | 2P19S3R236A | **4Z555** | 454.21 | **303.50** | 32.0 |
| **1 1/8** | 12640 | 5/16 | 1/2 | 6 | 12 29/32 | 4 21/32 | 8 | 2P19S3R276A | **6Z379** | 468.86 | **313.25** | 32.0 |
| **1 3/8** | 15240 | 3/8 | 1/2 | 6 | 12 29/32 | 5 3/64 | 8 49/64 | 2K21S3R276A | **6Z380** | 509.65 | **342.25** | 38.0 |
| **1 3/8** | 15080 | 3/8 | 1/2 | 6 | 12 29/32 | 5 3/64 | 8 49/64 | 2K25S3R236A | **4Z885** | 549.96 | **367.50** | 39.0 |
| **1 5/8** | 18055 | 3/8 | 5/8 | 6 | 12 29/32 | 5 3/64 | 8 49/64 | 2K25S3R276A | **6D646** | 555.41 | **371.00** | 38.0 |
| **1 5/8** | 18055 | 3/8 | 1/2 | 6 | 13 25/64 | 5 3/64 | 8 49/64 | 2K28S3R236A | **6Z381** | 651.40 | **434.50** | 41.0 |
| **1 3/4** | 20315 | 3/8 | 5/8 | 6 | 13 25/64 | 5 3/64 | 8 49/64 | 2K32S3R236A | **6D647** | 669.69 | **446.00** | 41.0 |
| **2** | 22620 | 3/8 | 5/8 | 6 | 13 25/64 | 5 13/64 | 8 49/64 | 2K34S3R236A | **6Z382** | 687.76 | **458.25** | 41.0 |
| **2 1/8** | 24880 | 3/8 | 5/8 | 6 | 13 25/64 | 5 13/64 | 9 17/64 | 2J39C3R236B | **6D648** | 829.71 | **554.00** | 58.0 |
| **2 1/2** | 29400 | 3/8 | 5/8 | 7 | 14 41/64 | 6 15/64 | 9 17/64 | | | | | |

*) Rated at 45°F evaporator, 130°F condenser, 96°F return, 115°F liquid, 95°F ambient (†) See Cross-Reference information on page opposite inside back cover.

# REFRIGERATION COMPRESSORS

**COPELAND 1-YEAR LIMITED WARRANTY**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



Copeland
New
R-12 High Temp

- **Dehydrated, completely oil charged**
- **Quiet; internal suspension system eliminates vibration**
- **Compact, lightweight construction**
- **All copper tubing**

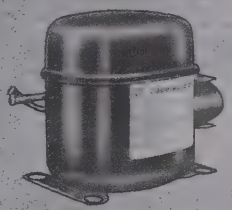
Compressors replace other leading manufacturers' models Commonly used in small refrigerators, freezers, salad bars, flora displays, water coolers, ice machines, and beverage vendin machines. All compressors include mounting parts, termina cover, relay, protector, and bale strap. (Start capacitor is includ ed for compressors where "IAA" is shown in the Copeland mode number).. Copeland brand.

| Stock No. | Run Amps | Voltage 1 Phase, 60 Hz | Motor Type | Start Capacitor MFD / Volts | Start Torque | Cooling Type | Functional Replacement* Copeland | Tecumseh | Aspera |
|---|---|---|---|---|---|---|---|---|---|
| **R-12 LOW TEMPERATURE COMPRESSORS** | | | | | | | | | |
| 4E539 | 1.6 | 115 | Split Phase | — | Low | Static/Fan | AFC1-0013-SAA | AE1336A | A1085A |
| 4E540 | 2.0 | 115 | Split Phase | — | Low | Static/Fan | AFD1-0017-SAA | AE1343A | A1111A |
| 4E541 | 2.4 | 115 | Split Phase | — | Low | Static | AFE1-0023-SAA | AE1360A | A1116A |
| 4E542 | 2.8 | 115 | Split Phase | — | Low | Static | AFF1-0025-SAA | AE1380A | A1118A |
| 4E543 | 3.6 | 115 | Start Capacitor | 4X060 | High | Fan/Oil | AFG2-0026-IAA | AE2410A | E4121A |
| 4E544 | 3.6 | 115 | Split Phase | — | Low | Fan/Oil | AFG2-0026-SAA | AE1410A | E3121A |
| 4E545 | 4.0 | 115 | Start Capacitor | 189-227/165 | High | Fan/Oil | AFH2-0033-IAA | AE2413A | E4130A |
| 4E546 | 4.0 | 115 | Split Phase | — | Low | Fan/Oil | AFH2-0033-SAA | AE1413A | E3130A |
| 4E547 | 4.9 | 115 | Start Capacitor | 4X658 | High | Fan | AFK1-0034-IAA | AE2415A | T2134A |
| 4E561 | 7.2 | 115 | Start Capacitor | 4X659 | High | Fan | AFJ1-0053-IAA | AE2425A | E2152A |
| **R-134A LOW TEMPERATURE COMPRESSORS** | | | | | | | | | |
| 4VM82 | 2.8 | 115 | Start Capacitor | 189-277/165 | High | Fan | AF05C1E-IAA | — | B2116Z |
| 4VM83 | 3.9 | 115 | Start Capacitor | 145-175/165 | High | Fan | AF09C1E-IAA | — | E2121Z |
| 4VM84 | 4.8 | 115 | Start Capacitor | 189-277/165 | High | Fan | AF10C2E-IAA | — | E2130Z |
| **R-502 LOW TEMPERATURE COMPRESSORS** | | | | | | | | | |
| 4E551 | 5.3 | 115 | Start Capacitor | 4X060 | High | Fan | ARF2-0025-IAA | AE4430A | E6170B |
| 4E553 | 7.3 | 115 | Start Capacitor | 4X060 | High | Fan | ARG2-0033-IAA | AE4440A | E6187B |
| **R-404A LOW TEMPERATURE COMPRESSORS** | | | | | | | | | |
| 4VM94 | 5.58 | 115 | Start Capacitor | 145-175/165 | High | Fan | AS10C1E-IAA | AEA2411ZXA | E2125GK |
| 4VM96 | 6.38 | 115 | Start Capacitor | 189-227/165 | High | Fan | AS13C1E-IAA | — | E2134GK |
| **R-22 MEDIUM / HIGH TEMPERATURE COMPRESSORS** | | | | | | | | | |
| 4VM91 | 4.4 | 115 | Start Capacitor | 145-175/165 | Low | Fan | ARD4-0022-IAA | — | B6152E |
| 4VM92 | 8.0 | 115 | Start Capacitor | 72-88/220 | High | Fan | ARG4-0051-PAA | — | E9213E |
| 4VM93 | 4.0 | 208-230 | Start Capacitor | 72-88/330 | High | Fan | ARG4-0051-PAV | — | E9213E |
| 4E562 | 5.5 | 115 | Start Capacitor | 4X060 | Med | Fan | ARE4-0025-IAA | — | E6195E |
| 4E563 | 5.9 | 115 | Start Capacitor | 4X060 | Med | Fan | ARF4-0033-IAA | — | E6210F |
| **R-12 HIGH TEMPERATURE COMPRESSORS** | | | | | | | | | |
| 4E548 | 2.8 | 115 | Split Phase | — | Low | Fan | ARC1-0017-SAA | AE3414A | A5312A |
| 4E549 | 3.4 | 115 | Split Phase | — | Low | Fan | ARD1-0020-SAA | AE3417A | A5144A |
| 4E550 | 4.4 | 115 | Split Phase | — | Low | Fan | ARE1-0023-SAA | AE3425A | A5160B |
| 4E552 | 5.0 | 115 | Split Phase | — | Low | Fan | ARF2-0025-SAA | AE3430A | E5170B |
| 4E551 | 5.3 | 115 | Start Capacitor | 4X060 | High | Fan | ARF2-0025-IAA | AE4430A | E6170B |
| 4E560 | 7.3 | 115 | Start Capacitor | 4X060 | High | Fan | ARG2-0033-IAA | AE4440A | E6187B |
| 4E554 | 7.2 | 115 | Split Phase | — | Low | Fan | ARG2-0033-SAA | AE3440A | E5187B |
| 4E555 | 9.3 | 115 | Start Capacitor | 189-227/165 | High | Fan | ARH1-0049-IAA | AJ4461A | T6213A |
| 4E556 | 10.6 | 115 | Start Capacitor | 189-227/165 | High | Fan | ARK1-0050-IAA | AJ4461A | T5215A |
| 4E557 | 14.5 | 115 | Start Capacitor | 4X067 | High | Fan | ARM1-0075-IAA | AJ4492A | J6220A |
| 4E558 | 7.2 | 208/230 | Start Capacitor# | 5X568 | High | Fan | ARM1-0075-IAV | AJ4492A | JJ6220A |
| 4E559 | 7.3 | 208/230 | Start/Run Capacitor# | 5X567 | High | Fan | ARN1-0100-CAV | AJJ4512A | AJ6226A |
| **R-134A HIGH/MEDIUM TEMPERATURE COMPRESSORS** | | | | | | | | | |
| 4VM85 | 2.8 | 115 | Split Phase | — | Low | Static | AR13C1E-SAA | AEA3414AXA | B6132Z |
| 4VM86 | 3.5 | 115 | Split Phase | — | Low | Fan | AR17C1E-SAA | AEA3417YXA | B5144Z |
| 4VM87 | 4.4 | 115 | Split Phase | — | Low | Fan | AR25C1E-SAA | AEA3425YXA | B5160Z |
| 4VM88 | 5 | 115 | Start Capacitor | 145-175/165 | Low | Fan | AR27C1E-IAA | AEA4430YXA | B6170Z |
| 4VM89 | 7.2 | 115 | Start Capacitor | 145-175/110 | Low | Fan | AR37C1E-IAA | AEA4440YXA | E6182Z |
| 4VM90 | 9.3 | 115 | Start Capacitor | 189-227/165 | High | Fan | AR51C1E-IAA | AKA4460YXA | T6213Z |
| **R-404A MEDIUM TEMPERATURE COMPRESSORS** | | | | | | | | | |
| 4VM95 | 5.15 | 115 | Start Capacitor | 145-175/165 | High | Fan | AS12C1E-IAA | — | B6152GK |
| 4VM97 | 7.5 | 115 | Start Capacitor | 145-175/165 | High | Fan | AS19C1E-IAA | — | B6181GK |
| 4VM98 | 7.4 | 115 | Start Capacitor | 145-175/165 | High | Fan | AS24C1E-IAA | — | E6210GK |
| 4VM99 | 9.2 | 115 | Start Capacitor | 72-86/330 | High | Fan | AS32C1E-PAA | — | E9213GK |

(#) Not included. (*) See Cross-Reference Information on page opposite inside back cover.

**TECHNICAL REFERENCE LITERATURE**
Technical reference literature is available on such subjects as welding, basic electricity, electric motors, and hydraulics and pneumatics
See Index under Books.

# REFRIGERATION COMPRESSORS

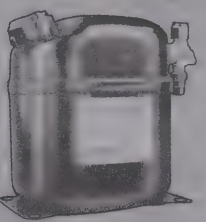


No. 4E551

Copeland

- Dehydrated, completely oil charged

No. 4E559



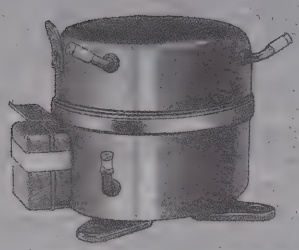
## COMPRESSOR ORDERING DATA

| Nominal HP | BtuH | Line Connections (In.) Discharge I.D. | Suction I.D. | Base Mounting Centers (In.) | Dimensions (In.) H | W | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **R-12 LOW TEMPERATURE COMPRESSORS** | | | | | | | | | | | |
| 1/8 | 405 | 3/16 | 1/4 | 4 x 6½ | 6.80 | 6.10 | 9.6 | 4E539 | $229.00 | $156.50 | 18.0 |
| 1/6 | 508 | 3/16 | 5/16 | 4 x 6½ | 6.80 | 6.10 | 9.6 | 4E540 | 240.00 | 162.50 | 20.0 |
| 1/5 | 720 | 3/16 | 5/16 | 4 x 6½ | 7.50 | 6.10 | 9.6 | 4E541 | 243.00 | 164.50 | 21.0 |
| 1/4 | 800 | 3/16 | 5/16 | 4 x 6½ | 7.80 | 6.10 | 9.6 | 4E542 | 271.00 | 181.00 | 22.0 |
| 1/4 | 1040 | 3/16 | 3/8 FLV† | 4 x 6½ | 8.00 | 6.10 | 9.6 | 4E543 | 294.00 | 194.50 | 24.0 |
| 1/4 | 1040 | 3/16 | 5/16 | 4 x 6½ | 8.00 | 6.10 | 9.6 | 4E544 | 254.00 | 171.75 | 23.0 |
| 1/3 | 1300 | 3/16 | 3/8 FLV† | 4 x 6½ | 8.00 | 6.10 | 9.6 | 4E545 | 301.00 | 197.50 | 24.0 |
| 1/3 | 1300 | 3/16 | 5/16 | 4 x 6½ | 8.00 | 6.10 | 9.6 | 4E546 | 259.00 | 173.75 | 23.0 |
| 1/3 | 1600 | 1/4 | 3/8 FLV† | 4½ x 7 | 8.20 | 6.50 | 9.6 | 4E547 | 340.00 | 222.25 | 30.0 |
| 1/2 | 2380 | 5/16 | 5/8 RFL†† | 4⅜ x 8 | 11.50 | 6.50 | 9.4 | 4E561 | 568.00 | 137.40 | 34.0 |
| **R-134A LOW TEMPERATURE COMPRESSORS** | | | | | | | | | | | |
| 1/5 | 470 | 0.188 | 0.255 | 2¾ X 6¾ | 8.0 | 6.1 | 7.75 | New4VM82 | 267.20 | 160.00 | 25.0 |
| 1/4 | 1048 | 0.255 | 0.318 | 4 X 6½ | 8.0 | 6.1 | 7.75 | New4VM83 | 272.21 | 163.00 | 26.0 |
| 1/3 | 1278 | 0.255 | 0.318 | 4 X 6½ | 8.0 | 6.1 | 7.75 | New4VM84 | 276.38 | 165.50 | 27.0 |
| **R-502 LOW TEMPERATURE COMPRESSORS** | | | | | | | | | | | |
| 1/4 | 1400 | 1/4 | 3/8 FLV† | 4 x 6½ | 8.50 | 6.10 | 9.6 | 4E551 | 276.00 | 185.25 | 24.0 |
| 1/3 | 1850 | 1/4 | 3/8 FLV† | 4 x 6½ | 8.50 | 6.10 | 9.6 | 4E553 ‡ | 275.00 | 183.25 | 24.0 |
| **R-404A LOW TEMPERATURE COMPRESSORS** | | | | | | | | | | | |
| 1/3 | 1354 | 0.255 | 0.318 | 4 X 6½ | 8.0 | 6.1 | 7.75 | New4VM94 | 281.81 | 168.75 | 27.0 |
| 1/2 | 2048 | 0.255 | 0.318 | 4 X 6½ | 8.6 | 6.1 | 7.75 | New4VM96 | 490.98 | 294.00 | 28.0 |
| **R-22 HIGH/MEDIUM TEMPERATURE COMPRESSORS** | | | | | | | | | | | |
| 1/5 | 2640 | 0.255 | 0.318 | 4 X 6½ | 7.5 | 6.1 | 7.75 | New4VM91 | 281.81 | 168.75 | 24.0 |
| 1/2 | 6237 | 0.255 | 0.377 | 4 X 6½ | 8.6 | 6.1 | 7.75 | New4VM92 | 490.98 | 294.00 | 28.0 |
| 1/2 | 6237 | 0.255 | 0.377 | 4 X 6½ | 8.6 | 6.1 | 7.75 | New4VM93 | 496.40 | 297.25 | 28.0 |
| 1/4 | 3350 | 1/4 | 5/16 | 4 x 6½ | 8.00 | 8.00 | 7.7 | 4E562 | 293.00 | 194.50 | 25.0 |
| 1/3 | 4140 | 1/4 | 5/16 | 4 x 6½ | 9.63 | 11.38 | 16.1 | 4E563 | 295.00 | 195.50 | 25.0 |
| **R-12 HIGH TEMPERATURE COMPRESSORS** | | | | | | | | | | | |
| 1/6 | 1530 | 3/16 | 1/4 | 4 x 6½ | 6.80 | 6.10 | 9.6 | 4E548 | 237.00 | 160.50 | 19.0 |
| 1/5 | 1940 | 3/16 | 1/4 | 4 x 6½ | 7.50 | 6.10 | 9.6 | 4E549 | 243.00 | 164.50 | 21.0 |
| 1/5 | 2800 | 1/4 | 5/16 | 4 x 6½ | 7.50 | 6.10 | 9.6 | 4E550 | 248.00 | 167.75 | 21.0 |
| 1/4 | 3100 | 1/4 | 5/16 | 4 x 6½ | 8.00 | 6.10 | 9.6 | 4E552 | 268.00 | 179.00 | 23.0 |
| 1/4 | 3100 | 1/4 | 3/8 FL | 4 x 6½ | 8.00 | 6.10 | 9.6 | 4E551 | 276.00 | 185.25 | 24.0 |
| 1/3 | 4200 | 1/4 | 3/8 FL | 4 x 6½ | 8.00 | 6.10 | 9.6 | 4E560 ## | 282.00 | 186.25 | 24.0 |
| 1/3 | 4200 | 1/4 | 5/16 | 4 x 6½ | 8.00 | 6.10 | 9.6 | 4E554 | 271.00 | 181.00 | 24.0 |
| 1/2 | 5600 | 1/4 | 5/16 | 4½ x 8 | 8.20 | 6.50 | 10.9 | 4E555 | 448.00 | 283.00 | 31.0 |
| 1/2 | 6100 | 1/4 | 3/8 | 4⅜ x 8 | 8.90 | 6.80 | 10.9 | 4E556 | 455.00 | 288.25 | 33.0 |
| 3/4 | 9600 | 5/16 | 5/8 FL | 4⅜ x 8 | 10.90 | 6.60 | 11.3 | 4E557 | 637.00 | 392.00 | 48.0 |
| 3/4 | 9600 | 5/16 | 5/8 FL | 4⅜ x 8 | 10.90 | 6.60 | 11.3 | 4E558 ** | 650.00 | 400.25 | 49.0 |
| 1 | 12,200 | 5/16 | 5/8 FL | 4⅜ x 8 | 10.90 | 6.60 | 11.3 | 4E559 ** | 708.00 | 428.25 | 45.0 |
| **R-134A HIGH TEMPERATURE COMPRESSORS** | | | | | | | | | | | |
| 1/6 | 1568 | 0.195 | 0.225 | 4 X 6½ | 6.8 | 6.1 | 7.75 | New4VM85 | 239.56 | 143.45 | 22.0 |
| 1/5 | 2083 | 0.195 | 0.225 | 4 X 6½ | 7.5 | 6.1 | 7.75 | New4VM86 | 245.57 | 147.05 | 22.0 |
| 1/5 | 2956 | 0.195 | 0.225 | 4 X 6½ | 7.5 | 6.1 | 7.75 | New4VM87 | 251.75 | 150.75 | 20.0 |
| 1/4 | 3206 | 0.255 | 0.318 | 4 X 6½ | 8.0 | 6.1 | 7.75 | New4VM88 | 278.47 | 166.75 | 22.0 |
| 1/3 | 4280 | 0.255 | 0.318 | 4 X 6½ | 8.0 | 6.1 | 7.75 | New4VM89 | 278.47 | 166.75 | 25.0 |
| 1/2 | 5892 | 0.255 | 0.318 | 4½ X 7 | 7.9 | 6.5 | 8.3 | New4VM90 | 453.40 | 271.50 | 42.0 |
| **R-404A HIGH TEMPERATURE COMPRESSORS** | | | | | | | | | | | |
| 1/5 | 2450 | 0.188 | 0.255 | 4 x 6½ | 7.6 | 6.0 | 7.0 | New4VM95 | 290.58 | 174.00 | 22.0 |
| 1/4 | 2900 | 0.188 | 0.255 | 4 x 6½ | 7.6 | 6.0 | 7.0 | New4VM97 | 323.98 | 194.00 | 33.0 |
| 1/3 | 4207 | 0.255 | 0.318 | 4 x 6½ | 8.1 | 6.0 | 8.0 | New4VM98 | 358.21 | 214.50 | 22.0 |
| 1/2 | 5261 | 0.255 | 0.318 | 4 x 6½ | 8.1 | 6.0 | 8.0 | New4VM99 | 427.93 | 256.25 | 51.0 |

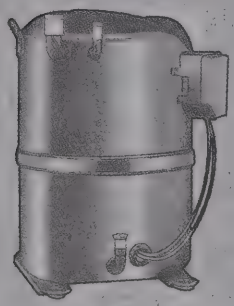
(††) Rotolock connection with flare connection. (‡) Flare connection with suction service valve welded directly on compressor. (*) 90S model.
(##) 958 model has a rotolock includes a rotolock valve. (**) 208/230 volts

# R-22 COMPRESSORS FOR AIR CONDITIONING AND HEAT PUMPS

Copeland



"J" Series
No. 4D685



"CR" Series
No. 4D650

- Dehydrated, completely oil charged
- Functional replacements for many leading brands
- Found in most OEM A/C equipment
- Quiet operation, low vibration
- For Refrigerant-22 (R-22) only
- Compact design
- 3/4 HP through 12 HP

## COMPRESSOR SPECIFICATIONS DATA

| Stock No. | Voltage | Run Amps BtuH Rating | Start Capacitor | Run Capacitor | Potential Relay |
|---|---|---|---|---|---|
| **COPELAWELD "J" SERIES** | | | | | |
| 4D685 | 115-1 | 9.2 | 5M075 | 6X658 | 4E653 |
| 4D686 | 208/230-1 | 4.5 | 5M075 | 6X657 | 6X551 |
| 4D687 | 115-1 | 10.4 | 5M075 | 6X658 | 6X551 |
| 4D688 | 208/230-1 | 5.4 | 5M075 | 6X658 | 6X551 |
| 4D689 | 115-1 | 11.0 | 5M075 | 6X661 | 6X551 |
| 4D690 | 208/230-1 | 6.8 | 5M075 | 6X658 | 6X551 |
| **COPELAWELD "R" SERIES** | | | | | |
| 4D699 | 208/230-1 | 6.5 | 4X654 | 6X658 | 4E653 |
| 4D700 | 115-1 | 14.4 | 5X566 | 6X662 | 6X551 |
| 4D693 | 208/230-1 | 6.2 | 4X655 | 6X661 | 6X551 |
| 4D691 | 265-1 | 6.3 | 5X568 | 6X669 | 4E653 |
| 4D692 | 208/230-1 | 7.3 | 4X655 | 6X661 | 6X551 |
| 4D695 | 208/230-1 | 8.3 | 5X567 | 6X661 | 4E653 |
| 4D696 | 265-1 | 7.8 | 5X567 | 6X670 | 6X551 |
| 4D697 | 208/230-1 | 9.0 | 5X567 | 6X662 | 6X551 |
| **COPELAWELD "CR" SERIES** | | | | | |
| 4D650 | 208/230-1 | 8.7 | 4X658 | 6X661 | 6X561 |
| 4D651 | 208/230-1 | 9.2 | 4X658 | 6X661 | 6X561 |
| 4D652 | 208/230-1 | 9.7 | 4X658 | 6X662 | 6X561 |
| 4D654 | 208/230-1 | 10.8 | 4X658 | 6X663 | 6X561 |
| 4D658 | 208/230-1 | 13.0 | 4X658 | 6X663 | 6X561 |
| 4D660 | 208/230-1 | 14.0 | 4X658 | 6X663 | 6X561 |
| 4D662 | 208/230-1 | 14.6 | 4X658 | 6X663 | 6X561 |
| 4D664 | 208/230-1 | 15.6 | 5M074 | 6X664 | 6X561 |
| 4D667 | 208/230-1 | 17.1 | 5M074 | 6X671 | 4E653 |
| 4D669 | 200/230-3 | 10.8 | N/A | N/A | N/A |
| 4D668 | 460-3 | 5.4 | N/A | N/A | N/A |
| 4D670 | 208/230-1 | 18.6 | 5M074 | 6X672 | 4E653 |
| 4D672 | 200/230-3 | 11.7 | N/A | N/A | N/A |
| 4D671 | 460-3 | 5.8 | N/A | N/A | N/A |
| 4D673 | 208/230-1 | 20.7 | 5M074 | 6X672 | 4E653 |
| 4D675 | 200/230-3 | 13.2 | N/A | N/A | N/A |
| 4D674 | 460-3 | 6.6 | N/A | N/A | N/A |
| 4D676 | 208/230-1 | 24.0 | 5M074 | 4X758 | 4E653 |
| 4D678 | 200/230-3 | 15.6 | N/A | N/A | N/A |
| 4D677 | 460-3 | 7.6 | N/A | N/A | N/A |
| 4D682 | 208/230-1 | 25.8 | 5M074 | 5X434 | 4E653 |
| 4D684 | 200/230-3 | 16.1 | N/A | N/A | N/A |
| 4D683 | 460-3 | 8.1 | N/A | N/A | N/A |
| 4D679 | 208/230-1 | 28.0 | 4X662 | 5X435 | 4E653 |
| 4D681 | 200/230-3 | 17.7 | N/A | N/A | N/A |
| 4D680 | 460-3 | 9.1 | N/A | N/A | N/A |
| **COPELAWELD "BR" SERIES** | | | | | |
| 4D617 | 208/230-3 | 26.3 | N/A | N/A | N/A |
| 4D619 | 460-3 | 13.2 | N/A | N/A | N/A |
| 4D623 | 208/230-3 | 27.9 | N/A | N/A | N/A |
| 4D625 | 460-3 | 13.9 | N/A | N/A | N/A |
| 4D630 | 208/230-3 | 31.4 | N/A | N/A | N/A |
| 4D631 | 460 | 15.7 | N/A | N/A | N/A |
| 4D635 | 208/230-3 | 35.3 | N/A | N/A | N/A |
| 4D637 | 460-3 | 17.7 | N/A | N/A | N/A |
| 4D641 | 208/230-3 | 48.4 | N/A | N/A | N/A |
| 4D645 | 460-3 | 24.2 | N/A | N/A | N/A |
| **COPELAWELD "SCROLL" SERIES** | | | | | |
| 4D702 | 208/230-1 | 9.6 | N/A | 6X662 | N/A |
| 4D703 | 208/230-1 | 12.2 | N/A | 6X663 | N/A |
| 4D704 | 208/230-1 | 13.9 | N/A | 6X671 | N/A |
| 4D705 | 208/230-1 | 17.4 | N/A | 6X671 | N/A |
| 4D706 | 208/230-1 | 18.8 | N/A | 5M076 | N/A |
| 4D708 | 200/230-3 | 11.8 | N/A | N/A | N/A |
| 4D707 | 460-3 | 5.9 | N/A | N/A | N/A |
| 4D709 | 208/230-1 | 20.1 | N/A | 5M076 | N/A |
| 4D711 | 200/230-3 | 12.6 | N/A | N/A | N/A |
| 4D710 | 460-3 | 6.3 | N/A | N/A | N/A |
| 4D712 | 208/230-1 | 22.7 | N/A | 5M077 | N/A |
| 4D714 | 200/230-3 | 14.5 | N/A | N/A | N/A |
| 4D713 | 460-3 | 7.3 | N/A | N/A | N/A |
| 4D715 | 208/230-1 | 25.3 | N/A | 5M077 | N/A |
| 4D717 | 200/230-3 | 15.4 | N/A | N/A | N/A |
| 4D716 | 460-3 | 7.7 | N/A | N/A | N/A |

**HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG**

CONTINUED ON NEXT PAGE

# R-22 COMPRESSORS FOR AIR CONDITIONING AND HEAT PUMPS

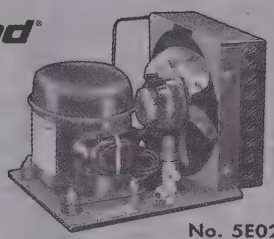
## COMPRESSOR ORDERING DATA

| Nominal HP | BtuH* | Voltage 60 Hz | Line Connections (In.)# Suction | Dischar | Base Mounting Centers (In.) | Dimensions (In.) H | W | L | Copeland Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **COPELAWELD "J" SERIES** | | | | | | | | | | | | | |
| **3/4** | 8600 | 115-1 | 3/8 EU | 1/4 EU | 8 x 4 13/16 | 9 | 6 | 9 5/16 | JRF4-0075-PAA | **4D685** | $381.00 | **$245.00** | 38.0 |
| **3/4** | 8600 | 208/230-1 | 3/8 EU | 1/4 EU | 8 x 4 13/16 | 9 | 6 | 9 5/16 | JRF4-0075-PAV | **4D686** | 380.00 | **242.75** | 38.0 |
| **1** | 10,000 | 115-1 | 3/8 EU | 1/4 EU | 8 x 4 13/16 | 9 | 6 | 9 5/16 | JRH4-0100-PAA | **4D687** | 392.00 | **250.00** | 38.0 |
| **1** | 10,000 | 208/230-1 | 3/8 EU | 1/4 EU | 8 x 4 13/16 | 9 | 6 | 9 5/16 | JRH4-0100-PAV | **4D688** | 377.00 | **241.75** | 38.0 |
| **1** | 11,000 | 115-1 | 3/8 EU | 1/4 EU | 8 x 4 13/16 | 9 | 6 | 9 5/16 | JRL4-0100-PAA | **4D689** | 380.00 | **242.75** | 38.0 |
| **1** | 12,000 | 208/230-1 | 3/8 EU | 1/4 EU | 8 x 4 13/16 | 9 | 6 | 9 5/16 | JRR4-0100-PAV | **4D690** | 378.00 | **241.75** | 38.0 |
| **COPELAWELD "R" SERIES** | | | | | | | | | | | | | |
| **1** | 10,800 | 208/230-1 | 3/8 STR | 1/4 EU | 8 x 4 13/16 | 11 1/16 | 6 3/8 | 9 3/8 | RRG4-0100-PAV | **4D699** | 406.00 | **261.25** | 52.0 |
| **1 1/4** | 13,500 | 115-1 | 3/8 EU | 1/4 EU | 8 x 4 13/16 | 11 1/8 | 6 3/8 | 9 3/8 | RRK4-0126-PAA | **4D700** | 451.00 | **283.00** | 51.0 |
| **1 1/4** | 12,500 | 208/230-1 | 3/8 EU | 1/4 EU | 8 x 4 13/16 | 11 1/8 | 6 3/8 | 9 3/8 | REK3-0125-PFV | **4D693** | 443.00 | **282.00** | 51.0 |
| **1 1/2** | 14,200 | 265-1 | 1/2 EU | 5/16 EU | 8 x 4 13/16 | 11 1/8 | 6 3/8 | 9 3/8 | RED3-0150-PFJ | **4D691** | 497.00 | **311.75** | 50.0 |
| **1 1/2** | 14,200 | 208/230-1 | 1/2 STR | 5/16 EU | 8 x 4 13/16 | 11 1/8 | 6 3/8 | 9 3/8 | RED3-0150-PFV | **4D692** | 479.00 | **304.50** | 50.0 |
| **1 3/4** | 17,400 | 208/230-1 | 1/2 EU | 5/16 EU | 8 x 4 13/16 | 11 1/8 | 6 3/8 | 9 3/8 | RES3-0175-PFV | **4D695** | 454.00 | **288.00** | 50.0 |
| **1 3/4** | 18,900 | 265-1 | 1/2 EU | 5/16 EU | 8 x 4 13/16 | 11 1/8 | 6 3/8 | 9 3/8 | REY3-0175-PFJ | **4D696** | 523.00 | **327.25** | 50.0 |
| **1 3/4** | 18,900 | 208/230-1 | 1/2 EU | 5/16 EU | 8 x 4 13/16 | 11 1/8 | 6 3/8 | 9 3/8 | REY3-0175-PFV | **4D697** | 489.00 | **308.75** | 50.0 |
| **COPELAWELD "CR" SERIES WITH CRANKCASE HEATER** | | | | | | | | | | | | | |
| **1 1/2** | 18,300 | 208/230-1 | 5/8 | 3/8 | 7 1/2 x 7 1/2 | 13 9/16 | 9 | 9 7/16 | CRA1-0150-PFV | **4D650** | 474.00 | **302.25** | 64.0 |
| **1 3/4** | 19,200 | 208/230-1 | 5/8 | 3/8 | 7 1/2 x 7 1/2 | 13 11/16 | 9 | 9 7/16 | CRB1-0175-PFV | **4D651** | 506.00 | **320.50** | 65.0 |
| **1 3/4** | 22,600 | 208/230-1 | 5/8 | 3/8 | 7 1/2 x 7 1/2 | 13 13/16 | 9 | 9 7/16 | CRC1-0175-PFV | **4D652** | 508.00 | **305.50** | 66.0 |
| **2** | 24,100 | 208/230-1 | 5/8 | 3/8 | 7 1/2 x 7 1/2 | 13 13/16 | 9 | 9 7/16 | CRD1-0200-PFV | **4D654** | 604.82 | **365.50** | 66.0 |
| **2 1/4** | 27,800 | 208/230-1 | 5/8 | 3/8 | 7 1/2 x 7 1/2 | 14 1/16 | 9 | 9 7/16 | CRE2-0225-PFV | **4D658** | 632.90 | **383.00** | 67.0 |
| **2 1/2** | 29,800 | 208/230-1 | 3/4 | 3/8 | 7 1/2 x 7 1/2 | 14 3/16 | 9 | 9 7/16 | CRF2-0250-PFV | **4D660** | 545.00 | **331.75** | 67.0 |
| **2 1/2** | 32,700 | 208/230-1 | 3/4 | 3/8 | 7 1/2 x 7 1/2 | 14 3/16 | 9 | 9 7/16 | CRG3-0250-PFV | **4D662** | 596.00 | **360.25** | 69.0 |
| **2 3/4** | 34,800 | 208/230-1 | 3/4 | 3/8 | 7 1/2 x 7 1/2 | 14 3/16 | 9 | 9 7/16 | CRH3-0275-PFV | **4D664** | 708.27 | **445.00** | 71.0 |
| **3** | 37,800 | 208/230-1 | 3/4 | 3/8 | 7 1/2 x 7 1/2 | 14 13/16 | 9 | 9 7/16 | CRJ3-0300-PFV | **4D667** | 667.66 | **420.50** | 72.0 |
| **3** | 37,700 | 200/230-3 | 3/4 | 3/8 | 7 1/2 x 7 1/2 | 14 13/16 | 9 | 9 7/16 | CRJ3-0300-TF5 | **4D669** | 770.49 | **475.75** | 72.0 |
| **3** | 37,700 | 460-3 | 3/4 | 3/8 | 7 1/2 x 7 1/2 | 14 13/16 | 9 | 9 7/16 | CRJ3-0300-TFD | **4D668** | 874.53 | **537.50** | 72.0 |
| **3 1/4** | 42,100 | 208/230-1 | 3/4 | 3/8 | 7 1/2 x 7 1/2 | 15 1/16 | 9 | 9 7/16 | CRK3-0325-PFV | **4D670** | 656.72 | **417.00** | 73.0 |
| **3 1/4** | 41,600 | 200/230-3 | 3/4 | 3/8 | 7 1/2 x 7 1/2 | 15 1/16 | 9 | 9 7/16 | CRK3-0325-TF5 | **4D672** | 717.00 | **442.50** | 73.0 |
| **3 1/4** | 41,600 | 460-3 | 3/4 | 3/8 | 7 1/2 x 7 1/2 | 15 1/16 | 9 | 9 7/16 | CRK3-0325-TFD | **4D671** | 801.63 | **492.25** | 73.0 |
| **3 1/2** | 47,200 | 208/230-1 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 15 5/16 | 9 | 9 7/16 | CRL3-0350-PFV | **4D673** | 768.96 | **479.00** | 81.0 |
| **3 1/2** | 47,200 | 200/230-3 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 15 5/16 | 9 | 9 7/16 | CRL3-0350-TF5 | **4D675** | 873.54 | **535.50** | 81.0 |
| **3 1/2** | 47,200 | 460-3 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 15 5/16 | 9 | 9 7/16 | CRL3-0350-TFD | **4D674** | 1023.82 | **624.00** | 81.0 |
| **4** | 53,300 | 208/230-1 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 15 5/16 | 9 9/16 | 9 7/16 | CRM3-0400-PFV | **4D676** | 987.98 | **603.50** | 81.0 |
| **4** | 52,500 | 200/230-3 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 15 5/16 | 9 9/16 | 9 7/16 | CRM3-0400-TF5 | **4D678** | 937.00 | **570.50** | 81.0 |
| **4** | 52,500 | 460-3 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 15 5/16 | 9 9/16 | 9 7/16 | CRM3-0400-TFD | **4D677** | 1168.69 | **671.00** | 81.0 |
| **4 1/2** | 58,300 | 208/230-1 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 15 7/8 | 9 | 11 1/4 | CRP5-0450-PFV | **4D682** | 925.00 | **564.50** | 88.0 |
| **4 1/2** | 58,600 | 200/230-3 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 15 7/8 | 9 | 11 3/4 | CRP5-0450-TF5 | **4D684** | 977.00 | **593.50** | 88.0 |
| **4 1/2** | 58,600 | 460-3 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 15 7/8 | 9 | 11 3/4 | CRP5-0450-TFD | **4D683** | 1052.17 | **638.00** | 88.0 |
| **5** | 62,700 | 208/230-1 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 16 1/4 | 9 | 11 3/4 | CRN5-0500-PFV | **4D679** | 1191.79 | **721.00** | 95.0 |
| **5** | 63,300 | 200/230-3 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 16 1/8 | 9 | 11 3/4 | CRN5-0500-TF5 | **4D681** | 1190.37 | **717.00** | 95.0 |
| **5** | 63,300 | 460-3 | 7/8 | 1/2 | 7 1/2 x 7 1/2 | 16 1/8 | 9 | 11 3/4 | CRN5-0500-TFD | **4D680** | 1092.01 | **659.50** | 95.0 |
| **COPELAWELD "BR" SERIES† WITH CRANKCASE HEATER** | | | | | | | | | | | | | |
| **7 1/2** | 90,000 | 208/230-3 | 1 1/4 | 3/4 | 8 3/4 | 18 5/16 | 14 | 12 3/4 | BRD2-0750-TFC | **4D617** | 2205.00 | **1317.00** | 169.0 |
| **7 1/2** | 90,000 | 460-3 | 1 1/4 | 3/4 | 8 3/4 | 18 5/16 | 14 | 12 3/4 | BRD2-0750-TFD | **4D619** | 2226.00 | **1330.00** | 169.0 |
| **7 1/2** | 97,000 | 208/230-3 | 1 1/4 | 3/4 | 8 3/4 | 18 7/16 | 14 | 12 3/4 | BRE2-0750-TFC | **4D623** | 2221.00 | **1327.00** | 169.0 |
| **7 1/2** | 97,000 | 460-3 | 1 1/4 | 3/4 | 8 3/4 | 18 7/16 | 14 | 12 3/4 | BRE2-0750-TFD | **4D625** | 2242.00 | **1339.00** | 169.0 |
| **9** | 110,000 | 208/230-3 | 1 1/4 | 3/4 | 8 3/4 | 18 7/16 | 14 | 12 3/4 | BRG2-0900-TFC | **4D630** | 2291.00 | **1368.00** | 169.0 |
| **9** | 110,000 | 460-3 | 1 1/4 | 3/4 | 8 3/4 | 18 7/16 | 14 | 12 3/4 | BRG2-0900-TFD | **4D631** | 2312.00 | **1379.00** | 169.0 |
| **10** | 125,000 | 208/230-3 | 1 1/4 | 3/4 | 8 3/4 | 18 7/16 | 14 | 12 3/4 | BRH2-1000-TFC | **4D635** | 2438.00 | **1445.00** | 174.0 |
| **10** | 125,000 | 460-3 | 1 1/4 | 3/4 | 8 3/4 | 18 7/16 | 14 | 12 3/4 | BRH2-1000-TFD | **4D637** | 2451.00 | **1458.00** | 162.0 |
| **12** | 150,000 | 208/230-3 | 1 1/4 | 3/4 | 8 3/4 | 18 7/16 | 14 | 12 3/4 | BRK2-1200-TFC | **4D641** | 2584.00 | **1535.00** | 179.0 |
| **12** | 150,000 | 460-3 | 1 1/4 | 3/4 | 8 3/4 | 18 7/16 | 14 | 12 3/4 | BRK2-1200-TFD | **4D645** | 2609.00 | **1549.00** | 179.0 |
| **COPELAWELD "SCROLL" SERIES** | | | | | | | | | | | | | |
| **2** | 22,900 | 208/230-1 | 3/4 | 1/2 | 7 1/2 | 13 3/8 | 8 7/16 | 8 7/16 | ZR23K1-PFV | **4D702** | 676.00 | **416.00** | 53.0 |
| **2 1/2** | 28,200 | 208/230-1 | 3/4 | 1/2 | 7 1/2 | 14 3/16 | 8 7/16 | 8 7/16 | ZR28K1-PFV | **4D703** | 746.00 | **456.00** | 55.0 |
| **2 3/4** | 33,900 | 208/230-1 | 3/4 | 1/2 | 7 1/2 | 15 1/16 | 8 7/16 | 8 7/16 | ZR34K1-PFV | **4D704** | 799.00 | **487.00** | 59.0 |
| **3 1/4** | 39,600 | 208/230-1 | 3/4 | 1/2 | 7 1/2 | 15 5/8 | 8 7/16 | 8 7/16 | ZR40K1-PFV | **4D705** | 830.00 | **505.00** | 60.0 |
| **4** | 46,000 | 208/230-1 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR46K3-PFV | **4D706** | 958.00 | **528.00** | 90.0 |
| **4** | 46,100 | 200/230-3 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR46K3-TF5 | **4D708** | 1078.00 | **650.00** | 90.0 |
| **4** | 46,100 | 460-3 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR46K3-TFD | **4D707** | 1144.23 | **690.00** | 90.0 |
| **4 1/4** | 49,100 | 208/230-1 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR49K3-PFV | **4D709** | 1044.00 | **630.00** | 90.0 |
| **4 1/4** | 49,200 | 200/230-3 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR49K3-TF5 | **4D711** | 1105.00 | **665.00** | 90.0 |
| **4 1/4** | 49,200 | 460-3 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR49K3-TFD | **4D710** | 1105.00 | **665.00** | 90.0 |
| **4 1/4** | 57,500 | 208/230-1 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR57K3-PFV | **4D712** | 1125.00 | **678.00** | 94.0 |
| **4 3/4** | 57,200 | 200/230-3 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR57K3-TF5 | **4D714** | 1159.00 | **698.00** | 94.0 |
| **4 3/4** | 57,200 | 460-3 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR57K3-TFD | **4D713** | 1159.00 | **698.00** | 94.0 |
| **5** | 61,200 | 208/230-1 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR61K3-PFV | **4D715** | 1151.00 | **692.00** | 94.0 |
| **5** | 61,000 | 200/230-3 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR61K3-TF5 | **4D717** | 1179.00 | **709.00** | 94.0 |
| **5** | 61,000 | 460-3 | 7/8 | 1/2 | 7 1/2 | 17 1/4 | 9 1/16 | 9 1/16 | ZR61K3-TFD | **4D716** | 1179.00 | **709.00** | 94.0 |

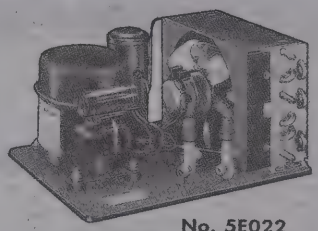
(*) At 95°F ambient, 115°F liquid. (†) "BR" series has fittings for rotalock valves. (#) EU = Elbow UP; STR = Straight.

# REFRIGERATION CONDENSING UNITS

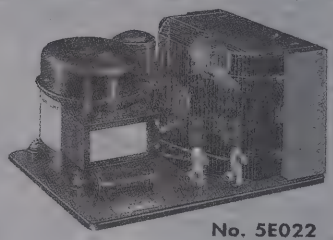
Copeland



No. 5E022



No. 5E022



No. 5E022

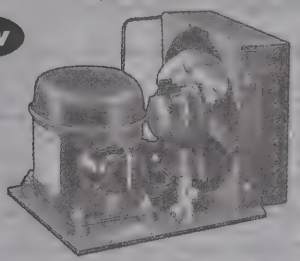
## CONDENSOR UNIT SPECIFICATION DATA

| Copeland Model | Stock No. | BTU/UR Capacity at 90°f Ambient Evaporator Temperature (°F) 10°F | 0°F | -10°F | -15°F | -20°F | -25°F | Functional Tecumseh |
|---|---|---|---|---|---|---|---|---|
| **R-12 LOW TEMPERATURE UNITS** | | | | | | | | |
| MGBL-0013-SAA# | **5E022** | 840 | 680 | 540 | 470 | 400 | 340 | AEA1336AXAXA |
| MGBL-0017-SAA# | **5E023** | 980 | 780 | 620 | 540 | 460 | 380 | AEA1343AXAXA |
| MGBL-0023-SAA# | **5E024** | 1240 | 1050 | 810 | 690 | 600 | 540 | AEA1360AXAXA |
| MGAL-0026-IAA | **5E025** | 1969 | 1561 | 1202 | 1039 | 886 | 743 | AEA2410AXAXA |
| MGAL-0034-IAA | **5E028** | 2500 | 2080 | 1700 | 1510 | 1330 | 1160 | AEA2415AXAXA |
| MAAL-0034-IAA | **5E029** | 2500 | 2080 | 1700 | 1510 | 1330 | 1160 | AEA2415AXAXA |
| MBAL-0034-IAA | **5E030** | 2500 | 2080 | 1700 | 1510 | 1330 | 1160 | AEA2415AXAXA |
| **R-134A LOW TEMPERATURE UNITS** | | | | | | | | |
| M2FL-0023-1AA-106 | **4VN11** | 1260 | 990 | 760 | 650 | 560 | 460 | AEA1360YXAXA |
| M2FL-0025-1AA-001 | **4VN12** | 1840 | 1470 | 1110 | 940 | 780 | 620 | AEA2410YXAXC |
| M2FL-0033-1AA-001 | **4VN13** | 2310 | 1850 | 1440 | 1250 | 1060 | 890 | AEA2413YXAXC |
| **R-404A LOW TEMPERATURE UNITS** | | | | | | | | |
| M4L-0033-1AA-001 | **4VN20** | 2250 | 1830 | 1440 | 1260 | 1080 | 910 | AEA2413ZXAXC |
| M4FL-0040-1AA-201 | **4VN21** | 3200 | 2640 | 2120 | 1880 | 1650 | 1430 | AJA2422ZXAXC |

| Copeland Model | Stock No. | 50°F | 45°F | 40°F | 35°F | 30°F | 25°F | 20°F | 15°F | 10°F | Functional Tecumseh |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **R-12 HIGH TEMPERATURE UNITS** | | | | | | | | | | | |
| M4FL-0033-1AA-001 | **5E031** | 1710 | 1580 | 1450 | 1320 | 1200 | 1090 | 980 | 870 | 770 | AEA3414AXAXA |
| MGBH-0020-SAA# | **5E032** | 1950 | 1800 | 1650 | 1520 | 1390 | 1260 | 1140 | 1030 | 930 | AEA3417AXAXA |
| MGBH-0023-SAA# | **5E033** | 2640 | 2440 | 2250 | 2070 | 1890 | 1730 | 1570 | 1420 | 1270 | AEA3425AXAXA |
| MGBH-0025-IAA | **5E034** | 1480 | 1640 | 1810 | 1980 | 2160 | 2350 | 2550 | 2760 | 2980 | AEA4430AXAXC |
| MAAH-0025-IAA | **5E035** | 1480 | 1640 | 1810 | 1980 | 2160 | 2350 | 2550 | 2760 | 2980 | AEA4430AXAXC |
| MBAH-0025-IAA | **5E036** | 1480 | 1640 | 1810 | 1980 | 2160 | 2350 | 2550 | 2760 | 2980 | AEA4430AXAXC |
| MGAH-0033-IAA | **5E037** | 1820 | 2040 | 2270 | 2510 | 2770 | 3030 | 3310 | 3600 | 3910 | AEA4440AXAXC |
| MAAH-0033-IAA | **5E038** | 1820 | 2040 | 2270 | 2510 | 2770 | 3030 | 3310 | 3600 | 3910 | AEA4440AXAXC |
| MUAH-0033-IAA | **5E039** | 1820 | 2040 | 2270 | 2510 | 2770 | 3030 | 3310 | 3600 | 3910 | AEA4440AXAXC |
| MAAH-0050-IAA | **5E048** | 2860 | 3230 | 3620 | 4030 | 4470 | 4920 | 5410 | 5910 | 6450 | AJA4461AXAXC, DXC |
| MGAH-0050-IAA | **5E050** | 6450 | 5910 | 5410 | 4920 | 4470 | 4930 | 3620 | 3230 | 2860 | AJA4461AXAXC, DXC |
| **R-22 HIGH / MEDIUM TEMPERATURE UNITS** | | | | | | | | | | | |
| MCFF-0027-1AA-201 | **5E040** | 3960 | 3660 | 3380 | 3110 | 2850 | 2600 | 2360 | 2130 | 1250 | AEA9423EXAXC |
| MCFH-0036-1AA-201 | **5E041** | 5000 | 4650 | 4310 | 3990 | 3670 | 3370 | 3040 | 2815 | 2550 | — |
| MCFH-0049-CAA-201 | **4VN22** | 6600 | 6090 | 5600 | 5130 | 4680 | 4250 | 3840 | 3460 | 3090 | — |
| MCFH-0049-CAV-201 | **4VN23** | 6600 | 6090 | 5600 | 5130 | 4680 | 4250 | 3840 | 3460 | 3090 | — |
| MCFH-0050-CAA-201 | **4VN24** | 7140 | 6570 | 6020 | 5500 | 5000 | 4530 | 4070 | 3650 | 3240 | — |
| MCFH-0050-CAV-201 | **4VN25** | 7140 | 6570 | 6020 | 5500 | 5000 | 4530 | 4070 | 3650 | 3240 | — |
| MMFH-0022-1AA-106 | **4VN26** | 2550 | 2360 | 2180 | 2010 | 1840 | 1680 | 1530 | 1380 | 1250 | AEA9417EXAXG |
| **R-134A HIGH / MEDIUM TEMPERATURE UNITS** | | | | | | | | | | | |
| M2FH-0017-SAA-106 | **4VN01** | 1860 | 1710 | 1560 | 1410 | 1280 | 1150 | 1030 | 910 | 800 | AEA3414YXAXA |
| M2FH-0020-SAA-106 | **4VN02** | 2100 | 1930 | 1770 | 1620 | 1470 | 1330 | 1200 | 170 | 950 | AEA3417YXAXA |
| M2FH-0024-SAA-106 | **4VN03** | 2830 | 2600 | 2390 | 2190 | 2000 | 1810 | 1640 | 1470 | 1310 | AEA3425YXAXA |
| M2FH-0026-1AA-001 | **4VN04** | 3180 | 2940 | 2710 | 2490 | 2280 | 2080 | 1890 | 1700 | 1530 | AEA4430YXAXC |
| M2FH-0039-1AA-001 | **4VN05** | 4150 | 3820 | 3500 | 3190 | 2900 | 2620 | 2360 | 2110 | 1870 | AEA4440YXAXC |
| M2FH-0049-1AA-201 | **4VN06** | 5590 | 5150 | 4740 | 4340 | 3960 | 3600 | 3250 | 2920 | 2610 | AEA4448YXAXC |
| M2FH-0050-1AA-201 | **4VN07** | 6880 | 6290 | 5740 | 5210 | 4710 | 4230 | 3780 | 3350 | 2950 | AKA4460YXAXC, DXC |
| M2FH-0050-1AV-201 | **4VN08** | 6880 | 6290 | 5740 | 5210 | 4710 | 4230 | 3780 | 3350 | 2950 | AKA4460YXAXC, DXC |
| M2FH-0056-1AA-201 | **4VN09** | 7500 | 6870 | 6270 | 5690 | 5150 | 4630 | 4140 | 3680 | 3240 | AKA4476YXAXC, DXC |
| M2FH-0056-1AV-201 | **4VN10** | 7500 | 6870 | 6270 | 5690 | 5150 | 4630 | 4140 | 3680 | 3240 | AKA4476YXAXC, DXC |
| **R404A HIGH / MEDIUM TEMPERATURE UNITS** | | | | | | | | | | | |
| MP4H-0022-1AA-106 | **4VN14** | 2310 | 2310 | 2160 | 2010 | 1860 | 1720 | 1590 | 1460 | 1340 | AEA9415ZXAXA |
| MP4H-0025-1AA-201 | **4VN15** | 3240 | 3240 | 3030 | 2820 | 2620 | 2430 | 2240 | 2060 | 1890 | AEA9422ZXAXC |
| MP4H-0036-1AA-201 | **4VN16** | 4650 | 4650 | 4310 | 3990 | 3670 | 3370 | 3040 | 2815 | 2550 | AKA9429ZXAXC, DXC |
| MP4H-0036-1AV-201 | **4VN17** | 4650 | 4650 | 4310 | 3990 | 3670 | 3370 | 3040 | 2815 | 2550 | AKA9429ZXAXC, DXC |
| MP4H-0050-CAA-201 | **4VN18** | 6040 | 6040 | 5600 | 5180 | 4770 | 4380 | 4010 | 3660 | 3320 | — |
| MP4H-0050-CAV-201 | **4VN19** | 6040 | 6040 | 5600 | 5180 | 4770 | 4380 | 4010 | 3660 | 3320 | — |

# REFRIGERATION CONDENSING UNITS

Copeland New



COPELAND LIMITED WARRANTY
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

- Completely oil charged
- Lightweight compressor construction
- Accessible electricals and fittings
- Drop-in replacement for common competitive models

Three variations of these condensing units facilitate replacement of other leading manufacturer's models in most existing applications. Commonly used in small refrigerators, freezers, salad bars, floral displays, water coolers, ice machines, and beverage vending machines. Copeland brand.

| BOM Key | Suction Connections Suction Valve | Liquid Connections Base Valve | Liquid Connections Receiver w/ Valve | Electrical Connections Power/ Cord | Electrical Connections BX Connector | Fan Guard | UL/UR† |
|---|---|---|---|---|---|---|---|
| 105 | * | * | | * | | | UR |
| 106 | * | | | * | | | UR |
| 109 | * | | * | * | | | UR |
| 201 | * | | * | | * | * | UR* |
| 001 | * | | * | | * | * | UL |

(*) These recognized models are identical to the listed models less pressure control. Need for the control is to be evaluated in the end use application.
(†) UL is UL Listed; UR is a UL Recognized Component.

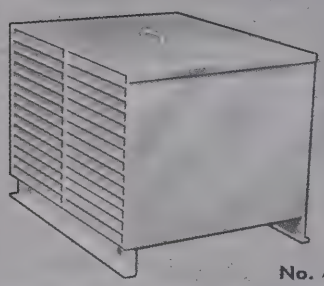
## CONDENSOR ORDERING DATA

| Nominal HP | Voltage 60 HZ, 1 ph | Connections Liquid | Suction | Overall L | W | H | Copeland Model | BOM† | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R-12 LOW TEMPERATURE UNITS** | | | | | | | | | | | | |
| 1/8 | 115 | 1/4 FL | 3/8FL | 13.8 | 11.8 | 9.7 | MGFL-0013-SAA-106 | 106 | **5E022** * | $477.00 | **$274.50** | 32.0 |
| 1/6 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MGFL-0017-SAA-106 | 106 | **5E023** * | 500.00 | **286.50** | 32.0 |
| 1/5 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MGFL-0023-SAA-106 | 106 | **5E024** * | 448.00 | **273.50** | 34.0 |
| 1/4 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MBFL-0026-IAA-001 | 001 | **5E025** | 655.00 | **368.25** | 46.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 16.2 | 11.8 | 9.7 | MBFL-0034-IAA-105 | 105 | **5E028** | 621.98 | **385.00** | 50.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 16.2 | 13.1 | 9.7 | MBFL-0034-IAA-109 | 109 | **5E029** | 615.74 | **380.25** | 50.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 16.2 | 11.8 | 9.7 | MBFL-0034-IAA-001 | 001 | **5E030** | 591.58 | **363.75** | 50.0 |
| **R-134A LOW TEMPERATURE UNITS** | | | | | | | | | | | | |
| 1/5 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M2FL-0023-IAA-106 | 106 | ***New* 4VN11** | 424.59 | **254.25** | 36.0 |
| 1/4 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M2FL-0025-IAA-001 | 001 | ***New* 4VN12** | 599.53 | **359.00** | 42.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M2FL-0033-IAA-001 | 001 | ***New* 4VN13** | 637.10 | **381.50** | 42.0 |
| **R-404A HIGH TEMPERATURE UNITS** | | | | | | | | | | | | |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M4FL-0033-IAA-001 | 001 | ***New* 4VN20** | 664.66 | **398.00** | 41.0 |
| 1/2 | 115 | 1/4 FL | 1/2 FL | 16.2 | 13.1 | 9.7 | M4FL-0040-IAA-201 | 201 | ***New* 4VN21** | 855.04 | **512.00** | 47.0 |
| **R-12 HIGH TEMPERATURE UNITS** | | | | | | | | | | | | |
| 1/6 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MGFH-0017-SAA-106 | 106 | **5E031** * | 411.08 | **256.50** | 32.0 |
| 1/5 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MGFH-0020-SAA-106 | 106 | **5E032** * | 432.91 | **270.00** | 33.0 |
| 1/5 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MGFH-0024-SAA 106 | 106 | **5E033** * | 442.24 | **275.25** | 35.0 |
| 1/4 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MBFH-0026-IAA-105 | 105 | **5E034** | 450.44 | **282.50** | 44.0 |
| 1/4 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MBFH-0026-IAA-109 | 109 | **5E035** | 470.22 | **294.00** | 44.0 |
| 1/4 | 115 | 1/4 FL | 3/8 FL | 13.8 | 13.1 | 11.8 | MBFH-0026-IAA-001 | 001 | **5E036** | 551.32 | **341.75** | 44.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MBFH-0033-IAA-105 | 105 | **5E037** | 481.66 | **301.25** | 44.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MBFH-0033-IAA-109 | 109 | **5E038** | 506.60 | **314.75** | 44.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MBFH-0033-IAA-201 | 201 | **5E039** | 593.98 | **365.75** | 44.0 |
| 1/2 | 115 | 1/4 FL | 1/2 RF | 16.2 | 11.8 | 9.7 | MBFH-0050-IAA-109 | 109 | **5E048** | 907.41 | **551.00** | 52.0 |
| 1/2 | 115 | 1/4 FL | 1/2 RF | 16.2 | 11.8 | 9.7 | MBFH-0050-IAA-109 | 109 | **5E050** | 751.96 | **458.00** | 52.0 |
| **R-22 HIGH/MEDIUM TEMPERATURE UNITS** | | | | | | | | | | | | |
| 1/4 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | MCFH-0027-IAA-201 | 201 | **5E040** | 639.18 | **388.50** | 29.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 16.2 | 11.8 | 9.7 | MCFH-0036-IAA-201 | 201 | **5E041** | 642.17 | **392.50** | 38.0 |
| 1/2 | 115 | 1/4 FL | 3/8 FL | 16.2 | 13.1 | 11.8 | MCFH-0049-CAA-201 | 201 | ***New* 4VN22** | 645.03 | **386.25** | 54.0 |
| 1/2 | 208/230 | 1/4 FL | 3/8 FL | 16.2 | 13.1 | 11.8 | MCFH-0049-CAV-201 | 201 | ***New* 4VN23** | 654.22 | **391.75** | 54.0 |
| 1/2 | 115 | 1/4 FL | 3/8 FL | 17.4 | 14.4 | 11.8 | MCFH-0050-CAA-201 | 201 | ***New* 4VN24** | 804.10 | **481.50** | 53.0 |
| 1/2 | 208/230 | 1/4 FL | 3/8 FL | 17.4 | 14.4 | 11.8 | MCFH-0050-CAV-201 | 201 | ***New* 4VN25** | 816.63 | **489.00** | 53.0 |
| 1/5 | 115 | 1/4 FL | 3/8 FL | 13.8 | 14.4 | 11.8 | MMFH-0022-IAA-106 | 106 | ***New* 4VN26** | 540.66 | **323.75** | 36.0 |
| **R-134A HIGH/MEDIUM TEMPERATURE UNITS** | | | | | | | | | | | | |
| 1/6 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M2FH-0017-SAA-106 | 106 | ***New* 4VN01** * | 420.42 | **251.75** | 33.0 |
| 1/5 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M2FH-0020-SAA-106 | 106 | ***New* 4VN02** * | 443.38 | **265.50** | 35.0 |
| 1/5 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M2FH-0024-SAA-106 | 106 | ***New* 4VN03** * | 452.98 | **271.25** | 36.0 |
| 1/4 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M2FH-0026-IAA-001 | 001 | ***New* 4VN04** | 611.63 | **366.25** | 41.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 11.8 | M2FH-0033-IAA-201 | 201 | ***New* 4VN05** | 663.82 | **397.50** | 46.0 |
| 1/2 | 115 | 1/4 FL | 3/8 FL | 16.2 | 13.1 | 11.8 | M2FH-0049-IAA-201 | 201 | ***New* 4VN06** | 765.69 | **458.50** | 50.0 |
| 1/2 | 115 | 1/4 FL | 1/2 RF | 16.2 | 13.1 | 11.8 | M2FH-0050-IAA-201 | 201 | ***New* 4VN07** | 861.72 | **516.00** | 55.0 |
| 1/2 | 115 | 1/4 FL | 1/2 RF | 16.2 | 13.1 | 11.8 | M2FH-0050-IAV-201 | 201 | ***New* 4VN08** | 861.72 | **516.00** | 55.0 |
| 1/2 | 208/230 | 1/4 FL | 1/2 RF | 16.2 | 13.1 | 11.8 | M2FH-0056-IAA-201 | 201 | ***New* 4VN09** | 1026.21 | **614.50** | 60.0 |
| 1/2 | 115 | 1/4 FL | 1/2 RF | 17.4 | 14.4 | 11.8 | M2FH-0056-IAV-201 | 201 | ***New* 4VN10** | 1038.74 | **622.00** | 60.0 |
| 1/2 | 208/230 | 1/4 FL | 1/2 RF | 17.4 | 14.4 | 11.8 | | | | | | |
| **R-404A HIGH/MEDIUM TEMPERATURE UNITS** | | | | | | | | | | | | |
| 1/5 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M4FH-0022-IAA-106 | 106 | ***New* 4VN14** | 584.50 | **350.00** | 36.0 |
| 1/4 | 115 | 1/4 FL | 3/8 FL | 13.8 | 11.8 | 9.7 | M4FH-0025-IAA-201 | 201 | ***New* 4VN15** | 740.22 | **443.25** | 41.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 16.2 | 13.1 | 11.8 | M4FH-0036-IAA-201 | 201 | ***New* 4VN16** | 769.87 | **461.00** | 45.0 |
| 1/3 | 115 | 1/4 FL | 3/8 FL | 16.2 | 13.1 | 11.8 | M4FH-0036-IAV-201 | 201 | ***New* 4VN17** | 779.05 | **466.50** | 45.0 |
| 1/3 | 208/230 | 1/4 FL | 3/8 FL | 16.2 | 13.1 | 11.8 | M4FH-0050-CAA-201 | 201 | ***New* 4VN18** | 912.65 | **546.50** | 50.0 |
| 1/2 | 115 | 1/4 FL | 1/2 RF | 16.2 | 13.1 | 11.8 | M4FH-0050-CAV-201 | 201 | ***New* 4VN19** | 925.18 | **554.00** | 50.0 |
| 1/2 | 208/230 | 1/4 FL | 1/2 RF | 16.2 | 13.1 | 11.8 | | | | | | |

(*) SAA suffixed models are low starting torque, not recommended for TXV systemss; IAA models are high starting torque. Use BOM (Bill of Materials) listed above for additional product.

# CONDENSING UNITS OUTDOOR HOOD

## COPELAND OUTDOOR HOOD



No. 4VM80

- Hoods "knockdown" for easy shipment
- 18 guage steel
- Slotted fasteners for easy access
- All hardware included
- Designed specifically for Copeland units
- Allows indoor condensing units to be used outdoors
- Will house all condensing units offered in this catalog

| Copeland Model | Dimensions (In.) L | H | W | New! Stock No. | List | Each | Shpg. Wt. | Cross Reference Kool-Star | RDM |
|---|---|---|---|---|---|---|---|---|---|
| 005-0882-00 CHO-10 | 27 (External) 26 (Internal) | 20 (External) 20 (Internal) | 20 (External) 16 (Internal) | 4VM80 | $393.70 | $235.75 | 41.0 | TC-150LH | PSE-181D |




No. 5E759

## COPELAND OILS

Ultra 20 alkylbenzene oil has been tested and approved by Copeland for use with both HCFC and CFC refrigerants. Also compatible with mineral oil and polyol ester lubricants. Ultra 200 provides improved efficiency and longer system life.

Polyol Ester Oils (POE's) are fully compatible with HFC refrigerants (such as 134A), MP/HP blends (such as MP-39) and properly retrofitted HCFC systems. Approved by Copeland and many other compressor manufacturers. For correct retrofit procedures, contact the equipment manufacturer.

| Item | Container Size | Copeland Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Ultra 200 | 1 Gallon | 998-ab52-01 | New 4VM82 | $267.20 | $160.00 | 25.0 |
| EAL-ARCTIC-22C | 1 Quart | 998-E022-00 | 5E759 ❸ | 45.65 | 15.37 | 2.5 |
| EAL-ARCTIC-22CC | 1 Gallon | 998-E022-01 | 5E760 ❸ | 86.32 | 45.55 | 9.7 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

## DON'T FORGET THE BACK OF THE BOOK!

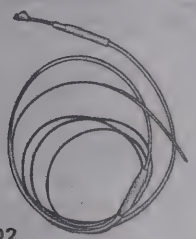
### MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER

Besides complete National Brand and Product Indexes, the back section of this catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# ROTALOCK VALVES, CRANKCASE HEATERS & VIBRATION ABSORBERS

## SELF-REGULATING CRANKCASE HEATER

New



No. 4MC02

- **Fits any unit up to 5 HP and 40" circumference**
- **Reliable self-regulating performance**
- **No thermostat required**

FreezGard® self-regulating crankcase heater prolongs refrigeration compressor life and increases efficiency. This one size fits all, moisture-proof heater 4-ft. heater provides reliable peak heating during critical cold periods and reduces its heating once the compressor starts or the air temperature rises. It will not overheat and can be overlapped without damage. Includes flexible lockstrap and prestripped 28" wire-leads for easy connection and hard-wiring. Use only with refrigeration compressors in nonhazardous areas. UL Recognized.

### SPECIFICATIONS AND ORDERING DATA

| Power At | Minimum Watts | Volts (AC) | Raychem Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 0°F | 60 | 120 | CCH-1C | 4MC02* | $38.61 | $35.15 | 0.9 |
| 50°F | 32 | 208-277 | CCH-2C | 4MC05* | 38.61 | 35.15 | 0.9 |

(*) Power at these temperatures will equal the minimum watts

## COMPRESSOR CRANKCASE HEATERS



No. 2E532

- **Reduce common compressor damage**
- **Keep compressor oil up to 30°F warmer than system temperature**
- **UL Recognized; CSA Certified**

Moisture-proof units have stainless steel outer jacket with high-temp silicone rubber element and 30" insulated leads for electrical connection. Easy to install with screw toggle clamp included. UL Recognized, CSA Certified. Instructions included, Tutco brand.

### SPECIFICATIONS AND ORDERING DATA

| Girth Dimensions (In.) Min. | Max. | Volts (AC) | Watts | Tutco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 24¾ | 31⅝ | 240 | 45 | CH-103-40 | 2E532 | $21.95 | $14.79 | 0.5 |
| 27 7/16 | 34¼ | 240 | 54 | CH-101-40 | 2E533 | 21.95 | 14.79 | 0.5 |
| 25¾ | 32⅝ | 240 | 60 | CH-102-40 | 2E534 | 21.95 | 14.79 | 0.5 |

## ROTALOCK VALVES



No. 3X730

Compressors 3Z817, 3Z818, 3Z819 and 5Z076, are furnished with connections for use with screw-type Rotalock valves. Steel valves can be closed to allow changes without evacuating or recharging the system. 1/4" SAE fitting for use at high or low pressure controls, service manifolds, etc.

### SPECIFICATIONS AND ORDERING DATA

| Valve Usage | Outside Diam. (In.) | Inside Diam. (In.) | Threads Per Inch | Approx. Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Discharge | 1¼ | 7/8 | 12 | 6 x 3 x 2 | 3X730 | $63.53 | $43.30 | 1.3 |
| Suction | 1¾ | 1⅛ | 12 | 8 x 3½ x 2½ | 3X731 | 147.58 | 101.40 | 2.3 |

## VIBRATION ABSORBERS

**Flexible Metal Connectors for Refrigeration and Air Conditioning Tubing**



No. 1A888

SA2575 LR46775

- **Help prevent refrigerant leaking**
- **Resist fatigue under constant flexing**
- **Resist vibration**
- **Flexible, bronze tubing**

Designed to reduce transmission of vibration and gas pulsation from the compressor or condensing unit to other parts of the system. Connectors also help compensate for tubing misalignment, intermittent pipe travel due to thermal expansion and contraction, and help prevent refrigerant leakage due to tubing failure.

**Fabricated from flexible continuous helically corrugated bronze tubing;** covered by bronze braid for additional strength. Copper fittings are brazed in place for high pressure usage. Highly resistant to fatigue under constant flexing and vibration. UL Recognized (SA2575) and CSA Certified (LR46775). Packless brand.

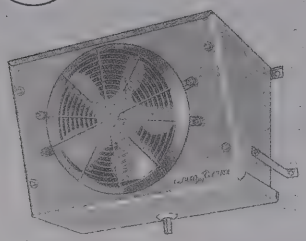
### VIBRATION ABSORBER SPECIFICATIONS AND ORDERING DATA

| To Fit Copper Tubing Having Actual O.D. (In.) | Nominal I.D. (In.) | Flexible Hose I.D. (In.) | Overall Length (In.) | Max. Work Pressure PSIG | Burst Pressure PSIG | Packless Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3/8 | 1/4 | 3/8 | 8¼ | 500 | 2500 | VAF-3 | 1A888 | $21.01 | $9.53 | 0.4 |
| 1/2 | 3/8 | 3/8 | 9 | 500 | 2500 | VAF-4 | 1A889 | 23.11 | 10.51 | 0.5 |
| 5/8 | 1/2 | 1/2 | 9¾ | 500 | 2500 | VAF-5 | 1A890 | 27.93 | 12.77 | 1.0 |
| 7/8 | 3/4 | 3/4 | 11½ | 500 | 2500 | VAF-8 | 1A891 | 38.24 | 17.41 | 1.0 |
| 1⅛ | 1 | 1 | 13 | 500 | 2500 | VAF-9 | 1A892 | 48.74 | 22.20 | 2.0 |
| 1⅜ | 1¼ | 1¼ | 14¾ | 500 | 2500 | VAF-10 | 1A893 | 67.60 | 30.80 | 0.3 |
| 1⅝ | 1½ | 1½ | 17 | 500 | 2500 | VAF-11 | 1A894 | 95.99 | 43.50 | 1.0 |

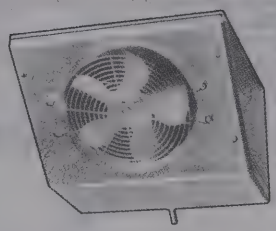
# REACH-IN UNIT COOLERS

CLIMATE CONTROL™

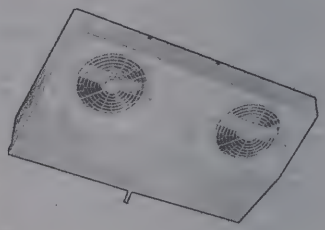
Replacement Parts Available
1-800-323-0620



No. 6D328
V-Profile Unit Cooler



No. 6D333
High Profile Unit Cooler



No. 6D295
Thin Profile Unit Cooler

## ALL REACH-IN UNIT COOLERS FEATURE:

- Double flare on coil inlet gives positive seating of expansion valve
- Attractive grained aluminum cabinet
- Molded Lexan® guard
- Stainless steel screws prevent rust streaks
- Motors are life-lubricated and thermally protected
- Internal junction box for electrical connection
- Plate type aluminum fins with full collars-copper tubes
- Dehydrated and sealed coils
- Easy to install and maintain

## LOW TEMPERATURE UNIT COOLERS FEATURE:

- Electric defrost insures positive heat source
- Built-in fan delay allows coil to be chilled before returning to the normal cooling cycle
- Defrost terminates on coil temperature to eliminate excessive defrost period

## SPECIFICATION & ORDERING DATA

| BtuH +20° SST | -10° SST | CFM | Motor Data Qty. | 115 FLA | 230 FLA | Heater Data Watts | 115/1pH Amps | 230/1pH Amps | Connections (In.) Coil Inlet | Suction | Drain | Dimensions (In.) L | W | H | Climate Control Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LOW TEMPERATURE UNITS—ELECTRIC DEFROST** | | | | | | | | | | | | | | | | | | | |
| **1050** | 900 | 110 | 1 | 0.8 | — | 275 | 2.4 | — | 1/2 FN | 3/8 ID | 1/2 OD | 16½ | 15½ | 4½ | SFC09A | **6D302** | $425.02 | **$279.00** | 14.0 |
| **1380** | 1200 | 210 | 2 | 1.6 | — | 300 | 2.6 | — | 1/2 FN | 3/8 ID | 1/2 OD | 20½ | 15½ | 4½ | SFC12A | **6D301** | 510.47 | **336.00** | 19.0 |
| **1780** | 1600 | 210 | 2 | 1.6 | — | 350 | 3.0 | — | 1/2 FN | 1/2 ID | 1/2 OD | 24 | 16½ | 4½ | SFC16A | **6D300** | 630.94 | **414.25** | 23.0 |
| **2400** | 2100 | 240 | 1 | 1.0 | — | 600 | 5.2 | — | 1/2 FN | 1/2 ID | 1/2 OD | 24 | 18½ | 6¾ | SFC21A | **6D299** | 718.43 | **421.00** | 24.0 |
| **3200** | 2800 | 335 | 3 | — | 1.2 | 1000 | — | 4.3 | 1/2 FN | 5/8 ID | 1/2 OD | 31⅝ | 16½ | 6¾ | SFC28B | **6D298** | 903.85 | **594.00** | 27.0 |
| **4000** | 3500 | 420 | 2 | — | 1.0 | 1000 | — | 4.3 | 1/2 FN | 5/8 ID | 1/2 OD | 38⅝ | 18½ | 6¾ | SFC35B | **6D297** | 1019.12 | **670.00** | 38.0 |
| **6100** | 5300 | 595 | 3 | — | 1.5 | 1200 | — | 5.2 | 1/2 FN | 7/8 ID | 1/2 OD | 49⅛ | 18½ | 6¾ | SFC53B | **6D296** | 1403.17 | **921.00** | 53.0 |

| BtuH 10°F TD | CFM | Motors 115/1pH/60 Qty. | FLA | Connections (In.) Coil Inlet | Suction | Drain | Dimensions (In.) L | W | H | Climate Control Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MEDIUM TEMPERATURE UNITS—AIR DEFROST** | | | | | | | | | | | | | | |
| **THIN PROFILE** | | | | | | | | | | | | | | |
| **1000** | 110 | 1 | 0.8 | 1/2 FN | 3/8 ID | 1/2 OD | 16½ | 15½ | 4½ | SRC10A | **6D295** | $255.08 | **$168.00** | 14.0 |
| **1300** | 205 | 2 | 1.6 | 1/2 FN | 3/8 ID | 1/2 OD | 20½ | 15½ | 4½ | SRC13A | **6D294** | 329.21 | **215.75** | 17.0 |
| **1700** | 205 | 2 | 1.6 | 1/2 FN | 3/8 ID | 1/2 OD | 24 | 16½ | 4½ | SRC17A | **6D293** | 383.76 | **251.75** | 21.0 |
| **2300** | 315 | 3 | 2.4 | 1/2 FN | 3/8 ID | 1/2 OD | 31⅝ | 16½ | 4½ | SRC23A | **6D292** | 490.82 | **322.75** | 28.0 |
| **3000** | 320 | 3 | 2.4 | 1/2 FN | 1/2 ID | 1/2 OD | 40 | 16½ | 4½ | SRC30A | **6D291** | 607.41 | **399.25** | 33.0 |
| **4300** | 425 | 4 | 3.2 | 1/2 FN | 5/8 ID | 1/2 OD | 53⅜ | 16½ | 4½ | SRC43A | **6D290** | 820.28 | **538.50** | 44.0 |
| **5500** | 545 | 5 | 4.0 | 1/2 FN | 5/8 ID | 1/2 OD | 53⅜ | 16½ | 6½ | SRC55A | **6D289** | 1042.85 | **685.50** | 33.0 |
| **HIGH PROFILE** | | | | | | | | | | | | | | |
| **1300** | 235 | 1 | 1.0 | 1/2 FN | 3/8 ID | 1/2 OD | 14¼ | 15¼ | 8⅞ | L13A | **6D333** | 326.12 | **213.25** | 16.0 |
| **1700** | 250 | 1 | 1.0 | 1/2 FN | 3/8 ID | 1/2 OD | 17¼ | 15¼ | 8⅞ | L17A | **6D332** | 343.63 | **225.25** | 17.0 |
| **2300** | 265 | 1 | 1.0 | 1/2 FN | 3/8 ID | 1/2 OD | 22¾ | 15¾ | 8⅞ | L23A | **6D331** | 401.26 | **263.75** | 22.0 |
| **3000** | 480 | 2 | 2.0 | 1/2 FN | 1/2 ID | 1/2 OD | 27¾ | 15¾ | 8⅞ | L30A | **6D330** | 516.58 | **338.50** | 27.0 |
| **4300** | 520 | 2 | 2.0 | 1/2 FN | 1/2 ID | 1/2 OD | 37 15/16 | 15¾ | 8⅞ | L43A | **6D329** | 645.22 | **423.75** | 40.0 |
| **V-PROFILE** | | | | | | | | | | | | | | |
| **600** | 135 | 1 | 0.8 | 1/2 FN | 3/8 ID | 1/2 OD | 12½ | 8⅛ | 6⅞ | LAC06A | **6D328** | 215.98 | **141.55** | 9.0 |
| **800** | 130 | 1 | 0.8 | 1/2 FN | 3/8 ID | 1/2 OD | 12½ | 8⅛ | 6⅞ | LAC08A | **6D327** | 230.40 | **151.25** | 9.0 |
| **1200** | 265 | 2 | 1.6 | 1/2 FN | 3/8 ID | 1/2 OD | 18 | 8⅛ | 8 | LAC12A | **6D326** | 312.75 | **204.50** | 14.0 |
| **1700** | 245 | 1 | 1.0 | 1/2 FN | 3/8 ID | 1/2 OD | 14 | 10½ | 9¾ | LAC17A | **6D325** | 351.92 | **231.00** | 11.0 |

# WALK-IN UNIT COOLERS

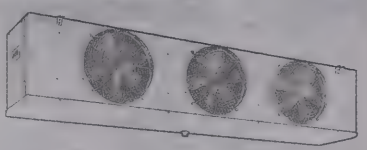
**ALL WALK-IN UNITS FEATURE:**

- Computer selected, staggered copper tube, aluminum fin coils circuited to maximize capacity, performance and efficiency
- Nozzles supplied for HCFC-22, CFC-502, R-404A, and R-507
- PVC-coated steel wire fan guards
- Thermally protected fan motors
- Motor wiring uses plug-in type connectors for ease of service
- Heavy-gauge patterned aluminum case for long life
- Slotted hangers simplify installation
- Hanger design allows flush ceiling mounting, which minimizes caulking
- End panels are designed for maximum accessibility, simplifying service
- Unit housing accommodates expansion valve
- Drain pan with hinge/screw arrangement, built-in slope with oversized drain fitting centrally located for fast condensate removal

**LOW TEMPERATURE UNITS FEATURE:**

- Drain pan with electrical heating element that allows for free drainage of condensate
- Deep fin slots are contoured for tight fit around defrost heaters, which results in an efficient defrost system
- Defrost heaters, located on air-entering side, require no extra space between units for service
- Factory-wired terminal board markings are coordinated with defrost timer terminals
- Temperature defrost termination/fan-delay switch monitors defrost length, saves energy and delays the fan operation after defrost termination, to avoid room temperature fluctuations and moisture carryover

CLIMATE CONTROL



NSF CSA UL

**LOW TEMPERATURE CAPACITY CORRECTION FACTORS**

| Refrigerant | CFC-502 / HCFC-22 | | |
|---|---|---|---|
| Suction Temperature (F) | -20 | -10 | +20 |
| Multiply Capacity by | 1.00 | 1.05 | 1.15 |

| Stock No. | BtuH Capacity 10°F TD | CFM | FAN Qty. | FAN Dia. | MOTORS HP | MOTORS RPM | MOTORS BtuH Heat | Shaded Pole Motor Amps 115 / 60 / 1 |
|---|---|---|---|---|---|---|---|---|
| **MEDIUM TEMPERATURE UNITS—AIR DEFROST** | | | | | | | | |
| 6D324 | 4000 | 800 | 1 | 12" | 1/20 | 1550 | 220 | 1.8 |
| 6D323 | 5200 | 800 | 1 | 12 | 1/20 | 1550 | 220 | 1.8 |
| 6D322 | 6500 | 710 | 1 | 12 | 1/20 | 1550 | 220 | 1.8 |
| 6D321 | 9000 | 1430 | 2 | 12 | 1/20 | 1550 | 440 | 3.6 |
| 6D320 | 10500 | 1520 | 2 | 12 | 1/20 | 1550 | 440 | 3.6 |
| 6D319 | 12000 | 1520 | 2 | 12 | 1/20 | 1550 | 440 | 3.6 |
| 6D318 | 14000 | 1460 | 2 | 12 | 1/20 | 1550 | 440 | 3.6 |
| 6D317 | 16000 | 2270 | 3 | 12 | 1/20 | 1550 | 660 | 5.4 |
| 6D316 | 20000 | 3030 | 4 | 12 | 1/20 | 1550 | 880 | 7.2 |
| 6D315 | 27000 | 3790 | 5 | 12 | 1/20 | 1550 | 1100 | 9.0 |
| 6D314 | 31000 | 4390 | 6 | 12 | 1/20 | 1550 | 1320 | 10.8 |
| 6D313 | 40000 | 4390 | 6 | 12 | 1/20 | 1550 | 1320 | 10.8 |

| Stock No. | BtuH 10° TD | CFM | FAN Qty. | FAN Dia. | MOTORS HP | MOTORS RPM | MOTORS BtuH Heat | Shaded Pole Motor Amps 208-230 / 60 / 1 | HEATERS Amps 208-230 / 60 / 1 | HEATERS Amps 208-230V / 60 / 3 | HEATERS Watts |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **LOW TEMPERATURE UNITS—ELECTRIC DEFROST** | | | | | | | | | | | |
| 6D312 | 4000 | 810 | 1 | 12" | 1/20 | 1550 | 220 | 0.9 | 4.4 | 2.8 | 1006 |
| 6D311 | 5500 | 1535 | 2 | 12 | 1/20 | 1550 | 440 | 1.8 | 7.0 | 4.3 | 1605 |
| 6D310 | 7000 | 1455 | 2 | 12 | 1/20 | 1550 | 440 | 1.8 | 7.0 | 4.3 | 1605 |
| 6D309 | 9400 | 1535 | 2 | 12 | 1/20 | 1550 | 440 | 1.8 | 9.0 | 5.5 | 2060 |
| 6D308 | 12000 | 2295 | 3 | 12 | 1/20 | 1550 | 660 | 2.7 | 13.3 | 8.1 | 3067 |
| 6D307 | 14000 | 2275 | 3 | 12 | 1/20 | 1550 | 660 | 2.7 | 13.3 | 8.1 | 3067 |
| 6D306 | 16000 | 3060 | 4 | 12 | 1/20 | 1550 | 880 | 3.6 | 16.3 | 9.9 | 3738 |
| 6D305 | 18000 | 3060 | 4 | 12 | 1/20 | 1550 | 880 | 3.6 | 16.3 | 9.7 | 3738 |
| 6D304 | 24000 | 4485 | 6 | 12 | 1/20 | 1550 | 1320 | 5.4 | 28.3 | 18 | 6517 |
| 6D303 | 28000 | 4485 | 6 | 12 | 1/20 | 1550 | 1320 | 5.4 | 28.3 | 18 | 6517 |

| Connections (In.) Inlet | Suction | Ext. Equalizer | Drain | Dimensions (In.) L | W | H | Climate Control Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 ODS | 5/8 ODS | 1/4 FN | 3/4 FPT | 32¼ | 13 15/16 | 14¾ | LSC 040AJ | **6D324** | $541.20 | **$355.00** | 38.0 |
| 1/2 ODS | 5/8 ODS | 1/4 FN | 3/4 FPT | 32¼ | 13 15/16 | 14¾ | LSC 052AJ | **6D323** | 590.61 | **387.75** | 42.0 |
| 1/2 ODS | 5/8 ODS | 1/4 FN | 3/4 FPT | 32¼ | 13 15/16 | 14¾ | LSC 065AJ | **6D322** | 685.35 | **449.25** | 44.0 |
| 1/2 ODS | 5/8 ODS | 1/4 FN | 3/4 FPT | 44¼ | 13 15/16 | 14¾ | LSC 090AJ | **6D321** | 903.59 | **594.00** | 58.0 |
| 1/2 ODS | 5/8 ODS | 1/4 FN | 3/4 FPT | 52¼ | 13 15/16 | 14¾ | LSC 105AJ | **6D320** | 966.35 | **633.50** | 66.0 |
| 1/2 ODS | 7/8 ODS | 1/4 FN | 3/4 FPT | 52¼ | 13 15/16 | 14¾ | LSC 120AJ | **6D319** | 1070.38 | **701.50** | 66.0 |
| 1/2 ODS | 7/8 ODS | 1/4 FN | 3/4 FPT | 52¼ | 13 15/16 | 14¾ | LSC 140AJ | **6D318** | 1185.67 | **778.00** | 74.0 |
| 1/2 ODS | 7/8 ODS | 1/4 FN | 3/4 FPT | 52¼ | 13 15/16 | 14¾ | LSC 160AJ | **6D317** | 1394.60 | **915.00** | 92.0 |
| 1/2 ODS | 7/8 ODS | 1/4 FN | 3/4 FPT | 92¼ | 13 15/16 | 14¾ | LSC 200AJ | **6D316** | 1762.07 | **1157.00** | 120.0 |
| 1/2 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 112¼ | 13 15/16 | 14¾ | LSC 270AJ | **6D315** | 2261.82 | **1483.00** | 218.0 |
| 1/2 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 132¼ | 13 15/16 | 14¾ | LSC 310AJ | **6D314** | 2530.52 | **1660.00** | 232.0 |
| 7/8 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 132¼ | 13 15/16 | 14¾ | LSC 400AJ | **6D313** | 3184.21 | **2088.00** | 270.0 |
| 1/2 ODS | 5/8 ODS | 1/4 FN | 3/4 FPT | 32¼ | 13 15/16 | 14¾ | LSF 040BJ | **6D312** | 895.48 | **587.50** | 42.0 |
| 1/2 ODS | 5/8 ODS | 1/4 FN | 3/4 FPT | 44¼ | 13 15/16 | 14¾ | LSF 055BJ | **6D311** | 1111.66 | **728.50** | 56.0 |
| 1/2 ODS | 7/8 ODS | 1/4 FN | 3/4 FPT | 44¼ | 13 15/16 | 14¾ | LSF 070BJ | **6D310** | 1202.27 | **788.50** | 60.0 |
| 1/2 ODS | 7/8 ODS | 1/4 FN | 3/4 FPT | 52¼ | 13 15/16 | 14¾ | LSF 090BJ | **6D309** | 1361.79 | **892.50** | 74.0 |
| 1/2 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 72¼ | 13 15/16 | 14¾ | LSF 120BJ | **6D308** | 1694.29 | **1113.00** | 96.0 |
| 1/2 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 72¼ | 13 15/16 | 14¾ | LSF 140BJ | **6D307** | 1944.50 | **1276.00** | 102.0 |
| 1/2 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 92¼ | 13 15/16 | 14¾ | LSF 160BJ | **6D306** | 2259.49 | **1484.00** | 128.0 |
| 1/2 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 92¼ | 13 15/16 | 14¾ | LSF 180BJ | **6D305** | 2500.48 | **1640.00** | 130.0 |
| 1/2 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 132¼ | 13 15/16 | 14¾ | LSF 240BJ | **6D304** | 3114.52 | **2043.00** | 232.0 |
| 7/8 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 132¼ | 13 15/16 | 14¾ | LSF 280BJ | **6D303** | 3686.16 | **2417.00** | 232.0 |
| 7/8 ODS | 1⅛ ODS | 1/4 FN | 3/4 FPT | 132¼ | 13 15/16 | 14¾ | | | | | |

# REFRIGERANT

**Prices on these items are subject to change without notice. Contact your local branch for current market price.**

Forane® **Genetron®**



## HCFC REFRIGERANTS

- **R-22—Widely used in residential and commercial air conditioning, industrial cooling, heat pumps and frozen food storage**

Refrigerants come in disposable cylinders with tamper-evident protection on the valve. Forane and Genetron brand.

**NOTE:** The Federal Clean Air Act restricts the sale and use of CFC and HCFC refrigerants to technicians certified by an EPA-approved testing organization.

### HCFC REFRIGERANT ORDERING DATA*

| Type | Size | Stock No. ❸ * | Shpg. Wt. | Size | Stock No. ❸ | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **R-22** | 30 lb. Cylinder | **2W198** | 37.0 | 50 lb. Cylinder | **2W199** | 62.0 |

(*) Government regulated product; includes chorofluorocarbon (CFC) excise tax.

## ALTERNATIVE REFRIGERANTS

**Top-quality alternative refrigerants** in lightweight, disposable cylinders. Factory-filled to assure maximum dryness and purity. Cylinders have sturdy carrying handle/stand and Zytel nylon hand valve. All have pressure relief device.

**IMPORTANT:** Alternative refrigerants are not "drop-in" replacements for the CFC type refrigerants. System retrofits and changes are necessary for these refrigerants to be compatible with existing equipment. Contact the equipment OEM for retrofit guidelines.

**NOTE:** The Federal Clean Air Act restricts the sale and use of CFC and HCFC refrigerants to technicians certified by an EPA-approved testing organization.

| ASHRAE No. | Refrigerant | Cylinder Color | Lubricant | Size | Application / Comments | Brand Name | Stock No. ❸ | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| | | | **R-11 ALTERNATIVES** | | | | | |
| **R123** | R-123 HCFC | Light Grey | Mineral Oil Alkyl Benzene | 100 lb. Drum | Retrofit replacement used in centrifugal chiller applications. | Forane, Genetron | **5E056** | 115.0 |
| | | | **R-12 ALTERNATIVES** | | | | | |
| **R134A** | R-134A HFC | Light Blue | Polyol Ester | 30 lb. Cylinder | Used in new equipment and to retrofit existing equipment in refrigerators, water coolers and other med. temp. refrigeration systems. | Forane, Genetron | **5E057** | 37.0 |
| **R134A Automotive** | R-134A HFC | Light Blue | Poly Alkaline Glycol | 30 lb. Cylinder | Automotive cylinder has 1/2" SAE male connector. Used in auto A/C. | Forane, Genetron | **1D220** | 37.0 |
| **R410A** | R-410A HFC | Rose | Polyol Ester | 25 lb. Cylinder | For new A/C equipment applications. Replaces HCFC22 in new equipment. | Genetron | **3ZG62** | 37.0 |
| **R401A** | MP-39 HCFC | Red Coral | Alkyl Benzene, Polyol Ester | 30 lb. Cylinder | Designed as a retrofit product for appliances and other med. temp. refrigeration applications. | Genetron | **5E058** | 37.0 |
| **R409A** | FX-56 HCFC (R409A) | Tan | Mineral Oil, Alkyl Benzene, Polyol Ester | 30 lb. Cylinder | Retrofit replacement in low to med. temp. small refrigeration systems to replace R-12. | Forane, Genetron | **5U596** | 37.0 |
| | | | **R-502 ALTERNATIVES** | | | | | |
| **R408A** | FX-10 HCFC | Medium Purple | Mineral Oil, Alkylbenzene Polyester | 24 lb. Cylinder | Retrofit replacement used in medium and low temperature refrigeration systems which currently use R-502. | Forane, Genetron | **3L429** | 32.0 |
| **R404A** | FX-70 HFC | Orange | Polyol Ester | 24 lb. Cylinder | Used in new equipment and to retrofit existing equipment in supermarket, food service, ice machine and other med. and low temp. applications. | Forane, Genetron | **6E862** | 31.0 |
| **R507** | AZ-50 HFC | Teal | Polyol Ester | 25 lb. Cylinder | Used in new equipment and to retrofit existing equipment in supermarket, food service, ice machine and other med. and low temp. applications. | Genetron | **6U580** | 32.0 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

**GRAINGER...YOUR ONE STOP SHOPPING SOURCE!**

**For an extensive selection of all your Industrial & Commercial Equipment and Supplies, turn to the many product categories listed in our Table of Contents. Grainger is committed to being your single-source supplier.**




Alkyl Benzene Lubricants No. 1K495

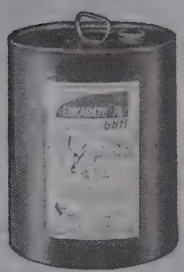
## VIRGINIA® AB ALKYL BENZENE LUBRICANTS

- Improved solubility in refrigerants
- Better oil return
- Low floc points
- Improved thermal stability
- Excellent foaming characteristics

**Alkyl benzene lubricants** are recommended by refrigerant producers and compressor manufacturers for use with the interim HCFCs, as well as with CFCs and ammonia. Virginia KMP brand.

| SUS Viscosity | ISO Viscosity | Package Size, (Gallons) | Virginia KMP Model | Stock No.❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **300** | 68 | 55 | LAB3055 | **1K481** | $2364.95 | **$1321.00** | 432.0 |
| **300** | 68 | 5 | LAB305 | **1K483** | 245.95 | **137.75** | 40.0 |
| **300** | 68 | 1 | LAB301 | **1K485** | 51.95 | **29.45** | 8.3 |
| **200** | 46 | 55 | LAB2055 | **1K487*** | 2851.95 | **1595.00** | 432.0 |
| **200** | 46 | 5 | LAB205 | **1K489*** | 295.95 | **165.50** | 40.0 |
| **200** | 46 | 1 | LAB201 | **1K491*** | 61.95 | **35.15** | 8.3 |
| **150** | 32 | 55 | LAB1555 | **1K493** | 2295.95 | **1284.00** | 432.0 |
| **150** | 32 | 5 | LAB155 | **1K495** | 237.95 | **133.00** | 40.0 |
| **150** | 32 | 1 | LAB151 | **1K497** | 49.95 | **28.50** | 8.3 |

(*) Copeland Approved



Polyol Ester Lubricants No. 1K461

## EMKARATE™ RL POLYOL ESTER LUBRICANTS

- Superior low temp performance
- No wax content
- OEM approvals and acceptance for use with long term HFCs, interim HCFCs and traditional CFC refrigerants
- Quality assurance registered to BS5750 and ISO9002

**EMKARATE™ RL Polyol Ester lubricants** are specially formulated for use with HFC, HCFC and CFC refrigerants. Virginia KMP brand.

| ISO Viscosity | Package Size | Virginia KMP Model | Stock No.❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **68** | 55 Gallon | LE68H55 | **1K459** | $8861.95 | **$4953.00** | 477.0 |
| **68** | 5 Gallon | LE68H5 | **1K461** | 898.95 | **503.00** | 44.0 |
| **68** | 10 Oz. Tube | LE68H10 | **1K463** | 31.95 | **18.00** | 1.0 |
| **68** | 1 Gallon | LE68H1 | **1K465** | 182.95 | **102.60** | 36.0 |
| **32** | 1 Quart | LE32SQ | **1K467** | 47.95 | **26.60** | 2.0 |
| **32** | 55 Gallon | LE32S55 | **1K469** | 7674.95 | **4290.00** | 450.0 |
| **32** | 5 Gallon | LE32S5 | **1K471** | 781.95 | **437.00** | 41.0 |
| **32** | 1 Gallon | LE32S1 | **1K473** | 159.95 | **89.30** | 8.0 |

**Note:** For grades not listed, contact your local branch.
EMKARATE is a trademark of ICI.

KMP INTERNATIONAL




Polyol Ester Lubricants No. 1K479

## EMKARATE™ RL POLYOL ESTER LUBRICANTS

**EMKARATE™ RL32CF lubricant** has been specially formulated for use in Copeland compressors. Use of this Copeland preferred lubricant assures that the stringent requirements, established by Copeland Corporation, for proper lubrication and materials compatibility are being met. Virginia KMP brand.

| ISO Viscosity | Package Size | Virginia KMP Model | Stock No.❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **32** | 1 Quart | LE32CFQ | **1K475** | $49.95 | **$27.55** | 2.0 |
| **32** | 5 Gallon | LE32CF5 | **1K477** | 841.95 | **470.25** | 41.0 |
| **32** | 1 Gallon | LE32CF1 | **1K479** | 172.95 | **96.90** | 0.8 |

EMKARATE is a trademark of ICI.




Compressor Oils No. 2W278

## SUNISO COMPRESSOR OILS

- OEM Approved
- High chemical and thermal stability
- Low wax content

**Suniso Type GS oils** meet rigid requirements for refrigeration and air conditioning compressors. Follow equipment manufacturer's recommendations.

| Suniso Type Oil | Container Size | Viscosity, SSU* at 100°F | Floc† Point °F | Pour Test °F | Cap Color | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **3GS** | 1 Gal. | 150 | Minus 65 | Minus 40 | Blue | **2W277** | $29.95 | **$17.05** | 8.0 |
| **3GS** | 5 | 150 | Minus 65 | Minus 40 | Blue | **4E842** | 142.95 | **81.70** | 48.0 |
| **4GS** | 1 | 300 | Minus 55 | Minus 30 | Red | **2W278** | 29.95 | **17.05** | 8.7 |
| **4GS** | 5 | 300 | Minus 55 | Minus 30 | Red | **4E843** | 142.95 | **81.70** | 40.0 |

(*) Saybolt Second Universal. (†) Wax precipitation temperature.

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

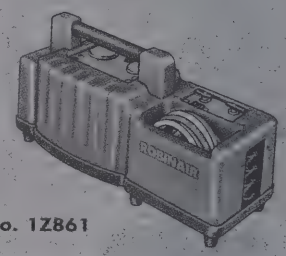
# REFRIGERANT RECOVERY & RECYCLING

## REFRIGERANT RECOVERY & RECYCLING SYSTEMS

- **Quiet running, heavy-duty oil-less compressor allows for fast and thorough recovery of refrigerants**
- **Enviro-Guard hoses with ball valves feature a material to prevent refrigerant permeation and still allow maximum flow capacity**
- **Tank overfill and high pressure protection provide safe operation**
- **Multi refrigerant capability possible through self-clearing loop allowing operator to work on a variety of systems without worrying about cross contamination**

**No. 1Z861 is a lightweight, portable, recovery-only unit** for use on any A/C-R system (except automotive) using medium or high pressure refrigerants. ARI Certified for use with R-401A, R-401B, R-12, R-22, R-500, R-502, R-410A, and R-134a/ester oil systems. Features direct drive oil-less compressor which automatically switches between liquid and vapor refrigerant to enable faster recovery speeds without changing hose configuration. Requires one 30 lb. or 50 lb. D.O.T. approved cylinder and liquid level sensor sold separately.

**ROBINAIR**

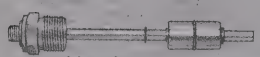


No. 1Z861

| Operating Range °F | | | | | | Dimensions (In.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R-12 | R-22 | R-500 | R-502 | R-401A | R-134a | H | W | D | Robinair Model | Stock No. | List | Each | Shpg. Wt. |
| 0 - 120 | 0 - 105 | 0 - 105 | 0 - 105 | 0 - 105 | 0 - 105 | 12 | 10 | 26 | 25200A | **1Z861** | $1809.00 | **$1331.00** | 53.0 |



No. 3GD22



No. 3XJ02

## REFRIGERANT RECOVERY CYLINDERS

- **Powder coated cylinders for a high gloss, durable finish**
- **Dual port liquid/vapor valve**
- **Reusable and conforms to DOT-4BA specifications and ARI guidelines**
- **Use with liquid level sensor, No. 3XJ02, sold separately below**

| Recovery Tank Size | Dimensions (In.) H | W | Amtrol Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **30-Lb.** | 17½ | 9⅞ | 941-1100 | **3GD22** | $76.00 | **$52.65** | 16.0 |
| **50-Lb.** | 19⅛ | 12⅝ | 941-1101 | **3GD23** | 86.00 | **59.30** | 30.0 |

## LIQUID LEVEL SENSOR

**Liquid level float switch** for refrigerant recovery cylinders. 3-pin, Brad Harrison connection. Amtrol brand (941-369).

**No. 3XJ02.** Shpg. wt. 0.5 lbs.. List $75.00. Each.....**$35.10**

Copeland®




No. 5E759

## COPELAND POLYTOL ESTER OILS

**Polyol Ester Oils (POE's)** are fully compatible with HFC refrigerants (such as 134A), MP/HP blends (such as MP-39) and properly retrofitted HCFC systems. Approved by Copeland and many other compressor manufacturers. For correct retrofit procedures, contact the equipment manufacturer. Copeland brand.

| Item | Container Size | Copeland Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **EAL-ARCTIC-22C** | 1 Quart | 998-E022-00 | **5E759** | $45.65 | **$15.37** | 2.5 |
| **EAL-ARCTIC-22CC** | 1 Gallon | 998-E022-01 | **5E760** | 86.32 | **45.55** | 9.7 |

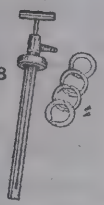
❸ These products are covered by OSHA Hazard Communication Standard and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**



Oil Pump No. 4E848



Vacuum Pump Oil No. 4E849

## OIL PUMP

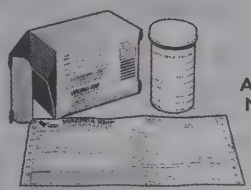
Piston type high pressure pump designed to operate at pressures to 250 PSI. Mount on 1 gallon can of refrigeration oil and pump directly into refrigeration compressors without pumping them down. 1.6 oz. per stroke. Virginia KMP brand (OP1).

**No. 4E848.** Shpg. wt. 1.5 lbs. List $222.95. Each ..... $146.55

## VACUUM PUMP OIL

Fortified with additives which keep pumps clean as it lubricates and seals. Outstanding flushing oil for cleaning vacuum pumps. 1 quart size. Virginia KMP brand (L-340).

**No. 4E849.** Shpg. wt. 1.9 lbs. List $12.95. Each..... $7.55



Oil Analysis Kit No. 4E850

## REFRIGERATION OIL ANALYSIS KIT

Place oil sample into container and mail for complete spectrographic and chemical oil analysis. Virginia KMP brand (OA-1).

**No. 4E850.** Shpg. wt. 0.1 lbs. List $146.95. Each ..... $86.45




Oil Acid Test Kit No. 5W198

## REFRIGERATION OIL ACID TEST KIT

- **Detects acid in mineral or alkylbenzene compressor lubricants**
- **Fast, easy testing**
- **Just one step, add oil and shake—if color changes to yellow, oil is acidic**

Acidic oil must be changed to prevent deterioration of motor windings. Ultra sensitive color guarantees an accurate test. Color changes at neutralization number of 0.04 to 0.06. TKO brand from Virginia KMP brand (L-365).

**Caution: Liquid is flammable.**

**No. 5W198.** ❸ Shpg. wt. 0.3 lbs. List ..... $15.95. Each ..... $8.50




Retrofit Test Kit No. 3VJ62

## ETK™ ACID TEST KIT

- **Fast, easy testing**
- **Just one step, add oil and shake—if color changes to yellow, oil is acidic**

For use with polyol ester lubricants. Ultra-sensitive color change guarantees an accurate test. Virginia KMP brand (ETK.)

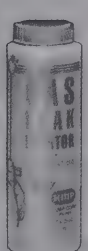
**No. 3VJ59.** ❸ Shpg. wt. 0.3 lbs. List ..... $15.75. Each ..... $8.54

## RTK™ RETROFIT TEST KIT

For use with polyol ester lubricants to analyze residual mineral oil content during retrofit. Percentage of mineral oil is indicated by a change in the appearance of the solution.

Virginia KMP brand (RTK).

**No. 3VJ62.** ❸ Shpg. wt. 0.8 lbs.. List ..... $38.00. Each ..... $20.59



KMP INTERNATIONAL

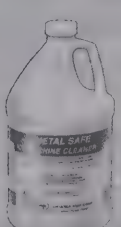
Gas Leak Locator No. 4E845

## GAS LEAK LOCATOR

- **Non-freezing**
- **High viscosity formulation**
- **Fluorescent dye enhances leak detection**

Designed specifically to detect leaks in refrigeration and air conditioning equipment lines. 8 oz. container. Virginia KMP brand (GL6).

**No. 4E845.** Shpg. wt. 0.7 lbs. List..... $10.95. Each ..... $5.65




Metal-Safe Ice Machine Cleaner No. 3VJ61

## ICE MACHINE CLEANER

- **Used in automatic ice machines with water drains; Nos. 3VJ60 and 3VJ61 are metal safe for nickel- and tin-plated evaporators**
- **USDA Approved**

Can be used for descaling commercial dishwashers. Authorized by USDA for use in federally inspected meat and poultry plants. Virginia KMP brand.

**No. 4E310.** ● 8 oz. container (H418). Shpg. wt. 0.9 lbs. List..... $6.95. Each ..... $4.23

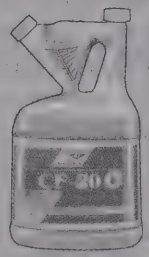
**No. 4E838.** ❸ 1 Gallon container (H419). Shpg. wt. 12.0 lbs. List..... $102.95. Each ..... $57.00

**No. 3VJ60.** ● 8 oz. container (H420). Shpg. wt. 0.7 lbs. List $8.25. Each ..... $4.96

**No. 3VJ61.** ● 1 Gallon container (H421). Shpg. wt. 11.0 lbs. List..... $104.00. Each ..... $62.80

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# COIL CLEANERS



Coil Cleaner & Acid Remover No. 3XL13

## INTERNAL COIL SYSTEM CLEANER & ACID REMOVER

- Cleans away carbon deposits, tar, sludge, oil, and grease
- Neutralizes any acid in the system
- CFC Free
- Non-flammable
- Will not contaminate oil or refrigerant
- Phased evaporation rate
- Non-chlorinated
- Low VOC

Specifically formulated to clean interior of coil lines in refrigeration or air conditioning systems after a compressor failure or burnout. Aftermarket Specialties brand.

| Size | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1-Gal. | CF2004 | 3XL13 | $65.50 | $36.95▲ | 9.0 |
| 5-Gal. | CF2005 | 3XL14 | 329.77 | 176.50▲ | 45.0 |

(▲) Net prices, not subject to discounts.



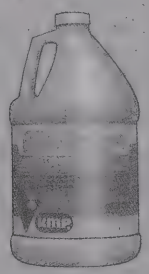
Acid-Base Condenser Coil Cleaner No. 5W197

## ACID BASE CONDENSER COIL CLEANER

- For air cooled condenser coils; effective on spine fin coils
- Foams away hard-to-clean deposits from air cooled condensers
- Excellent aluminum brightener
- Improves heat transfer, increases system capacity, and reduces head pressure

Apply with a low pressure sprayer. Rinses away easily with water. Cleaner contains acid; it MUST be used with protective clothing and eye glasses. Acti-Brite brand from Virginia KMP.

| Size | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 Gal. | AB-1 | 5W197* | $28.95 | $15.15 | 9.5 |
| 5 Gal. | AB-5 | 4E841 | 130.95 | 68.40 | 50.0 |



Non-Acid Base Condenser Coil Cleaner No. 5W403

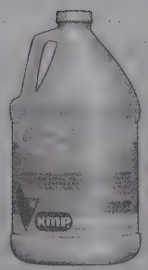
## NON-ACID BASE CONDENSER COIL CLEANER

- For air cooled condenser coils
- Heavy foaming action concentrate
- Alternative to acid cleaners
- Reduces head pressure
- Decreases power consumption
- Especially effective in removing grease accumulations from secondary sources that have contaminated condensers

Cleaner is a formula of alkaline plus surfactants. Protective clothing and eye glasses recommended while using. Alki-Foam brand from Virginia KMP.

| Size | Mfr. Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 Gal. | AKF-1 | 5W403* | $27.95 | $13.25 | 2.8 |
| 5 Gal. | AKF-5 | 4E839 | 116.95 | 59.85 | 56.0 |

KMP INTERNATIONAL



Non-Acid Base Evaporator Coil Cleaner No. 5W402

## NON-ACID BASE EVAPORATOR COIL CLEANER

- Self rinsing; system condensate rinses dirt and detergent away
- Helps maintain maximum efficiency
- Fast acting, nonacid, nontoxic, deodorizing, nonflammable, biodegradable
- Removes dirt, oil, grease, lint, smoke film, and slime accumulations
- USDA approved

Extremely effective for cleaning dirty evaporator coils, especially when used periodically as a preventive maintenance program. Apply with sprayer to the intake side of the coil. Acti-Klean brand from Virginia KMP.

| Size | Mfr. Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 Gal. | AK-1 | 5W402 | $25.95 | $13.25 | 9.0 |
| 5 Gal. | AK-5 | 4E840 | 116.95 | 59.85 | 46.0 |



Blast-a-Coil Coil Cleaner No. 4E844

## BLAST-A-COIL COIL CLEANER

- High pressure nozzle, dries instantly
- No mess to clean up
- Nonconductive, nonflammable

For air conditioning and refrigeration condensers. High pressure blast cuts thru grease on dirty coils. Leaves no oily film. Lemon fragrance. **Not for use on polystyrene room A/C units.**

| Size | Mfr. Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 22-Oz. can | BAC20 | 4E844 | $16.95 | $8.50 | 1.5 |

## CDC ANTI-CLOG TABLETS

Biocide tablets for air conditioning drain pan maintenance and health protection. New design prevents skin contact with biocide, allows metered chemical release, and improves wicking action of filter pad.

| Size | Mfr. Model | Stock No. ❸ | List | Each † | Shpg. Wt. |
|---|---|---|---|---|---|
| Up to 5 tons | FT/C | 6E798 | $11.95 | $6.79 | 0.1 |
| 5 to 15 tons | AT/C | 6E797 | 31.95 | 17.58 | 0.2 |

(†) Priced per tablet.

**Protective Clothing & Eyewear Available. See Index for page numbers.**

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.
(*) DOT regulated product—shipped in full ship pack only.

# MASTICS, INSULATIONS, DESCALER, AND PIPE ANTI-FREEZE

## THERMAL BLOCK

Protective heat-sink compound effectively absorbs surface heat from welding, brazing, or soldering zones. 11 Oz. tube. Virginia KMP brand (TB11).

**No. 4E846.** Shpg. wt. 0.8 List ..... $18.95
Each ..... **$11.35**

## PRESSTITE THERMAL MASTIC

- **Heat transmission compound**
- **Stable at all working temperatures**
- **Does not harden or lose adhesion at -50°F; will not flow at 220°F**

Heat conducting compound, increases heat transfer 4 times the rate obtained with mechanical mounting only. Use wherever rapid heat transmission is desired. 8 oz. tube. Virginia KMP brand (PM8).

**No. 4E847.** Shpg. wt. 0.6 lbs. List ..... $15.95.
Each ..... **$9.45**

## FOAM INSULATION TAPE

- **Temperature range: -20 to 160°F**
- **Reduces condensation**
- **Reduces heat loss on pipes**
- **Ozone resistant**
- **Low water absorbency**

This tape prevents pipe sweating, and is easy to mold around fittings and valves. Adheres to clean metal surfaces and itself. 1/8" thick x 2" wide x 30 ft. Virginia KMP brand (K501).

**No. 4E309.** Shpg. wt. 0.8 lbs. List ..... $15.95.
Each ..... **$9.83**

## CORK INSULATION TAPE

- **Used in hot and cold applications**
- **Reduces condensation**
- **Joints are self-sealing**
- **Water and water vapor resistant**

This cork tape is easily molded to irregular shapes, and has a -20 to 158°F range. 1/8" thick x 2" wide x 30 ft. Virginia KMP brand (PT-1).

**No. 4E306.** Shpg. wt. 3.0 lbs. List ..... $19.95.
Each ..... **$12.53**

## SEALING GUM

- **Nonhardening**
- **Water-resistant**
- **Nonstaining**
- **Adheres to wood, metal, glass, and plastic**
- **-30 to 158°F Temperature range**

These convenient, ready-to-use sealing gums are available in 3/16" x 100 ft. extruded cords, and in 2 lb. blocks. Virginia KMP brand.

**No. 4E308.** 3/16" Extruded cords (PP-33).
Shpg. wt. 2.1 lbs. List ..... $18.95.
Each ..... **$11.64**

**No. 4E307.** 2 Lb. Permagum block (PP-22).
Shpg. wt. 2.1 lbs. List ..... $18.95.
Each ..... **$11.56**

## SCALE REMOVERS

Detergent-inhibitor additives provide excellent protection for all metal parts of the equipment system. Use for descaling aluminum, stainless steel, cast iron, hot dip zinc, or galvanized equipment. (Nos. 6E796 & 6E795 are **NOT** for galvanized steel.) Designed for cleaning heavily scaled equipment and problem scales. Available in 10 lb. drum compound, and 1- and 5-gallon liquid. Virginia KMP brand.

**No. 4E836.** 10 lb. container (WS10).
Shpg. wt. 11.0 lbs. List $102.95. Each ..... **$60.80**

**No. 6E796.*** 1 gallon container (WL1).
Shpg. wt. 9.5 lbs. List $31.95. Each ..... **$17.52**

**No. 6E795.** 5 gallon container (WL5).
Shpg. wt. 47.0 lbs. List $124.95. Each ..... **$67.45**

(*) DOT regulated product—shipped in full ship pack only.

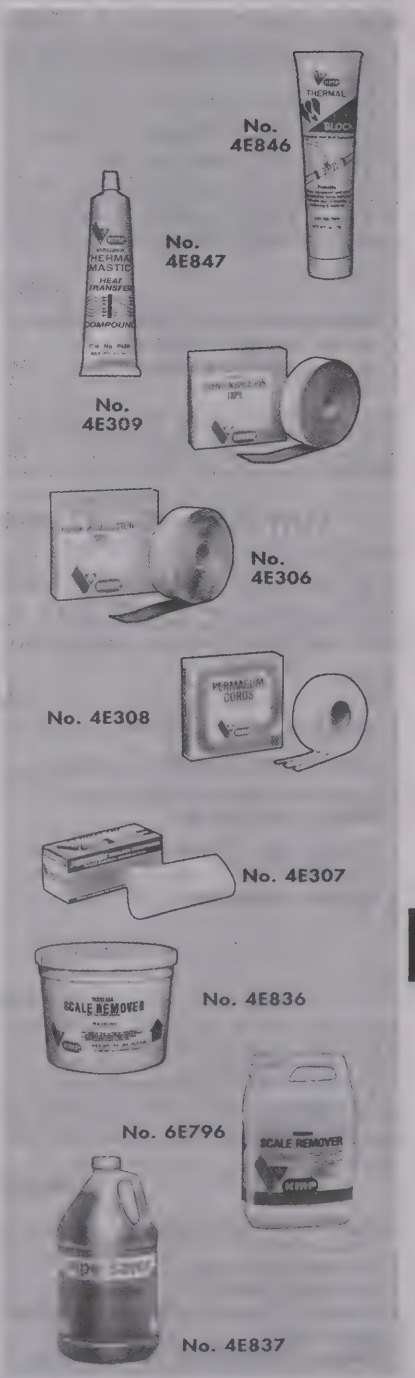
## PIPE SAVER

Propylene glycol based anti-freeze protects pipes from bursting down to -100°F. All ingredients are generally regarded as safe by the FDA. Virginia KMP brand.

**Applications:**

- **Refrigeration systems**
- **Solar hot water and heating systems**
- **Process cooling**
- **Ground water heat pumps**
- **Hydronic systems**
- **Chillers**
- **Swimming pools**
- **Winterization of plumbing in recreational vehicles**

| Size | KMP Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 1 Gal. | PS1 | 4E837 | $35.95 | **$17.05** | 13.0 |
| 5 Gal. | PS5 | 4E851 | 178.95 | **84.55** | 50.0 |




These products are covered by OHSA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# SEALANTS AND GAS LEAK DETECTION

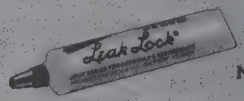
## LEAK LOCK®

- **Withstands temperatures from -200 to 400° F**
- **Full vacuums to 10,000 PSI**
- **Seals all refrigerants, petroleum products, natural and manufactured gases, steam, water, air, etc.**

Soft setting pipe joint compound seals threaded and flanged joints, gasket surfaces and mating surfaces. Resin-based paste remains permanently flexible, adheres to internal surfaces and fills voids. Use on metal and plastic material subject to extreme vibrations. Use alcohol as cleaning agent prior to setting.[No Data]

**No. 3TR02.** ❸ 1.3 oz. Tube. Shpg. wt. 0.1 lbs. List.....$2.79. Each.....**$2.48**

**No. 3TR03.** ❸ 4 oz. Brush Top Plastic Jar. Shpg. wt. 0.4 lbs. List.....$6.80. Each.....**$6.04**



No. 3TR02



No. 3TR03

## RED EPOXY

- **Temperature range: -100° F to 300° F**
- **Tensile strengths: 6000 PSI**
- **Working pressure tested in excess of 3000 PSI**

High performance, heat cured, two part epoxy kit for patching or sealing on all metals including aluminum and most plastics. Exhibits a unique color change when it is completely heat cured. Cure with a hot air gun or an open flame. Cures within 5 minutes and equipment is serviceable immediately. Seals threaded or unthreaded pipes. Field repair aluminum evaporators, coils, radiators, pipes, tanks, etc. Kit includes two 0.5 oz. tubes.

**No. 3TR04.** ❸ Shpg. wt. 0.2 lbs. List.....$11.78. Each.....**$10.46**

HIGHSIDE CHEMICALS INC.

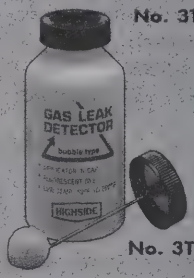


No. 3TR04

## LOW-TEMP NON-HAZARDOUS GAS LEAK DETECTOR

Non-toxic, non-hazardous and does not contain ethylene glycol. Non-freezing, viscous fluorescent, bubble-type gas leak detector rated to -30°F. Leaks appear as large strong bubbles which cling to the applied surface and are fluorescent under a black light. Use on hot and cold piping and equipment containing most gases such as air, natural gas, all refrigerants, ammonia, $SO^2$, etc. 8 oz. plastic dauber bottle.

**No. 3TR08.** Shpg. wt. 0.7 lbs. List.....$4.62. Each.....**$4.09**



No. 3TR08

## TRAX®

- **Temperature Range: 27°F to 200°F**
- **Detects leaks as small as 1 micron**
- **Evaporates leaving no residue, requires no clean-up**
- **Does not pit surfaces and is environmentally friendly**
- **Oxygen compatible**
- **Meets performance requirements of Military Specifications: Mil 25567 Type IA, B & C**

A clear, non-toxic, bubble-type liquid leak detector formulated to produce long lasting bubbles under "job-site" conditions.

**No. 3TR09.** ❸ 1⅓ oz. Squeeze Bottle.Shpg. wt. 0.1 lbs. List.....$2.75. Each.....**$2.44**

**No. 3TR10.** ❸ 10 oz. Plastic Squeeze Bottle with Extendible Spout. Shpg. wt. 0.9 lbs. List...$4.82. Each.....**$4.27**



No. 3TR09

## TRACE® 2

Added directly to the system is a red dye tracer type internal leak detector for use with all refrigerant lubricants and hydraulic systems. Leaks show as intense red stains. Non-volatile, will not sludge oil or deposit gum. Soluble in the lubricant and liquid refrigerant and travels with the lubricant. Oil separators will remove trace and should be bypassed. Passes through solid dryers but the color intensity may be slightly reduced.

**No. 3TR07.** ❸ 4 oz. Plastic Bottles. Shpg. wt. 0.3 lbs. List $14.71. Each.....**$9.99**



No. 3TR07

## THAWZONE®

- **Frees frozen system due to moisture in 5 minutes**
- **Prevents refreezing**
- **Leaves no residue**
- **Does not contain any dissolved solids or methanol**
- **Works with or without solid dryers**

Added to the system it chemically "dries" all refrigerants, methyl chloride, methylene chloride.

**No. 3TR05.** ❸ 1 oz. Plastic Bottle. Shpg. wt. 0.1 lbs. List $3.49. Each.....**$3.10**

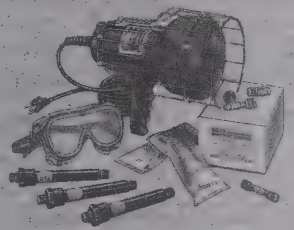
**No. 3TR06.** ❸ 4 oz. Plastic Bottle. Shpg. wt. 0.3 lbs. List $9.57. Each.....**$8.50**



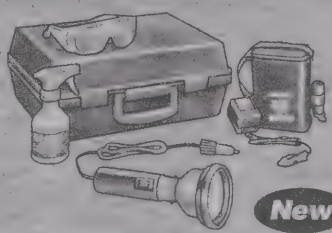
No. 3TR05

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# HVAC UV FLUORESCENT LEAK DETECTION SYSTEMS



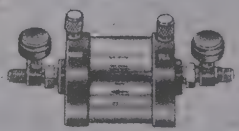
No. 6T513
(Shown without Case)



New

No. 4TL64

SPECTRONICS CORPORATION



No. 6T106
Mist Infuser

eak detection systems use UV fluorescent additives to pinpoint eaks that may go undetected with conventional leak detectors. eveal leaks as small as 1/8 oz./year or less in tubing, coils, alves, fittings, compressors, and seals around moving shafts. right yellow-green glow is found with high-intensity ultraviolet UV) lamp (included with kit). Use on all sizes of air condition- ng and refrigeration systems that circulate the oil with the efrigerant; compatible with all commonly used refrigerants—R-1, R-12, R-22, R-113, R-114, R-123, R-500, and R-502—alternative efrigerants including R-134a and others. There are two ways to nfuse AR-GLO® fluorescent additives: the GLO-STICK® capsule nd the Mist Infuser™. GLO-STICKS are disposable leak tracer apsules that are prefilled with premeasured dose of AR-GLO. he refillable Mist Infuser is for use with bottled AR-GLO addi- ives. 1/2 oz. capacity Mist Infuser included with kits; optional 2 r 16 oz. infusers available for use on larger capacity systems; rder separately below.

## SIMPLE PROCESS TO IDENTIFY LEAKS

) For Mist Infuser, pour pre-measured additive into fill port, tilt- ng to vent all air

) Connect GLO-STICK or Mist Infuser between low pressure auge and service port

) Open valve slowly to gradually let additive into system—allow nough time for additive to circulate

) Trace the system with ultraviolet lamp. All leaks will glow rightly, revealing their precise location

)After repairing leaks, additive wipes off with any water-based leaner or oil solvent.

)Additives meet ANSI/ASHRAE Standard 97; have no adverse ffect on refrigerant oils per ASHRAE Standard 86.

## LEAK DETECTION KITS INCLUDE:

ligh-intensity, lightweight, UL Listed, 115 VAC, 60 Hz UV lamp vith 8 ft. power cord and a 150 watt Built-In-Ballast™ bulb; heat uard/stand and a bottle of GLO-AWAY™ DYE Cleaner/Remover. lo. 6T104 comes with a 1/2 oz. capacity Mist Infuser, quick-dis- onnect attachment, goggles, and four 1/2 oz. bottles each of AR- LO 1, 2, and 3 additives. No. 6T513 comes with a pkg. of GLO- TICK® capsules (1 ea. GS-101, 2 ea. GS-1 and GS-2, 1 ea. GS-3), uick disconnect attachment, 2 bleed valves and goggles. Kits lso come with hard, lockable carrying case, with handle and louble latches; case measures 21L x 12W x 13"H.

**No. 6T104.** ❷ **Leak Detection Kit** with 150W Built-In-Ballast™ bulb. Spectroline® brand (HVLD-80). Shpg. wt. 16.0 lbs..Each.....$579.00

**No. 6T513. Leak Detection Kit** with 150W Built-In-Ballast™ bulb. Spectroline® brand (HVLD-80GS). Shpg. wt. 15.0 lbs. Each .....$419.00

**No. 6T106. 2-oz. Capacity Mist Infuser.** Spectroline® brand (MI-200A). Shpg. wt 2.0 lbs. Each.....$209.00

**No. 6T107. 16-oz. Capacity Mist Infuser.** Spectroline® brand (MI-1600A). Shpg. wt. 3.8 lbs. Each.....$289.00

**No. 6T284.** ❷ *** Ultraviolet, High Intensity Lamp for use with Nos. 6T104 and 6T513.** Includes 150W Built-In-Ballast™ bulb, heat guard/stand, filter, and 8-ft. power cord. Spectroline® brand (BIB-150P). Shpg. wt. 6.2 lbs. Each .....$318.75

**No. 6T285.** ❷ *** Ultraviolet, High Intensity Lamp for use with Nos. 6T105 and 6T514.** Includes 100W bulb, filter, and 8-ft. primary cord and 8-ft. secondary cord. Spectroline® brand (MB-100). Shpg. wt. 14.0 lbs. Each .....$359.00

**No. 6T286.** ❷ *** Concentrated Spot Bulb, Replacement for Nos. 6T104, 6T513, and 6T284.** Spectroline® brand (BLE-150CS-115/M). Shpg. wt. 1.0 lbs. Each .....$89.00

**No. 6T287.** ❷ *** Spot Bulb, Replacement for Nos. 6T105, 6T514, and 6T285.** Spectroline® brand (100S). Shpg. wt. 1.0 lbs. Each .....$53.00

**No. 6T288. Goggles.** UV-absorbing. Spectroline® brand (UVG-50). Each .....$16.00

***New!*** **No. 4TL61.** 4TL61 100 Watt "Instant-on" replacement bulbs (set of 3) for No. 4TL64. Spectronics brand (BLE-100/12). Shpg. wt. 0.1 lbs. Each .....$55.00

***New!*** **No. 4TL62.** No. 4TL62 10oz refill bottle of GLO-AWAY™ Dye Cleaner/Remover. Spectroline brand CR-1600. Shpg. wt. 1.3 lbs. Each .....$5.50

***New!*** **No. 4TL63.** No. 4TL63 8oz spray bottle of GLO-AWAY™ Dye Cleaner/Remover. Spectroline brand CR-800. Shpg. wt. 0.8 lbs. Each .....$6.95

***New!*** **No. 4TL64.** No. 4TL64 Titan™ VV/Blue™ Lamp Kit. Includes 12 volt rechargeable battery pack, 8-oz spray bottle of GLO-AWAY™ Dye Cleaner/Remover, fluorescence-enhancing glasses and a plastic carrying/storage case. Spectronics brand (TLK-100). Shpg. wt. 12.0 lbs. Each .....$399.00

(*) 1-year limited warranty on lamp fixture; 30 day limited warranty on bulbs. Text of warranty available on request. See warranty information on page opposite inside back cover

| Additive Type | Amount of Oil In System | Additive Amount | Typical Application | Carton Qty. | Bottle Size | Spectroline Model | Stock No.❸ | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **AR-GLO 1** | Up to 1.6 Qts. | 1/2 oz | Residential# | 12 | 1/2 oz | AR-GLO 1 | **6T108** | **$50.00** | 0.8 |
| **AR-GLO 2** | 1.7 to 3.2 Qts. | 1/2 oz | Light Commercial & Large Residential# | 12 | 1/2 oz | AR-GLO 2 | **6T109** | **82.95** | 0.8 |
| **AR-GLO 3** | 3.3 Qts. to 2 Gal. | 1/2 oz | Commercial & Light Industrial# | 12 | 1/2 oz | AR-GLO 3 | **6T110** | **135.90** | 0.8 |
| **AR-GLO 4** | NA† | 1/4 oz of AR-Glo 4-per gallon of refrigeration oil | Industrial | 6 | 2 oz | AR-GLO 4 | **6T111** | **260.00** | 1.2 |
| | | | | 1 | 1 pt | AR-GLO 4-P | **6T112** | **320.00** | 1.4 |

†) When oil charge is known, calculate AR-GLO 4 dosage based on amount of refrigeration oil in system. (#) Use AR-GLO 3 with all split systems where the exact oil charge is not known, even they are used for residential applications and hold less than 10 lbs. of refrigerant.

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# GLO-STICK® CAPSULES, BLEED VALVES, & HALOGEN LEAK DETECTORS

## GLO-STICK® CAPSULES

| Capsule Type | Amount of Oil In System | Amount of Refrigerant | Dye Type | System Typical Application | Type of Compressor Oil | Capsule Size (Oz.) | Mfr's. Model | Stock No. | Each Pkg. / 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **GS-101** | Up to 15 fl. oz. | Up to 2.9 lbs. | AR-GLO 101 | Small AC&R units, e.g., ice machines & auto | Mineral oil | 0.03 | GS101 | **6T515** | **$24.00** | 1.0 |
| **GS-1** | Up to 1.6 Qts. | Up to 4.9 lbs. | AR-GLO 1 | Residential* | Mineral oil | 0.5 | GS-1 | **6T516** | **41.00** | 1.0 |
| **GS-2** | 1.7 Qts. to 3.2 Qts. | 5-9.9 lbs. | AR-GLO 2 | Light commercial and large residential* | Mineral oil | 0.5 | GS-2 | **6T492** | **56.95** | 1.0 |
| **GS-3** | 3.3 Qts. to 2 Gal. | 10-25 lbs. | AR-GLO 3 | Commercial and light industrial* | Mineral oil | 0.5 | GS-3 | **6T493** | **83.00** | 1.0 |
| **GS-101/E** | Up to 15 fl. oz. | Up to 2.9 lbs. | AR-GLO 101/E | Small AC&R units, e.g., ice machines | Ester oil | 0.03 | GS-101/E | **6T494** | **27.00** | 0.4 |
| **GS-1/E** | Up to 1.6 Qts. | Up to 4.9 lbs. | AR-GLO 1/E | Residential* | Ester oil | 0.5 | GS1-E | **6T495** | **44.95** | 1.0 |
| **GS-2/E** | 1.7 Qts. to 3.2 Qts. | 5.9-9 lbs. | AR-GLO 2/E | Light commercial e.g. split & central | Ester oil | 0.5 | GS-2/E | **6T496** | **63.00** | 1.0 |
| **GS-3/E** | 3.3 Qts. to 2 Gal. | 10-25 lbs. | AR-GLO 3/E | Commercial and light industrial | Ester oil | 0.5 | GS-3/E | **6T497** | **90.95** | 1.0 |
| **GS-101/LT** | Up to 15 fl. oz. | Up to 2.9 lbs. | AR-GLO 101/LT | Small AC&R units | Alkyl benzene | 0.03 | GS-101/LT | **6T499** | **27.00** | 0.5 |
| **GS-1/LT** | Up to 1.6 Qts. | Up to 4.9 lbs. | AR-GLO 1/LT | Residential* | Alkyl benzene | 0.5 | GS-1/LT | **6T500** | **44.95** | 1.0 |
| **GS-2/LT** | 1.7 Qts. to 3.2 Qts. | 5-9.9 lbs. | AR-GLO 2/LT | Light commercial e.g. split & central | Alkyl benzene | 0.5 | GS-2/LT | **6T501** | **63.00** | 1.0 |
| **GS-3/LT** | 3.3 Qts. to 2 Gal. | 10-25 lbs. | AR-GLO 3/LT | Commercial and light industrial | Alkyl benzene | 0.5 | GS-3/LT | **6T506** | **90.95** | 1.0 |
| **GS-101/PAG** | Up to 15 oz. | Up to 2.9 lbs. | AR-GLO 101/PAG | Automotive — New R-134a | PAG oil | 0.06 | GS-101/PAG | **6T498** | **27.00** | 0.5 |

(*) Use GS-3 series with split systems, where exact oil charge in not known.

### SPECTROLINE BLEED VALVES

**No. 6T502.** Bleed Valve. Spectroline (BV-50). Shpg. wt. 0.2 lbs. Each ..... **$15.00**

**No. 6T509.** Acme Fitting Bleed Valve. Spectroline brand (BV-75). Shpg. wt. 0.2 lbs. Each ..... **$25.00**

2 bleed valves required with GLO-STICK® Capsules to facilitate purging air from lines. BV-75 bleed valves used only with the GS-101/PAG, while BV-50 Bleed Valves used with all other capsules.

### TIF LEAK DETECTORS




| Features | Stock Nos. 1T916 | 1T904 | 3X985 | 3T449 | 1TC17 |
|---|---|---|---|---|---|
| Switchable refrigerant detection: HFC (134a) or CFC, HCFC | — | Y | Y | Y | Y |
| Detects CFC and HCFC refrigerants | Y | Y | Y | Y | Y |
| Flexible, Stainless Probe | Y | Y | — | — | — |
| Audible Leak Indication | Y | Y | Y | Y | Y |
| Manual Sensitivity Setting | Y | — | — | — | Y |
| Automatic Sensitivity Set to Ambient | — | Y | Y | Y | — |
| Built-in Pump that Draws Air to Locate Leaks Quickly | — | — | Y | Y | Y |
| Battery Operated Includes 2, C Cell Batteries | Y | Y | Y | Y | — |
| 115 VAC Operated, Instant-On | — | — | — | — | Y |
| Visual Leak Indication‡ | — | — | — | Y | Y |
| Probe Cord Length | NA | NA | 36° | 36° | 36° |

| Stock No | TIF Model | Each | Shpg. Wt. |
|---|---|---|---|
| **1T916** | HLD440 | **$124.95** | 2.0 |
| **1T904** | 5050A | **149.95** | 2.1 |
| **3X985** | 5550A | **200.00** | 2.4 |
| **3T449** | 5650A | **230.00** | 3.0 |
| **1TC17** | H10A | **230.00** | 3.5 |

(‡) No. 3T449 features visual leak size indicators, reset switch located in probe, and constant power indication.

May be used to detect most compounds containing halogens, i.e. chlorine, fluorine and bromine. SF-6, Ethylene, Perchlorethylene, and Trichlorethylene. Nos. 1T904, 3T449, 3X985, and 1TC17 have the capability to also detect all Class I and Class II substances (as defined by the Clean Air Act). HFC refrigerants (R134A, R125) and Halon gases (1211,1301, etc.). **Always consult user manual and applicable local electrical and safety codes prior to use.** Leak sensitivity exceeds 0.40 oz./year except No. 1T916 which is adjustable with a maximum of 0.50 oz./year. No calibration required (except Nos.1T916 and 1TC17). Detects leaks in contaminated atmosphere. Instant warm-up time. Continuous duty cycle. Negative corona sensor not poisoned by large refrigerant dose. Includes spare sensing tip and carrying case.

**Replacement Carrying Case** for Nos. 1T916, 1T904, 3X985 and 3T449 TIF brand (TIF447).

**No. 1T905.** Shpg. wt. 0.3 lbs. Each ..... **$14.95**

**Maintenance Kit** for use on Nos. 3X985, 3T449 and 1TC17 with TIF models 5500, 5600 and H10K. Includes 3 sensing tips and 3 sensing boots. TIF brand (TIF544).

**No. 1T912.** Shpg. wt. 0.1 lbs. Each ..... **$24.95**

**Maintenance Kit** for use on Nos. 1T916 and 1T904 with TIF Model No. 5000. Includes 3 sensing tips and 3 sensing boots. TIF brand (HLD444).

**No. 1T906.** Shpg. wt. 0.1 lbs. Each ..... **$24.95**

## [A] HALIDE LEAK DETECTOR KIT*

- Portable, lightweight
- Kit includes 14.1 oz. propane fuel cylinder, easy-to-change reaction plates, brass valve body, long lasting flexible hose and plastic case
- UL Listed
- Bernzomatic brand (TX12MA)

**No. 3X674.** Shpg. wt. 3.8 lbs.
Each ..... $34.20

(*) Dot regulated product-shipped in full ship pack only.

## [B] ELECTRONIC VACUUM SYSTEM

Performs functions necessary to properly evacuate, dehydrate, and leak check any system. May be used to evacuate and dehydrate any A/C or Refrigerant unit containing halogenated refrigerant (R12, R22, R502, R134a).

- 10-ton capacity; oil capacity 240 ml
- 115VAC, 60 Hz power supply
- Electronic LED vacuum indicator built-in; indicates levels 1-6
- Indicates if moisture is present in system
- Isolation valve
- Oil contamination sensor and warning light
- Indicates vacuum leaks
- Offset rotary vane design
- Automatic purge feature prevents rotor lock-up
- 1/4" MFL intake fitting
- Separate oil drain and fill plugs

**No. 6T368.** TIF brand (9100V). Shpg. wt. 17.0 lbs. Each ..... $380.00

## [C] AUTO PROGRAMMABLE CHARGING METER

- Automatically dispenses a preset amount of refrigerant into any system in fractions of an ounce from cylinders up to 150 lbs. (68 Kgs.)
- Operates in a "set and forget" mode; stops charging at preset level and signals audible alarm
- Microcomputer monitoring of preset charge is automatically turned off when preset is reached
- Hold function interrupts charging if cylinder empties
- Sensitive to 1/2 ounce resolution
- ±2% accuracy
- Fully automatic (120VAC required) or manual operating modes
- 5 digit liquid crystal display
- 9" square platform accepts all cylinders
- Can be used with either CFC-HCFC (R12, R22, or R502) or HFC (134a)
- Reads pounds and ounces or kilograms and grams
- Battery and line voltage operation with no warm-up time
- Includes self-contained molded case, six AA cell batteries, and a 36" adapter hose

**No. 3T008.** TIF brand (TIF9050). Shpg. wt. 16.0 lbs. Each ..... $430.00

## [C] ELECTRONIC CHARGING SCALE

- Compact "slimline" design less than 2" thick
- Dispenses refrigerant into any system in fractions of an ounce, without limit, from cylinders up to 100 Lbs. (45 Kgs).
- Eliminates need for inefficient methods of refilling charging cylinders
- Can be used as a conventional weight scale by rezeroing to weigh remaining refrigerant for another job
- LCD display, accurate to 1/2 ounce resolution
- Convenient design accepts all cylinders
- Can be used with either CFC-HCFC (R12, R22, or R502) or HFC (134a)
- ±2% accuracy
- Cordless operation and automatic temperature compensation
- Reads pounds and ounces or kilograms and grams and includes 9V battery

**No. 1T921.** TIF brand (TIF9010). Shpg. wt. 13.0 lbs. Each ..... $200.00

## [D] ELECTRONIC SIGHTGLASS

- Eliminates the need for an optical sightglass
- Audible and visible signals indicate fully charged refrigerant system
- Checks refrigerant floodback, detects starved evaporators
- SONAR ultrasonic operation on any metal tubing
- Monitors refrigerant charge on capillary and expansion valve systems, household/commercial refrigerators or freezers and window or room AC packaged systems
- Maximizes evaporator capacity
- Transducer clamps fit tubing from 1/8" to 1¼" diameter
- Battery operated with low battery indicator
- Includes transducer clamps, 9V battery, and carrying case

**No. 1A229.** TIF brand (TIF4000A). Shpg. wt. 1.4 lbs. Each ..... $200.00




## [E] HERMETIC COMPRESSOR ANALYZER

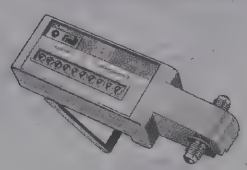
- Computer electronics for quick and accurate signal of difficulty
- No wire-disconnections required
- Clamp-on sensors check for starting torque, acid in refrigerant, insulation breakdown, mechanically frozen compressors, capacitor open or shorted, capacitor microfarads, open starting or run windings and open relays
- Hermetic class: minimum, 200W; maximum, 20KW
- Current range: 3-200 amps
- Includes extra current sensor, plug-in test leads, and batteries

**No. 1T977.** TIF brand (TIF8000).
Shpg. wt. 2.4 lbs. Each ..... $149.00

# VACUUM GAUGES

## ELECTRONIC VACUUM GAUGE

Supco



Used in service or installation of air conditioning or refrigeration equipment. Provides an LED readout of the level of vacuum during the system evacuation process. Assists user to know when all moisture is pumped from the system and if there are system leaks. Supco brand (VG-60).

- **Color coded, 10 segment LED display**
- **Ranges: 5000, 1500, 1000, 700, 400, 300, 200, 100, 50 microns**
- **1/4" male flare connections; in line installation**
- **9V battery operated (not supplied)**
- **Includes hanger/stand, quick caps for fittings and case**

**No. 1TC70.** Shpg. wt. 1.5 lbs. Each.....$124.30

## CHARGING AND RECOVERY SCALE

AMPROBE INSTRUMENT



- **Dual LCD displays both pounds and kilograms**
- **100-Lb. capacity (45.4 Kg)**
- **Accuracy (TYP): 0.031 Lb. (0.0140 Kg)**

Capable of working with all refrigerants. Two-piece design allows remote monitering of refrigerant charging. Includes 9V battery, carrying case, and instructions. Amprobe brand (ADS-1).

**No. 3JH45.** Shpg. wt. 8.0 lbs. Each .....$179.00

## DIGITAL VACUUM GAUGE

AMPROBE INSTRUMENT



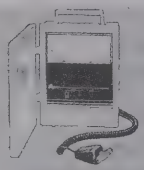
- **Displays microns, inches Hg, and psia**
- **Over protection is provided to 100 PSI**

**Digital vacuum gauge** measures a vacuum down to 50 microns. Incorporates a high precision temperature compensated pressure sensor along with an integrated programmable controller that is fully temperature, drift and gain compensated. Amprobe brand (DVG-1000A).

**No. 4JZ29.** Shpg. wt. 3.0 lbs. Each .....$190.00

## ANALOG VACUUM GAUGE

Supco

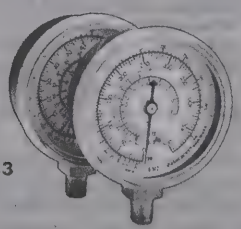


- **Large 5" Analog Meter**
- **Range 5000 to 10 microns (5 to 0.01 Torr.)**
- **Vacuum sensor is compatible with oils, refrigerants, and cleaning solutions**
- **Sensor can endure pressure up to 500 psi**

**Analog vacuum gauge** features polycarbonate case with sensor storage compartment. Coiled sensor cord allows for up to 6 feet remote sensor connection. On/Low battery light allows for constant monitoring of battery condition and replacement. Uses 9-volt battery, not included. Includes meter, 120V adapter, sensor and sensor cable, and instructions. Supco model (VG62).

**No. 4JZ62.** Shpg. Wt. 32.0 lbs. Each .....$185.00

ASHCROFT®



No. 2C543

## 2½" REFRIGERATION MANIFOLD GAUGES

- **ABS case and threaded window**
- **Bronze tube**
- **For cooling systems or service manifolds**
- **Patented silicone dampened spring suspended movement**
- **1/8" NPT male lower connection**
- **Polycarbonate window, removable**
- **Front zero set**
- **R12, R22 and R502 refrigerant scales**
- **Brass socket with restriction screw to provide dampening during pressure surges**
- **Ashcroft brand**

### GAUGE SPECIFICATIONS AND ORDERING DATA

| PSI Range | Case Color | Ashcroft Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **0-500** | Red | 25-1007PH | **2C543** | $24.00 | **$9.90** | 0.3 |
| **30-0-120/250** | Blue | 25-1007PH | **2C541** | 23.00 | **9.49** | 0.3 |

# MANIFOLD GAUGE SETS

## A IMPERIAL 2-WAY GAUGE

- 2-valve brass manifold
- Precision long-life gauges designed for resistance to shock, vibration and pulsation
- Color coded Polar Shield® hoses
- Swivel hanger

## B IMPERIAL 4-WAY GAUGES

- 4-valve manifold features 3/8" vacuum port and oversized internal passages for faster evacuation
- Diaphragm-type valves close with fingertip pressure
- Swivel hanger and closure bracket
- Color-coded lines (3/8" vacuum, 1/4" low side, high side and charging lines), color coded Polar Shield® hoses
- UL Recognized

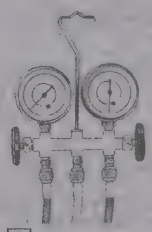
## C TIF 2-WAY GAUGES

- Piston-type valve network keeps O-rings from rotating or leaking and allows 100% shut-off
- Built-in Schrader valves enable easy hook up to vacuum gauges
- Hanging hook and holes for wall mounting
- Solid, extruded aluminum block with optical sight glass
- 1/4" flare fittings for Nos. 3A017 and 3T078. 1/2" ACME fittings for No. 6T369
- No. 3A017: 2-way dry gauge
- No. 3T078: 2-way recalibrateable glycerine-filled gauges
- No. 6T369: 2-way dry gauge for use with HFC134A for automotive applications
- Includes blue, red and yellow charging hose with anti-blowback valve to prevent venting of refrigerant

## D TIF 2-WAY DIGITAL & 4-WAY GAUGES

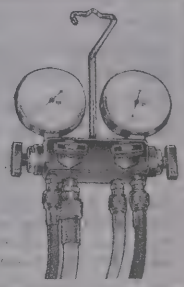
- Extruded aluminum manifold with optical sight glass for visual check of refrigerant
- Piston valve network keeps O-ring from rotating, or leaking and allows 100% shut-off
- Schrader valve allows for evacuating and charging without disconnecting to purge hoses
- Standard 1/4" flare fittings
- Color-coded valve handles and hoses: red—high side, blue—low side, yellow—charge, black—vacuum. No. 6T123, red, blue, and yellow only. All hoses include anti-blowback valve to prevent venting of refrigerant; not for use with R134A
- No. 3A019: glycerine-filled gauges to eliminate pointer bounce during compressor run

Leak detectors, charging meters, electronic sightglass, thermometers, and other test instruments are available. Using No. 6T375 with a Digital Multimeter is also effective in reading pressure and vacuum. See Index under "Test Instruments".



IMPERIAL

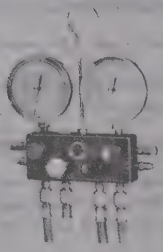
A No. 6X639



B Nos. 1A216, 3XL15

Replacement Parts Available 1-800-323-0620™

SA9440



D No. 3A019





tif

C Nos. 3A017, 3T078, 6T369

D Nos. 3A019, 6T123, 3T253

Nos. 3T253 and 6T123 have other gauge features:

- Digital readout provides ±2% accuracy, easy-to-read information, resistance to damage from overranging; 9V batteries supplied
- Low side displays vacuum or pressure
- Zero adjustment for resetting

| Key | No. of Valves | No. of Hoses | Hose Length (In.) | For Use with | Gauges: High Side (Red) | Gauges: Low Side (Blue) | Mfr. | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 2 | 3 | 36" | R-12, R-22, R-502 | 0-500 PSI | 30" Hg to 250 PSI | IE | 496-C | 6X639 | $70.90 | $57.25 | 3.1 |
| B | 4 | 4 | 60 | R-12, R-22, R-502 | 0-500 | 30 Hg to 120 | IE | 621-C | 1A216 | 150.00 | 122.60 | 5.2 |
| B | 4 | 4 | 60 | 134A | 0-500 | 0-250 | IE | 631-CKP | 3XL15 | 125.60 | 111.95 | 5.2 |
| C | 2 | 3 | 72 | R-12, R-22, R-502 | 0-500 | 30 Hg to 250 | TIF | 9500 | 3A017 | 124.93 | 99.95 | 4.8 |
| C | 2 | 3 | 72 | R-12, R-22, R-502 | 0-500 | 30 Hg to 240 | TIF | 9575 | 3T078 | 187.43 | 149.95 | 4.5 |
| C | 2 | 3 | 72 | 134A (Automotive) | 0-500 | 30 Hg to 240 | TIF | 4500A | 6T369 | 275.00 | 250.00 | 6.3 |
| D | 4 | 4 | 72 | R-12, R-22, R-502 | 0-500 | 30 Hg to 240 | TIF | 9600 | 3A019 | 199.95 | 185.00 | 6.0 |
| D | 2 | 3 | 72 | R-12, R-22, R-502 | 0-500 | 30 Hg to 99.9 | TIF | 9500D | 6T123 | 219.95 | 200.00 | 4.0 |
| D | 4 | 4 | 72 | R-12, R-22, R-502 | 0-500 | 30 Hg to 99.9 | TIF | 9600D | 3T253 | 399.93 | 320.00 | 5.7 |

# HOSES & COUPLERS

## GAUGE SET HOSES

### A IMPERIAL POLARSHIELD™ CHARGING HOSES

- Can be used with all blends of refrigerants
- Meets all EPA requirements for strength, pressure and refrigerant permeation
- UL recognized. Meets UL 1963 and SAE 2196
- Packaged in clear plastic bags
- Adjustable brass core depressor to match valve core
- Color coded for easy identification
- 800 PSI working pressure, 4000 PSI burst pressure
- 1/4" female connectors
- 8-sided crimp for long life

### B IMPERIAL POLARSHIELD™ CHARGING HOSE SETS

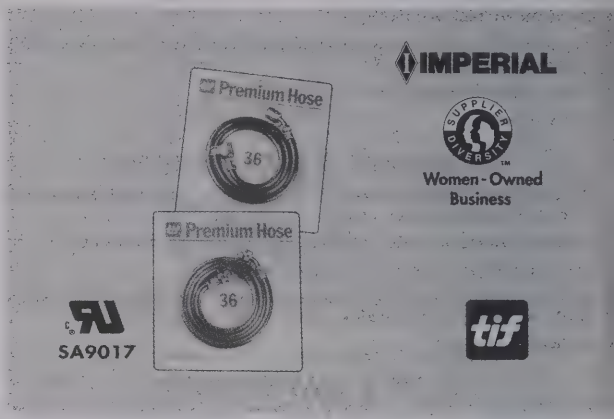
- Sets of 3 charging hoses: blue, red, and yellow. Includes features of Imperial Polarshield™ Charging Hoses above, plus one end of each hose has permanently attached straight kwik-coupler shut-off connector
- Also includes 2 system adapters and 1 female coupler for use on equipment with no core valve-type fitting, such as storage tanks or vacuum pumps

### C IMPERIAL EVACUATION HOSE

- Replacement evacuation hose for Imperial manifold No. 1A216
- Large size hose (3/8") for faster evacuation
- 3/8" SAE swivel connection

### D TIF "BARRIER" CHARGING HOSES

- "Sure Seal" environmentally safe hose material
- Can be used with all blends of refrigerant
- UL recognized (SA9017); meet UL 1963 and SAE 2196 standards
- Color coded for easy identification (red, yellow, blue)
- 500 PSI working pressure, 2500 PSI burst pressure
- Flexible hose with durable eight-sided crimp ensures long life
- Anti-blowback valve prevents release of refrigerant into atmosphere
- 1/4" female connectors




### E TIF EVACUATION HOSES

- Black evacuation hoses available in 36", 60", and 72" lengths
- Used for evacuation systems only, not rated for pressure
- 1/4" female fitting

| Key | Color | Length (In.) | Mfr.'s Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|
| A | Red | 36 | 403-MRR | 6X643 | $11.65 | $9.04 | 0.3 |
| A | Blue | 36 | 403-MRB | 6X641 | 11.65 | 9.04 | 0.3 |
| A | Yellow | 36 | 403-MRY | 6X642 | 11.65 | 9.04 | 0.3 |
| A | Red | 60 | 405-MRR | 6X646 | 16.30 | 12.63 | 0.5 |
| A | Blue | 60 | 405-MRB | 6X644 | 16.30 | 12.63 | 0.5 |
| A | Yellow | 60 | 405-MRY | 6X645 | 16.30 | 12.63 | 0.5 |
| B | Blue, Red, Yellow | 36 | 403-KCS | 6T370 | 52.15 | 42.15 | 2.0 |
| B | Blue, Red, Yellow | 72 | 406-KCS | 6T371 | 65.65 | 53.10 | 2.0 |
| C | Yellow | 60 | 560-FTY | 3T473 | 21.41 | 18.64 | 0.8 |
| D | Red | 36 | 4336R | 3T408 | 16.95 | 15.95 | 0.4 |
| D | Blue | 36 | 4336B | 3T409 | 16.95 | 15.95 | 0.4 |
| D | Yellow | 36 | 4336Y | 3T411 | 16.95 | 15.95 | 0.4 |
| D | Red | 60 | 4360R | 3T412 | 23.50 | 21.95 | 0.6 |
| D | Blue | 60 | 4360B | 3T413 | 23.50 | 21.95 | 0.6 |
| D | Yellow | 60 | 4360Y | 3T415 | 23.50 | 21.95 | 0.5 |
| D | Red | 72 | 4372R | 3T416 | 26.50 | 24.95 | 0.6 |
| D | Blue | 72 | 4372B | 3T417 | 26.50 | 24.95 | 0.6 |
| D | Yellow | 72 | 4372Y | 3A021 | 26.50 | 24.95 | 0.8 |
| E | Black | 36 | 9536BL | 3T410 | 7.95 | 6.95 | 0.4 |
| E | Black | 60 | 9560BL | 3T414 | 11.56 | 9.25 | 0.6 |
| E | Black | 72 | 9572BL | 3T418 | 12.00 | 9.95 | 0.6 |

## KWIK COUPLERS

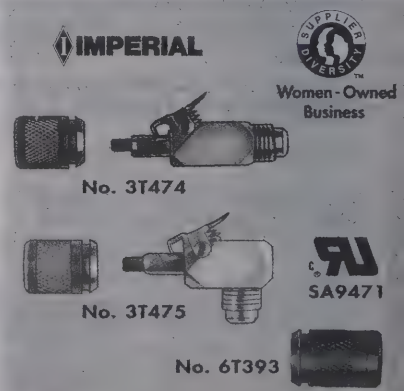
Used on refrigeration air conditioning service manifold high and low side hoses when connecting to core valve-type service fittings. UL Recognized.

- Instant connection: push to connect, pull to disconnect
- Seals perfectly without skilled manipulation
- Eliminates hazardous discharge of refrigerant when disconnecting hoses
- Simplifies charging critical amount of refrigerant in small systems
- Shutoff of hose ends permits discharging high side hose through manifold into low side

**No. 3T474. Straight Coupler (45° Flare).** 1/4" male x 1/4" female. Imperial Eastman brand (16-C). Shpg. wt. 0.1 lbs. List.....$17.81. Each.....**$14.56**

**No 3T475. 90° Elbow Coupler (45° Flare).** 1/4" male x 1/4" female. Imperial Eastman brand (17-C). Shpg. wt. 0.1 lbs. List.....$22.64 Each.....**$18.18**

**No 6T393. Female Coupler** for use with kwik-coupler at left on equipment with no core valve-type fitting, such as storage tanks or vacuum pumps. Identified by longer size and identification groove. Sold in bags of 10. Imperial Eastman brand (05951125). Shpg. wt. 0.5 lbs. List.....$51.25. Each bag.....**$41.45**



# LIQUID LINE SERVICE DRYERS AND MOISTURE INDICATORS



- Spun copper construction
- For OEM replacement and general field service work
- Solder connecting tubes can be cut, swaged, flared, pinched, or bent
- Grooved ends permit easy break off to activate dryer
- For use with R-12, R-22, R-500, R-502, R-402A, R-402B, R134A, and R-401A, R-404A, and R-507
- 100% molecular sieve desiccant beads
- Dryers do not remove Dytel from system

Parker

**90-DAY PARKER LIMITED WARRANTY**

Text of warranty available on request, see "Manufacturers' Warranties" on page opposite inside back cover.

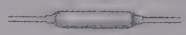


[A] General Purpose Dryer, No. 6X525

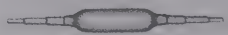
[B] Heavy-Duty Dryer, No. 6X526



[C] Charging Valve Dryers, Nos. 6X524, 6X590



[D] Economy Dryers, No. 6X527, 6X528



[E] Economy Heavy-Duty Dryer, No. 6X591

c UL SA8570

[A] **General Purpose.** For field service work. Install on hermetic and open type units. Up to 1/3 HP with R-12, 1/2 HP with R-22. UL Recognized (SA8570). Rated per ARI Standard 720.

[B] **Heavy-Duty Dryer.** High water capacity dryer eliminates "freeze-up" hazards caused by foreign materials. Dual screen construction, single direction flow. UL Recognized (SA8570).

[C] **Charging Valve Dryers.** High capacity dryers with built-in Schraeder-type service valve for evacuating and charging sys tem. Single direction flow. Valve tube can be bent. No. 6X524 is used for residential type refrigerators and freezers. No. 6X590 is for window air conditioners. UL Recognized (SA8570).

[D] and [E] **Economy Dryers.** Used with home refrigerators, freezers, small commercial units and air conditioners. Nos. 6X528 and 6X591 are nondirectional. No. 6X527 is single direction flow. UL Recognized (SA8570).

| Key | Parker Model | Capacity In Tons* R-12 | Capacity In Tons* R-22 | Water Capacity in Drops† R-12 75°F | R-12 125°F | R-22 75°F | R-22 125°F | Connecting Tube Size Inlet OD | Inlet ID | Outlet OD | Outlet ID | Shell Dia. | Over-all Lgth. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 712 | 1/3 | 1/2 | 33 | 28 | 30 | 25 | 1/4 | 3/16 | 3/16, 1/4 | .089/.092 | 3/4 | 8½ | 6X525 | $9.10 | $4.75 | 0.2 |
| B | 319 | 1 | 2 | 99 | 84 | 90 | 75 | 5/16 | 1/4 | 7/32, 5/16 | .127/.130 | 1 5/16 | 9¾ | 6X526 | 17.22 | 6.86 | 0.5 |
| C | 619 | 1/3 | 1/2 | 33 | 28 | 30 | 25 | 1/4 | 3/16 | 3/16, 1/4 | .089/.092 | 3/4 | 8⅞ | 6X524 | 13.06 | 5.91 | 0.2 |
| C | 620 | 1 | 2 | 66 | 56 | 60 | 50 | 1/4 | 3/16 | 7/32, 5/16 | .127/.130 | 1 | 9½ | 6X590 | 18.70 | 5.88 | 0.3 |
| D | MMS-100 | 1/3 | 1/2 | 33 | 28 | 30 | 25 | 1/4 | 3/16 | 1/4 | 3/16 | 3/4 | 7⅞ | 6X527** | 7.57 | 3.70 | 0.1 |
| D | MMS-80 | 1/3 | 1/2 | 33 | 28 | 30 | 25 | 1/4 | 3/16 | 1/4 | 3/16 | 3/4 | 7⅞ | 6X528** | 6.96 | 3.60 | 0.1 |
| E | MMS-200 | 3/4 | 1 | 66 | 56 | 60 | 50 | 1/4, 5/16, 3/8 | 3/16, 1/4, 5/16 | 1/4, 5/16, 3/8 | 3/16, 1/4, 5/16 | 1 | 10½ | 6X591 | 13.80 | 4.02 | 0.4 |

(*) 1 ton is equivalent to 12,000 BtuH cooling. (†) 20 drops = 1 gram = 1 cc. (**) Priced each. Sold only in packages of 3.

# SIGHT GLASSES AND MOISTURE INDICATORS



UL SA4744

Parker No. 6X721

- For refrigeration and A/C systems
- Color indicator responds to moisture in R-12, R-22, R-134A, and R-502
- Solid copper extended sweat fittings permit installation without disassembly
- UL Listed for 500 PSI ultimate strength
- CSA Certified (LR46423)
- Large, easy to read viewing area
- 2-piece construction with Parker O-ring eliminates leaks
- Solid brass and copper design

Compact units install in system's liquid line, give high visibility of liquid refrigerant, and indicate moisture in system.

## SPECIFICATIONS AND ORDERING DATA

| Fitting Size | Type | Length Overall | Length Cut Out | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1/4M x 1/4M | Flare | 3.42" | — | PSG-2 | 4E921 | $29.11 | $10.69 | 0.5 |
| 3/8M x 3/8M | Flare | 3.56 | — | PSG-3 | 4E922 | 29.67 | 10.90 | 0.6 |
| 1/2M x 1/2M | Flare | 3.82 | — | PSG-4 | 4E923 | 37.14 | 13.37 | 0.6 |
| 5/8M x 5/8M | Flare | 4.06 | — | PSG-5 | 4E925 | 39.01 | 13.96 | 0.7 |
| 1/4M x 1/4F | Flare | 3.05 | — | PSG-2MF | 6X719 | 30.37 | 10.52 | 0.5 |
| 3/8M x 3/8F | Flare | 3.17 | — | PSG-3MF | 6X720 | 29.67 | 10.72 | 0.6 |
| 1/2M x 1/2F | Flare | 3.39 | — | PSG-4MF | 6X721 | 36.33 | 13.20 | 0.6 |
| 5/8M x 5/8F | Flare | 3.69 | — | PSG-5MF | 4E926 | 39.01 | 13.96 | 0.7 |
| 1/4 x 1/4 | Sweat | 4.88 | 4.19" | PSG-2S | 6X722 | 29.11 | 10.52 | 0.5 |
| 3/8 x 3/8 | Sweat | 4.88 | 4.12 | PSG-3S | 6X723 | 29.67 | 10.72 | 0.5 |
| 1/2 x 1/2 | Sweat | 4.88 | 3.87 | PSG-4S | 4E924 | 37.14 | 13.37 | 0.5 |
| 5/8 x 5/8 | Sweat | 4.88 | 3.62 | PSG-5S | 4E927 | 39.02 | 13.98 | 0.5 |
| 7/8 x 7/8 | Sweat | 6.25 | 4.73 | PSG-7S | 4E928 | 68.56 | 24.45 | 1.0 |
| 1⅛ x 1⅛ | Sweat | 6.25 | 4.45 | PSG-9S | 4E929 | 70.63 | 25.25 | 1.0 |

## MOISTURE-COLOR INDICATION IN PPM* @ LIQUID LINE SPECIFIC TEMPERATURE

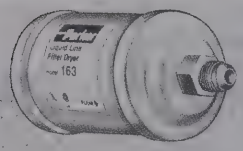
| System Refrigerant | | R-12 | | R-22 | | R-502 | | R-134A† | |
|---|---|---|---|---|---|---|---|---|---|
| Liquid Line Temp. | | 75°F | 125°F | 75°F | 125°F | 75°F | 125°F | 75°F | 125°F |
| Condition | Ind. Color | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM |
| Dry | Green | Below 5 | Below 15 | Below 30 | Below 60 | Below 10 | Below 30 | Below 35 | Below 60 |
| Caution | Yellow-Green | 5-15 | 15-50 | 30-110 | 60-220 | 10-50 | 30-120 | 35-120 | 60-215 |
| Wet | Yellow | Above 15 | Above 50 | Above 110 | Above 220 | Above 50 | Above 120 | Above 120 | Above 215 |

(*) Parts per million. (†) Based on preliminary data for the solubility of water in R-134A.

# FLARE & SOLDER LIQUID LINE FILTER/DRYERS

Parker

SA3441 LR46423



No. 6X511



No. 6X583

- 100% molecular sieve beads for maximum water pickup
- Traps contaminants down to 20 microns
- Corrosion resistant paint gives 500 hour salt spray protection
- UL Listed for 2500 PSI ultimate strength (SA3441)
- CSA Certified (LR46423)
- For use with R-12, R-22, R-500, R-502, R-402A, R-402B, R-134A, HCFC-123, and R-401A

**90-DAY PARKER LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## NOMINAL SYSTEM CAPACITY IN TONS (1 TON = 12,000 BtuH COOLING) WITH CORRESPONDING WATER AND REFRIGERANT FLOW CAPACITIES

| Refrigerant-12 | | | 15 PPM† | | | Refrigerant-22 | | | 60 PPM† | | | Refrigerant-502 | | | 30 PPM† | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commercial Lo-Temp. Refrig. Equip. | OEM New Self-Contained | Replacement or Built-Up New System | Water Cap. in Drops‡ 75°F | 125°F | Flow Cap. Tons* | Commercial Lo-Temp. Refrig. Equip. | OEM New Self-Contained | Replacement or Built-Up New System | Water Cap. in Drops‡ 75°F | 125°F | Flow Cap. Tons* | Commercial Lo-Temp. Refrig. Equip. | OEM New Self-Contained | Replacement or Built-Up New System | Water Cap. in Drops‡ 75°F | 125°F | Flow Cap. Tons* | Flare Stock No. | Solder Stock No. |
| 1/4 | 3/4 | 1/2 | 33.8 | 30.6 | 1.8/2.0 | 1/4 | 1 | 3/4 | 31.0 | 28.8 | 2.4/2.6 | 1/4 | 3/4 | 1/2 | 29.7 | 27.0 | 1.6/1.7 | 6X505 | 6X57 |
| 1/3 | 1 | 3/4 | 71.5 | 64.7 | 2.0/2.1 | 1/2 | 1½ | 1 | 65.6 | 60.8 | 2.6/2.8 | 1/3 | 1 | 3/4 | 62.7 | 57.0 | 1.7/1.8 | 6X506 | 6X58 |
| 1/3 | 2 | 1½ | 71.5 | 64.7 | 4.2/5.0 | 1 | 3 | 2½ | 65.6 | 60.8 | 5.5/6.6 | 1/3 | 2 | 1½ | 62.7 | 57.0 | 3.7/4.4 | 6X507 | 6X581 |
| 1/2 | 1 | 3/4 | 116.5 | 105.5 | 2.0/2.2 | 3/4 | 1½ | 1½ | 107.0 | 99.1 | 2.6/2.9 | 1/2 | 1 | 3/4 | 102.0 | 93.0 | 1.8/1.9 | 6X508 | 6X582 |
| 1 | 3 | 2 | 116.5 | 105.5 | 4.7/5.3 | 2 | 5 | 3 | 107.0 | 99.1 | 6.2/6.9 | 1 | 3 | 2 | 102.0 | 93.0 | 4.1/4.7 | 6X509 | 6X583 |
| 1 | 4 | 3 | 116.5 | 105.5 | 7.5/7.6 | 3 | 7½ | 5 | 107.0 | 99.1 | 9.8/10.0 | 1 | 4 | 3 | 102.0 | 93.0 | 6.6/6.7 | 6X510 | 6X584 |
| 1 | 1½ | 1 | 214.0 | 196.0 | 2.3/2.5 | 1½ | 2 | 2 | 179.0 | 157.0 | 3.1/3.4 | 3/4 | 1½ | 1 | 180.0 | 160.0 | 2.0/2.2 | 4E930 | 4E931 |
| 2 | 4 | 3 | 206.0 | 187.0 | 5.6/6.2 | 3 | 5 | 4 | 190.0 | 176.0 | 7.5/8.3 | 2 | 4 | 3 | 181.0 | 165.0 | 4.9/5.4 | 6X511 | 6X585 |
| 2 | 5 | 3 | 206.0 | 187.0 | 9.5/10.3 | 4 | 7½ | 5 | 190.0 | 176.0 | 12.7/13.7 | 2 | 5 | 3 | 181.0 | 165.0 | 7.8/8.9 | 6X512 | 6X586 |
| 2 | 7½ | 5 | 214.0 | 196.0 | 13.3/13.7 | 5 | 10 | 7½ | 179.0 | 157.0 | 17.7/18.3 | 2 | 7½ | 5 | 180.0 | 160.0 | 11.6/11.9 | 4E932 | 4E933 |
| 3 | 4 | 3 | 416.0 | 377.0 | 5.7/6.5 | 4 | 5 | 5 | 383.0 | 355.0 | 7.7/8.7 | 2 | 4 | 3 | 365.0 | 333.0 | 5.0/5.7 | 6X513 | 6X587 |
| 3 | 7½ | 5 | 416.0 | 377.0 | 11.3/13.1 | 5 | 10 | 7½ | 383.0 | 355.0 | 15.1/17.5 | 3 | 7½ | 5 | 365.0 | 333.0 | 9.8/11.4 | 6X514 | 6X588 |
| 5 | 10 | 7½ | 416.0 | 377.0 | 15.5/17.1 | 7½ | 15 | 10 | 383.0 | 355.0 | 20.7/22.8 | 5 | 10 | 7½ | 365.0 | 333.0 | 13.5/14.9 | 6X515 | 6X589 |
| 5 | 15 | 7½ | 433.0 | 395.0 | 21.2 | 10 | 20 | 12½ | 361.0 | 316.0 | 28.3 | 5 | 12½ | 7½ | 364.0 | 322.0 | 18.5 | — | 4E934 |
| 4 | 5 | 5 | 636.0 | 580.0 | 5.7 | 5 | 7½ | 5 | 530.0 | 465.0 | 7.7 | 4 | 5 | 4 | 535.0 | 473.0 | 5.0 | 4E935 | — |
| 4 | 7½ | 5 | 611.0 | 554.0 | 11.4/13.1 | 5 | 10 | 7½ | 562.0 | 521.0 | 15.3/17.5 | 5 | 7½ | 5 | 536.0 | 489.0 | 9.9/11.4 | 1A523 | 1A525 |
| 7½ | 10 | 7½ | 611.0 | 554.0 | 15.5/17.1 | 7½ | 15 | 10 | 562.0 | 521.0 | 20.7/22.9 | 7½ | 10 | 7½ | 536.0 | 489.0 | 13.5/14.9 | 1A524 | 1A526 |
| 7½ | 15 | 10 | 636.0 | 580.0 | 24.3 | 10 | 20 | 15 | 530.0 | 465.0 | 32.4 | 7½ | 12½ | 10 | 535.0 | 437.0 | 21.1 | — | 4E936 |
| 12½ | 15 | 12½ | 1115.0 | 1018.0 | 20.7 | 20 | 25 | 20 | 930.0 | 815.0 | 27.6 | 12½ | 12½ | 12½ | 938.0 | 829.0 | 18.0 | — | 4E937 |
| 15 | 20 | 15 | 1115.0 | 1018.0 | 25.6 | 20 | 30 | 25 | 930.0 | 815.0 | 34.2 | 12½ | 15 | 15 | 938.0 | 829.0 | 22.3 | — | 4E938 |
| 20 | 20 | 20 | 1115.0 | 1018.0 | 28.3 | 25 | 30 | 30 | 930.0 | 815.0 | 37.7 | 15 | 20 | 20 | 938.0 | 829.0 | 24.6 | — | 4E939 |

(†) PPM = Parts per million. (‡) 20 drops = 1 gram = 1cc. (*) At 2 PSI pressure drop. First number represents data for flare models; second number is for solder models.

## FILTER/DRYER DIMENSIONS AND ORDERING DATA

| Desiccant Volume Cu.-In. | Filter Area Sq.-In. | Shell Dia. | Flare Models SAE Flare Connection Size | Flare Models Overall Length | Solder Models Connection Size ID | Solder Models Connection Size OD | Solder Models Cut Out Length | Parker Model | Flare Stock No. | Parker Model | Solder Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 10 | 1 11/16" | 1/4" | 4 1/8" | 1/4" | 3/8" | 3 3/16" | 032 | 6X505 | 032S | 6X579 | $15.06 | $6.43 | 0.4 |
| 5 | 17 | 2½ | 1/4 | 4¾ | 1/4 | 3/8 | 3 13/16 | 052 | 6X506 | 052S | 6X580 | 20.36 | 8.42 | 0.9 |
| 5 | 17 | 2½ | 3/8 | 5 3/16 | 3/8 | 1/2 | 3⅝ | 053 | 6X507 | 053S | 6X581 | 20.36 | 8.41 | 1.1 |
| 8 | 27 | 2½ | 1/4 | 5⅝ | 1/4 | 3/8 | 4 11/16 | 082 | 6X508 | 082S | 6X582 | 24.51 | 10.05 | 1.2 |
| 8 | 27 | 2½ | 3/8 | 6 1/16 | 3/8 | 1/2 | 4½ | 083 | 6X509 | 083S | 6X583 | 24.51 | 10.05 | 1.3 |
| 8 | 27 | 2½ | 1/2 | 6⅝ | 1/2 | 5/8 | 4⅜ | 084 | 6X510 | 084S | 6X584 | 24.82 | 10.27 | 0.9 |
| 16 | 34 | 2½ | 1/4 | 5⅝ | 1/4 | 3/8 | 4¾ | 162 | 4E930 | 162S | 4E931 | 30.45 | 12.73 | 1.6 |
| 16 | 34 | 2½ | 3/8 | 6¾ | 3/8 | 1/2 | 5 3/16 | 163 | 6X511 | 163S | 6X585 | 28.38 | 12.25 | 1.5 |
| 16 | 34 | 2½ | 1/2 | 7 | 1/2 | 5/8 | 5 1/16 | 164 | 6X512 | 164S | 6X586 | 32.59 | 13.32 | 1.8 |
| 16 | 34 | 2½ | 5/8 | 6 5/16 | 5/8 | 3/4 | 4¾ | 165 | 4E932 | 165S | 4E933 | 32.38 | 13.44 | 1.0 |
| 30 | 61 | 3 | 3/8 | 9 11/16 | 3/8 | 1/2 | 8 | 303 | 6X513 | 303S | 6X587 | 55.46 | 24.88 | 2.7 |
| 30 | 61 | 3 | 1/2 | 9 15/16 | 1/2 | 5/8 | 8 | 304 | 6X514 | 304S | 6X588 | 55.46 | 24.88 | 2.7 |
| 30 | 61 | 3 | 5/8 | 10 3/16 | 5/8 | 3/4 | 8¼ | 305 | 6X515 | 305S | 6X589 | 55.46 | 24.88 | 2.8 |
| 30 | 61 | 3 | — | — | 7/8 | 1 | 7¾ | — | — | 307S | 4E934 | 58.14 | 26.65 | 2.1 |
| 41 | 80 | 3½ | 3/8 | 9 3/16 | — | — | — | 413 | 4E935 | — | — | 77.15 | 35.55 | 4.0 |
| 41 | 80 | 3½ | 1/2 | 9 15/16 | 1/2 | 5/8 | 8 | 414 | 1A523 | 414S | 1A525 | 78.03 | 35.05 | 3.5 |
| 41 | 80 | 3½ | 5/8 | 10 3/16 | 5/8 | 3/4 | 8¼ | 415 | 1A524 | 415S | 1A526 | 78.03 | 35.05 | 3.5 |
| 41 | 80 | 3½ | — | — | 7/8 | 1 | 7¾ | — | — | 417S | 4E936 | 77.15 | 35.55 | 4.0 |
| 75 | 131 | 3½ | — | — | 3/4 | 7/8 | 13 9/16 | — | — | 756S | 4E937 | 136.06 | 62.35 | 5.8 |
| 75 | 131 | 3½ | — | — | 7/8 | 1 | 13 9/16 | — | — | 757S | 4E938 | 137.62 | 63.00 | 5.5 |
| 75 | 131 | 3½ | — | — | 1⅛ | 1¼ | 13 9/16 | — | — | 759S | 4E939 | 139.17 | 63.80 | 5.9 |

# SUCTION LINE FILTER/DRYERS

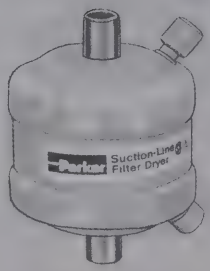



SAE Flare Connections

Parker

**90-DAY PARKER LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers Warranties" on page opposite inside back cover.




Solid Copper Solder Connections

- Short lay-in length for easy installation in cramped areas
- Dual access valve at inlet and outlet for quick and easy pressure drop readings
- UL Listed for 2500 PSIG ultimate strength
- CSA Certified
- Low pressure drop
- Large effective filter area provides maximum filtration
- Solid copper on sweat fitting models
- For use with R-12, R-22, R-500, R-502, R-402B, R-402A, R-134A, HCFC-123, R-401A, R-404A, and R-507

Parker suction line filter/dryers are designed for installation in air conditioning or refrigeration systems when replacing a burned-out compressor. They protect the new compressor from harmful contaminants which may not have been removed during system cleaning.

## REFRIGERANT FLOW IN TONS FOR SUCTION LINE FILTER/DRYERS‡

| R-12, Evaporator Temperature / Pressure Drop | | | | R-22, Evaporator Temperature / Pressure Drop | | | | | R-502, Evaporator Temperature / Pressure Drop | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +40°F 2.0 PSI | +20°F 1.5 PSI | 0°F 1.0 PSI | -20°F 0.5 PSI | +40°F 3.0 PSI | +20°F 2.0 PSI | 0°F 1.5 PSI | -20°F 1.0 PSI | -40°F 0.5 PSI | +40°F 3.0 PSI | +20°F 2.0 PSI | 0°F 1.5 PSI | -20°F 1.0 PSI | -40°F 0.5 PSI | Stock No. |
| 0.6 | 0.5 | 0.3 | 0.2 | 1.1 | 0.8 | 0.6 | 0.4 | 0.2 | 0.9 | 0.6 | 0.4 | 0.3 | 0.2 | 6X516 |
| 0.7 | 0.6 | 0.4 | 0.2 | 1.2 | 0.9 | 0.7 | 0.5 | 0.3 | 1.0 | 0.7 | 0.5 | 0.4 | 0.2 | 3A656 |
| 1.3 | 1.0 | 0.6 | 0.4 | 2.3 | 1.6 | 1.1 | 0.7 | 0.4 | 1.8 | 1.2 | 0.9 | 0.6 | 0.3 | 6X517 |
| 1.5 | 1.1 | 0.7 | 0.5 | 2.6 | 1.8 | 1.2 | 0.8 | 0.5 | 2.0 | 1.3 | 1.0 | 0.7 | 0.4 | 3A657 |
| 2.1 | 1.5 | 1.0 | 0.6 | 3.9 | 2.6 | 1.8 | 1.2 | 0.6 | 3.1 | 2.1 | 1.5 | 1.0 | 0.5 | 4X858 |
| 2.3 | 1.6 | 1.1 | 0.6 | 4.2 | 2.8 | 1.9 | 1.3 | 0.6 | 3.3 | 2.3 | 1.6 | 1.1 | 0.5 | 3A658 |
| 2.2 | 1.6 | 1.1 | 0.6 | 4.1 | 2.7 | 2.0 | 1.3 | 0.8 | 3.2 | 2.3 | 1.6 | 1.0 | 0.6 | 3A659 |
| 2.5 | 2.0 | 1.5 | 1.0 | 5.0 | 3.0 | 2.5 | 1.5 | 1.0 | 4.0 | 2.5 | 2.0 | 1.0 | 0.6 | 6X518 |
| 4.0 | 3.0 | 2.0 | 1.0 | 7.0 | 4.5 | 3.0 | 2.0 | 1.0 | 5.0 | 3.5 | 2.5 | 1.5 | 1.0 | 6X519 |
| 4.0 | 3.0 | 2.0 | 1.0 | 7.0 | 4.5 | 3.0 | 2.0 | 1.0 | 5.0 | 3.5 | 2.5 | 1.5 | 1.0 | 3A660 |
| 4.1 | 3.1 | 2.1 | 1.0 | 7.2 | 4.6 | 3.1 | 2.1 | 1.0 | 5.1 | 3.6 | 2.6 | 1.5 | 1.0 | 3A661 |
| 6.0 | 4.0 | 3.0 | 1.5 | 10.0 | 8.0 | 5.0 | 3.0 | 2.0 | 8.0 | 5.0 | 4.0 | 2.5 | 1.5 | 6X520 |
| 7.0 | 5.0 | 3.5 | 2.0 | 13.0 | 9.0 | 6.0 | 4.0 | 2.0 | 10.0 | 7.0 | 5.0 | 3.0 | 2.0 | 6X521 |
| 11.0 | 8.0 | 5.0 | 3.0 | 20.0 | 13.5 | 9.5 | 6.5 | 3.5 | 15.0 | 10.5 | 7.5 | 5.0 | 3.0 | 3A662 |
| 13.0 | 9.5 | 6.0 | 3.5 | 23.0 | 16.0 | 11.0 | 7.0 | 4.0 | 18.0 | 12.5 | 9.0 | 6.0 | 3.0 | 3A663 |

## SPECIFICATIONS FOR SUCTION LINE FILTER/DRYERS

| Desiccant Volume Cubic In. | Filter Area Sq. In. | Water Capacity in Drops at 65°F Suction† R-12 | R-22 | R-502 | Connection Size (In.) and Type | Tubing Overall Length (In.) | Tubing Cutout Length (In.) | Parker Model SLD- | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8.0** | 17.25 | 200 | 168 | 185 | 3/8 SAE Flare | 5 1/8 | — | 8-3V-HH | **6X516** | $44.62 | **$20.24** | 1.8 |
| **8.0** | 17.25 | 200 | 168 | 185 | 3/8 Sweat ID | 4 9/16 | 3 9/16 | 8-3SV-HH | **3A656** | 44.63 | **20.25** | 1.5 |
| **8.0** | 17.25 | 200 | 168 | 185 | 1/2 SAE Flare | 5 3/8 | — | 8-4V-HH | **6X517** | 44.64 | **20.25** | 1.8 |
| **8.0** | 17.25 | 200 | 168 | 185 | 1/2 Sweat ID | 4 7/16 | 3 5/16 | 8-4SV-HH | **3A657** | 44.64 | **20.36** | 2.0 |
| **8.0** | 17.25 | 200 | 168 | 185 | 5/8 Sweat ID | 4 11/16 | 3 13/16 | 8-4SV-HH | **4X858** | 46.41 | **21.02** | 1.6 |
| **8.0** | 17.25 | 200 | 168 | 185 | 3/4 Sweat ID | 4 29/32 | 3 25/64 | 8-6SV-HH | **3A658** | 46.41 | **21.07** | 2.0 |
| **8.0** | 17.25 | 200 | 168 | 185 | 5/8 SAE Flare | 5 53/64 | — | 13-5V-HH | **3A659** | 52.81 | **23.94** | 2.4 |
| **13.5** | 26.00 | 338 | 284 | 312 | 5/8 Sweat ID | 5 3/32 | 3 29/32 | 13-5SV-HH | **6X518** | 46.11 | **21.13** | 2.3 |
| **13.5** | 26.00 | 338 | 284 | 312 | 3/4 Sweat ID | 5 1/16 | 3 3/8 | 13-6SV-HH | **6X519** | 55.38 | **24.58** | 2.3 |
| **13.5** | 26.00 | 338 | 284 | 312 | 7/8 Sweat ID | 5 1/16 | 3 3/8 | 13-7SV-HH | **3A660** | 55.11 | **25.05** | 2.0 |
| **13.5** | 26.00 | 338 | 284 | 312 | 1 1/8 Sweat ID | 5 13/16 | 3 7/16 | 13-9SV-HH | **3A661** | 58.81 | **26.80** | 2.0 |
| **13.5** | 26.00 | 338 | 284 | 312 | 7/8 Sweat ID | 7 29/32 | 6 | 27-7SV-HH | **6X520** | 83.05 | **37.70** | 3.1 |
| **27.0** | 49.00 | 676 | 568 | 624 | 1 1/8 Sweat ID | 7 13/16 | 5 19/16 | 27-9SV-HH | **6X521** | 85.08 | **37.95** | 3.1 |
| **27.0** | 49.00 | 676 | 568 | 624 | 1 3/8 Sweat ID | 12 | 10 | 54-11SV-HH | **3A662** | 136.74 | **62.60** | 5.0 |
| **54.0** | 88.00 | 1352 | 1136 | 1248 | 1 1/8 Sweat ID | 12 | 10 | 54-13SV-HH | **3A663** | 155.67 | **71.15** | 5.0 |
| **54.0** | 88.00 | 1352 | 1136 | 1248 | 1 3/8 Sweat ID | | | | | | | |

(‡) 1 ton is equivalent to 12,000 BtuH cooling. (†) 20 drops = 1 gram = 1 cc.

# HEAT PUMP FILTER/DRYERS, REPLACEABLE FILTER/DRYER SHELLS AND CORES







**90-DAY PARKER LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

## HEAT PUMP FILTER/DRYERS

- **Desiccant core provides protection from moisture, acids and solid contaminants**
- **Internal check valves provide precise bi-directional control**
- **UL Listed (SA3441); CSA Certified (LR46423)**
- **Installs in any position**
- **Corrosion resistant paint gives 500 hour salt spray protection**

Bi-flow liquid line filter dryers allow bi-directional flow on heat pump or reverse cycle applications. Filter area for Nos. 3A646-3A650 is 10.4 sq.-in.; Nos. 3A651-3A655, 14.4 sq.-in.

| System Capacity* Tons # | Water Cap. R-22† 75°F | 125°F | Connection Size and Type | Overall Length (In.) | Tubing Cutout Length (In.) | Parker Model BF- | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **3** | 90 | 83 | 1/4" Sweat ID | 5 17/64 | 4½ | 082S | **3A646** | $40.21 | **$18.20** | 1.1 |
| **4** | 90 | 83 | 3/8" SAE Flare | 6 1/16 | - | 083 | **3A647** | 40.20 | **18.37** | 1.6 |
| **4** | 90 | 83 | 3/8" Sweat ID | 5 17/64 | 4¼ | 083S | **3A648** | 40.21 | **18.31** | 1.4 |
| **5** | 90 | 83 | 1/2" SAE Flare | 6 5/16 | - | 084 | **3A649** | 41.62 | **18.85** | 1.6 |
| **5** | 90 | 83 | 1/2" Sweat ID | 5 13/32 | 4 13/32 | 084S | **3A650** | 41.64 | **18.80** | 1.1 |
| **3** | 125 | 116 | 1/4" Sweat ID | 5 59/64 | 5 3/16 | 162S | **3A651** | 50.08 | **22.74** | 1.1 |
| **4** | 125 | 116 | 3/8" SAE Flare | 6¾ | - | 163 | **3A652** | 51.28 | **23.24** | 1.1 |
| **4** | 125 | 116 | 3/8" Sweat ID | 5 59/64 | 5 3/16 | 164S | **3A653** | 51.28 | **23.24** | 1.1 |
| **5** | 125 | 116 | 1/2" SAE Flare | 7 | - | 1664 | **3A654** | 52.50 | **23.85** | 1.1 |
| **5** | 125 | 116 | 1/2" Sweat ID | 6 1/16 | 5 1/16 | 164S | **3A655** | 52.49 | **23.90** | 1.6 |

(*) Recommended for field replacement and built up systems. (#) 1 ton equivalent to 12,000 BtuH cooling.
(†) Water capacity in drops. 20 drops = 1 gram = 1 cc.




## REPLACEMENT FILTER/DRYER SHELLS

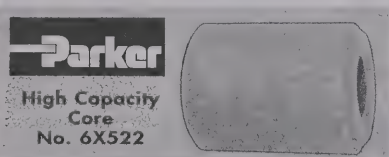
- **Use one or two dryer cores**
- **1/4" SAE pressure tap**
- **Full flow copper plated fittings**
- **Corrosion-resistant, furnace-brazed steel shell**
- **Working pressure 450 PSI**
- **Paint withstands 500 hr. salt spray**
- **Covers a wide range of applications from 7½ to 40 tons**
- **Lay-in dimensions interchangeable with other manufacturers' models**
- **Cores may be loaded individually for ease of installation in tight locations**
- **UL Listed (SA3441); CSA Certified (LR46423)**

For liquid and suction line applications with refrigerants R-12, R-22, R-500 and R-502. Can be used on either suction line for general system clean-up, or after motor burnout, or on liquid line. Nos. 4C946 and 4C947 have 66 sq.-in. filter area; Nos. 4C948 and 4C949 have 132 sq.-in. filter area.

| | LIQUID LINE—TONS† # | | | | | | | | | SUCTION LINE SYSTEM HP* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Comm. Refrig. & Low Temp. | | | Air Conditioning | | | | | | R-12 and R-502 | | R-22 | |
| | | | | OEM | | | Field Repl. or Built Up | | | | | | |
| Stock No. | R-12 | R-22 | R-502 | R-12 | R-22 | R-502 | R-12 | R-22 | R-502 | Temp. Installation | Perm. Installation | Temp. Installation | Perm. Installation |
| 4C946 | 7½ | 10 | 7½ | 10 | 15 | 10 | 7½ | 10 | 7½ | 8 | 4 | 10 | 5 |
| 4C947 | 10 | 15 | 7½ | 15 | 20 | 12 | 10 | 15 | 7½ | 10 | 6 | 20 | 10 |
| 4C948 | 15 | 25 | 15 | 20 | 30 | 20 | 15 | 25 | 15 | 10 | 6 | 20 | 10 |
| 4C949 | 25 | 35 | 15 | 30 | 40 | 25 | 25 | 35 | 15 | 20 | 10 | 40 | 20 |

| No. of Cores | Conn. Size OD Solder | Overall Length (In.) | Water Cap. Drops—Liquid Line Per ARI Standard 710* R-12 75°F | R-12 125°F | R-22 75°F | R-22 125°F | R-502 75°F | R-502 125°F | Parker Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5/8" | 9 1/8 | 950 | 575 | 620 | 350 | 670 | 400 | P-485 | **4C946** | $271.31 | **$117.90** | 13.0 |
| 1 | 7/8 | 9 7/16 | 950 | 575 | 620 | 350 | 670 | 400 | P-487 | **4C947** | 272.18 | **118.25** | 13.0 |
| 2 | 7/8 | 14 15/16 | 1900 | 1150 | 1240 | 700 | 1340 | 800 | P-967 | **4C948** | 328.73 | **137.35** | 16.0 |
| 2 | 1 1/8 | 14 31/32 | 1900 | 1150 | 1240 | 700 | 1340 | 800 | P-969 | **4C949** | 329.18 | **137.55** | 16.0 |

(*) With No. 6X717 cores only. (†) With Nos. 6X522 and 6X717 cores only. (#) 1 ton = 12,000 BtuH.




### WATER CAPACITY DROPS PER ARI STANDARD 710

| Stock No. | R-12 @ 15 PPM 75°F | 125°F | R-22 @ 60 PPM 75°F | 125°F | R-502 @ 30 PPM 75°F | 125°F |
|---|---|---|---|---|---|---|
| 6X717 | 656 | 361 | 426 | 295 | 325 | 262 |
| 6X522 | 790 | 623 | 658 | 552 | 547 | 438 |
| 4E940 | 609 | 370 | 382 | 295 | 369 | 257 |

## REPLACEABLE FILTER/DRYER CORES

- **Low pressure drop with maximum moisture and acid retention**
- **Hermetically sealed cans prevent exposure to dirt and moisture**
- **Complete with gaskets to interchange with other manufacturers' models**
- **1¾" ID, 3¾" OD, 5½" length**

For liquid and suction line filter dryers using replaceable desiccant cores. 48 cubic inch cores can be used in most 4¾" OD flanged shells.

**Standard Core** for general clean-up; removes varnishes, sludge, moisture, and acid.

**No. 6X717.** Shpg. wt. 1.3 lbs. List.....$30.34.
Each.....**$12.51**

**High Capacity Core** has higher moisture and acid capacity for systems with excessive moisture due to leaks or ruptures.

**No. 6X522.** Shpg. wt. 1.9 lbs. List.....$38.99.
Each.....**$16.11**

**Charcoal Burnout Core** is formulated with charcoal to remove wax on low temperature R-22 and R-502 systems. Also removes acids, water, solids, and sludge.

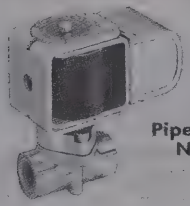
**No. 4E940.** Shpg. wt. 2.1 lbs. List.....$46.52.
Each.....**$18.97**

### CROSS-REFERENCE GUIDE

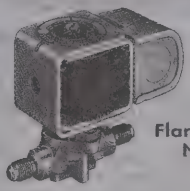
| Mfr. / Model | | Stock No. | Mfr. / Model | | Stock No. | Mfr. / Model | | Stock No. | Mfr. / Model | | Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Parker | PCK-48 | 6X717 | Virginia | VS-48H | 6X717 | Parker | PCX-48 | 6X522 | Parker | PCK48-HH* | 4E940 |
| Sporlan | RC-4864 | | Mueller | A-16590 | | Sportan | RCW-48 | | Sporlan | RC-4864HH* | |
| Alco | H-48, D-48 | | Henry | 848-C | | Mueller | A-16590 | | Alco | W-48* | |
| | | | | | | Henry | 848-CM | | | | |
| | | | | | | Alco | H-48 | | | | |

(*) Includes charcoal additive. (#) Check compatability of dimensions, filter area and pressure drop with replacement.
See Cross-Reference Information on page opposite inside back cover.

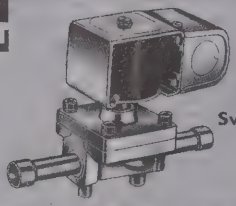
# REFRIGERATION SOLENOID VALVES AND OPERATING COILS



Pipe Connection
No. 4X564



Flare Connection
No. 4X566



Sweat Connection
No. 4X570

- **Forged two-piece brass body**
- **Extended-end copper sweat connections for easy installation**
- **SAE flare, NPT pipe and solder connections**
- **Quiet operating stainless steel plunger and spring for corrosion-free operation in multiple positions**
- **Fully ported for low pressure drop**
- **Teflon diaphragm for lower pressure drop, efficiency, reliability, and longevity**
- **UL Listed; CSA Certified (with operating coil)**

**Pilot operated,** two-way, normally closed solenoid valves are suitable for use with refrigerants R-12, R-22, and R-502 in liquid, suction and discharge lines, on small to medium tonnage systems.

**Suitable for use with air,** water, light oils, Nos. 1 & 2 fuel oils, and other nontoxic, noncorrosive fluids up to 500 PSI. Safe working pressure. Valve body must be combined with operating coil sold separately. Parker/Jackes Evans brand.

## SOLENOID VALVE DIMENSIONS

| Stock No. | Overall Length (In.) | Maximum Width (In.) | Overall Height (In.) |
|---|---|---|---|
| 1H750 | 4 5/8 | 1 7/8 | 3 15/32 |
| 1H749 | 4 5/8 | 1 7/8 | 3 15/32 |
| 1H748 | 5 | 1 7/8 | 3 25/32 |
| 4X564 | 2 1/8 | 1 7/8 | 3 25/32 |
| 4X565 | 4 5/8 | 1 7/8 | 3 25/32 |
| 4X566 | 3 1/2 | 1 7/8 | 3 25/32 |
| 4X569 | 5 | 1 7/8 | 3 27/32 |
| 4X570 | 5 21/32 | 2 3/16 | 4 5/32 |
| 4X571 | 6 7/8 | 2 3/16 | 4 5/32 |

## 90-DAY PARKER LIMITED WARRANTY

Text of warranty available on request. See "Mfrs.' Warranties" on page opposite inside back cover.

## SOLENOID VALVE CAPACITIES (TONS)

| Stock No. | Refrigerant 12 | | | | Refrigerant 22 | | | | Refrigerant 502 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Liquid Line† | | Suction Line‡ | | Liquid Line† | | Suction Line‡ | | Liquid Line† | | Suction Line‡ | |
| | 2 PSI | 3 PSI | 40°F | 20°F | 2 PSI | 3 PSI | 40°F | 20°F | 2 PSI | 3 PSI | 40°F | 20°F |
| 1H750, 1H749 | 0.76 | 0.95 | 0.08 | 0.07 | 0.98 | 1.2 | 0.12 | 0.10 | 0.67 | 0.83 | 0.10 | 0.08 |
| 1H748 | 3.5 | 4.4 | 0.33 | 0.26 | 4.5 | 5.7 | 0.48 | 0.39 | 3.0 | 3.8 | 0.39 | 0.31 |
| 4X564, 4X565, 4X566 | 3.5 | 4.4 | 0.33 | 0.26 | 4.5 | 5.7 | 0.48 | 0.39 | 3.0 | 3.8 | 0.39 | 0.31 |
| 4X569 | 6.0 | 7.4 | 0.58 | 0.45 | 7.5 | 9.5 | 0.81 | 0.65 | 4.8 | 6.0 | 0.61 | 0.49 |
| 4X570, 4X571 | 9.3 | 11.0 | 0.94 | 0.76 | 12.0 | 15.0 | 1.4 | 1.1 | 8.5 | 10.0 | 1.1 | 0.88 |

(*) One ton = 12,000 BtuH. (†) Pressure differential. (‡) At one PSI pressure differential.

## SOLENOID VALVE ORDERING DATA

| Type | Connection | Port Size (In.) | Cv # | Parker Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Solder** | 1/4" ODF | 7/64 | 0.22 | RB1E2 | **1H750** | $67.63 | **$31.30** | **$29.67** | 0.8 |
| **Solder** | 3/8 ODF | 7/64 | 0.22 | RB1E3 | **1H749** | 67.96 | **31.35** | **29.74** | 0.8 |
| **Solder** | 1/2 ODF | 1/4 | 0.99 | RB3E4 | **1H748** | 50.30 | **32.75** | **31.09** | 0.8 |
| **Pipe** | 1/4 NPT | 1/4 | 0.99 | RB3P2 | **4X564** | 70.40 | **31.45** | **29.82** | 0.9 |
| **Solder** | 3/8 ODF | 1/4 | 0.99 | RB3E3 | **4X565** | 70.40 | **31.45** | **29.82** | 0.8 |
| **Flare** | 3/8 SAE | 1/4 | 0.99 | RB3F3 | **4X566** | 70.40 | **31.45** | **29.82** | 0.9 |
| **Solder** | 1/2 ODF | 11/32 | 1.3 | RB6E4 | **4X569** | 96.66 | **43.00** | **40.79** | 1.3 |
| **Solder** | 1/2 ODF | 15/32 | 2.8 | RB9E4 | **4X570** | 115.70 | **51.60** | **48.96** | 1.9 |
| **Solder** | 5/8 ODF | 15/32 | 2.8 | RB9E5 | **4X571** | 115.74 | **51.60** | **48.99** | 0.8 |

(#) Coefficient of volume: the amount of water in GPM at standard conditions (60°F, specific gravity = 1) which will pass through the valve with a one PSI pressure drop and the valve in full open position.

## OPERATING COILS FOR VALVES ABOVE

- **Continuous-duty**
- **Encapsulated coil, waterproof, resistant to oil, dust, and most corrosive fluids, fumes, and vapors**
- **Easy to assemble with single screw mount**
- **Junction box with two knockouts and six inch wire leads**
- **Class F Rated; UL Listed; CSA Certified**

## PARKER LIFETIME LIMITED WARRANTY

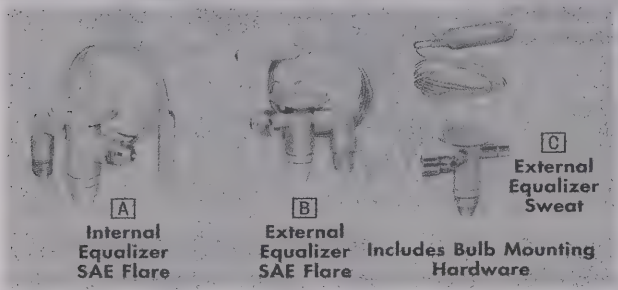
Text of warranty available on request. See "Mfrs.' Warranties" on page opposite inside back cover.

| Coil Voltage 50 / 60 Hz. 1 Phase | Amps Holding | Amps Inrush | Watts | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **24** | 0.8 | 1.6 | 11 | **4X731** | $40.42 | **$18.60** | **$17.65** | 0.8 |
| **110/120** | 0.2 | 0.4 | 11 | **4X732** | 39.16 | **18.07** | **17.16** | 1.0 |
| **208/240** | 0.1 | 0.2 | 11 | **4X733** | 39.17 | **18.07** | **17.17** | 0.8 |

**GENERAL PURPOSE SOLENOID VALVES AVAILABLE. SEE PAGES 3279 THRU 3286.**

# THERMOSTATIC EXPANSION VALVES

## PARKER THERMOSTATIC EXPANSION VALVES




**Parker Thermostatic Expansion Valves** can be applied to a wider range of refrigeration, air conditioning, and heat pump systems. Accurate control is maintained over a wide variation in evaporator load, thereby minimizing hunting flood-back and coil starving problems. Usually the need for special ambient or head pressure controls is eliminated.

**All models** have externally adjustable superheat for commercial applications, such as reach-in coolers, display cases, and other small refrigeration systems, air conditioning, and heat pump applications.

**Nos. 5A444, 5A445 and 6X241 thru 6X244 (S series)** are suited for air conditioning, heat pump applications, and refrigeration systems where solder-type connections are preferred. Parker brand.

| Key | Refrigerant | Nom. Tons Range* | Equalizer Type** | Connection Type | Connection Size (In.) Inlet # | Outlet | Parker Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | R-12 | 1/4 - 1 | Internal | SAE Flare | 1/4 | 1/2 | CAFW | **5A433** | $95.89 | **$39.60** | **$37.59** | 1.2 |
| A | R-12 | 1/4 - 1 | Internal | SAE Flare | 1/4 | 1/2 | CAFX35 | **5A434**†† | 95.89 | **39.60** | **37.59** | 1.2 |
| B | R-12 | 1/4 - 1 | External | SAE Flare | 1/4 | 1/2 | CEAFW | **4E637** | 105.79 | **43.40** | **41.15** | 1.5 |
| B | R-12 | 1/4 - 1 | External | SAE Flare | 1/4 | 1/2 | CEAFX35 | **4E640**†† | 105.79 | **43.40** | **41.15** | 1.5 |
| A | R-12 | 1½ - 3 | Internal | SAE Flare | 3/8 | 1/2 | CBFW | **6X237** | 95.89 | **40.85** | **38.76** | 1.2 |
| B | R-12 | 1½ - 3 | External | SAE Flare | 3/8 | 1/2 | CEBFW | **6X239** | 105.80 | **43.40** | **41.15** | 1.2 |
| B | R-12 | 1½ - 3 | External | SAE Flare | 3/8 | 5/8 | CEBFW | **5A435** | 105.80 | **43.40** | **41.15** | 1.2 |
| B | R-12 | 1½ - 3 | External | SAE Flare | 3/8 | 1/2 | CEBFX35 | **4E641**†† | 105.79 | **43.40** | **41.15** | 1.5 |
| C | R-12 | 1½ - 3 | External | Sweat | 3/8 ODF | 5/8 ODF | SE3FW | **6X241** | 118.48 | **46.60** | **44.17** | 0.9 |
| A | R-22 | 1/5 - 3/4 | Internal | SAE Flare | 1/4 | 1/2 | CAAVW | **1H768** | 62.56 | **37.00** | **34.58** | 1.2 |
| A | R-22 | 1/5 - 3/4 | Internal | SAE Flare | 1/4 | 1/2 | CAAVX35 | **1H767**†† | 63.13 | **37.00** | **34.58** | 1.2 |
| B | R-22 | 1/2 - 1½ | External | SAE Flare | 1/4 | 1/2 | CEAVW | **4E638** | 105.80 | **43.40** | **41.15** | 1.2 |
| B | R-22 | 1/2 - 1½ | External | SAE Flare | 1/4 | 1/2 | CEAVX35 | **4E642** | 105.79 | **43.40** | **41.15** | 1.5 |
| A | R-22 | 1/2 - 1½ | Internal | SAE Flare | 3/8 | 1/2 | CAVW | **5A440** | 95.89 | **39.60** | **37.59** | 1.2 |
| A | R-22 | 1/2 - 1½ | Internal | SAE Flare | 3/8 | 1/2 | CAVX65 | **5A441**†† | 95.89 | **39.60** | **37.59** | 1.2 |
| B | R-22 | 1½ - 3 | External | SAE Flare | 3/8 | 1/2 | CEBVW | **4E639** | 105.79 | **43.40** | **41.15** | 1.5 |
| B | R-22 | 1½ - 3 | External | SAE Flare | 3/8 | 1/2 | CEBVX35 | **4E643**†† | 105.79 | **43.40** | **41.15** | 1.5 |
| A | R-22 | 3½ - 5 | Internal | SAE Flare | 3/8 | 1/2 | CCVW | **5A442** | 95.88 | **39.60** | **37.57** | 1.3 |
| A | R-22 | 3½ - 5 | Internal | SAE Flare | 3/8 | 1/2 | CCVX100 | **6X238**† | 95.89 | **39.60** | **37.59** | 1.2 |
| B | R-22 | 3½ - 5 | External | SAE Flare | 3/8 | 1/2 | CECVX100 | **6X240**† | 105.80 | **43.40** | **41.15** | 1.2 |
| B | R-22 | 5½ - 7½ | External | SAE Flare | 1/2 | 5/8 | CE7½VX100 | **5A443**† | 105.79 | **43.40** | **41.15** | 1.4 |
| C | R-22 | 1½ - 3 | External | Sweat | 1/2 | 5/8 | SE3VW | **1H747** | 79.55 | **52.15** | **46.93** | 0.9 |
| C | R-22 | 1½ - 3 | External | Sweat | 1/2 | 5/8 | SE3VX35 | **1H746**†† | 77.64 | **52.15** | **46.92** | 1.5 |
| C | R-22 | 3½ - 5 | External | Sweat | 1/2 | 7/8 | SE5VX35 | **1H744** | 79.55 | **52.15** | **46.93** | 0.9 |
| C | R-22 | 3½ - 5 | External | Sweat | 1/2 | 7/8 | SE5VW | **1H745** | 79.55 | **52.15** | **46.93** | 0.9 |
| C | R-22 | 3½ - 5 | External | Sweat | 3/8 ODF | 5/8 ODF | SE5VX100 | **6X242**† | 118.48 | **46.60** | **44.17** | 0.9 |
| C | R-22 | 3½ - 5 | External | Sweat | 1/2 ODF | 5/8 ODF | SE5VX100 | **6X243**† | 118.48 | **46.60** | **44.17** | 0.9 |
| C | R-22 | 5½ - 7½ | External | Sweat | 5/8 ODF | 7/8 ODF | SE7½VX100 | **6X244**† | 118.48 | **46.60** | **44.17** | 0.9 |
| C | R-22 | 3½ - 5 | External | Sweat | 1/2 ODF | 5/8 ODF | SE5VX100B15 | **5A444**†‡ | 118.47 | **46.65** | **41.22** | 1.2 |
| C | R-22 | 5½ - 7½ | External | Sweat | 5/8 ODF | 7/8 ODF | SE7½VX100B20 | **5A445**†‡ | 118.47 | **46.65** | **41.22** | 1.1 |
| A | R-502 | 1/4 - 1 | Internal | SAE Flare | 1/4 | 1/2 | CARW | **5A436** | 95.89 | **39.60** | **37.59** | 1.2 |
| A | R-502 | 1/4 - 1 | Internal | SAE Flare | 1/4 | 1/2 | CARX35 | **5A437**†† | 95.89 | **39.60** | **37.59** | 1.2 |
| A | R-502 | 1½ - 4 | Internal | SAE Flare | 3/8 | 1/2 | CCRW | **5A438** | 95.89 | **39.60** | **37.59** | 1.2 |
| B | R-502 | 1½ - 4 | External | SAE Flare | 3/8 | 1/2 | CECRW | **5A439** | 105.80 | **43.40** | **41.15** | 1.2 |

(*) ARI standard 750-70; at 10°F liquid subcooling (subcooling is number of temperature degrees below condensing temperature for a given pressure). 1 ton = 12,000 BtuH cooling.
(†) These R22 valves have maximum operating pressure of 100 PSI for diaphragm and capillary protection if valve is located in furnace warm air plenum.
(‡) Bleed port valve percent of capacity shown. (B15 = 15% of capacity bleed for off cycle unloading.) (#) Reducing type fitting on all SAE 3/8" inlet fittings. 3/8 x 1/4" reducing flare nut may be used.
(**) SE valves 1/4" ODF; CE valves 1/4" SAE flare. (††) These are refrigeration application expansion valves with maximum operating pressure (MOP) charges of 35 MOP and 65 MOP.
Anti-hunt ballast bulb x charge is also provided with these and all R-22 100 MOP valves.

## COMPACT THERMOSTATIC EXPANSION VALVES




- **Sensing bulb mounting hardware**
- **Wide range type**
- **1/4-2 tons R-12 capacity**
- **1½-3 tons R-22 capacity**
- **Balanced port design provides control over wide variations in load and/or condensing pressure**
- **Multi-range capacity reduces valve inventory**
- **2½" long valves are compact and used where conventional size valves will not fit**

**They maintain accurate control** over a wide variation in evaporator loads. Special ambient and head pressure controls are eliminated.

**Designed for small tonnage** refrigeration systems, such as ice machines, cold drink dispensers, slush machines, and reach-in coolers. Parker brand.

**PARKER 1-YEAR LIMITED WARRANTY**

**Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Refrigerant | Nom. Tons Range* | Evaporator Temp. Range (°F) | Capillary Length† (In.) | SAE Flare Conn. (In.) Inlet | Outlet | PSA Pres. Drop Across Valve | Parker Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **R-12** | 1/4 to 1/2 | -40 to 40 | 30 | 1/4 | 1/2 | 60 - 175 | N1/4-1/2FW | **3A664** | $61.21 | **$27.90** | **$26.43** | 0.6 |
| **R-12** | 3/4 - 2 | -40 to 40 | 30 | 3/8 | 1/2 | 60 - 175 | N-2FW | **6X245** | 61.21 | **27.90** | **26.43** | 0.6 |
| **R-22** | 1½ to 3 | -40 to 40 | 30 | 3/8 | 1/2 | 75 - 275 | N-3VX100B10 | **6X246**‡ | 61.21 | **27.90** | **26.43** | 0.6 |

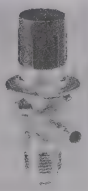
(*) 1 ton is equivalent to 12,000 BtuH cooling. (†) Sensing bulb is 1/2" dia. x 2"L. (‡) 100 MOP and permanent 10% bleed port.

# CONSTANT PRESSURE EXPANSION VALVES

Parker No. 4X859

**1-YEAR PARKER-HANNIFIN LIMITED WARRANTY**

Text of warranty available on request. See "Manufacturers' warranties" on page opposite inside back cover.



- Can be used for refrigerants: R-12, R-22, and R-502 (not ammonia)
- Maintain constant evaporator pressure under all load conditions
- Permits use of low starting torque motors
- Automatically protect against motor overloads during system start-up
- Simple and reliable

Valves regulate liquid refrigerant flow entering evaporator at a constant outlet pressure, matching compressor capacity. Adjustment range: 5" Hg, vacuum to 90 PSIG

Use with ice cream makers, water coolers, dehumidifiers, and cold drink dispensers. Can also be used as low load protection device in hot gas bypass systems. 2¾H x 4⅛W x 4½"L. Parker brand.

## CONSTANT PRESSURE EXPANSION VALVE RATING DATA*

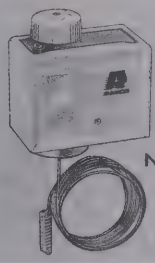
| Refrigerant Type | Evaporator Temp. °F | Pressure Drop Across Valve—PSI | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 50 | 80 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
| | | Capacity, Tons† | | | | | | | | |
| R-12 | +40 | 1.50 | 1.73 | 1.94 | 2.17 | 2.37 | — | — | — | — |
| | +20 | 1.45 | 1.68 | 1.87 | 2.10 | 2.30 | — | — | — | — |
| | 0 | 1.17 | 1.35 | 1.51 | 1.69 | 1.85 | — | — | — | — |
| | -10 | 0.97 | 1.12 | 1.25 | 1.36 | 1.53 | — | — | — | — |
| | -20 | 0.79 | 0.92 | 1.02 | 1.14 | 1.25 | — | — | — | — |
| | -40 | 0.69 | 0.79 | 0.89 | 0.99 | 1.09 | — | — | — | — |
| R-22 | +40 | — | — | 2.50 | 2.80 | 3.06 | 3.31 | 3.54 | 3.78 | — |
| | +20 | — | — | 2.44 | 2.73 | 2.99 | 3.23 | 3.45 | 3.70 | — |
| | 0 | — | — | 2.01 | 2.25 | 2.46 | 2.65 | 2.84 | 3.02 | — |
| | -10 | — | — | 1.89 | 2.07 | 2.23 | 2.39 | 2.54 | 2.67 | — |
| | -20 | — | — | 1.56 | 1.71 | 1.85 | 1.97 | 2.09 | 2.21 | — |
| | -40 | — | — | 1.14 | 1.23 | 1.32 | 1.40 | 1.47 | 1.54 | — |
| R-502 | +40 | — | — | 2.00 | 2.24 | 2.45 | 2.65 | 2.83 | 3.00 | 3.22 |
| | +20 | — | — | — | 2.14 | 2.34 | 2.53 | 2.70 | 2.87 | 3.02 |
| | 0 | — | — | — | — | 1.96 | 2.11 | 2.25 | 2.39 | 2.52 |
| | -10 | — | — | — | — | 1.62 | 1.75 | 1.88 | 1.99 | 2.10 |
| | -20 | — | — | — | — | — | 1.46 | 1.56 | 1.65 | 1.74 |
| | -40 | — | — | — | — | — | — | 1.02 | 1.09 | 1.14 |

(*) Based on vapor-free 100°F liquid refrigerant entering the expansion valve. (†) One ton is 12,000 BtuH

## EXPANSION VALVE SPECIFICATIONS AND ORDERING DATA

| Connection Size (In.) Inlet | Outlet | Parker Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 1/4 SAE Flare | 1/2 SAE Flare | A-2 | **4X859** | $75.46 | **$28.75** | **$27.25** | 0.7 |
| 1/4 SAE Flare | 1/4 NPTF | A-1 | **5A446** | 75.44 | **28.75** | **27.24** | 1.2 |

# COMMERCIAL TEMPERATURE CONTROLS



RANCO

SA512

LR32079

No. 1A002

- Sturdy, NEMA 1 enclosure with non-conductive cover retained by front-access screw
- Range and differential adjustments have visible, direct reading scales and are external for easy setting
- Variety of adjustment ranges and sensing elements for maximum performance
- SPST automatic reset, snap-action switches close on rise of temperature
- Laser-welded bellows for extended life
- UL Listed (SA512); CSA Certified (LR32079)

**Ranco commercial temperature controls** are designed for operating refrigeration systems. All use a refrigerant-charged sensing element to operate an SPST close-on-rise switch. The automatic reset, snap-action switch is suitable for line or pilot duty cycling of motors, compressors or solenoid valves.

**All controls have** visible, calibrated scales which indicate range and differential in both Fahrenheit and Celsius. Compact, zinc plated, pressed steel case has a non-corrosive cover which is retained by a captive, accessible screw. Removal of the cover exposes the screw-type wiring terminals

**External range screw** changes the cut-out and cut-in settings; differential adjustment screw changes the difference between the cut-out and cut-in. Controls come with mounting bracket, mounting screws, terminal screws, adjustment knob and installation instructions. Dimensions less sensing element: 2¾H x 3½W x 2"D.

## ELECTRICAL RATINGS

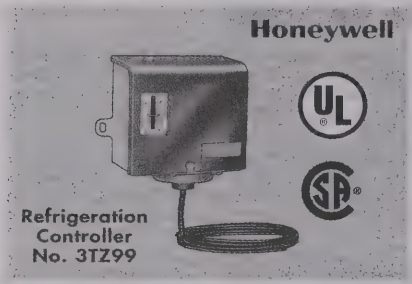
| Stock No. | Volts | Amps Locked Rotor | Amps Full Load | Pilot Duty Volt Amps (VA) |
|---|---|---|---|---|
| 1A002, 1A003 | 24 | — | — | 144 |
| 1A004, 1A005 | 120 | 144 | 24 | 720 |
| 1A020 | 240 | 144 | 24 | 720 |
| | 241 / 600 | — | — | 125 |

## TEMPERATURE CONTROL SPECIFICATIONS AND ORDERING DATA

| Range °F High Event (Adjustable) | Differential °F (Adjustable) High End | Differential °F (Adjustable) Low End | Sensing Element Capillary Length | Sensing Element Bulb Size (In.) | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| -15 to 40 | 3-20 | 6-25 | 72 | 3/8 x 1⅛ | 010-1408 | **1A002** | $119.51 | **$47.85** | 1.1 |
| 0 to 55 | 3-20 | 6-25 | 72 | 3/8 x 1⅛ | 010-1409 | **1A003** | 119.51 | **47.85** | 1.1 |
| 25 to 75 | 3-20 | 6-25 | 72 | 3/8 x 1⅛ | 010-1410 | **1A004** | 118.52 | **46.95** | 1.1 |
| 0 to 55 | 3-20 | 6-25 | — | 1⅛ x 1½* | 010-1418 | **1A005** | 119.51 | **47.85** | 1.1 |
| 0 to 55 | 3-20 | 6-25 | 72 | None | 010-1416 | **1A020** | 119.52 | **47.85** | 1.0 |

(*) Air Coil.

# REFRIGERATION TEMPERATURE CONTROLS




## REFRIGERATION CONTROLLER

**Application:** Used to limit or control temperature in air conditioning systems or refrigerated enclosures.

- **Dual temperature scaleplate provided for both Fahrenheit and Celsius readings**
- **Enclosed snap switch is dust and moisture proof for trouble-free operation**
- **SPST-breaks control circuit on temperature fall**

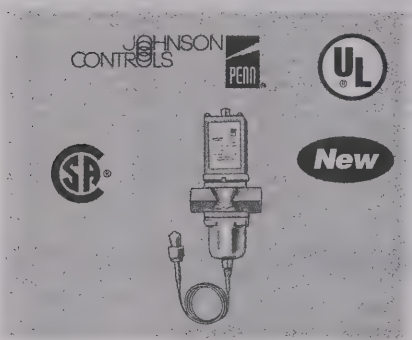
### ELECTRICAL RATINGS

| | 120 Vac | 240 Vac |
|---|---|---|
| Full Load | 10.2A | 6.5A |
| Locked Rotor | 61.2A | 39.0A |
| Pilot Duty | 125 VA at 600 Vac | |
| Dc Rating | 0.2A at 120 Vdc | |

### REFRIGERATION CONTROLLER SPECIFICATIONS AND ORDERING DATA

| Approximate Dimensions, (In.) H | W | D | Ambient Temp. Range, (°F) | Maximum Sensor Range, (°F) | Fixed, Additive Differential, (°F) | Type of Reset | Capillary Range, (°F) | Capillary Length (no bulb, Ft.) | Honeywell Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 5/16 | 3 11/16 | 2 5/16 | 20 to 125 | 225 | 10 | Manual | 20 to 60 | 20 | L480G1044 | **3TZ99** | $207.50 | **$124.20** | 2.0 |

## WATER-REGULATING VALVES

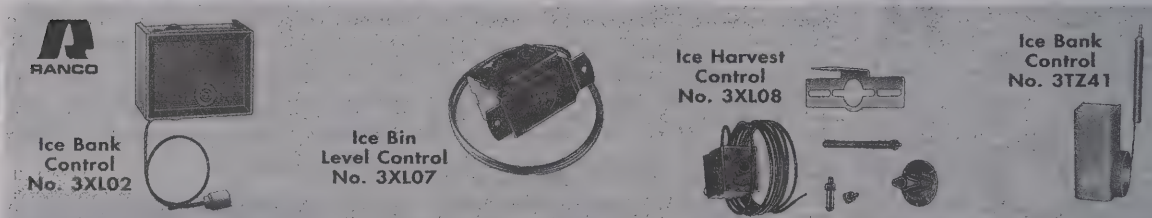



- **Pressure actuated for precise control of head pressure**
- **Corrosion resistant material for longer valve life**
- **Take-apart construction allows accessibility to interior of valve**
- **Accessible range spring for easy manual flashing**
- **Pressure-balanced design maintains consistent setpoint**
- **No close fitting or sliding parts in water passages**

Valves control condenser temperature on any water-cooled refrigeration unit. May be used with standard non-corrosive refrigerants. Units can be repaired without removal from piping. Buna-N valve disc, nylon reinforced Buna-N diaphragm. 150 psig max. Made in USA.

| Size (In.) NPT Threaded | Johnson Controls Penn Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/8** | V46AA-1E | **4LZ96** | $119.00 | **$71.30** | 1.8 |
| **1/2** | V46AB-1E | **4LZ97** | 128.04 | **77.60** | 2.7 |
| **3/4** | V46AC-1E | **4LZ98** | 156.00 | **93.50** | 3.6 |
| **1** | V46AD-1E | **4LZ99** | 329.80 | **197.50** | 8.0 |

## CONTROL ACCESSORIES




- **Controls compressor to maintain an ice bank of desired thickness**
- **Excellent for use on refrigerated cabinets where an ice bank is built as means of storing refrigeration**

**Ice Bank Control** is suitable for soft drink dispensers, drink vending machines, and ice builders for thermal storage.

Ice Bin Level Control is a direct replacement control for ice machine applications. Provides narrow differential for accurate control of bin level. Ranco brand.

Ice Harvest Control is an adaptable replacement for ice machine applications. Parts and instructions included for easy installation. Ranco brand.

### ICE CONTROL SPECIFICATIONS & ORDERING DATA

| Item | Switch | Range (F°) | Differential (F°) | Sensing Element | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Ice Bank Control** | SPST | Fixed | Approx. 1/8" Ice Thickness | 76" Capillary with Bulb | 018-100 | **3XL02** | $93.72 | **$52.85** | 0.4 |
| **Ice Bank Control** | SPST | Open | Approx. 1/16" Ice Thickness | 76" Capillary with Bulb | 16A35-3 | **3TZ41** | 135.24 | **86.70** | 1.9 |
| **Ice Bin Level Control** | SPDT | 35 to 51 | 6 | 48" Capillary | A22-1129 | **3XL07** | 74.10 | **39.05** | 0.4 |
| **Ice Harvest Control** | SPDT | -19 to 22 | 8 | 72" Capillary | A22-4506 | **3XL08** | 64.14 | **33.85** | 0.4 |

# SINGLE PRESSURE CONTROLS



**Low pressure controls** are designed to protect the compressor against loss of regrigerant in commercial regrigeration and air conditioning systems. They can also be used to cycle the compressor in commercial refrigeration applications.

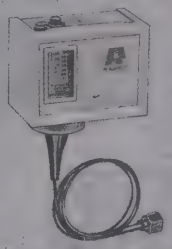
**High pressure controls** are designed to protect the compressor from excessive system pressure which could be caused by condenser fan failure. Open on low units can also be used to cycle the condenser fan in low ambient applications.

- **NEMA 1 enclosures with nonconductive cover**
- **Universal mounting and compact design**
- **Suitable for use with R-12, R-22, R-134A, and R-502 refrigerants**



No. 2E980

RANCO



Nos. 2E981
2E982, 2E983
2E984, 2E985

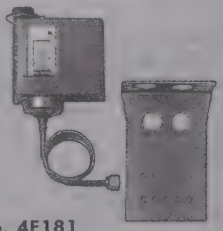
## CONTROL SPECIFICATIONS & ORDERING DATA

| Pressure Type | Switch Action | Range PSIG | Differential PSIG | Pressure Connection | Reset Operation | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Low** | Opens Low | 12-50 | 5-35 | Male Flare | Auto | 010-1401 | **2E980** | $122.26 | **$48.30** | 1.4 |
| **Low** | Opens Low | 12-50 | 5-35 | 36" Capillary w/Flare Nut | Auto | 010-1402 | **2E981** | 120.60 | **48.65** | 1.5 |
| **Low** | Opens Low | 10-100 | 10-40 | 36" Capillary w/Flare Nut | Auto | 010-1483 | **2E982** | 120.60 | **48.65** | 1.5 |
| **High** | Opens High | 100-400 | 40-150 | 36" Capillary w/Flare Nut | Auto | 010-2054 | **2E983** | 121.66 | **49.15** | 1.5 |
| **High** | Opens High/Low | 100-400 | 40-150 | 36" Capillary w/Flare Nut | Auto | 020-7006 | **3XL03** | 138.82 | **73.15** | 1.5 |
| **High** | Opens High/Low | 100-400 | 40-150 | 36" Capillary w/Flare Nut | Auto | 016-108 | **2E984** | 125.57 | **50.45** | 1.5 |
| **High** | Opens High | 150-450 | 40-150 | 36" Capillary w/Flare Nut | Auto | 011-1711 | **2E985** | 127.31 | **51.25** | 1.5 |

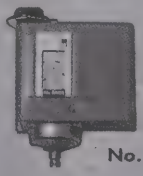
- **Single pole controls with copper capillary or 1/4" male flare**
- **Suitable for use with R-12, R-22, R-134A, R-502, and other noncorrosive refrigerants**
- **1/4" male flare controls require Ecosafe™ 24" hose , No. 2G880, sold separately below. Hose virtually eliminates the loss of refrigerant due to capillary breakage**
- **Nos. 4E039 and 4E884 have Micro-Set™ adjustment which provides close, stable operation for critical applications**

**Ecosafe™ 24" Hose.** Flexible, corrugated stainless steel hose. Non-permeable. Can be used with any 1/4" male flare controls, Nos. 4E884, 4E885, 4E883, 4E886, and 4E887. Johnson Controls/Penn brand (H270AB-24).

**No. 2G880.** Shpg. wt. 0.5 lbs. List $40.58. Each.....$22.00



No. 4E181



No. 4E884

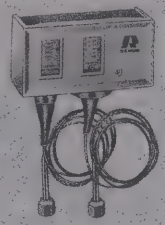
JOHNSON CONTROLS PENN

## CONTROL SPECIFICATIONS & ORDERING DATA

| Pressure Type | Switch Action | Range PSIG | Differential PSIG | Limited Knob Adjustment | Pressure Connection | Johnson Ctrls/ Penn Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Low** | Close High<br>Open Low | 12"-80 | 5-35 | Cutout<br>Cutout | 36" Capillary w/1/4" Flare Nut<br>1/4" Male Flare | P70AB-12<br>P170AB-12 | **4E039**<br>**4E884** | $100.51<br>94.07 | **$47.65**<br>**48.20** | 2.6<br>2.3 |
| **Low** | Close High<br>Open Low | 20-100 | 6-50 | Cutout<br>Cutout | 36" Capillary w/1/4" Flare Nut<br>1/4" Male Flare | P70AB-2<br>P170AB-2 | **4E181**<br>**4E885** | 100.55<br>94.09 | **47.70**<br>**48.70** | 2.6<br>2.3 |
| **High** | Close High<br>Open Low | 100-400 | 35-200 | None<br>None | 36" Capillary w/1/4" Flare Nut<br>1/4" Male Flare | P70AA-118<br>P170AA-118 | **4E038**<br>**4E883** | 100.18<br>94.89 | **48.75**<br>**48.70** | 2.6<br>2.3 |
| **High** | Open High<br>Close Low | 50-450 | 60-150 | None<br>None | 36" Capillary w/1/4" Flare Nut<br>1/4" Male Flare | P70CA-3<br>P170CA-3 | **4E040**<br>**4E886** | 111.62<br>103.85 | **53.05**<br>**53.20** | 2.6<br>2.3 |
| **High** | Open High<br>Close Low | 50-450 | Lockout Requires Manual Reset | None<br>None | 36" Capillary w/1/4" Flare Nut<br>1/4" Male Flare | P70DA-1<br>P170DA-1 | **4E041**<br>**4E887** | 112.13<br>109.76 | **54.95**<br>**56.25** | 2.6<br>2.3 |

# DUAL PRESSURE AND LUBE OIL PROTECTION CONTROLS

## DUAL PRESSURE CONTROLS



No. 2E986

**Dual function pressure controls** are designed for commercial refrigeration and air conditioning applications. Combine high pressure compressor protection with low pressure, cycling, or safety functions.

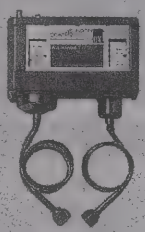
**RANCO CONTROLS FEATURE:**

- NEMA 1 enclosure with nonconductive cover
- SPST switch configuration
- For use with R-12, R-22, R-134A, and R-502
- Universal mounting and compact design

### CONTROL SPECIFICATIONS & ORDERING DATA

| Low Pressure PSIG Range (In.) | Diff. | High Pressure PSIG Range | Diff. | Reset Low | Reset High | Pressure Connection* (In.) | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **12 - 50** | 5-35 | 100-250 | 50 Fixed | Auto | Auto | 36" Capillary | 012-1506 | **2E986** | $226.06 | **$89.30** | 2.2 |
| **12 - 50** | 5-35 | 150-450 | 70 Fixed | Auto | Auto | 36" Capillary | 012-1502 | **2E987** | 222.78 | **90.95** | 2.2 |
| **12 - 50** | 5-35 | 150-450 | 70 Fixed | Auto | Auto/Man | 48" Capillary | 012-4833 | **2E988** | 224.48 | **90.45** | 2.2 |
| **10 - 100** | 10-40 | 150-450 | 70 Fixed | Auto | Auto | 36" Capillary | 012-1549 | **2E989** | 217.78 | **86.50** | 2.2 |
| **10 - 100** | 10-40 | 150-450 | 70 Fixed | Auto | Auto/Man | 48" Capillary | 012-4834 | **2E990** | 214.27 | **85.10** | 2.2 |

(*) With flare nut.

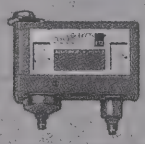


No. 4E042

- Ecosafe™ hose, No. 2G880 sold separately below, can be used with all 1/4" male flare models. Virtually eliminates loss of refrigerant due to capillary breakage
- NEMA 1 enclosure
- Use with R-12, R-22, and R-502
- Nonpermeable

### CONTROL SPECIFICATIONS & ORDERING DATA

| Low Pressure PSIG Range (In.) | Diff. | High Pressure PSIG Range | Diff. | Pressure Connection (In.) | Limited Knob Adjustment | Johnson Ctrls/ Penn Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **20 - 100** | 6-50 | 100-500 | 55/65 | 36" Capillary | Cutout | P70LB-1 | **4E042** | $188.06 | **$89.85** | 3.3 |
| **20 - 100** | 6-50 | 100-500 | 55/65 | 1/4" Male Flare | Cutout | P170LB-1 | **4E888** | 179.46 | **91.70** | 2.9 |
| **20 - 100** | 6-50 | 100-500 | Lockout requires manual reset | 36" Capillary | None | P70MA-1 | **4E043** | 189.96 | **90.70** | 3.3 |
| **20 - 100** | 6-50 | 100-500 | Lockout requires manual reset | 1/4" Male Flare | None | P170MA-1 | **4E889** | 184.63 | **92.65** | 2.9 |



No. 4E888



No. 3X720

- Alarm circuit is included
- 120 second time delay
- Field replaceable time delay module
- Manual reset
- Use with R-12, R-22, R134A, and R-502
- 120/240 VAC
- 36" Capillary with flare nut

## RANCO LUBE OIL PROTECTION CONTROLS

**Oil protection controls** guard pressure-lubricated refrigeration compressors against major damage due to loss of oil pressure. If pressure is lost, the built-in time delay switch starts timing. If oil pressure doesn't return within the set period, the control unit is opened, stopping the compressor.

| Pressure Range, PSI | Dimensions (In.) H | W | D | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **9 Fixed** | 4 | 5⅜ | 2³⁄₃₂ | P30-5826 | **3X720*** | $248.96 | **$99.35** | 2.3 |
| **8 to 60 Adjustable** | 4 | 5⅜ | 2³⁄₃₂ | P30-3801 | **4E960** | 273.86 | **103.50** | 1.9 |

(*) Copeland Specifications.

### REPLACEMENT TIME DELAY MODULES

| Time Delay | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **120 Second** | S30-1302 | **4E961** | $39.78 | **$23.97** | 0.2 |
| **60** | S30-1307 | **4E962** | 39.78 | **23.97** | 0.2 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

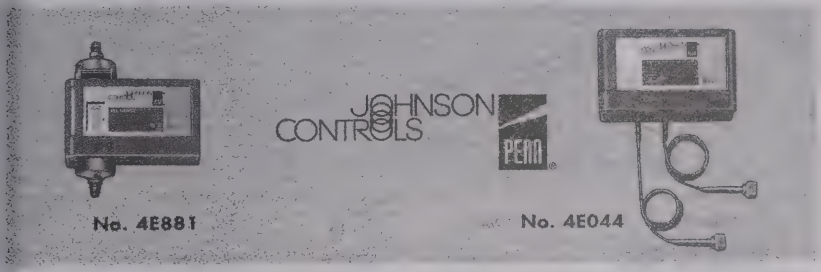
Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away.

Check the Branch Locations listed in the front of this catalog for the location closest to you.

# OIL PROTECTION CONTROLS, SHUTOFF & CHARGING VALVES

## JOHNSON CONTROLS/PENN LUBE OIL PROTECTION CONTROLS

**Oil protection controls** guard pressure-lubricated refrigeration compressors against major damage due to loss of oil pressure. If pressure is lost, the built-in time delay switch starts timing. If oil pressure doesn't return within the set period, the control unit is opened, stopping the compressor.




- **1/4" Male flare controls can be used with Ecosafe™ 24" hose, No. 2G880 sold separately below. Hose virtually eliminates the loss of refrigerant due to capillary breakage**
- **Suitable for use with R-12, R-22, R-134A, and R-502 refrigerants**
- **Manual reset**
- **120/240 VAC**
- **Non-permeable**

### CONTROL SPECIFICATIONS & ORDERING DATA

| Pressure Range, PSI | Time Delay, Sec. | Pressure Connection | Johnson Ctrls/ Penn Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **8-70** | 90 | 36" Capillary | P28AA-1 | **4E045** | $232.47 | **$111.70** | 3.7 |
| **8-70** | 90 | 1¼" Male Flare# | P128AA-1 | **4E881** | 232.31 | **126.25** | 3.4 |
| **8-70** | 120 | 36" Capillary | P28AA-17 | **4E046** | 232.47 | **111.70** | 3.7 |
| **8-70** | 120 | 1¼" Male Flare# | P128AA-17 | **4E880** | 232.31 | **126.25** | 3.4 |
| **9 Fixed†** | 120 | 36" Capillary | P45NCA-12 | **4E044*** | 208.09 | **101.50** | 2.7 |
| **9 Fixed†** | 120 | 1¼" Male Flare# | P145NCA-12 | **4E882*** | 198.54 | **112.65** | 2.4 |

(*) Specifically for Copeland applications. (†) Factory setting. (#) With 1/4" flare nut.

### ECOSAFE™ HOSE

**Ecosafe™ 24" Hose** can be used with only Johnson Controls/Penn 1/4" male flare controls, Nos. 4E888, 4E889, 4E881, 4E880, and 4E882. Johnson Controls/Penn brand (H270AB-24).

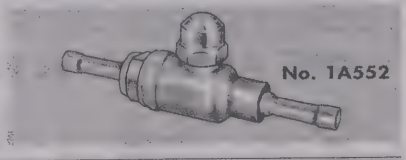
**No. 2G880** Shpg. wt. 0.5 lbs. List.....$40.58. Each.....$22.00

## BALL TYPE SHUTOFF VALVES

**Bi-directional full** flow ball valves in a compact design, allowing minimum pressure drop. With the valve in the open position, the extended ends allow silver brazing without disturbing the tested valve.

**Chromium plated ball** resists scoring and insures smooth valve action. Reinforced Teflon® seats give proven resistance to wear and corrosive elements. Only a quarter turn is required for full "On" or "Off." Teflon® seals allow valve to be used with all refrigerants.

**Maximum operating pressure** is 500 PSI. UL Listed.

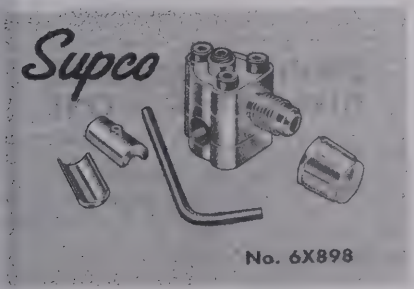



### VALVE SPECIFICATIONS & ORDERING DATA

| Tube Size, (In.) O.D. | Port Size (In.) | CV* | Flow Rating† Tons Refrigeration R-12 | R-22 | Overall Length (In.) | Max. Height From Tube Centerline (In.) | Aurora Model | Stock No. | List | Each | Lots 6 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3/8** | 21/64 | 8.5 | 10 | 13 | 6 1/16 | 1 5/16 | V34200 | **1A552** | $52.12 | **$26.60** | **$25.71** | 0.9 |
| **1/2** | 29/64 | 8.5 | 24 | 30 | 6 1/16 | 1 5/16 | V34201 | **1A553** | 52.12 | **26.60** | **25.71** | 0.9 |
| **5/8** | 1/2 | 9.8 | 31 | 38 | 6 3/8 | 1 5/16 | V34202 | **1A554** | 54.25 | **27.75** | **26.84** | 0.9 |
| **7/8** | 11/16 | 32.0 | 72 | 88 | 7 1/4 | 1 3/4 | V34204 | **1A555** | 72.89 | **37.25** | **36.03** | 1.6 |

(*) Coefficient of volume: the amount of water in GPM at standard conditions (60°F specific gravity = 1) which will pass through the valve with one PSI pressure drop with valve in full open position. (†) Figures expressed in tons of refrigeration. Capacity based on 2 PSI pressure drop. 1 ton = 12,000 BtuH. 1 ton = 4.07 lb. per min. flow R-12 at 40° evaporator. 1 ton = 3.02 lb. per min. flow R-22 at 40° evaporator.

## LINE PIERCING & CHARGING VALVES




- **2 valves handle 5 line diameters**
- **Install on high or low side of system, on uneven and bent tubing**
- **Corrosion resistant finish**
- **1/4" SAE outlet**

Use on refrigeration and air conditioning systems which do not have factory furnished access valves. Only two inches of clearance are required to mount and operate this small (approx. 1⅛, x 1¼") die cast valve. Clamps to refrigerant line with three hex head screws (included). Three seals prevent refrigerant leaks; a high compression gasket between the valve and line; an O-ring on the valve shaft; and a rubber sealed cap for the SAE outlet. Piercing needle is precision engineered for concentricity and hardness to ensure perfect seating every time. Instructions, hex wrench and inserts for tubing diameters included. Sealed Unit Parts. Co.

| For Line O.D. Sizes (In.) | Mfr. Model BPV- | Carton Qty.* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 1/4, 5/16, 3/8 | 31A | 12 | 6X898 | $6.11 | $2.82 | 0.2 |
| 1/2, 5/8 | 21A | 8 | 6X899 | 6.46 | 2.97 | 0.3 |

(*) Priced each. Sold only in full cartons.

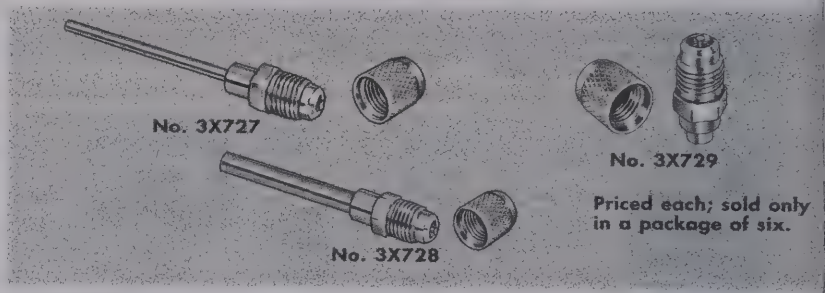
# REFRIGERATION FITTINGS

## REFRIGERATION ACCESS VALVES

**Provide low cost access ports** for refrigeration service. May be installed in any position on either high or low side for quick testing, pressure checking, purging or charging.

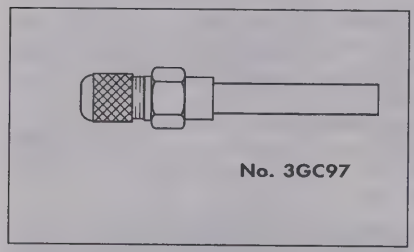
**Valves have** 1/4" SAE male flare access ports and are furnished with finger-tight, quick-seal caps. Caps and valve bodies are brass construction. Special corrosion resistant, stainless steel and brass refrigerant valve cores are loosely assembled in the valves at the factory. This loose assembly allows easy removal during installation and assures that solder heat does not damage the seals.

**Valve seals are compatible** with all refrigerants. Copper extended tubes on Nos. 3X727 and 3X728 valves are about two inches long and may be bent, cut, flared or swaged to meet application requirements. No. 3X729 valve is three-way solder type that can be used with 3/16" O.D. tube or 1/4" and 3/8" solder fittings. Aurora brand.




| Connection (In.) | Valve | Stock No. ❷ | Each Pkg. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|
| **3/16 O.D. Tube or 1/4 and 3/8 Fitting** | 3-Way Solder | **3X729** | **$7.64▲** | 6 | 0.4 |

❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch. (▲) Net prices, not subject to discounts. (▲) Net prices, not subject to discounts.




## COPPER TUBE EXTENSIONS

- **Use flux free phos-copper solder**
- **Use with copper fitting**
- **Extension length approximately 2"**
- **Install through side of larger line**

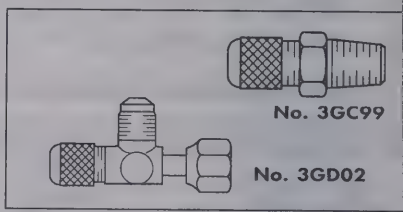
| Description (In.) | Valve | Aurora Model | Stock No. | Each Pkg. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **1/8 Tube** | Extended Tube | 31002 | **3X727** | **$10.09▲** | 6 | 0.3 |
| **1/4 Tube** | Extended Tube | 31004 | **3X728** | **10.65▲** | 6 | 0.4 |
| **3/16 OD x 1/8 ID** | — | 31003 | **3GC97** | **10.15▲** | 6 | 0.4 |
| **3/8 OD x 5/16 ID** | — | 31006 | **3GC98** | **10.97▲** | 6 | 0.5 |

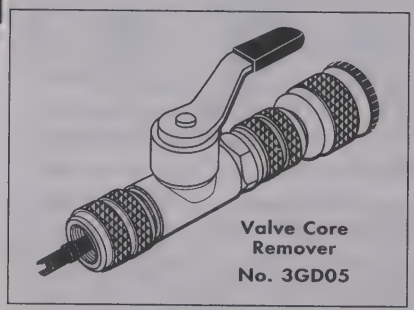
❷ These products are covered by California Proposition 65. California purchases or shipments, see first page of Grainger Branch Listing or call any California branch. (▲) Net prices, not subject to discounts. (▲) Net prices, not subject to discounts.

## MPT AND SWIVEL FLARE CONNECTIONS

| Connection Type | Description | Aurora Model | Stock No. | Each Pkg. | Pkg. Qty. | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **MPT** | 1/8" MPT Half Union | 31482 | **3GC99** | **$8.11▲** | 5 | 0.6 |
| **MPT** | 1/4" MPT Half Union | 31484 | **3GD01** | **9.08▲** | 5 | 0.8 |
| **Swivel Flare** | 1/4" Fe SAE Swivel Nut on Run | 31851 | **3GD02** | **26.35▲** | 3 | 1.3 |

(▲) Net prices, not subject to discounts



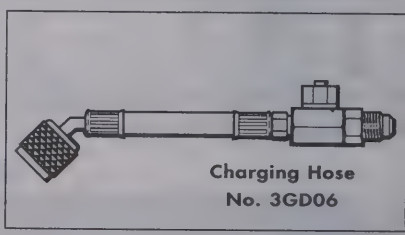

## EVACUATION AND CORE REMOVER TOOL

- **Quarter-turn ball valve shut-off**
- **Designed to valve off system to remove valve core**

Speed/evacuation, recovery or recharging time through full flow port. Valve core can be completely removed and replaced without losing system charge. Storage area for spare valve cores. Aurora brand (32500).

**No. 3GD05.** Shpg. wt. 0.4 lbs.

List $60.99 Each ..... **$37.45**




## ENVIRONMENTAL CHARGING HOSE

For use with R-12, R-22, R-500, R-502, and R-134a refrigerants. Non-restrictive 1/4" shut-off ball valve with quarter turn on-off. Day/Yr. date coded. 6-In. Length. Color is yellow. Shut-off ball valve is UL Listed. Aurora brand (CLV-6Y).

**No. 3GD06.** Shpg. wt. 0.4 lbs.

List $26.80. Each..... **$16.41**

## 1/4" VALVE CORE TOOL

Hollow handle for storage. Furnished with 6 extra cores. Aurora brand (32004).

**No. 3GD04.** Shpg. wt. 0.4 lbs.

List $9.75. Each..... **$5.96**

## VALVE CORE

Replacement valve core for 1/4" access valves. Pkg. of 10. Aurora brand (31999).

**No. 3GD03.** Shpg. wt. 0.3 lbs.

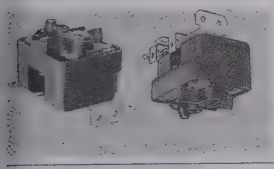
Each ..... **$4.58▲**

(▲) Net prices, not subject to discounts

# MOTOR STARTING RELAYS AND MAGNETIC LINE CONTACTORS

## POTENTIAL RELAYS

• Rated 50 amps on 240V, 60 Hz • Replaces thousands of OEM models • CSA Certified



**Used to start** single-phase capacitor type motors in air conditioning and refrigeration applications. Include double break contacts, universal bracket for mounting flexibility and terminal kit to convert from screw-on to push-on connections.

| Coil Voltage @ 60 Hz Pick-Up | Drop-Out | Max. Hold | Steveco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **140-153** | 65 | 170 | 90-63 | **4E652** | $25.62 | **$20.46** | 0.5 |
| **245-275** | 140 | 395 | 90-64 | **4E653** | 25.62 | **20.46** | 0.5 |
| **171-184** | 90 | 336 | 90-65 | **4E654** | 25.62 | **20.46** | 0.5 |
| **208-239** | 130 | 395 | 90-66 | **4E655** | 25.62 | **20.46** | 0.5 |
| **300-328** | 121 | 420 | 90-67 | **4E656** | 25.62 | **20.46** | 0.5 |
| **323-352** | 135 | 495 | 90-68 | **4E657** | 25.62 | **20.46** | 0.5 |

## POTENTIAL RELAYS

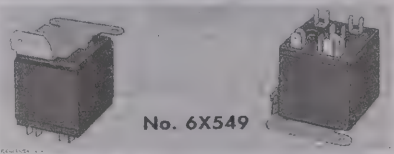
- **General Electric series 3ARR3**
- **Rated 35 amps, on 60 Hz power**

Single-pole, normally closed relays for starting single phase capacitor-type motors in air conditioning and refrigeration hermetic compressors, waste dispensers, and submersible pumps. All units have break-off-tab type mounting brackets for most replacement applications. Installer simply breaks off tabs (not required) at score marks, using pliers.

May be installed in any position. Large silver cadmium oxide contacts. Terminals are quick connect push-on type. Adapters available to convert push-on terminals to screw-type; see No. 6X578 below.

Relay coil senses the changing voltage in the start winding and disconnects the start capacitor at the proper voltage.

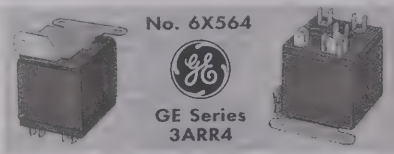
UL Recognized (SA639). 1¾H x 2W x 1¾"D, not including terminals or brackets.



No. 6X549

| Coil Volts, 60 Hz Pick-Up | Drop-Out | Hold | General Electric Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **139-153** | 55-20 | 168 | 3ARR3-FJ2EA3 | **6X549** | $35.36 | **$17.70** | **$16.81** | 0.4 |
| **166-180** | 100-70 | 332 | 3ARR3-FJ3BR3 | **6X550** | 37.53 | **18.77** | **17.83** | 0.4 |
| **185-200** | 105-40 | 375 | 3ARR3-FJ10EE3 | **6X551** | 38.55 | **19.28** | **18.32** | 0.4 |
| **222-235** | 90-40 | 332 | 3ARR3-FJ3EH3 | **6X552** | 37.53 | **18.77** | **17.83** | 0.4 |
| **212-235** | 121-60 | 420 | 3ARR3-FJ6EH2 | **6X553** | 40.08 | **20.04** | **19.05** | 0.4 |
| **260-275** | 100-50 | 332 | 3ARR3-FJ3EK3 | **6X554** | 37.53 | **18.77** | **17.83** | 0.4 |
| **260-275** | 135-60 | 500 | 3ARR3-FJ4EK2 | **6X555** | 41.51 | **20.75** | **19.71** | 0.4 |
| **295-315** | 135-60 | 500 | 3ARR3 FJ4EM2 | **6X557** | 41.51 | **20.75** | **19.71** | 0.4 |
| **332-356** | 135-60 | 500 | 3ARR3-FJ4EN3 | **6X559** | 41.51 | **20.76** | **19.72** | 0.4 |
| **162-175** | 90-40 | 332 | 3ARR3-FJ3P3 | **6X560** | 37.53 | **18.77** | **17.83** | 0.4 |
| **189-205** | 130-60 | 450 | 3ARR3-FJ25S3 | **6X561** | 38.55 | **19.28** | **18.32** | 0.4 |

## GE 24, 120 & 240V MAGNETIC LINE RELAYS



No. 6X564

GE Series 3ARR4

**Single pole, double throw (SPDT),** snap acting relays widely used for remote control of air conditioning and heating systems. Can also be used to control fans, blowers, motors up to 1½ HP, tools and other electrical devices within ratings. All units have break-off tab mounting brackets for most replacement applications. Installer breaks off tabs (not required) at score marks, using pliers. May be installed in any position. Rugged construction for use under adverse conditions. Larger, silver-cadmium oxide contacts. Terminals are quick-connect push-on type. Adapters available to convert 6X578 listed below. UL Recognized (E27729). 1¾H x 2W x 1¾"D, not including terminals or brackets.

| Coil Volts, 60 Hz | Hold VA | Contact Ratings, Amps @ 227 VAC Full Load and Resistive | Locked Rotor Norm. Open Contacts | Locked Rotor Norm. Closed Contacts | General Electric Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 6 | 18 | 55 | 35 | 3ARR4-CR32 | **6X562** | $38.04 | **$19.02** | **$18.07** | 0.4 |
| 120 | 6 | 18 | 55 | 35 | 3ARR4-CR7 | **6X563** | 39.57 | **19.79** | **18.80** | 0.4 |
| 240 | 6 | 18 | 55 | 35 | 3ARR4-CR5 | **6X564** | 41.20 | **20.60** | **19.57** | 0.4 |

No. 6X574 SPST



E27729



No. 6X568 DPST

## AIR CONDITIONING RELAYS

**Designed for long operating life** in air conditioning, heating/ventilating control systems, and other applications involving motor starting, heating element operation, and power supply control.

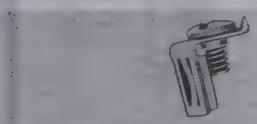
**Relays feature** bounce-free, silver cadmium oxide contacts for minimum wear and maximum reliability. Universal mounting bracket. Mounting base and armature have zinc-chromate finish for corrosion protection. Contact arm is alloy coated and all terminals are tin plated.

**All models have screw-type line** and load terminals, except SPST models which have combination screw and push-on terminals, and a permanent jumper connecting the other side of line to the load. Coil terminals are push-on type; adapters to convert to screw-type are listed below.

**UL Recognized** (E27729). Nos. 6X566, 6X567 and 6X568 are CSA Certified. 2½H x $2^{13}/_{32}$"W. SPST are 2¼"D; DPST are $2^{19}/_{64}$"D.

**Relay selection:** Nos. 6X566, 6X567 and 6X568 replace all General Electric 3ARR8 and 3ARR9 series contactors. Nos. 6X572, 6X573 and 6X574 are designed for starting compressors or other components of central air conditioning systems where breaking of only one side of the line is required.

| Contact Action | COIL DATA Volts 60 Hz | Inrush VA | Hold VA | Contact Ratings, Amps @ 277 VAC Full Load | Locked Rotor | Resistive | General Electric Model | Stock No. | List | Each | Lots 5 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPST | 24 | 28 | 15 | 30 | 150 | 30 | 3ARR28-U4 | **6X574** | $37.69 | **$18.85** | **$17.91** | 0.7 |
| | 120 | 28 | 15 | 30 | 150 | 30 | 3ARR28-U3 | **6X573** | 40.69 | **20.35** | **19.33** | 0.7 |
| | 240 | 24 | 12 | 30 | 150 | 30 | 3ARR28-U2 | **6X572** | 41.41 | **20.71** | **19.68** | 0.7 |
| DPST | 24 | 28 | 15 | 30 | 125 | 30 | 3ARR8-E4 | **6X568** | 40.90 | **20.45** | **19.43** | 0.6 |
| | 120 | 28 | 15 | 30 | 125 | 30 | 3ARR8-E3 | **6X567** | 43.86 | **21.93** | **20.84** | 0.6 |
| | 240 | 24 | 12 | 30 | 125 | 30 | 3ARR8-E2 | **6X566** | 44.37 | **22.19** | **21.07** | 0.7 |



No. 6X578

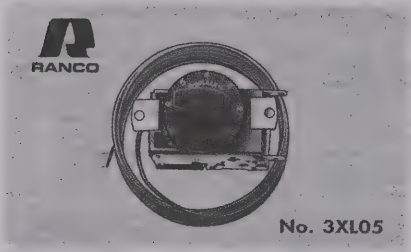
## 1/4" SCREW TERMINAL

Converts 1/4" push-on tab terminals of all General Electric relays and contactors listed above to screw-type terminals. Includes 6-32 screw. 23/64" long. Sold in boxes of 100.

**No. 6X578.** Shpg. wt. 0.4 lbs. List $19.47. Each **$15.59;** Lots 5 ..... **$13.22**

# REFRIGERATION & ROOM A/C CONTROLS

## BEVERAGE/REACH-IN MEDIUM TEMPERATURE CONTROLS



No. 3XL05

**Constant Cut-In feature** provides an Off-Cycle defrost function. Each time the contr cycles off, the control contacts will remain "open" until the evaporator is cleared of an frost that may have accumulated from the previous "On" Cycle. Constant Cut-In settin is between 35 and 41°F. Ranco brand.

### CONTROL SPECIFICATIONS & ORDERING DATA

| Capillary Length (In.) | Normal Off (°F) | Warm Off (°F) | Cold Off (°F) | Cut-In Constant (°F) | Ranco Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **84** | 18 | 26 | 11.5 | 37 | A12-700 | **3XL05** | $66.61 | **$35.15** | 2.5 |
| **84** | 23.5 | 31 | 15 | 41 | A12-701 | **3XL06** | 67.56 | **35.60** | 0.4 |
| **72** | 24 | 29 | 19 | 38 | A12-1560 | **3XL04** | 66.90 | **35.30** | 0.3 |

## DIRECT REPLACEMENT WATER COOLER CONTROLS

- **Small compact design**
- **Computer calibrated**
- **Laser-welded bellows for reliability**
- **Patented switch for high performance**

Replaces controls from the following manufacturer's: Ebco, Elkay, Sunroc, Halsey-Taylor, Kelvinator, and General Electric. Ranco brand.

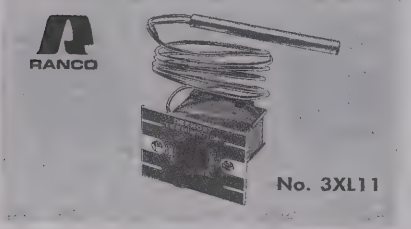


No. 3XL12

### CONTROL SPECIFICATIONS & ORDERING DATA

| Capillary Length (In.) | Normal On (°F) | Normal Off (°F) | Differential (°F) | Cold Off (°F) | Warm On (°F) | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **48** | 53 | 46 | 7 | 37 | 61 | K-3001 | **3XL12** | $46.51 | **$24.48** | 0.6 |

## DEFROST TERMINATION/FAN DELAY CONTROL



No. 3XL11

- **Prevent warm, moist air from being circulated into the refrigerated space**
- **Remote bulb sensing**
- **Factory-fixed low event for fan delay**

Control terminates defrost and delays the evaporator fan operation on electric heat hot gas and reverse cycle commercia refrigeration systems. Ranco brand.

### CONTROL SPECIFICATIONS & ORDERING DATA

| Switch Action | Fan "On" Temp. (°F) | Defrost Termination (°F) | Sensing Element | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **SPDT** | 20 Fixed | 40 - 75 Adjustable | 60" Capillary with 3/8 x 4" cross ambient bulb | F25-107 | **3XL11** | $89.62 | **$47.20** | 0.6 |

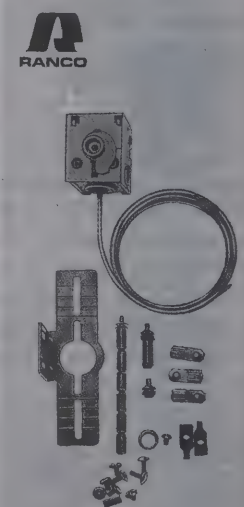
## CONSTANT DIFFERENTIAL AND CYCLING CONTROLS

### CONSTANT DIFFERENTIAL REFRIGERATOR CONTROLS

Compact controls are adaptable to nearly all commercial refrigerators and freezers. A wide selection of temperature ranges, differential and capillary lengths are available. Break-off shaft and mounting bracket are included for fast, easy installation. All controls have Off position except No. 4E048.

### CYCLING CONTROLS FOR ROOM AIR CONDITIONERS

Adaptable controls may be used to replace OEM controls which govern the On/Off compressor function. Includes break-off shaft, dial knob, and mounting bracket for fast, easy installation.




### CONSTANT DIFFERENTIAL REFRIGERATION CONTROLS ORDERING DATA

| Switch Action | Diff. (°F) | Norm Off (°F) | Norm. On (°F) | Warm On (°F) | Cold Off (°F) | Cold On (°F) | Capillary Lgth (In.) | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPST** | 8.5 | -3 | 5.5 | 20.5 | -24 | — | 84 | A30-301 | **4E048** | $56.43 | **$29.95** | 0.5 |
| **SPST** | 13 | 9 | 22 | 41 | -4 | 9 | 42 | A30-180 | **4E049** | 57.75 | **30.80** | 0.5 |
| **SPST** | 12 | 20 | 32 | 43 | 3 | 15 | 84 | A30-262 | **4E050** | 65.55 | **34.85** | 0.5 |
| **SPST** | 6 | — | — | 61 | 32 | 38 | 84 | A30-261 | **4E051** | 57.23 | **30.40** | 0.5 |
| **SPST** | 22.5 | 11 | 33.5 | 47 | 4.5 | 23 | 84 | A30-263 | **3XL10** | 55.16 | **29.10** | 0.4 |
| **SPST** | 8 | 32 | 40 | 42 | 30 | — | 48 | A30-2210* | **3XL09** | 60.53 | **31.90** | 0.4 |

(*) Not adaptable; direct fit with dial shaft.

### ROOM A/C CYCLING CONTROLS ORDERING DATA

| Switch Action | Dial Range (°F) | Diff. (°F) | Length (in.) | Capillary Type | Bulb Size (In.) | Ranco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SPST** | 58-86 | 5 | — | Air Coil | — | A30-X450 | **4E052** | $52.50 | **$27.65** | 0.5 |
| **SPST** | 58-86 | 5 | 36 | Straight | — | A30-X451 | **4E053** | 52.50 | **27.65** | 0.5 |
| **SPST** | 53-85 | 5 | 39 | Cross Amb. | 3/8 x 4 | A30-X452 | **4E054** | 68.17 | **35.40** | 0.6 |
| **SPDT** | 45-81 | 5 | 27 | Straight | — | A22-2451 | **4E055** | 78.96 | **40.25** | 0.5 |
| **SPDT** | 59-90 | 6 | 39 | Cross Amb. | 3/8 x 4 | A22-2453 | **4E056** | 87.56 | **43.70** | 0.6 |

# PARAGON DEFROST CONTROLS FOR COMMERCIAL APPLICATIONS

PARAGON



A No. 5X450



B No. 5X452

UL E10597
Nos. 5X452 & 5X453

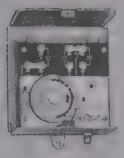


C No. 5X454

UL SA1650
CSA LR8376



D No. 5X458



E No. 5X460

- **Designed to defrost commercial frozen food cabinets, dairy, delicatessen, and vegetable display cases and walk-in coolers**
- **Methods of defrost include hot gas, electric heat, fan delay, off cycle or compressor shutdown, and water spray**

### A TIMERS FOR WATER SPRAY DEFROST CONTROL WITH PUMP DOWN DRAIN OR FAN DELAY CYCLES

**Defrost initiation:** Adjustable from 1-8 cycles per day; minimum 3 hours between successive cycles

**Delay or Pump Down Cycle:** Adjustable from 0-30 minutes; 3 minute graduation; for stopping fans, reducing refigerant pressure, or hot gas pump down cycle

**Defrost Cycle:** 3-45 minutes; 3 minute graduations

**Drain or Fan Delay Cycle:** Adjustable from 3-15 minutes; 3 minute graduations

**Enclosure:** Heavy steel gasketed case with hasp for padlocking

### B GENERAL PURPOSE TIMERS FOR DAILY PROGRAMMING OF DEFROST CYCLES

- **Manual override temporarily reverses switch operation without disturbing preset schedule**

**Defrost Cycles:** Up to 7 cycles per day, minumum 90 minutes each

**Case:** Heavy steel enclosure

### C TIME INITIATED AND TIME TERMINATED DEFROST CONTROLS

- **Choice of four contact arrangements for electric heat, hot gas, or compressor shutdown defrost**

**Frequency of Defrost Initiation:** Adjustable from 1 to 6 cycles per day; minimum of 4 hours between successive operations. Dial overlay available to change time of defrost from even to odd numbered hours

**Duration of Defrost Cycle:** Adjustable from 4 to 110 minutes in 2 minute increments

**Accuracy of Defrost Duration:** ±2 minutes

**Case:** Heavy steel enclosure with hasp for padlocking

### D TIME INITIATED, REMOTE TEMPERATURE OR PRESSURE TERMINATED DEFROST CONTROLS

- **Works with external temperature or pressure sensor**
- **Back-up mechanical defrost termination protects against sensor malfunction**
- **Choice of three contact arrangements for electric heat, compressor shutdown, or hot gas defrost**

**Frequency of Defrost:** 1 to 6 cycles per day; minumum of 4 hours between successive defrost cycles. Dial overlay available to change time of defrost from even to odd numbered hours

**Adjustable Back-Up Defrost Termination:** Adjustable from 4-110 minutes in 2 minute increments

**Case:** Heavy steel enclosure with hasp for padlocking

### E TIME INITIATED, PRESSURE TERMINATED DEFROST CONTROLS

- **Direct readout dial for cut-in pressure**
- **Wide range of cut-in pressure adjustability**
- **Back-up mechanical defrost termination protects against sensor failure**
- **Modular pressure bellows**
- **Three contact arrangements for hot gas, electric heat, or compressor shutdown defrost**

**Frequency of Defrost:** 1 to 6 cycles per day; minumum of 4 hours between successive defrost cycles. Dial overlay available to change time of defrost from even to odd numbered hours

**Back-Up Defrost Termination:** Adjustable from 4-110 minutes in 2 minute increments

**Pressure Settings:** This model has an adjustable cut-in pressure setting dial calibrated from 36 to 100 pounds for R12, R22, and R502

**Case:** Heavy steel enclosure

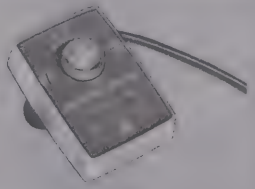
## DEFROST CONTROL SPECIFICATIONS

| Key | Volts 60 Hz | Type of Switch | Max. Load Rating, Amps | Pilot Duty Rating (VA) at 120 / 240V | Paragon Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 120 | 2 NO, 2 NC | 10 | 345 | 632-0 | 5X450 | $346.23 | $225.00 | $213.58 | 5.3 |
| A | 208-240 | 2 NO, 2 NC | 10 | 345 | 632-20 | 5X451 | 353.25 | 231.25 | 219.16 | 5.4 |
| B | 120 | SPST | 40 | 690 | 4001-0 | 5X452 | 75.15 | 45.65 | 43.33 | 2.5 |
| B | 208-277 | DPST | 40 | 690 | 4004-71 | 5X453 | 87.28 | 53.00 | 50.33 | 2.6 |
| C | 120 | SPDT | 40 | 690 | 8045-0 | 5X454 | 180.37 | 114.50 | 108.76 | 3.5 |
| C | 208-240 | SPDT | 40 | 690 | 8045-20 | 5X455 | 186.09 | 118.10 | 112.15 | 3.5 |
| C | 208-240 | 2 NO, 1 NC | 40 | 690 | 8047-20 | 5X456 | 212.07 | 143.45 | 136.30 | 3.5 |
| D | 120 | 1 NO, 2 NC | 40 | 690 | 8141-0 | 5X457 | 214.72 | 143.75 | 136.52 | 3.5 |
| D | 120 | SPDT | 40 | 690 | 8145-0 | 5X458 | 194.77 | 123.50 | 117.32 | 3.5 |
| D | 208-240 | SPDT | 40 | 690 | 8145-20 | 5X459 | 204.85 | 130.10 | 123.67 | 3.5 |
| E | 208-240 | SPDT | 40 | 690 | 8245-20 | 5X460 | 373.37 | 242.75 | 230.25 | 6.2 |

Note: NO—Normally Open; NC—Normally Closed.

## UNIVERSAL SERVICE REFRIGERATOR CONTROL

RANCO



Works with old or new refrigerators to provide temporary cold control when an exact replacement is not available. Has two suction cups, SPST switch rated 20A @ 120V AC, and 12" leads for quick-connect terminals. Air Coil Sensing. Dial range: 27 to 53°F. Differential: 6°F. Ranco brand (US1-1000).

**No. 4E913.** Universal Control. Shpg. wt. 1.0 lbs. List $56.88. Each.....$34.80

# RESIDENTIAL DEFROST TIMERS AND DEFROST TIMER CROSS-REFERENCE

## PARAGON RESIDENTIAL DEFROST TIMERS

PARAGON







SA1650 LR8376

- No drilling, tapping, or adapter plugs needed
- 10A noninductive, 1/3HP, 120VAC
- Direct replacements for defrost timers used in household refrigerators and freezers

### TIMER SPECIFICATIONS AND ORDERING DATA

| Key | Defrost Freq., Hrs. | Defrost Time, Min. | Paragon Model | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| A | 6 | 21 | E-1111* | **6X629** | $19.93 | **$12.58** | **$11.96** | 0.5 |
| | 8 | 18 | D-1111** | **6X630** | 19.93 | **12.58** | **11.96** | 0.5 |
| | 8 / 10 / 12 | 21 | E-769-00 | **6X631** | 26.26 | **15.94** | **15.15** | 0.6 |
| | 6 | 28 | A-1111† | **6X632** | 19.93 | **12.58** | **11.96** | 0.5 |
| | 6 | 25 | B-1111‡ | **6X633** | 19.93 | **12.58** | **11.96** | 0.5 |
| | 8 | 21 | E-931 | **4E057** | 19.17 | **16.02** | **15.22** | 0.5 |
| | 8 | 30 | D-769-00 | **6X869** | 26.26 | **16.58** | **15.76** | 0.6 |
| B | 6 | 18 | E-770-00 | **6X635** | 43.35 | **27.45** | **26.01** | 0.7 |

(*) Direct replacement for JE-539 and A-769. (**) Direct replacement for KA-539 and B-769. (†) Direct replacement for NE-539 and F-769. (‡) Direct replacement for NA-539 and G-769.

## DEFROST TIMER CROSS-REFERENCE

| Part No. | Stock No. |
|---|---|
| **Admiral** | |
| 29811-1 | 6X629 |
| 29811-3 | 6X629 |
| 29811-5 | 6X629 |
| 29811-6 | 6X631 |
| C54113 | 6X629 |
| 54113-1 | 6X629 |
| 54113-3 | 6X629 |
| 54113-4 | 6X629 |
| 55448-1 | 6X629 |
| 55448-2 | 6X629 |
| 55448-3 | 6X629 |
| 55467-1 | 6X629 |
| 29811001 | 6X629 |
| **Amana** | |
| 70041-4 | 6X869 |
| **Coldspot** | |
| 101750 | 6X635 |
| 120681 | 6X635 |
| 148920 | 6X635 |
| 480561 | 6X631 |
| 482482 | 6X631 |
| 482489 | 6X631 |
| 482493 | 6X631 |
| 511883 | 6X631 |
| 513588 | 6X631 |
| 513629 | 6X631 |
| 513630 | 6X631 |
| 532213 | 6X631 |
| 530214 | 6X631 |
| 530557 | 6X631 |
| 548044 | 6X631 |
| 548140 | 6X631 |
| 548709 | 6X631 |
| 549257 | 6X631 |
| 549875 | 6X631 |
| 549091 | 6X631 |
| 549238 | 6X631 |
| 549239 | 6X631 |
| 549252 | 6X631 |
| 549253 | 6X631 |
| 549256 | 6X631 |
| 833531 | 6X631 |
| 833757 | 6X631 |
| 833663 | 6X631 |
| 833840 | 6X631 |

| Part No. | Stock No. |
|---|---|
| **Coldspot** | |
| 850019 | 6X631 |
| 850038 | 6X631 |
| 850343 | 6X631 |
| 850344 | 6X631 |
| 850345 | 6X631 |
| 850694 | 6X631 |
| 850695 | 6X631 |
| 851160 | 6X631 |
| 851161 | 6X631 |
| 978266 | 6X631 |
| 978472 | 6X631 |
| 999111 | 6X631 |
| **Frigidaire** | |
| 624727 | 6X630 |
| 624728 | 6X630 |
| 626218 | 6X630 |
| 626234 | 6X630 |
| 627159 | 6X630 |
| 628510 | 6X630 |
| 628515 | 6X630 |
| 628516 | 6X630 |
| 628517 | 6X630 |
| 628518 | 6X630 |
| 628520 | 6X630 |
| **General Electric** | |
| HR9X1 | 6X629 |
| WR9X217 | 6X633 |
| WR9X224 | 6X630 |
| WR9X240 | 6X631 |
| WR9X253 | 6X629 |
| WR9X260 | 6X630 |
| WR9X264 | 6X869 |
| WR9X267 | 6X629 |
| WR9X278 | 6X629 |
| WR9X281 | 6X630 |
| WR9X282 | 6X629 |
| WR9X283 | 6X630 |
| WR9X289 | 6X629 |
| WR9X291 | 6X630 |
| WR9X292 | 6X629 |
| WR9X293 | 6X869 |
| WR9X297 | 6X629 |
| WR9X305 | 6X629 |
| WR9X308 | 6X629 |
| WR9X309 | 6X630 |
| WR9X310 | 6X629 |

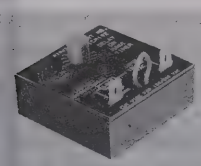
| Part No. | Stock No. |
|---|---|
| **General Electric** | |
| WR9X313 | 6X629 |
| WR9X316 | 6X629 |
| WR9X329 | 6X629 |
| WR9X330 | 6X629 |
| WR9X331 | 6X629 |
| WR9X334 | 6X629 |
| WR9X335 | 6X629 |
| WR9X336 | 6X629 |
| WR9X5001 | 6X632 |
| WR9X5010 | 6X629 |
| WR9X5056 | 6X869 |
| WR9X5079 | 6X629 |
| WR9X5111 | 6X869 |
| WR9X5117 | 6X629 |
| 3ART23A3 | 6X630 |
| 3ART23A8 | 6X630 |
| 3ART23A16 | 6X632 |
| 3ART23A17 | 6X629 |
| 3ART23A18 | 6X629 |
| 3ART23A19 | 6X630 |
| 3ART23A23 | 6X631 |
| 463873P1 | 6X629 |
| 463873P2 | 6X630 |
| 463873P3 | 6X630 |
| 463873P6 | 6X630 |
| 465149P1 | 6X629 |
| 465149P02 | 6X630 |
| 465149P3 | 6X632 |
| 465149P6 | 6X632 |
| **Gibson** | |
| F111695 | 6X869 |
| G101750 | 6X635 |
| G114257 | 6X635 |
| G120681 | 6X635 |
| G135533 | 6X635 |
| G143861 | 6X629 |
| G148779 | 6X635 |
| G148797 | 6X630 |
| G148920 | 6X635 |
| G150801 | 6X629 |
| G158274 | 6X629 |
| G159146 | 6X635 |
| G165204 | 6X629 |
| K1227229 | 6X869 |
| K1233374 | 6X629 |
| X101750 | 6X635 |

| Part No. | Stock No. |
|---|---|
| **Gibson** | |
| X114257 | 6X635 |
| X126081 | 6X635 |
| X135533 | 6X635 |
| X143861 | 6X629 |
| **Hotpoint** | |
| 132969 | 6X629 |
| HR9X1 | 6X629 |
| WR9X253 | 6X632 |
| WR9X260 | 6X630 |
| WR9X282 | 6X629 |
| WR9X289 | 6X629 |
| WR9X291 | 6X630 |
| WR9X292 | 6X629 |
| WR9X293 | 6X869 |
| WR9X297 | 6X629 |
| WR9X5001 | 6X629 |
| WR9X5010 | 6X629 |
| WR9X5056 | 6X869 |
| WR9X5079 | 6X629 |
| WR9X5111 | 6X869 |
| WR9X5117 | 6X629 |
| **Kelvinator** | |
| F111695 | 6X869 |
| G148779 | 6X635 |
| K1224663 | 6X630 |
| K1226509 | 6X629 |
| K1230354 | 6X635 |
| 1224661 | 6X630 |
| 1224663 | 6X630 |
| 1226501 | 6X630 |
| 1226503 | 6X630 |
| 1227229 | 6X869 |
| 1227902 | 6X630 |
| 1227920 | 6X630 |
| 1227927 | 6X869 |
| 1228104 | 6X630 |
| 1228105 | 6X629 |
| 1230354 | 6X629 |
| 1233374 | 6X629 |
| **Montgomery Ward** | |
| C712840 | 6X633 |
| C712841 | 6X633 |
| C714704 | 6X633 |
| **Norge** | |
| 90-16067 | 6X631 |
| 28-09-020-001 | 6X632 |

| Part No. | Stock No. |
|---|---|
| **Norge** | |
| 28-09-0030-002 | 6X632 |
| 28-09-0010-001 | 6X632 |
| 28-09-00020-001 | 6X632 |
| 28-09-00020-002 | 6X632 |
| 29-09-00030-004 | 6X632 |
| 28-09-00040-001 | 6X632 |
| 28-09-00040-002 | 6X632 |
| 28-09-00040-003 | 6X632 |
| 28-09-00050-001 | 6X632 |
| 28-09-00050-002 | 6X632 |
| **Philco** | |
| 5545-015-4 | 6X632 |
| 5545-015-5 | 6X632 |
| 5545-015-6 | 6X632 |
| **Westinghouse** | |
| C56363 | 6X633 |
| C56863 | 6X633 |
| C56865 | 6X633 |
| C56880 | 6X633 |
| C56881 | 6X633 |
| C56882 | 6X633 |
| C56883 | 6X633 |
| C62797 | 6X869 |
| C460419 | 6X633 |
| C712840 | 6X633 |
| C712841 | 6X633 |
| C712960 | 6X633 |
| C714693 | 6X633 |
| C714704 | 6X633 |
| 2566D71H06 | 6X633 |
| 2656D71H01 | 6X633 |
| 2656D71H04 | 6X633 |
| 2656D71H05 | 6X633 |
| 2656D7A06 | 6X633 |
| 2658D71H01 | 6X633 |
| 2658D85H01 | 6X633 |
| 2660D93H02 | 6X633 |
| **Whirlpool** | |
| 55883 | 6X631 |
| 101750 | 6X635 |
| 120681 | 6X635 |
| 480561 | 6X631 |
| 482482 | 6X631 |
| 482489 | 6X631 |
| 482493 | 6X631 |
| 511883 | 6X631 |

| Part No. | Stock No. |
|---|---|
| **Whirlpool** | |
| 513588 | 6X631 |
| 513629 | 6X631 |
| 513630 | 6X631 |
| 530212 | 6X631 |
| 530213 | 6X631 |
| 530214 | 6X631 |
| 530557 | 6X631 |
| 548044 | 6X631 |
| 548140 | 6X631 |
| 548709 | 6X631 |
| 549091 | 6X631 |
| 549238 | 6X631 |
| 549239 | 6X631 |
| 549240 | 6X631 |
| 549252 | 6X631 |
| 549253 | 6X631 |
| 549256 | 6X631 |
| 549257 | 6X631 |
| 549875 | 6X631 |
| 549876 | 6X631 |
| 798629 | 6X631 |
| 831394 | 6X632 |
| 833531 | 6X631 |
| 833663 | 6X631 |
| 833757 | 6X631 |
| 833795 | 6X631 |
| 833840 | 6X631 |
| 850019 | 6X631 |
| 850038 | 6X631 |
| 850343 | 6X631 |
| 850344 | 6X631 |
| 850345 | 6X631 |
| 850694 | 6X631 |
| 850695 | 6X631 |
| 850845 | 6X631 |
| 850848 | 6X631 |
| 850878 | 6X631 |
| 850879 | 6X631 |
| 851061 | 6X631 |
| 851160 | 6X631 |
| 851161 | 6X631 |
| 978266 | 6X631 |
| 978472 | 6X631 |
| 999111 | 6X631 |

See Cross-Reference Information on page opposite inside back cover.



No. 4E233

**...r HVAC and refrigeration applications;** helps ...revent short cycling of compressors. ...orks with anticipator-type thermostats. ...xtended adjustable time range; solid ...ate reliability. 0.25" quick-connect termi...als; single hole mounting. Epoxy-encap...ulated circuitry. Fixed or knob-adjustable ...me delays from 0.1–600 seconds. Meets ...EE587 Categories A & B.

## TIME DELAY RELAYS

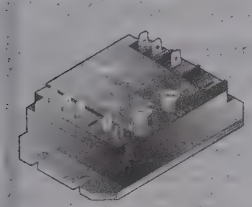
**No. 4E233 Delay On Make/Antishort Cycle Timer.** Use for compressor protection and staging. Delay period starts at beginning of cycle. Universal input voltage operation of 19-288 VAC. Jumper wire for 120/240 VAC operation. 2-wire hookup. Extended time range adjustable to 600 seconds.

**No. 4E234 Delay On Break/Antishort Cycle Timer.** Similar to No. 4E233; however, delay period starts at end of cycle. Used for compressor protection only. Minimum hold-in current: 40mA.

**No. 4E235 Delay On Break/Lockout Timer with Brownout.** Lockout delay prevents rapid short-cycling; brownout protection prevents compressor start-up due to low line voltage/power failure. Input voltage operation of 18-30 VAC. Anti-chatter circuitry.

**No. 4E890 Adjustable Post-Purge Fan Delay Timer.** Provides an off-delay to allow the circulating fan to continue running in heat pump, air conditioning and forced air systems. Increases efficiency by purging ducts of residual air at end of heating/cooling cycle. Off delay adjusts from 12 to 390 seconds. 18-30 VAC.

| Time Delay | Control Operation | Contact Amps | ICM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Adj. 1.8 – 600 sec.** | Delay on Make | 1.5 | ICM102 | **4E233** | $22.53 | **$12.69** | 0.2 |
| **Adj. 1.8 – 600 sec.** | Delay on Break | 1.5 | ICM203 | **4E234** | 23.11 | **12.88** | 0.2 |
| **Adj. 180 – 600 sec.** | Delay on Break | 1.5 | ICM206 | **4E235** | 23.11 | **12.88** | 0.2 |
| **Adj. 12 – 390 sec.** | Post-Purge | 1.0 | ICM253 | **4E890** | 23.71 | **13.35** | 0.3 |



No. 3UW94

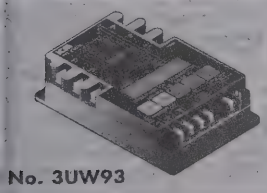
## SINGLE-PHASE LINE MONITOR

**Provides low cost single-phase motor protection.** Built-in anti-short cycle protection. Detects high/low voltage conditions. Helps prevent rapid system recycling. LED indicator—green for normal conditions. Heavy-duty SPDT, isolated relay output. Rugged and compact with integral heatsink. Interrogation delay prevents nuisance trips. **Input:** 95-270VAC. Control: 18-240VAC. **Output:** relay SPDT, normally open/normally closed, 8 amps. **Adjustable time delay range:** 6-300 seconds. ICM brand (ICM490).

**No. 3UW94.** Shpg. wt. 0.6 lbs.
List $103.00. Each ..... $90.35

| SINGLE-PHASE LINE MONITOR CROSS-REFERENCE | | |
|---|---|---|
| ICM/Our Stock No. | Diversified Model | Watsco Model |
| 3UW94 | CV-100-RS, CV-200-RS15, CV-200-RS20 | EAC-401, EAC-402, EAC-403, EAC-404 |

Physical dimensions vary by manufacturer. Cross-reference information on page opposite inside back cover.



No. 3UW93

## 3-PHASE LINE VOLTAGE MONITORS

**No. 3UW93 3-Phase Line Voltage Monitor with LCD Display.** Programmable 25-fault memory storage. Independant high/low voltage settings for dual voltage compressor applications. Monitors and identifies front and back side faults. High temperature LCD to 167°F. Simultaneous voltage display, no scrolling. Programmable line voltage, manual or automatic reset, pushbutton set-up. Independently monitors voltage unbalance, high/low voltage, phase loss, reversal, incorrect sequencing, and rapid short cycling. UL Recognized Component and CSA Certified. ICM brand.

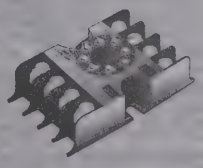
**No. 3UW89 3-Phase Line Voltage Monitor.** Similar to No. 3UW93 without LCD display. Has bright LED indicators. Knob adjustable features.

| Display Type | Volts AC @ 50/60 Hz | % Voltage Unbalance | Control Volts, AC | Output Amps SPDT Contacts Norm. Open | Norm. Closed | 3-PH. LINE VOLTAGE MONITOR CROSS-REFERENCE* Diversified Model | Motorsaver Model | SSAC Model | TimeMark Model | Wagner Model | Watsco Model | ICM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LCD** | 0-630 | 2-25, adj. | 18-240 | 20 | 10 | AC-2020 AC-301 AC302 | 455 | QLM/ QLV | 265 | WPC-800 | EAC-800 EAC-8000 | ICM450 | **3UW93** | $262.00 | **$229.00** | 1.0 |
| **LED** | 10-630 | 2-25, adj. | 18-240 | 20 | 10 | | | | | | | ICM400 | **3UW89** | 200.00 | **174.75** | 1.0 |

(*) Physical dimensions vary by manufacturer. Cross-reference information on page opposite inside back cover.



No. 3UW90



No. 3UW84

## PLUG-IN 3-PHASE MONITORS

**Plug-In Monitors provide 3-phase motor protection.** Monitor front side of system for voltage unbalance, high/low voltage, phase loss, incorrect sequence, reversal. Quick 100 millisecond response time. LED indicator glows green for normal conditions. Interrogation delay prevents nuisance trips.

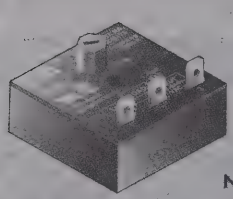
**No. 3UW84 Relay Socket.** For use with plug-in 3-phase monitors Nos. 3UW90, 3UW91, and 3UW92. 8-pin octal plug-in base. 8-pin male connectors as terminations. Locating key assures proper orientation.

| Volts, AC @ 50/60 Hz | % Voltage Unbalance | Control Volts, AC | Output Amps, SPDT Contacts Norm. Open | Norm. Closed | CROSS-REFERENCE* Diversified Model | ICM Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **200-240** | 8, fixed | 18-240 | 10 | 10 | SLA Series | ICM410 | **3UW90** | $99.49 | **$87.25** | 1.0 |
| **360-430** | 8, fixed | 18-240 | 10 | 10 | SVA Series | ICM411 | **3UW91** | 103.42 | **90.70** | 0.4 |
| **400-480** | 8, fixed | 18-240 | 10 | 10 | | ICM412 | **3UW92** | 109.61 | **96.15** | 0.4 |
| **Relay Socket** | | | | | RB-08 | ACS-8 | **3UW84** | 8.55 | **7.49** | 1.0 |

(*) Physical dimensions vary by manufacturer. Cross-reference information on page opposite inside back cover.

# BYPASS TIMERS, HEAD PRESSURE CONTROLS, AND START ASSIST KITS

## BYPASS TIMERS



No. 3UW85

**Delay On Interval Timer or Normally Closed Delay on Make Timer.** Designed to bypass a low pressure switch during compressor heat pump startup or oil pressure switch on startup. Ideal for low ambient startups. An integral component for "winter start" kits. Helps reduce nuisance lockouts. Universal input voltage (18-240VAC, 1 amp, 10 amp inrush. Knob adjustable delays. Epoxy encapsulated circuitry. Time delay adjusts from 10-1,000 seconds. ICM brand (ICM175).

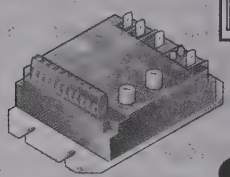
**No. 3UW85.** Shpg. wt. 0.2 lbs. List .....$19.83.
Each .....**$17.35**

**BYPASS TIMER CROSS-REFERENCE**

| ICM/Our Stock No. | Mars Model | Supco Model |
|---|---|---|
| 3UW85 | 32395 | TDP68 |

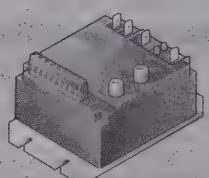
Physical dimensions vary by manufacturer. Cross-reference information on page opposite inside back cover.

## HEAD PRESSURE CONTROLS



No. 4MG74

New



No. 4MG75

Triac-type head pressure controls vary the amount through the condensor to help prevent evaporator freezeup, low pressure cutoff and liquid slugging in low ambient conditions. All models feature low temperature cutoff, high temperature bypass, heat pump override and adjustable hard start timing and motor cutout speed. Green and yellow lights indicate full or lodulated motor voltage at a glance. 4MG74 requires separate 24 VAC source; 4MG75 and 4MG76 have built-in 24 VAC transformer to simplify wiring and reduce inistallation time. Controls use up to three 10K ohm thermistor sensors for use with multiple refrigerant circuits, responding to sensor with highest temperature. Operating ambient range -40 to +75° C. ICM brand.

***New!* HEAD PRESSURE CONTROLS CROSS-REFERENCE**

| Stock No. | ICM No. | Hoffman No. | Ranco No. | Johnson No. | ACT No. |
|---|---|---|---|---|---|
| 4MG74 | 325HC | 800/800A/800AA/814-50816-10D | E31 Series | P66 | FM2000 |
| 4MG75 | 326HC | 800/800A/800AA/812/814/816 | E31 Series | P66 | FM4000 |
| 4MG76 | 327HC | 800/800A/800AA/812/814/816 | E31 Series | P66 | FM4000 |

Physical dimensions vary by manufacturer. Cross-reference information on page opposite inside back cover.

| VAC Input 50/60 Hz | VAC Output 50/60Hz | Triac Output Amps | Hard Start Timing, Sec. | Built-In 24VAC Transformer | Sensor Stock No. | ICM Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **18-30** | 120-480 | 0.1-10.0 | 0.1-5.0 | No | 4E147 | 325HC | ***New* 4MG74** | $245.07 | **$146.75** | 0.9 |
| **N/A** | 120-240 | 0.1-10.0 | 0.1-5.0 | Yes | 4E147 | 326HC | ***New* 4MG75** | 270.95 | **162.25** | 1.4 |
| **N/A** | 480 | 0.1-10.0 | 0.1-5.0 | Yes | 4E147 | 327HC | ***New* 4MG76** | 270.95 | **162.25** | 1.4 |

## RELAY AND START CAPACITORS

Supco

E146162

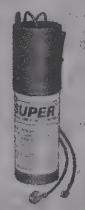
New



No. 4E239



No. 4E240



No. 4E241

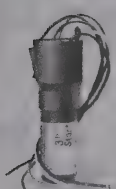
**For use on residential and commercial air conditioning units,** heat pumps, and room air conditioners. Not for use on refrigeration. Ideal for hard starting compressors or low voltage conditions. Install in seconds by connecting two wires to the existing run capacitor without altering the original cir cuit. Provide additional starting torque to all single phase 115 thru 288 volt units.

**Nos. 4E239 and 4E240** for use on units from 4000 to 120,000 Btu, 1/2 thru 10 HP.

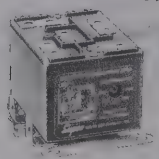
**No. 4E241** for use on units from 15,000 to 120,000 Btu, 1½ thru 10 HP. Supco brand.

| Increased Torque (Oz. In.) | Voltage | Supco Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **270** | 120–230 | SPP-5 | **4E239** | $20.91 | **$16.98** | 0.4 |
| **390** | 120–230 | SPP-6 | **4E240** | 33.86 | **27.60** | 0.8 |
| **450** | 120–230 | SPP-7S | **4E241** | 43.60 | **37.20** | 0.9 |
| — | 130-370 | APR5 | ***New* 4MG77** | 40.56 | **24.29** | 0.3 |

## START ASSIST KIT



No. 4E238



No. 4MG77



No. 4MG78

**For use on domestic and commercial refrigerators** and freezers. This all-in-one unit replaces the relay, overload and start capacitor on all capillary systems from 1/4 to 1/3 HP compressors. 115V. Provides additional boost to compressor.

**Relay is completely prewired** and installs by pushing on three female pin terminals and connecting two remaining wires to power. Supco brand (RCO-410).

**No. 4E238.** Shpg. wt. 0.5 lbs. List.....$24.37.
Each .....**$19.78**

## SUPER BOOST STARTER

- **Replaces 3-wire potential relay and capacitor**
- **For severe low voltage or hard starting compressors**
- **Recycles instantly**
- **Built-in start winding safety feature**

Combines high reliability, instant restart capability and highest starting torque available. Installation is simple; just connect the two leads across the run capacitor. For room A/C units, residential and commercial PSC A/C units, heat pumps and CSIR units. Has 4,000-60,000 BTU, 1/2 to 5 HP, 120-288 VAC. Supco brand (SPP8).

***New* No. 4MG78.** Shpg. wt. 1.0 lbs. List..$53.42.
Each .....**$32.00**

# RESIDENTIAL FURNACE HUMIDIFIERS

- **24V, 60 Hz, 3-Watt motor-driven, rotating media wheel Drum Bypass-type**
- **Evaporative capacities rated per ARI standard 610-82**
- **For gas, oil and electric furnaces**
- **Treated with Sylgard®, a special formation by Dow Corning, which combats fungus or bacteria growth and helps keep air cleaner**
- **Humidistat required; see page 3357**
- **115 to 24V transformer included**

**No. 2E384, 19.3-Gallon/Day.** Exclusive Convair-Cone provides maximum air flow through evaporator pad. Stainless steel snap-off cover with see-through window. Case constructed of corrosion-resistant ABS plastic. Water reservoir is high impact plastic for long-life and easy cleaning. ABS valve float. Supplied with 2 feet of flexible bypass duct, air bypass shut-off damper, collar assembly and installation hardware.

**No. 4E232, 17.0-Gallon/Day.** Media cone allows maximum air flow through and around evaporative media. Self-reversing motor, viewing port, and adjustable float control. Case is of corrosion-resistant ABS plastic construction. Supplied with installation hardware.

**No. 2E390, 15.0-Gallon/Day.** High capacity humidifier for hard water areas. Water runs through evaporator pad into drain tube, flushing away mineral deposits for longer pad life. Can be installed on warm or cold air plenum of upflow, downflow or horizontal furnace. Right or left bypass for 6" diameter duct.

**Operates on air pressure differential;** no fan, pump or float, just simple 24V "water saver" solenoid valve. High impact plastic case. Removable stainless steel access panel.

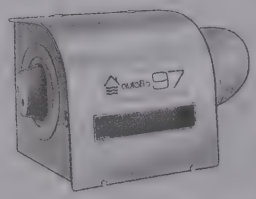
**Comes with 120 to 24Vac transformer,** 10 ft. polyethylene water line, saddle valve, 24 ft. length of 6" diameter flexible aluminum bypass duct, mounting hardware and instructions. 1/2" OD drain outlet.

**No. 2E463, 14.0-Gallon/Day.** Media wheel is urethane foam construction. Stainless steel case is corrosion resistant. Water float valve is polyethylene. Water reservoir is constructed of molded high temperature plastic, removable for cleaning. Media wheel is easily accessible through large removable panel for cleaning or replacement. Supplied with installation hardware.

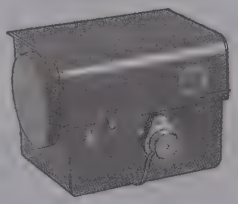
**No. 4E061, 10.0-Gallon/Day.** Fits vertical, horizontal and counterflow furnaces. Self-reversing motor, easily removable urethane foam pad and viewing port. Case is of corrosion-resistant ABS plastic construction. Supplied with installation hardware.

**Replacement Parts Available**
**1-800-323-0620**

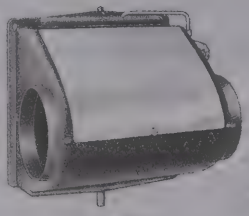
autoFlo



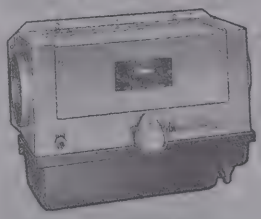

No. 2E384



Nos. 4E232 & 4E061



No. 2E390



No. 2E463

## FURNACE HUMIDIFIER SPECIFICATIONS DATA

| Stock No. | Type | Overall Dimensions (In.)‡ H | W | D | Cut-Out Required (In.) H | W | By-Pass Duct (In.) | Clearance Required, In.† Inside | Outside |
|---|---|---|---|---|---|---|---|---|---|
| 2E384 | Wheel Bypass | 11½ | 15½ | 12½ | 7½ | 8½ | 6 dia. | None | 22 |
| 4E232 | Wheel Bypass | 10¼ | 12¾ | 7¼ | 7 dia. | ¾ circle | 6 | None | 15 |
| 2E390 | Drain Bypass | 11½ | 13½ | 11 | 8½ | 8½ | 6 | None | 11 |
| 2E463 | Wheel Bypass | 11 | 16 | 9 | 8 dia. | ½ circle | 6 | None | 15 |
| 4E061 | Wheel Bypass | 10 | 7¼ | 7¼ | 5 dia. | ½ circle | 5 | None | 15 |

(†) Inside: from plenum or duct surface to nearest obstruction inside. Outside: from plenum or duct surface to nearest obstruction outside (minimum distance for easy installation and service). (‡) Includes flange.

## HUMIDIFIER REPLACEMENT PADS

| Humidifier Stock No. | Pad Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 1E957, 2E095, 2E181, 2E184, & 2E390 | **1E959** | $23.40 | **$15.61** | 1.2 |
| 2E384 | **2E385** | 20.63 | **13.89** | 0.4 |
| 2E463, 4E232 | **2E464** | 16.81 | **11.36** | 0.3 |
| 2E577, 2E779 | **1R295†** | 48.95 | **36.20** | 1.6 |

(†) 16 discs.

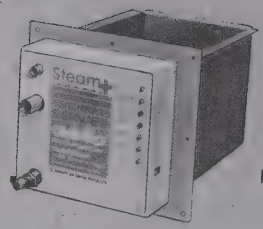
## FURNACE HUMIDIFIER ORDERING DATA

| Type | Gallon / Day Capacity # | Cont. Drain | 60 Hz Volts | Max. Sq.-Ft. Capacity | AutoFlo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **Wheel Bypass** | 19.3 | No | 115 | 3000 | 97 | **2E384** | $269.00 | **$179.00** | 12.0 |
| **Wheel Bypass** | 17.0 | No | 115 | 2700 | 800BP | **4E232** | 168.00 | **115.00** | 7.0 |
| **Drain Bypass** | 15.0 | Yes | 115 | 2400 | 250 | **2E390** | 179.00 | **119.00** | 8.6 |
| **Wheel Bypass** | 14.0 | No | 115 | 2200 | 200P | **2E463** | 209.00 | **140.00** | 10.0 |
| **Wheel Bypass** | 10.0 | No | 115 | 1600 | 400BP | **4E061** | 145.00 | **102.00** | 7.0 |

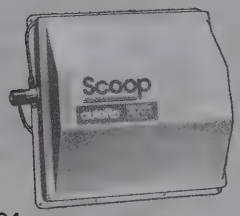
(#) At 140° plenum temperature per ARI Standard 610-82; figures given are for clean units with new evaporator elements.

# RESIDENTIAL FURNACE HUMIDIFIERS

autoFlo




Nos. 2E668 and 2E531




No. 5E294

Replacement Parts Available
1-800-323-0620

## ELECTRONIC STEAM-GENERATING TYPE

**Nos. 2E668 and 2E531.** Automatically provide humidity whether furnace is operating or not. Used in homes with electric, heat pump, oil or gas heating systems. No moving parts, no float. UL Listed.

**Install in warm or cold air ducts of plenums** and have control transformer, stainless steel reservoir indicator light and automatic water level control with low water shutoff. For residential use only.

**Operate without disrupting normal furnace operation:** A remote humidistat (not included) activates heat element to raise water temperature in reservoir. When water reaches 170°F, furnace blower turns ON distributing steam throughout the home. Once humidity level is reached, heat and blower control shut off.

Computer chip is programmed to enable heating element to expand and contract so lime flakes off and falls to bottom of reservoir for easy cleaning. Supplied with template, 1/4" compression fitting, saddle valve, instructions and 7 ft. 3-conductor cord. UL Listed Auto Flo brand.

**Steam-generating humidifiers require humidistat. See humidistat, No. 2E453, sold separately below.**

## DRAIN-TYPE

**No. 5E294.** New concept unit has no moving parts to wear out. All plastic construction. Almost no back pressure and no loss of air flow. Scoop design forces air thru media pad for efficient water evaporation. One cutout installation, no bypass required.

**Complete installation kit includes** plug-in transformer, humidistat, thermostat, water line saddle valve, drain hose and complete low voltage kit.

### FURNACE HUMIDIFIER SPECIFICATIONS DATA

| Stock No. | Overall Dimensions (In.)‡ H | W | D | Cut-Out Required (In.) H | W | Clearance Required (In.)† Inside | Outside |
|---|---|---|---|---|---|---|---|
| **2E668** | 6 | 7 | 8½ | 6 | 7 | 11 | 12 |
| **2E531** | 6 | 7 | 8½ | 6 | 7 | 11 | 12 |
| **5E294** | 14⅜ | 15¾ | 11¼ | 11 | 11 | 5½ | 10 |

†Inside: from plenum or duct surface to nearest obstruction inside. Outside: from plenum or duct surface to nearest obstruction outside (minimum distance for easy installation and service). ‡ Includes flange.

### FURNACE HUMIDIFIER ORDERING DATA

| Type | Gallon / Day Capacity # | Cont. Drain | Amps | 60 Hz Volts | Max. Sq.-Ft. Capacity | AutoFlo Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Steam** | 20.0 | No | 10 | 240 | 3100 | ESU20 | **2E668** | $635.00 | **$415.00** | 9.0 |
| **Steam** | 14.0 | No | 15 | 120 | 2200 | ESU14 | **2E531** | 560.00 | **369.00** | 9.0 |
| **Drain** | 15.7 | Yes | .3A/6VA | 120/240 | 2400 | SC15R | **5E294** | 298.00 | **195.00** | 8.6 |

(#) At 140°F plenum temperature per ARI Standard 610-82: figures given are for clean units with new evaporator elements.

## HUMIDIFIER PLATES

**Universal-Type Plates Fit: AutoFlo, General, Homart, Lau (Viking), Skuttle, Wetwing**

autoFlo



Can be used in all plate-type humifiers. Rigid fiber construction assures high moisture output. AutoFlo brand (016050). Five plates packed in mailable carton. **Sold in cartons only.**

**No. 2E539.** Shpg wt. 0.3 lbs. List.....$19.41
Each.....**$12.37**

## AUTOFLO HUMIDISTAT




autoFlo

Provides precise control of central power humidifiers. Install on wall in living area of home or mount on return-air duct of furnace system. Rugged, sensitive element; 10 to 60% relative humidity range. 4 to 6% RH differential. Simple to use—recommended settings for outside temperature ranges shown on face of control. 120VAC rating: 4.4A full load. 24VAC rating: 50VA pilot duty. Neutral beige finish. 5¼H x 3⅝W x 2"D. AutoFlo brand (052000).

**No. 2E453.** Shpg. wt. 0.8 lbs. List .....$37.19.
Each.....**$26.45**

## MAINTENANCE CHEMICALS FOR HUMIDIFIERS




Water treatment and descaler chemicals come in 32 oz. containers. Vista brand.

**Solution 24® humidifier water treatment** prevents lime and mineral scale buildup on internal parts, helps control odors. Adds life to filters, belts and operating parts. For portable type humidifiers. Vista brand (00240).

**No. 5W008.** Shpg. wt. 2.4 lbs. List .....$3.68.
Each.....**$3.45**

**Solution 26® descaler** is ideal for removing the lime scale buildup and sludge deposits from all manually filled water humidifiers, filters and water belts. Vista brand (00260).

**No. 5W010.** Shpg. wt. 2.4 lbs. List $3.68.
Each.....**$3.45**



*Breathe easy — we've got the air treatment products you need.*

# PORTABLE HUMIDIFIERS

## EMERSON PORTABLE HUMIDIFIERS

**Common Features for Console models, Nos. 5H856 and 3UP82:**

- Variable speed, auto humidistat, easy-roll casters, and auto shut-off
- 6Ft. cord, 115V, 60 Hz, UL Listed (E81778)

**No. 5H856 Console Humidifier:**

- Fills with bucket, 12-gal. output per 24 hrs.

**No. 3UP82 Console Humidifier:**

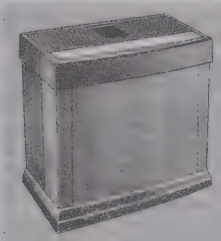
- Contains 2 easy-fill 2.3 gal. bottles, 13-gal. output per 24 hrs.

**No. 3UP84 Console Humidifier:**

- 3-Speed, auto humidistat, and two 1.6-gal. side fill bottles (No auto shut-off)

**No. 3UP83 Table Top Humidifier:**

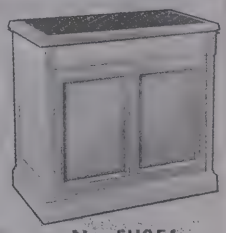
- 800 Sq. ft. capacity, 2-gal. resevoir
- 2-Speed fan, water level indicator



Console Models are AHAM Certified

EMERSON

E81778



No. 3UP82 Console Humidifier

No. 3UP84 Console Humidifier





No. 5H856 Console Humidifier

No. 3UP83 Table Top Humidifier

| Type | Capacity Gallons Per Day* | Fan Speeds | Room Capacity Sq.-Ft.† | Tank Size, Gal. | Fan Blade Dia. (In.) | Watts | Dimensions (In.) H | W | D | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Console** | 13.0 | Variable | 2700 | 7.0 | 2-7 | 165 | 22¾ | 24½ | 15½ | HD1300 | **3UP82** | $283.56 | **$156.00** ▲ | 32.0 |
| **Console** | 12.0 | Variable | 2750 | 7.0 | 10 | 145 | 24½ | 26 | 14½ | HD12WV | **5H856** | 224.61 | **133.00** ▲ | 32.0 |
| **Console** | 6.0 | 3 | 1300 | 5.0 | 7 | 100 | 16¼ | 18½ | 12 | HD6000 | **3UP84** | 163.20 | **86.00** ▲ | 18.0 |
| **Table Top** | 2.0 | 2 | 500 | 2.0 | 7 | 32 | 9¾ | 13⅜ | 11⅛ | HD400 | **3UP83** | 73.44 | **38.65** ▲ | 6.7 |

(*) At 70° and 30% relative humidity. (▲) Net prices. Not subject to discounts. (†) Per AHAM Guide for Average House Construction.

### REPLACEMENT PADS & FILTERS FOR HUMIDIFIERS ABOVE

**Replacement pad for Roto-Belt models.** (HD-P1).
**No. 1R362.** Shpg. wt. 0.4 lbs. List $12.81.
Each ..... $6.85▲

**Replacement filter for No. 3UP83 tabletop humidifier.** (HDF1).
**No. 3UP86.** Shpg. wt. 0.3 lbs. List $9.18.
Each ..... $6.50▲

**Replacement filters for No. 3UP82 13-gal. humidifier.** (HDC12).
**No. 3UP85.** Shpg. wt. 1.7 lbs. List $18.36.
Each ..... $12.90▲

**Replacement Trapmax® filter for No. 4E406 tabletop.** (HDC-3T).
**No. 4E407.** Shpg. wt. 0.8 lbs. List $9.85.
Each ..... $5.45▲

**Replacement Trapmax® filter for Moistair™ system humidifiers,** Nos. 5H856, 5H857, 5H867, and 3UP84. (HDC-1).
**No. 1R477.** Shpg. wt. 1.3 lbs. List $13.12.
Each ..... $6.75

## BIONAIRE PORTABLE HUMIDIFIERS

**Common Features:**

- Uses a process of film boiling to generate moisture in the air except 6C506 which uses a wick
- Includes large air filter
- Attractive Eurostyling blends well with all decors
- Clean and comfortable mist—no "white dust" or bacteria emissions
- Heavy-duty 3-prong grounded plug

**No. 6C506 Console Model:**

- High efficiency 4-stage air filtration
- Multifunction control panel, includes On Light, Humidistat, Low Water Indicator, Speed Controls and Sanitizing Switch
- Directional air output louvers and casters

**Nos. 6C504 & 6C505 Table-Top Models:**

- 100% Bacteria-free moisture
- No chemicals are needed
- Slide- or lift-out design collects minerals and ends cumbersome and difficult cleaning chores
- Multifunction control panel includes On light, humidistat, low water indicator and speed controls

### HUMIDIFIER ACCESSORIES

**Evaporative Wick for Console Humidifier (No. 6C506).** Two per box.
**No. 5E826.** Shpg. wt. 1.4 lbs. List $24.48.
Each ..... $13.00▲

**Replacement air filter** for console model (No. 6C506).
**No. 5E825.** Shpg. wt. 0.4 lbs. List $27.38.
Each ..... $13.75▲

**Replacement air filter** for table-top humidifiers (Nos. 6C505 and 6C504).
**No. 5E824.** Shpg. wt. 0.2 lbs. List $17.57.
Each ..... $9.50▲

**Descaler available, see pages 3508 and 3510.**

BIONAIRE®



E85228

LR45976

No. 6C506



No. 6C504



No. 6C505

| Capacity Gallons Per Day | Fan Speeds | Room Capacity Sq.-Ft.† | Tank Size Gallon | Max. Watts @ 115V | Max. Running Time (on low) | Dimensions (In.) H | W | D | Bionaire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 10 | 2100 | 9 | 400 | 70 Hours | 21⅜ | 29¾ | 10 | W-9 | **6C506** | $437.98 | **$237.00** ▲ | 28.0 |
| **4** | 4 | 900 | 5 | 520 | 60 | 12¾ | 20⅝ | 8⅞ | CMP-5 | **6C505** | 247.74 | **119.00** ▲ | 17.0 |
| **3** | 3 | 700 | 3 | 420 | 59 | 12¾ | 16⅛ | 8⅞ | CMP-3 | **6C504** | 183.69 | **105.00** ▲ | 15.0 |

(†) Per AHAM Guide for Average House Construction. (▲) Net prices. Not subject to discounts.

# DEHUMIDIFIERS & HUMIDIFIER ACCESSORIES

## WESTINGHOUSE DEHUMIDIFIERS

White-Westinghouse



New

- Help eliminate moisture caused rust, mildew, warping and surface damage
- For use at air temperatures of at least 65°F
- Operate on 115 V, 60 Hz

- **Permanently lubricated compressor and fan motor**
- **Signal light**
- **Adjustable dehumidistat**
- **Frost control shuts of dehumidifier resumes after frost has melted**
- **Water drains into 24-pint polypropylene collector bucket or may be drained off by connecting a garden hose (not included)**

**Slim-silhouette cabinet** with non-marring casters or glides. High-impact plastic grille is moisture-impervious and matches any decor. Slanted control panel for easier viewing. Automatic overflow control shuts off unit when bucket is full. 6 ft., 3-wire cord. 22¼"H, 12½"W, (17½"D with bucket). UL Listed (SA2453).

### DEHUMIDIFIER DRIP TRAY

Can be installed into dehumidifier for permanent hose connection. White Westinghouse brand (EA59T). No. 5C418.

**No. 5C418.** Drip Tray. Shpg. wt. 1.0 lbs. List $7.15. Each ..... $4.79

### WHITE-WESTINGHOUSE & GENERAL LIMITED WARRANTY

**5-Years on sealed system. 1-Year on all other parts. Text of warrranty available on request. See "Manufacturers Warranties" on page opposite back cover.**

| Capacity 24 Hours* | Fan Speed | 115V Amps | Fan CFM | Casters | Mfr's Model | | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 25 | 1 | 4.0 | 275 | 4 | MDH25HW | | 3ZM70 | $159.00▲ | 51.0 |
| 30 | 1 | 5.0 | 275 | 4 | MDH30YW | New | 4MH02 | 179.00▲ | 51.0 |
| 40 | 2 | 7.2 | 275 | 4 | MDDQ40HW | | 3H335 | 199.00▲ | 54.0 |
| 50 | 2 | 7.3 | 160/180 | 4 | MDDQ50HW | | 3H350 | 249.00▲ | 57.0 |

(*) Measured according to ANSI standard B149.1 based on 60% relative humidity at 80°F. Verified by AHAM.

## WHIRLPOOL DEHUMIDIFIERS

Whirlpool HOME APPLIANCES

- **Drain hose connection**
- **2 Floor rollers and 2 mounting pads**
- **Black granite cabinet with decorative front**

UL SA2396

CERTIFIED RATING WATER OUTPUT AHAM



No. 4E404

**Automatic de-ice sensor** to shut off compressor when coil temperature approaches freezing, automatic humidistat which shuts off dehumidifier when dryness level is reached, adjustable automatic water level control and full light which shuts off dehumidifier to prevent condensate container from overflowing, and rear grille. Rust-resistant steel cabinet. 20$^{11}/_{32}$ H x 12⅝"W 19¾"D. All units are UL Listed; AHAM Verified. Whirlpool brand.

### WHIRLPOOL LIMITED WARRANTY

**5-Year parts and labor on sealed system. 1-year on all other parts. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Capacity* 24 Hours | Fan Speed | 115V Amps | Fan CFM | Whirlpool Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 25 | 1 | 6.2 | 190 | ADO252X | 4E404† | $380.55 | $257.00 | 53.0 |
| 40 | 1 | 6.4 | 175 | ADO402X | 4E402† | 485.10 | 328.50 | 56.0 |
| 50 | 1 | 6.5 | 175 | ADO502X | 4E971† | 539.08 | 366.50 | 60.0 |

(*) Measured according to ANSI standard B149.1 based on 60% relative humidity at 80°F. Verified by AHAM.
(†) Limited availability, please contact your local branch.

## TEMPERATURE & HUMIDITY MONITOR

BIONAIRE

UL SA2328

- Displays LCD reading of relative humidity (RH) in 1% increments, and room temperature (°F)
- "L" appears if humidity level goes below 20%; "H" appears if humidity level goes above 95%
- Designed for table top or wall mount
- Uses 1 AAA battery (included)

| Humidity Range | Temperature Range | Dimensions (In.) | | |
|---|---|---|---|---|
| 20 to 95% | -40 to 120°F | 3⅜ L | 2¼ D | 4 H |

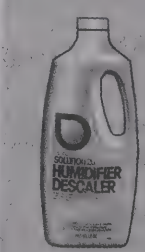
| Bionaire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| BT254F | 4E420 | $53.11 | $34.95 | 0.2 |

## HUMIDIFIER CHEMICALS

### For Portable and Furnace Type Humidifiers

Easy-to-use water treatment and descaler chemicals come in 32 oz. containers. Vista brand.

**Solution 24® humidifier water treatment** prevents lime and mineral scale buildup on internal parts, helps control odors. Adds life to filters, belts and operating parts. For portable type humidifiers.




No. 5W008

**Golden Solution® humidifier water treatment.** In addition to features of Solution 24® above, this EPA Registered product inhibits the growth of odor-causing bacteria and algae in manually-filled console humidifiers.

**Solution 26® descaler** is ideal for removing the lime scale buildup and sludge deposits from manually-filled water humidifiers, filters and water belts.

| Type of Chemical | Vista Model | Stock No. ❸ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| Solution 24 | 00240 | 5W008 | $3.68 | $3.45 | 2.4 |
| Golden Sol. | 00245 | 5W009 | 4.81 | 4.48 | 2.4 |
| Solution 26 | 00260 | 5W010 | 3.68 | 3.45 | 2.4 |

❸ These products are covered by OSHA Hazard Communication Standard, and Material Safety Data Sheets (MSDS) are available. See page opposite inside back cover.

# OASIS LOW TEMPERATURE DEHUMIDIFIER



OASIS

Replacement Parts Available 1-800-323-0620

No. 3H356

SA2328

**OASIS LIMITED WARRANTY**

**1-Year parts and labor free from date of purchase with an additional 4-years on any part of the sealed refrigeration system.**

- **Helps eliminate excess moisture and mildew**
- **Automatic Dehumidistat maintains selected humidity**
- **Frost control shuts off dehumidifier, resumes after frost has melted**
- **Can be used in enclosed areas with temperatures as low as 40°F**
- **Can be used in enclosed areas with temperatures as low as 40°F**
- **115V, 60Hz**

**Helps prevent humidity and moisture damage** in enclosed areas with temperatures as low as 40°F. Designed for problem industrial applications such as sewage lift stations, telephone relay rooms, fire and flood cleanup where ambient temperatures do not exceed 75°F.

**When ice forms on the evaporator coil,** a temperature sensing thermostat diverts the hot refrigerant gas through the evaporator coil until the ice has melted. Normal dehumidifying resumes when the evaporator coil has been defrosted. Being a commercial unit, higher noise levels are produced than residential models (should not be operated in noise sensitive areas). Sound level rating is below 65 decibels.

**Greystone vinyl-on-steel laminate cabinet** with impact-resistant polystyrene grille. Three point suspension. Concealed rollers. Adjustable dehumidistat automatically turns unit on and off at preselected moisture levels. Off and continuous run positions are indicated. To prevent overflow, unit shuts off automatically when moisture container is full and activates red signal light.

Ten quart water container has hand grips on both sides. For continuous moisture removal to a floor drain, coil drip tray has garden hose connection fitting.

Comes with 3-wire service cord and polarized plug. 21¾H x 15W x 14½"D. 115 volts, 60 Hz, 7.7 amps, 265 CFM. UL Listed (SA2338).Oasis brand (OD 3800HG)

**No. 3H356.** Shpg. wt. 58.0 lbs. List .....$670.00.
Each .....**$446.50**

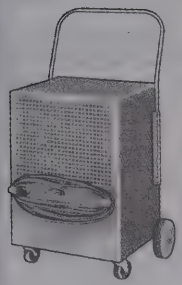
**CAPACITY PINTS PER 24 HOURS**

| Room Temp. (°F) | % Relative Humidity 60 | 70 | 80 |
|---|---|---|---|
| 65 | 21 | 25 | 28 |
| 60 | 13 | 18 | 22 |
| 55 | 8 | 13 | 17 |

# OASIS COMMERCIAL DEHUMIDIFIERS

OASIS

Replacement Parts Available 1-800-323-0620



SA2328

No. 5E822

**OASIS LIMITED WARRANTY**

**1-Year parts and labor free from date of purchase.**

- **Ambient range 40-75 °F**
- **Heavy-duty 16-gauge cabinet**
- **Convenient cord wrap brackets**
- **Furnished with 3-wire service cord and polarized plug**
- **Cleanable foam filter keeps evaporator coils and condenser free from lint and dust**
- **Metal grill protects evaporator coils from damage**
- **Automatic Dehumidistat control located inside cabinet**
- **Built-in condensate pump for continuous moisture removal. Maximum lift is twenty feet**
- **20 ft. plastic hose included**
- **Automatic evaporator defrost**

**Dehumidifiers** help prevent humidity and moisture damage in enclosed areas with temperatures as low as 40°F. Designed for problem industrial applications such as sewage, lift stations, telephone relay room, fire and flood cleanup.

**When frost forms on the evaporator coil,** a temperature-sensing thermostat activates a timer. Frost will continue to accumulate for one hour. Timer will then shut-off the compressor, but the fan will continue to operate and move warm air over the coil until it is defrosted. Compressor starts again and the cycle repeats.

No. 5E821 dehumidifier has 2 wheels and handle for easy portability; No. 5E822 dehumidifier has 4 wheels and handle for easy portability. Oasis brand.

**CAPACITY PINTS PER 24 HOURS**

| Room Temperature (°F) | @ 60% Relative Humidity No. 5E821 Dehumidifier | No. 5E822 Dehumidifier |
|---|---|---|
| 90 | 50 | 105 |
| 80 | 45 | 80 |
| 70 | 30 | 63 |
| 60 | 20 | 45 |
| 50 | 11 | 22 |
| 40 | 6 | 12 |

| Capacity @ 70°F (Pts.) | Volts | Hz | Total Amps | Refrigerant | Refrigerant Charge (Oz.) | CFM | Dimensions (In.)† H | W | D | Color | Oasis Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 115+/-10% 1 Ph | 60 | 7.8 | R-134a | 12 | 330 | 21⅛ | 15¼ | 14⅜ | Mocha Tan | DC-45 | 5E821 | $1070.00 | **$720.00** | 88.0 |
| 63 | 115+/-10% 1 Ph | 60 | 9.5 | R-22 | 21 | 560 | 25¼ | 19¼ | 16⅛ | Mocha Tan | DC-75 | 5E822 | 1481.05 | **1003.00** | 128.0 |

(†) Without handle and wheels.

## AHAM* DEHUMIDIFICATION GUIDE

### REQUIRED DEHUMIDIFICATION PINTS/24 HOURS

| Condition Without Dehumidification† | Area in Square Feet 500 | 1000 | 1500 | 2000 | 2500 | 3000 |
|---|---|---|---|---|---|---|
| **Moderately Damp** Space feels damp and has musty odor only in humid weather. | 10 | 14 | 18 | 22 | 26 | 30 |
| **Very Damp** Space always feels damp and has musty odor. Damp spots show on wall or floor. | 12 | 17 | 22 | 27 | 32 | 37 |
| **Wet** Space feels and smells wet. Walls or floor sweat, or seepage is present. | 14 | 20 | 26 | 32 | 38 | 44 |

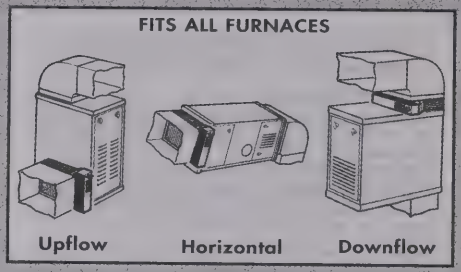
(*) Association of Home Appliance Manufacturers. (†) During warm and humid outdoor conditions.

# FURNACE AND DUCT-MOUNTED ELECTRONIC AIR CLEANERS

electro-air



No. 3C567

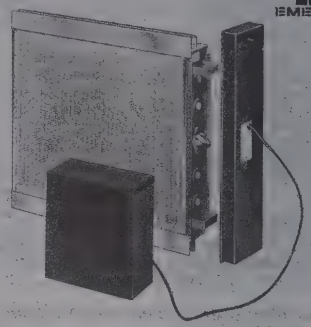



E25968

Replacement Parts Available
1-800-323-0620

LR31684

EMERSON



No. 3C616

- Removes up to 98% of all contaminants in the air down to 0.01 micron in size (0.02 for Nos. 3C616, 3C617, and 3C618) per ASHRAE Standard 52-1
- Simple periodic cleaning with hot water and detergent, or cell cleaner (No. 4W319) keep units operating at peak performance levels
- Nos. 3F311, 3C567, and 3C568 have twin 5" deep, high-capacity collection cells which are easily removed for cleaning
- Nos. 3C616, 3C617, and 3C618 offer easy installation, and utilize a 2 13/16" particulate collection cell
- Nos. 3F311, 3C567, and 3C568 may require additional sheet metal work, and need to be hard wired to a 120V source
- Built-in air flow switch operates unit only when system fan is running
- Green LED operating indicator light—flickers to indicate need for cell cleaning

For residential and light commercial forced air heating and/or cooling systems. Units handle most central forced air furnace installations.

Integral air flow monitor activates unit when blower is operating. Eliminates need for sail switch. Power is automatically disconnected when access door is opened. 120V, 60 Hz.

## AIR CLEANER SPECIFICATIONS AND ORDERING DATA

| For Duct Size (In.) | CFM Range | Dimensions (In.) H | W | D | Mfr. | Mfr. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 9/16 x 18 5/8 | 600-1200 | 16 7/16 | 21 5/16 | 6 7/8 | Electro-Air | 10C26S-C10 | **3F311** | $763.25 | **$403.00** | 42.0 |
| 13 9/16 x 23 5/8 | 1000-1600 | 16 7/16 | 26 1/4 | 6 7/8 | Electro-Air | 14C26S-C10 | **3C567** | 900.17 | **458.25** | 44.0 |
| 17 3/4 x 18 5/8 | 1000-2000 | 20 5/8 | 21 5/16 | 6 7/8 | Electro-Air | 16C28S-010 | **3TZ42** | 950.49 | **474.00** | 46.0 |
| 17 3/4 x 23 5/8 | 1600-2200 | 20 5/8 | 26 1/4 | 6 7/8 | Electro-Air | 20C265-010 | **3C568** | 986.70 | **513.50** | 48.0 |
| 16 x 20 | 600-1000 | 16 | 20 | 2 13/16 | Emerson | 8C11Y410 | **3C616** | 540.65 | **337.75** | 22.0 |
| 16 x 24 | 1000-1200 | 16 | 24 | 2 13/16 | Emerson | 12C11Y410 | **3C617** | 562.71 | **349.75** | 24.0 |
| 20 x 20 | 1200-1400 | 20 | 20 | 2 13/16 | Emerson | 14C11Y410 | **3C618** | 563.60 | **364.00** | 26.0 |

# DUCT-MOUNTED ELECTRONIC AIR CLEANERS

EMERSON

LR31684

E25968

Replacement Parts Available
1-800-323-0620



No. 4C601

- For wall or ceiling mounting in the main return air duct of a central forced air heating or cooling system
- Removes up to 98% of all airborne particulates down to 0.01 microns in size in a single pass per ASHRAE Standard 52-1
- Ideal for use in limited access areas such as closet or attic type installations
- Attractive, oyster white, durable steel grille
- Hinged grille and pull-out filter cell simplify cleaning
- Built-in air flow switch operates unit only when system fan is running
- Visible LED operating indicator light flickers to indicate the need for cell cleaning
- Simple periodic cleaning with hot water and detergent, or cell cleaner (No. 4W319) keeps units operating at peak performance levels
- 120V, 60 Hz, 0.22 amps
- Emerson brand

## AIR CLEANER SPECIFICATIONS AND ORDERING DATA

| CFM Range | Housing Dimensions (In.) H | W | D | Grille Dimensions (In.) H | W | D | Pressure Drop, Inches of Water | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 800-1000 | 16 3/16* | 23 3/16* | 6 | 19 | 25 5/16 | 7/32 | 0.06 @ 1000CFM | TTW10 | **4C601** | $1026.15 | **$542.50** | 40.0 |
| 1000-1400 | 23 3/8 | 23 3/16 | 6 | 26 | 25 5/16 | 7/32 | 0.06 @ 1400 | TTW14 | **3C376** | 1071.20 | **697.50** | 52.0 |
| 1400-2000 | 28 3/8 | 23 3/16 | 6 | 31 | 25 5/16 | 7/32 | 0.06 @ 2000 | TTW20 | **3C377** | 1167.21 | **762.00** | 62.0 |

(*) Not including front flanges.

# FURNACE MEDIA AND WATER WASH AIR CLEANERS

## FURNACE MEDIA AIR CLEANERS




- 5" High efficiency pleated media filter
- Easily converted to electronic air cleaner if desired (use Nos. 3TZ59 or 3TZ60)
- Easy maintenance
- Easy access door
- Slide-in cartridge media filter

Replacement Parts Available
1-800-323-0620

| For Duct Size (In.) | CFM Range | Dimensions (In.) H | W | D | Electro-Air Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 16 x 25 | 800-1400 | 16⅞ | 26¼ | 6⅞ | F808-0708 | 3TZ61 | $168.42 | $101.50 | 18.0 |
| 20 x 25 | 1200-2000 | 20⅝ | 26¼ | 6⅞ | F808-0709 | 3TZ62 | 184.73 | 111.20 | 19.0 |

### REPLACEMENT FILTER FOR AIR CLEANER

| For Air Cleaner | Electro-Air Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3TZ61 | F825-0548 | 3TZ63 | $59.91 | $32.85 | 2.8 |
| 3TZ62 | F825-0549 | 3TZ64 | 66.35 | 36.50 | 3.3 |

## ELECTRONIC AIR CLEANER UPGRADE KIT

- Converts Electro-Air Media air cleaners (Nos. 3TZ61 and 3TZ62) to high efficiency electronic air cleaners
- Two sizes
- Includes twin 5" deep collecting cells, snap-on power door, twin prefilters and female electrical receptacle




| Converts Media Filter | For Duct Size (In.) | CFM Range | Power Requirements | Electro-Air Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3TZ61 | 16 x 25 | 1000-1600 | 120 VAC | F801-0185 | 3TZ59 | $838.61 | $417.00 | 36.0 |
| 3TZ62 | 20 x 25 | 1600-2000 | 120 VAC | F801-0186 | 3TZ60 | 939.93 | 462.25 | 36.0 |

## WATER WASH ELECTRONIC AIR CLEANERS

Nos. 3TZ40 and 3TZ55 feature:

- Extra large capacity cells
- Built-in wash system manifold washes cells without disassembling the unit
- High efficiency up to 99%
- Requires 4.8 gpm water supply @ 40 PSI, and access to water drain

Replacement Parts Available
1-800-323-0620

| CFM Range | Unit Dimensions (In.) H | W | D | Duct Dimensions Size (In.) | | Electro-Air Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 800-1400 | 35¼ | 25 | 15¾ | 21½ | 14⅛ | 14C12V-010 | 3TZ40 | $1168.42 | $731.50 | 128.0 |
| 1400-2000 | 35¼ | 30¼ | 15¾ | 27⅛ | 14⅝ | 20C12V-010 | 3TZ55 | 1248.16 | 783.00 | 140.0 |




## ELECTRONIC CELL CLEANER

- Use full strength on surfaces of the cell, then rinse
- Quick, easy results
- Deodorizes cells
- Non-toxic

Regular use keeps air cleaner cells performing at their best. Can also be used to clean permanent metal filters and air conditioning evaporator coils. One quart spray bottle. Virginia KMP product. Model ECC.

**No. 4W319.** Shpg. wt. 2.8 lbs. List.....$8.55. Each.....$6.70

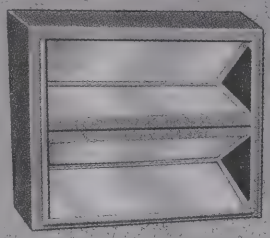
# RESIDENTIAL FURNACE MEDIA AIR CLEANER AND REPLACEMENT FILTERS

## RESIDENTIAL FURNACE MEDIA AIR CLEANER

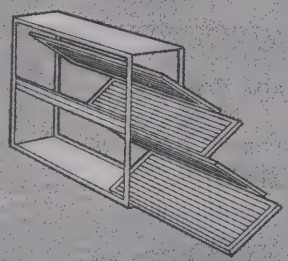
Air Handler®

CLASSIFIED UL

R13458



No. 4E434



Filter cartridge slides out for easy replacement.

No. 4E435

- High efficiency
- Easy maintenance and economical operation
- 96 sq.-ft. of active media area
- New cartridge media (included) just slides in —no assembly required
- High arrestance rate of 98%
- Case adaptable to most furnaces

| CFM | Initial Resistance In W.G. |
|---|---|
| 1200 | 0.16 |
| 1600 | 0.23 |
| 2200 | 0.31 |

This complete air cleaner package is designed for residential and light commercial forced-air heating and/or cooling systems. Units handle most central forced air furnace installations. Media filter is wet layered micro fiberglass paper; no electrical connections necessary, no electricity consumed and no ozone produced.

High efficiency filtration media removes up to 98% of the dust, dirt, smoke, pollen, bacteria, and other contaminants. Removes up to 80% of particles in the air down to 1.0 microns in size. Large dust holding capacity has 96 sq.-ft. of air filter media. Filter's low pressure drop makes it ideal even for heat pump applications.

Easy to install. Built-in flanges simplify installation in furnaces. For duct size 20 x 22½".

Quick, easy, clean maintenance. Slide out dirty cartridge and replace with new one. Filter media cartridge (included) is completely factory assembled. Filter cartridge eliminates potential for media damage that can occur when replacing media in conventional air cleaners.

Attractive beige steel housing. UL Classified as to flammability only. Class 2 (R13458). Air Handler brand.

### AIR CLEANER ORDERING DATA

| Dimensions (In.) H | D | W | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 21 | 11 | 23½ | **4E434** | $288.91 | **$173.00** | 25.0 |

### REPLACEMENT FILTER FOR AIR CLEANER

| | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| Fully Assemble, Just Slides in Housing | **4E435** | $70.89 | **$42.45** | 17.0 |

## AIR HANDLER CROSS-REFERENCE

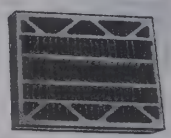
These replacement filters replace filters supplied by the original manufacturer. Requires use of original manufacturer's spacers and dividers. UL Classified as to flammability only. Class 2 (R13458). Air Handler brand.

| Replaces Manufacturer | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| General | AC-1 | **4E436** | $34.46 | **$20.64** | 3.0 |
| Honeywell | F66A | **4E439** | 43.08 | **25.80** | 3.0 |
| Spacegard | 2200, 2250 | **4E438** | 43.08 | **25.80** | 3.0 |

See Cross-Reference Information on page opposite inside back cover.

## AIR BEAR REPLACEMENT FILTERS

Air Handler®



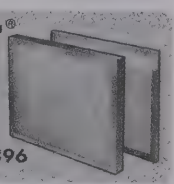
Replaces filter cartridge used in the Trion Air Bear Air Cleaner. Equals or exceeds performance of the original filter. UL Classified as to flammability only Class 2 (R13458). Air Handler brand. 24⅛"W x 19⅝"H x 4¾"D.

**No. 6C529.** Shpg. wt. 3.0 lbs. List $42.00. Each ..... **$25.15**

Air Handler®

CLASSIFIED UL

R13458



No. 5W896

Electrostatic air filters require no electrical hook-up; have self-generated charge. Permanent and washable. Fit into existing filter tracks. Include four layers of polypropylene media and sturdy roll-formed galvanized frame. Feature an arrestance rate of 90%. UL Classified as to flammability only Class 2 (R13458).

## ELECTROSTATIC AIR FILTERS

### SPECIFICATIONS AND ORDERING DATA

| Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Initial Resistance @ 300 FPM | Recommended Final Resistance | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 20 | 1 | 13½ | 19½ | ¾ | 0.18 | 1.0 | **6W730** | $77.65 | **$46.50** | 2.4 |
| 16 | 20 | 1 | 15½ | 19½ | ¾ | 0.18 | 1.0 | **5W894** | 77.23 | **46.25** | 2.1 |
| 16 | 25 | 1 | 15½ | 24½ | ¾ | 0.18 | 1.0 | **5W895** | 83.50 | **50.00** | 3.3 |
| 20 | 20 | 1 | 19½ | 19½ | ¾ | 0.18 | 1.0 | **5W896** | 83.50 | **50.00** | 3.3 |
| 20 | 25 | 1 | 19½ | 24½ | ¾ | 0.18 | 1.0 | **5W897** | 94.60 | **56.65** | 3.8 |
| 24 | 24 | 1 | 23⅜ | 23⅜ | ¾ | 0.18 | 1.0 | **6W733** | 107.71 | **64.50** | 5.0 |
| 16 | 20 | 2 | 15½ | 19½ | 1¾ | 0.26 | 1.0 | **5W898** | 89.09 | **53.35** | 2.3 |
| 16 | 25 | 2 | 15½ | 24½ | 1¾ | 0.26 | 1.0 | **5W899** | 94.60 | **56.65** | 3.5 |
| 20 | 20 | 2 | 19½ | 19½ | 1¾ | 0.26 | 1.0 | **5W900** | 94.60 | **56.65** | 3.7 |
| 20 | 25 | 2 | 19½ | 24½ | 1¾ | 0.26 | 1.0 | **5W901** | 113.22 | **67.80** | 4.3 |
| 24 | 24 | 2 | 23⅜ | 23⅜ | 1¾ | 0.26 | 1.0 | **6B691** | 112.22 | **67.20** | 5.3 |



*Breathe easy — we've got the air treatment products you need.*

# PORTABLE ROOM AIR CLEANERS

## TABLETOP AIR CLEANER

- **Removes up to 95% of common airborne particles**
- **Whisper-Quiet operation**
- **Clean air indicator light shows proper operation**
- **Helps remove odors with activated charcoal after filter**
- **Negative ion generator freshens stale air**
- **UL and C-UL Listed; AHAM Certified**
- **Made in USA**

**Replacement Parts Available 1-800-323-0620**

Attractive style and streamlined design enables it to be placed anywhere in the home or office. This powerful table top model is capable of filtering up to 95% of tobacco smoke, pollen, mold spores, dust, dirt, lint and other airborne pollutants.

The Super Clean II™ is a true electronic air cleaner that utilizes 5 separate cleaning stages to clean the air. Has permanent pre-filter and charcoal after-filter.

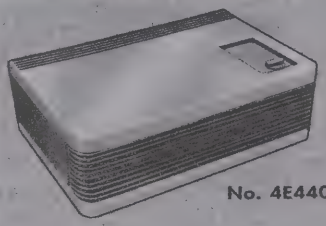
Unit is a black/gray color. 6 ft. cord length. UL and C-UL Listed; AHAM Certified. Trion brand.

### REPLACEMENT FILTERS FOR TABLETOP AIR CLEANER

Replacement charcoal after-filter for No. 4E440. Package of two.

**No. 4E536.** Shpg. wt. 0.2 lbs. List.....$18.45.
Each.....$12.17

**TRION, INC.**



No. 4E440

E19320

### AIR CLEANER SPECIFICATIONS AND ORDERING DATA

| Cleaner | Type | Fan CFM | Fan Speeds | Room Size (Ft.) with 8' Ceiling* | Watts @ 1-PH 120Vm 60 Hz | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Super Clean II | Electronic | 120 | 3 | 15 x 20 | 55 | 4½ | 15½ | 10 | **4E440** | $234.34 | **$157.75** | 11.0 |

*) Based on 3 air changes per hour.

## CONSOLE AIR CLEANER

- **Removes up to 99.97% of common airborne particulates**
- **Whisper-Quiet operation**
- **Activated charcoal after-filter helps remove odors**
- **Clean air indicator light**
- **Front intake and exhaust grille allows corner or wall placement**
- **UL and C-UL Listed; AHAM Certified**
- **Made in the USA**

**Removes pollutants** such as tobacco smoke, pollen, mold spores, dust, dirt, animal dander, and lint. High tech design, easy maintenance and high efficiency make these floor model air cleaners ideal for home or office. Units are capable of cleaning the air in one large room or several small rooms.

**The Console HEPA** utilizes a High Efficiency Particulate Arrestance filter (HEPA) to remove up to 99.97% of the particles passing through the filter from the air. Filter removes easily for periodic replacement.

**The Console 250** is a true electronic air cleaner that actually harnesses the power of electricity to "Deep-Clean" the air of up to 95% of airborne particles. Permanent prefilter and collector cells remove easily for routine cleaning.

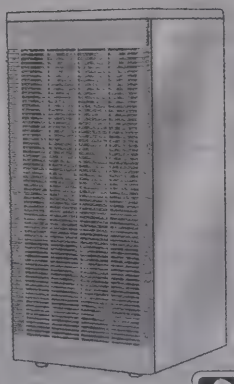
Both units have a dark gray cabinet finish. 120V, 60 Hz. Trion brand.

### REPLACEMENT FILTERS FOR CONSOLE UNITS

**No. 4E975.** Replacement HEPA filter for No. 4E974. Shpg. wt. 5.3 lbs. List.....$201.56.
Each.....$133.00

**No. 4E976.** Replacement charcoal filter for No. 5C417 and 4E974. Shpg. wt. 0.7 lbs. List...$23.80.
Each.....$15.69

**TRION, INC.**



E19320

No. 5C417

### AIR CLEANER SPECIFICATIONS AND ORDERING DATA

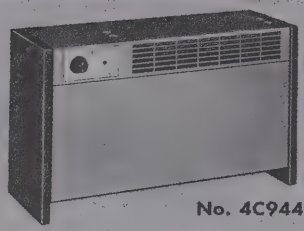
| Type | Fan CFM | No. of Speeds | Watts Max. | Cleaning Area — Change Per Hour Per Sq.-Ft. 1 | 3 | Dimensions (In.) H | W | D | Trion Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Media | 200 | 3 | 175 | 1312 | 437 | 26¼ | 12 | 12 | Console HEPA | **4E974** | $706.38 | **$468.50** | 36.0 |
| Electronic | 250 | 3 | 225 | 1875 | 625 | 26¼ | 12 | 12 | Console 250 | **5C417** | 561.42 | **377.25** | 38.0 |


## DESK SPACE AT A PREMIUM?
## USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# PORTABLE AIR CLEANERS

## ELECTRONIC AIR CLEANERS



No. 4C944



No. 5C095

LR31684 E25968

Replacement Parts Available 1-800-323-0620

- Removes up to 98% of all airborne particulates down to 0.01 microns in size
- Variable speed blower delivers air from 100 to 200 CFM
- Operating light flickers to indicate the need for cell cleaning
- Activated charcoal filter included for odor removal
- Ideal for office or home use
- No. 4C944 can be free standing or wall mounted (hardware included)
- Simple periodic cleaning with hot water and detergent, or cell cleaner (No. 4W319) keeps units operating at peak performance levels
- Units circulate cleaned air, 5 times per hour in a 300 sq. ft. room with an 8 ft. ceiling
- Safety interlock disconnects power to the air cleaner when front panel is removed
- Solid oak cabinet
- 120 Volts, 60Hz, 144 watts
- UL Listed, CSA and AHAM Certified
- Emerson brand

### AIR CLEANER SPECIFICATIONS AND ORDERING DATA

| CFM Range | Dimensions (In.) H | W | D | Style | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 100-200 | 13½ | 22⅞ | 7⅞ | Floor/Wall | PWM | **4C944** | $802.35 | **$464.25** | 32.0 |
| | 26¾ | 22⅞ | 8⅛ | Bookcase | Console | **5C095** | 920.06 | **560.00** | 46.0 |

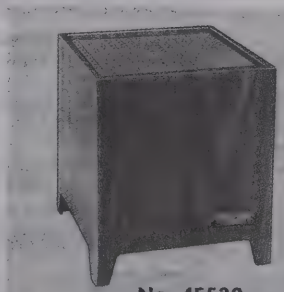
### CHARCOAL REPLACEMENT FILTER ORDERING DATA

| For Air Cleaner | Dimensions (In.) H | W | D | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **4C944-5C095** | 14 | 7 | 1/2 | F825-0412 | **5C425** | $32.64 | **$21.95** | 1.0 |

## HIGH EFFICIENCY AIR CLEANER

No. 4E532 Air Cleaner is a self-contained nonelectronic extended surface, mechanical-type unit. Provides ozone free clean air. Ideal for single rooms in homes, offices, and waiting rooms. Utilizes 4 filtering principles: straining, impingement, diffusion, and interception to trap particles. 21 Pleat, deep-fold design of media provides more than 10.8 sq.-ft. of filtering surface. Removes pollutants like tobacco smoke, dust, pollens, and spores in 16 x 16 ft. room 4 times per hour. Quiet 2-speed fan moves up to 140 cu.-ft. of air per minute.

No filter washing or cleanup. Simply replace filter approximately twice a year (depending on usage). Attractive, woodgrain finish. UL Listed (E71311), Research Products brand.



No. 4E532

E71311

Replacement Parts Available 1-800-323-0620

### PARTICLE SIZE EFFICIENCY CHART†

| Micron Size* Clean Media | 6.0 | 5.0 | 4.0 | 3.0 | 2.0 | 1.0 |
|---|---|---|---|---|---|---|
| | 99% | 96% | 92% | 88% | 81% | 65% |

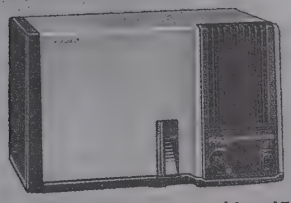
(†) Average efficiency is 65% when tested per ASHRAE 52-76 dust spot discoloration test procedure
(*) One Micron = 1/25,000 inches.

### PORTABLE AIR CLEANER ORDERING DATA

| Fan CFM | Fan Speeds | Room Size (Ft.) with 8' Ceiling | Amps @ 120V / 60 Hz | Cord Length (Ft.) | Dimensions (In.) H | W | D | Research Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **140** | Hi-Clean | 16 x 16 | 0.6 | 6 | 11⅞ | 11⅞ | 13¾ | 2275 | **4E532** | $269.88 | **$183.75** | 15.0 |
| **100** | Lo | (256 sq.-ft.) | | | | | | | | | | |

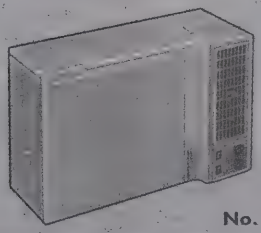
**Replacement Filter.** UL Classified as to flammability, Class 2. Research Products brand (275). Dimensions: 10¾H x 10¾W x 4"D. **No. 4E533.** Shpg. wt. 0.8 lbs. List $22.18. Each.....$15.09

BIONAIRE®



No. 4E417

E76739



No. 4E416

## AIR CLEANERS

**NO. 4E417 FEATURES:**

- **Three-speed fan controls the air cleaning rate for maximum efficiency and whisper-quiet operation**
- **Air deflection control changes the airflow upwards or downwards as desired**

**NO. 4E416 FEATURES:**

- **Four-speed fan controls the air cleaning rate for maximum efficiency and whisper-quiet operation**
- **Joystick air deflection control changes the airflow upwards or downwards and side to side as desired**
- **Variable fragrance control allows a pleasant scent to be added to the purified air**

**BOTH AIR CLEANERS FEATURE:**

- **Multi-stage electrostatically charged micro-filter**
- **Independently controlled ionizer**
- **Filter condition monitor indicates when filter needs to be replaced**
- **Modern compact L-shaped design maximizes air movement while allowing for placement**

These portable air purifiers utilize an electrostatically charged filter and independently controlled ionizer to remove particulate pollutants. Ideal for improving air quality in offices, hospitals, institutions, homes, and stores. On/Off switch for negative ion source helps to revitalize the air by electrostatic precipitation of small airborne particles. Clean, fresh air exits horizontally from front adjustable grille. Filter monitor indicates when to change dirty filters. Units are for tabletop or wall mounting. UL Listed. Bionaire brand©.

**Replacement Filter Set** for No. 4E417 air cleaner. Bionaire brand (711D).

**No. 4E419.** Shpg. wt. 0.5 lbs. List.....$24.42.
Each .....**$15.69**

**Replacement Filter Set** for air cleaner No. 4E416. Bionaire brand (2511D).

**No. 4E418.** Shpg. wt. 1.2 lbs. List.....$43.29.
Each .....**$27.30**

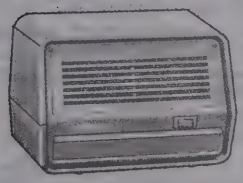
**Fragrance Cartridge** for No. 4E416 and 4E417 air cleaner. Springtime Meadow fresh scent. 2 per bag. Bionaire brand (1512).

**No. 5E823.** Shpg. wt. 0.1 lbs. List.....$9.74.
Each .....**$6.09**

### AIR CLEANER SPECIFICATIONS AND ORDERING DATA

| Fan CFM Range | Room Size (Ft.) @ Low Speed | Medium Speed | High Speed | Power Drive | Watts @ 1-Ph. 120V / 60Hz | Color | Dimensions (In.) L | W | H | Bionaire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **40/70/100, 3-speed** | 10 x 10 | 12 x 14 | 12 x 20 | — | 90 | Gray | 12½ | 7½ | 8 | F-100 | **4E417** | $204.24 | **$126.15** | 7.9 |
| **100/150/190/250, 4-speed** | 12 x 20 | 18 x 20 | 18 x 26 | 20 x 30 | 130 | White | 20¼ | 8½ | 14 | F-250W | **4E416** | 422.68 | **241.25** | 18.0 |

## AIR CLEANER SYSTEMS

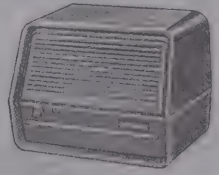


No. 5H567
Two Speed
Control

ECOLOGIZER®
CA 90 AIR TREATMENT SYSTEM

E91624

No. 5H568
Three Speed
Control



Ecologizer CA/90 is a patented air filtering system that removes tobacco smoke odors, dust and pollen. A ductless fan pulls air through a triple layer of replaceable filtering elements: The first layer is activated charcoal to remove dust and pollen particles. The second layer is CA/90, a patented formula with odor-killing properties. The third layer serves as a final filter before recirculating fresh, clean air into the environment. Average life of replaceable filter is 90 days.

Models feature a washable prefilter. Can be used on flat surfaces or wall mounted. 120V, 60 Hz. 6 foot insulated cord with three-prong plug. UL Listed. Two-tone gray finish. Ecologizer brand by Waterbury.

No. 5H567 has two-speed control. 7¼" deep, 11⁷⁄₆₄" wide, 7¾" high. Uses one **replaceable filter, No. 1R403.**

No. 5H568 has three-speed control to adjust fan speed for changing air problems. 10" deep, 12½" wide, 10½" high. Uses two **replaceable filters, No. 1R403.**

**REPLACEMENT FILTER FOR ECOLOGIZER SYSTEMS**

Replacement filters for Nos. 5H567 and 5H568 units. Ecologizer brand (96011).

**No. 1R403.** Replacement Filters. Priced and sold in pkgs. of 2.
Shpg. wt. 0.9 lbs. List.....$28.82.
Each .....**$19.29**

| Speed Control | Recommended Room Size | Recirculating Time | Max. CFM | Ecologizer Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **Two** | 180 sq.-ft. (12 x 15 ft.) | 38 minutes | 50 | 94021 | **5H567*** | $130.07 | **$88.75** | 5.7 |
| **Three** | 375 sq.-ft. (15 x 25 ft.) | 48 minutes | 125 | 98020 | **5H568*** | 198.65 | **135.00** | 12.0 |

(*) Limited availability. Contact local branch.

# PORTABLE AND COMMERCIAL AIR CLEANERS

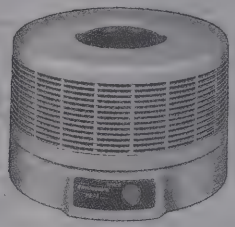
## PORTABLE HEPA AIR CLEANERS

- Patented 360° air intake and output enables maximum reach
- Lightweight, portable design
- 3GD08 and 3GD09 utilize 99.97% efficient HEPA filter
- 3DG07 and 3DG20 utilize 95% D.O.P. filter/CPZ cannister
- Activated carbon pre-filter helps reduce odors and extends HEPA filter life

Replacement filters sold below:

- CPZ units for odor control

Honeywell enviracaire



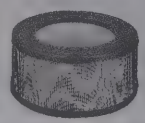
No. 3DG08

### AIR CLEANER SPECIFICATIONS & ORDERING DATA

| Fan CFM Range | Filtration Rate (Cubic Ft./Hr.) | Room Size to Clean Air 6 Times/Hr. (Ft.) | CPZ Canister | Max. Watts @ 120VAC/60Hz | Dimensions (In.) H | Dia. | Enviracaire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **100-150** | 9,000 | 12 x 14 | No | 275 | 10 | 16 | 11520 | **3GD08** | $245.69 | **$219.00** | 15.0 |
| **100-150** | 9,000 | 12 x 14 | Yes | 275 | 10 | 16 | 11200 | **3GD07** | 313.95 | **291.00** | 20.0 |
| **125-250-350** | 20,000 | 20 x 22 | No | 350 | 14 | 16 | 13520 | **3GD09** | 313.94 | **256.75** | 19.0 |
| **125-250-350** | 20,000 | 20 x 22 | Yes | 360 | 14 | 16 | 63200 | **3GD20** | 485.99 | **439.00** | 26.0 |

### REPLACEMENT FILTERS FOR ENVIRACAIRE UNITS ABOVE

| Description | For Use With Air Cleaner | Enviracaire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **HEPA Filter** | 3GD08 | 21500 | **3GD12** | $107.36 | **$95.60** | 5.0 |
| **HEPA Filter** | 3GD07 | 28710 | **3GD15** | 83.80 | **75.10** | 5.0 |
| **HEPA Filter** | 3GD09 | 24000 | **3GD13** | 139.46 | **117.20** | 6.0 |
| **HEPA Filter** | 3GD20 | 28700 | **3GD14** | 117.97 | **92.60** | 6.0 |
| **CPZ Canister** | 3GD07 | 36210 | **3GD19** | 83.57 | **71.50** | 4.0 |
| **CPZ Canister** | 3GD20 | 36200 | **3GD18** | 85.44 | **76.70** | 6.0 |

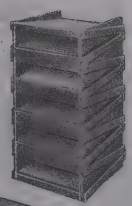


HEPA Filter
No. 3GD12

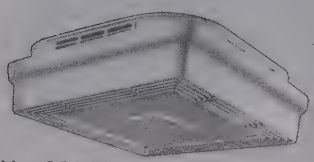
## AIRLINE HOOD ACCESSORIES

Honeywell enviracaire

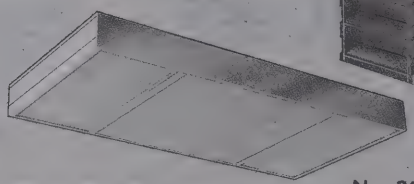
Replacement Parts Available 1-800-323-0620™



No. 3GD16 CPZ Filter



No. 3GD10



No. 3GD21

Includes air filters and CPZ odor control

### AIR CLEANER SPECIFICATIONS AND ORDERING DATA

| Fan CFM | Max. Amps @ 115VAC/60Hz | Dimensions (In.) H | L | W | Enviracaire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **650** | 7.2 | 9¾ | 36 | 36 | 15000 | **3GD10†** | $1750.13 | **$1521.00** | 64.0 |
| **1050** | 6.5 | 22¾ | 48 | 24 | F11001 | **3GD21†** | 2851.83 | **2402.00** | 145.0 |

### REPLACEMENT FILTERS FOR CEILING MOUNTED AIR CLEANERS ABOVE

| Description | For Use With Air Cleaners | Enviracaire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Air Filter** | 3GD10 | 28710 | **3GD15** | $83.80 | **$75.10** | 5.0 |
| **Air Filter** | 3GD21 | 21001 | **3GD11** | 192.05 | **172.50** | 11.0 |
| **CPZ Filter** | 3GD10 | 36210 | **3GD19** | 83.57 | **71.50** | 4.0 |
| **CPZ Filter** | 3GD21 | 31005 | **3GD16** | 267.95 | **235.50** | 28.0 |
| **Charcoal Prefilter** | 3GD10 | 36015 | **3GD17** | 27.18 | **23.86** | 2.0 |

(*) 4 Air filters and CPZ filters required for No. 3GD10; 1 air filter and 2 CPZ filters required for No. 3GD21.
(†) Limited availability, please contact your local branch.

No. 3GD10 Features:

- 95% D.O.P. efficient hospital grade filter
- Surface mounted for any ceiling style and construction
- Low profile—only 9.75 inches
- Filters dust, smoke, bacteria, pollen, any particulate
- Absorbs gases, V.O.C. vapors, and odors through CPZ canister
- Multi-directional discharge

No. 3GD21 Features:

- 95% D.O.P. efficient hospital grade filter
- Unique CPZ™ Sorbent modules hold 43 lbs. of odor and gas collecting media
- Bi-directional air flow pattern complements and enhances cooling and heating better than ceiling fans
- Fits neatly into 2' x 4' T-bar ceiling or may be suspended from any ceiling
- Access door equipped with sound baffles and absorbers for quiet operation
- Swing down hinged door and drop-out disposable filters—no tools, cleaning solutions or special skills needed
- Whisper quiet operation. Max 58 dBA

# EMERSON COMMERCIAL ELECTRONIC AIR CLEANERS

## SUSPENDED CEILING MOUNTED AIR CLEANERS

**No. 3C620:**

- Quiet, variable speed blower
- Charcoal filter for odor removal included
- Oyster white finish can be repainted to match any decor
- Semi-flush mount has 4 in. drop from ceiling surface
- Fits 2 x 2 ft. suspended ceiling panels
- Four-way air flow provides complete room air circulation

**No. 3C619:**

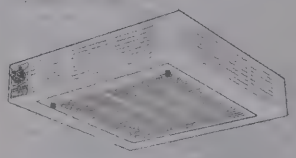
- Quiet, variable speed blower
- Charcoal filter for odor removal included
- Attractive aluminum grille
- Flush mounted
- Fits 2 x 4 ft. suspended ceiling panel

Sizing guide for electronic air cleaners see page 3520

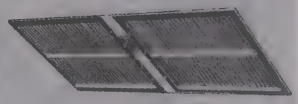
EMERSON

Replacement Parts Available 1-800-323-0620

E25968 LR31684



No. 3C620
Semi-Flush Mount



No. 3C619
Flush Mount

| Below Ceiling | Adj. Fan Speed (CFM) | Height Above Ceiling (In.) | VAC | Amps | Sound Level Dba Scale @ High Speed | Dimensions (In.) L | W | H | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4" | 200-1000 | 7¾ | 120 | 2.2 | 74 | 24 | 24 | 11¾ | SSC1000 | **3C620** | $1781.36 | **$1101.00** | 58.0 |
| Flush | 200-1000 | 15 | 120 | 2.2 | 74 | 48 | 24 | 15 | FSC1000 | **3C619** | 1653.94 | **1348.00** | 86.0 |

### CHARCOAL REPLACEMENT FILTER ORDERING DATA

| For Air Cleaner | Dimensions (In.) H | W | D | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **3C620** | 17⅞ | 16⅞ | 3/4 | F825-0494 | **5C424** | $84.30 | **$56.45** | 3.0 |
| **3C619** | 20⅛ | 20 | 3/4 | F825-0497 | **5C423** | 84.31 | **56.70** | 4.0 |

## WALL OR CEILING MOUNTED AIR CLEANERS

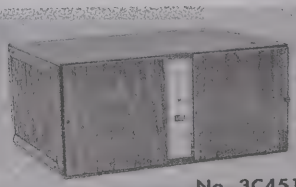
**Nos. 3C451 & 3C452:**

- Two sizes available (depending on air cleaning requirements)
- 4-Way adjustable louvers on clean air outlet
- Attractive wood grain finish
- 2-Position rocker switch to select blower speed
- 9 ft. Cord plugs into standard 120V outlet
- Charcoal filter for odor removal included
- No. 3C451 is AHAM Certified

**No. 3C581:**

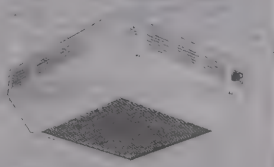
- Mounts easily to any type of ceiling
- Quiet, variable speed blower
- 4-Way air flow delivery for complete room air circulation
- Dual collecting cells
- Oyster white finish may be repainted to match decor
- Charcoal filter for odor removal included

Sizing guide for electronic air cleaners see page 3520



No. 3C451

EMERSON



No. 3C581
11½" Mounting Height

E25968 LR31684

| Fan CFM | Fan Speeds | Room Size w / 8 Ft. Ceiling * | Discharge Grille | Watts @ 120V, 60 Hz 1-Phase | Sound Level Dba Scale @ High Speed | Cord Length (Ft.) | Dimensions (In.) L | W | H | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **480** | High | 20' x 18' | 2-Way | 250 | 55 | 9 | 26½ | 19 | 12½ | SC-500 | **3C451** | $1348.86 | **$872.50** | 61.0 |
| **360** | Low | 15 x 18 | | | | | | | | | | | | |
| **200-1000** | — | 20 x 50 | — | 130 | 74 | — | 28 | 28 | 11½ | CSC1000 | **3C581** | 1952.07 | **1212.00** | 85.0 |
| **1000** | High | 20 x 50 | 4-Way | 68 | 68 | 9 | 32¼ | 19⅝ | 19⅝ | SC-1000 | **3C452** | 2197.53 | **1426.00** | 135.0 |
| **850†** | Med. | 20 x 35 | | | | | | | | | | | | |
| **650†** | Low | 20 x 25 | | | | | | | | | | | | |

(*) Based on 10 air changes per hour. (†) Factory speed setting.

### CHARCOAL REPLACEMENT FILTERS

**No. 5C421.** Emerson brand (F825-0404). Emerson brand (F825-0404). Shpg. wt. 2.0 lbs. List $52.61. Each ..... $35.60

**No. 4DG58.** For air cleaner No. 3C581. Emerson brand (F825-0460). Shpg. wt. 3.0 lbs. List $87.73. Each ..... $59.05

**No. 5C422.** For air cleaner No. 3C452. Emerson brand (F825-0055). Shpg. wt. 4.0 lbs. List $97.35. Each ..... $65.90



### WALL MOUNT BRACKET KIT

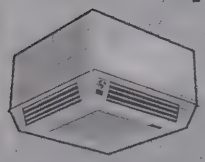
For use with air cleaners, Nos. 3C451 and 3C452. When installed, brackets form a shelf to which air cleaner is mounted. Kits consist of 2 black vinyl-coated "L" shaped steel brackets, 1 interconnecting bar, and hardware to secure brackets to unit. Instructions included. Emerson brand.

| For use with Air Cleaners | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **3C451** | F806-0180 | **4C681** | $161.27 | **$83.15** | 10.0 |
| **3C452** | F806-0095 | **4C682** | 194.67 | **94.65** | 12.0 |

# COMMERCIAL AIR CLEANERS

## CEILING MOUNTED MEDIA AIR CLEANERS

**TRION, INC.**

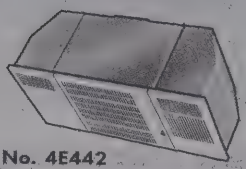


FREE DELIVERY on orders of $900 or more

See Freight Policy

No. 4E441

Replacement Parts Available 1-800-323-0620



No. 4E442

**These commercial-duty air cleaners** remove up to 95% of smoke, dus dirt, lint, paper dust and other common airborne pollutants four in offices, conference rooms, data processing rooms and oth commercial establishments.

**Units are ceiling mounted** and concealed in a 2 x 2 ft. or 2 x 4 ft. cei ing panel. No. 4E441 extends 3½" from ceiling; No. 4E442 is flus with ceiling. Low profile design does not require elaborate du work or expensive installation. Feature "center suction" wit multiple clean air discharge and 3-speed fan control. Polluted a is drawn through washable prefilter to remove lint and large du particles, then submicron particles are stripped from air strea by high efficiency microglass filter. Large pleated cartridge filte provides extended life and low pressure drop. Traps 10 to 10 times as many particles as standard fiber filter in forced HVA system. Filters are UL Classified as to flammability only; Class

**Cabinets** have white epoxy powder-coated appliance finish; can b field painted to blend with any decor. Mounting hardware an instructions included. Trion brand.

### AIR CLEANER SPECIFICATIONS AND ORDERING DATA

| Depth Below Ceiling | Fan CFM | Fan Speed | Room Size with 8 Ft. Ceiling* (Ft.) | Discharge Grille | Watts @ 120V / 60 Hz 1-Ph | Dimensions (In.) L | W | D | Trion Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3½"** | 300 | High | 15 x 15 | 4-Way | 265 | 23 | 23 | 14¾ | CAC500M | **4E441** | $1107.99 | **$735.50** | 76.0 |
| | 200 | Medium | 10 x 15 | | | | | | | | | | |
| | 135 | Low | 10 x 10 | | | | | | | | | | |
| **Flush** | 1100 | High | 30 x 25 | 6-Way | 368 | 47½ | 23 | 19½ | FM1000M | **4E442** | $1562.81 | **$1037.00** | 171.0 |
| | 800 | Medium | 30 x 20 | | | | | | | | | | |
| | 600 | Low | 22 x 20 | | | | | | | | | | |

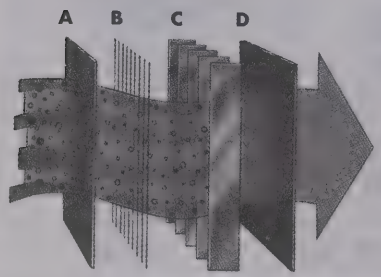
(*) Priced each. Sold only in cartons of 2.

### REPLACEMENT FILTER ORDERING DATA

| Filter Type | Use with Air Cleaner No. | Dimensions (In.) H | W | D | Trion Model | Stock No.† | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **16 Pleat Primary** | 4E441 | 16⅜16 | 16⅛16 | 8⅝16 | 1000-3000-0101 | **4E538** | $89.33 | **$59.05** | 5.0 |
| **20 Pleat Primary** | 4E442 | 20 | 21 | 5 | 340553-001 | **4E537** | 109.30 | **72.20** | 3.8 |

(†) Priced each. Sold only in cartons of 2.

## HOW ELECTRONIC AIR CLEANERS WORK




Fan pulls airborne dust, smoke and other particulate into the electronic air cleaner. Larger particles are trapped by **(A) Prefilter Screen** (some models), while smaller particles pass through to the **(B) Charging Section,** where they're electrically charged by a series of tungsten wires. Charged particles are then drawn into **(C) Collection Section** where a series of positive plates repel the positive dirt and drive them forcefully onto a series of negative plates, which hold the positive dirt particles like a magnet. Pollutants are held in this section until washed away during cleaning. Cleaned air is then circulated through **(D) Charcoal Filter** where odors are absorbed. Fresher, cleaner air is then discharged through louvered grilles.

*Information generated using ASHRAE Handbook of Fundamentals, 1985; ASHRAE Guide and Data Book application, 1987; and ASHRAE Standard 62-81. Natural and Mechanical Ventilation, 1981. Use this information as a guide—use your experience and judgement in application of this data. Follow all local codes and minimum air requirements.

## SIZING A COMMERCIAL ELECTRONIC AIR CLEANER*

**EXAMPLE 1—Sizing by air changes per hour and room volume.** Restaurant needs an electronic air cleaner to remove cigarette and cigar smoke from the air. Dining area is 25 x 40 ft. with a 15 ft. ceiling. How many air cleaners will be needed?

**Solution:**

1. Calculate the volume of room, 25 x 40 x 15 ft. = 15,000 cu-ft.
2. Determine volume of air to be circulated each hour. 10 air changes per hour is used on assumption that the intent is to substantially reduce, not necessarily completely eliminate smoke.

**15,000 cu.-ft. x 10 air changes/hour = 150,000 cu.-ft./hour**

$$\frac{\text{150,000 cu.-}}{\text{60 min./hr.}} = \text{2500 cu.-ft. per minute}$$

3. Determine number of air cleaners required.

$$\frac{\text{Desired Circulation}}{\text{Air Cleaner Capacity}} = \text{Units required}$$

$$\frac{\text{2500 CFM}}{\text{1000 CFM}} = \text{2.5 (2 or 3 units)}$$

**EXAMPLE 2—Sizing by occupant load**
A cocktail lounge averages 75 occupants. Using the ASHRAE recommended minimum of 35 CFM per person.

**Solution:**

**75 people x 35 CFM per person = 2625 CFM**

$$\frac{\text{2625 CFM}}{\text{1000 CFM}} = \text{2.6 (2 or 3 units)}$$

# COMMERCIAL MEDIA AIR CLEANERS

For larger rooms or multiroom facilities like cocktail lounges, clubs, bingo halls, bowling centers, designated smoking areas or any place where people gather to work or relax. Removes up to 95% of tobacco smoke, dust, dirt, lint and other submicron particles from indoor air. (Filters tested in accordance with ASHRAE standard 52-76 Dust Spot Test Method.) Units are easy to install and feature variable speed control, high efficiency deep-pocket microglass filter, commercial-duty cabinet, and 4-way adjustable outlet grille.

Dirty, polluted air is drawn through the washable 1/2" foam prefilter to remove lint and large dust particles. The second stage microglass deep pocket filter strips smoke and other submicron particles from the air stream. Small diameter fibers in the filter intercept and retain these particles while the large surface area gives long filter life and low pressure drop. Filters have 6 pockets and are UL Classified as to flammability only; class 2.

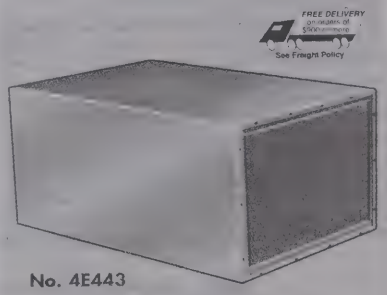
Cleaning capacity depends on the blower speed selected (see chart below for room sizes handled by single units). Larger areas are easily accomodated by using multiple units. Horizontal air flow is reversible for right to left or left to right exhaust. Eight internal weld nuts are included (4 top, 4 bottom) for ceiling mounted applications. Epoxy coated, copper color. Trion brand.

### ADSORBER KIT

**Optional adsorber kit** contols and removes stale odors associated with alcohol and tobacco smoke and effectively reduces unpleasant odors found in hospitals, nursing homes and laboratories. Helps reduce level of most solvents used in printing processes. Contains 4 lbs. of activated carbon. Fits Nos. 4E443 and 4E444.

**No. 4E972.** Shpg. wt.10.0 lbs. List .....$333.44
Each.....**$220.50**

**TRION, INC.**




No. 4E443

Replacement Parts Available 1-800-323-0620

## AIR CLEANER ORDERING DATA

| Adjustable Fan Speed (CFM)** | Room Size with 8 Ft. Ceiling* | Discharge Grille | Watts @ 120V / 60 Hz, 1-PH | Cord Length | Dimensions (In.) H | W | D | Trion Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **200-750** | 25 x 23 | 4-way | 350 | 8 ft. | 14½ | 20 | 30 | M750 | **4E443** | $1108.58 | **$736.00** | 111.0 |
| **600-1025** | 30 x 26 | 4-way | 778 | 8 | 14½ | 20 | 43 | M1100 | **4E444** | 1498.66 | **994.00** | 125.0 |

(*) Based on 10 air changes per hour at high setting. (**) CFM reduced 20% when used with adsorber kit.

## REPLACEMENT FILTER ORDERING DATA (1 Prefilter & 1 Primary needed per each unit)‡

| Filter Type | Use with Air Cleaner No. | Dimensions (In.) H | W | D | Mfr. | Mfr. Model | Stock No.† | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Primary** | 4E443 | 11⅞ | 17⅞ | 12½ | Trion | 750-3000-9612 | **4E493** | $110.14 | **$72.70** | 3.0 |
| **Primary** | 4E444 | 11⅞ | 17⅞ | 21 | Trion | 750-3000-9621 | **4E494** | 112.46 | **74.30** | 3.5 |

(†) Priced each. Sold only in carton quantity.
(‡) Prefilter for No. 4E493 and 4E494 avaliable through Grainger Parts Operation, part no. 750-1000-03. To order, call 1-800-323-0620

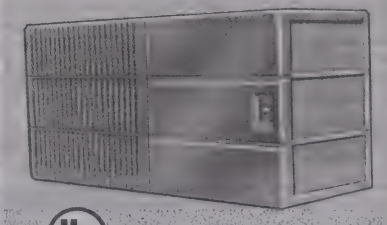
# COMMERCIAL AIR CLEANER

- **High efficiency**
- **Easy to install - ceiling hung or shelf-mounted**

No. 4E534 High-Efficiency Commercial Air Cleaner is a self-contained nonelectronic extended surface mechanical-type unit. Utilizes a unique filter media similar to that used in hospitals, clinics, laboratories, and clean rooms where the level of airborne particles must be kept low. Ideal for retail, commercial, and light industrial applications such as restaurants, bingo halls, cocktail lounges, bowling centers, cafeterias, retail stores, laboratories, photo labs, and offices. Emits no ozone.

3-Speed blower will handle up to 15,000 cu.-ft. of space, or install one air cleaner per every 25 smokers.

Four eye bolts for ceiling mount included. UL Listed (E71311). Research Products brand.



No. 4E534

E71311

### PARTICLE SIZE EFFICIENCY

| | | | | | |
|---|---|---|---|---|---|
| **Particle Size Micron** | 2.0 | 1.0 | 0.7 | 0.5 | 0.3 |
| **Clean Media** | 98% | 95% | 85% | 78% | 70% |
| **Loaded Media*** | 99% | 98% | 97% | 96% | 95% |

(*) Media loaded to 1.0" w.c. at 1000CFM with ASHRAE test dust.

## AIR CLEANER ORDERING DATA

| Fan CFM | Fan Speed | Room Size Cu.-Ft. | Amps @ 1-PH 120V / 60Hz | Cord Length, Ft. | Dimensions (In.) H | W | D | Research Products Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1000** | High | 15,000 | 6.5 | 8 | 23⅜ | 16¾ | 49⅜ | 2600 | **4E534** | $1369.69 | **$932.00** | 125.0 |
| **870** | Medium | | | | | | | | | | | |
| **740** | Low | | | | | | | | | | | |

**Replacement Filter.** UL Classified as to flammability, Class 2. Research Products brand (261). .....**$52.35**

**No. 4E535.** Shpg. wt. 3.0 lbs. List $76.84. Each .....

# INDUSTRIAL AIR CLEANERS

## 2-STAGE INDUSTRIAL AIR CLEANER

**Uses a prefilter and main filter in a pre-engineered package** for economical efficient removal of airborne particles. Three speeds for general ventilation areas in body shops, printing shops, woodworking areas, vocational schools, and other areas where airborne particles are prevalent.

**Using "interception filtration" and a microglass deep pocket filter,** airborne dust particles, smoke, and submicron particles are stripped from the air. Clean, filtered air is recirculated, providing savings on exhausting costly heated or cooled air. Includes one extended surface prefilter and one primary bag-type filter. Filters are UL Classified as to flammability only; Class 2.

**For large areas** (depending on size) to be effectively cleaned, multiple units are required. (See chart below.) Horizontal air flow is reversible for right to left or left to right exhaust. Eight internal weld nuts (4 top, 4 bottom) are included for eyebolt mounting. Instructions included. Steel cabinet finished with chemical/oil resistant textured blue paint. Trion brand.

**Replacement Parts Available**
**1-800-323-0620**




| Air Flow (CFM) | Cu.-Ft. Covered* | Watts @ 120V 60 Hz 1-Ph | Max. Amps | Dimensions (In.) L | W | H | Trion Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1800** | 10,800 | 1090 | 10.5 | 50 | 24 | 24 | M2500 | **4E445** | $1778.17 | **$1180.00** | 289.0 |

(*) Based on 10 air changes per hour.

### DAYTON REPLACEMENT AIR FILTER ORDERING DATA

| Filter Type | Dimensions (In.) H | W | D | Stock No. | List | Lots 2† | Lots 6‡ | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **Extended Surface Prefilter** | 24 | 24 | 4 | **2W239** | $18.33 | — | **$10.98** | 2.5 |
| **Bag Type Primary Filter, 85% Efficiency** | 24 | 24 | 22 | **5W433** | 78.99 | **$47.30** | — | 7.3 |

(†) Sold only in cartons of two filters of one size; priced per single filter. (‡) Sold only in cartons of six, one size; priced per single filter.

## 2-STAGE HEAVY-DUTY INDUSTRIAL AIR CLEANER

**Can be used for general ventilation or ducted** to capture contaminants at their source. Removes up to 95% of welding smoke, rubber and plastic smoke, grinding dust, fumes, wood dust and other process generated contaminants. Unit can be modified for 3000CFM with optional blower kit.

**High efficiency, deep pocket, microglass filter** strips and retains submicron particles from the air, allowing conditioned comfort air to be recirculated ("interception filtration"). Clean, filtered air also helps to improve working conditions, productivity and product quality. Reduces plant and machinery maintenance costs. Includes one prefilter and one primary bag filter. Filters are UL Classified as to flammability only; Class 2.

**Forward curved squirrel cage blower** is belt-driven by a 2-HP, TEFC, ball bearing motor. Multipocket microglass filter has 105 sq.-ft. of collecting area providing long life and low pressure drop.

**For large areas, multiple units are required** (see chart). Horizontal air flow is reversible for right to left or left to right discharge. Twelve internal weld nuts (6 top, 6 bottom) for mounting. Instructions included. Cabinet constructed of 16-gauge galvanized steel with baked-on textured blue oil resistant finish. Trion brand.




| Air (CFM) | Cu.†-Ft. Covered * | Input Voltage | Amps | Max. Watts | Dimensions (In.) L | W | H | Trion Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2600 | 18,000 | 208/230/460V, 60 Hz, 3-Ph | 5/8/2.9 | 1334 | 68 | 25½ | 26 | M-3000 | **4E446** | $3610.06 | **$2396.00** | 310.0 |

(*) Based on 10 air changes per hour.

### DAYTON REPLACEMENT AIR FILTER ORDERING DATA

| Filter Type | Dimensions (In.) H | W | D | Stock No. | List | Lots 2† | Lots 6‡ | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Extended Surface Prefilter | 24 | 24 | 4 | **2W239** | $18.33 | — | **$10.98** | 2.5 |
| Bag Type Primary Filter, 95% Efficiency | 24 | 24 | 29 | **5W427** | 107.38 | **$64.30** | — | 8.0 |

(†) Sold only in cartons of two filters of one size; priced per single filter. (‡) Sold only in cartons of six, one size; priced per single filter.



*Breathe easy — we've got the air treatment products you need.*

# SELF-CONTAINED ELECTRONIC AIR CLEANERS

- **For use in industrial and commercial atmospheres to remove such pollutants as oil mist, weldsmoke, dust and other airborne contaminants**
- **Self-contained, fully automatic water and detergent wash system**
- **Heavy-duty, high efficiency cells**
- **Two speed blower**

Removes up to 85% of dust, dirt, smoke, pollen, bacteria, and other contaminants in the air down to 0.01 microns in size, based on ASHRAE 52-76 test method. Eliminates need to vent undesirable pollutants to outside air. Reduces amount of outside air necessary for ventilation, thereby lessening heating and cooling costs.

**Ideal for applications** such as source capture of welding smoke, grinding dust, oil mist in screw machine shops. 14⅝" deep cells allow peak operating efficiencies to be maintained between cell cleanings.

**Easily maintained** with a fully automatic water and detergent wash system. Seven day programmable timer allows cells to be cleaned during off-peak hours without supervision. Allows for up to one cleaning cycle per day.

**Operating light** indicates operation. Easy access, hinged door allows servicing of cells or wash system.

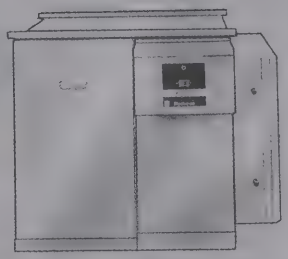
**Unit** may be suspended from ceiling to desired height using chains 3/8" all thread rod, or may be placed on a platform near source of pollutant.

**Heavy-duty pre- and after-filters** are designed to prevent large particles from being drawn into ionizing or plate sections of collecting cells.

**120VAC, 60 Hz.** Light green baked enamel finish can be repainted to match decor. Instructions included. Emerson brand.

EMERSON

FREE DELIVERY on orders of $900 or more
See Freight Policy



Replacement Parts Available
1-800-323-0620

## AIR CLEANER ORDERING DATA

| Fan CFM | Dimensions (In.) L | W | H | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 900/1200 | 43½ | 30¼ | 18¾ | SC1200 | 5C419 | $8057.99 | $6068.00 | 400.0 |
| 1800/2400 | 44¾ | 30 | 34½ | SC2400 | 5C420 | 10830.74 | 8143.00 | 488.0 |

Sizing on most installations will require approximately 8-12 air changes per hour. Use the following formula to determine the number of units required:

$$\frac{L \times W \times H \times A/C}{60} = \text{TOTAL CFM}$$

L = length of area
W = width of area
H = height of area*
A/C = air changes/hour (60 min./hr.)
(*) This figure does not need to exceed distance from floor to top of air cleaner.

The CFM figure from the above equation will determine the unit necessary to clean the air in the given space.

$$\frac{\text{TOTAL CFM}}{\text{CFM PER UNIT}} = \text{UNITS REQUIRED}$$

**EXAMPLE:** A CFM figure of 5800 would require five (5) No. 5C419; or two (2) No. 5C420 with one (1) No. 5C419. Either option would work on applications up to 6000 CFM.

DESK SPACE AT A PREMIUM?

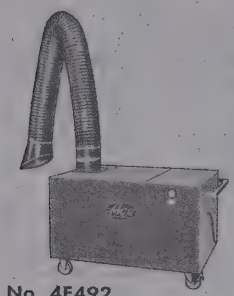
USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!

Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog.

The perfect reference tool when you need product and technical information on the road.

Contact your local branch for more information.

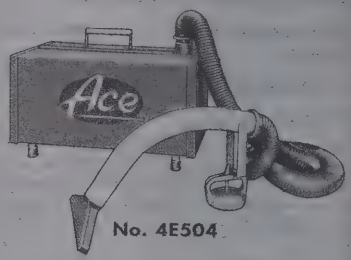
# INDUSTRIAL AIR CLEANERS




No. 4E492



No. 4E499




No. 4E504

- **Remove up to 99.97% of smoke, dust, dirt, grease, or other particulate matter from the air**
- **Multi-Stage system consists of spark and particulate trap for very large particles, replaceable prefilter for small particles, and a replaceable primary filter for smaller particles**
- **Filter efficiencies from 40 to 99.97% available**
- **Meet OSHA and EPA requirements for clean air**

These industrial air cleaners eliminate contaminants and other particulate matter from the air. Ideal for operators of equipment in work stations, or factories where welding, grinding, cutting, sanding, and soldering is done. The 3-stage system recirculates cleaned, filtered air into the work environment, thereby saving heating and cooling costs. Depending on the application, prefilters may be changed up to 6 times before the main filter needs replacement.

Do not use these units as wet or dry shop vacuums, or for the collection of toxic, carcinogenic, combustible, or other hazardous materials such as asbestos, arsenic, barium, beryllium, lead pesticides, or other health endangering materials. Not for use with reactive metals. Ace Industrial brand.

**Nos. 4E492 Horizontal and No. 4E499 Vertical Units.** Feature 1-HP totally enclosed motor, which pulls polluted air through an adjustable 10 ft. long, self-supporting, 8" dia. hose into the filtration chambers. Other features: 5" dia., locking casters for mobility, and convenience outlet for additional lights and accessories. Plug into 120VAC outlet. Require prefilters plus one primary filter **(sold separately, see below)**.

No. 4E492 has capture arm which rotates 360° for maximum versatility. Both units have a differential pressure gauge to alert operator that filters need changing.

**No. 4E504 One-man Portable Unit.** Ideal for maintenance workers or employees to move from one workstation to another. Plugs into any 120VAC outlet. Dual motors provide heavy air flow. Filter change light signals when prefilter or primary filter needs changing. Extractor nozzle can be placed within 3" of welding operations without disrupting shielding gases being used.

Unit includes 10 ft. of flexible hose, slot nozzle, 18" self supporting hose and magnetic base. Requires 1" prefilter plus one primary filter. **Filters sold separately, see below.**

All filters are UL Classified as to flammability only; Class 2. Choose the efficiency desired and number of filters needed for the specific air cleaner.

## AIR CLEANER ORDERING DATA

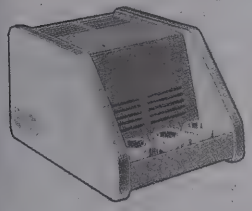
| Motor VAC | CFM | Hose Dia. (In.) | Hose L (Ft.) | Dimensions (In.) W | D | H | Ace Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | 1040 | 8 | 10 | 53 | 32 | 37 | 73-600G | **4E492** | $4627.65 | **$3173.00** | 310.0 |
| | 1040 | 8 | 10 | 26 | 36 | 73 | 73-800G | **4E499** | 4987.84 | **3326.00** | 340.0 |
| | 226 | 2½ | 10 | 27 | 12 | 19 | 73-200G | **4E504** | 1403.08 | **935.50** | 45.0 |

## FILTER ORDERING DATA

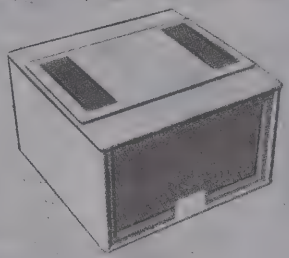
| Type | Media Sq.-Ft. | Dimensions (In.) H | W | D | Carton Quantity | Brand | Ace Model | Stock No.* | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **FILTERS FOR NO. 4E492 (Uses two 2" prefilters and one primary filter)** | | | | | | | | | | | |
| **2" Pleated polyester extended surface prefilter** | 12.4 | 24 | 24 | 2 | 12 | Dayton | — | **2W235** | $9.75 | **$5.84** | 1.5 |
| **65% Efficient primary bag filter** | 32 | 24 | 24 | 12 | 1 | Ace | 91-997G | **4E501** | 165.90 | **110.60** | 27.0 |
| **95% Efficient primary bag filter** | 32 | 24 | 24 | 12 | 1 | Ace | 91-993G | **4E502** | 179.55 | **119.70** | 27.0 |
| **99.97% HEPA primary box filter** | 180 | 24 | 24 | 12 | 1 | Ace | 91-996G | **4E503** | 670.50 | **447.00** | 41.0 |
| **FILTERS FOR NO. 4E499 (Uses two 2" prefilters and one primary filter)** | | | | | | | | | | | |
| **2" Pleated polyester extended surface prefilter** | 9.6 | 20 | 24 | 2 | 12 | Dayton | — | **5W515** | 8.31 | **4.98** | 6.4 |
| **2" Aluminum oil mist prefilter** | — | 20 | 24 | 2 | 1 | Ace | 91-958G | **4E495** | 76.82 | **51.25** | 5.0 |
| **40% Efficient primary bag filter** | 85 | 20 | 24 | 29 | 1 | Ace | 91-950G | **4E496** | 118.31 | **78.90** | 7.1 |
| **65% Efficient primary bag filter** | 85 | 20 | 24 | 29 | 1 | Ace | 91-951G | **4E497** | 149.47 | **102.55** | 5.5 |
| **95% Efficient primary bag filter** | 85 | 20 | 24 | 29 | 1 | Ace | 91-952G | **4E498** | 188.03 | **129.00** | 5.5 |
| **FILTERS FOR NO. 4E504 (Uses one 1" prefilter and one primary filter)** | | | | | | | | | | | |
| **Pleated extended surface prefilter** | 3.2 | 12 | 12 | 1 | 12 | Dayton | — | **4E505** | 6.34 | **3.80** | 0.7 |
| **65% Efficient primary box filter** | 53 | 12 | 12 | 12 | 2 | Ace | 65008G | **4E506** | 159.20 | **108.15** | 13.0 |
| **95% Efficient primary box filter** | 53 | 12 | 12 | 12 | 2 | Ace | 65009G | **4E507** | 179.30 | **119.55** | 13.0 |
| **99.97% HEPA primary box filter** | 53 | 12 | 12 | 12 | 2 | Ace | 65010G | **4E508** | 230.90 | **154.00** | 22.0 |

(*) Priced each. Sold only in carton quantity.

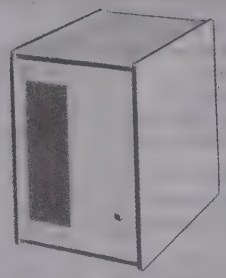
# ODOR CONTROLLERS



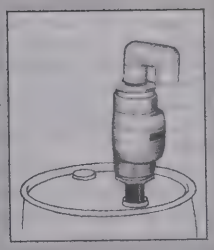
No. 4E423



No. 4E422



No. 4E421



No. 4E424

- **Nonwoven fabric filter (except No. 4E423 which does not have filter) captures airborne particulates as small as 10 microns, such as pollen and dust**
- **Air passes through carbon pellets eliminating odors, toxic gases and removing solvent gas**
- **Odor controller comes with filter and carbon pellets capable of collecting most gases/odors; however, specialized carbon mixtures for specific odors are also available, see below**
- **Air recirculates through units many times a day**
- **Blower powered by induction motor (No. 4E422 has 2 blowers)**
- **115VAC, 60 Hz (except No. 4E424)**
- **WARNING: Not for flammable or explosive atmospheres**

**No. 4E423 Work Surface Odor Controller.** Useful in dental labs, hospitals, circuit board manufacturers. As chemicals evaporate from the small containers, gases are removed by drawing them through the unit into a carbon bed where they are captured. Suction used to draw away evaporated gases captures gas without adding measurably to evaporation of liquid in containers.

Carbon is changed by turning unit upside down and removing two plugs in bottom, then shaking out carbon and replacing with fresh carbon and plugs. When in moderate use, carbon should be changed weekly. Six ft. power cord. Particleboard and plastic construction. White/gray color. Electrocorp brand (Mini 35).

**No. 4E422 Heavy-Duty Odor Controller.** Designed for heavy gas contamination found in hospitals, office buildings and manufacturing. Ideal for screen printers, offset printers, photo labs, and similar locations. Capable of working in 1200 sq.-ft. area. Contains 30 lbs. of carbon. These units are placed on the floor where they draw heavier than air gases through two stage filters located on each side of unit. Replacement of carbon recommended every 3 to 6 months (as soon as filters are 40% heavier than their original weight). Six ft. 7" power cord. Wood construction. Electrocorp brand (550).

**No. 4E421 Standard Odor Controller.** Useful anywhere chemicals are evaporated into the air: offices, hospitals, homes, veterinaries, and pathology labs. For best results, place in area where the input and output is not blocked, and unit is 3 feet from floor. Carbon (7 lbs.) is easy to replace and should be done every 3 to 6 months depending on level of air contamination (as soon as filter is 40% heavier than its original weight). 6 ft. power cord. Wood construction. Electrocorp brand (228).

**No. 4E424 Odor Controller and Filter for Venting Drums.** Removes gas contamination that exits bung hole of a 5 to 55 gallon drum. Ideal for industry, ranchers, turkey farms, oil solvent reclaimers, and gas stations. Drum vent is high impact PVC and screws into standard thread of drum bung. As air is displaced from drum, it passes through 9 inches (5 lbs.) of carbon bed, which absorbs gases from the air like a sponge. To replace carbon remove friction fit top ring, pour out carbon, refill, and press top ring back into the opening. Replace carbon after each drum is full. White color. Electrocorp brand (235).

## ODOR CONTROLLER ORDERING DATA

| Controller Type | Watts Required | Air FLow (Cu.-Ft. per Min.) | Number of Prefilters | Dimensions (In.) L | W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Standard** | 110 | 400 | 1 | 12½ | 18½ | 18 | **4E421** | $788.21 | **$526.00** | 45.0 |
| **Heavy-Duty** | 220 | 800 | 2 | 23⅜ | 22 | 14¼ | **4E422** | 1592.91 | **1063.00** | 110.0 |
| **Work Surface** | 110 | 25-35 | 0 | 8⅛ | 6 | 5 | **4E423** | 144.44 | **96.35** | 5.0 |
| **Venting Drums** | — | — | 1 | | 7 Dia. x 20 H | | **4E424** | 346.80 | **231.50** | 9.0 |

## BULK REPLACEMENT CARBON FOR ODOR CONTROLLERS

| Carbon Type | Removes Gas Odor | Electrocorp Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Carbon with Potassium Permanganate** | Formaldehyde | 115 | **4E426** | $227.16 | **$151.50** | 25.0 |
| **Carbon with Potassium Hydroxide** | Chlorine & Acedic Acid | 105 | **4E427** | 203.10 | **135.45** | 25.0 |
| **Carbon with Phosphoric Acid** | Ammonia | 110 | **4E428** | 319.19 | **213.25** | 25.0 |
| **Standard Carbon** | General | 100 | **4E425** | 138.63 | **92.55** | 25.0 |
| **Carbon for No. 4E423** | General | 120 | **4E429** | 9.42 | **6.28** | 1.0 |

## REPLACEMENT FILTER FRAMES WITH CARBON

| Fits Odor Controller | Dimensions (In.) H | W | D | Electrocorp Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **4E421** | 15 | 11⅞ | 3 | 245 | **4E432** | $98.32 | **$65.60** | 10.0 |
| **4E422** | 19 | 11⅝ | 5 | 255 | **4E433** | 146.51 | **97.75** | 18.0 |

## REPLACEMENT FILTER FRAMES ONLY (NO CARBON)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **4E421** | 15 | 11⅞ | 3 | 240 | **4E430** | $62.62 | **$41.80** | 5.0 |
| **4E422** | 19 | 11⅝ | 5 | 250 | **4E431** | 81.29 | **54.30** | 8.0 |

# TWO-STAGE DUST AND WASTE COLLECTORS

## INDUSTRIAL TWO-STAGE DUST COLLECTORS

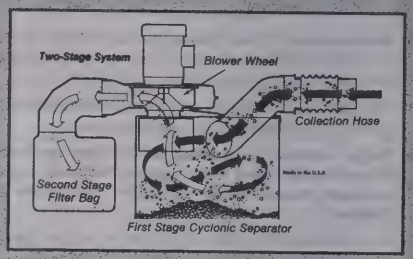
- **1 and 2 HP units trap dust down to 5 microns. 1/3 and 1/2 HP units trap dust 10 microns and larger**
- **Sawdust and wood particles**
- **Small ferrous metal filings and dust**
- **Plastic shavings, paper shreds, textile lint**
- **Fiberglass sandings, rock particles**
- **Rubber particles and many others**
- **Not suitable for aluminum or other reactive dusts**

Heavy-duty, industrial quality. Two-stage system is more durable, efficient and safer than single-stage system (see inset). One third and 1/2-HP models fit 18-20" diameter open top drums, or steel garbage cans and have molded ABS plastic drum lids. One and 2-HP models fit 55-gal. drums and have heavy-duty fiberglass drum lids.

**Includes** a wire reinforced 5 ft. long rubber hose, 14-gauge steel blower, dust/filter bag, front and side intake nozzles. Self-cleaning aluminum blower wheel, 3450 RPM, ball bearing, continuous duty TEFC motor. Single phase motors have prewired 115V, 8 ft., 3-conductor cord. Dust-Master brand by Cincinnati Fan.




The **two-stage** design enables chips and heavier particles to drop to the bottom of the drum (not included) while lighter particles are trapped in the dust/filter bag. This feature eliminates rapid wear and tear to the wheel and housing. 1 and 2-HP units feature a patented, synthetic fabric filter bag that traps more fine dust, down to 5 microns, while still permitting high air flow through the bag. Base with casters not included; order No. 5W562.




| HP | Phase | Motor Data Volts* 60 Hz | Lowest Voltage Amps | Blower Wheel (In.) | Static Pressure (In.) | Blower Performance Specifications Max. CFM | Veloc. FPM | DB‡ Rating | Hose Dia. (In.) | Drum Dia. Range (In.) | Cinn. Fan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1 | 115/208-230 | 5.2 | 8 | 3.0 | 355 | 7230 | 76 | 3 | 18-20 | 33S | **1Z726** | $784.20 | **$469.75** | 50.0 |
| 1/2 | 1 | 115/208-230 | 6.8 | 9¾ | 7.0 | 450 | 5154 | 78 | 4 | 18-20 | 50S | **1Z967** | 844.21 | **506.00** | 51.0 |
| 1 | 1 | 115/208-230 | 12.0 | 10⅝ | 4.5 | 700 | 5131 | 83 | 5 | 22-24 | 100S | **1Z863** | 1089.24 | **652.50** | 76.0 |
| 1 | 3 | 208-220/440 | 3.4 | 10⅝ | 4.5 | 700 | 5131 | 83 | 5 | 22-24 | 100S | **1Z864** | 1032.18 | **618.50** | 70.0 |
| 2 | 3 | 208-220/440 | 6.2 | 12¼ | 5.5 | 1100 | 5600 | 85 | 6 | 22-24 | 200S | **3Z002** | 1346.03 | **806.50** | 77.0 |

(*) Prewired to lower voltages. (‡) Decibel reading at 5 ft. with hose, elbow, and bag attached.

## TWO-STAGE CENTRAL SYSTEM DUST COLLECTORS




- **Uses 55-gallon fiber or steel collector drums (not included)**
- **Two-stage systems are more durable, efficient and safer than single-stage systems. Eliminate rapid wear and tear to the wheel and housing. Clean air returns to room**
- **Totally enclosed fan-cooled motors**
- **Compact first stage cyclone separator divides large, abrasive particles from fine dust**
- **Steel blower with self-cleaning, aluminum radial-blade blower wheel**
- **3 and 5 HP models equipped with patented fabric filter bag with extra-large 50 square feet of surface area—400% more efficient in dust removal than standard cotton bag Removes 99% of all particles 5 microns and larger**
- **7.5 HP model filter bag has 100 square feet of surface area. Removes 99% of particles 1 micron and larger**
- **All models use standard 8-inch dia. duct system connections. Easily adapted to fit other duct diameters if required**
- **NOTE: Not suitable for aluminum or other reactive dusts**

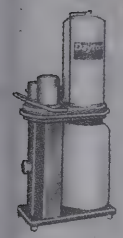
System simultaneously collects dust from 3 to 5 machines (depending on model and duct length). All models include motor/blower (not supplied factory wired), separator chamber, tripod support stand, bag suspension bracket, dust bag, drum lid, flex hose, hose clamps, and instruction manual. Maximum duct length ranges from 150 to 300 feet.

| MOTOR DATA HP | Phase | Voltage | Low Voltage Amps | BLOWER DATA Max. CFM* | Max. SP | CFM @ Max. SP | dBA Sound Rating | Installed Dimensions (In.) W | D | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 115/230 | 32 | 1800 | 9.0 | 200 | 78 | 73 | 36 | 122 | **5E816** | $3342.16 | **$2002.00** | 380.0 |
| 3 | 3 | 208-230/460 | 8.9 | 1800 | 9.0 | 200 | 78 | 73 | 36 | 122 | **5E817** | 3151.77 | **1888.00** | 380.0 |
| 5 | 1 | 230 | 19.6 | 2100 | 11.0 | 600 | 83.5 | 73 | 36 | 122 | **5E818** | 3968.98 | **2378.00** | 425.0 |
| 5 | 3 | 208-230/460 | 14 | 2100 | 11.0 | 600 | 83.5 | 73 | 36 | 122 | **5E819** | 3675.12 | **2201.00** | 390.0 |
| 7.5 | 3 | 208-230/460 | 21.5 | 2400 | 14.8 | 800 | 85 | 79 | 36 | 122 | **5E820**† | 4651.47 | **2786.00** | 430.0 |

(*) With dust bag installed but no duct attached. (†) Factory shipped with a 1 micron filter bag.

# SELF-CONTAINED DUST COLLECTORS, FUME AND SMOKE EXHAUSTERS & DUST FILLER BAG

## SELF-CONTAINED SINGLE STAGE DUST COLLECTOR



Dayton

95573

No. 6C503 E40197

Replacement Parts Available 1-800-323-0620

Compact size, portability, and excellent performance make this single-stage dust collector an ideal tool for home and maintenance shops. Filtration down to 50 microns. 1 HP motor and heavy-duty fan impeller are strong enough to pick up large chips, shavings, and harmful dust.

34H x 10L x 4" Dia. hose can attach directly to a machine. Lower cloth bag provides large, 36 gallon capacity for wood chips and shavings. Supplied with lower and upper cloth bags and a 6-ft., 16-gauge line cord; use Hose Extension Kit No. 1Z890 (listed below) for additional lengths. 7 Amp motor. 62 H x 15 W x 33"D. UL Listed and CSA Certified. Dayton brand.

**Note: Not for use with reactive metal dusts.**

| HP | Volts | Max. CFM | Chip Capacity | Noise Level | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 1 | 115 | 650 | 36 Gallon | 65 dBA | 6C503 | $683.00 | $371.50 | 101.0 |

## INDUSTRIAL SELF-CONTAINED TWO-STAGE DUST COLLECTOR

Industrial quality two-stage system is more durable, efficient and safer than single-stage systems. Portable dust collector includes 35 gallon, aluminum foil-lined, fiber drum container (43H x 20" dia.) with casters, and 5 ft. hose. Design and accessories are identical to other two-stage units except motor is continuous-duty, ODP. Motor is pre-wired with cord set and switch for 115 volts. Use for all dust collection applications as other two stage units; **not for use for hot metal dust such as from a grinder.** Traps 10 micron and larger dust particles. **NOTE: Not suitable for aluminum or other reactive dust.** Dust-Master brand by Cincinnati Fan.



Dust Master™

No. 6C502

Made in the U.S.A.

Replacement Parts Available 1-800-323-0620

| Motor Data | | | Low Voltage Amps | Blower Wheel (In.) | Blower Performance Specifications | | | | |
|---|---|---|---|---|---|---|---|---|---|
| HP | Phase | Volts 60 Hz | | | Free Air CFM | Veloc. FPM | DB Rating | Hose Dia. (In.) | Drum Lid Dia. (In.) |
| 3/4 | 1 | 115/230 | 8.0 | 10⅝ | 580 | 6660 | 78 | 4 | 20 |

**No. 6C502.** Shpg. wt. 54.0 lbs. List $882.81. Each.....$529.00

## INDUSTRIAL FUME AND SMOKE EXHAUSTERS

**Self-contained ventilation systems** for exhausting fumes, smoke, and heat from welding, brazing, and soldering operations. Max. fume temp: 180°F. Also supply fresh air to confined work areas, tanks, or manholes.

**14-gauge steel housing,** self-cleaning cast aluminum blower wheel, 10 ft. wire reinforced rubber hose with intake nozzle and adjustable exhaust duct.

**3450 RPM, TEFC, 60 Hz, 1 or 3 phase motor.** Single phase 115V motors have 8 ft., 3-conductor cord prewired to an On-Off switch mounted on the motor.

**Steel reinforced frame** mounts to wall or workbench or bolts to hand truck or dolly. Includes two 5 ft. long hoses. Additional 5 ft. lengths of hose available (see Hose Kit below). Fume-Master by Cincinnati Fan.



Fume Master™

Replacement Parts Available 1-800-323-0620

Made in the U.S.A.

No. 1Z968

| Air Flow CFM | Velocity (FPM) | Motor HP | Motor Phase | Low Voltage Amps | Volts* | DdA† @ 5 Ft. | Outlet, (In.) | Inlet Hose Dia. (In.) | Cincinnati Fan Model | Stock No. # | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 370 | 4242 | 1/2 | 1 | 6.8 | 115/208-230 | 80 | 4 | 4 | 500S | 1Z968 | $849.01 | $508.50 | 62.0 |
| 485 | 3555 | 1 | 1 | 12.0 | 115/208-230 | 87 | 6 | 5 | 1000S | 3Z572 | 929.58 | 557.00 | 78.0 |
| 630 | 4618 | 1½ | 3 | 4.6 | 208-220/440 | 83 | 6 | 5 | 1500S | 3Z574 | 1062.54 | 637.00 | 81.0 |

(*) Prewired in lower voltage. (†) Decibel reading is at 5 ft. with air hoses and nozzle attached. (#) Parts available—Call 1-800-323-0620.

**How to Select Proper Fume Exhauster**—Place exhauster as near as practical to welder or other equipment. Should provide an air flow rate sufficient to maintain a velocity of 100 linear feet per minute in the welding zone. Use table at right to determine minimum air flow rate recommended by the American Welding Society to achieve this controlled velocity.

Select the exhauster with air flow CFM that exceeds recommended figure obtained from the table.

| Distance of Exhaust Nozzle from Arc or Torch (In.) | AWS Recommended CFM Air Flow | Nozzle Diameter (In.) |
|---|---|---|
| Up to 6 | 250 | 4 |
| 6 to 9 | 560 | 5 |
| 9 to 12 | 1000 | 8 |

## HOSE EXTENSION KIT



Extension hose can also be used as a replacement if original hose furnished with dust collector or fume exhauster becomes damaged or worn. Max. temp. 180°F. Hose kit contains one 5-foot length of wire reinforced rubber hose, 2 clamps, and 1 connector sleeve. Cincinnati Fan brand.

| Hose Dia. (In.) | Cinn. Fan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3 | HK-3 | 1Z891 | $43.05 | $25.85 | 1.6 |
| 4 | HK-4 | 1Z890 | 58.33 | 35.00 | 2.0 |
| 5 | HK-5 | 2Z061 | 66.89 | 40.10 | 2.5 |
| 6 | HK-6 | 2W449 | 78.39 | 47.00 | 2.8 |

## OVERSIZE DUST FILTER BAG



Dust-Master™

Dust Filter Bag is used in applications where standard bag becomes filled too quickly, such as sanding dust or planing chip collection. Use only with 1 HP and larger 2 stage dust collectors. Bag is attached to the top of a standard 55-gallon drum (not supplied) with a web belt (included). Collected dust is deposited in the drum, keeping the air filtration surface clean. Drum provides much greater capacity for collected dust than the standard filter bag. Bag is 2 x 6 ft. and the knit polyester filter fabric retains particles 5 microns and larger. Initial installation of the oversize dust filter bag requires No. 2W449 six inch Hose Extension Kit to connect the bag to the dust collector outlet. Dust-Master brand by Cincinnati Fan.

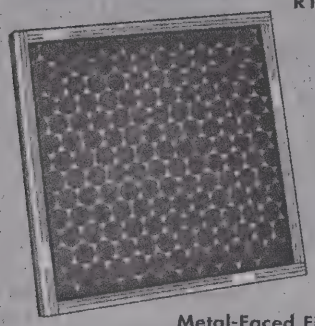
**No. 6C501.** Shpg. wt. 6.0 lbs. List $318.90. Each .....$191.25

# FIBERGLASS AND TRIM-TO-FIT AIR FILTERS

## FIBERGLASS AIR FILTERS

Air Handler®

CLASSIFIED UL R13458



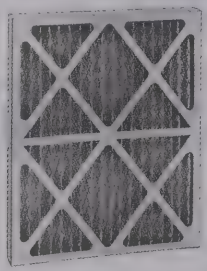
Metal-Faced Filter
No. 1W097

- **Progressively layered fiberglass**
- **Heavy-duty chipboard frame**
- **Priced each. Sold in carton quantity**

**Applications:** Fiberglass air filters are recommended when basic filtration is required. Initial resistance is 0.04" W.C. for 1" and 0.08" W.C. for 2" filters at 300 FPM. Recommended final resistance of 0.5" W.C.

| Nominal Size, (In.) H | W | D | Actual Size, (In.) H | W | D | Carton Qty. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 20 | 1 | 9¾ | 19¾ | 3/4 | 12 | 1W304 | $2.59 | $1.55 | 0.4 |
| 12 | 12 | 1 | 11¾ | 11¾ | 3/4 | 12 | 5W501 | 2.59 | 1.55 | 0.4 |
| 12 | 20 | 1 | 11¾ | 19¾ | 3/4 | 12 | 5C451 | 3.35 | 2.01 | 0.6 |
| 12 | 24 | 1 | 11¾ | 23¾ | 3/4 | 12 | 5W502 | 3.51 | 2.11 | 0.7 |
| 14 | 20 | 1 | 13½ | 19½ | 3/4 | 12 | 2W015 | 2.63 | 1.58 | 0.5 |
| 14 | 24 | 1 | 13⅜ | 23⅜ | 3/4 | 12 | 5C453 | 3.39 | 2.03 | 0.7 |
| 14 | 25 | 1 | 13½ | 24½ | 3/4 | 12 | 2W016 | 2.68 | 1.61 | 0.6 |
| 20 | 24 | 1 | 13¾ | 29¾ | 3/4 | 12 | 5W983 | 3.89 | 2.33 | 0.8 |
| 15 | 20 | 1 | 14½ | 19½ | 3/4 | 12 | 1W506 | 2.73 | 1.63 | 0.7 |
| 16 | 16 | 1 | 15¾ | 15¾ | 3/4 | 12 | 5C455 | 3.35 | 2.01 | 0.6 |
| 16 | 20 | 1 | 15½ | 19½ | 3/4 | 12 | 1W099 | 2.84 | 1.71 | 0.7 |
| 16 | 25 | 1 | 15½ | 24½ | 3/4 | 12 | 1W098 | 2.92 | 1.75 | 0.7 |
| 18 | 24 | 1 | 17⅜ | 23⅜ | 3/4 | 12 | 5C458 | 3.71 | 2.22 | 0.8 |
| 18 | 25 | 1 | 17½ | 24½ | 3/4 | 12 | 5W503 | 3.45 | 2.07 | 0.8 |
| 20 | 20 | 1 | 19½ | 19½ | 3/4 | 12 | 1W097 | 2.89 | 1.73 | 0.8 |
| 20 | 25 | 1 | 19½ | 24½ | 3/4 | 12 | 1W096 | 3.23 | 1.94 | 0.9 |
| 20 | 24 | 1 | 19⅜ | 23⅜ | 3/4 | 12 | 5C460 | 3.71 | 2.22 | 0.8 |
| 20 | 30 | 1 | 19¾ | 29¾ | 3/4 | 12 | 5C461 | 4.47 | 2.68 | 1.0 |
| 24 | 24 | 1 | 23⅜ | 23⅜ | 3/4 | 12 | 5C462 | 3.75 | 2.25 | 0.9 |
| 24 | 24 | 1 | 23⅜ | 23⅜ | 3/4 | 12 | 5W504 | 4.02 | 2.41 | 1.0 |
| 24 | 30 | 1 | 23⅜ | 29⅜ | 3/4 | 12 | 5C463 | 4.51 | 2.71 | 1.1 |
| 25 | 25 | 1 | 24¾ | 24¾ | 3/4 | 12 | 1W507 | 3.98 | 2.38 | 1.0 |
| 12 | 24 | 2 | 11⅜ | 23⅜ | 1⅝ | 12 | 5W505 | 3.71 | 2.22 | 0.8 |
| 14 | 20 | 2 | 13½ | 19½ | 1⅝ | 12 | 5C466 | 3.72 | 2.23 | 0.8 |
| 15 | 20 | 2 | 14½ | 19½ | 1⅝ | 12 | 5W506 | 3.71 | 2.22 | 0.8 |
| 16 | 20 | 2 | 15½ | 19½ | 1⅝ | 12 | 1W103 | 3.78 | 2.27 | 0.8 |
| 16 | 24 | 2 | 15⅜ | 23⅜ | 1⅝ | 12 | 5C468 | 3.77 | 2.26 | 0.9 |
| 16 | 25 | 2 | 15½ | 24½ | 1⅝ | 12 | 1W102 | 3.83 | 2.29 | 0.9 |
| 18 | 24 | 2 | 17⅜ | 23⅜ | 1⅝ | 12 | 5C469 | 4.30 | 2.58 | 0.8 |
| 20 | 20 | 2 | 19½ | 19½ | 1⅝ | 12 | 1W101 | 3.83 | 2.29 | 0.9 |
| 20 | 24 | 2 | 19⅜ | 23⅜ | 1⅝ | 12 | 5C470 | 4.44 | 2.66 | 1.1 |
| 20 | 25 | 2 | 19½ | 24½ | 1⅝ | 12 | 1W100 | 4.29 | 2.57 | 1.1 |
| 24 | 24 | 2 | 23⅜ | 23⅜ | 1⅝ | 12 | 5W507 | 5.01 | 3.00 | 1.2 |
| 25 | 25 | 2 | 24¾ | 24¾ | 1⅝ | 12 | 5W508 | 4.90 | 2.94 | 1.3 |

**Construction:** The fiberglass media is designed with progressively denser material and a tackifier to ensure maximum dust holding and efficiency. Metal facing, securely bonded to the frame provide dynamic strength. UL Classified as t flammability only; Class 2 (R13458).



## NEED MORE FROM YOUR FILTER?

Consider the advantages of Air Handler® PLEATED AIR FILTERS:

- **Improved indoor air quality**
- **2½ times more efficient than fiberglass air filters**
- **Reduces coil cleanings and equipment maintenance**
- **For greater efficiency and performance, the High Capacity Pleated Air Filters last up to 50% longer than the Standard Capacity Pleated Air Filters**

**A complete selection of Standard and High Capacity Pleated Filters can be found on pages 3532 and 3533**

**If high humidity or moisture is a problem, use 3-Ply Polyester Ring Panels.** **See page 3534**

## TRIM-TO-FIT AIR FILTERS

- **Washable or disposable**
- **Ideal for room window air conditioners**
- **Priced each. Sold only in carton quantity**

**Applications:** Trim-to-fit filters are widely used in room window air conditioners. These filters can be easily cut to size with scissors. No frame is required. Initial △P: 0.2" @ 300 FPM. Final △P: 1.0" WC

**Construction:**

**Fiberglass** media is disposable.

**Foam** media may be washed or vacuumed clean.

**Rigid foam** media is supported by a molded plastic support grid and may be washed or vacuumed clean.

**Aluminum** media is multi-layered expanded aluminum laminated together. May be washed or vacuumed clean.

| Filter Type | Size (In.) H | W | D | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| Foam | 15 | 24 | 1/4 | 12 | 1W755 | $3.03 | $1.82 | 0.2 |
| Fiberglass | 15 | 24 | 3/8 | 12 | 1W633 | 2.12 | 1.27 | 0.3 |
| Aluminum | 15 | 24 | 1/4 | 12 | 5C438 | 7.31 | 4.38 | 0.4 |
| Rigid Foam | 15 | 24 | 1/4 | 12 | 5C439 | 4.69 | 2.81 | 0.3 |

Air Handler®






*Breathe easy — we've got the air treatment products you need.*

# POLYESTER FILTER MEDIA PADS

**For most HVAC general filtration requirements.** Frequently used to replace fiberglass filters which can fragment and send fibers into the airstream. Polyester offers higher arrestance and dust holding capabilities than most fiberglass filters. Operate in temperature range of -40 to 180°F. UL Listed. (R13458). Priced each. Sold only in cartons of 24.

| Nominal Thickness (In.) | Avg. Synthetic Dust Weight Arrestance | Dust Holding Capacity (gm) | Initial Resistance | Final Resistance |
|---|---|---|---|---|
| 1/2 | 81% | 155 | 0.07 | 0.50 |
| 1 | 88 | 165 | 0.12 | 0.50 |
| 1¾ | 93 | 255 | 0.19 | 0.50 |

NOTE: Chart based on removal by 24" x 24" polyester panels at 1200 CFM and ASHRAE test standard 52-76.

Air Handler®

White side is air entry

R13458



No. 5W086

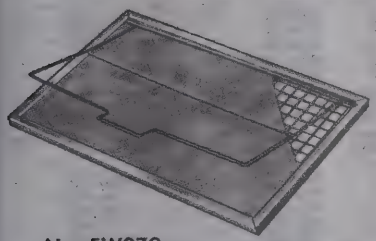
| Nominal Size (In.) H | W | D | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 16 | 20 | 1 | 24 | 5W097 | $1.52 | $0.91 | 0.1 |
| 16 | 25 | 1 | 24 | 5W100 | 1.92 | 1.15 | 0.2 |
| 20 | 20 | 1 | 24 | 5W099 | 1.92 | 1.15 | 0.2 |
| 20 | 25 | 1 | 24 | 5W098 | 2.32 | 1.39 | 0.2 |
| 24 | 24 | 1 | 24 | 6B736 | 3.05 | 1.83 | 0.3 |
| 25 | 25 | 1 | 24 | 5W096 | 2.48 | 1.49 | 0.3 |
| 16 | 20 | 2 | 24 | 5W101 | 3.65 | 2.19 | 0.2 |
| 16 | 25 | 2 | 24 | 5W102 | 2.75 | 1.65 | 0.3 |
| 20 | 20 | 2 | 24 | 5W103 | 2.75 | 1.65 | 0.3 |
| 20 | 25 | 2 | 24 | 5W104 | 3.19 | 1.91 | 0.5 |
| 24 | 24 | 2 | 24 | 6B735 | 3.54 | 2.12 | 0.5 |

# PAD HOLDING FRAMES

Air Handler®

- Reusable
- Low maintenance required
- Available in 1" and 2" thicknesses

**Permanent pad holding frames** are constructed around a 24 gauge galvanized steel frame. The downstream side is 16 gauge, 1x2" galvanized welded wire, spot welded to the frame for added support. A hinged gate makes changing the pad easy, quick, and safe.



No. 5W079

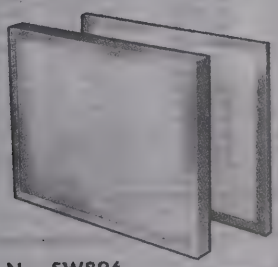
| Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 20 | 1 | 15½ | 19½ | 3/4 | 4 | 5W080 | $14.49 | $8.68 | 2.3 |
| 16 | 25 | 1 | 15½ | 24½ | 3/4 | 4 | 5W079 | 15.29 | 9.16 | 1.8 |
| 20 | 20 | 1 | 19½ | 19½ | 3/4 | 4 | 5W076 | 15.26 | 9.14 | 2.8 |
| 20 | 25 | 1 | 19½ | 24½ | 3/4 | 4 | 5W075 | 16.16 | 9.68 | 3.5 |
| 24 | 24 | 1 | 23⅜ | 23⅜ | 3/4 | 4 | 5W073 | 16.81 | 10.07 | 4.0 |
| 25 | 25 | 1 | 24¾ | 24¾ | 3/4 | 4 | 5W083 | 17.18 | 10.29 | 4.4 |
| 16 | 20 | 2 | 15½ | 19½ | 1¾ | 4 | 5W072 | 15.64 | 9.37 | 2.6 |
| 16 | 25 | 2 | 15½ | 24½ | 1¾ | 4 | 5W071 | 16.63 | 9.96 | 3.2 |
| 20 | 20 | 2 | 19½ | 19½ | 1¾ | 4 | 5W070 | 16.56 | 9.92 | 3.2 |
| 20 | 25 | 2 | 19½ | 24½ | 1¾ | 4 | 5W069 | 17.70 | 10.60 | 4.0 |
| 24 | 24 | 2 | 23⅜ | 23⅜ | 1¾ | 4 | 6B711 | 22.34 | 13.38 | 4.6 |

# ELECTROSTATIC AIR FILTERS

Air Handler®

CLASSIFIED UL R13458

Electrostatic air filters require no electrical hook-up; have self-generated charge. Permanent and washable. Fit into existing filter tracks. Include four layers of polypropylene media and sturdy roll-formed galvanized frame. Feature an arrestance rate of 90%. UL Classified as to flammability only Class 2 (R13458).



No. 5W896

## SPECIFICATIONS AND ORDERING DATA

| Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Initial Resistance @ 300 FPM | Recommended Final Resistance | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 20 | 1 | 13½ | 19½ | 3/4 | 0.18 | 1.0 | 6W730 | $77.65 | $46.50 | 2.4 |
| 16 | 20 | 1 | 15½ | 19½ | 3/4 | 0.18 | 1.0 | 5W894 | 77.23 | 46.25 | 2.1 |
| 16 | 25 | 1 | 15½ | 24½ | 3/4 | 0.18 | 1.0 | 5W895 | 83.50 | 50.00 | 3.3 |
| 20 | 20 | 1 | 19½ | 19½ | 3/4 | 0.18 | 1.0 | 5W896 | 83.50 | 50.00 | 3.3 |
| 20 | 25 | 1 | 19½ | 24½ | 3/4 | 0.18 | 1.0 | 5W897 | 94.60 | 56.65 | 3.8 |
| 24 | 24 | 1 | 23⅜ | 23⅜ | 3/4 | 0.18 | 1.0 | 6W733 | 107.71 | 64.50 | 5.0 |
| 16 | 20 | 2 | 15½ | 19½ | 1¾ | 0.26 | 1.0 | 5W898 | 89.09 | 53.35 | 2.3 |
| 16 | 25 | 2 | 15½ | 24½ | 1¾ | 0.26 | 1.0 | 5W899 | 94.60 | 56.65 | 3.5 |
| 20 | 20 | 2 | 19½ | 19½ | 1¾ | 0.26 | 1.0 | 5W900 | 94.60 | 56.65 | 3.1 |
| 20 | 25 | 2 | 19½ | 24½ | 1¾ | 0.26 | 1.0 | 5W901 | 113.22 | 67.80 | 4.3 |
| 24 | 24 | 2 | 23⅜ | 23⅜ | 1¾ | 0.26 | 1.0 | 6B691 | 112.22 | 67.20 | 5.3 |

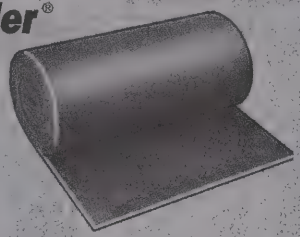
**VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!**

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

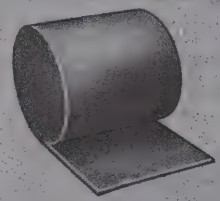
# MEDIA ROLLS

Air Handler®

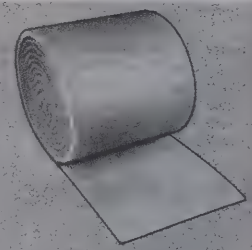
CLASSIFIED UL R13458



No. 5W913
Air filter foam rolls



No. 5C431
Hog hair filter media rolls
Colored side is air entry



No. 5C440
Polyester filter media rolls
White side is air entry

## AIR FILTER FOAM ROLLS

- 30 Pores per inch (PPI)
- Wash or vacuum to clean

Can be used to replace disposable filters as a prefilter for higher efficiency electronic or media cartridge filters. Initial resistance: 0.15" W.C. @ 300 FPM. Recommended final resistance: 0.50" WC. Operating temperatures up to 350°F. UL Classified as to flammability; Class 2 (R13458).

## HOG HAIR FILTER MEDIA ROLLS

- All natural filter fibers permanently coated with a neoprene compound
- Scrim backing for rigidity
- Self-supporting, no frame required
- Washable media can replace odd size furnace filters
- Initial resistance: 0.15" W.C. @ 300 FPM
- Recommended final resistance: 0.50" W.C.
- UL Class 2 as to flammability only

## FIBERGLASS FILTER MEDIA ROLLS

Economical bulk rolls of 1" and 2" thick fiberglass filter material for replacing hammock type filters in furnaces and air conditioners. Rolls can be easily cut to required size. Recommended final resistance: 0.5" W.C. Fiberglass media is designed with a progressively denser configuration (air entry to air exit) and is coated with a tackifier to ensure maximum dust holding and filter efficiency. UL Classified as to flammability only; Class 2 (R13458).

## POLYESTER FILTER MEDIA ROLLS

Frequently used when fiberglass filters are not acceptable. Synthetic media is soft and easy to handle. Higher dust holding capacity than most fiberglass filters. Recommended final resistance: 0.5" W.C. Filter material withstands direct moisture and has an operating temperature range of -40 to 180°F. UL Classified as to flammability only; Class 2 (R13458).

### AIR FILTER FOAM ROLLS

| Actual Size (In.) W (In.) | L (Ft.) | D (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 24 | 25 | 1/4 | 1 | 5W913 | $41.60 | $24.91 | 2.5 |
| 24 | 25 | 1/2 | 1 | 5W914 | 83.16 | 49.80 | 5.0 |
| 24 | 10 | 1/2 | 1 | 5C444 | 56.19 | 33.65 | 3.0 |

### HOG HAIR FILTER MEDIA ROLLS

| Actual Size (In.) W (In.) | L (Ft.) | D (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 20 | 30 | 1 | 1 | 5C431 | $90.43 | $54.15 | 10.0 |
| 25 | 30 | 1 | 1 | 5C432 | 111.38 | 66.70 | 12.0 |
| 48 | 30 | 1 | 1 | 6U585 | 216.18 | 129.45 | 32.0 |
| 25 | 15 | 2 | 1 | 5C434 | 69.89 | 41.85 | 10.0 |
| 48 | 15 | 2 | 1 | 6U586 | 150.80 | 90.30 | 30.0 |

### FIBERGLASS FILTER MEDIA ROLLS

| Actual Size (In.) W (In.) | L (Ft.) | D (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 20 | 85 | 1 | 1 | 5C427 | $48.26 | $28.90 | 7.0 |
| 24 | 20 | 1 | 1 | 5W498 | 24.16 | 14.47 | 1.9 |
| 25 | 85 | 1 | 1 | 5C428 | 59.20 | 35.45 | 5.0 |
| 30 | 20 | 1 | 1 | 2W185 | 19.75 | 11.83 | 2.3 |
| 36 | 20 | 1 | 1 | 2W186 | 21.79 | 13.05 | 2.1 |

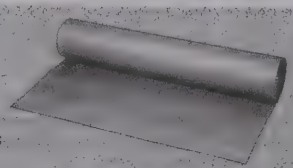
### POLYESTER FILTER MEDIA ROLLS

| Actual Size W (In.) | L (Ft.) | D (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 16 | 90 | 1/2 | 1 | 6B775 | $46.84 | $28.05 | 5.4 |
| 20 | 90 | 1/2 | 1 | 6B774* | 54.44 | 32.60 | 5.8 |
| 24 | 90 | 1/2 | 1 | 6B771* | 62.62 | 37.50 | 6.5 |
| 25 | 90 | 1/2 | 1 | 6B770* | 64.62 | 38.70 | 6.6 |
| 30 | 90 | 1/2 | 1 | 6B767* | 77.15 | 46.20 | 7.1 |
| 36 | 90 | 1/2 | 1 | 6B764* | 92.85 | 55.60 | 8.0 |
| 48 | 90 | 1/2 | 1 | 6B761* | 123.24 | 73.80 | 9.3 |
| 16 | 45 | 1 | 1 | 6B777* | 33.88 | 20.29 | 6.3 |
| 20 | 45 | 1 | 1 | 5C440* | 33.90 | 20.30 | 6.0 |
| 24 | 45 | 1 | 1 | 6B773* | 42.33 | 25.35 | 7.6 |
| 25 | 45 | 1 | 1 | 5C441* | 42.58 | 25.50 | 8.0 |
| 30 | 45 | 1 | 1 | 6B769* | 55.69 | 33.35 | 8.8 |
| 36 | 45 | 1 | 1 | 6B766* | 67.05 | 40.15 | 9.8 |
| 48 | 45 | 1 | 1 | 6B763* | 88.84 | 53.20 | 12.0 |
| 20 | 45 | 2 | 1 | 5C442 | 57.69 | 34.55 | 8.0 |
| 25 | 45 | 2 | 1 | 5C443 | 65.71 | 39.35 | 10.0 |
| 24 | 45 | 2 | 1 | 6B772 | 65.29 | 39.10 | 9.9 |
| 36 | 45 | 2 | 1 | 6B765 | 97.86 | 58.60 | 14.0 |
| 48 | 45 | 2 | 1 | 6B762 | 130.26 | 78.00 | 17.0 |

(*) Limited availability. Contact local branch for new longer roll lengths.

## LINER PAPER/PROTECTIVE SHEETING

Air Handler®



No. 6W753

- Protective booth liner is high grade, fire retardant kraft paper
- Ideal for spray booths, welding areas, or potentially flammable operations
- Cut to desired size for walls and floors
- Meets state and local government requirements for EPA, NFPA Standard #33, OSHA Standard #1910.107

| Nominal Size | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| 36" x 300 ft. | 6W753 | $127.33 | $76.25 | 26.0 |
| 72 x 300 | 6W756 | 236.97 | 141.90 | 53.0 |

# EXPANDED PAPER OR FIBERGLASS PAINT COLLECTOR PADS AND ROLLS




Paint Collector Roll
No. 6B834

Paint Collector Pad
No. 6W747

**Expanded paper, standard capacity pads** have six layers of kraft media, each slit and expanded into a mesh with baffle-like surfaces. The layers with the larger baffled openings are positioned at the front of the collector. As the exhaust air passes through the collector, these larger front baffles cause the initial turbulence and surface contact removing the larger overspray particulates. The final layers incorporate smaller baffled openings which collect the vast percentage of the remaining particulates.

**Expanded paper, high capacity pads** provide excellent efficiency and very high holding capacity. The high capacity paint collector media utilizes eight layers of expanded kraft. The first three layers employ extremely large baffle openings for maximum particulate holding capacity. For use with a wide range of coatings and especially with heavier, tacky-type coatings, conventional coatings and in situations requiring extended service life.

**Expanded paper, high solid pads** employ both baffle and strainer principles and perform with high efficiency and excellent holding capacity. Pad incorporates five layers of expanded kraft media with multistage designed baffle openings and one synthetic layer. The synthetic layer provides high efficiency collection for a wider range of coatings. Excellent for use with high solids, waterborne coatings, or wherever high efficiency is required.

**Fiberglass paint collector pads** are economical to use. The 2½" thick media is progressively layered (air entering to air leaving) to enhance filter efficiency and service life. Loosely woven construction allows paint to load evenly without face loading. Pads are oversized to ensure a tight and positive seal in frame.

**Fiberglass paint collector rolls** are designed for use in all spray booth overspray applications and are especially useful in high production situations. All products meet state and local requirements for EPA, NFPA Standard #33, and OSHA Standard #1910.107.

## PAINT OVERSPRAY SELECTION GUIDE

| Coating | Standard Paper | High Capacity Paper | High Solid Paper | Fiberglass |
|---|---|---|---|---|
| Air-dry Enamels, Stains, Glazes, Fillers | Excellent | Excellent | Excellent | Good |
| Lacquers - Nitrocellulose, Sealers | Excellent | Good | Good | Excellent |
| Epoxies, Urethanes | Good | Excellent | Excellent | Poor |
| Asphalts, Fiberglass, Gel, Tar-like, Teflon, Vinyls | Good | Excellent | Good | Poor |
| Adhesives | Good | Excellent | Fair | Poor |
| Bake-dry enamels, Clear coats | Good | Good | Excellent | Good |
| Waterbornes | Good | Good | Excellent | Fair |
| High Solids Enamels | Fair | Fair | Good | Good |

NOTE: All coating types vary within product types due to viscosity, drying speed, etc. This guide is provided as a reference only.

| Nominal Size H | W | D | Media | Style | Carton Quantity | Stock No. | List | Each Carton | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **PAINT COLLECTOR PADS** | | | | | | | | | |
| 20" | 20" | 1" | Paper | Standard Capacity | 50 | 6W747 | $75.81 | $45.40 | 11.0 |
| 20 | 25 | 1 | Paper | Standard Capacity | 50 | 6W748 | 94.35 | 56.50 | 13.0 |
| 20 | 20 | 1 | Paper | High Capacity | 30 | 6W749 | 73.23 | 43.85 | 9.6 |
| 20 | 25 | 1 | Paper | High Capacity | 30 | 6W750 | 90.18 | 54.00 | 11.0 |
| 20 | 20 | 1 | Paper/Synthetic | High Solids | 50 | 6W751 | 105.62 | 63.25 | 12.0 |
| 20 | 25 | 1 | Paper/Synthetic | High Solids | 50 | 6W752 | 137.02 | 82.05 | 13.0 |
| 20 | 20 | 2 | Fiberglass | Standard Capacity | 50 | 2W001 | 49.18 | 29.45 | 7.0 |
| 20 | 25 | 2 | Fiberglass | Standard Capacity | 50 | 2W002 | 58.86 | 35.25 | 8.5 |
| **PAINT COLLECTOR ROLLS** | | | | | | | | | |
| 20½" | 260 ft. | 2½" | Fiberglass | Standard Capacity | 1 | 6B845 | 181.44 | 108.65 | 19.0 |
| 25½ | 260 | 2½ | Fiberglass | Standard Capacity | 1 | 6B844 | 224.86 | 134.65 | 23.0 |
| 30 | 260 | 2½ | Fiberglass | Standard Capacity | 1 | 6C525 | 207.91 | 124.50 | 32.0 |
| 36 | 260 | 2½ | Fiberglass | Standard Capacity | 1 | 6C526 | 249.16 | 149.20 | 37.0 |
| 41 | 260 | 2½ | Fiberglass | Standard Capacity | 1 | 6C527 | 283.48 | 169.75 | 41.0 |
| 48 | 260 | 2½ | Fiberglass | Standard Capacity | 1 | 6C528 | 332.33 | 199.00 | 47.0 |
| 60 | 260 | 2½ | Fiberglass | Standard Capacity | 1 | 6B843 | 534.81 | 320.25 | 59.0 |
| 40 | 40 | 1 | Paper | Standard Capacity | 1 | 6B834 | 98.94 | 59.25 | 14.0 |
| 40 | 20 | 1 | Paper | High Capacity | 1 | 6B836 | 83.83 | 50.20 | 13.0 |
| 40 | 30 | 1 | Paper/Synthetic | High Solids | 1 | 6B835 | 104.12 | 62.35 | 13.0 |

# PAINT COLLECTOR PAD HOLDING FRAME MODULES

- Holding frames, metal grids, and support rods allow proper installation of Paint Collector Pads
- Metal construction
- Holds up to 2 Paint Collector Pads per module
- Module components sold separately
- AirHandler brand
- Priced each. Sold in full cartons

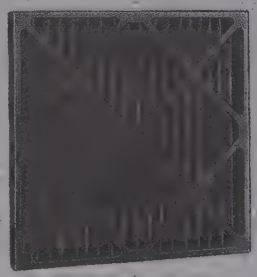
| Item | Actual Size | Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Filter Holding Frame | 20" x 20" x 3" | 8 | 6B840 | $54.86 | $32.85 | 5.1 |
| Snap-In Grids | 20 x 20 | 16 | 6B839 | 13.61 | 8.15 | 0.8 |
| Single Wire Rod | 20" | 8 | 6B842 | 6.96 | 4.17 | 0.4 |
| Filter Holding Frame | 20 x 25 x 3 | 8 | 6B838 | 58.86 | 35.25 | 6.3 |
| Snap-In Grids | 20 x 25 | 16 | 6B837 | 15.64 | 9.37 | 0.9 |
| Single Wire Rod | 25" | 8 | 6B841 | 7.69 | 4.61 | 0.4 |

SPRAY BOOTH MAKE-UP AIR FILTER: SEE PAGE 3534

# EXTENDED SURFACE PLEATED AIR FILTERS

## STANDARD CAPACITY PLEATED AIR FILTERS

Air Handler®



No. 5W967

CLASSIFIED UL R13458

- Average (ASHRAE 52.1-1992) Atmospheric efficiency of 20-25%
- 100% synthetic media, engineered for consistency
- Higher dust holding capacity than other industry pleats at the same nominal capacity rating
- 150°F maximum temperature
- Priced each. Sold in full cartons

**Applications:** Pleated air filters are widely used as pre-filters for higher efficiency filters or as final filters. When used as a pre-filter, these medium efficient filters will add substantially to the life of more expensive high efficiency filters. When used as a final filter, these filters will be up to 2½ times more efficient than conventional filters. The 100% synthetic pleated design offers greater dust holding capacity and longer life. Generally, the deeper the pleats, the longer the filter will last between filter changes.

**Construction:** The pleated filter pack is enclosed in a heavy-duty, moisture resistant die cut frame that will not crack, warp, or distort under normal operating conditions. The pleated media is a nonwoven 100% synthetic engineered media, reinforced with galvanized expanded metal. UL Classified as to flammability only; Class 2 (R13458).

NEED ODOR CONTROL?
TRY ACTIVATED CARBON:
PAGE 3535

### FILTER SPECIFICATIONS

| Filter Depth (In.) | Pleats Per Linear Ft. | FPM (Medium) | FPM (High) | Initial Resistance (Medium) (In.) | Initial Resistance (High) (In.) | Recommended Final Resistance (In.) |
|---|---|---|---|---|---|---|
| 1 | 12 | 375 | 500 | 0.22 | 0.40 | 1.0 |
| 2 | 10 | 375 | 500 | 0.18 | 0.26 | 1.0 |
| 4 | 9 | 500 | 625 | 0.22 | 0.31 | 1.0 |

### FILTER ORDERING DATA

| Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Media Area (Sq. Ft.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 16 | 1 | 7¾ | 15¾ | 3/4 | 1.7 | 12 | 5W967 | $6.53 | $3.91 | 0.3 |
| 8 | 30 | 1 | 7¾ | 29¾ | 3/4 | 2.9 | 12 | 6B989 | 8.56 | 5.13 | 0.5 |
| 10 | 10 | 1 | 9¾ | 9¾ | 3/4 | 1.3 | 12 | 5W968 | 6.53 | 3.91 | 0.3 |
| 10 | 20 | 1 | 9½ | 19½ | 3/4 | 2.6 | 12 | 5W890 | 6.64 | 3.98 | 0.7 |
| 10 | 24 | 1 | 9⅜ | 23⅜ | 3/4 | 3.1 | 12 | 5W969 | 6.56 | 3.93 | 0.5 |
| 10 | 25 | 1 | 9¾ | 24¾ | 3/4 | 3.3 | 12 | 5E998 | 9.40 | 5.63 | 0.5 |
| 10 | 30 | 1 | 9¾ | 29¾ | 3/4 | 3.6 | 12 | 6U583 | 9.33 | 5.59 | 0.5 |
| 12 | 12 | 1 | 11¾ | 11¾ | 3/4 | 1.9 | 12 | 4E505 | 6.34 | 3.80 | 0.7 |
| 12 | 16 | 1 | 11¾ | 15¾ | 3/4 | 2.5 | 12 | 5E874 | 8.73 | 5.23 | 0.4 |
| 12 | 18 | 1 | 11¾ | 17¾ | 3/4 | 2.6 | 12 | 6U582 | 7.99 | 4.79 | 0.4 |
| 12 | 20 | 1 | 11¾ | 19¾ | 3/4 | 3.2 | 12 | 6C519 | 6.53 | 3.91 | 0.5 |
| 12 | 24 | 1 | 11⅜ | 23⅜ | 3/4 | 3.8 | 12 | 4E437 | 6.31 | 3.78 | 0.7 |
| 12 | 25 | 1 | 11¾ | 24¾ | 3/4 | 4.0 | 12 | 6C520 | 7.01 | 4.20 | 0.6 |
| 12 | 30 | 1 | 11¾ | 29¾ | 3/4 | 4.4 | 12 | 6U581 | 10.10 | 6.05 | 0.6 |
| 12 | 30⅝ | 1 | 11¾ | 30⅜ | 3/4 | 4.5 | 12 | 6B999 | 10.12 | 6.06 | 0.6 |
| 14 | 20 | 1 | 13½ | 19½ | 3/4 | 3.7 | 12 | 5W891 | 6.36 | 3.81 | 0.7 |
| 14 | 24 | 1 | 13⅜ | 23⅜ | 3/4 | 4.4 | 12 | 5W970 | 7.03 | 4.21 | 0.7 |
| 14 | 25 | 1 | 13½ | 24½ | 3/4 | 4.6 | 12 | 5W892 | 6.61 | 3.96 | 0.7 |
| 14 | 30 | 1 | 13½ | 29½ | 3/4 | 5.1 | 12 | 6B998 | 10.87 | 6.51 | 0.7 |
| 15 | 20 | 1 | 14½ | 19½ | 3/4 | 3.9 | 12 | 5W893 | 6.61 | 3.96 | 0.7 |
| 15 | 25 | 1 | 14½ | 24½ | 3/4 | 4.9 | 12 | 5W971 | 7.03 | 4.21 | 0.7 |
| 15 | 30 | 1 | 14¾ | 29¾ | 3/4 | 5.5 | 12 | 6B997 | 11.25 | 6.74 | 0.7 |
| 15 | 30⅝ | 1 | 14¾ | 30⅜ | 3/4 | 5.7 | 12 | 6B996 | 11.27 | 6.75 | 0.7 |
| 16 | 16 | 1 | 15¾ | 15¾ | 3/4 | 3.4 | 12 | 5W972 | 7.01 | 4.20 | 0.5 |
| 16 | 20 | 1 | 15½ | 19½ | 3/4 | 4.2 | 12 | 5W509 | 6.39 | 3.83 | 0.7 |
| 16 | 22¼ | 1 | 15¾ | 22 | 3/4 | 4.5 | 12 | 6B995 | 10.08 | 6.04 | 0.6 |
| 16 | 24 | 1 | 15⅜ | 23⅜ | 3/4 | 5.0 | 12 | 5W973 | 7.03 | 4.21 | 0.7 |
| 16 | 25 | 1 | 15½ | 24½ | 3/4 | 5.2 | 12 | 5W510 | 7.04 | 4.22 | 0.8 |
| 18 | 18 | 1 | 17¾ | 17¾ | 3/4 | 4.3 | 12 | 5E875 | 9.38 | 5.62 | 0.5 |
| 18 | 20 | 1 | 17¾ | 19¾ | 3/4 | 4.8 | 12 | 5W974 | 7.03 | 4.21 | 0.7 |
| 18 | 22 | 1 | 17¾ | 21¾ | 3/4 | 5.2 | 12 | 5E876 | 10.22 | 6.12 | 0.6 |
| 18 | 24 | 1 | 17⅜ | 23⅜ | 3/4 | 5.6 | 12 | 5W975 | 7.76 | 4.65 | 0.8 |
| 18 | 25 | 1 | 17½ | 24½ | 3/4 | 5.9 | 12 | 6C521 | 7.78 | 4.66 | 0.8 |
| 19 | 27 | 1 | 18¾ | 26¾ | 3/4 | 6.2 | 12 | 6B994 | 12.00 | 7.19 | 0.8 |
| 20 | 20 | 1 | 19½ | 19½ | 3/4 | 5.2 | 12 | 5W511 | 7.04 | 4.22 | 0.8 |
| 20 | 22¼ | 1 | 19¾ | 22 | 3/4 | 5.6 | 12 | 6B993 | 10.88 | 6.52 | 0.7 |
| 20 | 24 | 1 | 19⅜ | 23⅜ | 3/4 | 6.3 | 12 | 5W976 | 7.74 | 4.64 | 0.8 |
| 20 | 25 | 1 | 19½ | 24½ | 3/4 | 6.5 | 12 | 5W512 | 7.66 | 4.59 | 0.9 |
| 20 | 30 | 1 | 19¾ | 29¾ | 3/4 | 7.3 | 12 | 6B992 | 13.09 | 7.84 | 0.9 |
| 22 | 22 | 1 | 21¾ | 21¾ | 3/4 | 6.4 | 12 | 5E877 | 11.07 | 6.63 | 0.7 |
| 22 | 24¼ | 1 | 21¾ | 24 | 3/4 | 6.7 | 12 | 6B991 | 12.07 | 7.23 | 0.8 |
| 24 | 24 | 1 | 23⅜ | 23⅜ | 3/4 | 7.5 | 12 | 5W513 | 7.89 | 4.73 | 0.9 |
| 24 | 30 | 1 | 23⅜ | 29⅜ | 3/4 | 8.8 | 12 | 6B990 | 14.67 | 8.79 | 1.0 |
| 25 | 25 | 1 | 24¾ | 24¾ | 3/4 | 8.2 | 12 | 6C522 | 9.15 | 5.48 | 1.0 |
| 10 | 10 | 1 | 9¾ | 9¾ | 1¾ | 2.2 | 12 | 5W977 | 7.06 | 4.23 | 0.3 |
| 10 | 20 | 2 | 9½ | 19½ | 1¾ | 4.2 | 12 | 6C514 | 7.06 | 4.23 | 0.8 |
| 12 | 20 | 2 | 11¾ | 19¾ | 1¾ | 5.3 | 12 | 5E878 | 10.22 | 6.12 | 0.7 |
| 12 | 24 | 2 | 11⅜ | 23⅜ | 1¾ | 6.3 | 12 | 2W234 | 6.98 | 4.18 | 1.0 |
| 14 | 20 | 2 | 13½ | 19½ | 1¾ | 6.3 | 12 | 6C515 | 7.14 | 4.28 | 0.8 |
| 14 | 25 | 2 | 13½ | 24½ | 1¾ | 7.9 | 12 | 6C516 | 6.16 | 3.69 | 1.0 |
| 15 | 20 | 2 | 14½ | 19½ | 1¾ | 6.9 | 12 | 6C517 | 7.16 | 4.29 | 0.9 |
| 16 | 16 | 2 | 15¾ | 15¾ | 1¾ | 5.6 | 12 | 5W978 | 7.66 | 4.59 | 0.8 |
| 16 | 20 | 2 | 15½ | 19½ | 1¾ | 6.9 | 12 | 2W230 | 8.33 | 4.99 | 1.0 |
| 16 | 24 | 2 | 15⅜ | 23⅜ | 1¾ | 8.2 | 12 | 5W979 | 7.68 | 4.60 | 1.0 |
| 16 | 25 | 2 | 15½ | 24½ | 1¾ | 8.6 | 12 | 2W231 | 7.69 | 4.61 | 1.2 |
| 18 | 22 | 2 | 17¾ | 21¾ | 1¾ | 8.8 | 12 | 5E879 | 11.30 | 6.77 | 0.9 |
| 18 | 24 | 2 | 17⅜ | 23⅜ | 1¾ | 9.5 | 12 | 5W514 | 8.35 | 5.00 | 1.2 |
| 18 | 25 | 2 | 17¾ | 24¾ | 1¾ | 9.9 | 12 | 5E880 | 11.40 | 6.83 | 1.1 |
| 20 | 20 | 2 | 19½ | 19½ | 1¾ | 9.0 | 12 | 2W232 | 7.49 | 4.49 | 1.2 |
| 20 | 24 | 2 | 19⅜ | 23⅜ | 1¾ | 10.8 | 12 | 5W515 | 8.31 | 4.98 | 1.3 |
| 20 | 25 | 2 | 19½ | 24½ | 1¾ | 11.2 | 12 | 2W233 | 8.28 | 4.96 | 1.3 |
| 24 | 24 | 2 | 23⅜ | 23⅜ | 1¾ | 12.7 | 12 | 2W235 | 9.75 | 5.84 | 1.5 |
| 25 | 25 | 2 | 24¾ | 24¾ | 1¾ | 14.0 | 12 | 6C518 | 10.42 | 6.24 | 1.4 |
| 12 | 24 | 2 | 11⅜ | 23⅜ | 3¾ | 11.3 | 6 | 2W238 | 14.54 | 8.71 | 1.5 |
| 16 | 20 | 4 | 15⅜ | 19⅜ | 3¾ | 12.5 | 6 | 5W516 | 13.54 | 8.11 | 1.8 |
| 16 | 25 | 4 | 15⅜ | 24⅜ | 3¾ | 15.6 | 6 | 5W517 | 14.93 | 8.94 | 2.0 |
| 18 | 24 | 4 | 17⅜ | 23⅜ | 3¾ | 17.5 | 6 | 5W518 | 16.91 | 10.13 | 2.1 |
| 20 | 20 | 4 | 19⅜ | 19⅜ | 3¾ | 15.6 | 6 | 2W236 | 16.11 | 9.65 | 2.0 |
| 20 | 24 | 4 | 19⅜ | 23⅜ | 3¾ | 18.8 | 6 | 5C437 | 16.96 | 10.16 | 2.3 |
| 20 | 25 | 4 | 19⅜ | 24⅜ | 3¾ | 19.5 | 6 | 2W237 | 17.26 | 10.34 | 2.2 |
| 24 | 24 | 4 | 23⅜ | 23⅜ | 3¾ | 22.5 | 6 | 2W239 | 18.33 | 10.98 | 2.5 |
| 25 | 29 | 4 | 24¾ | 28⅜ | 3¾ | 29.0 | 3 | 5C436 | 26.98 | 16.16 | 3.0 |
| 28 | 30 | 4 | 27⅝ | 29⅜ | 3¾ | 33.1 | 3 | 5C435 | 36.72 | 21.99 | 3.7 |



*Breath easy — we've got the air treatment products you need.*

# EXTENDED SURFACE PLEATED AIR FILTERS

## HIGH CAPACITY PLEATED AIR FILTERS

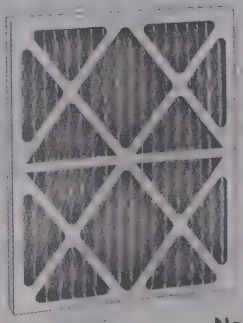
### FILTER SPECIFICATIONS

| Filter Depth (In.) | Pleats Per Linear Ft. | Air Flow (FPM) Medium | Air Flow (FPM) High | Initial Resistance (In.) Medium | Initial Resistance (In.) High | Recommended Final 99Resistance (In.) |
|---|---|---|---|---|---|---|
| 1 | 16 | 375 | 500 | 0.20 | 0.38 | 1.0 |
| 2 | 15 | 375 | 500 | 0.16 | 0.24 | 1.0 |
| 4 | 12 | 500 | 625 | 0.20 | 0.29 | 1.0 |

### FILTER ORDERING DATA

| Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Media Area (Sq. Ft.) | Carton Quantity | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | x 16 | x 1 | 7¾ | x 15¾ | x 3/4 | 2.1 | 12 | 6B917 | $7.06 | $4.23 | 0.3 |
| 8 | x 30 | x 1 | 7¾ | x 29¾ | x 3/4 | 3.9 | 12 | 6B916 | 8.95 | 5.36 | 0.7 |
| 10 | x 10 | x 1 | 9¾ | x 9¾ | x 3/4 | 1.6 | 12 | 6B988 | 6.48 | 3.88 | 0.3 |
| 10 | x 20 | x 1 | 9¾ | x 19½ | x 3/4 | 3.2 | 12 | 6B986 | 6.76 | 4.05 | 0.4 |
| 10 | x 24 | x 1 | 9⅞ | x 23⅜ | x 3/4 | 3.9 | 12 | 6B984 | 7.89 | 4.73 | 0.5 |
| 10 | x 25 | x 1 | 9¾ | x 24¾ | x 3/4 | 4 | 12 | 6B983 | 7.98 | 4.78 | 0.5 |
| 10 | x 30 | x 1 | 9¾ | x 29¾ | x 3/4 | 4.8 | 12 | 6B982 | 9.71 | 5.82 | 0.6 |
| 12 | x 12 | x 1 | 11¾ | x 11¾ | x 3/4 | 2.3 | 12 | 6B981 | 7.11 | 4.26 | 0.3 |
| 12 | x 16 | x 1 | 11¾ | x 15¾ | x 3/4 | 3.1 | 12 | 6B980 | 7.61 | 4.56 | 0.4 |
| 12 | x 18 | x 1 | 11¾ | x 17¾ | x 3/4 | 3.5 | 12 | 6B979 | 8.28 | 4.96 | 0.5 |
| 12 | x 20 | x 1 | 11¾ | x 19¾ | x 3/4 | 3.9 | 12 | 6B978 | 7.81 | 4.68 | 0.5 |
| 12 | x 24 | x 1 | 11⅞ | x 23⅜ | x 3/4 | 4.7 | 12 | 6B976 | 7.11 | 4.26 | 0.5 |
| 12 | x 25 | x 1 | 11¾ | x 24¾ | x 3/4 | 4.8 | 12 | 6B973 | 8.66 | 5.19 | 0.6 |
| 12 | x 30 | x 1 | 11¾ | x 29¾ | x 3/4 | 5.8 | 12 | 6B972 | 10.58 | 6.34 | 0.7 |
| 12 | x 30⅝ | x 1 | 11¾ | x 30⅛ | x 3/4 | 6 | 12 | 6B971 | 10.63 | 6.37 | 0.7 |
| 14 | x 20 | x 1 | 13½ | x 19½ | x 3/4 | 4.6 | 12 | 6B970 | 7.21 | 4.32 | 0.5 |
| 14 | x 24 | x 1 | 13⅝ | x 23⅜ | x 3/4 | 5.4 | 12 | 6B968 | 9.08 | 5.44 | 0.6 |
| 14 | x 25 | x 1 | 13½ | x 24½ | x 3/4 | 5.8 | 12 | 6B967 | 7.91 | 4.74 | 0.7 |
| 14 | x 30 | x 1 | 13½ | x 29½ | x 3/4 | 6.8 | 12 | 6B965 | 11.52 | 6.90 | 0.9 |
| 15 | x 20 | x 1 | 14½ | x 19½ | x 3/4 | 4.9 | 12 | 6B964 | 7.38 | 4.42 | 0.6 |
| 15 | x 25 | x 1 | 14½ | x 24½ | x 3/4 | 6.1 | 12 | 6B962 | 9.45 | 5.66 | 0.7 |
| 15 | x 30 | x 1 | 14¾ | x 29¾ | x 3/4 | 7.3 | 12 | 6B961 | 11.87 | 7.11 | 0.9 |
| 15 | x 30⅝ | x 1 | 14¾ | x 30⅛ | x 3/4 | 7.5 | 12 | 6B960 | 11.97 | 7.17 | 0.9 |
| 16 | x 16 | x 1 | 15¾ | x 15¾ | x 3/4 | 4.1 | 12 | 6B959 | 8.08 | 4.84 | 0.5 |
| 16 | x 20 | x 1 | 15½ | x 19½ | x 3/4 | 5.1 | 12 | 6B957 | 7.41 | 4.44 | 0.6 |
| 16 | x 22¼ | x 1 | 15¾ | x 22 | x 3/4 | 5.9 | 12 | 6B954 | 10.55 | 6.32 | 0.7 |
| 16 | x 24 | x 1 | 15⅝ | x 23⅜ | x 3/4 | 6.2 | 12 | 6B953 | 9.46 | 5.67 | 0.7 |
| 16 | x 25 | x 1 | 15½ | x 24½ | x 3/4 | 6.4 | 12 | 6B951 | 7.84 | 4.70 | 0.8 |
| 18 | x 18 | x 1 | 17¾ | x 17¾ | x 3/4 | 5.2 | 12 | 6B948 | 8.93 | 5.35 | 0.6 |
| 18 | x 20 | x 1 | 17¾ | x 19¾ | x 3/4 | 5.8 | 12 | 6B947 | 9.36 | 5.61 | 0.7 |
| 18 | x 22 | x 1 | 17¾ | x 21¾ | x 3/4 | 6.4 | 12 | 6B946 | 9.61 | 5.76 | 0.7 |
| 18 | x 24 | x 1 | 17⅝ | x 23⅜ | x 3/4 | 7 | 12 | 6B944 | 10.22 | 6.12 | 0.7 |
| 18 | x 25 | x 1 | 17½ | x 24½ | x 3/4 | 7.3 | 12 | 6B941 | 10.38 | 6.22 | 0.7 |
| 19 | x 27 | x 1 | 18¾ | x 26¾ | x 3/4 | 8.3 | 12 | 6B939 | 12.69 | 7.60 | 0.8 |
| 20 | x 20 | x 1 | 19½ | x 26¾ | x 3/4 | 6.6 | 12 | 6B938 | 7.94 | 4.76 | 0.7 |
| 20 | x 22¼ | x 1 | 19¾ | x 22 | x 3/4 | 7.4 | 12 | 6B935 | 11.52 | 6.90 | 0.7 |
| 20 | x 24 | x 1 | 19¾ | x 23⅜ | x 3/4 | 7.7 | 12 | 6B934 | 10.83 | 6.49 | 0.8 |
| 20 | x 25 | x 1 | 19½ | x 24½ | x 3/4 | 8.2 | 12 | 6B931 | 8.93 | 5.35 | 0.8 |
| 20 | x 30 | x 1 | 19¾ | x 29¾ | x 3/4 | 9.7 | 12 | 6B928 | 13.94 | 8.35 | 0.9 |
| 22 | x 22 | x 1 | 21¾ | x 21¾ | x 3/4 | 7.8 | 12 | 6B927 | 10.35 | 6.20 | 0.8 |
| 22 | x 24¼ | x 1 | 21¾ | x 24 | x 3/4 | 8.5 | 12 | 6B926 | 12.79 | 7.66 | 0.8 |
| 24 | x 24 | x 1 | 23⅜ | x 23⅜ | x 3/4 | 9.3 | 12 | 6B925 | 9.87 | 5.91 | 0.9 |
| 24 | x 30 | x 1 | 23¾ | x 29⅜ | x 3/4 | 11.6 | 12 | 6B922 | 15.66 | 9.38 | 1.0 |
| 25 | x 25 | x 1 | 24¾ | x 24¾ | x 3/4 | 10.1 | 12 | 6B921 | 10.10 | 6.05 | 1.0 |
| 10 | x 10 | x 2 | 9¾ | x 9¾ | x 1¾ | 3.1 | 12 | 6B987 | 7.78 | 4.66 | 0.4 |
| 10 | x 20 | x 2 | 9½ | x 19½ | x 1¾ | 6.3 | 12 | 6B985 | 8.68 | 5.20 | 0.7 |
| 12 | x 20 | x 2 | 11¾ | x 19¾ | x 1¾ | 7.5 | 12 | 6B977 | 9.20 | 5.51 | 0.7 |
| 12 | x 24 | x 2 | 11⅜ | x 23⅜ | x 1¾ | 9 | 12 | 6B975 | 8.55 | 5.12 | 0.9 |
| 14 | x 20 | x 2 | 13½ | x 19½ | x 1¾ | 8.8 | 12 | 6B969 | 9.38 | 5.62 | 0.8 |
| 14 | x 25 | x 2 | 13½ | x 24½ | x 1¾ | 11 | 12 | 6B966 | 10.43 | 6.25 | 0.8 |
| 15 | x 20 | x 2 | 14½ | x 19½ | x 1¾ | 9.4 | 12 | 6B963 | 9.58 | 5.74 | 0.9 |
| 16 | x 16 | x 2 | 15¾ | x 15¾ | x 1¾ | 8 | 12 | 6B958 | 8.80 | 5.27 | 0.7 |
| 16 | x 20 | x 2 | 15½ | x 19½ | x 1¾ | 10.1 | 12 | 6B956 | 8.01 | 4.80 | 0.8 |
| 16 | x 24 | x 2 | 15⅜ | x 23⅜ | x 1¾ | 12.1 | 12 | 6B952 | 10.83 | 6.49 | 1.0 |
| 16 | x 25 | x 2 | 15½ | x 24½ | x 1¾ | 12.6 | 12 | 6B950 | 9.18 | 5.50 | 1.0 |
| 18 | x 22 | x 2 | 17¾ | x 21¾ | x 1¾ | 12.4 | 12 | 6B945 | 11.23 | 6.73 | 1.0 |
| 18 | x 24 | x 2 | 17⅜ | x 23⅜ | x 1¾ | 13.6 | 12 | 6B943 | 10.35 | 6.20 | 1.1 |
| 18 | x 25 | x 2 | 17½ | x 24½ | x 1¾ | 14.1 | 12 | 6B940 | 12.55 | 7.52 | 1.1 |
| 20 | x 20 | x 2 | 19½ | x 19½ | x 1¾ | 12.6 | 12 | 6B937 | 9.23 | 5.53 | 1.1 |
| 20 | x 24 | x 2 | 19⅜ | x 23⅜ | x 1¾ | 15.1 | 12 | 6B933 | 10.82 | 6.48 | 1.2 |
| 20 | x 25 | x 2 | 19½ | x 24½ | x 1¾ | 15.7 | 12 | 6B930 | 10.50 | 6.29 | 1.3 |
| 24 | x 24 | x 2 | 23¾ | x 23¾ | x 1¾ | 18.1 | 12 | 6B924 | 11.37 | 6.81 | 1.3 |
| 25 | x 25 | x 2 | 24½ | x 24½ | x 1¾ | 19.6 | 12 | 6B920 | 13.29 | 7.96 | 1.4 |
| 12 | x 24 | x 4 | 11⅜ | x 23⅜ | x 3¾ | 11.5 | 6 | 6B974 | 18.38 | 11.01 | 1.6 |
| 16 | x 20 | x 4 | 15⅛ | x 19⅜ | x 3¾ | 16.1 | 6 | 6B955 | 18.87 | 11.30 | 1.7 |
| 16 | x 25 | x 4 | 15⅛ | x 24⅜ | x 3¾ | 20.1 | 6 | 6B949 | 20.64 | 12.36 | 2.1 |
| 18 | x 24 | x 4 | 17⅛ | x 23⅜ | x 3¾ | 21.8 | 6 | 6B942 | 21.22 | 12.71 | 2.2 |
| 20 | x 20 | x 4 | 19⅛ | x 19⅜ | x 3¾ | 20.1 | 6 | 6B936 | 20.39 | 12.21 | 1.9 |
| 20 | x 24 | x 4 | 19⅛ | x 23⅜ | x 3¾ | 24.2 | 6 | 6B932 | 22.46 | 13.45 | 2.4 |
| 20 | x 25 | x 4 | 19⅛ | x 24⅜ | x 3¾ | 25.2 | 6 | 6B929 | 22.44 | 13.44 | 2.5 |
| 24 | x 24 | x 4 | 23¾ | x 23¾ | x 3¾ | 29 | 6 | 6B923 | 22.71 | 13.60 | 2.7 |
| 25 | x 29 | x 4 | 24⅛ | x 28⅛ | x 3¾ | 36.5 | 3 | 6B919 | 29.59 | 17.72 | 3.9 |
| 28 | x 30 | x 4 | 27⅛ | x 29⅛ | x 3¾ | 42.3 | 3 | 6B918 | 42.08 | 25.20 | 4.3 |

Air Handler®



No. 6B930

- Average (ASHRAE 52.1-1992) atmospheric efficiency of 20-25%
- 100% synthetic media, engineered for consistency
- 30-50% longer life and more media than standard capacity pleated
- Priced each. Sold in full cartons

**Application:** These high capacity pleated filters have the same filtration benefits and efficiency as standard capacity pleated. The high capacity pleated filters have more media and greater dust holding capacity, than the standard capacity pleated, when changed based on resistance.

**Construction:** The pleated filter pack is enclosed in a heavy duty, moisture resistant die-cut frame that will not crack, warp or distort under normal operating conditions. The pleat media is a nonwoven 100% synthetic engineered media, reinforced with galvanized expanded metal. UL Classified as to flammability only; Class 2 (R13458).


**LOOK FOR THE MANY NEW PRODUCTS WE HAVE ADDED!**

Check your frequently-ordered product categories for line extensions and new product offerings. Look for the "New Products" header at the top of the page and the "New" designation next to the stock number.

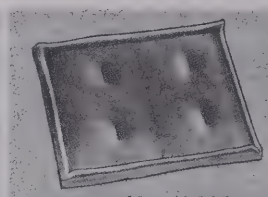
# CUBE, PANEL AND LINK AIR FILTERS

## 3-PLY RING PANELS AND LINKS

Filters utilizes three different fiber layers of 100% polyester. Each layer removes progressively smaller particles from the airstream. The second layer is treated with non-migrating tackifier to insure no dust migration downstream. A sturdy internal wire frame is heat sealed inside the polyester layers creating a self-gasketing filter. This filter was designed for high humidity applications, but performs well in all HVAC situations.

Panels are individual, single links. Link filters are a series of filters that are left connected to assure no bypass between filters in side access applications.

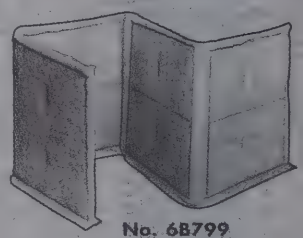
**Performance: Average efficiency, 25% (ASHRAE 52.1-1992). Common replacement for pleated air filters. Priced each. Sold in full cartons. UL Classified to flammability only; Class 2 (R13458).**



No. 6B800

Air Handler®

CLASSIFIED UL R13458



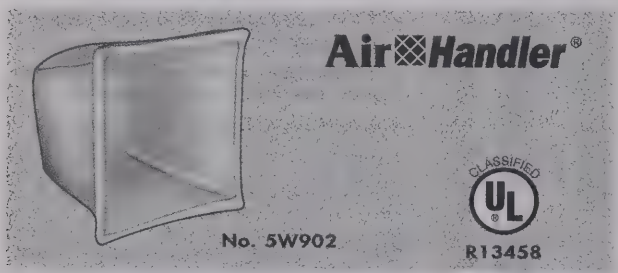
No. 6B799

### 3-PLY RING PANEL ORDERING DATA

| Actual Size (In.) H | W | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 12 | 24 | 24 | 6B829 | $5.41 | $3.24 | 0.8 |
| 16 | 20 | 24 | 6B818 | 5.29 | 3.17 | 0.9 |
| 16 | 25 | 24 | 6B813 | 6.41 | 3.84 | 1.0 |
| 20 | 20 | 24 | 6B803 | 5.89 | 3.53 | 1.1 |
| 20 | 24 | 24 | 6B800 | 7.48 | 4.48 | 1.2 |
| 20 | 25 | 24 | 6B798 | 7.38 | 4.42 | 1.2 |
| 24 | 24 | 24 | 6B791 | 8.04 | 4.82 | 1.3 |
| 25 | 25 | 24 | 6B784 | 10.40 | 6.23 | 1.4 |

### LINK ORDERING DATA

| Section H | L (In.) | Sections Per Carton | Total Length (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 16 | 20 | 24 | 480 | 1 | 6B817 | $127.58 | $76.40 | 21.0 |
| 16 | 25 | 24 | 600 | 1 | 6B812 | 154.64 | 92.60 | 25.0 |
| 20 | 20 | 24 | 480 | 1 | 6B802 | 154.47 | 92.50 | 26.0 |
| 20 | 25 | 24 | 600 | 1 | 6B797 | 180.27 | 107.95 | 29.0 |
| 24 | 24 | 24 | 576 | 1 | 6B790 | 196.39 | 117.60 | 32.0 |
| 25 | 16 | 24 | 384 | 1 | 6B788 | 154.30 | 92.40 | 25.0 |
| 25 | 20 | 24 | 480 | 1 | 6B786 | 180.27 | 107.95 | 29.0 |



Air Handler®

No. 5W902

CLASSIFIED UL R13458

## 3-PLY CUBE AIR FILTERS

- Same media characteristics as 3-PLY Panel and Links
- Cube filter design is ideal for heavy dust applications
- Priced each. Sold in carton quantity. UL Class 2 (R13458)

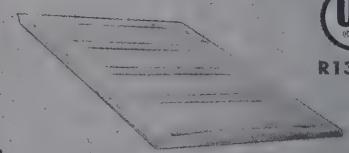
| Nominal Size (In.) H | W | D | Maximum Air Flow FPM | Initial Resistance (In.) | Recommended Final Resistance (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 24 | 15 | 500 | 0.26 | 1.0 | 6 | 5W905 | $27.83 | $16.67 | 0.3 |
| 24 | 24 | 15 | 500 | 0.26 | 1.0 | 6 | 5W904 | 35.78 | 21.43 | 0.4 |
| 12 | 24 | 20 | 500 | 0.22 | 1.0 | 6 | 5W903 | 36.22 | 21.69 | 2.0 |
| 24 | 24 | 20 | 500 | 0.22 | 1.0 | 6 | 5W902 | 45.59 | 27.30 | 2.5 |

## SPRAY BOOTH MAKE-UP AIR PANEL FILTERS

- Media design for spray booth applications
- Same heat-sealed construction as 3-Ply filters
- Two layers of 100% synthetic media
- White side to air entry side
- Tacifier will not run below 150°F
- Price each. Sold in carton quantity, UL Class 2 (R13458)

Air Handler®

CLASSIFIED UL R13458



No. 5W422

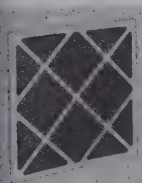
| Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Style | Air Flow FPM | Recommended Resistance (In.) | Final Resistance (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 20 | 1 | 19½ | 19½ | 1 | Individual | 500 | 0.27 | 1.0 | 24 | 5W422 | $6.84 | $4.10 | 1.0 |
| 20 | 25 | 1 | 19½ | 24½ | 1 | Individual | 500 | 0.27 | 1.0 | 24 | 5W423 | 8.40 | 5.03 | 0.9 |
| 24 | 24 | 1 | 23⅜ | 23⅜ | 1 | Individual | 500 | 0.27 | 1.0 | 24 | 5W424 | 9.21 | 5.52 | 1.4 |
| 20 | 50 | 1 | 19½ | 49½ | 1 | Folded | 500 | 0.27 | 1.0 | 10 | 5W425 | 17.26 | 10.34 | 1.8 |



Breath easy — we've got the air treatment products you need.

# ACTIVATED CARBON AIR FILTERS

## ACTIVATED CARBON HONEYCOMB DISPOSABLE FILTERS




No. 6W735



Honeycomb Construction of 2" Filter

- **Dual function: absorbs odors and filters particulate**
- **Granular activated carbon**
- **Fully disposable, no refilling necessary**
- **Honeycomb construction ensures low air flow resistance**
- **Priced each. Sold in full cartons**

**Applications:** Dual purpose activated carbon disposable filters are designed to eliminate general odor and gas problems when concentrations are not heavy. Provides relief of odors created by cigarette smoke, industrial processes, vehicle exhaust, food processing copiers, and musty areas. These combination filters offer medium efficiency particulate filtration along with absorbent carbon for fume and odor removal. The granular activated carbon offers more odor removal capacity than carbon impregnated pleated air filters or rolls.

**Activated Carbon** acts like a porous sponge, collecting and retaining certain chemical compounds on its surface. The ability of activated carbon to absorb a gas or vapor is called its activity. Carbon used in these filters have a minimum carbon tetrachloride (CCL4) activity of 60%—it will absorb at least 60% of its own weight of CCL4 vapor under a standard set of test conditions. 150°F max. temperature.

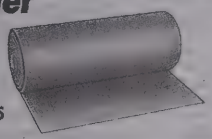
**Construction: 1" Filters** are constructed using 1/2" honeycomb that contains approximately .7 pounds of activated carbon per square foot of face area. The 1/4" prefilter pad is constructed from high quality synthetic fibers.

**2" Filters** are constructed using 3/4" honeycomb that contains approximately 1 pound of activated carbon per square foot of face area. The 1" pleated prefilter offers medium efficiency and up to three times the life of conventional panel filters.

| Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Air Flow FPM | Initial Resistance (In.) | Recommended Final Resistance (In.) | Carton Qty | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 24 | 1 | 11 3/8 | 23 3/8 | 3/4 | 250 | 0.38 | 1.0 | 4 | 6W735 | $38.84 | $23.26 | 2.0 |
| 16 | 20 | 1 | 15 1/2 | 19 1/2 | 3/4 | 250 | 0.38 | 1.0 | 4 | 6W736 | 39.44 | 23.62 | 2.3 |
| 16 | 25 | 1 | 15 1/2 | 24 1/2 | 3/4 | 250 | 0.38 | 1.0 | 4 | 6W737 | 39.81 | 23.84 | 2.8 |
| 20 | 20 | 1 | 19 1/2 | 19 1/2 | 3/4 | 250 | 0.38 | 1.0 | 4 | 6W738 | 39.81 | 23.84 | 2.8 |
| 20 | 25 | 1 | 19 1/2 | 24 1/2 | 3/4 | 250 | 0.38 | 1.0 | 4 | 6W739 | 44.33 | 26.55 | 3.5 |
| 24 | 24 | 1 | 23 3/8 | 23 3/8 | 3/4 | 250 | 0.38 | 1.0 | 4 | 6W740 | 51.77 | 31.00 | 4.0 |
| 12 | 24 | 2 | 11 3/8 | 23 3/8 | 1 3/4 | 250 | 0.48 | 1.0 | 4 | 6W741 | 50.85 | 30.45 | 2.8 |
| 16 | 20 | 2 | 15 1/2 | 19 1/2 | 1 3/4 | 250 | 0.48 | 1.0 | 4 | 6W742 | 51.35 | 30.75 | 3.0 |
| 16 | 25 | 2 | 15 1/2 | 24 1/2 | 1 3/4 | 250 | 0.48 | 1.0 | 4 | 6W743 | 51.77 | 31.00 | 4.0 |
| 20 | 20 | 2 | 19 1/2 | 19 1/2 | 1 3/4 | 250 | 0.48 | 1.0 | 4 | 6W744 | 51.77 | 31.00 | 4.0 |
| 20 | 25 | 2 | 19 1/2 | 24 1/2 | 1 3/4 | 250 | 0.48 | 1.0 | 4 | 6W745 | 56.78 | 34.00 | 4.8 |
| 24 | 24 | 2 | 23 3/8 | 23 3/8 | 1 3/4 | 250 | 0.48 | 1.0 | 4 | 6W746 | 70.72 | 42.35 | 5.5 |

## ACTIVATED CARBON IMPREGNATED FILTER MEDIA PAD

Air Handler®



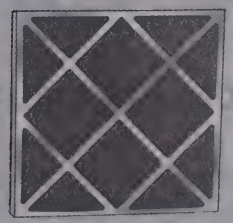
No. 5W095

**Polyester filter media impregnated** with activated carbon provides dual air cleaning functions. Media filters particulates and activated carbon absorbs odors associated with food storage, smoke, pets, or musty areas. Can be easily cut to size with scissors. Priced each. Sold in carton quantity

| Nominal Size H | W | D | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 25" | 25" | 1/4" | 24 | 5W095 | $10.32 | $6.18 | 0.3 |

## CARBON IMPREGNATED PLEATED AIR FILTERS

Air Handler®



No. 6B899

- **Dual Purpose: Filters particulate and absorbs light odors**
- **Suitable for commercial and residential use**
- **Priced each, sold in full cartons**

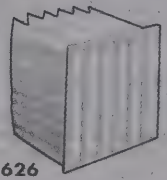
**Applications:** Suited for residential and commercial use to help eliminate odors. Dual function filter offers basic particulate filtration along with an absorbent carbon for the removal of light odors created by cigarette smoke, pets, painting and musty areas.

**Construction:** The pleated media is an nonwoven cotton/synthetic impregnated with an activated carbon and reinforced with expanded metal backing. The pleated filter pack is enclosed in a heavy duty, moisture resistant die-cut frame that will not crack, warp or distort under normal operating conditions.

| Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Media Sq. Ft. | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 20 | 1 | 15 1/2 | 19 1/2 | 3/4 | 4.2 | 12 | 6B899 | $18.13 | $10.86 | 0.6 |
| 16 | 25 | 1 | 15 1/2 | 24 1/2 | 3/4 | 5.2 | 12 | 6B894 | 20.29 | 12.15 | 0.8 |
| 20 | 20 | 1 | 19 1/2 | 19 1/2 | 3/4 | 5.2 | 12 | 6B886 | 20.37 | 12.20 | 0.7 |
| 20 | 25 | 1 | 19 1/2 | 24 1/2 | 3/4 | 6.5 | 12 | 6B880 | 23.19 | 13.89 | 0.8 |
| 24 | 24 | 1 | 23 3/8 | 23 3/8 | 3/4 | 7.5 | 12 | 6B876 | 25.68 | 15.38 | 0.9 |
| 16 | 20 | 2 | 15 1/2 | 19 1/2 | 1 3/4 | 6.9 | 12 | 6B898 | 21.30 | 12.76 | 0.8 |
| 16 | 25 | 2 | 15 1/2 | 24 1/2 | 1 3/4 | 8.6 | 12 | 6B893 | 25.05 | 15.00 | 1.0 |
| 20 | 20 | 2 | 19 1/2 | 19 1/2 | 1 3/4 | 9.0 | 12 | 6B885 | 25.85 | 15.48 | 1.1 |
| 20 | 25 | 2 | 19 1/2 | 24 1/2 | 1 3/4 | 11.2 | 12 | 6B879 | 30.51 | 18.27 | 1.3 |
| 24 | 24 | 2 | 23 3/8 | 23 3/8 | 1 3/4 | 12.7 | 12 | 6B875 | 33.46 | 20.04 | 1.3 |
| 24 | 24 | 4 | 23 3/8 | 23 3/8 | 3 3/4 | 22.5 | 6 | 6B874 | 63.87 | 38.25 | 2.7 |

# SYNTHETIC AND FIBERGLASS POCKET AIR FILTERS

Air Handler®



CLASSIFIED UL R13458

No. 6B626

- Medium and high efficiency
- High dust holding capacity
- 13/16" galvanized steel header
- Available in synthetic or fiberglass media
- Priced each. Sold in cartons of 2.

**Applications:** For use in areas requiring a high degree of air cleanliness including hospitals, schools, industrial facilities and office complexes. Pocket filters excel in both dust holding capacity and filter efficiency. Greater dust holding capacity means longer service life and lower operating costs.

**SYNTHETIC MEDIA:** Replaces fiberglass pocket filters. Does not shed fibers downstream during shut-off or variable air flow. Synthetic media is stongly suggested for high humidity applications.

**FIBERGLASS MEDIA:** Ultra fine fiberglass media specifically designed for each efficiency range.

Construction: The 13/16" frame (header) is 24 gauge galvanized steel. Galvanized steel pocket dividers add significantly to overall strength of the filter as well as directing air evenly into each pocket. The media is supported on the air exit side by a reinforced backing material. Media is sewn together using an expanded string stitch to maintain uniform and accurate spacing. Each stitch is sealed with thermoplastic resin to prevent leakage. Double locked stitched edges for maximum durability and security. UL Classified as to flammability only; Class 2 (R13458). Two filters per carton.

## ACTUAL HEADER SIZE CHART

| Nominal (In.) | | | Actual (In.) | | |
|---|---|---|---|---|---|
| 24 | x 12 | x 1 | 23⅜ | x 11⅜ | x 13/16 |
| 24 | x 24 | x 1 | 23⅜ | x 23⅜ | x 13/16 |

## MEDIA IDENTIFICATION CHART

| Media Color | Average Efficiency ASHRAE 52.1-1992 |
|---|---|
| Yellow | 90-95% |
| Pink | 80-85% |
| Orange | 60-65% |
| White - Synthetic | 40-45% |
| Yellow/Tan - Fiberglass | 40-45% |

## POCKET AIR FILTER ORDERING DATA

| Filter Efficiency | Nominal Size (In.) H | x W | x D | No. of Pockets | Media Area Sq. Ft. | Capacity CFM | Operating Resistance (In.) (W.G.) Initial | Final | SYNTHETIC Stock No. | List | Each | Shpg. Wt. | FIBERGLASS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90-95% | 24 | x 24 | x 36 | 8 | 108 | 2000 | 0.40 | 1.0 | 6B626 | $106.12 | $63.55 | 4.0 | 5E836 | $113.22 | $67.80 | 6.6 |
| 90-95% | 24 | x 24 | x 36 | 6 | 81 | 2000 | 0.52 | 1.0 | 6B639 | 77.48 | 46.40 | 3.5 | 5W426 | 77.48 | 46.40 | 7.5 |
| 90-95% | 24 | x 24 | x 29 | 8 | 90 | 2000 | 0.55 | 1.0 | 6B627 | 94.60 | 56.65 | 3.8 | 5W427 | 107.38 | 64.30 | 8.0 |
| 90-95% | 24 | x 24 | x 29 | 6 | 68 | 2000 | 0.60 | 1.0 | 6B640 | 71.56 | 42.85 | 3.3 | 5E838 | 76.31 | 45.70 | 6.5 |
| 90-95% | 24 | x 24 | x 22 | 8 | 66 | 2000 | 0.60 | 1.0 | 6B628 | 76.15 | 45.60 | 3.5 | 5E839 | 81.16 | 48.60 | 6.5 |
| 90-95% | 24 | x 24 | x 22 | 6 | 50 | 2000 | 0.65 | 1.0 | 6B641 | 60.20 | 36.05 | 3.1 | 5E840 | 64.12 | 38.40 | 6.4 |
| 90-95% | 24 | x 24 | x 18 | 6 | 41 | 1250 | 0.55 | 1.0 | 6B642 | 53.69 | 32.15 | 3.0 | 5E841 | 57.11 | 34.20 | 5.8 |
| 90-95% | 24 | x 12 | x 36 | 4 | 54 | 1000 | 0.40 | 1.0 | 6B658 | 57.53 | 34.45 | 2.3 | 5E842 | 61.28 | 36.70 | 4.3 |
| 90-95% | 24 | x 12 | x 29 | 4 | 45 | 1000 | 0.55 | 1.0 | 6B659 | 50.93 | 30.50 | 2.2 | 5W429 | 51.18 | 30.65 | 8.5 |
| 90-95% | 24 | x 12 | x 22 | 3 | 25 | 1000 | 0.65 | 1.0 | 6B668 | 33.96 | 20.34 | 1.8 | 5E844 | 36.12 | 21.63 | 4.2 |
| 90-95% | 24 | x 12 | x 18 | 3 | 21 | 625 | 0.55 | 1.0 | 6B669 | 30.56 | 18.30 | 1.8 | 5E845 | 32.49 | 19.46 | 4.0 |
| 80-85% | 24 | x 24 | x 36 | 6 | 81 | 2000 | 0.42 | 1.0 | 6B643 | 71.56 | 42.85 | 3.5 | 5W430 | 71.56 | 42.85 | 7.5 |
| 80-85% | 24 | x 24 | x 29 | 8 | 90 | 2000 | 0.40 | 1.0 | 6B630 | 81.41 | 48.75 | 3.8 | 5W431 | 81.41 | 48.75 | 8.0 |
| 80-85% | 24 | x 24 | x 29 | 6 | 68 | 2000 | 0.45 | 1.0 | 6B644 | 62.79 | 37.60 | 3.3 | 5W432 | 62.79 | 37.60 | 5.0 |
| 80-85% | 24 | x 24 | x 22 | 8 | 66 | 2000 | 0.40 | 1.0 | 6B631 | 69.05 | 41.35 | 3.5 | 5W433 | 78.99 | 47.30 | 7.3 |
| 80-85% | 24 | x 24 | x 22 | 6 | 50 | 2000 | 0.50 | 1.0 | 6B645 | 52.27 | 31.30 | 3.1 | 5W434 | 52.27 | 31.30 | 7.0 |
| 80-85% | 24 | x 24 | x 18 | 6 | 41 | 1250 | 0.45 | 1.0 | 6B646 | 48.93 | 29.30 | 3.0 | 5E848 | 52.10 | 31.20 | 5.8 |
| 80-85% | 24 | x 12 | x 36 | 3 | 41 | 1000 | 0.45 | 1.0 | 6B670 | 37.57 | 22.50 | 2.0 | 5W435 | 37.57 | 22.50 | 6.0 |
| 80-85% | 24 | x 12 | x 29 | 4 | 45 | 1000 | 0.40 | 1.0 | 6B661 | 45.59 | 27.30 | 2.2 | 5W436 | 46.09 | 27.60 | 8.5 |
| 80-85% | 24 | x 12 | x 22 | 4 | 33 | 1000 | 0.40 | 1.0 | 6B662 | 38.10 | 22.82 | 2.0 | 5W438 | 38.10 | 22.82 | 6.0 |
| 80-85% | 24 | x 12 | x 18 | 3 | 21 | 625 | 0.45 | 1.0 | 6B673 | 28.12 | 16.84 | 1.8 | 5E850 | 29.91 | 17.91 | 4.0 |
| 60-65% | 24 | x 24 | x 29 | 8 | 90 | 2000 | 0.30 | 1.0 | 6B633 | 74.73 | 44.75 | 3.8 | 5W441 | 74.73 | 44.75 | 8.0 |
| 60-65% | 24 | x 24 | x 29 | 6 | 68 | 2000 | 0.45 | 1.0 | 6B648 | 59.78 | 35.80 | 3.3 | 5E854 | 63.71 | 38.15 | 6.5 |
| 60-65% | 24 | x 24 | x 22 | 8 | 66 | 2000 | 0.34 | 1.0 | 6B634 | 62.62 | 37.50 | 3.5 | 5W442 | 62.62 | 37.50 | 7.3 |
| 60-65% | 24 | x 24 | x 22 | 6 | 50 | 2000 | 0.40 | 1.0 | 6B649 | 49.09 | 29.40 | 3.1 | 5W443 | 49.09 | 29.40 | 4.0 |
| 60-65% | 24 | x 24 | x 18 | 6 | 41 | 1250 | 0.55 | 1.0 | 6B650 | 45.75 | 27.40 | 3.0 | 5E855 | 48.59 | 29.10 | 9.0 |
| 60-65% | 24 | x 12 | x 29 | 4 | 45 | 1000 | 0.30 | 1.0 | 6B664 | 42.33 | 25.35 | 2.2 | 5W445 | 43.00 | 25.75 | 8.5 |
| 60-65% | 24 | x 12 | x 22 | 4 | 33 | 1000 | 0.34 | 1.0 | 6B665 | 35.70 | 21.38 | 2.0 | 5W446 | 35.70 | 21.38 | 6.0 |
| 60-65% | 24 | x 12 | x 18 | 3 | 21 | 625 | 0.55 | 1.0 | 6B677 | 26.41 | 15.82 | 1.8 | 5E858 | 28.10 | 16.83 | 4.0 |
| 40-45% | 24 | x 24 | x 21 | 6 | 48 | 2000 | 0.20 | 1.0 | 6B651 | 45.84 | 27.45 | 3.1 | 5W448 | 46.34 | 27.75 | 6.5 |
| 40-45% | 24 | x 24 | x 14 | 6 | 32 | 2000 | 0.30 | 1.0 | 6B652 | 37.57 | 22.50 | 2.9 | 5W450 | 37.57 | 22.50 | 5.0 |
| 40-45% | 24 | x 12 | x 21 | 3 | 24 | 1000 | 0.20 | 1.0 | 6B678 | 26.43 | 15.83 | 1.8 | 5W449 | 29.24 | 17.51 | 3.5 |
| 40-45% | 24 | x 12 | x 14 | 3 | 16 | 1000 | 0.30 | 1.0 | 6B679 | 23.09 | 13.83 | 1.7 | 5W451 | 24.69 | 14.79 | 7.5 |

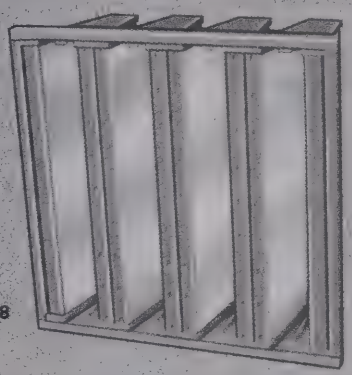
## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# V-BANK MINI-PLEAT AIR FILTERS

**Air Handler®**

CLASSIFIED UL R13458



No. 4E408

- **Energy saving**
- **Up to 3000 CFM**
- **Low pressure drop**
- **193 Sq.-ft. of active media area**
- **Operate in 100% relative humidity**
- **High dust holding capacity**
- **150°F maximum temperature**

**Fine dust-filters remove air contamination** such as fine dust, smoke, vapor, soot, pollen, and bacteria. Ideal for all standard filter applications, especially with increased demands regarding service life, safety, versatility, and low initial resistance.

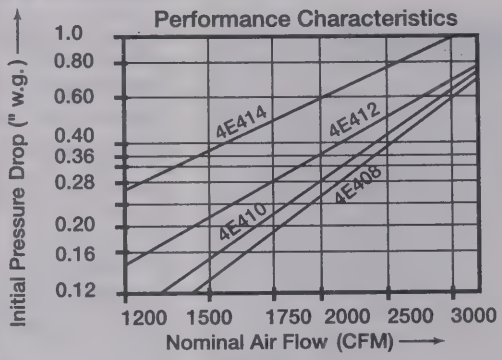
**Maintenance-free and easy to install.** Fits all commonly used filter frames and housings; header size is 13/16", and requires only 12" depth for installation. Installation position, service side and course of air flow can be in any direction.

**Replace conventional bags and rigid filters.** Filter is especially suited for use in variable air volume systems.

**Compact size takes up less space,** yet large filter surface area (193 sq.-ft.) offers long service life and low initial resistance.

**Dust particles will not migrate** with inherently stable filter material. Mini-pleated filter captures submicron size particles. Glass microfiber paper resists moisture and does not shed fibers downstream. Self-supporting strong cellular structure has extremely high dust-holding capacity and can resist pressures up to 6" wg.

**95% D.O.P. "Hospital Grade" Filter Nos. 5W995 and 5W996** are more than 95% efficient on .3 micron size particles, new and clean. This filter is more than 8 times as efficient as a 95% ASHRAE filter when comparing penetration. The filter can be used in systems where HEPA filter performance is desired but where system limitations regarding fan capacity and air volume requirements of system do not permit use of high resistance, low volume HEPA filters. UL Classified as to flammability only; Class 2 (R13458).




## FILTER RUNNING COST CHART

This chart shows the relationship between air flow pressure drop and energy cost (Kwh) on the annual running cost. The lower the pressure drop, the lower the the running cost of an HVAC system.

| Initial Pressure Drop (In water gauge) | | 0.30 | 0.40 | 0.50 | 0.60 | 0.70 |
|---|---|---|---|---|---|---|
| Cost (Kwh) | $0.06 | $73 | $91 | $114 | $137 | $160 |
| | 0.08 | 91 | 121 | 152 | 183 | 213 |
| | 0.10 | 121 | 152 | 190 | 229 | 266 |
| | 0.12 | 146 | 183 | 229 | 274 | 320 |
| | 0.14 | 160 | 213 | 267 | 320 | 373 |

ASSUMPTION: 2000 CFM at all pressure drops running 8760 hrs. per year.

**EXAMPLE 1: Air Filter**

Clean pressure drop 0.40"wg
Cost of $0.06/kwh
Annual running cost $91

**EXAMPLE 2: Air Filter**

Clean pressure drop 0.60" wg
Cost of $0.06/kwh
Annual running cost $137

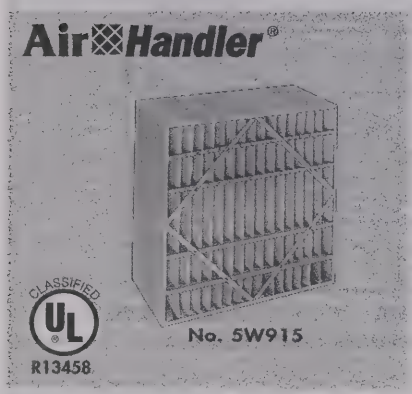
**CONCLUSION:**

| | |
|---|---|
| Filter 2 running cost | $137 |
| Less Filter 1 running cost | -91 |
| Running cost savings with Filter 1 | $46 (per filter) |

| Filter Efficiency | Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Capacity (CFM) | Media Area (Sq.-Ft.) | Initial Resistance (In.) | Recommended Final Resistance (in.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75% | 12 | 24 | 12 | 11 3/8 | 23 3/8 | 11 3/4 | 1000/1250/1500 | 92 | 0.26/0.40/0.56 | 1.50 | **4E409** | $195.97 | **$117.35** | 12.0 |
| 75 | 24 | 24 | 12 | 23 3/8 | 23 3/8 | 11 3/4 | 2000/2500/3000 | 193 | 0.26/0.40/0.56 | 1.50 | **4E408** | 265.53 | **159.00** | 23.0 |
| 85 | 12 | 24 | 12 | 11 3/8 | 23 3/8 | 11 3/4 | 1000/1250/1500 | 92 | 0.28/0.44/0.60 | 1.50 | **4E411** | 199.81 | **119.65** | 12.0 |
| 85 | 24 | 24 | 12 | 23 3/8 | 23 3/8 | 11 3/4 | 2000/2500/3000 | 193 | 0.28/0.44/0.60 | 1.50 | **4E410** | 270.54 | **162.00** | 23.0 |
| 95 | 12 | 24 | 12 | 11 3/8 | 23 3/8 | 11 3/4 | 1000/1250/1500 | 92 | 0.36/0.50/0.64 | 1.50 | **4E413** | 200.40 | **120.00** | 12.0 |
| 95 | 24 | 24 | 12 | 23 3/8 | 23 3/8 | 11 3/4 | 2000/2500/3000 | 193 | 0.36/0.50/0.64 | 1.50 | **4E412** | 286.40 | **171.50** | 23.0 |
| 98 | 12 | 24 | 12 | 11 3/8 | 23 3/8 | 11 3/4 | 1000/1250 | 92 | 0.56/0.76 | 1.50 | **4E415** | 217.68 | **130.35** | 12.0 |
| 98 | 24 | 24 | 12 | 23 3/8 | 23 3/8 | 11 3/4 | 2000/2500 | 193 | 0.56/0.76 | 1.50 | **4E414** | 288.91 | **173.00** | 23.0 |
| 95 DOP | 12 | 24 | 12 | 11 3/8 | 23 3/8 | 11 3/4 | 1000/1250 | 92 | 0.80/1.00 | 2.00 | **5W995** | 244.07 | **146.15** | 14.0 |
| 95 DOP | 24 | 24 | 12 | 23 3/8 | 23 3/8 | 11 3/4 | 2000/2500 | 193 | 0.80/1.00 | 2.00 | **5W996** | 321.89 | **192.75** | 23.0 |

# HIGH EFFICIENCY EXTENDED SURFACE AIR FILTERS

## RIGID CELL FILTERS




- **Three efficiency ranges: 60-65%, 80-85%, 90-95%**
- **Media held in rigid format**
- **Priced each. Sold in full cartons**

**Disposable, medium and high efficiency air filters** offer long service life. Suitable for commercial buildings, schools, universities, hospitals, arenas, industrial installations.

**For upgrading current systems** as well as for new installations. Rigid, compact construction for variable air volume systems (performance is not affected by changes in air flow or by shut-down). Filter media is made of ultra fine glass fibers.

**The air exit side of the media is nylon reinforced** for media integrity. Metal support grid is bonded to the media to eliminate media fluttering while in operation. Metal grid also maintains the pleat configuration.

**Enclosure frame, or cell side is galvanized steel,** ensuring the filter a rigid and durable housing. Frame and media pack are sealed over 100% of the interior surface of the cell side. In addition, diagonal front and rear support members are attached to air entering and air leaving sides of the cell for added rigidity and protection. Media stabilizers reinforce and shape the media pleats, ensuring that configuration is maintained throughout filter life. Pleat design offers maximum media utilization and dust holding capabilities for extended filter life. UL Classified as to flammability only, Class 2 (R13458).

### RIGID CELL FILTER ORDERING DATA

| Filter Efficiency* | Nominal Size (In.) H | W | D | Media Area (Sq.- Ft.) | Capacity CFM | Operating Resistance (WG) Initial | Final | Carton Quantity | Stock No. | List | Each | Shpg. Wt. Per Carton |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **90-95%** | 24 | x 24 | x 12 | 58 | 2000 | 0.66 | 1.50 | 1 | **5W915** | $128.75 | **$77.10** | 15.0 |
| **90-95** | 24 | x 12 | x 12 | 28 | 1000 | 0.66 | 1.50 | 2 | **5W916** | 91.85 | **55.00** | 6.0 |
| **80-85** | 24 | x 24 | x 12 | 58 | 2000 | 0.50 | 1.50 | 1 | **5W917** | 118.82 | **71.15** | 15.0 |
| **80-85** | 24 | x 12 | x 12 | 28 | 1000 | 0.50 | 1.50 | 2 | **5W918** | 84.66 | **50.70** | 8.5 |
| **60-65** | 24 | x 24 | x 12 | 58 | 2000 | 0.40 | 1.50 | 1 | **5W919** | 114.47 | **68.55** | 15.0 |
| **60-65** | 24 | x 12 | x 12 | 28 | 1000 | 0.40 | 1.50 | 2 | **5W920** | 81.58 | **48.85** | 12.0 |

(*) Based on ASHRAE Standard 52-76. Tolerances conform to ARI Standard 850-78, Section 7-4.

## CARTRIDGE FILTERS




- **Three efficiency ranges: 60-65%, 80-85%, 90-95%**
- **Priced each. Sold in full cartons**

**Designed for use in most HVAC applications:** industrial, commercial or institutional, such as hospitals, nurseries, food processing plants, pharmaceutical manufacturing, computer equipment rooms and electronic assembly areas. Filters remove bacteria, pollen, smoke, dust particles, and chemical pollutants from the air.

**Glass microfiber filter media** is an inherently stable filter material. Corrugated aluminum separators maintain even spacing between each media pleat and allows total unrestricted air flow to the entire media pack. Filter media is water resistant and can withstand intermittent exposure to water. Metal cell cartridge filters may be operated at temperatures up to 350°F.

**Filter frame cell sides and header** are of 24-gauge galvanized steel which helps eliminate handling damage and assures safe, long filter life. To protect filter against damage, the media pack is recessed from the frame edge. Header is $^{13}/_{16}$"H x $^{11}/_{16}$"D. UL Classified as to flammability only, Class I (R13458).

### CARTRIDGE FILTER ORDERING DATA

| Filter Efficiency* | Nominal Size (In.) H | W | D | Media Area (Sq.- Ft.) | Capacity CFM | Operating Resistance (WG) Initial | Final | Carton Quantity | Stock No. | List | Each | Shpg. Wt. Per Carton |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **90-95%** | 24 | x 24 | x 12 | 125 | 2000 | 0.65 | 1.50 | 1 | **5W921** | $145.12 | **$86.90** | 18.0 |
| **90-95** | 24 | x 12 | x 12 | 56 | 1000 | 0.65 | 1.50 | 2 | **5W922** | 100.53 | **60.20** | 9.0 |
| **80-85** | 24 | x 24 | x 12 | 105 | 2000 | 0.60 | 1.50 | 1 | **5W923** | 129.17 | **77.35** | 18.0 |
| **80-85** | 24 | x 12 | x 12 | 46 | 1000 | 0.60 | 1.50 | 2 | **5W924** | 89.34 | **53.50** | 9.0 |
| **60-65** | 24 | x 24 | x 12 | 105 | 2000 | 0.45 | 1.50 | 1 | **5W925** | 127.17 | **76.15** | 18.0 |
| **60-65** | 24 | x 12 | x 12 | 46 | 1000 | 0.45 | 1.50 | 2 | **5W926** | 87.09 | **52.15** | 9.0 |

(*) Based on ASHRAE Standard 52-76. Tolerances conform to ARI Standard 850-78, Section 7-4.

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# MINI-PLEAT AIR FILTERS AND GASKETING

## 4" SLIM LINE MINI-PLEAT AIR FILTERS

- 114 sq. ft. of surface area
- High efficiency
- Compact, 4" depth
- Rugged galvanized frame
- Priced each. Sold in full cartons
- 150°F maximum temperature

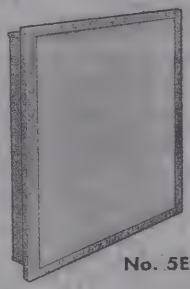
**Fine dust filters** remove most airborne contaminations such as dust, smoke, soot, pollen, and bacteria. Versatile enough for all HVAC filter applications, especially those with high humidity and limited service space.

**Filters will fit in all commonly used filter frames and housings.** Header size is 13/16". Requires only 4" depth for installation.

**Replacement for conventional bag filters.** Large mini-pleat 114 sq.-ft. surface area allows easy upgrades with little or no additional pressure drop loss. Many bag filters, due to flexing of media, unload dirt in variable air volume systems. Mini-pleat filters, with stable filter material and rigid construction, are ideal for use with variable air volume systems.

**Replacement for conventional rigid filters.** Replace 12" deep rigid fiberglass wool filters and ASHRAE cell filters with this 4" deep filter. Humidification systems can ruin rigid filter by wetting the media. Mini-pleat glass microfiber withstands 100% humidity; moisture will not affect filter efficiency. 114 sq.-ft. of effective filtering media results in longer filter life and lower overall maintenance costs. UL Classified as to flammability only; Class 2 (R13458).

Air Handler®



CLASSIFIED UL R13458

No. 5E898

| Filter Efficiency (%) | Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Capacity CFM | Initial Resistance (In.) | Recommended Final Resistance (In.) | Carton Quantity | Stock No. | | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 12 | 24 | 4 | 11 3/8 | 23 3/8 | 3 5/8 | 1000 | 0.50 | 1.50 | 2 | 5E894 | * | $140.69 | $28.05 | 4.4 |
| 75 | 24 | 24 | 4 | 23 3/8 | 23 3/8 | 3 5/8 | 2000 | 0.50 | 1.50 | 2 | 5E892 | * | 186.70 | 34.05 | 6.6 |
| 80-85 | 12 | 24 | 4 | 11 3/8 | 23 3/8 | 3 5/8 | 1000 | 0.79 | 1.50 | 2 | 5E897 | | 146.12 | 87.50 | 4.4 |
| 80-85 | 24 | 24 | 4 | 23 3/8 | 23 3/8 | 3 5/8 | 2000 | 0.79 | 1.50 | 2 | 5E895 | | 193.13 | 115.65 | 6.6 |
| 90-95 | 12 | 24 | 4 | 11 3/8 | 23 3/8 | 3 5/8 | 1000 | 0.82 | 1.50 | 2 | 5E900 | | 164.41 | 98.45 | 4.4 |
| 90-95 | 24 | 24 | 4 | 23 3/8 | 23 3/8 | 3 5/8 | 2000 | 0.82 | 1.50 | 2 | 5E898 | | 199.73 | 119.60 | 6.6 |

(*) Limited availability. Contact local branch. 65% Efficiency filters are available—contact local branch.

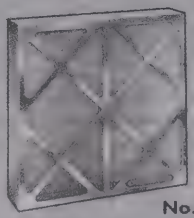
## 4" ECONOMY MINI-PLEAT AIR FILTERS

- For use in computer rooms
- 4" deep die-cut frame
- More efficient than 4" pleated filters
- Can operate in moderate humidity
- Priced each. Sold in full cartons

**Application:** Filters designed for applications requiring higher efficiency while having limited space. They fit in the same space as a 4" pleated filter. Ideally suited to provide secure, moisture resistant filtration for computer rooms or other controlled environments. Eliminates dust, smoke, pollen, and bacteria. Works well in most HVAC applications and offers more secure filtration than pocket filters in variable air volume systems.

**Construction:** The pleated filter pack is enclosed in a moisture-resistant, die-cut frame that will not crack, warp or distort under normal conditions. The pleated media pack is constructed of a glass microfiber filter media utilizing string separators and is sealed on all four sides to the filter frame. UL Classified as to flammability only; Class 2 (R13458).

Air Handler®



CLASSIFIED UL R13458

No. 6B590

| Filter Efficiency (%) | Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Capacity CFM | Initial Resistance (In.) | Recommended Final Resistance (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90-95 | 12 | 24 | 4 | 11 3/8 | 23 3/8 | 3 3/4 | 1000 | 0.68 | 1.50 | 2 | 6B597 | $140.72 | $84.30 | 3.4 |
| 90-95 | 20 | 20 | 4 | 19 3/8 | 19 3/8 | 3 3/4 | 1400 | 0.68 | 1.50 | 2 | 6B593 | 154.20 | 92.35 | 4.6 |
| 90-95 | 24 | 24 | 4 | 23 3/8 | 23 3/8 | 3 3/4 | 2000 | 0.68 | 1.50 | 2 | 6B590 | 178.53 | 106.95 | 6.3 |
| 80-85 | 12 | 24 | 4 | 11 3/8 | 23 3/8 | 3 3/4 | 1000 | 0.59 | 1.50 | 2 | 6B605 | 135.21 | 81.00 | 3.4 |
| 80-85 | 20 | 20 | 4 | 19 3/8 | 19 3/8 | 3 3/4 | 1400 | 0.59 | 1.50 | 2 | 6B601 | 148.67 | 89.05 | 4.6 |
| 80-85 | 24 | 24 | 4 | 23 3/8 | 23 3/8 | 3 3/4 | 2000 | 0.59 | 1.50 | 2 | 6B598 | 173.05 | 103.65 | 6.3 |
| 60-65 | 12 | 24 | 4 | 11 3/8 | 23 3/8 | 3 3/4 | 2000 | 0.40 | 1.50 | 2 | 6B613 | 129.78 | 77.75 | 3.4 |
| 60-65 | 20 | 20 | 4 | 19 3/8 | 19 3/8 | 3 3/4 | 1400 | 0.40 | 1.50 | 2 | 6B609 | 143.27 | 85.80 | 4.6 |
| 60-65 | 24 | 24 | 4 | 23 3/8 | 23 3/8 | 3 3/4 | 2000 | 0.40 | 1.50 | 2 | 6B606 | 167.54 | 100.35 | 6.3 |

## GASKETING FOR AIR FILTERS

- Black neoprene foam construction with adhesive backing
- Excellent resistance to chemicals, maximum temperature: 220°F
- Used to seal filters and avoid air by-pass

Air Handler®



No. 6C523

| Width (In.) | Actual Size Length (Ft.) | Thickness (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 13/16 | 75 | 1/8 | 6C523 | $18.43 | $11.04 | 0.7 |
| 13/16 | 50 | 1/4 | 6C524 | 18.53 | 11.10 | 0.6 |

# HEPA, BAFFLE, AND STEEL MESH AIR FILTERS

## HEPA AIR FILTERS

- **99.97% and 95% DOP efficiencies**
- **Metal construction**
- **Hospital grade**
- **For use in clean rooms**
- **Priced each. Sold in full cartons**

**Applications:** Provides high efficiency filtration for those situations that demand critical removal of particles from the airstream. Well suited for clean rooms, hospital operating suites, electronics manufacturing, and pharmaceutical production. For use in applications supplying controlled environment areas. Change filter when air flow falls below desired level.

**Construction:** Metal-galvanized frame. Media consists of a single sheet of microfiber paper available in two DOP efficiencies, 95% and 99.97%, and is supported by aluminum corrugated separators placed between each pleat of the media for maximum strength and minimum resistance. A urethane sealant is used to provide a positive seal on all four sides of the frame to eliminate potential air leaks. Standard neoprene rubber gasketing is applied to the downstream side of the filter. Each filter is individually tested. UL Classified as to flammability, Class I (R13458).




| DOP Filter Efficiency (%) | Actual Size (In.) H | W | D | Rated Air Flow (CFM) | Initial Resistance (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 99.97 | 24 | 24 | 11½ | 1100 | 1.0 | 1 | 6B614 | $472.61 | **$283.00** | 42.0 |
| 99.97 | 23⅜ | 23⅜ | 11½ | 1100 | 1.0 | 1 | 6B615 | 472.61 | **283.00** | 42.0 |
| 99.97 | 24 | 12 | 11½ | 550 | 1.0 | 1 | 6B616 | 376.58 | **225.50** | 27.0 |
| 99.97 | 12 | 12 | 11½ | 275 | 1.0 | 1 | 6B617 | 216.43 | **129.60** | 18.0 |
| 99.97 | 23⅜ | 11⅜ | 11½ | 550 | 1.0 | 1 | 6B618 | 376.58 | **225.50** | 27.0 |
| 95 | 24 | 24 | 11½ | 1900 | 1.0 | 1 | 6B619 | 454.24 | **272.00** | 42.0 |
| 95 | 23⅜ | 23⅜ | 11½ | 1900 | 1.0 | 1 | 6B620 | 454.24 | **272.00** | 42.0 |
| 95 | 24 | 12 | 11½ | 910 | 1.0 | 1 | 6B621 | 321.89 | **192.75** | 27.0 |
| 95 | 12 | 12 | 11½ | 450 | 1.0 | 1 | 6B622 | 206.49 | **123.65** | 18.0 |
| 95 | 23⅜ | 11⅜ | 11½ | 910 | 1.0 | 1 | 6B623 | 317.30 | **190.00** | 27.0 |




## BAFFLE GREASE FILTERS

- **Aerodynamic design**
- **Galvanized steel; self-draining; handles included**
- **Priced each. Sold in full cartons**

Applications: Permanent, easily cleaned baffle grease filters are designed for use in commercial-type kitchens found in hospitals, hotels, schools, and other institutional applications. Aerodynamic design maximizes the amount of grease captured and minimizes the amount of flame penetration. Balances air flow evenly throughout the exhaust hoods. Also used for replacement of mesh filters used in older hoods.

**Construction:** Rugged 20-gauge galvanized steel baffle design with drain holes. Includes two removable handles. Filter can be easily cleaned by soaking, spraying, or placing in dishwasher. Filter must be installed on an angle with baffles in vertical position. UL Listed to Standard AKUS.

| Nominal Size* (In.) H | W | D | Actual Size (In.) H | W | D | Air Flow FPM | Resistance to Air Flow (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 20 | 2 | 15½ | 19½ | 1¾ | 300 | 0.47 | 2 | 4C880 | $34.25 | **$20.51** | 8.0 |
| 16 | 25 | 2 | 15½ | 24½ | 1¾ | 300 | 0.47 | 2 | 4C881 | 38.32 | **22.95** | 10.0 |
| 20 | 16 | 2 | 19½ | 15½ | 1¾ | 300 | 0.47 | 2 | 5C107 | 34.80 | **20.84** | 5.0 |
| 20 | 20 | 2 | 19½ | 19½ | 1¾ | 300 | 0.47 | 2 | 4C882 | 36.25 | **21.71** | 10.0 |
| 20 | 25 | 2 | 19½ | 24½ | 1¾ | 300 | 0.47 | 2 | 4C883 | 40.74 | **24.40** | 14.0 |
| 25 | 16 | 2 | 24½ | 15½ | 1¾ | 300 | 0.47 | 2 | 5C108 | 38.37 | **22.98** | 10.0 |
| 25 | 20 | 2 | 24½ | 19½ | 1¾ | 300 | 0.47 | 2 | 5C109 | 40.93 | **24.51** | 12.0 |

(*) First dimension (H) indicates vertical height of baffle.




## ZINC-COATED STEEL MESH FILTERS

- **One piece frame**
- **Expanded steel mesh**
- **Rugged steel construction**
- **Priced each. Sold in full cartons**

Applications: Mesh filters are widely used as roughing filters in HVAC applications. For high velocity situations.

**Construction:** 2" thick mesh filters are constructed of steel for durability and long life. One-piece frame wraps around multiple layers of expanded corrugated mesh. Filter can be hose sprayed or run through dishwasher for cleaning. Optional handles, sold in pairs, snap on to filter flange without the use of rivets or bullets. Not recommended for applications where filters will be exposed to the outdoor elements. Not rustproof.

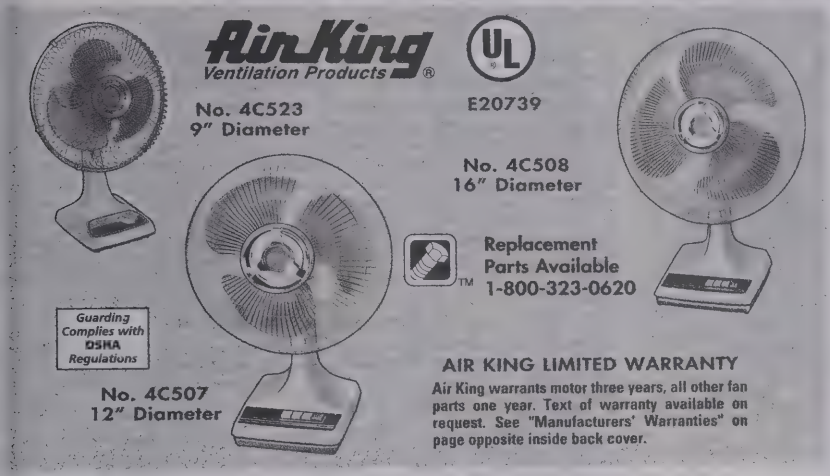
| Nominal Size (In.) H | W | D | Actual Size (In.) H | W | D | Air Flow FPM | Resistance to Air Flow (In.) | Carton Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 20 | 2 | 9½ | 19½ | 1¾ | 300 | 0.05 | 2 | 4C405 | $30.22 | **$18.10** | 3.7 |
| 16 | 20 | 2 | 15½ | 19½ | 1¾ | 300 | 0.05 | 2 | 4C406 | 38.09 | **22.81** | 4.8 |
| 16 | 25 | 2 | 15½ | 24½ | 1¾ | 300 | 0.05 | 2 | 4C407 | 43.17 | **25.85** | 5.3 |
| 20 | 20 | 2 | 19½ | 19½ | 1¾ | 300 | 0.05 | 2 | 4C408 | 43.08 | **25.80** | 6.0 |
| 20 | 25 | 2 | 19½ | 24½ | 1¾ | 300 | 0.05 | 2 | 4C409 | 48.68 | **29.15** | 7.2 |
| Handles | | | Snap-on | | | — | — | 1 Pair (2) | 4C410 | 8.41 | **5.04** | 0.2 |



*Breath easy — we've got the air treatment products you need.*

# TABLE AND DESK TOP FANS

## 9, 12, AND 16" OSCILLATING TABLE FANS




- **Quiet, lightweight, portable, table top oscillating fans for home, offices, hospitals, schools, and dormitories**
- **Direct air where you want it—tilting fan heads oscillate 90° or lock in non-oscillating position**

Fan bodies are impact resistant two-toned white and gray plastic. Chemical resistant polypropylene 3-wing fan blades. Bright zinc finished steel front fan guards with reinforcement rings snap into plastic back grill-no clips required. Comply with OSHA regulations.

**No. 4C523** has two-speed selection knob mounted on fan base. 120V shaded pole motor.

**Nos. 4C507 and 4C508** feature On/Off and 3-speed selection pushbuttons on front of fan base. 120V permanent split capacitor motor.

Fan blades and guards are unassembled. No tools required. 6-ft. 18/3 conductor cord with molded plug. UL Listed (E20739). Air King brand.

| Blade Dia. (In.) | No. Speeds | CFM Air Delivery | Motor RPM | Hz | High Speed Watts | High Speed Amps | Dimensions (In.) H | W | L | Air King Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9** | 2 | 1205/906 | 2175/1644 | 60 | 32 | 0.55 | 16⅞ | 11⅝16 | 8⅛ | 9154 | **4C523** | $31.29 | **$20.86** | 6.6 |
| **12** | 3 | 2357/1930/1532 | 1600/1310/1040 | 50/60 | 58 | 0.56 | 20¼ | 14¼ | 11⅝ | 9150 | **4C507** | 43.54 | **29.05** | 8.7 |
| **16** | 3 | 2836/2584/2218 | 1524/1394/1244 | 50/60 | 77 | 0.71 | 24⅜ | 18 | 10¾ | 9151 | **4C508** | 59.41 | **39.65** | 13.0 |

## 9,15 AND 20" PIVOT PORTABLE FANS

- **Adjustable rotation for directing air flow**
- **Lightweight and portable**
- **Chemical-resistant polypropylene fan blades**

**Air circulators** provide multi-speed air circulation for homes, offices, stores, dormitories, and similar areas where quiet operation is desirable. Impact resistant plastic fan housing. 6-Ft., 18/3 conductor cord with molded plug. 120V, 60 Hz. UL Listed (E20739).

**No. 4CH69 with 9" diameter fan blade** requires minimal table/counter space. Includes powerful 2-speed permanently lubricated motor. Shipped fully assembled. Carrying handle and speed selection knob located on rear of fan. Gray color.

**No. 4CH68 with 20" diameter 5-wing fan blade** features a powerful 3-speed permanently lubricated motor. Easy to assemble, no tools required. Two-tone white and frost gray color.

***New* No. 4TM64 15" Portable Pivot Fan with** five-wing fan blade has a 120° rotating fan head for directing airflow. Lightweight, with convenient carrying handle.

***New* No. 4TM65 9" High Performance Pivot Fan** with three-wing fan blade has a 112° rotating fan head for directing airflow. Lightweight, with convenient carrying handle. Can also be used as floor or wall-mounted fan.




| Blade Dia. (In.) | No. Speeds | CFM Air Delivery | Motor RPM | High Speed Watts | High Speed Amps | Dimensions (In.) H | W | D | Air King Model | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **9** | 2 | 1140/880 | 2449/1883 | 37 | 0.57 | 13 | 14½ | 6 | 9525 | | **4CH69** | $29.97 | **$17.95** | 3.9 |
| **9** | 3 | 2300/1970/1640 | 2100/1800/1500 | 58 | 0.50 | 13 | 6 | 13 | 9530 | *New* | **4TM65** | 39.90 | **26.65** | 4.5 |
| **15** | 3 | 3100/2630/2170 | 1020/875/725 | 131 | 1.4 | 21⅞ | 19⅜ | 9½ | 9515 | *New* | **4TM64** | 49.28 | **32.90** | 10.1 |
| **20** | 3 | 4330/3640/2800 | 1010/850/655 | 171 | 1.91 | 24⅞ | 23⅞ | 11 | 9500 | | **4CH68** | 62.84 | **37.65** | 12.0 |

## TWO-SPEED 6" BLADE PERSONAL FAN

- **Small and portable; fits on desk or shelf**
- **Chemical-resistant polypropylene 3-wing fan blade**

**6" diameter personal fan** delivers 566 CFM on high speed; 488 CFM on low speed. Fan head tilts up and down. Two-speed rotary switch on rear motor cover.

**Fan body parts** are impact resistant white plastic. Fan guard is steel with a bright zinc finish.

**Overall dimensions:** 10⅜H x 6¼W x 8⅛"D.

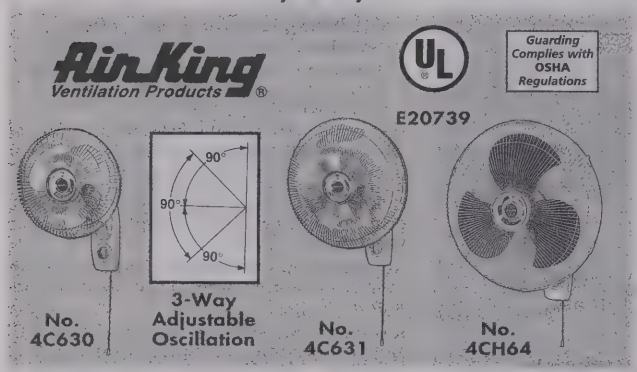
**Quiet 2460 RPM shaded pole motor** provides non-distracting air flow. 120V, 60 Hz, 13 watts, 0.19 amps on high speed. 6-ft. 18/3 conductor cord with molded plug. UL Listed (E20739). Air King brand.(9146).

**No. 4C796.** Shpg. wt. 2.3 lbs. List $19.98.
Each .....$13.32



# WALL MOUNT, PEDESTAL, AND REVERSIBLE WINDOW FANS

## 12, 16, 18 AND 20" WALL MOUNTED FANS




- Powerful 3-speed motor
- Fan head oscillates 90° or locks in position; tilts to direct air flow
- 3-Way oscillation allows mounting close to corners
- Hardware included for wall mounting

Quiet fans for workshops, restaurants, health clubs, stores, classrooms, offices, and other areas where floor/table space is limited. Three position ratchet settings direct air flow into the room when fan is mounted close to a corner. White impact resistant plastic body. Three blade propeller is chemical resistant polypropylene. Front steel fan guard snap into plastic rear grill, no cups required. Complies with OSHA regulations. Three-speed control knob and pull cord. 120V permanent split capacitor motor. Six-foot, 18/3 conductor cord with molded plug. UL Listed (E20739).

**AIR KING LIMITED WARRANTY**

**Air King warrants motor three years, all other fan parts one year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

| Blade Dia. (In.) | CFM Air Delivery | Motor RPM | Hz | High Speed Watts | Amps | Dimensions (In.) L | W | H | Air King Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 1750/1540/1020 | 1415/1185/940 | 50/60 | 41 | 0.36 | 15 5/8 | 14 1/4 | 20 3/4 | 9012 | **4C630** | $65.72 | **$43.90** | 8.3 |
| 16 | 2681/2355/2000 | 1400/1230/1045 | 50/60 | 70 | 0.61 | 14 5/16 | 18 | 22 5/8 | 9016 | **4C631** | 71.45 | **47.70** | 10.5 |
| 18 | 3000/2800/2550 | 1445/1350/1200 | 50/60 | 81 | 0.73 | 15 1/2 | 20 1/4 | 23 | 9018 | **4CH64** | 94.54 | **56.65** | 12.4 |
| 20 | 7510/5010/3735 | 1560/1041/1776 | 50/60 | 207 | 1.78 | 12 1/2 | 25 | 25 3/4 | 9020 | **New4TM61** | 174.10 | **118.05** | 28.0 |

## 12, 16, AND 18" ADJUSTABLE PEDESTAL FANS

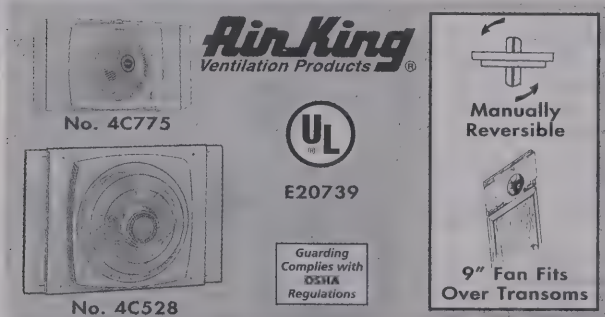
- 12" fan No. 4CH62 has fixed height adjustments of 28 and 45"; 16" fan No. 4C945 from 43 to 58" high
- 18" fan No. 4CH63 from 44 to 58" high
- Fan head oscillates 90° side-to-side or locks in position; tilts up 30° or down 15° to direct air flow
- Whisper-quiet, 3-speed operation with permanent split capacitor motor

Contemporary styled, quiet operating fans for home, office, reception area, store, and classroom. Easy to assemble. Tubular steel stand with round base needs only limited floor space. 3-blade impact and chemical resistant polypropylene propeller. Three-speed rotary switch mounted on rear motor cover. Front steel fan guard snap into plastic rear grill, no clips required. 6-Ft., 18/3-wire power cord. 9-ft., 18/3 conductor cord for 4TM63. UL Listed (E20739)




| Blade Dia. (In.) | Body Trim Finish | Wire Guard Finish | CFM Air Delivery | RPM Hi / Med. / Low | 120V, Hz | High Speed Watts | Amps | Dimensions (In.) L | W | H | Air King Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | Frost Gray | Bright Zinc | 2357/1930/1532 | 1600/1310/1040 | 60 | 58 | 0.56 | 14 7/8 | 14 7/8 | 45 5/8 | 9112 | **4CH62** | $63.63 | **$38.15** | 10.3 |
| 16 | Frost Gray | Bright Zinc | 2836/2584/2218 | 1524/1394/1244 | 50/60 | 77 | 0.71 | 18 | 18 | 57 1/4 | 9126 | **4C945** | 68.56 | **45.75** | 13.4 |
| 18 | Frost Gray | Frost Gray | 3000/2675/2450 | 1445/1290/1150 | 50/60 | 81 | 0.73 | 20 1/4 | 20 1/4 | 58 1/2 | 9119 | **4CH63** | 87.77 | **52.60** | 15.0 |

## REVERSIBLE WINDOW FANS




- Two sizes fit almost all standard size residential windows; positive locking side panels fit snugly against window frames
- Permanently lubricated motor for quiet operation
- Impact resistant ABS plastic 3-blade propeller

Fans quietly exhaust stale air or bring in fresh air from outdoors. Can be mounted outside of window trim for shallow sill applications. Satin white color plastic housing. Front and rear fan guards comply with OSHA regulations. 120V, 60 Hz. 6-Ft., 18/3-conductor power cord. UL Listed (E20739). Air King brand.

**9" 2-Speed Fan.** For narrow applications such as transoms over doors. Manually reversible for intake or exhaust. Adjusting knob holds fan in position. **16" 3-Speed Fan.** Quiet electrically reversible permanent split capacitor motor for 3-speed intake or exhaust operation.

| Blade Dia. (In.) | CFM Air Delivery | Motor, High Speed RPM | Watts | Amps | Dimensions (In.) L | W | H | Fits Windows (In.) W | H | Air King Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 1500 / 1316 | 1955 | 42 | 0.68 | 22 1/2 | 5 1/2 | 15 1/16 | 23 to 33 1/8 | 15 1/2 | 9122 | **4C775** | $48.55 | **$32.45** | 8.5 |
| 16 | 3041 / 2633 / 2004 | 1516 | 86 | 0.76 | 26 1/2 | 8 1/2 | 22 | 26 1/2 to 34 1/2 | 22 | 9155 | **4C528** | 103.50 | **50.80** | 16.0 |

# PORTABLE BOX, FLOOR/TABLE, AND ROLLABOUT FANS

## 20" PORTABLE BOX FAN




- Quiet, high volume air mover effectively cools home, office, hospital, classroom, dormitory, and other areas
- Powerful 3-speed motor
- 20" diameter chemical resistant polypropylene five blade propeller with rounded edges
- Rounded housing corners and plastic grilles for added safety
- Rugged steel body; fan is shipped assembled

Attractively styled gray finished housing of durable steel for extended service life. White plastic fan guards front and rear comply with OSHA regulations. Easy-to-carry with top mounted carrying handle. Three-speed selection knob is top mounted for easy access. 120V, 60 Hz. Six-foot, 3-conductor cord with molded plug. UL Listed.

**ROLL-ABOUT STAND.** Fits No. 4CH71 fan listed above. Easy to assemble, adds height and portability. Powder coated gray. Rolls easily on 4" diameter rear wheels. Locking knobs secure fan during operation, allows fan head to rotate 360° to direct airflow. Stand raises fan 26 or 28" above the floor. UL Listed (E20739).

### 20" PORTABLE BOX FAN SPECIFICATIONS AND ORDERING DATA

| Description | Blade Diameter (In.) | CFM Air Delivery | RPM Hi/Med/Low | Air King Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **20" Box Fan** | 20 | 4300/3200/2100 | 955/785/645 | 9723 | **4CH71** | $44.65 | **$26.75** | 11.0 |
| **Roll-About Stand** | — | — | — | 9701 | **4CH70** | 34.45 | **20.63** | 6.4 |
| **20" box fan w/ thermostat** | 20 | 4550/3430/2580 | 925/690/550 | 9700 | ***New* 4TM67** | 52.40 | **35.55** | 12.0 |

## 12, 18, 20" FLOOR/TABLE AND 18" ROLLABOUT FANS

- Powerful 3-speed motor
- 3-wing metal blade provides high volume air movement
- Fan head can be rotated 360°
- Made in U.S.A.

Fans provide multi-speed, high volume air circulation for cooling offices, homes, stores, and factories. Impact resistant black metal fan blade. 120V, 50/60 Hz, permanent split capacitor motors. Black epoxy powder coated steel fan guards comply with OSHA regulations. Three-speed rotary fan control knob is easily accessible on back of fan. 9 ft., 18/3 conductor cord with molded plug. UL Listed (E20739). AirKing Brand.

Nos. 3XJ42, 3XJ43 and 4TM62 Floor/Table Fans mounted on black epoxy powder coated tubular steel tilting base. Rubber scuff pads protect surfaces. Convenient carry handle. No assembly required.

**No. 3XK88 Rollabout Fan** is mounted on black epoxy powder coated steel rollabout stand with two height adjustments (26 or 28"H). 4" diameter rear wheels allow ease of movement. Tilting locks secure the fan during operation and allow fan head to rotate 360° to direct air flow. Fan can be used near windows for maximum ventilation. Easy to assemble.

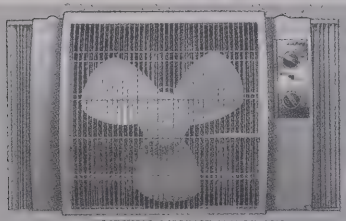



### FLOOR/TABLE AND ROLLABOUT FAN SPECIFICATIONS AND ORDERING DATA

| Blade Diameter (In.) | CFM Air Delivery High/Med./Low | RPM | Motor High Speed Watts | Amps | HP | Dimensions (In.) H | W | D | AirKing Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12 AND 18" FLOOR/TABLE FANS** | | | | | | | | | | | | | |
| **12** | 2800/2250/1760 | 1500/1200/900 | 84 | 0.74 | 1/20 | 16½ | 15¼ | 8½ | 9212 | **3XJ42** | $96.28 | **$57.65** | 12.0 |
| **18** | 5350/4180/3010 | 1600/1275/950 | 194 | 1.65 | 1/6 | 22¾ | 21½ | 10½ | 9218 | **3XJ43** | 121.94 | **73.20** | 21.0 |
| **20** | 7510/5010/3735 | 1560/1041/776 | 207 | 1.78 | 1/6 | 25¾ | 25 | 12½ | 9220 | ***New* 4TM62** | 146.98 | **98.00** | 24.0 |
| **18" ROLLABOUT FAN** | | | | | | | | | | | | | |
| **18** | 5350/4180/3010 | 1600/1275/950 | 194 | 1.65 | 1/6 | 48 | 25 | 24 | 9219 | **3XK88** | 145.45 | **87.10** | 27.0 |

# WHOLE HOUSE, COMPACT, DC, CLIP-ON, AND HASSOCK FANS

## 16" REVERSIBLE WINDOW FAN



AirKing Ventilation Products®

E20739

No. 4TM66 New

**AIRKING LIMITED WARRANTY**

**AIRKING warrants motor three years, all other fan parts one year. Text of warranty available on request. See "Manufacturers' Warranty" on page opposite inside back cover.**

Guarding Complies with OSHA Regulations

- **Fully adjustable thermostat with temperatures from 16° to 130°**
- **Powerful, permanently lubricated motor for quiet operation**

Fully adjustable thermostat, with manual controls provides optimal cooling comfort. The three-speed permanent split capacitor motor is electrically reversible for fresh air intake, or stale air exhaust. Easy to install, the fan can be mounted outside of window trim for shallow sill applications. Storm Guard™ feature enables fan to be mounted so that the window can be closed during inclement weather, or locked for added security. Features a convenient carrying handle for portability. White colored plastic housing. Front and rear guards comply with OSHA regulations. Three-wing impact resistant ABS fan blade. Fits windows 25¾" to 40".

| Blade Dia. (In.) | CFM Air Delivery | Motor 120V, 60 Hz RPM | High Speed Watts | Amps | Dimensions (In.) L | W | Air King Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **16** | 3290/2670/2130 | 1520/1235/985 | 84 | .76 | 25½ | 18⅜ | 9600 | **4TM66** | $103.50 | **$69.00** | 13.0 |

## 20" WHOLE HOUSE FAN

- **Easy to assemble; fits windows 27 to 38W x 26¼"H**
- **Quiet operating, electrically reversible 3-speed motor**

Quiet, dependable fan brings in cool air and exhausts hot, humid air. Install where permanent attic mounted ventilating fans cannot be installed. 3-speed fan provides air deliveries of 7005/6165/4160 CFM in both intake or exhaust modes. 20" 3-blade propeller of impact resistant ABS plastic. Satin white high impact resistant ABS plastic housing. Easy mount locking side panels fit snugly against frame. Mount inside or outside interior window trim. Overall dimensions: 26¼L x 26⅝W x 11¼"D. 1/4 HP permanent split capacitor motor with overload protection. High speed motor performance: 834 RPM, 364 watts, 3.2 amps, 120V, 60 Hz. 6-Ft. 18/3 power cord and molded plug. Guard complies with OSHA regulations. Air King brand (9166).

**No. 3C614.** 20" Fan. Shpg. wt. 38.0 lbs. List $245.84. Each..... $164.00



E20739

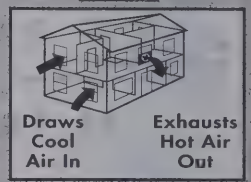
AirKing Ventilation Products®

Guarding Complies with OSHA Regulations

No. 3C614

**AIR KING LIMITED WARRANTY**

**Air King warrants motor three years, all other fan parts one year. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**




## COMPACT/CLIP-ON/DC FANS



E20739

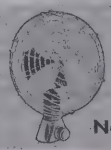
No. 4C800



AirKing Ventilation Products®

E20739

No. 6C507



61/2" HEAVY-DUTY DC FAN

No. 4C586

| Blade Dia. (In.) | DC Volts | CFM | Oscillating Action | Amps | Mfr. | Mfr. Model No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **4** | — | 160 / 100 | No | .34 | Windy | 829-5051-2 | **4C800** | $31.56 | **$19.64** | 2.0 |
| **6** | — | 566 / 488 | No | .19 | AirKing | 9145 | **6C507** | 20.63 | **13.76** | 2.2 |
| **6½** | 12 | 260 | No | 2.7 | Maradyne | 3200 - 12VG | **4C586** | 101.00 | **67.40** | 3.9 |
| **6½** | 24 | 260 | No | 1.4 | Maradyne | 3200 - 24VG | **4C587** | 104.00 | **69.55** | 3.8 |

## QUIET 12" HASSOCK FAN

- **Compact fan offers draft-free 360° air circulation**
- **3-Speed PSC efficient motor**

Fan quietly circulates air at floor level in all directions. Draft-free operation will not scatter papers. 12" diameter, 3-wing plastic fan blade discharges air into a baffle cone to provide even 360° air distribution. 3-Speed, permanently lubricated, permanent split capacitor motor uses 50% less electricity than many comparable units. Durable, two-tone gray housing. Guard complies with OSHA regulations. 6-Ft., 18/3 grounded power cord with molded plug. UL Listed (E20739).

AirKing Ventilation Products®

E20739

Guarding Complies with OSHA Regulations

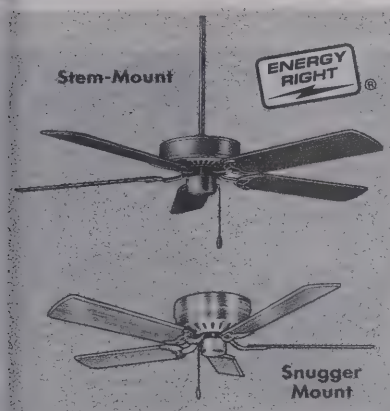





| CFM Air Delivery | Motor 120V, 60 Hz RPM | High Speed Watts | Amps | Dimensions (In.) L | W | H | Air King Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **4213/3205/2643** | 1550/1235/965 | 69 | 0.66 | 17⅛ | 17⅝ | 14 | 9152 | **4C509** | $97.33 | **$64.95** | 15.0 |

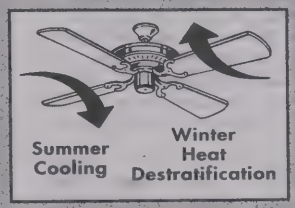
# DECORATIVE CEILING FANS AND ACCESSORIES



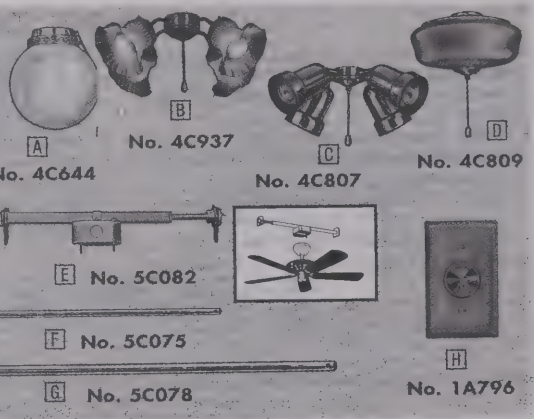



EMERSON

E136655




Replacement Parts Available 1-800-323-0620™




- **42" or 52" blade diameter stem-mount or flush mount snugger models available**
- **3-forward and 3-reverse speeds**
- **Reversible fan blades offer a choice of finishes**

Fans circulate cool air in summer and redirect warm air down in winter. Inductive motors with permanently lubricated ball bearings for long service life. All models are compatible with accessories listed below. Mounting hardware included. 120V, 60 Hz. UL Listed (E136655). Emerson brand.

**Stem Mount Fans.** Ball swivel hanger simplifies installation and offers wobble-free operation. For ceilings sloped up to 30°.

**Snugger Mount Fans.** For low ceiling applications where stem mount fans would not fit. Fan blades revolve only 7" down from ceiling. Switch cup projects only 7¾" down.

### EMERSON LIMITED WARRANTY

**Emerson Electric warrants fan and motor for 10 years. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.**

## THREE-SPEED DECORATIVE CEILING FAN ORDERING DATA

| Blade Dia. (In.) | Finish: Housing | Finish: Blade | RPM: High | RPM: Med. | RPM: Low | Full Load: Watts | Full Load: Amps | Stem Mount Ceiling Fans: Emerson Model | Stem Mount Ceiling Fans: Stock No. | Stem Mount Ceiling Fans: List | Stem Mount Ceiling Fans: Each | Stem Mount Ceiling Fans: Shpg. Wt. | Snugger Mount Ceiling Fans: Emerson Model | Snugger Mount Ceiling Fans: Stock No. | Snugger Mount Ceiling Fans: List | Snugger Mount Ceiling Fans: Each | Snugger Mount Ceiling Fans: Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **42** | Ant. Brass | Light/Med. Oak | 200 | 130 | 60 | 50 | 0.40 | CF704AB | ✓**5C067** | $128.00 | **$72.85** | 12.0 | CF704SAB | ✓**5C072** | $127.92 | **$72.80** | 14.0 |
| **42** | White | White/B. Oak* | 200 | 130 | 60 | 50 | 0.40 | CF704WW | ✓**5C068** | 118.57 | **67.45** | 14.0 | CF704SWW | ✓**5C074** | 118.57 | **67.45** | 14.0 |
| **52** | Pol. Brass | Med. Oak | 177 | 108 | 40 | 70 | 0.60 | CF700PB | ✓**5C065** | 157.81 | **89.80** | 17.0 | CF705SPB | ✓**5C073** | 157.81 | **89.80** | 14.0 |
| **52** | Ant. Brass | Med. Oak | 177 | 108 | 40 | 70 | 0.60 | CF700AB | ✓**5C064** | 157.81 | **89.80** | 17.0 | CF705SAB | ✓**4C906** | 157.73 | **89.75** | 21.0 |
| **52** | White | White | 177 | 108 | 40 | 70 | 0.60 | CF700WW | ✓**5C066** | 147.55 | **83.95** | 17.0 | CF705SWW | ✓**5C063** | 147.55 | **83.95** | 16.0 |

(✓) Denotes energy efficient product. (*) Bleached Oak.

## ACCESSORIES FOR DECORATIVE CEILING FANS

**ADD-ON LIGHTS FOR CEILING FANS.** Operate independently of fans. Packed separately from fans. Lamps not included. UL Listed (E136655). Emerson brand.

A **8" Globe light.** Accepts lamp up to 100 watts.

B **Victorian light.** Adds a touch of turn-of-the-century charm. Four ruffled tulip glass shades. Uses four 60 watt lamps.

C **Four spot lights.** Black bevel inserts and four-position switch.

D **Low profile light.** Gives the most floor to light kit clearance. Good for bedrooms, kitchens, and utility rooms. Emits soft, diffused light. Uses two 100 watt lamps.

E **CEILING FAN JOIST HANGER KIT.** Support residential ceiling fans where no overhead junction box exists or existing box cannot safely support 35 lbs. Also used for hanging fans between floors in multi-story buildings and in lower level of 2-story homes. Kit installs from below ceiling level. Adjusts to 16 or 24" rafter centers. Installation hardware included. Electrical junction box (included) meets building code requirements. Lasko brand.

F & G **CEILING FAN DOWN ROD KITS.** Lowers ceiling fan. Used in high ceiling entrances, solariums, cathedral ceiling rooms, and contemporary rooms with open balconies. 12 and 24" lengths. Tube steel construction. UL Listed (E136655). Emerson brand.

H **CEILING FAN SPEED CONTROL.** Capacitor type control has four speed settings. Fits standard single-gang box 2 x 4" and 1½ x 2" deep, with #14 wire. Check state and local codes for wiring requirements. Toggle face plate not included. 120V, 60 Hz, 1.5 max. amps. UL Listed (E136655). Emerson brand.

### EMERSON ADD-ON LIGHTS FOR CEILING FANS

| Key | Description | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **A** | 8" Globe, Polished Brass | CFLK1PB | **4C649** | $27.59 | **$15.69** | 2.0 |
| **A** | 8" Globe, Antique Brass | CFLK1AB | **4C644** | 27.59 | **15.69** | 2.0 |
| **B** | 4-Bulb Victorian, Antique Brass | CFVLK4AB | **4C937** | 46.00 | **26.20** | 5.0 |
| **B** | 4-Bulb Victorian, Polished Brass | CFVLK4PB | **4C938** | 46.00 | **26.20** | 5.0 |
| **C** | 4-Spot Light, Appliance White | CFMLK4WW | **4C807** | 96.03 | **54.65** | 8.0 |
| **C** | 4-Spot Light, Polished Brass | CFMLK4PB | **4C808** | 96.10 | **54.70** | 8.0 |
| **D** | Low Profile Kit, Polished Brass | CFLLK1 | **4C809** | 79.40 | **45.20** | 4.0 |

### LASKO CEILING FAN JOIST HANGER KIT

| Key | Description | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **E** | Fits 16 to 24" Rafter Centers | 1100 | **5C082** | $22.37 | **$14.92** | 2.3 |

### CEILING FAN DOWN ROD KITS

| Key | Down Rod Length (In.) | Description | Emerson Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **F** | 12 | Antique Brass | CFDR1AB | **5C075** | $8.02 | **$4.57** | 1.0 |
| **F** | 12 | White | CFDR1WW | **5C076** | 8.02 | **4.57** | 1.0 |
| **F** | 12 | Polished Brass | CFDR1PB | **5C077** | 8.02 | **4.57** | 1.0 |
| **G** | 24 | Antique Brass | CFDR2AB | **5C078** | 13.78 | **7.84** | 1.8 |
| **G** | 24 | White | CFDR2WW | **5C079** | 13.78 | **7.84** | 1.8 |
| **G** | 24 | Polished Brass | CFDR2PB | **5C080** | 13.78 | **7.84** | 1.8 |

### CEILING FAN SPEED CONTROL

| Key | Description | Mfr's. Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **H** | Capacitor Type Control, 4 spds. | SW95W | **1A796** | $35.60 | **$20.25** | 0.5 |

# CEILING AND WALL EXHAUST FANS

## 8 AND 10" CEILING EXHAUST FANS

- Easy to install—adjustable mounting brackets span 14 to 24" to fit between 16 or 24" on center ceiling joists
- Easily accessible outlet box
- White decorator polymeric grille can be painted
- Plug-in, lifetime lubricated, thermally protected 120V, 60 Hz motor
- 9-wing polymeric fan blades
- 8" fan connects to 8" round duct and includes built-in back-draft damper
- 10" fan connects to 10" round duct or to 8" round duct using No. 4C207 damper/reducer (not included, see listing below)
- Both models discharge vertically
- UL Listed (E17814); HVI certified
- Broan wall controls available. See page 3562

| Description | CFM | Sones | Full-Load Amps | Grille Square (In.) | Housing (In.) Dia. | Housing (In.) L | Broan Model | Stock No. | List | Each | Shipg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **8" Fan** | 180 | 5.0 | 1.5 | 11½ | 8¼ | 7 | 505 | **4C701** | $89.06 | **$49.65** | 7.3 |
| **10 Fan** | 350 | 6.5 | 1.7 | 13½ | 10¼ | 7 | 504 | **4C700** | 128.20 | **70.15** | 10.0 |

**Back-draft Damper/Reducer.** Reduces from 10 to 8" round. Broan brand (472).
**No. 4C207.** For No. 4C700 Fan. Shpg. wt. 2.0 lbs. List $28.24. Each ..... $16.63




No. 4C701

Replacement Parts Available 1-800-323-0620

Back-draft Damper/Reducer

## 8 AND 10" CEILING OR WALL FANS

- Slim housing fits between ceiling joists or 2 x 4" wall studs using mounting brackets (included)
- Side discharge: 3¼ x 10" duct
- Built-in back-draft damper
- Paint white matte polymeric grille to match ceiling or wall cover
- Plug-in, lifetime lubricated, thermally protected 120V, 60 Hz motor
- 9-wing polymeric fan blades; 8" fan has 7½" diameter blades; 10" fan has 9½" diameter blades
- UL Listed (E17814); HVI certified
- Broan wall controls available. See page 3562

| Description | CFM | Sones | Full-Load Amps | Grille Square (In.) | Housing Dim. (In.) L | W | H | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8" Fan** | 160 | 5.0 | 1.75 | 11½ | 14 | 12 | 3¼ | 503 | **4C699** | $108.06 | **$58.70** | 8.8 |
| **10 Fan** | 270 | 7.0 | 1.7 | 13½ | 16¾ | 13⅞ | 3¼ | 502 | **4C698** | 162.76 | **90.00** | 13.0 |




Replacement Parts Available 1-800-323-0620

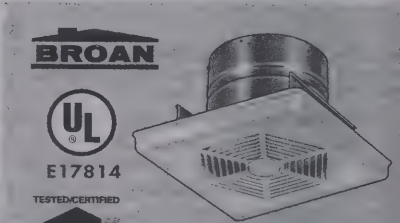
No. 4C699

E17814

## 8 AND 10" CEILING FANS

- Exhaust air from large areas: workshops, restrooms, and utility rooms
- 10" fan also handles ventilation in restaurants, kitchens, conference rooms and large restrooms
- White finish metal grille
- Built-in back-draft damper on 8" fan only
- Adjustable mounting brackets install easily between ceiling joists
- 120V, 60 Hz permanently lubricated motor
- UL Listed (E17814); HVI certified
- Use Reducer-Damper No. 4C207 (listed above) with No. 5C054 to allow use with 8" duct
- Broan wall controls available. See page 3562

| Description | CFM @ .10" SP | Sones | Amps | Duct Size (In.) | Grille Size (In.) | Grille Color | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **8" Fan** | 180 | 5.0 | 1.5 | 8 | 11½ | White | 505MG | **5C053** | $95.78 | **$60.70** | 8.0 |
| **10 Fan** | 350 | 6.5 | 1.7 | 10 | 13½ | White | 504MG | **5C054** | 124.80 | **79.05** | 11.0 |




No. 5C053

## QUIET 8" ROOM TO ROOM FANS

- Effectively moves warm or cool air to adjoining rooms for year round use in homes, cottages, and offices
- Installs between wall studs; housing adjusts to fit 3 to 5½" thick walls
- Built-in adjustable speed switch control with positive OFF position
- White metal grille on both sides, 13½" square
- 115V, 60 Hz permanently lubricated motor wired to junction box for easy installation
- Air discharge located on speed control side
- UL Listed (E17814)

| Description | CFM* .10"SP | Sones | Amps | Grille Size (In.) | Housing Size H x W x D (in.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **8" Fan** | 180 | 3.5 | 1.5 | 13½ | 11½ x 11½ x 3-5½ | 511MG | **4C634** | $130.35 | **$82.60** | 12.0 |

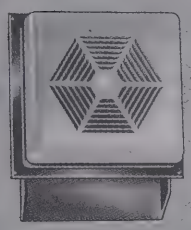





*However, wherever, you need to move air, we have the fans to do it.*

# THROUGH-THE-WALL KITCHEN FANS

## 8" KITCHEN WALL FAN



BROAN

E17814

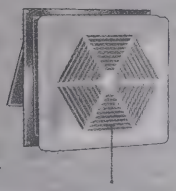
- Through-the-wall fan exhausts heat, odors, and moisture laden air directly outside. Needs no ductwork
- Telescoping housing adjusts to fit walls 4½ to 9½ thick
- Built-in damper minimizes backdrafts
- Plug-in permanently lubricated motor and blade assembly
- Rugged steel housing can be painted to match outdoor design
- Metal grille with white finish
- UL Listed (E17814). HVI Certified
- Broan wall controls available. See page 3562
- Sleeve diameter: 8⅜"

| CFM @ 0.0" SP | Sones | Motor V, 60 Hz | Motor Amps | Grille Square (In.) | Housing Dimensions (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **180** | 5.0 | 120 | 1.5 | 13½ | 14¼ sq. x 4½-9½ D | 509MG | **5C055** | $123.97 | **$78.55** | 14.0 |

## 8 AND 10" KITCHEN WALL FANS WITH CHAIN SWITCH



No. 5C056



No. 5C057

BROAN

E17814

- Commercial/Institutional kitchen through-the-wall fans feature pull chain switch for positive control of outdoor damper and motor. No wall switch to wire
- Exhaust heat, odors, and moisture directly outside. No ductwork needed
- Telescoping housing adjusts to fit walls 4½ to 9½" thick
- Sleeve dia 5C056: 8⅜" 5C057: 10⅜"
- Easy to install, easy to service
- Foam insulated door for energy efficiency
- Specially designed fan blades exhaust air efficiently
- Metal grille with white enamel finish
- Plug-in-motor and blade assembly
- UL Listed (E17814). HVI Certified

| Size (In.) | CFM @ 0.0" SP | Sones | Motor V, 60 Hz | Motor Amps | Grille Square (In.) | Housing Dimensions (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **8** | 250 | 4.5 | 120 | 1.5 | 11½ | 14¼ sq. x 4½ - 9½D | 507MG | **5C056** | $142.57 | **$90.30** | 13.0 |
| **10** | 480 | 6.5 | 120 | 1.7 | 13½ | 14¼ sq. x 4½ - 9½D | 506MG | **5C057** | 157.05 | **99.50** | 15.0 |

## 8 AND 10" KITCHEN WALL FANS



No. 4C702

BROAN

E17814

Replacement Parts Available 1-800-323-0620™

- Pull chain opens outer door and turns on fan
- Adjustable housing fits 4½ to 9½" thick walls
- No wall switch to install
- No additional weather hood required
- Paint matte white polymeric grille to match any decor
- Plug-in, permanently lubricated thermally protected 120V, 60 Hz motor
- UL Listed (E17814); HVI Certified
- Broan brand
- Broan wall controls available. See page 3562

| Size (In.) | CFM | Sones | Full-Load Amps | Grille Square (In.) | Sleeve Dia. (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **8 Fan** | 250 | 4.5 | 1.5 | 11½ | 8⅜ | 507 | **4C703** | $128.01 | **$68.55** | 11.0 |
| **10** | 480 | 6.5 | 1.7 | 13½ | 10⅜ | 506 | **4C702** | 162.56 | **88.50** | 14.0 |

## CFM AND SONE RATINGS

**Ratings for Broan Ducted Range Hoods and, Broan and Dayton Exhaust Fans**

**SONE** is an internationally recognized unit of loudness. Sones signify, in a single number, the total sound output of the unit being tested. One sone is approximately equal to the sound of a modern refigerator in a quiet kitchen. HVI rates home ventilating equipment in sones because sones are accurate, easy to use and compare. A 6-sone fan, for example, sounds twice as loud to the human ear as a 3-sone fan. HVI limits kitchen fans of up to 500 CFM to 9.0 sones and bathroom fans to 6.5 sones.

Multiple-speed fans must be rated for sound at top speed.

**AIR DELIVERY RATINGS** for ventilators are certified by the Home Ventilating Institute (HVI) (based on independent tests made by the Texas Engineering Experiment Station at Texas A & M University) and are rated in terms of cubic feet per minute (CFM). Ducted fans and hoods are rated at 0.1" static pressure; direct discharge wall fans are rated at 0.03" static pressure.

# WALL EXHAUST FANS

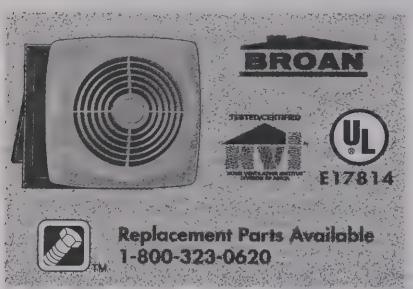
## 8 AND 10" AUTOMATIC WALL FANS




- Automatic backdraft damper with outside weather hood
- Adjustable housing fits 4½ to 9½" thick walls
- Plug-in, lifetime lubricated thermally protected 120V, 60 Hz motor
- Nos. 4C704 and 4C706 require switch (not included)
- Matte white polymeric grille can be painted to match any decor
- 8" fan, No. 4C705, includes built-in rotary On/Off switch
- UL Listed (E17814); HVI Certified
- Nos. 4C704 and 4C706 require switch (not included). Broan wall controls available. See page 3562

| Description | CFM | Sones | Full-Load Amps | Grille Square (In.) | Sleeve Dia. (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **8" Fan** | 180 | 5.0 | 1.5 | 11½ | 8⅜ | 509 | **4C706** | $105.12 | **$55.00** | 14.0 |
| **8" Fan/Switch** | 180 | 5.0 | 1.5 | 11½ | 8⅜ | 509S | **4C705** | 114.38 | **57.95** | 14.0 |
| **10" Fan** | 270 | 6.0 | 1.7 | 13½ | 10⅜ | 508 | **4C704** | 162.56 | **89.40** | 16.0 |

## 10" BROAN MOTORDOR® WALL FAN




- Automatic motorized outside door operation
- Delivers 380 CFM at 5.5 sones
- Housing features foam insulated door for energy efficiency
- Square housing adjusts to fit walls 5½" to 9⅞," thick
- Operated automatically with wall switch (see No. 4C254 listed on page 3562)
- Matte white decorator styled 13½" square polymeric grilles
- Plug-in, thermally protected 120V, 60 Hz motor
- UL Listed (E17814); HVI Certified

| Description | CFM | Sones | Full-Load Amps | Grille Square (In.) | Sleeve Square (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **10" Fan** | 380 | 5.5 | 1.7 | 13½ | 11½ | 12C | **4C707** | $327.18 | **$173.00** | 18.0 |

## 8" ROOM-TO-ROOM FAN




- Efficiently spreads heated or cooled air from one room to another
- Quiet air delivery, 180 CFM at 3.5 sones; air discharge is on control side
- Adjustable square housing fits 3 to 5½" walls
- Easily accessible outlet box
- Convenient built-in solid state variable speed control with positive OFF position
- Square decorator styled matte white polymeric grille can be painted to match any room decor
- Plug-in, lifetime lubricated, 120V, 60 Hz thermal overload protected motor
- UL Listed (E17814); HVI Certified

| Description | CFM | Sones | Full-Load Amps | Grille Square (In.) | Sleeve Square (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **8" Fan** | 180 | 3.5 | 1.5 | 13½ | 11½ | 511 | **4C708** | $116.98 | **$61.40** | 9.7 |

### CROSS-REFERENCE FOR KITCHEN VENTILATORS

| Broan / Our Stock No. | CFM | Sones | Nutone | CFM | Sones | Fasco | CFM | Sones | Emerson | CFM | Sones |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 502 / 4C698 | 270 | 7.0 | 8510 | 300 | 7.5 | 1020 | 330 | 8.0 | V4210 | 300 | 5.5 |
| 503 / 4C699 | 160 | 5.0 | 8310 | 180 | 5.5 | 800 | 180 | 5.5 | V4208 | 200 | 5.5 |
| 504 / 4C700 | 350 | 6.5 | 8490 | 260 | 5.5 | 1080 | 330 | 7.0 | V224 | 280 | 5.5 |
| 505 / 4C701 | 180 | 5.0 | 8220 | 170 | 4.0 | 760 | 230 | 7.0 | V241 | 200 | 4.5 |
| 506 / 4C702 | 480 | 6.5 | 8110 | 550 | 6.0 | 1047 | 480 | 7.0 | — | — | — |
| 507 / 4C703 | 250 | 4.5 | 8010 | 250 | 4.0 | — | — | — | — | — | — |
| 508 / 4C704 | 270 | 6.0 | 8170 | 270 | 6.0 | — | — | — | V244 | 250 | 4.5 |
| 509S / 4C705 | 180 | 5.0 | — | — | — | 899 | 250 | 6.5 | — | — | — |
| 509 / 4C706 | 180 | 5.0 | 8070 | 160 | 4.5 | 898 | 190 | 6.0 | V238 | 180 | 4.5 |
| 511 / 4C708 | 180 | 3.5 | 8141 | 180 | 6.0 | — | — | — | — | — | — |
| 509MG / 5C055 | 180 | 5.0 | — | — | — | 898L | 210 | 6.0 | — | — | — |
| 507MG / 5C056 | 250 | 4.5 | — | — | — | 899L | 270 | 6.5 | — | — | — |
| 506MG / 5C057 | 480 | 6.5 | — | — | — | 1047 | 500 | 7.0 | — | — | — |
| 505MG / 5C053 | 180 | 5.0 | — | — | — | 760 | 230 | 7.0 | — | — | — |
| 504MG / 5C054 | 350 | 6.5 | — | — | — | 1080 | 330 | 7.0 | — | — | — |



*However, wherever, you need to move air, we have the fans to do it.*

# REMOTE MOUNT EXHAUST FANS AND ACCESSORIES

## REMOTE MOUNT BATHROOM EXHAUST FANS




- **Quiet, efficient exhaust fans remove humid air from laundry rooms, bathrooms, showers and spas, and areas where spot ventilation is needed**
- **UL Listed for use in wet areas**
- **Remote mounting allows fan to be installed farther from room for quiet operation**

Aerodynamic fan housing of high impact plastic. Has a totally enclosed, 115V, 60 Hz, ball bearing motor with permanently sealed bearings and automatic reset thermal overload protection. UL Listed (E128817). CSA Certified.

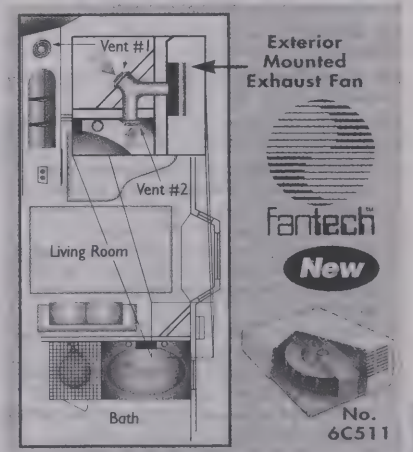
**No. 6C509 and 3TJ96 Regular Exhaust Kits.** Provide one vent in one bathroom. For use with 4" (use No. 3C591) and 6" (use No. 5C201) duct (not included). Include one centrifugal fan, collar and grille, backdraft damper, fan mounting bracket, and four duct clamps.

**No. 6C510 and 3TJ95 Dual Exhaust Kits.** Provide two vents in one bathroom or one vent in two bathrooms using one fan. Attach to 6" (use No. 5C201) and 8" duct (not included). Include one centrifugal fan, two collar/grille combinations, two backdraft dampers, one fan mounting bracket, one Y-duct adapter to split duct to each grille, and eight duct clamps.

| Description | Duct Dia. (In.) | CFM Air Delivery @ RPM Shown 0.0" SP | 0.2" SP | 0.4" SP | 0.6" SP | 0.8" SP | 1.0" SP | 1.5" SP | Motor Data RPM | Watts | Inlet / Outlet (In.) | Width (In.) Diameter (In.) | Less Flange | Flange (In.) | Fantech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Regular Exhaust Fan Kit | 4 | 108 | 90 | 72 | 54 | 19 | — | — | 2865 | 43 | 3⅞ | 9½ | 5¼ | 7⅛ | REG100 | 6C509 | $310.62 | $176.75 | 8.0 |
| Regular Exhaust Fan Kit | 6 | 214 | 190 | 162 | 132 | 99 | 46 | — | 2723 | 60 | 5⅞ | 11¾ | 5⅞ | 7⅛ | REG140 | 3TJ96 | 332.00 | 189.25 | 10.0 |
| Deluxe Exhaust Fan Kit | 6 | 243 | 220 | 196 | 170 | 142 | 114 | 18 | 2411 | 93 | 5¾ | 11¾ | 5⅞ | 7⅛ | DLX150 | 6C510 | 405.81 | 231.00 | 13.0 |
| Deluxe Exhaust Fan Kit | 8 | 408 | 360 | 308 | 259 | 213 | 173 | 72 | 2507 | 128 | 7⅞ | 13¼ | 6¼ | 1½ | DLX200 | 3TJ95 | 552.75 | 314.50 | 15.0 |

## EXTERIOR MOUNTED EXHAUST FANS

- **Remote mounted fan for residential and commercial exhausting and venting applications including bathrooms, laundry rooms, conference rooms, photographic dark rooms, kitchens, hot tubs or spas, locker rooms, and any room where ventilation is needed**
- **Dryer boosting/kitchen hood ventilation. Dryer applications are for extended dryer ventilation lengths exceeding 12 feet. Fan can operate in airstream temperatures up to 140°F**
- **Exterior mounting keeps noise away from living/working area; attaches to any side wall or gable end of roofing**
- **Requires only four or six inches of installation space for ducting—needs no roof jacks, louvered shutters or termination caps**
- **Totally enclosed, 115V, 60 Hz, motor with permanently lubricated sealed ball bearings and automatic reset thermal protection**




| Fit Duct Dia. (In.) | CFM Air Delivery @ RPM Shown 0.1" SP | 0.2" SP | 0.4" SP | 0.6" SP | 1.0" SP | 1.2" SP | 1.6" SP | Motor Data HP | RPM | External Dim. (In.) H | W | D | Fantech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 110 | 98 | 71 | 36 | — | — | — | — | 3250 | 10¼ | 13 | 6 | RVF4 | New 4TM79 | $227.34 | $206.75 | 9.0 |
| 4 | 180 | 172 | 154 | 136 | 91 | 57 | — | 1/20 | 2300 | 13 | 10 | 6 | RVF4XL | 6C511 | 364.06 | 207.25 | 11.0 |
| 6 | 360 | 346 | 315 | 285 | 213 | 164 | 37 | 1/15 | 2900 | 16¾ | 14 | 6 | RVF6XL | 6C513 | 527.72 | 300.25 | 15.0 |

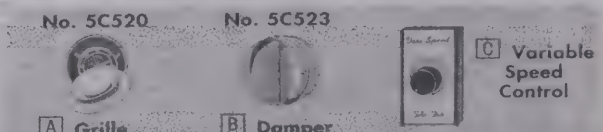
## ACCESSORIES FOR EXTERIOR AND REMOTE MOUNTED EXHAUST FANS

**A Adjustable Plastic Grille.** For exhaust or supply. White.

| Diameter (In.) | Fantech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 | HG4 | 5C520 | $20.04 | $11.40 | 1.0 |
| 6 | HG6 | 5C521 | 26.72 | 15.20 | 1.5 |

**B Back-draft Damper.** Spring tension. Galvanized sheet metal.

| Diameter (In.) | Fantech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 | RSK4 | 5C523 | $31.73 | $18.05 | 0.5 |
| 6 | RSK6 | 5C524 | 43.42 | 24.70 | 0.9 |




**C Variable Speed Control.** 2.5 Amps. For use with all fans listed above.
No. 5C203. Shpg. wt. 0.3 lbs. List $31.06. Each ..... $20.70

# BATHROOM FANS

## SINGLE-PORT AND MULTI-PORT IN-LINE VENTILATOR FANS

**Single-port fans** provide continuous, low level ventilation, improving overall indoor air quality. Remote installation combined with a quiet running, energy efficient motor.

**Multi-port fans** are efficient, versatile, and compact. Ideal for multiple unit dwellings and light commercial applications. All wiring and ductwork can be connected from outside the housing.

**All Fans Feature:**

- **High pressure, centrifugal blowers**
- **Single-Port: 6" inlet / outlet;**
- **Multi-Port: 4-4" inlet / 1-6" outlet**
- **Permanently lubricated permanent split capacitor motor for quiet operation and low power consumption**
- **Quick remove access panel for service requirements**
- **May be installed in ceiling, wall, or floor**
- **UL Listed; CSA and HVI Certified**




| CFM @ 0.2" SP | Volts | Amps | Wattage | RPM | Dimensions, (In.) H | W | D | Inlet Diameter, (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SINGLE-PORT IN-LINE VENTILATOR FAN ORDERING DATA** | | | | | | | | | | | | | |
| **110** | 120 | 0.5 | 50 | 2850 | 9½ | 11 | 10½ | 6 | SP100 | **3TR22** | $287.65 | **$163.75** | 16.0 |
| **210** | 120 | 1.3 | 140 | 3000 | 9½ | 11 | 10½ | 6 | SP200 | **3TR23** | 318.55 | **181.25** | 16.0 |
| **MULTI-PORT IN-LINE VENTILATOR FAN ORDERING DATA** | | | | | | | | | | | | | |
| **110** | 120 | 0.5 | 50 | 2750 | 9½ | 11 | 10½ | 4 | MP100 | **3TR20** | 318.55 | **181.25** | 16.0 |
| **290** | 120 | 2.5 | 210 | 1650 | 14¾ | 15¼ | 14¼ | 4 | MP280 | **3TR21** | 512.69 | **291.75** | 33.0 |

## BATHROOM VENTILATOR FANS

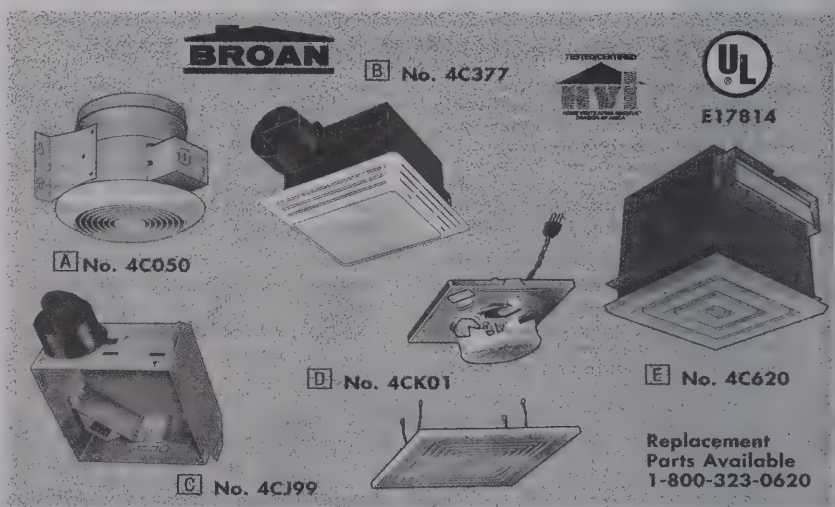
**Nos. 4C374, 4C375, 4C376, and 5C100** can be mounted into ceiling or wall.

**No. 4C050** discharges vertically. All others discharge horizontally.

**No. 4CJ99** Builder Pack/Housings and duct connector only, for No. 4C374.

**No. 4CK01** Builder Pack/Motor and grille assemblies only, for No. 4C374.

- **Round damper/duct connector prevents rattles, makes taping easier when connecting to duct**
- **Fit easily between 16" centers**
- **UL Listed for use over bathtubs and showers when connected to a GFCI protected branch circuit (except No. 4C620)**
- **Adjustable mounting brackets or simplified integral bracket for direct mounting to ceiling joist or wall stud**
- **Plug-in lifetime lubricated 120V, 60 Hz motors operate quietly at low RPM**
- **White matte finish plastic grilles**
- **UL Listed (E17814); HVI Certified**




### BATHROOM FAN ORDERING DATA

| Key | Fan Type | CFM | Sones | Amps | Dimensions (In.) W | L | H | Duct Dia. (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | Vertical Discharge | 60 | 4.0 | 1.0 | 6¼ dia. | | 5¼ | 6 | 673 | **4C050** | $40.38 | **$17.58** | 3.2 |
| **B** | Economy | 50 | 2.0 | 0.70 | 7¼ | 7½ | 3⅝ | 3 | 688 | **4C374** | 31.18 | **13.25** | 4.3 |
| **B** | Economy | 60 | 3.5 | 1.1 | 7¼ | 7½ | 3⅝ | 3 | 689 | **5C100** | 39.34 | **21.86** | 4.2 |
| **C** | Builder Pack Housing/Duct | — | — | — | 7¼ | 7½ | 3⅝ | 3 | 1667H | **4CJ99** * | 47.70 | **29.55** | 8.4 |
| **D** | Builder Pack Motor/Grille | 50 | 2.0 | 0.7 | — | — | — | — | 1688F | **4CK01** * | 68.70 | **43.10** | 15.0 |
| **B** | Deluxe | 50 | 1.5 | 0.8 | 7¼ | 7½ | 3⅝ | 3 | 670 | **4C375** | 45.91 | **28.45** | 5.0 |
| | Deluxe | 70 | 3.0 | 1.15 | 7¼ | 7½ | 3⅝ | 3 | 671 | **4C376** | 46.08 | **25.20** | 4.7 |
| | Deluxe | 80 | 2.5 | 0.75 | 8 | 8¼ | 5¾ | 4 | 684 | **4C772** | 81.28 | **45.35** | 7.0 |
| | Deluxe | 110 | 4.0 | 1.3 | 8 | 8¼ | 5¾ | 4 | 676 | **4C377** | 85.65 | **47.10** | 8.0 |
| **E** | Lo Sone® | 100 | 1.5 | 0.70 | 10½ | 11 | 9½ | ‡ | 360 | **4C620** | 157.56 | **86.55** | 15.0 |

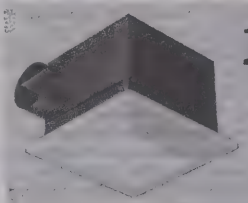
(*) Nos. 4CJ99 and 4CK01 are sold only in packs of 6. (‡) 3¼ x 10" horizontal or vertical discharge.



*However, wherever, you need to move air, we have the fans to do it.*

# SOLITAIRE® FANS, FAN/LIGHT AND NIGHT LIGHT

- Powerful, ultra quiet fans with low profile, modern styled grilles add a contemporary accent to bathrooms, small offices, conference rooms, and family rooms
- Easy to install; designed for use with 4" diameter round ductwork with tapered 4" round polymeric duct connector
- Non-yellowing white polymeric low profile grille. Nos. 5C187 and 5C188 feature torsion spring mounting
- Plug-in lifetime lubricated, low RPM motor with Neoprene anti-vibration motor mounts
- Dynamically balanced centrifugal blower wheel provides quiet, efficient performance
- Steel housing; 7⅝" height fits between 2 x 8" joists
- Adjustable mounting brackets span joists to 24" or mount directly to joist
- Nonmetallic damper reduces backdrafts without annoying clatter
- Stock No. 5C189 uses No. 5V600 100W incandescent lamp and handy No. 5V141 7W night light (lamps not included)
- No. 5C189 is Type IC rated
- All units AMCA Licensed and HVI Certified, UL Listed
- No. 5C189 fan/light/night light can be used with Nos. 5C098 brass or 5C192 chrome 3-function control; see page 3562
- UL Listed for use over bathtubs and showers when connected to a GFCI protected branch circuit



BROAN

E17814

No. 5C189
Fan/Light/Night Light

Replacement Parts Available
1-800-323-0620

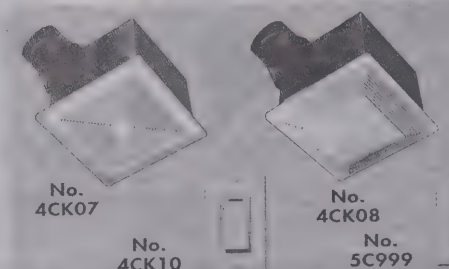
Broan Mfg. Co., Inc. certifies that the Solitaire exhaust fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

| Description | HVI Certified CFM | HVI Certified Sones @ 0.1: SP | CFM @ SP Shown* 0.0" SP | 0.1" SP | 0.125" SP | 0.250" SP | 0.375" SP | AMCA Sones @ 0.0" SP | Volts | Watts | Amps | Nom. RPM | Duct Dia. (In.) | Housing Dimensions (In.) L | W | H | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fan | 90 | 1.5 | 98 | 94 | 93 | 84 | 52 | 3.0 | 120 | 50 | 0.5 | 1050 | 4 | 9¼ | 9½ | 7⅝ | S90 | 5C187 | $147.30 | $73.55 | 11.0 |
| Fan | 130 | 2.5 | 145 | 134 | 130 | 109 | 89 | 5.6 | 120 | 90 | 0.7 | 1350 | 4 | 9¼ | 9½ | 7⅝ | S130 | 5C188 | 151.44 | 86.75 | 11.0 |
| Fan Light/ Night Light | 120 | 2.5 | 141 | 130 | 126 | 107 | 87 | 4.8 | 120 | 60 | 1.5 | 1350 | 4 | 9¼ | 9½ | 7⅝ | S120L | 5C189 | 198.98 | 114.70 | 12.0 |

(*) Performance shown is for models with outlet ducts, inlet grille and backdraft damper. RPM shown is nominal and the performance is based on actual speed of test. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type B: free inlet fan sone levels.

# SOLITAIRE® ULTRA SILENT® FANS AND FAN/LIGHT/NIGHT LIGHT

- Same as the Solitaire™ fans listed above, but with these added features:
- Non-yellowing white polymeric low profile grille. Nos. 4CK07 and 4CK09 feature torsion spring mounting
- Lower sound levels (Sones); high efficiency centrifugal blower increases air flow with virtually silent operation
- No. 4CK08 is Type IC rated; uses No. 5V600 100W incandescent lamp and handy No. 5V141 7W night light (lamps not included)
- No 4CK08 can be used with ivory color switch No. 5C999 3-function control with pilot light; see listing below
- All units are UL and UL Canada Listed; HVI Certified
- UL Listed for use over bathtubs and showers when connected to a GFCI protected branch circuit



No. 4CK07

No. 4CK10

No. 4CK08

No. 5C999

BROAN

Broan Mfg. Co. certifies that the models shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

| Description | HVI Certified CFM | HVI Certified Sones @ 0.1: SP | CFM @ SP Shown* 0.0" SP | 0.1" SP | 0.125" SP | 0.250" SP | 0.375" SP | AMCA Sones @ 0.0" SP† | Volts | Amps‡ | Nom. RPM | Duct Dia. (In.) | Housing Dimensions (In.) L | W | H | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fan | 80 | 0.6 | 99 | 84 | 80 | 67 | 35 | 1.6 | 120 | 1.1 | 850 | 4 | 9⅝ | 9¾ | 7⅝ | S80U | 4CK07 | $187.90 | $106.90 | 10.0 |
| Fan | 110 | 1.5 | 122 | 111 | 107 | 88 | 63 | 2.6 | 120 | 0.7 | 1160 | 4 | 9⅝ | 9¾ | 7⅝ | S110U | 4CK09 | 212.50 | 120.90 | 10.0 |
| Fan/Light/ Night Light | 110 | 1.5 | 123 | 110 | 106 | 87 | 61 | 2.5 | 120 | 1.6 | 1160 | 4 | 9⅝ | 9¾ | 7⅝ | S110LU | 4CK08 | 225.80 | 146.55 | 11.0 |
| | | | | | | | | | | | | | | | | 69VL | 4CK10 | 25.22 | 15.87 | 0.5 |
| | | | | | | | | | | | | | | | | 685VL | 5C999 | 46.30 | 29.15 | 0.5 |

Switch with pilot light for use with No. 4CK07 and 4CK09. 120V, 20 amps. Ivory color
3-Function control with pilot light for use with 4CK08. Lighted fan control, 120V, 20 amps. 2 rocker switches, 120V, 15 amps. Ivory color

(*) Performance shown is for models with outlet duct, inlet grille and backdraft damper. RPM shown is nominal and the performance is based on actual speed of test. (†) A weighted sound ratings shown have been calculated per AMCA 301. Values shown are for inlet LwiA sound power levels for installation Type B: free inlet, ducted outlet. Ratings do not include the effects of duct and connection. (‡) Total connected load.

# BATHROOM FAN/LIGHTS

## SENSAIRE FANS AND FAN/LIGHTS

- Motion sensing or humidity sensing fans are useful for residential and public applications where automatic, hands-free ventilation is required
- Motion sensor turns on lights automatically upon entry; humidity sensor activates fan when it detects a rapid rise in humidity in showers or other damp environments—No. 5E829 is a combination motion/humidity sensing fan/light/night light
- Low RPM, neoprene mounted, lifetime lubricated motor
- Low profile, non-yellowing polymeric grille is 11½" square
- 4" round duct size
- Units can be adjusted to run for 5 to 60 minutes, then shut off automatically
- Type IC rated
- UL Listed, HVI Certified
- Housing size: 9¼L x 9½W x 7⅝"H
- For No. 5E829 use 3-way control switch No. 5E830, not included, see below

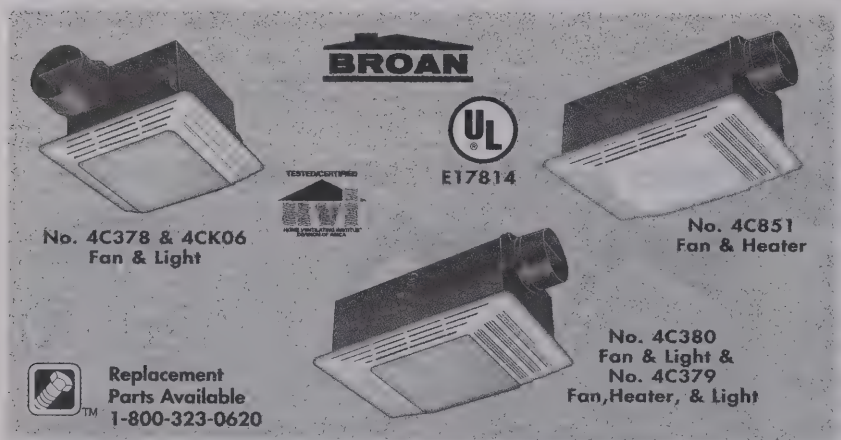
**3-Way Control Switch.** For use with No. 5E829 motion and humidity sensing fan/light/night light. Broan (77DW).
**No. 5E830.** Shpg. wt. 0.5 lbs. List $30.30.
Each ..... **$18.05**




| Description | HVI CFM | HVI Sones | Volts | Amps | Watts | Nominal RPM | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Motion Sensor Fan** | 130 | 2.5 | 120 | 0.70 | 50 | 1050 | MS130 | **5E827** | $203.34 | **$118.00** | 12.0 |
| **Humidity Sensor Fan** | 130 | 2.5 | 120 | 0.90 | 90 | 1350 | HS130 | **5E828** | 213.72 | **124.15** | 11.0 |
| **Humidity/Motion Sensor Fan/Light/Night Light*** | 120 | 2.5 | 120 | 2.10 | 90* | 1350 | MHS120L | **5E829** | 302.78 | **176.50** | 13.0 |

(*) Uses 100W lamp and 7W night light. Lamps not included.

## COMBINATION LIGHT/FAN AND HEATER UNITS




- Light uses 100W lamp (not included)
- Snap-in plastic lens diffuses light evenly
- Plug-in heater provides 4436 BtuH of heat
- Convenient wiring junction box
- Steel mounting brackets for fast, sturdy installation
- UL Listed; HVI Certified
- Nos. 4C378, 4C380 and 4CK06 are Type IC rated and UL Listed for use over bathtubs and showers when connected to a GFCI protected branch circuit

Engineered for high performance at low sound levels for residential bath and dressing rooms.

Nos. 4C378, and 4C380 have 2.0 amp electrical ratings and plug-in, permanently lubricated, 120V 60 Hz motor, 4CK06 1.5 Amps.

Nos. 4C379 and 4C851 have separate 120V, 60 Hz, plug-in, permanently lubricated motors for fan and heater which require 20 amp circuit and 2 or 3 rocker switches See page 3562 for wall controls.

### COMBINATION LIGHT/FAN AND HEATER ORDERING DATA

| Ventilator Type | CFM | Sones | Dimensions (In.) W | L | H | Duct Dia. (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fan & Light** | 50 | 2.5 | 8¼ | 8 | 5¾ | 4 | 678 | **4C378** | $66.71 | **$33.75** | 7.9 |
| **Fan & Light** | 70 | 3.5 | 8¼ | 8 | 5¾ | 4 | 679 | **4CK06** | 72.95 | **40.85** | 6.3 |
| **Fan & Light** | 70 | 3.5 | 8¼ | 14¼ | 5¾ | 4 | 657 | **4C380** | 97.98 | **57.95** | 11.0 |
| **Fan & Heater** | 70 | 3.5 | 8¼ | 14¼ | 5¾ | 4 | 658 | **4C851** | 143.76 | **80.15** | 13.0 |
| **Fan, Heater, Light** | 70 | 3.5 | 8¼ | 14¼ | 5¾ | 4 | 655 | **4C379** | 146.07 | **70.30** | 14.0 |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# DESIGNER FAN/LIGHT AND NIGHT LIGHTS




- 100 CFM, 3.5 sones
- 4" round polymeric duct connector with long tapered sleeves for easy-to-install ducting
- Durable polymeric damper reduces cold backdrafts; no metallic chatter
- Spring-mounted "moonstone" glass lens gives consistent, non-yellowing lighting for bathrooms up to 95 square feet
- 100-watt lighting, 7-watt night light (bulbs not included)
- Type IC rated
- UL Listed for use over bathtubs and showers when connected to a GFCI protected branch circuit (except No. 5C097)

**Handsomely styled bathroom fans** combine a reliable exhaust fan with a bright overhead light and built-in night light. Rugged 8 x 8¼ x 5¾" steel housing with adjustable mounting brackets that span up to 24". Plug-in, thermally protected, lifetime-lubricated, 4-pole motor. Broan brand.

| Grille/Frame | Frame Dia. (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| White Painted Aluminum | 14⅝ | 712 | **5C207** | $149.68 | **$91.70** | 15.0 |
| Polished Brass Finish/Solid Oak | 15⅛ | 721 | **5C097** | 173.86 | **105.55** | 13.0 |

### FAN/LIGHT AND NIGHT LIGHT CONTROLS

Controls have three separate 120 volt, 60 Hz, 15 amp switches for "light," "night light", and "vent." Controls fit single gang box sized to NEC requirements. Broan brand.

**No. 5C098.** Control with polished brass wall plate and ivory control (65V). Shpg. wt. 0.5 lbs. List $28.69. Each ..... **$16.59**

**No. 5C192.** Control with polished chrome wall plate and white control (67V). Shpg. wt 0.5 lbs. List $29.72. Each ..... **$16.25**

# FLUORESCENT FAN/LIGHT

- Fluorescent lighting uses 75% less electricity than an incandescent lamp; qualifies for energy-use rebate from some local utilities
- Provides warm, pleasing light; snap-in plastic lens diffuses light evenly
- Plug-in PLC lamp is easy to replace (No. 4V302, not included)
- Plug-in lifetime lubricated, thermally protected motor
- White polymeric grille, 4" round duct; steel mounting flanges with keyhole slots for fast, sturdy installation
- HVI Certified, Type IC rated; UL Listed for use over bathtubs and showers when connected to GFCI protected branch circuit
- Broan wall controls available; see page 3562




### FLUORESCENT FAN/LIGHT ORDERING DATA

| CFM Delivery | Sones | Duct Dia. (In.) | Dimensions (In.) W | L | H | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **70** | 3.5 | 4 Round | 8¼ | 8 | 5¾ | 679 FL | **6C493** | $86.26 | **$52.00** | 7.6 |

# BULB-TYPE HEATER / VENTILATORS




Efficient instant-heat, infrared bulb-type heater fans widely used in bathrooms and dressing areas of residences, motels, and cabins. 120V, 60 Hz. Broan brand.

**No. 4C538 One-bulb Heater Fan.** UL Listed for 60°C wiring.

**No. 4C540 Two-Bulb Heater Fan.** UL Listed for 60°C wiring.

- Matte white molded plastic grille
- Bulb heater and ventilating fan operate independently or in combination (use either Nos. 1A773, 2C999, 6E899, 6E900 Multi-control or 1 or 2 separate rocker switches, available separately)
- Four-point adjustable mounting brackets span up to 24" and provide vertical and horizontal mounting adjustment
- Quiet, squirrel cage plastic blower wheel driven by plug-in permanently lubricated, shaded pole motor
- Quiet plastic damper prevents backdrafts
- 4" Round duct outlet
- 250W, R40 infrared lamp not included, see Stock No. 2V294
- UL Listed (E10687); HVI Certified

| Bulb Sockets | CFM | Sones | Grille (In.) L | W | Dimensions (In.) W | L | H | BtuH | Full Load Watts | Amps | RPM | Broan Model | Stock No. | W / O Infrared Bulb List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 70 | 3.5 | 10¼ | 10¼ | 8⅜ | 8⅛ | 6⅛ | 855 | 300 | 2.5 | 2500 | 162 | **4C538** | $73.24 | **$33.25** | 7.6 |
| **2** | 70 | 3.5 | 15⅝ | 10¼ | 8⅜ | 14¼ | 6⅛ | 1710 | 545 | 4.5 | 2400 | 164 | **4C540** | 97.70 | **50.45** | 9.5 |

# RECOVERY FAN WALL CONTROLS, COMMERCIAL DUTY FAN AND FAN/LIGHT AND DUCT-FREE FAN

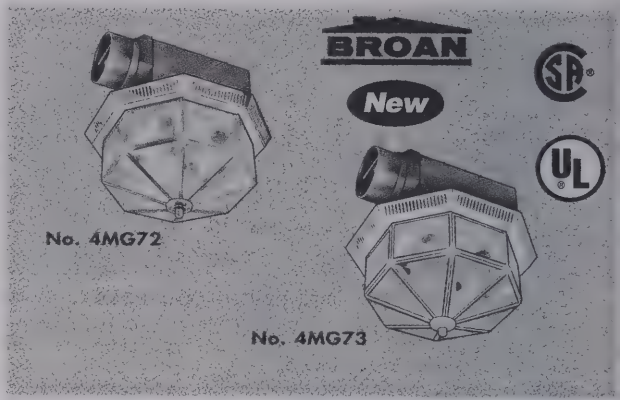
## DECORATIVE LIGHT FIXTURE/EXHAUST FAN

- **Polymeric blower wheel**
- **Rugged steel housing has corrosion resistant finish**
- **Sturdy keyholed mounting brackets for quick, accurate installation**

A powerful ventilating fan combined with a designer look make this light/exhaust fan the perfect choice for any bath. Features clear beveled glass panels in corrosion-resistant brilliant polished brass or gloss white. Powerful fan exhausts 70 cubic feet of air per minute via inconspicuous vent openings in fixture base. Produces 3.5 Sones. Tapered, polymeric 4" round duct fitting for easy, positive duct connection with no metallic clatter. Includes plug-in light fixture assembly and permanently lubricated motor. Uses four 25 watt candelabra base bulbs maximum (not included). UL Listed for use in insulated ceilings. Made in USA.

***New!*** **No. 4MG72.** Polished Brass. Broan brand (740BR).Shpg. wt. 16.0 lbs. List $166.34. Each ..... **$94.70**

***New!*** **No. 4MG73.** Gloss White. Broan brand (740WH). Shpg. wt. 12.0 lbs. List $164.67. Each ..... **$93.75**




## COMMERCIAL DUTY FAN AND FAN/LIGHT

- **Economical heavy-duty units designed for continuous operation in restaurants, convenience stores, gas stations, office buildings, and taverns**
- **Totally enclosed, cool running, low RPM motor with permanently lubricated bearings**
- **Rugged metal grille on fan**
- **White polymeric grille on fan/light can be painted to match decor**
- **4" diameter polymeric duct connector with built-in back-draft damper**
- **All housings 8L x 8¼W x 5¾"H**
- **Grille size: Nos 5E831 and 5E832, 10¼" Sq.; Nos. 5E833 and 5E834, 10⅝" x 11⅛"**
- **Built-in mounting bracket**
- **Pre-wired outlet box**
- **UL Listed for use over bathtubs and showers when connected for GFCI protected branch circuit**
- **Light models feature 100W lighting (lamp not included), Type IC, and plug-in receptacle for fan and light**
- **Broan wall controls available. See page 3562**



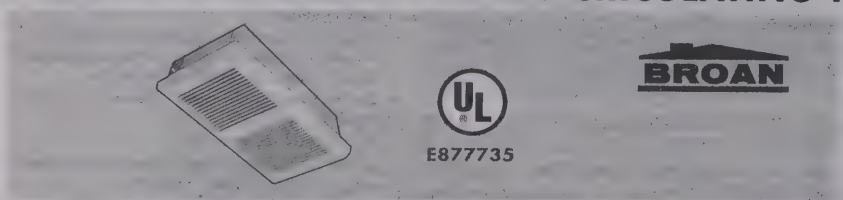

Broan Mfg. Co. certifies that the fans and fan/lights shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

The sound ratings shown are loudness values in fan sones at 5 ft. (1.5M) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type B: free inlet fan sone levels.

| Description | CFM | Sones HVI | Volts | Amps | Watts | Nominal RPM | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ventilator** | 50 | 2.0 | 120 | 0.4 | 40 | 1000 | HD50 | **5E831** | $90.62 | **$48.95** | 8.0 |
| **Ventilator** | 80 | 2.5 | 120 | 0.6 | 60 | 1250 | HD80 | **5E832** | 98.20 | **58.10** | 8.0 |
| **Ventilator/Light** | 50 | 2.5 | 120 | 1.3 | 35† | 1100 | HD50L | **5E833** | 102.40 | **54.90** | 7.5 |
| **Ventilator/Light** | 80 | 3.5 | 120 | 1.7 | 50† | 1450 | HD80L | **5E834** | 106.82 | **63.05** | 7.5 |

(†) Fan only.

## DUCT-FREE CIRCULATING FAN

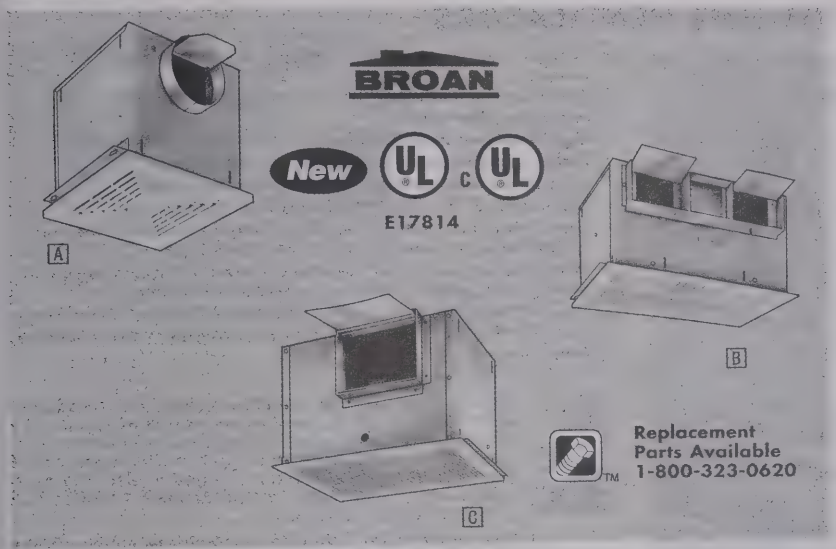



Recirculates and draws air past a deodorizing unit for clean, fresh scented air. Mounts in ceiling or wall. No duct work required. Uses inexpensive, commercially available deodorizers. Quiet, efficient, low RPM plug-in, lifetime lubricated motor. Matte white polymeric grille. Broan brand.

| Full Load Amps | Grille (In.) | Dimensions (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **0.30** | 9⅝ x 5⅞ | 8 x 4½ x 2⅝ | 686 | **5C099** | $44.02 | **$19.71** | 2.0 |

# BROAN CEILING/WALL VENTILATORS






- Plug-in, continuous duty, lifetime lubricated, low RPM motors. 120V, 60Hz
- Eight-position mounting brackets for easy installation
- Can be field converted to in-line ventilators when In-Line Adapter kits are purchased
- 1/2" acoustic insulation for quiet operation
- Galvanized housing for corrosion resistance
- Use No. 4C964 if vibration hanging dampers are required
- Outlet duct connection includes dampers; can be converted from horizontal to vertical
- UL and cUL Listed (E17814/GPWV) and AMCA licensed
- Broan brand

Broan Mfg. Co., Inc. certifies that the ventilators shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 (and AMCA Publication 311 if sound is also certified) and comply with the requirements of the AMCA Certified Ratings Program.

The sound rating shown are loudness values in fan sones at 5 ft. (1.5M) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type B: free inlet fan sone levels.

| Key | Grille (In.) L | Grille (In.) W | Outlet Duct Size (In.) | Housing Dimensions (In.) L | Housing Dimensions (In.) W | Housing Dimensions (In.) H | In-Line Adapter Kit Model | Metal Grille Kit Model | Broan Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 14 | 14 | 6 | 12¼ | 12¼ | 11¾ | 96IL | MG1 | L100 | **4TR42** | $159.60 | **$87.05** | 22.8 |
| A | 14 | 14 | 6 | 12¼ | 12¼ | 11¾ | 96IL | MG1 | L150 | **4TR44** | 171.34 | **93.45** | 22.8 |
| A | 14 | 14 | 8 | 12¼ | 12¼ | 11¾ | 98IL | MG1 | L200 | **4TR48** | 197.79 | **107.85** | 23.0 |
| A | 14 | 14 | 8 | 12¼ | 12¼ | 11¾ | 98IL | MG1 | L250 | **4TR51** | 201.36 | **109.80** | 23.1 |
| A | 14 | 14 | 8 | 12¼ | 12¼ | 11¾ | 98IL | MG1 | L300 | **4TR53** | 206.67 | **112.70** | 33.8 |
| B | 14 | 23¼ | 4½ x 18½ | 12¼ | 22½ | 11¾ | 982L | MG1 | L400 | **4TR56** | 338.80 | **185.00** | 33.8 |
| B | 14 | 23¼ | 4½ x 18½ | 12¼ | 22½ | 11¾ | 982L | MG1 | L500 | **4TR58** | 378.87 | **206.75** | 33.8 |
| B | 14 | 23¼ | 4½ x 18½ | 12¼ | 22½ | 11¾ | 982L | MG1 | L700 | **4TR60** | 408.92 | **223.25** | 33.9 |
| C | 19¾ | 23¼ | 8 x 12 | 22 | 18 | 18 | 983L | MG1 | L900 | **4TR62** | 485.96 | **265.25** | 64.2 |
| C | 19¾ | 23¼ | 8 x 12 | 22 | 18 | 18 | 983L | MG1 | L1500 | **4TR45** | 695.17 | **379.25** | 64.3 |

(*) For metal grill kits, see page 3557

## LOSONE VENTILATOR PERFORMANCE DATA*

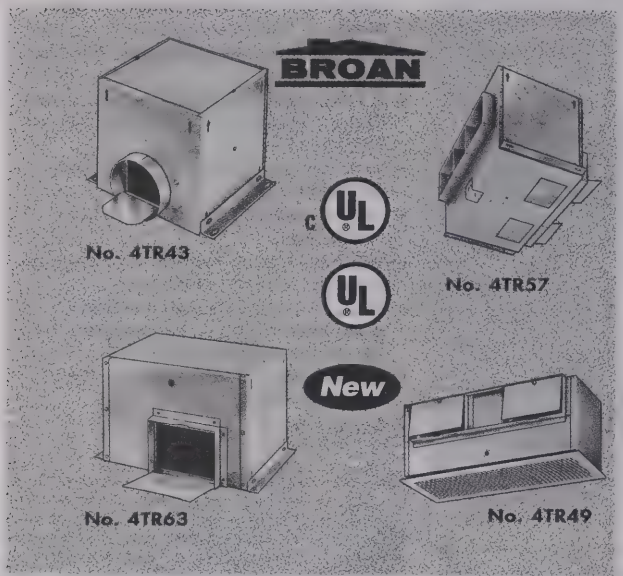
| Stock No. | Broan Model | | CFM/Sones @ Static Pressures Shown (Ps - inches of H20) ‡ 0.0 SP | 0.1 SP | 0.125 SP | 0.250 SP | 0.375 SP | 0.500 SP | 0.625 SP | 0.750 SP | 0.875 SP | 1.0 SP | Motor RPM† | Amps | Watts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4TR42 | L100 | CFM | 136 | 115 | 109 | 9.3 | 80 | 65 | 44 | 12 | — | — | 640 | 1.1 | 77 |
| | | Sones | 0.5 | 0.8 | 0.9 | 1.3 | 1.8 | 2.3 | 3.0 | 3.2 | — | — | | | |
| 4TR44 | L150 | CFM | 181 | 161 | 157 | 141 | 132 | 124 | 114 | 94 | 62 | — | 710 | 1.4 | 102 |
| | | Sones | 1.3 | 1.4 | 1.5 | 2.2 | 2.6 | 3.1 | 3.6 | 4.1 | 4.6 | — | | | |
| 4TR48 | L200 | CFM | 231 | 214 | 210 | 196 | 186 | 177 | 165 | 144 | 113 | 51 | 740 | 1.8 | 131 |
| | | Sones | 1.6 | 1.8 | 1.7 | 2.3 | 2.9 | 3.5 | 4.1 | 4.9 | 5.3 | 5.3 | | | |
| 4TR51 | L250 | CFM | 272 | 261 | 259 | 250 | 244 | 233 | 218 | 201 | 165 | 99 | 830 | 2.2 | 169 |
| | | Sones | 2.1 | 2.3 | 2.2 | 2.9 | 3.3 | 3.9 | 4.4 | 4.8 | 5.5 | 5.8 | | | |
| 4TR53 | L300 | CFM | 309 | 302 | 301 | 294 | 286 | 276 | 264 | 243 | 216 | 133 | 905 | 2.7 | 207 |
| | | Sones | 2.4 | 2.7 | 2.7 | 2.9 | 3.1 | 3.3 | 3.7 | 4.0 | 4.4 | 5.4 | | | |
| 4TR56 | L400 | CFM | 480 | 442 | 434 | 388 | 344 | 299 | 229 | 182 | 114 | 33 | 735 | 1.6 | 171 |
| | | Sones | 2.2 | 2.4 | 2.3 | 2.8 | 3.3 | 3.8 | 4.5 | 4.8 | 5.4 | 5.6 | | | |
| 4TR58 | L500 | CFM | 538 | 520 | 519 | 491 | 463 | 434 | 389 | 339 | 282 | 186 | 810 | 2.2 | 221 |
| | | Sones | 3.0 | 3.1 | 3.3 | 3.6 | 4.0 | 4.4 | 5.0 | 5.7 | 6.2 | 6.7 | | | |
| 4TR60 | L700 | CFM | 722 | 704 | 701 | 667 | 640 | 607 | 571 | 534 | 453 | 333 | 960 | 2.8 | 300 |
| | | Sones | 4.5 | 4.6 | 4.7 | 4.8 | 5.0 | 5.2 | 5.6 | 6.2 | 7.1 | 7.2 | | | |
| 4TR62 | L900 | CFM | 924 | 907 | 902 | 870 | 832 | 789 | 724 | 645 | 516 | 337 | 595 | 3.8 | 318 |
| | | Sones | 3.3 | 3.6 | 3.6 | 3.8 | 4.1 | 4.5 | 4.7 | 4.9 | 5.0 | 5.3 | | | |
| 4TR45 | L1500 | CFM | 1592 | 1557 | 1549 | 1489 | 1433 | 1368 | 1294 | 1208 | 1113 | 983 | 880 | 5.1 | 645 |
| | | Sones | 8.2 | 8.4 | 8.1 | 7.9 | 7.5 | 7.2 | 6.9 | 6.6 | 6.5 | 6.5 | | | |

(‡) Measured Horizontal Air Delivery.

NEED ASSISTANCE WITH PRODUCT SELECTION?
WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY

# BROAN IN-LINE VENTILATORS

## IN-LINE VENTILATORS




- **Plug-in, continuous duty, lifetime lubricated, low RPM motors**
- **Access panel included–service or inspect unit without removing ductwork**
- **Eight-position mounting brackets for easy installation**
- **Galvanized housing for corrosion resistance**
- **Inlet and outlet duct size are same dimension**
- **cUL Listed (E17814/GPWV) and AMCA licensed**
- **Outlet duct connection includes dampers and can be converted from horizontal to vertical discharge**
- **Two-position electrical connection provides quick, simple wiring from either inside or outside of housing**
- **Nos. 4TR49 and 4TR55 are considered Cabinet Ventilators Use No. 4C964 if vibration hanging dampers are required**
- **Broan brand**

Broan Mfg. Co., Inc. certifies that the ventilators shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 (and AMCA Publication 311 if sound is also certified) and comply with the requirements of the AMCA Certified Ratings Program.

The sound rating shown are loudness values in fan sones at 5 ft. (1.5M) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type B: free inlet fan sone levels.

### IN-LINE VENTILATOR PERFORMANCE DATA*

| Stock No. | Broan Model | | CFM/Sones @ Static Pressures Shown (Ps - inches of H20) 0.0 SP | 0.1 SP | 0.125 SP | 0.250 SP | 0.375 SP | 0.500 SP | 0.625 SP | 0.750 SP | 0.875 SP | 1.0 SP | Motor RPM† | Amps | Voltage | Watts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4TR43 | L100L | CFM | 118 | 105 | 103 | 90 | 75 | 54 | 29 | — | — | — | 765 | 1.1 | 120 | 77 |
| | | Sones | 0.0 | 0.1 | 0.2 | 0.5 | 0.9 | 1.2 | 1.2 | — | — | — | | | | |
| 4TR47 | L150L | CFM | 160 | 151 | 149 | 140 | 131 | 121 | 106 | 85 | 54 | 8 | 890 | 1.4 | 120 | 103 |
| | | Sones | 0.4 | 0.6 | 0.8 | 1.2 | 1.4 | 1.6 | 1.9 | 2.1 | 2.2 | 2.2 | | | | |
| 4TR50 | L200L | CFM | 220 | 209 | 207 | 198 | 188 | 180 | 164 | 144 | 111 | 69 | 855 | 1.8 | 120 | 132 |
| | | Sones | 1.0 | 1.3 | 1.4 | 1.8 | 2.2 | 2.7 | 3.1 | 3.3 | 3.3 | 3.4 | | | | |
| 4TR52 | L250L | CFM | 260 | 255 | 254 | 248 | 238 | 226 | 212 | 185 | 145 | 39 | 985 | 2.2 | 120 | 166 |
| | | Sones | 1.6 | 1.8 | 1.9 | 2.3 | 2.6 | 3.0 | 3.4 | 3.7 | 3.9 | 4.2 | | | | |
| 4TR54 | L300L | CFM | 309 | 302 | 300 | 291 | 278 | 265 | 248 | 219 | 179 | 114 | 1095 | 2.6 | 120 | 205 |
| | | Sones | 2.5 | 2.6 | 2.7 | 2.9 | 3.0 | 3.2 | 3.4 | 3.7 | 3.8 | 3.9 | | | | |
| 4TR57 | L400L | CFM | 451 | 423 | 414 | 379 | 324 | 277 | 236 | 190 | 96 | 6 | 810 | 1.3 | 120 | 132 |
| | | Sones | 0.8 | 1.1 | 1.1 | 1.5 | 2.0 | 2.4 | 2.9 | 3.4 | 3.4 | 3.6 | | | | |
| 4TR59 | L500L | CFM | 519 | 498 | 496 | 467 | 439 | 398 | 354 | 308 | 254 | 166 | 890 | 2.0 | 120 | 213 |
| | | Sones | 1.6 | 1.9 | 2.0 | 2.5 | 2.6 | 2.9 | 3.3 | 4.0 | 4.0 | 4.0 | | | | |
| 4TR61 | L700L | CFM | 702 | 681 | 677 | 647 | 617 | 576 | 541 | 488 | 395 | 274 | 1096 | 2.7 | 120 | 300 |
| | | Sones | 3.6 | 3.6 | 3.6 | 4.0 | 4.2 | 4.6 | 5.3 | 5.4 | 5.4 | 5.8 | | | | |
| 4TR63 | L900L | CFM | 941 | 910 | 903 | 855 | 807 | 741 | 670 | 577 | 477 | 332 | 735 | 3.6 | 120 | 300 |
| | | Sones | 2.9 | 3.1 | 3.4 | 3.6 | 3.7 | 3.8 | 3.8 | 4.0 | 4.2 | 4.6 | 5.0 | | | |
| 4TR46 | L1500L | CFM | 1404 | 1359 | 1354 | 1281 | 1213 | 1148 | 1055 | 969 | 870 | 735 | 1020 | 4.2 | 120 | 504 |
| | | Sones | 6.7 | 6.7 | 6.7 | 6.5 | 6.5 | 6.1 | 6.0 | 5.9 | 5.8 | 5.6 | | | | |
| 4TR49 | L2000L | CFM | 1891 | 1803 | 1791 | 1657 | 1508 | 1347 | 1165 | 808 | 284 | — | 965 | 5.8 | 120 | 567 |
| | | Sones | 10.3 | 9.8 | 9.4 | 9.0 | 8.6 | 9.1 | 8.9 | 7.0 | 6.7 | — | | | | |
| 4TR55 | L3500EXL | CFM | 3605 | 3498 | 3452 | 3278 | 3073 | 2893 | 2679 | 2429 | 2093 | 1693 | 1105 | 5.4 | 240 | 1161 |
| | | Sones | 15.3 | 14.8 | 14.5 | 14.1 | 13.1 | 12.8 | 12.1 | 11.8 | 11.9 | 10.8 | | | | |

(*) The performances shown are with inlet duct, backdraft damper, and outlet duct. Nos. 4TR49 and 4TR55 performances shown are with inlet duct and outlet duct.
(†) RPM shown is nominal and the performance based on actual speed of test.

| Key | Grille (In.) L | W | Inlet Duct Connector Size (In.) | Outlet Duct Connector Size (In.) | Housing Dimensions (In.) L | W | H | Broan Model | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 14 | 14 | 6 RD | 6 RD | 12¼ | 12¼ | 11¾ | L100L | **4TR43** | $165.39 | **$90.20** | 22.9 |
| A | 14 | 14 | 6 RD | 6 RD | 12¼ | 12¼ | 11¾ | L150L | **4TR47** | 177.12 | **96.60** | 22.9 |
| A | 14 | 14 | 8 RD | 8 RD | 12¼ | 12¼ | 11¾ | L200L | **4TR50** | 203.58 | **111.05** | 23.1 |
| A | 14 | 14 | 8 RD | 8 RD | 12¼ | 12¼ | 11¾ | L250L | **4TR52** | 207.15 | **113.00** | 23.2 |
| A | 14 | 14 | 8 RD | 8 RD | 12¼ | 12¼ | 11¾ | L300L | **4TR54** | 210.74 | **114.95** | 23.2 |
| B | 14 | 14 | 4½ x 18½ | 4½ x 18½ | 12¼ | 22½ | 11¾ | L400L | **4TR57** | 344.58 | **188.00** | 33.9 |
| B | 14 | 24 | 4½ x 18½ | 4½ x 18½ | 12¼ | 22½ | 11¾ | L500L | **4TR59** | 384.65 | **209.75** | 33.9 |
| B | 14 | 24 | 4½ x 18½ | 4½ x 18½ | 12¼ | 22½ | 11¾ | L700L | **4TR61** | 414.70 | **226.25** | 34.0 |
| C | 18 | 24 | 8 x 12 | 8 x 12 | 22 | 18 | 18 | L900L | **4TR63** | 490.60 | **267.50** | 64.5 |
| C | 18 | 24 | 8 x 12 | 8 x 12 | 22 | 18 | 18 | L1500L | **4TR46** | 681.00 | **371.25** | 64.5 |
| D | 16¼ | 39⅝ | 12⅜ x 35¾ | 33¾ x 7¾ | 38 | 14⅝ | 14⅝ | L2000L | **4TR49** | 759.56 | **414.25** | 92.0 |
| D | 18⅜ | 47¼ | 14½ X 43½ | 41⅜ x 9¾ | 45¾ | 16¾ | 16¾ | L3500EXL | **4TR55** | 977.61 | **533.00** | 146.5 |

# BROAN ADAPTER, DAMPER AND GRILLE KITS



No. 4TR39

BROAN

New



No. 4TR40

## LOSONE IN-LINE ADAPTERS

- Allows ventilator installation in locations remote from air intake
- Galvanized metal, smooth rolled edges on all sides
- Installs quickly and easily in place of ceiling grilles

| For Use With Stock Nos. | Duct Size (in.) | Broan Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4TR42, 4TR44** | 6 | 961L | **4TP53** | $15.35 | **$10.00** | 2.0 |
| **4TR48, 4TR51, 4TR53** | 8 | 981L | **4TR39** | 13.54 | **9.71** | 2.0 |
| **4TR56, 4TR58, 4TR60** | 4½ x 18½ | 982L | **4TR40** | 16.14 | **11.58** | 2.5 |
| **4TR62, 4TR45** | 8 x 12 | 983L | **4TR41** | 20.83 | **14.93** | 4.0 |

## CEILING RADIATION DAMPERS

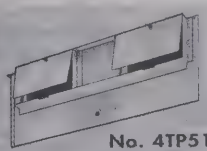
- Conforms to National Fire Protection Association (NFPA) Standard 90A
- Rated for use in 1, 2, or 3 hour ceilings
- Quilted ceramic refractory material protects fan and duct work
- All-steel parts are galvanized for corrosion resistance
- Attaches directly to ventilator
- For horizontal mounting only
- UL Listed fusible link activates at 212°F
- UL Listed Standard 555C

BROAN

| Fits LoSone Ventilator No. | Broan Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **4TR42, 4TR44, 4TR48, 4TR51, 4TR53** | RD1 | **4TR64** | $167.17 | **$101.10** | 6.0 |
| **4TR56, 4TR58, 4TR60** | RD2 | **4TR65** | 206.67 | **125.00** | 10.0 |
| **4TR62, 4TR45** | RD3 | **4TR66** | 250.96 | **152.00** | 16.0 |

BROAN

New

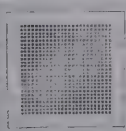


No. 4TP51

## DAMPER KITS–CABINET VENTILATORS

- Twin damper flaps and mounting hardware

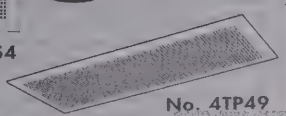
| For Use With Stock No. | Broan Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **4TP49** | D100 | **4TP51** | $18.85 | **$12.30** | 1.0 |
| **4TP55** | D101 | **4TP52** | 22.70 | **14.80** | 1.0 |



BROAN

New

No. 4TP54



No. 4TP49

## LOSONE METAL GRILLE KITS

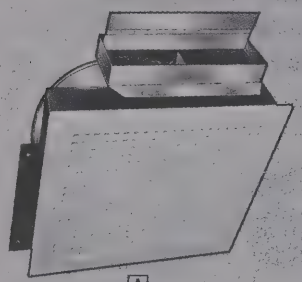
- White enamel steel grilles

| For Use With Stock No. | Grille Dimensions (In.) | Broan Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **4TR42, 4TR44, 4TR48, 4TR51, 4TR53** | 14 Square | MG1 | **4TP54** | $31.20 | **$20.40** | 2.0 |
| **4TR49** | 16⅝ x 39⅝ | G102 | **4TP49** | 58.00 | **38.00** | 6.0 |
| **4TR55** | 18⅜ x 47¼ | G103 | **4TP50** | 63.00 | **41.00** | 7.5 |

## NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

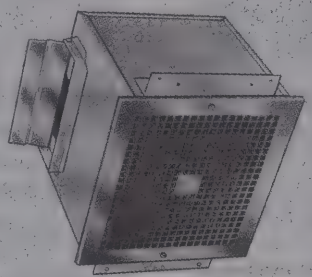
Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# EXTRA-QUIET CEILING EXHAUST OR IN-LINE VENTILATORS



A

Nos. 4C833 and 4C714



B

Acoustically Insulated Housing

Dayton®

E19455

13309

- Extra-quiet, high performance exhaust ventilators for residential, commercial, institutional, and industrial applications
- Factory assembled for right angle discharge, easily converts to horizontal or vertical discharge (except Nos. 4C833 and 4C714) for installation in ceiling and wall spaces
- All units (except Nos. 4C714 and 4C833) can be field converted to in-line ventilators with use of the Duct-Fan In-Line Adapter Kit listed on the following page
- Models with two-speed motors have wire tap leads for easy speed changes. Optional 2-speed switch No. 2X605 (not included).
- Single speed units can use variable speed controls listed below
- Molded white easy-to-clean snap-in grille has large free area and blends with any decor. Durable galvanized steel housing with integral backdraft damper
- 115V, 60 Hz motors are permanently lubricated and have overload protection and plug-in disconnects

## EXTRA-QUIET CEILING VENTILATOR PERFORMANCE WITH GRILLE*

| Key | CFM at Static Pressure Shown 0.0" SP | 0.125" SP | 0.25" SP | 0.375" SP | 0.500" SP | 0.625" SP | 0.750" SP | Sound @ 0.0" SP in Sones | 115V, 60 Hz Motor Speed | RPM† | Watts | Amps | BHP | Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 91 | 88 | 85 | 75 | 49 | — | — | 1.8 | 1 | 1200 | 48 | 0.8 | — | 4C833# |
| B | 109 | 83 | — | — | — | — | — | 1.7 | 1 | 1550 | 39 | 0.5 | — | 2D064 |
| A | 149 | 157 | 158 | 160 | 153 | 138 | 117 | 2.0 | 1 | 1200 | 125 | 1.4 | — | 4C714# |
| B | 192 | 163 | 128 | 93 | — | — | — | 2.5 | 1 | 1550 | 79 | 1.0 | — | 2D065 |
| B | 123 | 101 | 82 | — | — | — | — | 0.9 | 2 | 1050 | 47 | 0.6 | — | 2D067 |
| | 230 | 196 | 166 | 122 | — | — | — | 3.3 | | 1550 | 108 | 1.4 | — | |
| B | 272 | 247 | 231 | 217 | 199 | — | — | 2.1 | 2 | 1050 | 77 | 1.0 | — | 2D068 |
| | 426 | 401 | 377 | 357 | 341 | 328 | 304 | 4.5 | | 1550 | 130 | 1.6 | — | |
| B | 310 | 273 | 239 | 213 | 182 | 136 | 73 | 2.5 | 1 | 1050 | 77 | 0.9 | — | 2D070 |
| B | 469 | 441 | 423 | 403 | 387 | 367 | 347 | 4.5 | 2 | 1050 | 243 | 2.5 | — | 2D071 |
| | 728 | 694 | 664 | 638 | 613 | 591 | 565 | 8.6 | | 1550 | 390 | 3.6 | — | |
| B | 612 | 537 | 467 | 405 | 222 | 116 | — | 3.9 | 1 | 1050 | 153 | 1.6 | — | 2D072 |
| | 816 | 747 | 691 | 602 | 335 | — | — | 5.8 | 1 | 1050 | 269 | 4.5 | — | 2D073 |
| | 901 | 855 | 812 | 755 | 683 | 552 | — | 5.8 | 1 | 1050 | 260 | 2.9 | — | 2D074 |
| | 1083 | 1062 | 1024 | 949 | 838 | 686 | 270 | 7.0 | 1 | 1050 | 370 | 3.6 | — | 2D075 |
| | 1435 | 1385 | 1338 | 1294 | 1247 | 1203 | 1163 | 11.8 | 1 | 1550 | 812 | 7.5 | 0.53 | 2D076 |
| | 1566 | 1511 | 1464 | 1417 | 1364 | 1307 | 1251 | 13.5 | 1 | 1550 | 851 | 7.9 | 0.65 | 2D082 |

## EXTRA-QUIET CEILING VENTILATOR ORDERING DATA

| Key | Dimensions (In.) H | L | W | Discharge Flange | Stock No. | List | Each | Shpg. Wt. | Recommended Control |
|---|---|---|---|---|---|---|---|---|---|
| A | 6⅝ | 13¾ | 12 | 10 x 3¼ | **4C833#** | $127.82 | **$81.00** | 15.0 | 5C203 |
| B | 9⅛ | 12½ | 9⅛ | 10 x 3¼ | **2D064** | 140.14 | **85.90** | 15.0 | 5C203 |
| A | 6⅝ | 13¾ | 12 | 10 x 3¼ | **4C714#** | 138.36 | **87.70** | 17.0 | 5C203 |
| B | 9⅛ | 12½ | 9⅛ | 10 x 3¼ | **2D065** | 149.84 | **90.95** | 15.0 | 5C203 |
| B | 9⅛ | 12½ | 9⅛ | 10 x 3¼ | **2D067** | 168.00 | **103.80** | 15.0 | 2X605†† |
| | 11⅜ | 13⅞ | 11⅜ | 8 x 6 | **2D068** | 205.00 | **124.95** | 22.0 | 2X605†† |
| | 11⅜ | 13⅞ | 11⅜ | 8 x 6 | **2D070** | 225.00 | **139.00** | 22.0 | 5C203 |
| | 14⅛ | 18 | 14⅛ | 8 x 6 | **2D071** | 280.00 | **172.50** | 32.0 | 2X605†† |
| B | 14⅛ | 24 | 14⅛ | 22 x 6 | **2D072** | 332.16 | **204.75** | 45.0 | 5C203 |
| | 14⅛ | 24 | 14⅛ | 22 x 6 | **2D073** | 382.04 | **236.00** | 48.0 | 5C205 |
| | 14⅛ | 24 | 14⅛ | 22 x 6 | **2D074** | 466.00 | **288.00** | 48.0 | 5C205 |
| | 14⅛ | 24 | 14⅛ | 22 x 6 | **2D075** | 480.00 | **295.75** | 48.0 | 5C205 |
| | 14⅛ | 24 | 14⅛ | 22 x 6 | **2D076** | 453.70 | **280.75** | 48.0 | 5C204 |
| | 14⅛ | 24 | 14⅛ | 22 x 6 | **2D082** | 544.00 | **335.50** | 48.0 | 5C204 |

(*) Performance ratings include the effect of an inlet grill and backdraft damper in the airstream.
Performance shown is for installation Type. B: Free Inlet, Ducted Outlet, except for Nos. 4C714 and 4C833.
(#) Nos. 4C714 and $C833 performance is for installation Type A: Free Inlet, Free Outlet.
The AMCA Certified Rating Seal applies to air capacity only.
(†) Speed (RPM) shown is nominal. Performance is based upon actual speed during test. (‡) Two-speed switch.

**Replacement Parts Available**
**1-800-323-0620**




Dayton Electric Mfg. Co. certifies that all models shown herein are licensed to bear the AMCA Seal. The air performance ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211, and the sound ratings shown for all models except Nos. 4C417 and 4C883, are based on tests and procedures performed in accordance with AMCA Publication 311, and all comply with the requirements of the AMCA Certified Ratings Program. The sound ratings shown are loudness values in fan sones at 5 ft (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type B: free inlet, ducted outlet fan sone levels.

## DUCT-FAN IN-LINE ADAPTER KITS

- Kit allows simple conversion of Extra-Quiet Ceiling Exhaust Ventilators to In-Line Duct Fan right on the job site
- See complete listing on following page



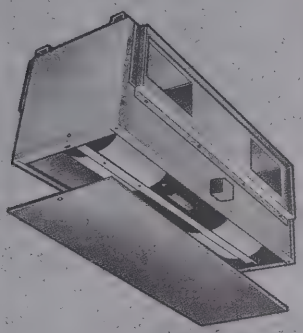
*However, wherever, you need to move air, we have the fans to do it.*

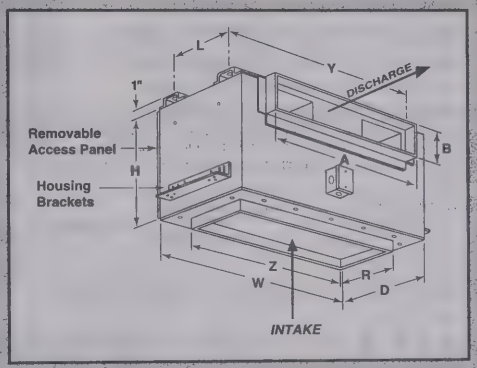
# IN-LINE CABINET VENTILATORS

Dayton®

E53236

13309






Replacement Parts Available
1-800-323-0620

- Cabinet fans are designed for general exhaust or supply applications in commercial, institutional, and industrial buildings
- Twin centrifugal blowers are mounted in a 20 gauge steel housing
- Totally enclosed motors may be operated by variable speed controls (included)
- Permanent split capacitor motors are single-phase, ball bearing, permanently lubricated with automatic thermal protection
- UL Listed for Ceiling Space and Ducted Installations in accordance with UL Standard 705

Dayton Electric Mfg. Co. certifies that the in-line ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings only.

## IN-LINE CABINET EXHAUST VENTILATOR PERFORMANCE DATA

| HP | CFM at Static Pressure Shown 0.100" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | 0.625" SP | 0.750" SP | 0.875" SP | Sound @ 0.100" SP in Sones | Volt | Single-Speed, 60 Hz Motor RPM | Watts | Amps | BHP | Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 2200 | 2195 | 2050 | 1870 | 1685 | 1425 | 880 | 285 | 7.9 | 115 | 1150 | 710 | 7.3 | 0.56 | 4C756 |
| | 2025 | 2015 | 1835 | 1645 | 1400 | 880 | — | — | 7.2 | | 1060 | With | | | |
| | 1865 | 1845 | 1630 | 1410 | 1015 | 280 | — | — | 6.6 | | 980 | Speed | | | |
| | 1660 | 1605 | 1375 | 1055 | 255 | — | — | — | 5.8 | | 880 | Control | | | |
| 1 | 3290 | 3260 | 3100 | 2920 | 2720 | 2510 | 2260 | 1930 | 9.5 | 230 | 1030 | 1280 | 5.4 | 1.1 | 3C505 |
| | 3185 | 3155 | 2990 | 2800 | 2590 | 2365 | 2085 | 1625 | 9.4 | | 1000 | With | | | |
| | 3015 | 2980 | 2805 | 2600 | 2375 | 2115 | 1755 | — | 8.8 | | 950 | Speed | | | |
| | 2775 | 2735 | 2535 | 2305 | 2045 | 1715 | — | — | 8.0 | | 880 | Control | | | |

## IN-LINE CABINET EXHAUST VENTILATOR ORDERING DATA

| HP | Dimensions in Inches W | H | D | A | B | Z | R | Y | L | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 38 | 14½ | 14½ | 33¾ | 7¾ | 36 | 12½ | 30½ | 7⅝ | 4C756 | $837.63 | $531.00 | 90.0 |
| 1 | 45½ | 16½ | 16½ | 41¼ | 9¾ | 43½ | 14½ | 34½ | 10 | 3C505 | 1154.38 | 732.00 | 134.0 |

(*) Top speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance shown is for installation Type B: Free Inlet, Ducted Outlet. Performance ratings do not include the effects of appurtenances (grilles, and/or dampers) in the airstream.

# DUCT-FAN IN-LINE ADAPTER KITS

- Kit allows simple conversion of Extra-Quiet Ceiling Exhaust Ventilators to In-Line Duct-Fan right on the job site
- Inlet Duct Sleeve and screws included
- Allows remote mounting of ventilator
- Machine-formed sleeve tabs assure perfect fit every time—no fumbling
- Generous flange for simple connection of inlet duct
- Replaces ceiling grille which can be reused or recycled by installer

Dayton®



No. 2D078

## DUCT-FAN IN-LINE ADAPTER KITS ORDERING DATA

| Duct Size (In.) | Stock No. | List | Each | Shpg. Wt. | Use with These Dayton Ventilators |
|---|---|---|---|---|---|
| 10 x 6 | 2D078 | $19.00 | $11.54 | 1.2 | 2D064, 2D065, 2D067 |
| 10 x 8 | 2D079 | 18.50 | 13.87 | 1.5 | 2D068, 2D070 |
| 14 x 10 | 2D080 | 29.00 | 17.62 | 2.0 | 2D071 |
| 20 x 10 | 2D081 | 39.80 | 24.61 | 3.0 | 2D072, 2D073, 2D074, 2D075, 2D076, 2D082 |

## DON'T DELAY... ORDER FROM GRAINGER NOW!

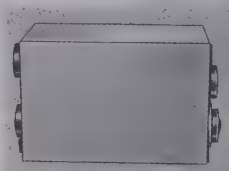
# HEAT AND ENERGY RECOVERY VENTILATOR FANS

## RESIDENTIAL HEAT RECOVERY VENTILATOR FANS

- Provide fresh air during the heating season. Control excess moisture that causes window condensation and building structure damage
- Easy to install; mount to ceiling with hardware included
- Quiet operation, using a noise reduction design
- Efficient heat recovery
- Patented defrosting without negative pressure; drain included
- Built-in controls: ON/OFF/HIGH.
- Accepts optional override controls: dehumidistat No. 2E574; 60-minute timer, Nos. 5C190 and 6E902
- Integrated balancing dampers
- Easy to maintain and service with lifetime lubricated motor, washable filter, and quickly removable parts
- UL Listed, CSA and HVI Certified

**BROAN 2 YEAR LIMITED WARRANTY**

Broan Mfg. Co. offers a 2 year limited warranty on fans; 10 years on core. Text of Warranty available on Request. See "Manufacturers' Warranties" on page opposite inside back cover.



No. 3TR16

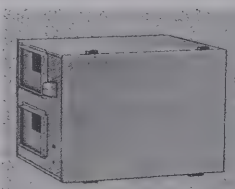
Replacement Parts Available 1-800-323-0620

| CFM @ 0.4" SP | Volts | Amps | Watts | Exhaust Air Transfer Ratio | Maximum Coverage Area (Cu. Ft.) | Sensible Recovery Efficiency +32° F % | Sensible Recovery Efficiency +32° F CFM | Sensible Recovery Efficiency -13°F % | Sensible Recovery Efficiency -13°F CFM | Apparent Sensible Effectiveness +32° F % | Apparent Sensible Effectiveness +32° F CFM | Apparent Sensible Effectiveness -13°F % | Apparent Sensible Effectiveness -13°F CFM | Dimensions (In.) L | W | H | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **120** | 120 | 1.4 | 160 | 1% | 24,000 | 72 | 64 | 65 | 55 | 80 | 64 | 87 | 55 | 30.3 | 17.3 | 20 | HRV100H | **3TR16**† | $1474.61 | **$839.00** | 70.0 |
| **180** | 120 | 2.2 | 250 | 1% | 36,000 | 69 | 109 | 60 | 110 | 76 | 109 | 94 | 110 | 30.3 | 17.3 | 20 | HRV200H | **3TR18**† | 1753.50 | **997.50** | 70.0 |

(†) Limited Availability; Contact your local branch.

## COMMERCIAL HEAT RECOVERY VENTILATOR FANS

- Provide fresh air in light commercial applications such as smoking rooms, office spaces, garages, and fitness centers
- Compact units efficient temperature recovery with quiet operation
- Can be floor mounted, suspended with 3/8" rod, or suspended with rubber straps (included)
- Access door provided; all parts can be quickly removed for easy maintenance
- Polypropylene core; washable foam filters are 30% medium efficiency
- Permanent split capacitor, lifetime lubricated, sealed sleeve bearing motor
- Built-in controls: ON/OFF/HIGH. Accepts optional override controls: dehumidistat No. 2E574; 60-minute timer Nos. 5C190 or 6E902
- UL Listed, CSA Certified



No. 3TR19

Replacement Parts Available 1-800-323-0620

| CFM @ 0.4" SP | Volts | Amps | Watts | HP | Apparent Sensible Effectiveness @ 30°F % | Apparent Sensible Effectiveness @ 30°F CFM | No. of Cores | No. of Primary Filters | No. of Secondary Filters | Dimensions (In.) L | W | H | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **650** | 115 | 5.7 | 640 | 1/4 | 65 | 550 | 2 | 4 | 2 | 34 | 28.1 | 24½ | HRV650 | **3TR19**† | $5232.11 | **$2977.00** | 188.0 |
| **1150** | 115 | 11.7 | 1275 | 1/3 | 65 | 950 | 3 | 6 | 3 | 34 | 41.2 | 24½ | HRV1150 | **3TR17**† | 5970.25 | **3397.00** | 226.0 |

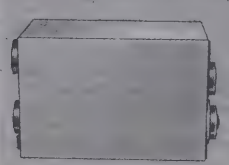
(†) Limited availability; contact your local branch.

## RESIDENTIAL ENERGY RECOVERY VENTILATOR FANS

- Provide continuous fresh air year round, help maintain proper moisture level during heating season, keep humidity outside in cooling season
- Easy to install; mount to ceiling with hardware included
- Quiet operation using inner noise reduction design
- Efficient recovery of heat and humidity; patented defrost system works without negative pressure
- Can be used with remote override controls. See Nos. 5C190 and 6E902 on page 3562
- Integrated balancing dampers
- Easy to maintain and service with lifetime lubricated motor, washable filters, and quickly removable parts
- UL Listed, CSA and HVI Certified

**BROAN TWO YEAR LIMITED WARRANTY**

Broan Mfg. Co. offers a 2 year limited warranty on fans; 10 years on cores. Text of warranty is available on Request. See "Manufacturers' Warranties" on page opposite inside back cover.



No. 3TR14

Replacement Parts Available 1-800-323-0620

| CFM @ 0.4" SP | Volts | Amps | Watts | Exhaust Air Transfer Ratio | Maximum Coverage Area Cu. Ft. | Sensible Recovery Efficiency +32°F % | Sensible Recovery Efficiency +32°F CFM | Sensible Recovery Efficiency -13°F % | Sensible Recovery Efficiency -13°F CFM | Apparent Sensible Effectiveness +32°F % | Apparent Sensible Effectiveness +32°F CFM | Apparent Sensible Effectiveness -13°F % | Apparent Sensible Effectiveness -13°F CFM | Dimensions (In.) L | W | H | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **120** | 120 | 1.4 | 160 | 1% | 24,000 | 71 | 60 | 56 | 65 | 79 | 60 | 81 | 65 | 30.3 | 17.3 | 20 | ERV100HC | **3TR14**† | $2014.02 | **$1146.00** | 70.0 |
| **180** | 120 | 2.2 | 250 | 1% | 36,000 | 69 | 110 | 55 | 110 | 76 | 110 | 76 | 110 | 30.3 | 17.3 | 20 | ERV200HC | **3TR15**† | 2439.87 | **1388.00** | 70.0 |

(†) Limited Availability; contact your local branch



*However, wherever, you need to move air, we have the fans to do it.*

## VARIABLE SPEED CONTROLLERS

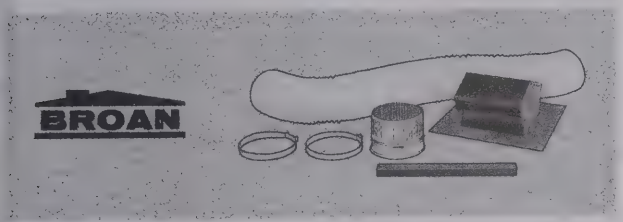
- Variable speed controller permits adjustment of air movement from 100% to approximately 50%
- Rated 120V, 60 Hz
- Can be used to operate more than one fan, if the combined total amps do not exceed the control rating
- Controls are suitable and intended only for use with specified ventilators as listed in the chart below
- UL Listed when used in combination with fan as listed
- Dayton brand




### VARIABLE SPEED CONTROLLER ORDERING DATA

| Max Amps | Stock No. | List | Each | Shpg. Wt. | Use with These Dayton Ventilators |
|---|---|---|---|---|---|
| 3.0 | 5C203 | $31.06 | $20.70 | 0.3 | 2D064, 2D065, 2D067, 2D068, 2D070, 2D072, 4C714, 4C833 |
| 10.0 | 5C204 | 76.39 | 50.95 | 0.8 | 2D076, 2D082 |
| 6.0 | 5C205 | 50.94 | 34.00 | 0.3 | 2D071, 2D073, 2D074, 2D075 |

## FLEXIBLE ROOF DUCTING KIT

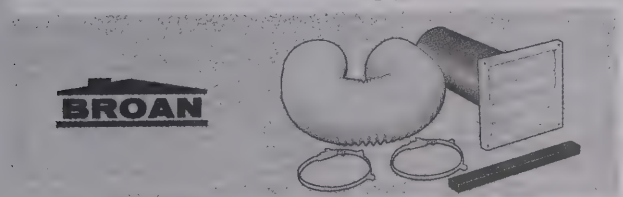



Kit includes the parts needed to roof-install 3 or 4" bath fans:

- Comes with Stock No. 2C905 Roof Jack for 3 and 4" ducts
- Roof Jack has built-in bird screen and backdraft damper; epoxy finish
- 4" diameter metal duct connector, two 4" clamps, 4" to 3" reducer; 8-ft. long, 4" dia. lightweight flexible ducting
- Broan brand (443)

**No. 5C105.** Shpg. wt. 3.5 lbs. List.....$36.02.
Each.....$19.71

## FLEXIBLE WALL DUCTING KIT




Kit includes the parts needed to install 3 or 4" bath fans in walls:

- Square louvered wall vent with rigid ducting on back
- Two 4" clamps, 4 to 3" foam reducer, and 5-ft. long, 4" diameter flexible ducting
- Broan brand (450)

**No. 5C106.** Shpg. wt. 1.5 lbs. List.....$20.96.
Each.....$11.45

## EXPANDABLE/FLEXIBLE ALUMINUM DUCTWORK

**One layer flexible aluminum ducting.** For use in ventilation equipment used for air and gas free of corrosive fumes or particles. Made of strong, lightweight 0.005" aluminum alloy. Bends by hand.

**Thread through open web trusses** and around obstacles. Duct can be installed within walls, wall chases, or ceilings where inaccessibility requires a duct for long term delaminating, erosion, or increased permeance.

**UL Air Duct Listed #MH12720.** Ductwork complies with NFPA Standards 90A and 90B for Class "O" fire hazard classifications. Internal temperature range up to 200°F. Continuous external temperature range up to 500°F. Stretchflex brand by Westaflex.




### EXPANDABLE/FLEXIBLE ALUMINUM DUCTWORK ORDERING DATA

| Ductwork Dia. (In.) | Size Compressed | Full Length (Ft.) | StretchFlex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3 | 3" x 2½ feet | 15 | 2501 | 3C590* | $17.75 | $11.84 | 1.9 |
| 4 | 4" x 2½ feet | 15 | 2505 | 3C591* | 22.00 | 14.72 | 2.2 |
| 6 | 6" x 2½ feet | 15 | 2513 | 5C201* | 35.00 | 24.45 | 3.0 |
| 8 | 8" x 2½ feet | 15 | W2521 | 3XK02 | 48.32 | 32.25 | 5.5 |
| 3 | 3" x 2½ feet | 30 | W5021 | 3XK03 | 43.58 | 29.05 | 3.7 |
| 4 | 4" x 2½ feet | 30 | W5025 | 3XK04 | 45.72 | 30.50 | 4.5 |
| 6 | 6" x 2½ feet | 30 | W5033 | 3XK05 | 68.86 | 45.95 | 7.0 |
| 8 | 8" x 2½ feet | 30 | W5041 | 3XK06 | 92.27 | 61.55 | 11.0 |
| 10 | 10" x 2½ feet | 30 | W5049 | 3XK07 | 103.80 | 69.20 | 12.0 |
| 12 | 12" x 2½ feet | 30 | W5057 | 3XK08 | 116.26 | 77.55 | 14.0 |

(*) Attaches to discharge ducts with 2 stainless steel crew clamps (included.)

# KITCHEN/BATH FAN SPEED CONTROLS AND SWITCHES

## FAN MOTOR SPEED CONTROLS*

Allows operation of kitchen and bath fans at any point between minimum and maximum fan motor speeds. Broan brand.

- **Rated 120V, 60 Hz, use only with thermally protected shaded pole or permanent split capacitor motors**
- **Nos. 4C254 and 6E898 have constant voltage lead for operating No. 4C707 Motordor fan; Nos. 4C331 and 6E897 are not recommended for No. 4C707**
- **UL listed (E104744)**

| Wall Plate Color | Max. Amps | Mfr's Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| Ivory | 3 | 57V | **4C331** | $31.66 | **$16.37** | 0.4 |
| White | 3 | 57W | **6E897** | 31.66 | **16.37** | 0.2 |
| Ivory | 6 | 72V | **4C254** | 48.48 | **31.60** | 0.6 |
| White | 6 | 72W | **6E898** | 48.48 | **31.60** | 0.6 |

(*) Do not use with impedance protected motor.

## THREE FUNCTION CONTROL

- **3 Independent 120V, 15 amp rated rocker switches (20 amp total) for light, night light and fan**
- **Fits single gang box sized to NEC Requirements**
- **UL Listed (E149069) • Broan brand**

**No. 5C098.** Brass Finish Switchplate, Ivory Control (65V). Shpg. wt. 0.5. lbs. List $28.69. Each ..... **$16.59**

**No. 5C192.** Polished Chrome Finish Switchplate, White Control (67W). Shpg. wt. 0.5. List $29.72. Each ..... **$16.25**

## 3-GANG ROCKER SWITCH

Permits individual control of heater / fan / light units.

- **3 independent rocker switches each rated 15 amp at 120V (20 amp total)**
- **Fits single-gang box sized to NEC Requirements**
- **Broan brand**

**No. 2C999.** Ivory Wall Plate/Control (66V). Shpg. wt. 0.4. lbs. List $25.96. Each..... **$15.91**

**No. 6E899.** White Wall Plate/Control (66W). Shpg. wt. 0.5. lbs. List $25.96. Each..... **$15.91**

## DUAL ROCKER SWITCH

Controls two independent 120V, 15 amp circuits for On-Off operation of fan/light or heater/fan units (20 amp total).

- **Fits single-gang box sized to NEC Requirements**
- **UL Listed (E149069)**
- **Broan brand**

**No. 1A773.** Ivory Wall Plate/Control (68V). Shpg. wt. 0.4. lbs. List $21.72. Each..... **$12.37**

**No. 6E900.** White Wall Plate/Control (68W). Shpg. wt. 0.5. lbs. List $21.72. Each..... **$12.37**

## 15-MINUTE TIMER

- **Operates for any set period up to 15 minutes (no continuous "On" position)**
- **Fits single gang box sized to NEC Requirements**
- **Rated 12V, 20 amp, 240V, 10 amp capacity**
- **UL Listed (E104744) • Broan brand**

**No. 5C191.** Ivory Wall Plate/Control (61V). Shpg. wt. 0.5. lbs. List $41.00. Each ..... **$23.09**

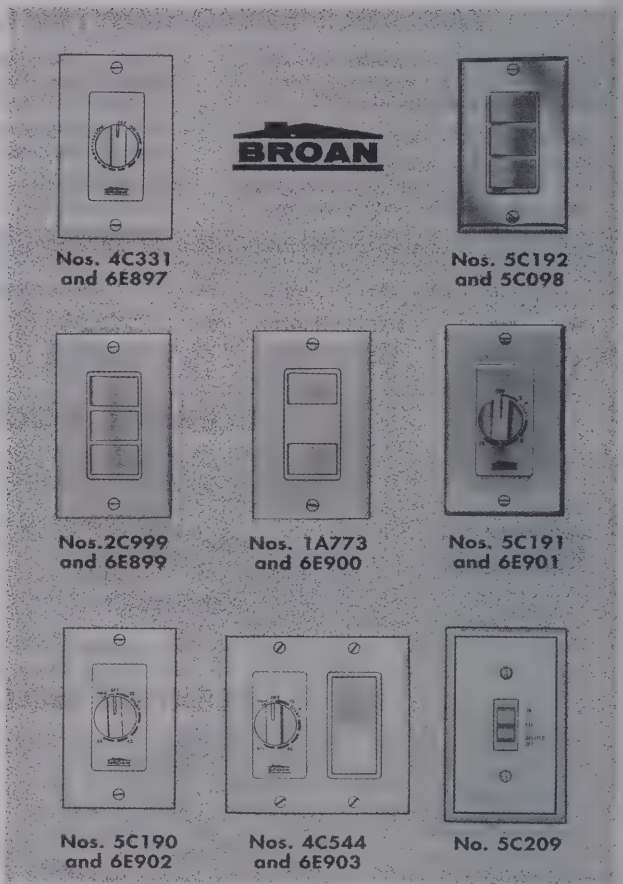
**No. 6E901.** White Wall Plate/Control (61W). Shpg. wt. 0.4. lbs. List $41.00. Each..... **$23.09**

## 60-MINUTE TIMER

- **Operates continuously or for any set period up to 60 minutes; rated 120V, 20 amp**
- **Fits single gang box sized to NEC requirements**
- **UL Listed (E104744) • Broan brand**

**No. 5C190.** Ivory Wall Plate/Control (59V). Shpg. wt. 0.5. lbs. List $41.00. Each..... **$23.09**

**No. 6E902.** White Wall Plate/Control (59W). Shpg. wt. 0.4. lbs. List $41.00. Each..... **$23.09**




## TIMER WITH SWITCH

Combination 60 minute mechanical timer and On-Off rocker switch. Broan brand.

- **Fits two-gang box sized to NEC Requirements**
- **Timer has continuous "On" position**
- **120V, 20A, 240V, 10A timer/15A rocker switch**
- **UL Listed (E104744)**

**No. 4C544.** Ivory Wall Plate/Control (63V). Shpg. wt. 0.8. lbs. List $54.28. Each ..... **$33.05**

**No. 6E903.** White Wall Plate/Control (63W). Shpg. wt. 0.6. lbs. List $54.28. Each..... **$33.05**

## ADJUSTABLE TIME DELAY SWITCH

- **Fan and light operate together when control is turned on**
- **Fan continues to operate for a set time period (adjustable from 5-60 minutes) after light is turned off**
- **Center position turns fan and light off immediately**
- **Can be used with fan only**
- **Fits single gang electrical box**
- **120V, 60 Hz, 4 amp capacity for each fan circuit and light circuit**
- **Ivory color wall plate/control**
- **UL Listed (E104744) • Broan brand (64V)**

**No. 5C209.** Shpg. wt. 0.6. lbs. List..... $78.68. Each ..... **$55.60**

## WALL CAPS/ROOF JACKS FOR BROAN KITCHEN AND BATH FANS

### ROOF JACK WITH DAMPER

For use with 3¼ x 10" rectangular ducts or round ducts up to 8" diameter.

- Built-in bird screen with cushioned backdraft damper
- Opening is 10¼ x 10¾" with 14¼ x 18¾" flange
- Black epoxy finish
- Broan brand (634)

**No. 2C504.** Shpg. wt. 6.5 lbs. List.....$35.18.
Each.....$21.33

### ROOF JACK FOR 3 AND 4" DIAMETER ROUND DUCTS

- Built-in bird screen and removable damper
- Hood is 8¼ x 5¼ x 4⅜"
- Flange is 9¼ x 11"
- Black epoxy finish
- Broan brand (636)

**No. 2C905.** Shpg. wt. 2.2 lbs. List.....$20.14.
Each.....$11.60

### TRANSITION DUCTS

- Connects to 3 x 10" ventilators discharge flange
- 30-gauge galvanized steel construction

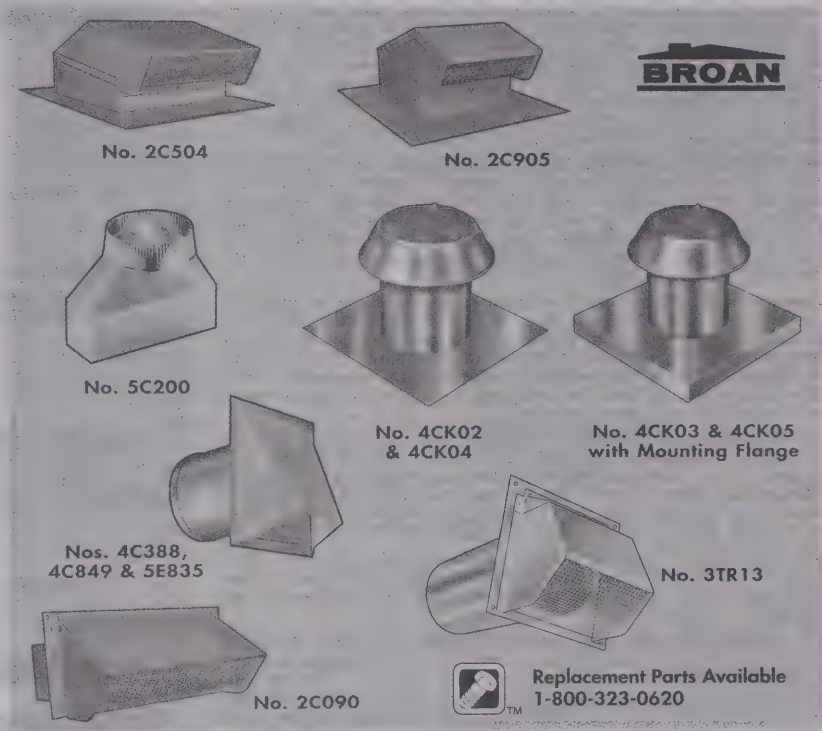
| Transition Duct Size (In.) | Broan Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 3¼ x 10 to 7 Round | 412 | 4MG71 | $23.88 | $13.59 | 0.4 |
| 3¼ x 10 to 6 Round | 411 | 5C200 | 19.00 | 13.06 | 1.4 |
| 4½ x 18½ to 10 Round | 423 | 4TP55 | 54.00 | 35.30 | 11.0 |

### FLAT ROOF CAPS

For use with flat roofs or roofs with a very slight pitch.

- Rust proof aluminum construction
- Built-in bird screen
- Nos. 4CK02 and 4CK04 feature built-in flashing and long riser to keep out rain and snow
- Nos. 4CK03 and 4CK05 are similar to Nos. 4CK02 and 4CK04, but have flanges for mounting to curb

| For Duct (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **FLAT ROOF CAPS** | | | | | |
| 8 | 611 | 4CK02 | $53.95 | $39.75 | 4.4 |
| 12 | 612 | 4CK04 | 101.95 | 72.40 | 8.9 |
| **FLAT ROOF CAPS W/MOUNTING FLANGE** | | | | | |
| 8 | 611CM | 4CK03 | 63.95 | 47.50 | 5.3 |
| 12 | 612CM | 4CK05 | 107.95 | 77.80 | 9.7 |




### WALL CAP FOR 3 AND 4" DIAMETER ROUND DUCTS

- Aluminum wall cap with built-in backdraft damper, 6 x 6" flange, 4 to 3" reducer
- Broan brand (642)

**No. 4C388.** Shpg. wt. 0.8 lbs. List.....$18.38.
Each.....$12.07

### WALL CAP FOR 6 AND 7" DIAMETER ROUND DUCTS

- Aluminum cap with built-in backdraft damper and bird screen
- 9 x 9" flange

| For Duct (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 6 | 641 | 4C849 | $48.26 | $29.05 | 1.0 |
| 7 | 647 | 5E835 | 54.50 | 27.80 | 1.5 |

### EXTERIOR INTAKE/EXHAUST WALL CAP

- Fits 6" round duct
- Natural aluminum finish
- Bird screen included
- Broan brand (EH6)

**No. 3TR13.** Shpg. wt. 2.5 lbs. List.....$66.88.
Each.....$38.05

### WALL CAP WITH DAMPER

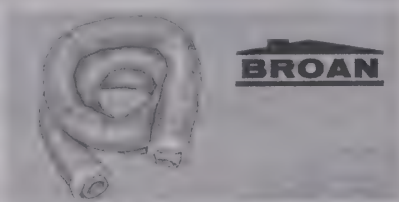
- Mounts in outside wall for weather protection
- Spring-loaded damper
- For 3¼ x 10" duct; flange is 12¾ x 5⅝"
- Black epoxy finish
- Broan brand (639)

**No. 2C090.** Shpg. wt. 3.3 lbs. List.....$23.66.
Each.....$14.09

## INSULATED FLEXIBLE DUCTING

- 4" No. 3TR11 or 6" No. 3TR12 round flexible ducting
- Foil metalized with 1" fiberglass insulation and polyethylene vapor barrier
- UL Listed Class 1
- 25 ft. (7.6m) standard length

| Duct Dia. (In.) | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **INSULATED FLEXIBLE DUCTING** | | | | | |
| 4 | DT4W | 3TR11 | $72.89 | $41.50 | 6.5 |
| 6 | DT6W | 3TR12 | 85.08 | 48.45 | 8.0 |



# 30" KITCHEN RANGE HOODS

**30" CONVERTIBLE IMPERIAL RANGE HOODS.** Can be installed ducted or ductfree. RHP index (59.09) is 65 times better than most ductfree hoods. Heat Sentry™ thermostat automatically turns blower on to high speed when excess cooking heat is detected. Speed slide control with solid state blower memory. Resilient motor mounts help reduce noise and vibration. Two-position light switch provides choice of bright cooktop lighting or softer, "night light" illumination. Twin 9¾ x 11½" aluminum filters trap grease for ducted installations. Duct connector with built-in damper uses 3¼ x 10" duct. UL Listed (E17814).

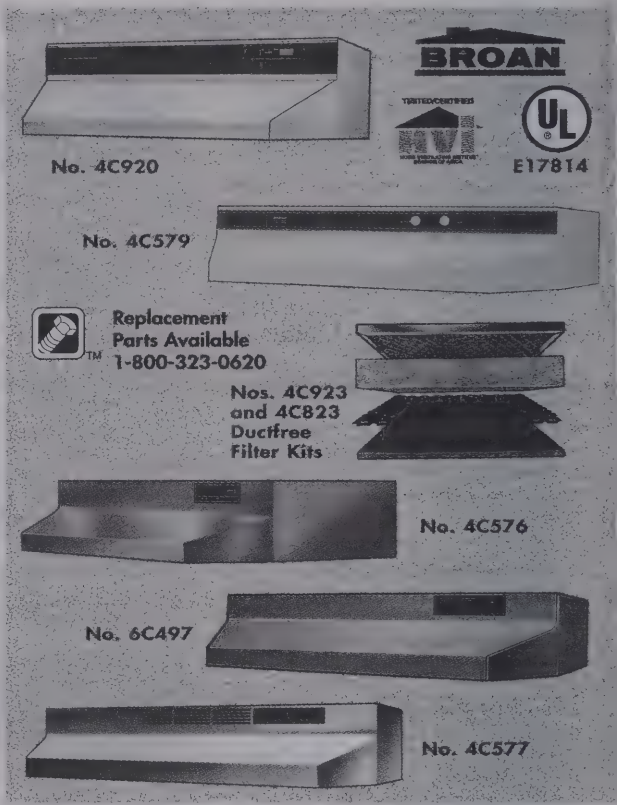
**30" CONVERTIBLE PRESTIGE RANGE HOODS.** Efficient dual blower with adjustable solid state speed control. Prewired, plug-in, lifetime lubricated motor. Two 11⅝ x 6⅝" washable aluminum grease filters efficiently trap grease on both sides of hood. Bright 75W light with molded high strength polymeric lens (lamp not included). Duct connector with built-in damper uses 3¼ x 10" duct. UL Listed (E17814).

**Optional Ductfree Filter Kits.** Covert range hoods above for ductfree installation. No. 4C923 for Nos. 4C920, 4C921, and 4C922. No. 4C823 Kit converts Nos. 4C578, 4C579, and 4C583. Multilayer design effectively traps kitchen pollutants down to 0.3 microns in diameter. Charcoal layer captures odor causing substances. Easy filter replacement. Includes twin sets of filters to trap airborne cooking particles. Broan brand.

**30" MEDALLION DUCTED RANGE HOODS.** Convenient rocker switches operate two-speed fan and light. 10½ x 8¾" washable aluminum grease filter. Powered by two-speed, prewired, plug-in, lifetime lubricated motor. Duct connector with built-in damper uses 3¼ x 10" duct. Bright 75W light fixture with molded polymeric lens (lamp not included). UL Listed (E17814).

**30" MEDALLION 7" ROUND DUCTED RANGE HOODS.** Washable 10½" diameter aluminum filter. Rocker switches operate two-speed fan and light. Bright 75W light fixture with molded polymeric lens (lamp not included). UL Listed (E17814).

**30" MEDALLION DUCTFREE RANGE HOODS.** Includes Microtek System I charcoal-type filter for ductfree installation. Louvered vent discharges air away from cabinet and user. Two-speed, prewired, plug-in, lifetime lubricated motor. Rocker switches operate two-speed fan and light. Bright 75W light fixture with molded polymeric lens (lamp not included). UL Listed (E17814).



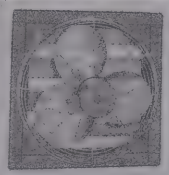

| Color | Exhaust Capacity HVI Certified CFM/Sones Vertical Discharge | Exhaust Capacity HVI Certified CFM/Sones Horizontal Discharge | Fan Motor Volts 60 Hz | Fan Motor Amps | Dimensions, (In.) H | W | D | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30" CONVERTIBLE IMPERIAL RANGE HOODS** | | | | | | | | | | | | |
| **Almond** | 360/5.5 | 350/6.0 | 120 | 4.5 | 9 | 30 | 20 | 883008 | **4C920** | $356.96 | **$208.00** | 33.0 |
| **White** | 360/5.5 | 350/6.0 | 120 | 4.5 | 9 | 30 | 20 | 883001 | **4C921** | 356.96 | **208.00** | 33.0 |
| **Stainless Steel** | 360/5.5 | 350/6.0 | 120 | 4.5 | 9 | 30 | 20 | 883004 | **4C922** | 425.48 | **243.75** | 33.0 |
| **30" CONVERTIBLE PRESTIGE RANGE HOODS** | | | | | | | | | | | | |
| **Almond** | 200/5.5 | 200/6.0 | 120 | 3.0 | 6 | 30 | 17½ | 763008 | **4C579** | 200.12 | **106.10** | 20.0 |
| **White** | 200/5.5 | 200/6.0 | 120 | 3.0 | 6 | 30 | 17½ | 763001 | **4C578** | 200.12 | **106.10** | 20.0 |
| **Stainless Steel** | 200/5.5 | 200/6.0 | 120 | 3.0 | 6 | 30 | 17½ | 763004 | **4C583** | 255.14 | **120.05** | 20.0 |
| **30" MEDALLION DUCTED RANGE HOODS** | | | | | | | | | | | | |
| **Almond** | 160/5.5 | 160/6.5 | 120 | 2.0 | 6 | 30 | 17½ | 403008 | **4C576** | 87.60 | **34.45** | 13.0 |
| **White** | 160/5.5 | 160/6.5 | 120 | 2.0 | 6 | 30 | 17½ | 403001 | **4C401** | 87.60 | **34.45** | 13.0 |
| **30" MEDALLION 7" ROUND DUCTED RANGE HOODS** | | | | | | | | | | | | |
| **Almond** | 190/5.5 | — | 120 | 2.5 | 6 | 30 | 17½ | 423008 | **6C496** | 88.35 | **40.45** | 12.0 |
| **White** | 190/5.5 | — | 120 | 2.5 | 6 | 30 | 17½ | 423001 | **6C497** | 88.34 | **40.45** | 12.0 |
| **Stainless Steel** | 190/5.5 | — | 120 | 2.5 | 6 | 30 | 17½ | 423004 | **6C498** | 126.74 | **65.50** | 12.0 |
| **30" MEDALLION DUCTFREE RANGE HOODS** | | | | | | | | | | | | |
| **Almond** | — | — | 120 | 2.0 | 6 | 30 | 17½ | 413008 | **4C577** | 89.81 | **34.45** | 13.0 |
| **White** | — | — | 120 | 2.0 | 6 | 30 | 17½ | 413001 | **4C403** | 89.81 | **34.45** | 13.0 |

## 30" RANGE HOOD ACCESSORIES

| Description | Fits Range Hood Stock Nos. | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Ductfree Filter Kit** | 4C920, 4C921, 4C922 | 88F | **4C923** | $21.90 | **$12.82** | 1.4 |
| **Ductfree Filter Kit** | 4C579, 4C578, 4C583 | 76F | **4C823** | 18.26 | **10.09** | 1.0 |

# 16" AUTOMATIC ATTIC EXHAUST FANS

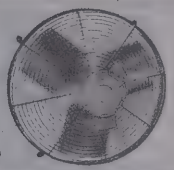
**Fans come mounted** on automatic shutter, for fast, easy installation; or guard mounted (less shutter) for installation with gable vents with built-in shutters. Shutter model requires 17 x 17" opening. Guard model has 18⅜" OC mounting loops. Include separate thermostat for automatic operation. 90 to 130°F range, 15°F fixed differential, mounts on 2 x 4" conduit box. Air deliveries based on AMCA test standards for exhaust systems. 1/20 HP, 120V, 60 Hz.1500 RPM, 1.9 amp, totally enclosed motor. Tie-rod type shutter complies with OSHA regulations.



Guarding Complies with OSHA Regulations

ENERGY RIGHT®

Dayton®



(✓) Denotes energy efficient product.

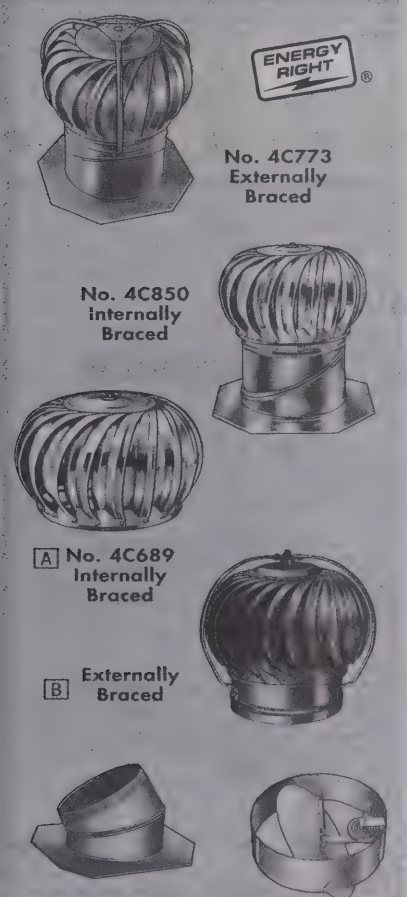
No. 7F667 No. 7F666

| Fan Model | CFM AIR DELIVERY 0.0" SP | 0.250" SP | Opening Required (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| With Shutter | 870 | 460 | 17 x 17 | ✓7F667 | $295.63 | **$182.75** | 19.7 |
| With Guard | 960 | 510 | 18⅜ Dia. | ✓7F666 | 216.72 | **133.70** | 1.0 |

# TURBINE ATTIC VENTILATORS

- **Wind powered ventilation**
- **Slightest breeze rotates turbine**
- **No electric current needed**

Turbine ventilators remove hot attic air in summer and moisture-laden air in winter. These are two causes of damage to roofs and attic insulation. Turbines rotate with a passing breeze and create a strong upward draft. Inside air is drawn out and exhausted outside. (✓) **Denotes energy efficient product.**




## 12" TURBINE VENTILATORS WITH BUILT-IN BASE

Dupont Delrin bearing system starts easier, and spins faster and longer in the slightest wind. Rust-resistant galvanized steel; ribbed blades add strength. Built-in adjustable base adapts for installation on 0/12 to 6/12 pitched roofs. 12" diameter throat. 17⅞" high. CertainTeed brand.

| Bracing | CertainTeed Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| External | WTE12X | ✓4C773 | $57.98 | **$33.25** | 9.0 |
| Internal | WTI12X | ✓4C850 | 50.08 | **28.65** | 8.0 |

## 4 TO 24" TURBINE VENTILATORS

A **Internally braced turbine** requires no additional external supports. Low profile design hugs roofline. Hard chrome plated Dupont Delrin bearing system starts easier, and spins longer and faster in the slightest breeze. 24-gauge galvanized steel. 12" diameter neck. CertainTeed brand (WTI12).

✓**No. 4C689.** Shpg. wt. 6.7 lbs. List .....$39.52.
Each .....**$22.59**

B **Externally braced turbine** for strength and perfect alignment. Quiet, reliable air circulation in attics, crawl spaces, and other enclosed areas. Bronze oil-impregnated top bearing. 4, 6, and 8" vents have thrust-type bottom pivot bearing with hardened steel ball riding in a hardened steel seat. 12" and larger vents use bottom thrust-type ball bearing. Galvanized steel. Aluminum bracing on 4 to 14" units. Aluminum painted steel bracing on 16 to 24" units. Empire brand.

(✓) Denotes energy efficient product.

| Key | Neck Diameter (In.) | CFM 4 Mi. Wind | Empire Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| B | 4 | 126 | TV04G | ✓4C016 | $38.21 | **$25.50** | 4.8 |
| B | 6 | 147 | TV06G | ✓2C528 | 38.24 | **25.50** | 6.4 |
| B | 8 | 255 | TV08G | ✓2C529 | 41.33 | **27.60** | 7.6 |
| B | 10 | 425 | TV10G | ✓2C530 | 49.94 | **33.30** | 10.0 |
| B | 12 | 631 | TV12G | ✓2C531 | 50.25 | **33.55** | 14.0 |
| B | 14 | 700 | TV14G | ✓2C532 | 86.23 | **57.55** | 20.0 |
| B | 16 | 950 | TV16G | ✓2C533 | 124.39 | **82.95** | 30.0 |
| B | 18 | 1200 | TV18G | ✓2C534 | 150.61 | **100.45** | 37.0 |
| B | 20 | 1700 | TV20G | ✓2C802 | 193.60 | **129.15** | 46.0 |
| B | 24 | 2350 | TV24G | ✓2C803 | 271.47 | **181.25** | 61.0 |

## ACCESSORIES FOR 12" TURBINE VENTILATORS

C **Adjustable base.** Allows vertical mounting of ventilator on 0/12 to 7/12 pitch roofs. 20 x 20" flashing for weatherproof installation. Empire brand (AB-12G).

**No. 4C505.** Shpg. wt. 6.0 lbs. List .....$25.57.
Each .....**$17.05**

D **Automatic damper.** Fits inside a 12" turbine base and turbine with base units. Opens fully at 90°F, closes fully at 50°F eliminating need for weather cap in winter. Galvanized steel. Installation and field adjustment instructions in carton. CertainTeed brand (WTD12).

**No. 4C713.** Shpg. wt. 2.0 lbs. List .....$31.72.
Each .....**$17.96**

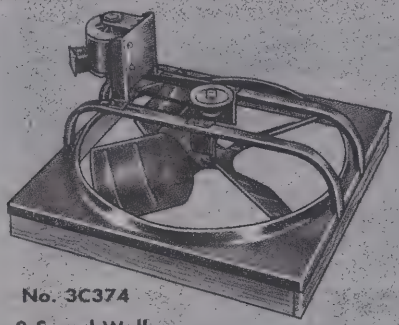
## COMPLETE 12" TURBINE VENTILATION SYSTEM

Easy to assemble. Internally or externally braced ventilators available. To order, combine ventilator, base, and damper stock numbers (described above) from the table at right.

| System Type | Ventilator | Base | Damper |
|---|---|---|---|
| Internally Braced | 4C689 | 4C505 | 4C713 |
| Externally Braced | 2C531 | 4C505 | 4C713 |

# 24 TO 36" WHOLE HOUSE FANS

## 30 AND 36" BELT-DRIVE WHOLE HOUSE FANS



No. 3C374

2-Speed Wall Control With Every Fan

ENERGY RIGHT®

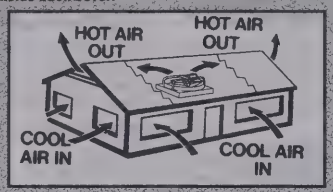
Replacement Parts Available
1-800-323-0620

CertainTeed VENTILATION

UL E61959 CSA LR100550

CERTAINTEED 10 YEAR LIMITED WARRANTY

CertainTeed, Inc. offers a 10-year limited warranty. Text of Warranty available on Request. See "Manufacturers' Warranties" on page opposite inside back cover.




- **No. 3C374 ventilates up to 1900 sq. ft. of living area; No. 3C375 ventilates up to 2300 sq. ft.**
- **Includes 2-speed wall switch and white shutter**
- **Install horizontally in attic**

**2-Speed belt-drive fans** supplement or are used instead of air conditioning. Effectively cools and ventilates an entire home by removing hot, humid air from living areas and drawing in cooler outside air. Hot, stale air is exhausted through the attic.

**Thermally protected** motor is designed to prevent unit from overheating.

**Four-blade aluminum fan propeller.**

**Enamel coated** steel housing. Pre-assembled wood mounting frame installs easily. Includes 2-speed wall switch and shutter. UL Listed. CSA Certified. CertainTeed brand.

| Propeller Dia. (In.) | Two-Speed 120V, 60 Hz. Motor 0.1" S.P. Speed | CFM | HP | RPM | Amps | Watts | Dimensions (In.) Sq. | H | Shutter Cut-Out (In.) | CertainTeed Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | High | 5700 | 1/3 | 525 | 6.9 | 400 | 34 | 20 | 34¼ x 29 | SP302BDX | ✓3C374 | $412.31 | **$234.75** | 56.0 |
| | Low | 4275 | | 400 | 4.0 | 205 | | | | | | | | |
| 36 | High | 6900 | 1/3 | 400 | 6.7 | 450 | 40 | 20 | 34¼ x 36 | SP362BDX | ✓3C375 | 446.65 | **259.75** | 63.0 |
| | Low | 5200 | | 275 | 3.8 | 250 | | | | | | | | |

(✓) Denotes energy efficient product.

## 24 & 30" DIRECT-DRIVE WHOLE HOUSE FANS

- **No. 3C545 ventilates up to 1500 sq. ft.; No. 3C546 ventilates up to 1900 sq. ft. (Horizontal mount only)**
- **No attic joists to cut, no frame to build**
- **Two-speed pull chain**
- **Includes shutter**

**Removes hot, humid air** from home living areas and draws in cooler outside air. Operates at a fraction of the cost of central air conditioning.

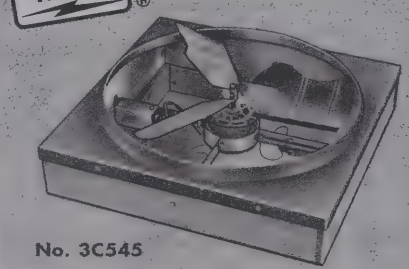
**Steel housing** with enamel finish. Pre-assembled wood frame is easy to install. Thermally protected motor prevents unit from overheating. Three blade propeller. Fan and white shutter are packaged together. UL Listed. CSA Certified. CertainTeed brand.

**OPTIONAL 12-HOUR TIMER.** Automatically shuts off fan at pre-selected time interval. 120V, 60 Hz.

**No. 6X547.** Shpg. wt. 0.4 lbs. List.....$29.75. Each.....**$19.34**

**OPTIONAL TWO-SPEED WALL SWITCH.** Fan speed control. 120V, 60 Hz. CertainTeed brand (TCTL2R0).

**No. 4CH67.** Shpg. wt. 0.4 lbs. List.....$28.55. Each.....**$16.25**



ENERGY RIGHT®

No. 3C545

Replacement Parts Available
1-800-323-0620

CertainTeed VENTILATION

UL E61959 CSA LR100550

CERTAINTEED 10 YEAR LIMITED WARRANTY

CertainTeed Mfg. offers a 10-year limited warranty. Text of Warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



No. 4CH67 Optional 2-Speed Wall Switch

| Prop. Dia. (In.) | CFM Air Delivery Speed | 0.1" SP | Fan RPM | Watts (@ Max. RPM 120V, 60 Hz) | Amps | Dimensions (In.) Square | H | CertainTeed Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | High | 4500 | 775 | 240 | 2.8 | 27½ | 7 | WH242MLX | ✓3C545 | $250.50 | **$142.50** | 45.0 |
| | Low | 3200 | 600 | 120 | 1.5 | | | | | | | |
| 30 | High | 5700 | 775 | 500 | 5.6 | 34 | 7 | WH302MLX | ✓3C546 | 300.60 | **171.00** | 46.0 |
| | Low | 4275 | 600 | 350 | 3.4 | | | | | | | |

(✓) Denotes energy efficient product.

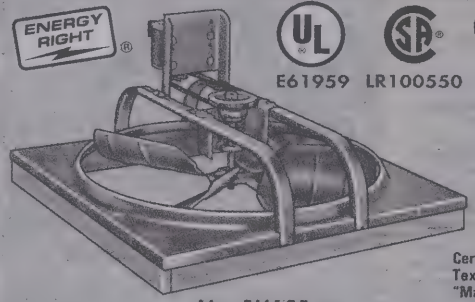
# 30 AND 36″ WHOLE HOUSE FANS

## 30 & 36" BELT-DRIVE WHOLE HOUSE FANS

- 6-blade propeller
- No. 5M155 ventilates up to 2300 sq. ft. of living area; No. 5M156 ventilates up to 3200 sq. ft.
- 2-speed wall switch and shutter

**Heavy-duty 2-speed belt-drive fans** provide effective cooling and quick exchange of stale, overheated air in homes. Fans can be used to supplement or instead of air conditioning. Pull in cooler air and exhaust hot, humid air through attic.

**Steel housing** with enamel finish. Easy to install wooden frame. Heavy-duty thermally protected split phase motor is designed to prevent unit from overheating. Includes 2-speed wall switch and white shutter. UL Listed. CSA Certified. CertainTeed brand.




No. 5M155

E61959 LR100550

CertainTeed VENTILATION

Replacement Parts Available 1-800-323-0620

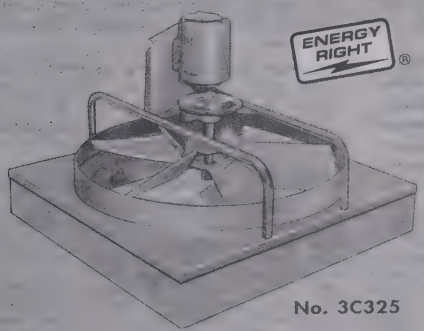
**CERTAINTEED 10 YEAR LIMITED WARRANTY**

CertainTeed, Inc. offers a 10-year limited warranty. Text of Warranty available on Request. See "Manufacturers' Warranties" on page opposite inside back cover.

| Propeller Dia. (In.) | HP | CFM Air Delivery Speed | CFM Air Delivery 0.1" SP | Fan RPM | Motor Data 115V, 60 Hz Watts | Motor Data 115V, 60 Hz Amps | Dimensions, (In.) Sq. | Dimensions, (In.) H | Shutter Cut-Out (In.) | CertainTeed Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30** | 1/3 | High | 6900 | 525 | 400 | 6.7 | 34 | 20 | 34¼ x 29 | WH302BD-HDX | ✓**5M155** | $567.80 | **$326.25** | 60.0 |
| | | Low | 5200 | 400 | 205 | 3.7 | | | | | | | | |
| **36** | 1/3 | High | 9700 | 400 | 450 | 6.7 | 40 | 20 | 34¼ x 36 | WH362BD-HDX | ✓**5M156** | 653.01 | **371.75** | 69.0 |
| | | Low | 6300 | 275 | 250 | 4.0 | | | | | | | | |

(✓) Denotes energy efficient product.

## 30 AND 36" ASSEMBLED WHOLE HOUSE FANS

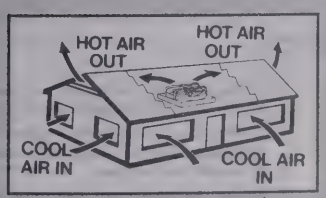



No. 3C325

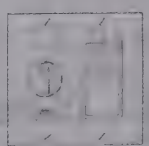
Dayton

E19455

Replacement Parts Available 1-800-323-0620




Includes 12-Hour Timer With 2-Speed Switch



- Fully assembled
- Air deliveries based on AMCA test standard #210
- 2-speed permanently lubricated ball bearing motor. 115V, 60 Hz, 1725/1140 RPM, Split phase, resilient mount
- Ball-bearing pillow blocks are self-aligning and prelubricated
- Quiet 5-blade steel fan propeller
- Includes two-speed switch and 12-hour timer.
- Includes wood plenum to simplify installation

**Fans remove hot, humid air** from living areas and draws in cooler outside air. Install horizontally in ceiling.

**18-gauge steel venturi panel** has welded tubular steel supports with gray enamel finish. Steel fan blade has red enamel finish. Unit comes with 1 x 6" wooden plenum and 3/4 x 7/16" adhesive-backed sponge rubber mounting strip for quiet operation. Shutter not included. UL Listed (E19455). Dayton brand.

**NOTE:** When selecting shutter, be sure that its overall dimensions will fit into the available space.

### ASSEMBLED WHOLE HOUSE FAN ORDERING DATA

| Propeller Dia. (In.) | HP | CFM Air Delivery Spd. | CFM Air Delivery 0.0" SP | CFM Air Delivery 0.10" SP | Fan RPM | Motor Data 115V, 60 Hz Watts | Motor Data 115V, 60 Hz Amps | Dimen. (In.) Sq. | Dimen. (In.) H | Recommended Ceiling Shutter No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30** | 1/3 | H | 7725 | 6400 | 510 | 520 | 6.9 | 34 | 21⅛ | 4C225, 3C511 | ✓**3C325** | $707.96 | **$424.00** | 81.0 |
| | | L | 5075 | 2260 | 335 | 250 | 3.8 | | | | | | | |
| **36** | 1/2 | H | 10,860 | 9225 | 450 | 660 | 8.7 | 40 | 20¼ | 4C228, 3C512 | ✓**3C692** | 884.98 | **530.00** | 100.0 |
| | | L | 7480 | 3865 | 310 | 320 | 5.5 | | | | | | | |

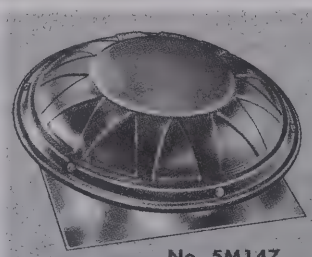
(✓) Denotes energy efficient product.

# POWER ATTIC VENTILATORS

## AUTOMATIC POWER ATTIC VENTILATORS

- **Delivers up to 1500 CFM; ventilates up to 2150 sq. ft.**
- **Low profile design is unobtrusive; blends into most roof designs**
- **Nos. 5M147 and 3C453 have 6 blades; Nos. 3C245 and 3C246 have 4 blade propeller**

Keep attic temperatures down and continually circulate air; can help extend roof and shingle life. Can also help save energy and money by reducing strain on air conditioning systems. No. 5M147 has a 25" gray plastic dome. Nos. 3C453, 3C245 and 3C246 have 25" steel domes with gray weather wood powder coat finish. Thermally protected motor is designed to prevent unit from overheating. Vents are 8¾" high with 24½" square flashing. Thermostat included. UL Listed. CertainTeed brand.



No. 5M147

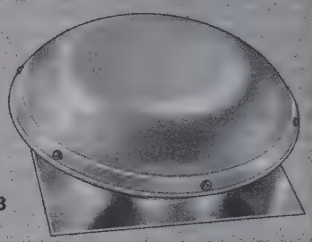
E61959 LR100550

CertainTeed VENTILATION

Replacement Parts Available 1-800-323-0620

**CERTAINTEED 5-YEAR WARRANTY**

CertainTeed Mfg. offers a 5-year warranty. Text of Warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.



No. 3C453

| CFM 0.03" SP | "Free Air" Intake Required | Maximum Attic Area | Dome Size/ Construction | HP | Volts 60 Hz | Motor RPM | Watts | Amps | CertainTeed Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1170** | 3.9 sq. ft. | 1650 sq. ft. | 25" Plastic | 1/10 | 120 | 1050 | 200 | 2.8 | RV26GR | ✓**5M147** | $71.80 | **$45.45** | 15.0 |
| **1170** | 3.9 | 1650 | 25 Steel | 1/10 | 120 | 1050 | 200 | 2.8 | RV26WW | ✓**3C453** | 83.50 | **49.40** | 17.0 |
| **1320** | 4.4 | 1900 | 25 Steel | 1/8 | 120 | 1050 | 225 | 4.0 | RV28WW | ✓**3C245** | 100.20 | **57.60** | 19.0 |
| **1500** | 5.0 | 2150 | 25 Steel | 1/6 | 120 | 1550 | 325 | 4.3 | SV3000WW | ✓**3C246** | 150.30 | **87.90** | 24.0 |

(✓) Denotes energy efficient product.

## AUTOMATIC POWER ATTIC VENTILATORS



E17814

No. 5C041

- **Removes hot, trapped air in summer and moisture laden air in winter; supplements air conditioning**
- **Automatic reset thermal protection, 120V, 60Hz lifetime lubricated motor**
- **Precision balanced 14" metal blade; maximizes air flow, minimizes sound**
- **Built-in adjustable thermostat operates automatically between 70 and 130°F**
- **Suitable for flat or slanted roof**

**Ventilator has a deep venturi** to deflect rain and snow. Mesh screen keeps out birds and large insects. Junction box prewired to motor.

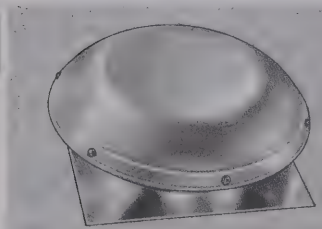
**Polyvinyl chloride plastic dome** is 23¼" diameter x 8" high. Heavy gauge galvanized steel base flashing is 22¼" square. Requires 14⅜" cutout for installation. UL Listed (E17814). Broan brand.

Replacement Parts Available 1-800-323-0620

| CFM @ 0.03" | "Free Air" Intake Req'd | Maximum Attic Area | Fan RPM | Amps | HP | Volts 60 Hz | Broan Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1050** | 3.50 sq. ft. | 1500 sq. ft. | 1000 | 3.6 | 1/15 | 120 | 350 | ✓**5C041** | $115.32 | **$52.40** | 15.0 |
| **1200** | 4.00 | 1715 | 1100 | 4.3 | 1/10 | 120 | 355 | ✓**4C568** | 126.54 | **59.00** | 17.0 |
| **1600** | 5.33 | 2285 | 1500 | 8.0 | 1/5 | 120 | 356 | ✓**5C042** | 173.69 | **82.25** | 22.0 |

(✓) Denotes energy efficient product.

## POWERED ATTIC VENTILATOR



No. 4CH65

E61959 LR100550

CertainTeed VENTILATION

**CERTAINTEED 10 YEAR LIMITED WARRANTY**

CertainTeed Mfg offers a 10 year limited warranty. Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

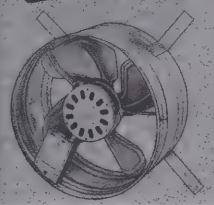
- **Combination thermostat/humidistat control is included with ventilator**
- **Protects against damaging attic humidity in the heat of summer and the cold of winter**
- **Helps extend roof and shingle life; can also help reduce energy costs**
- **Vents are 8¾" high with 25½" square base flashing**

Features a thermally protected motor to protect against overheating. Includes a 25" steel dome with gray weather wood powder coat finish. CertainTeed brand.

| CFM @ 0.03" SP | "Free Air" Intake Req'd | Maximum Attic Area | Fan RPM | Amps | Watts | HP | Volts 60 Hz | CertainTeed Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1500** | 5.0 sq. ft. | 2100 sq. ft. | 1550 | 4.3 | 325 | 1/6 | 120 | ASRWW | ✓**4CH65** | $187.55 | **$106.75** | 26.0 |

(✓) Denotes energy efficient product.

## GABLE MOUNTED ATTIC VENTILATOR



ENERGY RIGHT® BROAN UL E17814 TESTED/CERTIFIED HVI

Replacement Parts Available 1-800-323-0620

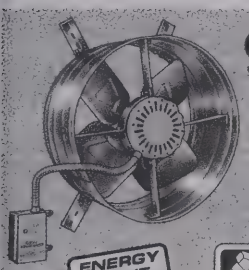
- Lowers attic temperature; reduces air conditioning cost
- Delivers 900 CFM when installed with standard HVI wood louver at 0.03"SP; 1140 CFM with Dayton automatic shutter, No. 2C520
- Thermally protected, lifetime lubricated motor
- Built-in automatic thermostat has 70 to 130°F range
- Motor and impeller easily serviced from attic

**Specially designed 14" metal blade** removes air efficiently from attic. Exhausts attic areas up to 1630 sq. ft. with the automatic shutter and up to 1285 sq. ft. with a standard wood shutter. Heavy gauge steel housing. Shaded pole, 120V, 60Hz motor. Overall dimensions: 15" diameter x 8" deep. Minimum air intake required: 1 sq. ft. per 300 CFM required. Mounting brackets included. 3.4 amp electrical rating. Broan brand (353).

**No. 4C671.** Shpg. wt. 12.00 lbs. List ..... $103.41. Each ..... **$49.90**

(✓) Denotes energy efficient product.

## GABLE MOUNTED VENTILATOR



CertainTeed VENTILATION

UL E61959 CSA LR100550

ENERGY RIGHT®

Replacement Parts Available 1-800-323-0620

- Delivers up to 1250 CFM to ventilate up to 1800 sq. ft.
- All galvanized steel construction
- Thermally protected motor
- Includes thermostat

CERTAINTEED 5 YEAR LIMITED WARRANTY

CertainTeed Mfg. offers a 5-year limited warranty. Text of Warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Gable mounted ventilator** helps reduce air conditioning cooling costs by circulating and cooling hot air trapped in the attic. Helps extend roof and shingle life, too. Dimensions: 15" diameter x 5¾" deep.

**Galvanized steel construction.** Thermally protected motor helps prevent unit from overheating. No. 4CH66 shutter sold separately, see below. UL Listed. CSA Certified.

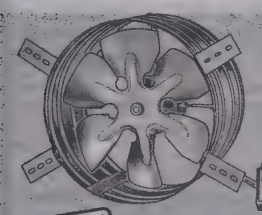
**AUTOMATIC GABLE SHUTTER.** Plastic shutter requires 16 x 17¾" cutout for flush installation. Uses a linkage strip for automatic open and close operation with gable mount fan. CertainTeed brand (SHT15W).

**No. 4CH66.** Shutter. Shpg. Wt. 6.0 lbs. List $55.75 Each ..... **$31.75**

| CFM @ 0.03" SP | Maximum Attic Area | Min. Intake Required | Motor HP | RPM | Amps | Watts | CertainTeed Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1250** | 1800 | 4.2 sq. ft. | 1/10 | 1050 | 2.8 | 200 | GV15 | ✓**5M148** | $66.80 | **$39.35** | 11.0 |

(✓) Denotes energy efficient product.

## HEAVY DUTY GABLE MOUNTED VENTILATOR



CertainTeed VENTILATION

UL E61959 CSA LR100550

ENERGY RIGHT®

Replacement Parts Available 1-800-323-0620

- Industrial grade 1/6HP, 120V, 60 Hz motor
- 6-blade propeller
- Thermally protected motor
- Includes thermostat

CERTAINTEED 10 YEAR LIMITED WARRANTY

CertainTeed Mfg. offers a 10-year limited warranty. Text of Warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

**Eliminates hot air** trapped in attics, lofts, and other above ceiling areas. Reduces load on air conditioning systems for greater economy. Helps extend shingle durability and roof life.

**Ventilates areas** up to 2300 sq. ft.

**Thermally protected motor** is designed to prevent unit from overheating. Pre-wired for easy installation.

**Overall dimensions:** 15" diameter x 7¾" deep. UL Listed. CSA Certified. CertainTeed brand.

| CFM @ 0.03" SP | Maximum Attic Area | Min. Intake Required | Motor HP | RPM | Amps | Watts | CertainTeed Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1600** | 2300 sq. ft. | 5.3 sq. ft. | 1/6 | 1550 | 4.3 | 325 | PG1600 | ✓**5C052** | $116.90 | **$71.45** | 16.0 |

(✓) Denotes energy efficient product.

## HUMIDITY CONTROL FOR ATTIC VENTILATORS



UL E4436 CSA LR95329

**Provides automatic control** of attic ventilator to prevent humidity from exceeding selected relative humidity level. Range adjusts from 20-80% with 4-6% differential. External control has nylon element and snap action micro-switch rated 7.5 full-load amps @ 115V, 60 Hz.

**Bronze plastic cover** and metal adapter plate for vertical switch box mounting. Wiring diagram included. 4 11/16H x 2 5/16W x 1 7/8"D. UL Listed. CSA Certified. Honeywell brand (H46C100).

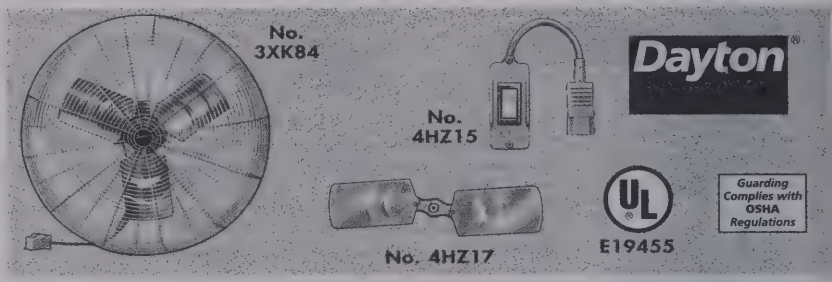
**No. 2E574.** Shpg. wt. 1.0 lbs. List ..... $102.57. Each ..... **$52.80**

# ASSEMBLED INDUSTRIAL DUTY AIR CIRCULATOR HEADS

## YELLOW ASSEMBLED INDUSTRIAL DUTY AIR CIRCULATOR HEADS

- Fans come completely assembled–saves labor and ensures proper and safe operation
- Yellow color in accordance with ANSI Standard Z53.1 which designates yellow for marking physical hazards
- Hinged guard allows easy maintenance
- Energy-efficient motor (low amp draw)
- Guards comply with OSHA Standard 1910.212, 1/2" max. opening requirement
- Factory wired 6-ft. power cord
- See Velocity Profiles on pages 3578-3582

**No. 3XK89.** Shpg. wt. 2.5 lbs. List.....$51.02.
Each .....**$31.40**




### REPLACEMENT PARTS AVAILABLE

**1/4 HP, 115V, 60 Hz Motor**

**No. 4HZ13.** Shpg. wt. 20.0 lbs. List.....$349.00.
Each .....**$209.25**

**Yellow Hinged Guard Set**

**No. 4HZ14.** Shpg. wt. 18.0 lbs. List.....$152.37.
Each .....**$93.55**

**2-Speed Drop Cord Rocker Switch**

**No. 4HZ15.** Shpg. wt. 6.0 lbs. List.....$51.06.
Each .....**$31.40**

**24" 3-Blade Propeller**

**No. 4HZ16.** Shpg. wt. 3.0 lbs. List.....$58.12.
Each .....**$35.75**

**30" 2-Blade Propeller**

**No. 4HZ17.** Shpg. wt. 4.0 lbs. List.....$49.80.
Each .....**$30.60**

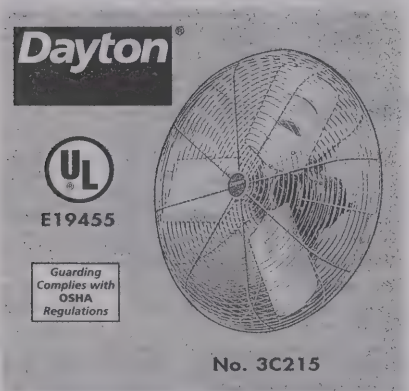
**Yellow Adjustable Floor Pedestal**

**No. 3XK86.** Shpg. wt. 37.0 lbs. List.....$196.77.
Each .....**$120.85**

### YELLOW ASSEMBLED CIRCULATOR HEAD SPECIFICATIONS AND ORDERING DATA

| Blade Diameter (In.) | CFM | Motor, 115V, 60 Hz HP | RPM | CFM/Watts | Operating Amps | Velocity Chart | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **24** | 5630/4435 | 1/4 | 1100/600 | 24.9/27.2 | 2.0/1.5 | R | **3XK84** | $584.88 | **$359.25** | 51.0 |
| **30** | 7470/4465 | 1/4 | 1100/600 | 27.6/26.1 | 2.3/1.7 | S | **3XK85** | 632.79 | **388.50** | 50.0 |

## ASSEMBLED INDUSTRIAL DUTY AIR CIRCULATOR HEADS




All industrial air circulator head motors are totally enclosed and suitable for use in dirty and humid environments such as factories, warehouses, manufacturing facilities, garages, and similar applications.

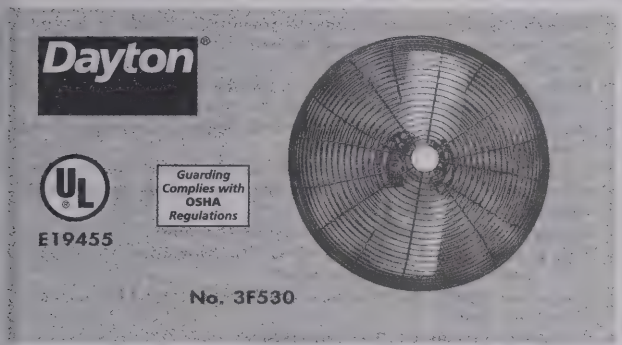
- Fans come completely assembled—saves labor, and ensures proper assembly and safe operation
- 115V, 60 Hz totally enclosed motors have pull chain switch and automatic reset thermal protection
- Guards comply with OSHA Standard 1910.212, 1/2" maximum opening requirement
- Circulator head secures to mounting with two bolts which provide a locking tilt adjustment
- Factory wired 10 ft., 3-conductor cord with grounded molded plug
- Oscillating fans adjust to cover areas from 0 to 90° arc
- Comply with UL 507 for stability with mountings listed on following page
- See Velocity Profiles on pages 3578-3582

Replacement Parts Available
1-800-323-0620

### ASSEMBLED CIRCULATOR HEAD SPECIFICATIONS AND ORDERING DATA

| Blade Diameter (In.) | CFM | HP | Motor, 115V, 60 Hz RPM | Watts | Operating Amps | Oscillating Head | Bearings | No. of Blades | Velocity Chart | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 3615/3305 | 1/4 | 1075-2-Speed | 219 | 3.2/1.4 | Yes | Ball | 2 | I | **6C536** | $460.84 | **$297.75** | 37.0 |
| **20** | 3615/3270 | 1/4 | 1075/2-Speed | 150 | 1.5/1.3 | No | Sleeve | 2 | I | **6C535** | 341.38 | **220.50** | 30.0 |
| **20** | 4515 | 1/4 | 1725 | 414 | 4.3 | No | Sleeve | 2 | H | **4C458** | 311.87 | **196.50** | 31.0 |
| **24** | 4980 | 1/4 | 1725 | 248 | 3.8 | No | Sleeve | 2 | K | **3C218** | 329.24 | **199.25** | 38.0 |
| **24** | 5290/4220 | 1/4 | 1075/2-Speed | 198 | 1.8/1.7 | No | Ball | 2 | M | **6C538** | 416.24 | **268.75** | 36.0 |
| **24** | 5390/4400 | 1/4 | 1075/2-Speed | 195 | 1.7/1.6 | No | Sleeve | 2 | L | **4C154** | 362.93 | **228.75** | 39.0 |
| **24** | 5530/4460 | 1/4 | 1075/2-Speed | 296 | 3.5/1.9 | Yes | Ball | 3 | J | **3C215** | 510.25 | **321.25** | 42.0 |
| **30** | 9160 | 1/3 | 825 | 495 | 4.1 | No | Sleeve | 3 | P | **3F299** | 485.53 | **305.75** | 61.0 |
| **30** | 9310/8740 | 1/2 | 1075/2-Speed | 495 | 4.5/3.7 | No | Sleeve | 2 | N | **3C219** | 444.63 | **276.00** | 61.0 |
| **30** | 9560/8870 | 1/2 | 1075/2-Speed | 495 | 4.9/3.9 | Yes | Ball | 2 | O | **3F298** | 609.09 | **374.25** | 61.0 |
| **30** | 9375/8745 | 1/2 | 1075/2-Speed | 520 | 5.4/4.1 | No | Ball | 2 | Q | **6C539** | 490.21 | **316.25** | 53.0 |

# ASSEMBLED COMMERCIAL DUTY AIR CIRCULATOR HEADS




Non-oscillating circulator heads are suitable for air circulation and cooling in clean environments such as schools, auditoriums, hospitals, large offices, and similar applications.

- **Use in clean, dry environments**
- **Single or 2-speed open dripproof motors are 115V, 60 Hz, with automatic thermal protection**
- **Factory wired 10 ft. 3 conductor cord with grounding type molded plug**
- **Stamped aluminum 2- and 3-blade propellers**
- **Polyester powder coated wire guards comply with OSHA Standard 1910.212, 1/2" maximum opening requirement**
- **Use with adjustable floor pedestal, wall/ceiling bracket, I-beam or suspension bracket mountings listed below**
- **See velocity profiles on pages 3578-3582**

## ASSEMBLED COMMERCIAL DUTY AIR CIRCULATOR HEADS ORDERING DATA

| Propeller Dia. (In.) | CFM | RPM | HP | Motor 120V, 60 Hz Watts | Amp | Bearings | Velocity Chart | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 2530/2170 | 1550/2-Speed | 1/15 | 160 | 2.0/1.5 | Sleeve | A | **6C531** | $261.33 | **$171.00** | 20.0 |
| **20** | 3090/2715 | 1100/2-Speed | 1/10 | 143 | 1.3/1.0 | Sleeve | B | **3F530** | 320.10 | **201.75** | 37.0 |
| **20** | 2987 | 1125 | 1/10 | 119 | 1.3 | Sleeve | C | **4C456** | 293.92 | **185.25** | 28.0 |
| **24** | 5040 | 1725 | 1/4 | 228 | 2.2 | Sleeve | D | **3C217** | 300.66 | **194.00** | 35.0 |
| **24** | 5300/3080 | 1075/2-Speed | 1/4 | 286 | 3.1/3.9 | Sleeve | E | **3C685** | 337.09 | **217.75** | 37.0 |
| **24** | 7235 | 1725 | 1/2 | 448 | 4.4 | Sleeve | F | **4C021** | 373.15 | **235.00** | 38.0 |
| **30** | 9165/8170 | 1075/2-Speed | 1/4 | 477 | 4.5/3.6 | Sleeve | G | **3C686** | 417.66 | **269.75** | 46.0 |

# AIR CIRCULATOR MOUNTING DEVICES

All mountings are UL Listed only with Dayton Air Circulators. Fit all Dayton, Fasco, Patton, and Airmaster brands of circulators; 3/8" and 1/4" diameter mounting holes accommodate all yoke mounted motors. For use with assembled head air circulators listed above and on page 3509

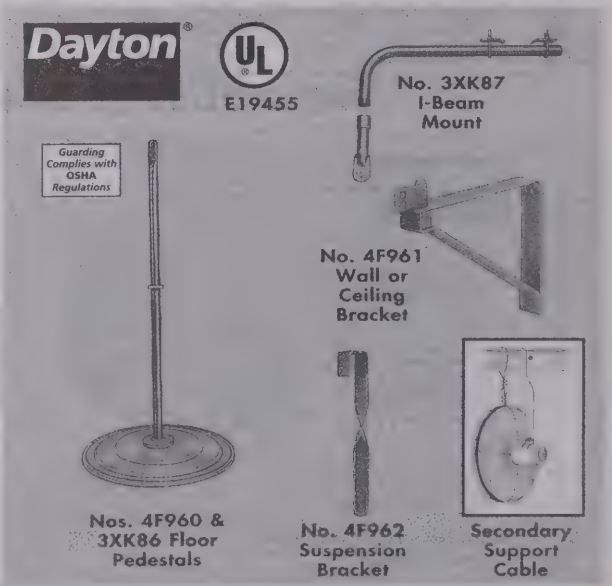
**GRAY FLOOR PEDESTAL No. 4F960.** 33" Diameter base. Adjustable column has large diameter tubing (2¼" bottom, 1¾" top) with locking height adjustment collar. Column height adjustment collar allows circulator heights from 3½ ft. up to 6 ft.; column secured by tapered fit between column and base. Shipped in one carton. Gray polyester finish.

**YELLOW FLOOR PEDESTAL No. 3XK86.** 33" Diameter yellow polyester powder-coated base for use with Nos. 3XK84 and 3XK85 air circulators. Adjustable column height from 3½ ft. to 6 ft; column secured by tapered fit between column and base. Shipped in one carton.

**WALL/CEILING BRACKET No. 4F461.** Mounts to walls, posts, or ceilings. Adjustable pivot bracket allows omni-directional air circulation. Includes secondary support cable for added safety. Gray color. **NOTE: Not recommended for use with oscillating circulators when ceiling mounted.**

**SUSPENSION BRACKET No. 4F462.** Use for mounting non-oscillating circulators from ceiling beams or rafters. Includes secondary support cable for added safety. Gray color.

**I-BEAM MOUNT No. 3XK87.** Use for mounting circulators from I-beams and columns. Length can be increased by adding a piece of standard 1½" threaded pipe between the I-beam mount and yoke adapter.

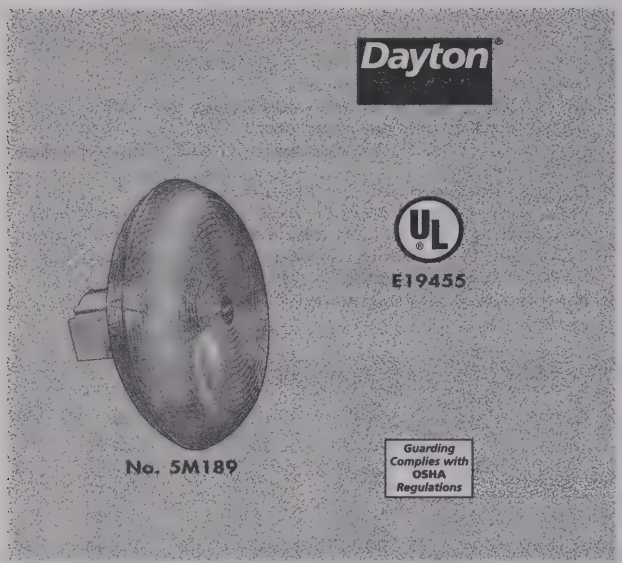



## AIR CIRCULATOR MOUNTING DEVICE ORDERING DATA

| Description | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **Adjustable Floor Pedestal—Gray Color** | **4F960** | $125.04 | **$76.80** | 37.0 |
| **Adjustable Floor Pedestal—Yellow Color** | **3XK86** | 196.77 | **120.85** | 37.0 |
| **Wall, Post, or Ceiling Bracket with Adjustable Pivot** | **4F961** | 45.86 | **28.20** | 4.3 |
| **Suspension Bracket for non-oscillating circulators** | **4F962** | 21.63 | **13.28** | 1.0 |
| **I-Beam Mount** | **3XK87** | 131.72 | **80.90** | 12.0 |

# WASHDOWN AND HAZARDOUS LOCATION AIR CIRCULATORS

## WASHDOWN AIR CIRCULATORS




- Provides both spot and general cooling in food, or beverage processing plants. Used in washdowns or other high humidity or wet environments
- Motor complies with BISSC, and NEMA definition MG1-1.26.5 Standard for waterproof motors
- Motor painting process uses both durable USDA-approved white epoxy primer and paint
- Totally enclosed air over (TEAO), single speed motor with automatic reset thermal protection and double-sealed ball bearings
- Stamped aluminum propeller resists corrosion
- Zinc plated guard comply with OSHA Standard 1910.212, 1/2" max. opening requirements
- Circulator heads feature locking tilt adjustment for directional air flow
- Circulator passes UL 507 spray test
- Mountings comply with UL 507 requirements for static load
- Supplied with wall bracket, (No. 4F961) for mounting on wall or post
- Optional suspension bracket with support cable, (No. 4F962) is available for ceiling mounting
- Both 20" and 24" units extend 22¾" from wall
- See velocity profiles on pages 3578-3582

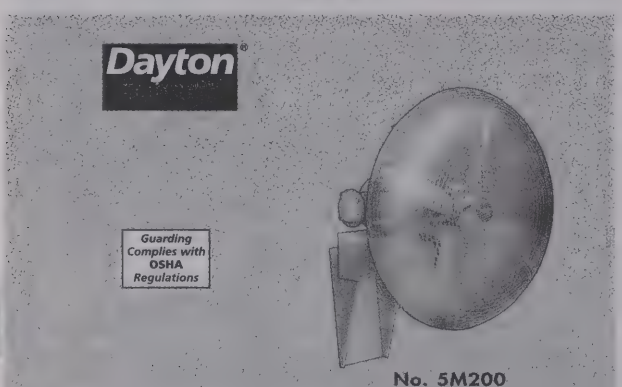
Replacement Parts Available
1-800-323-0620

### ASSEMBLED HEAD NON-OSCILLATING WASHDOWN AIR CIRCULATORS ORDERING DATA

| Propeller Dia. (In.) | CFM | HP | RPM | Watts | Operating Amps | Volts | Motor Type | Velocity Chart | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20** | 4050 | 1/4 | 1700 | 208 | 2.6 | 115/230 | PSC* | T | **5M198** | $549.42 | **$366.50** | 35.0 |
| **24** | 6925 | 1/3 | 1700 | 389 | 4.0 | 115/230 | PSC* | U | **5M199** | 600.72 | **400.50** | 42.0 |

(*) Permanent split capacitor motors.

## HAZARDOUS LOCATION AIR CIRCULATORS




Replacement Parts Available
1-800-323-0620

- Provide both spot and general cooling in atmospheres containing flammable or explosive vapors, gases, or dusts as defined under article 500 of the National Electrical Code (NEC)
- Totally enclosed fan cooled (TEFC), single speed hazardous location, cap, start ball bearing motor with automatic reset thermal protection, UL Listed conduit box supplies with motor
- Motors only are UL Listed (E62643) for Class 1, Div. 1, Group D, and Class II, Div. I, Groups E, F, and G hazardous locations
- Zinc plated steel guards comply with OSHA Standard 1910.212, 1/2" max. opening requirements
- Spark-resistant cast aluminum propeller (5M200 - 4-blade propeller, 5M187 - 6 blade propeller)
- Supplied with galvanized steel wall bracket for mounting to wall or post
- Mounting brackets allow adjustment for multi-directional air flow
- Secondary support cable included for overhead mounting
- Fan not appropriate for use where paint residue can accumulate on motor or blade
- 24" unit extends 23⁷⁄₁₆" from wall; 30" unit extends 25⅛" from wall
- See velocity profiles on pages 3578-3582

### HAZARDOUS LOCATION AIR CIRCULATOR ORDERING DATA

| Propeller Dia. (In.) | CFM | Motor HP | RPM | Watts | Operating Amps | Volts | Motor Type | Velocity Chart | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24** | 5479 | 1/4 | 1140 | 353 | 6.0/2.9 | 115/230 | CSIR* | V | **5M200** | $789.00 | **$526.50** | 56.0 |
| **30** | 10921 | 3/4 | 1140 | 701 | 7.0/3.5 | 115/230 | CSCR** | W | **5M187** | 1220.98 | **814.50** | 56.0 |

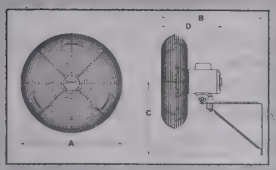
(*) Capacitor start induction run. (**) Capacitor start capacitor run.

# ASSEMBLED HEAD 208 & 277 VOLT AIR CIRCULATORS

Dayton

UL E19455





Guarding Complies with OSHA Regulations

Replacement Parts Available 1-800-323-0620

- Provide both spot and general cooling in warehouses, factories, machine shops, or offices
- Choice of 208 or 277 volt motor; especially convenient for wiring in conjunction with lighting systems and offers reduced amp draw. 277V can be wired into 3 phase "WYE" system
- 60 Hz, totally enclosed air over (TEAO) single speed ball bearing motor with automatic reset thermal protection
- UL Listed circulator; mountings comply with UL 507 requirements for static load
- See velocity profile on pages 3578-3582
- Steel guards comply with OSHA Standard 1910.212, 1/2" max. opening requirements
- Stamped aluminum propeller resists corrosion
- Circulator heads feature locking tilt adjustment for directional air flow
- Supplied with wall bracket, (Stock No. 4F961) for mounting on wall or post
- Optional suspension bracket with support cable, (Stock No. 4F962) is available for ceiling mounting
- 24"unit extends 23 7/16" from wall; 30" unit extends 25 7/16 from wall
- See Velocity Profiles on pages 3578-3582

## ASSEMBLED HEAD AIR CIRCULATORS WITH BRACKET ORDERING DATA

| Propeller Dia. (In.) | Volts | CFM | HP | RPM | Amps | Motor Type | Dimensions (In.) A | B | C | D | Velocity Chart | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24** | 208 | 5200 | 1/4 | 1725 | 2.0 | Split Phase | 26 1/2 | 23 7/16 | 17 1/2 | 14 1/8 | D | **5M195** | $391.20 | **$261.00** | 38.0 |
| **24** | 277 | 5310 | 1/4 | 1725 | 1.5 | Split Phase | 26 1/2 | 23 7/16 | 17 1/2 | 14 1/8 | D | **5M194** | 403.61 | **269.50** | 38.0 |
| **30** | 208 | 9340 | 1/2 | 1075 | 2.3 | PSC* | 33 | 25 7/16 | 17 1/2 | 15 15/16 | N | **5M197** | 491.35 | **327.75** | 55.0 |
| **30** | 277 | 9365 | 1/2 | 1075 | 1.5 | PSC* | 33 | 25 7/16 | 17 1/2 | 15 15/16 | N | **5M196** | 507.06 | **338.25** | 55.0 |

(*) Permanent split capacitor motor.

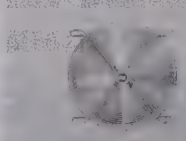
# TRANSFORMER COOLING FANS

- Provides forced cooling to reduce temperatures on oil-filled transformer radiators
- Guard Mount models feature a hot dip galvanized basket-type guard
- 16", 20" and 24" guard mount models can be replaced on most standard mounting hardware
- Tubular mount model features a 12-gauge zinc plated wire guard
- All guards are weather resistant and comply with OSHA Standard 1910.212, 1/2" max. opening requirements
- 115/230V, 60 Hz, single phase, totally enclosed air over (TEAO),permanently lubricated sealed ball bearing, permanent split capacitor motor with automatic overload protection
- Weatherproof motor designed for outdoor use; 1/2" shaft with rust inhibitor treatment and shaft-end bearing slinger to protect against dirt and moisture
- Class B insulation with Class A temperature rise for extended life
- Drain hole placed to eliminate condensation build-up inside the motor
- Includes weatherproof 8' power cord, pre-wired from factory for 230 volt operation (UL Recognized)
- Mounting kit includes mounting brackets, 19½" long threaded galvanized rods, and hardware

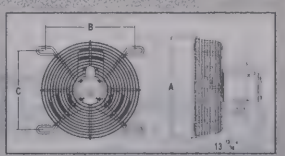
**No. 5M208.** Mounting Kit. Shpg. wt. 6.0 lbs. List $54.02. Each ..... **$36.15**

Dayton

Guarding Complies with OSHA Regulations

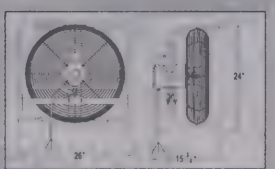


No. 5M201





No. 5M207

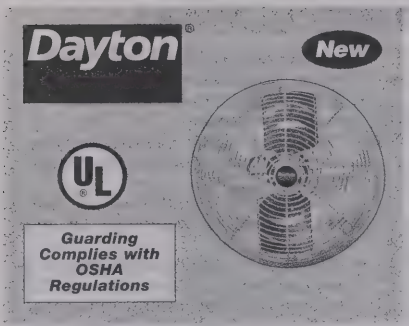


## TRANSFORMER COOLING FAN ORDERING DATA

| Propeller Dia. (In.) | Propeller Construction | CFM | Nominal RPM | Motor HP | Dimensions (In.) A | Min. B | Max. B | Min. C | Max. C | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16** | Stamped | 4960 | 1700 | 1/4 | 19 | 15 1/2 | 19 1/16 | 15 1/2 | 15 1/2 | **5M201** | $443.93 | **$296.00** | 30.0 |
| **16** | Cast | 4593 | 1700 | 1/4 | 19 | 15 1/2 | 19 1/16 | 15 1/8 | 15 1/8 | **5M202** | 546.91 | **364.75** | 30.0 |
| **16** | Cast | 4590 | 1700 | 1/4 | 19 | 11 3/4 | 15 11/16 | 15 11/16 | 19 1/16 | **5M154*** | 604.15 | **362.00** | 30.0 |
| **20** | Stamped | 6840 | 1700 | 1/2 | 23 | 17 3/4 | 21 1/4 | 18 1/2 | 18 1/2 | **5M203** | 537.01 | **358.25** | 40.0 |
| **20** | Cast | 6600 | 1700 | 1/2 | 23 | 17 3/4 | 21 1/4 | 18 1/2 | 18 1/2 | **5M204** | 641.92 | **428.25** | 40.0 |
| **20** | Cast | 6599 | 1700 | 1/2 | — | — | — | — | — | **5M207†** | 641.64 | **428.00** | 40.0 |
| **24** | Stamped | 8640 | 1700 | 1/2 | 27 | 19 7/8 | 23 7/8 | 21 1/2 | 21 1/2 | **5M205** | 574.07 | **383.00** | 45.0 |
| **24** | Cast | 7900 | 1700 | 1/2 | 27 | 19 7/8 | 23 7/8 | 21 1/8 | 21 1/8 | **5M206** | 688.21 | **459.00** | 45.0 |
| **24** | Cast | 5800 | 1700 | 1/4 | 27 | 18 7/8 | 21 1/8 | 20 | 21 1/8 | **5M153*** | 758.38 | **454.50** | 45.0 |

(*) Rigid base motors. (†) Tubular mount fan.

# INDUSTRIAL CIRCULATORS; CIRCULATOR GUARDS, MOUNTINGS, AND PROPELLERS




## GREENHOUSE CIRCULATORS

**Provide constant temperatures.** Designed for horizontal air flow that can assist with elimination of hot and cold spots throughout the building, condensation problems, and heat loss since stratification of warmer air is practically non-existent.

- **60 Hz, 115V totally enclosed motor with automatic thermal reset protection**
- **Variable speed motor for year-round air circulation**
- **White powder coated wire guard for reduced shadowing and improved corrosion resistance**
- **Guards comply with OSHA standard 1910.212, 1/2" max. opening requirement**
- **High efficiency tilted two-wing propeller**
- **Fan comes assembled with mounting chain**

### OPTIONAL VARIABLE SPEED CONTROLLER

***New* No. 4TM32.** Optional variable speed controller.. Shpg. wt. 0.5 lbs. List $30.69. Each.....**$18.38**

| Propeller Dia. (In.) | Motor, 115V and 60 Hz CFM | HP | RPM | CFM/Watt | Operating Amps | Sones @ 5 Ft. | LWA* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 2490 | 1/15 | 1640 | 31.48 | 0.7 | 8.5 | 73.3 | ***New* 4TM45** | $241.25 | **$144.50** | 21.0 |

(*) Sound power level (IW) in deci bel (dB) referenced to 10E-12 watts.

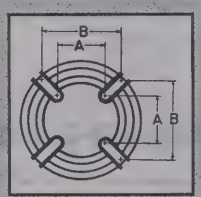
## AIR CIRCULATOR GUARDS

**Two-piece close mesh wire guards** for circulating fans. Front section snaps on rear section firmly and easily. Mount to motor thru-bolts on yoke mounted or rigid base motors. Cradle type motors cannot be used; see Index under Fan Parts, Motor Straps for appropriate yoke-type motor mounting straps. Rear section of guard has four mounting slots to accommodate motor thru-bolts, see diagram (right) and table below. Gray moisture resistant coating. Dayton brand.

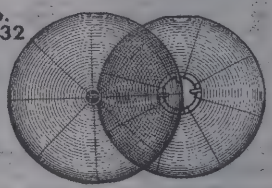
| Diameter (In.) Blade | Guard | Mounting Slot O.C. Range, In. A | B | Motor Fit | Guards Per Carton | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **16** | 18½ | 2 1/16 | 2¾ | Shaded Pole | 4 | **4C432** | $34.70 | **$23.13** | 6.0 |
| **18** | 20½ | 2¾ | 4 | | 4 | **4C433** | 40.73 | **27.15** | 7.0 |
| **20** | 22½ | 2¾ | 4 | Shaded Pole | 4 | **4C434** | 50.84 | **33.90** | 10.0 |
| **24** | 26½ | 2¾ | 4 | 48 & 56 Frame | 4 | **3C192** | 57.86 | **38.60** | 13.0 |
| **30** | 32½ | 2¾ | 4 | Motors | 2 | **3C194** | 98.91 | **65.95** | 24.0 |

- **Easy to install; can be used to replace most open mesh guards**
- **Comply with OSHA regulations**

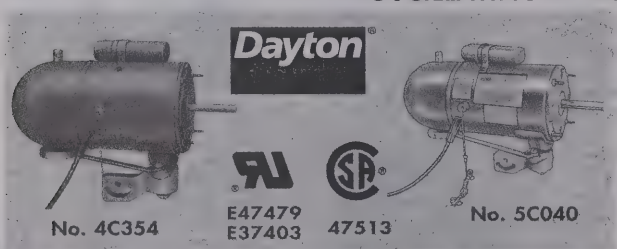
Dayton




**Mounting slot O.C. dimensions. See table for minimum and maximum range.**




## OSCILLATING AIR CIRCULATOR MOTORS



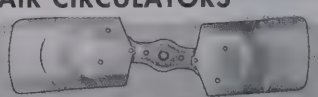

**Typical Uses:** No. 4C354 for use on Dayton 20 and 24" oscillating fans. No. 5C040 for use on Dayton 30" oscillating fans. **Special Features:** Hardened metal precision gearing and durable clutch assembly. Four extended studs 3⅝" OC for mounting guard. 10 ft., 3-conductor cord with grounding type molded plug. Can run 90 or 45° sweep or fixed position. Two-speed pull chain switch. **Motor Type:** PSC. **Enclosure:** TEAO. **Thermal Protection:** Auto. **Finish:** Gray enamel.

| HP | Nameplate RPM | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Shaft Dia. In. | Ins. Class | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 1075/2 Spd | 115 | 4.4 | 1/2 | B | **4C354** | $283.00 | **$209.00** | 22.0 |
| **1/2** | 1075/2 Spd | 115 | 6.0 | 5/8 | B | **5C040** | 305.00 | **225.50** | 31.0 |

## REPLACEMENT PROPELLERS FOR INDUSTRIAL/COMMERCIAL AIR CIRCULATORS

- **Stamped aluminum 2 and 3-blade propellers**
- **Blade design minimizes air noise and vibration**

Dayton

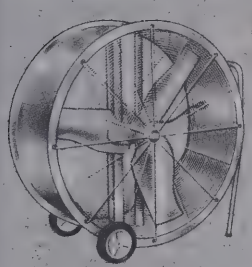



| Propeller Dia., In. | HP | Bore Dia. (In.) | RPM | Fits Stock No. | Propeller Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **20** | 1/4 | 5/8 | 1725 | 4C458 | **4HZ10** | $36.61 | **$21.92** | 2.0 |
| **20** | 1/4 | 1/2 | 1075 | 6C535 | **4HZ09** | 66.61 | **45.95** | 2.0 |
| **20** | 1/4 | 5/8 | 1075 | 6C536 | **4HZ10** | 36.61 | **21.92** | 2.0 |
| **24** | 1/4 | 5/8 | 1725 | 3C218 | **4HZ04** | 43.25 | **25.90** | 3.0 |
| **24** | 1/4 | 1/2 | 1075 | 6C538 | **4HZ08** | 43.25 | **25.90** | 3.0 |
| **24** | 1/4 | 1/2 | 1075 | 4C154 | **4HZ08** | 43.25 | **25.90** | 3.0 |
| **24** | 1/4 | 1/2 | 1075 | 3C215 | **4HZ05** | 53.85 | **32.25** | 3.0 |
| **30** | 1/2 | 5/8 | 1075 | 3C219 | **4HZ07** | 54.10 | **32.40** | 4.0 |
| **30** | 1/2 | 5/8 | 1075 | 3F298 | **4HZ07** | 54.10 | **32.40** | 4.0 |
| **30** | 1/2 | 5/8 | 1075 | 6C539 | **4HZ07** | 54.10 | **32.40** | 4.0 |
| **18** | 1/15 | 3/8 | 1550 | 6C531 | **4HZ12** | $47.55 | **$28.50** | 2.0 |
| **20** | 1/10 | 1/2 | 1100 | 3F530 | **4HZ02** | 36.61 | **21.92** | 2.0 |
| **20** | 1/4 | 5/8 | 1725 | 4C456 | **4HZ10** | 36.61 | **21.92** | 2.0 |
| **24** | 1/4 | 5/8 | 1725 | 3C217 | **4HZ04** | 43.25 | **25.90** | 3.0 |
| **24** | 1/3 | 5/8 | 1725 | 6C537 | **4HZ04** | 43.25 | **25.90** | 3.0 |
| **24** | 1/4 | 1/2 | 1075 | 3C685 | **4HZ11** | 54.10 | **32.40** | 4.0 |
| **24** | 1/2 | 5/8 | 1725 | 4C021 | **4HZ06** | 43.25 | **25.90** | 3.0 |
| **30** | 1/4 | 1/2 | 1075 | 3C686 | **4HZ03** | 54.10 | **32.40** | 4.0 |

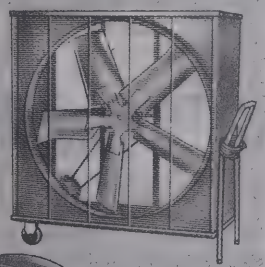
Dayton® UL® E19455

Guarding Complies with OSHA Regulations

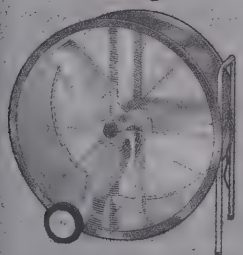
Made in U.S.A.



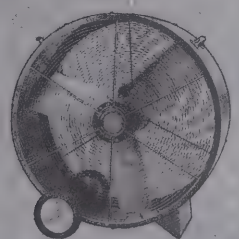
No. 3C991



No. 3C187



No. 3C674



No. 3F301

Replacement Parts Available 1-800-323-0620



No. 3C995 Tilting Kit

## AGRICULTURAL DUTY 36" DIRECT-DRIVE CIRCULATOR

- 9280 CFM at 825 RPM
- UL Listed (E19455) for use in agricultural buildings
- All galvanized construction for corrosion protection
- Optional tilting kit available, Stock No. 3C995; see below

**All electrical connections** are enclosed with gaskets to resist moisture. TEAO, 1/2 HP, 115V, 6.4 amps permanent split capacitor motor with sealed and shielded ball bearings. Direct-drive eliminates pulleys or belts that need to be adjusted or replaced. Intake and exhaust guards comply with OSHA regulations. 8 ft. power cord stores in handle when not in use. Dayton brand.

**No. 3C991.** Shpg. wt. 110.0 lbs. List $772.50. Each ..... **$535.00**

## 36" AND 48" HIGH-VOLUME AIR CIRCULATORS

- Rubber casters for easy movement
- Guards comply with OSHA Standard 1910.212, 1/2" maximum opening requirement
- Two-speeds; 115V, 60 Hz open type ball bearing motors with automatic thermal protection
- See Velocity Profile charts AA and BB, page 3581

**High volume, heavy-duty 2-speed mobile air circulators** for cooling factories, warehouses, laundries, garages, and loading docks. Balanced 5-wing steel propeller and matching deep venturi assure high efficiency and quiet operation. Self-aligning, prelubricated ball bearing pillow blocks. Cast iron drive sheaves. Heavy gauge steel housing with dark gray polyester finish. Sturdy tubular steel handle stores cord and protects switch. 10 ft., 3-conductor cord with grounded molded plug. Shipped completely assembled. Made in U.S.A. UL Listed (E19455). Dayton brand.

| Prop. Dia. (In.) | CFM Air Delivery | Fan RPM 120V, 60 Hz | High Speed HP | High Speed Amps | Dimensions (In.) H | W | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 10,300/6810 | 410/270 | 1/2 | 7.75 | 44⅞ | 40⁹⁄₁₆ | 17¼ | 3C187 | $993.77 | $595.50 | 148.0 |
| 48 | 18,400/12,100 | 335/221 | 3/4 | 11.70 | 59¾ | 54 | 19⅝ | 3C673 | 1516.16 | 908.00 | 242.0 |

## 36" HIGH-VOLUME DIRECT-DRIVE CIRCULATOR

- 9280 CFM at 825 RPM
- TEAO (Air Over) ball bearing motor
- 20 gauge steel housing with dark gray enamel finish; 36" diameter 3-wing red steel propeller
- Guards comply with OSHA Standard 1910.212, 1/2" maximum opening requirement
- Optional tilting kit available, Stock No. 3C995; see below
- See Velocity Profile chart CC, page 3581

**High volume, heavy-duty circulator** for use in factories, garages, warehouses, and similar buildings. Can operate in dirty environments. 1/2 HP, 115V, 60 Hz, 6.4 amp, totally enclosed motor. Direct-drive construction eliminates maintenance required with belt and pulley driven models.

**Overall dimensions:** 40½H x 39½W x 14"D. 7" dia. wheels. Tubular steel handle stores cord and protects power switch. 10 ft., 3-conductor cord has grounded molded plug. Shipped fully assembled except wheels; install with pushnuts provided. Made in U.S.A. UL Listed (E19455). Dayton brand.

**No. 3C674.** Shpg. wt. 110.0 lbs. List $745.19. Each..... **$461.00**

## 30" ROUND MOBILE CIRCULATOR

- 5150 CFM at 825 RPM
- 1/3 HP open dripproof sleeve bearing motor with automatic reset thermal protection
- 20 Gauge steel housing with dark gray polyester finish; 3-blade aluminum propeller
- Guards comply with OSHA Standard 1910.212 1/2" maximum opening requirement
- See Velocity Profile chart DD, page 3581

**Medium volume, heavy-duty circulator** for use in factories, garages, warehouses, and similar buildings. 1/3 HP, 115V, 60 Hz, 4.5 amp, 825 RPM motor. Direct-drive construction eliminates maintenance required with belt and pulley driven models. Overall dimensions: 33H x 31W x 18"D. 7" dia. wheels. Aluminum handle. Cord storage bracket prevents cord tangling. 10 ft., 3-conductor cord has grounded molded plug. Shipped fully assembled except wheels (install with pushnuts provided). Made in U.S.A. UL Listed (E19455). Dayton brand.

**No. 3F301.** Shpg. wt. 55.0 lbs. List $586.67. Each..... **$351.50**

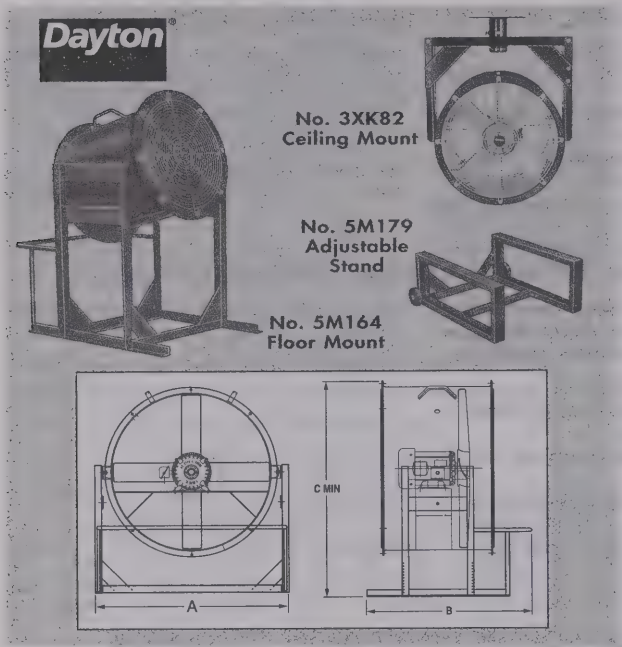
## MOBILE AIR CIRCULATOR TILTING KIT

**Easy to assemble kit** allows direct-drive mobile fans Stock Nos. 3C674 and 3C991 (listed above) to roll easily and tilt to any angle—provides air flow in direction desired. Creates a stable platform.

Made of 1" diameter, 16 gauge galvanized steel tubing with heavy gauge steel parts. Dayton brand.

**No. 3C995.** Shpg. wt. 18.0 lbs. List $226.89. Each ..... **$135.90**

# HIGH VOLUME, HIGH VELOCITY INDUSTRIAL FANS




- **Provide dependable service in severe operating conditions such as factories, foundries, and steel mills**
- **Guards comply with OSHA 1910.212, 1/2" maximum opening requirement**
- **Spark resistant cast aluminum propellers**
- **Ceiling mount fans tilt and swivel**
- **Optional stand (No. 5M179) with casters for added height and mobility**
- **See Velocity Profiles, pages 3581–3582**

**Fans are available in two styles—floor mount with non-tipping base or ceiling mount.** The non-tipping base allows two mounting heights—low and medium. Both fans feature welded steel drum with gray polyester finish. Drum can be tilted up and down to direct air flow. Totally enclosed, continuous standard duty, ball bearing motors. Factory wired 2 ft. long pigtail (SJOW) provided for hard wiring of fan.

**OPTIONAL ADJUSTABLE STAND.** Adds 14¾" of operating height when used with floor mount base models. Casters allow extra mobility. Stand width is adjustable to accommodate 18, 24, 30, and 36" diameter high velocity fans. Heavy gauge steel construction with powder coat finish.

**No. 5M179.** Shpg. wt. 120.0 lbs. List ..... $362.40.
Each ..... **$248.25**

## HIGH VOLUME, HIGH VELOCITY INDUSTRIAL FANS DIMENSIONS

| Propeller Dia. (In.) | Fan Only (Inches) A | B | C | Max. Ht. (In.) With No. 5M179 Stand | Max. Ht. (In.) With Ceiling Mount |
|---|---|---|---|---|---|
| 18 | 26 1/4 | 36 7/8 | 31 3/4 | 53 3/8 | 40 1/4 |
| 24 | 32 9/16 | 36 7/8 | 34 3/4 | 56 3/8 | 43 9/16 |
| 30 | 37 7/16 | 36 7/8 | 37 13/16 | 59 7/16 | 51 1/4 |
| 36 | 44 7/16 | 36 7/8 | 40 7/8 | 62 1/2 | 54 3/8 |

## HIGH VOLUME, HIGH VELOCITY INDUSTRIAL FANS ORDERING DATA

| Propeller Dia. (In.) | CFM | Motor HP | RPM | Volts | Phase | Operating Amps | Velocity Chart | Floor Mount Fans Stock No. | List | Each | Shpg. Wt. | Ceiling Mount Fans Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 2773 | 1/4 | 1750 | 115/230 | 1 | 4.2/2.1 | EE | **5M164**† | $932.88 | **$853.50** | 156.0 | **3XK82** | $1517.45 | **$941.50** | 156.0 |
| **18** | 2792 | 1/4 | 1750 | 208-220/440 | 3 | 1.0/0.6 | EE | **5M165** | 932.32 | **853.50** | 155.0 | **3XK83** | 1533.01 | **941.50** | 156.0 |
| **24** | 4684 | 1/3 | 1140 | 115/230 | 1 | 6.4/3.2 | FF | **5M166**† | 1693.97 | **1011.00** | 198.0 | **3XK70** | 1716.33 | **1075.00** | 194.0 |
| **24** | 4698 | 1/3 | 1140 | 208-220/440 | 3 | 1.6/0.8 | FF | **5M167** | 1887.08 | **1011.00** | 194.0 | **3XK69** | 1749.18 | **1075.00** | 195.0 |
| **24** | 5466 | 1/2 | 1140 | 115/230 | 1 | 8.6/4.4 | GG | **5M168**† | 1824.74 | **1089.00** | 208.0 | **3XK71** | 1872.88 | **1172.00** | 197.0 |
| **24** | 5357 | 1/2 | 1140 | 208-220/440 | 3 | 1.9/1.0 | GG | **5M169** | 2032.48 | **1089.00** | 197.0 | **3XK75** | 1906.90 | **1172.00** | 198.0 |
| **24** | 6995 | 1 | 1725 | 115/230 | 1 | 13.0/6.5 | HH | **5M170**† | 2085.18 | **1118.00** | 204.0 | **3XK76** | 2004.13 | **1232.00** | 215.0 |
| **24** | 6949 | 1 | 1725 | 208-220/440 | 3 | 3.3/1.6 | HH | **5M171** | 2085.20 | **1118.00** | 200.0 | **3XK77** | 1972.61 | **1232.00** | 217.0 |
| **30** | 7184 | 1/2 | 1150 | 115/230 | 1 | 8.9/4.5 | II | **5M172**† | 1921.05 | **1146.00** | 273.0 | **3XK78** | 2173.66 | **1336.00** | 262.0 |
| **30** | 7242 | 1/2 | 1150 | 208-220/440 | 3 | 2.0/1.0 | II | **5M173** | 2139.67 | **1146.00** | 262.0 | **3XK79** | 2080.38 | **1336.00** | 262.0 |
| **30** | 10,362 | 2 | 1725 | 115/230 | 1 | 14.5/7.2 | JJ | **5M174**† | 2490.35 | **1334.00** | 290.0 | **3XK74** | 2425.95 | **1490.00** | 272.0 |
| **30** | 10,290 | 2 | 1740 | 208-220/440 | 3 | 5.0/2.4 | JJ | **5M175** | 2490.49 | **1335.00** | 272.0 | **3XK80** | 2301.57 | **1490.00** | 272.0 |
| **36** | 11,391 | 1 | 1140 | 115/230 | 1 | 10.7/5.5 | KK | **5M176**† | 2661.08 | **1425.00** | 318.0 | **3XK81** | 2471.87 | **1519.00** | 318.0 |
| **36** | 11,418 | 1 | 1140 | 208-220/440 | 3 | 3.9/1.9 | KK | **5M177** | 2661.02 | **1425.00** | 318.0 | **3XK72** | 2382.91 | **1519.00** | 318.0 |
| **36** | 15,053 | 2 | 1150 | 208-220/440 | 3 | 6.4/3.2 | LL | **5M178** | 2886.57 | **1546.00** | 328.0 | **3XK73** | 2573.11 | **1580.00** | 328.0 |

(†) Automatic reset thermal protection motors.

# DOCK FAN WITH LIGHT

**Designed for tough indoor use** for ventilation of personnel working in and around semi-trailer trucks and docks.

**Delivers 3150 CFM (high) and 2330 CFM (low)** air speeds. Average air velocity is 1340 FPM and 995 FPM. 20" aluminum propeller with OSHA guards. Galvanized steel housing has baked on gray polyester finish.

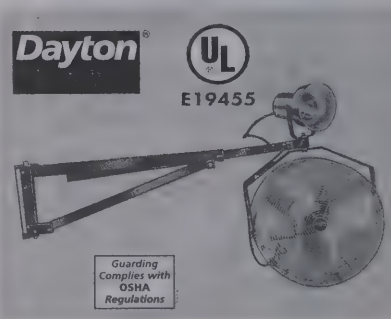
**Fan Motor.** 1/4 HP, two-speed, 115V, 60 Hz totally enclosed permanent split capacitor motor with ball bearings operates at 2.9 amps maximum.

**Fan Arm.** Adjustable wall mounting arm extends from 40 to 60". Self-contained outlets for the fan and light are located at arm end. Fan and light are fully adjustable–no tools or knobs needed. Vulcanized fiber friction washer keeps arm from unwanted swinging. Wall mounting bracket included.

**Light.** Safety yellow with heavy gauge aluminum shade. High temperature porcelain socket rated for 120 VAC. Requires medium screw base, type R, 300 watt maximum lamp (not included). UL Listed. Dayton brand.

**Optional Accessories.** No. 2V411, 300W lamp. No. 2V925 Lamp guard. No. 2V926 Glare Shield. See Index under Lamps, Reflector; Guards, Lamp; Shields, Glare.

**No. 6C660.** Shpg. wt. 63.0 lbs. List ..... $890.37.
Each ..... **$547.00**






*However, wherever, you need to move air, we have the fans to do it.*

# EVAPORATIVE COOLING FANS AND AIR VELOCITY PROFILES

## PORT-A-COOL EVAPORATIVE COOLING FAN




**Designed for use when air conditioning** is cost prohibitive, impractical, or unavailable. Cools in areas of manufacturing plants, mechanics' garages, military bases, and gymnasiums. Provides effective spot cooling in horse stables, dog kennels, and a variety of other locations. Effectively cools certain types of equipment such as generators and compressors. Operates by connecting to 115V power supply and water. As hot air is pulled through the water-soaked cooling pads, cold air is released through the fan. 36" housings hold 17 gallons of water, 24" housings hold 11 gallons, and 16" holds 3 gallons. Water can be supplied by garden-type water hose. Fans feature one-piece polyethylene plastic housing. Heavy-duty galvanized fan. High efficientcy rigid evaporative media. 24" and 36" fans roll on heavy-duty ball bearing casters.

### PORT-A-FILLER WATER TANK

Optional 50 gallon portable water tank to be used with all Port-A-Cool units.

| Water Tank Fits Stock No. | General Shelters Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|
| **1K547, 1K551, 1K553** | PAC-ACC-01 | **2BV52** | **$395.00** | 61.0 |

### REPLACEMENT MEDIA

**Superior evaporative cooling pads** composed of kraft paper impregnated with thermosetting resin and formed with cross-corrugated sheets. Provide even water and air flow with no sagging, gapping or fouling problems. Pads are energy efficient, and provide consistent performance over a very long life. Self-supporting, highly absorbent, and easily cleaned.

| Media Fits Stock No. | Dimensions (Inches) | General Shelters Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **1K547, 1K551, 2BV51** | 48 x 12 x 6 | PAD6048 | **1K543** | **$52.00** | 4.2 |
| **1K553** | 36 x 12 x 6 | PAD6036 | **1K545** | **45.00** | 1.5 |
| **5M186** | 24 x 12 x 6 | PAD6024 | **5M185** | **30.00** | 2.5 |

### PORT-A-COOL EVAPORATIVE COOLING FAN ORDERING DATA

| Description | Air Delivery CFM | Dimensions, (In.) H | W | D | General Shelters Model | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **6" Single-speed, direct-drive** | 2200 | 31 | 23 | 38 | PAC2K161S | **5M186** | **$596.00** | 65.0 |
| **4" Single-speed, direct-drive** | 5000 | 58 | 50 | 27 | PAC2K241S | **1K553** | **1805.00** | 150.0 |
| **6" Single-speed, belt-drive** | 9600 | 67 | 32 | 63 | PAC2K361S | **1K551** | **2087.00** | 220.0 |
| **6" Three-speed, belt-drive** | 4775/6375/9600 | 67 | 32 | 63 | PAC2K363S | **1K547** | **2244.00** | 230.0 |
| **6" Single-speed, belt-drive, Class 1, roup D, hazardous location** | 9600 | 67 | 32 | 63 | PACPE36EP/P/G | **2BV51** | **5595.00** | 400.0 |

## PORT-A-COOL™ PORTABLE PNEUMATIC COOLING SYSTEMS




- **Welded steel support frame**
- **Durable one-piece molded polyethylene plastic housing**
- **3/4" garden hose connection supplies water**
- **Flexible capabilities for ducting**
- **Unit and water supply are both portable**

### AIR DRIVEN PORT-A-COOL SPECIFICATIONS & ORDERING DATA

| Description | Air Requirements (SCFM) | Air Delivery CFM | Dimensions (In.) H | W | D | General Shelters Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **6" Jet Fan/9 gallon capacity** | 196 @ 80 PSIG | 9100 | 65 | 63 | 38 | PACPE36ADAP/G | **4MH82** | $13275.80 | **$7950.00** | 460.0 |
| **4" Air Mover/6 gallon capacity** | 164 @ 40 PSIG | 4898 | 70 | 50 | 82 | PACPE24ADAP | **4MH81** | 7550.86 | **4522.00** | 188.0 |
| **6" Air Mover/3 gallon capacity** | 73 @ 40 PSIG | 2200 | 30 | 37 | 22 | PACPE16ADAP | **4MH80** | 4727.28 | **2831.00** | 145.0 |

### ACCESSORY DATA

| Description | General Shelters Model | *New!* Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **Vinyl cover for 16" unit** | PAC-CVR-02 | **4MH79** | $53.20 | **$31.90** | 2.0 |
| **Vinyl cover for 36 and 24" unit** | PAC-CVR-01 | **4MH78** | 66.71 | **40.00** | 3.0 |
| **16" Air Duct Adapter** | PAC-ADP-16 | **4MH77** | 149.85 | **89.75** | 5.0 |
| **Heavy Duty All Terrain 6" Caster Kit for 36 and 24" unit** | CASTER-KIT-02 | **4MH75** | 749.68 | **449.00** | 26.0 |
| **Algae Treatment** | AK-47 | **4MH74** | 62.54 | **37.45** | 0.2 |
| **Mineral Knockout** | MK-47 | **4MH76** | 94.02 | **56.30** | 0.6 |

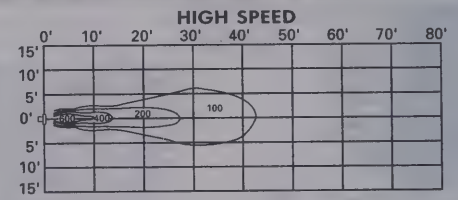
# COMMERCIAL AND INDUSTRIAL AIR CIRCULATOR AIR VELOCITY PROFILES

The air distribution pattern of the industrial air circulators is listed below. This is a graphic illustration of how far the fan will move air and the speed of the air flow expressed in FPM (feet per minute).

## COMMERCIAL AND INDUSTRIAL DUTY AIR CIRCULATORS

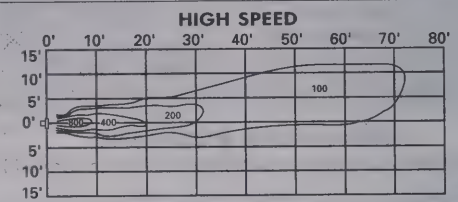
### CHART A

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 6C531 | 18 | High | 360 | 110 | — | — |
| | | Low | 310 | 95 | — | — |



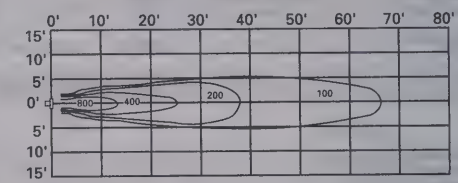

### CHART B

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3F530 | 20 | High | 400 | 190 | 150 | — |
| | | Low | 360 | 205 | 130 | — |



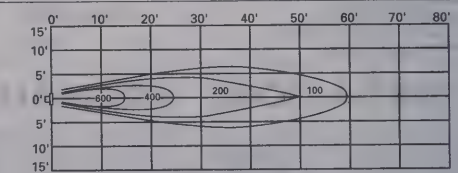

### CHART C

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 4C456 | 20 | 1125 | 325 | 80 | — | — |



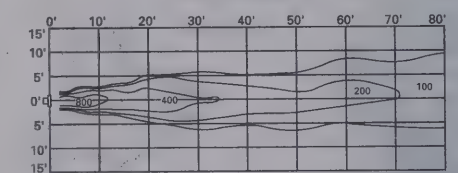

### CHART D

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3C217<br>5M194<br>5M195 | 24 | 1725 | 445 | 290 | 95 | — |



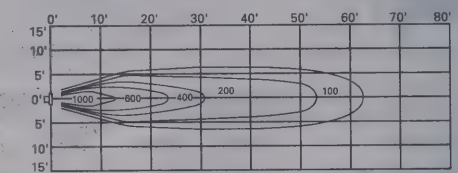

### CHART E

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3C685 | 24 | High | 590 | 360 | 250 | 175 |
| | | Low | 300 | 180 | 115 | — |



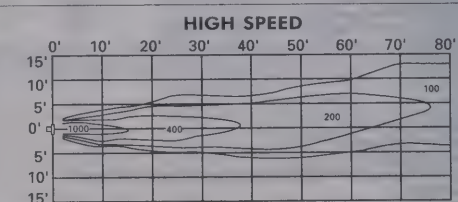

### CHART F

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 4C021 | 24 | 1725 | 710 | 330 | 130 | — |




### CHART G

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3C686 | 30 | High | 715 | 370 | 280 | 170 |
| | | Low | 680 | 350 | 250 | 140 |






*However, wherever, you need to move air, we have the fans to do it.*

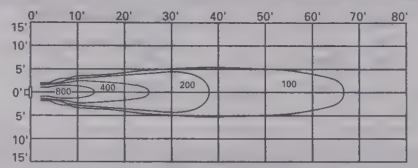
# INDUSTRIAL AIR CIRCULATOR AIR VELOCITY PROFILES

The air distribution pattern of the industrial air circulators is listed below. This is a graphic illustration of how far the fan will move air and the speed of the air flow expressed in FPM (feet per minute).

## INDUSTRIAL DUTY AIR CIRCULATORS CONTINUED

### CHART H

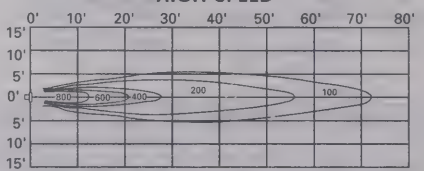
| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 4C458 | 20 | 1725 | 530 | 180 | 130 | — |




### CHART I

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 6C535 | 20 | High | 400 | 130 | — | — |
| 6C536 | | Low | 350 | 84 | — | — |

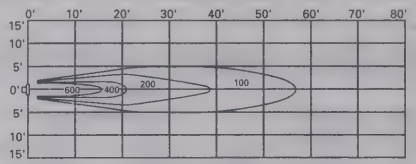
HIGH SPEED




### CHART J

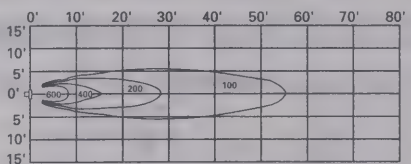
| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3C215 | 24 | High | 410 | 185 | 80 | — |
| | | Low | 325 | 145 | 60 | — |

HIGH SPEED




### CHART K

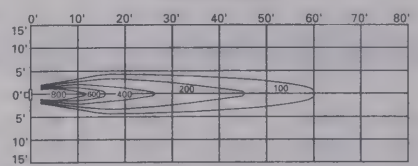
| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3C218 | 24 | 1725 | 585 | 275 | 155 | — |




### CHART L

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 4C154 | 24 | High | 510 | 240 | 100 | — |
| | | Low | 410 | 190 | 80 | — |

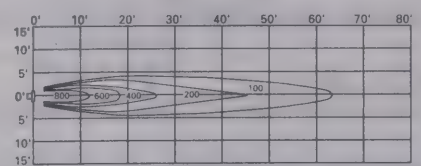
HIGH SPEED




### CHART M

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 6C538 | 24 | High | 570 | 230 | 120 | — |
| | | Low | 465 | 190 | 100 | — |

HIGH SPEED



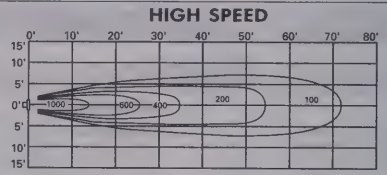

HELPFUL GUIDES TO TERMINOLOGY AND TECHNICAL DATA ARE PROVIDED FOR MANY OF OUR PRODUCTS. SEE PAGES AT BACK OF CATALOG

# INDUSTRIAL AND SPECIAL PURPOSE AIR CIRCULATOR AIR VELOCITY PROFILES

The air distribution pattern of the industrial air circulators is listed below. This is a graphic illustration of how far the fan will move air and the speed of the air flow expressed in FPM (feet per minute).

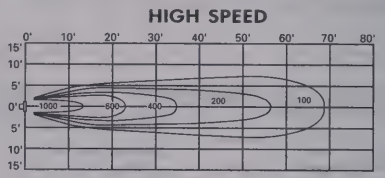
## CHART N

| Stock No. | Fan Size (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3C219 5M196, 5M197 | 30 | High | 750 | 310 | 180 | — |
| | | Low | 700 | 290 | 170 | — |



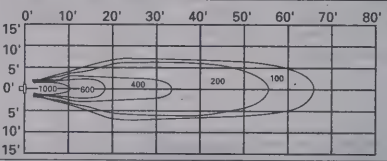

## CHART O

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3F298 | 30 | High | 710 | 340 | 175 | — |
| | | Low | 650 | 310 | 160 | — |



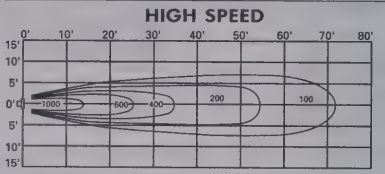

## CHART P

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3F299 | 30 | 825 | 580 | 350 | 160 | — |




## CHART Q

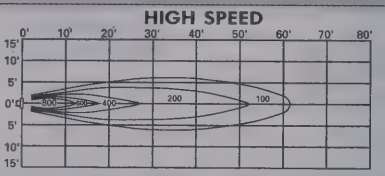
| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 6C539 | 30 | High | 750 | 310 | 180 | — |
| | | Low | 700 | 290 | 165 | — |




# SPECIAL PURPOSE AIR CIRCULATORS

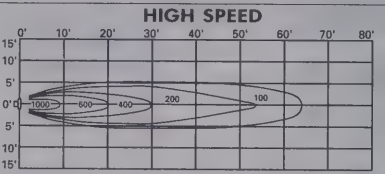
## CHART R

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 10 | 20 | 40 | 60 |
|---|---|---|---|---|---|---|
| 3XK84 | 24 | High | 940 | 520 | 265 | 120 |
| | | Low | 660 | 365 | 185 | 85 |



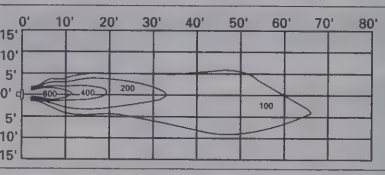

## CHART S

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 10 | 20 | 40 | 60 |
|---|---|---|---|---|---|---|
| 3XK85 | 30 | High | 865 | 615 | 320 | 140 |
| | | Low | 465 | 330 | — | — |



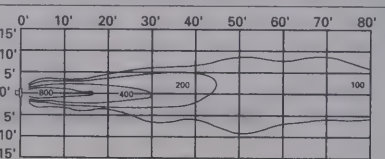

## CHART T

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M198 | 20 | 1138 | 420 | 100 | 154 | 75 |




## CHART U

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M199 | 24 | 1718 | 725 | 220 | 70 | 133 |






*However, wherever, you need to move air, we have the fans to do it.*

# MOBILE AND HIGH VOLUME, HIGH VELOCITY AIR CIRCULATOR AIR VELOCITY PROFILES

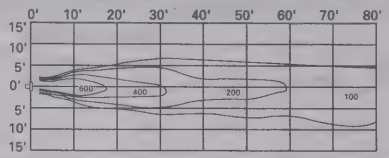


The air distribution pattern of the industrial air circulators is listed below. This is a graphic illustration of how far the fan will move air and the speed of the air flow expressed in FPM (feet per minute).

## SPECIAL PURPOSE AIR CIRCULATORS

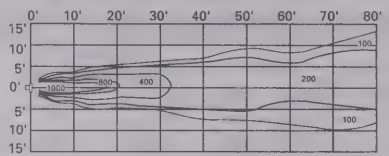
### CHART V

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M200 | 24 | 1176 | 520 | 280 | 200 | 125 |




### CHART W

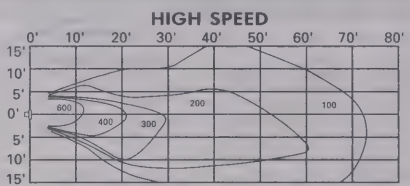
| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M187 | 30 | 1150 | 835 | 385 | 295 | 260 |




## MOBILE AIR CIRCULATORS

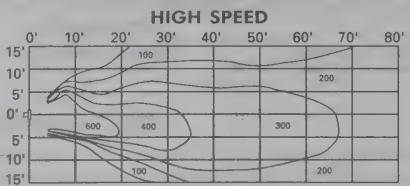
### CHART AA

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3C187 | 36 | High | 417 | 263 | 200 | — |
| | | Low | 292 | 184 | 140 | — |



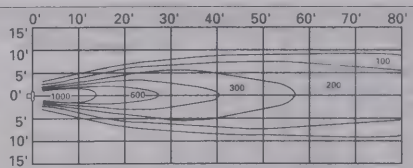

### CHART BB

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3C673 | 48 | High | 500 | 370 | 340 | — |
| | | Low | 380 | 280 | 250 | — |



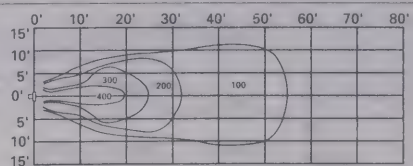

### CHART CC

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3C674 | 36 | 825 | 780 | 405 | 295 | 140 |




### CHART DD

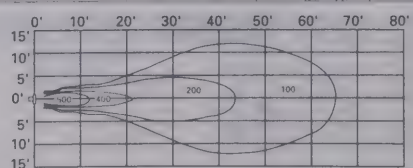
| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 3F301 | 30 | 825 | 400 | 165 | 65 | — |




## INDUSTRIAL HIGH VOLUME, HIGH VELOCITY AIR CIRCULATORS

### CHART EE

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M164<br>5M165<br>3XK82<br>3XK83 | 18 | 1750 | 440 | 240 | 100 | — |



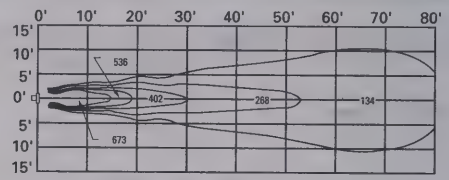
# HIGH VOLUME, HIGH VELOCITY AIR CIRCULATOR AIR VELOCITY PROFILES

The air distribution pattern of the industrial air circulators is listed below. This is a graphic illustration of how far the fan will move air and the speed of the air flow expressed in FPM (feet per minute).

## INDUSTRIAL HIGH VOLUME, HIGH VELOCITY AIR CIRCULATORS (CONTINUED)

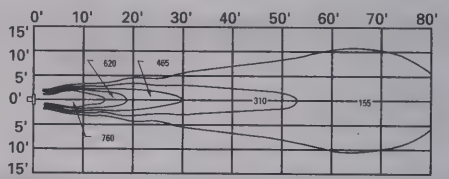
### CHART FF

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M166<br>5M167<br>3XK69<br>3XK70 | 24 | 1140 | 525 | 345 | 235 | 145 |



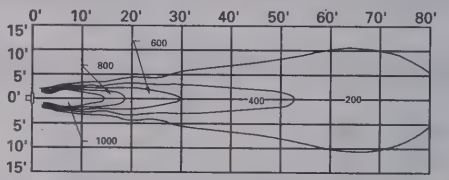

### CHART GG

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M168<br>5M169<br>3XK71<br>3XK75 | 24 | 1140 | 605 | 400 | 275 | 165 |



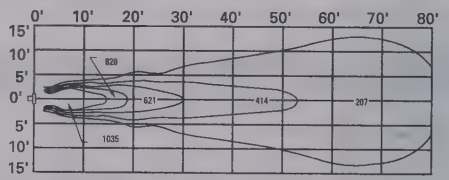

### CHART HH

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M170<br>5M171<br>3XK76<br>3XK77 | 24 | 1725 | 780 | 515 | 350 | 215 |



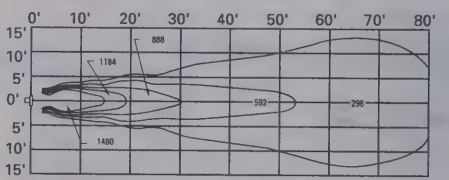

### CHART II

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M172<br>5M173<br>3XK78<br>3XK79 | 30 | 1140 | 810 | 530 | 365 | 220 |



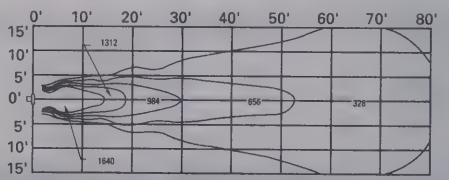

### CHART JJ

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M174<br>5M175<br>3XK74<br>3XK80 | 30 | 1725<br>1740<br>1725<br>1740 | 1160 | 760 | 520 | 315 |



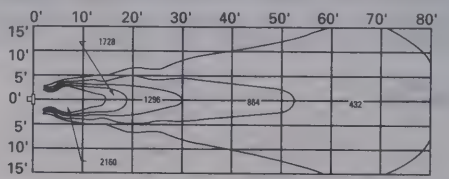

### CHART KK

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M176<br>5M177<br>3XK72<br>3XK81 | 36 | 1140<br>1155<br>1140<br>1155 | 1280 | 840 | 580 | 350 |




### CHART LL

| Stock No. | Fan Size, (In.) | Fan Speed | Air Penetration (FPM) Distance From Fan (Ft.) 20 | 40 | 60 | 80 |
|---|---|---|---|---|---|---|
| 5M178<br>3XK73 | 36 | 1150 | 1690 | 1110 | 760 | 460 |



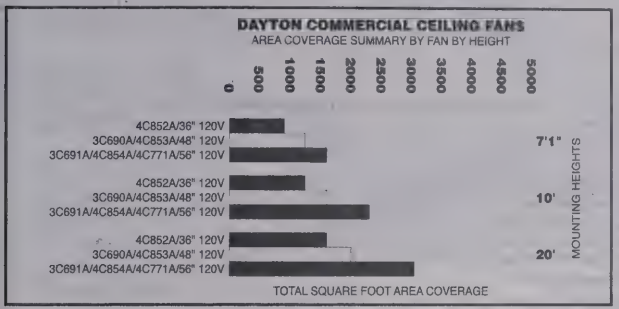


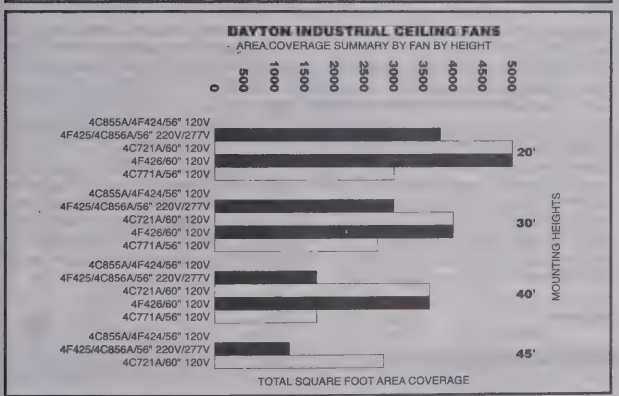

*However, wherever, you need to move air, we have the fans to do it.*

# SELECTION/PLACEMENT DATA AND ADJUSTABLE CONTROLS FOR DAYTON CEILING FANS



**Dayton Commercial/Industrial Ceiling Fans** have been independently tested for effective square foot coverages at various mounting heights. These ceiling fans can be used effectively in buildings with mounting heights up to 45 feet. Tables below and right provide data to help you choose and install Dayton fans.



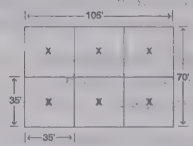




### SELECTION PROCEDURE:

Measure the total square foot area and ceiling height of the facility. Select an appropriate fan(s) by using the performance given in the tables at left and below. A practical example illustrated with a 48" fan is given below to demonstrate how the selection process works.

| Mounting Ht. From Floor To Fan Blades | COVERAGE IN SQUARE FEET 36" Fan 4C852 | 48" Fan 3C690, 4C853 | 56" Fan 3C691, 4C854 | 56" Fan 4C771 | 56" Fan 4F424, 4F425 4C855, 4C856 | 60" Fan 4C721 | 60" Fan 4F426 |
|---|---|---|---|---|---|---|---|
| 45' | — | — | — | — | 1225 | 2900 | — |
| 40 | — | — | — | 1800 | 1800 | 3600 | 3600 |
| 30 | — | — | — | 2800 | 3025 | 4000 | 4000 |
| 20 | 1600 | 2025 | 3025 | 3025 | 3800 | 5000 | 5000 |
| 10 | 1225 | 1600 | 2300 | 2300 | — | — | 3800 |
| 7'1" | 900 | 1225 | 1600 | 1600 | — | — | — |

### 48" COMMERCIAL CEILING FAN EXAMPLE:

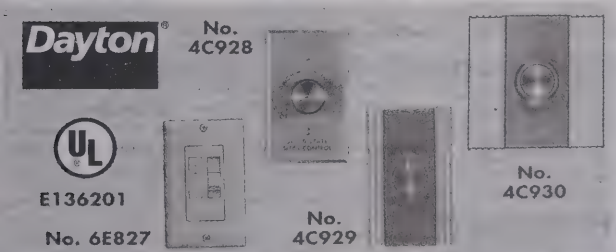



**FAN SELECTION:** Total area of commercial facility is 7350 square feet (105 ft. x 70 ft.). Mounting height from floor to fan blade is 10 ft. Total square foot area coverage for 48" (4C853) fan at 10 ft. mounting height is 1225. To calculate total number of fans needed for this facility, divide total area of facility by square foot area coverage; 7350 sq. ft. / 1225 sq. ft. per fan = 6 fans.

**FAN PLACEMENT:** Calculate square root of total fan square foot area coverage. Square root of 1225 is 35 ft.; or a 35 ft. x 35 ft. area. Fan placement should be as close to center of squared area as possible. Example illustration (above) indicates approximate location for six fans. In a completely open building, three 56" fans or twelve 36" fans at a 10 ft. mounting height could accomplish equivalent floor coverage. Consider air flow pattern obstacles, such as stacked merchandise, office partitions, etc., which may require different fan size and fan placement.

*For additional technical information and individual fan flow charts by mounting height, refer to Dayton Fan Literature 4S094.*

# ADJUSTABLE FAN CONTROLS




Use with Dayton Commercial/Industrial ceiling fans; all models fit single gang box. For single and multiple fan installations. Set speed anywhere in fan's minimum/maximum speed range. Solid state circuitry, large heavy-duty triacs, and metal heat sink plates for cool operation and long life. Hard plastic backing.

**1 amp noiseless speed control** for single fan use only. White hard plastic wall plate. Switch has "Off" and 3 preselected speed settings. For use with Nos. 4C853, 4C854, 4C855, and 4F424 only.

**3 amp controls** have finished metal strap mount with hard plastic backing to protect components and circuit board. Brushed aluminum wall plate has Off-High-Low speed settings with rotary dial.

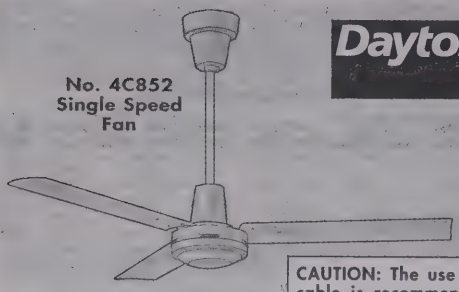
**8 and 12 amp controls** have adjustable trim. Heavy-duty insulated tab triacs give extra protection from electrical surges and add service life. Finned aluminum heat sink plate with gold finish and black trim with rotary dial.

**NOTE: When any solid state motor speed control is used, a humming noise will be present in fan on low speed. This hum in no way affects fan operation and is acceptable in most industrial installations. All wiring should conform to the National Electrical Code and local regulations.**

| Max. Amps | Volts 50/60 Hz | Maximum Number of Fans To Be Used On Each Control 4C852 36" Fan | 4C853 48" Fan | 4C854, 4C855 56" Fan | 4F424 56" Fan | 4F425 56" Fan | 4C856 56" Fan | 4C721 60" Fan | For Use Only with Ceiling Fan Stock Nos. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 120 | — | 1 | 1 | 1 | — | — | — | 4C853, 4C854, 4C855, 4F424 | **6E827** | $45.60 | **$27.35** | 0.4 |
| 3 | 120 | 3 | 2 | 2 | 2 | — | — | 1 | 4C852 thru 4C855, 4C721, 4F424 | **4C928** | 28.15 | **16.86** | 0.2 |
| 8 | 120 | 10 | 6 | 6 | 6 | — | — | 4 | 4C852 thru 4C855, 4C721, 4F424 | **4C929** | 77.29 | **46.30** | 0.8 |
| 12 | 120 | 12 | 10 | 10 | 10 | — | — | 8 | 4C852 thru 4C855, 4C721, 4F424 | **4C930** | 119.55 | **71.60** | 1.0 |
| 3 | 220 | — | — | — | — | 2 | — | — | 4F425 | **4C931** | 49.65 | **29.75** | 0.4 |
| 8 | 220 | — | — | — | — | 6 | — | — | 4F425 | **4C932** | 99.85 | **59.80** | 0.8 |
| 12 | 220 | — | — | — | — | 8 | — | — | 4F425 | **4C933** | 139.68 | **83.65** | 1.0 |
| 3 | 277 | — | — | — | — | — | 2 | — | 4C856 | **4C934** | 49.65 | **29.75** | 0.4 |
| 8 | 277 | — | — | — | — | — | 6 | — | 4C856 | **4C935** | 94.59 | **56.65** | 0.8 |
| 12 | 277 | — | — | — | — | — | 8 | — | 4C856 | **4C936** | 139.68 | **83.65** | 1.0 |

# COMMERCIAL CEILING FANS AND CEILING FAN GUARD

## 36, 48 AND 56" COMMERCIAL CEILING FANS



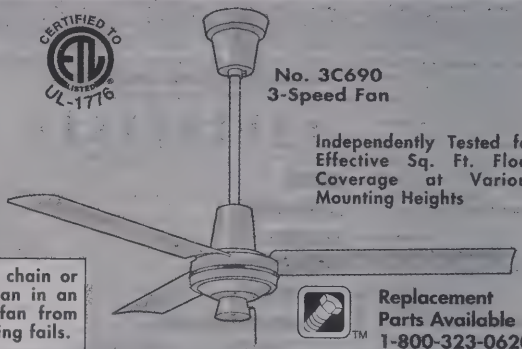
No. 4C852
Single Speed
Fan

Dayton®

UL® E136201

CERTIFIED TO ETL LISTED® UL-1776

ENERGY RIGHT®



No. 3C690
3-Speed Fan

Independently Tested for Effective Sq. Ft. Floor Coverage at Various Mounting Heights

**CAUTION:** The use of a secondary support chain or cable is recommended when installing a fan in an overhead location. This will prevent the fan from falling if accidentally struck or if the mounting fails.

Replacement Parts Available
1-800-323-0620

- **Produce maximum air delivery for summer cooling and winter heat destratification in large commercial areas**
- **For 7', 10', and 20' mounting heights. Shipped with secondary support cable**
- **Nos. 4C852, 4C853, and 4C854 are single speed fans**
- **Nos. 3C690 and 3C691 3-speed fans with pull chain operation. Upper and lower canopies are plastic**
- **Maximum operating temperature: 105°F**
- **Adjustable speed fan controls see page 3583 (3-Speed Fans Nos. 3C690 and 3C691 not for use with adjustable speed controls)**

**Commercial-duty fans** for use in classrooms, restaurants, hospitals, and indoor public facilities. Reclaim stratified heat from ceilings in winter and provide gentle cooling breeze in summer. **Fan blades** are balanced, contoured metal for wobble-free operation. Rolled edge blades comply with UL specifications for low ceiling applications (minimum 7 ft. blade-to-floor mounting height). White epoxy enamel finish. **Fans feature** direct-drive, 18-pole permanent split capacitor motors with permanently lubricated ball bearings and built-in self-resetting thermal overload protector. 8" and 24" long downrods of 7/8" OD steel pipe with 1/4" holes at both ends. Downrods and mounting hardware for wood or steel joist installation included. UL Listed (E136201). Dayton brand. See Selection and Placement Data on page 3583.

| Blade Dia. (In.) | CFM Air Delivery | Fan RPM | Volts | Hz | Full Load Watts | Full Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **COMMERCIAL CEILING FANS ORDERING DATA** | | | | | | | | | | |
| 36 | 12,500<br>11,700 | 395<br>370 | 120<br>120 | 60<br>50 | 75<br>63 | 0.65<br>0.55 | ✓4C852 | $166.98 | **$100.00** | 20.0 |
| 48 | 21,000<br>18,900 | 315<br>285 | 120<br>120 | 60<br>50 | 86<br>75 | 0.85<br>0.74 | ✓4C853 | 182.07 | **109.05** | 22.0 |
| 56 | 25,500<br>23,500 | 265<br>245 | 120<br>120 | 60<br>50 | 110<br>93 | 1.00<br>0.90 | ✓4C854 | 215.69 | **129.20** | 24.0 |
| **3-SPEED COMMERCIAL CEILING FANS ORDERING DATA** | | | | | | | | | | |
| 48 | 21000/11200/6200<br>18900/10575/5875 | 315/210/135<br>285/190/120 | 120 | 60<br>50 | 86/55/35<br>75/48/30 | 0.85/0.70/0.40<br>0.74/0.62/0.35 | ✓3C690 | $198.61 | **$118.95** | 23.0 |
| 56 | 25500/16830/9600<br>23500/16285/9380 | 265/195/130<br>245/175/120 | 120 | 60<br>50 | 110/80/62<br>96/72/54 | 1.00/0.74/0.60<br>0.90/0.65/0.52 | ✓3C691 | 232.12 | **139.00** | 26.0 |

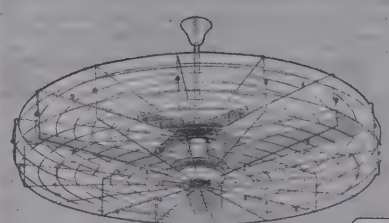
(✓) Denotes energy efficient product.

## CEILING FAN GUARD

- **Extra heavy-duty, totally enclosed ceiling fan guard for school gymnasiums, indoor arenas, and other public areas**
- **Totally enclosed for maximum fan protection**
- **Mounts directly to fan rod**
- **Easy to install**
- **Custom design prevents air flow interruptions**
- **Secondary support cable meets all proposed "secondary support" safety regulations for overhead air movement equipment**
- **Designed for use only with Dayton Industrial Ceiling Fan Stock Nos. 4C855, 4C856, 4C721, 4F424, and 4F425**

**Guard is 62" diameter** with twelve spoke cross bar construction. Spokes are 5 ga. on 3" centers. Heavy-duty two piece mounting brace is 16 ga. galvanized steel. Secondary support cable is 3/32" 7 x 7 galvanized aircraft cable with 920 lb. breaking strength. Dayton brand

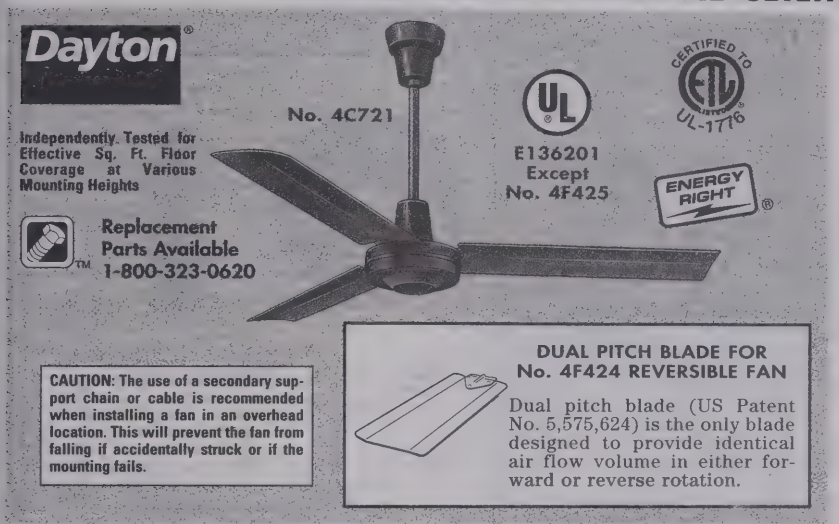
**No. 3C947.** Shpg. wt. 50.0 lbs. List $330.54. Each.....**$198.00**



Dayton®

Replacement Parts Available
1-800-323-0620

# 56 AND 60" INDUSTRIAL CEILING FANS




**DUAL PITCH BLADE FOR No. 4F424 REVERSIBLE FAN**

Dual pitch blade (US Patent No. 5,575,624) is the only blade designed to provide identical air flow volume in either forward or reverse rotation.

- **For mounting heights up to 45 feet**
- **Maintenance free, permanently lubricated ball bearings**
- **Maximum operating temp.: 105°F**
- **Shipped with secondary support cable**
- **For fan controls, see page 3583**
- **For selection on Placement Data see page 3583**

**Heavy-duty fans** for industrial applications in buildings with ceilings up to 45 feet high. Reclaim stratified heat from ceiling in winter and produce gentle cooling breezes in summer. **NOTE: Fans are not designed for continuous operation where high heat and high voltage are present.** Use appropriate speed control. 56 and 60" diameter metal fan blades are aerodynamically contoured and balanced for maximum air delivery and wobble-free operation.

**Single speed, direct drive.** 18 pole permanent split capacitor motor, permanently lubricated ball bearings, built-in self-resetting thermal overload protector. 277V fans for 480V, 3-phase, 4-wire WYE connected electrical service. Eliminate need to install step-down transformers. No. 4F424 is reversible. Has 15 amp reversing switch. For applications requiring reverse destratification, exhaust fan supplementing, or ridge vent exhausting. For ceiling heights not exceeding 40 ft. in backward position; 45 ft. in forward position.

**Heavy-duty plastic upper and lower canopies.** 24" downrod of 7/8" OD steel pipe with 1/4" holes at both ends. Mounting hardware for installions in buildings with wood or steel joists included (Minimum 10 ft. blade-to-floor mounting height). White epoxy enamel finish. UL Listed (E136201, except No. 4F425, which is ETL Listed). Dayton brand.

| Blade Dia. (In.) | Volts | CFM Air Delivery | Fan RPM | Hz | Full Load Watts | Full Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 56 | 120 | 27,500 | 275 | 60 | 110 | 1.00 | ✓4C855 | $221.13 | **$132.45** | 24.0 |
| | 120 | 24,475 | 255 | 50 | 93 | 0.90 | | | | |
| 56 | 120 | 27,500 | 275 | 60 | 110 | 1.00 | ✓4F424 | 233.37 | **139.75** | 24.0 |
| | 120 | 24,475 | 255 | 50 | 93 | 0.90 | | | | |
| 56 | 220 | 26,000 | 260 | 60 | 110 | 0.52 | ✓4F425 | 224.10 | **134.20** | 24.0 |
| | 220 | 25,000 | 250 | 50 | 93 | 0.44 | | | | |
| 56 | 277* | 26,000 | 260 | 60 | 110 | 0.60 | ✓4C856 | 227.79 | **136.40** | 24.0 |
| | 277* | 24,475 | 255 | 50 | 90 | 0.54 | | | | |
| 60 | 120 | 46,000 | 315 | 60 | 160 | 1.40 | ✓4C721 | 294.19 | **176.25** | 31.0 |
| | 120 | 43,700 | 300 | 50 | 130 | 1.15 | | | | |

(*) Not recommended for 208 Volts. (✓) Denotes energy efficient product.

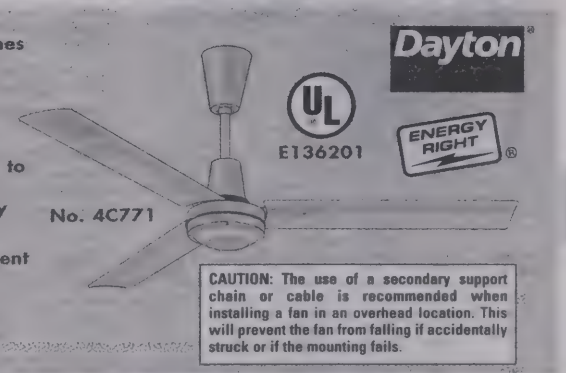
# 56 AND 60" MOISTURE-RESISTANT CEILING FANS

For use in food processing plants, exposed shipping areas, indoor swimming pools, mills, rubber processing, and abrasives manufacturing areas. Use in environments having a high content of dirt, dust, contaminants, and moisture. Max. operatiing temperature: 105°F. Balanced, contoured metal fan blades for wobble-free performance. Both fans have rolled edge blades.No. 4C771 complies with UL specifications; minimum 7 ft. blade-to-floor mounting height.

**Single speed, direct drive.** 18-pole permanent split capacitor motor, totally enclosed neoprene sealed ball bearings and built-in, self-resetting thermal overload protector. 120V, 50/60 Hz. Motor and blades have corrosion resistant oxyplast epoxy powder paint electrostatically applied undercoat. White Ipcokote epoxy paint finish coat. Neoprene shielded upper and lower canopies and downrod seals. 18" long 18/3 SJT cord and molded plug. Pre-assembled on 12" long downrod of 7/8" OD steel pipe with 1/4" holes at both ends. UL Listed (E136201). Dayton brand.

- **Helps control moisture, mildew, smog, and fumes as well as temperature**
- **Epoxy paint finish and neoprene seals protect against moisture and corrosion**
- **For mounting heights 7 to 40 feet**
- **Shipped with secondary support cable**

**See Selection and Placement Data on page 3583**




| Blade Dia. (In.) | CFM Air Delivery | Fan RPM | Volts | Hz | Full Load Watts | Full Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 56 | 25,500 | 265 | 120 | 60 | 110 | 1.00 | ✓4C771 | $261.14 | **$156.50** | 24.0 |
| | 23,500 | 245 | 120 | 50 | 93 | 0.90 | | | | |
| 60 | 41,000 | 280 | 120 | 60 | 160 | 1.40 | ✓4F426 | 392.92 | **235.50** | 34.0 |
| | 39,000 | 265 | 120 | 50 | 130 | 1.15 | | | | |

(✓) Denotes energy efficient product.

# CORROSION RESISTANT SHUTTER FANS AND HAZARDOUS LOCATION EXHAUST FANS

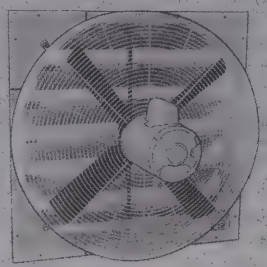
## CORROSION RESISTANT SHUTTER FANS

- **Industrial grade fans designed for use in corrosive atmospheres found in chemical plants, manufacturing facilities, poultry operations, and swine confinement operations**
- **Fiberglass shutter and fiberglass reinforced polypropylene fan blades resist fumes from ammonia, carbon dioxide, and hydrogen sulfide**
- **Stainless steel pivots and fan hardware**
- **Epoxy coated wire guards comply with OSHA regulations**
- **115V, totally enclosed, epoxy coated motors (not speed controllable)**
- **Air deliveries based on AMCA test codes**
- **Shipped completely assembled and ready to install**

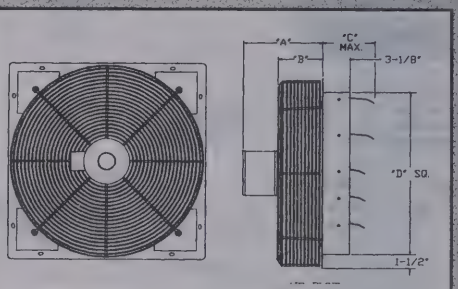
Corrosion resistant shutter fans can handle many applications containing non-explosive or non-hazardous concentrations of acetic acid, ammonia, carbon tetrachloride, detergent, dimenthyl formamide, hydrochloric acid, methylene chloride, mineral oil, nitric acid, phosphoric acid, sodium chloride, sodium hydroxide, and sulfuric acid. Not designed for laboratory hood exhausts. Not speed controllable.

Dayton®

*Guarding Complies with OSHA Regulations*



No. 5C529

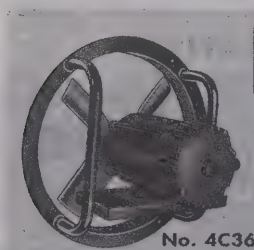



| Blade Dia. (In.) | Dimensions (In.) A | B | C | D |
|---|---|---|---|---|
| 10 | 8 | 3¼ | 5¼ | 10 |
| 12 | 8¾ | 3¼ | 6½ | 12 |
| 16 | 8¾ | 3¼ | 6½ | 16 |
| 18 | 12 | 4½ | 6½ | 18 |
| 20 | 11½ | 4 | 6½ | 20 |
| 24 | 11¾ | 4 | 6½ | 24 |

Replacement Parts Available™ 1-800-323-0620

| Propeller Dia. (In.) | CFM Air Delivery 0.0" SP | 0.125" SP | RPM | Motor HP | Full-Load Amps | Square Opening Required (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 500 | — | 1550 | 1/20 | 1.9 | 10½ | **5C529** | $475.74 | **$285.00** | 16.0 |
| **12** | 1050 | — | 1625 | 1/8 | 1.9 | 13 | **5C530** | 490.60 | **294.00** | 18.0 |
| **16** | 1950 | — | 1625 | 1/6 | 2.1 | 17 | **5C531** | 580.60 | **347.75** | 24.0 |
| **18** | 2700 | 1500 | 1075 | 1/4 | 4.1 | 19 | **5C532** | 626.12 | **375.00** | 25.0 |
| **20** | 3700 | 2000 | 1075 | 1/3 | 4.9 | 21 | **5C533** | 689.96 | **413.25** | 40.0 |
| **24** | 4960 | 4100 | 1075 | 1/2 | 6.7 | 25 | **5C534** | 995.23 | **596.00** | 54.0 |

## HAZARDOUS LOCATION EXHAUST FANS



Dayton®

No. 4C369

- **For heavy duty ventilation of atmospheres containing flammable or explosive vapors, gases, or dusts (per NEC 500).**
- **Motors are 115 VAC, 60 HZ (4C371& 3C772: 115/230 VAC, single-phase I, group D and class II, groups E, F, & G applications.**
- **Spark resistant cast aluminum fan blades**
- **Fans have a heavy steel circular frame with ample mounting holes & a fixed position motor base attached to rigid tubular supports.**
- **Air deliveries are based on AMCA test standards for exhaust systems.**
- **All units have 4-blade propellers except 3C772: 6-blade**
- **Note: Consult local ventilation or fire inspector for local code requirements**
- **Note: Units are not for use where motor or blades will accumulate paint residue**
- **Note: OSHA complying guards are strongly recommended when fan blades are exposed and within reach of Personnel.**

| Blade Dia. (In.) | CFM Air Delivery 0.0" SP | 0.125" SP | 0.25" SP | 0.375" SP | RPM | Motor HP | Full Load Amps | Outside Dimension (In.) | Venturi Clearance Dia. (In.) | Intake Guard † | Aluminum Wall Shutter † | Stock No. † | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12** | 855 | 645 | 330 | 175 | 1725 | ¼ | 4.5 | 16¼ | 13½ | 6D582 | 4C556 | **4C020** | **$410.50** | 39.0 |
| **16** | 2000 | 1640 | 1260 | 750 | 1725 | ¼ | 4.5 | 20¼ | 17½ | 6D583 | 4C557 | **4C369** | **444.00** | 42.0 |
| **18** | 2210 | 1810 | 1300 | 800 | 1725 | ¼ | 4.5 | 22¼ | 19½ | 6D584 | 4C558 | **4C370** | **467.25** | 43.0 |
| **20** | 2475 | 1860 | 1350 | 850 | 1725 | ¼ | 4.5 | 24½ | 21½ | 6D585 | 4C559 | **2C963** | **480.50** | 45.0 |
| **24** | 3535 | 2520 | 1720 | 1000 | 1725 | ⅓ | 6.4 | 28¼ | 25½ | 6D586 | 3C308 | **2C856** | **598.00** | 47.0 |
| **24*** | 4265 | 3320 | 2480 | 2200 | 1725 | ½ | 9.0/4.5 | 28¼ | 25½ | 6D586 | 3C308 | **4C371** | **680.00** | 50.0 |
| **30*** | 7185 | 6000 | 5000 | 3500 | 1140 | ¾ | 9.6/4.8 | 33½ | 30½ | 6D586 | 3C309 | **3C772** | **751.50** | 48.0 |

(*) Units are 115/230 VAC. (†) Electrically ground all components in Haz Loc system.



### CONDUIT BOX for HAZARDOUS LOCATION FAN MOTORS

For use on Dayton brand hazardous location fan motors above. Has hole for self-tapping grounding screw. Easily installed. UL Listed. Gray finish.

**No. 4X788.** Shpg. wt. 1.6 lbs. List.....$34.00. Each.....**$29.90**



*However, wherever, you need to move air, we have the fans to do it.*

# SHUTTER-MOUNTED EXHAUST FANS

- **Efficient, easy-to-install exhaust fans with automatic shutters**
- **7 to 24" diameter fans have aluminum propellers; 30 and 36" fans have galvanized steel propellers**
- **Two-speed units require No. 2X605 two-speed switch (not included) All other units not speed controllable**
- **Air deliveries based on AMCA test standards**
- **All models have wire guards to comply with OSHA regulations**
- **Totally enclosed, sleeve or ball bearing 115V, 60 Hz motors**
- **Shipped completely assembled**
- **See page 3583 for sizing assistance**

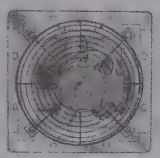
**These fans are widely used** for ventilating stores, offices, factories, shops, and farm buildings.

**Heavy-duty guards** have gray metallic vinyl polyester coating to resist corrosion. Mounting holes in shutter frame allow easier installation.

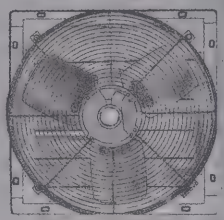
Dayton®

Guarding Complies with OSHA Regulations

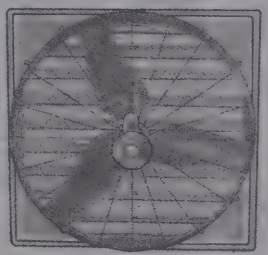
Replacement Parts Available 1-800-323-0620™



No. 2C634
7" Dia.
Utility Exhaust Fan



No. 4C357
18" Dia.
High Volume
Exhaust Fan



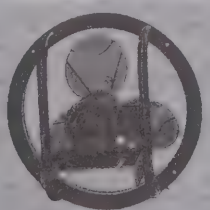
No. 5C196
36" Dia.
High Volume
Exhaust Fan

| Propeller Dia. (In.) | CFM Air Delivery 0.0" SP | CFM Air Delivery 0.125" SP | Motor RPM | Motor HP | Full-Load Amps | Sones® 5 Ft. 0" SP | Square Panel Size (In.) | Square Opening Required (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **UTILITY EXHAUST FANS, TOTALLY ENCLOSED SHADED POLE SLEEVE BEARING MOTORS** | | | | | | | | | | | | |
| **7** | 120 | — | 1550 | 1/30 | 1.0 | 4.2 | 11⅛ | 8½ | **2C634** | $152.02 | **$93.80** | 9.0 |
| **10** | 580 | — | 1550 | 1/30 | 1.0 | 6.3 | 13⅛ | 10½ | **2C819** | 169.39 | **104.50** | 10.0 |
| **12** | 775 | — | 1550 | 1/30 | 1.0 | 5.5 | 15⅛ | 13 | **2C710** | 186.92 | **115.35** | 12.0 |
| **16** | 975 | — | 1550 | 1/20 | 1.8 | 9.2 | 19⅛ | 17 | **2C713** | 245.21 | **151.50** | 19.0 |
| **18** | 1825 | — | 1075 | 1/15 | 1.2 | 6.4 | 21⅛ | 18½ | **2C708** | 321.66 | **198.75** | 28.0 |
| **HIGH-VOLUME EXHAUST FANS, ENCLOSED PSC AND SPLIT PHASE SLEEVE BEARING MOTORS** | | | | | | | | | | | | |
| **18** | 2885 | 2400 | 1725 | 1/4 | 4.5 | 16.1 | 21⅛ | 19 | **4C357** | 431.90 | **266.75** | 34.0 |
| **20** | 3030 | 2350 | 1725 | 1/4 | 4.5 | 12.5 | 23⅛ | 21 | **2C342** | 444.24 | **274.25** | 37.0 |
| | 3125/2800 | 2500/2100 | 1075/2-speed | 1/4 | 4.0 | 9.8 | 23⅛ | 21 | **2C675** | 492.79 | **304.25** | 37.0 |
| | 3615 | 3025 | 1725 | 1/3 | 4.8 | 13.7 | 23⅛ | 21 | **2C785** | 485.96 | **299.75** | 40.0 |
| **24** | 3530 | 2650 | 1075 | 1/4 | 4.0 | 9.5 | 27⅛ | 25 | **4C358** | 517.43 | **319.50** | 43.0 |
| | 4215 | 3275 | 1075 | 1/3 | 5.3 | 10.9 | 27⅛ | 25 | **4C359** | 559.14 | **345.25** | 47.0 |
| | 4215/3940 | 3275/3000 | 1075/2-speed | 1/3 | 5.3 | 11.2 | 27⅛ | 25 | **4C360** | 611.51 | **377.25** | 48.0 |
| **HIGH-VOLUME EXHAUST FANS, ENCLOSED BALL-BEARING MOTORS** | | | | | | | | | | | | |
| **20** | 3030 | 2350 | 1725 | 1/4 | 4.3 | 12.5 | 23⅛ | 21 | **4C268** | 491.50 | **303.50** | 37.0 |
| **24** | 3530 | 2650 | 1075 | 1/4 | 4.0 | 9.5 | 27⅛ | 25 | **4C269** | 545.54 | **336.75** | 43.0 |
| **30** | 6020 | 4400 | 825 | 1/3 | 4.5 | 11.5 | 33⅛ | 31 | **5C195** | 700.03 | **432.00** | 54.0 |
| **36** | 8000 | 6200 | 825 | 1/2 | 6.4 | 12.1 | 39⅛ | 37 | **5C196** | 802.58 | **495.25** | 64.0 |

# 6 to 12" DIAMETER RING FANS

Dayton®

No. 2C100



Replacement Parts Available 1-800-323-0620™

- **For exhausting and cooling operations**
- **Totally enclosed, shaded pole, 115V, 60 Hz motor**
- **Galvanized steel ring on No.'s 2X221, 4C107, and 2C107; heavy gauge steel angel frame with baked on gray polyester finish**
- **Fan No.'s 2C221 and 4C107 have wiring junction box and 12" leads; No's 2C107 and 2C100 have wiring junction box and 6" leads**

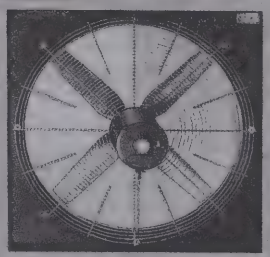
| Propeller Dia. (In.) | CFM @ 0.0" SP | HP | Full-Load Amps | Motor Enclosure | Junction Box | Mtg. Holes OC (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 150 | 1/100 | 0.73 | TE | No | 11⅜ | **2C221** | $80.34 | **$49.60** | 3.3 |
| **9** | 290 | 1/70 | 0.70 | TE | No | 11¼ | **4C107** | 92.25 | **56.95** | 4.7 |
| **12** | 665 | 1/30 | 1.20 | TE | Yes | 13⅞ | **2C107** | 109.44 | **67.55** | 6.5 |
| **12** | 1075 | 1/20 | 1.50 | TE | Yes | 14⅝ | **2C100** | 219.27 | **135.30** | 16.0 |

# HEAVY-DUTY, MEDIUM-DUTY, AND GUARD-MOUNTED EXHAUST FANS

## 16 TO 24" HEAVY-DUTY EXHAUST FANS

Dayton®

Guarding Complies with OSHA Regulations



No. 4C163

Replacement Parts Available 1-800-323-0620™

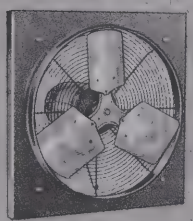
- For general ventilation in dusty, dirty, grease or moisture laden environments
- For medium pressure application up to 0.5 in static pressure
- Totally enclosed, 1725 RPM, 115 V, 60 Hz, split phase motor
- Cast aluminum blade propeller for corrosion resistance
- Steel wire intake guards comply with OSHA regulations
- Wire guard and venturi panel have baked-on gray polyester finish to help resist corrosion
- Air deliveries based on AMCA test standards
- Shipped completely assembled

| Propeller Dia. (In.) | CFM Air Delivery 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | Nominal RPM | HP | Full-Load Amps | Square Panel Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 2720 | 2275 | 1820 | 1390 | 1075 | 1725 | 1/4 | 4.5 | 20 | 4C163 | $425.86 | $255.25 | 26.0 |
| 18 | 2905 | 2500 | 2085 | 1670 | 1295 | 1725 | 1/4 | 4.5 | 22 | 4C164 | 452.98 | 271.50 | 29.0 |
| 20 | 3020 | 2620 | 2100 | 1640 | 1290 | 1725 | 1/4 | 4.5 | 24 | 4C367 | 504.27 | 302.00 | 29.0 |
| | 3620 | 3110 | 2630 | 2155 | 1720 | 1725 | 1/3 | 4.8 | 24 | 4C127 | 553.28 | 331.50 | 34.0 |
| | 4700 | 4055 | 3430 | 2900 | 2350 | 1725 | 1/2 | 6.6 | 24 | 4C165 | 646.55 | 387.25 | 40.0 |
| 24 | 4035 | 3430 | 2960 | 2335 | 1705 | 1725 | 1/3 | 4.8 | 28 | 4C059 | 602.29 | 360.75 | 41.0 |
| | 5480 | 4965 | 4450 | 3895 | 3135 | 1725 | 1/2 | 6.6 | 28 | 4C167 | 686.35 | 411.00 | 45.0 |

## 12 TO 24" MEDIUM-DUTY EXHAUST FANS

Dayton®

Guarding Complies with OSHA Regulations



No. 4C361

Replacement Parts Available 1-800-323-0620™

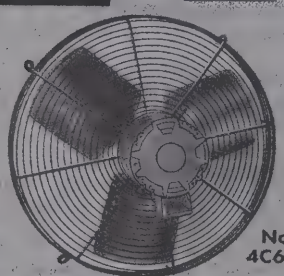
- For general ventilation in dusty, dirty, grease or moisture laden environments
- For low pressure application up to 0.25 in. static pressure
- Totally enclosed, sleeve bearing, 115 V, 60 Hz motor
- Steel wire intake guards comply with OSHA regulations
- Wire guard and venturi panel have baked-on gray polyester finish to help resist corrosion
- Air deliveries based on AMCA test standards
- Shipped completely assembled
- Two speed units require DPDT switch No. 2X605 (not included)
- Automatic shutter is recommended; see index under Shutters, fan

| Propeller Dia. (In.) | CFM Air Delivery 0.0" SP | 0.125" SP | 0.250" SP | Nominal RPM | HP | Full Load Amps | Square Panel Size (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 815 | — | — | 1550 | 1/30 | 1.0 | 16 | 4C361 | $164.77 | $105.75 | 12.0 |
| 16 | 960 | — | — | 1550 | 1/30 | 1.8 | 20 | 4C007 | 216.09 | 134.60 | 17.0 |
| 18 | 3150 | 2900 | 2645 | 1725 | 1/4 | 4.5 | 22 | 4C362 | 369.77 | 237.50 | 28.0 |
| 20 | 3105 | 2725 | 2500 | 1725 | 1/4 | 4.5 | 24 | 4C009 | 394.03 | 245.75 | 30.0 |
| | 3465-3315 | 2915-2645 | 2200-1600 | 1075/2-spd | 1/4 | 4.0 | 24 | 4C010 | 440.01 | 274.25 | 32.0 |
| 24 | 4425 | 3950 | 3350 | 1075 | 1/3 | 5.3 | 28 | 4C363 | 479.55 | 308.00 | 41.0 |
| | 4425-4150 | 3950-3570 | 3350-2785 | 1075/2-spd | 1/3 | 5.3 | 28 | 4C364 | 522.99 | 336.00 | 41.0 |

## 7 TO 24" GUARD-MOUNTED EXHAUST FANS

Dayton®

Guarding Complies with OSHA Regulations



No. 4C650

Replacement Parts Available 1-800-323-0620™

- For low pressure application up to 0.125 in. static pressure
- For vertical or horizontal mounting
- Four mounting loops make installation easy
- Steel wire intake guards comply with OSHA regulations
- Deep pitch aluminum propeller
- Totally enclosed, 115V, 60 Hz motor
- Air deliveries based on AMCA test standards
- Wire guard has baked-on gray polyester finish to help resist corrosion
- Mounting screws included
- Automatic shutter is recommended; see index under Shutters, Fan

| Prop. Dia. (In.) | CFM Air Delivery 0.0" SP | 0.125" SP | Nominal RPM | HP | Full-Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 175 | — | 1550 | 1/30 | 1.0 | 4C650 | $116.69 | $72.00 | 6.1 |
| 10 | 520 | — | 1550 | 1/30 | 1.0 | 4C658 | 129.55 | 79.95 | 6.0 |
| 12 | 700 | — | 1550 | 1/30 | 1.0 | 2C791 | 136.95 | 82.05 | 8.1 |
| 16 | 885 | — | 1550 | 1/20 | 1.8 | 2C792 | 179.50 | 107.50 | 13.0 |
| 18 | 2685 | 1900 | 1725 | 1/4 | 4.5 | 4C365 | 316.13 | 195.25 | 25.0 |
| 20 | 3010 | 1850 | 1725 | 1/4 | 4.5 | 2C794 | 319.10 | 191.25 | 27.0 |
| 24 | 4080 | 2900 | 1075 | 1/3 | 5.3 | 4C366 | 408.89 | 252.50 | 34.0 |



*However, wherever, you need to move air, we have the fans to do it.*

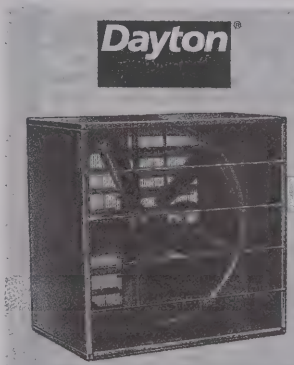
# WALL MOUNT CABINET FANS AND INTAKE GUARDS FOR EXHAUST FANS

## WALL MOUNT CABINET FANS

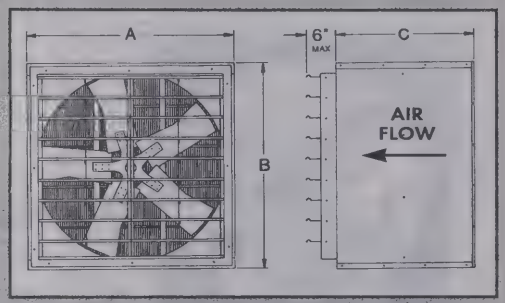
- Fully assembled fans include shutter and OSHA guard
- Mounting brackets included
- All galvanized steel construction
- TEAO ball bearing motors
- Variable pitch sheaves allow for fan speed & performance reductions of 25%
- Maximum inlet temperature is 120°F

Belt-drive propeller exhaust fans come fully assembled and ready for wall mount installations. Used for industrial, commercial, and agricultural buildings.

Replacement Parts Available 1-800-323-0620




No. 6D571



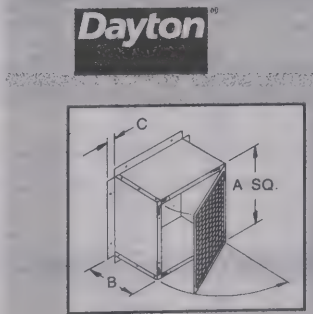

| Propeller Dia. (In.) | CFM Air Delivery 0.0" SP | 0.125" SP | 0.250" SP | Fan RPM | Motor HP | Volts | Phase | Full Load Amps | Dimensions (In.) A | B | C | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 5300 | 4150 | 3100 | 800 | 1/2 | 115/230 | 1 | 7.0/3.5 | 28 1/8 | 28 1/4 | 24 1/4 | **6D571** | $1304.88 | **$797.50** | 123.0 |
| | 6125 | 5200 | 4350 | 920 | 3/4 | 208-220/440 | 3 | 2.8-2.7/1.4 | 28 1/4 | 28 1/4 | 24 1/4 | **6D572** | 1464.66 | **895.00** | 123.0 |
| 30 | 8500 | 7200 | 5000 | 680 | 3/4 | 115/230 | 1 | 9.8/4.9 | 34 1/4 | 34 1/4 | 25 1/4 | **6D573** | 1525.64 | **932.50** | 176.0 |
| | 9475 | 8275 | 7000 | 750 | 1 | 208-220/440 | 3 | 3.4-3.4/1.7 | 34 1/4 | 34 1/4 | 25 1/4 | **6D574** | 1554.29 | **949.50** | 176.0 |
| 36 | 12650 | 10500 | 7450 | 585 | 1 | 115/230 | 1 | 10.3/5.15 | 40 1/4 | 40 1/4 | 26 1/4 | **6D575** | 1666.15 | **1018.00** | 196.0 |
| | 14500 | 12580 | 10150 | 677 | 1 1/2 | 208-220/440 | 3 | 4.9-4.8/2.4 | 40 1/4 | 40 1/4 | 26 1/4 | **6D576** | 1727.68 | **1056.00** | 196.0 |
| 42 | 14700 | 10685 | 6300 | 445 | 1 | 115/230 | 1 | 10.3/5.15 | 46 1/4 | 46 1/4 | 28 1/4 | **6D577** | 2113.13 | **1292.00** | 242.0 |
| | 17590 | 14725 | 10800 | 530 | 1 1/2 | 208-220/440 | 3 | 4.9-4.8/2.4 | 46 1/4 | 46 1/4 | 28 1/4 | **6D578** | 2113.22 | **1292.00** | 242.0 |
| 48 | 18200 | 11850 | 4150 | 378 | 1 | 115/230 | 1 | 10.3/5.15 | 54 1/8 | 54 1/8 | 28 1/4 | **6D579** | 2385.16 | **1458.00** | 288.0 |
| | 23380 | 19400 | 13050 | 480 | 2 | 208-220/440 | 3 | 6.1-6.0/3.0 | 54 1/4 | 54 1/4 | 28 1/4 | **6D580** | 2454.83 | **1501.00** | 288.0 |

(*) Air performance shown with guard and shutter installed.

## INTAKE GUARDS FOR EXHAUST FANS

- Intake guards comply with OSHA regulations
- Screens are hinged and removable for easy access
- 20-Gauge galvanized steel construction
- For direct and belt-drive propeller fans
- Shipped knocked down with assembly hardware included

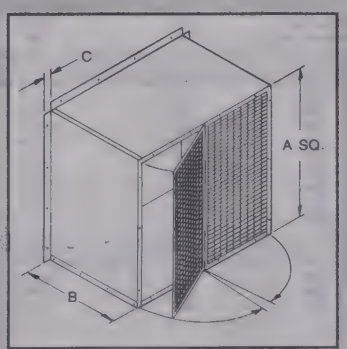
**WARNING!** OSHA complying guards are required when fan is installed within 7 ft. of floor, working level or within reach of personnel. Review OSHA Codes.




Replacement Parts Available 1-800-323-0620

Double Screen

Single Screen




### SINGLE SCREEN INTAKE GUARDS

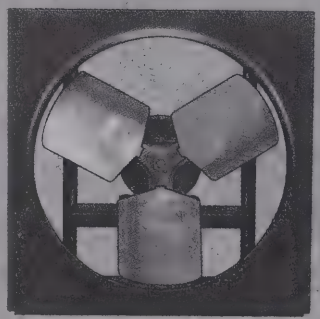
| Fan Size (In.) | Dimensions (In.) A | B | C | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 12 | 16 1/8 | 13 | 1 1/4 | **6D581** | $125.94 | **$77.00** | 13.0 |
| 16 | 20 1/8 | 13 | 1 1/4 | **6D582** | 135.72 | **82.95** | 15.0 |
| 18 | 22 1/8 | 13 | 1 1/4 | **6D583** | 145.75 | **89.05** | 17.0 |
| 20 | 24 1/8 | 14 | 1 1/4 | **6D584** | 156.04 | **95.35** | 19.0 |
| 24 | 28 1/8 | 20 | 1 1/4 | **6D585** | 231.59 | **141.50** | 35.0 |
| 30 | 34 1/8 | 20 | 1 1/4 | **6D586** | 278.40 | **170.25** | 39.0 |

### DOUBLE SCREEN INTAKE GUARDS

| Fan Size (In.) | Dimensions (In.) A | B | C | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 36 | 40 1/8 | 27 | 2 | **6D587** | $338.74 | **$207.00** | 61.0 |
| 42 | 46 1/8 | 30 | 2 | **6D588** | 465.17 | **284.25** | 61.0 |
| 48 | 54 1/8 | 32 | 2 | **6D589** | 629.10 | **384.50** | 120.0 |
| 54 | 60 1/4 | 34 | 2 | **6D590** | 753.79 | **460.75** | 155.0 |
| 60 | 66 1/4 | 37 | 2 | **6D591** | 832.74 | **509.00** | 167.0 |

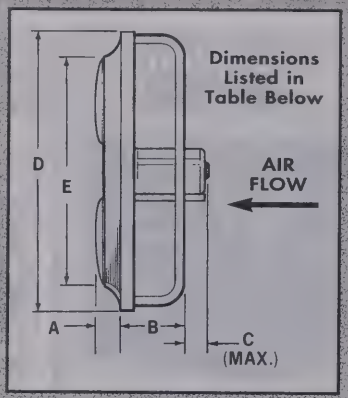
# ALUMINUM BLADE VENTURI FANS

Dayton®



No. 3XK45

Replacement Parts Available
1-800-323-0620




**WARNING:**
Review OSHA codes; OSHA-complying guards are required when fan blades are exposed and within reach of personel.

- For efficient, economical ventilation in industrial/commercial applications
- Fans shipped assembled
- Stamped aluminum fan blades
- Air deliveries based on AMCA test standards
- Heavy-duty venturi panel, fixed position motor base with rigid tubular supports
- Single speed 115/230V, single phase or 208/220-440V, three phase , 60 Hz totally enclosed motors
- See Page 3583 for sizing assistance

See Index under Shutters, Fan for complete description of recommended automatic wall shutters.

## STAMPED ALUMINUM BLADE VENTURI FAN DIMENSIONS

| Propeller Diameter, (In.) | Dimensions, (In.) A | B | C | D | E | Recommended Intake Guards Stock No. | Recommended Wall Shutters Stock No. | Each |
|---|---|---|---|---|---|---|---|---|
| 12 | 2 1/2 | 8 1/2 | 2 | 16 1/8 | 12 3/8 | 6D581 | 1C742 | $18.90 |
| 16 | 2 1/2 | 8 1/2 | 1 1/2 | 20 1/8 | 16 3/4 | 6D582 | 1C743 | 24.51 |
| 18 | 2 1/2 | 8 1/2 | 2 | 22 1/8 | 18 3/4 | 6D583 | 1C744 | 26.20 |
| 20 | 2 3/4 | 8 1/2 | 1 1/2 | 24 1/8 | 20 3/4 | 6D584 | 1C745 | 29.45 |
| 24 | 3 1/4 | 8 1/2 | 2 | 28 1/8 | 24 3/4 | 6D585 | 1C746 | 35.55 |
| 30 | 4 | 8 1/2 | 2 | 34 1/8 | 30 3/4 | 6D586 | 1C055 | 42.50 |

## STAMPED ALUMINUM BLADE VENTURI FAN PERFORMANCE AND ORDERING DATA

| Propeller Diameter, (In.) | CFM Air Delivery 0.0" SP | 0.125" SP | 0.250" SP | HP | Motor RPM | Full Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **115/230V, 60 Hz SINGLE PHASE** | | | | | | | | | | |
| 12 | 1455 | 1315 | 1035 | 1/4 | 1725 | 4.9 | 3XK45 | $392.05 | $263.00 | 26.0 |
| 16 | 2570 | 2435 | 2240 | 1/4 | 1725 | 5.1 | 3XK40 | 405.91 | 272.25 | 29.0 |
| 18 | 3050 | 2870 | 2640 | 1/4 | 1725 | 5.0 | 3XK41 | 428.47 | 287.25 | 30.0 |
| 18 | 3445 | 3220 | 2950 | 1/3 | 1725 | 6.2 | 3XK46 | 393.74 | 284.25 | 34.0 |
| 20 | 3685 | 3395 | 3065 | 1/3 | 1725 | 6.2 | 3XK42 | 400.66 | 302.00 | 38.0 |
| 20 | 4255 | 4025 | 3780 | 1/2 | 1725 | 8.4 | 3XK47 | 473.51 | 329.50 | 42.0 |
| 24 | 4070 | 3565 | 2860 | 1/3 | 1725 | 6.8 | 3XK49 | 426.69 | 318.00 | 39.0 |
| 24 | 4840 | 4405 | 3985 | 1/2 | 1725 | 8.5 | 3XK44 | 496.05 | 350.75 | 46.0 |
| 30 | 8560 | 7995 | 7280 | 3/4 | 1075 | 6.9 | 3XK65 | 622.66 | 417.25 | 56.0 |
| **208-220/440V, 60 Hz, 3-PHASE** | | | | | | | | | | |
| 20 | 4170 | 3975 | 3725 | 1/2 | 1725 | 1.7 | 3XK48 | 463.16 | 321.00 | 36.0 |
| 24 | 5235 | 4905 | 4575 | 1/2 | 1725 | 2.0 | 3XK39 | 487.45 | 349.25 | 40.0 |
| 30 | 8690 | 8115 | 7465 | 3/4 | 1075 | 3.0 | 3XK43 | 594.93 | 416.50 | 55.0 |

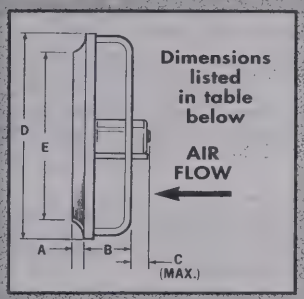
**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

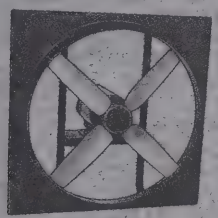
Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.

# CAST ALUMINUM BLADE VENTURI FANS
# HAZARDOUS LOCATION PANEL FANS

## CAST ALUMINUM BLADE VENTURI FANS

Dayton®



No. 3XK60

Illustrated completely assembled; shipped as separate components

**WARNING:** Review OSHA codes; OSHA-complying guards are strongly recommended when fan blades are exposed and within reach of personnel.

- For efficient, economical ventilation in industrial/commercial applications.
- Heavy-duty venturi panel with a fixed position motor base and rigid tubular supports.
- Air deliveries based on AMCA test standards
- Single speed 60HZ, 115/230 VAC single-phase totally enclosed & hazardous location; or 208/220-440 VAC three-phase totally enclosed motors.
- See page 3583 for sizing assistance

| Propeller Dia. (In.) | Dimensions (In.) A | B | C | D | E | Venturi Clearance Dia. (In.) | Intake Guards Stock No. | Aluminum Wall Shutters Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CAST ALUMINUM BLADE VENTURI FAN DIMENSIONS** | | | | | | | | | | |
| **12** | 1⅝ | 8½ | 2½ | 16⅛ | 12¾ | 14 | 6D581 | **4C556** | **$22.88** | 3.8 |
| **16** | 1⅝ | 8½ | 2½ | 20⅛ | 16¾ | 18 | 6D582 | **4C557** | **29.65** | 5.3 |
| **18** | 1¾ | 8½ | 2⅝ | 22⅛ | 18¾ | 20 | 6D583 | **4C558** | **33.30** | 6.4 |
| **20** | 2 | 8½ | 3⅛ | 24⅛ | 20¾ | 22 | 6D584 | **4C559** | **35.65** | 7.4 |
| **24** | 2 | 8½ | 3¼ | 28⅛ | 23¾ | 26 | 6D585 | **3C308** | **42.90** | 9.5 |
| **30** | 2 | 8½ | 2 | 34⅛ | 30¾ | 32 | 6D586 | **3C309** | **50.90** | 13.0 |

| Propeller Dia. (In.) | CFM Air Delivery 0.0" SP | 0.125" SP | 0.250" SP | RPM | HP | Full Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CAST ALUMINUM BLADE VENTURI FAN ORDERING DATA** | | | | | | | | | | |
| **SINGLE-PHASE VENTURI FAN ORDERING DATA** | | | | | | | | | | |
| **12** | 1130 | 895 | 625 | 1725 | 1/4 | 5.0 | **3XK50** | $469.30 | **$314.50** | 27.0 |
| **16** | 2645 | 2285 | 1835 | 1725 | 1/4 | 5.2 | **3XK52** | 488.77 | **327.75** | 32.0 |
| **18** | 3340 | 2975 | 2510 | 1725 | 1/3 | 6.6 | **3XK54** | 478.74 | **329.25** | 40.0 |
| **20** | 4460 | 4020 | 3440 | 1725 | 1/2 | 8.7 | **3XK57** | 558.57 | **396.50** | 46.0 |
| **24** | 5825 | 5260 | 4640 | 1725 | 1/2 | 8.7 | **3XK60** | 574.63 | **415.00** | 48.0 |
| **24** | 6345 | 5805 | 5245 | 1725 | 3/4 | 9.9 | **3XK62** | 627.14 | **442.75** | 49.0 |
| **30** | 9560 | 8040 | 5270 | 1725 | 3/4 | 7.2 | **3XK66** | 837.87 | **561.50** | 57.0 |
| **THREE-PHASE VENTURI FAN ORDERING DATA** | | | | | | | | | | |
| **16** | 2655 | 2280 | 1820 | 1725 | 1/4 | 1.4 | **3XK53** | 467.38 | **313.25** | 43.0 |
| **18** | 3395 | 3000 | 2540 | 1725 | 1/3 | 1.4 | **3XK56** | 499.51 | **335.00** | 42.0 |
| **20** | 4530 | 4115 | 3555 | 1725 | 1/2 | 1.8 | **3XK58** | 548.49 | **367.50** | 48.0 |
| **24** | 6325 | 5810 | 5185 | 1725 | 3/4 | 2.6 | **3XK63** | 585.96 | **412.00** | 43.0 |
| **30** | 9775 | 8445 | 6030 | 1725 | 3/4 | 2.9 | **3XK67** | 809.81 | **543.00** | 51.0 |

## CAST ALUMINUM HAZARDOUS LOCATION PANEL FANS

- For heavy duty ventilation in atmospheres containing flammable or explosive vapors, gases, or dusts. (per nec 500)
- Motors only are UL Listed (E 62643) 115 VAC, 60 Hz, single-phase hazardous location for class I, group D and class II, groups E, F, & G applications.
- Note: Units are not recommended where motor or blades will accumulate paint.
- Note: Consult local ventilation or fire inspector for code requirements.

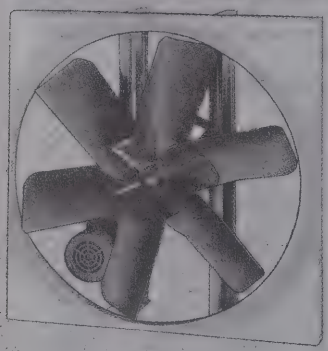
| Blade Dia (In.) | CFM Air Delivery 0.0" SP | 0.125" SP | 0.25" SP | RPM | Motor HP | Full Load Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **12** | 1110 | 865 | 590 | 1725 | 1/4 | 3.4 | **3XK51*** | $588.17 | **$394.25** | 38.0 |
| **16** | 2645 | 2260 | 1810 | 1725 | 1/4 | 3.9 | **3XK37*** | 607.26 | **422.75** | 41.0 |
| **18** | 3390 | 3000 | 2520 | 1725 | 1/3 | 6.0 | **3XK55*** | 655.91 | **473.75** | 41.0 |
| **20** | 4465 | 4035 | 3430 | 1725 | 1/2 | 8.8 | **3XK59*** | 713.10 | **535.00** | 49.0 |
| **24** | 5815 | 5260 | 4580 | 1725 | 1/2 | 8.8 | **3XK61*** | 728.71 | **544.50** | 51.0 |
| **24** | 6345 | 5760 | 5190 | 1725 | 3/4 | 10.6 | **3XK64*** | 810.26 | **601.00** | 57.0 |

(*) Electrically ground all components in a hazardous location system. Hazardous location conduit box: No. 4X788, see page 3586.

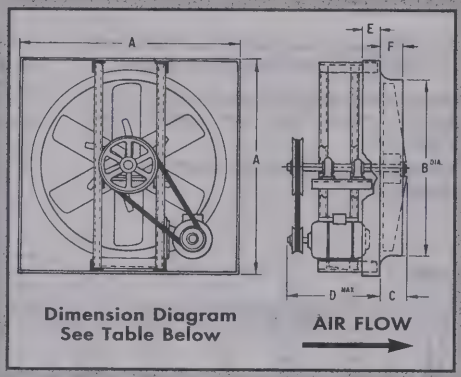
**NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE**

Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.

# MEDIUM VOLUME INDUSTRIAL DUTY BELT DRIVE EXHAUST FANS



No. 3C705




Replacement Parts Available
1-800-323-0620

**Medium-volume fans** exhaust up to 55,636 CFM. For industrial exhaust ventilating systems in factories, warehouses, foundries, laundries, and cooling towers.

**Available with a variety of motors** up to 10 horsepower. Efficient in duct installations with up to 1/2" static pressure. Horizontal or vertical mounting. Self-aligning prelubricated ball-bearing pillow blocks.

**Heavy-duty statically balanced** fabricated steel propellers are safety locked to shaft. Heavy-gauge painted steel panel has welded corners, and 1¾" dia. vertical tubular steel members uni-welded for rigidity. No. 5C193 has 4 blades, all others have 6 blades.

**Predrilled motor base** accommodates standard NEMA motor frames of horsepower ratings specified. Heavy-duty ball-bearing motor, cast iron sheaves, bushings, and belts packed separately.

**WARNING!** OSHA complying guards are required when a fan is installed within 7 ft. of floor, working level, or within reach of personnel. Review OSHA Codes. See Index under Guards, Fan.

## CERTIFIED RATINGS FOR AIR AND SOUND

Dayton Mfg. Co., certifies that the fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance shown is without ducts.

Sound ratings shown are loudness values in fan sones @ 5 ft.-0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Power ratings (BHP) does not include drive losses. Performance shown is for installation Type A: Free Inlet, Free Outlet. Performance ratings do not include the effects of appurtenances in the airstream.

| Prop. Dia. | Dimensions (in.) A | B | C | D (Max.) | E | F |
|---|---|---|---|---|---|---|
| 24 | 28 | 24⅞ | 4 | 20 | 3 | 2¾ |
| 30 | 34 | 30⅞ | 4 | 20 | 3 | 2¾ |
| 36 | 40 | 36⅞ | 4 | 20 | 3 | 2¾ |
| 42 | 46 | 42⅞ | 4 | 22 | 3 | 3 |
| 48 | 54 | 48⅞ | 4½ | 24 | 3 | 3 |
| 54 | 60 | 54⅞ | 4½ | 27½ | 3 | 3 |
| 60 | 66 | 60⅞ | 4½ | 27½ | 3 | 3 |

| Propeller Dia., (In.) | CFM Air Delivery at RPM Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | Fan RPM | HP | Max. BHP* | Sones 1/8" SP | Fan Less Motor and Drive Stock No. | Each | Shpg. Wt. | Dripproof Capacitor-Start Mtr. 115 / 230V, 60 Hz Stock No. | Each | Totally Enclosed Capacitor-Start Mtr. 115 / 230V, 60 Hz Stock No. | Each | Totally Enclosed 3-Phase Motor 208-220 / 440V, 60 Hz Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 5673 | 4751 | 2891 | — | — | 726 | 1/3 | 0.37 | 14.9 | 5C193 | $349.75 | 79.0 | 7H379 | $493.25 | 7H388 | $501.50 | 7H325 | $498.75 |
| | 6501 | 5766 | 4585 | 2378 | — | 832 | 1/2 | 0.56 | 18.7 | | | | 7H380 | 524.00 | 7H359 | 541.50 | 7H326 | 533.00 |
| | 7423 | 6813 | 5931 | 4740 | 2570 | 950 | 3/4 | 0.84 | 23 | | | | 7H381 | 552.00 | 7H360 | 574.50 | 7H327 | 542.50 |
| | 8181 | 7643 | 6924 | 5948 | 4517 | 1047 | 1 | 1.1 | 25 | | | | 7H382 | 566.00 | 7H373 | 585.00 | 7H328 | 551.50 |
| | 9267 | 8812 | 8243 | 7500 | 6597 | 1186 | 1½ | 1.6 | 30 | | | | 7H383 | 598.50 | 7H374 | 631.50 | 7H329 | 560.00 |
| 30 | 9597 | 8582 | 6929 | 4034 | — | 617 | 3/4 | 0.82 | 19.1 | 5C194 | 417.00 | 98.0 | 7H384 | 595.50 | 7H375 | 617.50 | 7H330 | 586.00 |
| | 10546 | 9643 | 8455 | 5435 | — | 678 | 1 | 1.1 | 22 | | | | 7H385 | 612.00 | 7H376 | 631.50 | 7H331 | 597.00 |
| | 12039 | 11273 | 10352 | 9015 | 6016 | 774 | 1½ | 1.6 | 26 | | | | 7H386 | 663.50 | 7H377 | 704.50 | 7H332 | 624.50 |
| | 13268 | 12581 | 11786 | 10820 | 9184 | 853 | 2 | 2.2 | 31 | | | | 7H387 | 749.00 | 7H378 | 774.50 | 7H333 | 617.50 |
| 36 | 11512 | 10182 | 7232 | — | — | 515 | 3/4 | 0.84 | 15.4 | 3C705 | 508.50 | 130.0 | 7H361 | 718.00 | 7H340 | 740.50 | 7H001 | 721.00 |
| | 12407 | 11244 | 8660 | — | — | 555 | 1 | 1.1 | 18.0 | | | | 7H362 | 733.00 | 7H341 | 752.00 | 7H002 | 720.00 |
| | 14329 | 13375 | 11843 | 9215 | — | 641 | 1½ | 1.6 | 25.4 | | | | 7H363 | 755.50 | — | — | 7H003 | 716.50 |
| | 15738 | 14892 | 13719 | 11526 | 9390 | 704 | 2 | 2.2 | 26 | | | | 7H364 | 860.00 | 7H342 | 802.50 | 7H004 | 729.50 |
| | 18107 | 17394 | 16537 | 15310 | 13199 | 810 | 3 | 3.3 | 37.9 | | | | — | — | 7H343 | 872.50 | 7H005 | 794.50 |
| 42 | 15560 | 13009 | 7174 | — | — | 405 | 1 | 1.1 | 16.9 | 3C706 | 654.00 | 165.0 | 7H365 | 898.00 | 7H345 | 917.00 | 7H006 | 883.50 |
| | 17826 | 15832 | 12120 | 5995 | — | 464 | 1½ | 1.7 | 21 | | | | 7H366 | 908.00 | 7H346 | 941.00 | 7H007 | 869.00 |
| | 19709 | 17960 | 15148 | 10448 | — | 513 | 2 | 2.2 | 25 | | | | 7H368 | 1015.00 | 7H348 | 957.50 | 7H008 | 885.00 |
| | 22552 | 21079 | 19108 | 15988 | 11470 | 587 | 3 | 3.3 | 31 | | | | — | — | — | — | 7H048 | 1008.00 |
| | 26740 | 25533 | 24137 | 22251 | 19604 | 696 | 5 | 5.5 | 40 | | | | — | — | — | — | 7H009 | 1008.00 |
| 48 | 21584 | 19169 | 15621 | — | — | 389 | 1½ | 1.6 | 17.7 | 3C707 | 799.50 | 195.0 | 7H369 | 1082.00 | 7H349 | 1116.00 | 7H010 | 1043.00 |
| | 23914 | 21813 | 18951 | 13357 | — | 431 | 2 | 2.2 | 21 | | | | 7H370 | 1165.00 | 7H350 | 1107.00 | 7H011 | 1033.00 |
| | 27410 | 25635 | 23404 | 20650 | 15045 | 494 | 3 | 3.3 | 30 | | | | — | — | — | — | 7H012 | 1115.00 |
| | 32459 | 31009 | 29332 | 27279 | 25005 | 585 | 5 | 5.5 | 43 | | | | — | — | — | — | 7H013 | 1158.00 |
| 54 | 24630 | 21600 | 14071 | — | — | 328 | 1½ | 1.6 | 14.0 | 3C708 | 1112.00 | 252.0 | 7H371 | 1390.00 | 7H354 | 1423.00 | 7H014 | 1351.00 |
| | 26882 | 24167 | 19656 | 11222 | — | 358 | 2 | 2.2 | 16.5 | | | | 7H389 | 1522.00 | 7H355 | 1456.00 | 7H015 | 1362.00 |
| | 30637 | 28654 | 25770 | 19322 | 12797 | 412 | 3 | 3.3 | 22 | | | | — | — | — | — | 7H016 | 1432.00 |
| | 36795 | 34929 | 32794 | 30129 | 25010 | 490 | 5 | 5.5 | 40 | | | | — | — | — | — | 7H017 | 1469.00 |
| | 42051 | 40434 | 38664 | 36709 | 34199 | 560 | 7½ | 8.2 | 53 | | | | — | — | — | — | 7H018 | 1547.00 |
| 60 | 32385 | 28740 | 20936 | — | — | 312 | 2 | 2.2 | 17.7 | 3C709 | 1317.00 | 315.0 | 7H390 | 1753.00 | 7H356 | 1687.00 | 7H019 | 1622.00 |
| | 37160 | 34130 | 29819 | 17696 | — | 358 | 3 | 3.3 | 24 | | | | — | — | — | — | 7H020 | 1659.00 |
| | 44011 | 41541 | 38535 | 34190 | 22387 | 424 | 5 | 5.5 | 34 | | | | — | — | — | — | 7H021 | 1698.00 |
| | 50343 | 48217 | 45810 | 42871 | 38689 | 485 | 7½ | 8.3 | 43 | | | | — | — | — | — | 7H022 | 1780.00 |
| | 55636 | 53741 | 51632 | 49245 | 46341 | 536 | 10 | 10.9 | 52 | | | | — | — | — | — | 7H023 | 1848.00 |

(*) BHP does not include drive losses.



*However, wherever, you need to move air, we have the fans to do it.*

# HIGH VOLUME INDUSTRIAL DUTY BELT-DRIVE EXHAUST FANS

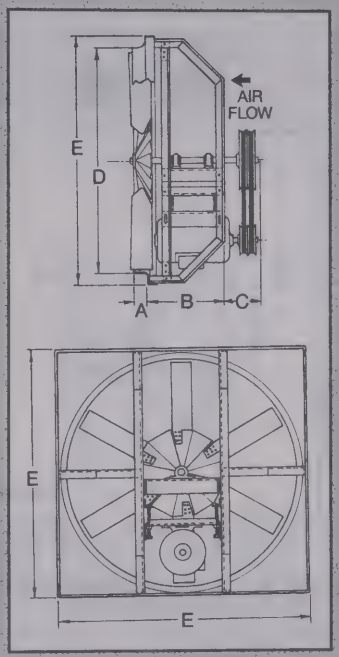
- **Horizontal or vertical wall mounting**
- **6-Blade aluminum propeller**
- **Prelubricated ball bearing pillow blocks**
- **Steel angle frame construction with 14-gauge venturi panel**
- **Durable gray enamel finish**
- **Cast iron sheaves, bushings, and belts packed separately**

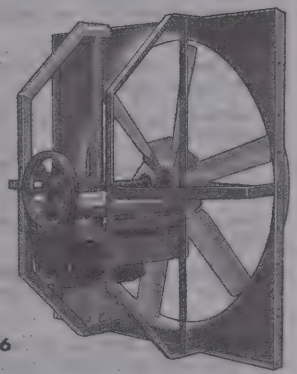
**Widely used in factories, warehouses, foundries,** laundries, cooling towers. Efficiently used in duct installations up to 1½" static pressure.

Dayton Mfg. Co. certifies that the fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Sound ratings shown are loudness values in fan sones @ 5 ft.-0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Power ratings (BHP) does not include drive losses. Performance shown is for installation Type A: Free Inlet, Free Outlet. Performance ratings do not include the effects of appurtenances in the airstream.

**Replacement Parts Available**
**1-800-323-0620**




No. 3C606

**WARNING!** OSHA complying guards are required when fan is installed within 7 ft. of floor, working level, or within reach of personnel. Review OSHA Codes. See Index under Guards, Fan.

## HIGH VOLUME BELT-DRIVE EXHAUST FAN DIMENSIONS

| Propeller Dia., (In.) | Dimensions (In.) A | B | C | D | E | Shaft Dia. (In.) |
|---|---|---|---|---|---|---|
| 36 | 5¾ | 13½ | 3½ | 37 | 40 | 1 3/16 |
| 42 | 5¾ | 15½ | 4½ | 43 | 46 | 1 3/16 |
| 48 | 5¾ | 20½ | 3½ | 49 | 54 | 1 7/16 |
| 54 | 6 | 23½ | 4 | 55 | 60 | 1 11/16 |
| 60 | 7 | 23½ | 4 | 61 | 66 | 1 11/16 |

## HIGH VOLUME BELT-DRIVE EXHAUST FAN PERFORMANCE AND ORDERING DATA

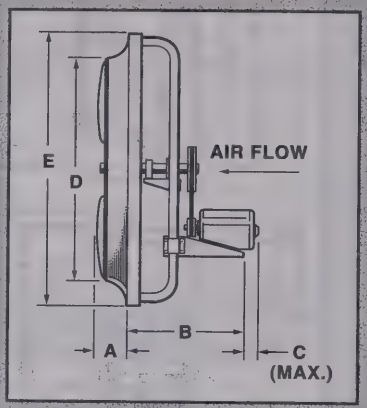
| Propeller Dia., (In.) | CFM Air Delivery at RPM Shown 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | 0.625" SP | 0.750" SP | 1.00" SP | 1.500" SP | Fan RPM | HP | Max. BHP | Sones @ 1/8" SP | Fan Less Motor and Drive Stock No. | List | Each | Shpg. Wt. | Fans with 230/460V, 60 Hz 3-Phase Motor: Totally Enclosed Fan Cooled Stock No. | Each | Dripproof Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 12665 | 11140 | 8990 | 4900 | — | — | — | — | 725 | 1 | 1.09 | 18.3 | 3C606 | $1325.61 | $794.50 | 176.0 | 7C928 | $999.00 | 7C929 | $975.00 |
| | 14655 | 13465 | 11805 | 9810 | 5900 | — | — | — | 818 | 1½ | 1.58 | 23 | | | | | 7C930 | 1010.00 | 7C931 | 1033.00 |
| | 16585 | 15520 | 14320 | 12640 | 10875 | 7140 | — | — | 912 | 2 | 2.19 | 27 | | | | | 7C932 | 1052.00 | 7C933 | 1036.00 |
| | 18925 | 18025 | 17010 | 15895 | 14380 | 12895 | 7100 | — | 1028 | 3 | 3.12 | 32 | | | | | 7C934 | 1097.00 | 7C935 | 1058.00 |
| | 22725 | 22010 | 21225 | 20370 | 19520 | 18415 | 15760 | 7350 | 1219 | 5 | 5.22 | 41 | | | | | 7C936 | 1148.00 | 7C937 | 1095.00 |
| 42 | 16855 | 14920 | 12305 | 8695 | 4300 | — | — | — | 653 | 1½ | 1.65 | 23 | 3C607 | 1541.35 | 923.00 | 195.0 | 7C938 | 1201.00 | 7C939 | 1225.00 |
| | 18855 | 17205 | 15180 | 11810 | 9355 | 4800 | — | — | 718 | 2 | 2.18 | 29 | | | | | 7C940 | 1236.00 | 7C941 | 1221.00 |
| | 21930 | 20565 | 19000 | 17200 | 15300 | 11690 | 5000 | — | 820 | 3 | 3.25 | 39 | | | | | 7C942 | 1276.00 | 7C943 | 1238.00 |
| | 26355 | 25280 | 24075 | 22760 | 21275 | 19650 | 14645 | — | 970 | 5 | 5.40 | 51 | | | | | 7C944 | 1322.00 | 7C945 | 1270.00 |
| | 30605 | 29705 | 28730 | 27665 | 26540 | 25300 | 22860 | 14260 | 1116 | 7½ | 8.20 | 64 | | | | | 7C946 | 1411.00 | 7C947 | 1373.00 |
| 48 | 22915 | 20160 | 16880 | 12775 | — | — | — | — | 620 | 2 | 2.16 | 24 | 3C608 | 2171.65 | 1301.00 | 295.0 | 7C950 | 1529.00 | 7C951 | 1514.00 |
| | 26875 | 24605 | 22025 | 19050 | 15600 | 7710 | — | — | 709 | 3 | 3.30 | 32 | | | | | 7C952 | 1581.00 | 7C953 | 1543.00 |
| | 32565 | 30730 | 28755 | 26575 | 24215 | 21485 | — | — | 840 | 5 | 5.45 | 42 | | | | | 7C954 | 1623.00 | 7C955 | 1569.00 |
| | 37680 | 36125 | 34465 | 32710 | 30815 | 28835 | 24130 | — | 960 | 7½ | 8.19 | 54 | | | | | 7C956 | 1708.00 | 7C957 | 1669.00 |
| | 41820 | 40430 | 38965 | 37425 | 35815 | 34090 | 30355 | 19000 | 1058 | 10 | 10.90 | 65 | | | | | 7C958 | 1747.00 | 7C959 | 1705.00 |
| 54 | 30715 | 28260 | 24775 | 20550 | 11210 | — | — | — | 630 | 3 | 3.45 | 36 | 3C671 | 2848.91 | 1707.00 | 355.0 | 7C980 | 2036.00 | 7C981 | 1998.00 |
| | 36315 | 34145 | 32135 | 28810 | 25280 | 20936 | — | — | 730 | 5 | 5.40 | 47 | | | | | 7C982 | 2063.00 | 7C983 | 2010.00 |
| | 40995 | 39055 | 37210 | 35305 | 32115 | 28785 | 20165 | — | 815 | 7½ | 7.50 | 58 | | | | | 7C984 | 2162.00 | 7C985 | 2125.00 |
| | 45740 | 44065 | 42285 | 40630 | 38850 | 35920 | 30115 | — | 902 | 10 | 10.20 | 71 | | | | | 7C986 | 2242.00 | 7C987 | 2200.00 |
| | 54595 | 53215 | 51705 | 50245 | 48860 | 47415 | 43405 | 32960 | 1066 | 15 | 16.50 | 100 | | | | | 7C988 | 2498.00 | 7C989 | 2372.00 |
| 60 | 40385 | 37125 | 33150 | 28925 | 16800 | 12060 | — | — | 491 | 5 | 5.21 | 32 | 3C609 | 3372.20 | 2020.00 | 420.0 | 7C964 | 2428.00 | 7C965 | 2376.00 |
| | 47725 | 45160 | 42120 | 38630 | 35350 | 30600 | — | — | 570 | 7½ | 8.10 | 42 | | | | | 7C966 | 2564.00 | 7C967 | 2525.00 |
| | 51600 | 49650 | 47000 | 43840 | 40715 | 37565 | 20000 | — | 616 | 10 | 10.30 | 46 | | | | | 7C968 | 2588.00 | 7C969 | 2546.00 |
| | 61160 | 59330 | 57265 | 54965 | 52245 | 49595 | 44305 | 19800 | 718 | 15 | 16.20 | 67 | | | | | 7C970 | 2904.00 | 7C971 | 2778.00 |
| | 67350 | 65735 | 63940 | 61965 | 59815 | 57280 | 52415 | 38000 | 787 | 20 | 21.50 | 84 | | | | | 7C972 | 3021.00 | 7C973 | 2880.00 |

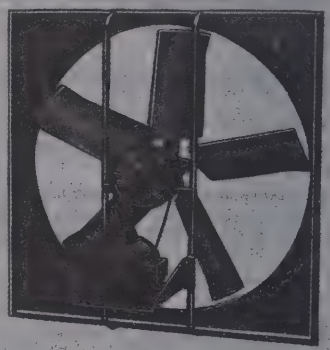
# INDUSTRIAL/COMMERCIAL EXHAUST FANS

- Designed for light to medium duty applications
- For vertical mount air exhaust applications. Can be used for horizontal mount air intake
- Computer designed five-blade steel propeller
- Deep drawn steel venturi frame for maximum performance
- 1" ball bearings, self-aligning and prelubricated
- 1" shaft is stepped down to 7/8" to match fan blade and sheaves
- Tubular steel supports designed for rigid construction
- Adjustable motor mounts permit easy assembly with a variety of motor types
- 1725 RPM ball bearing motors and cast iron pulleys packed separately when fan is ordered complete

**WARNING!** OSHA complying guards are required when fan is installed within 7' of floor, working level, or within reach or personnel. Review OSHA Codes. See index under Guards, Fan.

Dayton®



Replacement Parts Available
1-800-323-0620

Dayton Electric Mfg. Co. certifies that the fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

## VERTICAL MOUNT EXHAUST FAN DIMENSIONS

| Propeller Diameter (In.) | Dimensions (In.) A | B | C | D | E |
|---|---|---|---|---|---|
| 24 | 5 | 16 | 2 1/4 | 24 3/8 | 28 |
| 30 | 6 | 16 | 2 1/4 | 30 1/2 | 34 |
| 36 | 8 | 16 | 2 1/4 | 36 1/2 | 40 |
| 42 | 8 1/2 | 16 | 4 3/4 | 42 3/4 | 46 |
| 48 | 10 | 16 | 6 1/8 | 48 3/4 | 54 |

## OPTIONAL ACCESSORIES

| Recommended Steel Wall Shutter Panel Type | Recommended Steel Wall Shutter Stock No. | Shutter Motor 120/240V Stock No. | Recommended Intake Guard Stock No. |
|---|---|---|---|
| Single | 1C746 | 2C831 | 6C585 |
| Single | 1C055 | 2C831 | 6D586 |
| Single | 4C521 | 2C831 | 6D587 |
| Double | 1C210 | 2C832 | 6D588 |
| Double | 1C211 | 2C832 | 6D589 |

## VERTICAL MOUNT EXHAUST FAN PERFORMANCE AND ORDERING DATA

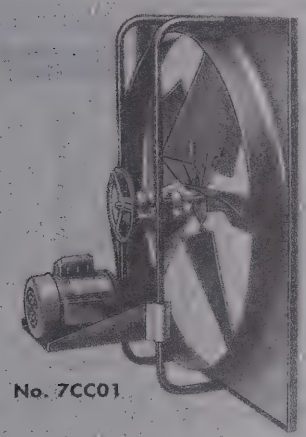
| Prop. Dia., (In.) | CFM Air Delivery at RPM Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | Fan RPM | HP | Max. BHP* | Fan, Less Motor & Drive Stock No. | Each | Shpg. Wt. | Dripproof 1-Phase Motor 115 / 230V, 60 Hz Stock No. | List | Each | Totally-Enclosed 1-Phase Motor 115 / 230V, 60 Hz Stock No. | List | Each | Totally-Enclosed 3-Phase Motor 208-220 / 440V, 60 Hz Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 5120 | 4195 | 2160 | — | 650 | 1/4 | 0.32 | 3CC73 | $234.50 | 36.0 | 7CC73 | $560.18 | $349.00 | 7CC74 | $613.69 | $382.50 | 7CC75 | $599.60 | $373.75 |
| | 5595 | 4775 | 2830 | 1650 | 710 | 1/3 | 0.44 | | | | 7CC76 | 578.53 | 360.50 | 7CC77 | 640.62 | 399.25 | 7CC78 | 628.16 | 391.50 |
| | 6580 | 5910 | 4970 | 3100 | 835 | 1/2 | 0.66 | | | | 7CC79 | 596.67 | 372.00 | 7CC80 | 651.27 | 406.00 | 7CC81 | 638.15 | 397.75 |
| | 7445 | 6870 | 6200 | 4800 | 945 | 3/4 | 0.93 | | | | 7CC82 | 697.66 | 434.75 | 7CC83 | 745.71 | 464.75 | 7CC84 | 659.35 | 411.00 |
| 30 | 6895 | 4950 | — | — | 470 | 1/4 | 0.27 | 3CC74 | 274.50 | 48.0 | 7CC85 | 634.89 | 395.50 | 7CC86 | 679.72 | 423.75 | 7CC87 | 674.35 | 420.25 |
| | 7335 | 5605 | 2320 | — | 500 | 1/3 | 0.35 | | | | 7CC88 | 681.37 | 424.75 | 7CC89 | 696.56 | 434.00 | 7CC90 | 684.10 | 426.25 |
| | 8585 | 7305 | 4750 | — | 585 | 1/2 | 0.52 | | | | 7CC91 | 656.27 | 409.00 | 7CC92 | 710.87 | 443.00 | 7CC93 | 697.75 | 434.75 |
| | 9830 | 8805 | 7120 | 4130 | 670 | 3/4 | 0.80 | | | | 7CC94 | 752.76 | 469.25 | 7CC95 | 800.80 | 499.00 | 7CC96 | 714.44 | 445.25 |
| | 10565 | 9615 | 8205 | 5945 | 720 | 1 | 0.96 | | | | 7CC97 | 804.66 | 501.50 | 7CC98 | 849.30 | 529.50 | 7CC99 | 742.27 | 462.75 |
| 36 | 10160 | 7590 | — | — | 415 | 1/3 | 0.38 | 3CC75 | 301.00 | 57.0 | 7CF01 | 684.85 | 426.75 | 7CF02 | 746.95 | 465.50 | 7CF03 | 734.49 | 457.75 |
| | 11875 | 9915 | 5045 | — | 485 | 1/2 | 0.62 | | | | 7CF04 | 753.29 | 469.50 | 7CF05 | 807.90 | 503.50 | 7CF06 | 794.77 | 495.25 |
| | 13220 | 11490 | 8565 | 4215 | 540 | 3/4 | 0.88 | | | | 7CF07 | 796.11 | 496.25 | 7CF08 | 844.16 | 526.50 | 7CF09 | 757.79 | 472.25 |
| | 14815 | 13300 | 11415 | 6600 | 605 | 1 | 1.20 | | | | 7CF10 | 826.99 | 515.50 | 7CF11 | 871.63 | 543.00 | 7CF12 | 764.60 | 476.50 |
| | 16160 | 14805 | 13215 | 10400 | 660 | 1 1/2 | 1.53 | | | | 7CF13 | 844.77 | 526.50 | 7CF14 | 946.89 | 590.50 | 7CF15 | 797.93 | 497.25 |
| 42 | 14515 | 11040 | — | — | 380 | 1/2 | 0.57 | 3CC76 | 364.25 | 68.0 | 7CF16 | 820.13 | 511.00 | 7CF17 | 874.74 | 545.00 | 7CF18 | 861.61 | 537.00 |
| | 16425 | 13670 | 6545 | — | 430 | 3/4 | 0.79 | | | | 7CF19 | 945.13 | 589.00 | 7CF20 | 993.17 | 619.00 | 7CF21 | 906.81 | 565.50 |
| | 17570 | 15045 | 8350 | 4855 | 460 | 1 | 1.04 | | | | 7CF22 | 955.39 | 595.50 | 7CF23 | 1000.03 | 623.00 | 7CF24 | 892.99 | 556.50 |
| | 20435 | 18345 | 15480 | 8530 | 535 | 1 1/2 | 1.51 | | | | 7CF25 | 961.69 | 599.50 | 7CF26 | 1063.81 | 663.00 | 7CF27 | 914.85 | 570.00 |
| 48 | 17060 | 10790 | — | — | 315 | 1/2 | 0.49 | 3CC77 | 442.75 | 88.0 | 7CF31 | 937.97 | 584.50 | 7CF32 | 992.58 | 618.50 | 7CF33 | 979.45 | 610.50 |
| | 20040 | 15900 | 6450 | — | 370 | 3/4 | 0.83 | | | | 7CF34 | 1033.88 | 644.50 | 7CF35 | 1081.93 | 674.00 | 7CF36 | 995.57 | 620.50 |
| | 21665 | 18120 | 8860 | 3465 | 400 | 1 | 1.16 | | | | 7CF37 | 1061.86 | 661.50 | 7CF38 | 1106.50 | 690.00 | 7CF39 | 999.46 | 623.00 |
| | 24375 | 21345 | 15700 | 7640 | 450 | 1 1/2 | 1.50 | | | | 7CF40 | 1205.99 | 751.50 | 7CF41 | 1308.11 | 815.00 | 7CF42 | 1159.15 | 722.50 |
| | 25455 | 22575 | 17615 | 9275 | 470 | 2 | 1.67 | | | | 7CF43 | 1383.95 | 862.50 | 7CF44 | 1479.64 | 922.00 | 7CF45 | 1306.00 | 814.00 |

Performance shown is for installation Type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream.



*However, wherever, you need to move air, we have the fans to do it.*

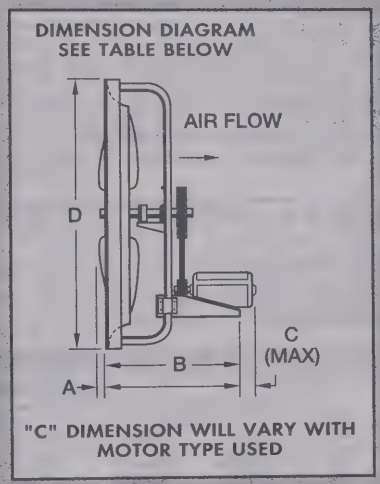
# INDUSTRIAL/COMMERCIAL SUPPLY FANS



No. 7CC01

**Not Suitable for Penthouse Installation**

Dayton®




- Designed for light to medium duty applications
- Vertical mount air supply, but can be used for horizontal mount air exhaust
- Computer designed five-blade steel propeller
- Deep drawn steel venturi frame for maximum performance
- 1" ball bearings, self-aligning and prelubricated
- 1" shaft is stepped down to 7/8" to match fan blade and sheaves
- Tubular steel supports designed for rigid construction
- Adjustable motor mounts permit easy assembly with a variety of motor types
- 1725 RPM, ball bearing motors and cast iron pulleys packed separately when fan is ordered complete

**WARNING!** OSHA complying guards are required when fan is installed within 7 ft. of floor, working level, or within reach of personnel. Review OSHA Codes. See Index under Guards, Fan.

## VERTICAL MOUNT SUPPLY FAN DIMENSIONS

| Propeller Diameter (In.) | Dimensions (In.) A | B | C | D |
|---|---|---|---|---|
| 24 | 1 3/4 | 19 1/4 | 2 1/4 | 28 |
| 30 | 1 3/4 | 18 13/16 | 2 1/4 | 34 |
| 36 | 2 1/2 | 19 15/16 | 2 1/4 | 40 |
| 42 | 1 1/4 | 19 5/8 | 4 3/4 | 46 |
| 48 | 1 1/4 | 20 7/8 | 6 1/8 | 54 |

## OPTIONAL ACCESSORIES

| Recommended Intake Guard Stock No. | Recommended Motorized Dampers Aluminum Stock No. | Galvanized Stock No. |
|---|---|---|
| 6D585 | 3C315 | 3C727 |
| 6D586 | 3C234 | 3C728 |
| 6D587 | 3C131 | 3C729 |
| 6D588 | 3C235 | 3C730 |
| 6D589 | 3C132 | 3C731 |

Dayton Electric Mfg. Co. certifies that the fans shown hereon are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

## VERTICAL MOUNT SUPPLY FAN PERFORMANCE AND ORDERING DATA

| Propeller Dia. (In.) | CFM Air Delivery At RPM Shown 0.0" SP | 0.125 SP | 0.250" SP | 0.375" SP | Fan RPM | HP | Max. BHP | Fan, Less Motor & Drive Stock No. | Each | Shpg. Wt. | Dripproof Capacitor-Start Motor 115 / 230V, 60 Hz Stock No. | List | Each | Totally Enclosed Capacitor-Start Motor 115 / 230V, 60 Hz Stock No. | List | Each | Totally Enclosed 3-Phase Motor 208-220 / 440V, 60 Hz Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 5170 | 4005 | 2400 | — | 650 | 1/4 | 0.32 | 3CC68 | $234.50 | 37.0 | 7CC01 | $560.37 | $349.25 | 7CC02 | $625.97 | $390.00 | 7CC03 | $599.80 | $373.75 |
| | 5650 | 4570 | 3255 | 2120 | 710 | 1/3 | 0.44 | | | | 7CC04 | 578.72 | 360.75 | 7CC05 | 653.65 | 407.25 | 7CC06 | 628.36 | 391.75 |
| | 6645 | 5715 | 4845 | 3345 | 835 | 1/2 | 0.66 | | | | 7CC07 | 596.86 | 372.00 | 7CC08 | 705.31 | 439.50 | 7CC09 | 638.35 | 398.00 |
| | 7520 | 6725 | 5905 | 5070 | 945 | 3/4 | 0.98 | | | | 7CC10 | 697.86 | 434.75 | 7CC11 | 774.72 | 482.75 | 7CC12 | 659.54 | 411.00 |
| 30 | 6935 | 4730 | — | — | 470 | 1/4 | 0.27 | 3CC69 | 274.50 | 48.0 | 7CC13 | 634.93 | 395.50 | 7CC14 | 700.53 | 436.75 | 7CC15 | 674.35 | 420.25 |
| | 7380 | 5375 | 2650 | — | 500 | 1/3 | 0.35 | | | | 7CC16 | 634.47 | 395.25 | 7CC17 | 709.40 | 442.00 | 7CC18 | 684.10 | 426.25 |
| | 8630 | 6985 | 4335 | 2700 | 585 | 1/2 | 0.59 | | | | 7CC19 | 656.27 | 409.00 | 7CC20 | 764.71 | 476.50 | 7CC21 | 697.75 | 434.75 |
| | 9885 | 8395 | 6810 | 4545 | 670 | 3/4 | 0.78 | | | | 7CC22 | 752.76 | 469.25 | 7CC23 | 829.62 | 517.00 | 7CC24 | 714.44 | 445.25 |
| | 10625 | 9215 | 7875 | 5420 | 720 | 1 | 0.93 | | | | 7CC25 | 804.66 | 501.50 | 7CC26 | 849.30 | 529.50 | 7CC27 | 742.27 | 462.75 |
| 36 | 9935 | 7245 | — | — | 415 | 1/3 | 0.38 | 3CC70 | 301.00 | 58.0 | 7CC28 | 685.05 | 426.75 | 7CC29 | 759.97 | 473.50 | 7CC30 | 734.68 | 457.75 |
| | 11610 | 9440 | 5255 | — | 485 | 1/2 | 0.58 | | | | 7CC31 | 753.49 | 469.50 | 7CC32 | 861.93 | 537.50 | 7CC33 | 794.97 | 495.50 |
| | 12930 | 11000 | 7790 | 4705 | 540 | 3/4 | 0.88 | | | | 7CC34 | 796.30 | 496.25 | 7CC35 | 873.17 | 544.00 | 7CC36 | 757.99 | 472.25 |
| | 14485 | 12790 | 11010 | 6880 | 605 | 1 | 1.11 | | | | 7CC37 | 827.19 | 515.50 | 7CC38 | 871.83 | 543.50 | 7CC39 | 764.79 | 476.75 |
| | 15800 | 14245 | 12610 | 9465 | 660 | 1 1/2 | 1.44 | | | | 7CC40 | 844.97 | 527.00 | 7CC41 | 947.09 | 590.50 | 7CC42 | 798.12 | 497.25 |
| 42 | 13775 | 9035 | — | — | 380 | 1/2 | 0.51 | 3CC71 | 364.25 | 69.0 | 7CC43 | 820.33 | 511.50 | 7CC44 | 928.77 | 579.00 | 7CC45 | 861.81 | 537.50 |
| | 15585 | 12465 | 5790 | — | 430 | 3/4 | 0.78 | | | | 7CC46 | 945.32 | 589.50 | 7CC47 | 1022.18 | 637.00 | 7CC48 | 907.01 | 565.50 |
| | 16675 | 13835 | 7060 | 3925 | 460 | 1 | 1.05 | | | | 7CC49 | 955.59 | 595.50 | 7CC50 | 1000.22 | 623.00 | 7CC51 | 893.19 | 556.50 |
| | 19390 | 17115 | 12560 | 7395 | 535 | 1 1/2 | 1.49 | | | | 7CC52 | 961.89 | 600.00 | 7CC53 | 1064.01 | 663.00 | 7CC54 | 915.04 | 570.00 |
| 48 | 16370 | 7485 | — | — | 315 | 1/2 | 0.45 | 3CC72 | 442.75 | 85.0 | 7CC58 | 937.38 | 584.00 | 7CC59 | 1045.83 | 652.00 | 7CC60 | 978.87 | 610.00 |
| | 19230 | 14400 | 5800 | — | 370 | 3/4 | 0.85 | | | | 7CC61 | 1033.29 | 644.00 | 7CC62 | 1110.16 | 692.00 | 7CC63 | 994.98 | 620.00 |
| | 20785 | 16385 | 8345 | 2280 | 400 | 1 | 1.17 | | | | 7CC64 | 1061.27 | 661.50 | 7CC65 | 1105.91 | 689.00 | 7CC66 | 998.87 | 622.50 |
| | 23385 | 19575 | 10805 | 6825 | 450 | 1 1/2 | 1.53 | | | | 7CC67 | 1205.11 | 751.00 | 7CC68 | 1307.53 | 815.00 | 7CC69 | 1158.56 | 722.00 |
| | 24425 | 20820 | 13425 | 8555 | 470 | 2 | 1.69 | | | | 7CC70 | 1383.36 | 862.00 | 7CC71 | 1479.05 | 921.50 | 7CC72 | 1305.41 | 813.50 |

Performance shown is for installation Type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream.

# EXHAUST/SUPPLY FANS

## 36" BELT DRIVE EXHAUST/SUPPLY FANS

- **Specially designed fan blade delivers a high volume of air for intake or exhaust applications**
- **For factories, foundries, and farm buildings**
- **Up to 10,080 CFM at 0.500" SP intake or exhaust with motor reversing switch**

**Special fan blade** delivers high volume of air for intake or exhaust. Self-aligning, heavy-duty, pre-lubricated ball bearing pillow blocks permit mounting in wall, air duct, ceiling or roof. Reversible feature is specially useful for farm buildings, foundries, laundries, and factories. One unit takes care of fresh air intake and exhaust requirements as needed. (Motor reversing switch included when fan is ordered complete with motor and drive.) Operates satisfactorily in duct systems up to 1/2" SP.

**36" diameter, 8-blade, statically balanced, steel propeller** has split taper bushing. Four blades pull in outside air when operated in intake direction. Four blades expel inside air when operated in exhaust direction. 7/8" dia. fan blade shaft. Heavy-duty, 18-gauge venturi panel. Adjustable motor base pre-drilled for standard NEMA frame motors of horsepower specified on chart below. Motors are heavy-duty, ball bearing, single or 3-phase. Motor and drive packed separately when ordered complete with fan. 40 x 40 x 19½"D. **Not suitable for penthouse, equipment room installation.**

**No. 3CC78.** Shpg. wt. 56.0 lbs. List.....$628.57. Each.....**$384.00**

**WARNING!** OSHA complying guards are required when fan is installed within 7 ft. of floor, working level, or within reach of personnel. Review OSHA Codes. See Index under Guards, Fan.

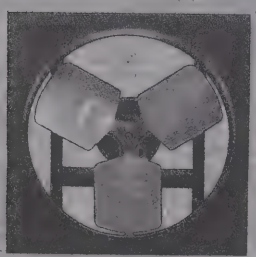



### HEAVY-DUTY EXHAUST/SUPPLY FAN ORDERING DATA

| Motor HP | CFM at RPM Shown‡ 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | Fan RPM | FAN COMPLETE WITH 1725 RPM MOTOR AND DRIVE — Dripproof Capacitor Motor 115 / 230V, 60 Hz Stk. No. | Each | Totally Enclosed Capacitor Motor 115 / 230V, 60 Hz Stk. No. | Each | Totally Enclosed 3-Phase Motor 208-220 / 440V, 60Hz Stk. No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 9360 | 7340 | 5720 | 4050 | — | 490 | 7CK38 | $599.50 | 7CK39 | $603.00 | 7CK40 | $601.50 | 85.2 |
| 3/4 | 10580 | 8910 | 7380 | 5940 | 3600 | 575 | 7CK41 | 646.00 | 7CK42 | 629.50 | 7CK43 | 609.50 | 88.1 |
| 1 | 11700 | 10220 | 8690 | 7560 | 5940 | 650 | 7CK44 | 635.50 | 7CK45‡ | 664.00 | 7CK46 | 600.50 | 90.1 |
| 1 1/2 | 13140 | 11930 | 10490 | 9450 | 8460 | 765 | 7CK47 | 750.00 | 7CK48§ | 695.50 | 7CK49 | 640.00 | 98.1 |
| 2 | 14490 | 13410 | 12150 | 10800 | 10080 | 830 | 7CK50 | 710.00 | 7CK51 | 770.50 | 7CK52# | 746.00 | 113.8 |

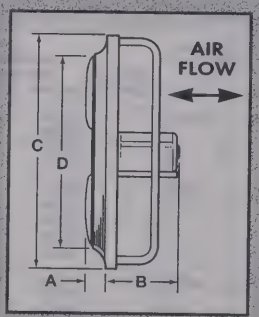
(*) CFM air deliveries shown are for exhaust only; when operating as an intake fan, air deliveries will be approximately 20% less, depending on RPM and SP.
(#) 230/460V, 60 Hz motor. (§) Capacitor start, capacitor run motor. (‡) Automatic reset thermal protection.

## DIRECT DRIVE EXHAUST/SUPPLY FANS



No. 5M188

Dayton




Replacement Parts Available 1-800-323-0620

- **Versatile fans for exhaust or intake ventilating applications**
- **Fans have 115V, 1-1725 rpm, 60 Hz, totally enclosed, thermally protected, ball bearing motors on resilient mounts**
- **Wall mounted rigid steel frames have deep venturi and 1" wide flanges. Frames have charcoal gray polyester finish**
- **Reversing switch for remote mounting included**
- **Stamped aluminum propeller**

**WARNING:** Review OSHA codes. OSHA complying guards are strongly recommended when fan is installed within 7 ft. of floor, working level, or within reach of personnel. Review OSHA codes. See Index under Guards, Fan.

### REVERSIBLE EXHAUST/SUPPLY FAN ORDERING DATA

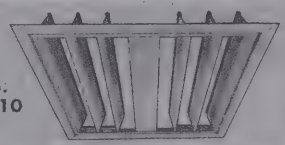
| Propeller Dia. (In.) | Motor HP | Fan RPM | Operating Amps | Exhaust/Intake CFM at SP Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | Dimensions (In.) A | B | C | D | Dia. Opening Required (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 1/4 | 1725 | 3.9 | 1569/1260 | 1385/1193 | 1135/1096 | 757/771 | 2 | 8¾ | 16 | 12⅜ | 14 | 5M188 | $466.96 | $279.75 | 27.0 |
| 16 | 1/4 | 1725 | 3.9 | 1885/1604 | 1639/1436 | 1372/1323 | 1019/1150 | 1¾ | 8¾ | 20 | 16½ | 18 | 5M189 | 489.89 | 293.50 | 30.0 |
| 16 | 1/3 | 1725 | 4.4 | 2629/2198 | 2431/2009 | 2215/1882 | 1726/1732 | 2⅜ | 8⅜ | 20 | 16½ | 18 | 5M190 | 504.03 | 302.25 | 34.0 |
| 18 | 1/3 | 1725 | 4.5 | 3255/2927 | 2989/2688 | 2704/2543 | 2375/2372 | 1¼ | 8¾ | 22 | 18½ | 20 | 5M191 | 530.74 | 318.00 | 36.0 |
| 20 | 1/3 | 1725 | 5.0 | 3957/3442 | 3679/3168 | 3304/2969 | 2881/2644 | 2⅛ | 8⅜ | 24 | 20½ | 22 | 5M192 | 554.90 | 332.50 | 38.0 |
| 24 | 1/2 | 1725 | 5.6 | 4495/4292 | 4131/3925 | 3718/3570 | 3286/3182 | 2⅝ | 8½ | 28 | 24⅜ | 26 | 5M193 | 617.89 | 370.25 | 44.0 |

# CEILING SHUTTERS AND ADJUSTABLE FRAME INTAKE LOUVERS

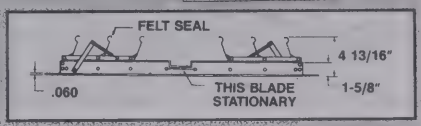
## CEILING TRUSS SHUTTERS FOR 24 TO 36" FANS

**Attractively styled shutters.** Easy installation with no ceiling joist cutting or framing required. Fit flush in ceiling opening below whole house ventilation fans. White polyester enamel finish blends with white painted ceilings. Felted edges on blades overlap adjacent blade for improved sealing and quiet operation. Tie rods at each side of shutter assure uniform opening when fan is operating. Stationary center blade covers ceiling joist. Extruded aluminum shutter frame and shutter blades. Frame has 3/16" diameter mounting holes. Dayton brand.

- For horizontally mounted fans
- Fast, simple installation



No. 3C510



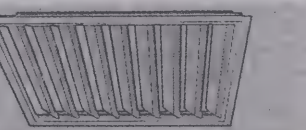

| Fits Fan Dia. (In.) | Overall L x W (In.) | Ceiling Opening Required (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **24** | 26 x 32 | 24 x 30 | **3C510** | $69.05 | **$41.35** | 6.5 |
| **30** | 32 x 32 | 30 x 30 | **3C511** | 74.23 | **44.45** | 7.6 |
| **36** | 36 x 32 | 34 x 30 | **3C512** | 79.65 | **47.70** | 8.5 |

## PREMIUM CEILING SHUTTERS FOR 24 TO 48" EXHAUST FANS

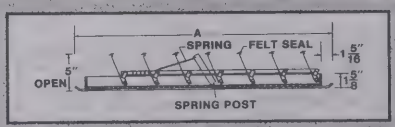
- **For horizontally mounted fans**
- **Can be motorized for uniform operation**

**Attractive shutters** install flush in ceiling opening below whole house ventilating fan. White polyester enamel finish blends with white ceiling finish. Aluminum blades have felted edges for effective sealing. Tie rod on each side of shutter assures uniform blade opening when fan is on. Blades have anti-friction pivot pins for fast, minimum-load opening and closing action. Extruded aluminum shutter frame with 3/16" diameter mounting holes.

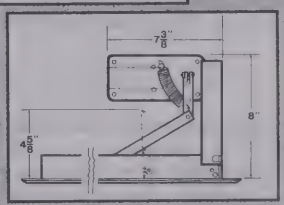
**Optional shutter motor**—Relieves starting load on fan motor by automatically opening and closing shutter. Assures uniform opening and closing. Motor housing is 6⅛H x 3½W x 2¾"D. 6"L leads, ground wire included, plus junction box for easy wiring. 60 Hz. Dual voltage motor fits 120 or 240 volt applications.



No. 4C225




Replacement Parts Available 1-800-323-0620

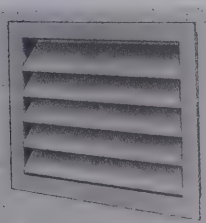



Optional Shutter Motor

| For Fan Dia. (In.) | Overall Dim. (In.) | Ceiling Opening Required (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **24** | 26 x 26 | 24 x 24 | **4C224** | $86.92 | **$52.05** | 7.9 |
| **30** | 32 x 32 | 30 x 30 | **4C225** | 103.29 | **61.85** | 12.0 |
| **36** | 38 x 38 | 36 x 36 | **4C228** | 127.50 | **76.35** | 17.0 |
| **42** | 44 x 44 | 42 x 42 | **3C242** | 174.76 | **104.65** | 21.0 |
| **48** | 50 x 50 | 48 x 48 | **3C243** | 221.52 | **132.65** | 25.0 |

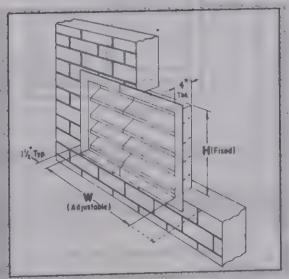
**120/240V SHUTTER MOTOR**—For above ceiling shutters.
**No. 2C904.** Shpg. wt. 4.7 lbs. List $90.59. Each ..... $54.25

## ADJUSTABLE FRAME INTAKE LOUVERS



No. 4F421

Replacement Parts Available 1-800-323-0620




- **Adjustable frame, fixed blade louvers offer installation flexibility**
- **Use multiple sections when larger sizes are needed**
- **Galvanized bird screen; 1/2" square mesh**
- **Blades set at 45° angle with 4" blade spacing**
- **Ratings determined in an AMCA certified laboratory**
- **Recommended intake velocity not to exceed 350 FPM; exhaust velocity not to exceed 500 FPM**

**GALVANIZED STEEL LOUVERS.** For many intake applications where moderate corrosion resistance is desired. 20-gauge galvanized steel with 1½" face flange.

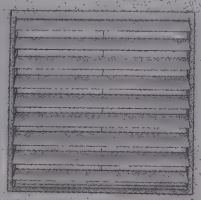
**PREMIUM ALUMINUM LOUVERS.** For extra corrosion resistance in problem environments.

| Adjustable With (In.) | Fixed Height (In.) | Maximum Intake CFM | Maximum Exhaust CFM | GALVANIZED STEEL LOUVERS Stock No. | List | Each | Shpg. Wt. | PREMIUM ALUMINUM LOUVERS Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **12 to 18** | 14 | 615 | 875 | **4F421** | $97.00 | **$58.10** | 12.0 | **4F951** | $117.40 | **$70.30** | 4.0 |
| **18 to 24** | 18 | 1050 | 1500 | **3C972** | 142.25 | **85.20** | 19.0 | **4F952** | 171.29 | **102.60** | 11.0 |
| **18 to 30** | 24 | 1750 | 2500 | **3C973** | 169.26 | **101.40** | 26.0 | **4F953** | 215.40 | **129.00** | 15.0 |
| **21 to 36** | 30 | 2625 | 3750 | **4F422** | 228.00 | **136.50** | 37.0 | **4F954** | 300.43 | **180.00** | 21.0 |
| **24 to 36** | 36 | 3150 | 4500 | **3C974** | 283.37 | **170.00** | 60.0 | **4F955** | 359.21 | **215.50** | 33.0 |
| **36 to 48** | 36 | 4200 | 6000 | **3C975** | 363.45 | **217.75** | 65.0 | **4F956** | 455.21 | **273.00** | 36.0 |
| **24 to 42** | 42 | 4290 | 6125 | **4F423** | 434.60 | **260.25** | 55.0 | **4F957** | 514.45 | **308.50** | 31.0 |
| **24 to 36** | 48 | 4200 | 6000 | **3C976** | 389.04 | **233.00** | 66.0 | **4F958** | 461.22 | **276.50** | 37.0 |
| **36 to 48** | 48 | 5600 | 8000 | **3C977** | 491.53 | **294.75** | 105.0 | **4F959** | 563.20 | **337.50** | 58.0 |

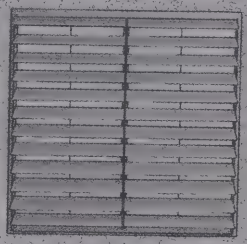
# ALUMINUM AND STEEL DAMPERS AND SINGLE AND DOUBLE PANEL EXHAUST SHUTTERS

## FIBERGLASS SINGLE AND DOUBLE PANEL EXHAUST SHUTTERS

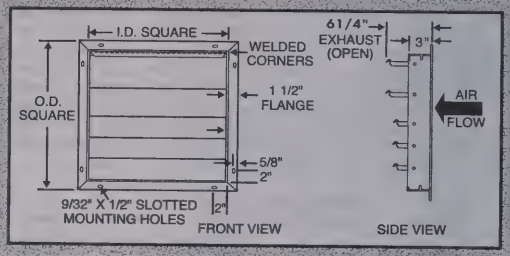
Dayton



No. 5C217
Single Panel



No. 5C220
Double Panel




- Sturdy shutters for direct or belt-driven exhaust fans
- Blades open when fan comes on, close when air flow stops
- Tie-rod is attached to blades on fan side
- 9/32" x 1/2" oblong mounting holes
- For vertical mounting only
- Single panel shutters for use with 10 to 36" diameter fans
- Double panel shutters for use with larger diameter exhaust fans.
- 2500 FPM maximum velocity.
- Optional shutter motors available, see page 3599

**HEAVY-DUTY FIBERGLASS SHUTTERS. 5-Year warranty.** For use in areas where corrosion is a known problem such as chemical plants, poultry and swine confinement operations, and anywhere a rugged, noncorrosive shutter is required. Heavy-duty fiberglass frame and blades with stainless steel pins and bearings at pivot points. 3" deep frame and 12-ga. stainless steel tie rod.

**Replacement Parts Available**
**1-800-323-0620**

### SINGLE PANEL EXHAUST SHUTTERS ORDERING DATA

| Fan Dia. (In.) | Frame Opening Req. "A" (In. Sq.) | Opening (Sq. Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **10** | 10½ | 0.569 | **5C210** | $53.69 | **$32.15** | 3.1 |
| **12** | 12½ | 0.900 | **5C211** | 59.36 | **35.55** | 4.0 |
| **16** | 16½ | 1.556 | **5C212** | 76.82 | **46.00** | 6.0 |
| **18** | 18½ | 2.070 | **5C213** | 86.00 | **51.50** | 7.0 |
| **20** | 20½ | 2.574 | **5C214** | 91.68 | **54.90** | 8.0 |
| **24** | 24½ | 3.408 | **5C215** | 109.55 | **65.60** | 10.0 |
| **30** | 30½ | 5.133 | **5C216** | 130.17 | **77.95** | 13.0 |
| **36** | 36½ | 7.696 | **5C217** | 172.51 | **103.30** | 15.0 |

### DOUBLE PANEL EXHAUST SHUTTERS ORDERING DATA

| | | | | | | |
|---|---|---|---|---|---|---|
| **36** | 36½ | 7.104 | **5C218** | 234.30 | **140.30** | 21.0 |
| **42** | 42½ | 9.883 | **5C219** | 276.80 | **165.75** | 23.0 |
| **48** | 48½ | 13.299 | **5C220** | 317.30 | **190.00** | 28.0 |
| **54** | 54½ | 16.683 | **5C221** | 383.68 | **229.75** | 38.0 |
| **60** | 60½ | 21.152 | **5C222** | 439.21 | **263.00** | 46.0 |

## 16 TO 60" MOTORIZED DAMPERS

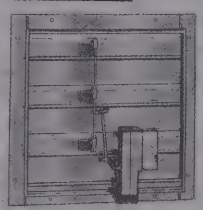
- Welded Corner Construction
- For fan diameters 16 to 60"
- Horizontal or vertical mount
- For intake and exhaust applications
- Up to 3500 FPM maximum velocity

**Tie rod linkage** is attached to the blades on the side of the fan, assuring dependable service. Frames are 2"D. Ample 9/32" x 1/2" oblong mounting holes. 16 to 48" units are single panel; 54 and 60" units are double panel. Dayton brand.

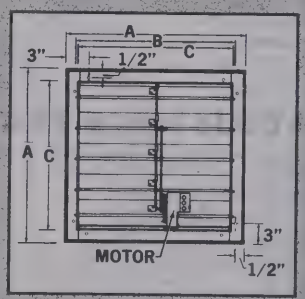
**Extruded aluminum dampers.** Heavy-duty dampers have extruded aluminum frame and blades. Power On to open; spring return to close.

**Galvanized steel dampers.** For normal applications. Galvanized steel frame and blades.

Dayton



No. 4C560
Single Panel Models for 16 to 48" Fans






No. 3C188
Double Panel Models for 54 and 60" Fans

### MOTORIZED DAMPER ORDERING DATA

| For Fan Dia. (In.) | Volts, 60 / 50 Hz | Overall Square (In.) A | Frame Opening Required (In.) B | Frame Less Flange (Sq. In.) C | Total Opening (Sq. Ft.) | Motor Bracket Extension (In.)† | Extruded Aluminum Dampers Stock No. | List | Each | Shpg. Wt. | Galvanized Steel Dampers Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16** | 120/240 | 19 | 17 | 16 | 1.386 | 6⅞ | **4C560** | $271.79 | **$162.75** | 12.0 | **3C725** | $200.65 | **$120.15** | 19.0 |
| **20** | 120/240 | 23 | 21 | 20 | 2.201 | 6⅞ | **4C561** | 288.91 | **173.00** | 15.0 | **3C726** | 213.17 | **127.65** | 25.0 |
| **24** | 120/240 | 27 | 25 | 24 | 3.243 | 6⅞ | **3C315** | 322.31 | **193.00** | 19.0 | **3C727** | 238.05 | **142.55** | 32.0 |
| **30** | 120/240‡ | 33 | 31 | 30 | 5.378 | 10¼ | **3C234** | 501.00 | **300.00** | 39.0 | **3C728** | 383.68 | **229.75** | 42.0 |
| **36** | 120/240‡ | 39 | 37 | 36 | 7.951 | 10¼ | **3C131** | 572.39 | **342.75** | 43.0 | **3C729** | 436.70 | **261.50** | 70.0 |
| **42** | 120/240‡ | 45 | 43 | 42 | 10.879 | 10¼ | **3C235** | 670.50 | **401.50** | 52.0 | **3C730** | 501.84 | **300.50** | 74.0 |
| **48** | 120/240‡ | 51 | 49 | 48 | 14.349 | 10¼ | **3C132** | 726.03 | **434.75** | 63.0 | **3C731** | 542.75 | **325.00** | 91.0 |
| **54** | 240 | 57 | 55 | 54 | 18.298 | 10¼ | **3C188#** | 1060.45 | **635.00** | 90.0 | **3C732** | 810.78 | **485.50** | 115.0 |
| **60** | 240 | 63 | 61 | 60 | 22.726 | 10¼ | **3C189#** | 1190.71 | **713.00** | 107.0 | **3C733** | 911.82 | **546.00** | 130.0 |

(†) From damper frame to end of bracket. (#) Double panel damper. (‡) 120 / 240V dampers for single or 3-phase power.



*However, wherever, you need to move air, we have the fans to do it.*

# GALVANIZED STEEL AND ALUMINUM SINGLE AND DOUBLE PANEL EXHAUST SHUTTERS

- Sturdy shutters for direct or belt-driven exhaust fans
- Blades open when fan comes on, close when air flow stops
- Steel reinforced blades felted for quiet operation, tight closure
- Tie-rod is attached to blades on fan side
- 9/32" x 1/2" oblong mounting holes
- For vertical mounting only
- Single panel shutters for use with 10 to 36" diameter fans
- Double panel shutters for use with larger diameter exhaust fans. 54 and 60" models have two additional tie rods on discharge side for uniform operation
- 2500 FPM maximum velocity

**GALVANIZED STEEL FRAME SHUTTERS.** For normal applications. Mill finish aluminum blades with stainless steel rivets. 19-gauge welded steel frame, 3" deep with 1⅝" flange.

**ALUMINUM SHUTTERS.** For a decorative look in areas where corrosion may be a problem. Aluminum blades have white enamel finish and stainless steel rivets. 16-gauge extruded aluminum frame, 3" deep with 1½" flange.

## OPTIONAL SHUTTER MOTORS

**For Single Panel Shutters.** For exhaust installations on single panel shutters only. Vertical mount only. Relieves starting load on fan motor. Motor housing: 6⅛H x 3½W x 2¾"D. 6" leads with junction box. 120/240V, 0.20/0.12 amps, 60 Hz.

**No. 2C831.** Shpg. wt. 4.5 lbs. List.....$90.59.
Each.....**$54.25**

**For Double Panel Shutters.** For exhaust installations on double panel shutters only. 120/240V, 0.20/0.15 amps, 60 Hz.

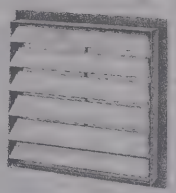
**For 36 to 48" diameter fans.** Motor housing: 6⅛H x 3½W x 2¾"D. 6" leads with junction box.

**No. 2C832.** Shpg. wt. 7.5 lbs. List.....$118.57.
Each.....**$71.00**

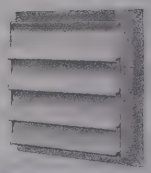
**For 54 and 60" diameter fans.** Vertical mount only. Motor housing: 4¼H x 3W x 4"D. 115/230V, 0.28/0.15 amps, 60 Hz.

**No. 4C885.** Shpg. wt. 10.0 lbs. List.....$149.13
Each.....**$89.30**

### SINGLE PANEL SHUTTERS



No. 1C746
Galvanized Steel Frame

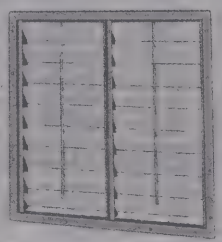


No.4C557
Aluminum Frame

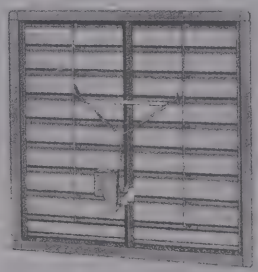
Dayton®

Replacement Parts Available
1-800-323-0620

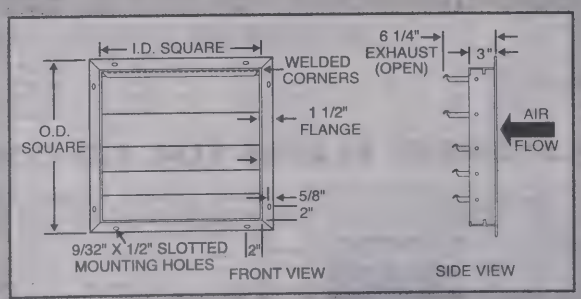
### DOUBLE PANEL SHUTTERS



No.1C209
Galvanized Steel Frame



No. 3C311
Aluminum Frame
Shown with Optional Motor




## SINGLE PANEL EXHAUST SHUTTERS ORDERING DATA

| Fan Dia. (In.) | Frame Opening Required "A" (In. Sq.) | Opening (Sq. Ft.) | GALVANIZED STEEL FRAME Stock No. | GALVANIZED STEEL FRAME Each | ALUMINUM FRAME Stock No. | ALUMINUM FRAME Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 10 | 10½ | 0.569 | 2C526 | $17.04 | 4C555 | $20.61 | 3.1 |
| 12 | 12½ | 0.900 | 1C742 | 18.90 | 4C556 | 22.88 | 3.8 |
| 16 | 16½ | 1.556 | 1C743 | 24.51 | 4C557 | 29.65 | 5.3 |
| 18 | 18½ | 2.070 | 1C744 | 26.20 | 4C558 | 33.30 | 6.4 |
| 20 | 20½ | 2.574 | 1C745 | 29.45 | 4C559 | 35.65 | 7.4 |
| 24 | 24½ | 3.408 | 1C746 | 35.55 | 3C308 | 42.90 | 9.5 |
| 30 | 30½ | 5.133 | 1C055 | 42.50 | 3C309 | 50.90 | 13.0 |
| 36 | 36½ | 7.696 | 4C521 | 56.15 | 3C310 | 67.90 | 18.0 |

## DOUBLE PANEL EXHAUST SHUTTERS ORDERING DATA

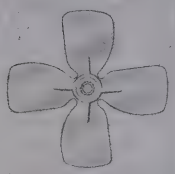
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 36 | 36½ | 7.104 | 1C209 | 70.10 | 4C835 | 95.75 | 20.0 |
| 42 | 42½ | 9.883 | 1C210 | 83.20 | 3C311 | 111.35 | 23.0 |
| 48 | 48½ | 13.299 | 1C211 | 97.40 | 3C312 | 128.25 | 28.0 |
| 54 | 54½ | 16.683 | 3C115 | 146.25 | 3C313 | 177.00 | 40.0 |
| 60 | 60½ | 21.152 | 3C116 | 168.25 | 3C314 | 203.00 | 46.0 |

# ALUMINUM FAN BLADES AND AIR CONDITIONING CONDENSER FAN BLADES

## 1 1/2 TO 10" DIAMETER AXIAL FLOW FAN BLADES



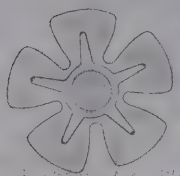
A No. 2C947



B No. 4C469



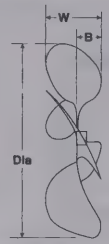
C No. 4C473

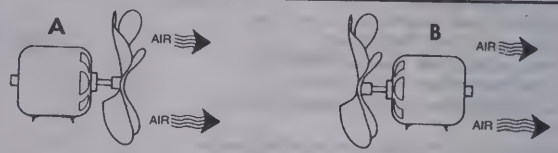


D No. 4C474

air drive, inc

- Aluminum construction
- Blades designed for clockwise rotation
- Provide quiet operation
- Light weight reduces wear on motor bearing and prolongs motor life




With Air Moving Toward You, Fan Blade is Turning CW
(A) CW Motor Facing Shaft with CW Fan Blade
(B) CCW Motor Facing Shaft with CW Fan Blade

### 1½–6½" HUB-TYPE BLADES FOR USE W/3000 RPM C FRAME MOTORS

| Dia. (In.) | No. Blades | Bore (In.) | Blade Type | Approx. CFM | Dimensions (In.) Width | B | Pitch | Stock No. | BLADE ONLY List | Each | Lots 10 | Shpg. Wt. | BLADE WITH MOTOR HP | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1½ | 10 | 3/16 | A | 25 | 1/8 | 1/16 | 7° | 2C947 | $2.82 | $1.69 | $1.57 | 0.1 | 1/500 | 7C721 | $27.66 | $16.57 |
| 2 | 10 | 3/16 | A | 35 | 1/4 | 3/16 | 12 | 2C948 | 2.99 | 1.79 | 1.67 | 0.1 | 1/500 | 7C722 | 28.29 | 16.94 |
| 2½ | 10 | 3/16 | A | 45 | 3/8 | 5/16 | 20 | 2C949 | 3.46 | 2.07 | 1.93 | 0.1 | 1/500 | 7C723 | 27.99 | 16.76 |
| 3 | 10 | 3/16 | A | 60 | 1/2 | 1/4 | 24 | 2C950 | 3.55 | 2.13 | 1.98 | 0.1 | 1/250 | 7C724 | 28.63 | 17.15 |
| 3½ | 10 | 3/16 | A | 100 | 5/8 | 7/16 | 27 | 2C951 | 3.83 | 2.30 | 2.14 | 0.1 | 1/150 | 7C725 | 29.27 | 17.53 |
| 4 | 10 | 3/16 | A | 200 | 11/16 | 1/2 | 28 | 2C953 | 4.04 | 2.42 | 2.25 | 0.1 | 1/150 | 7C727 | 30.25 | 18.12 |
| 4½ | 10 | 3/16 | A | 300 | 3/4 | 5/8 | 30 | 4C465 | 4.83 | 2.89 | 2.69 | 0.1 | 1/150 | 7F609 | 29.94 | 17.93 |
| 5 | 10 | 3/16 | A | 400 | 7/8 | 3/4 | 35 | 4C467 | 5.16 | 3.09 | 2.87 | 0.1 | 1/70 | 7F610 | 40.56 | 24.29 |
| 6 | 4 | 3/16 | B | 450 | 3/4 | 1/2 | 19 | 4C469 | 5.97 | 3.57 | 3.32 | 0.1 | 1/70 | 7F611 | 40.35 | 24.16 |
| 6½ | 4 | 3/16 | B | 500 | 3/4 | 1/2 | 19 | 4C471 | 6.08 | 3.64 | 3.39 | 0.1 | 1/70 | 7F612 | 41.45 | 24.82 |

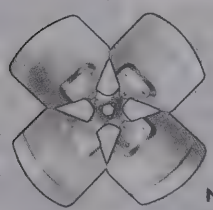
### 3½–10" HUB-TYPE BLADES FOR USE W/1550 RPM STD CASE MOTORS

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3½ | 10 | 1/4 | A | 50 | 5/8 | 7/16 | 27 | 2C952 | 3.85 | 2.31 | 2.15 | 0.1 | 1/100 | 7F613 | 59.77 | 35.80 |
| 4 | 10 | 1/4 | A | 100 | 11/16 | 1/2 | 28 | 2C954 | 4.04 | 2.42 | 2.25 | 0.1 | 1/100 | 7F614 | 61.11 | 36.60 |
| 4½ | 10 | 1/4 | A | 150 | 3/4 | 5/8 | 30 | 4C466 | 4.83 | 2.89 | 2.69 | 0.1 | 1/100 | 7F615 | 60.44 | 36.20 |
| 5 | 10 | 1/4 | A | 200 | 7/8 | 3/4 | 35 | 4C468 | 5.16 | 3.09 | 2.87 | 0.1 | 1/100 | 7F616 | 61.94 | 37.10 |
| 6 | 4 | 1/4 | B | 225 | 3/4 | 1/2 | 19 | 4C470 | 5.97 | 3.57 | 3.32 | 0.1 | 1/100 | 7F617 | 61.50 | 36.85 |
| 6½ | 4 | 1/4 | B | 250 | 3/4 | 1/2 | 19 | 4C472 | 6.08 | 3.64 | 3.39 | 0.1 | 1/100 | 7F618 | 62.83 | 37.65 |
| 7 | 5 | 1/4 | C | 300 | 1¹/₁₆ | 7/16 | 21 | 4C473 | 8.60 | 5.15 | 4.79 | 0.2 | 1/100 | 7F668 | 63.39 | 38.00 |
| 8 | 5 | 1/4 | C | 400 | 1¼ | 1/2 | 23 | 4C475 | 10.36 | 6.20 | 5.77 | 0.2 | 1/100 | 7F669 | 65.84 | 39.45 |
| 9 | 5 | 1/4 | C | 500 | 1⅜ | 1/2 | 25 | 4C477 | 12.25 | 7.34 | 6.82 | 0.2 | 1/70 | 7F670 | 67.12 | 40.20 |
| 10 | 5 | 1/4 | C | 700 | 1½ | 5/8 | 28 | 4C479 | 14.20 | 8.50 | 7.91 | 0.3 | 1/50 | 7F671 | 76.04 | 45.55 |

### 7–10" HUB-LESS BLADES FOR USE W/1550 RPM THREADED SHAFT MOTORS

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 5 | — | D | 300 | 1¹/₁₆ | 3/8 | 21 | 4C474 | 6.60 | 3.95 | 3.68 | 0.1 | 1/185 | 7F672 | 55.82 | 33.45 |
| 8 | 5 | — | D | 400 | 1¼ | 1/2 | 23 | 4C476 | 8.25 | 4.94 | 4.59 | 0.2 | 1/185 | 7F673 | 58.71 | 35.20 |
| 9 | 5 | — | D | 500 | 1⅜ | 5/8 | 25 | 4C478 | 10.03 | 6.00 | 5.58 | 0.2 | 1/125 | 7F674 | 63.28 | 37.90 |
| 10 | 5 | — | D | 700 | 1½ | 5/8 | 28 | 4C480 | 11.84 | 7.09 | 6.59 | 0.2 | 1/83 | 7F675 | 68.47 | 41.00 |

## REPLACEMENT BLADES FOR AIR CONDITIONING CONDENSERS



No. 4C886

Dayton®

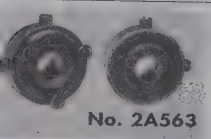
- Also for heat pumps and heat exchangers
- Rotation facing discharge of fan
- 18" to 24" blade diameters

**4-blade statically balanced mill finish aluminum propellers** for use with air conditioning condensers, heat pumps, heat exchangers, and unit heaters.

**Spiders are galvalume with zinc plated hubs.** For use with motor speed up to 1140 RPM. Designed to be used with interchangeable hex hubs.

| Blade Dia. (In.) | Pitch | Free Air CFM† | HP | 0.30 SP CFM† | HP | Stock No. CW* | CCW* | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 27° | 2490 | 1/8 | 1510 | 1/5 | 4C886 | 4C887 | $29.86 | $17.88 | $16.45 | 2.4 |
| | 30 | 2730 | 1/7 | 1700 | 1/4 | 4C888 | 4C889 | 29.86 | 17.88 | 16.45 | 2.4 |
| | 33 | 2950 | 1/5 | 1870 | 1/4 | 4C890 | 4C891 | 29.86 | 17.88 | 16.45 | 2.4 |
| 20 | 26 | 3540 | 1/4 | 2580 | 1/3 | 4C892 | 4C893 | 32.98 | 19.75 | 18.17 | 2.5 |
| | 29 | 3920 | 1/3 | 2920 | 1/2 | 4C894 | 4C895 | 32.98 | 19.75 | 18.17 | 2.5 |
| | 33 | 4350 | 1/2 | 3270 | 1/2 | 4C896 | 4C897 | 32.98 | 19.75 | 18.17 | 2.5 |
| 22 | 27 | 4840 | 1/3 | 3640 | 1/2 | 4C898 | 4C899 | 39.12 | 23.43 | 21.55 | 3.9 |
| | 35 | 5940 | 1/2 | 4470 | 3/4 | 4C900 | 4C901 | 39.12 | 23.43 | 21.55 | 3.9 |
| 24 | 27 | 6360 | 1/2 | 5280 | 3/4 | 4C902 | 4C903 | 43.32 | 25.95 | 23.86 | 4.0 |
| | 33 | 7600 | 3/4 | 6190 | 1 | 4C904 | 4C905 | 43.32 | 25.95 | 23.86 | 4.0 |

(†) CFM and HP rated at 1000 RPM. (*) Rotation facing discharge of fan.



No. 2A563

## INTERCHANGEABLE HEX HUBS FOR CONDENSER FAN BLADES

Hex hubs are constructed of alloy steel. Pretapped holes with mounting and set screws started. In 3/8, 1/2, and 5/8" bore sizes. Dayton brand.

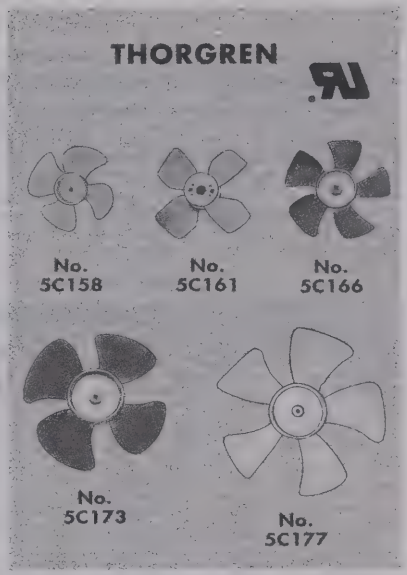
| Bore (In.) | No. of Set Screws | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3/8 | 1 | 2A563 | $6.46 | $3.87 | $3.56 | 0.5 |
| 1/2 | 2 | 2A564 | 6.46 | 3.87 | 3.56 | 0.5 |
| 5/8 | 2 | 2A565 | 6.46 | 3.87 | 3.56 | 0.5 |



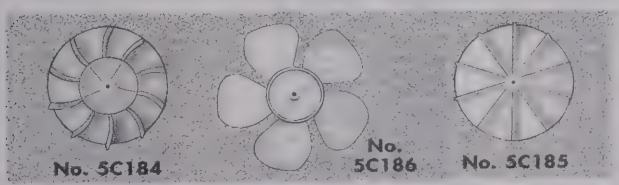
*However, wherever, you need to move air, we have the fans to do it.*

# 3 TO 8" PLASTIC FAN BLADES AND EXHAUST FAN VENTURI BLADES

- Rugged Celcon plastic has flammability rating of 94HB (325°F)
- Color coded for rotation: white for clockwise; gray for counter-clockwise
- Light weight reduces wear on motor bearing
- Blades cannot become bent or misaligned
- Blades press fit on motor shaft for ease of installation
- Blade design minimizes air noise and vibration



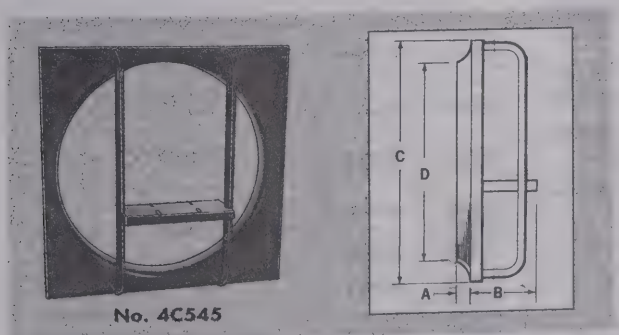

| Prop Dia. (In.) | No. of Blades | Bore (In.) | Rotation | Recommended Motor HP | CFM @ 3000 RPM | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 3/16 | CW | 1/500 | 30 | 5C158 | $4.33 | $2.59 | $2.31 | 0.1 |
| 3 | 4 | 3/16 | CCW | 1/500 | 30 | 5C159 | 4.33 | 2.59 | 2.31 | 0.1 |
| 3 1/2 | 4 | 3/16 | CW | 1/250 | 40 | 5C160 | 4.60 | 2.75 | 2.45 | 0.1 |
| 4 | 4 | (Hub) | CCW | 1/250 | 55 | 5C161 | 4.82 | 2.88 | 2.57 | 0.1 |
| 4 | 5 | 1/8 | CCW | 1/250 | 55 | 5C162 | 4.82 | 2.88 | 2.57 | 0.1 |
| 4 | 5 | 3/16 | CW | 1/250 | 40 | 5C163 | 4.82 | 2.88 | 2.57 | 0.1 |
| 4 | 5 | 3/16 | CCW | 1/250 | 40 | 5C164 | 4.82 | 2.88 | 2.57 | 0.1 |
| 4 1/2 | 5 | 1/8 | CCW | 1/150 | 75 | 5C165 | 4.96 | 2.97 | 2.64 | 0.1 |
| 5 | 5 | 3/16 | CW | 1/100 | 115 | 5C166 | 5.14 | 3.08 | 2.74 | 0.1 |
| 5 | 5 | 3/16 | CCW | 1/100 | 75 | 5C168 | 5.14 | 3.08 | 2.74 | 0.1 |
| 5 | 5 | 1/4 | CCW | 1/100 | 75 | 5C169 | 5.14 | 3.08 | 2.74 | 0.1 |
| 5 | 5 | 5/16 | CW | 1/100 | 115 | 5C167 | 5.14 | 3.08 | 2.74 | 0.1 |
| 5 1/2 | 4 | 3/16 | CCW | 1/70 | 35 | 5C170 | 5.14 | 3.08 | 2.74 | 0.1 |
| 5 1/2 | 4 | 1/4 | CCW | 1/70 | 35 | 5C171 | 5.14 | 3.08 | 2.74 | 0.1 |
| 6 | 6 | 3/16 | CW | 1/70 | 200 | 5C172 | 6.58 | 3.94 | 3.51 | 0.1 |
| 6 | 4 | 1/4 | CW | 1/70 | 50 | 5C173 | 6.58 | 3.94 | 3.51 | 0.2 |
| 6 | 6 | 1/4 | CCW | 1/70 | 100 | 5C174 | 6.58 | 3.94 | 3.51 | 0.1 |
| 6 1/2 | 5 | 3/16 | CW | 1/40 | 400 | 5C175 | 7.14 | 4.28 | 3.81 | 0.2 |
| 6 1/2 | 5 | 1/4 | CW | 1/40 | 400 | 5C176 | 7.14 | 4.28 | 3.81 | 0.1 |
| 7 | 5 | 1/4 | CW | 1/30 | 600 | 5C177 | 7.48 | 4.48 | 3.99 | 0.2 |
| 7 | 5 | 5/16 | CW | 1/30 | 600 | 5C178 | 7.48 | 4.48 | 3.99 | 0.2 |
| 8 | 5 | 1/4 | CW | 1/30 | 800 | 5C179 | 10.93 | 6.54 | 5.82 | 0.2 |
| 8 | 5 | 1/4 | CCW | 1/30 | 800 | 5C180 | 10.93 | 6.54 | 5.82 | 0.2 |




## THORGREN
## DIRECT OEM REPLACEMENT PLASTIC FAN BLADES AND IMPELLERS

| Blade Dia. (In.) | Bore (In.) | Type | OEM | OEM Part No. | Application | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 1/2 | 0.187 | Blade | Admiral | 52120 | Refrigerator/Freezer | 5C181 | $4.96 | $2.97 | $2.64 | 0.1 |
| 4 1/4 | 0.187 | Blade | Whirlpool | 1127752 | Refrigerator/Freezer | 5C182 | 4.82 | 2.88 | 2.57 | 0.1 |
| 4.62 | 0.141 | Impeller | Broan | 99110630D | Vent Fan | 5C183 | 4.20 | 2.52 | 2.24 | 0.1 |
| 4.62 | 0.181 | Impeller | Aubrey | 6301 | Vent Fan | 5C184 | 4.20 | 2.52 | 2.24 | 0.1 |
| 4.62 | 0.218 | Impeller | Nutone | 68920 | Vent Fan | 5C185 | 4.20 | 2.52 | 2.24 | 0.1 |
| 6 5/8 | 0.218 | Blade | Broan, Nutone Rangeaire, Aubrey | Various | Range Hood | 5C186 | 5.74 | 3.43 | 3.06 | 0.1 |

## 12 to 30" EXHAUST FAN VENTURI FRAMES




**Motor and blade sold separately.** Fixed position, slotted motor base accepts 48 or 56 frame, open or totally enclosed motors. Motor mounting bolts and spacers are included in carton.

**Wall mounted rigid steel frames** have deep venturi and 1" wide flanges. Frames have charcoal gray polyester finish and are individually cartoned.

**For fan propellers,** see Index: Fan Parts & Accessories, Blades; motors, see Motors; intake guards, see Guards, Fan.

| For Prop. Dia. (In.) | Dimensions (In.) A | B | C | D | Dia. Opening Req. (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 12 | 1 1/2 | 7 5/16 | 16 | 12 3/8 | 14 | 4C545 | $93.71 | $59.95 | 9.0 |
| 16 | 1 11/16 | 6 3/4 | 20 | 16 7/16 | 18 | 4C546 | 104.70 | 67.15 | 11.0 |
| 18 | 1 7/8 | 7 5/16 | 22 | 18 7/16 | 20 | 4C547 | 112.03 | 71.75 | 12.0 |
| 20 | 2 1/8 | 6 11/16 | 24 | 20 1/2 | 22 | 3C304 | 119.36 | 76.75 | 13.0 |
| 24 | 2 1/2 | 6 3/8 | 28 | 24 3/8 | 26 | 3C305 | 128.76 | 82.35 | 15.0 |
| 30 | 3 1/8 | 6 1/2 | 34 | 30 1/2 | 32 | 3C378 | 140.74 | 90.15 | 20.0 |

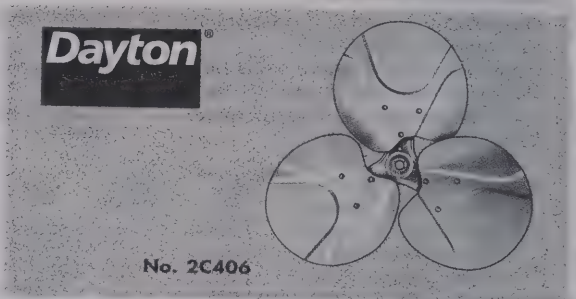
VISIT THE GRAINGER WEB SITE TO PLACE YOUR ORDER!

Link up with Grainger's Web site at http://www.grainger.com and tap into a fast, convenient way to access up-to-date information. Our Online Catalog allows you to search and display products as well as place orders online. . . day or night.

# 12 TO 30" ALUMINUM FAN BLADES

- **For use with exhaust fans or circulators**
- **3-blade, statically balanced propellers**
- **Bright finish aluminum blades**

The complete in-stock line of statically balanced, bright finish aluminum blades. Wings and spiders are embossed for extra strength and rigidity. Hub is locked into spider by staking at several points. Spiders are galvalume with zinc plated hubs. Clockwise rotation facing discharge, hub is on intake side. Blades have fixed bore with socket head set screws in hub. Blades packed 2 per carton.




No. 2C406

## EXHAUST FAN AIR DELIVERIES IN CFM WITH REQUIRED HP AT RPM SHOWN

Air deliveries based on standard test codes of AMCA.
When used in system over 0.250" SP, increase motor HP to next larger size.

| Blade Dia. (In.) | 0.0" SP | 0.125" SP | 0.250" SP | RPM | HP | 0.0" SP | 0.125" SP | 0.250" SP | RPM | HP | 3/8" Bore Stock No. | 1/2" Bore Stock No. | 5/8" Bore Stock No. | List | Each | Lots 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 900 | 770 | 565 | 1550 | 1/40 | 600 | 345 | 70 | 1050 | 1/100 | 2C354* | — | — | $17.68 | $10.59 | $9.74 |
| | 970 | 855 | 645 | 1550 | 1/25 | 645 | 410 | 140 | 1050 | 1/70 | 2C356* | — | — | | | |
| | 970 | 855 | 645 | 1550 | 1/25 | 645 | 410 | 140 | 1050 | 1/70 | 2C855 | — | — | | | |
| | 1110 | 950 | 750 | 1550 | 1/20 | 740 | 470 | 275 | 1050 | 1/60 | 2C842 | 2C683 | — | | | |
| | 1430 | 1335 | 1065 | 1725 | 1/8 | 945 | 670 | 390 | 1140 | 1/250 | — | 4C348 | 4C459 | | | |
| 16 | 1215 | 1050 | 815 | 1550 | 1/30 | 810 | 555 | 235 | 1050 | 1/70 | 2C406* | — | — | 23.60 | 14.13 | 13.00 |
| | 1475 | 1330 | 1080 | 1550 | 1/15 | 985 | 735 | 380 | 1050 | 1/40 | 2C358 | — | — | | | |
| | 2275 | 2150 | 1975 | 1725 | 1/5 | 1505 | 1280 | 950 | 1140 | 1/17 | — | 2C359 | 4C460 | | | |
| 18 | 1285 | 965 | 675 | 1550 | 1/20 | 860 | 420 | 105 | 1050 | 1/60 | 2C360 | — | — | 32.52 | 19.47 | 17.91 |
| | 2845 | 2680 | 2525 | 1725 | 1/4 | 1875 | 1625 | 1125 | 1140 | 1/12 | — | 2C361 | 4C461 | | | |
| | 3275 | 3125 | 2875 | 1725 | 1/3 | 2155 | 1900 | 1375 | 1140 | 1/11 | — | 2C362 | 2C363 | | | |
| 20 | 1635 | 1375 | 1090 | 1550 | 1/15 | 1075 | 700 | 465 | 1050 | 1/40 | 2C364 | — | — | 39.05 | 23.38 | 21.51 |
| | 2920 | 2760 | 2575 | 1725 | 1/4 | 1930 | 1630 | 1215 | 1140 | 1/15 | — | 2C365 | 4C462 | | | |
| | 3250 | 3050 | 2820 | 1500 | 1/4 | 2165 | 1825 | 1250 | 1050 | 1/15 | — | 4C230 | — | | | |
| | 3445 | 3275 | 3110 | 1725 | 1/3 | 2280 | 2040 | 1585 | 1140 | 1/10 | — | 2C368 | 2C367 | | | |
| | 4175 | 4020 | 3850 | 1725 | 1/2 | 2775 | 2475 | 2050 | 1140 | 1/6 | — | 2C369 | 4C349 | | | |
| 24 | 3250 | 2900 | 2635 | 1725 | 1/4 | 2135 | 1665 | 1210 | 1140 | 1/12 | — | 2C370 | 4C463 | 54.52 | 32.65 | 30.04 |
| | 3460 | 3200 | 2860 | 1500 | 1/4 | 2300 | 1880 | 1325 | 1050 | 1/12 | — | 4C231 | — | | | |
| | 3995 | 3600 | 3100 | 1075 | 1/4 | 2910 | 2300 | 1725 | 800 | 1/12 | — | 4C229 | — | | | |
| | 3975 | 3725 | 3450 | 1725 | 1/3 | 2625 | 2175 | 1750 | 1140 | 1/10 | — | 4C231 | 4C464 | | | |
| | 4750 | 4550 | 4300 | 1725 | 1/2 | 3145 | 2775 | 2350 | 1140 | 1/6 | — | 2C372 | 2C373 | | | |
| 30 | 5875 | 5000 | 4350 | 1725 | 1/2 | 3875 | 2775 | 2200 | 1140 | 1/6 | — | 2C374 | — | 71.37 | 42.75 | 39.32 |
| | 6700 | 6200 | 5700 | 1075 | 1/2 | 4900 | 4150 | 3225 | 800 | 1/4 | — | — | 4C457 | | | |
| 30 | 8500 | 7950 | 7200 | 1075 | 3/4 | — | — | — | — | — | — | — | 3C380‡ | 78.51 | 47.05 | 43.25 |

(*) 5/16" Bore. (‡) 5/8" Bore with 3/16 x 3/32 keyway. Hub is full arc welded to spider.

## CIRCULATOR AIR DELIVERIES IN CFM WITH REQUIRED HP AT RPM SHOWN

Air deliveries based on test codes of AMCA.

| Blade Dia. (In.) | 1725 RPM CFM | 1725 RPM HP | 1550 RPM CFM | 1550 RPM HP | 1140 RPM CFM | 1140 RPM HP | 1050 RPM CFM | 1050 RPM HP | 3/8" Bore Stock No. | 1/2" Bore Stock No. | 5/8" Bore Stock No. | List | Each | Lots 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | — | — | 1200 | 1/40 | — | — | 800 | 1/100 | 2C354* | — | — | $17.68 | $10.59 | $9.74 |
| | — | — | 1290 | 1/25 | — | — | 860 | 1/70 | 2C356* | — | — | | | |
| | — | — | 1290 | 1/25 | — | — | 860 | 1/70 | 2C855 | — | — | | | |
| | — | — | 1430 | 1/20 | — | — | 950 | 1/60 | 2C842 | 2C683 | — | | | |
| | 1870 | 1/8 | — | — | 1230 | 1/25 | — | — | — | 4C348 | 4C459 | | | |
| 16 | — | — | 1580 | 1/30 | — | — | 1060 | 1/70 | 2C406* | — | — | 23.60 | 14.13 | 13.00 |
| | 2140 | 1/12 | 1860 | 1/15 | 1410 | 1/25 | 1240 | 1/40 | 2C358 | — | — | | | |
| | 2870 | 1/5 | — | — | 1900 | 1/17 | — | — | — | 2C359 | 4C460 | | | |
| 18 | 1700 | 1/12 | 1480 | 1/20 | 1090 | 1/50 | 990 | 1/60 | 2C360 | — | — | 32.52 | 19.47 | 17.91 |
| | 3830 | 1/4 | 3340 | 1/6 | 2550 | 1/12 | 2220 | 1/20 | — | 2C361 | 4C461 | | | |
| | 4450 | 1/3 | — | — | 2940 | 1/10 | — | — | — | 2C362 | 2C363 | | | |
| 20 | 2720 | 1/10 | 2370 | 1/15 | 1800 | 1/40 | 1560 | 1/40 | 2C364 | — | — | 39.05 | 23.38 | 21.51 |
| | 4230 | 1/4 | 3680 | 1/6 | 2800 | 1/15 | 2450 | 1/25 | — | 2C365 | 4C462 | | | |
| | — | — | 4870 | 1/4 | 3720 | 1/10 | 3260 | 1/15 | — | 4C230 | — | | | |
| | 5000 | 1/3 | — | — | 3300 | 1/10 | 2900 | 1/15 | — | 2C368 | 2C367 | | | |
| | 6050 | 1/2 | — | — | 4030 | 1/6 | 3500 | 1/10 | — | 2C369 | 4C349 | | | |
| 24 | 4520 | 1/4 | — | — | 2960 | 1/12 | 2600 | 1/20 | — | 2C370 | 4C463 | 54.52 | 32.65 | 30.04 |
| | — | — | — | — | 5550 | 1/4 | — | — | — | 4C229 | — | | | |
| | 5600 | 1/3 | 4950 | 1/4 | 3630 | 1/10 | 3300 | 1/12 | — | 4C231 | 4C464 | | | |
| | 6620 | 1/2 | — | — | 4380 | 1/6 | 3840 | 1/8 | — | 2C372 | 2C373 | | | |
| 30 | 7580 | 1/2 | — | — | 5000 | 1/6 | 4380 | 1/8 | — | 2C374 | — | 71.37 | 42.75 | 39.32 |
| | — | — | — | — | 8650 | 1/2 | — | — | — | — | 4C457 | | | |
| 30 | — | — | — | — | 10970 | 3/4 | — | — | — | — | 3C380‡ | 78.51 | 47.05 | 43.25 |

(*) 5/16" Bore. (‡) 5/8" Bore with 3/16 x 3/32 keyway. Hub is full arc welded to spider.

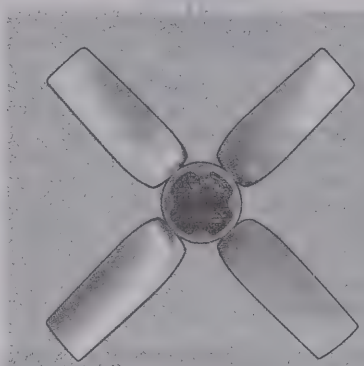


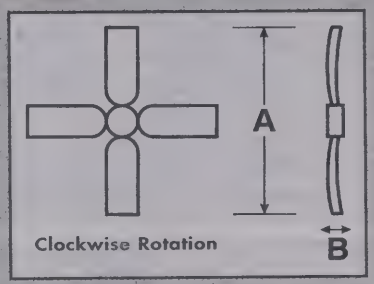
*However, wherever, you need to move air, we have the fans to do it.*

# CAST ALUMINUM FAN BLADES

## 12 TO 30" HEAVY-DUTY FAN BLADES

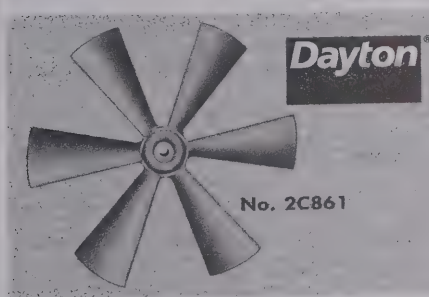
- Spark-resistant for use in spray booths and other industrial applications including foundries, factories, and farm buildings
- Propellers are statically balanced
- 12 and 30" models are one-piece castings
- 16 through 24" units are multi-piece construction
- Clockwise rotation facing discharge
- 5/8" bore has 3/16"W and 3/32"D keyway
- 1/2" bore has no keyway
- Hub on intake side with 2 set screws
- Maximum temperature is 200°F
- Performance tested in accordance with AMCA Standards

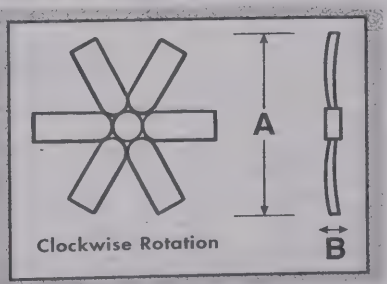



| Propeller Dia. (In.) | Dimensions (In.) A | B | CFM Air Delivery 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | Motor Required HP | RPM | No. Blades | 1/2" Bore Stock No. | Keyed 5/8" Bore Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12** | 11 15/16 (±1/16) | 1 3/4 | 1185<br>2370 | 900<br>2250 | 585<br>2125 | 315<br>1975 | —<br>1795 | 1/4<br>3/4 | 1725<br>3450 | 4<br>4 | **4C385** | **4C386**<br>**4C385** | $91.69<br>91.69 | **$54.95**<br>**54.95** |
| **16** | 15 7/8 | 2 1/2 | 2720 | 2275 | 1820 | 1390 | 1075 | 1/4 | 1725 | 4 | **4C132** | **4C133** | 104.77 | **62.80** |
| **18** | 17 7/8 | 2 7/16 | 2905<br>3480 | 2500<br>3005 | 2085<br>2460 | 1670<br>2020 | 1295<br>1560 | 1/4<br>1/3 | 1725<br>1725 | 4<br>4 | **4C134**<br>**4C136** | **4C135**<br>**4C137** | 109.04<br>109.04 | **65.35**<br>**65.35** |
| **20** | 19 7/8 | 2 7/16 | 3020<br>3620<br>4700 | 2620<br>3110<br>4055 | 2100<br>2630<br>3430 | 1640<br>2155<br>2900 | 1290<br>1720<br>2350 | 1/4<br>1/3<br>1/2 | 1725<br>1725<br>1725 | 4<br>4<br>4 | **4C138**<br>**4C140**<br>— | **4C139**<br>**4C141**<br>**4C143** | 113.49<br>113.49<br>113.49 | **68.00**<br>**68.00**<br>**68.00** |
| **24** | 23 7/8 | 2 5/16 | 4035<br>5480<br>6860 | 3430<br>4965<br>6155 | 2960<br>4450<br>5450 | 2335<br>3895<br>4750 | 1705<br>3135<br>4045 | 1/3<br>1/2<br>3/4 | 1725<br>1725<br>1725 | 4<br>4<br>4 | **4C144**<br>—<br>— | **4C145**<br>**4C147**<br>**4C149** | 117.84<br>117.86<br>117.85 | **70.60**<br>**70.60**<br>**70.60** |
| **30** | 30 | 1 5/8 | 10575 | 7215 | 3870 | — | — | 3/4 | 1075 Max. | 3 | — | **3C379** | 276.45 | **165.75** |

## 12 TO 42" SPRAY BOOTH FAN BLADES

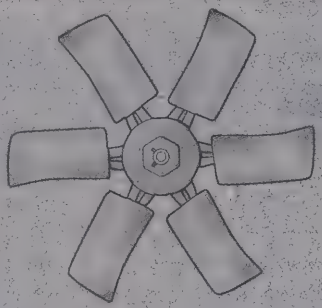



- Replacement propellers for Dayton spray booth fans; will also fit other spray booth fans of similar design used for combustion materials, vapors, and grain products
- Cast aluminum with air foil blades
- Spark-resistant
- Propellers are statically balanced
- Clockwise rotation facing discharge
- Maximum temperature: 200°F

| Propeller Dia. (In.) | Dimensions (In.) A | B | CFM 0.0" SP | Max. Fan RPM | Motor HP | No. Blades | Hub Bore (In.) | Fits Dayton Fan No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12** | 11 1/8 | 1 3/4 | 1280<br>1960 | 2250<br>3450 | 1/4<br>3/4 | 4<br>4 | 3/4<br>3/4 | 2C860 | **2C861** | $94.56 | **$56.65** | 1.3 |
| **27** | 26 1/4 | 2 7/16 | 7900<br>9315<br>10,440 | 1400<br>1650<br>1850 | 1<br>1 1/2<br>2 | 6<br>6<br>6 | 3/4<br>3/4<br>3/4 | 3C055 | **4C255** | 298.36 | **178.75** | 9.5 |
| **30** | 29 1/4 | 2 1/2 | 12,215<br>14,510<br>16,965 | 1170<br>1390<br>1625 | 2<br>3<br>5 | 6<br>6<br>6 | 1<br>1<br>1 | 3C052 | **4C256** | 441.53 | **264.75** | 17.0 |
| **34** | 33 1/4 | 2 9/16 | 12,955<br>15,150<br>18,280 | 1240<br>1450<br>1750 | 2<br>3<br>5 | 6<br>6<br>6 | 1<br>1<br>1 | 3C053 | **4C257** | 439.95 | **263.75** | 13.0 |
| **42** | 41 1/4 | 3 1/16 | 30,050<br>34,140<br>37,420 | 1100<br>1250<br>1370 | 5<br>7 1/2<br>10 | 4<br>4<br>4 | 1 3/16<br>1 3/16<br>1 3/16 | 3C128 | **4C328** | 564.82 | **338.50** | 24.0 |

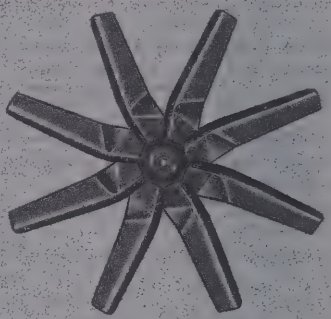
# 24 TO 60" AXIAL FAN BLADES



No. 4C372 6-Blade

Dayton®

- For use as factory replacement blades in Dayton industrial/commercial exhaust fans
- Steel construction, statically balanced
- Hub is on discharge side of vertical models; intake side of horizontal models
- 6-Blades have fixed bore with two locking set screws
- 8-Blade has split taper bushing
- Blades rotates clockwise facing discharge
- Red enamel finish



No. 3C029 8-Blade

## 6-BLADE PERFORMANCE FOR DAYTON VERTICAL & HORIZONTAL FANS

| Blade Dia. (In.) | CFM Air Delivery At RPM Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | Fan RPM | HP 1725 RPM | Hub Bore (In.) | Fits Discontinued Dayton Fan No. Vertical | Horizontal | Vertical Stock No. | Horizontal Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 5,400 | 4,500 | 2,350 | — | 675 | 1/4 | 1 | 3C145 | 3C152 | **4C372** | **4C373** | $140.07 | **$83.90** |
| | 6,000 | 5,200 | 3,250 | 2,150 | 740 | 1/3 | 1 | | | | | | |
| | 6,900 | 6,250 | 5,350 | 3,200 | 845 | 1/2 | 1 | | | | | | |
| | 7,850 | 7,350 | 6,650 | 5,700 | 970 | 3/4 | 1 | | | | | | |
| 30 | 7,100 | 4,650 | — | — | 445 | 1/4 | 1 | 3C146 | 3C153 | **3C195** | **3C201** | 167.01 | **100.05** |
| | 7,500 | 6,150 | 2,450 | — | 485 | 1/3 | 1 | | | | | | |
| | 8,950 | 7,650 | 4,600 | — | 560 | 1/2 | 1 | | | | | | |
| | 10,200 | 9,200 | 7,400 | 4,300 | 640 | 3/4 | 1 | | | | | | |
| | 11,000 | 10,200 | 9,000 | 6,100 | 690 | 1 | 1 | | | | | | |
| 36 | 9,650 | 5,800 | — | — | 380 | 1/3 | 1 | 3C147 | 3C154 | **3C196** | **3C202** | 270.06 | **162.00** |
| | 11,050 | 7,200 | 4,450 | — | 440 | 1/2 | 1 | | | | | | |
| | 12,650 | 9,400 | 6,750 | 3,950 | 500 | 3/4 | 1 | | | | | | |
| | 13,650 | 11,900 | 8,100 | 5,750 | 545 | 1 | 1 | | | | | | |
| | 15,700 | 13,900 | 10,400 | 8,400 | 625 | 1½ | 1 | | | | | | |
| 42 | 13,600 | 8,200 | — | — | 350 | 1/2 | 1 | 3C148 | 3C155 | **3C197** | **3C203** | 292.49 | **175.25** |
| | 15,600 | 10,600 | 6,800 | — | 400 | 3/4 | 1 | | | | | | |
| | 16,800 | 13,400 | 8,500 | 4,800 | 430 | 1 | 1 | | | | | | |
| | 19,300 | 16,500 | 11,700 | 8,600 | 495 | 1½ | 1 | | | | | | |
| | 21,200 | 19,100 | 14,300 | 11,200 | 545 | 2 | 1 | | | | | | |
| 48 | 18,400 | 11,500 | 6,300 | — | 335 | 3/4 | 1 | 3C149 | 3C156 | **3C198** | **3C204** | 352.46 | **211.25** |
| | 19,800 | 13,600 | 8,300 | 4,400 | 365 | 1 | 1 | | | | | | |
| | 22,700 | 18,200 | 12,000 | 8,200 | 415 | 1½ | 1 | | | | | | |
| | 25,100 | 21,300 | 15,000 | 11,200 | 455 | 2 | 1 | | | | | | |
| | 28,700 | 25,500 | 20,300 | 15,600 | 525 | 3 | 1 | | | | | | |
| 54 | 23,100 | 13,200 | 8,100 | — | 305 | 1 | 1 3/16 | 3C150 | — | **3C199** | — | 534.01 | **320.00** |
| | 26,400 | 19,300 | 11,700 | 8,200 | 350 | 1½ | 1 3/16 | | | | | | |
| | 29,100 | 22,300 | 14,100 | 10,800 | 385 | 2 | 1 3/16 | | | | | | |
| | 33,100 | 28,800 | 20,900 | 15,100 | 440 | 3 | 1 3/16 | | | | | | |
| | 39,200 | 35,800 | 31,000 | 22,700 | 525 | 5 | 1 3/16 | | | | | | |
| 60 | 30,000 | 20,200 | 11,800 | — | 300 | 1½ | 1 3/16 | 3C151 | — | **3C200** | — | 616.38 | **369.25** |
| | 33,400 | 25,400 | 16,600 | 11,400 | 330 | 2 | 1 3/16 | | | | | | |
| | 37,000 | 31,600 | 22,000 | 15,000 | 380 | 3 | 1 3/16 | | | | | | |
| | 45,200 | 40,000 | 31,200 | 25,200 | 450 | 5 | 1 3/16 | | | | | | |

**DESK SPACE AT A PREMIUM? USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# DIRECT-DRIVE POULTRY FANS AND CORROSION RESISTANT AGRICULTURAL DUTY EXHAUST FANS

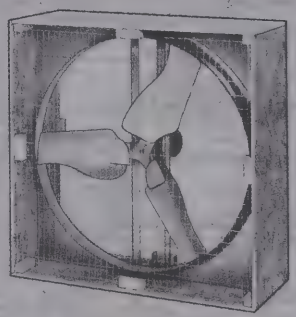
## ASSEMBLED VERTICAL DIRECT-DRIVE POULTRY FANS

- **No pulleys or belt to adjust or replace. Shipped completely assembled, ready to install in OSB crate mounting frame**
- **1 x 2" wire mesh intake/discharge screens (No. 5C962 has 3 x 3" mesh)**
- **No. 6B001 has 21"W crate. Provides 7" gap between propeller and screen**
- **1/2 HP, TENV, sealed ball bearing permanent split capacitor motor (switchless) features automatic reset thermal protection, anti-rust shaft protection, and shaft-end bearing with cup-shaped slinger to protect against dirt and moisture; wire leads for fast installation**

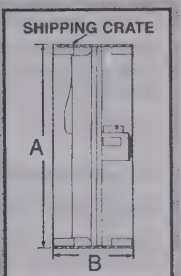
**WARNING!** OSHA complying guards are required when fan is installed within 7 feet of floor, working level, or within reach of personnel. Review OSHA Codes. See Index under Guards, Fan.

Dayton®

Dayton Electric Mfg. Co. certifies that the poultry fans shown here are licensed to bear the AMCA seal. The ratings given are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



No. 3C675




Replacement Parts Available
1-800-323-0620

| Fan Prop. Dia. (In.) | No. Fan Blades | Dimensions (In.) A sq. | B | Motor HP | Volts | Max. Fan BHP† | CFM Licensed by AMCA* 0.0" SP CFM / Watt‡ | 0.05" SP CFM / Watt‡ | 0.10" SP CFM / Watt‡ | 0.15" SP CFM / Watt‡ | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **36** | 3 | 41 | 16 | 1/2 | 115 / 230 | 0.560 | 10,910 / 20.9 | 10,360 / 18.6 | 9,810 / 16.6 | 9,210 / 14.7 | **3C675** | $496.74 | **$310.25** | 83.0 |
| **36** | 3 | 41 | 16 | 1/2 | 115 / 230 | 0.560 | 10,910 / 20.9 | 10,360 / 18.6 | 9,810 / 16.6 | 9,210 / 14.7 | **5C962** | 496.78 | **310.25** | 83.0 |
| **36** | 3 | 41 | 21 | 1/2 | 115 / 230 | 0.560 | 10,910 / 20.9 | 10,360 / 18.6 | 9,810 / 16.6 | 9,210 / 14.7 | **6B001** | 506.59 | **320.50** | 93.0 |
| **48** | 2 | 55 | 17 | 1 | 230 | 1.010 | 20,335 / 21.7 | 18,990 / 19.2 | 17,495 / 17.0 | 15,961 / 14.8 | **3F519** | 895.04 | **560.50** | 139.0 |
| **48** | 2 | 55 | 17 | 1 | 440/460# | 1.010 | 20,335 / 21.7 | 18,990 / 19.2 | 17,495 / 17.0 | 15,961 / 14.8 | **6E840** | 897.00 | **561.00** | 137.0 |

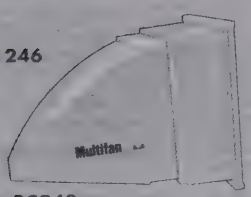
(*) Performance shown is for installation Type A; Free Inlet, Free Outlet. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances in the airstream. (‡) CFM/Watt ratings are in accordance with the AMCA recommended method of publishing CFM/Watt ratings and are not derived using motor efficiency values supplied by the motor manufacturers. The AMCA Certified Ratings Seal does not apply to the CFM/Watt ratings. (#) 3-Phase motor. All others permanent split capacitor motors.

## AGRICULTURAL DUTY ADJUSTABLE SPEED EXHAUST FANS

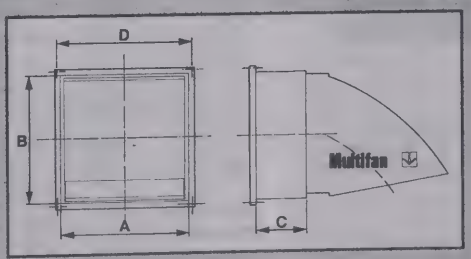
Multifan

LR51189

E121246




No. 3C948




- **Adjustable speed axial fan with PVC shutter, polyethylene hood, polypropylene fan blade, and removable winterization seal**
- **Aerodynamically designed, energy efficient fans; engineered for continuous duty**
- **One-step installation**
- **Air deliveries based on Bess Lab Tests at University of Illinois**
- **Speed controls listed on page 3612.**

**Complete fan system** installs with just four bolts. Preassembled for added time savings. Snap-in, snap-out fan and shutter simplifies repair and maintenance. Winterization seal for added insulation. Operate under adverse conditions of dust, humidity, and corrosive fumes in agricultural applications. Provide ventilation in commercial and industrial applications for buildings, factories, and plants under most environmental conditions including dust, smoke, dampness, grease, and moisture

**Totally enclosed, waterproof, dustproof motors** are 220V, 60 Hz, with automatic thermal protection and permanently lubricated ball bearings, cast aluminum housing. Venturi frames of corrosion resistant die cast aluminum. Drilled with four 3/16" diameter mounting holes. Durable, easy-to-clean polypropylene propeller. CSA Certified and UL Listed.

### EXHAUST FAN DIMENSIONS AND ORDERING DATA

| Blade Dia. (In.) | Dimensions (In.) A | B | C | D | Wall Opening (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **12** | 16⅜ | 16½ | 9 | 19⅜ | 17¼ | **3C948** | $822.03 | **$492.25** | 28.0 |
| **16** | 20¼ | 20½ | 9 | 23¼ | 21¼ | **3C949** | 951.37 | **570.00** | 38.0 |
| **20** | 24⅜ | 24½ | 9 | 27⅜ | 25¼ | **3C950** | 1149.03 | **688.50** | 62.0 |
| **24** | 29¾ | 30 | 12¼ | 32¾ | 30¾ | **3C951** | 1648.72 | **987.50** | 66.0 |

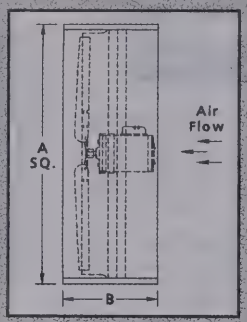
### EXHAUST FAN PERFORMANCE

| Blade Dia. (In.) | CFM @ SP Shown / CFM per Watt 0" SP | 0.04" SP | 0.10" SP | Amps | Full Load Watts | HP | Volts | Stock No. |
|---|---|---|---|---|---|---|---|---|
| 12 | 1301 / 11.6 | 1243 / 10.7 | 1153 / 9.6 | 0.50 | 110 | 1/10 | 220 | 3C948 |
| 16 | 2640 / 9.9 | 2560 / 9.4 | 2410 / 8.7 | 1.10 | 250 | 1/5 | | 3C949 |
| 20 | 4310 / 9.9 | 4190 / 9.4 | 3960 / 8.8 | 2.00 | 420 | 1/2 | | 3C950 |
| 24 | 6300 / 9.1 | 6160 / 8.8 | 5890 / 8.3 | 3.10 | 610 | 3/4 | | 3C951 |

# GALVANIZED STRAIGHT-WALL FANS AND ADJUSTABLE SPEED FANS

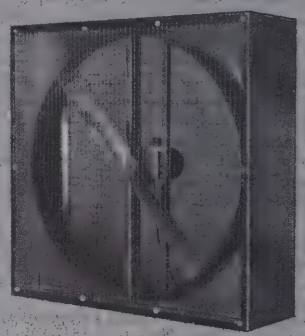
## 36 AND 48" GALVANIZED DIRECT-DRIVE STRAIGHT-WALL FANS

- Galvanized steel housing
- Nos. 4B046 and 4B047 have hanging slots incorporated into the housing sides
- Motor has 8 ft. cords for easier installation
- Shipped completely assembled
- No pulleys or belt to adjust or replace
- Galvanized steel venturi panel and 2 or 3-wing fan blade
- Galvanized 1 x 2" wire mesh grid intake and discharge screens
- TENV, sealed ball bearing, permanent split capacitor motor (switchless) with automatic reset thermal protection, anti-rust shaft protection, and shaft-end bearing with cup-shaped slinger to protect against dirt and moisture




Dayton®

Replacement Parts Available 1-800-323-0620



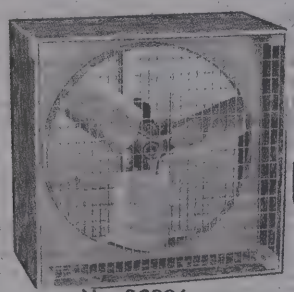
No. 4B046

**WARNING!** OSHA complying guards are required when fan is installed within 7 feet of floor, working level, or within reach of personnel. Review OSHA Codes. See Index under Guards, Fan.

| Propeller Dia. (In.) | Dimensions (In.) A sq. | B | CFM at Static Pressure Shown* 0.0" SP | 0.05" SP | 0.10" SP | 0.15" SP | Fan RPM | Motor HP | Volts, 60 Hz | Max. Fan BHP† | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **36** | 40¼ | 15 | 10,910 | 10,360 | 9810 | 9210 | 850 | 1/2 | 230 | 0.56 | **4B046** | $508.04 | **$321.25** | 83.0 |
| **36** | 40¼ | 15 | 10,910 | 10,360 | 9810 | 9210 | 850 | 1/2 | 115 | 0.56 | **4B047** | 508.15 | **321.50** | 83.0 |
| **48** | 54¼ | 16 | 20,336 | 18,922 | 17,495 | 15,961 | 850 | 1 | 230 | 1.01 | **4B049** | 1025.74 | **614.50** | 139.0 |

(*) Performance tested in accordance with AMCA standards. Performance shown is for installation Type A; Free Inlet, Free Outlet. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances in the airstream.

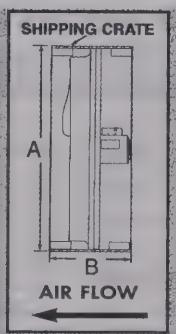
## 24" ADJUSTABLE SPEED DIRECT-DRIVE AGRICULTURAL DUTY FANS



No. 3C996

Dayton®

Replacement Parts Available 1-800-323-0620




- Speed adjustable when used with No. 3C960 or 3C961 controller; automatically maintains minimum winter ventilation requirements and house temperature
- No pulleys or belt to adjust or replace
- Galvanized steel venturi panel and 3-wing fan blade
- Shipped completely assembled, ready to install in OSB crate mounting frame
- Galvanized 1 x 2" wire mesh grid intake and discharge screens
- Motor has wire leads for easier installation
- TENV, sealed ball bearing, permanent split capacitor motor (switchless) with automatic reset thermal protection, anti-rust shaft protection, and shaft-end bearing with cup-shaped slinger to protect against dirt and moisture

Optional Accessory. No. 3C960 or 3C961 Modulating Temperature and Speed Control. See listing on page 3612.

amca CERTIFIED RATINGS AIR PERFORMANCE AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

Dayton Electric Mfg. Co. certifies that the agricultural fans shown hereon are licensed to bear the ACMA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

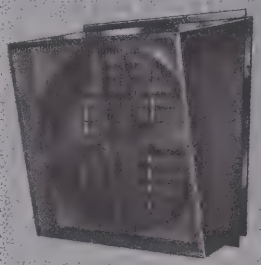
**WARNING!** OSHA complying guards are required when fan is installed within 7 feet of floor, working level, or within reach of personnel. Review OSHA Codes. See Index under Guards, Fan.

| Propeller Dia. (In.) | Dimensions (In.) A sq. | B | CFM at Static Pressure Shown 0.0" SP | 0.05" SP | 0.10" SP | 0.15" SP | Fan RPM | Motor HP | Volts, 60 Hz | Max. Fan BHP | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **24** | 29 | 16 | 5870 | 5650 | 5410 | 5150 | 1075 | 1/2 | 230 | 0.57 | **3C996** | $486.08 | **$304.00** | 58.0 |

Performance shown is for installation Type A; Free Inlet, Free Outlet. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances in the airstream.

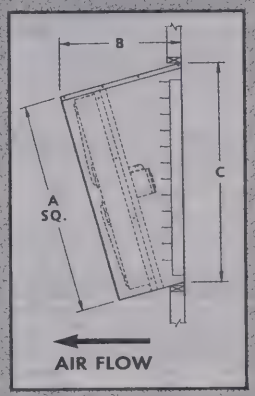
# 36 AND 48" DIRECT-DRIVE SLANTWALL EXHAUST FANS

- Galvanized steel housing and fan
- Corrosion resistant shutter held with quick release turn button latches
- Shipped completely assembled, ready to install. Include fan in housing, intake shutter, and 1 x 2" mesh discharge screen
- No pulleys or belt to adjust or replace
- Mount flush to inside of building
- TENV sealed ball bearing, permanent split capacitor motor (switchless) features automatic reset thermal protection, anti-rust shaft protection, and shaft-end bearing with cup-shaped slinger to protect against dirt and moisture



Dayton

Replacement Parts Available 1-800-323-0620




## DIRECT-DRIVE SLANTWALL FAN PERFORMANCE DATA*

| Stock No. | Prop. Dia., (In.) | No. Fan Blades | CFM @ RPM Shown/CFM per Watt 0.0" SP | 0.05" SP | 0.10" SP | 0.15" SP | Motor Nom. RPM | Volts | HP |
|---|---|---|---|---|---|---|---|---|---|
| 4B052 | 36 | 2 | 9725 | 9030 | 8205 | 7290 | 860 | 115/230 | 1/2 |
| | | | 20.1 CFM/Watt | 18.0 CFM/Watt | 15.7 CFM/Watt | 13.4 CFM/Watt | | | |
| 4B051 | 48 | 2 | 18,955 | 17,435 | 16,050 | 14,600 | 850 | 230 | 1 |
| | | | 18.7 CFM/Watt | 16.9 CFM/Watt | 15.3 CFM/Watt | 13.8 CFM/Watt | | | |

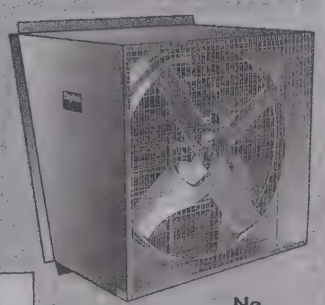
Dayton Electric Mfg. Co. certifies that Models 4B051 and 4B052 fans shown here-on are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

## DIRECT-DRIVE SLANTWALL FAN ORDERING DATA

| Propeller Dia. (In.) | Dimensions (In.) A | B | C | Opening Req. (In.) W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 36 | 40 | 26 3/4 | 41 1/2 | 41 | 43 7/8 | 4B052 | $984.80 | $615.50 | 85.0 |
| 48 | 54 1/8 | 30 1/2 | 55 7/8 | 55 | 58 1/2 | 4B051 | 1429.41 | 894.00 | 134.0 |

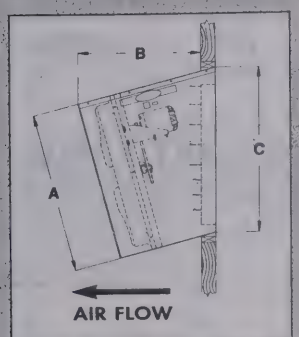
(*) Performance shown is for installation Type A; Free Inlet. Speed (RPM) shown is nominal. Performance ratings include the effect of metal housing and shutter in airstream.

# 36 AND 48" BELT-DRIVE SLANTWALL EXHAUST FANS



Dayton

No. 7H214




Replacement Parts Available 1-800-323-0620

- Galvanized steel venturi panel and housing
- Corrosion resistant shutter held with quick release turn button latches
- Galvanized 1 x 2" wire mesh grid discharge screens
- Cast iron drive sheaves and belt shipped with fan
- Includes housing, fan, shutter, and motor. Nos. 7H214 & 7H215 are furnished as kits with all components shipped separately. No. 7H316 is shipped assembled except for motor (included) and shutter (shipped separately)

Optional Accessory: No. 3C997 Belt Tensioner, see listing on page 3608

## BELT-DRIVE SLANTWALL FAN PERFORMANCE DATA

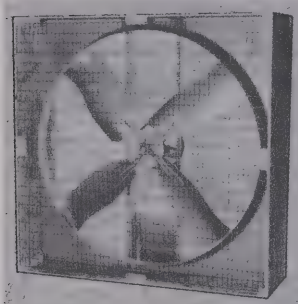
| Stock No. | Prop. Dia., (In.) | No. Fan Blades | CFM @ RPM Shown/CFM per Watt 0.0" SP | 0.05" SP | 0.10" SP | 0.15" SP | Motor Nom. RPM | Volts | HP |
|---|---|---|---|---|---|---|---|---|---|
| 7H214 | 36 | 4 | 10,100 | 9600 | 8900 | 8600 | 640 | 115/230 | 1/2 |
| | | | 20.9 CFM/Watt | 18.7 CFM/Watt | 16.6 CFM/Watt | 14.5 CFM/Watt | | | |
| 7H215 | 48 | 4 | 19,300 | 18,300 | 17,400 | 16,100 | 500 | 115/230 | 1 |
| 7H316 | | | 19.0 CFM/Watt | 17.4 CFM/Watt | 16.1 CFM/Watt | 14.5 CFM/Watt | | | |

## BELT-DRIVE SLANTWALL FAN ORDERING DATA

| Propeller Dia. (In.) | Dimensions (In.) A | B | C | Opening Req. (In.) W | H | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|
| 36 | 40 | 33 3/4 | 41 1/2 | 41 | 43 7/8 | 7H214 | $920.13 | $606.50 |
| 48 | 54 1/8 | 38 3/8 | 55 7/8 | 55 | 58 1/2 | 7H215 | 1506.14 | 992.50 |
| 48 | 54 1/8 | 38 3/8 | 55 7/8 | 55 | 58 1/2 | 7H316 | 1539.75 | 1015.00 |

# BELT-DRIVE POULTRY FANS, REPLACEMENT FAN BLADES, AND V-BELT TENSIONER

## BELT-DRIVE POULTRY FANS

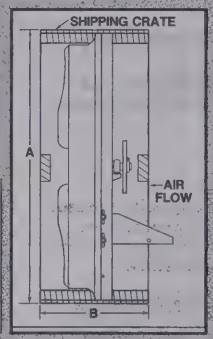


No. 3C610

Dayton®

Replacement Parts Available™ 1-800-323-0620

**WARNING!** OSHA complying guards are required when fan is installed within 7 ft. of floor, working level, or within reach of personnel. Review OSHA Codes. See Index under Guards, Fan.




- Galvanized venturi panel and 4-wing fan blade
- 1 x 2" wire mesh grid intake and discharge screens
- Self-aligning, sealed ball bearing pillow blocks
- Shipped in OSB crate mounting frame
- No.3C615 shipped with drive sheaves, belt and 1/2 hp, 1725 RPM, TENV, 115/230V, 60 Hz, ball bearing split phase motor with automatic reset thermal protection
- Nos. 3C610 & 3C613 shipped with cast iron drive sheaves and belt
- For motors, see page 3611

### POULTRY FAN PERFORMANCE DATA*

| Stock No. | Propeller Dia. (In.) | CFM @ RPM Shown 0.0" SP | 0.05" SP | 0.10" SP | 0.15" SP | RPM | HP | Max. Fan BHP |
|---|---|---|---|---|---|---|---|---|
| 3C613 | 36 | 10,865 | 10,095 | 9,535 | 8,975 | 630 | 1/2 | 0.53 |
| 3C615 | 36 | 11,195 | 10,400 | 9,825 | 9,245 | 649 | 1/2 | 0.58 |
| 3C610 | 48 | 21,080 | 20,150 | 19,125 | 17,925 | 500 | 1 | 1.24 |

(*) Performance shown is for installation Type A; Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream.

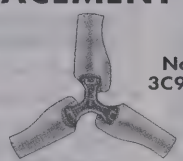
Dayton Electric Mfg. Co. certifies that the fans shown herein are licensed to bear the AMCA seal. The ratings given are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

### POULTRY FAN SPECIFICATIONS AND ORDERING DATA

| Propeller Dia. (In.) | No. Fan Blades | Motor Specifications HP | Volts 60 Hz | Bearings | Mounting Base | Dimen. (In.) A | B | Stock No. | Fans with Motors List | Each | Shpg. Wt. | Motor HP | Dimen. (In.) A | B | Stock No. | Fans Less Motors List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **36** | 4 | 1/2 | 115 / 230 | Ball | Rigid | 41 | 16 | **3C615** | $551.12 | **$344.75** | 108.0 | 1/2 | 41 | 16 | **3C613** | $358.21 | **$224.25** | 80.0 |
| **48** | 4 | — | — | — | — | — | — | — | — | — | — | 1 | 55 | 17 | **3C610** | 596.15 | **373.00** | 119.0 |

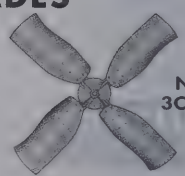
## 36 TO 48" REPLACEMENT POULTRY FAN BLADES

**Dayton 36 to 48" poultry fan replacement blades** for the Dayton poultry fans. Fans are statically balanced. Blades for belt-drive fans have 2 set screws. Direct-drive blades have 1 set screw over keyway. Blades designed for clockwise rotation facing discharge. Dayton brand.



No. 3C989

Dayton®

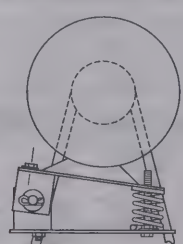


No. 3C988

| Propeller Dia. (In.) | No. Fan Blades | CFM Air Delivery at RPM Shown* 0.0" SP | 0.10" SP | 0.15" SP | Fan RPM | Bore Size (In.) | Motor HP | Fits Dayton Poultry Fan‡ | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **36** | 3 | 10,910 | 9,810 | 9,210 | 850 | 5/8 | 1/2 | 3C675 | **3C989** | 163.45 | **97.90** | 7.7 |
| **36** | 4 | 11,195 | 9,825 | 9,245 | 649 | 1 | 1/2 | 3C613, 3C615, 3C713 | **6B002*** | 176.47 | **105.70** | 6.0 |
| **48** | 4 | 21,080 | 19,125 | 17,925 | 500 | 1 | 1 | 3C610,3C715, 3C771, 3C504 | **3C988*** | 214.44 | **128.45** | 21.0 |
| **48** | 2 | 20,336 | 17,495 | 15,961 | 850 | 3/4 | 1 | 3F519, 3F521, 3F525, 6E840 | **6B007** | 214.63 | **128.55** | 21.0 |

(*) Nos. 6B002 and 3C988 have bushings for use with 7/8 or 1" shaft. (†) No. 6B003 performance is given for use with 1/3 hp motor as on No. 3F517. No. 3F528 uses 1/2 hp motor.
(‡) No. 6B002 replaces 6-wing blade on Nos. 3C472, 3C613 and 3C615A in combination with No. 3X595/3X576 fan pulley replacement.
No. 3C988 replaces 5-wing blade on Nos. 3C504 and 3C610 in combination with No. 3X806 fan pulley and No. 3X473 v-belt replacements.

Dayton®



## V-BELT TENSIONER FOR POULTRY FANS

- Easy to install belt tensioner is designed for use with Dayton belt drive poultry and livestock fans
- Heavy gauge galvanized hinge assembly and heavy-duty tensioning spring

NOTE: Use of tensioner changes the recommended belt length. If the motor is mounted below the fan shaft, a shorter belt should be used. If motor is mounted above the fan shaft, a longer belt should be used. For best results, a 3" change of length is recommended.

CAUTION: To ensure proper fan speed and air delivery, new belts must be the same cross section as the belt originally provided with the fan.

**No. 3C997.** Shpg. wt. 1.8 lbs. List.....$27.81. Each.....**$16.66**



*However, wherever, you need to move air, we have the fans to do it.*

## LIGHT TRAP APPLICATION REQUIREMENTS

**A light trap will introduce a load factor** affecting the performance of fans used in the poultry house. This load factor must be considered in order to avoid certain problems associated with overloading the fan(s):

a. Overheating Motor/Nuisance Tripping

b. Insufficient Air Flow (CFM)

c. Excessive Negative Pressure in Building

**The following method should be used to avoid these problems:**

1. A typical maximum rating on poultry house ventilating fans is 0.15 (in., w.g.) static pressure. In order to stay within this limit, use the following formula to determine the total area of light traps required. Use the Total Free-Air CFM rating of your fans for this calculation. The result will be the total area of light traps needed.

TOTAL AREA OF LIGHT TRAPS NEEDED=(TOTAL FREE-AIR CFM x 0.004) –25.

**EXAMPLE: You are planning to use eight fans which are rated at 20,160 CFM (Free-Air).**

TOTAL FREE AIR CFM=20,160 x 8 fans=161,280 CFM

TOTAL AREA OF LIGHT TRAPS NEEDED=(161,280 x 0.004)–25=620 sq. ft.

2. Calculate the number of light traps required at the fan end by taking 55% of the total area of light traps needed. The remaining area of 45% of the total will be required at the intake end of the building.

AREA OF LIGHT TRAPS AT FAN END=620 sq. ft. x 55 percent=341 sq. ft.

AREA OF LIGHT TRAPS AT INTAKE END=620 sq. ft. x 45 percent=279 sq. ft.

3. Calculate the required number of 54" light traps for the fan end using the following area:

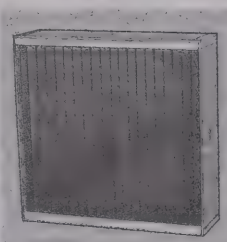
No. 3F529, 54" Light Trap: 19.4 sq. ft.

Calculate number of 54" light traps required.

341 ÷ 19.4=17.6 units

Round up to (18) 54" No. 3F529 light traps.

4. Calculate the required light traps for the intake end in a similar manner.



Dayton®

New

No. 3F529

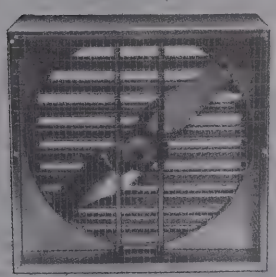
Replacement Parts Available 1-800-323-0620™

- **Fully assembled light trap works with agricultural building fans to maintain good ventilation and keep unwanted sunlight out**
- **100,000 to 1 light reduction**
- **No enhancer required**
- **1" wide drain along full width of bottom**
- **Durable weather-resistant black high impact polystyrene plastic blades**

### *New!* LIGHT TRAP ORDERING DATA

| Free Area (Sq. Ft.) | Dimen. (In.) W | H | D | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 19.4 | 56 | 56 | 18⅛ | 3F529 | $632.70 | $379.00 | 101.0 |

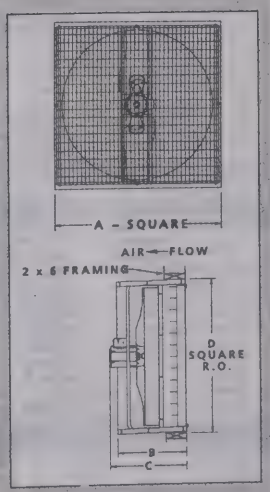
## 36 AND 48" DIRECT-DRIVE STRAIGHT-WALL FANS



Dayton®

Replacement Parts Available 1-800-323-0620™

No. 3F527




- **High volume, heavy-duty wall-mounted fan**
- **Galvanized steel venturi panel, housing and 2-blade propeller are designed for extended life in high humidity and corrosive conditions**
- **Totally enclosed motor with automatic reset thermal protection**

**Direct-drive, wall-mounted unit** for ventilating livestock and poultry houses. Fan comes completely assembled; motor has wire leads for fast installation and connection. Moisture resistant TENV, 230V, 60 Hz ball bearing, permanent split capacitor motor. Shaft and bearing slinger keeps out dirt and moisture.

| Stock No. | Fan Size (In.) | Dimensions (In.) A Sq. | B | C | D |
|---|---|---|---|---|---|
| 3F527 | 36 | 40⅛ | 20⅝ | 20⅝ | 40½ |
| 3F525 | 48 | 54⅛ | 21½ | 23½ | 54½ |

**WARNING!** Review OSHA Codes. OSHA complying guards are required when fan is installed within 7 ft. of floor, working level, or within reach of personnel.

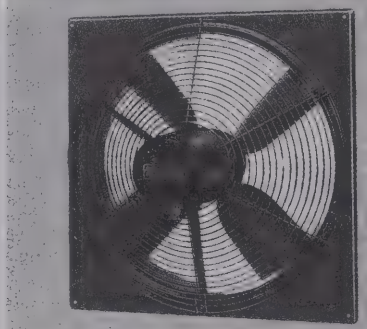
Dayton Electric Mfg. Co. certifies that Models 3F525 and 3F527 fans shown hereon are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

| Prop. Dia. (In.) | No. Fan Blades | CFM @ RPM Shown / CFM per Watt 0.0" SP | 0.05" SP | 0.10" SP | 0.125" SP | 0.15" SP | RPM | Volts | HP | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **36** | 2 | 10,180/22.1 | 9,375/19.3 | 8,605/17.0 | 7,817/15.2 | 7,705/14.6 | 860 | 230 | 1/2 | **3F527** | $987.83 | **$617.50** | 96.0 |
| **48** | 2 | 19,370/19.9 | 18,0055/18.1 | 16,715/16.6 | 15,185/15.3 | 15,130/14.9 | 850 | 230 | 1 | **3F525** | 1308.95 | **818.00** | 195.0 |

Performance shown is for installation Type A: Free Inlet, Free Outlet. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances in the airstream.

# CORROSION RESISTANT FANS

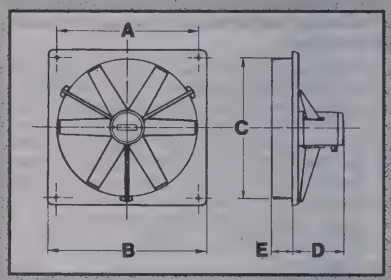
- 8 to 24" Adjustable speed exhaust fans with high efficiency, water resistant motors
- Engineered for continuous operation in highly corrosive environments
- 120 or 240V, 60 Hz, totally enclosed motors with die cast aluminum housing, automatic thermal protection and heat resistance to 311°F, Class F insulation
- Zinc-plated intake guard meets OSHA regulations
- Balanced polypropylene impeller reduces power costs and extends bearing life
- Specially sealed bearings—high performance lubricant withstands temperatures up to 311°F
- Unique locking design of motor housing and impeller keeps moisture out
- Solid cast aluminum frame; non-corrosive, fine threaded fasteners, non-combustible motor cap, sound-absorbing, anti-vibration cast aluminum supports
- Operate in horizontal or vertical mounting position
- UL Listed and CSA Certified
- Speed of units can be controlled with thermostats, transformers, or electric regulating equipment—not included; No. 3C966 is constant speed only. See speed controls on page 3612.



No. 3C967

Multifan

E121246 LR51189




Replacement Parts Available
1-800-323-0620

### LICENSED RATINGS FOR AIR PERFORMANCE

Multifan certifies that the exhaust fans on this page are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures made in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Prog ram.

## MEDIUM PERFORMANCE FANS PERFORMANCE DATA—220V

| Blade Dia. (In.) | CFM Performance* 0.0" SP | 0.05" SP | 0.125" SP | Nominal Motor RPM† | 120V, 60 Hz Stock No. | 120V, 60 Hz Full Load Amps | 120V, 60 Hz Watts | 220V, 60 Hz Stock No. | 220V, 60 Hz Full Load Amps | 220V, 60 Hz Watts |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 882 | 820 | 740 | 1725 | 3C967 | 0.90 | 74 | 3C968 | 0.40 | 74 |
| 12 | 1389 | 1331 | 1259 | 1683 | 4C859 | 1.10 | 120 | 4C864 | 0.50 | 110 |
| 14 | 2095 | 1995 | 1849 | 1620 | 4C860 | 1.70 | 215 | 4C865 | 0.90 | 180 |
| 16 | 2764 | 2675 | 2512 | 1580 | 4C861 | 2.30 | 275 | 4C866 | 1.10 | 250 |
| 18 | 3616 | 3500 | 3280 | 1520 | 4C862 | 3.00 | 375 | 4C867 | 1.50 | 340 |
| 20 | 4638 | 4414 | 4289 | 1668 | 4C863 | 4.00 | 0.46 | 4C868 | 2.00 | 430 |
| 22 | 5595 | 5385 | 5192 | 1090 | — | — | — | 3C969 | 2.60 | 560 |
| 24 | 6907 | 6710 | 6399 | 1050 | 3C970 | 5.60 | 610 | 3C971 | 3.10 | 640 |

## HIGH PERFORMANCE FANS PERFORMANCE DATA—220V ONLY

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 955 | 930 | 900 | 3328 | — | — | — | 3C962 | 0.90 | 240 |
| 10 | 1245 | 1190 | 1176 | 3425 | — | — | — | 3C963 | 0.95 | 180 |
| 12 | 2052 | 2000 | 1940 | 3100 | — | — | — | 3C964 | 1.40 | 310 |
| 14 | 2580 | 2500 | 2460 | 3170 | — | — | — | 3C965 | 1.80 | 380 |
| 24 | 10,117 | 9980 | 9660 | 1680 | — | — | — | 3C966** | 8.60 | 1950 |

(*) Performance shown is for installation Type A; Free Inlet, Free Outlet. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances in the airstream. (†) Peak Brake Horsepower. (**)No speed control available.

## MEDIUM PERFORMANCE FANS ORDERING DATA—220V

| Blade Dia. (In.) | Dimensions (In.) A | B | C | D | E | Opening Required Square (In.) | 120V, 60 Hz Stock No. | List | Each | 220V, 60 Hz Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10** | 13 3/16 | 14 3/4 | 10 7/16 | 8 1/16 | 2 7/8 | 10 1/2 | **3C967** | $539.14 | **$323.00** | **3C968** | $512.89 | **$307.25** | 20.0 |
| **12** | 14 3/16 | 15 5/8 | 12 3/4 | 8 1/2 | 2 11/16 | 12 7/8 | **4C859** | 561.48 | **336.25** | **4C864** | 537.83 | **322.25** | 20.0 |
| **14** | 16 1/8 | 17 5/8 | 14 11/16 | 8 1/2 | 2 11/16 | 14 13/16 | **4C860** | 577.80 | **346.00** | **4C865** | 539.10 | **323.00** | 22.0 |
| **16** | 18 1/8 | 19 1/2 | 16 3/4 | 8 1/2 | 2 11/16 | 16 7/8 | **4C861** | 652.63 | **391.00** | **4C866** | 606.61 | **363.25** | 23.0 |
| **18** | 20 1/16 | 21 9/16 | 18 5/8 | 8 1/2 | 2 11/16 | 18 3/4 | **4C862** | 703.78 | **421.50** | **4C867** | 671.96 | **402.50** | 27.0 |
| **20** | 22 3/16 | 23 5/8 | 20 3/4 | 8 1/2 | 2 11/16 | 20 7/8 | **4C863** | 791.04 | **473.75** | **4C868** | 752.77 | **451.00** | 33.0 |
| **22** | 23 7/8 | 25 7/16 | 22 11/16 | 10 1/2 | 2 11/16 | 22 13/16 | — | — | — | **3C969** | 985.81 | **590.50** | 35.0 |
| **24** | 27 9/16 | 29 3/16 | 25 7/8 | 10 7/16 | 2 11/16 | 26 | **3C970** | 1104.33 | **661.50** | **3C971** | 1049.33 | **628.50** | 60.0 |

## HIGH PERFORMANCE FANS ORDERING DATA—220V ONLY

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8** | 13 3/16 | 14 3/4 | 10 7/16 | 8 1/16 | 2 7/8 | 10 1/2 | — | — | — | **3C962** | 601.05 | **360.00** | 20.0 |
| **10** | 13 3/16 | 14 3/4 | 10 7/16 | 8 1/16 | 2 7/8 | 10 1/2 | — | — | — | **3C963** | 610.09 | **365.50** | 20.0 |
| **12** | 14 3/16 | 15 5/8 | 12 3/4 | 8 1/2 | 2 11/16 | 12 7/8 | — | — | — | **3C964** | 622.56 | **373.00** | 21.0 |
| **14** | 16 1/8 | 17 5/8 | 14 11/16 | 8 1/2 | 2 11/16 | 14 13/16 | — | — | — | **3C965** | 749.81 | **449.00** | 25.0 |
| **24** | 27 9/16 | 29 1/8 | 25 7/8 | 11 7/16 | 3 1/4 | 26 | — | — | — | **3C966** | 1399.28 | **838.00** | 64.0 |

## REPLACEMENT 1" BORE PILLOW BLOCKS FOR BELT-DRIVE POULTRY FANS

Self-aligning, prelubricated, sealed ball bearing pillow blocks. Sold in pairs.

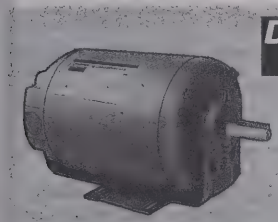
| Bore Dia. (In.) | Base to Shaft Ctr. (In.) | Mounting Ctr. to Ctr. (In.) | Bolt Size (In.) | Overall Size (In.) H | W | For Dayton Fan No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1 1/8 | 3 3/8 | 3/8 | 2 7/32 | 1 9/16 | 3C613, 3C615, 3C504 3C472, 3C270 | **5X413** | $100.26 | **$60.05** | 1.5 |
| **1** | 1 5/16 | 3 11/16 - 4 9/16 | 3/8 | 2 11/16 | 1 49/64 | 3C610 | **5X684** | 40.00 | **34.10** | 1.8 |



*However, wherever, you need to move air, we have the fans to do it.*

# POULTRY FAN MOTORS

## SINGLE SPEED SPLIT PHASE




- **Gasketed conduit boxes and shaft slinger help protect against water and dirt**
- **Dual voltage ratings and reversible rotation provide added interchangeability in a variety of fan applications**
- **All copper windings**
- **No. 6K791 has extended fan bolts for fan guard mounting**

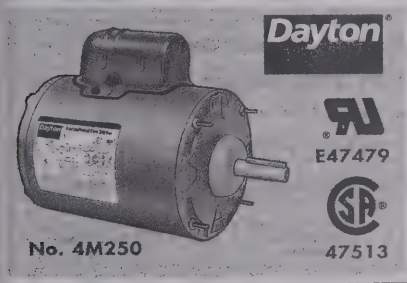
**Typical Uses:** Exhaust fans operating in poultry and livestock houses. Also used for other fan and blower applications in locations with a dusty, dirty, **noncombustible** environment.

**Bearings:** Double shielded ball
**Enclosure:** TEAO
**Thermal Protection:** Auto
**Insulation Class:** B **Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray **Brand:** Dayton

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/3 | 1725 | 56 | 115/230 | 5.0/2.5 | 1.25 | Rigid | 5/8 x 1⅞ | 4K087 | $177.00 | $104.55 | 23.0 |
| 1/2 | 1725 | 56 | 115/230 | 7.0/3.5 | 1.25 | Rigid | 5/8 x 1⅞ | 6K770 | 202.00 | 118.90 | 24.0 |
| | 1725 | 56 | 115/230 | 7.0/3.5 | 1.25 | Cradle | 5/8 x 1⅞ | 6K771 | 200.00 | 117.75 | 25.0 |
| | 1725 | 56 | 115/230 | 7.6/3.8 | 1.25 | Cradle | 5/8 x 1⅞ | 6K791 | 200.00 | 114.65 | 28.0 |
| 3/4 | 1725 | 56 | 115/230 | 9.8/4.9 | 1.25 | Rigid | 5/8 x 1⅞ | 4K088 | 253.00 | 149.05 | 28.0 |
| 1 | 1725 | 56 | 115/230 | 12.6/6.3 | 1.25 | Rigid | 5/8 x 1⅞ | 4K089 | 270.00 | 159.25 | 32.0 |

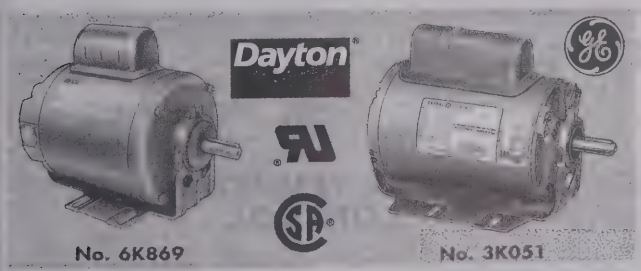
**CAUTION: Not for fans in unattended areas.**
**Refer to page 6 for UL507 Standard, proper thermal protection and other motor selection information.**

## SINGLE SPEED PERMANENT SPLIT CAPACITOR




**Typical Uses:** Direct-drive exhaust and ventilation fans in poultry and livestock houses.
**Special Features:** Cup-shaped shaft slinger. Fully gasketed. Corrosion resistant bearing caps.
**HP:** 1/2 **Type:** PSC
**Nameplate RPM:** 850 **Volts:** 115/230, 60 Hz
**Full-Load Amps @ Nameplate Volts:** 6.0/3.0.
**NEMA Frame:** 48YZ
**Bearings:** Sealed ball
**Mounting:** Stud **Enclosure:** TEAO
**Shaft Dimensions:** 5/8D x 2⅝"L
**Windings:** Copper
**Service Factor:** 1.25
**Thermal Protection:** None
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW facing shaft
**Finish:** Gray enamel **Brand:** Dayton
**No. 4M250.** Shpg. wt. 22.0 lbs. List ..... $204.00.
Each ..... $134.65

## HIGH EFFICIENCY, SPLIT PHASE-START AND CAPACITOR-RUN




- **High efficiency performance for use in poultry and livestock fans**
- **Gasketed capacitor cover and conduit box provide added protection against dirt and moisture**
- **Can be used to drive fans and blowers in other dusty/dirty noncombustible environments**
- **Dayton brand has all copper windings**

**Bearings:** Dayton-double shielded ball; GE-ball
**Enclosure:** TEAO (No. 3K051 is TENV)
**Thermal protection:** Auto
**Insulation Class:** B
**Ambient:** 40°C
**Duty:** Continuous air-over
**Rotation:** CW/CCW
**Finish:** Gray **Brand:** Dayton and GE

**DAYTON BRAND**

| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1725 | 56 | 230 | 2.3 | 1.25 | Rigid | 5/8 x 1⅞ | ✓ 3K663 | $233.00 | $136.00 | 27.0 |
| | 1725 | 56 | 230 | 2.3 | 1.25 | Cradle | 5/8 x 1⅞ | ✓ 6K869 | 238.00 | 139.10 | 32.0 |
| | 1725 | 56 | 115/208-230 | 5.0/2.5 | 1.25 | Cradle | 5/8 x 1⅞ | ✓ 4K123 | 211.00 | 111.70 | 27.0 |
| 1 | 1725 | 56 | 115/230 | 10.4/5.2 | 1.15 | Rigid | 5/8 x 1⅞ | ✓ 3K993* | 306.00 | 159.00 | 27.0 |
| | 1725 | 56 | 115/230 | 10.4/5.2 | 1.15 | Cradle | 5/8 x 1⅞ | ✓ 4K124* | 308.00 | 164.25 | 25.0 |

**GE BRAND**

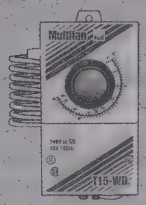
| HP | Nameplate RPM | NEMA Frame | Volts 60 Hz | Full-Load Amps at Nameplate Volts | Service Factor | Mounting | Shaft Dimensions (In.) | GE No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 | 1725 | 56 | 115/208-230 | 5.2/2.7-2.6 | 1.3 | Cradle | 5/8 x 1⅞ | H647 | ✓ 3K051 | $241.00 | $153.75 | 21.0 |
| 3/4 | 1725 | 56 | 115/208-230 | 8.2/4.1 | 1.0 | Cradle | 5/8 x 1⅞ | C1303 | ✓ 3K988* | 248.00 | 164.50 | 27.0 |
| 1 | 1725 | 56 | 115/208-230† | 11.4/5.7 | 1.0 | Cradle | 5/8 x 1⅞ | C1302 | ✓ 3K989* | 260.00 | 170.50 | 27.0 |

(*) Capacitor start, capacitor run. (†) 60/50 Hz. (✓) Denotes energy efficient product.

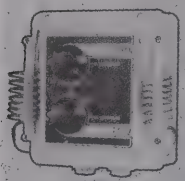
# THERMOSTATS AND ELECTRONIC SPEED CONTROLLERS

## SINGLE-SPEED, TWO-SPEED, & MANUAL CONTROL THERMOSTATS

Multifan



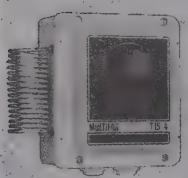
No. 3C952
Single-Speed
Thermostat

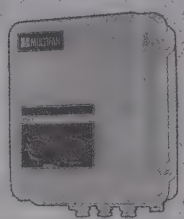


No. 3C953
Two-Speed
Thermostat



No. 3C954
Manually
Operated
Transformer
Speed Control





No. 3C957
Thermostat and
Automatic
Transformer
Speed Control

Accurate, trouble-free thermostats provide precise, accurate monitoring of air flow and temperatures within a confined area.

Fully enclosed units are sealed to minimize corrosion and resist damage from dust and moisture.

### Single Speed Thermostat

- Simple, reliable thermostat for trouble-free temperature control
- Adjustment range: 32 to 105°F
- Single-pole double throw contact
- 10 amp, 120/240V
- Multifan brand (T15 WD)

**No. 3C952.** Shpg. wt. 1.0 lbs. List.....$64.63.
Each.....**$38.70**

### Two-Speed Thermostat

- Dependable and accurate
- Adjustment range: 32 to 105°F
- 2 single-pole double throw contacts
- Adjusts separately for minimum and maximum temperature difference
- 10 amp, 240V
- Multifan brand (T15-2)

**No. 3C953.** Shpg. wt. 1.3 lbs. List .$178.74.
Each.....**$107.05**

### Manually Operated Transformer Speed Controls

- Maximum accuracy, minimum care hand-operated fan control
- Six speed step transformer
- Easy to read manual dial
- Resists power surges and lightning
- 110/220V • Multifan brand

| Amps | Multifan Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|
| 3 | STW-3 | **3C954** | $247.50 | **$148.25** | 9.7 |
| 5 | STW-5 | **3C955** | 280.20 | **168.00** | 15.0 |
| 7 | STW-7 | **3C956** | 342.13 | **205.00** | 18.0 |

### Thermostat and Automatic Transformer Speed Controls

- Thermostat (T15-4) and transformer must be used together
- Resist power surges and lightning
- 5 steps with minimum settings on positions 0, 1, 2 (right hand switch)
- On automatic setting, fan speed automatically increases as temperature rises to maintain precise temperature control
- Manual setting in case of thermostat failure
- Totally sealed, anti-corrosion casing
- Includes pilot lamp
- 110/220V • Multifan brand
- 3 settings available on right hand switch: 0: stop operation, A: Automatic operation, 1–5: Manual operation

| Manual Speed Position | % of Total Speed 3 to 7 Amp |
|---|---|
| 1 | 48 |
| 2 | 58 |
| 3 | 64 |
| 4 | 78 |
| 5 | 100 |

| Amps | Maximum Number of 220V Medium Performance Fans to be Used with One Transformer 12" | 14" | 16" | 18" | 20" |
|---|---|---|---|---|---|
| 3 | 5 | 3 | 2 | 1 | 1 |
| 5 | 8 | 5 | 4 | 3 | 2 |
| 7 | 11 | 7 | 6 | 4 | 3 |

| Multifan Model | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|
| STWA-3 | **3C957** | $488.81 | **$292.75** | 6.1 |
| STWA-5 | **3C958** | 525.69 | **315.00** | 17.0 |
| STWA-7 | **3C959** | 609.10 | **364.75** | 21.0 |

## MODULATING TEMPERATURE CONTROL

PHASON



- ABS non-corrosive, fire retardant enclosure
- 6°F differential
- Fused, overload and transient protected
- Low speed or OFF setting
- Digital temperature display
- Easily accessible automatic and manual settings
- Sensor may be extended for remote settings, 500 ft. maximum
- 120–240V AC, 60 Hz, 10 amps
- 99°F maximum temperature
- CSA file #LR61791
- Phason brand (MTC-4C)

**No. 3C960.** Shpg. wt. 2.0 lbs. List.....$222.05.
Each.....**$120.00**

## VARIABLE TEMPERATURE CONTROL

PHASON



Digitally controlled temperature sensing motor speed controller, automatically regulates fan speed and temperature of industrial buildings and livestock barns.

- ABS non-corrosive enclosure
- Fully adjustable temperature differential (1 to 20°F)
- Fused, overload, transient protected
- Low speed or OFF setting
- Digital temperature display
- Minimum speed from 0–99%
- 120/240V AC, 50/60 Hz, 10 amp
- 99°F maximum temperature
- CSA file #LR61791
- Phason brand (VTC-1D)

**No. 3C961.** Shpg. wt. 3.0 lbs. List.....$315.05.
Each.....**$184.25**



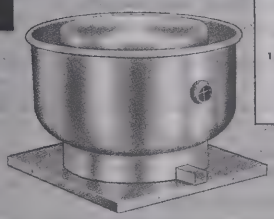
*However, wherever, you need to move air, we have the fans to do it.*

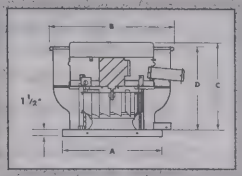
# DIRECT-DRIVE UPBLAST CENTRIFUGAL ROOF AND WALL VENTILATORS

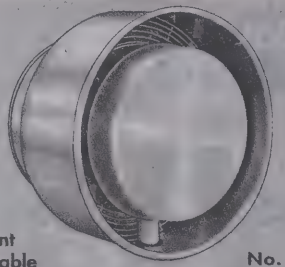


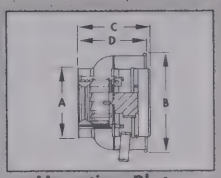
Dayton®

E53236
MH12596









Mounting Plate Included.

Replacement Parts Available
1-800-323-0620

No. 4HZ34 Wall Mount

Exhaust foul air in industrial and commercial buildings. All units are UL Listed Power Ventilators Subject 705. 10.5 through 18.25" units are UL Listed Restaurant Exhaust Appliances (YZHW) Subject 762. See page 3616 for NFPA required accessories. 8" units are UL Listed Power Ventilators Subject 705 only. A continuous venturi to windband weld provides for a virtually leakproof connection. Fully rolled windband bead for increased stability and ease of transport. Backward incline wheel design. The motor compartment is cooled by outside air drawn through an external tube. Spun aluminum construction with galvanized steel support braces. 115V (or 115/230V) 60Hz motors feature ball bearing construction and Class B insulation, and are fully speed controllable. See listing below. **WARNING! DO NOT USE A SPEED CONTROL IN ANY KITCHEN EXHAUST APPLICATION.** Birdscreens available separately. See listing on page 3616. Damper available separately. See listing below. **WARNING: DO NOT USE A DAMPER IN ANY KITCHEN EXHAUST APPLICATION.** NEMA 1 and NEMA 4 disconnect switches available separately. NOTE: Disconnect junction box suitable for NEMA 1 switch factory premounted under motor enclosure. NEMA 3 weatherproof disconnect junction box available separately. See listing on page 3625. Fixed and adjustable ventilated mounting curbs available separately. See listing below and on page 3616. For information on UL 705, UL 762 and NFPA 96, contact a local-licensed contractor or building inspector.

## UPBLAST ROOF AND WALL VENTILATOR DIMENSIONS

| Wheel Dia. (In.) | Bore Size (In.) | Dimensions (In.) A | B | C | D | Recommended Damper* Damper Size (In.) | Stock No. | Recom'd Fixed Roof Mounting Curbs* 8" Ht. Stock No. | 12" Ht. Stock No. |
|---|---|---|---|---|---|---|---|---|---|
| **DIRECT-DRIVE UPBLAST ROOF VENTILATORS** | | | | | | | | | |
| 8 | 5/16 | 19 | 20½ | 12⅛ | 10 | 12 x 12 | 4HX64 | 4HX38 | 4HX46 |
| 10½ | 1/2 | 19 | 23⅞ | 18⅞ | 16⅞ | 12 x 12 | 4HX64 | 4HX38 | 4HX46 |
| 12¼ | 1/2 | 22 | 26⅛ | 19⅝ | 17⅜ | 15 x 15 | 4HX65 | 4HX39 | 4HX47 |
| 13½ | 5/8 | 22 | 27⅞ | 20¾ | 18½ | 15 x 15 | 4HX65 | 4HX39 | 4HX47 |
| 15 | 5/8 | 26 | 29⅞ | 22 | 19⅜ | 19 x 19 | 4HX66 | 4HX40 | 4HX48 |
| 16½ | 5/8 | 26 | 31¾ | 22¾ | 20⅛ | 19 x 19 | 4HX66 | 4HX40 | 4HX48 |
| 18¼ | 5/8 | 30 | 34 | 24 | 21⅛ | 23 x 23 | 4HX67 | 4HX41 | 4HX49 |
| **DIRECT-DRIVE UPBLAST WALL VENTILATORS** | | | | | | | | | |
| 8 | 5/16 | 14 | 20½ | 12⅛ | 10 | 8 x 8 | 4HX72 | — | — |
| 10½ | 1/2 | 16¾ | 23⅞ | 18⅞ | 16⅞ | 10 x 10 | 4HX73 | — | — |
| 12¼ | 1/2 | 18½ | 26⅛ | 19⅝ | 17¾ | 11 x 11 | 4HX33 | — | — |
| 13½ | 5/8 | 19¾ | 27⅞ | 20¾ | 18½ | 12 x 12 | 4HX74 | — | — |
| 15 | 5/8 | 21¼ | 29⅞ | 22 | 19⅜ | 13 x 13 | 4HX75 | — | — |
| 16½ | 5/8 | 22¾ | 31¾ | 22¾ | 20⅛ | 14 x 14 | 4HX76 | — | — |
| 18¼ | 5/8 | 24½ | 34 | 24 | 21⅛ | 15 x 15 | 4HX77 | — | — |

(*) Not for use with any kitchen exhaust application.

amca CERTIFIED RATINGS SOUND PERFORMANCE AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

Dayton Electric Mfg. Co. certifies that the direct-drive ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and 311 comply with the requirements of the AMCA Certified Ratings Program.

The Sound Ratings shown are loudness values in fan sones at five (5) feet in a hemispherical free field calculated per AMCA Standard 301. Values shown for ventilators listed are for: Installation Type A: Free inlet fan sones.

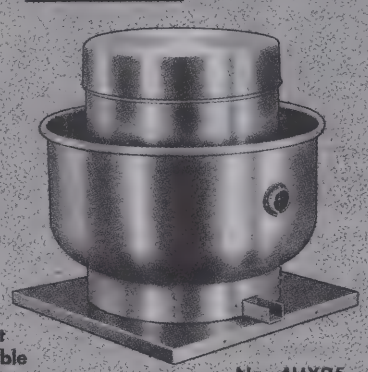
| DD UPBLAST CRVs | | | |
|---|---|---|---|
| Speed Control 5C203 | | Speed Control 5C204 | Speed Control 5C205 |
| 4HZ32 | 4HZ40 | 4HZ45 | 4HZ41 |
| 4HZ33 | 4HZ42 | 4HZ47 | 4HZ43 |
| 4HZ34 | 4HZ44 | 4HZ53 | 4HZ49 |
| 4HZ35 | 4HZ46 | 4HZ55 | 4HZ51 |
| 4HZ36 | 4HZ48 | 4HZ57 | 4HZ52 |
| 4HZ37 | 4HZ50 | 4HZ59 | 4HZ54 |
| 4HZ38 | | | 4HZ56 |
| 4HZ39 | | | 4HZ58 |

## DIRECT-DRIVE UPBLAST ROOF AND WALL VENTILATOR SPECIFICATIONS AND ORDERING DATA

| Wheel Dia. (In.) | Motor HP | RPM | Amps | Volts | Peak BHP | Sones @ 0.250" SP | CFM Air Delivery at RPM Shown† 0.0" SP | 0.250" SP | 0.375" SP | 0.500" SP | 0.625 SP | 0.750" SP | 1.00" SP | 1.25 SP | Roof Mount Stock No. | Each | Shpg. Wt. | Wall Mount Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8** | 1/25 | 1660 | 1.5 | 115 | — | 7.4 | 310 | 190 | 80 | — | — | — | — | — | **4HZ32** | **$213.50** | 35.0 | **4HZ34** | **$237.25** | 22.0 |
| | 1/25 | 1640 | 1.5 | 115 | — | 6.5 | 420 | 270 | 170 | — | — | — | — | — | **4HZ33** | **261.75** | 35.0 | **4HZ35** | **294.50** | 22.0 |
| **10½** | 1/20 | 1100 | 1.0 | 115 | — | 4.8 | 685 | 548 | 388 | 116 | — | — | — | — | **4HZ36** | **359.00** | 40.0 | **4HZ38** | **382.25** | 40.0 |
| | 1/6 | 1650 | 2.3 | 115 | — | 11.6 | 1050 | 910 | 840 | 750 | 650 | 520 | — | — | **4HZ37** | **389.75** | 40.0 | **4HZ39** | **438.50** | 40.0 |
| **12¼** | 1/12 | 880 | 1.7 | 115 | — | 5.2 | 860 | 600 | — | — | — | — | — | — | **4HZ40** | **435.75** | 48.0 | **4HZ42** | **490.00** | 45.0 |
| | 1/3 | 1650 | 4 | 115 | 0.34 | 12.8 | 1530 | 1410 | 1340 | 1270 | 1193 | 1110 | 900 | — | **4HZ41** | **501.50** | 53.0 | **4HZ43** | **564.50** | 45.0 |
| **13½** | 1/12 | 870 | 1.8 | 115 | 0.08 | 8.0 | 1220 | 940 | 720 | — | — | — | — | — | **4HZ44** | **534.00** | 54.0 | **4HZ46** | **587.00** | 54.0 |
| | 1/2 | 1690 | 6.2/3.1 | 115/230 | 0.58 | 19.0 | 2420 | 2285 | 2220 | 2145 | 2072 | 1990 | 1830 | 1631 | **4HZ45** | **621.00** | 54.0 | **4HZ47** | **670.50** | 54.0 |
| **15** | 1/6 | 870 | 2.4 | 115 | 0.13 | 6.8 | 1670 | 1370 | 1170 | 850 | — | — | — | — | **4HZ48** | **669.50** | 65.0 | **4HZ50** | **736.50** | 62.0 |
| | 1/3 | 1140 | 4.4 | 115 | 0.31 | 12.5 | 2170 | 1960 | 1850 | 1710 | 1568 | 1375 | — | — | **4HZ49** | **730.00** | 65.0 | **4HZ51** | **802.50** | 62.0 |
| **16½** | 1/4 | 870 | 3.6 | 115 | 0.25 | 8.9 | 2260 | 1950 | 1780 | 1560 | 1150 | — | — | — | **4HZ52** | **703.50** | 74.0 | **4HZ54** | **774.00** | 72.0 |
| | 1/2 | 1145 | 6.2/3.1 | 115/230 | 0.49 | 14.0 | 2860 | 2620 | 2500 | 2370 | 2219 | 2060 | 1500 | — | **4HZ53** | **759.50** | 74.0 | **4HZ55** | **835.50** | 81.0 |
| **18¼** | 1/3 | 860 | 4.4 | 115 | 0.37 | 10.4 | 3050 | 2690 | 2475 | 2245 | 1981 | 910 | — | — | **4HZ56** | **839.50** | 94.0 | **4HZ58** | **923.50** | 92.0 |
| | 3/4 | 1110 | 8.4/4.2 | 115/230 | 0.85 | 19.8 | 3930 | 3640 | 3490 | 3340 | 3181 | 3010 | 2615 | 2031 | **4HZ57** | **883.00** | 91.0 | **4HZ59** | **971.50** | 90.0 |

(†) Speed (RPM) shown is nominal and performance shown is based on actual speed of test. Performance ratings do not include the effect of appurtenances in the airstream. Performance shown is for Installation Type A: Free Inlet, Free Outlet.

# BELT-DRIVE UPBLAST CENTRIFUGAL ROOF AND WALL VENTILATORS

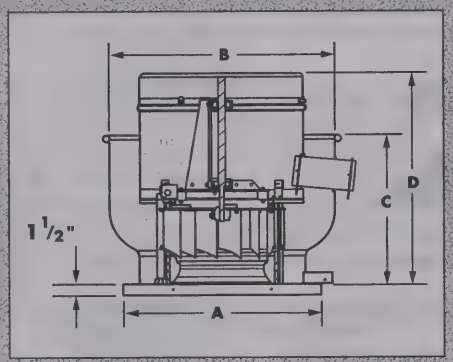



E53236
MH12596

LR111012

Replacement Parts Available
1-800-323-0620

No. 4HX95




- Exhaust foul air in industrial and commercial applications where the discharge must be thrown into the atmosphere away from the roof or wall surface
- All units are UL Listed Power Ventilators Subject 705
- Spun aluminum construction with galvanized steel support-braces
- Fully rolled windband bead for increased stability and ease of transport
- A continuous venturi to windband weld provides a virtually leakproof connection
- Backward incline wheel design
- 10½-24½ units have permanently lubricated, maintenance-free bearings
- 30 & 36½ units have regreasable pillowblock bearings and are ROOF MOUNT ONLY
- Motor and drives are packed separately when ordering the 7-Combo numbers
- Nema 1 junction box located in motor enclosure
- Nema 1, 3R, & 4 switchgear: see page 3625
- Non-Kitchen dampers listed below & page 3617
- Roof curbs listed on pages 3615, 3616 and 3617
- Birdscreens: see page 3616
- For more information on UL 705, UL 762, and NFPA 96, contact a local licensed contractor or building inspector

## RESTAURANT APPLICATONS

- 10½-36½" units are UL listed Restaurant Exhaust Equipment Subject 762 (YZHW). See page 3616 for NFPA 96 accessories
- DO NOT USE A DAMPER IN A NFPA 96 INSTALLATION
- NFPA 96 REQUIRES VENTILATED ROOF CURB: see page 3616

## HAZARDOUS LOCATION APPLICATION‡

- 13½-36½" units are available in Hazardous Location configuration complete with motor and drive: see page 3615 for 7-Combo number. Note: Haz Loc base ventilator less motor and drive are not available
- 10½ & 12¼" units are NOT for Haz Loc applications
- Non-Haz Loc ventilators are NOT interchangeable with Haz Loc Ventilators
- Note: Haz Loc units have different height dimension "D". See table below

**Consult with your local Ventilation or Fire Inspector for all code requirements.**

amca CERTIFIED RATINGS SOUND AIR PERFORMANCE AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

Dayton Electric Mfg. Co. certifies that the belt-drive ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and 311 comply with the requirements of the AMCA Certified Ratings Program.

The Sound Ratings shown are loudness values in fan sones at five (5) feet in a hemispherical free field calculated per AMCA Standard 301. Values shown for ventilators listed are for Installation Type A: Free Inlet fan sones.

## BELT-DRIVE UPBLAST CENTRIFUGAL ROOF VENTILATORS LESS MOTOR AND DRIVE

| Wheel Dia. (In.) | Shaft Bore Dia. (In.) Wheel End | Shaft Bore Dia. (In.) Pulley End | Dimensions (In.) A | B | C | D | (Haz Loc.) D | Ventilator Less Motor & Drive Stock No. | Each | Shpg. Wt. | Non-Kitchen Recommended Dampers* Size (In.) | Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10½ | 1/2 | 7/8 | 19 | 23⅞ | 16⅞ | 23⅜ | — | 4HX91 | $361.00 | 44.0 | 12 x 12 | 4HX64 |
| 12¼ | 1/2 | 7/8 | 22 | 26½ | 17¾ | 24¼ | — | 4HX92 | 425.75 | 54.0 | 15 x 15 | 4HX65 |
| 13½ | 5/8 | 7/8 | 22 | 27⅞ | 18½ | 24⅝ | 26⅝ | 4HX93 | 521.00 | 58.0 | 15 x 15 | 4HX65 |
| 15 | 5/8 | 7/8 | 26 | 29⅞ | 19⅝ | 27⅜ | 28⅞ | 4HX94 | 580.00 | 77.0 | 19 x 19 | 4HX66 |
| 16½ | 5/8 | 7/8 | 26 | 31¾ | 20⅝ | 27¾ | 29¼ | 4HX95 | 650.00 | 97.0 | 19 x 19 | 4HX66 |
| 18¼ | 5/8 | 7/8 | 30 | 34 | 21⅛ | 29⅞ | 31⅝ | 4HX96 | 767.50 | 98.0 | 23 x 23 | 4HX67 |
| 20 | 7/8 | 7/8 | 30 | 36½ | 22 | 30¼ | 32¼ | 4HX97 | 840.50 | 99.0 | 23 x 23 | 4HX67 |
| 24½ | 7/8 | 7/8 | 34 | 42⅜ | 24½ | 33 | 35 | 4HX98 | 996.50 | 327.0 | 27 x 27 | 4HX68 |
| 30 | 1 | 1 | 42 | 49½ | 27½ | 38¾ | 42¼ | 4HX99 | 1462.00 | 331.0 | 35 x 35 | 4HX69 |
| 36½ | 1 3/16 | 1 3/16 | 46 | 58⅛ | 31⅛ | 42⅞ | 46⅜ | 4HZ01 | 1956.00 | 418.0 | 39 x 39 | 4HX70 |

(*) Not for use with any kitchen exhaust applications. (†)Roof Mount Only.
(‡) Motors are UL listed for Class I, Division 1, Group D, and for Class II, Division 1, Groups F and G. See page (133 in catalog #390) for definitions. Ventilators meet the AMCA Type C Classification for Spark Resistant Construction.



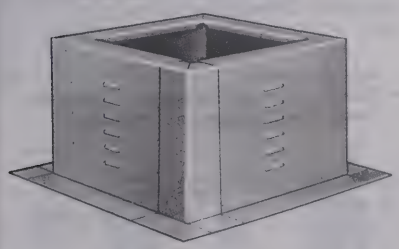
Exhaust it, filter it, exchange it — we have the ventilators to get it done.

# BELT-DRIVE UPBLAST CENTRIFUGAL ROOF AND WALL VENTILATORS

## BELT-DRIVE UPBLAST CENTRIFUGAL VENTILATORS WITH MOTOR AND DRIVE

| Wheel Dia. (In.) | HP | Fan RPM | Max. BHP | Sones @ 0.125" SP | CFM Air Delivery at RPM Shown 0.0" SP | 0.250" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.50" SP | Ventilators with Motor and Drive: Single Phase Motors 115/230V Open Dripproof Stock No. | Each | Ventilators with Motor and Drive: 3-Phase Motors 208-220/440V Open Dripproof Stock No. | Each | Loc'n w/Motor and Drive: Single Phase Motors 115/230V Hazardous Location* Stock No. | Each | Loc'n w/Motor and Drive: 3-Phase Motors 208-220/440V Hazardous Location* Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10½ | 1/6 | 1590 | 0.16 | 10.9 | 1030 | 920 | 790 | 610 | — | - | 7A587 | $433.50 | — | — | — | — | — | — |
| | 1/4 | 1820 | 0.24 | 14.3 | 1180 | 1090 | 980 | 855 | 680 | - | 7A588 | 454.50 | — | — | — | — | — | — |
| 12¼ | 1/4 | 1420 | 0.24 | 11.7 | 1390 | 1270 | 1120 | 940 | 170 | - | 7A593 | 517.50 | — | — | — | — | — | — |
| | 1/3 | 1570 | 0.32 | 12.7 | 1530 | 1420 | 1290 | 1140 | 960 | - | 7A594 | 526.00 | — | — | — | — | — | — |
| 13½ | 1/4 | 1210 | 0.24 | 11.4 | 1730 | 1540 | 1330 | 1060 | — | - | 7A615 | 606.00 | — | — | — | — | — | — |
| | 1/3 | 1330 | 0.32 | 13.5 | 1900 | 1730 | 1550 | 1340 | — | - | 7A616 | 618.00 | — | — | — | — | — | — |
| | 1/2 | 1530 | 0.50 | 16.6 | 2190 | 2040 | 1890 | 1720 | 1540 | - | 7A617 | 627.00 | 7A690 | $624.00 | 7A754 | 946.50 | 7A822 | 992.50 |
| 15 | 1/4 | 1030 | 0.24 | 11.5 | 1950 | 1730 | 1450 | 570 | — | - | 7A618 | 662.50 | — | — | — | — | — | — |
| | 1/3 | 1140 | 0.33 | 12.5 | 2140 | 1940 | 1710 | 1390 | — | - | 7A619 | 670.00 | — | — | — | — | — | — |
| | 1/2 | 1300 | 0.49 | 15.1 | 2460 | 2280 | 2090 | 1870 | 1570 | - | 7A620 | 676.00 | 7A691 | 672.50 | 7A755 | 1065.00 | 7A823 | 1111.00 |
| | 3/4 | 1260 | 0.74 | 17.8 | 2810 | 2660 | 2500 | 2325 | 2120 | 1412 | 7A621 | 695.50 | 7A692 | 680.00 | 7A756 | 1067.00 | 7A824 | 1112.00 |
| | 1 | 1640 | 0.99 | 20.0 | 3090 | 2955 | 2820 | 2660 | 2500 | 2081 | 7A622 | 712.50 | 7A693 | 687.00 | 7A757 | 1084.00 | 7A825 | 1123.00 |
| 16½ | 1/3 | 960 | 0.32 | 11.1 | 2520 | 2230 | 1910 | 1390 | — | - | 7A623 | 739.50 | — | — | — | — | — | — |
| | 1/2 | 1100 | 0.49 | 13.8 | 2890 | 2640 | 2370 | 2080 | 1530 | - | 7A624 | 740.50 | 7A694 | 737.00 | 7A758 | 1097.00 | 7A826 | 1143.00 |
| | 3/4 | 1260 | 0.74 | 17.3 | 3310 | 3090 | 2860 | 2620 | 2360 | - | 7A625 | 764.00 | 7A695 | 748.50 | 7A759 | 1104.00 | 7A827 | 1149.00 |
| | 1 | 1400 | 1.00 | 19.9 | 3670 | 3480 | 3280 | 2070 | 2840 | - | 7A626 | 782.00 | 7A696 | 757.00 | 7A760 | 1122.00 | 7A828 | 1161.00 |
| 18¼ | 1/3 | 810 | 0.31 | 9.6 | 2770 | 2420 | 1990 | — | — | - | 7A627 | 848.00 | — | — | — | — | — | — |
| | 1/2 | 930 | 0.46 | 11.6 | 3160 | 2870 | 2520 | 2070 | — | - | 7A628 | 853.00 | 7A697 | 849.50 | 7A761 | 1402.00 | 7A829 | 1448.00 |
| | 3/4 | 1060 | 0.70 | 14.3 | 3620 | 3370 | 3080 | 2750 | 2330 | - | 7A629 | 880.00 | 7A698 | 864.50 | 7A762 | 1411.00 | 7A830 | 1455.00 |
| | 1 | 1170 | 0.93 | 17.5 | 3990 | 3760 | 3500 | 3230 | 2910 | - | 7A630 | 893.00 | 7A699 | 867.50 | 7A763 | 1424.00 | 7A831 | 1463.00 |
| | 1½ | 1340 | 1.40 | 20.0 | 4560 | 4360 | 4160 | 3920 | 3680 | 3077 | 7A631 | 920.00 | 7A700 | 888.00 | 7A764 | 1402.00 | 7A832 | 1495.00 |
| | 2 | 1470 | 1.87 | 24.0 | 5020 | 4840 | 4660 | 4460 | 4240 | 3761 | — | — | 7A701 | 889.00 | — | — | 7A833 | 1509.00 |
| 20 | 1/3 | 695 | 0.32 | 10.8 | 3330 | 2740 | 2090 | — | — | | 7A632 | 921.50 | — | — | — | — | — | — |
| | 1/2 | 800 | 0.49 | 12.5 | 3720 | 3300 | 2820 | 2005 | — | | 7A633 | 917.00 | 7A702 | 913.50 | 7A765 | 1313.00 | 7A834 | 1359.00 |
| | 3/4 | 915 | 0.74 | 15.1 | 4250 | 3900 | 3505 | 3040 | 2175 | - | 7A634 | 951.50 | 7A703 | 936.00 | 7A766 | 1327.00 | 7A835 | 1372.00 |
| | 1 | 1010 | 1.00 | 16.7 | 4690 | 4370 | 4030 | 3640 | 3180 | - | 7A635 | 968.00 | 7A704 | 943.00 | 7A767 | 1337.00 | 7A836 | 1376.00 |
| | 1½ | 1155 | 1.50 | 20.0 | 5370 | 5090 | 4800 | 4480 | 4140 | - | 7A636 | 997.50 | 7A705 | 965.00 | 7A768 | 1313.00 | 7A837 | 1406.00 |
| | 2 | 1270 | 2.00 | 24.0 | 5900 | 5650 | 5390 | 5110 | 4820 | | — | — | 7A706 | 968.50 | — | — | 7A838 | 1427.00 |
| 24½ | 1/3 | 495 | 0.33 | 11.0 | 4410 | 3500 | — | — | — | | 7A637 | 1060.00 | — | — | — | — | — | — |
| | 1/2 | 570 | 0.51 | 12.2 | 5080 | 4310 | 3240 | — | — | | 7A638 | 1078.00 | 7A707 | 1075.00 | 7A770 | 1651.00 | 7A839 | 1697.00 |
| | 3/4 | 650 | 0.75 | 14.0 | 5790 | 5140 | 4370 | — | — | | 7A639 | 1082.00 | 7A708 | 1067.00 | 7A771 | 1641.00 | 7A840 | 1685.00 |
| | 1 | 720 | 1.01 | 15.5 | 6415 | 5840 | 5180 | 4310 | — | | 7A640 | 1106.00 | 7A709 | 1081.00 | 7A772 | 1665.00 | 7A841 | 1704.00 |
| | 1½ | 820 | 1.50 | 18.1 | 7310 | 6820 | 6245 | 5630 | 4800 | - | 7A641 | 1143.00 | 7A710 | 1111.00 | 7A773 | 1650.00 | 7A842 | 1742.00 |
| | 2 | 900 | 1.99 | 21.0 | 8020 | 7570 | 7070 | 6540 | 5945 | | — | — | 7A711 | 1132.00 | — | — | 7A843 | 1773.00 |
| 30 | 1/2 | 410 | 0.47 | 14.5 | 6230 | 4955 | 370 | — | — | - | 7A642 | 1475.00 | 7A712 | 1471.00 | 7A774 | 2218.00 | 7A844 | 2264.00 |
| | 3/4 | 470 | 0.70 | 14.6 | 7120 | 6060 | 4630 | — | — | - | 7A643 | 1467.00 | 7A713 | 1452.00 | 7A775 | 2205.00 | 7A845 | 2249.00 |
| | 1 | 520 | 0.93 | 15.2 | 7850 | 6900 | 5710 | 1570 | — | | 7A644 | 1503.00 | 7A714 | 1477.00 | 7A776 | 2242.00 | 7A846 | 2281.00 |
| | 1½ | 590 | 1.40 | 16.3 | 8980 | 8190 | 7230 | 6070 | 1250 | | 7A645 | 1509.00 | 7A715 | 1477.00 | 7A777 | 2192.00 | 7A847 | 2285.00 |
| | 2 | 650 | 1.87 | 18.3 | 9880 | 9150 | 8320 | 7350 | 6230 | | — | — | 7A716 | 1507.00 | — | — | 7A848 | 2332.00 |
| | 3 | 750 | 2.81 | 22.0 | 11310 | 10680 | 10000 | 9240 | 8370 | - | — | — | 7A717 | 1527.00 | — | — | 7A849 | 2375.00 |
| | 5 | 890 | 4.69 | 30.0 | 13420 | 12880 | 12350 | 11740 | 11100 | 9638 | — | — | 7A718 | 1560.00 | — | — | 7A850 | 2471.00 |
| 36½ | 3/4 | 340 | 0.73 | 8.4 | 9390 | 7550 | — | — | — | | 7A646 | 1978.00 | 7A719 | 1960.00 | 7A778 | 2831.00 | 7A851 | 2875.00 |
| | 1 | 370 | 0.98 | 9.4 | 10330 | 8680 | 6200 | — | — | | 7A647 | 1975.00 | 7A720 | 1950.00 | 7A779 | 2828.00 | 7A852 | 2868.00 |
| | 1½ | 430 | 1.47 | 11.5 | 11830 | 10410 | 8690 | 1520 | — | | 7A648 | 1996.00 | 7A721 | 1964.00 | 7A780 | 2795.00 | 7A853 | 2888.00 |
| | 2 | 470 | 1.96 | 14.1 | 13020 | 11750 | 10340 | 8270 | — | | — | — | 7A722 | 1977.00 | — | — | 7A854 | 2916.00 |
| | 3 | 540 | 2.95 | 17.8 | 14900 | 13790 | 12615 | 11230 | 9310 | | — | — | 7A723 | 1996.00 | — | — | 7A855 | 2957.00 |
| | 5 | 640 | 4.90 | 23.0 | 17650 | 16700 | 15760 | 14735 | 13570 | 7546 | — | — | 7A724 | 2016.00 | — | — | 7A856 | 3038.00 |

(†) Power ratings (BHP) do not include drive losses. Performance shown is for Installation Type A: Free Inlet, Free Outlet. Performance ratings do not include effects of appurtenances in airstream.
**(*) Motors are UL listed for Class I, Division 1, Group D, and for Class II, Division 1, Groups F and G. See page (133 in catalog #390) for defintions. Ventilators meet the AMCA Type C Classification for Spark Resistant Construction.**



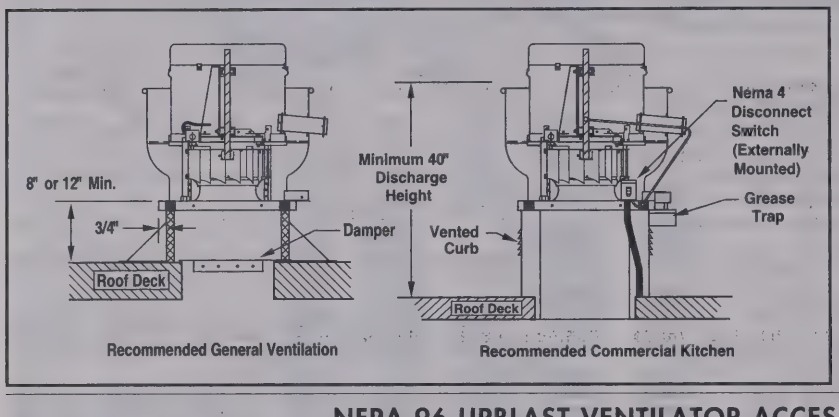
### ROOF CURBS

| Wheel Dia. (In.) | Fixed Non-Ventilated 8" Ht. Stock No. | Fixed Non-Ventilated 12 " Ht. Stock No. | UL 762 Kitchen Adjustable Stock No. | UL 762 Kitchen Fixed Stock No. |
|---|---|---|---|---|
| 10½ | 4HX38 | 4HX46 | 4HX61 | 4HX54 |
| 12¼ | 4HX39 | 4HX47 | 4HX61 | 4HX55 |
| 13½ | 4HX39 | 4HX47 | 4HX61 | 4HX55 |
| 15 | 4HX40 | 4HX48 | 4HX62 | 4HX56 |
| 16½ | 4HX40 | 4HX48 | 4HX62 | 4HX56 |
| 18¼ | 4HX41 | 4HX49 | 4HX62 | 4HX57 |
| 20 | 4HX41 | 4HX49 | 4HX62 | 4HX57 |
| 24½ | 4HX42 | 4HX50 | 4HX63 | 4HX58 |
| 30 | 4HX43 | 4HX51 | 4HX63 | 4HX59 |
| 36½ | 4HX44 | 4HX52 | 4HX63 | 4HX60 |

# POWER ROOF VENTILATORS

# GENERAL VENTILATION & COMMERCIAL KITCHEN CERTIFICATIONS

## UL 705 AND UL 762 REQUIREMENTS




### UL 705

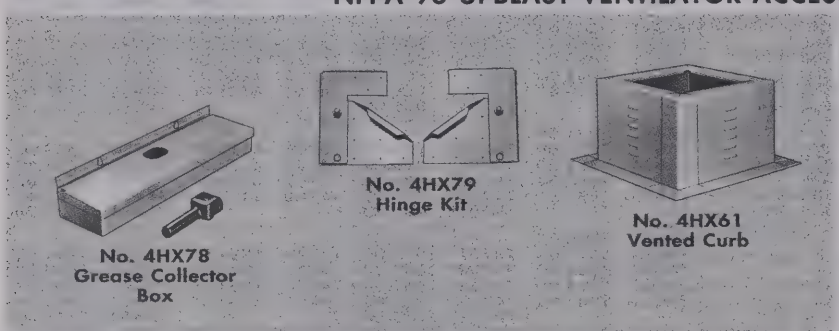
**Direct and belt-drive Centrifugal Upblast and Downblast Ventilators** are UL Listed Power Ventilators, Subject 705 when purchased complete with specified Dayton motor and drives and for general ventilation.

### UL 762

**10½ through 36½" Direct and Belt-drive Centrifugal Upblast Ventilators only** are UL Listed Restaurant Exhaust Appliances (YZHW), Subject 762 when purchased complete with specified Dayton motor and drive.

Installation of UL 762 ventilators should meet the requirements of NFPA 96, Edition 1994, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, as well as local codes.

## NFPA 96 UPBLAST VENTILATOR ACCESSORIES




**GREASE COLLECTOR BOX.** Fastens to ventilator base. Easy to remove for cleaning. Diverts and traps heavy residual grease while protecting roof surface.

**No. 4HX78.** Shpg. wt. 13.0 lbs. List $109.80 Each ..... **$65.75**

**HINGE KITS.** Allow entire fan to swing away for access to the wheel and ductwork.

**No. 4HX79.** for 10½-18¼" units. Shpg. wt. 3.5 lbs. List $101.36. Each..... **$60.70**

**No. 4HZ74.** for 20- 36½" units. Shpg. wt. 5.0 lbs. List $341.51. Each..... **$204.50**

**NEMA 4 NON-REVERSING MANUAL DISCONNECT SWITCHES.** Nos. 1H408, 1H409 and 2BW06 provide manual On/Off control of single or 3-phase AC motors where overload protection is not required or is provided separately. See page 453 for listing.

| Curb Ht. (In.) | Inside Sq. Dim. (In.) | Outside Sq. Dim. (In.) | For Use With Dayton Ventilators | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **ADJUSTABLE VENTILATED CURBS** | | | | | | |
| **24** | 14½ to 18 | 17½ to 22 | 4HX91, 4HX92, 4HX93, 4HZ36, 4HZ37, 4HZ40, 4HZ41, 4HZ44, 4HZ45, | **4HX61** | **$322.00** | 60.0 |
| **24** | 21 to 26 | 24 to 29 | 4HX94, 4HX95, 4HX96, 4HX97, 4HZ48, 4HZ49, 4HZ52, 4HZ53, 4HZ56, 4HZ57 | **4HX62** | **404.00** | 75.0 |
| **18** | 28 to 43 | 31 to 46 | 4HX98, 4HX99, 4HZ01 | **4HX63** | **491.25** | 87.0 |
| **FIXED VENTILATED CURBS** | | | | | | |
| **24** | 14½ | 17½ | 4HX91, 4HZ36, 4HZ37 | **4HX54** | **165.50** | 30.0 |
| **24** | 17½ | 20½ | 4HX92, 4HX93, 4HZ40, 4HZ41, 4HZ44, 4HZ45 | **4HX55** | **176.00** | 35.0 |
| **24** | 21½ | 24½ | 4HX94, 4HX95, 4HZ48, 4HZ49, 4HZ52, 4HZ53 | **4HX56** | **189.75** | 43.0 |
| **24** | 25½ | 28½ | 4HX96, 4HX97, 4HZ56, 4HZ57 | **4HX57** | **208.50** | 53.0 |
| **18** | 29½ | 32½ | 4HX98 | **4HX58** | **227.00** | 61.0 |
| **18** | 37½ | 40½ | 4HX99 | **4HX59** | **270.25** | 78.0 |
| **18** | 41½ | 44½ | 4HZ01 | **4HX60** | **285.25** | 92.0 |

### NFPA 96 UPBLAST VENTED CURB

- **16 gauge galvanized steel ventilated curb for use in commercial kitchen applications**
- **Self-flashing. Flat mounting flange fastens directly to roof deck**
- **Stamped louvers on curb sides ventilate hot exhaust ducts to protect building and roof members**
- **Top flange surface is 1½"W; base mounting surface flange is 3½"W**

Allows for quick ventilator installation and uniformity throughout the entire job. Most curbs accept several ventilator sizes.




### BIRDSCREENS

- **Nickel-chrome plated for durability**
- **Successfully passed twenty-four hour salt spray test**
- **Concentric ring birdscreen precisely sized to eliminate any rattling.**

| Wheel Dia. (In.) | For Use With Dayton Ventilators | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| **10½** | 4HX91, 4HZ36, 4HZ37, 4HZ38, 4HZ39 | **4TM21** | $20.97 | **$12.56** | 2.5 |
| **12¼** | 4HX92, 4HZ40, 4HZ41, 4HZ42, 4HZ43 | **4TM22** | 21.40 | **12.82** | 2.5 |
| **13½** | 4HX93, 4HZ44, 4HZ45, 4HZ46, 4HZ47 | **4TM23** | 23.25 | **13.92** | 2.5 |
| **15** | 4HX94, 4HZ48, 4HZ49, 4HZ50, 4HZ51 | **4TM24** | 26.45 | **15.84** | 3.0 |
| **16½** | 4HX95, 4HZ52, 4HZ53, 4HZ54, 4HZ55 | **4TM25** | 32.90 | **19.70** | 3.5 |
| **18¼** | 4HX96, 4HZ56, 4HZ57, 4HZ58, 4HZ59 | **4TM26** | 39.48 | **23.64** | 5.0 |
| **20** | 4HX97 | **4TM27** | 46.38 | **27.80** | 5.0 |
| **24½** | 4HX98 | **4TM28** | 54.23 | **32.50** | 5.0 |
| **30** | 4HX99 | **4TM29** | 66.19 | **39.65** | 6.0 |
| **36½** | 4HZ01 | **4TM30** | 108.20 | **64.80** | 7.0 |



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

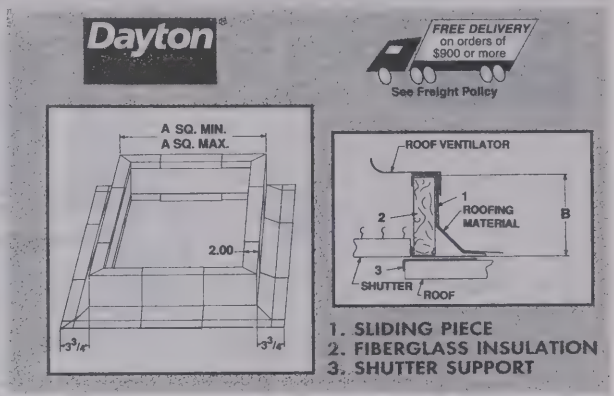
# 6 AND 12" ADJUSTABLE CURBS FOR ROOF VENTILATORS

**Speeds ventilator installation** while providing uniformity throughout entire job. Each curb accepts several ventilator sizes.

**Four corners** of 22-ga. galvanized steel with four 24-ga. galvanized center supports. Canted surface accommodates roofing material up the side and over the top of curb for leakproof installation. Allow clearance between all sides of curb and ventilator base for roofing material. Fiberglass insulation deadens sound and minimizes heat loss. Shutter flanges included. Heavy steel. 2 x 2" wood nailers (not included) easily field adapted. Curbs shipped unassembled. **Not intended for rubber roof installations. Warning! Not for use with any NFPA 96 installation.**

## ADJUSTABLE CURB ORDERING DATA

| "A" Adjustable Outside Sq. Dimens. (In.) | "B" Dimension Size 6⅝" High Stock No. | List | Each | Shpg. Wt. | 12⅝" High Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **14½ to 23** | 4C453 | $211.41 | **$126.65** | 24.0 | 4C670 | $258.02 | **$194.00** | 29.0 |
| **23½ to 32** | 4C454 | 283.18 | **169.75** | 34.0 | 3C437 | 442.23 | **265.00** | 37.0 |
| **32½ to 41** | 4C455 | 338.00 | **202.50** | 40.0 | 3C438 | 445.06 | **266.75** | 52.0 |
| **41 to 49½** | 3C597 | 401.84 | **240.75** | 50.0 | 3C598 | 500.58 | **299.75** | 61.0 |
| **50 to 58½** | 3C216 | 450.86 | **270.25** | 55.0 | 3C439 | 566.71 | **339.50** | 71.0 |




# POWER ROOF VENTILATOR ACCESSORIES

### BACKDRAFT DAMPERS

**For direct or belt-drive centrifugal roof and wall ventilators.**

**Roof mount units** have 19 gauge galvanized steel frame, 2" deep with 1" flange. Aluminum blades have felted edges for quiet operation. Prepunched conduit hole knock-out. **Wall mount units** have 16 gauge extruded aluminum frame, 1½" deep with 1⅜" flange. Wall mount blades are aluminum with felted edges.

**WARNING! NOT FOR USE WITH ANY KITCHEN EXHAUST APPLICATION.**




### FIXED ROOF CURBS

Heavy gauge galvanized steel construction with welded corners. Canted surface accommodates roofing material up side and over the top of curb for leakproof installation. Fiberglass insulation deadens sound and minimizes heat loss. Shutter flanges included.

**Warning! Not for use with any NFPA 96 Installation.**

| Curb Square OD (In.) | Curb Square ID (In.) | 8" Height Stock No. | List | Each | Shpg. Wt. | 12" Height Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| 17½ | 14½ | 4HX38 | $170.84 | **$102.30** | 21.0 | 4HX46 | $217.68 | **$130.35** | 27.0 |
| 20½ | 17½ | 4HX39 | 187.95 | **112.55** | 24.0 | 4HX47 | 236.22 | **141.45** | 32.0 |
| 24½ | 21½ | 4HX40 | 204.24 | **122.30** | 29.0 | 4HX48 | 257.18 | **154.00** | 38.0 |
| 28½ | 25½ | 4HX41 | 231.04 | **138.35** | 37.0 | 4HX49 | 288.07 | **172.50** | 47.0 |
| 32½ | 29½ | 4HX42 | 255.51 | **153.00** | 42.0 | 4HX50 | 317.30 | **190.00** | 54.0 |
| 40½ | 37½ | 4HX43 | 324.39 | **194.25** | 55.0 | 4HX51 | 407.06 | **243.75** | 70.0 |
| 44½ | 41½ | 4HX44 | 374.91 | **224.50** | 66.0 | 4HX52 | 466.76 | **279.50** | 84.0 |
| 55½ | 52½ | 4HX45 | 493.06 | **295.25** | 82.0 | 4HX53 | 613.72 | **367.50** | 102.0 |

## ROOF MOUNT BACKDRAFT DAMPERS

| Damper Size (In.) | Outside Flange (In.) | For Use With Dayton Ventilators (UL 705 Only) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **12 x 12** | 14 x 14 | 4HX80, 4HX91, 4HZ18, 4HZ19, 4HZ20, 4HZ21, 4HZ32, 4HZ36, 4HZ37 | **4HX64** | $29.37 | **$17.59** | 4.5 |
| **15 x 15** | 17 x 17 | 4HX81, 4HX82, 4HX92, 4HX93, 4HZ22, 4HZ23, 4HZ24, 4HZ25, 4HZ40, 4HZ41, 4HZ44, 4HZ45 | **4HX65** | 36.07 | **21.60** | 6.0 |
| **19 x 19** | 21 x 21 | 4HX83, 4HX84, 4HX94, 4HX95, 4HZ26, 4HZ27, 4HZ28, 4HZ29, 4HZ48, 4HZ49, 4HZ52, 4HZ53 | **4HX66** | 42.75 | **25.60** | 7.5 |
| **23 x 23** | 25 x 25 | 4HX85, 4HX86, 4HX96, 4HX97, 4HZ30, 4HZ31, 4HZ56, 4HZ57 | **4HX67** | 55.19 | **33.05** | 9.0 |
| **27 x 27** | 29 x 29 | 4HX87, 4HX98 | **4HX68** | 64.54 | **38.65** | 13.0 |
| **35 x 35** | 37 x 37 | 4HX88, 4HX99 | **4HX69** | 91.01 | **54.50** | 20.0 |
| **39 x 39** | 41 x 41 | 4HX89, 4HZ01 | **4HX70** | 117.90 | **70.60** | 26.0 |
| **50 x 50** | 52 x 52 | 4HX90 | **4HX71** | 155.22 | **92.95** | 34.0 |

## WALL MOUNT BACKDRAFT DAMPERS

| Damper Size (In.) | Outside Flange (In.) | For Use With Dayton Ventilators (UL 705 Only) | No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **8 x 8** | 10¾ x 10¾ | 4HZ34, 4HZ35 | **4HX72** | $25.08 | **$15.02** | 4.5 |
| **10 x 10** | 12¾ x 12¾ | 4HZ38, 4HZ39 | **4HX73** | 36.19 | **21.67** | 5.0 |
| **11 x 11** | 13¾ x 13¾ | 4HZ42, 4HZ43 | **4HX33** | 39.69 | **23.77** | 6.0 |
| **12 x 12** | 14¾ x 14¾ | 4HZ46, 4HZ47 | **4HX74** | 43.67 | **26.15** | 6.5 |
| **13 x 13** | 15¾ x 15¾ | 4HZ50, 4HZ51 | **4HX75** | 47.42 | **28.40** | 7.0 |
| **14 x 14** | 16¾ x 16¾ | 4HZ54, 4HZ55 | **4HX76** | 49.93 | **29.90** | 7.5 |
| **15 x 15** | 17¾ x 17¾ | 4HZ58, 4HZ59 | **4HX77** | 55.19 | **33.05** | 8.0 |

**SELECT QUALITY PRODUCTS FROM LEADING MANUFACTURERS WITH PROVEN PERFORMANCE**

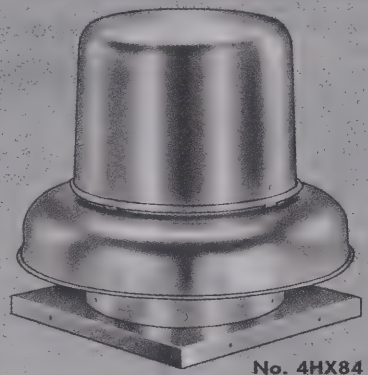
**Grainger features quality products from the brand name manufacturers you know and trust. More than 900 national brands are listed in the Brand Index at the back of this catalog.**

# BELT-DRIVE DOWNBLAST CENTRIFUGAL ROOF VENTILATORS

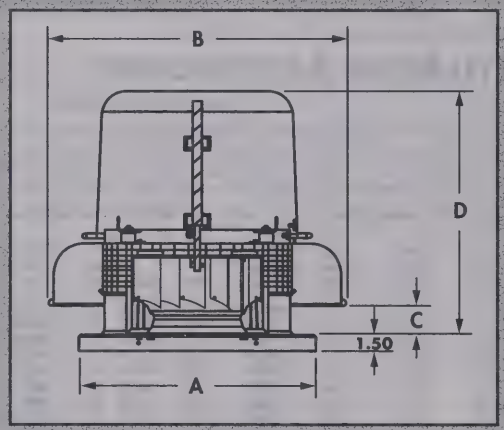
Dayton®

E53236

Replacement Parts Available 1-800-323-0620



No. 4HX84




## COMMON FEATURES

- Exhaust foul air in industrial and commercial applications which have extensive duct systems or require relatively quiet operation
- Maximum inlet temperature: 170°F
- All units are UL Listed Power Ventilators Subject 705
- Spun aluminum construction with galvanized steel support braces
- Fully rolled windband bead for increased stability and ease of transport
- Backward incline wheel design
- 10½ - 24½" units have permanently lubricated, maintenance-free bearings
- 30 - 49" units have regreasable pillowblock bearings
- Motor and drive components are packed separately when ordering the 7-Combo numbers
- NEMA 1 junction box located under motor enclosure
- NEMA 1, 3R, & 4 switchgear: see page 3625
- Backdraft dampers listed below & page 3617
- Roof curbs listed on the following page & page 3617
- For information on UL 705: contact a local licensed contractor or building inspector

## HAZARDOUS LOCATION APPLICATIONS†

- 13½ - 49" units are available in Hazardous Location configuration complete with motor and drive: see page 3619 for 7-Combo numbers. Note: Haz Loc base ventilator less motor and drive is not available
- 10½ & 12¼" units are NOT for Haz Loc applications
- Non-Haz Loc ventilators are NOT interchangable with Haz Loc ventilators
- Note: Haz Loc units have different height dimension "D". See table below

Consult with your local Ventilation or Fire Inspector for other code requirements.

amca CERTIFIED RATINGS — SOUND AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

Dayton Mfg. Co. certifies that the belt-drive ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

The Sound Ratings shown are loudness values in fan sones at five (5) feet in a hemispherical free field calculated per AMCA Standard 301. Values shown for ventilators are for Installation Type A: Free Inlet fan sones.

## BELT-DRIVE DOWNBLAST CENTRIFUGAL ROOF VENTILATORS LESS MOTOR AND DRIVE

| Wheel Dia. (In.) | Shaft Bore Dia (In.) | | Dimensions (In.) | | | | | Ventilators Less Motor and Drive | | | Recommended Dampers | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wheel End | Pulley End | A | B | C | D | (Haz. Loc.) D | Stock No. | Each | Shpg. Wt. | Size (In.) | Stock No. |
| 10½ | 1/2 | 7/8 | 19 | 25¾ | 3 | 22⅛ | — | 4HX80 | $350.75 | 52.0 | 12 x 12 | 4HX64 |
| 12¼ | 1/2 | 7/8 | 22 | 28 | 3 | 23⅜ | — | 4HX81 | 406.75 | 62.0 | 15 x 15 | 4HX65 |
| 13½ | 5/8 | 7/8 | 22 | 29¾ | 3¼ | 24⅝ | 26⅜ | 4HX82 | 512.50 | 74.0 | 15 x 15 | 4HX65 |
| 15 | 5/8 | 7/8 | 26 | 31 11/16 | 3¾ | 27⅜ | 28 | 4HX83 | 563.00 | 78.0 | 19 x 19 | 4HX66 |
| 16½ | 5/8 | 7/8 | 26 | 33 11/16 | 4⅜ | 27¾ | 29 | 4HX84 | 634.00 | 81.0 | 19 x 19 | 4HX66 |
| 18¼ | 5/8 | 7/8 | 30 | 36 | 4¾ | 29⅝ | 31 | 4HX85 | 709.50 | 97.0 | 23 x 23 | 4HX67 |
| 20 | 7/8 | 7/8 | 30 | 38¼ | 5¼ | 30¼ | 32¼ | 4HX86 | 762.00 | 104.0 | 23 x 23 | 4HX67 |
| 24½ | 7/8 | 7/8 | 34 | 44¼ | 6 11/16 | 33 | 35 | 4HX87 | 941.00 | 253.0 | 27 x 27 | 4HX68 |
| 30 | 1 | 1 | 42 | 51 7/16 | 8 13/32 | 37½ | 41 | 4HX88 | 1217.00 | 388.0 | 35 x 35 | 4HX69 |
| 36½ | 1 3/16 | 1 3/16 | 46 | 60 | 10½ | 41⅝ | 45⅛ | 4HX89 | 1737.00 | 413.0 | 39 x 39 | 4HX70 |
| 49 | 1 7/16 | 1 7/16 | 57 | 76½ | 12½ | 51½ | 56 | 4HX90 | 3588.00 | 709.0 | 50 x 50 | 4HX71 |

(*) Motors are UL listed for Class I, Division 1, Group D and for Class II, Division 1, Groups F and G. See page (133 in catalog 390) for definitions. Ventilators meet the AMCA Type C of Classification for Spark Resistant Construction.

# BELT-DRIVE DOWNBLAST CENTRIFUGAL ROOF VENTILATORS

## BELT-DRIVE DOWNBLAST CENTRIFUGAL VENTILATORS WITH MOTOR AND DRIVE

| Wheel Dia. (In.) | HP | Fan RPM | Max. BHP | Sones @ 0.125" SP | CFM Air Delivery at RPM Shown † 0.0" SP | 0.250" SP | 0.500" SP | 0.750" SP | 1.00" SP | Ventilators with Motor and Drive: Single Phase Motors, 115/230V Open Dripproof Stock No. | Each | 3-Phase Motors, 208-220/440V Open Dripproof Stock No. | Each | Single Phase Motors, 115/230V Hazardous Location* Stock No. | Each | 3-Phase Motors, 208-220/440V Hazardous Location* Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10½ | 1/6 | 1590 | 0.16 | 11.1 | 1045 | 940 | 815 | 640 | — | 7A547 | $426.75 | — | — | — | — | — | — |
| | 1/4 | 1820 | 0.25 | 14.3 | 1200 | 1100 | 1000 | 885 | 720 | 7A548 | 448.00 | — | — | — | — | — | — |
| 12¼ | 1/4 | 1420 | 0.25 | 12.3 | 1460 | 1320 | 1160 | 950 | — | 7A549 | 502.50 | — | — | — | — | — | — |
| | 1/3 | 1570 | 0.33 | 13.1 | 1610 | 1480 | 1340 | 1170 | 970 | 7A550 | 511.50 | — | — | — | — | — | — |
| 13½ | 1/4 | 1210 | 0.24 | 13.4 | 1670 | 1500 | 1280 | 1010 | — | 7A551 | 598.50 | — | — | — | — | — | — |
| | 1/3 | 1335 | 0.31 | 15.2 | 1840 | 1680 | 1500 | 1290 | 640 | 7A552 | 610.50 | — | — | — | — | — | — |
| | 1/2 | 1530 | 0.47 | 17.4 | 2110 | 1970 | 1820 | 1640 | 1445 | 7A553 | 620.50 | 7A649 | $617.00 | 7A725 | $987.00 | 7A781 | $1033.00 |
| 15 | 1/4 | 1030 | 0.25 | 11.5 | 2050 | 1820 | 1500 | 520 | — | 7A554 | 649.50 | — | — | — | — | — | — |
| | 1/3 | 1140 | 0.33 | 12.9 | 2260 | 2050 | 1780 | 1445 | — | 7A555 | 657.00 | — | — | — | — | — | — |
| | 1/2 | 1300 | 0.50 | 15.4 | 2590 | 2400 | 2190 | 1940 | 1630 | 7A556 | 663.00 | 7A650 | 659.50 | 7A726 | 1160.00 | 7A782 | 1206.00 |
| | 3/4 | 1490 | 0.75 | 17.9 | 2960 | 2800 | 2630 | 2430 | 2200 | 7A557 | 683.00 | 7A651 | 667.50 | 7A727 | 1162.00 | 7A783 | 1207.00 |
| | 1 | 1640 | 1.00 | 20.0 | 3260 | 3110 | 2965 | 2790 | 2600 | 7A558 | 700.50 | 7A652 | 675.00 | 7A728 | 1179.00 | 7A784 | 1218.00 |
| 16½ | 1/3 | 960 | 0.32 | 11.3 | 2470 | 2200 | 1860 | 1350 | — | 7A559 | 725.50 | — | — | — | — | — | — |
| | 1/2 | 1100 | 0.48 | 13.6 | 2820 | 2600 | 2330 | 2000 | 1490 | 7A560 | 726.00 | 7A653 | 722.50 | 7A729 | 1192.00 | 7A785 | 1238.00 |
| | 3/4 | 1260 | 0.72 | 16.9 | 3235 | 3040 | 2820 | 2580 | 2270 | 7A561 | 750.50 | 7A654 | 734.50 | 7A730 | 1199.00 | 7A786 | 1243.00 |
| | 1 | 1390 | 0.96 | 18.6 | 3560 | 3380 | 3190 | 2980 | 2740 | 7A562 | 769.00 | 7A655 | 743.00 | 7A731 | 1217.00 | 7A787 | 1256.00 |
| 18¼ | 1/3 | 810 | 0.33 | 9.4 | 3000 | 2630 | 2170 | — | — | 7A563 | 797.00 | — | — | — | — | — | — |
| | 1/2 | 930 | 0.50 | 11.3 | 3430 | 3120 | 2750 | 2260 | — | 7A564 | 802.00 | 7A656 | 798.50 | 7A732 | 1390.00 | 7A788 | 1436.00 |
| | 3/4 | 1060 | 0.74 | 13.9 | 3930 | 3650 | 3350 | 3000 | 2550 | 7A565 | 829.50 | 7A657 | 813.50 | 7A733 | 1399.00 | 7A789 | 1443.00 |
| | 1 | 1170 | 0.99 | 16.8 | 4320 | 4075 | 3810 | 3520 | 3180 | 7A566 | 842.50 | 7A658 | 817.00 | 7A734 | 1412.00 | 7A790 | 1451.00 |
| | 1½ | 1340 | 1.49 | 21.0 | 4950 | 4730 | 4510 | 4270 | 4010 | 7A567 | 870.50 | 7A659 | 837.50 | 7A735 | 1390.00 | 7A791 | 1483.00 |
| | 2 | 1470 | 2.00 | 25.0 | 5450 | 5250 | 5050 | 4850 | 4610 | — | — | 7A660 | 838.00 | — | — | 7A792 | 1497.00 |
| 20 | 1/3 | 700 | 0.33 | 10.0 | 3335 | 2860 | 2240 | — | — | 7A568 | 850.50 | — | — | — | — | — | — |
| | 1/2 | 800 | 0.50 | 11.3 | 3820 | 3410 | 2940 | 2220 | — | 7A569 | XXX.XX | 7A661 | 841.50 | 7A736 | 1299.00 | 7A793 | 1345.00 |
| | 3/4 | 920 | 0.75 | 14.8 | 4370 | 4010 | 3640 | 3180 | 2330 | 7A570 | 880.50 | 7A662 | 864.50 | 7A737 | 1314.00 | 7A794 | 1358.00 |
| | 1 | 1010 | 1.00 | 17.7 | 4810 | 4480 | 4150 | 3790 | 3320 | 7A571 | 898.00 | 7A663 | 872.00 | 7A738 | 1323.00 | 7A795 | 1363.00 |
| | 1½ | 1150 | 1.50 | 22.0 | 5510 | 5220 | 4940 | 4635 | 4310 | 7A572 | 927.50 | 7A664 | 895.00 | 7A739 | 1300.00 | 7A796 | 1392.00 |
| | 2 | 1270 | 2.00 | 25.0 | 6060 | 5800 | 5540 | 5275 | 5000 | — | — | 7A665 | 898.50 | — | — | 7A797 | 1413.00 |
| 24½ | 1/3 | 500 | 0.33 | 9.5 | 4310 | 3480 | — | — | — | 7A573 | 1011.00 | — | — | — | — | — | — |
| | 1/2 | 580 | 0.50 | 11.7 | 4940 | 4230 | 3250 | — | — | 7A574 | 1030.00 | 7A666 | 1027.00 | 7A741 | 1801.00 | 7A798 | 1847.00 |
| | 3/4 | 660 | 0.76 | 15.1 | 5650 | 5060 | 4310 | 2840 | — | 7A575 | 1034.00 | 7A667 | 1018.00 | 7A742 | 1791.00 | 7A799 | 1835.00 |
| | 1 | 730 | 1.01 | 18.0 | 6220 | 5690 | 5070 | 4270 | 400 | 7A576 | 1058.00 | 7A668 | 1033.00 | 7A743 | 1815.00 | 7A800 | 1854.00 |
| | 1½ | 830 | 1.52 | 19.7 | 7120 | 6660 | 6150 | 5550 | 4820 | 7A577 | 1096.00 | 7A669 | 1063.00 | 7A744 | 1800.00 | 7A801 | 1892.00 |
| | 2 | 920 | 2.03 | 22.0 | 7840 | 7420 | 6980 | 6475 | 5890 | — | — | 7A670 | 1084.00 | — | — | 7A802 | 1923.00 |
| 30 | 1/2 | 410 | 0.50 | 10.8 | 6470 | 5230 | — | — | — | 7A578 | 1249.00 | 7A671 | 1246.00 | 7A745 | 2204.00 | 7A803 | 2250.00 |
| | 3/4 | 470 | 0.75 | 12.1 | 7400 | 6330 | 4905 | — | — | 7A579 | 1242.00 | 7A672 | 1226.00 | 7A746 | 2192.00 | 7A804 | 2236.00 |
| | 1 | 520 | 1.00 | 13.5 | 8150 | 7190 | 6080 | 750 | — | 7A580 | 1278.00 | 7A673 | 1252.00 | 7A747 | 2229.00 | 7A805 | 2268.00 |
| | 1½ | 590 | 1.50 | 15.8 | 9330 | 8490 | 7615 | 6515 | 460 | 7A581 | 1284.00 | 7A674 | 1251.00 | 7A748 | 2179.00 | 7A806 | 2271.00 |
| | 2 | 650 | 2.00 | 17.8 | 10250 | 9490 | 8710 | 7830 | 6540 | — | — | 7A675 | 1283.00 | — | — | 7A807 | 2319.00 |
| | 3 | 750 | 3.01 | 21.0 | 11745 | 11080 | 10410 | 9710 | 8910 | — | — | 7A676 | 1303.00 | — | — | 7A808 | 2362.00 |
| | 5 | 890 | 5.02 | 29.0 | 13930 | 13370 | 12810 | 12240 | 11640 | — | — | 7A677 | 1337.00 | — | — | 7A809 | 2458.00 |
| 36½ | 3/4 | 340 | 0.80 | 10.3 | 10030 | 8220 | — | — | — | 7A582 | 1771.00 | 7A678 | 1755.00 | 7A749 | 2922.00 | 7A810 | 2966.00 |
| | 1 | 370 | 1.07 | 12.0 | 11040 | 9430 | 6690 | — | — | 7A583 | 1770.00 | 7A679 | 1745.00 | 7A750 | 2919.00 | 7A811 | 2959.00 |
| | 1½ | 430 | 1.60 | 14.9 | 12635 | 11300 | 9540 | 460 | — | 7A584 | 1792.00 | 7A680 | 1759.00 | 7A751 | 2886.00 | 7A812 | 2979.00 |
| | 2 | 470 | 2.14 | 18.2 | 13910 | 12720 | 11290 | 9030 | — | — | — | 7A681 | 1772.00 | — | — | 7A813 | 3007.00 |
| | 3 | 540 | 3.21 | 23.0 | 15920 | 14880 | 13710 | 12310 | 10130 | — | — | 7A682 | 1792.00 | — | — | 7A814 | 3048.00 |
| | 5 | 640 | 5.34 | 28.2 | 18850 | 17970 | 17090 | 16020 | 14860 | — | — | 7A683 | 1812.00 | — | — | 7A815 | 3129.00 |
| 49 | 1 | 230 | 1.02 | 7.6 | 15970 | 12000 | — | — | — | 7A585 | 3734.00 | 7A684 | 3708.00 | 7A752 | 4863.00 | 7A816 | 4902.00 |
| | 1½ | 260 | 1.55 | 9.3 | 18280 | 15090 | 1580 | — | — | 7A586 | 3765.00 | 7A685 | 3733.00 | 7A753 | 4841.00 | 7A817 | 4933.00 |
| | 2 | 290 | 2.06 | 10.8 | 20100 | 17265 | 12940 | — | — | — | — | 7A686 | 3734.00 | | | 7A818 | 4948.00 |
| | 3 | 330 | 3.11 | 13.8 | 23040 | 20670 | 17610 | 6415 | — | — | — | 7A687 | 3762.00 | — | — | 7A819 | 5001.00 |
| | 5 | 390 | 5.17 | 19.7 | 27320 | 25350 | 23100 | 20290 | 10675 | — | — | 7A688 | 3669.00 | — | — | 7A820 | 5058.00 |
| | 7½ | 450 | 7.81 | 23.7 | 31310 | 29600 | 27770 | 25710 | 23090 | — | — | 7A689 | 3664.00 | — | — | 7A821 | 5359.00 |

(†) Power ratings (BHP) do not include drive losses. Performance shown is for Installation Type A: Free Inlet, Free Outlet. Performance ratings do not include the effects of appurtenances in the airstream. **(*) Motors are UL listed for Class I, Division 1, Group D, and for Class II, Division 1, Groups F and G. See page (133 in catalog #390) for definitions. Ventilators meet the AMCA Type C Classification for Spark Resistant Construction.**

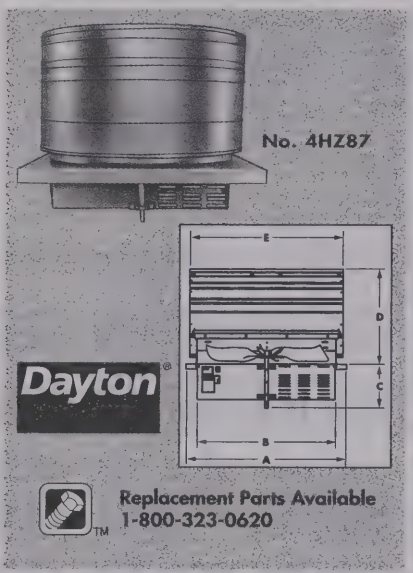
YOU GOTTA PUT AIR IN WHILE YOU TAKE IT OUT! SUPPLY VENTILATORS PG 3623

### ROOF CURBS

| Wheel Dia. (In.) | Fixed 8" Ht. Stock No. | Fixed 12" Ht. Stock No. | Adjustable 6¾" Ht. Stock No. | Adjustable 12¾" Ht. Stock No. |
|---|---|---|---|---|
| 10½ | 4HX38 | 4HX46 | 4C453 | 4C670 |
| 12¼<br>13½ | 4HX39<br>4HX39 | 4HX47<br>4HX47 | 4C453<br>4C453 | 4C670<br>4C670 |
| 15<br>16½ | 4HX40<br>4HX40 | 4HX48<br>4HX48 | 4C454<br>4C454 | 3C437<br>3C437 |
| 18¼<br>20 | 4HX41<br>4HX41 | 4HX49<br>4HX49 | 4C454<br>4C454 | 3C437<br>3C437 |
| 24½ | 4HX42 | 4HX50 | 4C455 | 3C438 |
| 30 | 4HX43 | 4HX51 | 4C455 | 3C438 |
| 36½ | 4HX44 | 4HX52 | 3C597 | 3C598 |
| 49 | 4HX45 | 4HX53 | 3C216 | 3C439 |

POWER ROOF VENTILATORS

# BELT-DRIVE AXIAL UPBLAST VENTILATORS




- For exhaust applications in industrial/commercial buildings, foundries, laboratories, machine shops, and warehouses
- High exhaust velocity opens butterfly damper
- The butterfly dampers feature a magnetic seal and rolled edges to reduce entrance of weather into facility when the ventilator is not in operation
- Housing, windband, and base are galvanized metal construction
- Statically balanced steel propeller
- Permanently lubricated, maintenance-free bearings factory installed on sizes 24 - 48"
- Regreasable, pillow-block bearings factory installed on sizes 54-60"
- Single or three phase 1725 RPM ball bearing motors and drives packed separately when ordered with ventilator
- Curbs available separately. See listing below and on page 3617

**NOTE: Ventilator is not 100% weatherproof, therefore not recommended for use over areas that may be damaged by dripping water.**

**NOTE: Ventilator and motor do NOT feature spark resistant construction. Do not use in explosive atmospheres.**

amca CERTIFIED RATINGS — SOUND AND AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

Dayton Electric Mfg. Co. certifies that the belt-drive ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and 311 comply with the requirements of the AMCA Certified Ratings Program.

The Sound Ratings shown are loudness values in fan sones at five (5) feet in a hemispherical free field calculated per AMCA Standard 301. Values shown for ventilators listed are for: Installation Type A: Free Inlet fan sone levels

## BELT-DRIVE UPBLAST VENTILATORS LESS MOTOR AND DRIVE

| Propeller Dia. (In.) | Ventilator Dimensions (In.) A | B | C | D | E | Stock No. | List | Each | Shpg. Wt | Recommended Curbs Minimum 12⅝" High Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 36 | 25 | 11⅝ | 23⅝ | 30 | New 4HZ91 | 1371.07 | $821.00 | 150.0 | 3C438 |
| 30 | 38½ | 31 | 15 | 24½ | 36 | 4HZ87 | 1577.47 | 945.00 | 180.0 | 3C438 |
| 36 | 44½ | 37 | 15 | 28½ | 42 | 4HZ88 | 1755.61 | 1052.00 | 225.0 | 3C598 |
| 42 | 50½ | 43 | 16 | 30½ | 48 | 4HZ89 | 2048.04 | 1227.00 | 290.0 | 3C439 |
| 48 | 56½ | 49 | 16 | 34½ | 54 | 4HZ90 | 2337.08 | 1400.00 | 350.0 | 3C439 |
| 54 | 66½ | 61 | 19 | 38 | 60¼ | New 4HZ92 | 4156.63 | 2489.00 | 570.0 | ** |
| 60 | 72½ | 67 | 19 | 41 | 66¼ | New 4HZ93 | 4911.47 | 2941.00 | 775.0 | ** |

## BELT-DRIVE UPBLAST VENTILATORS WITH BALL BEARING DAYTON MOTOR AND DRIVE

| Propeller Dia. (In.) | CFM @ RPM Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | Fan RPM | Motor HP | Peak BHP* | Sones @ 0.125 SP | Totally Encl., Single Phase Motor, 115 / 208-230V, 60 Hz Stock No. | List | Each | Totally Enclosed, 3-Phase Motor, 208-220 / 440V, 60 Hz Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 4680 | 2400 | 1480 | 570 | — | 755 | 1/3 | 0.36 | 13.0 | New 7A890 | $1490.47 | $892.50 | New 7A895 | $1473.77 | $882.50 |
| | 5370 | 3212 | 2190 | 1420 | 600 | 866 | 1/2 | 0.55 | 17.0 | New 7A891 | 1517.19 | 908.50 | New 7A896 | 1462.92 | 876.00 |
| | 6130 | 4700 | 2940 | 2230 | 1570 | 990 | 3/4 | 0.82 | 21.0 | New 7A892 | 1604.05 | 960.50 | New 7A897 | 1505.50 | 901.50 |
| | 6740 | 5520 | 3510 | 2860 | 2220 | 1090 | 1 | 1.10 | 25.0 | New 7A893 | 1558.11 | 933.00 | New 7A898 | 1522.20 | 911.50 |
| 30 | 8100 | 7075 | 4330 | — | — | 700 | 3/4 | 0.76 | 19.2 | 7A857 | 1855.37 | 1111.00 | 7A871 | 1750.16 | 1048.00 |
| | 8990 | 8120 | 6620 | 4100 | — | 780 | 1 | 1.04 | 23.0 | 7A858 | 1830.32 | 1096.00 | 7A872 | 1755.17 | 1051.00 |
| | 10120 | 9350 | 8350 | 5620 | 4460 | 875 | 1½ | 1.48 | 28.0 | 7A859 | 1953.90 | 1170.00 | 7A873 | 1771.87 | 1061.00 |
| | 11240 | 10550 | 9750 | 8530 | 5790 | 970 | 2 | 2.03 | 33.0 | 7A860 | 1957.24 | 1172.00 | 7A874 | 1816.96 | 1088.00 |
| 36 | 10960 | 8960 | 5510 | — | — | 510 | 3/4 | 0.78 | 17.5 | 7A861 | 2030.72 | 1216.00 | 7A875 | 1925.51 | 1153.00 |
| | 12035 | 10280 | 6630 | 4860 | — | 560 | 1 | 1.11 | 20.0 | 7A862 | 1990.64 | 1192.00 | 7A876 | 1907.14 | 1142.00 |
| | 13905 | 12505 | 10240 | 7260 | 5630 | 650 | 1½ | 1.71 | 23.0 | 7A863 | 2100.86 | 1258.00 | 7A877 | 1918.83 | 1149.00 |
| | 15040 | 13750 | 12100 | 8430 | 7200 | 700 | 2 | 2.03 | 26.0 | 7A864 | 2144.28 | 1284.00 | 7A878 | 2005.67 | 1201.00 |
| 42 | 16920 | 14790 | 8370 | — | — | 470 | 1½ | 1.60 | 19.1 | 7A865 | 2354.70 | 1410.00 | 7A879 | 2171.00 | 1300.00 |
| | 18510 | 16650 | 14070 | 8080 | — | 510 | 2 | 2.12 | 24.0 | 7A866 | 2391.44 | 1432.00 | 7A880 | 2254.50 | 1350.00 |
| | 21340 | 19740 | 17820 | 15250 | 9300 | 590 | 3 | 3.23 | 32.0 | — | — | — | 7A881 | 2359.71 | 1413.00 |
| | 25410 | 24060 | 22660 | 20920 | 18760 | 700 | 5 | 5.46 | 43.0 | — | — | — | 7A882 | 2428.18 | 1454.00 |
| 48 | 19920 | 16360 | 8140 | — | — | 380 | 1½ | 1.50 | 18.8 | 7A868 | 2625.24 | 1572.00 | 7A883 | 2444.88 | 1464.00 |
| | 23030 | 20130 | 8440 | 5520 | — | 440 | 2 | 2.32 | 23.0 | 7A869 | 2655.30 | 1590.00 | 7A884 | 2515.02 | 1506.00 |
| | 26250 | 23825 | 20510 | 12060 | 9370 | 500 | 3 | 3.43 | 30.0 | — | — | — | 7A885 | 3064.45 | 1835.00 |
| | 30990 | 11665 | 26580 | 23290 | 14680 | 590 | 5 | 5.65 | 40.0 | — | — | — | 7A886 | 2668.66 | 1598.00 |
| 54 | 25040 | 21990 | 12095 | 8880 | 5810 | 385 | 2 | 2.21 | 23.0 | New 7A900 | 4158.30 | 2490.00 | New 7A904 | 4028.04 | 2412.00 |
| | 28290 | 25620 | 19890 | 12030 | 9620 | 435 | 3 | 3.17 | 27.0 | New 7A901 | 4276.87 | 2561.00 | New 7A905 | 4101.52 | 2456.00 |
| | 33500 | 31240 | 28420 | 20520 | 14665 | 515 | 5 | 5.26 | 33.0 | New 7A902 | 4502.32 | 2696.00 | New 7A906 | 4205.06 | 2518.00 |
| | 38380 | 36410 | 34435 | 31000 | 21820 | 590 | 7½ | 7.58 | 41.0 | New 7A903 | 4691.03 | 2809.00 | New 7A907 | 4333.65 | 2595.00 |
| 60 | 34200 | 30270 | 23730 | 13400 | 9420 | 372 | 3 | 3.09 | 27.0 | New 7A908 | 4919.82 | 2946.00 | New 7A911 | 4746.14 | 2842.00 |
| | 40460 | 37180 | 33090 | 21630 | 16480 | 440 | 5 | 5.15 | 35.0 | New 7A909 | 5141.93 | 3079.00 | New 7A912 | 4844.67 | 2901.00 |
| | 46160 | 43285 | 40140 | 36180 | 23870 | 502 | 7½ | 7.77 | 44.0 | New 7A910 | 5303.92 | 3176.00 | New 7A913 | 4944.87 | 2961.00 |
| | 51030 | 48430 | 45835 | 42390 | 38685 | 555 | 10 | 10.50 | 51.0 | — | — | — | New 7A914 | 5060.10 | 3030.00 |

(*) Peak break horsepower over catalog range. Motors are sized on the basis of internal temperature rise—rather than nameplate horsepower. (**) Not available - Fabricate locally



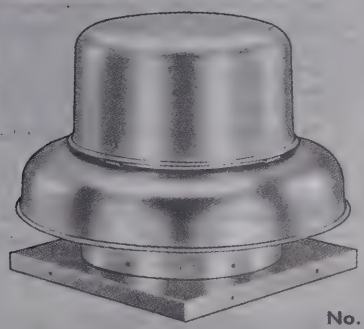
*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

# DIRECT-DRIVE DOWN BLAST CENTRIFUGAL ROOF VENTILATORS

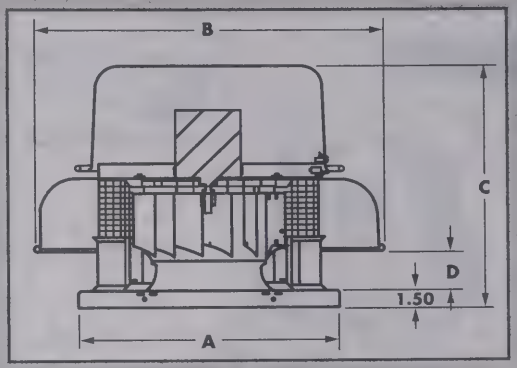
**POWER ROOF VENTILATORS**

Dayton®

Replacement Parts Available 1-800-323-0620



No. 4HZ24




UL E53236

CSP

Dayton Electric Mfg. Co. certifies that the direct-drive ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

The Sound Ratings shown are loudness values in fan sones at five (5) feet in a hemispherical free field calculated per AMCA Standard 301. Values shown for ventilators listed are for Installation Type A: Free inlet fan sones.

- Exhaust foul air in industrial and commercial buildings
- All units are UL Listed Power Ventilators Subject 705
- Backward incline wheel design
- Fully rolled windband bead for increased stability and ease of transport
- The motor compartment is cooled by outside air
- Spun aluminum construction with galvanized steel support braces
- 115V (or 115/230V) 60Hz motors feature ball bearing construction, Class B insulation, and are fully speed controllable. See listing below
- Maximum inlet temperature is 170° Fahrenheit
- Damper available separately. See listing below
- NEMA 1 disconnect switches available separately
- Note: Disconnect junction box suitable for NEMA 1 switch factory premounted under motor enclosure
- Fixed mounting curbs available separately. See listing below

For an explanation of UL 705, contact a local licensed contractor or building inspector.

## DD DOWNBLAST CRVs

| Speed Control 5C203 | Speed Control 5C204 | Speed Control 5C205 |
|---|---|---|
| 4HZ18 | 4HZ25 | 4HZ23 |
| 4HZ19 | 4HZ29 | 4HZ27 |
| 4HZ20 | 4HZ31 | 4HZ28 |
| 4HZ21 | | 4HZ30 |
| 4HZ22 | | |
| 4HZ24 | | |
| 4HZ26 | | |

## DIRECT-DRIVE DOWNBLAST CENTRIFUGAL ROOF VENTILATORS DIMENSIONS

| Wheel Dia. (In.) | Bore Size (In.) | Dimensions (In.) A | B | C | D | Recommended Dampers Size (In.) | Stock No. | Recommended Fixed Roof Mounting Curbs 8" Ht. Stock No. | 12" Ht. Stock No. |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 5/16 | 19 | 22½ | 11⅝ | 1⅝ | 12 x 12 | 4HX64 | 4HX38 | 4HX46 |
| 10½ | 1/2 | 19 | 25½ | 18 | 3 | 12 x 12 | 4HX64 | 4HX38 | 4HX46 |
| 12¼ | 1/2 | 22 | 28 | 18½ | 3 | 15 x 15 | 4HX65 | 4HX39 | 4HX47 |
| 13½ | 5/8 | 22 | 29¾ | 19⅝ | 3¼ | 15 x 15 | 4HX65 | 4HX39 | 4HX47 |
| 15 | 5/8 | 26 | 31⅜ | 20¼ | 3¾ | 19 x 19 | 4HX66 | 4HX40 | 4HX48 |
| 16½ | 5/8 | 26 | 33¾ | 21⅛ | 4⅛ | 19 x 19 | 4HX66 | 4HX40 | 4HX48 |
| 18¼ | 5/8 | 30 | 36 | 22¼ | 4¾ | 23 x 23 | 4HX67 | 4HX41 | 4HX49 |

## DIRECT-DRIVE DOWNBLAST CENTRIFUGAL ROOF VENTILATORS ORDERING DATA

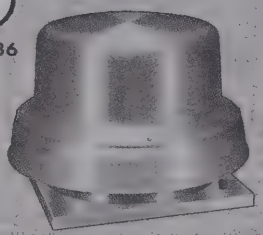
| Wheel Dia. (In.) | Motor Data HP | RPM | AMP | Volts | Peak BHP | Sones @ 0.25" SP | CFM Air Delivery at RPM Shown† 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | .625 SP | 0.750" SP | 1.00" SP | 1.250 SP | 1.500 SP | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **8** | 1/25 | 1640 | 1.5 | 115 | — | 6.6 | 320 | 260 | 190 | 100 | — | — | — | — | — | — | **4HZ18** | **$197.75** | 35.0 |
| | 1/25 | 1650 | 1.5 | 115 | — | 6.7 | 410 | 345 | 260 | 160 | — | — | — | — | — | — | **4HZ19** | **247.75** | 35.0 |
| **10½** | 1/12 | 1100 | 1.7 | 115 | — | 5.5 | 645 | 484 | 309 | — | — | — | — | — | — | — | **4HZ20** | **309.75** | 45.0 |
| | 1/6 | 1720 | 2.3 | 115 | — | 11.1 | 985 | 910 | 820 | 720 | 620 | 498 | 350 | — | — | — | **4HZ21** | **375.75** | 45.0 |
| **12¼** | 1/12 | 880 | 1.7 | 115 | — | 4.5 | 940 | 830 | 690 | 230 | — | — | — | — | — | — | **4HZ22** | **409.75** | 44.0 |
| | 1/3 | 1720 | 4 | 115 | 0.32 | 14.9 | 1940 | 1855 | 1770 | 1680 | 1580 | 1485 | 1380 | 1160 | 851 | — | **4HZ23** | **449.75** | 44.0 |
| **13½** | 1/12 | 870 | 1.8 | 115 | 0.07 | 6.8 | 1260 | 1150 | 1010 | 720 | — | — | — | — | — | — | **4HZ24** | **519.50** | 50.0 |
| | 1/2 | 1680 | 6.2/3.1 | 115/230 | 0.56 | 16.6 | 2230 | 2160 | 2100 | 2040 | 1970 | 1897 | 1820 | 1660 | 1469 | 1220 | **4HZ25** | **619.50** | 50.0 |
| **15** | 1/6 | 870 | 2.4 | 115 | 0.14 | 7.2 | 1715 | 1585 | 1430 | 1240 | 920 | — | — | — | — | — | **4HZ26** | **635.50** | 66.0 |
| | 1/3 | 1145 | 4.4 | 115 | 0.30 | 16.1 | 2160 | 2040 | 1930 | 1810 | 1680 | 1542 | 1380 | — | — | — | **4HZ27** | **729.50** | 66.0 |
| **16½** | 1/4 | 870 | 3.6 | 115 | 0.27 | 9.2 | 2340 | 2190 | 2040 | 1855 | 1640 | 1267 | — | — | — | — | **4HZ28** | **680.00** | 70.0 |
| | 1/2 | 1140 | 6.2/6.1 | 115/230 | 0.50 | 14.9 | 2910 | 2790 | 2660 | 2525 | 2390 | 2231 | 2060 | 1625 | — | — | **4HZ29** | **769.50** | 70.0 |
| **18¼** | 1/3 | 860 | 4.4 | 115/230 | 0.39 | 9.9 | 3120 | 2950 | 2770 | 2580 | 2350 | 2082 | 895 | — | — | — | **4HZ30** | **869.50** | 86.0 |
| | 3/4 | 1110 | 8.4/4.2 | 115/230 | 0.89 | 19.2 | 4040 | 3900 | 3770 | 3630 | 3480 | 3324 | 3150 | 2765 | 1407 | — | **4HZ31** | **919.50** | 86.0 |

(†) Speed (RPM) shown is nominal and performance shown is based on actual speed of test. Performance ratings do not include the effect of appurtenances in the airstream.
Performance shown is for Installation Type A: Free Inlet, Free Outlet

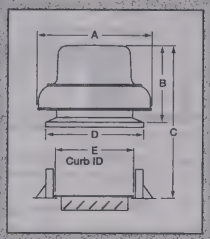
# BELT AND DIRECT DRIVE AXIAL EXHAUST VENTILATORS

Dayton®

E53236



Dayton Electric Mfg. Co. certifies that the Models 5M149, 5M150, 5M151, and 5M152 ventilators shown hereon are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.




Replacement Parts Available 1-800-323-0620

## BELT-DRIVE EXHAUST

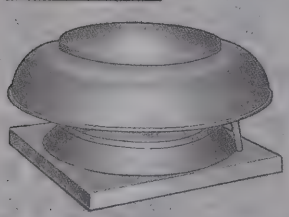
- The motor compartment is cooled by outside air
- Spun aluminum housing and galvanized steel base, stamped steel blade
- Motor and drive located outside discharge air stream
- Ball bearing motor and drives are packed separately when ordered with ventilators as 7-combo
- Permanently lubricated maintenance free bearings factory installed
- Maximum inlet temperature is 104°F
- All units are UL Listed Power Ventilators Subject 705
- Backdraft damper - sold separately

## AXIAL ROOF VENTILATORS WITH MOTOR AND DRIVE PERFORMANCE AND ORDERING DATA

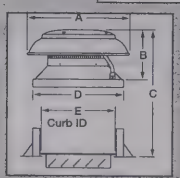
| Propeller Dia. (In.) | CFM at RPM Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | Fan RPM | Motor HP | Dimensions (Inches) A | B | C† | D | E | Stock No. | Each | Shpg. Wt. | Single Phase Motor 115/230V, 60 Hz Stock No. | Each | 3-Phase Motor 230/460V, 60 Hz Stock No. | Each | Mounting Curbs 8" High Stock No. | 12" High Stock No. | Backdraft Dampers Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 2023 | 1837 | 1562 | 1299 | 915 | 905 | 1/6 | 32 | 23¼ | 31¼ | 26 | 21½ | 5M149 | $503.50 | 63.0 | 7A398 | $586.00 | — | — | 4HX40 | 4HX48 | 4HX66 |
| | 2258 | 2093 | 1871 | 1632 | 1359 | 1010 | ¼ | | | | | | | | | 7A399 | 603.50 | 7A415 | $628.50 | | | |
| | 2638 | 2500 | 2350 | 2124 | 1924 | 1180 | 1/3 | | | | | | | | | 7A400 | 624.00 | 7A416 | 605.50 | | | |
| | 2906 | 2784 | 2648 | 2774 | 2266 | 1300 | 1/2 | | | | | | | | | 7A401 | 624.00 | 7A417 | 621.00 | | | |
| 24 | 3400 | 2863 | 2116 | 1323 | — | 635 | 1/4 | 40 | 25⅝ | 33⅝ | 34 | 29½ | 5M151 | 710.50 | 85.0 | 7A402 | 777.00 | 7A418 | 811.00 | 4HX42 | 4HX50 | 4HX68 |
| | 3667 | 3162 | 2475 | 1785 | 1123 | 685 | 1/3 | | | | | | | | | 7A403 | 815.50 | 7A419 | 797.00 | | | |
| | 4203 | 3749 | 3198 | 2645 | 2002 | 785 | 1/2 | | | | | | | | | 7A404 | 811.50 | 7A420 | 808.50 | | | |
| | 4818 | 4425 | 4061 | 3454 | 3007 | 900 | ¾ | | | | | | | | | 7A405 | 822.00 | 7A421 | 826.50 | | | |
| | 5461 | 5116 | 4774 | 4367 | 3857 | 1020 | 1 | | | | | | | | | 7A406 | 864.50 | 7A422 | 854.00 | | | |
| 30 | 5609 | 4872 | 3826 | 2947 | 2035 | 620 | 1/2 | 48 | 31½ | 39½ | 42 | 37½ | 5M152 | 988.50 | 138.0 | 7A407 | 1084.00 | 7A423 | 1081.00 | 4HX43 | 4HX51 | 4HX69 |
| | 6514 | 5906 | 5112 | 4221 | 3459 | 720 | ¾ | | | | | | | | | 7A408 | 1085.00 | 7A424 | 1090.00 | | | |
| | 7012 | 6464 | 5754 | 4872 | 4185 | 775 | 1 | | | | | | | | | 7A409 | 1176.00 | 7A425 | 1165.00 | | | |
| | 8052 | 7604 | 7029 | 6358 | 5568 | 890 | 1½ | | | | | | | | | 7A410 | 1214.00 | 7A426 | 1179.00 | | | |
| | 8912 | 8497 | 8013 | 7456 | 6813 | 985 | 2 | | | | | | | | | 7A411 | 1229.00 | 7A427 | 1243.00 | | | |
| 36 | 8787 | 7784 | 6450 | 4966 | 3798 | 550 | ¾ | 57 | 33 | 41 | 46 | 41½ | 5M150 | 1215.00 | 243.0 | 7A412 | 1296.00 | 7A428 | 1302.00 | 4HX44 | 4HX52 | 4HX70 |
| | 9745 | 8877 | 7777 | 6340 | 5206 | 610 | 1 | | | | | | | | | 7A413 | 1338.00 | 7A429 | 1338.00 | | | |
| | 10705 | 9915 | 8973 | 7817 | 6451 | 670 | 1½ | | | | | | | | | 7A414 | 1421.00 | 7A430 | 1387.00 | | | |

(†) Add 4" when using 12" high curb.

Dayton®



Dayton Electric Mfg. Co. certifies that the direct-drive wall or roof ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.




E53236

Replacement Parts Available 1-800-323-0620

## DIRECT DRIVE EXHAUST

- Roof mount
- Low silhouette units provide economical ventilation of industrial and commercial buildings
- Aluminum construction with built-in bird screen.
- Backdraft damper - sold separately.
- Includes safety disconnect switch
- Maximum inlet temperature:120°F

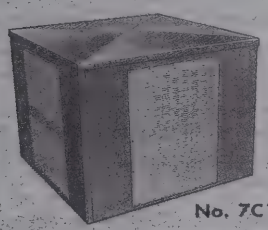
Fan blade driven by 115V, 60 Hz, totally enclosed, shaded pole or PSC motor.

**No. 2X605. Two-Speed Fan Switch.** Shpg. wt. 0.2 lbs. List $18.40. Each .....**$11.02**

| Propeller Dia. (In.) | Ventilator Dimensions (In.) A | B | C† | D | E | CFM @ Static Pressure Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | Nominal RPM | HP | Max. Watts | Stock No. | Each | Fixed Roof Curbs 8"H | 12"H | Backdraft Damper |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 21 | 7¾ | 15⅞ | 16¾ | 11⅞ | 511 | 375 | 260 | 166 | — | 1630 | 1/30 | 102 | 2C912 | $210.75 | 3TZ53 | ** | 3TZ50 |
| 12 | 21 | 10½ | 18⅝ | 18½ | 14½ | 917 | 740 | 593 | 475 | 347 | 1675 | 1/10 | 188 | 4C097 | 272.25 | 4HX38 | 4HX46 | 4HX64 |
| 14 | 28 | 12½ | 20⅝ | 22 | 17½ | 1584 | 1329 | 931 | 648 | 413 | 1115 | 1/6 | 176 | 2C913 | 394.25 | 4HX39 | 4HX47 | 4HX65 |
| 14 | 28 | 12½ | 20⅝ | 22 | 17½ | 1543<br>919 | 1316<br>427 | 948<br>119 | 717<br>— | 498<br>— | 1118<br>695 | 1/6 | 181<br>112 | 4C204* | 407.25 | 4HX39 | 4HX47 | 4HX65 |
| 18 | 33⅜ | 13½ | 21⅝ | 26 | 21½ | 2641 | 2369 | 2016 | 1531 | 1198 | 1098 | 1/3 | 433 | 2C960 | 489.25 | 4HX40 | 4HX48 | 4HX66 |
| 18 | 33⅜ | 13½ | 21⅝ | 26 | 21½ | 2641<br>2083 | 2369<br>1602 | 2016<br>1043 | 1531<br>646 | 1198<br>— | 1098<br>827 | 1/3 | 433<br>307 | 4C205* | 503.00 | 4HX40 | 4HX48 | 4HX66 |
| 20 | 37½ | 13½ | 21⅝ | 26 | 21½ | 2967 | 2641 | 2241 | 1680 | 1221 | 1162 | 1/2 | 344 | 6C991 | 567.00 | 4HX40 | 4HX48 | 4HX66 |

(*) Requires 2 speed switch: 2X605. (†) Height with 8" high curbs. (**) Not available - Fabricate locally.

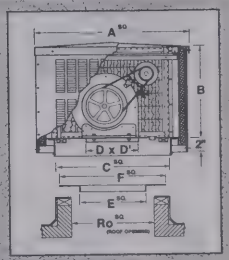
# BELT-DRIVE FILTERED SUPPLY VENTILATORS



No. 7C158

Dayton®

Replacement Parts Available
1-800-323-0620




## FILTERED SUPPLY VENTILATOR DIMENSIONS

| Wheel Dia. (In.) | Dimensions in Inches A | B | C | D | D¹ | Ro. | Duct Adapter (In.) E | F | No. and Size of Filters (In.) | Roof Mtg. Curbs 6⅜" H Stock No. | 12⅜" H Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 7/16 | 28½ | 24 | 22½ | 11⅜ | 13⅛ | 17 | 14 | 21½ | (4) 20 x 25 | 4C453 | 4C670 |
| 12½ | 36½ | 27 | 27½ | 13 7/16 | 15⅝ | 22 | 19 | 26½ | (4) 20 x 25 | 4C454 | 3C437 |
| 15¼ | 36½ | 27 | 27½ | 15⅞ | 18⅝ | 22 | 19 | 26½ | (4) 20 x 25 | 4C454 | 3C437 |
| 18 3/16 | 45 | 27 | 31 | 18⅞ | 21⅞ | 25½ | 22½ | 30 | (8) 20 x 25 | 4C454 | 3C437 |

| Wheel Dia. (In.) | CFM @ Static Pressure Shown 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | 0.625" SP | 0.750" SP | RPM | HP | Single Speed 115/230V, 1-Ph Stock No. | Each | 2-Speed/1725-1140 115V, 1-Ph Stock No. | Each | Single Speed 208/220/440V, 3-Ph Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 7/16 | 1515 | 915 | — | — | — | — | 520 | 1/6 | 7C158 | $619.50 | — | — | — | — |
| | 1865 | 1495 | 815 | — | — | — | 610 | 1/4 | 7C159 | 631.50 | — | — | 7C356 | $665.00 |
| | 1980 | 1650 | 1145 | — | — | — | 640 | 1/3 | 7C160 | 646.00 | — | — | 7C358 | 678.50 |
| | 2315 | 2120 | 1765 | 1245 | — | — | 730 | 1/2 | 7C161 | 695.00 | 7C208 | $734.00 | 7C361 | 704.00 |
| | 2690 | 2535 | 2305 | 1995 | 1550 | — | 835 | 3/4 | 7C164 | 701.50 | 7C213 | 806.00 | 7C365 | 725.00 |
| | 2855 | 2715 | 2415 | 2155 | 1740 | — | 920 | 1 | 7C165 | 761.00 | 7C218 | 842.50 | 7C366 | 734.50 |
| 12½ | 2485 | 1930 | — | — | — | — | 470 | 1/3 | 7C166 | 787.50 | — | — | 7C367 | 819.00 |
| | 2935 | 2485 | 1750 | — | — | — | 530 | 1/2 | 7C167 | 839.50 | 7C220 | 878.00 | 7C368 | 849.50 |
| | 3445 | 3060 | 2655 | 1895 | — | — | 605 | 3/4 | 7C168 | 846.00 | 7C223 | 950.50 | 7C370 | 870.50 |
| | 3815 | 3515 | 3175 | 2735 | 1900 | — | 665 | 1 | 7C169 | 907.50 | 7C225 | 989.50 | 7C371 | 882.00 |
| | 4395 | 4220 | 3895 | 3605 | 3235 | 2650 | 760 | 1½ | 7C176 | 954.00 | — | — | 7C372 | 905.50 |
| 15¼ | 3670 | 2910 | 1335 | — | — | — | 410 | 1/2 | 7C177 | 916.50 | 7C255 | 955.00 | 7C373 | 926.50 |
| | 4000 | 3315 | 2190 | — | — | — | 437 | 3/4 | 7C178 | 924.00 | 7C348 | 1030.00 | 7C374 | 948.50 |
| | 4275 | 3640 | 2775 | — | — | — | 460 | 3/4 | 7C179 | 926.50 | 7C350 | 1031.00 | 7C375 | 950.50 |
| | 4735 | 4165 | 3530 | 2380 | — | — | 500 | 1 | 7C180 | 973.00 | 7C354 | 1055.00 | 7C376 | 947.00 |
| | 5170 | 4665 | 4115 | 3375 | 1900 | — | 539 | 1½ | 7C181 | 1033.00 | — | — | 7C377 | 841.50 |
| | 5460 | 5005 | 4480 | 3860 | 2850 | — | 565 | 1½ | 7C206 | 1021.00 | — | — | 7C378 | 977.50 |
| 18 3/16 | 6455 | 5480 | 4330 | 1995 | — | — | 420 | 1½ | 7H391 | 1425.00 | — | — | 7H392 | 1334.00 |
| | 7195 | 6330 | 5420 | 4145 | 1370 | — | 458 | 2 | — | — | — | — | 7H393 | 1352.00 |
| | 8355 | 7640 | 6790 | 5965 | 4795 | 2515 | 518 | 3 | — | — | — | — | 7H394 | 1325.00 |
| | 10040 | 9380 | 8785 | 8045 | 7390 | 6465 | 607 | 5 | — | — | — | — | 7H395 | 1361.00 |

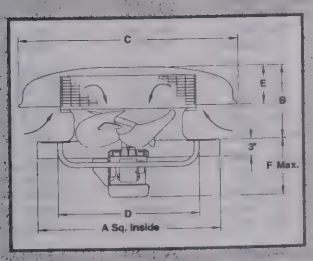
**Roof mounted units** provide controlled mechanical supply of filtered air to commercial and industrial buildings, commercial kitchens, and restaurants. Replace stale air and fumes removed by exhaust fans. Can be incorporated into heating and cooling systems. Replacement air reduces negative pressure in buildings that can make doors difficult to open and reduce exhaust fan capacity. Help prevent dust, dirt, and insects from entering building. Reduce drafts coming from open doors and windows. Filter arrestance approx. 60%.

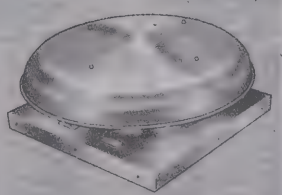
**Predrilled and slotted panels** for quick assembly; all hardware included; no special equipment required to raise components to roof. Galvanized steel construction; die-formed louvered side panels; 1" thick washable aluminum filters. Belt-drive, double width double inlet, forward curve blowers with housing supports, duct adapter, motor brackets, and permanently lubricated ball bearing blowers and motors. Panel assembly, blower motor, and drives shipped in separate cartons.

# DIRECT-DRIVE AXIAL SUPPLY VENTILATOR

UL E53236

AMCA CERTIFIED RATINGS PROGRAM



No. 3C405

Dayton®

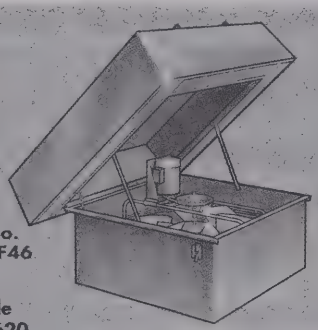
- **Provide outdoor air to commercial and industrial buildings**
- **Supplies replacement air to minimize negative pressures**
- **Used in factories, restaurants, offices, foundries, and boiler rooms**
- **Factory wired safety disconnect switch**
- **Maximum inlet temperature is 120°F**
- **Roof curbs - All units: 6⅜"H - 4C454; 12⅜"H - 3C437**

Dayton Electric Mfg. Co. certifies that the ventilators shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

| Wheel Dia. (In.) | Dimensions (In.) A | B | C | D | E | F Max. | RPM | Volts | Amps (115V) | Nominal Fan HP | CFM @ Static Pressure Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | Sones @ 0.125" SP | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 26 | 9½ | 27¾ | 19¾ | 5¼ | 9 | 1700 | 115/230 | 3.0 | 1/4 | 1841 | 1720 | 1577 | 1398 | — | 13.9 | 3C405 | $452.50 | 51.0 |
| 16 | 28 | 10¼ | 31⅜ | 20¾ | 5¾ | 9 | 1700 | 115/230 | 3.5 | 1/3 | 2476 | 2305 | 2109 | 1868 | 1655 | 17.8 | 3C547 | 514.50 | 61.0 |
| 18 | 31 | 12 | 35¼ | 22¾ | 6¾ | 11¾ | 1100 | 115 | 3.3 | 1/4 | 2947 | 2630 | 2152 | 1619 | — | 12.0 | 3C407 | 578.00 | 85.0 |
| 21 | 34 | 12 | 41¾ | 27¾ | 8½ | 12 | 1140 | 115 | 5.4 | 1/2 | 3552 | 3284 | 2936 | 2592 | 2249 | 15.7 | 3C548 | 900.50 | 178.0 |

Performance shown is for installation Type A: Free Inlet, Free Outlet. Performance ratings do not include the effects of appurtenances in the airstream.

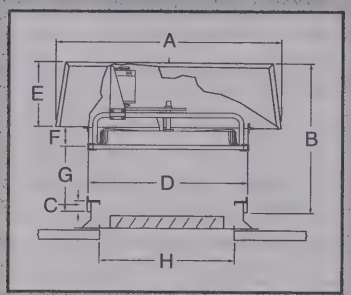
# VENTILATORS FOR EXHAUST, SUPPLY, AND REVERSIBLE OPERATION



No. 7CF46

Replacement Parts Available 1-800-323-0620

Shown In Service Position




Illustrated Completely Assembled; Shipped as Separate Components. Shutter, Damper or Curb Not Included. See Index for Listing.

- Roof mounted ventilators for factories, warehouses, laundries, etc.
- Galvanized steel hood and side panels
- Steel blades are statically balanced - 5 blades on exhaust or supply models, 8 on exhaust/supply models
- Easy to assemble - Side panels bolt together. Fan mounts on heavy gauge flanges on inside of side panels. Adjustable motor mount for ease of belt tensioning. Pre-assembled top including birdscreen hinges to side panels
- Unit is weathertight when fully assembled and latched (latches have provisions for locks)
- Air deliveries up to 22,575 CFM at 1/8" SP. Maximum inlet temperature: 120 degrees Fahrenheit
- Heavy-duty, 1725 RPM, ball bearing motors feature an easy to access motor terminal box
- Some exhaust/supply models feature electrically reversible motors
- Housing, fan, and motors are shipped separately
- Fans feature self-aligning pillow-block bearings and cast iron pulleys
- Ceiling shutters available separately, see page 3597
- Motorized damper available separately, see page 3598
- Adjustable curbs available separately, see page 3617

## VENTILATOR DIMENSIONS AND ACCESSORIES

| Fan Size (In.) | Dimensions (In.) A | B | C | D | E | F | G | H | Hood Only (No Fan) Stock No. | Roof Curb 6¾" High | Roof Curb 12¾" High | Gravity Backdraft Damper | Motorized Backdraft Damper (†) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 46½ | 38 | 2½ | 28½ | 15 | 8½ | 14½ | 25 | 3C553 | 4C454 | 3C437 | 4C224 | 3C315 |
| 30 | 55½ | 37 | 2½ | 34½ | 15 | 7½ | 14½ | 31 | 3C256 | 4C455 | 3C438 | 4C225 | 3C234 |
| 36 | 64½ | 37 | 2½ | 40½ | 15 | 7½ | 14½ | 37 | 3C047 | 4C455 | 3C438 | 4C228 | 3C131 |
| 42 | 74½ | 39½ | 2½ | 46½ | 15 | 10 | 14½ | 43 | 3C056 | 3C597 | 3C598 | 3C242 | 3C235 |
| 48 | 86 | 41½ | 2½ | 54½ | 15 | 12 | 14½ | 49 | 3C554 | 3C216 | 3C439 | 3C243 | 3C132 |

(†) Use 12¾" High curb with motorized damper.

## EXHAUST VENTILATORS COMPLETE WITH EXHAUST FAN, MOTOR, DRIVE, AND ROOF HOOD

| Propeller Dia. (In.) | CFM Air Delivery At RPM Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | Fan RPM | Motor HP 1725 RPM | Dripproof Capacitor-Start Motor 115 / 230V, 60 Hz Stock No. | Each | Totally Enclosed Capacitor-Start Motor 115 / 230V, 60 Hz Stock No. | Each | Totally Enclosed 3-Phase Motor 208-220 / 440V, 60 Hz Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 5120 | 4195 | 2160 | — | 650 | 1/4 | 7CF46* | $794.00 | 7CF47 | $839.50 | 7CF48 | $823.00 |
| | 5595 | 4775 | 2830 | 1650 | 710 | 1/3 | 7CF49* | 810.00 | 7CF50 | 856.50 | 7CF51 | 840.50 |
| | 6580 | 5910 | 4970 | 3100 | 835 | 1/2 | 7CF52# | 821.50 | 7CF53 | 889.00 | 7CF54 | 847.00 |
| | 7445 | 6870 | 6200 | 4800 | 945 | 3/4 | 7CF55 | 884.00 | 7CF56 | 932.00 | 7CF57 | 860.50 |
| 30 | 6895 | 4950 | — | — | 470 | 1/4 | 7CF58* | 881.50 | 7CF59** | 927.00 | 7CF60 | 911.00 |
| | 7335 | 5605 | 2320 | — | 500 | 1/3 | 7CF61* | 886.00 | 7CF62** | 932.50 | 7CF63 | 916.50 |
| | 8585 | 7305 | 4750 | — | 585 | 1/2 | 7CF64 | 899.50 | 7CF65** | 967.00 | 7CF66 | 925.50 |
| | 9830 | 8805 | 7120 | 4130 | 670 | 3/4 | 7CF67 | 959.00 | 7CF68** | 1007.00 | 7CF69 | 935.50 |
| | 10565 | 9615 | 8205 | 5945 | 720 | 1 | 7CF70 | 992.00 | 7CF71** | 1020.00 | 7CF72 | 953.00 |
| 36 | 10160 | 7590 | — | — | 415 | 1/3 | 7CF73* | 1040.00 | 7CF74** | 1087.00 | 7CF75 | 1072.00 |
| | 11875 | 9915 | 5045 | — | 485 | 1/2 | 7CF76 | 1083.00 | 7CF77** | 1151.00 | 7CF78 | 1109.00 |
| | 13220 | 11490 | 8565 | 4215 | 540 | 3/4 | 7CF79 | 1110.00 | 7CF80** | 1158.00 | 7CF81 | 1086.00 |
| | 14815 | 13300 | 11415 | 6600 | 605 | 1 | 7CF82 | 1129.00 | 7CF83** | 1157.00 | 7CF84 | 1090.00 |
| | 16160 | 14805 | 13215 | 10400 | 660 | 1½ | 7CF85 | 1140.00 | 7CF86 | 1204.00 | 7CF87 | 1111.00 |
| 42 | 14515 | 11040 | — | — | 380 | 1/2 | 7CF88 | 1274.00 | 7CF89** | 1342.00 | 7CF90 | 1300.00 |
| | 16425 | 13670 | 6645 | — | 430 | 3/4 | 7CF91 | 1352.00 | 7CF92** | 1400.00 | 7CF93 | 1329.00 |
| | 17570 | 15045 | 8350 | 4855 | 460 | 1 | 7CF94 | 1359.00 | 7CF95** | 1387.00 | 7CF96 | 1319.00 |
| | 20435 | 18345 | 15480 | 8530 | 535 | 1½ | 7CF97 | 1363.00 | 7CF98 | 1426.00 | 7CF99 | 1334.00 |
| 48 | 17060 | 10790 | — | — | 315 | 1/2 | 7CH03 | 1497.00 | 7CH04 | 1565.00 | 7CH05 | 1523.00 |
| | 20040 | 15900 | 6450 | — | 370 | 3/4 | 7CH06 | 1556.00 | 7CH07 | 1605.00 | 7CH08 | 1533.00 |
| | 21665 | 18120 | 8860 | 3465 | 400 | 1 | 7CH09 | 1574.00 | 7CH10 | 1602.00 | 7CH11 | 1536.00 |
| | 24375 | 21345 | 15700 | 7640 | 450 | 1½ | 7CH12 | 1664.00 | 7CH13 | 1728.00 | 7CH14 | 1634.00 |
| | 25455 | 22575 | 17615 | 9275 | 470 | 2 | 7CH15 | 1775.00 | 7CH16 | 1834.00 | 7CH17§ | 1726.00 |

(*) 115V, 60 Hz, split phase motor. (§) 230 / 460V, 60 Hz only.
(**) Auto. reset thermal protection. (#) TENV, 115 / 230V, 60 Hz, split phase motor .



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

# SUPPLY AND REVERSIBLE VENTILATORS

## SUPPLY VENTILATORS COMPLETE WITH SUPPLY FAN, MOTOR, DRIVE, AND ROOF HOOD

| Propeller Dia. (In.) | CFM Air Delivery At RPM Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | Fan RPM | Motor HP 1725 RPM | Dripproof Cap.-Start Motor 115 / 230V, 60 Hz Stock No. | Each | Totally Enclosed Cap.-Start Motor 115 / 230V, 60 Hz Stock No. | Each | Totally Enclosed 3-Ph. Motor 208-220 / 440V, 60 Hz Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 4661 | 3661 | 2325 | — | 650 | 1/4 | 7CH18* | $794.00 | 7CH19 | $839.00 | 7CH20 | $823.00 |
| | 5091 | 4181 | 2872 | 2058 | 710 | 1/3 | 7CH21* | 810.00 | 7CH22 | 856.50 | 7CH23 | 840.50 |
| | 5988 | 5224 | 4386 | 3138 | 835 | 1/2 | 7CH24# | 821.50 | 7CH25 | 888.50 | 7CH26 | 847.00 |
| | 6777 | 6102 | 5403 | 4454 | 945 | 3/4 | 7CH27 | 883.50 | 7CH28 | 932.00 | 7CH29 | 860.50 |
| 30 | 6107 | 3958 | — | — | 470 | 1/4 | 7CH30* | 881.50 | 7CH31** | 927.00 | 7CH32 | 911.00 |
| | 6497 | 4559 | 2572 | — | 500 | 1/3 | 7CH33* | 886.00 | 7CH34** | 932.50 | 7CH35 | 916.50 |
| | 7602 | 6168 | 4087 | 2616 | 585 | 1/2 | 7CH36 | 899.50 | 7CH37** | 967.00 | 7CH38 | 925.50 |
| | 8706 | 7536 | 5706 | 4206 | 670 | 3/4 | 7CH39 | 959.00 | 7CH40** | 1007.00 | 7CH41 | 935.50 |
| | 9356 | 8267 | 6700 | 5065 | 720 | 1 | 7CH42 | 992.00 | 7CH43** | 1020.00 | 7CH44 | 953.00 |
| 36 | 8889 | 5914 | — | — | 415 | 1/3 | 7CH45* | 1040.00 | 7CH46** | 1087.00 | 7CH47 | 1072.00 |
| | 10388 | 8050 | 4924 | — | 485 | 1/2 | 7CH48 | 1083.00 | 7CH49** | 1151.00 | 7CH50 | 1109.00 |
| | 11566 | 9633 | 6832 | 4290 | 540 | 3/4 | 7CH51 | 1109.00 | 7CH52** | 1158.00 | 7CH53 | 1086.00 |
| | 12959 | 11429 | 8935 | 6424 | 605 | 1 | 7CH54 | 1129.00 | 7CH55** | 1157.00 | 7CH56 | 1090.00 |
| | 14137 | 12783 | 10616 | 8322 | 660 | 1½ | 7CH57 | 1140.00 | 7CH58 | 1204.00 | 7CH59 | 1111.00 |
| 42 | 12196 | 7543 | — | — | 380 | 1/2 | 7CH60 | 1274.00 | 7CH61** | 1342.00 | 7CH62 | 1300.00 |
| | 13801 | 9884 | 5414 | — | 430 | 3/4 | 7CH63 | 1352.00 | 7CH64** | 1400.00 | 7CH65 | 1329.00 |
| | 14763 | 11144 | 6727 | 3767 | 460 | 1 | 7CH66 | 1359.00 | 7CH67** | 1386.00 | 7CH68 | 1319.00 |
| | 17170 | 14069 | 10550 | 6962 | 535 | 1½ | 7CH69 | 1362.00 | 7CH70 | 1426.00 | 7CH71 | 1333.00 |
| 48 | 14098 | 7381 | — | — | 315 | 1/2 | 7CH75 | 1497.00 | 7CH76 | 1565.00 | 7CH77 | 1523.00 |
| | 16560 | 10576 | 5319 | — | 370 | 3/4 | 7CH78 | 1557.00 | 7CH79 | 1605.00 | 7CH80 | 1533.00 |
| | 17902 | 12389 | 7574 | 2056 | 400 | 1 | 7CH81 | 1575.00 | 7CH82 | 1602.00 | 7CH83 | 1536.00 |
| | 20140 | 15274 | 10713 | 6263 | 450 | 1½ | 7CH84 | 1664.00 | 7CH85 | 1728.00 | 7CH86 | 1635.00 |
| | 21035 | 16390 | 11906 | 7835 | 470 | 2 | 7CH87 | 1775.00 | 7CH88 | 1835.00 | 7CH89§ | 1727.00 |

## EXHAUST/SUPPLY VENTILATORS COMPLETE WITH REVERSIBLE FAN, MOTOR, DRIVE, AND ROOF HOOD

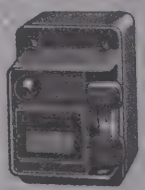
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 9360 | 7340 | 5720 | 4050 | 490 | 1/2 | 7CK23 | $1195.00 | 7CK24 | $1199.00 | 7CK25 | $1211.00 |
| | 10580 | 8910 | 7380 | 5940 | 575 | 3/4 | 7CK26 | 1238.00 | 7CK27 | 1226.00 | 7CK28 | 1219.00 |
| | 11700 | 10220 | 8690 | 7560 | 650 | 1 | 7CK29 | 1250.00 | 7CK30** | 1277.00 | 7CK31 | 1210.00 |
| | 13140 | 11930 | 10490 | 9450 | 765 | 1½ | 7CK32 | 1367.00 | 7CK33 | 1312.00 | 7CK34 | 1238.00 |
| | 14490 | 13410 | 12150 | 10800 | 830 | 2 | 7CK35 | 1317.00 | 7CK36 | 1377.00 | 7CK37§ | 1359.00 |

(*) 115V, 60 Hz, split phase motor. (§) 230/460V, 60 Hz only. (**) Auto. reset thermal protection. (#) TENV, 115/230V, 60 Hz, split phase motor .

## NON-FUSIBLE SERVICE DISCONNECT SWITCHES

- **NEMA Class 1 - Interior Applications**
- **NEMA Class 3R - Weatherproof Applications**
- **NEMA Class 4 - Watertight Applications**

**Note: Consult local Electrical Inspector regarding requirements**



No. 1H408

| NEMA Class | Phase | Poles | Voltage AC | Max. HP | Max. Amps. | Stock No. | Details See Page |
|---|---|---|---|---|---|---|---|
| 1 | Single | 1 | 120-277 | 1 | 20 | 1XC19 * | 699 |
| 1 | Single | 2 | 120-277 | 1 | 20 | 1X971 * | 698 |
| 1 | Three | 3 | 208-220/480 | 7½ | 30 | 1H373 † | 395 |
| 3R | Single | 2 | 120/240 | 3 | 30 | 1H259 | 393 |
| 3R | Three | 3 | 208-220/480 | 20 | 30 | 1H375 | 395 |
| 4 | Single | 2 | 115/230 | 2 | 30 | 1H408 | 453 |
| 4 | Three | 3 | 230/460 | 10 | 30 | 1H409 | 453 |

(*) For installation in NEMA 1 junction box (separate). (†) Requires Grounding bar kit: Stock No. 5B717, see page 372.

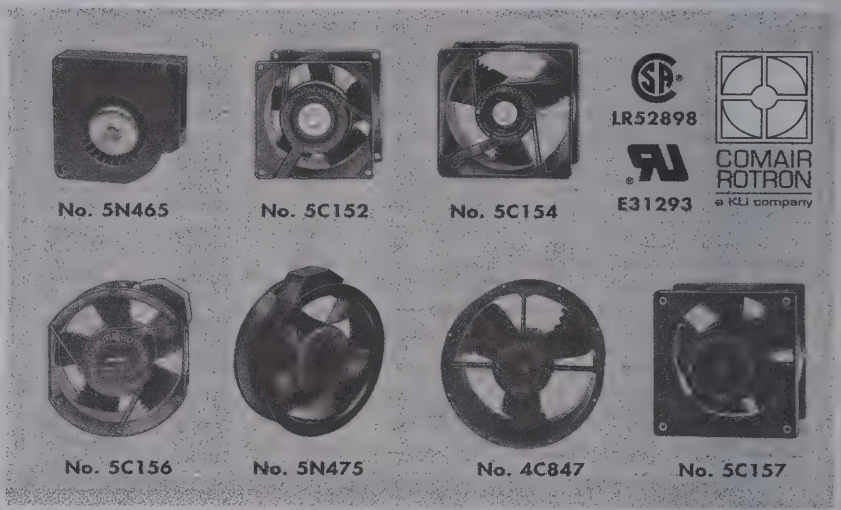
## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

# AXIAL FANS AND PORTABLE BLOWER

## AXIAL FANS

- Provide ventilation and spot cooling where space is limited
- Axial fans are used in computers, copy machines, office equipment, industrial control equipment, audio/visual equipment, vending machines, telephone equipment, light projectors, TV cameras, and other electrical equipment
- 22 to 550 CFM
- Operating temperature ranges from -28°C to +70°C
- Two-pole, shaded pole induction motors, IEEE Class 130 insulation, impedance protected, 100% dielectric tested at 1800 VAC/1 Sec./500 microamps maximum leakage
- UL Component Recognized, CSA Certified,
- Nos. 5N466, 5N472, and 5N473 TUV Certified; Nos. 5N474 and 5N476 VDE Certified
- See Axial Fan Accessories listed on page 3629




### AXIAL FAN SPECIFICATIONS AND ORDERING DATA

| CFM* 0.0" SP | Volts | Hz | RPM | Watts | Amps | Bearing Type | PSIL† dB | 60 Hz, dBA‡ | Dimensions, Inches H | W | D | Mtg. Hole OC, In. | Comair Rotron Part No. | Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22** | 115 | 50/60 | 2600 | 16 | 0.18 | Sleeve | 44 | 50 | 4 3/4 | 4 3/4 | 1 9/16 | 3.783 | 028448 | BT2A1 | **5N465*** | $55.36 | **$33.15** | 1.4 |
| **34** | 115 | 50/60 | 3250 | 11 | 0.15 | Sleeve | 40 | 40 | 3 1/8 | 3 1/8 | 1 5/8 | 2 13/16 | 028267 | SU2A1 | **5C152** | 40.47 | **24.23** | 1.1 |
| **34** | 230 | 50/60 | 3250 | 13 | 0.08 | Sleeve | 40 | 40 | 3 1/8 | 3 1/8 | 1 5/8 | 2 13/16 | 028269 | SU3A1 | **5N466** | 42.33 | **25.35** | 1.3 |
| **57** | 115 | 50/60 | 1660 | 7 | 0.06 | Sleeve | 27 | 29 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 027117 | WR2A1 | **5C153*** | 41.65 | **24.93** | 1.1 |
| **62** | 230 | 50/60 | 2000 | 12 | 0.07 | Sleeve | 31 | 34 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 028171 | WR3A1 | **5N467*** | 46.18 | **27.65** | 1.3 |
| **105** | 115 | 50/60 | 3100 | 14 | 0.16 | Sleeve | 43 | 45 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 028021 | MU2A1 | **5C154*** | 39.50 | **23.66** | 1.1 |
| **105** | 230 | 50/60 | 3100 | 14 | 0.09 | Sleeve | 41 | 43 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 028023 | MU3A1 | **5N469*** | 40.75 | **24.40** | 1.2 |
| **105** | 115 | 50/60 | 3100 | 14 | 0.16 | Ball | 43 | 45 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 028027 | MU2B1 | **5N468*** | 60.29 | **36.10** | 1.3 |
| **105** | 230 | 50/60 | 3100 | 14 | 0.09 | Ball | 43 | 45 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 028029 | MU3B1 | **5N470*** | 61.37 | **36.75** | 1.3 |
| **115** | 115 | 50/60 | 3100 | 15 | 0.18 | Sleeve | 50 | 50 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 028316 | MX2A3 | **5C155*** | 41.40 | **24.77** | 1.3 |
| **115** | 230 | 50/60 | 3100 | 16 | 0.09 | Sleeve | 50 | 50 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 028324 | MX3A3 | **5N472*** | 42.92 | **25.70** | 1.6 |
| **115** | 115 | 50/60 | 3100 | 15 | 0.18 | Ball | 50 | 50 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 028422 | MX2B3 | **5N471*** | 63.54 | **38.05** | 1.6 |
| **115** | 230 | 50/60 | 3100 | 16 | 0.09 | Ball | 50 | 50 | 4 11/16 | 4 11/16 | 1 1/2 | 4 1/8 | 028423 | MX3B3 | **5N473*** | 64.38 | **38.55** | 1.6 |
| **235** | 115 | 50/60 | 3350 | 31 | 0.26 | Ball | 53 | 56 | 6 3/4 | 5 7/8 | 2 | 6 3/8 | 028245 | MR2B3 | **5C156*** | 92.30 | **55.30** | 2.1 |
| **235** | 230 | 50/60 | 3350 | 30 | 0.14 | Ball | 53 | 56 | 6 3/4 | 5 7/8 | 2 | 6 3/8 | 028309 | MR77B3 | **5N474*** | 95.61 | **57.25** | 2.4 |
| **235** | 115 | 50/60 | 3350 | 31 | 0.26 | Ball | 50 | 54 | 6 3/4 | 6 3/4 | 2 | 6 3/8 | 028254 | PT2B3 | **5N475*** | 92.32 | **55.30** | 2.3 |
| **235** | 230 | 50/60 | 3350 | 30 | 0.14 | Ball | 50 | 54 | 6 3/4 | 6 3/4 | 2 | 6 3/8 | 028312 | PT77B3 | **5N476*** | 95.61 | **57.25** | 2.1 |
| **550** | 115 | 50/60 | 1650 | 61 | 0.49 | Ball | 45 | 49 | 10 | 10 | 3.5 | 9 11/16 | 020188 | CLE2L2X | **4C847** | 107.68 | **64.50** | 6.0 |
| **550** | 230 | 50/60 | 1650 | 60 | 0.24 | Ball | 45 | 49 | 10 | 10 | 3.5 | 9 11/16 | 020190 | CLE3L2 | **5N477** | 108.88 | **65.20** | 6.2 |
| **340** | 115 | 50/60 | 3350 | 85 | 1.20 | Ball | 60 | 65 | 6 15/16 | 6 15/16 | 4.4 | 6 | 020174 | TN3A2 | **5C157*#** | 132.45 | **79.30** | 5.4 |

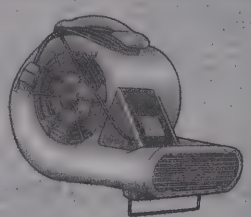
(†) PSIL=Preferred Speech Interference Level. (‡) Freely suspended at 1 meter. (*) Can be used with cord set Nos. 4C552 and 4C998. (#) No guard available.

## PORTABLE BLOWER

Dayton®

UL E19455

Replacement Parts Available 1-800-323-0620™



- Easy-to-see yellow housing; helps identify potential physical hazards (such as falling or tripping) as recommended by ANSI Standard Z53.1
- Totally enclosed, 2-speed motor designed for indoor/outdoor use
- For added protection, blower guards comply with OSHA standards

Used for carpet drying, floor drying, exhausting foul air, ventilating, and spot cooling. High density polyethylene housing has a built-in power cord wrap for easy cord storage and handling. Cord connected ground fault interrupt helps protect user from possible hazardous shock. 20-Ft. 18/3, SJTW-A water resistant power cord.

Power Cat® Portable Blowers are also available, see page 3645.

### PORTABLE BLOWER SPECIFICATIONS AND ORDERING DATA

| Wheel, In. Dia. | W | Outlet Velocity in FPM High | Low | HP | Motor Volts | Amps | Overall Dimensions, In. H | W | D | Outlet Size, In. W | H | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **10 5/8** | 10 5/8 | 3500 | 2870 | 1/2 | 115 | 9.0 | 18 1/16 | 18 1/16 | 23 1/2 | 17 1/4 | 3 3/4 | **3C999** | $707.66 | **$423.75** | 45.0 |



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

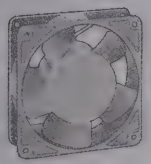
# 3⅛ AND 4¹¹⁄₁₆" SQUARE AND 6 AND 10" DIAMETER AXIAL FANS

Dayton®

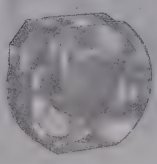
- Provide ventilation and spot cooling where space is limited



No. 5C115
3⅛" Square



No. 4C548
4¹¹⁄₁₆" Square



No. 4C720
6" Dia.



No. 4C688
10" Dia.

35886 E19455 E19455

Replacement Parts Available
1-800-323-0620

- **For use in computers, copy machines, office equipment, industrial control equipment, audio/visual equipment, vending machines, telephone equipment, light projectors, TV camera and other electrical equipment**

**3⅛ and 4¹¹⁄₁₆" Square Axial Fans.** Vertical mount only. Rigid one-piece cast aluminum venturi frame, molded glass-filled polyester fan blades. Impedance protected motor with porous bronze sleeve bearings. Maximum ambient temperature: 120°F.

**6 and 10" Diameter Axial Fans.** Aluminum housing. Polycarbonate blade flame rated 94V-O. Thermally protected ball bearing motor with Class B insulation has quick-connect terminals. Maximum ambient temperature: 6", 122°F (52°C); 10", 149°F (65°C).

**All models require cord set** No. 4C552 except 3⅛"H fans with 22-gauge, 12" long leads. 50/60 Hz. UL Component Recognized and Recognized Component mark for Canada. CSA Certified. Black finish. See accessories listed on page 3629

## 3¹/₈ & 4¹¹/₁₆" SQUARE AXIAL FANS ORDERING DATA

| CFM* | Volts | RPM | Watts | Amps | dBA | Dimensions (In.) H | W | D | Mtg. Hole OC (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **30** | 115 | 2900 | 10.5 | 0.125 | 36 | 3⅛ | 3⅛ | 1½ | 2¹³⁄₁₆ | **5C115** | $36.70 | **$21.95** | 1.1 |
| **30** | 230 | 2900 | 10.0 | 0.06 | 36 | 3⅛ | 3⅛ | 1½ | 2¹³⁄₁₆ | **5C114** | 37.15 | **22.25** | 1.1 |
| **55** | 115 | 1765 | 6.5 | 0.09 | 28.0 | 4¹¹⁄₁₆ | 4¹¹⁄₁₆ | 1½ | 4⅛ | **4C548** | 34.10 | **20.40** | 1.4 |
| **70** | 115 | 2140 | 8.0 | 0.12 | 33.0 | 4¹¹⁄₁₆ | 4¹¹⁄₁₆ | 1½ | 4⅛ | **4C827** | 34.25 | **20.50** | 1.4 |
| **100** | 115 | 2950 | 13.7 | 0.18 | 38.0 | 4¹¹⁄₁₆ | 4¹¹⁄₁₆ | 1½ | 4⅛ | **4C549** | 33.75 | **20.20** | 1.4 |
| **100** | 230 | 2950 | 13.3 | 0.09 | 38.0 | 4¹¹⁄₁₆ | 4¹¹⁄₁₆ | 1½ | 4⅛ | **4C653** | 34.25 | **20.50** | 1.4 |
| **110** | 115 | 3100 | 24.0 | 0.34 | 42.0 | 4¹¹⁄₁₆ | 4¹¹⁄₁₆ | 1½ | 4⅛ | **4C550** | 35.68 | **22.30** | 1.6 |

## 6 & 10" DIAMETER AXIAL FANS ORDERING DATA

| CFM* | Volts | RPM | Watts | Amps | Motor Type | SIL dB | Dia. | Dimensions (In.) H | W | D | Mtg. Holes | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **240** | 115 | 3400 | 29 | 0.25 | PSC | 50.0 | — | 6¾ | 5⅞ | 2 | 6⅜ | **4C720** | $91.93 | **$57.50** | 2.5 |
| **240** | 230 | 3400 | 28 | 0.12 | PSC | 50.0 | — | 6¾ | 5⅞ | 2 | 6⅜ | **4C828** | 94.41 | **59.00** | 2.3 |
| **560** | 115 | 1650 | 36 | 0.35 | PSC | 47.6 | 10 | — | — | 3½ | 9¹¹⁄₁₆ | **4C688** | 111.26 | **70.40** | 5.0 |
| **560** | 230 | 1650 | 36 | 0.19 | PSC | 47.6 | 10 | — | — | 3½ | 9¹¹⁄₁₆ | **4C829** | 116.87 | **73.05** | 5.5 |

) In free air, on 60 Hz power.

## COMPARISON GUIDE FOR DAYTON AC AXIAL FANS LISTED ABOVE

| EBM | Etri | Howard | IMC | Papst Pameter | Comair Rotron | Sunon | NiDEC Torin | Stock No. |
|---|---|---|---|---|---|---|---|---|
| '2S076 A03-03 | Model 26 126LF-2182 | 3-15-1321 | 3115FS12WB20 Pewee Boxer | 8800D | SU2A1 Sprite | SF11580A | TA300S A31022 | 4C913 5C115 |
| '2S076 A01-03 | Model 26 126LF-2181 | 3-15-1322 | 3115FS23WB20 Pewee Boxer | 8850D | SU3A1 Sprite | SF23080A | TA300S A31137 | 5C114 |
| '2S107 B11-39 | Model 141 141LV-2282 | 3-15-2470 | WS2107FL 1002 Boxer | 4800X | WR2A1 Whisper | SP103A | TA450-S A30390 | 4C548 4C914 |
| '2S107 B07-39 | Model 141 141LT-2282 | 3-15-2455 | WS2107FL 1072 Boxer | 4850X | WR2H1 Whisper | SP102A | TA450-S A30426 | 4C827 4C915 |
| '2S107 A15-39 | Model 141 141LS-2282 | 3-15-3450 | WS2107FL 1000 Boxer | 4600X | MU2A1 Muffin | SP101A | TA450 A30108 | 4C549 4C916 |
| '2S107 A01-39 | Model 141 141LS-2281 | 3-15-3451 | WS2107FL 1006 Boxer | 4650X | MU3A1 Muffin | DP201A | TA450 A28678 | 4C653 4C917 |
| '2S107 A15-39 | Model 125 125XR-2282 | 3-15-4477 | WS2107F-1100 Super Boxer | 4600X | MX2A3 Muffin XL | SP101A | TA450 A30108 | 4C550 4C916 |
| — | Model 148 148VK-282 | 3-15-5601 Cyclohm Fulmar | Model 10 | Model 7606 | MR 2B3 Major | — | A30318-10 TA 600 | 4C720 |
| — | Model 148 148VK-281 | 3-15-5602 Cyclohm Fulmar | Model 20 | Model 7656 | MR 77B3 Major | — | A30322-10 TA 600 | 4C828 |
| — | — | 5-50-0100 Worldwind | Model 10 Condor | | CL2T2 Caravel | — | A30205-10 TA 1000 | 4C688, 4C847 |
| — | — | 5-50-5100 Worldwind | Model 20 Condor | — | CL3T2 Caravel | — | A30230-10 TA 1000 | 4C829 |

# UNIT BEARING, AC AND DC AXIAL FANS; AND AMCA FAN APPLICATION MANUAL

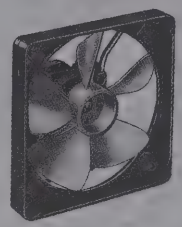
## UNIT BEARING AXIAL FANS

- **Economical ventilation for spot cooling applications**
- **For use on office equipment, vending machines, cabinet cooling, and a wide variety of electrical equipment**
- **Nos. 4C654 and 4C656 are exhaust fans, No. 4C655 is for intake**

**All die cast zinc frame** has mounting holes 4⅛" on centers or can be rear mounted using pre-tapped #10-32 holes.

**Five-blade polycarbonate propeller.** Permanently lubricated sintered bronze sleeve bearing. Heat treated steel shaft ground and polished. Motor is impedance protected.

**Maximum ambient temperature:** 120°F (48.9°C). 12" (105°C) PVC wire leads, # 20-gauge UL Component Recognized. CSA Certified. 115V, 50/60 Hz. Flame rated 94V-O blade. Dayton brand.



No. 4C654

Dayton®

E19455 38228

Replacement Parts Available 1-800-323-0620

### UNIT BEARING AXIAL FAN ORDERING DATA

| CFM* | Air Flow | RPM | Watts | Amps | SIL dB† | Dimensions (In.) H | W | D | Mtg. Holes OC (In.) | Stock No.‡ | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **75** | Exhaust | 1800 | 11 | 0.20 | 32 | 4 11/16 | 4 11/16 | 2 1/2 | 4 1/8 | **4C654** | $27.95 | **$17.47** | 1.6 |
| **100** | Intake | 3000 | 16 | 0.29 | 43 | 4 11/16 | 4 11/16 | 2 15/16 | 4 1/8 | **4C655** | 31.47 | **19.67** | 2.1 |
| **112** | Exhaust | 3000 | 16 | 0.29 | 42 | 4 11/16 | 4 11/16 | 2 15/16 | 4 1/8 | **4C656** | 31.41 | **19.63** | 2.1 |

(*) In free air on 60 Hz power. (†) SIL = Speech Interference Level, in decibels. This figure represents an average of the sound pressure levels in the 500, 1000, and 2000 Hz octave bands.
(‡) Limited availability. Contact local branch.

## AC AND DC AXIAL FANS

For spot cooling and ventilating office machines, computers, and other electrical equipment. Impedance protected shaded pole motors have sleeve bearings. Designed for vertical mount only.

Fan blade is polybytylene terephthalate (PBT) plastic, flame rated UL 94V-O. Maximum ambient temperatures is 149°F (65°C) for all models. Fans are compatible with Dayton fan guards and cord sets. Black painted finish. Sunon brand.

**Brushless DC Fans.** Fans 3⅛" and smaller have PBT plastic housing. 4 11/16" fans have aluminum housings. 12" long leads. Polarity protected motor. Voltage range for nominal 12 VDC fan is 6 to 16 VDC; for nominal 24 VDC fan it is 12 to 30 VDC.

**AC Fans.** Cast aluminum housing. Class B insulation. Nos. 4C914 through 4C917 require cord set No. 4C552. No. 4C913 has 12" leads. UL Recognized and CSA Certified. 50/60 Hz.



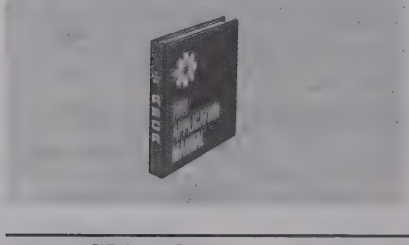
No. 4C909

SUNON

E77551 LR53000

| CFM | Nominal Volts | RPM | Watts | Amps | SIL dB | Dimensions (In.) H | W | D | Mtg. Hole OC (In.) | Sunon Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DC AXIAL FANS** | | | | | | | | | | | | | | |
| **21** | 12 | 4500 | 2.3 | 0.19 | 34 | 2⅜ | 2⅜ | 1 | 1 31/32 | KDE1206PTS1 | **4C909** | $38.60 | **$23.42** | 0.2 |
| **21** | 24 | 4500 | 2.6 | 0.11 | 34 | 2⅜ | 2⅜ | 1 | 1 31/32 | KDE2406PTS1 | **4C910** | 38.60 | **23.42** | 0.3 |
| **41** | 12 | 3000 | 2.6 | 0.22 | 34 | 3⅛ | 3⅛ | 1 | 2 13/16 | KDE1208PTS1-6 | **4C911** | 38.70 | **23.53** | 0.4 |
| **41** | 24 | 3000 | 2.9 | 0.12 | 34 | 3⅛ | 3⅛ | 1 | 2 13/16 | KDE2408PTS1-6 | **4C912** | 38.70 | **23.53** | 0.4 |
| **107** | 12 | 3000 | 6.8 | 0.57 | 41 | 4 11/16 | 4 11/16 | 1½ | 4⅛ | KDE1212PMS1-6A | **4C918** | 38.80 | **23.59** | 0.7 |
| **107** | 24 | 3000 | 7.4 | 0.31 | 41 | 4 11/16 | 4 11/16 | 1½ | 4⅛ | KDE2412PMS1-6A | **4C919** | 38.80 | **23.59** | 0.8 |
| **AC AXIAL FANS** | | | | | | | | | | | | | | |
| **30** | 115 | 2750 | 12 | 0.13 | 35 | 3⅛ | 3⅛ | 1½ | 2 13/16 | SF11580A | **4C913** | 33.70 | **22.53** | 0.9 |
| **76** | 115 | 2200 | 11 | 0.11 | 38 | 4 11/16 | 4 11/16 | 1½ | 4⅛ | SP103A | **4C914** | 33.60 | **20.47** | 1.4 |
| **84** | 115 | 2500 | 16 | 0.14 | 42 | 4 11/16 | 4 11/16 | 1½ | 4⅛ | SP102A | **4C915** | 33.60 | **20.47** | 1.4 |
| **105** | 115 | 2900 | 18 | 0.18 | 46 | 4 11/16 | 4 11/16 | 1½ | 4⅛ | SP101A | **4C916** | 33.60 | **20.47** | 1.4 |
| **105** | 230 | 2900 | 19 | 0.11 | 46 | 4 11/16 | 4 11/16 | 1½ | 4⅛ | DP201A | **4C917** | 33.60 | **20.47** | 1.4 |

## AMCA FAN APPLICATION MANUAL



Heavily illustrated manual contains four separate technical publications in one binder: **Air Systems (#200-95)** provides basic information needed to design effective, energy efficient air systems. Includes information on System Pressure Losses, Fan Performance and System Effect. **Fans and Systems (#201-90)** discusses effects of fan system and its relationship to fan's performance. **Troubleshooting (#202-88)** is intended to help identify and correct problems with performance and operation for air moving systems after fan is installed. **Field Performance Measurement of Fan Systems (#203-90)** reviews field measurements and calculations needed to determine actual performance of fan and system.

8½ x 11 x 2" thick binder. 278 pages. AMCA (#B200-3).

**No. 3CC67.** Shpg. wt. 4.3 lbs. List.....$98.50. Each.....**$59.00▲**

(▲) Net prices, not subject to discounts



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

# AXIAL FAN ACCESSORIES

**Cord Sets.** Type SPT-1, 18/2 AWG, plugs into terminals of all terminal base axial fans. For use with 115V or 230V, 50/60 Hz power. Use of these cordsets with 230V requires running a ground wire (not included) between fan grounding lug and ground wire on circuit. UL Component Recognized. CSA Certified. 24 and 36" long cords are blunt cut. 72" cord has NEMA 1-15P wall plug on opposite end. Fan plug heads are either 45 or 90° angle. Available individually or in bulk pack of 100.

**Wire Fan Guards.** Wire formed guards fit all standard 2⅜, 3⅛, 4$^{11}/_{16}$, 6, and 10" fans*. Nickel chrome plated. Guards comply with safety recommendations for 1/4" spacing.

**Plastic Fan Guards.** Fit all standard 2⅜, 3⅛, 4$^{11}/_{16}$, and 6" fans*. Made from UL Listed 94-VO material and meet UL 1/4" plug gauge test for added protection. Countersunk mounting holes. Withstand high impact.

**Plastic Fan Guards with Media Filter.** Fit all standard 2⅜, 3⅛, and 4$^{11}/_{16}$, and 6" fans*. Consists of fan guard, filter media, and retainer. Guard and retainer only, made of UL Listed 94-VO material. Polyurethane foam media filter has 30 pores/inch to remove dust and contaminating particles. Media is washable with a mild soap solution. Snap-off retainer allows media to be cleaned or replaced without disturbing fan guard.

(*) Except 5C157.


No. 3RP10 Cord Set


No. 3RP19 Wire Fan Guard

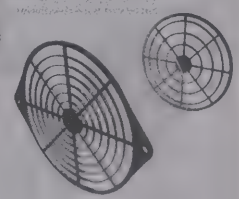

No. 3RP17 Plastic Fan Guard


No. 3RP14 Cord Set


No. 3RP15 Plastic Fan Guard


No. 5C035 Plastic Fan Guard


No. 3RP18 Filter Guard Assembly


No. 3RP16 Filter Guard Assembly

## CORD SETS

| Description | Length (In.) | Head Configuration | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Cord Set** | 24 | 90° | **4C552** | $1.90 | **$1.14** | 0.1 |
| **Bulk pack 100 Cords** | 24 | 90° | **4C998** | 129.00 | **77.25** | 5.3 |
| **Cord Set** | 24 | 45° | **3RP10** | 2.43 | **1.46** | 0.1 |
| **Bulk pack 100 Cords** | 24 | 45° | **3RP11** | 169.05 | **101.25** | 5.3 |
| **Cord Set** | 36 | 45° | **3RP12** | 3.05 | **1.83** | 0.1 |
| **Bulk pack 100 Cords** | 36 | 45° | **3RP13** | 221.59 | **132.70** | 6.8 |
| **Cord Set 1-15P Plug** | 72 | 45° | **3RP14** | 13.50 | **8.09** | 0.2 |

## CHROME PLATED WIRE GUARDS

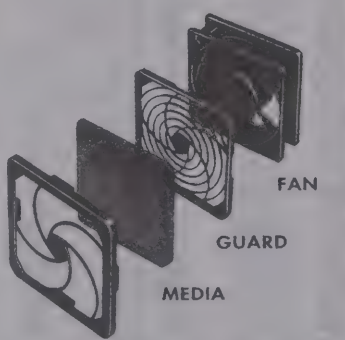
| Description | For Fan Size (In.) | Mounting Eye Dimen., OC (In.) | Guard Dim. Dia. x Depth (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Wire Guard** | 2⅜ | (4) 1.97 | 2.09 x 0.17 | **3RP19** | $2.05 | **$1.23** | 0.1 |
| **Wire Guard** | 3⅛ | (4) 2.81 | 3.00 x 0.20 | **4C740** | 2.05 | **1.24** | 0.1 |
| **Wire Guard** | 4$^{11}/_{16}$ | (4) 4.12 | 4.44 x 0.58 | **4C657** | 6.85 | **4.11** | 0.1 |
| **Wire Guard** | 4$^{11}/_{16}$ | (4) 4.12 | 4.55 x 0.22 | **4C551** | 2.70 | **1.61** | 0.1 |
| **Bulk Pk 100, No. 4C551** | 4$^{11}/_{16}$ | (4) 4.12 | 4.55 x 0.22 | **4C999** | 202.00 | **120.90** | 11.0 |
| **Wire Guard** | 6 | (2) 6.38 | 6.08 x 0.25 | **4C741** | 7.65 | **4.58** | 0.2 |
| **Wire Guard** | 10 | (4) 6.85 | 8.75 x 0.25 | **4C742** | 13.80 | **8.27** | 0.4 |

## PLASTIC GUARDS ONLY

| Description | For Fan Size (In.) | Mounting Hole Dimen. OC (In.) | Guard Dimen. (In.) Square x Depth | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Plastic Guard** | 2⅜ | (4) 1.97 | 2.36 x 0.26 | **3RP17** | $1.48 | **$0.89** | 0.1 |
| **Plastic Guard** | 3⅛ | (4) 2.81 | 3.15 x 0.25 | **5C035** | 1.25 | **0.75** | 0.1 |
| **Plastic Guard** | 4$^{11}/_{16}$ | (4) 4.12 | 4.65 x 0.30 | **5C034** | 1.50 | **0.90** | 0.1 |
| **Plastic Guard** | 6 | (2) 6.38 | 7.00 x 0.38 | **3RP15** | 3.91 | **2.35** | 0.1 |

## PLASTIC FAN FILTER GUARD ASSEMBLIES

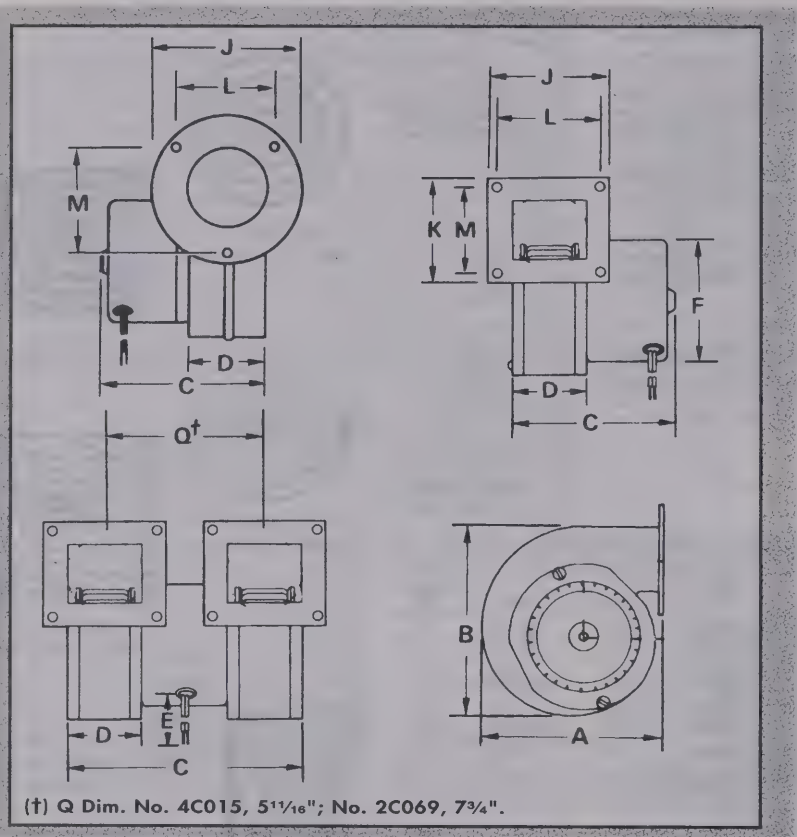
| Description | For Fan Size (In.) | Mounting Hole Dimen. OC (In.) | Guard Dimen. Square x Depth (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **Filter Assembly** | 2⅜ | (4) 1.97 | 2.36 x 0.26 | **3RP18** | $3.24 | **$1.94** | 0.1 |
| **Filter Assembly** | 3⅛ | (4) 2.81 | 3.29 x 0.39 | **5C033** | 3.25 | **1.94** | 0.1 |
| **Filter Assembly** | 4$^{11}/_{16}$ | (4) 4.12 | 4.88 x 0.44 | **5C032** | 4.80 | **2.88** | 0.1 |
| **Filter Assembly** | 6 | (2) 6.38 | 7.00 x 0.38 | **3RP16** | 8.49 | **5.09** | 0.1 |




## REPLACEMENT MEDIA ONLY FOR PLASTIC FAN GUARDS

| Description | For Fan Size (In.) | Quantity | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **30 PPI Media** | 3⅛ | Bag of five filters | **5C038** | $2.40 | **$1.45** | 0.1 |
| **30 PPI Media** | 4$^{11}/_{16}$ | Bag of five filters | **5C036** | 4.10 | **2.45** | 0.1 |
| **45 PPI Media** | 3⅛ | Bag of five filters | **5C039** | 2.40 | **1.45** | 0.1 |
| **45 PPI Media** | 4$^{11}/_{16}$ | Bag of five filters | **5C037** | 4.10 | **2.45** | 0.1 |

# 12 TO 320 CFM SHADED POLE BLOWERS




(†) Q Dim. No. 4C015, 5 11/16"; No. 2C069, 7 3/4".

Dayton

- Shaded pole blowers provide economical air delivery for heating, ventilating, exhausting, or cooling components
- Forward curved wheels driven by dependable Dayton motors with all position mounting sleeve bearings and Class B insulation (except No. 2C782)
- Open dripproof motors rated for continuous duty
- Adjustable air inlet dampers available on Nos. 2C914, and 4C440
- Maximum ambient temperature 104°F (40°C)
- Baked gray enamel finish

**All shaded pole blowers** listed in this catalog except No. 2C646 are equipped with motors that are recognized by UL under the Motor Component Recognition Program for construction, File E47479; for thermal protection, File E37403; for impedance protection, File E40077; for Class B insulation, File E61921, CSA listing No. LR36496 for blowers with free air RPM greater than 2800 and LR6319 for those with RPM of less than 2800.

**NOTE: Not for use with speed controllers.**

**Replacement Parts Available**
**1-800-323-0620**

## SHADED POLE BLOWER DIMENSIONS (In Inches)

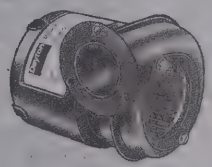
| Stock No. | Wheel Dia. | Wheel Width | Outlet H | Outlet W | Cond. Box | Inlet Dia. | A | B | C | D | E | F | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4C759 | 2 | 1 | 1 1/4 Dia. | — | No | 1 7/8 | 3 29/32 | 3 13/16 | 3 | 1 5/16 | 12 | 3 | 2 1/4 | — | 1 5/8 | 1 13/32 |
| 2C782 | 2 | 1 | 1 1/4 Dia. | — | No | 1 7/8 | 3 29/32 | 3 13/16 | 4 5/16 | 1 1/8 | 12 | 3 5/16 | 2 1/4 | — | 1 5/8 | 1 13/32 |
| 4C760 | 3 | 1 | 1 11/16 | 1 9/16 | No | 2 9/16 | 4 7/16 | 4 5/8 | 3 5/16 | 1 5/8 | 12 | 3 | 2 15/16 | 3 1/16 | 2 5/16 | 2 7/16 |
| 4C761 | 3 | 1 1/2 | 1 11/16 | 2 1/32 | No | 2 9/16 | 4 7/16 | 4 13/16 | 3 7/8 | 2 3/32 | 12 | 3 | 3 3/8 | 3 1/16 | 2 3/4 | 2 7/16 |
| 4C012 | 3 | 1 1/2 | 1 11/16 | 2 1/32 | No | 2 9/16 | 4 15/32 | 4 13/16 | 5 1/4 | 2 3/32 | 12 | 3 5/16 | 3 3/8 | 3 1/16 | 2 3/4 | 2 7/16 |
| 4C441 | 3 | 1 7/8 | 2 1/8 Dia. | — | Yes | 2 3/8 | 6 5/16 | 5 7/32 | 5 7/32 | 2 7/32 | 12 | 3 5/16 | — | — | — | — |
| 4C440 | 3 | 1 7/8 | 2 1/8 Dia. | — | Yes | 2 3/8 | 6 5/16 | 5 13/16 | 5 7/32 | 2 7/32 | 6 | 3 5/16 | 4 | — | 2 3/8 | 2 13/16 |
| 2C914 | 3 | 1 7/8 | 2 1/8 Dia. | — | Yes | 2 3/8 | 6 5/16 | 5 13/16 | 5 7/32 | 2 7/32 | 6 | 3 5/16 | 4 | — | 2 3/8 | 2 13/16 |
| 4C762 | 3 | 1 7/8 | 2 1/8 | 2 21/32 | No | 2 5/8 | 5 5/16 | 5 3/4 | 4 3/4 | 2 23/32 | 12 | 3 | 4 | 3 1/2 | 3 3/8 | 2 7/8 |
| 4C004 | 3 | 1 7/8 | 2 1/8 | 2 21/32 | Yes | 2 5/8 | 5 5/16 | 5 3/4 | 5 11/16 | 2 23/32 | 6 | 3 5/16 | 4 | 3 1/2 | 3 3/8 | 2 7/8 |
| 4C763 | 3 13/16 | 1 7/8 | 2 1/8 | 2 21/32 | No | 3 1/8 | 5 5/16 | 5 3/4 | 5 3/4 | 2 23/32 | 12 | 3 | 4 | 3 1/2 | 3 3/8 | 2 7/8 |
| 4C443 | 3 13/16 | 1 7/8 | 2 1/8 Dia. | — | Yes | 3 1/8 | 6 5/16 | 5 13/16 | 6 1/2 | 2 7/32 | 12 | 3 5/16 | 4 | — | 2 3/8 | 2 13/16 |
| 2C067 | 5 1/4 | 2 7/8 | 2 15/16 | 3 5/16 | No | 4 23/32 | 8 1/16 | 8 3/8 | 4 1/8 | 3 3/8 | 12 | 3 13/16 | — | — | — | — |
| 2C647 | 5 1/4 | 2 1/2 | 3 1/8 | 3 | No | 4 1/2 | 7 1/16 | 8 | 5 5/16 | 3 1/8 | 20 | 3 5/16 | 4 5/8 | 3 1/8 | 3 15/16 | 2 3/8 |
| 4C442 | 3 13/16 | 1 7/8 | 2 1/2 | 2 1/2 | Yes | 3 1/8 | 6 3/4 | 7 7/32 | 6 13/16 | 2 19/32 | 6 | 3 5/16 | 5 1/8 | 4 | 4 1/8 | 1 1/2 |
| 2C915 | 3 13/16 | 1 7/8 | 2 1/2 | 2 1/2 | Yes | 3 1/8 | 6 5/16 | 7 7/32 | 6 13/16 | 2 19/32 | 6 | 3 5/16 | 5 1/8 | 4 | 4 1/8 | 1 1/2 |
| 4C446 | 3 13/16 | 2 1/2 | 2 1/16 | 3 1/4 | Yes | 3 1/8 | 5 5/16 | 5 3/4 | 7 1/8 | 3 5/16 | 6 | 3 5/16 | 4 19/32 | 3 1/2 | 3 21/32 | 2 7/8 |
| 4C015 | 3 | 1 7/8 | 2 1/8 | 2 21/32 | Yes | 2 5/8 | 5 5/16 | 5 3/4 | 8 5/16 | 2 23/32 | 12 | 3 5/16 | 4 | 3 1/2 | 3 3/8 | 2 7/8 |
| 1C982 | 5 1/4 | 2 7/8 | 2 15/16 | 3 5/16 | Yes | 4 23/32 | 8 1/16 | 8 3/8 | 6 19/32 | 3 3/8 | 12 | 3 5/16 | — | — | — | — |
| 2C916 | 5 1/4 | 2 7/8 | 2 15/16 | 3 5/16 | Yes | 4 23/32 | 8 1/16 | 8 3/8 | 6 31/32 | 3 3/8 | 12 | 3 5/16 | — | — | — | — |
| 2C646 | 5 1/4 | 2 1/2 | 3 1/8 | 3 | No | 4 1/2 | 7 1/16 | 8 | 5 11/16 | 3 1/8 | 12 | 3 | 4 5/8 | 3 1/8 | 3 15/16 | 2 3/8 |
| 4C754 | 7 1/8 | 2 1/8 | 4 1/8 | 2 1/2 | No | 5 5/8 | 10 5/16 | 11 1/8 | 4 1/2 | 2 5/8 | 11 | 3 5/16 | — | — | — | — |
| 4C447 | 5 1/4 | 2 7/8 | 3 11/16 | 4 1/8 | Yes | 4 5/8 | 8 27/32 | 9 7/8 | 7 21/32 | 4 3/16 | 6 | 3 5/16 | 5 1/2 | 5 | 4 7/8 | 4 3/8 |
| 4C869 | 5 1/4 | 2 7/8 | 3 11/16 | 4 1/8 | Yes | 4 5/8 | 8 1/16 | 9 7/8 | 7 3/8 | 4 3/16 | 6 | 3 5/16 | 5 1/2 | 5 | 4 7/8 | 4 3/8 |
| 2C069 | 5 1/4 | 2 7/8 | 2 15/16 | 3 5/16 | Yes | 4 11/16 | 8 1/16 | 8 3/8 | 11 1/8 | 3 3/8 | 12 | 3 5/16 | 4 3/4 | 4 3/4 | 4 1/8 | 1 15/32 |
| 4C006 | 4 1/4 | 2 | 2 21/32 | 2 15/16 | Yes | 3 5/8 | 7 1/8 | 7 13/16 | 6 9/16 | 3 | 12 | 3 5/16 | 4 3/8 | 4 | 3 3/4 | 3 3/8 |

CONTINUED ON NEXT PAGE

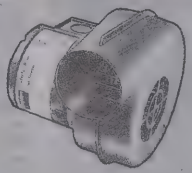
# 12 TO 320 CFM SHADED POLE BLOWERS

E47479

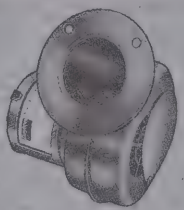
36496



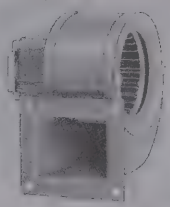
No. 2C782



No.4C441



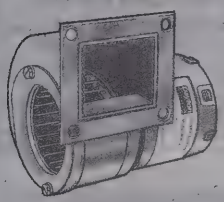
No. 2C914, 4C440 & 4C443 (No Damper)



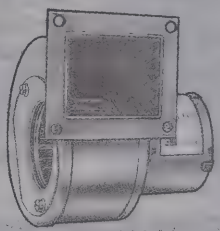
No. 4C760 to 4C763



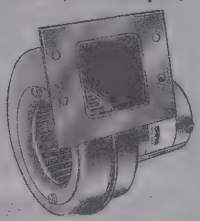
No. 4C754



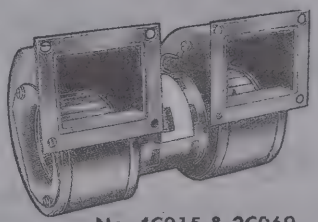
No. 4C012



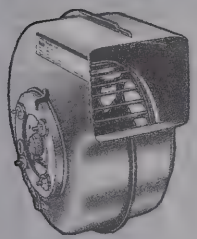
No. 4C004, 4C006 & 4C446



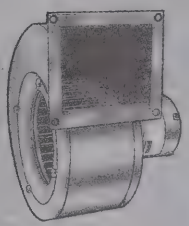
No. 2C915 & 4C442



No. 4C015 & 2C069

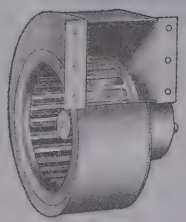


No. 2C067

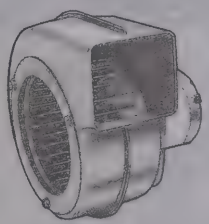


No. 4C447 & 4C869

For more motors, see page 111



No. 2C647 & 2C646

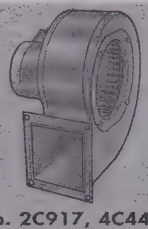


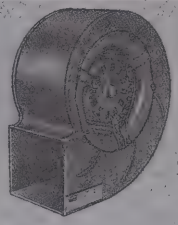
No. 1C982 & 2C916

| CFM, AT RPM SHOWN, AT 60 Hz* | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0" SP | 0.1" SP | 0.2" SP | 0.3" SP | 0.4" SP | 0.5" SP | Cut-off SP | Volts | Hz (*) | Therm. Prot. | 0.0" SP RPM | 0.0" SP Amps | Stock No. | List | Each | Lots 3 | Shpg. Wt. |
| **12** | 9 | — | — | — | — | 0.20" | 115 | 60 | Imp. | 3300 | 0.35 | **4C759** | $44.58 | **$26.70** | **$25.31** | 1.8 |
| **15** | 13 | 4 | — | — | — | 0.22 | 115 | 60/50 | # | 3160 | 0.30 | **2C782** | 61.37 | **36.75** | **34.82** | 2.4 |
| **31** | 28 | 25 | 20 | 7 | — | 0.50 | 115 | 60 | Imp. | 3010 | 0.45 | **4C760** | 54.85 | **32.85** | **31.12** | 2.9 |
| **50** | 46 | 43 | 37 | 29 | 15 | 0.58 | 115 | 60 | Imp. | 2840 | 0.53 | **4C761** | 56.11 | **33.60** | **31.86** | 2.9 |
| **54** | 48 | 43 | 36 | 25 | 17 | 0.67 | 115 | 60/50 | Auto | 3340 | 0.83 | **4C012** | 68.47 | **41.00** | **38.84** | 3.3 |
| **60** | 57 | 54 | 49 | 39 | 23 | 0.60 | 115 | 60/50 | Auto | 3030 | 0.49 | **4C441** | 66.80 | **40.00** | **37.94** | 3.5 |
| **60** | 57 | 54 | 49 | 39 | 23 | 0.60 | 115 | 60/50 | Auto | 3030 | 0.42 | **4C440** | 72.14 | **43.20** | **40.91** | 3.4 |
| **60** | 57 | 54 | 49 | 39 | 23 | 0.60 | 230 | 60/50 | Auto | 3030 | 0.25 | **2C914** | 70.72 | **42.35** | **40.19** | 3.7 |
| **72** | 65 | 58 | 49 | 40 | 19 | 0.62 | 115 | 60 | Imp. | 2930 | 0.55 | **4C762** | 61.62 | **36.90** | **34.97** | 4.0 |
| **76** | 70 | 63 | 56 | 45 | 8 | 0.55 | 115 | 60/50 | Auto | 2880 | 0.60 | **4C004** | 76.06 | **45.55** | **43.17** | 4.0 |
| **98** | 92 | 86 | 77 | 69 | 54 | 0.78 | 115 | 60 | Auto | 2800 | 1.55 | **4C763** | 73.73 | **44.15** | **41.86** | 4.5 |
| **100** | 98 | 95 | 90 | 85 | 80 | 0.80 | 115 | 60/50 | Auto | 2870 | 0.74 | **4C443** | 82.08 | **49.15** | **46.64** | 4.0 |
| **108** | 94 | 79 | 61 | 25 | — | 0.42 | 115 | 60/50 | Auto. | 1530 | 0.58 | **2C067** | 97.02 | **58.10** | **55.18** | 5.0 |
| **134** | 126 | 117 | 107 | 96 | 79 | 0.59 | 115 | 60/50 | Auto. | 1500 | 0.74 | **2C647** | 79.99 | **45.55** | **45.51** | 4.5 |
| **140** | 136 | 131 | 125 | 119 | 110 | 0.95 | 115 | 60/50 | Auto. | 3020 | 1.02 | **4C442** | 95.27 | **57.05** | **54.08** | 5.8 |
| **140** | 136 | 131 | 125 | 119 | 110 | 0.95 | 230 | 60/50 | Auto. | 3020 | 0.54 | **2C915** | 102.78 | **61.55** | **58.37** | 6.0 |
| **148** | 141 | 135 | 129 | 121 | 114 | 1.04 | 115 | 60/50 | Auto. | 3160 | 1.37 | **4C446** | 87.59 | **52.45** | **49.74** | 5.6 |
| **157** | 145 | 134 | 116 | 103 | 72 | 0.70 | 115 | 60/50 | Auto. | 3180 | 0.88 | **4C015** | 112.55 | **67.40** | **63.90** | 5.0 |
| **160** | 151 | 141 | 125 | 93 | 16 | 0.53 | 115 | 60/50 | Auto. | 1570 | 1.00 | **1C982** | 96.44 | **57.75** | **54.78** | 6.0 |
| **160** | 151 | 141 | 125 | 93 | 16 | 0.53 | 230 | 60/50 | Auto. | 1460 | 0.53 | **2C916** | 108.21 | **64.80** | **61.46** | 6.3 |
| **176** | 170 | 165 | 159 | 153 | 148 | 1.33 | 12VDC | — | None | 1875 | 5.10 | **2C646**** | 74.31 | **42.30** | **42.27** | 4.0 |
| **200** | 196 | 191 | 189 | 182 | 176 | 0.87 | 115 | 60/50 | Auto. | 1400 | 2.10 | **4C754** | 138.86 | **83.15** | **78.91** | 9.5 |
| **265** | 250 | 232 | 212 | 184 | 135 | 0.64 | 115 | 60/50 | Auto. | 1610 | 1.86 | **4C447** | 102.37 | **61.30** | **58.14** | 8.6 |
| **265** | 250 | 232 | 212 | 184 | 135 | 0.64 | 230 | 60/50 | Auto. | 1610 | 0.93 | **4C869** | 116.73 | **69.90** | **66.26** | 8.6 |
| **320** | 305 | 284 | 252 | 195 | 50 | 0.51 | 115 | 60/50 | Auto. | 1320 | 1.27 | **2C069** | 157.64 | **94.40** | **89.59** | 10.0 |
| **0.0" SP** | **0.5" SP** | **0.7" SP** | **0.9" SP** | **1.0" SP** | **1.2" SP** | **Cut-off SP** | | | | **0.5" SP RPM** | **0.5" SP Amps** | | | | | |
| | 118 | 107 | 95 | 82 | 42 | 1.58" | 115 | 60/50 | Auto. | 2200 | 1.45 | **4C006** | 89.17 | **53.40** | **50.66** | 6.3 |

*) Air deliveries approximately 20% less when operated on 50 Hz. (‡) Overloaded-do not operate below 0.5" SP.
**) Not UL Recognized or CSA certified. (#) Impedance protected

# 350 TO 1210 CFM SHADED POLE AND PERMANENT SPLIT CAPACITOR BLOWERS





No. 2C917, 4C444, 4C445, 4C666, 4C667, 4C566, 4C870

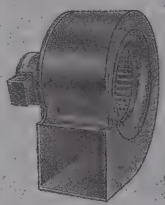
No. 2C962

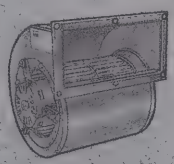
Dayton

LR6319

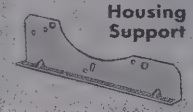
E47479
E37403

- Provide economical air delivery for larger applications in heating, ventilating, exhausting, and cooling
- Forward curved wheels driven by Dayton motors rated for continuous duty with all-position mount sleeve bearings
- Baked on gray enamel finish





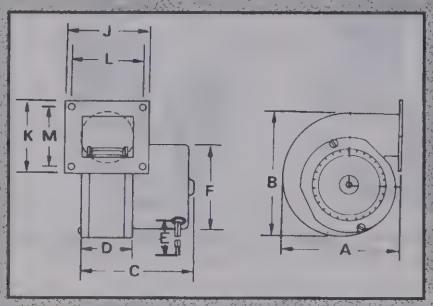
No. 4C448, 4C565, 5C507, 5C508



No. 2C335 Housing Support

No. 2C946, 4C054, 4C668, 4C830, 4C831

Replacement Parts Available 1-800-323-0620




**Maximum ambient temperature** 104°F (40°C). Capacitors included on all energy efficient PSC blowers. Two-speed blowers require No. 2X605 two-speed switch (not included, see Index under Motor Parts and Accessories, Relays.)

**Open dripproof motors** recognized by UL under Motor Component Recognition Program; for construction, File E47479; for thermal protection, File E37403. Blowers without outlet flange can use No. 2C335 housing support for mounting, (see listing below.) Dayton brand.

**NOTE: Not for use with speed controllers.**

**PRE-PUNCHED METAL HOUSING SUPPORT.** Enables base mounting No. 2C962, 2C946, 4C054, 4C668, 4C830, and 4C831 blowers for bottom horizontal, top horizontal, and upblast discharges. 12¾" long. Gray finish. Sold in pairs.

**No. 2C335.** Shpg. wt. 1.5 lbs. List .....$15.17. Each .....**$9.08**

## SHADED POLE AND PSC BLOWER DIMENSIONS (Inches)

| Stock No. | Wheel Dia. | Wheel Width | Outlet H | Outlet W | Inlet Dia. | Dimensions in Inches A | B | C | D | E | F | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4C444 | 6 5/16 | 2 7/8 | 4 15/16 | 3 13/16 | 5 3/8 | 10 5/16 | 11 1/8 | 8 | 3 7/8 | 12 | 4 7/16 | 5 1/16 | 5 5/8 | 4 1/2 | 5 |
| 2C917 | 6 5/16 | 2 7/8 | 4 15/16 | 3 13/16 | 5 3/8 | 10 5/16 | 11 1/8 | 8 | 3 7/8 | 12 | 4 7/16 | 5 1/16 | 5 5/8 | 4 1/2 | 5 |
| 4C448* | 5 1/4 | 6 7/8 | 3 11/16 | 8 1/16 | 4 7/16 | 8 13/16 | 9 7/8 | 9 1/4 | 8 3/32 | 12 | 3 5/16 | 9 11/16 | 5 | 8 13/16 | 4 3/8 |
| 5C507* | 5 1/4 | 6 7/8 | 3 11/16 | 8 1/16 | 4 7/16 | 8 13/16 | 9 7/8 | 9 7/16 | 8 3/32 | 12 | 3 5/16 | 9 11/16 | 5 | 8 13/16 | 4 3/8 |
| 2C962* | 8 1/16 | 4 | 5 9/16 | 6 3/16 | 7 | 13 1/8 | 14 7/8 | 6 1/2 | 6 1/4 | 12 | 5 | † | † | † | † |
| 4C445 | 6 5/16 | 4 1/4 | 4 1/4 | 5 3/16 | 5 3/8 | 10 5/16 | 11 1/8 | 9 1/2 | 5 1/4 | 12 | 4 7/16 | 6 5/8 | 5 5/8 | 6 | 5 |
| 4C870 | 6 5/16 | 4 1/4 | 4 1/4 | 5 3/16 | 5 3/8 | 10 5/16 | 11 1/8 | 9 1/2 | 5 1/4 | 12 | 4 7/16 | 6 5/8 | 5 5/8 | 6 | 5 |
| 2C946 | 8 1/16 | 4 | 5 9/16 | 6 3/16 | 7 | 13 1/8 | 14 7/8 | 11 | 6 1/4 | 6 | 5 | † | † | † | † |
| 4C054 | 8 1/2 | 5 1/16 | 5 9/16 | 7 3/16 | 7 | 13 1/8 | 14 7/8 | 12 3/4 | 7 1/4 | 6 | 5 | † | † | † | † |
| 4C565* | 5 1/4 | 6 7/8 | 3 11/16 | 8 1/16 | 4 7/16 | 8 13/16 | 9 7/8 | 9 1/4 | 8 3/32 | 12 | 3 5/16 | 9 11/16 | 5 | 8 13/16 | 4 3/8 |
| 4C566 | 6 5/16 | 4 1/4 | 4 1/4 | 5 3/16 | 5 3/8 | 10 5/16 | 11 1/8 | 9 1/2 | 5 1/4 | 12 | 4 7/16 | 6 5/8 | 5 5/8 | 6 | 5 |
| 5C508* | 6 1/4 | 6 1/2 | 4 1/8 | 8 1/16 | 5 3/8 | 10 5/16 | 11 1/8 | 10 3/4 | 8 1/4 | 12 | 3 5/16 | 9 5/16 | 5 5/8 | 8 3/4 | 5 |
| 4C666 | 6 5/16 | 2 7/8 | 4 5/16 | 3 13/16 | 5 3/8 | 10 5/16 | 11 1/8 | 8 3/8 | 3 7/8 | 12 | 3 5/16 | 5 1/16 | 5 5/8 | 4 1/2 | 5 |
| 4C667 | 6 5/16 | 4 1/4 | 4 1/4 | 5 3/16 | 5 3/8 | 10 5/16 | 11 1/8 | 10 | 5 1/4 | 12 | 3 5/16 | 6 5/8 | 5 5/8 | 6 | 5 |
| 4C668 | 8 1/16 | 4 | 5 9/16 | 6 3/16 | 7 | 13 1/8 | 14 7/8 | 10 3/4 | 6 1/4 | 6 | 5 | † | † | † | † |
| 4C830 | 8 1/2 | 5 1/16 | 5 9/16 | 7 3/16 | 7 | 13 1/8 | 14 7/8 | 11 3/4 | 7 1/4 | 6 | 5 | † | † | † | † |
| 4C831 | 8 1/16 | 5 3/16 | 5 9/16 | 7 3/16 | 7 | 13 1/8 | 14 7/8 | 11 9/16 | 7 1/4 | 6 | 5 | † | † | † | † |

(†) Blower does not have a flange. (*) Conduit box not provided. All other models include conduit box.

## SHADED POLE BLOWERS

| CFM, AT RPM SHOWN AT 60 Hz 0.0" SP | 0.1" SP | 0.2" SP | 0.3" SP | 0.4" SP | 0.5" SP | 0.6" SP | 0.7" SP | 0.8" SP | Cut-Off SP | Volts | Hz | Therm. Protect. | RPM | 0.0" SP Watts | Amps | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **350** | 340 | 328 | 312 | 296 | 274 | 240 | 202 | 158 | 1.00 | 115 | 60/50 | Auto. | 1585 | 185 | 2.90 | **4C444** | $163.24 | **$97.75** | **$92.77** | 11.0 |
| **350** | 340 | 328 | 312 | 296 | 274 | 240 | 202 | 158 | 1.00 | 230 | 60/50 | Auto. | 1585 | 185 | 1.60 | **2C917** | 185.62 | **111.15** | **105.53** | 11.0 |
| **465** | 428 | 396 | 352 | 305 | 227 | 125 | — | — | 0.76 | 115 | 60/50 | Auto. | 1530 | 115 | 2.90 | **4C448** | 127.00 | **76.05** | **72.19** | 9.5 |
| **465** | 428 | 396 | 352 | 305 | 227 | 125 | — | — | 0.76 | 230 | 60/50 | Auto. | 1530 | 115 | 1.30 | **5C507** | 137.94 | **82.60** | **78.36** | 10.0 |
| **490** | 460 | 425 | 390 | 350 | 305 | 235 | — | — | 0.80 | 115 | 60/50 | Auto. | 1045 | 215 | 3.30 | **2C962** | 214.09 | **128.20** | **121.69** | 16.0 |
| **495** | 476 | 458 | 437 | 416 | 387 | 360 | 312 | 265 | 1.26 | 115 | 60/50 | Auto. | 1570 | 225 | 3.25 | **4C445** | 186.28 | **111.55** | **105.89** | 13.0 |
| **495** | 476 | 458 | 437 | 416 | 387 | 360 | 312 | 265 | 1.26 | 230 | 60/50 | Auto. | 1570 | 225 | 1.70 | **4C870** | 184.11 | **110.25** | **104.62** | 13.0 |
| **815** | 767 | 716 | 663 | 604 | 537 | 460 | 280 | — | 0.91 | 115 | 60 | Auto. | 1030 | 370 | 5.60 | **2C946** | 241.98 | **144.90** | **133.76** | 18.0 |
| **980** | 940 | 890 | 843 | 788 | 730 | 655 | 565 | 210 | 1.05 | 115 | 60 | Auto. | 1030 | 455 | 6.80 | **4C054** | 251.75 | **150.75** | **142.91** | 23.0 |

## TWO-SPEED BLOWERS

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **435** | 410 | 380 | 345 | 295 | 205 | 100 | — | — | 0.78 | 115 | 60/50 | Auto. | 1350 | 175 | 2.17 | **4C565** | 135.52 | **81.15** | **77.06** | 11.0 |
| **296** | 290 | 279 | 265 | 220 | 153 | 90 | — | — | 0.75 | | | | 900 | 110 | 1.41 | | | | | |
| **480** | 465 | 445 | 425 | 400 | 370 | 340 | 300 | 245 | 1.16 | 115 | 60/50 | Auto. | 1525 | 250 | 3.55 | **4C566** | 188.54 | **112.90** | **107.19** | 13.0 |
| **375** | 365 | 355 | 340 | 320 | 295 | 265 | 230 | 160 | 1.12 | | | | 1165 | 158 | 2.21 | | | | | |
| **760** | 750 | 735 | 710 | 675 | 640 | 610 | 565 | 520 | 1.70 | 115 | 60/50 | Auto. | 1450 | 335 | 3.20 | **5C508** | 264.27 | **158.25** | **150.21** | 13.0 |
| **545** | 530 | 525 | 505 | 495 | 480 | 460 | 420 | 380 | 1.60 | | | | 1100 | 215 | 2.07 | | | | | |

## PSC BLOWERS

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **382** | 349 | 335 | 319 | 300 | 279 | 248 | 204 | 145 | 1.10 | 115 | 60/50 | Auto. | 1550 | 125 | 1.21 | **4C666** | 172.59 | **103.35** | **98.12** | 11.0 |
| **488** | 470 | 450 | 430 | 406 | 377 | 336 | 282 | 217 | 1.18 | 115 | 60/50 | Auto. | 1550 | 157 | 1.43 | **4C667** | 190.54 | **114.10** | **108.33** | 12.0 |
| **745** | 715 | 683 | 647 | 605 | 560 | 506 | — | — | 0.92 | 115/230 | 60/50 | Auto. | 1060 | 249 | 2.59 | **4C668** | 278.47 | **166.75** | **158.15** | 20.0 |
| **960** | 930 | 890 | 845 | 800 | 745 | 688 | 470 | 253 | 1.16 | 115/230 | 60/50 | Auto. | 1030 | 380 | 4.00 | **4C830** | 292.66 | **175.25** | **166.00** | 23.0 |
| **1210** | 1200 | 1190 | 1180 | 1175 | 1160 | 1135 | 1110 | 1092 | 2.20 | 115/230 | 60/50 | Auto. | 1400 | 910 | 8.60 | **4C831** | 309.36 | **185.25** | **175.51** | 22.0 |

Note: Do not operate PSC blowers above 0.4" SP on 50 Hz.
(†) Nos. 4C666, 4C667 have CSA listing No. 6319; Nos. 5C507, 4C448 has CSA listing No. 36496; all other models have CSA listing No. 34751.



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

# TRANSFLOW BLOWERS

**Dayton Transflow Blowers** disperse a wide, uniform air pattern to ventilate, cool, or exhaust cabinets, office machines, electronic equipment, and return air only forwood burning stoves and fireplaces.

**Blowers mount in any position** for quiet, efficient operation. Have 115V, 60 Hz, C-frame motors with extra large sleeve bearings. (No. 4C848 has permanently lubricated ball bearings.)

**11" long, 18 gauge** insulated (125°C) leads. Maximum ambient temperature 104°F. UL Component Recognized. CSA Certified. Dayton brand.

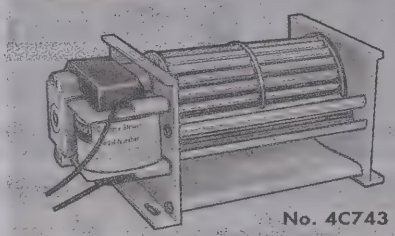
**Blowers with Aluminum Housing.** Extruded aluminum construction. 4½" model has Class A insulation, all others have Class B insulation, automatic thermal protection, and cooling fan.

Replacement Parts Available
1-800-323-0620

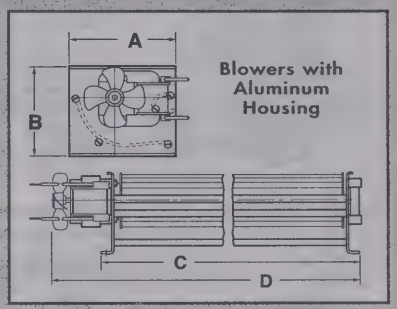
Dayton

E19455

36496



No. 4C743




## TRANSFLOW BLOWERS DIMENSIONS (In.)

| Stock No. | Overall Dimensions A | B | C | D | Mounting Slots O.C. W | D |
|---|---|---|---|---|---|---|
| 4C743 | 4 3/16 | 3 1/2 | 6 3/16 | 7 13/16 | 5 3/4 | 2 5/8 |
| 4C744 | 4 3/16 | 3 1/2 | 8 13/16 | 11 1/16 | 8 1/4 | 2 5/8 |
| 4C745 | 4 3/16 | 3 1/2 | 11 13/16 | 14 1/16 | 11 1/4 | 2 5/8 |
| 4C841 | 4 3/16 | 3 1/2 | 14 3/4 | 17 9/16 | 14 1/4 | 2 5/8 |
| 4C848 | 4 1/8 | 3 1/2 | 19 5/8 | 23 3/8 | 19 1/4 | 2 1/2 |

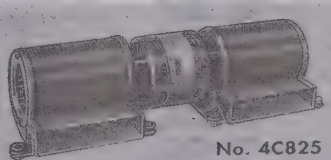
## TRANSFLOW BLOWERS WITH ALUMINUM HOUSING SPECIFICATIONS AND ORDERING DATA

| Wheel Width (In.) | CFM at RPM Shown 0.0" SP | 0.1" SP | 0.15" SP | 0.2" SP | Cut-Off SP | 115V, 60 Hz Motor Therm. Prot. | RPM | Free Air Watts | Amps | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4½ | 80 | 68 | 62 | 54 | .25" | Imp. | 3000 | 33 | 0.55 | **4C743** | $83.83 | **$50.20** | **$47.57** | 4.5 |
| 7 | 120 | 114 | 103 | 88 | .33 | Auto. | 2450 | 56 | 1.00 | **4C744** | 97.61 | **58.45** | **55.38** | 5.0 |
| 10 | 160 | 140 | 124 | 103 | .30 | Auto. | 3000 | 71 | 1.30 | **4C745** | 107.79 | **64.55** | **61.27** | 5.0 |
| 13 | 220 | 194 | 170 | 142 | .27 | Auto. | 2800 | 88 | 1.35 | **4C841** | 109.38 | **65.50** | **62.12** | 4.5 |
| 18 | 336 | 320 | 308 | 288 | .56 | Auto. | 3000 | 150 | 1.40 | **4C848*** | 177.10 | **106.10** | **100.73** | 7.0 |

(*) UL Recognized Component (E47479, E37403, E61921) CSA Certified (20432).

# LOW PROFILE BLOWERS

Replacement Parts Available
1-800-323-0620

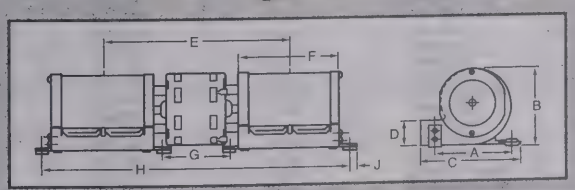


No. 4C825

Dayton

36496

E47479
E37403
E61921




**Low profile blower housings** are double width, double inlet design. Provide a wide air flow pattern to cool or ventilate equipment where mounting space is limited. Forward curved centrifugal wheels located within the twin housings are capable of operating against higher static pressures than transflow type blowers.

**Used in fireplace inserts,** wood burning stoves, kitchen range hoods, heat transfer equipment, electronic cooling units, medical equipment, and air cleaners.

**Blowers are mounted on six rubber isolators** to absorb vibration and noise. Shaded pole open dripproof Class B insulated motors are UL Recognized under the Motor Component Recognition Program. Continuous duty, automatic thermally protected motors are built to pass the UL half wave test.

**Maximum ambient temperature** 104°F (40°C). Baked-on gloss black enamel finish. Blowers have 16" long leads. CSA Certified. Dayton brand.

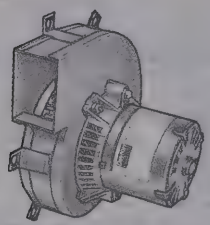
## LOW PROFILE BLOWERS DIMENSIONS (In Inches)

| Stock No. | Wheel Dia. | Wheel W | Outlet H | Outlet W | Inlet Dia. | Dimensions A | B | C | D | E | F | G | H | J | Mounting Hole Dia. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4C825 | 2½ | 3¾ | 1 1/16 | 4⅝ | 2⅛ | 3⅝ | 3 11/16 | 4⅝ | 1⅜ | 8 13/16 | 4⅝ | 3⅜ | 14½ | 5/16 | 1/8 |
| 4C826 | 3 | 4 | 1⅝ | 4⅝ | 2 9/16 | 3⅝ | 4⅝ | 4⅞ | 1¾ | 8 15/16 | 4¾ | 3⅜ | 14¾ | 5/16 | 1/8 |

## DAYTON LOW PROFILE BLOWERS SPECIFICATIONS AND ORDERING DATA

| Blower Performance–CFM @ SP Shown 0.0" SP | 0.1" SP | 0.2" SP | 0.3" SP | 0.4" SP | 0.5" SP | Cut-Off SP | Motor Data Volts | Hz | Therm. Prot. | RPM | Free Air Watts | Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **125** | 113 | 97 | 75 | — | — | 0.38 | 115 | 60 | Auto | 3200 | 70 | 1.10 | **4C825** | $131.67 | **$78.85** | 5.8 |
| **210** | 191 | 172 | 140 | 112 | 68 | 0.61 | 115 | 60 | Auto | 2700 | 93 | 1.25 | **4C826** | 124.16 | **74.35** | 5.5 |

# FASCO INDUCED DRAFT BLOWERS



No. 5C085 Shown

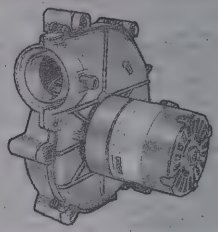
No. 5C086 has motor on opposite side of picture shown

FASCO CONSUMER PRODUCTS
FASCO INDUSTRIES, INC.

36496 E47479 E37403

New

No. 5C087 Polypropylene Construction



- Used in high efficiency gas-fired residential furnaces. Direct replacements for Fasco blowers: see cross-reference below.
- Note: Blowers below must only be used on OEM equipment specified below. No substitutions.

## FASCO CROSS REFERENCE BLOWERS AND ORDERING DATA

| OEM Model To be replaced | OEM Name | FASCO Replacement Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **7021-8812** | Lennox | 7021-10276 | ***New* 4MH29** | $90.77 | **$54.40** | 4.0 |
| **7002-2307** | Goodman | 7002-2771 | ***New* 4HM09** | 99.72 | **59.75** | 4.0 |
| **7021-8556** | Goodman | 7002-2771 | ***New* 4HM09** | 99.72 | **59.75** | 4.0 |
| **J238-112-11064** | Jakel | 7002-2771 | ***New* 4MH09** | 99.72 | **59.75** | 4.0 |
| **7021-8819** | Lennox | 7021-10276 | ***New* 4MH29** | 90.77 | **54.40** | 4.0 |
| **HVC Series** | Magic Chef | 7021-10264 | ***New* 4MH17** | 106.47 | **63.80** | 4.0 |
| **7062-3861** | Rheem | 7062-4699 | ***New* 4MH44** | 195.36 | **117.00** | 4.5 |
| **2622239** | York | 7021-10257 | ***New* 4MH10** | 109.92 | **65.85** | 4.0 |
| **7021-6770** | York | 7021-10282 | ***New* 4MH35** | 172.94 | **103.60** | 4.0 |
| **7062-2442** | York | 7062-4701 | ***New* 4MH45** | 210.61 | **126.15** | 4.5 |
| **7021-3853** | 20th Century | 7021-7104 | **5C088** | 141.44 | **84.70** | 4.2 |
| **7021-9064** | Amana | 7021-10272 | ***New* 4MH25** | 121.76 | **72.95** | 4.0 |
| **7021-7761** | Bradford White | 7021-10285 | ***New* 4MH38** | 101.20 | **60.65** | 4.0 |
| **7021-5478** | Coleman | 7021-7105 | **5C087** | 246.74 | **147.75** | 4.2 |
| **7021-6759** | Coleman | 7021-7105 | **5C087** | 246.74 | **147.75** | 4.2 |
| **7021-6376** | Consolidated Ind. | 7021-10271 | ***New* 4MH24** | 108.88 | **65.25** | 4.0 |
| **7021-6759** | Dornback | 7021-7105 | **5C087** | 246.74 | **147.75** | 4.2 |
| **AK4K84BX** | Fedders | 7073-0565 | ***New* 4MH48** | 218.70 | **131.00** | 4.5 |
| **11-7096** | Fedders | 7073-0565 | ***New* 4MH48** | 218.70 | **131.00** | 4.5 |
| **8353920103** | Brinkley | 7073-0566 | ***New* 4MH49** | 210.17 | **125.90** | 4.5 |
| **7021-9087** | Goodman | 7021-10279 | ***New* 4MH32** | 121.98 | **73.05** | 4.0 |
| **7021-8347** | GSW Pump | 7021-10270 | ***New* 4MH23** | 147.40 | **88.30** | 4.0 |
| **7021-5043** | Heil Quaker | 7021-10258 | **5C085** | 145.29 | **87.00** | 4.2 |
| **7021-7617** | Heil Quaker | 7021-10284 | ***New* 4MH37** | 120.72 | **72.30** | 4.0 |
| **HQ1050144** | Heil Quaker | 7021-10287 | ***New* 4MH40** | 91.44 | **54.80** | 4.0 |
| **HQ610672** | Heil Quaker | 7021-10258 | **5C085** | 145.29 | **87.00** | 4.2 |
| **7021-8735** | Intercity Products | 7021-10275 | ***New* 4MH28** | 132.52 | **79.40** | 4.0 |
| **7021-8741** | Intercity Products | 7021-10280 | ***New* 4MH33** | 123.13 | **73.75** | 4.0 |
| **7021-9335** | Intercity Products | 7021-10275 | ***New* 4MH28** | 132.52 | **79.40** | 4.0 |
| **7062-4061** | Intercity Products | 7062-4703 | ***New* 4MH47** | 338.80 | **203.00** | 4.5 |
| **7021-8657** | Lennox | 7021-10277 | ***New* 4MH30** | 91.25 | **54.65** | 4.0 |
| **7021-7975** | Nordyne | 7021-10274 | ***New* 4MH27** | 102.39 | **61.35** | 4.0 |
| **7062-1881** | Rheem/Rudd | 7062 -2615 | **5C089** | 201.15 | **120.45** | 4.2 |
| **7021-9132** | Nordyne | 7021-10262 | ***New* 4MH26** | 91.14 | **54.60** | 4.0 |
| **7021-5615** | Rheem/Rudd | 7021-7103 | **5C086** | 148.79 | **89.10** | 4.2 |
| **7021-5990** | Rheem/Rudd | 7021-7104 | **5C088** | 141.44 | **84.70** | 4.2 |
| **70-21496-01** | Rheem/Rudd | 7021-10268 | ***New* 4MH21** | 106.10 | **63.55** | 4.0 |
| **7021-5239** | Rheem/Rudd | 7021-10268 | ***New* 4MH21** | 106.10 | **63.55** | 4.0 |
| **7021-6804** | Goodman | 7021-10262 | **5C086** | 148.79 | **89.10** | 4.2 |
| **7021-7577** | Rheem/Rudd | 7021-10278 | ***New* 4MH31** | 131.63 | **78.85** | 4.0 |
| **7062-1881** | Rheem/Rudd | 7062-2615 | **5C089** | 201.15 | **120.45** | 4.2 |
| **74-70-21496-03-01** | Rheem/Rudd | 7021-10262 | **5C086** | 148.79 | **89.10** | 4.2 |
| **74-70-21504-03-04** | Rheem/Rudd | 7021-10262 | **5C086** | 148.79 | **89.10** | 4.2 |
| **B1859000** | Goodman | 7021-10262 | **5C086** | 148.79 | **89.10** | 4.2 |
| **JA1M102** | Rheem/Rudd | 7021-10268 | ***New* 4MH21** | 106.10 | **63.55** | 4.0 |
| **JA1M106** | Rheem/Rudd | 7021-10262 | **5C086** | 148.79 | **89.10** | 4.2 |
| **JA1M137** | Rheem/Rudd | 7021-10262 | **5C086** | 148.79 | **89.10** | 4.2 |
| **JA1N062** | Rheem/Rudd | 7021-7104 | **5C088** | 141.44 | **84.70** | 4.2 |
| **JA1N065** | Rheem/Rudd | 7021-7104 | **5C088** | 141.44 | **84.70** | 4.2 |
| **829932** | Tappan | 7021-10260 | ***New* 4MH13** | 104.32 | **62.50** | 4.0 |
| **8251560133** | Tappan | 7021-10260 | ***New* 4MH13** | 104.32 | **62.50** | 4.0 |
| **7021-7833** | Trane | 7021-10286 | ***New* 4MH39** | 109.14 | **65.40** | 4.0 |
| **7021-7986** | Trane | 7021-10283 | ***New* 4MH36** | 118.23 | **70.85** | 4.0 |
| **7021-8428** | Trane | 7021-10281 | ***New* 4MH34** | 103.06 | **61.75** | 4.0 |
| **7062-3956** | Trane | 7062-4698 | ***New* 4MH43** | 187.79 | **112.50** | 4.5 |
| **82252** | Trane | 7021-10259 | ***New* 4MH12** | 107.73 | **64.55** | 4.0 |
| **38040252** | Trane | 7021-10259 | ***New* 4MH12** | 107.73 | **64.55** | 4.0 |
| **38050005** | Trane | 7021-10261 | ***New* 4MH14** | 154.64 | **92.65** | 4.0 |
| **7062-2513** | Vulcan/Hart | 7062-2615 | **5C089** | 201.15 | **120.45** | 4.2 |
| **02-568** | Williamson | 7021-10263 | ***New* 4MH16** | 110.74 | **66.35** | 4.0 |
| **7021-5510** | Williamson | 7021-10263 | ***New* 4MH16** | 110.74 | **66.35** | 4.0 |
| **7021-6999** | Williamson | 7021-10269 | ***New* 4MH22** | 153.97 | **92.25** | 4.0 |
| **7021-7042** | Williamson | 7021-10269 | ***New* 4MH22** | 153.97 | **92.25** | 4.0 |
| **026-16323-000** | York | 7021-10265 | ***New* 4MH18** | 161.80 | **96.90** | 4.0 |
| **026-20224-000** | York | 7021-10265 | ***New* 4MH18** | 161.80 | **96.90** | 4.0 |
| **7021-1373** | York | 7021-10265 | ***New* 4MH18** | 161.80 | **96.90** | 4.0 |

# HIGH TEMPERATURE BLOWERS, BLOWER WHEELS AND PLASTIC BLOWERS

## HIGH TEMPERATURE BLOWERS

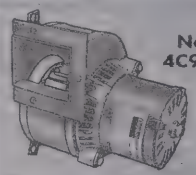
**Industrial grade blowers** handle air temperatures up to 450°F at blower inlet with a maximum motor ambient temperature of 104°F.

**Used as draft inducers,** flue gas exhausters, and warm air circulators in remote locations where motor relubrication is not practical.

**All models** have sealed ball bearings and a three sided mounting flange (No. 4C723 has high temperature sleeve bearings and no mounting flange).

**Externally mounted cooling fan** between motor and housing helps cool bearings and is protected by cast aluminum finger guard. Continuous duty 50/60 Hz Open Dripproof motors with Class B insulation and automatic reset thermal protection.

**Blower housings** have side mounting tabs for easy installation. High temperature resistant flat black enamel finish. Dayton brand.



No. 4C940

Dayton

Replacement Parts Available 1-800-323-0620

36496 E47479 E37403 E61921

### HIGH TEMPERATURE BLOWER SPECIFICATIONS AND ORDERING DATA

| Stock No. | Wheel (In.) Dia. | Wheel (In.) Width | Bearings | Inlet Dia. (In.) | Outlet H (In.) | Outlet W (In.) | Overall Less Flange (In.) Height | Overall Less Flange (In.) Width | Overall Less Flange (In.) Depth | Housing Width (In.) | Conduit Box | 125°C Lead Length (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4C940 | 3 | 1⅞ | Ball | 3⅜ | 2⅛ | 2 1/16 | 5¾ | 6⅜ | 5⅜ | 2 1/16 | Yes | 6 |
| 4C723 | 4½ | 1¼ | Sleeve | 4 1/16 | 2⅜ | 1¾ | 7⅜ | 5½ | 7⅛ | 1¾ | No | 11 |
| 4C941 | 3 13/16 | 2½ | Ball | 3⅞ | 2⅛ | 3¼ | 5¾ | 7¾ | 5⅜ | 3 1/16 | Yes | 6 |
| 4C942 | 5¼ | 2⅞ | Ball | 5 13/16 | 3 1/16 | 3 13/16 | 9⅞ | 9⅜ | 8 1/16 | 3⅞ | Yes | 6 |
| 4C943 | 6¼ | 2⅞ | Ball | 6½ | 4⅛ | 3¾ | 11⅛ | 9⅛ | 10 5/16 | 3⅞ | Yes | 11 |

| CFM Air Delivery @ 70°F 0.0" SP | 0.1" SP | 0.2" SP | 0.3" SP | 0.4" SP | 0.5" SP | 0.6" SP | 0.7" SP | 0.8" SP | Cut-Off SP | Free Air @ 70°F 115V 60 Hz Motor Data RPM | Watts | Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **68** | 61 | 54 | 41 | 30 | — | — | — | — | .49 | 3050 | 50 | 0.7 | **4C940** | $114.47 | **$68.55** | 3.5 |
| **82** | 80 | 78 | 77 | 75 | 74 | 73 | 71 | 70 | 1.35 | 2300 | 86 | 1.1 | **4C723** | 124.49 | **74.55** | 4.2 |
| **136** | 132 | 120 | 108 | 95 | 82 | 68 | 56 | — | .80 | 3200 | 102 | 1.5 | **4C941** | 124.24 | **74.40** | 5.0 |
| **216** | 195 | 176 | 166 | 146 | 87 | — | — | — | .57 | 1700 | 82 | 1.3 | **4C942** | 135.43 | **81.10** | 10.0 |
| **326** | 311 | 296 | 281 | 266 | 253 | 240 | 176 | 113 | .96 | 1600 | 104 | 1.1 | **4C943** | 234.71 | **140.55** | 9.8 |

## DIRECT-DRIVE BLOWER WHEELS

- **Dynamically balanced**
- **Clockwise rotation facing hub**
- **Double inlet forward curved wheels**
- **Used as original equipment or replacements in industrial and commercial direct drive blowers**

**Wheels used for furnace,** ventilation system, and solar system applications.

**All steel wheels have** highly corrosive resistant finish and are carefully trued and dynamically balanced.

**Wheels have 1/2" bore** and square head set screw in hub. 1650 RPM maximum. Wheel sizes are interchangeable with major wheel manufacturers (see cross reference table below right). Wheels are individually cartoned for greater protection. Lau brand. For cross reference information, see page opposite inside back cover.

### DIRECT-DRIVE BLOWER WHEEL ORDERING DATA

| Wheel Diameter, Inches Over Rim | Over Blades | Width | Bore (In.) | Maximum RPM | Lau Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **9 15/16** | 9½ | 7⅛ | 1/2 | 1650 | DD 9-7A | **4C709** | $38.27 | **$22.92** | 6.0 |
| **9 15/16** | 9½ | 9½ | 1/2 | 1650 | DD 9-9A | **4C710** | 40.75 | **24.40** | 7.0 |
| **11⅛** | 10⅝ | 8 | 1/2 | 1650 | DD10-8A | **4C711** | 44.00 | **26.40** | 7.0 |
| **11⅛** | 10⅝ | 10⅝ | 1/2 | 1650 | DD10-10A | **4C712** | 43.98 | **26.40** | 7.4 |

### BLOWER WHEEL CROSS-REFERENCE

| Brundage | Morrison | Torin | Our Stock No. |
|---|---|---|---|
| CM0907 | 9-7 DD | CM0907 | 4C709 |
| CM0909 | 9-9 DD | CM0909 | 4C710 |
| CM1008 | 10-8 DD | CM1008 | 4C711 |
| CM1010 | 10-10 DD | CM1010 | 4C712 |

## FLANGE MOUNT PLASTIC BLOWERS

**Reinforced plastic blowers** provide economical air deliveries at higher static pressures for heating, ventilating, exhausting, and cooling application

**DC models** are designed for noncontinuous duty applications such as emergency or back-up ventilation, portable equipment, marine, motor, or recreational vehicles.

**Plastic housing and wheel** are dimensionally stable to stay in balance with no bent blades to rattle or corrode. Maximum ambient temperature at inlet: 130°F.

**DC blowers** meet applicable sections of the US Coast Guard Electrical Regulations (Title 33, Chapter I, Part 183, Subpact1), and are listed as National Marine Manufacturers Association (NMMA) Type accepted. ITT Jabsco brand .

ITT JABSCO

No. 4C814



Replacement Parts Available 1-800-323-0620

### 12 VDC & 115V 60HZ BLOWER DIMENSIONS

| Stock No. | Wheel Diameter (In.) | Wheel Width (In.) | Inlet Diameter (In.) | Outlet Diameter (In.) | Overall (In.) H | Overall (In.) W | Overall (In.) D | Motor Mounting | Load Length | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 4C814 | 3¼ | 1 5/16 | 3 | 2¾ | 5½ | 6¾ | 4¾ | Rigid | 13 | 2.7 |
| 4C815 | 3¼ | 1 5/16 | 3 | 2¾ | 7⅝ | 8 | 6⅝ | Rigid | 13 | 4.6 |
| 4C816 | 4½ | 2½ | 4 | 3¾ | 9 | 8¾ | 8¼ | Rigid | 13 | 5.0 |
| 4C817 | 3¼ | 1 5/16 | 3 | 2⅜ | 7⅝ | 7 | 6¾ | Rigid | 13 | 3.9 |
| 4C818 | 3¼ | 2½ | 4 | 3¾ | 9 | 8¾ | 7⅝ | Rigid | 13 | 4.6 |

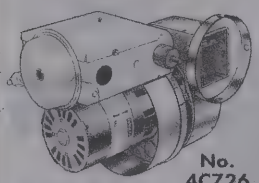
### 12VDC & 115V 60HZ BLOWER DIMENSIONS

| CFM AT RPM SHOWN (In.) 0.0 SP | 0.2 SP | 0.4 SP | 0.6 SP | 0.8 SP | 1.0 SP | 1.2 SP | 1.6 SP | 2.0 SP | Cut-Off SP | 0.0" SP Volts | RPM | Watts | Amps | ITT Jabsco Model | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **105** | 94 | 86 | 78 | 69 | 59 | 49 | 22 | — | 1.75 | 12 DC | 4200 | 57 | 4.30 | 35115-0020 | **4C814** | $81.90 | **$49.05** |
| **150** | 137 | 131 | 125 | 117 | 108 | 97 | 72 | 44 | 2.45 | 12 DC | 4450 | 80 | 6.50 | 34739-0010 | **4C815** | 122.63 | **73.45** |
| **250** | 236 | 225 | 218 | 208 | 199 | 188 | 156 | 108 | 2.82 | 12 DC | 3115 | 137 | 12.00 | 35400-0000 | **4C816** | 146.12 | **87.50** |
| **100** | 75 | 56 | 14 | — | — | — | — | — | 0.66 | 115 AC | 2870 | 49 | 0.68 | 34744-0000 | **4C817*** | 169.28 | **101.40** |
| **150** | 115 | — | — | — | — | — | — | — | 0.4 | 115 AC | 1550 | 25 | 1.1 | 35000-7100 | **4C818*** | 205.16 | **122.85** |

(*) WARNING: Stock No. 4C817 and 4C818 can spark. Explosion and death can occur. Do not use where flammable or explosive vapors are present.

# HIGH TEMP. SIDEWALL POWER VENTERS AND VENT TERMINATION HOOD

TJERNLUND PRODUCTS INC.



No. 4C726

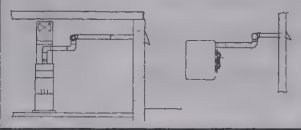
Replacement Parts Available 1-800-323-0620

UL Except No. 4C729

MH13682

**Typical Installation**

Floor Set Heater or Boiler — Suspended Unit Heater



- **Vent flue gases from furnaces, boilers, pool heaters, water heaters, and unit heaters**
- **Exhaust flue gases directly through sidewall (gas systems only); not for use in oil burning applications**

Used for electric to gas conversions, renovations, new construction and for replacing chimneys. Eliminate roof penetrations. All models feature prewired diaphragm proving switch, 24/115 VAC switching relay, color coded control leads. Easy field wiring interlocks power venter with appliance so venter operation is proven before burner operation.

**Corrosion resistant aluminized steel** housing, blower wheel, and motor heat shield. Vibration isolation mount and adjustable damper. **Nos. 4C726, 4C727, and 4C728 only** are listed under UL Standard 378 for use on appliances with flue gas temperatures not exceeding 600°F at blower inlet. Tjernlund brand vent hood No. 4C845 is recommended for Nos. 4C726 and 4C727.

| Vent Pipe Dia. (In.) | BTU/Hr. Input (000's) | Max. Pipe Length at Stack Temp. 300°F | 400°F | 500°F | Blower Performance CFM @ SP & Temp. Shown 0" SP | .5" SP | .7" SP | 1.0" SP | 1.4" SP | Duct Temp.°F | Elec. Data 115V, 60 Hz 70°F Watts | Amps | Dimensions (In.) H | W | D | Inlet & Outlet Dia. (In.) | Tjernlund Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 25-100 | 100' | 100' | 100' | 110 | 85 | 72 | 10 | — | 70 | 95 | 1.26 | 7 | 9½ | 7 | 4 | HSUL-J | **4C726** | $272.00 | **$150.00** | 9.5 |
| | | | | | 110 | 68 | 10 | — | — | 300 | | | | | | | | | | | |
| | | | | | 110 | 57 | — | — | — | 400 | | | | | | | | | | | |
| | | | | | 110 | 40 | — | — | — | 500 | | | | | | | | | | | |
| 4 | 150 | 87 | 57 | 35 | 155 | 118 | 100 | 20 | — | 70 | 95 | 1.26 | 7 | 10½ | 7 | 4 | HSUL-1 | **4C727** | 276.00 | **150.50** | 9.5 |
| | 200 | 100 | 60 | 27 | | | | | | | | | | | | | | | | | |
| | 250 | 40 | 12 | — | 155 | 98 | 20 | — | — | 300 | | | | | | | | | | | |
| 6 | 150-200 | 100 | 100 | 100 | 155 | 87 | — | — | — | 400 | | | | | | | | | | | |
| | 250 | 100 | 92 | — | | | | | | | | | | | | | | | | | |
| | 300 | 30 | — | — | 155 | 68 | — | — | — | 500 | | | | | | | | | | | |
| 6 | 350-400 | 100 | 100 | 100 | 280 | 235 | 220 | 200 | 150 | 70 | 224 | 2.0 | 9¼ | 10¾ | 8½ | 6 | HSUL-2 | **4C728** | 416.00 | **225.25** | 13.0 |
| | 450 | 100 | 100 | 67 | | | | | | | | | | | | | | | | | |
| | 500 | 100 | 72 | — | 280 | 220 | 190 | 150 | — | 300 | | | | | | | | | | | |
| | 550 | 94 | — | — | | | | | | | | | | | | | | | | | |
| 8 | 350-450 | 100 | 100 | 100 | 280 | 215 | 185 | 120 | — | 400 | | | | | | | | | | | |
| | 500 | 100 | 100 | — | | | | | | | | | | | | | | | | | |
| | 550 | 100 | — | — | 280 | 200 | 165 | — | — | 500 | | | | | | | | | | | |
| | 600 | 67 | — | — | | | | | | | | | | | | | | | | | |
| 8 | 450 | 100 | 100 | — | 490 | 430 | 390 | 325 | 110 | 70 | 279 | 2.6 | 12½ | 12¼ | 12 | 8 | HS-3 | **4C729** | 792.00 | **434.75** | 28.0 |
| | 500 | 100 | 100 | — | | | | | | | | | | | | | | | | | |
| | 600 | 100 | 100 | — | 490 | 385 | 320 | 95 | — | 300 | | | | | | | | | | | |
| | 700 | 7 | 100 | — | | | | | | | | | | | | | | | | | |
| 10 | 450 | 100 | 100 | — | 490 | 365 | 275 | — | — | 400 | | | | | | | | | | | |
| | 500 | 100 | 100 | — | | | | | | | | | | | | | | | | | |
| | 600 | 100 | 100 | — | 490 | 350 | 200 | — | — | 500 | | | | | | | | | | | |
| | 700 | 21 | 100 | — | | | | | | | | | | | | | | | | | |

Given the following data, determine which venter model to use for the application:

Btu/Hr. input = 150,000 Btu/Hr.
Pipe length = 15 ft.
Pipe diameter = 4 inches
Pipe fittings required = 1 -90° elbow
Vent cap required = 1
Flue gas temperature = 400°F

**BLOWER SELECTION EXAMPLE**

**SOLUTION**

**Step 1:** Calculate Equivalent Pipe Length

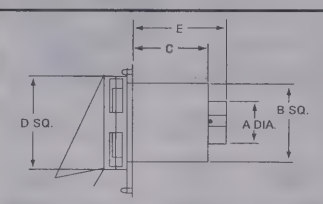
| | |
|---|---|
| Pipe length to sidewall | = 15 ft. |
| Vent cap equivalent pipe length | = 10 |
| 90° elbow equivalent pipe length | = 10 |
| Total Equivalent Pipe Length | 35 ft. |

**Useful Conversion Factors**

90° Elbow = 10 ft. Straight vent pipe
45° Elbow = 5 ft. Straight vent pipe
Vent Cap = 10 ft. Straight vent pipe

**Step 2:** Refer to table above for appropriate BTU/Hr. input and pipe diameter. Read maximum pipe length under appropriate stack temperature column. Example: 60 ft.

**Step 3:** The equivalent pipe length of 35 ft. must not exceed the maximum pipe length found in the table (60 feet). The No. 4C727 is the correct selection for this example. If the desired pipe length is greater than the maximum pipe length recommended in the table, use the next larger pipe diameter or next larger venter.

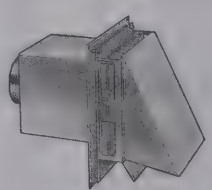



**VENT HOOD DIMENSIONS, (In Inches)**

| A Dia. | B Sq. | C | D Sq. | E | Rough-in Dimensions |
|---|---|---|---|---|---|
| 4 | 7½ | 7⅛ | 9 | 8⅞ | 8 |

## HIGH TEMPERATURE VENT HOOD

TJERNLUND PRODUCTS INC.



Replacement Parts Available 1-800-323-0620

Designed to efficiently terminate 4" horizontal vent runs handling flue gases from furnaces, unit heaters, and boilers. Can be used with Nos. 4C726 and 4C727 side wall vents.

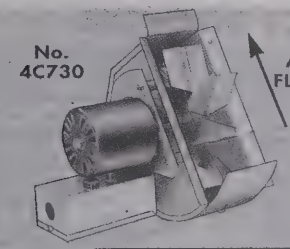
18-gauge corrosion resistant aluminum alloy. Has flow-thru baffles to deflect exhaust gases away from buildings and prevents back-drafts caused by the wind. Built-in heat shield provides a clearance from combustible material contained in walls. Tjernlund brand. (VH-1-4).

**No. 4C845.** Shpg. wt. 6.3 lbs. List.....$126.00.
Each.....**$71.60**



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

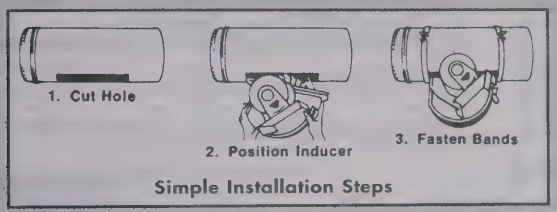
# IN-LINE DRAFT INDUCERS




LR23078
Nos. 4C730
& 4C731

TJERNLUND PRODUCTS INC.

Replacement Parts Available
1-800-323-0620




Simple Installation Steps

- **Provides positive draft for smokepipe to aid proper exhaust of combustion gases**
- **Use with oil, gas or coal fired systems in commercial and industrial applications**
- **Not for sidewall venting**
- **Not for wood burning applications**

**Draft inducer** is mounted to vertical, horizontal or inclined breeching between a barometric draft control (if installed) and as near a chimney as possible when vent system terminates through roof. Useful when restricted boilers and furnaces, poor chimneys or negative pressures in the building prevent proper exhaust of combustion gases. **Aluminized steel housing** and wheel, motor heat shield, oversized conduit box. Variable draft control permits adjustments to individual application requirements. 115V, 60 Hz.

**Optional fan proving switch,** No. 4C725 (see below), is designed to monitor the fan housing pressure. When installed, the burner fires after draft inducer operation is proved. A motor or wheel failure will shut down the system. Tjernlund brand.

## IN-LINE DRAFT INDUCER SPECIFICATION DATA

| Stock No. | Dimensions (In.) Height | Width | Depth | Cut-out Required, (In.) | HP | RPM | Watts | Amps |
|---|---|---|---|---|---|---|---|---|
| 4C730 | 7⅝ | 9 | 5⅞ | 2⅝ x 7⅛ | 1/70 | 1550 | 35 | 0.43 |
| 4C731 | 9⅛ | 9½ | 7 | 3⅛ x 8⅝ | 1/20 | 1550 | 74 | 0.96 |
| 4C732 | 14½ | 13½ | 8¾ | 4 x 12¾ | 1/4 | 1725 | 359 | 5.40 |
| 4C733 | 17 | 14¾ | 10 | 4¼ x 14¾ | 1/4 | 1725 | 359 | 5.40 |

## IN-LINE DRAFT INDUCER PERFORMANCE AND ORDERING DATA

| Pipe Size | TYPICAL BOILER OR FURNACE PERFORMANCE DATA: Gas Firing with Draft Hood 100% Dilution — 270°F | | | Gas Firing with Bar Draft Control 25% Dilution — 390°F | | | Oil Firing with Bar Draft Control 15% Dilution — 530°F | | | Tjernlund Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dia., (In.) | Heater BTU Input | SP | CFM | Heater BTU Input | SP | CFM | Heater BTU Input | SP | CFM | | | | | |
| 3 | 69,000 | .034 | 48 | 72,000 | .047 | 36 | 58,000 | .048 | 33 | DJ-3 | **4C730*** | $142.00 | **$78.80** | 7.0 |
| 4 | 105,000 | .042 | 72 | 109,000 | .053 | 55 | 92,000 | .057 | 48 | | | | | |
| 5 | 111,000 | .043 | 72 | 104,000 | .052 | 52 | 74,000 | .052 | 39 | | | | | |
| 6 | 100,000 | .041 | 68 | 34,000 | .042 | 17 | 25,000 | .035 | 13 | | | | | |
| 5 | 270,000 | .063 | 190 | 330,000 | .085 | 166 | 295,000 | .092 | 163 | D-3 | **4C731*** | 204.00 | **115.95** | 10.0 |
| 6 | 356,000 | .073 | 246 | 377,000 | .090 | 190 | 300,000 | .093 | 169 | | | | | |
| 7 | 360,000 | .075 | 259 | 330,000 | .085 | 166 | 230,000 | .080 | 118 | | | | | |
| 8 | 320,000 | .068 | 217 | 222,000 | .075 | 110 | 123,000 | .065 | 65 | | | | | |
| 8 | 900,000 | .125 | 590 | 1,200,000 | .143 | 603 | 1,100,000 | .147 | 566 | I | **4C732** | 448.00 | **245.75** | 30.0 |
| 9 | 1,110,000 | .135 | 765 | 1,330,000 | .150 | 653 | 1,100,000 | .148 | 566 | | | | | |
| 10 | 1,250,000 | .140 | 850 | 1,260,000 | .145 | 615 | 840,000 | .136 | 440 | | | | | |
| 12 | 1,030,000 | .128 | 710 | 710,000 | .115 | 357 | 400,000 | .100 | 211 | | | | | |
| 9 | 1,460,000 | .145 | 1010 | 1,970,000 | .175 | 989 | 1,700,000 | .180 | 900 | II | **4C733** | 536.00 | **289.00** | 34.0 |
| 10 | 2,080,000 | .170 | 1370 | 2,460,000 | .185 | 1240 | 1,900,000 | .180 | 1010 | | | | | |
| 12 | 1,920,000 | .160 | 1325 | 2,230,000 | .182 | 1120 | 1,500,000 | .170 | 789 | | | | | |
| 14 | 1,840,000 | .159 | 1270 | 1,470,000 | .158 | 740 | 825,000 | .135 | 453 | | | | | |
| 16 | 900,000 | .120 | 620 | 650,000 | .113 | 340 | 350,000 | .095 | 184 | | | | | |
| 18 | 650,000 | .099 | 450 | 440,000 | .095 | 220 | 200,000 | .075 | 106 | | | | | |

(*) Screw Attachment Only—No Fastening Bands

The performance table shows typical capacities for inducers when mounted on pipe sizes shown, where moderate amounts of mechanical draft induction is needed. For more severe applications requiring higher static pressures, a reduction in pipe size or a larger inducer may be required. Heating capacities shown are for 1000 BTU per cu. ft. of natural gas and for 139,000 BTU per gallon #2 fuel oil.

**EXAMPLE JOB CONDITIONS:**

- **900,000 BTU input gas fired boiler with draft hood**
- **8" Diameter smokepipe from draft hood**
- **Draft problem—smoke entering boiler room due to undersized chimney**

Under the gas firing with draft hood column, 900,000 BTU input with an 8" pipe will provide an input of 590 CFM at 0.125" SP. No. 4C732 would be the correct selection to handle the job example.

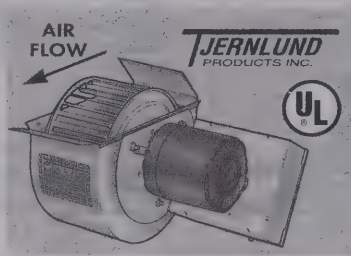
**Fan Proving Switch.** Rated for 125 VA pilot duty at 24 VAC, 300 VA pilot duty up to 277 VAC. 15A non-inductive to 277 VAC. Tjernlund brand (PS 1505).

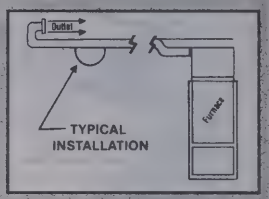
**No. 4C725.** Shpg. wt. 2.0 lbs. List $93.00. Each ..... $51.05

# AIR DUCT BOOSTERS AND WATER HEATER VENT PACKAGE

## AIR DUCT BOOSTER

- **Increases air flow in existing heating/cooling ductwork; useful in hard-to-heat or hard-to-cool rooms**
- **Eliminates need for auxiliary heating and cooling units and unnecessary thermostat adjustments to compensate for temperature imbalances**
- **Maximum operating air temperature is 200°F; not for use with combustion exhaust**
- **Can be mounted on bottom of horizontal or side of vertical duct. Motor shaft should remain horizontal to the floor.**




**Booster fits in round, square, or flat ducts** as shallow as 3¼" deep. A 4 x 7" cutout is required. Unit attaches to ductwork with four sheet metal screws. Can be wired in parallel with furnace/air conditioner blower to operate when blower is running or wired to a thermostatic control (not included).

**Steel housing and wheel.** 1/70 HP, 1550 RPM, 115V, 60 Hz permanently lubricated motor is positioned out of the air stream. UL Listed (E67265). Tjernlund brand (DB-2).

**No. 4C724.** Shpg. wt. 6.5 lbs. List $108.00. Each.....**$56.00**

| Static Pressure | .040 | .045 | .050 |
|---|---|---|---|
| CFM* | 200 | 180 | 100 |

(*) Air moving through 8" diameter pipe. Air flow will increase slightly with larger diameter pipe and decrease with smaller pipe.

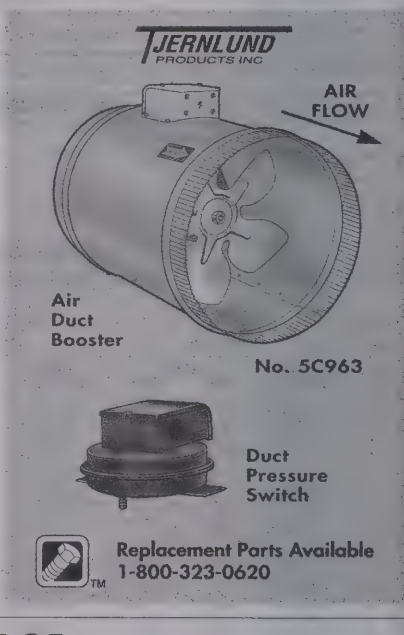
## AIR DUCT BOOSTERS

- **Used for powered air intake and exhaust systems to boost air flow in hard-to-heat or cool areas**
- **Easy to install in metal and flex duct**
- **Galvanized steel housing with built-in duct stop on the inlet and crimped edge on the outlet**
- **External junction box for easy wiring**
- **Maximum operating temperature is 150°F**
- **Optional speed control No. 5C203 can be used on 6, 8, and 10" units only.**

**Duct Pressure Switch.** Senses positive air pressure in a duct to activate a duct booster fan, electronic air cleaner or humidifier. Diaphragm switch is normally open. Operates between 24 and 277 VAC, 15 amp rating. Tjernlund brand (PS1503).

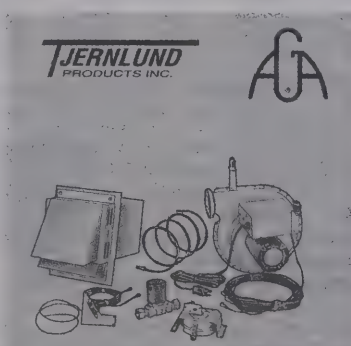
**No. 5C968.** Shpg. wt. 1.4 lbs. List .....$72.00. Each .....**$36.05**

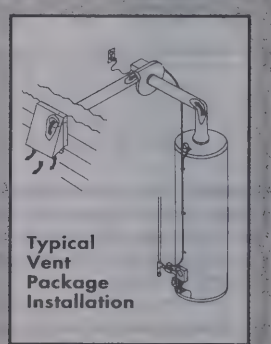
| Duct Dia. (In.) | 0.0" SP CFM | CFM @ Duct | Straight Lengths (Ft.) | Motor Data, 120V, 60 Hz Watts | Amps | Dimensions (In.) L | Dia. | Tjernlund Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 180 | 150<br>100<br>90 | 25<br>50<br>75 | 30 | 0.40 | 6½ | 6 | EF-6 | **5C963** | $61.00 | **$31.70** | 4.0 |
| **8** | 325 | 300<br>250<br>200 | 25<br>50<br>75 | 56 | 1.10 | 9 | 8 | EF-8 | **5C964** | 90.00 | **47.45** | 6.0 |
| **10** | 475 | 400<br>325<br>275 | 25<br>50<br>75 | 36 | 0.46 | 15½ | 10 | EF-10 | **5C965** | 159.00 | **82.50** | 10.0 |
| **12** | 875 | 800<br>700<br>600 | 25<br>50<br>75 | 96 | 1.25 | 15½ | 12 | EF-12 | **5C966** | 174.00 | **90.55** | 12.0 |
| **14** | 1200 | 1100<br>1000<br>900 | 25<br>50<br>75 | 122 | 1.70 | 15½ | 14 | EF-14 | **5C967** | 219.00 | **113.70** | 14.0 |




## WATER HEATER VENT PACKAGE

- **Vent gas water heaters through building wall with minimum installation time and maximum safety and performance**
- **Used for upgrading water heaters from electric to gas, in renovations or new construction where no chimney exists**
- **Vent space and pool heaters up to 60,000 BTU input.**




**Includes all components needed for installation:** fan with 3" inlet and outlet, factory wired with 24V control relay; 24V solenoid valve for 100% gas shut-off in response to power outage or fan malfunction; post-purge timer keeps unit operating at end of burner cycle; gas diaphragm switch with aluminum tube connection to turn unit on and off with gas flow to water heater; and heavy duty vent hood to cap 3" exhaust pipe (exhaust pipe not included, order locally as needed).

**Unit compatible** with any gas water heater up to 60,000 BTU. Vent package allows venting up to 75 feet away from a side wall. Fan motor is 115V, 60 Hz, 1 amp. Six-foot power cord with plug included. AGA Design Certified. Tjernlund brand (VP-2).

**No. 5C083.** Shpg. wt. 19.0 lbs. List $555.00. Each .....**$291.75**

# CENTRIFUGAL IN-LINE FANS AND ACCESSORIES

## PLASTIC CENTRIFUGAL IN-LINE DUCT FANS

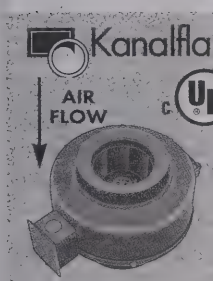
- For use in commercial and residential outdoor and wet location applications such as spa and hot tub venting.
- Fans are caulked at motor screws, wiring cables, and along seams; suitable for radon gas mitigation
- Remote mounted fans have lower sound levels than comparable surface mounted fans
- UL Listed (E128817) for outdoor use/wet locations and in conditioned airstreams of up to 140°F
- Housing of high impact GE Noryl plastic is UL Recognized and UV protected
- Totally enclosed, 115V, 60 Hz, ball bearing motor
- Mounting bracket and duct clamps included; vertical or horizontal mounting
- External wiring box with waterproof gasket keeps wiring compartment dry
- Speed controllable; see No. 5C203 speed control listed below
- Fans not for use in corrosive environments




**5-YEAR FANTECH LIMITED WARRANTY**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

| Duct Dia. (In.) | CFM Air Delivery @ RPM Shown 0.0" SP | 0.20" SP | 0.40" SP | 0.60" SP | 0.80" SP | 1.0" SP | 1.5" SP | 2.0" SP | 2.5" SP | Motor Data Max. RPM | Max. Watts | Overall Dimensions, (In.) Inlet/ Outlet | Dia. | Width Less Flange | Flange | Fantech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 108 | 90 | 72 | 54 | 19 | — | — | — | — | 2865 | 42 | 3⅞ | 9¾ | 8¼ | ⅞ | FR100 | **5C516** | $278.89 | **$167.00** | 6.0 |
| 6 | 243 | 220 | 196 | 170 | 142 | 114 | 18 | — | — | 2411 | 90 | 5⅛ | 11¾ | 7⅝ | ¾ | FR150 | **5C517** | 298.93 | **179.00** | 7.0 |
| 8 | 429 | 400 | 366 | 332 | 297 | 260 | 168 | — | — | 2964 | 144 | 7¾ | 13⅜ | 11 | 1½ | FR225 | **5C518** | 490.98 | **294.00** | 10.0 |
| 10 | 563 | 530 | 493 | 456 | 419 | 381 | 294 | — | — | 2817 | 230 | 9¾ | 13⅜ | 7½ | 1½ | FR250 | **5C519** | 592.85 | **355.00** | 11.0 |

## CENTRIFUGAL IN-LINE DUCT FANS




**3-YEAR KANALFLAKT LIMITED WARRANTY**
Text of warranty available on request. See "Manufacturers' Warranties" on page opposite inside back cover.

Kanalflakt certifies that the in-line duct fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

- Externally mounted terminal box, 1¾" deep
- Direct-drive in-line fans for industrial, commercial or residential use for heating, ventilating and cooling applications
- Galvanized steel housing with powder coated, baked enamel finish
- Totally enclosed, 115V, 60 Hz, ball bearing, class B motor
- Maximum operating temperature: 140°F
- Prewired fans include mounting bracket
- Remote mounted fans have lower sound levels than comparable surface mounted fans
- Speed control available, 5C110-113: 5C203; 4TM77: 5C205; 4TM78: 5C204
- Horizontal or vertical mounting
- UL Listed for residential range hoods

| Duct Dia. (In.) | CFM @ Static Pressure Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.50" SP | 2.00" SP | Motor Data Max. RPM | Max. Watts | Overall Dimensions (In.) Inlet/ Outlet | Dia. | Width | Kanalflakt Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 117 | 101 | 86 | 72 | 58 | — | — | — | — | 2950 | 44 | 4 | 8 | 6½ | K4 | **5C110** | $288.91 | **$173.00** | 8.0 |
| 6 | 257 | 241 | 221 | 197 | 178 | 143 | 99 | — | — | 2680 | 84 | 6 | 11½ | 6 | K6 | **5C111** | 313.96 | **188.00** | 10.0 |
| 8 | 521 | 496 | 469 | 440 | 411 | 345 | 202 | 180 | — | 2930 | 152 | 8 | 13¼ | 6¼ | K8-XL | **5C112** | 485.97 | **291.00** | 14.0 |
| 10 | 590 | 565 | 541 | 519 | 496 | 442 | 394 | 290 | — | 2460 | 242 | 10 | 13¼ | 5¼ | K10-XL | **5C113** | 566.13 | **339.00** | 17.0 |
| 12 | 830 | 807 | 784 | 761 | 738 | 690 | 642 | 543 | 443 | 3250 | 384 | 12 | 16 | 8¼ | K12-XL | *New* **4TM77** | 516.47 | **469.75** | 20.0 |
| 12 | 2016 | 1920 | 1832 | 1746 | 1649 | 1423 | 1066 | — | — | 1700 | 500 | 12 | 17⅞ | 18⅞ | KD12XL | *New* **4TM78** | 897.94 | **816.50** | 40.0 |

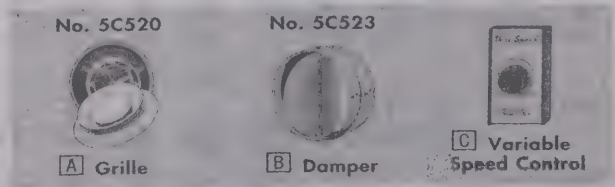
## ACCESSORIES FOR IN-LINE DUCT FANS

**A Adjustable Plastic Grille.** For exhaust or supply. White.

| Dia. (In.) | Fantech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 | HG4 | **5C520** | $20.04 | **$11.40** | 1.0 |
| 6 | HG6 | **5C521** | 26.72 | **15.20** | 1.5 |
| 8 | HG8 | **5C522** | 48.43 | **29.00** | 2.2 |

**B Back-draft Damper.** Spring tension. Galvanized sheet metal.

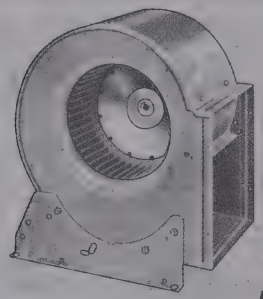
| Dia. (In.) | Fantech Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|
| 4 | RSK4 | **5C523** | $31.73 | **$18.05** | 0.5 |
| 6 | RSK6 | **5C524** | 43.42 | **24.70** | 0.9 |
| 8 | RSK8 | **5C525** | 60.12 | **36.00** | 1.3 |
| 10 | RSK10 | **5C526** | 68.47 | **41.00** | 1.5 |




**C Variable Speed Control.** 3.0 Amps. For use on duct fans listed above which are rated less than 300 watts. See page 3561 for higher rated controls.

**No. 5C203.** Shpg. wt. 0.3 lbs. List $31.06. Each ..... $20.70

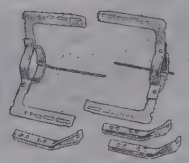
# UNASSEMBLED 9½ AND 10⅝" DOUBLE INLET DIRECT-DRIVE BLOWERS



No. 4C589

Dayton®

Replacement Parts Available 1-800-323-0620



Motor Mounting Brackets

- Widely used in new and replacement installations for heating, air-conditioning, and ventilating systems
- Interchangeable with most other unassembled direct-drive blowers
- Blowers shipped unassembled
- Blower housings are heavy gauge steel with gray enamel finish. Steel wheels have corrosive resistant finish
- Blowers may be ordered separately or in combination with a motor listed below
- Maximum operating temperture 104°F

**Components include** the blower housing, wheel, housing support with resilient pads, adjustable motor mounting bracket with hardware and assembly instructions.

**Motors** are 1/5 through 3/4 HP, 115V, and 230V, 60 Hz. Motor housing bracket for 9½" units is adjustable to fit blower motors 3½ to 6⅛" long. Bracket included with 10⅝" unit adjusts to fit blower motors 3 13/16 to 6⅝" long.

## UNASSEMBLED DIRECT-DRIVE BLOWER DIMENSIONS AND BLOWER ONLY ORDERING DATA

| Wheel Diameter (In.) Over Rim | Over Blades | Width | Bore | Blower Dimensions (In.) Outlet (In.) H | Outlet (In.) W | Housing (In.) H | Housing (In.) W | Housing (In.) D | Stock No. | BLOWER ONLY List | BLOWER ONLY Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 15/16 | 9½ | 7⅛ | 1/2 | 10¼ | 9 3/16 | 15 7/16 | 9 3/16 | 14 15/16 | **4C589** | $108.14 | **$64.80** | 16.0 |
| 9 15/16 | 9½ | 9½ | 1/2 | 10¼ | 11 13/16 | 15 7/16 | 11 13/16 | 14 15/16 | **4C590** | 109.17 | **65.45** | 17.0 |
| 11 1/8 | 10⅝ | 8 | 1/2 | 11⅜ | 10½ | 17 7/16 | 10½ | 16 9/16 | **4C591** | 122.90 | **73.65** | 18.0 |
| 11 1/8 | 10⅝ | 10⅝ | 1/2 | 11⅜ | 13⅛ | 17 7/16 | 13⅛ | 16 9/16 | **4C592** | 124.23 | **74.45** | 23.0 |

## DIRECT-DRIVE BLOWER PERFORMANCE AND MOTOR DATA

| Wheel (In.) Dia. | W | CFM AIR DELIVERY AT RPM SHOWN 0.0" SP | 0.3" SP | 0.4" SP | 0.5" SP | 0.6" SP | 0.7" SP | 0.8" SP | 0.9" SP | BLOWER WITH 1075 RPM MOTOR† No. Speeds | HP | Volts 60 Hz | Type | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | 7⅛ | * | * | * | 1045 | 1015 | 945 | 835 | 635 | 4 | 1/5 | 115 | S. Pole | **7F735** | $211.06 | **$128.95** |
| | | * | * | * | * | 895 | 855 | 760 | — | | | | | | | |
| | | * | * | * | * | 785 | 750 | 680 | — | | | | | | | |
| | | * | * | * | * | 710 | 680 | 590 | — | | | | | | | |
| 9½ | 7⅛ | * | * | 1240 | 1210 | 1175 | 1120 | 1030 | 910 | 1 | 1/4 | 115 | S. Pole | **7F736** | 212.58 | **129.85** |
| 9½ | 9½ | * | 1460 | 1430 | 1385 | 1320 | 1220 | — | — | 1 | 1/4 | 115 | S. Pole | **7F730** | 216.93 | **132.50** |
| 9½ | 9½ | * | * | 1780 | 1715 | 1635 | 1530 | 1390 | 1190 | 4 | 1/3 | 115 | PSC | **7F731** | 255.87 | **156.50** |
| | | * | * | * | 1550 | 1480 | 1390 | 1270 | 1050 | | | | | | | |
| | | * | * | * | * | 1340 | 1275 | 1170 | 900 | | | | | | | |
| | | * | * | * | * | 1230 | 1175 | 1090 | — | | | | | | | |
| 9½ | 9½ | * | 1920 | 1840 | 1760 | 1660 | 1550 | 1400 | 1200 | 4 | 1/2 | 115 | PSC | **7F737** | 278.38 | **170.25** |
| | | * | * | * | * | 1380 | 1315 | 1210 | — | | | | | | | |
| | | * | * | * | * | 1300 | 1240 | 1140 | — | | | | | | | |
| | | * | * | * | * | 1200 | 1140 | 1060 | — | | | | | | | |

| Wheel (In.) Dia. | W | CFM AIR DELIVERY AT RPM SHOWN 0.7" SP | 0.8" SP | 0.9" SP | 1.0" SP | 1.1" SP | 1.2" SP | 1.25" SP | 1.3" SP | BLOWER WITH 1075 RPM MOTOR† No. Speeds | HP | Volts 60 Hz | Type | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10⅝ | 8 | * | 1580 | 1530 | 1480 | 1400 | 1300 | 1220 | — | 4 | 1/3 | 115 | PSC | **7F738** | $263.73 | **$161.25** |
| | | * | 1290 | 1260 | 1220 | 1160 | 1030 | — | — | | | | | | | |
| | | * | 1130 | 1110 | 1070 | 990 | — | — | — | | | | | | | |
| | | * | 980 | 950 | 900 | — | — | — | — | | | | | | | |
| 10⅝ | 8 | * | * | 1800 | 1750 | 1680 | 1580 | 1500 | 1370 | 4 | 1/2 | 115 | PSC | **7F732** | 286.25 | **175.00** |
| | | * | * | * | 1260 | 1220 | 1150 | 1080 | — | | | | | | | |
| | | * | * | * | 1140 | 1080 | 970 | — | — | | | | | | | |
| | | * | * | * | 1000 | 980 | 850 | — | — | | | | | | | |

| Wheel (In.) Dia. | W | CFM AIR DELIVERY AT RPM SHOWN 0.5" SP | 0.6" SP | 0.7" SP | 0.8" SP | 0.9" SP | 1.0" SP | 1.1" SP | 1.2" SP | BLOWER WITH 1075 RPM MOTOR† No. Speeds | HP | Volts 60 Hz | Type | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10⅝ | 10⅝ | * | 1775 | 1735 | 1690 | 1610 | 1500 | 1250 | 900 | 4 | 1/3 | 115 | PSC | **7F739** | $271.51 | **$166.25** |
| | | * | * | 1410 | 1370 | 1300 | 1100 | 890 | — | | | | | | | |
| | | * | * | 1215 | 1180 | 1095 | 980 | — | — | | | | | | | |
| | | * | * | 1015 | 950 | 925 | — | — | — | | | | | | | |
| 10⅝ | 10⅝ | 2000 | 1960 | 1900 | 1840 | 1765 | 1670 | 1540 | 1140 | 4 | 1/2 | 115 | PSC | **7F740** | 294.02 | **180.00** |
| | | * | * | 1360 | 1340 | 1290 | 1200 | 990 | — | | | | | | | |
| | | * | * | * | 1220 | 1170 | 1060 | 760 | — | | | | | | | |
| | | * | * | * | 1090 | 1030 | 870 | 660 | — | | | | | | | |
| 10⅝ | 10⅝ | * | * | * | 2550 | 2460 | 2340 | 2150 | 1860 | 4 | 3/4 | 115 | PSC | **7F733** | 342.80 | **209.50** |
| | | * | * | 2180 | 2160 | 2100 | 2000 | 1870 | 1620 | | | | | | | |
| | | * | * | 1920 | 1900 | 1880 | 1800 | 1700 | 1480 | 4 | 3/4 | 230 | PSC | **7F734** | 344.96 | **211.00** |
| | | * | * | 1670 | 1660 | 1640 | 1580 | 1440 | 780 | | | | | | | |

(*) Motor overload will result if blower is operated at static pressures below performance shown.
(†) Includes capacitor with permanent split capacitor motor. 1075 RPM is highest speed.



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

# ASSEMBLED 9½, 10⅝, AND 12⅝" DOUBLE INLET DIRECT-DRIVE BLOWERS

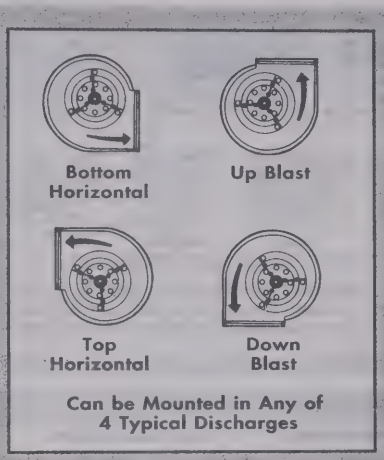


- **For original equipment and replacement use in heating, air conditioning, and ventilating systems**
- **Interchangeable with most direct-drive blowers having same horsepower ratings**
- **Reinforced blower wheel provides long, trouble-free service**
- **Steel housing has a gray enamel finish**

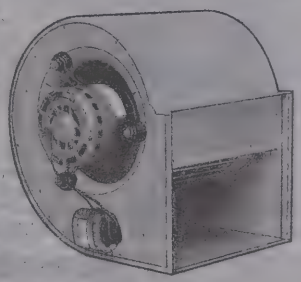
**All blowers** feature a welded ring motor mounting system to reduce vibration.

**Permanent split-capacitor motors** come with appropriate capacitor attached with metal capacitor strap. 1 HP motors are 3-speed, ball bearing.

**Replacement Parts Available**
**1-800-323-0620**




Dayton



No. 5C094

## DIRECT-DRIVE BLOWER DIMENSIONS

| Stock No. | Outlet Dimensions (Inches) Height | Outlet Dimensions (Inches) Width | Overall Dimensions (Inches) Height | Overall Dimensions (Inches) Width | Overall Dimensions (Inches) Depth | Full-Load Amps | Capacitor Size |
|---|---|---|---|---|---|---|---|
| 5C090 | 7⅞ | 9 3/16 | 12 13/16 | 10⅜ | 12½ | 2.8 | 4 MFD |
| 5C091 | 10¼ | 11¾ | 15½ | 13 7/16 | 15 | 4.0 | 7.5 MFD |
| 5C092 | 10¼ | 11¾ | 15½ | 14 | 15 | 5.1 | 7.5 MFD |
| 5C093 | 11⅜ | 10½ | 17⅜ | 12⅝ | 16 9/16 | 8.8 | 7.5 MFD |
| 5C094 | 11⅜ | 13⅛ | 17⅜ | 15¾ | 16 9/16 | 11.2 | 15 MFD |
| 5C197 | 13 7/16 | 12¼ | 20⅜ | 13⅞ | 19⅜ | 14.0 | 30 MFD |
| 5C198 | 13 7/16 | 12¼ | 20⅜ | 13⅞ | 19⅜ | 7.5 | 30 MFD |

## DIRECT-DRIVE BLOWER PERFORMANCE AND ORDERING DATA

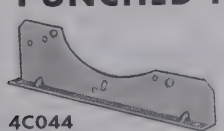
| Wheel Diameter (In.) Over Rim | Over Blades | Width | CFM AIR DELIVERY AT RPM SHOWN 0.0" SP | 0.3" SP | 0.4" SP | 0.5" SP | 0.6" SP | 0.7" SP | 0.8" SP | 0.9" SP | No. Speeds | HP | Volts 60 Hz | Amps | BLOWER WITH 1075 RPM MOTOR† Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 15/16 | 9½ | 7⅛ | * | 992 | 961 | 915 | 864 | 726 | 513 | — | 1 | 1/6 | 115 | 2.8 | 5C090 | $264.58 | $163.50 | 23.0 |
| 9 15/16 | 9½ | 9½ | * | 1529 | 1517 | 1483 | 1416 | 1326 | 926 | 397 | 1 | 1/4 | 115 | 4.0 | 5C091 | 303.76 | 187.50 | 29.0 |
| 9 15/16 | 9½ | 9½ | * | 1938 | 1798 | 1739 | 1656 | 1543 | 1407 | 1084 | 4 | 1/3 | 115 | 5.1 | 5C092 | 382.18 | 236.00 | 31.0 |
| | | | * | 1495 | 1492 | 1461 | 1406 | 1342 | 1122 | 803 | | | | | | | | |
| | | | * | 1325 | 1325 | 1319 | 1284 | 1212 | 990 | 722 | | | | | | | | |
| | | | * | * | 1165 | 1164 | 1142 | 1033 | 836 | 510 | | | | | | | | |

| Wheel Diameter (In.) Over Rim | Over Blade | Width | CFM AIR DELIVERY AT RPM SHOWN 0.7" SP | 0.8" SP | 0.9" SP | 1.0" SP | 1.1" SP | 1.2" SP | 1.25" SP | 1.3" SP | No. Speeds | HP | Volts 60 Hz | Amps | BLOWER WITH 1075 RPM MOTOR† Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11⅛ | 10⅝ | 8 | * | * | * | 1824 | 1704 | 1456 | 932 | — | 4 | 1/2 | 115 | 8.8 | 5C093 | $427.93 | $264.25 | 32.0 |
| | | | * | 1653 | 1616 | 1550 | 1470 | 1010 | 568 | — | | | | | | | | |
| | | | * | 1430 | 1392 | 1341 | 1255 | 871 | 479 | — | | | | | | | | |
| | | | * | 1266 | 1219 | 1159 | 1060 | 631 | 405 | — | | | | | | | | |
| 11⅛ | 10⅝ | 10⅝ | * | * | 2374 | 2218 | 2021 | 1793 | 1643 | 1294 | 4 | 3/4 | 115 | 11.2 | 5C094 | 495.92 | 306.00 | 40.0 |
| | | | * | * | 2093 | 1991 | 1828 | 1499 | 1029 | 558 | | | | | | | | |
| | | | * | * | 1819 | 1740 | 1587 | 981 | 678 | 526 | | | | | | | | |
| | | | * | * | 1547 | 1467 | 1129 | 663 | 558 | 474 | | | | | | | | |

| Wheel Diameter (In.) Over Rim | Over Blades | Width | CFM AIR DELIVERY AT RPM SHOWN 1.1" SP | 1.2" SP | 1.3" SP | 1.4" SP | 1.5" SP | 1.6" SP | 1.7" SP | 1.8" SP | No. Speeds | HP | Volts 60 Hz | Amps | BLOWER WITH 1075 RPM MOTOR† Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 3/16 | 12⅝ | 9½ | * | 2780 | 2775 | 2740 | 2660 | 2530 | 2170 | 1850 | 3 | 1 | 115 | 14.0 | 5C197 | $570.76 | $352.50 | 52.0 |
| | | | * | 2370 | 2360 | 2310 | 2200 | 2020 | 1815 | 1555 | | | 230 | 7.5 | 5C198 | 570.76 | 352.50 | 52.0 |
| | | | * | 1940 | 1910 | 1855 | 1805 | 1750 | 1650 | — | | | | | | | | |

(*) Motor overload will result if blower is operated at static pressure below performance shown. (†) Includes capacitor with permanent split capacitor motor.

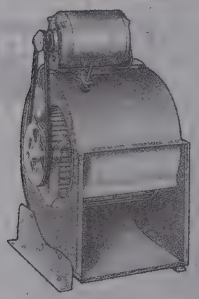
## PUNCHED HOUSING SUPPORTS FOR ABOVE BLOWERS



No. 4C044

| For Blower No. | Position | Stock No. | List | Per Pair | Shpg. Wt. |
|---|---|---|---|---|---|
| 5C090 | Bottom & Up | 4C044 | $27.16 | $16.26 | 1.1 |
| 5C091 & 5C092 | Any four | 2C335 | 15.17 | 9.08 | 1.5 |
| 5C093 & 5C094 | Any four | 4C125 | 20.22 | 12.12 | 1.5 |
| 4C252, 5C197 & 5C198 | Any four | 4C253 | 29.23 | 17.51 | 2.7 |

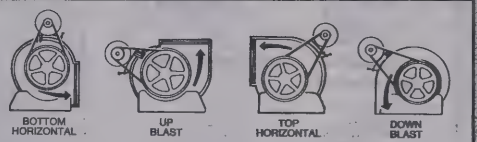
# 3/4 WIDTH DOUBLE INLET BELT-DRIVE BLOWERS



Dayton Wattrimmer

Dayton

ENERGY RIGHT®




**4 TYPICAL DISCHARGE POSITIONS**

Mounting supports and blower sides are pre-punched in proper areas for quick assembly for above discharges. Motor mount and hardware included.

Replacement Parts Available 1-800-323-0620

**Economical, double inlet,** 3/4 width blowers used for heating, ventilating, and cooling systems with limited cabinet space.

**For standard heating** or ventilating systems, use blowers listed at free air to 3/8" static pressure. For heating and air conditioning systems and air moving applications where higher static pressures are present. Maximum operating temperature is 104°F.

**Heavy gauge, die-stamped steel housing.** 9½ to 18⅛" double-inlet, three-quarter width wheels. Preslock® wheels assure positive locking. Ground and burnished shaft. Sealed sleeve bearings.

**Continuous duty,** 40°C rise, resilient mounted, automatic-reset thermal protected Dayton blower motor. Motor and appropriate drives for bottom horizontal discharge packed separately when ordered. Longer or shorter belt may be required for other discharges.

### HIGH EFFICIENCY BLOWERS

Identical to blowers listed above but have Dayton 1/4, 1/3, 1/2, and 3/4 HP, 1725 RPM, 115V, 60 Hz Wattrimmer motors. Provide substantial energy savings and lower operating costs. Motors UL Recognized Component and CSA Certified. Refer to Dayton Wattrimmer Motor listings for typical energy and cost savings.

## BLOWERS LESS MOTOR AND DRIVE

| Wheel (In.) Dia. | W | BLOWER DIMENSIONS (In.) LESS MOTOR AND DRIVE: Shaft Dia. | Outlet H | Outlet W | Overall H | Overall W | Overall D | Less Motor and Drive: Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | 7⅛ | 3/4 | 10¼ | 9³/₁₆ | 17 | 13 | 15 | **2C971#** | $143.86 | **$86.15** | 19.0 |
| 10⅝ | 8 | 3/4 | 11⅜ | 10½ | 19 | 14 | 17 | **2C973#** | 150.65 | **90.25** | 22.0 |
| 12⅝ | 9½ | 1 | 13⁷/₁₆ | 12¼ | 22 | 18 | 19 | **2C975#** | 201.39 | **120.60** | 34.0 |
| 15 | 11⅛ | 1 | 15⅞ | 14¹¹/₁₆ | 26 | 19 | 23 | **2C977#** | 278.35 | **166.75** | 49.0 |
| 18⅛ | 13½ | 1 | 18⅞ | 17⅜ | 31 | 24 | 27 | **2C979#** | 510.34 | **305.75** | 83.0 |

## PERFORMANCE FOR HEATING OR VENTILATING SYSTEMS

| Wheel Dia. (In.) | CFM AIR DELIVERY AT RPM SHOWN: 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | Blower RPM | BLOWER WITH 1725 RPM MOTOR AND DRIVE: HP | Volts 60 Hz | Full-Load Amps 115V | Motor Type | With Automatic Thermal Protection: Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | 1420 | 1290 | 1080 | — | 690 | 1/4 | 115 | — | Split | **7C654** | $252.80 | **$169.75** |
| 10⅝ | 1680 | 1430 | 1070 | — | 560 | 1/4 | 115 | — | Split | **7C656** | 249.43 | **167.50** |
| | 1930 | 1730 | 1430 | 800 | 625 | 1/3 | 115 | | Split | **7C658** | 272.20 | **182.75** |
| 12⅝ | 2430 | 2160 | 1780 | — | 465 | 1/3 | 115 | — | Split | **7C660** | 315.11 | **211.50** |
| | 2840 | 2680 | 2420 | 2020 | 555 | 1/2 | 115 | | Split | **7C662** | 341.90 | **229.50** |
| 15 | 3500 | 3100 | 2600 | — | 403 | 1/2 | 115 | — | Split | **7C664** | 390.78 | **262.25** |
| | 4100 | 3850 | 3450 | 2950 | 458 | 3/4 | 115/230 | | Split | **7C666** | 501.21 | **336.50** |
| 18⅛ | 5000 | 4500 | 3800 | 3000 | 350 | 3/4 | 115/230 | — | Split | **7C668** | 734.40 | **492.75** |
| | 5600 | 5200 | 4550 | 3500 | 408 | 1 | 115/230 | | Cap. | **7C669** | 722.69 | **484.75** |
| **HIGH EFFICIENCY BLOWER WITH WATTRIMMER MOTOR** | | | | | | | | | | | | |
| 9½ | 1420 | 1290 | 1080 | — | 690 | 1/4 | 115 | 3.2 | Cap. | ✓**7F713** | 278.33 | **187.00** |
| 10⅝ | 1680 | 1430 | 1070 | — | 560 | 1/4 | 115 | 3.2 | Cap. | ✓**7F714** | 274.96 | **184.75** |
| | 1930 | 1730 | 1430 | 800 | 625 | 1/3 | 115 | 4.1 | Cap. | ✓**7F716** | 298.16 | **200.25** |
| 12⅝ | 2430 | 2160 | 1780 | — | 465 | 1/3 | 115 | 4.1 | Cap. | ✓**7F718** | 341.07 | **229.00** |
| | 2840 | 2680 | 2420 | 2020 | 555 | 1/2 | 115 | 6.2 | Cap. | ✓**7F720** | 404.82 | **271.75** |
| 15 | 3500 | 3100 | 2600 | — | 403 | 1/2 | 115 | 6.2 | Cap. | ✓**7F722** | 453.71 | **304.50** |
| | 4100 | 3850 | 3450 | 2950 | 458 | 3/4 | 115 | 8.3 | Cap. | ✓**7F770** | 518.32 | **348.00** |

## PERFORMANCE FOR HEATING AND AIR CONDITIONING SYSTEMS

| Wheel Dia. (In.) | CFM AIR DELIVERY AT RPM SHOWN: 0.0" SP | 0.500" SP | 0.625" SP | 0.750" SP | Blower RPM | BLOWER WITH 1725 RPM MOTOR AND DRIVE: HP | Volts 60 Hz | Full-Load Amps 115V | Motor Type | With Automatic Thermal Protection: Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | * | 1340 | 1000 | — | 917 | 1/3 | 115 | — | Split | **7C063** | $290.19 | **$194.75** |
| | * | 1640 | 1460 | 1150 | 990 | 1/2 | 115 | | Split | **7C064** | 307.17 | **206.25** |
| 10⅝ | * | 1940 | 1550 | — | 837 | 1/2 | 115 | — | Split | **7C065** | 309.71 | **208.00** |
| | * | 2320 | 2060 | 1660 | 917 | 3/4 | 115/230 | | Split | **7C066** | 425.69 | **285.75** |
| 12⅝ | * | 2860 | 2530 | 1800 | 692 | 3/4 | 115/230 | | Split | **7C067** | 487.30 | **327.00** |
| | * | 3240 | 2920 | 2500 | 734 | 1 | 115/230 | — | Cap. | **7C068** | 461.92 | **310.00** |
| | * | 3240 | 2920 | 2500 | 734 | 1 | 230/460 | | 3-Ph. | **7C053**‡ | 451.01 | **302.75** |
| 15 | * | 4140 | 3660 | 2700 | 550 | 1 | 115/230 | — | Cap. | **7C069** | 516.69 | **346.75** |
| | * | 4140 | 3660 | 2700 | 550 | 1 | 230/460 | | 3-Ph. | **7C055**‡ | 505.78 | **339.50** |
| **HIGH EFFICIENCY BLOWER WITH WATTRIMMER MOTOR** | | | | | | | | | | | | |
| 9½ | * | 1340 | 1000 | — | 917 | 1/3 | 115 | 4.1 | Cap. | ✓**7F725** | 316.15 | **212.25** |
| 9½ | * | 1640 | 1460 | — | 990 | 1/2 | 115 | 6.2 | Cap. | ✓**7F726** | 370.09 | **248.50** |
| 10⅝ | * | 1940 | 1550 | — | 837 | 1/2 | 115 | 6.2 | Cap. | ✓**7F728** | 372.64 | **250.25** |

(*) These blowers should not be installed in a system having below 1/2" static pressure; see table above for air delivery between free air and 3/8" SP at lower RPM.
(‡) 230/460V, 60 Hz, 40°C, 3-phase motors—NOT thermally protected.
(✓) Denotes energy effcient product. (#) Limited availability, contact your local branch.

# FULL-WIDTH DOUBLE INLET BELT-DRIVE BLOWERS

**Suitable for 80 to 90%** of normal blower applications for residential heating, and heating and cooling systems. Widely used for commercial heating, ventilation, cooling, and similar air-moving systems.

**For standard heating** or ventilation systems, use blowers listed at free air to 3/8" static pressure. For systems with higher static pressures, use blowers listed from 1/2 to 3/4" static pressure.

**Heavy gauge, double inlet steel housing.** 9½ to 18⅛" double width blower wheels. Ground and burnished shaft. Sealed sleeve bearings. Max. operating temp. 104°F.

**Continuous duty 115/230V or 230/460V,** resilient mounted, automatic reset thermal protected motors. Motor and appropriate drives for bottom horizontal discharge packed separately when ordered. A longer or shorter belt may be required with other discharge positions.

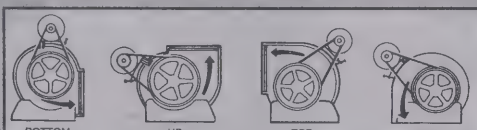
## HIGH EFFICIENCY BLOWERS

Identical to blowers listed above but have Dayton 1/4, 1/3, 1/2, and 3/4 HP, 1725 RPM, 115V, 60 Hz Wattrimmer motors. Provide substantial energy savings and lower operating costs. Motors UL Recognized Component and CSA Certified. Refer to Dayton Wattrimmer Motor listings for typical energy and cost savings.

Dayton Wattrimmer

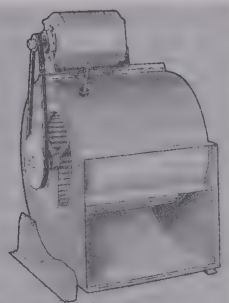
Dayton

ENERGY RIGHT®




**4 TYPICAL DISCHARGE POSITIONS**

Mounting supports and blower sides pre-punched in proper areas for quick assembly for above discharges. Motor mount and hardware included.



Replacement Parts Available
1-800-323-0620™

## BLOWERS LESS MOTOR AND DRIVE

| Wheel (In.) Dia. | W | BLOWER DIMENSIONS (In.) LESS MOTOR AND DRIVE Shaft Dia. | Outlet H | Outlet W | Overall H | Overall W | Overall D | Less Motor and Drive Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | 7⅛ | ¾ | 7⅞ | 9⁹⁄₁₆ | 14 | 13 | 13 | 4C669# | $168.40 | $100.85 | 15.0 |
| 9½ | 9½ | ¾ | 10¼ | 11¹³⁄₁₆ | 17 | 15 | 15 | 2C972# | 146.57 | 87.80 | 22.0 |
| 10⅝ | 10⅝ | ¾ | 11⅜ | 13⅛ | 19 | 17 | 17 | 2C974# | 167.03 | 100.05 | 25.0 |
| 12⅝ | 12⅝ | 1 | 13⁷⁄₁₆ | 15⅝ | 22 | 20 | 19 | 2C976# | 208.45 | 124.85 | 40.0 |
| 15 | 15 | 1 | 15⅞ | 18⅝ | 26 | 23 | 23 | 2C978# | 292.01 | 175.00 | 58.0 |
| 18⅛ | 18 | 1 | 18⅞ | 21⅞ | 31 | 29 | 27 | 2C980# | 566.40 | 339.25 | 80.0 |

## PERFORMANCE* FOR HEATING OR VENTILATING SYSTEMS

| Wheel Dia. (In.) | CFM AIR DELIVERY AT RPM SHOWN 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | Blower RPM | BLOWER WITH 1725 RPM MOTOR AND DRIVE HP | Volts 60 Hz | Motor Type | With Automatic Thermal Protection Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | 1090 | 1015 | 735 | — | 625 | 1/6 | 115 | Split | 7F887 | $250.25 | $168.00 |
| | 1580 | 1350 | 1000 | — | 690 | 1/4 | 115 | Split | 7C655 | 248.81 | 167.00 |
| 10⅝ | 1750 | 1400 | — | — | 492 | 1/4 | 115 | Split | 7C657 | 261.41 | 175.75 |
| | 2060 | 1790 | 1420 | — | 560 | 1/3 | 115 | Split | 7C659 | 282.56 | 189.75 |
| 12⅝ | 2680 | 2280 | 1700 | — | 425 | 1/3 | 115 | Split | 7C661 | 325.31 | 218.50 |
| | 3140 | 2820 | 2420 | 1800 | 500 | 1/2 | 115 | Split | 7C663 | 348.49 | 234.00 |
| 15 | 3950 | 3450 | 2800 | — | 405 | 1/2 | 115 | Split | 7C665 | 414.48 | 278.25 |
| | 4550 | 4150 | 3600 | 2850 | 458 | 3/4 | 115/230 | Split | 7C667 | 517.12 | 347.00 |
| 18⅛ | 6300 | 5700 | 4500 | — | 350 | 1 | 115/230 | Cap. | 7C670 | 775.38 | 520.00 |
| | 6300 | 5700 | 4500 | — | 350 | 1 | 230/460 | 3-Ph. | 7C604‡ | 772.04 | 518.00 |
| | | | | | | HIGH EFFICIENCY BLOWER WITH WATTRIMMER MOTOR | | | | | |
| 9½ | 1090 | 1015 | 735 | — | 690 | 1/4 | 115 | Cap. | 7F918† | 303.77 | 204.00 |
| | 1580 | 1350 | 1000 | — | 625 | 1/4 | 115 | Cap. | 7F712 | 274.34 | 184.00 |
| 10⅝ | 1750 | 1400 | — | — | 492 | 1/4 | 115 | Cap. | 7F715 | 286.94 | 192.75 |
| | 2060 | 1790 | 1420 | — | 560 | 1/3 | 115 | Cap. | 7F717 | 308.52 | 207.00 |
| 12⅝ | 2680 | 2280 | 1700 | — | 425 | 1/3 | 115 | Cap. | 7F719 | 351.28 | 236.00 |
| | 3140 | 2820 | 2420 | 1800 | 500 | 1/2 | 115 | Cap. | 7F721 | 411.41 | 276.25 |
| 15 | 3950 | 3450 | 2800 | — | 405 | 1/2 | 115 | Cap. | 7F723 | 477.40 | 320.50 |
| | 4550 | 4150 | 3600 | 2850 | 458 | 3/4 | 115 | Cap. | 7F771 | 534.23 | 358.50 |

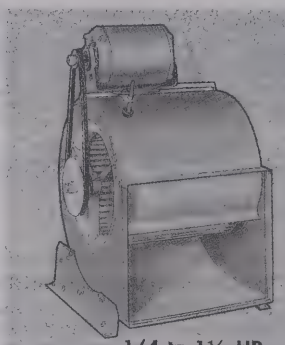
## PERFORMANCE FOR HEATING AND AIR CONDITIONING SYSTEMS

| Wheel Dia. (In.) | CFM AIR DELIVERY AT RPM SHOWN 0.0" SP | 0.500" SP | 0.625" SP | 0.750" SP | Blower RPM | BLOWER WITH 1725 RPM MOTOR AND DRIVE HP | Volts 60 Hz | Motor Type | With Automatic Thermal Protection Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | * | 1100 | 810 | — | 990 | 1/3 | 115 | Split | 7F888 | $314.65 | $211.25 |
| | * | 1840 | 1580 | 1000 | 959 | 1/2 | 115 | Split | 7C071 | 320.87 | 215.50 |
| 10⅝ | * | 2080 | 1660 | — | 837 | 1/2 | 115 | Split | 7C072 | 322.59 | 216.50 |
| | * | 2500 | 2200 | 1800 | 910 | 3/4 | 115/230 | Split | 7C073 | 432.77 | 290.50 |
| 12⅝ | * | 3100 | 2680 | — | 692 | 3/4 | 115/230 | Split | 7C074 | 491.77 | 330.00 |
| | * | 3600 | 3280 | 2840 | 750 | 1 | 115/230 | Cap. | 7C075 | 477.37 | 320.50 |
| | * | 3600 | 3280 | 2840 | 750 | 1 | 230/460 | 3-Ph. | 7C062 ‡ | 166.16 | 313.25 |
| | | | | | | HIGH EFFICIENCY BLOWER WITH WATTRIMMER MOTOR | | | | | |
| 9½ | * | 1100 | 810 | — | 990 | 1/3 | 115 | Cap. | 7F919 † | 340.61 | 228.50 |
| | * | 1840 | 1580 | 1000 | 959 | 1/2 | 115 | Cap. | 7F727 | 383.79 | 257.75 |
| 10⅝ | * | 2080 | 1660 | — | 837 | 1/2 | 115 | Cap. | 7F729 | 385.51 | 258.75 |
| | * | 2500 | 2200 | 1800 | 910 | 3/4 | 115 | Cap. | 7F772 | 449.88 | 302.00 |
| 12⅝ | * | 3100 | 2680 | — | 692 | 3/4 | 115 | Cap. | 7F773 | 508.88 | 341.50 |

(*) These blowers should not be installed in a system having below 1/2" static pressure, see table above for air delivery between free air and 3/4" SP.
(‡) 230/460V, 60 Hz, 40°C, 3-phase motors—NOT thermally protected. (↙) Denotes energy efficient product.
(#) Limited availability, contact your local branch. (†) 7⅝" wide Blower Housing.

# FULL-WIDTH INDUSTRIAL BLOWERS AND SHAFTS AND BEARINGS

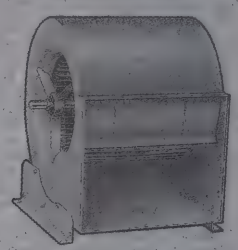
- Used in heating, ventilating, exhausting, and cooling systems in commercial and industrial applications
- Forward curved, double-inlet blowers
- Die-stamped steel housing with mounting supports suitable for four discharge positions
- Blowers have precision ground shaft with keyway, prelubricated ball bearings with rubber isolators and dynamically balanced wheel
- All blowers include a motor mounting bracket built for 1½ HP maximum. 1/4 to 1½ HP motor and drives for bottom horizontal discharge packed separately when ordered complete. Longer or shorter belt may be required for other discharge positions
- 2 to 5 HP motors are floor mount only. Cast iron motor mounting rails included when ordered with motor and drives. Drive package compatible with any discharge position
- Max. blower operating temperature: 250°F. Max. motor operating temperature: 104°F



1/4 to 1½ HP

Dayton®

Replacement Parts Available 1-800-323-0620



2 to 5 HP

## FULL-WIDTH BLOWERS LESS MOTOR AND DRIVE

| Wheel (In.) Diameter | Wheel (In.) Width | BLOWER DIMENSIONS (In.) LESS MOTOR & DRIVE Shaft Dia. | Outlet H | Outlet W | Overall H | Overall W | Overall D | LESS MOTOR & DRIVE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 7/16 | 10 13/16 | 3/4 | 11 3/8 | 13 1/8 | 19 | 18 | 17 | 4C770* | $167.08 | **$100.05** | 25.0 |
| 12 1/2 | 12 13/16 | 1 | 13 7/16 | 15 5/8 | 22 | 20 | 20 | 3C507* | 208.49 | **124.85** | 41.0 |
| 15 1/4 | 15 1/16 | 1 | 15 7/8 | 18 5/8 | 26 | 25 | 23 | 3C508* | 292.25 | **175.00** | 60.0 |
| 18 3/16 | 18 1/2 | 1 | 18 7/8 | 21 7/8 | 31 | 31 | 27 | 3C509* | 566.54 | **339.25** | 93.0 |

## FULL-WIDTH* BLOWERS PERFORMANCE AND MOTOR DATA

| Wheel Diameter (In.) | CFM Air Delivery at RPM Shown 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | 0.625" SP | 0.750" SP | 0.875" SP | 1.00" SP | Blower RPM | Motor HP | Single-Phase 115 / 230V, 60 Hz Stock No. | List | Each | Three-Phase 230 / 460V, 60 Hz Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 7/16 | 1950 | 1350 | — | — | — | — | — | — | 500 | 1/4 | **7H491** | $290.58 | **$209.25** | **7H510** | $355.33 | **$255.75** |
| | 2075 | 1575 | — | — | — | — | — | — | 527 | 1/3 | **7H492** | 358.16 | **257.50** | **7H511** | 364.48 | **262.25** |
| | 2525 | 2225 | 1700 | — | — | — | — | — | 617 | 1/2 | **7H493** | 423.63 | **304.50** | **7H512** | 386.51 | **278.00** |
| | 2875 | 2625 | 2275 | 1700 | — | — | — | — | 690 | 3/4 | **7H494** | 395.60 | **284.50** | **7H513** | 403.23 | **290.00** |
| | 3300 | 3100 | 2875 | 2525 | 2050 | — | — | — | 782 | 1 | **7H495** | 450.65 | **324.00** | **7H514** | 413.06 | **297.00** |
| | 3750 | 3575 | 3375 | 3150 | 2825 | 2400 | — | — | 874 | 1½ | **7H496** | 499.05 | **359.00** | **7H515** | 412.68 | **296.75** |
| | # | # | # | 3500 | 3250 | 2925 | 2525 | — | 936 | 1½ | **7H497** | 471.89 | **339.50** | **7H516** | 384.21 | **276.50** |
| | # | # | # | 3925 | 3750 | 3475 | 3175 | 2825 | 1012 | 2 | **7H498** | 706.64 | **508.00** | **7H517** | 489.72 | **352.25** |
| | # | # | # | 4275 | 4125 | 3925 | 3700 | 3400 | 1084 | 3 | — | — | — | **7H518** | 504.06 | **362.50** |
| 12 1/2 | 2950 | 2625 | 1300 | — | — | — | — | — | 500 | 1/2 | **7H499** | 437.68 | **314.75** | **7H519** | 400.41 | **288.00** |
| | 3325 | 3100 | 2600 | — | — | — | — | — | 556 | 3/4 | **7H500** | 409.67 | **294.75** | **7H520** | 417.19 | **300.00** |
| | 3750 | 3550 | 3250 | 2700 | — | — | — | — | 617 | 1 | **7H501** | 501.90 | **361.00** | **7H521** | 464.31 | **334.00** |
| | 4000 | 3825 | 3600 | 3175 | 2250 | — | — | — | 656 | 1½ | **7H502** | 523.96 | **377.00** | **7H522** | 437.45 | **314.50** |
| | 4475 | 4325 | 4150 | 3900 | 3500 | 2750 | — | — | 728 | 1½ | **7H503** | 521.37 | **374.75** | **7H523** | 434.85 | **312.75** |
| | # | # | # | 4250 | 3950 | 3500 | 2400 | — | 771 | 1½ | **7H504** | 547.83 | **394.00** | **7H524** | 461.31 | **332.00** |
| | # | # | # | 4625 | 4400 | 4050 | 3600 | 2250 | 819 | 2 | **7H505** | 762.15 | **548.00** | **7H525** | 545.06 | **392.00** |
| | # | # | # | 5150 | 5000 | 4800 | 4475 | 4075 | 893 | 3 | — | — | — | **7H526** | 581.63 | **418.25** |
| 15 1/4 | 4225 | 3800 | 2450 | — | — | — | — | — | 419 | 3/4 | **7H506** | 520.03 | **374.00** | **7H527** | 527.55 | **379.25** |
| | 4800 | 4450 | 3800 | — | — | — | — | — | 468 | 1 | **7H507** | 584.17 | **420.00** | **7H528** | 545.58 | **392.25** |
| | 5475 | 5200 | 4850 | 4125 | — | — | — | — | 528 | 1½ | **7H508** | 650.31 | **467.50** | **7H564** | 563.80 | **405.50** |
| | 5850 | 5625 | 5360 | 4825 | 3950 | — | — | — | 563 | 2 | **7H509** | 865.40 | **622.50** | **7H565** | 648.30 | **466.00** |
| | # | # | # | 5400 | 4750 | 3625 | — | — | 596 | 2 | **7H560** | 798.99 | **574.50** | **7H566** | 581.89 | **418.25** |
| | # | # | # | 6200 | 5850 | 5200 | 4300 | — | 654 | 3 | — | — | — | **7H567** | 676.54 | **486.50** |
| | # | # | # | 6550 | 6250 | 5750 | 5050 | 3800 | 682 | 3 | — | — | — | **7H568** | 698.74 | **502.50** |
| 18 3/16 | 7100 | 6125 | 4675 | — | — | — | — | — | 364 | 1½ | **7H561** | 814.58 | **586.00** | **7H569** | 728.06 | **523.50** |
| | 7550 | 6700 | 5450 | — | — | — | — | — | 384 | 1½ | **7H562** | 818.39 | **588.50** | **7H570** | 731.88 | **526.50** |
| | 8450 | 7725 | 6800 | 5450 | — | — | — | — | 422 | 2 | **7H563** | 1022.81 | **735.00** | **7H571** | 805.72 | **579.00** |
| | 9750 | 9150 | 8925 | 7575 | 6350 | 4200 | — | — | 479 | 3 | — | — | — | **7H572** | 860.67 | **619.00** |
| | 11450 | 10950 | 10400 | 9750 | 9025 | 8100 | 7025 | 5350 | 553 | 5 | — | — | — | **7H573** | 911.15 | **655.50** |
| | # | # | # | # | 10650 | 9975 | 9175 | 8200 | 609 | 5 | — | — | — | **7H574** | 912.84 | **656.50** |

(#) Motor overload. Not recommended for operation at this static pressure with this HP.
(*) Limited availability, contact your local branch

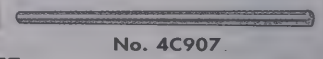
## 3/4 AND 1" SHAFT AND BEARINGS

**Shaft**—Ground and polished cold rolled steel shafting for belt drive blowers. For use on Dayton blowers Nos. 4C669 thru 2C979, or similar models without keyways.

**Bearings**—Self-aligning factory lubricated sleeve type bearings. With thrust washer, locking collar, and rubber isolator. Original equipment for most belt-drive furnace blowers. Two per package.



No. 2A757



No. 4C907

### SHAFTS

| Dia. | Length | Max. HP | Max. Wheel RPM | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| 3/4" | 20" | 3/4 | 1000 | 4C907 | $14.13 | **$8.47** | 2.1 |
| 1 | 25 | 1 | 1000 | 4C908 | 24.82 | **14.87** | 5.1 |

### BEARINGS

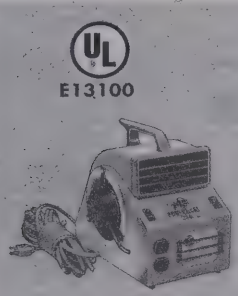
| Dia. | Insulator | Temp. Range | Max. HP | Max. RPM | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3/4" | 1 13/16" OD | 40°-135°F | 3/4 | 1000 | 2A757 | $15.05 | **$12.14** | 0.8 |
| 1 | 2½ OD | 40°-135°F | 1 | 1000 | 2A758 | 19.17 | **15.59** | 1.5 |



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

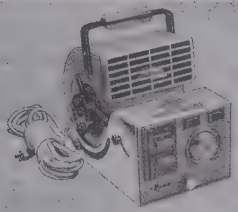
# POWER CAT® PORTABLE BLOWERS AND ACCESSORIES





E13100

A No. 4C926



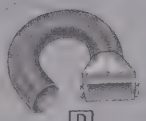
B No. 4C734

Replacement Parts Available 1-800-323-0620

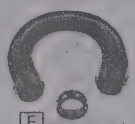
POWER CAT®



C No. 4C778



D Exhaust Duct



E Intake Duct



F Duct Extension



G Heater



H Duct Connector

**Unique, multifunctional, compact portable blower** package for ventilating, cooling, heating, fume exhausting, and drying applications. Additional electrical outlets provided for power tools and appliances. Smaller units have a work area light.

**120V, 60 Hz motor;** inlet and outlet screens; rotatable housings to direct air flow; and a 25 foot SJTW-A weather and water resistant grounded power cord. Units operate independently or with optional attachments listed below. With attachments, a complete system can be designed to remove fumes and smoke generated by welding or brazing, and foul air.

**Blowers can also supply fresh air** to work stations, manholes, crawl spaces, and attics. Used by tradesmen, maintenance departments, utility companies, automotive repair shops, fire departments, commercial businesses, homeowners, and on construction sites. All models UL Listed (E13100). Power Cat® brand.

Dayton Portable Blower also available, see page 3626.

## POWER CAT No. 4C926 AND ATTACHMENTS

A **Lightweight, single-speed blower** produces 300 CFM of air to cool, ventilate, dry damp surfaces, and remove fumes or smoke. Rugged steel and molded plastic frame features 90° adjustable air flow, duplex grounded receptacles, 40 watt flood lamp, and heavy-duty rocker switches for independent control of floodlight and blower. Motor draws 2.0 amps. 12¾ x 8W x 11¾"H. Molded handle has cord wrap for power cord. (DA300). Can be used with Intake Duct. No. 4C782, Duct Extension No. 4C812, and Fume Exhaust Nozzle No. 4C783. (See Attachments for Power Cat No. 4C734).

**No. 4C926.** Shpg. wt. 12.0 lbs. List $201.90. Each.....**$134.60**

D **Exhaust Duct Assembly.** Attaches to blower outlet to direct air away from the blower. 10 ft. x 6" diameter flexible reinforced PVC duct and steel adapter. (300 DA).

**No. 4C927.** Shpg. wt. 5.0 lbs. List $105.52. Each.....**$70.35**

## POWER CAT No. 4C734 AND ATTACHMENTS

B **Powerful, two-speed blower** produces 359/300 CFM air stream for exhausting, cooling, and drying. Durable steel housing rotates 90° from horizontal to direct air flow. 50 watt floodlight adjusts vertically. Motor draws 2.58 amps at hi-speed. 15 amp duplex weather resistant grounded receptacle. Safety interlock circuit for use with heater unit listed at right. 13½L x 9⅛W x 11"H. Black and gray powder coat finish. (D400 XLH).

**No. 4C734.** Shpg. wt. 21.0 lbs. List $338.62. Each.....**$225.75**

D **Exhaust Duct Assembly.** Attaches to blower outlet to direct air away from blower. 10 ft. x 6" diameter flexible reinforced PVC duct and steel adapter. (D-400DA).

**No. 4C735.** Shpg. wt. 6.5 lbs. List $114.90. Each.....**$76.60**

E **Intake Duct Assembly.** Attaches to blower inlet to direct air into the blower from another location. 10 ft. x 6" diameter flexible reinforced PVC duct and steel adapter ring. (D-400IA).

**No. 4C782.** Shpg. wt. 6.5 lbs. List $115.80. Each.....**$77.20**

F **Duct Extension.** Extends intake or exhaust assemblies in 10 foot increments. 10 ft. x 6" flexible reinforced PVC duct with connecting sleeve and clamp. (D-400EXT).

**No. 4C812.** Shpg. wt. 5.0 lbs. List $80.92. Each.....**$53.95**

G **Heater Unit.** Converts Power Cat into portable heater. 5120 BtuH heater with 1500W element attaches and plugs into No. 4C734 blower with quick connect buckle clamps. Steel armored heating element and fins. Cannot be attached to hose. (D-400HA).

**No. 2E776.** Shpg. wt. 6.0 lbs. List $103.72. Each.....**$69.15**

## SUPER CAT No. 4C778 AND ATTACHMENTS

C **Industrial grade two-speed blower** for bigger cooling/ventilating applications. Produces 1120 CFM at high speed, 877 CFM at low speed. Effectively cools or ventilates confined areas. Exhausts fumes from machinery or eliminates toxic fumes and smoke from welding operations. Airstream can be directed from vertical through 110° arc; held in place with friction-held device on housing. Rugged steel housing has wooden grip handle. Motor draws 4.5 amps on high speed. Duplex 15 amp weather resistant grounded receptacles provide electrical outlets for tools, lighting and other appliances. 17½L x 11⁵⁄₁₆W x 20⅛"H. Black and gray powder coat finish. (1200 XL).

**No. 4C778.** Shpg. wt. 50.0 lbs. List $623.25. Each.....**$415.50**

D **Exhaust Duct Assembly.** Attaches to blower outlet to direct air away from blower. 10 ft. x 8" diameter flexible reinforced PVC duct and steel adapter. (D-1200DA).

**No. 4C781.** Shpg. wt. 13.0 lbs. List $200.92. Each.....**$133.95**

E **Intake Duct Assembly.** Attaches to blower inlet to direct air into the blower from another location. 10 ft. x 8" diameter flexible reinforced PVC duct and steel adapter ring. (D-1200IA).

**No. 4C779.** Shpg. wt. 13.0 lbs. List $158.92. Each.....**$105.95**

F **Duct Extension.** Extends intake or exhaust assemblies in 10 foot increments. 10 ft. x 8" diameter flexible PVC duct with quick-connect clamps. Requires No. 1A970 duct connector. (1200 FE).

**No. 4C832.** Shpg. wt. 11.0 lbs. List $138.82. Each.....**$92.55**

H **Steel Insert Connector.** Required when adding duct extension No. 4C832 to intake or exhaust assemblies for 8" duct. (1200 DC).

**No. 1A970.** Shpg. wt. 1.5 lbs. List $20.06. Each.....**$13.38**

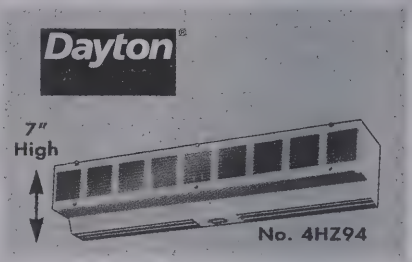
# COMPACT AND COMMERCIAL INDUSTRIAL-DUTY AIR CURTAINS

## COMPACT AIR CURTAINS

- **Compact design requires only 7½" over doors for mounting**

**Low profile,** only 7" high, designed to fit existing door transoms at entrances. Also for use in pass-through food service windows and walk-in coolers/freezers.

Operate as an environmental thermal barrier in retail stores, hospitals, airports, post offices, and schools. 2-Speed 120V/220V motor. Cabinets are 7"H x 6½"D x 36" or 48"W. NOTE: For longer widths, up to three cabinets can be used in series.

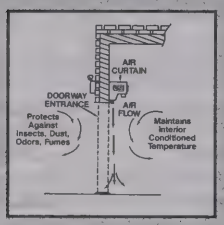


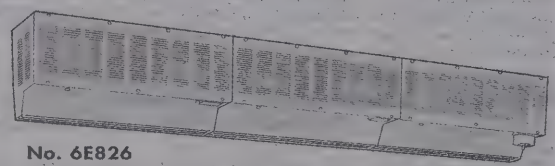

### COMPACT AIR CURTAINS

| Width (In.) | Motor HP | Maximum Air Delivery Nozzle Max. FPM | Nozzle Avg. CFM | Max. Amps 120V/220V | Door Heights Up to (Ft.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **36** | 1/10 | 2000 | 1050 | 1.1/0.7 | 8 | **4HZ94** | $734.80 | **$440.00** | 40.0 |
| **48** | 1/8 | 2000 | 1350 | 1.4/0.9 | 8 | **4HZ95** | 626.25 | **500.00** | 40.0 |

## COMMERCIAL/INDUSTRIAL-DUTY AIR CURTAINS

Dayton® E19455 CERTIFIED TO ETL UL-1776 USDA COMPLIANCE FDA COMPLIANCE



No. 6E826

Replacement Parts Available
1-800-323-0620

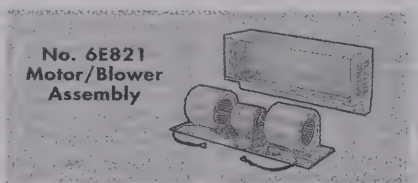
**For use as a thermal barrier** or fly and insect control. Prevent entry of hot or cold air, insects, dust, fumes, and odors. For use in restaurants, food service and processing plants, coolers and freezers, warehouses, shopping malls, hotels, hospitals, supermarkets, schools, airports, retail stores, and other public establishments. Modular design allows construction of sag free units in any possible width desired from 3 through 12 ft. in width. For example: a 108" wide door would use a combination of three 36" wide air curtains. UL Listed, ETL Listed, FDA and USDA Compliance. 6 and 9 KW heated models available.

**Motor Options:**

- **120V, single-phase, two-speed totally enclosed motor, switch included**
- **208-230/460 volt, 3-phase, single-speed totally enclosed motor**

### INTERCHANGEABLE MOTOR/BLOWER ASSEMBLIES FOR AIR CURTAIN CABINETS SHOWN ABOVE

All motor/blower assemblies are designed and engineered to fit all cabinets listed at right using no tools. Simple use of wing nuts and quick disconnect wire connectors allow fast, easy installation. Suitable for multiple use with up to three cabinets in a series. For proper motor/blower selection refer to the Air Curtain Selection chart on 3647.




### AIR CURTAIN CABINET ONLY LESS MOTOR/BLOWER ASSEMBLY

| Unit Width (In.)* | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|
| **36** | **6E826** | $400.23 | **$239.75** | 35.0 |
| **38** | **6E825** | 407.22 | **244.00** | 36.0 |
| **42** | **6E824** | 433.74 | **259.75** | 39.0 |
| **48** | **6E823** | 466.71 | **279.50** | 47.0 |
| **60** | **6E822** | 614.33 | **368.00** | 62.0 |

(*) Cabinets 15¾"H x 12½"D x Width shown.

### INTERCHANGEABLE MOTOR/BLOWER ASSEMBLIES FOR AIR CURTAINS ORDERING DATA

| Motor HP | Max. Ft. / Min. at Nozzle | Avg. Air Delivery For Motor Shown Avg. CFM at Nozzle 36" | 38" | 42" | 48" | 60" | Totally Enclosed Single Phase Motor 120 Volt 60 Hz Max. Amps | Max. RPM | Stock No. | List | Each | Motor HP | Totally Enclosed 3-Phase Motor 208-230/460 50/60 Hz Max. Amps | Max. RPM | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/4** | 2500 | 1620 | 1670 | 1795 | 2000 | 2025 | 3.4 | 1100 | **6E821** | $478.29 | **$286.50** | 1/4 | .6 | 1100 | **6E818** | $574.57 | **$344.25** | 34.0 |
| **1/2** | 3800 | 2460 | 2535 | 2730 | 3040 | 3080 | 5.2 | 1745 | **6E820** | 527.10 | **315.75** | 1/2 | 1.2 | 1450 | **6E817** | 639.30 | **383.00** | 45.0 |
| **3/4** | 4850 | 3140 | 3240 | 3480 | 3880 | 3930 | 7.8 | 1700 | **6E819** | 736.61 | **441.25** | — | — | — | — | — | — | — |
| **1** | 5250 | 3400 | 3500 | 3770 | 4200 | 4255 | — | — | — | — | — | 1 | 3.2 | 1725 | **6E816** | 738.28 | **442.25** | 61.0 |
| **1½** | 5900 | 3345 | 3430 | 3680 | 4080 | 3985 | — | — | — | — | — | 1½ | 3.8 | 3450 | **6E815** | 850.12 | **509.50** | 55.0 |

### OPTIONAL HEATER KIT FOR DOORWAYS TO 8 FT. HIGH (USE WITH 1/4 HP MOTORS ONLY)

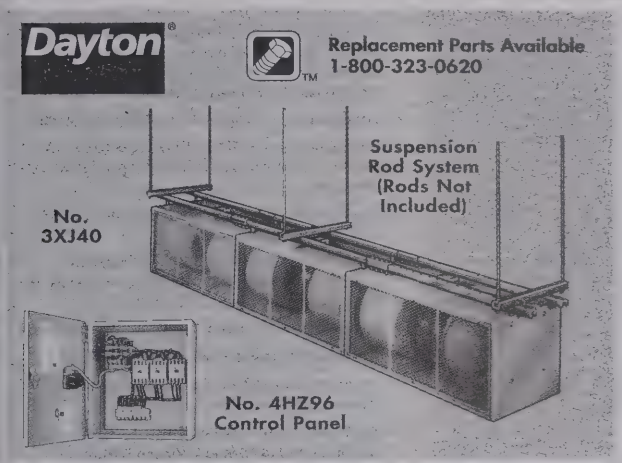
Treat incoming cold air at customer entrance areas. Used over front door entrances to supplement existing heat and to prevent infiltration of colder outside air. Not recommended for areas subject to high winds. Install easily to any size 1/4 HP air curtain cabinet shown above only. For single unit installation only—for wider door multiple unit installations, leave 3" space between cabinet units.

### OPTIONAL HEATER KITS ORDERING DATA

| KW | Heater Watts | Heater BTU/HR | FOR USE WITH 120 VOLT SINGLE PHASE 1/4 HP MOTOR ONLY Heater Volt | Heater Amps | Stock No. | List | Each | Shpg. Wt. | FOR USE WITH 460 VOLT 3-PHASE 1/4 HP MOTOR ONLY Heater Volts | Heater Amps | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **6** | 6,000 | 20,487 | 240/1 | 25.0 | **6E814** | $890.21 | **$533.50** | 16.0 | 460/3 | 7.5 | **6E812** | $966.56 | **$579.00** | 20.0 |
| **9** | 9,000 | 30,717 | 240/1 | 37.5 | **6E813** | 937.55 | **561.50** | 16.0 | 460/3 | 11.4 | **6E811** | 1017.73 | **609.50** | 20.0 |

For additional technical information and application guidelines refer to Dayton Air Curtain Literature 8S847.

# FREIGHT DOOR HIGH VOLUME AIR CURTAINS AND AIR CURTAIN ACCESSORIES




Dayton Electric Mfg., Co. certifies that the 3XJ40 and 3XJ41 Air Curtains shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

For use as thermal barriers over freight doors and between interior doorways in factories and warehouses—12 to 18 ft. high. Powered by 3-ph. single-speed, direct-drive motors. Heavy-duty galvanized steel cabinet with epoxy coated beige finish. Directional louvers. Modular construction. Three 48"W cabinets bolt together and mount on exclusive continuing channel system for use with suspension rod installation. (NOTE: suspension rods not included). 21⅜"H x 23"D x 144"L (3 x 48") total width. Optional wall mounting brackets available. For instant On/Off, optional 3-ph. motor control panel is necessary (see below).

### AIR CURTAIN ACCESSORIES

Motor Control Panels for Automatic On/Off Operation: for use with Nos. 3XJ40 and 3XJ41 air curtains. Specify voltage when ordering. Requires 120V instant On/Off plunger switch, Stock No. 2W938 (see page 530). Activates on opening of door when control panel switch is in automatic position. For manual operation, use appropriate 3-phase motor starter. (16"H x 12"W x 6"D). Wall Brackets: for alternative mounting over roll-up doors where suspension rod installation cannot be used. Set of 3 brackets.

## AIR CURTAIN ACCESORIES

| Description | Volts | For Use With Stock No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| **Motor Control Panel for Automatic On/Off** | 208-230 | 3XK40 | **4HZ96** | $1765.00 | **$1057.00** | 23.0 |
| | 208-230 | 3XJ41 | **4HZ98** | 1812.00 | **1085.00** | 23.0 |
| | 460 | 3XJ40 | **4HZ97** | 1765.00 | **1057.00** | 23.0 |
| | 460 | 3XJ41 | **4HZ99** | 1812.00 | **1085.00** | 23.0 |
| **Wall Brackets (Set of 3)** | — | 3XJ40 & 3XJ41 | **4JC01** | 424.00 | **254.00** | 50.0 |

## AIR CURTAIN FOR DOORWAYS TO 14 FEET HIGH

| Total Width (In.) (3x48") | Air Delivery at Nozzle Max. Velocity (FPM) | Avg. Velocity† (FPM) | Air Flow Rate† (SCFM) | Uniformity (%)† | Three, 3-Ph. Motors 208-230/460V, 60 Hz Total HP | Total Max. Amps | Power Rating (KW)† | Max. RPM | Velocity Projection Core Velocity/ Distance from Nozzle (FPM/Ft.) | | | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **144** | 5900 | 4330 | 12,549 | 92.6 | 6 (3 x 2 HP) | 24.4-23.8/11.9 | 7.56 | 1725 | 2836/3 | 1945/7 | 1591/11 | **3XJ40*** | $6713.00 | **$4020.00** | 522.0 |

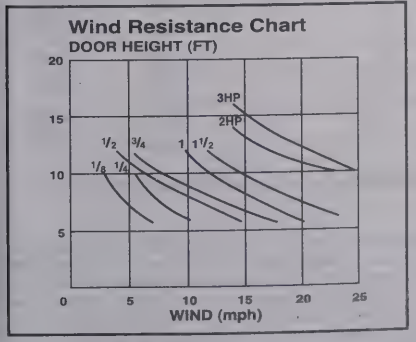
## AIR CURTAIN FOR DOORWAYS TO 18 FEET HIGH

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **144** | 6300 | 5066 | 14,682 | 96.4 | 9 (3 x 3 HP) | 33.3-32.4/16.2 | 11.31 | 1725 | 3391/3 | 2027/8 | 1355/13 | **3XJ41*** | 8100.00 | **4850.00** | 600.0 |

(†) The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection, and power rating at free air delivery only.
(*) UL Listed Motor File E44549, CSA Listed Motor File #LR4642.

# AIR CURTAIN SELECTION GUIDE

**Use chart below** to assist in selecting the proper air curtain/motor blower closest to your application. Select air curtains by width of doorway and mounting height (air discharge to ground). For proper HP, determine the wind condition closest to your application. For gusty wind conditions or extreme conditions (fly/insect control), using the next larger horsepower model is recommended. For food processing operations, a freight door high volume air curtain mounted less than 12 ft. high may be required. After selecting the correct motor/blower assembly for your application, refer to listings above and on previous page for overall selection. All cabinets are modular construction. Any cabinet size combination will accommodate your door width. Air curtain overlap of door openings is acceptable.




### Wind Conditions are Classified as Follows:

● GENTLE = 1-5 MPH ■ LIGHT = 5-8 MPH ▲ MODERATE = 8-12 MPH ◆ STRONG = 12-15 MPH

**NOTE: Guide selection does not include negative pressure or wind tunnel conditions.**
**Wind resistance values are for normal applications. Interior applications are considered as Gentle.**

## AIR CURTAIN SELECTION GUIDE

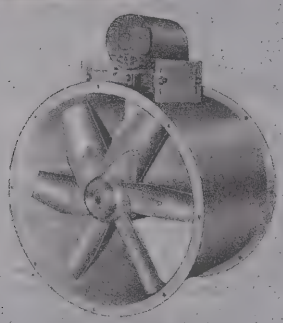
| Mtg. Ht. (Ft.) | Type of Doorway | HP Req. (Air Curtain and Motor/Blower Assembly Stock Nos.) 4HZ94†, 4HZ95† 1/8 HP | 6E821, 6E818* 1/4 HP | 6E820, 6E817* 1/2 HP | 6E819 3/4 HP | 6E816* 1 HP | 6E815* 1½ HP | 3XJ40*† 2 HP | 3XJ41*† 3 HP |
|---|---|---|---|---|---|---|---|---|---|
| 7-8 | Retail Thermal Barrier | ● | ■ | | | | | | |
| 8 | Fly/Insect Rear Door | | | ●■ | ▲ | ◆ | | | |
| 8 | Cooler | | ● | | | | | | |
| 8 | Freezer | | | ● | | | | | |
| 10 | Thermal Barrier | | | ●■ | ■ | | | | |
| 10 | Fly/Insect Rear Door | | | | ●■ | ▲ | ◆ | | |
| 10 | Cooler | | | ● | | | | | |
| 10 | Freezer | | | | ● | | | | |
| 12-14 | Freight Door | | | | | | | ▲ | ◆ |
| 16-18 | Freight Door | | | | | | | | ▲ |

(*) Indicates 3-phase motors. (†) Nos. 4HZ94, 4HZ95, 3XJ40, and 3XJ41 are complete air curtains.

**For additional technical information and application guidelines refer to Dayton Air Curtain Literature 8S847.**

# 12 TO 48" BELT-DRIVE TUBEAXIAL FANS WITH ALUMINUM SPARK-RESISTANT BLADES

Dayton

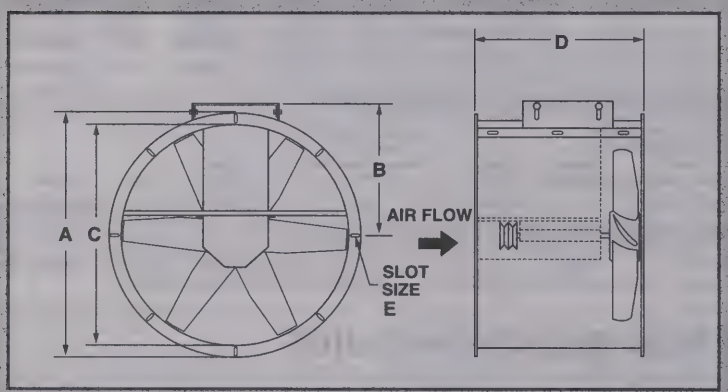


No. 7F960

Dayton Electric Mfg. Co. certifies that the tubeaxial fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

The sound power lever ratings shown in decibels referred to $10^{-12}$ watt calculated per AMCA Standard 301. The A weighted sound ratings shown have been calculated per AMCA Standard 301. Values shown for tubeaxial fans are for (inlet Lwi) sound power levels for: Installation Type B: Free Inlet, Ducted Outlet. Ratings do not include the effects of duct end corrections.

- Tubeaxial fans designed for use in industrial ventilation systems to exhaust paint spray booths, cleaning tanks and mixing rooms
- Designed to operate in any position
- Streamlined belt tunnel isolates the motor, drives, and bearings from air stream
- Precision balanced spark-resistant aluminum fan blades
- Steel housing is iron phosphate processed for rust protection with an acrylic epoxy paint finish
- Permanently lubricated ball bearings
- Maximum inlet temperature 200°F
- Factory installed cast iron sheave assembled on fan shaft
- Ball bearing motor and drives packed separately when fan is ordered complete as 7-Combo
- Belt guard included
- Companion flanges listed on page 3651
- Optional hazardous location accessories are available: No. 4X788 Conduit Box




**WARNING:**
- Review OSHA codes. OSHA-complying guards are required when fan blades are exposed and within reach of personnel
- Use a hazardous location motor where flammable vapors are involved

Replacement Parts Available
1-800-323-0620

## BELT-DRIVEN TUBEAXIAL FAN DIMENSIONS (In.)

| Stock No. | Blade Dia. | A | B Max. | C | D | E | Bolt Circle Dia., (In.) | Max. Motor Height | Fan Shaft Dia. | No. of Fan Blades | Optional Companion Flange Stock No. | Replacement Fan Blade Stock No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4C659 | 12 | 14 7/16 | 8 3/4 | 12 1/5 | 12 | 5/16 | 13 1/2 | 9 | 5/8 | 4 | 4C716 | 4C662 |
| 4C660 | 16 | 18 3/4 | 11 1/2 | 16 1/19 | 16 1/2 | 5/16 | 17 1/2 | 9 | 7/8 | 6 | 4C717 | 4C663 |
| 4C661 | 18 | 21 1/8 | 12 1/2 | 18 1/2 | 16 1/2 | 5/16 | 19 7/8 | 9 | 7/8 | 6 | 4C718 | 4C715 |
| 3C411 | 24 | 27 | 16 3/4 | 24 5/16 | 18 | 7/16 | 25 3/4 | 10 | 1 | 6 | 3C436 | 4C664 |
| 3C412 | 30 | 33 5/8 | 19 1/4 | 30 1/2 | 24 | 7/16 | 32 1/4 | 10 | 1 3/16 | 6 | 3C440 | 3C418 |
| 3C413 | 34 | 37 3/4 | 21 3/8 | 34 1/2 | 29 | 7/16 | 36 1/4 | 10 | 1 3/16 | 6 | 3C441 | 3C419 |
| 3C414 | 36 | 39 3/4 | 22 7/16 | 36 1/2 | 29 | 7/16 | 38 1/4 | 10 | 1 3/16 | 6 | 3C442 | 3C420 |
| 3C415 | 42 | 45 3/4 | 25 9/16 | 42 1/2 | 32 | 9/16 | 44 1/4 | 12 1/2 | 1 7/16 | 5 | 3C443 | 3C421 |
| 3C416 | 48 | 51 3/4 | 28 5/16 | 48 1/2 | 36 | 9/16 | 50 1/4 | 12 1/2 | 1 7/16 | 5 | 3C444 | 3C422 |

## CONVERSION FACTORS NECESSARY TO COMPUTE SOUND PRESSURE LEVELS [dB(A)] FROM SOUND POWER LEVELS (LwA)

Use table to determine approximate sound pressure level [dB(A)] for Dayton tubeaxial fans (listed on facing page) installed in your plant using sound power levels (LwA) given on facing page.

To calculate the sound pressure level, subtract the appropriate conversion factor from the sound power level for your fan. The conversion factors shown are based on open areas of factory construction with 20-foot high ceilings. Areas larger than those shown will have a relatively minor effect on sound pressure level. Judgment must be used because details of specific installations will vary considerably. Sound produced by other nearby equipment or machinery is not included in this calculation.

| Floor Area Square Feet | Distance to Work Station from Fan (Ft.) 5 | 10 | 15 | 20 |
|---|---|---|---|---|
| 1000 | 5 | 6 | 7 | 7 |
| 10000 | 9 | 12 | 13 | 13 |
| 20000 | 10 | 13 | 14 | 15 |
| 40000 | 10 | 15 | 16 | 17 |

# 12 TO 48" BELT-DRIVE TUBEAXIAL FANS WITH ALUMINUM SPARK-RESISTANT BLADES



## 12 TO 24" BELT-DRIVE TUBEAXIAL FAN PERFORMANCE AND ORDERING DATA

| Blade Dia. (In.) | CFM & Sound Power Lw (A) Decibels Static Pressure Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | 0.625" SP | 0.750" SP | Fan RPM | Motor HP | Max. BHP | FANS LESS MOTOR AND DRIVE Stock No. | List | Each | Shpg. Wt. | FANS WITH SINGLE AND 3-PHASE MOTOR AND DRIVE Totally Enclosed Fan Cooled Stock No. | Each | Hazardous Locations Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 1767 | 1667 | 1561 | 1415 | — | — | — | 2090 | 1/3 | 0.25 | 4C659 | $461.41 | $276.50 | 30.0 | 7F924 | $411.50 | 7F925 | $512.50 |
| | 84 | 83 | 82 | 81 | — | — | — | | | | | | | | | | | |
| | 1904 | 1812 | 1719 | 1591 | 1429 | — | — | 2253 | 1/2 | 0.31 | | | | | 7F927 | 422.00 | 7F928 | 539.50 |
| | 86 | 85 | 84 | 83 | 83 | — | — | | | | | | | | | | | |
| | 2432 | 2360 | 2287 | 2215 | 2126 | 2020 | 1905 | 2877 | 3/4 | 0.60 | | | | | 7F930 | 477.50 | 7F931 | 551.50 |
| | 92 | 92 | 91 | 91 | 91 | 91 | 90 | | | | | | | | | | | |
| 16 | 2379 | 2152 | 1820 | 1190 | 779 | 497 | — | 1570 | 1/3 | 0.29 | 4C660 | 550.36 | 329.75 | 48.0 | 7F933 | 452.75 | 7F934 | 554.00 |
| | 84 | 84 | 86 | 85 | — | — | — | | | | | | | | | | | |
| | 2727 | 2530 | 2288 | 1938 | 1335 | 956 | 711 | 1800 | 1/2 | 0.41 | | | | | 7F936 | 463.25 | 7F937 | 580.50 |
| | 86 | 86 | 87 | 88 | — | — | — | | | | | | | | | | | |
| | 3365 | 3205 | 3045 | 2833 | 2576 | 2206 | 1685 | 2221 | 3/4 | 0.59 | | | | | 7F939 | 513.00 | 7F940 | 587.00 |
| | 91 | 91 | 92 | 93 | 93 | 93 | — | | | | | | | | | | | |
| | 3859 | 3720 | 3580 | 3430 | 3238 | 3028 | 2744 | 2547 | 1 | 0.84 | | | | | 7F942 | 536.50 | 7F943 | 609.00 |
| | 95 | 95 | 96 | 96 | 96 | 97 | 97 | | | | | | | | | | | |
| 18 | 3165 | 2910 | 2640 | 2300 | — | — | — | 1375 | 1/3 | .28 | 4C661 | 617.70 | 370.00 | 50.0 | 7F945 | 494.25 | 7F946 | 595.50 |
| | 85 | 84 | 86 | 88 | — | — | — | | | | | | | | | | | |
| | 3495 | 3270 | 3010 | 2720 | 2280 | — | — | 1487 | 1/2 | .37 | | | | | 7F948 | 500.50 | 7F949 | 617.50 |
| | 85 | 85 | 86 | 88 | 88 | — | — | | | | | | | | | | | |
| | 4040 | 3845 | 3635 | 3400 | 3120 | 2810 | — | 1719 | 3/4 | .57 | | | | | 7F951 | 557.00 | 7F952 | 630.50 |
| | 87 | 87 | 87 | 90 | 93 | 91 | — | | | | | | | | | | | |
| | 4660 | 4485 | 4290 | 4100 | 3900 | 3665 | 3385 | 1988 | 1 | .85 | | | | | 7F954 | 573.00 | 7F955 | 645.50 |
| | 90 | 90 | 90 | 90 | 93 | 95 | 95 | | | | | | | | | | | |
| | 5300 | 5170 | 5040 | 4930 | 4790 | 4655 | 4500 | 2255 | 1½ | 1.34 | | | | | 7F957 | 616.50 | 7F958† | 711.50 |
| | 94 | 93 | 93 | 93 | 95 | 97 | 98 | | | | | | | | | | | |
| 24 | 7085 | 6695 | 6260 | 5800 | 5250 | — | — | 1312 | 1 | 1.00 | 3C411 | 806.29 | 483.00 | 85.0 | 7F960 | 706.50 | 7F961 | 778.50 |
| | 89 | 88 | 89 | 90 | 92 | — | — | | | | | | | | | | | |
| | 7945 | 7575 | 7200 | 6780 | 6300 | 5760 | 4960 | 1466 | 1½ | 1.31 | | | | | 7F830† | 646.50 | 7F833† | 826.00 |
| | 92 | 90 | 91 | 92 | 93 | 96 | 95 | | | | | | | | | | | |
| | 9140 | 8820 | 8500 | 8185 | 7800 | 7400 | 6950 | 1688 | 2 | 1.98 | | | | | 7F831† | 695.50 | 7F834† | 862.00 |
| | 96 | 96 | 97 | 97 | 97 | 97 | 98 | | | | | | | | | | | |
| | 10290 | 10090 | 9860 | 9620 | 9380 | 9140 | 8870 | 1910 | 3 | 2.87 | | | | | 7F832† | 697.00 | 7F835† | 886.00 |
| | 99 | 98 | 99 | 99 | 98 | 98 | 98 | | | | | | | | | | | |

Performance shown is for Installation Type B: Free Inlet, Ducted Outlet. Power ratings (BHP) do not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream. (†) Have 230/460V, 3-phase motors.

## 30 TO 48" BELT-DRIVE TUBEAXIAL FAN PERFORMANCE AND ORDERING DATA

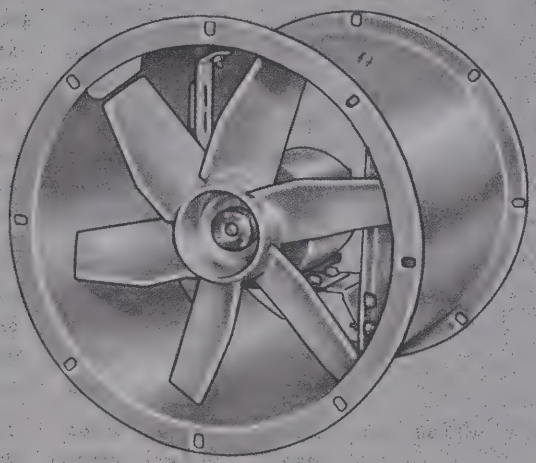
| Blade Dia. (In.) | CFM & Sound Power Lw (A) Decibels Static Pressure Shown 0.0" SP | 0.125" SP | 0.250" SP | 0.500 SP | 0.750" SP | 1.00" SP | 1.250" SP | Fan RPM | Motor HP | Max. BHP* | FANS LESS MOTOR AND DRIVE Stock No. | List | Each | Shpg. Wt. | FANS WITH 3-PHASE MOTOR AND DRIVE Totally Enclosed Fan Cooled Stock No. | Each | Hazardous Location Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 10955 | 10415 | 9815 | 8395 | — | — | — | 1030 | 1½ | 1.40 | 3C412 | $1163.24 | $697.00 | 165.0 | 7F840 | $830.50 | 7F844 | $1009.00 |
| | 90 | 89 | 89 | 92 | — | — | — | | | | | | | | | | | |
| | 12190 | 11710 | 11180 | 9990 | 8485 | — | — | 1146 | 2 | 1.90 | | | | | 7F841 | 876.50 | 7F845 | 1043.00 |
| | 93 | 94 | 94 | 94 | 96 | — | — | | | | | | | | | | | |
| | 14040 | 13630 | 13180 | 12220 | 11105 | 9740 | — | 1320 | 3 | 2.91 | | | | | 7F842 | 891.00 | 7F846 | 1081.00 |
| | 97 | 96 | 96 | 96 | 98 | 99 | — | | | | | | | | | | | |
| | 16495 | 16150 | 15785 | 14995 | 14145 | 13190 | 12125 | 1551 | 5 | 4.72 | | | | | 7F843 | 914.50 | 7F847 | 1155.00 |
| | 102 | 101 | 100 | 100 | 100 | 101 | 104 | | | | | | | | | | | |
| 34 | 14430 | 13760 | 13020 | 11285 | 7155 | — | — | 936 | 2 | 1.83 | 3C413 | 1305.98 | 782.50 | 230.0 | 7F851 | 953.50 | 7F854 | 1120.00 |
| | 94 | 92 | 92 | 95 | 96 | — | — | | | | | | | | | | | |
| | 16560 | 15985 | 15350 | 13965 | 12305 | 7750 | — | 1074 | 3 | 2.78 | | | | | 7F852 | 965.50 | 7F855 | 1154.00 |
| | 100 | 100 | 99 | 99 | 101 | 103 | — | | | | | | | | | | | |
| | 19290 | 18800 | 18280 | 17150 | 15880 | 14445 | 12180 | 1251 | 5 | 4.36 | | | | | 7F853 | 1003.00 | 7F856 | 1244.00 |
| | 102 | 103 | 101 | 101 | 101 | 103 | 104 | | | | | | | | | | | |
| 36 | 15255 | 14455 | 13570 | 11430 | — | — | — | 837 | 2 | 1.82 | 3C414 | 1351.92 | 810.00 | 240.0 | 7F860 | 982.00 | 7F863 | 1148.00 |
| | 92 | 90 | 90 | 94 | — | — | — | | | | | | | | | | | |
| | 17570 | 16890 | 16135 | 14450 | 12345 | — | — | 964 | 3 | 2.79 | | | | | 7F861 | 997.00 | 7F864 | 1186.00 |
| | 98 | 98 | 97 | 98 | 100 | — | — | | | | | | | | | | | |
| | 20650 | 20080 | 19460 | 18135 | 16605 | 14825 | — | 1133 | 5 | 4.53 | | | | | 7F862 | 1020.00 | 7F865 | 1260.00 |
| | 100 | 101 | 100 | 99 | 100 | 102 | — | | | | | | | | | | | |
| 42 | 21465 | 20430 | 19275 | 16565 | — | — | — | 746 | 3 | 2.76 | 3C415 | 1864.14 | 1117.00 | 368.0 | 7F870 | 1256.00 | 7F874 | 1445.00 |
| | 91 | 91 | 92 | 95 | — | — | — | | | | | | | | | | | |
| | 25320 | 24460 | 23505 | 21435 | 18965 | — | — | 880 | 5 | 4.53 | | | | | 7F871 | 1296.00 | 7F875 | 1537.00 |
| | 98 | 98 | 98 | 99 | 100 | — | — | | | | | | | | | | | |
| | 29150 | 28410 | 27610 | 25900 | 23960 | 21775 | 18120 | 1013 | 7½ | 6.88 | | | | | 7F872 | 1364.00 | 7F876 | 1665.00 |
| | 100 | 101 | 101 | 102 | 103 | 104 | 103 | | | | | | | | | | | |
| | 33005 | 32355 | 31670 | 30185 | 28620 | 26850 | 24920 | 1147 | 10 | 9.98 | | | | | 7F873 | 1420.00 | 7F877 | 1716.00 |
| | 104 | 104 | 104 | 105 | 106 | 107 | 107 | | | | | | | | | | | |
| 48 | 31260 | 30070 | 28745 | 25810 | 22170 | — | — | 731 | 5 | 5.00 | 3C416 | 2296.58 | 1376.00 | 456.0 | 7F881 | 1553.00 | 7F884 | 1794.00 |
| | 100 | 99 | 98 | 98 | 100 | — | — | | | | | | | | | | | |
| | 35365 | 34325 | 33185 | 30750 | 27900 | 24390 | — | 827 | 7½ | 7.25 | | | | | 7F882 | 1608.00 | 7F885 | 1909.00 |
| | 102 | 102 | 102 | 101 | 101 | 102 | — | | | | | | | | | | | |
| | 38100 | 37140 | 36105 | 33885 | 31380 | 28550 | 24060 | 891 | 10 | 9.04 | | | | | 7F883 | 1686.00 | 7F886 | 1982.00 |
| | 105 | 104 | 104 | 104 | 103 | 104 | 105 | | | | | | | | | | | |

Performance shown is for Installation Type B: Free Inlet, Ducted Outlet. Power ratings (BHP) do not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream.

# 12 TO 30" DIRECT DRIVE TUBEAXIAL FANS

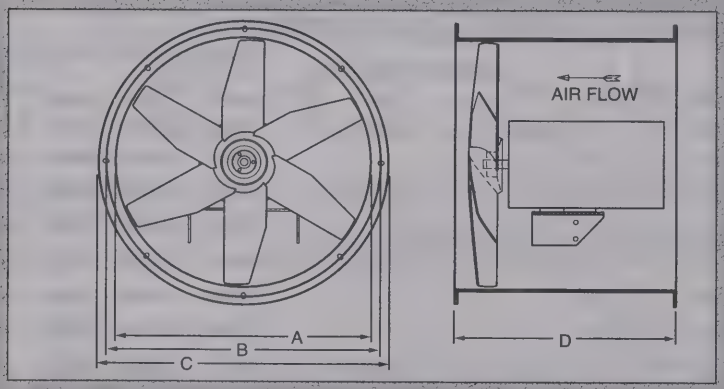
New

Dayton®



UL MH12596

- Direct-drive tubeaxial fan for air moving in medium lengths of duct work
- Totally enclosed ball bearing motors
- 2 speed motors are standard in sizes 12" through 21"
- No. 2X605 2-speed control available on page 475
- Motor, blades and housing are shipped assembled
- Designed to operate in any position
- Precision balanced aluminum blades
- Steel housing is coated with acrylic epoxy finish
- Optional companion flanges available; see page 3648,3651 (21" companion flange available through GPO)
- Maximum inlet air temperature is 104°F




amca CERTIFIED RATINGS — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

Dayton Electric Mfg. Co. certifies that the blowers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

The sound power ratings shown are in decibels referred to $10^{-13}$ watt calculated per AMCA Standard 301. The A weighted sound ratings shown have been calculated per AMCA Standard 301. Values shown for blowers are for (inlet Lwi) sound levels for: Installation Type B: free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

**Replacement Parts Available**
**1-800-323-0620**

| Size (In.) | Sones @ 0" SP | RPM | Max BHP | Mtr. HP | CFM (In.) 0" SP | 1/8" SP | 1/4" SP | 3/8" SP | 1/2" SP | Dimensions (In.) A | B | C | D | Voltage | Amps | New! Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12** | 17.1<br>9.9 | 1750<br>1140 | 0.14<br>0.04 | 1/4 | 1627<br>1060 | 1465<br>— | 1182<br>— | —<br>— | —<br>— | 12.2 | 13.4 | 14.6 | 14.0 | 115/60/1 | 4.0<br>2.0 | **4TM80** | $634.35 | **$380.00** | 29.0 |
| **16** | 22<br>17.9 | 1750<br>1140 | 0.36<br>0.10 | 1/3 | 2763<br>1800 | 2595<br>1486 | 2388<br>— | —<br>— | —<br>— | 16.1 | 17.5 | 18.5 | 14.0 | 115/60/1 | 5.5<br>3.6 | **4TM81** | 757.70 | **453.75** | 43.0 |
| **18** | 25<br>14.9 | 1750<br>1140 | 0.52<br>0.14 | 1/2 | 3938<br>2565 | 3724<br>2249 | 3521<br>1402 | 3323<br>— | 3058<br>— | 18.5 | 19.9 | 21.0 | 16.0 | 115/60/1 | 6.7<br>4.6 | **4TM82** | 826.44 | **495.00** | 54.0 |
| **18** | 29<br>16.7 | 1750<br>1140 | 0.80<br>0.21 | 3/4 | 4670<br>3042 | 4436<br>2678 | 4198<br>2148 | 3947<br>— | 3653<br>— | 18.5 | 19.9 | 21.0 | 16.0 | 115/60/1 | 11.4<br>6.7 | **4TM83** | 944.06 | **565.50** | 63.0 |
| **21** | 27<br>14.3 | 1750<br>1140 | 1.10<br>0.33 | 1 | 6193<br>4035 | 5970<br>3682 | 5738<br>3249 | 5489<br>1986 | 5211<br>— | 21.3 | 22.6 | 23.9 | 16.0 | 230/60/1 | 5.0<br>3.0 | **4TM84** | 1011.36 | **606.00** | 87.0 |
| **24** | 20 | 1140 | 1.02 | 1 | 8407 | 7950 | 7444 | 6799 | — | 24.5 | 25.8 | 26.9 | 18.0 | 200-230/460/60/3 | 4.1/4.2/2.1 | **4TM85** | 1222.23 | **732.00** | 98.0 |
| **30** | 29 | 1140 | 3.06 | 3 | 14537 | 13943 | 13348 | 12748 | 12112 | 30.6 | 32.3 | 33.6 | 18.0 | 200-230/460/60/3 | 10.2/9.8/4.9 | **4TM86** | 1944.56 | **1165.00** | 182.0 |

# BLADES FOR TUBEAXIAL FANS




- **12 to 48" spark-resistant aluminum fan blades**

Fan blades are used as direct factory replacements for Dayton Belt-drive tubeaxial fans. Blades are attached to shaft by a drift pin on the discharge side and/or two set screws on the intake side.

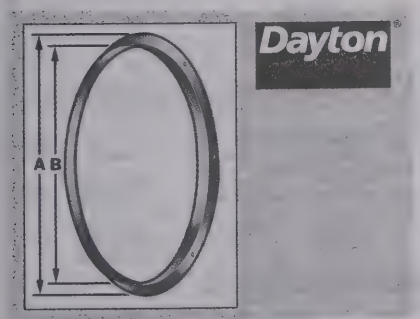
See Index under Belt-drive Tubeaxial Fans for complete performance and sound data. Dayton brand.

**Replacement Parts Available**
**1-800-323-0620**

## TUBEAXIAL FAN BLADE ORDERING DATA

| Blade Dia. (In.) | CFM 0.0" SP | CFM 0.250" SP | Fan RPM | Fan HP | No. Blades | Hub Bore (In.) | For Use On Dayton Fan No. | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **12** | 1767<br>1904<br>2432 | 1561<br>1719<br>2287 | 2090<br>2253<br>2877 | 1/3<br>1/2<br>3/4 | 4 | 5/8 | 4C659 | **4C662** | $85.94 | **$51.50** | 2.8 |
| **16** | 2379<br>2727<br>3365<br>3859 | 1820<br>2288<br>3045<br>3580 | 1570<br>1800<br>2221<br>2547 | 1/3<br>1/2<br>3/4<br>1 | 6 | 7/8 | 4C660 | **4C663** | 114.42 | **68.55** | 3.0 |
| **18** | 3165<br>3495<br>4040<br>4660<br>5300 | 2640<br>3010<br>3635<br>4290<br>5040 | 1375<br>1487<br>1719<br>1988<br>2255 | 1/3<br>1/2<br>3/4<br>1<br>1½ | 6 | 7/8 | 4C661 | **4C715** | 139.57 | **83.60** | 3.3 |
| **24** | 7085<br>7945<br>9140<br>10290 | 6260<br>7200<br>8500<br>9860 | 1312<br>1466<br>1688<br>1910 | 1<br>1½<br>2<br>3 | 6 | 1 | 3C411 | **4C664** | 223.54 | **133.90** | 9.0 |
| **30** | 10955<br>12190<br>14040<br>16495 | 9815<br>11180<br>13180<br>15785 | 1030<br>1146<br>1320<br>1551 | 1½<br>2<br>3<br>5 | 6 | 1 3/16 | 3C412 | **3C418** | 314.88 | **188.75** | 14.0 |
| **34** | 14430<br>16560<br>19290 | 13020<br>15350<br>18280 | 936<br>1074<br>1251 | 2<br>3<br>5 | 6 | 1 3/16 | 3C413 | **3C419** | 344.73 | **206.50** | 17.0 |
| **36** | 15255<br>17570<br>20650 | 13570<br>16135<br>19460 | 837<br>964<br>1133 | 2<br>3<br>5 | 6 | 1 3/16 | 3C414 | **3C420** | 368.17 | **220.50** | 18.0 |
| **42** | 21465<br>25320<br>29150<br>33005 | 19275<br>23505<br>27610<br>31670 | 746<br>880<br>1013<br>1147 | 3<br>5<br>7½<br>10 | 5 | 1 7/16 | 3C415 | **3C421** | 497.67 | **298.25** | 30.0 |
| **48** | 31260<br>35365<br>38100 | 28745<br>33185<br>36105 | 731<br>827<br>891 | 5<br>7½<br>10 | 5 | 1 7/16 | 3C416 | **3C422** | 585.04 | **350.50** | 37.0 |

# TUBEAXIAL FAN COMPANION FLANGES

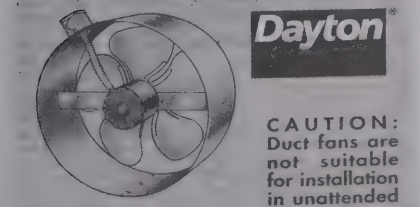



**Companion flanges are** used to attach tubeaxial fans to ductwork. Pre-drilled mounting holes match tubeaxial fan housing. 12 to 18" are constructed of 16-gauge steel; 24 to 48" made of 14-gauge steel. 1½"W x 1½"D. Sold in pairs. Dayton brand.

## COMPANION FLANGE ORDERING DATA

| For Tubeaxial Fan Dia. (In.) | Fits Tubeaxial Fan | Dimensions (In.) A | B | Hole Dia. | Stock No. | List | Each Pair | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **12** | 4C659 | 13½ | 12¼ | 5/16 | **4C716** | $63.42 | **$38.00** | 4.5 |
| **16** | 4C660 | 17½ | 16¼ | 5/16 | **4C717** | 70.83 | **42.45** | 5.9 |
| **18** | 4C661 | 19⅞ | 18½ | 5/16 | **4C718** | 74.94 | **44.90** | 6.0 |
| **24** | 3C411 | 25¾ | 24 5/16 | 7/16 | **3C436** | 84.52 | **50.65** | 10.0 |
| **30** | 3C412 | 32¼ | 30½ | 7/16 | **3C440** | 97.18 | **58.20** | 15.0 |
| **34** | 3C413 | 36¼ | 34½ | 7/16 | **3C441** | 109.45 | **65.55** | 18.0 |
| **36** | 3C414 | 38¼ | 36½ | 7/16 | **3C442** | 122.66 | **73.50** | 19.0 |
| **42** | 3C415 | 44¼ | 42½ | 9/16 | **3C443** | 134.82 | **80.75** | 22.0 |
| **48** | 3C416 | 50¼ | 48½ | 9/16 | **3C444** | 150.41 | **90.10** | 25.0 |

# DUCT FANS FOR 10 to 14" DUCTS




No. 2C222

**CAUTION:** Duct fans are not suitable for installation in unattended areas.

**Boost air flow** in heating and central air conditioning ducts. Fans install easily in round ducts.

**Motor and fan blades** fit 7⅞" long galvanized steel housing compatible with standard ventilation duct work. Choice of three models deliver from 300 to 660 CFM at 0.0" SP. **All motors** are Dayton 1550 RPM, 115V, 60 Hz, shaded pole type with 12" long leads.

**Not recommended for use with speed control.**

## DUCT FAN ORDERING DATA

| Duct Dia. (In.) | CFM @ 0.0" SP | Motor HP | Motor RPM | Full-Load Amps | Motor Enclosure | Stock No. | List | Each | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|---|
| **10** | 300 | 1/100 | 1550 | 0.72 | TE | **2C222** | $79.40 | **$47.55** | 5.0 |
| **12** | 425 | 1/70 | 1550 | 0.77 | TE | **2C223** | 89.53 | **53.65** | 5.7 |
| **14** | 660 | 1/30 | 1550 | 1.00 | TE | **2C224** | 94.97 | **56.90** | 7.4 |

# CENTRIFUGAL IN-LINE DUCT BLOWERS

**Combine centrifugal blower performance** with compactness and straight-thru flow characteristics of a vaneaxial fan. Used in many types of air supply and exhaust systems as boosters or where conventional blower installation is impractical. Designed for vertical or horizontal mounting.

**Direct-drive blowers** have ball bearing motors. Belt-drive blowers have motor cover; ball bearing motor and drive packed separately when blower is ordered complete. All blowers have aerodynamic air straightening vanes and deep-spun, low turbulence inlet cone. Extruded aluminum airfoil wheels.

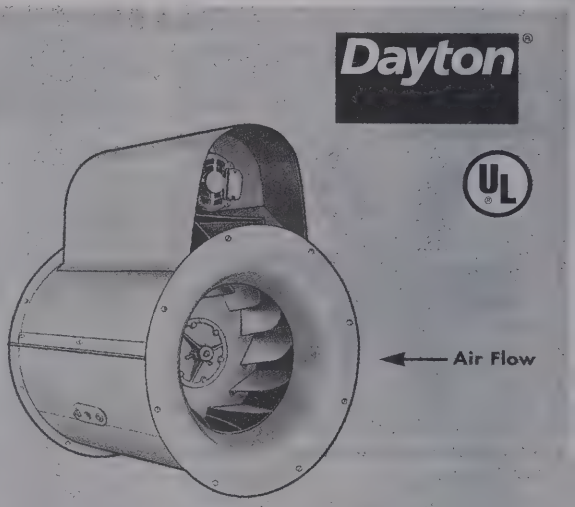
**Side angle supports** provided for suspension mounting. Removable plate allows access to all moving parts. Housing flanges not supplied.

**Aluminum construction** for light weight and structural strength. Air deliveries are based on standard test codes of AMCA.

**The Centrifugal In-Line blowers listed here have four mounting points and we recommend 4 hanger mounted vibration isolators. Blowers No. 4C258 thru 3C280 should have 4 No. 4C878 isolators; blower No. 3C281, 4 No. 4C879 isolators. For detailed description of hanger isolators, see Index under Isolators.**

Dayton Electric Mfg. Co. certifies that the blowers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

The sound power ratings shown are in decibels referred to $10^{-13}$ watt calculated per AMCA Standard 301. The A weighted sound ratings shown have been calculated per AMCA Standard 301. Values shown for blowers are for (inlet Lwi) sound levels for: Installation Type B: free inlet, ducted outlet. Ratings do not include the effects of duct end correction.




No.3C279

Replacement Parts Available
1-800-323-0620

## DIRECT-DRIVE IN-LINE BLOWER MOTOR DATA AND PERFORMANCE

| Wheel Dia. (In.) | Stock No. | CFM AIR DELIVERY AT RPM SHOWN 0.0" SP | 0.125" SP | 0.250" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.250" SP | 1.500" SP | 2.00" SP | MOTOR DATA Sones @ 0.125" SP | RPM | HP | Volts 60 Hz |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 4C258 | 1070 | 1000 | 950 | 845 | 695 | 550 | — | — | — | 6.1 | 1750 | 1/4 | 115 |
| 13 | 4C259 | 2290 | 2140 | 2030 | 1810 | 1500 | 1165 | 865 | 515 | — | 13.8 | 1750 | 3/4 | 115/230 |

## IN-LINE BLOWER ORDERING DATA

| Wheel Dia. (In.) | Drive Type | Bolt Hole Dia., (In.) | Bolt Circle Dia., (In.) | Housing Diameter, (In.) Less Mtg. Flange | Including Mtg. Flange | Length | Maximum Inlet Temperature | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | Direct | 17/64 (6) | 16 1/4 | 14 1/2 | 17 1/4 | 21 | 110°F | 4C258 | $873.32 | $523.00 | 34.0 |
| 13 | Direct | 17/64 (6) | 20 3/4 | 19 | 21 3/8 | 22 | 110 | 4C259 | 1289.60 | 772.50 | 56.0 |
| 16½ | Belt | 17/64 (6) | 24 3/4 | 23 | 25 3/8 | 25 | 200 | 3C279 | 1369.00 | 820.00 | 77.0 |
| 20 | Belt | 17/64 (8) | 29 1/2 | 27 3/4 | 30 1/8 | 30 | 200 | 3C280 | 1740.00 | 1040.00 | 122.0 |
| 24½ | Belt | 17/64 (8) | 35 | 33 1/4 | 35 5/8 | 32 | 200 | 3C281 | 2021.40 | 1211.00 | 153.0 |

## BELT-DRIVE IN-LINE BLOWERS WITH 1725 RPM BALL BEARING MOTOR AND DRIVE2

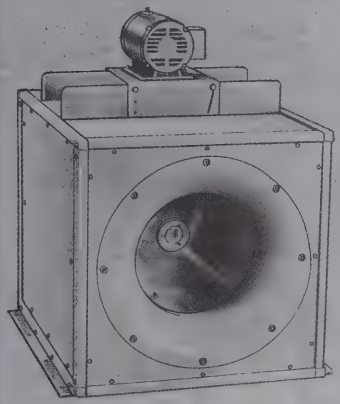
| Wheel Dia. (In.) | CFM AIR DELIVERY AT RPM SHOWN 0.0" SP | 0.125" SP | 0.250" SP | 0.500" SP | 0.750" SP | 1.000 SP | 1.250 SP | 1.500 SP | 2.00 SP | Sones @ 0.125 SP | Fan RPM | Motor HP 1725 RPM | Capacitor-Start 115/230V, 60 Hz Stock No. | Each | 3-Phase Motor 230/460V, 60 Hz Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16½ | 2878 | 2705 | 2520 | 2075 | 1500 | 1110 | 650 | — | — | 12.4 | 1290 | 3/4 | 7F676 | $1032.00 | 7F679† | $1053.00 |
| | 3200 | 3050 | 2880 | 2525 | 2020 | 1550 | 1215 | 820 | — | 14.2 | 1435 | 1 | 7F677 | 1090.00 | 7F680† | 1068.00 |
| | 3670 | 3540 | 3395 | 3100 | 2745 | 2285 | 1870 | 1560 | 885 | 17.0 | 1645 | 1½ | 7F678 | 1183.00 | 7F681† | 1153.00 |
| 20 | 4950 | 4790 | 4630 | 4290 | 3940 | 3510 | 2945 | 2390 | — | 13.5 | 1250 | 1½ | 7F682 | 1419.00 | 7F683† | 1389.00 |
| | 5425 | 5280 | 5135 | 4825 | 4520 | 4185 | 3750 | 3235 | 1910 | 15.2 | 1370 | 2 | — | — | 7F684 | 1419.00 |
| | 6240 | 6110 | 5985 | 5785 | 5450 | 5185 | 4895 | 4560 | 3685 | 18.2 | 1575 | 3 | — | — | 7F685 | 1379.00 |
| 24½ | 6220 | 6005 | 5770 | 5210 | 4625 | 3790 | 2060 | — | — | 12.0 | 895 | 2 | — | — | 7F686 | 1545.00 |
| | 7335 | 7150 | 6960 | 6530 | 6050 | 5540 | 4850 | 4155 | — | 14.8 | 1055 | 3 | — | — | 7F687 | 1517.00 |
| | 8445 | 8290 | 8125 | 7780 | 7360 | 6955 | 6525 | 5995 | 4755 | 17.9 | 1215 | 5 | — | — | 7F688 | 1547.00 |

(†) 208/220/440 Volts, 60/50 Hz.

**TECHNICAL REFERENCE LITERATURE**

**Technical reference literature is available on such subjects as welding, basic electricity, ventilation, electric motors, hydraulics and pneumatics. See Index under Books.**

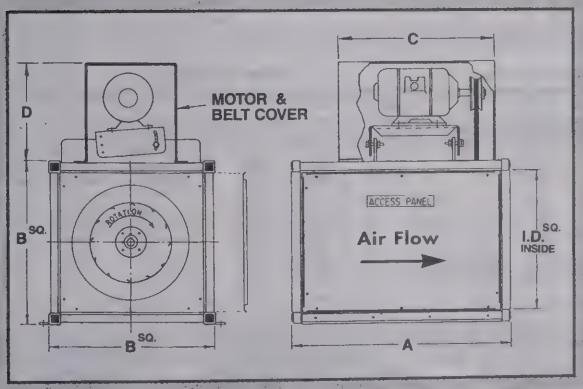
# CENTRIFUGAL IN-LINE DUCT FANS



No. 3C755

Air Flow

Replacement Parts Available 1-800-323-0620




- Fans are designed for installation within horizontal or vertical duct systems where space is limited
- Used as a primary fan to exhaust foul air or supply fresh air in duct systems
- Also used as an air duct booster to the primary fan in the system
- Backward incline non-overloading aluminum wheel
- Zinc coated steel housing
- Motor and drive weather cover included
- Two gasketed removable access panels
- All position mounting, side angle supports for suspension or floor mounting
- Ball bearing pillow block bearings
- Maximum inlet temperature 160°F

Dayton Mfg. Co. certifies that the in-line duct fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Sound ratings shown are loudness values in fan sones at 5 ft (1.5M) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Power ratings (BHP) do not include drive losses. Performance shown is for installation Type A: Free Inlet, Free Outlet. Performance ratings do not include the effects of appurtenances in the airstream.

## CENTRIFUGAL IN-LINE DUCT FANS DIMENSIONS (In.)

| Wheel Diameter | A | B sq. OD† | C | D | Inlet Diameter | Fan Only Shpg. Wt. |
|---|---|---|---|---|---|---|
| 13 3/4 | 27 | 22 | 18 | 13 1/2 | 14 1/2 | 74.0 |
| 15 7/8 | 27 | 22 | 18 | 13 1/2 | 16 1/4 | 90.0 |
| 16 7/8 | 33 | 28 | 19 3/4 | 13 1/2 | 16 1/4 | 137.0 |
| 20 1/4 | 33 | 28 | 19 3/4 | 13 1/2 | 21 | 152.0 |
| 24 7/8 | 36 | 33 1/4 | 19 3/4 | 13 1/2 | 26 | 245.0 |
| 30 5/8 | 44 | 40 1/2 | 25 1/4 | 20 1/2 | 30 7/8 | 415.0 |
| 37 1/4 | 48 | 49 1/2 | 25 1/4 | 20 1/2 | 37 7/16 | 525.0 |

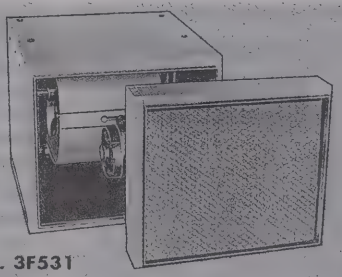
(†) B sq. ID is 2" less than B sq. OD.

## CENTRIFUGAL IN-LINE DUCT BLOWER PERFORMANCE AND ORDERING DATA

| Wheel Diameter (In.) | CFM @ Static Pressure Shown | | | | | | | | | | RPM | HP | Max BHP | Sones @ 0.125" SP | FANS LESS MOTOR AND DRIVES Stock No. | Each | FANS WITH MOTOR & DRIVES 1-Ph. Motor Stock No. | Each | 3-Ph. Motor Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.125" SP | 0.250" SP | 0.375" SP | 0.50" SP | 0.625" SP | 0.750" SP | 1.00" SP | 1.25" SP | 1.50" SP | 1.75" SP | | | | | | | | | | |
| 13 3/4 | 1310 | 1159 | 983 | 809 | — | — | — | — | — | — | 1000 | 1/4 | 0.15 | 6.5 | 3C755 | $549.00 | 7H454 | $623.00 | 7H468 | $638.00 |
| | 1709 | 1585 | 1465 | 1328 | 1195 | 1060 | — | — | — | — | 1251 | 1/4 | 0.30 | 9.4 | | | 7H455 | 624.50 | 7H469 | 639.50 |
| | 1872 | 1758 | 1645 | 1534 | 1396 | 1282 | — | — | — | — | 1356 | 1/3 | 0.38 | 10.3 | | | 7H456 | 637.50 | 7H470 | 632.50 |
| | 2177 | 2075 | 1976 | 1878 | 1783 | 1670 | 1455 | — | — | — | 1553 | 1/2 | 0.57 | 12.8 | | | 7H457 | 669.50 | 7H471 | 649.00 |
| 15 7/8 | 2706 | 2545 | 2373 | 2184 | 2002 | 1845 | 1194 | — | — | — | 1229 | 1/2 | 0.57 | 12.1 | 3C756 | 579.50 | 7H458 | 736.50 | 7H472 | 716.50 |
| | 3137 | 3012 | 2856 | 2707 | 2548 | 2373 | 2090 | 1573 | — | — | 1407 | 3/4 | 0.85 | 14.0 | | | 7H459 | 777.50 | 7H473 | 738.00 |
| | 3418 | 3302 | 3167 | 3027 | 2891 | 2736 | 2443 | 2172 | 1610 | — | 1524 | 1 | 1.08 | 15.5 | | | 7H460 | 794.00 | 7H474 | 747.50 |
| 16 7/8 | 3636 | 3525 | 3415 | 3306 | 3196 | 3080 | 2820 | 2548 | 2202 | — | 1329 | 1 | 1.08 | 18.3 | 3C757 | 760.50 | 7H461 | 1012.00 | 7H475 | 964.50 |
| | 4194 | 4097 | 4000 | 3905 | 3809 | 3714 | 3514 | 3286 | 3058 | 2789 | 1522 | 1 1/2 | 1.62 | 23.0 | | | 7H462 | 1059.00 | 7H476 | 995.00 |
| | 4634 | 4546 | 4458 | 4370 | 4284 | 4197 | 4023 | 3837 | 3628 | 3420 | 1675 | 2 | 2.15 | 26.0 | | | 7H463 | 1167.00 | 7H477 | 1021.00 |
| 20 1/4 | 4997 | 4792 | 4577 | 4341 | 4092 | 3772 | 2800 | — | — | — | 976 | 1 | 1.07 | 16.7 | 3C758 | 926.00 | 7H464 | 1218.00 | 7H478 | 1171.00 |
| | 5130 | 4930 | 4723 | 4494 | 4256 | 3967 | 3111 | — | — | — | 1000 | 1 1/2 | 1.16 | 17.4 | | | 7H465 | 1284.00 | 7H479 | 1219.00 |
| | 5779 | 5602 | 5422 | 5229 | 5024 | 4815 | 4279 | 3478 | — | — | 1118 | 1 1/2 | 1.62 | 19.7 | | | 7H466 | 1273.00 | 7H480 | 1208.00 |
| | 6392 | 6231 | 6069 | 5905 | 5724 | 5537 | 5144 | 4613 | 3873 | — | 1230 | 2 | 2.15 | 23.0 | | | 7H467 | 1365.00 | 7H481 | 1210.00 |
| 24 7/8 | 7831 | 7611 | 7375 | 7121 | 6817 | 6475 | 5734 | 4789 | — | — | 896 | 2 | 2.15 | 17.4 | 3C759 | 1235.00 | 7H575 | 1741.00 | 7H482 | 1587.00 |
| | 9028 | 8835 | 8642 | 8431 | 8213 | 7966 | 7373 | 6725 | 6005 | 4927 | 1026 | 3 | 3.22 | 22.0 | | | — | — | 7H483 | 1671.00 |
| | 10774 | 10612 | 10450 | 10287 | 10116 | 9932 | 9541 | 9068 | 8543 | 7995 | 1217 | 5 | 5.38 | 27.0 | | | — | — | 7H484 | 1705.00 |
| 30 5/8 | 11249 | 10933 | 10614 | 10294 | 9912 | 9522 | 8666 | 7593 | 5941 | — | 785 | 3 | 3.23 | 19.5 | 3C760 | 1791.00 | — | — | 7H485 | 2121.00 |
| | 13434 | 13168 | 12901 | 12631 | 12362 | 12071 | 11419 | 10733 | 9953 | 9014 | 930 | 5 | 5.37 | 26.0 | | | — | — | 7H486 | 2154.00 |
| | 15457 | 15224 | 14991 | 14758 | 14523 | 14287 | 13787 | 13218 | 12630 | 12003 | 1065 | 7 1/2 | 8.06 | 32.0 | | | — | — | 7H487 | 2306.00 |
| 37 1/4 | 17772 | 17353 | 16881 | 16362 | 15819 | 15244 | 13938 | 12463 | — | — | 653 | 5 | 5.35 | 27.0 | 3C761 | 2331.00 | — | — | 7H488 | 2600.00 |
| | 20472 | 20106 | 19740 | 19309 | 18859 | 18389 | 17398 | 16273 | 15021 | 13581 | 748 | 7 1/2 | 8.05 | 32.0 | | | — | — | 7H489 | 2731.00 |
| | 22199 | 21861 | 21522 | 21165 | 20751 | 20331 | 19447 | 18497 | 17427 | 16267 | 809 | 10 | 10.18 | 38.0 | | | — | — | 7H490 | 2798.00 |

# IN-LINE DUCT BLOWERS AND FILTERS

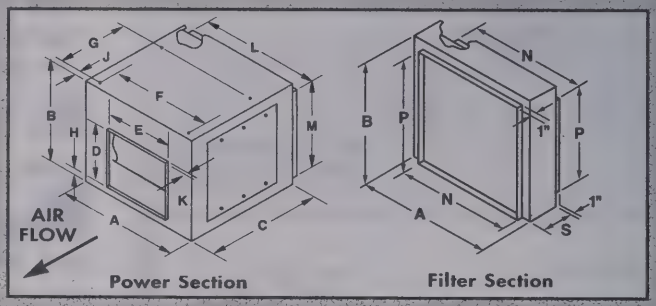
- An economical and efficient all-purpose inline duct blower for indoor use with clean air heating, cooling, and ventilating systems
- 1/2" Internal fiberglass insulation to help isolate noise and overcome condensation on cabinet when used in cooling applications
- Quiet forward curved, ball-bearing, double inlet blowers
- All position mounting, except sizes 15¼ and 18³⁄₁₆ which are horizontal mount only
- Access panel for convenient motor and drive installation and servicing from either side
- Ball bearing motors are rated for continuous duty and 40°C maximum ambient temperature
- Filter section with quick access, washable 1" thick aluminum mesh filter panel
- Up to 25% blower speed and CFM reduction using variable pitch motor sheaves when ordered with motor and drives



No. 3F531

DELHI INDUSTRIES INC.

Replacement Parts Available 1-800-323-0620




## IN-LINE DUCT BLOWER DIMENSIONS (In.)

| Stock No. | A | B | C | D | E | F | G | H | J | K | L | M | N† | P† | S† | Shpg. Wt.* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3F531 | 18 | 15⅝ | 23 | 8¼ | 9³⁄₁₆ | 14½ | 9⅝ | 1¼ | 1¼ | 7⁄8 | 15⅞ | 13⅜ | 16 | 13½ | 2 | 46.0 |
| 3F532 | 21 | 18 | 23 | 10¼ | 11¹³⁄₁₆ | 17½ | 11⅜ | 1¼ | 1¾ | 7⁄8 | 19 | 16 | 19⅛ | 16⅛ | 2 | 58.0 |
| 3F533 | 22¼ | 20 | 24¾ | 11⅜ | 13⅛ | 18¾ | 13⅜ | 1¼ | 1¾ | 7⁄8 | 20¼ | 18 | 20⅜ | 18⅛ | 2 | 69.0 |
| 3F534 | 27 | 23 | 27½ | 13⁷⁄₁₆ | 15⅝ | 23½ | 16⅛ | 1¼ | 1¾ | 7⁄8 | 25 | 21 | 25⅛ | 21⅛ | 2 | 89.0 |
| 3F535 | 33½ | 28 | 32 | 15⅞ | 18⅝ | 28 | 19½ | 2⅝ | 1¾ | 7⁄8 | 30½ | 25 | 30⅝ | 25⅛ | 2 | 137.0 |
| 3F536 | 41½ | 34 | 44 | 19⅝ | 22⅝ | 35 | 24 | 2¾ | 1¾ | 1⅛ | 35⅜ | 31⅝ | 35¼ | 31½ | 2 | 205.0 |

| Stock No. | Filter Size (In.) H x W | Filter Factor (#) | Filter Shpg. Wt. |
|---|---|---|---|
| 3F537 | 14⅛ x 16⅝ | 0.115 | 6.0 |
| 3F538 | 16¾ x 19⅞ | 0.055 | 7.0 |
| 3F539 | 18¾ x 21⅛ | 0.038 | 8.0 |
| 3F540 | 21¾ x 25⅞ | 0.020 | 10.0 |
| 3F541 | 25¾ x 31 | 0.009 | 12.0 |
| 3F542 | 32⅓ x 35⅞ | 0.004 | 14.0 |

(†) Filter box dimensions. (*) Weight less motor and drive. (#) Static pressure loss through filter = Filter Factor x $(CFM)^2 \div 1{,}000{,}000$.

## IN-LINE DUCT BLOWER SPECIFICATIONS

| Wheel Dia. (In.) | CFM Air Delivery @ RPM Shown 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | 0.625" SP | 0.750" SP | 1.00" SP | Blower RPM | HP | Sones @ 0.125" SP | FANS LESS MOTOR AND DRIVES Delhi Model | Stock No. | Each | FANS WITH MOTOR AND DRIVES 1-Ph, 115/230V Motor Stock No. | Each | 3-Ph, 230/460V Motor Stock No. | Each | Recommended Filter Rack Delhi Model | Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7¾ | 700 | 575 | — | — | — | — | — | 807 | 1/6 | 5.5 | | | | | | | | | | |
| | 890 | 805 | 690 | — | — | — | — | 978 | 1/6 | 6.0 | | | | 7H711 | 342.00 | — | — | | | |
| | 1020 | 935 | 860 | 720 | — | — | — | 1093 | 1/4 | 7.3 | 207 | 3F531 | $240.50 | 7H712 | 333.00 | 7H734 | $359.75 | F207A | 3F537 | $88.25 |
| | 1185 | 1115 | 1040 | 965 | 855 | 550 | — | 1248 | 1/3 | 8.9 | | | | 7H713 | 361.50 | 7H735 | 363.00 | | | |
| | 1345 | 1280 | 1215 | 1150 | 1085 | 990 | — | 1396 | 1/2 | 11.2 | | | | 7H714 | 384.00 | 7H736 | 378.00 | | | |
| 10⅛ | 1385 | 1225 | 825 | — | — | — | — | 690 | 1/4 | 4.5 | | | | 7H715 | 374.50 | 7H737 | 401.50 | | | |
| | 1575 | 1455 | 1250 | — | — | — | — | 771 | 1/3 | 5.5 | | | | 7H716 | 404.25 | 7H738 | 387.75 | | | |
| | 1820 | 1725 | 1600 | 1390 | 900 | — | — | 878 | 1/2 | 7.2 | 209 | 3F532 | 265.00 | 7H717 | 413.75 | 7H739 | 408.00 | F209A | 3F538 | 97.30 |
| | 2115 | 2035 | 1945 | 1835 | 1650 | 1400 | — | 1008 | 3/4 | 9.8 | | | | 7H718 | 443.75 | 7H740 | 427.75 | | | |
| 11⁷⁄₁₆ | 1725 | 1540 | 975 | — | — | — | — | 625 | 1/4 | 5.7 | | | | 7H719 | 408.25 | 7H741 | 434.75 | | | |
| | 1885 | 1715 | 1350 | — | — | — | — | 667 | 1/3 | 5.7 | | | | 7H720 | 422.50 | 7H742 | 423.50 | | | |
| | 2190 | 2045 | 1855 | 1495 | — | — | — | 759 | 1/2 | 8.0 | 210 | 3F533 | 291.75 | 7H721 | 444.25 | 7H743 | 438.25 | F210A | 3F539 | 111.50 |
| | 2515 | 2400 | 2260 | 2080 | 1750 | 850 | — | 863 | 3/4 | 9.7 | | | | 7H722 | 454.50 | 7H744 | 438.50 | | | |
| 12½ | 2365 | 1950 | — | — | — | — | — | 504 | 1/3 | 3.5 | | | | 7H723 | 502.50 | 7H745 | 503.50 | | | |
| | 2850 | 2590 | 2050 | — | — | — | — | 587 | 1/2 | 6.5 | | | | 7H724 | 490.50 | 7H746 | 484.75 | | | |
| | 3240 | 3015 | 2710 | 2100 | — | — | — | 656 | 3/4 | 9.8 | 212 | 3F534 | 333.75 | 7H725 | 516.50 | 7H747 | 500.00 | F212A | 3F540 | 124.35 |
| | 3565 | 3380 | 3150 | 2785 | 2100 | — | — | 717 | 1 | 9.8 | | | | 7H726 | 552.50 | 7H748 | 545.50 | | | |
| | — | — | 3425 | 3150 | 2700 | 1675 | — | 760 | 1 | 11.4 | | | | 7H727 | 534.50 | 7H749 | 543.50 | | | |
| 15¼ | 3700 | 3440 | 2850 | 1650 | — | — | — | 504 | 3/4 | 7.3 | | | | 7H728 | 689.50 | 7H750 | 674.00 | | | |
| | 4050 | 3825 | 3450 | 2750 | 1425 | — | — | 560 | 1 | 7.5 | | | | 7H729 | 679.50 | 7H751 | 694.50 | | | |
| | 4720 | 4550 | 4340 | 4000 | 3400 | 2375 | 850 | 645 | 1½ | 10.8 | | | | 7H730 | 725.50 | 7H752 | 679.00 | | | |
| | — | — | — | 4400 | 3900 | 3250 | 1200 | 680 | 1½ | 11.4 | 215 | 3F535 | 482.50 | 7H731 | 730.50 | 7H753 | 677.00 | F215A | 3F541 | 138.75 |
| | 5225 | 5100 | 4925 | 4730 | 4350 | 3845 | 1975 | 714 | 2 | 15.0 | | | | — | — | 7H754 | 701.50 | | | |
| | — | — | — | 5250 | 4835 | 4390 | 2925 | 752 | 2 | 15.9 | | | | — | — | 7H755 | 701.00 | | | |
| 18³⁄₁₆ | 5500 | 4780 | 3320 | — | — | — | — | 384 | 1 | 7.9 | | | | 7H732 | 1126.00 | 7H756 | 1142.00 | | | |
| | 6515 | 5960 | 5220 | 3820 | — | — | — | 443 | 1½ | 7.9 | | | | 7H733 | 1137.00 | 7H757 | 1103.00 | | | |
| | 7320 | 6850 | 6285 | 5530 | 4135 | — | — | 491 | 2 | 7.9 | 218 | 3F536 | 887.00 | — | — | 7H758 | 1128.00 | F218A | 3F542 | 209.00 |
| | 8515 | 8120 | 7685 | 7185 | 6525 | 5535 | — | 563 | 3 | 11.3 | | | | — | — | 7H759 | 1154.00 | | | |
| | 10000 | 9680 | 9325 | 8950 | 8520 | 8025 | 6550 | 654 | 5 | 14.1 | | | | — | — | 7H760 | 1165.00 | | | |



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

# SINGLE-INLET DUCT BLOWERS




Replacement Parts Available
1-800-323-0620

**Blower** for general duct ventilation, exhausting, air conditioning, processing, and industrial use.

**Inlet is unobstructed.** Comes with bottom horizontal discharge. Blower can be altered in the field to any required discharge position by drilling new holes and rotating blower housing on base and bolting in position.

**Adjustable top motor mount** quickly changed from top to rear mounting. Rugged construction of heavy gauge steel. Forward curve wheels. Very quiet belt drive. High volume at low velocity. Oversized ball bearings. Gray baked-on epoxy finish.

**Air deliveries** are based on standard test codes of AMCA. Maximum operating temperature is 180°F (82.2°C).

**Continuous duty,** 40°C ambient, resilient-mounted, automatic reset thermal protected motor. Motor and drive packed separately when blower is ordered complete. Maximum inlet temperature is 180°F.

**WARNING: Review OSHA Codes. OSHA complying guards are required when fan blades are exposed and within reach of personnel.**

## SINGLE-INLET DUCT BLOWER DIMENSIONS (In Inches)

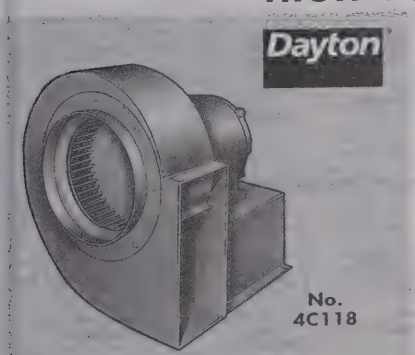
| Stock No. | Wheel Dia. | Wheel W | Shaft Dia. | Inlet Dia. | Outlet H | Outlet W | Overall H | Overall W | Overall D | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2C887 | 9 | 4½ | 5/8 | 9 | 10¾ | 6½ | 17 | 11 | 15 | 24.0 |
| 2C888 | 10⅝ | 5¼ | 3/4 | 10 | 11¾ | 8 | 19 | 12 | 18 | 35.0 |
| 2C800 | 12½ | 6½ | 3/4 | 13¼ | 13¼ | 9⅝ | 27 | 15 | 22 | 60.0 |

## SINGLE-INLET DUCT BLOWERS PERFORMANCE AND ORDERING DATA

| CFM Air Delivery At RPM Shown‡ 0.125" SP | 0.250" SP | 0.375" SP | 0.500" SP | 0.750" SP | 1.00" SP | Blower RPM | dBA @ 5 Ft.† | BLOWER LESS MOTOR AND DRIVE Stock No. | List | Each | BLOWER WITH 1725 RPM MOTOR & DRIVE Motor Data HP | Volts, 60 Hz | Type | With Automatic Thermal Protection Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1100 | 1000 | 890 | 800 | 475 | — | 1000 | 46 | **2C887** | $264.04 | **$158.50** | 1/4 | 115 | Split | **7C651** | $373.69 | **$233.00** |
| 1690 | 1600 | 1480 | 1370 | 1140 | — | 1000 | 51 | **2C888** | 329.01 | **197.25** | 1/2 | 115 | Split | **7C652** | 508.65 | **317.00** |
| # | # | # | 2100 | 1980 | 1460 | 875 | 56 | **2C800** | 576.88 | **345.75** | 1/2 | 115 | Split | **7C653** | 743.22 | **463.25** |

(‡) Overloaded below 1/8" SP.
(#) Overload—Not recommended for operation at this SP with specified HP. (†) Values shown are estimated sound pressure levels.

# HIGH VOLUME AND PRESSURE BLOWERS




Replacement Parts Available
1-800-323-0620

**Direct-drive blowers** provide high air volume at medium to high pressures by combining characteristics of high volume and high-pressure type blowers. Use with carbon monoxide systems, electronic cooling, and industrial systems. Also used for high pressure work where higher noise levels are not objectionable.

**16-gauge steel housing.** Welded, air-tight joints. Housing can be adapted to any of eight different discharge directions. Heavy steel wheel, 7/8" bore. Gray baked-on epoxy finish.

**Air deliveries** are based on standard test codes of AMCA. Motors packed separately when blowers are ordered complete. For appropriate integral HP motor control, see Index under Controls. Maximum inlet temperature is 180°F.

**CAUTION: Blowers must not be used where static pressure is less than shown in table below. Severe motor overload will result. Motor overload protection is highly recommended.**

**WARNING: Review OSHA codes. OSHA complying guards are required when fan blades are exposed and within reach of personnel.**

## HIGH VOLUME AND PRESSURE BLOWERS DIMENSIONS (In Inches)

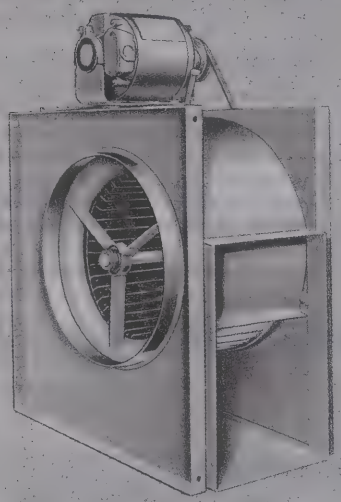
| Stock No. | Wheel Dia. | Wheel W | Bore | Inlet | Outlet H | Outlet W | Overall H | Overall W | Overall D | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 4C118 | 9 | 4½ | 7/8 | 9 | 10¾ | 6½ | 18 | 16 | 15 | 24.0 |
| 4C119 | 10⅝ | 4 | 7/8 | 10 | 11¾ | 5⅞ | 21 | 16 | 17 | 33.0 |

## HIGH VOLUME AND PRESSURE BLOWERS PERFORMANCE AND ORDERING DATA

| CFM Air Delivery At 1725 RPM 1.500" SP | 1.750" SP | 2.00" SP | 2.250" SP | 2.500" SP | 2.750" SP | BLOWER LESS MOTOR Stock No. | List | Each | BLOWER COMPLETE WITH 1725 RPM MOTOR With Capacitor Start 115/230V Ball Bearing Motor* HP | dBA @ 5 Ft.† | Stock No. | List | Each | With 3-Phase 230/460V Ball Bearing Motor* Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1390 | 1250 | 1050 | — | — | — | **4C118** | $193.32 | **$115.80** | 1 | 58 | **7C408** | $529.39 | **$330.00** | **7C567** | $473.73 | **$295.25** |
| 1848 | 1735 | 1610 | 1457 | 1288 | 1047 | **4C119** | 219.33 | **131.35** | 1½ | 63 | **7C409** | 644.86 | **401.75** | **7C568** | 529.66 | **330.00** |

(*) All motors are 1725 RPM, 60 Hz, rigid mounted. (†) Values shown are estimated sound pressure levels.
**The single inlet and high volume blowers listed above have four mounting points, and we recommend four No. 4C950 or 4C954 floor mounted vibration isolators.**

# SINGLE INLET BLOWERS

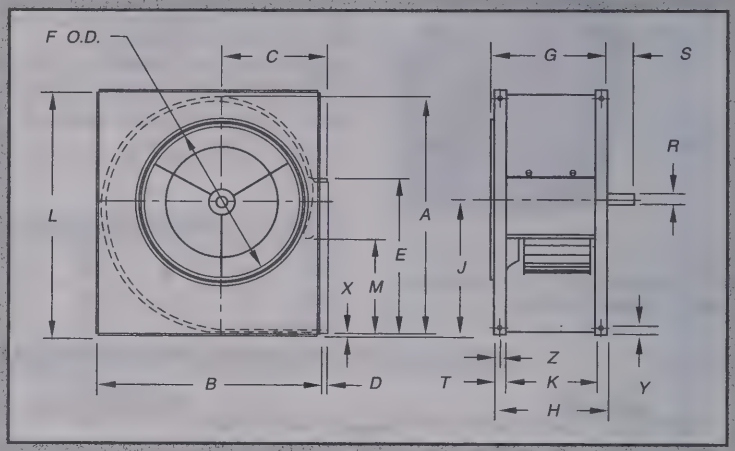


No. 2C986

CW Rotation Shown

Dayton®

See Facing Page for Ordering Information for Blowers

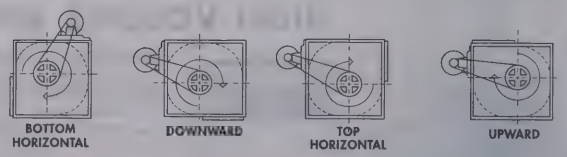



- 9½" to 22" diameter single width wheels
- For general ventilation, exhausting, air conditioning, and industrial air-moving applications
- Single inlet for quiet, efficient performance
- Adaptable to any of 4 standard discharge positions
- Precision, balanced forward curved steel wheels
- Die stamped steel housing
- Single phase motors have automatic reset thermal protection
- Maximum motor temperature 104°F
- Maximum inlet temperature 200°F (121.1°C)
- Gray finish
- Motors & drives packed separately when blower ordered complete as 7-Combo

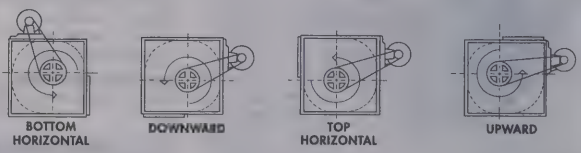
**Replacement Parts Available**
**1-800-323-0620**

**4 BASIC DISCHARGES SERVED**

**Clockwise Rotation**




**Counter-Clockwise Rotation**




## SINGLE INLET BLOWERS DIMENSIONS (In.)

| Model Nos. CW | Model Nos. CCW | Wheel Dia. | Wheel Width | A | B | C | D | E | F | G | H | J | K | L | M | R | S | T | X | Y | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C986 | 5C124 | 9½ | 4½ | 15⅞ | 14⅝ | 7⅜16 | 11/16 | 10¼ | 10 | 8¾ | 8⅝ | 8⅞ | 6½ | 16⅛ | 6⅝16 | 3/4 | 1⅛16 | 1⅛16 | 1/4 | 13/16 | 1/2 |
| 2C987 | 5C125 | 10⅝ | 6 | 17⅜ | 16⅝16 | 7⅛16 | 11/16 | 11⅜ | 11 | 10½ | 10⅜ | 9⅛16 | 8¼ | 18 | 7 | 3/4 | 1⅛18 | 1⅛16 | 1/4 | 13/16 | 1/2 |
| 2C988 | 3C737 | 12⅝ | 6 | 20⅜ | 19¼ | 9⅛16 | 11/16 | 13⅞16 | 13¼ | 10½ | 10⅜ | 11¾ | 8¼ | 21⅛ | 8⅜ | 3/4 | 1⅛16 | 1⅛16 | 1/4 | 13/16 | 1/2 |
| 3C734 | 3C738 | 15 | 9 | 24¼ | 22½ | 10½ | 11/16 | 15⅞ | 15⅛16 | 14⅛16 | 14⅝ | 13⅛16 | 12½ | 25 | 9⅛16 | 1 | 1⅛16 | 1⅛16 | 1/4 | 13/16 | 1/2 |
| 3C735 | 3C739 | 18⅛ | 13 | 29⅜16 | 26⅞ | 12⅜ | 11/16 | 18⅞ | 19⅛16 | 18⅛16 | 18⅞ | 16⅜16 | 16¾ | 30 | 11¾ | 1 | 3⅞16 | 1⅛16 | 1/4 | 13/16 | 1/2 |
| 3C736 | 3C740 | 22 | 11 | 39⅜ | 35⅛ | 15⅛16 | 5/8 | 27¼ | 21⅞ | 20⅜16 | 20⅛ | 23⅞32 | 17⅛ | 40⅛ | 14¾ | 1⅜16 | 3½ | 1½ | 5/8 | 2½ | 3/4 |

See Facing Page For Blowers Ordering Information.



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

# SINGLE INLET BLOWERS

## SINGLE INLET BLOWERS LESS MOTOR AND DRIVES

| Wheel Dia., (In.) | CFM AIR DELIVERY AT RPM SHOWN 0.125" SP | 0.250" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.250" SP | BLOWER RPM | BLOWER HP | CW ROTATION FROM DRIVE END — BLOWER LESS MOTOR & DRIVE Stock No. | List | Each | Shpg. Wt. | CCW ROTATION FROM DRIVE END — BLOWER LESS MOTOR & DRIVE Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | 915 | 815 | 630 | — | — | — | 925 | 1/4 | 2C986 | $289.06 | **$173.25** | 22.0 | 5C124 | $289.98 | **$173.75** | 22.0 |
| | 1040 | 950 | 780 | 590 | — | — | 1030 | 1/3 | | | | | | | | |
| | 1155 | 1090 | 930 | 780 | 610 | — | 1150 | 1/2 | | | | | | | | |
| | 1390 | 1330 | 1205 | 1065 | 940 | 800 | 1350 | 3/4 | | | | | | | | |
| | 1500 | 1440 | 1330 | 1200 | 1090 | 955 | 1450 | 1 | | | | | | | | |
| 10⅝ | 1420 | 1305 | 1030 | — | — | — | 850 | 1/2 | 2C987 | 321.08 | **192.50** | 29.0 | 5C125 | 321.08 | **192.50** | 29.0 |
| | 1800 | 1710 | 1495 | 1235 | 920 | — | 1050 | 3/4 | | | | | | | | |
| | 2040 | 1960 | 1795 | 1600 | 1380 | 1085 | 1175 | 1 | | | | | | | | |
| | 2360 | 2300 | 2160 | 2005 | 1820 | 1610 | 1350 | 1½ | | | | | | | | |
| 12⅝ | 1775 | 1550 | 1095 | — | — | — | 650 | 1/2 | 2C988 | 370.44 | **222.25** | 36.0 | 3C737 | 370.44 | **222.25** | 36.0 |
| | 2100 | 1910 | 1520 | 1020 | — | — | 750 | 3/4 | | | | | | | | |
| | 2395 | 2260 | 1930 | 1550 | 1100 | — | 850 | 1 | | | | | | | | |
| | 2890 | 2660 | 2410 | 2115 | 1790 | 1410 | 970 | 1½ | | | | | | | | |
| 15 | 3250 | 2850 | 1970 | — | — | — | 540 | 3/4 | 3C734 | 581.44 | **348.25** | 47.0 | 3C738 | 581.41 | **348.25** | 47.0 |
| | 3600 | 3300 | 2500 | 1600 | — | — | 590 | 1 | | | | | | | | |
| | 4100 | 3800 | 3200 | 2400 | 1800 | — | 665 | 1½ | | | | | | | | |
| | 4650 | 4250 | 3850 | 3200 | 2500 | — | 740 | 2 | | | | | | | | |
| 18⅛ | 4450 | 3950 | 2300 | — | — | — | 470 | 1 | 3C735 | 883.16 | **529.00** | 82.0 | 3C739 | 883.16 | **529.00** | 82.0 |
| | 5150 | 4700 | 3750 | 1000 | — | — | 535 | 1½ | | | | | | | | |
| | 5750 | 5400 | 4500 | 3150 | 1000 | — | 590 | 2 | | | | | | | | |
| | 6600 | 6300 | 5650 | 4700 | 3300 | — | 670 | 3 | | | | | | | | |
| 22 | 7600 | 7000 | 5450 | 3500 | — | — | 390 | 2 | 3C736 | 1423.85 | **853.00** | 110.0 | 3C740 | 1442.52 | **864.50** | 110.0 |
| | 8700 | 8300 | 7150 | 5400 | — | — | 445 | 3 | | | | | | | | |
| | 10500 | 10100 | 9500 | 8350 | 7100 | 4800 | 530 | 5 | | | | | | | | |
| | 12000 | 11450 | 10900 | 10200 | 9500 | 8100 | 600 | 7½ | | | | | | | | |

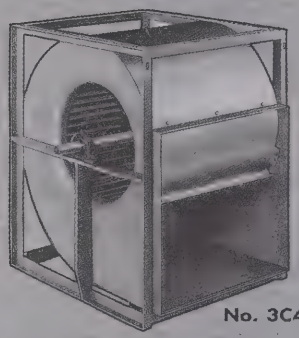
## SINGLE INLET BLOWERS WITH MOTOR AND DRIVE

| Wheel Dia., (In.) | Motor HP | CW Rotation—Blower with Motor and Drive — Single Phase Motor 115 / 230V, 60 Hz — Stock No. | List | Each | 3-Phase Motor 230 / 460V, 60 Hz — Stock No. | List | Each | CCW Rotation—Blower with Motor and Drive — Single Phase Motor 115 / 230V, 60 Hz — Stock No. | List | Each | 3-Phase Motor 230 / 460V, 60 Hz — Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9½ | 1/4 | 7C808 | $414.51 | **$258.25** | 7C425 | $472.52 | **$294.50** | 7H073 | $399.61 | **$249.25** | 7H098 | $472.52 | **$294.50** |
| | 1/3 | 7C810 | 436.87 | **272.25** | 7C426 | 451.92 | **281.75** | 7H074 | 445.06 | **277.25** | 7H099 | 451.92 | **281.75** |
| | 1/2 | 7C406 | 492.79 | **307.25** | 7C427 | 505.09 | **314.75** | 7H075 | 545.55 | **340.00** | 7H100 | 505.09 | **314.75** |
| | 3/4 | 7C407 | 591.63 | **368.75** | 7C428 | 526.57 | **328.25** | 7H076 | 518.41 | **323.00** | 7H101 | 526.57 | **328.25** |
| | 1 | 7C413 | 567.87 | **388.25** | 7C429 | 568.80 | **354.50** | 7H077 | 580.06 | **361.50** | 7H102 | 538.18 | **335.50** |
| 10⅝ | 1/2 | 7C818 | 471.98 | **294.25** | 7C432 | 484.28 | **301.75** | 7H078 | 524.74 | **327.00** | 7H103 | 484.28 | **301.75** |
| | 3/4 | 7C414 | 591.89 | **368.75** | 7C433 | 526.82 | **328.25** | 7H079 | 518.66 | **323.25** | 7H104 | 526.82 | **328.25** |
| | 1 | 7C415 | 569.62 | **390.75** | 7C434 | 570.92 | **355.75** | 7H080 | 582.18 | **362.75** | 7H105 | 540.30 | **336.75** |
| | 1½ | 7C416 | 638.79 | **398.25** | 7C435 | 584.93 | **364.75** | 7H081 | 638.79 | **398.25** | 7H106 | 544.89 | **339.75** |
| 12⅝ | 1/2 | 7C824 | 547.86 | **341.50** | 7C437 | 560.16 | **349.00** | 7H082 | 600.62 | **374.25** | 7H107 | 560.16 | **349.00** |
| | 3/4 | 7C417 | 669.10 | **417.00** | 7C438 | 604.03 | **376.25** | 7H083 | 595.87 | **371.50** | 7H108 | 604.03 | **376.25** |
| | 1 | 7C418 | 639.97 | **435.50** | 7C439 | 647.65 | **403.75** | 7H084 | 658.91 | **410.75** | 7H109 | 617.03 | **384.50** |
| | 1½ | 7C419 | 716.35 | **446.25** | 7C440 | 662.49 | **412.75** | 7H085 | 716.35 | **446.25** | 7H110 | 629.43 | **392.25** |
| 15 | 3/4 | 7H049 | 807.76 | **503.50** | 7H061 | 815.92 | **508.50** | 7H086 | 807.76 | **503.50** | 7H111 | 815.92 | **508.50** |
| | 1 | 7H050 | 879.56 | **548.50** | 7H062 | 842.46 | **525.00** | 7H087 | 883.26 | **550.50** | 7H112 | 842.46 | **525.00** |
| | 1½ | 7H051 | 922.17 | **575.00** | 7H063 | 829.33 | **517.00** | 7H088 | 922.17 | **575.00** | 7H113 | 829.33 | **517.00** |
| | 2 | 7H052 | 1109.80 | **692.00** | 7H064 | 874.15 | **544.50** | 7H089 | 1109.80 | **692.00** | 7H114 | 874.15 | **544.50** |
| 18⅛ | 1 | 7H053 | 1184.48 | **738.00** | 7H065 | 1143.67 | **712.50** | 7H090 | 1184.48 | **738.00** | 7H115 | 1143.67 | **712.50** |
| | 1½ | 7H054 | 1241.47 | **773.50** | 7H066 | 1147.56 | **715.00** | 7H091 | 1241.47 | **773.50** | 7H116 | 1147.56 | **715.00** |
| | 2 | 7H055 | 1406.23 | **876.50** | 7H067 | 1171.67 | **730.50** | 7H092 | 1406.23 | **876.50** | 7H117 | 1171.67 | **730.50** |
| | 3 | — | — | — | 7H068 | 1193.30 | **744.00** | — | — | — | 7H118 | 1193.30 | **744.00** |
| 22 | 2 | 7H057 | 1998.85 | **1245.00** | 7H069 | 1763.21 | **1099.00** | 7H094 | 1998.85 | **1245.00** | 7H119 | 1763.21 | **1099.00** |
| | 3 | — | — | — | 7H070 | 1854.46 | **1156.00** | — | — | — | 7H120 | 1856.20 | **1157.00** |
| | 5 | — | — | — | 7H071 | 1893.18 | **1180.00** | — | — | — | 7H121 | 1893.18 | **1180.00** |
| | 7½ | — | — | — | 7H072 | 2094.69 | **1306.00** | — | — | — | 7H122 | 2094.69 | **1306.00** |

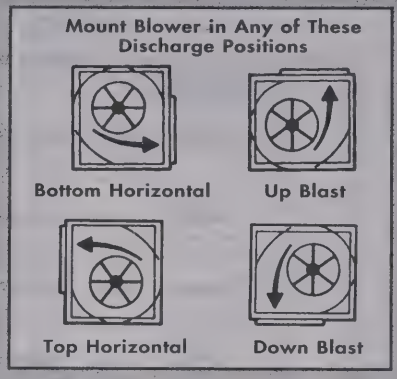
**DON'T FORGET THE BACK OF THE BOOK!**
**MANY CROSS-REFERENCE GUIDES AND INDEXES HELP MAKE PRODUCT SELECTION EASIER**

Besides complete National Brand and Product Indexes, the back section of this Catalog contains a Terminology and Technical Data Section as well as a handy Stock Number/Page Number Cross-Reference Guide. And don't forget, if you need assistance with product selection, help is as close as a call to your local branch.

# 6350 TO 30,700 CFM INDUSTRIAL BLOWERS



No. 3C428




Replacement Parts Available
1-800-323-0620

- Meets full Class 1 performance for use in heating, ventilation, exhausting, cooling, humidifying, drying, and similar applications
- Double width, double inlet design
- Heavy gauge steel housing with steel corner angles for rigid support
- Blower mounts in any of four standard discharge positions (pictured at left)

**High volume, low velocity blowers** have dynamically balanced, forward curve steel wheels, and permanently lubricated, cast iron pillow block ball bearings.

**Floor mounted motor, drive, and motor mounting rails** are packed separately when blower is ordered complete as 7-Combo.

**Maximum operating temperature** 200°F (93.3°C). Gray enamel finish. Dayton brand. Maximum motor ambient temperature: 104°F

## HIGH VOLUME BLOWERS LESS MOTOR AND DRIVE

| Wheel (In.) Diameter | Wheel (In.) Width | Shaft Dia., (In.) | Overall Dimensions (In Inches) Less Motor H | W | D | Outlet (In Inches) H | W | Blower Only Less Motor and Drive Stock No. | List | Each | Shpg. Wt. Less Motor & Drive |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 20 | 1 7/16 | 38 | 36 3/4 | 32 3/4 | 24 3/4 | 24 3/4 | 3C428 | $1604.08 | $961.00 | 255.0 |
| 22 | 22 | 1 7/16 | 41 1/2 | 39 1/4 | 35 3/4 | 27 1/4 | 27 1/4 | 3C429 | 1745.00 | 1045.00 | 279.0 |
| 25 | 25 | 1 7/16 | 46 3/4 | 43 1/4 | 40 | 31 1/4 | 31 1/4 | 3C430 | 1965.47 | 1178.00 | 325.0 |

## HIGH VOLUME BLOWERS WITH MOTOR AND DRIVE

| Wheel Diameter (In.) | CFM Air Delivery at RPM Shown 0.250" SP | 0.375" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.250" SP | 1.500" SP | 2.00" SP | Blower RPM | With 1725 RPM Motor; 115 / 230V, 1 Ph or 200-230 / 460V, 3 Ph Motor HP | Type | Stock No. | List | Each Frt. Paid |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6350 | 3770 | * | * | * | * | * | * | 310 | 1 | Cap. | 7F889 | $1911.23 | $1191.00 |
| | 6350 | 3770 | * | * | * | * | * | * | 310 | 1 | 3 ph | 7F890 | 1871.68 | 1166.00 |
| | 8940 | 8420 | 7570 | * | * | * | * | * | 400 | 2 | Cap. | 7F891 | 1998.99 | 1245.00 |
| | 8940 | 8420 | 7570 | * | * | * | * | * | 400 | 2 | 3 ph | 7F892 | 1915.17 | 1193.00 |
| 20 | # | 9860 | 9360 | 6970 | * | * | * | * | 450 | 3 | 3 ph | 7F893 | 1917.95 | 1195.00 |
| | # | 11870 | 11540 | 10600 | 8490 | * | * | * | 525 | 5 | 3 ph | 7F894 | 1963.71 | 1224.00 |
| | # | # | # | 13200 | 12370 | 10920 | * | * | 610 | 7 1/2 | 3 ph | 7F895 | 2104.10 | 1311.00 |
| | # | # | # | # | 15900 | 14500 | 13850 | 10000 | 760 | 15 | 3 ph | 7F896 | 2564.69 | 1598.00 |
| | # | # | # | # | 17200 | 16300 | 15400 | 12700 | 800 | 20 | 3 ph | 7F897 | 2805.33 | 1748.00 |
| | # | # | # | # | 18700 | 17900 | 17000 | 14850 | 850 | 25 | 3 ph | 7F898 | 2952.14 | 1839.00 |
| | 8760 | 6980 | * | * | * | * | * | * | 310 | 1 1/2 | 3 ph | 7F899 | 1991.40 | 1241.00 |
| | 12560 | 11640 | 10530 | * | * | * | * | * | 400 | 3 | 3 ph | 7F900 | 2060.37 | 1284.00 |
| | # | 13770 | 12920 | 10640 | * | * | * | * | 450 | 5 | 3 ph | 7F901 | 2104.34 | 1311.00 |
| | # | # | # | 15310 | 13500 | 10410 | * | * | 540 | 7 1/2 | 3 ph | 7F902 | 2236.51 | 1393.00 |
| 22 | # | # | # | 17310 | 15860 | 13990 | * | * | 585 | 10 | 3 ph | 7F903 | 2514.03 | 1566.00 |
| | # | # | # | 19000 | 18000 | 16900 | 15700 | 11900 | 730 | 15 | 3 ph | 7F904 | 2686.77 | 1674.00 |
| | # | # | # | 20050 | 19100 | 18100 | 16950 | 13650 | 760 | 20 | 3 ph | 7F905 | 2917.04 | 1817.00 |
| | # | # | # | 21300 | 20450 | 19500 | 18550 | 16000 | 800 | 20 | 3 ph | 7F906 | 2928.18 | 1824.00 |
| | # | # | # | 23300 | 22500 | 21700 | 20800 | 18750 | 860 | 25 | 3 ph | 7F907 | 3158.57 | 1967.00 |
| | 12700 | 10460 | * | * | * | * | * | * | 270 | 2 | 3 ph | 7F908 | 2208.17 | 1375.00 |
| | 15590 | 13960 | 11900 | * | * | * | * | * | 310 | 3 | 3 ph | 7F909 | 2241.89 | 1396.00 |
| | # | 19110 | 17830 | 14600 | * | * | * | * | 380 | 5 | 3 ph | 7F910 | 2445.27 | 1523.00 |
| | # | 22300 | 21800 | 19470 | 16480 | * | * | * | 435 | 10 | 3 ph | 7F911 | 2695.64 | 1679.00 |
| 25 | # | # | # | 22180 | 19790 | 16560 | * | * | 470 | 10 | 3 ph | 7F912 | 2697.50 | 1680.00 |
| | # | # | # | # | 24350 | 21920 | 18000 | * | 535 | 15 | 3 ph | 7F913 | 2871.79 | 1789.00 |
| | # | # | # | 28000 | 26250 | 24300 | 21300 | * | 560 | 20 | 3 ph | 7F914 | 3141.63 | 1957.00 |
| | # | # | # | 30700 | 29100 | 27400 | 25400 | 16700 | 600 | 25 | 3 ph | 7F915 | 3551.60 | 2212.00 |
| | # | # | # | # | # | # | 28300 | 23000 | 635 | 25 | 3 ph | 7F916 | 3552.61 | 2213.00 |

(#) Motor overloaded—not recommended for operation at this static pressure, with this HP.
(*) Unstable air delivery-not recommended for operation at this static pressure, at this RPM.

**DESK SPACE AT A PREMIUM?**
**USE THE GRAINGER CD-ROM, ELECTRONIC CATALOG TO REVIEW THOUSANDS OF PRODUCTS!**

**Our Grainger Electronic Catalog is a state of the art CD-ROM selection guide which features products and information from our General Catalog. The perfect reference tool when you need product and technical information on the road. Contact your local branch for more information.**

# FORWARD-CURVE BLOWERS

- For ventilating, air conditioning, processing, drying and exhaust systems
- High volume, extra-quiet performance
- Sturdy arc-welded housing and frame
- V-belt drive
- Weatherproof Drive Cover included
- Quiet, Efficient Forward Curve Wheel
- Clockwise Rotation as Viewed From the Drive Side

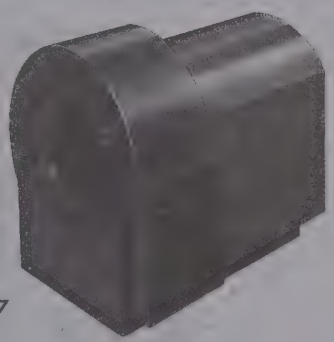
**Features include** dynamically balanced, clockwise rotating steel wheel, and bottom horizontal discharge, as shown.

**Discharge easily changed** to any one of 7 standard discharge positions. Air deliveries based on standard test codes of AMCA. Ball bearing construction. Gray baked-on epoxy finish.

**Single and three phase 1725 RPM motor** and drive packed separately when blower is ordered complete.

Dayton®

Replacement Parts Available
1-800-323-0620™



No. 2C797

**WARNING:** Review OSHA Codes. OSHA complying guards are required when fan blades are exposed and within reach of personnel.

## FORWARD-CURVE BLOWERS LESS MOTOR AND DRIVE ORDERING DATA

| Wheel Dia., In. | Shaft Dia., In. | Inlet Dia., In. | BLOWER DIMENSIONS (In.) Outlet H | Outlet W | Overall (In.) H | Overall (In.) W | D | Maximum Operating Temperature | Stock No. | LESS MOTOR & DRIVE List | LESS MOTOR & DRIVE Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12¼ | 1 | 13¼ | 13¼ | 9⅝ | 27 | 30 | 22 | 250°F / 121.1°C | 2C797 | $831.32 | $498.00 | 92.0 |
| 15 | 1 | 16⅛ | 16¼ | 11¾ | 30 | 34 | 27 | 250°F / 121.1°C | 2C798 | 1096.61 | 657.00 | 118.0 |
| 18¼ | 1 3/16 | 19⅝ | 19⅝ | 14¼ | 37 | 40 | 32 | 250°F / 121.1°C | 2C799 | 1478.40 | 886.00 | 187.0 |
| 22¼ | 1 3/16 | 23⅞ | 24 | 17⅜ | 44 | 44 | 38 | 250°F / 121.1°C | 3C009 | 2175.31 | 1304.00 | 355.0 |
| 24¼ | 1 7/16 | 26⅞ | 26½ | 19¼ | 48 | 46 | 43 | 250°F / 121.1°C | 3C010 | 2643.25 | 1583.00 | 456.0 |

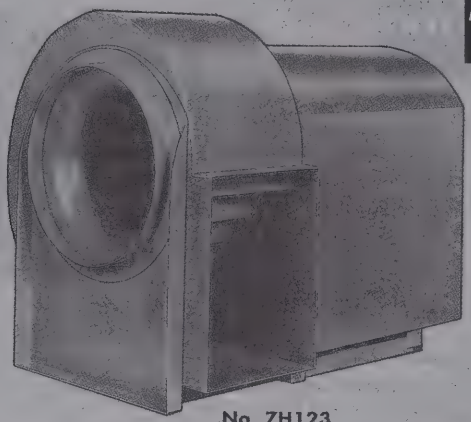
## FORWARD-CURVE BLOWERS WITH MOTOR AND DRIVE ORDERING DATA

| Wheel Dia. (In.) | CFM AIR DELIVERY AT RPM SHOWN 0.250" SP | 0.375" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.250" SP | 1.500" SP | BLOWER RPM | HP | dBA 5 Ft.† | BLOWER WITH MOTOR AND DRIVE With Capacitor Motor 115 / 230V, 60 Hz Stock No. | With Capacitor Motor 115 / 230V, 60 Hz Each | With 3-Phase Motor Ball Bearing 230 / 460V, 60 Hz Stock No. | With 3-Phase Motor Ball Bearing 230 / 460V, 60 Hz Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12¼ | 1735 | 1580 | 1490 | — | — | — | — | 690 | 1/3 | 51 | 7C488 | $637.00 | 7C491 | $627.00 |
| | 2045 | 1910 | 1770 | 1400 | — | — | — | 783 | 1/2 | 51 | 7C489 | 657.50 | 7C492 | 649.50 |
| | # | # | 2260 | 2015 | 1700 | — | — | 920 | 3/4 | 57 | 7C490 | 693.00 | 7C493 | 668.50 |
| | # | # | # | 2420 | 2190 | 1900 | 1375 | 1029 | 1 | 62 | 7C888 | 706.50 | 7C889 | 680.50 |
| 15 | 2645 | 2440 | 2200 | — | — | — | — | 557 | 1/2 | 59 | 7C494 | 786.00 | 7C497 | 778.50 |
| | # | 3015 | 2830 | 2370 | — | — | — | 645 | 3/4 | 62 | 7C495 | 828.00 | 7C505 | 803.00 |
| | # | # | 3460 | 3145 | 2720 | 1870 | — | 743 | 1 | 67 | 7C496 | 841.00 | 7C506 | 815.50 |
| | # | # | # | 3630 | 3300 | 2875 | 2050 | 814 | 1½ | 69 | 7C890 | 905.50 | 7C891 | 862.50 |
| 18¼ | 3780 | 3530 | 3255 | 2090 | — | — | — | 477 | 3/4 | 56 | 7C507 | 1021.00 | 7C510 | 996.00 |
| | # | 4180 | 3980 | 3430 | 2880 | — | — | 542 | 1 | 62 | 7C892 | 1131.00 | 7C894 | 1124.00 |
| | # | # | 4665 | 4260 | 3690 | — | — | 608 | 1½ | 66 | 7C508 | 1194.00 | 7C511 | 1162.00 |
| | # | # | # | 5250 | 4890 | 4410 | 3635 | 699 | 2 | 71 | 7C509 | 1291.00 | 7C512 | 1174.00 |
| | # | # | # | 5700 | 5420 | 5050 | 4560 | 745 | 3 | 72 | 7C893 | 1237.00 | 7C895 | 1141.00 |
| 22¼ | 5900 | 5220 | 4410 | — | — | — | — | 356 | 1 | 61 | 7C708 | 1540.00 | 7C711 | 1522.00 |
| | # | 6650 | 6030 | 4630 | — | — | — | 412 | 1½ | 62 | 7C896 | 1562.00 | 7C898 | 1519.00 |
| | # | # | 7235 | 5940 | 5290 | — | — | 458 | 2 | 64 | 7C709 | 1666.00 | 7C712 | 1549.00 |
| | # | # | # | # | 7720 | 6660 | 4800 | 553 | 3 | 72 | 7C710 | 1615.00 | 7C713 | 1519.00 |
| | # | # | # | # | 9050 | 8100 | 7350 | 602 | 5 | 74 | — | — | 7C899 | 1545.00 |
| 24½ | 7820 | 6945 | 6623 | 3795 | — | — | — | 349 | 1½ | 56 | 7C714 | 1864.00 | 7C717 | 1821.00 |
| | # | # | 8210 | 7075 | 4485 | — | — | 398 | 2 | 58 | 7C900 | 1965.00 | 7C901 | 1848.00 |
| | # | # | # | 9245 | 8280 | 6555 | — | 462 | 3 | 64 | 7C715 | 1910.00 | 7C718 | 1814.00 |
| | # | # | # | # | 11050 | 9800 | 9300 | 544 | 5 | 68 | — | — | 7C719 | 1842.00 |
| | # | # | # | # | 12500 | 11730 | 11000 | 590 | 7½ | 71 | — | — | 7C902 | 1960.00 |

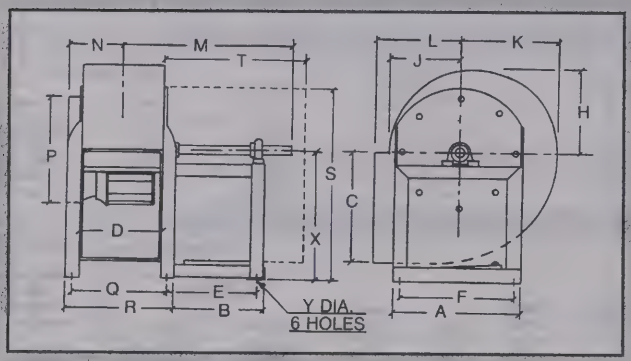
(#) Overloaded — not recommended for operation at this SP with specified HP. (†) Values shown are estimated sound pressure levels.

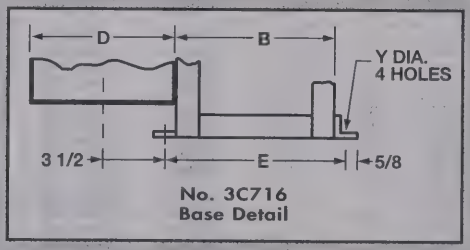
**The forward curve blowers listed above have 6 mounting points. We recommend 6 floor mounted vibration isolators *only* if the blower wheel speed is higher than 600 RPM. No. 2C797 and 2C798 require No. 4C950 or 4C954 isolators. Blower No. 2C799 requires No 4C952 or 4C955 isolators. Blower No. 3C010 may not require isolators. For detailed description of isolators, see Index under Isolators.**

# BACKWARD INCLINE BLOWERS



No. 7H123




No. 3C716
Base Detail

- All blowers come complete with weatherproof drive cover
- Sizes 10½ thru 24½" feature flat blade wheel; 27 thru 36½" sizes have air-foil wheel. Both wheel styles provide full Class 1 performance range
- Nonoverloading wheels; motor cannot be overloaded at any given RPM and horsepower regardless of static pressure applied to the system
- Application: widely used for HVAC systems in industrial, commercial, and public buildings
- Clockwise rotation viewed from drive side
- Blowers shipped in bottom horizontal discharge. Discharge position can be changed in the field to seven additional standard discharge positions
- Welded steel housing and dynamically balanced wheel; ball bearing pillow block construction
- Gray baked-on epoxy finish
- Motor and drives packed separately as 7-Combo. Sizes 10½ thru 20" have variable-pitch sheaves, larger sizes have fixed sheave drive

**WARNING:** Review OSHA Codes. OSHA complying guards are required where fan blades are exposed and within reach of personnel.

**ORDERING HAS NEVER BEEN EASIER!**

Whether you phone, fax, write or stop by your local branch to place an order, Grainger can tailor sales terms to meet your needs. Ask about establishing an open line of credit or pay with your VISA, MasterCard, or American Express card.

Replacement Parts Available
1-800-323-0620

## BACKWARD INCLINE BLOWER DIMENSIONS

| Stock No. | DIMENSIONS IN INCHES | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | H | J | K | L | M | N | P | Q | R | S | T | X |
| 3C716 | 12 7/8 | 13 | 11 3/4 | 8 | 14 1/4 | 10 3/4 | 7 7/8 | 6 3/4 | 9 1/8 | 8 1/16 | 19 7/8 | 6 | 12 7/8 | ‡ | ‡ | 20 1/2 | 17 | 14 |
| 4C333 | 16 3/8 | 13 1/2 | 13 1/4 | 9 5/8 | 13 1/2 | 14 3/4 | 10 1/8 | 8 1/2 | 11 1/2 | 10 1/2 | 23 7/8 | 6 3/8 | 13 1/4 | 11 3/4 | 12 3/4 | 25 1/4 | 20 | 17 |
| 3C073 | 19 1/4 | 15 1/2 | 16 1/4 | 11 3/4 | 15 1/2 | 17 5/8 | 12 3/8 | 10 5/8 | 14 1/8 | 12 1/8 | 26 7/8 | 7 1/2 | 16 1/8 | 13 3/8 | 14 7/8 | 27 5/8 | 22 | 17 7/8 |
| 3C074 | 23 1/8 | 17 | 19 5/8 | 14 1/4 | 17 1/2 | 21 1/2 | 15 | 12 5/8 | 17 1/8 | 14 5/8 | 30 5/8 | 9 1/8 | 19 5/8 | 15 3/4 | 18 1/4 | 33 3/8 | 25 | 21 7/8 |
| 3C048 | 25 | 17 | 21 1/2 | 15 7/8 | 17 | 23 3/8 | 16 1/2 | 13 3/4 | 18 3/4 | 15 1/4 | 31 1/2 | 10 | 21 1/2 | 17 7/8 | 20 1/8 | 36 1/4 | 25 | 23 3/4 |
| 3C049 | 30 1/4 | 16 1/2 | 26 1/4 | 19 1/4 | 16 3/4 | 23 5/8 | 20 1/8 | 16 7/8 | 23 | 19 7/8 | 33 5/8 | 11 3/4 | 26 5/8 | 21 1/4 | 24 1/2 | 42 7/8 | 26 | 27 3/4 |
| 3C109 | 33 | 16 1/2 | 29 | 21 1/4 | 16 1/2 | 26 1/4 | 22 1/8 | 18 1/2 | 25 1/4 | 21 1/2 | 34 5/8 | 12 5/8 | 29 | 23 3/4 | 26 1/2 | 47 | 26 | 30 1/2 |
| 3C110 | 36 1/4 | 16 1/2 | 32 1/4 | 23 3/8 | 16 1/2 | 29 1/2 | 24 5/8 | 20 1/2 | 28 1/8 | 23 5/8 | 36 | 13 3/4 | 32 1/4 | 26 | 28 3/4 | 51 7/8 | 27 | 33 3/4 |
| 3C111 | 43 1/8 | 21 3/8 | 39 1/4 | 28 1/2 | 21 5/8 | 36 7/8 | 30 | 24 7/8 | 34 1/8 | 28 | 43 1/4 | 16 1/4 | 39 | 31 | 33 3/4 | 63 3/4 | 30 3/8 | 42 1/8 |

(‡) No. 3C716 has no inlet side support and has only four mounting holes.



*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

# BACKWARD INCLINE BLOWERS

## BACKWARD INCLINE BLOWERS LESS MOTOR AND DRIVE

| Wheel Dia. (In.) | Shaft Dia. (In.) | Inlet Dia. (In.) | Area Sq. Ft. | Outlet (In.) H | Outlet (In.) W | Area Sq. Ft. | Y Mount Hole Dia. (In.) | Maximum Operating Temperature | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 1/2 | 3/4 | 12 7/8 | 0.894 | 11 3/4 | 8 | 0.636 | 7/16 | 250°F / 121.1°C | 3C716 | $758.03 | $454.25 | 75.0 |
| 12 1/4 | 1 | 13 1/4 | 0.921 | 13 1/4 | 9 5/8 | 0.858 | 1/2 | 250°F / 121.1°C | 4C333 | 940.36 | 564.00 | 100.0 |
| 15 | 1 | 16 1/8 | 1.374 | 16 1/4 | 11 3/4 | 1.280 | 1/2 | 250°F / 121.1°C | 3C073 | 1173.88 | 703.00 | 128.0 |
| 18 1/4 | 1 3/16 | 19 5/8 | 2.020 | 19 5/8 | 14 1/4 | 1.899 | 1/2 | 250°F / 121.1°C | 3C074 | 1484.38 | 889.00 | 183.0 |
| 20 | 1 3/16 | 21 1/2 | 2.435 | 21 1/2 | 15 7/8 | 2.318 | 1/2 | 250°F / 121.1°C | 3C048 | 1683.62 | 1009.00 | 260.0 |
| 24 1/2 | 1 7/16 | 26 3/8 | 3.650 | 26 1/4 | 19 1/4 | 3.458 | 1/2 | 250°F / 121.1°C | 3C049 | 2287.45 | 1370.00 | 470.0 |
| 27 | 1 7/16 | 29 | 4.430 | 29 | 21 1/4 | 4.190 | 1/2 | 250°F / 121.1°C | 3C109 | 2896.50 | 1735.00 | 584.0 |
| 30 | 1 11/16 | 32 1/4 | 5.469 | 32 1/4 | 23 3/8 | 5.170 | 1/2 | 250°F / 121.1°C | 3C110 | 3430.27 | 2055.00 | 670.0 |
| 36 1/2 | 1 15/16 | 39 | 8.110 | 39 1/4 | 28 1/2 | 7.660 | 7/8 | 250°F / 121.1°C | 3C111 | 5211.03 | 3121.00 | 1052.0 |

## BACKWARD INCLINE BLOWERS COMPLETE WITH MOTOR AND DRIVE*

| Wheel Dia. (In.) | CFM AIR DELIVERY AT RPM SHOWN 0.250" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.250" SP | 1.500" SP | 2.00" SP | 2.500" SP | 3.00" SP | Blower RPM | Motor HP | Max. BHP | dBA | BLOWERS WITH MOTOR & DRIVE Single Phase 115 / 230V, 60 Hz Stock No. | Each | 3-Phase 230 / 460V, 60 Hz Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 1/2 | 1220 | 1140 | 1060 | 950 | 825 | 520 | — | — | — | 1865 | 1/4 | .24 | 62 | 7H123 | $561.50 | 7H150 | $577.50 |
| | 1350 | 1290 | 1220 | 1130 | 1040 | 900 | — | — | — | 2055 | 1/3 | .33 | 64 | 7H124 | 588.50 | 7H151 | 593.50 |
| | 1565 | 1510 | 1450 | 1385 | 1325 | 1230 | 1015 | — | — | 2350 | 1/2 | .49 | 67 | 7H125 | 621.00 | 7H152 | 617.50 |
| | 1810 | 1760 | 1710 | 1660 | 1610 | 1550 | 1400 | 1225 | 925 | 2685 | 3/4 | .74 | 69 | 7H126 | 610.50 | 7H153 | 631.00 |
| | 2025 | 1975 | 1925 | 1875 | 1805 | 1775 | 1660 | 1535 | 1360 | 2955 | 1 | .99 | 72 | 7H127 | 631.00 | 7H154 | 647.50 |
| | 2300 | 2250 | 2225 | 2175 | 2140 | 2100 | 2000 | 1925 | 1800 | 3385 | 1 1/2 | 1.48 | 75 | 7H128 | 666.50 | 7H155 | 655.00 |
| 12 1/4 | 1765 | 1635 | 1500 | 1325 | 1000 | — | — | — | — | 1485 | 1/3 | .33 | 61 | 7H129 | 704.50 | 7H156 | 710.00 |
| | 2050 | 1945 | 1825 | 1710 | 1560 | 1365 | — | — | — | 1700 | 1/2 | .47 | 64 | 7H130 | 721.50 | 7H157 | 728.00 |
| | 2375 | 2285 | 2185 | 2075 | 1980 | 1850 | 1525 | — | — | 1950 | 3/4 | .74 | 67 | 7H131 | 734.00 | 7H158 | 754.00 |
| | 2650 | 2575 | 2475 | 2400 | 2285 | 2200 | 1975 | 1625 | — | 2145 | 1 | .98 | 68 | 7H132 | 796.50 | 7H159 | 745.00 |
| | 3060 | 3000 | 2925 | 2850 | 2730 | 2675 | 2500 | 2310 | 2075 | 2455 | 1 1/2 | 1.47 | 72 | 7H133 | 844.00 | 7H160 | 766.00 |
| | 3375 | 3300 | 3250 | 3175 | 3100 | 3025 | 2875 | 2725 | 2550 | 2705 | 2 | 1.99 | 73 | 7H134 | 968.00 | 7H161 | 799.00 |
| 15 | 3125 | 2950 | 2775 | 2600 | 2375 | 2085 | — | — | — | 1435 | 3/4 | .74 | 66 | 7H135 | 843.00 | 7H162 | 863.50 |
| | 3460 | 3310 | 3150 | 3000 | 2830 | 2600 | 2000 | — | — | 1575 | 1 | .99 | 68 | 7H136 | 904.00 | 7H163 | 852.50 |
| | 4025 | 3900 | 3775 | 3625 | 3470 | 3325 | 3000 | 2510 | — | 1800 | 1 1/2 | 1.48 | 71 | 7H137 | 952.50 | 7H164 | 874.00 |
| | 4450 | 4325 | 4200 | 4075 | 3960 | 3825 | 3540 | 3200 | 2800 | 1980 | 2 | 1.99 | 73 | 7H138 | 1086.00 | 7H165 | 916.50 |
| | 5125 | 5025 | 4910 | 4810 | 4755 | 4600 | 4375 | 4120 | 3850 | 2265 | 3 | 2.98 | 76 | — | — | 7H166 | 942.00 |
| 18 1/4 | 4400 | 4175 | 3910 | 3625 | 3300 | 2850 | — | — | — | 1160 | 1 | .99 | 65 | 7H140 | 1074.00 | 7H167 | 1023.00 |
| | 5100 | 4900 | 4680 | 4450 | 4205 | 3925 | 3200 | — | — | 1325 | 1 1/2 | 1.48 | 68 | 7H141 | 1138.00 | 7H168 | 1059.00 |
| | 5650 | 5450 | 5275 | 5100 | 4880 | 4650 | 4150 | 3300 | — | 1460 | 2 | 1.99 | 69 | 7H142 | 1230.00 | 7H169 | 1062.00 |
| | 6500 | 6320 | 6175 | 6000 | 5850 | 5675 | 5300 | 4825 | 4300 | 1670 | 3 | 2.99 | 73 | — | — | 7H170 | 1106.00 |
| | 7750 | 7600 | 7500 | 7350 | 7200 | 7050 | 6775 | 6450 | 6100 | 1980 | 5 | 4.99 | 76 | — | — | 7H171 | 1172.00 |
| 20 | 5700 | 5450 | 5200 | 4900 | 4560 | 4175 | — | — | — | 1140 | 1 1/2 | 1.47 | 68 | 7H145 | 1249.00 | 7H172 | 1172.00 |
| | 6375 | 6100 | 5875 | 5600 | 5330 | 5025 | 4300 | — | — | 1255 | 2 | 1.98 | 69 | 7H146 | 1357.00 | 7H173 | 1189.00 |
| | 7300 | 7100 | 6900 | 6700 | 6505 | 6250 | 5725 | 5100 | 4000 | 1435 | 3 | 2.97 | 72 | — | — | 7H174 | 1247.00 |
| | 8750 | 8600 | 8400 | 8200 | 8010 | 7900 | 7500 | 7050 | 6600 | 1700 | 5 | 4.98 | 75 | — | — | 7H175 | 1268.00 |
| | 9700 | 9500 | 9400 | 9200 | 9000 | 8900 | 8600 | 8200 | 7800 | 1865 | 7 1/2 | 7.49 | 78 | — | — | 7H176 | 1417.00 |

(*) Performance shown is for installation Type B; Free Inlet, Ducted Outlet. Power ratings (BHP) do not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream.

## BACKWARD INCLINE BLOWERS COMPLETE WITH MOTOR AND DRIVE†

| Wheel Dia. (In.) | CFM AIR DELIVERIES AT RPM SHOWN 0.250" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.500" SP | 2.00" SP | 2.500" SP | 3.00" SP | 3.500" SP | 4.00" SP | Blower RPM | Motor HP | Max BHP | dBA | 3-Phase Motor 230 / 460V, 60 Hz Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 1/2 | 8400 | 8000 | 7500 | 7100 | 5700 | — | — | — | — | — | 870 | 2 | 1.98 | 67 | 7H177‡ | $1690.00 |
| | 8400 | 8000 | 7500 | 7100 | 5700 | — | — | — | — | — | 870 | 2 | 1.98 | 67 | 7H178 | 1530.00 |
| | 9700 | 9400 | 9000 | 8600 | 7700 | 6500 | — | — | — | — | 995 | 3 | 2.97 | 70 | 7H179 | 1583.00 |
| | 11600 | 11300 | 11050 | 10700 | 10050 | 9300 | 8400 | 6900 | — | — | 1180 | 5 | 4.98 | 74 | 7H180 | 1633.00 |
| | 13400 | 13100 | 12900 | 12600 | 12000 | 11450 | 10800 | 10100 | 9175 | 7600 | 1350 | 7 1/2 | 7.48 | 76 | 7H181 | 1752.00 |
| | 14800 | 14510 | 14300 | 14100 | 13600 | 13100 | 12525 | 11950 | 11600 | 10500 | 1485 | 10 | 9.98 | 80 | 7H182 | 1824.00 |
| 27 | 8415 | 8005 | 7615 | 7210 | 6305 | 4510 | — | — | — | — | 855 | 2 | 1.95 | 67 | 7H183 | 2001.00 |
| | 9735 | 9390 | 9020 | 8685 | 7980 | 7165 | 5825 | — | — | — | 980 | 3 | 2.97 | 70 | 7H184 | 2065.00 |
| | 11715 | 11395 | 11085 | 10805 | 10225 | 9630 | 8985 | 8230 | 7200 | — | 1165 | 5 | 4.97 | 74 | 7H185 | 2112.00 |
| | 13495 | 13220 | 12950 | 12675 | 12180 | 11665 | 11160 | 10620 | 10110 | 9315 | 1335 | 7 1/2 | 7.40 | 77 | 7H186 | 2220.00 |
| | 14850 | 14600 | 14350 | 14100 | 13650 | 13200 | 12725 | 12250 | 11800 | 11275 | 1470 | 10 | 9.98 | 79 | 7H187 | 2289.00 |
| 30 | 11140 | 10665 | 10220 | 9770 | 8785 | 7505 | — | — | — | — | 825 | 3 | 2.98 | 69 | 7H188 | 2415.00 |
| | 13375 | 12980 | 12570 | 12185 | 11400 | 10600 | 9650 | 8230 | — | — | 975 | 5 | 4.90 | 73 | 7H189 | 2454.00 |
| | 15420 | 15060 | 14725 | 14395 | 13705 | 13035 | 12360 | 11570 | 10710 | 9250 | 1120 | 7 1/2 | 7.40 | 76 | 7H190 | 2566.00 |
| | 17055 | 16695 | 16415 | 16070 | 15475 | 14850 | 14250 | 13605 | 12870 | 12110 | 1230 | 10 | 9.98 | 78 | 7H191 | 2647.00 |
| 36 1/2 | 17631 | 17025 | 16330 | 15530 | 13950 | 12385 | 10190 | — | — | — | 725 | 5 | 4.98 | 73 | 7H192 | 3643.00 |
| | 20390 | 19825 | 19315 | 18700 | 17350 | 16025 | 14710 | 13165 | — | — | 830 | 7 1/2 | 7.42 | 76 | 7H193 | 3769.00 |
| | 22530 | 22050 | 21590 | 21060 | 19870 | 18605 | 17380 | 16175 | 14775 | 12850 | 915 | 10 | 9.50 | 78 | 7H194 | 3848.00 |
| | 25980 | 25560 | 25150 | 24720 | 23780 | 22690 | 21600 | 20560 | 19500 | 18400 | 1050 | 15 | 14.98 | 81 | 7H195 | 4013.00 |

(†) AMCA Rating Seal applies to air performance only. (‡) Single phase, 115/230V, 60 Hz.

**OUR PRODUCT SELECTION IS BIGGER AND BETTER THAN EVER!**

**In addition to our new product listings from the leading brand names,**

**Grainger now offers you more than 78,000 products to meet your maintenance, repair, or operation supply needs.**

# 12¼ to 24⅝" BACKWARD INCLINE FIBERGLASS INDUSTRIAL BLOWERS

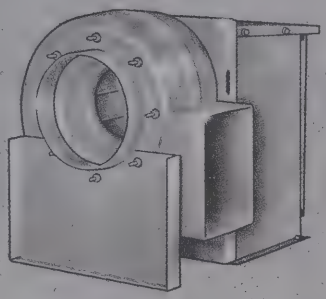
## FIBERGLASS INDUSTRIAL BLOWERS

- **Solid one-piece Fiberglass, non-overloading backward curved, single thickness airfoil wheel.**
- **2-Piece Fiberglass housing, with steel epoxy coated base**
- **Steel alpha coated weatherproof drive cover**
- **Furnished in clockwise rotation viewed from the drive side, bottom horizontal discharge can be field rotated to other positions**
- **Maximum inlet temperature is 200°F**

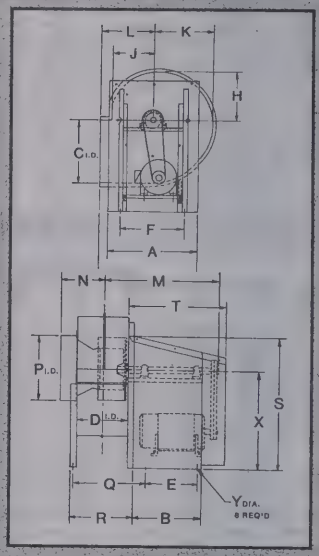
**Used in process ventilation** for controlled or contained movement of contaminated air. Suitable for many applications where fumes or vapors are corrosive to steel or aluminum. Ball bearing pillow block construction.

**Ball bearing motors** and variable pitch drives are packed separately when blower is ordered complete.

**Replacement Parts Available**
**1-800-323-0620**




No. 6D606




### BACKWARD INCLINE FIBERGLASS BLOWERS DIMENSIONS (Inches)

| Wheel Dia. | Shaft Dia. | A | B | C | D | E | F | H | J | K | L | M | N | P | Q | R | S | T | X | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12¼ | 1 3/16 | 18¾ | 14 5/8 | 12 7/8 | 9 5/16 | 12 | 19¾ | 10 | 8½ | 11½ | 13 | 24 15/16 | 8 | 12 | 13 3/16 | 14 | 26½ | 21⅜ | 18 1/16 | 9/16 |
| 18½ | 1 3/16 | 27¾ | 14 11/16 | 19 5/16 | 14 | 12 | 20¼ | 15 | 12 13/16 | 17¼ | 19 | 27½ | 10⅜ | 18 | 18⅜ | 18⅞ | 28¼ | 21 1/16 | 23 | 9/16 |
| 24⅝ | 1 3/16 | 30 | 14 11/16 | 25 3/4 | 18 5/8 | 12 | 20¼ | 19 15/16 | 16 15/16 | 22 15/16 | 23 | 29 15/16 | 12 1/1 | 24 | 23 1/16 | 23⅜ | 34¼ | 21 1/16 | 29 | 9/16 |

### BACKWARD INCLINE FIBERGLASS BLOWERS ORDERING DATA

| Wheel Dia. (In.) | CFM Air Delivery at RPM Shown 0.250" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.50" SP | 2.00" SP | 2.50" SP | 3.00" SP | Blower RPM | Motor HP | dBA at 5 ft. 2" SP | Blowers Less Motor & Drive Stock No. | Each | Shpg. Wt. | Blowers With Motor And Drive Single Phase 115 / 230V, 60 Hz Stock No. | Each | 3-Phase 230 / 460V, 60 Hz Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12¼ | 1640 | 1580 | 1490 | 1390 | 1130 | 810 | — | — | 1860 | 1/2 | 81 | 6D606 | $2641.00 | 225.0 | 7H929 | $2845.00 | 7H938 | $2841.00 |
| | 1880 | 1800 | 1720 | 1650 | 1450 | 1220 | 940 | 650 | 2140 | 3/4 | 86 | | | | 7H930 | 2837.00 | 7H939 | 2843.00 |
| | 2090 | 2010 | 1950 | 1860 | 1710 | 1530 | 1350 | 1140 | 2370 | 1 | 90 | | | | 7H931 | 2891.00 | 7H940 | 2859.00 |
| | 2440 | 2370 | 2280 | 2200 | 2160 | 1950 | 1780 | 1580 | 2720 | 1½ | 94 | | | | 7H932 | 2951.00 | 7H941 | 2909.00 |
| | 2680 | 2630 | 2600 | 2570 | 2430 | 2300 | 2200 | 2040 | 3000 | 2 | 97 | | | | — | — | 7H942 | 3023.00 |
| | 3100 | 3050 | 3000 | 2970 | 2860 | 2760 | 2700 | 2510 | 3450 | 3 | 100 | | | | — | — | 7H943 | 2997.00 |
| 18½ | 3300 | 3100 | 2900 | 2650 | 2050 | — | — | — | 1290 | 3/4 | — | 6D607 | 2943.00 | 265.0 | 7H933 | 3132.00 | 7H944 | 3137.00 |
| | 3450 | 3300 | 3100 | 2900 | 2300 | 1700 | — | — | 1430 | 1 | 80 | | | | 7H934 | 3176.00 | 7H945 | 3146.00 |
| | 4000 | 3850 | 3700 | 3500 | 3100 | 2600 | 2100 | — | 1640 | 1½ | 85 | | | | 7H935 | 3206.00 | 7H946 | 3168.00 |
| | 4500 | 4250 | 4150 | 4000 | 3700 | 3200 | 2750 | 2300 | 1810 | 2 | 88 | | | | — | — | 7H947 | 3255.00 |
| | 5100 | 5000 | 4850 | 4750 | 4500 | 4250 | 3750 | 3400 | 2080 | 3 | 93 | | | | — | — | 7H948 | 3220.00 |
| | 6100 | 6000 | 5900 | 5800 | 5700 | 5400 | 5200 | 4900 | 2470 | 5 | 98 | | | | — | — | 7H949 | 3257.00 |
| 24⅝ | 4500 | 4170 | 3450 | 2850 | — | — | — | — | 825 | 1 | — | 6D608 | 3745.00 | 325.0 | 7H936 | 3971.00 | 7H950 | 3943.00 |
| | 5250 | 4970 | 4500 | 3900 | 2700 | — | — | — | 945 | 1½ | — | | | | 7H937 | 4003.00 | 7H951 | 3970.00 |
| | 5900 | 5650 | 5260 | 4820 | 3780 | 2500 | — | — | 1045 | 2 | 80 | | | | — | — | 7H952 | 4053.00 |
| | 6850 | 6550 | 6280 | 6000 | 5170 | 4300 | 3220 | — | 1200 | 3 | 85 | | | | — | — | 7H953 | 4011.00 |
| | 8200 | 8020 | 7770 | 7550 | 7020 | 6400 | 5550 | 6730 | 1425 | 5 | 91 | | | | — | — | 7H954 | 4042.00 |
| | 9500 | 9350 | 9150 | 9000 | 8550 | 8100 | 7500 | 4850 | 1635 | 7½ | 96 | | | | — | — | 7H955 | 4188.00 |

### NATIONWIDE BRANCH NETWORK WITH LOCAL ACCESS IS YOUR SHOPPING ADVANTAGE

**Grainger's network of more than 350 local branches provides you nationwide access to our broad selection of product offerings. And with 30-minute "Will Call" service or 24-hour shipping on in-stock items, help is as close as a phone call away. Check the Branch Locations listed in the front of this catalog for the location closest to you.**

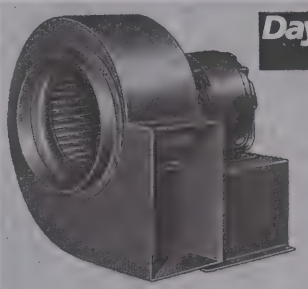
# HIGH VOLUME DIRECT-DRIVE BLOWERS

**Direct-drive, single-inlet, high volume blowers** are used for general ventilation when duct systems are required. Applications include exhausting foul air, blowing cool air, forcing air through washers and blasters, for air furnaces, dryers, and gas ovens.

**Welded steel construction.** Dynamically balanced wheels. May be assembled to discharge at any of eight equally spaced positions.

**Air deliveries** based on standard test codes of AMCA. Gray baked-on epoxy finish. Motor packed separately when blowers ordered complete. Maximum inlet temperature is 180°F.

**WARNING: Review OSHA Codes. OSHA complying guards are required where fan blades are exposed and within reach of personnel.**




No. 1C791

Replacement Parts Available 1-800-323-0620

## HIGH VOLUME DIRECT-DRIVE BLOWERS DIMENSIONS (In Inches)

| Stock No. | Wheel Dia. | Wheel W | Wheel Bore | Outlet Inlet | Outlet H | Outlet W | Overall H | Overall W | Overall D |
|---|---|---|---|---|---|---|---|---|---|
| 1C791 | 6 5/16 | 2 1/2 | 1/2 | 6 | 7 3/8 | 4 1/4 | 15 | 14 | 11 |
| 1C792 | 7 3/4 | 3 7/8 | 1/2 | 8 | 8 1/4 | 5 5/8 | 16 | 15 | 14 |
| 2C889 | 9 | 4 1/2 | 1/2 | 9 | 10 3/4 | 6 1/2 | 18 | 16 | 15 |
| 2C938 | 9 | 4 1/2 | 5/8 | 9 | 10 3/4 | 6 1/2 | 18 | 16 | 15 |
| 2C890 | 10 5/8 | 5 1/4 | 5/8 | 10 | 11 3/4 | 8 | 21 | 19 | 18 |
| 2C939 | 10 5/8 | 5 1/4 | 5/8 | 10 | 11 3/4 | 8 | 21 | 19 | 18 |

| CFM Air Delivery at RPM Shown | | | | | | BLOWER LESS MOTOR | | | | BLOWER COMPLETE WITH PROPER MOTOR | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0" SP | 0.125" SP | 0.250" SP | 0.500" SP | 0.750" SP | 1.250" SP | Stock No. | List | Each | Shpg. Wt. | HP | RPM | dBA @ 5 Ft.† | Volts, 60 Hz | Type | Brgs. | Stock No. | List | Each |
| 595 | 560 | 515 | 420 | 300 | — | **1C791** | $116.81 | **$70.00** | 13.0 | 1/4 | 1725 | 53 | 115 | Split | Slv | **7C037** | $230.29 | **$143.50** |
| 985 | 920 | 870 | 765 | 655 | 360 | **1C792** | 143.47 | **85.95** | 18.0 | 1/3 | 1725 | 57 | 115 | Split | Slv | **7C038** | 262.32 | **163.75** |
| 1005 | 968 | 930 | 850 | 773 | 480 | **2C889** | 180.54 | **108.15** | 21.0 | 1/3 | 1725 | 58 | 115 | Split | Slv | **7C039** | 295.56 | **184.25** |
| 1180 | 1160 | 1125 | 1035 | 855 | — | **2C938*** | 194.51 | **116.50** | 25.0 | 1/3 | 1140 | 56 | 115 / 230 | Cap. | Slv | **7C647** | 408.68 | **254.75** |
| 1510 | 1450 | 1400 | 1290 | 1200 | 1000 | **2C890** | 206.60 | **123.75** | 32.0 | 3/4 | 1725 | 63 | 115 / 230 | Cap. | Slv | **7C453** | 448.32 | **279.25** |
| 1510 | 1450 | 1400 | 1290 | 1200 | 1000 | **2C890** | 206.60 | **123.75** | 32.0 | 3/4 | 1725 | 63 | 230 / 460 | 3-Ph. | Ball | **7C454** | 421.48 | **262.75** |
| 2060 | 1970 | 1870 | 1710 | 1500 | 1020 | **2C939*** | 219.21 | **131.30** | 36.0 | 3/4 | 1140 | 61 | 115 / 230 | Cap. | Ball | **7C648** | 638.29 | **397.75** |
| 2060 | 1970 | 1870 | 1710 | 1500 | 1020 | **2C939*** | 219.21 | **131.30** | 36.0 | 3/4 | 1140 | 61 | 220 / 440 | 3-Ph. | Ball | **7C649** | 535.77 | **334.00** |

(*) Blowers No. 2C938 and 2C939 supplied with No. 3CC03, rubber motor mount for extra quiet operation. (†) Values shown are estimated sound pressure levels.

# RADIAL BLADE 7¾ TO 13½" WHEEL BLOWERS

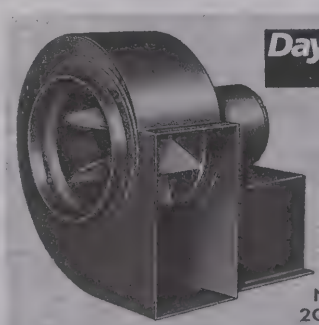
**Used in exhaust systems** where air contains dirt, lint, dust, and other lightweight foreign material. Wheel is self-cleaning design, so blowers are also used for conveying stringy or straw-like material.

**Wheels are cast aluminum,** dynamically balanced and self-cleaning to eliminate unbalance or reduced air flow. Not intended for use where flammable or explosive gases, vapors, or dust is present.

**Air deliveries** are based on standard test codes of AMCA.

**Standard units** are built for CW rotation and bottom horizontal discharge. Housing and base made of 16 ga. steel with continuous arc-welded joints. Housing can be rotated to eight discharge positions. Maximum inlet temperature is 180°F. Gray baked-on epoxy finish. **Motors** packed separately when blowers are ordered complete.

**WARNING: Review OSHA Codes. OSHA complying guards are required where fan blades are exposed and within reach of personnel.**




No. 2C862

Replacement Parts Available 1-800-323-0620

## RADIAL BLADE BLOWERS DIMENSIONS (In Inches)

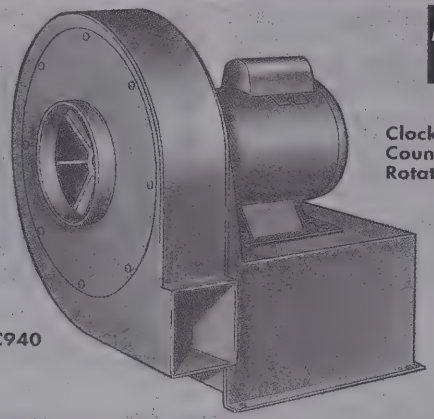
| Stock No. | Wheel Dia. | Wheel W | Wheel Bore | Inlet Dia. | Outlet H | Outlet W | Overall H | Overall W | Overall D | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|
| 2C862 | 7 3/4 | 4 1/16 | 1/2 | 8 | 8 1/4 | 5 3/8 | 15 | 15 | 14 | 17.0 |
| 2C863 | 9 | 5 | 1/2 | 9 | 10 3/4 | 6 1/2 | 16 | 16 | 16 | 22.0 |
| 2C864 | 10 7/8 | 5 11/16 | 5/8 | 10 | 11 1/4 | 8 | 19 | 18 | 17 | 32.0 |
| 4C217 | 12 1/2 | 7 9/16 | 5/8 | 13 1/4 | 13 1/4 | 9 5/8 | 27 | 22 | 22 | 68.0 |
| 4C121 | 13 1/2 | 8 1/8 | 7/8 | 14 1/2 | 14 5/8 | 10 3/4 | 28 | 23 | 23 | 80.0 |

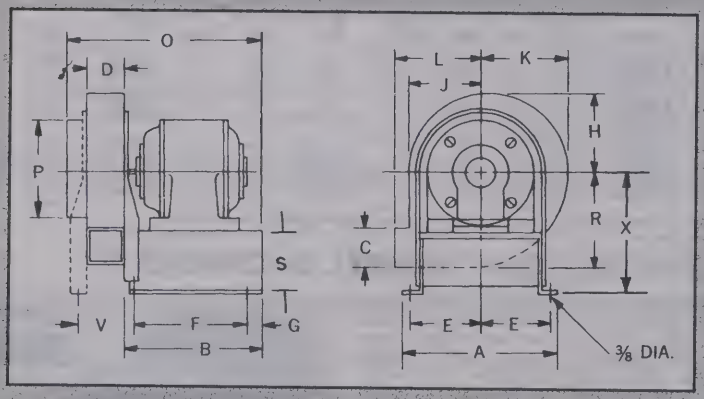
| CFM Air Delivery at 1725 RPM | | | | | | | BLOWER LESS MOTOR | | | BLOWER COMPLETE WITH 1725 RPM MOTOR | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0" SP | 0.250" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.500" SP | 2.00" SP | Stock No. | List | Each | HP | dBA @ 5 Ft.† | Volts, 60 Hz | Type | Stock No. | List | Each |
| 550 | 470 | 465 | 150 | — | — | — | **2C862** | $211.25 | **$126.55** | 1/6 | 64 | 115 | Split | **7C552** | $305.54 | **$190.50** |
| 880 | 765 | 635 | 480 | 200 | — | — | **2C863** | 226.85 | **135.90** | 1/4 | 69 | 115 | Split | **7C553** | 326.22 | **203.50** |
| 1430 | 1335 | 1225 | 1100 | 945 | 430 | — | **2C864** | 290.19 | **174.00** | 1/2 | 75 | 115 | Split | **7C554** | 427.38 | **266.25** |
| 1430 | 1335 | 1225 | 1100 | 945 | 430 | — | **2C864** | 290.19 | **174.00** | 1/2 | 75 | 230 / 460 | 3-Ph. | **7C720** | 472.59 | **294.50** |
| 2375 | 2220 | 2060 | 1890 | 1700 | 1185 | 350 | **4C217** | 517.92 | **310.50** | 1 | 79 | 115 / 230 | Cap. | **7C555** | 748.32 | **466.25** |
| 2375 | 2220 | 2060 | 1890 | 1700 | 1185 | 350 | **4C217** | 517.92 | **310.50** | 1 | 79 | 230 / 460 | 3-Ph. | **7C556** | 712.30 | **444.00** |
| 3000 | 2840 | 2660 | 2480 | 2280 | 1820 | 1020 | **4C121** | 588.03 | **352.25** | 2 | 84 | 230 / 460 | 3-Ph. | **7C639** | 891.07 | **555.50** |

(†) Values shown are estimated sound pressure levels.

Nos. 2C862 thru 2C864 have 4 mounting points, and we recommend 4 No. 4C950 or 4C954 floor mounted vibrations isolators. Nos. 4C217 and 4C121 have 6 mounting points, and we recommend 6 isolators, Nos. 4C950 or 4C954.

# HIGH PRESSURE DIRECT-DRIVE BLOWERS




- 7¾ to 13½" diameter self-cleaning, radial blade wheels
- For small ducted dust exhaust systems and for supplying high pressure air for conveying and cooling
- Used where dust collection bags are necessary
- Welded 16-gauge steel housings
- Balanced, self-cleaning, paddle-type, precision die-cast aluminum wheels. Not intended for use where flammable or explosive gases, vapors, or dust is present
- Clockwise rotation, bottom horizontal discharge
- Adapts to seven other discharge directions
- Air deliveries based on standard test codes of AMCA
- Gray baked-on epoxy finish
- Maximum inlet temperature is 180°F
- Motor packed separately when ordered

**WARNING:** Review OSHA Codes. OSHA complying guards are required when fan blades are exposed and within reach of personnel.

**Replacement Parts Available**
**1-800-323-0620**

## HIGH-PRESSURE DIRECT-DRIVE BLOWER DIMENSIONS

| Stock No. | DIMENSIONS IN INCHES A | B | C | D | E | F | G | H | J | K | L | O | P | R | S† | V | X-Adj. Min. (In.) | X-Adj. Max. (In.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C940 | 11 | 8 | 3 | 3 | 5 | 7 | 1/4 | 5 3/8 | 4 7/8 | 5 7/8 | 5 7/8 | 12 1/4 | 4 | 6 5/8 | 5 1/2 | — | 8 1/4 | 9 3/4 |
| 2C820 | 12 1/8 | 8 | 3 1/2 | 3 1/2 | 5 5/8 | 7 | 1/4 | 6 3/8 | 5 3/4 | 6 7/8 | 6 3/4 | 12 3/4 | 5 | 7 1/2 | 6 3/8 | — | 9 1/8 | 10 5/8 |
| 4C108 | 14 3/4 | 9 | 4 | 3 1/2 | 6 7/8 | 7 1/2 | 3/4 | 7 1/4 | 6 1/2 | 8 | 7 5/8 | 14 | 6 | 8 5/8 | 8 1/4 | — | 11 3/8 | 12 7/8 |
| 4C329 | 17 | 11 1/4 | 5 | 4 | 8 | 9 3/4 | 3/4 | 8 1/4 | 7 1/2 | 9 | 9 5/8 | 17 | 7 | 10 | 7 1/8 | — | 10 5/8 | 10 5/8 |
| 4C330 | 17 1/2 | 11 1/4 | 7 1/8 | 5 3/4 | 8 | 9 1/2 | 1 | 10 1/2 | 9 5/8 | 11 3/8 | 11 | 18 7/8 | 8 | 11 1/2 | 8 1/8 | 7 1/4 | 12 5/8 | 12 5/8 |

(†) Outside dimensions.

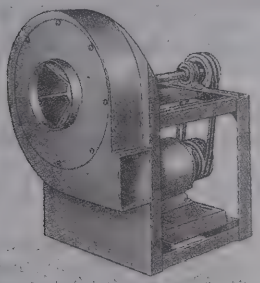
## HIGH-PRESSURE DIRECT-DRIVE BLOWERS ORDERING DATA

| Wheel (In.) Dia. | W | Bore | Inlet | Outlet (In.) H | W | dBA @ 5 Ft. # | Mtr. Frame | PERFORMANCE CFM @ SP Shown, 3450 RPM‡ 1" | 2" | 3" | 4" | 5" | 6" | 7" | 8" | Blower Less Motor Stock No. | Each | Shpg. Wt. | Motor HP | Ph | Blowers with 3450 RPM Motors Dripproof 115 / 230V, 1 Ph 200-230 / 460, 3 Ph Stock No. | Each | Totally Enclosed 115 / 230V, 1 Ph 200-230V / 460V, 60 Hz Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7¾ | 2 5/16 | 1/2 | 4 | 3 | 3 | 74 | 48 | 290 | 230 | 160 | — | — | — | — | — | 2C940 | $110.05 | 13.0 | 1/3 | 1 | 7C650 * | $178.50 | 7C481 | $205.25 |
| 8 15/16 | 2 13/16 | 1/2 | 5 | 3 1/2 | 3 1/2 | 77 | 48 | 530 | 470 | 415 | 335 | 165 | — | — | — | 2C820 | 118.80 | 17.0 | 1/3 | 1 | 7C504 * | 186.50 | 7C483 | 213.25 |
| 10 9/16 | 3 | 5/8 | 6 | 4 | 3 1/2 | 84 | 56 | 800 | 745 | 680 | 610 | 510 | 375 | 225 | — | 4C108 | 142.65 | 25.0 | 1 | 1 | 7C447 | 274.00 | — | — |
| | | | | | | | | | | | | | | | | | | | 1 | 3 | 7C741 | 287.25 | — | — |
| 12½ | 3 | 7/8 | 7 | 5 | 4 | 90 | 145T | 1200 | 1140 | 1070 | 1010 | 940 | 870 | 790 | 695 | 4C329 | 203.50 | 37.0 | 3 | 3 | 7C561 | 389.75 | — | — |
| 13½ | 4 3/8 | 1 1/8 | 8 | 7 1/8 | 5 3/4 | 92 | 182T | 2140 | 2030 | 1930 | 1820 | 1710 | 1615 | 1500 | 1375 | 4C330 | 286.50 | 64.0 | 5 | 3 | 7C562 | 492.00 | 7C487 | 532.00 |

(#) Values shown are estimated sound pressure levels. (‡) Motor overload will result if blower is operated at static pressure below performance shown. (*) 115V motor only.

**The High Pressure Blowers listed above, Nos. 2C940 thru 4C329, have 4 mounting points, and we recommend 4 No. 4C950 floor mount vibration isolators. Blower No. 4C330 has 6 mounting points, and we recommend 6 No. 4C950 isolators for proper mounting. For detailed description of isolators, see Index under Isolators.**

# HIGH PRESSURE BELT-DRIVE BLOWERS

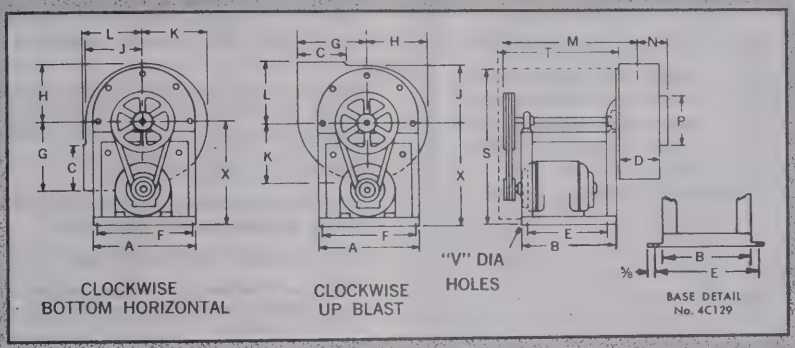


No. 7C192

Replacement Parts Available 1-800-323-0620

Dayton®

**WARNING:** Review OSHA Codes. OSHA complying guards are required where fan blades are exposed and within reach of personnel.




- Blowers come complete with weatherproof drive cover
- 10⁹⁄₁₆ to 13½" diameter, self-cleaning, radial blade wheel
- For industrial air moving applications where clean or light dust loading conditions exist
- Air deliveries based on standard test codes of AMCA
- Dynamically balanced, self-cleaning, heavy-duty die-cast aluminum wheels. Not intended for use where flammable or explosive gases, vapors or dust is present
- Steel housing and self-aligning ball bearing pillow blocks
- Clockwise or counter-clockwise rotation
- Bottom horizontal discharge, but can be changed to seven other discharge directions
- Maximum operating temperature is 180°F (82.2°C)
- Motor and variable pitch drive packed separately when ordered
- Gray baked-on epoxy finish

## HIGH PRESSURE BELT-DRIVE BLOWERS LESS MOTOR AND DRIVE ORDERING DATA

| Wheel (In.) Dia. | W | Shaft Dia. (In.) | Inlet | Outlet (In.) H | W | Overall (In.) H | W | D | Stock No. | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10⁹⁄₁₆ | 3 | ¾ | 6 | 4 | 3½ | 21 | 20 | 16 | 4C129 | $335.25 | 58.0 |
| 12½ | 3 | 1 | 7 | 5 | 4 | 25 | 24 | 18 | 4C130 | 410.75 | 88.0 |
| 13½ | 4⅜ | 1 | 8 | 7⅛ | 5¾ | 26 | 25 | 23 | 4C131 | 447.00 | 80.0 |

## HIGH-PRESSURE BELT-DRIVE BLOWERS DIMENSIONS

| Stock No. | DIMENSIONS IN INCHES A | B | C | D | E | F | G | H | J | K | L | M | N | P | S | T | V | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4C129 | 12⅞ | 13 | 4 | 3½ | 14¼ | 10¾ | 8⅝ | 7¼ | 6½ | 8 | 7⅝ | 17¾ | 2⅞ | 6 | 20⁹⁄₁₆ | 17 | 7/16 | 14 |
| 4C130 | 16⅜ | 15 | 5 | 4 | 13½ | 14¾ | 10 | 8¼ | 7½ | 9 | 9⅝ | 20½ | 3⅛ | 7 | 25¼ | 20 | 9/16 | 17 |
| 4C131 | 17⅝ | 15 | 7⅛ | 5¾ | 13½ | 16 | 11½ | 10½ | 9⅝ | 11⅜ | 11 | 21 | 4 | 8 | 25⅞ | 20 | 9/16 | 17 |

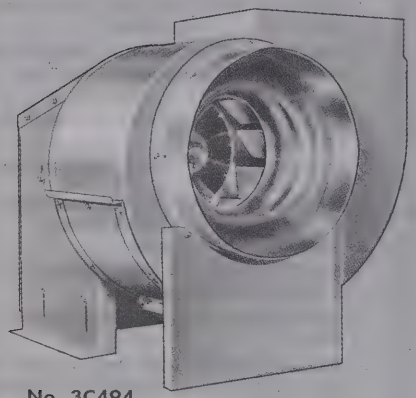
## HIGH-PRESSURE BELT-DRIVE BLOWERS WITH MOTOR AND DRIVE ORDERING DATA

| Wheel Diameter (In.) | CFM @ Static Pressure Shown 5" SP | 6" SP | 7" SP | 8" SP | 9" SP | 10" SP | 11" SP | 12" SP | Motor* HP | Ph. | Blower RPM | dBA @ 5 Ft.† | Stock No. | List | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10⁹⁄₁₆ | 390 | 235 | — | — | — | — | — | — | 1/2 | 1 | 3250 | 80 | 7C182 | $689.72 | $430.00 |
| | 505 | 410 | 300 | — | — | — | — | — | ¾ | 1 | 3500 | 83 | 7C183 | 723.49 | 451.00 |
| | 610 | 535 | 445 | 325 | — | — | — | — | ¾ | 1 | 3750 | 86 | 7C184 | 723.49 | 451.00 |
| | 685 | 625 | 545 | 455 | 350 | 175 | — | — | 1 | 1 | 4000 | 87 | 7C185 | 783.66 | 488.50 |
| | ‡ | ‡ | ‡ | 570 | 490 | 395 | 250 | — | 1 | 1 | 4250 | 87 | 7C186 | 784.89 | 489.25 |
| | ‡ | ‡ | ‡ | ‡ | ‡ | 560 | 460 | 350 | 1½ | 3 | 4625 | 90 | 7C187 | 896.14 | 558.50 |
| 12½ | 575 | 430 | — | — | — | — | — | — | 1 | 1 | 2810 | 83 | 7C188 | 968.96 | 604.00 |
| | 740 | 620 | 495 | 230 | — | — | — | — | 1½ | 3 | 3065 | 84 | 7C189 | 1003.12 | 625.50 |
| | ‡ | 725 | 630 | 500 | — | — | — | — | 1½ | 3 | 3250 | 86 | 7C190 | 1003.12 | 625.50 |
| | ‡ | 870 | 790 | 700 | 590 | 400 | — | — | 2 | 3 | 3500 | 89 | 7C191 | 1049.04 | 654.00 |
| | ‡ | ‡ | ‡ | 805 | 720 | 610 | 440 | — | 2 | 3 | 3680 | 90 | 7C192 | 1061.17 | 661.00 |
| | ‡ | ‡ | ‡ | 995 | 930 | 850 | 760 | 635 | 3 | 3 | 3950 | 93 | 7C193 | 1091.40 | 680.50 |
| 13½ | 840 | 540 | — | — | — | — | — | — | 1 | 1 | 2500 | 83 | 7C194 | 1025.08 | 639.00 |
| | 1100 | 920 | 620 | — | — | — | — | — | 1½ | 3 | 2670 | 85 | 7C195 | 1050.11 | 654.50 |
| | 1300 | 1150 | 970 | 750 | — | — | — | — | 2 | 3 | 2920 | 87 | 7C196 | 1105.20 | 688.50 |
| | ‡ | 1300 | 1150 | 990 | 750 | — | — | — | 2 | 3 | 3080 | 89 | 7C198 | 1105.20 | 688.50 |
| | 1630 | 1500 | 1380 | 1240 | 1085 | 900 | 600 | — | 3 | 3 | 3340 | 92 | 7C199 | 1135.45 | 707.50 |
| | ‡ | ‡ | ‡ | 1400 | 1260 | 1120 | 940 | 670 | 3 | 3 | 3500 | 93 | 7C203 | 1135.34 | 707.50 |
| | ‡ | ‡ | ‡ | 1900 | 1800 | 1700 | 1590 | 1480 | 5 | 3 | 3920 | 96 | 7C204 | 1203.74 | 750.00 |

(*) 1/2 thru 1 HP, 115/230V, 60 Hz, capacitor motors; 1½ thru 5 HP, 230/460V, 60 Hz, 3-phase motors (‡) Motor overload will result if blower is operated at static pressure below performance shown. (†) Values shown are estimated sound pressure levels.

**The High Pressure Belt-Drive Blowers listed above have 4 mounting points, and we recommend 4 No. 4C950 floor mounted vibration isolators. For detailed description of isolators, see Index under Isolators.**

# 13 11/16 to 24 1/2" DIAMETER SPARK RESISTANT BLOWERS W/ALUMINUM AIR FOIL WHEEL



No. 3C494

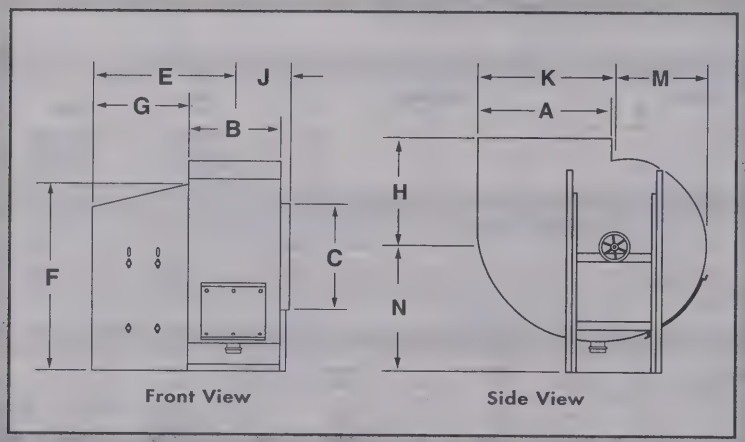
Dayton®

UL MH12596

**WARNING:**
- Review OSHA codes, OSHA-complying guards are required when fan blades are exposed and within reach of personnel
- Use a hazardous location motor where flammable vapors are involved

Replacement Parts Available 1-800-323-0620

- UL Listed in fire protection equipment directory under "Power Ventilators For Restaurant Applications (YZHW)", Subject 762
- Aluminum wheel and shaft collar at shaft hole of housing meet AMCA Type B spark resistant specifications
- Widely used where flammable or explosive gases, vapor, or dust is present
- For kitchen exhaust, paint storage, petroleum or chemical exhaust, grain storage, and other similar hazardous locations; recommended that kitchen installations be made per NFPA 96 specifications
- Blowers come complete with weather-proof drive covers and access door; steel housing has access door in the scroll opposite the discharge for inspection and maintenance
- Backward incline aluminum air foil wheel is dynamically balanced
- 1½" diameter drain with cap
- Built for clockwise rotation, upblast discharge—can be field adjusted in 45° increments
- Ball bearing construction; baked on gray acrylic epoxy finish
- Motor and variable pitch drive packed separately when blower is ordered complete
- Hazardous location motors offered meet National Electrical Code (NEC) Class 1, Group D, and Class II, Groups E, F, and G




## SPARK RESISTANT BLOWERS DIMENSIONS (Front View)

| Stock No.* | Dimensions (In.) B | C | E | F | G | J | Maximum Operating Temperature | Maximum Blower RPM |
|---|---|---|---|---|---|---|---|---|
| 3C494 | 10 11/16 | 15 1/8 | 20 | 23 1/2 | 14 11/16 | 8 9/16 | 250°F | 2610 |
| 3C495 | 12 5/8 | 16 7/8 | 23 | 27 1/2 | 16 11/16 | 9 7/16 | 250°F | 2260 |
| 3C496 | 15 9/16 | 21 5/16 | 27 | 33 1/8 | 19 3/16 | 10 15/16 | 250°F | 1585 |
| 3C497 | 19 1/16 | 26 3/8 | 31 3/4 | 40 15/16 | 22 3/16 | 13 1/8 | 250°F | 1330 |

## SPARK RESISTANT BLOWERS DIMENSIONS (Side View)

| Stock No.* | Wheel Diameter (In.) | Shaft Diameter (In.) | Dimensions (In.) A | H | K | M | N | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| 3C494 | 13 11/16 | 1 | 14 3/8 | 10 3/4 | 15 7/16 | 10 5/8 | 16 5/8 | 147.0 |
| 3C495 | 16 1/8 | 1 | 17 1/16 | 12 11/16 | 18 3/16 | 12 1/2 | 19 5/8 | 195.0 |
| 3C496 | 20 | 1 | 21 1/16 | 15 3/4 | 22 7/16 | 15 3/8 | 23 | 217.0 |
| 3C497 | 24 1/2 | 1 3/16 | 25 7/8 | 19 1/4 | 27 3/8 | 18 3/4 | 29 5/16 | 412.0 |

(*) Blowers less motor and drive.

amca CERTIFIED RATINGS — SOUND AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

Dayton Electric Mfg. Co. certifies that the blowers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

The sound power ratings shown are in decibels referred to $10^{-13}$ watt calculated per AMCA Standard 301. The A weighted sound ratings shown have been calculated per AMCA Standard 301. Values shown for blowers are for (inlet Lwi) sound levels for: Installation Type B: free inlet, ducted outlet. Ratings do not include the effects of duct end correction.

# 13 11/16 TO 24 1/2" DIAMETER SPARK RESISTANT BLOWERS W/ALUMINUM AIR FOIL WHEEL



## SPARK RESISTANT BLOWERS PERFORMANCE AND SPECIFICATIONS DATA

| Wheel Dia. (In.) | CFM at Static Pressure Shown 0.250" SP | 0.500" SP | 0.750" SP | 1.00" SP | 1.50" SP | 2.00" SP | 2.50" SP | 3.00" SP | Blower RPM | Motor HP | Max. BHP | Sound Power Lw(A) 0.750" SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 11/16 | 1615 | 1370 | 830 | — | — | — | — | — | 1200 | 1/4 | 0.221 | 69 |
| | 1865 | 1660 | 1430 | 770 | — | — | — | — | 1350 | 1/3 | 0.308 | 72 |
| | 2160 | 1990 | 1795 | 1590 | — | — | — | — | 1530 | 1/2 | 0.441 | 75 |
| | 2545 | 2405 | 2250 | 2080 | 1705 | — | — | — | 1770 | 3/4 | 0.669 | 79 |
| | 2840 | 2725 | 2590 | 2445 | 2130 | 1360 | — | — | 1960 | 1 | 0.902 | 82 |
| | 3375 | 3270 | 3165 | 3055 | 2805 | 2530 | 2240 | 1095 | 2300 | 1 1/2 | 1.438 | 88 |
| | 3685 | 3590 | 3495 | 3400 | 3180 | 2935 | 2685 | 2400 | 2500 | 2 | 1.841 | 91 |
| 16 1/8 | 2690 | 2420 | 2140 | 1195 | — | — | — | — | 1145 | 1/2 | 0.420 | 71 |
| | 2995 | 2755 | 2505 | 2200 | — | — | — | — | 1255 | 3/4 | 0.551 | 73 |
| | 3250 | 3035 | 2805 | 2565 | — | — | — | — | 1350 | 3/4 | 0.681 | 76 |
| | 3615 | 3425 | 3215 | 3010 | 2410 | — | — | — | 1485 | 1 | 0.906 | 79 |
| | 3910 | 3735 | 3545 | 3350 | 2935 | 1480 | — | — | 1595 | 1 1/2 | 1.123 | 81 |
| | 4215 | 4055 | 3880 | 3700 | 3335 | 2750 | — | — | 1710 | 1 1/2 | 1.382 | 83 |
| | 4690 | 4550 | 4395 | 4235 | 3905 | 3565 | 2870 | — | 1890 | 2 | 1.856 | 86 |
| | 5095 | 4965 | 4830 | 4685 | 4380 | 4080 | 3735 | 2715 | 2045 | 3 | 2.355 | 88 |
| | 5395 | 5275 | 5145 | 5015 | 4730 | 4440 | 4150 | 3750 | 2160 | 3 | 2.772 | 90 |
| 20 | 4015 | 3610 | 3215 | 2690 | — | — | — | — | 950 | 3/4 | 0.675 | 71 |
| | 4510 | 4150 | 3785 | 3425 | — | — | — | — | 1050 | 1 | 0.906 | 75 |
| | 4855 | 4530 | 4175 | 3850 | 2395 | — | — | — | 1120 | 1 1/2 | 1.103 | 77 |
| | 5240 | 4950 | 4620 | 4305 | 3610 | — | — | — | 1200 | 1 1/2 | 1.354 | 79 |
| | 5870 | 5610 | 5325 | 5025 | 4465 | 3650 | — | — | 1330 | 2 | 1.842 | 82 |
| | 6325 | 6085 | 5830 | 5550 | 5020 | 4450 | 2735 | — | 1425 | 3 | 2.264 | 86 |
| | 6775 | 6555 | 6320 | 6065 | 5550 | 5065 | 4425 | 2450 | 1520 | 3 | 2.745 | 87 |
| 24 1/2 | 6090 | 5510 | 4795 | 2715 | — | — | — | — | 740 | 1 | 0.920 | 72 |
| | 7045 | 6560 | 6000 | 5355 | — | — | — | — | 840 | 1 1/2 | 1.344 | 76 |
| | 7805 | 7370 | 6890 | 6340 | 3810 | — | — | — | 920 | 2 | 1.763 | 77 |
| | 8505 | 8115 | 7690 | 7215 | 6120 | 2120 | — | — | 995 | 3 | 2.226 | 79 |
| | 9110 | 8745 | 8360 | 7935 | 6950 | 4300 | — | — | 1060 | 3 | 2.692 | 82 |
| | 10035 | 9705 | 9360 | 8995 | 8160 | 7215 | 3970 | — | 1160 | 5 | 3.527 | 85 |
| | 10955 | 10650 | 10340 | 10015 | 9300 | 8470 | 7560 | 4005 | 1260 | 5 | 4.523 | 88 |

Performance shown is for installation Type B; Free Inlet, Ducted Outlet. Power ratings (BHP) do not include drive losses. Performance ratings do not include the effects of appurtenances in the airstream.

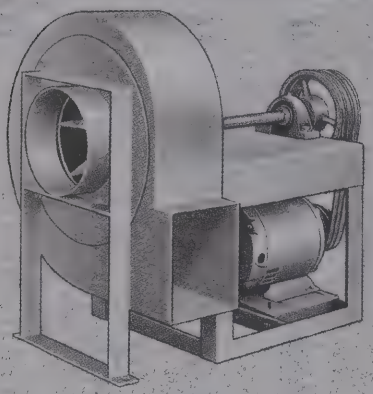
## SPARK RESISTANT BLOWERS WITH MOTORS AND DRIVES ORDERING DATA

| Wheel Dia. (In.) | Blowers Less Motor & Drive Stock No. | List | Each | Shpg. Wt. | Motor HP | Dripproof Single Phase Motor 115 / 230V, 60 Hz Stock No. | Each | Hazardous Location Single Phase Motor 115 / 230V, 60 Hz Stock No. | Each | Dripproof 3-Phase Motor 230 / 460V, 60 Hz Stock No. | Each | Hazardous Location 3-Phase Motor 230 / 460V, 60 Hz Stock No. | Each |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 11/16 | 3C494 | $1183.33 | $709.00 | 147.0 | 1/4 | 7F966 | $811.50 | 7F967 | $894.50 | 7F968 | $825.50 | — | — |
| | | | | | 1/3 | 7F969 | 818.00 | 7F970 | 936.00 | 7F971 | 813.50 | 7F972 | $983.00 |
| | | | | | 1/2 | 7F973 | 829.00 | 7F974 | 959.00 | 7F975 | 826.00 | 7F976 | 999.50 |
| | | | | | 3/4 | 7F977 | 852.00 | — | — | 7F979 | 839.00 | 7F980 | 1007.00 |
| | | | | | 1 | 7F981 | 904.00 | — | — | 7F983 | 879.00 | — | — |
| | | | | | 1 1/2 | 7F985 | 930.00 | — | — | 7F986 | 905.00 | — | — |
| | | | | | 2 | — | — | — | — | 7F989 | 974.00 | — | — |
| 16 1/8 | 3C495 | 1421.68 | 851.50 | 195.0 | 1/2 | 7F991 | 973.50 | 7F992 | 1104.00 | 7F993 | 970.00 | 7F994 | 1144.00 |
| | | | | | 3/4 | 7F995 | 1000.00 | 7F996 | 1116.00 | 7F997 | 987.00 | 7F998 | 1155.00 |
| | | | | | 3/4 | 7F999 | 1000.00 | 7C029 | 1116.00 | 7C030 | 987.00 | 7C031 | 1155.00 |
| | | | | | 1 | 7C032 | 1034.00 | 7C033 | 1127.00 | 7C034 | 1008.00 | 7C035 | 1162.00 |
| | | | | | 1 1/2 | 7C036 | 1038.00 | — | — | 7C040 | 1005.00 | 7C041 | 1183.00 |
| | | | | | 1 1/2 | 7C042 | 1038.00 | — | — | 7C043 | 1005.00 | 7C044 | 1183.00 |
| | | | | | 2 | 7C045 | 1072.00 | — | — | 7C046 | 1088.00 | 7C047 | 1210.00 |
| | | | | | 3 | — | — | — | — | 7C048 | 1123.00 | — | — |
| | | | | | 3 | — | — | — | — | 7C050 | 1122.00 | — | — |
| 20 | 3C496 | 1707.18 | 1023.00 | 217.0 | 3/4 | 7C052 | 1141.00 | 7C054 | 1257.00 | 7C056 | 1128.00 | 7C057 | 1296.00 |
| | | | | | 1 | 7C058 | 1178.00 | 7C059 | 1272.00 | 7C060 | 1153.00 | 7C061 | 1307.00 |
| | | | | | 1 1/2 | 7C076 | 1195.00 | — | — | 7C085 | 1163.00 | 7C086 | 1341.00 |
| | | | | | 1 1/2 | 7C087 | 1195.00 | — | — | 7C088 | 1163.00 | 7C089 | 1341.00 |
| | | | | | 2 | 7C090 | 1226.00 | — | — | 7C091 | 1242.00 | 7C092 | 1363.00 |
| | | | | | 3 | — | — | — | — | 7C093 | 1250.00 | — | — |
| | | | | | 3 | — | — | — | — | 7C095 | 1250.00 | — | — |
| 24 1/2 | 3C497 | 2123.60 | 1272.00 | 412.0 | 1 | 7C097 | 1438.00 | 7C098 | 1532.00 | 7C099 | 1414.00 | 7C100 | 1567.00 |
| | | | | | 1 1/2 | 7C101 | 1444.00 | — | — | 7C102 | 1412.00 | 7C103 | 1589.00 |
| | | | | | 2 | 7C104 | 1471.00 | — | — | 7C105 | 1488.00 | 7C106 | 1609.00 |
| | | | | | 3 | — | — | — | — | 7C107 | 1524.00 | 7C108 | 1666.00 |
| | | | | | 3 | — | — | — | — | 7C109 | 1524.00 | 7C110 | 1666.00 |
| | | | | | 5 | — | — | — | — | 7C111 | 1489.00 | 7C112 | 1701.00 |
| | | | | | 5 | — | — | — | — | 7C113 | 1489.00 | 7C114 | 1753.00 |

### ORDER DIRECT FROM GRAINGER

**You can order directly from Grainger, call your local branch and place an order. To find the branch nearest you, check the Branch Locations listed in the front of this catalog. You can pick your order up or we'll ship it today.**

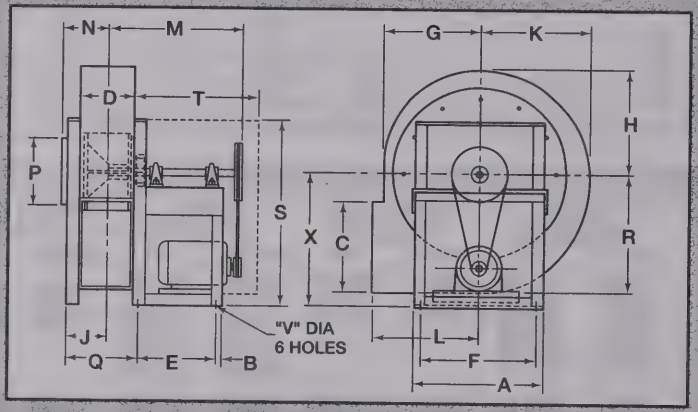
# 12¼ TO 26⅛" RADIAL BLADE INDUSTRIAL BELT-DRIVE BLOWERS



Dayton®

BLOWERS COME COMPLETE WITH WEATHERPROOF DRIVE COVERS

Replacement Parts Available 1-800-323-0620




- 12¼" blower only handles stringy material
- 15⅝, to 26⅛" blowers only handle grain, sawdust, granular material, particle laden air or non-explosive gases
- Clockwise or Counter-Clockwise Rotation
- Operate close to maximum efficiency over a wide range of static pressure
- Air deliveries based on standard test codes of AMCA
- Heavy gauge, continuous arc welded steel construction

Blowers are assembled for clockwise rotation, bottom horizontal discharge. Can be changed in the field to any of seven other standard discharge directions as well as counter-clockwise rotation.

Model 3C539 is designed to handle all types of long fibers or stringy material and dust. (Not suitable for continuous paper trim applications.)

V-belt drive with heavy-duty, self-aligning ball bearing pillow blocks. Radial blade wheels are continuously welded steel plate and dynamically balanced. Blower housing has gray baked-on epoxy finish.

Maximum operating temperature is 250°F (121.0°C). The optional heat slinger, listed below, increases operating temperatures up to 450°F.

**WARNING:** Review OSHA Codes. OSHA complying guards are required when fan blades are exposed and within reach of personnel.

## RADIAL BLADE INDUSTRIAL BLOWERS DIMENSIONS (Inches)

| Wheel Dia. | Shaft Dia. | Dimensions in Inches | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | V | X |
| 12¼ | 13/16 | 18 | 1 | 7 | 6 | 13 | 16¼ | 7⅝ | 8 9/16 | 4 3/16 | 9⅝ | 9⅝ | 21¾ | 6⅛ | 7¼ | 8⅜ | 10⅝ | 23½ | 20½ | 9/16 | 16 |
| 15⅝ | 13/16 | 17¼ | 1 | 9 | 7½ | 17⅝ | 14½ | 9 11/16 | 11 1/16 | 4 15/16 | 12 3/16 | 11 11/16 | 28½ | 6⅞ | 9¼ | 9⅞ | 13 5/16 | 28 | 26¾ | 9/16 | 18⅞ |
| 19⅛ | 17/16 | 21⅝ | 1⅜ | 11 | 9 1/16 | 17 | 19¾ | 11¾ | 13¼ | 5 11/16 | 14⅞ | 13¾ | 30 | 7⅝ | 11¼ | 11⅝ | 16½ | 32⅜ | 27½ | 9/16 | 22½ |
| 22⅝ | 1 11/16 | 21⅝ | 1⅜ | 13 | 10½ | 17 | 19¾ | 13⅞ | 15⅝ | 6 7/16 | 17 9/16 | 15⅞ | 31 | 8⅜ | 13¼ | 13⅛ | 19½ | 33⅞ | 27¾ | 9/16 | 22 11/16 |
| 26⅛ | 1 15/16 | 25½ | ⅞ | 15 | 12⅛ | 22½ | 23¼ | 16 1/16 | 18⅛ | 9⅜ | 20 5/16 | 19 1/16 | 36 3/16 | 9 3/16 | 15¼ | 16¼ | 22½ | 33⅞ | 31¼ | 11/16 | 25 |

## HEAT SLINGER—For Radial Blade Blowers Listed Above



No. 4C784

**Split type aluminum slinger** mounts on blower shaft between housing and bearing. Cools bearing allowing blower to handle inlet temperatures up to 450°F. When used with heat shield between motor and housing, blower can operate in temperatures up to 500°F. Peerless brand.

### HEAT SLINGER ORDERING DATA

| For Blower No. | Slinger Diameter (In.) | Slinger Bore (In.) | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|
| 3C539, 3C106 | 6 | 13/16 | 4C784 | $131.51 | $78.80 | 2.0 |
| 3C107 | 6 | 1 7/16 | 4C790 | 131.51 | 78.80 | 2.0 |
| 3C108 | 8 | 1 11/16 | 4C791 | 154.50 | 92.55 | 3.0 |
| 3C540 | 8 | 1 15/16 | 4C792 | 154.50 | 92.55 | 2.9 |



Exhaust it, filter it, exchange it — we have the ventilators to get it done.

# 12¼ TO 26⅛" RADIAL BLADE INDUSTRIAL BELT-DRIVE BLOWERS



## RADIAL BLADE INDUSTRIAL BLOWERS PERFORMANCE DATA

| Wheel Dia., (In.) | CFM Air Delivery at RPM Shown | | | | | | | | | | Blower RPM | Motor HP | dBA @ 5 Ft.† |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4" SP | 5" SP | 6" SP | 7" SP | 8" SP | 9" SP | 10" SP | 11" SP | 12" SP | 13" SP | | | |
| 12¼ | 1455 | 1290 | 1090 | 840 | 515 | — | — | — | — | — | 3160 | 3 | 78 |
| | # | # | 1340 | 1145 | 915 | 625 | — | — | — | — | 3390 | 3 | 79 |
| | # | 1740 | 1610 | 1455 | 1290 | 1080 | 840 | 515 | — | — | 3685 | 5 | 82 |
| | # | 1795 | 1660 | 1525 | 1360 | 1165 | 955 | 675 | — | — | 3750 | 5 | 82 |
| | # | # | 1780 | 1650 | 1505 | 1330 | 1135 | 910 | 620 | — | 3870 | 5 | 84 |
| 15⅝ | # | 1725 | 1430 | 960 | — | — | — | — | — | — | 2275 | 3 | 78 |
| | 2290 | 2050 | 1810 | 1540 | 1120 | — | — | — | — | — | 2460 | 5 | 79 |
| | # | 2330 | 2115 | 1890 | 1630 | 1250 | — | — | — | — | 2625 | 5 | 81 |
| | 2880 | 2665 | 2450 | 2250 | 2040 | 1795 | 1485 | — | — | — | 2815 | 7½ | 83 |
| | # | 2850 | 2630 | 2425 | 2230 | 2015 | 1765 | 1420 | — | — | 2920 | 7½ | 84 |
| | # | # | 2845 | 2645 | 2460 | 2260 | 2060 | 1810 | 1470 | — | 3045 | 10 | 87 |
| | # | # | # | 2900 | 2720 | 2540 | 2360 | 2160 | 1930 | 1615 | 3180 | 10 | 89 |
| | # | # | # | # | # | 2795 | 2620 | 2435 | 2245 | — | 3335 | 10 | 90 |
| 19⅛ | 3345 | 2985 | 2620 | 2190 | 1490 | — | — | — | — | — | 1990 | 7½ | 81 |
| | # | 3430 | 3115 | 2765 | 2360 | 1735 | — | — | — | — | 2125 | 7½ | 82 |
| | 4235 | 3900 | 3575 | 3260 | 2940 | 2560 | 2020 | — | — | — | 2270 | 10 | 84 |
| | # | # | 3840 | 3545 | 3245 | 2910 | 2515 | 1920 | — | — | 2350 | 10 | 85 |
| | # | 4420 | 4195 | 3900 | 3610 | 3315 | 3005 | 2605 | 2030 | — | 2460 | 15 | 89 |
| | # | # | # | 4360 | 4075 | 3805 | 3530 | 3230 | 2875 | 2400 | 2590 | 15 | 90 |
| | # | # | # | # | 4380 | 4190 | 3935 | 3675 | 3395 | 3047 | 2715 | 15 | 91 |
| 22⅝ | # | 4730 | 4260 | 3780 | 3170 | 2190 | — | — | — | — | 1780 | 10 | 83 |
| | 5750 | 5270 | 4810 | 4360 | 3855 | 3270 | 2315 | — | — | — | 1880 | 15 | 85 |
| | # | 5840 | 5390 | 4985 | 4550 | 4080 | 3535 | 2665 | — | — | 1985 | 15 | 87 |
| | 6700 | 6300 | 5910 | 5500 | 5100 | 4685 | 4240 | 3705 | 2955 | — | 2090 | 20 | 91 |
| | # | # | 6200 | 6050 | 5665 | 5270 | 4900 | 4475 | 3985 | 3260 | 2185 | 20 | 92 |
| | # | # | # | # | 5970 | 5585 | 5215 | 4835 | 4400 | 3885 | 2250 | 20 | 93 |
| 26⅛ | 6925 | 6260 | 5635 | 4955 | 4135 | — | — | — | — | — | 1540 | 15 | 85 |
| | # | # | 6435 | 5830 | 5200 | 4385 | 3145 | — | — | — | 1630 | 15 | 87 |
| | # | 7570 | 6980 | 6350 | 5840 | 5175 | 4370 | — | — | — | 1700 | 20 | 88 |
| | # | 8200 | 7755 | 7185 | 6660 | 6080 | 5490 | 4735 | 3600 | — | 1795 | 25 | 92 |
| | # | # | 8110 | 7660 | 7130 | 6605 | 6065 | 5415 | 4580 | — | 1860 | 25 | 93 |
| | # | # | # | # | 7630 | 7105 | 6600 | 6045 | 5415 | 4400 | 1900 | 25 | 94 |
| | # | # | # | # | # | 7420 | 6890 | 6380 | 5790 | 5040 | 1950 | 25 | 95 |

(#) Motor overload—not recommended for operation at this static pressure with HP shown. (†) Values shown are estimated sound pressure levels.

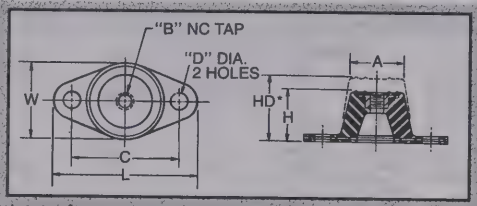
## RADIAL BLADE INDUSTRIAL BLOWERS ORDERING DATA

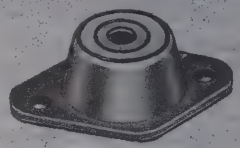
| Wheel Dia., (In.) | Blower Less Motor and Drive | | | Shpg. Wt. | Blower with Motor and Drive, 3-Phase, Ball Bearing, 230/460V, 60 Hz Motor | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stock No. | List | Each | | HP | Dripproof Motor Stock No. | List | Each | Totally Enclosed Motor Stock No. | List | Each |
| 12¼ | 3C539 | $1413.86 | $847.50 | 114.0 | 3 | 7C240 | $1712.74 | $1078.00 | 7C279 | $1751.30 | $1102.00 |
| | | | | | 3 | 7C241 | 1718.59 | 1082.00 | 7C280 | 1757.28 | 1106.00 |
| | | | | | 5 | 7C242 | 1752.67 | 1103.00 | 7C281 | 1847.76 | 1157.00 |
| | | | | | 5 | 7C243 | 1756.39 | 1105.00 | 7C282 | 1841.49 | 1159.00 |
| | | | | | 5 | 7C244 | 1795.39 | 1130.00 | 7C313 | 1880.48 | 1184.00 |
| 15⅝ | 3C106 | 1712.45 | 1026.00 | 206.0 | 3 | 7C245 | 1947.02 | 1225.00 | 7C314 | 1996.56 | 1256.00 |
| | | | | | 5 | 7C246 | 1990.61 | 1253.00 | 7C319 | 2055.23 | 1293.00 |
| | | | | | 5 | 7C247 | 1998.13 | 1257.00 | 7C321 | 2062.74 | 1298.00 |
| | | | | | 7½ | 7C248 | 2176.27 | 1370.00 | 7C322 | 2285.06 | 1438.00 |
| | | | | | 7½ | 7C249 | 2180.15 | 1372.00 | 7C325 | 2288.58 | 1440.00 |
| | | | | | 10 | 7C250 | 2288.05 | 1440.00 | — | — | — |
| | | | | | 10 | 7C251 | 2284.81 | 1438.00 | — | — | — |
| | | | | | 10 | 7C252 | 2331.82 | 1467.00 | — | — | — |
| 19⅛ | 3C107 | 2207.64 | 1323.00 | 296.0 | 7½ | 7C253 | 2691.44 | 1693.00 | 7C329 | 2720.04 | 1711.00 |
| | | | | | 7½ | 7C257 | 2701.22 | 1699.00 | 7C331 | 2729.82 | 1717.00 |
| | | | | | 10 | 7C260 | 2827.93 | 1779.00 | 7C333 | 2858.40 | 1798.00 |
| | | | | | 10 | 7C261 | 2858.17 | 1798.00 | 7C334 | 2888.61 | 1817.00 |
| | | | | | 15 | 7C262 | 3139.21 | 1974.00 | 7C335 | 3303.57 | 2078.00 |
| | | | | | 15 | 7C263 | 3109.79 | 1957.00 | 7C336 | 3310.43 | 2083.00 |
| | | | | | 15 | 7C264 | 3126.20 | 1967.00 | 7C341 | 3326.78 | 2093.00 |
| 22⅝ | 3C108 | 2567.07 | 1538.00 | 354.0 | 10 | 7C265 | 3183.51 | 2003.00 | 7C342 | 3296.20 | 2073.00 |
| | | | | | 15 | 7C266 | 3440.96 | 2165.00 | 7C343 | 3641.49 | 2291.00 |
| | | | | | 15 | 7C267 | 3425.77 | 2155.00 | 7C344 | 3626.37 | 2281.00 |
| | | | | | 20 | 7C268 | 3708.68 | 2333.00 | — | — | — |
| | | | | | 20 | 7C269 | 3710.61 | 2335.00 | — | — | — |
| | | | | | 20 | 7C270 | 3689.22 | 2321.00 | — | — | — |
| 26⅛ | 3C540 | 3213.00 | 1924.00 | 562.0 | 15 | 7C274 | 4183.66 | 2632.00 | 7C351 | 4384.22 | 2758.00 |
| | | | | | 15 | 7C272 | 4182.90 | 2631.00 | 7C352 | 4383.11 | 2757.00 |
| | | | | | 20 | 7C273 | 4482.94 | 2820.00 | 7C359 | 4782.74 | 3009.00 |
| | | | | | 25 | 7C274 | 4685.30 | 2947.00 | 7C363 | 5104.40 | 3210.00 |
| | | | | | 25 | 7C275 | 4653.48 | 2927.00 | 7C364 | 4967.98 | 3125.00 |
| | | | | | 25 | 7C276 | 4669.12 | 2937.00 | 7C369 | 4984.86 | 3135.00 |
| | | | | | 25 | 7C277 | 4657.45 | 2930.00 | 7C386 | 4971.97 | 3127.00 |

The Radial Blade Industrial blowers listed above have 6 mounting points, and we recommend 6 floor mount vibration isolators as follows: blower No. 3C539 requires No. 4C951 or 4C875 isolators; blower No. 3C106 requires No. 1C952 or 1C955 isolators; blower Nos. 3C107 and 3C108 require No. 4C953 or 4C876 isolators; and blower No. 3C540 requires No. 4C957 or 4C961 isolators

# FLOOR MOUNTED VIBRATION ISOLATORS

Install between equipment and stationary support. For top load applications only. Absorb shock, noise, and limit transmission of vibration. Single and double deflection isolators have steel top plate, and threaded insert and steel base both totally imbedded in oil resistant neoprene. Mounting bolts serve as leveling devices. Used on air handling units, air conditioners, machine tools, motor generators, transformers, business machines, pumps. Vibration Mounting & Controls brand.



No. 4C950

(*) HD dimension applies to height of the RD prefixed models.

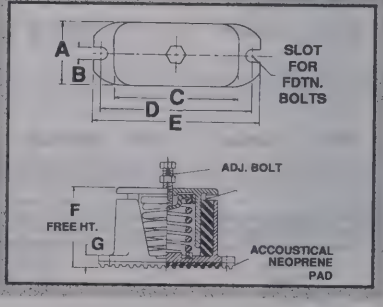
| Max. Load Each, (Lbs.) | Deflection (In.) | Dimensions (In.) L | W | H | HD | A | B | C | D | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **35** | 0.20 | 3 1/8 | 1 3/4 | 1 | — | 1 1/4 | 5/16 | 2 3/8 | 11/32 | R-1 Blue | **4C950** | $11.09 | **$6.65** | **$5.99** | 0.2 |
| **35** | 0.40 | | | — | 1 1/4 | | | | | RD-1 Blue | **4C954** | 16.09 | **9.64** | **8.67** | 0.2 |
| **45** | 0.20 | | | 1 | — | | | | | R-1 Black | **4C951** | 11.09 | **6.65** | **5.99** | 0.2 |
| **45** | 0.40 | | | — | 1 1/4 | | | | | RD-1 Black | **4C875** | 16.09 | **9.64** | **8.67** | 0.2 |
| **70** | 0.20 | 3 1/8 | 1 3/4 | 1 | — | 1 1/4 | 5/16 | 2 3/8 | 11/32 | R-1 Red | **4C952** | 11.09 | **6.65** | **5.99** | 0.2 |
| **70** | 0.40 | | | — | 1 1/4 | | | | | RD-1 Red | **4C955** | 16.09 | **9.64** | **8.67** | 0.2 |
| **120** | 0.20 | | | 1 | — | | | | | R-1 Green | **4C953** | 11.09 | **6.65** | **5.99** | 0.2 |
| **120** | 0.40 | | | — | 1 1/4 | | | | | RD-1 Green | **4C876** | 16.09 | **9.64** | **8.67** | 0.3 |
| **135** | 0.25 | 3 7/8 | 2 3/8 | 1 1/4 | — | 1 3/4 | 3/8 | 3 | 11/32 | R-2 Blue | **4C956** | 13.97 | **8.37** | **7.53** | 0.5 |
| **135** | 0.50 | | | — | 1 3/4 | | | | | RD-2 Blue | **4C960** | 17.81 | **10.67** | **9.60** | 0.4 |
| **170** | 0.25 | | | 1 1/4 | — | | | | | R-2 Black | **4C957** | 13.97 | **8.37** | **7.53** | 0.4 |
| **170** | 0.50 | | | — | 1 3/4 | | | | | RD-2 Black | **4C961** | 17.81 | **10.67** | **9.60** | 0.4 |
| **240** | 0.25 | 3 7/8 | 2 3/8 | 1 1/4 | — | 1 3/4 | 3/8 | 3 | 11/32 | R-2 | **4C958** | 13.97 | **8.37** | **7.53** | 0.5 |
| **240** | 0.50 | | | — | 1 3/4 | | | | | RD-2 Red | **4C877** | 17.81 | **10.67** | **9.60** | 0.5 |
| **380** | 0.25 | | | 1 1/4 | — | | | | | R-2 Green | **4C959** | 13.97 | **8.37** | **7.53** | 0.4 |
| **380** | 0.50 | | | — | 1 3/4 | | | | | RD-2 Green | **4C988** | 17.81 | **10.67** | **9.60** | 0.3 |
| **550** | 0.25 | | | 1 1/4 | — | | | | | R-2 Gray | **4C979** | 13.97 | **8.37** | **7.53** | 0.3 |
| **550** | 0.50 | | | — | 1 3/4 | | | | | RD-2 Gray | **4C989** | 17.81 | **10.67** | **9.60** | 1.0 |
| **250** | 0.25 | 5 1/2 | 3 3/8 | 1 3/4 | — | 2 1/2 | 1/2 | 4 1/8 | 9/16 | R-3 Black | **4C980** | 33.42 | **20.01** | **18.01** | 0.5 |
| **250** | 0.50 | | | — | 2 7/8 | | | | | RD-3 Black | **4C990** | 41.84 | **25.05** | **22.54** | 0.7 |
| **525** | 0.25 | | | 1 3/4 | — | | | | | R-3 Red | **4C981** | 33.42 | **20.01** | **18.01** | 0.5 |
| **525** | 0.50 | | | — | 2 7/8 | | | | | RD-3 Red | **4C991** | 41.84 | **25.05** | **22.54** | 0.6 |
| **750** | 0.25 | 5 1/2 | 3 3/8 | 1 3/4 | — | 2 1/2 | 1/2 | 4 1/8 | 9/16 | R-3 Green | **4C982** | 33.42 | **20.01** | **18.01** | 0.5 |
| **750** | 0.50 | | | — | 2 7/8 | | | | | RD-3 Green | **4C992** | 41.84 | **25.05** | **22.54** | 0.8 |
| **1100** | 0.25 | | | 1 3/4 | — | | | | | R-3 Gray | **4C983** | 33.42 | **20.01** | **18.01** | 0.5 |
| **1100** | 0.50 | | | — | 2 7/8 | | | | | RD-3 Gray | **4C993** | 41.84 | **25.05** | **22.54** | 1.5 |
| **1500** | 0.25 | 6 1/4 | 4 5/8 | 1 5/8 | — | 3 | 1/2 | 5 | 9/16 | R-4 Black | **4C984** | 75.26 | **45.10** | **40.56** | 1.3 |
| **1500** | 0.50 | | | — | 2 3/4 | | | | | RD-4 Black | **4C994** | 94.02 | **56.35** | **50.67** | 3.5 |
| **2250** | 0.25 | | | 1 5/8 | — | | | | | R-4 Red | **4C985** | 75.26 | **45.10** | **40.56** | 1.3 |
| **2250** | 0.50 | | | — | 2 3/4 | | | | | RD-4 Red | **4C995** | 94.02 | **56.35** | **50.67** | 3.5 |
| **3000** | 0.25 | 6 1/4 | 4 5/8 | 1 5/8 | — | 3 | 1/2 | 5 | 9/16 | R-4 Green | **4C986** | 75.26 | **45.10** | **40.56** | 1.3 |
| **3000** | 0.50 | | | — | 2 3/4 | | | | | RD-4 Green | **4C996** | 94.02 | **56.35** | **50.67** | 3.5 |
| **4000** | 0.25 | | | 1 5/8 | — | | | | | R-4 Gray | **4C987** | 75.26 | **45.10** | **40.56** | 1.3 |
| **4000** | 0.50 | | | — | 2 3/4 | | | | | RD-4 Gray | **4C997** | 94.02 | **56.35** | **50.67** | 3.5 |

## FLOOR MOUNT SPRING VIBRATION ISOLATORS

Absorb vibration from air handling units, air conditioners, chillers, compressors, fans, pumps, and heating and ventilating equipment. For critical applications and when required static deflections exceed 0.40". Cast telescoping housing contains color-coded steel spring designed for static deflections up to 1.3". Available with load ranges from 50 to 2600 pounds. Non-skid neoprene acoustical pad attached to base plate. Built-in leveling bolt. Vibration Mounting and Controls brand.



No. 5C126

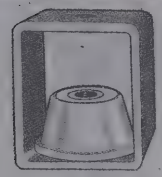



| Max. Load Ea. (Lbs.) | Deflection (In.) | Dimensions (In.) A | B | C | D | E | F | G | Bolt Dia | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **50** | 1.3 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-11 Blue | **5C126** | $56.50 | **$33.90** | **$30.45** | 2.9 |
| **100** | 1.3 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-12 Orange | **5C127** | 56.50 | **33.90** | **30.45** | 2.9 |
| **165** | 1.2 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-13 Brown | **5C128** | 56.50 | **33.90** | **30.45** | 3.1 |
| **260** | 1.0 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-14 Black | **5C129** | 56.50 | **33.90** | **30.45** | 3.0 |
| **370** | 0.8 | 2 3/8 | 7/16 | 4 1/8 | 5 | 5 7/8 | 3 3/8 | 1/2 | 3/8 | BE-16 Yellow | **5C130** | 56.50 | **33.90** | **30.45** | 3.3 |
| **450** | 1.2 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-25 Red | **5C131** | 74.66 | **44.75** | **40.24** | 6.0 |
| **600** | 1.2 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-26 Purple | **5C132** | 74.66 | **44.75** | **40.24** | 7.5 |
| **750** | 1.1 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-27 Orange | **5C133** | 74.66 | **44.75** | **40.24** | 6.0 |
| **900** | 1.0 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-28 Green | **5C134** | 74.66 | **44.75** | **40.24** | 6.0 |
| **1100** | 0.8 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-31 Gray | **5C135** | 82.36 | **49.35** | **44.38** | 7.0 |
| **1300** | 0.7 | 3 | 5/8 | 4 3/4 | 6 1/2 | 7 3/4 | 5 1/4 | 1/2 | 1/2 | CE-1-32 White | **5C136** | 82.36 | **49.35** | **44.38** | 7.0 |
| **1500** | 1.1 | 3 | 5/8 | 7 3/4 | 9 1/4 | 10 1/2 | 5 5/8 | 9/16 | 5/8 | CE-2-27 Orange | **5C137** | 120.65 | **72.30** | **65.03** | 12.0 |
| **1800** | 1.0 | 3 | 5/8 | 7 3/4 | 9 1/4 | 10 1/2 | 5 5/8 | 9/16 | 5/8 | CE-2-28 Green | **5C138** | 120.65 | **72.30** | **65.03** | 12.0 |
| **2200** | 0.8 | 3 | 5/8 | 7 3/4 | 9 1/4 | 10 1/2 | 5 5/8 | 9/16 | 5/8 | CE-2-31 Gray | **5C139** | 134.03 | **80.30** | **72.24** | 12.0 |
| **2600** | 0.7 | 3 | 5/8 | 7 3/4 | 9 1/4 | 10 1/2 | 5 5/8 | 9/16 | 5/8 | CE-2-32 White | **5C140** | 134.03 | **80.30** | **72.24** | 12.0 |

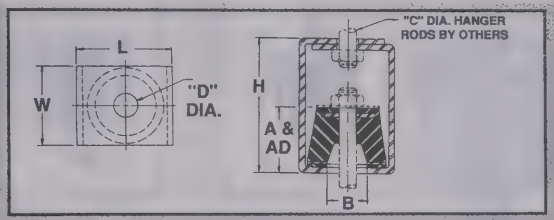


*Exhaust it, filter it, exchange it — we have the ventilators to get it done.*

# HANGER MOUNTED VIBRATION ISOLATORS



No. 4C962



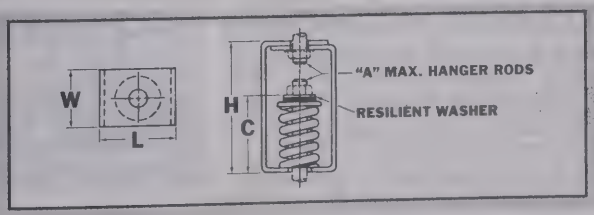

Mount between ceiling and vibrating equipment to limit transmission of vibration. Isolators consist of a rectangular steel frame with permanently attached oil-resistant single or double deflection neoprene element. Mounting holes provided for hanger rod for ceiling installation. Used for in-line or tubeaxial fans and blowers, lighting fixtures, duct work, piping, sprinkler systems, unit heaters, and suspended ceilings. Vibration Mounting and Controls brand.

| Max. Load Each, Lbs. | Deflection (In.) | Dimensions (In.) L | W | H | A | AD | B | C | D | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | 0.20 | 2¼ | 2 | 3 | 1 | — | 3/4 | 3/8 | 13/32 | RH-1 Blue | 4C962 | $16.74 | $10.03 | $9.03 | 0.5 |
| 35 | 0.40 | | | | — | 1¼ | | | | RHD-1 Blue | 4C966 | 20.86 | 12.50 | 11.25 | 0.5 |
| 45 | 0.20 | | | | 1 | — | | | | RH-1 Black | 4C963 | 16.74 | 10.03 | 9.03 | 0.5 |
| 45 | 0.40 | | | | — | 1¼ | | | | RHD-1 Black | 4C878 | 20.86 | 12.50 | 11.25 | 0.5 |
| 75 | 0.20 | 2¼ | 2 | 3 | 1 | — | 3/4 | 3/8 | 13/32 | RH-1 Red | 4C964 | 16.74 | 10.03 | 9.03 | 0.5 |
| 75 | 0.40 | | | | — | 1¼ | | | | RHD-1 Red | 4C967 | 20.86 | 12.50 | 11.25 | 0.6 |
| 120 | 0.20 | | | | 1 | — | | | | RH-1 Green | 4C965 | 16.74 | 10.03 | 9.03 | 0.5 |
| 120 | 0.40 | | | | — | 1¼ | | | | RHD-1 Green | 4C879 | 20.86 | 12.50 | 11.25 | 0.5 |
| 170 | 0.25 | 3 | 2¼ | 4½ | 1⅛ | — | 13/16 | 5/8 | 11/16 | RH-2 Black | 4C968 | 25.07 | 15.02 | 13.51 | 0.9 |
| 170 | 0.50 | | | | — | 1⅞ | | | | RHD-2 Black | 4C970 | 27.19 | 16.29 | 14.66 | 1.3 |
| 240 | 0.25 | | | | 1⅜ | — | | | | RH-2 Red | 4C969 | 25.07 | 15.02 | 13.51 | 2.0 |
| 240 | 0.50 | | | | — | 1⅞ | | | | RHD-2 Red | 4C971 | 27.19 | 16.29 | 14.66 | 0.9 |
| 380 | 0.25 | 3 | 2¼ | 4½ | 1⅜ | — | 13/16 | 5/8 | 11/16 | RH-2 Green | 5C001 | 25.07 | 15.02 | 13.51 | 1.1 |
| 380 | 0.50 | | | | — | 1⅞ | | | | RHD-2 Green | 5C011 | 27.19 | 16.29 | 14.66 | 1.3 |
| 550 | 0.25 | | | | 1⅜ | — | | | | RH-2 Gray | 5C002 | 25.07 | 15.02 | 13.51 | 0.2 |
| 550 | 0.50 | | | | — | 1⅞ | | | | RHD-2 Gray | 5C012 | 27.19 | 16.29 | 14.66 | 1.4 |
| 250 | 0.25 | 3¾ | 3¼ | 6¼ | 2 | — | 1½ | 3/4 | 7/8 | RH-3 Black | 5C003 | 45.95 | 28.95 | 24.77 | 3.0 |
| 250 | 0.50 | | | | — | 3⅛ | | | | RHD-3 Black | 5C013 | 54.39 | 34.25 | 29.32 | 3.5 |
| 525 | 0.25 | | | | 2 | — | | | | RH-3 Red | 5C004 | 45.95 | 28.95 | 24.77 | 3.0 |
| 525 | 0.50 | | | | — | 3⅛ | | | | RHD-3 Red | 5C014 | 54.39 | 34.25 | 29.32 | 3.2 |
| 750 | 0.25 | 3¾ | 3¼ | 6¼ | 2 | — | 1½ | 3/4 | 7/8 | RH-3 Green | 5C005 | 45.95 | 28.95 | 24.77 | 3.0 |
| 750 | 0.50 | | | | — | 3⅛ | | | | RHD-3 Green | 5C015 | 54.39 | 34.25 | 29.32 | 3.0 |
| 1250 | 0.25 | | | | 2 | — | | | | RH-3 Gray | 5C006 | 45.95 | 28.95 | 24.77 | 2.8 |
| 1250 | 0.50 | | | | — | 3⅛ | | | | RHD-3 Gray | 5C016 | 54.39 | 34.25 | 29.32 | 3.5 |
| 1500 | 0.25 | 4½ | 4 | 8 3/16 | 2 | — | 1 3/16 | 1 | 1 1/16 | RH-4 Black | 5C007 | 104.08 | 65.50 | 56.09 | 9.0 |
| 1500 | 0.50 | | | | — | 3⅛ | | | | RHD-4 Black | 5C017 | 128.11 | 80.60 | 69.04 | 8.0 |
| 2250 | 0.25 | | | | 2 | — | | | | RH-4 Red | 5C008 | 104.08 | 65.50 | 56.09 | 8.0 |
| 2250 | 0.50 | | | | — | 3⅛ | | | | RHD-4 Red | 5C018 | 128.11 | 80.60 | 69.04 | 8.0 |
| 3000 | 0.25 | 4½ | 4 | 8 3/16 | 2 | — | 1 3/16 | 1 | 1 1/16 | RH-4 Green | 5C009 | 104.08 | 65.50 | 56.09 | 7.5 |
| 3000 | 0.50 | | | | — | 3⅛ | | | | RHD-4 Green | 5C019 | 128.11 | 80.60 | 69.04 | 8.5 |
| 4000 | 0.25 | | | | 2 | — | | | | RH-4 Gray | 5C010 | 104.08 | 65.50 | 56.09 | 7.5 |
| 4000 | 0.50 | | | | — | 3⅛ | | | | RHD-4 Gray | 5C020 | 128.11 | 80.60 | 69.04 | 8.0 |

# HANGER MOUNTED SPRING ISOLATORS



No. 5C141

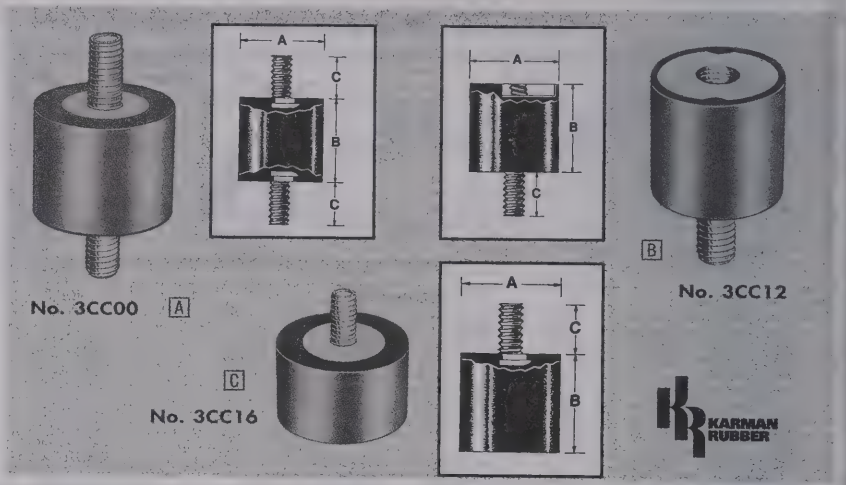



For isolating vibrations, absorbing shock, and reducing noise in critical locations. Hangers mount between ceiling and vibrating equipment. Consist of rectangular steel housing with color coded steel spring in series with a neoprene isolation washer. For critical applications and when required static deflection exceed 0.40". Isolators available with load ranges from 60 to 1300 pounds and static deflections up to 1.3". Vibration Mounting and Controls brand.

| Max. Load Each in Lbs. | Deflection (In.) | Dimensions (In.) A | C | H | L | W | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 1.3 | 5/8 | 3⅛ | 5½ | 3 | 2¼ | SHS-11 Blue | 5C141 | $29.30 | $17.55 | $15.79 | 1.3 |
| 100 | 1.3 | 5/8 | 3⅛ | 5½ | 3 | 2¼ | SHS-12 Orange | 5C142 | 29.30 | 17.55 | 15.79 | 1.3 |
| 165 | 1.2 | 5/8 | 3⅛ | 5½ | 3 | 2¼ | SHS-13 Brown | 5C143 | 29.30 | 17.55 | 15.79 | 1.4 |
| 260 | 1.0 | 5/8 | 3⅛ | 5½ | 3 | 2¼ | SHS-14 Black | 5C144 | 29.30 | 17.55 | 15.79 | 1.6 |
| 370 | 0.8 | 5/8 | 3⅛ | 5½ | 3 | 2¼ | SHS-16 Yellow | 5C145 | 29.30 | 17.55 | 15.79 | 1.5 |
| 450 | 1.2 | 3/4 | 4¾ | 7 | 3¼ | 3 | SH-25 Red | 5C146 | 41.84 | 25.05 | 22.54 | 3.3 |
| 600 | 1.2 | 3/4 | 4¾ | 7 | 3¼ | 3 | SH-26 Purple | 5C147 | 41.84 | 25.05 | 22.54 | 4.0 |
| 750 | 1.1 | 3/4 | 4¾ | 7 | 3¼ | 3 | SH-27 Orange | 5C148 | 41.84 | 25.05 | 22.54 | 4.0 |
| 900 | 1.0 | 3/4 | 4¾ | 7 | 3¼ | 3 | SH-28 Green | 5C149 | 41.84 | 25.05 | 22.54 | 4.0 |
| 1100 | 0.8 | 3/4 | 4¾ | 7 | 3¼ | 3 | SH-31 Gray | 5C150 | 47.89 | 28.75 | 25.81 | 4.0 |
| 1300 | 0.8 | 3/4 | 4¾ | 7 | 3¼ | 3 | SH-32 White | 5C151 | 47.89 | 28.75 | 25.81 | 4.0 |

# CYLINDRICAL VIBRATION ISOLATORS

- Absorb transmission of noise, shock, and vibration for general industrial applications
- Use for fans, blowers, air conditioning and refrigeration systems, pumps, compressors, business machines, motors, generators, appliances, and machinery
- Natural rubber isolators are chemically bonded to steel
- All isolators are compression mount with 50 durometer hardness
- Zinc-plated threaded studs
- Not suitable for excess exposure to oil, grease, and solvents or temperatures over 150°F
- Not designed for wall or ceiling suspended installations
- Nos. 3CC15 and 3CC17 are cone-shaped foot mount




## CYLINDRICAL VIBRATION ISOLATOR SPECIFICATIONS AND ORDERING DATA

| Key | Maximum Load (Lbs.) Downward Compression | Maximum Load (Lbs.) Sideways Shear | Dimensions (In.) A Dia. | B | C | Thread Size | Karman Rubber Model | Stock No. | List | Each | Lots 10 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 7 | 1 | 3/8 | 1/2 | 1/2 | 8-32 | K80 | **3CC00** | $2.39 | **$1.43** | **$1.32** | 0.1 |
| | 20 | 3 | 5/8 | 1/2 | 1/2 | 8-32 | K82 | **3CC01** | 2.53 | **1.51** | **1.39** | 0.1 |
| | 40 | 6 | 3/4 | 3/4 | 1/2 | 1/4-20 | K46 | **3CC02** | 2.68 | **1.61** | **1.48** | 0.1 |
| | 50 | 9 | 1 | 3/4 | 1/2 | 1/4-20 | K47 | **3CC03** | 2.72 | **1.63** | **1.50** | 0.1 |
| | 45 | 8 | 1 | 1 | 5/8 | 5/16-18 | K44 | **3CC04** | 3.02 | **1.81** | **1.66** | 0.1 |
| | 80 | 15 | 1 3/8 | 1 | 5/8 | 5/16-18 | K43 | **3CC05** | 3.41 | **2.04** | **1.88** | 0.1 |
| | 125 | 20 | 1 9/16 | 1 | 5/8 | 3/8-16 | K37 | **3CC06** | 4.54 | **2.72** | **2.50** | 0.2 |
| | 370 | 90 | 2 | 3/4 | 1 1/8 | 3/8-16 | K75 | **3CC07** | 6.74 | **4.04** | **3.71** | 0.3 |
| | 165 | 55 | 2 | 1 5/8 | 5/8 | 3/8-16 | K65 | **3CC08** | 6.70 | **4.01** | **3.69** | 0.4 |
| B | 55 | 8 | 1 | 1 | ‡ | 5/16-18 | K40 | **3CC09** | 3.63 | **2.17** | **2.00** | 0.1 |
| | 7 | 1 | 3/8 | 1/2 | 1/2 | 8-32 | K81 | **3CC10** | 3.04 | **1.82** | **1.68** | 0.1 |
| | 20 | 3 | 5/8 | 1/2 | 1/2 | 8-32 | K83 | **3CC11** | 3.11 | **1.86** | **1.72** | 0.1 |
| | 55 | 8 | 1 | 1 | 5/8 | 5/16-18 | K41 | **3CC12** | 3.22 | **1.93** | **1.77** | 0.1 |
| | 80 | 15 | 1 3/8 | 1 | 5/8 | 5/16-18 | K434 | **3CC13** | 4.30 | **2.58** | **2.37** | 0.2 |
| | 165 | 55 | 2 | 1 5/8 | 5/8 | 3/8-16 | K66 | **3CC14** | 6.69 | **4.01** | **3.69** | 0.4 |
| C | 20 | — | 15/16 | 5/8* | 1/2 | 1/4-20 | K171 | **3CC15** | 2.10 | **1.26** | **1.16** | 0.1 |
| | 60 | — | 1 | 5/8 | 5/8 | 5/16-18 | K248 | **3CC16** | 2.68 | **1.61** | **1.48** | 0.1 |
| | 80 | — | 1 5/8 | 1* | 5/8 | 5/16-18 | K133 | **3CC17** | 3.31 | **1.98** | **1.82** | 0.1 |
| | 125 | — | 1 1/2 | 1 | 5/8 | 5/16-18 | K136 | **3CC18** | 5.14 | **3.08** | **2.83** | 0.1 |
| | 310 | — | 2 | 3/4 | 1 1/8 | 3/8-16 | K175 | **3CC19** | 5.66 | **3.39** | **3.12** | 0.2 |

(*) Nos. 3CC15 and 3CC17 are cone-shaped foot mount. (‡) No. 3CC09 has female threads at each end.

# EXPANDABLE/FLEXIBLE ALUMINUM DUCTWORK




**Expands to six times its 2½ ft. length.** Thread through open web trusses and around obstacles. Strong lightweight aluminum alloy can be bent by hand. Attaches to discharge ducts with two stainless steel screw clamps (included).

**UL Air Duct Listed #MH12720.** Ductwork complies with NFPA Standards 90A and 90B for Class "O" fire hazard classifications. Internal temp. range up to 200°F. Continuous external temperature range up to 435°F.

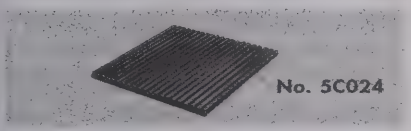
**Fits all Broan and Dayton brand** bathroom ventilators with 3, 4, or 6" dia. discharge duct. Stretchflex brand by Westaflex.

| Ductwork Dia. (In.) | Size Compressed | Full Length (Ft.) | StretchFlex Model | Stock No. | List | Each | Shpg. Wt. |
|---|---|---|---|---|---|---|---|
| **3** | 3" x 2½ feet | 15 | 2501 | **3C590** | $17.75 | **$11.84** | 1.9 |
| **4** | 4" x 2½ feet | 15 | 2505 | **3C591** | 22.00 | **14.72** | 2.2 |
| **6** | 6" x 2½ feet | 15 | 2513 | **5C201** | 35.00 | **24.45** | 3.0 |

## UL LISTING AND CSA CERTIFICATION

When choosing products from this section, look for the UL and CSA symbols. Those Listed and/or Certified products meet or exceed rigid standards established for personal safety and maximum product life. UL file number and CSA Certification are indicated in the individual listings.

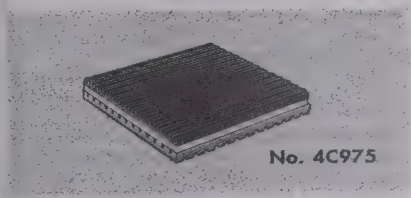
## NEOPRENE MOUNTING PADS




Resilient cross-ribbed pad of oil resistant neoprene. Alternating raised ribs provide effective vibration isolation over entire load range. Deflection at 40 PSI is 0.06 in. Most installations do not require bolting or cementing. 3/8" thick sheets can be cut with shears or knife to fit leg or bearing plate of machine. May be used in multiple layers to increase deflection. Vibration Mounting and Controls brand.

| Size (In.) | Thickness (In.) | Load Range | VM&C Model Shear-Flex- | Stock No. | List | Each | Lot 4 | Shpg Wt. |
|---|---|---|---|---|---|---|---|---|
| **2 x 2** | 3/8 | 10 to 50 PSI | Black 2 x 2 | **5C024** | $1.54 | **$0.92** | **$0.83** | 0.1 |
| **3 x 3** | 3/8 | 10 to 50 | 3 x 3 | **5C023** | 2.87 | **1.72** | **1.55** | 0.1 |
| **4 x 4** | 3/8 | 10 to 50 | 4 x 4 | **4C973** | 5.26 | **3.15** | **2.84** | 0.2 |
| **6 x 6** | 3/8 | 10 to 50 | 6 x 6 | **5C022** | 11.30 | **6.77** | **6.10** | 0.5 |
| **18 x18** | 3/8 | 10 to 50 | 18 x 18 | **4C972** | 73.24 | **43.90** | **39.47** | 4.5 |
| **18 x 36** | 3/8 | 10 to 50 | 18 x 36 | **5C021** | 144.28 | **86.45** | **77.75** | 2.5 |

## NEOPRENE AND STEEL VIBRATION PADS



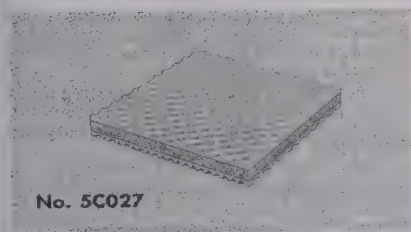

For use under concentrated loads where machine leg has a small area or sharp edges which can cut into the floor.

**Type A** has steel plate bonded between ribbed neoprene pads.

**Type B** has an isolation washer with a 3/4" diameter hole in the center of its steel plate and ribbed neoprene pad. Vibration Mounting and Controls brand.

| Type | Maximum Load Steady | Maximum Load Impact | Dimensions (In.) Length | Width | Thickness | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 1680 lbs. | 1200 lbs. | 6 | 4 | 7/8 | A-24 | **4C975** | $39.23 | **$23.50** | **$21.15** | 2.1 |
| B | 1680 | 1200 | 6 | 4 | 5/8 | B-24 | **4C974** | 39.23 | **23.50** | **21.15** | 2.0 |

## NEOPRENE AND CORK VIBRATION PADS

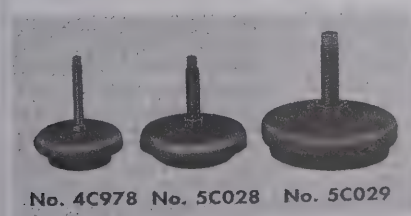



Laminated pad consists of 1/2" thick close-grain cork core bonded between two 1/4" thick layers of cross-ribbed neoprene. Pad is 1" thick overall. Combines resiliency of neoprene with acoustical efficiency of cork.

Criss-crossed skid resistant ribs on top and bottom. No bolting or cementing required. Pad can be cut to size with knife

| Size (In.) | Thickness (In.) | Load Range | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|
| **2 x 2** | 1 | 10 to 60 PSI | Cork-Rib Pad 2 x 2 | **5C027** | $2.48 | **$1.49** | **$1.34** | 0.1 |
| **3 x 3** | 1 | 10 to 60 | Cork-Rib Pad 3 x 3 | **4C976** | 5.94 | **3.56** | **3.20** | 0.2 |
| **4 x 4** | 1 | 10 to 60 | Cork-Rib Pad 4 x 4 | **4C977** | 9.94 | **5.95** | **5.36** | 0.5 |
| **12 x 12** | 1 | 10 to 60 | Cork-Rib Pad 12 x 12 | **5C026** | 74.68 | **44.75** | **40.25** | 4.0 |
| **18 x 18** | 1 | 10 to 60 | Cork-Rib Pad 18 x 18 | **5C025** | 154.72 | **92.70** | **83.39** | 7.7 |

## LEVELING MOUNTS




Built-in leveling feature provides height adjustment to compensate for unequal mounting deflection or floor irregularities. Utilizes oil resistant neoprene to provide effective shock and vibration control.

Non-skid ribbed surface. No bolting required. Neoprene pad is bonded to a corrosion resistant housing. Zinc plated hardware. Vibration Mounting and Controls brand.

| Load Capacity in Pounds | Size (In.) | Width Dia. (In.) | Base Ht. (In) | Leveling Bolt (In.) | Bolt Lgth. (In.) | VM&C Model | Stock No. | List | Each | Lots 4 | Shpg. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **100-500** | 3 | 3½ | 1⅛ | ½-13 | 3½ | VLM-3 | **4C978** | $37.61 | **$22.52** | **$20.28** | 1.3 |
| **500-1,000** | 5 | 5 | 1¾ | ½-13 | 5 | VLM-5 | **5C028** | 66.91 | **40.15** | **36.06** | 3.0 |
| **1,000-4,000** | 6 | 6¼ | 1¾ | ¾-10 | 5 | VLM-6 | **5C029** | 96.21 | **57.65** | **51.85** | 6.0 |
| **4,00-12,000** | 8 | 8 | 2 | 1-14 | 8 | VLM-8 | **5C030** | 202.88 | **121.50** | **109.34** | 10.0 |

NEED ASSISTANCE WITH PRODUCT SELECTION?
WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY

# ELECTRIC MOTOR TERMINOLOGY

**Ambient (Amb.)**—The temperature of the space around the motor. Most motors are designed to operate in an ambient not over 40°C (104°F). Note: A rating of 40°C Ambient is not the same as a rating of 40°C Rise; see Temperature Rise.

**Air-Over**—Motors intended for fan and blower service. Must be located in the air stream to provide motor cooling.

**Capacitors**—Capacitor ratings to HP ratings vary between different brands and applications. Capacitor value and performance is essential to proper motor operation. To ensure maximum performance and motor life, always use the correct capacitor as specified on the motor nameplate.

**Efficiency**—The ratio of output power divided by input power; usually expressed as a percentage. A measure of how well the electrical energy input to a motor is converted into mechanical energy at the output shaft. The higher the efficiency, the better the conversion process and lower the operating costs.

**Enclosure (Encl.)**—The motor's housing. Types:

**Open Dripproof (OPDP)**—Ventilation openings in end shields & shell placed so drops of liquid falling within an angle of 15° from vertical will not affect performance. Usually used indoors, in fairly clean locations.

**Totally Enclosed (TE)**—No ventilation openings in motor housing (but not airtight or waterproof). Used in locations which are dirty, damp, oily, etc.

*Totally Enclosed, Fan-Cooled (TEFC)*—Includes an external fan, in a protective shroud, to blow cooling air over the motor.

*Totally Enclosed, Nonventilated (TENV)*—Not equipped with an external cooling fan. Depends on convection air for cooling.

*Totally Enclosed, Air-Over (TEAO)*—Air flow from driven or external device provides cooling air flow over the motor.

*Hazardous Location (Explosion-Proof)*—A totally enclosed motor designed to withstand an internal explosion of specified gases or vapors, and not allow the internal flame or explosion to escape.

**Full-Load Amps (FLA)**—Line current (amperage) drawn by a motor when operating at rated HP and voltage. Shown on motor nameplate. Important for proper wire size selection and motor starter heater selection.

**Frame**—Usually refers to the NEMA system of standardized motor mounting dimensions, which facilitates interchangeability.

**Bearings (Brgs.)**—Basic types:

**Sleeve (Slv.)**—Preferred where low noise level is important, as on fan and blower motors. Unless otherwise stated, sleeve bearing motors listed herein can be mounted in any position, including shaft-up or shaft-down (all-position mounting).

**Ball**—Used where higher load capacity is required or periodic lubrication is impractical. Two means used to keep out dirt:

*Shields*—Metal rings with close running clearance on one side (single-shielded) or both sides (double-shielded) of bearing.

*Seals*—Similar to shields, except have rubber lips that press against inner race, more effectively excluding dirt, etc.

**Unit**—Motors are constructed with a long, single sleeve bearing. For fan duty only. All-position mounting unless otherwise stated.

**Hertz (Hz)**—Frequency, in cycles per second, of AC power; usually 60 Hz in USA, 50 Hz overseas.

**Horsepower**—Check nameplate data if replacing old motor. On new equipment follow the manufacturer's recommendations. In general, both motor price and physical size increase as HP increases.

**Insulation (Ins.)**—In motors, usually classified by maximum allowable operating temperatures: Class A-105°C (221°F), Class B-130°C (266°F), Class F-155°C (311°F), Class H-180°C (356°F).

**Motor Speeds:**

**Synchronous**—The theoretical maximum speed at which an induction-type motor can operate. Synchronous speed is determined by the power line frequency and motor design (number of poles), and calculated by the formula

$$\text{Syn. RPM} = \frac{\text{Power Supply Hz} \times 120}{\text{No. of Poles}}$$

**Full-Load**—The nominal speed at which an induction motor operates under rated HP conditions. This will always be less than the synchronous speed and will vary depending on the rating and characteristics of the particular motor. For example, four pole 60 Hz fractional horsepower motors have a *synchronous* speed of 1800 RPM, a *nominal* full load speed (as shown on the nameplate) of 1725 RPM, and an *actual* full load speed ranging from 1715 to 1745 RPM.

**Motor Types**—Classified by operating characteristics and/or type of power required;

**Induction motors for AC operation**—Most common type. Speed remains relatively constant as load changes. There are several types:

**Single Phase**—Available in these types:

*Shaded pole*—low starting torque, low cost. Usually used in direct-drive fans and blowers, and in small gearmotors.

*Permanent split capacitor (PSC)*—performance and applications similar to shaded pole but more efficient, with lower line current and higher horsepower capabilities.

*Split-phase start—induction run* (or simply split phase)—moderate starting torque, high breakdown torque. Used on easy-starting equipment, such as belt-driven fans and blowers, grinders, centrifugal pumps, gearmotors, etc.

*Split-phase start—capacitor run*—same performance as induction run, except higher efficiency. Often used on Wattrimmer® fan/blower motors.

*Capacitor-start, induction-run* (or simply, capacitor start)—high starting and break-down torque, medium starting current. Used on hard-starting applications; compressors, positive displacement pumps, farm equipment, etc.

*Capacitor-start, capacitor-run*—similar to capacitor-start, induction-run, except have higher efficiency. Generally used in higher HP single phase ratings.

**Three Phase**—Operate on 3-phase power only. High starting and breakdown torque, high efficiency, medium starting current, simple, rugged design, long life. For industrial uses.

**Direct Current (DC)**—Usable only if DC available. Use with a DC/SCR control enables adjustable-speed applications.

**AC/DC (AC series or universal)**—Operate on AC (60 or 50 Hz) or DC power. High speed, usually 5000 RPM or more. Brush type. Speed drops rapidly as load increases. Useful for drills, saws, etc., where high RPM and small size are desired and speed characteristic and limited life (primarily of brushes) is acceptable.

**Mounting (Mtg.)**—Basic types:

**Bolted**—Motor is attached to frame with removable bolts.

**Rigid**—Motor solidly fastened to equipment through metal base that is welded to or cast into motor shell.

**Cradle/Resilient (Res.)**—Motor shell isolated from base by vibration-absorbing material, such as rubber rings on the end shields, to reduce transmission of vibration to the driven equipment.

**C-Face or flange**—Shaft end has a flat mounting surface, machined to standard dimensions, with holes to allow easy, secure mounting to driven equipment. Commonly used on jet pumps, oil burners and gear reducers.

**Stud**—Motor has bolts extending from front or rear, by which it is mounted. Often used on small, direct drive fans and blowers.

**Yoke**—Tabs or ears are welded to motor shell, to allow bolting motor to a fan column or bracket.

**Power**—The energy used to do work. Also the rate at which work is done. Measured in watts, horsepower, etc.

**Power Factor**—The ratio of real power (watts) divided by apparent power (volt-amperes). Do not confuse power factor with efficiency. A measure of the extent to which power transmission or distribution systems are fully utilized.

**Power supply**—Single-phase power is the most readily available power supply. Single-phase motors of correct voltage can operate from a three-phase system when properly connected to any one of the three phases. However, three-phase motors cannot be connected to single phase power. A three-phase motor is less expensive and more durable than the same size single-phase motor, but the extra cost of installing three-phase lines must be considered.

**Rotation (Rot.)**—Direction in which shaft rotates: CW = clockwise; CCW = counterclockwise; Rev (CW/CCW)= reversible, rotation can be changed. Unless stated otherwise, rotation specified in this catalog is viewed facing shaft end of motor; for double-shafted motor, view is from the lead end.

CONTINUED ON NEXT PAGE

# ELECTRIC MOTOR TERMINOLOGY



**Service Factor (SF)**—A measure of the reserve margin built into a motor. Motors rated over 1.0 SF have more than normal margin, and are used where unusual conditions such as occasional high or low voltage, momentary overloads, etc. are likely to occur.

**Severe Duty**—A totally enclosed motor with extra protection (shaft slinger, gasketed terminal box) to resist entry of contaminants. Used in extra dirty, damp or other non-hazardous contaminated environments.

**Temperature Rise**—The amount by which a motor, operating under rated conditions, is hotter than its surroundings. On most motors, manufacturers have replaced the Rise rating on the motor nameplate with a listing of the Ambient temperature rating, insulation class and service factor.

**Thermal Protector**—A temperature sensing device built into the motor that shuts off the motor if the temperature becomes excessive due to failure-to-start or overloading. Especially important for motors that start automatically, are located remotely, unattended, or out-of-sight of operator. Basic types:

**Automatic-Reset (Auto)**—After motor cools, thermal protector automatically restores power. Should not be used where unexpected restarting would be hazardous.

**Manual-Reset (Man.)**—An external button must be pushed to restore power to motor. Preferred where unexpected restarting would be hazardous, as on saws, conveyors, compressors, etc.

**Impedance (Imp.) or Impedance Protected**—Motor is designed so that it will not burn out in less than 15 days under locked rotor (stalled) conditions, in accordance with UL standard, No. 519.

**Torque**—Twist, or turning ability, as applied to a shaft. Measured in foot-pounds (ft.-lbs.), inch-pounds (in.-lbs.), ounce-feet (oz.-ft.) or ounce-inches (oz.-in.). In motors the torque values are:

**Locked Rotor Torque, or Starting Torque**—The maximum torque produced at initial start.

**Breakdown Torque**—The maximum torque a motor will produce while running, without an abrupt drop in speed and power.

**Voltage**—The pressure in an electrical system. The force pushing the electric current through the circuit, like pressure in a water system.

## ABBREVIATIONS USED IN MOTOR LISTINGS

| | |
|---|---|
| **AC** | Alternating Current |
| **Amb.** | Ambient |
| **Amps** | Amperes |
| **Auto.** | Automatic |
| **AWG** | American Wire Gauge |
| **C** | Centigrade |
| **Cap.** | Capacitor |
| **CCW** | Counterclockwise |
| **Cond.** | Conductor |
| **CSA** | Canadian Standards Association |
| **CW** | Clockwise |
| **CW/CCW** | Reversible |
| **DC** | Direct Current |
| **Dia.** | Diameter |
| **Encl.** | Enclosure |
| **F/L** | Full-Load |
| **Ft.-Lb.** | Foot-Pound |
| **H, Ht.** | Height |
| **HP** | Horsepower |
| **Hz** | Hertz |
| **Imp.** | Impedance |
| **In.** | Inch, Inches |
| **In.-Lb.** | Inch-Pound |
| **L, Lgth.** | Length, Long |
| **Lbs.** | Pounds |
| **Man.** | Manual |
| **Max.** | Maximum |
| **Mfd.** | Microfarad |
| **Min.** | Minimum |
| **Mtg.** | Mounting |
| **NEC** | National Electrical Code |
| **NEMA** | National Electrical Manufacturers' Association |
| **No.** | Number |
| **Nom.** | Nominal |
| **OC** | On Center |
| **OPAO** | Open, Air Over |
| **Prot.** | Protection |
| **PSC** | Permanent Split Capacitor |
| **Resil.** | Resilient |
| **Rev.** | Reversible |
| **RPM** | Revolutions per Minute |
| **Shpg.** | Shipping |
| **Slv.** | Sleeve |
| **Spd.** | Speed |
| **Syn.** | Synchronous |
| **TEAO** | Totally Enclosed, Air Over |
| **TEFC** | Totally Enclosed Fan-Cooled |
| **TENV** | Totally Enclosed Non-Ventilated |
| **UL** | Underwriters Laboratories, Inc. |
| **V** | Volts, Voltage |
| **W** | Width, Watts |

## NATIONAL ELECTRICAL CODE EXPLOSIVE ATMOSPHERE CLASSIFICATIONS

Certain locations are hazardous because the atmosphere does or may contain gas, vapor or dust in explosive quantities. The National Electrical Code (NEC) divides these locations into Classes and Groups according to the type of explosive agent which may be present. Listed are some of the agents in each classification. For complete list, see NFPA (National Fire Protection Association) publication 497M.

Underwriters' Laboratories tests motors and other devices for safety in explosive atmospheres, and publishes a list of those meeting its standards for each Class and Group.

Use of UL Listed devices does not necessarily make an installation conform to the NEC or local codes. Consult Chapter 5 of the NEC, local building codes, OSHA requirements, and insurance inspectors for detailed data as to proper procedures. This Catalog does not contain any motors designed for Class I, Groups A, B, and C atmospheres.

### CLASS I

**Group A:** Acetylene

**Group B:** Butadiene, ethylene oxide, hydrogen, propylene oxide, manufactured gases containing more than 30% hydrogen by volume.

**Group C:** Acetaldehyde, cyclopropane, diethyl ether, ethylene.

**Group D:** Acetone, acrylonitrile, ammonia, benzene, butane, ethanol, ethylene dichloride, gasoline, hexane, isoprene, methane (natural gas), methanol, naphtha, propane, propylene, styrene, toluene, vinyl acetate, vinyl chloride, xylene.

### CLASS II

**Group E:** Aluminum, magnesium, and other metal dusts with similar characteristics

**Group F:** Carbon black, coke, or coal dust

**Group G:** Flour, starch, or grain dust

### CLASS III

Easily ignitable fibers, such as rayon, cotton, sisal, hemp, cocoa fiber, oakum, excelsior, and other materials of similar nature.

## TEMPERATURE CODE

In addition to the identification of the class, group, and division, it is necessary as well to obtain the temperature code or maximum surface temperature for the hazardous location motor. This code or temperature indicates the maximum surface temperature for all conditions including burnout, overload, single phasing, and locked rotor. The maximum surface temperature or "T" code must be identified on the nameplate.

**TEMPERATURE IDENTIFICATION NUMBERS**

| "T" Number (T-Code On Nameplate) | Maximum Temperature (For All Conditions) | | "T" Number (T-Code On Nameplate) | Maximum Temperature (For All Conditions) | |
|---|---|---|---|---|---|
| T1 | 450°C | 842°F | T3A | 180°C | 356°F |
| T2 | 300 | 572 | T3B | 165 | 329 |
| T2A | 280 | 536 | T3C | 160 | 320 |
| T2B | 260 | 500 | T4 | 135 | 275 |
| T2C | 230 | 446 | T4A | 120 | 248 |
| T2D | 215 | 419 | T5 | 100 | 212 |
| T3 | 200 | 392 | T6 | 85 | 185 |

# POWER TRANSMISSION TERMINOLOGY

**Acceleration Time**—When a motor is used to accelerate a rotating load, acceleration time is the response time of the motor to bring the load from zero to normal running speed.

**Actual Torque**—The actual torque required to drive a machine. It is the torque measured at the input shaft of a machine being driven.

**AGMA**—American Gear Manufacturers Association. Composed of member companies who manufacture speed reducers, enclosed gear drives, open gearing, and gear type shaft couplings. They establish standards for the design and application of gear products. The combined experience of company members and technical members assures gear users that products will perform satisfactorily when built, selected, and tested in accordance with AGMA standards.

**Ambient Temperature**—The temperature of the air around the power transmission equipment in operation.

**Auxiliary Drive**—Belt, chain, or gear drive used with a gearmotor or speed reducer to provide additional speed reduction and/or torque multiplication.

**Axial Thrust Load**—The external loading or force acting lengthwise along a shaft.

**Back Drive**—A condition in which the drive (or prime mover) is driven by the load rather than driving the load. An example might be when a high inertia load, such as a flywheel, is decelerating to slower speed or complete stop.

**Backlash**—The amount by which the width of a tooth space exceeds the thickness of the engaging tooth.

**Center Distance**—When applied to speed reducers, it is the distance between the centerlines of the input (high speed) shaft and the output (low speed) shaft. Shaft centerlines may be parallel or at right angles to each other. Center distance is often used to designate a single reduction worm gear speed reducer, such as 1.33", 1.75".

**Double Reduction**—A multiple reduction unit containing two stages of gear reduction housed in a single enclosure. The overall speed reduction (ratio) is the product of the gear ratios provided by the individual stages.

**Duty Cycle**—The relationship between operating and rest time. When applied to gear reducers, duty cycle is usually referred to as continuous or intermittent duty.

*Continuous Duty*—The ability of a geared unit to operate continuously within its rated capacity without exceeding the temperature limits of its lubricating system.

*Intermittent Duty*—A geared unit which has a specific operating time limit (min./hr.) to prevent exceeding the temperature limits of its lubricating system. This limit is often specified as a percentage. (A 25% duty cycle indicates a maximum total operating time of 15 minutes each hour.)

**Efficiency**—An expression of the amount of power delivered at the output of a power transmission system as a percentage of the amount of power supplied to the system's input side.

**Gears**—Machined elements that transmit motion and power by means of successively engaging teeth. Most common gear types available are helical, spur, and worm gears.

*Helical Gears*—Gears that are cylindrical in form and mesh between parallel centerlines. Their teeth are cut at an angle, called the helix angle, across the face of the gear.

*Spur Gears*—Gears that are cylindrical in form and mesh between parallel centerlines with teeth cut straight across gear face.

*Worm Gears*—Gears that consist of a screw like worm and its mating gear. Both are cylindrical in form and mesh at right angles to each other. The WORM is the driving component and is identified by one or more teeth in the form of screw threads wrapped around a cylinder (similar to barber pole stripes). The WORMGEAR, also called Worm-Wheel, is the driven component and has teeth similar to those of a helical gear with the top of its teeth curved inward to mesh with the worm.

**Gear Ratio**—Described below for helical, spur, and worm gears. Gear ratio is normally expressed as (X):1.

*Helical and Spur Gears*—Ratio of number of gear teeth on driven gear divided by number of gear teeth on driving gear (pinion).

*Worm Gears*—The ratio of the number of teeth on the Wormgear (Worm-Wheel) divided by the number of threads or "starts" on the worm.

**Hand of Drive**—The location of the output shaft of a reducer relative to its input shaft, generally expressed as left-hand (F1) or right-hand (F2). Some reducer manufacturers use codes or symbols to designate shaft arrangement.

**Horsepower (HP)**—A measure of the ability to do work. It can be applied to either linear (straight-line) or rotary (circular) motion.

**Inertia (WR)**—A measure of the resistance of an object to accelerate or decelerate.

**Inertial Load**—A load, such as a flywheel or other heavy rotating object, which tends to oppose acceleration up to rated speed or deceleration to stop.

**Input Horsepower**—The amount of power applied to the input shaft of a reducer by the prime mover. The input horsepower rating assigned to a reducer represents the maximum amount of power the reducer is capable of handling.

**Load**—The burden imposed on a drive system by the equipment or machine being driven. There are three types.

*Constant Torque*—The load torque remains constant over the speed range, while the horsepower required varies directly with speed. This type of load is usually the result of friction related to sliding or rolling motion. Industrial equipment of this type include conveyors, hoists, and similar general machinery.

*Variable Torque*—The load torque and horsepower both vary as speed is changed; as speed increases, torque and horsepower both increase in some related manner. Examples include some types of mixers, positive displacement and centrifugal pumps, air moving fans, and blowers.

*Constant Horsepower*—The load horsepower remains constant over the speed range, while the torque required decreases as speed increases. Constant horsepower loads commonly are found on metal cutting or removing equipment such as saws, lathes, and milling machines.

**Load Classifications**—Loads can be classified by the degree of shock or impact they impose on the drive system. There are two main classifications.

*Uniform Steady Load*—Loads that are essentially smooth, shock or impact free. Equipment that normally exhibit this type of load include can filling and bottling machinery, uniformly loaded or fed conveyors, and printing presses.

*Shock Loads*—Loads that transmit shock or abrupt peak loads back to the driver (power source—motor, gearmotor, or reducer) and often repeat on a regular or cyclical basis. Shock loads may be categorized as light, moderate, or heavy. Equipment that exhibits this type of load are conveyors not uniformly fed, agitators for liquids and solids, tumblers, and variable density mixers.

**Mechanical Rating**—The maximum power or torque that a speed reducer can transmit, based on the strength and durability of its components.

**NEMA**—National Electrical Manufacturers Association. Organization that sets standards of performance and dimensions for the motor industry.

**Overall Drive Ratio**—The ratio of input speed (RPM) to output speed (RPM). Overall drive ratio is normally expressed as (X):1.

**Overdrive**—An interchangeable term for back drive.

**Overhung Load**—The side or radial force applied at right angles to a drive motor, gearmotor, or reducer shaft. This force results from a gear, pulley, or sprocket that the drive's bearing and shaft must support without damage while transmitting power.

**Pinion**—The input or driving gear that meshes with an output or driven gear.

**Prime Mover**—The machine that provides input power to a drive. The most frequently encountered prime movers include electric motors, internal combustion engines, hydraulic and air motors.

CONTINUED ON NEXT PAGE

CONTINUED FROM PREVIOUS PAGE

**Radial Load**—An interchangeable term for overhung load.

**Rating Tables**—Tables that define the capacity of a given size or type of reducer when operating under a given set of conditions.

**Reducers**—The basic types are described below.

*C-Face Reducer*—Allows for direct coupling to a motor. Motor shaft fits into a hollow input shaft on the reducer. Motor face bolts to the flange on the reducer. Both reducer flange and motor face are designed to NEMA standard dimensions.

*Indirect Drive Reducer (Open Shaft Reducer)*—Allows for the prime mover to be mounted away from the reducer. It contains an input shaft extension which accommodates the use of pulleys or flexible couplings.

*Parallel-Shaft Reducer*—A speed reducer (C-Face or Open-Shaft) having an input shaft and output shaft parallel to each other. These reducers contain spur and/or helical gearing.

*Right Angle Reducer*—A speed reducer (C-Face or Open-Shaft) having an input shaft and output shaft at right angles to each other. Worm gear reducers are the most common right angle reducers.

**Self-Locking**—A condition commonly associated to worm gear speed reducers. A worm gear reducer is said to be self-locking when its output wormgear cannot drive the worm. Note: none of our listed worm gear (right angle) speed reducers offer this feature.

**Service Factor**—When applied to speed reducers, service factor is a number (multiplier) that redefines basic torque requirement of a load. It adjusts basic torque requirement to a service rating for the reducer by compensating for load classification, duty cycle, and type of prime mover.

**Single Reduction**—A unit containing a single stage of gear reduction housed in an enclosure, such as a worm gear reducer.

**Speed Ratio**—The ratio or relationship of input speed divided by output speed. Speed ratio is normally expressed as (X):1.

**Thermal Rating**—For speed reducers, this is a rating indicating the maximum input horsepower that can be supplied to drive a reducer and the output torque that can be transmitted continuously without exceeding the temperature limits of the gear lubricant.

**Thrust**—The force acting lengthwise along the axis of a shaft either towards or away from it.

**Torque**—Twisting force that tends to cause rotation. For explanations of *Running (Full Load) Torque* and *Starting Torque* as it pertains to gearmotors, see GEARMOTOR SELECTION GUIDE at the beginning of the POWER TRANSMISSION section.

**Triple Reduction**—A multiple reduction unit containing three stages of gear reduction housed in a single enclosure. Follows the same principles of the double reduction unit except it has an additional stage of gearing.

**Worm "Start"**—Beginning of thread on a worm pinion as seen from the end of the worm shaft.

**Worm Thread**—The tooth of the worm that winds around the shaft to give it a screw-like appearance (similar to barber pole stripes). The worm can have one or multiple threads.

# VIBRATOR SELECTION

Below are two easy steps to select the proper vibrator for your application on a bin, a vibrating screen or consolidating concrete, see pages 255-259 for product listing.

## (1) Calculate needed vibrator force for:

### A. Bins and Hoppers:

To move the material in a bin or hopper, the friction between the material and the bin skin has to be broken. Once this is done, the material cannot cling to the bin sides and it will flow out through the discharge. The vibrator force needed is calculated as follows:

Calculate the weight of the material in the transition or sloping part of the bin. Normally this is the only place where the friction between the material and the bin sides has to be broken. Do not calculate the total weight, only what is in the transitional part.

For conical bins, calculate as follows: 0.261 x dia.$^2$ x height x material density in lbs./cu. ft.

For rectangular bins, length x width x height x 1/3 x material density in lbs./cu. ft.

When the weight has been calculated, divide by 10—this is the force or impact needed for your vibrator: _____ lbs. For example, the conical part of a 25 ton bin contains 9000 lbs. Divide 9000 by 10, you need a vibrator with 900 lbs. of centrifugal force. See pages 255-259 for product listings.

### B. Vibrating Tables

Packing material. Dense materials respond best to high frequency vibration (3600 rpm or more) while light, fluffy or flaky materials respond best to low frequency vibration (1800 rpm or less). For packing or settling materials, use a vibrator with an impact force of 1.5 to 2 times larger than the weight of the material plus container.

### C. Vibrating Screens

For self-cleaning screen, use a vibrator with a centrifugal force (impact) four times the weight of the materials plus the weight of the screen. Note: Coarse and lumpy materials respond best to high frequency vibrations (3600 rpm), powdery and dry materials respond best to low frequency vibration (1800 rpm), sticky and wet materials, over 3600 rpm.

### D. Consolidating Concrete

For 3" slump concrete, use a vibrator with the same force (impact) as the weight of concrete and form. For 1-2" slump concrete, an additional 30-50% impact is needed. For dry mixes (0 slump) add 100-200% impact.

## (2) Select Electric vs. Pneumatic Vibrator

In general, electric vibrators are initially higher in cost than pneumatic vibrators; however, the operation cost is considerably less and in the difference in price and installation cost is recaptured in a few months of operation. The electric units have the lowest noise reading, 60-70 dB, no more sound than an electric motor. The life expectancy is 2-3 times that of an air operated unit. The life of an air operated unit is to great extent, determined by the cleanness of the compressed air and the operating pressure. Maximum operating pressure is 80 PSI, above 80 PSI the life of the pneumatic vibrator diminishes rapidly. The turbine vibrator has a dB reading of 60-80.

# KENNAMETAL TURNING GRADES FOR CUTTING MATERIAL

The Kennametal grade system consists of four basic groups of materials: tungsten carbide, cermet, ceramic, and polycrystalline. Each group contains a variety of cutting grades to accommodate various metalcutting needs.

### Tungsten Carbide

This group consists of uncoated, chemical vapor deposition (CVD) coated and physical vapor deposition (PVD) coated materials. Each coated grade consists of various substrates of unalloyed (straight WC/Co), and alloyed (WC/TaC/TiC/NbC/Co) compositions.

### Ceramic

The ceramic cutting tools can be divided into two basic families: alumina-base (aluminum oxide) ceramics, and silicon nitride-base (sialon) ceramics.

## TUNGSTEN CARBIDE GRADES

| Grades | Composition And Application | ISO |
|---|---|---|
| | **CVD Ceramic ($Al_2O_3$) Coated Carbide Grades** | |
| **KC9025** | **composition:** Coated with aluminum-oxide, this patented Kennametal grade has a tough deformation-resistant substrate, and cobalt-enriched periphery. It's a general purpose cutting grade that incorporates toughness and excellent wear resistance.<br>**application:** This general purpose grade machines all types of steels and stainless steels. | K15-K25<br>M15-M25<br>P15-P35 |
| | **CVD Tri-Phase Coated Carbide Grades** | |
| **KC850** | **composition:** A TiC/TiCN/TiN coating on an extra-strong, cobalt-enriched substrate.<br>**application:** For your toughest jobs on a wide variety of materials. Used for interrupted cuts and heavy to moderate roughing of carbon and alloy steels, tool steels, stainless steels, alloy cast irons, and ductile irons. Excellent thermal and mechanical shock resistance makes grade KC850 ideally suited for applications requiring maximum edge strength. | M25-M45<br>P25-P45 |
| | **PVD TiN (Titanium Nitride) Coated Carbide Grades** | |
| **KC720** | **composition:** A tough, durable PVD coated carbide grade.<br>**application:** Developed for cutting high-temperature alloys, stainless steels, and low-carbon steels at low to moderate speeds. Its unique mechanical and thermal shock resistant properties and resistance to edge buildup enable grade KC720 to deliver superior performance and reliability on difficult operations like cutoff operations, and milling of high-temperature alloys with coolant. | M25-M40<br>S15-S30 |
| **KC730** | **composition:** A PVD coated carbide grade.<br>**application:** For machining high-temperature alloys, aerospace materials, refractory metals, and 200 or 300 series stainless steels. The substrate offers superior thermal deformation resistance, depth of cut notch resistance, and edge strength. The uniformly dense PVD coating increases wear resistance, reduces problems with edge buildup, and provides an unusually good combination of properties for machining difficult-to-machine materials and aluminum. | M05-M20<br>S15-S25 |
| | **Uncoated Carbide Grades** | |
| **K68** | **composition:** A general purpose WC/Co unalloyed grade.<br>**application:** Grade K68 has excellent edge wear resistance for machining stainless steels, cast irons, nonferrous metals, nonmetals, and most high-temperature alloys. | K05-K15<br>M10-M20 |
| **K420** | **composition:** A tough WC/TaC/TiC/Co alloyed steel cutting grade.<br>**application:** Grade K420 has superior edge strength and thermal shock resistance for milling or turning through severe interruptions at high chip loads. Also used for heavy roughing and semi-finishing of all soft to moderately hard steels. | M15-M30<br>P20-P30 |
| | **CERAMIC GRADES** | |
| | **Silicon Nitride-Base Ceramics** | |
| **Kyon 3000** | **composition:** An advanced silicon nitride (sialon) grade.<br>**application:** Having excellent abrasion resistance combined with good toughness and thermal shock resistance. It is used for high productivity milling and turning of gray cast irons at high speeds (800-4000 sfm). | K05-K20 |

COMPLETE INDEX AT BACK OF CATALOG WILL HELP YOU QUICKLY LOCATE YOUR NEEDS

## LATHE TURNING INSERT SELECTION GUIDE

### APPLICATION CHART

| Grade | Speed Range | Material Type: SFM Range (1) Steels | SFM Range (2) Stainless Steels | SFM Range (3) Cast Irons | SFM Range (4) High Temp. / Ni-Based Alloys |
|---|---|---|---|---|---|
| **K68** | L | | ● | ● | ● |
| **KC730** | L-M | | ● | | ● |
| **KC850** | L-M | ● | ● | | |
| **KC9025** | M-H | ● | ● | ● | ● |
| **KY3000** | VH | | | ● | ● |

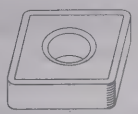
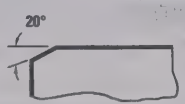
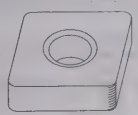
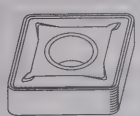
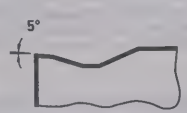
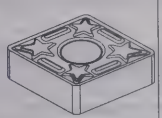
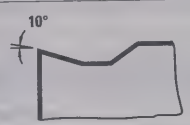
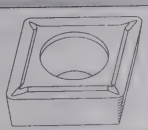
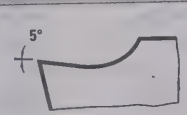
SFM Ranges (1), (2), (3): L - Low (0-400); M - Medium (400-800); H - High (800-1200); VH - Very High (1200-3500)
SFM Range (4): L - Low (0-200); M - Medium (200-350); H - High (300-450); VH - Very High (400-800)

GRAINGER HAS OVER 350 BRANCHES NATIONWIDE

We're well stocked with items you use everyday and our salespeople are knowledgeable, courteous professionals who care about your business. To find the branch nearest you, check the white pages in your local telephone directory under "Grainger."

# KENNAMETAL CHIP CONTROL

## KENLOC CHIP CONTROL INSERTS

| Style Description | Insert Geometry | Profile | Application: Feed-Rate—Ipr (mm/rev.) 0.002-0.010 (0,05-0,25) | 0.010-0.020 (0,25-0,50) | 0.020-0.030 (0,50-0,75) | 0.030-0.040 (0,75-1,00) |
|---|---|---|---|---|---|---|
| | | | Depth Of Cut—Inches (mm) 0.005-0.050 (0,13-1,27) | 0.050-0.125 (1,27-3,17) | 0.125-0.250 (3,17-6,35) | >0.250 (6,35) |
| **GA-T negative rake two-sided** |  |   | | | | |
| **MA negative rake two sided** |  |   | | | | |
| **MG two sided** |  |   | | | | |
| **MG-MG two-sided** |  |   | | | | |
| **MG-LF two-sided** |  |   | | | | |
| **SCREW-ON INSERTS** | | | | | | |
| **MT-LF** |  |   | | | | |
| **POSITIVE KENDEX CHIP CONTROL INSERTS** | | | | | | |
| **GF positive Kendex with chip control** |  |   | | | | |


## ORDER DIRECT FROM GRAINGER

You can order directly from Grainger, call your local branch and place your order. To find the branch nearest you, check the white pages in your local telephone directory under "Grainger." You can pick your order up or we'll ship it today.

# KENNAMETAL MILLING GRADES FOR CUTTING MATERIALS

The Kennametal grade system consists of one basic group of materials: tungsten carbide. This group contains a variety of cutting grades to accommodate various metalcutting needs.

### Tungsten Carbide

This group consists of chemical vapor deposition (CVD) coated and physical vapor deposition (PVD) coated materials. Each coated grade consists of various substrates of unalloyed (straight WC/Co), and alloyed (WC/TaC/TiC/NbC/Co) compositions.

**Kennametal offers a wide selection of carbide grades, both coated and uncoated** in a variety of insert shapes for milling all types of material.

## TUNGSTEN CARBIDE GRADES

| Grades | Composition And Application | ISO |
|---|---|---|
| | **Coated—Alumina CVD** | |
| **KC992M** | **composition:** A patented multi-layered TiCN/AI2O3 CVD coated carbide.<br>**application:** Designed to mill gray cast iron, with or without coolant, at medium speeds and feed rates with honed geometry inserts. Nodular irons with machinability index of 68-78 and BHN below 300 can also be machined up to 600 sfm and equivalent chiploads with T-land versions of insert geometries. | K10-K25 |
| | **Coated—Titanium Nitrides PVD** | |
| **KC710** | **composition:** A PVD TiN coated carbide grade that has good toughness and thermal shock resistance with good crater wear resistance and resistance to buildup on the cutting edge.<br>**application:** Greatly improved productivity when cutting a variety of steels and tool steels over a broad range of feeds at moderate to high speeds. | M1-M25<br>P15-P25 |
| **KC720** | **composition:** A tough, durable PVD TiN coated carbide grade.<br>**application:** Developed for cutting high-temperature alloys, stainless steels, and low-carbon steels at low to moderate speeds. Its unique mechanical and thermal shock resistant properties, and resistance to edge buildup, enable KC720 to deliver superior performance and reliability on difficult operations, with severe interrupted cuts, and when milling high-temperature alloys with coolant. | K25-K35<br>M30-M40<br>P25-P45 |
| **KC725M** | **composition:** A patented, multi-layer, PVD TiN/TiCN/TiN coated carbide.<br>**application:** A new milling grade engineered for high productivity wet and dry milling of carbon, alloy, and austenitic stainless steels. The high thermal shock resistance of the tough carbide substrate combined with the patented multi-layer coating provides long and reliable tool life in aggressive milling operations with or without coolant. It is the higher speed companion to KC720 in wet steel milling. | M15-M35<br>P20-P35 |
| **KC730** | **composition:** A PVD TiN coated carbide grade.<br>**application:** For milling cast and ductile irons, high-temperature alloys, aerospace materials, refractory metals, and 200 and 300 series stainless steels. The substrate offers superior thermal deformation resistance, depth of cut notch resistance, and edge strength. The uniformly dense PVD coating increases wear resistance, reduces problems with edge buildup, and provides an unusually good combination of properties for machining difficult-to-machine materials and aluminum. | K05-K15<br>M05-M15 |
| **KC792M** | **composition:** A PVD-CVD coated carbide grade.<br>**application:** Developed for milling of steels with higher speeds. Its unique substrate design with cobalt-enriched periphery provide maximum wear resistance combined with the chipping resistance needed for high speed milling operations. The patented PVD over CVD coating allows thicker coatings than possible with other CVD coatings, as well as desirable compressive stresses in the coatings to counteract thermal crack propagation. KC792M is the higher speed companion to KC710 for dry steel milling. | M25-M30<br>P30 |

## SMALL ANGLE GRINDER REFERENCE CHART AND BRUSH SELECTION GUIDE

| | RIGHT ANGLE GRINDER | | | WEILER WIRE BRUSH ACCESSORY | | | |
|---|---|---|---|---|---|---|---|
| Manufacturer | Mfr's. Model | Stock No. | Male Spindle Size | 3" Crimped Cup Stock No. | 2¾" Knot Cup Stock No. | 4" Standard Twist Wheel Stock No. | 4" Stringer Bead Twist Wheel Stock No. |
| Black & Decker | 4252<br>2750 | 4Z995<br>4Z602 | 5/8"-11 UNC | 3AC13 | 3AC09 | 3AC17 | 3AC21 |
| Milwaukee | 6140<br>6145<br>6141 | 4A942<br>4Z374<br>6Z355 | 5/8"-11 UNC<br>1/2"-13 UNC<br>5/8"-11 UNC | 3AC13<br>3AC12<br>3AC13 | 3AC09<br>3AC08<br>3AC09 | 3AC17<br>3AC18<br>3AC17 | 3AC21<br>3AC2O<br>3AC21 |
| | | | | 3AC13<br>3AC11<br>3AC13 | 3AC09<br>3AC07<br>3AC09 | 3AC17<br>3AC15<br>3AC17 | 3AC21<br>3AC19<br>3AC21 |

## ADDITIONAL CROSS REFERENCE FOR SMALL ANGLE GRINDERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Black & Decker | 6247 | — | M-10 x 1.50 | 3AC11 | 3AC07 | 3AC15 | 3AC19 |
| Hitachi | G105A, G100A<br>G125A, G125I | —<br>— | M-10 x 1.50<br>5/8"-11 UNC | 3AC11<br>3AC13 | 3AC07<br>3AC09 | 3AC15<br>3AC17 | 3AC19<br>3AC21 |
| Ingersoll-Rand | 8245 | — | 5/8"-11 UNC | 3AC13 | 3AC09 | 3AC17 | 3AC21 |
| JET | JEG-450, JEG-500 | — | 5/8"-11 UNC | 3AC13 | 3AC09 | 3AC17 | 3AC21 |
| Makita | 9501BZ/9501BKW<br>9503BHZ, 9505BHZ, 9005b | —<br>— | M-10 x 1.50<br>5/8"-11 UNC | 3AC10<br>3AC13 | 3AC06<br>3AC09 | 3AC14<br>3AC17 | 3AC18<br>3AC21 |
| Metabo | AG650SL, 8125, 9123, 1115 | — | 5/8"-11 UNC | 3AC13 | 3AC09 | 3AC17 | 3AC21 |
| Milwaukee | 6142 | — | 5/8"-11 UNC | 3AC13 | 3AC09 | 3AC17 | 3AC21 |
| Sioux | 1240<br>1245 | —<br>— | M-10 x 1.50<br>5/8"-11 UNC | 3AC11<br>3AC13 | 3AC07<br>3AC09 | 3AC15<br>3AC17 | 3AC19<br>3AC21 |

**NEED ASSISTANCE WITH PRODUCT SELECTION?**
**WE APPRECIATE THE OPPORTUNITY TO HELP YOU IN EVERY POSSIBLE WAY**

# DECIMAL EQUIVALENT CHART



| Drill Size | Decimal Inches |
|---|---|
| 0.30mm | 0.0118 |
| 0.32mm | 0.0126 |
| **80** | 0.0135 |
| 0.35mm | 0.0138 |
| **79** | 0.0145 |
| 0.38mm | 0.0150 |
| **1/64** | 0.0156 |
| 0.40mm | 0.0157 |
| **78** | 0.0160 |
| 0.42mm | 0.0165 |
| 0.45mm | 0.0177 |
| **77** | 0.0180 |
| 0.48mm | 0.0189 |
| 0.50mm | 0.0197 |
| **76** | 0.0200 |
| **75** | 0.0210 |
| 0.55mm | 0.0217 |
| **74** | 0.0225 |
| 0.60mm | 0.0236 |
| **73** | 0.0240 |
| 0.62mm | 0.0244 |
| **72** | 0.0250 |
| 0.65mm | 0.0256 |
| **71** | 0.0260 |
| 0.70mm | 0.0276 |
| **70** | 0.0280 |
| **69** | 0.0292 |
| 0.75mm | 0.0295 |
| **68** | 0.0310 |
| **1/32** | 0.0312 |
| 0.80mm | 0.0315 |
| **67** | 0.0320 |
| **66** | 0.0330 |
| 0.85mm | 0.0335 |
| **65** | 0.0350 |
| 0.90mm | 0.0354 |
| **64** | 0.0360 |
| **63** | 0.0370 |
| 0.95mm | 0.0374 |
| **62** | 0.0380 |
| **61** | 0.0390 |
| 1.00mm | 0.0394 |
| **60** | 0.0400 |
| **59** | 0.0410 |
| 1.05mm | 0.0413 |
| **58** | 0.0420 |
| **57** | 0.0430 |
| 1.10mm | 0.0433 |
| 1.15mm | 0.0453 |
| **56** | 0.0465 |
| **3/64** | 0.0469 |
| 1.20mm | 0.0472 |
| 1.25mm | 0.0492 |
| 1.30mm | 0.0512 |
| **55** | 0.0520 |
| 1.35mm | 0.0531 |

| Drill Size | Decimal Inches |
|---|---|
| **54** | 0.0550 |
| 1.40mm | 0.0551 |
| 1.45mm | 0.0571 |
| 1.50mm | 0.0591 |
| **53** | 0.0595 |
| 1.55mm | 0.0610 |
| **1/16** | 0.0625 |
| 1.60mm | 0.0630 |
| **52** | 0.0635 |
| 1.65mm | 0.0650 |
| 1.70mm | 0.0669 |
| **51** | 0.0670 |
| 1.75mm | 0.0689 |
| **50** | 0.0700 |
| 1.80mm | 0.0709 |
| 1.85mm | 0.0728 |
| **49** | 0.0730 |
| 1.90mm | 0.0748 |
| **48** | 0.0760 |
| 1.95mm | 0.0768 |
| **5/64** | 0.0781 |
| **47** | 0.0785 |
| 2.00mm | 0.0787 |
| 2.05mm | 0.0807 |
| **46** | 0.0810 |
| **45** | 0.0820 |
| 2.10mm | 0.0827 |
| 2.15mm | 0.0846 |
| **44** | 0.0860 |
| 2.20mm | 0.0866 |
| 2.25mm | 0.0886 |
| **43** | 0.0890 |
| 2.30mm | 0.0906 |
| 2.35mm | 0.0925 |
| **42** | 0.0935 |
| **3/32** | 0.0938 |
| 2.40mm | 0.0945 |
| **41** | 0.0960 |
| 2.45mm | 0.0965 |
| **40** | 0.0980 |
| 2.50mm | 0.0984 |
| **39** | 0.0995 |
| **38** | 0.1015 |
| 2.60mm | 0.1024 |
| **37** | 0.1040 |
| 2.70mm | 0.1063 |
| **36** | 0.1065 |
| **7/64** | 0.1094 |
| **35** | 0.1100 |
| 2.80mm | 0.1102 |
| **34** | 0.1110 |
| **33** | 0.1130 |
| 2.90mm | 0.1142 |
| **32** | 0.1160 |
| 3.00mm | 0.1181 |
| **31** | 0.1200 |

| Drill Size | Decimal Inches |
|---|---|
| 3.10mm | 0.1220 |
| **1/8** | 0.1250 |
| 3.20mm | 0.1260 |
| **30** | 0.1285 |
| 3.30mm | 0.1299 |
| 3.40mm | 0.1339 |
| **29** | 0.1360 |
| 3.50mm | 0.1378 |
| **28** | 0.1405 |
| **9/64** | 0.1406 |
| 3.60mm | 0.1417 |
| **27** | 0.1440 |
| 3.70mm | 0.1457 |
| **26** | 0.1470 |
| **25** | 0.1495 |
| 3.80mm | 0.1496 |
| **24** | 0.1520 |
| 3.90mm | 0.1535 |
| **23** | 0.1540 |
| **5/32** | 0.1562 |
| **22** | 0.1570 |
| 4.00mm | 0.1575 |
| **21** | 0.1590 |
| **20** | 0.1610 |
| 4.10mm | 0.1614 |
| 4.20mm | 0.1654 |
| **19** | 0.1660 |
| 4.30mm | 0.1693 |
| **18** | 0.1695 |
| **11/64** | 0.1719 |
| **17** | 0.1730 |
| 4.40mm | 0.1732 |
| **16** | 0.1770 |
| 4.50mm | 0.1772 |
| **15** | 0.1800 |
| 4.60mm | 0.1811 |
| **14** | 0.1820 |
| 4.70 **13** | 0.1850 |
| **3/16** | 0.1875 |
| 4.80 **12** | 0.1890 |
| **11** | 0.1910 |
| 4.90mm | 0.1929 |
| **10** | 0.1935 |
| **9** | 0.1960 |
| 5.00mm | 0.1969 |
| **8** | 0.1990 |
| 5.10mm | 0.2008 |
| **7** | 0.2010 |
| **13/64** | 0.2031 |
| **6** | 0.2040 |
| 5.20mm | 0.2047 |
| **5** | 0.2055 |
| 5.30mm | 0.2087 |
| **4** | 0.2090 |
| 5.40mm | 0.2126 |
| **3** | 0.2130 |

| Drill Size | Decimal Inches |
|---|---|
| 5.50mm | 0.2165 |
| **7/32** | 0.2188 |
| 5.60mm | 0.2205 |
| **2** | 0.2210 |
| 5.70mm | 0.2244 |
| **1** | 0.2280 |
| 5.80mm | 0.2283 |
| 5.90mm | 0.2323 |
| **A** | 0.2340 |
| **15/64** | 0.2344 |
| 6.00mm | 0.2362 |
| **B** | 0.2380 |
| 6.10mm | 0.2402 |
| **C** | 0.2420 |
| 6.20mm | 0.2441 |
| **D** | 0.2460 |
| 6.30mm | 0.2480 |
| **1/4, E** | 0.2500 |
| 6.40mm | 0.2520 |
| 6.50mm | 0.2559 |
| **F** | 0.2570 |
| 6.60mm | 0.2598 |
| **G** | 0.2610 |
| 6.70mm | 0.2638 |
| **17/64** | 0.2656 |
| **H** | 0.2660 |
| 6.80mm | 0.2677 |
| 6.90mm | 0.2717 |
| **I** | 0.2720 |
| 7.00mm | 0.2756 |
| **J** | 0.2770 |
| 7.10mm | 0.2795 |
| **K** | 0.2810 |
| **9/32** | 0.2812 |
| 7.20mm | 0.2835 |
| 7.30mm | 0.2874 |
| **L** | 0.2900 |
| 7.40mm | 0.2913 |
| **M** | 0.2950 |
| 7.50mm | 0.2953 |
| **19/64** | 0.2969 |
| 7.60mm | 0.2992 |
| **N** | 0.3020 |
| 7.70mm | 0.3031 |
| 7.80mm | 0.3071 |
| 7.90mm | 0.3110 |
| **5/16** | 0.3125 |
| 8.00mm | 0.3150 |
| **O** | 0.3160 |
| 8.10mm | 0.3189 |
| 8.20mm | 0.3228 |
| **P** | 0.3230 |
| 8.30mm | 0.3268 |
| **21/64** | 0.3281 |
| 8.40mm | 0.3307 |
| **Q** | 0.3320 |

| Drill Size | Decimal Inches |
|---|---|
| 8.50mm | 0.3346 |
| 8.60mm | 0.3286 |
| **R** | 0.3390 |
| 8.70mm | 0.3425 |
| **11/32** | 0.3438 |
| 8.80mm | 0.3465 |
| **S** | 0.3480 |
| 8.90mm | 0.3504 |
| 9.00mm | 0.3543 |
| **T** | 0.3580 |
| 9.10mm | 0.3583 |
| **23/64** | 0.3594 |
| 9.20mm | 0.3622 |
| 9.30mm | 0.3661 |
| **U** | 0.3680 |
| 9.40mm | 0.3701 |
| 9.50mm | 0.3740 |
| **3/8** | 0.3750 |
| **V** | 0.3770 |
| 9.60mm | 0.3780 |
| 9.70mm | 0.3819 |
| 9.80mm | 0.3858 |
| **W** | 0.3860 |
| 9.90mm | 0.3898 |
| **25/64** | 0.3906 |
| 10.00mm | 0.3937 |
| **X** | 0.3970 |
| 10.20mm | 0.4016 |
| **Y** | 0.4040 |
| **13/32** | 0.4062 |
| **Z** | 0.4130 |
| 10.50mm | 0.4134 |
| **27/64** | 0.4219 |
| 10.80mm | 0.4252 |
| 11.00mm | 0.4331 |
| **7/16** | 0.4375 |
| 11.20mm | 0.4409 |
| 11.50m | 0.4528 |
| **29/64** | 0.4531 |
| 11.80mm | 0.4646 |
| **15/32** | 0.4688 |
| 12.00mm | 0.4724 |
| 12.20mm | 0.4803 |
| **31/64** | 0.4844 |
| 12.50mm | 0.4921 |
| **1/2** | 0.5000 |
| 12.80mm | 0.5039 |
| 13.00mm | 0.5118 |
| **33/64** | 0.5156 |
| 13.20mm | 0.5197 |
| **17/32** | 0.5312 |
| 13.50mm | 0.5315 |
| 13.80mm | 0.5433 |
| **35/64** | 0.5469 |
| 14.00mm | 0.5512 |
| 14.25mm | 0.5610 |

| Drill Size | Decimal Inches |
|---|---|
| **9/16** | 0.5625 |
| 14.50mm | 0.5709 |
| **37/64** | 0.5781 |
| 14.75mm | 0.5807 |
| 15.00mm | 0.5906 |
| **19/32** | 0.5938 |
| 15.25mm | 0.6004 |
| **39/64** | 0.6094 |
| 15.50mm | 0.6102 |
| 15.75mm | 0.6201 |
| **5/8** | 0.6250 |
| 16.00mm | 0.6299 |
| 16.25mm | 0.6398 |
| **41/64** | 0.6406 |
| 16.50mm | 0.6496 |
| **21/32** | 0.6562 |
| 16.75mm | 0.6594 |
| 17.00mm | 0.6693 |
| **43/64** | 0.6719 |
| 17.25mm | 0.6791 |
| **11/16** | 0.6875 |
| 17.50mm | 0.6890 |
| **45/64** | 0.7031 |
| 18.00mm | 0.7087 |
| **23/32** | 0.7188 |
| 18.50mm | 0.7283 |
| **47/64** | 0.7344 |
| 19.00mm | 0.7480 |
| **3/4** | 0.7500 |
| **49/64** | 0.7656 |
| 19.50mm | 0.7677 |
| **25/32** | 0.7812 |
| 20.00mm | 0.7874 |
| **51/64** | 0.7969 |
| 20.50mm | 0.8071 |
| **13/16** | 0.8125 |
| 21.00mm | 0.8268 |
| **53/64** | 0.8281 |
| **27/32** | 0.8438 |
| 21 50mm | 0.8465 |
| **55/64** | 0.8594 |
| 22.00mm | 0.8661 |
| **7/8** | 0.8750 |
| 22.50mm | 0.8858 |
| **57/64** | 0.8906 |
| 23.00mm | 0.9055 |
| **29/32** | 0.9062 |
| **59/64** | 0.9219 |
| 23 50mm | 0.9252 |
| **15/16** | 0.9375 |
| 24.00mm | 0.9449 |
| **61/64** | 0 9531 |
| 24 50mm | 0.9646 |
| **31/32** | 0.9688 |
| 25 00mm | 0.9843 |
| **63/64** | 0 9844 |
| **1"** | 1.0000 |

**Metric = regular numbers** **Fractional = bold fractions** **Wire Gauge = bold numbers** **Letter Size = bold letters**

# LIQUID PUMP TERMINOLOGY

**Flow**—The measure of the liquid volume capacity of a pump. Given in gallons per hour (GPH) or gallons per minute (GPM). To convert GPH to GPM, divide by 60.

**Pressure**—The force exerted on the walls of a container (tank, pipe, etc.) by the liquid. Measured in pounds per square inch (PSI).

**Head**—Another measure of pressure; expressed in feet. Usually applies to centrifugal pumps. Indicates the height of a column of water being lifted by the pump, neglecting friction losses in piping. For water, divide head in feet by 2.31 to get pressure in pounds per sq. inch (PSI).

**Flooded Suction**—Liquid source is higher than pump, and liquid flows to the pump by gravity. Preferable for centrifugal pump installations.

**Lift (Suction Lift)**—Liquid source is lower than the pump. Pumping action creates a partial vacuum and atmospheric pressure forces liquid up to pump. Theoretical limit of suction lift is 34 feet; practical limit is 25 feet or less, depending on pump type and elevation above sea level.

**Static Discharge Head**—Vertical distance (in feet) from pump to point of discharge.

**Total Head**—The sum of discharge head, suction lift and friction losses.

**Prime**—A charge of liquid required to begin pumping action of centrifugal pumps when liquid source is lower than pump. May be held in pump by a foot valve on the intake line or a valve or chamber within the pump.

**Specific Gravity**—The ratio of the weight of a given volume of a liquid to the same volume of pure water. Unless stated otherwise, power requirements of all pumps listed herein are based on pumping water. Pumping heavier liquids (specific gravity greater than 1.0) will require more drive horsepower. See Index under Rotary Gear Pumps for additional information.

**Viscosity**—The "thickness" of a liquid, or, its ability to flow. Temperature must be stated when specifying viscosity, since most liquids flow more easily as they get warmer. The more viscous the liquid, the slower the pump speed required. See Index under Rotary Gear Pumps for additional information.

**Seal**—A device mounted in the pump housing and/or on the pump shaft, to prevent leakage of liquid from the pump. Two types:

**Mechanical:** Has a rotating part and a stationary part with highly polished touching surfaces. Has excellent sealing capability and life, but can be damaged by dirt or grit in the liquid.

**Lip:** A flexible ring (usually rubber or similar material), with the inner edge held closely against the rotating shaft by a spring.

**Seal-less (Magnetic Drive)**—No seal is used; power is transmitted from motor to pump impeller by magnetic force, through a wall that completely separates motor from impeller.

**Relief Valve**—Usually used at the discharge of a positive displacement pump. An adjustable, spring-loaded valve opens, or "relieves," when a preset pressure is reached. Used to prevent excessive pressure and pump or motor damage if discharge line is closed off.

**Unloader Valve**—Similar to relief valve.

**Check Valve**—Allows liquid to flow in one direction only. Generally used in discharge line to prevent reverse flow.

**Foot Valve**—A type of check valve with a built-in strainer. Used at point of liquid intake to retain liquid in system, preventing loss of prime when liquid source is lower than pump.

**Centrifugal Pump**—A fan-shaped impeller rotating in a circular housing, pushing liquid towards a discharge opening. Simple design; only wearing parts are the shaft seal and bearings (if so equipped). Usually used where large flow of liquid at relatively low pressure (head, lift) is desired. Self-priming centrifugals have same features as straight centrifugals but will self-prime without a foot valve to lifts indicated for the particular model after an initial filling of the pump casing. Non self-priming centrifugals work best with the liquid source higher than the pump (flooded suction/gravity feed). As the discharge pressure (head) increases, flow and drive power requirements decrease. Maximum flow and motor loading usually occur at minimum head.

**Positive Displacement Pump**—Pumping action created by moving chambers or pistons. The flow rate of this pump is almost the same at any pressure level. Generally self-priming. Should never be operated dry, because of internal wearing of rubber parts. As discharge flow is restricted (higher pressure or head) drive horsepower requirement increases. A relief device should be provided on the discharge line to prevent overpressure and damage to pump or motor if discharge line is closed off or severely restricted. The most common positive displacement pump types are:

**Diaphragm:** Consists of a flexible diaphragm which moves up and down in a chamber, creating suction and pressure. As the diaphragm is moved up, it creates a vacuum which opens the suction valve and draws fluid into the chamber. When the diaphragm is forced down, fluid is forced out through the discharge valve. Diaphragm pumps handle fluid mixtures with a much greater percentage of solids (e.g., silt, mud, sludge and waste).

**Gear:** Consisting of two meshed spur gears in a housing. As gears rotate, fluid is carried in the space between the teeth. Will not handle abrasives because of close running tolerances of gears. Suited for pumping more viscous liquids, at slower speeds.

**Flexible Impeller:** A flexible, vaned member, usually rubber, rotating in an eccentric housing. The volume of the spaces between the vanes changes as the pump rotates, creating pumping action.

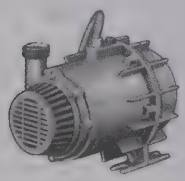
**Rotary Screw:** A screw-shaped rotor, turning within a flexible stator, usually of rubber. Progressing cavities between screw and stator carry the fluid. Can handle abrasive mixtures or slurries, at slower speeds.

**Roller or Vane:** Rollers or vanes in a rotor, rotating in an eccentric housing like a flexible impeller pump.

**Piston:** Fluid is drawn in and forced out by pistons moving within cylinders.

**Jet Pump**—A type of centrifugal pump utilizing water flow through a narrow opening or nozzle (jet, ejector) to bring water from a well. As water is forced through the nozzle, an area of low pressure is created, and atmospheric pressure forces additional water from the well into the system. In shallow well systems (up to 25 ft. lift), the jet is located at the pump. In deep well systems, it is located at the bottom of the well.

**Deep Well Submersible Pump**—A centrifugal pump in which a number of impeller assemblies, in a housing, are mounted on a shaft directly coupled to a submersible motor. Entire assembly is located at the bottom of the well. Power is brought to the motor by a waterproof cable.



## A COMPLETE LINE OF PUMPS AVAILABLE

**See Index Under Appropriate Heading.**



# CODES AND STANDARDS FOR PLUMBING PRODUCTS



All products and devices installed in the plumbing system are under the jurisdiction of local or state adopted model codes which mandate that they meet the minimum requirements of the appropriate national consensus standard and are installed properly to assure a safe and mechanical system. These standards address specific design and performance requirements which are seen to be critical in protection of public health and safety.

Manufacturers must be able to supply proof of this compliance through third-party test reports from legitimate certified laboratories in addition to any other listing/certifying requirements of local or state regulatory bodies. It is very important that sellers and buyers are aware of this need of product compliance to standards.

Appropriate Plumbing Standards are as follows with the latest edition always applicable:

| Feature | Standard |
|---|---|
| **Finished Fixture Fittings (Faucets, Supplies, Supply Stops, Valves)** | ASME/ANSI A12.18.1 CSA B125 |
| **Vitreous China Plumbing Fixtures (Sinks, Lavs, Toilets, Urinals)** | ASME/ANSI A12.19.2/6 CSA B45 |
| **Pressure Balance / Thermostatic Control Valves** | ANSI/ASSE 1016 |
| **Diverter Type Faucets with Hose Spray** | ANSI/ASSE 1025 |
| **Plastic Components and Materials** | ANSI/NSF 14 |
| **Handicap** | ANSI A117 and ADA |
| **Copper Water Tubing** | ASTM B88 |
| **Water Heaters** | ANSI Z21.10.1/3 |
| **Hose Connected Vacuum Breakers** | ANSI/ASSE 1011 |
| **Water Pressure Reducing Valves** | ANSI/ASSE 1003 |
| **Reduced Pressure Principle Backflow Device** | ANSI/ASSE 1013; AWWA C511 |
| **Double Check Valve Assembly** | ANSI/ASSE 1015; AWWA C510 |

**Anti-Scald Valves.** All of the model codes have recognized the necessity of protecting the public from the dangers of thermal shock and scalding. Accordingly, they have all mandated as of this date that each tub/shower unit shall be protected with either a master thermostatic mixing valve or individually controlled pressure balance or thermostatic mixing valves. It is very important that the handle position stops on these valves are adjusted at the time of installation and seasonally to assure proper outlet temperature control.

**Water Conservation.** Many states have adopted or are working towards adoption of water conservation legislation which legally makes it unlawful to sell or install fixtures and finish fixture fittings which use more than the allowable water flows and volumes. Most are using the flow rates and volumes from the current ANSI/ ASME standard but many are requiring lower rates. The ANSI/ASME requirements are as follows:

Sink/Lav.....2.2 gpm

Showerhead.....2.5 gpm

Watercloset.....1.6 gal.

**Handicap Accessibility.** With the enactment of the Americans with Disabilities Act and the revision of ANSI A117, all occupancies will be required to comply with accessibility requirements for handicapped individuals. Appropriate fixtures and fixture fittings must be installed in at least one bathroom in any public building as defined by the building code. This will also require that existing buildings be brought up to minimum requirements of both ADA and ANSI. In general, besides access and height and reach requirements, the primary concern is an activating force of no more than 5 lbs. without twisting or pulling.

**Chemical Extraction.** With the development of ANSI/NSF 61, all products in the plumbing system must be certified as safe with regard to leaching contaminants into the potable water system. Currently, ANSI/ NSF 14 addresses specifically plastics with all other materials falling under 61.

**Backflow Protection.** All of the model codes regulate for the proper protection of the potable water system. It is virtually important to install the correct means of backflow protection for each application. Each model code should be reviewed for the requirements for each local area. However, some general rules that comply with all the codes are as follows:

| | Degree of Hazard | | | |
|---|---|---|---|---|
| | Pollution (Low) | | Contamination (High) | |
| | Back-Siphonage | Back-Pressure | Back-Siphonage | Back-Pressure |
| Air gap | X | | X | |
| Atmospheric Vacuum Breaker | X | | X | |
| Double Check Valve Preventor | X | X | | |
| Pressure Type Vacuum Breaker | X | | X | |
| Reduced Pressure Principle Assembly | X | X | X | X |

## CODE BODIES & LISTING AGENCIES

Jurisdictionally, the following code bodies and listing agencies must be complied with to show conformance to local codes and appropriate standards:

### IAPMO

International Association of Plumbing and Mechanical Officials. Publishers of the Uniform Plumbing Code (UPC) which is recognized and adopted by the fourteen western states and Minnesota, Maine and the major cities in the state of Texas. IAPMO also offers a third-party certification and mark showing compliance with appropriate standard and the UPC.

### BOCA

Building Officials and Code Administrators International, Inc. Publishers of the BOCA codes which are recognized and adopted by Kansas, Oklahoma, Missouri, Illinois, Wisconsin, Michigan, Indiana, Ohio, Kentucky, Virginia, West Virginia, Vermont, New Hampshire, Connecticut, Rhode Island and parts of Pennsylvania. BOCA issues compliance reports which are recognized in BOCA jurisdictions to show conformance with appropriate standards and BOCA code.

### SBCCI

Southern Building Code Congress International. Inc. Publishers of the Standard Plumbing Code which is recognized and adopted in the southeastern part of the United States: Arkansas, Louisiana, Mississippi, Alabama, Tennessee, Georgia, Florida, North Carolina, South Carolina and smaller towns in the state of Texas. They also offer the service of compliance reports to show compliance with appropriate standards and the Standard code.

### NSPC

National Standard Plumbing Code. Published by the National Association of Plumbing, Heating and Cooling Contractors. The code is recognized and adopted by the states of New Jersey, Maryland, Long Island, and parts of Pennsylvania.

### ICBO

International Conference of Building Officials. Publishers of the Uniform Building Code and cosponsor of the Uniform Mechanical Code with IAPMO. Jurisdictions are the same as IAPMO.

### CSA

Canadian Standards Association. Develops standards through consensus and are publishers of all Canadian Standards for plumbing products. They are a recognized internationally certified third-party test laboratory and certifying agency. All products installed and sold in Canada must be certified/listed as conforming to the appropriate CSA standard(s).

**INFORMATION PROVIDED BY DELTA FAUCET COMPANY**

MANY BRANDS OF PLUMBING PRODUCTS AVAILABLE

DELTA THE FAUCET ELKAY Halsey Taylor SLOAN VANGUARD BY RHEEM

Ordering is easy — Call, fax, visit or go online @ www.grainger.com GRAINGER 3683

# AIR CONDITIONING, REFRIGERATION, AND HEATING TERMINOLOGY

**ABSOLUTE HUMIDITY**—Amount of moisture in the air, indicated in grains per cu. ft.

**ACCA**—Air Conditioning Contractors of America.

**ACCUMULATOR**—Storage tank which receives liquid refrigerant from evaporator and prevents it from flowing into suction line before vaporizing.

**ACR TUBING**—Tubing used in air conditioning and refrigeration. Ends are sealed to keep tubing clean and dry. Measured in outside diameter.

**AGA**—American Gas Association.

**AIR**—Atmospheric air is composed of approximately 78% Nitrogen, 21% Oxygen and 1% rare gases including Carbon Dioxide, Krypton, Neon, Argon, Ozone, Helium and Ammonia. Over the sea traces of salt are present, and over land traces of sulphates. Dust and micro-organisms are also present.

**AIR CHANGE.** The amount of air required to completely replace the air in a room or building; not to be confused with recirculated air.

**AIR CIRCULATION**—Natural or forced movement of air.

**AIR CLEANER**—A mechanical electrical or chemical device (usually a filter) for removing dust, gas, vapor, fumes, smoke and other impurities from the air.

**AIR CONDITIONING SYSTEM**—Controls the temperature, humidity, air movement and cleaning of air in a confined space.

**AIR DIFFUSER**—Air distribution outlet or grille designed to direct airflow into desired patterns.

**AIR HANDLER**—Fan-blower, filter and housing parts of a system.

**AIR, RECIRCULATED**—Air drawn from a space and passed through the conditioner discharged again into the conditioned space.

**AIR STANDARD CONDITIONS**—Conditions at which Btu ratings for summer air conditioning equipment is rated. 95°F dry bulb, 75°F wet bulb at the condenser inlet and 80°F dry bulb, 67°F wet bulb at the evaporator inlet.

**AIR, VENTILATION**—The quantity of supply air drawn from outdoors needed to maintain the desired amount of oxygen and the quality of air within a designated space.

**AMBIENT TEMPERATURE**—Temperature of fluid (usually air) which surrounds object on all sides.

**ANEMOMETER**—An instrument for measuring the velocity of air.

**ARI**—Air Conditioning & Refrigeration Institute.

**ASME BOILER CODE**—Standard specifications issued by the American Society of Mechanical Engineers for the construction of boilers.

**ATMOSPHERIC PRESSURE**—The weight of one square inch column of the earth's atmosphere. At sea level this pressure is 14.696 pounds per square inch.

**AUTOMATIC DEFROST**—System of removing ice and frost from evaporators automatically.

**AUTOMATIC EXPANSION VALVE (AEV)**—Pressure-controlled valve which reduces high pressure liquid refrigerant to low pressure liquid refrigerant.

**AUTOMATIC GAS VALVE**— Automatic or semi-automatic device consisting of a valve and an operator that controls gas supply to the burner assemblies of a gas fired furnace.

**AZEOTROPES:** Refrigerant blends which evaporate and condense exactly like a pure component at some temperature and pressure. Azeotropes may not behave this way at all temperatures and pressures, but they will be close.

**BAFFLE**—A surface used to deflect or direct air flow. Usually a plate or wall.

**BALANCE POINT**—The point at which the heating capacity of the heat pump, plus electric heaters is equal to the heat loss of the conditioned space.

**BIMETAL**—Two metals with different rates of expansion fastened together. When heated or cooled they will warp and can be made to open or close a switch or valve.

**BIMETAL STRIP**—Temperature regulating or indicating device which works on principle that two dissimilar metals with unequal expansion rates, welded together, will bend as temperatures change.

**BLOW (THROW)**—In air distribution, the distance an air stream travels from an outlet to a point where air motion is reduced to a specific flow measured in feet per minute (terminal velocity).

**BLOWER (FAN)**—An air handling device for moving air in a distribution system.

**Btu (BRITISH THERMAL UNIT)**— Quantity of heat required to raise temperature of one pound of water one degree Fahrenheit.

**CAPILLARY TUBE**—A refrigerant control consisting of a small diameter tube which controls flow by restriction. They are carefully sized by inside diameter and length for each particular application.

**CARBON MONOXIDE**—Colorless, odorless and poisonous gas (CO) produced when carbon or carbonaceous fuels are burned with too little air. Extremely toxic gas.

**CELSIUS TEMPERATURE SCALE**—Temperature scale used in metric system. Freezing point of water is 0; boiling point is 100.

**CFC:** A chlorofluorocarbon molecule consisting of chlorine, fluorine and carbon atoms.

**CHANGE OF AIR**—Introduction of new air to a conditioned space, measured by the number of complete enclosed space changes per unit time. Usually per hour.

**CHANGE OF STATE**—Condition in which a substance changes from a solid to a liquid or a liquid to a gas caused by the addition of heat. Or the reverse, in which a substance changes from a gas to a liquid, or a liquid to a solid, caused by the removal of heat.

**CHARGE**—Amount of refrigerant placed in a refrigerating unit.

**CHARGING MANIFOLD**—Specifically designed for technicians use of charging refrigerant and oil in air conditioning and refrigeration systems.

**CHIMNEY EFFECT**—The tendency of air or gas to rise in a duct or other vertical passage when heated.

**CHOKE TUBE**—Throttling device used to maintain correct pressure difference between high-side and low-side in refrigerating mechanism. Capillary tubes are sometimes called choke tubes.

**COEFFICIENT OF PERFORMANCE (COP)**—Ratio of work performed or accomplished as compared with the energy used.

**COMBUSTION**—The rapid oxidation of fuel accompanied by the release of energy as heat and light.

**COMFORT ZONE**—The range of temperatures, humidities and air velocities at which the greatest percentage of people feel comfortable.

**COMPRESSION**—The reduction of volume of a vapor or gas by mechanical means.

**COMPRESSOR**—Pump of a refrigerating mechanism which draws a low pressure on cooling side of refrigerant cycle and squeezes or compresses the gas into the high pressure or condensing side of the cycle.

**COMPRESSOR, HERMETIC**—Compressor in which the driving motor is sealed in the same dome or housing as the compressor.

**CONDENSATE**—The liquid formed by the condensation of a vapor, e.g. moisture on cold window glass, or dew.

**CONDENSATION**—The process whereby a vapor is changed to a liquid by removal of heat after its dew point (condensation temperature) is reached.

**CONDENSER**—The part of refrigeration mechanism which receives hot, high pressure refrigerant gas from compressor and cools gaseous refrigerant until it returns to its liquid state.

**CONDENSER FAN**—Forced air device used to move air through air-cooled condenser.

**CONDENSING GAS FURNACE**—A furnace in which gases are recirculated through a secondary heat exchanger, thereby maximizing unit efficiency. $H_2O$, as a by-product of combustion, is condensed from this exhaust air and so requires the use of a drain system.

**CONDENSING UNIT**—Part of a refrigerating mechanism which pumps vaporized refrigerant from the evaporator, compresses it, liquefies it in the condenser and returns it to the refrigerant control.

**CONDUCTION**—The transfer of heat from molecule to molecule within a substance.

**CONTACTOR**—An electromagnetic actuated relay. Usually used to refer to the relay which closes the circuit to a compressor.

**CONTROL**—A device for regulating a system, or part of a system, in normal operation. Such a device can be either manually operated or automatic.

**CONVECTION**—Transfer of heat by means of movement or flow of a fluid or gas.

**CONVECTION LOSS**—Heat lost through the walls and roof of a building, through movement of heated air.

**COOL ANTICIPATOR**—A resistance heater (usually not adjustable) in parallel with the cooling circuit. It is "on" with the circuit; "off" adding heat to shorten the off cycle.

CONTINUED ON NEXT PAGE

**COUNTERFLOW**—A furnace or heater which draws air in from the top through the heat exchanger and out the bottom.

**CUBIC FEET PER MINUTE (CFM)**—A measure of air volume through an air handling device.

**CUBIC FOOT OF GAS**—Amount of gas that has a volume of 1 cu.-ft. at 60°F under a pressure of 30 inches of mercury.

**CYCLE**—The complete course of operation of a refrigerant back to a selected starting point in a system. Also used to describe alternating current through 360 space degrees.

**DAMPER**—Device for controlling airflow.

**DAMPER, FIRE**—A damper placed in a duct or at an outlet to prevent or retard the emission of smoke and/or heat into a room or space during a fire. Such devices are also designed to prevent or retard the spread of fire throughout the structure, thus confining it to a specific area.

**DEFROST TIMER**—Device connected into electrical circuit which shuts unit off long enough to permit ice and frost accumulation on evaporator to melt.

**DEGREE-DAY**—Unit that represents one degree of difference from inside temperature and the average outdoor temperature for one day and is often used in estimating fuel requirements for a building.

**DEHUMIDIFICATION**—The reduction of water vapor in air by cooling the air below the dew point; removal of water vapor from air by chemical means, refrigeration, etc.

**DENSITY**—Mass or weight per unit of volume, i.e.: Standard air 0.075 pounds per cubic foot.

**DEW POINT**—The temperature at which water vapor turns to liquid.

**DIAPHRAGM VALVE**—A control valve which opens and closes according to gas pressure on a flexible diaphragm.

**DIFFERENTIAL**—The temperature or pressure difference between cut-in and cut-out temperature or pressure of a control.

**DIRECT FIRED HEATER**—A heater where both heated air and combustion products are put into the space to be heated.

**DIRECT SPARK IGNITION**—System in which two high voltage electrodes create a continuous spark to ignite a main burner without the use of an intermediate pilot.

**DISCHARGE PRESSURE**—The pressure read at the compressor outlet. Also called head pressure or high pressure.

**DOE**—Department Of Energy (Federal)

**DRAFT**—A current caused by the removal of air from an area of high pressure to an area of low pressure; usually considered objectionable.

**DRAFT HOOD (DRAFT DIVERTER)**—A device built into a heater or vent designed to ensure the escape of combustion products.

**DRIER**—Substance or device used to remove moisture from a refrigeration system.

**DRY BULB TEMPERATURE**—Air temperature as indicated by an ordinary thermometer.

**DUCT**—A pipe or closed conduit made of sheet metal of other suitable material used for conducting air to and from an air handling unit.

**EER (ENERGY EFFICIENCY RATIO)**—A ratio calculated by dividing the cooling in Btu's per hour (BtuH) by the power input in watts at any given set of rating conditions, expressed in BtuH per watt (BtuH/watt). Expressed formula:

$$EER = \frac{\text{BtuH (cooling) Output}}{\text{Power Input (watts)}}$$

**ELEMENT**—A heat conductive material which carries and transfers heat from its source (electrical, resistant, air, fluid) to an ambient medium.

**ENERGY CUT-OFF DEVICE (ECO)**—A thermostatic element in the safety control which shuts off gas supply when a malfunction occurs.

**EVACUATION**—Removal of air (gas) and moisture from a refrigeration or air conditioning system.

**EVAPORATIVE COOLING**—The cooling effect of vaporization of a liquid in a moving air system.

**EVAPORATOR**—Part of a refrigerating mechanism in which the refrigerant vaporizes and adsorbs heat.

**EVAPORATOR FAN**—Fan which increases airflow over the heat exchange surface of evaporators.

**EVAPORATOR SUPERHEAT**—The actual temperature of the refrigerant vapor at the evaporator exit as compared to the saturated vapor temperature indicated by the suction pressure.

**EXFILTRATION**—Air flow outward from an enclosed space through a wall, leak, membrane, etc.

**EXHAUST OPENING**—An opening through which air is exhausted from a room which is being cooled, heated, or ventilated.

**EXTERNAL EQUALIZER**—Tube connected to low pressure side of a thermostatic expansion valve diaphragm and to exit end of evaporator.

**FAHRENHEIT SCALE**—On a Fahrenheit thermometer, under standard atmospheric pressure, boiling point of water is 212 degrees and freezing point is 32 degrees above zero.

**FAN & LIMIT CONTROL**—Usually a combination control and safety device that turns a heater fan or blower on and off according to preset temperatures; and shuts off main burner gas in case a malfunction causes combustion or chamber temperature to rise above a preset limit.

**FILTER**—A device for removing dust particles from air or unwanted elements from liquids.

**FLARE FITTING**—Tapered end of tubing for use with fitting designed to grip the flare for a vapor tight seal.

**FLASHBACK**—An undesirable condition in which flames travel backward into a burner and combustion continues to occur there.

**FLUE**—Gas or air passage which usually depends on natural convection to cause the combustion gases to flow through it. Forced convection may sometimes be used.

**FURNACE**—That part of an environmental system which converts gas, oil, electricity or other fuel into heat for distribution within a structure.

**FUSIBLE LINK**—A non-resettable electrical device which opens an electrical circuit should a higher than acceptable ambient temperature exist. Also called one-shot thermal fuse.

**FUSIBLE PLUG**—Plug or fitting made with a metal of a known low melting temperature. Used as safety device to release pressures in case of fire.

**GAMA**—Gas Appliance Manufacturers Association.

**GLIDE:** The difference between the starting and ending temperatures of a phase-change process by a refrigerant within a component of a refrigeration system, excluding any subcooling or superheating. Usually used to describe condensation or evaporation of a zeotrope.

**GRILLE**—A covering for an opening through which air passes.

**HCFC:** A hydrochlorofluorocarbon molecule composed of hydrogen, chlorine, fluorine and carbon atoms. Much less potential to deplete the ozone because of the present hydrogen atom that provides stability to the molecule.

**HEAD PRESSURE**—Pressure which exists in condensing side of refrigerating system.

**HEAD PRESSURE CONTROL**—Pressure operated control which opens electrical circuit if high side pressure becomes too high.

**HEAT**—Energy causing the agitation of molecules within a substance.

**HEAT ANTICIPATOR**—A thermostat compensating adjustment that prevents temperature overshoot or underheating.

**HEAT EXCHANGER**—Device used to transfer heat from a warm or hot surface to a cold or cooler surface. (Evaporators and condensers are heat exchangers.)

**HEAT, LATENT**—Heat energy which changes the form of a substance (e.g. ice/water) without changing its temperature.

**HEAT OF COMPRESSION**—The heat added to a vapor by the work done on it during compression.

**HEAT GAIN**—The amount of heat gained, measured in BTU's, for a space to be conditioned, at the local summer outdoor design temperature and a specified indoor design condition.

**HEAT LOSS**—The amount of heat lost, measured in BTU's, from a space to be conditioned, at the local winter outdoor design temperature and a specified indoor design condition.

**HEAT PUMP**—Compression cycle system used to supply heat to a temperature-controlled space. Same system can also remove heat from the same space.

**HEAT, SENSIBLE**—Heat which changes the temperature of a substance without changing its form.

**HEAT SYSTEM, WARM AIR**—A heating system whereby warm air is delivered from a heating unit through ducts and discharged into a room from diffusers or grilles.

CONTINUED ON NEXT PAGE

# AIR CONDITIONING, REFRIGERATION AND HEATING TERMINOLOGY

**HEAT TRANSMISSION**—Any time-rate flow of heat; usually refers to conduction, convection and radiation.

**HERMETIC COMPRESSOR**—Compressor which has the driving motor sealed inside the compressor housing. The motor operates in an atmosphere of the refrigerant.

**HFC:** A hydrofluorocarbon molecule composed of hydrogen, fluorine and carbon atoms. A non-ozone depleting molecule.

**HIGH SIDE**—Parts of a refrigerating system which are under condensing or high side pressure.

**HORIZONTAL FLOW**—A system with return air from one side flowing horizontally thru a heat exchanger and out the other side as supply air.

**HOT SURFACE IGNITION (HSI)**—A gas burner ignition system in which a resistive element is used as a heat source to ignite the gas.

**HOT WATER HEATING SYSTEM**—System in which water is circulated through heating coils.

**HSPF (HEATING SEASONAL PERFORMANCE FACTOR)**—The total heating output of a heat pump during its normal annual usage period for heating divided by the total electric power input in watt-hours during the same period.

**HUMIDIFIER**—A device that adds moisture to warm air being circulated or directed into a space.

**HUMIDISTAT**—A device designed to regulate humidity input by reacting to changes in the moisture content of the air.

**HVAC**—Acronym for Heating, Ventilating, and Air Conditioning.

**HYDROCARBONS**—Chemical compounds composed of carbon and hydrogen.

**HYDRONIC**—Heating system which circulates a heated fluid, usually water, through baseboard coils by means of a circulating pump which is controlled by a thermostat.

**IGNITION**—The starting of combustion.

**INCHES OF MERCURY**—Atmospheric pressure is equal to 29.92 inches of mercury.

**INCHES OF WATER COLUMN**—One inch of water column equals 0.036 PSI, commonly used to measure pressure levels of gas or static pressures.

**INDIRECT FIRED HEATER**—Heating system in which by-products of combustion are kept separate from heated room air through the use of a heat exchanger.

**INDUCTION**—The entrainment of room air into an air stream from an air outlet.

**INFILTRATION**—Air flow inward into a space through walls, leaks around doors and windows or through the building material used in the structure.

**INFRARED (RADIANT) BURNER**—A burner that provides heat from a hot, glowing surface that radiates infrared energy.

**INTERMITTENT PILOT IGNITION**—Gas burner ignition system in which ignition of a pilot flame occurs only at the beginning of a cycle.

**INTERNAL EQUALIZER**—Used with thermostatic expansion valve to compensate for any pressure drop through the evaporator while the compressor is operating to provide better control. Also external types.

**LIFTING**—An unstable burner flame condition in which flames lift or blow off the burner ports, usually caused by too little combustion air or excessive manifold pressure.

**LIQUID LINE**—Tube which carries liquid refrigerant from the condenser or liquid receiver to the refrigerant control mechanism.

**LIQUID RECEIVER**—Cylinder (container) connected to condenser outlet for storage of liquid refrigerant in a system.

**LOUVER**—A series of vanes that permit directional adjustment of air flow. They are usually installed on outside grilles or intake openings to impede water entry into ducts, elbows, and to minimize turbulence; they may also include indoor grilles to eliminate light penetration.

**LOW SIDE**—That portion of a refrigerating system which is below evaporating pressure.

**LPG (PROPANE)**—Liquified Petroleum Gas.

**MAIN (TRUNK LINE)**—Pipe or duct for distributing fluids such as air, water, or steam to various branch ducts and collecting fluids from various branches.

**MAKE-UP AIR**—Air introduced into an area to provide an adequate source for burners and/or ventilation systems.

**MAKE-UP AIR UNIT**—Unitary equipment which introduces outside air into space and conditions it to offset air exhausted from that space.

**MANOMETER**—Instrument for measuring pressure of gases and vapors.

**MBH**—Thousands of British Thermal Units (82 MBH=82,000 Btu).

**METHANE**—A hydrocarbon gas with the formula $CH_4$, the principle component of natural gases.

**MICRON**—A unit used to measure high vacuums. One micron equals 1/25,000 of one inch mercury.

**MOISTURE INDICATOR**—Instrument used to measure moisture content of a refrigerant.

**NATURAL GAS**—Fuel gas found in the earth as opposed to gases that are manufactured.

**OIL, REFRIGERATION**—Specially prepared oil used in refrigerator mechanism which circulates, to some extent, with refrigerant.

**OIL SEPARATOR**—Device used to remove oil from gaseous refrigerant.

**ORIFICE**—Accurate size opening for controlling fluid flow.

**PILOT**—A small flame for igniting the gas at the main burner.

**PILOT SAFETY VALVE**—A valve which will close when pilot flame failure occurs, shutting off the gas supply to the main and pilot burner. Usually integral to the gas valve.

**PLENUM**—Open area to which runners or ducts are connected for either the collection or distribution of an air supply.

**PLENUM CHAMBER**—An air compartment connecting one or more ducts with the heating or cooling unit. An enlarged section within an air duct with several duct, grille or diffuser connections.

**POLYOL ESTER / POLYALKYL / GLYCOL:** Synthetic oils that provide the same lubrication but add a resistance to chemical breakdown because they are not derived from a natural resource such as crude oil.

**POTENTIAL RELAY**—Electrical switch which opens on high voltage and closes on low voltage.

**PRESSURE DROP**—The decrease in pressure due to friction of a fluid or vapor as it passes through a tube, duct, or orifice.

**PRESSURE REGULATOR**—A device for controlling and maintaining a uniform outlet gas pressure.

**PRESSURE, STATIC**—Force (per unit area) expended against the walls of a container such as an air duct. Commonly, force is measured in heating and air conditioning in pounds per sq.in., or inches of water pressure.

**PRESSURE SWITCH**—Switch operated by a rise or drop in pressure.

**PRESSURE, TEMPERATURE RELATIONSHIP**—The change effected in temperature when pressure is changed or vice versa. Only used at saturated conditions. An increase in pressure results in a temperature increase. A decrease in temperature results in a pressure decrease.

**PRESSURE, TOTAL**—A combination of both static and velocity pressures.

**PRESSURE, VELOCITY**—Force of air as it moves in an air duct.

**PRIMARY AIR**—Air mixed with the fuel prior to initial combustion.

**PROCESS TUBE**—Length of tubing fastened to hermetic unit dome, used in manufacturing unit.

**PSYCHROMETRIC CHART**—Chart that shows relationship between the temperature, pressure and moisture content of the air.

**QUICK-CONNECT COUPLING**—A device which permits easy and fast connecting of two fluid lines.

**RADIATION**—The transfer of heat without an intervening medium. It is absorbed on contact with a solid surface.

**RADIANT HEATING**—Heating system in which warm or hot surfaces are used to radiate heat into the space to be conditioned.

CONTINUED ON NEXT PAGE

**RECLAIM**—To remove refrigerant in any condition from an air conditioning or refrigeration system and then transport the recovered refrigerant to a dedicated refrigerant reclamation center to be reprocessed to new specifications, which may include distillation. Reclamation requires that the reprocessed refrigerant be certified through a chemical analysis.

**RECOVER**—To remove refrigerant in any condition from an air conditioning or refrigeration system and store it in a Department of Transportation (DOT) rated or other approved external container. **RECOVERY DOES NOT PROVIDE FOR ANY CLEANING OR FILTRATION OF THAT REFRIGERANT.**

**RECYCLE**—To remove refrigerant in any condition from an air conditioning or refrigeration system and then reduce contaminants through oil separation, filtration, and other methods. This term usually applies to procedures implemented at the job site or at a local service shop. **RECYCLED REFRIGERANT MAY OR MAY NOT BE SUITABLE FOR REUSE.**

**REFRIGERANT**—Substance used in refrigerating mechanism. It absorbs heat in evaporator by change of state from a liquid to a gas, and releases its heat in a condenser as the substance returns from the gaseous state back to a liquid state.

**REFRIGERANT CONTROL**—Device which meters flow of refrigerant between two areas of a refrigerating system. It also maintains pressure difference between high pressure and low pressure side of the mechanical refrigerating system while unit is running.

**REFRIGERATION**—The transfer of heat from a place where it is not wanted to a place where its presence is not undesirable.

**REGISTER**—Combination grille and damper assembly covering an air opening or end of an air duct.

**RELATIVE HUMIDITY**—The percentage of water vapor present in a given amount of air compared to the amount it can hold at its temperature.

**RELAY**—An electromagnet mechanism moved by a small electrical current in a control circuit. It operates a valve or switch in an operating circuit.

**RELIEF VALVE**—Safety device on a sealed system. It opens to release fluids before dangerous pressure is reached.

**RETURN AIR**—Air drawn into a heating unit after having been circulated from the heater's output supply to a room.

**REVERSE CYCLE DEFROST**—Method of heating evaporator for defrosting. Valves move hot gas from compressor into evaporator.

**REVERSING VALVE**—Device used to reverse direction of the refrigerant flow depending upon whether heating or cooling is desired.

**SAE FLARE FITTING**—Tube flared to society of automotive engineer (SAE) Standards.

**SATURATED VAPOR**—Vapor in contact with a liquid.

**SATURATION**—A condition which occurs when air contains all the moisture that it can possibly hold at a given temperature.

**SCHRADER VALVE**—Spring-loaded device which permits fluid flow in one direction when a center pin is depressed; in other direction when a pressure difference exists.

**SECONDARY AIR**—Combustion air externally supplied to a burner flame at the point of combustion.

**SEER (SEASONAL ENERGY EFFICIENCY RATIO)**—The total cooling of a central unitary air conditioner or unitary heat pump in Btu's during its normal annual usage period for cooling divided by the total electric energy input in watt-hours during the same period.

SEER Expressed formula:

$$\frac{\text{Sum of BtuH (cooling) Outputs at All Test Conditions}}{\text{Sum of All Watt-hour Inputs at All Test Conditions}}$$

**SEMIHERMETIC COMPRESSOR**—Serviceable hermetic compressor with service valves.

**SENSIBLE HEAT**—Heat which causes a change in temperature of a substance.

**SENSOR**—The component of a control or measuring system that detects or measures the level of a controlled variable.

**SERIES-LOOP**—A type of piping arrangement used in a hydronic heating system where all heating units are connected to one another in a continuous loop with boiler.

**SETPOINT**—The temperature to which a thermostat is set to result in a desired conditioned space temperature.

**SIGHT GLASS**—Glass tube or glass window in refrigerating mechanism. It shows amount of refrigerant or oil in system and indicates presence of gas bubbles in liquid line.

**SLUGGING**—Condition in which mass of liquid enters compressor causing hammering.

**SOLENOID**—A wire-wound coil that creates a magnetic field when energized. The magnetic field will pull a movable iron core within the coil.

**SOLENOID VALVE**—A valve actuated by a solenoid.

**SOOT**—A black substance mostly made up of carbon particles which is the result of incomplete combustion.

**SPECIFIC VOLUME**—The volume of a substance per unit of mass. i.e.: Standard air 13.33 cu.-ft. per pound. The reciprocal of density.

**SPILLAGE**—Combustion products flowing from the appliance air openings or draft hood relief openings due to a manfunction of the venting system.

**SPLIT SYSTEM**—Refrigeration or air conditioning installation which places condensing unit outside or away from evaporator. Also applicable to heat pump installations.

**STANDARD AIR DENSITY**—0.075 pounds per cubic foot. Equivalent to dry air at 70°F and at sea level pressure.

**STANDING PILOT**—Gas burner ignition system in which a pilot flame remains lit between cycles of on/off burner operation.

**STATIC PRESSURE**—Pressure which is exerted against the walls of an airway that is created by friction and impact of air as it moves.

**STRATIFICATION OF AIR**—Condition in which there is little or no air movement in room; air lies in temperature layers.

**SUB-COOLING**—Cooling of liquid refrigerant below its condensing temperature.

**SUBLIMATION**—Condition where a substance changes from a solid to a gas without becoming a liquid.

**SUCTION LINE**—Tube or pipe used to carry refrigerant gas from evaporator to compressor.

**SUN EFFECT**—Heat transmitted into space through glass and building materials exposed to the sun.

**SUCTION PRESSURE**—The pressure read at the inlet side of a compressor. Also called back pressure or low side pressure.

**SUPERHEAT**—1) Temperature of vapor above its boiling temperature as a liquid at that pressure. 2) Difference between temperature at the evaporator outlet and the lower temperature of the refrigerant evaporating in the evaporator.

**SWAGING**—Enlarging one tube end so end of other tube of same size will fit within.

**SWAMP COOLER**—Evaporative type cooler in which air is drawn through porous mats soaked with water.

**SYSTEM, DUCT**—A series of tubular or rectangular sections, elbows and connectors fabricated as a channel to carry air from one point to another.

**TEMPERATURE DROP**—A measurement of the difference in heat between two points of a system, such as at the furnace plenum and at the outlet grille.

**THERM**—A unit of heat energy equal to 100,000 BTU's.

**THERMOCOUPLE**—A device consisting of two dissimilar metals which produce a DC voltage when heat is applied to them. Used to operate pilot safety valves, they have an output in the range of 30 millivolts.

**THERMOSTAT**—A temperature sensitive switch for controlling the operation of a heater, furnace, fan or air conditioner.

**THERMOSTAT SUBBASE**—When installed with a thermostat it permits selection of function for heating, cooling, automatic changeover and blower cycling or continuous operation.

**THERMOSTATIC EXPANSION VALVE**—Control valve operated by temperature and pressure within evaporator. It controls flow of refrigerant. Control bulb is attached to outlet of evaporator.

**THROW**—The horizontal or vertical distance that an air stream travels after leaving an air supply outlet before its force is reduced to a specified terminal velocity.

**TON OF REFRIGERATION**—Refrigerating effect equal to the melting of 1 ton of ice in 24 hours. This may be expressed as follows: 288,000 Btu/24 hr., 12,000 Btu/1 hr., 200 Btu/min.

**TOTAL HEAT**—Sum of both the sensible and latent heat.

**TRANSFORMER**—An electrical device for changing AC electricity from one voltage to another voltage.

CONTINUED ON NEXT PAGE

# AIR CONDITIONING, REFRIGERATION AND HEATING TERMINOLOGY

**UNIT HEATER**—Heater primarily designed for industrial and commercial applications; designed as one unitized assembly and usually suspended.

**UNIVERSAL ORIFICE**—Orifice designed for use with both LPG or Natural Gas.

**UPFLOW**—Type of furnace with a blower in the bottom which draws in cool air, moves it through the heat exchanger and then out the top to heated air ducts.

**VACUUM**—Pressure lower than atmospheric pressure.

**V-BELT**—Type of belt commonly used in refrigeration work. It has a contact surface with the pulley in the shape of the letter V.

**VALVE, EXPANSION**—Type of refrigerant control which maintains constant pressure in the low side of refrigerating mechanism. Valve is caused to operate by pressure in low or suction side. Often referred to as an automatic expansion valve or AEV.

**VAPOR BARRIER**—Thin plastic or metal foil sheet used in air conditioned structures to prevent water vapor from penetrating insulating material.

**VENT DAMPER**—Device which closes off a heater's flue during off cycles of operation to prevent loss of heat energy.

**VENTILATION**—The process of supplying or removing air to or from a room or space either by natural or mechanical means.

**VENTURI**—A section of pipe or burner body that narrows down and then flares out again to increase gas velocity and create negative pressure.

**WATER-COOLED CONDENSER**—Condensing unit cooled through use of water flow.

**WET BULB DEPRESSION**—The difference between dry bulb and wet bulb temperature.

**WET BULB TEMPERATURE**—The temperature of the air in a space or outdoors as measured by a thermometer whose bulb is covered with a wet tubular wick or cloth.

**YELLOW TIPPING**—Yellow flicks in the tip of an otherwise blue flame; a symptom of the need for additional primary air.

**ZEOTROPES:** Show some amount of temperature glide when evaporating or condensing. Some may act like azeotropes (glide is not noticeable in normal operation, less than 3°F). Zeotropes with glides greater than 3°F will have one end of the evaporator warmer than the other. This may impact system performance.

**ZONE**—Term used to describe any one loop in a multi-loop hydronic or air heating system.

# DETERMINING HEAT LOSS FOR DAYTON UNIT HEATERS

This short method will estimate heat requirements in a building based on cu. ft. volume of building, and design. This is for preliminary estimates, NOT final sizing or BTUH loss computation of any heating equipment. Finite figures can only be determined through use of an ASHRAE heat loss study. Failure to use long form method or computer heat loss program may result in improperly sized heating equipment.

| | | Frame / Masonry | | | RB Insulated Steel Wall | | |
|---|---|---|---|---|---|---|---|
| | | Indoor Temp (F) | | | | | |
| | | 60° | 65° | 70° | 60° | 65° | 70° |
| Type Of Structure: | | BTU/Cubic Foot | | | BTU/Cubic Foot | | |
| Single Story 4 Walls Exposed | | 3.4 | 3.7 | 4.0 | 2.2 | 2.4 | 2.6 |
| Single Story One Heated Wall | | 2.9 | 3.1 | 3.4 | 1.9 | 2.0 | 2.2 |
| Single Floor One Heated Wall Heated Space Above | | 1.9 | 2.0 | 2.2 | 1.3 | 1.4 | 1.5 |
| Single Floor Two Heated Walls Heated Space Above | | 1.4 | 1.5 | 1.6 | 0.9 | 1.0 | 1.1 |
| Single Floor Two Heated Walls | | 2.4 | 2.6 | 2.8 | 1.6 | 1.7 | 1.8 |
| Multi Story | 2 Story | 2.9 | 3.1 | 3.4 | 1.9 | 2.1 | 2.2 |
| | 3 Story | 2.8 | 3.0 | 3.2 | 1.8 | 2.0 | 2.1 |
| | 4 Story | 2.7 | 2.9 | 3.1 | — | — | — |
| | 5 Story | 2.6 | 2.8 | 3.0 | — | — | — |

Values in chart at left are expressed in BTU for each cubic foot of building volume. Once volume in cubic feet is determined, multiply cubic volume by one factor listed. Then, multiply that answer by the following correction factors:

| Correct For Outdoor Design Temperature | Multiplier | Correct For "R" Factor (Steel Wall) "R" Factor | Multiplier |
|---|---|---|---|
| +50 | .23 | 8 | 1.00 |
| +40 | .36 | 10 | .97 |
| +30 | .53 | 12 | .95 |
| +20 | .69 | 14 | .93 |
| +10 | .84 | 16 | .92 |
| + 0 | 1.00 | 19 | .91 |
| -10 | 1.15 | | |
| -20 | 1.20 | | |
| -30 | 1.46 | | |

| GEOGRAPHIC OUTDOOR DESIGN TEMP (°F) | | | |
|---|---|---|---|
| City | Outdoor Design °F | City | Outdoor Design °F |
| Chicago, IL | -10 | Los Angeles, CA | +35 |
| Dallas, TX | +10 | Minneapolis, MN | -20 |
| Denver, CO | -10 | New York, NY | 0 |
| Jacksonville, FL | +30 | Seattle, WA | -10 |

**Considerations Used For Above Values:**

1—0°F Outdoor Design (See Corrections)
2—Slab Construction—If basement is involved multiply final BTUH by 1.7
3—Flat Roof
4—Window Area is 5% of Wall Area
5—Air Change is .5 Per Hour.

# TEMPERATURE CONTROL TERMINOLOGY

**Control Point**—Temperature to be maintained for a system.

**Differential**—Temperature difference between the temperature at which the controller turns heat off and the temperature at which the heat is turned back on (expressed in degrees). Refers to On/Off controllers.

**Hysteresis (dead band)**—Temperature band between the On and Off of an output in the On/Off control action. No heating or cooling takes place. Band occurs between the times when the heat is turned off upon rising temperature and turned on upon falling temperature.

**On/Off Control Action**—A control action with two controlled states.

**Proportional Band**—Range of temperature in which a manipulated variable is proportionate to any deviation from the set point.

**Proportional Control Action (P)**—A control action in which a manipulated variable is proportionate to any deviation from the set point.

**Proportioning Control plus Derivative Function (PD)**—A time-proportioning controller that has a derivative function. The derivative function monitors the rate at which a system's temperature is either increasing or decreasing and adjusts the cycle time of the controller to minimize overshoot or undershoot.

**Proportioning Control with Integral and Derivative Functions (PID)**—A time-proportioning controller that has integral and derivative functions. The integral function automatically raises the stabilized system temperature to match the set point temperature to eliminate the difference caused by the time-proportioning function. The derivative function monitors the rate of rise or fall of the system temperature and automatically adjusts the cycle time of the controller to minimize overshoot or undershoot.

**Range**—The area between low and high limits within which a quantity is measured.

**Rate Action (D)**—The controller senses the rate of change of temperature and provides an immediate change of output to minimize the eventual deviation.

**Set Point**—The value set on the temperature controller to control a system.

# RESIDENTIAL HEATING EQUIPMENT SIZING GUIDE (SHORT FORM)

This short method will estimate heat requirements for a typically constructed residential home. This is for preliminary estimates. Due to the difference in construction and climate, it is recommended that a qualified heating professional perform a heat load study at the job site. Because of these variables, W. W. GRAINGER, INC. cannot assume the responsibility for personal injury and/or property damage to customers or other persons using this "Heat Equipment Sizing Guide".

| Steps for Calculations | Calculations | Step-Totals | TOTAL |
|---|---|---|---|
| **1. Windows:** Total square footage of all windows (including glass doors) multiply by 39 = Btu heat loss | | | |
| Total square footage of windows ____ x 39 = Btus required | | _____ | |
| **2.Doors:** square footage of all doors multiplied by 47 = Btu heat loss. | | | |
| Total square footage of door ____ x 47 = Btus required | | _____ | |
| **3.Outside Walls:** Total of all walls (Wall length x Wall height, in feet), minus total door and window square footage from steps #2 and #3 above = Total wall area. Total wall area x multiplier (from one of the wall descriptions described below) equals Btus required. | | | |
| **WALL DESCRIPTIONS** | | | |
| **Above Ground Construction:** | | | |
| **A) Wood with siding** - The heat loss multiplier is 6. | | | |
| **Wall area minus door ____ and window ____ area = Total wall area** | _____ | | |
| **Total wall area _____ x 6 = Btus required.** | _____ | | |
| **B) Brick** - The heat loss multiplier is 5.7. | | | |
| **Wall area minus (door _____ and window _____ area)= Total wall area** | _____ | | |
| **Total wall area _____ x 5.7 = Btus required.** | _____ | | |
| **Below Ground Construction (Basement for example)** | | | |
| **C) Without insulation** - The heat loss multiplier is 8. | | | |
| **Total wall area _____ x 8 = Btus required.** | _____ | | |
| **D) With insulation** - The heat loss multiplier is 4. | | | |
| **Total wall area _____ x 4 = Btus required.** | _____ | | |
| **Total heat loss through the walls ____, ____, ____ & _____ = (a+b+c+d) Total Btus required.** | | _____ | |
| **4)Floors:** Total square feet (length x width) times one of the heat loss multipliers described below. Note, in 2 story construction use only the main floor for size and description. | | | |
| **FLOOR DESCRIPTIONS** | | | |
| **A) Over crawlspace without insulation** the multiplier is 8. | | | |
| **Total square feet of floor area ____ x 8 = Btus required.** | _____ | | |
| **B) Over crawlspace with insulation** the multiplier is 3. | | | |
| **Total square feet of floor area ____ x 3 = Btus required.** | _____ | | |
| **C) Over garage without insulation** the multiplier is 15. | | | |
| **Total square feet of floor area ____ x 15 = Btus required.** | _____ | | |
| **D) Over garage with insulation** the multiplier is 5. | | | |
| **Total square feet of floor area ____ x 5 = Btus required.** | _____ | | |
| **E) Over basement** the multiplier is 2. | | | |
| **Total square feet of floor area ____ x 2 = Btus required.** | _____ | | |
| **F) On concrete slab** the multiplier is 29. | | | |
| **Total square feet of floor area ____ x 29 = Btus required.** | _____ | | |
| **Total heat loss through the floor** | | | |
| **____, ____, ____ & ____ = (a, b, c, d, e & f) Total Btus required.** | | | |

# RESIDENTIAL HEAT EQUIPMENT SIZING GUIDE (SHORT FORM)

**Steps for Calculations** | Calculations | Step-Totals | TOTAL

**5. Ceilings:** Length times width of building multiplied by 4. Note, in 2 story construction use ceiling measurements nearest to roof.

**Length _____ x width _____ of building x 4 = Btus required.** _____

**6. Sum up Btus** required from each step:

**Step 1 _____ Btus required.** _____

**Step 2 _____ Btus required.** _____

**Step 3 _____ Btus required.** _____

**Step 4 _____ Btus required.** _____

**Step 5 _____ Btus required.** _____

**SUM OF BTUs REQUIRED = _____** _____

**7. Add in miscellaneous** heat losses:

**A) Skylights add 47 Btus per square foot.**

**(Length _____ x Width _____ of skylight) _____ x 47 = Btus to add in.** _____

**B) Fireplaces add 5000 Btus for each fireplace.**

**Total number of fireplaces _____ x 5000 = Btus to add in.** _____

**Total of add in miscellaneous heat losses ____ & ___** _____

**8. Subtotal of Btus** = Add the Btus from Step 6 and Step 7. Multiply by 1.7 (short form correction factor).

**Btus from Step 6 _____ & Step 7_____ x 1.7 = Subtotal of Btus** _____

**9. TOTAL OUTPUT BTUs REQUIRED FOR THE EQUIPMENT TO HEAT YOUR HOME:**

Using the charts below multiply the Subtotal of Btus by the outdoor temperature and building construction correction factors.

**BUILDING CONSTRUCTION FACTORS:**

**A) For tight construction (1.2 winter air changes/hr) multiply subtotal Btus by .76.**
**B) For average construction (2.2 winter air changes/hr) multiply subtotal Btus by 1.0.** _____
**C) For loose construction (3.0 winter air changes/hr) multiply subtotal Btus by 1.2.** _____
**D) Subtotal of Btus (from step 8).** _____

**_____ x _____(Building construction factor) = Construction Factor Btus**
**(A, B or C)**

_____

**Correction factor for outdoor temperature design:** Multiply total Btus by outdoor correction factor

| Outdoor Temperature | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Correction Factor | 1.29 | 1.22 | 1.15 | 1.08 | 1.0 | .93 | .86 | .79 | .72 | .65 | .58 | .5 | .43 |

**E) Btus from step 9 D times outdoor temperature factor.**

**_____ X _____ (outdoor temperature correction factor)**

**TOTAL OUTPUT BTUs REQUIRED** _____

**Additional Considerations:**

1. For residences with cathedral ceilings, use of ceiling fans to keep the heat down will lower overall heating expenses (see fan section of catalog).

# SIZING GUIDE FOR WALK-IN COOLERS AND FREEZERS

## HOW TO USE SIZING GUIDE

### Walk-In Cooler Box Load Parameters

1. 95°F ambient air temperature surrounding box
2. 4" Styrene (R = 16.7, K = .24) walls/ceiling, 6" concrete slab floor
3. Average product load with 5°F pulldown in 24 hours
4. BtuH load based on 16-18 hour compressor run time for 35°F box (timer recommended) + 20 hrs. for 30°F box
5. See Table C for adjustment to box load for glass doors
6. For 80°F ambient temp. surrounding box deduct 12% from BtuH
7. For 4" Urethane walls + ceiling, 6" concrete slab floor deduct 12% from BtuH
8. For 10 ft. ceiling height add 10% from BtuH
9. For additional BtuH load for product cooling see Table A

### Walk-In Freezer Box Load Parameters

1. 95°F ambient air temperature surrounding box
2. 4" Urethane (R + 25, K = .16) walls, ceiling + floor
3. Average product load with 10 degrees pulldown in 24 hours
4. BtuH load based on 18 hour compressor run time
5. See Table C for adjustment to box load for glass doors
6. For 80°F ambient air temp. surrounding box deduct 12%
7. For 20 hour compressor run time (light frost load) in lieu of 18 hour run time, deduct 11%
8. For 10 ft. ceiling height add 10%
9. For additional BtuH load for product freezing, see to Table D

### TABLE A

**Product Cooling Loads for Walk-In Coolers**
**(24 Hour pulldown/18 hour compressor operation) 24% safety factor added to loads to allow for service.**

| Product | Specific Heat Above Freezing | 10 Degree Pulldown BtuH Load for Indicated lbs. of Product per 24 Hours | | | | | |
|---|---|---|---|---|---|---|---|
| | | 500 | 1000 | 1500 | 2000 | 3000 | 5000 |
| Beef | .72 | 240 | 480 | 720 | 960 | 1440 | 2400 |
| Pork | .53 | 177 | 353 | 530 | 706 | 1060 | 1767 |
| Veal & Lamb | .76 | 253 | 506 | 760 | 1012 | 1520 | 2533 |
| Poultry | .79 | 263 | 526 | 790 | 1053 | 1580 | 2633 |
| Seafood | .80 | 267 | 533 | 800 | 1066 | 1600 | 2667 |
| Vegetables | .92 | 307 | 613 | 920 | 1226 | 1840 | 3067 |
| Bakery Foods | .74 | 247 | 494 | 740 | 988 | 1480 | 2467 |
| Beer | 1.00 | 333 | 666 | 1000 | 1333 | 2000 | 3333 |

For product pulldown greater than 10 degrees, divide pulldown temperature by 10. Multiply this number by the BtuH shown on table A, than add to box load.

### TABLE B

**Meat Cutting/Prep Room Load (BtuH/hr./sq. ft. of floor area)**

| Floor Sq. Ft. | Approx. 65% R.H. Room Temperature | |
|---|---|---|
| | 55°F | 50°F |
| 100 | 93 | 105 |
| 200 | 88 | 99 |
| 300 | 85 | 95 |
| 400 | 81 | 90 |
| 500 | 78 | 87 |
| 600 | 75 | 85 |
| 700 | 72 | 81 |
| 800 | 69 | 78 |
| 900 | 67 | 75 |
| 1000 | 65 | 73 |
| 1200 | 62 | 69 |

Room loads based on continuous operation and includes allowance for average number of personnel, processing equipment, etc., with glass panel in one wall and walls and ceilings insulated with 3" of styrene with box located in air conditioned area. Evaporator should be low outlet velocity type to avoid drafts and should be selected for continuous operation and not less than 30°F evap. temperature.

### TABLE C

**Glass Door Loads***

| Box Temperature | BtuH per Door |
|---|---|
| +35 | 1060 |
| +30 | 960 |
| 0 | 1730 |
| -10 | 1730 |
| -20 | 1730 |

(*) Adjusted for run time load. Multiply number of doors times door load above and add to box load.

### TABLE D

**Product Freezing Loads for Walk-In Freezers**

| Product | Spec. Heat BtuH/lb./Deg. F 32 - | 32 + | Latent Heat BtuH/lb | Freezer Temp. (F) | -10°F Freezer Temperature BtuH for Indicated lbs. Prod/Day 100 | 300 | 750 | 1000 | 1500 | 3000 |
|---|---|---|---|---|---|---|---|---|---|---|
| Beef | .72 | .40 | 95 | 29 | 790 | 2370 | 5925 | 7900 | 11850 | 23700 |
| Pork | .53 | .32 | 60 | 28 | 523 | 1571 | 3926 | 5235 | 7853 | 15710 |
| Veal & Lamb | .76 | .45 | 100 | 28 | 841 | 2524 | 6311 | 8414 | 12621 | 25240 |
| Poultry | .79 | .42 | 106 | 27 | 878 | 2636 | 6590 | 8787 | 13181 | 26360 |
| Seafood | .80 | .43 | 110 | 28 | 906 | 2719 | 6797 | 9063 | 13595 | 27190 |
| Vegetables | .92 | .47 | 130 | 30 | 1053 | 3159 | 7898 | 10530 | 15795 | 31590 |
| Bakery Foods | .74 | .34 | 53 | 20 | 520 | 1560 | 3900 | 5200 | 7800 | 15600 |

Freezing loads based on product entering at 40°F maximum. For a specific pulldown time, the product load BtuH may be adjusted by multiplying the above loads by 24 and dividing by the specified pulldown time in hours. To adjust for 0°F freezer temperature, multiply the above loads by 0.97, and for -20 F freezer, multiply by 1.04.

CONTINUED ON NEXT PAGE

# SIZING GUIDE FOR WALK-IN COOLERS AND FREEZERS

| Box Dimensions (Ft.) | Floor Sq. Ft. | BtuH Load* +35 Room Usage Average | +35 Room Usage Heavy | +30 Room Usage Average | +30 Room Usage Heavy | 0 Room Usage Average | 0 Room Usage Heavy | -10 Room Usage Average | -10 Room Usage Heavy | -20 Room Usage Average | -20 Room Usage Heavy |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 x 6 x 8 | 36 | 4750 | 6389 | 4488 | 6037 | 4583 | 6505 | 4929 | 7041 | 5274 | 7577 |
| 6 x 8 x 8 | 48 | 5417 | 7274 | 5119 | 6974 | 5225 | 7407 | 5630 | 8028 | 6034 | 8648 |
| 6 x 10 x 8 | 60 | 6055 | 8100 | 5722 | 7655 | 5806 | 8213 | 6265 | 8911 | 6725 | 9609 |
| 8 x 8 x 8 | 64 | 6188 | 8291 | 5848 | 7835 | 5934 | 8410 | 6405 | 9127 | 6876 | 9844 |
| 8 x 10 x 8 | 80 | 6954 | 9269 | 6572 | 8759 | 6631 | 9363 | 7165 | 10169 | 7699 | 10974 |
| 8 x 12 x 8 | 96 | 7669 | 10174 | 7247 | 9614 | 7273 | 10234 | 7867 | 11123 | 8461 | 12011 |
| 8 x 14 x 8 | 112 | 8366 | 11045 | 7905 | 10437 | 7922 | 11092 | 8575 | 12059 | 9227 | 13026 |
| 8 x 16 x 8 | 128 | 9051 | 11888 | 8553 | 11234 | 8528 | 11890 | 9237 | 12933 | 9946 | 13976 |
| 8 x 18 x 8 | 144 | 9748 | 12732 | 9212 | 12032 | 9169 | 12732 | 9936 | 13852 | 10702 | 14972 |
| 8 x 20 x 8 | 160 | 10419 | 13548 | 9846 | 12803 | 9755 | 13490 | 10576 | 14682 | 11397 | 15874 |
| 8 x 22 x 8 | 176 | 11540 | 14807 | 10905 | 13992 | 10817 | 14715 | 11692 | 15977 | 12567 | 17239 |
| 8 x 24 x 8 | 192 | 12224 | 15622 | 11552 | 14763 | 11386 | 15439 | 12314 | 16769 | 13242 | 18099 |
| 8 x 26 x 8 | 208 | 12874 | 16398 | 12166 | 15496 | 11976 | 16176 | 12955 | 17573 | 13935 | 18970 |
| 8 x 28 x 8 | 224 | 13519 | 17163 | 12775 | 16219 | 12530 | 16873 | 13562 | 18336 | 14594 | 19799 |
| 8 x 30 x 8 | 240 | 14187 | 17947 | 13407 | 16960 | 13108 | 17587 | 14191 | 19115 | 15274 | 20642 |
| 8 x 32 x 8 | 256 | 14824 | 18694 | 14009 | 17666 | 13653 | 18264 | 14786 | 19855 | 15920 | 21446 |
| 10 x 10 x 8 | 100 | 7789 | 10339 | 7361 | 9770 | 7386 | 10401 | 7990 | 11304 | 8594 | 12208 |
| 10 x 12 x 8 | 120 | 8626 | 11385 | 8152 | 10759 | 8138 | 11405 | 8809 | 12401 | 9481 | 13397 |
| 10 x 14 x 8 | 140 | 9439 | 12384 | 8920 | 11703 | 8887 | 12405 | 9626 | 13493 | 10365 | 14581 |
| 10 x 16 x 8 | 160 | 10250 | 13379 | 9686 | 12643 | 9577 | 13311 | 10379 | 14484 | 11182 | 15658 |
| 10 x 18 x 8 | 180 | 11049 | 14349 | 10441 | 13560 | 10279 | 14216 | 11144 | 15472 | 12009 | 16728 |
| 10 x 20 x 8 | 200 | 11838 | 15299 | 11187 | 14458 | 10942 | 15070 | 11868 | 16405 | 12794 | 17741 |
| 10 x 24 x 8 | 240 | 13391 | 17180 | 12654 | 16207 | 12751 | 17231 | 13796 | 18721 | 14842 | 20211 |
| 10 x 28 x 8 | 280 | 14891 | 18922 | 14072 | 17881 | 14043 | 18844 | 15205 | 20482 | 16367 | 22120 |
| 12 x 12 x 8 | 144 | 10038 | 13021 | 9486 | 12305 | 8991 | 12553 | 9739 | 13655 | 10486 | 14756 |
| 12 x 14 x 8 | 168 | 10956 | 14155 | 10353 | 13376 | 10235 | 14052 | 11055 | 15251 | 11875 | 16450 |
| 12 x 16 x 8 | 192 | 11886 | 15284 | 11232 | 14443 | 11029 | 15082 | 11919 | 16375 | 12810 | 17667 |
| 12 x 18 x 8 | 216 | 12775 | 16359 | 12072 | 15459 | 11807 | 16080 | 12767 | 17464 | 13726 | 18847 |
| 12 x 20 x 8 | 240 | 13681 | 17440 | 12928 | 16481 | 12573 | 17052 | 13599 | 18524 | 14626 | 19995 |
| 12 x 22 x 8 | 264 | 14549 | 18474 | 13749 | 17458 | 13299 | 17974 | 14392 | 19541 | 15485 | 21088 |
| 14 x 14 x 8 | 196 | 11993 | 15423 | 11333 | 14575 | 11126 | 15216 | 12024 | 16521 | 12923 | 17826 |
| 14 x 16 x 8 | 224 | 13013 | 16656 | 12297 | 15740 | 11995 | 16338 | 12971 | 17745 | 13946 | 19152 |
| 14 x 20 x 8 | 280 | 15011 | 19042 | 14185 | 17795 | 13687 | 18487 | 14811 | 20088 | 15935 | 21688 |
| 14 x 24 x 8 | 336 | 16969 | 21347 | 16036 | 21073 | 15330 | 20539 | 16598 | 22324 | 17866 | 24110 |
| 16 x 16 x 8 | 256 | 14148 | 18019 | 13370 | 17028 | 12939 | 17550 | 13998 | 19067 | 15056 | 20583 |
| 16 x 20 x 8 | 320 | 16349 | 20631 | 15450 | 19496 | 14777 | 19873 | 15996 | 21598 | 17215 | 23323 |
| 16 x 24 x 8 | 374 | 18506 | 23157 | 17488 | 21883 | 16563 | 22093 | 17938 | 24017 | 19313 | 25941 |
| 18 x 18 x 8 | 324 | 16476 | 20782 | 15570 | 19639 | 14864 | 19989 | 16090 | 21724 | 17317 | 23460 |
| 18 x 20 x 8 | 360 | 18128 | 22644 | 17131 | 21398 | 16305 | 21678 | 17617 | 23523 | 18930 | 25369 |
| 18 x 24 x 8 | 432 | 20484 | 25389 | 19357 | 23993 | 18260 | 24090 | 19739 | 26149 | 21219 | 28208 |
| 20 x 20 x 8 | 400 | 19470 | 24145 | 18340 | 22817 | 17386 | 23019 | 18790 | 24982 | 20194 | 26945 |
| 20 x 24 x 8 | 480 | 21988 | 27132 | 20779 | 25640 | 19453 | 25566 | 21036 | 27755 | 22619 | 29945 |
| 20 x 28 x 8 | 560 | 24963 | 30480 | 23590 | 28804 | 21963 | 28514 | 23721 | 30922 | 25479 | 33330 |
| 20 x 32 x 8 | 640 | 27480 | 33340 | 25969 | 31506 | 23954 | 30909 | 25884 | 33529 | 27813 | 36149 |
| 20 x 36 x 8 | 720 | 29946 | 36127 | 28299 | 34140 | 25919 | 33251 | 28017 | 36077 | 30115 | 38903 |
| 20 x 40 x 8 | 800 | 32420 | 38904 | 30637 | 36764 | 27888 | 35575 | 30153 | 38603 | 32518 | 41631 |
| 24 x 40 x 8 | 960 | 38694 | 45735 | 36565 | 43878 | 34681 | 43023 | 37368 | 46538 | 39939 | 49937 |
| 28 x 40 x 8 | 1120 | 43183 | 50733 | 40808 | 48970 | 38123 | 47062 | 41095 | 50921 | 43950 | 54664 |
| 32 x 40 x 8 | 1280 | 48550 | 56318 | 45880 | 55056 | 42894 | 51900 | 46146 | 56580 | 49282 | 60656 |
| 36 x 40 x 8 | 1440 | 54344 | 62804 | 51355 | 61626 | 46254 | 56259 | 49872 | 60781 | 53194 | 65186 |
| 40 x 40 x 8 | 1600 | 58738 | 67611 | 55507 | 66608 | 49583 | 60073 | 53385 | 64916 | 57070 | 69642 |

(*) Heavy usage is defined as two times the average air change. Average air changes determined by ASHRAE based on box size for 24 hour period.

## KNOW THE STOCK NUMBER, BUT STILL CAN'T FIND WHAT PAGE IT'S ON?

Use the "Stock Number/Page Number Cross Reference Guide" at the back of the Catalog. Stock numbers are listed alphabetically with the current page numbers.

# AIR MOVING TERMINOLOGY

**AMCA** (Air Movement and Control Association, Inc.)—A nationally recognized association which establishes standards, tests and certifies the performance of air moving devices.

**A-Weighted**— A term which refers to the single number logarithmic summation of the 8 octave bands which have been adjusted to account for response of human ear to sound pressure level.

**BHP** (Brake Horsepower)—Fan horsepower required.

**Btu** (British Thermal Unit)—The amount of energy or heat required to raise the temperature of one pound of water one degree Fahrenheit.

**BtuH**—One Btu per hour.

**CFM** (Cubic Feet Per Minute)—A measure of volume flow rate, or air moving capability, of an air moving device. Volume of air moved per minute.

**dB** (Decibel)—A measure of the sound produced by an air moving device.

**dB(A)**—Sound level reading on the A-weighted scale of a sound meter. This A-weighting adjusts response of the meter to approximate that of the human ear.

**Free Air Delivery**—The conditions existing when there are no effective restrictions to air flow (no static pressure) at the inlet or outlet of an air moving device.

**HP** (Horsepower)—The power required to drive an air moving device. HP required varies with system conditions—See Basic Laws below.

**LwA**—A value representing the logarithmic summation of all 8 octave band values, adjusted to represent the effect of the "A" weighted network. This single number rating provides a useful number for comparison.

**Octave Bands**—The range of sound frequency that can be heard is divided into 8 octave bands.

**Plenum Chamber**—An air compartment maintained under pressure to serve one or more distributing ducts.

**RPM** (Revolutions Per Minute)—Speed at which the shaft of an air moving device is rotating.

**Sone**—An internationally recognized unit of loudness. Sones signify, in a single number, the total sound output of the unit being tested. One sone is approximately equal to the sound of a modern refrigerator in a kitchen. A 3-sone fan, for example, sounds twice as quiet to the human ear as a 6-sone fan.

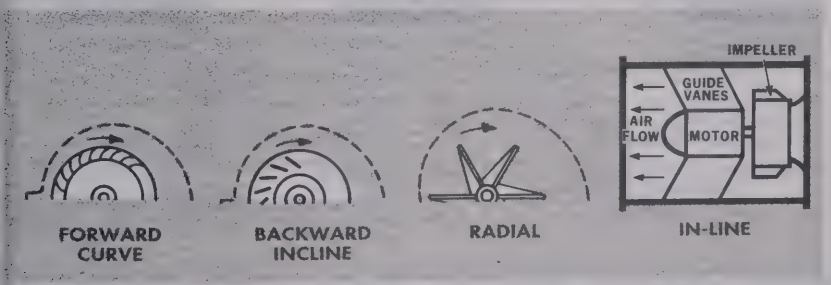
**Sound Power Level**—The acoustic power radiating from a sound source, expressed in decibels.

**SP** (Static Pressure)—A measure of the resistance to movement of forced air through a system or installation, caused by ductwork, inlets, louvers, etc. Measured in inches of water gage (W.G.); the height, in inches, to which the pressure will lift a column of water. For a given system, static pressure varies as the square of the flow rate. Thus, if flow rate is doubled, system resistance or static pressure is increased four times.

**Venturi**—A ring or panel, surrounding the blades on a propeller type fan, which improves fan performance.

## CENTRIFUGAL BLOWERS

Centrifugal blowers are air moving devices in which the air flow is perpendicular to the shaft on which the wheel is mounted. The wheel is mounted in a scroll-type housing which is necessary to develop rated pressures. The four classes of centrifugal blowers are determined by wheel blade position with respect to the direction of rotation. As SP is increased, HP and CFM decrease.

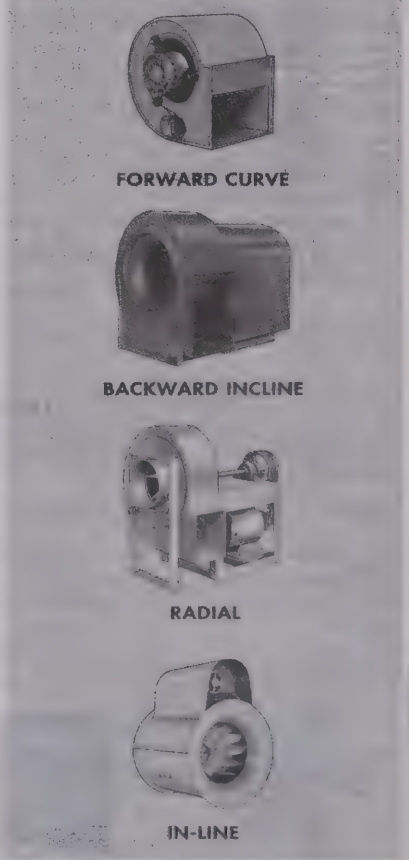



**FORWARD CURVE** (FC)—The tips of the blades are inclined in the direction of rotation; the most common type of centrifugal blower. Normally used in residential heating and air conditioning systems and light duty exhaust systems where maximum air delivery and low noise levels are required. Capable of pressures up to approximately 1½" SP.

**BACKWARD INCLINE** (BI)—The tips of the blades are inclined away from the direction of rotation. Used in commercial/industrial, heavy duty heating/cooling systems which require heavy duty construction, non-overloading characteristics and stable air delivery. These blowers operate at higher efficiencies than forward curved blowers. Not as quiet as forward curve blowers because they operate at higher speeds. Can be used in systems up to 3" static pressure. Smaller diameter wheels are supplied with flat blades; larger diameter wheels are supplied with air foil blades to improve efficiency.

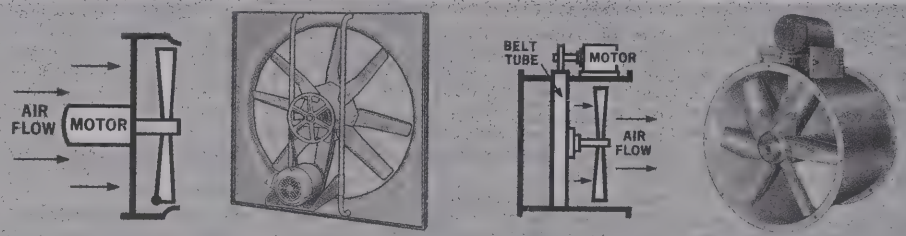
**RADIAL BLADE**—Has straight blades which are, to a large extent, self-cleaning, making them suitable for various kinds of material handling and particle-and-grease-laden air. Wheels are of simple construction and have relatively narrow blades. They can withstand the high speeds required to operate at higher static pressures (up to 12") but usually are noisier than FC or BI blowers.

**IN-LINE** (Tubular Centifugal Fan)—Air flow is developed as in a centrifugal blower, but after leaving the impeller the air is contained in a tubular housing and, by means of turning vanes, is discharged in an axial direction. Employs single-inlet centrifugal wheels, usually with backward inclined blades. The tubular centrifugal fan has performance characteristics similar to a centrifugal blower and the compact physical configuration of the tubeaxial fan. Can be vertically or horizontally mounted, thus providing a simpler installation by minimizing need for duct turns and transitions.



# AIR MOVING TERMINOLOGY

## PROPELLER FANS AND DUCT FANS




PROPELLER FAN (Axial) DUCT FAN (Tubeaxial)

**PROPELLER FAN** (Axial Fan)—An air moving device in which the air flow is parallel or axial to the shaft on which the propeller is mounted. These fans have good efficiency near free air delivery and are used primarily in low static pressure, high volume applications. As SP is increased, HP increases and CFM decreases. Usually mounted in a venturi, ring, or other housing featuring simple construction and low cost.

**DUCT FAN** (Tubeaxial)—An air moving device in which the air flow is parallel or axial to the shaft on which the propeller is mounted. The propeller is housed in a cylindrical tube or duct. This design enables duct fans to operate at higher static pressures than propeller fans. Commonly used in spray booth and other ducted exhaust systems. As SP is increased, HP increases and CFM decreases.

## BASIC LAWS FOR AIR MOVING EQUIPMENT

The performance of all fans and blowers is governed by certain rules of physics known as Fan Laws. CFM, RPM, SP and HP are all related to each other in a known manner and when one changes, all others change. For example, when CFM is changed, RPM, SP and HP will also change. CFM is the variable most commonly changed in an air moving system, therefore the following example of fan law application is based on a change from an existing CFM to a new CFM.

1. To determine performance at a new CFM, first calculate the ratio of the new CFM to existing CFM (new CFM divided by existing CFM):

$$\text{Ratio} = \frac{\text{CFM new}}{\text{CFM existing}}$$

2. To determine new RPM, multiply ratio of step No. 1 times existing RPM:

$$\text{RPM new} = \frac{\text{CFM new}}{\text{CFM exisiting}} \times \text{RPM existing}$$

3. To determine new SP, multiply ratio of step No. 1 times itself, times existing SP:

$$\text{SP new} = \left(\frac{\text{CFM new}}{\text{CFM existing}}\right)^2 \times \text{SP existing}$$

4. To determine new HP required, multiply ratio of stop No. 1 times itself twice, and then times existing HP:

$$\text{HP new} = \left(\frac{\text{CFM new}}{\text{CFM existing}}\right)^3 \times \text{HP existing}$$

### SAMPLE CALCULATIONS

Existing conditions are 5000 CFM, 1000 RPM, 0.5" SP, 0.5 HP motor.

New CFM desired is 6000.

$$\text{Ratio} = \frac{6000}{5000} = 1.2$$

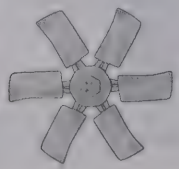
2. Calculate new RPM: $\frac{6000}{5000} = 1.2$, therefore new RPM = 1000 x 1.2 = 1200 RPM.
3. Calculate new SP: $\left(\frac{6000}{5000}\right)^2 = (1.2)^2 = 1.44$, therefore new SP = 0.5 x 1.44 = 0.72" SP.
4. Calculate new HP: $\left(\frac{6000}{5000}\right)^3 = (1.2)^3 = 1.73$, therefore new HP = 0.5 x 1.73 = 0.86 HP.

New conditions: 6000 CFM (up 20%), 1200 RPM (up 20%), 0.72" SP (up 44%), 0.86 HP (up 73%).

## AIR CHANGES RECOMMENDED FOR VARIOUS AREAS

To determine the required fan capacity, calculate the volume of the area to be ventilated in cubic feet and divide by the minutes per change. Result will be cubic feet per minute, corresponding to fan ratings. One or more fans may be used to obtain desired cubic feet per minute.

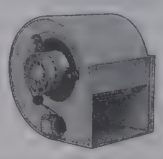
| Ventilated Area | Minutes Per Change | Ventilated Area | Minutes Per Change | Ventilated Area | Minutes Per Change | Ventilated Area | Minutes Per Change |
|---|---|---|---|---|---|---|---|
| Assembly Halls | 3-10 | Factories | 4-10 | Offices | 5-12 | Shops | 5-10 |
| Bakeries | 1-3 | Foundries | 2-8 | Packing Houses | 3-5 | Stores | 5-10 |
| Boiler Rooms | 1-3 | Garages | 5-10 | Plating Rooms | 1-5 | Theaters | 3-8 |
| Cafeterias | 3-5 | Kitchens | 1-5 | Printing Shops | 5-10 | Toilets | 2-5 |
| Churches | 2-4 | Laundries | 1-3 | Restaurants | 3-10 | Transformer Rooms | 1-5 |
| Clubs | 5-7 | Libraries | 2-4 | Rest Rooms | 5-10 | Warehouses | 5-10 |
| Dormitories | 5-8 | Locker Rooms | 4-15 | Sales Rooms | 2-10 | | |
| Engine Rooms | 2-5 | Mills | 5-8 | Schools | 5-10 | | |





## TYPICAL AIR MOVING DEVICES





## ERGONOMICS: GENERAL INFORMATION



Ergonomics is the science of adapting workstations, tools, equipment and job techniques to be compatible with human bodies. Ergonomics fits the job to the worker rather than fitting the worker to the job. Ergonomic products and programs are designed to reduce the risk of injury and maximize productivity in situations where the physical requirements stress a person's body.

The types of injuries that ergonomic products and programs aim to reduce are called Cumulative Trauma Disorders or CTDs. These injuries occur over a period of time as a result of repeated trauma or exposure to a specific body part such as the back, hand, wrist or forearm. CTDs differ from simple muscle fatigue in that they don't go away after a short period of rest. CTDs are also referred to as Repetitive Strain Injuries (RSIs), Repetitive Motion Disorders, Overuse Syndrome, Musculoskeletal Disorders and Work-Related Disorders.

## RISK FACTORS

Some of the risk factors directly linked to the occurrence of CTDs include:



**Repetition:** Is the same motion performed every few seconds for more than two hours a day?



**Awkward Posture:** Is the body bent or twisted for more than two hours a day?



**Force:** Do body parts generate excessive contact for more than a total of two hours a day?



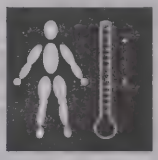

**Static Posture:** Is the body held in the same position for more than two hours a day?



**Mechanical Stress:** Is the body part in contact or resting on a hard surface for more than two hours a day?



**Vibration:** Is the body part in contact with a vibrating surface for more than two hours a day?



**Temperature:** Is the body part exposed to excessive temperature for more than two hours a day?

## INCURRED COSTS TO BUSINESS AND INDUSTRY

U.S. industry and business currently loses over $50 billion each year due to ergonomics-related problems. These costs in combination with an incident rate of CTDs that has increased at an annual rate of about 26% since 1983 provide cause for concern in the following areas:

**Worker Health:** 63% of all recordable occupational illnesses are due to repetitive stress or CTDs, affecting more than 700,000 workers each year. (Source: U.S. Dept. of Labor)

**Worker's Compensation Costs:** OSHA estimates that by the year 2000, 50 cents of every dollar spent on worker's compensation will be for CTDs.

**Injury Costs:** The average cost per upper extremity CTD worker's compensation claim was $8,070-nearly twice the cost of the average claim for other injuries. (Source: Journal of Occupational Medicine). The average back injury cost $9,000 without surgery and $30,000 to $40,000 with surgery. (Source: Occupational Health & Safety).

## RECOMMENDED ERGONOMIC PROGRAM

Almost everyone is at risk of being exposed to a CTD. A person's occupation, lifestyle and personal characteristics can increase that risk. Unfortunately, CTD injuries cannot be completely prevented; however, the risk factors contributing to such injuries can be reduced through ergonomic programs and products.

An effective ergonomic program should include the following:

- **Worksite analysis to determine ergonomic hazards and job functions that are high risk**
- **Engineering controls, such as the design or redesign of the job environment and procedures**
- **Administrative controls, including job rotation, rest periods and decreasing the number of repetitions per worker**
- **Medical management, including taking past work illness and injury histories, monitoring work situations and providing education materials and seminars on leading a healthy lifestyle, such as proper nutrition, adequate rest, regular exercise and stress relief, and the role these have in reducing injuries**
- **Training and education on job procedures; causes, risk factors and symptoms of CTDs, and the health effect of exposure; and reporting procedures at all levels**
- **Personal Protective Equipment is used as a supplement to engineering and administrative controls.**

# GLOSSARY OF HAZARD COMMUNICATION TERMS

## GLOSSARY OF TERMS COMMONLY USED IN HAZARD COMMUNICATION

### A

**Acute Effect**—an adverse effect on a human or animal body with symptoms that develop rapidly, generally as a result of overexposure or sensitivity to a hazardous material or physical agent. Also see "Chronic."

**Acute Toxicity**—the adverse acute effects resulting from a single dose of, or exposure to, a substance. Ordinarily used to denote effects in experimental animals.

**ACGIH** (American Conference of Governmental Industrial Hygienists)—an organization devoted to the administrative and technical aspects of occupational and environmental health. The conference is a professional society, not a governmental agency. Their most outstanding publication is titled **Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices.** This is a listing of recommended levels of exposure for employees which is updated annually. It contains recommended limits that are lower for most substances than OSHA standards.

**Asphyxiant**—a vapor or gas which can cause unconsciousness or death by suffocation (lack of oxygen). Most simple asphyxiants, such as nitrogen and carbon dioxide, are harmful to the body only when they become so concentrated that they reduce oxygen in the air (normally about 21 percent) to dangerous levels (18 percent or lower). Chemical asphyxiants, such as carbon monoxide, produce a chemical reaction in the body's ability to use available oxygen.

**Autoignition Temperature**—the minimum temperature required to initiate or cause self-contained combustion in any substance in the absence of flame or spark.

### B

**Boiling Point**—the temperature at which a liquid changes to a vapor state, at a given pressure: usually expressed in degrees Fahrenheit at sea level pressure (760 mm Hg, or one atmosphere). For mixtures, the initial boiling point or the **boiling range** may be given. Flammable materials with low boiling points generally present special fire hazards. Some approximate boiling points are:

| | | |
|---|---|---|
| Propane | -44°F | (-41°C) |
| Anhydrous Ammonia | -28°F | (-33°C) |
| Butane | 31°F | (-0.5°C) |
| Gasoline | 100°F | (38°C) |
| Allyl Chloride | 113°F | (45°C) |
| Ethylene Glycol | 387°F | (197°C) |

### C

**"C", or Ceiling**—the maximum allowable human exposure limit for an airborne substance, not to be exceeded even momentarily. Also see "PEL" and "TLV."

**CAA** (Clean Air Act)—federal law enacted to regulate and reduce air pollution. Administered by the EPA.

**Carcinogen**—a substance or agent capable of causing or producing cancer.

**C.A.S.** (Chemical Abstracts Service)—a Columbus, Ohio, organization which indexes information published in **Chemical Abstracts** by the American Chemical Society and provides index guides by which information about particular substances may be located in the "Abstracts" when needed. Each chemical substance has a distinct "C.A.S. Number."

**cc** (Cubic Centimeter)—a volume measurement in the metric system, equal in capacity to one milliliter (ml). One quart is about 946 cubic centimeters.

**Chemical Family**—a group of single elements or compounds with a common general name. Example: acetone, methyl ethel ketone (MEK), and methyl isobutyl ketone (MIBK), are of the "ketone" family; acrolein, furfural and acetaldehyde are of the "aldehyde" family.

**Chemical Manufacturer**—under the federal Hazard Communication Standard, this means an employer in SIC codes 20 through 39 where chemical(s) are produced for use or distribution. Individual states may have an expanded definition of this term.

**Chemical Name**—the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) of the Chemical Abstracts Service (CAS).

**CHEMTREC**—(Chemical Transportation Emergency Center)—a national center established by the Chemical Manufacturers Association (CMA) in Washington, D.C., in 1970, to relay pertinent emergency information concerning specific chemicals on request. CHEMTREC has a 24-hour toll free telephone number [(800)-424-9300], intended primarily for use by those who respond to chemical transportation emergencies.

**Chronic Effect**—an adverse effect on a human or animal body, with symptoms which develop slowly over a long period of time or which recur frequently. This effect is generally the result of an overexposure or sensitivity to a hazardous material or agent. Also see "Acute Effect."

**Chronic Toxicity**—adverse (chronic) effects resulting from repeated doses of a substance, or repeated exposure over a relatively prolonged time period. Ordinarily used to denote effects in experimental animals.

**CWA** (Clean Water Act)—federal law enacted to regulate and reduce water pollution. Administered by the EPA.

**CO** (Carbon Monoxide)—a colorless, odorless, flammable, and very toxic gas produced by incomplete combustion; also a by-product of many chemical processes. CO is a chemical asphyxiant. See "Asphyxiant."

**$CO_2$** (Carbon Dioxide)—a colorless gas, produced by the combustion and decomposition of organic substances and as aby-product of many chemical processes. $CO_2$ will not burn, and is relatively non-toxic (although high concentrations, especially in confined spaces, can create hazardous oxygen deficient environments.) $CO_2$ is a simple asphyxiant. See "Asphyxiants."

**COC** (Cleveland Open Cup)—a flash point test method.

**Combustible**—a term used by NFPA, DOT, OSHA and others to classify certain liquids that will burn, on the basis of flash points. NFPA, DOT and OSHA generally define "combustible liquids" as having a flash point above 100°F (37.8°C) and below 200°F (93.3°C). Also see "Flammable." Non-liquid substances such as wood and paper are classified as "ordinary combustibles" by the NFPA.

**Common Name**—any designation or identification such as code name, code number, trade name, brand name, or generic name used to identify a chemical other than by its chemical name.

**Concentration**—the relative amount of a substance when combined or mixed with other substances. Examples: **2ppm** hydrogen sulfide in air, 50 **percent** caustic, or **5mg/m³** iron oxide fume or dust.

**Corrosive**—as identified by OSHA, a corrosive material is a chemical that causes visible destruction or irreversible alterations in human skin tissue at the site of contact. A solid or liquid waste, which exhibits a "characteristic of corrosivity", as defined by RCRA, may be regulated (by EPA) as a hazardous waste. A liquid that has a severe corrosion rate on steel may be regulated by DOT.

**Cutaneous Toxicity**—see "Dermal Toxicity."

### D

**Decomposition**—breakdown of a material or substance (by heat, chemical reaction, electrolysis, decay or other processes) into parts, elements or simpler compounds.

**Dermal**—used on or applied to the skin.

**Dermal Toxicity**—adverse effects resulting from skin exposure to a substance. Ordinarily used to denote effects to experimental animals.

**Distributor**—a business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to manufacturing purchasers.

**DOT** (U.S. Department of Transportation)—regulates transportation of chemicals and other substances to aid in the protection of the public, as well as fire, law enforcement, and other emergency response personnel, particularly when transportation incidents occur involving hazardous materials. Detailed DOT classification lists specify appropriate warnings, such as Oxidizing Agency or Flammable Liquid, which must be used for various substances.

CONTINUED ON NEXT PAGE

# GLOSSARY OF HAZARD COMMUNICATION TERMS

## E

**Employee**—a worker who may be exposed to hazardous chemicals under normal operating conditions or foreseeable emergencies, including, but not limited to, production workers, line supervisors, and repair or maintenance personnel.

**Employer**—for the federal standard, a person engaged in a business within SIC codes 20 through 39, where chemicals are either used or are produced for use or distribution. Individual states may have expanded definitions of who constitutes an employer.

**Employee Representative**—an individual or labor organization to whom an employee gives written authorization to exercise his or her rights to request information under sections 8 and 9 of the OSHA Hazardous Communication Standard. A recognized or certified bargaining agent of a group of employees shall be considered to be an employee representative without the requirement of written employee authorization.

**EPA** (U.S. Environmental Protection Agency)—federal agency with environmental protection, regulatory, and enforcement authority.

**Epidemiology**—the science that deals with the study of disease in a general population. Determination of the incidence (rate of occurrence) and distribution of the particular disease (as by age, sex, or occupation) may provide information about the cause of the disease.

**Evaporation Rate**—the rate at which a particular material will vaporize (evaporate) when compared to the rate of vaporization of a known material. The evaporation rate can be useful in evaluating the potential health and fire hazards of a material. The known material is usually normal butyl acetate (NBUAC or N-BuAc), with an evaporation rate designated as 1.0. Evaporation rates of other solvents or materials are then classified as:

—FAST evaporating if greater than 3.0.
Examples: Methyl Ethyl Ketone (MEK) = 3.8, Acetone = 5.6, Hexane = 8.3.

—MEDIUM evaporating if 0.8 to 3.0.
Examples: 190 proof (95%) Ethyl Alcohol = 1.4, VM&P Naphtha = 1.4, MIBK = 1.6.

—SLOW evaporating if less than 0.8.
Examples: Xylene = 0.6, Isobutyl Alcohol = 0.6, Normal Butyl Alcohol = 0.4, Water = 0.3, Mineral spirits = 0.1.

**Exposure**—or "exposed" means that an employee is subjected to a hazardous chemical in the course of employment through any route of entry (inhalation, skin contact, or absorption, etc.), and includes potential (e.g., accidental or possible) exposure.

## F

**Flash Point**—the temperature at which a liquid will give off enough flammable vapor to ignite. There are several flash point test methods, and flash points may vary for the same material depending on the method used, so the test method is indicated when the flash point is given (150°F, PMCC, 200°F TOC, etc.).

**Flammable**—a "flammable liquid" is defined by OSHA as a liquid with a flash point below 100°F (37.8°C). Solids that will ignite readily or are liable to cause fires under ordinary conditions of transportation through friction or retained heat from manufacturing or processing, and which burn so vigorously and persistently as to create a serious transportation hazard, are classified by DOT as "flammable solids". The EPA defines a flammable hazardous waste as a waste material with a flash point of less than 140°F. Also see "Combustible."

**Formula**—the conventional scientific designation for a material (water is $H_2O$, Sulfuric Acid is $H_2SO_4$, Sulfur Dioxide is $SO_2$, etc.) which details the types and amount of each kind of atom present in one molecule of the material.

## G

**General Exhaust**—a system for exhausting air containing contaminants from a general work area. Also see "Local Exhaust."

**g** (Gram)—a metric unit of weight. One ounce U.S. (avoirdupois) is about 238.4 grams.

**g/kg** (Grams per kilogram)—an expression of dose used in oral and dermal toxicology testing to indicate the grams of substance dosed per kilogram of animal body weight. Also see "kg" (kilogram).

## H

**Hazardous Material**—any chemical which is a physical hazard or a health hazard. The definition of "hazardous" can vary by regulatory agency. See "Hazardous or Toxic Chemical Substance."

**Hazardous or Toxic Chemical Substance**—means any substance listed in or by:

1. 29 CFR1910.1000 to .1500 inclusive.
2. The U.S. Public Health Service Annual Report on Carcinogens. (National Toxicology Program)
3. The NIOSH Registry of Toxic Effect of Chemical Substances that are:
   i. Irritant as defined in 16 CFR1500.41 skin rat % or greater rating
   16CFR1500.42 eye rabbit 5 or greater rating
   ii. Corrosive as defined in 49 CFR 173 skin rat
   iii. Sensitizer
   iv. Toxic or highly toxic:
   $LD_{50}$ oral rat ≤ mg/kg
   $LD_{50}$ skin rabbitt ≤ 1000 mg/kg
   $LC_{50}$ rat ≤ 2000 ppm
   v. Target organ system—blood, kidney, liver, lung, skin, eye, reproductive
4. International Agency for Research on Cancer (IARC) (1, 2A-2B)
5. USEPA Clean Water Act.
6. USEPA Federal Insecticide, Rodenticide, and Fungicide Act.
7. FDA as unsafe for human consumption.
8. Listed in NIOSH Intelligence Bulletins.

This includes all mixtures in a concentration of 1% or greater. For carcinogenic compounds, this applies to mixtures of 0.1% or greater.

**Health Hazard**—as defined by OSHA, "a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with the established scientific principles that acute health or chronic health effects may occur."

**Health Professional**—a safety engineer, physician, dentist, or toxicologist, registered nurse, licensed practical nurse, or industrial hygienist, employed to evaluate a hazard.

## I

**Identity**—any chemical name or common name which is indicated on the material safety data sheet (MSDS) for the chemical. The identity used shall permit cross references to be made among the required list of hazardous chemicals, the label, and the MSDS.

**IDLH** (Immediately Dangerous to Life and Health)—means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a hazardous area.

**Ignitable**—a solid, liquid, or compressed gas which exhibits a "characteristic of ignitability," as defined by RCRA. Ignitable wastes may be regulated (by EPA) as hazardous waste.

**Incompatible**—materials which could cause dangerous reactions, such as fire, explosion, or toxic gas generation from direct contact with one another are described as incompatible.

**Ingestion**—the swallowing of a substance in the form of a gas, vapor, fume, mist or dust.

**Inhibitor**—a chemical which is added to another substance to prevent an unwanted chemical change from occurring.

**Irritant**—a chemical, which is not corrosive, but which causes reversible inflammatory effects on living tissue by chemical action at the site of contact.

## K

**kg** (Kilogram)—a metric unit of weight, about 2.2 U.S. pounds. Also see "g/kg," "g," and "mg."

## L

**Label**—in the Hazard Communication standard, an adequate label is any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals that lists the identity of the material and has an adequate hazard warning.

**l** (Liter)—a metric unit of capacity. A U.S. quart is about 9/10 of a liter.

CONTINUED ON NEXT PAGE

# GLOSSARY OF HAZARD COMMUNICATION TERMS

**LC** (Lethal Concentration)—a concentration of a substance being tested that will kill a test animal.

**$LC_{50}$** (Lethal Concentration)—for acute toxicity on inhalation means that concentrations of vapor, mist, or dust which, administered by continuous inhalation for one hour to both male and female young adult albino rats, causes death within 14 days in half of the animals tested. If the material is administered to the animals as a dust or mist, more than 90 percent of the particles available for inhalation in the test must have a diameter of 20 microns or less if it is reasonably foreseeable that such concentrations could be encountered by a human during transport. The result is expressed in mg/L of air for dusts or mists or in mL/$M^3$ of air (parts per million) for vapors.

**$LD_{50}$** or $LD_{50}$ oral—for acute toxicity means that dose of the material administered to both male and female young adult albino rats which causes death within 14 days of half of the animals tested. The number of animals tested must be sufficient to give statistically valid results and be in conformity with good pharmaceutical practices. The result is expressed in mg/kg body mass.

**$LD_{50}$** dermal—for acute dermal toxicity means that dose of the material which, administered by continuous contact for 24 hours with the shaved intact skin (avoiding braiding) of an albino rabbit, causes death within 14 days in half of the animals tested. The number of animals tested must be sufficient to give statistically valid results and be in conformity with good pharmaceutical practices. The result is expressed in mg/kg body mass.

**LEL, or LFL** (Lower Exposure Limit or Lower Flammable Limit of a vapor or gas)—the lowest concentration (lowest percentage of the substance in air) that will produce a flash fire when an ignition source (heat, arc, or flame) is present. At concentrations lower than the LEL, the mixture is too "lean" to burn. Also see "UEL."

**Local Exhaust**—a system for capturing and exhausting contaminants from the air at the point where the contaminants are produced (welding, grinding, sanding, other processes or operations). Also see "General Exhaust."

## M

**$m^3$** (Cubic Meter)—a metric measure of volume, about 35.3 cubic feet or 1.3 cubic yards.

**MAC** (Maximum Allowable Concentration)—the term used by the state of Pennsylvania for occupational exposure standards. It is essentially equivalent to the OSHA PEL.

**Manufacturing Purchaser**—an employer with a workplace classified in SIC Codes 20 through 39, who purchases a hazardous chemical for use within that workplace.

**Material Safety Data Sheet (MSDS)**—Written or printed material concerning a hazardous chemical which is prepared in accordance with paragraph (g) of the OSHA standard, 29CFR, 1910.

**Melting Point**—the temperature at which a solid substance changes to a liquid state. For mixtures, the melting range may be given.

**Mixture**—any combination of two or more chemicals if the combination does not, in whole or part, result in a chemical reaction.

**Mechanical Exhaust**—a powered device, such as a motor driven fan or air/stream venturi tube, for exhausting contaminants from a workplace, vessel, or enclosure.

**mg** (Milligram)—a metric unit of weight. There are 1,000 milligrams in one gram (g) of substance.

**mg/kg** (Milligrams per kilogram)—an expression of toxicological dose. See "g/kg."

**$mg/m^3$** (Milligrams per cubic meter)—a unit for measuring concentrations of dusts, gases, or mists in the air.

**ml** (Milliliter)—a metric unit of capacity, equal in volume to one cubic centimeter (cc) or about 1/16 of a cubic inch. There are 1,000 milliliters in one liter (1).

**mmHg** [Millimeter (mm) of mercury (Hg)]—a unit of measurement for low pressures or partial vacuums.

**mppcf** (Million Particles Per Cubic Foot)—a unit for measuring particles of substance suspended in air. Exposure limits for mineral dusts (silica, graphite, Portland cement, nuisance dusts, and other), formerly expressed as mppcf, are now more commonly quoted in $mg/m^3$.

**Mutagen**—a substance or agent capable of altering the genetic material in a living cell.

## N

**NBUAC or n-BuAc** (Normal butyl acetate)—see "evaporation rate."

**NIOSH** [National Institute for Occupational Safety and Health of the Public Health Service, U.S. Department of Health and Human Services (DHHS)]—a federal agency which, among other activities, tests and certifies respiratory protective devices and air sampling detector tubes, recommends occupational exposure limits for various substances and assists OSHA and MSHA in occupational safety and health investigations and research.

**NFPA** (National Fire Protection Association)—an international voluntary membership organization to promote and improve fire protection and prevention and establish safeguards against the loss of life and property by fire. Best known on the industrial scene for the uniform **National Fire Codes**, 16 volumes of codes, standards, recommended practices, and manuals developed (and periodically updated) by NFPA technical committees. Among these is **NFPA 704M**, the code for showing hazards of materials using the familiar diamond-shaped label or placard with appropriate numbers or symbols. The brief explanation following illustrates the NFPA principle of using scales of 0 to 4 (low to high) to classify material hazards:

**Fire Hazard (Red)**

0—Will not burn

1—Will ignite if preheated

2—Will ignite at high ambient temperatures

3—Will ignite at most ambient conditions

4—Burns readily at ambient conditions

**Health Hazard (Blue)**

0—Ordinary combustible hazards in a fire

1—Slightly Hazardous

2—Hazardous

3—Extreme danger

4—Deadly

**Reactivity (Yellow)**

0—Stable & not reactive w/water

1—Unstable if heated

2—Violent chemical change

3—Shock & heat may detonate

4—May detonate

**Specific Hazard**

| | |
|---|---|
| OXY | Oxidizer |
| ACID | Acid |
| COR | Corrosive |
| W | Use no water |
| ☢ | Radiation Hazard |

**NO.** (Oxides of nitrogen)—undesirable air pollutants. NO. emissions are regulated by EPA under the Clean Air Act.

## O

**Olfactory**—relating to the sense of smell. The olfactory organ in the nasal cavity is the sensing element that detects odors and transmits information to the brain through the olfactory nerves.

**Olfactory Fatigue**—A natural body response where the nerves in the nose that sense various smells and odors become accustomed to those chemicals and no longer send a message to the brain that they detect an odor.

**Oral**—used in or taken into the body through the mouth.

**Oral Toxicity**—Adverse effects resulting from taking a substance into the body via the mouth. Ordinarily used to denote effects in experimental animals.

**OSHA** (Occupational Safety and Health Administration of the U.S. Department of Labor)—federal agency with safety and health regulatory and enforcement authority for most U.S. industries and businesses.

**Oxidation**—in a literal sense, oxidation is a reaction in which a substance combines with oxygen provided by an oxidizer or oxidizing agent (see definitions below). In a broader sense, based on modern atomic theory, science today defines oxidation as

CONTINUED ON NEXT PAGE

a reaction, brought about by an oxidizing agent, in which atoms, molecules or ions lose electrons. In this broader sense, an oxidation reaction may occur even when oxygen is not present. However it may be defined, an oxidation reaction is always accompanied by an offsetting (balancing) reduction reaction in which (1) oxygen is removed from a compound, or (2) atoms, molecules, or ions gain electrons.

**Oxidizer**—as defined by OSHA, a chemical other than a blasting agent or explosive that initiates or promotes combustion in other materials, thereby causing fire of itself or through the release of oxygen or other gases.

**Oxidizing Agent**—a chemical or substance which brings about an oxidation reaction. The agent may, (1) provide the oxygen to the substance being oxidized (in which case the agent has to be oxygen or contain oxygen); or, (2) it may receive electrons being transferred from the substance undergoing oxidation (chlorine is a good oxidizing agent for electron transfer purposes, even though it contains no oxygen).

## P

**PEL** (Permissible Exposure Limit)—an exposure limit established by OSHA regulatory authority. May be a time-weighted average (TWA) limit, STEL or a maximum concentration exposure limit. Also see "Skin." Also see "TLV."

**% Volatile** (Percent volatile by volume)—the percentage of a liquid or solid (by volume) that will evaporate at an ambient temperature of 70°F (21°C) (Unless some other temperature is stated.) Examples: butane, gasoline, and paint thinner (mineral spirits) are 100 percent volatile; their individual evaporation rates vary, but over a period of time each will evaporate completely. EPON® solutions, however, may be only 10% to 60 percent volatile; only the solvent evaporates, leaving the resin as a nonvolatile residue.

**Physical Hazard**—an OSHA term for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive), or water-reactive.

**PMCC** (Pensky-Martens Closed Cup)—a flash point test method.

**Poison, Class A**—according to DOT this is a term for extremely dangerous poisons, that is, poisonous gases or liquids of such nature that a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life. Some examples: phosgene, cyanogen, hydrocyanic acid and nitrogen peroxide.

**Polymerization**—a chemical reaction in which one or more small molecules of the same type combine to form larger molecules. A **hazardous polymerization** is such a reaction which takes place at a rate which releases large amounts of energy. If hazardous polymerization can occur with a given material, the MSDS usually will list the conditions which could start the reaction and, since the material usually contains polymerization inhibitor, the expected time period before the inhibitor is up.

**ppm** (Parts per Million)—a unit for measuring the concentration of a gas or vapor in air; parts (by volume) of the gas or vapor in a million parts of air. Also used to indicate the concentration of a particular substance in a liquid or solid.

**ppb** (Parts per Billion)—a unit for measuring the concentration of a gas or vapor in air; parts (by volume) of the gas or vapor in a billion parts of air. Usually used to express measurements of extremely low concentration. Also used to indicate the concentration of a liquid or solid.

**psi** (Pounds per Square inch)—for MSDS purposes, a unit for measuring the pressure a material on the walls of a confining vessel or enclosure. For technical accuracy, pressure must be expressed as **psig** (pounds per square inch gauge) or **psia** (pounds per square inch absolute; that is, the latter being gauge pressure, plus sea level atmospheric pressure, or psig, plus about 14.7 pounds per square inch). See also "mmHg."

## R

**RCRA** (Resource Conservation and Recovery Act)—federal environmental legislation, administered by the EPA, aimed at controlling the generation, treating, storage, transportation, and disposal of hazardous wastes.

**Reaction**—a chemical transformation or change; the interaction of two or more substances to form different substances.

**Reactivity**—a description of the tendency of a substance to undergo chemical reaction with the release of energy. Undesirable effects, such as pressure buildup, temperature increase, formation of noxious, toxic, or corrosive by-products, may occur because of the reactivity of a substance to heating, burning, direct contact with other materials, or other conditions in use or storage. A solid waste which exhibits a "characteristic of reactivity", as defined by the RCRA, may be regulated by the EPA as a hazardous waste.

**Reducing Agent**—in a reduction reaction (which always occurs simultaneously with an oxidation reaction) the reducing agent is the chemical or substance which (1) combines with oxygen, or (2) loses electrons to the reaction. See "Oxidation."

**Reproductive Hazard**—a chemical which is capable of affecting the fertility of the parents or offspring or the production of offspring or may cause spontaneous abortion, deformed fetuses, chromosomal damage, mutations, or other harmful side effects on fetuses.

**Route of Entry**—the means by which hazardous substances can get into the body; specifically, the respiratory system (inhalation), the digestive system (ingestion), and the skin (contact).

**RTECS** (Registry of Toxic Effects of Chemical Substances)—a NIOSH publication that list significant information on the toxic effects of chemicals.

## S

**SCBA** (Self-Contained Breathing Apparatus)—a special respirator that supplies fresh air from a compressed cylinder the wearer carries on his back.

**Sensitizer**—a substance which, on first exposure, causes little or no reaction in humans or test animals; but which, on repeated exposure, may cause a marked response, not necessarily limited to the contact site. Skin sensitization is the most common form of sensitization in the industrial setting, although respiratory sensitization to a few chemicals is also known to occur.

**SETA** (Setaflash Closed Tester)—a flash point test method.

"Skin"—a notation, sometimes used with PEL or TLV exposure data; indicates that the stated substance may be absorbed by the skin, mucous membranes and eyes, either airborne or by direct contact, and that this additional exposure must be considered part of the total exposure to avoid according to the PEL or TLV for that substance.

**"Skin Sensitizer"**—see "Sensitizer."

**Skin Toxicity**—see "Dermal Toxicity."

**Solubility in Water**—a term expressing the percentage of a material by weight that will dissolve in water at ambient temperature. Solubility information can be useful in determining spill cleanup methods and fire-extinguishing agents and methods for a material. Terms used to express solubility are:

| | |
|---|---|
| Negligible | Less than 0.1 percent |
| Slight | 0.1 to 1.0 percent |
| Moderate | 1 to 10 percent |
| Appreciable | More than 10 percent |
| Complete | Soluble an all proportion |

**$SO_x$** (Oxides of Sulphur)—undesirable air pollutants. $SO_x$ emissions are regulated by EPA under the Clean Air Act.

**Species**—a biological type; on MSDS's, species refers to the specific type of test animals used, usually rats, mice, or rabbits, which were used to obtain the toxicity test data reported.

**Specific Gravity**—the weight of a material compared to the weight of an equal volume of water; an expression of the density (or heaviness) of the material. Example: If a volume of a material weighs six pounds, and an equal volume of water weighs ten pounds, the material is said to have specific gravity of 0.6.

$$\frac{6 \text{ lbs.}}{10 \text{ lbs.}} = 0.6$$

Insoluble materials with specific gravity of less than 1.0 will float in (or on) water. Insoluble materials with a specific gravity greater than 1.0 will sink (or go to the bottom) in water. Most (but not all) flammable liquids have specific gravity less than 1.0 and, if not soluble, will float on water (an important consideration for fire suppression).

CONTINUED ON NEXT PAGE

# GLOSSARY OF HAZARD COMMUNICATION TERMS & PREFIXES AND CONVERSION FACTORS

**Stability**—an expression of the ability of a material to remain unchanged. For MSDS purposes, a material is stable if it remains in the same form under expected and reasonable condition of storage or use. Conditions which may cause instability (dangerous change) are stated. Examples: temperatures above 150°F may cause product degradation, chemical reaction with an incompatible material or the shock from dropping may cause an explosive reaction.

**STEL** (Short Term Exposure Limit)—ACGIH terminology. See "TLV STEL."

**Synonym**—another name or names by which material is known. Methyl alcohol for example, is also known as methanol, or wood alcohol.

## T

**TCC** [Tag (Tagliabue) Closed Cup]—a flash point test method.

**Teratogen**—a substance or agent to which exposure of a pregnant female can result in malformations and structural abnormalities in the fetus; variations, altered fetal growth, and change in the gestational age at delivery; postnatal parameters include growth and development; physiological deficits and delay, neurological, neurobehavioral and psychological deficits, altered sex ratio, abnormal sexual development or function, and morbidity or mortality; somatic or genetic (germ cell) mutations in the conceptus.

**TLV** (Threshold Limit Value)—a term used by the ACGIH to express the airborne concentration of a material to which **nearly** all persons can be exposed day after day, without adverse effects. ACGIH expresses TLV's in 3 ways:

**TLV-TWA:** The allowable Time Weighted Average concentration for a normal 8-hour workday or 40-hour week.

**TLV-STEL:** Short Term Exposure Limit, or maximum concentration for a continuous 15-minute exposure period (maximum for 4 such periods per day, with at least 60 minutes between exposure periods, and provided that the daily TLV-TWA is not exceeded.)

**TLV-C:** the Ceiling exposure limit: The concentration that should not be exceeded even instantaneously.

Also, see "Skin" notation.

**TOC** (TAG Open Cup)—a flash point test method.

**Toxic**—harmful to living organisms.

**Toxicity**—the sum of adverse effects resulting from exposure to a material, generally by the mouth, skin, or respiratory tract. For RCRA purposes, solid or liquid wastes which exhibit certain specified "characteristics of toxicity" may be regulated by EPA as hazardous wastes.

**Toxic Substances**—See "Hazardous or Toxic Chemical Substance."

**Trade Name**—the trademark name or commercial trade name for a material.

**Trade Secret**—any confidential formula, pattern, process, device, information, or compilation of information (including chemical name or other unique chemical identifier) that is used in an employer's business, and that give the employer an opportunity to obtain an advantage over the competitors who do not know or use it.

**TWA** (Time Weighted Average exposure)—the airborne concentration of a material to which a person is exposed, averaged over the total exposure time, generally the total workday (8 to 12 hours). Also see "TLV."

## U

**UEL or UFL** (Upper Explosive Limit or Upper Flammable Limit of a vapor or gas)—the highest concentration (highest percentage of the substance in the air) that will produce a flash of fire when an ignition source (heat, arc or flame) is present At higher concentrations, the mixture is too "rich" to burn. Also see "LEL."

**Unstable**—a material that readily undergoes decomposition or other unwanted chemical change during normal handling or storage.

## V

**Vapor Density**—the weight of a vapor or gas compared to the weight of an equal volume of air; an expression of the density of the vapor or gas. Materials lighter than air have vapor densities less than 1.0 (examples: acetylene, methane, hydrogen). Materials heavier than air (examples: propane, hydrogen sulfide, ethane, butane, chlorine, sulfur dioxide) have vapor densities greater than 1.0. All vapors and gases will mix with air, but the lighter materials will tend to rise and dissipate (unless confined). Heavier vapors and gases are likely to concentrate in low places, along or under floors, in sumps, sewers and manholes, in trenches, and ditches, where they may create fire or health hazards.

**Vapor Pressure**—the pressure exerted by a saturated vapor above its own liquid layer in a closed container. Historically, the test temperature was usually 100°F (38°C). However, on MSDS's the vapor pressure is expressed as pounds per square inch (psig or psia). The vapor pressure is reported in millimeters of mercury (mm Hg) at 68°F (20°C), unless stated otherwise.

**Ventilation**—is either a mechanical system or natural method of exchanging air within a space. Mechanical systems can include fans and blowers, as well as natural wind turbines. Natural ventilation is caused by wind pressure and infiltration through a structure. Typical ventilation rates are 2-6 air changes per hour.

# PREFIXES AND CONVERSION FACTORS

The conversion factors shown below are among those found most useful to instrument engineers. They are accurate to four or five places. Higher accuracy is almost never warranted in industrial instrumentation except in special cases.

Shown also is a set of prefixes, some of which are in common use, as in megatons, kilowatts, millivolts, and centimeters, to indicate decimal multiples and submultiples of units. These prefixes are internationally accepted.

## PREFIXES

| | | | | | |
|---|---|---|---|---|---|
| $10^{12}$ tera (T) | 10 deka (da) | $10^{-9}$ nano (n) |
| $10^{9}$ giga (G) | $10^{-1}$ deci (d) | $10^{-12}$ pico (p) |
| $10^{6}$ mega (M) | $10^{-2}$ centi (c) | $10^{-15}$ femto (f) |
| $10^{3}$ kilo (k) | $10^{-3}$ milli (m) | $10^{-18}$ atto (a) |
| $10^{2}$ hecto (h) | $10^{-6}$ micro (μ) | |

## LENGTH

**Centimeters—cm**
- x 0.394 = Inches

**Feet—ft.**
- x 30.48 = Centimeters
- x 0.3048 = Meters

**Inches—in.**
- x 2.540 = Centimeters

**Meters—m**
- x 3.281 = Feet
- x 39.37 = Inches
- x 1.094 = Yards

## VOLUME

**Cubic Centimeters—cu cm or $cm^3$**
- x 0.06102 = Cubic inches

**Cubic Feet—cu. ft.**
- x 28320 = Cubic centimeters
- x 7.481 = Gallons

**Cubic Inches—cu. in.**
- x 16.39 = Cubic centimeters

**Gallons—gal.**
- x 8.322 = Pounds of water

**Liters—l**
- x 0.2642 = Gallons

## TEMPERATURE

**Degrees Celsius—°C**
(°C x 9/5) +32=°F

**Degrees Fahrenheit—°F**
(°F −32) x 5/9=°C

## WEIGHT

**Kilograms—kg.**
- x 2.205 = Pounds

**Pounds—lb.**
- x 453.6 = Grams

## LIGHT

**Lux**
- x 0.0929 = Foot candle

**Candles/Square Meter**
- x 0.2918 = Foot lambert

# STANDARDS AND APPROVAL AGENCY ACRONYMS

| | |
|---|---|
| AGA | American Gas Association |
| AGMA | American Gear Manufacturer's Assn. |
| AHAM | Association of Home Appliance Manufacturers |
| AMCA | Air Movement and Control Association |
| ANSI | American National Standards Institute |
| ARI | Air-Conditioning & Refrigeration Institute |
| ARL | Applied Research Laboratories |
| ASHRAE | American Society of Heating, Refrigerating, and Air-conditioning Engineers |
| ASME | American Society of Mechanical Engineers |
| ASSE | American Society of Sanitary Engineering |
| CBM | Certified Balllast Manufacturer |
| CGA | Canadian Gas Association |
| CSA | Canadian Standards Association |
| CSA | Canadian Standards Association, National Recognized Testing Laboratory |
| CE | Conformité Européenne |
| DEMKO | Danmarks Elektriske Materielkontrol |
| ETL | ETL Testing Laboratories |
| FM | Factory Mutual |
| GAMA | Gas Appliance Manufacturers' Association |
| DIN | Deutschland Ingineering Normalization |
| DOT | Department of Transportation |
| HVI | Home Ventilating Institute |
| IAPMO | International Association of Plumbing and Mechanical Officials |
| ISO | International Organization for Standardization |
| NEC | National Electrical Code |
| NEMA | National Electrical Manufacturers Association |
| NFPA | National Fire Protection Association |
| NSF | National Sanitation Foundation International |
| OPEI | Outdoor Power Equipment Institute |
| OSHA | Occupational Safety and Health Administration |
| SAE | Society of Automotive Engineers |
| SEV | Schweiz Elektrotechnischen Vereins |
| SRCC | Solar Rating and Certification Corporation |
| SSPMA | Sump and Sewage Pump Manufacturers Association |
| UL | Underwriters Laboratories (Recognized Component Mark) |
| UL | Underwriters Laboratories (Recognized Component Mark for Canada) |
| UL | Underwriters Laboratories |
| UL | Underwriters Laboratories (Listing Mark for Canada) |
| UL | Underwriters Laboratories (Listing Mark for Classified products) |
| USDA | United States Department of Agriculture |
| VDE | Verband Deutscher Elektrotechniker |

# CHEMICAL RESISTANCE CHART FOR VARIOUS PUMP MATERIALS

The recommendations listed on the following pages are based upon information from material suppliers and careful examination of information and are believed to be accurate. However, since the resistance of metals, plastics, and elastomers can be affected by concentration, temperature, presence of other chemicals, and other factors, this information should be considered as a general guide rather than an unqualified guarantee. Ultimately, the consumer must determine the suitability of the pump used in various solutions.

All recommendations assume ambient temperatures unless otherwise noted. The ratings for these materials are based upon the chemical resistance only. Added consideration must be given to pump selections when the chemical is abrasive, viscous in nature, or has a specific gravity greater than 1.1.

**HOW TO USE THIS CHART:** Column at left lists chemicals in alphabetic order. Columns at right list various pump materials, and there resistance to the chemicals are rated by a letter code. (Explanation of these codes is given below). For example, acetamide has "B" chemical effect rating on 304 stainless steel, which means it has acceptable minor effect.

### CHEMICAL EFFECT RATINGS

A - No effect — Excellent
B - Minor effect — Good
C - Moderate effect — Fair
D - Severe effect — Not Recommended
(*) - No test data available

### FOOTNOTE EXPLANATION

(1) P.V.C. — Satisfactory to 72°F
(2) Polypropylene — Satisfactory to 72°F
(3) Polypropylene — Satisfactory to 120°F
(4) Buna N — Satisfactory for O-Rings
(5) Polyacetal — Satisfactory to 72°F
(6) Ceramag — Satisfactory to 72°F

**Reproduced by Permission of Little Giant Pump Company**

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acetaldehyde[5] | A | A | A | * | B | A | A | D | * | * | C | * | D | D | A | * | A | A | D | C | B | A | A | A | * | A | B | B | D | B | C | A |
| Acetamide | * | B | A | * | * | * | * | * | * | * | C | * | * | * | * | * | B | * | * | * | * | * | * | A | * | A | A | * | A | A | D | A |
| Acetate Solv.[2] | A | B | A | B | B | * | * | A | C | B | A | * | B | D | A | * | * | A | * | B | D | * | A | A | * | D | D | * | D | * | * | A |
| Acetic Acid, Glacial[1] | * | B | A | A | B | A | A | C | C | D | A | * | C | B | A | C | D | D | D | B | B | A | A | A | * | D | D | B | C | B | C | B |
| Acetic Acid 20% | * | * | A | * | * | A | A | * | C | * | * | A | B | * | A | A | * | D | * | * | A | A | * | A | * | D | C | * | C | * | * | B |
| Acetic Acid 80% | * | * | A | * | * | A | A | * | C | * | * | A | D | * | A | B | * | D | * | * | B | * | * | A | * | D | C | * | D | * | * | B |
| Acetic Acid | * | B | A | B | B | A | A | C | C | D | C | B | A | B | A | A | D | D | C | B | A | A | A | A | * | C | C | * | C | B | C | A |
| Acetic Anhydride | B | A | A | B | B | A | A | C | D | B | D | D | D | D | A | D | D | D | D | A | A | A | A | A | * | D | A | C | B | B | C | A |
| Acetone[6] | A | A | A | B | A | A | A | A | A | A | A | D | D | D | A | D | B | A | D | C | B | A | A | A | A | D | D | B | C | A | D | B |
| Acetyl Chloride | * | C | A | * | * | * | * | D | * | * | * | * | * | * | A | * | * | * | * | * | * | A | * | * | * | * | * | * | * | * | A | A |
| Acetylene[2] | A | A | A | A | A | * | * | B | * | A | A | * | B | * | * | * | A | A | * | * | D | A | A | A | * | A | A | C | B | A | C | A |
| Acrylonitrile | A | A | C | * | B | * | B | A | * | C | * | * | * | * | * | * | B | * | D | * | B | A | A | A | * | C | D | * | D | D | * | A |
| Alcohols Amyl | A | A | A | * | C | A | A | A | B | C | C | A | A | B | A | C | A | A | B | B | B | A | A | A | * | A | A | D | A | A | C | A |
| Benzyl | * | A | A | * | B | A | A | A | C | * | * | * | D | B | * | A | A | A | D | D | A | * | A | A | * | A | D | * | B | B | D | A |
| Butyl | A | A | A | * | B | B | A | B | C | C | C | A | A | B | A | A | A | A | * | B | B | A | A | A | * | A | A | D | A | A | A | A |
| Diacetone[2] | * | A | A | * | A | A | A | A | C | * | A | * | D | * | * | A | A | A | * | * | D | * | A | A | * | D | D | * | D | A | D | A |
| Ethyl | * | A | A | A | B | A | A | A | C | A | A | * | A | C | * | A | B | A | B | B | A | * | A | A | A | A | A | B | A | B | A | A |
| Hexyl | * | A | A | * | A | A | A | A | C | * | A | * | A | * | * | A | A | A | * | * | A | * | A | A | * | A | A | D | B | A | A | A |
| Isobutyl | * | A | A | * | B | A | A | A | C | * | A | * | * | * | * | A | A | A | B | * | * | * | A | A | * | A | C | B | A | A | A | A |
| Isopropyl | * | A | A | * | B | A | A | A | C | C | A | * | * | * | * | A | A | A | * | * | A | * | A | A | * | A | C | C | B | A | A | A |
| Methyl[6] | * | A | A | A | B | A | A | A | C | A | A | * | B | * | A | A | C | A | D | B | A | * | A | A | A | C | B | * | A | A | A | A |
| Octyl | * | A | A | * | A | A | A | A | C | * | A | * | * | * | A | A | A | A | * | * | * | * | A | A | * | A | B | * | B | A | C | A |
| Propyl | * | A | A | * | A | A | A | A | * | * | A | B | A | * | A | A | A | A | * | * | A | * | A | A | * | A | A | B | A | A | A | A |
| Aluminum Chloride 20% | * | D | C | D | B | A | A | D | * | D | A | * | A | B | * | A | C | A | * | B | A | A | A | A | * | A | A | * | A | A | A | A |
| Aluminum Chloride | C | D | C | * | D | C | A | C | * | D | B | A | A | A | A | A | * | D | * | * | A | A | A | A | * | A | A | C | A | * | * | A |
| Aluminum Fluoride | * | D | C | D | * | D | B | * | * | * | A | A | A | * | A | A | C | D | * | B | A | * | A | * | * | A | A | C | A | * | C | A |
| Aluminum Hydroxide[6] | * | A | A | A | A | * | * | A | * | D | A | * | A | * | A | A | B | A | * | * | A | * | A | A | A | A | A | * | A | * | A | A |
| Alum Potassium Sulfate (Alum), 10% | * | A | * | * | A | * | B | * | * | D | A | * | A | * | A | * | * | A | * | A | * | * | A | A | * | A | * | * | A | * | A | A |
| Alum Potassium Sulfate (Alum) 100% | * | D | A | B | B | * | B | C | * | * | A | * | A | B | A | A | C | D | * | B | A | * | A | A | * | A | A | * | A | * | A | A |
| Aluminum Sulfate | * | C | C | A | A | A | A | C | C | D | A | A | A | B | A | A | C | A | * | B | A | A | A | A | * | A | A | * | A | A | A | A |
| Amines | A | A | A | * | A | B | A | B | * | A | B | * | C | A | A | B | D | A | * | * | * | * | A | A | * | D | D | C | B | B | C | A |
| Ammonia 10% | * | * | A | * | * | A | A | * | * | * | * | D | A | * | A | A | * | A | * | * | A | A | * | A | * | A | D | * | A | * | * | B |

**Reproduced by Permission of Little Giant Pump Company**

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ammonia, Anhydrous | A | B | A | A | B | B | A | D | * | D | B | D | A | B | A | A | D | A | * | B | A | B | C | A | * | D | B | B | A | A | D | A |
| Ammonia, Liquids | * | A | A | A | D | * | B | D | * | A | A | * | A | B | A | A | D | * | * | D | A | * | A | A | * | D | B | B | A | A | D | A |
| Ammonia, Nitrate | * | A | A | A | C | * | * | D | * | * | A | * | B | B | * | A | C | * | * | * | A | * | A | A | * | * | A | * | C | * | * | A |
| Ammonium Bifluoride | * | C | A | * | D | * | B | * | * | * | * | * | A | * | * | A | D | * | * | * | A | * | * | A | * | A | A | * | A | * | * | A |
| Ammonium Carbonate | B | A | A | A | C | A | B | B | * | C | B | * | A | B | A | A | D | A | * | * | A | * | A | A | * | B | D | C | A | A | * | A |
| Ammonium Casenite | * | * | A | * | * | * | * | * | * | * | * | * | * | * | * | A | D | * | * | * | * | * | * | * | * | * | * | * | A | * | * | A |
| Ammonium Chloride | C | A | C | A | C | A | A | D | C | D | D | A | A | B | A | A | B | A | * | B | A | A | A | A | * | A | A | C | A | A | A | A |
| Ammonium Hydroxide | A | A | A | A | C | A | A | D | D | A | C | * | A | B | A | A | D | A | B | B | A | A | A | A | * | B | B | B | A | A | C | A |
| Ammonium Nitrate | A | A | A | A | B | A | A | D | D | A | D | * | A | B | A | A | C | D | * | B | A | A | A | A | * | A | A | C | A | A | A | A |
| Ammonium Oxalate | * | A | A | A | * | * | A | * | * | * | A | * | * | * | * | * | B | * | * | * | * | * | A | * | * | * | A | * | A | * | * | A |
| Ammonium Persulfate | * | A | A | A | C | A | A | A | * | D | A | D | A | * | A | A | D | D | * | * | A | * | A | A | * | C | A | * | A | A | A | A |
| Ammonium Phosphate, Dibasic | B | A | A | A | B | A | A | C | * | * | D | * | A | * | A | A | B | A | * | B | A | * | A | A | * | A | A | B | A | A | A | A |
| Ammonium Phosphate, Monobasic | * | A | A | A | B | A | A | D | * | * | A | * | A | A | A | A | B | A | * | B | A | * | A | A | * | A | A | B | A | A | A | A |
| Ammonium Phosphate, Tribasic | B | A | A | A | B | A | A | C | * | C | D | * | A | * | A | A | B | A | * | B | A | * | A | A | * | A | A | B | A | A | A | A |
| Ammonium Sulfate | C | A | B | A | B | A | A | B | C | C | C | A | A | D | A | A | B | D | * | B | A | A | A | A | * | D | A | B | A | A | A | A |
| Ammonium Thio-Sulfate | * | * | A | * | * | A | * | * | * | D | A | * | * | * | * | * | B | * | * | * | * | * | A | A | * | * | A | * | A | * | * | A |
| Amyl-Acetate | B | A | A | C | B | A | A | C | * | * | C | C | D | D | A | D | A | B | * | D | D | A | A | A | * | D | D | D | D | A | D | A |
| Amyl Alcohol | * | A | A | * | B | A | A | A | * | * | A | A | A | B | A | C | A | A | * | B | A | * | A | A | * | B | B | D | A | A | C | A |
| Amyl Chloride | * | C | B | * | D | * | A | A | * | * | A | A | D | C | A | D | A | C | * | D | D | * | A | A | * | A | D | * | D | D | D | A |
| Aniline | B | A | A | A | C | C | B | C | * | * | C | C | D | D | A | D | D | C | D | C | B | A | A | A | * | D | D | C | D | B | D | A |
| Anti-Freeze | * | A | A | * | A | * | A | B | B | B | C | * | A | B | A | A | A | A | B | B | A | A | A | A | A | A | A | C | A | A | A | A |
| Antimony Trichloride | * | D | D | * | D | * | A | * | * | * | * | * | A | A | A | * | * | D | * | A | * | * | * | A | * | * | * | * | C | * | A | A |
| Aqua Regla (80%, HCl, 20%, HNO) | * | D | D | * | D | A | D | D | * | * | C | D | D | A | D | D | D | * | D | C | * | * | D | * | C | D | C | D | D | D | D | D |
| Arochlor 1248 | * | * | * | * | * | * | * | * | * | A | * | * | * | * | D | * | * | * | * | * | * | A | * | * | A | D | * | D | B | D | A | |
| Aromatic Hydrocarbons | * | * | A | * | A | * | * | A | * | A | A | * | D | * | * | D | A | * | * | C | * | * | A | * | * | A | D | * | D | D | D | A |
| Arsenic Acid | B | A | A | * | D | * | * | D | B | D | D | A | A | B | A | A | D | A | * | B | A | * | A | A | * | A | A | * | A | * | C | A |
| Asphalt | * | B | A | * | C | * | * | A | * | C | * | * | A | * | * | * | A | A | * | * | A | A | * | A | A | A | B | C | B | D | D | A |
| Barium Carbonate | B | A | A | A | B | A | A | B | * | B | B | * | A | A | A | A | A | A | * | B | A | * | A | A | A | A | A | * | A | * | A | A |
| Barium Chloride | C | A | A | A | D | A | A | B | * | D | C | A | A | B | A | A | A | B | * | B | A | A | A | A | * | A | A | B | A | A | A | A |
| Barium Cyanide | * | * | A | * | * | * | * | C | * | * | A | * | * | * | * | * | B | * | * | B | * | * | A | * | * | A | C | * | A | A | * | A |
| Barium Hydroxide | B | C | A | A | D | B | B | B | * | C | C | A | A | * | A | A | D | A | * | B | A | A | A | A | A | A | A | C | A | A | A | A |
| Barium Nitrate | * | A | A | * | * | A | * | D | * | A | A | * | B | * | * | A | A | * | * | * | * | * | A | A | * | A | A | * | A | A | * | B |
| Barium Sulfate | B | A | A | A | D | A | A | C | * | C | C | A | A | * | A | A | A | A | * | B | A | A | A | B | * | A | A | D | A | A | * | B |
| Barium Sulfide | B | A | A | * | D | * | * | C | * | C | C | * | A | A | A | A | A | A | * | B | A | * | A | A | * | A | A | C | A | A | A | A |
| Beer[2] | A | A | A | * | A | A | A | A | B | D | D | A | A | * | A | A | B | D | B | B | D | * | A | A | * | A | D | C | A | A | A | A |
| Beet Sugar Liquids | A | A | A | * | A | * | * | A | B | A | * | * | A | * | A | A | B | A | B | * | A | * | A | A | * | A | A | * | B | A | A | A |
| Benzaldehyde[3] | A | A | A | * | B | A | A | A | * | B | A | C | D | D | A | D | A | C | D | D | D | A | A | A | * | D | D | B | D | A | D | A |
| Benzene[2] | B | A | A | A | B | A | B | B | A | B | C | B | D | C | A | D | A | A | D | D | D | A | A | A | A | A | D | * | D | D | D | A |
| Benzoic Acid[2] | B | A | A | A | B | A | A | B | * | D | * | A | A | B | A | A | B | D | * | B | D | * | A | B | * | A | D | * | D | D | D | A |
| Benzol | * | A | A | * | B | A | A | B | A | * | * | * | D | * | A | D | A | A | * | * | A | * | A | A | A | D | D | * | D | * | * | A |
| Borax (Sodium Borate) | * | A | A | A | C | * | A | A | B | A | C | A | A | A | A | A | A | A | * | B | A | A | A | A | A | A | B | C | A | A | C | A |
| Boric Acid | B | A | A | A | B | A | A | B | C | D | * | A | A | B | A | A | A | A | * | B | A | * | A | A | A | A | A | * | A | A | A | A |
| Brewery Slop | * | * | A | * | * | * | * | A | * | A | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | A | A | * | A | * | * | A |
| Bromine[2] (Wet) | D | D | D | D | D | A | A | C | * | D | D | A | B | B | A | D | D | D | D | D | D | D | D | A | D | A | D | D | D | D | D | C |
| Butadiene | A | A | A | * | A | * | * | C | A | C | C | A | A | * | A | * | A | A | * | * | * | B | A | A | * | A | A | * | B | A | * | A |
| Butane[2] [1] | A | A | A | * | A | * | * | A | A | C | C | A | A | C | A | D | A | A | B | C | D | A | A | A | * | A | A | D | B | D | D | A |
| Butanol | * | A | A | * | A | * | A | A | * | * | * | * | * | * | A | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Butter | * | B | A | * | A | * | * | D | * | D | * | * | * | B | * | B | A | * | B | * | * | * | A | A | * | A | A | * | B | A | D | A |
| Buttermilk | A | A | A | A | A | * | * | D | * | D | * | * | * | B | A | A | A | A | B | * | * | * | A | A | * | A | A | * | A | * | D | A |
| Butylene | A | * | A | * | A | * | * | A | A | A | A | * | B | * | A | * | A | * | * | * | * | A | A | A | * | A | B | * | * | D | D | A |
| Butyl Acetate[1] | * | * | C | * | A | * | A | A | * | * | A | C | D | D | A | D | A | * | * | C | D | A | A | A | * | D | B | D | D | B | D | A |

**Reproduced by Permission of Little Giant Pump Company**

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Butyric Acid[1] | B | B | A | A | B | A | A | C | * | D | * | A | B | * | A | A | C | D | D | * | A | * | A | D | * | D | D | * | D | B | * | A |
| Calcium Bisulfate | C | D | A | * | D | * | * | D | D | D | * | * | A | A | A | * | * | A | * | * | * | * | * | * | * | A | A | C | C | * | A | A |
| Calcium Bisulfide | * | * | B | * | C | A | A | C | * | * | * | * | A | * | A | A | D | A | * | B | A | * | A | A | * | A | A | * | A | D | * | A |
| Calcium Bisulfite | * | D | A | * | C | A | A | C | * | * | * | A | A | * | A | A | * | A | * | * | A | * | * | A | * | A | A | * | A | * | A | * |
| Calcium Carbonate | B | A | A | A | C | A | A | C | * | D | * | * | A | A | A | A | A | A | * | B | A | * | A | A | * | A | A | * | A | * | A | A |
| Calcium Chlorate | * | C | A | * | * | * | B | C | * | * | * | * | A | A | A | * | * | A | * | A | * | * | A | * | * | A | * | * | A | * | A | A |
| Calcium Chloride | C | A | D | C | C | A | A | B | * | C | * | A | A | A | A | A | D | A | B | B | A | A | A | A | B | A | A | B | D | A | A | A |
| Calcium Hydroxide | B | A | A | * | C | A | A | B | * | * | * | * | A | A | A | A | B | A | * | B | A | * | A | A | A | A | A | C | A | A | A | A |
| Calcium Hypochlorite | D | A | C | C | C | A | B | D | * | D | * | A | D | * | A | A | D | D | * | B | A | * | A | A | * | A | B | C | D | A | C | A |
| Calcium Sulfate | B | A | A | A | B | A | B | B | * | * | * | A | A | A | A | A | A | A | C | B | A | A | A | A | * | A | A | * | D | * | C | A |
| Calgon | * | A | A | * | * | * | * | C | * | D | * | * | * | * | * | A | B | * | * | * | A | * | A | A | * | A | A | * | A | * | * | A |
| Cane Juice[2] | * | A | A | * | B | * | * | B | C | A | * | * | A | * | * | * | A | A | * | * | D | * | A | A | * | * | A | * | A | * | A | A |
| Carbolic Acid (See Phenol) | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Carbon Bisulfide[2] | B | A | A | A | A | * | * | C | * | B | * | * | D | D | * | * | A | A | * | * | D | * | A | A | A | A | D | * | D | D | D | A |
| Carbon Dioxide (Wet) | * | A | A | * | C | * | A | C | C | C | * | * | * | * | A | * | * | * | * | * | * | * | A | A | * | * | * | * | * | * | * | * |
| Carbon Disulfide[2] | * | B | A | * | C | * | * | C | C | B | C | * | D | C | A | D | A | A | * | D | D | A | A | B | * | A | D | * | D | D | D | A |
| Carbon Monoxide | * | A | A | * | A | * | * | * | * | * | * | * | A | * | * | B | A | A | * | B | A | * | A | A | * | A | A | B | B | A | C | A |
| Carbon Tetrachloride[2] [1] | B | C | B | A | C | A | A | C | A | C | D | A | C | C | A | D | A | A | D | D | D | C | A | A | A | A | C | C | D | * | D | C |
| Carbonated Water | B | A | A | A | A | * | * | B | * | D | * | * | A | * | * | A | A | A | * | * | A | * | A | A | * | A | A | * | A | A | * | A |
| Carbonic Acid | B | A | B | A | A | * | A | B | * | D | * | A | A | * | A | A | A | A | * | B | A | * | A | A | * | A | B | B | A | A | A | A |
| Catsup | * | A | A | A | D | * | * | C | * | D | * | * | A | * | * | A | B | A | B | * | A | * | A | A | * | A | A | * | C | * | * | A |
| Chloracetic Acid[2] | D | D | D | D | C | A | A | D | * | D | * | D | A | D | A | * | D | D | * | D | D | * | A | A | * | A | D | * | D | B | D | B |
| Chloric Acid | * | D | D | * | * | * | * | * | * | * | * | * | D | * | A | * | * | * | * | * | * | * | * | * | * | * | D | * | D | * | * | D |
| Chlorinated Glue | * | A | A | * | D | * | * | C | * | D | * | * | * | * | * | C | * | C | D | * | * | * | A | * | A | C | * | D | B | D | A |
| Chlorine, Anhydrous Liquid | * | D | D | D | D | D | A | D | * | C | * | * | D | B | A | A | D | D | * | D | D | C | A | D | * | A | D | * | D | B | D | B |
| Chlorine (Dry) | B | A | A | * | D | D | A | A | B | A | * | * | * | * | A | * | * | * | * | * | * | C | A | A | * | D | * | * | D | * | D | D |
| Chlorine Water | D | * | D | * | D | A | B | D | D | D | * | A | A | * | A | C | * | D | * | * | D | C | C | A | * | A | D | C | D | * | * | * |
| Chlorobenzene (Mono) | A | A | A | * | B | * | A | B | * | B | C | A | D | D | A | D | A | A | D | D | D | A | A | A | * | A | D | * | D | D | D | A |
| Chloroform | A | A | A | A | D | A | A | B | * | D | C | C | D | C | A | D | A | C | D | D | D | C | A | A | A | A | D | D | D | D | D | A |
| Chlorosulfonic Acid[1] | D | D | * | D | D | A | B | D | * | * | D | D | C | C | A | D | D | D | * | D | D | D | * | C | * | D | D | D | D | D | D | C |
| Chlorox (Bleach) | * | A | A | * | C | * | A | A | * | D | C | * | A | B | A | A | D | D | B | * | D | C | A | A | * | A | C | * | B | B | D | A |
| Chocolate Syrup | * | A | A | * | A | * | * | * | * | D | * | * | * | * | * | A | A | A | * | * | A | * | * | A | * | A | A | * | A | * | D | A |
| Chromic Acid 5% | * | A | A | B | C | A | A | D | D | D | * | * | A | B | * | C | D | D | B | B | A | A | D | C | * | A | D | C | D | A | B | B |
| Chromic Acid 10% | * | B | * | * | * | A | A | * | D | * | * | A | A | * | A | A | * | D | * | * | A | * | * | A | * | A | D | * | D | * | * | C |
| Chromic Acid 30% | * | B | * | * | * | A | A | * | D | * | * | B | A | * | A | D | * | D | * | * | A | * | * | A | * | A | D | * | D | * | * | D |
| Chromic Acid 50% | C | B | B | * | C | A | A | D | D | D | * | C | B | B | A | D | D | D | C | C | B | B | D | A | * | A | D | * | D | A | D | C |
| Cider | * | A | A | A | B | * | * | A | * | D | * | * | A | * | * | A | B | * | * | B | * | * | A | A | * | A | A | * | A | * | * | A |
| Citric Acid | * | A | A | A | C | A | A | D | C | D | * | A | A | * | A | A | B | C | C | B | B | * | A | A | B | A | D | C | A | A | A | A |
| Citric Oils | * | A | A | * | C | * | * | B | * | * | * | * | * | * | * | A | B | * | * | * | A | * | A | A | * | A | A | C | D | * | * | A |
| Coffee | A | A | A | A | A | * | * | B | * | C | * | * | * | * | A | A | A | A | * | * | A | * | A | A | * | A | A | * | A | * | A | A |
| Copper Chloride | C | D | D | B | D | A | A | D | * | D | * | A | A | B | A | A | B | D | * | B | A | A | * | A | * | A | A | * | A | A | A | A |
| Copper Cyanide | * | A | A | A | D | A | A | C | * | D | * | A | A | * | A | A | B | A | * | B | A | A | A | A | * | B | B | * | A | A | A | C |
| Copper Floborate | * | D | D | * | D | * | B | D | * | D | * | * | A | * | A | * | B | * | * | A | * | * | A | * | * | A | B | * | A | * | A | A |
| Copper Nitrate | B | A | A | B | D | A | A | D | * | * | * | A | A | * | A | A | B | D | * | B | A | * | A | A | * | A | A | * | A | * | * | A |
| Copper Sulfate (5% Solution) | * | A | A | A | D | A | A | D | D | D | * | * | A | * | A | A | B | D | * | B | A | A | A | A | * | A | A | C | A | * | C | A |
| Copper Sulfate | B | B | * | * | * | A | A | C | D | * | * | A | A | * | A | A | * | C | * | * | A | * | * | A | * | B | B | * | A | A | * | A |
| Cream | * | A | A | * | A | * | * | C | * | D | * | * | * | * | * | A | A | A | * | * | A | * | A | A | * | A | A | * | C | * | * | A |
| Cresols[2] | * | A | A | * | B | * | * | D | C | * | * | * | D | D | * | * | D | * | D | D | C | A | A | A | * | A | D | D | D | D | D | A |
| Cresylic Acid | B | A | A | * | C | A | B | C | * | * | * | B | B | D | A | * | D | D | * | C | * | * | A | A | * | A | D | * | D | D | D | A |
| Cyclohexane | * | A | * | * | A | A | * | A | * | * | A | * | * | D | * | D | A | * | * | * | D | A | A | A | * | A | A | D | D | D | D | A |
| Cyanic Acid | * | A | * | * | * | * | * | * | * | * | * | * | * | * | * | * | D | * | * | * | * | * | * | * | * | * | C | * | D | * | * | A |

Reproduced by Permission of Little Giant Pump Company

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| etergents | * | A | A | * | A | * | * | A | * | * | A | * | A | * | * | A | B | A | B | B | A | A | A | A | * | A | A | * | B | A | C | A |
| chlorethane | * | A | A | * | * | * | A | * | * | * | * | * | D | D | A | * | * | A | * | D | * | * | * | * | * | C | * | * | D | * | D | A |
| esel Fuel | A | A | A | * | A | * | * | A | * | A | A | * | * | * | * | D | A | * | * | * | D | A | A | A | * | A | A | * | D | D | D | A |
| ethylamine | A | A | * | * | A | * | * | A | * | * | * | * | D | * | A | B | D | * | * | * | C | * | A | A | * | D | B | * | B | B | C | A |
| ethylene Gycol | * | A | * | * | * | * | * | A | * | * | * | * | * | * | * | A | A | A | B | B | * | * | A | A | * | A | A | C | A | A | A | A |
| phenyl Oxide | * | A | * | * | * | * | * | A | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | A | D | * | D | D | D | A |
| ves | * | A | A | * | B | * | * | C | * | * | * | * | * | * | * | A | A | * | * | * | * | * | * | * | * | A | * | * | C | * | * | A |
| osom Salts (Magnesium Sulfate) | B | A | A | A | A | A | B | B | * | * | * | * | A | * | * | A | A | * | * | * | A | * | A | A | * | A | A | * | A | * | C | A |
| hane | A | A | * | * | A | * | * | A | * | * | * | * | * | * | * | D | A | * | * | * | * | * | A | A | * | A | A | * | B | D | D | A |
| hanolamine | * | A | A | * | * | * | * | * | * | * | C | * | * | * | * | * | D | * | * | * | * | A | A | A | * | D | B | C | B | * | C | A |
| her[3] | A | A | A | A | A | * | B | B | A | * | B | * | D | C | * | D | A | C | * | * | * | A | A | A | A | C | D | * | D | C | D | A |
| hyl Acetate[2] | * | A | A | * | B | * | B | B | * | * | C | D | D | D | A | D | A | A | D | C | C | A | A | A | * | D | D | C | D | B | D | A |
| hyl Chloride | * | A | A | A | B | A | B | B | * | C | D | A | D | D | A | D | A | A | * | D | D | A | A | A | * | A | D | D | C | A | A | A |
| hyl Sulfate | * | D | * | * | * | * | * | * | * | * | * | * | * | * | * | B | * | * | * | * | * | A | A | * | A | A | * | * | * | * | * | A |
| hylene Chloride[2] | * | A | A | * | C | B | B | A | * | C | C | * | D | * | A | D | A | * | D | * | D | A | A | A | * | A | D | D | D | C | D | A |
| hylene Dichloride | * | A | A | * | D | A | B | C | * | * | C | * | D | D | A | D | A | A | * | D | A | A | C | A | * | A | D | D | D | C | D | A |
| hylene Glycol[4] | * | A | A | * | A | * | A | B | B | B | C | A | A | B | A | A | A | A | A | B | B | A | A | A | A | A | A | C | A | A | A | A |
| hylene Oxide | * | * | A | * | A | * | * | A | * | * | * | * | D | * | A | A | A | A | * | * | * | * | A | A | * | D | D | D | D | C | D | A |
| atty acids | * | A | A | * | B | A | A | C | * | D | * | A | A | B | A | B | A | A | * | B | A | * | A | A | * | A | C | C | B | C | C | A |
| erric Chloride | * | D | D | D | D | A | B | D | D | D | * | A | A | B | A | A | B | D | * | B | A | A | A | A | * | A | D | C | B | A | A | A |
| erric Nitrate | * | A | A | A | D | A | A | D | * | * | * | A | A | * | A | A | B | D | * | B | A | A | A | A | * | A | A | D | A | A | A | A |
| erric Sulfate | * | A | C | A | D | A | A | D | D | D | * | A | A | B | A | A | B | A | C | * | A | A | C | A | * | A | B | C | A | * | A | A |
| errous Chloride | * | D | D | * | D | A | B | C | * | D | * | A | A | B | A | A | B | D | * | B | A | A | A | A | * | A | B | C | A | * | A | A |
| errous Sulfate | B | A | C | * | D | A | B | C | * | D | D | A | A | B | A | A | B | D | * | B | A | A | A | A | * | A | B | * | A | * | A | A |
| luboric Acid | * | D | B | * | * | D | A | * | * | D | * | A | A | B | A | B | B | C | * | B | A | * | A | D | * | A | B | * | A | * | * | A |
| luorine | D | D | D | * | D | D | A | D | * | D | D | * | C | * | C | * | * | D | * | C | * | * | D | * | * | * | * | * | * | * | * | D |
| luosilicic Acid | * | * | B | * | D | D | B | * | * | D | * | A | A | B | A | A | B | D | * | B | A | * | A | D | * | B | A | * | A | * | * | C |
| ormaldehyde 40% | * | * | A | * | * | A | A | * | * | * | * | B | B | * | A | A | * | D | * | * | A | A | * | A | * | D | B | B | A | * | * | A |
| ormaldehyde | A | A | A | * | A | A | B | A | B | D | A | * | A | B | A | D | A | A | * | B | A | A | A | A | * | A | C | B | D | B | C | A |
| ormic Acid[6] | C | A | B | B | D | C | A | C | C | D | D | A | D | B | A | A | D | D | * | B | A | A | A | A | B | B | D | C | D | A | C | B |
| reon 11[1] | A | * | A | * | B | * | * | B | * | C | B | * | B | D | A | D | A | A | D | C | * | A | A | A | A | C | C | D | D | D | D | A |
| reon 12 (Wet)[2] | * | * | D | * | B | * | * | B | * | * | * | * | B | D | A | D | A | A | B | C | A | A | A | A | A | A | A | D | B | B | D | A |
| reon 22 | * | * | A | * | B | * | * | B | * | * | * | * | D | D | * | B | A | A | * | * | * | A | A | A | A | D | D | D | A | A | A | A |
| reon 113 | * | * | A | * | B | * | * | B | * | * | * | * | C | D | * | * | A | A | * | * | * | A | A | A | A | C | A | D | A | * | D | A |
| reon T.F.[4] | * | * | A | * | B | * | * | B | * | * | * | * | B | D | * | D | A | A | * | * | D | A | A | A | A | B | A | D | A | D | D | A |
| ruit Juice | A | A | A | A | B | * | * | B | * | D | D | * | A | * | D | A | B | A | * | B | A | * | A | A | A | A | A | * | A | * | * | A |
| uel Oils | A | A | A | * | A | A | A | B | * | C | B | A | A | * | A | A | A | A | * | D | B | A | A | A | * | A | A | C | B | D | D | A |
| uran Resin | * | A | A | * | A | * | * | A | * | A | A | * | * | * | A | * | A | * | * | * | * | A | * | A | * | A | D | * | D | * | D | A |
| urfural[1] | A | A | A | * | A | * | B | A | * | * | A | D | D | * | A | D | B | A | D | D | D | A | A | A | * | D | D | D | D | B | D | A |
| allic Acid | B | A | A | * | A | * | A | A | * | D | D | * | A | A | A | * | * | A | * | * | * | * | * | * | * | B | A | * | * | * | * | * |
| asoline[1 4] | A | A | A | A | A | D | A | A | * | A | A | A | C | * | A | D | A | A | D | D | C | A | A | A | A | A | A | D | D | C | D | A |
| elatin | A | A | A | A | A | * | A | A | C | D | D | * | A | * | A | A | A | A | * | * | A | * | A | A | * | A | A | * | A | A | A | A |
| lucose | A | * | A | * | A | * | * | A | A | B | B | * | A | B | A | B | A | A | B | B | A | * | A | A | * | A | A | B | A | A | A | A |
| lue P.V.A.[1] | B | B | A | * | B | A | * | A | * | * | A | * | A | B | A | * | A | A | * | * | * | * | A | A | * | A | A | * | A | * | * | A |
| lycerine | A | A | A | A | A | A | A | A | B | B | B | A | A | B | A | A | A | A | C | * | A | * | A | A | * | A | A | B | A | A | A | A |
| lycolic Acid | * | * | * | * | * | * | A | * | * | * | * | * | | A | * | A | C | * | * | B | A | A | A | * | * | A | A | * | A | * | * | A |
| old Monocyanide | * | * | A | * | * | * | * | A | * | D | * | * | * | * | * | A | * | * | * | * | * | * | A | A | * | A | A | * | A | * | * | A |
| rape Juice | * | A | A | * | B | * | * | B | * | D | * | * | A | * | * | A | B | * | B | B | * | * | A | A | * | A | A | * | A | * | * | A |
| rease[4] | A | A | A | * | A | * | * | B | * | A | A | * | * | * | A | * | A | A | * | * | * | * | A | A | * | A | A | * | D | * | * | A |
| eptane[1] | A | * | A | * | A | * | A | A | * | * | B | A | A | * | A | D | A | A | C | D | D | A | A | A | * | A | A | * | B | D | * | A |
| exane[1] | A | A | A | * | A | * | A | B | * | * | B | A | C | * | A | D | A | A | D | * | C | A | A | A | * | A | A | B | B | D | D | A |

**Reproduced by Permission of Little Giant Pump Company**

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Honey | * | A | A | * | A | * | * | A | * | A | * | * | A | * | * | A | A | A | B | * | A | * | A | A | * | A | A | * | A | A | * | A |
| Hydraulic Oils (Petroleum)[1] | A | A | A | * | A | * | * | B | * | A | A | * | * | * | A | * | A | A | * | * | D | * | A | A | * | A | A | * | B | D | D | A |
| Hydraulic Oils (Synthetic)[1] | * | A | A | * | A | * | * | A | * | A | * | * | * | * | * | * | A | A | * | * | D | * | A | A | * | A | C | D | * | * | * | A |
| Hydrazine | * | A | A | * | * | * | * | * | * | C | * | * | * | * | * | * | D | * | * | * | * | * | A | * | * | A | B | D | B | A | C | A |
| Hydrobromic Acid 20% | * | * | D | * | * | A | A | * | * | * | * | A | A | * | A | A | * | D | * | * | A | * | * | B | * | A | D | * | C | * | * | B |
| Hydrobromic Acid[4] | D | D | D | D | D | A | A | D | * | D | D | A | A | B | A | C | D | D | * | B | B | * | A | A | * | A | D | D | D | A | A | A |
| Hydrochloric Acid (Dry Gas) | D | C | A | * | D | * | A | * | * | * | D | * | A | * | A | * | * | * | * | * | * | * | A | * | * | * | * | * | * | A | * | A |
| Hydrochloric Acid (20%)[4] | * | D | D | D | D | C | B | D | * | D | * | A | A | B | A | A | D | D | B | A | A | D | A | A | D | A | C | * | C | A | C | A |
| Hydrochloric Acid (37%)[4] | * | D | D | D | D | C | B | D | * | D | * | A | A | B | A | A | D | D | C | A | A | D | A | C | D | A | C | C | C | C | D | A |
| Hydrochloric Acid 100% | * | D | D | * | D | D | C | D | * | D | * | * | A | A | A | * | * | D | * | A | * | * | A | C | * | C | D | * | C | * | A | A |
| Hydrocyanic Acid | A | A | A | C | A | A | A | D | D | * | C | * | A | B | A | A | B | A | * | B | A | * | A | A | * | A | C | * | B | * | A | A |
| Hydrocyanic Acid (Gas 10%) | * | D | D | * | * | * | * | * | * | * | * | * | A | * | A | * | * | * | * | * | * | * | * | * | * | * | * | * | C | A | C | A |
| Hydrofluoric Acid (20%)[1] | * | D | D | D | D | D | B | D | * | D | * | * | D | B | A | A | D | D | * | C | A | C | B | C | D | A | D | * | C | A | C | B |
| Hydrofluoric Acid (75%)[1] [2] | * | C | D | * | D | D | C | D | * | D | * | A | C | B | A | D | D | D | * | C | B | C | D | D | D | A | D | D | D | C | C | C |
| Hydrofluoric Acid 100% | D | D | D | * | D | D | B | D | * | D | D | * | C | D | A | * | * | * | * | D | * | C | D | D | * | * | D | * | D | * | D | A |
| Hydrofluosilicic Acid (20%) | * | D | D | * | D | D | B | A | * | D | * | * | D | * | A | B | D | D | * | * | A | * | A | D | * | A | B | * | B | A | A | C |
| Hydrofluosilicic Acid | * | D | D | * | C | * | C | D | * | * | * | * | C | A | * | | * | * | * | * | * | * | A | * | * | * | * | D | A | * | * | * |
| Hydrogen Gas | A | A | A | * | A | * | * | A | * | B | B | A | A | * | A | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A |
| Hydrogen Peroxide 10% | * | C | C | * | A | C | A | D | D | D | * | * | A | A | A | * | * | D | * | A | * | B | A | A | * | * | A | * | D | * | C | D |
| Hydrogen Peroxide 30% | * | * | B | * | * | B | A | * | D | * | * | * | A | * | A | * | * | D | * | * | A | C | * | * | * | A | D | * | C | * | * | B |
| Hydrogen Peroxide | * | A | B | A | A | B | A | D | D | D | D | C | A | C | A | B | D | D | * | B | A | C | * | A | A | A | D | C | D | C | C | A |
| Hydrogen Sulfide, Aqueous Solution | * | A | A | C | C | A | A | D | C | D | * | A | A | B | A | A | D | D | * | B | A | A | A | A | A | B | C | * | B | A | D | A |
| Hydrogen Sulfide (Dry) | A | C | A | * | D | * | A | D | C | B | B | * | A | * | A | * | * | D | * | * | * | A | * | A | * | A | * | * | * | * | A | A |
| Hydroxyacetic Acid (70%) | * | * | * | * | D | B | * | * | * | * | * | * | A | * | * | * | D | * | * | * | * | * | A | A | * | A | A | * | A | A | * | A |
| Ink | A | A | A | * | C | * | * | C | * | D | D | * | * | * | * | B | A | A | * | B | * | * | A | A | A | A | A | * | A | * | * | A |
| Iodine | * | D | D | D | D | A | B | D | * | D | * | * | D | B | A | A | C | D | D | D | D | * | D | A | * | A | B | * | D | B | D | A |
| Iodine (In Alcohol) | * | * | B | * | * | D | A | * | * | * | * | * | D | * | A | C | * | D | * | * | B | * | * | A | * | A | D | * | D | * | * | * |
| Iodoform | B | D | A | * | A | * | * | C | * | C | B | * | * | * | A | * | * | A | * | * | * | * | * | * | * | C | * | * | * | * | * | * |
| Isotane[2] | * | * | * | * | A | * | * | * | * | * | * | * | * | * | * | D | A | * | * | * | D | * | * | A | * | A | A | * | * | * | D | A |
| Isopropyl Acetate | * | * | B | * | C | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | * | A | A | * | D | D | * | D | B | D | A |
| Isopropyl Ether[4] | A | * | A | * | A | * | * | A | * | * | A | * | * | * | A | D | A | * | * | * | D | * | A | A | * | D | B | * | D | D | D | * |
| Jet Fuel (JP3, JP4, JP5) | A | A | A | * | A | * | * | A | * | A | A | A | A | * | A | D | A | A | * | * | D | A | A | A | * | A | A | D | D | D | D | A |
| Kerosene[2] | A | A | A | A | A | A | A | A | A | A | B | A | A | D | A | D | A | A | B | D | D | A | A | A | A | A | A | D | D | A | D | A |
| Ketones | A | A | A | * | B | A | A | A | * | A | A | D | D | D | A | D | B | A | * | D | D | A | C | A | * | D | D | * | D | D | C | C |
| Lacquers | A | A | A | * | A | * | * | A | C | C | C | * | * | D | * | C | A | A | * | * | A | * | A | A | * | D | D | * | D | * | D | A |
| Lacquer Thinners | * | * | A | * | * | A | A | * | C | * | * | * | C | * | A | D | * | A | * | * | B | * | * | A | * | * | D | * | D | A | * | * |
| Lactic Acid | A | A | B | C | C | A | A | D | * | D | D | C | A | B | A | A | B | C | * | B | A | A | A | A | * | B | B | * | A | B | A | A |
| Lard | B | A | A | A | A | * | * | A | * | A | C | * | A | * | * | * | A | A | C | * | A | * | A | A | * | A | A | C | B | * | D | A |
| Latex | * | A | A | * | A | * | * | A | * | * | * | * | * | * | * | A | A | A | * | B | * | * | * | A | * | A | A | * | C | A | * | A |
| Lead Acetate | B | A | A | * | D | A | A | C | * | * | D | * | A | B | A | A | A | A | * | B | A | * | A | A | * | D | B | * | D | A | A | A |
| Lead Sulfamate | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | A | * | * | * | * | A | B | C | A | D | C | A |
| Ligroin[3] | * | * | A | * | * | * | * | A | * | * | * | * | * | * | * | D | A | * | * | * | D | * | * | A | * | A | A | * | B | A | D | A |
| Lime | * | A | A | * | C | A | * | A | * | A | * | * | A | * | * | A | D | * | C | * | * | * | A | A | * | A | A | C | B | D | * | A |
| Lubricants | * | A | A | * | A | A | A | B | * | * | * | * | A | * | A | * | A | A | B | * | A | A | A | A | * | A | A | C | D | * | D | A |
| Magnesium Carbonate | * | A | A | A | * | * | B | * | * | * | * | * | A | * | * | A | A | * | * | B | A | * | * | A | * | * | A | * | A | A | * | A |
| Magnesium Chloride | B | B | B | A | D | A | A | B | C | D | C | * | A | B | A | A | A | A | * | B | A | A | * | A | * | A | A | * | A | A | A | A |
| Magnesium Hydroxide | A | A | A | * | D | A | A | C | B | B | B | A | A | * | A | A | A | A | * | B | A | A | A | A | * | A | B | * | B | * | C | A |
| Magnesium Nitrate | * | A | A | A | * | A | A | * | * | * | * | * | A | * | A | A | A | A | * | B | A | * | * | A | * | A | A | * | A | * | * | A |
| Magnesium Oxide | * | A | A | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | * | A | * | * | A | * | A | A | * | A |
| Magnesium Sulfate | B | B | A | * | B | A | B | B | B | C | B | * | A | B | A | A | A | A | * | B | A | A | A | A | * | A | A | * | A | D | C | A |
| Maleic Acid | C | A | A | A | B | A | A | C | * | * | B | * | A | B | A | A | C | A | * | * | C | * | A | A | * | A | D | * | A | D | D | A |
| Maleic Anhydride | * | * | * | * | * | * | A | * | * | * | * | * | * | * | * | * | C | * | * | * | * | * | A | A | * | A | D | * | D | * | D | A |

**Reproduced by Permission of Little Giant Pump Company**

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Malic Acid | B | A | A | * | C | * | A | D | * | * | D | * | A | * | A | * | * | A | * | * | * | * | * | A | * | C | * | * | A | * | A | * |
| Mash | * | A | A | * | * | * | * | A | * | * | * | * | * | * | * | A | A | * | * | * | * | * | A | A | * | * | A | * | A | * | * | A |
| Mayonnaise | A | A | A | * | D | * | * | D | * | D | D | * | * | * | A | A | A | A | B | * | A | * | A | A | * | A | A | * | * | * | * | A |
| Melamine | * | D | D | * | * | * | * | D | * | * | * | * | * | * | * | * | D | * | * | * | * | * | A | A | * | * | C | * | * | * | * | A |
| Mercuric Chloride (Dilute Solution) | D | D | D | D | D | A | B | D | D | D | D | * | A | A | A | A | A | A | * | B | A | * | A | A | * | A | A | * | A | A | A | A |
| Mercuric Cyanide | A | A | A | * | D | A | * | D | * | * | D | * | A | * | A | A | A | * | * | B | A | * | A | A | * | * | A | * | * | * | * | A |
| Mercury | A | A | A | A | C | C | A | D | D | A | A | * | A | * | A | A | A | A | * | B | A | * | A | A | * | A | A | * | A | A | A | A |
| Methanol (See Alcohol Methyl) | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Methyl Acetate | A | * | A | * | A | * | A | A | * | * | B | * | * | * | A | * | A | * | D | * | * | * | A | A | * | D | D | D | B | B | D | * |
| Methyl Acrylate | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | D | D | * | B | B | D | A |
| Methyl Acetone | A | * | A | * | A | * | * | A | * | A | A | * | * | * | A | D | A | * | * | * | * | * | * | A | * | D | D | * | D | * | * | C |
| Methyl Alcohol 10% | A | * | A | * | C | * | A | C | * | * | B | * | A | * | A | * | * | A | * | * | * | * | * | * | * | * | B | * | * | * | A | A |
| Methyl Bromide | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | D | * | * | A | A | * | A | B | * | D | D | D | B |
| Methyl Butyl Ketone | * | * | A | * | A | * | * | * | * | * | * | * | * | * | D | B | * | * | * | * | * | A | A | * | D | D | C | D | A | D | B |
| Methyl Cellosolve | * | * | * | * | A | * | * | A | * | * | * | * | * | * | C | B | * | * | * | A | * | A | A | * | D | D | * | D | B | D | C |
| Methyl Chloride | * | C | A | * | D | A | A | A | * | * | * | A | D | * | A | D | A | A | * | D | D | * | A | A | * | A | D | D | D | C | D | A |
| Methyl Dichloride | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | D | A | * | * | * | * | * | A | A | * | A | D | * | D | D | D | A |
| Methyl Ethyl Ketone | * | A | A | * | A | A | A | A | * | * | * | D | D | * | A | D | B | A | D | D | A | A | A | A | * | D | D | C | D | A | D | B |
| Methyl Isobutyl Ketone[2] | * | * | A | * | * | A | A | * | * | * | * | D | D | * | A | D | B | A | D | * | C | A | A | A | * | D | D | C | D | C | D | B |
| Methyl Isopropyl Ketone | * | * | A | * | * | * | * | * | * | * | * | * | * | * | * | D | B | A | * | * | * | * | A | A | * | D | D | B | D | B | D | B |
| Methyl Methacrylate | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | D | D | * | D | D | D | A |
| Methylamine | A | * | A | * | A | * | * | D | * | B | B | * | * | * | * | B | D | * | * | * | * | * | A | A | * | * | B | * | * | * | * | A |
| Methylene Chloride | A | A | A | * | A | A | A | A | C | * | B | D | D | * | A | D | A | D | * | D | D | * | A | A | * | B | D | * | D | D | D | A |
| Milk | A | A | A | A | A | * | * | C | C | D | D | * | A | * | * | A | A | A | B | B | A | * | A | A | A | A | A | B | A | A | A | A |
| Molasses | A | A | A | A | A | * | * | A | B | A | A | * | A | * | * | B | A | A | * | B | A | * | A | A | A | A | A | * | A | * | * | A |
| Mustard | A | A | A | A | B | * | * | B | * | C | B | * | A | * | * | B | B | A | B | * | A | * | A | A | * | A | B | C | C | * | * | A |
| Naptha | A | A | A | A | A | A | A | B | * | B | B | A | A | C | A | D | A | A | C | D | A | A | A | A | * | A | B | D | D | D | D | A |
| Napthalene | B | A | B | * | B | A | A | C | * | B | A | A | D | * | A | D | A | * | * | D | B | A | A | A | * | C | D | * | D | D | D | A |
| Nickel Chloride | * | A | B | * | D | A | A | D | * | D | * | A | A | B | A | A | B | A | * | B | A | * | A | A | * | A | A | * | A | A | A | A |
| Nickel Sulfate | B | A | B | * | D | A | B | C | C | D | D | A | A | A | A | A | B | A | * | B | A | * | A | A | * | A | A | * | A | A | C | A |
| Nitric Acid (10% Solution) | A | A | A | A | D | A | A | D | * | D | D | A | A | B | A | A | D | D | C | B | A | D | C | B | D | A | D | * | D | B | D | A |
| Nitric Acid (20% Solution) | * | A | A | A | D | A | A | D | * | D | * | B | A | B | A | A | D | D | D | B | A | C | D | C | D | A | D | * | D | D | D | B |
| Nitric Acid (50% Solution) | * | A | A | A | D | A | A | D | * | D | * | B | A | B | A | A | D | D | D | C | D | C | D | A | * | A | D | * | D | D | D | D |
| Nitric Acid (Concentrated Solution) | * | D | B | A | B | A | B | D | D | D | * | * | D | C | A | D | D | D | D | D | D | C | D | A | C | B | D | * | D | D | D | D |
| Nitrobenzene[2] | B | A | B | * | C | A | B | D | * | B | B | D | D | D | A | D | B | C | D | D | C | B | A | A | * | D | D | D | D | D | D | B |
| Oils | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aniline | * | A | A | * | C | A | D | A | * | A | * | * | D | * | A | D | D | C | D | * | A | * | A | A | * | A | D | * | D | B | D | A |
| Anise | * | A | A | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | * | * | * | D | * | * | A |
| Bay | * | A | A | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | A | * | * | D | * | * | A |
| Bone | * | A | A | * | * | * | * | A | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | A | A | * | D | * | * | A |
| Castor | * | A | A | * | A | * | * | A | * | A | * | * | A | * | * | * | A | * | * | * | * | * | A | A | A | A | A | * | A | B | A | A |
| Cinnamon | * | A | A | * | * | * | * | * | * | * | * | * | * | * | A | * | A | * | * | * | A | * | A | A | * | D | * | * | D | * | * | A |
| Citric | * | A | A | * | * | * | * | D | * | D | * | * | * | * | * | * | A | A | * | * | A | * | A | A | * | A | A | * | D | * | * | A |
| Clove | * | A | A | * | * | * | * | * | * | * | * | * | * | * | * | * | A | A | * | * | B | * | A | A | * | * | A | * | * | * | * | A |
| Coconut | * | A | A | * | B | * | * | A | * | A | * | * | * | * | * | * | A | A | * | * | A | * | A | A | * | A | A | * | A | A | D | A |
| Cod Liver | * | A | A | * | B | * | * | * | * | * | * | * | * | * | * | * | A | A | C | * | A | * | A | A | * | A | A | * | B | A | D | A |
| Corn | * | A | A | A | B | * | * | B | * | A | * | * | * | * | * | * | A | A | C | * | A | * | A | A | * | A | A | * | D | C | D | A |
| Cotton Seed | B | A | A | A | B | * | * | B | * | A | C | * | A | * | A | * | A | A | C | * | A | A | A | A | * | A | A | * | D | C | D | A |
| Cresote[2] | * | A | A | * | A | * | * | * | * | * | * | * | * | * | * | * | D | * | * | * | D | * | A | A | * | A | A | * | B | D | D | A |
| Diesel Fuel (2D, 3D, 4D, 5D) | * | A | A | * | A | * | * | A | * | * | * | * | * | * | * | D | A | A | * | * | A | A | A | A | * | A | A | * | D | D | D | A |
| Fuel (1, 2, 3, 5A, 5B, 6) | * | A | A | * | A | A | A | A | * | * | * | * | A | * | A | D | A | * | * | * | B | * | A | A | * | A | B | * | D | D | D | A |

**Reproduced by Permission of Little Giant Pump Company**

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna-N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ginger | * | A | A | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | A | A | * | A | * | * | A |
| Hydraulic (See Hydraulic) | * | | | | | | | | * | | * | * | | | | | | | | | | | | | | | | * | | * | | |
| Lemon | * | A | A | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | D | * | A | A | * | A | * | * | D | * | * | A |
| Linseed | * | A | A | A | A | * | * | A | * | A | * | * | A | B | * | * | A | A | C | * | A | * | A | A | A | A | A | * | D | D | D | A |
| Mineral | A | A | A | A | A | * | * | A | * | A | B | * | A | * | * | B | A | A | * | * | B | A | A | A | A | A | A | * | B | D | D | A |
| Olive | A | A | A | * | A | * | * | B | * | A | B | * | A | * | A | * | A | A | * | * | A | * | A | A | * | A | A | C | B | * | D | A |
| Orange | * | A | A | * | * | * | * | * | * | * | * | * | * | * | A | * | A | A | * | * | A | * | A | A | * | A | A | * | D | * | * | A |
| Palm | * | A | A | * | A | * | * | B | * | * | * | * | A | * | * | * | A | A | * | * | * | * | A | A | * | A | A | * | D | * | * | A |
| Peanut[3] | * | A | A | * | A | * | * | A | * | A | * | * | A | * | * | * | A | * | * | * | D | * | A | A | * | A | A | * | D | * | D | A |
| Peppermint[2] | * | A | A | * | * | * | * | A | * | * | * | * | * | * | * | * | A | * | * | * | D | * | A | A | * | A | D | * | D | * | * | A |
| Pine | A | A | A | * | A | * | * | D | * | C | B | * | A | * | A | * | A | * | * | * | * | * | A | A | * | A | A | * | D | * | D | A |
| Rape Seed | * | A | A | * | * | * | * | A | * | * | * | * | A | * | * | * | A | * | * | * | * | * | A | A | * | A | B | * | D | * | D | A |
| Rosin | * | A | A | * | A | * | * | * | * | * | * | * | * | * | * | * | A | A | * | * | A | * | A | A | * | A | A | * | * | * | * | A |
| Sesame Seed | * | A | A | * | A | * | * | A | * | A | * | * | A | * | * | * | A | * | * | * | * | * | A | A | * | A | A | * | D | * | * | A |
| Silicone | * | A | A | * | * | * | * | A | * | A | * | * | * | * | * | A | A | A | * | * | A | * | A | A | A | A | A | * | A | * | A | A |
| Soybean | * | A | A | * | A | * | * | B | * | A | * | * | A | * | * | * | A | A | * | * | A | * | A | A | * | A | A | * | D | * | D | A |
| Sperm | * | A | A | * | * | * | * | A | * | * | * | * | A | * | * | * | A | * | * | * | * | * | A | A | * | A | A | * | D | * | * | A |
| Tanning | * | A | A | * | * | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | A | A | * | D | * | * | A |
| Turbine | * | A | A | * | A | * | * | A | * | A | * | * | A | * | * | * | A | * | C | * | * | * | A | A | * | A | A | * | D | * | D | A |
| Oleic Acid | B | A | A | B | B | * | B | B | C | C | C | * | A | C | A | C | B | A | B | D | C | * | A | A | * | B | B | D | D | D | D | A |
| Oleum 25% | * | * | * | * | * | A | * | * | * | * | B | D | * | A | D | * | * | * | * | * | * | * | * | A | * | A | D | D | D | D | * | D |
| Oleum | B | * | A | * | B | * | * | C | C | * | B | D | D | * | A | * | D | * | * | * | D | * | * | A | * | A | C | D | D | D | D | A |
| Oxalic Acid (cold) | C | A | B | A | C | C | B | B | C | D | D | * | A | B | A | C | C | D | * | A | A | * | A | A | * | A | B | C | B | A | C | A |
| Paraffin | A | A | A | A | A | * | * | A | * | B | B | A | A | * | A | B | A | A | B | * | A | * | A | A | * | A | A | * | * | * | * | A |
| Pentane | A | C | C | * | A | * | B | A | * | B | B | * | * | * | A | D | A | A | D | * | * | * | A | A | * | A | A | * | B | D | D | A |
| Perchloroethylene[2] | B | A | A | * | D | * | * | C | * | B | B | A | * | * | A | D | A | * | D | * | D | A | A | A | * | A | C | D | D | D | D | A |
| Petrolatum | A | * | A | * | B | * | * | B | * | C | C | * | * | * | A | D | A | A | B | * | * | * | A | A | * | A | A | * | B | A | D | A |
| Phenol 10% | B | A | A | * | A | * | B | C | * | B | D | * | A | C | A | * | * | D | * | * | * | A | * | * | * | B | D | * | C | D | C | C |
| Phenol (Carbolic Acid) | B | A | A | A | B | C | A | B | D | D | D | A | A | C | A | C | D | D | * | D | B | A | A | D | A | A | D | * | D | D | D | B |
| Phosphoric Acid (to 40% Solution) | * | B | A | A | D | A | A | D | D | D | * | * | A | B | A | A | D | D | C | B | A | A | B | C | D | A | D | * | D | B | C | A |
| Phosphoric Acid (40%-100% Solution) | * | C | B | B | D | B | A | D | D | D | * | * | A | B | A | A | D | D | D | C | A | A | B | D | D | A | D | * | D | B | C | C |
| Phosphoric Acid (Crude) | * | D | C | C | D | C | A | D | D | D | D | A | * | * | A | * | D | D | D | C | * | A | C | D | * | A | D | * | D | B | * | A |
| Phosphoric Anhydride (Dry or Moist) | * | A | A | * | * | * | * | * | D | * | * | * | D | D | A | * | * | * | * | * | * | * | A | * | * | D | D | * | D | * | A | * |
| Phosphoric Anhydride (Molten) | * | A | A | * | D | * | * | D | D | * | * | * | D | * | A | * | * | A | * | D | * | * | * | * | * | D | C | * | D | * | D | A |
| Photographic (Developer) | * | C | A | C | C | A | A | * | * | D | * | * | A | * | * | A | C | * | * | B | A | * | A | A | * | A | A | * | A | * | * | A |
| Phthalic Anhydride | B | A | B | * | B | * | A | B | * | C | C | * | * | * | A | * | * | A | * | * | * | * | * | * | * | A | C | * | * | * | * | * |
| Picric Acid | B | A | A | * | C | * | A | D | D | D | D | * | A | A | A | * | * | A | * | A | * | * | * | * | * | A | A | D | A | * | A | A |
| Plating Solutions<br>Antimony Plating 130° F | * | * | A | * | * | A | A | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | A | * | A | A | D | A | * | * | B |
| Arsenic Plating 110° F | * | * | A | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | C | * | A | A | D | A | * | * | B |
| Brass Plating<br>Regular Brass Bath 100° F | * | * | A | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | C | * | A | A | D | A | * | * | B |
| High Speed Brass Bath 110° F | * | * | A | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | D | * | A | A | D | A | * | * | B |
| Bronze Plating Copper-Cadmium<br>Bronze Bath R.T. | * | * | A | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | C | * | A | A | D | A | * | * | B |
| Copper-Tin Bronze Bath 160° F | * | * | A | * | * | A | A | * | * | * | * | * | D | * | A | A | * | A | * | * | A | * | * | D | * | A | A | D | B | * | * | C |
| Copper-Zinc Bronze Bath 100° F | * | * | A | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | C | * | A | A | * | A | * | * | B |
| Cadmium Plating<br>Cyanide Bath 90° F | * | * | A | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | C | * | A | A | * | A | * | * | B |
| Fluoborate Bath 100° F | * | * | A | * | * | D | A | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | D | * | A | B | * | C | * | * | B |
| Chromium Plating<br>Chromic-Sulfuric Bath 130° F | * | * | C | * | * | A | A | * | * | * | * | * | A | * | A | D | * | D | * | * | A | * | * | A | * | C | D | * | D | * | * | D |

**Reproduced by Permission of Little Giant Pump Company**

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluosilicate Bath 95° F | * | * | C | * | * | C | A | * | * | * | * | * | A | * | A | D | * | D | * | * | A | * | * | B | * | C | D | * | D | * | D | D |
| Fluoride Bath 130° F | * | * | D | * | * | C | A | * | * | * | * | * | A | * | A | D | * | D | * | * | A | * | * | B | * | C | D | * | D | * | * | D |
| Black Chrome Bath 115° F | * | * | C | * | * | A | A | * | * | * | * | * | A | * | A | D | * | D | * | * | A | * | * | A | * | C | D | * | D | * | * | D |
| Barrel Chrome Bath 95° F | * | * | D | * | * | C | A | * | * | * | * | * | A | * | A | D | * | D | * | * | A | * | * | A | * | C | D | * | D | * | * | D |
| Copper Plating (Cyanide) Copper Strike Bath 120° F | A | A | A | * | A | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | C | * | B | * | * | A | * | * | B |
| Rochelle Salt Bath 150° F | * | * | A | * | * | A | A | * | * | * | * | * | D | * | A | A | * | A | * | * | A | * | * | D | * | A | A | * | B | * | * | C |
| High Speed Bath 180° F | * | * | A | * | * | A | A | * | * | * | * | * | D | * | A | A | * | A | * | * | A | * | * | D | * | A | A | * | B | * | * | C |
| Copper Plating (Acid) Copper Sulfate Bath R.T. | * | * | D | * | * | A | A | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | D | * | A | A | * | A | * | * | D |
| Copper Fluoborate Bath 120° F | * | * | D | * | * | D | A | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | D | * | A | B | * | C | * | * | D |
| Copper (Misc.) Copper Pyrophosphate 140° F | * | * | A | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | B | * | A | A | * | A | * | * | B |
| Copper (Electroless) 140° F | * | * | * | * | * | * | * | D | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | D | * | A | D | * | D | * | * | B |
| Gold Plating Cyanide 150° F | * | * | A | * | * | A | A | C | * | * | * | * | D | * | A | A | * | A | * | * | A | * | * | B | * | A | A | * | A | * | * | D |
| Neutral 75° F | * | * | C | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | A | * | A | A | * | A | * | * | A |
| Acid 75° F | * | * | C | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | A | * | A | A | * | A | * | * | A |
| Indium Sulfamate Plating R.T. | * | * | C | * | * | A | A | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | A | * | A | A | * | A | * | * | A |
| Iron Plating Ferrous Chloride Bath 190° F | * | * | D | * | * | A | D | * | * | * | * | * | D | * | A | A | * | D | * | * | C | * | * | A | * | A | B | * | D | * | * | D |
| Ferrous Sulfate Bath 150° F | * | * | C | * | * | A | A | * | * | * | * | * | D | * | A | A | * | D | * | * | A | * | * | A | * | A | A | * | B | * | * | D |
| Ferrous Am. Sulfate Bath 150° F | * | * | C | * | * | A | A | * | * | * | * | * | D | * | A | A | * | D | * | * | A | * | * | A | * | A | A | * | B | * | * | D |
| Sulfate-Chloride Bath 160° F | * | * | D | * | * | A | D | * | * | * | * | * | D | * | A | A | * | D | * | * | A | * | * | A | * | A | B | * | C | * | * | D |
| Fluoborate Bath 145° F | * | * | D | * | * | D | B | * | * | * | * | * | D | * | A | A | * | D | * | * | A | * | * | D | * | A | B | * | C | * | * | D |
| Sulfamate 140° F | * | * | D | * | * | A | B | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | A | * | A | A | * | A | * | * | A |
| Lead Fluoborate Plating | * | * | C | * | * | D | A | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | D | * | A | B | * | C | * | * | A |
| Nickel Plating Watts Type 115-160° F | * | * | C | * | * | A | A | * | * | * | * | * | D | * | A | A | * | A | * | * | A | * | * | A | * | A | A | * | A | * | * | D |
| High Chloride 130-160° F | * | * | C | * | * | A | A | * | * | * | * | * | D | * | A | A | * | D | * | * | A | * | * | A | * | A | A | * | B | * | * | D |
| Fluoborate 100-170° F | * | * | C | * | * | D | A | D | * | * | * | * | D | * | A | A | * | D | * | * | A | * | * | D | * | A | B | * | C | * | * | D |
| Sulfamate 100-140° F | * | * | C | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | A | * | A | A | * | A | * | * | A |
| Electroless 200° F | * | * | * | * | * | * | * | * | * | * | * | * | D | * | A | D | * | D | * | * | D | * | * | A | * | A | D | * | D | * | * | B |
| Rhodium Plating 120° F | * | * | D | * | * | D | D | * | * | * | * | * | A | * | A | A | D | D | * | * | A | * | * | A | * | A | A | * | B | * | * | A |
| Silver Plating 80-120° F | * | * | A | * | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | B | * | A | A | * | A | * | * | A |
| Tin-Fluoborate Plating 100° F | * | * | C | * | * | D | A | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | D | * | A | B | * | C | * | * | A |
| Tin-Lead Plating 100° F | * | * | C | * | * | D | A | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | D | * | A | B | * | C | * | * | A |
| Zinc Plating Acid Chloride 140° F | * | * | D | * | * | A | D | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | A | * | A | A | * | A | * | * | A |
| Acid Sulfate Bath 150° F | * | * | C | * | * | A | A | * | * | * | * | * | D | * | A | A | * | D | * | * | A | * | * | A | * | A | A | * | B | * | * | D |
| Acid Fluoborate Bath R.T. | * | * | * | C | * | D | * | * | * | * | * | * | A | * | A | A | * | D | * | * | A | * | * | D | * | A | B | * | C | * | * | A |
| Alkaline Cyanide Bath R.T. | * | * | * | A | * | A | A | * | * | * | * | * | A | * | A | A | * | A | * | * | A | * | * | D | * | A | A | * | A | * | * | A |
| Potash | * | A | * | A | C | * | A | C | * | B | * | * | A | B | * | A | B | A | * | B | A | * | A | A | A | A | A | * | B | * | B | A |
| Potassium Bicarbonate | * | A | * | B | C | A | B | B | * | D | * | A | A | * | A | A | C | A | C | B | A | A | A | A | * | A | A | * | A | * | B | A |
| Potassium Bromide | A | A | * | B | C | A | B | C | * | D | D | A | A | * | A | A | A | C | * | B | A | C | A | A | * | A | A | * | A | A | B | A |
| Potassium Carbonate | B | A | * | A | C | A | A | C | * | B | B | A | A | B | A | A | B | A | * | B | A | A | A | A | A | A | B | * | A | * | B | A |
| Potassium Chlorate | B | A | A | A | B | A | B | B | * | B | B | A | A | B | A | A | B | D | * | B | A | A | A | A | * | A | A | * | A | * | B | A |
| Potassium Chloride | C | A | A | B | B | A | A | C | C | B | B | A | A | A | A | A | A | B | C | B | A | A | A | A | * | A | A | * | A | A | A | A |
| Potassium Chromate | * | * | B | B | A | * | B | A | * | A | * | * | A | * | * | A | C | * | * | B | * | A | A | D | * | A | A | * | A | * | B | C |
| Potassium Cyanide Solutions | B | A | B | A | D | A | A | D | * | B | B | A | A | * | A | A | C | A | * | B | A | A | C | A | * | B | A | * | A | A | A | A |
| Potassium Dichromate | B | A | A | A | A | A | B | C | * | B | C | A | A | * | A | A | C | D | * | B | A | A | A | A | * | B | A | * | A | A | A | A |
| Potassium Ferrocyanide | B | A | * | A | C | * | B | A | * | * | C | * | A | * | A | * | * | A | * | A | * | * | * | * | * | * | D | * | * | * | A | A |
| Potassium Hydroxide (50%) | A | B | B | B | D | C | A | D | D | C | A | D | A | B | A | A | D | A | C | B | A | A | * | D | A | B | B | C | A | A | C | A |
| Potassium Nitrate | B | A | B | A | B | A | B | B | * | * | B | A | A | C | A | A | B | C | * | B | A | C | A | A | * | B | A | * | A | A | A | A |

**Reproduced by Permission of Little Giant Pump Company**

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Potassium Permanganate | B | A | B | B | B | B | B | B | * | B | B | A | A | * | A | A | C | D | C | B | B | A | A | A | * | B | A | * | A | * | B | B |
| Potassium Sulfate | B | A | B | B | A | A | A | B | B | B | B | A | A | A | A | A | B | C | * | B | A | A | A | A | * | A | A | C | A | A | C | A |
| Potassium Sulfide | A | A | * | A | B | * | B | B | * | B | B | * | A | * | A | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | * |
| Propane (Liquified)[1] [2] | A | A | * | A | A | * | * | A | A | * | B | * | D | * | A | D | A | A | * | * | D | * | A | A | * | A | A | D | B | D | D | A |
| Propylene Glycol | B | B | * | A | A | * | * | B | * | B | B | * | * | * | A | * | B | B | B | B | * | * | A | A | * | A | A | * | C | * | * | A |
| Pyridine | * | C | * | B | B | * | * | * | * | B | A | D | * | D | A | D | D | * | * | C | B | A | A | A | * | D | D | * | D | B | D | A |
| Pyrogallic Acid | B | A | A | A | B | * | A | B | * | B | B | * | A | * | A | * | D | A | * | * | * | * | A | A | * | A | A | * | * | * | * | A |
| Rosins | A | A | A | A | A | * | B | A | C | * | C | * | * | * | A | * | B | A | * | * | A | * | A | A | * | * | A | * | * | * | * | A |
| Rum | * | A | * | A | * | * | * | * | * | * | * | * | A | * | * | A | A | A | * | * | A | * | A | A | * | A | A | * | A | * | * | A |
| Rust Inhibitors | * | A | * | A | * | * | * | A | * | A | * | * | * | * | * | * | A | * | * | * | A | * | A | A | * | A | A | * | C | * | * | A |
| Salad Dressing | * | A | * | A | B | * | * | B | * | D | * | * | A | * | * | A | A | A | * | * | A | * | A | A | * | A | A | * | * | * | * | A |
| Sea Water | A | A | C | A | C | A | * | C | * | * | D | * | A | * | A | A | A | A | * | B | A | * | A | A | A | A | A | B | B | A | A | A |
| Shellac (Bleached) | A | A | * | A | A | * | * | A | B | B | A | * | * | * | A | * | A | A | * | * | A | * | * | A | * | * | A | * | * | * | * | A |
| Shellac (Orange) | A | A | * | A | A | * | * | A | C | C | A | * | * | * | A | * | A | A | * | * | A | * | * | A | * | * | A | * | * | * | * | A |
| Silicone | * | B | * | A | B | * | * | A | * | * | * | * | * | * | A | A | A | * | * | A | * | A | A | * | A | A | B | A | A | A | A | A |
| Silver Bromide | * | C | C | B | D | * | * | * | * | * | * | * | * | * | A | C | * | * | * | * | * | A | * | * | * | * | * | * | * | * | * | A |
| Silver Nitrate | B | A | B | A | D | A | A | D | * | D | D | A | A | B | A | A | C | A | * | B | A | * | A | A | * | A | C | * | A | C | A | A |
| Soap Solutions[1] | A | A | A | A | C | A | B | B | B | B | A | * | B | B | A | A | A | A | * | B | A | A | A | A | A | A | A | B | B | * | C | A |
| Soda Ash (See Sodium Carbonate) | | | | | | | | | | | | * | | | | | | | | | | | | | | | | | | | | |
| Sodium Acetate | B | A | A | B | B | A | A | B | * | C | C | A | A | * | A | A | B | A | * | B | A | * | A | A | * | D | D | * | C | * | A | A |
| Sodium Aluminate | B | * | * | A | C | B | B | B | * | * | C | * | * | * | A | A | B | A | * | * | * | A | A | A | * | A | A | * | A | A | B | A |
| Sodium Bicarbonate | B | A | A | A | A | A | * | B | A | C | C | A | A | B | A | A | B | A | B | B | A | A | A | A | A | A | A | C | A | A | A | A |
| Sodium Bisulfate | A | A | * | A | D | B | B | C | C | D | D | A | A | B | A | A | B | C | C | B | A | A | A | A | * | B | A | C | A | * | A | A |
| Sodium Bisulfite | * | A | * | A | A | A | B | C | * | D | * | A | A | B | A | A | B | D | B | B | A | A | A | A | * | A | A | C | A | * | A | A |
| Sodium Borate | B | A | * | A | C | * | A | A | * | C | C | * | C | * | A | * | * | A | * | A | * | * | * | * | * | A | * | B | A | * | * | * |
| Sodium Carbonate | B | A | B | B | C | A | A | B | B | B | B | A | A | B | A | A | A | A | C | B | A | A | B | A | * | A | A | * | A | A | A | A |
| Sodium Chlorate | B | A | * | A | B | A | B | B | * | * | C | A | A | B | A | A | D | A | * | B | A | A | A | A | * | A | D | * | A | * | A | A |
| Sodium Chloride | B | A | C | B | C | A | A | B | C | B | C | A | A | B | A | A | A | A | B | B | A | A | A | A | A | A | A | C | A | A | B | A |
| Sodium Chromate | A | A | A | * | D | * | B | B | * | B | B | * | * | * | A | A | D | A | * | * | A | A | A | B | * | B | A | * | A | * | * | C |
| Sodium Cyanide | B | A | * | A | D | A | * | D | D | B | B | A | A | * | A | A | D | C | * | B | A | A | A | A | * | A | A | D | A | A | A | A |
| Sodium Fluoride | B | C | * | C | C | A | A | C | * | D | D | * | D | D | A | * | * | A | * | C | * | * | * | * | * | C | D | * | D | * | D | A |
| Sodium Hydrosulfite | * | * | * | * | A | * | A | C | * | * | * | * | C | A | A | * | * | A | * | * | * | * | * | A | * | A | * | * | A | * | A | * |
| Sodium Hydroxide (20%) | * | A | A | A | D | A | A | C | D | A | * | A | A | B | A | A | D | C | C | B | A | A | C | D | A | A | A | D | B | A | A | A |
| Sodium Hydroxide (50% Solution) | * | A | B | * | D | A | A | C | D | B | * | D | A | B | A | A | D | C | C | C | A | B | C | D | A | A | D | D | C | * | A | A |
| Sodium Hydroxide (80% Solution) | * | A | D | * | D | A | B | C | D | C | * | * | A | B | A | A | D | C | C | C | A | B | C | D | A | B | D | D | C | * | B | A |
| Sodium Hypochlorite[3] (to 20%) | * | C | C | C | C | A | A | D | D | D | * | * | A | B | A | A | D | A | * | B | D | C | D | A | B | A | C | D | D | B | C | B |
| Sodium Hypochlorite | D | * | A | * | D | A | A | D | * | D | D | A | A | * | A | A | * | A | * | * | A | C | * | D | * | D | B | C | A | * | * | A |
| Sodium Hyposulfate | * | A | A | * | D | * | * | D | * | * | * | * | * | * | A | * | * | * | * | * | * | * | * | * | * | * | * | * | C | * | C | C |
| Sodium Metaphosphate[3] | A | * | A | * | A | * | * | C | C | B | B | * | * | * | A | * | B | A | * | * | D | * | A | A | * | A | A | * | B | A | A | A |
| Sodium Metasilicate | A | * | A | * | B | * | * | B | * | C | C | * | * | * | A | * | D | * | * | * | * | * | A | * | * | A | A | D | A | * | * | A |
| Sodium Nitrate | B | A | A | A | A | A | B | B | C | A | B | A | A | B | A | A | B | A | * | B | A | * | A | A | A | B | C | D | B | A | C | A |
| Sodium Perborate | B | * | C | * | B | * | * | C | C | B | B | * | * | * | A | A | B | A | * | * | A | * | A | A | * | A | B | C | D | B | A | C |
| Sodium Peroxide | B | A | A | * | C | * | B | C | C | D | C | * | A | * | A | * | D | D | * | * | * | * | A | A | * | A | C | D | B | A | C | A |
| Sodium Polyphosphate (Mono, Di, Tribasic) | * | A | A | * | D | A | A | C | * | * | * | * | * | * | A | A | B | * | * | * | * | * | A | A | * | A | A | * | D | A | A | A |
| Sodium Silicate | B | A | B | A | C | A | B | C | C | * | B | * | A | B | A | A | C | A | * | * | A | * | A | A | * | A | A | * | A | A | A | A |
| Sodium Sulfate | B | A | A | C | B | A | B | B | B | A | B | * | A | * | A | A | B | A | * | B | A | A | A | A | * | A | A | * | A | A | C | A |
| Sodium Sulfide | B | A | B | * | D | A | B | D | D | A | B | * | A | B | A | A | B | A | * | B | A | A | A | A | * | A | C | * | A | A | C | A |
| Sodium Sulfite | * | C | C | * | C | A | A | C | * | A | * | * | A | A | A | * | * | D | * | A | * | * | A | A | * | A | A | * | A | * | A | A |
| Sodium Tetraborate | * | * | A | * | * | * | * | * | * | * | * | * | A | * | * | A | B | * | * | * | * | * | A | A | * | A | A | * | * | * | * | A |
| Sodium Thiosulphate ("Hypo") | A | A | A | * | B | A | * | D | D | C | B | * | A | * | A | A | C | A | * | * | A | A | A | A | * | A | B | * | A | A | C | A |
| Sorghum | * | A | A | * | * | * | * | * | * | A | * | * | * | * | * | * | A | A | * | * | * | * | A | A | * | A | A | * | A | * | * | A |

**Reproduced by Permission of Little Giant Pump Company**

| | 302 Stainless Steel | 304 Stainless Steel | 316 Stainless Steel | 440 Stainless Steel | Aluminum | Titanium | Hastelloy C | Cast Bronze | Brass | Cast Iron | Carbon Steel | Kynar | PVC (Type 1) | Tygon (E-3606) | Teflon | Noryl | Polyacetal | Nylon | Cycolac (ABS) | Polyethylene | Polypropylene | Ryton | Carbon | Ceramic | Ceramagnet "A" | Viton | Buna N (Nitrile) | Silicon | Neoprene | Ethylene Propylene (EPM) | Rubber (Natural) | Epoxy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soy Sauce | * | A | A | * | A | * | * | A | * | D | * | * | * | * | * | A | A | A | * | * | * | * | A | A | * | A | A | * | A | * | D | A |
| Stannic Chloride | D | D | D | * | D | A | B | D | * | D | D | A | A | * | A | A | C | A | * | B | A | * | * | A | * | A | A | D | A | A | A | A |
| Stannic Fluoborate | * | * | A | * | * | * | * | * | * | D | * | * | * | * | * | A | C | * | * | * | * | * | * | A | * | A | A | * | A | * | * | A |
| Stannous Chloride | D | D | C | * | D | A | A | D | * | D | D | * | A | A | A | * | * | D | * | A | * | * | * | * | * | B | C | D | D | * | A | A |
| Starch | B | A | A | * | A | * | * | B | * | C | C | * | A | * | A | A | A | A | * | B | * | * | A | A | * | A | A | * | A | * | * | A |
| Stearic Acid[2] | B | A | A | A | B | A | A | C | C | C | C | A | A | B | A | A | A | A | * | B | D | * | A | A | A | A | B | D | B | B | C | A |
| Stoddard Solvent | A | A | A | A | A | A | A | A | A | B | B | A | A | D | A | D | A | A | B | D | D | A | A | A | * | A | B | D | D | D | D | A |
| Styrene | A | A | A | * | A | * | * | A | * | * | A | * | * | * | A | A | A | * | * | * | * | * | A | A | * | B | D | D | D | D | D | A |
| Sugar (Liquids) | A | A | A | A | A | * | A | A | * | B | B | * | * | * | A | A | A | A | B | * | A | * | A | A | A | A | A | * | B | * | A | A |
| Sulfate Liquors | * | C | C | * | B | * | A | C | * | * | * | * | * | * | * | * | D | * | * | * | A | * | A | A | * | * | * | * | C | * | * | A |
| Sulfur Chloride | * | D | D | D | D | * | * | C | D | * | * | * | A | C | A | A | D | A | * | A | D | * | A | C | * | A | D | * | D | D | D | C |
| Sulfur Dioxide[2] | * | A | A | C | A | A | B | B | * | * | * | B | D | B | A | D | B | D | D | C | D | A | A | A | * | D | D | C | B | A | D | A |
| Sulfur Dioxide (Dry) | A | A | A | * | A | * | A | A | C | A | B | * | D | * | A | * | * | A | * | D | * | * | A | A | * | A | * | * | D | * | D | D |
| Sulfur Trioxide (Dry) | A | A | C | * | A | * | * | B | * | B | B | * | A | B | A | D | D | D | * | * | * | * | B | A | * | A | D | * | D | B | C | A |
| Sulfuric Acid (to 10%) | * | D | C | C | C | A | A | D | D | D | * | A | A | B | A | A | D | D | B | B | A | A | A | A | * | A | C | * | D | D | C | A |
| Sulfuric Acid (10%-75%)[2] | * | D | D | D | D | C | B | D | D | D | * | A | A | B | A | B | D | D | B | C | A | B | A | D | C | A | D | * | D | D | D | B |
| Sulfuric Acid 75%-100% | * | * | D | * | * | D | B | * | D | * | * | A | B | * | A | A | * | D | * | * | B | C | * | A | * | A | D | * | D | * | * | D |
| Sulfurous Acid | C | C | B | C | C | A | B | D | * | D | D | * | A | B | A | A | D | D | * | B | A | * | B | A | * | A | C | D | B | B | C | A |
| Sulfuryl Chloride | * | * | * | * | * | * | * | * | * | * | * | * | A | * | A | * | * | * | * | * | * | * | * | A | * | * | * | * | * | * | * | A |
| Syrup | * | A | A | A | A | * | * | D | * | * | * | * | A | * | * | A | A | A | B | * | A | * | A | A | A | A | A | * | B | * | A | A |
| Tallow | * | A | A | * | A | * | * | * | * | * | * | * | * | * | * | A | A | A | * | C | * | * | A | A | * | A | A | * | * | * | * | A |
| Tannic Acid | B | A | A | A | C | A | B | B | * | C | C | A | A | B | A | A | B | D | * | B | A | * | A | A | A | A | D | C | A | A | A | A |
| Tanning Liquors | * | A | A | * | C | A | A | A | * | * | * | * | A | B | A | * | B | * | * | * | A | * | A | A | * | A | C | * | * | * | * | A |
| Tartaric Acid | B | A | B | B | C | A | B | A | C | D | D | A | A | B | A | A | B | A | * | B | A | * | A | A | * | A | D | C | A | * | A | A |
| Tetrachlorethane | * | * | A | * | * | A | A | * | * | * | * | * | D | * | A | D | A | A | * | * | A | * | A | A | * | A | D | * | * | D | D | A |
| Tetrahydrofuran | * | A | A | * | D | * | * | D | * | D | A | D | D | * | A | D | A | A | * | D | C | A | A | A | * | B | D | * | D | B | D | A |
| Toluene, Toluol[3] | A | A | A | * | A | A | A | A | A | A | A | A | D | D | A | D | A | A | D | D | D | A | A | A | A | C | D | D | D | D | D | A |
| Tomato Juice | A | A | A | * | A | * | * | C | * | C | C | * | * | * | A | A | B | A | B | * | A | A | A | A | * | A | A | * | A | * | * | A |
| Trichlorethane | * | C | A | * | C | A | A | C | * | C | * | * | * | * | A | D | A | * | * | * | * | * | A | A | * | A | D | D | D | D | D | A |
| Trichlorethylene[2] | B | A | A | * | B | A | A | B | A | C | B | A | D | * | A | D | A | C | D | D | D | C | A | A | C | A | D | D | D | D | D | A |
| Trichloropropane | * | * | A | * | * | * | * | A | * | * | * | * | * | * | * | D | A | * | D | * | * | * | A | A | * | A | A | * | A | * | * | A |
| Tricresylphosphate | * | * | A | * | * | B | A | A | * | * | * | * | D | * | A | A | C | * | * | * | * | * | A | A | * | B | D | * | D | A | * | A |
| Triethylamine | * | * | * | * | * | * | * | A | * | * | * | * | A | * | * | B | D | * | * | * | * | * | A | A | * | A | A | D | B | * | * | A |
| Turpentine[3] | B | A | A | * | C | * | A | B | C | B | B | A | A | B | A | D | A | A | * | D | B | A | A | A | * | A | D | * | D | D | D | A |
| Urine | * | A | A | * | B | * | * | C | * | B | * | * | A | * | * | A | A | A | * | B | A | * | A | A | * | A | A | * | D | A | * | A |
| Vegetable Juice | * | A | A | * | A | * | * | C | * | D | * | * | * | * | * | A | A | A | * | * | * | * | A | A | * | A | A | B | D | * | D | A |
| Vinegar | A | A | A | A | D | A | A | B | B | C | D | A | A | * | A | A | B | A | B | B | A | A | A | A | A | A | C | * | B | A | C | A |
| Varnish (Use Viton for Aromatic) | A | A | A | A | A | * | * | A | B | * | C | * | * | * | A | D | A | A | * | * | A | * | A | A | A | A | B | C | D | * | D | A |
| Water, Acid, Mine | * | A | A | * | C | * | * | C | D | C | * | * | A | B | * | A | D | A | B | * | A | B | A | A | * | A | A | * | B | * | B | A |
| Water, Distilled, Lab Grade 7 | * | A | A | * | B | * | * | A | * | D | * | * | A | B | A | A | A | A | A | * | A | A | A | A | A | A | A | * | B | A | A | A |
| Water, Fresh | A | A | A | * | A | * | * | A | C | B | D | * | A | B | A | A | A | A | A | D | A | A | A | A | A | A | A | * | B | A | A | A |
| Water, Salt | * | A | A | * | B | * | * | B | C | D | * | * | A | B | * | A | A | A | * | * | A | A | A | A | A | A | A | * | B | A | A | A |
| Weed Killers | * | A | A | * | C | * | * | C | * | * | * | * | * | * | * | * | A | A | * | * | * | * | A | A | * | A | B | * | C | * | * | A |
| Whey | * | A | A | * | B | * | * | * | * | * | * | * | * | * | * | * | A | * | * | * | * | * | A | A | * | A | A | * | * | * | * | A |
| Whiskey and Wines | A | A | A | A | D | * | * | B | B | D | D | * | A | * | A | A | A | A | * | B | A | * | A | A | * | A | A | B | A | A | A | A |
| White Liquor (Pulp Mill) | * | A | A | * | * | * | A | D | * | C | * | * | A | * | A | A | D | A | * | * | A | * | A | A | * | A | A | * | A | * | * | A |
| White Water (Paper Mill) | * | A | A | * | * | * | * | A | * | * | * | * | * | * | * | * | B | A | * | * | A | * | A | A | * | A | * | * | A | * | * | A |
| Xylene[3] | A | A | A | * | A | * | A | A | A | A | B | A | D | * | A | D | A | A | D | D | D | A | A | A | A | A | D | D | D | D | D | A |
| Zinc Chloride | D | A | B | B | D | A | B | D | D | D | D | A | A | * | A | A | C | A | * | B | A | A | A | A | * | A | A | * | A | A | A | A |
| Zinc Hydrosulphite | * | * | A | * | D | * | * | D | * | D | * | * | * | * | * | A | C | * | * | * | * | A | A | A | * | * | A | * | A | A | * | A |
| Zinc Sulfate | B | A | A | A | D | A | B | B | C | C | D | A | C | B | A | A | C | A | * | B | A | A | A | A | * | A | A | * | A | A | C | A |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1A** | | 1ACN3 | 1242 | 1AFC2 | 1243 | 1AFN9 | 1243 | 1AG64 | 2452 | 1AH62 | 1231 | 1AKR2 | 1246 | 1AK34 | 1232 | 1ALC7 | 1248 | 1ALP2 | 1248 | 1AL23 | 1233 |
| | | CN4 | 1242 | FC3 | 1243 | FP0 | 1243 | G81 | 2511 | H63 | 1231 | KR3 | 1246 | K35 | 1232 | LC8 | 1248 | LP3 | 1248 | L24 | 1233 |
| 1ACC0 | 1242 | CN5 | 1242 | FC4 | 1243 | FP1 | 1243 | G91 | 2492 | H64 | 1231 | KR6 | 1247 | K36 | 1232 | LC9 | 1248 | LP4 | 1248 | L25 | 1233 |
| CC1 | 1242 | CN6 | 1242 | FC5 | 1243 | FR4 | 1243 | G98 | 2376 | H65 | 1231 | KR7 | 1247 | K44 | 1232 | LF0 | 1248 | LP5 | 1248 | L26 | 1233 |
| CC2 | 1242 | CN7 | 1242 | FC6 | 1243 | F11 | 1226 | H01 | 1230 | H66 | 1231 | KT0 | 1247 | K45 | 1232 | LF1 | 1248 | LP6 | 1248 | L27 | 1233 |
| 1ACC3 | 1242 | 1ACN8 | 1242 | 1AFC7 | 1243 | 1AF14 | 1227 | 1AH02 | 1230 | 1AH67 | 1231 | 1AKT1 | 1247 | 1AK46 | 1232 | 1ALF2 | 1248 | 1ALP7 | 1248 | 1AL28 | 1233 |
| CC4 | 1242 | CN9 | 1242 | FC8 | 1243 | F26 | 1228 | H03 | 1230 | H68 | 1231 | KT2 | 1247 | K47 | 1232 | LF3 | 1248 | LP8 | 1248 | L29 | 1233 |
| CC5 | 1242 | CP0 | 1242 | FC9 | 1243 | F29 | 1228 | H04 | 1230 | H69 | 1231 | KT4 | 1247 | K48 | 1232 | LF4 | 1248 | LP9 | 1248 | L30 | 1232 |
| CC6 | 1242 | CP1 | 1242 | FF0 | 1243 | F33 | 1229 | H05 | 1230 | H70 | 1231 | KT5 | 1247 | K49 | 1232 | LF5 | 1248 | LR0 | 1248 | L31 | 1232 |
| CC7 | 1242 | CR6 | 1243 | FF1 | 1243 | F34 | 1229 | H06 | 1230 | H71 | 1231 | KT7 | 1247 | K50 | 1232 | LF6 | 1248 | LR1 | 1248 | L32 | 1232 |
| 1ACC8 | 1242 | 1ACR7 | 1243 | 1AFF2 | 1243 | 1AF35 | 1229 | 1AH07 | 1230 | 1AH72 | 1231 | 1AKT8 | 1247 | 1AK51 | 1232 | 1ALF7 | 1248 | 1ALR2 | 1248 | 1AL33 | 1232 |
| CC9 | 1242 | CR8 | 1243 | FF3 | 1243 | F36 | 1229 | H08 | 1230 | H73 | 1231 | KT9 | 1247 | K52 | 1232 | LF8 | 1248 | LR3 | 1248 | L34 | 1232 |
| CF0 | 1242 | CR9 | 1243 | FF4 | 1243 | F37 | 1229 | H09 | 1230 | H74 | 1231 | KW0 | 1247 | K53 | 1232 | LF9 | 1248 | LR4 | 1248 | L35 | 1232 |
| CF1 | 1242 | CT0 | 1243 | FF5 | 1243 | F39 | 1230 | H10 | 1230 | H75 | 1231 | KW1 | 1248 | K54 | 1232 | LH0 | 1248 | LR5 | 1248 | L36 | 1232 |
| CF2 | 1242 | CT1 | 1243 | FF6 | 1243 | F40 | 1230 | H11 | 1230 | H76 | 1231 | KW2 | 1248 | K55 | 1232 | LH1 | 1248 | LR6 | 1248 | L44 | 1232 |
| 1ACF3 | 1242 | 1ACT3 | 1243 | 1AFF7 | 1243 | 1AF41 | 1230 | 1AH12 | 1230 | 1AH77 | 1231 | 1AKW3 | 1248 | 1AK56 | 1232 | 1ALH2 | 1248 | 1ALR7 | 1248 | 1AL45 | 1232 |
| CF4 | 1242 | CT4 | 1243 | FF8 | 1243 | F42 | 1230 | H13 | 1231 | H78 | 1231 | KW4 | 1248 | K57 | 1232 | LH3 | 1248 | LR8 | 1248 | L46 | 1232 |
| CF5 | 1242 | CT5 | 1243 | FF9 | 1243 | F43 | 1230 | H14 | 1231 | H79 | 1231 | KW5 | 1248 | K58 | 1232 | LH4 | 1248 | LR9 | 1248 | L47 | 1232 |
| CF6 | 1242 | CT6 | 1243 | FH0 | 1243 | F44 | 1230 | H15 | 1231 | H80 | 1231 | KW6 | 1248 | K59 | 1232 | LH5 | 1248 | LT0 | 1248 | L48 | 1232 |
| CF7 | 1242 | CT7 | 1243 | FH1 | 1243 | F45 | 1230 | H16 | 1231 | H81 | 1231 | KW7 | 1248 | K60 | 1232 | LH6 | 1248 | LT1 | 1248 | L49 | 1232 |
| 1ACF8 | 1242 | 1ACT8 | 1243 | 1AFH2 | 1243 | 1AF46 | 1230 | 1AH17 | 1231 | 1AH82 | 1231 | 1AKW8 | 1248 | 1AK61 | 1232 | 1ALH7 | 1248 | 1ALT2 | 1248 | 1AL50 | 1232 |
| CF9 | 1242 | CT9 | 1243 | FH3 | 1243 | F47 | 1230 | H18 | 1231 | H83 | 1231 | KW9 | 1248 | K62 | 1232 | LH8 | 1248 | LT3 | 1248 | L51 | 1233 |
| CH0 | 1242 | CW0 | 1243 | FH4 | 1243 | F48 | 1230 | H19 | 1231 | H84 | 1231 | KX0 | 1248 | K63 | 1232 | LH9 | 1248 | LT4 | 1248 | L52 | 1233 |
| CH1 | 1242 | CW1 | 1243 | FH5 | 1243 | F49 | 1230 | H20 | 1231 | H85 | 1231 | KX1 | 1248 | K64 | 1232 | LK0 | 1248 | LT7 | 1248 | L53 | 1233 |
| CH2 | 1242 | CW2 | 1243 | FH6 | 1243 | F50 | 1230 | H21 | 1231 | H86 | 1231 | KX2 | 1248 | K65 | 1232 | LK1 | 1248 | LW0 | 1248 | L54 | 1233 |
| 1ACH3 | 1242 | 1ACW3 | 1243 | 1AFH7 | 1243 | 1AF55 | 1230 | 1AH22 | 1231 | 1AH87 | 1231 | 1AKX3 | 1248 | 1AK66 | 1232 | 1ALK2 | 1248 | 1ALW2 | 1249 | 1AL55 | 1233 |
| CH4 | 1242 | CW4 | 1243 | FH8 | 1243 | F56 | 1230 | H23 | 1231 | H88 | 1231 | KX4 | 1248 | K67 | 1232 | LK3 | 1248 | LW3 | 1249 | L56 | 1233 |
| CH5 | 1242 | CW5 | 1243 | FH9 | 1243 | F57 | 1230 | H24 | 1231 | H89 | 1231 | KX5 | 1248 | K68 | 1232 | LK4 | 1248 | LW4 | 1249 | L57 | 1233 |
| CH6 | 1242 | CW6 | 1243 | FK0 | 1243 | F67 | 1230 | H25 | 1231 | H90 | 1231 | KX6 | 1248 | K69 | 1232 | LK5 | 1248 | LW5 | 1249 | L58 | 1233 |
| CH7 | 1242 | CW7 | 1243 | FK1 | 1243 | F68 | 1230 | H26 | 1231 | H91 | 1231 | KX7 | 1248 | K70 | 1232 | LK6 | 1248 | LW6 | 1249 | L59 | 1233 |
| 1ACH8 | 1242 | 1ACW8 | 1243 | 1AFK2 | 1243 | 1AF69 | 1230 | 1AH27 | 1231 | 1AH92 | 1231 | 1AKX8 | 1248 | 1AK71 | 1232 | 1ALK7 | 1248 | 1ALW7 | 1249 | 1AL60 | 1233 |
| CH9 | 1242 | CW9 | 1243 | FK4 | 1243 | F70 | 1230 | H28 | 1231 | H93 | 1231 | KX9 | 1248 | K72 | 1232 | LK8 | 1248 | LW8 | 1249 | L61 | 1233 |
| CK0 | 1242 | C02 | 1334 | FK5 | 1243 | F71 | 1230 | H29 | 1231 | H94 | 1231 | K01 | 1231 | K73 | 1232 | LK9 | 1248 | LW9 | 1249 | L62 | 1233 |
| CK1 | 1242 | C03 | 1402 | FK6 | 1243 | F72 | 1230 | H30 | 1231 | H95 | 1231 | K02 | 1231 | K74 | 1232 | LL0 | 1248 | LX0 | 1249 | L63 | 1233 |
| CK2 | 1242 | C04 | 1402 | FK8 | 1243 | F73 | 1230 | H31 | 1231 | H97 | 1234 | K03 | 1231 | K75 | 1232 | LL1 | 1248 | LX1 | 1249 | L64 | 1233 |
| 1ACK3 | 1242 | 1AC05 | 1402 | 1AFK9 | 1243 | 1AF74 | 1230 | 1AH32 | 1231 | 1AH99 | 1234 | 1AK04 | 1231 | 1AK76 | 1232 | 1ALL2 | 1248 | 1ALX2 | 1249 | 1AL65 | 1233 |
| CK4 | 1242 | C09 | 1312 | FL0 | 1243 | F75 | 1230 | H33 | 1230 | J01 | 2385 | K05 | 1232 | K77 | 1232 | LL3 | 1248 | LX3 | 1249 | L67 | 1233 |
| CK5 | 1242 | C11 | 1312 | FL1 | 1243 | F76 | 1230 | H34 | 1230 | J03 | 2403 | K06 | 1232 | K78 | 1232 | LL4 | 1248 | LX4 | 1249 | L68 | 1233 |
| CK6 | 1242 | C17 | 1196 | FL2 | 1243 | F77 | 1230 | H35 | 1230 | J04 | 2367 | K07 | 1232 | K79 | 1232 | LL5 | 1248 | LX5 | 1249 | L70 | 1233 |
| CK7 | 1242 | C18 | 1196 | FL3 | 1243 | F78 | 1230 | H36 | 1230 | J23 | 2448 | K08 | 1232 | K80 | 1232 | LL6 | 1248 | LX6 | 1249 | L71 | 1233 |
| 1ACK8 | 1242 | 1AC21 | 1196 | 1AFL4 | 1243 | 1AF79 | 1230 | 1AH37 | 1231 | 1AJ24 | 2381 | 1AK09 | 1232 | 1AK82 | 1232 | 1ALL7 | 1248 | 1ALX7 | 1249 | 1AL73 | 1233 |
| CK9 | 1242 | C31 | 1218 | FL5 | 1243 | F80 | 1230 | H38 | 1231 | J30 | 2458 | K10 | 1232 | K83 | 1232 | LL8 | 1248 | LX8 | 1249 | L74 | 1233 |
| CL0 | 1242 | C35 | 1217 | FL6 | 1243 | F81 | 1230 | H39 | 1231 | J37 | 2488 | K11 | 1232 | K84 | 1232 | LL9 | 1248 | LX9 | 1249 | L75 | 1233 |
| CL1 | 1242 | C47 | 1217 | FL7 | 1243 | F82 | 1230 | H40 | 1231 | J44 | 2451 | K12 | 1232 | K85 | 1232 | LM0 | 1248 | L01 | 1233 | L76 | 1233 |
| CL2 | 1242 | C60 | 1221 | FL8 | 1243 | F83 | 1230 | H41 | 1231 | J66 | 2460 | K13 | 1232 | K86 | 1232 | LM1 | 1248 | L02 | 1233 | L77 | 1233 |
| 1ACL3 | 1242 | 1AC61 | 1221 | 1AFL9 | 1243 | 1AF84 | 1230 | 1AH42 | 1231 | 1AJ91 | 2448 | 1AK14 | 1232 | 1AK87 | 1232 | 1ALM2 | 1248 | 1AL03 | 1233 | 1AL78 | 1233 |
| CL4 | 1242 | C81 | 1224 | FM0 | 1243 | F85 | 1230 | H43 | 1231 | J92 | 2455 | K15 | 1232 | K88 | 1232 | LM3 | 1248 | L04 | 1233 | L79 | 1233 |
| CL5 | 1242 | C83 | 1224 | FM1 | 1243 | F86 | 1230 | H44 | 1231 | J95 | 2474 | K16 | 1232 | K89 | 1232 | LM4 | 1248 | L05 | 1233 | L80 | 1233 |
| CL6 | 1242 | C85 | 1224 | FM2 | 1243 | F87 | 1230 | H45 | 1231 | KM6 | 1245 | K17 | 1232 | K90 | 1232 | LM5 | 1248 | L06 | 1233 | L81 | 1233 |
| CL7 | 1242 | C92 | 1225 | FM3 | 1243 | F88 | 1230 | H46 | 1231 | KM7 | 1245 | K18 | 1232 | K91 | 1232 | LM6 | 1248 | L07 | 1233 | L82 | 1233 |
| 1ACL8 | 1242 | 1AC94 | 1225 | 1AFM4 | 1243 | 1AF89 | 1230 | 1AH47 | 1231 | 1AKM9 | 1245 | 1AK19 | 1232 | 1AK92 | 1232 | 1ALM7 | 1248 | 1AL08 | 1233 | 1AL83 | 1233 |
| CL9 | 1242 | D07 | 2407 | FM5 | 1243 | F90 | 1230 | H48 | 1231 | KN0 | 1245 | K20 | 1232 | K93 | 1232 | LM8 | 1248 | L09 | 1233 | L84 | 1233 |
| CM0 | 1242 | D18 | 2471 | FM6 | 1243 | F91 | 1230 | H49 | 1231 | KN1 | 1245 | K21 | 1232 | K94 | 1232 | LM9 | 1248 | L10 | 1233 | L85 | 1233 |
| CM1 | 1242 | D40 | 2448 | FM7 | 1243 | F92 | 1230 | H50 | 1231 | KN3 | 1245 | K22 | 1232 | K95 | 1233 | LN0 | 1248 | L11 | 1233 | L86 | 1233 |
| CM2 | 1242 | D47 | 2448 | FM8 | 1243 | F93 | 1230 | H51 | 1231 | KN6 | 1245 | K23 | 1232 | K96 | 1233 | LN1 | 1248 | L12 | 1233 | L87 | 1233 |
| 1ACM3 | 1242 | 1AD52 | 2448 | 1AFM9 | 1243 | 1AF94 | 1230 | 1AH52 | 1231 | 1AKN7 | 1245 | 1AK24 | 1232 | 1AK97 | 1233 | 1ALN2 | 1248 | 1AL13 | 1233 | 1AL88 | 1233 |
| CM4 | 1242 | D60 | 2622 | FN0 | 1243 | F95 | 1230 | H53 | 1231 | KN8 | 1245 | K25 | 1232 | K98 | 1233 | LN3 | 1248 | L14 | 1233 | L89 | 1233 |
| CM5 | 1242 | D78 | 2388 | FN1 | 1243 | F96 | 1230 | H54 | 1231 | KN9 | 1245 | K26 | 1232 | K99 | 1233 | LN4 | 1248 | L15 | 1233 | L90 | 1233 |
| CM6 | 1242 | D80 | 2337 | FN2 | 1243 | F97 | 1230 | H55 | 1231 | KP0 | 1245 | K27 | 1232 | LC0 | 1248 | LN5 | 1248 | L16 | 1233 | L91 | 1233 |
| CM7 | 1242 | D84 | 2478 | FN3 | 1243 | F98 | 1230 | H56 | 1231 | KP1 | 1245 | K28 | 1232 | LC1 | 1248 | LN6 | 1248 | L17 | 1233 | L92 | 1233 |
| 1ACM8 | 1242 | 1AD87 | 2445 | 1AFN4 | 1243 | 1AF99 | 1230 | 1AH57 | 1231 | 1AKP2 | 1245 | 1AK29 | 1232 | 1ALC2 | 1248 | 1ALN7 | 1248 | 1AL18 | 1233 | 1AL93 | 1233 |
| CM9 | 1242 | D92 | 2478 | FN5 | 1243 | G05 | 2375 | H58 | 1231 | KP5 | 1246 | K30 | 1232 | LC3 | 1248 | LN8 | 1248 | L19 | 1233 | L94 | 1233 |
| CN0 | 1242 | D97 | 2446 | FN6 | 1243 | G17 | 2597 | H59 | 1231 | KP7 | 1246 | K31 | 1232 | LC4 | 1248 | LN9 | 1248 | L20 | 1233 | L95 | 1233 |
| CN1 | 1242 | FC0 | 1243 | FN7 | 1243 | G43 | 2463 | H60 | 1231 | KR0 | 1246 | K32 | 1232 | LC5 | 1248 | LP0 | 1248 | L21 | 1233 | L96 | 1233 |
| CN2 | 1242 | FC1 | 1243 | FN8 | 1243 | G61 | 2430 | H61 | 1231 | KR1 | 1246 | K33 | 1232 | LC6 | 1248 | LP1 | 1248 | L22 | 1233 | L97 | 1233 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 1AL98 | 1233 |
| L99 | 1233 |
| MC0 | 1249 |
| MC1 | 1249 |
| MC2 | 1249 |
| 1AMC3 | 1248 |
| MC4 | 1248 |
| MC5 | 1249 |
| MC6 | 1249 |
| MC7 | 1249 |
| 1AMC8 | 1249 |
| MC9 | 1249 |
| MF0 | 1249 |
| MF1 | 1249 |
| MF2 | 1249 |
| 1AMF3 | 1249 |
| MF4 | 1249 |
| MF7 | 1249 |
| MF8 | 1249 |
| MF9 | 1249 |
| 1AMH0 | 1249 |
| MH1 | 1249 |
| MH2 | 1249 |
| MH3 | 1249 |
| MH4 | 1249 |
| 1AMH6 | 1249 |
| MH7 | 1249 |
| MH8 | 1249 |
| MK1 | 1249 |
| MK3 | 1249 |
| 1AMK4 | 1249 |
| MK6 | 1249 |
| MK8 | 1249 |
| MK9 | 1249 |
| ML0 | 1249 |
| 1AML1 | 1249 |
| ML3 | 1249 |
| ML5 | 1249 |
| MM7 | 1249 |
| MM8 | 1249 |
| 1AMM9 | 1249 |
| MN0 | 1249 |
| MN3 | 1249 |
| MN4 | 1249 |
| MN5 | 1249 |
| 1AMN6 | 1249 |
| MN7 | 1249 |
| MN8 | 1249 |
| MN9 | 1249 |
| MP0 | 1249 |
| 1AMP1 | 1249 |
| MP2 | 1249 |
| MP3 | 1249 |
| MP4 | 1250 |
| MP5 | 1250 |
| 1AMP6 | 1250 |
| MW6 | 1250 |
| MW7 | 1250 |
| MW8 | 1250 |
| MW9 | 1250 |
| 1AMX0 | 1250 |
| MX1 | 1250 |
| MX2 | 1250 |
| MX3 | 1250 |
| MX4 | 1250 |
| 1AMX5 | 1250 |
| MX6 | 1250 |
| MX7 | 1250 |
| MX8 | 1250 |
| MX9 | 1250 |
| 1AM01 | 1233 |
| M02 | 1233 |
| M03 | 1233 |
| M04 | 1233 |
| M05 | 1233 |
| 1AM06 | 1233 |
| M07 | 1233 |
| M08 | 1233 |
| M09 | 1233 |
| M10 | 1233 |
| 1AM11 | 1233 |
| M12 | 1233 |
| M13 | 1233 |
| M14 | 1233 |
| M15 | 1233 |
| 1AM16 | 1233 |
| M17 | 1233 |
| M18 | 1234 |
| M19 | 1234 |
| M20 | 1234 |
| 1AM21 | 1234 |
| M22 | 1234 |
| M23 | 1234 |
| M24 | 1234 |
| M25 | 1234 |
| 1AM26 | 1234 |
| M27 | 1234 |
| M28 | 1234 |
| M29 | 1234 |
| M30 | 1234 |
| 1AM31 | 1234 |
| M32 | 1234 |
| M33 | 1234 |
| M34 | 1234 |
| M35 | 1234 |
| 1AM36 | 1234 |
| M37 | 1234 |
| M38 | 1234 |
| M39 | 1234 |
| M40 | 1234 |
| 1AM41 | 1234 |
| M42 | 1234 |
| M43 | 1234 |
| M44 | 1234 |
| M45 | 1234 |
| 1AM46 | 1234 |
| M47 | 1234 |
| M48 | 1234 |
| M49 | 1234 |
| M50 | 1234 |
| 1AM51 | 1234 |
| M52 | 1234 |
| M56 | 1234 |
| M57 | 1234 |
| M58 | 1234 |
| 1AM59 | 1234 |
| M61 | 1234 |
| M62 | 1234 |
| M63 | 1234 |
| M64 | 1234 |
| 1AM65 | 1234 |
| M66 | 1234 |
| M67 | 1234 |
| M68 | 1234 |
| M69 | 1234 |
| 1AM70 | 1234 |
| M71 | 1234 |
| M72 | 1234 |
| M73 | 1234 |
| M74 | 1234 |
| 1AM75 | 1234 |
| M76 | 1234 |
| M77 | 1234 |
| M78 | 1234 |
| M79 | 1234 |
| 1AM80 | 1234 |
| M81 | 1234 |
| M82 | 1234 |
| M83 | 1234 |
| M84 | 1234 |
| 1AM85 | 1234 |
| M86 | 1234 |
| M87 | 1234 |
| M88 | 1234 |
| M89 | 1234 |
| 1AM91 | 1234 |
| M93 | 1234 |
| M94 | 1234 |
| M96 | 1234 |
| M97 | 1234 |
| 1AM99 | 1234 |
| NC0 | 1250 |
| NC1 | 1250 |
| NC2 | 1250 |
| NC3 | 1250 |
| 1ANC8 | 1250 |
| NC9 | 1250 |
| NF0 | 1250 |
| NF1 | 1250 |
| NF2 | 1250 |
| 1ANF8 | 1250 |
| NF9 | 1250 |
| NH0 | 1250 |
| NH2 | 1250 |
| NH3 | 1250 |
| 1ANH5 | 1250 |
| NH6 | 1250 |
| NH8 | 1250 |
| NH9 | 1250 |
| NK1 | 1250 |
| 1ANK2 | 1250 |
| NK4 | 1250 |
| NK5 | 1250 |
| NK6 | 1250 |
| NK7 | 1250 |
| 1ANK8 | 1250 |
| NK9 | 1250 |
| NL0 | 1250 |
| NL1 | 1250 |
| NL2 | 1250 |
| 1ANL3 | 1250 |
| NL4 | 1250 |
| NL5 | 1250 |
| NM0 | 1250 |
| NM1 | 1250 |
| 1ANM2 | 1250 |
| NM3 | 1250 |
| NM4 | 1250 |
| NM5 | 1250 |
| NM6 | 1250 |
| 1ANM7 | 1250 |
| NM8 | 1250 |
| NM9 | 1250 |
| NN0 | 1250 |
| NN1 | 1250 |
| 1ANN2 | 1250 |
| NN8 | 1250 |
| NN9 | 1250 |
| NP0 | 1250 |
| NP1 | 1250 |
| 1ANP2 | 1250 |
| NP3 | 1250 |
| NR2 | 1250 |
| NR4 | 1250 |
| NR5 | 1250 |
| 1ANR6 | 1250 |
| NR7 | 1250 |
| NR8 | 1250 |
| NR9 | 1250 |
| NT3 | 1247 |
| 1ANT4 | 1247 |
| NT5 | 1247 |
| NT6 | 1247 |
| NT7 | 1247 |
| NT8 | 1247 |
| 1ANT9 | 1247 |
| NW0 | 1247 |
| NW1 | 1247 |
| NW2 | 1247 |
| NW3 | 1247 |
| 1ANW4 | 1247 |
| NW5 | 1247 |
| NW6 | 1247 |
| NW7 | 1247 |
| NW8 | 1247 |
| 1ANW9 | 1247 |
| NX0 | 1247 |
| NX1 | 1247 |
| NX2 | 1247 |
| NX3 | 1247 |
| 1AN02 | 1234 |
| N03 | 1234 |
| N04 | 1234 |
| N05 | 1234 |
| N06 | 1234 |
| 1AN07 | 1234 |
| N08 | 1234 |
| N09 | 1234 |
| N10 | 1234 |
| N11 | 1234 |
| 1AN12 | 1234 |
| N13 | 1234 |
| N14 | 1234 |
| N15 | 1234 |
| N16 | 1234 |
| 1AN17 | 1234 |
| N18 | 1234 |
| N19 | 1234 |
| N20 | 1234 |
| N21 | 1234 |
| 1AN22 | 1234 |
| N23 | 1235 |
| N24 | 1235 |
| N25 | 1235 |
| N26 | 1235 |
| 1AN27 | 1235 |
| N28 | 1235 |
| N29 | 1235 |
| N30 | 1235 |
| N31 | 1235 |
| 1AN32 | 1235 |
| N33 | 1235 |
| N34 | 1235 |
| N35 | 1235 |
| N36 | 1235 |
| 1AN37 | 1235 |
| N38 | 1235 |
| N39 | 1235 |
| N40 | 1235 |
| N41 | 1235 |
| 1AN42 | 1235 |
| N43 | 1235 |
| N44 | 1235 |
| N45 | 1235 |
| N46 | 1235 |
| 1AN47 | 1235 |
| N48 | 1235 |
| N49 | 1235 |
| N50 | 1235 |
| N51 | 1235 |
| 1AN52 | 1235 |
| N53 | 1235 |
| N54 | 1235 |
| N55 | 1235 |
| N56 | 1235 |
| 1AN57 | 1235 |
| N58 | 1235 |
| N59 | 1235 |
| N60 | 1235 |
| N61 | 1235 |
| 1AN62 | 1235 |
| N63 | 1235 |
| N64 | 1235 |
| N65 | 1235 |
| N66 | 1235 |
| 1AN67 | 1235 |
| N68 | 1235 |
| N69 | 1235 |
| N70 | 1235 |
| N71 | 1235 |
| 1AN72 | 1235 |
| N73 | 1235 |
| N74 | 1235 |
| N75 | 1235 |
| N76 | 1235 |
| 1AN77 | 1235 |
| N78 | 1235 |
| N79 | 1235 |
| N80 | 1235 |
| N81 | 1235 |
| 1AN82 | 1235 |
| N83 | 1235 |
| N84 | 1235 |
| N85 | 1235 |
| N86 | 1235 |
| 1AN87 | 1235 |
| N88 | 1235 |
| N89 | 1235 |
| N90 | 1235 |
| N91 | 1235 |
| 1AN92 | 1235 |
| N93 | 1235 |
| N94 | 1235 |
| N95 | 1235 |
| N96 | 1235 |
| 1AN97 | 1235 |
| N98 | 1235 |
| N99 | 1235 |
| PC1 | 1251 |
| PC2 | 1251 |
| 1APC3 | 1251 |
| PC4 | 1251 |
| PC5 | 1251 |
| PC6 | 1251 |
| PC7 | 1251 |
| 1APK2 | 1251 |
| PK3 | 1251 |
| PK4 | 1251 |
| PK5 | 1251 |
| PK6 | 1251 |
| 1APK7 | 1251 |
| PK8 | 1251 |
| PK9 | 1251 |
| PL0 | 1251 |
| PL1 | 1251 |
| 1APL2 | 1251 |
| PL3 | 1251 |
| PL4 | 1251 |
| PL5 | 1251 |
| PX3 | 1251 |
| 1APX7 | 1251 |
| PX8 | 1251 |
| PX9 | 1251 |
| P01 | 1235 |
| P02 | 1235 |
| 1AP03 | 1235 |
| P04 | 1235 |
| P05 | 1235 |
| P06 | 1235 |
| P07 | 1235 |
| 1AP08 | 1235 |
| P09 | 1235 |
| P10 | 1235 |
| P11 | 1235 |
| P12 | 1235 |
| 1AP13 | 1235 |
| P14 | 1235 |
| P15 | 1235 |
| P16 | 1235 |
| P17 | 1235 |
| 1AP18 | 1235 |
| P19 | 1235 |
| P20 | 1235 |
| P21 | 1235 |
| P22 | 1235 |
| 1AP23 | 1235 |
| P24 | 1235 |
| P25 | 1236 |
| P26 | 1236 |
| P27 | 1236 |
| 1AP28 | 1236 |
| P29 | 1236 |
| P30 | 1236 |
| P31 | 1236 |
| P32 | 1236 |
| 1AP33 | 1236 |
| P34 | 1236 |
| P35 | 1236 |
| P36 | 1236 |
| P37 | 1236 |
| 1AP38 | 1236 |
| P39 | 1234 |
| P40 | 1236 |
| P41 | 1236 |
| P42 | 1236 |
| 1AP43 | 1236 |
| P44 | 1236 |
| P45 | 1236 |
| P46 | 1236 |
| P47 | 1236 |
| 1AP48 | 1236 |
| P49 | 1236 |
| P50 | 1236 |
| P51 | 1236 |
| P52 | 1236 |
| 1AP53 | 1236 |
| P54 | 1236 |
| P55 | 1236 |
| P56 | 1236 |
| P57 | 1236 |
| 1AP58 | 1236 |
| P59 | 1236 |
| P60 | 1236 |
| P61 | 1236 |
| P62 | 1236 |
| 1AP63 | 1236 |
| P64 | 1236 |
| P65 | 1236 |
| P66 | 1236 |
| P67 | 1236 |
| 1AP68 | 1236 |
| P69 | 1236 |
| P70 | 1236 |
| P71 | 1236 |
| P72 | 1236 |
| 1AP73 | 1236 |
| P74 | 1236 |
| P75 | 1236 |
| P76 | 1236 |
| P77 | 1236 |
| 1AP78 | 1236 |
| P79 | 1236 |
| P80 | 1236 |
| P81 | 1236 |
| P82 | 1236 |
| 1AP83 | 1236 |
| P84 | 1236 |
| P85 | 1236 |
| P86 | 1236 |
| P87 | 1236 |
| 1AP88 | 1236 |
| P89 | 1236 |
| P90 | 1236 |
| P91 | 1236 |
| P92 | 1236 |
| 1AP93 | 1236 |
| P94 | 1236 |
| P95 | 1236 |
| P96 | 1236 |
| P97 | 1236 |
| 1ARC4 | 1251 |
| RC5 | 1251 |
| RC6 | 1251 |
| RC7 | 1251 |
| RC8 | 1251 |
| 1ARL5 | 1288 |
| RL6 | 1288 |
| RL7 | 1288 |
| RL8 | 1288 |
| RM0 | 1288 |
| 1ARM1 | 1288 |
| RM2 | 1288 |
| RM5 | 1288 |
| RM6 | 1288 |
| RM7 | 1288 |
| 1ARM8 | 1288 |
| RM9 | 1288 |
| RN0 | 1288 |
| RN1 | 1288 |
| RN3 | 1288 |
| 1ARN4 | 1288 |
| RN5 | 1288 |
| RP3 | 1288 |
| RP4 | 1288 |
| RP5 | 1288 |
| 1ARP7 | 1289 |
| RP8 | 1289 |
| RP9 | 1289 |
| RR0 | 1289 |
| RR1 | 1289 |
| 1ARR2 | 1289 |
| RR5 | 1289 |
| RR6 | 1289 |
| RR8 | 1289 |
| RR9 | 1289 |
| 1ART4 | 1289 |
| RT6 | 1290 |
| RT7 | 1290 |
| RT8 | 1290 |
| RW7 | 1311 |
| 1ARW8 | 1391 |
| RW9 | 1391 |
| RX0 | 1391 |
| RX1 | 1391 |
| RX2 | 1392 |
| 1ARX3 | 1392 |
| RX4 | 1392 |
| RX5 | 1392 |
| RX6 | 1392 |
| RX7 | 1392 |
| 1ARX8 | 1392 |
| RX9 | 1392 |
| R20 | 1236 |
| R21 | 1236 |
| R22 | 1236 |
| 1AR23 | 1236 |
| R24 | 1236 |
| R25 | 1236 |
| R26 | 1236 |
| R27 | 1236 |
| 1AR29 | 1236 |
| R30 | 1236 |
| R31 | 1236 |
| R32 | 1236 |
| R33 | 1236 |
| 1AR34 | 1236 |
| R35 | 1236 |
| R36 | 1236 |
| R37 | 1236 |
| R38 | 1236 |
| 1AR39 | 1236 |
| R40 | 1236 |
| R41 | 1236 |
| R42 | 1236 |
| R43 | 1236 |
| 1AR44 | 1236 |
| R45 | 1236 |
| R46 | 1236 |
| R47 | 1236 |
| R48 | 1236 |
| 1AR49 | 1236 |
| R50 | 1236 |
| R51 | 1236 |
| R52 | 1236 |
| R53 | 1236 |
| 1AR54 | 1236 |
| R55 | 1236 |
| R56 | 1236 |
| R78 | 1237 |
| R79 | 1238 |
| 1AR80 | 1238 |
| R81 | 1238 |
| R82 | 1238 |
| R83 | 1238 |
| R84 | 1238 |
| 1AR85 | 1238 |
| R86 | 1238 |
| R87 | 1238 |
| R88 | 1238 |
| R89 | 1238 |
| 1AR90 | 1238 |
| R91 | 1238 |
| R92 | 1238 |
| R93 | 1238 |
| R94 | 1238 |
| 1AR95 | 1238 |
| R96 | 1238 |
| R97 | 1238 |
| R98 | 1238 |
| R99 | 1238 |
| 1ATC0 | 1392 |
| TC1 | 1392 |
| TC2 | 1392 |
| TC3 | 1392 |
| TC4 | 1347 |
| 1ATC5 | 1347 |
| TC6 | 1347 |
| TC7 | 1347 |
| TF1 | 1814 |
| TF2 | 1327 |
| 1ATF3 | 1327 |
| TF4 | 1395 |
| TF5 | 1394 |
| TF6 | 1394 |
| TF7 | 1303 |
| 1ATH1 | 1374 |
| TH2 | 1375 |
| TH3 | 1375 |
| TH4 | 1374 |
| TH5 | 1340 |
| 1ATH6 | 1343 |
| TH7 | 1343 |
| TH8 | 1343 |
| TH9 | 1343 |
| TK0 | 1345 |
| 1ATK1 | 1311 |
| T01 | 1238 |
| T02 | 1238 |
| T03 | 1238 |
| T04 | 1238 |
| 1AT05 | 1238 |
| T06 | 1238 |
| T07 | 1238 |
| T08 | 1238 |
| T09 | 1238 |
| 1AT10 | 1238 |
| T11 | 1238 |
| T19 | 1239 |
| T20 | 1239 |
| T21 | 1239 |
| 1AT22 | 1239 |
| T23 | 1239 |
| T24 | 1239 |
| T26 | 1239 |
| T27 | 1239 |
| 1AT29 | 1239 |
| T30 | 1239 |
| T31 | 1239 |
| T32 | 1239 |
| T33 | 1239 |
| 1AT34 | 1239 |
| T35 | 1239 |
| T36 | 1239 |
| T37 | 1239 |
| T38 | 1239 |
| 1AT39 | 1239 |
| T40 | 1239 |
| T41 | 1239 |
| T42 | 1239 |
| T43 | 1239 |
| 1AT44 | 1239 |
| T45 | 1239 |
| T46 | 1239 |
| T47 | 1239 |
| T48 | 1239 |
| 1AT49 | 1239 |
| T50 | 1239 |
| T51 | 1239 |
| T52 | 1239 |
| T53 | 1239 |
| 1AT54 | 1239 |
| T55 | 1239 |
| T56 | 1239 |
| T57 | 1239 |
| T58 | 1239 |
| 1AT59 | 1239 |
| T60 | 1239 |
| T61 | 1239 |
| T62 | 1239 |
| T63 | 1239 |
| 1AT64 | 1239 |
| T65 | 1239 |
| T66 | 1239 |
| T67 | 1239 |
| T71 | 1239 |
| 1AT72 | 1239 |
| T89 | 1239 |
| T90 | 1239 |
| T91 | 1239 |
| T92 | 1239 |
| 1AT93 | 1239 |
| V05 | 2457 |
| V08 | 2445 |
| V13 | 2574 |
| V18 | 2386 |
| 1AV21 | 2381 |
| V25 | 2594 |
| V26 | 2562 |
| V39 | 2377 |
| V51 | 2461 |
| 1AV58 | 2463 |
| V60 | 2549 |
| V97 | 2415 |
| W01 | 1240 |
| W02 | 1240 |
| 1AW03 | 1240 |
| W04 | 1240 |
| W05 | 1240 |
| W06 | 1240 |
| W07 | 1240 |
| 1AW11 | 1240 |
| W12 | 1240 |
| W13 | 1240 |
| W14 | 1240 |
| W19 | 1240 |
| 1AW20 | 1240 |
| W21 | 1240 |
| W22 | 1240 |
| W23 | 1240 |
| W24 | 1240 |
| 1AW25 | 1240 |
| W26 | 1240 |
| W27 | 1240 |
| W28 | 1240 |
| W29 | 1240 |
| 1AW30 | 1240 |
| W31 | 1240 |
| W32 | 1240 |
| W33 | 1240 |
| W34 | 1240 |
| 1AW35 | 1240 |
| W36 | 1240 |
| W37 | 1240 |
| W38 | 1240 |
| W39 | 1240 |
| 1AW40 | 1240 |
| W41 | 1240 |
| W42 | 1240 |
| W43 | 1240 |
| W44 | 1240 |

| Stock No. | Page No. |
|---|---|
| 1AW45 | 1240 |
| W46 | 1240 |
| W47 | 1240 |
| W48 | 1240 |
| W49 | 1240 |
| 1AW50 | 1240 |
| W51 | 1240 |
| W52 | 1240 |
| W53 | 1240 |
| W54 | 1240 |
| 1AW55 | 1240 |
| W56 | 1240 |
| W57 | 1240 |
| W58 | 1240 |
| W59 | 1240 |
| 1AW60 | 1240 |
| W61 | 1240 |
| W62 | 1240 |
| W63 | 1240 |
| W64 | 1240 |
| 1AW65 | 1240 |
| W66 | 1240 |
| W67 | 1240 |
| W68 | 1240 |
| W69 | 1240 |
| 1AW70 | 1240 |
| W71 | 1240 |
| W72 | 1240 |
| W73 | 1240 |
| W74 | 1240 |
| 1AW75 | 1240 |
| W76 | 1240 |
| W77 | 1240 |
| W78 | 1240 |
| W79 | 1240 |
| 1AW80 | 1240 |
| W81 | 1240 |
| W82 | 1240 |
| W83 | 1240 |
| W84 | 1240 |
| 1AW85 | 1240 |
| W86 | 1240 |
| W87 | 1240 |
| W88 | 1240 |
| W89 | 1240 |
| 1AW90 | 1240 |
| W91 | 1240 |
| W92 | 1240 |
| X08 | 1241 |
| X09 | 1241 |
| 1AX10 | 1241 |
| X11 | 1241 |
| X12 | 1241 |
| X13 | 1241 |
| X14 | 1241 |
| 1AX15 | 1241 |
| X16 | 1241 |
| X17 | 1241 |
| X18 | 1241 |
| X19 | 1241 |
| 1AX20 | 1241 |
| X21 | 1241 |
| X22 | 1241 |
| X23 | 1241 |
| X24 | 1241 |
| 1AX25 | 1241 |
| X26 | 1241 |
| X27 | 1241 |
| X28 | 1241 |
| X29 | 1241 |
| 1AX30 | 1241 |
| X31 | 1241 |
| X32 | 1241 |
| X33 | 1241 |
| X34 | 1241 |
| 1AX35 | 1241 |
| X36 | 1241 |
| X37 | 1241 |
| X38 | 1241 |
| X39 | 1241 |
| 1AX40 | 1241 |
| X41 | 1241 |
| X42 | 1241 |
| X43 | 1241 |
| X44 | 1241 |
| 1AX45 | 1241 |
| X46 | 1241 |
| X47 | 1241 |
| X48 | 1241 |
| X49 | 1241 |
| 1AX50 | 1241 |
| X51 | 1241 |
| X52 | 1241 |
| X53 | 1241 |
| X54 | 1241 |
| 1AX55 | 1241 |
| X56 | 1241 |
| X57 | 1241 |
| X58 | 1241 |
| X59 | 1241 |
| 1AX60 | 1241 |
| X61 | 1242 |
| X62 | 1242 |
| X63 | 1242 |
| X64 | 1242 |
| 1AX65 | 1242 |
| X66 | 1243 |
| X67 | 1240 |
| X69 | 1242 |
| X70 | 1242 |
| 1AX71 | 1242 |
| X72 | 1242 |
| X73 | 1242 |
| X74 | 1242 |
| X75 | 1242 |
| 1AX76 | 1242 |
| X77 | 1242 |
| X78 | 1242 |
| X79 | 1242 |
| X80 | 1242 |
| 1AX81 | 1242 |
| X82 | 1242 |
| X83 | 1242 |
| X84 | 1242 |
| X85 | 1242 |
| 1AX86 | 1242 |
| X87 | 1242 |
| X88 | 1242 |
| X89 | 1242 |
| X90 | 1242 |
| 1AX91 | 1242 |
| X92 | 1242 |
| X93 | 1242 |
| X94 | 1242 |
| X95 | 1242 |
| 1AX96 | 1242 |
| X97 | 1242 |
| X98 | 1242 |
| X99 | 1242 |
| Z01 | 2565 |
| 1AZ03 | 2466 |
| Z32 | 2466 |
| Z35 | 2420 |
| Z45 | 2371 |
| Z57 | 2437 |
| 1AZ73 | 2454 |
| Z78 | 2409 |
| Z97 | 2542 |
| 002 | 3495 |
| 003 | 3495 |
| 1A004 | 3495 |
| 005 | 3495 |
| 010 | 314 |
| 011 | 314 |
| 012 | 314 |
| 1A013 | 314 |
| 014 | 314 |
| 015 | 317 |
| 016 | 2957 |
| 017 | 2957 |
| 1A018 | 2957 |
| 019 | 2957 |
| 020 | 3495 |
| 021 | 3330 |
| 024 | 1040 |
| 1A025 | 1040 |
| 026 | 1040 |
| 027 | 1040 |
| 028 | 1040 |
| 029 | 1040 |
| 1A030 | 1041 |
| 031 | 1041 |
| 032 | 1041 |
| 033 | 1041 |
| 034 | 1041 |
| 1A041 | 2814 |
| 042 | 2814 |
| 043 | 2814 |
| 044 | 2814 |
| 045 | 2814 |
| 1A046 | 2814 |
| 047 | 2814 |
| 048 | 2814 |
| 049 | 2814 |
| 050 | 1669 |
| 1A051 | 1656 |
| 053 | 2391 |
| 055 | 1536 |
| 070 | 314 |
| 071 | 314 |
| 1A072 | 317 |
| 073 | 357 |
| 074 | 621 |
| 075 | 621 |
| 076 | 621 |
| 1A077 | 620 |
| 078 | 620 |
| 079 | 620 |
| 080 | 620 |
| 081 | 620 |
| 1A082 | 620 |
| 083 | 620 |
| 084 | 620 |
| 085 | 620 |
| 086 | 620 |
| 1A087 | 620 |
| 088 | 620 |
| 089 | 620 |
| 090 | 620 |
| 091 | 620 |
| 1A092 | 620 |
| 093 | 620 |
| 094 | 307 |
| 095 | 306 |
| 096 | 306 |
| 1A097 | 307 |
| 098 | 306 |
| 099 | 307 |
| 100 | 306 |
| 101 | 307 |
| 1A102 | 307 |
| 103 | 307 |
| 104 | 307 |
| 105 | 306 |
| 106 | 307 |
| 1A107 | 307 |
| 108 | 307 |
| 109 | 306 |
| 110 | 342 |
| 111 | 342 |
| 1A112 | 342 |
| 113 | 342 |
| 114 | 342 |
| 115 | 342 |
| 116 | 342 |
| 1A117 | 342 |
| 118 | 342 |
| 119 | 342 |
| 121 | 2326 |
| 122 | 2326 |
| 1A123 | 2615 |
| 124 | 566 |
| 127 | 2913 |
| 128 | 2913 |
| 129 | 2913 |
| 1A130 | 2913 |
| 131 | 2913 |
| 132 | 2913 |
| 133 | 2913 |
| 134 | 2913 |
| 1A135 | 1157 |
| 136 | 1157 |
| 137 | 2455 |
| 138 | 2449 |
| 139 | 2445 |
| 1A140 | 2448 |
| 143 | 3464 |
| 181 | 728 |
| 182 | 728 |
| 183 | 728 |
| 1A187 | 566 |
| 188 | 565 |
| 189 | 565 |
| 190 | 1523 |
| 193 | 1490 |
| 1A194 | 2688 |
| 195 | 2164 |
| 196 | 2164 |
| 197 | 2164 |
| 198 | 2164 |
| 1A199 | 2159 |
| 200 | 2159 |
| 201 | 2159 |
| 202 | 2160 |
| 203 | 2162 |
| 1A208 | 2945 |
| 216 | 3487 |
| 217 | 1345 |
| 218 | 580 |
| 219 | 579 |
| 1A220 | 579 |
| 227 | 758 |
| 228 | 849 |
| 229 | 3485 |
| 244 | 2325 |
| 1A245 | 2328 |
| 246 | 2932 |
| 247 | 480 |
| 254 | 2957 |
| 255 | 2957 |
| 1A256 | 2957 |
| 257 | 2957 |
| 258 | 2957 |
| 259 | 2957 |
| 260 | 2930 |
| 1A261 | 2930 |
| 263 | 497 |
| 264 | 497 |
| 267 | 695 |
| 268 | 313 |
| 1A269 | 313 |
| 270 | 313 |
| 271 | 519 |
| 272 | 313 |
| 273 | 313 |
| 1A274 | 313 |
| 275 | 312 |
| 276 | 317 |
| 285 | 1041 |
| 313 | 2956 |
| 1A314 | 2956 |
| 315 | 2956 |
| 318 | 866 |
| 323 | 2818 |
| 324 | 2820 |
| 1A325 | 2934 |
| 326 | 2934 |
| 327 | 2934 |
| 328 | 2934 |
| 329 | 2811 |
| 1A330 | 2811 |
| 331 | 2811 |
| 332 | 2811 |
| 333 | 2811 |
| 334 | 2811 |
| 1A335 | 2811 |
| 336 | 2811 |
| 337 | 2811 |
| 338 | 2811 |
| 339 | 2811 |
| 1A340 | 2811 |
| 341 | 2811 |
| 342 | 2811 |
| 343 | 2811 |
| 344 | 2811 |
| 1A345 | 2811 |
| 346 | 2811 |
| 347 | 2811 |
| 348 | 2811 |
| 349 | 2811 |
| 1A350 | 2811 |
| 351 | 2811 |
| 352 | 526 |
| 353 | 526 |
| 354 | 566 |
| 1A355 | 566 |
| 356 | 566 |
| 358 | 519 |
| 359 | 705 |
| 360 | 705 |
| 1A366 | 495 |
| 367 | 495 |
| 368 | 495 |
| 372 | 628 |
| 373 | 628 |
| 1A374 | 2624 |
| 375 | 2624 |
| 376 | 2624 |
| 377 | 2624 |
| 380 | 314 |
| 1A381 | 314 |
| 382 | 314 |
| 383 | 314 |
| 384 | 314 |
| 385 | 314 |
| 1A386 | 314 |
| 387 | 314 |
| 388 | 314 |
| 389 | 314 |
| 390 | 314 |
| 1A391 | 314 |
| 392 | 317 |
| 393 | 317 |
| 394 | 317 |
| 395 | 317 |
| 1A396 | 341 |
| 397 | 341 |
| 398 | 341 |
| 399 | 341 |
| 400 | 341 |
| 1A401 | 341 |
| 402 | 341 |
| 403 | 341 |
| 404 | 582 |
| 405 | 357 |
| 1A406 | 357 |
| 407 | 357 |
| 408 | 357 |
| 409 | 357 |
| 410 | 357 |
| 1A411 | 357 |
| 412 | 357 |
| 413 | 357 |
| 414 | 357 |
| 415 | 357 |
| 1A416 | 357 |
| 417 | 357 |
| 418 | 357 |
| 419 | 1311 |
| 420 | 1311 |
| 1A421 | 1311 |
| 422 | 1311 |
| 423 | 1311 |
| 424 | 2955 |
| 425 | 2955 |
| 1A426 | 2955 |
| 427 | 2955 |
| 428 | 2955 |
| 429 | 2955 |
| 430 | 2955 |
| 1A431 | 2955 |
| 432 | 2955 |
| 433 | 2955 |
| 434 | 2955 |
| 435 | 2955 |
| 1A436 | 2955 |
| 437 | 2955 |
| 438 | 2955 |
| 439 | 2955 |
| 440 | 2955 |
| 1A446 | 2624 |
| 447 | 1302 |
| 448 | 1302 |
| 449 | 1302 |
| 483 | 3006 |
| 1A484 | 474 |
| 485 | 474 |
| 486 | 474 |
| 487 | 474 |
| 488 | 474 |
| 1A489 | 484 |
| 490 | 484 |
| 491 | 484 |
| 493 | 2617 |
| 500 | 1302 |
| 1A502 | 1532 |
| 503 | 1532 |
| 504 | 1532 |
| 505 | 1532 |
| 506 | 1532 |
| 1A507 | 269 |
| 508 | 269 |
| 509 | 2117 |
| 520 | 1677 |
| 522 | 1668 |
| 1A523 | 3490 |
| 524 | 3490 |
| 525 | 3490 |
| 526 | 3490 |
| 527 | 3039 |
| 1A528 | 3039 |
| 529 | 3039 |
| 530 | 3039 |
| 531 | 3039 |
| 532 | 3039 |
| 1A533 | 3083 |
| 534 | 3083 |
| 535 | 3083 |
| 536 | 3083 |
| 537 | 3083 |
| 1A538 | 3083 |
| 539 | 3083 |
| 540 | 3083 |
| 541 | 3083 |
| 542 | 3083 |
| 1A543 | 3083 |
| 552 | 3499 |
| 553 | 3499 |
| 554 | 3499 |
| 555 | 3499 |
| 1A567 | 196 |
| 568 | 196 |
| 569 | 196 |
| 570 | 196 |
| 571 | 196 |
| 1A572 | 580 |
| 573 | 575 |
| 574 | 3363 |
| 575 | 3363 |
| 576 | 3363 |
| 1A577 | 3363 |
| 578 | 3363 |
| 579 | 3363 |
| 580 | 3363 |
| 581 | 3363 |
| 1A582 | 3363 |
| 583 | 3363 |
| 585 | 2260 |
| 586 | 2260 |
| 587 | 762 |
| 1A588 | 762 |
| 591 | 2239 |
| 592 | 2239 |
| 593 | 2239 |
| 594 | 2239 |
| 1A595 | 2242 |
| 596 | 2242 |
| 597 | 2242 |
| 598 | 2242 |
| 599 | 2242 |
| 1A600 | 2242 |
| 609 | 580 |
| 610 | 580 |
| 611 | 580 |
| 622 | 2249 |
| 1A623 | 2249 |
| 624 | 2249 |
| 625 | 2249 |
| 626 | 2238 |
| 627 | 2238 |
| 1A628 | 2238 |
| 629 | 2238 |
| 630 | 2238 |
| 631 | 1348 |
| 682 | 202 |
| 1A688 | 429 |
| 689 | 429 |
| 690 | 429 |
| 691 | 429 |
| 692 | 429 |
| 1A693 | 429 |
| 694 | 429 |
| 695 | 429 |
| 696 | 429 |
| 697 | 429 |
| 1A698 | 429 |
| 699 | 429 |
| 700 | 429 |
| 701 | 430 |
| 702 | 430 |
| 1A703 | 430 |
| 704 | 430 |
| 705 | 430 |
| 706 | 430 |
| 707 | 430 |
| 1A719 | 891 |
| 720 | 891 |
| 721 | 893 |
| 741 | 773 |
| 742 | 776 |
| 1A756 | 789 |
| 758 | 789 |
| 763 | 2815 |
| 764 | 2815 |
| 765 | 2815 |
| 1A766 | 2815 |
| 768 | 23 |
| 769 | 23 |
| 770 | 23 |
| 771 | 23 |
| 1A772 | 23 |
| 773 | 3562 |
| 786 | 781 |
| 787 | 779 |
| 788 | 565 |
| 1A789 | 565 |
| 790 | 565 |
| 793 | 2049 |
| 794 | 2049 |
| 796 | 3545 |
| 1A798 | 1402 |
| 799 | 1402 |
| 800 | 1402 |
| 801 | 1402 |
| 802 | 1402 |
| 1A803 | 1402 |
| 804 | 1402 |
| 805 | 1405 |
| 806 | 1404 |
| 807 | 1404 |
| 1A808 | 1404 |
| 809 | 1404 |
| 815 | 695 |
| 822 | 522 |
| 823 | 522 |
| 1A824 | 522 |
| 825 | 817 |
| 830 | 809 |
| 833 | 810 |
| 834 | 808 |
| 1A835 | 807 |
| 836 | 790 |
| 839 | 1947 |
| 840 | 1946 |
| 841 | 1946 |
| 842 | 1946 |
| 843 | 1946 |
| 844 | 1946 |
| 845 | 1946 |
| 846 | 1946 |
| 847 | 1946 |
| 849 | 1948 |
| 850 | 583 |
| 852 | 203 |
| 853 | 2814 |
| 854 | 2814 |
| 855 | 2814 |
| 856 | 2814 |
| 857 | 2814 |
| 858 | 2814 |
| 859 | 2814 |
| 860 | 2814 |
| 861 | 2814 |
| 862 | 2814 |
| 863 | 2814 |
| 864 | 2814 |
| 865 | 2814 |
| 866 | 2814 |
| 867 | 2814 |
| 868 | 628 |
| 870 | 630 |
| 871 | 630 |
| 872 | 630 |
| 873 | 630 |
| 874 | 630 |
| 875 | 630 |
| 876 | 630 |
| 877 | 630 |
| 878 | 630 |
| 887 | 603 |
| 888 | 3473 |
| 889 | 3473 |
| 890 | 3473 |
| 891 | 3473 |
| 892 | 3473 |
| 893 | 3473 |
| 894 | 3473 |
| 911 | 298 |
| 912 | 298 |
| 914 | 357 |
| 916 | 357 |
| 917 | 357 |
| 918 | 357 |
| 920 | 357 |
| 921 | 357 |
| 922 | 357 |
| 923 | 357 |
| 924 | 357 |
| 925 | 357 |
| 927 | 357 |
| 928 | 357 |
| 929 | 354 |
| 930 | 354 |
| 931 | 354 |
| 932 | 354 |
| 933 | 354 |
| 944 | 692 |
| 945 | 692 |
| 946 | 692 |
| 947 | 692 |
| 948 | 692 |
| 949 | 692 |
| 950 | 692 |
| 951 | 502 |
| 952 | 502 |
| 967 | 2822 |
| 970 | 3645 |
| 975 | 1041 |
| 983 | 498 |
| 1B | |
| 1BC07 | 2369 |
| C35 | 2433 |
| C39 | 2381 |
| 1BC42 | 2365 |
| C44 | 2370 |
| C52 | 2456 |
| C66 | 2365 |
| C68 | 2597 |
| 1BC75 | 2479 |
| C80 | 2352 |
| C83 | 2458 |
| C97 | 2454 |
| R44 | 1666 |
| 1BR45 | 1666 |
| R46 | 1666 |
| R50 | 1666 |
| R51 | 1666 |
| R52 | 1666 |
| 1BR67 | 1665 |
| R68 | 1665 |
| R69 | 1665 |
| R72 | 1665 |
| R73 | 1665 |
| 1BR74 | 1665 |
| T01 | 1658 |
| T02 | 1658 |
| T03 | 1658 |
| T04 | 1658 |
| 1BT05 | 1658 |
| T06 | 1658 |
| T07 | 1658 |
| T08 | 1658 |
| T09 | 1658 |
| 1BT10 | 1658 |
| T11 | 1658 |
| T12 | 1658 |
| T13 | 1658 |
| T14 | 1658 |
| 1BT15 | 1658 |
| T16 | 1658 |
| T17 | 1658 |
| T18 | 1658 |
| T19 | 1658 |
| 1BT20 | 1658 |
| T21 | 1658 |
| T22 | 1658 |
| T23 | 1658 |
| T24 | 1658 |

# STOCK NUMBER—PAGE NUMBER



| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1BT25 | 1658 | 1BW10 | 2475 | 1BZ16 | 2057 | 1CG56 | 1958 | 1CK41 | 417 | 1CM37 | 414 | 1CV32 | 438 | 1CZ14 | 419 | 1C239 | 943 | 1C368 | 975 | 1C482 | 1004 |
| T26 | 1658 | W11 | 2475 | Z46 | 2362 | G81 | 1851 | K42 | 417 | M38 | 414 | V85 | 2372 | Z15 | 419 | 241 | 990 | 370 | 975 | 484 | 1004 |
| T27 | 1658 | W12 | 2475 | Z47 | 2362 | G87 | 1907 | K43 | 417 | M39 | 414 | W02 | 417 | Z19 | 419 | 247 | 917 | 372 | 988 | 485 | 1662 |
| T28 | 1658 | W13 | 2475 | Z89 | 2362 | H04 | 1957 | K44 | 417 | M40 | 414 | W03 | 417 | Z20 | 419 | 249 | 973 | 374 | 1001 | 486 | 1004 |
| T29 | 1658 | W14 | 2475 | Z90 | 2362 | H10 | 1850 | K45 | 417 | M41 | 414 | W04 | 417 | Z23 | 419 | 251 | 940 | 376 | 1001 | 488 | 1003 |
| 1BT30 | 1658 | 1BW15 | 2475 | 1BZ91 | 439 | 1CH32 | 2969 | 1CK46 | 417 | 1CP16 | 435 | 1CW05 | 417 | 1CZ25 | 419 | 1C257 | 940 | 1C378 | 921 | 1C489 | 1662 |
| T31 | 1658 | W16 | 2475 | Z92 | 2362 | H72 | 1961 | K47 | 417 | P17 | 435 | W06 | 417 | Z26 | 419 | 259 | 964 | 379 | 1662 | 490 | 1003 |
| T32 | 1658 | W17 | 2475 | Z93 | 2362 | H73 | 1961 | K48 | 417 | P18 | 435 | W07 | 417 | Z29 | 419 | 261 | 990 | 380 | 950 | 492 | 924 |
| T33 | 1658 | W18 | 2475 | Z95 | 2362 | H74 | 1958 | K49 | 417 | P19 | 435 | W08 | 417 | Z32 | 419 | 263 | 939 | 381 | 1662 | 493 | 1662 |
| T34 | 1658 | W19 | 2475 | Z96 | 2362 | H97 | 417 | K50 | 417 | P20 | 435 | W41 | 437 | Z35 | 419 | 265 | 963 | 382 | 950 | 494 | 921 |
| 1BT35 | 1658 | 1BW20 | 2475 | **1C** | | 1CH98 | 417 | 1CK51 | 417 | 1CP21 | 435 | 1CW78 | 420 | 1CZ43 | 414 | 1C269 | 952 | 1C384 | 1003 | 1C496 | 993 |
| T36 | 1658 | W21 | 2475 | | | H99 | 417 | K52 | 417 | P22 | 435 | W79 | 420 | Z45 | 435 | 271 | 952 | 386 | 199 | 497 | 1662 |
| T37 | 1658 | W22 | 2477 | 1CD40 | 2335 | J01 | 417 | K53 | 417 | P23 | 435 | W80 | 420 | Z46 | 419 | 273 | 1006 | 387 | 1006 | 498 | 1009 |
| T38 | 1658 | W23 | 2477 | D42 | 2333 | J03 | 417 | K54 | 417 | P24 | 435 | W81 | 420 | Z54 | 419 | 275 | 960 | 389 | 1003 | 500 | 1005 |
| T39 | 1658 | W24 | 2477 | D43 | 2333 | J04 | 417 | K55 | 417 | P25 | 435 | W83 | 420 | Z55 | 419 | 277 | 939 | 391 | 990 | 501 | 1662 |
| 1BT40 | 1658 | 1BW26 | 1185 | 1CD44 | 2333 | 1CJ05 | 417 | 1CK56 | 417 | 1CP26 | 435 | 1CW87 | 420 | 1CZ61 | 419 | 1C278 | 1662 | 1C393 | 990 | 1C502 | 1004 |
| T41 | 1658 | W40 | 2345 | D47 | 2444 | J06 | 417 | K57 | 417 | P27 | 435 | W88 | 420 | Z63 | 419 | 279 | 939 | 394 | 1662 | 504 | 1003 |
| T42 | 1658 | W41 | 2345 | D51 | 2443 | J08 | 417 | K58 | 417 | P60 | 436 | W89 | 420 | Z65 | 419 | 281 | 920 | 398 | 1662 | 505 | 1662 |
| T43 | 1658 | W42 | 1991 | D80 | 2444 | J09 | 417 | K59 | 417 | P61 | 436 | W90 | 420 | Z68 | 419 | 282 | 1662 | 399 | 950 | 506 | 998 |
| T44 | 1658 | W66 | 428 | F03 | 1902 | J10 | 417 | K94 | 417 | P62 | 436 | W91 | 422 | Z70 | 419 | 289 | 1662 | 400 | 1662 | 508 | 1004 |
| 1BT45 | 1658 | 1BW67 | 428 | 1CF04 | 1902 | 1CJ11 | 417 | 1CK95 | 417 | 1CP63 | 436 | 1CW92 | 422 | 1CZ71 | 419 | 1C292 | 941 | 1C403 | 1001 | 1C509 | 1662 |
| T46 | 1658 | W68 | 428 | F07 | 1868 | J12 | 417 | K96 | 417 | P81 | 2443 | X29 | 432 | Z74 | 419 | 293 | 1662 | 407 | 989 | 510 | 947 |
| T50 | 1659 | W69 | 428 | F08 | 1868 | J13 | 417 | L30 | 432 | P83 | 2443 | X30 | 432 | 005 | 1672 | 296 | 2470 | 409 | 924 | 512 | 963 |
| T51 | 1659 | W70 | 428 | F15 | 1875 | J14 | 417 | L31 | 432 | R70 | 420 | X31 | 432 | 040 | 1308 | 297 | 1662 | 411 | 1005 | 513 | 1662 |
| T52 | 1659 | W71 | 428 | F18 | 1947 | J16 | 417 | L32 | 432 | R71 | 420 | X32 | 432 | 042 | 1308 | 298 | 990 | 413 | 1005 | 514 | 955 |
| 1BT53 | 1659 | 1BW72 | 428 | 1CF19 | 1947 | 1CJ17 | 417 | 1CL33 | 432 | 1CR72 | 420 | 1CX33 | 432 | 1C044 | 1361 | 1C300 | 991 | 1C415 | 953 | 1C516 | 955 |
| T54 | 1659 | W73 | 428 | F24 | 1875 | J18 | 417 | L34 | 432 | R73 | 420 | X34 | 432 | 046 | 1361 | 301 | 1662 | 417 | 969 | 517 | 1662 |
| T55 | 1659 | W74 | 428 | F25 | 1875 | J19 | 417 | L35 | 432 | R74 | 420 | X35 | 432 | 048 | 1361 | 304 | 991 | 419 | 971 | 518 | 1005 |
| T56 | 1659 | W75 | 428 | F26 | 1875 | J20 | 417 | L38 | 432 | R75 | 420 | X36 | 433 | 050 | 1361 | 305 | 1662 | 420 | 1662 | 520 | 998 |
| T57 | 1659 | W76 | 428 | F27 | 1875 | J21 | 417 | L39 | 432 | R76 | 420 | X37 | 433 | 052 | 1250 | 308 | 969 | 421 | 979 | 521 | 1662 |
| 1BT58 | 1659 | 1BW77 | 428 | 1CF28 | 1875 | 1CJ22 | 417 | 1CL40 | 432 | 1CR77 | 420 | 1CX38 | 433 | 1C054 | 1250 | 1C309 | 1662 | 1C422 | 1662 | 1C522 | 1000 |
| T59 | 1659 | W78 | 428 | F29 | 1875 | J35 | 415 | L41 | 432 | R78 | 420 | X39 | 433 | 055 | 3599 | 310 | 939 | 423 | 1005 | 526 | 967 |
| T60 | 1659 | W79 | 428 | F30 | 1875 | J36 | 415 | L42 | 433 | R79 | 420 | X40 | 433 | 065 | 1388 | 312 | 939 | 425 | 941 | 530 | 921 |
| T61 | 1659 | W80 | 428 | F31 | 1875 | J37 | 415 | L43 | 433 | T78 | 421 | X41 | 423 | 067 | 1388 | 313 | 1662 | 427 | 941 | 532 | 1009 |
| T62 | 1659 | W84 | 435 | F32 | 1875 | J39 | 415 | L44 | 433 | T79 | 421 | X42 | 423 | 069 | 1354 | 314 | 972 | 429 | 981 | 534 | 1009 |
| 1BT85 | 1659 | 1BW85 | 435 | 1CF42 | 1910 | 1CJ40 | 415 | 1CL45 | 433 | 1CT80 | 421 | 1CX43 | 423 | 1C073 | 1355 | 1C316 | 972 | 1C431 | 1005 | 1C536 | 990 |
| T89 | 1659 | X14 | 2341 | F43 | 1910 | J41 | 415 | L46 | 433 | T81 | 421 | X44 | 423 | 077 | 2681 | 317 | 1662 | 433 | 1005 | 538 | 1009 |
| T99 | 1659 | X40 | 416 | F44 | 1912 | J45 | 415 | L47 | 433 | T82 | 421 | X45 | 423 | 079 | 2681 | 318 | 944 | 435 | 1008 | 540 | 1009 |
| V05 | 1455 | X41 | 416 | F46 | 1911 | J46 | 415 | L48 | 433 | T83 | 421 | X46 | 423 | 081 | 1355 | 320 | 943 | 437 | 1008 | 541 | 1662 |
| V06 | 1455 | X42 | 416 | F47 | 1911 | J55 | 1952 | L49 | 433 | T84 | 421 | X47 | 423 | 083 | 1352 | 321 | 1662 | 439 | 1008 | 542 | 967 |
| 1BV07 | 1455 | 1BX43 | 416 | 1CF53 | 1901 | 1CJ56 | 1952 | 1CL58 | 428 | 1CT85 | 421 | 1CX48 | 423 | 1C085 | 1352 | 1C322 | 942 | 1C440 | 1662 | 1C544 | 969 |
| V08 | 1455 | X44 | 416 | F59 | 1901 | J70 | 1957 | L59 | 428 | T86 | 421 | X49 | 423 | 089 | 2515 | 324 | 944 | 441 | 1008 | 546 | 978 |
| V09 | 1455 | X45 | 416 | F60 | 1957 | J79 | 1956 | L60 | 428 | T87 | 421 | X50 | 423 | 091 | 2515 | 325 | 1662 | 443 | 1008 | 548 | 978 |
| V10 | 1455 | X46 | 416 | F92 | 1865 | J84 | 1952 | L61 | 428 | T88 | 422 | X51 | 423 | 093 | 2515 | 326 | 944 | 445 | 1008 | 550 | 2486 |
| V11 | 1455 | X47 | 416 | F98 | 1948 | J85 | 1956 | L62 | 428 | T89 | 422 | X52 | 423 | 095 | 2515 | 329 | 1662 | 447 | 962 | 554 | 970 |
| 1BV12 | 1456 | 1BX48 | 416 | 1CF99 | 1948 | 1CJ88 | 1870 | 1CL63 | 428 | 1CT90 | 422 | 1CX53 | 423 | 1C103 | 2437 | 1C330 | 943 | 1C449 | 960 | 1C556 | 998 |
| V13 | 1456 | X49 | 416 | G01 | 1948 | J90 | 1870 | L64 | 428 | T91 | 422 | X54 | 423 | 107 | 2436 | 332 | 943 | 451 | 952 | 558 | 989 |
| V14 | 1456 | X50 | 416 | G02 | 1948 | J91 | 1870 | L65 | 428 | T92 | 422 | X55 | 423 | 133 | 2514 | 333 | 1662 | 455 | 1009 | 560 | 921 |
| V15 | 1456 | X97 | 416 | G03 | 1948 | J92 | 1870 | L66 | 428 | T93 | 422 | X56 | 423 | 135 | 2515 | 334 | 943 | 458 | 952 | 561 | 1662 |
| V16 | 1456 | X98 | 416 | G06 | 1944 | J94 | 1870 | L67 | 428 | T94 | 422 | X57 | 423 | 137 | 2392 | 336 | 2486 | 460 | 988 | 562 | 1009 |
| 1BV17 | 1456 | 1BX99 | 416 | 1CG08 | 1851 | 1CJ95 | 1870 | 1CL68 | 428 | 1CT95 | 422 | 1CX58 | 423 | 1C139 | 2393 | 1C337 | 1662 | 1C462 | 988 | 1C563 | 1662 |
| V18 | 1455 | Z01 | 416 | G09 | 1851 | J96 | 1870 | L69 | 428 | T96 | 422 | X59 | 423 | 141 | 928 | 340 | 940 | 464 | 993 | 564 | 1008 |
| V19 | 1455 | Z02 | 416 | G11 | 1851 | J97 | 1870 | L70 | 428 | T97 | 422 | X60 | 423 | 143 | 928 | 342 | 940 | 465 | 1662 | 568 | 940 |
| V20 | 1456 | Z03 | 416 | G12 | 1851 | J98 | 1870 | L71 | 428 | T98 | 422 | X61 | 423 | 147 | 928 | 344 | 940 | 466 | 1003 | 572 | 990 |
| V22 | 1456 | Z05 | 416 | G13 | 1924 | J99 | 1870 | M26 | 414 | T99 | 422 | X62 | 423 | 149 | 928 | 347 | 940 | 468 | 1003 | 574 | 1009 |
| 1BV23 | 1456 | 1BZ06 | 416 | 1CG14 | 1924 | 1CK31 | 417 | 1CM27 | 414 | 1CV01 | 422 | 1CX63 | 423 | 1C185 | 2789 | 1C349 | 974 | 1C469 | 1662 | 1C575 | 1662 |
| V24 | 1456 | Z07 | 416 | G18 | 1919 | K32 | 417 | M28 | 414 | V02 | 422 | X64 | 423 | 187 | 2789 | 351 | 981 | 470 | 1005 | 576 | 1005 |
| V28 | 1455 | Z08 | 416 | G32 | 1855 | K33 | 417 | M29 | 414 | V03 | 422 | X65 | 423 | 191 | 2775 | 353 | 979 | 472 | 999 | 578 | 1003 |
| V35 | 1456 | Z09 | 416 | G33 | 1855 | K34 | 417 | M30 | 414 | V04 | 422 | X66 | 423 | 193 | 2775 | 356 | 979 | 473 | 1662 | 579 | 1662 |
| V80 | 1433 | Z10 | 416 | G34 | 1855 | K35 | 417 | M31 | 414 | V05 | 422 | X67 | 423 | 197 | 2789 | 358 | 978 | 474 | 1006 | 580 | 965 |
| 1BW05 | 2330 | 1BZ11 | 416 | 1CG37 | 1855 | 1CK36 | 417 | 1CM32 | 414 | 1CV06 | 422 | 1CX68 | 423 | 1C199 | 2776 | 1C359 | 1662 | 1C476 | 1006 | 1C581 | 1662 |
| W06 | 2353 | Z12 | 416 | G41 | 1864 | K37 | 417 | M33 | 414 | V07 | 422 | X69 | 423 | 209 | 3599 | 360 | 978 | 477 | 1662 | 582 | 994 |
| W07 | 2353 | Z13 | 416 | G42 | 1864 | K38 | 417 | M34 | 414 | V10 | 438 | Z07 | 419 | 210 | 3599 | 362 | 977 | 478 | 1006 | 584 | 973 |
| W08 | 2353 | Z14 | 416 | G47 | 1861 | K39 | 417 | M35 | 414 | V17 | 438 | Z11 | 419 | 211 | 3599 | 364 | 975 | 480 | 1004 | 588 | 990 |
| W09 | 2475 | Z15 | 416 | G53 | 1853 | K40 | 417 | M36 | 414 | V27 | 438 | Z12 | 419 | 219 | 939 | 366 | 975 | 481 | 1662 | 590 | 998 |

# STOCK NUMBER—PAGE NUMBER

## 1C5 — 1D3

| Stock No. | Page No. |
|---|---|
| 1C592 | 1009 |
| 594 | 1005 |
| 598 | 1005 |
| 600 | 1004 |
| 601 | 1662 |
| 1C602 | 992 |
| 603 | 1662 |
| 606 | 1009 |
| 608 | 1008 |
| 610 | 1008 |
| 1C612 | 1005 |
| 614 | 1005 |
| 616 | 1006 |
| 620 | 966 |
| 621 | 1662 |
| 1C622 | 946 |
| 624 | 946 |
| 626 | 966 |
| 630 | 958 |
| 632 | 1003 |
| 1C634 | 1003 |
| 636 | 1009 |
| 638 | 1005 |
| 642 | 1006 |
| 644 | 1004 |
| 1C646 | 994 |
| 648 | 974 |
| 650 | 966 |
| 652 | 1006 |
| 654 | 2486 |
| 1C656 | 995 |
| 662 | 972 |
| 666 | 968 |
| 668 | 968 |
| 670 | 955 |
| 1C672 | 952 |
| 674 | 2485 |
| 676 | 973 |
| 680 | 1004 |
| 682 | 976 |
| 1C684 | 1004 |
| 686 | 994 |
| 688 | 946 |
| 694 | 946 |
| 696 | 953 |
| 1C698 | 991 |
| 700 | 1003 |
| 702 | 1004 |
| 704 | 1006 |
| 706 | 987 |
| 1C720 | 954 |
| 724 | 961 |
| 726 | 961 |
| 728 | 961 |
| 734 | 957 |
| 1C736 | 954 |
| 738 | 1008 |
| 742 | 3599 |
| 743 | 3599 |
| 744 | 3599 |
| 1C745 | 3599 |
| 746 | 3599 |
| 747 | 1009 |
| 749 | 1008 |
| 751 | 1008 |
| 1C752 | 2776 |
| 753 | 1008 |
| 755 | 1003 |
| 756 | 2775 |
| 757 | 1009 |
| 1C761 | 1008 |
| 763 | 1008 |
| 770 | 1008 |
| 771 | 1674 |
| 772 | 1008 |
| 1C773 | 1674 |
| 774 | 1004 |
| 775 | 1674 |
| 776 | 944 |
| 778 | 944 |
| 1C780 | 1003 |
| 782 | 1004 |
| 783 | 1674 |
| 784 | 1006 |
| 785 | 1674 |
| 1C786 | 1004 |
| 787 | 1674 |
| 788 | 1004 |
| 790 | 2485 |
| 791 | 3663 |
| 1C792 | 3663 |
| 793 | 1674 |
| 794 | 938 |
| 795 | 1674 |
| 796 | 941 |
| 1C798 | 931 |
| 800 | 931 |
| 801 | 1674 |
| 803 | 1674 |
| 804 | 1004 |
| 1C805 | 1674 |
| 806 | 1004 |
| 810 | 1004 |
| 812 | 1004 |
| 816 | 1003 |
| 1C820 | 1004 |
| 822 | 1003 |
| 824 | 1003 |
| 826 | 1003 |
| 828 | 1003 |
| 1C830 | 1006 |
| 832 | 1006 |
| 834 | 1006 |
| 836 | 1003 |
| 838 | 1004 |
| 1C840 | 1003 |
| 841 | 2775 |
| 842 | 1003 |
| 844 | 1004 |
| 845 | 2775 |
| 1C846 | 1003 |
| 847 | 2775 |
| 848 | 1003 |
| 850 | 1004 |
| 852 | 941 |
| 1C853 | 2775 |
| 854 | 941 |
| 856 | 1003 |
| 857 | 2775 |
| 858 | 1003 |
| 1C860 | 1003 |
| 862 | 1003 |
| 864 | 1003 |
| 866 | 1003 |
| 868 | 1003 |
| 1C870 | 1003 |
| 874 | 1004 |
| 875 | 2775 |
| 876 | 1003 |
| 877 | 2775 |
| 1C882 | 995 |
| 883 | 2790 |
| 884 | 989 |
| 886 | 989 |
| 888 | 989 |
| 1C890 | 989 |
| 892 | 989 |
| 893 | 2790 |
| 894 | 989 |
| 896 | 989 |
| 1C897 | 201 |
| 898 | 201 |
| 899 | 201 |
| 900 | 201 |
| 901 | 201 |
| 1C902 | 201 |
| 904 | 989 |
| 905 | 2790 |
| 906 | 989 |
| 908 | 989 |
| 1C909 | 2775 |
| 910 | 995 |
| 911 | 2775 |
| 912 | 995 |
| 913 | 1672 |
| 1C914 | 995 |
| 915 | 1672 |
| 916 | 995 |
| 917 | 1672 |
| 918 | 995 |
| 1C919 | 1672 |
| 920 | 995 |
| 921 | 1672 |
| 922 | 995 |
| 923 | 1672 |
| 1C924 | 995 |
| 925 | 1672 |
| 926 | 995 |
| 927 | 1672 |
| 928 | 993 |
| 1C929 | 1672 |
| 931 | 993 |
| 933 | 993 |
| 935 | 993 |
| 937 | 993 |
| 1C941 | 993 |
| 942 | 1672 |
| 943 | 993 |
| 944 | 1672 |
| 945 | 993 |
| 1C946 | 1672 |
| 947 | 993 |
| 948 | 1672 |
| 949 | 993 |
| 950 | 1672 |
| 1C951 | 993 |
| 952 | 1672 |
| 953 | 993 |
| 954 | 1672 |
| 955 | 993 |
| 1C956 | 1672 |
| 957 | 993 |
| 958 | 1672 |
| 959 | 992 |
| 960 | 1672 |
| 1C961 | 992 |
| 967 | 1672 |
| 968 | 992 |
| 970 | 1672 |
| 971 | 992 |
| 1C972 | 1672 |
| 973 | 992 |
| 974 | 1672 |
| 975 | 992 |
| 976 | 1672 |
| 1C977 | 992 |
| 978 | 1672 |
| 979 | 992 |
| 980 | 1672 |
| 982 | 3631 |
| 1C984 | 1176 |
| 985 | 1176 |
| 986 | 1176 |
| 987 | 1176 |
| 988 | 1176 |
| 1C994 | 1672 |
| 995 | 992 |
| 996 | 1672 |
| 997 | 992 |
| 998 | 1672 |

**1D**

| Stock No. | Page No. |
|---|---|
| 1DC08 | 419 |
| C10 | 419 |
| C12 | 419 |
| 1DC13 | 419 |
| C51 | 440 |
| C52 | 440 |
| C53 | 440 |
| C54 | 440 |
| 1DC55 | 440 |
| C56 | 440 |
| C57 | 440 |
| C58 | 440 |
| C59 | 440 |
| 1DC60 | 440 |
| C61 | 440 |
| C62 | 440 |
| C63 | 440 |
| C64 | 440 |
| 1DC65 | 440 |
| C66 | 440 |
| C67 | 440 |
| C68 | 440 |
| C69 | 440 |
| 1DC70 | 440 |
| C71 | 440 |
| C72 | 440 |
| C73 | 440 |
| C74 | 440 |
| 1DC75 | 440 |
| C76 | 440 |
| C77 | 440 |
| C78 | 440 |
| C79 | 440 |
| 1DC80 | 440 |
| C81 | 440 |
| C82 | 440 |
| C83 | 440 |
| C84 | 440 |
| 1DC85 | 440 |
| C86 | 440 |
| C87 | 440 |
| C88 | 440 |
| C89 | 440 |
| 1DC90 | 440 |
| C91 | 440 |
| C92 | 440 |
| D04 | 438 |
| D84 | 432 |
| 1DD85 | 432 |
| D86 | 432 |
| D87 | 433 |
| D88 | 433 |
| D89 | 433 |
| 1DD98 | 419 |
| F01 | 436 |
| F51 | 429 |
| F52 | 429 |
| F53 | 429 |
| 1DF54 | 429 |
| F89 | 437 |
| G71 | 432 |
| G72 | 432 |
| G73 | 432 |
| 1DG74 | 432 |
| G75 | 433 |
| G76 | 433 |
| G77 | 433 |
| G78 | 433 |
| 1DG79 | 426 |
| G80 | 426 |
| G81 | 426 |
| G82 | 426 |
| G83 | 426 |
| 1DG84 | 426 |
| G85 | 426 |
| G86 | 426 |
| G87 | 426 |
| G88 | 426 |
| 1DG89 | 426 |
| G91 | 426 |
| G92 | 428 |
| G93 | 428 |
| G94 | 428 |
| 1DG95 | 428 |
| G96 | 428 |
| G97 | 428 |
| G98 | 428 |
| G99 | 428 |
| 1DH01 | 428 |
| H02 | 428 |
| H03 | 428 |
| H04 | 428 |
| H05 | 428 |
| 1DH06 | 428 |
| H07 | 428 |
| H08 | 428 |
| H09 | 428 |
| H10 | 428 |
| 1DH11 | 428 |
| H12 | 428 |
| H13 | 428 |
| H14 | 428 |
| H15 | 428 |
| 1DH16 | 428 |
| H18 | 428 |
| H19 | 428 |
| H20 | 428 |
| H21 | 428 |
| 1DH25 | 431 |
| H26 | 431 |
| H27 | 431 |
| H28 | 431 |
| H29 | 431 |
| 1DH30 | 431 |
| H31 | 431 |
| H32 | 431 |
| H33 | 431 |
| H34 | 431 |
| 1DH35 | 431 |
| H36 | 431 |
| H42 | 435 |
| H43 | 435 |
| H44 | 435 |
| 1DH45 | 435 |
| H46 | 435 |
| H48 | 419 |
| H49 | 419 |
| H80 | 415 |
| 1DH81 | 415 |
| H82 | 415 |
| J48 | 415 |
| J49 | 415 |
| J50 | 415 |
| 1DJ51 | 415 |
| J52 | 415 |
| J53 | 415 |
| J54 | 415 |
| J55 | 415 |
| 1DJ56 | 415 |
| J57 | 415 |
| J58 | 415 |
| J59 | 415 |
| J61 | 415 |
| 1DJ63 | 415 |
| J64 | 415 |
| J65 | 415 |
| J74 | 418 |
| K46 | 414 |
| 1DK48 | 419 |
| L11 | 438 |
| L14 | 439 |
| L17 | 439 |
| L19 | 438 |
| 1DL20 | 438 |
| L21 | 438 |
| L50 | 433 |
| L55 | 414 |
| L56 | 419 |
| 1DL58 | 419 |
| M06 | 439 |
| M19 | 438 |
| M21 | 438 |
| N02 | 419 |
| 1DN32 | 2372 |
| N33 | 2372 |
| N34 | 2372 |
| N35 | 2366 |
| N36 | 2366 |
| 1DN37 | 2366 |
| N38 | 2366 |
| N39 | 2366 |
| N40 | 2366 |
| N86 | 433 |
| 1DN87 | 433 |
| N88 | 433 |
| N89 | 433 |
| P38 | 419 |
| P87 | 430 |
| 1DR08 | 431 |
| R09 | 431 |
| R10 | 431 |
| R11 | 431 |
| R12 | 431 |
| 1DR13 | 431 |
| R14 | 431 |
| R15 | 431 |
| R16 | 431 |
| R17 | 431 |
| 1DR47 | 438 |
| R85 | 427 |
| R86 | 427 |
| R87 | 427 |
| R99 | 431 |
| 1DT01 | 431 |
| T02 | 431 |
| T03 | 431 |
| T04 | 431 |
| T05 | 431 |
| 1DT06 | 431 |
| T07 | 431 |
| T33 | 436 |
| X47 | 439 |
| X69 | 427 |
| 1DX82 | 431 |
| X83 | 431 |
| X84 | 431 |
| Z84 | 432 |
| Z85 | 432 |
| 1DZ86 | 432 |
| 002 | 3230 |
| 003 | 3235 |
| 004 | 3235 |
| 005 | 3235 |
| 1D0006 | 3235 |
| 007 | 3235 |
| 008 | 3235 |
| 009 | 3235 |
| 027 | 3235 |
| 1D0028 | 3235 |
| 029 | 3235 |
| 033 | 100 |
| 034 | 100 |
| 035 | 101 |
| 1D038 | 53 |
| 039 | 53 |
| 042 | 101 |
| 043 | 53 |
| 044 | 101 |
| 1D045 | 101 |
| 046 | 101 |
| 047 | 102 |
| 048 | 102 |
| 049 | 102 |
| 1D050 | 102 |
| 051 | 102 |
| 055 | 101 |
| 056 | 50 |
| 057 | 50 |
| 1D058 | 2363 |
| 059 | 8 |
| 060 | 8 |
| 061 | 8 |
| 062 | 8 |
| 1D063 | 8 |
| 064 | 8 |
| 065 | 50 |
| 066 | 50 |
| 067 | 50 |
| 1D068 | 50 |
| 069 | 51 |
| 070 | 50 |
| 071 | 50 |
| 072 | 137 |
| 1D073 | 137 |
| 074 | 50 |
| 075 | 137 |
| 076 | 137 |
| 077 | 137 |
| 1D078 | 53 |
| 080 | 53 |
| 081 | 101 |
| 082 | 101 |
| 083 | 107 |
| 1D084 | 107 |
| 085 | 137 |
| 086 | 137 |
| 087 | 137 |
| 088 | 101 |
| 1D089 | 76 |
| 090 | 76 |
| 091 | 76 |
| 092 | 76 |
| 093 | 76 |
| 1D094 | 76 |
| 095 | 172 |
| 096 | 173 |
| 097 | 172 |
| 098 | 173 |
| 1D099 | 173 |
| 100 | 173 |
| 101 | 173 |
| 102 | 173 |
| 103 | 173 |
| 1D104 | 173 |
| 105 | 173 |
| 106 | 173 |
| 107 | 173 |
| 108 | 173 |
| 1D109 | 173 |
| 110 | 173 |
| 111 | 173 |
| 112 | 173 |
| 113 | 173 |
| 1D114 | 173 |
| 115 | 173 |
| 116 | 173 |
| 117 | 173 |
| 118 | 173 |
| 1D119 | 172 |
| 120 | 172 |
| 121 | 172 |
| 122 | 172 |
| 123 | 172 |
| 1D124 | 172 |
| 125 | 172 |
| 126 | 172 |
| 127 | 172 |
| 128 | 172 |
| 1D129 | 172 |
| 130 | 172 |
| 131 | 172 |
| 132 | 172 |
| 133 | 172 |
| 1D134 | 172 |
| 135 | 173 |
| 136 | 173 |
| 137 | 173 |
| 138 | 173 |
| 1D139 | 173 |
| 140 | 173 |
| 141 | 173 |
| 142 | 173 |
| 143 | 173 |
| 1D144 | 173 |
| 145 | 3252 |
| 146 | 3252 |
| 147 | 3252 |
| 148 | 3252 |
| 1D149 | 3252 |
| 150 | 3252 |
| 151 | 3252 |
| 152 | 3252 |
| 153 | 3252 |
| 1D154 | 168 |
| 155 | 168 |
| 156 | 168 |
| 157 | 168 |
| 158 | 168 |
| 1D159 | 168 |
| 160 | 168 |
| 161 | 168 |
| 162 | 168 |
| 163 | 168 |
| 1D164 | 168 |
| 165 | 168 |
| 166 | 168 |
| 167 | 73 |
| 168 | 73 |
| 1D169 | 73 |
| 170 | 99 |
| 171 | 104 |
| 172 | 104 |
| 173 | 167 |
| 1D174 | 167 |
| 175 | 167 |
| 176 | 167 |
| 177 | 167 |
| 178 | 167 |
| 1D179 | 167 |
| 180 | 167 |
| 181 | 167 |
| 182 | 163 |
| 183 | 163 |
| 1D184 | 163 |
| 185 | 163 |
| 186 | 163 |
| 187 | 163 |
| 188 | 163 |
| 1D189 | 163 |
| 190 | 163 |
| 191 | 163 |
| 192 | 163 |
| 193 | 167 |
| 1D194 | 167 |
| 195 | 167 |
| 196 | 167 |
| 197 | 167 |
| 198 | 167 |
| 1D199 | 167 |
| 200 | 167 |
| 201 | 167 |
| 202 | 167 |
| 203 | 167 |
| 1D204 | 167 |
| 205 | 167 |
| 206 | 167 |
| 207 | 93 |
| 208 | 93 |
| 1D209 | 93 |
| 210 | 93 |
| 211 | 93 |
| 215 | 1881 |
| 216 | 1882 |
| 1D217 | 1881 |
| 218 | 1880 |
| 220 | 3476 |
| 224 | 3257 |
| 225 | 3256 |
| 1D226 | 3256 |
| 227 | 3256 |
| 228 | 3256 |
| 229 | 3256 |
| 230 | 370 |
| 1D231 | 371 |
| 232 | 371 |
| 233 | 370 |
| 234 | 370 |
| 235 | 371 |
| 1D236 | 371 |
| 237 | 370 |
| 238 | 370 |
| 239 | 370 |
| 240 | 371 |
| 1D241 | 371 |
| 242 | 370 |
| 243 | 370 |
| 244 | 370 |
| 245 | 371 |
| 1D246 | 370 |
| 247 | 370 |
| 248 | 372 |
| 249 | 372 |
| 250 | 371 |
| 1D251 | 370 |
| 252 | 370 |
| 253 | 370 |
| 254 | 370 |
| 255 | 371 |
| 1D256 | 371 |
| 257 | 2790 |
| 258 | 2790 |
| 259 | 2786 |
| 260 | 2786 |
| 1D261 | 2786 |
| 262 | 2786 |
| 263 | 2786 |
| 264 | 2786 |
| 265 | 2786 |
| 1D266 | 2786 |
| 267 | 2782 |
| 268 | 2788 |
| 269 | 2790 |
| 270 | 2788 |
| 1D271 | 2776 |
| 272 | 2776 |
| 273 | 2788 |
| 274 | 2788 |
| 275 | 2788 |
| 1D276 | 2788 |
| 277 | 2789 |
| 278 | 3344 |
| 279 | 3344 |
| 280 | 3311 |
| 1D281 | 3349 |
| 282 | 3349 |
| 283 | 3349 |
| 284 | 3347 |
| 285 | 3347 |
| 1D286 | 3347 |
| 287 | 3347 |
| 288 | 3347 |
| 289 | 3347 |
| 290 | 3350 |
| 1D291 | 3338 |
| 292 | 3338 |
| 293 | 3338 |
| 294 | 3351 |
| 295 | 3353 |
| 1D296 | 3353 |
| 297 | 3344 |
| 298 | 3349 |
| 299 | 2567 |
| 300 | 2567 |
| 1D301 | 370 |
| 302 | 2590 |
| 303 | 2568 |
| 304 | 371 |
| 305 | 371 |
| 1D306 | 370 |
| 307 | 370 |
| 308 | 371 |
| 309 | 371 |
| 310 | 370 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1D311 | 370 | 1D378 | 2367 | 1D495 | 1900 | 1D581 | 1427 | 1D713 | 367 | 1D833 | 2503 | 1D900 | 3256 | 1EH60 | 439 | 1E002 | 972 | 1E129 | 995 | 1E275 | 974 |
| 312 | 371 | 379 | 2367 | 499 | 1909 | 584 | 1407 | 714 | 376 | 834 | 2503 | 901 | 3256 | H61 | 439 | 003 | 1672 | 131 | 995 | 277 | 961 |
| 313 | 370 | 380 | 2367 | 504 | 1900 | 585 | 1408 | 715 | 374 | 835 | 2503 | 902 | 3256 | H90 | 439 | 004 | 972 | 133 | 995 | 279 | 937 |
| 314 | 371 | 384 | 372 | 505 | 1900 | 586 | 1427 | 716 | 367 | 836 | 2503 | 903 | 3256 | H92 | 439 | 005 | 1672 | 141 | 951 | 281 | 1008 |
| 315 | 370 | 388 | 369 | 506 | 1900 | 651 | 2187 | 717 | 374 | 837 | 2503 | 904 | 3256 | H93 | 439 | 006 | 2485 | 145 | 920 | 283 | 969 |
| 1D316 | 371 | 1D389 | 368 | 1D507 | 1900 | 1D652 | 2187 | 1D718 | 367 | 1D838 | 2503 | 1D905 | 3256 | 1EH96 | 439 | 1E007 | 1672 | 1E147 | 920 | 1E284 | 1771 |
| 317 | 370 | 390 | 369 | 508 | 1900 | 653 | 2187 | 719 | 374 | 839 | 2503 | 906 | 3256 | H98 | 439 | 008 | 945 | 149 | 920 | 285 | 969 |
| 318 | 370 | 400 | 367 | 509 | 1900 | 654 | 2187 | 720 | 374 | 840 | 2503 | 907 | 3256 | J04 | 439 | 009 | 1672 | 151 | 1009 | 286 | 1671 |
| 319 | 370 | 401 | 367 | 511 | 364 | 655 | 2187 | 721 | 374 | 841 | 374 | 908 | 374 | J06 | 439 | 010 | 916 | 153 | 952 | 287 | 960 |
| 320 | 370 | 402 | 367 | 512 | 364 | 656 | 2187 | 722 | 374 | 842 | 374 | 909 | 374 | M06 | 430 | 011 | 1672 | 155 | 942 | 288 | 1771 |
| 1D321 | 370 | 1D403 | 367 | 1D513 | 366 | 1D657 | 2187 | 1D723 | 374 | 1D843 | 374 | 1D910 | 374 | 1EM07 | 430 | 1E012 | 916 | 1E158 | 2775 | 1E290 | 1771 |
| 322 | 370 | 405 | 367 | 514 | 364 | 658 | 378 | 724 | 374 | 845 | 2509 | 911 | 374 | M08 | 430 | 013 | 1672 | 159 | 1006 | 291 | 960 |
| 323 | 370 | 406 | 367 | 515 | 364 | 659 | 378 | 725 | 374 | 846 | 2509 | 912 | 374 | M09 | 439 | 014 | 1000 | 161 | 1005 | 292 | 1671 |
| 324 | 370 | 407 | 367 | 516 | 364 | 660 | 378 | 726 | 374 | 847 | 2509 | 913 | 2414 | M24 | 428 | 015 | 1672 | 162 | 2775 | 293 | 918 |
| 325 | 370 | 408 | 367 | 518 | 364 | 661 | 378 | 727 | 374 | 848 | 2510 | 914 | 374 | M26 | 431 | 016 | 972 | 163 | 955 | 294 | 1671 |
| 1D326 | 370 | 1D409 | 367 | 1D519 | 364 | 1D662 | 378 | 1D728 | 374 | 1D849 | 2509 | 1D915 | 374 | 1EM27 | 431 | 1E017 | 1672 | 1E165 | 966 | 1E295 | 975 |
| 327 | 370 | 410 | 367 | 520 | 364 | 663 | 378 | 729 | 374 | 850 | 374 | 916 | 374 | M28 | 431 | 018 | 972 | 167 | 966 | 296 | 1771 |
| 328 | 370 | 411 | 367 | 521 | 364 | 664 | 378 | 730 | 374 | 851 | 2509 | 917 | 374 | M29 | 431 | 019 | 1672 | 168 | 2776 | 298 | 1671 |
| 329 | 370 | 412 | 367 | 522 | 366 | 665 | 378 | 731 | 367 | 852 | 2509 | 918 | 2414 | M30 | 431 | 020 | 1005 | 171 | 966 | 301 | 960 |
| 330 | 370 | 413 | 367 | 525 | 366 | 666 | 2581 | 732 | 367 | 853 | 2507 | 919 | 374 | M31 | 431 | 021 | 1672 | 173 | 966 | 302 | 1671 |
| 1D331 | 370 | 1D418 | 369 | 1D526 | 378 | 1D667 | 2583 | 1D733 | 374 | 1D854 | 2503 | 1D920 | 2401 | 1EM32 | 431 | 1E023 | 1672 | 1E175 | 966 | 1E304 | 1771 |
| 332 | 372 | 419 | 368 | 527 | 378 | 668 | 2575 | 734 | 374 | 855 | 2503 | 921 | 2401 | M33 | 431 | 024 | 1004 | 177 | 971 | 305 | 932 |
| 333 | 372 | 420 | 369 | 528 | 378 | 669 | 2575 | 735 | 374 | 856 | 2503 | 922 | 2401 | M34 | 431 | 026 | 1005 | 179 | 967 | 306 | 1671 |
| 334 | 372 | 421 | 372 | 529 | 378 | 670 | 2575 | 736 | 374 | 857 | 2503 | 926 | 374 | M35 | 433 | 028 | 971 | 180 | 1771 | 308 | 1771 |
| 335 | 372 | 422 | 369 | 530 | 378 | 671 | 2565 | 737 | 367 | 858 | 2503 | 927 | 374 | M36 | 433 | 030 | 971 | 181 | 963 | 309 | 959 |
| 1D336 | 371 | 1D423 | 368 | 1D531 | 378 | 1D672 | 378 | 1D738 | 374 | 1D859 | 2503 | 1D928 | 374 | 1EM37 | 433 | 1E033 | 971 | 1E183 | 962 | 1E310 | 1671 |
| 337 | 371 | 424 | 369 | 532 | 378 | 673 | 378 | 739 | 374 | 860 | 2503 | 929 | 374 | M38 | 433 | 035 | 1000 | 184 | 1771 | 311 | 967 |
| 338 | 372 | 425 | 372 | 533 | 378 | 674 | 2575 | 740 | 374 | 861 | 2503 | 930 | 374 | M39 | 433 | 037 | 1000 | 185 | 962 | 312 | 1771 |
| 339 | 372 | 426 | 372 | 534 | 378 | 675 | 378 | 741 | 374 | 862 | 3242 | 931 | 374 | M40 | 433 | 039 | 1000 | 187 | 957 | 313 | 975 |
| 340 | 365 | 427 | 372 | 535 | 378 | 676 | 378 | 742 | 374 | 863 | 3242 | 932 | 374 | M41 | 433 | 041 | 972 | 189 | 961 | 314 | 1671 |
| 1D341 | 365 | 1D428 | 372 | 1D536 | 378 | 1D677 | 2568 | 1D743 | 374 | 1D864 | 3243 | 1D933 | 374 | 1EM42 | 433 | 1E043 | 956 | 1E191 | 961 | 1E315 | 972 |
| 342 | 365 | 429 | 372 | 537 | 378 | 678 | 378 | 744 | 374 | 865 | 3243 | 934 | 374 | N37 | 432 | 045 | 1005 | 192 | 1771 | 316 | 1671 |
| 343 | 365 | 430 | 372 | 538 | 378 | 679 | 378 | 745 | 374 | 866 | 3243 | 935 | 374 | N38 | 432 | 047 | 952 | 195 | 961 | 317 | 1005 |
| 344 | 365 | 433 | 372 | 539 | 378 | 680 | 378 | 746 | 374 | 867 | 3243 | 936 | 375 | N39 | 432 | 049 | 954 | 196 | 1771 | 318 | 1671 |
| 345 | 365 | 434 | 372 | 540 | 378 | 681 | 378 | 763 | 367 | 868 | 3243 | 937 | 375 | N81 | 432 | 051 | 919 | 197 | 961 | 319 | 971 |
| 1D346 | 365 | 1D435 | 372 | 1D541 | 378 | 1D682 | 374 | 1D766 | 367 | 1D869 | 3243 | 1D938 | 378 | 1EN82 | 432 | 1E053 | 971 | 1E199 | 961 | 1E320 | 1671 |
| 347 | 366 | 436 | 372 | 542 | 378 | 684 | 2560 | 769 | 367 | 870 | 3243 | 976 | 379 | N83 | 432 | 055 | 971 | 202 | 1771 | 321 | 971 |
| 348 | 366 | 437 | 372 | 544 | 378 | 685 | 374 | 772 | 367 | 871 | 3243 | 977 | 379 | T76 | 432 | 059 | 970 | 206 | 1771 | 322 | 1671 |
| 349 | 365 | 438 | 372 | 545 | 2363 | 686 | 508 | 775 | 406 | 872 | 3243 | 978 | 379 | T77 | 432 | 061 | 970 | 207 | 962 | 323 | 968 |
| 350 | 365 | 439 | 372 | 546 | 2363 | 687 | 374 | 778 | 514 | 873 | 3243 | 979 | 379 | T78 | 432 | 063 | 970 | 209 | 966 | 324 | 1671 |
| 1D351 | 365 | 1D440 | 372 | 1D547 | 2363 | 1D688 | 506 | 1D784 | 2597 | 1D874 | 3243 | 1D980 | 379 | 1ET95 | 431 | 1E065 | 970 | 1E212 | 940 | 1E325 | 965 |
| 352 | 365 | 441 | 372 | 548 | 378 | 689 | 374 | 799 | 2507 | 875 | 3243 | 981 | 379 | T96 | 431 | 067 | 938 | 216 | 939 | 326 | 1671 |
| 353 | 365 | 442 | 372 | 549 | 378 | 690 | 503 | 800 | 2507 | 876 | 3243 | 982 | 379 | T97 | 431 | 069 | 2485 | 221 | 967 | 327 | 965 |
| 354 | 365 | 443 | 372 | 550 | 2363 | 691 | 374 | 801 | 2511 | 877 | 3243 | 983 | 379 | V43 | 439 | 073 | 969 | 223 | 930 | 329 | 958 |
| 355 | 365 | 444 | 372 | 551 | 2363 | 692 | 503 | 802 | 514 | 878 | 3243 | 984 | 379 | V63 | 433 | 077 | 942 | 225 | 942 | 333 | 958 |
| 1D356 | 365 | 1D445 | 372 | 1D552 | 2363 | 1D693 | 374 | 1D805 | 2508 | 1D879 | 3243 | 1D985 | 379 | 1EV64 | 433 | 1E081 | 968 | 1E227 | 942 | 1E335 | 952 |
| 357 | 365 | 447 | 366 | 553 | 2363 | 694 | 503 | 806 | 2508 | 880 | 3242 | 986 | 379 | V65 | 433 | 085 | 969 | 229 | 968 | 337 | 958 |
| 358 | 365 | 448 | 364 | 554 | 2363 | 695 | 374 | 807 | 2508 | 881 | 3242 | 987 | 379 | V87 | 433 | 087 | 992 | 235 | 932 | 339 | 955 |
| 359 | 365 | 449 | 364 | 555 | 2363 | 696 | 2560 | 809 | 2504 | 882 | 3242 | 988 | 379 | V88 | 433 | 093 | 968 | 237 | 932 | 341 | 959 |
| 360 | 365 | 450 | 364 | 556 | 2363 | 697 | 503 | 810 | 2504 | 883 | 3242 | 989 | 379 | V89 | 433 | 097 | 940 | 239 | 932 | 343 | 955 |
| 1D361 | 365 | 1D451 | 364 | 1D557 | 2363 | 1D698 | 374 | 1D812 | 514 | 1D884 | 2707 | 1D990 | 379 | 1EX35 | 432 | 1E099 | 940 | 1E241 | 921 | 1E345 | 959 |
| 362 | 365 | 454 | 364 | 558 | 2626 | 699 | 367 | 814 | 2504 | 885 | 2707 | 991 | 379 | X36 | 432 | 101 | 938 | 243 | 963 | 347 | 970 |
| 363 | 366 | 456 | 1886 | 559 | 2624 | 700 | 374 | 815 | 2504 | 886 | 2672 | 992 | 379 | X37 | 432 | 103 | 938 | 245 | 945 | 349 | 964 |
| 364 | 365 | 457 | 1882 | 560 | 2624 | 701 | 2579 | 818 | 375 | 888 | 2183 | 993 | 379 | X38 | 432 | 105 | 969 | 247 | 968 | 351 | 964 |
| 365 | 365 | 458 | 1992 | 561 | 378 | 702 | 367 | 819 | 374 | 889 | 2183 | 994 | 379 | X39 | 439 | 107 | 969 | 249 | 963 | 354 | 958 |
| 1D366 | 365 | 1D459 | 1992 | 1D562 | 378 | 1D703 | 2565 | 1D820 | 374 | 1D890 | 2183 | 1D995 | 379 | 1EX40 | 439 | 1E109 | 969 | 1E251 | 963 | 1E356 | 992 |
| 367 | 366 | 460 | 1992 | 569 | 2626 | 704 | 2565 | 821 | 374 | 891 | 2183 | 996 | 379 | X44 | 432 | 111 | 969 | 253 | 963 | 358 | 992 |
| 369 | 372 | 461 | 1992 | 570 | 2626 | 705 | 2567 | 822 | 374 | 892 | 3257 | 997 | 379 | X45 | 432 | 113 | 964 | 255 | 991 | 360 | 991 |
| 370 | 372 | 462 | 1992 | 571 | 2075 | 706 | 2567 | 824 | 374 | 893 | 3257 | 998 | 379 | X46 | 432 | 115 | 964 | 257 | 991 | 362 | 969 |
| 371 | 372 | 463 | 1992 | 572 | 2624 | 707 | 2567 | 825 | 2510 | 894 | 3256 | 999 | 2448 | X47 | 432 | 117 | 964 | 259 | 932 | 364 | 978 |
| 1D372 | 372 | 1D464 | 1992 | 1D573 | 2626 | 1D708 | 2567 | 1D826 | 375 | 1D895 | 3256 | **1E** | | 1EX48 | 432 | 1E119 | 964 | 1E261 | 937 | 1E366 | 975 |
| 373 | 372 | 465 | 1992 | 574 | 2624 | 709 | 367 | 827 | 374 | 896 | 3256 | | | X49 | 432 | 121 | 930 | 263 | 962 | 368 | 1005 |
| 374 | 372 | 466 | 1992 | 576 | 1412 | 710 | 2512 | 828 | 374 | 897 | 3256 | 1EF56 | 413 | X50 | 432 | 123 | 1000 | 265 | 962 | 370 | 917 |
| 375 | 372 | 467 | 1992 | 578 | 1465 | 711 | 2568 | 831 | 2510 | 898 | 3256 | F57 | 413 | X51 | 432 | 125 | 1000 | 267 | 967 | 372 | 920 |
| 377 | 2367 | 493 | 2004 | 580 | 1441 | 712 | 374 | 832 | 2503 | 899 | 3256 | H50 | 438 | 001 | 1672 | 127 | 968 | 269 | 967 | 374 | 920 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1E378 | 924 | 1E549 | 1009 | 1E641 | 939 | 1E738 | 991 | 1E872 | 1778 | 1E991 | 1773 | 1F049 | 3062 | 1F114 | 2609 | 1F183 | 2274 | 1F256 | 2282 | 1F420 | 916 |
| 380 | 924 | 553 | 976 | 642 | 1672 | 740 | 988 | 873 | 931 | 992 | 1005 | 050 | 3062 | 115 | 2609 | 184 | 2274 | 257 | 2282 | 422 | 975 |
| 382 | 991 | 557 | 953 | 643 | 939 | 742 | 988 | 874 | 1778 | 997 | 1773 | 051 | 3062 | 116 | 2609 | 185 | 2274 | 258 | 938 | 424 | 2379 |
| 384 | 991 | 559 | 928 | 644 | 1672 | 744 | 990 | 875 | 931 | 998 | 989 | 052 | 3062 | 117 | 2609 | 186 | 2274 | 259 | 1680 | 426 | 2379 |
| 386 | 923 | 561 | 1005 | 645 | 987 | 748 | 995 | 876 | 1778 | | | 053 | 3062 | 118 | 2609 | 187 | 2274 | 260 | 938 | 428 | 2379 |
| 1E388 | 920 | 1E563 | 928 | 1E646 | 1672 | 1E750 | 991 | 1E877 | 931 | | | 1F054 | 3062 | 1F119 | 2609 | 1F188 | 2274 | 1F264 | 978 | 1F430 | 2379 |
| 390 | 920 | 566 | 1674 | 647 | 987 | 752 | 992 | 878 | 1778 | **1F** | | 055 | 3062 | 120 | 2609 | 189 | 2274 | 268 | 966 | 432 | 2379 |
| 394 | 921 | 568 | 1674 | 648 | 1672 | 754 | 987 | 880 | 1778 | 1FF62 | 439 | 056 | 2610 | 121 | 2612 | 190 | 2274 | 276 | 940 | 436 | 2379 |
| 396 | 970 | 570 | 1674 | 649 | 987 | 757 | 987 | 881 | 951 | F76 | 433 | 057 | 2610 | 122 | 2612 | 191 | 2274 | 277 | 1771 | 438 | 2379 |
| 398 | 970 | 571 | 921 | 650 | 1672 | 760 | 988 | 882 | 1778 | F77 | 433 | 058 | 2610 | 123 | 2612 | 193 | 2275 | 278 | 940 | 442 | 2379 |
| 1E404 | 1006 | 1E572 | 1674 | 1E652 | 1672 | 1E762 | 993 | 1E883 | 951 | 1FF78 | 433 | 1F059 | 2610 | 1F124 | 2612 | 1F194 | 2278 | 1F282 | 961 | 1F444 | 2379 |
| 406 | 956 | 574 | 1674 | 655 | 1672 | 764 | 993 | 884 | 1778 | F79 | 433 | 060 | 2610 | 125 | 2612 | 195 | 2278 | 286 | 953 | 448 | 1607 |
| 408 | 924 | 575 | 958 | 656 | 1005 | 769 | 994 | 885 | 951 | J11 | 433 | 061 | 2610 | 126 | 2612 | 196 | 2280 | 288 | 1005 | 450 | 1607 |
| 410 | 924 | 576 | 1674 | 657 | 1672 | 771 | 992 | 887 | 958 | J12 | 433 | 062 | 2610 | 127 | 2612 | 197 | 2278 | 290 | 961 | 452 | 1607 |
| 414 | 991 | 578 | 1674 | 658 | 987 | 773 | 988 | 888 | 1773 | J13 | 433 | 063 | 2610 | 128 | 2612 | 198 | 939 | 296 | 921 | 454 | 351 |
| 1E426 | 956 | 1E579 | 917 | 1E659 | 1672 | 1E775 | 988 | 1E889 | 990 | 1FJ14 | 433 | 1F064 | 2610 | 1F129 | 2612 | 1F199 | 2280 | 1F298 | 916 | 1F456 | 351 |
| 428 | 1001 | 580 | 1674 | 660 | 987 | 777 | 995 | 890 | 1773 | J15 | 433 | 065 | 2610 | 130 | 2612 | 200 | 2280 | 300 | 924 | 458 | 351 |
| 430 | 1001 | 582 | 1674 | 661 | 1672 | 779 | 995 | 892 | 1773 | J16 | 433 | 066 | 2610 | 131 | 2612 | 201 | 2278 | 302 | 924 | 460 | 351 |
| 432 | 956 | 584 | 1674 | 663 | 987 | 781 | 994 | 893 | 1005 | J30 | 439 | 067 | 2610 | 132 | 2610 | 202 | 2285 | 304 | 924 | 462 | 351 |
| 436 | 955 | 586 | 1674 | 664 | 1672 | 783 | 992 | 894 | 1773 | J97 | 1365 | 068 | 2610 | 133 | 2314 | 203 | 2285 | 306 | 922 | 464 | 351 |
| 1E438 | 955 | 1E587 | 958 | 1E665 | 987 | 1E785 | 991 | 1E895 | 942 | 1FJ98 | 1365 | 1F069 | 2610 | 1F136 | 2311 | 1F204 | 2285 | 1F308 | 922 | 1F466 | 351 |
| 440 | 955 | 588 | 1674 | 666 | 1672 | 787 | 995 | 899 | 923 | J99 | 1365 | 070 | 2610 | 137 | 2312 | 205 | 2285 | 310 | 921 | 468 | 351 |
| 442 | 918 | 589 | 928 | 667 | 987 | 789 | 994 | 900 | 1773 | K01 | 1365 | 071 | 2610 | 138 | 2308 | 206 | 2285 | 311 | 1771 | 470 | 351 |
| 444 | 918 | 590 | 1674 | 668 | 1672 | 791 | 994 | 905 | 923 | K02 | 1365 | 072 | 2610 | 139 | 2308 | 207 | 2285 | 312 | 982 | 472 | 351 |
| 446 | 955 | 591 | 928 | 669 | 988 | 793 | 994 | 906 | 1773 | K03 | 1365 | 073 | 2610 | 140 | 2310 | 208 | 2285 | 314 | 922 | 474 | 351 |
| 1E448 | 980 | 1E592 | 1674 | 1E670 | 1672 | 1E795 | 991 | 1E907 | 923 | 1FR28 | 1293 | 1F074 | 2610 | 1F141 | 2314 | 1F209 | 2285 | 1F316 | 921 | 1F476 | 351 |
| 452 | 977 | 593 | 931 | 671 | 937 | 797 | 994 | 910 | 1773 | 010 | 922 | 075 | 2610 | 142 | 2307 | 210 | 2285 | 318 | 921 | 478 | 351 |
| 454 | 991 | 594 | 1674 | 673 | 1672 | 799 | 992 | 911 | 923 | 011 | 1773 | 076 | 2610 | 143 | 2307 | 211 | 2285 | 320 | 921 | 480 | 351 |
| 456 | 954 | 595 | 931 | 674 | 937 | 807 | 931 | 913 | 923 | 012 | 2287 | 077 | 2610 | 144 | 2310 | 212 | 2280 | 324 | 989 | 482 | 351 |
| 458 | 924 | 596 | 1674 | 677 | 1672 | 811 | 951 | 914 | 1773 | 013 | 2287 | 078 | 2610 | 145 | 2307 | 213 | 2280 | 326 | 920 | 484 | 351 |
| 1E462 | 964 | 1E597 | 931 | 1E679 | 937 | 1E813 | 921 | 1E915 | 950 | 1F014 | 2287 | 1F079 | 2610 | 1F146 | 2152 | 1F214 | 2280 | 1F328 | 920 | 1F486 | 350 |
| 464 | 991 | 598 | 1674 | 680 | 1672 | 815 | 918 | 916 | 1773 | 015 | 2287 | 080 | 2610 | 147 | 2152 | 215 | 2283 | 332 | 919 | 488 | 350 |
| 466 | 1008 | 599 | 965 | 681 | 938 | 817 | 990 | 917 | 973 | 016 | 2287 | 081 | 2610 | 150 | 2288 | 216 | 2283 | 334 | 919 | 490 | 350 |
| 468 | 977 | 600 | 1674 | 682 | 1672 | 821 | 924 | 923 | 1773 | 017 | 2287 | 082 | 2610 | 151 | 2288 | 217 | 2283 | 336 | 918 | 492 | 350 |
| 472 | 990 | 601 | 965 | 683 | 952 | 823 | 924 | 924 | 950 | 018 | 2287 | 083 | 2610 | 152 | 2288 | 218 | 2283 | 338 | 917 | 494 | 350 |
| 1E478 | 922 | 1E602 | 1674 | 1E684 | 1672 | 1E835 | 951 | 1E928 | 990 | 1F019 | 2287 | 1F084 | 2610 | 1F153 | 2288 | 1F219 | 2283 | 1F340 | 917 | 1F496 | 350 |
| 480 | 922 | 604 | 1674 | 686 | 938 | 841 | 923 | 929 | 1773 | 020 | 2287 | 085 | 2610 | 154 | 2284 | 220 | 2283 | 342 | 966 | 497 | 1650 |
| 484 | 922 | 605 | 992 | 687 | 1672 | 842 | 1771 | 930 | 974 | 021 | 2287 | 086 | 2610 | 155 | 2284 | 221 | 2283 | 344 | 952 | 498 | 350 |
| 494 | 954 | 606 | 1674 | 688 | 938 | 843 | 923 | 931 | 1773 | 022 | 2287 | 087 | 2610 | 156 | 2284 | 222 | 2283 | 348 | 939 | 500 | 350 |
| 504 | 953 | 607 | 932 | 689 | 1672 | 844 | 1771 | 933 | 929 | 023 | 2287 | 088 | 2610 | 157 | 2284 | 223 | 2283 | 350 | 931 | 502 | 350 |
| 1E505 | 1673 | 1E608 | 1674 | 1E690 | 938 | 1E845 | 922 | 1E934 | 1773 | 1F024 | 2287 | 1F089 | 2610 | 1F158 | 2284 | 1F224 | 2282 | 1F354 | 931 | 1F504 | 350 |
| 506 | 980 | 609 | 931 | 691 | 1672 | 846 | 1771 | 935 | 928 | 025 | 2287 | 090 | 2610 | 159 | 2284 | 225 | 2282 | 360 | 930 | 506 | 350 |
| 509 | 1673 | 610 | 1674 | 692 | 937 | 849 | 1005 | 938 | 950 | 026 | 2287 | 091 | 2610 | 160 | 2284 | 226 | 2282 | 362 | 920 | 508 | 350 |
| 512 | 925 | 611 | 931 | 693 | 1672 | 850 | 1680 | 939 | 1773 | 027 | 2287 | 092 | 2610 | 161 | 2284 | 227 | 2282 | 368 | 920 | 510 | 350 |
| 513 | 1673 | 612 | 1674 | 695 | 1672 | 851 | 1005 | 940 | 961 | 028 | 2610 | 093 | 2610 | 162 | 2280 | 228 | 2282 | 370 | 989 | 512 | 350 |
| 1E514 | 925 | 1E613 | 931 | 1E696 | 952 | 1E852 | 1778 | 1E941 | 1773 | 1F029 | 2610 | 1F094 | 2610 | 1F163 | 2280 | 1F229 | 2282 | 1F372 | 989 | 1F513 | 1654 |
| 516 | 925 | 614 | 1674 | 697 | 1672 | 853 | 988 | 942 | 1008 | 030 | 2610 | 095 | 2610 | 164 | 2280 | 230 | 2282 | 374 | 989 | 514 | 350 |
| 517 | 1673 | 616 | 1674 | 699 | 1672 | 854 | 1778 | 943 | 1773 | 031 | 2610 | 096 | 2612 | 165 | 2286 | 231 | 2282 | 376 | 924 | 516 | 350 |
| 518 | 925 | 618 | 1674 | 700 | 952 | 855 | 988 | 944 | 919 | 032 | 2610 | 097 | 2612 | 166 | 2286 | 232 | 2282 | 378 | 969 | 518 | 350 |
| 520 | 925 | 619 | 990 | 701 | 1672 | 856 | 1778 | 950 | 1773 | 033 | 2610 | 098 | 2609 | 167 | 2286 | 233 | 2282 | 380 | 964 | 520 | 350 |
| 1E521 | 1673 | 1E623 | 970 | 1E702 | 1009 | 1E857 | 988 | 1E952 | 919 | 1F034 | 2610 | 1F099 | 2609 | 1F168 | 2286 | 1F234 | 2282 | 1F382 | 931 | 1F522 | 350 |
| 522 | 925 | 624 | 1672 | 703 | 1672 | 858 | 1778 | 959 | 3507 | 035 | 2610 | 100 | 2609 | 169 | 2286 | 236 | 2282 | 384 | 971 | 524 | 350 |
| 524 | 1997 | 625 | 970 | 704 | 1009 | 859 | 987 | 961 | 919 | 036 | 2610 | 101 | 2609 | 170 | 2286 | 238 | 2283 | 386 | 920 | 526 | 350 |
| 525 | 1673 | 626 | 1672 | 705 | 1672 | 860 | 1778 | 962 | 1773 | 037 | 2610 | 102 | 2609 | 171 | 2286 | 239 | 2283 | 392 | 942 | 528 | 350 |
| 529 | 1673 | 628 | 1672 | 706 | 1009 | 861 | 987 | 963 | 1001 | 038 | 2610 | 103 | 2609 | 172 | 2286 | 240 | 2283 | 396 | 937 | 530 | 350 |
| 1E530 | 1005 | 1E630 | 1672 | 1E717 | 945 | 1E862 | 1778 | 1E967 | 1680 | 1F039 | 2610 | 1F104 | 2609 | 1F173 | 2286 | 1F241 | 2283 | 1F398 | 937 | 1F532 | 350 |
| 532 | 962 | 632 | 1672 | 719 | 951 | 863 | 987 | 968 | 989 | 040 | 2610 | 105 | 2609 | 174 | 2286 | 242 | 2283 | 400 | 917 | 534 | 350 |
| 533 | 1673 | 633 | 952 | 722 | 922 | 864 | 1778 | 969 | 1680 | 041 | 2610 | 106 | 2609 | 175 | 2286 | 243 | 2283 | 402 | 917 | 536 | 350 |
| 534 | 962 | 634 | 1672 | 724 | 922 | 865 | 987 | 970 | 989 | 042 | 2611 | 107 | 2609 | 176 | 2286 | 244 | 2283 | 404 | 917 | 538 | 350 |
| 536 | 982 | 635 | 932 | 726 | 922 | 866 | 1778 | 971 | 1773 | 043 | 2611 | 108 | 2609 | 177 | 2286 | 245 | 2283 | 406 | 917 | 540 | 1607 |
| 1E537 | 1673 | 1E636 | 1672 | 1E728 | 961 | 1E867 | 951 | 1E973 | 938 | 1F044 | 2611 | 1F109 | 2609 | 1F178 | 2286 | 1F246 | 2610 | 1F408 | 917 | 1F542 | 1607 |
| 538 | 991 | 637 | 943 | 730 | 961 | 868 | 1680 | 976 | 950 | 045 | 2611 | 110 | 2609 | 179 | 2274 | 252 | 2282 | 410 | 917 | 544 | 1607 |
| 541 | 953 | 638 | 1672 | 732 | 991 | 869 | 960 | 978 | 1773 | 046 | 2611 | 111 | 2609 | 180 | 2274 | 253 | 2282 | 412 | 917 | 546 | 341 |
| 542 | 1673 | 639 | 943 | 734 | 991 | 870 | 1680 | 985 | 1773 | 047 | 2611 | 112 | 2609 | 181 | 2274 | 254 | 2282 | 414 | 916 | 548 | 341 |
| 545 | 953 | 640 | 1672 | 736 | 991 | 871 | 947 | 990 | 989 | 048 | 3062 | 113 | 2609 | 182 | 2274 | 255 | 2282 | 418 | 942 | 550 | 341 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1F552 | 341 | 1F626 | 340 | 1F719 | 1654 | 1F813 | 1652 | 1F878 | 281 | 1F963 | 1369 | 1G023 | 2153 | 1G106 | 2137 | 1G211 | 2133 | 1G282 | 2145 | 1G354 | 2158 |
| 554 | 341 | 627 | 1652 | 720 | 1990 | 814 | 281 | 879 | 1652 | 964 | 1652 | 024 | 2153 | 108 | 2137 | 212 | 2133 | 283 | 2145 | 355 | 2159 |
| 556 | 341 | 628 | 340 | 721 | 1654 | 815 | 1652 | 880 | 281 | 965 | 1369 | 025 | 2153 | 111 | 2137 | 213 | 2133 | 284 | 2145 | 356 | 2159 |
| 558 | 341 | 629 | 1652 | 722 | 1990 | 816 | 281 | 881 | 1652 | 969 | 1372 | 026 | 2153 | 112 | 2137 | 214 | 2133 | 285 | 2145 | 357 | 2158 |
| 560 | 341 | 630 | 340 | 723 | 1654 | 817 | 1652 | 882 | 1369 | 973 | 1372 | 027 | 2153 | 113 | 2137 | 215 | 2133 | 286 | 2157 | 358 | 2158 |
| 1F562 | 341 | 1F631 | 1652 | 1F724 | 1990 | 1F818 | 281 | 1F883 | 1652 | 1F977 | 1372 | 1G028 | 2153 | 1G114 | 2137 | 1G216 | 2133 | 1G287 | 2157 | 1G359 | 2163 |
| 564 | 341 | 632 | 340 | 725 | 1654 | 819 | 1652 | 885 | 1652 | 981 | 1370 | 029 | 2132 | 118 | 2137 | 217 | 2133 | 288 | 2157 | 360 | 2159 |
| 566 | 341 | 633 | 1652 | 726 | 1990 | 820 | 281 | 887 | 1652 | 983 | 1370 | 030 | 2132 | 119 | 2137 | 218 | 2133 | 289 | 2157 | 361 | 2159 |
| 568 | 341 | 634 | 340 | 727 | 1654 | 821 | 1652 | 889 | 1652 | 985 | 1370 | 031 | 2132 | 120 | 2137 | 219 | 2133 | 290 | 2157 | 362 | 2158 |
| 570 | 341 | 635 | 1652 | 728 | 1990 | 822 | 281 | 890 | 1370 | 993 | 1373 | 032 | 2132 | 121 | 2137 | 220 | 2133 | 291 | 2157 | 363 | 2158 |
| 1F571 | 1652 | 1F636 | 340 | 1F729 | 1654 | 1F823 | 1652 | 1F891 | 1652 | 1G | | 1G033 | 2132 | 1G122 | 2137 | 1G221 | 2133 | 1G292 | 2157 | 1G364 | 2159 |
| 572 | 341 | 637 | 940 | 730 | 1990 | 824 | 281 | 893 | 1652 | 1GF49 | 1312 | 034 | 2132 | 123 | 2137 | 222 | 2133 | 293 | 2157 | 365 | 2159 |
| 573 | 1652 | 638 | 340 | 731 | 1654 | 825 | 1652 | 895 | 1652 | G10 | 1244 | 035 | 2132 | 124 | 2137 | 223 | 2133 | 294 | 2157 | 366 | 2158 |
| 574 | 341 | 639 | 940 | 732 | 1990 | 826 | 281 | 896 | 1370 | G12 | 1244 | 036 | 2132 | 125 | 2137 | 224 | 2133 | 295 | 2157 | 367 | 2158 |
| 575 | 1652 | 640 | 186 | 733 | 1654 | 827 | 1652 | 897 | 1652 | G59 | 1246 | 037 | 2132 | 126 | 2137 | 225 | 2133 | 296 | 2157 | 368 | 2158 |
| 1F576 | 341 | 1F641 | 1652 | 1F734 | 1990 | 1F828 | 281 | 1F899 | 1652 | 1GG34 | 1245 | 1G038 | 2132 | 1G127 | 2137 | 1G226 | 2133 | 1G299 | 2157 | 1G369 | 1653 |
| 577 | 1652 | 642 | 186 | 735 | 1654 | 829 | 1652 | 900 | 1370 | G87 | 1856 | 039 | 2132 | 128 | 2137 | 227 | 2133 | 300 | 2157 | 370 | 2158 |
| 578 | 351 | 643 | 1652 | 736 | 1990 | 830 | 281 | 901 | 1652 | G88 | 1856 | 040 | 2132 | 129 | 2137 | 228 | 2133 | 301 | 2157 | 371 | 2159 |
| 579 | 1652 | 644 | 186 | 737 | 1654 | 831 | 1652 | 903 | 1652 | G89 | 1858 | 041 | 2132 | 130 | 2137 | 229 | 2133 | 302 | 2157 | 373 | 2159 |
| 580 | 351 | 645 | 1652 | 738 | 1990 | 832 | 281 | 904 | 1370 | G91 | 1858 | 042 | 2132 | 131 | 2137 | 230 | 2133 | 303 | 2157 | 374 | 2158 |
| 1F581 | 1652 | 1F646 | 186 | 1F739 | 1654 | 1F833 | 1652 | 1F905 | 1652 | 1GG90 | 1858 | 1G043 | 2132 | 1G132 | 2137 | 1G231 | 2133 | 1G304 | 2157 | 1G375 | 1653 |
| 582 | 351 | 647 | 1652 | 740 | 1990 | 834 | 281 | 907 | 1652 | G92 | 1858 | 044 | 2132 | 145 | 2137 | 232 | 2133 | 305 | 2157 | 376 | 2158 |
| 583 | 1652 | 648 | 186 | 741 | 1650 | 835 | 1652 | 908 | 1370 | G93 | 1858 | 045 | 2132 | 146 | 2137 | 235 | 2133 | 307 | 2157 | 377 | 2163 |
| 584 | 351 | 649 | 1652 | 742 | 1990 | 836 | 281 | 909 | 1652 | G95 | 1857 | 046 | 2132 | 147 | 2137 | 236 | 2133 | 308 | 2157 | 378 | 2159 |
| 585 | 1652 | 650 | 186 | 743 | 1650 | 837 | 1652 | 911 | 1652 | H03 | 1901 | 047 | 2131 | 148 | 2137 | 237 | 2133 | 309 | 2137 | 379 | 2159 |
| 1F586 | 351 | 1F651 | 1652 | 1F744 | 1990 | 1F838 | 281 | 1F912 | 1371 | 1GG97 | 1910 | 1G048 | 2131 | 1G149 | 2137 | 1G238 | 2133 | 1G310 | 2137 | 1G380 | 2158 |
| 587 | 1652 | 652 | 186 | 746 | 1990 | 839 | 1652 | 913 | 1652 | H05 | 1870 | 049 | 2131 | 150 | 2137 | 241 | 2133 | 311 | 2137 | 381 | 2158 |
| 588 | 351 | 653 | 1652 | 748 | 1990 | 840 | 281 | 915 | 1652 | H06 | 1870 | 050 | 2131 | 154 | 2137 | 242 | 2133 | 314 | 2137 | 382 | 2159 |
| 589 | 1652 | 654 | 186 | 750 | 1990 | 841 | 1652 | 917 | 1652 | X84 | 1298 | 051 | 2131 | 155 | 2137 | 243 | 2133 | 315 | 2131 | 383 | 2159 |
| 590 | 351 | 655 | 1652 | 752 | 1990 | 842 | 281 | 918 | 1371 | X89 | 1298 | 052 | 2131 | 156 | 2137 | 244 | 2133 | 317 | 2131 | 384 | 2158 |
| 1F591 | 1652 | 1F657 | 1652 | 1F754 | 1990 | 1F843 | 1652 | 1F919 | 1652 | 1GX89 | 1298 | 1G053 | 2131 | 1G157 | 2137 | 1G247 | 2133 | 1G318 | 2131 | 1G385 | 2158 |
| 592 | 351 | 659 | 1652 | 755 | 1650 | 844 | 281 | 921 | 1652 | X90 | 1298 | 054 | 2131 | 158 | 2137 | 248 | 2133 | 319 | 2153 | 386 | 2158 |
| 593 | 1652 | 661 | 1652 | 756 | 1990 | 845 | 1652 | 923 | 1652 | X91 | 1298 | 055 | 2131 | 159 | 2137 | 249 | 2133 | 320 | 2137 | 388 | 2158 |
| 594 | 351 | 663 | 1652 | 758 | 1990 | 846 | 281 | 925 | 1652 | X92 | 1298 | 056 | 2131 | 160 | 2137 | 250 | 2133 | 321 | 2153 | 389 | 2159 |
| 595 | 1652 | 665 | 1652 | 760 | 1990 | 847 | 1652 | 926 | 1371 | X94 | 1298 | 057 | 2131 | 161 | 2137 | 251 | 2133 | 322 | 2157 | 390 | 1653 |
| 1F596 | 351 | 1F667 | 1652 | 1F762 | 1990 | 1F848 | 281 | 1F927 | 1652 | 1GX95 | 1298 | 1G058 | 2131 | 1G162 | 2137 | 1G252 | 2133 | 1G323 | 2153 | 1G391 | 2159 |
| 597 | 1652 | 669 | 1652 | 764 | 2003 | 849 | 1652 | 929 | 1652 | Z39 | 1300 | 062 | 2131 | 166 | 2137 | 253 | 2133 | 324 | 2155 | 392 | 2158 |
| 598 | 351 | 671 | 1652 | 766 | 1991 | 850 | 281 | 930 | 1371 | Z40 | 1300 | 063 | 2131 | 167 | 2137 | 254 | 2133 | 325 | 2155 | 394 | 2158 |
| 599 | 1652 | 673 | 1652 | 768 | 925 | 851 | 1652 | 931 | 1652 | Z41 | 1300 | 074 | 2131 | 168 | 2137 | 255 | 2133 | 326 | 2155 | 395 | 2163 |
| 600 | 351 | 675 | 1652 | 770 | 925 | 852 | 281 | 932 | 1371 | Z42 | 1300 | 075 | 2131 | 169 | 1373 | 256 | 2133 | 327 | 2153 | 396 | 1653 |
| 1F601 | 1652 | 1F677 | 1652 | 1F772 | 925 | 1F853 | 1652 | 1F933 | 1652 | 1GZ43 | 1300 | 1G076 | 2131 | 1G176 | 1653 | 1G257 | 2133 | 1G328 | 2153 | 1G397 | 2159 |
| 602 | 351 | 679 | 1652 | 774 | 925 | 854 | 281 | 935 | 1652 | Z44 | 1300 | 077 | 2131 | 178 | 1653 | 258 | 2133 | 329 | 2153 | 399 | 2159 |
| 603 | 1652 | 681 | 1652 | 776 | 925 | 855 | 1652 | 936 | 1371 | Z45 | 1300 | 080 | 2131 | 179 | 1370 | 259 | 2133 | 330 | 2153 | 400 | 2159 |
| 604 | 351 | 683 | 1652 | 778 | 925 | 856 | 281 | 937 | 1652 | 001 | 2130 | 081 | 2131 | 180 | 1653 | 260 | 2133 | 331 | 2153 | 401 | 2158 |
| 605 | 1652 | 685 | 1652 | 780 | 925 | 857 | 1652 | 938 | 1371 | 002 | 2130 | 082 | 2131 | 184 | 2156 | 261 | 2133 | 332 | 2153 | 403 | 2158 |
| 1F606 | 351 | 1F687 | 1652 | 1F782 | 925 | 1F858 | 281 | 1F939 | 1652 | 1G003 | 2130 | 1G083 | 2131 | 1G185 | 2156 | 1G262 | 2145 | 1G333 | 2163 | 1G404 | 2159 |
| 607 | 1652 | 689 | 1652 | 784 | 925 | 859 | 1652 | 940 | 1371 | 004 | 2130 | 084 | 2131 | 190 | 2134 | 263 | 2145 | 334 | 2159 | 406 | 2159 |
| 608 | 351 | 691 | 1654 | 786 | 925 | 860 | 281 | 941 | 1652 | 005 | 2130 | 086 | 2131 | 191 | 2134 | 264 | 2145 | 335 | 2159 | 407 | 2158 |
| 609 | 1652 | 693 | 1654 | 788 | 925 | 861 | 1652 | 942 | 1371 | 006 | 2130 | 087 | 2131 | 192 | 2134 | 265 | 2145 | 336 | 2158 | 409 | 2158 |
| 610 | 204 | 695 | 1654 | 790 | 925 | 862 | 281 | 943 | 1652 | 007 | 2130 | 088 | 2131 | 193 | 2134 | 266 | 2145 | 337 | 1370 | 412 | 1370 |
| 1F611 | 1652 | 1F697 | 1654 | 1F792 | 192 | 1F863 | 1652 | 1F945 | 1652 | 1G008 | 2130 | 1G089 | 2136 | 1G194 | 2134 | 1G267 | 2145 | 1G338 | 2158 | 1G414 | 2158 |
| 612 | 204 | 699 | 1654 | 794 | 192 | 864 | 281 | 946 | 1371 | 009 | 2130 | 090 | 2136 | 195 | 2134 | 268 | 2145 | 339 | 2163 | 415 | 2159 |
| 613 | 1652 | 701 | 1654 | 796 | 187 | 865 | 1652 | 947 | 3312 | 010 | 2130 | 091 | 2136 | 196 | 2134 | 269 | 2145 | 340 | 2159 | 416 | 2159 |
| 614 | 352 | 703 | 1654 | 798 | 187 | 866 | 281 | 948 | 1652 | 011 | 2130 | 092 | 2136 | 197 | 2134 | 270 | 2145 | 341 | 2159 | 417 | 2158 |
| 615 | 1652 | 705 | 1654 | 800 | 187 | 867 | 1652 | 949 | 1371 | 012 | 2130 | 093 | 2136 | 198 | 2134 | 271 | 2145 | 342 | 2158 | 418 | 2159 |
| 1F616 | 346 | 1F707 | 1654 | 1F802 | 187 | 1F868 | 281 | 1F950 | 1652 | 1G013 | 2130 | 1G094 | 2136 | 1G199 | 2134 | 1G272 | 2145 | 1G343 | 1653 | 1G419 | 2159 |
| 617 | 1652 | 709 | 1654 | 804 | 187 | 869 | 1652 | 951 | 1371 | 014 | 2130 | 095 | 2136 | 200 | 2134 | 273 | 2145 | 344 | 2158 | 420 | 2158 |
| 618 | 340 | 711 | 1654 | 805 | 1652 | 870 | 281 | 952 | 1652 | 015 | 2130 | 096 | 2136 | 201 | 2134 | 274 | 2145 | 345 | 2163 | 421 | 2159 |
| 619 | 1652 | 712 | 1999 | 806 | 194 | 871 | 1652 | 954 | 1652 | 016 | 2130 | 097 | 2136 | 202 | 2133 | 275 | 2145 | 346 | 2159 | 422 | 2159 |
| 620 | 340 | 713 | 1654 | 807 | 1652 | 872 | 281 | 956 | 1652 | 017 | 2130 | 098 | 2136 | 203 | 2133 | 276 | 2145 | 347 | 2159 | 423 | 2145 |
| 1F621 | 1652 | 1F714 | 1999 | 1F808 | 194 | 1F873 | 1652 | 1F957 | 1369 | 1G018 | 2130 | 1G099 | 2136 | 1G204 | 2133 | 1G277 | 2145 | 1G348 | 2158 | 1G424 | 2145 |
| 622 | 340 | 715 | 1654 | 809 | 1652 | 874 | 281 | 958 | 1652 | 019 | 2130 | 100 | 2136 | 205 | 2133 | 278 | 2145 | 350 | 2158 | 425 | 2145 |
| 623 | 1652 | 716 | 1999 | 810 | 281 | 875 | 1652 | 960 | 1652 | 020 | 2130 | 102 | 2137 | 206 | 2133 | 279 | 2145 | 351 | 2163 | 426 | 2145 |
| 624 | 340 | 717 | 1654 | 811 | 1652 | 876 | 281 | 961 | 1369 | 021 | 2130 | 103 | 2137 | 207 | 2133 | 280 | 2145 | 352 | 2159 | 427 | 2145 |
| 625 | 1652 | 718 | 1999 | 812 | 281 | 877 | 1652 | 962 | 1652 | 022 | 2130 | 104 | 2137 | 208 | 2133 | 281 | 2145 | 353 | 2158 | 428 | 2158 |

# STOCK NUMBER—PAGE NUMBER

## 1G4 — 1H3

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1G429 | 2158 | 1G563 | 1653 | 1G637 | 1653 | 1G708 | 1372 | 1G866 | 999 | 1G937 | 1653 | 1H005 | 1909 | 1H075 | 1897 | 1H159 | 380 | 1H230 | 379 | 1H300 | 392 |
| 430 | 2158 | 565 | 1653 | 638 | 1371 | 710 | 1372 | 867 | 1651 | 939 | 1653 | 006 | 379 | 076 | 1897 | 160 | 380 | 231 | 379 | 301 | 396 |
| 431 | 2158 | 567 | 1653 | 639 | 1653 | 712 | 1372 | 868 | 999 | 941 | 1653 | 007 | 379 | 077 | 1897 | 161 | 380 | 232 | 379 | 302 | 396 |
| 432 | 2158 | 569 | 1653 | 641 | 1653 | 714 | 1372 | 869 | 1651 | 942 | 982 | 008 | 379 | 078 | 1896 | 162 | 380 | 233 | 379 | 303 | 396 |
| 433 | 2158 | 571 | 1653 | 642 | 1371 | 716 | 1372 | 870 | 999 | 943 | 1653 | 009 | 379 | 079 | 1897 | 163 | 380 | 234 | 379 | 304 | 396 |
| 1G434 | 2158 | 1G573 | 1653 | 1G643 | 1653 | 1G718 | 1372 | 1G871 | 1651 | 1G944 | 982 | 1H010 | 379 | 1H080 | 1897 | 1H164 | 2484 | 1H235 | 372 | 1H305 | 396 |
| 435 | 2158 | 575 | 1653 | 644 | 1371 | 720 | 1372 | 872 | 999 | 945 | 1653 | 011 | 379 | 086 | 2529 | 165 | 380 | 237 | 378 | 306 | 396 |
| 436 | 1370 | 576 | 1372 | 645 | 1653 | 722 | 1372 | 873 | 1651 | 946 | 919 | 012 | 379 | 087 | 2529 | 166 | 2484 | 238 | 382 | 307 | 396 |
| 437 | 2140 | 577 | 1653 | 646 | 1371 | 724 | 1372 | 875 | 1651 | 947 | 1653 | 013 | 379 | 088 | 2529 | 167 | 1585 | 239 | 382 | 312 | 392 |
| 438 | 2140 | 578 | 1372 | 647 | 1653 | 726 | 1372 | 876 | 998 | 948 | 980 | 014 | 379 | 089 | 2529 | 168 | 1585 | 240 | 382 | 313 | 392 |
| 1G439 | 2140 | 1G579 | 1653 | 1G648 | 1371 | 1G728 | 1373 | 1G877 | 1651 | 1G949 | 1653 | 1H015 | 379 | 1H090 | 2529 | 1H169 | 1585 | 1H241 | 382 | 1H314 | 392 |
| 440 | 2140 | 580 | 1372 | 649 | 1653 | 730 | 1373 | 878 | 998 | 951 | 1653 | 016 | 379 | 091 | 2529 | 170 | 1585 | 243 | 382 | 315 | 392 |
| 441 | 2140 | 581 | 1653 | 650 | 1371 | 732 | 1373 | 879 | 1651 | 952 | 982 | 017 | 379 | 092 | 2529 | 171 | 1585 | 244 | 392 | 316 | 392 |
| 442 | 2140 | 582 | 1372 | 651 | 1654 | 734 | 1373 | 880 | 998 | 953 | 1653 | 018 | 379 | 093 | 2529 | 172 | 1585 | 245 | 392 | 317 | 392 |
| 443 | 2156 | 583 | 1653 | 652 | 1371 | 736 | 1373 | 881 | 1651 | 954 | 959 | 019 | 379 | 094 | 2529 | 173 | 1585 | 246 | 393 | 318 | 395 |
| 1G444 | 2158 | 1G584 | 1372 | 1G653 | 1654 | 1G738 | 1373 | 1G882 | 998 | 1G955 | 1653 | 1H020 | 379 | 1H095 | 2529 | 1H174 | 1585 | 1H247 | 393 | 1H319 | 395 |
| 445 | 2158 | 585 | 1653 | 654 | 1371 | 740 | 1373 | 883 | 1651 | 956 | 974 | 021 | 379 | 096 | 2529 | 175 | 380 | 248 | 393 | 320 | 395 |
| 446 | 2163 | 586 | 1372 | 655 | 1654 | 742 | 1373 | 884 | 998 | 957 | 1653 | 022 | 379 | 097 | 2529 | 176 | 380 | 249 | 393 | 321 | 395 |
| 447 | 2159 | 587 | 1653 | 656 | 1371 | 744 | 1373 | 885 | 1651 | 958 | 973 | 023 | 379 | 098 | 2529 | 177 | 380 | 250 | 393 | 322 | 395 |
| 448 | 2163 | 588 | 1371 | 657 | 1654 | 746 | 1370 | 886 | 998 | 959 | 1653 | 024 | 379 | 099 | 2529 | 178 | 2482 | 251 | 393 | 323 | 395 |
| 1G449 | 2159 | 1G589 | 1653 | 1G658 | 1371 | 1G748 | 1370 | 1G887 | 1651 | 1G961 | 1653 | 1H025 | 379 | 1H101 | 379 | 1H179 | 2482 | 1H252 | 393 | 1H324 | 396 |
| 450 | 2159 | 590 | 1371 | 659 | 1654 | 756 | 1371 | 888 | 998 | 962 | 982 | 026 | 379 | 102 | 379 | 180 | 2482 | 253 | 393 | 325 | 396 |
| 451 | 2159 | 591 | 1653 | 660 | 1370 | 766 | 1371 | 889 | 1651 | 963 | 1653 | 027 | 379 | 103 | 379 | 181 | 2482 | 254 | 393 | 326 | 396 |
| 452 | 2159 | 592 | 1371 | 661 | 1654 | 768 | 1371 | 890 | 998 | 965 | 1653 | 028 | 379 | 104 | 379 | 182 | 2482 | 255 | 393 | 327 | 396 |
| 454 | 1370 | 593 | 1653 | 662 | 1370 | 778 | 1372 | 891 | 1651 | 967 | 1653 | 029 | 379 | 108 | 380 | 183 | 2482 | 256 | 393 | 328 | 394 |
| 1G456 | 1370 | 1G594 | 1371 | 1G663 | 1654 | 1G780 | 1372 | 1G893 | 1651 | 1G968 | 963 | 1H030 | 2446 | 1H110 | 380 | 1H184 | 2482 | 1H257 | 393 | 1H329 | 394 |
| 474 | 1369 | 595 | 1653 | 664 | 1370 | 782 | 1373 | 895 | 1651 | 969 | 1653 | 031 | 379 | 111 | 380 | 185 | 2482 | 258 | 393 | 330 | 394 |
| 476 | 1369 | 596 | 1371 | 665 | 1654 | 784 | 1373 | 896 | 946 | 970 | 963 | 032 | 379 | 112 | 380 | 186 | 2482 | 259 | 393 | 331 | 394 |
| 478 | 1372 | 597 | 1653 | 666 | 1370 | 786 | 1373 | 897 | 1651 | 971 | 1653 | 033 | 379 | 113 | 2529 | 187 | 2482 | 260 | 393 | 332 | 394 |
| 480 | 1373 | 598 | 1371 | 667 | 1654 | 790 | 1372 | 899 | 1651 | 973 | 1653 | 034 | 379 | 114 | 2529 | 188 | 2482 | 261 | 393 | 333 | 394 |
| 1G482 | 1373 | 1G599 | 1653 | 1G668 | 1370 | 1G792 | 1372 | 1G900 | 978 | 1G974 | 921 | 1H035 | 379 | 1H115 | 380 | 1H189 | 2482 | 1H262 | 393 | 1H334 | 394 |
| 484 | 1373 | 600 | 1371 | 669 | 1654 | 794 | 1372 | 901 | 1651 | 975 | 1653 | 036 | 379 | 116 | 2519 | 190 | 380 | 263 | 393 | 335 | 394 |
| 486 | 1373 | 601 | 1653 | 670 | 1370 | 800 | 1372 | 903 | 1651 | 976 | 952 | 037 | 379 | 117 | 2519 | 191 | 380 | 264 | 393 | 336 | 394 |
| 488 | 1373 | 603 | 1653 | 671 | 1654 | 802 | 1371 | 904 | 960 | 977 | 1653 | 038 | 379 | 118 | 380 | 192 | 380 | 265 | 393 | 337 | 394 |
| 490 | 1373 | 604 | 1373 | 673 | 1654 | 804 | 1371 | 905 | 1651 | 978 | 938 | 039 | 379 | 122 | 2529 | 199 | 3406 | 266 | 406 | 338 | 394 |
| 1G492 | 1373 | 1G605 | 1653 | 1G674 | 1372 | 1G806 | 1371 | 1G907 | 1651 | 1G979 | 1653 | 1H040 | 379 | 1H123 | 2529 | 1H200 | 3406 | 1H267 | 407 | 1H339 | 394 |
| 494 | 1369 | 606 | 1373 | 675 | 1654 | 808 | 1371 | 908 | 982 | 980 | 938 | 041 | 379 | 124 | 2529 | 201 | 3406 | 268 | 406 | 340 | 394 |
| 502 | 1373 | 607 | 1653 | 676 | 1370 | 810 | 1371 | 909 | 1651 | 981 | 1653 | 042 | 379 | 125 | 2529 | 202 | 3406 | 269 | 407 | 341 | 394 |
| 504 | 1372 | 608 | 1373 | 677 | 1654 | 812 | 989 | 910 | 1009 | 982 | 975 | 043 | 379 | 127 | 2529 | 203 | 3406 | 270 | 406 | 342 | 394 |
| 506 | 1372 | 609 | 1653 | 678 | 1370 | 814 | 989 | 911 | 1651 | 983 | 1653 | 044 | 379 | 129 | 2529 | 204 | 3406 | 271 | 406 | 343 | 394 |
| 1G508 | 1372 | 1G611 | 1653 | 1G679 | 1654 | 1G816 | 988 | 1G912 | 981 | 1G984 | 982 | 1H045 | 379 | 1H130 | 2529 | 1H205 | 3406 | 1H272 | 406 | 1H344 | 394 |
| 509 | 1654 | 612 | 1373 | 680 | 1370 | 818 | 988 | 913 | 1651 | 985 | 1653 | 046 | 379 | 131 | 380 | 206 | 3406 | 273 | 407 | 345 | 394 |
| 510 | 1372 | 613 | 1653 | 681 | 1654 | 820 | 988 | 914 | 1009 | 986 | 982 | 047 | 379 | 132 | 380 | 207 | 3406 | 274 | 407 | 346 | 394 |
| 522 | 1370 | 614 | 1373 | 682 | 1370 | 824 | 988 | 915 | 1668 | 987 | 1653 | 048 | 379 | 134 | 380 | 208 | 380 | 275 | 406 | 347 | 395 |
| 526 | 1370 | 615 | 1653 | 683 | 1654 | 826 | 988 | 916 | 980 | 988 | 963 | 049 | 379 | 136 | 380 | 209 | 380 | 276 | 406 | 348 | 395 |
| 1G528 | 1370 | 1G616 | 1373 | 1G684 | 1372 | 1G828 | 988 | 1G917 | 1653 | 1G989 | 1653 | 1H050 | 379 | 1H138 | 380 | 1H210 | 380 | 1H277 | 407 | 1H349 | 394 |
| 530 | 1370 | 617 | 1653 | 685 | 1654 | 834 | 988 | 918 | 1008 | 991 | 1653 | 051 | 379 | 139 | 2529 | 211 | 380 | 278 | 407 | 350 | 394 |
| 536 | 1371 | 619 | 1653 | 686 | 1372 | 836 | 987 | 919 | 1653 | 992 | 981 | 052 | 379 | 140 | 2529 | 212 | 380 | 279 | 406 | 351 | 394 |
| 543 | 1667 | 620 | 1373 | 687 | 1654 | 840 | 987 | 920 | 979 | 993 | 1653 | 053 | 379 | 141 | 830 | 213 | 380 | 280 | 406 | 352 | 394 |
| 545 | 1667 | 621 | 1653 | 688 | 1372 | 842 | 987 | 921 | 1653 | 994 | 981 | 054 | 379 | 142 | 830 | 214 | 380 | 281 | 407 | 353 | 395 |
| 1G547 | 1666 | 1G622 | 1373 | 1G689 | 1654 | 1G844 | 987 | 1G922 | 1008 | 1G995 | 1653 | 1H055 | 379 | 1H143 | 830 | 1H215 | 380 | 1H282 | 407 | 1H354 | 395 |
| 548 | 1371 | 623 | 1653 | 690 | 1372 | 846 | 987 | 923 | 1653 | 996 | 969 | 057 | 379 | 144 | 840 | 216 | 380 | 286 | 407 | 355 | 394 |
| 549 | 1668 | 624 | 1373 | 691 | 1654 | 848 | 987 | 924 | 1008 | 997 | 1653 | 058 | 379 | 145 | 851 | 217 | 380 | 287 | 392 | 356 | 394 |
| 550 | 1371 | 625 | 1653 | 692 | 1371 | 851 | 1651 | 925 | 1653 | 998 | 981 | 059 | 379 | 146 | 741 | 218 | 382 | 288 | 392 | 357 | 394 |
| 551 | 1653 | 626 | 1373 | 693 | 1654 | 853 | 1651 | 926 | 975 | 999 | 1653 | 060 | 379 | 147 | 896 | 219 | 382 | 289 | 392 | 358 | 394 |
| 1G552 | 1371 | 1G627 | 1653 | 1G694 | 1371 | 1G855 | 1651 | 1G927 | 1653 | 1H | | 1H061 | 379 | 1H148 | 896 | 1H220 | 382 | 1H290 | 392 | 1H359 | 395 |
| 553 | 1653 | 628 | 1373 | 695 | 1654 | 857 | 1651 | 928 | 975 | 1HH96 | 1870 | 062 | 379 | 149 | 896 | 221 | 382 | 291 | 392 | 360 | 395 |
| 554 | 1371 | 629 | 1653 | 696 | 1371 | 858 | 1000 | 929 | 1653 | H97 | 1870 | 064 | 1898 | 150 | 896 | 222 | 382 | 292 | 392 | 361 | 394 |
| 555 | 1653 | 630 | 1373 | 697 | 1654 | 859 | 1651 | 930 | 979 | H98 | 1870 | 065 | 1898 | 151 | 828 | 223 | 382 | 293 | 392 | 362 | 394 |
| 556 | 1371 | 631 | 1653 | 698 | 1371 | 860 | 1000 | 931 | 1653 | | | 066 | 1898 | 152 | 791 | 224 | 382 | 294 | 392 | 363 | 394 |
| 1G557 | 1653 | 1G632 | 1373 | 1G699 | 1654 | 1G861 | 1651 | 1G932 | 972 | 1HH99 | 1870 | 1H067 | 1898 | 1H153 | 828 | 1H225 | 382 | 1H295 | 392 | 1H364 | 394 |
| 558 | 1371 | 633 | 1653 | 700 | 1371 | 862 | 1000 | 933 | 1653 | 001 | 1907 | 068 | 1898 | 154 | 830 | 226 | 379 | 296 | 392 | 365 | 395 |
| 559 | 1653 | 634 | 1373 | 702 | 1371 | 863 | 1651 | 934 | 923 | 002 | 1907 | 070 | 1897 | 156 | 830 | 227 | 379 | 297 | 392 | 366 | 395 |
| 560 | 1371 | 635 | 1653 | 704 | 1372 | 864 | 999 | 935 | 1653 | 003 | 1907 | 071 | 1897 | 157 | 830 | 228 | 379 | 298 | 392 | 367 | 394 |
| 561 | 1653 | 636 | 1373 | 706 | 1372 | 865 | 1651 | 936 | 922 | 004 | 1909 | 074 | 1897 | 158 | 2484 | 229 | 379 | 299 | 392 | 368 | 396 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1H369 | 396 | 1H434 | 463 | 1H499 | 457 | 1H564 | 463 | 1H629 | 445 | 1H696 | 466 | 1H806 | 3350 | 1H948 | 1591 | 1J397 | 2654 | 1K077 | 121 | 1K203 | 929 |
| 370 | 396 | 435 | 463 | 500 | 456 | 565 | 463 | 630 | 445 | 697 | 466 | 807 | 3350 | 949 | 1591 | 436 | 2655 | 078 | 121 | 205 | 980 |
| 371 | 396 | 436 | 463 | 501 | 456 | 566 | 463 | 631 | 445 | 698 | 466 | 808 | 2637 | 950 | 1591 | 473 | 2654 | 079 | 121 | 211 | 980 |
| 372 | 396 | 437 | 463 | 502 | 456 | 567 | 461 | 632 | 445 | 699 | 466 | 809 | 2637 | 951 | 1589 | 476 | 2651 | 080 | 121 | 213 | 1005 |
| 373 | 395 | 438 | 463 | 503 | 456 | 568 | 461 | 633 | 445 | 700 | 466 | 810 | 2637 | 952 | 1589 | 481 | 2651 | 081 | 121 | 215 | 980 |
| 1H374 | 395 | 1H439 | 463 | 1H504 | 457 | 1H569 | 461 | 1H634 | 445 | 1H701 | 466 | 1H811 | 2637 | 1H953 | 1589 | 1J482 | 2651 | 1K082 | 121 | 1K221 | 979 |
| 375 | 395 | 440 | 463 | 505 | 457 | 570 | 461 | 635 | 445 | 702 | 466 | 812 | 2637 | 954 | 1589 | 518 | 2651 | 083 | 121 | 223 | 990 |
| 376 | 395 | 441 | 463 | 506 | 457 | 571 | 461 | 636 | 445 | 703 | 466 | 813 | 2637 | 955 | 1589 | 525 | 2652 | 084 | 121 | 227 | 979 |
| 377 | 395 | 442 | 463 | 507 | 457 | 572 | 461 | 637 | 445 | 718 | 407 | 814 | 2637 | 956 | 1589 | 534 | 2652 | 085 | 53 | 237 | 979 |
| 378 | 395 | 443 | 463 | 508 | 457 | 573 | 461 | 638 | 445 | 719 | 407 | 815 | 2637 | 957 | 1589 | 536 | 2652 | 100 | 138 | 241 | 979 |
| 1H379 | 395 | 1H444 | 463 | 1H509 | 457 | 1H574 | 461 | 1H639 | 465 | 1H720 | 407 | 1H816 | 2637 | 1H958 | 1589 | 1J565 | 2652 | 1K101 | 137 | 1K245 | 1006 |
| 380 | 395 | 445 | 463 | 510 | 457 | 575 | 461 | 640 | 445 | 721 | 407 | 817 | 2636 | 960 | 1591 | 569 | 2652 | 102 | 138 | 247 | 961 |
| 381 | 395 | 446 | 463 | 511 | 456 | 576 | 461 | 641 | 465 | 722 | 407 | 818 | 2636 | 962 | 1591 | 639 | 2652 | 103 | 137 | 250 | 1655 |
| 382 | 395 | 447 | 463 | 512 | 456 | 577 | 461 | 642 | 465 | 723 | 407 | 819 | 2636 | 963 | 1591 | 650 | 2652 | 104 | 138 | 252 | 1655 |
| 383 | 395 | 448 | 463 | 513 | 456 | 578 | 461 | 643 | 465 | 724 | 407 | 820 | 2636 | 964 | 1589 | 677 | 2655 | 105 | 137 | 253 | 940 |
| 1H384 | 395 | 1H449 | 463 | 1H514 | 456 | 1H579 | 461 | 1H644 | 465 | 1H725 | 407 | 1H821 | 381 | 1H965 | 1589 | 1J692 | 2652 | 1K106 | 138 | 1K254 | 1655 |
| 385 | 454 | 450 | 463 | 515 | 456 | 580 | 461 | 645 | 465 | 726 | 407 | 822 | 375 | 967 | 1591 | 729 | 2651 | 107 | 137 | 255 | 978 |
| 386 | 454 | 451 | 460 | 516 | 456 | 581 | 461 | 646 | 465 | 727 | 407 | 823 | 375 | 970 | 1589 | 732 | 2651 | 108 | 138 | 256 | 1655 |
| 387 | 454 | 452 | 460 | 517 | 457 | 582 | 461 | 647 | 465 | 728 | 407 | 824 | 375 | 971 | 1589 | 818 | 2652 | 109 | 138 | 257 | 977 |
| 388 | 454 | 453 | 460 | 518 | 457 | 583 | 461 | 648 | 465 | 729 | 406 | 825 | 375 | 972 | 1591 | 854 | 2652 | 110 | 138 | 259 | 977 |
| 1H389 | 454 | 1H454 | 460 | 1H519 | 457 | 1H584 | 461 | 1H649 | 465 | 1H737 | 382 | 1H826 | 375 | 1H973 | 1591 | **1K** | | 1K111 | 138 | 1K260 | 1655 |
| 390 | 454 | 455 | 448 | 520 | 457 | 585 | 461 | 650 | 465 | 738 | 382 | 879 | 375 | 975 | 1591 | | | 112 | 138 | 261 | 977 |
| 391 | 460 | 456 | 460 | 521 | 457 | 586 | 461 | 651 | 465 | 740 | 382 | 880 | 375 | 977 | 1591 | 1K003 | 981 | 113 | 138 | 263 | 917 |
| 392 | 454 | 457 | 460 | 522 | 457 | 587 | 463 | 652 | 465 | 743 | 382 | 881 | 375 | 978 | 1589 | 004 | 1653 | 114 | 138 | 264 | 1655 |
| 393 | 454 | 458 | 460 | 523 | 457 | 588 | 463 | 653 | 465 | 744 | 3494 | 882 | 375 | 979 | 1589 | 006 | 1653 | 115 | 138 | 265 | 977 |
| 1H394 | 454 | 1H459 | 460 | 1H524 | 457 | 1H589 | 463 | 1H654 | 465 | 1H745 | 3494 | 1H884 | 375 | 1H980 | 1589 | 1K007 | 963 | 1K116 | 138 | 1K266 | 1655 |
| 395 | 454 | 460 | 460 | 525 | 457 | 590 | 463 | 655 | 465 | 746 | 3494 | 885 | 375 | 981 | 1589 | 008 | 1653 | 117 | 138 | 267 | 929 |
| 396 | 454 | 461 | 460 | 526 | 457 | 591 | 463 | 656 | 465 | 747 | 3494 | 886 | 375 | 982 | 1589 | 009 | 981 | 118 | 138 | 268 | 1655 |
| 397 | 454 | 462 | 460 | 527 | 456 | 592 | 463 | 657 | 465 | 748 | 3493 | 887 | 375 | 983 | 1589 | 010 | 1653 | 119 | 138 | 270 | 1655 |
| 398 | 454 | 463 | 460 | 528 | 456 | 593 | 463 | 658 | 465 | 749 | 3493 | 888 | 375 | 984 | 1589 | 011 | 981 | 120 | 138 | 271 | 929 |
| 1H399 | 454 | 1H464 | 460 | 1H529 | 456 | 1H594 | 455 | 1H659 | 465 | 1H750 | 3493 | 1H889 | 375 | 1H985 | 1589 | 1K012 | 1653 | 1K121 | 138 | 1K272 | 1655 |
| 400 | 453 | 465 | 460 | 530 | 456 | 595 | 455 | 660 | 465 | 767 | 3494 | 890 | 375 | 986 | 1589 | 014 | 1653 | 122 | 138 | 274 | 1655 |
| 401 | 453 | 466 | 460 | 531 | 457 | 596 | 455 | 661 | 465 | 768 | 3494 | 891 | 375 | 987 | 1589 | 015 | 938 | 123 | 138 | 275 | 929 |
| 402 | 453 | 467 | 460 | 532 | 457 | 597 | 455 | 662 | 465 | 774 | 382 | 893 | 375 | 989 | 1589 | 016 | 1653 | 124 | 138 | 276 | 1655 |
| 403 | 453 | 468 | 456 | 533 | 457 | 598 | 455 | 663 | 465 | 775 | 382 | 894 | 375 | 992 | 1589 | 018 | 1653 | 125 | 138 | 277 | 938 |
| 1H404 | 453 | 1H469 | 456 | 1H534 | 457 | 1H599 | 455 | 1H664 | 465 | 1H776 | 382 | 1H895 | 375 | 1H993 | 1589 | 1K019 | 980 | 1K126 | 138 | 1K279 | 976 |
| 405 | 453 | 470 | 457 | 535 | 457 | 600 | 455 | 665 | 465 | 777 | 382 | 896 | 375 | 997 | 1589 | 020 | 1653 | 127 | 138 | 281 | 976 |
| 406 | 453 | 471 | 457 | 536 | 457 | 601 | 455 | 666 | 465 | 778 | 381 | 897 | 375 | 999 | 1589 | 021 | 980 | 128 | 138 | 282 | 1655 |
| 407 | 453 | 472 | 457 | 537 | 457 | 602 | 455 | 667 | 465 | 779 | 381 | 898 | 375 | | | 022 | 1653 | 129 | 138 | 284 | 1655 |
| 408 | 453 | 473 | 457 | 538 | 457 | 603 | 445 | 668 | 465 | 780 | 381 | 900 | 378 | | | 025 | 199 | 130 | 138 | 286 | 1655 |
| 1H409 | 453 | 1H474 | 456 | 1H539 | 457 | 1H604 | 445 | 1H669 | 465 | 1H781 | 381 | 1H904 | 386 | **1J** | | 1K026 | 1653 | 1K131 | 138 | 1K288 | 1655 |
| 410 | 455 | 475 | 456 | 540 | 457 | 605 | 445 | 670 | 465 | 782 | 381 | 905 | 386 | 1J042 | 2655 | 027 | 199 | 132 | 138 | 289 | 938 |
| 411 | 455 | 476 | 456 | 541 | 456 | 606 | 445 | 671 | 465 | 783 | 381 | 906 | 386 | 043 | 2655 | 028 | 199 | 133 | 138 | 291 | 938 |
| 412 | 455 | 477 | 457 | 542 | 456 | 607 | 445 | 673 | 465 | 784 | 381 | 907 | 386 | 044 | 2655 | 029 | 199 | 134 | 138 | 293 | 964 |
| 413 | 455 | 478 | 457 | 543 | 456 | 608 | 445 | 674 | 465 | 785 | 381 | 908 | 386 | 059 | 2657 | 056 | 121 | 135 | 138 | 294 | 1655 |
| 1H414 | 455 | 1H479 | 457 | 1H544 | 456 | 1H609 | 445 | 1H675 | 465 | 1H786 | 381 | 1H909 | 386 | 060 | 2657 | 1K057 | 121 | 1K139 | 106 | 1K295 | 964 |
| 415 | 455 | 480 | 457 | 545 | 457 | 610 | 445 | 676 | 465 | 787 | 381 | 910 | 386 | 1J066 | 2657 | 058 | 121 | 140 | 106 | 296 | 1655 |
| 416 | 455 | 481 | 456 | 546 | 457 | 611 | 445 | 677 | 465 | 788 | 381 | 911 | 386 | 092 | 2657 | 059 | 121 | 141 | 106 | 297 | 967 |
| 417 | 455 | 482 | 456 | 547 | 457 | 612 | 445 | 678 | 465 | 789 | 381 | 912 | 386 | 093 | 2657 | 060 | 9 | 142 | 106 | 298 | 1655 |
| 418 | 460 | 483 | 457 | 548 | 457 | 613 | 445 | 679 | 465 | 790 | 381 | 913 | 386 | 097 | 2657 | 061 | 9 | 143 | 106 | 299 | 932 |
| 1H419 | 460 | 1H484 | 457 | 1H549 | 456 | 1H614 | 445 | 1H681 | 465 | 1H791 | 381 | 1H914 | 386 | 099 | 2657 | 1K062 | 9 | 1K144 | 106 | 1K300 | 1655 |
| 420 | 460 | 485 | 457 | 550 | 456 | 615 | 445 | 682 | 465 | 792 | 381 | 915 | 386 | 1J101 | 2657 | 063 | 9 | 145 | 106 | 301 | 932 |
| 421 | 460 | 486 | 457 | 551 | 456 | 616 | 445 | 683 | 465 | 793 | 381 | 917 | 386 | 103 | 2657 | 064 | 7 | 146 | 106 | 302 | 1655 |
| 422 | 460 | 487 | 457 | 552 | 457 | 617 | 445 | 684 | 465 | 794 | 381 | 918 | 386 | 124 | 2657 | 065 | 9 | 187 | 929 | 303 | 932 |
| 423 | 463 | 488 | 457 | 553 | 456 | 618 | 445 | 685 | 465 | 795 | 381 | 919 | 386 | 127 | 2657 | 066 | 9 | 188 | 1653 | 305 | 976 |
| 1H424 | 463 | 1H489 | 457 | 1H554 | 457 | 1H619 | 445 | 1H686 | 465 | 1H796 | 381 | 1H928 | 1589 | 129 | 2657 | 1K067 | 9 | 1K189 | 929 | 1K306 | 1655 |
| 425 | 463 | 490 | 456 | 555 | 457 | 620 | 445 | 687 | 465 | 797 | 381 | 929 | 1589 | 1J247 | 2657 | 068 | 129 | 190 | 1653 | 307 | 976 |
| 426 | 463 | 491 | 456 | 556 | 457 | 621 | 445 | 688 | 466 | 798 | 381 | 931 | 1589 | 253 | 2657 | 069 | 129 | 192 | 1653 | 308 | 1655 |
| 427 | 463 | 492 | 456 | 557 | 457 | 622 | 445 | 689 | 466 | 799 | 381 | 933 | 1589 | 255 | 2657 | 070 | 129 | 193 | 929 | 309 | 1008 |
| 428 | 463 | 493 | 456 | 558 | 457 | 623 | 445 | 690 | 466 | 800 | 381 | 934 | 1589 | 262 | 2657 | 071 | 129 | 194 | 1653 | 311 | 1008 |
| 1H429 | 448 | 1H494 | 456 | 1H559 | 461 | 1H624 | 445 | 1H691 | 466 | 1H801 | 381 | 1H937 | 1591 | 274 | 2657 | 1K072 | 129 | 1K195 | 929 | 1K312 | 1655 |
| 430 | 463 | 495 | 457 | 560 | 461 | 625 | 445 | 692 | 466 | 802 | 381 | 938 | 1591 | 1J300 | 2655 | 073 | 121 | 196 | 1653 | 313 | 1008 |
| 431 | 463 | 496 | 457 | 561 | 463 | 626 | 445 | 693 | 466 | 803 | 381 | 945 | 1591 | 301 | 2655 | 074 | 121 | 198 | 1653 | 315 | 965 |
| 432 | 463 | 497 | 457 | 562 | 463 | 627 | 445 | 694 | 466 | 804 | 381 | 946 | 1591 | 312 | 2655 | 075 | 121 | 199 | 929 | 316 | 1655 |
| 433 | 463 | 498 | 457 | 563 | 463 | 628 | 445 | 695 | 466 | 805 | 3350 | 947 | 1591 | 313 | 2655 | 076 | 121 | 201 | 929 | 317 | 965 |
| | | | | | | | | | | | | | | 332 | 2651 | | | | | | |

# STOCK NUMBER—PAGE NUMBER

## 1K3 — 1L3

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1K318 | 1655 | 1K401 | 964 | 1K492 | 1655 | 1K783 | 2460 | 1K867 | 2586 | 1K932 | 1658 | 1K997 | 2572 | 1L126 | 291 | 1L191 | 292 | 1L256 | 272 | 1L321 | 272 |
| 319 | 965 | 403 | 959 | 493 | 3477 | 784 | 1657 | 868 | 1657 | 933 | 2572 | 998 | 1658 | 127 | 291 | 192 | 292 | 257 | 272 | 322 | 272 |
| 320 | 1655 | 405 | 968 | 494 | 1655 | 785 | 2460 | 869 | 2580 | 934 | 1658 | **1L** | | 128 | 291 | 193 | 292 | 258 | 287 | 323 | 272 |
| 321 | 960 | 406 | 1655 | 495 | 3477 | 786 | 1657 | 870 | 1657 | 935 | 2583 | | | 129 | 291 | 194 | 296 | 259 | 287 | 324 | 271 |
| 322 | 1655 | 407 | 1009 | 496 | 1655 | 787 | 2457 | 871 | 2581 | 936 | 1658 | 1L001 | 332 | 130 | 291 | 195 | 296 | 260 | 287 | 325 | 271 |
| 1K323 | 960 | 1K408 | 1655 | 1K497 | 3477 | 1K788 | 1657 | 1K872 | 1657 | 1K937 | 2583 | 1L002 | 332 | 1L131 | 291 | 1L196 | 296 | 1L261 | 287 | 1L326 | 271 |
| 324 | 1655 | 409 | 1009 | 498 | 1655 | 789 | 2457 | 873 | 2581 | 938 | 1658 | 003 | 332 | 132 | 291 | 197 | 296 | 262 | 287 | 327 | 271 |
| 325 | 961 | 410 | 1655 | 500 | 1655 | 790 | 1657 | 874 | 1657 | 939 | 2583 | 004 | 332 | 133 | 291 | 198 | 296 | 263 | 287 | 328 | 272 |
| 327 | 961 | 411 | 990 | 509 | 3418 | 791 | 2457 | 875 | 2581 | 940 | 1658 | 005 | 332 | 134 | 291 | 199 | 296 | 264 | 287 | 329 | 271 |
| 328 | 1655 | 412 | 1655 | 510 | 1655 | 792 | 1657 | 876 | 1658 | 941 | 2583 | 006 | 332 | 135 | 291 | 200 | 296 | 265 | 287 | 330 | 271 |
| 1K329 | 957 | 1K413 | 991 | 1K511 | 3418 | 1K794 | 1657 | 1K877 | 2579 | 1K942 | 1658 | 1L007 | 332 | 1L136 | 291 | 1L201 | 296 | 1L266 | 272 | 1L331 | 271 |
| 330 | 1655 | 414 | 1655 | 513 | 3418 | 796 | 1657 | 878 | 1658 | 943 | 2574 | 008 | 332 | 137 | 291 | 202 | 296 | 267 | 272 | 332 | 271 |
| 331 | 957 | 415 | 973 | 515 | 3418 | 798 | 1657 | 879 | 2575 | 944 | 1658 | 009 | 332 | 138 | 291 | 203 | 296 | 268 | 272 | 333 | 272 |
| 332 | 1655 | 416 | 1655 | 517 | 3418 | 800 | 1657 | 880 | 1658 | 945 | 2578 | 010 | 332 | 139 | 291 | 204 | 296 | 269 | 271 | 334 | 272 |
| 333 | 954 | 417 | 972 | 519 | 3418 | 802 | 1657 | 881 | 2572 | 946 | 1658 | 011 | 332 | 140 | 291 | 205 | 296 | 270 | 271 | 335 | 272 |
| 1K335 | 954 | 1K418 | 1655 | 1K521 | 3418 | 1K804 | 1657 | 1K882 | 1658 | 1K947 | 2584 | 1L012 | 332 | 1L141 | 291 | 1L206 | 296 | 1L271 | 271 | 1L336 | 272 |
| 336 | 1655 | 419 | 972 | 523 | 3418 | 806 | 1657 | 883 | 2581 | 948 | 1658 | 013 | 332 | 142 | 291 | 207 | 296 | 272 | 272 | 337 | 272 |
| 337 | 965 | 420 | 1655 | 525 | 3418 | 808 | 1657 | 884 | 1658 | 949 | 2582 | 014 | 332 | 143 | 291 | 208 | 296 | 273 | 272 | 338 | 272 |
| 338 | 1655 | 422 | 1655 | 526 | 1655 | 810 | 1657 | 885 | 2581 | 950 | 1658 | 015 | 332 | 144 | 291 | 209 | 296 | 274 | 272 | 339 | 272 |
| 339 | 965 | 424 | 1655 | 527 | 3418 | 812 | 1657 | 886 | 1658 | 951 | 2582 | 016 | 332 | 145 | 291 | 210 | 296 | 275 | 287 | 340 | 271 |
| 1K341 | 965 | 1K425 | 939 | 1K529 | 3418 | 1K814 | 1657 | 1K887 | 2584 | 1K952 | 1658 | 1L017 | 332 | 1L146 | 291 | 1L211 | 296 | 1L276 | 287 | 1L341 | 287 |
| 343 | 960 | 426 | 1655 | 531 | 3418 | 816 | 1657 | 888 | 1658 | 953 | 2581 | 018 | 332 | 147 | 292 | 212 | 296 | 277 | 287 | 342 | 287 |
| 344 | 1655 | 429 | 961 | 533 | 3418 | 818 | 1657 | 889 | 2578 | 954 | 1658 | 019 | 332 | 148 | 292 | 213 | 296 | 278 | 287 | 343 | 287 |
| 345 | 960 | 430 | 1655 | 535 | 3418 | 820 | 1657 | 890 | 1658 | 955 | 2584 | 020 | 332 | 149 | 292 | 214 | 296 | 279 | 287 | 344 | 287 |
| 346 | 1655 | 431 | 961 | 537 | 3418 | 822 | 1657 | 891 | 2574 | 956 | 1658 | 021 | 332 | 150 | 292 | 215 | 296 | 280 | 287 | 345 | 287 |
| 1K347 | 961 | 1K432 | 1655 | 1K539 | 3418 | 1K824 | 1657 | 1K892 | 1658 | 1K957 | 2582 | 1L022 | 332 | 1L151 | 292 | 1L216 | 296 | 1L281 | 287 | 1L346 | 287 |
| 348 | 1655 | 433 | 961 | 541 | 3418 | 826 | 1657 | 893 | 2584 | 958 | 1658 | 023 | 332 | 152 | 292 | 217 | 296 | 282 | 271 | 347 | 287 |
| 349 | 961 | 435 | 961 | 543 | 3577 | 828 | 1657 | 894 | 1658 | 959 | 2582 | 024 | 332 | 153 | 292 | 218 | 296 | 283 | 271 | 348 | 287 |
| 350 | 1655 | 436 | 1655 | 545 | 3577 | 830 | 1657 | 895 | 2584 | 960 | 1658 | 025 | 332 | 154 | 292 | 219 | 296 | 284 | 271 | 349 | 272 |
| 351 | 961 | 437 | 1006 | 547 | 3577 | 831 | 2516 | 896 | 1658 | 961 | 2582 | 035 | 328 | 155 | 292 | 220 | 296 | 285 | 272 | 350 | 287 |
| 1K352 | 1655 | 1K439 | 961 | 1K551 | 3577 | 1K832 | 1657 | 1K897 | 2583 | 1K962 | 1658 | 1L036 | 328 | 1L156 | 292 | 1L221 | 296 | 1L286 | 272 | 1L351 | 287 |
| 353 | 957 | 441 | 977 | 553 | 3577 | 833 | 2516 | 898 | 1658 | 963 | 2582 | 037 | 328 | 157 | 292 | 222 | 296 | 287 | 272 | 352 | 287 |
| 354 | 1655 | 442 | 1655 | 720 | 1657 | 834 | 1657 | 899 | 2583 | 964 | 1658 | 038 | 328 | 158 | 292 | 223 | 296 | 288 | 272 | 353 | 287 |
| 355 | 957 | 443 | 972 | 722 | 1657 | 835 | 2586 | 900 | 1658 | 965 | 2579 | 039 | 328 | 159 | 292 | 224 | 296 | 289 | 272 | 354 | 287 |
| 356 | 1655 | 446 | 1655 | 724 | 1657 | 836 | 1657 | 901 | 2583 | 966 | 1658 | 040 | 328 | 160 | 292 | 225 | 296 | 290 | 272 | 355 | 287 |
| 1K357 | 954 | 1K448 | 1655 | 1K726 | 1657 | 1K837 | 2586 | 1K902 | 1658 | 1K967 | 2576 | 1L041 | 328 | 1L161 | 292 | 1L226 | 296 | 1L291 | 272 | 1L356 | 287 |
| 358 | 1655 | 450 | 1655 | 728 | 1657 | 838 | 1657 | 903 | 2583 | 968 | 1658 | 042 | 328 | 162 | 292 | 227 | 296 | 292 | 272 | 357 | 287 |
| 359 | 954 | 454 | 1655 | 730 | 1657 | 839 | 2586 | 904 | 1658 | 969 | 2576 | 043 | 328 | 163 | 292 | 228 | 296 | 293 | 272 | 358 | 272 |
| 363 | 975 | 456 | 1655 | 732 | 1657 | 840 | 1657 | 905 | 2577 | 970 | 1658 | 044 | 328 | 164 | 292 | 229 | 296 | 294 | 272 | 359 | 272 |
| 364 | 1655 | 459 | 3477 | 734 | 1657 | 841 | 2586 | 906 | 1658 | 971 | 2574 | 045 | 328 | 165 | 292 | 230 | 292 | 295 | 271 | 360 | 272 |
| 1K366 | 1655 | 1K461 | 3477 | 1K736 | 1657 | 1K842 | 1657 | 1K907 | 2577 | 1K972 | 1658 | 1L046 | 328 | 1L166 | 292 | 1L231 | 2583 | 1L296 | 271 | 1L361 | 272 |
| 368 | 1655 | 462 | 1655 | 738 | 1657 | 843 | 2586 | 908 | 1658 | 973 | 2574 | 078 | 333 | 167 | 292 | 232 | 1658 | 297 | 271 | 362 | 272 |
| 369 | 987 | 463 | 3477 | 740 | 1657 | 844 | 1657 | 909 | 2577 | 974 | 1658 | 079 | 333 | 168 | 292 | 233 | 2582 | 298 | 271 | 363 | 271 |
| 370 | 1655 | 464 | 1655 | 742 | 1657 | 845 | 2586 | 910 | 1658 | 975 | 2584 | 097 | 333 | 169 | 292 | 234 | 1658 | 299 | 272 | 364 | 271 |
| 371 | 975 | 465 | 3477 | 744 | 1657 | 846 | 1657 | 911 | 2578 | 976 | 1658 | 104 | 291 | 170 | 292 | 235 | 2581 | 300 | 272 | 365 | 271 |
| 1K372 | 1655 | 1K466 | 1655 | 1K746 | 1657 | 1K847 | 2586 | 1K912 | 1658 | 1K977 | 2580 | 1L105 | 291 | 1L171 | 292 | 1L236 | 1658 | 1L301 | 287 | 1L366 | 271 |
| 373 | 975 | 467 | 3477 | 748 | 1657 | 848 | 1657 | 913 | 2577 | 978 | 1658 | 106 | 291 | 172 | 292 | 237 | 271 | 302 | 287 | 367 | 272 |
| 375 | 975 | 469 | 3477 | 750 | 1657 | 849 | 2586 | 914 | 1658 | 979 | 2572 | 108 | 291 | 173 | 292 | 238 | 271 | 303 | 287 | 368 | 272 |
| 376 | 1655 | 471 | 3477 | 752 | 1657 | 850 | 1657 | 915 | 2577 | 980 | 1658 | 109 | 291 | 174 | 292 | 239 | 271 | 304 | 287 | 369 | 272 |
| 377 | 950 | 473 | 3477 | 754 | 1657 | 851 | 2586 | 916 | 1658 | 981 | 2577 | 110 | 291 | 175 | 292 | 240 | 272 | 305 | 287 | 370 | 271 |
| 1K381 | 930 | 1K475 | 3477 | 1K756 | 1657 | 1K852 | 1657 | 1K917 | 2577 | 1K982 | 1658 | 1L111 | 291 | 1L176 | 292 | 1L241 | 272 | 1L306 | 287 | 1L371 | 271 |
| 383 | 990 | 476 | 1655 | 758 | 1657 | 853 | 2586 | 918 | 1658 | 983 | 2577 | 112 | 291 | 177 | 292 | 242 | 272 | 307 | 287 | 372 | 273 |
| 384 | 1655 | 477 | 3477 | 760 | 1657 | 854 | 1657 | 919 | 2576 | 984 | 1658 | 113 | 291 | 178 | 292 | 243 | 272 | 308 | 287 | 373 | 273 |
| 385 | 957 | 478 | 1655 | 762 | 1657 | 855 | 2586 | 920 | 1658 | 985 | 2577 | 114 | 291 | 179 | 292 | 244 | 287 | 309 | 287 | 374 | 273 |
| 386 | 1655 | 479 | 3477 | 764 | 1657 | 856 | 1657 | 921 | 2576 | 986 | 1658 | 115 | 291 | 180 | 292 | 245 | 287 | 310 | 287 | 375 | 273 |
| 1K387 | 957 | 1K480 | 1655 | 1K766 | 1657 | 1K857 | 2586 | 1K922 | 1658 | 1K987 | 2579 | 1L116 | 291 | 1L181 | 292 | 1L246 | 287 | 1L311 | 287 | 1L376 | 273 |
| 388 | 1655 | 481 | 3477 | 768 | 1657 | 858 | 1657 | 923 | 2574 | 988 | 1658 | 117 | 291 | 182 | 292 | 247 | 287 | 312 | 287 | 377 | 273 |
| 389 | 958 | 483 | 3477 | 770 | 1657 | 859 | 2586 | 924 | 1658 | 989 | 2579 | 118 | 291 | 183 | 292 | 248 | 287 | 313 | 287 | 378 | 273 |
| 390 | 1655 | 485 | 3477 | 772 | 1657 | 860 | 1657 | 925 | 2574 | 990 | 1658 | 119 | 291 | 184 | 292 | 249 | 287 | 314 | 287 | 379 | 276 |
| 391 | 958 | 486 | 1655 | 774 | 1657 | 861 | 2586 | 926 | 1658 | 991 | 2573 | 120 | 291 | 185 | 292 | 250 | 287 | 315 | 287 | 380 | 276 |
| 1K393 | 955 | 1K487 | 3477 | 1K776 | 1657 | 1K862 | 1657 | 1K927 | 2573 | 1K992 | 1658 | 1L121 | 291 | 1L186 | 292 | 1L251 | 271 | 1L316 | 287 | 1L381 | 276 |
| 395 | 955 | 488 | 1655 | 778 | 1657 | 863 | 2586 | 928 | 1658 | 993 | 2579 | 122 | 291 | 187 | 292 | 252 | 271 | 317 | 272 | 382 | 276 |
| 396 | 1655 | 489 | 3477 | 779 | 2460 | 864 | 1657 | 929 | 2573 | 994 | 1658 | 123 | 291 | 188 | 292 | 253 | 271 | 318 | 272 | 383 | 276 |
| 399 | 964 | 490 | 1655 | 780 | 1657 | 865 | 2586 | 930 | 1658 | 995 | 2573 | 124 | 291 | 189 | 292 | 254 | 272 | 319 | 272 | 384 | 276 |
| 400 | 1655 | 491 | 3477 | 782 | 1657 | 866 | 1657 | 931 | 2573 | 996 | 1658 | 125 | 291 | 190 | 292 | 255 | 272 | 320 | 272 | 385 | 276 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1L386 | 276 | 1L451 | 228 | 1L516 | 284 | 1L587 | 235 | 1L658 | 351 | 1L723 | 351 | 1L788 | 354 | 1L853 | 272 | 1L918 | 290 | 1L983 | 324 | 1M048 | 2580 |
| 387 | 2582 | 452 | 227 | 517 | 234 | 588 | 235 | 659 | 351 | 724 | 351 | 789 | 354 | 854 | 272 | 919 | 290 | 984 | 324 | 049 | 1657 |
| 388 | 264 | 453 | 228 | 518 | 234 | 589 | 235 | 660 | 351 | 725 | 351 | 790 | 359 | 855 | 271 | 920 | 290 | 985 | 324 | 050 | 2580 |
| 389 | 264 | 454 | 228 | 519 | 234 | 596 | 346 | 661 | 351 | 726 | 351 | 791 | 359 | 856 | 271 | 921 | 290 | 986 | 324 | 051 | 1657 |
| 390 | 279 | 455 | 228 | 520 | 234 | 597 | 346 | 662 | 351 | 727 | 351 | 792 | 359 | 857 | 271 | 922 | 289 | 987 | 324 | 052 | 2579 |
| 1L391 | 279 | 1L456 | 229 | 1L521 | 234 | 1L598 | 346 | 1L663 | 351 | 1L728 | 351 | 1L793 | 359 | 1L858 | 271 | 1L923 | 289 | 1L988 | 324 | 1M053 | 1657 |
| 392 | 279 | 457 | 229 | 522 | 234 | 599 | 346 | 664 | 351 | 729 | 351 | 794 | 359 | 859 | 271 | 924 | 289 | 989 | 324 | 054 | 2579 |
| 393 | 279 | 458 | 229 | 523 | 234 | 600 | 346 | 665 | 351 | 730 | 354 | 795 | 359 | 860 | 271 | 925 | 289 | 990 | 324 | 055 | 1657 |
| 394 | 276 | 459 | 229 | 524 | 234 | 601 | 346 | 666 | 351 | 731 | 354 | 796 | 359 | 861 | 271 | 926 | 289 | 991 | 324 | 056 | 2577 |
| 395 | 276 | 460 | 232 | 525 | 234 | 602 | 346 | 667 | 351 | 732 | 354 | 797 | 359 | 862 | 272 | 927 | 289 | 992 | 324 | 057 | 1657 |
| 1L396 | 276 | 1L461 | 232 | 1L526 | 234 | 1L603 | 346 | 1L668 | 351 | 1L733 | 354 | 1L798 | 359 | 1L863 | 272 | 1L928 | 289 | 1L993 | 324 | 1M058 | 2577 |
| 397 | 276 | 462 | 232 | 527 | 234 | 604 | 346 | 669 | 351 | 734 | 354 | 799 | 359 | 864 | 272 | 929 | 289 | 994 | 324 | 059 | 1657 |
| 398 | 276 | 463 | 231 | 528 | 234 | 605 | 346 | 670 | 351 | 735 | 354 | 800 | 359 | 865 | 271 | 930 | 289 | 995 | 324 | 060 | 2576 |
| 399 | 276 | 464 | 231 | 529 | 234 | 606 | 346 | 671 | 351 | 736 | 354 | 801 | 359 | 866 | 271 | 931 | 289 | 996 | 323 | 061 | 1657 |
| 400 | 276 | 465 | 230 | 530 | 234 | 607 | 346 | 672 | 351 | 737 | 354 | 802 | 359 | 867 | 271 | 932 | 289 | 997 | 323 | 062 | 2572 |
| 1L401 | 276 | 1L466 | 230 | 1L531 | 234 | 1L608 | 346 | 1L673 | 351 | 1L738 | 354 | 1L803 | 359 | 1L868 | 271 | 1L933 | 289 | 1L998 | 323 | 1M063 | 1657 |
| 402 | 276 | 467 | 230 | 532 | 234 | 609 | 346 | 674 | 351 | 739 | 354 | 804 | 359 | 869 | 271 | 934 | 289 | 999 | 323 | 064 | 2572 |
| 403 | 274 | 468 | 230 | 533 | 248 | 610 | 346 | 675 | 351 | 740 | 354 | 805 | 359 | 870 | 272 | 935 | 289 | 1M | | 065 | 1657 |
| 404 | 274 | 469 | 221 | 534 | 248 | 611 | 346 | 676 | 351 | 741 | 354 | 806 | 359 | 871 | 272 | 936 | 289 | | | 066 | 2586 |
| 405 | 275 | 470 | 221 | 535 | 248 | 612 | 346 | 677 | 351 | 742 | 354 | 807 | 359 | 872 | 272 | 937 | 289 | 1M002 | 2575 | 067 | 1657 |
| 1L406 | 275 | 1L471 | 221 | 1L536 | 248 | 1L613 | 346 | 1L678 | 351 | 1L743 | 354 | 1L808 | 359 | 1L873 | 272 | 1L938 | 289 | 1M003 | 1658 | 1M068 | 2586 |
| 407 | 274 | 472 | 221 | 537 | 284 | 614 | 346 | 679 | 351 | 744 | 354 | 809 | 359 | 874 | 271 | 939 | 324 | 004 | 2575 | 069 | 1657 |
| 408 | 274 | 473 | 221 | 538 | 248 | 615 | 346 | 680 | 351 | 745 | 354 | 810 | 359 | 875 | 271 | 940 | 324 | 005 | 1658 | 070 | 2578 |
| 409 | 274 | 474 | 221 | 539 | 298 | 616 | 346 | 681 | 351 | 746 | 354 | 811 | 359 | 876 | 271 | 941 | 324 | 006 | 2574 | 071 | 1657 |
| 410 | 274 | 475 | 216 | 540 | 298 | 617 | 346 | 682 | 351 | 747 | 354 | 812 | 359 | 877 | 271 | 942 | 324 | 007 | 1658 | 072 | 2579 |
| 1L411 | 274 | 1L476 | 216 | 1L541 | 298 | 1L618 | 346 | 1L683 | 351 | 1L748 | 354 | 1L813 | 359 | 1L878 | 271 | 1L943 | 324 | 1M008 | 2573 | 1M073 | 1657 |
| 412 | 274 | 477 | 216 | 548 | 233 | 619 | 346 | 684 | 351 | 749 | 354 | 814 | 359 | 879 | 272 | 944 | 324 | 009 | 1658 | 074 | 2578 |
| 413 | 274 | 478 | 216 | 549 | 233 | 620 | 346 | 685 | 351 | 750 | 354 | 815 | 359 | 880 | 272 | 945 | 324 | 010 | 2573 | 075 | 1657 |
| 414 | 274 | 479 | 216 | 550 | 233 | 621 | 346 | 686 | 351 | 751 | 354 | 816 | 359 | 881 | 272 | 946 | 324 | 011 | 1658 | 076 | 2581 |
| 415 | 274 | 480 | 216 | 551 | 233 | 622 | 346 | 687 | 351 | 752 | 354 | 817 | 359 | 882 | 271 | 947 | 324 | 012 | 2573 | 077 | 1657 |
| 1L416 | 274 | 1L481 | 225 | 1L552 | 233 | 1L623 | 346 | 1L688 | 351 | 1L753 | 354 | 1L818 | 359 | 1L883 | 271 | 1L948 | 324 | 1M013 | 1658 | 1M078 | 2580 |
| 417 | 274 | 482 | 225 | 553 | 233 | 624 | 346 | 689 | 351 | 754 | 354 | 819 | 359 | 884 | 271 | 949 | 324 | 014 | 2572 | 079 | 1657 |
| 418 | 274 | 483 | 225 | 554 | 249 | 625 | 350 | 690 | 351 | 755 | 354 | 820 | 359 | 885 | 271 | 950 | 324 | 015 | 1658 | 080 | 2580 |
| 419 | 274 | 484 | 225 | 555 | 249 | 626 | 350 | 691 | 351 | 756 | 354 | 821 | 359 | 886 | 323 | 951 | 324 | 016 | 2572 | 081 | 1657 |
| 420 | 274 | 485 | 225 | 556 | 249 | 627 | 350 | 692 | 351 | 757 | 354 | 822 | 359 | 887 | 323 | 952 | 324 | 017 | 1658 | 082 | 2582 |
| 1L421 | 274 | 1L486 | 225 | 1L557 | 249 | 1L628 | 350 | 1L693 | 351 | 1L758 | 354 | 1L823 | 359 | 1L888 | 323 | 1L953 | 324 | 1M018 | 2581 | 1M083 | 1658 |
| 422 | 274 | 487 | 232 | 558 | 249 | 629 | 350 | 694 | 351 | 759 | 354 | 824 | 359 | 889 | 323 | 954 | 324 | 019 | 1658 | 084 | 2582 |
| 423 | 274 | 488 | 232 | 559 | 249 | 630 | 350 | 695 | 351 | 760 | 354 | 825 | 359 | 890 | 323 | 955 | 324 | 020 | 2578 | 085 | 1658 |
| 424 | 275 | 489 | 232 | 560 | 1658 | 631 | 350 | 696 | 351 | 761 | 354 | 826 | 359 | 891 | 323 | 956 | 324 | 021 | 1658 | 086 | 2582 |
| 425 | 275 | 490 | 232 | 561 | 2582 | 632 | 350 | 697 | 351 | 762 | 354 | 827 | 359 | 892 | 323 | 957 | 324 | 022 | 2576 | 087 | 1658 |
| 1L426 | 275 | 1L491 | 224 | 1L562 | 1658 | 1L633 | 350 | 1L698 | 351 | 1L763 | 354 | 1L828 | 359 | 1L893 | 323 | 1L958 | 324 | 1M023 | 1658 | 1M088 | 2582 |
| 427 | 274 | 492 | 224 | 563 | 242 | 634 | 350 | 699 | 351 | 764 | 354 | 829 | 359 | 894 | 323 | 959 | 324 | 024 | 2575 | 089 | 1658 |
| 428 | 274 | 493 | 249 | 564 | 242 | 635 | 350 | 700 | 351 | 765 | 354 | 830 | 359 | 895 | 323 | 960 | 324 | 025 | 1657 | 090 | 2579 |
| 429 | 274 | 494 | 249 | 565 | 241 | 636 | 350 | 701 | 351 | 766 | 354 | 831 | 359 | 896 | 323 | 961 | 324 | 026 | 2576 | 091 | 1658 |
| 430 | 274 | 495 | 249 | 566 | 241 | 637 | 350 | 702 | 351 | 767 | 354 | 832 | 359 | 897 | 323 | 962 | 324 | 027 | 1657 | 092 | 2576 |
| 1L431 | 274 | 1L496 | 224 | 1L567 | 241 | 1L638 | 350 | 1L703 | 351 | 1L768 | 354 | 1L833 | 300 | 1L898 | 323 | 1L963 | 324 | 1M028 | 2576 | 1M093 | 1658 |
| 432 | 274 | 497 | 224 | 568 | 241 | 639 | 350 | 704 | 351 | 769 | 354 | 834 | 300 | 899 | 323 | 964 | 324 | 029 | 1657 | 094 | 2576 |
| 433 | 274 | 498 | 224 | 569 | 2580 | 640 | 350 | 705 | 351 | 770 | 354 | 835 | 300 | 900 | 323 | 965 | 324 | 030 | 2575 | 095 | 1658 |
| 434 | 274 | 499 | 224 | 570 | 244 | 641 | 350 | 706 | 351 | 771 | 354 | 836 | 300 | 901 | 323 | 966 | 324 | 031 | 1657 | 096 | 2574 |
| 435 | 274 | 500 | 224 | 571 | 244 | 642 | 350 | 707 | 351 | 772 | 354 | 837 | 310 | 902 | 323 | 967 | 324 | 032 | 2575 | 097 | 1658 |
| 1L436 | 274 | 1L501 | 248 | 1L572 | 240 | 1L643 | 350 | 1L708 | 351 | 1L773 | 354 | 1L838 | 310 | 1L903 | 323 | 1L968 | 324 | 1M033 | 1657 | 1M098 | 2574 |
| 437 | 274 | 502 | 248 | 573 | 240 | 644 | 350 | 709 | 351 | 774 | 354 | 839 | 310 | 904 | 323 | 969 | 324 | 034 | 2575 | 100 | 2584 |
| 438 | 274 | 503 | 248 | 574 | 240 | 645 | 350 | 710 | 351 | 775 | 354 | 840 | 310 | 905 | 323 | 970 | 324 | 035 | 1657 | 101 | 1658 |
| 439 | 274 | 504 | 248 | 575 | 240 | 646 | 350 | 711 | 351 | 776 | 354 | 841 | 310 | 906 | 323 | 971 | 324 | 036 | 2573 | 102 | 2577 |
| 440 | 274 | 505 | 248 | 576 | 240 | 647 | 350 | 712 | 351 | 777 | 354 | 842 | 310 | 907 | 323 | 972 | 324 | 037 | 1657 | 103 | 1658 |
| 1L441 | 275 | 1L506 | 249 | 1L577 | 1658 | 1L648 | 350 | 1L713 | 351 | 1L778 | 354 | 1L843 | 310 | 1L908 | 323 | 1L973 | 324 | 1M038 | 2572 | 1M104 | 2577 |
| 442 | 275 | 507 | 249 | 578 | 2576 | 649 | 350 | 714 | 351 | 779 | 354 | 844 | 310 | 909 | 323 | 974 | 324 | 039 | 1657 | 105 | 1658 |
| 443 | 275 | 508 | 249 | 579 | 1658 | 650 | 350 | 715 | 351 | 780 | 354 | 845 | 310 | 910 | 290 | 975 | 324 | 040 | 2583 | 106 | 2577 |
| 444 | 274 | 509 | 244 | 580 | 2575 | 651 | 350 | 716 | 351 | 781 | 354 | 846 | 310 | 911 | 290 | 976 | 324 | 041 | 1657 | 107 | 1658 |
| 445 | 274 | 510 | 244 | 581 | 1658 | 652 | 350 | 717 | 351 | 782 | 354 | 847 | 310 | 912 | 290 | 977 | 324 | 042 | 2581 | 108 | 2579 |
| 1L446 | 275 | 1L511 | 284 | 1L582 | 2575 | 1L653 | 350 | 1L718 | 351 | 1L783 | 354 | 1L848 | 219 | 1L913 | 290 | 1L978 | 324 | 1M043 | 1657 | 1M109 | 1658 |
| 447 | 274 | 512 | 284 | 583 | 1658 | 654 | 351 | 719 | 351 | 784 | 354 | 849 | 272 | 914 | 290 | 979 | 324 | 044 | 2581 | 110 | 2579 |
| 448 | 274 | 513 | 284 | 584 | 2575 | 655 | 351 | 720 | 351 | 785 | 354 | 850 | 272 | 915 | 290 | 980 | 324 | 045 | 1657 | 111 | 1658 |
| 449 | 228 | 514 | 284 | 585 | 1658 | 656 | 351 | 721 | 351 | 786 | 354 | 851 | 272 | 916 | 290 | 981 | 324 | 046 | 2584 | 112 | 2573 |
| 450 | 228 | 515 | 284 | 586 | 235 | 657 | 351 | 722 | 351 | 787 | 354 | 852 | 272 | 917 | 290 | 982 | 324 | 047 | 1657 | 113 | 1658 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1M114 | 2576 | 1M180 | 2572 | 1M276 | 2579 | 1M406 | 2574 | 1M716 | 2500 | 1M854 | 2623 | 1M930 | 896 | 1N041 | 1313 | 1N137 | 1035 | 1N342 | 3223 | 1N460 | 3126 |
| 115 | 1658 | 181 | 1658 | 278 | 2577 | 408 | 2584 | 718 | 2500 | 856 | 2623 | 931 | 1656 | 042 | 1313 | 138 | 1021 | 343 | 3223 | 461 | 3126 |
| 116 | 2575 | 182 | 2583 | 280 | 2577 | 410 | 2582 | 720 | 2500 | 858 | 2623 | 933 | 1656 | 043 | 1313 | 139 | 1021 | 344 | 3223 | 462 | 3126 |
| 117 | 1658 | 183 | 1658 | 282 | 2576 | 412 | 2582 | 724 | 1395 | 860 | 2623 | 935 | 1656 | 044 | 1313 | 140 | 1020 | 345 | 3223 | 463 | 3126 |
| 118 | 2576 | 184 | 2583 | 284 | 2572 | 414 | 2581 | 726 | 1395 | 862 | 2622 | 936 | 741 | 046 | 1315 | 142 | 903 | 346 | 3223 | 464 | 3126 |
| 1M119 | 1658 | 1M185 | 1658 | 1M286 | 2572 | 1M416 | 2584 | 1M728 | 892 | 1M864 | 2622 | 1M937 | 1656 | 1N047 | 1315 | 1N143 | 903 | 1N347 | 3223 | 1N465 | 3126 |
| 120 | 2581 | 186 | 2583 | 288 | 2579 | 418 | 2580 | 732 | 850 | 866 | 2622 | 938 | 741 | 048 | 1315 | 144 | 1893 | 348 | 3223 | 466 | 3126 |
| 121 | 1658 | 187 | 1658 | 290 | 2578 | 420 | 2572 | 734 | 892 | 868 | 2622 | 939 | 1656 | 049 | 1314 | 145 | 1893 | 349 | 3223 | 467 | 3126 |
| 122 | 2581 | 188 | 2583 | 292 | 2581 | 422 | 2579 | 736 | 893 | 870 | 2623 | 940 | 791 | 050 | 1314 | 146 | 1893 | 350 | 3223 | 468 | 3126 |
| 123 | 1658 | 189 | 1658 | 294 | 2580 | 424 | 2573 | 738 | 892 | 872 | 2623 | 941 | 1656 | 051 | 1314 | 147 | 1893 | 351 | 3223 | 469 | 3126 |
| 1M124 | 2579 | 1M190 | 2583 | 1M296 | 2580 | 1M426 | 2572 | 1M740 | 892 | 1M874 | 2623 | 1M942 | 879 | 1N052 | 1314 | 1N148 | 1893 | 1N352 | 3223 | 1N470 | 3126 |
| 125 | 1658 | 191 | 1658 | 298 | 2582 | 428 | 2583 | 742 | 893 | 875 | 1656 | 943 | 1656 | 053 | 1314 | 149 | 1893 | 353 | 3223 | 471 | 3126 |
| 126 | 2575 | 192 | 2574 | 300 | 2582 | 430 | 2582 | 744 | 892 | 876 | 2622 | 944 | 851 | 054 | 1314 | 150 | 1893 | 354 | 3223 | 472 | 3126 |
| 127 | 1658 | 193 | 1658 | 302 | 2582 | 432 | 2581 | 746 | 892 | 877 | 1656 | 945 | 1656 | 055 | 1314 | 151 | 1893 | 355 | 3223 | 473 | 3126 |
| 128 | 2572 | 194 | 2584 | 304 | 2582 | 434 | 2582 | 748 | 893 | 878 | 2551 | 946 | 828 | 056 | 1314 | 152 | 1892 | 356 | 3215 | 474 | 3126 |
| 1M129 | 1658 | 1M195 | 1658 | 1M306 | 2579 | 1M436 | 2582 | 1M750 | 892 | 1M879 | 1656 | 1M947 | 1656 | 1N057 | 1314 | 1N153 | 1893 | 1N357 | 3215 | 1N475 | 3126 |
| 131 | 1658 | 196 | 2582 | 308 | 2576 | 438 | 2576 | 752 | 892 | 880 | 2551 | 948 | 828 | 058 | 1314 | 154 | 1893 | 358 | 3215 | 476 | 3126 |
| 132 | 2581 | 197 | 1658 | 310 | 2576 | 440 | 2575 | 754 | 892 | 881 | 1656 | 949 | 1656 | 059 | 1314 | 155 | 1893 | 360 | 3215 | 477 | 3126 |
| 133 | 1658 | 198 | 2582 | 312 | 2574 | 442 | 2575 | 756 | 893 | 882 | 2549 | 950 | 828 | 060 | 1314 | 156 | 1893 | 362 | 3215 | 478 | 3126 |
| 134 | 2584 | 199 | 1658 | 314 | 2574 | 444 | 2575 | 758 | 893 | 883 | 1656 | 951 | 1656 | 061 | 1314 | 157 | 1893 | 363 | 3215 | 479 | 3126 |
| 1M135 | 1658 | 1M200 | 2581 | 1M316 | 2584 | 1M446 | 2575 | 1M760 | 893 | 1M884 | 2549 | 1M952 | 883 | 1N062 | 1314 | 1N158 | 1893 | 1N415 | 3202 | 1N480 | 3126 |
| 136 | 2578 | 201 | 1658 | 318 | 2577 | 448 | 2575 | 762 | 893 | 885 | 1656 | 953 | 1656 | 063 | 1314 | 159 | 1892 | 416 | 3204 | 481 | 3126 |
| 137 | 1658 | 202 | 2584 | 320 | 2577 | 450 | 2574 | 764 | 893 | 886 | 2549 | 954 | 880 | 064 | 1314 | 160 | 1892 | 417 | 3201 | 482 | 3126 |
| 138 | 2574 | 204 | 2580 | 322 | 2577 | 452 | 2573 | 766 | 893 | 887 | 1656 | 955 | 1656 | 065 | 1314 | 161 | 1892 | 418 | 3204 | 483 | 3126 |
| 139 | 1658 | 206 | 2572 | 324 | 2579 | 454 | 2573 | 768 | 893 | 888 | 2551 | 956 | 785 | 066 | 1314 | 162 | 1892 | 419 | 3203 | 484 | 3126 |
| 1M140 | 2584 | 1M208 | 2579 | 1M326 | 2579 | 1M456 | 2573 | 1M770 | 893 | 1M889 | 1656 | 1M957 | 1656 | 1N067 | 1313 | 1N163 | 1892 | 1N420 | 1961 | 1N485 | 3126 |
| 141 | 1658 | 210 | 2573 | 328 | 2573 | 458 | 2572 | 772 | 797 | 890 | 2551 | 959 | 1656 | 071 | 1314 | 164 | 1893 | 421 | 3205 | 486 | 3126 |
| 142 | 2584 | 212 | 2572 | 330 | 2576 | 460 | 2572 | 774 | 854 | 891 | 1656 | 960 | 785 | 074 | 1313 | 165 | 1893 | 422 | 3205 | 487 | 3126 |
| 143 | 1658 | 213 | 1660 | 332 | 2575 | 462 | 2581 | 776 | 854 | 892 | 2552 | 961 | 1656 | 075 | 1313 | 172 | 3329 | 423 | 3205 | 488 | 3126 |
| 144 | 2583 | 214 | 2582 | 334 | 2576 | 463 | 1665 | 778 | 854 | 893 | 1656 | 962 | 785 | 077 | 1313 | 173 | 3310 | 424 | 3204 | 489 | 3126 |
| 1M145 | 1658 | 1M215 | 1660 | 1M336 | 2581 | 1M464 | 2578 | 1M780 | 854 | 1M894 | 2552 | 1M963 | 1656 | 1N084 | 1313 | 1N174 | 3312 | 1N425 | 3204 | 1N490 | 3126 |
| 146 | 2583 | 216 | 2581 | 338 | 2581 | 465 | 1666 | 782 | 851 | 895 | 1656 | 964 | 785 | 085 | 1313 | 175 | 3320 | 426 | 1961 | 491 | 3126 |
| 147 | 1658 | 217 | 1660 | 340 | 2579 | 466 | 2576 | 784 | 851 | 896 | 2552 | 965 | 1656 | 086 | 1313 | 176 | 3318 | 427 | 3204 | 492 | 3126 |
| 148 | 2583 | 218 | 2582 | 342 | 2575 | 467 | 1665 | 790 | 858 | 897 | 1656 | 966 | 741 | 087 | 1313 | 177 | 3317 | 428 | 3207 | 493 | 3126 |
| 149 | 1658 | 219 | 1660 | 344 | 2572 | 468 | 2575 | 792 | 2355 | 898 | 2552 | 967 | 1656 | 089 | 1313 | 178 | 3321 | 429 | 3207 | 494 | 3126 |
| 1M150 | 2583 | 1M220 | 2582 | 1M346 | 2581 | 1M469 | 1666 | 1M794 | 2354 | 1M899 | 1656 | **1N** | | 1N090 | 1313 | 1N179 | 3316 | 1N430 | 3207 | 1N495 | 3126 |
| 151 | 1658 | 221 | 1660 | 348 | 2581 | 470 | 2575 | 796 | 2622 | 901 | 1656 | | | 091 | 1313 | 180 | 3348 | 431 | 3207 | 496 | 3126 |
| 152 | 2577 | 222 | 2576 | 350 | 2584 | 471 | 1667 | 798 | 2622 | 902 | 2552 | 1N001 | 1131 | 092 | 1313 | 181 | 3348 | 432 | 3204 | 497 | 3126 |
| 153 | 1658 | 223 | 1660 | 352 | 2578 | 472 | 2575 | 800 | 2622 | 903 | 1656 | 002 | 1131 | 093 | 1313 | 182 | 3335 | 433 | 3204 | 498 | 3126 |
| 154 | 2577 | 224 | 2575 | 354 | 2574 | 473 | 1667 | 802 | 2622 | 904 | 2550 | 003 | 1088 | 095 | 1313 | 183 | 3335 | 434 | 3204 | 499 | 3126 |
| 1M155 | 1658 | 1M226 | 2575 | 1M356 | 2584 | 1M474 | 2573 | 1M804 | 2623 | 1M905 | 1656 | 1N004 | 1088 | 1N096 | 1313 | 1N184 | 3335 | 1N435 | 3136 | 1N500 | 3125 |
| 156 | 2577 | 228 | 2575 | 358 | 2584 | 475 | 1668 | 806 | 2623 | 906 | 2550 | 005 | 1088 | 107 | 1040 | 185 | 3335 | 436 | 3136 | 501 | 3126 |
| 157 | 1658 | 230 | 2575 | 360 | 2583 | 476 | 2572 | 808 | 2623 | 907 | 1656 | 006 | 1088 | 108 | 1040 | 189 | 3221 | 437 | 3136 | 502 | 3125 |
| 158 | 2578 | 232 | 2575 | 362 | 2583 | 478 | 2583 | 810 | 2623 | 908 | 2550 | 007 | 1132 | 109 | 1042 | 190 | 3221 | 438 | 3136 | 503 | 3126 |
| 159 | 1658 | 234 | 2574 | 364 | 2583 | 480 | 2581 | 812 | 2623 | 909 | 1656 | 008 | 1098 | 110 | 1042 | 191 | 3221 | 439 | 3136 | 504 | 3125 |
| 1M160 | 2577 | 1M236 | 2573 | 1M366 | 2583 | 1M482 | 2581 | 1M814 | 2623 | 1M910 | 2550 | 1N009 | 1098 | 1N111 | 1042 | 1N192 | 3221 | 1N440 | 3136 | 1N505 | 3126 |
| 161 | 1658 | 238 | 2573 | 368 | 2577 | 484 | 2584 | 816 | 2623 | 911 | 1656 | 010 | 1098 | 112 | 1042 | 193 | 3221 | 441 | 3136 | 506 | 3125 |
| 162 | 2577 | 240 | 2573 | 370 | 2577 | 486 | 2580 | 818 | 2623 | 912 | 2550 | 011 | 1098 | 113 | 1042 | 194 | 3221 | 442 | 3136 | 507 | 3126 |
| 163 | 1658 | 242 | 2572 | 372 | 2577 | 488 | 2580 | 820 | 2623 | 913 | 1656 | 012 | 1098 | 114 | 1042 | 195 | 3221 | 443 | 3136 | 508 | 3125 |
| 164 | 2577 | 244 | 2572 | 374 | 2578 | 490 | 2579 | 822 | 2622 | 914 | 2518 | 013 | 1098 | 116 | 1039 | 196 | 3221 | 444 | 3136 | 509 | 3126 |
| 1M165 | 1658 | 1M246 | 2581 | 1M376 | 2577 | 1M492 | 2579 | 1M824 | 2622 | 1M915 | 1656 | 1N014 | 1098 | 1N117 | 1039 | 1N197 | 3221 | 1N445 | 3136 | 1N510 | 3125 |
| 166 | 2576 | 248 | 2578 | 378 | 2577 | 494 | 2577 | 826 | 2622 | 916 | 791 | 015 | 1098 | 118 | 1039 | 198 | 3221 | 446 | 3136 | 511 | 3126 |
| 167 | 1658 | 250 | 2576 | 380 | 2577 | 496 | 2577 | 828 | 2622 | 917 | 1656 | 016 | 1098 | 119 | 1031 | 199 | 3221 | 447 | 3136 | 512 | 3125 |
| 168 | 2576 | 252 | 2575 | 382 | 2576 | 498 | 2576 | 830 | 2622 | 918 | 791 | 021 | 1098 | 120 | 1030 | 200 | 3221 | 448 | 3136 | 513 | 3126 |
| 169 | 1658 | 254 | 2575 | 384 | 2576 | 500 | 2572 | 832 | 2622 | 919 | 1656 | 023 | 1098 | 123 | 1020 | 201 | 3221 | 449 | 3136 | 514 | 3125 |
| 1M170 | 2574 | 1M256 | 2575 | 1M386 | 2574 | 1M502 | 2572 | 1M834 | 2622 | 1M920 | 834 | 1N024 | 1098 | 1N124 | 1034 | 1N202 | 3221 | 1N450 | 3136 | 1N515 | 3126 |
| 171 | 1658 | 258 | 2573 | 388 | 2574 | 508 | 960 | 836 | 2622 | 921 | 1656 | 025 | 2114 | 125 | 1035 | 203 | 3221 | 451 | 3136 | 516 | 3125 |
| 172 | 2574 | 260 | 2572 | 390 | 2573 | 510 | 991 | 838 | 2623 | 922 | 851 | 026 | 2115 | 126 | 1035 | 204 | 3221 | 452 | 3136 | 517 | 3126 |
| 173 | 1658 | 262 | 2583 | 392 | 2573 | 702 | 2495 | 840 | 2623 | 923 | 1656 | 027 | 2114 | 127 | 1021 | 205 | 3221 | 453 | 3136 | 518 | 3125 |
| 174 | 2573 | 264 | 2581 | 394 | 2573 | 704 | 2495 | 842 | 2623 | 924 | 877 | 029 | 2114 | 128 | 1021 | 206 | 3221 | 454 | 3126 | 519 | 3126 |
| 1M175 | 1658 | 1M266 | 2581 | 1M396 | 2572 | 1M706 | 2495 | 1M844 | 2623 | 1M925 | 1656 | 1N031 | 2114 | 1N129 | 1019 | 1N216 | 3223 | 1N455 | 3126 | 1N520 | 3125 |
| 176 | 2573 | 268 | 2584 | 398 | 2583 | 708 | 2495 | 846 | 2622 | 926 | 879 | 034 | 2114 | 131 | 1044 | 217 | 3223 | 456 | 3126 | 521 | 3126 |
| 177 | 1658 | 270 | 2580 | 400 | 2583 | 710 | 2500 | 848 | 2622 | 927 | 1656 | 035 | 2115 | 134 | 1021 | 339 | 3231 | 457 | 3126 | 522 | 3125 |
| 178 | 2573 | 272 | 2580 | 402 | 2583 | 712 | 2500 | 850 | 2623 | 928 | 896 | 037 | 2115 | 135 | 1034 | 340 | 3231 | 458 | 3126 | 523 | 3126 |
| 179 | 1658 | 274 | 2579 | 404 | 2583 | 714 | 2500 | 852 | 2623 | 929 | 1656 | 038 | 2114 | 136 | 1035 | 341 | 3223 | 459 | 3126 | 524 | 3125 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1N525 | 3126 | 1N686 | 2523 | 1N769 | 1660 | 1N851 | 1660 | 1N950 | 2619 | 1P089 | 2281 | 1P452 | 1651 | 1P608 | 1653 | 1P815 | 2693 | 1P962 | 3033 | 1R295 | 3507 |
| 526 | 3125 | 688 | 2553 | 770 | 2523 | 852 | 2524 | 952 | 2619 | 091 | 3439 | 454 | 1651 | 610 | 3178 | 816 | 3175 | 978 | 3258 | 298 | 3158 |
| 527 | 3126 | 689 | 2553 | 772 | 2523 | 854 | 2487 | 954 | 2619 | 093 | 3439 | 456 | 1651 | 613 | 3178 | 817 | 3175 | 985 | 3150 | 299 | 3158 |
| 528 | 3125 | 690 | 2523 | 773 | 1660 | 855 | 1660 | 956 | 2619 | 095 | 2281 | 458 | 1651 | 618 | 3165 | 818 | 3175 | 986 | 3150 | 300 | 3158 |
| 529 | 3126 | 691 | 1660 | 774 | 2523 | 856 | 2487 | 958 | 2619 | 097 | 2281 | 460 | 1651 | 625 | 1653 | 819 | 1653 | 987 | 3181 | 301 | 3158 |
| 1N530 | 3125 | 1N692 | 2523 | 1N776 | 2523 | 1N858 | 2487 | 1N960 | 2619 | 1P099 | 2281 | 1P462 | 1651 | 1P627 | 1653 | 1P821 | 1653 | 1P988 | 3181 | 1R302 | 3158 |
| 531 | 3126 | 694 | 2523 | 777 | 1660 | 859 | 1660 | 962 | 2619 | 101 | 2281 | 464 | 1651 | 630 | 3164 | 823 | 1653 | 994 | 3231 | 303 | 3158 |
| 532 | 3125 | 695 | 1660 | 778 | 2523 | 860 | 2487 | 964 | 2619 | 103 | 2281 | 466 | 1651 | 632 | 3165 | 825 | 3167 | 995 | 3231 | 304 | 3158 |
| 533 | 3126 | 696 | 2523 | 780 | 2523 | 862 | 2487 | 966 | 2619 | 105 | 2281 | 468 | 1651 | 634 | 3204 | 826 | 3167 | 996 | 3287 | 305 | 3158 |
| 534 | 3125 | 698 | 2523 | 781 | 1660 | 863 | 1660 | 968 | 2619 | 107 | 2281 | 470 | 1651 | 637 | 1653 | 827 | 3167 | 997 | 3287 | 306 | 3158 |
| 1N535 | 3126 | 1N699 | 1660 | 1N782 | 1586 | 1N864 | 2487 | 1N970 | 2619 | 1P112 | 2281 | 1P472 | 1651 | 1P648 | 2692 | 1P828 | 3167 | 1P998 | 3287 | 1R307 | 3158 |
| 536 | 3125 | 700 | 2523 | 783 | 2542 | 866 | 2487 | 972 | 2358 | 114 | 2281 | 474 | 1651 | 649 | 2692 | 829 | 3167 | 999 | 3287 | 308 | 3158 |
| 537 | 3126 | 702 | 2550 | 784 | 1585 | 867 | 1660 | 974 | 2359 | 116 | 2281 | 476 | 1651 | 650 | 2692 | 830 | 3167 | 1Q | | 309 | 3158 |
| 538 | 3125 | 703 | 2523 | 785 | 1586 | 870 | 2487 | 976 | 2359 | 118 | 2281 | 478 | 1651 | 651 | 1653 | 851 | 3134 | | | 310 | 3158 |
| 539 | 3126 | 704 | 1660 | 786 | 1586 | 871 | 1660 | 978 | 2359 | 120 | 2281 | 480 | 1651 | 654 | 2697 | 852 | 3133 | 1Q283 | 1249 | 311 | 3158 |
| 1N540 | 3125 | 1N705 | 2523 | 1N787 | 1586 | 1N872 | 2487 | 1N980 | 2359 | 1P122 | 2281 | 1P482 | 1651 | 1P667 | 3203 | 1P853 | 3133 | 1Q284 | 1249 | 1R312 | 3158 |
| 541 | 3126 | 707 | 2523 | 788 | 1586 | 874 | 2487 | 982 | 2359 | 124 | 877 | 484 | 1651 | 675 | 3124 | 854 | 3133 | 736 | 1362 | 313 | 3158 |
| 542 | 3125 | 708 | 1660 | 789 | 2376 | 875 | 1660 | 984 | 2359 | 273 | 1678 | 486 | 1651 | 679 | 3278 | 855 | 3149 | 737 | 1362 | 314 | 3158 |
| 543 | 3126 | 709 | 2523 | 790 | 1585 | 876 | 2487 | 986 | 2359 | 275 | 1656 | 488 | 1651 | 689 | 3153 | 856 | 3286 | 738 | 1363 | 315 | 3158 |
| 544 | 3125 | 711 | 2523 | 791 | 1586 | 878 | 2487 | 988 | 2359 | 277 | 1656 | 490 | 1651 | 690 | 3153 | 857 | 3286 | 739 | 1363 | 316 | 3158 |
| 1N549 | 1474 | 1N712 | 1660 | 1N792 | 79 | 1N879 | 1660 | 1N990 | 2359 | 1P279 | 1656 | 1P492 | 1651 | 1P701 | 3129 | 1P858 | 3286 | 1Q740 | 1363 | 1R317 | 3158 |
| 551 | 1474 | 713 | 2523 | 793 | 79 | 880 | 2487 | 992 | 2359 | 281 | 1656 | 494 | 1651 | 702 | 3129 | 861 | 3218 | 741 | 1363 | 318 | 3158 |
| 554 | 1474 | 715 | 2523 | 794 | 79 | 882 | 2487 | 994 | 2359 | 283 | 1656 | 496 | 1651 | 723 | 2697 | 862 | 3135 | 742 | 1363 | 319 | 3158 |
| 555 | 1474 | 716 | 1660 | 795 | 79 | 883 | 1660 | 996 | 2359 | 285 | 1656 | 498 | 1653 | 724 | 2697 | 863 | 2692 | 743 | 1363 | 320 | 3150 |
| 556 | 1474 | 717 | 2523 | 796 | 2523 | 886 | 2487 | 998 | 2359 | 287 | 1656 | 500 | 1653 | 733 | 3258 | 864 | 2692 | 744 | 1363 | 324 | 3158 |
| 1N557 | 1474 | 1N719 | 2523 | 1N798 | 2523 | 1N887 | 1660 | 1P | | 1P295 | 3164 | 1P502 | 1653 | 1P737 | 1653 | 1P865 | 2692 | 1Q745 | 1363 | 1R327 | 2685 |
| 558 | 1474 | 720 | 1660 | 799 | 1660 | 888 | 2487 | | | 296 | 1656 | 505 | 1653 | 746 | 3134 | 866 | 3209 | 746 | 1363 | 328 | 2685 |
| 559 | 1474 | 721 | 2523 | 800 | 2523 | 890 | 2487 | 1P001 | 2359 | 300 | 1656 | 507 | 1653 | 747 | 3091 | 868 | 3149 | 747 | 1363 | 329 | 2685 |
| 560 | 1474 | 723 | 2523 | 802 | 2523 | 891 | 1660 | 003 | 2359 | 302 | 1656 | 509 | 1653 | 748 | 3091 | 869 | 3151 | 748 | 1363 | 331 | 2685 |
| 561 | 1482 | 724 | 2550 | 803 | 1660 | 892 | 2487 | 005 | 2359 | 304 | 1656 | 511 | 1653 | 753 | 3093 | 879 | 3132 | 749 | 1363 | 332 | 2685 |
| 1N562 | 1482 | 1N725 | 1660 | 1N804 | 2523 | 1N894 | 2558 | 1P007 | 2358 | 1P306 | 1656 | 1P513 | 1653 | 1P754 | 3093 | 1P880 | 1653 | 1Q751 | 1363 | 1R335 | 2685 |
| 563 | 1482 | 726 | 2523 | 806 | 2523 | 895 | 1660 | 009 | 2358 | 308 | 1656 | 516 | 1653 | 755 | 2692 | 882 | 1653 | 752 | 1363 | 339 | 2685 |
| 564 | 1482 | 728 | 2523 | 807 | 1660 | 896 | 2555 | 011 | 2358 | 310 | 1656 | 521 | 3145 | 765 | 3167 | 884 | 3133 | 754 | 1362 | 340 | 2685 |
| 565 | 1482 | 729 | 2553 | 808 | 2523 | 898 | 2556 | 013 | 2358 | 312 | 1656 | 524 | 1653 | 766 | 3167 | 887 | 3210 | 758 | 1363 | 360 | 3180 |
| 566 | 1482 | 730 | 1660 | 810 | 2523 | 899 | 1660 | 015 | 2358 | 314 | 1656 | 528 | 1653 | 767 | 3167 | 892 | 3199 | 759 | 1363 | 361 | 3180 |
| 1N567 | 1482 | 1N731 | 2523 | 1N811 | 1660 | 1N900 | 2557 | 1P017 | 2360 | 1P316 | 1656 | 1P530 | 1653 | 1P768 | 3167 | 1P893 | 3199 | 1Q760 | 1363 | 1R362 | 3509 |
| 568 | 1482 | 733 | 2523 | 812 | 2523 | 902 | 2557 | 019 | 2360 | 318 | 1656 | 536 | 1653 | 769 | 3167 | 894 | 3199 | 761 | 1363 | 363 | 3210 |
| 569 | 1482 | 734 | 2547 | 814 | 2523 | 903 | 1660 | 021 | 2360 | 320 | 1656 | 540 | 1653 | 770 | 3167 | 895 | 3134 | 762 | 1363 | 368 | 2685 |
| 570 | 1482 | 735 | 1660 | 815 | 1660 | 904 | 2556 | 023 | 2360 | 321 | 3145 | 542 | 1653 | 771 | 3167 | 896 | 3134 | 763 | 1363 | 369 | 2685 |
| 571 | 1482 | 736 | 2523 | 816 | 2523 | 905 | 1660 | 025 | 2360 | 322 | 3145 | 544 | 1653 | 772 | 3167 | 897 | 3134 | 764 | 1363 | 370 | 2685 |
| 1N572 | 1482 | 1N738 | 2523 | 1N818 | 2523 | 1N906 | 2556 | 1P027 | 2358 | 1P323 | 3145 | 1P546 | 1653 | 1P773 | 3167 | 1P898 | 3178 | 1Q768 | 1363 | 1R371 | 2685 |
| 573 | 1482 | 740 | 2555 | 819 | 1660 | 907 | 1660 | 029 | 2358 | 325 | 1656 | 552 | 1653 | 774 | 3167 | 904 | 1653 | 775 | 1363 | 374 | 2685 |
| 631 | 2386 | 741 | 2555 | 820 | 2523 | 908 | 2556 | 031 | 969 | 334 | 1656 | 553 | 3145 | 775 | 3167 | 906 | 1653 | 789 | 1362 | 375 | 2685 |
| 632 | 2386 | 742 | 2558 | 822 | 2523 | 909 | 1660 | 035 | 953 | 336 | 1656 | 556 | 3178 | 776 | 3167 | 913 | 3150 | 873 | 1288 | 377 | 2685 |
| 642 | 1678 | 744 | 2555 | 823 | 1660 | 910 | 2556 | 040 | 963 | 338 | 1656 | 561 | 1653 | 777 | 3167 | 914 | 3208 | 875 | 1288 | 378 | 2685 |
| 1N649 | 2529 | 1N745 | 2558 | 1N824 | 2523 | 1N911 | 1660 | 1P042 | 1008 | 1P340 | 1656 | 1P562 | 3069 | 1P778 | 3167 | 1P918 | 3258 | 1Q876 | 1288 | 1R379 | 2685 |
| 653 | 2524 | 747 | 2554 | 826 | 2523 | 912 | 2619 | 044 | 1008 | 342 | 1656 | 563 | 3069 | 779 | 3167 | 920 | 3258 | 947 | 1365 | 381 | 2685 |
| 655 | 2524 | 748 | 2554 | 827 | 1660 | 914 | 2589 | 046 | 999 | 344 | 1656 | 564 | 3069 | 780 | 3167 | 928 | 3165 | 1R | | 382 | 2685 |
| 657 | 2524 | 749 | 2557 | 828 | 2523 | 916 | 2589 | 049 | 998 | 346 | 1656 | 565 | 3069 | 781 | 3167 | 929 | 3166 | | | 383 | 2685 |
| 659 | 2524 | 750 | 2557 | 830 | 2523 | 918 | 2589 | 051 | 998 | 348 | 1656 | 566 | 3069 | 782 | 3171 | 931 | 3153 | 1R205 | 179 | 384 | 2685 |
| 1N661 | 2524 | 1N751 | 2557 | 1N831 | 1660 | 1N920 | 2589 | 1P053 | 961 | 1P350 | 1656 | 1P567 | 3069 | 1P783 | 3171 | 1P939 | 3145 | 1R206 | 179 | 1R387 | 3262 |
| 663 | 2524 | 754 | 2557 | 832 | 2523 | 922 | 2619 | 059 | 958 | 353 | 1656 | 568 | 3069 | 784 | 3171 | 940 | 1653 | 215 | 3175 | 389 | 179 |
| 665 | 2524 | 755 | 2557 | 834 | 2523 | 924 | 2619 | 061 | 958 | 355 | 1656 | 569 | 3069 | 785 | 3171 | 946 | 3150 | 216 | 3175 | 390 | 179 |
| 667 | 2524 | 756 | 2557 | 835 | 1660 | 926 | 2619 | 063 | 955 | 357 | 1656 | 570 | 3069 | 795 | 3129 | 947 | 3129 | 217 | 3175 | 393 | 179 |
| 669 | 2524 | 757 | 2557 | 836 | 2523 | 928 | 2619 | 065 | 955 | 361 | 1656 | 571 | 3069 | 799 | 3129 | 948 | 3129 | 218 | 3175 | 394 | 179 |
| 1N671 | 2524 | 1N758 | 2344 | 1N838 | 2523 | 1N930 | 2619 | 1P069 | 928 | 1P363 | 1656 | 1P572 | 3069 | 1P800 | 3129 | 1P949 | 3129 | 1R219 | 3175 | 1R395 | 1969 |
| 673 | 2524 | 759 | 2344 | 839 | 1660 | 932 | 2617 | 071 | 988 | 365 | 1656 | 573 | 3069 | 801 | 3129 | 950 | 3151 | 220 | 3175 | 396 | 2886 |
| 675 | 2524 | 760 | 2344 | 840 | 2523 | 934 | 2617 | 073 | 2281 | 370 | 1656 | 574 | 3069 | 802 | 3129 | 951 | 3198 | 221 | 1716 | 397 | 2886 |
| 677 | 2524 | 761 | 2346 | 842 | 2523 | 936 | 2617 | 075 | 2281 | 372 | 3145 | 575 | 3069 | 803 | 3129 | 952 | 3133 | 230 | 3262 | 398 | 2886 |
| 679 | 2524 | 762 | 2346 | 843 | 1660 | 938 | 2619 | 077 | 2281 | 440 | 1651 | 576 | 3069 | 805 | 3146 | 953 | 3133 | 235 | 3218 | 399 | 2886 |
| 1N680 | 1660 | 1N763 | 2346 | 1N844 | 2524 | 1N940 | 2619 | 1P079 | 2281 | 1P442 | 1651 | 1P577 | 3069 | 1P807 | 3146 | 1P954 | 3134 | 1R236 | 174 | 1R400 | 2886 |
| 681 | 2524 | 764 | 2346 | 846 | 2524 | 942 | 2619 | 081 | 2281 | 444 | 1651 | 579 | 3262 | 808 | 3146 | 955 | 3134 | 240 | 3178 | 401 | 2886 |
| 683 | 2524 | 765 | 1660 | 847 | 1660 | 944 | 2617 | 083 | 2281 | 446 | 1651 | 580 | 3262 | 809 | 3146 | 957 | 3034 | 245 | 3158 | 403 | 3517 |
| 684 | 1660 | 766 | 2523 | 848 | 2524 | 946 | 2617 | 085 | 2281 | 448 | 1651 | 593 | 1653 | 811 | 3262 | 960 | 3033 | 252 | 3278 | 410 | 179 |
| 685 | 2547 | 768 | 2523 | 850 | 2524 | 948 | 2616 | 087 | 2281 | 450 | 1651 | 602 | 1653 | 812 | 3153 | 961 | 3033 | 267 | 3129 | 412 | 2829 |

# STOCK NUMBER—PAGE NUMBER

## 1R4 — 1U9


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1R413 | 2829 | 1TC28 | 840 | 1T094 | 793 | 1T645 | 762 | 1T887 | 744 | 1U080 | 1653 | 1U218 | 1664 | 1U602 | 2764 | 1U669 | 2757 | 1U734 | 2756 | 1U804 | 2761 |
| 414 | 2829 | C29 | 840 | 097 | 793 | 647 | 793 | 888 | 744 | 081 | 2639 | 220 | 1664 | 603 | 2764 | 670 | 2757 | 735 | 2756 | 805 | 2761 |
| 415 | 2829 | C33 | 857 | 098 | 793 | 680 | 825 | 889 | 744 | 082 | 2639 | 222 | 1664 | 604 | 2764 | 671 | 2757 | 736 | 2756 | 806 | 2761 |
| 416 | 2894 | C34 | 788 | 099 | 793 | 684 | 794 | 890 | 745 | 083 | 2639 | 224 | 1664 | 605 | 2764 | 672 | 2757 | 737 | 2756 | 809 | 2761 |
| 417 | 2894 | C35 | 775 | 100 | 791 | 685 | 794 | 891 | 745 | 085 | 2639 | 226 | 1664 | 606 | 2764 | 673 | 2757 | 738 | 2756 | 810 | 2761 |
| 1R420 | 174 | 1TC36 | 775 | 1T103 | 792 | 1T691 | 754 | 1T892 | 745 | 1U086 | 2639 | 1U228 | 1664 | 1U607 | 2764 | 1U674 | 2757 | 1U739 | 2756 | 1U811 | 2761 |
| 421 | 2894 | C37 | 775 | 132 | 760 | 709 | 793 | 895 | 745 | 088 | 1653 | 230 | 1664 | 608 | 2764 | 675 | 2757 | 740 | 2756 | 812 | 2761 |
| 422 | 3280 | C38 | 775 | 149 | 756 | 715 | 792 | 896 | 745 | 089 | 2639 | 234 | 1664 | 609 | 2764 | 676 | 2757 | 741 | 2756 | 813 | 2761 |
| 423 | 2916 | C39 | 836 | 150 | 756 | 721 | 793 | 897 | 745 | 090 | 2639 | 235 | 2629 | 610 | 2764 | 677 | 2757 | 742 | 2756 | 819 | 2761 |
| 424 | 2916 | C40 | 836 | 155 | 805 | 722 | 762 | 898 | 745 | 092 | 2639 | 296 | 1664 | 611 | 2764 | 678 | 2757 | 743 | 2758 | 820 | 2761 |
| 1R425 | 2916 | 1TC42 | 856 | 1T156 | 805 | 1T758 | 793 | 1T899 | 738 | 1U093 | 2639 | 1U298 | 1664 | 1U612 | 2764 | 1U679 | 2757 | 1U744 | 2758 | 1U825 | 2761 |
| 426 | 2916 | C43 | 856 | 158 | 809 | 771 | 793 | 900 | 738 | 094 | 2639 | 548 | 2754 | 613 | 2764 | 680 | 2757 | 745 | 2758 | 826 | 2761 |
| 427 | 2915 | C44 | 856 | 166 | 805 | 779 | 762 | 901 | 738 | 095 | 2639 | 549 | 2754 | 614 | 2764 | 681 | 2757 | 746 | 2758 | 827 | 2761 |
| 428 | 2915 | C45 | 894 | 169 | 734 | 786 | 762 | 902 | 738 | 096 | 2639 | 550 | 2754 | 615 | 2756 | 682 | 2757 | 747 | 2758 | 828 | 2760 |
| 429 | 2915 | C48 | 894 | 184 | 789 | 791 | 762 | 904 | 3484 | 097 | 2639 | 551 | 2754 | 616 | 2756 | 683 | 2755 | 748 | 2758 | 829 | 2760 |
| 1R430 | 2915 | 1TC53 | 882 | 1T185 | 819 | 1T799 | 762 | 1T905 | 849 | 1U098 | 1653 | 1U552 | 2754 | 1U617 | 2756 | 1U684 | 2755 | 1U749 | 2758 | 1U830 | 2760 |
| 431 | 2915 | C54 | 882 | 192 | 808 | 802 | 762 | 906 | 3484 | 100 | 1665 | 553 | 2754 | 618 | 2756 | 685 | 2755 | 750 | 2758 | 831 | 2760 |
| 439 | 3158 | C60 | 755 | 193 | 807 | 803 | 762 | 912 | 3484 | 102 | 1666 | 554 | 2754 | 619 | 2756 | 686 | 2755 | 751 | 2758 | 832 | 2760 |
| 440 | 2825 | C61 | 762 | 196 | 808 | 809 | 753 | 916 | 3484 | 104 | 1665 | 555 | 2754 | 622 | 2756 | 687 | 2755 | 752 | 2758 | 833 | 2760 |
| 441 | 2825 | C62 | 762 | 197 | 808 | 811 | 762 | 921 | 3485 | 106 | 2646 | 556 | 2754 | 623 | 2756 | 688 | 2755 | 753 | 2758 | 835 | 2760 |
| 1R443 | 2685 | 1TC63 | 762 | 1T201 | 807 | 1T812 | 762 | 1T933 | 849 | 1U107 | 2638 | 1U557 | 2754 | 1U624 | 2756 | 1U689 | 2755 | 1U754 | 2758 | 1U837 | 2760 |
| 446 | 3178 | C69 | 886 | 203 | 808 | 817 | 849 | 935 | 849 | 108 | 2646 | 558 | 2754 | 625 | 2755 | 690 | 2755 | 755 | 2758 | 844 | 2760 |
| 447 | 3178 | C70 | 3486 | 206 | 809 | 830 | 825 | 936 | 849 | 109 | 2646 | 559 | 2754 | 626 | 2755 | 691 | 2755 | 756 | 2758 | 845 | 2760 |
| 448 | 1976 | C72 | 784 | 225 | 810 | 831 | 825 | 937 | 855 | 110 | 1666 | 560 | 2754 | 627 | 2755 | 692 | 2755 | 757 | 2758 | 847 | 2760 |
| 449 | 1976 | C73 | 784 | 226 | 810 | 832 | 825 | 951 | 891 | 111 | 2638 | 561 | 2754 | 628 | 2755 | 693 | 2755 | 758 | 2758 | 849 | 2760 |
| 1R450 | 174 | 1TC75 | 784 | 1T231 | 807 | 1T833 | 826 | 1T954 | 893 | 1U112 | 2646 | 1U562 | 2754 | 1U629 | 2755 | 1U694 | 2755 | 1U759 | 2758 | 1U852 | 2760 |
| 454 | 174 | C81 | 782 | 232 | 807 | 835 | 826 | 955 | 893 | 120 | 2646 | 563 | 2754 | 630 | 2755 | 695 | 2755 | 760 | 2758 | 853 | 2760 |
| 455 | 2116 | C82 | 782 | 233 | 807 | 848 | 762 | 956 | 893 | 122 | 2638 | 564 | 2754 | 631 | 2755 | 696 | 2755 | 761 | 2758 | 854 | 2760 |
| 456 | 2116 | C83 | 782 | 235 | 805 | 849 | 746 | 957 | 893 | 124 | 2638 | 565 | 2763 | 632 | 2755 | 697 | 2755 | 762 | 2758 | 855 | 2760 |
| 457 | 2685 | C86 | 827 | 236 | 807 | 850 | 746 | 958 | 893 | 125 | 2625 | 566 | 2763 | 633 | 2755 | 698 | 2755 | 763 | 2758 | 856 | 2760 |
| 1R458 | 2685 | 1TC87 | 827 | 1T244 | 773 | 1T851 | 746 | 1T960 | 789 | 1U126 | 2625 | 1U567 | 2763 | 1U634 | 2755 | 1U699 | 2755 | 1U764 | 2758 | 1U858 | 2760 |
| 459 | 2685 | C88 | 827 | 318 | 893 | 852 | 746 | 963 | 789 | 129 | 1667 | 568 | 2763 | 635 | 2755 | 700 | 2755 | 765 | 2758 | 860 | 2754 |
| 460 | 2685 | C90 | 782 | 320 | 777 | 853 | 746 | 965 | 760 | 131 | 1667 | 569 | 2763 | 636 | 2755 | 701 | 2755 | 766 | 2759 | 861 | 2754 |
| 461 | 2685 | C91 | 782 | 321 | 777 | 854 | 744 | 967 | 759 | 133 | 1667 | 570 | 2763 | 637 | 2755 | 702 | 2755 | 767 | 2759 | 862 | 2754 |
| 473 | 179 | 003 | 754 | 322 | 893 | 855 | 744 | 976 | 838 | 135 | 1669 | 571 | 2763 | 638 | 2755 | 703 | 2755 | 769 | 2759 | 864 | 2754 |
| 1R474 | 179 | 1T009 | 754 | 1T323 | 893 | 1T856 | 744 | 1T977 | 3485 | 1U137 | 1668 | 1U572 | 2763 | 1U639 | 2755 | 1U704 | 2756 | 1U770 | 2759 | 1U865 | 2754 |
| 476 | 2915 | 010 | 754 | 324 | 893 | 857 | 744 | 982 | 834 | 139 | 1668 | 573 | 2763 | 640 | 2755 | 705 | 2756 | 771 | 2759 | 866 | 2754 |
| 477 | 3509 | 018 | 754 | 325 | 893 | 858 | 744 | 987 | 838 | 140 | 2639 | 574 | 2763 | 641 | 2755 | 706 | 2756 | 772 | 2759 | 868 | 2754 |
| **1T** | | 019 | 754 | 326 | 893 | 859 | 744 | 994 | 746 | 141 | 2639 | 575 | 2763 | 642 | 2755 | 707 | 2756 | 773 | 2759 | 869 | 2754 |
| | | 020 | 763 | 327 | 893 | 860 | 744 | 995 | 746 | 144 | 1668 | 576 | 2763 | 643 | 2755 | 708 | 2756 | 774 | 2759 | 871 | 2754 |
| 1TC00 | 862 | 1T025 | 787 | 1T330 | 777 | 1T861 | 744 | 1T996 | 746 | 1U154 | 2625 | 1U577 | 2763 | 1U644 | 2755 | 1U709 | 2756 | 1U775 | 2759 | 1U874 | 2754 |
| C02 | 893 | 032 | 761 | 332 | 777 | 862 | 744 | 997 | 746 | 155 | 2625 | 578 | 2763 | 645 | 2755 | 710 | 2756 | 776 | 2759 | 877 | 2754 |
| C03 | 781 | 033 | 763 | 333 | 779 | 863 | 744 | 998 | 746 | 157 | 2625 | 579 | 2763 | 646 | 2755 | 711 | 2756 | 777 | 2759 | 883 | 2762 |
| C04 | 780 | 034 | 761 | 334 | 780 | 864 | 745 | **1U** | | 158 | 2625 | 580 | 2763 | 647 | 2755 | 712 | 2756 | 778 | 2759 | 884 | 2762 |
| C05 | 776 | 035 | 761 | 335 | 776 | 865 | 744 | | | 160 | 2625 | 581 | 2763 | 648 | 2757 | 713 | 2756 | 779 | 2759 | 885 | 2762 |
| 1TC07 | 776 | 1T036 | 761 | 1T336 | 776 | 1T866 | 744 | 1U001 | 2639 | 1U161 | 2625 | 1U582 | 2763 | 1U649 | 2757 | 1U714 | 2756 | 1U780 | 2759 | 1U886 | 2762 |
| C08 | 781 | 039 | 747 | 337 | 779 | 867 | 745 | 002 | 2639 | 163 | 2625 | 583 | 2763 | 650 | 2757 | 715 | 2756 | 781 | 2759 | 887 | 2762 |
| C09 | 781 | 041 | 747 | 338 | 779 | 868 | 744 | 004 | 2646 | 164 | 2625 | 584 | 2763 | 651 | 2757 | 716 | 2756 | 782 | 2759 | 888 | 2762 |
| C10 | 781 | 049 | 764 | 339 | 779 | 869 | 745 | 005 | 2638 | 168 | 2625 | 585 | 2763 | 652 | 2757 | 717 | 2756 | 783 | 2759 | 889 | 2762 |
| C11 | 781 | 059 | 792 | 341 | 781 | 870 | 744 | 017 | 1653 | 169 | 2625 | 586 | 2763 | 653 | 2757 | 718 | 2756 | 784 | 2759 | 890 | 2762 |
| 1TC12 | 837 | 1T061 | 792 | 1T343 | 779 | 1T871 | 745 | 1U019 | 1653 | 1U170 | 2625 | 1U587 | 2763 | 1U654 | 2757 | 1U719 | 2756 | 1U786 | 2759 | 1U891 | 2765 |
| C13 | 837 | 062 | 792 | 349 | 781 | 872 | 745 | 021 | 1653 | 171 | 2625 | 588 | 2763 | 655 | 2757 | 720 | 2756 | 787 | 2759 | 892 | 2765 |
| C14 | 836 | 063 | 792 | 350 | 781 | 874 | 745 | 023 | 1653 | 172 | 2626 | 589 | 2763 | 656 | 2757 | 721 | 2756 | 788 | 2759 | 893 | 2765 |
| C15 | 836 | 064 | 792 | 351 | 781 | 875 | 744 | 025 | 1653 | 173 | 2626 | 590 | 2763 | 657 | 2757 | 722 | 2756 | 789 | 2759 | 894 | 2765 |
| C16 | 881 | 065 | 792 | 417 | 765 | 876 | 744 | 027 | 1653 | 176 | 2627 | 591 | 2764 | 658 | 2757 | 723 | 2756 | 790 | 2759 | 895 | 2765 |
| 1TC17 | 3484 | 1T066 | 792 | 1T421 | 768 | 1T877 | 744 | 1U029 | 1653 | 1U177 | 2562 | 1U592 | 2764 | 1U659 | 2757 | 1U724 | 2756 | 1U791 | 2759 | 1U896 | 2765 |
| C18 | 849 | 073 | 754 | 423 | 768 | 878 | 744 | 031 | 1653 | 180 | 2627 | 593 | 2764 | 660 | 2757 | 725 | 2756 | 792 | 2759 | 897 | 2765 |
| C20 | 780 | 081 | 760 | 424 | 768 | 879 | 744 | 033 | 1653 | 181 | 2627 | 594 | 2764 | 661 | 2757 | 726 | 2756 | 793 | 2759 | 898 | 2765 |
| C21 | 780 | 082 | 760 | 578 | 790 | 880 | 744 | 035 | 1653 | 194 | 1669 | 595 | 2764 | 662 | 2757 | 727 | 2756 | 794 | 2761 | 899 | 2765 |
| C22 | 780 | 083 | 775 | 589 | 754 | 881 | 744 | 036 | 2638 | 196 | 1666 | 596 | 2764 | 663 | 2757 | 728 | 2756 | 795 | 2761 | 900 | 2765 |
| 1TC23 | 780 | 1T086 | 793 | 1T595 | 760 | 1T882 | 745 | 1U042 | 1653 | 1U198 | 1665 | 1U597 | 2764 | 1U664 | 2757 | 1U729 | 2756 | 1U796 | 2761 | 1U903 | 2765 |
| C24 | 780 | 087 | 793 | 608 | 762 | 883 | 745 | 044 | 1653 | 200 | 1665 | 598 | 2764 | 665 | 2757 | 730 | 2756 | 797 | 2761 | 904 | 2765 |
| C25 | 780 | 090 | 793 | 622 | 792 | 884 | 744 | 046 | 1653 | 202 | 1667 | 599 | 2764 | 666 | 2757 | 731 | 2756 | 799 | 2761 | 905 | 2765 |
| C26 | 780 | 092 | 793 | 637 | 794 | 885 | 744 | 048 | 1653 | 207 | 2630 | 600 | 2764 | 667 | 2757 | 732 | 2756 | 802 | 2761 | 906 | 2765 |
| C27 | 837 | 093 | 793 | 638 | 794 | 886 | 744 | 078 | 2639 | 216 | 1664 | 601 | 2764 | 668 | 2757 | 733 | 2756 | 803 | 2761 | 907 | 2765 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER



| Stock No. | Page No. |
|---|---|
| 1U908 | 2765 |
| 909 | 2765 |
| 910 | 2765 |
| 911 | 2765 |
| 915 | 2763 |
| 1U916 | 2763 |
| 917 | 2763 |
| 918 | 2763 |
| 919 | 2763 |
| 920 | 2763 |
| 1U921 | 2763 |
| 922 | 2763 |
| 923 | 2763 |
| 924 | 2763 |
| 925 | 2763 |
| 1U926 | 2763 |
| 927 | 2763 |
| 928 | 2763 |
| 929 | 2764 |
| 930 | 2764 |
| 1U931 | 2764 |
| 932 | 2764 |
| 933 | 2764 |
| 934 | 2764 |
| 935 | 2764 |
| 1U936 | 2764 |
| 937 | 2764 |
| 938 | 2764 |
| 939 | 2764 |
| 940 | 2764 |
| 1U941 | 2764 |
| 942 | 2764 |
| 943 | 2764 |
| 944 | 2764 |
| 945 | 2764 |
| 1U946 | 2764 |
| 947 | 2764 |
| 948 | 2764 |
| **1V** | |
| 1V170 | 917 |
| 173 | 916 |
| 256 | 3151 |
| 285 | 3137 |
| 287 | 3147 |
| 1V289 | 3137 |
| 294 | 3137 |
| 296 | 3137 |
| 298 | 3147 |
| 300 | 3121 |
| 1V302 | 3121 |
| 304 | 3121 |
| 306 | 3121 |
| 308 | 3121 |
| 310 | 3121 |
| 1V312 | 3121 |
| 314 | 3121 |
| 316 | 3121 |
| 318 | 3121 |
| 320 | 3121 |
| 1V322 | 3121 |
| 324 | 3121 |
| 326 | 3121 |
| 328 | 3174 |
| 330 | 3174 |
| 1V332 | 3174 |
| 334 | 3174 |
| 336 | 3174 |
| 338 | 3174 |
| 340 | 3174 |
| 1V342 | 3174 |
| 344 | 3174 |
| 346 | 3171 |
| 350 | 3169 |
| 352 | 3169 |
| 1V354 | 3169 |
| 356 | 3169 |
| 358 | 3169 |
| 360 | 3169 |
| 362 | 3169 |
| 1V364 | 3169 |
| 366 | 3169 |
| 368 | 3169 |
| 370 | 3169 |
| 372 | 3169 |
| 1V374 | 3169 |
| 377 | 3169 |
| 379 | 3169 |
| 381 | 3169 |
| 383 | 3169 |
| 1V385 | 3169 |
| 387 | 3169 |
| 389 | 3169 |
| 391 | 3174 |
| 393 | 3174 |
| 1V395 | 3174 |
| 397 | 3174 |
| 399 | 3174 |
| 401 | 3174 |
| 404 | 3170 |
| 1V406 | 3170 |
| 408 | 3170 |
| 410 | 3172 |
| 412 | 3172 |
| 414 | 3168 |
| 1V416 | 3168 |
| 418 | 3168 |
| 420 | 3168 |
| 422 | 3168 |
| 424 | 3168 |
| 1V426 | 3168 |
| 428 | 3168 |
| 430 | 3168 |
| 432 | 3168 |
| 434 | 3168 |
| 1V436 | 3168 |
| 438 | 3168 |
| 440 | 3168 |
| 442 | 3168 |
| 444 | 3168 |
| 1V446 | 3168 |
| 448 | 3168 |
| 450 | 3168 |
| 452 | 3168 |
| 454 | 3170 |
| 1V456 | 3170 |
| 458 | 3170 |
| 594 | 442 |
| 596 | 442 |
| 598 | 442 |
| 1V600 | 442 |
| 602 | 442 |
| 604 | 442 |
| 606 | 442 |
| 608 | 442 |
| 1V610 | 442 |
| 612 | 443 |
| 614 | 443 |
| 616 | 443 |
| 618 | 468 |
| 1V620 | 526 |
| 622 | 526 |
| 624 | 2895 |
| 626 | 2895 |
| 628 | 2895 |
| 1V630 | 3236 |
| 632 | 2895 |
| 634 | 2895 |
| 644 | 3006 |
| 646 | 3006 |
| 1V648 | 3006 |
| 650 | 3006 |
| 652 | 3006 |
| 654 | 2980 |
| 656 | 2978 |
| 1V658 | 2982 |
| 660 | 2994 |
| 662 | 2996 |
| 664 | 2987 |
| 666 | 2990 |
| 1V668 | 3000 |
| 670 | 3000 |
| 672 | 3000 |
| 674 | 2984 |
| 676 | 2966 |
| 1V678 | 2966 |
| 680 | 2963 |
| 689 | 1669 |
| 691 | 1669 |
| 693 | 1669 |
| 1V696 | 1666 |
| 698 | 1665 |
| 708 | 1669 |
| 710 | 1667 |
| 713 | 1666 |
| 1V717 | 1667 |
| 719 | 1652 |
| 721 | 1652 |
| 723 | 1652 |
| 725 | 1652 |
| 1V727 | 1652 |
| 729 | 1652 |
| 731 | 1652 |
| 733 | 1652 |
| 735 | 1652 |
| 1V737 | 1652 |
| 739 | 1652 |
| 741 | 1652 |
| 743 | 1652 |
| 745 | 1652 |
| 1V747 | 1652 |
| 749 | 1652 |
| 751 | 1652 |
| 753 | 1652 |
| 755 | 1652 |
| 1V757 | 1652 |
| 759 | 1652 |
| 761 | 1652 |
| 763 | 1652 |
| 765 | 1652 |
| 1V767 | 1652 |
| 769 | 1652 |
| 771 | 1652 |
| 773 | 1652 |
| 775 | 1652 |
| 1V776 | 924 |
| 778 | 1652 |
| 781 | 1652 |
| 783 | 1652 |
| 785 | 1652 |
| 1V787 | 1652 |
| 791 | 1652 |
| 793 | 1652 |
| 795 | 1652 |
| 797 | 1652 |
| 1V799 | 1652 |
| 801 | 1652 |
| 803 | 1652 |
| 805 | 1652 |
| 807 | 1652 |
| 1V810 | 1652 |
| 814 | 1652 |
| 816 | 1652 |
| 818 | 1652 |
| 821 | 1652 |
| 1V823 | 1652 |
| 825 | 1652 |
| 827 | 1652 |
| 829 | 1652 |
| 840 | 1650 |
| 1V860 | 924 |
| 880 | 924 |
| 997 | 1650 |
| **1W** | |
| 1W096 | 3528 |
| 097 | 3528 |
| 098 | 3528 |
| 099 | 3528 |
| 100 | 3528 |
| 1W101 | 3528 |
| 102 | 3528 |
| 103 | 3528 |
| 180 | 591 |
| 182 | 1673 |
| 1W184 | 1673 |
| 186 | 1673 |
| 188 | 1673 |
| 190 | 1673 |
| 192 | 1673 |
| 1W194 | 1673 |
| 196 | 1673 |
| 198 | 1673 |
| 200 | 1673 |
| 202 | 1673 |
| 1W204 | 1673 |
| 206 | 1673 |
| 208 | 1673 |
| 210 | 1673 |
| 212 | 1673 |
| 1W214 | 1673 |
| 216 | 1673 |
| 218 | 1673 |
| 278 | 591 |
| 304 | 3528 |
| 1W311 | 592 |
| 312 | 592 |
| 364 | 591 |
| 391 | 848 |
| 393 | 859 |
| 1W395 | 863 |
| 397 | 862 |
| 399 | 862 |
| 401 | 862 |
| 403 | 862 |
| 1W405 | 862 |
| 407 | 848 |
| 409 | 862 |
| 411 | 862 |
| 413 | 862 |
| 1W415 | 848 |
| 417 | 863 |
| 419 | 861 |
| 421 | 861 |
| 423 | 861 |
| 1W425 | 863 |
| 427 | 863 |
| 429 | 863 |
| 431 | 852 |
| 433 | 859 |
| 1W435 | 859 |
| 449 | 861 |
| 451 | 861 |
| 453 | 861 |
| 455 | 861 |
| 1W457 | 861 |
| 459 | 861 |
| 461 | 861 |
| 463 | 861 |
| 465 | 860 |
| 1W467 | 860 |
| 469 | 860 |
| 471 | 860 |
| 473 | 860 |
| 475 | 860 |
| 1W477 | 860 |
| 479 | 860 |
| 481 | 860 |
| 483 | 860 |
| 485 | 860 |
| 1W487 | 860 |
| 489 | 860 |
| 491 | 863 |
| 493 | 863 |
| 495 | 773 |
| 1W497 | 773 |
| 499 | 820 |
| 501 | 893 |
| 503 | 893 |
| 506 | 3528 |
| 1W507 | 3528 |
| 508 | 893 |
| 511 | 600 |
| 512 | 774 |
| 513 | 591 |
| 1W515 | 774 |
| 516 | 591 |
| 519 | 774 |
| 524 | 589 |
| 542 | 773 |
| 1W548 | 757 |
| 550 | 757 |
| 554 | 757 |
| 556 | 775 |
| 559 | 888 |
| 1W566 | 592 |
| 582 | 590 |
| 583 | 774 |
| 586 | 774 |
| 593 | 774 |
| 1W614 | 591 |
| 617 | 2202 |
| 633 | 3528 |
| 656 | 900 |
| 661 | 592 |
| 1W673 | 593 |
| 674 | 593 |
| 675 | 593 |
| 676 | 593 |
| 678 | 900 |
| 1W680 | 2206 |
| 682 | 2083 |
| 684 | 590 |
| 685 | 590 |
| 686 | 590 |
| 1W687 | 590 |
| 695 | 746 |
| 697 | 746 |
| 700 | 746 |
| 703 | 2081 |
| 1W709 | 3376 |
| 710 | 746 |
| 711 | 2100 |
| 712 | 2100 |
| 715 | 746 |
| 1W722 | 746 |
| 724 | 746 |
| 731 | 746 |
| 732 | 591 |
| 734 | 746 |
| 1W736 | 744 |
| 738 | 744 |
| 742 | 600 |
| 744 | 744 |
| 746 | 745 |
| 1W749 | 745 |
| 751 | 745 |
| 753 | 745 |
| 755 | 3528 |
| 763 | 2045 |
| 1W765 | 2044 |
| 766 | 2044 |
| 767 | 2044 |
| 768 | 2044 |
| 769 | 2044 |
| 1W770 | 2044 |
| 771 | 2044 |
| 772 | 2044 |
| 784 | 2045 |
| 785 | 2045 |
| 1W797 | 745 |
| 810 | 2083 |
| 811 | 2083 |
| 814 | 2081 |
| 817 | 744 |
| 1W818 | 2057 |
| 819 | 2198 |
| 827 | 2195 |
| 836 | 2044 |
| 862 | 2044 |
| 1W863 | 2044 |
| 864 | 2044 |
| 877 | 2043 |
| 878 | 2043 |
| 880 | 2082 |
| 1W887 | 2082 |
| 888 | 2083 |
| 890 | 2083 |
| 891 | 2083 |
| 897 | 2051 |
| 1W899 | 2051 |
| 901 | 2051 |
| 902 | 2051 |
| 903 | 2051 |
| 906 | 600 |
| 1W907 | 2080 |
| 908 | 2080 |
| 909 | 2081 |
| 910 | 2195 |
| 920 | 2051 |
| 1W925 | 592 |
| 926 | 592 |
| 943 | 1157 |
| 944 | 2066 |
| 950 | 591 |
| 1W951 | 591 |
| 952 | 2080 |
| 955 | 2044 |
| 956 | 2044 |
| 957 | 2044 |
| 1W959 | 2044 |
| 960 | 2044 |
| 961 | 2044 |
| 962 | 313 |
| 963 | 313 |
| 1W964 | 590 |
| 973 | 2083 |
| 975 | 2083 |
| 978 | 2067 |
| 985 | 2101 |
| 1W987 | 2272 |
| 988 | 2272 |
| 989 | 2272 |
| 990 | 2272 |
| 991 | 2272 |
| 1W992 | 2272 |
| **1X** | |
| 1XC00 | 711 |
| C01 | 686 |
| 1XC02 | 686 |
| C03 | 690 |
| C04 | 690 |
| C05 | 699 |
| C06 | 699 |
| 1XC07 | 699 |
| C08 | 699 |
| C09 | 699 |
| C10 | 699 |
| C11 | 690 |
| 1XC12 | 690 |
| C13 | 690 |
| C14 | 690 |
| C15 | 699 |
| C16 | 699 |
| 1XC17 | 699 |
| C18 | 699 |
| C19 | 699 |
| C20 | 699 |
| C21 | 699 |
| 1XC22 | 699 |
| C23 | 689 |
| C24 | 689 |
| C25 | 573 |
| C26 | 573 |
| 1XC27 | 573 |
| C28 | 679 |
| C29 | 678 |
| C30 | 678 |
| C31 | 678 |
| 1XC32 | 678 |
| C33 | 678 |
| C34 | 676 |
| C35 | 676 |
| C36 | 676 |
| 1XC37 | 1187 |
| C38 | 1189 |
| C39 | 1189 |
| C40 | 585 |
| C54 | 723 |
| 1XC62 | 723 |
| C66 | 577 |
| C67 | 577 |
| C68 | 577 |
| C69 | 577 |
| 1XC70 | 570 |
| C71 | 571 |
| C72 | 578 |
| C73 | 578 |
| C74 | 567 |
| 1XC92 | 193 |
| 001 | 744 |
| 003 | 744 |
| 005 | 744 |
| 007 | 744 |
| 1X009 | 744 |
| 011 | 744 |
| 013 | 744 |
| 015 | 744 |
| 017 | 744 |
| 1X019 | 744 |
| 021 | 744 |
| 023 | 744 |
| 025 | 744 |
| 027 | 744 |
| 1X029 | 744 |
| 031 | 744 |
| 033 | 744 |
| 035 | 744 |
| 037 | 745 |
| 1X041 | 745 |
| 043 | 745 |
| 045 | 745 |
| 047 | 745 |
| 049 | 745 |
| 1X051 | 745 |
| 053 | 745 |
| 055 | 745 |
| 057 | 745 |
| 059 | 745 |
| 1X061 | 746 |
| 063 | 59 |
| 065 | 746 |
| 067 | 746 |
| 069 | 746 |
| 1X071 | 746 |
| 073 | 746 |
| 075 | 746 |
| 077 | 744 |
| 079 | 744 |
| 1X081 | 745 |
| 083 | 745 |
| 085 | 745 |
| 087 | 744 |
| 089 | 744 |
| 1X091 | 744 |
| 093 | 745 |
| 099 | 745 |
| 101 | 745 |
| 107 | 745 |
| 1X109 | 745 |
| 111 | 745 |
| 113 | 745 |
| 127 | 745 |
| 129 | 745 |
| 1X131 | 745 |
| 133 | 745 |
| 135 | 746 |
| 137 | 746 |
| 139 | 746 |
| 1X141 | 746 |
| 143 | 746 |
| 145 | 738 |
| 147 | 738 |
| 149 | 738 |
| 1X151 | 740 |
| 152 | 1771 |
| 153 | 740 |
| 155 | 740 |
| 156 | 1771 |
| 1X157 | 740 |
| 159 | 740 |
| 164 | 1771 |
| 165 | 737 |
| 167 | 737 |
| 1X168 | 1771 |
| 171 | 738 |
| 173 | 738 |
| 177 | 740 |
| 179 | 740 |
| 1X181 | 739 |
| 183 | 739 |
| 185 | 739 |
| 186 | 1771 |
| 187 | 739 |
| 1X189 | 739 |
| 191 | 739 |
| 193 | 739 |
| 195 | 739 |
| 196 | 1771 |
| 1X197 | 740 |
| 199 | 740 |
| 201 | 740 |
| 203 | 740 |
| 205 | 740 |
| 1X207 | 740 |
| 209 | 741 |
| 215 | 737 |
| 219 | 737 |
| 221 | 737 |
| 1X232 | 1774 |
| 238 | 1774 |
| 239 | 737 |
| 241 | 737 |
| 243 | 737 |
| 1X246 | 1774 |
| 248 | 1774 |
| 255 | 737 |
| 258 | 1774 |
| 260 | 1774 |
| 1X265 | 737 |
| 267 | 737 |
| 276 | 1774 |
| 278 | 1774 |
| 309 | 737 |
| 1X311 | 738 |
| 313 | 738 |
| 315 | 737 |
| 317 | 737 |
| 319 | 737 |
| 1X321 | 739 |
| 323 | 739 |
| 325 | 739 |
| 327 | 739 |
| 329 | 739 |
| 1X331 | 740 |
| 334 | 740 |
| 336 | 740 |
| 338 | 740 |
| 340 | 737 |
| 1X345 | 737 |
| 348 | 202 |
| 351 | 352 |
| 352 | 738 |
| 355 | 738 |
| 1X357 | 739 |
| 359 | 739 |
| 361 | 3028 |
| 362 | 739 |
| 364 | 739 |
| 1X366 | 739 |
| 368 | 738 |
| 370 | 738 |
| 372 | 738 |
| 378 | 737 |
| 1X380 | 739 |
| 382 | 739 |
| 384 | 739 |
| 386 | 739 |
| 388 | 739 |
| 1X391 | 739 |
| 393 | 740 |
| 395 | 740 |
| 397 | 740 |
| 399 | 740 |
| 1X406 | 357 |
| 407 | 357 |
| 408 | 357 |
| 409 | 357 |
| 412 | 737 |
| 1X415 | 738 |
| 417 | 738 |
| 419 | 738 |
| 421 | 737 |
| 425 | 737 |
| 1X427 | 739 |
| 429 | 739 |
| 431 | 739 |
| 433 | 739 |
| 435 | 739 |
| 1X437 | 739 |
| 439 | 740 |
| 441 | 740 |
| 443 | 740 |
| 445 | 740 |
| 1X447 | 310 |
| 448 | 310 |
| 449 | 745 |
| 451 | 745 |
| 453 | 746 |
| 1X456 | 745 |
| 458 | 745 |
| 459 | 313 |
| 461 | 745 |
| 463 | 746 |
| 1X465 | 745 |
| 467 | 871 |
| 469 | 871 |
| 471 | 871 |
| 473 | 871 |
| 1X475 | 870 |
| 477 | 870 |
| 479 | 870 |
| 481 | 870 |
| 483 | 870 |
| 1X487 | 870 |
| 489 | 873 |
| 492 | 873 |
| 496 | 873 |
| 498 | 873 |
| 1X499 | 203 |
| 501 | 867 |
| 503 | 867 |
| 506 | 867 |
| 508 | 867 |
| 1X510 | 867 |
| 512 | 867 |
| 514 | 867 |
| 516 | 867 |
| 518 | 867 |
| 1X520 | 867 |
| 522 | 867 |
| 524 | 867 |
| 526 | 867 |
| 527 | 3058 |

# STOCK NUMBER—PAGE NUMBER

## 1X5 — 2AC

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1X529 | 867 | 1X609 | 873 | 1X738 | 865 | 1X870 | 352 | 1Y007 | 1415 | 1Z050 | 823 | 1Z179 | 1583 | 1Z300 | 1689 | 1Z399 | 1689 | 1Z672 | 1574 | 1Z853 | 1506 |
| 531 | 867 | 611 | 873 | 740 | 865 | 871 | 352 | 068 | 1489 | 052 | 823 | 181 | 1583 | 301 | 1585 | 400 | 1578 | 679 | 1574 | 854 | 184 |
| 533 | 867 | 613 | 873 | 742 | 865 | 872 | 352 | 082 | 1440 | 054 | 823 | 183 | 1583 | 303 | 1585 | 408 | 1689 | 685 | 1574 | 856 | 184 |
| 535 | 867 | 615 | 873 | 744 | 865 | 873 | 865 | 086 | 1496 | 057 | 823 | 185 | 1584 | 305 | 1585 | 410 | 1689 | 689 | 1575 | 861 | 3478 |
| 536 | 1775 | 617 | 873 | 746 | 872 | 875 | 865 | 119 | 821 | 059 | 823 | 187 | 1584 | 307 | 1585 | 412 | 1689 | 693 | 1575 | 863 | 3526 |
| 1X537 | 867 | 1X619 | 873 | 1X748 | 872 | 1X877 | 865 | 1Y125 | 1412 | 1Z061 | 1585 | 1Z189 | 1584 | 1Z309 | 1585 | 1Z430 | 1578 | 1Z695 | 1575 | 1Z864 | 3526 |
| 538 | 1778 | 621 | 873 | 750 | 866 | 878 | 520 | 135 | 1480 | 063 | 1585 | 191 | 1584 | 311 | 1584 | 440 | 1577 | 696 | 2917 | 866 | 1573 |
| 539 | 867 | 623 | 873 | 752 | 866 | 880 | 865 | 227 | 1456 | 065 | 1585 | 193 | 1583 | 313 | 1584 | 442 | 1577 | 707 | 1506 | 867 | 123 |
| 541 | 867 | 624 | 3065 | 754 | 866 | 882 | 865 | 228 | 1456 | 067 | 1585 | 195 | 1583 | 315 | 1584 | 444 | 1577 | 712 | 1575 | 874 | 123 |
| 542 | 1778 | 626 | 873 | 756 | 866 | 884 | 865 | 229 | 1456 | 069 | 1585 | 197 | 1584 | 317 | 1584 | 446 | 1577 | 714 | 1575 | 876 | 123 |
| 1X543 | 867 | 1X628 | 873 | 1X758 | 866 | 1X886 | 865 | 1Y230 | 1456 | 1Z071 | 1585 | 1Z199 | 1584 | 1Z318 | 1689 | 1Z447 | 1682 | 1Z716 | 1575 | 1Z878 | 1576 |
| 544 | 1778 | 630 | 873 | 760 | 866 | 916 | 821 | 247 | 1455 | 073 | 1585 | 201 | 1584 | 319 | 1584 | 451 | 1682 | 726 | 3526 | 881 | 123 |
| 545 | 867 | 632 | 873 | 762 | 866 | 923 | 821 | 248 | 1455 | 075 | 1584 | 203 | 1584 | 320 | 1689 | 456 | 1577 | 729 | 1572 | 883 | 123 |
| 546 | 1775 | 634 | 873 | 764 | 866 | 927 | 821 | 250 | 1455 | 077 | 1584 | 205 | 1583 | 321 | 1584 | 462 | 1577 | 742 | 1574 | 884 | 1581 |
| 547 | 867 | 636 | 873 | 766 | 866 | 929 | 821 | 252 | 1455 | 079 | 1584 | 207 | 1583 | 323 | 1584 | 464 | 1577 | 746 | 1575 | 885 | 2917 |
| 1X549 | 867 | 1X638 | 873 | 1X768 | 866 | 1X931 | 821 | 1Y253 | 1455 | 1Z081 | 1584 | 1Z209 | 1584 | 1Z325 | 1584 | 1Z470 | 1577 | 1Z748 | 2861 | 1Z886 | 2918 |
| 550 | 1775 | 640 | 873 | 770 | 866 | 937 | 783 | 254 | 1456 | 083 | 1584 | 211 | 1584 | 326 | 1689 | 471 | 1682 | 753 | 1575 | 890 | 3527 |
| 551 | 867 | 642 | 873 | 772 | 866 | 939 | 783 | 255 | 1456 | 085 | 1585 | 213 | 1584 | 327 | 1584 | 475 | 1682 | 755 | 1575 | 891 | 3527 |
| 553 | 867 | 644 | 873 | 774 | 866 | 943 | 783 | 256 | 1456 | 087 | 1585 | 215 | 1584 | 328 | 1689 | 485 | 1578 | 757 | 1575 | 897 | 123 |
| 554 | 1775 | 646 | 873 | 776 | 866 | 945 | 783 | 335 | 1452 | 089 | 1585 | 217 | 1584 | 329 | 1584 | 491 | 1572 | 759 | 1575 | 899 | 123 |
| 1X555 | 867 | 1X648 | 873 | 1X778 | 866 | 1X947 | 783 | 1Y435 | 1449 | 1Z091 | 1585 | 1Z219 | 1584 | 1Z331 | 1584 | 1Z495 | 1571 | 1Z761 | 1575 | 1Z900 | 1572 |
| 557 | 867 | 651 | 874 | 780 | 866 | 949 | 783 | 436 | 1449 | 093 | 1585 | 221 | 1584 | 333 | 1584 | 496 | 1682 | 765 | 1575 | 901 | 123 |
| 558 | 1776 | 653 | 874 | 782 | 866 | 951 | 782 | 437 | 1449 | 095 | 1585 | 223 | 1584 | 334 | 1689 | 497 | 1573 | 769 | 1575 | 905 | 123 |
| 559 | 867 | 655 | 874 | 784 | 866 | 953 | 782 | 438 | 1449 | 096 | 3018 | 225 | 1584 | 335 | 1584 | 500 | 1682 | 771 | 1575 | 907 | 2847 |
| 560 | 1776 | 657 | 874 | 786 | 866 | 955 | 782 | 439 | 1449 | 097 | 3018 | 227 | 1584 | 336 | 1689 | 511 | 1577 | 775 | 1575 | 911 | 123 |
| 1X561 | 867 | 1X659 | 874 | 1X788 | 866 | 1X957 | 782 | 1Y441 | 1449 | 1Z099 | 1585 | 1Z229 | 1584 | 1Z337 | 1584 | 1Z513 | 1578 | 1Z780 | 1578 | 1Z914 | 123 |
| 562 | 932 | 661 | 874 | 790 | 866 | 959 | 822 | 442 | 1449 | 101 | 1585 | 231 | 1584 | 339 | 1584 | 517 | 1574 | 782 | 2892 | 916 | 123 |
| 563 | 867 | 663 | 874 | 792 | 866 | 961 | 822 | 444 | 1449 | 103 | 1585 | 233 | 1584 | 341 | 1583 | 520 | 1682 | 791 | 1578 | 918 | 123 |
| 564 | 1776 | 666 | 874 | 794 | 866 | 963 | 821 | 445 | 1449 | 105 | 1585 | 235 | 1584 | 343 | 1583 | 524 | 1682 | 793 | 1578 | 920 | 123 |
| 565 | 867 | 668 | 874 | 796 | 866 | 965 | 821 | 446 | 1449 | 107 | 1585 | 237 | 1584 | 345 | 1585 | 528 | 1682 | 795 | 1578 | 921 | 1542 |
| 1X566 | 1775 | 1X670 | 874 | 1X798 | 866 | 1X967 | 821 | 1Y448 | 1449 | 1Z109 | 1585 | 1Z239 | 1584 | 1Z347 | 1585 | 1Z530 | 3019 | 1Z799 | 1572 | 1Z924 | 123 |
| 567 | 867 | 672 | 874 | 800 | 866 | 968 | 352 | 449 | 1449 | 111 | 1585 | 241 | 1584 | 349 | 1585 | 533 | 1682 | 802 | 191 | 934 | 123 |
| 568 | 1775 | 674 | 874 | 802 | 866 | 969 | 698 | 451 | 1449 | 113 | 1585 | 243 | 1585 | 351 | 1585 | 536 | 1575 | 803 | 1571 | 942 | 1542 |
| 569 | 867 | 676 | 868 | 804 | 866 | 970 | 698 | 452 | 1449 | 115 | 1585 | 245 | 1585 | 352 | 1689 | 539 | 1682 | 804 | 1375 | 943 | 2885 |
| 570 | 1775 | 678 | 868 | 806 | 866 | 971 | 698 | 454 | 1449 | 117 | 1585 | 247 | 1585 | 353 | 1585 | 540 | 1572 | 805 | 191 | 944 | 2885 |
| 1X571 | 867 | 1X680 | 868 | 1X808 | 872 | 1X972 | 698 | 1Y455 | 1449 | 1Z119 | 1585 | 1Z249 | 1585 | 1Z355 | 1585 | 1Z542 | 1579 | 1Z807 | 1571 | 1Z945 | 2885 |
| 572 | 1775 | 682 | 868 | 810 | 872 | 973 | 698 | 457 | 1449 | 121 | 1584 | 251 | 1585 | 356 | 1689 | 543 | 1682 | 808 | 191 | 946 | 123 |
| 573 | 867 | 684 | 868 | 815 | 865 | 974 | 698 | 458 | 1449 | 123 | 1584 | 253 | 1585 | 357 | 1584 | 544 | 1579 | 810 | 223 | 947 | 1542 |
| 574 | 1775 | 686 | 868 | 817 | 865 | 975 | 702 | 460 | 1449 | 125 | 1584 | 255 | 1584 | 358 | 1689 | 546 | 1579 | 812 | 223 | 948 | 123 |
| 575 | 867 | 687 | 520 | 819 | 865 | 976 | 704 | 461 | 1449 | 127 | 1584 | 257 | 1584 | 359 | 1584 | 547 | 1682 | 814 | 223 | 954 | 1542 |
| 1X576 | 1775 | 1X689 | 868 | 1X821 | 865 | 1X977 | 704 | 1Y463 | 1449 | 1Z129 | 1584 | 1Z259 | 1584 | 1Z361 | 1583 | 1Z551 | 1682 | 1Z815 | 1577 | 1Z955 | 123 |
| 577 | 867 | 691 | 868 | 823 | 865 | 978 | 712 | 464 | 1449 | 131 | 1584 | 261 | 1584 | 363 | 1583 | 555 | 1682 | 816 | 223 | 956 | 1542 |
| 578 | 1775 | 692 | 521 | 825 | 875 | 979 | 712 | 824 | 1433 | 133 | 1584 | 264 | 1584 | 365 | 1583 | 559 | 1682 | 818 | 223 | 958 | 123 |
| 579 | 867 | 694 | 868 | 827 | 875 | 980 | 713 | **1Z** | | 135 | 1584 | 266 | 1584 | 366 | 1689 | 563 | 1682 | 820 | 220 | 959 | 1542 |
| 580 | 1775 | 696 | 868 | 829 | 875 | 981 | 713 | | | 137 | 1584 | 268 | 1584 | 367 | 1583 | 567 | 1682 | 821 | 1577 | 964 | 2861 |
| 1X581 | 867 | 1X698 | 868 | 1X831 | 875 | 1X982 | 713 | 1ZC00 | 2738 | 1Z139 | 1584 | 1Z270 | 1584 | 1Z368 | 1689 | 1Z571 | 1682 | 1Z822 | 220 | 1Z967 | 3526 |
| 583 | 873 | 700 | 868 | 833 | 875 | 983 | 713 | C01 | 2711 | 141 | 1584 | 272 | 1583 | 369 | 1584 | 572 | 1575 | 823 | 1577 | 968 | 3527 |
| 584 | 1775 | 702 | 868 | 834 | 933 | 984 | 713 | C02 | 2723 | 143 | 1584 | 274 | 1583 | 371 | 1584 | 575 | 1682 | 824 | 220 | 972 | 123 |
| 585 | 873 | 704 | 868 | 835 | 933 | 985 | 710 | 002 | 821 | 145 | 1584 | 276 | 1584 | 372 | 1689 | 578 | 1581 | 826 | 220 | 975 | 1542 |
| 586 | 1775 | 706 | 868 | 836 | 933 | 986 | 710 | 004 | 821 | 147 | 1584 | 278 | 1583 | 373 | 1583 | 579 | 1682 | 827 | 1576 | 976 | 123 |
| 1X587 | 873 | 1X708 | 868 | 1X842 | 875 | 1X987 | 687 | 1Z006 | 821 | 1Z149 | 1584 | 1Z280 | 1583 | 1Z375 | 1583 | 1Z585 | 1682 | 1Z831 | 220 | 1Z979 | 1542 |
| 588 | 1775 | 710 | 868 | 844 | 875 | 988 | 687 | 008 | 821 | 151 | 1584 | 282 | 1584 | 377 | 1583 | 589 | 1682 | 833 | 220 | 983 | 123 |
| 589 | 873 | 712 | 868 | 848 | 875 | 989 | 687 | 016 | 822 | 153 | 1584 | 284 | 1584 | 378 | 1689 | 593 | 1682 | 835 | 185 | 995 | 123 |
| 591 | 873 | 714 | 868 | 850 | 876 | 990 | 687 | 026 | 821 | 155 | 1584 | 285 | 1689 | 379 | 1583 | 597 | 1682 | 836 | 1574 | 997 | 123 |
| 592 | 1775 | 716 | 868 | 852 | 876 | 991 | 704 | 028 | 822 | 157 | 1584 | 287 | 1584 | 381 | 1584 | 601 | 1682 | 837 | 185 | 998 | 1542 |
| 1X593 | 873 | 1X718 | 868 | 1X854 | 876 | 1X992 | 704 | 1Z030 | 822 | 1Z159 | 1584 | 1Z288 | 1689 | 1Z382 | 1689 | 1Z619 | 1574 | 1Z838 | 2917 | **2A** | |
| 595 | 873 | 720 | 868 | 856 | 876 | 993 | 687 | 032 | 823 | 161 | 1584 | 289 | 1584 | 383 | 1584 | 621 | 1574 | 840 | 185 | 2AC00 | 1472 |
| 596 | 1775 | 722 | 868 | 858 | 876 | 994 | 687 | 034 | 823 | 163 | 1584 | 291 | 1584 | 385 | 1575 | 623 | 1574 | 841 | 1581 | C02 | 1482 |
| 597 | 873 | 724 | 868 | 860 | 876 | 995 | 704 | 036 | 823 | 165 | 1583 | 292 | 1689 | 386 | 1689 | 631 | 1574 | 842 | 185 | C03 | 1482 |
| 599 | 873 | 726 | 870 | 862 | 876 | 996 | 704 | 038 | 823 | 167 | 1583 | 293 | 1584 | 387 | 1575 | 640 | 1574 | 847 | 2165 | | |
| 1X600 | 1775 | 1X728 | 870 | 1X864 | 876 | 1X997 | 704 | 1Z040 | 823 | 1Z169 | 1583 | 1Z294 | 1689 | 1Z389 | 1575 | 1Z642 | 1574 | 1Z848 | 2165 | 2AC04 | 1454 |
| 601 | 873 | 730 | 870 | 866 | 352 | 998 | 711 | 042 | 823 | 171 | 1583 | 295 | 1584 | 390 | 1689 | 646 | 1574 | 849 | 2165 | C06 | 1466 |
| 603 | 873 | 732 | 870 | 867 | 352 | 999 | 711 | 044 | 823 | 173 | 1583 | 296 | 1689 | 391 | 1581 | 661 | 1574 | 850 | 2165 | C07 | 1532 |
| 605 | 873 | 734 | 870 | 868 | 352 | **1Y** | | 046 | 823 | 175 | 1583 | 297 | 1585 | 392 | 1689 | 663 | 1575 | 851 | 185 | C08 | 1533 |
| 607 | 873 | 736 | 870 | 869 | 352 | | | 048 | 823 | 177 | 1583 | 299 | 1585 | 394 | 1572 | 666 | 3019 | 852 | 1581 | C09 | 1533 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 2AC10 | 1533 |
| C11 | 1455 |
| C12 | 1455 |
| C13 | 1455 |
| C14 | 1455 |
| 2AC15 | 1455 |
| C16 | 1455 |
| C17 | 1455 |
| C18 | 1455 |
| C19 | 1456 |
| 2AC20 | 1456 |
| C21 | 1456 |
| C22 | 1456 |
| C26 | 1454 |
| C27 | 1516 |
| 2AC28 | 1517 |
| C29 | 1517 |
| C30 | 1511 |
| C31 | 1511 |
| C32 | 1498 |
| 2AC40 | 1497 |
| C46 | 2550 |
| C54 | 2495 |
| C59 | 2388 |
| C62 | 2549 |
| 2AC69 | 2362 |
| D04 | 2478 |
| D12 | 2456 |
| D22 | 2452 |
| D31 | 2460 |
| 2AD35 | 2457 |
| D38 | 2371 |
| D49 | 2430 |
| D54 | 2565 |
| D56 | 2457 |
| 2AD87 | 2454 |
| D93 | 2463 |
| D94 | 2553 |
| D96 | 2452 |
| F07 | 2385 |
| 2AF08 | 2381 |
| F24 | 2468 |
| F28 | 2460 |
| F29 | 2466 |
| F37 | 2451 |
| 2AF38 | 2367 |
| F47 | 2370 |
| F59 | 2472 |
| F60 | 2566 |
| F65 | 2452 |
| 2AF67 | 2499 |
| F70 | 2442 |
| F71 | 2466 |
| F72 | 2362 |
| F76 | 2542 |
| 2AF86 | 2508 |
| F92 | 2341 |
| F96 | 2454 |
| F97 | 2454 |
| F98 | 2561 |
| 2AG12 | 2504 |
| G21 | 2488 |
| G23 | 2552 |
| G29 | 2451 |
| G30 | 2436 |
| 2AG34 | 2340 |
| G37 | 2377 |
| G42 | 2341 |
| G47 | 2472 |
| G54 | 2385 |
| 2AG55 | 2560 |
| G56 | 2336 |
| G57 | 2432 |
| G76 | 2367 |
| G79 | 2455 |
| 2AG83 | 2484 |
| G94 | 2381 |
| H09 | 2477 |
| H13 | 2445 |
| H38 | 2474 |
| 2AH42 | 2371 |
| H54 | 2447 |
| H63 | 2469 |
| H65 | 2478 |
| H78 | 2420 |
| 2AH90 | 2367 |
| H91 | 2384 |
| H96 | 2477 |
| J03 | 2343 |
| J10 | 2597 |
| 2AJ13 | 2386 |
| J14 | 2336 |
| J16 | 2441 |
| J25 | 2454 |
| J40 | 2484 |
| 2AJ59 | 2463 |
| J81 | 2450 |
| J82 | 2542 |
| J91 | 2471 |
| J97 | 2450 |
| 2AK04 | 2560 |
| K10 | 2384 |
| K12 | 2381 |
| K29 | 2622 |
| K34 | 2422 |
| 2AK43 | 2483 |
| K66 | 2468 |
| K81 | 2469 |
| K99 | 2450 |
| L06 | 2423 |
| 2AL11 | 2499 |
| L23 | 2478 |
| L26 | 2457 |
| L33 | 2375 |
| L41 | 2551 |
| 2AL54 | 2447 |
| L65 | 2445 |
| M14 | 2441 |
| M21 | 2362 |
| M28 | 2458 |
| 2AM39 | 2436 |
| M49 | 2445 |
| M54 | 2362 |
| M61 | 2463 |
| M64 | 2370 |
| 2AM71 | 2566 |
| M78 | 2458 |
| M79 | 2453 |
| M94 | 2514 |
| M98 | 2393 |
| 2AN01 | 2616 |
| N04 | 2433 |
| N06 | 2466 |
| N19 | 2499 |
| N25 | 2483 |
| 2AN27 | 2597 |
| N28 | 2549 |
| N36 | 2431 |
| N66 | 2462 |
| N78 | 2478 |
| 2AN80 | 2436 |
| N82 | 2367 |
| N97 | 2597 |
| P01 | 2376 |
| P11 | 2597 |
| 2AP13 | 2485 |
| P24 | 2447 |
| P34 | 2455 |
| P49 | 2468 |
| P57 | 2468 |
| 2AP61 | 2518 |
| P76 | 2433 |
| P87 | 2385 |
| P89 | 2388 |
| R22 | 2477 |
| 2AR36 | 2504 |
| R45 | 2371 |
| R53 | 2478 |
| R69 | 2377 |
| R79 | 2515 |
| 2AR85 | 2483 |
| R91 | 2422 |
| T12 | 2367 |
| T52 | 2457 |
| T55 | 2623 |
| 2AT58 | 2488 |
| T72 | 2515 |
| T77 | 2455 |
| T79 | 2463 |
| T95 | 2518 |
| 2AV17 | 2422 |
| V26 | 2442 |
| V46 | 2485 |
| V49 | 2375 |
| V54 | 2453 |
| 2AV57 | 2566 |
| V60 | 2515 |
| V64 | 2504 |
| V82 | 2460 |
| V87 | 1870 |
| 2AV88 | 2450 |
| W07 | 2518 |
| W10 | 2447 |
| W22 | 2515 |
| W37 | 2381 |
| 2AW44 | 2338 |
| W47 | 2499 |
| W54 | 2367 |
| W68 | 2478 |
| W69 | 2518 |
| 2AW71 | 2370 |
| W77 | 2436 |
| W80 | 2450 |
| W82 | 2553 |
| W83 | 2455 |
| 2AW89 | 2477 |
| X17 | 2392 |
| X32 | 2441 |
| X33 | 2381 |
| X39 | 2367 |
| 2AX51 | 2456 |
| X55 | 2342 |
| X57 | 2433 |
| X63 | 2363 |
| X85 | 2460 |
| 2AX87 | 2363 |
| X89 | 2439 |
| Z10 | 2362 |
| Z11 | 2344 |
| Z17 | 2452 |
| 2AZ20 | 2622 |
| Z22 | 2550 |
| Z35 | 2467 |
| Z36 | 2484 |
| Z46 | 2478 |
| 2AZ83 | 2492 |
| Z90 | 2344 |
| Z93 | 2553 |
| 035 | 502 |
| 040 | 509 |
| 2A042 | 504 |
| 074 | 1542 |
| 075 | 504 |
| 076 | 1542 |
| 077 | 504 |
| 2A128 | 2645 |
| 129 | 2645 |
| 130 | 3067 |
| 131 | 3067 |
| 132 | 3067 |
| 2A133 | 3067 |
| 134 | 3067 |
| 135 | 3067 |
| 136 | 3066 |
| 137 | 3066 |
| 2A138 | 3066 |
| 139 | 3066 |
| 140 | 3066 |
| 141 | 3066 |
| 142 | 3066 |
| 2A143 | 3066 |
| 144 | 866 |
| 145 | 866 |
| 146 | 866 |
| 147 | 866 |
| 2A148 | 866 |
| 149 | 866 |
| 151 | 692 |
| 153 | 692 |
| 154 | 767 |
| 2A155 | 429 |
| 156 | 429 |
| 157 | 429 |
| 158 | 430 |
| 159 | 430 |
| 2A160 | 430 |
| 161 | 430 |
| 162 | 430 |
| 163 | 430 |
| 165 | 2897 |
| 2A166 | 2897 |
| 167 | 488 |
| 168 | 488 |
| 169 | 488 |
| 170 | 488 |
| 2A171 | 488 |
| 172 | 488 |
| 173 | 488 |
| 174 | 489 |
| 175 | 489 |
| 2A179 | 498 |
| 180 | 498 |
| 182 | 2251 |
| 183 | 549 |
| 184 | 549 |
| 2A186 | 544 |
| 187 | 544 |
| 188 | 539 |
| 189 | 544 |
| 190 | 525 |
| 2A191 | 525 |
| 192 | 475 |
| 193 | 475 |
| 194 | 3363 |
| 195 | 3363 |
| 2A196 | 3363 |
| 197 | 3363 |
| 198 | 3363 |
| 199 | 3363 |
| 200 | 3363 |
| 2A201 | 3363 |
| 202 | 3363 |
| 203 | 3361 |
| 204 | 3361 |
| 205 | 3361 |
| 2A206 | 584 |
| 208 | 579 |
| 209 | 579 |
| 210 | 579 |
| 225 | 624 |
| 2A226 | 624 |
| 227 | 624 |
| 228 | 624 |
| 229 | 624 |
| 230 | 624 |
| 2A231 | 624 |
| 232 | 624 |
| 233 | 633 |
| 234 | 2284 |
| 235 | 2284 |
| 2A238 | 2277 |
| 239 | 2277 |
| 240 | 2281 |
| 246 | 668 |
| 247 | 668 |
| 2A248 | 668 |
| 251 | 668 |
| 252 | 668 |
| 259 | 505 |
| 260 | 1542 |
| 2A262 | 1364 |
| 263 | 1364 |
| 264 | 544 |
| 265 | 1785 |
| 268 | 1782 |
| 2A269 | 1780 |
| 270 | 1781 |
| 271 | 1789 |
| 272 | 2784 |
| 273 | 1789 |
| 2A274 | 1780 |
| 426 | 773 |
| 427 | 776 |
| 428 | 776 |
| 431 | 776 |
| 2A432 | 779 |
| 433 | 777 |
| 436 | 498 |
| 443 | 1532 |
| 452 | 2300 |
| 2A453 | 2300 |
| 456 | 624 |
| 457 | 624 |
| 458 | 624 |
| 459 | 624 |
| 2A460 | 624 |
| 461 | 2250 |
| 462 | 2250 |
| 463 | 2250 |
| 464 | 2250 |
| 2A465 | 2250 |
| 466 | 2250 |
| 467 | 2250 |
| 468 | 2250 |
| 469 | 2250 |
| 2A477 | 1305 |
| 478 | 1305 |
| 479 | 1306 |
| 480 | 1306 |
| 481 | 1306 |
| 2A483 | 1308 |
| 484 | 1308 |
| 485 | 1308 |
| 486 | 1305 |
| 487 | 1348 |
| 2A488 | 1348 |
| 489 | 1304 |
| 490 | 1304 |
| 491 | 1304 |
| 492 | 1370 |
| 2A493 | 1370 |
| 494 | 1370 |
| 495 | 1370 |
| 496 | 1370 |
| 497 | 1370 |
| 2A498 | 1370 |
| 499 | 1373 |
| 500 | 1373 |
| 501 | 1371 |
| 502 | 1370 |
| 2A503 | 1370 |
| 504 | 1370 |
| 505 | 1373 |
| 506 | 1373 |
| 509 | 1373 |
| 2A512 | 575 |
| 513 | 573 |
| 514 | 573 |
| 515 | 582 |
| 516 | 581 |
| 2A517 | 574 |
| 518 | 574 |
| 519 | 574 |
| 520 | 574 |
| 521 | 1357 |
| 2A522 | 1357 |
| 523 | 1357 |
| 524 | 1357 |
| 525 | 1357 |
| 526 | 1357 |
| 2A527 | 1357 |
| 528 | 1357 |
| 529 | 1357 |
| 530 | 1357 |
| 531 | 1357 |
| 2A532 | 1357 |
| 533 | 1357 |
| 536 | 1357 |
| 537 | 1357 |
| 538 | 1357 |
| 2A539 | 567 |
| 540 | 567 |
| 543 | 568 |
| 544 | 484 |
| 545 | 484 |
| 2A551 | 3233 |
| 552 | 3233 |
| 553 | 3233 |
| 554 | 3233 |
| 555 | 505 |
| 2A556 | 1542 |
| 557 | 505 |
| 558 | 1542 |
| 559 | 494 |
| 560 | 494 |
| 2A561 | 494 |
| 562 | 494 |
| 563 | 3600 |
| 564 | 3600 |
| 565 | 3600 |
| 2A576 | 2056 |
| 577 | 2056 |
| 578 | 2056 |
| 579 | 2056 |
| 580 | 2056 |
| 2A581 | 2056 |
| 582 | 480 |
| 583 | 480 |
| 584 | 480 |
| 586 | 434 |
| 2A587 | 434 |
| 588 | 434 |
| 590 | 434 |
| 591 | 434 |
| 592 | 434 |
| 2A594 | 434 |
| 596 | 434 |
| 597 | 434 |
| 598 | 434 |
| 600 | 434 |
| 2A601 | 434 |
| 602 | 434 |
| 604 | 434 |
| 605 | 434 |
| 606 | 884 |
| 2A607 | 884 |
| 608 | 884 |
| 609 | 884 |
| 610 | 884 |
| 611 | 884 |
| 2A612 | 884 |
| 613 | 884 |
| 614 | 884 |
| 615 | 884 |
| 616 | 884 |
| 2A617 | 884 |
| 618 | 884 |
| 619 | 884 |
| 620 | 884 |
| 621 | 884 |
| 2A622 | 884 |
| 623 | 884 |
| 624 | 884 |
| 625 | 880 |
| 626 | 880 |
| 2A627 | 1357 |
| 628 | 1357 |
| 629 | 1357 |
| 630 | 1357 |
| 631 | 1357 |
| 2A632 | 1357 |
| 633 | 1357 |
| 634 | 1357 |
| 635 | 1357 |
| 636 | 1357 |
| 2A637 | 1361 |
| 638 | 2680 |
| 642 | 568 |
| 643 | 568 |
| 644 | 568 |
| 2A645 | 3065 |
| 646 | 3256 |
| 647 | 3256 |
| 648 | 3256 |
| 649 | 3256 |
| 2A650 | 3258 |
| 659 | 2274 |
| 660 | 2274 |
| 664 | 2285 |
| 665 | 2285 |
| 2A666 | 2285 |
| 668 | 2278 |
| 670 | 2275 |
| 671 | 2285 |
| 672 | 2280 |
| 2A673 | 2279 |
| 674 | 2284 |
| 675 | 2284 |
| 676 | 2284 |
| 677 | 2284 |
| 2A678 | 2286 |
| 679 | 2286 |
| 680 | 2286 |
| 681 | 2286 |
| 682 | 2286 |
| 2A683 | 2286 |
| 684 | 2279 |
| 685 | 2279 |
| 702 | 2954 |
| 703 | 2954 |
| 2A704 | 2954 |
| 705 | 2954 |
| 706 | 2954 |
| 707 | 2954 |
| 708 | 2954 |
| 2A709 | 2954 |
| 710 | 2954 |
| 711 | 2954 |
| 712 | 2954 |
| 713 | 2954 |
| 2A714 | 2954 |
| 715 | 2954 |
| 716 | 2954 |
| 717 | 2954 |
| 718 | 2954 |
| 2A719 | 2954 |
| 720 | 2954 |
| 721 | 2954 |
| 722 | 2954 |
| 723 | 2954 |
| 2A724 | 2954 |
| 725 | 2954 |
| 726 | 2902 |
| 727 | 2902 |
| 728 | 2902 |
| 2A729 | 2902 |
| 730 | 2902 |
| 731 | 2815 |
| 732 | 2815 |
| 733 | 3020 |
| 2A734 | 3020 |
| 735 | 3020 |
| 736 | 1667 |
| 737 | 1667 |
| 738 | 1668 |
| 2A739 | 1668 |
| 741 | 1457 |
| 742 | 1457 |
| 743 | 1457 |
| 744 | 1469 |
| 2A745 | 1469 |
| 746 | 1469 |
| 747 | 1469 |
| 748 | 1457 |
| 749 | 1457 |
| 2A750 | 1457 |
| 751 | 1457 |
| 752 | 1457 |
| 754 | 234 |
| 755 | 354 |
| 2A756 | 354 |
| 757 | 347 |
| 758 | 347 |
| 764 | 354 |
| 765 | 354 |
| 2B | |
| 2BC02 | 2385 |
| 2BC08 | 2437 |
| C14 | 2553 |
| C51 | 2478 |
| C56 | 2594 |
| C74 | 2447 |
| 2BC77 | 2365 |
| C78 | 2363 |
| C85 | 2515 |
| C95 | 2622 |
| R08 | 1651 |
| 2BR09 | 1651 |
| R10 | 1651 |
| R11 | 1651 |
| R12 | 1651 |
| R13 | 1651 |
| 2BR14 | 1651 |
| R15 | 1651 |
| R16 | 1651 |
| R17 | 1651 |
| R18 | 1651 |
| 2BR19 | 1651 |
| R20 | 1651 |
| R21 | 1651 |
| R22 | 1651 |
| R23 | 1651 |
| 2BR24 | 1651 |
| R25 | 1651 |
| R26 | 1651 |
| R27 | 1651 |
| R28 | 1651 |
| 2BR29 | 1651 |
| R30 | 1651 |
| R31 | 1651 |
| R32 | 1651 |
| R33 | 1651 |
| 2BR34 | 1651 |
| R35 | 1651 |
| R36 | 1651 |
| R37 | 1651 |
| R38 | 1651 |
| 2BR39 | 1651 |
| R40 | 1651 |
| R41 | 1651 |
| R42 | 1651 |
| R43 | 1651 |
| 2BR44 | 1651 |
| R45 | 1651 |
| R46 | 1651 |
| R47 | 1651 |
| R48 | 1651 |
| 2BR49 | 1651 |
| R50 | 1651 |
| R51 | 1651 |
| R52 | 1651 |
| R53 | 1651 |
| 2BR54 | 1651 |
| R55 | 1651 |
| R56 | 1651 |
| R57 | 1651 |
| R58 | 1651 |
| 2BR59 | 1651 |
| R60 | 1651 |
| R61 | 1651 |
| R62 | 1651 |
| R63 | 1651 |
| 2BR64 | 1651 |
| R65 | 1651 |
| R66 | 1651 |
| R67 | 1651 |
| R68 | 1651 |
| 2BR69 | 1651 |
| R70 | 1651 |
| R71 | 1651 |
| R72 | 1651 |
| R73 | 1651 |
| 2BR74 | 1651 |
| T08 | 1659 |
| T09 | 1659 |
| T19 | 1659 |
| T43 | 1656 |
| 2BT44 | 1656 |
| T45 | 1656 |
| T46 | 1656 |
| T47 | 1656 |
| T48 | 1656 |
| 2BT49 | 1656 |
| T50 | 1656 |
| T51 | 1656 |
| T52 | 1656 |
| T53 | 1656 |
| 2BT54 | 1656 |
| T55 | 1656 |
| T56 | 1656 |
| T57 | 1656 |
| T58 | 1656 |
| 2BT59 | 1656 |
| T60 | 1656 |
| T61 | 1656 |
| T62 | 1656 |
| T63 | 1656 |
| 2BT64 | 1656 |
| T65 | 1656 |
| T66 | 1656 |
| T67 | 1656 |
| T68 | 1656 |
| 2BT69 | 1656 |
| T70 | 1656 |
| T71 | 1656 |
| T72 | 1656 |
| V01 | 1909 |
| 2BV06 | 1908 |
| V07 | 1908 |
| V39 | 1877 |
| V41 | 1877 |
| V51 | 3577 |
| 2BV52 | 3577 |
| V53 | 1870 |
| V54 | 1870 |
| W06 | 453 |
| W44 | 452 |

# STOCK NUMBER—PAGE NUMBER

## 2BW — 2D1


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2BW46 | 452 | 2CL54 | 379 | 2C071 | 1538 | 2C215 | 1546 | 2C368 | 3602 | 2C506 | 866 | 2C648 | 871 | 2C774 | 866 | 2C914 | 3631 | 2DD02 | 412 | 2D071 | 3558 |
| W55 | 1870 | L55 | 379 | 073 | 1540 | 217 | 1546 | 369 | 3602 | 508 | 866 | 649 | 2779 | 778 | 964 | 915 | 3631 | D03 | 412 | 072 | 3558 |
| W56 | 1870 | L56 | 379 | 075 | 1540 | 219 | 1546 | 370 | 3602 | 510 | 866 | 650 | 871 | 779 | 866 | 916 | 3631 | D04 | 412 | 073 | 3558 |
| W59 | 1870 | L57 | 379 | 077 | 1540 | 221 | 3587 | 372 | 3602 | 513 | 866 | 653 | 871 | 782 | 3631 | 917 | 3632 | D05 | 412 | 074 | 3558 |
| W60 | 1870 | L58 | 379 | 079 | 1541 | 222 | 3651 | 373 | 3602 | 515 | 866 | 654 | 2787 | 783 | 866 | 919 | 1689 | D06 | 412 | 075 | 3558 |
| 2BW61 | 1870 | 2CL59 | 379 | 2C081 | 1543 | 2C223 | 3651 | 2C374 | 3602 | 2C526 | 3599 | 2C661 | 871 | 2C784 | 920 | 2C920 | 871 | 2DD07 | 412 | 2D076 | 3558 |
| W64 | 396 | L60 | 379 | 085 | 1541 | 224 | 3651 | 390 | 1538 | 528 | 3565 | 664 | 871 | 785 | 3587 | 921 | 1005 | D09 | 410 | 078 | 3559 |
| W66 | 396 | L61 | 379 | 087 | 1540 | 225 | 1537 | 392 | 1538 | 529 | 3565 | 665 | 2781 | 786 | 866 | 922 | 871 | F11 | 410 | 079 | 3559 |
| X76 | 457 | L62 | 379 | 089 | 1540 | 227 | 1537 | 394 | 1538 | 530 | 3565 | 666 | 871 | 788 | 869 | 923 | 1689 | F25 | 410 | 080 | 3559 |
| X80 | 457 | L63 | 379 | 090 | 3563 | 230 | 1537 | 396 | 1538 | 531 | 3565 | 669 | 871 | 790 | 869 | 924 | 871 | F57 | 410 | 081 | 3559 |
| 2BZ24 | 463 | 2CL64 | 379 | 2C092 | 1539 | 2C232 | 1537 | 2C398 | 1538 | 2C532 | 3565 | 2C671 | 871 | 2C791 | 3588 | 2C925 | 923 | 2DG49 | 371 | 2D082 | 3558 |
| **2C** | | L65 | 379 | 094 | 1539 | 234 | 1537 | 400 | 1538 | 533 | 3565 | 673 | 871 | 792 | 3588 | 927 | 871 | G52 | 370 | 083 | 1589 |
| | | L66 | 379 | 096 | 1541 | 244 | 1537 | 401 | 1664 | 534 | 3565 | 675 | 3587 | 794 | 3588 | 932 | 875 | G99 | 375 | 084 | 1589 |
| 2CF48 | 463 | L67 | 379 | 098 | 1541 | 246 | 1537 | 402 | 1538 | 537 | 866 | 676 | 871 | 797 | 3659 | 935 | 875 | H09 | 372 | 085 | 1589 |
| F72 | 467 | L68 | 379 | 100 | 3587 | 248 | 1537 | 404 | 1538 | 540 | 1664 | 679 | 876 | 798 | 3659 | 938 | 3663 | H17 | 396 | 086 | 1589 |
| 2CF80 | 442 | 2CL69 | 379 | 2C101 | 1541 | 2C250 | 1537 | 2C406 | 3602 | 2C541 | 872 | 2C682 | 2787 | 2C799 | 3659 | 2C939 | 3663 | 2DH71 | 390 | 2D087 | 1589 |
| F88 | 442 | L72 | 393 | 103 | 1541 | 252 | 1537 | 407 | 1538 | 543 | 872 | 683 | 3602 | 800 | 3655 | 940 | 3664 | H72 | 390 | 088 | 1589 |
| F89 | 442 | L77 | 393 | 105 | 1541 | 254 | 1547 | 409 | 1538 | 546 | 869 | 684 | 876 | 801 | 869 | 943 | 875 | H73 | 390 | 090 | 1589 |
| F90 | 442 | L92 | 406 | 107 | 3587 | 256 | 1547 | 411 | 1538 | 548 | 875 | 686 | 876 | 802 | 3565 | 946 | 3632 | H83 | 392 | 091 | 1589 |
| F91 | 442 | L93 | 406 | 108 | 1541 | 258 | 1547 | 413 | 1538 | 550 | 869 | 687 | 2787 | 803 | 3565 | 947 | 3600 | J09 | 376 | 092 | 1589 |
| 2CF92 | 442 | 2CM61 | 406 | 2C111 | 1541 | 2C260 | 1547 | 2C415 | 1538 | 2C552 | 875 | 2C688 | 876 | 2C806 | 990 | 2C948 | 3600 | 2DJ75 | 374 | 2D093 | 1589 |
| F93 | 442 | M81 | 406 | 113 | 1539 | 262 | 1547 | 417 | 1538 | 554 | 869 | 690 | 876 | 807 | 869 | 949 | 3600 | K48 | 408 | 094 | 1589 |
| F94 | 442 | M82 | 406 | 115 | 1540 | 264 | 1547 | 419 | 1538 | 557 | 869 | 691 | 2787 | 819 | 3587 | 950 | 3600 | K57 | 408 | 095 | 1589 |
| F96 | 443 | N17 | 406 | 123 | 1540 | 266 | 1547 | 428 | 1538 | 558 | 1664 | 692 | 876 | 820 | 3664 | 951 | 3600 | K87 | 379 | 096 | 1589 |
| F97 | 443 | N18 | 406 | 126 | 1539 | 268 | 1547 | 430 | 1664 | 559 | 875 | 694 | 876 | 821 | 869 | 952 | 3600 | K88 | 379 | 097 | 1589 |
| 2CF98 | 443 | 2CP19 | 386 | 2C128 | 1539 | 2C270 | 1541 | 2C431 | 1538 | 2C561 | 869 | 2C696 | 876 | 2C827 | 924 | 2C953 | 3600 | 2DL09 | 379 | 2D099 | 1589 |
| F99 | 443 | P53 | 396 | 130 | 1539 | 273 | 1541 | 433 | 1538 | 563 | 869 | 700 | 884 | 831 | 3599 | 954 | 3600 | M13 | 372 | 100 | 1589 |
| G01 | 443 | P56 | 395 | 132 | 1539 | 275 | 1541 | 435 | 1538 | 565 | 875 | 703 | 182 | 832 | 3599 | 955 | 875 | M45 | 375 | 101 | 1589 |
| G06 | 444 | P57 | 395 | 134 | 1539 | 277 | 1541 | 437 | 1538 | 567 | 875 | 704 | 1793 | 833 | 869 | 957 | 875 | N35 | 390 | 102 | 1589 |
| G07 | 444 | R39 | 395 | 136 | 1539 | 279 | 1541 | 439 | 1538 | 568 | 1664 | 708 | 3587 | 835 | 869 | 959 | 869 | N36 | 390 | 103 | 1589 |
| 2CG08 | 444 | 2CR83 | 372 | 2C139 | 1541 | 2C281 | 1541 | 2C441 | 1538 | 2C569 | 869 | 2C709 | 884 | 2C836 | 924 | 2C960 | 3622 | 2DN37 | 390 | 2D105 | 1589 |
| G15 | 441 | R84 | 396 | 141 | 1541 | 283 | 1541 | 443 | 1538 | 572 | 871 | 710 | 3587 | 837 | 869 | 962 | 3632 | P84 | 386 | 107 | 1591 |
| G17 | 441 | R85 | 396 | 143 | 1541 | 285 | 1541 | 446 | 1538 | 576 | 871 | 712 | 884 | 842 | 3602 | 963 | 3586 | P87 | 386 | 109 | 1591 |
| G29 | 443 | R86 | 396 | 145 | 1541 | 287 | 1541 | 448 | 3405 | 578 | 871 | 713 | 3587 | 843 | 869 | 969 | 869 | 002 | 922 | 110 | 1589 |
| G32 | 443 | R90 | 386 | 147 | 1541 | 289 | 1541 | 450 | 871 | 588 | 871 | 715 | 884 | 845 | 1005 | 971 | 3642 | 003 | 1024 | 111 | 1589 |
| 2CG33 | 443 | 2CR93 | 386 | 2C149 | 1541 | 2C291 | 1541 | 2C451 | 1664 | 2C590 | 871 | 2C724 | 884 | 2C847 | 869 | 2C972 | 3643 | 2D004 | 1024 | 2D113 | 1589 |
| G37 | 443 | R95 | 386 | 151 | 1543 | 293 | 1543 | 452 | 871 | 591 | 1664 | 726 | 884 | 853 | 869 | 973 | 3642 | 005 | 983 | 114 | 1589 |
| G58 | 468 | R99 | 443 | 153 | 1543 | 296 | 1543 | 454 | 871 | 592 | 871 | 728 | 884 | 855 | 3602 | 974 | 3643 | 006 | 983 | 117 | 1591 |
| G59 | 468 | T01 | 443 | 155 | 1543 | 298 | 1543 | 456 | 871 | 594 | 869 | 730 | 884 | 856 | 3586 | 975 | 3642 | 007 | 983 | 118 | 1591 |
| G60 | 468 | T14 | 370 | 157 | 1543 | 301 | 1543 | 458 | 871 | 598 | 869 | 732 | 884 | 857 | 995 | 976 | 3643 | 008 | 983 | 119 | 1589 |
| 2CG61 | 468 | 2CT36 | 404 | 2C159 | 1543 | 2C303 | 1539 | 2C460 | 871 | 2C604 | 869 | 2C734 | 884 | 2C861 | 3603 | 2C977 | 3642 | 2D009 | 983 | 2D120 | 1589 |
| G62 | 468 | W08 | 551 | 161 | 1543 | 305 | 1547 | 462 | 871 | 606 | 869 | 736 | 884 | 862 | 3663 | 978 | 3643 | 010 | 983 | 121 | 1589 |
| G63 | 468 | W09 | 551 | 163 | 1544 | 307 | 1547 | 464 | 871 | 607 | 1664 | 738 | 884 | 863 | 3663 | 979 | 3642 | 011 | 983 | 122 | 1591 |
| G64 | 468 | W10 | 551 | 165 | 1544 | 309 | 1547 | 466 | 871 | 608 | 869 | 741 | 884 | 864 | 3663 | 980 | 3643 | 012 | 983 | 123 | 1591 |
| G65 | 468 | W41 | 540 | 167 | 1544 | 311 | 1547 | 468 | 871 | 611 | 869 | 743 | 884 | 869 | 869 | 986 | 3657 | 022 | 928 | 124 | 1591 |
| 2CG66 | 468 | 2CW46 | 540 | 2C169 | 1544 | 2C313 | 1547 | 2C470 | 884 | 2C613 | 869 | 2C745 | 884 | 2C871 | 869 | 2C987 | 3657 | 2D023 | 931 | 2D126 | 1591 |
| G67 | 468 | 001 | 1542 | 171 | 1544 | 320 | 1543 | 472 | 884 | 615 | 869 | 747 | 884 | 872 | 990 | 988 | 3657 | 024 | 931 | 129 | 1591 |
| G68 | 468 | 020 | 1542 | 173 | 1544 | 322 | 1543 | 474 | 884 | 618 | 875 | 749 | 884 | 873 | 869 | 999 | 3562 | 034 | 930 | 130 | 1591 |
| G69 | 468 | 022 | 1542 | 175 | 1546 | 324 | 1543 | 475 | 1664 | 621 | 875 | 750 | 1627 | 879 | 869 | **2D** | | 036 | 931 | 131 | 1589 |
| G70 | 468 | 028 | 1540 | 177 | 1546 | 326 | 1543 | 476 | 884 | 622 | 1664 | 751 | 884 | 880 | 938 | | | 037 | 930 | 132 | 1591 |
| 2CH65 | 446 | 2C030 | 1540 | 2C179 | 1545 | 2C331 | 1664 | 2C478 | 884 | 2C623 | 875 | 2C753 | 884 | 2C881 | 871 | 2DC08 | 2895 | 2D038 | 931 | 2D133 | 1591 |
| H66 | 446 | 032 | 1540 | 181 | 1545 | 335 | 3632 | 480 | 884 | 625 | 875 | 754 | 1627 | 887 | 3655 | C09 | 2895 | 039 | 930 | 134 | 1590 |
| H96 | 450 | 038 | 1538 | 183 | 1545 | 342 | 3587 | 482 | 884 | 629 | 875 | 755 | 884 | 888 | 3655 | C10 | 3236 | 046 | 931 | 135 | 1590 |
| H99 | 450 | 040 | 1538 | 185 | 1545 | 352 | 1664 | 484 | 884 | 630 | 1664 | 757 | 884 | 889 | 3663 | C11 | 3236 | 047 | 931 | 138 | 1590 |
| J01 | 450 | 042 | 1538 | 187 | 1545 | 354 | 3602 | 486 | 884 | 632 | 869 | 759 | 1627 | 890 | 3663 | C60 | 411 | 048 | 922 | 139 | 1590 |
| 2CJ40 | 451 | 2C046 | 1538 | 2C189 | 1545 | 2C356 | 3602 | 2C488 | 884 | 2C634 | 3587 | 2C760 | 884 | 2C893 | 871 | 2DC61 | 411 | 2D049 | 922 | 2D140 | 1590 |
| J62 | 448 | 048 | 1538 | 191 | 1545 | 358 | 3602 | 490 | 884 | 635 | 869 | 762 | 884 | 894 | 1005 | C64 | 411 | 050 | 922 | 141 | 1590 |
| J68 | 448 | 050 | 1538 | 193 | 1545 | 359 | 3602 | 492 | 871 | 636 | 1664 | 763 | 1627 | 895 | 871 | C65 | 411 | 051 | 922 | 142 | 1590 |
| J81 | 448 | 058 | 1538 | 195 | 1546 | 360 | 3602 | 494 | 870 | 637 | 869 | 764 | 884 | 897 | 871 | C69 | 411 | 052 | 922 | 144 | 1590 |
| J87 | 448 | 060 | 1538 | 197 | 1546 | 361 | 3602 | 496 | 870 | 638 | 1005 | 766 | 884 | 898 | 1005 | C71 | 411 | 060 | 1044 | 145 | 1590 |
| 2CJ91 | 448 | 2C062 | 1538 | 2C199 | 1546 | 2C362 | 3602 | 2C498 | 870 | 2C639 | 869 | 2C767 | 1627 | 2C904 | 3597 | 2DC80 | 412 | 2D064 | 3558 | 2D146 | 1590 |
| K50 | 449 | 064 | 1538 | 201 | 1546 | 363 | 3602 | 499 | 1664 | 641 | 869 | 768 | 866 | 905 | 3563 | C81 | 412 | 065 | 3558 | 147 | 1590 |
| K70 | 448 | 066 | 1538 | 209 | 1546 | 364 | 3602 | 500 | 866 | 643 | 869 | 770 | 866 | 911 | 871 | C86 | 412 | 067 | 3558 | 148 | 1590 |
| L52 | 379 | 067 | 3631 | 211 | 1546 | 365 | 3602 | 502 | 866 | 646 | 3631 | 771 | 1627 | 912 | 3622 | C91 | 412 | 068 | 3558 | 149 | 1590 |
| L53 | 379 | 069 | 3631 | 213 | 1546 | 367 | 3602 | 504 | 3563 | 647 | 3631 | 772 | 866 | 913 | 3622 | D01 | 412 | 070 | 3558 | 150 | 1590 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2D151 | 1590 | 2D231 | 1591 | 2D343 | 1590 | 2D440 | 1590 | 2D510 | 1610 | 2D577 | 1617 | 2D642 | 1619 | 2D735 | 1625 | 2D822 | 1597 | 2D887 | 1598 | 2EG64 | 535 |
| 152 | 1590 | 233 | 1590 | 344 | 1590 | 441 | 1590 | 511 | 1608 | 578 | 1617 | 643 | 1619 | 736 | 1625 | 823 | 1597 | 888 | 1598 | G67 | 535 |
| 154 | 1590 | 234 | 1590 | 345 | 1590 | 442 | 1590 | 512 | 1608 | 579 | 1617 | 644 | 1619 | 737 | 1625 | 824 | 1597 | 889 | 1598 | G86 | 535 |
| 155 | 1590 | 235 | 1590 | 346 | 1590 | 443 | 1589 | 513 | 1608 | 580 | 1617 | 645 | 1619 | 738 | 1625 | 825 | 1597 | 890 | 1598 | H12 | 535 |
| 156 | 1590 | 236 | 1590 | 347 | 1590 | 444 | 1589 | 514 | 1608 | 581 | 1617 | 646 | 1619 | 739 | 1625 | 826 | 1597 | 891 | 1598 | H13 | 535 |
| 2D158 | 1590 | 2D237 | 1590 | 2D348 | 1590 | 2D445 | 1590 | 2D515 | 1611 | 2D582 | 1617 | 2D647 | 1619 | 2D740 | 1625 | 2D827 | 1597 | 2D892 | 1598 | 2EH73 | 533 |
| 159 | 1590 | 238 | 1591 | 349 | 1590 | 446 | 1590 | 516 | 1611 | 583 | 1617 | 648 | 1619 | 741 | 1625 | 828 | 1597 | 893 | 1598 | J34 | 536 |
| 160 | 1590 | 239 | 1591 | 350 | 1590 | 447 | 1590 | 517 | 1611 | 584 | 1617 | 649 | 1619 | 742 | 1625 | 829 | 1597 | 894 | 1598 | J35 | 536 |
| 161 | 1590 | 240 | 1591 | 352 | 1590 | 448 | 1589 | 518 | 1611 | 585 | 1617 | 650 | 1619 | 743 | 1625 | 830 | 1597 | 895 | 1598 | K12 | 519 |
| 162 | 1590 | 241 | 1589 | 353 | 1590 | 449 | 1611 | 519 | 1611 | 586 | 1617 | 651 | 1619 | 744 | 1625 | 831 | 1597 | 896 | 1598 | K13 | 519 |
| 2D163 | 1590 | 2D243 | 1589 | 2D354 | 1590 | 2D450 | 1611 | 2D520 | 1616 | 2D587 | 1617 | 2D652 | 1619 | 2D745 | 1625 | 2D832 | 1597 | 2D897 | 1598 | 2EK24 | 519 |
| 164 | 1590 | 248 | 1589 | 355 | 1590 | 451 | 1611 | 521 | 1616 | 588 | 1618 | 653 | 1619 | 746 | 1625 | 833 | 1597 | 898 | 1598 | K43 | 518 |
| 165 | 1591 | 249 | 1589 | 356 | 1590 | 452 | 1611 | 522 | 1616 | 589 | 1618 | 654 | 1619 | 747 | 1625 | 834 | 1597 | 899 | 1598 | K47 | 518 |
| 166 | 1591 | 251 | 1589 | 357 | 1590 | 453 | 1610 | 523 | 1616 | 590 | 1618 | 655 | 1619 | 748 | 1625 | 835 | 1597 | 900 | 1598 | K70 | 502 |
| 167 | 1591 | 256 | 1591 | 358 | 1590 | 454 | 1608 | 524 | 1616 | 591 | 1616 | 656 | 1619 | 749 | 1592 | 836 | 1597 | 901 | 1598 | K71 | 502 |
| 2D168 | 1591 | 2D257 | 1589 | 2D360 | 1590 | 2D455 | 1608 | 2D525 | 1616 | 2D592 | 1616 | 2D657 | 1619 | 2D750 | 1592 | 2D837 | 1597 | 2D902 | 1598 | 2EK72 | 502 |
| 171 | 1590 | 258 | 1591 | 361 | 1590 | 456 | 1608 | 526 | 1616 | 593 | 1616 | 658 | 1619 | 751 | 1592 | 838 | 1597 | 903 | 1598 | K73 | 502 |
| 172 | 1590 | 261 | 1591 | 362 | 1590 | 457 | 1608 | 527 | 1617 | 594 | 1616 | 659 | 1619 | 752 | 1592 | 839 | 1597 | 904 | 1598 | K74 | 502 |
| 173 | 1590 | 262 | 1591 | 363 | 1590 | 458 | 1608 | 528 | 1617 | 595 | 1616 | 660 | 1619 | 753 | 1592 | 840 | 1597 | 905 | 1598 | K75 | 502 |
| 174 | 1590 | 263 | 1589 | 366 | 1590 | 459 | 1608 | 529 | 1617 | 596 | 1616 | 661 | 1619 | 754 | 1592 | 841 | 1597 | 906 | 1598 | K76 | 502 |
| 2D175 | 1590 | 2D266 | 1589 | 2D375 | 1590 | 2D460 | 1608 | 2D530 | 1617 | 2D597 | 1616 | 2D662 | 1619 | 2D755 | 1592 | 2D842 | 1597 | 2D916 | 1603 | 2EK79 | 502 |
| 176 | 1590 | 267 | 1589 | 377 | 1590 | 461 | 1608 | 531 | 1618 | 598 | 1618 | 663 | 1619 | 756 | 1592 | 843 | 1597 | 917 | 1603 | L08 | 515 |
| 177 | 1590 | 272 | 1589 | 378 | 1590 | 462 | 1608 | 532 | 1618 | 599 | 1618 | 664 | 1619 | 757 | 1592 | 844 | 1597 | 918 | 1603 | L23 | 515 |
| 178 | 1590 | 273 | 1589 | 379 | 1590 | 463 | 1608 | 533 | 1618 | 600 | 1618 | 665 | 1619 | 758 | 1592 | 845 | 1597 | 919 | 1603 | L29 | 512 |
| 179 | 1590 | 275 | 1589 | 381 | 1590 | 464 | 1608 | 534 | 1617 | 601 | 1618 | 666 | 1619 | 759 | 1592 | 846 | 1597 | 920 | 1603 | L59 | 517 |
| 2D180 | 1590 | 2D276 | 1589 | 2D384 | 1590 | 2D465 | 1608 | 2D535 | 1617 | 2D602 | 1618 | 2D667 | 1619 | 2D760 | 1592 | 2D847 | 1597 | 2D921 | 1603 | 2EL60 | 517 |
| 181 | 1590 | 278 | 1589 | 385 | 1590 | 466 | 1609 | 536 | 1617 | 603 | 1617 | 668 | 1620 | 761 | 1592 | 848 | 1597 | 922 | 1603 | L91 | 515 |
| 183 | 1591 | 283 | 1589 | 386 | 1590 | 467 | 1609 | 537 | 1617 | 604 | 1617 | 669 | 1619 | 762 | 1592 | 849 | 1597 | 925 | 1603 | L96 | 513 |
| 187 | 1590 | 284 | 1589 | 387 | 1590 | 468 | 1609 | 538 | 1617 | 605 | 1617 | 670 | 1619 | 764 | 1592 | 850 | 1597 | 929 | 1603 | M15 | 517 |
| 189 | 1590 | 285 | 1591 | 388 | 1590 | 469 | 1609 | 539 | 1617 | 606 | 1617 | 671 | 1619 | 765 | 1592 | 851 | 1597 | 930 | 1603 | M17 | 517 |
| 2D190 | 1590 | 2D286 | 1591 | 2D391 | 1590 | 2D470 | 1609 | 2D540 | 1617 | 2D607 | 1617 | 2D672 | 1619 | 2D767 | 1592 | 2D852 | 1597 | 2D931 | 1603 | 2EM18 | 517 |
| 192 | 1590 | 287 | 1591 | 392 | 1591 | 471 | 1609 | 541 | 1617 | 608 | 1617 | 673 | 1619 | 769 | 1592 | 853 | 1597 | 932 | 1603 | M52 | 517 |
| 193 | 1590 | 288 | 1591 | 393 | 1591 | 472 | 1609 | 542 | 1617 | 609 | 1617 | 674 | 1619 | 770 | 1592 | 854 | 1597 | 938 | 1603 | M53 | 517 |
| 194 | 1590 | 290 | 1589 | 397 | 1590 | 473 | 1609 | 543 | 1617 | 610 | 1617 | 675 | 1619 | 772 | 1592 | 855 | 1597 | 939 | 1603 | M54 | 517 |
| 195 | 1590 | 291 | 1589 | 399 | 1590 | 474 | 1610 | 544 | 1617 | 611 | 1617 | 676 | 1619 | 773 | 1592 | 856 | 1597 | 941 | 1603 | M57 | 517 |
| 2D197 | 1590 | 2D292 | 1589 | 2D403 | 1591 | 2D475 | 1610 | 2D545 | 1617 | 2D612 | 1618 | 2D677 | 1619 | 2D774 | 1592 | 2D857 | 1597 | 2D944 | 1594 | 2EM69 | 517 |
| 198 | 1590 | 293 | 1589 | 404 | 1591 | 476 | 1610 | 546 | 1617 | 613 | 1618 | 678 | 1619 | 776 | 1592 | 858 | 1597 | 947 | 1594 | M73 | 517 |
| 199 | 1590 | 294 | 1589 | 405 | 1591 | 477 | 1610 | 547 | 1617 | 614 | 1618 | 679 | 1619 | 777 | 1592 | 859 | 1597 | 951 | 1594 | M76 | 517 |
| 201 | 1590 | 296 | 1589 | 407 | 1589 | 478 | 1610 | 548 | 1617 | 615 | 1618 | 708 | 1624 | 778 | 1592 | 860 | 1597 | 952 | 1594 | N30 | 512 |
| 202 | 1590 | 298 | 1589 | 408 | 1589 | 479 | 1610 | 549 | 1617 | 616 | 1620 | 709 | 1624 | 779 | 1592 | 861 | 1597 | 953 | 1594 | N32 | 512 |
| 2D204 | 1590 | 2D299 | 1589 | 2D409 | 1589 | 2D480 | 1610 | 2D550 | 1618 | 2D617 | 1620 | 2D710 | 1624 | 2D781 | 1594 | 2D862 | 1597 | 2E | | 2EN42 | 512 |
| 205 | 1590 | 302 | 1589 | 410 | 1589 | 481 | 1610 | 551 | 1618 | 618 | 1620 | 711 | 1624 | 782 | 1592 | 863 | 1597 | | | N43 | 512 |
| 206 | 1590 | 303 | 1589 | 411 | 1591 | 482 | 1610 | 552 | 1618 | 619 | 1620 | 712 | 1624 | 783 | 1592 | 864 | 1598 | 2EF09 | 531 | N47 | 512 |
| 207 | 1590 | 309 | 1589 | 413 | 1590 | 483 | 1610 | 553 | 1618 | 620 | 1620 | 713 | 1624 | 784 | 1592 | 865 | 1598 | F10 | 531 | N49 | 512 |
| 208 | 1590 | 310 | 1589 | 414 | 1591 | 484 | 1610 | 554 | 1618 | 621 | 1620 | 714 | 1624 | 785 | 1592 | 866 | 1598 | F19 | 531 | N74 | 511 |
| 2D209 | 1590 | 2D312 | 1589 | 2D415 | 1591 | 2D485 | 1610 | 2D555 | 1618 | 2D622 | 1620 | 2D715 | 1624 | 2D788 | 1592 | 2D867 | 1598 | 2EF20 | 531 | 2EN91 | 515 |
| 210 | 1590 | 313 | 1589 | 416 | 1591 | 486 | 1610 | 556 | 1618 | 623 | 1620 | 716 | 1624 | 789 | 1592 | 868 | 1598 | F24 | 531 | N92 | 515 |
| 211 | 1590 | 314 | 1589 | 417 | 1591 | 487 | 1610 | 557 | 1618 | 624 | 1620 | 717 | 1624 | 792 | 1626 | 869 | 1598 | F40 | 535 | N94 | 515 |
| 212 | 1590 | 315 | 1589 | 421 | 1589 | 488 | 1610 | 558 | 1618 | 625 | 1620 | 718 | 1625 | 793 | 1626 | 870 | 1598 | F42 | 535 | P01 | 515 |
| 213 | 1590 | 317 | 1589 | 422 | 1589 | 489 | 1611 | 559 | 1618 | 626 | 1620 | 719 | 1625 | 794 | 1626 | 871 | 1598 | F46 | 535 | P03 | 515 |
| 2D214 | 1591 | 2D320 | 1589 | 2D423 | 1589 | 2D490 | 1611 | 2D560 | 1618 | 2D627 | 1620 | 2D720 | 1625 | 2D795 | 1626 | 2D872 | 1598 | 2EF49 | 535 | 2EP97 | 504 |
| 215 | 1591 | 321 | 1589 | 424 | 1589 | 491 | 1611 | 561 | 1618 | 628 | 1620 | 721 | 1625 | 796 | 1626 | 873 | 1598 | F62 | 535 | P98 | 504 |
| 216 | 1591 | 323 | 1589 | 425 | 1589 | 492 | 1611 | 562 | 1618 | 629 | 1620 | 722 | 1625 | 798 | 1626 | 874 | 1598 | F73 | 534 | R01 | 504 |
| 217 | 1591 | 324 | 1589 | 426 | 1591 | 493 | 1611 | 563 | 1618 | 630 | 1620 | 723 | 1625 | 799 | 1626 | 875 | 1598 | F74 | 534 | R02 | 504 |
| 218 | 1591 | 328 | 1589 | 428 | 1590 | 494 | 1611 | 564 | 1618 | 631 | 1620 | 724 | 1625 | 800 | 1626 | 876 | 1598 | F75 | 534 | R05 | 504 |
| 2D219 | 1591 | 2D329 | 1589 | 2D429 | 1590 | 2D498 | 1611 | 2D565 | 1618 | 2D632 | 1620 | 2D725 | 1625 | 2D801 | 1626 | 2D877 | 1598 | 2EF76 | 534 | 2ER06 | 504 |
| 220 | 1590 | 330 | 1589 | 430 | 1590 | 499 | 1611 | 567 | 1618 | 633 | 1620 | 726 | 1625 | 813 | 1593 | 878 | 1598 | F77 | 534 | R16 | 515 |
| 221 | 1590 | 334 | 1589 | 431 | 1590 | 500 | 1611 | 568 | 1618 | 634 | 1620 | 727 | 1625 | 814 | 1593 | 879 | 1598 | F93 | 534 | R36 | 518 |
| 222 | 1590 | 335 | 1589 | 433 | 1590 | 501 | 1611 | 569 | 1618 | 635 | 1620 | 728 | 1625 | 815 | 1593 | 880 | 1598 | F94 | 535 | R59 | 514 |
| 223 | 1590 | 336 | 1591 | 434 | 1590 | 502 | 1611 | 570 | 1618 | 636 | 1620 | 729 | 1625 | 816 | 1593 | 881 | 1598 | F95 | 535 | R60 | 518 |
| 2D224 | 1590 | 2D337 | 1591 | 2D435 | 1590 | 2D503 | 1611 | 2D572 | 1618 | 2D637 | 1620 | 2D730 | 1625 | 2D817 | 1593 | 2D882 | 1598 | 2EG17 | 534 | 2ER81 | 518 |
| 226 | 1590 | 338 | 1591 | 436 | 1590 | 506 | 1611 | 573 | 1617 | 638 | 1620 | 731 | 1625 | 818 | 1593 | 883 | 1598 | G26 | 535 | T68 | 502 |
| 227 | 1590 | 339 | 1591 | 437 | 1590 | 507 | 1611 | 574 | 1617 | 639 | 1619 | 732 | 1625 | 819 | 1593 | 884 | 1598 | G27 | 535 | T95 | 524 |
| 228 | 1590 | 340 | 1591 | 438 | 1589 | 508 | 1611 | 575 | 1617 | 640 | 1619 | 733 | 1625 | 820 | 1593 | 885 | 1598 | G38 | 535 | V14 | 509 |
| 229 | 1590 | 342 | 1590 | 439 | 1590 | 509 | 1610 | 576 | 1617 | 641 | 1619 | 734 | 1625 | 821 | 1597 | 886 | 1598 | G39 | 535 | V17 | 507 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2EV26 | 518 | 2E165 | 3312 | 2E362 | 3334 | 2E515 | 3311 | 2E706 | 3323 | 2E858 | 3329 | 2E942 | 3373 | 2FG52 | 518 | 2F005 | 1205 | 2F075 | 930 | 2F148 | 1762 |
| V28 | 518 | 166 | 3346 | 363 | 3334 | 516 | 3328 | 720 | 3346 | 859 | 3354 | 943 | 3372 | G53 | 518 | 006 | 876 | 076 | 884 | 149 | 885 |
| V34 | 518 | 175 | 573 | 364 | 3334 | 517 | 3328 | 721 | 3346 | 860 | 3356 | 944 | 3372 | G54 | 518 | 007 | 1205 | 077 | 1762 | 150 | 1763 |
| W20 | 523 | 206 | 3330 | 365 | 3334 | 518 | 3338 | 724 | 3330 | 861 | 3356 | 945 | 3372 | G55 | 518 | 008 | 876 | 078 | 884 | 151 | 885 |
| W90 | 503 | 207 | 3330 | 366 | 3334 | 519 | 3338 | 725 | 3345 | 864 | 3351 | 946 | 3372 | G56 | 518 | 009 | 1205 | 080 | 884 | 152 | 990 |
| 2EW93 | 505 | 2E209 | 585 | 2E367 | 3338 | 2E520 | 3344 | 2E726 | 3344 | 2E865 | 3351 | 2E947 | 3372 | 2FG67 | 509 | 2F010 | 876 | 2F082 | 884 | 2F153 | 885 |
| X23 | 509 | 210 | 585 | 368 | 3338 | 521 | 3351 | 727 | 3351 | 866 | 3336 | 948 | 3372 | G68 | 509 | 011 | 1205 | 084 | 884 | 154 | 1763 |
| X24 | 509 | 213 | 575 | 369 | 3328 | 523 | 3351 | 728 | 3330 | 867 | 3336 | 949 | 3372 | G71 | 508 | 012 | 876 | 086 | 884 | 155 | 876 |
| X67 | 507 | 214 | 579 | 370 | 3338 | 524 | 3346 | 729 | 3085 | 868 | 3336 | 950 | 3372 | G73 | 509 | 013 | 1204 | 088 | 884 | 156 | 930 |
| X71 | 508 | 215 | 3312 | 371 | 3338 | 525 | 3346 | 730 | 3345 | 869 | 3330 | 951 | 3372 | G77 | 509 | 014 | 876 | 090 | 884 | 157 | 876 |
| 2EX72 | 508 | 2E220 | 584 | 2E372 | 3338 | 2E526 | 3381 | 2E731 | 3345 | 2E870 | 3353 | 2E952 | 3372 | 2FG78 | 509 | 2F015 | 1204 | 2F091 | 1762 | 2F158 | 1763 |
| X73 | 507 | 221 | 584 | 374 | 3345 | 527 | 3381 | 734 | 3328 | 887 | 3085 | 953 | 3427 | G79 | 2895 | 016 | 876 | 092 | 885 | 159 | 876 |
| 002 | 869 | 228 | 3345 | 375 | 3332 | 528 | 3381 | 735 | 3328 | 889 | 3369 | 954 | 3427 | G98 | 3236 | 017 | 2787 | 093 | 932 | 160 | 1763 |
| 005 | 869 | 229 | 3345 | 376 | 3354 | 529 | 3381 | 740 | 3331 | 890 | 3369 | 955 | 3427 | H01 | 3236 | 018 | 876 | 094 | 885 | 161 | 876 |
| 007 | 1204 | 231 | 3346 | 377 | 3337 | 530 | 3381 | 741 | 3357 | 891 | 3369 | 956 | 3427 | H02 | 3236 | 019 | 2779 | 095 | 932 | 163 | 876 |
| 2E008 | 869 | 2E232 | 3338 | 2E378 | 3337 | 2E531 | 3508 | 2E747 | 3430 | 2E892 | 3369 | 2E957 | 3427 | 2FH05 | 3236 | 2F020 | 876 | 2F096 | 885 | 2F165 | 876 |
| 009 | 1204 | 235 | 3311 | 379 | 3323 | 532 | 3473 | 748 | 3430 | 893 | 3369 | 958 | 3427 | H06 | 3236 | 021 | 2779 | 097 | 1005 | 167 | 876 |
| 010 | 869 | 245 | 3334 | 380 | 3345 | 533 | 3473 | 754 | 3082 | 894 | 3369 | 959 | 3427 | H08 | 3236 | 022 | 876 | 098 | 885 | 169 | 876 |
| 013 | 1204 | 246 | 3334 | 381 | 3338 | 534 | 3473 | 755 | 3082 | 895 | 3369 | 971 | 3407 | H10 | 3236 | 024 | 876 | 099 | 1001 | 171 | 876 |
| 019 | 869 | 247 | 3334 | 383 | 3339 | 535 | 3327 | 756 | 3082 | 896 | 3369 | 972 | 3407 | H59 | 3233 | 026 | 876 | 100 | 885 | 172 | 930 |
| 2E021 | 576 | 2E248 | 3334 | 2E384 | 3507 | 2E538 | 3352 | 2E757 | 3082 | 2E897 | 3369 | 2E973 | 3407 | 2FH85 | 3233 | 2F028 | 876 | 2F101 | 990 | 2F173 | 876 |
| 022 | 576 | 249 | 3334 | 385 | 3507 | 539 | 3508 | 758 | 3082 | 898 | 3369 | 974 | 3318 | H86 | 3233 | 030 | 876 | 102 | 885 | 175 | 876 |
| 024 | 576 | 250 | 3334 | 389 | 575 | 552 | 3332 | 759 | 3082 | 899 | 3369 | 975 | 3323 | H90 | 3233 | 031 | 1005 | 103 | 937 | 177 | 876 |
| 025 | 576 | 251 | 3334 | 390 | 3507 | 553 | 3336 | 760 | 3082 | 900 | 3369 | 976 | 3350 | H92 | 3233 | 032 | 884 | 104 | 885 | 179 | 876 |
| 026 | 575 | 252 | 3334 | 394 | 869 | 554 | 3336 | 761 | 3082 | 901 | 3313 | 980 | 3497 | J26 | 3233 | 033 | 963 | 105 | 937 | 181 | 876 |
| 2E029 | 1204 | 2E253 | 3334 | 2E397 | 3311 | 2E555 | 3336 | 2E762 | 3082 | 2E902 | 3369 | 2E981 | 3497 | 2FK39 | 468 | 2F034 | 884 | 2F106 | 885 | 2F182 | 1763 |
| 033 | 869 | 256 | 585 | 398 | 3353 | 563 | 3348 | 763 | 3082 | 903 | 3369 | 982 | 3497 | L81 | 399 | 035 | 963 | 107 | 937 | 183 | 870 |
| 046 | 3082 | 257 | 570 | 399 | 3331 | 569 | 3398 | 764 | 3082 | 904 | 3369 | 983 | 3497 | L88 | 535 | 036 | 884 | 108 | 885 | 184 | 990 |
| 048 | 3082 | 258 | 576 | 401 | 3345 | 574 | 3357 | 765 | 3082 | 905 | 3369 | 984 | 3497 | L89 | 535 | 037 | 962 | 109 | 937 | 185 | 870 |
| 049 | 3082 | 259 | 576 | 402 | 3345 | 580 | 3396 | 766 | 3082 | 906 | 3369 | 985 | 3497 | L92 | 535 | 038 | 884 | 110 | 885 | 187 | 870 |
| 2E050 | 3341 | 2E260 | 869 | 2E408 | 585 | 2E581 | 3396 | 2E767 | 3082 | 2E907 | 3369 | 2E986 | 3498 | 2FM10 | 536 | 2F039 | 965 | 2F111 | 937 | 2F189 | 870 |
| 051 | 3341 | 269 | 573 | 430 | 3323 | 582 | 3396 | 768 | 3082 | 908 | 3369 | 987 | 3498 | M51 | 461 | 040 | 884 | 112 | 885 | 191 | 870 |
| 052 | 573 | 270 | 573 | 446 | 3346 | 583 | 3396 | 769 | 3082 | 909 | 3369 | 988 | 3498 | M69 | 502 | 041 | 968 | 113 | 937 | 192 | 938 |
| 054 | 574 | 274 | 570 | 449 | 3329 | 584 | 3396 | 770 | 3082 | 910 | 3369 | 989 | 3498 | M77 | 517 | 042 | 884 | 114 | 885 | 193 | 870 |
| 055 | 574 | 278 | 3310 | 453 | 3357 | 585 | 3396 | 776 | 3645 | 911 | 3369 | 990 | 3498 | N30 | 523 | 043 | 923 | 115 | 1762 | 194 | 991 |
| 2E059 | 1204 | 2E290 | 3353 | 2E457 | 3082 | 2E586 | 3396 | 2E777 | 3323 | 2E912 | 3313 | 2E994 | 3313 | 2FN35 | 523 | 2F044 | 884 | 2F116 | 885 | 2F195 | 870 |
| 060 | 869 | 291 | 3353 | 458 | 3082 | 587 | 3396 | 778 | 3311 | 913 | 3369 | 995 | 3313 | N83 | 509 | 045 | 923 | 117 | 990 | 196 | 938 |
| 064 | 1204 | 295 | 3082 | 459 | 3082 | 588 | 3396 | 782 | 3419 | 914 | 3369 | 996 | 3311 | P16 | 509 | 046 | 884 | 118 | 885 | 197 | 870 |
| 072 | 869 | 298 | 3082 | 460 | 3082 | 589 | 3395 | 783 | 3419 | 915 | 3369 | 997 | 3328 | P36 | 2895 | 047 | 1762 | 119 | 1762 | 199 | 870 |
| 073 | 3357 | 299 | 3082 | 461 | 3335 | 590 | 3395 | 787 | 3353 | 916 | 3369 | 998 | 3332 | P43 | 1870 | 048 | 884 | 120 | 885 | 200 | 939 |
| 2E079 | 1205 | 2E300 | 3082 | 2E462 | 3357 | 2E591 | 3395 | 2E788 | 3353 | 2E917 | 3369 | 2E999 | 3323 | 2FP44 | 1870 | 2F049 | 1762 | 2F121 | 1762 | 2F201 | 885 |
| 082 | 3357 | 301 | 3082 | 463 | 3507 | 592 | 3398 | 789 | 3353 | 918 | 3369 | **2F** | | P45 | 1870 | 050 | 884 | 122 | 885 | 202 | 940 |
| 090 | 869 | 302 | 3082 | 464 | 3507 | 601 | 3323 | 790 | 3353 | 919 | 3370 | | | P46 | 1870 | 051 | 931 | 123 | 1762 | 203 | 885 |
| 096 | 3311 | 303 | 3082 | 466 | 3312 | 602 | 3323 | 791 | 3344 | 920 | 3370 | 2FF13 | 506 | P48 | 1870 | 052 | 884 | 124 | 885 | 204 | 982 |
| 102 | 3082 | 333 | 585 | 469 | 3346 | 603 | 3337 | 815 | 3330 | 921 | 3370 | F50 | 507 | P50 | 1992 | 053 | 931 | 125 | 1184 | 205 | 885 |
| 2E103 | 1205 | 2E334 | 585 | 2E470 | 3339 | 2E604 | 3337 | 2E816 | 3330 | 2E922 | 3370 | 2FF62 | 508 | 2FP52 | 1992 | 2F054 | 884 | 2F126 | 1176 | 2F206 | 922 |
| 104 | 3341 | 335 | 585 | 471 | 3339 | 605 | 3337 | 817 | 3327 | 923 | 3370 | F63 | 508 | P54 | 1999 | 055 | 1005 | 127 | 2779 | 207 | 885 |
| 105 | 3082 | 337 | 3346 | 472 | 3339 | 606 | 3337 | 818 | 3338 | 924 | 3371 | F64 | 508 | P61 | 2004 | 056 | 884 | 128 | 2779 | 209 | 885 |
| 130 | 585 | 338 | 3346 | 475 | 1205 | 607 | 3337 | 819 | 3338 | 925 | 3371 | F65 | 508 | P62 | 2004 | 057 | 987 | 130 | 2782 | 210 | 990 |
| 131 | 585 | 340 | 3329 | 477 | 3328 | 608 | 3337 | 820 | 3338 | 926 | 3371 | F66 | 508 | P63 | 2004 | 058 | 884 | 132 | 2782 | 211 | 3413 |
| 2E132 | 574 | 2E341 | 3351 | 2E483 | 3082 | 2E609 | 3331 | 2E821 | 3354 | 2E927 | 3372 | 2FF67 | 508 | 2FP64 | 2004 | 2F059 | 988 | 2F133 | 2790 | 2F212 | 982 |
| 139 | 3338 | 345 | 1205 | 484 | 3357 | 632 | 3310 | 830 | 3310 | 928 | 3372 | F68 | 508 | P65 | 2004 | 060 | 884 | 134 | 2789 | 213 | 864 |
| 140 | 3346 | 346 | 3332 | 485 | 869 | 634 | 3312 | 831 | 3327 | 929 | 3372 | F69 | 508 | P66 | 2004 | 061 | 923 | 135 | 2790 | 214 | 964 |
| 141 | 3346 | 347 | 3328 | 490 | 1205 | 667 | 3420 | 832 | 3327 | 930 | 3372 | F71 | 508 | X57 | 1482 | 062 | 884 | 136 | 2785 | 215 | 864 |
| 142 | 3346 | 348 | 3354 | 491 | 3082 | 668 | 3508 | 834 | 3331 | 931 | 3372 | F72 | 508 | X66 | 1464 | 063 | 919 | 137 | 1546 | 216 | 964 |
| 2E145 | 3354 | 2E349 | 3354 | 2E493 | 3082 | 2E673 | 3082 | 2E846 | 3356 | 2E932 | 3372 | 2FF73 | 508 | 2FX67 | 1464 | 2F064 | 884 | 2F138 | 2782 | 2F217 | 864 |
| 146 | 3354 | 350 | 3354 | 494 | 3082 | 674 | 3082 | 848 | 3331 | 933 | 3372 | F74 | 508 | X68 | 1464 | 065 | 919 | 139 | 2782 | 218 | 965 |
| 147 | 3338 | 351 | 576 | 496 | 3082 | 675 | 3082 | 850 | 3323 | 934 | 3372 | G30 | 509 | X69 | 1464 | 066 | 884 | 140 | 2781 | 219 | 864 |
| 148 | 3338 | 352 | 583 | 503 | 3329 | 676 | 3082 | 851 | 3323 | 935 | 3373 | G31 | 509 | X70 | 1464 | 067 | 959 | 141 | 2781 | 220 | 965 |
| 150 | 3312 | 353 | 576 | 507 | 3352 | 679 | 3341 | 852 | 3335 | 936 | 3373 | G32 | 509 | X71 | 1464 | 068 | 884 | 142 | 2789 | 221 | 864 |
| 2E151 | 3311 | 2E354 | 576 | 2E508 | 3352 | 2E680 | 3341 | 2E853 | 3334 | 2E937 | 3373 | 2FG33 | 509 | 2FX73 | 1426 | 2F069 | 995 | 2F143 | 2789 | 2F222 | 967 |
| 156 | 3310 | 355 | 585 | 509 | 3352 | 681 | 3336 | 854 | 3345 | 938 | 3373 | G36 | 509 | 001 | 1205 | 070 | 884 | 144 | 2782 | 223 | 864 |
| 158 | 3329 | 356 | 585 | 510 | 3377 | 682 | 3336 | 855 | 3311 | 939 | 3373 | G37 | 509 | 002 | 869 | 071 | 974 | 145 | 2781 | 224 | 967 |
| 163 | 3353 | 357 | 585 | 511 | 3377 | 704 | 3341 | 856 | 3318 | 940 | 3373 | G41 | 509 | 003 | 1205 | 072 | 884 | 146 | 2779 | 225 | 864 |
| 164 | 3353 | 360 | 3351 | 514 | 3310 | 705 | 3341 | 857 | 3335 | 941 | 3373 | G51 | 518 | 004 | 876 | 074 | 884 | 147 | 2790 | 226 | 1008 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2F227 | 864 | 2F297 | 2835 | 2F371 | 2836 | 2F438 | 989 | 2F512 | 969 | 2F582 | 920 | 2F648 | 1000 | 2F730 | 1763 | 2F796 | 1762 | 2F861 | 2933 | 2F947 | 2947 |
| 228 | 960 | 298 | 995 | 372 | 989 | 439 | 2838 | 513 | 2833 | 583 | 2832 | 649 | 2832 | 731 | 2831 | 797 | 2935 | 862 | 1762 | 948 | 919 |
| 229 | 864 | 299 | 2835 | 373 | 2836 | 440 | 989 | 514 | 969 | 584 | 999 | 650 | 991 | 732 | 1763 | 798 | 1762 | 863 | 2933 | 949 | 2947 |
| 230 | 1001 | 301 | 2835 | 374 | 989 | 441 | 2838 | 515 | 2833 | 585 | 2832 | 651 | 2832 | 733 | 2831 | 799 | 2935 | 864 | 1762 | 950 | 919 |
| 231 | 864 | 303 | 2835 | 375 | 2836 | 442 | 989 | 517 | 2833 | 586 | 999 | 652 | 990 | 734 | 1763 | 800 | 1762 | 865 | 2937 | 951 | 2947 |
| 2F232 | 1001 | 2F305 | 2835 | 2F377 | 2836 | 2F443 | 2838 | 2F518 | 962 | 2F587 | 2832 | 2F653 | 2832 | 2F735 | 2831 | 2F801 | 2935 | 2F866 | 1762 | 2F952 | 923 |
| 233 | 864 | 306 | 1005 | 378 | 989 | 445 | 2838 | 519 | 2833 | 588 | 999 | 654 | 993 | 736 | 1763 | 802 | 1762 | 867 | 2937 | 953 | 2947 |
| 234 | 998 | 307 | 2835 | 379 | 2836 | 446 | 987 | 520 | 957 | 589 | 2832 | 655 | 2830 | 737 | 2831 | 803 | 2935 | 868 | 1762 | 954 | 923 |
| 235 | 864 | 309 | 2835 | 380 | 989 | 447 | 2838 | 521 | 2833 | 590 | 999 | 656 | 994 | 738 | 1763 | 804 | 1762 | 869 | 2937 | 955 | 2940 |
| 236 | 999 | 310 | 920 | 381 | 2836 | 448 | 1003 | 522 | 954 | 591 | 2832 | 657 | 2830 | 739 | 2831 | 805 | 2943 | 870 | 1762 | 956 | 923 |
| 2F237 | 864 | 2F311 | 2835 | 2F382 | 990 | 2F449 | 2838 | 2F523 | 2833 | 2F592 | 999 | 2F658 | 994 | 2F740 | 1763 | 2F806 | 1762 | 2F871 | 2937 | 2F957 | 2940 |
| 238 | 1005 | 313 | 2835 | 383 | 2836 | 451 | 2838 | 525 | 2833 | 593 | 2832 | 659 | 2830 | 741 | 2831 | 807 | 2943 | 872 | 1762 | 958 | 923 |
| 239 | 864 | 315 | 2835 | 384 | 990 | 452 | 1004 | 526 | 1009 | 594 | 1005 | 660 | 993 | 742 | 1763 | 808 | 1762 | 873 | 2937 | 959 | 2940 |
| 240 | 1001 | 318 | 998 | 385 | 2836 | 453 | 2838 | 527 | 2833 | 595 | 2832 | 661 | 2830 | 743 | 2831 | 809 | 2943 | 874 | 1762 | 960 | 923 |
| 241 | 864 | 319 | 2835 | 386 | 991 | 454 | 1006 | 528 | 1009 | 596 | 999 | 663 | 2830 | 744 | 1763 | 810 | 1762 | 875 | 2937 | 961 | 2940 |
| 2F242 | 1001 | 2F320 | 998 | 2F387 | 2836 | 2F455 | 2838 | 2F529 | 2833 | 2F597 | 2832 | 2F664 | 955 | 2F745 | 2831 | 2F811 | 2943 | 2F876 | 1762 | 2F962 | 923 |
| 243 | 864 | 321 | 2835 | 388 | 992 | 456 | 404 | 530 | 1009 | 598 | 1005 | 665 | 2830 | 746 | 1763 | 812 | 1762 | 877 | 2937 | 963 | 2940 |
| 244 | 952 | 323 | 2835 | 389 | 2836 | 457 | 2838 | 531 | 2833 | 599 | 2832 | 666 | 1001 | 747 | 2831 | 813 | 2943 | 878 | 1762 | 964 | 923 |
| 245 | 864 | 324 | 998 | 390 | 992 | 458 | 1004 | 532 | 1009 | 600 | 1005 | 667 | 2830 | 748 | 1763 | 814 | 1762 | 879 | 2937 | 965 | 2940 |
| 246 | 1000 | 325 | 2835 | 391 | 2836 | 459 | 2838 | 533 | 2830 | 601 | 2832 | 668 | 1001 | 749 | 2831 | 815 | 2943 | 880 | 1762 | 966 | 919 |
| 2F247 | 864 | 2F326 | 998 | 2F392 | 992 | 2F460 | 1003 | 2F535 | 2830 | 2F602 | 994 | 2F669 | 2830 | 2F750 | 1763 | 2F816 | 1762 | 2F881 | 2937 | 2F967 | 2940 |
| 248 | 991 | 327 | 2835 | 393 | 2836 | 461 | 2838 | 536 | 1004 | 603 | 2832 | 671 | 2831 | 751 | 2831 | 817 | 2939 | 882 | 1762 | 968 | 937 |
| 249 | 864 | 328 | 999 | 394 | 992 | 462 | 1004 | 537 | 2837 | 604 | 992 | 673 | 2831 | 752 | 1763 | 818 | 1762 | 883 | 2937 | 969 | 2940 |
| 250 | 962 | 329 | 2835 | 395 | 2836 | 463 | 2838 | 538 | 1000 | 605 | 2832 | 675 | 2831 | 753 | 2831 | 819 | 2939 | 884 | 1762 | 970 | 937 |
| 251 | 864 | 330 | 999 | 396 | 992 | 464 | 1004 | 539 | 2837 | 607 | 2832 | 677 | 2831 | 754 | 1763 | 820 | 1762 | 885 | 2937 | 971 | 2940 |
| 2F252 | 968 | 2F331 | 2835 | 2F397 | 2836 | 2F465 | 2838 | 2F540 | 994 | 2F608 | 1001 | 2F679 | 2831 | 2F755 | 2831 | 2F821 | 2941 | 2F886 | 1762 | 2F972 | 955 |
| 253 | 864 | 332 | 999 | 399 | 2836 | 467 | 2838 | 541 | 2837 | 609 | 2832 | 681 | 2831 | 756 | 1763 | 822 | 1762 | 887 | 2937 | 973 | 2940 |
| 255 | 864 | 333 | 2835 | 400 | 993 | 469 | 2838 | 542 | 979 | 610 | 990 | 683 | 2831 | 757 | 2831 | 823 | 2941 | 888 | 1762 | 974 | 933 |
| 257 | 864 | 334 | 999 | 401 | 2836 | 471 | 2838 | 543 | 2837 | 611 | 2833 | 685 | 2831 | 758 | 1763 | 824 | 1762 | 889 | 2937 | 975 | 2940 |
| 258 | 990 | 335 | 2835 | 402 | 993 | 472 | 1006 | 544 | 993 | 612 | 990 | 687 | 2831 | 759 | 2831 | 825 | 2941 | 890 | 1762 | 976 | 1388 |
| 2F259 | 864 | 2F336 | 999 | 2F403 | 2836 | 2F473 | 2838 | 2F545 | 2837 | 2F613 | 2833 | 2F689 | 2831 | 2F760 | 1763 | 2F826 | 1762 | 2F891 | 2937 | 2F977 | 2940 |
| 260 | 1004 | 337 | 2835 | 404 | 993 | 474 | 1006 | 546 | 994 | 614 | 990 | 691 | 2831 | 761 | 2831 | 827 | 2941 | 893 | 2934 | 979 | 2940 |
| 261 | 864 | 338 | 999 | 405 | 2836 | 475 | 2838 | 547 | 2837 | 615 | 2833 | 693 | 2831 | 762 | 1763 | 828 | 1762 | 895 | 2934 | 981 | 2940 |
| 262 | 990 | 339 | 2836 | 406 | 993 | 476 | 1006 | 548 | 990 | 616 | 990 | 695 | 2831 | 763 | 2831 | 829 | 2941 | 897 | 2934 | 983 | 2940 |
| 263 | 864 | 340 | 999 | 407 | 2836 | 477 | 2838 | 549 | 2837 | 617 | 2833 | 697 | 2831 | 764 | 1763 | 830 | 1762 | 899 | 2947 | 985 | 2940 |
| 2F264 | 955 | 2F341 | 2836 | 2F408 | 993 | 2F478 | 1003 | 2F550 | 994 | 2F618 | 994 | 2F699 | 2831 | 2F765 | 2831 | 2F831 | 2941 | 2F900 | 1715 | 2F986 | 434 |
| 265 | 864 | 342 | 999 | 409 | 2836 | 479 | 2838 | 551 | 2837 | 619 | 2837 | 701 | 2831 | 766 | 1763 | 832 | 1762 | 901 | 2934 | 987 | 2942 |
| 266 | 1001 | 343 | 2836 | 410 | 993 | 481 | 2838 | 552 | 991 | 620 | 1006 | 702 | 1763 | 767 | 2831 | 833 | 2941 | 902 | 1715 | 988 | 531 |
| 267 | 864 | 344 | 999 | 411 | 2836 | 482 | 1004 | 553 | 2837 | 621 | 2837 | 703 | 2831 | 768 | 1763 | 834 | 1762 | 903 | 2934 | 989 | 2942 |
| 268 | 994 | 345 | 2836 | 412 | 993 | 483 | 2838 | 554 | 999 | 622 | 1001 | 704 | 1763 | 770 | 1763 | 835 | 2941 | 904 | 1715 | 990 | 534 |
| 2F269 | 864 | 2F346 | 999 | 2F413 | 2836 | 2F485 | 2838 | 2F555 | 2837 | 2F623 | 2837 | 2F705 | 2831 | 2F771 | 2837 | 2F836 | 1762 | 2F905 | 2934 | 2F991 | 2942 |
| 270 | 971 | 347 | 2836 | 414 | 993 | 486 | 1004 | 556 | 999 | 624 | 1001 | 706 | 1763 | 772 | 1763 | 837 | 2941 | 907 | 2934 | 992 | 534 |
| 271 | 864 | 348 | 999 | 415 | 2836 | 487 | 2836 | 557 | 2837 | 625 | 2837 | 707 | 2831 | 773 | 2837 | 838 | 1763 | 908 | 1715 | 993 | 2942 |
| 272 | 1005 | 349 | 2836 | 416 | 993 | 488 | 1006 | 559 | 2837 | 626 | 1001 | 708 | 1763 | 774 | 1763 | 839 | 2941 | 914 | 1715 | 994 | 434 |
| 273 | 864 | 350 | 999 | 417 | 2836 | 489 | 2836 | 560 | 1005 | 627 | 2837 | 709 | 2831 | 775 | 2837 | 840 | 1763 | 919 | 2933 | 995 | 2942 |
| 2F274 | 991 | 2F351 | 2836 | 2F418 | 993 | 2F490 | 992 | 2F561 | 2836 | 2F628 | 1005 | 2F710 | 1763 | 2F776 | 1763 | 2F841 | 2941 | 2F921 | 2933 | 2F996 | 531 |
| 275 | 864 | 352 | 999 | 419 | 2836 | 491 | 2836 | 562 | 994 | 629 | 2837 | 711 | 2831 | 777 | 2837 | 842 | 1763 | 923 | 2933 | 997 | 2942 |
| 276 | 991 | 353 | 2836 | 420 | 994 | 493 | 2836 | 563 | 2836 | 630 | 990 | 712 | 1763 | 778 | 1762 | 843 | 2941 | 925 | 2933 | 998 | 531 |
| 277 | 864 | 354 | 1000 | 421 | 2836 | 494 | 1004 | 564 | 994 | 631 | 2832 | 713 | 2831 | 779 | 2837 | 844 | 1763 | 926 | 1715 | 999 | 2942 |
| 278 | 991 | 355 | 2836 | 422 | 994 | 495 | 2836 | 565 | 2836 | 632 | 990 | 714 | 1763 | 780 | 1762 | 845 | 2939 | 927 | 2933 | | |
| 2F279 | 864 | 2F356 | 998 | 2F423 | 2835 | 2F496 | 1004 | 2F566 | 989 | 2F633 | 2832 | 2F715 | 2831 | 2F781 | 2837 | 2F846 | 1763 | 2F928 | 1715 | | |
| 280 | 994 | 357 | 2836 | 424 | 994 | 497 | 2836 | 567 | 2836 | 634 | 990 | 716 | 1763 | 782 | 1762 | 847 | 2933 | 929 | 2933 | | |
| 281 | 2833 | 358 | 989 | 425 | 2835 | 498 | 1000 | 568 | 998 | 635 | 2832 | 717 | 2831 | 783 | 2830 | 848 | 1763 | 931 | 2946 | | |
| 282 | 988 | 359 | 2836 | 426 | 994 | 499 | 2830 | 569 | 2836 | 636 | 994 | 718 | 1763 | 784 | 1762 | 849 | 2933 | 933 | 2946 | | |
| 283 | 2833 | 360 | 989 | 427 | 2838 | 500 | 993 | 570 | 1003 | 637 | 2832 | 719 | 2831 | 785 | 2830 | 850 | 1763 | 934 | 1715 | | |
| 2F285 | 2833 | 2F361 | 2835 | 2F428 | 994 | 2F501 | 2830 | 2F571 | 2836 | 2F638 | 1003 | 2F720 | 1763 | 2F786 | 1762 | 2F851 | 2933 | 2F935 | 2946 | | |
| 286 | 954 | 362 | 989 | 429 | 2838 | 502 | 994 | 572 | 994 | 639 | 2832 | 721 | 2831 | 787 | 2830 | 852 | 1763 | 936 | 1715 | | |
| 287 | 2833 | 363 | 2835 | 430 | 994 | 503 | 2833 | 574 | 992 | 640 | 990 | 722 | 1763 | 788 | 1762 | 853 | 2933 | 937 | 2946 | | |
| 288 | 959 | 364 | 989 | 431 | 2838 | 504 | 992 | 575 | 2830 | 641 | 2832 | 723 | 2831 | 789 | 2935 | 854 | 1763 | 939 | 2946 | | |
| 289 | 2835 | 365 | 2836 | 432 | 989 | 505 | 2833 | 576 | 1006 | 642 | 1001 | 724 | 1763 | 790 | 1762 | 855 | 2933 | 941 | 2946 | | |
| 2F291 | 2835 | 2F366 | 989 | 2F433 | 2838 | 2F507 | 2833 | 2F577 | 2830 | 2F643 | 2832 | 2F725 | 2831 | 2F791 | 2935 | 2F856 | 1763 | 2F942 | 937 | | |
| 292 | 994 | 367 | 2836 | 434 | 989 | 508 | 1003 | 578 | 1001 | 644 | 994 | 726 | 1763 | 792 | 1762 | 857 | 2933 | 943 | 2947 | | |
| 293 | 2835 | 368 | 989 | 435 | 2838 | 509 | 2833 | 579 | 2832 | 645 | 2832 | 727 | 2831 | 793 | 2935 | 858 | 1763 | 944 | 937 | | |
| 294 | 999 | 369 | 2836 | 436 | 989 | 510 | 937 | 580 | 990 | 646 | 989 | 728 | 1763 | 794 | 1762 | 859 | 2933 | 945 | 2947 | | |
| 295 | 2835 | 370 | 989 | 437 | 2838 | 511 | 2833 | 581 | 2832 | 647 | 2832 | 729 | 2831 | 795 | 2935 | 860 | 1762 | 946 | 919 | | |


## 2G


| | |
|---|---|
| 2GJ49 | 1820 |
| J65 | 1827 |
| L23 | 1826 |
| 2GL30 | 1826 |
| L33 | 1826 |
| L43 | 1693 |
| L44 | 1690 |
| L45 | 1690 |
| 2GL46 | 1690 |
| L47 | 1690 |
| L48 | 1690 |
| L49 | 1690 |
| L50 | 1690 |

# STOCK NUMBER—PAGE NUMBER

## 2GL — 2G6


| Stock No. | Page No. |
|---|---|
| 2GL51 | 1691 |
| L52 | 1691 |
| L53 | 1691 |
| L56 | 1691 |
| L57 | 1690 |
| 2GL58 | 1690 |
| L59 | 1690 |
| L60 | 1693 |
| L61 | 1692 |
| L62 | 1695 |
| 2GL65 | 1692 |
| L66 | 1691 |
| L67 | 1691 |
| L69 | 1695 |
| L70 | 1695 |
| 2GL71 | 1695 |
| L73 | 1696 |
| L74 | 1695 |
| L75 | 1695 |
| L76 | 1695 |
| 2GL77 | 1694 |
| L78 | 1695 |
| L79 | 1693 |
| L80 | 1693 |
| L81 | 1693 |
| 2GL82 | 1693 |
| L83 | 1693 |
| L84 | 1693 |
| L85 | 1693 |
| L86 | 1690 |
| 2GL87 | 1690 |
| L88 | 1690 |
| L89 | 1690 |
| L90 | 1690 |
| L91 | 1690 |
| 2GL92 | 1691 |
| L93 | 1690 |
| L94 | 1690 |
| L95 | 1691 |
| L96 | 1690 |
| 2GL97 | 1690 |
| L98 | 1690 |
| L99 | 1690 |
| M01 | 1690 |
| M02 | 1691 |
| 2GM03 | 1691 |
| M05 | 1691 |
| M06 | 1691 |
| M07 | 1691 |
| M09 | 1694 |
| 2GM11 | 1694 |
| M12 | 1695 |
| M13 | 1694 |
| M14 | 1695 |
| M15 | 1694 |
| 2GM16 | 1695 |
| M18 | 1694 |
| M19 | 1694 |
| M20 | 1695 |
| M21 | 1693 |
| 2GM22 | 1693 |
| M23 | 1691 |
| M24 | 1693 |
| M26 | 1695 |
| M27 | 1693 |
| 2GM28 | 1691 |
| M29 | 1693 |
| M30 | 1693 |
| M31 | 1690 |
| M32 | 1691 |
| 2GM33 | 1695 |
| M35 | 1694 |
| M36 | 1694 |
| M37 | 1693 |
| M38 | 1694 |
| 2GM39 | 1694 |
| M41 | 1694 |
| M42 | 1696 |
| M43 | 1695 |
| M44 | 1695 |
| 2GM45 | 1695 |
| M46 | 1695 |
| M47 | 1695 |
| M48 | 1695 |
| M49 | 1693 |
| 2GM50 | 1694 |
| M51 | 1693 |
| M52 | 1693 |
| M53 | 1694 |
| M54 | 1693 |
| 2GM55 | 1693 |
| M56 | 1693 |
| M57 | 1691 |
| M58 | 1695 |
| M59 | 1694 |
| 2GM60 | 1695 |
| M61 | 1695 |
| M62 | 1693 |
| M63 | 1690 |
| M64 | 1695 |
| 2GM65 | 1695 |
| M66 | 1690 |
| M67 | 1690 |
| M68 | 1695 |
| M69 | 1695 |
| 2GM70 | 1695 |
| M71 | 1692 |
| M72 | 1693 |
| M73 | 1693 |
| M74 | 1693 |
| 2GM79 | 1694 |
| M80 | 1695 |
| M81 | 1694 |
| M82 | 1695 |
| M83 | 1695 |
| 2GM84 | 1695 |
| M85 | 1696 |
| M86 | 1696 |
| M87 | 1696 |
| M88 | 1696 |
| 2GM89 | 1696 |
| M90 | 1696 |
| M91 | 1696 |
| M92 | 1696 |
| M93 | 1696 |
| 2GM94 | 1696 |
| M95 | 1696 |
| M96 | 1696 |
| M97 | 1696 |
| M98 | 1696 |
| 2GN05 | 1696 |
| N06 | 1696 |
| N07 | 1696 |
| N08 | 1696 |
| N09 | 1696 |
| 2GN10 | 1696 |
| N11 | 1696 |
| N12 | 1696 |
| N13 | 1696 |
| N14 | 1696 |
| 2GN15 | 1696 |
| N16 | 1696 |
| N17 | 1696 |
| N18 | 1696 |
| N19 | 1696 |
| 2GP77 | 1637 |
| 001 | 2129 |
| 002 | 2129 |
| 003 | 2129 |
| 004 | 2129 |
| 2G005 | 2129 |
| 006 | 2129 |
| 007 | 2129 |
| 008 | 2129 |
| 009 | 2130 |
| 2G010 | 2135 |
| 011 | 2135 |
| 012 | 2135 |
| 013 | 2135 |
| 014 | 2135 |
| 2G015 | 2135 |
| 016 | 2135 |
| 017 | 2135 |
| 018 | 2135 |
| 019 | 2135 |
| 2G020 | 2135 |
| 021 | 2135 |
| 022 | 2135 |
| 024 | 2135 |
| 025 | 2135 |
| 2G027 | 2135 |
| 029 | 2134 |
| 031 | 2134 |
| 033 | 2134 |
| 035 | 2134 |
| 2G037 | 2134 |
| 039 | 2134 |
| 041 | 2134 |
| 043 | 2134 |
| 045 | 2134 |
| 2G047 | 2134 |
| 049 | 2134 |
| 051 | 2134 |
| 053 | 2134 |
| 055 | 2134 |
| 2G057 | 2134 |
| 059 | 2134 |
| 061 | 2134 |
| 063 | 2134 |
| 064 | 2138 |
| 2G065 | 2138 |
| 072 | 2138 |
| 091 | 2138 |
| 092 | 2138 |
| 093 | 2138 |
| 2G094 | 2138 |
| 096 | 2142 |
| 101 | 2142 |
| 106 | 2142 |
| 111 | 2142 |
| 2G116 | 2142 |
| 117 | 2146 |
| 118 | 2146 |
| 119 | 2146 |
| 120 | 2146 |
| 2G121 | 2146 |
| 122 | 2146 |
| 123 | 2146 |
| 124 | 2146 |
| 125 | 2146 |
| 2G126 | 2146 |
| 127 | 2146 |
| 128 | 2146 |
| 129 | 2144 |
| 130 | 2144 |
| 2G131 | 2144 |
| 132 | 2144 |
| 133 | 2144 |
| 134 | 2144 |
| 136 | 2144 |
| 2G137 | 2144 |
| 138 | 2144 |
| 140 | 2144 |
| 141 | 2144 |
| 142 | 2144 |
| 2G143 | 2144 |
| 144 | 2144 |
| 145 | 2144 |
| 146 | 2144 |
| 147 | 2144 |
| 2G148 | 2144 |
| 149 | 2144 |
| 150 | 2146 |
| 151 | 2146 |
| 152 | 2146 |
| 2G153 | 2146 |
| 154 | 2146 |
| 155 | 2146 |
| 156 | 2167 |
| 157 | 2167 |
| 2G159 | 2147 |
| 160 | 2147 |
| 161 | 2147 |
| 162 | 2147 |
| 163 | 2147 |
| 2G164 | 2147 |
| 165 | 2147 |
| 166 | 2147 |
| 167 | 2147 |
| 168 | 2147 |
| 2G169 | 2147 |
| 170 | 2147 |
| 171 | 2147 |
| 172 | 2147 |
| 173 | 2147 |
| 2G174 | 2147 |
| 175 | 2147 |
| 176 | 2147 |
| 177 | 2147 |
| 178 | 2147 |
| 2G179 | 2147 |
| 180 | 2157 |
| 181 | 2157 |
| 182 | 2157 |
| 183 | 2157 |
| 2G192 | 2157 |
| 193 | 2157 |
| 194 | 2162 |
| 195 | 2162 |
| 196 | 2162 |
| 2G197 | 2162 |
| 198 | 2162 |
| 199 | 2162 |
| 200 | 2162 |
| 201 | 2162 |
| 2G202 | 2162 |
| 203 | 2162 |
| 204 | 2160 |
| 205 | 2160 |
| 206 | 2160 |
| 2G207 | 2160 |
| 208 | 2160 |
| 209 | 2160 |
| 210 | 2160 |
| 211 | 2160 |
| 2G212 | 2160 |
| 213 | 2160 |
| 214 | 2160 |
| 215 | 2160 |
| 216 | 2160 |
| 2G217 | 2160 |
| 218 | 2160 |
| 219 | 2160 |
| 220 | 2162 |
| 221 | 2162 |
| 2G222 | 2162 |
| 223 | 2162 |
| 224 | 2162 |
| 225 | 2162 |
| 226 | 2162 |
| 2G227 | 2162 |
| 228 | 2162 |
| 229 | 2162 |
| 230 | 2162 |
| 231 | 2160 |
| 2G232 | 2160 |
| 233 | 2160 |
| 234 | 2160 |
| 235 | 2160 |
| 236 | 2160 |
| 2G237 | 2160 |
| 238 | 2160 |
| 239 | 2160 |
| 240 | 2160 |
| 241 | 2160 |
| 2G242 | 2160 |
| 243 | 2160 |
| 244 | 2160 |
| 245 | 2160 |
| 246 | 2160 |
| 2G247 | 2167 |
| 248 | 2167 |
| 249 | 2167 |
| 266 | 2131 |
| 267 | 2131 |
| 2G268 | 2131 |
| 269 | 2131 |
| 270 | 2137 |
| 271 | 2137 |
| 274 | 2137 |
| 2G275 | 2137 |
| 276 | 2137 |
| 277 | 2137 |
| 286 | 2137 |
| 287 | 2140 |
| 2G288 | 2140 |
| 289 | 2140 |
| 290 | 2140 |
| 291 | 2140 |
| 292 | 2140 |
| 2G293 | 2153 |
| 294 | 2153 |
| 295 | 2153 |
| 300 | 2153 |
| 301 | 2153 |
| 2G302 | 2153 |
| 303 | 2153 |
| 304 | 2155 |
| 305 | 2157 |
| 309 | 2157 |
| 2G310 | 2157 |
| 311 | 2157 |
| 312 | 2157 |
| 313 | 2157 |
| 314 | 2157 |
| 2G315 | 2164 |
| 316 | 2164 |
| 317 | 2164 |
| 318 | 2164 |
| 319 | 2164 |
| 2G320 | 2164 |
| 321 | 2164 |
| 322 | 2164 |
| 323 | 2164 |
| 324 | 2164 |
| 2G325 | 2164 |
| 326 | 2164 |
| 327 | 2164 |
| 328 | 2164 |
| 329 | 2164 |
| 2G330 | 2164 |
| 331 | 2164 |
| 332 | 2164 |
| 333 | 2164 |
| 334 | 2165 |
| 2G335 | 2165 |
| 336 | 2165 |
| 337 | 2165 |
| 338 | 2165 |
| 339 | 2165 |
| 2G340 | 2165 |
| 341 | 2165 |
| 342 | 2165 |
| 343 | 2165 |
| 344 | 2165 |
| 2G345 | 2165 |
| 346 | 2165 |
| 347 | 2165 |
| 348 | 2166 |
| 349 | 2166 |
| 2G350 | 2166 |
| 351 | 2166 |
| 352 | 2166 |
| 353 | 2165 |
| 354 | 2165 |
| 2G355 | 2165 |
| 356 | 2166 |
| 357 | 2166 |
| 358 | 2166 |
| 359 | 2168 |
| 2G360 | 2168 |
| 361 | 2168 |
| 362 | 2168 |
| 363 | 2168 |
| 364 | 2168 |
| 2G365 | 2168 |
| 366 | 2168 |
| 367 | 2168 |
| 368 | 2168 |
| 369 | 2168 |
| 2G370 | 2168 |
| 371 | 2168 |
| 372 | 2168 |
| 373 | 2168 |
| 374 | 2168 |
| 2G375 | 2168 |
| 376 | 2168 |
| 377 | 2168 |
| 378 | 2168 |
| 379 | 2168 |
| 2G380 | 2168 |
| 381 | 2168 |
| 382 | 2168 |
| 383 | 2168 |
| 384 | 2168 |
| 2G385 | 2168 |
| 386 | 2168 |
| 387 | 2168 |
| 388 | 2168 |
| 389 | 2168 |
| 2G390 | 2168 |
| 391 | 2168 |
| 392 | 2168 |
| 393 | 2168 |
| 394 | 2168 |
| 2G395 | 2168 |
| 396 | 2168 |
| 397 | 2168 |
| 398 | 2168 |
| 399 | 2168 |
| 2G400 | 2168 |
| 401 | 2168 |
| 402 | 2168 |
| 403 | 2168 |
| 404 | 2168 |
| 2G405 | 2168 |
| 406 | 2168 |
| 407 | 2168 |
| 408 | 2168 |
| 409 | 2168 |
| 2G410 | 2168 |
| 411 | 2168 |
| 412 | 2168 |
| 413 | 2168 |
| 414 | 2168 |
| 2G415 | 2168 |
| 416 | 2168 |
| 417 | 2168 |
| 418 | 2168 |
| 419 | 2168 |
| 2G420 | 2168 |
| 421 | 2168 |
| 422 | 2168 |
| 423 | 2168 |
| 424 | 2168 |
| 2G425 | 2168 |
| 426 | 2168 |
| 427 | 2168 |
| 428 | 2168 |
| 429 | 2942 |
| 2G430 | 531 |
| 431 | 2941 |
| 432 | 531 |
| 433 | 2941 |
| 434 | 531 |
| 2G435 | 2941 |
| 436 | 531 |
| 437 | 2941 |
| 438 | 1658 |
| 439 | 2941 |
| 2G440 | 1658 |
| 441 | 2941 |
| 442 | 434 |
| 443 | 2941 |
| 444 | 434 |
| 2G445 | 2941 |
| 446 | 434 |
| 447 | 2940 |
| 448 | 434 |
| 449 | 2940 |
| 2G450 | 434 |
| 451 | 2940 |
| 452 | 434 |
| 453 | 2942 |
| 454 | 434 |
| 2G455 | 2942 |
| 456 | 434 |
| 457 | 2942 |
| 458 | 434 |
| 459 | 2941 |
| 2G460 | 434 |
| 461 | 2941 |
| 462 | 434 |
| 463 | 2941 |
| 464 | 434 |
| 2G465 | 2940 |
| 466 | 434 |
| 467 | 2940 |
| 468 | 434 |
| 469 | 2940 |
| 2G470 | 434 |
| 471 | 2942 |
| 472 | 434 |
| 473 | 2942 |
| 474 | 1726 |
| 2G475 | 2942 |
| 476 | 1726 |
| 477 | 2941 |
| 478 | 1726 |
| 479 | 2941 |
| 2G480 | 1726 |
| 481 | 2941 |
| 482 | 1726 |
| 483 | 2935 |
| 484 | 1726 |
| 2G485 | 2935 |
| 486 | 1726 |
| 487 | 2935 |
| 488 | 1726 |
| 489 | 2935 |
| 2G490 | 1726 |
| 491 | 2935 |
| 492 | 1726 |
| 493 | 2935 |
| 494 | 1721 |
| 2G495 | 2935 |
| 496 | 1721 |
| 497 | 2935 |
| 498 | 1725 |
| 499 | 2935 |
| 2G500 | 1725 |
| 501 | 2935 |
| 502 | 1725 |
| 503 | 2935 |
| 504 | 1725 |
| 2G505 | 2935 |
| 506 | 1725 |
| 507 | 2947 |
| 508 | 1725 |
| 509 | 2947 |
| 2G510 | 1725 |
| 511 | 2947 |
| 512 | 1725 |
| 513 | 2947 |
| 514 | 1725 |
| 2G515 | 2947 |
| 516 | 1725 |
| 517 | 2947 |
| 518 | 1725 |
| 519 | 2947 |
| 2G520 | 1725 |
| 521 | 2947 |
| 522 | 1725 |
| 523 | 2946 |
| 524 | 1725 |
| 2G525 | 2946 |
| 526 | 1725 |
| 527 | 2946 |
| 528 | 1725 |
| 529 | 2946 |
| 2G530 | 1725 |
| 531 | 2946 |
| 532 | 1725 |
| 533 | 2946 |
| 534 | 1725 |
| 2G535 | 2946 |
| 536 | 1725 |
| 537 | 2946 |
| 538 | 1726 |
| 539 | 2947 |
| 2G540 | 1726 |
| 541 | 2947 |
| 542 | 1726 |
| 543 | 2947 |
| 545 | 2947 |
| 2G546 | 1726 |
| 547 | 2939 |
| 548 | 1726 |
| 549 | 2940 |
| 550 | 1724 |
| 2G551 | 2940 |
| 552 | 1724 |
| 553 | 2944 |
| 554 | 1724 |
| 555 | 2944 |
| 2G556 | 1724 |
| 557 | 2944 |
| 558 | 1724 |
| 559 | 2944 |
| 560 | 1724 |
| 2G561 | 2939 |
| 562 | 1724 |
| 564 | 1724 |
| 566 | 1724 |
| 568 | 1724 |
| 2G570 | 1724 |
| 572 | 1724 |
| 574 | 1724 |
| 575 | 2939 |
| 576 | 1724 |
| 2G577 | 2939 |
| 578 | 1724 |
| 579 | 2939 |
| 580 | 1727 |
| 581 | 2939 |
| 2G583 | 2939 |
| 584 | 1727 |
| 585 | 2939 |
| 586 | 1727 |
| 587 | 2939 |
| 2G588 | 1727 |
| 589 | 2939 |
| 590 | 1722 |
| 591 | 2939 |
| 592 | 1722 |
| 2G593 | 2939 |
| 594 | 1726 |
| 595 | 2939 |
| 596 | 2246 |
| 597 | 2939 |
| 2G598 | 2246 |
| 599 | 2943 |
| 600 | 2246 |
| 601 | 2943 |
| 602 | 2245 |
| 2G603 | 2936 |
| 604 | 2245 |
| 605 | 2936 |
| 606 | 2245 |
| 607 | 2936 |
| 2G608 | 2245 |
| 609 | 2936 |
| 610 | 2245 |
| 611 | 2936 |
| 612 | 2245 |
| 2G613 | 2936 |
| 614 | 2245 |
| 615 | 2936 |
| 616 | 2245 |
| 617 | 2936 |
| 2G618 | 2245 |
| 619 | 2936 |
| 620 | 2245 |
| 621 | 2936 |
| 622 | 2245 |
| 2G623 | 2936 |
| 624 | 2245 |
| 625 | 2936 |
| 626 | 2245 |
| 627 | 2936 |
| 2G628 | 2245 |
| 629 | 2936 |
| 630 | 2245 |
| 631 | 2936 |
| 632 | 2245 |
| 2G633 | 2936 |
| 634 | 2245 |
| 635 | 2933 |
| 636 | 2245 |
| 637 | 2933 |
| 2G638 | 2245 |
| 639 | 59 |
| 640 | 2245 |
| 641 | 59 |
| 642 | 2245 |
| 2G644 | 2245 |
| 645 | 59 |
| 646 | 2245 |
| 647 | 43 |
| 648 | 2245 |
| 2G649 | 43 |
| 650 | 2245 |
| 651 | 43 |
| 652 | 2245 |
| 653 | 43 |
| 2G654 | 2245 |
| 655 | 31 |
| 656 | 2245 |
| 657 | 31 |
| 658 | 2245 |
| 2G659 | 31 |
| 660 | 2245 |
| 661 | 31 |
| 662 | 2245 |
| 663 | 31 |
| 2G664 | 2245 |
| 666 | 2244 |
| 667 | 31 |
| 668 | 2244 |
| 669 | 31 |
| 2G670 | 2244 |
| 671 | 31 |
| 672 | 2244 |
| 673 | 31 |
| 674 | 2244 |
| 2G675 | 31 |
| 676 | 2244 |
| 677 | 31 |
| 678 | 2244 |
| 679 | 31 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 2G680 | 2244 |
| 681 | 31 |
| 682 | 2244 |
| 683 | 31 |
| 684 | 2244 |
| 2G685 | 31 |
| 686 | 2244 |
| 687 | 31 |
| 688 | 2244 |
| 689 | 31 |
| 2G690 | 2244 |
| 691 | 31 |
| 692 | 2244 |
| 693 | 31 |
| 694 | 2244 |
| 2G695 | 31 |
| 696 | 2244 |
| 697 | 31 |
| 698 | 2244 |
| 699 | 31 |
| 2G700 | 2244 |
| 701 | 31 |
| 702 | 2244 |
| 703 | 31 |
| 704 | 2244 |
| 2G705 | 31 |
| 706 | 2244 |
| 707 | 31 |
| 708 | 2244 |
| 709 | 31 |
| 2G710 | 2244 |
| 711 | 31 |
| 712 | 2244 |
| 713 | 31 |
| 714 | 2244 |
| 2G715 | 31 |
| 716 | 2244 |
| 717 | 31 |
| 718 | 2244 |
| 719 | 31 |
| 2G720 | 2244 |
| 721 | 31 |
| 722 | 2244 |
| 723 | 32 |
| 724 | 2244 |
| 2G725 | 32 |
| 726 | 2244 |
| 727 | 32 |
| 728 | 2244 |
| 729 | 32 |
| 2G730 | 2244 |
| 731 | 32 |
| 732 | 2244 |
| 733 | 32 |
| 734 | 2244 |
| 2G735 | 32 |
| 736 | 2244 |
| 737 | 32 |
| 738 | 2244 |
| 739 | 32 |
| 2G740 | 2244 |
| 741 | 32 |
| 742 | 2244 |
| 743 | 32 |
| 744 | 2244 |
| 2G745 | 32 |
| 746 | 2244 |
| 747 | 32 |
| 748 | 2244 |
| 749 | 32 |
| 2G750 | 2244 |
| 751 | 1641 |
| 752 | 2244 |
| 754 | 2244 |
| 755 | 1641 |
| 2G756 | 2245 |
| 758 | 2245 |
| 759 | 1641 |
| 760 | 2245 |
| 762 | 2245 |
| 2G763 | 1641 |
| 764 | 2245 |
| 766 | 2245 |
| 767 | 1641 |
| 768 | 2245 |
| 2G770 | 2245 |
| 771 | 1641 |
| 772 | 2245 |
| 774 | 2245 |
| 775 | 1641 |
| 2G776 | 2245 |
| 778 | 2245 |
| 779 | 1641 |
| 780 | 2245 |
| 782 | 2245 |
| 2G784 | 2245 |
| 786 | 2246 |
| 788 | 2246 |
| 790 | 2246 |
| 791 | 1641 |
| 2G792 | 2246 |
| 794 | 2246 |
| 795 | 1641 |
| 796 | 2246 |
| 798 | 2246 |
| 2G799 | 1641 |
| 800 | 2246 |
| 802 | 2246 |
| 803 | 1641 |
| 804 | 2246 |
| 2G806 | 2246 |
| 808 | 2246 |
| 810 | 2246 |
| 812 | 2246 |
| 814 | 2246 |
| 2G816 | 2246 |
| 818 | 2246 |
| 820 | 2246 |
| 822 | 2246 |
| 824 | 2246 |
| 2G826 | 2246 |
| 828 | 1761 |
| 830 | 1761 |
| 832 | 1761 |
| 834 | 1761 |
| 2G836 | 1761 |
| 838 | 1761 |
| 840 | 1761 |
| 842 | 1761 |
| 844 | 1761 |
| 2G846 | 1761 |
| 848 | 1761 |
| 850 | 1761 |
| 852 | 1761 |
| 854 | 1761 |
| 2G856 | 1761 |
| 858 | 1761 |
| 860 | 1761 |
| 862 | 1761 |
| 864 | 1761 |
| 2G866 | 1761 |
| 868 | 1761 |
| 869 | 1641 |
| 870 | 1761 |
| 872 | 1761 |
| 2G873 | 1641 |
| 874 | 1761 |
| 876 | 1761 |
| 877 | 1641 |
| 878 | 1761 |
| 2G880 | 3499 |
| 882 | 1729 |
| 884 | 1729 |
| 886 | 1729 |
| 888 | 1729 |
| 2G890 | 1729 |
| 892 | 1729 |
| 894 | 1729 |
| 896 | 1729 |
| 898 | 1729 |
| 2G900 | 1729 |
| 902 | 1729 |
| 904 | 1729 |
| 906 | 1729 |
| 908 | 1729 |
| 2G910 | 1729 |
| 912 | 1729 |
| 914 | 1729 |
| 916 | 1729 |
| 918 | 1729 |
| 2G920 | 1729 |
| 922 | 1729 |
| 924 | 1729 |
| 926 | 1729 |
| 928 | 1729 |
| 2G930 | 1729 |
| 932 | 1729 |
| 934 | 1729 |
| 936 | 1729 |
| 938 | 1729 |
| 2G940 | 1729 |
| 942 | 1729 |
| 944 | 1729 |
| 946 | 1729 |
| 948 | 1729 |
| 2G950 | 1729 |
| 952 | 1729 |
| 954 | 1729 |
| 956 | 1729 |
| 958 | 1729 |
| 2G960 | 1729 |
| 962 | 1729 |
| 964 | 1729 |
| 966 | 1729 |
| 968 | 1318 |
| 2G970 | 1318 |
| 972 | 1318 |
| 974 | 1318 |
| 976 | 1318 |
| 978 | 1318 |
| 2G980 | 1318 |
| 982 | 1319 |
| 984 | 1318 |
| 986 | 1318 |
| 988 | 1319 |
| 2G990 | 1318 |
| 992 | 1318 |
| 994 | 1318 |
| 996 | 1319 |
| 998 | 1318 |
| **2H** | |
| 2HC02 | 1856 |
| C08 | 1856 |
| C09 | 1859 |
| 2H001 | 1320 |
| 003 | 1318 |
| 005 | 1320 |
| 007 | 1318 |
| 009 | 1320 |
| 2H011 | 1320 |
| 013 | 1318 |
| 015 | 1318 |
| 017 | 1318 |
| 019 | 1320 |
| 2H021 | 1318 |
| 023 | 1318 |
| 025 | 1318 |
| 027 | 1319 |
| 029 | 1318 |
| 2H031 | 1319 |
| 035 | 1318 |
| 039 | 1319 |
| 041 | 1320 |
| 045 | 1318 |
| 2H047 | 1318 |
| 049 | 1318 |
| 051 | 1318 |
| 053 | 1318 |
| 059 | 1373 |
| 2H061 | 1373 |
| 063 | 1373 |
| 065 | 1373 |
| 067 | 1373 |
| 069 | 1373 |
| 2H071 | 1319 |
| 073 | 1319 |
| 075 | 1320 |
| 077 | 1319 |
| 081 | 1319 |
| 2H083 | 1320 |
| 089 | 1319 |
| 091 | 1320 |
| 095 | 1320 |
| 097 | 1319 |
| 2H099 | 1377 |
| 101 | 1377 |
| 103 | 1377 |
| 105 | 1377 |
| 107 | 1377 |
| 2H109 | 1377 |
| 111 | 1377 |
| 113 | 1377 |
| 115 | 1377 |
| 117 | 1377 |
| 2H119 | 1377 |
| 121 | 1311 |
| 123 | 1376 |
| 125 | 1376 |
| 127 | 1376 |
| 2H129 | 1376 |
| 131 | 1364 |
| 133 | 1364 |
| 135 | 1364 |
| 137 | 1294 |
| 2H139 | 1294 |
| 141 | 1294 |
| 143 | 1294 |
| 145 | 1294 |
| 147 | 1294 |
| 2H149 | 1294 |
| 151 | 1294 |
| 153 | 1294 |
| 155 | 1294 |
| 157 | 1294 |
| 2H159 | 1294 |
| 161 | 1294 |
| 163 | 1294 |
| 165 | 1294 |
| 166 | 1640 |
| 2H167 | 1201 |
| 170 | 1206 |
| 171 | 1640 |
| 172 | 1206 |
| 174 | 1206 |
| 2H175 | 1640 |
| 176 | 1206 |
| 178 | 1206 |
| 180 | 1206 |
| 182 | 1201 |
| 2H184 | 1200 |
| 186 | 1201 |
| 206 | 1640 |
| 208 | 1640 |
| 216 | 1201 |
| 2H218 | 1201 |
| 220 | 1201 |
| 226 | 1199 |
| 228 | 1199 |
| 230 | 1202 |
| 2H236 | 1200 |
| 238 | 1200 |
| 243 | 1202 |
| 245 | 1202 |
| 247 | 1202 |
| 2H248 | 1640 |
| 249 | 1351 |
| 251 | 1351 |
| 253 | 1351 |
| 255 | 1351 |
| 2H257 | 1351 |
| 261 | 1350 |
| 263 | 1350 |
| 265 | 1350 |
| 267 | 1350 |
| 2H269 | 1350 |
| 271 | 1350 |
| 276 | 1350 |
| 277 | 1640 |
| 278 | 1350 |
| 2H280 | 1195 |
| 284 | 1194 |
| 285 | 1640 |
| 286 | 1194 |
| 290 | 1194 |
| 2H292 | 1194 |
| 294 | 1194 |
| 296 | 1194 |
| 298 | 1192 |
| 299 | 1640 |
| 2H300 | 1192 |
| 304 | 1192 |
| 306 | 1192 |
| 307 | 1640 |
| 308 | 1192 |
| 2H310 | 1192 |
| 312 | 1192 |
| 314 | 1193 |
| 316 | 1193 |
| 320 | 1193 |
| 2H322 | 1193 |
| 324 | 1193 |
| 326 | 1193 |
| 327 | 1640 |
| 328 | 1190 |
| 2H330 | 1190 |
| 332 | 1190 |
| 334 | 1190 |
| 336 | 1190 |
| 338 | 1190 |
| 2H340 | 1190 |
| 342 | 1190 |
| 343 | 1640 |
| 344 | 1190 |
| 346 | 1191 |
| 2H348 | 1191 |
| 350 | 1191 |
| 352 | 1191 |
| 354 | 1191 |
| 355 | 1640 |
| 2H356 | 1191 |
| 358 | 1191 |
| 360 | 1191 |
| 362 | 1191 |
| 364 | 1191 |
| 2H366 | 1383 |
| 368 | 1383 |
| 370 | 1387 |
| 372 | 1387 |
| 374 | 1387 |
| 2H376 | 1383 |
| 378 | 1387 |
| 380 | 1386 |
| 382 | 1386 |
| 384 | 1386 |
| 2H386 | 1386 |
| 388 | 1386 |
| 390 | 1384 |
| 391 | 1640 |
| 392 | 1384 |
| 2H394 | 1383 |
| 396 | 1383 |
| 398 | 1383 |
| 399 | 1641 |
| 402 | 1383 |
| 2H404 | 1383 |
| 406 | 1383 |
| 408 | 1383 |
| 410 | 1383 |
| 412 | 1383 |
| 2H415 | 1383 |
| 416 | 1641 |
| 417 | 238 |
| 419 | 238 |
| 421 | 238 |
| 2H423 | 238 |
| 425 | 238 |
| 427 | 238 |
| 429 | 238 |
| 431 | 238 |
| 2H433 | 238 |
| 435 | 238 |
| 437 | 238 |
| 439 | 238 |
| 441 | 238 |
| 2H444 | 238 |
| 446 | 238 |
| 449 | 238 |
| 451 | 238 |
| 453 | 238 |
| 2H455 | 222 |
| 457 | 222 |
| 459 | 222 |
| 461 | 222 |
| 463 | 222 |
| 2H465 | 222 |
| 467 | 222 |
| 469 | 222 |
| 471 | 222 |
| 473 | 222 |
| 2H475 | 222 |
| 477 | 222 |
| 479 | 242 |
| 481 | 242 |
| 483 | 242 |
| 2H485 | 261 |
| 487 | 261 |
| 489 | 261 |
| 491 | 261 |
| 493 | 261 |
| 2H495 | 261 |
| 497 | 261 |
| 500 | 261 |
| 502 | 261 |
| 504 | 261 |
| 2H506 | 261 |
| 508 | 261 |
| 510 | 261 |
| 512 | 261 |
| 514 | 261 |
| 2H516 | 261 |
| 518 | 261 |
| 520 | 261 |
| 522 | 218 |
| 524 | 218 |
| 2H526 | 218 |
| 528 | 218 |
| 530 | 218 |
| 532 | 218 |
| 534 | 218 |
| 2H537 | 218 |
| 539 | 218 |
| 541 | 222 |
| 543 | 188 |
| 545 | 188 |
| 2H547 | 188 |
| 549 | 188 |
| 551 | 188 |
| 553 | 188 |
| 557 | 188 |
| 2H559 | 188 |
| 561 | 217 |
| 563 | 217 |
| 565 | 217 |
| 567 | 217 |
| 2H569 | 217 |
| 571 | 219 |
| 573 | 219 |
| 575 | 219 |
| 577 | 219 |
| 2H579 | 219 |
| 581 | 222 |
| 583 | 222 |
| 585 | 222 |
| 588 | 222 |
| 2H590 | 222 |
| 592 | 222 |
| 594 | 222 |
| 596 | 236 |
| 598 | 236 |
| 2H600 | 236 |
| 602 | 236 |
| 604 | 236 |
| 606 | 241 |
| 608 | 241 |
| 2H610 | 241 |
| 612 | 241 |
| 614 | 241 |
| 616 | 241 |
| 618 | 241 |
| 2H620 | 283 |
| 622 | 283 |
| 624 | 283 |
| 626 | 283 |
| 628 | 283 |
| 2H630 | 222 |
| 632 | 1391 |
| 634 | 1391 |
| 636 | 1735 |
| 638 | 1735 |
| 2H640 | 1735 |
| 642 | 1735 |
| 644 | 1735 |
| 646 | 1735 |
| 648 | 1735 |
| 2H655 | 1735 |
| 657 | 1735 |
| 661 | 1735 |
| 682 | 1735 |
| 686 | 1735 |
| 2H702 | 1735 |
| 708 | 1735 |
| 716 | 1735 |
| 720 | 1735 |
| 722 | 1735 |
| 2H724 | 1735 |
| 728 | 1735 |
| 777 | 1735 |
| 779 | 1735 |
| 783 | 1735 |
| 2H788 | 1735 |
| 804 | 1735 |
| 809 | 1735 |
| 815 | 1735 |
| 819 | 1735 |
| 2H827 | 1735 |
| 829 | 1735 |
| 833 | 1735 |
| 875 | 1639 |
| 922 | 1736 |
| 2H924 | 1736 |
| 926 | 1736 |
| 928 | 1736 |
| 931 | 1736 |
| 933 | 1736 |
| 2H939 | 1736 |
| 941 | 1736 |
| 947 | 1736 |
| 951 | 1736 |
| 978 | 1736 |
| 2H980 | 1736 |
| 982 | 1736 |
| 983 | 1639 |
| 984 | 1736 |
| 986 | 1736 |
| 2H988 | 1736 |
| 990 | 1736 |
| 992 | 1736 |
| **2J** | |
| 2J014 | 2652 |
| 018 | 2652 |
| 069 | 2652 |
| 153 | 2652 |
| 160 | 2652 |
| 2J200 | 2652 |
| 202 | 2652 |
| 339 | 2651 |
| 396 | 2651 |
| 9Z1 | 2652 |
| 2J973 | 2652 |
| 992 | 2652 |
| **2K** | |
| 2K015 | 181 |
| 2K120 | 181 |
| 123 | 181 |
| 124 | 180 |
| 125 | 181 |
| 145 | 181 |
| 2K149 | 181 |
| 153 | 181 |
| 159 | 181 |
| 174 | 180 |
| 175 | 180 |
| 2K177 | 180 |
| 181 | 181 |
| 184 | 180 |
| 185 | 180 |
| 225 | 1736 |
| 2K228 | 101 |
| 230 | 1736 |
| 246 | 1736 |
| 248 | 1736 |
| 250 | 97 |
| 2K253 | 97 |
| 254 | 97 |
| 257 | 97 |
| 258 | 97 |
| 259 | 97 |
| 2K261 | 97 |
| 264 | 97 |
| 267 | 97 |
| 270 | 100 |
| 271 | 103 |
| 2K275 | 100 |
| 276 | 103 |
| 277 | 100 |
| 278 | 101 |
| 279 | 101 |
| 2K280 | 100 |
| 281 | 107 |
| 286 | 103 |
| 287 | 101 |
| 288 | 1736 |
| 2K290 | 100 |
| 291 | 107 |
| 292 | 100 |
| 293 | 100 |
| 294 | 103 |
| 2K296 | 107 |
| 298 | 107 |
| 299 | 100 |
| 300 | 103 |
| 301 | 103 |
| 2K302 | 107 |
| 304 | 100 |
| 305 | 101 |
| 307 | 107 |
| 308 | 103 |
| 2K309 | 100 |
| 313 | 100 |
| 314 | 100 |
| 317 | 103 |
| 318 | 101 |
| 2K326 | 101 |
| 333 | 1736 |
| 335 | 1736 |
| 337 | 1736 |
| 339 | 1736 |
| 2K343 | 142 |
| 344 | 142 |
| 345 | 142 |
| 346 | 142 |
| 347 | 142 |
| 2K348 | 146 |
| 349 | 146 |
| 350 | 143 |
| 351 | 143 |
| 352 | 148 |
| 2K353 | 148 |
| 354 | 148 |
| 366 | 157 |
| 367 | 157 |
| 368 | 157 |
| 2K369 | 157 |
| 370 | 157 |
| 371 | 157 |
| 372 | 157 |
| 376 | 158 |
| 2K377 | 158 |
| 378 | 158 |
| 379 | 158 |
| 380 | 158 |
| 381 | 158 |
| 2K382 | 158 |
| 383 | 158 |
| 386 | 157 |
| 388 | 158 |
| 389 | 158 |
| 2K390 | 158 |
| 391 | 161 |
| 392 | 161 |
| 393 | 161 |
| 394 | 161 |
| 2K395 | 161 |
| 396 | 161 |
| 397 | 161 |
| 398 | 161 |
| 399 | 161 |
| 2K400 | 161 |
| 401 | 161 |
| 402 | 161 |
| 403 | 161 |
| 404 | 161 |
| 2K405 | 161 |
| 406 | 161 |
| 407 | 161 |
| 408 | 161 |
| 409 | 161 |
| 2K410 | 161 |
| 411 | 165 |
| 412 | 165 |
| 417 | 165 |
| 418 | 165 |
| 2K422 | 165 |
| 423 | 165 |
| 424 | 165 |
| 425 | 165 |
| 427 | 165 |
| 2K428 | 165 |
| 429 | 165 |
| 430 | 165 |
| 442 | 164 |
| 443 | 164 |
| 2K444 | 164 |
| 455 | 1736 |
| 457 | 170 |
| 458 | 170 |
| 467 | 1736 |
| 2K484 | 50 |
| 496 | 8 |
| 497 | 8 |
| 498 | 8 |
| 500 | 8 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2K501 | 8 | 2K607 | 10 | 2K714 | 120 | 2K960 | 1737 | 2L045 | 358 | 2L110 | 317 | 2L175 | 317 | 2L240 | 317 | 2L306 | 315 | 2L371 | 315 | 2L436 | 309 |
| 502 | 50 | 609 | 10 | 715 | 120 | 962 | 1737 | 046 | 358 | 111 | 317 | 176 | 317 | 241 | 317 | 307 | 315 | 372 | 315 | 437 | 309 |
| 504 | 50 | 620 | 130 | 716 | 120 | 965 | 1636 | 047 | 358 | 112 | 317 | 177 | 317 | 242 | 317 | 308 | 315 | 373 | 315 | 438 | 309 |
| 505 | 50 | 621 | 130 | 717 | 120 | 966 | 1737 | 048 | 358 | 113 | 317 | 178 | 317 | 243 | 317 | 309 | 315 | 374 | 315 | 439 | 309 |
| 507 | 50 | 622 | 130 | 718 | 120 | 967 | 1636 | 049 | 358 | 114 | 317 | 179 | 317 | 244 | 317 | 310 | 315 | 375 | 315 | 440 | 309 |
| 2K510 | 50 | 2K623 | 130 | 2K719 | 120 | 2K968 | 1737 | 2L050 | 358 | 2L115 | 317 | 2L180 | 317 | 2L245 | 317 | 2L311 | 315 | 2L376 | 315 | 2L441 | 309 |
| 511 | 50 | 624 | 130 | 720 | 120 | 970 | 1737 | 051 | 358 | 116 | 317 | 181 | 317 | 246 | 317 | 312 | 315 | 377 | 309 | 442 | 309 |
| 513 | 50 | 625 | 130 | 721 | 120 | 972 | 1737 | 052 | 358 | 117 | 317 | 182 | 317 | 247 | 317 | 313 | 315 | 378 | 309 | 443 | 309 |
| 514 | 50 | 626 | 128 | 723 | 120 | 974 | 1737 | 053 | 358 | 118 | 317 | 183 | 317 | 248 | 317 | 314 | 315 | 379 | 309 | 444 | 309 |
| 516 | 50 | 627 | 128 | 724 | 120 | 976 | 1737 | 054 | 358 | 119 | 317 | 184 | 317 | 249 | 317 | 315 | 315 | 380 | 309 | 445 | 309 |
| 2K517 | 50 | 2K628 | 128 | 2K726 | 120 | 2K978 | 1737 | 2L055 | 358 | 2L120 | 317 | 2L185 | 317 | 2L250 | 317 | 2L316 | 315 | 2L381 | 309 | 2L446 | 309 |
| 519 | 50 | 629 | 130 | 727 | 120 | 980 | 1737 | 056 | 358 | 121 | 317 | 186 | 317 | 251 | 317 | 317 | 315 | 382 | 309 | 447 | 309 |
| 520 | 50 | 630 | 130 | 728 | 120 | 982 | 1737 | 057 | 358 | 122 | 317 | 187 | 317 | 252 | 317 | 318 | 315 | 383 | 309 | 448 | 309 |
| 524 | 8 | 631 | 136 | 729 | 120 | 984 | 1737 | 058 | 358 | 123 | 317 | 188 | 317 | 253 | 317 | 319 | 315 | 384 | 309 | 449 | 309 |
| 525 | 8 | 632 | 130 | 730 | 120 | 986 | 1737 | 059 | 358 | 124 | 317 | 189 | 317 | 254 | 317 | 320 | 315 | 385 | 309 | 450 | 309 |
| 2K526 | 8 | 2K633 | 130 | 2K731 | 120 | 2K990 | 1737 | 2L060 | 358 | 2L125 | 317 | 2L190 | 317 | 2L255 | 317 | 2L321 | 315 | 2L386 | 309 | 2L451 | 309 |
| 527 | 8 | 634 | 136 | 732 | 120 | 991 | 1636 | 061 | 358 | 126 | 317 | 191 | 317 | 256 | 317 | 322 | 315 | 387 | 309 | 452 | 309 |
| 529 | 8 | 635 | 130 | 734 | 107 | 995 | 1636 | 062 | 358 | 127 | 317 | 192 | 317 | 257 | 317 | 323 | 315 | 388 | 309 | 453 | 309 |
| 530 | 50 | 636 | 130 | 735 | 107 | 998 | 1737 | 063 | 358 | 128 | 317 | 193 | 317 | 258 | 317 | 324 | 315 | 389 | 309 | 454 | 309 |
| 532 | 8 | 645 | 122 | 737 | 107 | | | 064 | 358 | 129 | 317 | 194 | 317 | 259 | 317 | 325 | 315 | 390 | 309 | 455 | 309 |
| 2K533 | 8 | 2K646 | 122 | 2K738 | 107 | | | 2L065 | 358 | 2L130 | 317 | 2L195 | 317 | 2L260 | 317 | 2L326 | 315 | 2L391 | 309 | 2L456 | 309 |
| 539 | 8 | 648 | 122 | 740 | 107 | **2L** | | 066 | 358 | 131 | 317 | 196 | 317 | 261 | 317 | 327 | 315 | 392 | 309 | 457 | 309 |
| 542 | 8 | 649 | 122 | 741 | 107 | | | 067 | 358 | 132 | 317 | 197 | 317 | 262 | 317 | 328 | 315 | 393 | 309 | 458 | 309 |
| 546 | 8 | 650 | 122 | 742 | 107 | 2L001 | 229 | 068 | 358 | 133 | 317 | 198 | 317 | 263 | 317 | 329 | 315 | 394 | 309 | 459 | 309 |
| 548 | 8 | 651 | 122 | 743 | 107 | 003 | 215 | 069 | 358 | 134 | 317 | 199 | 317 | 264 | 317 | 330 | 315 | 395 | 309 | 460 | 309 |
| 2K549 | 8 | 2K653 | 122 | 2K744 | 107 | 004 | 215 | 2L070 | 358 | 2L135 | 317 | 2L200 | 317 | 2L265 | 317 | 2L331 | 315 | 2L396 | 309 | 2L461 | 311 |
| 551 | 8 | 654 | 122 | 746 | 54 | 2L005 | 215 | 071 | 358 | 136 | 317 | 201 | 317 | 266 | 317 | 332 | 315 | 397 | 309 | 462 | 311 |
| 554 | 8 | 655 | 122 | 747 | 54 | 006 | 215 | 072 | 358 | 137 | 317 | 202 | 317 | 267 | 317 | 333 | 315 | 398 | 309 | 463 | 311 |
| 555 | 8 | 661 | 122 | 749 | 54 | 007 | 215 | 073 | 358 | 138 | 317 | 203 | 317 | 268 | 317 | 334 | 315 | 399 | 309 | 464 | 311 |
| 558 | 8 | 663 | 122 | 750 | 54 | 008 | 215 | 074 | 358 | 139 | 317 | 204 | 317 | 270 | 317 | 335 | 315 | 400 | 309 | 465 | 311 |
| 2K559 | 8 | 2K664 | 122 | 2K751 | 54 | 009 | 215 | 2L075 | 358 | 2L140 | 317 | 2L205 | 317 | 2L271 | 317 | 2L336 | 315 | 2L401 | 309 | 2L466 | 311 |
| 560 | 8 | 665 | 122 | 753 | 54 | 2L010 | 215 | 076 | 358 | 141 | 317 | 206 | 317 | 272 | 317 | 337 | 315 | 402 | 309 | 467 | 311 |
| 561 | 8 | 666 | 122 | 754 | 54 | 011 | 215 | 077 | 358 | 142 | 317 | 207 | 317 | 273 | 315 | 338 | 315 | 403 | 309 | 468 | 311 |
| 566 | 10 | 667 | 122 | 755 | 54 | 012 | 323 | 078 | 358 | 143 | 317 | 208 | 317 | 274 | 315 | 339 | 315 | 404 | 309 | 469 | 311 |
| 567 | 10 | 668 | 122 | 756 | 54 | 013 | 323 | 079 | 358 | 144 | 317 | 209 | 317 | 275 | 315 | 340 | 315 | 405 | 309 | 470 | 311 |
| 2K568 | 10 | 2K670 | 122 | 2K757 | 54 | 014 | 323 | 2L080 | 358 | 2L145 | 317 | 2L210 | 317 | 2L276 | 315 | 2L341 | 315 | 2L406 | 309 | 2L471 | 311 |
| 569 | 10 | 671 | 122 | 758 | 54 | 2L015 | 323 | 081 | 358 | 146 | 317 | 211 | 317 | 277 | 315 | 342 | 315 | 407 | 309 | 472 | 311 |
| 570 | 10 | 673 | 122 | 759 | 54 | 016 | 323 | 082 | 358 | 147 | 317 | 212 | 317 | 278 | 315 | 343 | 315 | 408 | 309 | 473 | 311 |
| 572 | 51 | 674 | 122 | 760 | 54 | 017 | 323 | 083 | 358 | 148 | 317 | 213 | 317 | 279 | 315 | 344 | 315 | 409 | 309 | 474 | 311 |
| 573 | 51 | 676 | 122 | 773 | 50 | 018 | 323 | 084 | 358 | 149 | 317 | 214 | 317 | 280 | 315 | 345 | 315 | 410 | 309 | 475 | 311 |
| 2K574 | 51 | 2K677 | 122 | 2K774 | 50 | 019 | 323 | 2L085 | 273 | 2L150 | 317 | 2L215 | 317 | 2L281 | 315 | 2L346 | 315 | 2L411 | 309 | 2L476 | 311 |
| 575 | 10 | 678 | 122 | 776 | 50 | 2L020 | 323 | 086 | 273 | 151 | 317 | 216 | 317 | 282 | 315 | 347 | 315 | 412 | 309 | 477 | 311 |
| 577 | 10 | 683 | 53 | 778 | 50 | 021 | 323 | 087 | 273 | 152 | 317 | 217 | 317 | 283 | 315 | 348 | 315 | 413 | 309 | 478 | 311 |
| 578 | 10 | 684 | 53 | 779 | 50 | 022 | 323 | 088 | 273 | 153 | 317 | 218 | 317 | 284 | 315 | 349 | 315 | 414 | 309 | 479 | 311 |
| 579 | 10 | 685 | 53 | 780 | 128 | 023 | 323 | 089 | 273 | 154 | 317 | 219 | 317 | 285 | 315 | 350 | 315 | 415 | 309 | 480 | 311 |
| 2K580 | 136 | 2K686 | 53 | 2K781 | 128 | 024 | 323 | 2L090 | 273 | 2L155 | 317 | 2L220 | 317 | 2L286 | 315 | 2L351 | 315 | 2L416 | 309 | 2L481 | 311 |
| 581 | 10 | 687 | 53 | 782 | 128 | 2L025 | 323 | 091 | 273 | 156 | 317 | 221 | 317 | 287 | 315 | 352 | 315 | 417 | 309 | 482 | 311 |
| 582 | 10 | 690 | 53 | 783 | 128 | 026 | 323 | 092 | 273 | 157 | 317 | 222 | 317 | 288 | 315 | 353 | 315 | 418 | 309 | 483 | 311 |
| 583 | 10 | 693 | 54 | 797 | 81 | 027 | 323 | 093 | 317 | 158 | 317 | 223 | 317 | 289 | 315 | 354 | 315 | 419 | 309 | 484 | 311 |
| 584 | 10 | 695 | 54 | 798 | 81 | 028 | 358 | 094 | 317 | 159 | 317 | 224 | 317 | 290 | 315 | 355 | 315 | 420 | 309 | 485 | 311 |
| 2K587 | 10 | 2K697 | 53 | 2K804 | 1736 | 029 | 358 | 2L095 | 317 | 2L160 | 317 | 2L225 | 317 | 2L291 | 315 | 2L356 | 315 | 2L421 | 309 | 2L486 | 311 |
| 588 | 10 | 698 | 53 | 806 | 1736 | 2L030 | 358 | 096 | 317 | 161 | 317 | 226 | 317 | 292 | 315 | 357 | 315 | 422 | 309 | 487 | 311 |
| 589 | 10 | 699 | 53 | 808 | 1736 | 031 | 358 | 097 | 317 | 162 | 317 | 227 | 317 | 293 | 315 | 358 | 315 | 423 | 309 | 488 | 311 |
| 590 | 10 | 700 | 53 | 812 | 1736 | 032 | 358 | 098 | 317 | 163 | 317 | 228 | 317 | 294 | 315 | 359 | 315 | 424 | 309 | 489 | 311 |
| 591 | 10 | 701 | 53 | 816 | 1736 | 033 | 358 | 099 | 317 | 164 | 317 | 229 | 317 | 295 | 315 | 360 | 315 | 425 | 309 | 490 | 311 |
| 2K593 | 10 | 2K702 | 53 | 2K820 | 1736 | 034 | 358 | 2L100 | 317 | 2L165 | 317 | 2L230 | 317 | 2L296 | 315 | 2L361 | 315 | 2L426 | 309 | 2L491 | 311 |
| 595 | 10 | 704 | 53 | 834 | 1736 | 2L035 | 358 | 101 | 317 | 166 | 317 | 231 | 317 | 297 | 315 | 362 | 315 | 427 | 309 | 492 | 311 |
| 596 | 10 | 705 | 53 | 836 | 1736 | 036 | 358 | 102 | 317 | 167 | 317 | 232 | 317 | 298 | 315 | 363 | 315 | 428 | 309 | 493 | 311 |
| 597 | 10 | 706 | 53 | 838 | 1736 | 037 | 358 | 103 | 317 | 168 | 317 | 233 | 317 | 299 | 315 | 364 | 315 | 429 | 309 | 494 | 311 |
| 599 | 10 | 707 | 53 | 840 | 1736 | 038 | 358 | 104 | 317 | 169 | 317 | 234 | 317 | 300 | 315 | 365 | 315 | 430 | 309 | 495 | 311 |
| 2K600 | 10 | 2K708 | 53 | 2K842 | 1736 | 039 | 358 | 2L105 | 317 | 2L170 | 317 | 2L235 | 317 | 2L301 | 315 | 2L366 | 315 | 2L431 | 309 | 2L497 | 311 |
| 601 | 10 | 709 | 53 | 844 | 1736 | 2L040 | 358 | 106 | 317 | 171 | 317 | 236 | 317 | 302 | 315 | 367 | 315 | 432 | 309 | 498 | 311 |
| 602 | 10 | 711 | 53 | 848 | 1736 | 041 | 358 | 107 | 317 | 172 | 317 | 237 | 317 | 303 | 315 | 368 | 315 | 433 | 309 | 500 | 311 |
| 604 | 10 | 712 | 53 | 852 | 1736 | 042 | 358 | 108 | 317 | 173 | 317 | 238 | 317 | 304 | 315 | 369 | 315 | 434 | 309 | 501 | 311 |
| 606 | 10 | 713 | 120 | 958 | 1737 | 043 | 358 | 109 | 317 | 174 | 317 | 239 | 317 | 305 | 315 | 370 | 315 | 435 | 309 | 502 | 311 |
| | | | | | | 044 | 358 | | | | | | | | | | | | | | |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2L503 | 311 | 2L569 | 322 | 2L635 | 321 | 2L700 | 320 | 2L765 | 321 | 2L830 | 318 | 2L895 | 319 | 2L960 | 319 | 2M124 | 1737 | 2M426 | 174 | 2M613 | 1740 |
| 504 | 311 | 570 | 322 | 636 | 321 | 701 | 320 | 766 | 321 | 831 | 318 | 896 | 319 | 961 | 319 | 127 | 1635 | 427 | 174 | 623 | 1741 |
| 505 | 311 | 571 | 322 | 637 | 320 | 702 | 320 | 767 | 321 | 832 | 318 | 897 | 319 | 962 | 319 | 128 | 1737 | 428 | 175 | 625 | 1741 |
| 506 | 311 | 572 | 322 | 638 | 320 | 703 | 320 | 768 | 321 | 833 | 318 | 898 | 319 | 963 | 319 | 131 | 1635 | 429 | 175 | 627 | 1741 |
| 507 | 311 | 573 | 322 | 639 | 320 | 704 | 320 | 769 | 321 | 834 | 318 | 899 | 319 | 964 | 319 | 139 | 179 | 430 | 175 | 641 | 1741 |
| 2L508 | 311 | 2L574 | 322 | 2L640 | 320 | 2L705 | 320 | 2L770 | 321 | 2L835 | 318 | 2L900 | 319 | 2L965 | 319 | 2M144 | 179 | 2M431 | 175 | 2M645 | 1741 |
| 509 | 311 | 575 | 322 | 641 | 320 | 706 | 320 | 771 | 321 | 836 | 318 | 901 | 319 | 966 | 319 | 145 | 179 | 432 | 175 | 649 | 1741 |
| 510 | 311 | 577 | 321 | 642 | 320 | 707 | 320 | 772 | 321 | 837 | 318 | 902 | 319 | 967 | 319 | 167 | 186 | 433 | 175 | 655 | 1741 |
| 511 | 311 | 578 | 321 | 643 | 320 | 708 | 320 | 773 | 318 | 838 | 318 | 903 | 319 | 968 | 319 | 168 | 186 | 453 | 1636 | 669 | 1741 |
| 512 | 311 | 579 | 321 | 644 | 320 | 709 | 320 | 774 | 318 | 839 | 318 | 904 | 319 | 969 | 319 | 169 | 186 | 459 | 1636 | 670 | 1635 |
| 2L513 | 311 | 2L580 | 321 | 2L645 | 320 | 2L710 | 320 | 2L775 | 318 | 2L840 | 318 | 2L905 | 319 | 2L970 | 319 | 2M170 | 186 | 2M463 | 1636 | 2M671 | 1741 |
| 514 | 322 | 581 | 321 | 646 | 320 | 711 | 320 | 776 | 318 | 841 | 318 | 906 | 319 | 971 | 319 | 171 | 192 | 467 | 1635 | 673 | 1741 |
| 515 | 322 | 582 | 321 | 647 | 320 | 712 | 320 | 777 | 318 | 842 | 318 | 907 | 319 | 972 | 319 | 173 | 176 | 468 | 1736 | 675 | 1741 |
| 516 | 322 | 583 | 321 | 648 | 320 | 713 | 320 | 778 | 318 | 843 | 318 | 908 | 319 | 973 | 319 | 174 | 176 | 469 | 1635 | 678 | 1635 |
| 517 | 322 | 584 | 321 | 649 | 320 | 714 | 320 | 779 | 318 | 844 | 318 | 909 | 319 | 974 | 319 | 178 | 176 | 470 | 1736 | 679 | 1741 |
| 2L518 | 322 | 2L585 | 321 | 2L650 | 320 | 2L715 | 320 | 2L780 | 318 | 2L845 | 318 | 2L910 | 319 | 2L975 | 319 | 2M179 | 176 | 2M471 | 1636 | 2M682 | 1635 |
| 519 | 322 | 586 | 321 | 651 | 320 | 716 | 320 | 781 | 318 | 846 | 318 | 911 | 319 | 976 | 319 | 182 | 174 | 472 | 1736 | 686 | 1636 |
| 520 | 322 | 587 | 321 | 652 | 320 | 717 | 320 | 782 | 318 | 847 | 318 | 912 | 319 | 977 | 319 | 184 | 225 | 473 | 1636 | 690 | 1636 |
| 521 | 322 | 588 | 321 | 653 | 320 | 718 | 320 | 783 | 318 | 848 | 318 | 913 | 319 | 978 | 319 | 186 | 174 | 474 | 1736 | 694 | 1636 |
| 522 | 322 | 589 | 321 | 654 | 320 | 719 | 320 | 784 | 318 | 849 | 318 | 914 | 319 | 979 | 319 | 187 | 176 | 476 | 1736 | 698 | 1635 |
| 2L523 | 322 | 2L590 | 321 | 2L655 | 320 | 2L720 | 320 | 2L785 | 318 | 2L850 | 318 | 2L915 | 319 | 2L980 | 319 | 2M188 | 176 | 2M478 | 1736 | 2M733 | 1740 |
| 524 | 322 | 591 | 321 | 656 | 320 | 721 | 320 | 786 | 318 | 851 | 318 | 916 | 319 | 981 | 319 | 189 | 175 | 480 | 1736 | 735 | 1740 |
| 525 | 322 | 592 | 321 | 657 | 320 | 722 | 320 | 787 | 318 | 852 | 318 | 917 | 319 | 982 | 319 | 190 | 175 | 482 | 1736 | 737 | 1740 |
| 526 | 322 | 593 | 321 | 658 | 320 | 723 | 320 | 788 | 318 | 853 | 318 | 918 | 319 | 983 | 319 | 191 | 179 | 484 | 1736 | 771 | 1734 |
| 527 | 322 | 594 | 321 | 659 | 320 | 724 | 320 | 789 | 318 | 854 | 318 | 919 | 319 | 984 | 319 | 192 | 174 | 486 | 1736 | 773 | 1734 |
| 2L528 | 322 | 2L595 | 321 | 2L660 | 320 | 2L725 | 320 | 2L790 | 318 | 2L855 | 318 | 2L920 | 319 | 2L985 | 319 | 2M193 | 174 | 2M488 | 1736 | 2M779 | 1734 |
| 529 | 322 | 596 | 321 | 661 | 320 | 726 | 320 | 791 | 318 | 856 | 318 | 921 | 319 | 986 | 319 | 194 | 174 | 490 | 1736 | 781 | 1734 |
| 530 | 322 | 597 | 321 | 662 | 320 | 727 | 320 | 792 | 318 | 857 | 318 | 922 | 319 | 987 | 319 | 195 | 175 | 494 | 1736 | 783 | 1734 |
| 531 | 322 | 598 | 321 | 663 | 320 | 728 | 320 | 793 | 318 | 858 | 318 | 923 | 319 | 988 | 319 | 196 | 184 | 496 | 1736 | 785 | 1734 |
| 532 | 322 | 599 | 321 | 664 | 320 | 729 | 320 | 794 | 318 | 859 | 318 | 924 | 319 | 989 | 319 | 197 | 184 | 498 | 1736 | 789 | 1734 |
| 2L533 | 322 | 2L600 | 321 | 2L665 | 320 | 2L730 | 320 | 2L795 | 318 | 2L860 | 318 | 2L925 | 319 | 2L990 | 319 | 2M198 | 174 | 2M501 | 186 | 2M793 | 1734 |
| 534 | 322 | 601 | 321 | 666 | 320 | 731 | 320 | 796 | 318 | 861 | 318 | 926 | 319 | 991 | 319 | 199 | 174 | 502 | 186 | 803 | 1734 |
| 535 | 322 | 602 | 321 | 667 | 320 | 732 | 320 | 797 | 318 | 862 | 318 | 927 | 319 | 992 | 319 | 201 | 175 | 503 | 186 | 805 | 1734 |
| 536 | 322 | 603 | 321 | 668 | 320 | 733 | 320 | 798 | 318 | 863 | 318 | 928 | 319 | 993 | 319 | 202 | 176 | 504 | 186 | 809 | 1734 |
| 537 | 322 | 604 | 321 | 669 | 320 | 734 | 320 | 799 | 318 | 864 | 318 | 929 | 319 | 994 | 319 | 203 | 174 | 505 | 186 | 811 | 1734 |
| 2L538 | 322 | 2L605 | 321 | 2L670 | 320 | 2L735 | 320 | 2L800 | 318 | 2L865 | 318 | 2L930 | 319 | 2L995 | 301 | 2M228 | 1635 | 2M506 | 186 | 2M815 | 1734 |
| 539 | 322 | 606 | 321 | 671 | 320 | 736 | 320 | 801 | 318 | 866 | 318 | 931 | 319 | 996 | 301 | 232 | 1635 | 507 | 186 | 825 | 1734 |
| 540 | 322 | 607 | 321 | 672 | 320 | 737 | 320 | 802 | 318 | 867 | 318 | 932 | 319 | 997 | 301 | 236 | 1635 | 508 | 186 | 843 | 1734 |
| 541 | 322 | 608 | 321 | 673 | 320 | 738 | 320 | 803 | 318 | 868 | 318 | 933 | 319 | 998 | 301 | 250 | 1635 | 509 | 186 | 883 | 1734 |
| 542 | 322 | 609 | 321 | 674 | 320 | 739 | 320 | 804 | 318 | 869 | 318 | 934 | 319 | 999 | 301 | 262 | 174 | 510 | 193 | 885 | 1734 |
| 2L543 | 322 | 2L610 | 321 | 2L675 | 320 | 2L740 | 320 | 2L805 | 318 | 2L870 | 318 | 2L935 | 319 | 2M | | 2M263 | 174 | 2M511 | 193 | 2M887 | 1734 |
| 544 | 322 | 611 | 321 | 676 | 320 | 741 | 321 | 806 | 318 | 871 | 318 | 936 | 319 | | | 264 | 174 | 512 | 200 | 889 | 1734 |
| 545 | 322 | 612 | 321 | 677 | 320 | 742 | 321 | 807 | 318 | 872 | 318 | 937 | 319 | 2M014 | 1737 | 265 | 175 | 513 | 200 | 891 | 1734 |
| 546 | 322 | 613 | 321 | 678 | 320 | 743 | 321 | 808 | 318 | 873 | 318 | 938 | 319 | 016 | 1737 | 266 | 175 | 514 | 200 | 921 | 1736 |
| 547 | 322 | 614 | 321 | 679 | 320 | 744 | 321 | 809 | 318 | 874 | 318 | 939 | 319 | 018 | 1737 | 267 | 175 | 515 | 200 | 923 | 1736 |
| 2L548 | 322 | 2L615 | 321 | 2L680 | 320 | 2L745 | 321 | 2L810 | 318 | 2L875 | 318 | 2L940 | 319 | 2M020 | 1737 | 2M277 | 179 | 2M516 | 200 | 2M925 | 1736 |
| 549 | 322 | 616 | 321 | 681 | 320 | 746 | 321 | 811 | 318 | 876 | 318 | 941 | 319 | 024 | 1737 | 309 | 1635 | 517 | 200 | 931 | 1736 |
| 550 | 322 | 617 | 321 | 682 | 320 | 747 | 321 | 812 | 318 | 877 | 318 | 942 | 319 | 028 | 1737 | 313 | 1635 | 518 | 200 | 933 | 1736 |
| 551 | 322 | 618 | 321 | 683 | 320 | 748 | 321 | 813 | 318 | 878 | 318 | 943 | 319 | 030 | 1737 | 357 | 1635 | 519 | 200 | 935 | 1736 |
| 552 | 322 | 619 | 321 | 684 | 320 | 749 | 321 | 814 | 318 | 879 | 318 | 944 | 319 | 033 | 179 | 359 | 1635 | 520 | 200 | 937 | 1736 |
| 2L553 | 322 | 2L620 | 321 | 2L685 | 320 | 2L750 | 321 | 2L815 | 318 | 2L880 | 318 | 2L945 | 319 | 2M034 | 179 | 2M361 | 1636 | 2M521 | 200 | 2M941 | 1736 |
| 554 | 322 | 621 | 321 | 686 | 320 | 751 | 321 | 816 | 318 | 881 | 318 | 946 | 319 | 037 | 179 | 365 | 1636 | 522 | 200 | 945 | 1736 |
| 556 | 322 | 622 | 321 | 687 | 320 | 752 | 321 | 817 | 318 | 882 | 319 | 947 | 319 | 057 | 179 | 369 | 1636 | 523 | 200 | 949 | 1736 |
| 557 | 322 | 623 | 321 | 688 | 320 | 753 | 321 | 818 | 318 | 883 | 319 | 948 | 319 | 066 | 179 | 414 | 176 | 524 | 200 | 951 | 1736 |
| 558 | 322 | 624 | 321 | 689 | 320 | 754 | 321 | 819 | 318 | 884 | 319 | 949 | 319 | 073 | 1737 | 415 | 176 | 525 | 200 | 953 | 1736 |
| 2L559 | 322 | 2L625 | 321 | 2L690 | 320 | 2L755 | 321 | 2L820 | 318 | 2L885 | 319 | 2L950 | 319 | 2M075 | 1737 | 2M416 | 176 | 2M537 | 1736 | 2M955 | 1736 |
| 560 | 322 | 626 | 321 | 691 | 320 | 756 | 321 | 821 | 318 | 886 | 319 | 951 | 319 | 077 | 1737 | 417 | 176 | 541 | 1736 | 957 | 1736 |
| 561 | 322 | 627 | 321 | 692 | 320 | 757 | 321 | 822 | 318 | 887 | 319 | 952 | 319 | 079 | 1737 | 418 | 176 | 549 | 1736 | 959 | 1736 |
| 562 | 322 | 628 | 321 | 693 | 320 | 758 | 321 | 823 | 318 | 888 | 319 | 953 | 319 | 083 | 1737 | 419 | 176 | 553 | 1736 | 961 | 1736 |
| 563 | 322 | 629 | 321 | 694 | 320 | 759 | 321 | 824 | 318 | 889 | 319 | 954 | 319 | 104 | 1737 | 420 | 174 | 557 | 1736 | 963 | 1736 |
| 2L564 | 322 | 2L630 | 321 | 2L695 | 320 | 2L760 | 321 | 2L825 | 318 | 2L890 | 319 | 2L955 | 319 | 2M108 | 1737 | 2M421 | 174 | 2M599 | 1740 | 2M965 | 1736 |
| 565 | 322 | 631 | 321 | 696 | 320 | 761 | 321 | 826 | 318 | 891 | 319 | 956 | 319 | 115 | 1737 | 422 | 174 | 601 | 1740 | 967 | 1736 |
| 566 | 322 | 632 | 321 | 697 | 320 | 762 | 321 | 827 | 318 | 892 | 319 | 957 | 319 | 118 | 1737 | 423 | 174 | 607 | 1740 | 971 | 1736 |
| 567 | 322 | 633 | 321 | 698 | 320 | 763 | 321 | 828 | 318 | 893 | 319 | 958 | 319 | 120 | 1737 | 424 | 174 | 609 | 1740 | 973 | 1736 |
| 568 | 322 | 634 | 321 | 699 | 320 | 764 | 321 | 829 | 318 | 894 | 319 | 959 | 319 | 123 | 1635 | 425 | 174 | 611 | 1740 | 975 | 1736 |

# STOCK NUMBER—PAGE NUMBER

## 2M9 — 2P5


| Stock No. | Page No. |
|---|---|
| 2M977 | 1736 |
| 979 | 1736 |
| 981 | 1736 |
| 983 | 1736 |
| **2N** | |
| 2N018 | 1744 |
| 020 | 1744 |
| 022 | 1744 |
| 2N024 | 1744 |
| 035 | 1638 |
| 037 | 1638 |
| 043 | 1638 |
| 045 | 1638 |
| 2N056 | 1739 |
| 058 | 1739 |
| 060 | 1739 |
| 061 | 1638 |
| 062 | 1739 |
| 2N064 | 1739 |
| 066 | 1739 |
| 067 | 1638 |
| 068 | 1739 |
| 070 | 1739 |
| 2N072 | 1739 |
| 079 | 1638 |
| 085 | 1638 |
| 089 | 1638 |
| 094 | 1739 |
| 2N096 | 1739 |
| 098 | 1739 |
| 100 | 1739 |
| 101 | 12 |
| 102 | 12 |
| 2N103 | 12 |
| 104 | 12 |
| 106 | 1739 |
| 108 | 1739 |
| 110 | 1739 |
| 2N112 | 1739 |
| 113 | 1638 |
| 114 | 1739 |
| 116 | 1739 |
| 117 | 1638 |
| 2N118 | 1739 |
| 119 | 1638 |
| 120 | 1739 |
| 121 | 1638 |
| 122 | 1739 |
| 2N124 | 1739 |
| 142 | 1739 |
| 144 | 1739 |
| 148 | 1739 |
| 149 | 1638 |
| 2N150 | 1739 |
| 152 | 1739 |
| 153 | 1638 |
| 154 | 1739 |
| 156 | 1739 |
| 2N158 | 1739 |
| 160 | 1739 |
| 162 | 1739 |
| 164 | 1739 |
| 166 | 1739 |
| 2N168 | 1739 |
| 170 | 1739 |
| 172 | 1739 |
| 173 | 1638 |
| 174 | 1739 |
| 2N181 | 1638 |
| 182 | 1739 |
| 184 | 1739 |
| 186 | 1739 |
| 188 | 1739 |
| 2N190 | 1739 |
| 192 | 1739 |
| 194 | 1739 |
| 196 | 1739 |
| 198 | 1739 |
| 2N200 | 1739 |
| 201 | 1638 |
| 202 | 1739 |
| 203 | 1638 |
| 204 | 1739 |
| 2N206 | 1739 |
| 207 | 1638 |
| 208 | 1739 |
| 210 | 1739 |
| 212 | 1739 |
| 2N215 | 1638 |
| 216 | 1739 |
| 218 | 1739 |
| 220 | 1739 |
| 222 | 1739 |
| 2N223 | 1638 |
| 224 | 1739 |
| 225 | 1638 |
| 226 | 1739 |
| 228 | 1739 |
| 2N230 | 1739 |
| 232 | 1739 |
| 234 | 1739 |
| 235 | 1638 |
| 236 | 1739 |
| 2N238 | 1739 |
| 239 | 1638 |
| 240 | 1739 |
| 241 | 1638 |
| 242 | 1739 |
| 2N243 | 1638 |
| 244 | 1739 |
| 245 | 1638 |
| 246 | 1739 |
| 247 | 1638 |
| 2N248 | 1739 |
| 250 | 1739 |
| 252 | 1739 |
| 254 | 1739 |
| 256 | 1739 |
| 2N258 | 1739 |
| 260 | 1739 |
| 262 | 1739 |
| 264 | 1739 |
| 266 | 1739 |
| 2N268 | 1739 |
| 270 | 1739 |
| 272 | 1739 |
| 274 | 1739 |
| 276 | 1739 |
| 2N278 | 1739 |
| 279 | 1638 |
| 280 | 1739 |
| 282 | 1739 |
| 284 | 1739 |
| 2N286 | 1739 |
| 338 | 1740 |
| 340 | 1740 |
| 342 | 1740 |
| 344 | 1740 |
| 2N346 | 1740 |
| 348 | 1740 |
| 350 | 1740 |
| 352 | 1740 |
| 354 | 1740 |
| 2N356 | 1740 |
| 358 | 1740 |
| 360 | 1740 |
| 362 | 1740 |
| 364 | 1740 |
| 2N366 | 1740 |
| 368 | 1740 |
| 370 | 1740 |
| 372 | 1740 |
| 374 | 1740 |
| 2N376 | 1740 |
| 378 | 1740 |
| 380 | 1740 |
| 382 | 1740 |
| 384 | 1740 |
| 2N386 | 1740 |
| 388 | 1740 |
| 390 | 1740 |
| 392 | 1740 |
| 394 | 1740 |
| 2N396 | 1740 |
| 398 | 1740 |
| 400 | 1740 |
| 402 | 1740 |
| 404 | 1740 |
| 2N406 | 1740 |
| 408 | 1740 |
| 410 | 1740 |
| 412 | 1740 |
| 414 | 1740 |
| 2N416 | 1740 |
| 418 | 1740 |
| 420 | 1740 |
| 422 | 1740 |
| 424 | 1740 |
| 2N426 | 1740 |
| 428 | 1740 |
| 430 | 1740 |
| 432 | 1740 |
| 434 | 1740 |
| 2N436 | 1740 |
| 438 | 1740 |
| 440 | 1740 |
| 442 | 1740 |
| 444 | 1740 |
| 2N446 | 1740 |
| 448 | 1740 |
| 454 | 1741 |
| 458 | 1741 |
| 460 | 1741 |
| 2N461 | 1637 |
| 462 | 1741 |
| 463 | 1637 |
| 464 | 1741 |
| 466 | 1741 |
| 2N474 | 1741 |
| 476 | 1741 |
| 478 | 1741 |
| 480 | 1741 |
| 482 | 1741 |
| 2N484 | 1741 |
| 486 | 1747 |
| 494 | 1747 |
| 502 | 1747 |
| 506 | 1747 |
| 2N510 | 1747 |
| 514 | 1747 |
| 516 | 1747 |
| 532 | 1746 |
| 538 | 1746 |
| 2N542 | 1746 |
| 546 | 1746 |
| 550 | 1746 |
| 552 | 1746 |
| 565 | 1637 |
| 2N601 | 1637 |
| 603 | 1637 |
| 609 | 1637 |
| 611 | 1637 |
| 619 | 1637 |
| 2N621 | 1637 |
| 631 | 1637 |
| 633 | 1637 |
| 641 | 1637 |
| 643 | 1637 |
| 2N655 | 1637 |
| 657 | 1637 |
| 665 | 1637 |
| 667 | 1637 |
| 675 | 1637 |
| 2N677 | 1637 |
| 733 | 1637 |
| 805 | 1743 |
| 809 | 1743 |
| 811 | 1743 |
| 2N813 | 1743 |
| 815 | 1743 |
| 817 | 1743 |
| 826 | 1743 |
| 828 | 1743 |
| 2N830 | 1743 |
| 832 | 1743 |
| 834 | 1743 |
| 836 | 1743 |
| 863 | 13 |
| 2N864 | 13 |
| 865 | 13 |
| 866 | 13 |
| 878 | 12 |
| 879 | 12 |
| 2N880 | 12 |
| 913 | 123 |
| 914 | 123 |
| 915 | 124 |
| 916 | 124 |
| 2N923 | 123 |
| 924 | 124 |
| 925 | 13 |
| 926 | 13 |
| 933 | 45 |
| 2N934 | 45 |
| 935 | 45 |
| 936 | 45 |
| 937 | 45 |
| 938 | 45 |
| 2N941 | 45 |
| 942 | 45 |
| 943 | 45 |
| 944 | 45 |
| 945 | 45 |
| 2N946 | 45 |
| 947 | 45 |
| 948 | 45 |
| 949 | 45 |
| 980 | 45 |
| 2N981 | 45 |
| 982 | 45 |
| 983 | 45 |
| 984 | 45 |
| 985 | 45 |
| 2N988 | 45 |
| 989 | 45 |
| 990 | 45 |
| 991 | 45 |
| 992 | 45 |
| 2N995 | 45 |
| 996 | 45 |
| 997 | 45 |
| 998 | 45 |
| 999 | 45 |
| **2P** | |
| 2PC08 | 3251 |
| C09 | 3251 |
| C10 | 3251 |
| 2PC11 | 3251 |
| C12 | 3251 |
| C13 | 3251 |
| C14 | 3251 |
| C15 | 3252 |
| 2PC16 | 3252 |
| C17 | 3252 |
| C18 | 3131 |
| C19 | 3131 |
| C20 | 3131 |
| 2PC21 | 3131 |
| C22 | 3131 |
| C23 | 3131 |
| C24 | 3131 |
| C25 | 3131 |
| 2PC26 | 3131 |
| C27 | 3131 |
| C28 | 3131 |
| C29 | 3131 |
| C30 | 3131 |
| 2PC31 | 3131 |
| C32 | 3132 |
| C33 | 3132 |
| C34 | 3132 |
| C35 | 3132 |
| 2PC36 | 3132 |
| C37 | 3132 |
| C38 | 3132 |
| C39 | 3132 |
| C40 | 3132 |
| 2PC41 | 3132 |
| C42 | 3132 |
| C43 | 3132 |
| C44 | 3132 |
| C45 | 3132 |
| 2PC46 | 3132 |
| C47 | 3132 |
| C48 | 3132 |
| C57 | 3110 |
| C58 | 3110 |
| 2PC60 | 3110 |
| C61 | 3110 |
| C62 | 3110 |
| C63 | 3110 |
| C64 | 3110 |
| 2PC65 | 3111 |
| C66 | 3112 |
| C68 | 3112 |
| C69 | 3113 |
| C71 | 3112 |
| 2PC72 | 3112 |
| 004 | 3137 |
| 005 | 3137 |
| 006 | 3137 |
| 007 | 3149 |
| 2P008 | 3149 |
| 009 | 3066 |
| 010 | 3066 |
| 011 | 3180 |
| 012 | 3180 |
| 2P013 | 3180 |
| 015 | 3152 |
| 016 | 3145 |
| 017 | 3145 |
| 018 | 3190 |
| 2P019 | 3132 |
| 020 | 3187 |
| 021 | 2693 |
| 022 | 3258 |
| 023 | 3258 |
| 2P024 | 3258 |
| 025 | 3258 |
| 026 | 3258 |
| 027 | 3258 |
| 028 | 3257 |
| 2P029 | 3257 |
| 030 | 3258 |
| 031 | 3252 |
| 035 | 3030 |
| 036 | 3030 |
| 2P037 | 3141 |
| 038 | 3141 |
| 039 | 3141 |
| 040 | 3141 |
| 041 | 3141 |
| 2P042 | 3141 |
| 043 | 3141 |
| 044 | 3141 |
| 045 | 3204 |
| 057 | 3180 |
| 2P058 | 3180 |
| 059 | 3180 |
| 060 | 3180 |
| 061 | 3180 |
| 074 | 3064 |
| 2P075 | 3090 |
| 076 | 3090 |
| 077 | 3090 |
| 078 | 3090 |
| 080 | 3065 |
| 2P081 | 3065 |
| 086 | 3033 |
| 087 | 3214 |
| 088 | 3214 |
| 091 | 3287 |
| 2P092 | 3287 |
| 093 | 3201 |
| 094 | 3201 |
| 095 | 3264 |
| 096 | 3264 |
| 2P097 | 2693 |
| 098 | 2692 |
| 099 | 2692 |
| 100 | 2692 |
| 101 | 593 |
| 2P102 | 593 |
| 103 | 3150 |
| 104 | 3137 |
| 105 | 3268 |
| 106 | 3268 |
| 2P107 | 3268 |
| 108 | 3268 |
| 110 | 3208 |
| 120 | 3278 |
| 121 | 3139 |
| 2P122 | 3139 |
| 123 | 3139 |
| 124 | 3139 |
| 125 | 3139 |
| 129 | 3101 |
| 2P130 | 3101 |
| 131 | 3101 |
| 132 | 3101 |
| 133 | 3101 |
| 134 | 3101 |
| 2P135 | 3101 |
| 138 | 3260 |
| 143 | 3045 |
| 144 | 3045 |
| 145 | 3045 |
| 2P146 | 3045 |
| 147 | 3045 |
| 148 | 3045 |
| 149 | 3045 |
| 150 | 3045 |
| 2P151 | 3045 |
| 152 | 3045 |
| 153 | 3045 |
| 154 | 3045 |
| 155 | 3045 |
| 2P156 | 3045 |
| 157 | 3045 |
| 158 | 3045 |
| 159 | 3045 |
| 160 | 3045 |
| 2P161 | 3045 |
| 162 | 3045 |
| 163 | 3045 |
| 164 | 3045 |
| 165 | 3045 |
| 2P166 | 3045 |
| 167 | 3045 |
| 168 | 3045 |
| 169 | 3045 |
| 170 | 3045 |
| 2P171 | 3045 |
| 172 | 3045 |
| 173 | 3045 |
| 174 | 3045 |
| 175 | 3045 |
| 2P176 | 3045 |
| 177 | 3045 |
| 178 | 3045 |
| 179 | 3045 |
| 180 | 3045 |
| 2P181 | 3045 |
| 182 | 3045 |
| 183 | 3045 |
| 184 | 3045 |
| 185 | 3045 |
| 2P186 | 3045 |
| 187 | 3045 |
| 188 | 3045 |
| 189 | 3045 |
| 190 | 3045 |
| 2P191 | 3045 |
| 192 | 3045 |
| 193 | 3045 |
| 194 | 3045 |
| 195 | 3045 |
| 2P196 | 3045 |
| 197 | 3045 |
| 198 | 3045 |
| 199 | 3045 |
| 200 | 3045 |
| 2P201 | 3045 |
| 202 | 3045 |
| 203 | 3045 |
| 204 | 3045 |
| 205 | 3045 |
| 2P206 | 3045 |
| 207 | 3044 |
| 208 | 3044 |
| 209 | 3044 |
| 210 | 3044 |
| 2P211 | 3044 |
| 212 | 3044 |
| 213 | 3044 |
| 214 | 3044 |
| 215 | 3044 |
| 2P216 | 3044 |
| 217 | 3044 |
| 218 | 3044 |
| 219 | 3044 |
| 220 | 3044 |
| 2P221 | 3044 |
| 222 | 3044 |
| 223 | 3044 |
| 224 | 3044 |
| 225 | 3044 |
| 2P226 | 3044 |
| 227 | 3044 |
| 228 | 3044 |
| 229 | 3044 |
| 230 | 3044 |
| 2P231 | 3044 |
| 232 | 3044 |
| 233 | 3044 |
| 234 | 3044 |
| 235 | 3044 |
| 2P236 | 3044 |
| 237 | 3044 |
| 238 | 3044 |
| 239 | 3044 |
| 240 | 3044 |
| 2P241 | 3044 |
| 242 | 3044 |
| 243 | 3044 |
| 244 | 3044 |
| 245 | 3044 |
| 2P246 | 3044 |
| 247 | 3044 |
| 248 | 3044 |
| 249 | 3044 |
| 250 | 3044 |
| 2P251 | 3044 |
| 252 | 3044 |
| 253 | 3044 |
| 254 | 3044 |
| 255 | 3044 |
| 2P256 | 3044 |
| 261 | 3044 |
| 267 | 2539 |
| 268 | 2539 |
| 269 | 3247 |
| 2P270 | 3247 |
| 271 | 3247 |
| 272 | 3247 |
| 273 | 3092 |
| 276 | 3092 |
| 2P277 | 3092 |
| 279 | 3199 |
| 280 | 3132 |
| 281 | 2913 |
| 282 | 2913 |
| 2P283 | 2913 |
| 284 | 2913 |
| 285 | 2913 |
| 286 | 2913 |
| 287 | 2913 |
| 2P289 | 3030 |
| 290 | 3030 |
| 291 | 3030 |
| 292 | 2692 |
| 293 | 2692 |
| 2P293 | 3167 |
| 296 | 3167 |
| 297 | 3167 |
| 298 | 3167 |
| 299 | 3167 |
| 2P300 | 3278 |
| 301 | 3278 |
| 304 | 3280 |
| 305 | 3280 |
| 306 | 3278 |
| 2P303 | 3278 |
| 307 | 3278 |
| 310 | 3272 |
| 311 | 3272 |
| 312 | 3272 |
| 314 | 3109 |
| 2P317 | 3109 |
| 318 | 3109 |
| 319 | 3109 |
| 321 | 3109 |
| 322 | 3109 |
| 2P324 | 3109 |
| 325 | 3109 |
| 326 | 3109 |
| 331 | 2537 |
| 332 | 2538 |
| 2P333 | 3151 |
| 334 | 3181 |
| 335 | 3181 |
| 336 | 3181 |
| 337 | 3181 |
| 2P338 | 3181 |
| 339 | 3181 |
| 340 | 3181 |
| 341 | 3181 |
| 343 | 3166 |
| 2P344 | 3166 |
| 345 | 3166 |
| 350 | 3264 |
| 351 | 3264 |
| 352 | 3208 |
| 2P353 | 3216 |
| 362 | 3278 |
| 363 | 3202 |
| 366 | 3262 |
| 369 | 3093 |
| 2P370 | 3165 |
| 371 | 3165 |
| 372 | 3132 |
| 373 | 3139 |
| 374 | 3139 |
| 2P375 | 3139 |
| 376 | 3139 |
| 377 | 3139 |
| 381 | 3172 |
| 382 | 3172 |
| 2P383 | 3172 |
| 384 | 3172 |
| 385 | 3172 |
| 386 | 3172 |
| 387 | 3172 |
| 2P388 | 3172 |
| 389 | 3172 |
| 390 | 3133 |
| 391 | 3129 |
| 392 | 3129 |
| 2P393 | 3129 |
| 394 | 3129 |
| 395 | 3155 |
| 396 | 3146 |
| 397 | 3146 |
| 2P398 | 3146 |
| 399 | 3146 |
| 400 | 3146 |
| 401 | 3146 |
| 402 | 3146 |
| 2P403 | 3146 |
| 404 | 3146 |
| 405 | 3146 |
| 406 | 3146 |
| 407 | 3146 |
| 2P408 | 3146 |
| 410 | 3272 |
| 411 | 3182 |
| 414 | 3182 |
| 415 | 3182 |
| 2P416 | 3182 |
| 417 | 3182 |
| 419 | 3109 |
| 420 | 3109 |
| 421 | 3109 |
| 2P422 | 3124 |
| 423 | 3132 |
| 424 | 3132 |
| 429 | 3240 |
| 430 | 3240 |
| 2P431 | 3241 |
| 484 | 3241 |
| 485 | 3135 |
| 486 | 3124 |
| 495 | 3145 |
| 2P509 | 1745 |
| 511 | 1745 |
| 512 | 2749 |
| 514 | 3152 |
| 515 | 3152 |
| 2P516 | 3091 |
| 517 | 3091 |
| 518 | 3091 |
| 519 | 3091 |
| 520 | 3091 |
| 2P526 | 3285 |
| 529 | 3195 |
| 530 | 3201 |
| 531 | 3165 |
| 532 | 3165 |
| 2P533 | 3165 |
| 534 | 3165 |
| 535 | 3165 |
| 536 | 3127 |
| 537 | 3127 |
| 2P538 | 3127 |
| 539 | 3127 |
| 544 | 3234 |
| 545 | 3234 |
| 546 | 3234 |
| 2P547 | 3219 |
| 548 | 3219 |
| 549 | 3219 |
| 550 | 3219 |
| 551 | 3219 |
| 2P552 | 3224 |
| 553 | 3224 |
| 554 | 3224 |
| 555 | 3224 |
| 556 | 3214 |
| 2P561 | 2692 |
| 562 | 2692 |
| 566 | 3033 |
| 567 | 3033 |
| 568 | 3033 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 2P569 | 3033 |
| 570 | 3031 |
| 571 | 3030 |
| 572 | 3030 |
| 579 | 3141 |
| 2P580 | 3141 |
| 581 | 3101 |
| 582 | 3101 |
| 583 | 3101 |
| 584 | 3204 |
| 2P585 | 3183 |
| 586 | 3183 |
| 587 | 3183 |
| 588 | 3183 |
| 590 | 3186 |
| 2P591 | 3186 |
| 592 | 3184 |
| 593 | 3184 |
| 594 | 3184 |
| 595 | 3184 |
| 2P596 | 3186 |
| 597 | 3192 |
| 598 | 3193 |
| 599 | 3193 |
| 600 | 3193 |
| 2P601 | 3196 |
| 614 | 3043 |
| 615 | 3043 |
| 616 | 3043 |
| 617 | 3043 |
| 2P618 | 3043 |
| 619 | 3043 |
| 620 | 3043 |
| 621 | 3043 |
| 622 | 3043 |
| 2P623 | 3043 |
| 624 | 3043 |
| 625 | 3043 |
| 626 | 3043 |
| 627 | 3043 |
| 2P628 | 3043 |
| 629 | 3043 |
| 630 | 3043 |
| 631 | 3043 |
| 632 | 3043 |
| 2P633 | 3043 |
| 634 | 3043 |
| 635 | 3043 |
| 636 | 3043 |
| 637 | 3043 |
| 2P638 | 3043 |
| 639 | 3043 |
| 640 | 3043 |
| 641 | 3043 |
| 642 | 3043 |
| 2P643 | 3043 |
| 644 | 3043 |
| 645 | 3043 |
| 646 | 3043 |
| 647 | 3043 |
| 2P648 | 3043 |
| 649 | 3043 |
| 650 | 3043 |
| 651 | 3043 |
| 652 | 3043 |
| 2P653 | 3043 |
| 654 | 3043 |
| 655 | 3043 |
| 656 | 3043 |
| 657 | 3043 |
| 2P658 | 3043 |
| 659 | 3043 |
| 660 | 3043 |
| 661 | 3043 |
| 662 | 3043 |
| 2P663 | 3043 |
| 664 | 3043 |
| 665 | 3043 |
| 666 | 3043 |
| 668 | 3276 |
| 2P669 | 3276 |
| 670 | 3276 |
| 671 | 3276 |
| 672 | 3078 |
| 673 | 3078 |
| 2P683 | 3205 |
| 684 | 3205 |
| 685 | 2743 |
| 687 | 3195 |
| 688 | 3128 |
| 2P689 | 3128 |
| 690 | 3128 |
| 691 | 3128 |
| 692 | 3128 |
| 695 | 3201 |
| 2P696 | 3201 |
| 700 | 3205 |
| 701 | 3205 |
| 702 | 3205 |
| 703 | 3205 |
| 2P763 | 3031 |
| 764 | 3031 |
| 765 | 3031 |
| 766 | 3031 |
| 767 | 3031 |
| 2P768 | 3031 |
| 769 | 3031 |
| 770 | 3066 |
| 771 | 3066 |
| 772 | 3066 |
| 2P773 | 3192 |
| 774 | 3192 |
| 776 | 2743 |
| 777 | 2743 |
| 778 | 3209 |
| 2P784 | 3190 |
| 785 | 3190 |
| 786 | 3190 |
| 787 | 3190 |
| 788 | 3190 |
| 2P789 | 3190 |
| 790 | 3190 |
| 791 | 3190 |
| 792 | 3190 |
| 793 | 3190 |
| 2P794 | 3190 |
| 795 | 3190 |
| 796 | 3190 |
| 797 | 3155 |
| 798 | 3155 |
| 2P799 | 3155 |
| 800 | 3190 |
| 801 | 3101 |
| 802 | 3101 |
| 803 | 3101 |
| 2P804 | 3101 |
| 805 | 3101 |
| 806 | 3101 |
| 807 | 3101 |
| 808 | 3101 |
| 2P809 | 3101 |
| 810 | 3101 |
| 811 | 3101 |
| 812 | 3101 |
| 813 | 3238 |
| 2P814 | 3238 |
| 815 | 3238 |
| 816 | 3090 |
| 817 | 3099 |
| 818 | 3099 |
| 2P819 | 3099 |
| 820 | 3099 |
| 821 | 3099 |
| 822 | 3099 |
| 823 | 3099 |
| 2P824 | 3099 |
| 825 | 3099 |
| 826 | 3099 |
| 827 | 3099 |
| 828 | 3099 |
| 2P829 | 3099 |
| 830 | 3099 |
| 831 | 3099 |
| 832 | 3099 |
| 833 | 3099 |
| 2P834 | 3099 |
| 835 | 3099 |
| 836 | 3099 |
| 837 | 3099 |
| 838 | 3099 |
| 2P839 | 3098 |
| 840 | 3098 |
| 841 | 3098 |
| 842 | 3098 |
| 843 | 3231 |
| 2P844 | 3231 |
| 845 | 3231 |
| 852 | 3137 |
| 873 | 3146 |
| 874 | 3276 |
| 2P875 | 3130 |
| 876 | 3181 |
| 877 | 3181 |
| 885 | 3083 |
| 886 | 3115 |
| 2P887 | 3115 |
| 888 | 3115 |
| 889 | 3115 |
| 890 | 3115 |
| 891 | 3115 |
| 2P892 | 3115 |
| 893 | 3115 |
| 897 | 3239 |
| 898 | 3239 |
| 899 | 3238 |
| 2P943 | 3112 |
| 944 | 3112 |
| 945 | 3112 |
| 946 | 3113 |
| 947 | 3112 |
| 2P948 | 3112 |
| 949 | 3113 |
| 950 | 3112 |
| 951 | 3112 |
| 952 | 3112 |
| 2P953 | 3112 |
| 954 | 3113 |
| 955 | 3113 |
| **2Q** | |
| 2Q125 | 2039 |
| 126 | 2039 |
| 127 | 2039 |
| 128 | 2039 |
| 129 | 2039 |
| 2Q130 | 2039 |
| 131 | 2039 |
| 133 | 2039 |
| 134 | 2039 |
| 135 | 2039 |
| 2Q136 | 2039 |
| 137 | 2039 |
| 138 | 2039 |
| 139 | 2039 |
| 140 | 2039 |
| 2Q142 | 2039 |
| 143 | 2039 |
| 144 | 2039 |
| 145 | 2039 |
| 146 | 2039 |
| 2Q147 | 2039 |
| 148 | 2039 |
| 149 | 2039 |
| 151 | 2039 |
| 156 | 2039 |
| 2Q157 | 2039 |
| 158 | 2039 |
| 160 | 2039 |
| 212 | 2039 |
| 213 | 2039 |
| 2Q214 | 2039 |
| 215 | 2039 |
| 483 | 1433 |
| 484 | 1433 |
| 485 | 1433 |
| 2Q486 | 1433 |
| 487 | 1433 |
| 488 | 1433 |
| 489 | 1433 |
| 490 | 1433 |
| 2Q491 | 1433 |
| 492 | 1433 |
| 493 | 1433 |
| 494 | 1433 |
| 505 | 1433 |
| 2Q506 | 1433 |
| 507 | 1433 |
| 508 | 1433 |
| 509 | 1433 |
| 513 | 1433 |
| 2Q515 | 1433 |
| **2R** | |
| 2R918 | 123 |
| 920 | 123 |
| 2R922 | 123 |
| 924 | 123 |
| 926 | 124 |
| 928 | 124 |
| 930 | 124 |
| 2R932 | 124 |
| 934 | 124 |
| 936 | 124 |
| 938 | 124 |
| 940 | 124 |
| 2R942 | 124 |
| 944 | 124 |
| 946 | 124 |
| 948 | 124 |
| 950 | 123 |
| 2R952 | 170 |
| 954 | 170 |
| 956 | 170 |
| 958 | 170 |
| 960 | 170 |
| 2R962 | 170 |
| 964 | 170 |
| 966 | 170 |
| 968 | 170 |
| 970 | 124 |
| 2R972 | 124 |
| 974 | 124 |
| 976 | 124 |
| 978 | 124 |
| 980 | 124 |
| 2R982 | 124 |
| 984 | 124 |
| 986 | 124 |
| 988 | 124 |
| 990 | 124 |
| 2R992 | 124 |
| 994 | 124 |
| 996 | 12 |
| 998 | 12 |
| **2T** | |
| 2T318 | 820 |
| 319 | 820 |
| 320 | 820 |
| 2T321 | 888 |
| 323 | 882 |
| 327 | 893 |
| 328 | 893 |
| 343 | 893 |
| 2T346 | 893 |
| 347 | 893 |
| 348 | 893 |
| 353 | 820 |
| 403 | 891 |
| 2T409 | 825 |
| 414 | 825 |
| 416 | 779 |
| 446 | 755 |
| 447 | 755 |
| 2T450 | 794 |
| 462 | 795 |
| 463 | 795 |
| 468 | 798 |
| 469 | 798 |
| 2T470 | 799 |
| 473 | 798 |
| 475 | 798 |
| 545 | 838 |
| 553 | 839 |
| 2T554 | 839 |
| 592 | 758 |
| 593 | 749 |
| 594 | 749 |
| 597 | 752 |
| 2T600 | 747 |
| 603 | 752 |
| 604 | 749 |
| 618 | 887 |
| 619 | 887 |
| 2T623 | 891 |
| 625 | 882 |
| 629 | 880 |
| 637 | 882 |
| 638 | 882 |
| 2T639 | 882 |
| 640 | 882 |
| 641 | 887 |
| 644 | 860 |
| 645 | 860 |
| 2T646 | 860 |
| 647 | 862 |
| 648 | 862 |
| 649 | 862 |
| 650 | 857 |
| 2T651 | 852 |
| 694 | 880 |
| 695 | 880 |
| 696 | 880 |
| 697 | 880 |
| 2T700 | 881 |
| 701 | 881 |
| 703 | 877 |
| 704 | 886 |
| 705 | 881 |
| 2T706 | 881 |
| 707 | 881 |
| 708 | 880 |
| 710 | 880 |
| 711 | 882 |
| 2T713 | 882 |
| 714 | 882 |
| 716 | 882 |
| 719 | 834 |
| 724 | 835 |
| 2T728 | 837 |
| 729 | 837 |
| 731 | 837 |
| 736 | 835 |
| 738 | 835 |
| 2T740 | 835 |
| 850 | 805 |
| 859 | 737 |
| 860 | 737 |
| 861 | 737 |
| 2T862 | 737 |
| 864 | 737 |
| 865 | 737 |
| 870 | 740 |
| 871 | 740 |
| 2T872 | 739 |
| 873 | 739 |
| 874 | 739 |
| 875 | 739 |
| 876 | 739 |
| 2T877 | 739 |
| 878 | 739 |
| 879 | 739 |
| 884 | 740 |
| 885 | 740 |
| 2T886 | 740 |
| 887 | 740 |
| 888 | 737 |
| 889 | 737 |
| 890 | 737 |
| 2T896 | 737 |
| 898 | 737 |
| 900 | 741 |
| 901 | 741 |
| 902 | 741 |
| 2T907 | 741 |
| 912 | 746 |
| 921 | 784 |
| 923 | 784 |
| 927 | 784 |
| 2T928 | 784 |
| 929 | 784 |
| 930 | 784 |
| 931 | 784 |
| 932 | 784 |
| 2T933 | 784 |
| 934 | 784 |
| 935 | 822 |
| 936 | 784 |
| 937 | 784 |
| 2T938 | 823 |
| 939 | 823 |
| 940 | 784 |
| 941 | 784 |
| 942 | 822 |
| 2T943 | 822 |
| 944 | 822 |
| 945 | 822 |
| 946 | 822 |
| 947 | 822 |
| 2T948 | 822 |
| 949 | 822 |
| 950 | 822 |
| 951 | 822 |
| 952 | 784 |
| 2T953 | 784 |
| 954 | 784 |
| 955 | 784 |
| 967 | 754 |
| 970 | 806 |
| 2T971 | 857 |
| 972 | 835 |
| 973 | 835 |
| 976 | 1744 |
| 978 | 779 |
| 2T979 | 1744 |
| 981 | 793 |
| 982 | 806 |
| 983 | 794 |
| 989 | 792 |
| 2T994 | 1744 |
| **2U** | |
| 2U001 | 1846 |
| 002 | 1846 |
| 2U003 | 1846 |
| 012 | 1848 |
| 013 | 1848 |
| 014 | 1848 |
| 015 | 1848 |
| 2U016 | 1848 |
| 017 | 1848 |
| 018 | 1848 |
| 019 | 1848 |
| 020 | 1848 |
| 2U025 | 1848 |
| 026 | 1848 |
| 027 | 1848 |
| 028 | 1848 |
| 029 | 1848 |
| 2U030 | 1848 |
| 034 | 1839 |
| 035 | 1839 |
| 036 | 1839 |
| 037 | 1839 |
| 2U038 | 1839 |
| 039 | 1839 |
| 041 | 1838 |
| 042 | 1838 |
| 044 | 1838 |
| 2U045 | 1838 |
| 046 | 1838 |
| 050 | 1838 |
| 051 | 1838 |
| 052 | 1838 |
| 2U053 | 1838 |
| 054 | 1838 |
| 061 | 1838 |
| 062 | 1838 |
| 065 | 1839 |
| 2U066 | 1839 |
| 067 | 1839 |
| 068 | 1839 |
| 069 | 1839 |
| 071 | 1839 |
| 2U072 | 1839 |
| 077 | 1866 |
| 078 | 1866 |
| 081 | 1844 |
| 082 | 1844 |
| 2U086 | 1844 |
| 090 | 1844 |
| 096 | 1863 |
| 099 | 1863 |
| 102 | 1865 |
| 2U104 | 1864 |
| 110 | 1863 |
| 112 | 1863 |
| 113 | 1865 |
| 114 | 1865 |
| 2U116 | 1862 |
| 117 | 1862 |
| 118 | 1862 |
| 119 | 1862 |
| 120 | 1862 |
| 2U133 | 1860 |
| 134 | 1860 |
| 135 | 1860 |
| 136 | 1860 |
| 137 | 1860 |
| 2U138 | 1860 |
| 151 | 1850 |
| 152 | 1850 |
| 153 | 1850 |
| 154 | 1850 |
| 2U155 | 1850 |
| 156 | 1850 |
| 157 | 1850 |
| 158 | 1862 |
| 170 | 1838 |
| 2U171 | 1839 |
| 182 | 1846 |
| 185 | 1848 |
| 186 | 1848 |
| 187 | 1848 |
| 2U188 | 1848 |
| 189 | 1848 |
| 191 | 1850 |
| 192 | 1850 |
| 193 | 1850 |
| 2U195 | 1854 |
| 196 | 1855 |
| 199 | 1863 |
| 200 | 1863 |
| 204 | 1862 |
| 2U206 | 1862 |
| 209 | 1848 |
| 210 | 1848 |
| 218 | 1904 |
| 227 | 1903 |
| 2U228 | 1904 |
| 229 | 1904 |
| 230 | 1905 |
| 231 | 1905 |
| 232 | 1905 |
| 2U233 | 1905 |
| 235 | 1905 |
| 247 | 1902 |
| 249 | 1901 |
| 250 | 1901 |
| 2U251 | 1901 |
| 252 | 1902 |
| 253 | 1902 |
| 256 | 1901 |
| 257 | 1902 |
| 2U259 | 1910 |
| 261 | 1911 |
| 262 | 1911 |
| 266 | 1912 |
| 267 | 1912 |
| 2U268 | 1910 |
| 269 | 1910 |
| 270 | 1910 |
| 271 | 1910 |
| 272 | 1910 |
| 2U273 | 1911 |
| 287 | 1854 |
| 288 | 1950 |
| 289 | 1950 |
| 290 | 1848 |
| 2U298 | 1847 |
| 325 | 1860 |
| 326 | 1860 |
| 327 | 1860 |
| 328 | 1860 |
| 2U329 | 1860 |
| 330 | 1860 |
| 364 | 1933 |
| 366 | 1933 |
| 367 | 1933 |
| 2U369 | 1933 |
| 370 | 1933 |
| 371 | 1933 |
| 372 | 1933 |
| 373 | 1933 |
| 2U374 | 1933 |
| 375 | 1933 |
| 377 | 1933 |
| 378 | 1933 |
| 379 | 1933 |
| 2U380 | 1933 |
| 381 | 1933 |
| 382 | 1933 |
| 383 | 1931 |
| 385 | 1930 |
| 2U390 | 1744 |
| 392 | 1850 |
| 399 | 1851 |
| 400 | 1851 |
| 401 | 1851 |
| 2U402 | 1851 |
| 403 | 1851 |
| 411 | 1857 |
| 425 | 2783 |
| 428 | 1864 |
| 2U436 | 1871 |
| 437 | 1871 |
| 438 | 1871 |
| 439 | 1871 |
| 441 | 1744 |
| 2U443 | 1872 |
| 444 | 1872 |
| 445 | 1872 |
| 469 | 1877 |
| 470 | 1877 |
| 2U471 | 1877 |
| 476 | 1878 |
| 477 | 1878 |
| 508 | 1894 |
| 517 | 1858 |
| 2U519 | 1858 |
| 527 | 1909 |
| 532 | 1875 |
| 533 | 1875 |
| 547 | 1909 |
| 2U548 | 1909 |
| 557 | 1909 |
| 558 | 1908 |
| 559 | 1908 |
| 560 | 1907 |
| 2U561 | 1907 |
| 562 | 1908 |
| 564 | 1875 |
| 565 | 1875 |
| 566 | 1875 |
| 2U567 | 1875 |
| 568 | 1875 |
| 569 | 1875 |
| 570 | 1875 |
| 571 | 1875 |
| 2U572 | 1875 |
| 573 | 1875 |
| 574 | 1875 |
| 575 | 1875 |
| 576 | 1875 |
| 2U577 | 1875 |
| 578 | 1875 |
| 579 | 1875 |
| 580 | 1875 |
| 581 | 1875 |
| 2U582 | 1875 |
| 583 | 1875 |
| 584 | 1875 |
| 585 | 1875 |
| 586 | 1875 |
| 2U587 | 1875 |
| 588 | 1874 |
| 589 | 1875 |
| 590 | 1875 |
| 591 | 1875 |
| 2U592 | 1874 |
| 593 | 1875 |
| 594 | 1875 |
| 595 | 1875 |
| 596 | 1874 |
| 2U597 | 1875 |
| 598 | 1875 |
| 599 | 1875 |
| 600 | 1874 |
| 601 | 1874 |
| 2U602 | 1875 |
| 603 | 1875 |
| 604 | 1875 |
| 605 | 1874 |
| 606 | 1875 |
| 2U607 | 1875 |
| 608 | 1875 |
| 609 | 1874 |
| 610 | 1874 |
| 611 | 1874 |
| 2U612 | 1874 |
| 613 | 1874 |
| 614 | 1875 |
| 615 | 1875 |
| 616 | 1875 |
| 2U617 | 1875 |
| 619 | 1875 |
| 620 | 1875 |
| 621 | 1875 |
| 622 | 1875 |
| 2U623 | 1875 |
| 624 | 1875 |
| 625 | 1875 |
| 627 | 1875 |
| 628 | 1901 |

# STOCK NUMBER—PAGE NUMBER

## 2U6 — 2W7

| Stock No. | Page No. |
|---|---|
| 2U641 | 1957 |
| 642 | 1957 |
| 643 | 1957 |
| 644 | 1954 |
| 645 | 1954 |
| 2U647 | 1953 |
| 651 | 1942 |
| 652 | 1942 |
| 653 | 1952 |
| 654 | 1953 |
| 2U656 | 1954 |
| 657 | 1954 |
| 659 | 1953 |
| 664 | 1955 |
| 665 | 1955 |
| 2U666 | 1955 |
| 667 | 1955 |
| 668 | 1955 |
| 669 | 1953 |
| 670 | 1953 |
| 2U671 | 1943 |
| 672 | 1943 |
| 674 | 1870 |
| 675 | 1870 |
| 676 | 1870 |
| 2U679 | 1870 |
| 682 | 1870 |
| 683 | 1870 |
| 690 | 1870 |
| 691 | 1870 |
| 2U692 | 1870 |
| 693 | 1904 |
| 694 | 2783 |
| 745 | 1742 |
| 747 | 1742 |
| 2U749 | 1742 |
| 751 | 1742 |
| 753 | 1742 |
| 757 | 1742 |
| 759 | 1742 |
| 2U765 | 1745 |
| 775 | 1742 |
| 777 | 1742 |
| 779 | 1742 |
| 781 | 1742 |
| 2U783 | 1742 |
| 799 | 1744 |
| 801 | 1744 |
| 803 | 1744 |
| 807 | 1744 |
| 2U833 | 1744 |
| 837 | 1742 |
| 839 | 1742 |
| 841 | 1742 |
| 843 | 1742 |
| 2U845 | 1742 |
| 857 | 1745 |
| 859 | 1745 |
| 861 | 1745 |
| 863 | 1745 |
| 2U867 | 1745 |
| 873 | 1745 |
| 877 | 1742 |
| 879 | 1742 |
| 891 | 1743 |
| 2U893 | 1743 |
| 895 | 1743 |
| 897 | 1743 |
| 899 | 1743 |
| 903 | 1743 |
| 2U905 | 1743 |
| **2V** | |
| 2V023 | 1746 |
| 025 | 1746 |
| 2V033 | 1746 |
| 035 | 1746 |
| 036 | 1644 |
| 037 | 1746 |
| 039 | 1746 |
| 2V040 | 1644 |
| 041 | 1746 |
| 043 | 1746 |
| 044 | 1644 |
| 045 | 1746 |
| 2V049 | 1746 |
| 050 | 1644 |
| 053 | 1746 |
| 056 | 1644 |
| 067 | 1096 |
| 2V074 | 1747 |
| 077 | 1747 |
| 084 | 1747 |
| 091 | 1644 |
| 093 | 1644 |
| 2V098 | 1747 |
| 100 | 1747 |
| 101 | 1644 |
| 102 | 1747 |
| 104 | 1747 |
| 2V105 | 1644 |
| 106 | 1747 |
| 109 | 1644 |
| 110 | 1747 |
| 112 | 1747 |
| 2V113 | 1644 |
| 122 | 1062 |
| 125 | 1644 |
| 153 | 1074 |
| 170 | 1760 |
| 2V171 | 1644 |
| 175 | 1760 |
| 177 | 1760 |
| 179 | 1760 |
| 189 | 1760 |
| 2V235 | 916 |
| 265 | 975 |
| 266 | 1008 |
| 268 | 1071 |
| 269 | 1071 |
| 2V281 | 954 |
| 286 | 971 |
| 287 | 973 |
| 290 | 963 |
| 291 | 968 |
| 2V293 | 968 |
| 294 | 975 |
| 303 | 971 |
| 308 | 1075 |
| 311 | 1061 |
| 2V312 | 1071 |
| 317 | 1062 |
| 318 | 1062 |
| 322 | 1062 |
| 327 | 962 |
| 2V328 | 968 |
| 329 | 971 |
| 337 | 973 |
| 339 | 1062 |
| 341 | 1164 |
| 2V342 | 3407 |
| 358 | 946 |
| 380 | 1074 |
| 381 | 1074 |
| 384 | 979 |
| 2V389 | 1760 |
| 391 | 972 |
| 392 | 973 |
| 393 | 968 |
| 411 | 976 |
| 2V415 | 1175 |
| 417 | 1175 |
| 418 | 1175 |
| 421 | 1174 |
| 422 | 1174 |
| 2V423 | 1175 |
| 427 | 1062 |
| 429 | 916 |
| 449 | 946 |
| 450 | 947 |
| 2V452 | 942 |
| 453 | 943 |
| 457 | 1760 |
| 465 | 1760 |
| 467 | 1173 |
| 2V472 | 1166 |
| 473 | 1166 |
| 476 | 965 |
| 477 | 945 |
| 482 | 958 |
| 2V510 | 979 |
| 511 | 954 |
| 512 | 952 |
| 513 | 942 |
| 514 | 943 |
| 2V519 | 942 |
| 520 | 943 |
| 529 | 976 |
| 530 | 945 |
| 531 | 1091 |
| 2V532 | 1174 |
| 533 | 1174 |
| 534 | 1174 |
| 536 | 1163 |
| 537 | 1163 |
| 2V540 | 1164 |
| 541 | 1164 |
| 542 | 1185 |
| 543 | 1185 |
| 544 | 1185 |
| 2V545 | 1185 |
| 546 | 1188 |
| 549 | 1187 |
| 553 | 1175 |
| 554 | 1186 |
| 2V556 | 1187 |
| 557 | 1067 |
| 558 | 1067 |
| 561 | 957 |
| 562 | 962 |
| 2V563 | 966 |
| 564 | 917 |
| 565 | 1102 |
| 566 | 1102 |
| 567 | 682 |
| 2V612 | 962 |
| 613 | 965 |
| 614 | 967 |
| 615 | 970 |
| 616 | 981 |
| 2V617 | 981 |
| 618 | 981 |
| 619 | 981 |
| 620 | 1186 |
| 621 | 1106 |
| 2V622 | 1106 |
| 623 | 1091 |
| 624 | 1091 |
| 625 | 682 |
| 626 | 684 |
| 2V627 | 684 |
| 632 | 941 |
| 633 | 924 |
| 636 | 1097 |
| 645 | 1092 |
| 2V647 | 1159 |
| 648 | 1159 |
| 653 | 1106 |
| 654 | 677 |
| 655 | 677 |
| 2V656 | 941 |
| 658 | 939 |
| 659 | 941 |
| 660 | 966 |
| 661 | 960 |
| 2V662 | 966 |
| 663 | 970 |
| 669 | 1096 |
| 674 | 1094 |
| 676 | 1088 |
| 2V677 | 1088 |
| 687 | 1072 |
| 688 | 1072 |
| 689 | 1072 |
| 690 | 1072 |
| 2V691 | 1074 |
| 692 | 1074 |
| 693 | 1074 |
| 694 | 1074 |
| 695 | 1072 |
| 2V696 | 1071 |
| 697 | 1071 |
| 698 | 1071 |
| 701 | 972 |
| 702 | 972 |
| 2V703 | 975 |
| 704 | 684 |
| 705 | 684 |
| 706 | 684 |
| 709 | 1088 |
| 2V710 | 1088 |
| 711 | 1092 |
| 712 | 939 |
| 713 | 942 |
| 714 | 1170 |
| 2V738 | 1103 |
| 739 | 1103 |
| 740 | 1103 |
| 741 | 1103 |
| 742 | 1103 |
| 2V743 | 1103 |
| 744 | 1103 |
| 745 | 1103 |
| 746 | 1103 |
| 747 | 1104 |
| 2V748 | 1104 |
| 749 | 1104 |
| 752 | 976 |
| 753 | 979 |
| 754 | 944 |
| 2V769 | 1063 |
| 790 | 1092 |
| 791 | 967 |
| 792 | 967 |
| 795 | 960 |
| 2V804 | 1102 |
| 805 | 916 |
| 806 | 916 |
| 807 | 1160 |
| 808 | 1071 |
| 2V809 | 1062 |
| 810 | 1062 |
| 811 | 1075 |
| 812 | 1075 |
| 813 | 1075 |
| 2V818 | 1104 |
| 819 | 1184 |
| 820 | 1184 |
| 821 | 1174 |
| 822 | 1174 |
| 2V823 | 1174 |
| 833 | 929 |
| 834 | 929 |
| 835 | 930 |
| 837 | 1176 |
| 2V838 | 1069 |
| 861 | 1089 |
| 862 | 1089 |
| 865 | 1173 |
| 866 | 1097 |
| 2V869 | 943 |
| 876 | 1094 |
| 884 | 1162 |
| 885 | 1162 |
| 886 | 1162 |
| 2V887 | 1058 |
| 888 | 1176 |
| 889 | 1159 |
| 890 | 1159 |
| 891 | 929 |
| 2V892 | 928 |
| 896 | 917 |
| 897 | 918 |
| 903 | 1184 |
| 914 | 1074 |
| 2V915 | 1074 |
| 916 | 1074 |
| 917 | 1074 |
| 918 | 1074 |
| 921 | 1062 |
| 2V923 | 1163 |
| 924 | 1182 |
| 927 | 1160 |
| 928 | 1159 |
| 929 | 1182 |
| 2V930 | 1182 |
| 931 | 1182 |
| 933 | 928 |
| 937 | 1086 |
| 938 | 1086 |
| 2V940 | 1168 |
| 941 | 1167 |
| 942 | 1167 |
| 943 | 1167 |
| 944 | 1172 |
| 2V945 | 1167 |
| 946 | 697 |
| 947 | 1189 |
| 948 | 1175 |
| 949 | 1174 |
| 2V950 | 1189 |
| 951 | 1189 |
| 952 | 1189 |
| 953 | 1189 |
| 979 | 1072 |
| 2V980 | 1072 |
| 981 | 1072 |
| 982 | 1072 |
| 983 | 1072 |
| 984 | 1072 |
| 2V987 | 1071 |
| 988 | 1071 |
| 989 | 1071 |
| 990 | 1071 |
| 992 | 1071 |
| 2V994 | 1071 |
| **2W** | |
| 2W001 | 3531 |
| 002 | 3531 |
| 2W015 | 3528 |
| 016 | 3528 |
| 019 | 1203 |
| 020 | 1201 |
| 021 | 1202 |
| 2W022 | 1203 |
| 023 | 1203 |
| 024 | 1203 |
| 025 | 1200 |
| 026 | 1200 |
| 2W027 | 1200 |
| 028 | 588 |
| 029 | 588 |
| 030 | 588 |
| 031 | 588 |
| 2W032 | 588 |
| 033 | 588 |
| 048 | 1155 |
| 049 | 2727 |
| 050 | 591 |
| 2W051 | 591 |
| 052 | 591 |
| 053 | 591 |
| 057 | 2051 |
| 059 | 2051 |
| 2W063 | 2202 |
| 065 | 2207 |
| 068 | 2457 |
| 070 | 2457 |
| 072 | 2046 |
| 2W073 | 2046 |
| 074 | 2046 |
| 075 | 2046 |
| 076 | 2046 |
| 083 | 2739 |
| 2W084 | 591 |
| 091 | 2355 |
| 092 | 299 |
| 093 | 299 |
| 094 | 299 |
| 2W095 | 299 |
| 096 | 299 |
| 101 | 1760 |
| 107 | 1760 |
| 109 | 1760 |
| 2W111 | 1760 |
| 113 | 1760 |
| 119 | 1760 |
| 123 | 1760 |
| 125 | 1760 |
| 2W137 | 1760 |
| 141 | 1760 |
| 145 | 1760 |
| 154 | 3088 |
| 155 | 3088 |
| 2W156 | 3088 |
| 157 | 2206 |
| 158 | 2101 |
| 159 | 2100 |
| 163 | 1155 |
| 2W165 | 588 |
| 166 | 588 |
| 168 | 588 |
| 170 | 590 |
| 175 | 2100 |
| 2W176 | 2110 |
| 178 | 2082 |
| 179 | 2202 |
| 185 | 3530 |
| 186 | 3530 |
| 2W188 | 3088 |
| 191 | 3088 |
| 192 | 299 |
| 193 | 299 |
| 194 | 299 |
| 2W195 | 299 |
| 198 | 3476 |
| 199 | 3476 |
| 203 | 600 |
| 204 | 600 |
| 2W205 | 600 |
| 211 | 1203 |
| 215 | 588 |
| 216 | 588 |
| 221 | 299 |
| 2W222 | 299 |
| 230 | 3532 |
| 231 | 3532 |
| 232 | 3532 |
| 233 | 3532 |
| 2W234 | 3532 |
| 235 | 3532 |
| 236 | 3532 |
| 237 | 3532 |
| 238 | 3532 |
| 2W239 | 3522 |
| 243 | 1155 |
| 244 | 1155 |
| 245 | 2727 |
| 247 | 2727 |
| 2W249 | 2100 |
| 250 | 2051 |
| 251 | 2044 |
| 254 | 2044 |
| 255 | 2044 |
| 2W256 | 2044 |
| 265 | 2050 |
| 266 | 2050 |
| 267 | 2050 |
| 268 | 2050 |
| 2W269 | 2321 |
| 270 | 1922 |
| 273 | 2194 |
| 274 | 2343 |
| 276 | 1919 |
| 2W277 | 3477 |
| 278 | 3477 |
| 279 | 665 |
| 280 | 665 |
| 281 | 665 |
| 2W282 | 600 |
| 283 | 600 |
| 284 | 593 |
| 285 | 593 |
| 286 | 593 |
| 2W303 | 2747 |
| 309 | 2747 |
| 310 | 2747 |
| 313 | 2339 |
| 314 | 2339 |
| 2W315 | 1945 |
| 316 | 1945 |
| 317 | 1945 |
| 318 | 1945 |
| 323 | 1203 |
| 2W325 | 1202 |
| 326 | 1202 |
| 328 | 2044 |
| 329 | 2044 |
| 330 | 2098 |
| 2W332 | 591 |
| 333 | 591 |
| 345 | 200 |
| 352 | 1523 |
| 354 | 1341 |
| 2W362 | 2098 |
| 367 | 1927 |
| 374 | 592 |
| 375 | 592 |
| 376 | 592 |
| 2W377 | 592 |
| 378 | 592 |
| 382 | 588 |
| 383 | 588 |
| 384 | 588 |
| 2W385 | 587 |
| 386 | 587 |
| 387 | 587 |
| 388 | 587 |
| 389 | 587 |
| 2W393 | 588 |
| 396 | 1385 |
| 398 | 2043 |
| 399 | 2043 |
| 400 | 2043 |
| 2W401 | 2043 |
| 402 | 3039 |
| 403 | 3039 |
| 404 | 3039 |
| 405 | 3039 |
| 2W406 | 593 |
| 407 | 593 |
| 408 | 593 |
| 416 | 2117 |
| 423 | 2194 |
| 2W424 | 2194 |
| 425 | 2194 |
| 426 | 2194 |
| 427 | 2350 |
| 428 | 2339 |
| 2W429 | 2339 |
| 430 | 2049 |
| 431 | 2049 |
| 432 | 2272 |
| 433 | 2272 |
| 2W434 | 2272 |
| 435 | 1890 |
| 447 | 1922 |
| 449 | 3527 |
| 450 | 2197 |
| 2W451 | 2197 |
| 458 | 2184 |
| 459 | 2629 |
| 460 | 2144 |
| 461 | 2144 |
| 2W463 | 525 |
| 467 | 2052 |
| 468 | 2052 |
| 469 | 2052 |
| 472 | 2323 |
| 2W479 | 665 |
| 480 | 665 |
| 481 | 665 |
| 482 | 665 |
| 484 | 588 |
| 2W485 | 599 |
| 489 | 2956 |
| 490 | 2956 |
| 491 | 2956 |
| 492 | 2956 |
| 2W493 | 2956 |
| 500 | 2281 |
| 502 | 2281 |
| 503 | 2281 |
| 504 | 2281 |
| 2W514 | 2211 |
| 521 | 621 |
| 522 | 591 |
| 523 | 591 |
| 524 | 591 |
| 2W525 | 591 |
| 526 | 2471 |
| 527 | 1201 |
| 531 | 1944 |
| 532 | 1944 |
| 2W535 | 2160 |
| 536 | 2160 |
| 537 | 2162 |
| 542 | 582 |
| 545 | 2674 |
| 2W546 | 2674 |
| 547 | 2674 |
| 548 | 591 |
| 549 | 591 |
| 550 | 591 |
| 2W551 | 591 |
| 552 | 1155 |
| 554 | 587 |
| 555 | 589 |
| 560 | 2343 |
| 2W564 | 2727 |
| 565 | 2727 |
| 566 | 587 |
| 567 | 587 |
| 568 | 587 |
| 2W579 | 2674 |
| 580 | 1526 |
| 582 | 2322 |
| 584 | 1394 |
| 585 | 1394 |
| 2W587 | 2118 |
| 588 | 2118 |
| 591 | 602 |
| 592 | 602 |
| 593 | 599 |
| 2W594 | 597 |
| 595 | 597 |
| 596 | 597 |
| 597 | 599 |
| 598 | 598 |
| 2W599 | 599 |
| 601 | 314 |
| 602 | 314 |
| 603 | 692 |
| 604 | 692 |
| 2W605 | 692 |
| 606 | 692 |
| 607 | 692 |
| 608 | 692 |
| 658 | 2258 |
| 2W659 | 2258 |
| 669 | 2210 |
| 670 | 2270 |
| 677 | 2664 |
| 683 | 2339 |
| 2W684 | 2347 |
| 685 | 591 |
| 686 | 591 |
| 687 | 591 |
| 688 | 591 |
| 2W689 | 2260 |
| 690 | 2260 |
| 693 | 2260 |
| 694 | 2260 |
| 695 | 2260 |
| 2W696 | 2260 |
| 697 | 2615 |
| 698 | 2705 |
| 699 | 2705 |
| 700 | 2304 |
| 2W701 | 2304 |
| 702 | 2304 |
| 703 | 2304 |
| 704 | 2304 |
| 705 | 2304 |
| 2W709 | 1984 |
| 710 | 1984 |
| 711 | 1984 |
| 712 | 1984 |
| 713 | 1984 |
| 2W714 | 1984 |
| 715 | 1984 |
| 717 | 2046 |
| 718 | 2046 |
| 719 | 2044 |
| 2W720 | 2044 |
| 724 | 1907 |
| 725 | 1907 |
| 726 | 2250 |
| 728 | 2258 |
| 2W729 | 2258 |
| 730 | 2258 |
| 731 | 2258 |
| 732 | 2258 |
| 733 | 2258 |
| 2W734 | 2258 |
| 736 | 2258 |
| 737 | 2258 |
| 738 | 2258 |
| 739 | 2258 |
| 2W740 | 2258 |
| 741 | 2258 |
| 755 | 2772 |
| 757 | 2783 |
| 762 | 3012 |
| 2W763 | 3012 |
| 764 | 3012 |
| 765 | 1526 |
| 766 | 1526 |
| 769 | 1031 |
| 2W770 | 1034 |
| 772 | 1025 |
| 773 | 1028 |
| 774 | 1030 |
| 776 | 2046 |
| 2W777 | 2046 |
| 778 | 2046 |
| 779 | 2046 |
| 780 | 2046 |
| 781 | 2052 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 2W782 | 2052 |
| 784 | 2053 |
| 785 | 2053 |
| 786 | 2052 |
| 787 | 2050 |
| 2W798 | 587 |
| 799 | 599 |
| 800 | 2629 |
| 804 | 3010 |
| 805 | 3010 |
| 2W806 | 3010 |
| 807 | 525 |
| 808 | 525 |
| 809 | 525 |
| 810 | 525 |
| 2W811 | 525 |
| 818 | 637 |
| 819 | 637 |
| 820 | 637 |
| 821 | 637 |
| 2W822 | 637 |
| 823 | 637 |
| 824 | 640 |
| 825 | 640 |
| 826 | 640 |
| 2W827 | 640 |
| 828 | 640 |
| 829 | 638 |
| 830 | 638 |
| 831 | 638 |
| 2W832 | 638 |
| 833 | 638 |
| 834 | 641 |
| 835 | 641 |
| 836 | 641 |
| 2W837 | 641 |
| 838 | 642 |
| 839 | 642 |
| 840 | 642 |
| 849 | 2263 |
| 2W850 | 2263 |
| 851 | 2263 |
| 852 | 2263 |
| 874 | 2309 |
| 875 | 2307 |
| 2W876 | 2307 |
| 877 | 2310 |
| 878 | 2310 |
| 879 | 2308 |
| 905 | 2344 |
| 2W906 | 2327 |
| 919 | 475 |
| 920 | 475 |
| 921 | 475 |
| 922 | 475 |
| 2W923 | 475 |
| 924 | 475 |
| 925 | 475 |
| 926 | 475 |
| 927 | 475 |
| 2W928 | 475 |
| 929 | 475 |
| 930 | 475 |
| 931 | 475 |
| 932 | 475 |
| 2W933 | 475 |
| 934 | 484 |
| 935 | 484 |
| 936 | 479 |
| 937 | 479 |
| 2W938 | 530 |
| 939 | 530 |
| 948 | 590 |
| 949 | 588 |
| 950 | 588 |
| 2W951 | 590 |
| 952 | 590 |
| 957 | 2101 |
| 958 | 2100 |
| 959 | 2100 |
| 2W960 | 2100 |
| 961 | 2100 |
| 963 | 2304 |
| 964 | 2304 |
| 965 | 2304 |
| 2W966 | 2304 |
| 977 | 597 |
| 978 | 597 |
| 979 | 597 |
| 980 | 597 |
| 2W981 | 597 |
| 982 | 597 |
| 983 | 597 |
| 984 | 597 |
| 985 | 598 |
| 2W986 | 598 |
| 987 | 599 |
| 988 | 598 |
| 989 | 598 |
| 990 | 599 |
| 2W991 | 599 |
| 992 | 599 |
| 993 | 599 |
| 994 | 599 |
| 995 | 599 |
| 2W996 | 599 |
| 997 | 599 |
| 998 | 599 |
| 999 | 599 |
| 2X | |
| 2XC00 | 475 |
| C01 | 475 |
| C02 | 475 |
| 2XC03 | 475 |
| C04 | 475 |
| C05 | 475 |
| C06 | 475 |
| C07 | 475 |
| 2XC08 | 481 |
| C09 | 481 |
| C10 | 528 |
| C11 | 528 |
| C12 | 528 |
| 2XC13 | 3233 |
| C19 | 484 |
| C20 | 484 |
| C21 | 484 |
| C22 | 484 |
| 2XC23 | 478 |
| C24 | 478 |
| C25 | 478 |
| C26 | 478 |
| C27 | 478 |
| 2XC28 | 477 |
| C29 | 477 |
| C30 | 477 |
| C31 | 477 |
| C32 | 477 |
| 2XC33 | 477 |
| C34 | 477 |
| C35 | 477 |
| C36 | 486 |
| C37 | 476 |
| 2XC38 | 476 |
| C39 | 476 |
| C40 | 476 |
| C41 | 476 |
| C42 | 476 |
| 2XC43 | 476 |
| C44 | 476 |
| C45 | 476 |
| C46 | 476 |
| C47 | 476 |
| 2XC48 | 476 |
| C49 | 476 |
| C50 | 476 |
| C51 | 476 |
| C52 | 483 |
| 2XC54 | 483 |
| C55 | 483 |
| C56 | 483 |
| C57 | 483 |
| C58 | 483 |
| 2XC59 | 483 |
| C60 | 486 |
| C62 | 499 |
| C63 | 499 |
| C64 | 499 |
| 2XC65 | 499 |
| 035 | 1746 |
| 037 | 1746 |
| 041 | 1747 |
| 043 | 1747 |
| 2X045 | 1747 |
| 047 | 1747 |
| 049 | 1743 |
| 053 | 1743 |
| 055 | 1743 |
| 2X057 | 1743 |
| 063 | 1743 |
| 065 | 1733 |
| 067 | 1733 |
| 071 | 1733 |
| 2X075 | 1733 |
| 083 | 1733 |
| 087 | 1733 |
| 091 | 1733 |
| 093 | 1733 |
| 2X101 | 1733 |
| 105 | 1733 |
| 109 | 1733 |
| 111 | 1733 |
| 113 | 1733 |
| 2X117 | 1733 |
| 121 | 1733 |
| 132 | 834 |
| 133 | 1733 |
| 135 | 1733 |
| 2X137 | 1733 |
| 141 | 1733 |
| 158 | 1733 |
| 160 | 1733 |
| 162 | 1733 |
| 2X166 | 1733 |
| 169 | 3023 |
| 170 | 3023 |
| 190 | 1733 |
| 194 | 1733 |
| 2X198 | 1733 |
| 202 | 1733 |
| 218 | 1733 |
| 234 | 202 |
| 284 | 202 |
| 2X318 | 3065 |
| 355 | 352 |
| 373 | 934 |
| 380 | 352 |
| 403 | 340 |
| 2X404 | 340 |
| 405 | 340 |
| 406 | 340 |
| 440 | 452 |
| 441 | 452 |
| 2X442 | 452 |
| 443 | 452 |
| 456 | 202 |
| 463 | 1031 |
| 464 | 520 |
| 2X465 | 520 |
| 466 | 520 |
| 467 | 520 |
| 468 | 520 |
| 469 | 520 |
| 2X470 | 1665 |
| 471 | 1665 |
| 488 | 520 |
| 492 | 3026 |
| 497 | 356 |
| 2X498 | 356 |
| 499 | 356 |
| 524 | 3066 |
| 525 | 3066 |
| 529 | 340 |
| 2X530 | 340 |
| 531 | 340 |
| 547 | 730 |
| 554 | 1733 |
| 556 | 1733 |
| 2X560 | 1733 |
| 562 | 1733 |
| 564 | 1733 |
| 566 | 1733 |
| 567 | 340 |
| 2X568 | 350 |
| 569 | 350 |
| 570 | 350 |
| 571 | 350 |
| 575 | 1733 |
| 2X580 | 1733 |
| 587 | 1733 |
| 592 | 1733 |
| 594 | 520 |
| 595 | 3443 |
| 2X602 | 1733 |
| 604 | 590 |
| 605 | 3622 |
| 610 | 3256 |
| 611 | 3256 |
| 2X612 | 3256 |
| 613 | 3256 |
| 619 | 1733 |
| 627 | 1733 |
| 631 | 1733 |
| 2X633 | 520 |
| 635 | 1733 |
| 637 | 203 |
| 639 | 1733 |
| 641 | 1733 |
| 2X642 | 520 |
| 643 | 1732 |
| 645 | 1733 |
| 647 | 1733 |
| 650 | 520 |
| 2X652 | 1733 |
| 653 | 352 |
| 660 | 203 |
| 661 | 489 |
| 662 | 489 |
| 2X670 | 1733 |
| 674 | 1733 |
| 676 | 1733 |
| 678 | 1733 |
| 680 | 1733 |
| 2X682 | 1733 |
| 684 | 1733 |
| 686 | 1733 |
| 688 | 1733 |
| 695 | 1733 |
| 2X725 | 2783 |
| 735 | 350 |
| 736 | 350 |
| 737 | 350 |
| 738 | 350 |
| 2X739 | 350 |
| 740 | 350 |
| 741 | 1733 |
| 746 | 3256 |
| 768 | 3066 |
| 2X769 | 3020 |
| 770 | 3020 |
| 773 | 352 |
| 774 | 352 |
| 775 | 352 |
| 2X814 | 357 |
| 867 | 489 |
| 868 | 489 |
| 894 | 521 |
| 897 | 340 |
| 2X898 | 340 |
| 899 | 340 |
| 900 | 340 |
| 901 | 521 |
| 907 | 308 |
| 2Y917 | 786 |
| 951 | 1506 |
| 988 | 2783 |
| 2Y | |
| 2Y261 | 1427 |
| 262 | 1427 |
| 775 | 1433 |
| 851 | 1420 |
| 2Z | |
| 2Z001 | 12 |
| 007 | 12 |
| 009 | 3018 |
| 2Z010 | 3019 |
| 011 | 1969 |
| 012 | 1891 |
| 013 | 1891 |
| 014 | 2668 |
| 2Z028 | 12 |
| 036 | 12 |
| 049 | 12 |
| 050 | 2885 |
| 061 | 3527 |
| 2Z090 | 1891 |
| 097 | 2242 |
| 101 | 2165 |
| 102 | 2165 |
| 103 | 2165 |
| 2Z104 | 2165 |
| 105 | 2165 |
| 106 | 2165 |
| 107 | 2164 |
| 108 | 2164 |
| 2Z120 | 3004 |
| 121 | 3004 |
| 122 | 3004 |
| 123 | 3004 |
| 124 | 3004 |
| 2Z125 | 3004 |
| 126 | 3004 |
| 143 | 12 |
| 145 | 2165 |
| 151 | 270 |
| 2Z152 | 270 |
| 153 | 270 |
| 154 | 270 |
| 157 | 2885 |
| 163 | 1490 |
| 2Z173 | 1536 |
| 174 | 1536 |
| 179 | 3004 |
| 197 | 2727 |
| 203 | 2885 |
| 2Z204 | 1487 |
| 211 | 1890 |
| 212 | 1890 |
| 219 | 13 |
| 248 | 13 |
| 2Z252 | 3021 |
| 253 | 3021 |
| 254 | 3021 |
| 258 | 1429 |
| 267 | 13 |
| 2Z273 | 2164 |
| 276 | 13 |
| 282 | 1890 |
| 283 | 1890 |
| 290 | 1890 |
| 2Z306 | 285 |
| 307 | 285 |
| 308 | 285 |
| 309 | 285 |
| 310 | 285 |
| 2Z321 | 2917 |
| 323 | 13 |
| 328 | 2916 |
| 329 | 2916 |
| 330 | 2916 |
| 2Z341 | 1506 |
| 346 | 1374 |
| 347 | 13 |
| 363 | 1965 |
| 364 | 1965 |
| 2Z365 | 1965 |
| 366 | 1965 |
| 372 | 3003 |
| 373 | 3003 |
| 380 | 13 |
| 2Z405 | 1422 |
| 406 | 1422 |
| 425 | 1506 |
| 446 | 1890 |
| 449 | 2233 |
| 2Z458 | 2918 |
| 459 | 2918 |
| 460 | 2918 |
| 474 | 1374 |
| 475 | 1375 |
| 2Z484 | 2965 |
| 486 | 3000 |
| 488 | 2978 |
| 491 | 2990 |
| 497 | 1965 |
| 2Z498 | 2884 |
| 500 | 13 |
| 514 | 1644 |
| 543 | 1578 |
| 545 | 1578 |
| 2Z554 | 2231 |
| 555 | 2231 |
| 556 | 2728 |
| 561 | 2892 |
| 562 | 1459 |
| 2Z564 | 1889 |
| 581 | 1578 |
| 601 | 2257 |
| 602 | 2257 |
| 603 | 2257 |
| 2Z614 | 2233 |
| 615 | 2234 |
| 616 | 2234 |
| 617 | 2234 |
| 618 | 2225 |
| 2Z619 | 2225 |
| 620 | 2225 |
| 623 | 2892 |
| 624 | 2892 |
| 633 | 2231 |
| 2Z634 | 2231 |
| 657 | 13 |
| 668 | 2224 |
| 678 | 2668 |
| 679 | 2668 |
| 2Z680 | 2668 |
| 681 | 2668 |
| 682 | 2668 |
| 683 | 2668 |
| 692 | 1422 |
| 2Z696 | 275 |
| 697 | 275 |
| 698 | 274 |
| 699 | 274 |
| 700 | 274 |
| 2Z704 | 3021 |
| 705 | 3021 |
| 706 | 2701 |
| 707 | 2701 |
| 708 | 275 |
| 2Z709 | 275 |
| 710 | 275 |
| 711 | 274 |
| 712 | 274 |
| 713 | 274 |
| 2Z714 | 275 |
| 715 | 275 |
| 716 | 275 |
| 717 | 274 |
| 718 | 274 |
| 2Z719 | 274 |
| 720 | 274 |
| 721 | 274 |
| 722 | 274 |
| 723 | 274 |
| 2Z724 | 1415 |
| 725 | 1415 |
| 726 | 1417 |
| 727 | 1417 |
| 728 | 1416 |
| 2Z729 | 1416 |
| 730 | 1454 |
| 732 | 1440 |
| 734 | 1443 |
| 735 | 1420 |
| 2Z736 | 1494 |
| 737 | 1496 |
| 738 | 1338 |
| 739 | 1452 |
| 740 | 1494 |
| 2Z741 | 1494 |
| 742 | 1494 |
| 743 | 1494 |
| 746 | 2965 |
| 747 | 2967 |
| 2Z750 | 3000 |
| 753 | 2981 |
| 763 | 2916 |
| 764 | 2916 |
| 766 | 2916 |
| 2Z767 | 2917 |
| 768 | 2918 |
| 782 | 2232 |
| 783 | 2232 |
| 794 | 243 |
| 2Z795 | 243 |
| 796 | 243 |
| 797 | 225 |
| 798 | 225 |
| 799 | 225 |
| 2Z800 | 225 |
| 801 | 225 |
| 802 | 225 |
| 803 | 225 |
| 804 | 227 |
| 2Z805 | 227 |
| 806 | 227 |
| 807 | 227 |
| 808 | 227 |
| 809 | 227 |
| 2Z810 | 227 |
| 811 | 227 |
| 812 | 227 |
| 813 | 230 |
| 814 | 230 |
| 2Z817 | 237 |
| 818 | 237 |
| 819 | 284 |
| 820 | 284 |
| 821 | 284 |
| 2Z821 | 1644 |
| 828 | 13 |
| 829 | 230 |
| 830 | 230 |
| 841 | 237 |
| 2Z826 | 245 |
| 843 | 245 |
| 844 | 245 |
| 845 | 245 |
| 846 | 187 |
| 2Z847 | 240 |
| 848 | 240 |
| 849 | 240 |
| 850 | 240 |
| 851 | 240 |
| 2Z853 | 2967 |
| 855 | 2969 |
| 856 | 2970 |
| 857 | 2780 |
| 858 | 2780 |
| 2Z860 | 3021 |
| 861 | 3021 |
| 862 | 3016 |
| 863 | 3016 |
| 864 | 3016 |
| 2Z865 | 3016 |
| 866 | 2859 |
| 867 | 2862 |
| 868 | 2862 |
| 869 | 2862 |
| 2Z870 | 2862 |
| 871 | 263 |
| 872 | 246 |
| 873 | 246 |
| 874 | 246 |
| 2Z876 | 246 |
| 877 | 246 |
| 882 | 1644 |
| 883 | 3004 |
| 884 | 3004 |
| 2Z885 | 3004 |
| 886 | 3004 |
| 887 | 3004 |
| 895 | 2231 |
| 896 | 2231 |
| 2Z897 | 2231 |
| 932 | 283 |
| 933 | 283 |
| 934 | 283 |
| 935 | 283 |
| 936 | 270 |
| 937 | 13 |
| 938 | 1644 |
| 939 | 13 |
| 940 | 1644 |
| 2Z941 | 288 |
| 942 | 288 |
| 943 | 288 |
| 944 | 288 |
| 945 | 288 |
| 2Z946 | 288 |
| 947 | 288 |
| 948 | 288 |
| 949 | 288 |
| 950 | 288 |
| 2Z951 | 288 |
| 952 | 288 |
| 953 | 288 |
| 954 | 288 |
| 955 | 288 |
| 2Z956 | 288 |
| 957 | 288 |
| 958 | 288 |
| 959 | 288 |
| 960 | 288 |
| 2Z961 | 288 |
| 962 | 1490 |
| 963 | 1486 |
| 964 | 1494 |
| 965 | 1416 |
| 2Z966 | 1567 |
| 972 | 1887 |
| 973 | 1889 |
| 974 | 1888 |
| 975 | 1891 |
| 2Z976 | 1891 |
| 978 | 1891 |
| 981 | 13 |
| 982 | 1889 |
| 988 | 1882 |
| 2Z998 | 2978 |
| 3A | |
| 3AC00 | 1568 |
| C01 | 1568 |
| 3AC05 | 1548 |
| C06 | 1632 |
| C07 | 1632 |
| C08 | 1632 |
| C09 | 1632 |
| 3AC10 | 1632 |
| C11 | 1632 |
| C12 | 1632 |
| C13 | 1632 |
| C14 | 1632 |
| 3AC15 | 1632 |
| C16 | 1632 |
| C17 | 1632 |
| C18 | 1632 |
| C19 | 1632 |
| 3AC20 | 1632 |
| C21 | 1632 |
| C22 | 1550 |
| C23 | 1550 |
| C35 | 2412 |
| 3AC37 | 2594 |
| C47 | 2367 |
| C48 | 2477 |
| C62 | 2386 |
| C75 | 2466 |
| 3AC80 | 2594 |
| C83 | 2362 |
| C88 | 2518 |
| C90 | 2448 |
| C97 | 2462 |
| 3AC98 | 2477 |
| C99 | 2483 |
| D02 | 2597 |
| D13 | 2362 |
| D27 | 2341 |
| 3AD33 | 2490 |
| D35 | 2453 |
| D39 | 2447 |
| D43 | 2376 |
| D56 | 2433 |
| 3AD69 | 2488 |
| D71 | 2462 |
| D76 | 2445 |
| D77 | 2450 |
| D90 | 2363 |
| 3AD94 | 2342 |
| F13 | 2430 |
| F20 | 2430 |
| F22 | 2445 |
| F24 | 2384 |
| 3AF26 | 2363 |
| F37 | 2460 |
| F50 | 2362 |
| F56 | 2519 |
| F58 | 2455 |
| 3AF79 | 2515 |
| F80 | 2490 |
| F90 | 2386 |
| F92 | 2595 |
| F98 | 2340 |
| 3AG04 | 2549 |
| G17 | 2513 |
| G19 | 2454 |
| G26 | 2552 |
| G32 | 2452 |
| 3AG33 | 2340 |
| G47 | 2477 |
| G59 | 2474 |
| G61 | 2439 |
| G65 | 2550 |
| 3AG77 | 2438 |
| G78 | 2409 |
| G92 | 2572 |
| G97 | 2460 |
| H01 | 2342 |

# STOCK NUMBER—PAGE NUMBER

## 3AH — 3BC


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3AH09 | 2463 | 3AN09 | 2369 | 3AW92 | 2542 | 3A143 | 1675 | 3A343 | 1949 | 3A472 | 1725 | 3A582 | 1303 | 3A724 | 2131 | 3A789 | 2129 | 3A871 | 2146 | 3A938 | 642 |
| H15 | 2460 | N23 | 2450 | X10 | 2454 | 144 | 1675 | 344 | 1951 | 473 | 1725 | 583 | 1303 | 725 | 2131 | 790 | 2129 | 872 | 2146 | 939 | 638 |
| H20 | 2433 | N26 | 2448 | X13 | 2553 | 145 | 833 | 345 | 1951 | 474 | 1725 | 584 | 1303 | 726 | 2131 | 803 | 2128 | 873 | 2146 | 940 | 637 |
| H21 | 2336 | N56 | 2454 | X31 | 2454 | 146 | 317 | 346 | 1951 | 475 | 1725 | 585 | 1303 | 727 | 2131 | 804 | 2128 | 874 | 2146 | 941 | 496 |
| H23 | 2381 | N57 | 2381 | X39 | 2363 | 147 | 317 | 347 | 1951 | 476 | 1725 | 586 | 1303 | 728 | 2131 | 805 | 2128 | 875 | 2146 | 942 | 496 |
| 3AH34 | 2432 | 3AN58 | 2458 | 3AX55 | 2550 | 3A148 | 317 | 3A349 | 1950 | 3A477 | 1725 | 3A587 | 1303 | 3A729 | 2131 | 3A806 | 2128 | 3A876 | 2146 | 3A943 | 496 |
| H35 | 2433 | N72 | 2371 | X59 | 2455 | 149 | 317 | 351 | 475 | 478 | 1725 | 588 | 1303 | 730 | 2131 | 807 | 2128 | 877 | 2146 | 944 | 496 |
| H44 | 2621 | N74 | 2433 | X66 | 2433 | 150 | 317 | 352 | 475 | 479 | 1725 | 589 | 1303 | 731 | 2131 | 808 | 2128 | 878 | 2146 | 945 | 496 |
| H46 | 2423 | N76 | 2452 | X72 | 2403 | 151 | 317 | 353 | 475 | 480 | 1725 | 590 | 1303 | 732 | 2131 | 809 | 2128 | 879 | 2146 | 946 | 496 |
| H63 | 2455 | P01 | 2336 | X76 | 2586 | 152 | 317 | 354 | 484 | 481 | 1725 | 591 | 1303 | 733 | 2131 | 810 | 2128 | 880 | 2146 | 947 | 496 |
| 3AH64 | 2586 | 3AP14 | 2597 | 3AX81 | 2386 | 3A153 | 317 | 3A355 | 484 | 3A482 | 1725 | 3A592 | 1303 | 3A734 | 2131 | 3A811 | 2128 | 3A881 | 2146 | 3A948 | 496 |
| H67 | 2342 | P17 | 2377 | X94 | 2423 | 154 | 317 | 358 | 403 | 483 | 1725 | 593 | 1302 | 735 | 2133 | 812 | 2128 | 882 | 2146 | 949 | 496 |
| H84 | 2439 | P19 | 2461 | Z05 | 2456 | 155 | 317 | 360 | 755 | 484 | 1725 | 594 | 1303 | 736 | 2133 | 813 | 2128 | 883 | 2146 | 950 | 496 |
| J15 | 2348 | P27 | 2544 | Z13 | 2438 | 161 | 1048 | 364 | 817 | 485 | 1725 | 595 | 1302 | 737 | 2133 | 814 | 2130 | 884 | 2146 | 951 | 496 |
| J26 | 2518 | P36 | 2468 | Z16 | 2463 | 162 | 1048 | 365 | 817 | 486 | 1725 | 596 | 1302 | 738 | 2133 | 816 | 2130 | 885 | 2146 | 952 | 496 |
| 3AJ34 | 2335 | 3AP82 | 2461 | 3AZ23 | 2586 | 3A165 | 2391 | 3A366 | 808 | 3A488 | 1725 | 3A597 | 1302 | 3A739 | 2133 | 3A817 | 2130 | 3A886 | 2146 | 3A953 | 497 |
| J38 | 2542 | P83 | 2542 | Z40 | 2472 | 166 | 2392 | 421 | 3258 | 489 | 1725 | 646 | 3492 | 740 | 2133 | 819 | 2128 | 887 | 2146 | 954 | 497 |
| J48 | 2448 | P85 | 2455 | Z43 | 2460 | 167 | 2388 | 422 | 3363 | 490 | 1725 | 647 | 3492 | 741 | 2133 | 820 | 2128 | 888 | 2146 | 955 | 483 |
| J55 | 2550 | P88 | 2340 | Z52 | 2448 | 168 | 2388 | 423 | 3363 | 491 | 1725 | 648 | 3492 | 742 | 2133 | 821 | 2128 | 889 | 2155 | 956 | 483 |
| J60 | 2458 | P97 | 2461 | Z54 | 2550 | 180 | 2407 | 424 | 3363 | 492 | 1726 | 649 | 3492 | 743 | 2133 | 822 | 2128 | 890 | 2155 | 957 | 483 |
| 3AJ70 | 2367 | 3AR06 | 2376 | 3AZ60 | 2367 | 3A181 | 2397 | 3A425 | 3363 | 3A493 | 1726 | 3A650 | 3492 | 3A744 | 2133 | 3A823 | 2128 | 3A891 | 2155 | 3A958 | 483 |
| J71 | 2463 | R45 | 2442 | Z61 | 2504 | 182 | 2406 | 426 | 3363 | 494 | 1726 | 651 | 3492 | 745 | 2134 | 824 | 2128 | 892 | 2168 | 959 | 483 |
| J73 | 2455 | R51 | 2454 | Z65 | 2377 | 183 | 2406 | 427 | 3363 | 495 | 1726 | 652 | 3492 | 746 | 2134 | 825 | 2128 | 893 | 2168 | 960 | 483 |
| J96 | 2422 | R53 | 2385 | Z76 | 2433 | 184 | 624 | 428 | 3363 | 496 | 1726 | 653 | 3492 | 747 | 2134 | 826 | 2128 | 894 | 2167 | 961 | 483 |
| J97 | 2450 | R54 | 2469 | Z86 | 2503 | 185 | 624 | 429 | 3363 | 497 | 1726 | 654 | 3492 | 748 | 2134 | 827 | 2128 | 895 | 2167 | 962 | 483 |
| 3AK06 | 2403 | 3AR55 | 2445 | 3A001 | 2135 | 3A186 | 624 | 3A430 | 3363 | 3A498 | 1726 | 3A655 | 3492 | 3A749 | 2134 | 3A828 | 2128 | 3A896 | 2167 | 3A963 | 483 |
| K17 | 2409 | R63 | 2458 | 002 | 2135 | 187 | 624 | 431 | 3363 | 503 | 1726 | 656 | 3491 | 750 | 2134 | 832 | 2128 | 897 | 2167 | 964 | 483 |
| K57 | 2594 | R65 | 2456 | 003 | 2135 | 190 | 1633 | 432 | 3363 | 504 | 1726 | 657 | 3491 | 751 | 2134 | 833 | 2128 | 898 | 2167 | 965 | 486 |
| K61 | 2446 | R75 | 2495 | 004 | 2135 | 191 | 1633 | 433 | 3363 | 505 | 1726 | 658 | 3491 | 752 | 2134 | 834 | 2128 | 899 | 2167 | 966 | 486 |
| K71 | 2340 | R93 | 2469 | 005 | 2135 | 192 | 1633 | 434 | 3363 | 506 | 1726 | 659 | 3491 | 753 | 2134 | 835 | 2128 | 900 | 2128 | 967 | 492 |
| 3AK76 | 2492 | 3AR94 | 2447 | 3A006 | 2135 | 3A193 | 1633 | 3A435 | 3363 | 3A507 | 1726 | 3A660 | 3491 | 3A754 | 2157 | 3A836 | 2144 | 3A903 | 637 | 3A968 | 486 |
| K79 | 2384 | T01 | 2376 | 007 | 2135 | 194 | 1630 | 436 | 3363 | 508 | 1726 | 661 | 3491 | 755 | 2157 | 837 | 2144 | 904 | 637 | 969 | 478 |
| K82 | 2485 | T17 | 2468 | 008 | 2135 | 195 | 1630 | 437 | 3363 | 509 | 1726 | 662 | 3491 | 756 | 2157 | 838 | 2144 | 905 | 637 | 970 | 478 |
| K84 | 2479 | T23 | 2338 | 009 | 2135 | 196 | 1630 | 438 | 3363 | 510 | 1726 | 663 | 3491 | 757 | 2157 | 839 | 2144 | 906 | 637 | 971 | 478 |
| K92 | 2479 | T30 | 2515 | 010 | 2135 | 197 | 1630 | 439 | 3361 | 511 | 1726 | 664 | 3494 | 758 | 2145 | 840 | 2144 | 907 | 637 | 972 | 478 |
| 3AL06 | 2469 | 3AT34 | 2446 | 3A011 | 2135 | 3A198 | 1630 | 3A440 | 3361 | 3A512 | 1311 | 3A687 | 1433 | 3A759 | 2145 | 3A841 | 2144 | 3A908 | 637 | 3A973 | 478 |
| L22 | 2451 | T35 | 2479 | 012 | 2135 | 199 | 1630 | 441 | 3361 | 513 | 1311 | 688 | 579 | 760 | 2145 | 842 | 2144 | 909 | 638 | 974 | 478 |
| L23 | 2488 | T46 | 2566 | 013 | 2135 | 200 | 1631 | 442 | 1724 | 514 | 1376 | 689 | 579 | 761 | 2145 | 843 | 2144 | 910 | 638 | 975 | 478 |
| L26 | 2362 | T47 | 2367 | 014 | 2135 | 201 | 1631 | 443 | 1724 | 515 | 1376 | 695 | 505 | 762 | 2145 | 844 | 2144 | 911 | 638 | 980 | 478 |
| L30 | 2341 | T58 | 2504 | 015 | 2135 | 202 | 1632 | 444 | 1724 | 516 | 1376 | 696 | 1378 | 763 | 2145 | 845 | 2144 | 912 | 638 | 981 | 478 |
| 3AL34 | 2336 | 3AT60 | 2446 | 3A016 | 2135 | 3A203 | 1633 | 3A445 | 1724 | 3A517 | 1376 | 3A697 | 1378 | 3A764 | 2145 | 3A846 | 2144 | 3A913 | 638 | 3A982 | 478 |
| L43 | 2389 | T83 | 2474 | 017 | 3487 | 204 | 1633 | 446 | 1724 | 528 | 3014 | 698 | 1378 | 765 | 2145 | 847 | 2144 | 914 | 1386 | 983 | 478 |
| L45 | 2457 | T98 | 2560 | 019 | 3487 | 205 | 1633 | 447 | 1724 | 529 | 3014 | 699 | 269 | 766 | 2145 | 848 | 2144 | 915 | 1386 | 984 | 478 |
| L48 | 2430 | V02 | 2550 | 021 | 3488 | 206 | 1633 | 448 | 1724 | 530 | 3014 | 700 | 269 | 767 | 2145 | 849 | 2144 | 916 | 1386 | 985 | 476 |
| L70 | 2370 | V09 | 2518 | 024 | 888 | 207 | 1633 | 449 | 1724 | 531 | 1040 | 701 | 286 | 768 | 2145 | 850 | 2144 | 917 | 1386 | 986 | 476 |
| 3AL71 | 2342 | 3AV11 | 2363 | 3A025 | 888 | 3A208 | 1633 | 3A450 | 1724 | 3A532 | 1040 | 3A702 | 286 | 3A769 | 2145 | 3A851 | 2144 | 3A918 | 1386 | 3A987 | 476 |
| L74 | 2433 | V15 | 2381 | 082 | 2293 | 213 | 1644 | 451 | 1724 | 533 | 1039 | 703 | 286 | 770 | 2145 | 852 | 2144 | 919 | 1386 | 988 | 476 |
| L82 | 2547 | V28 | 2474 | 083 | 2295 | 319 | 1949 | 452 | 1724 | 534 | 1039 | 706 | 286 | 771 | 2145 | 853 | 2144 | 920 | 1386 | 989 | 476 |
| L88 | 2490 | V34 | 2455 | 084 | 2295 | 321 | 1949 | 453 | 1724 | 535 | 1157 | 707 | 286 | 772 | 2145 | 854 | 2144 | 921 | 638 | 990 | 476 |
| L92 | 2371 | V36 | 2550 | 095 | 530 | 322 | 1949 | 454 | 1724 | 539 | 2115 | 708 | 286 | 773 | 2145 | 855 | 2144 | 922 | 640 | 991 | 476 |
| 3AM06 | 2327 | 3AV53 | 2342 | 3A096 | 530 | 3A323 | 1948 | 3A455 | 1724 | 3A548 | 1568 | 3A709 | 286 | 3A774 | 2145 | 3A856 | 2144 | 3A923 | 638 | 3A992 | 477 |
| M10 | 2594 | V54 | 2442 | 110 | 901 | 324 | 1946 | 456 | 1724 | 549 | 2289 | 710 | 286 | 775 | 2145 | 857 | 2147 | 924 | 640 | 993 | 477 |
| M12 | 2451 | V58 | 2463 | 111 | 901 | 325 | 1946 | 457 | 1724 | 550 | 2289 | 711 | 2131 | 776 | 2130 | 858 | 2147 | 925 | 640 | 994 | 477 |
| M33 | 2442 | W12 | 2586 | 124 | 2295 | 326 | 1947 | 458 | 1724 | 551 | 2289 | 712 | 2131 | 777 | 2130 | 859 | 2147 | 926 | 638 | 995 | 477 |
| M63 | 2515 | W17 | 2448 | 127 | 2293 | 332 | 1956 | 459 | 1724 | 552 | 2289 | 713 | 2131 | 778 | 2130 | 860 | 2147 | 927 | 640 | 996 | 477 |
| 3AM66 | 2550 | 3AW28 | 2379 | 3A133 | 2294 | 3A333 | 1956 | 3A460 | 1724 | 3A557 | 3065 | 3A714 | 2131 | 3A779 | 2130 | 3A861 | 2147 | 3A928 | 638 | 3A997 | 477 |
| M68 | 2586 | W32 | 2381 | 134 | 793 | 334 | 1951 | 461 | 1724 | 558 | 3064 | 715 | 2132 | 780 | 2130 | 862 | 2147 | 929 | 640 | 998 | 477 |
| M69 | 2542 | W33 | 2363 | 135 | 793 | 335 | 1951 | 462 | 1724 | 559 | 3067 | 716 | 2132 | 781 | 2129 | 863 | 2147 | 930 | 638 | 999 | 477 |
| M72 | 2436 | W45 | 2499 | 136 | 793 | 336 | 1951 | 463 | 1724 | 563 | 2044 | 717 | 2132 | 782 | 2129 | 864 | 2147 | 931 | 640 | | |
| M86 | 2550 | W50 | 2547 | 137 | 793 | 337 | 1951 | 464 | 1724 | 564 | 2044 | 718 | 2132 | 783 | 2129 | 865 | 2146 | 932 | 640 | | |
| 3AM89 | 2586 | 3AW51 | 2375 | 3A138 | 793 | 3A338 | 1950 | 3A465 | 1724 | 3A565 | 2044 | 3A719 | 2132 | 3A784 | 2129 | 3A866 | 2146 | 3A933 | 640 | 3BC04 | 2595 |
| M92 | 2437 | W63 | 2343 | 139 | 793 | 339 | 1950 | 466 | 1724 | 566 | 1427 | 720 | 2132 | 785 | 2129 | 867 | 2146 | 934 | 641 | C06 | 2447 |
| M99 | 2578 | W70 | 2597 | 140 | 793 | 340 | 1951 | 467 | 1724 | 568 | 1427 | 721 | 2132 | 786 | 2129 | 868 | 2146 | 935 | 641 | C11 | 2597 |
| N07 | 2549 | W80 | 2448 | 141 | 1677 | 341 | 1949 | 470 | 1725 | 580 | 1303 | 722 | 2132 | 787 | 2129 | 869 | 2146 | 936 | 641 | C13 | 2452 |
| N08 | 2432 | W82 | 2597 | 142 | 1677 | 342 | 1949 | 471 | 1725 | 581 | 1303 | 723 | 2131 | 788 | 2129 | 870 | 2146 | 937 | 637 | C17 | 2388 |


**3B**



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3BC24 | 2461 | 3CC36 | 3437 | 3C192 | 3574 | 3C439 | 3617 | 3C725 | 3598 | 3C991 | 3575 | 3D060 | 710 | 3D129 | 723 | 3D195 | 685 | 3D263 | 714 | 3D338 | 716 |
| C28 | 2433 | C37 | 3437 | 194 | 3574 | 440 | 3651 | 726 | 3598 | 995 | 3575 | 061 | 708 | 130 | 723 | 196 | 687 | 264 | 714 | 339 | 685 |
| C50 | 2573 | C38 | 3437 | 195 | 3604 | 441 | 3651 | 727 | 3598 | 996 | 3606 | 062 | 708 | 131 | 723 | 197 | 704 | 265 | 714 | 340 | 721 |
| C56 | 2552 | C39 | 3437 | 196 | 3604 | 442 | 3651 | 728 | 3598 | 997 | 3608 | 065 | 696 | 132 | 723 | 198 | 704 | 266 | 711 | 341 | 721 |
| C62 | 2518 | C40 | 3437 | 197 | 3604 | 443 | 3651 | 729 | 3598 | 999 | 1877 | 067 | 696 | 133 | 723 | 199 | 687 | 267 | 711 | 342 | 649 |
| 3BC63 | 2478 | 3CC41 | 3437 | 3C198 | 3604 | 3C444 | 3651 | 3C730 | 3598 | **3D** | | 3D068 | 696 | 3D134 | 691 | 3D201 | 723 | 3D268 | 714 | 3D344 | 649 |
| C65 | 2452 | C42 | 3437 | 199 | 3604 | 451 | 3519 | 731 | 3598 | | | 069 | 696 | 135 | 722 | 202 | 687 | 269 | 714 | 345 | 649 |
| C78 | 2455 | C43 | 3437 | 200 | 3604 | 452 | 3519 | 732 | 3598 | 3DC09 | 1644 | 071 | 710 | 136 | 722 | 203 | 687 | 270 | 711 | 347 | 649 |
| C82 | 2566 | C44 | 3437 | 201 | 3604 | 453 | 3568 | 733 | 3598 | F35 | 1635 | 072 | 718 | 137 | 722 | 204 | 688 | 271 | 711 | 348 | 649 |
| C92 | 2466 | C45 | 3437 | 202 | 3604 | 466 | 3464 | 734 | 3657 | L71 | 1635 | 073 | 712 | 138 | 722 | 205 | 688 | 272 | 716 | 350 | 649 |
| 3BC95 | 2450 | 3CC46 | 3437 | 3C203 | 3604 | 3C467 | 3464 | 3C735 | 3657 | 3DL81 | 1635 | 3D074 | 718 | 3D139 | 722 | 3D206 | 687 | 3D273 | 716 | 3D351 | 649 |
| C99 | 2451 | C47 | 3436 | 204 | 3604 | 468 | 3464 | 736 | 3657 | 004 | 698 | 075 | 712 | 140 | 722 | 207 | 704 | 274 | 716 | 352 | 649 |
| R86 | 1667 | C48 | 3436 | 215 | 3570 | 469 | 3464 | 737 | 3657 | 005 | 698 | 076 | 708 | 141 | 722 | 208 | 704 | 275 | 716 | 353 | 689 |
| R92 | 1667 | C49 | 3436 | 216 | 3617 | 494 | 3667 | 738 | 3657 | 006 | 698 | 077 | 708 | 142 | 691 | 209 | 707 | 276 | 685 | 354 | 689 |
| T03 | 1659 | C50 | 3436 | 217 | 3571 | 495 | 3667 | 739 | 3657 | 007 | 702 | 078 | 708 | 143 | 723 | 210 | 687 | 277 | 685 | 355 | 689 |
| 3BT04 | 1659 | 3CC51 | 3436 | 3C218 | 3570 | 3C496 | 3667 | 3C740 | 3657 | 3D008 | 704 | 3D079 | 708 | 3D144 | 723 | 3D212 | 687 | 3D278 | 685 | 3D356 | 689 |
| T61 | 1661 | C52 | 3436 | 219 | 3570 | 497 | 3667 | 755 | 3653 | 009 | 704 | 080 | 708 | 145 | 723 | 213 | 687 | 279 | 685 | 357 | 689 |
| T62 | 1661 | C53 | 3436 | 225 | 1644 | 505 | 3559 | 756 | 3653 | 010 | 704 | 081 | 708 | 146 | 720 | 214 | 723 | 280 | 726 | 358 | 694 |
| T63 | 1661 | C54 | 3436 | 234 | 3598 | 507 | 3644 | 757 | 3653 | 011 | 704 | 082 | 708 | 147 | 720 | 215 | 723 | 281 | 706 | 360 | 694 |
| T64 | 1661 | C55 | 3436 | 235 | 3598 | 508 | 3644 | 758 | 3653 | 012 | 701 | 083 | 708 | 148 | 720 | 216 | 723 | 282 | 706 | 362 | 698 |
| 3BT65 | 1661 | 3CC56 | 3436 | 3C237 | 1644 | 3C509 | 3644 | 3C759 | 3653 | 3D013 | 701 | 3D084 | 708 | 3D149 | 723 | 3D217 | 723 | 3D283 | 686 | 3D363 | 698 |
| T66 | 1661 | C57 | 3436 | 242 | 3597 | 510 | 3597 | 760 | 3653 | 014 | 701 | 085 | 708 | 150 | 723 | 218 | 707 | 284 | 686 | 365 | 698 |
| T95 | 1659 | C58 | 3436 | 243 | 3597 | 511 | 3597 | 761 | 3653 | 015 | 708 | 086 | 708 | 151 | 723 | 219 | 687 | 285 | 686 | 366 | 698 |
| T96 | 1659 | C59 | 3436 | 245 | 3568 | 512 | 3597 | 772 | 3586 | 016 | 708 | 087 | 725 | 152 | 723 | 220 | 687 | 286 | 686 | 367 | 702 |
| T97 | 1659 | C60 | 3436 | 246 | 3568 | 539 | 3669 | 849 | 1644 | 017 | 708 | 088 | 712 | 153 | 710 | 221 | 704 | 287 | 688 | 368 | 702 |
| 3BT98 | 1659 | 3CC61 | 3437 | 3C279 | 3652 | 3C540 | 3669 | 3C851 | 1644 | 3D018 | 708 | 3D089 | 712 | 3D154 | 723 | 3D222 | 704 | 3D289 | 686 | 3D369 | 702 |
| T99 | 1659 | C62 | 3437 | 280 | 3652 | 545 | 3566 | 853 | 1644 | 019 | 708 | 090 | 718 | 155 | 723 | 223 | 704 | 290 | 686 | 370 | 702 |
| **3C** | | C63 | 3437 | 281 | 3652 | 546 | 3566 | 857 | 1644 | 020 | 715 | 091 | 713 | 156 | 723 | 224 | 704 | 291 | 686 | 371 | 702 |
| 3CC00 | 3672 | C64 | 3437 | 304 | 3601 | 547 | 3623 | 859 | 1644 | 021 | 715 | 092 | 718 | 157 | 723 | 225 | 704 | 292 | 686 | 372 | 702 |
| | | C65 | 3437 | 305 | 3601 | 548 | 3623 | 861 | 1644 | 023 | 715 | 093 | 713 | 158 | 723 | 226 | 709 | 293 | 686 | 373 | 702 |
| 3CC01 | 3672 | 3CC66 | 3437 | 3C308 | 3599 | 3C567 | 3512 | 3C863 | 1644 | 3D024 | 715 | 3D094 | 713 | 3D159 | 720 | 3D227 | 709 | 3D294 | 715 | 3D374 | 702 |
| C02 | 3672 | C67 | 3628 | 309 | 3599 | 568 | 3512 | 865 | 1644 | 025 | 715 | 095 | 713 | 160 | 720 | 228 | 709 | 295 | 715 | 375 | 702 |
| C03 | 201 | C68 | 3595 | 310 | 3599 | 581 | 3519 | 947 | 3584 | 026 | 708 | 096 | 713 | 161 | 720 | 229 | 714 | 296 | 690 | 376 | 702 |
| C04 | 3672 | C69 | 3595 | 311 | 3599 | 590 | 3561 | 948 | 3605 | 027 | 708 | 097 | 718 | 162 | 723 | 230 | 714 | 297 | 685 | 377 | 702 |
| C05 | 3672 | C70 | 3595 | 312 | 3599 | 591 | 3561 | 949 | 3605 | 028 | 708 | 098 | 713 | 163 | 723 | 231 | 714 | 298 | 701 | 378 | 702 |
| 3CC06 | 3672 | 3CC71 | 3595 | 3C313 | 3599 | 3C597 | 3617 | 3C950 | 3605 | 3D029 | 708 | 3D099 | 713 | 3D164 | 723 | 3D232 | 714 | 3D299 | 704 | 3D379 | 702 |
| C07 | 3672 | C72 | 3595 | 314 | 3599 | 598 | 3617 | 951 | 3605 | 030 | 708 | 100 | 713 | 165 | 723 | 233 | 714 | 300 | 714 | 380 | 702 |
| C08 | 3672 | C73 | 3594 | 315 | 3598 | 606 | 3593 | 952 | 3612 | 031 | 708 | 101 | 713 | 166 | 710 | 234 | 699 | 301 | 722 | 381 | 702 |
| C09 | 3672 | C74 | 3594 | 325 | 3567 | 607 | 3593 | 953 | 3612 | 033 | 708 | 102 | 713 | 167 | 710 | 235 | 707 | 302 | 721 | 382 | 702 |
| C10 | 3672 | C75 | 3594 | 374 | 3566 | 608 | 3593 | 954 | 3612 | 034 | 718 | 103 | 713 | 168 | 710 | 236 | 707 | 303 | 721 | 383 | 716 |
| 3CC11 | 3672 | 3CC76 | 3594 | 3C375 | 3566 | 3C609 | 3593 | 3C955 | 3612 | 3D035 | 712 | 3D104 | 713 | 3D169 | 710 | 3D237 | 710 | 3D304 | 720 | 3D384 | 705 |
| C12 | 3672 | C77 | 3594 | 376 | 3512 | 610 | 3608 | 956 | 3612 | 036 | 718 | 105 | 715 | 170 | 710 | 238 | 710 | 305 | 720 | 385 | 705 |
| C13 | 3672 | C78 | 3596 | 377 | 3512 | 613 | 3608 | 957 | 3612 | 037 | 712 | 106 | 715 | 171 | 710 | 239 | 710 | 306 | 721 | 386 | 700 |
| C14 | 3672 | V42 | 1635 | 378 | 3601 | 614 | 3544 | 958 | 3612 | 038 | 712 | 107 | 714 | 172 | 691 | 240 | 707 | 307 | 693 | 387 | 700 |
| C15 | 3672 | Z48 | 1644 | 379 | 3603 | 615 | 3608 | 959 | 3612 | 039 | 712 | 108 | 714 | 173 | 723 | 241 | 707 | 308 | 648 | 388 | 700 |
| 3CC16 | 3672 | 3CZ51 | 1644 | 3C380 | 3602 | 3C616 | 3512 | 3C960 | 3612 | 3D040 | 712 | 3D109 | 714 | 3D174 | 723 | 3D242 | 707 | 3D309 | 648 | 3D389 | 700 |
| C17 | 3672 | 009 | 3659 | 405 | 3623 | 617 | 3512 | 961 | 3612 | 041 | 712 | 110 | 714 | 175 | 723 | 243 | 714 | 319 | 715 | 390 | 700 |
| C18 | 3672 | 010 | 3659 | 407 | 3623 | 618 | 3512 | 962 | 3610 | 042 | 712 | 111 | 714 | 176 | 709 | 245 | 716 | 320 | 716 | 391 | 700 |
| C19 | 3672 | 048 | 3661 | 411 | 3649 | 619 | 3519 | 963 | 3610 | 043 | 712 | 112 | 714 | 177 | 723 | 246 | 714 | 321 | 716 | 392 | 700 |
| C20 | 3437 | 049 | 3661 | 412 | 3649 | 620 | 3519 | 964 | 3610 | 044 | 725 | 113 | 714 | 178 | 723 | 247 | 714 | 322 | 716 | 393 | 700 |
| 3CC21 | 3437 | 3C073 | 3661 | 3C413 | 3649 | 3C671 | 3593 | 3C965 | 3610 | 3D045 | 712 | 3D114 | 714 | 3D179 | 723 | 3D248 | 714 | 3D323 | 716 | 3D394 | 700 |
| C22 | 3437 | 074 | 3661 | 414 | 3649 | 673 | 3575 | 966 | 3610 | 046 | 712 | 115 | 714 | 180 | 687 | 249 | 685 | 324 | 716 | 395 | 700 |
| C23 | 3437 | 106 | 3669 | 415 | 3649 | 674 | 3575 | 967 | 3610 | 047 | 718 | 116 | 714 | 181 | 687 | 250 | 685 | 325 | 716 | 396 | 700 |
| C24 | 3437 | 107 | 3669 | 416 | 3649 | 675 | 3605 | 968 | 3610 | 048 | 713 | 117 | 714 | 182 | 687 | 251 | 711 | 326 | 716 | 397 | 711 |
| C25 | 3437 | 108 | 3669 | 418 | 3651 | 685 | 3571 | 969 | 3610 | 049 | 713 | 118 | 714 | 183 | 688 | 252 | 711 | 327 | 716 | 398 | 711 |
| 3CC26 | 3437 | 3C109 | 3661 | 3C419 | 3651 | 3C686 | 3571 | 3C970 | 3610 | 3D050 | 708 | 3D119 | 714 | 3D184 | 688 | 3D253 | 711 | 3D328 | 716 | 3D399 | 688 |
| C27 | 3437 | 110 | 3661 | 420 | 3651 | 690 | 3584 | 971 | 3610 | 051 | 708 | 120 | 722 | 185 | 687 | 254 | 711 | 329 | 716 | 400 | 688 |
| C28 | 3437 | 111 | 3661 | 421 | 3651 | 691 | 3584 | 972 | 3597 | 052 | 713 | 121 | 722 | 186 | 707 | 255 | 685 | 330 | 716 | 401 | 688 |
| C29 | 3437 | 115 | 3599 | 422 | 3651 | 692 | 3567 | 973 | 3597 | 053 | 713 | 122 | 722 | 187 | 687 | 256 | 685 | 331 | 716 | 402 | 688 |
| C30 | 3437 | 116 | 3599 | 428 | 3658 | 705 | 3592 | 974 | 3597 | 054 | 710 | 123 | 716 | 188 | 715 | 257 | 685 | 332 | 716 | 403 | 688 |
| 3CC31 | 3437 | 3C131 | 3598 | 3C429 | 3658 | 3C706 | 3592 | 3C975 | 3597 | 3D055 | 710 | 3D124 | 716 | 3D189 | 707 | 3D258 | 710 | 3D333 | 716 | 3D404 | 688 |
| C32 | 3437 | 132 | 3598 | 430 | 3658 | 707 | 3592 | 976 | 3597 | 056 | 708 | 125 | 716 | 190 | 704 | 259 | 706 | 334 | 716 | 405 | 688 |
| C33 | 3437 | 187 | 3575 | 436 | 3651 | 708 | 3592 | 977 | 3597 | 057 | 708 | 126 | 716 | 191 | 687 | 260 | 710 | 335 | 716 | 406 | 688 |
| C34 | 3437 | 188 | 3598 | 437 | 3617 | 709 | 3592 | 988 | 3608 | 058 | 708 | 127 | 716 | 192 | 687 | 261 | 710 | 336 | 716 | 407 | 688 |
| C35 | 3437 | 189 | 3598 | 438 | 3617 | 716 | 3661 | 989 | 3608 | 059 | 708 | 128 | 716 | 194 | 685 | 262 | 714 | 337 | 716 | 408 | 697 |

# STOCK NUMBER—PAGE NUMBER

## 3D4 — 3G2

| Stock No. | Page No. |
|---|---|
| 3D410 | 701 |
| 411 | 701 |
| 412 | 700 |
| 413 | 700 |
| 414 | 700 |
| 3D418 | 648 |
| 419 | 648 |
| 421 | 648 |
| 422 | 649 |
| 423 | 649 |
| 3D424 | 701 |
| 428 | 649 |
| 429 | 649 |
| 430 | 649 |
| 431 | 649 |
| 3D432 | 649 |
| 433 | 649 |
| 434 | 649 |
| 435 | 701 |
| 436 | 701 |
| 3D437 | 701 |
| 438 | 648 |
| 439 | 648 |
| 440 | 648 |
| 441 | 648 |
| 3D442 | 648 |
| 443 | 648 |
| 444 | 648 |
| 445 | 701 |
| 446 | 701 |
| 3D447 | 648 |
| 448 | 727 |
| 449 | 727 |
| 450 | 727 |
| 451 | 727 |
| 3D452 | 648 |
| 453 | 686 |
| 454 | 686 |
| 455 | 686 |
| 456 | 648 |
| 3D457 | 648 |
| 458 | 648 |
| 459 | 648 |
| 460 | 649 |
| 461 | 649 |
| 3D462 | 649 |
| 463 | 707 |
| 464 | 685 |
| 465 | 701 |
| 536 | 725 |
| 3D537 | 725 |
| 559 | 718 |
| 566 | 718 |
| 572 | 718 |
| 641 | 718 |
| 3D642 | 718 |
| 672 | 934 |
| 673 | 934 |
| 765 | 723 |
| 830 | 691 |
| 3D874 | 724 |
| 877 | 724 |
| 904 | 724 |
| 905 | 724 |
| 906 | 724 |
| 3D918 | 723 |
| 919 | 723 |
| 920 | 723 |
| 939 | 724 |
| 940 | 724 |
| 3D944 | 724 |
| 945 | 724 |
| 946 | 724 |
| 949 | 725 |
| 950 | 725 |
| 3D954 | 725 |
| 957 | 726 |
| 961 | 725 |
| 966 | 726 |
| 967 | 726 |
| 3D975 | 726 |
| 976 | 726 |
| 977 | 726 |
| 978 | 726 |
| 979 | 726 |
| 3D980 | 726 |
| 981 | 726 |
| 982 | 726 |
| **3E** | |
| 3EC13 | 3453 |
| C17 | 3464 |
| C18 | 3464 |
| C19 | 3464 |
| L66 | 1635 |
| 3ER94 | 1636 |
| W25 | 1636 |
| W26 | 1635 |
| W27 | 1635 |
| W36 | 1636 |
| 3EW46 | 1635 |
| W47 | 1636 |
| W49 | 1636 |
| 132 | 3412 |
| 133 | 3412 |
| 3E134 | 3412 |
| 214 | 3381 |
| 215 | 3381 |
| 216 | 3380 |
| 217 | 3380 |
| 3E218 | 3377 |
| 219 | 3377 |
| 226 | 3401 |
| 227 | 3401 |
| 228 | 3401 |
| 3E229 | 3401 |
| 230 | 3401 |
| 231 | 3401 |
| 232 | 3401 |
| 233 | 3401 |
| 3E234 | 3401 |
| 235 | 3401 |
| 236 | 3401 |
| 237 | 3401 |
| 239 | 3401 |
| 3E240 | 3401 |
| 241 | 3401 |
| 242 | 3401 |
| 244 | 3401 |
| 245 | 3401 |
| 3E246 | 3401 |
| 247 | 3401 |
| 248 | 3404 |
| 249 | 3404 |
| 250 | 3404 |
| 3E251 | 3404 |
| 307 | 3396 |
| 308 | 3396 |
| 309 | 3396 |
| 358 | 3377 |
| 3E359 | 3377 |
| 365 | 3420 |
| 366 | 3402 |
| 367 | 3402 |
| 368 | 3402 |
| 3E369 | 3402 |
| 370 | 3402 |
| 371 | 3402 |
| 372 | 3402 |
| 373 | 3402 |
| 3E374 | 3402 |
| 375 | 3402 |
| 376 | 3402 |
| 377 | 3402 |
| 378 | 3402 |
| 3E379 | 3402 |
| 380 | 3402 |
| 381 | 3402 |
| 382 | 3402 |
| 383 | 3402 |
| 3E384 | 3402 |
| 385 | 3402 |
| 386 | 3402 |
| 387 | 3402 |
| 388 | 3402 |
| 3E389 | 3404 |
| 390 | 3404 |
| 391 | 3404 |
| 392 | 3404 |
| 402 | 3401 |
| 3E403 | 3401 |
| 404 | 3401 |
| 405 | 3401 |
| 406 | 3402 |
| 407 | 3402 |
| 3E414 | 3406 |
| 415 | 3406 |
| 416 | 3406 |
| 417 | 3406 |
| 418 | 3406 |
| 3E419 | 3406 |
| 420 | 3406 |
| 431 | 3407 |
| 432 | 3407 |
| 460 | 3412 |
| 3E461 | 3412 |
| 462 | 3412 |
| 466 | 3419 |
| 467 | 3419 |
| 536 | 3427 |
| 3E537 | 3427 |
| 538 | 3427 |
| 539 | 3427 |
| 540 | 3427 |
| 545 | 3407 |
| 3E586 | 3407 |
| 587 | 3407 |
| 588 | 3420 |
| 589 | 3420 |
| 3E590 | 3420 |
| 592 | 3420 |
| 593 | 3420 |
| 594 | 3420 |
| 596 | 3420 |
| 3E602 | 3411 |
| 603 | 3411 |
| 604 | 3411 |
| 605 | 3411 |
| 902 | 1642 |
| **3F** | |
| 3FG87 | 1636 |
| H39 | 1636 |
| N12 | 1636 |
| 3FP61 | 1636 |
| P81 | 1636 |
| P87 | 1636 |
| R45 | 1636 |
| R63 | 1637 |
| 3FX18 | 1637 |
| 028 | 1643 |
| 030 | 1643 |
| 274 | 1642 |
| 280 | 1642 |
| 3F282 | 1642 |
| 298 | 3570 |
| 299 | 3570 |
| 300 | 3570 |
| 301 | 3575 |
| 3F311 | 3512 |
| 317 | 3451 |
| 318 | 3451 |
| 319 | 3451 |
| 320 | 3451 |
| 3F321 | 3451 |
| 322 | 3438 |
| 323 | 3438 |
| 324 | 3438 |
| 325 | 3438 |
| 3F326 | 3438 |
| 327 | 3438 |
| 328 | 3438 |
| 329 | 3438 |
| 330 | 3438 |
| 3F331 | 3438 |
| 332 | 3438 |
| 333 | 3438 |
| 334 | 3438 |
| 335 | 3438 |
| 3F336 | 3438 |
| 337 | 3430 |
| 338 | 3430 |
| 339 | 3430 |
| 340 | 3430 |
| 3F341 | 3430 |
| 342 | 3451 |
| 343 | 3451 |
| 344 | 3451 |
| 345 | 3451 |
| 3F346 | 3451 |
| 347 | 3451 |
| 348 | 3430 |
| 349 | 3430 |
| 350 | 3430 |
| 3F351 | 3430 |
| 352 | 3431 |
| 353 | 3431 |
| 354 | 3431 |
| 355 | 3431 |
| 3F356 | 3431 |
| 357 | 3431 |
| 358 | 3431 |
| 359 | 3431 |
| 360 | 3430 |
| 3F361 | 3430 |
| 362 | 3430 |
| 363 | 3430 |
| 364 | 3431 |
| 365 | 3431 |
| 3F366 | 3431 |
| 367 | 3431 |
| 368 | 3430 |
| 369 | 3430 |
| 370 | 3430 |
| 3F371 | 3430 |
| 372 | 3430 |
| 373 | 3430 |
| 374 | 3430 |
| 375 | 3430 |
| 3F376 | 3430 |
| 377 | 3430 |
| 378 | 3430 |
| 379 | 3430 |
| 380 | 3430 |
| 3F381 | 3430 |
| 382 | 3430 |
| 383 | 3430 |
| 384 | 3430 |
| 385 | 3430 |
| 3F386 | 3430 |
| 387 | 3430 |
| 388 | 3430 |
| 399 | 3376 |
| 400 | 3376 |
| 3F401 | 3376 |
| 402 | 3376 |
| 403 | 3376 |
| 404 | 3376 |
| 405 | 3376 |
| 3F406 | 3376 |
| 407 | 3376 |
| 408 | 3376 |
| 409 | 3376 |
| 410 | 3376 |
| 3F411 | 3376 |
| 412 | 3376 |
| 413 | 3376 |
| 414 | 3433 |
| 415 | 3433 |
| 3F416 | 3433 |
| 417 | 3433 |
| 519 | 3605 |
| 525 | 3609 |
| 527 | 3609 |
| 3F529 | 3609 |
| 530 | 3571 |
| 531 | 3654 |
| 532 | 3654 |
| 533 | 3654 |
| 3F534 | 3654 |
| 535 | 3654 |
| 536 | 3654 |
| 537 | 3654 |
| 538 | 3654 |
| 3F539 | 3654 |
| 540 | 3654 |
| 541 | 3654 |
| 542 | 3654 |
| 781 | 910 |
| 3F785 | 2831 |
| 787 | 2831 |
| 789 | 2831 |
| 791 | 2831 |
| 793 | 2831 |
| 3F795 | 2831 |
| 797 | 2831 |
| 799 | 2831 |
| 801 | 2831 |
| 803 | 2831 |
| 3F805 | 2831 |
| 807 | 2831 |
| 809 | 2831 |
| 811 | 2831 |
| 813 | 2833 |
| 3F815 | 2835 |
| 817 | 3413 |
| 835 | 3413 |
| 837 | 3413 |
| 839 | 3413 |
| 3F841 | 2460 |
| 843 | 2460 |
| 856 | 1732 |
| 858 | 1732 |
| 860 | 1732 |
| 3F862 | 1732 |
| 863 | 1450 |
| 864 | 1732 |
| 865 | 1450 |
| 866 | 1732 |
| 3F867 | 1433 |
| 868 | 1732 |
| 872 | 1732 |
| 874 | 1732 |
| 876 | 1732 |
| 3F878 | 1732 |
| 880 | 1732 |
| 882 | 1732 |
| 884 | 1732 |
| 886 | 1732 |
| 3F888 | 1732 |
| 890 | 1732 |
| 892 | 1732 |
| 894 | 1732 |
| 896 | 1732 |
| 3F898 | 1732 |
| 900 | 1732 |
| 902 | 1732 |
| 904 | 1732 |
| 905 | 1427 |
| 3F906 | 1732 |
| 907 | 1427 |
| 908 | 1732 |
| 909 | 1427 |
| 911 | 1427 |
| 3F912 | 1732 |
| 914 | 1732 |
| 918 | 1732 |
| 920 | 1732 |
| 922 | 1732 |
| 3F924 | 1732 |
| 928 | 1732 |
| 932 | 1732 |
| **3G** | |
| 3GC39 | 13 |
| C42 | 13 |
| C43 | 13 |
| C45 | 13 |
| C46 | 13 |
| 3GC47 | 13 |
| C48 | 13 |
| C49 | 134 |
| C50 | 134 |
| C51 | 134 |
| 3GC52 | 134 |
| C53 | 134 |
| C54 | 134 |
| C55 | 134 |
| C56 | 134 |
| 3GC57 | 134 |
| C58 | 134 |
| C59 | 134 |
| C60 | 134 |
| C61 | 134 |
| 3GC62 | 134 |
| C63 | 134 |
| C64 | 134 |
| C65 | 134 |
| C66 | 134 |
| 3GC67 | 134 |
| C68 | 134 |
| C69 | 131 |
| C70 | 131 |
| C71 | 131 |
| 3GC72 | 131 |
| C73 | 131 |
| C74 | 131 |
| C75 | 131 |
| C76 | 131 |
| 3GC77 | 131 |
| C78 | 131 |
| C79 | 134 |
| C80 | 134 |
| C81 | 13 |
| 3GC83 | 124 |
| C84 | 13 |
| C85 | 124 |
| C86 | 13 |
| C87 | 124 |
| 3GC88 | 13 |
| C89 | 123 |
| C90 | 12 |
| C91 | 13 |
| C92 | 3324 |
| 3GC93 | 3324 |
| C94 | 3324 |
| C95 | 3324 |
| C96 | 3324 |
| C97 | 3500 |
| 3GC98 | 3500 |
| C99 | 3500 |
| D01 | 3500 |
| D02 | 3500 |
| D03 | 3500 |
| 3GD04 | 3500 |
| D05 | 3500 |
| D06 | 3500 |
| D07 | 3518 |
| D08 | 3518 |
| 3GD09 | 3518 |
| D10 | 3518 |
| D11 | 3518 |
| D12 | 3518 |
| D13 | 3518 |
| 3GD14 | 3518 |
| D15 | 3518 |
| D16 | 3518 |
| D17 | 3518 |
| D18 | 3518 |
| 3GD19 | 3518 |
| D20 | 3518 |
| D21 | 3518 |
| D22 | 3478 |
| D23 | 3478 |
| 3GD24 | 3314 |
| D25 | 3314 |
| D26 | 3314 |
| D27 | 3317 |
| D28 | 3317 |
| 3GD29 | 3319 |
| D30 | 2923 |
| D33 | 748 |
| D34 | 748 |
| D35 | 748 |
| 3GD36 | 749 |
| D37 | 756 |
| D38 | 756 |
| D39 | 268 |
| D40 | 268 |
| 3GD41 | 268 |
| D42 | 268 |
| D43 | 268 |
| D44 | 269 |
| D45 | 269 |
| 3GD46 | 269 |
| D47 | 268 |
| D48 | 268 |
| D49 | 268 |
| D50 | 268 |
| 3GD51 | 268 |
| D52 | 269 |
| D53 | 269 |
| D54 | 269 |
| D55 | 268 |
| 3GD56 | 268 |
| D57 | 268 |
| D58 | 268 |
| D59 | 268 |
| D60 | 269 |
| 3GD61 | 269 |
| D62 | 269 |
| D63 | 205 |
| D64 | 205 |
| D65 | 205 |
| 3GD66 | 205 |
| D67 | 205 |
| D68 | 205 |
| D69 | 205 |
| D70 | 205 |
| 3GD71 | 205 |
| D72 | 205 |
| D73 | 205 |
| D74 | 205 |
| D75 | 205 |
| 3GD81 | 205 |
| D82 | 205 |
| D83 | 205 |
| D84 | 3373 |
| D85 | 3373 |
| 3GD86 | 3373 |
| D95 | 3373 |
| D96 | 3373 |
| D98 | 3373 |
| D99 | 3373 |
| 3G001 | 2153 |
| 100 | 2139 |
| 101 | 2139 |
| 103 | 2139 |
| 104 | 2139 |
| 3G105 | 2139 |
| 107 | 2139 |
| 108 | 2139 |
| 110 | 2139 |
| 111 | 2139 |
| 3G112 | 2139 |
| 113 | 2139 |
| 114 | 2139 |
| 115 | 2139 |
| 116 | 2147 |
| 3G117 | 2147 |
| 118 | 2147 |
| 119 | 2147 |
| 120 | 2143 |
| 121 | 2143 |
| 3G122 | 2143 |
| 123 | 2143 |
| 124 | 2143 |
| 125 | 2143 |
| 126 | 2143 |
| 3G127 | 2143 |
| 128 | 2143 |
| 129 | 2143 |
| 130 | 2143 |
| 131 | 2143 |
| 3G132 | 2143 |
| 133 | 2143 |
| 134 | 2143 |
| 135 | 2143 |
| 136 | 2143 |
| 3G137 | 2143 |
| 138 | 2143 |
| 139 | 2143 |
| 140 | 2143 |
| 141 | 2143 |
| 3G142 | 2143 |
| 143 | 2143 |
| 144 | 2143 |
| 145 | 2143 |
| 146 | 2143 |
| 3G147 | 2143 |
| 148 | 2143 |
| 149 | 2143 |
| 150 | 2147 |
| 151 | 2147 |
| 3G152 | 2143 |
| 153 | 2143 |
| 154 | 2143 |
| 155 | 2143 |
| 156 | 2143 |
| 3G157 | 2143 |
| 158 | 2143 |
| 159 | 2143 |
| 160 | 2148 |
| 161 | 2148 |
| 3G162 | 2148 |
| 163 | 2148 |
| 164 | 2148 |
| 165 | 2148 |
| 166 | 2148 |
| 3G167 | 2148 |
| 172 | 2143 |
| 173 | 2143 |
| 174 | 2143 |
| 175 | 2143 |
| 3G176 | 2143 |
| 177 | 2143 |
| 178 | 2154 |
| 179 | 2154 |
| 180 | 2154 |
| 3G181 | 2154 |
| 182 | 2154 |
| 183 | 2154 |
| 184 | 2154 |
| 185 | 2154 |
| 3G186 | 2154 |
| 187 | 2154 |
| 188 | 2154 |
| 189 | 2154 |
| 190 | 2154 |
| 3G191 | 2154 |
| 192 | 2154 |
| 193 | 2154 |
| 194 | 2154 |
| 195 | 2154 |
| 3G196 | 2154 |
| 197 | 2154 |
| 198 | 2154 |
| 199 | 2154 |
| 200 | 2154 |
| 3G201 | 2154 |
| 202 | 2149 |
| 203 | 2149 |
| 204 | 2149 |
| 205 | 2149 |
| 3G206 | 2149 |
| 207 | 2149 |
| 208 | 2149 |
| 209 | 2149 |
| 210 | 2149 |
| 3G214 | 2149 |
| 215 | 2149 |
| 218 | 2149 |
| 219 | 2149 |
| 221 | 2149 |
| 3G224 | 2149 |
| 225 | 2149 |
| 226 | 2149 |
| 227 | 2149 |
| 229 | 2149 |
| 3G230 | 2149 |
| 232 | 2148 |
| 233 | 2148 |
| 234 | 2148 |
| 235 | 2148 |
| 3G236 | 2148 |
| 237 | 2148 |
| 238 | 2143 |
| 239 | 2143 |
| 242 | 2147 |
| 3G243 | 2147 |
| 244 | 2148 |
| 245 | 2148 |
| 246 | 2148 |
| 247 | 2148 |
| 3G248 | 2148 |
| 249 | 2148 |
| 250 | 2148 |
| 251 | 2148 |
| 252 | 2148 |
| 3G253 | 2148 |
| 254 | 2148 |
| 255 | 2148 |
| 256 | 2148 |
| 257 | 2148 |
| 3G258 | 2148 |
| 259 | 2148 |
| 262 | 2161 |
| 263 | 2161 |
| 264 | 2161 |
| 3G265 | 2161 |
| 266 | 2161 |
| 267 | 2161 |
| 268 | 2161 |
| 269 | 2161 |
| 3G270 | 2161 |
| 271 | 2161 |
| 272 | 2161 |
| 273 | 2161 |
| 274 | 2163 |
| 3G275 | 2163 |
| 276 | 2163 |
| 277 | 2163 |
| 278 | 2163 |
| 279 | 2163 |
| 3G280 | 2163 |
| 281 | 2143 |
| 282 | 2163 |
| 283 | 2163 |
| 284 | 2163 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3G285 | 2163 | 3G658 | 1302 | 3G804 | 1731 | 3G908 | 1731 | 3HJ78 | 3369 | 3HM13 | 3370 | 3HT54 | 3369 | 3HV56 | 361 | 3HW22 | 361 | 3HW87 | 361 | 3HX54 | 362 |
| 286 | 2161 | 660 | 1302 | 805 | 1021 | 909 | 1832 | J79 | 3369 | M15 | 3370 | T55 | 3369 | V57 | 361 | W23 | 361 | W88 | 361 | X55 | 362 |
| 287 | 2161 | 662 | 1302 | 807 | 1017 | 910 | 1731 | J84 | 3369 | M17 | 3370 | T57 | 3369 | V58 | 361 | W24 | 361 | W89 | 361 | X56 | 362 |
| 288 | 2161 | 664 | 1302 | 809 | 1017 | 911 | 1832 | J87 | 3369 | M27 | 3370 | T64 | 3369 | V59 | 361 | W25 | 361 | W90 | 361 | X57 | 344 |
| 289 | 2161 | 666 | 1302 | 811 | 1020 | 913 | 1832 | J92 | 3369 | M31 | 3370 | T66 | 3372 | V60 | 361 | W26 | 361 | W91 | 361 | X58 | 344 |
| 3G290 | 2163 | 3G668 | 1302 | 3G813 | 1021 | 3G915 | 1832 | 3HJ93 | 3369 | 3HM32 | 3370 | 3HT71 | 3372 | 3HV61 | 361 | 3HW27 | 361 | 3HW92 | 361 | 3HX59 | 344 |
| 291 | 2163 | 670 | 1302 | 814 | 1731 | 917 | 1817 | J94 | 3369 | M33 | 3370 | T72 | 3372 | V62 | 361 | W28 | 361 | W93 | 361 | X60 | 344 |
| 292 | 2163 | 672 | 1302 | 816 | 1731 | 919 | 1830 | J97 | 3369 | M37 | 3370 | T74 | 3372 | V63 | 361 | W29 | 361 | W94 | 361 | X61 | 344 |
| 293 | 2163 | 674 | 1302 | 817 | 1017 | 921 | 1830 | J98 | 3369 | M43 | 3370 | T75 | 3372 | V64 | 361 | W30 | 361 | W95 | 361 | X62 | 344 |
| 294 | 2163 | 676 | 1302 | 818 | 1731 | 923 | 1832 | K06 | 3369 | M47 | 3370 | T83 | 3372 | V65 | 361 | W31 | 361 | W96 | 361 | X63 | 344 |
| 3G295 | 2163 | 3G678 | 1302 | 3G819 | 1021 | 3G925 | 1832 | 3HK07 | 3369 | 3HM48 | 3371 | 3HT85 | 3372 | 3HV66 | 361 | 3HW32 | 361 | 3HW97 | 361 | 3HX64 | 344 |
| 296 | 2163 | 680 | 1302 | 820 | 1731 | 927 | 1832 | K10 | 3369 | M49 | 3371 | T86 | 3372 | V67 | 361 | W33 | 361 | W98 | 361 | X65 | 344 |
| 297 | 2163 | 682 | 1302 | 821 | 1022 | 929 | 1832 | K11 | 3369 | M50 | 3371 | T88 | 3372 | V68 | 361 | W34 | 361 | W99 | 361 | X66 | 344 |
| 298 | 2163 | 684 | 1302 | 823 | 1017 | 931 | 1832 | K15 | 3371 | M51 | 3371 | T90 | 3372 | V69 | 361 | W35 | 361 | X01 | 361 | X67 | 344 |
| 299 | 2163 | 686 | 1302 | 825 | 1021 | 933 | 1832 | K16 | 3371 | M54 | 3371 | T91 | 3372 | V70 | 361 | W36 | 361 | X02 | 361 | X68 | 344 |
| 3G300 | 2163 | 3G688 | 1302 | 3G827 | 1017 | 3G935 | 1814 | 3HK17 | 3371 | 3HM55 | 3371 | 3HT93 | 3372 | 3HV71 | 361 | 3HW37 | 361 | 3HX03 | 361 | 3HX69 | 344 |
| 301 | 2163 | 690 | 1302 | 829 | 1021 | 937 | 1816 | K18 | 3371 | M59 | 3371 | T95 | 3372 | V72 | 361 | W38 | 361 | X04 | 361 | X70 | 40 |
| 302 | 2143 | 692 | 1302 | 831 | 1814 | 939 | 1816 | K19 | 3371 | M60 | 3371 | T96 | 3372 | V73 | 361 | W39 | 361 | X05 | 361 | X71 | 40 |
| 303 | 2161 | 694 | 1302 | 833 | 1816 | 941 | 1816 | K20 | 3371 | M61 | 3371 | T97 | 3371 | V74 | 361 | W40 | 361 | X06 | 361 | X72 | 40 |
| 304 | 2161 | 696 | 1302 | 834 | 1731 | 943 | 1816 | K21 | 3371 | M63 | 3371 | V04 | 3371 | V75 | 361 | W41 | 361 | X07 | 361 | X73 | 40 |
| 3G305 | 2161 | 3G698 | 1302 | 3G835 | 1816 | 3G945 | 1816 | 3HK22 | 3371 | 3HM67 | 3371 | 3HV05 | 3371 | 3HV76 | 361 | 3HW42 | 361 | 3HX08 | 361 | 3HX74 | 40 |
| 306 | 2161 | 700 | 1302 | 836 | 1731 | 947 | 1816 | L18 | 3373 | M68 | 3371 | V07 | 3371 | V77 | 361 | W43 | 361 | X09 | 361 | X75 | 40 |
| 307 | 2163 | 702 | 1302 | 837 | 1818 | 949 | 1817 | L19 | 3373 | M70 | 3371 | V08 | 3371 | V78 | 361 | W44 | 361 | X10 | 361 | X76 | 40 |
| 308 | 2163 | 704 | 1302 | 838 | 1731 | 951 | 1679 | L20 | 3373 | M71 | 3371 | V09 | 3371 | V79 | 361 | W45 | 361 | X11 | 361 | X77 | 40 |
| 309 | 2163 | 706 | 1302 | 839 | 1818 | 953 | 1679 | L21 | 3373 | M73 | 3371 | V10 | 3371 | V80 | 361 | W46 | 361 | X12 | 361 | X78 | 40 |
| 3G310 | 2163 | 3G708 | 1302 | 3G840 | 1731 | 3G955 | 1679 | 3HL22 | 3373 | 3HM75 | 3371 | 3HV13 | 3371 | 3HV81 | 361 | 3HW47 | 361 | 3HX13 | 361 | 3HX79 | 40 |
| 376 | 2666 | 709 | 1494 | 841 | 1818 | 957 | 1831 | L23 | 3373 | M76 | 3371 | V17 | 1781 | V82 | 361 | W48 | 361 | X14 | 361 | X80 | 344 |
| 377 | 2690 | 710 | 1302 | 843 | 1818 | 959 | 1831 | L24 | 3373 | M79 | 3371 | V18 | 178 | V83 | 361 | W49 | 361 | X15 | 361 | X81 | 344 |
| 379 | 2690 | 711 | 1468 | 845 | 1830 | 961 | 1831 | L25 | 3374 | P07 | 3371 | V19 | 178 | V84 | 361 | W50 | 361 | X16 | 361 | X82 | 344 |
| 380 | 2690 | 712 | 1302 | 847 | 1830 | 962 | 1731 | L26 | 3374 | P09 | 3371 | V20 | 178 | V85 | 361 | W51 | 361 | X17 | 361 | X83 | 344 |
| 3G381 | 2690 | 3G713 | 1465 | 3G849 | 1830 | 3G963 | 1831 | 3HL27 | 3374 | 3HP14 | 3371 | 3HV21 | 177 | 3HV86 | 361 | 3HW52 | 361 | 3HX18 | 361 | 3HX84 | 344 |
| 582 | 1302 | 714 | 1302 | 851 | 1830 | 965 | 1831 | L28 | 3374 | P15 | 3371 | V22 | 177 | V87 | 361 | W53 | 361 | X19 | 361 | X85 | 344 |
| 584 | 1302 | 715 | 1412 | 853 | 1830 | 967 | 1831 | L29 | 3374 | P16 | 3373 | V23 | 177 | V88 | 361 | W54 | 361 | X20 | 361 | X86 | 344 |
| 588 | 1302 | 716 | 1302 | 855 | 1830 | 968 | 1731 | L33 | 3374 | P19 | 3373 | V24 | 177 | V89 | 361 | W55 | 361 | X21 | 361 | X87 | 344 |
| 592 | 1302 | 718 | 1302 | 857 | 1830 | 969 | 1831 | L34 | 3374 | P72 | 3369 | V25 | 176 | V90 | 361 | W56 | 361 | X22 | 361 | X88 | 344 |
| 3G598 | 1302 | 3G720 | 1302 | 3G859 | 1831 | 3G970 | 1731 | 3HL35 | 3374 | 3HP98 | 3369 | 3HV26 | 176 | 3HV91 | 361 | 3HW57 | 361 | 3HX23 | 361 | 3HX89 | 344 |
| 600 | 1302 | 722 | 1302 | 861 | 1831 | 971 | 1831 | L36 | 3374 | P99 | 3369 | V27 | 177 | V92 | 361 | W58 | 361 | X24 | 361 | X90 | 317 |
| 602 | 1302 | 724 | 1302 | 862 | 1731 | 972 | 1731 | L37 | 3374 | R18 | 3369 | V28 | 177 | V93 | 361 | W59 | 361 | X25 | 361 | X91 | 317 |
| 604 | 1302 | 726 | 1302 | 863 | 1831 | 973 | 1831 | L38 | 3374 | R19 | 3369 | V29 | 177 | V94 | 361 | W60 | 361 | X26 | 361 | X92 | 317 |
| 606 | 1302 | 728 | 1302 | 865 | 1831 | 975 | 1831 | L39 | 3374 | R37 | 3369 | V30 | 177 | V95 | 361 | W61 | 361 | X27 | 361 | X93 | 317 |
| 3G608 | 1302 | 3G730 | 1302 | 3G866 | 1731 | 3G976 | 1731 | 3HL40 | 3374 | 3HR38 | 3369 | 3HV31 | 177 | 3HV96 | 361 | 3HW62 | 361 | 3HX28 | 361 | 3HX94 | 317 |
| 610 | 1302 | 732 | 1302 | 867 | 1831 | 977 | 1834 | L41 | 3374 | R45 | 3369 | V32 | 177 | V97 | 361 | W63 | 361 | X29 | 361 | X95 | 317 |
| 612 | 1302 | 734 | 1302 | 869 | 1831 | 978 | 1731 | L42 | 3374 | R48 | 3369 | V33 | 177 | V98 | 361 | W64 | 361 | X30 | 361 | X96 | 317 |
| 614 | 1302 | 736 | 1302 | 870 | 1731 | 979 | 1834 | L43 | 3374 | R55 | 3369 | V34 | 177 | V99 | 361 | W65 | 361 | X32 | 308 | X97 | 317 |
| 616 | 1302 | 760 | 1731 | 871 | 1831 | 980 | 1731 | L44 | 3374 | R56 | 3369 | V35 | 177 | W01 | 361 | W66 | 361 | X33 | 308 | X98 | 317 |
| 3G618 | 1302 | 3G762 | 1731 | 3G873 | 1831 | 3G981 | 1834 | 3HL51 | 3370 | 3HR59 | 3369 | 3HV36 | 177 | 3HW02 | 361 | 3HW67 | 361 | 3HX34 | 345 | 3HX99 | 317 |
| 620 | 1302 | 768 | 1731 | 875 | 1831 | 983 | 1834 | L52 | 3370 | R63 | 3369 | V37 | 178 | W03 | 361 | W68 | 361 | X35 | 345 | Z01 | 317 |
| 622 | 1302 | 770 | 1731 | 877 | 1830 | 985 | 1834 | L57 | 3370 | R64 | 3369 | V38 | 178 | W04 | 361 | W69 | 361 | X36 | 345 | Z02 | 317 |
| 624 | 1302 | 780 | 1731 | 879 | 1830 | 987 | 1834 | L58 | 3370 | R65 | 3369 | V39 | 178 | W05 | 361 | W70 | 361 | X37 | 345 | Z03 | 317 |
| 626 | 1302 | 783 | 1017 | 881 | 1830 | 988 | 1731 | L59 | 3370 | R74 | 3369 | V40 | 178 | W06 | 361 | W71 | 361 | X38 | 345 | Z04 | 317 |
| 3G628 | 1302 | 3G784 | 1731 | 3G883 | 1830 | 3G989 | 1834 | 3HL60 | 3370 | 3HR78 | 3369 | 3HV41 | 178 | 3HW07 | 361 | 3HW72 | 361 | 3HX39 | 345 | 3HZ05 | 317 |
| 630 | 1302 | 785 | 1017 | 885 | 1830 | 990 | 1731 | L65 | 3370 | R79 | 3369 | V42 | 178 | W08 | 361 | W73 | 361 | X40 | 345 | Z06 | 317 |
| 632 | 1302 | 787 | 1020 | 887 | 1832 | 991 | 1834 | L66 | 3370 | R85 | 3369 | V43 | 177 | W09 | 361 | W74 | 361 | X41 | 345 | Z07 | 317 |
| 634 | 1302 | 789 | 1020 | 889 | 1832 | 993 | 1834 | L67 | 3370 | R88 | 3369 | V44 | 177 | W10 | 361 | W75 | 361 | X42 | 345 | Z08 | 317 |
| 636 | 1302 | 793 | 1017 | 891 | 1832 | 994 | 1731 | L68 | 3370 | R89 | 3369 | V45 | 177 | W11 | 361 | W76 | 361 | X43 | 345 | Z09 | 317 |
| 3G638 | 1302 | 3G794 | 1731 | 3G893 | 1832 | 3G995 | 1833 | 3HL78 | 3370 | 3HR90 | 3369 | 3HV46 | 177 | 3HW12 | 361 | 3HW77 | 361 | 3HX44 | 345 | 3HZ10 | 317 |
| 640 | 1302 | 795 | 1020 | 895 | 1832 | 997 | 1833 | L80 | 3370 | R94 | 3369 | V47 | 177 | W13 | 361 | W78 | 361 | X45 | 345 | Z11 | 317 |
| 642 | 1302 | 796 | 1731 | 897 | 1832 | 999 | 1833 | L84 | 3370 | R95 | 3369 | V48 | 177 | W14 | 361 | W79 | 361 | X46 | 345 | Z12 | 317 |
| 644 | 1302 | 797 | 1022 | 899 | 1831 | 3H | | L91 | 3370 | T01 | 3369 | V49 | 177 | W15 | 361 | W80 | 361 | X47 | 345 | Z13 | 317 |
| 646 | 1302 | 798 | 1731 | 901 | 1831 | | | L92 | 3370 | T29 | 3369 | V50 | 177 | W16 | 361 | W81 | 361 | X48 | 345 | Z14 | 317 |
| 3G648 | 1302 | 3G799 | 1017 | 3G902 | 1731 | 3HJ65 | 3369 | 3HL97 | 3370 | 3HT30 | 3369 | 3HV51 | 178 | 3HW17 | 361 | 3HW82 | 361 | 3HX49 | 345 | 3HZ15 | 317 |
| 650 | 1302 | 800 | 1731 | 903 | 1831 | J66 | 3369 | M03 | 3370 | T36 | 3369 | V52 | 178 | W18 | 361 | W83 | 361 | X50 | 345 | Z16 | 317 |
| 652 | 1302 | 801 | 1021 | 904 | 1731 | J67 | 3369 | M04 | 3370 | T37 | 3369 | V53 | 178 | W19 | 361 | W84 | 361 | X51 | 345 | Z17 | 317 |
| 654 | 1302 | 802 | 1731 | 905 | 1831 | J76 | 3369 | M05 | 3370 | T49 | 3369 | V54 | 361 | W20 | 361 | W85 | 361 | X52 | 345 | Z18 | 317 |
| 656 | 1302 | 803 | 1017 | 907 | 1832 | J77 | 3369 | M12 | 3370 | T50 | 3369 | V55 | 361 | W21 | 361 | W86 | 361 | X53 | 362 | Z19 | 317 |

# STOCK NUMBER—PAGE NUMBER

## 3HZ — 3JH


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3HZ20 | 317 | 3H047 | 3087 | 3H499 | 1630 | 3H664 | 1730 | 3H786 | 1730 | 3H952 | 1730 | 3JC44 | 348 | 3JD16 | 753 | 3JF04 | 3002 | 3JG17 | 1457 | 3JH19 | 2528 |
| Z21 | 317 | 091 | 1833 | 503 | 1631 | 670 | 1730 | 788 | 1730 | 954 | 1730 | C45 | 348 | D17 | 751 | F05 | 2983 | G18 | 1485 | H20 | 2528 |
| Z22 | 317 | 111 | 3085 | 505 | 1631 | 672 | 1730 | 792 | 1730 | 956 | 1730 | C46 | 348 | D18 | 2971 | F06 | 2983 | G19 | 1457 | H21 | 2528 |
| Z23 | 317 | 133 | 1833 | 523 | 1631 | 674 | 1730 | 794 | 1730 | 957 | 1701 | C47 | 348 | D19 | 3000 | F08 | 2983 | G20 | 1457 | H22 | 2528 |
| Z24 | 317 | 230 | 1833 | 525 | 1631 | 676 | 1730 | 796 | 1730 | 958 | 1730 | C48 | 348 | D20 | 2998 | F09 | 2983 | G21 | 1485 | H23 | 2528 |
| 3HZ52 | 427 | 3H231 | 3087 | 3H550 | 1730 | 3H678 | 1730 | 3H800 | 1730 | 3H959 | 1701 | 3JC49 | 348 | 3JD21 | 2971 | 3JF10 | 2983 | 3JG22 | 1485 | 3JH24 | 2528 |
| Z53 | 427 | 233 | 3087 | 564 | 1730 | 680 | 1730 | 802 | 1730 | 960 | 1730 | C50 | 348 | D22 | 2969 | F13 | 2983 | G23 | 796 | H25 | 2528 |
| Z54 | 427 | 240 | 1919 | 566 | 1730 | 682 | 1730 | 804 | 1730 | 961 | 1701 | C51 | 348 | D23 | 2992 | F14 | 2983 | G24 | 796 | H26 | 2528 |
| Z55 | 427 | 260 | 3087 | 567 | 1631 | 684 | 1730 | 806 | 1730 | 963 | 1701 | C52 | 348 | D24 | 2992 | F15 | 2983 | G25 | 841 | H27 | 2528 |
| Z56 | 427 | 261 | 3085 | 568 | 1730 | 686 | 1730 | 808 | 1730 | 964 | 1730 | C53 | 348 | D25 | 2990 | F18 | 2983 | G26 | 841 | H28 | 2528 |
| 3HZ57 | 427 | 3H285 | 2116 | 3H569 | 1631 | 3H687 | 1632 | 3H810 | 1730 | 3H965 | 1701 | 3JC54 | 348 | 3JD26 | 2990 | 3JF21 | 2983 | 3JG29 | 797 | 3JH29 | 2528 |
| Z58 | 427 | 301 | 2079 | 571 | 1631 | 688 | 1730 | 816 | 1730 | 967 | 1701 | C55 | 348 | D27 | 2997 | F24 | 2983 | G30 | 795 | H30 | 2528 |
| Z64 | 423 | 316 | 2079 | 572 | 1730 | 689 | 1632 | 818 | 1730 | 968 | 1730 | C56 | 348 | D28 | 2997 | F33 | 1418 | G31 | 795 | H31 | 2528 |
| Z65 | 423 | 317 | 2079 | 573 | 1631 | 690 | 1730 | 820 | 1730 | 969 | 1701 | C57 | 348 | D29 | 2983 | F34 | 1418 | G32 | 795 | H32 | 2528 |
| Z66 | 423 | 325 | 3105 | 575 | 1631 | 691 | 1632 | 822 | 1730 | 971 | 1701 | C58 | 348 | D30 | 2983 | F35 | 1418 | G33 | 795 | H33 | 2528 |
| 3HZ68 | 435 | 3H326 | 3105 | 3H577 | 1631 | 3H692 | 1730 | 3H826 | 1730 | 3H973 | 1701 | 3JC59 | 348 | 3JD31 | 2983 | 3JF36 | 1418 | 3JG34 | 795 | 3JH34 | 2528 |
| Z69 | 435 | 327 | 3105 | 579 | 1631 | 694 | 1730 | 828 | 1730 | 975 | 1701 | C60 | 348 | D32 | 2973 | F37 | 1418 | G35 | 795 | H35 | 2528 |
| Z70 | 435 | 328 | 3105 | 584 | 1730 | 697 | 1633 | 830 | 1730 | 977 | 1701 | C61 | 348 | D33 | 2971 | F38 | 1453 | G36 | 795 | H36 | 2528 |
| Z71 | 435 | 329 | 3105 | 586 | 1730 | 698 | 1730 | 832 | 1730 | 979 | 1701 | C62 | 348 | D34 | 3002 | F39 | 1453 | G37 | 795 | H37 | 2528 |
| Z72 | 435 | 330 | 3105 | 588 | 1730 | 699 | 1633 | 834 | 1730 | 981 | 1701 | C63 | 348 | D35 | 3002 | F40 | 1472 | G38 | 795 | H38 | 2527 |
| 3HZ73 | 435 | 3H350 | 3510 | 3H590 | 1730 | 3H700 | 1730 | 3H838 | 1730 | 3H983 | 1701 | 3JC64 | 348 | 3JD36 | 2971 | 3JF52 | 1484 | 3JG39 | 795 | 3JH39 | 2527 |
| Z74 | 435 | 356 | 3511 | 592 | 1730 | 701 | 1633 | 840 | 1730 | 985 | 1701 | C65 | 348 | D37 | 2978 | F53 | 1484 | G40 | 795 | H40 | 2527 |
| Z75 | 435 | 367 | 2079 | 593 | 1631 | 704 | 1730 | 842 | 1730 | 987 | 1701 | C66 | 348 | D38 | 2978 | F54 | 1484 | G41 | 795 | H41 | 778 |
| Z76 | 418 | 372 | 1833 | 596 | 1730 | 706 | 1730 | 844 | 1730 | 989 | 1701 | C67 | 348 | D39 | 2978 | F55 | 1484 | G65 | 796 | H42 | 778 |
| Z77 | 720 | 377 | 1936 | 598 | 1730 | 708 | 1730 | 846 | 1730 | 991 | 1701 | C68 | 348 | D40 | 2980 | F56 | 1484 | G66 | 796 | H43 | 755 |
| 3HZ78 | 694 | 3H378 | 1936 | 3H600 | 1730 | 3H710 | 1730 | 3H848 | 1730 | 3H993 | 1701 | 3JC69 | 348 | 3JD41 | 2979 | 3JF57 | 1484 | 3JG67 | 795 | 3JH44 | 778 |
| Z79 | 719 | 379 | 1936 | 602 | 1730 | 712 | 1730 | 850 | 1730 | 995 | 1701 | C70 | 348 | D42 | 2971 | F58 | 1484 | G68 | 795 | H45 | 3486 |
| Z80 | 705 | 380 | 1936 | 604 | 1730 | 714 | 1730 | 852 | 1730 | 997 | 1701 | C71 | 348 | D44 | 3002 | F59 | 1484 | G69 | 795 | H46 | 764 |
| Z81 | 703 | 381 | 1949 | 606 | 1730 | 716 | 1730 | 854 | 1730 | 999 | 1701 | C72 | 348 | D46 | 3002 | F60 | 1484 | G70 | 795 | H47 | 802 |
| Z82 | 703 | 382 | 1949 | 607 | 1632 | 718 | 1730 | 858 | 1730 | | | C73 | 348 | D47 | 3002 | F63 | 1453 | G71 | 795 | H48 | 803 |
| 3HZ83 | 703 | 3H383 | 1950 | 3H609 | 1632 | 3H720 | 1730 | 3H860 | 1730 | | | 3JC74 | 348 | 3JD50 | 2972 | 3JF66 | 1485 | 3JG72 | 795 | 3JH49 | 753 |
| Z84 | 703 | 384 | 1947 | 610 | 1730 | 722 | 1730 | 862 | 1730 | **3J** | | C75 | 348 | D52 | 2972 | F67 | 1457 | G73 | 801 | H50 | 775 |
| Z85 | 703 | 385 | 1951 | 611 | 1632 | 724 | 1730 | 864 | 1730 | | | C76 | 348 | D53 | 2972 | F68 | 1457 | G75 | 796 | H51 | 794 |
| Z86 | 703 | 386 | 1948 | 612 | 1730 | 726 | 1730 | 866 | 1730 | 3JC01 | 703 | C77 | 348 | D58 | 2972 | F69 | 1457 | G76 | 798 | H52 | 275 |
| Z87 | 703 | 388 | 1946 | 613 | 1632 | 728 | 1730 | 868 | 1730 | C02 | 703 | C78 | 348 | D66 | 2972 | F70 | 1457 | G77 | 796 | H53 | 274 |
| 3HZ88 | 703 | 3H389 | 1947 | 3H614 | 1730 | 3H730 | 1730 | 3H870 | 1730 | C03 | 703 | | | | | | | | | | |
| Z89 | 703 | 392 | 1938 | 615 | 1632 | 732 | 1730 | 874 | 1730 | 3JC04 | 703 | 3JC79 | 348 | 3JD67 | 2972 | 3JF71 | 1457 | 3JG79 | 796 | 3JH54 | 274 |
| Z90 | 703 | 393 | 1938 | 616 | 1730 | 734 | 1730 | 878 | 1730 | C05 | 703 | C80 | 348 | D69 | 2972 | F72 | 1457 | G81 | 795 | H55 | 274 |
| Z91 | 703 | 394 | 1936 | 617 | 1632 | 736 | 1730 | 879 | 1688 | C06 | 703 | C81 | 348 | D71 | 2972 | F73 | 1457 | G82 | 795 | H56 | 274 |
| Z92 | 703 | 395 | 1936 | 618 | 1730 | 739 | 1604 | 880 | 1730 | C07 | 703 | C82 | 348 | D76 | 2983 | F74 | 1457 | G83 | 795 | H57 | 274 |
| | | | | | | | | | | C08 | 703 | C83 | 348 | D77 | 2983 | F75 | 1457 | G84 | 795 | H58 | 274 |
| 3HZ93 | 703 | 3H396 | 1935 | 3H619 | 1632 | 3H741 | 1604 | 3H882 | 1730 | | | | | | | | | | | | |
| Z94 | 703 | 397 | 1935 | 620 | 1730 | 743 | 1604 | 886 | 1730 | 3JC09 | 703 | 3JC84 | 348 | 3JD78 | 2983 | 3JF76 | 1457 | 3JG85 | 795 | 3JH59 | 288 |
| Z95 | 703 | 398 | 1731 | 621 | 1632 | 745 | 1604 | 888 | 1730 | C10 | 703 | C85 | 348 | D79 | 2983 | F77 | 1457 | G86 | 795 | H60 | 288 |
| Z96 | 703 | 399 | 1863 | 622 | 1730 | 747 | 1604 | 890 | 1730 | C11 | 703 | C86 | 348 | D80 | 2983 | F78 | 1457 | G87 | 786 | H61 | 288 |
| Z97 | 703 | 400 | 1863 | 623 | 1632 | 749 | 1604 | 892 | 1730 | C12 | 703 | C87 | 348 | D81 | 2983 | F81 | 1485 | G88 | 804 | H62 | 288 |
| | | | | | | | | | | C15 | 666 | C88 | 348 | D82 | 2983 | F82 | 1485 | G89 | 804 | H63 | 288 |
| 3HZ98 | 703 | 3H401 | 1863 | 3H625 | 1632 | 3H750 | 1730 | 3H905 | 1701 | | | | | | | | | | | | |
| Z99 | 703 | 412 | 2079 | 626 | 1730 | 751 | 1604 | 907 | 1701 | 3JC24 | 348 | 3JC89 | 348 | 3JD83 | 2983 | 3JF83 | 1485 | 3JG90 | 804 | 3JH64 | 288 |
| 001 | 1833 | 413 | 2079 | 627 | 1632 | 753 | 1604 | 909 | 1701 | C25 | 348 | C90 | 348 | D84 | 2983 | F84 | 1485 | G91 | 804 | H65 | 288 |
| 002 | 1731 | 421 | 1833 | 628 | 1730 | 755 | 1604 | 911 | 1701 | C26 | 348 | C91 | 348 | D85 | 2983 | F85 | 1485 | G92 | 804 | H66 | 275 |
| 003 | 1833 | 423 | 1833 | 629 | 1632 | 757 | 1604 | 915 | 1701 | C27 | 348 | C92 | 785 | D86 | 2983 | F87 | 1485 | G93 | 804 | H67 | 274 |
| | | | | | | | | | | C28 | 348 | C99 | 758 | D87 | 2983 | F88 | 1485 | G95 | 1902 | H68 | 274 |
| 3H004 | 1731 | 3H424 | 1731 | 3H630 | 1730 | 3H759 | 1604 | 3H917 | 1701 | | | | | | | | | | | | |
| 005 | 1834 | 425 | 1833 | 634 | 1730 | 761 | 1604 | 919 | 1701 | 3JC29 | 348 | 3JD01 | 874 | 3JD88 | 2983 | 3JF95 | 1485 | 3JH01 | 1904 | 3JH69 | 274 |
| 006 | 1731 | 427 | 1833 | 636 | 1730 | 763 | 1604 | 921 | 1701 | C30 | 348 | D02 | 751 | D89 | 2983 | F96 | 1485 | H02 | 1903 | H70 | 274 |
| 007 | 1834 | 429 | 1833 | 638 | 1730 | 765 | 1604 | 922 | 1730 | C31 | 348 | D03 | 751 | D90 | 3002 | F98 | 1485 | H04 | 1905 | H71 | 274 |
| 008 | 1731 | 431 | 1833 | 640 | 1730 | 767 | 1604 | 926 | 1730 | C32 | 348 | D04 | 751 | D91 | 3002 | G01 | 1485 | H07 | 1901 | H72 | 277 |
| | | | | | | | | | | C33 | 348 | D05 | 778 | D92 | 3002 | G02 | 1485 | H08 | 1901 | H73 | 277 |
| 3H009 | 1833 | 3H433 | 1833 | 3H642 | 1730 | 3H769 | 1604 | 3H930 | 1730 | | | | | | | | | | | | |
| 011 | 1833 | 435 | 1834 | 644 | 1730 | 772 | 1730 | 934 | 1730 | 3JC34 | 348 | 3JD06 | 753 | 3JD93 | 3002 | 3JG06 | 1485 | 3JH09 | 1912 | 3JH74 | 277 |
| 012 | 1731 | 439 | 1630 | 646 | 1730 | 776 | 1730 | 936 | 1730 | C35 | 348 | D07 | 778 | D94 | 3002 | G07 | 1485 | H10 | 2527 | H75 | 277 |
| 013 | 3087 | 443 | 1630 | 648 | 1730 | 777 | 1688 | 938 | 1730 | C36 | 348 | D08 | 750 | D95 | 3002 | G08 | 1485 | H11 | 2527 | H76 | 277 |
| 014 | 3087 | 454 | 1731 | 650 | 1730 | 778 | 1730 | 940 | 1730 | C37 | 348 | D09 | 748 | D96 | 2984 | G09 | 1485 | H12 | 2527 | H77 | 277 |
| | | | | | | | | | | C38 | 348 | D10 | 751 | D97 | 2984 | G10 | 1485 | H13 | 2527 | H78 | 275 |
| 3H016 | 3086 | 3H456 | 1731 | 3H652 | 1730 | 3H779 | 1688 | 3H942 | 1730 | | | | | | | | | | | | |
| 021 | 3087 | 458 | 1731 | 654 | 1730 | 780 | 1730 | 944 | 1730 | 3JC39 | 348 | 3JD11 | 753 | 3JD98 | 3002 | 3JG11 | 1485 | 3JH14 | 2527 | 3JH79 | 274 |
| 022 | 3087 | 460 | 1731 | 656 | 1730 | 781 | 1688 | 946 | 1730 | C40 | 348 | D12 | 778 | D99 | 3002 | G12 | 1485 | H15 | 2528 | H80 | 274 |
| 031 | 3087 | 462 | 1731 | 658 | 1730 | 782 | 1730 | 948 | 1730 | C41 | 348 | D13 | 778 | F01 | 3002 | G13 | 1485 | H16 | 2528 | H81 | 274 |
| 032 | 3087 | 495 | 1630 | 660 | 1730 | 784 | 1730 | 950 | 1730 | C42 | 348 | D14 | 820 | F02 | 3002 | G14 | 1457 | H17 | 2528 | H82 | 277 |
| | | | | | | | | | | C43 | 348 | D15 | 778 | F03 | 3002 | G15 | 1457 | H18 | 2528 | H83 | 277 |




Grainger—more ways to get stuff faster.

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3JH84 | 277 | 3JJ52 | 278 | 3JK36 | 969 | 3JL32 | 1136 | 3JN33 | 1070 | 3JP19 | 2496 | 3JR47 | 1439 | 3JT18 | 1860 | 3JT93 | 3040 | 3JV59 | 2921 | 3JW25 | 3004 |
| H85 | 277 | J53 | 277 | K38 | 1001 | L35 | 1137 | N34 | 1070 | P20 | 2496 | R48 | 1439 | T29 | 3005 | T94 | 3040 | V60 | 2915 | W26 | 3004 |
| H86 | 275 | J54 | 277 | K39 | 994 | L36 | 1137 | N35 | 1066 | P21 | 2496 | R49 | 1439 | T30 | 3001 | T95 | 3040 | V61 | 2915 | W27 | 3004 |
| H87 | 274 | J55 | 277 | K40 | 987 | L38 | 1149 | N36 | 1073 | P22 | 2496 | R50 | 1439 | T31 | 2620 | T96 | 3030 | V62 | 2917 | W28 | 3004 |
| H88 | 274 | J56 | 277 | K41 | 941 | L39 | 1149 | N37 | 1073 | P23 | 2496 | R51 | 1439 | T32 | 3001 | T97 | 3030 | V63 | 2921 | W29 | 3004 |
| 3JH89 | 274 | 3JJ57 | 277 | 3JK42 | 1003 | 3JL40 | 1149 | 3JN38 | 1073 | 3JP24 | 2496 | 3JR52 | 1439 | 3JT33 | 2620 | 3JT98 | 3030 | 3JV64 | 2921 | 3JW30 | 3004 |
| H90 | 274 | J58 | 278 | K43 | 990 | L42 | 1137 | N39 | 1073 | P25 | 2496 | R53 | 2905 | T34 | 3001 | T99 | 3030 | V65 | 2915 | W31 | 3004 |
| H91 | 274 | J59 | 278 | K44 | 1000 | L43 | 1144 | N40 | 1075 | P26 | 2496 | R54 | 2905 | T35 | 3031 | V01 | 2921 | V66 | 2915 | W32 | 3005 |
| H92 | 277 | J60 | 278 | K45 | 1001 | L44 | 1137 | N41 | 1072 | P33 | 2614 | R55 | 2905 | T36 | 3031 | V02 | 2921 | V67 | 2921 | W33 | 3004 |
| H93 | 277 | J61 | 278 | K46 | 1000 | L45 | 1083 | N42 | 1072 | P34 | 2614 | R56 | 2905 | T37 | 3031 | V03 | 2921 | V68 | 2921 | W34 | 3004 |
| 3JH94 | 277 | 3JJ62 | 278 | 3JK47 | 971 | 3JL46 | 1083 | 3JN43 | 1070 | 3JP35 | 2614 | 3JR57 | 2905 | 3JT38 | 3031 | 3JV04 | 2921 | 3JV69 | 2921 | 3JW35 | 3005 |
| H95 | 277 | J63 | 278 | K48 | 957 | L47 | 1083 | N44 | 1070 | P36 | 2614 | R58 | 1972 | T39 | 3031 | V05 | 2920 | V70 | 2921 | W36 | 3005 |
| H96 | 277 | J64 | 278 | K49 | 961 | L48 | 1125 | N60 | 1036 | P49 | 1490 | R59 | 1972 | T40 | 3031 | V06 | 2920 | V71 | 2921 | W37 | 3004 |
| H97 | 288 | J65 | 278 | K50 | 992 | L49 | 1125 | N61 | 1031 | P50 | 1490 | R61 | 1972 | T41 | 3031 | V07 | 2920 | V72 | 2921 | W38 | 3004 |
| H98 | 288 | J66 | 278 | K51 | 916 | L50 | 1125 | N62 | 1036 | P51 | 2374 | R62 | 1972 | T42 | 3031 | V08 | 2920 | V73 | 2921 | W39 | 2620 |
| 3JH99 | 288 | 3JJ67 | 278 | 3JK52 | 950 | 3JL51 | 1125 | 3JN64 | 1029 | 3JP52 | 2374 | 3JR63 | 1972 | 3JT43 | 3031 | 3JV09 | 2920 | 3JV74 | 2918 | 3JW40 | 2620 |
| J01 | 288 | J68 | 278 | K53 | 950 | L52 | 1124 | N66 | 1029 | P53 | 2374 | R64 | 1972 | T44 | 3033 | V10 | 2920 | V75 | 2918 | W41 | 2620 |
| J02 | 288 | J69 | 278 | K54 | 991 | L53 | 1124 | N67 | 1036 | P54 | 2374 | R65 | 1972 | T45 | 3033 | V11 | 2920 | V76 | 2918 | W42 | 2620 |
| J03 | 274 | J70 | 278 | K55 | 998 | L54 | 1124 | N68 | 1036 | P55 | 2374 | R66 | 1972 | T46 | 3033 | V12 | 2919 | V77 | 2918 | W43 | 2620 |
| J04 | 274 | J71 | 278 | K56 | 998 | L55 | 1124 | N71 | 2241 | P56 | 2374 | R67 | 1972 | T47 | 3033 | V13 | 2920 | V78 | 2918 | W44 | 2620 |
| 3JJ05 | 274 | 3JJ72 | 1071 | 3JK57 | 995 | 3JL56 | 1124 | 3JN72 | 2241 | 3JP57 | 2374 | 3JR68 | 1972 | 3JT48 | 3033 | 3JV14 | 2920 | 3JV79 | 2918 | 3JW45 | 2620 |
| J06 | 274 | J73 | 1071 | K58 | 992 | L57 | 1124 | N73 | 2241 | P98 | 1439 | R69 | 2864 | T49 | 3033 | V15 | 2920 | V80 | 2918 | W46 | 2620 |
| J07 | 274 | J78 | 1071 | K59 | 916 | L58 | 1124 | N74 | 2241 | P99 | 1439 | R70 | 2864 | T50 | 3033 | V16 | 2920 | V81 | 2918 | W47 | 2620 |
| J08 | 274 | J79 | 918 | K60 | 918 | L59 | 1120 | N75 | 2241 | R01 | 1439 | R71 | 2864 | T51 | 3033 | V17 | 2920 | V82 | 2918 | W48 | 2620 |
| J09 | 277 | J80 | 928 | K61 | 916 | L60 | 1120 | N76 | 903 | R02 | 1439 | R72 | 2864 | T52 | 3021 | V18 | 2920 | V83 | 2918 | W49 | 1863 |
| 3JJ10 | 277 | 3JJ81 | 988 | 3JK62 | 2496 | 3JL61 | 1124 | 3JN77 | 903 | 3JR03 | 1439 | 3JR74 | 1990 | 3JT53 | 3021 | 3JV19 | 2920 | 3JV84 | 2918 | 3JW64 | 2571 |
| J11 | 277 | J83 | 921 | K63 | 955 | L63 | 1684 | N78 | 903 | R04 | 1439 | R76 | 2873 | T54 | 3021 | V20 | 2920 | V85 | 2918 | W65 | 2571 |
| J12 | 277 | J88 | 937 | K64 | 958 | L73 | 1684 | N80 | 2496 | R05 | 1439 | R77 | 2873 | T55 | 3018 | V21 | 2920 | V86 | 2918 | W66 | 2570 |
| J13 | 277 | J89 | 937 | K65 | 995 | L91 | 1684 | N81 | 2496 | R06 | 1439 | R78 | 2870 | T56 | 3018 | V22 | 2920 | V87 | 2918 | W67 | 2570 |
| J14 | 277 | J92 | 938 | K66 | 987 | L93 | 1684 | N82 | 2496 | R07 | 1439 | R79 | 2869 | T57 | 3018 | V23 | 2920 | V88 | 2918 | W68 | 2571 |
| 3JJ15 | 277 | 3JJ93 | 938 | 3JK72 | 929 | 3JL95 | 1684 | 3JN83 | 2496 | 3JR08 | 1438 | 3JR80 | 2878 | 3JT58 | 3018 | 3JV24 | 2920 | 3JV89 | 2918 | 3JW69 | 2570 |
| J16 | 288 | J96 | 940 | K73 | 929 | L96 | 1684 | N84 | 2496 | R09 | 1438 | R81 | 2874 | T59 | 3018 | V25 | 2920 | V90 | 2918 | W77 | 2571 |
| J17 | 275 | J97 | 940 | K74 | 929 | M10 | 1684 | N85 | 2496 | R10 | 1438 | R82 | 2874 | T60 | 3018 | V26 | 2920 | V91 | 2918 | W85 | 2571 |
| J18 | 274 | J98 | 998 | K75 | 929 | M12 | 1684 | N86 | 2496 | R11 | 1438 | R83 | 2874 | T61 | 3018 | V27 | 2920 | V92 | 2918 | W86 | 2571 |
| J19 | 274 | K01 | 940 | K76 | 938 | M21 | 1684 | N87 | 2496 | R12 | 1438 | R84 | 2884 | T62 | 3018 | V28 | 2919 | V93 | 2918 | W96 | 2570 |
| 3JJ20 | 274 | 3JK02 | 940 | 3JK77 | 1006 | 3JM39 | 1684 | 3JN88 | 2496 | 3JR13 | 1438 | 3JR85 | 2868 | 3JT63 | 3019 | 3JV29 | 2919 | 3JV94 | 2918 | 3JW97 | 2570 |
| J21 | 277 | K03 | 962 | K80 | 990 | M40 | 1684 | N89 | 2496 | R14 | 1439 | R86 | 1976 | T64 | 3019 | V30 | 2919 | V95 | 2917 | X03 | 2570 |
| J22 | 277 | K04 | 963 | K83 | 1000 | M46 | 1684 | N90 | 2497 | R15 | 1439 | R87 | 1976 | T65 | 3019 | V31 | 2919 | V96 | 3005 | X04 | 2570 |
| J23 | 277 | K05 | 968 | K86 | 1001 | M50 | 1684 | N91 | 2497 | R16 | 1439 | R88 | 1976 | T66 | 3019 | V32 | 2915 | V97 | 3005 | X05 | 2570 |
| J24 | 277 | K06 | 991 | K87 | 963 | M51 | 1684 | N92 | 2497 | R17 | 1439 | R89 | 1976 | T67 | 3019 | V33 | 2915 | V98 | 3005 | X06 | 2570 |
| 3JJ25 | 288 | 3JK07 | 995 | 3JK88 | 933 | 3JM61 | 1684 | 3JN93 | 2497 | 3JR18 | 1439 | 3JR90 | 1975 | 3JT68 | 3019 | 3JV34 | 2915 | 3JV99 | 3005 | 3JX08 | 2570 |
| J26 | 288 | K08 | 995 | K89 | 933 | M71 | 1684 | N94 | 2497 | R19 | 1439 | R91 | 1967 | T69 | 3019 | V35 | 2916 | W01 | 3005 | X14 | 2570 |
| J27 | 280 | K09 | 924 | K90 | 933 | M77 | 1684 | N95 | 2497 | R20 | 1439 | R92 | 1967 | T70 | 3019 | V36 | 2916 | W02 | 3005 | X22 | 2570 |
| J28 | 280 | K11 | 924 | K91 | 933 | M84 | 1684 | N96 | 2497 | R21 | 1439 | R93 | 1529 | T71 | 3019 | V37 | 2915 | W03 | 3005 | X29 | 2571 |
| J29 | 280 | K12 | 924 | K92 | 933 | M88 | 1684 | N97 | 2497 | R22 | 1439 | R94 | 1528 | T72 | 3019 | V38 | 2915 | W04 | 3005 | X31 | 2571 |
| 3JJ30 | 280 | 3JK13 | 924 | 3JL08 | 1183 | 3JM89 | 1684 | 3JN98 | 2497 | 3JR23 | 1439 | 3JR95 | 1529 | 3JT73 | 3019 | 3JV39 | 2915 | 3JW05 | 3005 | 3JX40 | 2571 |
| J31 | 280 | K14 | 923 | L09 | 1183 | M91 | 1684 | N99 | 2497 | R25 | 1439 | R96 | 1529 | T74 | 3019 | V40 | 2915 | W06 | 3004 | X44 | 2571 |
| J32 | 280 | K15 | 923 | L10 | 1183 | M97 | 1684 | P01 | 2497 | R26 | 1439 | R97 | 1528 | T75 | 3019 | V41 | 2915 | W07 | 3004 | X46 | 2571 |
| J34 | 275 | K16 | 919 | L11 | 1183 | N01 | 1684 | P02 | 2497 | R27 | 1439 | R98 | 1528 | T76 | 3019 | V42 | 2915 | W08 | 3005 | X49 | 2570 |
| J35 | 275 | K18 | 924 | L12 | 1183 | N02 | 1684 | P03 | 2497 | R28 | 1439 | R99 | 1529 | T77 | 3019 | V43 | 2915 | W09 | 3005 | X50 | 2570 |
| 3JJ36 | 274 | 3JK19 | 2315 | 3JL13 | 1183 | 3JN04 | 1684 | 3JP04 | 2497 | 3JR29 | 1439 | 3JT01 | 1529 | 3JT78 | 3019 | 3JV44 | 2915 | 3JW10 | 3005 | 3JX51 | 2570 |
| J37 | 274 | K20 | 1001 | L14 | 1182 | N06 | 1684 | P05 | 2497 | R30 | 1439 | T02 | 1529 | T79 | 3019 | V45 | 2915 | W11 | 3004 | X54 | 2570 |
| J38 | 275 | K21 | 1000 | L15 | 1182 | N08 | 1684 | P06 | 2497 | R34 | 1439 | T03 | 1529 | T80 | 3019 | V46 | 2915 | W12 | 3004 | X55 | 2571 |
| J39 | 274 | K22 | 959 | L16 | 1182 | N12 | 1058 | P07 | 2497 | R35 | 1439 | T04 | 1529 | T81 | 3019 | V47 | 2915 | W13 | 3004 | X60 | 2570 |
| J40 | 280 | K23 | 956 | L17 | 1182 | N13 | 1066 | P08 | 2497 | R36 | 1439 | T05 | 1529 | T82 | 3019 | V48 | 2915 | W14 | 3004 | X67 | 2571 |
| 3JJ41 | 280 | 3JK24 | 962 | 3JL18 | 1182 | 3JN14 | 1066 | 3JP09 | 2497 | 3JR37 | 1439 | 3JT06 | 1529 | 3JT83 | 3040 | 3JV49 | 2915 | 3JW15 | 3005 | 3JX75 | 2571 |
| J42 | 280 | K26 | 970 | L19 | 1182 | N22 | 1062 | P10 | 2497 | R38 | 1439 | T07 | 1529 | T84 | 3040 | V50 | 2915 | W16 | 3005 | X80 | 2571 |
| J43 | 280 | K27 | 1001 | L20 | 1182 | N23 | 1068 | P11 | 2497 | R39 | 1439 | T08 | 1529 | T85 | 3040 | V51 | 2915 | W17 | 3005 | X86 | 2571 |
| J44 | 280 | K28 | 1001 | L21 | 1182 | N24 | 1058 | P12 | 2497 | R40 | 1439 | T09 | 1529 | T86 | 3040 | V52 | 2915 | W18 | 3005 | X90 | 2570 |
| J46 | 280 | K29 | 1001 | L22 | 1182 | N25 | 1062 | P13 | 2497 | R41 | 1439 | T10 | 1529 | T87 | 3040 | V53 | 2915 | W19 | 3005 | X91 | 2570 |
| 3JJ47 | 278 | 3JK30 | 961 | 3JL24 | 1186 | 3JN26 | 1062 | 3JP14 | 2497 | 3JR42 | 1439 | 3JT11 | 1529 | 3JT88 | 3040 | 3JV54 | 2915 | 3JW20 | 3005 | 3JX92 | 2570 |
| J48 | 278 | K31 | 961 | L25 | 1187 | N29 | 1067 | P15 | 2497 | R43 | 1439 | T12 | 1529 | T89 | 3040 | V55 | 2915 | W21 | 3005 | X93 | 2570 |
| J49 | 278 | K32 | 961 | L26 | 1187 | N30 | 1067 | P16 | 2497 | R44 | 1439 | T13 | 1529 | T90 | 3040 | V56 | 2915 | W22 | 3004 | X96 | 2570 |
| J50 | 278 | K34 | 969 | L27 | 1187 | N31 | 1070 | P17 | 2497 | R45 | 1439 | T14 | 1529 | T91 | 3040 | V57 | 2921 | W23 | 3004 | Z08 | 2570 |
| J51 | 278 | K35 | 969 | L31 | 1140 | N32 | 1070 | P18 | 2497 | R46 | 1439 | T15 | 1529 | T92 | 3040 | V58 | 2918 | W24 | 3004 | Z09 | 2570 |

# STOCK NUMBER—PAGE NUMBER

## 3JZ — 3KR

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3JZ13 | 2571 | 3J624 | 2653 | 3KD73 | 2848 | 3KF40 | 678 | 3KG09 | 617 | 3KG79 | 627 | 3KH45 | 619 | 3KN06 | 2363 | 3KN72 | 2240 | 3KP53 | 2141 | 3KR19 | 2225 |
| Z47 | 2571 | 625 | 2653 | D74 | 2848 | F41 | 678 | G10 | 617 | G80 | 627 | H46 | 619 | N07 | 2363 | N73 | 2240 | P54 | 2141 | R20 | 2224 |
| Z77 | 2571 | 708 | 2660 | D75 | 2846 | F42 | 678 | G11 | 617 | G81 | 627 | H47 | 629 | N08 | 2373 | N74 | 2240 | P55 | 2141 | R21 | 2231 |
| Z78 | 2571 | 710 | 2660 | D76 | 2846 | F43 | 678 | G12 | 617 | G82 | 627 | H48 | 629 | N09 | 2373 | N75 | 2240 | P56 | 2141 | R22 | 2231 |
| Z79 | 2571 | 818 | 2660 | D77 | 2846 | F44 | 678 | G13 | 616 | G83 | 682 | H49 | 629 | N10 | 2375 | N76 | 2240 | P57 | 2141 | R23 | 2231 |
| 3JZ92 | 2571 | 3J824 | 2656 | 3KD78 | 2846 | 3KF45 | 678 | 3KG14 | 616 | 3KG84 | 682 | 3KH50 | 629 | 3KN11 | 2363 | 3KN77 | 2240 | 3KP58 | 2141 | 3KR24 | 2237 |
| 099 | 2654 | 831 | 2656 | D79 | 2724 | F46 | 679 | G15 | 616 | G85 | 682 | H51 | 629 | N12 | 2363 | N78 | 2240 | P59 | 2141 | R25 | 2237 |
| 104 | 2654 | 832 | 2656 | D80 | 2724 | F47 | 679 | G16 | 617 | G86 | 682 | H52 | 619 | N13 | 2507 | N79 | 2240 | P60 | 2141 | R26 | 2237 |
| 107 | 2654 | 833 | 2656 | D81 | 2724 | F48 | 675 | G17 | 616 | G87 | 626 | H53 | 629 | N14 | 2507 | N80 | 2240 | P61 | 2141 | R27 | 2237 |
| 109 | 2654 | 840 | 2656 | D82 | 2724 | F49 | 651 | G18 | 616 | G88 | 626 | H54 | 627 | N15 | 2507 | N81 | 2240 | P62 | 2141 | R28 | 2237 |
| 3J113 | 2654 | 3J841 | 2656 | 3KD83 | 2724 | 3KF50 | 651 | 3KG19 | 616 | 3KG89 | 626 | 3KH55 | 627 | 3KN16 | 2507 | 3KN82 | 2240 | 3KP63 | 2141 | 3KR29 | 2237 |
| 114 | 2654 | 842 | 2656 | D84 | 2724 | F51 | 651 | G20 | 618 | G90 | 626 | H56 | 625 | N17 | 2510 | N83 | 2240 | P64 | 2141 | R30 | 2237 |
| 115 | 2654 | 944 | 2659 | D85 | 2848 | F55 | 617 | G21 | 618 | G91 | 626 | H57 | 625 | N18 | 2510 | N84 | 2052 | P65 | 2141 | R31 | 2237 |
| 117 | 2654 | 957 | 2660 | D86 | 2848 | F56 | 617 | G24 | 617 | G92 | 626 | H58 | 625 | N19 | 2510 | N85 | 2052 | P66 | 2141 | R32 | 2237 |
| 119 | 2654 | 972 | 2657 | D87 | 2848 | F57 | 617 | G25 | 616 | G93 | 626 | H59 | 625 | N20 | 2510 | N86 | 2053 | P67 | 2141 | R33 | 2237 |
| 3J124 | 2654 | 3J980 | 2657 | 3KD88 | 2848 | 3KF58 | 617 | 3KG26 | 616 | 3KG94 | 626 | 3KH60 | 625 | 3KN21 | 2508 | 3KN88 | 2052 | 3KP68 | 2141 | 3KR34 | 2237 |
| 128 | 2654 | 981 | 2657 | D89 | 2848 | F59 | 617 | G27 | 616 | G95 | 626 | H61 | 625 | N22 | 2329 | N90 | 2052 | P69 | 2141 | R35 | 2237 |
| 130 | 2654 | 982 | 2657 | D90 | 2848 | F60 | 684 | G28 | 618 | G96 | 626 | H62 | 625 | N23 | 2329 | N91 | 2052 | P70 | 2141 | R36 | 2308 |
| 132 | 2654 | 983 | 2657 | D91 | 2848 | F61 | 684 | G29 | 618 | G97 | 626 | H63 | 625 | N24 | 2331 | N95 | 2650 | P71 | 2141 | R37 | 2200 |
| 143 | 2654 | 984 | 2657 | D92 | 2848 | F62 | 679 | G30 | 617 | G98 | 626 | H64 | 625 | N25 | 2331 | N96 | 2348 | P72 | 2141 | R38 | 2220 |
| 3J204 | 2654 | 3J986 | 2657 | 3KD93 | 2845 | 3KF63 | 676 | 3KG31 | 617 | 3KG99 | 626 | 3KH65 | 625 | 3KN26 | 2331 | 3KN97 | 2348 | 3KP73 | 2141 | 3KR39 | 2220 |
| 332 | 2658 | 987 | 2657 | D94 | 2845 | F64 | 676 | G32 | 616 | H01 | 626 | H66 | 625 | N27 | 2331 | N98 | 2349 | P74 | 2141 | R40 | 2306 |
| 333 | 2658 | 988 | 2657 | D95 | 3015 | F65 | 676 | G33 | 618 | H02 | 626 | H67 | 625 | N28 | 2331 | N99 | 2352 | P75 | 2141 | R41 | 2314 |
| 335 | 2658 | 989 | 2657 | D96 | 622 | F66 | 619 | G34 | 618 | H03 | 626 | H68 | 625 | N29 | 2331 | P01 | 2349 | P76 | 2141 | R42 | 2308 |
| 368 | 2658 | | | D97 | 622 | F67 | 682 | G35 | 617 | H04 | 626 | H69 | 625 | N30 | 2329 | P02 | 2352 | P77 | 2141 | R43 | 2308 |
| 3J406 | 2658 | | | 3KD98 | 622 | 3KF68 | 680 | 3KG36 | 617 | 3KH05 | 626 | 3KH70 | 625 | 3KN31 | 2329 | 3KP03 | 2352 | 3KP78 | 2141 | 3KR44 | 2326 |
| 408 | 2658 | **3K** | | D99 | 623 | F69 | 680 | G37 | 617 | H06 | 626 | H71 | 625 | N32 | 2331 | P04 | 2349 | P79 | 2141 | R45 | 2315 |
| 409 | 2658 | 3KC09 | 2571 | F01 | 623 | F70 | 680 | G38 | 617 | H07 | 626 | H72 | 625 | N33 | 2331 | P05 | 2353 | P80 | 2141 | R46 | 2216 |
| 414 | 2658 | D21 | 2571 | F02 | 622 | F71 | 651 | G39 | 616 | H08 | 626 | H73 | 625 | N34 | 2329 | P06 | 2353 | P81 | 2141 | R47 | 2216 |
| 423 | 2658 | D28 | 2843 | F03 | 622 | F72 | 651 | G40 | 616 | H09 | 626 | H74 | 625 | N35 | 2329 | P07 | 2338 | P82 | 2235 | R48 | 2211 |
| 3J429 | 2658 | 3KD30 | 2843 | 3KF05 | 618 | 3KF73 | 651 | 3KG41 | 616 | 3KH10 | 626 | 3KH75 | 625 | 3KN36 | 2346 | 3KP08 | 2338 | 3KP83 | 2235 | 3KR49 | 2306 |
| 430 | 2658 | D31 | 2842 | F06 | 618 | F74 | 651 | G42 | 617 | H11 | 626 | H76 | 2496 | N37 | 2346 | P09 | 2338 | P84 | 2226 | R50 | 2306 |
| 434 | 2658 | D32 | 2842 | F07 | 623 | F75 | 651 | G43 | 616 | H12 | 626 | H77 | 1530 | N38 | 2346 | P10 | 2353 | P85 | 2226 | R51 | 2317 |
| 437 | 2652 | D33 | 2846 | F08 | 618 | F76 | 651 | G44 | 616 | H13 | 626 | H78 | 1530 | N39 | 2351 | P11 | 2338 | P86 | 2226 | R52 | 2327 |
| 448 | 2652 | D34 | 2848 | F09 | 618 | F77 | 651 | G45 | 616 | H14 | 626 | H79 | 1530 | N41 | 2347 | P12 | 2338 | P87 | 2227 | R53 | 2321 |
| 3J570 | 2653 | 3KD35 | 2848 | 3KF10 | 618 | 3KF78 | 651 | 3KG46 | 618 | 3KH15 | 626 | 3KH80 | 1530 | 3KN42 | 2347 | 3KP13 | 2338 | 3KP88 | 2050 | 3KR54 | 2307 |
| 572 | 2653 | D36 | 2848 | F11 | 618 | F79 | 651 | G47 | 618 | H16 | 626 | H81 | 622 | N43 | 2343 | P14 | 2353 | P89 | 2050 | R55 | 2307 |
| 573 | 2653 | D37 | 2848 | F12 | 594 | F80 | 651 | G51 | 617 | H17 | 626 | H84 | 1871 | N44 | 2344 | P15 | 2332 | P90 | 2050 | R56 | 2309 |
| 574 | 2653 | D38 | 2847 | F13 | 594 | F81 | 651 | G52 | 616 | H18 | 626 | H87 | 1878 | N45 | 2344 | P16 | 2332 | P91 | 2054 | R57 | 2317 |
| 575 | 2653 | D39 | 2847 | F14 | 594 | F82 | 651 | G53 | 616 | H19 | 626 | H88 | 1878 | N46 | 2350 | P17 | 2332 | P92 | 2050 | R58 | 2317 |
| 3J577 | 2653 | 3KD40 | 2847 | 3KF15 | 594 | 3KF83 | 651 | 3KG54 | 616 | 3KH20 | 626 | 3KJ39 | 2363 | 3KN47 | 2350 | 3KP18 | 2332 | 3KP93 | 2050 | 3KR59 | 2317 |
| 578 | 2653 | D41 | 2845 | F16 | 594 | F84 | 651 | G55 | 617 | H21 | 626 | J40 | 2363 | N48 | 2339 | P19 | 2330 | P94 | 2050 | R60 | 2233 |
| 579 | 2653 | D42 | 2844 | F17 | 594 | F85 | 651 | G56 | 617 | H22 | 626 | J41 | 2363 | N49 | 2351 | P20 | 2330 | P95 | 2054 | R61 | 2233 |
| 583 | 2653 | D43 | 2844 | F18 | 618 | F86 | 651 | G57 | 616 | H23 | 626 | J42 | 2363 | N50 | 2351 | P21 | 2330 | P96 | 2050 | R62 | 2233 |
| 584 | 2653 | D44 | 2844 | F19 | 618 | F87 | 651 | G58 | 616 | H24 | 626 | K15 | 443 | N51 | 2351 | P22 | 2332 | P97 | 2050 | R64 | 2313 |
| 3J585 | 2653 | 3KD45 | 2844 | 3KF20 | 618 | 3KF88 | 682 | 3KG59 | 618 | 3KH25 | 626 | 3KK16 | 398 | 3KN52 | 2350 | 3KP23 | 2332 | 3KP98 | 2049 | 3KR65 | 2313 |
| 586 | 2653 | D46 | 2844 | F21 | 618 | F89 | 682 | G60 | 618 | H26 | 626 | K17 | 398 | N53 | 2350 | P28 | 2418 | P99 | 2067 | R66 | 2306 |
| 587 | 2653 | D47 | 2844 | F22 | 618 | F90 | 682 | G61 | 617 | H27 | 626 | L39 | 523 | N54 | 2357 | P29 | 2418 | R01 | 2067 | R67 | 2319 |
| 588 | 2653 | D48 | 2844 | F23 | 618 | F91 | 617 | G62 | 617 | H28 | 626 | L49 | 504 | N55 | 2357 | P30 | 2418 | R02 | 2067 | R68 | 2321 |
| 591 | 2653 | D49 | 2844 | F24 | 618 | F92 | 617 | G63 | 617 | H29 | 626 | L50 | 504 | N56 | 2357 | P31 | 2418 | R03 | 2049 | R69 | 2319 |
| 3J593 | 2653 | 3KD50 | 2844 | 3KF25 | 618 | 3KF93 | 617 | 3KG64 | 616 | 3KH30 | 626 | 3KL52 | 503 | 3KN57 | 2357 | 3KP32 | 2444 | 3KR04 | 2049 | 3KR70 | 2315 |
| 594 | 2653 | D51 | 2844 | F26 | 618 | F94 | 650 | G65 | 616 | H31 | 627 | L72 | 531 | N58 | 2357 | P34 | 2409 | R05 | 2049 | R71 | 2214 |
| 595 | 2653 | D54 | 2845 | F27 | 618 | F95 | 650 | G66 | 617 | H32 | 627 | L81 | 443 | N59 | 2357 | P35 | 2409 | R06 | 2049 | R72 | 2308 |
| 596 | 2653 | D55 | 2845 | F28 | 675 | F96 | 650 | G67 | 616 | H33 | 627 | L82 | 443 | N60 | 2357 | P41 | 2409 | R07 | 2054 | R73 | 2307 |
| 607 | 2653 | D56 | 2845 | F29 | 675 | F97 | 617 | G68 | 616 | H34 | 627 | L97 | 2363 | N61 | 2357 | P42 | 2409 | R08 | 2544 | R74 | 2316 |
| 3J611 | 2653 | 3KD57 | 2847 | 3KF30 | 650 | 3KF98 | 616 | 3KG69 | 616 | 3KH35 | 627 | 3KL99 | 446 | 3KN62 | 2357 | 3KP43 | 2399 | 3KR09 | 2336 | 3KR75 | 2316 |
| 612 | 2653 | D59 | 2847 | F31 | 650 | F99 | 616 | G70 | 651 | H36 | 627 | M58 | 540 | N63 | 2357 | P44 | 2419 | R10 | 2054 | R76 | 2321 |
| 613 | 2653 | D63 | 2847 | F32 | 677 | G01 | 616 | G71 | 651 | H37 | 627 | M89 | 2363 | N64 | 2238 | P45 | 563 | R11 | 2235 | R77 | 2310 |
| 614 | 2653 | D64 | 2843 | F33 | 677 | G02 | 618 | G72 | 651 | H38 | 627 | M90 | 2363 | N65 | 2238 | P46 | 2141 | R12 | 2235 | R78 | 2315 |
| 615 | 2653 | D65 | 2843 | F34 | 677 | G03 | 618 | G73 | 651 | H39 | 684 | M91 | 2363 | N66 | 2311 | P47 | 2141 | R13 | 2235 | R79 | 2309 |
| 3J616 | 2653 | 3KD66 | 2843 | 3KF35 | 677 | 3KG04 | 617 | 3KG74 | 651 | 3KH40 | 684 | 3KM92 | 2363 | 3KN67 | 2311 | 3KP48 | 2141 | 3KR14 | 2225 | 3KR80 | 2217 |
| 618 | 2653 | D67 | 2843 | F36 | 678 | G05 | 617 | G75 | 651 | H41 | 684 | M93 | 2363 | N68 | 2311 | P49 | 2141 | R15 | 2225 | R81 | 2312 |
| 621 | 2653 | D68 | 2843 | F37 | 678 | G06 | 616 | G76 | 627 | H42 | 684 | N03 | 2363 | N69 | 2311 | P50 | 2141 | R16 | 2225 | R82 | 2312 |
| 622 | 2653 | D69 | 2843 | F38 | 678 | G07 | 618 | G77 | 627 | H43 | 684 | N04 | 2363 | N70 | 2311 | P51 | 2141 | R17 | 2225 | R83 | 2213 |
| 623 | 2653 | D70 | 2723 | F39 | 678 | G08 | 618 | G78 | 627 | H44 | 619 | N05 | 2363 | N71 | 2311 | P52 | 2141 | R18 | 2225 | R84 | 2212 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 3KR85 | 2200 |
| R86 | 2313 |
| R87 | 2317 |
| R88 | 1595 |
| R89 | 1595 |
| 3KR90 | 1595 |
| R92 | 1595 |
| R93 | 1595 |
| R96 | 1595 |
| R97 | 1595 |
| 3KR98 | 1595 |
| R99 | 1595 |
| T06 | 1595 |
| T07 | 1595 |
| T08 | 1595 |
| 3KT09 | 1595 |
| T10 | 1595 |
| T11 | 1595 |
| T12 | 1595 |
| T13 | 1595 |
| 3KT14 | 1595 |
| T15 | 1595 |
| T16 | 1595 |
| T18 | 1595 |
| T28 | 418 |
| 3KT33 | 438 |
| T34 | 438 |
| T35 | 438 |
| T36 | 438 |
| T37 | 423 |
| 3KT38 | 1792 |
| T39 | 2213 |
| T40 | 2284 |
| T41 | 2284 |
| T42 | 2285 |
| 3KT43 | 2285 |
| T44 | 2285 |
| T45 | 2274 |
| T46 | 2285 |
| T47 | 2274 |
| 3KT48 | 2274 |
| T49 | 2280 |
| T53 | 2280 |
| T60 | 2284 |
| T61 | 2274 |
| 3KT63 | 2274 |
| T64 | 2274 |
| T65 | 2278 |
| T66 | 2275 |
| T67 | 2275 |
| 3KT68 | 2275 |
| T69 | 2279 |
| T70 | 2275 |
| T71 | 2285 |
| T72 | 2275 |
| 3KT73 | 2073 |
| T74 | 2073 |
| T75 | 2073 |
| T90 | 701 |
| T91 | 701 |
| 3KT92 | 701 |
| T93 | 701 |
| T94 | 701 |
| T95 | 701 |
| T96 | 701 |
| 3KT97 | 701 |
| T98 | 701 |
| T99 | 701 |
| V01 | 701 |
| V02 | 701 |
| 3KV03 | 701 |
| V04 | 701 |
| V05 | 1700 |
| V07 | 1700 |
| V13 | 1700 |
| 3KV15 | 1700 |
| V21 | 1700 |
| V27 | 1700 |
| V37 | 1700 |
| V38 | 1700 |
| 3KV39 | 1700 |
| V40 | 1700 |
| V48 | 1700 |
| V50 | 1700 |
| V60 | 2678 |
| 3KV61 | 2678 |
| V62 | 40 |
| V63 | 40 |
| V64 | 40 |
| V65 | 40 |
| 3KV66 | 40 |
| V67 | 40 |
| V68 | 18 |
| V69 | 18 |
| V70 | 18 |
| 3KV71 | 18 |
| V72 | 18 |
| V73 | 18 |
| V74 | 18 |
| V75 | 18 |
| 3KV76 | 18 |
| V77 | 18 |
| V78 | 18 |
| V79 | 18 |
| V80 | 18 |
| 3KV81 | 18 |
| V82 | 18 |
| V83 | 18 |
| V84 | 18 |
| V85 | 18 |
| 3KV86 | 18 |
| V87 | 18 |
| V88 | 19 |
| V89 | 19 |
| V90 | 19 |
| 3KV91 | 19 |
| V92 | 19 |
| V93 | 19 |
| V94 | 19 |
| V95 | 19 |
| 3KV96 | 19 |
| V97 | 19 |
| V98 | 19 |
| V99 | 19 |
| W01 | 19 |
| 3KW02 | 19 |
| W03 | 19 |
| W04 | 19 |
| W05 | 19 |
| W06 | 19 |
| 3KW07 | 19 |
| W08 | 19 |
| W09 | 19 |
| W10 | 19 |
| W11 | 19 |
| 3KW12 | 19 |
| W13 | 19 |
| W14 | 19 |
| W15 | 19 |
| W16 | 19 |
| 3KW17 | 19 |
| W18 | 19 |
| W19 | 19 |
| W20 | 19 |
| W21 | 19 |
| 3KW22 | 19 |
| W23 | 19 |
| W24 | 19 |
| W25 | 14 |
| W26 | 14 |
| 3KW27 | 14 |
| W28 | 14 |
| W29 | 14 |
| W30 | 14 |
| W31 | 14 |
| 3KW32 | 14 |
| W33 | 14 |
| W34 | 14 |
| W35 | 14 |
| W36 | 14 |
| 3KW37 | 14 |
| W38 | 14 |
| W39 | 14 |
| W40 | 14 |
| W41 | 14 |
| 3KW42 | 14 |
| W43 | 14 |
| W44 | 14 |
| W45 | 14 |
| W46 | 14 |
| 3KW47 | 14 |
| W48 | 14 |
| W49 | 14 |
| W50 | 14 |
| W51 | 14 |
| 3KW52 | 14 |
| W53 | 14 |
| W54 | 14 |
| W55 | 14 |
| W56 | 14 |
| 3KW57 | 14 |
| W58 | 14 |
| W59 | 15 |
| W60 | 15 |
| W61 | 15 |
| 3KW62 | 14 |
| W63 | 15 |
| W64 | 15 |
| W65 | 15 |
| W66 | 15 |
| 3KW67 | 15 |
| W68 | 15 |
| W69 | 15 |
| W70 | 15 |
| W71 | 15 |
| 3KW72 | 15 |
| W73 | 15 |
| W74 | 15 |
| W75 | 15 |
| W76 | 15 |
| 3KW77 | 15 |
| W78 | 15 |
| W79 | 15 |
| W80 | 15 |
| W81 | 15 |
| 3KW82 | 15 |
| W83 | 15 |
| W84 | 15 |
| W85 | 15 |
| W86 | 15 |
| 3KW87 | 15 |
| W88 | 15 |
| W89 | 15 |
| W90 | 15 |
| W91 | 18 |
| 3KW92 | 18 |
| W93 | 18 |
| W94 | 18 |
| W95 | 18 |
| W96 | 18 |
| 3KW97 | 18 |
| W98 | 18 |
| W99 | 18 |
| X01 | 18 |
| X02 | 18 |
| 3KX03 | 18 |
| X04 | 18 |
| X05 | 18 |
| X06 | 18 |
| X07 | 18 |
| 3KX08 | 18 |
| X09 | 18 |
| X10 | 338 |
| X11 | 338 |
| X12 | 338 |
| 3KX13 | 338 |
| X14 | 338 |
| X15 | 338 |
| X16 | 338 |
| X17 | 338 |
| 3KX18 | 338 |
| X19 | 338 |
| X20 | 338 |
| X21 | 338 |
| X22 | 338 |
| 3KX23 | 338 |
| X24 | 338 |
| X25 | 338 |
| X26 | 338 |
| X27 | 338 |
| 3KX28 | 338 |
| X29 | 338 |
| X30 | 338 |
| X31 | 338 |
| X32 | 338 |
| 3KX33 | 338 |
| X34 | 338 |
| X35 | 338 |
| X36 | 338 |
| X37 | 338 |
| 3KX38 | 338 |
| X39 | 338 |
| X40 | 338 |
| X41 | 338 |
| X42 | 338 |
| 3KX43 | 338 |
| X44 | 338 |
| X45 | 338 |
| X46 | 338 |
| X47 | 338 |
| 3KX48 | 338 |
| X49 | 338 |
| X50 | 338 |
| X51 | 338 |
| X52 | 338 |
| 3KX53 | 338 |
| X54 | 338 |
| X55 | 338 |
| X56 | 338 |
| X57 | 338 |
| 3KX58 | 338 |
| X59 | 338 |
| X60 | 338 |
| X61 | 338 |
| X62 | 338 |
| 3KX63 | 338 |
| X64 | 347 |
| X65 | 347 |
| X66 | 347 |
| X67 | 347 |
| 3KX68 | 347 |
| X69 | 347 |
| X70 | 347 |
| X71 | 347 |
| X72 | 347 |
| 3KX73 | 347 |
| X74 | 347 |
| X75 | 347 |
| X76 | 347 |
| X77 | 347 |
| 3KX78 | 347 |
| X79 | 347 |
| X80 | 347 |
| X81 | 347 |
| X82 | 357 |
| 3KX83 | 357 |
| X84 | 357 |
| X85 | 357 |
| X86 | 357 |
| X87 | 357 |
| 3KX88 | 357 |
| X89 | 357 |
| X90 | 357 |
| X91 | 357 |
| X92 | 357 |
| 3KX93 | 357 |
| X94 | 357 |
| X95 | 357 |
| X96 | 357 |
| X97 | 357 |
| 3KX98 | 357 |
| X99 | 357 |
| Z01 | 357 |
| Z02 | 357 |
| Z03 | 357 |
| 3KZ04 | 357 |
| Z05 | 357 |
| Z06 | 357 |
| Z07 | 357 |
| Z08 | 300 |
| 3KZ09 | 300 |
| Z10 | 357 |
| Z11 | 357 |
| Z12 | 357 |
| Z13 | 357 |
| 3KZ14 | 357 |
| Z15 | 357 |
| Z16 | 357 |
| Z17 | 357 |
| Z18 | 357 |
| 3KZ19 | 357 |
| Z20 | 357 |
| Z21 | 357 |
| Z22 | 357 |
| Z23 | 357 |
| 3KZ24 | 357 |
| Z25 | 357 |
| Z26 | 357 |
| Z27 | 357 |
| Z28 | 357 |
| 3KZ29 | 357 |
| Z30 | 357 |
| Z31 | 357 |
| Z32 | 357 |
| Z33 | 359 |
| 3KZ34 | 359 |
| Z35 | 359 |
| Z36 | 359 |
| Z37 | 359 |
| Z38 | 359 |
| 3KZ39 | 359 |
| Z40 | 359 |
| Z41 | 359 |
| Z42 | 359 |
| Z43 | 359 |
| 3KZ44 | 359 |
| Z45 | 359 |
| Z46 | 359 |
| Z47 | 359 |
| Z48 | 359 |
| 3KZ49 | 359 |
| Z50 | 359 |
| Z51 | 359 |
| Z52 | 359 |
| Z53 | 359 |
| 3KZ54 | 359 |
| Z55 | 359 |
| Z56 | 359 |
| Z57 | 359 |
| Z58 | 359 |
| 3KZ59 | 359 |
| Z60 | 359 |
| Z61 | 359 |
| Z62 | 359 |
| Z63 | 359 |
| 3KZ64 | 359 |
| Z65 | 359 |
| Z66 | 359 |
| Z67 | 357 |
| Z68 | 359 |
| 3KZ69 | 359 |
| Z70 | 359 |
| Z71 | 360 |
| Z72 | 360 |
| Z73 | 360 |
| 3KZ74 | 360 |
| Z75 | 360 |
| Z76 | 360 |
| Z77 | 360 |
| Z78 | 360 |
| 3KZ79 | 360 |
| Z80 | 360 |
| Z81 | 360 |
| Z82 | 360 |
| Z83 | 360 |
| 3KZ84 | 360 |
| Z85 | 360 |
| Z86 | 360 |
| Z87 | 360 |
| Z88 | 360 |
| 3KZ89 | 360 |
| Z90 | 360 |
| Z91 | 360 |
| Z92 | 360 |
| Z93 | 360 |
| 3KZ94 | 360 |
| Z95 | 360 |
| Z96 | 360 |
| Z97 | 360 |
| Z98 | 360 |
| 3KZ99 | 310 |
| 003 | 137 |
| 004 | 137 |
| 006 | 106 |
| 010 | 107 |
| 3K013 | 107 |
| 015 | 122 |
| 016 | 122 |
| 017 | 122 |
| 018 | 122 |
| 3K019 | 180 |
| 020 | 122 |
| 023 | 107 |
| 030 | 164 |
| 032 | 164 |
| 3K036 | 80 |
| 038 | 181 |
| 046 | 1701 |
| 051 | 147 |
| 054 | 50 |
| 3K055 | 1701 |
| 060 | 50 |
| 064 | 50 |
| 066 | 1701 |
| 067 | 170 |
| 3K068 | 170 |
| 069 | 180 |
| 070 | 122 |
| 071 | 122 |
| 072 | 122 |
| 3K073 | 122 |
| 074 | 122 |
| 076 | 1701 |
| 078 | 1701 |
| 079 | 180 |
| 3K083 | 97 |
| 084 | 97 |
| 086 | 53 |
| 087 | 53 |
| 089 | 171 |
| 3K090 | 170 |
| 091 | 98 |
| 092 | 97 |
| 093 | 97 |
| 094 | 97 |
| 3K095 | 97 |
| 096 | 97 |
| 097 | 97 |
| 098 | 97 |
| 099 | 97 |
| 3K101 | 137 |
| 106 | 1701 |
| 108 | 1701 |
| 110 | 101 |
| 111 | 101 |
| 3K115 | 53 |
| 116 | 100 |
| 117 | 100 |
| 118 | 53 |
| 120 | 53 |
| 3K121 | 100 |
| 122 | 53 |
| 123 | 101 |
| 127 | 1709 |
| 129 | 1709 |
| 3K135 | 1709 |
| 137 | 1709 |
| 138 | 1730 |
| 142 | 50 |
| 143 | 50 |
| 3K144 | 50 |
| 145 | 1709 |
| 146 | 1730 |
| 147 | 50 |
| 148 | 50 |
| 3K151 | 1709 |
| 152 | 10 |
| 153 | 1730 |
| 154 | 1709 |
| 155 | 10 |
| 3K156 | 10 |
| 157 | 1730 |
| 158 | 1709 |
| 159 | 10 |
| 160 | 10 |
| 3K170 | 8 |
| 171 | 8 |
| 172 | 8 |
| 173 | 8 |
| 174 | 8 |
| 3K175 | 8 |
| 176 | 8 |
| 177 | 8 |
| 178 | 1730 |
| 179 | 1709 |
| 3K180 | 1730 |
| 181 | 1709 |
| 182 | 1730 |
| 183 | 1709 |
| 184 | 1730 |
| 3K185 | 1709 |
| 186 | 1730 |
| 187 | 1709 |
| 188 | 1730 |
| 189 | 1709 |
| 3K191 | 1762 |
| 192 | 1730 |
| 193 | 1709 |
| 197 | 1730 |
| 198 | 1709 |
| 3K199 | 49 |
| 200 | 1730 |
| 201 | 48 |
| 202 | 48 |
| 208 | 1730 |
| 3K211 | 49 |
| 213 | 49 |
| 214 | 1730 |
| 215 | 1709 |
| 218 | 49 |
| 3K220 | 1709 |
| 224 | 49 |
| 225 | 10 |
| 227 | 10 |
| 228 | 10 |
| 3K229 | 10 |
| 230 | 10 |
| 231 | 10 |
| 234 | 10 |
| 235 | 10 |
| 3K239 | 10 |
| 241 | 1730 |
| 245 | 1730 |
| 283 | 1730 |
| 300 | 9 |
| 3K301 | 81 |
| 302 | 81 |
| 303 | 81 |
| 304 | 81 |
| 305 | 81 |
| 3K306 | 81 |
| 307 | 81 |
| 308 | 81 |
| 309 | 81 |
| 310 | 81 |
| 3K343 | 199 |
| 344 | 9 |
| 348 | 121 |
| 349 | 54 |
| 350 | -79 |
| 3K355 | 106 |
| 356 | 106 |
| 357 | 106 |
| 359 | 54 |
| 364 | 180 |
| 3K371 | 99 |
| 372 | 99 |
| 384 | 99 |
| 386 | 99 |
| 389 | 107 |
| 3K403 | 100 |
| 439 | 79 |
| 464 | 1662 |
| 474 | 103 |
| 479 | 103 |
| 3K491 | 103 |
| 492 | 103 |
| 493 | 103 |
| 494 | 103 |
| 495 | 103 |
| 3K496 | 103 |
| 497 | 103 |
| 498 | 103 |
| 515 | 79 |
| 516 | 79 |
| 3K517 | 79 |
| 518 | 79 |
| 519 | 79 |
| 520 | 79 |
| 521 | 79 |
| 3K522 | 79 |
| 539 | 1662 |
| 586 | 1662 |
| 597 | 101 |
| 604 | 103 |
| 3K613 | 98 |
| 614 | 98 |
| 615 | 98 |
| 616 | 98 |
| 617 | 98 |
| 3K655 | 1662 |
| 663 | 147 |
| 710 | 1662 |
| 721 | 80 |
| 726 | 107 |
| 3K743 | 107 |
| 747 | 107 |
| 760 | 1662 |
| 771 | 99 |
| 772 | 99 |
| 3K781 | 150 |
| 782 | 150 |
| 783 | 150 |
| 784 | 150 |
| 785 | 150 |
| 3K786 | 150 |
| 787 | 150 |
| 788 | 150 |
| 790 | 150 |
| 793 | 130 |
| 3K794 | 130 |
| 795 | 130 |
| 796 | 130 |
| 797 | 128 |
| 799 | 128 |
| 3K801 | 160 |
| 802 | 160 |
| 803 | 160 |
| 804 | 160 |
| 805 | 160 |
| 3K806 | 160 |
| 807 | 160 |
| 808 | 160 |
| 809 | 160 |
| 810 | 160 |
| 3K836 | 1662 |
| 879 | 137 |
| 886 | 1662 |
| 932 | 160 |
| 933 | 1662 |
| 3K954 | 160 |
| 964 | 160 |
| 976 | 160 |
| 978 | 160 |
| 979 | 160 |
| 3K980 | 160 |
| 983 | 160 |
| 985 | 160 |
| 986 | 160 |
| 987 | 170 |
| 3K988 | 147 |
| 989 | 147 |
| 990 | 172 |
| 991 | 172 |
| 992 | 172 |
| 3K993 | 147 |
| 994 | 143 |
| 995 | 143 |
| 996 | 143 |

## 3L

| Stock No. | Page No. |
|---|---|
| 3LC01 | 310 |
| C02 | 310 |
| C03 | 310 |
| 3LC04 | 310 |
| C05 | 310 |
| C06 | 310 |
| C07 | 310 |
| C08 | 310 |
| 3LC09 | 310 |
| C10 | 310 |
| C11 | 310 |
| C12 | 310 |
| C13 | 310 |
| 3LC14 | 310 |
| C15 | 310 |
| C16 | 310 |
| C17 | 310 |
| C18 | 310 |
| 3LC19 | 310 |
| C20 | 310 |
| C21 | 310 |
| C22 | 310 |
| C23 | 310 |
| 3LC24 | 310 |
| C25 | 310 |
| C26 | 310 |
| C27 | 310 |
| C28 | 310 |
| 3LC29 | 310 |
| C30 | 310 |
| C31 | 201 |
| C32 | 119 |
| C33 | 2688 |
| 3LC34 | 2688 |
| C35 | 2685 |
| C36 | 2685 |
| C37 | 2685 |
| C38 | 2685 |
| 3LC42 | 2664 |
| C45 | 2664 |
| C46 | 2669 |
| C48 | 2664 |
| C49 | 2669 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3LC50 | 798 | 3LK15 | 613 | 3LK88 | 667 | 3LL56 | 605 | 3LM22 | 609 | 3LM87 | 610 | 3LN53 | 659 | 3LP22 | 628 | 3LP87 | 656 | 3LR53 | 612 | 3LT22 | 654 |
| C51 | 798 | K16 | 613 | K89 | 668 | L57 | 605 | M23 | 609 | M88 | 610 | N54 | 659 | P23 | 628 | P88 | 656 | R54 | 612 | T23 | 654 |
| C53 | 798 | K17 | 613 | K90 | 668 | L58 | 605 | M24 | 609 | M89 | 610 | N55 | 659 | P24 | 628 | P89 | 656 | R55 | 612 | T24 | 652 |
| C58 | 798 | K19 | 613 | K91 | 668 | L59 | 605 | M25 | 609 | M90 | 610 | N56 | 659 | P25 | 628 | P90 | 656 | R56 | 612 | T25 | 652 |
| C60 | 798 | K20 | 613 | K92 | 668 | L60 | 605 | M26 | 609 | M91 | 610 | N57 | 659 | P26 | 628 | P91 | 656 | R57 | 612 | T26 | 652 |
| 3LC61 | 798 | 3LK21 | 613 | 3LK93 | 668 | 3LL61 | 605 | 3LM27 | 609 | 3LM92 | 610 | 3LN58 | 659 | 3LP27 | 628 | 3LP92 | 656 | 3LR58 | 652 | 3LT27 | 652 |
| C62 | 798 | K22 | 613 | K94 | 668 | L62 | 605 | M28 | 609 | M93 | 610 | N59 | 659 | P28 | 628 | P93 | 656 | R59 | 652 | T28 | 652 |
| C64 | 798 | K23 | 613 | K95 | 668 | L63 | 605 | M29 | 609 | M94 | 610 | N60 | 659 | P29 | 628 | P94 | 656 | R60 | 652 | T29 | 652 |
| C65 | 798 | K24 | 613 | K96 | 668 | L64 | 605 | M30 | 609 | M95 | 610 | N61 | 659 | P30 | 628 | P95 | 656 | R61 | 736 | T30 | 652 |
| C70 | 1407 | K25 | 613 | K97 | 668 | L65 | 605 | M31 | 609 | M96 | 610 | N62 | 659 | P31 | 628 | P96 | 656 | R62 | 736 | T31 | 654 |
| 3LC71 | 1407 | 3LK26 | 613 | 3LK98 | 668 | 3LL66 | 605 | 3LM32 | 609 | 3LM97 | 610 | 3LN63 | 659 | 3LP32 | 628 | 3LP97 | 656 | 3LR63 | 736 | 3LT32 | 654 |
| C79 | 1409 | K27 | 613 | K99 | 668 | L67 | 605 | M33 | 609 | M98 | 610 | N64 | 680 | P33 | 628 | P98 | 656 | R64 | 736 | T33 | 654 |
| C90 | 1456 | K31 | 613 | L01 | 661 | L68 | 605 | M34 | 609 | M99 | 610 | N65 | 680 | P34 | 628 | P99 | 656 | R65 | 736 | T34 | 654 |
| C91 | 1456 | K34 | 614 | L02 | 661 | L69 | 605 | M35 | 609 | N01 | 610 | N66 | 680 | P35 | 628 | R01 | 655 | R66 | 736 | T35 | 654 |
| C92 | 1456 | K35 | 668 | L03 | 661 | L70 | 605 | M36 | 609 | N02 | 610 | N67 | 680 | P36 | 628 | R02 | 655 | R67 | 736 | T36 | 654 |
| 3LC97 | 1445 | 3LK36 | 614 | 3LL04 | 667 | 3LL71 | 605 | 3LM37 | 608 | 3LN03 | 610 | 3LN68 | 680 | 3LP37 | 657 | 3LR03 | 655 | 3LR68 | 736 | 3LT37 | 654 |
| D01 | 1427 | K37 | 663 | L05 | 667 | L72 | 605 | M38 | 608 | N04 | 610 | N69 | 680 | P38 | 657 | R04 | 615 | R69 | 736 | T38 | 653 |
| D56 | 1427 | K38 | 663 | L06 | 667 | L73 | 605 | M39 | 608 | N05 | 610 | N70 | 680 | P39 | 657 | R05 | 615 | R70 | 736 | T39 | 653 |
| D58 | 1427 | K39 | 663 | L07 | 667 | L74 | 605 | M40 | 608 | N06 | 610 | N71 | 614 | P40 | 657 | R06 | 615 | R71 | 736 | T40 | 653 |
| J19 | 1443 | K40 | 663 | L08 | 667 | L75 | 605 | M41 | 608 | N07 | 610 | N72 | 614 | P41 | 657 | R07 | 615 | R72 | 736 | T41 | 653 |
| 3LJ21 | 1443 | 3LK41 | 594 | 3LL09 | 667 | 3LL76 | 605 | 3LM42 | 608 | 3LN08 | 610 | 3LN73 | 614 | 3LP42 | 657 | 3LR08 | 615 | 3LR73 | 736 | 3LT42 | 653 |
| J22 | 1445 | K42 | 594 | L10 | 667 | L77 | 605 | M43 | 608 | N09 | 610 | N74 | 614 | P43 | 657 | R09 | 661 | R74 | 736 | T43 | 653 |
| J23 | 1445 | K43 | 660 | L11 | 667 | L78 | 605 | M44 | 608 | N10 | 610 | N75 | 614 | P44 | 657 | R10 | 661 | R75 | 736 | T44 | 654 |
| J24 | 1440 | K44 | 660 | L12 | 667 | L79 | 605 | M45 | 608 | N11 | 610 | N76 | 614 | P45 | 657 | R11 | 661 | R76 | 736 | T45 | 654 |
| J29 | 1494 | K45 | 660 | L13 | 667 | L80 | 605 | M46 | 608 | N12 | 610 | N77 | 614 | P46 | 657 | R12 | 661 | R77 | 736 | T46 | 654 |
| 3LJ30 | 1488 | 3LK46 | 660 | 3LL14 | 667 | 3LL81 | 605 | 3LM47 | 608 | 3LN13 | 610 | 3LN78 | 614 | 3LP47 | 657 | 3LR13 | 661 | 3LR78 | 660 | 3LT47 | 654 |
| J32 | 1465 | K47 | 660 | L15 | 667 | L82 | 605 | M48 | 608 | N14 | 610 | N79 | 658 | P48 | 657 | R14 | 661 | R79 | 660 | T48 | 654 |
| J33 | 1454 | K48 | 660 | L16 | 667 | L83 | 605 | M49 | 608 | N15 | 610 | N80 | 658 | P49 | 657 | R15 | 661 | R80 | 660 | T49 | 654 |
| J36 | 1454 | K49 | 594 | L17 | 667 | L84 | 605 | M50 | 608 | N16 | 610 | N81 | 658 | P50 | 657 | R16 | 655 | R81 | 660 | T50 | 654 |
| J68 | 614 | K50 | 594 | L18 | 667 | L85 | 605 | M51 | 607 | N17 | 610 | N82 | 658 | P51 | 657 | R17 | 655 | R82 | 660 | T51 | 654 |
| 3LJ70 | 613 | 3LK51 | 594 | 3LL19 | 667 | 3LL86 | 605 | 3LM52 | 607 | 3LN18 | 614 | 3LN83 | 658 | 3LP52 | 657 | 3LR18 | 655 | 3LR83 | 660 | 3LT52 | 654 |
| J71 | 613 | K52 | 594 | L20 | 667 | L87 | 605 | M53 | 607 | N19 | 651 | N84 | 658 | P53 | 657 | R19 | 611 | R84 | 660 | T53 | 654 |
| J72 | 613 | K53 | 594 | L21 | 667 | L88 | 605 | M54 | 607 | N20 | 651 | N85 | 658 | P54 | 657 | R20 | 611 | R85 | 660 | T54 | 652 |
| J73 | 613 | K54 | 594 | L22 | 667 | L89 | 605 | M55 | 607 | N21 | 651 | N86 | 658 | P55 | 657 | R21 | 611 | R86 | 660 | T55 | 652 |
| J74 | 613 | K55 | 594 | L23 | 668 | L90 | 606 | M56 | 607 | N22 | 651 | N87 | 658 | P56 | 657 | R22 | 611 | R87 | 660 | T56 | 652 |
| 3LJ75 | 613 | 3LK56 | 614 | 3LL24 | 667 | 3LL91 | 606 | 3LM57 | 607 | 3LN23 | 677 | 3LN88 | 658 | 3LP57 | 657 | 3LR23 | 611 | 3LR88 | 660 | 3LT57 | 652 |
| J76 | 613 | K57 | 614 | L25 | 668 | L92 | 606 | M58 | 607 | N24 | 677 | N89 | 658 | P58 | 656 | R24 | 611 | R89 | 660 | T58 | 652 |
| J77 | 613 | K58 | 614 | L26 | 667 | L93 | 606 | M59 | 607 | N25 | 677 | N90 | 658 | P59 | 656 | R25 | 611 | R90 | 660 | T59 | 652 |
| J78 | 613 | K59 | 661 | L27 | 668 | L94 | 606 | M60 | 607 | N26 | 678 | N91 | 658 | P60 | 656 | R26 | 611 | R91 | 660 | T60 | 652 |
| J79 | 613 | K60 | 661 | L28 | 667 | L95 | 606 | M61 | 607 | N27 | 678 | N92 | 658 | P61 | 656 | R27 | 611 | R92 | 660 | T61 | 652 |
| 3LJ80 | 613 | 3LK61 | 661 | 3LL29 | 667 | 3LL96 | 606 | 3LM62 | 607 | 3LN28 | 678 | 3LN93 | 658 | 3LP62 | 656 | 3LR28 | 611 | 3LR93 | 678 | 3LT62 | 652 |
| J81 | 613 | K62 | 661 | L30 | 668 | L97 | 606 | M63 | 607 | N29 | 678 | N94 | 658 | P63 | 656 | R29 | 611 | R94 | 678 | T63 | 652 |
| J82 | 613 | K63 | 661 | L31 | 667 | L98 | 606 | M64 | 607 | N30 | 614 | N95 | 652 | P64 | 656 | R30 | 611 | R95 | 678 | T64 | 654 |
| J83 | 613 | K64 | 661 | L32 | 668 | L99 | 606 | M65 | 607 | N31 | 614 | N96 | 652 | P65 | 656 | R31 | 611 | R96 | 678 | T65 | 654 |
| J84 | 613 | K65 | 661 | L33 | 667 | M01 | 606 | M66 | 607 | N32 | 615 | N97 | 652 | P66 | 656 | R32 | 611 | R97 | 678 | T66 | 654 |
| 3LJ85 | 613 | 3LK66 | 661 | 3LL34 | 667 | 3LM02 | 606 | 3LM67 | 607 | 3LN33 | 615 | 3LN98 | 652 | 3LP67 | 656 | 3LR33 | 611 | 3LR98 | 678 | 3LT67 | 654 |
| J86 | 613 | K67 | 661 | L35 | 667 | M03 | 606 | M68 | 607 | N34 | 615 | N99 | 652 | P68 | 656 | R34 | 611 | R99 | 678 | T68 | 654 |
| J87 | 613 | K68 | 661 | L36 | 667 | M04 | 606 | M69 | 607 | N35 | 615 | P01 | 652 | P69 | 656 | R35 | 611 | T01 | 678 | T69 | 654 |
| J88 | 613 | K69 | 614 | L37 | 667 | M05 | 606 | M70 | 607 | N36 | 615 | P02 | 613 | P70 | 656 | R36 | 611 | T02 | 678 | T70 | 654 |
| J89 | 613 | K70 | 614 | L40 | 605 | M06 | 606 | M71 | 607 | N37 | 615 | P03 | 613 | P71 | 656 | R37 | 611 | T03 | 614 | T71 | 654 |
| 3LJ94 | 661 | 3LK73 | 650 | 3LL41 | 605 | 3LM07 | 606 | 3LM72 | 607 | 3LN38 | 615 | 3LP07 | 657 | 3LP72 | 656 | 3LR38 | 611 | 3LT04 | 614 | 3LT72 | 654 |
| J95 | 661 | K74 | 667 | L42 | 605 | M08 | 606 | M73 | 607 | N39 | 615 | P08 | 657 | P73 | 656 | R39 | 611 | T05 | 614 | T73 | 654 |
| J96 | 661 | K75 | 667 | L43 | 605 | M09 | 606 | M74 | 607 | N40 | 615 | P09 | 657 | P74 | 656 | R40 | 611 | T06 | 614 | T74 | 653 |
| J97 | 661 | K76 | 667 | L44 | 605 | M10 | 606 | M75 | 607 | N41 | 615 | P10 | 657 | P75 | 656 | R41 | 611 | T07 | 614 | T75 | 653 |
| J98 | 661 | K77 | 667 | L45 | 605 | M11 | 606 | M76 | 679 | N42 | 615 | P11 | 657 | P76 | 656 | R42 | 611 | T08 | 614 | T76 | 653 |
| 3LJ99 | 661 | 3LK78 | 667 | 3LL46 | 605 | 3LM12 | 606 | 3LM77 | 610 | 3LN43 | 615 | 3LP12 | 657 | 3LP77 | 656 | 3LR43 | 611 | 3LT09 | 612 | 3LT77 | 653 |
| K01 | 659 | K79 | 667 | L47 | 605 | M13 | 609 | M78 | 610 | N44 | 615 | P13 | 657 | P78 | 656 | R44 | 611 | T11 | 612 | T78 | 653 |
| K02 | 659 | K80 | 667 | L48 | 605 | M14 | 609 | M79 | 610 | N45 | 615 | P14 | 657 | P79 | 656 | R45 | 611 | T12 | 612 | T79 | 653 |
| K03 | 659 | K81 | 667 | L49 | 605 | M15 | 609 | M80 | 610 | N46 | 615 | P15 | 657 | P80 | 656 | R46 | 611 | T13 | 612 | T80 | 653 |
| K04 | 659 | K82 | 667 | L50 | 605 | M16 | 609 | M81 | 610 | N47 | 613 | P16 | 657 | P81 | 656 | R47 | 611 | T16 | 612 | T81 | 653 |
| 3LK05 | 659 | 3LK83 | 667 | 3LL51 | 605 | 3LM17 | 609 | 3LM82 | 610 | 3LN48 | 659 | 3LP17 | 657 | 3LP82 | 656 | 3LR48 | 611 | 3LT17 | 654 | 3LT82 | 653 |
| K11 | 613 | K84 | 667 | L52 | 605 | M18 | 609 | M83 | 610 | N49 | 659 | P18 | 628 | P83 | 656 | R49 | 611 | T18 | 654 | T83 | 654 |
| K12 | 613 | K85 | 667 | L53 | 605 | M19 | 609 | M84 | 610 | N50 | 659 | P19 | 628 | P84 | 656 | R50 | 611 | T19 | 654 | T84 | 654 |
| K13 | 613 | K86 | 667 | L54 | 605 | M20 | 609 | M85 | 610 | N51 | 659 | P20 | 628 | P85 | 656 | R51 | 611 | T20 | 654 | T85 | 654 |
| K14 | 613 | K87 | 667 | L55 | 605 | M2T | 609 | M86 | 610 | N52 | 659 | P21 | 628 | P86 | 656 | R52 | 611 | T21 | 654 | T86 | 654 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3LT87 | 654 | 3LV53 | 660 | 3LW21 | 2180 | 3LW88 | 3009 | 3LX54 | 3036 | 3LZ20 | 3029 | 3LZ90 | 3037 | 3L420 | 305 | 3L536 | 1713 | 3L636 | 3256 | 3L791 | 1711 |
| T88 | 654 | V54 | 660 | W22 | 2178 | W89 | 3009 | X55 | 3036 | Z21 | 3037 | Z91 | 3037 | 424 | 1662 | 538 | 1713 | 637 | 3256 | 793 | 1711 |
| T89 | 654 | V55 | 660 | W23 | 2178 | W90 | 3008 | X56 | 3036 | Z22 | 3037 | Z92 | 3037 | 429 | 3476 | 539 | 1662 | 638 | 3256 | 795 | 1711 |
| T90 | 653 | V56 | 660 | W24 | 2177 | W91 | 3009 | X57 | 3036 | Z23 | 3037 | Z93 | 3037 | 430 | 305 | 540 | 305 | 639 | 3256 | 797 | 1711 |
| T91 | 653 | V57 | 660 | W25 | 2177 | W92 | 3036 | X58 | 3038 | Z24 | 3037 | Z94 | 3037 | 432 | 1710 | 541 | 1713 | 640 | 3247 | 799 | 1711 |
| 3LT92 | 653 | 3LV58 | 660 | 3LW26 | 2177 | 3LW93 | 3036 | 3LX59 | 3036 | 3LZ25 | 3037 | 3LZ95 | 3037 | 3L434 | 1710 | 3L543 | 1713 | 3L641 | 3247 | 3L801 | 1711 |
| T93 | 653 | V59 | 660 | W27 | 2185 | W94 | 3036 | X60 | 3036 | Z26 | 3037 | Z96 | 3037 | 436 | 1710 | 545 | 1713 | 642 | 3247 | 803 | 1711 |
| T94 | 653 | V60 | 660 | W28 | 2185 | W95 | 3036 | X61 | 3036 | Z27 | 3029 | Z97 | 3037 | 438 | 1710 | 547 | 1713 | 643 | 3247 | 805 | 1711 |
| T95 | 653 | V61 | 660 | W29 | 2185 | W96 | 3036 | X62 | 3036 | Z28 | 3038 | Z98 | 3037 | 440 | 305 | 549 | 1713 | 657 | 3257 | 807 | 1711 |
| T96 | 653 | V62 | 660 | W30 | 2185 | W97 | 3036 | X63 | 3036 | Z29 | 3038 | Z99 | 3037 | 441 | 1710 | 550 | 305 | 658 | 3257 | 809 | 1711 |
| 3LT97 | 655 | 3LV63 | 660 | 3LW31 | 2185 | 3LW98 | 3036 | 3LX64 | 3036 | 3LZ30 | 3038 | 3L007 | 1662 | 3L443 | 1710 | 3L552 | 1713 | 3L659 | 3257 | 3L811 | 1711 |
| T98 | 655 | V64 | 660 | W32 | 2185 | W99 | 3036 | X65 | 3036 | Z31 | 3038 | 061 | 1662 | 445 | 1710 | 554 | 1713 | 660 | 3257 | 813 | 1711 |
| T99 | 655 | V65 | 660 | W33 | 2185 | X01 | 3036 | X66 | 3036 | Z32 | 3038 | 103 | 1662 | 447 | 1710 | 556 | 1713 | 685 | 1710 | 815 | 1711 |
| V01 | 655 | V66 | 660 | W34 | 2185 | X02 | 3036 | X67 | 3036 | Z33 | 3038 | 142 | 1731 | 448 | 1662 | 558 | 1713 | 687 | 1710 | 817 | 1711 |
| V02 | 655 | V67 | 660 | W35 | 2185 | X03 | 3036 | X68 | 3036 | Z34 | 3038 | 143 | 1662 | 449 | 1710 | 560 | 305 | 689 | 1710 | 819 | 1711 |
| 3LV03 | 655 | 3LV68 | 664 | 3LW36 | 2185 | 3LX04 | 3036 | 3LX69 | 3036 | 3LZ35 | 3038 | 3L148 | 1731 | 3L450 | 305 | 3L561 | 1713 | 3L691 | 1710 | 3L821 | 1711 |
| V04 | 655 | V69 | 664 | W37 | 2185 | X05 | 3036 | X70 | 3036 | Z36 | 3038 | 150 | 305 | 452 | 1710 | 563 | 1713 | 692 | 1662 | 823 | 1711 |
| V05 | 653 | V70 | 664 | W38 | 2175 | X06 | 3036 | X71 | 3036 | Z37 | 3029 | 151 | 1731 | 454 | 1710 | 565 | 1713 | 693 | 1710 | 825 | 1711 |
| V06 | 653 | V71 | 664 | W39 | 2175 | X07 | 3036 | X72 | 3036 | Z38 | 3029 | 153 | 1731 | 456 | 1710 | 566 | 1662 | 695 | 1710 | 827 | 1711 |
| V07 | 653 | V72 | 664 | W40 | 2175 | X08 | 3036 | X73 | 3036 | Z39 | 3029 | 155 | 1731 | 458 | 1710 | 567 | 1713 | 697 | 1710 | 829 | 1711 |
| 3LV08 | 653 | 3LV73 | 664 | 3LW41 | 2175 | 3LX09 | 3036 | 3LX74 | 3036 | 3LZ40 | 3037 | 3L159 | 1731 | 3L460 | 305 | 3L569 | 1713 | 3L699 | 1710 | 3L831 | 1711 |
| V09 | 653 | V74 | 664 | W42 | 2186 | X10 | 3036 | X75 | 3038 | Z41 | 3037 | 160 | 305 | 461 | 1710 | 570 | 305 | 701 | 1710 | 833 | 1711 |
| V10 | 653 | V75 | 664 | W43 | 2185 | X11 | 3036 | X76 | 3038 | Z42 | 3037 | 162 | 1731 | 463 | 1710 | 572 | 1713 | 703 | 1710 | 835 | 1711 |
| V11 | 653 | V76 | 816 | W44 | 2185 | X12 | 3036 | X77 | 3038 | Z43 | 3037 | 164 | 1731 | 465 | 1710 | 574 | 1713 | 705 | 1710 | 837 | 1711 |
| V12 | 655 | V77 | 816 | W45 | 2185 | X13 | 3036 | X78 | 3029 | Z44 | 3037 | 170 | 305 | 467 | 1710 | 576 | 1713 | 707 | 1710 | 839 | 1711 |
| 3LV13 | 655 | 3LV78 | 774 | 3LW46 | 2185 | 3LX14 | 3036 | 3LX79 | 3029 | 3LZ45 | 3037 | 3L173 | 1731 | 3L469 | 1710 | 3L577 | 1662 | 3L709 | 1710 | 3L841 | 1711 |
| V14 | 655 | V79 | 816 | W47 | 2185 | X15 | 3036 | X80 | 3029 | Z46 | 3038 | 175 | 1731 | 470 | 305 | 578 | 1713 | 711 | 1710 | 843 | 1711 |
| V15 | 655 | V80 | 816 | W48 | 2185 | X16 | 3036 | X81 | 3029 | Z47 | 3038 | 177 | 1731 | 472 | 1710 | 580 | 305 | 713 | 1710 | 844 | 1704 |
| V16 | 658 | V81 | 2523 | W49 | 746 | X17 | 3036 | X82 | 3029 | Z48 | 3038 | 179 | 1731 | 474 | 1710 | 581 | 1713 | 715 | 1710 | 845 | 1711 |
| V17 | 658 | V82 | 2523 | W50 | 746 | X18 | 3036 | X83 | 3029 | Z49 | 3038 | 180 | 305 | 476 | 1710 | 583 | 1713 | 717 | 1710 | 846 | 1704 |
| 3LV18 | 658 | 3LV83 | 814 | 3LW51 | 746 | 3LX19 | 3036 | 3LX84 | 3029 | 3LZ50 | 3038 | 3L184 | 1731 | 3L478 | 1710 | 3L585 | 1713 | 3L719 | 1710 | 3L847 | 1711 |
| V19 | 658 | V84 | 814 | W52 | 741 | X20 | 3036 | X85 | 3029 | Z51 | 3038 | 188 | 1731 | 480 | 305 | 587 | 1713 | 721 | 1710 | 848 | 1704 |
| V20 | 658 | V85 | 815 | W53 | 741 | X21 | 3036 | X86 | 3029 | Z52 | 3038 | 190 | 305 | 481 | 1710 | 589 | 1713 | 723 | 1710 | 849 | 1711 |
| V21 | 658 | V86 | 815 | W54 | 741 | X22 | 3036 | X87 | 3029 | Z53 | 3038 | 191 | 1731 | 483 | 1710 | 590 | 305 | 725 | 1710 | 850 | 1704 |
| V22 | 658 | V87 | 815 | W55 | 2732 | X23 | 3036 | X88 | 3029 | Z54 | 3038 | 193 | 1731 | 485 | 1710 | 592 | 1713 | 727 | 1710 | 851 | 1711 |
| 3LV23 | 658 | 3LV88 | 815 | 3LW56 | 2732 | 3LX24 | 3036 | 3LX89 | 3029 | 3LZ55 | 3038 | 3L198 | 1662 | 3L486 | 1662 | 3L594 | 1713 | 3L729 | 1710 | 3L852 | 1702 |
| V24 | 658 | V89 | 771 | W57 | 2732 | X25 | 3038 | X90 | 3029 | Z56 | 3038 | 200 | 305 | 487 | 1710 | 595 | 1662 | 731 | 1710 | 853 | 1711 |
| V25 | 658 | V90 | 789 | W58 | 2732 | X26 | 3036 | X91 | 3029 | Z57 | 3038 | 210 | 305 | 489 | 1710 | 596 | 1710 | 733 | 1710 | 854 | 1702 |
| V26 | 652 | V91 | 757 | W59 | 2732 | X27 | 3036 | X92 | 3029 | Z58 | 3038 | 217 | 1731 | 490 | 305 | 598 | 1710 | 735 | 1713 | 855 | 1711 |
| V27 | 652 | V92 | 757 | W60 | 2732 | X28 | 3036 | X93 | 3029 | Z59 | 3038 | 220 | 305 | 492 | 1710 | 600 | 305 | 737 | 1713 | 856 | 1702 |
| 3LV28 | 652 | 3LV93 | 812 | 3LW61 | 2732 | 3LX29 | 3036 | 3LX94 | 3029 | 3LZ60 | 3038 | 3L230 | 305 | 3L494 | 1710 | 3L601 | 1710 | 3L739 | 1713 | 3L857 | 1711 |
| V29 | 652 | V94 | 812 | W62 | 2732 | X30 | 3036 | X95 | 3029 | Z61 | 3038 | 240 | 305 | 496 | 1710 | 603 | 1710 | 741 | 1713 | 858 | 1703 |
| V30 | 652 | V95 | 812 | W63 | 2732 | X31 | 3036 | X96 | 3029 | Z62 | 3038 | 241 | 1662 | 498 | 1710 | 605 | 1710 | 743 | 1713 | 859 | 1711 |
| V31 | 652 | V96 | 812 | W64 | 2735 | X32 | 3036 | X97 | 3029 | Z63 | 3038 | 250 | 305 | 500 | 305 | 607 | 1710 | 745 | 1713 | 860 | 1703 |
| V32 | 652 | V97 | 771 | W65 | 3007 | X33 | 3036 | X98 | 3029 | Z64 | 3038 | 260 | 305 | 501 | 1710 | 609 | 1710 | 747 | 1713 | 861 | 1711 |
| 3LV33 | 652 | 3LV98 | 771 | 3LW66 | 3007 | 3LX34 | 3036 | 3LX99 | 3029 | 3LZ65 | 3038 | 3L269 | 1662 | 3L503 | 1710 | 3L610 | 305 | 3L749 | 1713 | 3L862 | 1703 |
| V34 | 652 | V99 | 814 | W67 | 3007 | X35 | 3036 | Z01 | 3029 | Z66 | 3038 | 270 | 305 | 505 | 1710 | 617 | 3282 | 751 | 1713 | 863 | 1711 |
| V35 | 655 | W01 | 814 | W68 | 3007 | X36 | 3036 | Z02 | 3029 | Z67 | 3038 | 280 | 305 | 507 | 1710 | 618 | 3282 | 753 | 1713 | 864 | 1702 |
| V36 | 655 | W02 | 814 | W69 | 3007 | X37 | 3036 | Z03 | 3029 | Z68 | 3038 | 290 | 305 | 508 | 1662 | 619 | 3282 | 755 | 1713 | 865 | 1711 |
| V37 | 655 | W03 | 814 | W70 | 3007 | X38 | 3036 | Z04 | 3029 | Z69 | 3038 | 295 | 1662 | 509 | 1710 | 620 | 3282 | 757 | 1713 | 866 | 1702 |
| 3LV38 | 655 | 3LW04 | 814 | 3LW71 | 3007 | 3LX39 | 3036 | 3LZ05 | 3029 | 3LZ70 | 3029 | 3L300 | 305 | 3L510 | 305 | 3L621 | 3253 | 3L759 | 1715 | 3L867 | 1711 |
| V39 | 660 | W05 | 814 | W72 | 3007 | X40 | 3036 | Z06 | 3029 | Z71 | 3029 | 310 | 305 | 512 | 1710 | 622 | 3247 | 761 | 1715 | 868 | 1704 |
| V40 | 660 | W06 | 777 | W73 | 3007 | X41 | 3036 | Z07 | 3029 | Z72 | 3029 | 320 | 305 | 514 | 1710 | 623 | 3247 | 763 | 1711 | 869 | 1712 |
| V41 | 660 | W08 | 777 | W74 | 3007 | X42 | 3036 | Z08 | 3029 | Z73 | 3029 | 326 | 1662 | 516 | 1710 | 624 | 3247 | 767 | 1711 | 871 | 1712 |
| V42 | 660 | W09 | 777 | W75 | 3007 | X43 | 3036 | Z09 | 3029 | Z74 | 3029 | 330 | 305 | 518 | 1710 | 625 | 3247 | 769 | 1711 | 872 | 1702 |
| 3LV43 | 660 | 3LW10 | 779 | 3LW76 | 3007 | 3LX44 | 3036 | 3LZ10 | 3029 | 3LZ75 | 3029 | 3L340 | 305 | 3L520 | 305 | 3L626 | 3247 | 3L771 | 1711 | 3L873 | 1712 |
| V44 | 660 | W11 | 779 | W77 | 3007 | X45 | 3036 | Z11 | 3029 | Z76 | 3029 | 350 | 305 | 521 | 1710 | 627 | 3247 | 773 | 1711 | 874 | 1702 |
| V45 | 660 | W12 | 816 | W78 | 3007 | X46 | 3036 | Z12 | 3029 | Z77 | 3029 | 360 | 305 | 522 | 1662 | 628 | 3247 | 775 | 1711 | 875 | 1712 |
| V46 | 660 | W13 | 816 | W79 | 3007 | X47 | 3036 | Z13 | 3037 | Z83 | 3037 | 364 | 1662 | 523 | 1710 | 629 | 3247 | 777 | 1711 | 876 | 1702 |
| V47 | 660 | W14 | 816 | W80 | 3007 | X48 | 3036 | Z14 | 3037 | Z84 | 3037 | 370 | 305 | 525 | 1715 | 630 | 3256 | 779 | 1711 | 877 | 1715 |
| 3LV48 | 660 | 3LW15 | 816 | 3LW81 | 3007 | 3LX49 | 3036 | 3LZ15 | 3037 | 3LZ85 | 3037 | 3L380 | 305 | 3L527 | 1715 | 3L631 | 3256 | 3L781 | 1711 | 3L878 | 1702 |
| V49 | 660 | W16 | 816 | W82 | 3007 | X50 | 3036 | Z16 | 3037 | Z86 | 3037 | 390 | 305 | 529 | 1713 | 632 | 3256 | 783 | 1711 | 879 | 1715 |
| V50 | 660 | W17 | 816 | W83 | 3007 | X51 | 3036 | Z17 | 3037 | Z87 | 3037 | 391 | 1662 | 530 | 305 | 633 | 3256 | 785 | 1711 | 880 | 1702 |
| V51 | 660 | W19 | 781 | W84 | 3009 | X52 | 3036 | Z18 | 3037 | Z88 | 3037 | 400 | 305 | 532 | 1713 | 634 | 3256 | 787 | 1711 | 881 | 1712 |
| V52 | 660 | W20 | 2180 | W86 | 3009 | X53 | 3036 | Z19 | 3037 | Z89 | 3037 | 410 | 305 | 534 | 1713 | 635 | 3256 | 789 | 1711 | 882 | 1702 |

| Stock No. | Page No. |
|---|---|
| 3L883 | 1712 |
| 884 | 1706 |
| 885 | 1712 |
| 886 | 1706 |
| 887 | 1715 |
| 3L888 | 1705 |
| 889 | 1712 |
| 890 | 1708 |
| 891 | 1712 |
| 892 | 1708 |
| 3L893 | 1712 |
| 894 | 1708 |
| 895 | 1712 |
| 896 | 1708 |
| 897 | 1712 |
| 3L898 | 1708 |
| 899 | 1712 |
| 900 | 1708 |
| 901 | 1712 |
| 902 | 1708 |
| 3L903 | 1712 |
| 904 | 1708 |
| 905 | 1711 |
| 906 | 1708 |
| 907 | 1711 |
| 3L908 | 1708 |
| 909 | 1711 |
| 910 | 1708 |
| 911 | 1711 |
| 912 | 1708 |
| 3L913 | 1711 |
| 914 | 1708 |
| 915 | 1711 |
| 916 | 1708 |
| 917 | 1711 |
| 3L918 | 1708 |
| 919 | 1711 |
| 920 | 1708 |
| 921 | 1711 |
| 922 | 1708 |
| 3L923 | 1711 |
| 924 | 1708 |
| 925 | 1711 |
| 926 | 1708 |
| 927 | 1711 |
| 3L928 | 1708 |
| 929 | 1711 |
| 930 | 1708 |
| 931 | 1711 |
| 932 | 1708 |
| 3L933 | 1711 |
| 934 | 1708 |
| 935 | 1711 |
| 936 | 1708 |
| 937 | 1711 |
| 3L938 | 1708 |
| 940 | 1704 |
| 941 | 1792 |
| 942 | 1704 |
| 944 | 1704 |
| 3L946 | 1704 |
| 948 | 1704 |
| 950 | 1706 |
| 952 | 1706 |
| 954 | 1708 |
| 3L956 | 1708 |
| 958 | 1708 |
| 960 | 1708 |
| 962 | 1704 |
| 964 | 1703 |
| 3L966 | 1705 |
| 968 | 1705 |
| 970 | 1703 |
| 972 | 1704 |
| 974 | 1704 |
| 3L976 | 1703 |
| 978 | 1705 |
| 980 | 1704 |
| 3M | |
| 3MC01 | 3037 |
| C02 | 3038 |
| C03 | 3038 |
| C04 | 3020 |
| C05 | 3020 |
| 3MC06 | 3020 |
| C07 | 3020 |
| C10 | 894 |
| C11 | 894 |
| C13 | 894 |
| 3MC15 | 894 |
| C16 | 888 |
| C17 | 2818 |
| C18 | 2818 |
| C19 | 2797 |
| 3MC20 | 2797 |
| C21 | 2797 |
| C22 | 2797 |
| C23 | 2797 |
| C24 | 2797 |
| 3MC25 | 2797 |
| C26 | 2797 |
| C27 | 2797 |
| C28 | 2797 |
| C29 | 2797 |
| 3MC30 | 2797 |
| C31 | 2797 |
| C32 | 2797 |
| C33 | 2797 |
| C34 | 2797 |
| 3MC35 | 2797 |
| C36 | 2802 |
| C37 | 2802 |
| C38 | 2802 |
| C39 | 2820 |
| 3MC40 | 2820 |
| C41 | 2820 |
| C42 | 2820 |
| C43 | 2820 |
| C44 | 2820 |
| 3MC45 | 2818 |
| C46 | 2818 |
| C47 | 2818 |
| C48 | 2818 |
| C49 | 2818 |
| 3MC50 | 2818 |
| C51 | 2818 |
| C52 | 2818 |
| C53 | 2818 |
| C54 | 2819 |
| 3MC55 | 2818 |
| C56 | 2818 |
| C57 | 2818 |
| C58 | 2819 |
| C59 | 2819 |
| 3MC60 | 2819 |
| C61 | 2819 |
| C62 | 2819 |
| C63 | 2819 |
| C64 | 2819 |
| 3MC65 | 2819 |
| C66 | 2819 |
| C67 | 2819 |
| C68 | 2819 |
| C69 | 2819 |
| 3MC70 | 2819 |
| C71 | 2819 |
| C72 | 2819 |
| C73 | 2819 |
| C74 | 2819 |
| 3MC75 | 2819 |
| C76 | 2819 |
| C77 | 2819 |
| C78 | 2819 |
| C79 | 2819 |
| 3MC80 | 2819 |
| C81 | 2819 |
| C82 | 2818 |
| C83 | 2820 |
| C84 | 2820 |
| 3MC85 | 2820 |
| C86 | 2820 |
| C87 | 2820 |
| C88 | 2820 |
| C89 | 2820 |
| 3MC90 | 2820 |
| C91 | 2820 |
| C92 | 2820 |
| C93 | 2820 |
| C94 | 2820 |
| 3MC95 | 2821 |
| C96 | 2821 |
| C97 | 2821 |
| C98 | 2821 |
| C99 | 2821 |
| 3MD01 | 2821 |
| D02 | 2821 |
| D03 | 2821 |
| D04 | 2821 |
| D05 | 2821 |
| 3MD06 | 2821 |
| D07 | 2821 |
| D08 | 2821 |
| D09 | 2821 |
| D10 | 2821 |
| 3MD11 | 2821 |
| D12 | 2821 |
| D13 | 2821 |
| D14 | 2821 |
| D15 | 2821 |
| 3MD16 | 2821 |
| D17 | 2821 |
| D18 | 2821 |
| D19 | 2821 |
| D20 | 2820 |
| 3MD21 | 2812 |
| D22 | 2812 |
| D23 | 2812 |
| D24 | 2801 |
| D25 | 2801 |
| 3MD26 | 2801 |
| D27 | 2801 |
| D28 | 2801 |
| D29 | 1368 |
| D30 | 1368 |
| 3MD31 | 1368 |
| D32 | 1368 |
| D33 | 1368 |
| D34 | 2676 |
| D35 | 1360 |
| 3MD36 | 2676 |
| D37 | 2676 |
| D38 | 2676 |
| D39 | 1360 |
| D40 | 2676 |
| 3MD41 | 2676 |
| D42 | 2676 |
| D43 | 2680 |
| D44 | 2676 |
| D45 | 2676 |
| 3MD46 | 2680 |
| D47 | 2676 |
| D48 | 2680 |
| D49 | 2676 |
| D50 | 2676 |
| 3MD51 | 2676 |
| D52 | 2676 |
| D53 | 2676 |
| D54 | 2676 |
| D55 | 2676 |
| 3MD56 | 2676 |
| D57 | 2676 |
| D58 | 2676 |
| D59 | 2676 |
| D60 | 2676 |
| 3MD61 | 1359 |
| D62 | 1359 |
| D63 | 1359 |
| D64 | 1359 |
| D65 | 1359 |
| 3MD66 | 1359 |
| D67 | 1360 |
| D68 | 1359 |
| D69 | 1359 |
| D70 | 1359 |
| 3MD71 | 1359 |
| F70 | 1463 |
| F71 | 1463 |
| F72 | 1463 |
| F73 | 1463 |
| 3MF77 | 1463 |
| F79 | 1463 |
| F81 | 1463 |
| F83 | 1463 |
| F84 | 1463 |
| 3MF85 | 1463 |
| F87 | 1463 |
| F88 | 1463 |
| F91 | 1470 |
| F92 | 1470 |
| 3MF93 | 1470 |
| F94 | 1470 |
| F95 | 1470 |
| F96 | 1470 |
| F97 | 1470 |
| 3MF98 | 1470 |
| H88 | 1414 |
| H92 | 1414 |
| H98 | 1416 |
| H99 | 1416 |
| 3MJ01 | 1418 |
| J02 | 1418 |
| J04 | 1416 |
| J14 | 1422 |
| J16 | 1422 |
| 3MJ17 | 1422 |
| J20 | 1460 |
| J21 | 1460 |
| J24 | 1460 |
| J26 | 1492 |
| 3MJ45 | 1493 |
| J55 | 1426 |
| J58 | 1426 |
| J60 | 1426 |
| J61 | 1426 |
| 3MJ62 | 1426 |
| J63 | 1426 |
| J64 | 1426 |
| J65 | 1426 |
| J66 | 1426 |
| 3MJ67 | 1426 |
| J68 | 1426 |
| J72 | 1426 |
| J74 | 1411 |
| J77 | 1411 |
| 3MJ83 | 1406 |
| J84 | 1406 |
| J87 | 1406 |
| J88 | 1406 |
| J91 | 1412 |
| 3MJ94 | 1412 |
| J96 | 1406 |
| J98 | 1408 |
| K19 | 2523 |
| K20 | 2523 |
| 3MK21 | 2523 |
| K22 | 2523 |
| K23 | 2527 |
| K24 | 2527 |
| K25 | 2527 |
| 3MK26 | 2527 |
| K27 | 2527 |
| K28 | 2528 |
| K29 | 2528 |
| K30 | 2528 |
| 3MK31 | 2528 |
| K32 | 2528 |
| K33 | 2528 |
| K34 | 2528 |
| K35 | 2528 |
| 3MK36 | 2528 |
| K37 | 2527 |
| K38 | 2527 |
| K39 | 2527 |
| K40 | 2530 |
| 3MK41 | 2530 |
| K42 | 2530 |
| K43 | 2530 |
| K44 | 2530 |
| K45 | 2530 |
| 3MK46 | 2530 |
| K47 | 2530 |
| K48 | 2530 |
| K49 | 2530 |
| K50 | 2530 |
| 3MK51 | 2530 |
| K52 | 2530 |
| K53 | 2531 |
| K54 | 2531 |
| K55 | 2531 |
| 3MK56 | 2531 |
| K57 | 2531 |
| K58 | 2531 |
| K59 | 2531 |
| K60 | 2531 |
| 3MK61 | 2531 |
| K62 | 2531 |
| K63 | 2531 |
| K64 | 2531 |
| K65 | 2531 |
| 3MK66 | 2531 |
| K67 | 2531 |
| K68 | 924 |
| K69 | 964 |
| K70 | 970 |
| 3MK71 | 964 |
| K72 | 2734 |
| K73 | 2734 |
| K74 | 2734 |
| L05 | 1358 |
| 3ML17 | 1467 |
| M52 | 1298 |
| M53 | 1467 |
| M54 | 1471 |
| M55 | 1565 |
| 3MM56 | 1565 |
| M57 | 1565 |
| M58 | 1565 |
| M59 | 1565 |
| M60 | 1565 |
| 3MM61 | 1565 |
| M62 | 1565 |
| M63 | 1565 |
| M65 | 563 |
| M66 | 563 |
| 3MM67 | 563 |
| M68 | 563 |
| M74 | 1692 |
| M86 | 1692 |
| M98 | 1692 |
| 3MM99 | 1692 |
| N01 | 1692 |
| N29 | 2532 |
| N30 | 2532 |
| N31 | 2534 |
| 3MN32 | 2534 |
| N33 | 2534 |
| N34 | 2532 |
| N35 | 2533 |
| N36 | 2532 |
| 3MN37 | 2532 |
| N38 | 2532 |
| N39 | 2532 |
| N41 | 2534 |
| N42 | 2533 |
| 3MN43 | 2533 |
| N44 | 2533 |
| N45 | 2533 |
| N46 | 2533 |
| N47 | 2534 |
| 3MN48 | 2534 |
| N49 | 2534 |
| N50 | 2534 |
| N51 | 2533 |
| N52 | 2533 |
| 3MN53 | 2533 |
| N54 | 2533 |
| N55 | 2533 |
| N56 | 2533 |
| N57 | 2533 |
| 3MN58 | 2533 |
| N59 | 2533 |
| N60 | 2533 |
| N61 | 2533 |
| N62 | 2534 |
| 3MN63 | 2534 |
| N64 | 2534 |
| N65 | 2533 |
| N66 | 2533 |
| N67 | 2533 |
| 3MN68 | 2533 |
| N69 | 2533 |
| N70 | 2534 |
| N71 | 2533 |
| N72 | 2533 |
| 3MN73 | 2533 |
| N74 | 2533 |
| N75 | 2533 |
| N76 | 2533 |
| N77 | 2533 |
| 3MN78 | 2533 |
| N79 | 2533 |
| N80 | 2533 |
| N81 | 2533 |
| N82 | 2533 |
| 3MN83 | 2533 |
| N84 | 2533 |
| N85 | 2533 |
| N86 | 1545 |
| N87 | 1545 |
| 3MN88 | 1544 |
| N89 | 1544 |
| N90 | 1544 |
| N91 | 1544 |
| N92 | 1544 |
| 3MN93 | 1544 |
| N94 | 1544 |
| N95 | 1544 |
| N96 | 1544 |
| P37 | 1690 |
| 3MP43 | 1690 |
| P51 | 1690 |
| P57 | 1690 |
| P58 | 1690 |
| T10 | 1692 |
| 3MT11 | 1692 |
| T49 | 1690 |
| T52 | 1690 |
| T56 | 1690 |
| T57 | 1690 |
| 3MW77 | 1690 |
| W86 | 1694 |
| W89 | 1694 |
| 001 | 114 |
| 008 | 63 |
| 3M009 | 63 |
| 018 | 65 |
| 019 | 65 |
| 021 | 71 |
| 059 | 109 |
| 3M064 | 63 |
| 065 | 63 |
| 066 | 1703 |
| 069 | 114 |
| 083 | 111 |
| 3M087 | 69 |
| 095 | 228 |
| 096 | 228 |
| 097 | 228 |
| 098 | 227 |
| 3M099 | 228 |
| 100 | 228 |
| 101 | 228 |
| 102 | 230 |
| 103 | 229 |
| 3M104 | 229 |
| 114 | 117 |
| 115 | 117 |
| 116 | 117 |
| 117 | 117 |
| 3M118 | 69 |
| 125 | 235 |
| 126 | 235 |
| 127 | 235 |
| 128 | 235 |
| 3M130 | 199 |
| 131 | 199 |
| 132 | 199 |
| 133 | 201 |
| 134 | 64 |
| 3M135 | 232 |
| 136 | 232 |
| 137 | 232 |
| 138 | 232 |
| 142 | 69 |
| 3M143 | 202 |
| 146 | 201 |
| 147 | 201 |
| 153 | 230 |
| 154 | 230 |
| 3M158 | 232 |
| 170 | 117 |
| 171 | 117 |
| 172 | 117 |
| 173 | 117 |
| 3M174 | 117 |
| 175 | 117 |
| 176 | 117 |
| 177 | 117 |
| 178 | 63 |
| 3M179 | 117 |
| 180 | 117 |
| 181 | 117 |
| 183 | 117 |
| 184 | 117 |
| 3M185 | 117 |
| 186 | 117 |
| 187 | 117 |
| 188 | 117 |
| 189 | 117 |
| 3M217 | 57 |
| 221 | 58 |
| 222 | 69 |
| 224 | 58 |
| 226 | 58 |
| 3M231 | 220 |
| 245 | 1703 |
| 257 | 230 |
| 258 | 230 |
| 265 | 57 |
| 3M269 | 116 |
| 270 | 116 |
| 274 | 116 |
| 275 | 116 |
| 276 | 199 |
| 3M277 | 199 |
| 278 | 199 |
| 279 | 199 |
| 280 | 199 |
| 281 | 199 |
| 3M282 | 199 |
| 283 | 116 |
| 284 | 116 |
| 285 | 116 |
| 286 | 116 |
| 3M287 | 220 |
| 288 | 230 |
| 290 | 114 |
| 291 | 114 |
| 292 | 114 |
| 3M295 | 58 |
| 300 | 69 |
| 301 | 1703 |
| 304 | 1703 |
| 306 | 1703 |
| 3M308 | 1703 |
| 312 | 1702 |
| 315 | 1702 |
| 318 | 1702 |
| 326 | 237 |
| 3M327 | 237 |
| 328 | 237 |
| 329 | 237 |
| 330 | 237 |
| 331 | 115 |
| 3M332 | 115 |
| 333 | 115 |
| 334 | 115 |
| 335 | 115 |
| 336 | 115 |
| 3M337 | 115 |
| 338 | 115 |
| 339 | 108 |
| 340 | 108 |
| 341 | 1703 |
| 3M344 | 1703 |
| 360 | 263 |
| 363 | 114 |
| 364 | 114 |
| 366 | 264 |
| 3M367 | 199 |
| 368 | 199 |
| 369 | 61 |
| 371 | 61 |
| 372 | 61 |
| 3M373 | 61 |
| 374 | 61 |
| 375 | 63 |
| 376 | 63 |
| 377 | 63 |
| 3M378 | 63 |
| 392 | 73 |
| 393 | 73 |
| 394 | 116 |
| 396 | 1703 |
| 3M398 | 1703 |
| 400 | 1703 |
| 401 | 75 |
| 402 | 75 |
| 404 | 75 |
| 3M405 | 75 |
| 412 | 75 |
| 413 | 75 |
| 429 | 75 |
| 430 | 75 |
| 3M453 | 1703 |
| 456 | 75 |
| 458 | 75 |
| 461 | 75 |
| 463 | 75 |
| 3M466 | 75 |
| 467 | 75 |
| 469 | 104 |
| 470 | 75 |
| 472 | 116 |
| 3M473 | 116 |
| 474 | 116 |
| 475 | 116 |
| 476 | 116 |
| 487 | 93 |
| 3M490 | 200 |
| 491 | 200 |
| 492 | 200 |
| 493 | 200 |
| 494 | 200 |
| 3M499 | 112 |
| 500 | 64 |
| 501 | 64 |
| 502 | 1703 |
| 504 | 104 |
| 3M505 | 104 |
| 520 | 1703 |
| 522 | 1702 |
| 524 | 1702 |
| 526 | 1703 |
| 3M528 | 1703 |
| 530 | 1705 |
| 533 | 197 |
| 534 | 111 |
| 535 | 111 |
| 3M536 | 111 |
| 537 | 111 |
| 538 | 111 |
| 539 | 111 |
| 540 | 111 |
| 3M541 | 111 |
| 542 | 111 |
| 543 | 111 |
| 544 | 111 |
| 545 | 111 |
| 3M546 | 111 |
| 547 | 111 |
| 548 | 111 |
| 549 | 111 |
| 551 | 1705 |
| 3M552 | 113 |
| 554 | 113 |
| 555 | 113 |
| 556 | 113 |
| 557 | 113 |
| 3M558 | 112 |
| 560 | 112 |
| 561 | 112 |
| 562 | 112 |
| 563 | 112 |
| 3M564 | 182 |
| 566 | 119 |
| 567 | 109 |
| 568 | 109 |
| 569 | 109 |
| 3M571 | 109 |
| 573 | 109 |
| 574 | 109 |
| 576 | 109 |
| 577 | 109 |
| 3M578 | 109 |
| 580 | 109 |
| 581 | 109 |
| 582 | 73 |
| 583 | 73 |
| 3M584 | 1705 |
| 585 | 73 |
| 586 | 73 |
| 588 | 73 |
| 589 | 73 |
| 3M590 | 65 |
| 592 | 65 |
| 593 | 65 |
| 601 | 73 |
| 610 | 87 |
| 3M611 | 87 |
| 612 | 89 |
| 613 | 91 |
| 627 | 115 |
| 628 | 115 |
| 3M629 | 115 |
| 630 | 115 |
| 631 | 115 |
| 632 | 115 |
| 633 | 115 |
| 3M634 | 115 |
| 635 | 115 |
| 636 | 115 |
| 637 | 115 |
| 638 | 115 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 3M639 | 115 |
| 648 | 71 |
| 649 | 71 |
| 657 | 77 |
| 658 | 77 |
| 3M659 | 77 |
| 660 | 113 |
| 661 | 113 |
| 662 | 113 |
| 663 | 76 |
| 3M664 | 76 |
| 665 | 76 |
| 666 | 57 |
| 669 | 62 |
| 670 | 62 |
| 3M671 | 62 |
| 672 | 62 |
| 673 | 62 |
| 684 | 89 |
| 686 | 61 |
| 3M687 | 61 |
| 688 | 61 |
| 689 | 61 |
| 690 | 78 |
| 691 | 78 |
| 3M710 | 71 |
| 711 | 71 |
| 712 | 66 |
| 713 | 66 |
| 714 | 66 |
| 3M717 | 59 |
| 718 | 59 |
| 719 | 59 |
| 720 | 65 |
| 721 | 65 |
| 3M722 | 111 |
| 723 | 113 |
| 724 | 111 |
| 725 | 111 |
| 726 | 111 |
| 3M727 | 73 |
| 728 | 111 |
| 729 | 111 |
| 730 | 111 |
| 742 | 108 |
| 3M747 | 65 |
| 748 | 65 |
| 749 | 1705 |
| 765 | 58 |
| 766 | 57 |
| 3M768 | 58 |
| 769 | 58 |
| 771 | 65 |
| 777 | 111 |
| 778 | 111 |
| 3M779 | 109 |
| 782 | 60 |
| 783 | 60 |
| 784 | 60 |
| 785 | 60 |
| 3M786 | 60 |
| 787 | 60 |
| 788 | 60 |
| 789 | 60 |
| 790 | 60 |
| 3M791 | 60 |
| 792 | 60 |
| 795 | 59 |
| 798 | 59 |
| 800 | 78 |
| 3M801 | 78 |
| 802 | 78 |
| 803 | 78 |
| 804 | 68 |
| 805 | 68 |
| 3M806 | 68 |
| 808 | 68 |
| 809 | 68 |
| 810 | 68 |
| 812 | 68 |
| 3M813 | 68 |
| 814 | 68 |
| 815 | 68 |
| 816 | 68 |
| 817 | 68 |
| 3M818 | 68 |
| 819 | 68 |
| 820 | 68 |
| 821 | 85 |
| 822 | 83 |
| 3M823 | 83 |
| 824 | 85 |
| 825 | 87 |
| 826 | 104 |
| 827 | 104 |
| 3M828 | 77 |
| 829 | 77 |
| 832 | 77 |
| 834 | 77 |
| 835 | 77 |
| 3M836 | 77 |
| 837 | 77 |
| 839 | 57 |
| 846 | 67 |
| 851 | 67 |
| 3M852 | 67 |
| 853 | 67 |
| 854 | 67 |
| 855 | 67 |
| 856 | 67 |
| 3M857 | 67 |
| 858 | 67 |
| 860 | 71 |
| 861 | 71 |
| 862 | 71 |
| 3M864 | 65 |
| 865 | 67 |
| 866 | 67 |
| 867 | 56 |
| 868 | 56 |
| 3M869 | 56 |
| 872 | 72 |
| 873 | 72 |
| 874 | 72 |
| 875 | 72 |
| 3M876 | 72 |
| 877 | 62 |
| 878 | 62 |
| 879 | 62 |
| 880 | 62 |
| 3M881 | 67 |
| 882 | 67 |
| 883 | 66 |
| 884 | 85 |
| 885 | 67 |
| 3M886 | 67 |
| 887 | 67 |
| 888 | 67 |
| 889 | 115 |
| 890 | 115 |
| 3M891 | 76 |
| 892 | 76 |
| 893 | 76 |
| 895 | 76 |
| 896 | 67 |
| 3M897 | 67 |
| 898 | 67 |
| 899 | 77 |
| 900 | 77 |
| 901 | 77 |
| 3M902 | 67 |
| 903 | 67 |
| 904 | 62 |
| 905 | 62 |
| 922 | 58 |
| 3M923 | 91 |
| 925 | 87 |
| 926 | 91 |
| 927 | 57 |
| 928 | 57 |
| 3M929 | 58 |
| 930 | 66 |
| 933 | 59 |
| 934 | 59 |
| 935 | 59 |
| 3M952 | 117 |
| 954 | 67 |
| 955 | 67 |
| 956 | 67 |
| 957 | 67 |
| 3M965 | 65 |
| 966 | 65 |
| 967 | 65 |
| 970 | 77 |
| 971 | 77 |
| 3M977 | 72 |
| 986 | 117 |
| 987 | 115 |
| 990 | 57 |
| 993 | 58 |
| 3M994 | 58 |
| 996 | 56 |
| 997 | 56 |
| 998 | 56 |
| 999 | 56 |

## 3N

| Stock No. | Page No. |
|---|---|
| 3NC62 | 1693 |
| C93 | 1693 |
| C99 | 1693 |
| 3ND01 | 1693 |
| D33 | 1690 |
| D36 | 1690 |
| D60 | 1691 |
| D66 | 1691 |
| 3ND73 | 1691 |
| D74 | 1691 |
| F16 | 1693 |
| F24 | 1691 |
| F25 | 1690 |
| 3NF36 | 1691 |
| F65 | 1695 |
| F66 | 1695 |
| F84 | 1695 |
| G13 | 1690 |
| 3NG53 | 1694 |
| G63 | 1691 |
| G69 | 1693 |
| G72 | 1693 |
| G94 | 1693 |
| 3NH11 | 1693 |
| H15 | 1693 |
| H17 | 1694 |
| H19 | 1693 |
| H20 | 1693 |
| 3NH28 | 1690 |
| H29 | 1691 |
| H42 | 1690 |
| H43 | 1690 |
| H47 | 1690 |
| 3NH48 | 1690 |
| H50 | 1691 |
| H53 | 1691 |
| H65 | 1690 |
| H69 | 1691 |
| 3NH71 | 1691 |
| H77 | 1691 |
| H79 | 1691 |
| H95 | 1691 |
| H96 | 1691 |
| 3NJ47 | 1690 |
| L62 | 1691 |
| L98 | 1691 |
| M03 | 1696 |
| M67 | 1695 |
| 3NM89 | 1694 |
| M98 | 1693 |
| N19 | 1691 |
| N29 | 1695 |
| N45 | 1694 |
| 3NN48 | 1694 |
| N63 | 1695 |
| N64 | 1695 |
| P11 | 1695 |
| P44 | 1695 |
| 3NP45 | 1695 |
| R17 | 1695 |
| R24 | 1694 |
| R32 | 1690 |
| T14 | 1693 |
| 3NT78 | 1696 |
| T88 | 1695 |
| V21 | 1691 |
| V22 | 1691 |
| V45 | 1696 |
| 3NV50 | 1691 |
| V55 | 1693 |
| V67 | 1690 |
| V74 | 1690 |
| W29 | 1693 |
| 3N003 | 45 |
| 012 | 12 |
| 013 | 12 |
| 017 | 13 |
| 018 | 13 |
| 3N026 | 94 |
| 027 | 94 |
| 028 | 123 |
| 040 | 12 |
| 041 | 12 |
| 3N042 | 12 |
| 043 | 12 |
| 044 | 12 |
| 049 | 1705 |
| 052 | 1706 |
| 3N054 | 1706 |
| 056 | 1706 |
| 063 | 1706 |
| 065 | 1706 |
| 087 | 124 |
| 3N088 | 162 |
| 090 | 162 |
| 092 | 1706 |
| 094 | 1706 |
| 096 | 1706 |
| 3N097 | 1615 |
| 098 | 1706 |
| 099 | 1615 |
| 100 | 1706 |
| 163 | 1706 |
| 3N165 | 1706 |
| 167 | 1706 |
| 169 | 251 |
| 170 | 251 |
| 171 | 251 |
| 3N172 | 251 |
| 173 | 251 |
| 174 | 251 |
| 175 | 251 |
| 176 | 251 |
| 3N177 | 1706 |
| 178 | 12 |
| 209 | 1706 |
| 211 | 1706 |
| 213 | 1706 |
| 3N234 | 159 |
| 235 | 159 |
| 236 | 159 |
| 237 | 124 |
| 238 | 124 |
| 3N259 | 252 |
| 265 | 124 |
| 266 | 124 |
| 291 | 131 |
| 295 | 253 |
| 3N296 | 253 |
| 297 | 252 |
| 298 | 251 |
| 299 | 251 |
| 300 | 251 |
| 3N301 | 251 |
| 315 | 1706 |
| 316 | 12 |
| 317 | 13 |
| 319 | 1706 |
| 3N321 | 1706 |
| 329 | 131 |
| 330 | 131 |
| 331 | 131 |
| 332 | 131 |
| 3N333 | 131 |
| 334 | 131 |
| 341 | 144 |
| 348 | 124 |
| 349 | 13 |
| 3N350 | 13 |
| 351 | 13 |
| 352 | 13 |
| 367 | 131 |
| 368 | 131 |
| 3N369 | 131 |
| 370 | 131 |
| 371 | 131 |
| 427 | 13 |
| 438 | 1706 |
| 3N440 | 1706 |
| 442 | 13 |
| 443 | 13 |
| 444 | 13 |
| 445 | 13 |
| 3N446 | 124 |
| 447 | 124 |
| 448 | 1707 |
| 457 | 1707 |
| 459 | 1707 |
| 3N468 | 1707 |
| 469 | 55 |
| 470 | 55 |
| 471 | 124 |
| 472 | 124 |
| 3N473 | 124 |
| 486 | 13 |
| 487 | 94 |
| 488 | 94 |
| 489 | 94 |
| 3N496 | 55 |
| 527 | 16 |
| 528 | 16 |
| 529 | 16 |
| 530 | 16 |
| 3N531 | 16 |
| 532 | 16 |
| 533 | 16 |
| 534 | 16 |
| 535 | 20 |
| 3N536 | 20 |
| 537 | 20 |
| 538 | 20 |
| 539 | 20 |
| 540 | 20 |
| 3N541 | 20 |
| 542 | 20 |
| 543 | 20 |
| 564 | 20 |
| 567 | 131 |
| 3N568 | 131 |
| 589 | 12 |
| 590 | 12 |
| 591 | 12 |
| 592 | 12 |
| 3N593 | 13 |
| 625 | 144 |
| 626 | 144 |
| 627 | 144 |
| 628 | 144 |
| 3N629 | 144 |
| 634 | 94 |
| 635 | 94 |
| 636 | 94 |
| 637 | 94 |
| 3N638 | 94 |
| 639 | 26 |
| 640 | 26 |
| 641 | 26 |
| 642 | 26 |
| 3N643 | 26 |
| 644 | 26 |
| 645 | 26 |
| 646 | 55 |
| 647 | 55 |
| 3N648 | 55 |
| 649 | 124 |
| 650 | 124 |
| 680 | 159 |
| 681 | 159 |
| 3N682 | 159 |
| 683 | 125 |
| 684 | 125 |
| 685 | 125 |
| 686 | 126 |
| 3N687 | 126 |
| 688 | 126 |
| 689 | 126 |
| 690 | 126 |
| 693 | 13 |
| 3N694 | 29 |
| 695 | 29 |
| 696 | 29 |
| 697 | 29 |
| 698 | 29 |
| 3N723 | 159 |
| 724 | 159 |
| 725 | 159 |
| 726 | 159 |
| 727 | 159 |
| 3N728 | 159 |
| 760 | 55 |
| 771 | 155 |
| 772 | 155 |
| 773 | 155 |
| 3N774 | 155 |
| 775 | 155 |
| 779 | 155 |
| 780 | 152 |
| 781 | 152 |
| 3N782 | 152 |
| 783 | 152 |
| 784 | 152 |
| 787 | 151 |
| 788 | 151 |
| 3N789 | 151 |
| 790 | 151 |
| 791 | 151 |
| 792 | 151 |
| 793 | 151 |
| 3N794 | 151 |
| 795 | 151 |
| 796 | 151 |
| 797 | 151 |
| 798 | 151 |
| 3N799 | 151 |
| 800 | 151 |
| 801 | 151 |
| 802 | 151 |
| 803 | 151 |
| 3N804 | 151 |
| 805 | 151 |
| 806 | 151 |
| 807 | 151 |
| 808 | 151 |
| 3N809 | 151 |
| 810 | 151 |
| 811 | 151 |
| 812 | 151 |
| 813 | 94 |
| 3N814 | 94 |
| 815 | 94 |
| 816 | 94 |
| 817 | 158 |
| 818 | 158 |
| 3N819 | 158 |
| 820 | 158 |
| 821 | 158 |
| 822 | 158 |
| 823 | 158 |
| 3N824 | 79 |
| 825 | 79 |
| 826 | 79 |
| 827 | 155 |
| 828 | 155 |
| 3N829 | 155 |
| 830 | 155 |
| 831 | 155 |
| 832 | 155 |
| 833 | 155 |
| 3N834 | 155 |
| 835 | 155 |
| 836 | 155 |
| 837 | 155 |
| 838 | 155 |
| 3N839 | 155 |
| 841 | 124 |
| 842 | 124 |
| 843 | 13 |
| 844 | 13 |
| 3N845 | 96 |
| 846 | 96 |
| 847 | 96 |
| 848 | 96 |
| 849 | 96 |
| 3N850 | 79 |
| 851 | 12 |
| 852 | 12 |
| 853 | 12 |
| 854 | 13 |
| 3N855 | 13 |
| 856 | 13 |
| 857 | 134 |
| 858 | 134 |
| 859 | 134 |
| 3N860 | 134 |
| 861 | 134 |
| 862 | 134 |
| 863 | 134 |
| 864 | 134 |
| 3N865 | 134 |
| 866 | 134 |
| 867 | 134 |
| 868 | 134 |
| 869 | 123 |
| 3N870 | 123 |
| 871 | 123 |
| 872 | 123 |
| 873 | 124 |
| 874 | 123 |
| 3N875 | 123 |
| 876 | 124 |
| 877 | 173 |
| 878 | 173 |
| 879 | 173 |
| 3N880 | 173 |
| 881 | 173 |
| 882 | 173 |
| 883 | 27 |
| 884 | 27 |
| 3N885 | 27 |
| 886 | 27 |
| 889 | 27 |
| 890 | 27 |
| 891 | 28 |
| 3N892 | 28 |
| 893 | 28 |
| 894 | 28 |
| 895 | 28 |
| 896 | 28 |
| 3N906 | 27 |
| 907 | 28 |
| 908 | 28 |
| 909 | 28 |
| 910 | 28 |
| 3N911 | 28 |
| 912 | 28 |
| 913 | 28 |
| 922 | 27 |
| 923 | 27 |
| 3N924 | 27 |
| 925 | 27 |
| 926 | 28 |
| 927 | 28 |
| 928 | 28 |
| 3N929 | 28 |
| 940 | 31 |
| 941 | 31 |
| 999 | 1707 |

## 3P

| Stock No. | Page No. |
|---|---|
| 3PC82 | 1817 |
| M98 | 1815 |
| W12 | 1408 |
| 3PW13 | 1449 |
| W14 | 1449 |
| W18 | 1409 |
| 002 | 1707 |
| 004 | 1707 |
| 3P006 | 1707 |
| 008 | 1707 |
| 010 | 1707 |
| 012 | 1707 |
| 014 | 1707 |
| 3P016 | 1707 |
| 018 | 1707 |
| 020 | 1707 |
| 022 | 1707 |
| 024 | 1707 |
| 3P026 | 1707 |
| 028 | 1707 |
| 030 | 1707 |
| 032 | 1707 |
| 033 | 1615 |
| 3P034 | 1707 |
| 035 | 1615 |
| 036 | 1703 |
| 038 | 1704 |
| 040 | 1704 |
| 3P042 | 1704 |
| 044 | 1704 |
| 046 | 1704 |
| 048 | 1704 |
| 050 | 1704 |
| 3P079 | 1685 |
| 081 | 1685 |
| 083 | 1685 |
| 085 | 1685 |
| 087 | 1685 |
| 3P089 | 1685 |
| 091 | 1685 |
| 093 | 1685 |
| 095 | 1685 |
| 097 | 1685 |
| 3P099 | 1685 |
| 101 | 1685 |
| 103 | 1685 |
| 105 | 1685 |
| 107 | 1685 |
| 3P109 | 1685 |
| 115 | 1685 |
| 121 | 1685 |
| 129 | 1685 |
| 272 | 3253 |
| 3P275 | 1663 |
| 277 | 1663 |
| 279 | 1663 |
| 281 | 1663 |
| 283 | 1663 |
| 3P285 | 1663 |
| 287 | 1663 |
| 289 | 1663 |
| 291 | 1663 |
| 293 | 1663 |
| 3P295 | 1663 |
| 297 | 1663 |
| 315 | 3069 |
| 316 | 3069 |
| 317 | 3069 |
| 3P322 | 1685 |
| 324 | 1685 |
| 326 | 1685 |
| 328 | 1685 |
| 330 | 1685 |
| 3P332 | 1685 |
| 336 | 1685 |
| 338 | 1685 |
| 340 | 1685 |
| 342 | 1685 |
| 3P344 | 1685 |
| 346 | 1685 |
| 348 | 1685 |
| 351 | 1685 |
| 353 | 1685 |
| 3P355 | 1685 |
| 357 | 1685 |
| 359 | 1685 |
| 361 | 1685 |
| 363 | 1685 |
| 3P365 | 1685 |
| 386 | 1663 |
| 388 | 1663 |
| 390 | 1663 |
| 392 | 1663 |
| 3P393 | 1687 |
| 395 | 1663 |
| 396 | 1687 |
| 397 | 1663 |
| 398 | 1687 |
| 3P399 | 1663 |
| 400 | 1687 |
| 401 | 1663 |
| 402 | 1687 |
| 403 | 1663 |
| 3P404 | 1687 |
| 405 | 1663 |
| 406 | 1687 |
| 407 | 1663 |
| 408 | 1687 |
| 3P411 | 1663 |
| 414 | 1687 |
| 415 | 1663 |
| 416 | 1687 |
| 417 | 1663 |
| 3P418 | 1687 |
| 419 | 1663 |
| 420 | 1687 |
| 421 | 1663 |
| 422 | 1687 |
| 3P423 | 1663 |
| 424 | 1687 |
| 425 | 1663 |
| 426 | 1687 |
| 427 | 1663 |
| 3P428 | 1687 |
| 429 | 1663 |
| 433 | 1687 |
| 434 | 1663 |
| 438 | 1687 |
| 3P439 | 1663 |
| 440 | 1687 |
| 441 | 1663 |
| 442 | 1687 |
| 446 | 1663 |
| 3P447 | 1687 |
| 482 | 1686 |
| 486 | 3069 |
| 503 | 1686 |
| 511 | 3218 |

# STOCK NUMBER—PAGE NUMBER

## 3P5 — 3TW


| Stock No. | Page No. |
|---|---|
| 3P512 | 3218 |
| 521 | 1686 |
| 525 | 3149 |
| 526 | 3151 |
| 530 | 3218 |
| 3P535 | 1686 |
| 537 | 1686 |
| 539 | 1686 |
| 541 | 1686 |
| 543 | 1686 |
| 3P544 | 3211 |
| 545 | 3211 |
| 546 | 3211 |
| 551 | 3134 |
| 552 | 3134 |
| 3P553 | 3134 |
| 556 | 3253 |
| 557 | 3253 |
| 569 | 3178 |
| 570 | 3178 |
| 3P572 | 3033 |
| 573 | 3033 |
| 574 | 3033 |
| 575 | 3033 |
| 576 | 3218 |
| 3P577 | 3133 |
| 579 | 3218 |
| 581 | 1686 |
| 582 | 3152 |
| 583 | 3033 |
| 3P584 | 3033 |
| 600 | 3152 |
| 601 | 3152 |
| 604 | 3123 |
| 605 | 3123 |
| 3P606 | 3123 |
| 607 | 3123 |
| 608 | 3123 |
| 609 | 3152 |
| 611 | 3210 |
| 3P613 | 3153 |
| 634 | 3033 |
| 636 | 3155 |
| 639 | 3216 |
| 640 | 3216 |
| 3P641 | 3216 |
| 642 | 3216 |
| 643 | 3216 |
| 649 | 3211 |
| 652 | 3207 |
| 3P653 | 3154 |
| 654 | 3154 |
| 655 | 3152 |
| 656 | 3152 |
| 657 | 3033 |
| 3P658 | 3207 |
| 663 | 3123 |
| 664 | 3123 |
| 665 | 3046 |
| 666 | 3046 |
| 3P667 | 3046 |
| 668 | 3046 |
| 669 | 3046 |
| 670 | 3046 |
| 671 | 3046 |
| 3P672 | 3046 |
| 673 | 3046 |
| 674 | 3046 |
| 675 | 3276 |
| 676 | 3255 |
| 3P680 | 3207 |
| 681 | 3153 |
| 682 | 3153 |
| 683 | 3238 |
| 684 | 3238 |
| 3P685 | 3241 |
| 686 | 3241 |
| 687 | 3241 |
| 703 | 3137 |
| 704 | 3137 |
| 3P705 | 3134 |
| 706 | 3134 |
| 707 | 3134 |
| 708 | 3030 |
| 709 | 3030 |
| 3P710 | 3030 |
| 711 | 3034 |
| 712 | 3152 |
| 715 | 3246 |
| 716 | 3246 |
| 3P726 | 3163 |
| 727 | 3163 |
| 728 | 3163 |
| 730 | 3264 |
| 731 | 3264 |
| 3P732 | 3264 |
| 733 | 3145 |
| 734 | 3145 |
| 735 | 3204 |
| 736 | 3130 |
| 3P737 | 3123 |
| 738 | 3123 |
| 739 | 3261 |
| 740 | 3244 |
| 741 | 3163 |
| 3P742 | 3163 |
| 743 | 3163 |
| 744 | 3163 |
| 745 | 3163 |
| 746 | 3163 |
| 3P747 | 3163 |
| 748 | 3163 |
| 749 | 3163 |
| 750 | 3176 |
| 751 | 3176 |
| 3P752 | 3176 |
| 753 | 3176 |
| 754 | 3176 |
| 755 | 3176 |
| 756 | 3176 |
| 3P757 | 3176 |
| 758 | 3096 |
| 759 | 3096 |
| 760 | 3096 |
| 761 | 3096 |
| 3P762 | 3096 |
| 763 | 3096 |
| 764 | 3096 |
| 765 | 3096 |
| 766 | 3096 |
| 3P767 | 3096 |
| 768 | 3096 |
| 769 | 3096 |
| 770 | 3096 |
| 771 | 3096 |
| 3P772 | 3095 |
| 773 | 3095 |
| 774 | 3095 |
| 775 | 3093 |
| 776 | 3094 |
| 3P777 | 3094 |
| 778 | 3094 |
| 779 | 3094 |
| 780 | 3094 |
| 781 | 3094 |
| 3P782 | 3090 |
| 783 | 3095 |
| 784 | 3095 |
| 785 | 3194 |
| 786 | 3097 |
| 3P787 | 3097 |
| 788 | 3097 |
| 789 | 3097 |
| 790 | 3097 |
| 791 | 3097 |
| 3P792 | 3097 |
| 793 | 3097 |
| 794 | 3097 |
| 795 | 3097 |
| 796 | 3097 |
| 3P797 | 3097 |
| 798 | 3097 |
| 799 | 3097 |
| 800 | 3097 |
| 801 | 3097 |
| 3P802 | 3097 |
| 803 | 3097 |
| 804 | 3097 |
| 805 | 3097 |
| 806 | 3097 |
| 3P807 | 3097 |
| 808 | 3097 |
| 809 | 3097 |
| 810 | 3097 |
| 811 | 3097 |
| 3P812 | 3097 |
| 813 | 3097 |
| 814 | 3097 |
| 815 | 3097 |
| 816 | 3160 |
| 3P817 | 3160 |
| 818 | 3160 |
| 819 | 3160 |
| 820 | 3160 |
| 821 | 3160 |
| 3P822 | 3160 |
| 823 | 3160 |
| 824 | 3160 |
| 825 | 3160 |
| 826 | 3160 |
| 3P827 | 3160 |
| 828 | 3160 |
| 829 | 3160 |
| 830 | 3160 |
| 831 | 3160 |
| 3P832 | 3160 |
| 833 | 3160 |
| 834 | 3161 |
| 835 | 3161 |
| 836 | 3161 |
| 3P837 | 3187 |
| 838 | 3114 |
| 839 | 3114 |
| 840 | 3114 |
| 841 | 3114 |
| 3P842 | 3114 |
| 843 | 3084 |
| 844 | 3084 |
| 845 | 3084 |
| 847 | 3067 |
| 3P848 | 3067 |
| 849 | 3067 |
| 850 | 3067 |
| 851 | 3067 |
| 852 | 3067 |
| 3P853 | 3067 |
| 854 | 3067 |
| 855 | 3065 |
| 856 | 3065 |
| 857 | 3065 |
| 3P858 | 3065 |
| 865 | 3050 |
| 866 | 3050 |
| 867 | 3050 |
| 868 | 3050 |
| 3P869 | 3050 |
| 870 | 3050 |
| 871 | 3050 |
| 872 | 3050 |
| 873 | 3050 |
| 3P874 | 3050 |
| 875 | 3050 |
| 876 | 3050 |
| 877 | 3050 |
| 878 | 3050 |
| 3P879 | 3050 |
| 880 | 3050 |
| 881 | 3050 |
| 882 | 3050 |
| 883 | 3050 |
| 3P884 | 3050 |
| 885 | 3050 |
| 886 | 3050 |
| 887 | 3050 |
| 888 | 3050 |
| 3P889 | 3050 |
| 890 | 3050 |
| 891 | 3050 |
| 892 | 1686 |
| 893 | 1916 |
| 3P894 | 1916 |
| 895 | 1916 |
| 896 | 1916 |
| 897 | 1916 |
| 898 | 1916 |
| 3P899 | 1916 |
| 900 | 1916 |
| 901 | 1916 |
| 902 | 1916 |
| 903 | 1915 |
| 3P904 | 1915 |
| 905 | 1915 |
| 906 | 1915 |
| 907 | 1915 |
| 908 | 1915 |
| 3P909 | 1915 |
| 910 | 1915 |
| 911 | 1915 |
| 912 | 1915 |
| 914 | 1915 |
| 3P916 | 1915 |
| 917 | 1915 |
| 918 | 3115 |
| 919 | 3115 |
| 920 | 3115 |
| 3P921 | 3115 |
| 922 | 3115 |
| 923 | 3115 |
| 924 | 3084 |
| 925 | 3084 |
| 3P926 | 3084 |
| 927 | 3084 |
| 928 | 3084 |
| 929 | 3084 |
| 930 | 3084 |
| 3P931 | 3084 |
| 932 | 3084 |
| 933 | 3084 |
| 934 | 3084 |
| 935 | 3084 |
| 3P936 | 3066 |
| 937 | 3066 |
| 938 | 3066 |
| 939 | 3066 |
| 940 | 3066 |
| 3P943 | 3162 |
| 944 | 3162 |
| 945 | 3162 |
| 946 | 3162 |
| 947 | 3162 |
| 3P948 | 3162 |
| 949 | 3162 |
| 950 | 3162 |
| 951 | 3162 |
| 952 | 3162 |
| 3P953 | 3162 |
| 954 | 3162 |
| 955 | 3154 |
| 956 | 3151 |
| 957 | 3150 |
| 3P958 | 3151 |
| 960 | 3195 |
| 961 | 3195 |
| 963 | 3128 |
| 964 | 3182 |
| 3P965 | 3182 |
| 966 | 3074 |
| 967 | 3072 |
| 968 | 3072 |
| 969 | 3074 |
| 3P970 | 3074 |
| 971 | 3073 |
| 972 | 3073 |
| 973 | 3071 |
| 974 | 3071 |
| 3P975 | 3071 |
| 976 | 3073 |
| 977 | 3071 |
| 978 | 3071 |
| 979 | 3071 |
| 3P980 | 3073 |
| 981 | 3071 |
| 982 | 3071 |
| 983 | 3072 |
| 984 | 3071 |
| 3P985 | 3071 |
| 986 | 3071 |
| 987 | 3073 |
| 988 | 3074 |
| 989 | 3074 |
| 3P990 | 3073 |
| 991 | 3074 |
| 992 | 3260 |
| 993 | 3260 |
| 994 | 3285 |
| 3P995 | 3285 |
| 996 | 3259 |
| 997 | 3259 |
| 998 | 3259 |
| 999 | 3259 |
| **3Q** | |
| 3Q029 | 1355 |
| 044 | 1354 |
| 198 | 1358 |
| 3Q199 | 1358 |
| 200 | 1358 |
| 201 | 1358 |
| **3R** | |
| 3RK65 | 1815 |
| P10 | 3629 |
| P11 | 3629 |
| P12 | 3629 |
| P13 | 3629 |
| 3RP14 | 3629 |
| P15 | 3629 |
| P16 | 3629 |
| P17 | 3629 |
| P18 | 3629 |
| 3RP19 | 3629 |
| 001 | 1312 |
| 074 | 1365 |
| 077 | 1365 |
| 094 | 1363 |
| 3R101 | 1363 |
| 102 | 1363 |
| 103 | 1363 |
| 104 | 1363 |
| 105 | 1363 |
| 3R106 | 1363 |
| 107 | 1363 |
| 108 | 1363 |
| 109 | 1363 |
| 110 | 1365 |
| 3R111 | 1362 |
| 112 | 1363 |
| 113 | 1363 |
| 114 | 1363 |
| 115 | 1363 |
| 3R116 | 1363 |
| 117 | 1363 |
| 118 | 1363 |
| 119 | 1363 |
| 120 | 1363 |
| 3R121 | 1363 |
| 122 | 1363 |
| 123 | 1363 |
| 124 | 1363 |
| 125 | 1365 |
| 3R126 | 1365 |
| 127 | 1365 |
| 128 | 1365 |
| 129 | 1365 |
| 130 | 1365 |
| 3R131 | 1365 |
| 132 | 1365 |
| 133 | 1365 |
| 134 | 1365 |
| 135 | 1365 |
| 3R136 | 1365 |
| 137 | 1365 |
| 138 | 1365 |
| 139 | 1365 |
| 140 | 1365 |
| 3R141 | 1365 |
| 142 | 1365 |
| 143 | 1365 |
| 144 | 1365 |
| 145 | 1365 |
| 3R146 | 1365 |
| 147 | 1365 |
| 148 | 1365 |
| 149 | 1365 |
| 150 | 1365 |
| 3R151 | 1365 |
| 152 | 1365 |
| 153 | 1363 |
| 154 | 1363 |
| 155 | 1363 |
| 3R156 | 1363 |
| 157 | 1363 |
| 158 | 1363 |
| 159 | 1363 |
| 160 | 1362 |
| 3R161 | 1362 |
| 442 | 1244 |
| 443 | 1244 |
| 445 | 1244 |
| 446 | 1244 |
| 3R447 | 1244 |
| 448 | 1244 |
| 449 | 1244 |
| 450 | 1244 |
| 451 | 1244 |
| 3R452 | 1244 |
| 453 | 1244 |
| 454 | 1244 |
| 455 | 1244 |
| 456 | 1244 |
| 3R457 | 1244 |
| 458 | 1244 |
| 459 | 1244 |
| 460 | 1244 |
| 461 | 1244 |
| 3R462 | 1244 |
| 463 | 1244 |
| 464 | 1244 |
| 465 | 1244 |
| 466 | 1244 |
| 3R467 | 1244 |
| 468 | 1244 |
| 469 | 1244 |
| 470 | 1244 |
| 471 | 1244 |
| 3R472 | 1244 |
| 473 | 1244 |
| 474 | 1244 |
| 475 | 1244 |
| 476 | 1244 |
| 3R477 | 1244 |
| 546 | 1362 |
| 548 | 1361 |
| 549 | 1361 |
| 550 | 1361 |
| 3R551 | 1361 |
| 739 | 1234 |
| 740 | 1231 |
| 742 | 1231 |
| 744 | 1231 |
| 3R745 | 1229 |
| 747 | 1229 |
| 748 | 1229 |
| 749 | 1229 |
| 750 | 1230 |
| 3R751 | 1231 |
| 752 | 1231 |
| 753 | 1230 |
| 779 | 1229 |
| 809 | 1232 |
| 3R810 | 1232 |
| 811 | 1232 |
| 812 | 1232 |
| 813 | 1233 |
| 814 | 1232 |
| 3R815 | 1232 |
| 816 | 1233 |
| 817 | 1232 |
| 818 | 1233 |
| 819 | 1233 |
| 3R820 | 1233 |
| 822 | 1232 |
| 823 | 1232 |
| 835 | 1235 |
| 836 | 1235 |
| 3R837 | 1235 |
| 838 | 1235 |
| 839 | 1235 |
| 840 | 1235 |
| 863 | 1288 |
| 3R885 | 1238 |
| 886 | 1238 |
| **3T** | |
| 3TG68 | 1389 |
| 3TJ71 | 2196 |
| J72 | 2196 |
| J89 | 2229 |
| J90 | 2229 |
| J91 | 2229 |
| 3TJ92 | 2229 |
| J93 | 2229 |
| J94 | 2229 |
| J95 | 3549 |
| J96 | 3549 |
| 3TL66 | 2599 |
| L67 | 2591 |
| L68 | 2591 |
| L69 | 2591 |
| L70 | 2591 |
| 3TL71 | 2591 |
| L72 | 2591 |
| L73 | 2591 |
| L74 | 2591 |
| L75 | 2591 |
| 3TL76 | 2591 |
| L77 | 2591 |
| L78 | 2591 |
| M22 | 2567 |
| M23 | 2567 |
| 3TM25 | 2565 |
| N47 | 2287 |
| N48 | 2287 |
| N49 | 2287 |
| N50 | 2287 |
| 3TN60 | 2587 |
| N85 | 631 |
| N86 | 636 |
| N87 | 636 |
| N88 | 636 |
| 3TN89 | 636 |
| N90 | 636 |
| N91 | 636 |
| N92 | 636 |
| N93 | 636 |
| 3TN94 | 636 |
| N95 | 636 |
| N96 | 636 |
| N97 | 636 |
| N98 | 636 |
| 3TN99 | 636 |
| P01 | 636 |
| P02 | 636 |
| P04 | 634 |
| P05 | 634 |
| 3TP06 | 634 |
| P07 | 634 |
| P08 | 634 |
| P09 | 634 |
| P10 | 636 |
| 3TP11 | 636 |
| P12 | 636 |
| P13 | 636 |
| P14 | 632 |
| P15 | 632 |
| 3TP16 | 632 |
| P17 | 632 |
| P18 | 632 |
| P19 | 632 |
| P20 | 632 |
| 3TP21 | 632 |
| P22 | 632 |
| P23 | 634 |
| P24 | 632 |
| P25 | 632 |
| 3TP26 | 632 |
| P27 | 632 |
| P28 | 632 |
| P29 | 632 |
| P30 | 632 |
| 3TP31 | 631 |
| P32 | 631 |
| P33 | 631 |
| P34 | 631 |
| P35 | 631 |
| 3TP36 | 631 |
| P37 | 631 |
| P38 | 631 |
| P39 | 631 |
| P40 | 631 |
| 3TP41 | 631 |
| P42 | 631 |
| P43 | 631 |
| P44 | 631 |
| P45 | 631 |
| 3TP46 | 631 |
| P47 | 631 |
| P48 | 631 |
| P49 | 631 |
| P50 | 631 |
| 3TP51 | 631 |
| P52 | 631 |
| P53 | 631 |
| P54 | 635 |
| P55 | 635 |
| 3TP56 | 635 |
| P57 | 635 |
| P58 | 635 |
| P59 | 635 |
| P60 | 635 |
| 3TP61 | 635 |
| P62 | 635 |
| P63 | 635 |
| P64 | 635 |
| P65 | 635 |
| 3TP66 | 635 |
| P67 | 635 |
| P68 | 635 |
| P69 | 635 |
| P70 | 635 |
| 3TP71 | 635 |
| P72 | 635 |
| P73 | 635 |
| P74 | 635 |
| P75 | 635 |
| 3TP76 | 635 |
| P77 | 635 |
| P78 | 635 |
| P79 | 635 |
| P80 | 635 |
| 3TP81 | 635 |
| P83 | 2234 |
| P84 | 2234 |
| P85 | 2234 |
| P86 | 2234 |
| 3TP87 | 2234 |
| P88 | 2229 |
| P89 | 2229 |
| P90 | 2229 |
| P91 | 2229 |
| 3TP92 | 2232 |
| P93 | 2232 |
| P94 | 2232 |
| P95 | 2232 |
| P96 | 2232 |
| 3TP97 | 2232 |
| P98 | 2232 |
| P99 | 2232 |
| R01 | 2232 |
| R02 | 3482 |
| 3TR03 | 3482 |
| R04 | 3482 |
| R05 | 3482 |
| R06 | 3482 |
| R07 | 3482 |
| 3TR08 | 3482 |
| R09 | 3482 |
| R10 | 3482 |
| R11 | 3563 |
| R12 | 3563 |
| 3TR13 | 3563 |
| R14 | 3560 |
| R15 | 3560 |
| R16 | 3560 |
| R17 | 3560 |
| 3TR18 | 3560 |
| R19 | 3560 |
| R20 | 3550 |
| R21 | 3550 |
| R22 | 3550 |
| 3TR23 | 3550 |
| R45 | 469 |
| R46 | 469 |
| R47 | 469 |
| V73 | 400 |
| 3TV74 | 400 |
| V75 | 400 |
| V76 | 400 |
| V77 | 400 |
| V78 | 400 |
| 3TV79 | 400 |
| V80 | 400 |
| V81 | 400 |
| V82 | 400 |
| V83 | 400 |
| 3TV84 | 400 |
| V99 | 405 |
| W01 | 405 |
| W12 | 377 |
| W13 | 377 |
| 3TW14 | 377 |
| W15 | 377 |
| W16 | 377 |
| W17 | 377 |
| W18 | 377 |
| 3TW19 | 377 |
| W20 | 377 |
| W21 | 377 |
| W22 | 377 |
| W23 | 377 |
| 3TW24 | 377 |
| W25 | 377 |
| W26 | 377 |
| W27 | 377 |
| W28 | 377 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 3TW29 | 377 |
| W30 | 377 |
| W31 | 377 |
| W32 | 377 |
| W33 | 377 |
| 3TW34 | 377 |
| W35 | 377 |
| W36 | 377 |
| W37 | 377 |
| W38 | 377 |
| 3TW39 | 377 |
| W40 | 377 |
| W41 | 377 |
| W42 | 377 |
| W43 | 377 |
| 3TW44 | 377 |
| W45 | 377 |
| W46 | 377 |
| W47 | 377 |
| W48 | 377 |
| 3TW49 | 377 |
| W50 | 377 |
| W51 | 377 |
| W52 | 376 |
| X58 | 376 |
| 3TX62 | 376 |
| X68 | 376 |
| X77 | 376 |
| X78 | 376 |
| X79 | 376 |
| 3TX80 | 376 |
| X81 | 376 |
| X82 | 376 |
| X83 | 376 |
| X84 | 376 |
| 3TX87 | 376 |
| X88 | 376 |
| X91 | 376 |
| X92 | 376 |
| X94 | 376 |
| 3TX95 | 376 |
| X96 | 376 |
| X97 | 376 |
| X98 | 376 |
| X99 | 376 |
| 3TZ01 | 376 |
| Z02 | 376 |
| Z03 | 376 |
| Z04 | 376 |
| Z05 | 376 |
| 3TZ06 | 376 |
| Z07 | 376 |
| Z08 | 376 |
| Z09 | 376 |
| Z10 | 376 |
| 3TZ11 | 376 |
| Z21 | 506 |
| Z23 | 2819 |
| Z24 | 2819 |
| Z25 | 2819 |
| 3TZ26 | 2819 |
| Z27 | 2819 |
| Z28 | 2819 |
| Z29 | 2819 |
| Z30 | 2819 |
| 3TZ31 | 2819 |
| Z32 | 2819 |
| Z33 | 2819 |
| Z34 | 2819 |
| Z35 | 2821 |
| 3TZ36 | 2821 |
| Z37 | 2819 |
| Z38 | 3460 |
| Z39 | 3461 |
| Z40 | 3513 |
| 3TZ41 | 3496 |
| Z42 | 3512 |
| Z43 | 3328 |
| Z44 | 3310 |
| Z45 | 3310 |
| 3TZ46 | 3310 |
| Z47 | 3310 |
| Z48 | 3318 |
| Z49 | 3318 |
| Z52 | 3316 |
| 3TZ54 | 3316 |
| Z55 | 3513 |
| Z56 | 3335 |
| Z57 | 3323 |
| Z58 | 3323 |
| 3TZ59 | 3513 |
| Z60 | 3513 |
| Z61 | 3513 |
| Z62 | 3513 |
| Z63 | 3513 |
| 3TZ64 | 3513 |
| Z65 | 403 |
| Z66 | 403 |
| Z67 | 403 |
| Z68 | 403 |
| 3TZ69 | 403 |
| Z70 | 403 |
| Z71 | 3413 |
| Z72 | 3405 |
| Z73 | 3405 |
| 3TZ74 | 3405 |
| Z75 | 3299 |
| Z76 | 3298 |
| Z77 | 3298 |
| Z78 | 3299 |
| 3TZ79 | 3299 |
| Z80 | 3299 |
| Z81 | 3299 |
| Z82 | 3298 |
| Z83 | 3298 |
| 3TZ84 | 3298 |
| Z85 | 3325 |
| Z86 | 3299 |
| Z87 | 3299 |
| Z88 | 3299 |
| 3TZ89 | 3299 |
| Z90 | 3299 |
| Z91 | 3299 |
| Z92 | 3299 |
| Z93 | 3299 |
| 3TZ94 | 3299 |
| Z95 | 3355 |
| Z96 | 3355 |
| Z97 | 3301 |
| Z98 | 3301 |
| 3TZ99 | 3496 |
| 005 | 754 |
| 008 | 3485 |
| 009 | 817 |
| 029 | 803 |
| 3T030 | 822 |
| 031 | 822 |
| 032 | 784 |
| 033 | 822 |
| 034 | 822 |
| 3T035 | 822 |
| 036 | 822 |
| 037 | 823 |
| 038 | 823 |
| 039 | 823 |
| 3T040 | 823 |
| 041 | 823 |
| 042 | 823 |
| 043 | 823 |
| 044 | 823 |
| 3T045 | 823 |
| 046 | 823 |
| 047 | 823 |
| 048 | 823 |
| 053 | 839 |
| 3T054 | 839 |
| 055 | 839 |
| 056 | 839 |
| 059 | 765 |
| 060 | 822 |
| 3T061 | 822 |
| 062 | 839 |
| 063 | 839 |
| 064 | 860 |
| 070 | 1686 |
| 3T075 | 768 |
| 078 | 3487 |
| 082 | 828 |
| 084 | 825 |
| 086 | 862 |
| 3T087 | 862 |
| 088 | 862 |
| 089 | 862 |
| 090 | 862 |
| 091 | 850 |
| 3T092 | 850 |
| 093 | 850 |
| 094 | 850 |
| 095 | 852 |
| 096 | 852 |
| 3T098 | 856 |
| 099 | 856 |
| 104 | 751 |
| 105 | 748 |
| 106 | 790 |
| 3T109 | 788 |
| 110 | 840 |
| 111 | 790 |
| 112 | 806 |
| 113 | 788 |
| 3T114 | 791 |
| 115 | 840 |
| 116 | 1686 |
| 117 | 790 |
| 119 | 806 |
| 3T120 | 806 |
| 128 | 1798 |
| 131 | 1800 |
| 133 | 1802 |
| 134 | 1802 |
| 3T135 | 1802 |
| 136 | 1803 |
| 137 | 1803 |
| 139 | 1804 |
| 140 | 1822 |
| 3T148 | 1804 |
| 149 | 1804 |
| 156 | 1819 |
| 160 | 1814 |
| 162 | 1813 |
| 3T165 | 1823 |
| 167 | 1824 |
| 168 | 1824 |
| 170 | 1809 |
| 172 | 1810 |
| 3T174 | 1809 |
| 175 | 1809 |
| 178 | 833 |
| 179 | 833 |
| 181 | 833 |
| 3T182 | 833 |
| 183 | 833 |
| 184 | 833 |
| 185 | 833 |
| 186 | 883 |
| 3T187 | 883 |
| 188 | 883 |
| 189 | 887 |
| 194 | 881 |
| 195 | 881 |
| 3T196 | 881 |
| 197 | 882 |
| 243 | 748 |
| 244 | 779 |
| 248 | 3318 |
| 3T249 | 764 |
| 253 | 3487 |
| 267 | 767 |
| 269 | 806 |
| 272 | 822 |
| 3T273 | 822 |
| 276 | 1391 |
| 280 | 852 |
| 291 | 817 |
| 292 | 857 |
| 3T293 | 843 |
| 294 | 858 |
| 295 | 860 |
| 296 | 850 |
| 297 | 850 |
| 3T299 | 843 |
| 300 | 857 |
| 301 | 857 |
| 302 | 857 |
| 303 | 857 |
| 3T304 | 857 |
| 305 | 857 |
| 306 | 857 |
| 307 | 858 |
| 308 | 858 |
| 3T309 | 862 |
| 310 | 862 |
| 311 | 861 |
| 312 | 861 |
| 313 | 861 |
| 3T314 | 860 |
| 315 | 860 |
| 316 | 860 |
| 317 | 860 |
| 318 | 860 |
| 3T319 | 860 |
| 320 | 860 |
| 321 | 860 |
| 322 | 860 |
| 323 | 860 |
| 3T324 | 860 |
| 325 | 860 |
| 326 | 860 |
| 330 | 878 |
| 331 | 878 |
| 3T347 | 1391 |
| 348 | 1391 |
| 356 | 886 |
| 357 | 886 |
| 358 | 886 |
| 3T359 | 886 |
| 360 | 886 |
| 361 | 886 |
| 362 | 886 |
| 363 | 886 |
| 3T364 | 886 |
| 365 | 886 |
| 366 | 886 |
| 367 | 886 |
| 368 | 886 |
| 3T369 | 886 |
| 370 | 886 |
| 371 | 886 |
| 372 | 886 |
| 373 | 886 |
| 3T374 | 886 |
| 375 | 886 |
| 376 | 886 |
| 377 | 886 |
| 378 | 886 |
| 3T379 | 886 |
| 380 | 1686 |
| 384 | 1686 |
| 388 | 1686 |
| 392 | 1686 |
| 3T399 | 1686 |
| 400 | 856 |
| 401 | 856 |
| 402 | 856 |
| 403 | 858 |
| 3T404 | 857 |
| 408 | 3488 |
| 409 | 3488 |
| 410 | 3488 |
| 411 | 3488 |
| 3T412 | 3488 |
| 413 | 3488 |
| 414 | 3488 |
| 415 | 3488 |
| 416 | 3488 |
| 3T417 | 3488 |
| 418 | 3488 |
| 420 | 795 |
| 429 | 776 |
| 432 | 781 |
| 3T438 | 762 |
| 447 | 792 |
| 448 | 853 |
| 449 | 3484 |
| 450 | 861 |
| 3T451 | 861 |
| 452 | 861 |
| 453 | 861 |
| 454 | 861 |
| 455 | 861 |
| 3T456 | 861 |
| 457 | 861 |
| 458 | 861 |
| 459 | 861 |
| 460 | 861 |
| 3T461 | 861 |
| 462 | 861 |
| 471 | 791 |
| 472 | 789 |
| 473 | 3488 |
| 3T474 | 3488 |
| 475 | 3488 |
| 478 | 737 |
| 479 | 737 |
| 480 | 737 |
| 3T481 | 737 |
| 482 | 740 |
| 483 | 740 |
| 484 | 740 |
| 485 | 740 |
| 3T511 | 1686 |
| 514 | 1613 |
| 515 | 1686 |
| 516 | 1613 |
| 518 | 1613 |
| 3T519 | 1686 |
| 520 | 1613 |
| 522 | 1613 |
| 523 | 1686 |
| 524 | 1613 |
| 3T526 | 1613 |
| 527 | 1686 |
| 528 | 1613 |
| 531 | 1686 |
| 535 | 1686 |
| 3T539 | 1686 |
| 545 | 1686 |
| 549 | 1686 |
| 553 | 1686 |
| 554 | 1613 |
| 3T556 | 1613 |
| 557 | 1686 |
| 558 | 1613 |
| 560 | 1613 |
| 561 | 1686 |
| 3T562 | 1613 |
| 564 | 1613 |
| 568 | 1613 |
| 570 | 1613 |
| 572 | 1613 |
| 3T574 | 1629 |
| 576 | 1629 |
| 577 | 1687 |
| 578 | 1629 |
| 579 | 1687 |
| 3T580 | 1629 |
| 581 | 1687 |
| 582 | 1629 |
| 583 | 1687 |
| 584 | 1629 |
| 3T585 | 1687 |
| 586 | 1629 |
| 587 | 1687 |
| 588 | 1629 |
| 589 | 1687 |
| 3T590 | 1629 |
| 591 | 1687 |
| 593 | 1687 |
| 595 | 1687 |
| 597 | 1687 |
| 3T599 | 1687 |
| 601 | 1687 |
| 603 | 1687 |
| 605 | 1687 |
| 608 | 1687 |
| 3T610 | 1687 |
| 612 | 1687 |
| 614 | 1687 |
| 615 | 1628 |
| 616 | 1687 |
| 3T617 | 1629 |
| 619 | 1629 |
| 621 | 1614 |
| 623 | 1614 |
| 625 | 1614 |
| 3T627 | 1614 |
| 629 | 1629 |
| 631 | 1614 |
| 633 | 1613 |
| 635 | 1613 |
| 3T637 | 1613 |
| 639 | 1613 |
| 641 | 1613 |
| 643 | 1613 |
| 645 | 1614 |
| 3T647 | 1614 |
| 649 | 1614 |
| 651 | 1614 |
| 653 | 1614 |
| 655 | 1614 |
| 3T657 | 1614 |
| 659 | 1614 |
| 661 | 1614 |
| 663 | 1614 |
| 665 | 1614 |
| 3T667 | 1614 |
| 669 | 1614 |
| 697 | 1621 |
| 699 | 1621 |
| 701 | 1621 |
| 3T703 | 1621 |
| 704 | 1683 |
| 705 | 1621 |
| 706 | 1683 |
| 707 | 1621 |
| 3T709 | 1621 |
| 710 | 1683 |
| 711 | 1621 |
| 712 | 1683 |
| 713 | 1621 |
| 3T716 | 1683 |
| 719 | 1621 |
| 720 | 1683 |
| 721 | 1621 |
| 722 | 1683 |
| 3T723 | 1621 |
| 725 | 1621 |
| 726 | 1683 |
| 727 | 1621 |
| 729 | 1621 |
| 3T730 | 1683 |
| 731 | 1621 |
| 732 | 1683 |
| 734 | 1683 |
| 735 | 1621 |
| 3T736 | 1683 |
| 737 | 1621 |
| 739 | 1621 |
| 741 | 1623 |
| 743 | 1623 |
| 3T745 | 1623 |
| 747 | 1623 |
| 749 | 1623 |
| 751 | 1623 |
| 753 | 1623 |
| 3T755 | 1623 |
| 757 | 1623 |
| 759 | 1623 |
| 760 | 1683 |
| 761 | 1623 |
| 3T762 | 1683 |
| 763 | 1623 |
| 764 | 1683 |
| 765 | 1623 |
| 766 | 1683 |
| 3T767 | 1623 |
| 768 | 1683 |
| 769 | 1623 |
| 770 | 1683 |
| 771 | 1623 |
| 3T772 | 1683 |
| 773 | 1623 |
| 775 | 1623 |
| 777 | 1623 |
| 779 | 1623 |
| 3T781 | 1623 |
| 782 | 1683 |
| 783 | 1623 |
| 784 | 1683 |
| 785 | 1623 |
| 3T786 | 1683 |
| 787 | 1623 |
| 788 | 1683 |
| 789 | 1623 |
| 790 | 1683 |
| 3T792 | 1683 |
| 796 | 1683 |
| 798 | 1683 |
| 811 | 877 |
| 812 | 877 |
| 3T801 | 877 |
| 803 | 747 |
| 841 | 747 |
| 843 | 747 |
| 847 | 748 |
| 850 | 748 |
| 3T852 | 749 |
| 853 | 749 |
| 854 | 749 |
| 856 | 749 |
| 857 | 749 |
| 3T859 | 750 |
| 860 | 750 |
| 861 | 753 |
| 865 | 752 |
| 867 | 752 |
| 3T868 | 752 |
| 869 | 752 |
| 870 | 849 |
| 874 | 750 |
| 875 | 750 |
| 3T876 | 750 |
| 877 | 750 |
| 878 | 750 |
| 883 | 825 |
| 884 | 790 |
| 3T885 | 790 |
| 886 | 787 |
| 887 | 787 |
| 888 | 788 |
| 889 | 788 |
| 3T890 | 824 |
| 891 | 824 |
| 892 | 824 |
| 893 | 824 |
| 894 | 824 |
| 3T895 | 824 |
| 896 | 824 |
| 897 | 786 |
| 917 | 887 |
| 920 | 1683 |
| 3T921 | 1586 |
| 922 | 2615 |
| 924 | 2333 |
| 925 | 2333 |
| 926 | 2333 |
| 3T927 | 2550 |
| 928 | 2550 |
| 943 | 2554 |
| 944 | 2554 |
| 945 | 2554 |
| 3T946 | 2554 |
| 947 | 2554 |
| 948 | 2554 |
| 949 | 2555 |
| 950 | 2555 |
| 3T951 | 2555 |
| 952 | 2555 |
| 953 | 2555 |
| 954 | 2555 |
| 955 | 2539 |
| 3T956 | 2547 |
| 960 | 2441 |
| 961 | 2441 |
| 962 | 2443 |
| 966 | 1587 |
| 3T967 | 1587 |
| 968 | 1587 |
| 969 | 1587 |
| 970 | 1587 |
| 971 | 1587 |
| 3T972 | 1587 |
| 973 | 1587 |
| 974 | 1587 |
| 975 | 1587 |
| 976 | 2624 |
| 3T977 | 2624 |
| 978 | 2624 |
| 979 | 2624 |
| 980 | 2624 |
| 981 | 2624 |
| 3T982 | 2624 |
| 983 | 2624 |
| 984 | 2624 |
| 985 | 2624 |
| 986 | 2565 |
| 3T988 | 2349 |
| 989 | 2348 |
| 990 | 2348 |
| 991 | 2348 |
| 992 | 2330 |
| 3T993 | 2330 |
| 994 | 2619 |
| 995 | 2619 |
| 996 | 2619 |
| 997 | 2619 |
| 3T998 | 2618 |
| 999 | 2618 |
| 3U | |
| 3UC01 | 3301 |
| 3UC02 | 3309 |
| C03 | 3309 |
| C04 | 3309 |
| C05 | 3309 |
| C06 | 3309 |
| 3UC07 | 3309 |
| C08 | 3309 |
| C09 | 3297 |
| C10 | 3297 |
| C11 | 3297 |
| 3UC12 | 3297 |
| C13 | 3299 |
| C14 | 3299 |
| C15 | 3299 |
| C16 | 3299 |
| 3UC17 | 3349 |
| C18 | 3349 |
| C19 | 3349 |
| C20 | 3299 |
| C21 | 3307 |
| 3UC22 | 3306 |
| C23 | 3306 |
| C24 | 3306 |
| C25 | 3306 |
| C26 | 3305 |
| 3UC27 | 3305 |
| C28 | 3305 |
| C29 | 3306 |
| C30 | 3306 |
| C31 | 3306 |
| 3UC32 | 3299 |
| C33 | 3302 |
| C34 | 3302 |
| C35 | 3349 |
| C36 | 3322 |
| 3UC37 | 3322 |
| C40 | 3322 |
| C41 | 3322 |
| C44 | 3322 |
| C46 | 3322 |
| 3UC47 | 3302 |
| C48 | 3302 |
| C49 | 3302 |
| C50 | 3304 |
| C51 | 3304 |
| 3UC52 | 3304 |
| C53 | 3303 |
| C54 | 3303 |
| C55 | 3303 |
| C56 | 3300 |
| 3UC57 | 3304 |
| C58 | 3300 |
| C59 | 3300 |
| C60 | 3300 |
| C61 | 3303 |
| 3UC62 | 3304 |
| C63 | 3303 |
| C64 | 3307 |
| C65 | 3307 |
| C66 | 3349 |
| 3UC67 | 3355 |
| C68 | 3355 |
| C69 | 3355 |
| C70 | 3326 |
| C71 | 3330 |
| 3UC72 | 3330 |
| C73 | 3330 |
| C74 | 3322 |
| C75 | 3322 |
| C77 | 3322 |
| 3UC79 | 3322 |
| C82 | 3322 |
| C83 | 3325 |
| C84 | 3325 |
| C85 | 3325 |
| 3UC86 | 3315 |
| C87 | 3298 |
| C88 | 3298 |
| C89 | 3298 |
| C90 | 3298 |
| 3UC91 | 3298 |
| C92 | 3298 |
| C93 | 3298 |
| C94 | 3298 |
| C95 | 3298 |
| 3UC96 | 3298 |
| C97 | 3298 |
| C98 | 3298 |
| C99 | 3298 |
| D01 | 3301 |
| 3UD02 | 3355 |
| D03 | 3355 |
| D04 | 3355 |
| D05 | 3355 |
| D06 | 3355 |

# STOCK NUMBER—PAGE NUMBER

## 3UD — 3UP

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3UD07 | 3355 | 3UD72 | 3407 | 3UF38 | 3389 | 3UG04 | 3385 | 3UG69 | 3398 | 3UH36 | 3449 | 3UJ53 | 3448 | 3UK36 | 3367 | 3UL15 | 3365 | 3UM33 | 3367 | 3UN28 | 1625 |
| D08 | 3355 | D73 | 3380 | F39 | 3389 | G05 | 3397 | G70 | 3398 | H37 | 3444 | J55 | 3448 | K37 | 3367 | L19 | 3365 | M35 | 1935 | N29 | 1625 |
| D09 | 3355 | D74 | 3380 | F40 | 3389 | G06 | 3397 | G71 | 3398 | H38 | 3444 | J57 | 3444 | K38 | 3367 | L20 | 3368 | M36 | 1935 | N30 | 1625 |
| D10 | 3355 | D75 | 3410 | F41 | 3389 | G07 | 1935 | G72 | 3398 | H39 | 3444 | J58 | 3444 | K39 | 3367 | L21 | 3365 | M37 | 1938 | N31 | 1625 |
| D11 | 3309 | D76 | 3410 | F42 | 3389 | G08 | 3397 | G73 | 3395 | H40 | 3444 | J59 | 3444 | K40 | 3367 | L25 | 3365 | M38 | 1938 | N32 | 1617 |
| 3UD12 | 3309 | 3UD77 | 3410 | 3UF43 | 3389 | 3UG09 | 3390 | 3UG74 | 3395 | 3UH41 | 3444 | 3UJ60 | 3444 | 3UK41 | 3367 | 3UL26 | 3365 | 3UM39 | 1937 | 3UN33 | 1618 |
| D13 | 3308 | D78 | 3410 | F44 | 3389 | G10 | 3390 | G75 | 3384 | H42 | 3444 | J61 | 3444 | K42 | 3367 | L27 | 3365 | M40 | 1937 | N34 | 1618 |
| D14 | 3308 | D79 | 3410 | F45 | 3389 | G11 | 3390 | G76 | 3391 | H43 | 3444 | J62 | 3444 | K43 | 3367 | L28 | 3365 | M41 | 1937 | N35 | 1618 |
| D15 | 3308 | D80 | 3410 | F46 | 3389 | G12 | 3385 | G77 | 3391 | H44 | 3444 | J63 | 3444 | K44 | 3367 | L29 | 3368 | M42 | 1938 | N36 | 1618 |
| D16 | 3308 | D81 | 3383 | F47 | 3389 | G13 | 3385 | G78 | 3391 | H46 | 3429 | J64 | 3444 | K45 | 3367 | L30 | 3368 | M43 | 1938 | N37 | 1618 |
| 3UD17 | 3308 | 3UD82 | 3383 | 3UF48 | 3389 | 3UG14 | 3385 | 3UG79 | 3391 | 3UH48 | 3429 | 3UJ65 | 3442 | 3UK46 | 3367 | 3UL31 | 3368 | 3UM45 | 2780 | 3UN38 | 1618 |
| D18 | 3308 | D83 | 3383 | F49 | 3389 | G15 | 3386 | G80 | 3391 | H50 | 3429 | J66 | 3444 | K48 | 3365 | L32 | 3368 | M46 | 2780 | N39 | 1618 |
| D19 | 3308 | D84 | 3383 | F50 | 3389 | G16 | 3386 | G82 | 3391 | H52 | 3429 | J67 | 3444 | K49 | 3368 | L34 | 3368 | M47 | 2780 | N40 | 1618 |
| D20 | 3308 | D85 | 3383 | F51 | 3389 | G17 | 3386 | G83 | 3391 | H54 | 3429 | J68 | 3444 | K50 | 3365 | L35 | 3368 | M48 | 2780 | N41 | 1618 |
| D21 | 3309 | D86 | 3456 | F52 | 3399 | G18 | 3386 | G84 | 3391 | H56 | 3428 | J69 | 3444 | K51 | 3365 | L36 | 3368 | M50 | 1610 | N42 | 1618 |
| 3UD22 | 3308 | 3UD87 | 3456 | 3UF53 | 3399 | 3UG19 | 3386 | 3UG85 | 3391 | 3UH58 | 3428 | 3UJ70 | 3444 | 3UK52 | 3368 | 3UL37 | 3368 | 3UM51 | 1610 | 3UN44 | 1617 |
| D23 | 3308 | D88 | 3456 | F54 | 3399 | G20 | 3386 | G86 | 3391 | H60 | 3428 | J71 | 3444 | K53 | 3365 | L38 | 3368 | M52 | 1610 | N45 | 1617 |
| D24 | 3308 | D89 | 3458 | F55 | 3399 | G21 | 3394 | G87 | 3391 | H62 | 3428 | J72 | 3444 | K58 | 3365 | L39 | 3368 | M53 | 1610 | N46 | 1606 |
| D25 | 3308 | D90 | 3458 | F56 | 3399 | G22 | 3394 | G88 | 3391 | H64 | 3428 | J73 | 3444 | K59 | 3365 | L40 | 3368 | M54 | 1610 | N47 | 1606 |
| D26 | 3417 | D91 | 3458 | F57 | 3399 | G23 | 3394 | G89 | 3391 | H66 | 3428 | J74 | 3444 | K60 | 3365 | L41 | 3368 | M55 | 1610 | N48 | 1606 |
| 3UD27 | 3417 | 3UD92 | 3458 | 3UF58 | 3387 | 3UG24 | 3394 | 3UG90 | 3391 | 3UH68 | 3428 | 3UJ75 | 3444 | 3UK61 | 3365 | 3UL42 | 3365 | 3UM56 | 1608 | 3UN50 | 1593 |
| D28 | 3417 | D93 | 3456 | F59 | 3387 | G25 | 3394 | G91 | 3391 | H70 | 3428 | J76 | 3444 | K64 | 3365 | L44 | 3365 | M57 | 1611 | N51 | 1593 |
| D29 | 3417 | D94 | 3458 | F60 | 3387 | G26 | 3394 | G92 | 3389 | H71 | 3449 | J77 | 3444 | K65 | 3365 | L47 | 3365 | M58 | 1611 | N57 | 1593 |
| D30 | 3417 | D95 | 3458 | F61 | 3387 | G27 | 3392 | G93 | 3389 | H72 | 3449 | J86 | 3428 | K66 | 3365 | L48 | 3365 | M59 | 1611 | N58 | 1596 |
| D31 | 3417 | D96 | 3458 | F62 | 3387 | G28 | 3392 | G94 | 3389 | H73 | 3449 | J87 | 3428 | K67 | 3365 | L49 | 3365 | M86 | 1626 | N59 | 1596 |
| 3UD32 | 3417 | 3UD97 | 3458 | 3UF63 | 3387 | 3UG29 | 3392 | 3UG95 | 3389 | 3UH74 | 3446 | 3UJ88 | 3428 | 3UK68 | 3365 | 3UL50 | 3365 | 3UM87 | 1626 | 3UN60 | 1596 |
| D33 | 3417 | D98 | 3458 | F64 | 3387 | G30 | 3392 | G96 | 3390 | H76 | 3446 | J89 | 3428 | K69 | 3365 | L51 | 3365 | M88 | 1626 | N61 | 1596 |
| D34 | 3417 | D99 | 3458 | F65 | 3387 | G31 | 3392 | G97 | 3390 | H78 | 3446 | J90 | 3428 | K70 | 3365 | L52 | 3365 | M89 | 1626 | N62 | 1596 |
| D35 | 3418 | F01 | 3458 | F66 | 3387 | G32 | 3392 | G98 | 3390 | H80 | 3446 | J91 | 3428 | K71 | 3368 | L55 | 3364 | M90 | 1626 | N63 | 1596 |
| D36 | 3418 | F02 | 3458 | F67 | 3385 | G33 | 3393 | G99 | 3386 | H82 | 3446 | J92 | 3428 | K72 | 3365 | L56 | 3365 | M91 | 1626 | N64 | 1596 |
| 3UD37 | 3418 | 3UF03 | 3456 | 3UF68 | 3385 | 3UG34 | 3393 | 3UH01 | 3386 | 3UH84 | 3446 | 3UJ93 | 3446 | 3UK76 | 3365 | 3UL57 | 3365 | 3UM92 | 1626 | 3UN65 | 1596 |
| D38 | 3418 | F04 | 3458 | F69 | 3385 | G35 | 3393 | H02 | 3386 | H86 | 3447 | J94 | 3450 | K77 | 3365 | L59 | 3365 | M93 | 1626 | N66 | 1596 |
| D39 | 3418 | F05 | 3458 | F70 | 3385 | G36 | 3393 | H03 | 3388 | H89 | 3447 | J95 | 3450 | K79 | 3365 | L60 | 3365 | M94 | 1626 | N67 | 1596 |
| D40 | 3418 | F06 | 3456 | F71 | 3385 | G37 | 3393 | H04 | 3388 | H91 | 3447 | J96 | 3450 | K80 | 3365 | L62 | 3365 | M95 | 1626 | N68 | 1591 |
| D41 | 3418 | F07 | 3456 | F72 | 3385 | G38 | 3393 | H05 | 3388 | H94 | 3447 | J97 | 3450 | K81 | 3365 | L63 | 3365 | M96 | 1626 | N69 | 1591 |
| 3UD42 | 3418 | 3UF08 | 3458 | 3UF73 | 3385 | 3UG39 | 3394 | 3UH06 | 3388 | 3UH96 | 3447 | 3UJ98 | 3450 | 3UK82 | 3365 | 3UL64 | 3365 | 3UM97 | 1626 | 3UN70 | 1591 |
| D43 | 3418 | F09 | 3458 | F74 | 3391 | G40 | 3394 | H07 | 3391 | H99 | 3447 | J99 | 3450 | K83 | 3364 | L65 | 3365 | M98 | 1626 | N71 | 1591 |
| D44 | 3418 | F10 | 3458 | F75 | 3397 | G41 | 3394 | H08 | 3392 | J02 | 3445 | K01 | 3450 | K84 | 3364 | L66 | 3365 | M99 | 1626 | N72 | 1591 |
| D45 | 3418 | F11 | 3456 | F76 | 3397 | G42 | 3394 | H09 | 3392 | J04 | 3445 | K02 | 3450 | K85 | 3364 | L67 | 3364 | N01 | 1626 | N73 | 1589 |
| D46 | 3418 | F12 | 3456 | F77 | 3397 | G43 | 3394 | H10 | 3392 | J06 | 3445 | K03 | 3450 | K86 | 3364 | L68 | 3364 | N02 | 1626 | N74 | 1589 |
| 3UD47 | 3417 | 3UF13 | 3456 | 3UF78 | 3397 | 3UG44 | 3394 | 3UH11 | 3392 | 3UJ08 | 3445 | 3UK04 | 3450 | 3UK87 | 3364 | 3UL69 | 3364 | 3UN03 | 1626 | 3UN75 | 1589 |
| D48 | 3417 | F14 | 3456 | F79 | 3397 | G45 | 3388 | H12 | 3392 | J10 | 3445 | K05 | 3450 | K88 | 3364 | L70 | 3368 | N04 | 1626 | N76 | 1589 |
| D49 | 3417 | F15 | 3456 | F80 | 3397 | G46 | 3388 | H13 | 3392 | J12 | 3445 | K06 | 3443 | K89 | 3364 | L82 | 3366 | N05 | 1626 | N77 | 1591 |
| D50 | 3417 | F16 | 3456 | F81 | 3397 | G47 | 3388 | H14 | 3392 | J14 | 3429 | K07 | 3446 | K90 | 3364 | L83 | 3366 | N06 | 1626 | N78 | 1591 |
| D51 | 3410 | F17 | 3456 | F82 | 3397 | G48 | 3388 | H15 | 3392 | J18 | 3429 | K08 | 3448 | K91 | 3365 | L89 | 3366 | N07 | 1626 | N79 | 1589 |
| 3UD52 | 3410 | 3UF18 | 3456 | 3UF83 | 3397 | 3UG49 | 3388 | 3UH16 | 3392 | 3UJ22 | 3429 | 3UK09 | 3448 | 3UK92 | 3365 | 3UL90 | 3366 | 3UN08 | 1619 | 3UN80 | 1589 |
| D53 | 3410 | F19 | 3458 | F84 | 3397 | G50 | 3388 | H17 | 3392 | J26 | 3450 | K11 | 3448 | K93 | 3365 | L91 | 3366 | N09 | 1619 | N81 | 1589 |
| D54 | 3410 | F20 | 3458 | F85 | 3397 | G51 | 3388 | H18 | 3390 | J28 | 3450 | K13 | 3448 | K94 | 3365 | L92 | 3366 | N10 | 1619 | N82 | 1589 |
| D55 | 3410 | F21 | 3458 | F86 | 3397 | G52 | 3382 | H19 | 3398 | J30 | 3450 | K14 | 3448 | K95 | 3364 | L95 | 3366 | N11 | 1620 | N83 | 1589 |
| D56 | 3410 | F22 | 3458 | F87 | 3397 | G53 | 3382 | H20 | 3398 | J32 | 3450 | K15 | 3448 | K96 | 3364 | L96 | 3366 | N12 | 1620 | N84 | 1589 |
| 3UD57 | 3410 | 3UF23 | 3386 | 3UF88 | 3397 | 3UG54 | 3382 | 3UH21 | 3442 | 3UJ34 | 3443 | 3UK16 | 3445 | 3UK97 | 3365 | 3UM06 | 3366 | 3UN13 | 1620 | 3UN85 | 1589 |
| D58 | 3410 | F24 | 3386 | F89 | 3397 | G55 | 3385 | H22 | 3442 | J35 | 3443 | K17 | 3446 | K98 | 3365 | M07 | 3366 | N14 | 1620 | N86 | 1589 |
| D59 | 3410 | F25 | 3386 | F90 | 3397 | G56 | 3385 | H23 | 3442 | J36 | 3443 | K18 | 3365 | K99 | 3365 | M09 | 3366 | N15 | 1620 | N87 | 1589 |
| D60 | 3408 | F26 | 3386 | F91 | 3397 | G57 | 3385 | H24 | 3442 | J37 | 3443 | K19 | 3365 | L01 | 3365 | M10 | 3366 | N16 | 1620 | N88 | 1589 |
| D61 | 3408 | F27 | 3386 | F92 | 3397 | G58 | 3387 | H25 | 3442 | J38 | 3443 | K20 | 3365 | L02 | 3365 | M15 | 3366 | N17 | 1620 | N89 | 1589 |
| 3UD62 | 3408 | 3UF28 | 3386 | 3UF93 | 3397 | 3UG59 | 3389 | 3UH26 | 3442 | 3UJ39 | 3443 | 3UK21 | 3365 | 3UL05 | 3365 | 3UM16 | 3366 | 3UN18 | 1620 | 3UN90 | 1589 |
| D63 | 3408 | F29 | 3386 | F94 | 3397 | G60 | 3398 | H27 | 3442 | J40 | 3443 | K22 | 3365 | L06 | 3365 | M17 | 3366 | N19 | 1620 | N91 | 1589 |
| D64 | 3408 | F30 | 3386 | F95 | 3397 | G61 | 3398 | H28 | 3442 | J41 | 3450 | K23 | 3365 | L07 | 3365 | M18 | 3366 | N20 | 1620 | N92 | 1589 |
| D65 | 3408 | F31 | 3389 | F96 | 3397 | G62 | 3382 | H29 | 3442 | J42 | 3450 | K24 | 3365 | L08 | 3365 | M24 | 3368 | N21 | 1620 | N97 | 1590 |
| D66 | 3410 | F32 | 3389 | F97 | 3397 | G63 | 3398 | H30 | 3442 | J43 | 3448 | K25 | 3365 | L09 | 3365 | M25 | 3368 | N22 | 1620 | N98 | 1590 |
| 3UD67 | 3410 | 3UF33 | 3389 | 3UF98 | 3397 | 3UG64 | 3397 | 3UH31 | 3442 | 3UJ44 | 3448 | 3UK29 | 3366 | 3UL10 | 3365 | 3UM27 | 3367 | 3UN23 | 1620 | 3UN99 | 1590 |
| D68 | 3408 | F34 | 3389 | F99 | 3397 | G65 | 3397 | H32 | 3442 | J46 | 3448 | K30 | 3366 | L11 | 3368 | M28 | 3367 | N24 | 1620 | P01 | 1590 |
| D69 | 3408 | F35 | 3389 | G01 | 3384 | G66 | 3382 | H33 | 3442 | J47 | 3448 | K33 | 3367 | L12 | 3365 | M29 | 3367 | N25 | 1619 | P02 | 1590 |
| D70 | 3408 | F36 | 3389 | G02 | 3384 | G67 | 3382 | H34 | 3442 | J50 | 3448 | K34 | 3367 | L13 | 3365 | M30 | 3366 | N26 | 1625 | P03 | 1590 |
| D71 | 3407 | F37 | 3389 | G03 | 3398 | G68 | 3398 | H35 | 3449 | J52 | 3448 | K35 | 3367 | L14 | 3368 | M31 | 3366 | N27 | 1625 | P04 | 1590 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 3UP05 | 1590 |
| P06 | 1590 |
| P07 | 1590 |
| P08 | 1590 |
| P09 | 1590 |
| 3UP10 | 1590 |
| P11 | 1590 |
| P12 | 1590 |
| P13 | 1590 |
| P14 | 1603 |
| 3UP16 | 1603 |
| P17 | 1603 |
| P18 | 1603 |
| P19 | 1603 |
| P20 | 1603 |
| 3UP21 | 1592 |
| P22 | 1592 |
| P24 | 1607 |
| P25 | 1607 |
| P26 | 1607 |
| 3UP27 | 1607 |
| P28 | 1603 |
| P29 | 1603 |
| P30 | 1603 |
| P31 | 1603 |
| 3UP32 | 3340 |
| P33 | 3340 |
| P34 | 3340 |
| P35 | 3340 |
| P36 | 3340 |
| 3UP37 | 1847 |
| P38 | 1847 |
| P39 | 1847 |
| P40 | 1847 |
| P43 | 1847 |
| 3UP44 | 1847 |
| P45 | 1954 |
| P46 | 1954 |
| P47 | 1954 |
| P48 | 1954 |
| 3UP49 | 1954 |
| P50 | 1954 |
| P53 | 1617 |
| P54 | 1617 |
| P55 | 1617 |
| 3UP56 | 1617 |
| P57 | 1886 |
| P58 | 1889 |
| P59 | 1890 |
| P60 | 1885 |
| 3UP61 | 1890 |
| P62 | 1890 |
| P63 | 1891 |
| P64 | 1889 |
| P65 | 1889 |
| 3UP66 | 1889 |
| P67 | 1889 |
| P68 | 1890 |
| P69 | 1889 |
| P70 | 1889 |
| 3UP71 | 1889 |
| P72 | 1889 |
| P73 | 1885 |
| P74 | 1885 |
| P75 | 1884 |
| 3UP76 | 1886 |
| P77 | 1886 |
| P78 | 1883 |
| P79 | 1884 |
| P80 | 1885 |
| 3UP81 | 1885 |
| P82 | 3509 |
| P83 | 3509 |
| P84 | 3509 |
| P85 | 3509 |
| 3UP86 | 3509 |
| P87 | 2004 |
| P88 | 2004 |
| P90 | 1992 |
| P92 | 2000 |
| 3UP93 | 2001 |
| P94 | 2000 |
| P95 | 2000 |
| P96 | 2000 |
| P97 | 2001 |
| 3UP98 | 2000 |
| P99 | 2000 |
| R01 | 2001 |
| R02 | 2001 |
| R05 | 1992 |
| 3UR07 | 1992 |
| R09 | 1992 |
| R11 | 1992 |
| R13 | 1992 |
| R15 | 1992 |
| 3UR17 | 1992 |
| R19 | 1992 |
| R22 | 1842 |
| R23 | 1842 |
| R24 | 1842 |
| 3UR25 | 1842 |
| R26 | 1842 |
| R27 | 1843 |
| R28 | 1841 |
| R29 | 1841 |
| 3UR30 | 1841 |
| R31 | 1842 |
| R32 | 1842 |
| R33 | 1842 |
| R34 | 1842 |
| 3UR35 | 1842 |
| R36 | 1841 |
| R37 | 1840 |
| R38 | 1840 |
| R39 | 1852 |
| 3UR40 | 1852 |
| R42 | 1852 |
| R43 | 1840 |
| R44 | 1840 |
| R45 | 1840 |
| 3UR47 | 1840 |
| R48 | 1840 |
| R50 | 1840 |
| R51 | 1840 |
| R54 | 1840 |
| 3UR56 | 1852 |
| R57 | 1852 |
| R58 | 1852 |
| R59 | 1852 |
| R60 | 1852 |
| 3UR61 | 1852 |
| R62 | 1852 |
| R63 | 1843 |
| R64 | 1843 |
| R65 | 1843 |
| 3UR66 | 1843 |
| R67 | 1950 |
| R68 | 1950 |
| R69 | 1950 |
| R70 | 1843 |
| 3UR73 | 1841 |
| R74 | 1841 |
| R75 | 1841 |
| R76 | 1843 |
| R78 | 1844 |
| 3UR79 | 1844 |
| R80 | 1844 |
| R81 | 1844 |
| R82 | 1844 |
| R83 | 1844 |
| 3UR84 | 1835 |
| R85 | 1835 |
| R86 | 1835 |
| R87 | 1836 |
| R88 | 1836 |
| 3UR89 | 1835 |
| R90 | 1835 |
| R91 | 1835 |
| R92 | 1835 |
| R93 | 1835 |
| 3UR94 | 1835 |
| R95 | 1837 |
| R96 | 1837 |
| R97 | 1837 |
| R98 | 1837 |
| 3UR99 | 1837 |
| T01 | 1837 |
| T02 | 1837 |
| T03 | 1837 |
| T04 | 1837 |
| 3UT05 | 1841 |
| T06 | 1841 |
| T07 | 1841 |
| T08 | 1841 |
| T09 | 1841 |
| 3UT10 | 1879 |
| T11 | 1852 |
| T12 | 1852 |
| T13 | 1852 |
| T14 | 1852 |
| 3UT15 | 1852 |
| T16 | 1852 |
| T17 | 1841 |
| T18 | 1869 |
| T19 | 1841 |
| 3UT20 | 1835 |
| T21 | 1835 |
| T22 | 1835 |
| T23 | 1835 |
| T24 | 1835 |
| 3UT25 | 1835 |
| T26 | 1849 |
| T27 | 1837 |
| T28 | 1837 |
| T29 | 1837 |
| 3UT30 | 1836 |
| T31 | 1836 |
| T32 | 1836 |
| T33 | 1836 |
| T34 | 1836 |
| 3UT35 | 1836 |
| T36 | 1855 |
| T37 | 1846 |
| T38 | 1846 |
| T39 | 1846 |
| 3UT40 | 1849 |
| T41 | 1869 |
| T42 | 1849 |
| T43 | 1849 |
| T44 | 1849 |
| 3UT45 | 1849 |
| T46 | 1849 |
| T47 | 1869 |
| T48 | 1849 |
| T49 | 1849 |
| 3UT50 | 1837 |
| T51 | 1869 |
| T52 | 1869 |
| T53 | 1869 |
| T54 | 1869 |
| 3UT55 | 1869 |
| T56 | 1869 |
| T57 | 1869 |
| T58 | 1869 |
| T59 | 1869 |
| 3UT60 | 1869 |
| T61 | 1869 |
| T62 | 1869 |
| T63 | 1869 |
| T64 | 1869 |
| 3UT66 | 1842 |
| T67 | 1843 |
| T68 | 1841 |
| T69 | 1842 |
| T70 | 1842 |
| 3UT71 | 1842 |
| T72 | 1841 |
| T73 | 1840 |
| T74 | 1852 |
| T75 | 1840 |
| 3UT76 | 1840 |
| T78 | 1837 |
| T79 | 1840 |
| T80 | 1906 |
| T82 | 61 |
| 3UT83 | 1852 |
| T84 | 1852 |
| T85 | 1843 |
| T86 | 1843 |
| T87 | 1843 |
| 3UT88 | 61 |
| T89 | 1843 |
| T90 | 71 |
| T91 | 1841 |
| T92 | 1841 |
| 3UT93 | 71 |
| T94 | 1844 |
| T95 | 1844 |
| T97 | 68 |
| T98 | 1844 |
| 3UV04 | 102 |
| V05 | 102 |
| V06 | 102 |
| V07 | 114 |
| V08 | 1852 |
| 3UV09 | 1852 |
| V11 | 1849 |
| V12 | 114 |
| V16 | 1869 |
| V17 | 165 |
| 3UV18 | 1846 |
| V19 | 1849 |
| V20 | 1849 |
| V21 | 1849 |
| V22 | 1869 |
| 3UV23 | 1869 |
| V24 | 169 |
| V25 | 1869 |
| V26 | 1869 |
| V27 | 1869 |
| 3UV28 | 1869 |
| V29 | 1869 |
| V30 | 1869 |
| V31 | 1869 |
| V74 | 1876 |
| 3UV75 | 1876 |
| W06 | 1881 |
| W07 | 1881 |
| W08 | 1881 |
| W09 | 1877 |
| 3UW10 | 1877 |
| W11 | 1881 |
| W14 | 1881 |
| W15 | 1981 |
| W16 | 1981 |
| 3UW17 | 1981 |
| W18 | 1949 |
| W19 | 1949 |
| W20 | 1949 |
| W21 | 1949 |
| 3UW22 | 1981 |
| W23 | 1981 |
| W24 | 1981 |
| W25 | 1981 |
| W26 | 1951 |
| 3UW27 | 1951 |
| W28 | 1951 |
| W29 | 1951 |
| W30 | 1951 |
| W31 | 1981 |
| 3UW32 | 1981 |
| W33 | 1981 |
| W34 | 1981 |
| W35 | 1981 |
| W36 | 1981 |
| 3UW37 | 1981 |
| W38 | 1981 |
| W39 | 1981 |
| W40 | 1981 |
| W41 | 1981 |
| 3UW42 | 1981 |
| W43 | 1981 |
| W44 | 1981 |
| W45 | 1981 |
| W46 | 1981 |
| 3UW47 | 1981 |
| W48 | 1983 |
| W49 | 1983 |
| W50 | 1983 |
| W51 | 1983 |
| 3UW52 | 1982 |
| W53 | 1983 |
| W55 | 1947 |
| W56 | 1947 |
| W57 | 1947 |
| 3UW58 | 1947 |
| W59 | 1947 |
| W61 | 1982 |
| W62 | 1982 |
| W63 | 1982 |
| 3UW64 | 1982 |
| W65 | 1982 |
| W66 | 1982 |
| W67 | 1982 |
| W68 | 1982 |
| 3UW69 | 1982 |
| W70 | 1982 |
| W71 | 1982 |
| W72 | 1982 |
| W73 | 1982 |
| 3UW74 | 1983 |
| W75 | 1983 |
| W76 | 1982 |
| W77 | 1982 |
| W78 | 1982 |
| 3UW79 | 1982 |
| W80 | 1982 |
| W81 | 1982 |
| W82 | 1982 |
| W83 | 1982 |
| 3UW84 | 3505 |
| W85 | 3506 |
| W89 | 3505 |
| W90 | 3505 |
| W91 | 3505 |
| 3UW92 | 3505 |
| W93 | 3505 |
| W94 | 3505 |
| W95 | 1603 |
| W96 | 1603 |
| 3UW97 | 1603 |
| W98 | 1603 |
| W99 | 1603 |
| X01 | 1603 |
| X02 | 1603 |
| 3UX03 | 1603 |
| X04 | 1603 |
| X05 | 1603 |
| X06 | 1603 |
| X07 | 1603 |
| 3UX08 | 1603 |
| X09 | 1603 |
| X10 | 1603 |
| X11 | 1603 |
| X12 | 1603 |
| 3UX13 | 1603 |
| X14 | 1603 |
| X15 | 1603 |
| X16 | 1603 |
| X17 | 1603 |
| 3UX18 | 1603 |
| X19 | 1603 |
| X20 | 1603 |
| X21 | 1603 |
| X22 | 1603 |
| 3UX23 | 1603 |
| 001 | 1934 |
| 002 | 1934 |
| 003 | 1934 |
| 004 | 1934 |
| 3U0005 | 1934 |
| 006 | 1934 |
| 007 | 1934 |
| 008 | 1934 |
| 009 | 1934 |
| 3U0010 | 1934 |
| 011 | 1934 |
| 012 | 1934 |
| 014 | 1934 |
| 016 | 1934 |
| 3U0017 | 1935 |
| 018 | 1936 |
| 022 | 1854 |
| 024 | 1844 |
| 025 | 1844 |
| 3U0027 | 1865 |
| 029 | 1864 |
| 031 | 1866 |
| 033 | 1844 |
| 034 | 1862 |
| 3U0035 | 1864 |
| 037 | 1854 |
| 038 | 1848 |
| 039 | 1864 |
| 041 | 1852 |
| 3U0042 | 1852 |
| 043 | 1852 |
| 044 | 1863 |
| 045 | 1854 |
| 046 | 1854 |
| 3U0047 | 1854 |
| 048 | 1854 |
| 049 | 1854 |
| 052 | 1854 |
| 054 | 1855 |
| 3U0055 | 1855 |
| 058 | 1873 |
| 059 | 1873 |
| 060 | 1873 |
| 061 | 1873 |
| 3U0062 | 1873 |
| 063 | 1873 |
| 064 | 1873 |
| 065 | 1873 |
| 066 | 1873 |
| 3U0067 | 1873 |
| 068 | 1873 |
| 069 | 1873 |
| 070 | 1873 |
| 071 | 1873 |
| 3U0072 | 1873 |
| 073 | 1873 |
| 074 | 1873 |
| 075 | 1874 |
| 076 | 1874 |
| 3U0077 | 1874 |
| 078 | 1874 |
| 079 | 1874 |
| 080 | 1874 |
| 081 | 1873 |
| 3U0082 | 1873 |
| 083 | 1873 |
| 084 | 1873 |
| 085 | 1873 |
| 086 | 1873 |
| 3U0087 | 1873 |
| 088 | 1873 |
| 089 | 1873 |
| 090 | 1873 |
| 091 | 1873 |
| 3U0092 | 1873 |
| 093 | 1873 |
| 094 | 1873 |
| 095 | 1873 |
| 096 | 1873 |
| 3U0097 | 1956 |
| 098 | 1956 |
| 099 | 1956 |
| 100 | 1956 |
| 101 | 1939 |
| 3U0102 | 1939 |
| 103 | 1939 |
| 104 | 1939 |
| 105 | 1939 |
| 106 | 1939 |
| 3U0107 | 1939 |
| 108 | 1939 |
| 109 | 1939 |
| 110 | 1939 |
| 111 | 1939 |
| 3U0112 | 1939 |
| 113 | 1939 |
| 114 | 1939 |
| 115 | 1939 |
| 116 | 1939 |
| 3U0117 | 1939 |
| 118 | 1939 |
| 119 | 1939 |
| 120 | 1939 |
| 157 | 1957 |
| 3U0158 | 1957 |
| 161 | 1957 |
| 162 | 1957 |
| 163 | 1957 |
| 164 | 1957 |
| 3U0424 | 1955 |
| 425 | 1955 |
| 426 | 1955 |
| 427 | 1955 |
| 428 | 1955 |
| 3U0429 | 1955 |
| 430 | 1955 |
| 431 | 1955 |
| 432 | 1955 |
| 433 | 1955 |
| 3U0434 | 1955 |
| 435 | 1955 |
| 436 | 1955 |
| 437 | 1955 |
| 442 | 1955 |
| 3U0443 | 1955 |
| 444 | 1955 |
| 445 | 1954 |
| 446 | 1954 |
| 447 | 1954 |
| 3U0448 | 1956 |
| 449 | 1956 |
| 450 | 1956 |
| 451 | 1954 |
| 452 | 1954 |
| 3U0453 | 1955 |
| 454 | 1954 |
| 463 | 1952 |
| 464 | 1952 |
| 465 | 1952 |
| 3U0466 | 1952 |
| 467 | 1952 |
| 468 | 1952 |
| 469 | 1952 |
| 470 | 1952 |
| 3U0471 | 1952 |
| 472 | 1952 |
| 473 | 1952 |
| 474 | 1952 |
| 475 | 1952 |
| 3U0477 | 1879 |
| 478 | 1879 |
| 479 | 1925 |
| 480 | 1913 |
| 481 | 1925 |
| 3U0482 | 1925 |
| 483 | 1925 |
| 484 | 1922 |
| 485 | 1945 |
| 486 | 1945 |
| 3U0487 | 1945 |
| 488 | 1945 |
| 490 | 1945 |
| 492 | 1945 |
| 493 | 1945 |
| 3U0494 | 1945 |
| 496 | 1953 |
| 497 | 1945 |
| 498 | 1847 |
| 499 | 1847 |
| 3U0500 | 1847 |
| 501 | 1847 |
| 502 | 1943 |
| 503 | 1850 |
| 504 | 1850 |
| 3U0505 | 1943 |
| 506 | 2608 |
| 507 | 2608 |
| 508 | 2608 |
| 509 | 2608 |
| 3U0510 | 2608 |
| 511 | 2608 |
| 512 | 2608 |
| 513 | 2608 |
| 514 | 2608 |
| 3U0515 | 1858 |
| 516 | 1858 |
| 517 | 1858 |
| 518 | 1858 |
| 519 | 1859 |
| 3U0521 | 1859 |
| 522 | 1856 |
| 523 | 1856 |
| 524 | 1856 |
| 525 | 1857 |
| 3U0526 | 1857 |
| 527 | 1857 |
| 528 | 1857 |
| 529 | 1857 |
| 530 | 1857 |
| 3U0531 | 1857 |
| 532 | 1857 |
| 533 | 1857 |
| 534 | 1857 |
| 535 | 1857 |
| 3U0536 | 1857 |
| 537 | 1857 |
| 539 | 1857 |
| 540 | 1857 |
| 543 | 1857 |
| 3U0545 | 1857 |
| 546 | 1857 |
| 547 | 1857 |
| 548 | 1857 |
| 549 | 1857 |
| 3U0550 | 1858 |
| 551 | 1858 |
| 552 | 1858 |
| 553 | 1858 |
| 554 | 1855 |
| 3U0556 | 1855 |
| 557 | 1855 |
| 558 | 1865 |
| 560 | 1863 |
| 561 | 1863 |
| 3U0562 | 1852 |
| 563 | 1852 |
| 564 | 1863 |
| 565 | 1865 |
| 566 | 1862 |
| 3U0567 | 1862 |
| 568 | 1868 |
| 569 | 1868 |
| 570 | 1868 |
| 571 | 2289 |
| 3U0572 | 2289 |
| 573 | 2289 |
| 574 | 2289 |
| 575 | 1960 |
| 577 | 1960 |
| 3U0578 | 1960 |
| 580 | 1960 |
| 581 | 1960 |
| 582 | 1960 |
| 583 | 1960 |
| 3U0584 | 1960 |
| 585 | 1906 |
| 586 | 1906 |
| 587 | 1906 |
| 588 | 1906 |
| 3U0590 | 1906 |
| 591 | 1906 |
| 592 | 1961 |
| 593 | 1961 |
| 594 | 1961 |
| 3U0595 | 1961 |
| 596 | 1961 |
| 597 | 1961 |
| 598 | 1961 |
| 599 | 1961 |
| 3U0600 | 1961 |
| 603 | 1961 |
| 604 | 1961 |
| 605 | 1961 |
| 606 | 1961 |
| 3U0607 | 1961 |
| 608 | 1961 |
| 609 | 1851 |
| 610 | 1851 |
| 611 | 1851 |
| 3U0612 | 1851 |
| 613 | 1851 |
| 614 | 1851 |
| 615 | 1851 |
| 616 | 1851 |
| 3U0619 | 1919 |
| 620 | 1919 |
| 621 | 1919 |
| 622 | 1919 |
| 623 | 1919 |
| 3U0624 | 1919 |
| 625 | 1919 |
| 626 | 1919 |
| 627 | 1919 |
| 628 | 1919 |
| 3U0629 | 1958 |
| 630 | 1928 |
| 631 | 1928 |
| 632 | 1927 |
| 633 | 1927 |
| 3U0634 | 1927 |
| 635 | 1927 |
| 636 | 1927 |
| 637 | 1927 |
| 638 | 1924 |
| 3U0639 | 1924 |
| 640 | 1924 |
| 641 | 1924 |
| 642 | 1924 |
| 643 | 1924 |
| 3U0644 | 1924 |
| 645 | 1925 |
| 646 | 1925 |
| 647 | 1925 |
| 648 | 1925 |
| 3U0649 | 1925 |
| 650 | 1925 |
| 651 | 1925 |
| 652 | 1925 |
| 653 | 1925 |
| 3U0654 | 1923 |
| 656 | 1923 |
| 657 | 1923 |
| 658 | 1923 |
| 659 | 1923 |
| 3U0660 | 1956 |
| 662 | 1956 |
| 663 | 1958 |
| 665 | 1944 |
| 666 | 1944 |

# STOCK NUMBER—PAGE NUMBER

## 3U6 — 3VK

| Stock No. | Page No. |
|---|---|
| 3U667 | 1944 |
| 668 | 1944 |
| 669 | 1851 |
| 670 | 1942 |
| 671 | 1942 |
| 3U672 | 1942 |
| 673 | 1942 |
| 674 | 1942 |
| 675 | 1942 |
| 676 | 1942 |
| 3U677 | 1942 |
| 678 | 1942 |
| 679 | 1942 |
| 680 | 1942 |
| 681 | 1942 |
| 3U682 | 1943 |
| 683 | 1943 |
| 684 | 1944 |
| 685 | 1944 |
| 688 | 1944 |
| 3U689 | 1944 |
| 712 | 1879 |
| 714 | 1932 |
| 715 | 1932 |
| 716 | 1932 |
| 3U717 | 1932 |
| 718 | 1932 |
| 719 | 1932 |
| 720 | 1932 |
| 721 | 1932 |
| 3U722 | 1932 |
| 723 | 1932 |
| 724 | 1932 |
| 725 | 1932 |
| 726 | 1932 |
| 3U727 | 1932 |
| 728 | 1932 |
| 729 | 1932 |
| 730 | 1932 |
| 733 | 1932 |
| 3U734 | 1932 |
| 735 | 1932 |
| 736 | 1932 |
| 737 | 1932 |
| 738 | 1932 |
| 3U739 | 1932 |
| 740 | 1932 |
| 741 | 1932 |
| 742 | 1932 |
| 743 | 1932 |
| 3U744 | 1932 |
| 745 | 1932 |
| 746 | 1932 |
| 747 | 1932 |
| 748 | 1933 |
| 3U750 | 1933 |
| 751 | 1933 |
| 752 | 1933 |
| 753 | 1932 |
| 754 | 1932 |
| 3U755 | 1932 |
| 756 | 1932 |
| 757 | 1932 |
| 758 | 1932 |
| 759 | 1932 |
| 3U760 | 1932 |
| 761 | 1932 |
| 762 | 1932 |
| 763 | 1932 |
| 764 | 1932 |
| 3U765 | 1931 |
| 766 | 1946 |
| 767 | 1946 |
| 768 | 1946 |
| 772 | 1946 |
| 3U775 | 1946 |
| 776 | 1946 |
| 777 | 1949 |
| 778 | 1949 |
| 779 | 1949 |
| 3U780 | 1949 |
| 781 | 1949 |
| 782 | 1949 |
| 783 | 1949 |
| 784 | 1949 |
| 3U785 | 1949 |
| 786 | 1949 |
| 788 | 1948 |
| 790 | 1947 |
| 791 | 1947 |
| 3U792 | 1947 |
| 793 | 1947 |
| 794 | 1950 |
| 795 | 1950 |
| 796 | 1951 |
| 3U797 | 1951 |
| 798 | 1951 |
| 799 | 1950 |
| 801 | 1948 |
| 802 | 1948 |
| 3U803 | 1956 |
| 804 | 1956 |
| 805 | 1956 |
| 806 | 1956 |
| 807 | 1956 |
| 3U808 | 1956 |
| 809 | 1956 |
| 810 | 1956 |
| 811 | 1956 |
| 812 | 1956 |
| 3U813 | 1956 |
| 814 | 1956 |
| 815 | 1956 |
| 816 | 1956 |
| 818 | 1913 |
| 3U819 | 1913 |
| 820 | 1913 |
| 821 | 1913 |
| 822 | 1913 |
| 824 | 1913 |
| 3U825 | 1913 |
| 826 | 1901 |
| 827 | 1930 |
| 828 | 1930 |
| 829 | 1930 |
| 3U830 | 1930 |
| 831 | 1930 |
| 832 | 1930 |
| 833 | 1930 |
| 834 | 1930 |
| 3U835 | 1930 |
| 836 | 1930 |
| 837 | 1930 |
| 838 | 1930 |
| 839 | 1930 |
| 3U840 | 1930 |
| 841 | 1930 |
| 842 | 1930 |
| 843 | 1930 |
| 844 | 1930 |
| 3U845 | 1930 |
| 846 | 1930 |
| 847 | 1930 |
| 848 | 1930 |
| 849 | 1930 |
| 3U850 | 1930 |
| 851 | 1930 |
| 852 | 1930 |
| 853 | 1930 |
| 854 | 1930 |
| 3U855 | 1930 |
| 856 | 1930 |
| 857 | 1930 |
| 858 | 1930 |
| 859 | 1930 |
| 3U860 | 1930 |
| 861 | 1930 |
| 862 | 1930 |
| 863 | 1930 |
| 864 | 1930 |
| 3U865 | 1930 |
| 866 | 1931 |
| 867 | 1931 |
| 868 | 1931 |
| 869 | 1931 |
| 3U870 | 1931 |
| 871 | 1931 |
| 872 | 1931 |
| 873 | 1931 |
| 874 | 1931 |
| 3U875 | 1931 |
| 876 | 1931 |
| 877 | 1931 |
| 878 | 1931 |
| 879 | 1931 |
| 3U880 | 1931 |
| 881 | 1933 |
| 882 | 1933 |
| 883 | 1933 |
| 884 | 1933 |
| 3U885 | 1933 |
| 886 | 1933 |
| 887 | 1933 |
| 888 | 1941 |
| 889 | 1941 |
| 3U894 | 1941 |
| 895 | 1941 |
| 896 | 1941 |
| 897 | 1941 |
| 898 | 1941 |
| 3U899 | 1941 |
| 900 | 1941 |
| 901 | 1941 |
| 902 | 1941 |
| 903 | 1941 |
| 3U904 | 1941 |
| 905 | 1941 |
| 906 | 1941 |
| 907 | 1941 |
| 908 | 1845 |
| 3U909 | 1845 |
| 910 | 1845 |
| 911 | 1845 |
| 912 | 1845 |
| 913 | 1845 |
| 3U914 | 1942 |
| 915 | 1943 |
| 916 | 1943 |
| 920 | 1943 |
| 921 | 1943 |
| 3U922 | 1943 |
| 923 | 1943 |
| 924 | 1943 |
| 925 | 1943 |
| 926 | 1943 |
| 3U927 | 1943 |
| 928 | 1943 |
| 929 | 1943 |
| 930 | 1943 |
| 931 | 1943 |
| 3U932 | 1943 |
| 933 | 1913 |
| 934 | 1919 |
| 935 | 1927 |
| 936 | 1926 |
| 3U938 | 1926 |
| 940 | 1926 |
| 941 | 1926 |
| 942 | 1926 |
| 943 | 1926 |
| 3U944 | 1926 |
| 945 | 1926 |
| 946 | 1919 |
| 947 | 1923 |
| 948 | 1923 |
| 3U949 | 1923 |
| 950 | 1923 |
| 951 | 1923 |
| 953 | 1959 |
| 954 | 1875 |
| 3U955 | 1875 |
| 956 | 1875 |
| 957 | 1875 |
| 958 | 1875 |
| 959 | 1875 |
| 3U960 | 1875 |
| 961 | 1875 |
| 962 | 1875 |
| 963 | 1875 |
| 964 | 1875 |
| 3U965 | 1875 |
| 966 | 1875 |
| 967 | 1875 |
| 968 | 1875 |
| 969 | 1875 |
| 3U970 | 1942 |
| 971 | 1877 |
| 972 | 1877 |
| 973 | 1877 |
| 974 | 1871 |

### 3V

| Stock No. | Page No. |
|---|---|
| 3VC01 | 1939 |
| C04 | 1939 |
| C18 | 1939 |
| 3VC19 | 1939 |
| C54 | 1870 |
| C55 | 1870 |
| C56 | 1870 |
| C57 | 1870 |
| 3VC85 | 1838 |
| C86 | 1557 |
| C87 | 1556 |
| C88 | 1556 |
| C89 | 1558 |
| 3VC90 | 1562 |
| C91 | 1562 |
| C92 | 1563 |
| C93 | 1558 |
| C94 | 1558 |
| 3VC95 | 1558 |
| C96 | 1558 |
| C97 | 1558 |
| C98 | 1558 |
| C99 | 1558 |
| 3VD01 | 1558 |
| D02 | 1558 |
| D03 | 1558 |
| D04 | 1558 |
| D05 | 1558 |
| 3VD06 | 1557 |
| D07 | 1557 |
| D08 | 1557 |
| D09 | 1557 |
| D10 | 1557 |
| 3VD11 | 1557 |
| D12 | 1557 |
| D13 | 1557 |
| D14 | 1561 |
| D15 | 1561 |
| 3VD16 | 1561 |
| D17 | 1561 |
| D18 | 1561 |
| D19 | 1561 |
| D20 | 1561 |
| 3VD21 | 1552 |
| D22 | 1557 |
| D23 | 1560 |
| D24 | 1560 |
| D25 | 1564 |
| 3VD26 | 1564 |
| D27 | 1564 |
| D28 | 1564 |
| D29 | 1557 |
| D30 | 1556 |
| 3VD31 | 1556 |
| D32 | 1564 |
| D33 | 1562 |
| D34 | 1556 |
| D35 | 1552 |
| 3VD36 | 1552 |
| D37 | 1556 |
| D38 | 1556 |
| D39 | 1561 |
| D40 | 1561 |
| 3VD41 | 1561 |
| D42 | 1561 |
| D43 | 1561 |
| D44 | 1561 |
| D45 | 1561 |
| 3VD46 | 1561 |
| D47 | 1561 |
| D48 | 1561 |
| D49 | 1563 |
| D50 | 1563 |
| 3VD51 | 1559 |
| D52 | 1559 |
| D53 | 1559 |
| D54 | 1559 |
| D55 | 1559 |
| 3VD56 | 1563 |
| D57 | 1563 |
| D58 | 1563 |
| D59 | 1563 |
| D60 | 1555 |
| 3VD61 | 1552 |
| D62 | 1552 |
| D63 | 1552 |
| D64 | 1552 |
| D65 | 1552 |
| 3VD66 | 1552 |
| D67 | 1552 |
| D68 | 1564 |
| D69 | 1564 |
| D70 | 1562 |
| 3VD71 | 1562 |
| D72 | 1562 |
| D73 | 1562 |
| D74 | 1562 |
| D75 | 1564 |
| 3VD76 | 1564 |
| D77 | 1563 |
| D78 | 1562 |
| D79 | 1562 |
| D80 | 1562 |
| 3VD81 | 1559 |
| D82 | 1559 |
| D83 | 1559 |
| D84 | 1559 |
| D85 | 1559 |
| 3VD86 | 1554 |
| D87 | 1554 |
| D88 | 1554 |
| D89 | 1554 |
| D90 | 1559 |
| 3VD91 | 1559 |
| D92 | 1559 |
| D93 | 1559 |
| D94 | 1559 |
| D95 | 1555 |
| 3VD96 | 1561 |
| D97 | 1557 |
| D98 | 1554 |
| D99 | 1555 |
| F01 | 1554 |
| 3VF02 | 1554 |
| F03 | 1560 |
| F04 | 1560 |
| F05 | 1560 |
| F06 | 1560 |
| 3VF07 | 1560 |
| F08 | 1560 |
| F09 | 1564 |
| F10 | 1552 |
| F11 | 1560 |
| 3VF12 | 1560 |
| F13 | 1560 |
| F14 | 1560 |
| F15 | 1560 |
| F16 | 1560 |
| 3VF17 | 1554 |
| F18 | 1556 |
| F19 | 1556 |
| F20 | 1560 |
| F21 | 1560 |
| 3VF22 | 1561 |
| F23 | 1561 |
| F24 | 1561 |
| F25 | 1561 |
| F26 | 1561 |
| 3VF27 | 1561 |
| F28 | 1555 |
| F29 | 1562 |
| F30 | 1560 |
| F31 | 1560 |
| 3VF32 | 1560 |
| F33 | 1560 |
| F34 | 1560 |
| F35 | 1560 |
| F36 | 1564 |
| 3VF37 | 1560 |
| F38 | 1560 |
| F39 | 1560 |
| F40 | 1556 |
| F41 | 1560 |
| 3VF42 | 1560 |
| F43 | 1558 |
| F44 | 1555 |
| F45 | 1555 |
| F47 | 1859 |
| 3VF50 | 1855 |
| F51 | 1859 |
| F52 | 1859 |
| F53 | 1859 |
| F54 | 1856 |
| 3VF55 | 169 |
| F56 | 8 |
| F58 | 97 |
| F59 | 164 |
| F60 | 165 |
| 3VF61 | 165 |
| F62 | 165 |
| F63 | 165 |
| F64 | 140 |
| F65 | 169 |
| 3VF66 | 169 |
| F67 | 169 |
| F68 | 186 |
| F69 | 186 |
| F70 | 186 |
| 3VF71 | 186 |
| F72 | 186 |
| F73 | 186 |
| F74 | 186 |
| F75 | 186 |
| 3VF76 | 191 |
| F77 | 191 |
| F78 | 191 |
| F79 | 191 |
| F80 | 191 |
| 3VF81 | 31 |
| F82 | 31 |
| F83 | 31 |
| F84 | 31 |
| F85 | 31 |
| 3VF86 | 31 |
| F87 | 31 |
| F88 | 31 |
| F89 | 31 |
| F90 | 31 |
| 3VF91 | 31 |
| F92 | 31 |
| F93 | 36 |
| F94 | 28 |
| F95 | 28 |
| 3VF96 | 28 |
| F97 | 28 |
| F98 | 28 |
| F99 | 28 |
| G01 | 126 |
| 3VG02 | 126 |
| G03 | 127 |
| G04 | 127 |
| G05 | 127 |
| G06 | 127 |
| 3VG07 | 127 |
| G08 | 127 |
| G09 | 127 |
| G10 | 35 |
| G11 | 28 |
| 3VG12 | 36 |
| G13 | 36 |
| G14 | 36 |
| G15 | 36 |
| G25 | 103 |
| 3VG26 | 53 |
| G27 | 107 |
| G28 | 107 |
| G29 | 107 |
| G30 | 100 |
| 3VG31 | 100 |
| G32 | 101 |
| G33 | 101 |
| G34 | 101 |
| G35 | 101 |
| 3VG36 | 100 |
| G37 | 170 |
| G38 | 169 |
| G39 | 169 |
| G40 | 169 |
| 3VG41 | 55 |
| G46 | 140 |
| G47 | 166 |
| G48 | 166 |
| G49 | 166 |
| 3VG50 | 166 |
| G51 | 166 |
| G52 | 166 |
| G53 | 166 |
| G54 | 166 |
| 3VG55 | 166 |
| G56 | 166 |
| G57 | 164 |
| G58 | 164 |
| G59 | 164 |
| 3VG78 | 3378 |
| G79 | 3377 |
| G80 | 3378 |
| G81 | 3378 |
| G82 | 3422 |
| 3VG83 | 3422 |
| G84 | 3422 |
| G85 | 3422 |
| G86 | 3422 |
| G87 | 3422 |
| 3VG94 | 3423 |
| G95 | 3423 |
| G96 | 3423 |
| G97 | 3423 |
| G98 | 3423 |
| 3VG99 | 3423 |
| H01 | 3423 |
| H02 | 3423 |
| H03 | 3423 |
| H04 | 3423 |
| 3VH05 | 3423 |
| H06 | 3423 |
| H07 | 3423 |
| H08 | 3423 |
| H09 | 3422 |
| 3VH10 | 3422 |
| H11 | 3422 |
| H12 | 3423 |
| H13 | 3423 |
| H14 | 3423 |
| 3VH15 | 3423 |
| H16 | 3423 |
| H17 | 3423 |
| H18 | 3379 |
| H19 | 3379 |
| 3VH20 | 3379 |
| H21 | 3379 |
| H22 | 3379 |
| H26 | 925 |
| H27 | 3413 |
| 3VH28 | 3414 |
| H29 | 3414 |
| H62 | 1173 |
| H63 | 1173 |
| H64 | 1173 |
| 3VH65 | 1173 |
| H66 | 1173 |
| H67 | 1173 |
| H68 | 1173 |
| H69 | 1173 |
| 3VH70 | 1173 |
| H71 | 1173 |
| H72 | 1173 |
| H73 | 2009 |
| H74 | 2009 |
| 3VH75 | 2009 |
| H76 | 2009 |
| H77 | 2009 |
| H78 | 2009 |
| H79 | 2296 |
| 3VH80 | 2296 |
| H81 | 2296 |
| H82 | 2214 |
| H83 | 2214 |
| H84 | 901 |
| 3VH85 | 901 |
| H86 | 901 |
| H87 | 901 |
| H88 | 901 |
| H89 | 901 |
| 3VH90 | 2259 |
| H91 | 2259 |
| H92 | 2259 |
| H93 | 2259 |
| H94 | 2112 |
| 3VH95 | 2112 |
| H96 | 2773 |
| H97 | 2773 |
| H98 | 2790 |
| H99 | 2790 |
| 3VJ01 | 2773 |
| J02 | 2773 |
| J03 | 2773 |
| J04 | 2773 |
| J05 | 2774 |
| 3VJ06 | 2774 |
| J07 | 2778 |
| J08 | 2774 |
| J09 | 2774 |
| J10 | 2778 |
| 3VJ11 | 2773 |
| J12 | 2773 |
| J13 | 2773 |
| J14 | 2773 |
| J15 | 3421 |
| 3VJ16 | 3421 |
| J17 | 3421 |
| J18 | 3421 |
| J20 | 3416 |
| J21 | 3416 |
| 3VJ22 | 3416 |
| J23 | 3416 |
| J24 | 3416 |
| J25 | 3416 |
| J26 | 3421 |
| 3VJ27 | 3421 |
| J28 | 3421 |
| J29 | 3421 |
| J30 | 3421 |
| J31 | 3415 |
| 3VJ32 | 3416 |
| J38 | 3415 |
| J39 | 3415 |
| J40 | 3415 |
| J41 | 3415 |
| 3VJ42 | 3415 |
| J43 | 3415 |
| J44 | 3415 |
| J45 | 3415 |
| J46 | 3415 |
| 3VJ47 | 3415 |
| J48 | 3415 |
| J49 | 3415 |
| J50 | 3415 |
| J51 | 3415 |
| 3VJ52 | 3416 |
| J53 | 3416 |
| J54 | 3416 |
| J55 | 3416 |
| J56 | 2262 |
| 3VJ57 | 2262 |
| J58 | 2262 |
| J59 | 3479 |
| J60 | 3479 |
| J61 | 3479 |
| 3VJ62 | 3479 |
| J63 | 2255 |
| J64 | 2253 |
| J65 | 2253 |
| J66 | 2254 |
| 3VJ67 | 2253 |
| J68 | 2253 |
| J69 | 2253 |
| J70 | 2253 |
| J71 | 2253 |
| 3VJ72 | 2255 |
| J73 | 2254 |
| J74 | 2253 |
| J75 | 2254 |
| J76 | 3379 |
| 3VJ77 | 3379 |
| J78 | 3414 |
| J79 | 3414 |
| J80 | 3414 |
| J90 | 1041 |
| 3VJ91 | 1041 |
| J92 | 1041 |
| J93 | 1041 |
| J94 | 1041 |
| J95 | 1041 |
| 3VJ96 | 1041 |
| J97 | 1041 |
| J98 | 1031 |
| J99 | 1023 |
| K01 | 1024 |
| 3VK02 | 1018 |
| K03 | 1018 |
| K04 | 1018 |
| K05 | 1019 |
| K06 | 1018 |
| 3VK07 | 1018 |
| K08 | 1019 |
| K09 | 1019 |
| K11 | 918 |
| K13 | 961 |
| 3VK14 | 961 |
| K15 | 918 |
| K16 | 919 |
| K17 | 919 |
| K18 | 987 |
| 3VK19 | 987 |
| K20 | 987 |
| K21 | 987 |
| K22 | 919 |
| K23 | 919 |



Grainger—more ways to get stuff faster.

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3VK24 | 919 | 3V164 | 1815 | 3V488 | 1163 | 3V634 | 1071 | 3V803 | 1065 | 3V890 | 1138 | 3V994 | 931 | 3W183 | 2176 | 3W345 | 2008 | 3W485 | 2202 | 3W588 | 2010 |
| K25 | 919 | 176 | 1825 | 491 | 1060 | 635 | 1071 | 805 | 1094 | 891 | 1138 | 995 | 931 | 184 | 2180 | 346 | 2008 | 486 | 2202 | 589 | 2010 |
| K26 | 919 | 186 | 1820 | 492 | 1060 | 636 | 1071 | 807 | 1094 | 893 | 1141 | 996 | 931 | 185 | 2180 | 347 | 2008 | 487 | 2206 | 590 | 2010 |
| K27 | 919 | 193 | 1820 | 515 | 1057 | 637 | 1071 | 810 | 1097 | 894 | 1142 | 997 | 930 | 186 | 2177 | 348 | 2008 | 488 | 2217 | 591 | 2010 |
| K28 | 919 | 203 | 1622 | 519 | 919 | 638 | 1071 | 814 | 1097 | 896 | 1143 | | | 188 | 2066 | 349 | 2008 | 489 | 2217 | 592 | 2010 |
| 3VK29 | 919 | 3V207 | 1622 | 3V521 | 919 | 3V639 | 1071 | 3V815 | 1096 | 3V897 | 1150 | 3W | | 3W190 | 3376 | 3W350 | 2008 | 3W490 | 2217 | 3W593 | 2010 |
| K30 | 919 | 211 | 1622 | 522 | 919 | 656 | 1057 | 817 | 1096 | 898 | 1150 | 3W002 | 1622 | 191 | 1622 | 353 | 2073 | 494 | 2300 | 594 | 2010 |
| K31 | 964 | 225 | 1622 | 523 | 919 | 657 | 1057 | 818 | 1096 | 901 | 1152 | 004 | 1622 | 192 | 3376 | 354 | 2073 | 495 | 1922 | 595 | 2010 |
| K32 | 974 | 231 | 1818 | 524 | 919 | 659 | 1067 | 819 | 1096 | 902 | 1152 | 031 | 1200 | 193 | 3376 | 355 | 2073 | 497 | 2677 | 620 | 2180 |
| K37 | 921 | 232 | 1622 | 525 | 919 | 661 | 1067 | 820 | 1096 | 903 | 1152 | | | 194 | 1815 | 356 | 2073 | 498 | 2677 | 621 | 2180 |
| 3VK38 | 921 | 3V254 | 1063 | 3V526 | 919 | 3V663 | 1067 | 3V822 | 1096 | 3V904 | 1152 | 3W032 | 1200 | 3W195 | 3376 | 3W367 | 2664 | 3W499 | 2677 | 3W622 | 2181 |
| K39 | 980 | 256 | 924 | 527 | 919 | 665 | 1067 | 823 | 1096 | 905 | 1152 | 033 | 2101 | 196 | 1622 | 368 | 2270 | 500 | 2677 | 623 | 2181 |
| 012 | 1622 | 297 | 1062 | 528 | 924 | 666 | 1067 | 824 | 1096 | 906 | 1152 | 034 | 2101 | 198 | 1815 | 372 | 2351 | 501 | 2044 | 624 | 2182 |
| 014 | 1622 | 310 | 1072 | 529 | 924 | 667 | 1067 | 825 | 1090 | 911 | 1152 | 039 | 2321 | 200 | 1815 | 373 | 2347 | 502 | 2044 | 625 | 2182 |
| 016 | 1622 | 319 | 925 | 530 | 922 | 669 | 1062 | 826 | 1090 | 912 | 1138 | 040 | 2321 | 205 | 2272 | 376 | 602 | 503 | 2044 | 626 | 2612 |
| 3V018 | 1622 | 3V320 | 925 | 3V531 | 922 | 3V673 | 1060 | 3V827 | 1090 | 3V913 | 1138 | 3W041 | 2202 | 3W206 | 2272 | 3W377 | 2304 | 3W504 | 2044 | 3W627 | 2612 |
| 020 | 1622 | 348 | 920 | 532 | 922 | 676 | 1067 | 828 | 1090 | 914 | 1138 | 042 | 2207 | 207 | 2272 | 390 | 2320 | 505 | 2044 | 628 | 2612 |
| 021 | 1683 | 351 | 923 | 533 | 922 | 679 | 1126 | 829 | 1088 | 915 | 1138 | 043 | 2066 | 208 | 2347 | 391 | 2320 | 506 | 2044 | 629 | 2612 |
| 022 | 1622 | 353 | 919 | 535 | 923 | 681 | 1130 | 832 | 1159 | 916 | 1138 | 044 | 2066 | 209 | 2347 | 392 | 2324 | 507 | 2044 | 630 | 2612 |
| 023 | 1683 | 361 | 919 | 536 | 923 | 687 | 1105 | 836 | 1114 | 917 | 1138 | 047 | 2066 | 210 | 692 | 393 | 2324 | 508 | 2044 | 631 | 2612 |
| 3V024 | 1622 | 3V363 | 923 | 3V537 | 923 | 3V688 | 1105 | 3V837 | 1114 | 3V918 | 1138 | 3W065 | 2073 | 3W211 | 2091 | 3W398 | 2323 | 3W509 | 2044 | 3W632 | 2612 |
| 025 | 1683 | 368 | 1067 | 538 | 923 | 689 | 1068 | 838 | 1114 | 919 | 1138 | 066 | 2073 | 214 | 2198 | 399 | 2323 | 510 | 2044 | 633 | 2612 |
| 026 | 1622 | 369 | 1067 | 539 | 923 | 690 | 983 | 839 | 1114 | 920 | 1113 | 067 | 2073 | 215 | 2198 | 400 | 2050 | 511 | 2044 | 634 | 2612 |
| 028 | 1622 | 371 | 1163 | 540 | 923 | 691 | 983 | 840 | 1109 | 921 | 1062 | 068 | 2073 | 216 | 2198 | 407 | 2118 | 512 | 2044 | 635 | 2612 |
| 029 | 1683 | 374 | 924 | 543 | 1023 | 692 | 983 | 841 | 1109 | 922 | 1062 | 069 | 2073 | 217 | 2197 | 415 | 2040 | 513 | 2044 | 636 | 2609 |
| 3V030 | 1622 | 3V376 | 1062 | 3V544 | 1023 | 3V693 | 983 | 3V842 | 1109 | 3V923 | 1062 | 3W070 | 3088 | 3W218 | 2197 | 3W416 | 2040 | 3W514 | 2044 | 3W637 | 2609 |
| 032 | 1622 | 377 | 1060 | 545 | 1018 | 694 | 983 | 843 | 1114 | 924 | 1059 | 071 | 2324 | 219 | 2215 | 417 | 2040 | 515 | 2044 | 638 | 2609 |
| 034 | 1622 | 378 | 1060 | 546 | 1018 | 695 | 983 | 845 | 1111 | 925 | 1059 | 076 | 2101 | 220 | 2215 | 421 | 2176 | 516 | 2258 | 639 | 2609 |
| 037 | 1622 | 380 | 1059 | 547 | 1018 | 696 | 1057 | 846 | 1111 | 926 | 1059 | 077 | 2198 | 224 | 1919 | 422 | 2176 | 517 | 2258 | 640 | 2609 |
| 039 | 1622 | 381 | 1059 | 548 | 1019 | 697 | 1057 | 847 | 1111 | 927 | 1059 | 078 | 2198 | 229 | 2184 | 423 | 2178 | 518 | 2258 | 641 | 2609 |
| 3V041 | 1622 | 3V382 | 1059 | 3V551 | 1018 | 3V698 | 983 | 3V848 | 1111 | 3V928 | 1059 | 3W079 | 2198 | 3W230 | 2184 | 3W424 | 2178 | 3W538 | 2090 | 3W642 | 2609 |
| 043 | 1622 | 383 | 1059 | 552 | 1019 | 699 | 983 | 849 | 1111 | 929 | 1059 | 084 | 2110 | 231 | 2184 | 425 | 2180 | 540 | 2090 | 643 | 2609 |
| 045 | 1622 | 384 | 1059 | 553 | 1019 | 702 | 1622 | 850 | 1114 | 930 | 1060 | 085 | 2110 | 235 | 2215 | 426 | 2180 | 541 | 2090 | 644 | 2609 |
| 047 | 1622 | 385 | 1059 | 554 | 1019 | 705 | 961 | 851 | 1111 | 931 | 1060 | 086 | 2067 | 240 | 2041 | 427 | 2180 | 542 | 2090 | 645 | 2609 |
| 049 | 1622 | 386 | 1059 | 555 | 1040 | 707 | 966 | 852 | 1112 | 932 | 1060 | 087 | 2202 | 242 | 2041 | 428 | 2263 | 543 | 2090 | 646 | 2609 |
| 3V051 | 1622 | 3V387 | 1063 | 3V556 | 1018 | 3V708 | 966 | 3V853 | 1112 | 3V933 | 1060 | 3W088 | 2202 | 3W243 | 2195 | 3W429 | 2263 | 3W544 | 2193 | 3W647 | 2611 |
| 053 | 1622 | 388 | 1063 | 557 | 1018 | 709 | 966 | 854 | 1115 | 937 | 592 | 089 | 2202 | 244 | 2195 | 430 | 2263 | 545 | 2193 | 648 | 2611 |
| 055 | 1622 | 403 | 921 | 564 | 1042 | 713 | 921 | 855 | 1115 | 938 | 592 | 094 | 2212 | 252 | 2083 | 431 | 2263 | 546 | 2193 | 649 | 2274 |
| 057 | 1623 | 409 | 1062 | 565 | 1042 | 723 | 1057 | 856 | 1112 | 947 | 592 | 095 | 2063 | 259 | 2615 | 432 | 2263 | 547 | 2059 | 650 | 2274 |
| 059 | 1623 | 410 | 1062 | 566 | 1042 | 724 | 1057 | 857 | 1109 | 948 | 1113 | 098 | 299 | 287 | 2066 | 433 | 2263 | 548 | 2059 | 651 | 2274 |
| 3V061 | 1623 | 3V415 | 1062 | 3V567 | 1126 | 3V742 | 930 | 3V858 | 1110 | 3V950 | 1157 | 3W100 | 2179 | 3W289 | 2117 | 3W434 | 2677 | 3W549 | 2059 | 3W652 | 2274 |
| 063 | 1623 | 416 | 1062 | 574 | 1093 | 746 | 928 | 859 | 1110 | 965 | 1018 | 101 | 2179 | 290 | 2117 | 435 | 2677 | 550 | 2059 | 653 | 2274 |
| 065 | 1623 | 420 | 1057 | 575 | 1093 | 747 | 928 | 860 | 1115 | 967 | 1027 | 110 | 2100 | 291 | 2117 | 436 | 2677 | 551 | 2059 | 654 | 2274 |
| 067 | 1623 | 438 | 922 | 586 | 1113 | 748 | 928 | 861 | 1110 | 970 | 1018 | 111 | 2100 | 292 | 2066 | 437 | 2677 | 552 | 2059 | 655 | 2274 |
| 069 | 1623 | 440 | 1058 | 587 | 1113 | 775 | 1083 | 862 | 1110 | 972 | 1013 | 113 | 2100 | 294 | 2067 | 438 | 2677 | 553 | 2009 | 656 | 2274 |
| 3V071 | 1623 | 3V442 | 1066 | 3V590 | 1102 | 3V776 | 1083 | 3V863 | 1115 | 3V973 | 1027 | 3W126 | 2050 | 3W298 | 3376 | 3W439 | 2677 | 3W554 | 2009 | 3W657 | 2278 |
| 073 | 1623 | 443 | 920 | 591 | 1102 | 777 | 1083 | 864 | 1110 | 975 | 924 | 127 | 2050 | 299 | 3376 | 453 | 2100 | 555 | 2009 | 658 | 2278 |
| 075 | 1623 | 444 | 1075 | 593 | 1622 | 778 | 1083 | 865 | 1110 | 976 | 924 | 133 | 2073 | 300 | 3376 | 454 | 2100 | 556 | 2009 | 659 | 2275 |
| 079 | 1622 | 446 | 1104 | 594 | 1092 | 779 | 1083 | 866 | 1115 | 977 | 924 | 134 | 2073 | 301 | 3376 | 455 | 2100 | 557 | 2009 | 660 | 2279 |
| 083 | 1621 | 447 | 1104 | 595 | 921 | 780 | 1083 | 867 | 1110 | 978 | 924 | 135 | 2073 | 302 | 3376 | 456 | 2073 | 558 | 2009 | 661 | 2279 |
| 3V084 | 1799 | 3V455 | 919 | 3V600 | 1013 | 3V781 | 1083 | 3V868 | 1115 | 3V979 | 924 | 3W136 | 1923 | 3W303 | 3376 | 3W457 | 2073 | 3W559 | 2260 | 3W662 | 2279 |
| 085 | 1621 | 456 | 1067 | 601 | 1022 | 782 | 1083 | 869 | 1110 | 980 | 924 | 137 | 2194 | 304 | 3376 | 458 | 2304 | 560 | 2260 | 663 | 2312 |
| 091 | 1621 | 457 | 1067 | 602 | 1022 | 785 | 1083 | 870 | 1115 | 981 | 1036 | 139 | 2180 | 305 | 3376 | 459 | 2066 | 561 | 2053 | 664 | 2308 |
| 093 | 1621 | 467 | 1160 | 603 | 1018 | 786 | 1083 | 871 | 1115 | 982 | 1036 | 140 | 2180 | 306 | 3376 | 460 | 2066 | 562 | 2009 | 665 | 2314 |
| 097 | 1623 | 470 | 1072 | 604 | 1018 | 787 | 1082 | 872 | 1115 | 983 | 1036 | 141 | 2176 | 307 | 3376 | 461 | 2066 | 563 | 2009 | 666 | 2309 |
| 3V099 | 1622 | 3V471 | 1060 | 3V609 | 1018 | 3V788 | 1082 | 3V873 | 1110 | 3V984 | 1036 | 3W142 | 2176 | 3W308 | 3376 | 3W474 | 592 | 3W564 | 2009 | 3W667 | 2317 |
| 103 | 1622 | 472 | 1068 | 610 | 1018 | 789 | 1082 | 881 | 1113 | 985 | 1042 | 151 | 2063 | 311 | 2207 | 475 | 592 | 565 | 2009 | 668 | 2310 |
| 107 | 1622 | 473 | 1061 | 611 | 1018 | 790 | 1082 | 882 | 1113 | 986 | 1042 | 153 | 2204 | 313 | 2347 | 476 | 592 | 566 | 2009 | 669 | 2310 |
| 111 | 1623 | 474 | 1062 | 612 | 1018 | 791 | 1086 | 883 | 1113 | 987 | 1039 | 154 | 2204 | 332 | 2179 | 477 | 592 | 567 | 2009 | 670 | 2622 |
| 115 | 1623 | 475 | 1062 | 613 | 1018 | 792 | 1086 | 884 | 1065 | 988 | 1024 | 158 | 1202 | 333 | 2179 | 478 | 592 | 568 | 2009 | 671 | 2622 |
| 3V117 | 1623 | 3V476 | 1057 | 3V614 | 1019 | 3V794 | 1086 | 3V885 | 1065 | 3V989 | 1024 | 3W159 | 1890 | 3W334 | 2100 | 3W479 | 592 | 3W569 | 2009 | 3W672 | 2622 |
| 122 | 1820 | 477 | 919 | 630 | 929 | 799 | 1102 | 886 | 1065 | 990 | 1036 | 160 | 1890 | 341 | 2342 | 481 | 2202 | 570 | 2196 | 673 | 2622 |
| 124 | 1820 | 480 | 922 | 631 | 929 | 800 | 1065 | 887 | 1140 | 991 | 1036 | 167 | 2650 | 342 | 2008 | 482 | 2202 | 571 | 2196 | 674 | 2622 |
| 154 | 1815 | 484 | 1060 | 632 | 930 | 801 | 1065 | 888 | 1138 | 992 | 1038 | 168 | 692 | 343 | 2008 | 483 | 2202 | 572 | 2196 | 675 | 2622 |
| 158 | 1815 | 486 | 1057 | 633 | 918 | 802 | 1065 | 889 | 1138 | 993 | 971 | 171 | 1587 | 344 | 2008 | 484 | 2202 | 573 | 2196 | 676 | 2622 |

# STOCK NUMBER—PAGE NUMBER

## 3W6 — 3X5

| Stock No. | Page No. |
|---|---|
| 3W677 | 2622 |
| 678 | 2622 |
| 679 | 2622 |
| 680 | 2692 |
| 681 | 2692 |
| 3W682 | 2692 |
| 683 | 2692 |
| 684 | 2692 |
| 685 | 430 |
| 686 | 430 |
| 3W696 | 2666 |
| 698 | 2665 |
| 699 | 2609 |
| 700 | 2310 |
| 701 | 2707 |
| 3W703 | 2706 |
| 704 | 2706 |
| 705 | 2706 |
| 706 | 2706 |
| 707 | 2706 |
| 3W708 | 2706 |
| 709 | 2705 |
| 710 | 2705 |
| 711 | 2705 |
| 712 | 2705 |
| 3W713 | 2705 |
| 714 | 2705 |
| 715 | 2705 |
| 716 | 2706 |
| 717 | 2706 |
| 3W719 | 2706 |
| 720 | 2706 |
| 721 | 1568 |
| 722 | 1569 |
| 723 | 2698 |
| 3W724 | 2698 |
| 725 | 2698 |
| 726 | 2698 |
| 727 | 2698 |
| 728 | 2698 |
| 3W729 | 2698 |
| 730 | 2698 |
| 731 | 2698 |
| 732 | 2698 |
| 733 | 2698 |
| 3W734 | 2698 |
| 735 | 2735 |
| 736 | 2735 |
| 737 | 2735 |
| 738 | 2735 |
| 3W739 | 2735 |
| 743 | 2736 |
| 744 | 2736 |
| 749 | 2705 |
| 756 | 414 |
| 3W757 | 419 |
| 758 | 419 |
| 759 | 419 |
| 760 | 419 |
| 761 | 1503 |
| 3W762 | 1503 |
| 764 | 1503 |
| 765 | 1503 |
| 766 | 1503 |
| 767 | 1505 |
| 3W768 | 1505 |
| 769 | 1505 |
| 770 | 1505 |
| 771 | 1531 |
| 772 | 1531 |
| 3W773 | 1531 |
| 774 | 1531 |
| 782 | 1496 |
| 783 | 1496 |
| 784 | 1496 |
| 3W786 | 1482 |
| 788 | 1420 |
| 799 | 1531 |
| 802 | 2156 |
| 803 | 2156 |
| 3W806 | 2156 |
| 807 | 2156 |
| 837 | 911 |
| 838 | 911 |
| 839 | 1491 |
| 3W840 | 1491 |
| 841 | 1491 |
| 842 | 1491 |
| 843 | 1491 |
| 844 | 1491 |
| 3W845 | 1491 |
| 846 | 1491 |
| 847 | 1491 |
| 848 | 1491 |
| 849 | 1491 |
| 3W850 | 1491 |
| 851 | 1491 |
| 852 | 1491 |
| 853 | 1497 |
| 854 | 1498 |
| 3W885 | 1464 |
| 886 | 1534 |
| 890 | 1495 |
| 891 | 1495 |
| 892 | 1495 |
| 3W893 | 1482 |
| 894 | 1473 |
| 896 | 1472 |
| 897 | 1473 |
| 898 | 1473 |
| 3W899 | 1473 |
| 900 | 1473 |
| 901 | 1473 |
| 902 | 1473 |
| 903 | 1474 |
| 3W904 | 1474 |
| 905 | 1474 |
| 906 | 2145 |
| 907 | 2145 |
| 908 | 2145 |
| 3W909 | 2153 |
| 910 | 2153 |
| 911 | 2153 |
| 912 | 1496 |
| 913 | 1497 |
| 3W915 | 729 |
| 924 | 2735 |
| 926 | 2712 |
| 927 | 2712 |
| 928 | 2712 |
| 3W929 | 2714 |
| 931 | 2716 |
| 939 | 2736 |
| 940 | 2736 |
| 947 | 2731 |
| 3W948 | 2731 |
| 954 | 2739 |
| 955 | 2739 |
| 956 | 2739 |
| 957 | 2739 |
| 3W958 | 2691 |
| 959 | 2691 |
| 960 | 2691 |
| 961 | 2691 |
| 962 | 2691 |
| 3W963 | 2691 |
| 964 | 2691 |
| 965 | 2691 |
| 966 | 2691 |
| 967 | 2691 |
| 3W968 | 2691 |
| 971 | 2700 |
| 972 | 2700 |
| 973 | 2700 |
| 974 | 2699 |
| 3W975 | 2700 |
| 987 | 2691 |
| 988 | 2691 |
| 989 | 2691 |
| 995 | 2683 |

## 3X

| Stock No. | Page No. |
|---|---|
| 3XC00 | 555 |
| C01 | 555 |
| C02 | 545 |
| 3XC03 | 548 |
| C04 | 548 |
| C05 | 544 |
| C06 | 544 |
| C07 | 561 |
| 3XC53 | 521 |
| C54 | 521 |
| C55 | 521 |
| C56 | 521 |
| C57 | 522 |
| 3XC58 | 522 |
| C59 | 521 |
| C60 | 521 |
| C62 | 391 |
| C63 | 391 |
| 3XC64 | 391 |
| C65 | 391 |
| C66 | 391 |
| C67 | 391 |
| C68 | 391 |
| 3XC69 | 391 |
| C70 | 391 |
| C71 | 391 |
| C72 | 391 |
| C73 | 391 |
| 3XC74 | 391 |
| C75 | 391 |
| C76 | 695 |
| C77 | 695 |
| C78 | 695 |
| 3XC79 | 695 |
| C80 | 695 |
| C81 | 695 |
| C84 | 695 |
| C85 | 695 |
| 3XC86 | 695 |
| C87 | 695 |
| C88 | 695 |
| G20 | 1875 |
| G21 | 1875 |
| 3XG22 | 1875 |
| G23 | 1875 |
| G30 | 528 |
| G31 | 529 |
| G32 | 529 |
| 3XG33 | 529 |
| G34 | 529 |
| G35 | 529 |
| G36 | 529 |
| G37 | 529 |
| 3XG38 | 529 |
| G39 | 529 |
| G40 | 529 |
| G41 | 529 |
| G42 | 529 |
| 3XG43 | 529 |
| G44 | 529 |
| G45 | 529 |
| G46 | 529 |
| G47 | 529 |
| 3XG48 | 528 |
| G49 | 528 |
| G50 | 528 |
| G51 | 528 |
| G52 | 528 |
| 3XG53 | 528 |
| G54 | 528 |
| G55 | 530 |
| G56 | 530 |
| G57 | 530 |
| 3XG58 | 530 |
| G59 | 530 |
| G60 | 530 |
| G61 | 2294 |
| G62 | 2294 |
| 3XG63 | 2294 |
| G64 | 2294 |
| G65 | 2294 |
| G66 | 2290 |
| G67 | 2290 |
| 3XG68 | 2290 |
| G69 | 2290 |
| G70 | 2290 |
| G71 | 2290 |
| G72 | 2290 |
| 3XG73 | 2290 |
| G74 | 2290 |
| G75 | 2290 |
| G76 | 2290 |
| G77 | 2290 |
| 3XG78 | 2290 |
| G79 | 2290 |
| G80 | 2290 |
| G81 | 2290 |
| G82 | 2290 |
| 3XG84 | 2291 |
| G85 | 2291 |
| G86 | 2292 |
| G87 | 2292 |
| G88 | 2292 |
| 3XG89 | 2291 |
| G90 | 2291 |
| G91 | 2291 |
| G92 | 2291 |
| G93 | 2291 |
| 3XG94 | 2295 |
| G95 | 2291 |
| G96 | 2291 |
| G97 | 2291 |
| G98 | 2291 |
| 3XG99 | 2291 |
| H01 | 2291 |
| H02 | 2295 |
| H03 | 2292 |
| H04 | 2292 |
| 3XH05 | 2292 |
| H06 | 2292 |
| H07 | 2291 |
| H08 | 2291 |
| H09 | 2291 |
| 3XH10 | 2290 |
| H11 | 2290 |
| H13 | 2003 |
| H15 | 2003 |
| H19 | 1999 |
| 3XH24 | 1928 |
| H25 | 1928 |
| H26 | 1959 |
| H27 | 1944 |
| H28 | 1944 |
| 3XH29 | 1944 |
| H30 | 1944 |
| H31 | 1944 |
| H32 | 1944 |
| H33 | 1959 |
| 3XH34 | 1959 |
| H35 | 1941 |
| H38 | 1870 |
| H39 | 1870 |
| H40 | 1870 |
| 3XH41 | 1870 |
| H42 | 1793 |
| H45 | 1791 |
| H46 | 1791 |
| H47 | 1793 |
| 3XH48 | 1793 |
| H49 | 1793 |
| H50 | 1793 |
| H51 | 1793 |
| H52 | 1792 |
| 3XH53 | 1792 |
| H55 | 1790 |
| H56 | 1790 |
| H60 | 413 |
| H61 | 413 |
| 3XH62 | 413 |
| H63 | 413 |
| H64 | 413 |
| H65 | 413 |
| H72 | 413 |
| 3XH73 | 413 |
| H74 | 413 |
| H75 | 413 |
| H76 | 413 |
| H77 | 413 |
| 3XH80 | 413 |
| H81 | 413 |
| H82 | 413 |
| J02 | 3478 |
| J03 | 580 |
| 3XJ04 | 580 |
| J17 | 540 |
| J21 | 554 |
| J22 | 554 |
| J23 | 554 |
| 3XJ26 | 554 |
| J27 | 554 |
| J28 | 554 |
| J29 | 554 |
| J30 | 554 |
| 3XJ31 | 554 |
| J33 | 557 |
| J35 | 557 |
| J36 | 557 |
| J39 | 557 |
| 3XJ40 | 3647 |
| J41 | 3647 |
| J42 | 3543 |
| J43 | 3543 |
| K02 | 3561 |
| 3XK03 | 3561 |
| K04 | 3561 |
| K05 | 3561 |
| K06 | 3561 |
| K07 | 3561 |
| 3XK08 | 3561 |
| K09 | 623 |
| K10 | 623 |
| K11 | 623 |
| K12 | 676 |
| 3XK13 | 676 |
| K14 | 676 |
| K15 | 683 |
| K16 | 684 |
| K17 | 683 |
| 3XK18 | 683 |
| K19 | 683 |
| K20 | 683 |
| K21 | 683 |
| K22 | 683 |
| 3XK23 | 683 |
| K24 | 683 |
| K25 | 683 |
| K26 | 683 |
| K27 | 683 |
| 3XK35 | 1901 |
| K36 | 1901 |
| K37 | 3591 |
| K38 | 145 |
| K39 | 3590 |
| 3XK40 | 3590 |
| K41 | 3590 |
| K42 | 3590 |
| K43 | 3590 |
| K44 | 3590 |
| 3XK45 | 3590 |
| K46 | 3590 |
| K47 | 3590 |
| K48 | 3590 |
| K49 | 3590 |
| 3XK50 | 3591 |
| K51 | 3591 |
| K52 | 3591 |
| K53 | 3591 |
| K54 | 3591 |
| 3XK55 | 3591 |
| K56 | 3591 |
| K57 | 3591 |
| K58 | 3591 |
| K59 | 3591 |
| 3XK60 | 3591 |
| K61 | 3591 |
| K62 | 3591 |
| K63 | 3591 |
| K64 | 3591 |
| 3XK65 | 3590 |
| K66 | 3591 |
| K67 | 3591 |
| K69 | 3576 |
| K70 | 3576 |
| 3XK71 | 3576 |
| K72 | 3576 |
| K73 | 3576 |
| K74 | 3576 |
| K75 | 3576 |
| 3XK76 | 3576 |
| K77 | 3576 |
| K78 | 3576 |
| K79 | 3576 |
| K80 | 3576 |
| 3XK81 | 3576 |
| K82 | 3576 |
| K83 | 3576 |
| K84 | 3570 |
| K85 | 3570 |
| 3XK86 | 3570 |
| K87 | 3571 |
| K88 | 3543 |
| K89 | 3570 |
| K90 | 3356 |
| 3XK94 | 3311 |
| K95 | 3311 |
| K96 | 3350 |
| L01 | 3331 |
| L02 | 3496 |
| 3XL03 | 3497 |
| L04 | 3502 |
| L05 | 3502 |
| L06 | 3502 |
| L07 | 3496 |
| 3XL08 | 3496 |
| L09 | 3502 |
| L10 | 3502 |
| L11 | 3502 |
| L12 | 3502 |
| 3XL13 | 3480 |
| L14 | 3480 |
| L15 | 3487 |
| L16 | 2701 |
| L17 | 2702 |
| 3XL18 | 2702 |
| L19 | 2703 |
| L20 | 2703 |
| L21 | 2703 |
| L22 | 2703 |
| 3XL23 | 2703 |
| L24 | 2703 |
| L25 | 2703 |
| L26 | 2703 |
| L27 | 2703 |
| 3XL28 | 2703 |
| L29 | 2703 |
| L30 | 2703 |
| L31 | 2703 |
| L32 | 2703 |
| 3XL33 | 2703 |
| L34 | 2703 |
| L35 | 2703 |
| L36 | 2703 |
| L37 | 2703 |
| 3XL38 | 2703 |
| L39 | 2702 |
| L40 | 2702 |
| L41 | 2701 |
| 009 | 1817 |
| 3X027 | 1679 |
| 029 | 1679 |
| 031 | 1679 |
| 033 | 1679 |
| 035 | 1679 |
| 3X037 | 1679 |
| 039 | 1679 |
| 041 | 1679 |
| 043 | 1679 |
| 045 | 1679 |
| 3X049 | 1821 |
| 051 | 1821 |
| 053 | 1821 |
| 057 | 1815 |
| 060 | 1628 |
| 3X062 | 1628 |
| 063 | 1798 |
| 064 | 1628 |
| 066 | 1628 |
| 067 | 1798 |
| 3X068 | 1628 |
| 070 | 1628 |
| 072 | 1628 |
| 074 | 1628 |
| 075 | 1818 |
| 3X076 | 1628 |
| 077 | 1821 |
| 078 | 1628 |
| 080 | 1628 |
| 082 | 1628 |
| 3X084 | 1628 |
| 086 | 1628 |
| 087 | 1821 |
| 089 | 1821 |
| 090 | 1628 |
| 3X091 | 1821 |
| 092 | 1628 |
| 094 | 1628 |
| 096 | 1628 |
| 098 | 1628 |
| 3X100 | 1628 |
| 102 | 1628 |
| 104 | 1628 |
| 105 | 1822 |
| 106 | 1628 |
| 3X107 | 1822 |
| 108 | 1628 |
| 110 | 1628 |
| 112 | 1628 |
| 117 | 1628 |
| 3X137 | 1818 |
| 139 | 1818 |
| 141 | 1818 |
| 142 | 1823 |
| 143 | 1818 |
| 3X144 | 1812 |
| 146 | 1809 |
| 153 | 1823 |
| 161 | 1823 |
| 163 | 1823 |
| 3X165 | 1823 |
| 173 | 1822 |
| 175 | 1825 |
| 179 | 1825 |
| 181 | 1825 |
| 3X183 | 1805 |
| 185 | 1805 |
| 187 | 1808 |
| 189 | 1808 |
| 193 | 1825 |
| 3X195 | 1821 |
| 232 | 1797 |
| 234 | 1797 |
| 262 | 311 |
| 263 | 311 |
| 3X264 | 311 |
| 265 | 311 |
| 266 | 311 |
| 273 | 311 |
| 274 | 311 |
| 3X275 | 311 |
| 276 | 311 |
| 313 | 1805 |
| 316 | 313 |
| 328 | 313 |
| 3X333 | 1818 |
| 336 | 1801 |
| 340 | 1801 |
| 344 | 1802 |
| 346 | 1802 |
| 3X348 | 1802 |
| 350 | 1802 |
| 351 | 306 |
| 352 | 306 |
| 353 | 307 |
| 3X354 | 307 |
| 357 | 313 |
| 367 | 1802 |
| 371 | 306 |
| 372 | 307 |
| 3X374 | 307 |
| 376 | 1802 |
| 384 | 313 |
| 386 | 313 |
| 387 | 313 |
| 3X388 | 313 |
| 389 | 313 |
| 390 | 313 |
| 392 | 313 |
| 398 | 311 |
| 3X399 | 311 |
| 400 | 311 |
| 401 | 311 |
| 402 | 311 |
| 403 | 311 |
| 3X408 | 313 |
| 409 | 313 |
| 414 | 313 |
| 415 | 313 |
| 417 | 311 |
| 3X418 | 311 |
| 419 | 313 |
| 420 | 313 |
| 436 | 311 |
| 438 | 311 |
| 3X439 | 312 |
| 441 | 313 |
| 442 | 313 |
| 443 | 313 |
| 449 | 313 |
| 3X453 | 314 |
| 454 | 314 |
| 455 | 314 |
| 456 | 314 |
| 457 | 314 |
| 3X458 | 314 |
| 459 | 314 |
| 460 | 314 |
| 461 | 314 |
| 462 | 314 |
| 3X463 | 314 |
| 464 | 314 |
| 465 | 317 |
| 466 | 317 |
| 467 | 317 |
| 3X468 | 317 |
| 469 | 317 |
| 470 | 317 |
| 471 | 306 |
| 472 | 306 |
| 3X473 | 306 |
| 474 | 307 |
| 475 | 307 |
| 477 | 314 |
| 478 | 314 |
| 3X479 | 314 |
| 480 | 317 |
| 481 | 317 |
| 482 | 317 |
| 483 | 317 |
| 3X484 | 314 |
| 485 | 314 |
| 486 | 314 |
| 487 | 314 |
| 488 | 314 |
| 3X489 | 314 |
| 490 | 314 |
| 491 | 314 |
| 492 | 314 |
| 494 | 311 |
| 3X495 | 311 |
| 496 | 311 |
| 497 | 311 |
| 498 | 311 |
| 499 | 311 |
| 3X500 | 311 |
| 501 | 311 |
| 502 | 311 |
| 503 | 311 |
| 505 | 311 |
| 3X507 | 311 |
| 508 | 311 |
| 509 | 311 |
| 510 | 311 |
| 511 | 311 |
| 3X512 | 311 |
| 513 | 313 |
| 515 | 313 |
| 517 | 313 |
| 518 | 313 |
| 3X520 | 313 |
| 521 | 313 |
| 524 | 1802 |
| 528 | 313 |
| 529 | 313 |
| 3X530 | 313 |
| 532 | 313 |
| 533 | 313 |
| 534 | 313 |
| 535 | 313 |
| 3X538 | 313 |
| 541 | 313 |
| 542 | 306 |
| 543 | 305 |
| 544 | 305 |
| 3X545 | 306 |
| 546 | 306 |
| 547 | 306 |
| 550 | 313 |
| 551 | 313 |
| 3X552 | 313 |
| 553 | 313 |
| 554 | 313 |
| 555 | 313 |
| 556 | 313 |
| 3X557 | 313 |
| 558 | 313 |
| 559 | 313 |
| 560 | 313 |
| 561 | 313 |
| 3X562 | 313 |
| 563 | 313 |
| 564 | 313 |
| 565 | 313 |
| 566 | 313 |
| 3X567 | 313 |
| 568 | 313 |
| 569 | 313 |
| 570 | 313 |
| 571 | 313 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 3X572 | 317 |
| 573 | 317 |
| 574 | 317 |
| 575 | 317 |
| 576 | 317 |
| 3X577 | 317 |
| 578 | 317 |
| 579 | 317 |
| 580 | 317 |
| 581 | 317 |
| 3X582 | 312 |
| 583 | 312 |
| 584 | 312 |
| 585 | 312 |
| 586 | 312 |
| 3X587 | 312 |
| 588 | 312 |
| 589 | 312 |
| 590 | 312 |
| 591 | 312 |
| 3X592 | 312 |
| 593 | 312 |
| 594 | 312 |
| 595 | 312 |
| 597 | 312 |
| 3X598 | 312 |
| 599 | 312 |
| 600 | 312 |
| 601 | 312 |
| 602 | 312 |
| 3X603 | 312 |
| 604 | 312 |
| 605 | 312 |
| 606 | 312 |
| 607 | 312 |
| 3X608 | 312 |
| 609 | 312 |
| 610 | 312 |
| 611 | 307 |
| 612 | 307 |
| 3X613 | 307 |
| 614 | 307 |
| 615 | 307 |
| 616 | 314 |
| 617 | 314 |
| 3X618 | 314 |
| 619 | 314 |
| 620 | 306 |
| 621 | 306 |
| 622 | 306 |
| 3X623 | 306 |
| 624 | 306 |
| 625 | 306 |
| 626 | 306 |
| 627 | 306 |
| 3X628 | 306 |
| 629 | 306 |
| 630 | 306 |
| 631 | 306 |
| 632 | 306 |
| 3X633 | 306 |
| 634 | 307 |
| 635 | 307 |
| 636 | 307 |
| 637 | 307 |
| 3X638 | 307 |
| 639 | 307 |
| 640 | 307 |
| 641 | 307 |
| 642 | 307 |
| 3X643 | 307 |
| 644 | 307 |
| 645 | 307 |
| 646 | 307 |
| 647 | 307 |
| 3X648 | 307 |
| 649 | 307 |
| 650 | 307 |
| 651 | 307 |
| 654 | 306 |
| 3X655 | 306 |
| 656 | 314 |
| 666 | 317 |
| 667 | 317 |
| 668 | 317 |
| 3X669 | 317 |
| 670 | 1550 |
| 671 | 1550 |
| 673 | 1550 |
| 674 | 3485 |
| 3X675 | 314 |
| 676 | 1550 |
| 677 | 1550 |
| 678 | 1390 |
| 679 | 1389 |
| 3X680 | 525 |
| 684 | 197 |
| 685 | 234 |
| 686 | 1979 |
| 687 | 3022 |
| 3X688 | 3022 |
| 689 | 3022 |
| 690 | 3022 |
| 691 | 2249 |
| 692 | 2249 |
| 3X693 | 2249 |
| 694 | 2249 |
| 695 | 2249 |
| 696 | 2249 |
| 697 | 306 |
| 3X698 | 307 |
| 699 | 306 |
| 700 | 306 |
| 701 | 307 |
| 702 | 306 |
| 3X703 | 307 |
| 704 | 306 |
| 705 | 307 |
| 706 | 307 |
| 707 | 306 |
| 3X708 | 357 |
| 709 | 357 |
| 710 | 357 |
| 711 | 357 |
| 712 | 357 |
| 3X713 | 357 |
| 714 | 357 |
| 715 | 357 |
| 720 | 3498 |
| 727 | 3500 |
| 3X728 | 3500 |
| 729 | 3500 |
| 730 | 3473 |
| 731 | 3473 |
| 732 | 692 |
| 3X733 | 692 |
| 734 | 1154 |
| 735 | 1154 |
| 740 | 474 |
| 741 | 474 |
| 3X742 | 474 |
| 744 | 482 |
| 745 | 482 |
| 747 | 482 |
| 748 | 482 |
| 3X749 | 482 |
| 752 | 485 |
| 753 | 485 |
| 754 | 1049 |
| 755 | 1047 |
| 3X756 | 1047 |
| 757 | 1047 |
| 758 | 312 |
| 759 | 312 |
| 760 | 312 |
| 3X761 | 312 |
| 762 | 312 |
| 763 | 312 |
| 764 | 312 |
| 765 | 312 |
| 3X766 | 312 |
| 767 | 312 |
| 768 | 312 |
| 769 | 312 |
| 770 | 312 |
| 3X771 | 312 |
| 772 | 312 |
| 773 | 312 |
| 774 | 312 |
| 775 | 312 |
| 3X776 | 312 |
| 777 | 312 |
| 778 | 312 |
| 779 | 312 |
| 781 | 312 |
| 3X782 | 312 |
| 783 | 312 |
| 784 | 312 |
| 785 | 312 |
| 786 | 312 |
| 3X787 | 312 |
| 788 | 312 |
| 789 | 312 |
| 790 | 312 |
| 791 | 312 |
| 3X792 | 312 |
| 793 | 312 |
| 794 | 312 |
| 795 | 312 |
| 796 | 312 |
| 3X797 | 312 |
| 798 | 312 |
| 799 | 312 |
| 800 | 312 |
| 801 | 312 |
| 3X802 | 312 |
| 803 | 312 |
| 804 | 312 |
| 805 | 312 |
| 806 | 312 |
| 3X807 | 312 |
| 808 | 312 |
| 809 | 312 |
| 810 | 312 |
| 811 | 312 |
| 3X812 | 312 |
| 813 | 312 |
| 814 | 312 |
| 815 | 312 |
| 816 | 312 |
| 3X817 | 312 |
| 818 | 2896 |
| 821 | 312 |
| 822 | 312 |
| 823 | 312 |
| 3X824 | 312 |
| 825 | 312 |
| 826 | 312 |
| 827 | 312 |
| 829 | 312 |
| 3X830 | 312 |
| 831 | 312 |
| 833 | 312 |
| 834 | 312 |
| 835 | 312 |
| 3X837 | 312 |
| 838 | 312 |
| 841 | 312 |
| 842 | 312 |
| 844 | 312 |
| 3X845 | 312 |
| 850 | 312 |
| 851 | 312 |
| 852 | 312 |
| 853 | 312 |
| 3X855 | 312 |
| 856 | 312 |
| 857 | 312 |
| 858 | 312 |
| 859 | 312 |
| 3X860 | 312 |
| 861 | 312 |
| 863 | 312 |
| 864 | 312 |
| 865 | 312 |
| 3X866 | 312 |
| 868 | 312 |
| 869 | 312 |
| 870 | 312 |
| 871 | 312 |
| 3X872 | 312 |
| 873 | 312 |
| 880 | 312 |
| 881 | 312 |
| 883 | 312 |
| 3X884 | 317 |
| 885 | 317 |
| 886 | 312 |
| 887 | 312 |
| 888 | 312 |
| 3X889 | 312 |
| 890 | 312 |
| 891 | 310 |
| 892 | 310 |
| 893 | 310 |
| 3X894 | 310 |
| 895 | 310 |
| 896 | 310 |
| 897 | 310 |
| 898 | 310 |
| 3X899 | 310 |
| 900 | 310 |
| 901 | 310 |
| 902 | 310 |
| 903 | 310 |
| 3X904 | 310 |
| 905 | 310 |
| 906 | 310 |
| 907 | 310 |
| 908 | 310 |
| 3X909 | 310 |
| 910 | 310 |
| 911 | 310 |
| 912 | 310 |
| 913 | 310 |
| 3X914 | 310 |
| 915 | 310 |
| 916 | 310 |
| 917 | 310 |
| 918 | 310 |
| 3X919 | 310 |
| 920 | 310 |
| 921 | 310 |
| 922 | 310 |
| 923 | 310 |
| 3X924 | 310 |
| 925 | 310 |
| 926 | 310 |
| 927 | 310 |
| 928 | 310 |
| 3X929 | 310 |
| 930 | 310 |
| 931 | 310 |
| 932 | 310 |
| 933 | 310 |
| 3X934 | 310 |
| 935 | 310 |
| 936 | 310 |
| 937 | 310 |
| 938 | 310 |
| 3X939 | 310 |
| 940 | 310 |
| 941 | 310 |
| 942 | 310 |
| 943 | 310 |
| 3X944 | 310 |
| 945 | 311 |
| 946 | 311 |
| 947 | 311 |
| 948 | 311 |
| 3X949 | 312 |
| 950 | 312 |
| 951 | 312 |
| 952 | 312 |
| 953 | 312 |
| 3X954 | 312 |
| 955 | 312 |
| 956 | 312 |
| 957 | 312 |
| 958 | 2645 |
| 3X959 | 2645 |
| 960 | 1023 |
| 961 | 1028 |
| 962 | 1028 |
| 963 | 1025 |
| 3X964 | 1031 |
| 972 | 1722 |
| 974 | 1722 |
| 976 | 1722 |
| 977 | 1720 |
| 3X978 | 1720 |
| 979 | 1720 |
| 980 | 1720 |
| 982 | 834 |
| 983 | 790 |
| 3X985 | 3484 |
| 990 | 362 |
| 991 | 362 |
| 992 | 362 |
| 993 | 362 |
| 3X994 | 362 |
| 995 | 362 |
| 996 | 362 |
| 997 | 362 |
| 998 | 362 |
| 3X999 | 362 |
| 3Y | |
| 3YW21 | 1290 |
| X36 | 3107 |
| 3YX37 | 3107 |
| X39 | 3107 |
| X40 | 3108 |
| X43 | 3108 |
| X44 | 3108 |
| 3YX47 | 3108 |
| X50 | 3108 |
| X54 | 3108 |
| X55 | 3108 |
| X62 | 3107 |
| 3YX67 | 3107 |
| X71 | 3107 |
| X73 | 3107 |
| X81 | 3107 |
| X82 | 3107 |
| 3YX83 | 3107 |
| X84 | 3107 |
| Z22 | 3106 |
| Z23 | 3106 |
| Z24 | 3106 |
| 3YZ25 | 3106 |
| Z26 | 3106 |
| Z27 | 3106 |
| Z32 | 3106 |
| Z34 | 3106 |
| 3YZ36 | 3106 |
| Z38 | 3106 |
| Z44 | 3106 |
| Z46 | 3106 |
| Z50 | 3106 |
| 3YZ53 | 3106 |
| Z54 | 3106 |
| Z55 | 3106 |
| Z56 | 3106 |
| Z57 | 3106 |
| 3YZ58 | 3106 |
| Z64 | 3106 |
| Z65 | 3106 |
| Z67 | 3106 |
| Z68 | 3106 |
| 3YZ69 | 3106 |
| Z73 | 3106 |
| Z75 | 3106 |
| Z79 | 3106 |
| Z80 | 3106 |
| 3YZ81 | 3106 |
| Z82 | 3106 |
| Z83 | 3106 |
| Z84 | 3106 |
| 441 | 3001 |
| 3Y442 | 3001 |
| 443 | 3001 |
| 444 | 3001 |
| 445 | 3001 |
| 446 | 3001 |
| 3Y447 | 2994 |
| 448 | 2993 |
| 449 | 2991 |
| 450 | 2991 |
| 451 | 2991 |
| 3Y452 | 2991 |
| 453 | 2991 |
| 454 | 2994 |
| 455 | 2992 |
| 456 | 2994 |
| 3Y457 | 2992 |
| 459 | 2993 |
| 460 | 2994 |
| 461 | 2994 |
| 462 | 2993 |
| 3Y463 | 2991 |
| 464 | 2991 |
| 465 | 2987 |
| 466 | 2987 |
| 467 | 2994 |
| 3Y468 | 2994 |
| 469 | 2992 |
| 470 | 2972 |
| 471 | 2972 |
| 472 | 2972 |
| 3Y473 | 2972 |
| 474 | 2972 |
| 475 | 2972 |
| 476 | 2972 |
| 477 | 2972 |
| 3Y478 | 2989 |
| 479 | 2989 |
| 484 | 2993 |
| 485 | 2991 |
| 486 | 2991 |
| 3Y487 | 2991 |
| 488 | 2991 |
| 489 | 2991 |
| 490 | 2985 |
| 491 | 2984 |
| 3Y492 | 2992 |
| 493 | 2985 |
| 494 | 2984 |
| 495 | 2992 |
| 496 | 3000 |
| 3Y497 | 3000 |
| 498 | 2995 |
| 499 | 2995 |
| 500 | 2995 |
| 501 | 2995 |
| 3Y502 | 2988 |
| 503 | 2993 |
| 504 | 2988 |
| 506 | 2975 |
| 507 | 2975 |
| 3Y508 | 2979 |
| 509 | 2980 |
| 510 | 2980 |
| 511 | 2979 |
| 512 | 2979 |
| 3Y513 | 2979 |
| 514 | 2977 |
| 515 | 2993 |
| 516 | 2995 |
| 517 | 3000 |
| 3Y518 | 2980 |
| 519 | 2978 |
| 520 | 2977 |
| 521 | 2971 |
| 522 | 2979 |
| 3Y523 | 2979 |
| 524 | 2977 |
| 525 | 2993 |
| 526 | 2993 |
| 527 | 2993 |
| 3Y528 | 2993 |
| 529 | 2975 |
| 530 | 2987 |
| 531 | 2980 |
| 532 | 2974 |
| 3Y533 | 2974 |
| 535 | 2979 |
| 536 | 2974 |
| 537 | 2974 |
| 538 | 2975 |
| 3Y539 | 2979 |
| 540 | 2979 |
| 541 | 2977 |
| 542 | 2977 |
| 543 | 2977 |
| 3Y544 | 2971 |
| 545 | 3001 |
| 546 | 3001 |
| 547 | 2976 |
| 548 | 2976 |
| 3Y549 | 2976 |
| 550 | 2974 |
| 551 | 2975 |
| 552 | 2976 |
| 553 | 2976 |
| 3Y554 | 2976 |
| 555 | 2976 |
| 556 | 2976 |
| 558 | 2975 |
| 559 | 2976 |
| 3Y560 | 2975 |
| 561 | 2975 |
| 562 | 2975 |
| 563 | 2974 |
| 564 | 2975 |
| 3Y565 | 2975 |
| 566 | 2977 |
| 567 | 2977 |
| 568 | 2977 |
| 569 | 2977 |
| 3Y571 | 3001 |
| 572 | 2971 |
| 573 | 2971 |
| 574 | 3001 |
| 575 | 2970 |
| 3Y576 | 2970 |
| 577 | 2970 |
| 578 | 2970 |
| 580 | 2969 |
| 581 | 2969 |
| 3Y582 | 2968 |
| 583 | 2968 |
| 584 | 2966 |
| 585 | 2971 |
| 586 | 2971 |
| 3Y587 | 2965 |
| 588 | 2968 |
| 589 | 2998 |
| 590 | 2999 |
| 591 | 2999 |
| 3Y592 | 2971 |
| 593 | 2998 |
| 594 | 2999 |
| 596 | 2970 |
| 598 | 2966 |
| 3Y602 | 2971 |
| 603 | 2971 |
| 679 | 3002 |
| 682 | 3002 |
| 3Z | |
| 3ZC01 | 2717 |
| C02 | 2713 |
| C03 | 2713 |
| 3ZC05 | 2720 |
| C17 | 2690 |
| C18 | 2694 |
| C19 | 2695 |
| C22 | 2672 |
| 3ZC23 | 2678 |
| C24 | 2678 |
| C25 | 2677 |
| C26 | 2678 |
| C27 | 2678 |
| 3ZC28 | 2678 |
| C29 | 2677 |
| C30 | 2702 |
| C31 | 2702 |
| C32 | 2702 |
| 3ZC33 | 2689 |
| C35 | 2673 |
| C36 | 2673 |
| C38 | 2673 |
| C41 | 2664 |
| 3ZC43 | 2541 |
| C45 | 2540 |
| C46 | 2540 |
| C47 | 2540 |
| C48 | 2541 |
| 3ZC49 | 2541 |
| C50 | 264 |
| C51 | 264 |
| C52 | 264 |
| C53 | 264 |
| 3ZC54 | 264 |
| C55 | 264 |
| C56 | 2710 |
| C57 | 2710 |
| C58 | 2710 |
| 3ZC59 | 2710 |
| C60 | 2710 |
| C61 | 2710 |
| C62 | 2710 |
| C63 | 2710 |
| 3ZC64 | 2710 |
| C65 | 2712 |
| C66 | 2712 |
| C67 | 2712 |
| C68 | 2722 |
| 3ZC69 | 2722 |
| C70 | 2716 |
| C71 | 2718 |
| C72 | 2718 |
| C73 | 2721 |
| 3ZC74 | 2721 |
| C75 | 2721 |
| C84 | 2683 |
| C87 | 2665 |
| C88 | 2665 |
| 3ZC97 | 3107 |
| D01 | 3107 |
| D02 | 3107 |
| D03 | 3107 |
| D05 | 3107 |
| 3ZD06 | 3108 |
| D08 | 3108 |
| D09 | 3108 |
| D10 | 3108 |
| D13 | 3108 |
| 3ZD14 | 3108 |
| D16 | 3108 |
| D17 | 3108 |
| D31 | 2593 |
| D47 | 2592 |
| 3ZD53 | 2596 |
| D54 | 2596 |
| D56 | 2596 |
| D57 | 2596 |
| D58 | 2596 |
| 3ZD60 | 2596 |
| D61 | 2596 |
| D62 | 2596 |
| D63 | 2596 |
| D64 | 2596 |
| 3ZD65 | 2596 |
| D66 | 2596 |
| D67 | 2596 |
| D68 | 2596 |
| D69 | 2596 |
| 3ZD70 | 2596 |
| D73 | 2596 |
| D74 | 2596 |
| D75 | 2596 |
| D76 | 2596 |
| 3ZD77 | 2596 |
| D78 | 2596 |
| D79 | 2596 |
| D80 | 2596 |
| D81 | 2596 |
| 3ZD82 | 2596 |
| D83 | 2596 |
| D84 | 2596 |
| D85 | 2596 |
| D86 | 2596 |
| 3ZF01 | 2681 |
| F02 | 2681 |
| F03 | 2681 |
| F04 | 2681 |
| F05 | 2681 |
| 3ZF06 | 2681 |
| F09 | 2674 |
| F13 | 2689 |
| F92 | 2592 |
| F93 | 2592 |
| 3ZF94 | 2592 |
| F95 | 2592 |
| G01 | 2592 |
| G02 | 2592 |
| G03 | 2592 |
| 3ZG04 | 2592 |
| G05 | 2592 |
| G06 | 2592 |
| G07 | 2592 |
| G08 | 2592 |
| 3ZG17 | 2566 |
| G18 | 2566 |
| G19 | 2566 |
| G31 | 2619 |
| G32 | 2619 |
| 3ZG33 | 2619 |
| G34 | 2619 |
| G35 | 2619 |
| G50 | 3452 |
| G51 | 3452 |
| 3ZG52 | 3452 |
| G53 | 3452 |
| G54 | 3452 |
| G55 | 3452 |
| G56 | 3452 |
| 3ZG57 | 3452 |
| G59 | 3452 |
| G60 | 3452 |
| G62 | 3476 |
| G63 | 1869 |
| 3ZG66 | 1950 |
| G67 | 1948 |
| G68 | 1865 |
| G69 | 1865 |
| G70 | 1342 |
| 3ZG71 | 1342 |
| G72 | 1342 |
| G73 | 1344 |
| G74 | 1344 |
| G75 | 1344 |

# STOCK NUMBER—PAGE NUMBER

## 3ZG — 3ZV

| Stock No. | Page No. |
|---|---|
| 3ZG76 | 1366 |
| G77 | 1366 |
| G78 | 1366 |
| G79 | 1366 |
| G80 | 1366 |
| 3ZG81 | 1366 |
| G82 | 1366 |
| G83 | 1366 |
| G84 | 1366 |
| G85 | 1366 |
| 3ZG86 | 1366 |
| G87 | 1366 |
| G88 | 1366 |
| G89 | 1366 |
| G90 | 1344 |
| 3ZG91 | 1366 |
| G92 | 1344 |
| G93 | 1366 |
| G94 | 1344 |
| G95 | 1346 |
| 3ZG96 | 1346 |
| G97 | 1342 |
| G98 | 1342 |
| G99 | 1346 |
| H01 | 1346 |
| 3ZH02 | 1346 |
| H03 | 1346 |
| H04 | 1346 |
| H05 | 1364 |
| H06 | 1374 |
| 3ZH07 | 1353 |
| H08 | 1353 |
| H09 | 1353 |
| H10 | 1353 |
| H11 | 1353 |
| 3ZH12 | 1353 |
| H13 | 1353 |
| H14 | 1346 |
| H15 | 1387 |
| H16 | 1387 |
| 3ZH17 | 1387 |
| H18 | 1425 |
| H19 | 1301 |
| H20 | 1342 |
| H21 | 1387 |
| 3ZH22 | 1342 |
| H23 | 1342 |
| H24 | 1295 |
| H25 | 1301 |
| H26 | 1295 |
| 3ZH27 | 1295 |
| H28 | 1295 |
| H29 | 1366 |
| H30 | 1301 |
| H31 | 1366 |
| 3ZH32 | 1295 |
| H33 | 1295 |
| H34 | 1295 |
| H35 | 1295 |
| H36 | 1295 |
| 3ZH37 | 1295 |
| H38 | 1298 |
| H39 | 1298 |
| H40 | 1295 |
| H41 | 1295 |
| 3ZH42 | 1295 |
| H43 | 1364 |
| H44 | 1670 |
| H45 | 1386 |
| H46 | 1386 |
| 3ZH47 | 1344 |
| H48 | 1344 |
| H49 | 1344 |
| H50 | 1346 |
| H51 | 1366 |
| 3ZH52 | 1425 |
| H53 | 1866 |
| H54 | 1864 |
| H55 | 1866 |
| H56 | 1866 |
| 3ZH57 | 1873 |
| H58 | 1873 |
| H59 | 1873 |
| H60 | 1873 |
| H61 | 1873 |
| 3ZH62 | 830 |
| H63 | 830 |
| H64 | 742 |
| H65 | 786 |
| H66 | 786 |
| 3ZH67 | 831 |
| H68 | 830 |
| H69 | 830 |
| H70 | 831 |
| H71 | 831 |
| 3ZH72 | 831 |
| H73 | 831 |
| H74 | 829 |
| H75 | 750 |
| H76 | 758 |
| 3ZH78 | 809 |
| H79 | 809 |
| H80 | 809 |
| H81 | 809 |
| H82 | 758 |
| 3ZH83 | 758 |
| H84 | 758 |
| H85 | 785 |
| H86 | 831 |
| H87 | 826 |
| 3ZH88 | 826 |
| H89 | 826 |
| H90 | 742 |
| H91 | 742 |
| H92 | 881 |
| 3ZH93 | 786 |
| H94 | 754 |
| H95 | 785 |
| H96 | 832 |
| H97 | 832 |
| 3ZH98 | 831 |
| H99 | 831 |
| J01 | 831 |
| J02 | 831 |
| J03 | 831 |
| 3ZJ04 | 831 |
| J05 | 893 |
| J06 | 893 |
| J07 | 893 |
| J11 | 893 |
| 3ZJ12 | 893 |
| J13 | 893 |
| J14 | 1551 |
| J15 | 1551 |
| J16 | 1551 |
| 3ZJ17 | 1551 |
| J18 | 1551 |
| J19 | 1551 |
| J20 | 1551 |
| J21 | 1551 |
| 3ZJ22 | 1551 |
| J23 | 1551 |
| J24 | 1550 |
| J25 | 1548 |
| J26 | 1550 |
| 3ZJ27 | 1551 |
| J28 | 1548 |
| J29 | 1548 |
| J30 | 1548 |
| J31 | 1549 |
| 3ZJ32 | 1549 |
| J42 | 912 |
| J43 | 912 |
| J45 | 1510 |
| J46 | 1510 |
| 3ZJ47 | 1510 |
| J48 | 1510 |
| J49 | 1510 |
| J50 | 1510 |
| J51 | 1510 |
| 3ZJ52 | 1510 |
| J53 | 1510 |
| J54 | 1510 |
| J55 | 1510 |
| J56 | 1510 |
| 3ZJ57 | 1510 |
| J58 | 1510 |
| J59 | 1510 |
| J60 | 1510 |
| J61 | 1510 |
| 3ZJ62 | 1458 |
| J63 | 1458 |
| J64 | 1479 |
| J65 | 1479 |
| J66 | 1479 |
| 3ZJ67 | 1479 |
| J68 | 1479 |
| J69 | 1479 |
| J70 | 1479 |
| J71 | 1479 |
| 3ZJ72 | 1479 |
| J73 | 1479 |
| J74 | 1479 |
| J75 | 1479 |
| J76 | 1479 |
| 3ZJ77 | 1478 |
| J78 | 1478 |
| J79 | 1478 |
| J80 | 1478 |
| J81 | 1478 |
| 3ZJ82 | 1478 |
| J83 | 1478 |
| J84 | 1478 |
| J85 | 1478 |
| J86 | 1479 |
| 3ZJ87 | 1478 |
| J88 | 1478 |
| J89 | 1479 |
| J90 | 1478 |
| J91 | 1478 |
| 3ZJ92 | 1478 |
| J93 | 1478 |
| J94 | 1478 |
| J95 | 1479 |
| J96 | 1479 |
| 3ZJ97 | 1479 |
| J98 | 1479 |
| J99 | 1479 |
| K01 | 1478 |
| K02 | 1478 |
| 3ZK03 | 1478 |
| K04 | 1478 |
| K05 | 1478 |
| K06 | 1478 |
| K07 | 1479 |
| 3ZK08 | 1479 |
| K09 | 1479 |
| K10 | 1479 |
| K11 | 1478 |
| K12 | 1478 |
| 3ZK13 | 1478 |
| K14 | 1479 |
| K15 | 1479 |
| K16 | 1479 |
| K17 | 1479 |
| 3ZK18 | 1479 |
| K19 | 1479 |
| K20 | 1479 |
| K21 | 1479 |
| K22 | 1479 |
| 3ZK23 | 1479 |
| K24 | 1479 |
| K25 | 1479 |
| K26 | 1478 |
| K27 | 1478 |
| 3ZK28 | 1478 |
| K29 | 803 |
| K30 | 3419 |
| K31 | 803 |
| K32 | 803 |
| 3ZK33 | 3419 |
| K34 | 3419 |
| K35 | 3419 |
| K36 | 3419 |
| K37 | 3419 |
| 3ZK38 | 596 |
| K39 | 596 |
| K40 | 596 |
| K41 | 596 |
| K42 | 596 |
| 3ZK43 | 596 |
| K44 | 596 |
| K45 | 593 |
| K46 | 593 |
| K47 | 593 |
| 3ZK48 | 593 |
| K49 | 593 |
| K50 | 593 |
| K51 | 593 |
| K52 | 593 |
| 3ZK53 | 593 |
| K54 | 602 |
| K55 | 602 |
| K56 | 602 |
| K57 | 602 |
| 3ZK58 | 602 |
| K59 | 602 |
| K60 | 592 |
| K61 | 592 |
| K62 | 600 |
| 3ZK63 | 592 |
| K64 | 592 |
| K65 | 587 |
| K66 | 587 |
| K67 | 587 |
| 3ZK68 | 592 |
| K69 | 592 |
| K70 | 600 |
| K71 | 600 |
| K72 | 600 |
| 3ZK73 | 600 |
| K74 | 600 |
| K75 | 600 |
| K76 | 587 |
| K77 | 587 |
| 3ZK78 | 587 |
| K79 | 587 |
| K80 | 587 |
| K81 | 587 |
| K82 | 600 |
| 3ZK83 | 600 |
| K84 | 600 |
| K85 | 600 |
| K86 | 600 |
| K87 | 600 |
| 3ZK88 | 935 |
| K89 | 935 |
| K90 | 935 |
| K91 | 934 |
| K92 | 934 |
| 3ZK93 | 934 |
| K94 | 934 |
| K95 | 934 |
| K96 | 934 |
| K97 | 934 |
| 3ZK98 | 934 |
| K99 | 934 |
| L01 | 934 |
| L02 | 934 |
| L03 | 935 |
| 3ZL04 | 935 |
| L05 | 935 |
| L06 | 935 |
| L07 | 935 |
| L08 | 935 |
| 3ZL09 | 935 |
| L10 | 1165 |
| L11 | 1165 |
| L12 | 1164 |
| L13 | 1162 |
| 3ZL17 | 1160 |
| L19 | 2372 |
| L20 | 2372 |
| L21 | 2368 |
| L22 | 2368 |
| 3ZL23 | 2368 |
| L24 | 2368 |
| L25 | 2373 |
| L49 | 2448 |
| L50 | 2448 |
| 3ZL51 | 2448 |
| L52 | 2448 |
| L53 | 2446 |
| L54 | 2446 |
| L55 | 2450 |
| 3ZL56 | 2445 |
| L57 | 2445 |
| L72 | 2505 |
| L73 | 2505 |
| L74 | 2505 |
| 3ZL75 | 2505 |
| L76 | 2505 |
| L77 | 2505 |
| L78 | 2505 |
| L79 | 2505 |
| 3ZL80 | 2505 |
| L81 | 2505 |
| L82 | 2505 |
| L83 | 2505 |
| L84 | 2505 |
| 3ZL85 | 2505 |
| L86 | 2505 |
| L87 | 2505 |
| L88 | 2505 |
| L89 | 2505 |
| 3ZL90 | 2505 |
| L91 | 2505 |
| L92 | 2505 |
| L93 | 2505 |
| L94 | 2511 |
| 3ZL96 | 2511 |
| L97 | 2511 |
| L98 | 2511 |
| L99 | 2511 |
| M01 | 2511 |
| 3ZM02 | 2507 |
| M03 | 2507 |
| M04 | 2495 |
| M05 | 2495 |
| M06 | 2495 |
| 3ZM07 | 2495 |
| M08 | 2495 |
| M09 | 2495 |
| M10 | 2495 |
| M11 | 2495 |
| 3ZM12 | 2494 |
| M13 | 2494 |
| M14 | 2494 |
| M15 | 2494 |
| M16 | 2500 |
| 3ZM17 | 2500 |
| M18 | 2500 |
| M19 | 2500 |
| M20 | 2498 |
| M21 | 2498 |
| 3ZM22 | 2498 |
| M23 | 2498 |
| M24 | 2498 |
| M25 | 2498 |
| M26 | 2498 |
| 3ZM27 | 2498 |
| M28 | 2498 |
| M29 | 2498 |
| M30 | 2498 |
| M31 | 2498 |
| 3ZM32 | 2498 |
| M33 | 2498 |
| M34 | 2498 |
| M35 | 2498 |
| M36 | 2498 |
| 3ZM37 | 2498 |
| M38 | 2498 |
| M39 | 2498 |
| M40 | 2499 |
| M41 | 2499 |
| 3ZM42 | 2499 |
| M43 | 2499 |
| M44 | 2494 |
| M45 | 2494 |
| M46 | 2560 |
| 3ZM47 | 2560 |
| M48 | 2560 |
| M49 | 2564 |
| M50 | 2564 |
| M51 | 2564 |
| 3ZM52 | 2564 |
| M53 | 2564 |
| M54 | 2334 |
| M55 | 2590 |
| M56 | 2590 |
| 3ZM57 | 2403 |
| M58 | 2375 |
| M59 | 2595 |
| M60 | 2564 |
| M61 | 2590 |
| 3ZM62 | 2590 |
| M63 | 2590 |
| M64 | 2590 |
| M65 | 2590 |
| M66 | 2590 |
| 3ZM67 | 2590 |
| M68 | 2595 |
| M69 | 2590 |
| M70 | 3510 |
| M72 | 3457 |
| 3ZM73 | 3457 |
| M74 | 3459 |
| M75 | 3459 |
| M76 | 3457 |
| M77 | 3457 |
| 3ZM80 | 2638 |
| M81 | 2638 |
| M82 | 2638 |
| M83 | 2638 |
| M84 | 2638 |
| 3ZM85 | 2638 |
| M86 | 2638 |
| M87 | 2638 |
| M88 | 2638 |
| M89 | 2638 |
| 3ZM90 | 2638 |
| M91 | 2638 |
| M92 | 3358 |
| M93 | 3358 |
| M94 | 3358 |
| 3ZM95 | 3358 |
| M96 | 3358 |
| M97 | 3358 |
| M98 | 352 |
| M99 | 352 |
| 3ZN01 | 352 |
| N02 | 352 |
| N03 | 204 |
| N04 | 204 |
| N05 | 204 |
| 3ZN06 | 204 |
| N07 | 204 |
| N08 | 204 |
| N09 | 204 |
| N10 | 204 |
| 3ZN11 | 204 |
| N12 | 204 |
| N13 | 204 |
| N14 | 204 |
| N15 | 204 |
| 3ZN16 | 204 |
| N17 | 204 |
| N18 | 352 |
| N19 | 352 |
| N20 | 352 |
| 3ZN21 | 352 |
| N22 | 352 |
| N23 | 352 |
| N24 | 352 |
| N25 | 352 |
| 3ZN26 | 356 |
| N27 | 356 |
| N28 | 356 |
| N29 | 356 |
| N30 | 356 |
| 3ZN31 | 356 |
| N32 | 356 |
| N33 | 356 |
| N34 | 356 |
| N35 | 356 |
| 3ZN36 | 356 |
| N37 | 356 |
| N38 | 356 |
| N39 | 356 |
| N40 | 356 |
| 3ZN41 | 356 |
| N42 | 356 |
| N43 | 356 |
| N44 | 356 |
| N45 | 356 |
| 3ZN46 | 356 |
| N47 | 356 |
| N48 | 356 |
| N49 | 356 |
| N50 | 356 |
| 3ZN51 | 356 |
| N52 | 356 |
| N53 | 356 |
| N54 | 356 |
| N55 | 356 |
| 3ZN56 | 356 |
| N57 | 356 |
| N58 | 356 |
| N59 | 356 |
| N60 | 356 |
| 3ZN61 | 356 |
| N62 | 356 |
| N63 | 356 |
| N64 | 356 |
| N65 | 356 |
| 3ZN66 | 356 |
| N67 | 356 |
| N68 | 356 |
| N69 | 356 |
| N70 | 356 |
| 3ZN71 | 356 |
| N72 | 351 |
| N73 | 351 |
| N74 | 351 |
| N75 | 351 |
| 3ZN76 | 351 |
| N77 | 351 |
| N78 | 351 |
| N79 | 351 |
| N80 | 351 |
| 3ZN81 | 350 |
| N82 | 350 |
| N83 | 350 |
| N84 | 350 |
| N85 | 350 |
| 3ZN86 | 350 |
| N87 | 350 |
| N88 | 350 |
| N89 | 350 |
| N90 | 350 |
| 3ZN91 | 350 |
| N92 | 350 |
| N93 | 351 |
| N94 | 351 |
| N95 | 351 |
| 3ZN96 | 351 |
| N97 | 351 |
| N98 | 351 |
| N99 | 351 |
| P01 | 351 |
| 3ZP02 | 351 |
| P06 | 309 |
| P07 | 309 |
| P08 | 309 |
| P09 | 309 |
| 3ZP10 | 309 |
| P11 | 353 |
| P12 | 353 |
| P13 | 353 |
| P14 | 353 |
| 3ZP15 | 353 |
| P16 | 353 |
| P17 | 353 |
| P18 | 353 |
| P19 | 353 |
| 3ZP20 | 353 |
| P21 | 353 |
| P22 | 353 |
| P23 | 353 |
| P24 | 353 |
| 3ZP25 | 353 |
| P26 | 353 |
| P27 | 353 |
| P28 | 353 |
| P29 | 353 |
| 3ZP30 | 353 |
| P31 | 353 |
| P32 | 353 |
| P33 | 353 |
| P34 | 353 |
| 3ZP35 | 353 |
| P36 | 353 |
| P37 | 302 |
| P38 | 302 |
| P39 | 302 |
| 3ZP56 | 326 |
| P57 | 326 |
| P58 | 326 |
| P59 | 326 |
| P60 | 326 |
| 3ZP61 | 326 |
| P62 | 326 |
| P63 | 326 |
| P64 | 326 |
| P65 | 326 |
| 3ZP66 | 326 |
| P67 | 326 |
| P68 | 3339 |
| P69 | 3339 |
| P70 | 3339 |
| 3ZP71 | 3339 |
| P72 | 3339 |
| P73 | 3339 |
| P74 | 3317 |
| P75 | 3321 |
| 3ZP76 | 3319 |
| P77 | 3325 |
| P78 | 3325 |
| P79 | 3325 |
| P80 | 3325 |
| 3ZP81 | 3325 |
| P82 | 3325 |
| P83 | 3325 |
| P84 | 3325 |
| P85 | 3325 |
| 3ZP86 | 3325 |
| P87 | 9 |
| P88 | 9 |
| P89 | 13 |
| P90 | 12 |
| 3ZP91 | 106 |
| P92 | 98 |
| P93 | 98 |
| P94 | 98 |
| P95 | 98 |
| 3ZP96 | 98 |
| P97 | 98 |
| P98 | 44 |
| P99 | 44 |
| R01 | 44 |
| 3ZR02 | 44 |
| R03 | 2559 |
| R04 | 2559 |
| R05 | 2559 |
| R06 | 2559 |
| 3ZR07 | 2559 |
| R08 | 2559 |
| R09 | 2559 |
| R10 | 2559 |
| R11 | 2360 |
| 3ZR12 | 2360 |
| R13 | 2360 |
| R44 | 3359 |
| R45 | 3359 |
| R46 | 3359 |
| 3ZR55 | 3360 |
| R56 | 3360 |
| R64 | 3359 |
| R65 | 3359 |
| R66 | 3359 |
| 3ZR67 | 3359 |
| R68 | 3359 |
| R69 | 3359 |
| R70 | 3359 |
| R71 | 3359 |
| 3ZR73 | 3359 |
| R76 | 3360 |
| R77 | 3360 |
| R78 | 3360 |
| R84 | 3360 |
| 3ZR85 | 3360 |
| R86 | 3360 |
| R91 | 3359 |
| R92 | 3359 |
| R93 | 3359 |
| 3ZR94 | 3359 |
| R98 | 3360 |
| T06 | 3359 |
| T10 | 3359 |
| T37 | 3360 |
| 3ZT38 | 3360 |
| T39 | 3360 |
| T40 | 3360 |
| T41 | 3360 |
| T42 | 3360 |
| 3ZT43 | 3360 |
| T44 | 3360 |
| T45 | 3360 |
| T46 | 3360 |
| T47 | 3360 |
| 3ZT48 | 3360 |
| T55 | 3359 |
| T56 | 3359 |
| T57 | 3359 |
| T58 | 3359 |
| 3ZT59 | 3359 |
| T60 | 3359 |
| T61 | 3360 |
| T69 | 3359 |
| T70 | 3359 |
| 3ZT71 | 3359 |
| T72 | 3359 |
| T73 | 3359 |
| T74 | 3359 |
| V07 | 2631 |
| 3ZV08 | 2631 |
| V09 | 2356 |
| V10 | 2356 |
| V11 | 2356 |
| V12 | 2356 |
| 3ZV13 | 2629 |
| V14 | 2629 |
| V15 | 2629 |
| V16 | 2650 |
| V17 | 2650 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 3ZV18 | 2650 |
| V19 | 2650 |
| V22 | 2643 |
| V23 | 2643 |
| V24 | 2643 |
| 3ZV25 | 2643 |
| V26 | 2643 |
| V27 | 2643 |
| V28 | 2643 |
| V29 | 2643 |
| 3ZV30 | 2643 |
| V31 | 2643 |
| V32 | 2643 |
| V33 | 2643 |
| V34 | 2643 |
| 3ZV35 | 2643 |
| V36 | 2643 |
| V37 | 2635 |
| V38 | 2635 |
| V39 | 2637 |
| 3ZV40 | 2637 |
| V41 | 2637 |
| V42 | 2637 |
| V43 | 2633 |
| V44 | 2633 |
| 3ZV45 | 2633 |
| V46 | 2633 |
| V47 | 2633 |
| V48 | 2633 |
| V49 | 2633 |
| 3ZV50 | 2633 |
| V51 | 2633 |
| V52 | 2633 |
| V53 | 2635 |
| V54 | 2635 |
| 3ZV55 | 2635 |
| V56 | 2635 |
| V57 | 2635 |
| V58 | 2635 |
| V59 | 2635 |
| 3ZV60 | 2635 |
| V61 | 2635 |
| V62 | 2635 |
| V63 | 2636 |
| V64 | 2636 |
| 3ZV65 | 2636 |
| V66 | 2636 |
| V67 | 3434 |
| V68 | 3434 |
| V69 | 3434 |
| 3ZV70 | 3434 |
| V71 | 3434 |
| V72 | 3434 |
| V73 | 3434 |
| V74 | 3434 |
| 3ZV75 | 3434 |
| V76 | 3434 |
| V77 | 3434 |
| V78 | 3434 |
| V79 | 3434 |
| 3ZV80 | 3434 |
| V81 | 3434 |
| V82 | 3434 |
| V83 | 3434 |
| V84 | 3434 |
| 3ZV85 | 3434 |
| V86 | 3434 |
| V87 | 3434 |
| V88 | 3434 |
| V89 | 3434 |
| 3ZV90 | 3434 |
| V91 | 3434 |
| V92 | 3434 |
| V93 | 3434 |
| V94 | 3434 |
| 3ZV95 | 3434 |
| V96 | 3434 |
| V97 | 3434 |
| V98 | 3434 |
| V99 | 3435 |
| 3ZW01 | 3435 |
| W02 | 3435 |
| W03 | 3435 |
| W04 | 3435 |
| W05 | 3433 |
| 3ZW06 | 3433 |
| W07 | 3433 |
| W08 | 3433 |
| W09 | 3433 |
| W10 | 3433 |
| 3ZW11 | 3433 |
| W12 | 3433 |
| W13 | 3433 |
| W14 | 3433 |
| W15 | 3435 |
| 3ZW16 | 3435 |
| W17 | 3435 |
| W18 | 3435 |
| W19 | 3435 |
| W20 | 3435 |
| 3ZW21 | 3435 |
| W22 | 3435 |
| W23 | 3435 |
| W24 | 3435 |
| W25 | 3435 |
| 3ZW26 | 3435 |
| W27 | 3435 |
| W28 | 3435 |
| W29 | 3435 |
| W30 | 3435 |
| 3ZW31 | 3434 |
| W32 | 3434 |
| W33 | 3434 |
| W34 | 3434 |
| W35 | 3434 |
| 3ZW36 | 3434 |
| W46 | 1415 |
| W50 | 1416 |
| W66 | 1465 |
| W67 | 1465 |
| 3ZW68 | 1465 |
| W69 | 1465 |
| W70 | 1427 |
| W71 | 1427 |
| X08 | 1427 |
| 3ZZ91 | 1427 |
| 002 | 3526 |
| 170 | 2885 |
| 172 | 2885 |
| 174 | 2887 |
| 3Z176 | 2887 |
| 180 | 2887 |
| 181 | 2887 |
| 182 | 2887 |
| 183 | 2887 |
| 3Z241 | 2885 |
| 262 | 2303 |
| 263 | 2303 |
| 351 | 2729 |
| 370 | 2225 |
| 3Z372 | 2225 |
| 373 | 2225 |
| 374 | 2225 |
| 375 | 2225 |
| 409 | 2892 |
| 3Z410 | 2887 |
| 411 | 2887 |
| 449 | 2673 |
| 450 | 2673 |
| 478 | 2682 |
| 3Z499 | 253 |
| 506 | 254 |
| 507 | 254 |
| 518 | 1520 |
| 528 | 2906 |
| 3Z529 | 2906 |
| 530 | 2906 |
| 531 | 2906 |
| 532 | 2906 |
| 533 | 2906 |
| 3Z534 | 2906 |
| 561 | 1567 |
| 563 | 1567 |
| 564 | 1567 |
| 572 | 3527 |
| 3Z574 | 3527 |
| 605 | 253 |
| 606 | 253 |
| 607 | 254 |
| 608 | 254 |
| 3Z609 | 254 |
| 610 | 254 |
| 611 | 254 |
| 631 | 2728 |
| 633 | 2729 |
| 3Z634 | 2727 |
| 654 | 2855 |
| 655 | 2855 |
| 656 | 2855 |
| 657 | 2855 |
| 3Z666 | 1871 |
| 707 | 1888 |
| 708 | 1888 |
| 709 | 1891 |
| 711 | 1884 |
| 3Z713 | 1502 |
| 714 | 1502 |
| 744 | 1567 |
| 746 | 1523 |
| 748 | 1341 |
| 3Z803 | 1895 |
| 804 | 1895 |
| 811 | 2665 |
| 813 | 1508 |
| 814 | 1523 |
| 3Z839 | 2248 |
| 840 | 2248 |
| 844 | 2226 |
| 845 | 2226 |
| 848 | 1528 |
| 3Z850 | 1528 |
| 855 | 1508 |
| 857 | 253 |
| 874 | 2225 |
| 875 | 3016 |
| 3Z886 | 2673 |
| 887 | 1528 |
| 888 | 2866 |
| 901 | 1522 |
| 902 | 2689 |
| 3Z903 | 2689 |
| 904 | 2731 |
| 905 | 2731 |
| 906 | 2731 |
| 908 | 2671 |
| 3Z913 | 1569 |
| 914 | 1569 |
| 915 | 2725 |
| 916 | 2725 |
| 917 | 1500 |
| 3Z918 | 1500 |
| 919 | 1500 |
| 923 | 2225 |
| 924 | 2225 |
| 925 | 2225 |
| 3Z926 | 2225 |
| 927 | 2225 |
| 928 | 2225 |
| 938 | 2248 |
| 939 | 2248 |
| 3Z940 | 2248 |
| 941 | 2248 |
| 947 | 1528 |
| 949 | 1511 |
| 950 | 246 |
| 3Z951 | 246 |
| 952 | 2228 |
| 953 | 2228 |
| 954 | 2228 |
| 955 | 2228 |
| 3Z956 | 2228 |
| 957 | 2228 |
| 958 | 2228 |
| 959 | 2228 |
| 962 | 1403 |
| 3Z983 | 1871 |
| 984 | 1871 |
| 985 | 1872 |
| 986 | 1522 |
| 987 | 1336 |
| 3Z990 | 1518 |
| 991 | 2729 |
| 993 | 1500 |
| 997 | 1514 |
| 998 | 1514 |

## 4A

| | |
|---|---|
| 4ACW8 | 1476 |
| CW9 | 1476 |
| C24 | 1441 |
| 4AC27 | 1494 |
| C28 | 1494 |
| C29 | 1494 |
| C30 | 1427 |
| C31 | 1417 |
| 4AD04 | 2458 |
| D06 | 2384 |
| D08 | 2597 |
| D10 | 2466 |
| D34 | 2461 |
| 4AD44 | 2377 |
| D50 | 2455 |
| D59 | 2597 |
| D77 | 2448 |
| D78 | 2460 |
| 4AD85 | 2594 |
| D96 | 2551 |
| D98 | 2409 |
| D99 | 2453 |
| FC0 | 1476 |
| 4AFC1 | 1476 |
| FC2 | 1476 |
| FC5 | 1477 |
| FC6 | 1477 |
| FC7 | 1477 |
| 4AFC8 | 1477 |
| FC9 | 1477 |
| FF0 | 1477 |
| FF1 | 1477 |
| FF2 | 1477 |
| 4AFF3 | 1477 |
| FF4 | 1477 |
| FF5 | 1477 |
| FF6 | 1477 |
| FF7 | 1477 |
| 4AFF8 | 1477 |
| FF9 | 1477 |
| FH0 | 1477 |
| FH1 | 1477 |
| FH2 | 1477 |
| 4AFH3 | 1477 |
| FH4 | 1477 |
| FH5 | 1477 |
| FH6 | 1477 |
| FH7 | 1477 |
| 4AFH8 | 1477 |
| FH9 | 1477 |
| FK0 | 1477 |
| FK1 | 1477 |
| FK2 | 1477 |
| 4AFK3 | 1477 |
| FK4 | 1477 |
| FK5 | 1477 |
| FK6 | 1477 |
| FK7 | 1473 |
| 4AFK8 | 1476 |
| FK9 | 1476 |
| FL0 | 1476 |
| FL1 | 1476 |
| FL2 | 1476 |
| 4AFL3 | 1476 |
| FL4 | 1476 |
| F67 | 1652 |
| F68 | 1652 |
| F69 | 1652 |
| 4AF70 | 1652 |
| F71 | 1652 |
| F72 | 1652 |
| F73 | 1652 |
| F74 | 1652 |
| 4AF75 | 1652 |
| F76 | 1652 |
| F77 | 1652 |
| F78 | 1652 |
| F79 | 1652 |
| 4AF80 | 1652 |
| F81 | 1652 |
| F82 | 1652 |
| F83 | 1652 |
| F84 | 1652 |
| 4AF85 | 1652 |
| F86 | 1652 |
| F87 | 1652 |
| F88 | 1652 |
| F89 | 1652 |
| 4AF90 | 1652 |
| F91 | 1652 |
| F92 | 1652 |
| F93 | 1652 |
| F94 | 1652 |
| 4AF95 | 1652 |
| F96 | 1652 |
| F97 | 1652 |
| F98 | 1652 |
| F99 | 1652 |
| 4AG05 | 2478 |
| G11 | 2594 |
| G14 | 2518 |
| G24 | 2477 |
| G32 | 2503 |
| 4AG33 | 2376 |
| G49 | 2377 |
| G52 | 2474 |
| G77 | 2369 |
| G85 | 2447 |
| 4AG93 | 2371 |
| G99 | 2469 |
| HC5 | 1428 |
| HC6 | 1428 |
| HC7 | 1428 |
| 4AHC8 | 1428 |
| HC9 | 1428 |
| HF0 | 1428 |
| HF1 | 1428 |
| HF2 | 1428 |
| 4AHF3 | 1428 |
| HF4 | 1428 |
| HF5 | 1428 |
| HF6 | 1428 |
| HF7 | 1428 |
| 4AHF8 | 1428 |
| HF9 | 1428 |
| HH0 | 1430 |
| HH1 | 1430 |
| HH2 | 1430 |
| 4AHH3 | 1430 |
| HH4 | 1429 |
| HH5 | 1431 |
| HH6 | 1431 |
| HH7 | 1431 |
| 4AHH8 | 1431 |
| HH9 | 1431 |
| HK0 | 1431 |
| HK1 | 1431 |
| HK2 | 1431 |
| 4AHK3 | 1431 |
| HK4 | 1431 |
| HK5 | 1431 |
| HK6 | 1431 |
| HK7 | 1431 |
| 4AHK8 | 1431 |
| HL1 | 1672 |
| HL2 | 1672 |
| HL3 | 1672 |
| HL4 | 1672 |
| 4AHL5 | 1672 |
| HL6 | 1672 |
| HL7 | 1672 |
| HL8 | 1672 |
| HL9 | 1672 |
| 4AHM0 | 1672 |
| HM1 | 1672 |
| HM2 | 1672 |
| HM3 | 1672 |
| HM4 | 1672 |
| 4AHM5 | 1672 |
| HM6 | 1672 |
| HM7 | 1672 |
| HM8 | 1672 |
| HN0 | 1672 |
| 4AHN1 | 1672 |
| HN2 | 1672 |
| HN3 | 1672 |
| HN4 | 1672 |
| HN5 | 1672 |
| 4AHN6 | 1672 |
| HN7 | 1672 |
| HN8 | 1672 |
| HN9 | 1672 |
| HP0 | 1672 |
| 4AHP1 | 1672 |
| HP2 | 1672 |
| HP3 | 1672 |
| HP4 | 1672 |
| HP5 | 1672 |
| 4AHP6 | 1672 |
| HP7 | 1672 |
| HP8 | 1672 |
| HP9 | 1672 |
| HT0 | 1672 |
| 4AHT1 | 1672 |
| HT2 | 1672 |
| HT3 | 1672 |
| HT4 | 1672 |
| HT5 | 1672 |
| 4AHT6 | 1672 |
| HT7 | 1672 |
| HT8 | 1672 |
| HT9 | 1672 |
| HW0 | 1672 |
| 4AHW1 | 1672 |
| HW2 | 1672 |
| HW3 | 1672 |
| HW4 | 1672 |
| HW5 | 1672 |
| 4AHW6 | 1672 |
| HW7 | 1672 |
| HW8 | 1672 |
| HW9 | 1672 |
| HX0 | 1672 |
| 4AHX1 | 1672 |
| HX2 | 1672 |
| HX3 | 1672 |
| HX4 | 1672 |
| HX5 | 1672 |
| 4AHX6 | 1672 |
| HX7 | 1672 |
| HX8 | 1672 |
| HX9 | 1672 |
| H00 | 1652 |
| 4AH01 | 1652 |
| H02 | 1652 |
| H03 | 1652 |
| H04 | 1652 |
| H05 | 1652 |
| 4AH06 | 1652 |
| H07 | 1652 |
| H08 | 1652 |
| H09 | 1652 |
| H10 | 1652 |
| 4AH11 | 1652 |
| H12 | 1652 |
| H13 | 1652 |
| H14 | 1652 |
| H15 | 1652 |
| 4AH16 | 1652 |
| H17 | 1652 |
| H18 | 1652 |
| H19 | 1652 |
| H20 | 1652 |
| 4AH21 | 1652 |
| H22 | 1652 |
| H23 | 1652 |
| H24 | 1652 |
| H25 | 1652 |
| 4AH26 | 1652 |
| H27 | 1654 |
| H28 | 1654 |
| H29 | 1654 |
| H30 | 1654 |
| 4AH31 | 1654 |
| H32 | 1654 |
| H33 | 1654 |
| H34 | 1654 |
| H35 | 1661 |
| 4AH36 | 1661 |
| H37 | 1661 |
| H38 | 1661 |
| H39 | 1661 |
| H40 | 1661 |
| 4AH41 | 1661 |
| J20 | 2455 |
| J25 | 2550 |
| J26 | 2375 |
| J28 | 2467 |
| 4AJ34 | 2594 |
| J38 | 2501 |
| J40 | 2477 |
| J43 | 2484 |
| J60 | 2456 |
| 4AJ77 | 2442 |
| J80 | 2509 |
| J82 | 2446 |
| J84 | 2461 |
| KC0 | 1672 |
| 4AKC1 | 1672 |
| KC2 | 1672 |
| KC3 | 1672 |
| KC4 | 1672 |
| KC5 | 1672 |
| 4AKC6 | 1672 |
| KC7 | 1672 |
| KC8 | 1672 |
| KC9 | 1672 |
| KF0 | 1672 |
| 4AKF1 | 1672 |
| KF2 | 1672 |
| KF3 | 1672 |
| KF4 | 1672 |
| KF5 | 1672 |
| 4AKF6 | 1672 |
| KF7 | 1672 |
| KF8 | 1672 |
| KF9 | 1672 |
| KH0 | 1672 |
| 4AKH1 | 1672 |
| KH2 | 1674 |
| KH3 | 1674 |
| KH4 | 1674 |
| KH5 | 1674 |
| 4AKH6 | 1674 |
| KH7 | 1674 |
| KH8 | 1674 |
| KH9 | 1674 |
| KK0 | 1674 |
| 4AKK1 | 1674 |
| KK2 | 1674 |
| KK3 | 1674 |
| KK4 | 1674 |
| KK5 | 1674 |
| 4AKK6 | 1674 |
| KK7 | 1674 |
| KK8 | 1674 |
| KK9 | 1674 |
| KL0 | 1671 |
| 4AKL1 | 1671 |
| KL2 | 1671 |
| KL3 | 1671 |
| KL4 | 1671 |
| KL5 | 1671 |
| 4AKL6 | 1671 |
| KL7 | 1671 |
| KL8 | 1679 |
| KL9 | 1679 |
| KM0 | 1679 |
| 4AKM1 | 1679 |
| KM2 | 1679 |
| KM3 | 1679 |
| KM4 | 1679 |
| KM5 | 1679 |
| 4AKM6 | 1679 |
| KM7 | 1679 |
| KM8 | 1679 |
| KM9 | 1680 |
| KN0 | 1680 |
| 4AKN1 | 1680 |
| KN2 | 1680 |
| KN3 | 1680 |
| KN4 | 1680 |
| KN5 | 1680 |
| 4AKN6 | 1680 |
| KN7 | 1680 |
| KN8 | 1680 |
| KN9 | 1680 |
| KP0 | 1680 |
| 4AKP1 | 1680 |
| KP2 | 1680 |
| KP3 | 1680 |
| KP4 | 1680 |
| KP5 | 1680 |
| 4AKP6 | 1680 |
| KP7 | 1680 |
| KP8 | 1680 |
| KP9 | 1680 |
| KR0 | 1680 |
| 4AKR1 | 1680 |
| KR2 | 1680 |
| KR3 | 1680 |
| KR4 | 1680 |
| KR5 | 1680 |
| 4AKR6 | 1680 |
| KR7 | 1680 |
| KR8 | 1680 |
| KR9 | 1680 |
| KT0 | 1680 |
| 4AKT1 | 1680 |
| KT2 | 1680 |
| KT3 | 1680 |
| KT4 | 1680 |
| KT5 | 1680 |
| 4AKT6 | 1680 |
| KT7 | 1680 |
| KT8 | 1680 |
| KT9 | 1680 |
| KW0 | 1680 |
| 4AKW1 | 1680 |
| KW2 | 1680 |
| KW3 | 1680 |
| KW4 | 1680 |
| KW5 | 1680 |
| 4AKW6 | 1680 |
| KW7 | 1680 |
| KW8 | 1680 |
| KW9 | 1680 |
| KX0 | 1680 |
| 4AKX1 | 1680 |
| KX2 | 1680 |
| KX3 | 1680 |
| KX4 | 1680 |
| KX5 | 1680 |
| 4AKX6 | 1680 |
| KX7 | 1680 |
| KX8 | 1680 |
| KX9 | 1680 |
| K21 | 1669 |
| 4AK22 | 1669 |
| K30 | 1657 |
| K31 | 1657 |
| K32 | 1657 |
| K33 | 1657 |
| 4AK34 | 1657 |
| K35 | 1657 |
| K36 | 1657 |
| K37 | 1657 |
| K38 | 1657 |
| 4AK39 | 1657 |
| K40 | 1658 |
| K41 | 1658 |
| K42 | 1658 |
| K43 | 1658 |
| 4AK44 | 1658 |
| K45 | 1658 |
| K46 | 1658 |
| K47 | 1658 |
| K48 | 1656 |
| 4AK49 | 1656 |
| K50 | 1656 |
| K51 | 1656 |
| K52 | 1656 |
| K53 | 1656 |
| 4AK54 | 1656 |
| K55 | 1656 |
| K56 | 1451 |
| K57 | 1451 |
| K58 | 1451 |
| 4AK59 | 1451 |
| K60 | 1451 |
| K61 | 1451 |
| K62 | 1451 |
| K63 | 1451 |
| 4AK64 | 1451 |
| K65 | 1451 |
| K66 | 1451 |
| K67 | 1451 |
| K68 | 1451 |
| 4AK69 | 1451 |
| K70 | 1451 |
| K71 | 1451 |
| K72 | 1451 |
| K73 | 1451 |
| 4AK74 | 1451 |
| K75 | 1451 |
| K76 | 1451 |
| K81 | 1723 |
| K82 | 1723 |
| 4AK83 | 1723 |
| K84 | 1723 |
| K85 | 1723 |
| K86 | 1723 |
| K87 | 1723 |
| 4AK88 | 1723 |
| K89 | 1723 |
| K90 | 1723 |
| K91 | 1723 |
| K92 | 1723 |
| 4AK93 | 1723 |
| K94 | 1723 |
| K95 | 1723 |
| K96 | 1723 |
| K97 | 1723 |
| 4AK98 | 1723 |
| K99 | 1723 |
| LC0 | 1680 |
| LC1 | 1680 |
| LC2 | 1680 |

# STOCK NUMBER—PAGE NUMBER

## 4AL — 4A8


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4ALC3 | 1680 | 4ALN8 | 1681 | 4AL64 | 1728 | 4AZ63 | 2547 | 4A068 | 477 | 4A194 | 1612 | 4A272 | 718 | 4A437 | 2645 | 4A507 | 1335 | 4A696 | 3363 | 4A765 | 1322 |
| LC4 | 1680 | LN9 | 1681 | L65 | 1728 | Z72 | 2367 | 069 | 477 | 195 | 1612 | 273 | 2449 | 438 | 2645 | 508 | 1334 | 697 | 3363 | 766 | 1326 |
| LC5 | 1680 | LP0 | 1681 | L66 | 1722 | Z73 | 2551 | 070 | 477 | 196 | 1612 | 274 | 2449 | 439 | 2191 | 509 | 1334 | 698 | 444 | 767 | 2240 |
| LC6 | 1680 | LP1 | 1681 | L67 | 1721 | Z90 | 2367 | 071 | 477 | 197 | 1612 | 275 | 2445 | 440 | 2191 | 510 | 1334 | 699 | 3363 | 768 | 2240 |
| LC7 | 1680 | LP2 | 1681 | L68 | 1721 | Z96 | 2552 | 072 | 477 | 198 | 1612 | 276 | 2445 | 441 | 2328 | 511 | 1334 | 700 | 3363 | 769 | 2240 |
| 4ALC8 | 1680 | 4ALP3 | 1681 | 4AL69 | 1726 | 4AZ97 | 2447 | 4A073 | 477 | 4A199 | 1612 | 4A277 | 2468 | 4A442 | 2328 | 4A512 | 1333 | 4A701 | 3363 | 4A770 | 2240 |
| LC9 | 1680 | LP4 | 1681 | L71 | 1726 | 001 | 2130 | 074 | 483 | 200 | 1612 | 278 | 2447 | 443 | 2326 | 513 | 1343 | 702 | 3363 | 771 | 2156 |
| LF0 | 1680 | LP5 | 1681 | L72 | 1726 | 002 | 2130 | 075 | 483 | 201 | 1612 | 279 | 2451 | 444 | 2295 | 514 | 1343 | 703 | 3363 | 772 | 2156 |
| LF1 | 1675 | LP6 | 1681 | L73 | 1726 | 003 | 2130 | 076 | 483 | 202 | 1612 | 280 | 2448 | 446 | 429 | 515 | 1343 | 704 | 3363 | 774 | 2182 |
| LF2 | 1675 | LP7 | 1681 | L74 | 1726 | 004 | 2145 | 077 | 497 | 203 | 1625 | 281 | 2459 | 447 | 429 | 516 | 1343 | 705 | 3361 | 775 | 2182 |
| 4ALF3 | 1675 | 4ALP8 | 1681 | 4AL75 | 1726 | 4A005 | 2145 | 4A078 | 483 | 4A204 | 1625 | 4A282 | 2459 | 4A448 | 429 | 4A517 | 1343 | 4A706 | 3361 | 4A776 | 3363 |
| LF4 | 1675 | LP9 | 1681 | R31 | 1717 | 006 | 497 | 079 | 482 | 205 | 1625 | 283 | 2461 | 449 | 429 | 518 | 1345 | 707 | 3361 | 788 | 2932 |
| LF5 | 1675 | LR0 | 1681 | R32 | 1717 | 007 | 497 | 094 | 1357 | 206 | 1625 | 284 | 2680 | 450 | 429 | 519 | 1345 | 708 | 484 | 789 | 2932 |
| LF6 | 1675 | LR1 | 1681 | R33 | 1717 | 008 | 497 | 095 | 1357 | 207 | 1625 | 285 | 2680 | 451 | 429 | 520 | 1343 | 709 | 484 | 790 | 2932 |
| LF7 | 1675 | LR2 | 1681 | R34 | 1717 | 009 | 497 | 096 | 1357 | 208 | 1625 | 286 | 2680 | 452 | 429 | 521 | 1343 | 710 | 484 | 791 | 2932 |
| 4ALF8 | 1676 | 4ALR3 | 1681 | 4AV04 | 2550 | 4A010 | 497 | 4A097 | 1357 | 4A209 | 1625 | 4A287 | 1361 | 4A453 | 429 | 4A522 | 1343 | 4A711 | 484 | 4A799 | 2912 |
| LF9 | 1676 | LR4 | 1681 | V13 | 2432 | 015 | 483 | 098 | 1357 | 210 | 1625 | 288 | 2680 | 454 | 429 | 523 | 1345 | 712 | 525 | 800 | 2912 |
| LH0 | 1676 | LR5 | 1681 | V19 | 2340 | 016 | 483 | 099 | 1357 | 211 | 1625 | 289 | 2680 | 455 | 429 | 524 | 1345 | 713 | 525 | 801 | 1331 |
| LH1 | 1676 | LR6 | 1681 | V20 | 2460 | 017 | 483 | 100 | 1357 | 212 | 1625 | 290 | 1361 | 456 | 429 | 627 | 601 | 714 | 525 | 802 | 1331 |
| LH2 | 1676 | LR7 | 1681 | V26 | 2430 | 018 | 483 | 101 | 1360 | 213 | 576 | 291 | 1361 | 457 | 430 | 628 | 601 | 715 | 3363 | 803 | 1352 |
| 4ALH3 | 1676 | 4ALR8 | 1681 | 4AV52 | 2468 | 4A019 | 483 | 4A102 | 1360 | 4A214 | 576 | 4A292 | 1361 | 4A458 | 430 | 4A629 | 601 | 4A716 | 1325 | 4A804 | 1352 |
| LH4 | 1676 | LR9 | 1681 | V63 | 2549 | 020 | 483 | 103 | 1360 | 215 | 570 | 293 | 2680 | 459 | 430 | 630 | 601 | 717 | 1325 | 805 | 1352 |
| LH5 | 1676 | LT0 | 1681 | V76 | 2369 | 021 | 483 | 104 | 1360 | 216 | 575 | 294 | 1361 | 460 | 430 | 631 | 601 | 719 | 1325 | 807 | 1352 |
| LH6 | 1676 | LT1 | 1681 | V78 | 2363 | 022 | 483 | 105 | 1360 | 217 | 573 | 299 | 1382 | 461 | 430 | 632 | 601 | 720 | 1325 | 810 | 3063 |
| LH7 | 1676 | LT2 | 1681 | V87 | 2458 | 023 | 483 | 106 | 1360 | 218 | 573 | 306 | 1393 | 462 | 430 | 633 | 601 | 721 | 1326 | 811 | 3063 |
| 4ALH8 | 1680 | 4ALT3 | 1681 | 4AV89 | 2449 | 4A024 | 483 | 4A107 | 1360 | 4A219 | 572 | 4A307 | 1393 | 4A463 | 430 | 4A634 | 601 | 4A722 | 1326 | 4A812 | 3064 |
| LH9 | 1678 | LT4 | 1681 | V91 | 2552 | 029 | 492 | 108 | 1360 | 220 | 604 | 308 | 1393 | 464 | 430 | 635 | 597 | 723 | 1326 | 813 | 3064 |
| LK0 | 1678 | LT5 | 1681 | V95 | 2549 | 030 | 487 | 109 | 1360 | 223 | 604 | 309 | 1393 | 465 | 430 | 636 | 597 | 724 | 1327 | 814 | 3064 |
| LK1 | 1678 | LT6 | 1681 | V97 | 2518 | 031 | 487 | 111 | 1359 | 234 | 667 | 310 | 1393 | 466 | 430 | 637 | 597 | 725 | 1324 | 815 | 3064 |
| LK2 | 1678 | LT7 | 1681 | X42 | 2536 | 032 | 487 | 113 | 1359 | 235 | 667 | 312 | 1382 | 467 | 430 | 638 | 597 | 726 | 1324 | 816 | 3064 |
| 4ALK3 | 1681 | 4ALT8 | 1681 | 4AX43 | 2550 | 4A033 | 487 | 4A114 | 1359 | 4A236 | 667 | 4A327 | 483 | 4A468 | 558 | 4A639 | 597 | 4A728 | 1324 | 4A817 | 3064 |
| LK4 | 1681 | LT9 | 1681 | X69 | 1432 | 034 | 487 | 115 | 1359 | 237 | 667 | 328 | 483 | 469 | 558 | 640 | 597 | 730 | 1329 | 818 | 3065 |
| LK5 | 1681 | LW0 | 1681 | X70 | 1432 | 035 | 487 | 116 | 1359 | 238 | 675 | 329 | 23 | 470 | 558 | 641 | 597 | 731 | 1322 | 819 | 3065 |
| LK6 | 1681 | LW1 | 1681 | X71 | 1432 | 036 | 487 | 117 | 1359 | 239 | 675 | 330 | 23 | 471 | 558 | 642 | 597 | 732 | 1327 | 820 | 3064 |
| LK7 | 1681 | LW2 | 1681 | X72 | 1432 | 037 | 391 | 118 | 1359 | 240 | 675 | 331 | 547 | 472 | 558 | 643 | 597 | 733 | 1327 | 821 | 3064 |
| 4ALK8 | 1681 | 4ALW3 | 1681 | 4AX73 | 1432 | 4A038 | 391 | 4A119 | 1360 | 4A241 | 675 | 4A332 | 544 | 4A473 | 558 | 4A644 | 597 | 4A734 | 1327 | 4A822 | 3065 |
| LK9 | 1681 | L00 | 1723 | X74 | 1432 | 039 | 391 | 120 | 1360 | 242 | 675 | 333 | 544 | 474 | 558 | 645 | 597 | 735 | 1326 | 823 | 3065 |
| LL0 | 1681 | L01 | 1723 | X75 | 1432 | 040 | 391 | 155 | 1459 | 243 | 682 | 334 | 553 | 475 | 558 | 646 | 597 | 736 | 1325 | 824 | 3064 |
| LL1 | 1681 | L02 | 1723 | X76 | 1432 | 041 | 391 | 156 | 1426 | 244 | 682 | 335 | 553 | 476 | 558 | 647 | 597 | 737 | 1325 | 832 | 1307 |
| LL2 | 1681 | L03 | 1723 | X77 | 1432 | 042 | 391 | 161 | 480 | 245 | 682 | 336 | 555 | 477 | 558 | 648 | 601 | 738 | 1325 | 833 | 1307 |
| 4ALL3 | 1681 | 4AL04 | 1723 | 4AX78 | 1432 | 4A043 | 391 | 4A162 | 1532 | 4A246 | 684 | 4A337 | 550 | 4A478 | 498 | 4A649 | 601 | 4A739 | 1325 | 4A834 | 1307 |
| LL4 | 1681 | L05 | 1723 | X79 | 1432 | 044 | 391 | 163 | 1532 | 247 | 684 | 338 | 550 | 479 | 561 | 650 | 838 | 740 | 1325 | 835 | 1307 |
| LL5 | 1681 | L06 | 1723 | X80 | 1432 | 045 | 391 | 164 | 1532 | 249 | 683 | 339 | 555 | 480 | 561 | 651 | 838 | 741 | 1325 | 836 | 1307 |
| LL6 | 1681 | L07 | 1723 | X81 | 1432 | 046 | 391 | 172 | 1612 | 250 | 704 | 340 | 555 | 481 | 561 | 653 | 1350 | 742 | 1324 | 837 | 1307 |
| LL7 | 1681 | L08 | 1723 | X82 | 1432 | 047 | 391 | 173 | 1612 | 251 | 704 | 341 | 547 | 482 | 561 | 654 | 1350 | 743 | 1324 | 838 | 1307 |
| 4ALL8 | 1681 | 4AL09 | 1723 | 4AX83 | 1432 | 4A048 | 479 | 4A174 | 1612 | 4A252 | 687 | 4A342 | 578 | 4A487 | 3020 | 4A655 | 1350 | 4A744 | 1325 | 4A839 | 1307 |
| LL9 | 1681 | L10 | 1723 | X84 | 1432 | 049 | 479 | 175 | 1612 | 253 | 704 | 345 | 444 | 488 | 3020 | 664 | 1376 | 745 | 1325 | 840 | 1307 |
| LM0 | 1681 | L11 | 1723 | X85 | 1432 | 050 | 479 | 176 | 1612 | 254 | 704 | 365 | 477 | 489 | 3020 | 666 | 1395 | 746 | 1325 | 841 | 1307 |
| LM1 | 1681 | L12 | 1723 | X86 | 1432 | 051 | 478 | 177 | 1612 | 255 | 704 | 366 | 476 | 490 | 3020 | 667 | 1395 | 747 | 1325 | 842 | 1307 |
| LM2 | 1681 | L13 | 1723 | X87 | 1432 | 052 | 478 | 178 | 1612 | 256 | 704 | 367 | 476 | 491 | 3020 | 668 | 1394 | 748 | 1325 | 843 | 1300 |
| 4ALM3 | 1681 | 4AL15 | 1728 | 4AX88 | 1432 | 4A053 | 478 | 4A179 | 1612 | 4A257 | 687 | 4A368 | 496 | 4A492 | 3020 | 4A669 | 1394 | 4A749 | 1325 | 4A844 | 1301 |
| LM4 | 1681 | L16 | 1728 | X89 | 1432 | 054 | 478 | 180 | 1612 | 258 | 712 | 373 | 872 | 493 | 3020 | 670 | 1395 | 750 | 1325 | 845 | 1301 |
| LM5 | 1681 | L17 | 1728 | X90 | 1432 | 055 | 478 | 181 | 1612 | 259 | 712 | 374 | 872 | 494 | 3020 | 671 | 1395 | 751 | 1325 | 846 | 1301 |
| LM6 | 1681 | L18 | 1728 | X91 | 1432 | 056 | 478 | 182 | 1612 | 260 | 718 | 375 | 872 | 495 | 3020 | 672 | 1394 | 752 | 1325 | 847 | 1301 |
| LM7 | 1681 | L19 | 1728 | X92 | 1432 | 057 | 478 | 183 | 1612 | 261 | 712 | 376 | 872 | 496 | 3020 | 685 | 1349 | 753 | 1324 | 848 | 1301 |
| 4ALM8 | 1681 | 4AL20 | 1728 | 4AX93 | 1432 | 4A058 | 478 | 4A184 | 1612 | 4A262 | 712 | 4A377 | 872 | 4A497 | 1333 | 4A686 | 1349 | 4A754 | 1324 | 4A849 | 1301 |
| LM9 | 1681 | L23 | 1728 | X94 | 1432 | 059 | 478 | 185 | 1612 | 263 | 718 | 413 | 2617 | 498 | 1333 | 687 | 1349 | 755 | 1329 | 850 | 1301 |
| LN0 | 1681 | L24 | 1728 | X95 | 1432 | 060 | 478 | 186 | 1612 | 264 | 713 | 414 | 2617 | 499 | 1333 | 688 | 3363 | 756 | 1329 | 851 | 1367 |
| LN1 | 1681 | L25 | 1728 | X96 | 1432 | 061 | 478 | 187 | 1612 | 265 | 713 | 415 | 2616 | 500 | 1333 | 689 | 3363 | 757 | 1329 | 852 | 1301 |
| LN2 | 1681 | L27 | 1728 | X97 | 1432 | 062 | 476 | 188 | 1612 | 266 | 718 | 416 | 2619 | 501 | 1333 | 690 | 3363 | 759 | 1329 | 853 | 1367 |
| 4ALN3 | 1681 | 4AL28 | 1728 | 4AX98 | 1432 | 4A063 | 476 | 4A189 | 1612 | 4A267 | 713 | 4A417 | 2616 | 4A502 | 1333 | 4A691 | 3363 | 4A760 | 1329 | 4A854 | 1321 |
| LN4 | 1681 | L29 | 1728 | X99 | 1432 | 064 | 477 | 190 | 1612 | 268 | 713 | 418 | 2544 | 503 | 1333 | 692 | 3363 | 761 | 1329 | 855 | 1321 |
| LN5 | 1681 | L61 | 1728 | Z35 | 2438 | 065 | 477 | 191 | 1612 | 269 | 718 | 419 | 2544 | 504 | 1333 | 693 | 3363 | 762 | 1331 | 856 | 1321 |
| LN6 | 1681 | L62 | 1728 | Z50 | 2458 | 066 | 477 | 192 | 1612 | 270 | 713 | 420 | 2544 | 505 | 1333 | 694 | 3363 | 763 | 1331 | 857 | 1321 |
| LN7 | 1681 | L63 | 1728 | Z57 | 2460 | 067 | 477 | 193 | 1612 | 271 | 713 | 421 | 2544 | 506 | 1342 | 695 | 3363 | 764 | 1331 | 858 | 1321 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4A859 | 1321 | 4BR57 | 1653 | 4B085 | 1593 | 4B160 | 1607 | 4B369 | 841 | 4B508 | 2930 | 4B577 | 509 | 4B642 | 503 | 4B709 | 506 | 4B775 | 536 | 4B862 | 448 |
| 860 | 1321 | R58 | 1653 | 086 | 1593 | 161 | 1607 | 370 | 2361 | 512 | 471 | 578 | 509 | 643 | 503 | 710 | 506 | 776 | 536 | 863 | 448 |
| 861 | 1321 | R59 | 1653 | 087 | 1593 | 162 | 1607 | 371 | 2361 | 513 | 471 | 579 | 509 | 644 | 503 | 711 | 506 | 777 | 536 | 864 | 448 |
| 862 | 1321 | R60 | 1653 | 090 | 1593 | 163 | 1607 | 372 | 2361 | 514 | 471 | 580 | 509 | 645 | 503 | 712 | 506 | 778 | 537 | 865 | 448 |
| 863 | 1307 | R61 | 1653 | 091 | 1593 | 164 | 1607 | 373 | 2361 | 515 | 471 | 581 | 509 | 646 | 503 | 713 | 506 | 779 | 537 | 866 | 448 |
| 4A864 | 1307 | 4BR62 | 1653 | 4B092 | 1593 | 4B165 | 1607 | 4B374 | 2649 | 4B516 | 471 | 4B582 | 509 | 4B647 | 508 | 4B714 | 506 | 4B780 | 537 | 4B867 | 448 |
| 937 | 1415 | R63 | 1653 | 093 | 1593 | 166 | 1607 | 375 | 2649 | 517 | 470 | 583 | 519 | 650 | 503 | 715 | 506 | 781 | 537 | 868 | 451 |
| 938 | 1415 | R64 | 1653 | 094 | 1593 | 167 | 1602 | 378 | 2647 | 518 | 471 | 584 | 519 | 651 | 503 | 716 | 506 | 782 | 537 | 870 | 451 |
| 939 | 1450 | R65 | 1653 | 103 | 1600 | 168 | 1602 | 382 | 2649 | 519 | 471 | 585 | 519 | 652 | 503 | 717 | 506 | 783 | 537 | 871 | 449 |
| 940 | 1450 | R66 | 1653 | 104 | 1600 | 169 | 1602 | 383 | 2649 | 520 | 470 | 586 | 519 | 653 | 503 | 718 | 506 | 784 | 537 | 872 | 449 |
| 4A941 | 1483 | 4BR67 | 1653 | 4B105 | 1600 | 4B170 | 1602 | 4B384 | 2649 | 4B521 | 470 | 4B587 | 509 | 4B654 | 503 | 4B719 | 506 | 4B785 | 537 | 4B873 | 449 |
| 942 | 1492 | R68 | 1653 | 106 | 1599 | 171 | 1602 | 385 | 2649 | 522 | 470 | 588 | 509 | 655 | 503 | 720 | 506 | 786 | 537 | 874 | 449 |
| 944 | 1494 | R69 | 1653 | 107 | 1599 | 172 | 1602 | 386 | 2648 | 523 | 470 | 589 | 509 | 656 | 505 | 721 | 506 | 787 | 537 | 875 | 448 |
| 946 | 1434 | R70 | 1653 | 108 | 1599 | 173 | 1602 | 387 | 2649 | 524 | 470 | 590 | 509 | 657 | 505 | 722 | 506 | 788 | 537 | 876 | 448 |
| 947 | 1434 | R71 | 1653 | 109 | 1599 | 174 | 1602 | 416 | 2930 | 525 | 470 | 591 | 509 | 658 | 505 | 723 | 507 | 789 | 537 | 877 | 448 |
| 4A948 | 1434 | 4BR72 | 1653 | 4B110 | 1599 | 4B175 | 1602 | 4B417 | 408 | 4B526 | 470 | 4B592 | 509 | 4B659 | 505 | 4B724 | 507 | 4B790 | 532 | 4B878 | 448 |
| 949 | 1434 | R73 | 1653 | 111 | 1599 | 220 | 2870 | 418 | 408 | 527 | 470 | 593 | 509 | 660 | 505 | 725 | 507 | 791 | 532 | 879 | 448 |
| 950 | 1434 | R74 | 1653 | 112 | 1599 | 222 | 2865 | 419 | 408 | 528 | 470 | 594 | 509 | 661 | 509 | 726 | 507 | 792 | 532 | 880 | 448 |
| 951 | 1434 | R75 | 1653 | 113 | 1599 | 224 | 2869 | 420 | 408 | 529 | 470 | 595 | 509 | 662 | 509 | 727 | 507 | 793 | 532 | 881 | 448 |
| 952 | 1434 | R76 | 1653 | 114 | 1599 | 225 | 2869 | 421 | 408 | 530 | 471 | 596 | 509 | 663 | 509 | 728 | 507 | 794 | 532 | 882 | 448 |
| 4A954 | 1434 | 4BR77 | 1653 | 4B115 | 1599 | 4B227 | 2868 | 4B422 | 408 | 4B531 | 471 | 4B597 | 2925 | 4B664 | 509 | 4B729 | 507 | 4B795 | 532 | 4B883 | 448 |
| 959 | 1579 | R78 | 1653 | 116 | 1599 | 228 | 2868 | 423 | 408 | 532 | 471 | 598 | 523 | 665 | 509 | 730 | 507 | 796 | 532 | 884 | 448 |
| 960 | 2558 | R79 | 1653 | 117 | 1599 | 229 | 2868 | 424 | 408 | 533 | 471 | 599 | 523 | 666 | 509 | 731 | 507 | 797 | 532 | 885 | 448 |
| 961 | 2554 | R80 | 1653 | 118 | 1599 | 232 | 2872 | 425 | 408 | 534 | 471 | 600 | 523 | 667 | 503 | 732 | 507 | 798 | 532 | 886 | 448 |
| 962 | 2554 | R81 | 1653 | 119 | 1599 | 233 | 2872 | 426 | 408 | 535 | 471 | 601 | 523 | 668 | 503 | 733 | 507 | 799 | 532 | 887 | 448 |
| 4A963 | 2554 | 4BR82 | 1653 | 4B120 | 1599 | 4B234 | 2872 | 4B427 | 408 | 4B536 | 471 | 4B602 | 523 | 4B669 | 503 | 4B734 | 507 | 4B800 | 532 | 4B888 | 448 |
| 964 | 2554 | R83 | 1653 | 121 | 1599 | 236 | 2873 | 428 | 408 | 537 | 471 | 603 | 523 | 670 | 504 | 735 | 507 | 801 | 533 | 889 | 448 |
| 965 | 2554 | R84 | 1653 | 122 | 1599 | 237 | 2872 | 429 | 408 | 538 | 471 | 604 | 523 | 671 | 504 | 736 | 505 | 802 | 533 | 890 | 448 |
| 966 | 2554 | R85 | 1653 | 123 | 1599 | 239 | 2870 | 430 | 408 | 540 | 469 | 605 | 523 | 672 | 504 | 737 | 505 | 803 | 533 | 891 | 448 |
| 967 | 2558 | R86 | 1653 | 124 | 1599 | 241 | 2870 | 431 | 408 | 541 | 469 | 606 | 523 | 673 | 504 | 738 | 505 | 804 | 533 | 892 | 448 |
| 4A968 | 2558 | 4BR87 | 1653 | 4B125 | 1600 | 4B242 | 2872 | 4B432 | 408 | 4B542 | 469 | 4B607 | 523 | 4B674 | 504 | 4B739 | 505 | 4B805 | 533 | 4B893 | 451 |
| 969 | 2558 | R88 | 1653 | 126 | 1600 | 243 | 2872 | 433 | 408 | 543 | 469 | 608 | 523 | 675 | 504 | 740 | 505 | 806 | 536 | 894 | 451 |
| 974 | 2062 | R89 | 1653 | 127 | 1596 | 244 | 2884 | 434 | 408 | 544 | 469 | 609 | 523 | 676 | 504 | 741 | 505 | 807 | 536 | 895 | 451 |
| 975 | 2062 | R90 | 1653 | 128 | 1596 | 245 | 2884 | 435 | 408 | 545 | 469 | 610 | 523 | 677 | 504 | 742 | 505 | 808 | 536 | 896 | 451 |
| 976 | 2062 | R91 | 1653 | 129 | 1596 | 246 | 2884 | 436 | 408 | 546 | 469 | 611 | 523 | 678 | 504 | 743 | 506 | 809 | 536 | 897 | 451 |
| 4A977 | 2062 | 4BR92 | 1653 | 4B130 | 1596 | 4B247 | 2884 | 4B438 | 409 | 4B547 | 469 | 4B612 | 523 | 4B679 | 506 | 4B744 | 506 | 4B810 | 536 | 4B898 | 451 |
| 978 | 2062 | R93 | 1653 | 131 | 1596 | 248 | 2888 | 439 | 409 | 548 | 469 | 613 | 523 | 680 | 506 | 745 | 506 | 811 | 536 | 899 | 451 |
| 979 | 2062 | R94 | 1653 | 132 | 1596 | 249 | 2888 | 440 | 409 | 549 | 469 | 614 | 523 | 681 | 506 | 746 | 506 | 834 | 450 | 900 | 451 |
| 980 | 2062 | R95 | 1653 | 133 | 1596 | 250 | 2877 | 441 | 409 | 550 | 469 | 615 | 523 | 682 | 506 | 747 | 506 | 835 | 450 | 901 | 451 |
| 981 | 2062 | R96 | 1653 | 134 | 1596 | 251 | 2886 | 442 | 409 | 551 | 502 | 616 | 523 | 683 | 506 | 748 | 506 | 836 | 450 | 902 | 451 |
| 4A982 | 2062 | 4BR97 | 1653 | 4B135 | 1596 | 4B252 | 2886 | 4B443 | 409 | 4B552 | 502 | 4B617 | 523 | 4B684 | 506 | 4B749 | 506 | 4B837 | 450 | 4B903 | 451 |
| 983 | 2062 | R98 | 1653 | 136 | 1596 | 253 | 2886 | 444 | 409 | 553 | 502 | 618 | 523 | 685 | 506 | 750 | 506 | 838 | 450 | 904 | 451 |
| 984 | 2062 | R99 | 1653 | 137 | 1596 | 254 | 2886 | 445 | 409 | 554 | 502 | 619 | 523 | 686 | 506 | 751 | 506 | 839 | 450 | 905 | 451 |
| 985 | 2062 | T02 | 1659 | 138 | 1596 | 255 | 2886 | 446 | 409 | 555 | 502 | 620 | 523 | 687 | 506 | 752 | 506 | 840 | 450 | 906 | 451 |
| 986 | 2062 | 046 | 3606 | 139 | 1596 | 256 | 386 | 447 | 409 | 556 | 502 | 621 | 523 | 688 | 506 | 753 | 506 | 841 | 450 | 907 | 451 |
| 4A987 | 2062 | 4B047 | 3606 | 4B140 | 1596 | 4B257 | 386 | 4B448 | 409 | 4B557 | 502 | 4B622 | 523 | 4B689 | 506 | 4B754 | 506 | 4B842 | 450 | 4B908 | 451 |
| **4B** | | 049 | 3606 | 141 | 1596 | 264 | 2482 | 449 | 409 | 558 | 502 | 623 | 523 | 690 | 506 | 755 | 506 | 843 | 450 | 909 | 451 |
| | | 051 | 3607 | 142 | 1602 | 285 | 2482 | 450 | 409 | 559 | 502 | 624 | 523 | 691 | 506 | 756 | 506 | 844 | 450 | 910 | 451 |
| 4BC01 | 2371 | 052 | 3607 | 143 | 1602 | 286 | 2482 | 451 | 409 | 560 | 502 | 625 | 523 | 692 | 506 | 758 | 509 | 845 | 450 | 911 | 451 |
| C03 | 2542 | 053 | 1594 | 144 | 1602 | 287 | 2482 | 452 | 409 | 561 | 502 | 626 | 523 | 693 | 507 | 759 | 509 | 846 | 450 | 912 | 451 |
| 4BC08 | 2367 | 4B054 | 1594 | 4B145 | 1602 | 4B288 | 2482 | 4B453 | 409 | 4B562 | 502 | 4B627 | 523 | 4B694 | 507 | 4B760 | 509 | 4B847 | 448 | 4B913 | 451 |
| C13 | 2622 | 056 | 1594 | 146 | 1602 | 291 | 2482 | 454 | 409 | 563 | 502 | 628 | 503 | 695 | 507 | 761 | 509 | 848 | 448 | 914 | 451 |
| C15 | 2281 | 057 | 1594 | 147 | 1602 | 292 | 2482 | 455 | 409 | 564 | 502 | 629 | 503 | 696 | 505 | 762 | 509 | 849 | 448 | 915 | 451 |
| C20 | 2451 | 058 | 1594 | 148 | 1602 | 293 | 2482 | 456 | 409 | 565 | 502 | 630 | 503 | 697 | 508 | 763 | 508 | 850 | 448 | 916 | 451 |
| C34 | 2547 | 063 | 1594 | 149 | 1602 | 294 | 2482 | 457 | 409 | 566 | 502 | 631 | 503 | 698 | 508 | 764 | 508 | 851 | 448 | 917 | 451 |
| 4BC39 | 2431 | 4B068 | 1594 | 4B150 | 1602 | 4B315 | 448 | 4B458 | 409 | 4B567 | 502 | 4B632 | 503 | 4B699 | 505 | 4B765 | 508 | 4B852 | 448 | 4B918 | 451 |
| R48 | 1653 | 069 | 1594 | 151 | 1602 | 317 | 2482 | 459 | 409 | 568 | 502 | 633 | 503 | 700 | 508 | 766 | 508 | 853 | 448 | 919 | 451 |
| R49 | 1653 | 070 | 1594 | 152 | 1602 | 318 | 2482 | 460 | 409 | 569 | 502 | 634 | 504 | 701 | 508 | 767 | 508 | 854 | 448 | 920 | 451 |
| R50 | 1653 | 078 | 1594 | 153 | 1602 | 319 | 2482 | 461 | 409 | 570 | 502 | 635 | 504 | 702 | 507 | 768 | 508 | 855 | 448 | 921 | 450 |
| R51 | 1653 | 079 | 1594 | 154 | 1602 | 320 | 2482 | 462 | 409 | 571 | 502 | 636 | 504 | 703 | 507 | 769 | 508 | 856 | 448 | 922 | 450 |
| 4BR52 | 1653 | 4B080 | 1594 | 4B155 | 1602 | 4B328 | 448 | 4B463 | 409 | 4B572 | 502 | 4B637 | 504 | 4B704 | 507 | 4B770 | 508 | 4B857 | 448 | 4B923 | 450 |
| R53 | 1653 | 081 | 1594 | 156 | 1602 | 362 | 448 | 464 | 409 | 573 | 523 | 638 | 504 | 705 | 507 | 771 | 508 | 858 | 448 | 924 | 450 |
| R54 | 1653 | 082 | 1594 | 157 | 1602 | 365 | 2626 | 465 | 409 | 574 | 523 | 639 | 504 | 706 | 507 | 772 | 536 | 859 | 448 | 925 | 450 |
| R55 | 1653 | 083 | 1594 | 158 | 1602 | 366 | 2626 | 506 | 1590 | 575 | 509 | 640 | 503 | 707 | 507 | 773 | 536 | 860 | 448 | 926 | 2925 |
| R56 | 1653 | 084 | 1593 | 159 | 1602 | 367 | 514 | 507 | 2930 | 576 | 509 | 641 | 503 | 708 | 506 | 774 | 536 | 861 | 448 | 927 | 2925 |

# STOCK NUMBER—PAGE NUMBER

## 4B9 — 4C1

| Stock No. | Page No. |
|---|---|
| 4B928 | 450 |
| 929 | 2925 |
| 930 | 2925 |
| 931 | 450 |
| 932 | 451 |
| 4B933 | 451 |
| 934 | 451 |
| 935 | 451 |
| 936 | 451 |
| 937 | 450 |
| 4B938 | 450 |
| 939 | 450 |
| 940 | 450 |
| 941 | 450 |
| 942 | 450 |
| 4B943 | 450 |
| 944 | 450 |
| 945 | 450 |
| 946 | 450 |
| 947 | 399 |
| 4B948 | 399 |
| 949 | 399 |
| 950 | 399 |
| 951 | 399 |
| 952 | 399 |
| 4B953 | 399 |
| 954 | 399 |
| 955 | 399 |
| 956 | 399 |
| 957 | 399 |
| 4B958 | 399 |
| 959 | 399 |
| 960 | 399 |
| 961 | 399 |
| 962 | 399 |
| 4B972 | 443 |
| 973 | 443 |
| 974 | 443 |
| 975 | 443 |
| 976 | 443 |
| 4B977 | 443 |
| 978 | 443 |
| 979 | 399 |
| 980 | 399 |
| 981 | 399 |
| 4B982 | 399 |
| 983 | 399 |
| 984 | 387 |
| 985 | 387 |
| 986 | 387 |
| 4B987 | 387 |
| 988 | 387 |
| 989 | 387 |
| 990 | 398 |
| 991 | 398 |
| 4B992 | 398 |
| 993 | 398 |
| 994 | 398 |
| 995 | 398 |
| 996 | 398 |
| 4B997 | 398 |
| 998 | 398 |
| 999 | 398 |

**4C**

| Stock No. | Page No. |
|---|---|
| 4CG42 | 1639 |
| G43 | 1639 |
| G44 | 1639 |
| H22 | 1729 |
| H62 | 3542 |
| 4CH63 | 3542 |
| H64 | 3542 |
| H65 | 3568 |
| H66 | 3569 |
| H67 | 3566 |
| 4CH68 | 3541 |
| H69 | 3541 |
| H70 | 3543 |
| H71 | 3543 |
| H73 | 2004 |
| 4CH74 | 2004 |
| H75 | 2004 |
| H76 | 2004 |
| H77 | 2004 |
| H78 | 2003 |
| 4CJ47 | 1998 |
| J48 | 1998 |
| J49 | 1998 |
| J50 | 1998 |
| J57 | 1999 |
| 4CJ59 | 1999 |
| J61 | 1999 |
| J63 | 1999 |
| J65 | 1999 |
| J66 | 1901 |
| 4CJ70 | 1902 |
| J71 | 1902 |
| J74 | 1904 |
| J75 | 1904 |
| J76 | 1903 |
| 4CJ77 | 1905 |
| J78 | 1905 |
| J81 | 1905 |
| J83 | 1910 |
| J84 | 1910 |
| 4CJ85 | 1911 |
| J87 | 1906 |
| J88 | 1906 |
| J89 | 1906 |
| J90 | 1906 |
| 4CJ91 | 1912 |
| J92 | 1912 |
| J94 | 1902 |
| J95 | 1903 |
| J96 | 1901 |
| 4CJ98 | 1911 |
| J99 | 3550 |
| K01 | 3550 |
| K02 | 3563 |
| K03 | 3563 |
| 4CK04 | 3563 |
| K05 | 3563 |
| K06 | 3552 |
| K07 | 3551 |
| K08 | 3551 |
| 4CK09 | 3551 |
| K10 | 3551 |
| K27 | 1197 |
| K28 | 1197 |
| K32 | 1197 |

| Stock No. | Page No. |
|---|---|
| 4CK36 | 1197 |
| K40 | 1197 |
| K42 | 1197 |
| K45 | 1197 |
| L51 | 1388 |
| 4CL78 | 1389 |
| M55 | 1272 |
| M56 | 1272 |
| M57 | 1272 |
| M94 | 1332 |
| 4CM95 | 1332 |
| M96 | 1324 |
| M97 | 1325 |
| M98 | 1325 |
| N01 | 1324 |
| 4CN02 | 1329 |
| N03 | 1322 |
| N04 | 1329 |
| N05 | 1326 |
| N06 | 1326 |
| 4CN08 | 1329 |
| N09 | 1329 |
| N10 | 1331 |
| N11 | 1331 |
| N12 | 1329 |
| 4CN13 | 1329 |
| N14 | 1329 |
| N15 | 1329 |
| N16 | 1329 |
| N17 | 1332 |
| 4CN18 | 1332 |
| N19 | 1332 |
| N20 | 1332 |
| N21 | 1332 |
| N22 | 1332 |
| 4CN23 | 1328 |
| N24 | 1330 |
| N25 | 1328 |
| N28 | 1324 |
| N29 | 1323 |
| 4CN30 | 1323 |
| N32 | 1323 |
| N37 | 1323 |
| N38 | 1323 |
| N39 | 1323 |
| 4CN40 | 1323 |
| N41 | 1326 |
| N42 | 1326 |
| N44 | 2684 |
| N45 | 1382 |
| 4CN46 | 1382 |
| N47 | 1382 |
| N48 | 1380 |
| N49 | 1380 |
| N50 | 1378 |
| 4CN51 | 1378 |
| N52 | 1378 |
| N53 | 1380 |
| N54 | 1380 |
| N55 | 1380 |
| 4CN56 | 1380 |
| N57 | 1380 |
| N58 | 1380 |
| N60 | 1380 |
| N61 | 1380 |

| Stock No. | Page No. |
|---|---|
| 4CN62 | 1380 |
| N64 | 1380 |
| N65 | 1381 |
| N66 | 1381 |
| N67 | 1381 |
| 4CN68 | 1381 |
| N69 | 1380 |
| N71 | 1380 |
| N72 | 1380 |
| N73 | 1380 |
| 4CN74 | 1380 |
| N76 | 1381 |
| N77 | 1381 |
| N78 | 1381 |
| N79 | 1381 |
| 4CN80 | 1381 |
| N81 | 1379 |
| N82 | 1379 |
| N83 | 1379 |
| N87 | 1379 |
| 4CN91 | 1381 |
| N92 | 1381 |
| N93 | 1381 |
| N95 | 1379 |
| N96 | 1379 |
| 4CN97 | 1379 |
| N98 | 1382 |
| N99 | 1379 |
| P01 | 1393 |
| P02 | 1393 |
| 4CP03 | 1393 |
| P04 | 1393 |
| P05 | 1393 |
| P06 | 1393 |
| P07 | 1382 |
| 4CP08 | 1393 |
| P09 | 1393 |
| P10 | 1393 |
| P11 | 1393 |
| P12 | 1393 |
| 4CP13 | 1393 |
| P14 | 1382 |
| P15 | 1382 |
| P16 | 1309 |
| P17 | 1309 |
| 4CP18 | 1309 |
| P19 | 1309 |
| P21 | 1309 |
| P22 | 1309 |
| P23 | 1309 |
| 4CP24 | 1309 |
| P25 | 1309 |
| P26 | 1309 |
| P27 | 1309 |
| P28 | 1309 |
| 4CP30 | 1309 |
| P32 | 1309 |
| P33 | 1309 |
| P34 | 1309 |
| P35 | 1309 |
| 4CP37 | 1309 |
| P38 | 1309 |
| P39 | 1309 |
| P41 | 1309 |
| P42 | 1309 |

| Stock No. | Page No. |
|---|---|
| 4CP43 | 1309 |
| P46 | 1309 |
| P48 | 1466 |
| P51 | 1309 |
| P53 | 1309 |
| 4CP54 | 1309 |
| P56 | 1309 |
| P57 | 1309 |
| P58 | 1309 |
| P59 | 1309 |
| 4CP60 | 1309 |
| P61 | 1309 |
| P62 | 1309 |
| P63 | 1309 |
| P64 | 1309 |
| 4CP66 | 1349 |
| P67 | 1349 |
| P68 | 1349 |
| P69 | 1349 |
| P70 | 1349 |
| 4CP71 | 1349 |
| P72 | 1349 |
| P73 | 1348 |
| P74 | 1348 |
| P76 | 1348 |
| 4CP77 | 1389 |
| P78 | 1389 |
| P79 | 1389 |
| P80 | 1389 |
| P81 | 1389 |
| 4CP82 | 1389 |
| P83 | 1390 |
| P84 | 1390 |
| P85 | 1390 |
| P86 | 1390 |
| 4CP87 | 1390 |
| P90 | 1310 |
| P97 | 1310 |
| P98 | 1310 |
| R01 | 1310 |
| 4CR02 | 1310 |
| R03 | 1310 |
| R15 | 1310 |
| R16 | 1310 |
| R22 | 1310 |
| 4CR23 | 1310 |
| R25 | 1310 |
| R35 | 1306 |
| R36 | 1306 |
| R37 | 1306 |
| 4CR38 | 1306 |
| R39 | 1306 |
| R40 | 1306 |
| R41 | 1306 |
| R42 | 1306 |
| 4CR43 | 1306 |
| R44 | 1306 |
| R45 | 1402 |
| R46 | 1402 |
| R47 | 1402 |
| 4CR48 | 1402 |
| R49 | 1404 |
| R50 | 1403 |
| R51 | 1403 |
| R52 | 1403 |

| Stock No. | Page No. |
|---|---|
| 4CR53 | 1403 |
| R54 | 1403 |
| R55 | 1404 |
| R56 | 1303 |
| R58 | 1303 |
| 4CR59 | 1303 |
| R61 | 1303 |
| R62 | 1303 |
| R63 | 1303 |
| R64 | 1303 |
| 4CR65 | 1303 |
| R66 | 1303 |
| R67 | 1303 |
| R68 | 1303 |
| R69 | 1303 |
| 4CR70 | 1303 |
| R71 | 1303 |
| R72 | 1303 |
| R73 | 1303 |
| R74 | 1303 |
| 4CR75 | 1303 |
| R76 | 1303 |
| R77 | 1303 |
| R78 | 1303 |
| R79 | 1303 |
| 4CR80 | 1303 |
| R81 | 1303 |
| R82 | 1303 |
| R83 | 1303 |
| R84 | 1303 |
| 4CR85 | 1303 |
| R86 | 1303 |
| R87 | 1303 |
| R88 | 1303 |
| R89 | 1303 |
| 4CR90 | 1303 |
| R91 | 1303 |
| R92 | 1303 |
| R93 | 1303 |
| R94 | 1303 |
| 4CR95 | 1303 |
| R96 | 1303 |
| R97 | 1303 |
| R98 | 1303 |
| R99 | 1303 |
| 4CT01 | 1303 |
| T02 | 1303 |
| T03 | 1303 |
| T04 | 1303 |
| T05 | 1303 |
| 4CT06 | 1303 |
| T07 | 1303 |
| T08 | 1303 |
| T09 | 1303 |
| T25 | 720 |
| 4CT26 | 720 |
| T27 | 720 |
| T28 | 720 |
| T30 | 702 |
| T31 | 702 |
| 4CT36 | 722 |
| T37 | 722 |
| T38 | 722 |
| T42 | 690 |
| T43 | 690 |

| Stock No. | Page No. |
|---|---|
| 4CT44 | 690 |
| T46 | 690 |
| T47 | 690 |
| T48 | 690 |
| T49 | 690 |
| 4CT51 | 690 |
| T52 | 694 |
| T53 | 694 |
| T54 | 694 |
| T55 | 694 |
| 4CT60 | 718 |
| T61 | 718 |
| T62 | 718 |
| T63 | 719 |
| T64 | 718 |
| 4CT65 | 719 |
| T66 | 719 |
| T67 | 719 |
| T68 | 718 |
| T69 | 718 |
| 4CT70 | 718 |
| T71 | 719 |
| T72 | 718 |
| T73 | 719 |
| T74 | 719 |
| 4CT75 | 719 |
| T76 | 718 |
| T77 | 718 |
| T78 | 718 |
| T79 | 719 |
| 4CT80 | 718 |
| T81 | 719 |
| T82 | 719 |
| T83 | 719 |
| T84 | 718 |
| 4CT85 | 718 |
| T86 | 718 |
| T87 | 719 |
| T88 | 718 |
| T89 | 719 |
| 4CT90 | 719 |
| T91 | 719 |
| T92 | 718 |
| T93 | 718 |
| T94 | 718 |
| 4CT95 | 719 |
| T96 | 718 |
| T97 | 719 |
| T98 | 719 |
| T99 | 719 |
| 4CV01 | 718 |
| V02 | 718 |
| V03 | 718 |
| V04 | 719 |
| V05 | 718 |
| 4CV06 | 719 |
| V07 | 719 |
| V08 | 719 |
| V09 | 718 |
| V10 | 718 |
| 4CV11 | 718 |
| V12 | 719 |
| V13 | 718 |
| V14 | 719 |
| V15 | 719 |

| Stock No. | Page No. |
|---|---|
| 4CV16 | 719 |
| V17 | 718 |
| V18 | 718 |
| V19 | 718 |
| V20 | 718 |
| 4CV21 | 719 |
| V22 | 719 |
| V23 | 719 |
| V24 | 718 |
| V25 | 718 |
| 4CV26 | 718 |
| V27 | 719 |
| V28 | 718 |
| V30 | 719 |
| V31 | 719 |
| 4CV32 | 718 |
| V33 | 718 |
| V34 | 718 |
| V35 | 719 |
| V36 | 718 |
| 4CV37 | 719 |
| V38 | 719 |
| V39 | 719 |
| V40 | 718 |
| V41 | 718 |
| 4CV42 | 718 |
| V43 | 719 |
| V44 | 718 |
| V45 | 719 |
| V46 | 719 |
| 4CV47 | 719 |
| V48 | 718 |
| V49 | 718 |
| V50 | 718 |
| V51 | 719 |
| 4CV52 | 718 |
| V53 | 719 |
| V54 | 719 |
| V55 | 719 |
| V56 | 718 |
| 4CV57 | 718 |
| V58 | 718 |
| V59 | 719 |
| V60 | 718 |
| V61 | 719 |
| 4CV62 | 719 |
| V63 | 719 |
| V64 | 719 |
| V65 | 719 |
| V66 | 719 |
| 4CV67 | 719 |
| V68 | 719 |
| V69 | 719 |
| V70 | 719 |
| V71 | 719 |
| 4CV76 | 721 |
| V77 | 686 |
| V78 | 686 |
| V79 | 686 |
| V80 | 686 |
| 4CV81 | 686 |
| V82 | 719 |
| V83 | 719 |
| V84 | 644 |
| V85 | 644 |

| Stock No. | Page No. |
|---|---|
| 4CV86 | 644 |
| V87 | 644 |
| V88 | 644 |
| V89 | 644 |
| V90 | 644 |
| 4CV91 | 644 |
| V92 | 644 |
| W33 | 696 |
| W34 | 696 |
| W38 | 645 |
| 4CW39 | 1337 |
| W40 | 1337 |
| W41 | 1336 |
| W42 | 1333 |
| W43 | 1333 |
| 4CW44 | 1333 |
| W45 | 1333 |
| W46 | 1333 |
| W47 | 1333 |
| W48 | 1333 |
| 4CW49 | 1333 |
| W50 | 1342 |
| W51 | 1342 |
| W52 | 1342 |
| W53 | 1342 |
| 4CW54 | 1343 |
| W55 | 1343 |
| W56 | 1343 |
| W57 | 1343 |
| W58 | 1342 |
| 4CW59 | 1342 |
| W60 | 1342 |
| W61 | 1342 |
| W62 | 1342 |
| W63 | 1343 |
| 4CW64 | 1343 |
| W65 | 1343 |
| W66 | 1343 |
| W67 | 1334 |
| W68 | 1334 |
| 4CW69 | 1334 |
| W70 | 1339 |
| W71 | 1334 |
| W72 | 1334 |
| W73 | 1334 |
| 4CW74 | 1334 |
| W75 | 1334 |
| W76 | 1334 |
| W77 | 1334 |
| W78 | 1334 |
| 4CW79 | 1334 |
| W80 | 1334 |
| W81 | 1334 |
| W82 | 1334 |
| W83 | 1340 |
| 4CW84 | 1337 |
| W85 | 1342 |
| W86 | 1342 |
| W87 | 1341 |
| W88 | 1341 |
| 4CW89 | 1341 |
| W90 | 1341 |
| W91 | 1341 |
| W92 | 1336 |
| W93 | 1336 |

| Stock No. | Page No. |
|---|---|
| 4CW94 | 1336 |
| W95 | 1336 |
| W96 | 1336 |
| W97 | 1339 |
| W98 | 1341 |
| 4CW99 | 1341 |
| X01 | 1343 |
| X02 | 1343 |
| X03 | 1339 |
| X04 | 1339 |
| 4CX05 | 1339 |
| X06 | 1339 |
| X07 | 1335 |
| X08 | 1339 |
| X10 | 1338 |
| 4CX11 | 1338 |
| X12 | 1338 |
| X13 | 1338 |
| X14 | 1340 |
| X15 | 1341 |
| 4CX45 | 425 |
| X46 | 425 |
| X49 | 425 |
| X50 | 425 |
| X51 | 425 |
| 4CX52 | 425 |
| X53 | 425 |
| X54 | 415 |
| X55 | 415 |
| X68 | 436 |
| 4CX69 | 436 |
| X70 | 436 |
| X71 | 436 |
| X72 | 436 |
| X73 | 425 |
| 4CX74 | 425 |
| X75 | 425 |
| X76 | 425 |
| X77 | 425 |
| X78 | 425 |
| 4CX79 | 425 |
| X80 | 425 |
| X81 | 425 |
| X82 | 425 |
| Z46 | 3357 |
| 4CZ47 | 3357 |
| Z48 | 3357 |
| Z49 | 3357 |
| Z50 | 3343 |
| Z52 | 3326 |
| 4CZ53 | 3326 |
| Z54 | 3315 |
| Z55 | 3315 |
| Z56 | 3347 |
| Z57 | 1401 |
| 4CZ58 | 1401 |
| Z59 | 1399 |
| Z60 | 1399 |
| Z61 | 1399 |
| Z62 | 1399 |
| 4CZ63 | 1401 |
| Z64 | 1399 |
| Z65 | 1399 |
| Z66 | 1399 |
| Z67 | 1399 |

| Stock No. | Page No. |
|---|---|
| 4CZ68 | 1399 |
| Z69 | 1399 |
| Z70 | 1399 |
| Z71 | 1399 |
| Z72 | 1400 |
| 4CZ73 | 1400 |
| Z74 | 1400 |
| Z75 | 1401 |
| Z76 | 1401 |
| Z77 | 3462 |
| 4CZ78 | 3462 |
| Z79 | 3463 |
| Z80 | 3462 |
| Z81 | 3462 |
| Z82 | 1401 |
| 4CZ83 | 1399 |
| Z84 | 1399 |
| Z85 | 1399 |
| Z86 | 1399 |
| Z87 | 1399 |
| 4CZ88 | 1399 |
| Z89 | 1399 |
| Z90 | 1400 |
| Z91 | 1399 |
| Z92 | 1399 |
| 4CZ93 | 1400 |
| Z94 | 1399 |
| Z95 | 1399 |
| Z96 | 1399 |
| Z97 | 1399 |
| 4CZ98 | 1400 |
| Z99 | 1401 |
| 004 | 3631 |
| 006 | 3631 |
| 007 | 3588 |
| 4C009 | 3588 |
| 010 | 3588 |
| 012 | 3631 |
| 015 | 3631 |
| 016 | 3565 |
| 4C020 | 3586 |
| 021 | 3571 |
| 044 | 3641 |
| 050 | 3550 |
| 054 | 3632 |
| 4C059 | 3588 |
| 097 | 3622 |
| 107 | 3587 |
| 108 | 3664 |
| 118 | 3655 |
| 4C119 | 3655 |
| 121 | 3663 |
| 125 | 3641 |
| 127 | 3588 |
| 129 | 3665 |
| 4C130 | 3665 |
| 131 | 3665 |
| 132 | 3603 |
| 133 | 3603 |
| 134 | 3603 |
| 4C135 | 3603 |
| 136 | 3603 |
| 137 | 3603 |
| 138 | 3603 |
| 139 | 3603 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 4C140 | 3603 |
| 141 | 3603 |
| 143 | 3603 |
| 144 | 3603 |
| 145 | 3603 |
| 4C147 | 3603 |
| 149 | 3603 |
| 154 | 3570 |
| 163 | 3588 |
| 164 | 3588 |
| 4C165 | 3588 |
| 167 | 3588 |
| 204 | 3622 |
| 205 | 3622 |
| 207 | 3546 |
| 4C217 | 3663 |
| 224 | 3597 |
| 225 | 3597 |
| 228 | 3597 |
| 229 | 3602 |
| 4C230 | 3602 |
| 231 | 3602 |
| 253 | 3641 |
| 254 | 3562 |
| 255 | 3603 |
| 4C256 | 3603 |
| 257 | 3603 |
| 258 | 3652 |
| 259 | 3652 |
| 266 | 201 |
| 4C268 | 3587 |
| 269 | 3587 |
| 328 | 3603 |
| 329 | 3664 |
| 330 | 3664 |
| 4C331 | 3562 |
| 333 | 3661 |
| 348 | 3602 |
| 349 | 3602 |
| 354 | 105 |
| 4C357 | 3587 |
| 358 | 3587 |
| 359 | 3587 |
| 360 | 3587 |
| 361 | 3588 |
| 4C362 | 3588 |
| 363 | 3588 |
| 364 | 3588 |
| 365 | 3588 |
| 366 | 3588 |
| 4C367 | 3588 |
| 369 | 3586 |
| 370 | 3586 |
| 371 | 3586 |
| 372 | 3604 |
| 4C373 | 3604 |
| 374 | 3550 |
| 375 | 3550 |
| 376 | 3550 |
| 377 | 3550 |
| 4C378 | 3552 |
| 379 | 3552 |
| 380 | 3552 |
| 385 | 3603 |
| 386 | 3603 |
| 4C388 | 3563 |
| 396 | 1800 |
| 401 | 3564 |
| 403 | 3564 |
| 405 | 3540 |
| 4C406 | 3540 |
| 407 | 3540 |
| 408 | 3540 |
| 409 | 3540 |
| 410 | 3540 |
| 4C432 | 3574 |
| 433 | 3574 |
| 434 | 3574 |
| 440 | 3631 |
| 441 | 3631 |
| 4C442 | 3631 |
| 443 | 3631 |
| 444 | 3632 |
| 445 | 3632 |
| 446 | 3631 |
| 4C447 | 3631 |
| 448 | 3632 |
| 453 | 3617 |
| 454 | 3617 |
| 455 | 3617 |
| 4C456 | 3571 |
| 457 | 3602 |
| 458 | 3570 |
| 459 | 3602 |
| 460 | 3602 |
| 4C461 | 3602 |
| 462 | 3602 |
| 463 | 3602 |
| 464 | 3602 |
| 465 | 3600 |
| 4C466 | 3600 |
| 467 | 3600 |
| 468 | 3600 |
| 469 | 3600 |
| 470 | 3600 |
| 4C471 | 3600 |
| 472 | 3600 |
| 473 | 3600 |
| 474 | 3600 |
| 475 | 3600 |
| 4C476 | 3600 |
| 477 | 3600 |
| 478 | 3600 |
| 479 | 3600 |
| 480 | 3600 |
| 4C505 | 3565 |
| 507 | 3541 |
| 508 | 3541 |
| 509 | 3544 |
| 521 | 3599 |
| 4C523 | 3541 |
| 528 | 3542 |
| 538 | 3553 |
| 540 | 3553 |
| 544 | 3562 |
| 4C545 | 3601 |
| 546 | 3601 |
| 547 | 3601 |
| 548 | 3627 |
| 549 | 3627 |
| 4C550 | 3627 |
| 551 | 3629 |
| 552 | 3629 |
| 555 | 3599 |
| 556 | 3599 |
| 4C557 | 3599 |
| 558 | 3599 |
| 559 | 3599 |
| 560 | 3598 |
| 561 | 3598 |
| 4C565 | 3632 |
| 566 | 3632 |
| 568 | 3568 |
| 576 | 3564 |
| 577 | 3564 |
| 4C578 | 3564 |
| 579 | 3564 |
| 583 | 3564 |
| 586 | 3544 |
| 587 | 3544 |
| 4C589 | 3640 |
| 590 | 3640 |
| 591 | 3640 |
| 592 | 3640 |
| 601 | 3512 |
| 4C620 | 3550 |
| 630 | 3542 |
| 631 | 3542 |
| 634 | 3546 |
| 644 | 3545 |
| 4C649 | 3545 |
| 650 | 3588 |
| 653 | 3627 |
| 654 | 3628 |
| 655 | 3628 |
| 4C656 | 3628 |
| 657 | 3629 |
| 658 | 3588 |
| 659 | 3649 |
| 660 | 3649 |
| 4C661 | 3649 |
| 662 | 3651 |
| 663 | 3651 |
| 664 | 3651 |
| 666 | 3632 |
| 4C667 | 3632 |
| 668 | 3632 |
| 669 | 3643 |
| 670 | 3617 |
| 671 | 3569 |
| 4C681 | 3519 |
| 682 | 3519 |
| 688 | 3627 |
| 689 | 3565 |
| 693 | 3464 |
| 4C694 | 3464 |
| 695 | 3464 |
| 696 | 3464 |
| 697 | 3464 |
| 698 | 3546 |
| 4C699 | 3546 |
| 700 | 3546 |
| 701 | 3546 |
| 702 | 3547 |
| 703 | 3547 |
| 4C704 | 3548 |
| 705 | 3548 |
| 706 | 3548 |
| 707 | 3548 |
| 708 | 3548 |
| 4C709 | 3635 |
| 710 | 3635 |
| 711 | 3635 |
| 712 | 3635 |
| 713 | 3565 |
| 4C714 | 3558 |
| 715 | 3651 |
| 716 | 3651 |
| 717 | 3651 |
| 718 | 3651 |
| 4C720 | 3627 |
| 721 | 3585 |
| 723 | 3635 |
| 724 | 3638 |
| 725 | 3637 |
| 4C726 | 3636 |
| 727 | 3636 |
| 728 | 3636 |
| 729 | 3636 |
| 730 | 3637 |
| 4C731 | 3637 |
| 732 | 3637 |
| 733 | 3637 |
| 734 | 3645 |
| 735 | 3645 |
| 4C740 | 3629 |
| 741 | 3629 |
| 742 | 3629 |
| 743 | 3633 |
| 744 | 3633 |
| 4C745 | 3633 |
| 754 | 3631 |
| 756 | 3559 |
| 759 | 3631 |
| 760 | 3631 |
| 4C761 | 3631 |
| 762 | 3631 |
| 763 | 3631 |
| 770 | 3644 |
| 771 | 3585 |
| 4C772 | 3550 |
| 773 | 3565 |
| 775 | 3542 |
| 778 | 3645 |
| 779 | 3645 |
| 4C781 | 3645 |
| 782 | 3645 |
| 784 | 3668 |
| 790 | 3668 |
| 791 | 3668 |
| 4C792 | 3668 |
| 796 | 3541 |
| 800 | 3544 |
| 807 | 3545 |
| 808 | 3545 |
| 4C809 | 3545 |
| 812 | 3645 |
| 814 | 3635 |
| 815 | 3635 |
| 816 | 3635 |
| 4C817 | 3635 |
| 818 | 3635 |
| 823 | 3564 |
| 825 | 3633 |
| 826 | 3633 |
| 4C827 | 3627 |
| 828 | 3627 |
| 829 | 3627 |
| 830 | 3632 |
| 831 | 3632 |
| 4C832 | 3645 |
| 833 | 3558 |
| 835 | 3599 |
| 841 | 3633 |
| 845 | 3636 |
| 4C847 | 3626 |
| 848 | 3633 |
| 849 | 3563 |
| 850 | 3565 |
| 851 | 3552 |
| 4C852 | 3584 |
| 853 | 3584 |
| 854 | 3584 |
| 855 | 3585 |
| 856 | 3585 |
| 4C859 | 3610 |
| 860 | 3610 |
| 861 | 3610 |
| 862 | 3610 |
| 863 | 3610 |
| 4C864 | 3610 |
| 865 | 3610 |
| 866 | 3610 |
| 867 | 3610 |
| 868 | 3610 |
| 4C869 | 3631 |
| 870 | 3632 |
| 875 | 3670 |
| 876 | 3670 |
| 877 | 3670 |
| 4C878 | 3671 |
| 879 | 3671 |
| 880 | 3540 |
| 881 | 3540 |
| 882 | 3540 |
| 4C883 | 3540 |
| 885 | 3599 |
| 886 | 3600 |
| 887 | 3600 |
| 888 | 3600 |
| 4C889 | 3600 |
| 890 | 3600 |
| 891 | 3600 |
| 892 | 3600 |
| 893 | 3600 |
| 4C894 | 3600 |
| 895 | 3600 |
| 896 | 3600 |
| 897 | 3600 |
| 898 | 3600 |
| 4C899 | 3600 |
| 900 | 3600 |
| 901 | 3600 |
| 902 | 3600 |
| 903 | 3600 |
| 4C904 | 3600 |
| 905 | 3600 |
| 906 | 3545 |
| 907 | 3644 |
| 908 | 3644 |
| 4C909 | 3628 |
| 910 | 3628 |
| 911 | 3628 |
| 912 | 3628 |
| 913 | 3628 |
| 4C914 | 3628 |
| 915 | 3628 |
| 916 | 3628 |
| 917 | 3628 |
| 918 | 3628 |
| 4C919 | 3628 |
| 920 | 3564 |
| 921 | 3564 |
| 922 | 3564 |
| 923 | 3564 |
| 4C926 | 3645 |
| 927 | 3645 |
| 928 | 3583 |
| 929 | 3583 |
| 930 | 3583 |
| 4C931 | 3583 |
| 932 | 3583 |
| 933 | 3583 |
| 934 | 3583 |
| 935 | 3583 |
| 4C936 | 3583 |
| 937 | 3545 |
| 938 | 3545 |
| 940 | 3635 |
| 941 | 3635 |
| 4C942 | 3635 |
| 943 | 3635 |
| 944 | 3516 |
| 945 | 3542 |
| 946 | 3492 |
| 4C947 | 3492 |
| 948 | 3492 |
| 949 | 3492 |
| 950 | 3670 |
| 951 | 3670 |
| 4C952 | 3670 |
| 953 | 3670 |
| 954 | 3670 |
| 955 | 3670 |
| 956 | 3670 |
| 4C957 | 3670 |
| 958 | 3670 |
| 959 | 3670 |
| 960 | 3670 |
| 961 | 3670 |
| 4C962 | 3671 |
| 963 | 3671 |
| 964 | 3671 |
| 965 | 3671 |
| 966 | 3671 |
| 4C967 | 3671 |
| 968 | 3671 |
| 969 | 3671 |
| 970 | 3671 |
| 971 | 3671 |
| 4C972 | 3673 |
| 973 | 3673 |
| 974 | 3673 |
| 975 | 3673 |
| 976 | 3673 |
| 4C977 | 3673 |
| 978 | 3673 |
| 979 | 3670 |
| 980 | 3670 |
| 981 | 3670 |
| 4C982 | 3670 |
| 983 | 3670 |
| 984 | 3670 |
| 985 | 3670 |
| 986 | 3670 |
| 4C987 | 3670 |
| 988 | 3670 |
| 989 | 3670 |
| 990 | 3670 |
| 991 | 3670 |
| 4C992 | 3670 |
| 993 | 3670 |
| 994 | 3670 |
| 995 | 3670 |
| 996 | 3670 |
| 4C997 | 3670 |
| 998 | 3629 |
| 999 | 3629 |
| **4D** | |
| 4DC01 | 1401 |
| C02 | 1401 |
| C03 | 1400 |
| C04 | 1399 |
| C05 | 1399 |
| 4DC06 | 1400 |
| C07 | 1400 |
| C08 | 1400 |
| C09 | 1400 |
| C10 | 1400 |
| 4DC11 | 1400 |
| C12 | 1399 |
| C13 | 1399 |
| C14 | 1401 |
| C15 | 1400 |
| 4DC16 | 1399 |
| C17 | 1400 |
| C18 | 1400 |
| C19 | 1400 |
| C20 | 1400 |
| 4DC21 | 1400 |
| C22 | 1400 |
| C23 | 1400 |
| C24 | 1400 |
| C25 | 1400 |
| 4DC26 | 1400 |
| C27 | 1400 |
| C28 | 1399 |
| C29 | 1400 |
| C48 | 3375 |
| 4DC49 | 3375 |
| C50 | 3375 |
| C67 | 3454 |
| C68 | 3454 |
| C77 | 787 |
| 4DD05 | 442 |
| D08 | 442 |
| D09 | 442 |
| D10 | 443 |
| D11 | 443 |
| 4DD12 | 443 |
| D17 | 443 |
| D18 | 443 |
| D25 | 442 |
| D26 | 442 |
| 4DD31 | 442 |
| D32 | 442 |
| D60 | 443 |
| D63 | 443 |
| D66 | 443 |
| 4DD69 | 443 |
| D89 | 444 |
| D91 | 444 |
| D93 | 444 |
| D94 | 444 |
| 4DD96 | 444 |
| D98 | 444 |
| F01 | 444 |
| F02 | 444 |
| F04 | 444 |
| 4DF07 | 444 |
| F08 | 444 |
| F10 | 444 |
| F12 | 444 |
| F14 | 444 |
| 4DF15 | 444 |
| F21 | 444 |
| F22 | 444 |
| F23 | 444 |
| F25 | 444 |
| 4DF30 | 444 |
| F36 | 444 |
| F42 | 444 |
| F48 | 444 |
| F49 | 444 |
| 4DF50 | 444 |
| F56 | 444 |
| F57 | 444 |
| F85 | 467 |
| F86 | 467 |
| 4DF87 | 467 |
| F88 | 467 |
| F89 | 467 |
| F90 | 467 |
| F91 | 467 |
| 4DF92 | 467 |
| F93 | 467 |
| F94 | 467 |
| G06 | 3405 |
| G07 | 3405 |
| 4DG08 | 3405 |
| G09 | 3405 |
| G10 | 3405 |
| G11 | 3405 |
| G12 | 3405 |
| 4DG13 | 3405 |
| G14 | 3405 |
| G15 | 3405 |
| G16 | 3405 |
| G17 | 3405 |
| 4DG18 | 3405 |
| G19 | 3405 |
| G20 | 3405 |
| G21 | 3405 |
| G22 | 3405 |
| 4DG23 | 3405 |
| G24 | 3405 |
| G25 | 3405 |
| G26 | 3405 |
| G27 | 3405 |
| 4DG28 | 3405 |
| G29 | 3405 |
| G30 | 3405 |
| G31 | 3405 |
| G32 | 3405 |
| 4DG33 | 3405 |
| G34 | 3405 |
| G35 | 3405 |
| G36 | 3405 |
| G37 | 3405 |
| 4DG38 | 3405 |
| G39 | 3405 |
| G40 | 3405 |
| G41 | 3405 |
| G42 | 3405 |
| 4DG43 | 3405 |
| G44 | 3405 |
| G45 | 3405 |
| G46 | 1393 |
| G47 | 3327 |
| 4DG48 | 3327 |
| G49 | 3319 |
| G50 | 3314 |
| G51 | 3317 |
| G52 | 3347 |
| 4DG53 | 3343 |
| G54 | 3343 |
| G55 | 3343 |
| G56 | 3343 |
| G57 | 3321 |
| 4DG58 | 3519 |
| G62 | 1404 |
| M91 | 1657 |
| N51 | 1651 |
| N53 | 1651 |
| 4DN55 | 1651 |
| N57 | 1651 |
| N59 | 1651 |
| N60 | 1651 |
| N61 | 1651 |
| 4DN62 | 1651 |
| 024 | 726 |
| 025 | 726 |
| 340 | 727 |
| 342 | 727 |
| 4D343 | 727 |
| 344 | 727 |
| 345 | 727 |
| 347 | 727 |
| 348 | 727 |
| 4D349 | 727 |
| 351 | 725 |
| 352 | 726 |
| 353 | 726 |
| 587 | 725 |
| 4D591 | 726 |
| 592 | 726 |
| 593 | 520 |
| 617 | 3469 |
| 619 | 3469 |
| 4D623 | 3469 |
| 625 | 3469 |
| 630 | 3469 |
| 631 | 3469 |
| 635 | 3469 |
| 4D637 | 3469 |
| 641 | 3469 |
| 645 | 3469 |
| 650 | 3469 |
| 651 | 3469 |
| 4D652 | 3469 |
| 654 | 3469 |
| 658 | 3469 |
| 660 | 3469 |
| 662 | 3469 |
| 4D664 | 3469 |
| 667 | 3469 |
| 668 | 3469 |
| 669 | 3469 |
| 670 | 3469 |
| 4D671 | 3469 |
| 672 | 3469 |
| 673 | 3469 |
| 674 | 3469 |
| 675 | 3469 |
| 4D676 | 3469 |
| 677 | 3469 |
| 678 | 3469 |
| 679 | 3469 |
| 680 | 3469 |
| 4D681 | 3469 |
| 682 | 3469 |
| 683 | 3469 |
| 684 | 3469 |
| 685 | 3469 |
| 4D686 | 3469 |
| 687 | 3469 |
| 688 | 3469 |
| 689 | 3469 |
| 690 | 3469 |
| 4D691 | 3469 |
| 692 | 3469 |
| 693 | 3469 |
| 695 | 3469 |
| 696 | 3469 |
| 4D697 | 3469 |
| 699 | 3469 |
| 700 | 3469 |
| 702 | 3469 |
| 703 | 3469 |
| 4D704 | 3469 |
| 705 | 3469 |
| 706 | 3469 |
| 707 | 3469 |
| 708 | 3469 |
| 4D709 | 3469 |
| 710 | 3469 |
| 711 | 3469 |
| 712 | 3469 |
| 713 | 3469 |
| 4D714 | 3469 |
| 715 | 3469 |
| 716 | 3469 |
| 717 | 3469 |
| **4E** | |
| 4EG68 | 1656 |
| G69 | 1656 |
| G70 | 1656 |
| 4EG71 | 1656 |
| G72 | 1656 |
| G73 | 1656 |
| G74 | 1656 |
| G75 | 1656 |
| 4EG76 | 1656 |
| G77 | 1656 |
| G78 | 1656 |
| X04 | 1300 |
| X07 | 1653 |
| 4EX08 | 1653 |
| 018 | 3323 |
| 023 | 576 |
| 024 | 576 |
| 025 | 576 |
| 4E026 | 583 |
| 028 | 3312 |
| 029 | 3312 |
| 030 | 3312 |
| 031 | 3312 |
| 4E032 | 3312 |
| 033 | 3312 |
| 034 | 3318 |
| 035 | 3310 |
| 036 | 3327 |
| 4E037 | 3327 |
| 038 | 3497 |
| 039 | 3497 |
| 040 | 3497 |
| 041 | 3497 |
| 4E042 | 3498 |
| 043 | 3498 |
| 044 | 3499 |
| 045 | 3499 |
| 046 | 3499 |
| 4E047 | 3331 |
| 048 | 3502 |
| 049 | 3502 |
| 050 | 3502 |
| 051 | 3502 |
| 4E052 | 3502 |
| 053 | 3502 |
| 054 | 3502 |
| 055 | 3502 |
| 056 | 3502 |
| 4E057 | 3504 |
| 058 | 3324 |
| 059 | 3420 |
| 060 | 3077 |
| 061 | 3507 |
| 4E070 | 3320 |
| 071 | 3320 |
| 072 | 3320 |
| 073 | 3320 |
| 074 | 3320 |

# STOCK NUMBER—PAGE NUMBER

## 4E0 — 4FH

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4E075 | 3320 | 4E236 | 3378 | 4E308 | 3481 | 4E457 | 3403 | 4E542 | 3467 | 4E617 | 3185 | 4E684 | 3294 | 4E798 | 1612 | 4E866 | 3432 | 4E962 | 3498 | 4FG46 | 150 |
| 086 | 3419 | 237 | 3379 | 309 | 3481 | 458 | 3403 | 543 | 3467 | 618 | 3185 | 685 | 3294 | 799 | 1612 | 867 | 3432 | 963 | 3452 | G47 | 150 |
| 087 | 3311 | 238 | 3506 | 310 | 3479 | 459 | 3403 | 544 | 3467 | 619 | 3185 | 686 | 3294 | 800 | 1612 | 870 | 3451 | 964 | 3452 | G48 | 150 |
| 088 | 3311 | 239 | 3506 | 388 | 3350 | 460 | 3403 | 545 | 3467 | 620 | 3185 | 696 | 3305 | 801 | 1612 | 871 | 3451 | 965 | 3452 | G49 | 150 |
| 095 | 3344 | 240 | 3506 | 389 | 3350 | 461 | 3403 | 546 | 3467 | 621 | 3185 | 697 | 3305 | 802 | 1612 | 873 | 3451 | 966 | 3452 | G50 | 150 |
| 4E096 | 3344 | 4E241 | 3506 | 4E390 | 3350 | 4E462 | 3403 | 4E547 | 3467 | 4E622 | 3185 | 4E698 | 3305 | 4E803 | 1612 | 4E875 | 3451 | 4E967 | 3452 | 4FG51 | 150 |
| 098 | 3344 | 242 | 3325 | 391 | 3349 | 463 | 3403 | 548 | 3467 | 623 | 3185 | 699 | 3305 | 804 | 1612 | 876 | 3451 | 968 | 3452 | G52 | 150 |
| 116 | 3334 | 243 | 3325 | 392 | 3349 | 464 | 3403 | 549 | 3466 | 624 | 3185 | 702 | 3296 | 805 | 1612 | 877 | 3311 | 969 | 3452 | G53 | 316 |
| 117 | 3334 | 244 | 3311 | 393 | 3335 | 465 | 3403 | 550 | 3467 | 625 | 3185 | 703 | 3296 | 806 | 1612 | 879 | 3311 | 971 | 3510 | G54 | 316 |
| 118 | 3334 | 247 | 3352 | 394 | 3313 | 466 | 3403 | 551 | 3467 | 626 | 3185 | 704 | 3296 | 807 | 1612 | 880 | 3499 | 972 | 3521 | G55 | 316 |
| 4E119 | 3334 | 4E248 | 3352 | 4E395 | 3313 | 4E467 | 3403 | 4E552 | 3467 | 4E627 | 3185 | 4E705 | 3296 | 4E808 | 1612 | 4E881 | 3499 | 4E974 | 3515 | 4FG56 | 316 |
| 120 | 3334 | 249 | 3352 | 396 | 3348 | 468 | 3403 | 553 | 3467 | 628 | 3185 | 706 | 3296 | 809 | 1612 | 882 | 3499 | 975 | 3515 | G57 | 316 |
| 121 | 3341 | 250 | 3370 | 397 | 3348 | 469 | 3403 | 554 | 3467 | 629 | 3185 | 707 | 3296 | 810 | 1612 | 883 | 3497 | 976 | 3515 | G58 | 316 |
| 122 | 3341 | 251 | 3370 | 400 | 3344 | 470 | 3403 | 555 | 3467 | 630 | 3185 | 708 | 3296 | 811 | 1612 | 884 | 3497 | 985 | 1917 | G59 | 316 |
| 123 | 3344 | 252 | 3370 | 402 | 3510 | 471 | 3403 | 556 | 3467 | 631 | 3185 | 709 | 3297 | 812 | 1612 | 885 | 3497 | 986 | 3457 | G60 | 316 |
| 4E124 | 3344 | 4E253 | 3370 | 4E404 | 3510 | 4E484 | 3422 | 4E557 | 3467 | 4E632 | 3185 | 4E710 | 3297 | 4E813 | 1612 | 4E886 | 3497 | **4F** | | 4FG61 | 316 |
| 125 | 3344 | 254 | 3370 | 407 | 3509 | 486 | 3422 | 558 | 3467 | 633 | 3185 | 711 | 3297 | 814 | 1612 | 887 | 3497 | | | G62 | 316 |
| 126 | 3344 | 255 | 3370 | 408 | 3537 | 488 | 3422 | 559 | 3467 | 636 | 3330 | 712 | 3297 | 815 | 1612 | 888 | 3498 | 4FF97 | 2562 | G63 | 316 |
| 127 | 3344 | 256 | 3370 | 409 | 3537 | 490 | 3422 | 560 | 3467 | 637 | 3494 | 713 | 3297 | 816 | 1612 | 889 | 3498 | F98 | 2562 | G64 | 316 |
| 128 | 3344 | 257 | 3370 | 410 | 3537 | 492 | 3524 | 561 | 3467 | 638 | 3494 | 714 | 3297 | 817 | 1612 | 890 | 3505 | F99 | 2562 | G65 | 316 |
| 4E145 | 3324 | 4E258 | 3370 | 4E411 | 3537 | 4E493 | 3521 | 4E562 | 3467 | 4E639 | 3494 | 4E715 | 3296 | 4E818 | 1612 | 4E891 | 3294 | 4FG01 | 2562 | 4FG66 | 316 |
| 146 | 3324 | 259 | 3370 | 412 | 3537 | 494 | 3521 | 563 | 3467 | 640 | 3494 | 716 | 3296 | 819 | 1612 | 912 | 3332 | G02 | 2562 | G67 | 316 |
| 147 | 3324 | 260 | 3370 | 413 | 3537 | 495 | 3524 | 564 | 1917 | 641 | 3494 | 717 | 3297 | 820 | 1612 | 913 | 3503 | G03 | 2562 | G68 | 316 |
| 148 | 3324 | 261 | 3370 | 414 | 3537 | 496 | 3524 | 565 | 1917 | 642 | 3494 | 718 | 3297 | 821 | 1612 | 919 | 3332 | G04 | 2562 | G69 | 316 |
| 149 | 3324 | 262 | 3370 | 415 | 3537 | 497 | 3524 | 566 | 1917 | 643 | 3494 | 719 | 3297 | 822 | 1612 | 921 | 3489 | G05 | 2562 | G70 | 316 |
| 4E161 | 3420 | 4E263 | 3370 | 4E416 | 3517 | 4E498 | 3524 | 4E569 | 1917 | 4E644 | 3323 | 4E720 | 3295 | 4E823 | 1722 | 4E922 | 3489 | 4FG06 | 2562 | 4FG71 | 316 |
| 162 | 3420 | 264 | 3370 | 417 | 3517 | 499 | 3524 | 570 | 1917 | 645 | 3323 | 721 | 3295 | 824 | 1721 | 923 | 3489 | G07 | 2562 | G72 | 316 |
| 163 | 3420 | 265 | 3371 | 418 | 3517 | 501 | 3524 | 571 | 3039 | 646 | 3323 | 722 | 3295 | 825 | 1721 | 924 | 3489 | G08 | 2562 | G73 | 316 |
| 167 | 3419 | 266 | 3371 | 419 | 3517 | 502 | 3524 | 572 | 3039 | 647 | 3323 | 723 | 3295 | 826 | 1721 | 925 | 3489 | G09 | 2562 | G74 | 316 |
| 168 | 3419 | 267 | 3371 | 420 | 3510 | 503 | 3524 | 573 | 3039 | 648 | 3323 | 724 | 3295 | 827 | 1721 | 926 | 3489 | G10 | 2562 | G75 | 316 |
| 4E169 | 3395 | 4E268 | 3371 | 4E421 | 3525 | 4E504 | 3524 | 4E574 | 3039 | 4E649 | 3323 | 4E725 | 3297 | 4E828 | 1721 | 4E927 | 3489 | 4FG11 | 2562 | 4FG76 | 316 |
| 170 | 3395 | 269 | 3371 | 422 | 3525 | 505 | 3532 | 575 | 3039 | 650 | 3323 | 726 | 3321 | 829 | 1721 | 928 | 3489 | G12 | 2562 | G77 | 316 |
| 171 | 3316 | 270 | 3371 | 423 | 3525 | 506 | 3524 | 576 | 3039 | 651 | 3323 | 727 | 3185 | 830 | 1721 | 929 | 3489 | G13 | 2562 | G78 | 316 |
| 172 | 3316 | 271 | 3371 | 424 | 3525 | 507 | 3524 | 577 | 3039 | 652 | 3501 | 728 | 3185 | 833 | 3462 | 930 | 3490 | G14 | 2626 | G79 | 316 |
| 175 | 3339 | 272 | 3373 | 425 | 3525 | 508 | 3524 | 578 | 3039 | 653 | 3501 | 729 | 3185 | 834 | 3462 | 931 | 3490 | G15 | 2626 | G80 | 316 |
| 4E176 | 3339 | 4E273 | 3373 | 4E426 | 3525 | 4E511 | 3375 | 4E579 | 3039 | 4E654 | 3501 | 4E730 | 3185 | 4E836 | 3481 | 4E932 | 3490 | 4FG16 | 2626 | 4FG81 | 311 |
| 177 | 3339 | 274 | 3372 | 427 | 3525 | 512 | 3375 | 580 | 3039 | 655 | 3501 | 731 | 3185 | 837 | 3481 | 933 | 3490 | G17 | 2628 | G82 | 311 |
| 178 | 3339 | 275 | 3372 | 428 | 3525 | 513 | 3375 | 581 | 3039 | 656 | 3501 | 732 | 3185 | 838 | 3479 | 934 | 3490 | G18 | 2628 | G83 | 311 |
| 179 | 3339 | 276 | 3372 | 429 | 3525 | 514 | 3375 | 582 | 3039 | 657 | 3501 | 733 | 3185 | 839 | 3480 | 935 | 3490 | G19 | 2628 | G84 | 311 |
| 180 | 3333 | 277 | 3372 | 430 | 3525 | 515 | 3375 | 583 | 3039 | 658 | 3335 | 734 | 3185 | 840 | 3480 | 936 | 3490 | G20 | 2628 | G85 | 316 |
| 4E181 | 3497 | 4E278 | 3372 | 4E431 | 3525 | 4E516 | 3375 | 4E584 | 3039 | 4E659 | 3335 | 4E735 | 3185 | 4E841 | 3480 | 4E937 | 3490 | 4FG21 | 2628 | 4FG86 | 316 |
| 182 | 3316 | 279 | 3372 | 432 | 3525 | 517 | 3375 | 585 | 3039 | 660 | 3319 | 736 | 3294 | 842 | 3477 | 938 | 3490 | G22 | 250 | G87 | 316 |
| 183 | 3316 | 280 | 3372 | 433 | 3525 | 518 | 3375 | 586 | 3039 | 661 | 3321 | 737 | 3294 | 843 | 3477 | 939 | 3490 | G23 | 250 | G88 | 316 |
| 184 | 3316 | 281 | 3372 | 434 | 3514 | 519 | 3375 | 587 | 3039 | 662 | 3321 | 739 | 3399 | 844 | 3480 | 940 | 3492 | G24 | 250 | G89 | 316 |
| 185 | 3077 | 282 | 3372 | 435 | 3514 | 521 | 3375 | 588 | 3039 | 663 | 3319 | 740 | 3399 | 845 | 3479 | 941 | 3335 | G25 | 250 | G90 | 316 |
| 4E186 | 3077 | 4E283 | 3372 | 4E436 | 3514 | 4E522 | 3375 | 4E589 | 3039 | 4E664 | 3330 | 4E741 | 3399 | 4E846 | 3481 | 4E942 | 3335 | 4FG26 | 250 | 4FG91 | 316 |
| 189 | 3319 | 284 | 3372 | 437 | 3532 | 523 | 3375 | 590 | 3039 | 665 | 3330 | 758 | 3453 | 847 | 3481 | 943 | 3336 | G27 | 250 | G92 | 316 |
| 190 | 3344 | 285 | 3372 | 438 | 3514 | 524 | 3375 | 591 | 3039 | 666 | 3293 | 759 | 3453 | 848 | 3479 | 944 | 3336 | G28 | 251 | G93 | 316 |
| 207 | 3411 | 287 | 3344 | 439 | 3514 | 525 | 3381 | 592 | 3039 | 667 | 3293 | 760 | 3453 | 849 | 3479 | 945 | 3336 | G29 | 251 | G94 | 316 |
| 208 | 3411 | 288 | 3344 | 440 | 3515 | 526 | 3381 | 593 | 3039 | 668 | 3293 | 761 | 3453 | 850 | 3479 | 946 | 3342 | G30 | 251 | G95 | 316 |
| 4E217 | 3409 | 4E289 | 3327 | 4E441 | 3520 | 4E527 | 3381 | 4E594 | 3039 | 4E669 | 3293 | 4E768 | 3453 | 4E851 | 3481 | 4E947 | 3312 | 4FG31 | 251 | 4FG96 | 316 |
| 218 | 3409 | 290 | 3327 | 442 | 3520 | 528 | 3376 | 595 | 3039 | 670 | 3293 | 769 | 3378 | 852 | 3432 | 948 | 3316 | G32 | 251 | G97 | 316 |
| 219 | 3409 | 291 | 3351 | 443 | 3521 | 529 | 3376 | 596 | 3039 | 671 | 3293 | 770 | 3344 | 853 | 3432 | 949 | 3319 | G33 | 251 | G98 | 316 |
| 220 | 3409 | 293 | 3323 | 444 | 3521 | 530 | 3376 | 597 | 3039 | 672 | 3293 | 771 | 3459 | 854 | 3432 | 950 | 3347 | G34 | 251 | G99 | 316 |
| 221 | 3083 | 297 | 3396 | 445 | 3522 | 531 | 3376 | 598 | 3039 | 673 | 3293 | 772 | 3459 | 855 | 3432 | 951 | 3347 | G35 | 251 | H01 | 316 |
| 4E222 | 3324 | 4E298 | 3396 | 4E446 | 3522 | 4E532 | 3516 | 4E599 | 3039 | 4E674 | 3293 | 4E780 | 591 | 4E856 | 3432 | 4E952 | 3347 | 4FG36 | 251 | 4FH02 | 316 |
| 224 | 3340 | 299 | 3396 | 448 | 3427 | 533 | 3516 | 600 | 3039 | 675 | 3293 | 781 | 591 | 857 | 3432 | 953 | 3347 | G37 | 99 | H03 | 316 |
| 225 | 3340 | 300 | 3420 | 449 | 3427 | 534 | 3521 | 601 | 3039 | 676 | 3293 | 790 | 1612 | 858 | 3432 | 954 | 3343 | G38 | 99 | H04 | 316 |
| 226 | 3340 | 301 | 3420 | 450 | 3426 | 535 | 3521 | 602 | 3039 | 677 | 3293 | 791 | 1612 | 859 | 3432 | 955 | 3343 | G39 | 99 | H05 | 316 |
| 227 | 3340 | 302 | 3420 | 451 | 3426 | 536 | 3515 | 603 | 3039 | 678 | 3293 | 792 | 1612 | 860 | 3432 | 956 | 3343 | G40 | 170 | H06 | 316 |
| 4E231 | 3409 | 4E303 | 3420 | 4E452 | 3426 | 4E537 | 3520 | 4E604 | 3039 | 4E679 | 3294 | 4E793 | 1612 | 4E861 | 3432 | 4E957 | 3342 | 4FG41 | 170 | 4FH07 | 316 |
| 232 | 3507 | 304 | 3420 | 453 | 3426 | 538 | 3520 | 605 | 3039 | 680 | 3294 | 794 | 1612 | 862 | 3432 | 958 | 3348 | G42 | 170 | H08 | 316 |
| 233 | 3505 | 305 | 3420 | 454 | 3403 | 539 | 3467 | 606 | 3039 | 681 | 3294 | 795 | 1612 | 863 | 3432 | 959 | 3348 | G43 | 170 | H09 | 316 |
| 234 | 3505 | 306 | 3481 | 455 | 3403 | 540 | 3467 | 607 | 3039 | 682 | 3294 | 796 | 1612 | 864 | 3432 | 960 | 3498 | G44 | 170 | H10 | 316 |
| 235 | 3505 | 307 | 3481 | 456 | 3403 | 541 | 3467 | 608 | 3039 | 683 | 3294 | 797 | 1612 | 865 | 3432 | 961 | 3498 | G45 | 170 | H11 | 316 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER



| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4FH12 | 316 | 4FH77 | 309 | 4FJ43 | 308 | 4FK09 | 337 | 4FK78 | 337 | 4FL46 | 337 | 4FM23 | 37 | 4FM88 | 37 | 4FN54 | 38 | 4F143 | 1797 | 4F363 | 2826 |
| H13 | 316 | H78 | 309 | J44 | 308 | K10 | 337 | K79 | 337 | L47 | 337 | M24 | 37 | M89 | 37 | N55 | 38 | 145 | 1797 | 368 | 2741 |
| H14 | 311 | H79 | 309 | J45 | 308 | K11 | 337 | K80 | 337 | L48 | 337 | M25 | 37 | M90 | 37 | N56 | 38 | 147 | 1797 | 374 | 2747 |
| H15 | 311 | H80 | 309 | J46 | 308 | K12 | 337 | K81 | 336 | L49 | 336 | M26 | 37 | M91 | 37 | N57 | 29 | 151 | 1797 | 375 | 2747 |
| H16 | 311 | H81 | 309 | J47 | 308 | K13 | 337 | K82 | 336 | L50 | 336 | M27 | 37 | M92 | 37 | N58 | 29 | 153 | 1797 | 376 | 2751 |
| 4FH17 | 311 | 4FH82 | 309 | 4FJ48 | 308 | 4FK14 | 337 | 4FK83 | 336 | 4FL51 | 336 | 4FM28 | 37 | 4FM93 | 37 | 4FN59 | 29 | 4F155 | 1797 | 4F377 | 2751 |
| H18 | 316 | H83 | 308 | J49 | 308 | K15 | 337 | K84 | 336 | L52 | 337 | M29 | 37 | M94 | 37 | N60 | 29 | 157 | 1797 | 391 | 2750 |
| H19 | 316 | H84 | 308 | J50 | 308 | K16 | 337 | K85 | 336 | L53 | 337 | M30 | 37 | M95 | 37 | N61 | 29 | 161 | 1797 | 396 | 1434 |
| H20 | 316 | H85 | 308 | J51 | 308 | K18 | 337 | K86 | 336 | L54 | 336 | M31 | 37 | M96 | 37 | N62 | 29 | 163 | 1797 | 397 | 1434 |
| H21 | 316 | H86 | 308 | J52 | 308 | K19 | 337 | K87 | 336 | L55 | 336 | M32 | 37 | M97 | 37 | N63 | 29 | 165 | 1797 | 398 | 1434 |
| 4FH22 | 316 | 4FH87 | 308 | 4FJ53 | 308 | 4FK20 | 337 | 4FK88 | 336 | 4FL56 | 336 | 4FM33 | 37 | 4FM98 | 37 | 4FN64 | 29 | 4F169 | 1797 | 4F399 | 1434 |
| H23 | 316 | H88 | 308 | J54 | 308 | K21 | 337 | K89 | 336 | L58 | 337 | M34 | 37 | M99 | 37 | N65 | 29 | 173 | 1797 | 400 | 1434 |
| H24 | 316 | H89 | 308 | J55 | 308 | K22 | 337 | K90 | 336 | L59 | 337 | M35 | 37 | N01 | 37 | N66 | 29 | 177 | 1797 | 401 | 1434 |
| H25 | 316 | H90 | 308 | J56 | 308 | K23 | 337 | K91 | 336 | L63 | 337 | M36 | 37 | N02 | 37 | N67 | 29 | 199 | 1801 | 402 | 1434 |
| H26 | 316 | H91 | 308 | J57 | 308 | K24 | 337 | K92 | 337 | L64 | 337 | M37 | 37 | N03 | 37 | N68 | 30 | 201 | 1800 | 403 | 1434 |
| 4FH27 | 316 | 4FH92 | 308 | 4FJ58 | 308 | 4FK25 | 337 | 4FK93 | 337 | 4FL65 | 337 | 4FM38 | 37 | 4FN04 | 37 | 4FN69 | 30 | 4F203 | 1800 | 4F404 | 1434 |
| H28 | 316 | H93 | 308 | J59 | 308 | K26 | 337 | K94 | 336 | L67 | 337 | M39 | 37 | N05 | 37 | N70 | 30 | 235 | 1800 | 405 | 1434 |
| H29 | 316 | H94 | 308 | J60 | 308 | K27 | 337 | K95 | 336 | L68 | 337 | M40 | 37 | N06 | 37 | N71 | 30 | 237 | 1800 | 406 | 1434 |
| H30 | 316 | H95 | 308 | J61 | 308 | K28 | 337 | K96 | 336 | L69 | 337 | M41 | 37 | N07 | 37 | N72 | 30 | 273 | 1823 | 407 | 1434 |
| H31 | 316 | H96 | 308 | J62 | 308 | K29 | 337 | K97 | 336 | L70 | 337 | M42 | 37 | N08 | 37 | N73 | 30 | 275 | 1824 | 408 | 1434 |
| 4FH32 | 316 | 4FH97 | 308 | 4FJ63 | 308 | 4FK30 | 337 | 4FK98 | 336 | 4FL71 | 337 | 4FM43 | 37 | 4FN09 | 37 | 4FN74 | 30 | 4F277 | 1824 | 4F409 | 1434 |
| H33 | 316 | H98 | 308 | J64 | 308 | K31 | 337 | K99 | 336 | L72 | 337 | M44 | 37 | N10 | 37 | N75 | 30 | 283 | 1800 | 410 | 1434 |
| H34 | 316 | H99 | 308 | J65 | 308 | K32 | 337 | L01 | 336 | L73 | 337 | M45 | 37 | N11 | 37 | N76 | 30 | 291 | 1798 | 411 | 1764 |
| H35 | 316 | J01 | 308 | J66 | 308 | K34 | 337 | L02 | 336 | L74 | 336 | M46 | 37 | N12 | 37 | N77 | 30 | 303 | 1822 | 412 | 1765 |
| H36 | 316 | J02 | 308 | J67 | 308 | K35 | 337 | L03 | 336 | L75 | 337 | M47 | 37 | N13 | 37 | N78 | 30 | 305 | 1814 | 413 | 1765 |
| 4FH37 | 316 | 4FJ03 | 308 | 4FJ68 | 308 | 4FK36 | 337 | 4FL04 | 336 | 4FL76 | 337 | 4FM48 | 37 | 4FN14 | 37 | 4FN79 | 30 | 4F307 | 1802 | 4F414 | 1765 |
| H38 | 316 | J04 | 308 | J69 | 308 | K37 | 337 | L05 | 336 | L77 | 336 | M49 | 38 | N15 | 37 | N80 | 30 | 309 | 1802 | 415 | 1732 |
| H39 | 316 | J05 | 308 | J70 | 308 | K38 | 337 | L06 | 336 | L78 | 337 | M50 | 38 | N16 | 37 | N81 | 151 | 310 | 2743 | 416 | 1764 |
| H40 | 316 | J06 | 308 | J71 | 343 | K39 | 337 | L07 | 336 | L79 | 337 | M51 | 38 | N17 | 37 | N82 | 151 | 317 | 2743 | 418 | 1766 |
| H41 | 316 | J07 | 308 | J72 | 343 | K41 | 336 | L08 | 336 | L80 | 337 | M52 | 38 | N18 | 38 | N83 | 151 | 318 | 2802 | 419 | 1766 |
| 4FH42 | 316 | 4FJ08 | 308 | 4FJ73 | 343 | 4FK42 | 336 | 4FL09 | 336 | 4FL81 | 337 | 4FM53 | 38 | 4FN19 | 38 | 4FN84 | 151 | 4F319 | 2802 | 4F420 | 1765 |
| H43 | 316 | J09 | 308 | J74 | 343 | K43 | 336 | L10 | 336 | L82 | 337 | M54 | 38 | N20 | 38 | N85 | 151 | 320 | 2802 | 421 | 3597 |
| H44 | 316 | J10 | 308 | J75 | 343 | K44 | 336 | L11 | 336 | L84 | 337 | M55 | 38 | N21 | 38 | N86 | 151 | 321 | 2802 | 422 | 3597 |
| H45 | 316 | J11 | 308 | J76 | 343 | K45 | 337 | L12 | 336 | L85 | 337 | M56 | 38 | N22 | 38 | N87 | 151 | 322 | 2802 | 423 | 3597 |
| H46 | 316 | J12 | 308 | J77 | 343 | K46 | 337 | L13 | 336 | L86 | 337 | M57 | 38 | N23 | 38 | N88 | 151 | 324 | 1977 | 424 | 3585 |
| 4FH47 | 316 | 4FJ13 | 308 | 4FJ78 | 343 | 4FK47 | 337 | 4FL14 | 337 | 4FL87 | 337 | 4FM58 | 38 | 4FN24 | 38 | 4FN89 | 151 | 4F325 | 1977 | 4F425 | 3585 |
| H48 | 316 | J14 | 308 | J79 | 343 | K48 | 337 | L15 | 337 | L88 | 337 | M59 | 38 | N25 | 38 | N90 | 151 | 326 | 1977 | 426 | 3585 |
| H49 | 316 | J15 | 308 | J80 | 343 | K49 | 337 | L16 | 337 | L89 | 337 | M60 | 38 | N26 | 38 | N91 | 151 | 327 | 1978 | 439 | 1432 |
| H50 | 316 | J16 | 308 | J81 | 343 | K50 | 337 | L17 | 337 | L90 | 337 | M61 | 38 | N27 | 38 | N92 | 151 | 328 | 1978 | 448 | 1469 |
| H51 | 316 | J17 | 308 | J82 | 343 | K51 | 336 | L18 | 336 | L91 | 337 | M62 | 38 | N28 | 38 | N93 | 151 | 329 | 1978 | 449 | 1469 |
| 4FH52 | 316 | 4FJ18 | 308 | 4FJ83 | 343 | 4FK52 | 336 | 4FL19 | 336 | 4FL92 | 337 | 4FM63 | 38 | 4FN29 | 38 | 4FN94 | 151 | 4F330 | 1978 | 4F450 | 1469 |
| H53 | 316 | J19 | 308 | J84 | 343 | K53 | 337 | L20 | 336 | L93 | 337 | M64 | 38 | N30 | 38 | N95 | 151 | 331 | 1978 | 451 | 1469 |
| H54 | 316 | J20 | 308 | J85 | 343 | K54 | 337 | L21 | 336 | L95 | 337 | M65 | 38 | N31 | 38 | N96 | 151 | 332 | 1979 | 452 | 1457 |
| H55 | 316 | J21 | 308 | J86 | 343 | K55 | 337 | L22 | 336 | L96 | 337 | M66 | 38 | N32 | 38 | N97 | 150 | 337 | 1965 | 453 | 1457 |
| H56 | 316 | J22 | 308 | J87 | 343 | K56 | 337 | L23 | 336 | L97 | 337 | M67 | 38 | N33 | 38 | 011 | 1815 | 338 | 1965 | 454 | 1457 |
| 4FH57 | 316 | 4FJ23 | 308 | 4FJ88 | 343 | 4FK58 | 337 | 4FL24 | 336 | 4FL98 | 337 | 4FM68 | 38 | 4FN34 | 38 | 4F013 | 1824 | 4F339 | 1965 | 4F455 | 1457 |
| H58 | 316 | J24 | 308 | J89 | 343 | K59 | 337 | L25 | 336 | L99 | 337 | M69 | 38 | N35 | 38 | 015 | 1824 | 340 | 1965 | 456 | 1457 |
| H59 | 316 | J25 | 308 | J90 | 343 | K60 | 337 | L26 | 336 | M01 | 337 | M70 | 38 | N36 | 38 | 017 | 1824 | 341 | 1965 | 457 | 1428 |
| H60 | 309 | J26 | 308 | J91 | 343 | K61 | 337 | L27 | 336 | M02 | 337 | M71 | 38 | N37 | 38 | 025 | 1827 | 342 | 1965 | 458 | 1428 |
| H61 | 309 | J27 | 308 | J92 | 343 | K62 | 337 | L28 | 336 | M03 | 337 | M72 | 38 | N38 | 38 | 029 | 1825 | 343 | 1965 | 459 | 1428 |
| 4FH62 | 309 | 4FJ28 | 308 | 4FJ93 | 343 | 4FK63 | 336 | 4FL29 | 336 | 4FM07 | 337 | 4FM73 | 38 | 4FN39 | 38 | 4F031 | 1825 | 4F344 | 1969 | 4F460 | 1428 |
| H63 | 309 | J29 | 308 | J94 | 343 | K64 | 336 | L30 | 336 | M08 | 337 | M74 | 38 | N40 | 38 | 037 | 1819 | 345 | 1976 | 461 | 1428 |
| H64 | 309 | J30 | 308 | J95 | 343 | K65 | 336 | L31 | 336 | M10 | 216 | M75 | 38 | N41 | 38 | 039 | 1819 | 350 | 2827 | 462 | 1428 |
| H65 | 309 | J31 | 308 | J96 | 343 | K66 | 336 | L32 | 336 | M11 | 216 | M76 | 38 | N42 | 38 | 041 | 1819 | 351 | 2827 | 463 | 1428 |
| H66 | 309 | J32 | 308 | J97 | 343 | K67 | 336 | L33 | 336 | M12 | 216 | M77 | 38 | N43 | 38 | 045 | 1819 | 352 | 2827 | 464 | 1428 |
| 4FH67 | 309 | 4FJ33 | 308 | 4FJ98 | 343 | 4FK68 | 336 | 4FL35 | 336 | 4FM13 | 216 | 4FM78 | 38 | 4FN44 | 38 | 4F047 | 1819 | 4F353 | 2826 | 4F465 | 1428 |
| H68 | 309 | J34 | 308 | J99 | 343 | K69 | 336 | L36 | 336 | M14 | 216 | M79 | 38 | N45 | 38 | 049 | 1819 | 354 | 2826 | 466 | 1428 |
| H69 | 309 | J35 | 308 | K01 | 343 | K70 | 337 | L37 | 337 | M15 | 216 | M80 | 38 | N46 | 38 | 051 | 1819 | 355 | 2826 | 467 | 1428 |
| H70 | 309 | J36 | 308 | K02 | 343 | K71 | 337 | L38 | 337 | M16 | 216 | M81 | 38 | N47 | 38 | 059 | 1819 | 356 | 2826 | 468 | 1428 |
| H71 | 309 | J37 | 308 | K03 | 343 | K72 | 337 | L39 | 337 | M17 | 216 | M82 | 38 | N48 | 38 | 061 | 1819 | 357 | 2826 | 469 | 1428 |
| 4FH72 | 309 | 4FJ38 | 308 | 4FK04 | 343 | 4FK73 | 336 | 4FL40 | 337 | 4FM18 | 216 | 4FM83 | 38 | 4FN49 | 38 | 4F063 | 1819 | 4F358 | 2827 | 4F470 | 1428 |
| H73 | 309 | J39 | 308 | K05 | 343 | K74 | 336 | L41 | 336 | M19 | 216 | M84 | 38 | N50 | 38 | 117 | 1824 | 359 | 2827 | 471 | 1428 |
| H74 | 309 | J40 | 308 | K06 | 343 | K75 | 337 | L42 | 336 | M20 | 37 | M85 | 38 | N51 | 38 | 125 | 1820 | 360 | 2826 | 472 | 1428 |
| H75 | 309 | J41 | 308 | K07 | 343 | K76 | 337 | L44 | 337 | M21 | 37 | M86 | 38 | N52 | 38 | 137 | 1797 | 361 | 2826 | 473 | 1428 |
| H76 | 309 | J42 | 308 | K08 | 337 | K77 | 337 | L45 | 337 | M22 | 37 | M87 | 38 | N53 | 38 | 141 | 1797 | 362 | 2826 | 474 | 1428 |

# STOCK NUMBER—PAGE NUMBER

## 4F4 — 4HK


| Stock No. | Page No. |
|---|---|
| 4F475 | 1428 |
| 476 | 1428 |
| 477 | 1428 |
| 478 | 1428 |
| 479 | 1430 |
| 4F480 | 1430 |
| 481 | 1428 |
| 482 | 1428 |
| 483 | 1430 |
| 484 | 1431 |
| 4F485 | 1429 |
| 486 | 1430 |
| 487 | 1430 |
| 489 | 1659 |
| 490 | 1659 |
| 4F491 | 1659 |
| 492 | 1659 |
| 493 | 1659 |
| 494 | 1659 |
| 495 | 1659 |
| 4F496 | 1659 |
| 498 | 1654 |
| 499 | 1654 |
| 500 | 1654 |
| 501 | 1654 |
| 4F502 | 1654 |
| 503 | 1654 |
| 504 | 1654 |
| 505 | 1654 |
| 506 | 1654 |
| 4F507 | 1654 |
| 508 | 1654 |
| 509 | 1654 |
| 510 | 1654 |
| 511 | 1654 |
| 4F512 | 1654 |
| 513 | 1654 |
| 514 | 1654 |
| 544 | 1651 |
| 545 | 1651 |
| 4F546 | 1651 |
| 547 | 1651 |
| 548 | 1651 |
| 549 | 1651 |
| 550 | 1651 |
| 4F551 | 1651 |
| 552 | 1651 |
| 553 | 1651 |
| 554 | 1651 |
| 555 | 1651 |
| 4F556 | 1651 |
| 557 | 1651 |
| 558 | 1651 |
| 559 | 1651 |
| 560 | 1651 |
| 4F561 | 1651 |
| 562 | 1651 |
| 563 | 1651 |
| 564 | 1651 |
| 565 | 1659 |
| 4F566 | 1659 |
| 567 | 1659 |
| 568 | 1659 |
| 569 | 1659 |
| 570 | 1659 |
| 4F571 | 1659 |
| 572 | 1659 |
| 634 | 1661 |
| 635 | 1661 |
| 636 | 1661 |
| 4F637 | 1661 |
| 638 | 1661 |
| 639 | 1661 |
| 640 | 1661 |
| 642 | 1669 |
| 4F643 | 1668 |
| 644 | 1668 |
| 646 | 2771 |
| 647 | 2771 |
| 648 | 2771 |
| 4F649 | 2799 |
| 650 | 2799 |
| 651 | 2799 |
| 652 | 2799 |
| 653 | 2799 |
| 4F654 | 2799 |
| 655 | 2799 |
| 656 | 2799 |
| 657 | 2799 |
| 658 | 2799 |
| 4F659 | 2799 |
| 660 | 2806 |
| 661 | 2806 |
| 662 | 2806 |
| 663 | 2799 |
| 4F664 | 2799 |
| 665 | 2800 |
| 666 | 2800 |
| 667 | 2800 |
| 668 | 2800 |
| 4F669 | 2800 |
| 670 | 1802 |
| 671 | 2800 |
| 672 | 2800 |
| 673 | 2800 |
| 4F674 | 2800 |
| 675 | 2800 |
| 676 | 2794 |
| 678 | 2794 |
| 679 | 2794 |
| 4F680 | 2794 |
| 681 | 2794 |
| 682 | 2794 |
| 683 | 2794 |
| 684 | 2794 |
| 4F685 | 2794 |
| 686 | 2794 |
| 687 | 2794 |
| 688 | 2794 |
| 689 | 2793 |
| 4F690 | 2793 |
| 691 | 2793 |
| 692 | 2891 |
| 693 | 2891 |
| 694 | 2891 |
| 4F695 | 1670 |
| 696 | 1670 |
| 697 | 1670 |
| 698 | 1663 |
| 699 | 1663 |
| 4F700 | 1663 |
| 701 | 1661 |
| 702 | 1661 |
| 703 | 1632 |
| 704 | 1632 |
| 4F705 | 1632 |
| 706 | 1632 |
| 707 | 1632 |
| 708 | 1632 |
| 709 | 1632 |
| 4F710 | 1632 |
| 711 | 1632 |
| 712 | 1632 |
| 713 | 1631 |
| 714 | 1631 |
| 4F715 | 1631 |
| 716 | 1631 |
| 717 | 1631 |
| 718 | 1630 |
| 719 | 1630 |
| 4F720 | 1630 |
| 721 | 1630 |
| 722 | 1630 |
| 723 | 1630 |
| 724 | 1630 |
| 4F725 | 1633 |
| 726 | 1633 |
| 727 | 1633 |
| 728 | 1633 |
| 729 | 1633 |
| 4F730 | 1633 |
| 731 | 1633 |
| 732 | 1633 |
| 733 | 1633 |
| 734 | 1633 |
| 4F735 | 1633 |
| 736 | 1633 |
| 737 | 1633 |
| 738 | 1633 |
| 739 | 1633 |
| 4F740 | 2853 |
| 741 | 2853 |
| 742 | 2853 |
| 743 | 2767 |
| 744 | 2766 |
| 4F745 | 2777 |
| 746 | 1604 |
| 747 | 1604 |
| 748 | 1604 |
| 749 | 1604 |
| 4F750 | 1604 |
| 751 | 1604 |
| 752 | 1604 |
| 753 | 1604 |
| 754 | 1604 |
| 4F755 | 1600 |
| 756 | 1599 |
| 757 | 1600 |
| 758 | 1597 |
| 759 | 1597 |
| 4F760 | 1597 |
| 761 | 1597 |
| 762 | 1597 |
| 763 | 1597 |
| 764 | 1597 |
| 4F765 | 1597 |
| 766 | 1597 |
| 767 | 1597 |
| 769 | 1597 |
| 770 | 1597 |
| 4F771 | 1597 |
| 772 | 1597 |
| 773 | 1597 |
| 774 | 1597 |
| 775 | 1597 |
| 4F776 | 1597 |
| 777 | 1597 |
| 778 | 1597 |
| 779 | 1597 |
| 780 | 1598 |
| 4F781 | 1598 |
| 782 | 1598 |
| 783 | 1598 |
| 784 | 1598 |
| 785 | 1598 |
| 4F786 | 1598 |
| 787 | 1598 |
| 792 | 1610 |
| 793 | 1610 |
| 794 | 1610 |
| 4F795 | 1610 |
| 797 | 1609 |
| 798 | 1609 |
| 799 | 1609 |
| 800 | 1609 |
| 4F793 | 1620 |
| 803 | 1593 |
| 804 | 1593 |
| 805 | 1593 |
| 4F806 | 1593 |
| 807 | 1593 |
| 808 | 1593 |
| 855 | 1620 |
| 856 | 1620 |
| 4F857 | 1620 |
| 858 | 1620 |
| 859 | 1620 |
| 860 | 1620 |
| 861 | 1620 |
| 4F862 | 1620 |
| 863 | 1609 |
| 864 | 1609 |
| 865 | 1606 |
| 866 | 1606 |
| 4F867 | 1606 |
| 868 | 1606 |
| 869 | 1606 |
| 870 | 1606 |
| 871 | 1607 |
| 4F872 | 1607 |
| 873 | 1607 |
| 874 | 1607 |
| 875 | 1607 |
| 876 | 1607 |
| 4F877 | 1620 |
| 878 | 1620 |
| 879 | 1620 |
| 880 | 1625 |
| 881 | 1625 |
| 4F882 | 1625 |
| 883 | 1616 |
| 884 | 1616 |
| 885 | 1616 |
| 886 | 1616 |
| 4F887 | 1616 |
| 888 | 1616 |
| 890 | 1617 |
| 891 | 1617 |
| 892 | 1617 |
| 4F893 | 1617 |
| 894 | 1617 |
| 895 | 1617 |
| 897 | 1616 |
| 898 | 1616 |
| 4F899 | 1616 |
| 900 | 1616 |
| 901 | 1616 |
| 904 | 1618 |
| 905 | 1618 |
| 4F906 | 1618 |
| 907 | 1618 |
| 908 | 1618 |
| 909 | 1618 |
| 910 | 1618 |
| 4F912 | 1593 |
| 913 | 1617 |
| 914 | 1617 |
| 915 | 1617 |
| 916 | 1617 |
| 4F917 | 1617 |
| 918 | 1617 |
| 926 | 1620 |
| 927 | 1620 |
| 928 | 1620 |
| 4F929 | 1620 |
| 930 | 1620 |
| 931 | 1620 |
| 932 | 1629 |
| 933 | 1629 |
| 4F934 | 1629 |
| 935 | 1629 |
| 936 | 1629 |
| 937 | 1589 |
| 938 | 1590 |
| 4F947 | 1618 |
| 948 | 1618 |
| 949 | 1618 |
| 950 | 1618 |
| 951 | 3597 |
| 4F952 | 3597 |
| 953 | 3597 |
| 954 | 3597 |
| 955 | 3597 |
| 956 | 3597 |
| 4F957 | 3597 |
| 958 | 3597 |
| 959 | 3597 |
| 960 | 3571 |
| 961 | 3571 |
| 4F962 | 3571 |
| 963 | 2777 |
| 964 | 1977 |
| 965 | 2780 |
| 966 | 1969 |
| 4F967 | 1969 |
| 968 | 2769 |
| 969 | 2769 |
| 970 | 2769 |
| 971 | 2769 |
| 4F972 | 2777 |
| 973 | 2769 |
| 974 | 2769 |
| 975 | 2769 |
| 976 | 2777 |
| 4F977 | 2777 |
| 978 | 2768 |
| 979 | 2766 |
| 980 | 2766 |
| 981 | 2771 |
| 4F982 | 2771 |
| 984 | 2743 |
| 985 | 2745 |
| 986 | 2745 |
| 987 | 2745 |
| 4F988 | 2745 |
| 989 | 2744 |
| 991 | 1802 |
| 993 | 1802 |
| 995 | 1802 |
| 4F997 | 1802 |
| **4G** | |
| 4GC23 | 1443 |
| C35 | 1492 |
| 4GC36 | 1466 |
| C41 | 1409 |
| C44 | 2462 |
| C45 | 2462 |
| C46 | 2462 |
| 4GC47 | 2462 |
| C48 | 2462 |
| C49 | 2462 |
| C50 | 2462 |
| C51 | 2462 |
| 4GD43 | 1482 |
| D49 | 1482 |
| D63 | 1475 |
| D64 | 1464 |
| D65 | 1509 |
| 4GD66 | 1513 |
| D67 | 1513 |
| D68 | 1426 |
| D69 | 1426 |
| D70 | 1426 |
| 4GD71 | 1411 |
| D72 | 1411 |
| D73 | 1410 |
| D79 | 2641 |
| D80 | 2641 |
| 4GD81 | 2641 |
| D82 | 2641 |
| D83 | 2641 |
| D84 | 2641 |
| D85 | 2641 |
| 4GD86 | 2641 |
| D87 | 2641 |
| D88 | 2642 |
| D89 | 2642 |
| D90 | 2642 |
| 4GD91 | 2642 |
| D92 | 2642 |
| D93 | 2642 |
| D94 | 2642 |
| D95 | 2642 |
| 4GD96 | 2640 |
| D97 | 2641 |
| D98 | 2641 |
| D99 | 2642 |
| L57 | 1729 |
| 4GL58 | 1341 |
| L59 | 2476 |
| L60 | 2476 |
| L61 | 2476 |
| L62 | 2476 |
| 4GL63 | 2476 |
| L64 | 2476 |
| L65 | 2476 |
| L66 | 2476 |
| L67 | 2476 |
| 4GL68 | 2476 |
| L69 | 2476 |
| L70 | 2476 |
| L71 | 2476 |
| L72 | 2476 |
| 4GL73 | 2476 |
| L74 | 2541 |
| L75 | 2541 |
| L76 | 2541 |
| L77 | 2540 |
| 4GL78 | 2540 |
| L79 | 2541 |
| L80 | 2541 |
| L81 | 2541 |
| L82 | 2541 |
| 4GL83 | 2541 |
| L85 | 2401 |
| L86 | 2401 |
| L87 | 2401 |
| L88 | 2401 |
| 4GL89 | 2401 |
| L90 | 2401 |
| L91 | 2415 |
| L92 | 2415 |
| L93 | 2415 |
| 4GL94 | 2407 |
| L95 | 2407 |
| L98 | 2407 |
| L99 | 2407 |
| M01 | 2407 |
| 4GM02 | 2407 |
| M05 | 2407 |
| M06 | 2407 |
| M09 | 2407 |
| M10 | 2407 |
| 4GM11 | 2407 |
| M12 | 2407 |
| M13 | 2407 |
| M14 | 2407 |
| M15 | 2407 |
| 4GM16 | 2407 |
| M18 | 2406 |
| M19 | 2406 |
| M20 | 2444 |
| M21 | 2406 |
| 4GM22 | 2406 |
| M23 | 2406 |
| M24 | 2440 |
| M25 | 2441 |
| M26 | 2441 |
| 4GM27 | 2441 |
| M28 | 2441 |
| M29 | 2443 |
| M30 | 2443 |
| M31 | 2441 |
| 4GM32 | 2431 |
| M33 | 2434 |
| M34 | 2417 |
| M35 | 2414 |
| M36 | 2431 |
| 4GM37 | 2431 |
| M38 | 2431 |
| M39 | 2431 |
| M40 | 2431 |
| M41 | 2431 |
| 4GM42 | 2431 |
| M43 | 2431 |
| M44 | 2431 |
| M45 | 2431 |
| M46 | 2424 |
| 4GM47 | 2424 |
| M48 | 2424 |
| M49 | 2424 |
| M50 | 2424 |
| M51 | 2424 |
| 4GM52 | 2424 |
| M53 | 2424 |
| M54 | 2434 |
| M55 | 2434 |
| M56 | 2439 |
| 4GM57 | 2434 |
| M58 | 2434 |
| M59 | 2434 |
| M60 | 2435 |
| M61 | 2425 |
| 4GM62 | 2425 |
| M63 | 2435 |
| M64 | 2425 |
| M65 | 2425 |
| M66 | 2435 |
| 4GM67 | 2425 |
| M71 | 2438 |
| M72 | 2438 |
| M73 | 2438 |
| M74 | 2438 |
| 4GM75 | 2438 |
| M76 | 2438 |
| M77 | 2438 |
| M78 | 2438 |
| M79 | 2438 |
| 4GM80 | 2438 |
| M81 | 2438 |
| M82 | 2438 |
| M83 | 2438 |
| M84 | 2438 |
| 4GM85 | 2438 |
| M86 | 2438 |
| M87 | 2438 |
| M88 | 2438 |
| M89 | 2438 |
| 4GM90 | 2424 |
| M91 | 2438 |
| M92 | 2438 |
| M93 | 2424 |
| M94 | 2424 |
| 4GM98 | 2438 |
| M99 | 2438 |
| N01 | 2438 |
| N02 | 2438 |
| N03 | 2424 |
| 4GN04 | 2438 |
| N05 | 2438 |
| N06 | 2424 |
| N07 | 2424 |
| N11 | 2438 |
| 4GN12 | 2438 |
| N13 | 2438 |
| 005 | 1802 |
| 008 | 1802 |
| 010 | 1802 |
| 4G019 | 1827 |
| 733 | 1806 |
| 747 | 1819 |
| 877 | 1819 |
| 978 | 1819 |
| 4G981 | 1819 |
| 987 | 1819 |
| 989 | 1819 |
| 991 | 1819 |
| **4H** | |
| 4HC00 | 1927 |
| C01 | 1927 |
| C02 | 1924 |
| 4HC03 | 1924 |
| C04 | 1924 |
| C05 | 1919 |
| C06 | 1919 |
| C07 | 1920 |
| 4HC08 | 1920 |
| C09 | 1920 |
| C10 | 1920 |
| C14 | 1958 |
| C15 | 1922 |
| 4HC16 | 1922 |
| C18 | 1952 |
| C19 | 1952 |
| C22 | 1920 |
| C23 | 1928 |
| 4HC24 | 1928 |
| C25 | 1928 |
| C26 | 1928 |
| C27 | 1958 |
| C28 | 1925 |
| 4HC29 | 1925 |
| C30 | 1924 |
| C31 | 2642 |
| C32 | 2641 |
| C33 | 2641 |
| 4HC34 | 2366 |
| C35 | 2366 |
| C36 | 2366 |
| C37 | 2366 |
| C38 | 2366 |
| 4HC39 | 2366 |
| C40 | 2366 |
| C41 | 2366 |
| C42 | 2364 |
| C43 | 2364 |
| 4HC44 | 2364 |
| C45 | 2364 |
| C46 | 2364 |
| C47 | 2364 |
| C48 | 2364 |
| 4HC49 | 2364 |
| C50 | 2364 |
| C51 | 2364 |
| C52 | 2364 |
| C53 | 2364 |
| 4HC54 | 2364 |
| C55 | 2364 |
| C56 | 2364 |
| C57 | 2364 |
| C58 | 2364 |
| 4HC59 | 2364 |
| C60 | 2364 |
| C61 | 2364 |
| C62 | 2364 |
| C63 | 2364 |
| 4HC64 | 2364 |
| C65 | 2386 |
| C66 | 2386 |
| C67 | 2386 |
| C68 | 2386 |
| 4HC69 | 2387 |
| C70 | 2387 |
| C71 | 2389 |
| C72 | 2389 |
| C73 | 2399 |
| 4HC74 | 2613 |
| C75 | 2613 |
| C76 | 2613 |
| C77 | 2613 |
| C78 | 2615 |
| 4HC79 | 2613 |
| C80 | 2613 |
| C81 | 2613 |
| C82 | 2613 |
| C83 | 2613 |
| 4HC84 | 2613 |
| C85 | 2613 |
| C86 | 2613 |
| C87 | 2608 |
| C88 | 2608 |
| 4HC89 | 2608 |
| C90 | 2608 |
| C91 | 2608 |
| C92 | 697 |
| C93 | 697 |
| 4HC94 | 697 |
| C95 | 697 |
| D19 | 694 |
| D20 | 694 |
| D21 | 694 |
| 4HD47 | 644 |
| D48 | 644 |
| D56 | 2672 |
| D57 | 2672 |
| D58 | 2670 |
| 4HD59 | 2672 |
| D60 | 2672 |
| D61 | 2672 |
| D62 | 2672 |
| D63 | 2670 |
| 4HD64 | 2670 |
| D65 | 2670 |
| D66 | 2670 |
| J62 | 1857 |
| J63 | 1913 |
| 4HJ64 | 1913 |
| J65 | 1913 |
| J66 | 1913 |
| J67 | 1940 |
| J68 | 1940 |
| 4HJ69 | 1940 |
| J70 | 1940 |
| J71 | 1940 |
| J72 | 1940 |
| J73 | 1940 |
| 4HJ84 | 1940 |
| J85 | 1940 |
| J86 | 1940 |
| J87 | 1940 |
| J88 | 1940 |
| 4HJ89 | 1940 |
| J90 | 1940 |
| K20 | 1940 |
| K21 | 1940 |
| K22 | 1940 |
| 4HK23 | 1940 |
| K31 | 1940 |
| K32 | 1940 |
| K33 | 1940 |
| K34 | 1940 |
| 4HK51 | 1861 |
| K52 | 1861 |
| K53 | 1861 |
| K54 | 1861 |
| K55 | 1854 |
| 4HK56 | 1867 |
| K57 | 1867 |
| K59 | 1867 |
| K60 | 1867 |
| K63 | 1867 |
| 4HK64 | 1867 |
| K65 | 1867 |
| K66 | 1867 |
| K67 | 1940 |
| K70 | 1940 |
| 4HK76 | 1853 |
| K77 | 1853 |
| K78 | 1853 |
| K80 | 1853 |
| K81 | 1853 |
| 4HK82 | 1853 |
| K83 | 1853 |
| K86 | 3016 |
| K87 | 3016 |
| K88 | 3016 |
| 4HK89 | 3016 |
| K90 | 3016 |
| K91 | 3016 |
| K92 | 3017 |
| K93 | 3017 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4HK94 | 3027 | 4HL60 | 2835 | 4HM26 | 2839 | 4HM91 | 2834 | 4HN59 | 2944 | 4HR30 | 255 | 4HW17 | 259 | 4HX91 | 3614 | 4HZ57 | 3613 | 4JC16 | 1179 | 4JC87 | 2468 |
| K95 | 3027 | L61 | 2836 | M27 | 2839 | M92 | 2834 | N60 | 2944 | R46 | 255 | W18 | 259 | X92 | 3614 | Z58 | 3613 | C17 | 1181 | C88 | 2469 |
| K96 | 3025 | L62 | 2836 | M28 | 2839 | M93 | 2834 | N61 | 2944 | R47 | 255 | W71 | 259 | X93 | 3614 | Z59 | 3613 | C18 | 1180 | C89 | 2471 |
| K97 | 3025 | L63 | 2836 | M29 | 2839 | M94 | 2834 | N62 | 2944 | R59 | 255 | W72 | 259 | X94 | 3614 | Z60 | 105 | C19 | 1180 | C90 | 2469 |
| K98 | 2909 | L64 | 2836 | M30 | 2839 | M95 | 2834 | N63 | 2944 | R60 | 255 | W73 | 259 | X95 | 3614 | Z61 | 105 | C20 | 1180 | C91 | 2469 |
| 4HK99 | 2909 | 4HL65 | 2836 | 4HM31 | 2839 | 4HM96 | 2834 | 4HN64 | 2947 | 4HR70 | 255 | 4HW74 | 259 | 4HX96 | 3614 | 4HZ62 | 105 | 4JC21 | 1180 | 4JC92 | 2469 |
| L01 | 2909 | L66 | 2835 | M32 | 2839 | M97 | 2834 | N65 | 2947 | R77 | 255 | W75 | 259 | X97 | 3614 | Z63 | 105 | C22 | 1181 | C93 | 2469 |
| L02 | 2909 | L67 | 2838 | M33 | 2839 | M98 | 2834 | N66 | 2947 | T14 | 256 | W76 | 259 | X98 | 3614 | Z64 | 105 | C23 | 1180 | C94 | 2469 |
| L03 | 2909 | L68 | 2838 | M34 | 2839 | M99 | 2834 | N67 | 2947 | T15 | 256 | W77 | 259 | X99 | 3614 | Z65 | 105 | C24 | 1181 | C95 | 2469 |
| L04 | 2909 | L69 | 2838 | M35 | 2834 | N01 | 2834 | N68 | 2947 | T16 | 256 | W78 | 259 | Z01 | 3614 | Z66 | 105 | C25 | 1180 | C96 | 2446 |
| 4HL05 | 2909 | 4HL70 | 2838 | 4HM36 | 2834 | 4HN02 | 2834 | 4HN69 | 2947 | 4HT22 | 256 | 4HX16 | 259 | 4HZ02 | 3574 | 4HZ67 | 105 | 4JC26 | 695 | 4JC97 | 2465 |
| L06 | 2909 | L71 | 2838 | M37 | 2834 | N03 | 2834 | N70 | 2947 | T23 | 256 | X33 | 3617 | Z03 | 3574 | Z68 | 105 | C27 | 695 | C98 | 2465 |
| L07 | 2909 | L72 | 2838 | M38 | 2834 | N04 | 2834 | N71 | 2947 | T24 | 257 | X38 | 3617 | Z04 | 3574 | Z69 | 105 | C28 | 695 | C99 | 2465 |
| L08 | 2909 | L73 | 2838 | M39 | 2834 | N05 | 2834 | N72 | 2947 | T26 | 257 | X39 | 3617 | Z05 | 3574 | Z70 | 105 | C29 | 695 | D01 | 2465 |
| L09 | 2824 | L74 | 2838 | M40 | 2834 | N06 | 2834 | N73 | 2947 | T27 | 257 | X40 | 3617 | Z06 | 3574 | Z71 | 105 | C30 | 593 | D02 | 2465 |
| 4HL10 | 2824 | 4HL75 | 2838 | 4HM41 | 2834 | 4HN07 | 2834 | 4HN74 | 2944 | 4HT28 | 257 | 4HX41 | 3617 | 4HZ07 | 3574 | 4HZ72 | 129 | 4JC31 | 593 | 4JD03 | 2465 |
| L11 | 2824 | L76 | 2838 | M42 | 2834 | N08 | 3042 | N76 | 2944 | T46 | 257 | X42 | 3617 | Z08 | 3574 | Z74 | 3616 | C32 | 593 | D04 | 2465 |
| L12 | 2824 | L77 | 2838 | M43 | 2834 | N09 | 3042 | N85 | 1957 | T47 | 257 | X43 | 3617 | Z09 | 3574 | Z75 | 312 | C33 | 593 | D05 | 2465 |
| L13 | 2824 | L78 | 2838 | M44 | 2834 | N10 | 3042 | N86 | 1957 | T51 | 257 | X44 | 3617 | Z10 | 3574 | Z76 | 312 | C34 | 593 | D06 | 2465 |
| L14 | 2824 | L79 | 2838 | M45 | 2834 | N11 | 3042 | N91 | 1957 | T58 | 257 | X45 | 3617 | Z11 | 3574 | Z77 | 312 | C35 | 593 | D07 | 2465 |
| 4HL15 | 2824 | 4HL80 | 2838 | 4HM46 | 2834 | 4HN12 | 3042 | 4HN92 | 1957 | 4HT60 | 257 | 4HX46 | 3617 | 4HZ12 | 3574 | 4HZ78 | 312 | 4JC36 | 589 | 4JD08 | 2465 |
| L16 | 2824 | L81 | 2838 | M47 | 2834 | N13 | 3042 | N93 | 1870 | T74 | 257 | X47 | 3617 | Z13 | 3570 | Z79 | 312 | C37 | 589 | D09 | 2465 |
| L17 | 2824 | L82 | 2838 | M48 | 2834 | N14 | 3042 | N94 | 1870 | T75 | 257 | X48 | 3617 | Z14 | 3570 | Z80 | 312 | C38 | 589 | D10 | 2465 |
| L18 | 2824 | L83 | 2838 | M49 | 2834 | N15 | 3042 | N95 | 1870 | T77 | 257 | X49 | 3617 | Z15 | 3570 | Z81 | 312 | C39 | 589 | D11 | 2465 |
| L19 | 2824 | L84 | 2838 | M50 | 2834 | N16 | 3042 | N96 | 2942 | T80 | 257 | X50 | 3617 | Z16 | 3570 | Z87 | 3620 | C40 | 589 | D12 | 2465 |
| 4HL20 | 2824 | 4HL85 | 2837 | 4HM51 | 2834 | 4HN17 | 3042 | 4HP11 | 1866 | 4HT82 | 257 | 4HX51 | 3617 | 4HZ17 | 3570 | 4HZ88 | 3620 | 4JC41 | 663 | 4JD13 | 2465 |
| L21 | 2824 | L86 | 2837 | M52 | 2834 | N18 | 3042 | P12 | 1866 | T84 | 257 | X52 | 3617 | Z18 | 3621 | Z89 | 3620 | C42 | 663 | D14 | 2465 |
| L22 | 2824 | L87 | 2837 | M53 | 2834 | N19 | 3042 | P19 | 944 | T85 | 257 | X53 | 3617 | Z19 | 3621 | Z90 | 3620 | C43 | 663 | D15 | 2465 |
| L23 | 2824 | L88 | 2837 | M54 | 2834 | N20 | 3042 | P23 | 937 | T86 | 257 | X54 | 3616 | Z20 | 3621 | Z91 | 3620 | C44 | 663 | D16 | 2458 |
| L24 | 2824 | L89 | 3041 | M55 | 2834 | N21 | 3042 | P24 | 937 | T87 | 257 | X55 | 3616 | Z21 | 3621 | Z92 | 3620 | C45 | 668 | D17 | 2458 |
| 4HL25 | 2824 | 4HL90 | 3041 | 4HM56 | 2834 | 4HN22 | 3042 | 4HP30 | 932 | 4HT88 | 258 | 4HX56 | 3616 | 4HZ22 | 3621 | 4HZ93 | 3620 | 4JC46 | 668 | 4JD18 | 2458 |
| L26 | 2824 | L91 | 3041 | M57 | 2834 | N23 | 3042 | P31 | 937 | T90 | 257 | X57 | 3616 | Z23 | 3621 | Z94 | 3646 | C47 | 668 | D19 | 2469 |
| L27 | 2824 | L92 | 3041 | M58 | 2834 | N24 | 3042 | P32 | 932 | T91 | 257 | X58 | 3616 | Z24 | 3621 | Z95 | 3646 | C48 | 668 | D20 | 2469 |
| L28 | 2824 | L93 | 3041 | M59 | 2834 | N25 | 3042 | P33 | 932 | T92 | 257 | X59 | 3616 | Z25 | 3621 | Z96 | 3647 | C49 | 628 | D21 | 2469 |
| L29 | 2824 | L94 | 3041 | M60 | 2834 | N26 | 3042 | P50 | 1099 | T93 | 257 | X60 | 3616 | Z26 | 3621 | Z97 | 3647 | C50 | 628 | D22 | 2455 |
| 4HL30 | 2824 | 4HL95 | 3041 | 4HM61 | 2834 | 4HN27 | 3042 | 4HP51 | 1064 | 4HT94 | 257 | 4HX61 | 3616 | 4HZ27 | 3621 | 4HZ98 | 3647 | 4JC51 | 628 | 4JD23 | 2455 |
| L31 | 2801 | L96 | 3041 | M62 | 2834 | N28 | 3042 | P52 | 1064 | T95 | 257 | X62 | 3616 | Z28 | 3621 | Z99 | 3647 | C52 | 665 | D24 | 2455 |
| L32 | 2822 | L97 | 3041 | M63 | 2834 | N29 | 3042 | P53 | 1064 | T96 | 258 | X63 | 3616 | Z29 | 3621 | 001 | 1819 | C53 | 665 | D25 | 2455 |
| L33 | 2813 | L98 | 3041 | M64 | 2834 | N30 | 3042 | P54 | 1064 | T97 | 258 | X64 | 3617 | Z30 | 3621 | 029 | 1811 | C54 | 665 | D26 | 2455 |
| L34 | 2813 | L99 | 3041 | M65 | 2834 | N31 | 3042 | P55 | 1064 | V01 | 258 | X65 | 3617 | Z31 | 3621 | 077 | 1811 | C55 | 665 | D27 | 2455 |
| 4HL35 | 2813 | 4HM01 | 3041 | 4HM66 | 2834 | 4HN32 | 3042 | 4HP56 | 1064 | 4HV02 | 258 | 4HX66 | 3617 | 4HZ32 | 3613 | 4H081 | 1811 | 4JC56 | 665 | 4JD28 | 2455 |
| L36 | 2822 | M02 | 3041 | M67 | 2834 | N33 | 3042 | P57 | 256 | V03 | 258 | X67 | 3617 | Z33 | 3613 | 100 | 1707 | C57 | 665 | D29 | 2455 |
| L37 | 2822 | M03 | 3041 | M68 | 2834 | N34 | 3042 | P59 | 256 | V04 | 258 | X68 | 3617 | Z34 | 3613 | 102 | 1707 | C58 | 665 | D30 | 2455 |
| L38 | 2808 | M04 | 3041 | M69 | 2834 | N35 | 3042 | P60 | 256 | V05 | 258 | X69 | 3617 | Z35 | 3613 | 104 | 1707 | C59 | 665 | D31 | 2455 |
| L39 | 2808 | M05 | 3041 | M70 | 2834 | N36 | 3042 | P66 | 259 | V06 | 258 | X70 | 3617 | Z36 | 3613 | 106 | 1707 | C60 | 665 | D32 | 2445 |
| 4HL40 | 2808 | 4HM06 | 3041 | 4HM71 | 2834 | 4HN39 | 2935 | 4HP67 | 259 | 4HV07 | 258 | 4HX71 | 3617 | 4HZ37 | 3613 | 4H270 | 3384 | 4JC61 | 665 | 4JD33 | 2456 |
| L41 | 2808 | M07 | 3041 | M72 | 2834 | N40 | 2935 | P68 | 259 | V08 | 258 | X72 | 3617 | Z38 | 3613 | 885 | 3087 | C62 | 665 | D34 | 2468 |
| L42 | 2808 | M08 | 3041 | M73 | 2834 | N41 | 2935 | P69 | 259 | V27 | 257 | X73 | 3617 | Z39 | 3613 | 973 | 902 | C63 | 665 | D35 | 2468 |
| L43 | 2808 | M09 | 3041 | M74 | 2834 | N42 | 2935 | P70 | 259 | V28 | 257 | X74 | 3617 | Z40 | 3613 | 4J | | C64 | 665 | D36 | 2448 |
| L44 | 2808 | M10 | 3041 | M75 | 2834 | N43 | 2935 | P71 | 259 | V29 | 257 | X75 | 3617 | Z41 | 3613 | | | C65 | 665 | D37 | 2464 |
| 4HL45 | 2808 | 4HM11 | 3041 | 4HM76 | 2834 | 4HN44 | 2935 | 4HP90 | 259 | 4HV30 | 257 | 4HX76 | 3617 | 4HZ42 | 3613 | 4JC01 | 3647 | 4JC66 | 355 | 4JD38 | 2464 |
| L46 | 2808 | M12 | 3041 | M77 | 2834 | N45 | 2935 | P91 | 259 | V31 | 257 | X77 | 3617 | Z43 | 3613 | C02 | 1181 | C67 | 355 | D39 | 2464 |
| L47 | 2808 | M13 | 3041 | M78 | 2834 | N46 | 2935 | P95 | 259 | V32 | 257 | X78 | 3616 | Z44 | 3613 | C03 | 1179 | C68 | 355 | D40 | 2464 |
| L48 | 2808 | M14 | 3041 | M79 | 2834 | N47 | 2935 | P96 | 259 | V35 | 258 | X79 | 3616 | Z45 | 3613 | C04 | 1181 | C69 | 355 | D41 | 2464 |
| L49 | 2808 | M15 | 3041 | M80 | 2834 | N48 | 2935 | R10 | 259 | V36 | 258 | X80 | 3618 | Z46 | 3613 | C05 | 1179 | C70 | 355 | D42 | 2464 |
| 4HL50 | 2808 | 4HM16 | 3041 | 4HM81 | 2834 | 4HN49 | 2935 | 4HR11 | 259 | 4HV37 | 258 | 4HX81 | 3618 | 4HZ47 | 3613 | 4JC06 | 1181 | 4JC71 | 355 | 4JD43 | 2472 |
| L51 | 2808 | M17 | 2839 | M82 | 2834 | N50 | 2935 | R12 | 255 | V43 | 259 | X82 | 3618 | Z48 | 3613 | C07 | 1181 | C72 | 355 | D44 | 2472 |
| L52 | 2808 | M18 | 2839 | M83 | 2834 | N51 | 2935 | R15 | 255 | V56 | 259 | X83 | 3618 | Z49 | 3613 | C08 | 1179 | C76 | 355 | D45 | 2472 |
| L53 | 2808 | M19 | 2839 | M84 | 2834 | N52 | 2935 | R16 | 255 | V71 | 259 | X84 | 3618 | Z50 | 3613 | C09 | 1179 | C77 | 355 | D46 | 2459 |
| L54 | 2808 | M20 | 2839 | M85 | 2834 | N53 | 2935 | R17 | 255 | V72 | 259 | X85 | 3618 | Z51 | 3613 | C10 | 1179 | C78 | 355 | D47 | 2459 |
| 4HL55 | 2808 | 4HM21 | 2839 | 4HM86 | 2834 | 4HN54 | 2935 | 4HR18 | 255 | 4HV73 | 259 | 4HX86 | 3618 | 4HZ52 | 3613 | 4JC11 | 1181 | 4JC79 | 355 | 4JD48 | 2459 |
| L56 | 2808 | M22 | 2839 | M87 | 2834 | N55 | 2935 | R19 | 255 | V74 | 259 | X87 | 3618 | Z53 | 3613 | C12 | 1181 | C80 | 355 | D49 | 2459 |
| L57 | 2808 | M23 | 2839 | M88 | 2834 | N56 | 2935 | R27 | 255 | V75 | 259 | X88 | 3613 | Z54 | 3613 | C13 | 1181 | C81 | 355 | D50 | 2459 |
| L58 | 2808 | M24 | 2839 | M89 | 2834 | N57 | 2935 | R28 | 255 | W15 | 259 | X89 | 3618 | Z55 | 3613 | C14 | 1179 | C82 | 355 | D51 | 2459 |
| L59 | 2836 | M25 | 2839 | M90 | 2834 | N58 | 2944 | R29 | 255 | W16 | 259 | X90 | 3618 | Z56 | 3613 | C15 | 1181 | C86 | 2468 | D52 | 2467 |

# STOCK NUMBER—PAGE NUMBER

## 4JD — 4KC


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4JD53 | 2467 | 4JF20 | 2461 | 4JF85 | 2446 | 4JG57 | 2662 | 4JH23 | 2656 | 4JM56 | 3069 | 4JV19 | 3179 | 4JW71 | 1289 | 4JZ10 | 829 | 4JZ77 | 853 | 4KC17 | 891 |
| D54 | 2467 | F21 | 2461 | F86 | 2448 | G58 | 2662 | H24 | 2656 | M57 | 3069 | V20 | 3179 | W72 | 1289 | Z11 | 829 | Z78 | 859 | C18 | 891 |
| D55 | 2470 | F22 | 2461 | F87 | 2448 | G59 | 2662 | H25 | 2656 | N58 | 3069 | V21 | 3179 | W73 | 1289 | Z12 | 829 | Z79 | 859 | C19 | 891 |
| D56 | 2457 | F23 | 2461 | F88 | 2448 | G60 | 2663 | H26 | 2656 | N59 | 3069 | V22 | 3179 | W74 | 1289 | Z13 | 879 | Z80 | 859 | C20 | 758 |
| D57 | 2457 | F24 | 2461 | F89 | 2448 | G61 | 2663 | H27 | 2658 | N61 | 3069 | V23 | 3179 | W75 | 1289 | Z14 | 886 | Z81 | 859 | C21 | 778 |
| 4JD58 | 2457 | 4JF25 | 2461 | 4JF90 | 2471 | 4JG62 | 2663 | 4JH28 | 2658 | 4JN62 | 3069 | 4JV24 | 3179 | 4JW76 | 1290 | 4JZ15 | 879 | 4JZ82 | 859 | 4KC22 | 756 |
| D59 | 2470 | F26 | 2461 | F91 | 2471 | G63 | 2662 | H29 | 2658 | N64 | 3069 | V25 | 3179 | W77 | 1290 | Z16 | 879 | Z83 | 859 | C23 | 756 |
| D60 | 2464 | F27 | 2463 | F92 | 2471 | G64 | 2662 | H30 | 2658 | N65 | 3069 | V26 | 3179 | W78 | 1290 | Z17 | 879 | Z84 | 859 | C24 | 756 |
| D61 | 2464 | F28 | 2463 | F93 | 2447 | G65 | 2662 | H31 | 2658 | N67 | 3069 | V27 | 3179 | W79 | 1290 | Z19 | 879 | Z85 | 877 | C25 | 756 |
| D62 | 2464 | F29 | 2463 | F94 | 2471 | G66 | 2662 | H32 | 2658 | N68 | 3069 | V28 | 3179 | W92 | 1237 | Z20 | 879 | Z86 | 767 | C26 | 753 |
| 4JD63 | 2464 | 4JF30 | 2463 | 4JF95 | 2471 | 4JG67 | 2662 | 4JH33 | 2658 | 4JN70 | 3069 | 4JV29 | 3179 | 4JW94 | 1237 | 4JZ21 | 755 | 4JZ87 | 767 | 4KC27 | 778 |
| D64 | 2464 | F31 | 2463 | F96 | 2471 | G68 | 2661 | H34 | 2658 | N71 | 3069 | V30 | 3179 | W97 | 1237 | Z22 | 755 | Z88 | 767 | C28 | 826 |
| D65 | 2464 | F32 | 2463 | F97 | 2471 | G69 | 2661 | H35 | 2658 | N73 | 3069 | V31 | 3179 | W98 | 1237 | Z23 | 764 | Z89 | 768 | C29 | 853 |
| D66 | 2457 | F33 | 2463 | F98 | 2471 | G70 | 2661 | H36 | 2658 | N74 | 3069 | V32 | 3179 | X02 | 1237 | Z24 | 764 | Z90 | 768 | C30 | 832 |
| D67 | 2464 | F34 | 2463 | F99 | 2399 | G71 | 2661 | H37 | 2658 | R46 | 3069 | V33 | 3179 | X04 | 1237 | Z25 | 764 | Z91 | 768 | C31 | 826 |
| 4JD68 | 2461 | 4JF35 | 2468 | 4JG01 | 2398 | 4JG72 | 2661 | 4JH38 | 2658 | 4JR47 | 3069 | 4JV34 | 3179 | 4JX08 | 1237 | 4JZ26 | 764 | 4JZ92 | 768 | 4KC32 | 832 |
| D69 | 2461 | F36 | 2468 | G02 | 2398 | G73 | 2661 | H39 | 2658 | R49 | 3069 | V35 | 3179 | X11 | 1237 | Z27 | 763 | Z93 | 767 | C33 | 826 |
| D70 | 2467 | F37 | 2451 | G03 | 2398 | G74 | 2661 | H40 | 2658 | R50 | 3069 | V36 | 3179 | X15 | 1237 | Z28 | 789 | Z94 | 767 | C34 | 786 |
| D71 | 2467 | F38 | 2451 | G04 | 2402 | G75 | 2661 | H41 | 2658 | R52 | 3069 | V37 | 3281 | X18 | 1237 | Z29 | 3486 | Z95 | 767 | C35 | 889 |
| D72 | 2467 | F39 | 2451 | G05 | 2402 | G76 | 2661 | H42 | 2658 | R53 | 3069 | V38 | 3281 | X20 | 1237 | Z30 | 752 | Z96 | 768 | C36 | 889 |
| 4JD73 | 2470 | 4JF40 | 2451 | 4JG06 | 2402 | 4JG77 | 2661 | 4JH43 | 2658 | 4JR55 | 3069 | 4JV39 | 3281 | 4JX59 | 2256 | 4JZ31 | 763 | 4JZ97 | 761 | 4KC37 | 742 |
| D74 | 2470 | F41 | 2454 | G07 | 2408 | G78 | 2663 | H44 | 2658 | R56 | 3069 | V40 | 3281 | X60 | 2256 | Z32 | 763 | Z98 | 767 | C38 | 742 |
| D75 | 2470 | F42 | 2454 | G08 | 2408 | G79 | 2663 | H45 | 2658 | R58 | 3069 | V41 | 3281 | X61 | 2256 | Z34 | 763 | Z99 | 767 | C39 | 742 |
| D76 | 2461 | F43 | 2457 | G09 | 2433 | G80 | 2663 | H46 | 2658 | R59 | 3069 | V42 | 3281 | X62 | 2256 | Z35 | 763 | 086 | 2657 | C40 | 742 |
| D77 | 2461 | F44 | 2457 | G10 | 2409 | G81 | 2663 | H47 | 2654 | R61 | 3069 | V43 | 3281 | X63 | 2256 | Z36 | 791 | 130 | 2659 | C41 | 896 |
| 4JD78 | 2460 | 4JF45 | 2457 | 4JG11 | 2409 | 4JG82 | 2663 | 4JH48 | 2654 | 4JR62 | 3069 | 4JV44 | 3281 | 4JX64 | 2256 | 4JZ37 | 789 | 4J134 | 2659 | 4KC42 | 896 |
| D79 | 2460 | F46 | 2457 | G12 | 2409 | G83 | 2663 | H49 | 2659 | T64 | 3069 | V45 | 234 | X65 | 2256 | Z38 | 893 | 135 | 2659 | C43 | 896 |
| D80 | 2460 | F47 | 2457 | G13 | 2409 | G84 | 2663 | H50 | 2659 | T65 | 3069 | V60 | 2681 | X66 | 2256 | Z39 | 887 | 193 | 2656 | C44 | 896 |
| D81 | 2462 | F48 | 2453 | G14 | 2409 | G85 | 2661 | H51 | 2659 | T67 | 3069 | V94 | 1229 | X67 | 2256 | Z40 | 888 | 195 | 2656 | C45 | 896 |
| D82 | 2462 | F49 | 2453 | G15 | 2409 | G86 | 2661 | H52 | 2659 | T68 | 3069 | W06 | 1229 | X68 | 2256 | Z41 | 888 | 197 | 2656 | C46 | 896 |
| 4JD83 | 2462 | 4JF50 | 2453 | 4JG16 | 2409 | 4JG87 | 2661 | 4JH53 | 2659 | 4JT82 | 3069 | 4JW15 | 1223 | 4JX69 | 2256 | 4JZ42 | 882 | 4J199 | 2656 | 4KC47 | 896 |
| D84 | 2469 | F51 | 2453 | G17 | 2408 | G88 | 2661 | H54 | 2659 | T83 | 3069 | W16 | 1223 | X70 | 2256 | Z43 | 882 | 201 | 2656 | C48 | 742 |
| D85 | 2469 | F52 | 2453 | G18 | 2408 | G89 | 2661 | H55 | 2657 | T85 | 2116 | W18 | 1225 | X71 | 2256 | Z44 | 882 | 203 | 2656 | C49 | 896 |
| D86 | 2469 | F53 | 2453 | G19 | 2408 | G90 | 2661 | H56 | 2657 | T86 | 2116 | W20 | 1225 | X72 | 2256 | Z45 | 882 | 205 | 2656 | C50 | 896 |
| D87 | 2469 | F54 | 2453 | G20 | 2420 | G91 | 2661 | H57 | 2657 | T87 | 2116 | W24 | 1227 | X73 | 2256 | Z46 | 887 | 261 | 2656 | C51 | 785 |
| 4JD88 | 2464 | 4JF55 | 2453 | 4JG21 | 2409 | 4JG92 | 2661 | 4JH58 | 2655 | 4JT88 | 2116 | 4JW26 | 1226 | 4JX74 | 2256 | 4JZ47 | 888 | 4J594 | 2656 | 4KC52 | 832 |
| D89 | 2464 | F56 | 2454 | G24 | 2409 | G93 | 2661 | H59 | 2660 | T89 | 2665 | W30 | 1227 | X75 | 2256 | Z48 | 801 | 596 | 2656 | C53 | 832 |
| D90 | 2464 | F57 | 2454 | G25 | 2409 | G94 | 2661 | H60 | 2659 | T90 | 2667 | W39 | 1288 | X76 | 2256 | Z49 | 801 | 598 | 2656 | C55 | 841 |
| D91 | 2464 | F58 | 2454 | G27 | 2409 | G95 | 2661 | H61 | 2659 | T91 | 3179 | W40 | 1288 | X77 | 2256 | Z50 | 801 | 600 | 2656 | C57 | 841 |
| D92 | 2464 | F59 | 2454 | G28 | 2409 | G96 | 2661 | H62 | 2659 | T92 | 3179 | W41 | 1288 | X78 | 2256 | Z51 | 801 | 608 | 2654 | C58 | 841 |
| 4JD93 | 2464 | 4JF60 | 2450 | 4JG29 | 2409 | 4JG97 | 2661 | 4JH63 | 2659 | 4JT93 | 3179 | 4JW42 | 1288 | 4JX79 | 2256 | 4JZ52 | 801 | 4J610 | 2654 | 4KC59 | 846 |
| D94 | 2452 | F61 | 2450 | G30 | 2399 | G98 | 2661 | H64 | 2659 | T94 | 3281 | W43 | 1288 | X80 | 2256 | Z53 | 801 | 611 | 2654 | C60 | 846 |
| D95 | 2452 | F62 | 2450 | G31 | 2444 | G99 | 2663 | H65 | 2659 | T95 | 3281 | W44 | 1288 | X81 | 2256 | Z54 | 801 | 612 | 2654 | C61 | 846 |
| D96 | 2452 | F63 | 2450 | G35 | 2408 | H01 | 2662 | H66 | 2659 | T96 | 3281 | W45 | 1288 | X82 | 2256 | Z55 | 801 | 680 | 2654 | C62 | 846 |
| D98 | 2497 | F64 | 2454 | G36 | 2398 | H02 | 2662 | H67 | 2659 | T97 | 3281 | W46 | 1288 | X83 | 2256 | Z56 | 801 | 682 | 2654 | C63 | 846 |
| 4JD99 | 2497 | 4JF65 | 2454 | 4JG37 | 2129 | 4JH03 | 2662 | 4JH68 | 2659 | 4JT98 | 3281 | 4JW47 | 1288 | 4JX84 | 2261 | 4JZ57 | 801 | 4J686 | 2654 | 4KC64 | 841 |
| F01 | 2497 | F66 | 2454 | G38 | 2129 | H04 | 2662 | H69 | 2659 | T99 | 3281 | W48 | 1288 | X85 | 2261 | Z58 | 883 | 688 | 2654 | C65 | 2091 |
| F02 | 2497 | F67 | 2455 | G39 | 2129 | H05 | 2662 | H70 | 2659 | V01 | 3281 | W49 | 1288 | X86 | 2261 | Z59 | 883 | 689 | 2654 | C66 | 2091 |
| F03 | 2497 | F68 | 2453 | G40 | 2129 | H06 | 2662 | H71 | 2659 | V02 | 3281 | W51 | 1288 | X87 | 2261 | Z60 | 883 | 690 | 2654 | C67 | 2091 |
| F04 | 2497 | F69 | 2453 | G41 | 2129 | H07 | 2662 | H72 | 2659 | V03 | 3281 | W52 | 1288 | X88 | 2261 | Z61 | 883 | 731 | 2656 | C68 | 2091 |
| 4JF05 | 2497 | 4JF70 | 2462 | 4JG42 | 2129 | 4JH08 | 2662 | 4JH73 | 2656 | 4JV04 | 3281 | 4JW54 | 1288 | 4JX89 | 2261 | 4JZ62 | 3486 | 4K | | 4KC69 | 2091 |
| F06 | 2497 | F71 | 2462 | G43 | 2171 | H09 | 2662 | H74 | 2651 | V05 | 3281 | W55 | 1288 | X90 | 2261 | Z63 | 845 | | | C70 | 2091 |
| F07 | 2497 | F72 | 2462 | G44 | 2171 | H10 | 2662 | H75 | 2651 | V06 | 3281 | W56 | 1288 | X91 | 2261 | Z64 | 845 | 4KC00 | 154 | C71 | 2193 |
| F08 | 2497 | F73 | 2452 | G45 | 2662 | H11 | 2662 | H76 | 2105 | V07 | 3281 | W57 | 1288 | X92 | 2261 | Z65 | 845 | C05 | 768 | C72 | 2038 |
| F09 | 2497 | F74 | 2452 | G46 | 2662 | H12 | 2662 | H77 | 2105 | V08 | 3281 | W58 | 1288 | X93 | 2277 | Z66 | 845 | C06 | 768 | C73 | 2091 |
| 4JF10 | 2497 | 4JF75 | 2452 | 4JG47 | 2662 | 4JH13 | 2662 | 4JM38 | 3069 | 4JV09 | 3281 | 4JW59 | 1288 | 4JX94 | 2289 | 4JZ67 | 841 | 4KC07 | 767 | 4KC74 | 2038 |
| F11 | 2497 | F76 | 2452 | G48 | 2662 | H14 | 2663 | M39 | 3069 | V10 | 3281 | W60 | 1288 | X99 | 796 | Z68 | 841 | C08 | 893 | C75 | 2039 |
| F12 | 2497 | F77 | 2452 | G49 | 2662 | H15 | 2663 | M41 | 3069 | V11 | 3281 | W61 | 1289 | Z01 | 796 | Z69 | 841 | C09 | 891 | C76 | 2039 |
| F13 | 2497 | F78 | 2452 | G50 | 2662 | H16 | 2656 | M42 | 3069 | V12 | 3281 | W62 | 1289 | Z02 | 796 | Z70 | 845 | C10 | 888 | C77 | 2039 |
| F14 | 2497 | F79 | 2452 | G51 | 2662 | H17 | 2652 | M44 | 3069 | V13 | 3281 | W63 | 1289 | Z03 | 798 | Z71 | 845 | C11 | 891 | C78 | 2039 |
| 4JF15 | 2454 | 4JF80 | 2452 | 4JG52 | 2662 | 4JH18 | 2652 | 4JM45 | 3069 | 4JV14 | 3281 | 4JW64 | 1289 | 4JZ04 | 797 | 4JZ72 | 845 | 4KC12 | 878 | 4KC79 | 2038 |
| F16 | 2456 | F81 | 2452 | G53 | 2662 | H19 | 2652 | M47 | 3069 | V15 | 3281 | W65 | 1289 | Z05 | 797 | Z73 | 845 | C13 | 893 | C80 | 2091 |
| F17 | 2461 | F82 | 2452 | G54 | 2662 | H20 | 2652 | M48 | 3069 | V16 | 3179 | W66 | 1289 | Z06 | 797 | Z74 | 845 | C14 | 893 | C81 | 2193 |
| F18 | 2461 | F83 | 2452 | G55 | 2662 | H21 | 2652 | M53 | 3069 | V17 | 3179 | W68 | 1289 | Z08 | 879 | Z75 | 845 | C15 | 893 | C82 | 2091 |
| F19 | 2461 | F84 | 2446 | G56 | 2662 | H22 | 2656 | M54 | 3069 | V18 | 3179 | W69 | 1289 | Z09 | 829 | Z76 | 841 | C16 | 893 | C83 | 2193 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4KC85 | 2193 | 4KD57 | 2709 | 4KF23 | 831 | 4KF89 | 893 | 4KG55 | 898 | 4KH21 | 2257 | 4KH86 | 2099 | 4KJ52 | 2103 | 4KK18 | 2105 | 4KK94 | 1789 | 4KM95 | 1521 |
| C86 | 2038 | D58 | 2708 | F24 | 831 | F90 | 893 | G56 | 899 | H22 | 2247 | H87 | 2099 | J53 | 2103 | K19 | 2105 | L14 | 1786 | M96 | 1518 |
| C87 | 2038 | D59 | 2706 | F25 | 879 | F91 | 893 | G57 | 899 | H23 | 2247 | H88 | 2099 | J54 | 2103 | K20 | 2105 | L15 | 1786 | M98 | 895 |
| C88 | 2038 | D60 | 2708 | F26 | 830 | F92 | 893 | G58 | 899 | H24 | 2257 | H89 | 2109 | J55 | 2103 | K21 | 2105 | L23 | 1786 | M99 | 895 |
| C89 | 2038 | D61 | 2705 | F27 | 831 | F93 | 893 | G59 | 899 | H25 | 2247 | H90 | 2109 | J56 | 2103 | K22 | 2105 | L27 | 1789 | N01 | 895 |
| 4KC90 | 2038 | 4KD62 | 2709 | 4KF28 | 831 | 4KF94 | 893 | 4KG60 | 899 | 4KH26 | 2247 | 4KH91 | 2109 | 4KJ57 | 2103 | 4KK23 | 2105 | 4KL28 | 1780 | 4KN02 | 2261 |
| C91 | 2038 | D63 | 2706 | F29 | 832 | F95 | 893 | G61 | 899 | H27 | 2247 | H92 | 2109 | J58 | 2104 | K24 | 1795 | L29 | 1784 | N11 | 563 |
| C92 | 2728 | D64 | 2709 | F30 | 832 | F96 | 893 | G62 | 899 | H28 | 2247 | H93 | 2109 | J59 | 2104 | K25 | 1795 | L38 | 639 | N12 | 563 |
| C93 | 2727 | D65 | 2709 | F31 | 878 | F97 | 893 | G63 | 899 | H29 | 2247 | H94 | 2109 | J60 | 2104 | K26 | 1795 | L39 | 639 | N13 | 563 |
| C94 | 2729 | D66 | 2709 | F32 | 878 | F98 | 893 | G64 | 899 | H30 | 2247 | H95 | 2109 | J61 | 2104 | K27 | 1795 | L40 | 1780 | N14 | 495 |
| 4KC95 | 2728 | 4KD67 | 2709 | 4KF33 | 889 | 4KF99 | 892 | 4KG65 | 899 | 4KH31 | 2109 | 4KH96 | 2109 | 4KJ62 | 2104 | 4KK28 | 1795 | 4KL46 | 1784 | 4KN15 | 495 |
| C96 | 2730 | D68 | 2708 | F34 | 889 | G01 | 892 | G66 | 899 | H32 | 2109 | H97 | 2109 | J63 | 2104 | K29 | 1795 | L47 | 1784 | N16 | 495 |
| C97 | 2730 | D69 | 2708 | F35 | 832 | G02 | 892 | G67 | 2696 | H33 | 2109 | H98 | 2110 | J64 | 2104 | K30 | 824 | L49 | 1780 | N17 | 495 |
| C98 | 2730 | D70 | 2708 | F36 | 878 | G03 | 892 | G68 | 2696 | H34 | 2109 | H99 | 2110 | J65 | 2104 | K31 | 824 | L50 | 1780 | N18 | 481 |
| D03 | 1199 | D71 | 2708 | F37 | 832 | G04 | 893 | G69 | 2696 | H35 | 2109 | J01 | 2110 | J66 | 2104 | K32 | 824 | L55 | 1780 | N48 | 1852 |
| 4KD04 | 1199 | 4KD72 | 2708 | 4KF38 | 832 | 4KG05 | 893 | 4KG70 | 2695 | 4KH36 | 2098 | 4KJ02 | 2110 | 4KJ67 | 2104 | 4KK33 | 824 | 4KL71 | 1789 | 4KN49 | 1852 |
| D05 | 1199 | D73 | 2707 | F39 | 878 | G06 | 893 | G71 | 2695 | H37 | 2098 | J03 | 2110 | J68 | 2104 | K34 | 783 | L81 | 1789 | N50 | 816 |
| D06 | 1200 | D74 | 2707 | F40 | 889 | G07 | 893 | G72 | 2694 | H38 | 2098 | J04 | 2110 | J69 | 2104 | K35 | 783 | L86 | 1789 | N51 | 816 |
| D09 | 2708 | D75 | 894 | F41 | 889 | G08 | 893 | G73 | 2694 | H39 | 2098 | J05 | 2110 | J70 | 2104 | K36 | 783 | L92 | 1789 | N52 | 2780 |
| D10 | 2708 | D76 | 816 | F42 | 832 | G09 | 893 | G74 | 2694 | H40 | 2098 | J06 | 2110 | J71 | 2104 | K37 | 783 | L96 | 1789 | N53 | 2780 |
| 4KD12 | 2708 | 4KD77 | 776 | 4KF43 | 832 | 4KG10 | 893 | 4KG75 | 2694 | 4KH41 | 2098 | 4KJ07 | 2110 | 4KJ72 | 2104 | 4KK38 | 824 | 4KM01 | 1789 | 4KN54 | 1892 |
| D13 | 2706 | D78 | 776 | F44 | 832 | G11 | 893 | G76 | 2694 | H42 | 2098 | J08 | 2110 | J73 | 2104 | K39 | 824 | M09 | 1785 | N55 | 1892 |
| D14 | 2706 | D79 | 772 | F45 | 837 | G12 | 893 | G77 | 2694 | H43 | 2098 | J09 | 2109 | J74 | 2106 | K40 | 824 | M17 | 1782 | N56 | 1932 |
| D15 | 2706 | D80 | 772 | F46 | 836 | G13 | 893 | G78 | 2694 | H44 | 2110 | J10 | 2109 | J75 | 2106 | K41 | 824 | M24 | 1782 | N57 | 1932 |
| D16 | 2706 | D81 | 772 | F47 | 836 | G14 | 892 | G79 | 2695 | H45 | 2110 | J11 | 2109 | J76 | 2106 | K42 | 824 | M25 | 1782 | N58 | 1932 |
| 4KD17 | 2706 | 4KD82 | 772 | 4KF48 | 837 | 4KG15 | 892 | 4KG80 | 2695 | 4KH46 | 2110 | 4KJ12 | 2109 | 4KJ77 | 2106 | 4KK43 | 824 | 4KM29 | 1781 | 4KN59 | 1932 |
| D18 | 2707 | D83 | 772 | F49 | 836 | G16 | 892 | G81 | 2697 | H47 | 2110 | J13 | 2109 | J78 | 2106 | K44 | 824 | M30 | 1781 | N60 | 1932 |
| D19 | 2707 | D84 | 772 | F50 | 836 | G17 | 892 | G82 | 2697 | H48 | 2109 | J14 | 2109 | J79 | 2106 | K45 | 824 | M31 | 1781 | N61 | 1874 |
| D20 | 2707 | D85 | 772 | F51 | 837 | G18 | 893 | G83 | 2697 | H49 | 2109 | J15 | 2109 | J80 | 2106 | K46 | 783 | M32 | 1781 | N62 | 1874 |
| D21 | 2705 | D86 | 772 | F52 | 836 | G19 | 893 | G84 | 2697 | H50 | 2108 | J16 | 2109 | J81 | 2106 | K47 | 783 | M33 | 1781 | N63 | 1874 |
| 4KD22 | 2705 | 4KD87 | 773 | 4KF53 | 836 | 4KG20 | 893 | 4KG85 | 2697 | 4KH51 | 2108 | 4KJ17 | 2110 | 4KJ82 | 2106 | 4KK48 | 816 | 4KM34 | 1781 | 4KN64 | 1874 |
| D23 | 2705 | D88 | 773 | F55 | 836 | G21 | 893 | G86 | 2697 | H52 | 2108 | J18 | 2110 | J83 | 2106 | K49 | 783 | M40 | 1781 | N65 | 1874 |
| D24 | 2705 | D89 | 774 | F56 | 808 | G22 | 893 | G87 | 2697 | H53 | 2108 | J19 | 2110 | J84 | 2106 | K50 | 783 | M41 | 1781 | N66 | 1874 |
| D25 | 2708 | D90 | 773 | F57 | 808 | G23 | 893 | G88 | 2697 | H54 | 2108 | J20 | 2110 | J85 | 2106 | K51 | 783 | M49 | 1789 | N67 | 1874 |
| D26 | 2708 | D91 | 771 | F58 | 808 | G24 | 893 | G89 | 2695 | H55 | 2108 | J21 | 2110 | J86 | 2106 | K52 | 2748 | M53 | 1784 | N68 | 1874 |
| 4KD27 | 2709 | 4KD92 | 772 | 4KF59 | 808 | 4KG25 | 893 | 4KG90 | 2695 | 4KH56 | 2108 | 4KJ22 | 2110 | 4KJ87 | 2106 | 4KK53 | 2748 | 4KM57 | 1784 | 4KN69 | 1874 |
| D28 | 2705 | D93 | 772 | F60 | 819 | G26 | 850 | G91 | 2697 | H57 | 2108 | J23 | 2110 | J88 | 2106 | K54 | 2748 | M58 | 1784 | N70 | 1880 |
| D29 | 2709 | D94 | 772 | F61 | 819 | G27 | 2256 | G92 | 2697 | H58 | 2108 | J24 | 2103 | J89 | 2106 | K55 | 2748 | M63 | 1784 | N71 | 637 |
| D30 | 2709 | D95 | 772 | F62 | 818 | G28 | 2256 | G93 | 2697 | H59 | 2108 | J25 | 2103 | J90 | 2106 | K56 | 2748 | M64 | 1786 | N72 | 637 |
| D31 | 2709 | D96 | 772 | F63 | 819 | G29 | 2256 | G94 | 2697 | H60 | 2108 | J26 | 2103 | J91 | 2106 | K57 | 2748 | M65 | 1604 | N73 | 637 |
| 4KD32 | 2706 | 4KD97 | 772 | 4KF64 | 819 | 4KG30 | 2256 | 4KG95 | 2697 | 4KH61 | 2108 | 4KJ27 | 2103 | 4KJ92 | 2106 | 4KK58 | 2748 | 4KM66 | 1604 | 4KN74 | 641 |
| D33 | 2706 | D98 | 772 | F65 | 818 | G31 | 2256 | G96 | 2696 | H62 | 2108 | J28 | 2103 | J93 | 2106 | K59 | 2748 | M67 | 1604 | N75 | 641 |
| D34 | 2706 | D99 | 773 | F66 | 818 | G32 | 2256 | G97 | 2696 | H63 | 2108 | J29 | 2103 | J94 | 2106 | K60 | 2748 | M68 | 1604 | N76 | 641 |
| D35 | 2706 | F01 | 773 | F67 | 818 | G33 | 2256 | G98 | 2696 | H64 | 2108 | J30 | 2106 | J95 | 2106 | K61 | 2748 | M69 | 1604 | N77 | 641 |
| D36 | 2708 | F02 | 772 | F68 | 775 | G34 | 2256 | G99 | 2696 | H65 | 2108 | J31 | 2106 | J96 | 2100 | K62 | 2748 | M70 | 1604 | N78 | 641 |
| 4KD37 | 2708 | 4KF03 | 773 | 4KF69 | 775 | 4KG35 | 2096 | 4KH01 | 2696 | 4KH66 | 2108 | 4KJ32 | 2106 | 4KJ97 | 2111 | 4KK63 | 2745 | 4KM71 | 2784 | 4KN79 | 641 |
| D38 | 2708 | F04 | 773 | F70 | 775 | G36 | 2096 | H02 | 2696 | H67 | 2108 | J33 | 2106 | J98 | 2111 | K64 | 2745 | M72 | 2784 | N80 | 641 |
| D39 | 2708 | F05 | 773 | F71 | 819 | G37 | 2096 | H03 | 2696 | H68 | 2108 | J34 | 2106 | J99 | 2111 | K65 | 2745 | M73 | 2784 | N81 | 641 |
| D40 | 2706 | F06 | 777 | F72 | 892 | G38 | 2096 | H04 | 2694 | H69 | 2108 | J35 | 2106 | K01 | 2111 | K66 | 2745 | M74 | 2784 | N82 | 641 |
| D41 | 2706 | F07 | 777 | F73 | 858 | G39 | 2096 | H05 | 2694 | H70 | 2108 | J36 | 2106 | K02 | 2111 | K67 | 2787 | M75 | 1782 | N83 | 641 |
| 4KD42 | 2706 | 4KF08 | 777 | 4KF74 | 859 | 4KG40 | 2097 | 4KH06 | 2695 | 4KH71 | 2108 | 4KJ37 | 2106 | 4KK03 | 2111 | 4KK68 | 2790 | 4KM76 | 1782 | 4KN84 | 642 |
| D43 | 2708 | F09 | 777 | F75 | 858 | G41 | 2097 | H07 | 2696 | H72 | 2108 | J38 | 2106 | K04 | 2111 | K69 | 2790 | M77 | 1789 | N85 | 642 |
| D44 | 2709 | F10 | 777 | F76 | 858 | G42 | 2097 | H08 | 2247 | H73 | 2108 | J39 | 2106 | K05 | 2111 | K70 | 2789 | M78 | 1789 | N86 | 641 |
| D45 | 2709 | F11 | 779 | F77 | 851 | G43 | 2097 | H09 | 2247 | H74 | 2108 | J40 | 2106 | K06 | 2111 | K71 | 2778 | M79 | 1782 | N87 | 641 |
| D46 | 2709 | F12 | 779 | F78 | 856 | G44 | 2097 | H10 | 2257 | H75 | 2108 | J41 | 2106 | K07 | 2101 | K72 | 2778 | M80 | 1782 | N88 | 641 |
| 4KD47 | 2709 | 4KF13 | 775 | 4KF79 | 856 | 4KG45 | 2097 | 4KH11 | 2257 | 4KH76 | 2098 | 4KJ42 | 2106 | 4KK08 | 2101 | 4KK73 | 2778 | 4KM81 | 1781 | 4KN89 | 641 |
| D48 | 2709 | F14 | 774 | F80 | 856 | G46 | 898 | H12 | 2257 | H77 | 2098 | J43 | 2106 | K09 | 2101 | K74 | 2778 | M82 | 1780 | N90 | 641 |
| D49 | 2708 | F15 | 788 | F81 | 856 | G47 | 898 | H13 | 2257 | H78 | 2098 | J44 | 2106 | K10 | 2101 | K75 | 2787 | M83 | 1781 | N91 | 641 |
| D50 | 2709 | F16 | 771 | F82 | 856 | G48 | 898 | H14 | 2257 | H79 | 2099 | J45 | 2106 | K11 | 2098 | K76 | 2787 | M84 | 1782 | N92 | 641 |
| D51 | 2709 | F17 | 771 | F83 | 856 | G49 | 898 | H15 | 2257 | H80 | 2099 | J46 | 2106 | K12 | 2105 | K77 | 2787 | M85 | 1780 | N93 | 640 |
| 4KD52 | 2709 | 4KF18 | 771 | 4KF84 | 856 | 4KG50 | 898 | 4KH16 | 2257 | 4KH81 | 2099 | 4KJ47 | 2106 | 4KK13 | 2105 | 4KK78 | 2779 | 4KM86 | 1782 | 4KN94 | 640 |
| D53 | 2708 | F19 | 771 | F85 | 852 | G51 | 898 | H17 | 2257 | H82 | 2099 | J48 | 2106 | K14 | 2105 | K79 | 2779 | M87 | 1794 | N95 | 640 |
| D54 | 2709 | F20 | 830 | F86 | 853 | G52 | 898 | H18 | 2257 | H83 | 2099 | J49 | 2106 | K15 | 2105 | K80 | 2779 | M92 | 1508 | N96 | 639 |
| D55 | 2709 | F21 | 831 | F87 | 859 | G53 | 898 | H19 | 2257 | H84 | 2099 | J50 | 2106 | K16 | 2105 | K81 | 2779 | M93 | 1518 | N97 | 638 |
| D56 | 2709 | F22 | 831 | F88 | 892 | G54 | 898 | H20 | 2257 | H85 | 2099 | J51 | 2103 | K17 | 2105 | K82 | 2779 | M94 | 1518 | N98 | 638 |

# STOCK NUMBER—PAGE NUMBER

## 4KN — 4K7

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4KN99 | 639 | 4KP76 | 2935 | 4KR68 | 2907 | 4KT34 | 1924 | 4KW25 | 1424 | 4KZ45 | 1606 | 4K115 | 1648 | 4K215 | 1647 | 4K316 | 1647 | 4K428 | 1647 | 4K549 | 1803 |
| P01 | 638 | P77 | 2935 | R69 | 2907 | T35 | 1924 | W26 | 1424 | Z48 | 1494 | 117 | 1648 | 217 | 1647 | 319 | 1647 | 430 | 1647 | 551 | 1646 |
| P02 | 638 | P78 | 2935 | R70 | 2907 | T36 | 1851 | W27 | 1424 | Z49 | 1494 | 118 | 143 | 219 | 1647 | 321 | 1647 | 432 | 1647 | 554 | 1646 |
| P03 | 638 | P79 | 2935 | R71 | 2907 | T37 | 1851 | W28 | 1424 | Z50 | 1493 | 119 | 143 | 221 | 1647 | 323 | 1647 | 434 | 1647 | 555 | 1819 |
| P04 | 639 | P80 | 2935 | R72 | 2907 | T38 | 1851 | W29 | 1424 | Z60 | 1493 | 120 | 143 | 223 | 1647 | 325 | 1647 | 436 | 1647 | 556 | 1646 |
| 4KP05 | 639 | 4KP81 | 2932 | 4KR73 | 2968 | 4KT39 | 1851 | 4KW30 | 1424 | 4KZ67 | 1494 | 4K121 | 143 | 4K225 | 1647 | 4K327 | 1646 | 4K438 | 1647 | 4K557 | 1805 |
| P06 | 638 | P82 | 2932 | R74 | 2963 | T40 | 1851 | W31 | 1424 | Z69 | 1494 | 122 | 162 | 227 | 1647 | 328 | 1805 | 440 | 1646 | 558 | 1646 |
| P07 | 639 | P83 | 2932 | R75 | 2964 | T41 | 1851 | W32 | 1424 | Z72 | 1494 | 123 | 147 | 229 | 1647 | 329 | 1646 | 442 | 1646 | 560 | 1819 |
| P08 | 638 | P84 | 1976 | R76 | 2963 | T42 | 1851 | W33 | 1424 | Z77 | 1494 | 124 | 147 | 231 | 1647 | 331 | 1646 | 444 | 1646 | 561 | 1646 |
| P09 | 639 | P85 | 1976 | R77 | 2964 | T43 | 1851 | W34 | 1424 | Z87 | 1496 | 129 | 49 | 233 | 1647 | 333 | 1646 | 447 | 1646 | 565 | 1646 |
| 4KP10 | 638 | 4KP86 | 1976 | 4KR78 | 2967 | 4KT44 | 1928 | 4KW35 | 1424 | 4KZ88 | 1496 | 4K130 | 49 | 4K235 | 1647 | 4K335 | 1646 | 4K449 | 1646 | 4K568 | 1646 |
| P11 | 643 | P87 | 1976 | R79 | 2969 | T46 | 1925 | W36 | 1424 | Z89 | 1493 | 131 | 48 | 237 | 1647 | 337 | 1646 | 451 | 1646 | 570 | 1646 |
| P12 | 643 | P88 | 2893 | R80 | 3001 | T47 | 1925 | W37 | 1424 | Z90 | 1441 | 132 | 48 | 238 | 1807 | 339 | 1646 | 453 | 1646 | 572 | 1646 |
| P13 | 643 | P89 | 2886 | R81 | 3001 | T48 | 1925 | W38 | 1424 | Z91 | 1441 | 133 | 98 | 239 | 1647 | 340 | 1811 | 455 | 1646 | 574 | 1646 |
| P14 | 643 | P90 | 1976 | R82 | 3001 | T50 | 1925 | W39 | 1424 | Z92 | 1447 | 135 | 1648 | 241 | 1813 | 341 | 1646 | 457 | 1646 | 575 | 1801 |
| 4KP15 | 641 | 4KP91 | 1966 | 4KR83 | 3001 | 4KT58 | 3030 | 4KW40 | 1424 | 4KZ95 | 1447 | 4K136 | 181 | 4K242 | 1647 | 4K343 | 1646 | 4K459 | 1646 | 4K577 | 1646 |
| P16 | 641 | P92 | 1966 | R84 | 3001 | T59 | 3030 | W41 | 1424 | Z98 | 1447 | 138 | 1648 | 243 | 1813 | 345 | 1646 | 461 | 1646 | 579 | 1646 |
| P17 | 641 | P93 | 1966 | R85 | 3001 | T60 | 3030 | W42 | 1424 | Z99 | 1447 | 140 | 1648 | 244 | 1648 | 346 | 1798 | 463 | 1646 | 580 | 1801 |
| P18 | 641 | P94 | 1966 | R86 | 2839 | T61 | 3030 | W43 | 1424 | 038 | 85 | 141 | 182 | 246 | 1648 | 347 | 1646 | 465 | 1646 | 581 | 1646 |
| P19 | 641 | P95 | 1966 | R87 | 2839 | T62 | 3030 | W44 | 1424 | 039 | 85 | 142 | 182 | 247 | 1813 | 349 | 1646 | 467 | 1646 | 582 | 1693 |
| 4KP20 | 643 | 4KP96 | 1966 | 4KR88 | 2839 | 4KT63 | 3031 | 4KW45 | 1424 | 4K050 | 1648 | 4K143 | 182 | 4K248 | 1648 | 4K352 | 1798 | 4K469 | 1646 | 4K583 | 1646 |
| P21 | 643 | P97 | 2871 | R89 | 2839 | T64 | 3031 | W46 | 1424 | 052 | 1648 | 144 | 182 | 250 | 1648 | 353 | 1646 | 471 | 1646 | 584 | 1808 |
| P22 | 642 | P98 | 2890 | R90 | 2839 | T65 | 3031 | W47 | 1424 | 054 | 1648 | 145 | 182 | 251 | 1813 | 355 | 1646 | 472 | 1820 | 585 | 1646 |
| P23 | 642 | R09 | 1982 | R91 | 2839 | T66 | 3024 | W48 | 1424 | 055 | 148 | 146 | 182 | 252 | 98 | 357 | 1646 | 473 | 1646 | 588 | 50 |
| P24 | 642 | R10 | 2793 | R92 | 2839 | T67 | 3024 | W49 | 1424 | 056 | 148 | 148 | 1648 | 253 | 1648 | 359 | 1646 | 475 | 1646 | 589 | 1646 |
| 4KP25 | 638 | 4KR11 | 1529 | 4KR93 | 2839 | 4KT68 | 3024 | 4KW50 | 1424 | 4K057 | 148 | 4K152 | 1648 | 4K255 | 1648 | 4K360 | 1803 | 4K477 | 1646 | 4K591 | 1646 |
| P26 | 637 | R12 | 1529 | R94 | 2839 | T69 | 3024 | W51 | 1424 | 058 | 148 | 156 | 1648 | 256 | 2772 | 361 | 1646 | 479 | 1646 | 594 | 1645 |
| P27 | 637 | R13 | 1529 | R95 | 2923 | T70 | 3024 | W52 | 1424 | 059 | 148 | 157 | 1808 | 257 | 1648 | 363 | 1646 | 480 | 1820 | 596 | 1645 |
| P28 | 637 | R14 | 1529 | R96 | 2923 | T71 | 3024 | W53 | 1424 | 060 | 148 | 158 | 1648 | 259 | 98 | 365 | 1646 | 481 | 1646 | 598 | 1645 |
| P29 | 637 | R15 | 1529 | R97 | 2927 | T72 | 3024 | W54 | 1424 | 061 | 148 | 160 | 1648 | 260 | 154 | 367 | 1646 | 483 | 1646 | 600 | 1645 |
| 4KP30 | 637 | 4KR16 | 1529 | 4KR98 | 2927 | 4KT80 | 1902 | 4KW55 | 1424 | 4K062 | 148 | 4K161 | 180 | 4K261 | 154 | 4K368 | 1820 | 4K484 | 1820 | 4K601 | 1354 |
| P31 | 637 | R17 | 1529 | R99 | 2927 | T81 | 1902 | W56 | 1424 | 069 | 1648 | 163 | 181 | 262 | 154 | 369 | 1646 | 485 | 1646 | 604 | 1354 |
| P32 | 637 | R18 | 1529 | T01 | 2925 | T84 | 1911 | W57 | 1424 | 070 | 181 | 164 | 1648 | 263 | 154 | 370 | 1820 | 487 | 1646 | 606 | 1498 |
| P33 | 637 | R19 | 1529 | T02 | 2925 | T85 | 1911 | W58 | 1424 | 072 | 1648 | 166 | 180 | 264 | 154 | 371 | 1646 | 489 | 1646 | 609 | 1498 |
| P34 | 640 | R20 | 1529 | T03 | 2925 | T86 | 1911 | W59 | 1424 | 074 | 1648 | 167 | 1648 | 265 | 1648 | 372 | 1820 | 491 | 1646 | 611 | 1498 |
| 4KP35 | 640 | 4KR21 | 1529 | 4KT04 | 2904 | 4KT87 | 1911 | 4KX33 | 1423 | 4K076 | 1648 | 4K168 | 1808 | 4K267 | 1648 | 4K373 | 1646 | 4K493 | 1646 | 4K617 | 1498 |
| P36 | 638 | R22 | 1529 | T05 | 1978 | T88 | 1911 | X36 | 1462 | 078 | 1648 | 169 | 1648 | 269 | 1648 | 375 | 1646 | 495 | 1646 | 622 | 1498 |
| P38 | 642 | R23 | 1529 | T06 | 1978 | T89 | 1912 | X37 | 1462 | 080 | 1648 | 171 | 1648 | 271 | 1648 | 377 | 1646 | 497 | 1646 | 624 | 1498 |
| P39 | 642 | R24 | 3034 | T07 | 1978 | V39 | 1418 | X38 | 1462 | 087 | 146 | 173 | 1648 | 273 | 1648 | 379 | 1646 | 499 | 1646 | 628 | 1498 |
| P40 | 642 | R25 | 3034 | T08 | 1978 | V41 | 1417 | X39 | 1462 | 088 | 146 | 174 | 1808 | 276 | 1809 | 381 | 1646 | 501 | 1646 | 638 | 106 |
| 4KP41 | 642 | 4KR26 | 3034 | 4KT09 | 1978 | 4KV46 | 1451 | 4KX41 | 1462 | 4K089 | 146 | 4K175 | 1648 | 4K277 | 1648 | 4K382 | 1798 | 4K503 | 1646 | 4K650 | 106 |
| P42 | 642 | R27 | 3034 | T10 | 1978 | V47 | 1451 | X42 | 1462 | 090 | 141 | 177 | 1648 | 279 | 1648 | 383 | 1646 | 505 | 1646 | 658 | 1823 |
| P43 | 642 | R28 | 3034 | T11 | 1978 | V48 | 1451 | X45 | 1452 | 091 | 171 | 179 | 1648 | 280 | 1809 | 385 | 1646 | 507 | 1646 | 685 | 1827 |
| P44 | 643 | R29 | 3034 | T12 | 1978 | V49 | 1451 | X46 | 1452 | 092 | 148 | 180 | 180 | 281 | 1648 | 386 | 1798 | 509 | 1646 | 687 | 1827 |
| P45 | 643 | R30 | 3037 | T13 | 1978 | V50 | 1451 | X47 | 1462 | 093 | 148 | 182 | 1648 | 283 | 1648 | 387 | 1646 | 511 | 1646 | 689 | 1827 |
| 4KP46 | 643 | 4KR31 | 3037 | 4KT14 | 1978 | 4KV51 | 1451 | 4KX48 | 1462 | 4K094 | 148 | 4K183 | 181 | 4K285 | 1809 | 4K389 | 1646 | 4K513 | 1646 | 4K700 | 11 |
| P47 | 643 | R32 | 3034 | T15 | 1978 | V52 | 1451 | X49 | 1462 | 095 | 11 | 185 | 1648 | 286 | 1648 | 391 | 1646 | 515 | 1646 | 708 | 11 |
| P48 | 643 | R33 | 3034 | T16 | 1978 | V53 | 1451 | X50 | 1462 | 096 | 11 | 187 | 1648 | 288 | 1648 | 392 | 1819 | 516 | 1819 | 715 | 11 |
| P49 | 643 | R34 | 3034 | T17 | 1978 | V70 | 1451 | X51 | 1462 | 097 | 11 | 189 | 1648 | 289 | 1809 | 393 | 1646 | 517 | 1646 | 728 | 1802 |
| P50 | 642 | R35 | 3034 | T18 | 1978 | V73 | 1451 | X52 | 1462 | 098 | 11 | 190 | 180 | 290 | 1648 | 395 | 1646 | 518 | 1806 | 730 | 1498 |
| 4KP51 | 2003 | 4KR36 | 3034 | 4KT19 | 1978 | 4KV74 | 1451 | 4KX53 | 1462 | 4K099 | 11 | 4K192 | 1648 | 4K293 | 1648 | 4K397 | 1646 | 4K519 | 1646 | 4K746 | 1498 |
| P60 | 2004 | R37 | 2889 | T20 | 1968 | V75 | 1451 | X56 | 1462 | 101 | 11 | 193 | 1798 | 294 | 1809 | 399 | 1646 | 521 | 1645 | 750 | 11 |
| P61 | 1896 | R44 | 2871 | T21 | 1968 | V76 | 1451 | X70 | 1470 | 102 | 11 | 194 | 1648 | 295 | 1647 | 401 | 1646 | 522 | 1807 | 751 | 1498 |
| P62 | 1875 | R45 | 2871 | T22 | 1968 | V77 | 1451 | X72 | 1470 | 103 | 11 | 195 | 1798 | 297 | 1647 | 403 | 1646 | 523 | 1645 | 752 | 1799 |
| P63 | 1875 | R55 | 2889 | T23 | 1968 | V78 | 1451 | X73 | 1470 | 104 | 11 | 196 | 1648 | 299 | 1647 | 405 | 1646 | 525 | 1645 | 757 | 11 |
| 4KP64 | 1945 | 4KR56 | 2910 | 4KT24 | 1968 | 4KV79 | 1451 | 4KX74 | 1470 | 4K105 | 11 | 4K198 | 1648 | 4K301 | 1647 | 4K407 | 1646 | 4K532 | 1645 | 4K762 | 11 |
| P65 | 1945 | R57 | 2889 | T25 | 1958 | V80 | 1451 | X75 | 1470 | 106 | 11 | 200 | 1648 | 303 | 1647 | 409 | 1647 | 536 | 1645 | 763 | 11 |
| P67 | 1945 | R58 | 2889 | T26 | 1927 | V81 | 1451 | X76 | 1470 | 107 | 11 | 202 | 1647 | 306 | 1647 | 411 | 1647 | 538 | 1646 | 764 | 11 |
| P69 | 1945 | R59 | 2889 | T27 | 1927 | V82 | 1450 | X77 | 1470 | 108 | 157 | 205 | 1647 | 308 | 1647 | 414 | 1647 | 540 | 1646 | 765 | 11 |
| P70 | 1945 | R60 | 2889 | T28 | 1927 | V98 | 1451 | Z07 | 1492 | 109 | 157 | 206 | 1818 | 309 | 1806 | 416 | 1647 | 543 | 1806 | 766 | 11 |
| 4KP71 | 1945 | 4KR61 | 2889 | 4KT29 | 1928 | 4KW02 | 1450 | 4KZ36 | 1493 | 4K110 | 157 | 4K207 | 1647 | 4K310 | 1647 | 4K418 | 1647 | 4K544 | 1646 | 4K767 | 11 |
| P72 | 1953 | R62 | 2889 | T30 | 1924 | W08 | 1450 | Z41 | 1606 | 111 | 157 | 208 | 1818 | 311 | 1797 | 420 | 1647 | 545 | 1811 | 774 | 11 |
| P73 | 2935 | R65 | 2914 | T31 | 1924 | W13 | 1416 | Z42 | 1606 | 112 | 157 | 209 | 1647 | 312 | 1647 | 422 | 1647 | 546 | 1646 | 781 | 182 |
| P74 | 2935 | R66 | 2914 | T32 | 1924 | W23 | 1424 | Z43 | 1606 | 113 | 157 | 211 | 1647 | 313 | 1797 | 424 | 1647 | 547 | 1803 | 783 | 182 |
| P75 | 2935 | R67 | 2907 | T33 | 1924 | W24 | 1424 | Z44 | 1606 | 114 | 157 | 213 | 1647 | 314 | 1647 | 426 | 1647 | 548 | 1646 | 799 | 1354 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 4K800 | 1797 |
| 801 | 1803 |
| 811 | 121 |
| 812 | 121 |
| 813 | 121 |
| 4K814 | 121 |
| 815 | 121 |
| 817 | 1808 |
| 821 | 1808 |
| 829 | 1806 |
| 4K830 | 1806 |
| 831 | 1806 |
| 832 | 1799 |
| 833 | 1799 |
| 834 | 1799 |
| 4K835 | 1799 |
| 836 | 1799 |
| 843 | 1799 |
| 849 | 1803 |
| 852 | 7 |
| 4K853 | 48 |
| 855 | 7 |
| 856 | 49 |
| 858 | 7 |
| 859 | 49 |
| 4K861 | 1808 |
| 884 | 1803 |
| 885 | 1803 |
| 886 | 1803 |
| 895 | 1803 |
| 4K896 | 1820 |
| 898 | 1808 |
| 900 | 1808 |
| 911 | 1803 |
| 913 | 52 |
| 4K914 | 1810 |
| 915 | 1810 |
| 916 | 1810 |
| 917 | 1810 |
| 918 | 1810 |
| 4K919 | 1810 |
| 927 | 1827 |
| 928 | 48 |
| 929 | 48 |
| 930 | 1827 |
| 4K931 | 1828 |
| 935 | 1827 |
| 936 | 9 |
| 940 | 1693 |
| 947 | 1803 |
| 4K952 | 1804 |
| 953 | 1804 |
| 955 | 1804 |
| 956 | 1804 |
| 970 | 1804 |
| 4K996 | 49 |
| 997 | 143 |
| 998 | 143 |
| 999 | 154 |

## 4L

| Stock No. | Page No. |
|---|---|
| 4LC03 | 1447 |
| C04 | 1447 |
| C05 | 1447 |
| 4LC06 | 1447 |
| C07 | 1447 |
| C08 | 1447 |
| C09 | 1447 |
| C10 | 1447 |
| 4LC11 | 1447 |
| C22 | 1444 |
| C31 | 1444 |
| C42 | 1444 |
| C50 | 1444 |
| 4LC57 | 1446 |
| C58 | 1446 |
| C59 | 1446 |
| C60 | 1446 |
| C62 | 1444 |
| 4LC64 | 1444 |
| C65 | 1445 |
| C66 | 1447 |
| C67 | 1447 |
| C68 | 1447 |
| 4LC69 | 1447 |
| C70 | 1447 |
| C71 | 1447 |
| C72 | 1447 |
| C73 | 1447 |
| 4LC74 | 1447 |
| C75 | 1447 |
| C76 | 1447 |
| C77 | 1447 |
| C78 | 1447 |
| 4LC79 | 1447 |
| C80 | 1447 |
| C81 | 1447 |
| C82 | 1447 |
| C83 | 1447 |
| 4LC84 | 1447 |
| C85 | 1447 |
| C86 | 1447 |
| C87 | 1447 |
| C88 | 1447 |
| 4LC89 | 1447 |
| C90 | 1447 |
| C91 | 1447 |
| C92 | 1447 |
| C93 | 1447 |
| 4LC94 | 1447 |
| C95 | 1447 |
| C96 | 1447 |
| C97 | 1447 |
| C98 | 1447 |
| 4LC99 | 1447 |
| D01 | 1447 |
| D02 | 1447 |
| D03 | 1447 |
| D04 | 1447 |
| 4LD05 | 1447 |
| D06 | 1447 |
| D07 | 1447 |
| D08 | 1447 |
| D09 | 1447 |
| 4LD10 | 1447 |
| D11 | 1447 |
| D12 | 1447 |
| D13 | 1447 |
| D14 | 1447 |
| 4LD15 | 1447 |
| D16 | 1447 |
| D17 | 1447 |
| D18 | 1447 |
| D19 | 1448 |
| 4LD20 | 1448 |
| D21 | 1448 |
| D22 | 1448 |
| D23 | 1448 |
| D24 | 1448 |
| 4LD25 | 1448 |
| D26 | 1448 |
| D28 | 1447 |
| D29 | 1447 |
| D30 | 1447 |
| 4LD31 | 1447 |
| D33 | 1448 |
| D34 | 1448 |
| D35 | 1448 |
| D36 | 1448 |
| 4LD37 | 1448 |
| D38 | 1448 |
| D39 | 1448 |
| D40 | 1448 |
| D41 | 1448 |
| 4LD42 | 1448 |
| D43 | 1448 |
| D44 | 1448 |
| D45 | 1448 |
| D46 | 1448 |
| 4LD47 | 1448 |
| D48 | 1448 |
| D49 | 1448 |
| D50 | 1448 |
| D51 | 1448 |
| 4LD52 | 1448 |
| D54 | 1448 |
| D55 | 1448 |
| D56 | 1448 |
| D57 | 1448 |
| 4LD58 | 1448 |
| D59 | 1448 |
| D60 | 1448 |
| D61 | 1448 |
| D62 | 1448 |
| 4LD63 | 1448 |
| D64 | 1448 |
| D65 | 1448 |
| D66 | 1448 |
| D67 | 1448 |
| 4LD69 | 1448 |
| D70 | 1448 |
| D71 | 1448 |
| D72 | 1448 |
| D73 | 1448 |
| 4LD74 | 1448 |
| D75 | 1448 |
| D76 | 1448 |
| D77 | 1448 |
| D78 | 1448 |
| 4LD79 | 1448 |
| D80 | 1448 |
| D81 | 1448 |
| D82 | 1448 |
| D83 | 1448 |
| 4LD84 | 1448 |
| D85 | 1448 |
| D86 | 1448 |
| D87 | 1471 |
| D90 | 1670 |
| 4LD91 | 1424 |
| D92 | 1424 |
| D93 | 1424 |
| D94 | 1466 |
| D95 | 1492 |
| 4LD96 | 1495 |
| D97 | 1495 |
| D98 | 1495 |
| F01 | 1466 |
| F04 | 1489 |
| 4LE05 | 1489 |
| F06 | 1489 |
| F08 | 1489 |
| F09 | 1481 |
| F11 | 1481 |
| 4LF15 | 1481 |
| F16 | 1481 |
| F17 | 1481 |
| F21 | 1481 |
| F22 | 1480 |
| 4LF24 | 1480 |
| F25 | 1480 |
| F31 | 1480 |
| F34 | 1480 |
| F35 | 1480 |
| 4LF36 | 1480 |
| F37 | 1481 |
| F42 | 1462 |
| F43 | 1462 |
| F44 | 1462 |
| 4LF47 | 1426 |
| F48 | 1426 |
| F51 | 1426 |
| F53 | 1411 |
| F63 | 1406 |
| 4LF65 | 1408 |
| F66 | 1408 |
| F69 | 1414 |
| F70 | 1414 |
| F71 | 1414 |
| 4LF72 | 1413 |
| F73 | 1413 |
| F74 | 1413 |
| F75 | 1413 |
| F76 | 1413 |
| 4LF77 | 1413 |
| F78 | 1413 |
| F79 | 1419 |
| F81 | 1419 |
| F83 | 1419 |
| 4LF85 | 1419 |
| F86 | 1419 |
| F88 | 1419 |
| F95 | 1470 |
| F96 | 1470 |
| 4LF97 | 1470 |
| F98 | 1470 |
| F99 | 1470 |
| G01 | 1470 |
| G02 | 1470 |
| 4LG03 | 1470 |
| G04 | 1470 |
| G05 | 1470 |
| G06 | 1470 |
| G07 | 1470 |
| 4LG08 | 1470 |
| G09 | 1470 |
| G10 | 1441 |
| G11 | 1441 |
| G13 | 1464 |
| 4LG14 | 1464 |
| G15 | 1464 |
| G16 | 1509 |
| G17 | 1509 |
| G18 | 1513 |
| 4LG19 | 1513 |
| G20 | 1513 |
| G21 | 1513 |
| G22 | 1426 |
| G25 | 1426 |
| 4LG26 | 1410 |
| G27 | 1410 |
| G28 | 1487 |
| G29 | 1410 |
| G30 | 1410 |
| 4LG31 | 1846 |
| G32 | 1846 |
| G33 | 1846 |
| G34 | 1445 |
| G35 | 2999 |
| 4LG36 | 2999 |
| G37 | 2999 |
| G47 | 2965 |
| G48 | 2981 |
| G49 | 2982 |
| 4LG50 | 2963 |
| G51 | 2963 |
| G52 | 2965 |
| G53 | 2990 |
| G54 | 2992 |
| 4LG55 | 2963 |
| G56 | 2963 |
| G57 | 2967 |
| G58 | 2970 |
| G59 | 2985 |
| 4LG60 | 2984 |
| G61 | 2977 |
| G62 | 2979 |
| G63 | 2998 |
| G64 | 2998 |
| 4LG65 | 2998 |
| G66 | 2999 |
| G67 | 2796 |
| G68 | 2796 |
| G69 | 2796 |
| 4LG70 | 2796 |
| G71 | 2796 |
| G72 | 2796 |
| G73 | 2796 |
| G74 | 2796 |
| 4LG75 | 2796 |
| G76 | 2796 |
| G77 | 2796 |
| G78 | 2796 |
| G79 | 2796 |
| 4LG80 | 2796 |
| G81 | 2796 |
| G82 | 2796 |
| G83 | 2796 |
| G84 | 2796 |
| 4LG85 | 2796 |
| G86 | 2889 |
| G87 | 3021 |
| G88 | 3021 |
| G89 | 2798 |
| 4LG90 | 2798 |
| G91 | 2798 |
| G92 | 2798 |
| G93 | 2798 |
| G94 | 2798 |
| 4LG95 | 2798 |
| G96 | 2798 |
| G97 | 2798 |
| G98 | 2798 |
| G99 | 1698 |
| 4LH01 | 1698 |
| H02 | 1698 |
| H03 | 1698 |
| H04 | 1698 |
| H05 | 1698 |
| 4LH06 | 1698 |
| H07 | 1698 |
| H08 | 1698 |
| H09 | 1698 |
| H10 | 1698 |
| 4LH11 | 1698 |
| H12 | 1698 |
| H13 | 1698 |
| H14 | 1698 |
| H15 | 1698 |
| 4LH16 | 1698 |
| H17 | 1698 |
| H18 | 1698 |
| H19 | 1698 |
| H20 | 1698 |
| 4LH21 | 1698 |
| H22 | 1698 |
| H23 | 1698 |
| H24 | 1698 |
| H25 | 1698 |
| 4LH26 | 1698 |
| H27 | 1698 |
| H28 | 1698 |
| H29 | 1698 |
| H30 | 1698 |
| 4LH31 | 1698 |
| H32 | 1698 |
| H33 | 1698 |
| H34 | 1698 |
| H35 | 1698 |
| 4LH36 | 1698 |
| H37 | 1698 |
| H38 | 1698 |
| H39 | 1698 |
| H40 | 1698 |
| 4LH41 | 1698 |
| H42 | 1698 |
| H43 | 1698 |
| H44 | 1698 |
| H45 | 1698 |
| 4LH46 | 1698 |
| H47 | 1698 |
| H48 | 1698 |
| H49 | 1698 |
| H50 | 1698 |
| 4LH51 | 1698 |
| H52 | 1698 |
| H53 | 1698 |
| H54 | 1698 |
| H55 | 1698 |
| 4LH56 | 1698 |
| H57 | 1698 |
| H58 | 1698 |
| H59 | 1698 |
| H60 | 1698 |
| 4LH61 | 1698 |
| H62 | 1698 |
| H63 | 1698 |
| H64 | 1698 |
| H65 | 1698 |
| 4LH66 | 1698 |
| H67 | 1698 |
| H68 | 1698 |
| H69 | 1698 |
| H70 | 1698 |
| 4LH71 | 1698 |
| H72 | 1698 |
| H73 | 1698 |
| H74 | 1698 |
| H75 | 1698 |
| 4LH76 | 1698 |
| H77 | 1698 |
| H78 | 1698 |
| H79 | 1698 |
| H80 | 1698 |
| 4LH81 | 1698 |
| H82 | 1698 |
| H83 | 1698 |
| H84 | 1698 |
| H85 | 1698 |
| 4LH86 | 1698 |
| H87 | 1698 |
| H88 | 1698 |
| H89 | 1699 |
| H90 | 1699 |
| 4LH91 | 1699 |
| H92 | 1699 |
| H93 | 1699 |
| H94 | 1699 |
| H95 | 1699 |
| 4LH96 | 1699 |
| H97 | 1699 |
| H98 | 1699 |
| H99 | 1699 |
| J01 | 1699 |
| 4LJ02 | 1699 |
| J03 | 1699 |
| J04 | 1699 |
| J05 | 1699 |
| J06 | 1699 |
| 4LJ07 | 1699 |
| J08 | 1699 |
| J09 | 1699 |
| J10 | 1699 |
| J11 | 1699 |
| 4LJ12 | 1699 |
| J13 | 1699 |
| J14 | 1699 |
| J15 | 1699 |
| J16 | 1699 |
| 4LJ17 | 1699 |
| J18 | 1699 |
| J19 | 1699 |
| J20 | 1699 |
| J21 | 1699 |
| 4LJ22 | 1699 |
| J23 | 1699 |
| J24 | 1699 |
| J25 | 1699 |
| J26 | 1699 |
| 4LJ27 | 1699 |
| J28 | 1699 |
| J29 | 1699 |
| J30 | 1699 |
| J31 | 1699 |
| 4LJ32 | 1699 |
| J33 | 1699 |
| J34 | 1699 |
| J35 | 1699 |
| J36 | 1699 |
| 4LJ37 | 1699 |
| J38 | 1699 |
| J39 | 1699 |
| J40 | 1699 |
| J41 | 1699 |
| 4LJ42 | 1699 |
| J43 | 1699 |
| J44 | 1699 |
| J45 | 1699 |
| J46 | 1699 |
| 4LJ47 | 1699 |
| J48 | 1699 |
| J49 | 1699 |
| J50 | 1699 |
| J51 | 1699 |
| 4LJ52 | 1699 |
| J53 | 1699 |
| J54 | 1699 |
| J55 | 1699 |
| J56 | 1699 |
| 4LJ57 | 1699 |
| J58 | 1699 |
| J59 | 1699 |
| J60 | 1699 |
| J61 | 1699 |
| 4LJ62 | 1699 |
| J63 | 1699 |
| J64 | 1699 |
| J65 | 1699 |
| J66 | 1699 |
| 4LJ67 | 1699 |
| J68 | 1699 |
| J69 | 1699 |
| J70 | 1699 |
| J71 | 1699 |
| 4LJ72 | 1699 |
| J73 | 1699 |
| J74 | 1699 |
| J75 | 1697 |
| J76 | 1697 |
| 4LJ77 | 1697 |
| J78 | 1697 |
| J79 | 1697 |
| J80 | 1697 |
| J81 | 1697 |
| 4LJ82 | 1697 |
| J83 | 1697 |
| J84 | 1697 |
| J85 | 1697 |
| J86 | 1697 |
| 4LJ87 | 1697 |
| J88 | 1697 |
| J89 | 1697 |
| J90 | 1697 |
| J91 | 1697 |
| 4LJ92 | 1697 |
| J93 | 1697 |
| J94 | 1697 |
| J95 | 1697 |
| J96 | 1697 |
| 4LK03 | 1697 |
| K04 | 1697 |
| K05 | 1697 |
| K06 | 1697 |
| K07 | 1697 |
| 4LK08 | 1697 |
| K09 | 1697 |
| K10 | 1697 |
| K11 | 1697 |
| K12 | 1697 |
| 4LK13 | 1697 |
| K14 | 1697 |
| K15 | 1697 |
| K16 | 1697 |
| K17 | 1697 |
| 4LK18 | 1697 |
| K19 | 1697 |
| K20 | 1697 |
| K21 | 1697 |
| K22 | 1697 |
| 4LK23 | 1697 |
| K24 | 1697 |
| K25 | 1697 |
| K26 | 1697 |
| K27 | 1697 |
| 4LK28 | 1697 |
| K29 | 1697 |
| K30 | 1697 |
| K31 | 1697 |
| K32 | 1697 |
| 4LK33 | 1697 |
| K34 | 1697 |
| K35 | 1697 |
| K36 | 1697 |
| K37 | 1697 |
| 4LK38 | 1697 |
| K39 | 1697 |
| K40 | 1697 |
| K42 | 1697 |
| K45 | 1697 |
| 4LK46 | 1697 |
| K47 | 1697 |
| K48 | 1697 |
| K49 | 1697 |
| K50 | 1697 |
| 4LK51 | 1697 |
| K52 | 1697 |
| K53 | 1697 |
| K54 | 1697 |
| K57 | 1463 |
| 4LK58 | 1463 |
| K59 | 1463 |
| K61 | 1463 |
| K62 | 1463 |
| K63 | 1463 |
| 4LK91 | 1463 |
| K92 | 1463 |
| K93 | 1463 |
| K94 | 1463 |
| K95 | 1463 |
| 4LK96 | 1463 |
| K97 | 1463 |
| K98 | 1463 |
| K99 | 1463 |
| L01 | 1463 |
| 4LL02 | 1463 |
| L03 | 1463 |
| L04 | 1463 |
| L05 | 228 |
| L06 | 228 |
| 4LL07 | 228 |
| L08 | 228 |
| L09 | 228 |
| L10 | 3034 |
| L11 | 1502 |
| 4LL12 | 1626 |
| L13 | 1626 |
| L14 | 1626 |
| L15 | 1626 |
| L16 | 1626 |
| 4LL17 | 1626 |
| L18 | 1626 |
| L19 | 1626 |
| L20 | 1626 |
| L21 | 1626 |
| 4LL22 | 1626 |
| L23 | 1626 |
| L24 | 1626 |
| L25 | 1626 |
| L26 | 1626 |
| 4LL27 | 1626 |
| L28 | 1626 |
| L29 | 1626 |
| L30 | 1626 |
| L31 | 1626 |
| 4LL32 | 1626 |
| L33 | 1626 |
| L34 | 1626 |
| L35 | 1626 |
| L36 | 1626 |
| 4LL37 | 1626 |
| L39 | 1605 |
| L40 | 1605 |
| L41 | 1605 |
| L42 | 1605 |
| 4LL43 | 1605 |
| L46 | 1608 |
| L48 | 1608 |
| L49 | 1608 |
| L50 | 1608 |
| 4LL51 | 1608 |
| L52 | 1608 |
| L53 | 1608 |
| L54 | 1605 |
| L55 | 1605 |
| 4LL56 | 1605 |
| L57 | 1605 |
| L58 | 1605 |
| L59 | 1605 |
| L60 | 1605 |
| 4LL61 | 1605 |
| L62 | 1605 |
| L63 | 1605 |
| L64 | 1605 |
| L65 | 1605 |
| 4LL66 | 1605 |
| L67 | 1605 |
| L68 | 1605 |
| L69 | 1605 |
| L70 | 1605 |
| 4LL71 | 1605 |
| L72 | 1605 |
| L73 | 1605 |
| L74 | 1605 |
| L75 | 1626 |
| 4LL76 | 1626 |
| L77 | 1626 |
| L78 | 1626 |
| L79 | 1626 |
| L80 | 1626 |
| 4LL81 | 1626 |
| L82 | 1626 |
| L83 | 1626 |
| L84 | 1626 |
| L85 | 1626 |
| 4LL86 | 1624 |
| L87 | 1624 |
| L88 | 1624 |
| L89 | 1624 |
| L90 | 1624 |
| 4LL91 | 1624 |
| L92 | 1624 |
| L93 | 1624 |
| L94 | 1624 |
| L95 | 1624 |
| 4LL96 | 1624 |
| L97 | 1624 |
| L98 | 1624 |
| L99 | 1624 |
| M01 | 1624 |
| 4LM02 | 1624 |
| M03 | 1624 |
| M04 | 1624 |
| M05 | 1624 |
| M06 | 1624 |
| 4LM07 | 1624 |
| M08 | 1624 |
| M09 | 1624 |
| M10 | 1624 |
| M11 | 1624 |

# STOCK NUMBER—PAGE NUMBER

## 4LM — 4LZ


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4LM12 | 1624 | 4LM77 | 2427 | 4LN48 | 2382 | 4LP26 | 2526 | 4LP98 | 2527 | 4LR74 | 2411 | 4LT52 | 2446 | 4LV79 | 653 | 4LW53 | 3115 | 4LX46 | 3400 | 4LZ12 | 1050 |
| M13 | 1624 | M78 | 2428 | N49 | 2383 | P27 | 2526 | P99 | 2519 | R75 | 2411 | T53 | 2446 | V80 | 653 | W54 | 3117 | X47 | 3400 | Z13 | 1050 |
| M14 | 1624 | M79 | 2427 | N50 | 2382 | P28 | 2526 | R01 | 2527 | R76 | 2411 | T54 | 1336 | V81 | 653 | W55 | 3117 | X48 | 3400 | Z14 | 1050 |
| M15 | 1626 | M80 | 2427 | N51 | 2382 | P29 | 2526 | R02 | 2530 | R77 | 2411 | T55 | 1192 | V82 | 653 | W56 | 3116 | X49 | 3400 | Z15 | 1050 |
| M16 | 1626 | M81 | 2427 | N52 | 2382 | P30 | 2526 | R04 | 2535 | R78 | 2411 | T56 | 1193 | V83 | 684 | W57 | 3116 | X50 | 3400 | Z16 | 1050 |
| 4LM17 | 1626 | 4LM82 | 2427 | 4LN53 | 2382 | 4LP31 | 2526 | 4LR07 | 2535 | 4LR79 | 2411 | 4LT57 | 2667 | 4LV84 | 684 | 4LW58 | 3116 | 4LX51 | 3400 | 4LZ17 | 1050 |
| M18 | 1626 | M83 | 2427 | N54 | 2382 | P32 | 2526 | R08 | 2391 | R80 | 2411 | T58 | 2667 | V85 | 619 | W59 | 3116 | X52 | 3400 | Z18 | 1050 |
| M19 | 2633 | M84 | 2440 | N55 | 2378 | P34 | 2526 | R09 | 2410 | R81 | 2411 | T59 | 2667 | V86 | 984 | W62 | 12 | X53 | 3400 | Z19 | 1050 |
| M20 | 2633 | M85 | 2440 | N56 | 2378 | P35 | 2526 | R10 | 2410 | R82 | 2411 | T60 | 2666 | V87 | 937 | W63 | 13 | X54 | 3400 | Z20 | 1050 |
| M21 | 2633 | M86 | 2440 | N57 | 2378 | P36 | 2526 | R11 | 2440 | R83 | 2411 | T61 | 2665 | V88 | 937 | W65 | 13 | X55 | 3400 | Z21 | 1050 |
| 4LM22 | 2633 | 4LM87 | 2440 | 4LN58 | 2378 | 4LP37 | 2526 | 4LR12 | 2421 | 4LR84 | 2411 | 4LT62 | 1374 | 4LV89 | 964 | 4LW66 | 13 | 4LX56 | 3400 | 4LZ22 | 1050 |
| M23 | 2633 | M88 | 2440 | N59 | 2378 | P38 | 2526 | R13 | 2421 | R86 | 2526 | T63 | 1374 | V90 | 964 | W68 | 13 | X57 | 3400 | Z23 | 1050 |
| M24 | 2633 | M89 | 2440 | N60 | 2378 | P39 | 2525 | R14 | 2421 | R87 | 2517 | T64 | 1374 | V91 | 964 | W77 | 153 | X58 | 3400 | Z24 | 1050 |
| M25 | 2633 | M90 | 2440 | N61 | 2378 | P40 | 2535 | R15 | 2421 | R90 | 2400 | T65 | 1374 | V92 | 954 | W78 | 153 | X59 | 3400 | Z25 | 1049 |
| M26 | 2633 | M91 | 2443 | N62 | 2378 | P41 | 2535 | R16 | 2421 | R91 | 2400 | T66 | 1379 | V93 | 954 | W79 | 153 | X60 | 3400 | Z26 | 1049 |
| 4LM27 | 2633 | 4LM93 | 2405 | 4LN63 | 2378 | 4LP42 | 2535 | 4LR17 | 2421 | 4LR92 | 2400 | 4LT67 | 1379 | 4LV94 | 961 | 4LW80 | 153 | 4LX61 | 3400 | 4LZ30 | 1052 |
| M28 | 2633 | M94 | 2405 | N64 | 2378 | P43 | 2535 | R18 | 2421 | R93 | 2400 | T68 | 1379 | V95 | 960 | W81 | 153 | X62 | 3400 | Z31 | 1052 |
| M29 | 2633 | M95 | 2405 | N65 | 2378 | P44 | 2535 | R19 | 2421 | R94 | 2400 | T69 | 1379 | V96 | 928 | W82 | 153 | X63 | 3400 | Z32 | 1052 |
| M30 | 2633 | M96 | 2405 | N66 | 2383 | P45 | 2535 | R20 | 2421 | R95 | 2400 | T70 | 1379 | V97 | 928 | W86 | 124 | X64 | 3400 | Z33 | 1053 |
| M31 | 696 | M97 | 2405 | N67 | 2383 | P46 | 2535 | R21 | 2421 | R96 | 2400 | T71 | 1379 | V98 | 1174 | W89 | 124 | X65 | 3400 | Z34 | 1053 |
| 4LM32 | 693 | 4LM98 | 2405 | 4LN68 | 2383 | 4LP47 | 2535 | 4LR22 | 2421 | 4LR97 | 2400 | 4LT72 | 1379 | 4LV99 | 1175 | 4LW97 | 12 | 4LX66 | 3400 | 4LZ35 | 1054 |
| M33 | 693 | M99 | 2405 | N69 | 2383 | P48 | 2535 | R23 | 2421 | R98 | 2400 | T73 | 1374 | W01 | 1185 | W98 | 13 | X67 | 3400 | Z36 | 1054 |
| M34 | 693 | N01 | 2405 | N70 | 2383 | P49 | 2535 | R24 | 2421 | R99 | 2400 | T74 | 1375 | W02 | 1185 | W99 | 12 | X68 | 3400 | Z37 | 1054 |
| M35 | 693 | N02 | 2405 | N75 | 2383 | P50 | 2535 | R25 | 2421 | T01 | 2400 | T75 | 1378 | W03 | 1186 | X01 | 12 | X69 | 3426 | Z38 | 1048 |
| M36 | 693 | N03 | 2405 | N76 | 2383 | P51 | 2535 | R26 | 2444 | T02 | 2400 | T76 | 1378 | W04 | 1185 | X02 | 13 | X70 | 3426 | Z39 | 1048 |
| 4LM37 | 693 | 4LN04 | 2405 | 4LN77 | 2383 | 4LP52 | 2535 | 4LR28 | 2410 | 4LT03 | 2400 | 4LT77 | 1378 | 4LW05 | 1185 | 4LX03 | 12 | 4LX71 | 3426 | 4LZ40 | 1048 |
| M38 | 2737 | N05 | 2405 | N78 | 2382 | P53 | 2535 | R29 | 2410 | T04 | 2400 | T78 | 1378 | W06 | 1185 | X04 | 13 | X72 | 3426 | Z41 | 1048 |
| M39 | 2737 | N06 | 2405 | N79 | 2382 | P54 | 2535 | R30 | 2410 | T05 | 2400 | T85 | 1246 | W07 | 1177 | X05 | 13 | X73 | 3426 | Z42 | 1054 |
| M40 | 2738 | N07 | 2405 | N80 | 2382 | P55 | 2535 | R32 | 2405 | T06 | 2400 | V42 | 2675 | W08 | 1177 | X06 | 13 | X74 | 3426 | Z43 | 1054 |
| M41 | 2737 | N08 | 2405 | N81 | 2382 | P56 | 2535 | R33 | 2410 | T07 | 2400 | V43 | 2675 | W09 | 1177 | X07 | 13 | X75 | 3426 | Z44 | 1054 |
| 4LM42 | 2737 | 4LN09 | 2405 | 4LN82 | 2382 | 4LP57 | 2535 | 4LR34 | 2410 | 4LT08 | 2400 | 4LV44 | 2675 | 4LW10 | 1177 | 4LX08 | 23 | 4LX76 | 3426 | 4LZ45 | 1054 |
| M43 | 2737 | N10 | 2429 | N83 | 2383 | P58 | 2535 | R35 | 2410 | T09 | 2400 | V45 | 2675 | W11 | 1177 | X09 | 23 | X77 | 3426 | Z46 | 1047 |
| M44 | 2435 | N11 | 2429 | N84 | 2383 | P59 | 2535 | R36 | 2410 | T10 | 2400 | V46 | 2675 | W12 | 1175 | X10 | 23 | X78 | 3426 | Z47 | 1047 |
| M45 | 2439 | N12 | 2429 | N85 | 2383 | P60 | 2535 | R37 | 2410 | T11 | 2400 | V47 | 2675 | W13 | 1178 | X11 | 23 | X79 | 3426 | Z48 | 1047 |
| M46 | 2428 | N13 | 2429 | N86 | 2383 | P61 | 2535 | R40 | 2405 | T12 | 2400 | V48 | 2675 | W14 | 1186 | X12 | 23 | X80 | 1049 | Z49 | 1047 |
| 4LM47 | 2428 | 4LN14 | 2410 | 4LN87 | 2383 | 4LP62 | 2535 | 4LR41 | 2410 | 4LT13 | 2400 | 4LV49 | 2675 | 4LW16 | 1113 | 4LX13 | 23 | 4LX81 | 1049 | 4LZ50 | 1047 |
| M48 | 2428 | N15 | 2410 | N88 | 2383 | P63 | 2535 | R42 | 2410 | T14 | 2400 | V50 | 2675 | W17 | 1113 | X14 | 23 | X82 | 1049 | Z51 | 1047 |
| M49 | 2432 | N16 | 2405 | N89 | 2383 | P64 | 2535 | R43 | 2410 | T15 | 2400 | V51 | 2675 | W18 | 1113 | X15 | 23 | X83 | 1049 | Z52 | 1047 |
| M50 | 2428 | N17 | 2405 | N90 | 2382 | P65 | 2535 | R44 | 2410 | T16 | 2400 | V52 | 2675 | W19 | 1113 | X16 | 23 | X84 | 1049 | Z53 | 1047 |
| M51 | 2428 | N18 | 2413 | N91 | 2382 | P66 | 2535 | R46 | 2405 | T17 | 2400 | V53 | 2668 | W20 | 1114 | X17 | 23 | X85 | 1049 | Z54 | 1047 |
| 4LM52 | 2428 | 4LN19 | 2413 | 4LN92 | 2383 | 4LP67 | 2535 | 4LR47 | 2405 | 4LT18 | 2400 | 4LV54 | 2668 | 4LW22 | 400 | 4LX18 | 23 | 4LX86 | 1049 | 4LZ55 | 1047 |
| M53 | 2428 | N20 | 2413 | N93 | 2383 | P68 | 2535 | R48 | 2444 | T19 | 2400 | V55 | 2668 | W23 | 400 | X19 | 23 | X87 | 1049 | Z56 | 1047 |
| M54 | 2435 | N21 | 2413 | N94 | 2383 | P69 | 2535 | R51 | 2411 | T20 | 2400 | V56 | 2668 | W26 | 3115 | X20 | 23 | X88 | 1047 | Z57 | 1047 |
| M55 | 2426 | N22 | 2413 | N95 | 2383 | P70 | 2535 | R52 | 2411 | T21 | 2400 | V57 | 2668 | W27 | 1917 | X21 | 23 | X89 | 1047 | Z60 | 1051 |
| M56 | 2428 | N23 | 2413 | N96 | 2383 | P71 | 2535 | R53 | 2405 | T22 | 1494 | V58 | 640 | W30 | 3046 | X22 | 23 | X90 | 1047 | Z61 | 1051 |
| 4LM57 | 2437 | 4LN25 | 2413 | 4LN97 | 2383 | 4LP72 | 2535 | 4LR54 | 2405 | 4LT24 | 1446 | 4LV59 | 619 | 4LW31 | 3046 | 4LX23 | 23 | 4LX91 | 1047 | 4LZ62 | 1051 |
| M58 | 2428 | N26 | 2413 | N98 | 2383 | P73 | 2535 | R55 | 2410 | T25 | 1448 | V60 | 619 | W34 | 3088 | X24 | 23 | X92 | 1049 | Z63 | 1051 |
| M59 | 2428 | N27 | 2413 | P01 | 2383 | P74 | 2535 | R56 | 2410 | T26 | 2298 | V61 | 611 | W35 | 3077 | X25 | 23 | X93 | 1049 | Z64 | 1053 |
| M60 | 2428 | N28 | 2413 | P02 | 2383 | P75 | 2535 | R57 | 2411 | T27 | 2298 | V62 | 611 | W36 | 3093 | X26 | 23 | X94 | 1048 | Z65 | 1053 |
| M61 | 2428 | N29 | 2413 | P03 | 2383 | P76 | 2535 | R58 | 2411 | T28 | 2268 | V63 | 611 | W37 | 3093 | X27 | 23 | X95 | 1048 | Z66 | 1053 |
| 4LM62 | 2432 | 4LN30 | 2413 | 4LP04 | 2383 | 4LP77 | 2519 | 4LR59 | 2411 | 4LT29 | 2298 | 4LV64 | 611 | 4LW38 | 2871 | 4LX28 | 23 | 4LX96 | 1048 | 4LZ67 | 1051 |
| M63 | 2426 | N31 | 2429 | P05 | 2392 | P78 | 2519 | R60 | 2411 | T30 | 2298 | V65 | 611 | W39 | 3116 | X29 | 23 | X97 | 1048 | Z68 | 1051 |
| M64 | 2427 | N32 | 2429 | P06 | 2382 | P81 | 2525 | R61 | 2411 | T31 | 2298 | V66 | 611 | W40 | 3116 | X33 | 124 | X98 | 1050 | Z69 | 1053 |
| M65 | 2426 | N34 | 2429 | P07 | 2383 | P82 | 2525 | R62 | 2411 | T32 | 2268 | V67 | 611 | W41 | 3093 | X34 | 124 | X99 | 1050 | Z70 | 1053 |
| M66 | 2427 | N35 | 2429 | P10 | 2385 | P83 | 2525 | R63 | 2411 | T33 | 2298 | V68 | 611 | W42 | 3092 | X35 | 124 | Z01 | 1050 | Z71 | 1049 |
| 4LM67 | 2426 | 4LN36 | 2410 | 4LP11 | 2385 | 4LP84 | 2530 | 4LR64 | 2411 | 4LT34 | 2298 | 4LV69 | 611 | 4LW43 | 3116 | 4LX36 | 23 | 4LZ02 | 1050 | 4LZ72 | 1049 |
| M68 | 2428 | N37 | 2410 | P12 | 2385 | P85 | 2530 | R65 | 2411 | T35 | 2298 | V70 | 611 | W44 | 3115 | X37 | 23 | Z03 | 1050 | Z73 | 1048 |
| M69 | 2435 | N38 | 2410 | P13 | 2385 | P86 | 2530 | R66 | 2405 | T36 | 2268 | V71 | 611 | W45 | 3116 | X38 | 23 | Z04 | 1050 | Z74 | 1048 |
| M70 | 2427 | N39 | 2429 | P14 | 2385 | P87 | 2525 | R67 | 2411 | T44 | 899 | V72 | 611 | W46 | 3093 | X39 | 23 | Z05 | 1050 | Z75 | 1048 |
| M71 | 2427 | N40 | 2429 | P15 | 2385 | P88 | 2525 | R68 | 2405 | T45 | 899 | V73 | 611 | W47 | 3091 | X40 | 23 | Z06 | 1050 | Z76 | 1048 |
| 4LM72 | 2428 | 4LN41 | 2411 | 4LP16 | 2385 | 4LP89 | 2525 | 4LR69 | 2411 | 4LT46 | 2664 | 4LV74 | 611 | 4LW48 | 3116 | 4LX41 | 3400 | 4LZ07 | 1050 | 4LZ77 | 1048 |
| M73 | 2421 | N44 | 2382 | P17 | 2385 | P90 | 2528 | R70 | 2421 | T48 | 2445 | V75 | 611 | W49 | 3116 | X42 | 3400 | Z08 | 1050 | Z78 | 1048 |
| M74 | 2421 | N45 | 2382 | P18 | 2535 | P95 | 2526 | R71 | 2405 | T49 | 2445 | V76 | 612 | W50 | 3116 | X43 | 3400 | Z09 | 1050 | Z79 | 1048 |
| M75 | 2421 | N46 | 2382 | P19 | 2535 | P96 | 2528 | R72 | 2411 | T50 | 2448 | V77 | 612 | W51 | 3116 | X44 | 3400 | Z10 | 1050 | Z80 | 1048 |
| M76 | 2428 | N47 | 2382 | P25 | 2526 | P97 | 2527 | R73 | 2421 | T51 | 2448 | V78 | 612 | W52 | 3116 | X45 | 3400 | Z11 | 1050 | Z81 | 3417 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 4LZ82 | 3417 |
| Z83 | 3417 |
| Z84 | 3417 |
| Z93 | 3383 |
| Z94 | 3330 |
| 4LZ95 | 3330 |
| Z96 | 3496 |
| Z97 | 3496 |
| Z98 | 3496 |
| Z99 | 3496 |
| 4L042 | 1692 |
| 043 | 1692 |
| 044 | 1692 |
| 045 | 1692 |
| 047 | 1692 |
| 4L048 | 1692 |
| 049 | 1692 |
| 050 | 1692 |
| 051 | 1692 |
| 052 | 1692 |
| 4L053 | 1692 |
| 054 | 1692 |
| 055 | 1693 |
| 056 | 1693 |
| 057 | 1693 |
| 4L058 | 1693 |
| 059 | 1693 |
| 060 | 1693 |
| 061 | 1693 |
| 062 | 1693 |
| 4L063 | 1693 |
| 064 | 1693 |
| 065 | 1693 |
| 066 | 1693 |
| 067 | 1693 |
| 4L068 | 1693 |
| 069 | 1693 |
| 070 | 1693 |
| 071 | 1693 |
| 072 | 1693 |
| 4L073 | 1693 |
| 074 | 1693 |
| 075 | 1693 |
| 076 | 1690 |
| 077 | 1690 |
| 4L078 | 1692 |
| 079 | 1692 |
| 080 | 1692 |
| 081 | 1692 |
| 082 | 1690 |
| 4L083 | 1690 |
| 084 | 1690 |
| 085 | 1690 |
| 086 | 1690 |
| 087 | 1690 |
| 4L088 | 1691 |
| 089 | 1691 |
| 090 | 1691 |
| 091 | 1691 |
| 092 | 1691 |
| 4L093 | 1691 |
| 094 | 1691 |
| 095 | 1691 |
| 096 | 1691 |
| 097 | 1692 |
| 4L098 | 1693 |
| 099 | 1690 |
| 101 | 1691 |
| 103 | 1693 |
| 104 | 1691 |
| 4L105 | 1694 |
| 106 | 1691 |
| 110 | 1695 |
| 111 | 1695 |
| 112 | 1696 |
| 4L113 | 1691 |
| 114 | 1695 |
| 119 | 1691 |
| 120 | 1695 |
| 122 | 1695 |
| 4L123 | 1696 |
| 124 | 1695 |
| 125 | 1695 |
| 126 | 1695 |
| 127 | 1690 |
| 4L129 | 1693 |
| 130 | 1691 |
| 131 | 1691 |
| 132 | 1694 |
| 133 | 1695 |
| 4L134 | 1695 |
| 135 | 1694 |
| 136 | 1694 |
| 137 | 1696 |
| 138 | 1695 |
| 4L139 | 1695 |
| 140 | 1696 |
| 141 | 1691 |
| 142 | 1695 |
| 143 | 1696 |
| 4L144 | 1692 |
| 145 | 1692 |
| 146 | 1692 |
| 147 | 1692 |
| 148 | 1692 |
| 4L149 | 1692 |
| 150 | 1692 |
| 151 | 1692 |
| 152 | 1690 |
| 153 | 1690 |
| 4L154 | 1690 |
| 155 | 1690 |
| 156 | 1690 |
| 157 | 1690 |
| 161 | 1694 |
| 4L165 | 1694 |
| 166 | 1695 |
| 167 | 1695 |
| 169 | 1695 |
| 170 | 305 |
| 4L171 | 1695 |
| 172 | 1694 |
| 173 | 1695 |
| 174 | 1694 |
| 175 | 1695 |
| 4L176 | 1695 |
| 177 | 1692 |
| 178 | 1694 |
| 179 | 1692 |
| 180 | 305 |
| 4L181 | 1692 |
| 182 | 1693 |
| 183 | 1693 |
| 184 | 1693 |
| 185 | 1693 |
| 4L186 | 1693 |
| 187 | 1693 |
| 188 | 1693 |
| 189 | 1693 |
| 190 | 305 |
| 4L191 | 1693 |
| 192 | 1690 |
| 193 | 1690 |
| 194 | 1690 |
| 195 | 1690 |
| 4L196 | 1690 |
| 197 | 1690 |
| 198 | 1690 |
| 199 | 1691 |
| 200 | 305 |
| 4L201 | 1691 |
| 202 | 1691 |
| 203 | 1691 |
| 204 | 1691 |
| 205 | 1691 |
| 4L206 | 1691 |
| 207 | 1691 |
| 208 | 1694 |
| 209 | 1694 |
| 210 | 305 |
| 4L211 | 1695 |
| 212 | 1695 |
| 213 | 1695 |
| 214 | 1694 |
| 215 | 1694 |
| 4L217 | 1695 |
| 218 | 1694 |
| 219 | 1692 |
| 220 | 305 |
| 221 | 1691 |
| 4L223 | 1694 |
| 224 | 1692 |
| 225 | 1692 |
| 226 | 1692 |
| 227 | 1692 |
| 4L228 | 1692 |
| 229 | 1692 |
| 230 | 305 |
| 231 | 1692 |
| 232 | 1692 |
| 4L234 | 1692 |
| 235 | 1691 |
| 236 | 1691 |
| 237 | 1694 |
| 240 | 305 |
| 4L242 | 1470 |
| 246 | 1458 |
| 247 | 1458 |
| 249 | 1458 |
| 250 | 305 |
| 4L251 | 1458 |
| 252 | 1458 |
| 253 | 1458 |
| 254 | 1458 |
| 257 | 1458 |
| 4L258 | 1458 |
| 260 | 305 |
| 261 | 1694 |
| 262 | 1696 |
| 263 | 1694 |
| 4L264 | 1694 |
| 265 | 1695 |
| 266 | 1694 |
| 267 | 1695 |
| 268 | 1696 |
| 4L269 | 1695 |
| 270 | 305 |
| 271 | 1695 |
| 272 | 1691 |
| 273 | 1690 |
| 4L274 | 1470 |
| 275 | 1470 |
| 276 | 1458 |
| 277 | 1458 |
| 285 | 1692 |
| 4L286 | 1692 |
| 288 | 1458 |
| 289 | 1458 |
| 290 | 305 |
| 300 | 305 |
| 4L301 | 1458 |
| 303 | 1694 |
| 304 | 1694 |
| 305 | 1694 |
| 306 | 1694 |
| 4L307 | 1692 |
| 308 | 1694 |
| 309 | 1693 |
| 310 | 305 |
| 315 | 1694 |
| 4L316 | 1694 |
| 317 | 1470 |
| 318 | 1470 |
| 320 | 305 |
| 323 | 1458 |
| 4L324 | 1458 |
| 327 | 1458 |
| 328 | 1458 |
| 329 | 1692 |
| 330 | 305 |
| 4L331 | 1694 |
| 339 | 1694 |
| 340 | 305 |
| 341 | 1693 |
| 342 | 1695 |
| 4L343 | 1693 |
| 345 | 1694 |
| 346 | 1694 |
| 347 | 1694 |
| 348 | 1692 |
| 4L349 | 1692 |
| 350 | 305 |
| 351 | 1692 |
| 352 | 1692 |
| 353 | 1693 |
| 4L354 | 1694 |
| 355 | 1695 |
| 356 | 1696 |
| 357 | 1696 |
| 358 | 1696 |
| 4L359 | 1696 |
| 360 | 305 |
| 361 | 1696 |
| 362 | 1458 |
| 370 | 305 |
| 4L373 | 1692 |
| 374 | 1692 |
| 375 | 1692 |
| 376 | 1692 |
| 377 | 1692 |
| 4L378 | 1694 |
| 379 | 1692 |
| 380 | 305 |
| 381 | 1693 |
| 382 | 1694 |
| 4L383 | 1693 |
| 384 | 1693 |
| 385 | 1693 |
| 386 | 1693 |
| 387 | 1694 |
| 4L388 | 1694 |
| 389 | 1694 |
| 390 | 305 |
| 391 | 1694 |
| 392 | 1694 |
| 4L393 | 1691 |
| 394 | 1691 |
| 395 | 1694 |
| 396 | 1694 |
| 397 | 1694 |
| 4L398 | 1694 |
| 399 | 1691 |
| 400 | 305 |
| 401 | 1691 |
| 402 | 1691 |
| 4L403 | 1695 |
| 404 | 1696 |
| 405 | 1691 |
| 406 | 1696 |
| 407 | 1691 |
| 4L408 | 1691 |
| 409 | 1691 |
| 410 | 305 |
| 411 | 1691 |
| 412 | 1691 |
| 4L413 | 1694 |
| 414 | 1691 |
| 415 | 1691 |
| 416 | 1691 |
| 417 | 1694 |
| 4L418 | 1694 |
| 419 | 1692 |
| 420 | 305 |
| 430 | 305 |
| 440 | 305 |
| 4L450 | 305 |
| 460 | 305 |
| 470 | 305 |
| 474 | 1353 |
| 478 | 1435 |
| 4L479 | 1435 |
| 480 | 305 |
| 481 | 1435 |
| 482 | 1435 |
| 483 | 1435 |
| 4L484 | 1435 |
| 485 | 1435 |
| 486 | 1435 |
| 487 | 1435 |
| 488 | 1435 |
| 4L489 | 1435 |
| 490 | 305 |
| 491 | 1435 |
| 492 | 1435 |
| 493 | 1435 |
| 4L494 | 1435 |
| 495 | 1435 |
| 496 | 1435 |
| 497 | 1435 |
| 498 | 1435 |
| 4L499 | 1435 |
| 500 | 305 |
| 501 | 1435 |
| 502 | 1435 |
| 503 | 1435 |
| 4L504 | 1435 |
| 505 | 1435 |
| 506 | 1435 |
| 507 | 1435 |
| 508 | 1435 |
| 4L509 | 1435 |
| 510 | 305 |
| 511 | 1435 |
| 512 | 1435 |
| 513 | 1435 |
| 4L514 | 1435 |
| 515 | 1435 |
| 516 | 1435 |
| 517 | 1435 |
| 518 | 1435 |
| 4L519 | 1435 |
| 520 | 305 |
| 521 | 1435 |
| 522 | 1435 |
| 523 | 1435 |
| 4L524 | 1435 |
| 525 | 1435 |
| 526 | 1435 |
| 527 | 1435 |
| 528 | 1435 |
| 4L529 | 1435 |
| 530 | 305 |
| 531 | 1435 |
| 532 | 1435 |
| 533 | 1435 |
| 4L534 | 1437 |
| 535 | 1437 |
| 536 | 1437 |
| 537 | 1437 |
| 538 | 1437 |
| 4L540 | 305 |
| 542 | 1437 |
| 543 | 1437 |
| 544 | 1435 |
| 545 | 1435 |
| 4L546 | 1437 |
| 547 | 1437 |
| 548 | 1437 |
| 549 | 1437 |
| 550 | 305 |
| 4L554 | 1435 |
| 560 | 305 |
| 563 | 1437 |
| 564 | 1435 |
| 565 | 1435 |
| 4L566 | 1435 |
| 567 | 1435 |
| 568 | 1435 |
| 569 | 1435 |
| 570 | 305 |
| 4L571 | 1436 |
| 572 | 1436 |
| 573 | 1436 |
| 574 | 1436 |
| 575 | 1436 |
| 4L576 | 1436 |
| 577 | 1436 |
| 578 | 1436 |
| 579 | 1436 |
| 580 | 305 |
| 4L581 | 1436 |
| 582 | 1436 |
| 583 | 1436 |
| 584 | 1436 |
| 585 | 1436 |
| 4L586 | 1436 |
| 587 | 1436 |
| 588 | 1436 |
| 589 | 1436 |
| 590 | 305 |
| 4L591 | 1436 |
| 592 | 1436 |
| 593 | 1436 |
| 594 | 1436 |
| 595 | 1436 |
| 4L596 | 1436 |
| 597 | 1436 |
| 598 | 1436 |
| 599 | 1436 |
| 600 | 305 |
| 4L601 | 1436 |
| 602 | 1436 |
| 603 | 1436 |
| 604 | 1436 |
| 605 | 1436 |
| 4L606 | 1436 |
| 607 | 1436 |
| 608 | 1436 |
| 609 | 1436 |
| 610 | 305 |
| 4L611 | 1436 |
| 612 | 1436 |
| 613 | 1436 |
| 614 | 1436 |
| 615 | 1436 |
| 4L616 | 1436 |
| 617 | 1436 |
| 618 | 1436 |
| 619 | 1436 |
| 620 | 305 |
| 4L621 | 1436 |
| 622 | 1436 |
| 623 | 1436 |
| 624 | 1436 |
| 625 | 1436 |
| 4L626 | 1436 |
| 627 | 1436 |
| 628 | 1437 |
| 629 | 1437 |
| 630 | 305 |
| 4L631 | 1437 |
| 632 | 1437 |
| 633 | 1437 |
| 634 | 1437 |
| 635 | 1437 |
| 4L636 | 1437 |
| 637 | 1437 |
| 638 | 1437 |
| 639 | 1388 |
| 640 | 305 |
| 4L641 | 1388 |
| 642 | 1388 |
| 643 | 1388 |
| 644 | 1388 |
| 650 | 305 |
| 4L660 | 305 |
| 670 | 305 |
| 680 | 305 |
| 681 | 1385 |
| 682 | 1821 |
| 4L683 | 1821 |
| 684 | 1821 |
| 686 | 1829 |
| 687 | 1829 |
| 688 | 1829 |
| 4L690 | 305 |
| 692 | 1829 |
| 693 | 1829 |
| 695 | 1829 |
| 696 | 1829 |
| 4L697 | 1829 |
| 700 | 305 |
| 702 | 1829 |
| 710 | 305 |
| 716 | 1829 |
| 4L720 | 305 |
| 730 | 305 |
| 740 | 305 |
| 741 | 1829 |
| 743 | 1829 |
| 4L745 | 1829 |
| 749 | 1829 |
| 750 | 305 |
| 757 | 1828 |
| 758 | 1828 |
| 4L759 | 1828 |
| 760 | 305 |
| 761 | 1828 |
| 762 | 1828 |
| 763 | 1828 |
| 4L764 | 1828 |
| 765 | 1828 |
| 766 | 1828 |
| 767 | 1828 |
| 768 | 1828 |
| 4L769 | 1828 |
| 770 | 305 |
| 771 | 1828 |
| 772 | 1828 |
| 773 | 1828 |
| 4L774 | 1828 |
| 775 | 1828 |
| 776 | 1828 |
| 777 | 1828 |
| 778 | 1828 |
| 4L779 | 1828 |
| 780 | 305 |
| 781 | 1828 |
| 782 | 1828 |
| 783 | 1828 |
| 4L784 | 1828 |
| 785 | 1828 |
| 786 | 1828 |
| 787 | 1828 |
| 788 | 1828 |
| 4L789 | 1828 |
| 790 | 305 |
| 791 | 1828 |
| 792 | 1828 |
| 793 | 1828 |
| 4L794 | 1828 |
| 795 | 1828 |
| 800 | 305 |
| 801 | 1828 |
| 802 | 1828 |
| 4L803 | 1828 |
| 804 | 1828 |
| 805 | 1828 |
| 806 | 1828 |
| 807 | 1828 |
| 4L808 | 1828 |
| 809 | 1828 |
| 810 | 1828 |
| 811 | 1828 |
| 812 | 1828 |
| 4L813 | 1828 |
| 814 | 1828 |
| 815 | 1828 |
| 816 | 1828 |
| 817 | 1828 |
| 4L818 | 1828 |
| 819 | 1828 |
| 820 | 305 |
| 821 | 1828 |
| 822 | 1828 |
| 4L823 | 1828 |
| 824 | 1828 |
| 825 | 1828 |
| 826 | 1828 |
| 827 | 1828 |
| 4L828 | 1828 |
| 829 | 1828 |
| 830 | 1828 |
| 831 | 1828 |
| 832 | 1828 |
| 4L833 | 1828 |
| 834 | 1828 |
| 835 | 1828 |
| 836 | 1828 |
| 837 | 1828 |
| 4L838 | 1828 |
| 839 | 1828 |
| 840 | 305 |
| 841 | 1828 |
| 842 | 1828 |
| 4L843 | 1828 |
| 844 | 1828 |
| 845 | 1828 |
| 846 | 1828 |
| 847 | 1828 |
| 4L848 | 1828 |
| 849 | 1828 |
| 850 | 1828 |
| 851 | 1828 |
| 852 | 1828 |
| 4L853 | 1828 |
| 854 | 1828 |
| 855 | 1828 |
| 856 | 1828 |
| 860 | 305 |
| 4L880 | 305 |
| 900 | 305 |
| 920 | 305 |
| 940 | 305 |
| 953 | 1828 |
| 4L954 | 1828 |
| 958 | 2781 |
| 960 | 305 |
| 974 | 2875 |
| 977 | 2875 |
| 4L980 | 305 |
| 984 | 2880 |
| 985 | 2880 |
| 986 | 2880 |
| 987 | 2880 |
| 4L988 | 2880 |
| 990 | 2880 |
| 991 | 2871 |
| 992 | 2880 |
| 993 | 2880 |
| 4L994 | 2880 |
| 995 | 2880 |
| 996 | 2880 |
| 998 | 2880 |
| **4M** | |
| 4MC01 | 3375 |
| C02 | 3473 |
| C03 | 3375 |
| 4MC04 | 3375 |
| C05 | 3473 |
| C06 | 3375 |
| C07 | 3444 |
| C08 | 3444 |
| 4MC09 | 3428 |
| C10 | 3428 |
| C11 | 3428 |
| C12 | 3428 |
| C13 | 3428 |
| 4MC14 | 3428 |
| C15 | 3428 |
| C16 | 3428 |
| C17 | 3428 |
| C18 | 3428 |
| 4MC19 | 3428 |
| C20 | 3428 |
| C21 | 3417 |
| C22 | 3417 |
| C23 | 2113 |
| 4MC24 | 2289 |
| C25 | 2191 |
| C26 | 2192 |
| C27 | 2210 |
| C28 | 2210 |
| 4MG38 | 1840 |
| G39 | 1840 |
| G40 | 1840 |
| G41 | 1840 |
| G42 | 1840 |
| 4MG43 | 1849 |
| G44 | 1849 |
| G45 | 1837 |
| G46 | 1869 |
| G48 | 1849 |
| 4MG49 | 1998 |
| G50 | 1998 |
| G51 | 1994 |
| G52 | 1994 |
| G53 | 1994 |
| 4MG54 | 1994 |
| G55 | 1994 |
| G56 | 1994 |
| G57 | 1994 |
| G58 | 1994 |
| 4MG59 | 1994 |
| G60 | 1994 |
| G61 | 1997 |
| G63 | 1999 |
| G64 | 1999 |
| 4MG65 | 1898 |
| G66 | 1898 |
| G67 | 1898 |
| G68 | 1898 |
| G69 | 1898 |
| 4MG70 | 1898 |
| G71 | 3563 |
| G72 | 3554 |
| G73 | 3554 |
| G74 | 3506 |
| 4MG75 | 3506 |
| G76 | 3506 |
| G77 | 3506 |
| G78 | 3506 |
| H02 | 3510 |
| 4MH03 | 3510 |
| H05 | 3457 |
| H06 | 3457 |
| H10 | 3634 |
| H12 | 3634 |
| 4MH13 | 3634 |
| H14 | 3634 |
| H15 | 3634 |
| H16 | 3634 |
| H18 | 3634 |
| 4MH21 | 3634 |
| H22 | 3634 |
| H23 | 3634 |
| H24 | 3634 |
| H25 | 3634 |

# STOCK NUMBER—PAGE NUMBER

## 4MH — 4M7

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4MH26 | 3634 | 4MJ21 | 2882 | 4ML35 | 2491 | 4MM01 | 2490 | 4M0045 | 77 | 4M153 | 117 | 4M230 | 59 | 4M314 | 59 | 4M404 | 68 | 4M505 | 116 | 4M653 | 195 |
| H27 | 3634 | J22 | 2882 | L36 | 2491 | M02 | 2490 | 046 | 77 | 154 | 117 | 231 | 59 | 315 | 198 | 405 | 68 | 506 | 116 | 654 | 195 |
| H28 | 3634 | J23 | 2882 | L37 | 2491 | M03 | 2490 | 048 | 57 | 155 | 117 | 232 | 59 | 316 | 59 | 406 | 68 | 507 | 116 | 655 | 195 |
| H29 | 3634 | J24 | 2882 | L38 | 2491 | M04 | 2490 | 049 | 57 | 156 | 117 | 233 | 59 | 317 | 198 | 407 | 68 | 508 | 116 | 656 | 195 |
| H30 | 3634 | J31 | 2882 | L39 | 2491 | M05 | 2490 | 050 | 58 | 157 | 117 | 234 | 59 | 318 | 60 | 408 | 68 | 509 | 116 | 657 | 195 |
| 4MH31 | 3634 | 4MJ32 | 2882 | 4ML40 | 2491 | 4MM06 | 2490 | 4M059 | 67 | 4M158 | 117 | 4M235 | 116 | 4M320 | 60 | 4M409 | 68 | 4M510 | 116 | 4M658 | 195 |
| H32 | 3634 | J37 | 2882 | L41 | 2491 | M07 | 2490 | 060 | 57 | 159 | 117 | 236 | 59 | 322 | 60 | 411 | 68 | 511 | 116 | 659 | 195 |
| H33 | 3634 | J38 | 2882 | L42 | 2491 | M08 | 2490 | 061 | 57 | 160 | 117 | 237 | 59 | 323 | 60 | 412 | 68 | 512 | 116 | 660 | 195 |
| H34 | 3634 | J43 | 2882 | L43 | 2491 | M09 | 2490 | 062 | 58 | 161 | 64 | 238 | 59 | 324 | 60 | 413 | 68 | 513 | 116 | 661 | 195 |
| H35 | 3634 | J44 | 2882 | L44 | 2491 | M10 | 2490 | 067 | 118 | 162 | 64 | 239 | 59 | 325 | 60 | 415 | 61 | 514 | 116 | 666 | 195 |
| 4MH36 | 3634 | 4MJ49 | 2882 | 4ML45 | 2491 | 4MM11 | 2490 | 4M068 | 118 | 4M163 | 64 | 4M242 | 58 | 4M326 | 60 | 4M416 | 61 | 4M515 | 116 | 4M667 | 195 |
| H37 | 3634 | J50 | 2882 | L46 | 2491 | M12 | 2490 | 069 | 118 | 164 | 64 | 243 | 58 | 327 | 60 | 417 | 61 | 521 | 116 | 668 | 195 |
| H38 | 3634 | K44 | 1879 | L47 | 2489 | M13 | 2490 | 070 | 118 | 168 | 93 | 244 | 58 | 328 | 60 | 418 | 61 | 522 | 116 | 674 | 2907 |
| H39 | 3634 | K45 | 1876 | L48 | 2489 | M14 | 2489 | 071 | 118 | 169 | 91 | 245 | 58 | 329 | 60 | 419 | 61 | 528 | 116 | 675 | 190 |
| H40 | 3634 | K46 | 1876 | L49 | 2489 | M15 | 2489 | 072 | 118 | 170 | 60 | 246 | 91 | 330 | 60 | 420 | 61 | 529 | 116 | 676 | 190 |
| 4MH43 | 3634 | 4MK48 | 1871 | 4ML50 | 2489 | 4MM16 | 2489 | 4M073 | 118 | 4M171 | 60 | 4M247 | 91 | 4M331 | 60 | 4M421 | 61 | 4M530 | 116 | 4M677 | 190 |
| H47 | 3634 | K49 | 1878 | L51 | 2489 | M17 | 2489 | 074 | 118 | 172 | 58 | 248 | 85 | 332 | 60 | 422 | 61 | 531 | 116 | 678 | 190 |
| H48 | 3634 | K55 | 1861 | L52 | 2489 | M18 | 2489 | 075 | 118 | 173 | 58 | 249 | 119 | 333 | 60 | 423 | 61 | 532 | 2880 | 681 | 195 |
| H49 | 3634 | K61 | 1861 | L53 | 2489 | M19 | 2489 | 076 | 118 | 174 | 58 | 250 | 145 | 334 | 60 | 424 | 61 | 533 | 2881 | 682 | 195 |
| H50 | 2399 | K62 | 1861 | L54 | 2489 | M20 | 2489 | 077 | 118 | 175 | 58 | 251 | 145 | 335 | 60 | 425 | 61 | 535 | 83 | 683 | 195 |
| 4MH51 | 2399 | 4MK63 | 1861 | 4ML55 | 2489 | 4MM21 | 2489 | 4M078 | 118 | 4M176 | 73 | 4M252 | 145 | 4M336 | 60 | 4M426 | 61 | 4M536 | 83 | 4M684 | 195 |
| H52 | 2399 | K64 | 1861 | L56 | 2489 | M22 | 2489 | 079 | 118 | 177 | 73 | 253 | 145 | 337 | 60 | 427 | 61 | 537 | 85 | 685 | 195 |
| H53 | 2409 | K65 | 1861 | L57 | 2489 | M44 | 1790 | 080 | 118 | 178 | 73 | 254 | 145 | 338 | 60 | 428 | 61 | 538 | 85 | 686 | 195 |
| H54 | 2398 | K66 | 1861 | L58 | 2489 | M45 | 1790 | 090 | 114 | 180 | 118 | 255 | 145 | 339 | 60 | 430 | 75 | 539 | 87 | 687 | 195 |
| H55 | 2409 | K67 | 1861 | L59 | 2489 | M46 | 1790 | 091 | 113 | 182 | 87 | 256 | 145 | 340 | 60 | 432 | 75 | 543 | 87 | 688 | 195 |
| 4MH56 | 2409 | 4MK68 | 1861 | 4ML60 | 2489 | 4MM47 | 1790 | 4M092 | 113 | 4M183 | 69 | 4M257 | 70 | 4M341 | 60 | 4M433 | 75 | 4M547 | 85 | 4M689 | 195 |
| H57 | 2409 | K95 | 2479 | L61 | 2489 | M48 | 1790 | 093 | 113 | 184 | 69 | 258 | 70 | 342 | 59 | 434 | 75 | 548 | 87 | 690 | 195 |
| H58 | 2398 | K96 | 2479 | L62 | 2489 | M49 | 1790 | 094 | 113 | 191 | 89 | 259 | 70 | 343 | 60 | 435 | 75 | 549 | 87 | 691 | 195 |
| H59 | 2398 | K97 | 2479 | L63 | 2489 | M50 | 1790 | 095 | 113 | 192 | 112 | 260 | 70 | 344 | 68 | 436 | 75 | 551 | 66 | 692 | 195 |
| H60 | 2402 | K98 | 2481 | L64 | 2489 | 001 | 56 | 096 | 69 | 193 | 112 | 261 | 58 | 345 | 68 | 437 | 55 | 552 | 89 | 693 | 195 |
| 4MH61 | 2402 | 4MK99 | 2481 | 4ML65 | 2489 | 4M002 | 83 | 4M097 | 69 | 4M194 | 112 | 4M262 | 57 | 4M346 | 68 | 4M438 | 55 | 4M554 | 89 | 4M694 | 195 |
| H62 | 2402 | L01 | 2481 | L66 | 2489 | 003 | 87 | 098 | 69 | 195 | 112 | 263 | 58 | 347 | 68 | 439 | 55 | 555 | 89 | 695 | 195 |
| H63 | 2398 | L02 | 2479 | L67 | 2489 | 004 | 87 | 099 | 69 | 196 | 104 | 264 | 56 | 356 | 68 | 440 | 55 | 556 | 89 | 696 | 195 |
| H64 | 2399 | L03 | 2481 | L68 | 2489 | 005 | 93 | 100 | 69 | 197 | 104 | 265 | 56 | 357 | 68 | 441 | 78 | 557 | 91 | 697 | 195 |
| H65 | 2398 | L04 | 2480 | L69 | 2489 | 010 | 91 | 101 | 69 | 198 | 313 | 267 | 61 | 361 | 2880 | 442 | 78 | 559 | 93 | 700 | 195 |
| 4MH66 | 2398 | 4ML05 | 2480 | 4ML70 | 2489 | 4M012 | 89 | 4M105 | 59 | 4M199 | 113 | 4M268 | 61 | 4M365 | 61 | 4M443 | 78 | 4M563 | 93 | 4M701 | 190 |
| H67 | 2398 | L06 | 2480 | L71 | 2489 | 013 | 89 | 106 | 59 | 200 | 113 | 269 | 61 | 366 | 61 | 444 | 78 | 568 | 2881 | 702 | 190 |
| H68 | 1870 | L07 | 2480 | L72 | 2489 | 014 | 71 | 107 | 59 | 201 | 113 | 270 | 61 | 367 | 61 | 445 | 78 | 569 | 2880 | 703 | 190 |
| H69 | 1870 | L08 | 2481 | L73 | 2489 | 015 | 71 | 108 | 59 | 202 | 114 | 279 | 59 | 368 | 61 | 446 | 78 | 571 | 2880 | 705 | 186 |
| H70 | 1870 | L09 | 2481 | L74 | 2489 | 016 | 58 | 109 | 91 | 203 | 114 | 280 | 59 | 369 | 61 | 447 | 78 | 572 | 2881 | 708 | 186 |
| 4MH71 | 1870 | 4ML10 | 2481 | 4ML75 | 2489 | 4M017 | 58 | 4M110 | 91 | 4M204 | 114 | 4M281 | 59 | 4M370 | 61 | 4M448 | 72 | 4M574 | 2881 | 4M709 | 186 |
| H72 | 3455 | L11 | 2481 | L76 | 2489 | 019 | 63 | 111 | 91 | 205 | 58 | 282 | 85 | 371 | 61 | 450 | 72 | 575 | 2880 | 710 | 186 |
| H73 | 3455 | L12 | 2479 | L77 | 2489 | 020 | 63 | 124 | 56 | 206 | 58 | 283 | 85 | 372 | 61 | 452 | 72 | 577 | 2880 | 711 | 186 |
| H74 | 3577 | L13 | 2479 | L78 | 2489 | 022 | 63 | 125 | 56 | 207 | 58 | 284 | 91 | 373 | 72 | 454 | 72 | 578 | 2889 | 712 | 186 |
| H75 | 3577 | L14 | 2479 | L79 | 2489 | 023 | 63 | 126 | 56 | 208 | 58 | 285 | 91 | 374 | 72 | 456 | 72 | 579 | 2889 | 713 | 186 |
| 4MH76 | 3577 | 4ML15 | 2480 | 4ML80 | 2489 | 4M024 | 63 | 4M127 | 56 | 4M209 | 118 | 4M286 | 91 | 4M375 | 72 | 4M457 | 75 | 4M580 | 2889 | 4M714 | 186 |
| H77 | 3577 | L16 | 2480 | L81 | 2489 | 026 | 83 | 128 | 56 | 210 | 118 | 288 | 75 | 383 | 70 | 458 | 75 | 581 | 2889 | 715 | 186 |
| H78 | 3577 | L17 | 2480 | L82 | 2489 | 027 | 93 | 129 | 59 | 211 | 118 | 289 | 75 | 384 | 70 | 461 | 75 | 583 | 70 | 716 | 190 |
| H79 | 3577 | L18 | 2479 | L83 | 2489 | 028 | 87 | 130 | 59 | 212 | 118 | 290 | 75 | 385 | 70 | 463 | 75 | 584 | 70 | 717 | 190 |
| H80 | 3577 | L19 | 2480 | L84 | 2489 | 029 | 89 | 131 | 59 | 213 | 110 | 295 | 64 | 386 | 70 | 464 | 75 | 585 | 70 | 718 | 190 |
| 4MH81 | 3577 | 4ML20 | 2481 | 4ML85 | 2489 | 4M030 | 91 | 4M132 | 59 | 4M214 | 110 | 4M296 | 64 | 4M387 | 70 | 4M466 | 75 | 4M586 | 70 | 4M719 | 190 |
| H82 | 3577 | L21 | 2481 | L86 | 2489 | 031 | 87 | 133 | 68 | 215 | 110 | 297 | 64 | 388 | 70 | 467 | 75 | 587 | 70 | 720 | 190 |
| J01 | 1870 | L22 | 2481 | L87 | 2489 | 032 | 85 | 134 | 68 | 216 | 110 | 298 | 111 | 389 | 70 | 469 | 75 | 588 | 70 | 721 | 190 |
| J02 | 2875 | L23 | 2481 | L88 | 2490 | 033 | 91 | 135 | 68 | 217 | 110 | 299 | 112 | 390 | 70 | 470 | 2881 | 589 | 70 | 722 | 190 |
| J03 | 2875 | L24 | 2490 | L89 | 2490 | 034 | 85 | 136 | 68 | 218 | 110 | 300 | 111 | 392 | 2889 | 471 | 2881 | 590 | 70 | 723 | 190 |
| 4MJ04 | 2875 | 4ML25 | 2491 | 4ML90 | 2490 | 4M035 | 89 | 4M137 | 68 | 4M219 | 202 | 4M301 | 111 | 4M394 | 61 | 4M472 | 2880 | 4M599 | 2907 | 4M724 | 190 |
| J05 | 2875 | L26 | 2491 | L91 | 2490 | 036 | 89 | 138 | 68 | 220 | 202 | 303 | 198 | 395 | 61 | 474 | 2880 | 614 | 2907 | 725 | 190 |
| J06 | 2883 | L27 | 2491 | L92 | 2490 | 037 | 65 | 139 | 68 | 221 | 76 | 304 | 198 | 396 | 61 | 495 | 2889 | 644 | 145 | 726 | 190 |
| J07 | 2883 | L28 | 2491 | L93 | 2490 | 038 | 65 | 140 | 68 | 222 | 109 | 306 | 198 | 397 | 61 | 496 | 2881 | 645 | 200 | 727 | 190 |
| J08 | 2883 | L29 | 2491 | L94 | 2490 | 039 | 89 | 141 | 85 | 223 | 58 | 308 | 197 | 398 | 61 | 498 | 2881 | 646 | 200 | 728 | 190 |
| 4MJ11 | 2882 | 4ML30 | 2491 | 4ML95 | 2490 | 4M040 | 108 | 4M148 | 66 | 4M224 | 58 | 4M309 | 197 | 4M399 | 61 | 4M499 | 2880 | 4M648 | 2907 | 4M729 | 190 |
| J12 | 2882 | L31 | 2480 | L96 | 2490 | 041 | 108 | 149 | 66 | 225 | 58 | 310 | 2880 | 400 | 61 | 501 | 116 | 649 | 2907 | 730 | 190 |
| J13 | 2882 | L32 | 2491 | L97 | 2490 | 042 | 108 | 150 | 91 | 226 | 58 | 311 | 2880 | 401 | 68 | 502 | 116 | 650 | 2907 | 731 | 190 |
| J14 | 2882 | L33 | 2491 | L98 | 2490 | 043 | 67 | 151 | 91 | 228 | 56 | 312 | 198 | 402 | 68 | 503 | 116 | 651 | 2907 | 732 | 190 |
| J15 | 2882 | L34 | 2491 | L99 | 2490 | 044 | 77 | 152 | 93 | 229 | 56 | 313 | 59 | 403 | 68 | 504 | 116 | 652 | 195 | 733 | 200 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4M734 | 203 | 4M916 | 175 | 4M985 | 85 | 4NV49 | 1304 | 4NW16 | 3219 | 4NW87 | 3453 | 4N017 | 96 | 4N437 | 2914 | 4N874 | 135 | 4N949 | 35 | 4PC48 | 1466 |
| 735 | 204 | 917 | 175 | 986 | 85 | V50 | 1304 | W17 | 3219 | W89 | 3453 | 018 | 96 | 438 | 2914 | 875 | 135 | 950 | 35 | C50 | 1462 |
| 736 | 200 | 918 | 175 | 987 | 119 | V51 | 1304 | W18 | 3219 | W90 | 3453 | 020 | 96 | 439 | 2914 | 876 | 135 | 951 | 35 | C51 | 1410 |
| 737 | 202 | 919 | 175 | 988 | 197 | V52 | 1304 | W19 | 3219 | W91 | 3453 | 025 | 95 | 440 | 2914 | 877 | 135 | 952 | 35 | C52 | 751 |
| 738 | 201 | 920 | 175 | 989 | 197 | V53 | 1304 | W20 | 3219 | W92 | 3129 | 026 | 95 | 441 | 2914 | 879 | 135 | 953 | 35 | C53 | 756 |
| 4M739 | 200 | 4M921 | 175 | 4M990 | 197 | 4NV54 | 1304 | 4NW21 | 3224 | 4NW93 | 3263 | 4N028 | 95 | 4N442 | 2914 | 4N880 | 135 | 4N954 | 36 | 4PC54 | 758 |
| 740 | 200 | 922 | 175 | 999 | 198 | V55 | 1304 | W22 | 3224 | W94 | 3263 | 029 | 95 | 443 | 2910 | 881 | 135 | 955 | 36 | C55 | 758 |
| 741 | 200 | 923 | 175 | **4N** | | V56 | 1304 | W23 | 3224 | W95 | 3263 | 047 | 95 | 444 | 2910 | 882 | 135 | 956 | 35 | C56 | 756 |
| 742 | 200 | 924 | 175 | | | V57 | 1304 | W24 | 3224 | W96 | 3263 | 049 | 95 | 445 | 2910 | 883 | 135 | 957 | 35 | C57 | 756 |
| 743 | 203 | 925 | 175 | 4NF66 | 2596 | V58 | 1304 | W25 | 3224 | W97 | 3263 | 050 | 95 | 455 | 2907 | 884 | 135 | 958 | 35 | C58 | 881 |
| 4M744 | 203 | 4M926 | 175 | 4NF72 | 2596 | 4NV59 | 1304 | 4NW26 | 3224 | 4NW98 | 3220 | 4N052 | 95 | 4N456 | 2907 | 4N885 | 127 | 4N959 | 35 | 4PC59 | 890 |
| 745 | 203 | 927 | 175 | F73 | 2596 | V60 | 1390 | W27 | 3224 | W99 | 3220 | 053 | 95 | 457 | 2907 | 886 | 127 | 960 | 35 | C60 | 890 |
| 746 | 203 | 928 | 175 | F74 | 2596 | V61 | 1390 | W28 | 3224 | X01 | 3222 | 055 | 95 | 458 | 2907 | 887 | 127 | 961 | 36 | C61 | 890 |
| 747 | 203 | 929 | 175 | F75 | 2596 | V63 | 1390 | W29 | 3229 | X02 | 3222 | 056 | 95 | 579 | 16 | 888 | 127 | 962 | 36 | C62 | 890 |
| 748 | 203 | 930 | 175 | F76 | 2596 | V64 | 1390 | W30 | 3224 | X03 | 3222 | 058 | 95 | 581 | 16 | 889 | 127 | 963 | 36 | C63 | 742 |
| 4M750 | 200 | 4M931 | 175 | 4NF77 | 2596 | 4NV65 | 1348 | 4NW31 | 3224 | 4NX04 | 3225 | 4N059 | 2907 | 4N583 | 16 | 4N890 | 127 | 4N964 | 36 | 4PC64 | 877 |
| 751 | 202 | 932 | 175 | F78 | 2596 | V66 | 1332 | W32 | 3224 | X05 | 3225 | 060 | 144 | 584 | 16 | 891 | 127 | 965 | 36 | C65 | 881 |
| 752 | 202 | 933 | 175 | F79 | 2596 | V67 | 1332 | W33 | 3219 | X06 | 3225 | 061 | 144 | 585 | 16 | 892 | 127 | 969 | 35 | C66 | 881 |
| 753 | 202 | 934 | 175 | F80 | 2596 | V68 | 1332 | W34 | 3225 | X07 | 3226 | 062 | 158 | 589 | 16 | 893 | 34 | 970 | 35 | C67 | 834 |
| 754 | 200 | 935 | 175 | F81 | 2596 | V69 | 1332 | W35 | 3225 | X08 | 3226 | 063 | 158 | 590 | 139 | 898 | 35 | 971 | 35 | C68 | 834 |
| 4M755 | 200 | 4M936 | 175 | 4NF82 | 2596 | 4NV70 | 1326 | 4NW36 | 3219 | 4NX09 | 3226 | 4N064 | 158 | 4N592 | 16 | 4N899 | 35 | 4N972 | 36 | 4PC69 | 840 |
| 756 | 200 | 937 | 175 | F89 | 2597 | V71 | 1326 | W37 | 3219 | X10 | 3226 | 065 | 158 | 593 | 16 | 900 | 35 | 973 | 36 | C70 | 742 |
| 757 | 200 | 938 | 175 | F90 | 2597 | V72 | 1325 | W38 | 3219 | X11 | 3259 | 066 | 158 | 595 | 16 | 901 | 35 | 974 | 36 | C71 | 742 |
| 758 | 200 | 939 | 175 | F91 | 2597 | V73 | 1325 | W39 | 3219 | X12 | 3259 | 067 | 158 | 596 | 16 | 902 | 36 | 975 | 36 | C72 | 878 |
| 759 | 200 | 940 | 175 | F92 | 2597 | V74 | 1325 | W40 | 3454 | X13 | 3259 | 068 | 159 | 601 | 139 | 903 | 36 | 976 | 36 | C73 | 3163 |
| 4M760 | 200 | 4M941 | 175 | 4NG66 | 2600 | 4NV75 | 1325 | 4NW41 | 3454 | 4NX14 | 3259 | 4N069 | 159 | 4N603 | 16 | 4N904 | 36 | 4N977 | 36 | 4PC74 | 3163 |
| 761 | 200 | 942 | 175 | G67 | 2600 | V76 | 1325 | W42 | 3454 | X15 | 3259 | 070 | 159 | 605 | 139 | 905 | 36 | 978 | 36 | C75 | 3163 |
| 762 | 200 | 943 | 175 | G68 | 2600 | V77 | 1325 | W43 | 3454 | X16 | 3259 | 071 | 159 | 606 | 16 | 906 | 36 | 979 | 36 | C76 | 3163 |
| 870 | 2907 | 944 | 175 | G69 | 2600 | V78 | 1325 | W44 | 3454 | X17 | 3259 | 072 | 159 | 609 | 139 | 907 | 36 | 980 | 36 | C77 | 3270 |
| 871 | 2907 | 945 | 175 | G70 | 2600 | V79 | 1325 | W45 | 3454 | X18 | 3259 | 073 | 159 | 716 | 25 | 908 | 36 | 981 | 36 | C78 | 3270 |
| 4M872 | 2907 | 4M946 | 175 | 4NG71 | 2600 | 4NV80 | 1325 | 4NW46 | 3454 | 4NX19 | 3261 | 4N074 | 159 | 4N820 | 20 | 4N909 | 35 | 4N982 | 36 | 4PC79 | 3270 |
| 875 | 197 | 948 | 175 | G72 | 2600 | V81 | 1325 | W47 | 3454 | X20 | 3261 | 075 | 159 | 821 | 20 | 910 | 35 | 983 | 36 | C80 | 3270 |
| 876 | 176 | 949 | 175 | G73 | 2600 | V82 | 1325 | W48 | 3454 | X53 | 1424 | 076 | 159 | 822 | 20 | 911 | 35 | 984 | 36 | C81 | 3270 |
| 877 | 176 | 950 | 175 | G75 | 2596 | V83 | 1325 | W49 | 3454 | X54 | 1424 | 077 | 159 | 823 | 20 | 912 | 35 | 985 | 36 | C82 | 3270 |
| 878 | 176 | 951 | 175 | G76 | 2596 | V84 | 1325 | W50 | 3454 | X55 | 1424 | 078 | 159 | 824 | 20 | 913 | 35 | 987 | 36 | C83 | 3270 |
| 4M879 | 176 | 4M952 | 175 | 4NR16 | 2596 | 4NV85 | 1325 | 4NW51 | 3454 | 4NX56 | 1424 | 4N079 | 159 | 4N826 | 20 | 4N914 | 35 | 4N988 | 35 | 4PC84 | 3270 |
| 880 | 176 | 953 | 175 | R18 | 2596 | V86 | 1325 | W54 | 3454 | Z48 | 1454 | 080 | 159 | 827 | 20 | 915 | 35 | 989 | 35 | C85 | 3270 |
| 881 | 176 | 954 | 175 | V21 | 1333 | V87 | 1325 | W55 | 3454 | Z49 | 1454 | 082 | 159 | 829 | 20 | 916 | 35 | 990 | 35 | C86 | 3270 |
| 882 | 176 | 955 | 175 | V22 | 1333 | V88 | 1325 | W56 | 3453 | Z50 | 1454 | 083 | 159 | 831 | 20 | 917 | 35 | 991 | 35 | C87 | 3270 |
| 883 | 176 | 956 | 175 | V23 | 1342 | V89 | 1324 | W57 | 3453 | Z51 | 1463 | 084 | 159 | 833 | 20 | 918 | 36 | 992 | 35 | C89 | 3270 |
| 4M884 | 176 | 4M957 | 175 | 4NV24 | 1334 | 4NV90 | 1324 | 4NW58 | 3453 | 4NZ52 | 1462 | 4N085 | 158 | 4N835 | 20 | 4N919 | 36 | 4N993 | 35 | 4PC90 | 3270 |
| 885 | 176 | 958 | 175 | V25 | 1334 | V91 | 1332 | W59 | 3453 | Z53 | 1462 | 086 | 158 | 836 | 20 | 920 | 36 | 994 | 35 | C91 | 3270 |
| 886 | 176 | 959 | 175 | V26 | 1334 | V92 | 1332 | W60 | 3453 | Z55 | 1467 | 087 | 158 | 838 | 20 | 921 | 36 | 995 | 36 | C92 | 3270 |
| 887 | 176 | 960 | 175 | V27 | 1334 | V93 | 1323 | W61 | 3453 | Z67 | 1468 | 089 | 158 | 841 | 20 | 922 | 36 | 996 | 36 | C93 | 3270 |
| 888 | 176 | 961 | 177 | V28 | 1334 | V94 | 1323 | W62 | 3453 | Z68 | 1468 | 090 | 158 | 849 | 20 | 924 | 36 | 997 | 36 | C94 | 3270 |
| 4M889 | 176 | 4M962 | 177 | 4NV29 | 1334 | 4NV95 | 3225 | 4NW63 | 3453 | 4NZ70 | 1468 | 4N221 | 2907 | 4N851 | 20 | 4N925 | 35 | 4N998 | 36 | 4PC95 | 3271 |
| 890 | 176 | 963 | 177 | V30 | 1339 | V96 | 3225 | W64 | 3453 | Z71 | 1468 | 416 | 2914 | 853 | 20 | 926 | 35 | 999 | 36 | C96 | 3271 |
| 891 | 176 | 964 | 177 | V31 | 1335 | V97 | 3219 | W65 | 3453 | Z72 | 1468 | 417 | 2914 | 854 | 20 | 927 | 35 | **4P** | | C97 | 1388 |
| 892 | 176 | 965 | 177 | V32 | 1339 | V98 | 3219 | W66 | 3453 | Z74 | 1468 | 418 | 2914 | 855 | 28 | 928 | 36 | | | C98 | 1165 |
| 893 | 176 | 966 | 177 | V33 | 1340 | V99 | 3219 | W67 | 3453 | Z75 | 1468 | 419 | 2914 | 856 | 28 | 929 | 36 | 4PC21 | 1410 | C99 | 1169 |
| 4M894 | 176 | 4M967 | 177 | 4NV34 | 1334 | 4NW01 | 3219 | 4NW68 | 3453 | 4NZ77 | 1468 | 4N420 | 2914 | 4N857 | 28 | 4N930 | 35 | 4PC24 | 1442 | 4PD01 | 1165 |
| 896 | 174 | 968 | 177 | V35 | 1335 | W02 | 3219 | W69 | 3453 | Z90 | 1470 | 421 | 2914 | 858 | 28 | 931 | 36 | C25 | 1442 | D02 | 1165 |
| 898 | 174 | 970 | 174 | V36 | 1335 | W03 | 3228 | W70 | 3453 | 001 | 95 | 422 | 2914 | 859 | 28 | 932 | 36 | C26 | 1442 | D03 | 1165 |
| 899 | 174 | 972 | 174 | V37 | 1341 | W04 | 3219 | W71 | 3453 | 002 | 95 | 423 | 2914 | 860 | 27 | 933 | 36 | C27 | 1448 | D04 | 1165 |
| 900 | 174 | 973 | 174 | V38 | 1310 | W05 | 3219 | W72 | 3453 | 003 | 95 | 424 | 2914 | 861 | 27 | 934 | 35 | C34 | 1464 | D05 | 1165 |
| 4M901 | 174 | 4M974 | 174 | 4NV39 | 1310 | 4NW06 | 3224 | 4NW73 | 3453 | 4N004 | 95 | 4N425 | 2914 | 4N862 | 28 | 4N939 | 36 | 4PC35 | 1464 | 4PD06 | 1165 |
| 902 | 174 | 975 | 174 | V40 | 1310 | W07 | 3224 | W74 | 3453 | 005 | 95 | 426 | 2914 | 865 | 135 | 940 | 35 | C36 | 1464 | D07 | 3272 |
| 903 | 174 | 976 | 174 | V41 | 1311 | W08 | 3224 | W75 | 3453 | 006 | 95 | 427 | 2914 | 866 | 135 | 941 | 35 | C37 | 1464 | D08 | 3272 |
| 905 | 174 | 977 | 178 | V42 | 1311 | W09 | 3219 | W76 | 3453 | 007 | 95 | 428 | 2914 | 867 | 135 | 942 | 35 | C38 | 1515 | D09 | 3272 |
| 906 | 174 | 978 | 178 | V43 | 1310 | W10 | 3224 | W77 | 3453 | 009 | 95 | 429 | 2914 | 868 | 135 | 943 | 35 | C42 | 1466 | D10 | 3272 |
| 4M909 | 174 | 4M979 | 178 | 4NV44 | 1377 | 4NW11 | 3224 | 4NW78 | 3453 | 4N010 | 95 | 4N430 | 2914 | 4N869 | 135 | 4N944 | 35 | 4PC43 | 1466 | 4PD11 | 3272 |
| 911 | 174 | 980 | 178 | V45 | 1377 | W12 | 3224 | W79 | 3453 | 011 | 95 | 431 | 1691 | 870 | 135 | 945 | 36 | C44 | 1466 | D12 | 3272 |
| 913 | 175 | 982 | 174 | V46 | 1377 | W13 | 3224 | W80 | 3453 | 012 | 55 | 434 | 2914 | 871 | 135 | 946 | 36 | C45 | 1492 | D13 | 3272 |
| 914 | 175 | 983 | 175 | V47 | 1311 | W14 | 3224 | W81 | 3453 | 013 | 55 | 435 | 2914 | 872 | 135 | 947 | 36 | C46 | 1493 | D14 | 3227 |
| 915 | 175 | 984 | 85 | V48 | 1304 | W15 | 3219 | W86 | 3453 | 016 | 96 | 436 | 2914 | 873 | 135 | 948 | 36 | C47 | 1493 | D15 | 3227 |

# STOCK NUMBER—PAGE NUMBER

## 4PD — 4PR

| Stock No. | Page No. |
|---|---|
| 4PD16 | 893 |
| D17 | 816 |
| D18 | 789 |
| D19 | 773 |
| D20 | 773 |
| 4PD21 | 841 |
| D22 | 776 |
| D23 | 820 |
| D24 | 780 |
| D25 | 781 |
| 4PD26 | 780 |
| D27 | 780 |
| D28 | 780 |
| D29 | 1171 |
| D30 | 1171 |
| 4PD31 | 1169 |
| D32 | 1169 |
| D33 | 1165 |
| D34 | 1165 |
| D35 | 1165 |
| 4PD36 | 1165 |
| D37 | 1166 |
| D38 | 1166 |
| D39 | 1169 |
| D40 | 1166 |
| 4PD41 | 1166 |
| D42 | 1170 |
| D43 | 1170 |
| D44 | 1173 |
| D45 | 1173 |
| 4PD46 | 1173 |
| D47 | 1173 |
| D48 | 1170 |
| D49 | 1170 |
| D50 | 1171 |
| 4PD51 | 1171 |
| D52 | 1170 |
| D53 | 1169 |
| D54 | 894 |
| D55 | 907 |
| 4PD56 | 907 |
| D57 | 907 |
| D58 | 909 |
| D59 | 909 |
| D60 | 909 |
| 4PD61 | 909 |
| D62 | 909 |
| D63 | 909 |
| D64 | 909 |
| D65 | 909 |
| 4PD66 | 909 |
| D67 | 909 |
| D68 | 909 |
| D69 | 909 |
| D70 | 909 |
| 4PD71 | 909 |
| D72 | 906 |
| D73 | 906 |
| D74 | 905 |
| D75 | 905 |
| 4PD76 | 905 |
| D77 | 905 |
| D78 | 906 |
| D79 | 906 |
| D80 | 906 |
| 4PD84 | 902 |
| D85 | 2257 |
| D86 | 1407 |
| D87 | 1407 |
| D88 | 1407 |
| 4PD89 | 1407 |
| D90 | 1407 |
| D91 | 1407 |
| D92 | 1407 |
| D93 | 1407 |
| 4PD94 | 1407 |
| D95 | 1409 |
| D96 | 1421 |
| D97 | 1427 |
| D98 | 1427 |
| 4PD99 | 1427 |
| F01 | 1421 |
| F02 | 1421 |
| F03 | 1421 |
| F04 | 1421 |
| 4PF05 | 1421 |
| F06 | 1421 |
| F07 | 1421 |
| F08 | 1421 |
| F09 | 1421 |
| 4PF10 | 1421 |
| F11 | 1421 |
| F25 | 1427 |
| F26 | 1427 |
| F27 | 1427 |
| 4PF59 | 1421 |
| F70 | 1408 |
| F73 | 1468 |
| F74 | 1461 |
| F75 | 1461 |
| 4PF76 | 1461 |
| F77 | 1454 |
| F78 | 1454 |
| F80 | 1421 |
| F81 | 1421 |
| 4PF83 | 1421 |
| F85 | 1411 |
| F95 | 1086 |
| F96 | 1086 |
| F97 | 1086 |
| 4PG09 | 1086 |
| G11 | 1086 |
| G15 | 1095 |
| G16 | 1095 |
| G17 | 1097 |
| 4PG18 | 1094 |
| G19 | 1086 |
| G20 | 1090 |
| G21 | 1090 |
| G22 | 1521 |
| 4PG23 | 1521 |
| G24 | 1521 |
| G25 | 1521 |
| G32 | 1800 |
| G49 | 1187 |
| 4PG50 | 1177 |
| G51 | 1187 |
| G52 | 1177 |
| G53 | 1177 |
| G54 | 1185 |
| 4PG55 | 1186 |
| G56 | 1186 |
| G57 | 1176 |
| G58 | 1187 |
| G59 | 1186 |
| 4PG60 | 1186 |
| G61 | 1186 |
| G62 | 1186 |
| G63 | 1139 |
| G64 | 1153 |
| 4PG65 | 1139 |
| G66 | 1153 |
| G67 | 1150 |
| G68 | 1153 |
| G69 | 1150 |
| 4PG70 | 1153 |
| G71 | 1153 |
| G72 | 1139 |
| G73 | 1148 |
| G74 | 1142 |
| 4PG75 | 1142 |
| G76 | 1153 |
| G77 | 1139 |
| G78 | 1139 |
| G79 | 1148 |
| 4PG80 | 1148 |
| G82 | 1153 |
| G83 | 1143 |
| G84 | 1139 |
| G85 | 1153 |
| 4PG87 | 1153 |
| G88 | 1148 |
| G89 | 1153 |
| G90 | 1140 |
| G91 | 1148 |
| 4PG93 | 1148 |
| G94 | 1139 |
| G95 | 1139 |
| G96 | 1139 |
| G97 | 1139 |
| 4PG98 | 1153 |
| G99 | 1153 |
| H01 | 1140 |
| H02 | 1140 |
| H03 | 1153 |
| 4PH04 | 1153 |
| H05 | 1153 |
| H06 | 1147 |
| H07 | 1140 |
| H08 | 1140 |
| 4PH10 | 1140 |
| H11 | 1143 |
| H12 | 1153 |
| H13 | 1148 |
| H14 | 1148 |
| 4PH15 | 1144 |
| H16 | 1144 |
| H17 | 1149 |
| H18 | 1147 |
| H19 | 1144 |
| 4PH20 | 1144 |
| H21 | 1153 |
| H22 | 1153 |
| H23 | 1145 |
| H24 | 1145 |
| 4PH25 | 1145 |
| H26 | 1145 |
| H27 | 1137 |
| H28 | 1137 |
| H29 | 1137 |
| 4PH30 | 1137 |
| H31 | 1149 |
| H32 | 1147 |
| H33 | 1145 |
| H34 | 1137 |
| 4PH35 | 1137 |
| H36 | 1145 |
| H37 | 1137 |
| H38 | 1137 |
| H39 | 1145 |
| 4PH40 | 1145 |
| H41 | 1153 |
| H42 | 1149 |
| H43 | 1143 |
| H44 | 1153 |
| 4PH45 | 1143 |
| H46 | 1142 |
| H47 | 1148 |
| H48 | 1148 |
| H49 | 1143 |
| 4PH50 | 1149 |
| H51 | 1149 |
| H52 | 1149 |
| H53 | 1149 |
| H54 | 1143 |
| 4PH55 | 1149 |
| H56 | 1149 |
| H57 | 1149 |
| H58 | 1149 |
| H59 | 1141 |
| 4PH60 | 1141 |
| H63 | 1056 |
| H64 | 1056 |
| H65 | 1056 |
| H66 | 1056 |
| 4PH67 | 1056 |
| H68 | 1056 |
| H69 | 1056 |
| H70 | 1056 |
| H71 | 1056 |
| 4PH72 | 1056 |
| H73 | 1056 |
| H74 | 1056 |
| H75 | 1057 |
| H76 | 1057 |
| 4PH77 | 1057 |
| H78 | 1057 |
| H79 | 1064 |
| H80 | 1064 |
| H81 | 1068 |
| 4PH82 | 1068 |
| H83 | 1068 |
| H84 | 1068 |
| H85 | 1126 |
| H86 | 1096 |
| 4PH87 | 1127 |
| H88 | 1139 |
| H89 | 1139 |
| H90 | 1139 |
| H91 | 1139 |
| 4PH92 | 1150 |
| H93 | 1151 |
| H94 | 1151 |
| H95 | 1146 |
| H96 | 1146 |
| 4PH97 | 1146 |
| H98 | 1146 |
| H99 | 1146 |
| J01 | 1146 |
| J02 | 1146 |
| 4PJ03 | 1146 |
| J04 | 1150 |
| J05 | 1150 |
| J06 | 1150 |
| J07 | 1144 |
| 4PJ08 | 1151 |
| J09 | 1151 |
| J10 | 1151 |
| J11 | 1151 |
| J12 | 1151 |
| 4PJ13 | 1151 |
| J14 | 1151 |
| J15 | 1151 |
| J16 | 1151 |
| J17 | 1151 |
| 4PJ18 | 1151 |
| J19 | 1151 |
| J20 | 1151 |
| J21 | 1151 |
| J22 | 1151 |
| 4PJ23 | 1150 |
| J24 | 1150 |
| J25 | 1146 |
| J26 | 1146 |
| J27 | 1146 |
| 4PJ28 | 1146 |
| J29 | 1147 |
| J30 | 1147 |
| J31 | 1147 |
| J32 | 1147 |
| 4PJ33 | 1152 |
| J34 | 1152 |
| J35 | 1152 |
| J36 | 1152 |
| J37 | 1138 |
| 4PJ38 | 1151 |
| J39 | 1151 |
| J40 | 1017 |
| J41 | 1017 |
| J42 | 1017 |
| 4PJ43 | 1017 |
| J44 | 1018 |
| J45 | 1017 |
| J46 | 1017 |
| J47 | 1017 |
| 4PJ48 | 1017 |
| J49 | 1017 |
| J50 | 1017 |
| J51 | 1017 |
| J52 | 1018 |
| 4PJ53 | 1017 |
| J54 | 1017 |
| J55 | 1017 |
| J56 | 1017 |
| J57 | 1017 |
| 4PJ58 | 1018 |
| J59 | 1017 |
| J60 | 1017 |
| J61 | 1017 |
| J62 | 1018 |
| 4PJ63 | 1017 |
| J64 | 1018 |
| J65 | 1017 |
| J66 | 1017 |
| J67 | 1017 |
| 4PJ68 | 1020 |
| J69 | 1020 |
| J70 | 1021 |
| J71 | 1021 |
| J72 | 1019 |
| 4PJ73 | 1020 |
| J74 | 1020 |
| J75 | 1020 |
| J76 | 1024 |
| J77 | 1024 |
| 4PJ78 | 1024 |
| J79 | 1024 |
| J80 | 1024 |
| J81 | 1024 |
| J82 | 1024 |
| 4PJ83 | 1024 |
| J84 | 1024 |
| J85 | 1024 |
| J86 | 1022 |
| J87 | 1022 |
| 4PJ88 | 1022 |
| J89 | 1022 |
| J90 | 1023 |
| J91 | 1023 |
| J92 | 1025 |
| 4PJ93 | 1025 |
| J94 | 1028 |
| J95 | 1028 |
| J96 | 1035 |
| J97 | 1035 |
| 4PJ98 | 1035 |
| J99 | 1035 |
| K01 | 1020 |
| K02 | 1022 |
| K03 | 1019 |
| 4PK04 | 1020 |
| K05 | 1020 |
| K06 | 1020 |
| K07 | 1019 |
| K08 | 1020 |
| 4PK09 | 1020 |
| K10 | 1020 |
| K21 | 1101 |
| K22 | 1101 |
| K23 | 1101 |
| 4PK24 | 1099 |
| K25 | 1099 |
| K26 | 1101 |
| K27 | 1101 |
| K28 | 1100 |
| 4PK29 | 1162 |
| K30 | 1100 |
| K31 | 1100 |
| K32 | 1100 |
| K33 | 1100 |
| 4PK34 | 1098 |
| K35 | 1098 |
| K36 | 1098 |
| K37 | 1100 |
| K38 | 1100 |
| 4PK39 | 1100 |
| K40 | 1100 |
| K41 | 1100 |
| K42 | 1100 |
| K43 | 1100 |
| 4PK44 | 1100 |
| K45 | 1101 |
| K46 | 1100 |
| K47 | 1100 |
| K48 | 1100 |
| 4PK49 | 1101 |
| K50 | 1101 |
| K51 | 1099 |
| K52 | 1099 |
| K53 | 1099 |
| 4PK54 | 1099 |
| K60 | 1089 |
| K61 | 1089 |
| K62 | 1095 |
| K63 | 1095 |
| 4PK64 | 1095 |
| K65 | 1095 |
| K66 | 1095 |
| K69 | 1079 |
| K70 | 1093 |
| 4PK71 | 1093 |
| K72 | 1094 |
| K73 | 1093 |
| K74 | 1093 |
| K77 | 1089 |
| 4PK78 | 1095 |
| K79 | 1095 |
| K86 | 1079 |
| K88 | 1093 |
| K89 | 1093 |
| 4PK90 | 1093 |
| K92 | 1095 |
| K94 | 1091 |
| K95 | 1091 |
| K96 | 1091 |
| 4PK99 | 1095 |
| L01 | 1095 |
| L03 | 943 |
| L04 | 941 |
| L05 | 940 |
| 4PL06 | 940 |
| L09 | 971 |
| L10 | 971 |
| L11 | 964 |
| L12 | 964 |
| 4PL13 | 964 |
| L14 | 919 |
| L15 | 919 |
| L16 | 919 |
| L17 | 922 |
| 4PL18 | 923 |
| L19 | 923 |
| L20 | 923 |
| L21 | 923 |
| L22 | 923 |
| 4PL23 | 923 |
| L24 | 929 |
| L25 | 970 |
| L26 | 970 |
| L27 | 970 |
| 4PL28 | 970 |
| L29 | 1053 |
| L30 | 1052 |
| L31 | 1052 |
| L32 | 1052 |
| 4PL33 | 1053 |
| L34 | 1051 |
| L35 | 3104 |
| L36 | 3104 |
| L37 | 3104 |
| 4PL38 | 3104 |
| L39 | 3104 |
| L40 | 3104 |
| L41 | 3104 |
| L42 | 3102 |
| 4PL43 | 3102 |
| L44 | 3102 |
| L45 | 3102 |
| L46 | 3102 |
| L47 | 3103 |
| 4PL48 | 3085 |
| L49 | 3085 |
| L50 | 3085 |
| L51 | 3085 |
| L52 | 3103 |
| 4PL53 | 3103 |
| L54 | 1601 |
| L55 | 1601 |
| L56 | 1302 |
| L57 | 1302 |
| 4PL58 | 1302 |
| L59 | 1040 |
| L60 | 1040 |
| L61 | 1040 |
| L62 | 1040 |
| 4PL63 | 1041 |
| L64 | 1041 |
| L65 | 1031 |
| L66 | 1031 |
| L67 | 1029 |
| 4PL68 | 1019 |
| L69 | 1034 |
| L70 | 1035 |
| L71 | 1035 |
| L72 | 1020 |
| 4PL73 | 1021 |
| L74 | 1035 |
| L75 | 1029 |
| L76 | 1020 |
| L77 | 1034 |
| 4PL78 | 1035 |
| L79 | 1035 |
| L80 | 1020 |
| L81 | 1021 |
| L82 | 1035 |
| 4PL83 | 1104 |
| L84 | 1104 |
| L85 | 1291 |
| L86 | 1291 |
| L87 | 1299 |
| 4PL88 | 1292 |
| L89 | 1364 |
| L90 | 1292 |
| L91 | 1291 |
| L92 | 1291 |
| 4PL93 | 1318 |
| L94 | 1333 |
| L95 | 1305 |
| L96 | 1306 |
| L97 | 1292 |
| 4PM04 | 1308 |
| M06 | 1347 |
| M07 | 1291 |
| M08 | 1304 |
| M09 | 1361 |
| 4PM10 | 1310 |
| M11 | 1292 |
| M12 | 1291 |
| M13 | 1363 |
| M14 | 1291 |
| 4PM15 | 1364 |
| M16 | 1310 |
| M17 | 1299 |
| M18 | 1292 |
| M19 | 1310 |
| 4PM20 | 3214 |
| M21 | 3214 |
| M22 | 3214 |
| M23 | 3214 |
| M24 | 3208 |
| 4PM58 | 1293 |
| M59 | 1293 |
| M61 | 1300 |
| M62 | 1300 |
| M63 | 1300 |
| 4PM64 | 1300 |
| M65 | 1300 |
| M66 | 1300 |
| M67 | 1300 |
| M68 | 1300 |
| 4PM69 | 1300 |
| M70 | 1300 |
| M71 | 1300 |
| M72 | 1300 |
| M73 | 1300 |
| 4PM74 | 1300 |
| M75 | 1300 |
| M76 | 1300 |
| M77 | 1300 |
| M78 | 1300 |
| 4PM79 | 1300 |
| M80 | 1300 |
| M81 | 1300 |
| M82 | 1300 |
| M83 | 1300 |
| 4PM84 | 1300 |
| M85 | 1300 |
| M86 | 1300 |
| M87 | 1300 |
| M88 | 1300 |
| 4PM91 | 1299 |
| M92 | 1299 |
| M93 | 1299 |
| M94 | 1299 |
| M95 | 1299 |
| 4PM96 | 1299 |
| M98 | 1299 |
| N04 | 1280 |
| N30 | 1269 |
| N32 | 1274 |
| 4PN33 | 1280 |
| N34 | 1280 |
| N35 | 1280 |
| N36 | 1280 |
| N37 | 1280 |
| 4PN38 | 1280 |
| N39 | 1280 |
| N40 | 1280 |
| N41 | 1280 |
| N42 | 1280 |
| 4PN43 | 1280 |
| N44 | 1280 |
| N45 | 1280 |
| N46 | 1280 |
| N47 | 1280 |
| 4PN48 | 1280 |
| N49 | 1280 |
| N50 | 1280 |
| N51 | 1280 |
| N52 | 1280 |
| 4PN53 | 1280 |
| N54 | 1280 |
| N55 | 1280 |
| N56 | 1280 |
| N57 | 1280 |
| 4PN58 | 1280 |
| N59 | 1280 |
| N60 | 1280 |
| N61 | 1280 |
| N62 | 1280 |
| 4PN63 | 1280 |
| N64 | 1280 |
| N65 | 1280 |
| N66 | 1280 |
| N67 | 1280 |
| 4PN69 | 1278 |
| N70 | 1278 |
| N73 | 1282 |
| N74 | 1282 |
| N75 | 1282 |
| 4PN76 | 1282 |
| N77 | 1282 |
| N78 | 1282 |
| N79 | 1282 |
| N80 | 1282 |
| 4PN81 | 1282 |
| N89 | 1281 |
| P02 | 1277 |
| P03 | 1277 |
| P04 | 1277 |
| 4PP05 | 1277 |
| P06 | 1277 |
| P07 | 1277 |
| P08 | 1277 |
| P09 | 1277 |
| 4PP10 | 1277 |
| P11 | 1277 |
| P12 | 1277 |
| P13 | 1277 |
| P14 | 1277 |
| 4PP15 | 1277 |
| P16 | 1277 |
| P17 | 1277 |
| P18 | 1277 |
| P19 | 1277 |
| 4PP20 | 1277 |
| P21 | 1277 |
| P22 | 1277 |
| P23 | 1277 |
| P24 | 1277 |
| 4PP25 | 1277 |
| P26 | 1277 |
| P27 | 1277 |
| P28 | 1277 |
| P29 | 1277 |
| 4PP31 | 1277 |
| P32 | 1277 |
| P33 | 1277 |
| P34 | 1277 |
| P35 | 1277 |
| 4PP36 | 1277 |
| P37 | 1277 |
| P38 | 1277 |
| P39 | 1277 |
| P40 | 1277 |
| 4PP41 | 1277 |
| P53 | 1278 |
| P97 | 1287 |
| P98 | 1287 |
| P99 | 1287 |
| 4PR01 | 1287 |
| R02 | 1287 |
| R06 | 1286 |
| R07 | 1286 |
| R08 | 1286 |
| 4PR09 | 1286 |
| R10 | 1286 |
| R11 | 1286 |
| R12 | 1286 |
| R13 | 1286 |
| 4PR14 | 1286 |
| R15 | 1286 |
| R16 | 1286 |
| R17 | 1286 |
| R18 | 1286 |
| 4PR19 | 1286 |
| R20 | 1286 |
| R35 | 1286 |
| R36 | 1286 |
| R37 | 1286 |
| 4PR38 | 1286 |
| R39 | 1286 |
| R40 | 1286 |
| R41 | 1286 |
| R42 | 1286 |
| 4PR43 | 1286 |
| R44 | 1286 |
| R45 | 1286 |
| R46 | 1286 |
| R47 | 1286 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4PR48 | 1286 | 4PT65 | 1277 | 4PV40 | 1278 | 4PW07 | 1278 | 4PW77 | 1281 | 4PX52 | 1283 | 4PZ22 | 1287 | 4PZ98 | 1280 | 4P110 | 1734 | 4P175 | 1735 | 4P240 | 1735 |
| R49 | 1286 | T66 | 1277 | V41 | 1278 | W08 | 1278 | W78 | 1281 | X53 | 1283 | Z23 | 1287 | Z99 | 1280 | 111 | 1734 | 176 | 1735 | 241 | 1735 |
| R50 | 1286 | T67 | 1276 | V42 | 1284 | W09 | 1278 | W79 | 1281 | X54 | 1283 | Z24 | 1287 | 001 | 3077 | 112 | 1734 | 177 | 1735 | 242 | 1735 |
| R51 | 1287 | T68 | 1276 | V43 | 1284 | W10 | 1278 | W80 | 1281 | X55 | 1283 | Z25 | 1287 | 002 | 3077 | 113 | 1734 | 178 | 1735 | 243 | 1735 |
| R52 | 1287 | T69 | 1276 | V44 | 1284 | W11 | 1280 | W81 | 1281 | X56 | 1283 | Z26 | 1287 | 003 | 3058 | 114 | 1734 | 179 | 1735 | 244 | 1735 |
| 4PR53 | 1287 | 4PT70 | 1276 | 4PV45 | 1284 | 4PW12 | 1280 | 4PW82 | 1281 | 4PX57 | 1283 | 4PZ27 | 1287 | 4P004 | 3058 | 4P115 | 1734 | 4P180 | 1735 | 4P245 | 1735 |
| R54 | 1287 | T71 | 1276 | V46 | 1284 | W13 | 1280 | W83 | 1281 | X58 | 1283 | Z28 | 1287 | 005 | 3058 | 116 | 1734 | 181 | 1735 | 246 | 1735 |
| R55 | 1287 | T72 | 1276 | V47 | 1284 | W14 | 1280 | W84 | 1281 | X59 | 1283 | Z29 | 1287 | 006 | 3058 | 117 | 1734 | 182 | 1735 | 247 | 1735 |
| R56 | 1287 | T73 | 1276 | V48 | 1284 | W15 | 1280 | W85 | 1281 | X60 | 1283 | Z30 | 1287 | 007 | 3058 | 118 | 1734 | 183 | 1735 | 248 | 1735 |
| R57 | 1287 | T74 | 1276 | V49 | 1284 | W16 | 1280 | W86 | 1281 | X61 | 1283 | Z31 | 1287 | 008 | 3058 | 119 | 1734 | 184 | 1735 | 249 | 1735 |
| 4PR58 | 1287 | 4PT75 | 1276 | 4PV50 | 1284 | 4PW17 | 1280 | 4PW87 | 1281 | 4PX62 | 1283 | 4PZ32 | 1287 | 4P009 | 3058 | 4P120 | 1734 | 4P185 | 1735 | 4P250 | 1737 |
| R59 | 1287 | T76 | 1276 | V51 | 1284 | W18 | 1280 | W88 | 1281 | X63 | 1283 | Z33 | 1287 | 010 | 3058 | 121 | 1734 | 186 | 1735 | 251 | 1737 |
| R60 | 1287 | T77 | 1276 | V52 | 1284 | W19 | 1280 | W89 | 1281 | X64 | 1283 | Z34 | 1287 | 011 | 3058 | 122 | 1734 | 187 | 1735 | 252 | 1737 |
| R83 | 1287 | T78 | 1276 | V53 | 1284 | W20 | 1280 | W90 | 1281 | X65 | 1283 | Z35 | 1287 | 012 | 3259 | 123 | 1734 | 188 | 1735 | 253 | 1737 |
| R84 | 1287 | T79 | 1276 | V54 | 1284 | W21 | 1280 | W91 | 1281 | X67 | 1283 | Z36 | 1287 | 014 | 3259 | 124 | 1734 | 189 | 1735 | 254 | 1737 |
| 4PR85 | 1287 | 4PT80 | 1270 | 4PV55 | 1284 | 4PW22 | 1280 | 4PW92 | 1281 | 4PX68 | 1283 | 4PZ37 | 1286 | 4P015 | 3261 | 4P125 | 1734 | 4P190 | 1735 | 4P255 | 1737 |
| T03 | 1269 | T81 | 1274 | V56 | 1284 | W23 | 1280 | W93 | 1281 | X69 | 1283 | Z38 | 1286 | 016 | 3259 | 126 | 1734 | 191 | 1735 | 256 | 1737 |
| T06 | 1266 | T82 | 1271 | V57 | 1284 | W24 | 1280 | W94 | 1281 | X70 | 1283 | Z39 | 1286 | 018 | 3260 | 127 | 1734 | 192 | 1735 | 257 | 1737 |
| T09 | 1264 | T83 | 1270 | V58 | 1284 | W25 | 1280 | W95 | 1281 | X71 | 1283 | Z40 | 1286 | 019 | 3259 | 128 | 1734 | 193 | 1735 | 258 | 1737 |
| T11 | 1263 | T84 | 1271 | V59 | 1284 | W26 | 1280 | W96 | 1281 | X72 | 1283 | Z41 | 1286 | 020 | 3224 | 129 | 1734 | 194 | 1735 | 259 | 1737 |
| 4PT12 | 1260 | 4PT85 | 1271 | 4PV60 | 1284 | 4PW27 | 1280 | 4PW97 | 1281 | 4PX73 | 1283 | 4PZ42 | 1286 | 4P021 | 3224 | 4P130 | 1734 | 4P195 | 1735 | 4P260 | 1737 |
| T14 | 1258 | T86 | 1270 | V61 | 1284 | W28 | 1280 | W98 | 1281 | X74 | 1283 | Z43 | 1286 | 023 | 3209 | 131 | 1734 | 196 | 1735 | 261 | 1737 |
| T16 | 1269 | T87 | 1270 | V62 | 1284 | W29 | 1280 | W99 | 1281 | X75 | 1283 | Z44 | 1286 | 024 | 3228 | 132 | 1734 | 197 | 1735 | 262 | 1737 |
| T17 | 1267 | T89 | 1285 | V63 | 1284 | W30 | 1280 | X01 | 1281 | X76 | 1283 | Z45 | 1286 | 029 | 3211 | 133 | 1734 | 198 | 1735 | 263 | 1737 |
| T18 | 1273 | T90 | 1285 | V64 | 1284 | W31 | 1280 | X02 | 1281 | X77 | 1283 | Z46 | 1286 | 031 | 3211 | 134 | 1734 | 199 | 1735 | 264 | 1737 |
| 4PT19 | 1273 | 4PT91 | 1285 | 4PV65 | 1284 | 4PW32 | 1280 | 4PX03 | 1281 | 4PX78 | 1283 | 4PZ47 | 1286 | 4P033 | 3211 | 4P135 | 1734 | 4P200 | 1735 | 4P265 | 1737 |
| T20 | 1273 | T93 | 1285 | V66 | 1284 | W33 | 1280 | X04 | 1281 | X79 | 1283 | Z48 | 1286 | 035 | 3240 | 136 | 1734 | 201 | 1735 | 266 | 1737 |
| T21 | 1273 | T94 | 1285 | V67 | 1284 | W34 | 1280 | X05 | 1281 | X80 | 1283 | Z49 | 1286 | 036 | 3240 | 137 | 1734 | 202 | 1735 | 267 | 1737 |
| T24 | 1273 | T95 | 1285 | V68 | 1284 | W35 | 1280 | X06 | 1281 | X81 | 1283 | Z50 | 1286 | 037 | 3244 | 138 | 1734 | 203 | 1735 | 268 | 1737 |
| T25 | 1273 | T97 | 1285 | V69 | 1284 | W36 | 1280 | X07 | 1281 | X82 | 1283 | Z51 | 1286 | 038 | 3244 | 139 | 1734 | 204 | 1735 | 269 | 1737 |
| 4PT26 | 1273 | 4PT98 | 1285 | 4PV70 | 1284 | 4PW37 | 1280 | 4PX08 | 1281 | 4PX83 | 1283 | 4PZ52 | 1286 | 4P039 | 3244 | 4P140 | 1734 | 4P205 | 1735 | 4P270 | 1737 |
| T28 | 1273 | T99 | 1285 | V71 | 1284 | W38 | 1280 | X09 | 1281 | X84 | 1283 | Z53 | 1286 | 040 | 3282 | 141 | 1734 | 206 | 1735 | 271 | 1737 |
| T29 | 1273 | V01 | 1285 | V72 | 1284 | W39 | 1280 | X10 | 1281 | X85 | 1283 | Z54 | 1286 | 041 | 3282 | 142 | 1734 | 207 | 1735 | 272 | 1737 |
| T31 | 1273 | V03 | 1285 | V73 | 1284 | W40 | 1280 | X11 | 1281 | X86 | 1283 | Z55 | 1286 | 042 | 3282 | 143 | 1734 | 208 | 1735 | 273 | 1737 |
| T32 | 1273 | V04 | 1285 | V74 | 1284 | W41 | 1280 | X12 | 1281 | X87 | 1283 | Z56 | 1286 | 043 | 3282 | 144 | 1734 | 209 | 1735 | 274 | 1737 |
| 4PT33 | 1273 | 4PV05 | 1285 | 4PV75 | 1284 | 4PW42 | 1280 | 4PX15 | 1281 | 4PX88 | 1283 | 4PZ57 | 1286 | 4P044 | 3282 | 4P145 | 1734 | 4P210 | 1735 | 4P275 | 1737 |
| T34 | 1275 | V06 | 1285 | V76 | 1284 | W43 | 1280 | X16 | 1281 | X89 | 1283 | Z58 | 1286 | 045 | 3282 | 146 | 1734 | 211 | 1735 | 276 | 1737 |
| T35 | 1277 | V07 | 1285 | V77 | 1284 | W44 | 1280 | X19 | 1281 | X90 | 1283 | Z59 | 1286 | 046 | 3282 | 147 | 1734 | 212 | 1735 | 277 | 1737 |
| T36 | 1277 | V08 | 1285 | V78 | 1284 | W45 | 1280 | X20 | 1281 | X91 | 1283 | Z60 | 1286 | 047 | 3282 | 148 | 1734 | 213 | 1735 | 278 | 1737 |
| T37 | 1277 | V12 | 1285 | V79 | 1284 | W46 | 1280 | X21 | 1281 | X92 | 1283 | Z61 | 1286 | 048 | 3282 | 149 | 1734 | 214 | 1735 | 279 | 1737 |
| 4PT38 | 1277 | 4PV13 | 1285 | 4PV80 | 1284 | 4PW47 | 1280 | 4PX22 | 1281 | 4PX93 | 1283 | 4PZ62 | 1286 | 4P050 | 3212 | 4P150 | 1734 | 4P215 | 1735 | 4P280 | 1737 |
| T40 | 1274 | V14 | 1285 | V81 | 1284 | W48 | 1280 | X23 | 1281 | X94 | 1283 | Z63 | 1286 | 051 | 3213 | 151 | 1734 | 216 | 1735 | 281 | 1737 |
| T41 | 1275 | V15 | 1285 | V82 | 1284 | W51 | 1287 | X24 | 1281 | X95 | 1283 | Z64 | 1286 | 052 | 3213 | 152 | 1734 | 217 | 1735 | 282 | 1737 |
| T42 | 1271 | V18 | 1278 | V83 | 1284 | W52 | 1287 | X25 | 1281 | X97 | 1283 | Z65 | 1286 | 061 | 3244 | 153 | 1734 | 218 | 1735 | 283 | 1737 |
| T43 | 1274 | V19 | 1278 | V84 | 1284 | W53 | 1287 | X26 | 1281 | X98 | 1283 | Z66 | 1286 | 062 | 3261 | 154 | 1734 | 219 | 1735 | 284 | 1737 |
| 4PT44 | 1275 | 4PV20 | 1278 | 4PV85 | 1284 | 4PW54 | 1287 | 4PX27 | 1281 | 4PX99 | 1283 | 4PZ67 | 1286 | 4P063 | 3282 | 4P155 | 1734 | 4P220 | 1735 | 4P285 | 1737 |
| T45 | 1275 | V21 | 1278 | V86 | 1286 | W55 | 1287 | X28 | 1282 | Z01 | 1283 | Z68 | 1286 | 064 | 3074 | 156 | 1734 | 221 | 1735 | 286 | 1737 |
| T46 | 1274 | V22 | 1278 | V87 | 1286 | W56 | 1287 | X29 | 1282 | Z02 | 1283 | Z69 | 1286 | 065 | 3074 | 157 | 1734 | 222 | 1735 | 287 | 1737 |
| T47 | 1274 | V23 | 1278 | V88 | 1286 | W58 | 1278 | X33 | 1282 | Z03 | 1283 | Z70 | 1286 | 066 | 3084 | 158 | 1734 | 223 | 1735 | 288 | 1737 |
| T48 | 1274 | V24 | 1276 | V89 | 1286 | W59 | 1278 | X34 | 1282 | Z04 | 1283 | Z71 | 1286 | 067 | 3084 | 159 | 1734 | 224 | 1735 | 289 | 1737 |
| 4PT49 | 1275 | 4PV25 | 1281 | 4PV90 | 1286 | 4PW60 | 1278 | 4PX35 | 1282 | 4PZ05 | 1283 | 4PZ72 | 1286 | 4P068 | 3084 | 4P160 | 1734 | 4P225 | 1735 | 4P290 | 1737 |
| T50 | 1274 | V26 | 1281 | V91 | 1286 | W61 | 1278 | X36 | 1282 | Z06 | 1283 | Z73 | 1287 | 069 | 3084 | 161 | 1734 | 226 | 1735 | 291 | 1737 |
| T52 | 1274 | V27 | 1281 | V92 | 1286 | W62 | 1278 | X37 | 1282 | Z07 | 1283 | Z74 | 1287 | 070 | 3084 | 162 | 1734 | 227 | 1735 | 292 | 1737 |
| T53 | 1275 | V28 | 1281 | V93 | 1286 | W63 | 1278 | X38 | 1282 | Z08 | 1283 | Z75 | 1287 | 071 | 3204 | 163 | 1734 | 228 | 1735 | 293 | 1737 |
| T54 | 1275 | V29 | 1281 | V94 | 1286 | W64 | 1278 | X39 | 1282 | Z09 | 1283 | Z76 | 1287 | 072 | 3204 | 164 | 1734 | 229 | 1735 | 294 | 1737 |
| 4PT55 | 1274 | 4PV30 | 1281 | 4PV95 | 1286 | 4PW65 | 1278 | 4PX42 | 1278 | 4PZ10 | 1283 | 4PZ77 | 1287 | 4P100 | 1734 | 4P165 | 1734 | 4P230 | 1735 | 4P295 | 1737 |
| T56 | 1274 | V31 | 1281 | V96 | 1268 | W68 | 1278 | X43 | 1278 | Z11 | 1283 | Z78 | 1287 | 101 | 1734 | 166 | 1734 | 231 | 1735 | 296 | 1737 |
| T57 | 1274 | V32 | 1281 | V97 | 1262 | W69 | 1281 | X44 | 1278 | Z12 | 1283 | Z79 | 1286 | 102 | 1734 | 167 | 1734 | 232 | 1735 | 297 | 1737 |
| T58 | 1274 | V33 | 1281 | V98 | 1256 | W70 | 1281 | X45 | 1278 | Z13 | 1283 | Z91 | 1280 | 103 | 1734 | 168 | 1734 | 233 | 1735 | 298 | 1737 |
| T59 | 1275 | V34 | 1281 | V99 | 1254 | W71 | 1281 | X46 | 1278 | Z14 | 1283 | Z92 | 1280 | 104 | 1734 | 169 | 1734 | 234 | 1735 | 299 | 1738 |
| 4PT60 | 1275 | 4PV35 | 1281 | 4PW01 | 1252 | 4PW72 | 1281 | 4PX47 | 1278 | 4PZ17 | 1286 | 4PZ93 | 1280 | 4P105 | 1734 | 4P170 | 1734 | 4P235 | 1735 | 4P300 | 1738 |
| T61 | 1275 | V36 | 1281 | W02 | 1265 | W73 | 1281 | X48 | 1283 | Z18 | 1286 | Z94 | 1280 | 106 | 1734 | 171 | 1734 | 236 | 1735 | 301 | 1738 |
| T62 | 1275 | V37 | 1281 | W03 | 1278 | W74 | 1281 | X49 | 1283 | Z19 | 1286 | Z95 | 1280 | 107 | 1734 | 172 | 1734 | 237 | 1735 | 302 | 1738 |
| T63 | 1277 | V38 | 1281 | W04 | 1284 | W75 | 1281 | X50 | 1283 | Z20 | 1286 | Z96 | 1280 | 108 | 1734 | 173 | 1734 | 238 | 1735 | 303 | 1738 |
| T64 | 1277 | V39 | 1278 | W06 | 1278 | W76 | 1281 | X51 | 1283 | Z21 | 1287 | Z97 | 1280 | 109 | 1734 | 174 | 1734 | 239 | 1735 | 304 | 1738 |

# STOCK NUMBER—PAGE NUMBER

## 4P3 — 4RD


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4P305 | 1738 | 4P370 | 1741 | 4P435 | 1743 | 4P501 | 1747 | 4P566 | 1751 | 4P632 | 1748 | 4P697 | 1754 | 4P762 | 1757 | 4P829 | 1760 | 4P920 | 3176 | 4RC37 | 2372 |
| 306 | 1738 | 371 | 1741 | 436 | 1744 | 502 | 1747 | 567 | 1751 | 633 | 1748 | 698 | 1754 | 763 | 1757 | 830 | 1760 | 921 | 3176 | C38 | 2392 |
| 307 | 1738 | 372 | 1741 | 437 | 1744 | 503 | 1747 | 568 | 1751 | 634 | 1748 | 699 | 1754 | 764 | 1757 | 831 | 1760 | 922 | 3176 | C39 | 2384 |
| 308 | 1738 | 373 | 1741 | 438 | 1744 | 504 | 1747 | 569 | 1751 | 635 | 1748 | 700 | 1754 | 765 | 1757 | 832 | 1760 | 923 | 3176 | C40 | 2384 |
| 309 | 1738 | 374 | 1741 | 439 | 1744 | 505 | 1747 | 570 | 1751 | 636 | 1748 | 701 | 1754 | 766 | 1757 | 833 | 3255 | 924 | 3176 | C41 | 2384 |
| 4P310 | 1738 | 4P375 | 1741 | 4P441 | 1745 | 4P506 | 1747 | 4P571 | 1751 | 4P637 | 1748 | 4P702 | 1754 | 4P767 | 1757 | 4P834 | 3255 | 4P925 | 3176 | 4RC42 | 2384 |
| 311 | 1738 | 376 | 1741 | 442 | 1745 | 507 | 1747 | 572 | 1751 | 638 | 1748 | 703 | 1754 | 768 | 1757 | 835 | 3255 | 926 | 3176 | C43 | 2378 |
| 312 | 1738 | 377 | 1741 | 443 | 1745 | 508 | 1747 | 573 | 1751 | 639 | 1748 | 704 | 1754 | 769 | 1755 | 836 | 3255 | 928 | 3187 | C44 | 2378 |
| 313 | 1738 | 378 | 1741 | 444 | 1745 | 509 | 1747 | 574 | 1751 | 640 | 1748 | 705 | 1754 | 770 | 1755 | 837 | 3255 | 929 | 3187 | C45 | 3202 |
| 314 | 1738 | 379 | 1741 | 445 | 1745 | 510 | 1747 | 575 | 1751 | 641 | 1748 | 706 | 1754 | 771 | 1755 | 838 | 3255 | 939 | 3123 | C46 | 3202 |
| 4P315 | 1738 | 4P380 | 1741 | 4P446 | 1745 | 4P511 | 1747 | 4P576 | 1751 | 4P642 | 1748 | 4P707 | 1754 | 4P772 | 1755 | 4P839 | 3255 | 4P940 | 3123 | 4RC47 | 3213 |
| 316 | 1738 | 381 | 1741 | 447 | 1745 | 512 | 1747 | 577 | 1751 | 643 | 1748 | 708 | 1754 | 773 | 1755 | 840 | 3252 | 941 | 3123 | C48 | 3213 |
| 317 | 1738 | 382 | 1741 | 448 | 1745 | 513 | 1747 | 578 | 1751 | 644 | 1748 | 709 | 1754 | 774 | 1755 | 841 | 3252 | 945 | 3177 | C49 | 3212 |
| 318 | 1738 | 383 | 1741 | 449 | 1745 | 514 | 1747 | 579 | 1752 | 645 | 1748 | 710 | 1754 | 775 | 1755 | 842 | 3252 | 947 | 3083 | C50 | 3212 |
| 319 | 1738 | 384 | 1741 | 450 | 1745 | 515 | 1747 | 580 | 1752 | 646 | 1748 | 711 | 1753 | 776 | 1755 | 843 | 3252 | 948 | 3064 | C51 | 2510 |
| 4P320 | 1738 | 4P385 | 1741 | 4P451 | 1745 | 4P516 | 1747 | 4P581 | 1752 | 4P647 | 1749 | 4P712 | 1753 | 4P777 | 1755 | 4P844 | 3252 | 4P949 | 3180 | 4RC52 | 2508 |
| 321 | 1738 | 386 | 1741 | 452 | 1745 | 517 | 1747 | 582 | 1752 | 648 | 1749 | 713 | 1753 | 778 | 1755 | 845 | 3252 | 950 | 3180 | C53 | 2508 |
| 322 | 1738 | 387 | 1741 | 453 | 1745 | 518 | 1747 | 583 | 1752 | 649 | 1749 | 714 | 1753 | 779 | 1755 | 846 | 3252 | 968 | 3196 | C54 | 2508 |
| 323 | 1738 | 388 | 1741 | 454 | 1745 | 519 | 1747 | 584 | 1749 | 650 | 1749 | 715 | 1753 | 780 | 1755 | 847 | 3251 | 969 | 3196 | C55 | 2511 |
| 324 | 1738 | 389 | 1741 | 455 | 1745 | 520 | 1746 | 585 | 1749 | 651 | 1749 | 716 | 1753 | 781 | 1755 | 848 | 3251 | 970 | 3194 | C56 | 2511 |
| 4P325 | 1738 | 4P390 | 1741 | 4P456 | 1745 | 4P521 | 1746 | 4P586 | 1749 | 4P652 | 1749 | 4P717 | 1753 | 4P782 | 1755 | 4P849 | 3251 | 4P971 | 3194 | 4RC57 | 2511 |
| 326 | 1738 | 391 | 1741 | 457 | 1745 | 522 | 1746 | 587 | 1749 | 653 | 1749 | 718 | 1753 | 783 | 1755 | 850 | 3251 | 972 | 3210 | C58 | 2511 |
| 327 | 1738 | 392 | 1761 | 458 | 1745 | 523 | 1746 | 588 | 1749 | 654 | 1749 | 719 | 1753 | 784 | 1755 | 851 | 3251 | 973 | 3158 | C59 | 2511 |
| 328 | 1738 | 393 | 1761 | 459 | 1744 | 524 | 1746 | 589 | 1749 | 655 | 1749 | 720 | 1753 | 785 | 1755 | 852 | 3251 | 974 | 3158 | C60 | 2510 |
| 329 | 1738 | 394 | 1761 | 460 | 1744 | 525 | 1746 | 590 | 1749 | 656 | 1749 | 721 | 1753 | 786 | 1755 | 853 | 3251 | 975 | 3270 | C61 | 2510 |
| 4P330 | 1741 | 4P395 | 1761 | 4P461 | 1744 | 4P526 | 1746 | 4P591 | 1749 | 4P657 | 1750 | 4P722 | 1753 | 4P787 | 1756 | 4P854 | 3251 | 4P976 | 3270 | 4RC62 | 2508 |
| 331 | 1741 | 396 | 1761 | 462 | 1744 | 527 | 1746 | 592 | 1749 | 658 | 1750 | 723 | 1754 | 788 | 1756 | 855 | 3251 | 977 | 3270 | C63 | 2511 |
| 332 | 1741 | 397 | 1761 | 463 | 1744 | 528 | 1746 | 593 | 1749 | 659 | 1750 | 724 | 1754 | 789 | 1756 | 856 | 3251 | 4R | | C64 | 2508 |
| 333 | 1741 | 398 | 1761 | 464 | 1744 | 529 | 1746 | 594 | 1749 | 660 | 1750 | 725 | 1754 | 790 | 1756 | 857 | 3251 | | | C65 | 3237 |
| 334 | 1741 | 399 | 1761 | 465 | 1744 | 530 | 1746 | 595 | 1749 | 661 | 1750 | 726 | 1754 | 791 | 1756 | 858 | 3251 | 4RC01 | 2368 | C66 | 3237 |
| 4P335 | 1741 | 4P400 | 1761 | 4P466 | 1742 | 4P531 | 1746 | 4P596 | 1749 | 4P662 | 1750 | 4P727 | 1754 | 4P792 | 1760 | 4P859 | 3251 | 4RC02 | 2368 | 4RC67 | 3237 |
| 336 | 1741 | 401 | 1761 | 467 | 1742 | 532 | 1746 | 597 | 1749 | 663 | 1749 | 728 | 1754 | 793 | 1760 | 860 | 3251 | C03 | 2368 | C68 | 3237 |
| 337 | 1741 | 402 | 1761 | 468 | 1742 | 533 | 1746 | 598 | 1749 | 664 | 1749 | 729 | 1754 | 794 | 1760 | 861 | 3251 | C04 | 2368 | C69 | 3237 |
| 338 | 1741 | 403 | 1761 | 469 | 1742 | 534 | 1746 | 599 | 1749 | 665 | 1749 | 730 | 1754 | 795 | 1760 | 862 | 3251 | C05 | 2395 | C70 | 3237 |
| 339 | 1741 | 404 | 1761 | 470 | 1742 | 535 | 1746 | 600 | 1749 | 666 | 1749 | 731 | 1754 | 796 | 1760 | 863 | 3251 | C06 | 2395 | C71 | 3237 |
| 4P340 | 1741 | 4P405 | 1761 | 4P471 | 1746 | 4P536 | 1746 | 4P601 | 1749 | 4P667 | 1749 | 4P732 | 1754 | 4P797 | 1760 | 4P864 | 3251 | 4RC07 | 2395 | 4RC72 | 3237 |
| 341 | 1741 | 406 | 1761 | 472 | 1746 | 537 | 1746 | 602 | 1749 | 668 | 1749 | 733 | 1754 | 798 | 1760 | 865 | 3251 | C08 | 2395 | C73 | 3237 |
| 342 | 1741 | 407 | 1761 | 473 | 1746 | 538 | 1751 | 603 | 1749 | 669 | 1749 | 734 | 1754 | 799 | 1760 | 866 | 3046 | C09 | 3251 | C75 | 3237 |
| 343 | 1741 | 408 | 1742 | 474 | 1746 | 539 | 1751 | 604 | 1749 | 670 | 1749 | 735 | 1754 | 800 | 1760 | 882 | 3255 | C10 | 3251 | C76 | 3237 |
| 344 | 1741 | 409 | 1742 | 475 | 1746 | 540 | 1751 | 606 | 1749 | 671 | 1749 | 736 | 1754 | 801 | 1760 | 883 | 3255 | C11 | 3251 | C77 | 3274 |
| 4P345 | 1741 | 4P410 | 1742 | 4P476 | 1746 | 4P541 | 1751 | 4P607 | 1749 | 4P672 | 1749 | 4P737 | 1754 | 4P802 | 1760 | 4P884 | 3255 | 4RC12 | 3251 | 4RC78 | 3274 |
| 346 | 1741 | 411 | 1742 | 477 | 1746 | 542 | 1751 | 608 | 1749 | 673 | 1749 | 738 | 1754 | 803 | 1760 | 885 | 3255 | C13 | 3251 | C79 | 3274 |
| 347 | 1741 | 412 | 1742 | 478 | 1746 | 543 | 1751 | 609 | 1749 | 674 | 1749 | 739 | 1754 | 804 | 1760 | 886 | 3255 | C14 | 3251 | C80 | 3274 |
| 348 | 1741 | 413 | 1742 | 479 | 1746 | 544 | 1751 | 610 | 1749 | 675 | 1749 | 740 | 1754 | 805 | 1760 | 888 | 3261 | C15 | 3251 | C81 | 3274 |
| 349 | 1741 | 414 | 1742 | 480 | 1746 | 545 | 1751 | 611 | 1749 | 676 | 1749 | 741 | 1754 | 806 | 1760 | 899 | 3210 | C16 | 3251 | C82 | 3274 |
| 4P350 | 1741 | 4P415 | 1742 | 4P481 | 1746 | 4P546 | 1751 | 4P612 | 1749 | 4P677 | 1750 | 4P742 | 1755 | 4P807 | 1760 | 4P900 | 3210 | 4RC17 | 3251 | 4RC83 | 3274 |
| 351 | 1741 | 416 | 1742 | 482 | 1746 | 547 | 1751 | 613 | 1749 | 678 | 1750 | 743 | 1755 | 810 | 1761 | 901 | 3210 | C18 | 3251 | C84 | 3275 |
| 352 | 1741 | 417 | 1742 | 483 | 1746 | 548 | 1751 | 614 | 1748 | 679 | 1750 | 744 | 1755 | 811 | 1761 | 902 | 3210 | C19 | 3251 | C85 | 3275 |
| 353 | 1741 | 418 | 1742 | 484 | 1746 | 549 | 1751 | 615 | 1748 | 680 | 1750 | 745 | 1755 | 812 | 1760 | 903 | 3214 | C20 | 3211 | C86 | 3275 |
| 354 | 1741 | 419 | 1742 | 485 | 1746 | 550 | 1751 | 616 | 1748 | 681 | 1750 | 746 | 1755 | 813 | 1760 | 904 | 3214 | C21 | 3211 | C87 | 3275 |
| 4P355 | 1741 | 4P420 | 1742 | 4P486 | 1746 | 4P551 | 1751 | 4P617 | 1748 | 4P682 | 1750 | 4P747 | 1755 | 4P814 | 2246 | 4P905 | 3214 | 4RC22 | 3211 | 4RC88 | 3275 |
| 356 | 1741 | 421 | 1742 | 487 | 1746 | 552 | 1751 | 618 | 1748 | 683 | 1750 | 748 | 1755 | 815 | 2246 | 906 | 3214 | C23 | 3211 | C89 | 3275 |
| 357 | 1741 | 422 | 1744 | 488 | 1746 | 553 | 1751 | 619 | 1748 | 684 | 1751 | 749 | 1755 | 816 | 2246 | 907 | 3261 | C24 | 3211 | C90 | 3275 |
| 358 | 1741 | 423 | 1744 | 489 | 1746 | 554 | 1751 | 620 | 1748 | 685 | 1751 | 750 | 1755 | 817 | 1760 | 908 | 3202 | C25 | 3211 | C91 | 3274 |
| 359 | 1741 | 424 | 1744 | 490 | 1746 | 555 | 1751 | 621 | 1748 | 686 | 1751 | 751 | 1755 | 818 | 1760 | 909 | 3135 | C26 | 3164 | C92 | 3275 |
| 4P360 | 1741 | 4P425 | 1744 | 4P491 | 1746 | 4P556 | 1751 | 4P622 | 1748 | 4P687 | 1751 | 4P752 | 1755 | 4P819 | 1760 | 4P910 | 3135 | 4RC27 | 3164 | 4RC93 | 3274 |
| 361 | 1741 | 426 | 1744 | 492 | 1746 | 557 | 1751 | 623 | 1748 | 688 | 1751 | 753 | 1755 | 820 | 1760 | 911 | 3180 | C28 | 3164 | C94 | 3275 |
| 362 | 1741 | 427 | 1744 | 493 | 1746 | 558 | 1751 | 624 | 1748 | 689 | 1751 | 754 | 1756 | 821 | 1760 | 912 | 3180 | C29 | 3164 | C95 | 3274 |
| 363 | 1741 | 428 | 1744 | 494 | 1746 | 559 | 1751 | 625 | 1748 | 690 | 1751 | 755 | 1756 | 822 | 1760 | 913 | 3268 | C30 | 2364 | C96 | 3275 |
| 364 | 1741 | 429 | 1743 | 495 | 1746 | 560 | 1751 | 626 | 1748 | 691 | 1751 | 756 | 1756 | 823 | 1760 | 914 | 3268 | C31 | 2364 | C97 | 3274 |
| 4P365 | 1741 | 4P430 | 1743 | 4P496 | 1746 | 4P561 | 1751 | 4P627 | 1748 | 4P692 | 1754 | 4P757 | 1756 | 4P824 | 1760 | 4P915 | 3268 | 4RC32 | 2364 | 4RC98 | 3275 |
| 366 | 1741 | 431 | 1743 | 497 | 1746 | 562 | 1751 | 628 | 1748 | 693 | 1754 | 758 | 1756 | 825 | 1760 | 916 | 3268 | C33 | 2364 | C99 | 3274 |
| 367 | 1741 | 432 | 1743 | 498 | 1746 | 563 | 1751 | 629 | 1748 | 694 | 1754 | 759 | 1756 | 826 | 1760 | 917 | 3176 | C34 | 2372 | D01 | 3275 |
| 368 | 1741 | 433 | 1743 | 499 | 1746 | 564 | 1751 | 630 | 1748 | 695 | 1754 | 760 | 1756 | 827 | 1760 | 918 | 3176 | C35 | 2372 | D02 | 3274 |
| 369 | 1741 | 434 | 1743 | 500 | 1746 | 565 | 1751 | 631 | 1748 | 696 | 1754 | 761 | 1757 | 828 | 1760 | 919 | 3176 | C36 | 2372 | D03 | 3275 |




Grainger—more ways to get stuff faster.

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4RD04 | 3274 | 4RD69 | 3266 | 4RF35 | 2415 | 4RG12 | 42 | 4RG82 | 3251 | 4RH48 | 3120 | 4RJ15 | 3218 | 4RJ80 | 3122 | 4RK47 | 3222 | 4RL13 | 3142 | 4RL80 | 2550 |
| D05 | 3275 | D70 | 3266 | F36 | 2415 | G13 | 42 | G83 | 3251 | H49 | 3120 | J16 | 3218 | J81 | 3122 | K48 | 3222 | L14 | 3144 | L81 | 2550 |
| D06 | 3275 | D71 | 3266 | F37 | 2415 | G14 | 42 | G84 | 3251 | H50 | 3120 | J17 | 3218 | J82 | 3288 | K49 | 3222 | L15 | 3144 | L82 | 2550 |
| D07 | 3273 | D72 | 3266 | F38 | 2403 | G15 | 41 | G85 | 3140 | H51 | 3120 | J18 | 3218 | J83 | 3288 | K50 | 3222 | L16 | 3144 | L83 | 2550 |
| D08 | 3275 | D73 | 3266 | F39 | 2403 | G16 | 41 | G86 | 3140 | H52 | 3120 | J19 | 3217 | J84 | 3288 | K51 | 3232 | L17 | 3143 | L84 | 2550 |
| 4RD09 | 3275 | 4RD74 | 3266 | 4RF40 | 2403 | 4RG17 | 41 | 4RG87 | 3140 | 4RH53 | 3120 | 4RJ20 | 3217 | 4RJ85 | 3288 | 4RK52 | 3232 | 4RL18 | 3143 | 4RL85 | 2550 |
| D10 | 3275 | D75 | 3273 | F41 | 2404 | G18 | 41 | G88 | 3230 | H54 | 3120 | J21 | 3217 | J86 | 3288 | K53 | 3232 | L19 | 3143 | L86 | 2550 |
| D11 | 3275 | D76 | 3274 | F42 | 2404 | G19 | 41 | G89 | 3230 | H55 | 3120 | J22 | 3217 | J87 | 3288 | K54 | 3232 | L20 | 3143 | L87 | 2553 |
| D12 | 3275 | D77 | 3274 | F43 | 2404 | G20 | 41 | G90 | 3230 | H56 | 3120 | J23 | 3217 | J88 | 3288 | K55 | 3220 | L21 | 3143 | L88 | 2553 |
| D13 | 3274 | D78 | 3273 | F44 | 2404 | G21 | 41 | G91 | 3230 | H57 | 3120 | J24 | 3289 | J89 | 3288 | K56 | 3220 | L22 | 3143 | L89 | 2553 |
| 4RD14 | 3274 | 4RD79 | 3273 | 4RF45 | 2404 | 4RG22 | 41 | 4RG92 | 3230 | 4RH58 | 3120 | 4RJ25 | 3289 | 4RJ90 | 3288 | 4RK57 | 3220 | 4RL23 | 3143 | 4RL90 | 2553 |
| D15 | 3274 | D80 | 3273 | F46 | 2403 | G23 | 41 | G93 | 3230 | H59 | 3120 | J26 | 3289 | J91 | 3288 | K58 | 3220 | L24 | 3144 | L91 | 2553 |
| D16 | 3273 | D81 | 3274 | F47 | 2403 | G24 | 41 | G94 | 3251 | H60 | 3120 | J27 | 3217 | J92 | 3288 | K59 | 3220 | L25 | 3144 | L92 | 2553 |
| D17 | 3273 | D82 | 3273 | F48 | 2403 | G25 | 41 | G95 | 3251 | H61 | 3120 | J28 | 3217 | J93 | 3288 | K60 | 3220 | L26 | 3144 | L93 | 2550 |
| D18 | 3275 | D83 | 3273 | F49 | 2403 | G26 | 41 | G96 | 3251 | H62 | 3120 | J29 | 3217 | J94 | 3288 | K61 | 3220 | L27 | 3144 | L94 | 2550 |
| 4RD19 | 3275 | 4RD84 | 3273 | 4RF50 | 2403 | 4RG27 | 41 | 4RG97 | 3251 | 4RH63 | 3120 | 4RJ30 | 3286 | 4RJ95 | 3288 | 4RK62 | 3220 | 4RL28 | 3143 | 4RL95 | 2551 |
| D20 | 3275 | D85 | 2563 | F51 | 2403 | G28 | 41 | G98 | 3140 | H64 | 3120 | J31 | 3286 | J96 | 3244 | K63 | 3220 | L29 | 3144 | L96 | 2386 |
| D21 | 3275 | D86 | 2563 | F52 | 2413 | G29 | 41 | G99 | 3251 | H66 | 3120 | J32 | 3148 | J97 | 3232 | K64 | 3222 | L30 | 3141 | L97 | 2386 |
| D22 | 3275 | D87 | 2563 | F53 | 2413 | G30 | 41 | H01 | 3251 | H67 | 3120 | J33 | 3148 | J98 | 3232 | K65 | 3222 | L31 | 3141 | L98 | 2386 |
| D23 | 3275 | D88 | 2563 | F54 | 2415 | G31 | 41 | H02 | 3251 | H68 | 3120 | J34 | 3209 | J99 | 3290 | K66 | 3222 | L32 | 3141 | L99 | 2390 |
| 4RD24 | 3275 | 4RD89 | 2563 | 4RF55 | 2403 | 4RG32 | 41 | 4RH03 | 3251 | 4RH69 | 3128 | 4RJ35 | 3208 | 4RK01 | 3290 | 4RK67 | 3254 | 4RL33 | 3141 | 4RM01 | 2401 |
| D25 | 3275 | D90 | 2563 | F56 | 2404 | G33 | 41 | H04 | 3251 | H70 | 3128 | J36 | 3239 | K02 | 3290 | K68 | 3254 | L34 | 3141 | M02 | 2401 |
| D26 | 3274 | D91 | 2563 | F57 | 2404 | G34 | 41 | H05 | 3251 | H71 | 3128 | J37 | 3246 | K03 | 3290 | K69 | 3254 | L35 | 3141 | M03 | 2401 |
| D27 | 3274 | D92 | 2563 | F58 | 2152 | G35 | 41 | H06 | 3251 | H72 | 3128 | J38 | 3239 | K04 | 3232 | K70 | 3256 | L36 | 3141 | M04 | 2401 |
| D28 | 3275 | D93 | 2563 | F59 | 2329 | G36 | 41 | H07 | 3140 | H73 | 3128 | J39 | 3209 | K05 | 3232 | K71 | 3256 | L37 | 3265 | M05 | 2401 |
| 4RD29 | 3266 | 4RD94 | 2563 | 4RF60 | 2329 | 4RG37 | 41 | 4RH08 | 3140 | 4RH74 | 3128 | 4RJ40 | 3138 | 4RK06 | 3232 | 4RK72 | 3254 | 4RL38 | 3265 | 4RM06 | 2401 |
| D30 | 3266 | D95 | 2563 | F61 | 2329 | G38 | 41 | H09 | 3140 | H75 | 3128 | J41 | 3138 | K07 | 3232 | K73 | 3254 | L39 | 3265 | M07 | 2548 |
| D31 | 3266 | D96 | 2563 | F62 | 2331 | G39 | 41 | H10 | 3140 | H76 | 3128 | J42 | 3138 | K08 | 3232 | K74 | 3215 | L40 | 3265 | M08 | 2548 |
| D32 | 3266 | D97 | 2563 | F63 | 2329 | G45 | 3292 | H11 | 3140 | H77 | 3128 | J43 | 3138 | K10 | 3229 | K75 | 3289 | L41 | 3265 | M09 | 2446 |
| D33 | 3266 | D98 | 2563 | F64 | 2331 | G46 | 3292 | H12 | 3140 | H78 | 3120 | J44 | 3138 | K11 | 3289 | K76 | 3289 | L42 | 3265 | M10 | 2397 |
| 4RD34 | 3266 | 4RD99 | 2563 | 4RF65 | 2331 | 4RG47 | 3292 | 4RH13 | 3291 | 4RH79 | 3120 | 4RJ45 | 3148 | 4RK12 | 3289 | 4RK77 | 3289 | 4RL43 | 3143 | 4RM11 | 2397 |
| D35 | 3273 | F01 | 2563 | F66 | 2351 | G48 | 3292 | H14 | 3291 | H80 | 3120 | J46 | 3232 | K13 | 3289 | K78 | 3289 | L44 | 3143 | M12 | 2397 |
| D36 | 3274 | F02 | 2563 | F67 | 2343 | G49 | 3292 | H15 | 3291 | H81 | 3120 | J47 | 3240 | K14 | 3289 | K79 | 3289 | L45 | 3143 | M13 | 2550 |
| D37 | 3274 | F03 | 2563 | F68 | 2343 | G50 | 3292 | H16 | 3291 | H82 | 3120 | J48 | 3240 | K15 | 3232 | K80 | 3289 | L46 | 3143 | M14 | 2550 |
| D38 | 3275 | F04 | 2362 | F69 | 2343 | G51 | 3292 | H17 | 3291 | H83 | 3120 | J49 | 3245 | K16 | 3232 | K81 | 3289 | L47 | 3144 | M15 | 2550 |
| 4RD39 | 3273 | 4RF05 | 2362 | 4RF70 | 2344 | 4RG52 | 3292 | 4RH18 | 3291 | 4RH84 | 3120 | 4RJ50 | 3240 | 4RK17 | 3232 | 4RK82 | 3290 | 4RL48 | 3144 | 4RM16 | 2550 |
| D40 | 3275 | F06 | 2362 | F71 | 2350 | G53 | 3292 | H19 | 3291 | H85 | 3120 | J51 | 3239 | K18 | 3232 | K83 | 3290 | L49 | 3144 | M17 | 2407 |
| D41 | 3274 | F07 | 2362 | F72 | 2350 | G54 | 3292 | H20 | 3291 | H86 | 3120 | J52 | 3245 | K19 | 3232 | K84 | 3166 | L50 | 3216 | M18 | 2407 |
| D42 | 3274 | F08 | 2370 | F73 | 2339 | G55 | 3292 | H21 | 3291 | H87 | 3120 | J53 | 3239 | K20 | 3232 | K85 | 3142 | L51 | 344 | M19 | 2407 |
| D43 | 3274 | F09 | 2370 | F74 | 2339 | G56 | 3292 | H22 | 3291 | H88 | 3120 | J54 | 3239 | K21 | 3232 | K86 | 3142 | L52 | 344 | M20 | 2407 |
| 4RD44 | 3274 | 4RF10 | 2370 | 4RF75 | 2350 | 4RG57 | 3292 | 4RH23 | 3291 | 4RH89 | 3120 | 4RJ55 | 3289 | 4RK22 | 3232 | 4RK87 | 3142 | 4RL53 | 344 | 4RM21 | 2407 |
| D45 | 3274 | F11 | 2370 | F76 | 2350 | G58 | 3292 | H24 | 3291 | H90 | 3120 | J56 | 3289 | K23 | 3232 | K88 | 3142 | L54 | 344 | M22 | 2444 |
| D46 | 3274 | F12 | 2370 | F77 | 2350 | G59 | 3292 | H25 | 3291 | H91 | 3120 | J57 | 3289 | K24 | 3232 | K89 | 3142 | L55 | 344 | M23 | 2424 |
| D47 | 3267 | F13 | 2370 | F89 | 42 | G60 | 3292 | H26 | 3291 | H92 | 3120 | J58 | 3122 | K25 | 3232 | K90 | 3216 | L56 | 344 | M24 | 2407 |
| D48 | 3267 | F14 | 2370 | F90 | 42 | G61 | 3292 | H27 | 3291 | H93 | 3120 | J59 | 3122 | K26 | 3232 | K91 | 3216 | L57 | 344 | M25 | 2407 |
| 4RD49 | 3267 | 4RF15 | 2370 | 4RF91 | 42 | 4RG62 | 3292 | 4RH28 | 3291 | 4RH94 | 3120 | 4RJ60 | 3122 | 4RK27 | 3232 | 4RK92 | 3145 | 4RL58 | 344 | 4RM26 | 2407 |
| D50 | 3267 | F16 | 2370 | F92 | 42 | G63 | 3292 | H29 | 3291 | H95 | 3120 | J61 | 3122 | K28 | 3232 | K93 | 3145 | L59 | 344 | M27 | 2407 |
| D51 | 3267 | F17 | 2370 | F93 | 42 | G64 | 3256 | H30 | 3291 | H96 | 3120 | J62 | 3122 | K29 | 3232 | K94 | 3145 | L60 | 344 | M28 | 2407 |
| D52 | 3267 | F18 | 2370 | F94 | 42 | G65 | 3256 | H31 | 3291 | H97 | 3128 | J63 | 3122 | K30 | 3232 | K95 | 3166 | L61 | 2548 | M29 | 2407 |
| D53 | 3267 | F19 | 2370 | F95 | 42 | G66 | 3256 | H32 | 3291 | H98 | 3128 | J64 | 3122 | K31 | 3232 | K96 | 3166 | L62 | 2548 | M30 | 2407 |
| 4RD54 | 3267 | 4RF20 | 2372 | 4RF96 | 42 | 4RG67 | 3256 | 4RH33 | 3122 | 4RH99 | 3128 | 4RJ65 | 3122 | 4RK32 | 3232 | 4RK97 | 3142 | 4RL63 | 2548 | 4RM31 | 2407 |
| D55 | 3267 | F21 | 2372 | F97 | 42 | G68 | 3256 | H34 | 3122 | J01 | 3128 | J66 | 3122 | K33 | 3232 | K98 | 3285 | L64 | 2550 | M32 | 2407 |
| D56 | 3267 | F22 | 2372 | F98 | 42 | G69 | 3256 | H35 | 3291 | J02 | 3128 | J67 | 3122 | K34 | 3229 | K99 | 3142 | L66 | 2550 | M33 | 2459 |
| D57 | 3267 | F23 | 2369 | F99 | 42 | G70 | 3256 | H36 | 3287 | J03 | 3128 | J68 | 3122 | K35 | 3229 | L01 | 3142 | L67 | 2550 | M34 | 2459 |
| D58 | 3267 | F24 | 2378 | G01 | 42 | G71 | 3256 | H37 | 3287 | J04 | 3128 | J69 | 3122 | K36 | 3229 | L02 | 3265 | L68 | 2550 | M35 | 2459 |
| 4RD59 | 3267 | 4RF25 | 2378 | 4RG02 | 42 | 4RG72 | 3256 | 4RH38 | 3287 | 4RJ05 | 3128 | 4RJ70 | 3122 | 4RK37 | 3229 | 4RL03 | 3265 | 4RL69 | 2553 | 4RM36 | 2463 |
| D60 | 3267 | F26 | 2378 | G03 | 42 | G73 | 3256 | H39 | 3287 | J06 | 3128 | J71 | 3122 | K38 | 3229 | L04 | 3265 | L70 | 2553 | M37 | 2463 |
| D61 | 3267 | F27 | 2378 | G04 | 42 | G74 | 3256 | H40 | 3287 | J07 | 3128 | J72 | 3122 | K39 | 3229 | L05 | 3265 | L71 | 2553 | M38 | 2463 |
| D62 | 3267 | F28 | 2390 | G05 | 42 | G75 | 3256 | H41 | 3120 | J08 | 3128 | J73 | 3122 | K40 | 3229 | L06 | 3265 | L72 | 2553 | M39 | 2463 |
| D63 | 3267 | F29 | 2390 | G06 | 42 | G76 | 3251 | H42 | 3120 | J09 | 3128 | J74 | 3122 | K41 | 3229 | L07 | 3265 | L74 | 2553 | M40 | 2556 |
| 4RD64 | 3267 | 4RF30 | 2387 | 4RG07 | 42 | 4RG77 | 3251 | 4RH43 | 3120 | 4RJ10 | 3120 | 4RJ75 | 3122 | 4RK42 | 3229 | 4RL08 | 3265 | 4RL75 | 2551 | 4RM41 | 2558 |
| D65 | 3267 | F31 | 2387 | G08 | 42 | G78 | 3251 | H44 | 3120 | J11 | 3120 | J76 | 3122 | K43 | 3222 | L09 | 3165 | L76 | 2550 | M42 | 2556 |
| D66 | 3267 | F32 | 2387 | G09 | 42 | G79 | 3251 | H45 | 3120 | J12 | 3120 | J77 | 3122 | K44 | 3222 | L10 | 3143 | L77 | 2552 | M43 | 2556 |
| D67 | 3266 | F33 | 2387 | G10 | 42 | G80 | 3251 | H46 | 3120 | J13 | 3120 | J78 | 3122 | K45 | 3222 | L11 | 3142 | L78 | 2550 | M44 | 2556 |
| D68 | 3266 | F34 | 2393 | G11 | 42 | G81 | 3251 | H47 | 3120 | J14 | 3120 | J79 | 3122 | K46 | 3222 | L12 | 3142 | L79 | 2550 | M45 | 2556 |

# STOCK NUMBER—PAGE NUMBER

## 4RM — 4R9

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4RM46 | 2556 | 4RN17 | 3192 | 4RN82 | 268 | 4RP53 | 268 | 4RR27 | 2047 | 4RX79 | 17 | 4RZ45 | 20 | 4R525 | 1396 | 4R633 | 1281 | 4R779 | 1278 | 4R875 | 1278 |
| M47 | 2555 | N18 | 3192 | N83 | 268 | P55 | 269 | R28 | 2047 | X80 | 17 | Z46 | 20 | 526 | 1396 | 635 | 1281 | 781 | 1283 | 876 | 404 |
| M48 | 2643 | N19 | 3195 | N84 | 268 | P56 | 269 | R29 | 2051 | X81 | 17 | Z47 | 20 | 527 | 1396 | 637 | 1281 | 783 | 1283 | 878 | 404 |
| M49 | 2643 | N20 | 3195 | N85 | 269 | P57 | 269 | R30 | 2051 | X82 | 17 | Z48 | 20 | 528 | 1396 | 639 | 1281 | 785 | 1283 | 880 | 405 |
| M50 | 2643 | N21 | 3195 | N86 | 269 | P58 | 268 | R31 | 2051 | X83 | 17 | Z49 | 20 | 529 | 1396 | 663 | 1277 | 787 | 1283 | 882 | 404 |
| 4RM51 | 2643 | 4RN22 | 3195 | 4RN87 | 269 | 4RP59 | 268 | 4RR32 | 2051 | 4RX84 | 17 | 4RZ50 | 20 | 4R530 | 1396 | 4R665 | 1277 | 4R789 | 1283 | 4R884 | 404 |
| M52 | 2643 | N23 | 3195 | N88 | 268 | P60 | 268 | R33 | 2051 | X85 | 17 | Z51 | 20 | 531 | 1396 | 667 | 1277 | 791 | 1283 | 886 | 404 |
| M53 | 2643 | N24 | 3195 | N89 | 268 | P61 | 268 | R34 | 2051 | X86 | 17 | Z52 | 20 | 532 | 1396 | 669 | 1277 | 793 | 1283 | 888 | 404 |
| M54 | 2643 | N25 | 3196 | N90 | 268 | P62 | 268 | R35 | 2047 | X87 | 17 | Z53 | 20 | 533 | 1396 | 671 | 1277 | 795 | 1283 | 890 | 404 |
| M55 | 2643 | N26 | 3196 | N91 | 268 | P63 | 269 | R36 | 2047 | X88 | 17 | Z54 | 20 | 534 | 1396 | 673 | 1277 | 797 | 1283 | 892 | 404 |
| 4RM56 | 2643 | 4RN27 | 3193 | 4RN92 | 268 | 4RP64 | 269 | 4RR37 | 2047 | 4RX89 | 17 | 4RZ55 | 21 | 4R535 | 1396 | 4R675 | 1277 | 4R799 | 1283 | 4R894 | 404 |
| M57 | 2643 | N28 | 3193 | N93 | 269 | P65 | 269 | R38 | 2047 | X90 | 17 | Z56 | 21 | 536 | 1396 | 677 | 1277 | 800 | 2889 | 896 | 404 |
| M58 | 2643 | N29 | 3196 | N94 | 269 | P66 | 268 | R39 | 2047 | X91 | 17 | Z57 | 21 | 537 | 1396 | 679 | 1277 | 801 | 1283 | 898 | 404 |
| M59 | 2643 | N30 | 3196 | N95 | 269 | P68 | 268 | R40 | 2047 | X92 | 17 | Z58 | 21 | 538 | 1396 | 681 | 1277 | 802 | 2881 | 900 | 404 |
| M60 | 3177 | N31 | 3196 | N96 | 268 | P69 | 268 | R41 | 2047 | X93 | 17 | Z59 | 21 | 540 | 1396 | 683 | 1277 | 803 | 1283 | 902 | 405 |
| 4RM61 | 3177 | 4RN32 | 3196 | 4RN97 | 268 | 4RP70 | 268 | 4RR42 | 2047 | 4RX94 | 17 | 4RZ60 | 21 | 4R541 | 1396 | 4R687 | 1278 | 4R804 | 2881 | 4R904 | 405 |
| M62 | 3176 | N33 | 3196 | N98 | 268 | P71 | 269 | X28 | 2491 | X95 | 17 | Z61 | 21 | 542 | 1396 | 689 | 1281 | 805 | 1283 | 906 | 405 |
| M63 | 3176 | N34 | 3196 | N99 | 268 | P72 | 269 | X29 | 2491 | X96 | 17 | Z62 | 21 | 543 | 1397 | 691 | 1281 | 807 | 1283 | 908 | 405 |
| M64 | 3176 | N35 | 3195 | P01 | 268 | P73 | 269 | X30 | 2491 | X97 | 17 | Z63 | 21 | 544 | 1396 | 693 | 1281 | 808 | 2881 | 910 | 405 |
| M65 | 3176 | N36 | 3195 | P02 | 269 | P74 | 268 | X31 | 2491 | X98 | 17 | Z64 | 21 | 545 | 1398 | 695 | 1281 | 809 | 1281 | 912 | 405 |
| 4RM66 | 3176 | 4RN37 | 3193 | 4RP03 | 269 | 4RP75 | 268 | 4RX32 | 2490 | 4RX99 | 17 | 4RZ65 | 21 | 4R546 | 1398 | 4R697 | 1281 | 4R810 | 2881 | 4R914 | 405 |
| M67 | 3176 | N38 | 3193 | P04 | 269 | P76 | 268 | X33 | 2490 | Z01 | 17 | Z66 | 21 | 547 | 1398 | 699 | 1281 | 811 | 1278 | 916 | 405 |
| M68 | 3176 | N39 | 3193 | P05 | 268 | P77 | 268 | X36 | 16 | Z02 | 17 | Z67 | 21 | 548 | 1398 | 701 | 1281 | 812 | 2881 | 918 | 405 |
| M69 | 3176 | N40 | 3193 | P07 | 268 | P78 | 268 | X37 | 16 | Z03 | 17 | Z68 | 21 | 549 | 1398 | 703 | 1281 | 813 | 1280 | 920 | 405 |
| M70 | 3176 | N41 | 3193 | P08 | 268 | P79 | 269 | X38 | 16 | Z04 | 17 | Z69 | 21 | 550 | 1398 | 705 | 1281 | 816 | 2881 | 922 | 405 |
| 4RM71 | 3176 | 4RN42 | 3193 | 4RP09 | 268 | 4RP80 | 269 | 4RX39 | 16 | 4RZ05 | 17 | 4RZ70 | 21 | 4R551 | 1398 | 4R707 | 1281 | 4R818 | 2777 | 4R924 | 405 |
| M72 | 3176 | N43 | 3193 | P10 | 269 | P81 | 269 | X40 | 16 | Z06 | 17 | Z71 | 21 | 553 | 1398 | 709 | 1281 | 820 | 2777 | 926 | 405 |
| M73 | 3176 | N44 | 3193 | P11 | 269 | P82 | 3093 | X41 | 16 | Z07 | 17 | Z72 | 21 | 554 | 1398 | 711 | 1281 | 821 | 1283 | 928 | 405 |
| M74 | 3176 | N45 | 3193 | P12 | 269 | P83 | 3093 | X42 | 16 | Z08 | 17 | Z73 | 21 | 555 | 1398 | 713 | 1278 | 822 | 404 | 930 | 405 |
| M75 | 405 | N46 | 3193 | P13 | 268 | P84 | 3093 | X43 | 16 | Z09 | 17 | Z74 | 21 | 559 | 1398 | 715 | 1278 | 823 | 1283 | 932 | 405 |
| 4RM76 | 405 | 4RN47 | 3203 | 4RP14 | 268 | 4RP85 | 3092 | 4RX44 | 21 | 4RZ10 | 17 | 4RZ75 | 21 | 4R560 | 1398 | 4R717 | 1277 | 4R824 | 404 | 4R936 | 405 |
| M77 | 404 | N48 | 3203 | P15 | 268 | P86 | 3093 | X45 | 16 | Z11 | 17 | Z76 | 21 | 561 | 1398 | 719 | 1277 | 825 | 1283 | 938 | 404 |
| M78 | 404 | N49 | 3203 | P16 | 268 | P87 | 3093 | X46 | 156 | Z12 | 17 | Z77 | 21 | 562 | 1398 | 721 | 1277 | 826 | 404 | 940 | 404 |
| M79 | 404 | N50 | 3203 | P17 | 268 | P88 | 3093 | X47 | 16 | Z13 | 17 | Z78 | 21 | 563 | 1398 | 723 | 1277 | 827 | 1283 | 942 | 405 |
| M83 | 466 | N51 | 3203 | P18 | 269 | P89 | 3093 | X48 | 16 | Z14 | 17 | Z79 | 21 | 566 | 1398 | 725 | 1277 | 828 | 405 | 944 | 405 |
| 4RM84 | 466 | 4RN52 | 3203 | 4RP19 | 269 | 4RP90 | 3201 | 4RX49 | 16 | 4RZ15 | 17 | 4RZ80 | 21 | 4R567 | 1398 | 4R727 | 1277 | 4R829 | 1283 | 4R946 | 1775 |
| M85 | 466 | N53 | 3203 | P21 | 268 | P91 | 3198 | X50 | 16 | Z16 | 17 | Z81 | 21 | 568 | 1398 | 729 | 1277 | 830 | 404 | 948 | 1775 |
| M86 | 466 | N54 | 3203 | P22 | 268 | P92 | 3198 | X51 | 16 | Z17 | 17 | Z82 | 21 | 569 | 1398 | 731 | 1277 | 831 | 1283 | 950 | 1775 |
| M87 | 467 | N55 | 3203 | P23 | 268 | P93 | 3199 | X52 | 16 | Z18 | 17 | Z83 | 21 | 570 | 1398 | 733 | 1278 | 832 | 404 | 951 | 2539 |
| M90 | 466 | N56 | 3203 | P24 | 268 | P94 | 3199 | X53 | 16 | Z19 | 17 | Z84 | 21 | 571 | 1398 | 735 | 1287 | 833 | 1283 | 952 | 1775 |
| 4RM91 | 3196 | 4RN57 | 3203 | 4RP25 | 268 | 4RP95 | 3198 | 4RX54 | 16 | 4RZ20 | 17 | 4RZ85 | 21 | 4R572 | 1398 | 4R737 | 1287 | 4R834 | 404 | 4R953 | 2539 |
| M92 | 3192 | N58 | 3206 | P27 | 269 | P96 | 1971 | X55 | 16 | Z21 | 17 | Z86 | 21 | 573 | 1398 | 739 | 1287 | 835 | 1283 | 954 | 1775 |
| M93 | 3192 | N59 | 3207 | P28 | 268 | P97 | 1971 | X56 | 16 | Z22 | 17 | Z87 | 21 | 574 | 1398 | 741 | 1287 | 836 | 404 | 955 | 2539 |
| M94 | 3194 | N60 | 3207 | P29 | 268 | P98 | 1971 | X57 | 16 | Z23 | 17 | Z88 | 21 | 575 | 1398 | 743 | 1287 | 837 | 1283 | 956 | 1775 |
| M95 | 3194 | N61 | 3204 | P30 | 268 | R01 | 1971 | X58 | 16 | Z24 | 17 | Z89 | 21 | 576 | 1398 | 745 | 1282 | 839 | 1283 | 957 | 2536 |
| 4RM96 | 3194 | 4RN62 | 3206 | 4RP31 | 268 | 4RR02 | 1971 | 4RX59 | 16 | 4RZ25 | 17 | 4RZ90 | 21 | 4R580 | 1398 | 4R747 | 1282 | 4R840 | 404 | 4R958 | 1775 |
| M97 | 3194 | N63 | 3202 | P32 | 268 | R03 | 2357 | X60 | 16 | Z26 | 17 | Z91 | 21 | 589 | 1397 | 749 | 1282 | 841 | 1283 | 959 | 2539 |
| M98 | 3194 | N64 | 3207 | P33 | 269 | R04 | 1975 | X61 | 16 | Z27 | 17 | Z92 | 21 | 590 | 1397 | 751 | 1282 | 842 | 404 | 960 | 1775 |
| M99 | 3192 | N65 | 269 | P34 | 269 | R05 | 1976 | X62 | 16 | Z28 | 17 | Z93 | 21 | 591 | 1397 | 753 | 1282 | 843 | 1281 | 961 | 2539 |
| N01 | 3192 | N66 | 269 | P35 | 268 | R06 | 1974 | X63 | 16 | Z29 | 17 | Z94 | 21 | 592 | 1397 | 755 | 1282 | 844 | 405 | 962 | 1775 |
| 4RN02 | 3192 | 4RN67 | 268 | 4RP37 | 268 | 4RR07 | 1967 | 4RX64 | 16 | 4RZ30 | 17 | 4RZ95 | 21 | 4R593 | 1397 | 4R757 | 1281 | 4R845 | 404 | 4R963 | 2539 |
| N03 | 3192 | N68 | 269 | P38 | 268 | R08 | 1975 | X65 | 16 | Z31 | 17 | Z96 | 21 | 594 | 1397 | 759 | 1281 | 848 | 404 | 965 | 2539 |
| N04 | 3192 | N69 | 269 | P39 | 268 | R09 | 1974 | X66 | 16 | Z32 | 17 | Z97 | 21 | 595 | 1397 | 761 | 1281 | 850 | 404 | 967 | 2538 |
| N05 | 3192 | N70 | 269 | P40 | 269 | R10 | 1974 | X67 | 17 | Z33 | 17 | Z98 | 21 | 596 | 1397 | 763 | 1281 | 852 | 404 | 968 | 2243 |
| N06 | 3192 | N71 | 268 | P41 | 269 | R11 | 904 | X68 | 17 | Z34 | 17 | Z99 | 21 | 597 | 1397 | 765 | 1281 | 856 | 404 | 969 | 2538 |
| 4RN07 | 3192 | 4RN72 | 268 | 4RP42 | 268 | 4RR12 | 904 | 4RX69 | 17 | 4RZ35 | 17 | 4R515 | 1396 | 4R598 | 1397 | 4R766 | 2889 | 4R858 | 404 | 4R970 | 2243 |
| N08 | 3192 | N73 | 268 | P44 | 268 | R13 | 2617 | X70 | 17 | Z36 | 17 | 516 | 1396 | 602 | 1397 | 767 | 1281 | 860 | 404 | 971 | 2538 |
| N09 | 3194 | N74 | 268 | P45 | 268 | R14 | 2617 | X71 | 17 | Z37 | 17 | 517 | 1396 | 603 | 1396 | 768 | 2881 | 864 | 404 | 972 | 2243 |
| N10 | 3194 | N75 | 268 | P46 | 268 | R15 | 2617 | X72 | 17 | Z38 | 20 | 518 | 1396 | 604 | 1396 | 769 | 1281 | 866 | 404 | 973 | 2538 |
| N11 | 3194 | N76 | 269 | P47 | 269 | R16 | 2617 | X73 | 17 | Z39 | 20 | 519 | 1396 | 606 | 1396 | 771 | 1281 | 868 | 404 | 974 | 2243 |
| 4RN12 | 3194 | 4RN77 | 269 | 4RP48 | 269 | 4RR22 | 2047 | 4RX74 | 17 | 4RZ40 | 20 | 4R520 | 1396 | 4R619 | 1280 | 4R772 | 2881 | 4R870 | 404 | 4R975 | 2538 |
| N13 | 3194 | N78 | 269 | P49 | 269 | R23 | 2047 | X75 | 17 | Z41 | 20 | 521 | 1396 | 625 | 1281 | 773 | 1281 | 871 | 1277 | 976 | 2243 |
| N14 | 3194 | N79 | 268 | P50 | 268 | R24 | 2047 | X76 | 17 | Z42 | 20 | 522 | 1396 | 627 | 1281 | 774 | 2880 | 872 | 404 | 977 | 2536 |
| N15 | 3194 | N80 | 268 | P51 | 268 | R25 | 2047 | X77 | 17 | Z43 | 20 | 523 | 1396 | 629 | 1281 | 775 | 1281 | 873 | 1278 | 978 | 2243 |
| N16 | 3194 | N81 | 268 | P52 | 268 | R26 | 2047 | X78 | 17 | Z44 | 20 | 524 | 1396 | 631 | 1281 | 778 | 2880 | 874 | 404 | 979 | 2536 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4R980 | 2243 | 4TC44 | 22 | 4TD10 | 25 | 4TD75 | 126 | 4TF44 | 1460 | 4TG83 | 1515 | 4TH55 | 1903 | 4TJ21 | 2058 | 4TJ86 | 1512 | 4TK56 | 2804 | 4TL22 | 3026 |
| 981 | 2537 | C45 | 22 | D11 | 25 | D76 | 126 | F99 | 1446 | G84 | 1515 | H56 | 1905 | J22 | 2058 | J87 | 1500 | K57 | 2804 | L23 | 3022 |
| 982 | 2243 | C46 | 22 | D12 | 25 | D77 | 126 | G02 | 1446 | G85 | 1515 | H57 | 1905 | J23 | 2058 | J88 | 1514 | K58 | 2804 | L24 | 3022 |
| 983 | 2537 | C47 | 22 | D13 | 25 | D78 | 126 | G04 | 1446 | G86 | 1515 | H58 | 1906 | J24 | 2058 | J89 | 1514 | K59 | 2804 | L25 | 3022 |
| 984 | 2243 | C48 | 22 | D14 | 25 | D79 | 127 | G06 | 1446 | G87 | 1515 | H59 | 1906 | J25 | 2058 | J90 | 1503 | K60 | 2804 | L26 | 3022 |
| 4R985 | 2368 | 4TC49 | 22 | 4TD15 | 25 | 4TD80 | 127 | 4TG08 | 1446 | 4TG88 | 1515 | 4TH60 | 1904 | 4TJ26 | 2058 | 4TJ91 | 1517 | 4TK61 | 2804 | 4TL27 | 3022 |
| 986 | 2243 | C50 | 22 | D16 | 25 | D81 | 127 | G10 | 1446 | G89 | 1515 | H61 | 2004 | J27 | 2052 | J92 | 1511 | K62 | 2804 | L28 | 3022 |
| 987 | 2368 | C51 | 22 | D17 | 25 | D82 | 127 | G12 | 1446 | G90 | 1515 | H62 | 2004 | J28 | 2049 | J93 | 1509 | K63 | 2804 | L29 | 3022 |
| 988 | 2243 | C52 | 22 | D18 | 25 | D83 | 127 | G13 | 1446 | G91 | 1515 | H63 | 2004 | J29 | 1869 | J94 | 1501 | K64 | 2804 | L30 | 3022 |
| 989 | 2368 | C53 | 22 | D19 | 25 | D84 | 127 | G14 | 1446 | G92 | 1411 | H64 | 2004 | J30 | 1869 | J95 | 1505 | K65 | 2804 | L31 | 3022 |
| 4R990 | 2243 | 4TC54 | 22 | 4TD20 | 25 | 4TD85 | 127 | 4TG16 | 1446 | 4TG93 | 1411 | 4TH65 | 2004 | 4TJ31 | 1869 | 4TJ96 | 1696 | 4TK66 | 2804 | 4TL32 | 3022 |
| 991 | 2368 | C55 | 22 | D21 | 25 | D86 | 127 | G17 | 1446 | G94 | 1406 | H66 | 2004 | J32 | 1869 | J97 | 1507 | K67 | 2804 | L33 | 3023 |
| 992 | 2243 | C56 | 22 | D22 | 25 | D87 | 127 | G19 | 1446 | G95 | 1409 | H67 | 2004 | J33 | 1869 | J98 | 1512 | K68 | 2804 | L34 | 3023 |
| 993 | 2368 | C57 | 22 | D23 | 25 | D88 | 127 | G21 | 1446 | G96 | 1409 | H68 | 2004 | J34 | 1869 | J99 | 1505 | K69 | 2804 | L35 | 3023 |
| 994 | 2243 | C58 | 22 | D24 | 25 | D89 | 127 | G23 | 1446 | G98 | 1406 | H69 | 1961 | J35 | 1869 | K02 | 1516 | K70 | 2806 | L36 | 3022 |
| 4R995 | 2368 | 4TC59 | 24 | 4TD25 | 25 | 4TD90 | 127 | 4TG24 | 1446 | 4TG99 | 1406 | 4TH70 | 2113 | 4TJ36 | 1869 | 4TK03 | 1503 | 4TK71 | 2806 | 4TL37 | 3022 |
| 996 | 1775 | C60 | 24 | D26 | 25 | D91 | 127 | G25 | 1446 | H01 | 1406 | H71 | 2299 | J37 | 1869 | K04 | 1503 | K72 | 2806 | L38 | 3022 |
| 997 | 2368 | C61 | 24 | D27 | 25 | D92 | 127 | G27 | 1446 | H02 | 2055 | H72 | 2299 | J38 | 1869 | K05 | 1503 | K73 | 2806 | L39 | 3022 |
| 998 | 1775 | C62 | 24 | D28 | 25 | D93 | 127 | G28 | 1446 | H03 | 2055 | H73 | 2055 | J39 | 1869 | K06 | 1503 | K74 | 2806 | L40 | 3022 |
| | | C63 | 24 | D29 | 25 | D94 | 127 | G30 | 1446 | H04 | 2055 | H74 | 2055 | J40 | 1927 | K07 | 1503 | K75 | 2806 | L41 | 3022 |
| **4T** | | 4TC64 | 24 | 4TD30 | 25 | 4TD95 | 96 | 4TG31 | 1446 | 4TH05 | 2055 | 4TH75 | 2055 | 4TJ41 | 1927 | 4TK08 | 1503 | 4TK76 | 2806 | 4TL42 | 3022 |
| | | C65 | 24 | D31 | 25 | D96 | 96 | G32 | 1446 | H06 | 1963 | H76 | 2055 | J42 | 1927 | K09 | 2892 | K77 | 2806 | L43 | 3023 |
| 4TC01 | 21 | C66 | 156 | D32 | 25 | D97 | 96 | G33 | 1446 | H07 | 1963 | H77 | 2055 | J43 | 1927 | K10 | 2892 | K78 | 2806 | L44 | 3023 |
| C02 | 21 | C67 | 24 | D33 | 25 | D98 | 96 | G34 | 1446 | H08 | 1963 | H78 | 2055 | J44 | 1920 | K12 | 2892 | K79 | 2806 | L45 | 3023 |
| C03 | 21 | C68 | 24 | D34 | 25 | D99 | 22 | G35 | 1446 | H09 | 1963 | H79 | 2055 | J45 | 1920 | K14 | 2896 | K80 | 2806 | L46 | 3023 |
| 4TC04 | 21 | 4TC69 | 24 | 4TD35 | 25 | 4TF01 | 22 | 4TG36 | 1446 | 4TH10 | 1963 | 4TH80 | 2055 | 4TJ46 | 1920 | 4TK15 | 2898 | 4TK81 | 2806 | 4TL47 | 3023 |
| C05 | 21 | C70 | 24 | D36 | 25 | F02 | 156 | G38 | 1446 | H11 | 1963 | H81 | 2055 | J47 | 1920 | K16 | 2898 | K82 | 2806 | L48 | 3023 |
| C06 | 21 | C71 | 24 | D37 | 25 | F03 | 156 | G39 | 1446 | H13 | 1963 | H82 | 2055 | J48 | 1921 | K17 | 2898 | K83 | 2806 | L49 | 3023 |
| C07 | 21 | C72 | 156 | D38 | 25 | F04 | 156 | G40 | 1446 | H14 | 1963 | H83 | 2055 | J49 | 1921 | K18 | 2898 | K84 | 2806 | L50 | 3023 |
| C08 | 21 | C73 | 24 | D39 | 25 | F05 | 156 | G41 | 1446 | H15 | 1963 | H84 | 2055 | J50 | 1921 | K19 | 2898 | K85 | 2806 | L51 | 3023 |
| 4TC09 | 21 | 4TC74 | 24 | 4TD40 | 25 | 4TF06 | 156 | 4TG42 | 1446 | 4TH16 | 1963 | 4TH85 | 2056 | 4TJ51 | 1921 | 4TK20 | 2898 | 4TK86 | 2806 | 4TL52 | 3023 |
| C10 | 21 | C75 | 24 | D41 | 25 | F07 | 156 | G43 | 1446 | H17 | 1964 | H86 | 2056 | J52 | 1944 | K21 | 2898 | K87 | 2806 | L53 | 3023 |
| C11 | 21 | C76 | 24 | D42 | 25 | F08 | 156 | G44 | 1446 | H18 | 1964 | H87 | 2056 | J53 | 1944 | K22 | 2898 | K88 | 797 | L54 | 3023 |
| C12 | 21 | C77 | 24 | D43 | 25 | F09 | 156 | G45 | 1446 | H19 | 1964 | H88 | 2047 | J54 | 1944 | K24 | 2898 | K89 | 800 | L55 | 2913 |
| C13 | 21 | C78 | 24 | D44 | 25 | F10 | 156 | G47 | 1446 | H20 | 1964 | H89 | 2056 | J55 | 1943 | K25 | 2898 | K90 | 895 | L56 | 2913 |
| 4TC14 | 21 | 4TC79 | 24 | 4TD45 | 25 | 4TF11 | 16 | 4TG48 | 1446 | 4TH21 | 1963 | 4TH90 | 2056 | 4TJ56 | 1943 | 4TK26 | 2896 | 4TK91 | 800 | 4TL57 | 2913 |
| C15 | 21 | C80 | 24 | D46 | 25 | F12 | 156 | G49 | 1446 | H22 | 1963 | H91 | 2056 | J57 | 1943 | K27 | 1374 | K92 | 799 | L58 | 2913 |
| C16 | 21 | C81 | 24 | D47 | 25 | F13 | 156 | G50 | 1446 | H23 | 1964 | H92 | 2056 | J58 | 1943 | K28 | 1374 | K93 | 796 | L59 | 2913 |
| C17 | 21 | C82 | 24 | D48 | 25 | F14 | 156 | G51 | 1446 | H24 | 1964 | H93 | 2056 | J59 | 1943 | K29 | 1374 | K94 | 800 | L60 | 1670 |
| C18 | 21 | C83 | 24 | D49 | 25 | F15 | 156 | G52 | 1446 | H25 | 1963 | H94 | 2056 | J60 | 1943 | K30 | 2804 | K95 | 800 | L61 | 3483 |
| 4TC19 | 21 | 4TC84 | 24 | 4TD50 | 125 | 4TF16 | 156 | 4TG53 | 1446 | 4TH26 | 1964 | 4TH95 | 2047 | 4TJ61 | 1941 | 4TK31 | 2804 | 4TK96 | 800 | 4TL62 | 3483 |
| C20 | 21 | C85 | 24 | D51 | 125 | F17 | 156 | G54 | 1446 | H27 | 1964 | H96 | 2326 | J62 | 1941 | K32 | 2804 | K97 | 3025 | L63 | 3483 |
| C21 | 21 | C86 | 24 | D52 | 125 | F18 | 156 | G55 | 1446 | H28 | 1963 | H97 | 2058 | J63 | 1941 | K33 | 2804 | K98 | 3025 | L64 | 3483 |
| C22 | 21 | C87 | 24 | D53 | 125 | F19 | 1960 | G56 | 1446 | H29 | 1964 | H98 | 2650 | J64 | 1941 | K34 | 2804 | K99 | 3025 | L65 | 1846 |
| C23 | 21 | C88 | 24 | D54 | 125 | F20 | 1960 | G57 | 1446 | H30 | 1963 | H99 | 2650 | J65 | 2041 | K35 | 2804 | L01 | 2911 | L66 | 1869 |
| 4TC24 | 21 | 4TC89 | 25 | 4TD55 | 125 | 4TF21 | 2853 | 4TG58 | 1446 | 4TH31 | 1963 | 4TJ01 | 2650 | 4TJ66 | 2041 | 4TK36 | 2804 | 4TL02 | 2911 | 4TL68 | 1880 |
| C25 | 21 | C90 | 25 | D56 | 125 | F22 | 2853 | G59 | 1446 | H32 | 1963 | J02 | 1977 | J67 | 2041 | K37 | 2804 | L03 | 2911 | L69 | 1880 |
| C26 | 22 | C91 | 25 | D57 | 126 | F23 | 2863 | G60 | 1446 | H33 | 1963 | J03 | 1977 | J68 | 2041 | K38 | 2804 | L04 | 2911 | L70 | 744 |
| C27 | 22 | C92 | 25 | D58 | 126 | F24 | 2862 | G66 | 1515 | H34 | 1964 | J04 | 1977 | J69 | 2041 | K39 | 2804 | L05 | 2911 | L71 | 745 |
| C28 | 127 | C93 | 25 | D59 | 126 | F25 | 1980 | G67 | 1515 | H35 | 1963 | J05 | 1977 | J70 | 2041 | K40 | 2804 | L06 | 2911 | L72 | 745 |
| 4TC29 | 22 | 4TC94 | 25 | 4TD60 | 126 | 4TF26 | 1980 | 4TG68 | 1515 | 4TH36 | 1963 | 4TJ06 | 1968 | 4TJ71 | 2041 | 4TK41 | 2804 | 4TL07 | 2911 | 4TL73 | 745 |
| C30 | 22 | C95 | 25 | D61 | 126 | F27 | 1980 | G69 | 1515 | H37 | 1964 | J07 | 1977 | J72 | 2041 | K42 | 2804 | L08 | 2911 | L74 | 744 |
| C31 | 22 | C96 | 25 | D62 | 126 | F28 | 1980 | G70 | 1515 | H38 | 1964 | J08 | 1977 | J73 | 2053 | K43 | 2804 | L09 | 2911 | L75 | 745 |
| C32 | 22 | C97 | 25 | D63 | 126 | F29 | 1980 | G71 | 1515 | H41 | 1964 | J09 | 1977 | J74 | 2057 | K44 | 2804 | L10 | 2911 | L76 | 745 |
| C33 | 22 | C98 | 25 | D64 | 126 | F32 | 2059 | G72 | 1515 | H42 | 1903 | J10 | 1977 | J75 | 2044 | K45 | 2804 | L11 | 2911 | L77 | 745 |
| 4TC34 | 22 | 4TC99 | 25 | 4TD65 | 126 | 4TF33 | 2059 | 4TG73 | 1515 | 4TH44 | 1903 | 4TJ11 | 2012 | 4TJ76 | 2046 | 4TK46 | 2804 | 4TL12 | 2911 | 4TL78 | 739 |
| C35 | 22 | D01 | 25 | D66 | 126 | F34 | 2059 | G74 | 1515 | H46 | 1905 | J12 | 2012 | J77 | 2046 | K47 | 2804 | L13 | 3026 | L79 | 739 |
| C36 | 22 | D02 | 25 | D67 | 126 | F35 | 2059 | G75 | 1515 | H47 | 1906 | J13 | 2012 | J78 | 2046 | K48 | 2804 | L14 | 3026 | L80 | 739 |
| C37 | 22 | D03 | 25 | D68 | 126 | F36 | 2059 | G76 | 1515 | H48 | 1906 | J14 | 2012 | J79 | 2046 | K49 | 2804 | L15 | 3026 | L81 | 739 |
| C38 | 22 | D04 | 25 | D69 | 126 | F37 | 2059 | G77 | 1515 | H49 | 1903 | J15 | 2012 | J80 | 2867 | K50 | 2804 | L16 | 3026 | L82 | 739 |
| 4TC39 | 22 | 4TD05 | 25 | 4TD70 | 126 | 4TF38 | 2007 | 4TG78 | 1515 | 4TH50 | 1903 | 4TJ16 | 2012 | 4TJ81 | 2867 | 4TK51 | 2804 | 4TL17 | 3026 | 4TL83 | 739 |
| C40 | 22 | D06 | 25 | D71 | 126 | F39 | 2059 | G79 | 1515 | H51 | 1903 | J17 | 2012 | J82 | 2867 | K52 | 2804 | L18 | 3026 | L84 | 2997 |
| C41 | 22 | D07 | 25 | D72 | 126 | F40 | 2059 | G80 | 1515 | H52 | 1903 | J18 | 2012 | J83 | 888 | K53 | 2804 | L19 | 3026 | L85 | 2966 |
| C42 | 22 | D08 | 25 | D73 | 126 | F41 | 2059 | G81 | 1515 | H53 | 1903 | J19 | 2058 | J84 | 842 | K54 | 2804 | L20 | 3026 | L86 | 2968 |
| C43 | 22 | D09 | 25 | D74 | 126 | F42 | 2007 | G82 | 1515 | H54 | 1903 | J20 | 2058 | J85 | 845 | K55 | 2804 | L21 | 3026 | L87 | 2998 |

# STOCK NUMBER—PAGE NUMBER

## 4TL — 4T1


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4TL88 | 2979 | 4TM85 | 3650 | 4TN98 | 2969 | 4TP78 | 895 | 4TR44 | 3555 | 4TT12 | 2038 | 4TV21 | 2016 | 4TW52 | 2081 | 4TX32 | 2074 | 4TZ67 | 2014 | 4T048 | 2474 |
| L89 | 2997 | M86 | 3650 | N99 | 2970 | P79 | 895 | R45 | 3555 | T13 | 2082 | V22 | 2016 | W53 | 2081 | X33 | 2074 | Z68 | 2014 | 049 | 2474 |
| L90 | 2989 | M88 | 2901 | P01 | 2969 | P80 | 895 | R46 | 3556 | T14 | 2065 | V23 | 2016 | W54 | 2081 | X34 | 2074 | Z69 | 2014 | 050 | 2474 |
| L91 | 2997 | M89 | 2900 | P02 | 2970 | P81 | 895 | R47 | 3556 | T15 | 2065 | V24 | 2016 | W58 | 2089 | X35 | 2074 | Z70 | 2014 | 051 | 2474 |
| L92 | 3315 | M90 | 2900 | P03 | 2994 | P82 | 895 | R48 | 3555 | T16 | 3024 | V25 | 2016 | W59 | 2089 | X36 | 2074 | Z71 | 2014 | 052 | 2474 |
| 4TL93 | 3315 | 4TM91 | 2883 | 4TP04 | 2971 | 4TP83 | 895 | 4TR49 | 3556 | 4TT17 | 3024 | 4TV26 | 2016 | 4TW60 | 2089 | 4TX37 | 2074 | 4TZ72 | 2014 | 4T053 | 2474 |
| L94 | 3315 | M92 | 2883 | P05 | 2971 | P84 | 895 | R50 | 3556 | T18 | 3024 | V27 | 2016 | W61 | 2089 | X38 | 2074 | Z73 | 2014 | 054 | 2474 |
| L95 | 3315 | M93 | 2883 | P06 | 2971 | P85 | 895 | R51 | 3555 | T19 | 3024 | V28 | 2016 | W62 | 2089 | X39 | 2074 | Z74 | 2014 | 055 | 2474 |
| M11 | 829 | M94 | 2883 | P07 | 2971 | P86 | 895 | R52 | 3556 | T20 | 3024 | V29 | 2016 | W63 | 2089 | X40 | 2074 | Z75 | 2014 | 056 | 2474 |
| M12 | 756 | M95 | 2883 | P08 | 2971 | P87 | 895 | R53 | 3555 | T21 | 3024 | V34 | 2107 | W64 | 2089 | X41 | 2075 | Z76 | 2027 | 057 | 2474 |
| 4TM13 | 815 | 4TM96 | 2907 | 4TP09 | 2971 | 4TP88 | 894 | 4TR54 | 3556 | 4TT22 | 3024 | 4TV35 | 2107 | 4TW65 | 2095 | 4TX42 | 2075 | 4TZ77 | 2014 | 4T058 | 2474 |
| M14 | 815 | M97 | 2907 | P10 | 2988 | P89 | 894 | R55 | 3556 | T23 | 1312 | V37 | 2107 | W67 | 2089 | X60 | 2031 | Z78 | 2014 | 059 | 2474 |
| M15 | 815 | M98 | 2883 | P11 | 2988 | P90 | 777 | R56 | 3555 | T24 | 1312 | V38 | 2107 | W68 | 2095 | X61 | 2031 | Z79 | 2071 | 060 | 2474 |
| M16 | 815 | M99 | 2882 | P12 | 2971 | P91 | 812 | R57 | 3556 | T25 | 1713 | V40 | 2107 | W69 | 2095 | X64 | 2031 | Z80 | 2071 | 061 | 2474 |
| M17 | 851 | N01 | 2882 | P13 | 2971 | P92 | 812 | R58 | 3555 | T26 | 1713 | V41 | 2107 | W70 | 2095 | X65 | 2031 | Z81 | 2071 | 062 | 2474 |
| 4TM18 | 1867 | 4TN03 | 2882 | 4TP14 | 2996 | 4TP93 | 743 | 4TR59 | 3556 | 4TT27 | 1733 | 4TV63 | 2030 | 4TW71 | 2095 | 4TX68 | 2031 | 4TZ82 | 2071 | 4T063 | 2474 |
| M19 | 1867 | N04 | 2882 | P15 | 2986 | P94 | 743 | R60 | 3555 | T28 | 1733 | V64 | 2030 | W73 | 2089 | X69 | 2031 | Z83 | 2071 | 064 | 2475 |
| M20 | 1867 | N06 | 2882 | P16 | 2986 | P95 | 743 | R61 | 3556 | T29 | 1715 | V65 | 2030 | W74 | 2086 | X80 | 2064 | Z84 | 2071 | 065 | 2475 |
| M21 | 3616 | N07 | 2882 | P17 | 2986 | P96 | 743 | R62 | 3555 | T30 | 1312 | V72 | 2066 | W75 | 2086 | X81 | 2064 | Z85 | 2071 | 066 | 2475 |
| M22 | 3616 | N09 | 2882 | P18 | 2986 | P97 | 842 | R63 | 3556 | T31 | 1312 | V73 | 2066 | W77 | 2086 | X82 | 2064 | Z86 | 2071 | 069 | 2475 |
| 4TM23 | 3616 | 4TN10 | 2882 | 4TP19 | 2986 | 4TP98 | 743 | 4TR64 | 3557 | 4TT32 | 1312 | 4TV74 | 2066 | 4TW82 | 2084 | 4TX83 | 2064 | 4TZ87 | 2027 | 4T070 | 2475 |
| M24 | 3616 | N12 | 2882 | P20 | 2986 | P99 | 743 | R65 | 3557 | T33 | 1312 | V75 | 2066 | W83 | 2084 | X84 | 2064 | Z88 | 2071 | 071 | 2475 |
| M25 | 3616 | N13 | 2882 | P21 | 2986 | R01 | 743 | R66 | 3557 | T34 | 3008 | V76 | 2066 | W84 | 2089 | X85 | 2064 | Z89 | 2071 | 072 | 2475 |
| M26 | 3616 | N15 | 2882 | P22 | 2986 | R02 | 743 | R67 | 3224 | T35 | 3008 | V79 | 2067 | W85 | 2095 | X86 | 2064 | Z90 | 2071 | 073 | 2475 |
| M27 | 3616 | N16 | 2882 | P23 | 2986 | R03 | 743 | R68 | 2937 | T36 | 1788 | V80 | 2067 | W86 | 2095 | X87 | 2064 | Z91 | 2071 | 074 | 2475 |
| 4TM28 | 3616 | 4TN54 | 2883 | 4TP24 | 2986 | 4TR04 | 743 | 4TR69 | 2937 | 4TT37 | 1788 | 4TV81 | 2067 | 4TW87 | 2086 | 4TX88 | 2064 | 4TZ92 | 2071 | 4T075 | 2475 |
| M29 | 3616 | N55 | 2900 | P25 | 2986 | R05 | 743 | R70 | 2937 | T38 | 1788 | V82 | 2067 | W88 | 2086 | X89 | 2096 | Z93 | 2071 | 080 | 2343 |
| M30 | 3616 | N56 | 2901 | P26 | 2962 | R06 | 772 | R71 | 2937 | T39 | 1788 | V88 | 2107 | W90 | 2086 | X90 | 2080 | Z94 | 2071 | 081 | 2343 |
| M32 | 3574 | N57 | 2901 | P27 | 2996 | R07 | 799 | R72 | 2937 | T40 | 1785 | V89 | 2107 | W94 | 2095 | X91 | 2080 | Z95 | 2071 | 082 | 2624 |
| M45 | 3574 | N58 | 2901 | P35 | 3462 | R08 | 799 | R73 | 2937 | T41 | 1785 | W05 | 2023 | W95 | 2095 | X92 | 2080 | Z96 | 2071 | 083 | 2624 |
| 4TM47 | 747 | 4TN59 | 2901 | 4TP36 | 3462 | 4TR09 | 1881 | 4TR74 | 2937 | 4TT42 | 1785 | 4TW06 | 2023 | 4TW96 | 2095 | 4TX93 | 2080 | 4TZ97 | 2071 | 4T084 | 2624 |
| M48 | 747 | N60 | 2901 | P37 | 3462 | R10 | 1881 | R75 | 2937 | T43 | 1785 | W07 | 2107 | W97 | 2095 | X96 | 3039 | Z98 | 2027 | 085 | 2624 |
| M49 | 757 | N61 | 2901 | P38 | 3462 | R11 | 1888 | R76 | 2938 | T44 | 1785 | W08 | 2107 | W98 | 2084 | X97 | 2027 | Z99 | 2071 | 086 | 2624 |
| M50 | 3461 | N62 | 2901 | P39 | 3463 | R12 | 1888 | R77 | 2938 | T45 | 1785 | W09 | 2107 | W99 | 2084 | X98 | 2027 | 003 | 2537 | 087 | 2624 |
| M51 | 3460 | N63 | 2901 | P40 | 3463 | R13 | 1888 | R78 | 2938 | T46 | 1785 | W10 | 2107 | X01 | 2074 | X99 | 2014 | 004 | 2537 | 088 | 2624 |
| 4TM52 | 3460 | 4TN64 | 2901 | 4TP41 | 3463 | 4TR14 | 1888 | 4TR79 | 2938 | 4TT47 | 1785 | 4TW11 | 2020 | 4TX02 | 2074 | 4TZ01 | 2014 | 4T007 | 2539 | 4T089 | 2624 |
| M53 | 3378 | N65 | 2901 | P42 | 3305 | R15 | 1888 | R80 | 2938 | T48 | 1787 | W12 | 2020 | X03 | 2074 | Z02 | 2014 | 008 | 2538 | 090 | 2624 |
| M54 | 3419 | N66 | 2901 | P43 | 3305 | R16 | 1890 | R81 | 2938 | T49 | 1787 | W13 | 2020 | X04 | 2074 | Z03 | 2014 | 009 | 2539 | 091 | 2624 |
| M55 | 3419 | N67 | 2901 | P44 | 3305 | R17 | 1890 | R82 | 2938 | T50 | 1787 | W14 | 2020 | X05 | 2074 | Z10 | 2027 | 010 | 2539 | 092 | 2624 |
| M56 | 3419 | N68 | 2901 | P45 | 3305 | R18 | 1890 | R83 | 2938 | T51 | 2107 | W15 | 2020 | X06 | 2074 | Z21 | 2027 | 012 | 2536 | 093 | 2624 |
| 4TM57 | 3419 | 4TN69 | 2901 | 4TP46 | 3305 | 4TR19 | 1883 | 4TR84 | 2938 | 4TT54 | 2029 | 4TW16 | 2020 | 4TX07 | 2074 | 4TZ32 | 2027 | 4T013 | 2538 | 4T094 | 2624 |
| M58 | 3378 | N70 | 2901 | P47 | 3305 | R20 | 1883 | R85 | 2938 | T55 | 2029 | W17 | 2020 | X08 | 2074 | Z43 | 2027 | 014 | 2536 | 095 | 2624 |
| M59 | 3380 | N71 | 2901 | P48 | 3455 | R21 | 1883 | R86 | 2938 | T56 | 2029 | W18 | 2020 | X09 | 2074 | Z44 | 2014 | 015 | 2539 | 101 | 2628 |
| M60 | 3380 | N72 | 2901 | P49 | 3557 | R22 | 1882 | R87 | 2938 | T57 | 2029 | W19 | 2020 | X10 | 2074 | Z45 | 2014 | 016 | 2393 | 103 | 2626 |
| M61 | 3542 | N73 | 2901 | P50 | 3557 | R23 | 2007 | R88 | 2938 | T58 | 2029 | W20 | 2020 | X11 | 2074 | Z46 | 2014 | 017 | 2393 | 104 | 2630 |
| 4TM62 | 3543 | 4TN74 | 2901 | 4TP51 | 3557 | 4TR24 | 2030 | 4TR89 | 2938 | 4TT59 | 2029 | 4TW21 | 2020 | 4TX12 | 2074 | 4TZ47 | 2014 | 4T018 | 2392 | 4T105 | 2630 |
| M63 | 3542 | N75 | 2901 | P52 | 3557 | R25 | 2030 | R90 | 2938 | T60 | 2029 | W22 | 2020 | X13 | 2074 | Z48 | 2014 | 019 | 2392 | 108 | 2604 |
| M64 | 3541 | N76 | 2901 | P53 | 3557 | R26 | 2030 | R91 | 2938 | T61 | 2029 | W29 | 2868 | X14 | 2074 | Z49 | 2014 | 022 | 2392 | 137 | 2416 |
| M65 | 3541 | N77 | 2901 | P54 | 3557 | R27 | 2030 | R92 | 2938 | T62 | 2029 | W30 | 2084 | X15 | 2074 | Z50 | 2014 | 023 | 2392 | 138 | 2416 |
| M66 | 3544 | N78 | 2901 | P55 | 3457 | R28 | 911 | R93 | 2938 | T63 | 2029 | W31 | 2084 | X16 | 2074 | Z51 | 2014 | 024 | 2347 | 139 | 2416 |
| 4TM67 | 3543 | 4TN79 | 2901 | 4TP61 | 3455 | 4TR29 | 910 | 4TR94 | 2938 | 4TT64 | 2029 | 4TW32 | 2084 | 4TX17 | 2074 | 4TZ52 | 2014 | 4T025 | 2347 | 4T140 | 2604 |
| M68 | 1499 | N80 | 2901 | P62 | 3455 | R30 | 910 | R95 | 2938 | T65 | 2029 | W33 | 2084 | X18 | 2074 | Z53 | 2014 | 026 | 2350 | 147 | 2386 |
| M69 | 1499 | N81 | 2901 | P63 | 3455 | R31 | 911 | R96 | 2938 | T78 | 2107 | W34 | 2086 | X19 | 2074 | Z54 | 2027 | 027 | 2350 | 149 | 2388 |
| M70 | 1505 | N82 | 2901 | P64 | 3455 | R32 | 910 | R97 | 2938 | V01 | 2066 | W35 | 2086 | X20 | 2074 | Z55 | 2014 | 028 | 2350 | 150 | 2388 |
| M71 | 1505 | N83 | 2901 | P65 | 3455 | R33 | 910 | R98 | 2097 | V02 | 2066 | W36 | 2086 | X21 | 2074 | Z56 | 2014 | 031 | 2339 | 151 | 2388 |
| 4TM72 | 1499 | 4TN84 | 2901 | 4TP66 | 3455 | 4TR34 | 1456 | 4TR99 | 2097 | 4TV03 | 2066 | 4TW38 | 2089 | 4TX22 | 2074 | 4TZ57 | 2014 | 4T035 | 2344 | 4T152 | 2388 |
| M73 | 1499 | N85 | 2901 | P67 | 3455 | R35 | 1456 | T03 | 2097 | V04 | 2066 | W39 | 2086 | X23 | 2074 | Z58 | 2014 | 036 | 2344 | 153 | 2381 |
| M77 | 3639 | N86 | 2901 | P70 | 3459 | R36 | 1456 | T04 | 1795 | V05 | 2066 | W40 | 2086 | X24 | 2074 | Z59 | 2014 | 037 | 2344 | 154 | 2381 |
| M78 | 3639 | N88 | 2647 | P71 | 3459 | R37 | 1456 | T05 | 1795 | V06 | 2066 | W41 | 2089 | X25 | 2074 | Z60 | 2014 | 038 | 2344 | 155 | 2381 |
| M79 | 3549 | N89 | 2648 | P72 | 3459 | R38 | 1427 | T06 | 1795 | V07 | 2066 | W42 | 2089 | X26 | 2074 | Z61 | 2014 | 039 | 2344 | 156 | 2381 |
| 4TM80 | 3650 | 4TN90 | 2648 | 4TP73 | 3459 | 4TR39 | 3557 | 4TT07 | 1795 | 4TV08 | 2066 | 4TW43 | 2089 | 4TX27 | 2074 | 4TZ62 | 2014 | 4T040 | 2344 | 4T157 | 2381 |
| M81 | 3650 | N91 | 2648 | P74 | 3459 | R40 | 3557 | T08 | 2193 | V09 | 2066 | W44 | 2086 | X28 | 2074 | Z63 | 2014 | 042 | 2343 | 158 | 2381 |
| M82 | 3650 | N95 | 2969 | P75 | 3459 | R41 | 3557 | T09 | 2038 | V18 | 2016 | W45 | 2086 | X29 | 2074 | Z64 | 2014 | 045 | 2345 | 159 | 2380 |
| M83 | 3650 | N96 | 2969 | P76 | 895 | R42 | 3555 | T10 | 2038 | V19 | 2016 | W47 | 2086 | X30 | 2074 | Z65 | 2027 | 046 | 2474 | 160 | 2380 |
| M84 | 3650 | N97 | 2970 | P77 | 895 | R43 | 3556 | T11 | 2038 | V20 | 2016 | W51 | 2081 | X31 | 2074 | Z66 | 2014 | 047 | 2474 | 161 | 2381 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4T162 | 2381 | 4T282 | 2488 | 4T416 | 2457 | 4T502 | 2472 | 4T579 | 2602 | 4T644 | 2579 | 4T709 | 2605 | 4T827 | 2375 | 4UC08 | 2071 | 4UC73 | 2070 | 4UD39 | 2070 |
| 163 | 2381 | 283 | 2488 | 417 | 2461 | 503 | 2472 | 580 | 2603 | 645 | 2582 | 710 | 2605 | 828 | 2472 | C09 | 2071 | C74 | 2070 | D40 | 2070 |
| 164 | 2381 | 284 | 2488 | 418 | 2461 | 504 | 2472 | 581 | 2602 | 646 | 2582 | 711 | 2605 | 829 | 2472 | C10 | 2027 | C75 | 2070 | D41 | 2070 |
| 165 | 2381 | 285 | 2488 | 419 | 2461 | 505 | 2462 | 582 | 2602 | 647 | 2582 | 712 | 2605 | 831 | 2474 | C11 | 2027 | C76 | 2070 | D42 | 2070 |
| 166 | 2381 | 286 | 2488 | 420 | 2461 | 506 | 2462 | 583 | 2603 | 648 | 2572 | 713 | 2605 | 832 | 2474 | C12 | 2071 | C77 | 2027 | D43 | 2070 |
| 4T167 | 2380 | 4T287 | 2488 | 4T421 | 2461 | 4T507 | 2386 | 4T584 | 2603 | 4T649 | 2582 | 4T714 | 2605 | 4T833 | 2474 | 4UC13 | 2071 | 4UC78 | 2070 | 4UD44 | 2070 |
| 168 | 2380 | 288 | 2488 | 422 | 2461 | 508 | 2386 | 585 | 2602 | 650 | 2582 | 715 | 2605 | 834 | 2475 | C14 | 2071 | C79 | 2070 | D45 | 2027 |
| 169 | 2384 | 289 | 2488 | 423 | 2461 | 509 | 2388 | 586 | 2603 | 651 | 2582 | 716 | 2605 | 835 | 2475 | C15 | 2071 | C80 | 2070 | D46 | 2070 |
| 170 | 2384 | 290 | 2488 | 424 | 2461 | 510 | 2388 | 587 | 2602 | 652 | 2572 | 717 | 2605 | 836 | 2475 | C16 | 2071 | C81 | 2070 | D47 | 2070 |
| 171 | 2379 | 291 | 2488 | 425 | 2461 | 511 | 2388 | 588 | 2603 | 653 | 2582 | 718 | 2605 | 864 | 2389 | C17 | 2071 | C82 | 2070 | D48 | 2072 |
| 4T172 | 2379 | 4T292 | 2488 | 4T426 | 2461 | 4T512 | 2388 | 4T589 | 2602 | 4T654 | 2582 | 4T719 | 2605 | 4T870 | 2414 | 4UC18 | 2071 | 4UC83 | 2070 | 4UD49 | 2072 |
| 173 | 2385 | 293 | 2488 | 427 | 2461 | 513 | 2371 | 590 | 2603 | 655 | 2582 | 720 | 2605 | 871 | 2414 | C19 | 2071 | C84 | 2070 | D50 | 2072 |
| 176 | 2356 | 294 | 2487 | 428 | 2461 | 514 | 2371 | 591 | 2603 | 656 | 2579 | 721 | 2605 | 872 | 2414 | C20 | 2071 | C85 | 2070 | D51 | 2072 |
| 177 | 2356 | 295 | 2487 | 429 | 2457 | 515 | 2371 | 592 | 2602 | 657 | 2576 | 722 | 2605 | 873 | 2384 | C21 | 2071 | C86 | 2070 | D52 | 2072 |
| 178 | 2542 | 296 | 2487 | 430 | 2457 | 517 | 2368 | 593 | 2603 | 658 | 2584 | 723 | 2605 | 885 | 2384 | C22 | 2027 | C87 | 2070 | D53 | 2072 |
| 4T194 | 2349 | 4T297 | 2487 | 4T431 | 2466 | 4T519 | 2368 | 4T594 | 2602 | 4T659 | 2576 | 4T724 | 2605 | 4T886 | 2384 | 4UC23 | 2071 | 4UC88 | 2027 | 4UD54 | 2072 |
| 195 | 2349 | 298 | 2487 | 432 | 2466 | 520 | 2365 | 595 | 2603 | 660 | 2573 | 725 | 2605 | 887 | 2384 | C24 | 2071 | C89 | 2070 | D55 | 2072 |
| 196 | 2349 | 299 | 2487 | 433 | 2466 | 522 | 2365 | 596 | 2602 | 661 | 2573 | 726 | 2605 | 888 | 2384 | C25 | 2071 | C90 | 2070 | D56 | 2027 |
| 197 | 2349 | 300 | 2355 | 434 | 2466 | 523 | 2373 | 597 | 2603 | 662 | 2579 | 727 | 2605 | 889 | 2355 | C26 | 2071 | C91 | 2070 | D57 | 2072 |
| 198 | 2349 | 301 | 2355 | 435 | 2466 | 524 | 2373 | 598 | 2602 | 663 | 2573 | 728 | 2605 | 893 | 2333 | C27 | 2071 | C92 | 2070 | D58 | 2072 |
| 4T199 | 2349 | 4T305 | 2354 | 4T436 | 2466 | 4T525 | 2373 | 4T599 | 2603 | 4T664 | 2577 | 4T729 | 2605 | 4T894 | 2333 | 4UC28 | 2071 | 4UC93 | 2070 | 4UD59 | 2072 |
| 200 | 2348 | 307 | 2354 | 437 | 2463 | 526 | 2373 | 600 | 2602 | 665 | 2577 | 730 | 2605 | 895 | 2335 | C29 | 2071 | C94 | 2070 | D60 | 2072 |
| 201 | 2349 | 308 | 2354 | 438 | 2463 | 532 | 2376 | 601 | 2602 | 666 | 2577 | 731 | 2605 | 896 | 2335 | C30 | 2071 | C95 | 2070 | D61 | 2072 |
| 202 | 2349 | 309 | 2544 | 439 | 2463 | 533 | 2376 | 602 | 2602 | 667 | 2577 | 732 | 2605 | 897 | 2335 | C31 | 2071 | C96 | 2070 | D62 | 2072 |
| 203 | 2349 | 310 | 2544 | 448 | 2459 | 534 | 2334 | 603 | 2603 | 668 | 2583 | 733 | 2605 | 898 | 2335 | C32 | 2071 | C97 | 2070 | D63 | 2072 |
| 4T204 | 2349 | 4T312 | 2547 | 4T450 | 2459 | 4T539 | 2379 | 4T604 | 2602 | 4T669 | 2577 | 4T734 | 2605 | 4T899 | 2335 | 4UC33 | 2027 | 4UC98 | 2070 | 4UD64 | 2072 |
| 217 | 2345 | 361 | 2552 | 451 | 2459 | 540 | 2379 | 605 | 2602 | 670 | 2579 | 735 | 2605 | 900 | 2335 | C34 | 2071 | C99 | 2027 | D65 | 2072 |
| 224 | 2479 | 362 | 2552 | 452 | 2459 | 541 | 1586 | 606 | 2604 | 671 | 2583 | 736 | 2605 | 901 | 2459 | C35 | 2071 | D01 | 2070 | D66 | 2072 |
| 225 | 2479 | 363 | 2550 | 453 | 2459 | 542 | 1586 | 607 | 2602 | 672 | 2580 | 737 | 2605 | 902 | 2459 | C36 | 2071 | D02 | 2070 | D67 | 2027 |
| 226 | 2479 | 364 | 2549 | 457 | 2459 | 543 | 1586 | 608 | 2602 | 673 | 2580 | 738 | 2605 | 912 | 2385 | C37 | 2071 | D03 | 2070 | D68 | 2072 |
| 4T227 | 2479 | 4T365 | 2551 | 4T458 | 2459 | 4T544 | 1585 | 4T609 | 2604 | 4T674 | 2580 | 4T739 | 2605 | 4T913 | 2381 | 4UC38 | 2071 | 4UD04 | 2070 | 4UD69 | 2072 |
| 228 | 2480 | 366 | 2549 | 459 | 2459 | 545 | 1586 | 610 | 2604 | 675 | 2577 | 740 | 2605 | 914 | 2381 | C39 | 2071 | D05 | 2070 | D70 | 2072 |
| 229 | 2480 | 368 | 2553 | 460 | 2459 | 546 | 1586 | 611 | 2604 | 676 | 2583 | 741 | 2605 | 915 | 2381 | C40 | 2071 | D06 | 2070 | D71 | 2072 |
| 230 | 2480 | 369 | 2550 | 461 | 2459 | 547 | 1586 | 612 | 2603 | 677 | 2577 | 742 | 2605 | 916 | 2381 | C41 | 2071 | D07 | 2070 | D72 | 2072 |
| 231 | 2480 | 370 | 2550 | 462 | 2459 | 548 | 1586 | 613 | 2603 | 678 | 2577 | 743 | 2605 | 917 | 2381 | C42 | 2071 | D08 | 2070 | D73 | 2072 |
| 4T232 | 2480 | 4T371 | 2550 | 4T463 | 2459 | 4T549 | 2406 | 4T614 | 2604 | 4T679 | 2583 | 4T744 | 2605 | 4T918 | 2381 | 4UC43 | 2071 | 4UD09 | 2070 | 4UD74 | 2072 |
| 233 | 2480 | 372 | 2550 | 464 | 2459 | 550 | 2406 | 615 | 2604 | 680 | 2583 | 745 | 2605 | 919 | 2381 | C44 | 2027 | D10 | 2070 | D75 | 2072 |
| 234 | 2480 | 375 | 2552 | 465 | 2459 | 551 | 2369 | 616 | 2603 | 681 | 2580 | 746 | 2605 | 920 | 2381 | C45 | 2071 | D11 | 2027 | D76 | 2072 |
| 235 | 2480 | 376 | 2552 | 466 | 2459 | 552 | 2369 | 617 | 2603 | 682 | 2583 | 747 | 2605 | 921 | 2381 | C46 | 2071 | D12 | 2070 | D77 | 2072 |
| 236 | 2480 | 378 | 2552 | 467 | 2459 | 553 | 2369 | 618 | 2604 | 683 | 2583 | 748 | 2605 | 922 | 2381 | C47 | 2071 | D13 | 2070 | D78 | 2027 |
| 4T237 | 2480 | 4T382 | 2551 | 4T468 | 2459 | 4T554 | 2444 | 4T619 | 2603 | 4T684 | 2584 | 4T749 | 2605 | 4T923 | 2381 | 4UC48 | 2071 | 4UD14 | 2070 | 4UD79 | 2072 |
| 238 | 2480 | 386 | 2416 | 469 | 2461 | 555 | 2443 | 620 | 2603 | 685 | 2580 | 750 | 2605 | 924 | 2381 | C49 | 2071 | D15 | 2070 | D80 | 2072 |
| 239 | 2480 | 387 | 2416 | 470 | 2461 | 556 | 2443 | 621 | 2603 | 686 | 2584 | 751 | 2605 | 925 | 2381 | C50 | 2071 | D16 | 2070 | D81 | 2072 |
| 240 | 2480 | 388 | 2416 | 472 | 2461 | 557 | 2467 | 622 | 2604 | 687 | 2584 | 752 | 2605 | 926 | 2381 | C51 | 2071 | D17 | 2070 | D82 | 2072 |
| 241 | 2480 | 389 | 2389 | 473 | 2461 | 558 | 2467 | 623 | 2604 | 688 | 2584 | 753 | 2605 | 927 | 2381 | C52 | 2071 | D18 | 2070 | D83 | 2072 |
| 4T242 | 2480 | 4T390 | 2362 | 4T479 | 2456 | 4T559 | 2467 | 4T624 | 2604 | 4T689 | 2578 | 4T754 | 2605 | 4T928 | 2381 | 4UC53 | 2071 | 4UD19 | 2070 | 4UD84 | 2072 |
| 243 | 2480 | 391 | 2362 | 480 | 2456 | 560 | 2467 | 625 | 2604 | 690 | 2574 | 755 | 2605 | 929 | 2381 | C54 | 2071 | D20 | 2070 | D85 | 2072 |
| 264 | 2488 | 395 | 2362 | 481 | 2456 | 561 | 2604 | 626 | 2603 | 691 | 2574 | 756 | 2605 | 930 | 2381 | C55 | 2027 | D21 | 2070 | D86 | 2072 |
| 265 | 2488 | 396 | 2362 | 485 | 2459 | 562 | 2604 | 627 | 2604 | 692 | 2584 | 757 | 2605 | 931 | 2377 | C56 | 2071 | D22 | 2027 | D87 | 2072 |
| 266 | 2488 | 400 | 2455 | 486 | 2459 | 563 | 2604 | 628 | 2619 | 693 | 2574 | 758 | 2605 | 932 | 2377 | C57 | 2071 | D23 | 2027 | D88 | 2072 |
| 4T267 | 2488 | 4T401 | 2455 | 4T487 | 2459 | 4T564 | 2604 | 4T629 | 2619 | 4T694 | 2605 | 4T759 | 2605 | 4T933 | 2377 | 4UC58 | 2071 | 4UD24 | 2070 | 4UD89 | 2027 |
| 268 | 2488 | 402 | 2455 | 488 | 2467 | 565 | 2603 | 630 | 2618 | 695 | 2605 | 761 | 2605 | 934 | 2377 | C59 | 2071 | D25 | 2070 | D90 | 2072 |
| 269 | 2488 | 403 | 2455 | 489 | 2467 | 566 | 2602 | 631 | 2618 | 696 | 2605 | 762 | 2605 | 937 | 2377 | C60 | 2071 | D26 | 2070 | D91 | 2072 |
| 270 | 2488 | 404 | 2455 | 490 | 2467 | 567 | 2602 | 632 | 2618 | 697 | 2605 | 763 | 2605 | 946 | 1775 | C61 | 2071 | D27 | 2070 | D92 | 2072 |
| 271 | 2488 | 405 | 2455 | 491 | 2467 | 568 | 2602 | 633 | 2579 | 698 | 2605 | 764 | 2605 | 948 | 1773 | C62 | 2071 | D28 | 2070 | D93 | 2072 |
| 4T272 | 2488 | 4T406 | 2455 | 4T492 | 2467 | 4T569 | 2603 | 4T634 | 2581 | 4T699 | 2605 | 4T765 | 2605 | 4T949 | 1773 | 4UC63 | 2071 | 4UD29 | 2070 | 4UD94 | 2069 |
| 273 | 2488 | 407 | 2454 | 493 | 2467 | 570 | 2603 | 635 | 2581 | 700 | 2605 | 766 | 2605 | **4U** | | C64 | 2071 | D30 | 2070 | D95 | 2069 |
| 274 | 2488 | 408 | 2454 | 494 | 2467 | 571 | 2602 | 636 | 2581 | 701 | 2605 | 767 | 2605 | | | C65 | 2071 | D31 | 2070 | D96 | 2069 |
| 275 | 2488 | 409 | 2454 | 495 | 2467 | 572 | 2602 | 637 | 2576 | 702 | 2605 | 768 | 2605 | 4UC01 | 2071 | C66 | 2027 | D32 | 2070 | D97 | 2069 |
| 276 | 2488 | 410 | 2455 | 496 | 2467 | 573 | 2603 | 638 | 2572 | 703 | 2605 | 769 | 2605 | C02 | 2071 | C67 | 2071 | D33 | 2070 | D98 | 2069 |
| 4T277 | 2488 | 4T411 | 2458 | 4T497 | 2467 | 4T574 | 2603 | 4T639 | 2572 | 4T704 | 2605 | 4T770 | 2605 | 4UC03 | 2071 | 4UC68 | 2071 | 4UD34 | 2027 | 4UD99 | 2069 |
| 278 | 2488 | 412 | 2458 | 498 | 2467 | 575 | 2602 | 640 | 2572 | 705 | 2605 | 823 | 2403 | C04 | 2071 | C69 | 2071 | D35 | 2070 | F01 | 2027 |
| 279 | 2488 | 413 | 2458 | 499 | 2472 | 576 | 2603 | 641 | 2576 | 706 | 2605 | 824 | 2368 | C05 | 2071 | C70 | 2071 | D36 | 2070 | F02 | 2069 |
| 280 | 2488 | 414 | 2458 | 500 | 2472 | 577 | 2602 | 642 | 2581 | 707 | 2605 | 825 | 2368 | C06 | 2071 | C71 | 2071 | D37 | 2070 | F03 | 2069 |
| 281 | 2488 | 415 | 2456 | 501 | 2472 | 578 | 2603 | 643 | 2581 | 708 | 2605 | 826 | 2375 | C07 | 2071 | C72 | 2071 | D38 | 2070 | F04 | 2069 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4UF05 | 2069 | 4UF70 | 2068 | 4UG77 | 2301 | 4UH43 | 1759 | 4UJ09 | 2061 | 4UJ75 | 1727 | 4UK42 | 2006 | 4UL16 | 3187 | 4UM43 | 1654 | 4UN42 | 3189 | 4UP18 | 3279 |
| F06 | 2069 | F71 | 2068 | G78 | 2301 | H44 | 1759 | J10 | 2061 | J76 | 1728 | K43 | 2006 | L17 | 3187 | M44 | 1654 | N43 | 3189 | P19 | 3279 |
| F07 | 2069 | F72 | 2068 | G79 | 2301 | H45 | 1759 | J11 | 2061 | J77 | 1728 | K44 | 1627 | L18 | 3187 | M45 | 1654 | N44 | 3189 | P20 | 3279 |
| F08 | 2069 | F73 | 2068 | G80 | 2301 | H46 | 1759 | J12 | 2061 | J78 | 1728 | K51 | 1601 | L19 | 3184 | M46 | 1654 | N45 | 3189 | P21 | 3279 |
| F09 | 2069 | F74 | 2065 | G81 | 2301 | H47 | 1759 | J13 | 2061 | J79 | 1728 | K52 | 1601 | L20 | 3184 | M47 | 1654 | N46 | 3189 | P22 | 3279 |
| 4UF10 | 2069 | 4UF75 | 2065 | 4UG82 | 2301 | 4UH48 | 1759 | 4UJ14 | 2061 | 4UJ80 | 1727 | 4UK53 | 1601 | 4UL21 | 3184 | 4UM48 | 1654 | 4UN47 | 3189 | 4UP23 | 3279 |
| F11 | 2069 | F78 | 2065 | G83 | 2060 | H49 | 1759 | J15 | 2061 | J81 | 1727 | K54 | 1601 | L22 | 3184 | M49 | 1654 | N48 | 3180 | P24 | 3280 |
| F12 | 2027 | F79 | 2065 | G84 | 2060 | H50 | 1758 | J16 | 2061 | J82 | 1727 | K55 | 1601 | L23 | 3184 | M50 | 1654 | N49 | 3180 | P25 | 3279 |
| F13 | 2069 | F80 | 2065 | G85 | 2060 | H51 | 1758 | J17 | 2061 | J83 | 1727 | K56 | 1601 | L24 | 3184 | M51 | 1654 | N50 | 3180 | P26 | 3279 |
| F14 | 2069 | F81 | 2065 | G86 | 2060 | H52 | 1758 | J18 | 2061 | J84 | 1728 | K57 | 1601 | L25 | 3184 | M52 | 1654 | N51 | 3181 | P27 | 3279 |
| 4UF15 | 2069 | 4UF82 | 2065 | 4UG87 | 2060 | 4UH53 | 1758 | 4UJ19 | 2061 | 4UJ85 | 1728 | 4UK58 | 1601 | 4UL26 | 3184 | 4UM53 | 1654 | 4UN54 | 3191 | 4UP28 | 3279 |
| F16 | 2069 | F83 | 2065 | G88 | 2060 | H54 | 1758 | J20 | 2061 | J86 | 1728 | K59 | 1601 | L27 | 3184 | M54 | 1654 | N55 | 3191 | P29 | 3279 |
| F17 | 2069 | F84 | 2065 | G89 | 2060 | H55 | 1758 | J21 | 2061 | J87 | 1728 | K60 | 1601 | L28 | 3186 | M55 | 1654 | N56 | 3191 | P30 | 3279 |
| F18 | 2069 | F85 | 2065 | G90 | 2060 | H56 | 1759 | J22 | 2061 | J88 | 1728 | K61 | 1601 | L29 | 3175 | M56 | 1654 | N62 | 3197 | P31 | 3279 |
| F19 | 2069 | F86 | 2065 | G91 | 2060 | H57 | 1758 | J23 | 2061 | J89 | 1728 | K62 | 1601 | L30 | 3205 | M57 | 1654 | N63 | 3197 | P32 | 3279 |
| 4UF20 | 2069 | 4UF89 | 2027 | 4UG92 | 2060 | 4UH58 | 1758 | 4UJ24 | 2061 | 4UJ90 | 1783 | 4UK63 | 1601 | 4UL31 | 3205 | 4UM91 | 1665 | 4UN64 | 3197 | 4UP33 | 3280 |
| F21 | 2069 | F90 | 2065 | G93 | 2060 | H59 | 1758 | J25 | 2061 | J91 | 1783 | K64 | 1601 | L32 | 3205 | M92 | 1666 | N65 | 3197 | P34 | 3280 |
| F22 | 2069 | F91 | 2065 | G94 | 2060 | H60 | 1758 | J26 | 2061 | J92 | 1783 | K65 | 1601 | L33 | 3205 | M93 | 1667 | N66 | 3191 | P35 | 3280 |
| F23 | 2027 | F92 | 2065 | G95 | 2060 | H61 | 1758 | J27 | 2061 | J93 | 1783 | K66 | 1601 | L34 | 3175 | M94 | 1667 | N67 | 3191 | P36 | 3200 |
| F24 | 2069 | F93 | 2065 | G96 | 2060 | H62 | 1759 | J28 | 2061 | J94 | 1783 | K67 | 1601 | L35 | 3205 | M95 | 1668 | N68 | 3191 | P37 | 3200 |
| 4UF25 | 2069 | 4UF94 | 2065 | 4UG97 | 2060 | 4UH63 | 1759 | 4UJ29 | 2061 | 4UJ95 | 1783 | 4UK68 | 1601 | 4UL36 | 3205 | 4UM96 | 1669 | 4UN69 | 3191 | 4UP38 | 3200 |
| F26 | 2069 | F95 | 2065 | G98 | 1794 | H64 | 1759 | J30 | 2061 | J96 | 1783 | K69 | 1601 | L37 | 3175 | M97 | 3283 | N70 | 3191 | P39 | 3200 |
| F27 | 2069 | F96 | 2065 | G99 | 1794 | H65 | 1759 | J31 | 2061 | J97 | 1783 | K70 | 1601 | L38 | 3175 | M98 | 3283 | N71 | 3191 | P40 | 3200 |
| F28 | 2072 | F97 | 2008 | H01 | 1794 | H66 | 1758 | J32 | 2061 | J98 | 1784 | K71 | 1601 | L39 | 3260 | M99 | 3283 | N72 | 3191 | P41 | 3200 |
| F29 | 2072 | F98 | 2008 | H02 | 1794 | H67 | 1759 | J33 | 2061 | J99 | 1784 | K72 | 1601 | L40 | 3175 | N01 | 3283 | N73 | 3188 | P42 | 3200 |
| 4UF30 | 2072 | 4UF99 | 2008 | 4UH03 | 1795 | 4UH68 | 2197 | 4UJ34 | 2780 | 4UK01 | 1783 | 4UK73 | 1601 | 4UL41 | 1650 | 4UN02 | 3283 | 4UN74 | 3188 | 4UP48 | 3200 |
| F31 | 2072 | G01 | 2027 | H04 | 1795 | H69 | 2197 | J35 | 1758 | K02 | 1783 | K74 | 1601 | L42 | 1650 | N03 | 3283 | N75 | 3188 | P49 | 3200 |
| F32 | 2072 | G03 | 2008 | H05 | 1795 | H70 | 2197 | J36 | 2049 | K03 | 1783 | K75 | 1601 | L43 | 1650 | N04 | 3283 | N76 | 3188 | P50 | 3269 |
| F33 | 2072 | G04 | 2027 | H06 | 1795 | H71 | 2197 | J37 | 2770 | K04 | 1783 | K76 | 1601 | L44 | 1650 | N05 | 3283 | N77 | 3188 | P51 | 3269 |
| F34 | 2027 | G05 | 2027 | H07 | 1795 | H72 | 2197 | J38 | 2770 | K05 | 1783 | K77 | 2011 | L45 | 1650 | N06 | 3283 | N78 | 3230 | P52 | 3269 |
| 4UF35 | 2027 | 4UG08 | 2027 | 4UH08 | 1795 | 4UH73 | 2197 | 4UJ39 | 2770 | 4UK06 | 1783 | 4UK78 | 2011 | 4UL46 | 1650 | 4UN07 | 3283 | 4UN79 | 3230 | 4UP53 | 3269 |
| F36 | 2072 | G19 | 2027 | H09 | 1784 | H74 | 2094 | J40 | 2770 | K07 | 1783 | K79 | 2011 | L47 | 1650 | N08 | 3283 | N80 | 3175 | P54 | 3269 |
| F37 | 2072 | G30 | 2027 | H10 | 1784 | H75 | 2094 | J41 | 2770 | K08 | 1786 | K80 | 2011 | L48 | 1650 | N09 | 3283 | N81 | 3175 | P55 | 3269 |
| F38 | 2072 | G33 | 2027 | H11 | 1784 | H76 | 2094 | J42 | 2770 | K09 | 1786 | K83 | 2012 | L49 | 1650 | N10 | 3283 | N82 | 3175 | P56 | 3269 |
| F39 | 2072 | G34 | 2027 | H12 | 1784 | H77 | 2094 | J43 | 2093 | K10 | 1786 | K84 | 2012 | L50 | 1650 | N11 | 3283 | N83 | 3277 | P57 | 3269 |
| 4UF40 | 2072 | 4UG35 | 2027 | 4UH13 | 1784 | 4UH78 | 2094 | 4UJ44 | 2093 | 4UK11 | 1786 | 4UK85 | 2012 | 4UL51 | 1650 | 4UN12 | 3197 | 4UN84 | 3277 | 4UP58 | 3269 |
| F41 | 2072 | G36 | 2027 | H14 | 1784 | H79 | 2094 | J45 | 2093 | K12 | 1786 | K86 | 2011 | L52 | 1650 | N13 | 3197 | N85 | 3277 | P59 | 3269 |
| F42 | 2072 | G37 | 2027 | H15 | 1794 | H80 | 2094 | J46 | 2093 | K13 | 2776 | K87 | 2011 | L53 | 1650 | N14 | 3197 | N87 | 3277 | P60 | 3269 |
| F43 | 2072 | G38 | 2027 | H16 | 1794 | H81 | 2094 | J47 | 2093 | K14 | 1786 | K88 | 2011 | L54 | 1650 | N15 | 3197 | N89 | 3277 | P61 | 3269 |
| F44 | 2072 | G39 | 2027 | H17 | 1796 | H82 | 2094 | J48 | 2093 | K15 | 1786 | K89 | 2011 | L55 | 1650 | N16 | 3191 | N90 | 3277 | P62 | 3269 |
| 4UF45 | 2072 | 4UG40 | 2027 | 4UH18 | 1794 | 4UH83 | 2094 | 4UJ49 | 2093 | 4UK16 | 1786 | 4UK90 | 2011 | 4UL56 | 1650 | 4UN17 | 3191 | 4UN91 | 3277 | 4UP63 | 3269 |
| F46 | 2027 | G41 | 2027 | H19 | 1794 | H84 | 2094 | J50 | 2093 | K17 | 2007 | K91 | 2011 | L57 | 1650 | N18 | 3191 | N92 | 3277 | P64 | 3269 |
| F47 | 2072 | G42 | 2027 | H20 | 2075 | H85 | 2094 | J51 | 2093 | K18 | 2007 | K92 | 2011 | L58 | 1650 | N19 | 3191 | N93 | 3277 | P65 | 3269 |
| F48 | 2072 | G43 | 2027 | H21 | 2075 | H86 | 2094 | J52 | 2093 | K19 | 2007 | K93 | 2011 | L59 | 1650 | N20 | 3191 | N95 | 3277 | P66 | 3269 |
| F49 | 2072 | G44 | 2027 | H22 | 2075 | H87 | 2094 | J53 | 2093 | K20 | 2007 | K94 | 2012 | L60 | 1650 | N21 | 3181 | N96 | 3277 | P67 | 2748 |
| 4UF50 | 2072 | 4UG45 | 2027 | 4UH23 | 2075 | 4UH88 | 2094 | 4UJ54 | 2093 | 4UK21 | 2007 | 4UK95 | 2012 | 4UL61 | 1650 | 4UN22 | 3181 | 4UN97 | 3277 | 4UP68 | 2748 |
| F51 | 2072 | G52 | 2027 | H24 | 2075 | H89 | 2094 | J55 | 2093 | K22 | 2007 | K96 | 1796 | L62 | 1650 | N23 | 3191 | N98 | 3277 | P69 | 2748 |
| F52 | 2072 | G59 | 2014 | H25 | 2076 | H90 | 2094 | J56 | 2093 | K23 | 2007 | K97 | 1796 | L63 | 1650 | N24 | 3206 | N99 | 3277 | P70 | 2748 |
| F53 | 2072 | G60 | 2014 | H26 | 2076 | H91 | 2094 | J57 | 2093 | K24 | 2007 | K98 | 1796 | L64 | 1650 | N25 | 3206 | P01 | 3277 | P71 | 2748 |
| F54 | 2068 | G61 | 2014 | H27 | 2076 | H92 | 2094 | J58 | 2093 | K25 | 2007 | K99 | 1796 | L65 | 1650 | N26 | 3206 | P02 | 3277 | P72 | 2864 |
| 4UF55 | 2068 | 4UG62 | 2014 | 4UH28 | 2076 | 4UH93 | 2094 | 4UJ59 | 2093 | 4UK26 | 2007 | 4UL01 | 3186 | 4UL66 | 1650 | 4UN27 | 3206 | 4UP03 | 3280 | 4UP73 | 2864 |
| F56 | 2068 | G63 | 2301 | H29 | 2076 | H94 | 2061 | J60 | 2093 | K27 | 2006 | L02 | 3186 | L67 | 1650 | N28 | 3187 | P04 | 3280 | P74 | 2864 |
| F57 | 2027 | G64 | 2301 | H30 | 2076 | H95 | 2061 | J61 | 2093 | K28 | 2006 | L03 | 3185 | L68 | 1650 | N29 | 3187 | P05 | 3280 | P75 | 2220 |
| F58 | 2068 | G65 | 2301 | H31 | 2075 | H96 | 2061 | J62 | 2093 | K29 | 2079 | L04 | 3185 | L69 | 1650 | N30 | 3187 | P06 | 3280 | P76 | 2220 |
| F59 | 2068 | G66 | 2301 | H32 | 2075 | H97 | 2061 | J63 | 2093 | K30 | 2006 | L05 | 3185 | M32 | 1654 | N31 | 3187 | P07 | 3280 | P77 | 2220 |
| 4UF60 | 2068 | 4UG67 | 2301 | 4UH33 | 2075 | 4UH98 | 2061 | 4UJ64 | 2093 | 4UK31 | 2006 | 4UL06 | 3185 | 4UM33 | 1654 | 4UN32 | 3187 | 4UP08 | 3280 | 4UP78 | 2306 |
| F61 | 2068 | G68 | 2301 | H34 | 2076 | H99 | 2061 | J65 | 2093 | K33 | 2006 | L07 | 3185 | M34 | 1654 | N33 | 3187 | P09 | 3280 | P79 | 2314 |
| F62 | 2068 | G69 | 2301 | H35 | 1754 | J01 | 2061 | J66 | 2093 | K34 | 2006 | L08 | 3185 | M35 | 1654 | N34 | 3189 | P10 | 3280 | P80 | 2314 |
| F63 | 2068 | G70 | 2301 | H36 | 1754 | J02 | 2061 | J67 | 1727 | K35 | 2006 | L09 | 3185 | M36 | 1654 | N35 | 3189 | P11 | 3280 | P81 | 2311 |
| F64 | 2068 | G71 | 2301 | H37 | 1754 | J03 | 2061 | J68 | 1727 | K36 | 2006 | L10 | 3185 | M37 | 1654 | N36 | 3189 | P12 | 3279 | P82 | 2310 |
| 4UF65 | 2068 | 4UG72 | 2301 | 4UH38 | 1754 | 4UJ04 | 2061 | 4UJ70 | 1727 | 4UK37 | 2006 | 4UL11 | 3185 | 4UM38 | 1654 | 4UN37 | 3189 | 4UP13 | 3279 | 4UP83 | 2310 |
| F66 | 2068 | G73 | 2301 | H39 | 1754 | J05 | 2061 | J71 | 1727 | K38 | 2006 | L12 | 3185 | M39 | 1654 | N38 | 3189 | P14 | 3279 | P84 | 2310 |
| F67 | 2068 | G74 | 2301 | H40 | 1754 | J06 | 2061 | J72 | 1727 | K39 | 2006 | L13 | 3185 | M40 | 1654 | N39 | 3189 | P15 | 3279 | P85 | 2317 |
| F68 | 2027 | G75 | 2301 | H41 | 1759 | J07 | 2061 | J73 | 1727 | K40 | 2006 | L14 | 3185 | M41 | 1654 | N40 | 3189 | P16 | 3279 | P86 | 2233 |
| F69 | 2068 | G76 | 2301 | H42 | 1759 | J08 | 2061 | J74 | 1727 | K41 | 2006 | L15 | 3185 | M42 | 1654 | N41 | 3189 | P17 | 3279 | P87 | 2233 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4UP88 | 2233 | 4UR58 | 2087 | 4UT24 | 1566 | 4UT89 | 1542 | 4UV55 | 1579 | 4UW22 | 2078 | 4UX40 | 2036 | 4UZ37 | 2020 | 4VL75 | 2025 | 4VM41 | 2092 | 4VN24 | 3471 |
| P89 | 2313 | R59 | 2087 | T25 | 1566 | T90 | 1542 | V57 | 1572 | W23 | 2078 | X41 | 2036 | Z38 | 2020 | L76 | 2025 | M42 | 2092 | N25 | 3471 |
| P90 | 2233 | R60 | 1635 | T26 | 1566 | T91 | 1542 | V58 | 1572 | W24 | 2078 | X42 | 2036 | Z39 | 2020 | L77 | 2025 | M43 | 2092 | N26 | 3471 |
| P91 | 2233 | R61 | 1635 | T27 | 1553 | T92 | 1542 | V59 | 1582 | W25 | 2078 | X43 | 2036 | 4V | | L78 | 2025 | M44 | 2092 | P69 | 900 |
| P92 | 2233 | R62 | 1635 | T28 | 1553 | T93 | 1542 | V60 | 1582 | W26 | 2079 | X44 | 2036 | | | L79 | 2025 | M45 | 2092 | P70 | 900 |
| 4UP93 | 2316 | 4UR63 | 1635 | 4UT29 | 1553 | 4UT94 | 1542 | 4UV61 | 1580 | 4UW27 | 2079 | 4UX45 | 2036 | 4VC14 | 991 | 4VL80 | 2055 | 4VM46 | 2092 | 4VP71 | 900 |
| P94 | 2310 | R64 | 1635 | T30 | 1553 | T95 | 1540 | V62 | 1580 | W28 | 2079 | X46 | 2036 | C25 | 932 | L81 | 2055 | M47 | 2092 | P72 | 2009 |
| P95 | 2310 | R65 | 1635 | T31 | 1553 | T96 | 1540 | V63 | 1581 | W29 | 2079 | X47 | 2036 | C26 | 932 | L82 | 2055 | M48 | 2092 | P73 | 2009 |
| P96 | 2297 | R66 | 1635 | T32 | 1553 | T97 | 1540 | V64 | 1576 | W30 | 2079 | X48 | 2036 | C27 | 932 | L83 | 2055 | M49 | 2092 | P74 | 2009 |
| P97 | 2307 | R67 | 1635 | T33 | 1553 | T98 | 1542 | V65 | 1573 | W31 | 2079 | X49 | 2036 | C44 | 984 | L84 | 2055 | M50 | 2090 | 012 | 1182 |
| 4UP98 | 2307 | 4UR68 | 1635 | 4UT34 | 1553 | 4UT99 | 1542 | 4UV66 | 1573 | 4UW32 | 2079 | 4UX50 | 2036 | 4VC45 | 984 | 4VL85 | 2055 | 4VM51 | 2193 | 4V013 | 1182 |
| P99 | 2307 | R69 | 1635 | T35 | 1553 | V01 | 1547 | V67 | 1579 | W33 | 2079 | X51 | 2036 | C46 | 925 | L86 | 2055 | M52 | 1728 | 016 | 1182 |
| R01 | 2307 | R70 | 1635 | T36 | 1553 | V02 | 1547 | V68 | 3064 | W34 | 2079 | X52 | 2036 | C47 | 925 | L87 | 2055 | M53 | 43 | 017 | 1183 |
| R02 | 2307 | R71 | 1635 | T37 | 1553 | V03 | 1544 | V69 | 3064 | W35 | 2079 | X53 | 2036 | C48 | 925 | L88 | 2055 | M54 | 43 | 018 | 1182 |
| R03 | 2307 | R72 | 1635 | T38 | 1553 | V04 | 1544 | V70 | 3064 | W36 | 2079 | X54 | 152 | C49 | 925 | L89 | 2055 | M55 | 43 | 019 | 1182 |
| 4UR04 | 2313 | 4UR73 | 1635 | 4UT39 | 1566 | 4UV05 | 1543 | 4UV71 | 3067 | 4UW37 | 2079 | 4UX55 | 152 | 4VC50 | 925 | 4VL90 | 2055 | 4VM56 | 43 | 4V022 | 1182 |
| R05 | 2313 | R74 | 1635 | T40 | 1566 | V06 | 1546 | V72 | 3067 | W38 | 2079 | X56 | 104 | C51 | 925 | L91 | 2055 | M71 | 1159 | 023 | 1182 |
| R06 | 2317 | R75 | 1635 | T41 | 1566 | V07 | 1546 | V73 | 3067 | W39 | 2079 | X57 | 104 | C52 | 925 | L92 | 2025 | M72 | 1159 | 024 | 1182 |
| R07 | 3173 | R76 | 1635 | T42 | 1566 | V08 | 1546 | V74 | 3067 | W40 | 2079 | X58 | 104 | G63 | 2302 | L93 | 2025 | M73 | 1161 | 025 | 1182 |
| R08 | 3173 | R77 | 1635 | T43 | 1566 | V09 | 1546 | V75 | 3067 | W41 | 2079 | X59 | 104 | G64 | 2302 | L94 | 2025 | M74 | 1161 | 026 | 1183 |
| 4UR09 | 3173 | 4UR78 | 1637 | 4UT44 | 1566 | 4UV10 | 1546 | 4UV76 | 3067 | 4UW42 | 2079 | 4UX60 | 104 | 4VG65 | 2302 | 4VL95 | 2025 | 4VM75 | 1161 | 4V027 | 1183 |
| R10 | 3173 | R79 | 1637 | T45 | 1585 | V11 | 1546 | V77 | 2078 | W43 | 2079 | X61 | 104 | G66 | 2302 | L96 | 2025 | M76 | 1161 | 028 | 1183 |
| R11 | 3173 | R80 | 1637 | T46 | 1585 | V12 | 1542 | V78 | 2078 | W44 | 2079 | X62 | 104 | G67 | 2302 | L97 | 2025 | M77 | 1159 | 029 | 1183 |
| R12 | 3173 | R81 | 1637 | T47 | 1585 | V13 | 1542 | V79 | 2078 | W45 | 2079 | X63 | 104 | G68 | 2302 | L98 | 2025 | M80 | 3472 | 030 | 1183 |
| R13 | 3173 | R82 | 1635 | T48 | 1570 | V14 | 1543 | V80 | 2078 | W46 | 2079 | X64 | 104 | G69 | 2302 | L99 | 2025 | M82 | 3472 | 031 | 1183 |
| 4UR14 | 3173 | 4UR83 | 1635 | 4UT49 | 1570 | 4UV15 | 1543 | 4UV81 | 2078 | 4UW47 | 2079 | 4UX65 | 104 | 4VJ30 | 2593 | 4VM01 | 2025 | 4VM83 | 3467 | 4V032 | 1183 |
| R15 | 3173 | R84 | 1635 | T50 | 1570 | V16 | 1540 | V82 | 2078 | W48 | 2079 | X66 | 104 | L36 | 2043 | M02 | 2025 | M84 | 3467 | 033 | 1183 |
| R16 | 3173 | R85 | 1635 | T51 | 1570 | V17 | 1540 | V83 | 2078 | W49 | 2079 | X67 | 104 | L37 | 2043 | M03 | 2013 | M85 | 3467 | 066 | 2236 |
| R17 | 3173 | R86 | 1636 | T52 | 1570 | V18 | 1540 | V84 | 2078 | W50 | 2079 | X68 | 104 | L38 | 2043 | M04 | 2013 | M86 | 3467 | 067 | 2236 |
| R18 | 3173 | R87 | 1636 | T53 | 1563 | V19 | 1543 | V85 | 2078 | W51 | 2079 | X69 | 152 | L39 | 2043 | M05 | 2013 | M87 | 3467 | 068 | 2236 |
| 4UR19 | 3173 | 4UR88 | 1636 | 4UT54 | 1563 | 4UV20 | 1543 | 4UV86 | 2078 | 4UW52 | 2079 | 4UX70 | 3067 | 4VL40 | 2025 | 4VM06 | 2013 | 4VM88 | 3467 | 4V069 | 2236 |
| R20 | 3173 | R89 | 1636 | T55 | 1563 | V21 | 1543 | V87 | 2078 | W53 | 2300 | X71 | 3083 | L41 | 2025 | M07 | 2013 | M89 | 3467 | 070 | 1156 |
| R21 | 3173 | R90 | 1636 | T56 | 1563 | V22 | 1543 | V88 | 2078 | W54 | 2036 | X72 | 3083 | L42 | 2025 | M08 | 2013 | M90 | 3467 | 071 | 1156 |
| R22 | 3173 | R91 | 1636 | T57 | 1563 | V23 | 1543 | V89 | 2078 | W55 | 2300 | X73 | 3083 | L43 | 2025 | M09 | 2013 | M91 | 3467 | 072 | 1156 |
| R23 | 3173 | R92 | 1636 | T58 | 1563 | V24 | 1542 | V90 | 2078 | W56 | 2036 | X74 | 3083 | L44 | 2025 | M10 | 2013 | M92 | 3467 | 073 | 1156 |
| 4UR24 | 3173 | 4UR93 | 1636 | 4UT59 | 1563 | 4UV25 | 2226 | 4UV91 | 2078 | 4UW57 | 2300 | 4UX75 | 3083 | 4VL45 | 2025 | 4VM11 | 2025 | 4VM93 | 3467 | 4V074 | 1156 |
| R25 | 3173 | R94 | 1636 | T60 | 1563 | V26 | 2223 | V92 | 2078 | W58 | 2036 | X76 | 3083 | L46 | 2025 | M12 | 2025 | M94 | 3467 | 075 | 1158 |
| R26 | 3173 | R95 | 1636 | T61 | 1563 | V27 | 2223 | V93 | 2078 | W59 | 2300 | X77 | 3083 | L47 | 2025 | M13 | 2025 | M95 | 3467 | 076 | 1158 |
| R27 | 3173 | R96 | 1637 | T62 | 1563 | V28 | 2223 | V94 | 2078 | W60 | 2300 | X78 | 3083 | L48 | 2025 | M14 | 2025 | M96 | 3467 | 077 | 1158 |
| R28 | 3173 | R97 | 1637 | T63 | 1563 | V29 | 2223 | V95 | 2078 | W61 | 2300 | X79 | 1627 | L49 | 2025 | M15 | 2025 | M97 | 3467 | 078 | 2236 |
| 4UR29 | 3173 | 4UR98 | 1637 | 4UT64 | 1563 | 4UV30 | 2223 | 4UV96 | 2078 | 4UW62 | 1639 | 4UX80 | 1627 | 4VL50 | 2025 | 4VM16 | 2025 | 4VM98 | 3467 | 4V081 | 916 |
| R30 | 3173 | R99 | 1637 | T65 | 1583 | V31 | 2223 | V97 | 2078 | W63 | 1635 | X81 | 1627 | L51 | 2025 | M17 | 2013 | M99 | 3467 | 082 | 916 |
| R33 | 2197 | T01 | 1637 | T66 | 1583 | V32 | 2223 | V98 | 2078 | W64 | 1635 | X82 | 1627 | L52 | 2025 | M18 | 2013 | N01 | 3471 | 088 | 918 |
| R34 | 2197 | T02 | 1637 | T67 | 1541 | V33 | 2223 | V99 | 2078 | W65 | 1639 | X83 | 1627 | L53 | 2025 | M19 | 2025 | N02 | 3471 | 090 | 957 |
| R35 | 2190 | T03 | 1637 | T68 | 1541 | V34 | 2223 | W01 | 2078 | W66 | 1639 | X84 | 1627 | L54 | 2025 | M20 | 2025 | N03 | 3471 | 091 | 957 |
| 4UR36 | 2190 | 4UT04 | 1637 | 4UT69 | 1541 | 4UV35 | 2223 | 4UW02 | 2078 | 4UW67 | 1639 | 4UX85 | 1627 | 4VL55 | 2025 | 4VM21 | 2025 | 4VN04 | 3471 | 4V094 | 959 |
| R37 | 2189 | T05 | 1637 | T70 | 1545 | V36 | 2237 | W03 | 2078 | W68 | 1635 | X86 | 1627 | L56 | 2025 | M22 | 2025 | N05 | 3471 | 095 | 959 |
| R38 | 2189 | T06 | 1637 | T71 | 1545 | V37 | 2237 | W04 | 2078 | W69 | 1635 | X87 | 1627 | L57 | 2025 | M23 | 2025 | N06 | 3471 | 096 | 959 |
| R39 | 2189 | T07 | 1637 | T72 | 1545 | V38 | 2237 | W05 | 2078 | W70 | 1636 | X88 | 1627 | L58 | 2025 | M24 | 2025 | N07 | 3471 | 097 | 959 |
| R40 | 2189 | T08 | 1637 | T73 | 1539 | V39 | 2237 | W06 | 2078 | W71 | 1636 | Z08 | 2064 | L59 | 2025 | M25 | 2025 | N08 | 3471 | 100 | 961 |
| 4UR43 | 2192 | 4UT09 | 1637 | 4UT74 | 1545 | 4UV40 | 2237 | 4UW07 | 2078 | 4UW72 | 1636 | 4UZ09 | 2064 | 4VL60 | 2025 | 4VM26 | 2013 | 4VN09 | 3471 | 4V101 | 961 |
| R44 | 2192 | T10 | 1637 | T75 | 1547 | V41 | 2237 | W08 | 2078 | W73 | 1636 | Z10 | 2064 | L61 | 2025 | M27 | 2013 | N10 | 3471 | 102 | 961 |
| R45 | 2087 | T11 | 1637 | T76 | 1540 | V42 | 1570 | W09 | 2078 | W74 | 1643 | Z11 | 2083 | L62 | 2025 | M28 | 2013 | N11 | 3471 | 104 | 961 |
| R46 | 2087 | T12 | 1637 | T77 | 1540 | V43 | 1570 | W10 | 2078 | W75 | 1643 | Z12 | 2083 | L63 | 2025 | M29 | 2013 | N12 | 3471 | 106 | 961 |
| R47 | 2087 | T13 | 1636 | T78 | 1540 | V44 | 1573 | W11 | 2078 | W76 | 1643 | Z13 | 2023 | L64 | 2013 | M30 | 2013 | N13 | 3471 | 108 | 962 |
| 4UR48 | 2087 | 4UT14 | 1636 | 4UT79 | 1540 | 4UV45 | 1580 | 4UW12 | 2078 | 4UW77 | 1643 | 4UZ14 | 2023 | 4VL65 | 2013 | 4VM31 | 2013 | 4VN14 | 3471 | 4V111 | 965 |
| R49 | 2087 | T15 | 1636 | T80 | 1540 | V46 | 1579 | W13 | 2078 | W78 | 1643 | Z15 | 2023 | L66 | 2013 | M32 | 901 | N15 | 3471 | 114 | 967 |
| R50 | 2087 | T16 | 1636 | T81 | 1540 | V47 | 1580 | W14 | 2078 | W79 | 1642 | Z16 | 2107 | L67 | 2013 | M33 | 901 | N16 | 3471 | 115 | 967 |
| R51 | 2087 | T17 | 1636 | T82 | 1543 | V48 | 1570 | W15 | 2078 | W80 | 1642 | Z17 | 2023 | L68 | 2013 | M34 | 900 | N17 | 3471 | 116 | 970 |
| R52 | 2087 | T18 | 1636 | T83 | 1543 | V49 | 1570 | W16 | 2078 | W81 | 1642 | Z18 | 2023 | L69 | 2013 | M35 | 900 | N18 | 3471 | 128 | 960 |
| 4UR53 | 2087 | 4UT19 | 1636 | 4UT84 | 1543 | 4UV50 | 1570 | 4UW17 | 2078 | 4UW82 | 1642 | 4UZ19 | 2023 | 4VL70 | 2025 | 4VM36 | 900 | 4VN19 | 3471 | 4V129 | 966 |
| R54 | 2087 | T20 | 1636 | T85 | 1542 | V51 | 1570 | W18 | 2078 | W83 | 1642 | Z33 | 2107 | L71 | 2025 | M37 | 900 | N20 | 3471 | 130 | 970 |
| R55 | 2087 | T21 | 1636 | T86 | 1542 | V52 | 1582 | W19 | 2078 | W84 | 1641 | Z34 | 2020 | L72 | 2025 | M38 | 2096 | N21 | 3471 | 144 | 978 |
| R56 | 2087 | T22 | 1636 | T87 | 1542 | V53 | 1571 | W20 | 2078 | W85 | 1641 | Z35 | 2020 | L73 | 2025 | M39 | 2040 | N22 | 3471 | 224 | 1188 |
| R57 | 2087 | T23 | 1566 | T88 | 1542 | V54 | 1571 | W21 | 2078 | X39 | 152 | Z36 | 2020 | L74 | 2025 | M40 | 2092 | N23 | 3471 | 225 | 1188 |

# STOCK NUMBER—PAGE NUMBER

## 4V2 — 4W8

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4V233 | 696 | 4V385 | 1184 | 4V509 | 924 | 4V610 | 918 | 4V851 | 956 | 4W018 | 1919 | 4W199 | 593 | 4W305 | 1920 | 4W569 | 2264 | 4W663 | 2150 | 4W729 | 2150 | 4W794 | 2149 |
| 234 | 1004 | 386 | 1184 | 512 | 920 | 611 | 918 | 852 | 956 | 021 | 1923 | 200 | 2073 | 307 | 1958 | 570 | 2264 | 664 | 2150 | 730 | 2150 | 795 | 2149 |
| 235 | 1003 | 387 | 1184 | 513 | 920 | 617 | 960 | 856 | 956 | 022 | 1923 | 201 | 2073 | 308 | 1922 | 571 | 2264 | 665 | 2150 | 731 | 2151 | 796 | 2149 |
| 236 | 1009 | 410 | 967 | 516 | 941 | 619 | 962 | 857 | 956 | 023 | 2057 | 202 | 2073 | 309 | 1926 | 572 | 2264 | 666 | 2150 | 732 | 2151 | 797 | 2149 |
| 239 | 1003 | 412 | 958 | 517 | 920 | 625 | 976 | 869 | 958 | 024 | 2057 | 203 | 2073 | 310 | 1926 | 573 | 2264 | 667 | 2150 | 733 | 2151 | 798 | 2144 |
| 4V241 | 1004 | 4V414 | 958 | 4V518 | 941 | 4V626 | 976 | 4V874 | 959 | 4W026 | 2056 | 4W222 | 2277 | 4W311 | 1922 | 4W574 | 2264 | 4W668 | 2150 | 4W734 | 2151 | 4W799 | 2144 |
| 242 | 1008 | 415 | 955 | 519 | 946 | 629 | 943 | 877 | 959 | 027 | 2056 | 224 | 2288 | 313 | 1922 | 575 | 2264 | 669 | 2150 | 735 | 2151 | 800 | 2144 |
| 243 | 1009 | 420 | 967 | 520 | 946 | 630 | 972 | 879 | 959 | 028 | 2056 | 225 | 2288 | 315 | 2735 | 576 | 2264 | 670 | 2150 | 736 | 2151 | 801 | 2146 |
| 244 | 1004 | 421 | 967 | 522 | 916 | 631 | 967 | 880 | 959 | 029 | 2677 | 242 | 1948 | 319 | 3513 | 577 | 2264 | 671 | 2150 | 737 | 2151 | 802 | 2146 |
| 246 | 1005 | 422 | 955 | 524 | 917 | 632 | 919 | 881 | 959 | 030 | 2677 | 243 | 1948 | 320 | 1941 | 578 | 2264 | 672 | 2150 | 738 | 2151 | 803 | 2146 |
| 4V247 | 1005 | 4V427 | 968 | 4V526 | 924 | 4V633 | 919 | 4V889 | 960 | 4W031 | 2067 | 4W246 | 1956 | 4W323 | 2207 | 4W579 | 2264 | 4W674 | 2150 | 4W739 | 2151 | 4W805 | 2167 |
| 248 | 1005 | 435 | 960 | 528 | 917 | 635 | 920 | 891 | 961 | 032 | 2066 | 248 | 1956 | 324 | 2204 | 580 | 2264 | 675 | 2150 | 740 | 2151 | 806 | 2162 |
| 249 | 1005 | 439 | 918 | 529 | 918 | 641 | 979 | 894 | 963 | 033 | 2066 | 249 | 2073 | 325 | 2204 | 581 | 2264 | 676 | 2150 | 741 | 2151 | 807 | 2162 |
| 250 | 1009 | 440 | 916 | 530 | 918 | 645 | 956 | 904 | 957 | 051 | 2056 | 250 | 2073 | 326 | 2207 | 582 | 2264 | 677 | 2150 | 742 | 2151 | 808 | 2162 |
| 251 | 1009 | 442 | 950 | 531 | 942 | 649 | 962 | 911 | 922 | 052 | 2195 | 251 | 2073 | 327 | 2190 | 583 | 2262 | 678 | 2150 | 743 | 2151 | 809 | 2147 |
| 4V252 | 1009 | 4V443 | 950 | 4V534 | 961 | 4V650 | 968 | 4V912 | 964 | 4W053 | 2320 | 4W252 | 2073 | 4W328 | 2190 | 4W584 | 2262 | 4W679 | 2150 | 4W744 | 2151 | 4W810 | 2147 |
| 260 | 1048 | 444 | 922 | 536 | 923 | 657 | 967 | 913 | 964 | 073 | 2179 | 253 | 2073 | 329 | 2190 | 585 | 2262 | 680 | 2150 | 745 | 2151 | 811 | 2147 |
| 261 | 1048 | 445 | 922 | 537 | 923 | 664 | 956 | 914 | 965 | 074 | 2178 | 254 | 2073 | 330 | 2190 | 586 | 2262 | 681 | 2150 | 746 | 2151 | 812 | 2147 |
| 262 | 1089 | 446 | 922 | 538 | 955 | 667 | 943 | 915 | 965 | 075 | 2184 | 255 | 2073 | 331 | 2190 | 587 | 2262 | 682 | 2150 | 747 | 2151 | 813 | 2147 |
| 265 | 1092 | 448 | 952 | 539 | 955 | 673 | 975 | 916 | 965 | 076 | 2184 | 256 | 2073 | 332 | 2324 | 588 | 2262 | 683 | 2150 | 748 | 2151 | 814 | 2147 |
| 4V266 | 1092 | 4V450 | 953 | 4V543 | 924 | 4V674 | 968 | 4V918 | 965 | 4W077 | 2177 | 4W257 | 2073 | 4W345 | 2080 | 4W589 | 2262 | 4W684 | 2150 | 4W749 | 2151 | 4W815 | 2138 |
| 267 | 1093 | 451 | 953 | 550 | 939 | 676 | 957 | 923 | 966 | 078 | 2177 | 258 | 2073 | 458 | 2323 | 590 | 2262 | 685 | 2150 | 750 | 2151 | 816 | 2138 |
| 268 | 1093 | 452 | 954 | 552 | 957 | 687 | 982 | 924 | 920 | 079 | 2177 | 261 | 2073 | 459 | 2322 | 591 | 2262 | 686 | 2150 | 751 | 2151 | 817 | 2138 |
| 269 | 1093 | 453 | 954 | 553 | 962 | 708 | 959 | 931 | 921 | 090 | 2272 | 262 | 2073 | 462 | 2320 | 592 | 2262 | 687 | 2150 | 752 | 2151 | 818 | 2138 |
| 270 | 1093 | 454 | 956 | 554 | 962 | 709 | 972 | 937 | 921 | 091 | 2272 | 263 | 2073 | 464 | 2319 | 593 | 2262 | 688 | 2150 | 753 | 2151 | 819 | 2138 |
| 4V271 | 1093 | 4V455 | 956 | 4V555 | 965 | 4V712 | 974 | 4V938 | 921 | 4W092 | 2272 | 4W264 | 2073 | 4W466 | 2320 | 4W594 | 2262 | 4W689 | 2150 | 4W754 | 2151 | 4W820 | 2138 |
| 288 | 1103 | 456 | 956 | 556 | 965 | 727 | 920 | 940 | 920 | 093 | 2272 | 265 | 2073 | 467 | 2320 | 595 | 2307 | 690 | 2150 | 755 | 2151 | 821 | 2138 |
| 289 | 1104 | 457 | 956 | 557 | 967 | 738 | 982 | 943 | 968 | 094 | 2272 | 266 | 2073 | 468 | 2320 | 596 | 2307 | 691 | 2150 | 756 | 2151 | 822 | 2138 |
| 290 | 1104 | 458 | 956 | 558 | 967 | 745 | 950 | 944 | 920 | 095 | 2109 | 267 | 2073 | 469 | 2209 | 597 | 2307 | 692 | 2150 | 757 | 2151 | 823 | 2138 |
| 291 | 1104 | 459 | 956 | 559 | 970 | 746 | 950 | 946 | 968 | 096 | 2117 | 268 | 2073 | 470 | 2209 | 598 | 2307 | 693 | 2150 | 758 | 2151 | 824 | 2138 |
| 4V292 | 1103 | 4V460 | 956 | 4V560 | 970 | 4V750 | 950 | 4V948 | 920 | 4W097 | 2117 | 4W269 | 2073 | 4W471 | 2209 | 4W599 | 2307 | 4W694 | 2150 | 4W759 | 2151 | 4W825 | 2142 |
| 298 | 1143 | 461 | 956 | 561 | 939 | 751 | 950 | 951 | 920 | 123 | 2738 | 270 | 2073 | 472 | 2215 | 600 | 2307 | 695 | 2150 | 760 | 2151 | 826 | 2142 |
| 299 | 1143 | 463 | 958 | 562 | 957 | 752 | 963 | 954 | 921 | 124 | 2738 | 271 | 2073 | 473 | 2215 | 601 | 2307 | 696 | 2150 | 761 | 2151 | 827 | 2142 |
| 300 | 925 | 464 | 959 | 563 | 966 | 753 | 950 | 955 | 921 | 125 | 2738 | 272 | 2073 | 474 | 2215 | 602 | 2307 | 697 | 2150 | 762 | 2151 | 828 | 2142 |
| 301 | 925 | 465 | 962 | 564 | 961 | 754 | 950 | 956 | 921 | 126 | 2738 | 274 | 2066 | 475 | 2215 | 603 | 2679 | 698 | 2150 | 763 | 2151 | 829 | 2142 |
| 4V302 | 930 | 4V467 | 918 | 4V565 | 941 | 4V756 | 950 | 4V957 | 921 | 4W127 | 2109 | 4W275 | 2066 | 4W476 | 2215 | 4W604 | 2679 | 4W699 | 2150 | 4W764 | 2151 | 4W830 | 2142 |
| 306 | 1184 | 468 | 923 | 566 | 972 | 757 | 950 | 958 | 920 | 128 | 2008 | 276 | 2066 | 477 | 2215 | 607 | 2266 | 700 | 2150 | 765 | 2151 | 831 | 2142 |
| 346 | 1155 | 470 | 924 | 574 | 919 | 759 | 950 | 961 | 977 | 129 | 2008 | 277 | 2066 | 478 | 2217 | 608 | 2266 | 701 | 2150 | 766 | 2151 | 832 | 2142 |
| 347 | 1164 | 472 | 965 | 575 | 919 | 765 | 950 | 964 | 922 | 130 | 2008 | 278 | 2066 | 479 | 2217 | 609 | 2266 | 702 | 2150 | 767 | 2151 | 833 | 2142 |
| 348 | 1164 | 476 | 921 | 576 | 919 | 766 | 950 | 967 | 968 | 131 | 2008 | 279 | 2066 | 480 | 2199 | 611 | 2266 | 703 | 2150 | 768 | 2151 | 834 | 2142 |
| 4V349 | 1161 | 4V478 | 968 | 4V577 | 919 | 4V768 | 922 | 4V969 | 968 | 4W132 | 2008 | 4W280 | 2067 | 4W481 | 2199 | 4W612 | 2266 | 4W704 | 2150 | 4W769 | 2151 | 4W835 | 2142 |
| 350 | 1158 | 479 | 954 | 578 | 919 | 769 | 951 | 971 | 968 | 133 | 2008 | 281 | 2067 | 482 | 2199 | 613 | 2265 | 705 | 2150 | 770 | 2151 | 836 | 2142 |
| 351 | 1158 | 480 | 917 | 579 | 919 | 770 | 922 | 973 | 968 | 134 | 2008 | 282 | 2190 | 483 | 2199 | 614 | 2265 | 706 | 2150 | 771 | 2151 | 837 | 2142 |
| 352 | 1158 | 481 | 973 | 581 | 946 | 771 | 922 | 985 | 970 | 165 | 3088 | 283 | 2190 | 484 | 2199 | 615 | 2265 | 707 | 2150 | 772 | 2151 | 838 | 2142 |
| 353 | 1158 | 482 | 961 | 582 | 945 | 773 | 921 | 986 | 970 | 169 | 2740 | 284 | 2190 | 485 | 2209 | 616 | 2265 | 708 | 2150 | 773 | 2152 | 839 | 2142 |
| 4V354 | 1158 | 4V483 | 975 | 4V583 | 946 | 4V774 | 951 | 4V996 | 954 | 4W170 | 2740 | 4W285 | 2190 | 4W492 | 2682 | 4W617 | 2265 | 4W709 | 2150 | 4W774 | 2152 | 4W840 | 2142 |
| 355 | 1154 | 484 | 941 | 584 | 946 | 776 | 921 | 4W | | 172 | 2178 | 286 | 2190 | 499 | 2701 | 618 | 2265 | 710 | 2150 | 775 | 2152 | 841 | 2142 |
| 356 | 1154 | 487 | 966 | 586 | 971 | 777 | 921 | | | 173 | 2180 | 287 | 2310 | 500 | 2678 | 619 | 2265 | 711 | 2150 | 776 | 2152 | 842 | 2142 |
| 357 | 1154 | 488 | 966 | 587 | 945 | 778 | 951 | 4W001 | 599 | 174 | 2184 | 288 | 2307 | 504 | 2189 | 622 | 2198 | 712 | 2150 | 777 | 2152 | 843 | 2142 |
| 358 | 1154 | 490 | 971 | 588 | 945 | 780 | 922 | 002 | 598 | 175 | 2177 | 289 | 2304 | 505 | 2312 | 623 | 2198 | 713 | 2150 | 778 | 2152 | 844 | 2142 |
| 4V359 | 1154 | 4V491 | 971 | 4V589 | 945 | 4V791 | 951 | 4W003 | 599 | 4W176 | 2177 | 4W290 | 2304 | 4W506 | 2312 | 4W624 | 2198 | 4W714 | 2150 | 4W779 | 2152 | 4W845 | 2142 |
| 360 | 1154 | 492 | 971 | 590 | 945 | 794 | 951 | 004 | 602 | 177 | 2177 | 291 | 2304 | 537 | 2066 | 628 | 2040 | 715 | 2150 | 780 | 2152 | 846 | 2142 |
| 361 | 1154 | 493 | 971 | 591 | 945 | 804 | 952 | 005 | 592 | 186 | 593 | 292 | 2305 | 538 | 2066 | 629 | 2040 | 716 | 2150 | 781 | 2152 | 847 | 2142 |
| 362 | 1155 | 494 | 971 | 593 | 942 | 806 | 952 | 006 | 590 | 187 | 593 | 293 | 2305 | 539 | 2066 | 630 | 2040 | 717 | 2150 | 782 | 2152 | 848 | 2142 |
| 363 | 1154 | 495 | 973 | 594 | 916 | 816 | 953 | 007 | 593 | 188 | 593 | 294 | 2304 | 540 | 2066 | 631 | 2040 | 718 | 2150 | 783 | 2152 | 849 | 2142 |
| 4V370 | 1060 | 4V496 | 973 | 4V596 | 947 | 4V820 | 953 | 4W008 | 593 | 4W189 | 593 | 4W295 | 2304 | 4W541 | 2066 | 4W648 | 2196 | 4W719 | 2150 | 4W784 | 2149 | 4W850 | 2142 |
| 371 | 1066 | 497 | 966 | 598 | 923 | 822 | 953 | 009 | 593 | 190 | 593 | 296 | 2063 | 542 | 2066 | 649 | 2196 | 720 | 2150 | 785 | 2149 | 851 | 2142 |
| 373 | 1066 | 498 | 975 | 599 | 922 | 826 | 953 | 010 | 593 | 191 | 593 | 297 | 2067 | 543 | 2066 | 650 | 2196 | 721 | 2150 | 786 | 2149 | 852 | 2160 |
| 374 | 1066 | 499 | 975 | 602 | 924 | 827 | 954 | 011 | 593 | 192 | 593 | 298 | 2066 | 561 | 2304 | 651 | 2196 | 722 | 2150 | 787 | 2149 | 853 | 2160 |
| 375 | 1057 | 500 | 944 | 603 | 939 | 828 | 954 | 012 | 593 | 193 | 593 | 299 | 2066 | 562 | 2304 | 652 | 2196 | 723 | 2150 | 788 | 2149 | 854 | 2160 |
| 4V376 | 1189 | 4V501 | 975 | 4V604 | 942 | 4V829 | 954 | 4W013 | 593 | 4W194 | 593 | 4W300 | 2066 | 4W563 | 2304 | 4W653 | 2196 | 4W724 | 2150 | 4W789 | 2149 | 4W855 | 2160 |
| 377 | 1189 | 502 | 975 | 605 | 924 | 830 | 954 | 014 | 593 | 195 | 593 | 301 | 2066 | 565 | 2305 | 654 | 2196 | 725 | 2150 | 790 | 2149 | 856 | 2160 |
| 380 | 1182 | 503 | 978 | 607 | 978 | 832 | 954 | 015 | 1919 | 196 | 593 | 302 | 2066 | 566 | 2305 | 655 | 2196 | 726 | 2150 | 791 | 2149 | 857 | 2140 |
| 381 | 1183 | 504 | 978 | 608 | 978 | 834 | 954 | 016 | 1919 | 197 | 593 | 303 | 2108 | 567 | 2305 | 656 | 2196 | 727 | 2150 | 792 | 2149 | 858 | 2140 |
| 384 | 1184 | 508 | 950 | 609 | 945 | 848 | 956 | 017 | 1919 | 198 | 593 | 304 | 1919 | 568 | 2304 | 657 | 2196 | 728 | 2150 | 793 | 2149 | 859 | 2140 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4W860 | 2140 | 4W925 | 2136 | 4XC25 | 422 | 4XF01 | 438 | 4XF70 | 428 | 4XH42 | 416 | 4XK11 | 413 | 4X175 | 357 | 4X273 | 1777 | 4X502 | 1776 | 4X697 | 2134 | 4X847 | 520 |
| 861 | 2140 | 926 | 2136 | C26 | 422 | F02 | 438 | F71 | 428 | H43 | 416 | K12 | 413 | 176 | 357 | 274 | 620 | 503 | 1776 | 698 | 2138 | 848 | 520 |
| 862 | 2140 | 927 | 2136 | C27 | 422 | F03 | 438 | F72 | 428 | H44 | 416 | K13 | 413 | 177 | 357 | 276 | 620 | 504 | 1776 | 723 | 340 | 849 | 520 |
| 863 | 2140 | 928 | 2136 | C28 | 422 | F04 | 438 | F73 | 428 | H45 | 416 | K14 | 413 | 178 | 357 | 277 | 1777 | 512 | 866 | 724 | 340 | 850 | 520 |
| 864 | 2140 | 929 | 2138 | C30 | 424 | F05 | 438 | F74 | 428 | H46 | 416 | K16 | 413 | 179 | 357 | 278 | 1778 | 513 | 866 | 725 | 340 | 851 | 520 |
| 4W865 | 2140 | 4W930 | 2138 | 4XC31 | 424 | 4XF06 | 438 | 4XF75 | 428 | 4XH47 | 416 | 4XK19 | 413 | 4X180 | 357 | 4X279 | 1777 | 4X514 | 866 | 4X726 | 340 | 4X852 | 1049 |
| 866 | 2140 | 931 | 2138 | C32 | 424 | F07 | 438 | F76 | 428 | H48 | 416 | K20 | 413 | 181 | 357 | 280 | 620 | 515 | 866 | 727 | 341 | 858 | 3491 |
| 867 | 2140 | 932 | 2139 | C34 | 424 | F08 | 427 | F77 | 428 | H49 | 416 | K24 | 736 | 182 | 357 | 281 | 1778 | 516 | 866 | 728 | 341 | 859 | 3495 |
| 868 | 2140 | 933 | 2139 | C35 | 424 | F09 | 427 | F78 | 428 | H51 | 416 | K25 | 736 | 183 | 357 | 282 | 1778 | 543 | 3061 | 729 | 341 | 863 | 1348 |
| 869 | 2140 | 934 | 2140 | C36 | 424 | F10 | 427 | F79 | 428 | H52 | 416 | K26 | 736 | 184 | 357 | 283 | 620 | 559 | 310 | 730 | 341 | 864 | 1348 |
| 4W870 | 2140 | 4W935 | 2297 | 4XC37 | 420 | 4XF11 | 427 | 4XF80 | 428 | 4XH53 | 416 | 4XK27 | 736 | 4X185 | 357 | 4X284 | 1777 | 4X560 | 310 | 4X731 | 3493 | 4X865 | 1348 |
| 871 | 2140 | 936 | 2307 | C38 | 420 | F12 | 427 | F81 | 428 | H54 | 414 | K28 | 736 | 186 | 357 | 285 | 1778 | 563 | 3083 | 732 | 3493 | 868 | 1506 |
| 872 | 2140 | 937 | 2307 | C39 | 420 | F13 | 427 | F82 | 428 | H55 | 414 | K29 | 736 | 187 | 357 | 286 | 620 | 564 | 3493 | 733 | 3493 | 869 | 620 |
| 873 | 2140 | 938 | 2308 | C40 | 420 | F14 | 427 | F83 | 428 | H56 | 414 | K30 | 736 | 188 | 357 | 287 | 1778 | 565 | 3493 | 739 | 521 | 874 | 2267 |
| 874 | 2140 | 939 | 2308 | C41 | 420 | F15 | 427 | F84 | 428 | H57 | 414 | K31 | 736 | 191 | 357 | 288 | 1777 | 566 | 3493 | 740 | 2179 | 875 | 2267 |
| 4W875 | 2140 | 4W940 | 2308 | 4XC42 | 420 | 4XF16 | 427 | 4XF85 | 431 | 4XH58 | 414 | 4X001 | 1773 | 4X192 | 357 | 4X289 | 620 | 4X568 | 3256 | 4X742 | 403 | 4X877 | 2277 |
| 876 | 2140 | 941 | 2309 | C43 | 420 | F17 | 427 | F86 | 431 | H59 | 414 | 003 | 1773 | 193 | 357 | 290 | 620 | 569 | 3493 | 743 | 403 | 881 | 2269 |
| 877 | 2140 | 942 | 2308 | C44 | 420 | F18 | 427 | F87 | 431 | H60 | 414 | 004 | 1773 | 194 | 357 | 291 | 620 | 570 | 3493 | 744 | 403 | 882 | 2269 |
| 878 | 2140 | 943 | 2297 | C45 | 420 | F19 | 427 | F88 | 431 | H61 | 414 | 007 | 1773 | 195 | 357 | 292 | 620 | 571 | 3493 | 745 | 403 | 883 | 2269 |
| 879 | 2140 | 944 | 2312 | C46 | 420 | F20 | 427 | F89 | 431 | H62 | 414 | 008 | 1773 | 196 | 357 | 293 | 620 | 573 | 263 | 746 | 403 | 884 | 2269 |
| 4W880 | 2140 | 4W945 | 2309 | 4XC47 | 421 | 4XF21 | 427 | 4XF90 | 431 | 4XH63 | 414 | 4X009 | 1773 | 4X197 | 1779 | 4X294 | 620 | 4X574 | 1677 | 4X747 | 403 | 4X886 | 2269 |
| 881 | 2139 | 946 | 2305 | C48 | 421 | F22 | 427 | F91 | 431 | H64 | 414 | 012 | 1669 | 200 | 520 | 296 | 620 | 575 | 1677 | 748 | 403 | 887 | 2293 |
| 882 | 2139 | 947 | 2305 | C49 | 421 | F23 | 427 | F92 | 431 | H67 | 432 | 021 | 1773 | 201 | 520 | 297 | 1777 | 577 | 1716 | 758 | 197 | 888 | 2293 |
| 883 | 2139 | 948 | 2305 | C50 | 421 | F24 | 427 | F93 | 431 | H68 | 432 | 022 | 1773 | 203 | 520 | 298 | 620 | 578 | 1717 | 760 | 197 | 893 | 488 |
| 884 | 2139 | 949 | 2305 | C51 | 421 | F25 | 426 | F94 | 431 | H69 | 432 | 025 | 1773 | 208 | 520 | 299 | 620 | 579 | 1717 | 762 | 197 | 894 | 488 |
| 4W885 | 2139 | 4W950 | 2305 | 4XC52 | 421 | 4XF26 | 426 | 4XF95 | 431 | 4XH70 | 432 | 4X026 | 1773 | 4X213 | 1779 | 4X300 | 1778 | 4X580 | 1717 | 4X764 | 197 | 4X895 | 488 |
| 886 | 2139 | 951 | 2305 | C53 | 421 | F27 | 426 | F96 | 431 | H71 | 432 | 027 | 1773 | 214 | 1772 | 301 | 1777 | 581 | 1718 | 766 | 197 | 896 | 488 |
| 887 | 2139 | 952 | 2139 | C54 | 421 | F28 | 426 | F97 | 431 | H72 | 432 | 028 | 1775 | 215 | 521 | 302 | 1778 | 582 | 1718 | 767 | 197 | 897 | 489 |
| 888 | 2139 | 953 | 2154 | C55 | 421 | F29 | 426 | H02 | 431 | H73 | 432 | 029 | 1775 | 216 | 521 | 303 | 1777 | 595 | 2783 | 768 | 197 | 898 | 489 |
| 889 | 2139 | 954 | 2154 | C56 | 421 | F30 | 426 | H03 | 431 | H74 | 432 | 030 | 1775 | 221 | 754 | 304 | 620 | 603 | 1049 | 773 | 1783 | 922 | 3012 |
| 4W890 | 2139 | 4W955 | 2154 | 4XC57 | 421 | 4XF31 | 426 | 4XH04 | 431 | 4XH75 | 432 | 4X031 | 1775 | 4X222 | 3061 | 4X305 | 1778 | 4X618 | 2132 | 4X780 | 1666 | 4X924 | 2148 |
| 891 | 2139 | 956 | 2154 | C58 | 421 | F32 | 426 | H05 | 431 | H76 | 432 | 032 | 1775 | 223 | 1772 | 306 | 620 | 619 | 2132 | 783 | 2134 | 925 | 2148 |
| 892 | 2139 | 957 | 2154 | C59 | 421 | F33 | 426 | H06 | 431 | H77 | 432 | 033 | 1775 | 225 | 2284 | 307 | 1777 | 620 | 2134 | 784 | 2134 | 926 | 2148 |
| 893 | 2139 | 958 | 2154 | C60 | 421 | F34 | 426 | H07 | 431 | H78 | 433 | 034 | 1775 | 226 | 1779 | 308 | 620 | 621 | 2132 | 785 | 2134 | 927 | 2148 |
| 894 | 2139 | 959 | 2154 | C61 | 421 | F35 | 426 | H08 | 431 | H79 | 433 | 035 | 1775 | 227 | 3061 | 309 | 1778 | 622 | 2132 | 786 | 2134 | 932 | 2167 |
| 4W895 | 2139 | 4W960 | 2154 | 4XC62 | 421 | 4XF36 | 426 | 4XH09 | 431 | 4XH80 | 433 | 4X038 | 1775 | 4X228 | 350 | 4X310 | 620 | 4X623 | 2132 | 4X787 | 3028 | 4X933 | 2147 |
| 896 | 2139 | 961 | 2154 | C63 | 421 | F37 | 426 | H10 | 431 | H81 | 433 | 039 | 1775 | 229 | 350 | 311 | 1777 | 624 | 2134 | 788 | 129 | 934 | 2147 |
| 897 | 2139 | 962 | 2154 | C64 | 421 | F38 | 426 | H11 | 431 | H82 | 433 | 040 | 1775 | 230 | 350 | 312 | 620 | 625 | 2132 | 790 | 866 | 935 | 2147 |
| 898 | 2139 | 963 | 2154 | C71 | 438 | F39 | 426 | H12 | 431 | H83 | 433 | 043 | 1775 | 231 | 350 | 313 | 620 | 630 | 1776 | 792 | 3022 | 936 | 2147 |
| 899 | 2139 | 964 | 2154 | C73 | 438 | F40 | 426 | H13 | 431 | H84 | 433 | 058 | 196 | 232 | 350 | 315 | 620 | 637 | 2384 | 793 | 3022 | 937 | 2155 |
| 4W900 | 2139 | 4W966 | 2323 | 4XC74 | 438 | 4XF41 | 426 | 4XH17 | 437 | 4XH85 | 433 | 4X059 | 196 | 4X233 | 1772 | 4X316 | 621 | 4X638 | 1717 | 4X794 | 3023 | 4X938 | 2131 |
| 901 | 2139 | 973 | 2679 | C75 | 438 | F42 | 426 | H18 | 437 | H86 | 433 | 060 | 196 | 234 | 1772 | 317 | 489 | 639 | 1717 | 795 | 3023 | 939 | 2131 |
| 902 | 2139 | 974 | 2679 | C76 | 438 | F44 | 427 | H19 | 437 | H87 | 433 | 061 | 196 | 236 | 357 | 389 | 1777 | 640 | 1717 | 796 | 194 | 940 | 2131 |
| 903 | 2139 | 996 | 1162 | C77 | 438 | F45 | 427 | H20 | 437 | H88 | 432 | 062 | 196 | 237 | 1779 | 392 | 1777 | 641 | 1718 | 797 | 194 | 941 | 2134 |
| 904 | 2139 | 997 | 1162 | C78 | 438 | F47 | 427 | H21 | 437 | H89 | 432 | 063 | 196 | 238 | 1779 | 395 | 2747 | 642 | 1718 | 815 | 341 | 942 | 2134 |
| 4W905 | 2136 | 4W998 | 1162 | 4XC79 | 438 | 4XF48 | 427 | 4XH22 | 437 | 4XH90 | 432 | 4X064 | 196 | 4X239 | 488 | 4X396 | 3022 | 4X653 | 196 | 4X816 | 341 | 4X943 | 2134 |
| 906 | 2136 | 999 | 1162 | C80 | 438 | F49 | 427 | H23 | 437 | H91 | 432 | 065 | 196 | 240 | 488 | 397 | 3022 | 654 | 196 | 817 | 341 | 944 | 2134 |
| 907 | 2136 | 4X | | C81 | 438 | F52 | 428 | H24 | 437 | H92 | 432 | 066 | 196 | 241 | 488 | 398 | 1772 | 655 | 196 | 818 | 341 | 945 | 2157 |
| 908 | 2136 | | | C82 | 438 | F53 | 428 | H25 | 437 | H93 | 432 | 067 | 196 | 242 | 488 | 416 | 203 | 656 | 196 | 819 | 1776 | 946 | 2157 |
| 909 | 2136 | 4XC09 | 421 | C83 | 438 | F54 | 428 | H26 | 437 | H94 | 432 | 068 | 196 | 243 | 1779 | 418 | 203 | 657 | 196 | 820 | 1776 | 947 | 2131 |
| 4W910 | 2136 | 4XC10 | 421 | 4XC84 | 438 | 4XF55 | 428 | 4XH27 | 437 | 4XH95 | 432 | 4X069 | 196 | 4X244 | 1772 | 4X421 | 203 | 4X658 | 196 | 4X822 | 787 | 4X948 | 2131 |
| 911 | 2136 | C11 | 421 | C85 | 438 | F56 | 428 | H28 | 437 | H96 | 432 | 070 | 196 | 245 | 1772 | 422 | 203 | 659 | 196 | 823 | 2167 | 950 | 2167 |
| 912 | 2136 | C12 | 421 | C87 | 438 | F57 | 428 | H29 | 437 | H97 | 432 | 071 | 196 | 246 | 1779 | 423 | 620 | 660 | 196 | 825 | 2155 | 951 | 2155 |
| 913 | 2136 | C13 | 421 | C89 | 438 | F58 | 428 | H30 | 437 | H98 | 432 | 072 | 2697 | 257 | 621 | 439 | 1777 | 661 | 196 | 828 | 2898 | 952 | 2155 |
| 914 | 2136 | C14 | 421 | C90 | 438 | F59 | 428 | H31 | 437 | H99 | 433 | 083 | 352 | 258 | 621 | 461 | 2251 | 662 | 196 | 829 | 2898 | 953 | 3010 |
| 4W915 | 2136 | 4XC15 | 421 | 4XC91 | 438 | 4XF60 | 428 | 4XH32 | 437 | 4XK00 | 433 | 4X087 | 521 | 4X259 | 1779 | 4X462 | 2249 | 4X664 | 352 | 4X830 | 2133 | 4X954 | 3010 |
| 916 | 2136 | C16 | 421 | C92 | 438 | F61 | 428 | H33 | 437 | K01 | 433 | 088 | 2254 | 260 | 620 | 479 | 1778 | 672 | 3023 | 831 | 2133 | 955 | 3010 |
| 917 | 2136 | C17 | 422 | C93 | 438 | F62 | 428 | H34 | 437 | K02 | 433 | 092 | 1776 | 261 | 1779 | 481 | 1776 | 673 | 3028 | 833 | 2130 | 956 | 3010 |
| 918 | 2136 | C18 | 422 | C94 | 438 | F63 | 428 | H35 | 437 | K03 | 433 | 093 | 1776 | 262 | 620 | 482 | 1776 | 686 | 1430 | 834 | 2136 | 958 | 2284 |
| 919 | 2136 | C19 | 422 | C95 | 438 | F64 | 428 | H36 | 416 | K04 | 433 | 094 | 1779 | 263 | 1777 | 483 | 1776 | 691 | 2131 | 835 | 2134 | 996 | 2896 |
| 4W920 | 2136 | 4XC20 | 422 | 4XC96 | 438 | 4XF65 | 428 | 4XH37 | 416 | 4XK05 | 433 | 4X095 | 1779 | 4X264 | 620 | 4X484 | 1776 | 4X692 | 2131 | 4X836 | 2134 | | |
| 921 | 2136 | C21 | 422 | C97 | 438 | F66 | 428 | H38 | 416 | K06 | 433 | 096 | 1779 | 265 | 620 | 488 | 787 | 693 | 2131 | 837 | 2134 | | |
| 922 | 2136 | C22 | 422 | C98 | 438 | F67 | 428 | H39 | 416 | K07 | 433 | 098 | 204 | 266 | 620 | 498 | 1776 | 694 | 2134 | 838 | 2134 | | |
| 923 | 2136 | C23 | 422 | C99 | 438 | F68 | 428 | H40 | 416 | K08 | 433 | 099 | 1779 | 269 | 1778 | 500 | 1776 | 695 | 2134 | 839 | 620 | | |
| 924 | 2136 | C24 | 422 | F00 | 438 | F69 | 428 | H41 | 416 | K09 | 424 | 170 | 1779 | 272 | 1778 | 501 | 1776 | 696 | 2134 | 846 | 520 | | |

# STOCK NUMBER—PAGE NUMBER

## 4X9 — 5AD


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4X997 | 2896 | 4Y061 | 1718 | 4Y126 | 1719 | 4ZC87 | 2828 | 4Z012 | 269 | 4Z193 | 2808 | 4Z309 | 2684 | 4Z457 | 231 | 4Z555 | 3465 | 4Z682 | 2894 | 4Z792 | 2860 | 4Z911 | 1506 |
| 998 | 2896 | 062 | 1718 | 127 | 1719 | C88 | 2828 | 013 | 269 | 194 | 2808 | 312 | 2233 | 458 | 231 | 564 | 1416 | 683 | 2731 | 805 | 2231 | 912 | 1506 |
| 999 | 2896 | 063 | 1718 | 128 | 1716 | C89 | 2828 | 014 | 269 | 195 | 2808 | 313 | 3016 | 459 | 231 | 565 | 1483 | 684 | 2731 | 806 | 2231 | 913 | 3015 |
| **4Y** | | 064 | 1718 | 312 | 2964 | C90 | 2828 | 015 | 268 | 196 | 2808 | 314 | 3016 | 460 | 2862 | 566 | 1471 | 685 | 2731 | 807 | 2231 | 915 | 2711 |
| | | 065 | 1718 | 340 | 2965 | C91 | 2828 | 016 | 268 | 197 | 2856 | 326 | 2253 | 463 | 2234 | 568 | 2165 | 686 | 2731 | 808 | 2231 | 916 | 2711 |
| 4Y001 | 1717 | 4Y066 | 1718 | 4Y342 | 2965 | 4ZC92 | 2817 | 4Z017 | 268 | 4Z205 | 2831 | 4Z327 | 2255 | 4Z464 | 2234 | 4Z569 | 2166 | 4Z688 | 2731 | 4Z809 | 2231 | 4Z917 | 2711 |
| 002 | 1717 | 067 | 1718 | 343 | 2967 | C93 | 2817 | 018 | 268 | 206 | 2831 | 328 | 1511 | 465 | 2234 | 570 | 2166 | 689 | 2731 | 811 | 2224 | 918 | 2711 |
| 003 | 1717 | 068 | 1718 | 344 | 2967 | C94 | 2817 | 019 | 269 | 207 | 2831 | 329 | 1511 | 466 | 2226 | 571 | 2166 | 690 | 2731 | 812 | 2228 | 919 | 2711 |
| 004 | 1717 | 069 | 1718 | 348 | 2967 | C95 | 2817 | 020 | 269 | 208 | 2831 | 334 | 2853 | 467 | 2226 | 572 | 3465 | 692 | 2731 | 813 | 1468 | 920 | 2711 |
| 005 | 1717 | 070 | 1718 | 360 | 2970 | C96 | 2817 | 021 | 269 | 209 | 2831 | 338 | 2792 | 468 | 2226 | 577 | 2854 | 693 | 2731 | 816 | 1420 | 921 | 2713 |
| 4Y006 | 1717 | 4Y071 | 1718 | 4Y361 | 2970 | 4ZC97 | 2817 | 4Z024 | 2859 | 4Z210 | 2831 | 4Z339 | 2792 | 4Z469 | 2853 | 4Z578 | 2728 | 4Z694 | 2731 | 4Z817 | 1440 | 4Z922 | 2713 |
| 007 | 1717 | 072 | 1718 | 362 | 2982 | C98 | 2817 | 026 | 2859 | 211 | 2831 | 358 | 2224 | 470 | 2853 | 579 | 2225 | 697 | 2981 | 818 | 1489 | 923 | 2721 |
| 008 | 1717 | 073 | 1718 | 363 | 2987 | C99 | 2817 | 027 | 2919 | 212 | 2831 | 365 | 252 | 480 | 2842 | 580 | 2225 | 698 | 2981 | 819 | 1494 | 924 | 2721 |
| 009 | 1717 | 074 | 1719 | 366 | 2996 | F00 | 2817 | 028 | 2919 | 213 | 2831 | 366 | 252 | 481 | 2842 | 581 | 2727 | 699 | 2978 | 821 | 1459 | 925 | 2723 |
| 010 | 1717 | 075 | 1719 | 368 | 2982 | F01 | 2817 | 029 | 2919 | 214 | 2831 | 367 | 252 | 482 | 2847 | 612 | 233 | 701 | 3017 | 825 | 1468 | 931 | 3011 |
| 4Y011 | 1717 | 4Y076 | 1719 | 4Y386 | 2962 | 4ZF02 | 2817 | 4Z030 | 2919 | 4Z215 | 2831 | 4Z368 | 252 | 4Z483 | 2844 | 4Z613 | 233 | 4Z702 | 3017 | 4Z827 | 192 | 4Z932 | 2990 |
| 012 | 1717 | 077 | 1719 | 387 | 2962 | F03 | 2817 | 031 | 2921 | 216 | 2831 | 369 | 252 | 484 | 2844 | 614 | 282 | 706 | 2862 | 828 | 192 | 934 | 3017 |
| 013 | 1717 | 078 | 1719 | 389 | 2962 | F04 | 2817 | 034 | 2916 | 217 | 2831 | 370 | 252 | 485 | 2844 | 615 | 282 | 707 | 2862 | 829 | 192 | 942 | 2968 |
| 014 | 1717 | 079 | 1719 | 390 | 2962 | F07 | 2777 | 057 | 1426 | 218 | 2831 | 371 | 1415 | 486 | 2844 | 616 | 282 | 714 | 1532 | 832 | 215 | 944 | 2967 |
| 015 | 1717 | 080 | 1719 | 396 | 2962 | F08 | 2782 | 062 | 233 | 226 | 187 | 373 | 1454 | 487 | 2844 | 617 | 282 | 715 | 1532 | 833 | 215 | 945 | 2978 |
| 4Y016 | 1717 | 4Y081 | 1719 | 4Y397 | 2962 | 4ZF09 | 2785 | 4Z063 | 233 | 4Z227 | 1888 | 4Z374 | 1492 | 4Z488 | 2844 | 4Z618 | 2828 | 4Z716 | 1532 | 4Z834 | 215 | 4Z947 | 2963 |
| 017 | 1717 | 082 | 1719 | 399 | 2962 | F10 | 2781 | 064 | 233 | 231 | 2961 | 377 | 192 | 489 | 2844 | 619 | 2828 | 717 | 1532 | 835 | 215 | 948 | 2996 |
| 018 | 1717 | 083 | 1719 | 400 | 2962 | F11 | 2747 | 065 | 233 | 239 | 2980 | 378 | 186 | 497 | 253 | 620 | 2828 | 718 | 1532 | 836 | 215 | 949 | 1522 |
| 019 | 1717 | 084 | 1719 | 413 | 2997 | F12 | 2790 | 079 | 1579 | 240 | 2970 | 379 | 186 | 498 | 284 | 621 | 2828 | 719 | 282 | 837 | 215 | 950 | 1472 |
| 020 | 1717 | 085 | 1719 | 423 | 2962 | F13 | 2769 | 095 | 1459 | 241 | 2963 | 380 | 186 | 499 | 284 | 622 | 1979 | 720 | 282 | 838 | 215 | 951 | 1472 |
| 4Y021 | 1718 | 4Y086 | 1719 | 4Y514 | 2962 | 4ZF16 | 2777 | 4Z109 | 2683 | 4Z248 | 187 | 4Z381 | 220 | 4Z500 | 284 | 4Z623 | 2965 | 4Z721 | 247 | 4Z839 | 215 | 4Z953 | 1474 |
| 022 | 1718 | 087 | 1719 | 518 | 2962 | F17 | 2777 | 121 | 2684 | 249 | 1341 | 382 | 220 | 501 | 284 | 624 | 2988 | 722 | 247 | 840 | 215 | 954 | 1486 |
| 023 | 1718 | 088 | 1719 | **4Z** | | F19 | 2777 | 122 | 2701 | 253 | 2966 | 383 | 220 | 502 | 284 | 629 | 2792 | 723 | 225 | 841 | 260 | 955 | 1486 |
| 024 | 1718 | 089 | 1719 | | | F20 | 2767 | 123 | 1506 | 254 | 2968 | 384 | 245 | 503 | 284 | 630 | 2810 | 724 | 225 | 842 | 260 | 956 | 1483 |
| 025 | 1718 | 090 | 1719 | 4ZC21 | 2815 | F21 | 2768 | 128 | 220 | 255 | 2969 | 385 | 245 | 509 | 275 | 631 | 2810 | 725 | 225 | 843 | 260 | 957 | 1483 |
| 4Y026 | 1718 | 4Y091 | 1719 | 4ZC22 | 2815 | 4ZF22 | 2768 | 4Z129 | 220 | 4Z260 | 3001 | 4Z386 | 245 | 4Z510 | 275 | 4Z632 | 2810 | 4Z726 | 225 | 4Z844 | 260 | 4Z958 | 1453 |
| 027 | 1718 | 092 | 1719 | C23 | 2815 | F23 | 2768 | 130 | 220 | 261 | 2975 | 387 | 245 | 511 | 275 | 633 | 2810 | 727 | 225 | 845 | 260 | 961 | 1881 |
| 028 | 1718 | 093 | 1719 | C24 | 2815 | F24 | 2767 | 131 | 220 | 262 | 2975 | 388 | 245 | 512 | 3015 | 634 | 2810 | 728 | 225 | 846 | 260 | 971 | 2684 |
| 029 | 1718 | 094 | 1719 | C25 | 2815 | F26 | 2766 | 132 | 220 | 275 | 247 | 389 | 245 | 518 | 239 | 635 | 2810 | 729 | 1548 | 847 | 260 | 972 | 2684 |
| 030 | 1718 | 095 | 1719 | C26 | 2798 | F27 | 2766 | 133 | 220 | 276 | 247 | 390 | 245 | 519 | 239 | 636 | 2810 | 730 | 268 | 848 | 260 | 974 | 1336 |
| 4Y031 | 1718 | 4Y096 | 1719 | 4ZC27 | 2798 | 4ZF28 | 2766 | 4Z134 | 220 | 4Z277 | 247 | 4Z391 | 245 | 4Z520 | 239 | 4Z637 | 2810 | 4Z731 | 268 | 4Z849 | 260 | 4Z975 | 1336 |
| 032 | 1718 | 097 | 1719 | C28 | 2798 | F29 | 2766 | 135 | 224 | 278 | 247 | 392 | 245 | 521 | 239 | 638 | 2810 | 733 | 268 | 850 | 260 | 976 | 1336 |
| 033 | 1718 | 098 | 1719 | C29 | 2798 | F30 | 2766 | 136 | 224 | 279 | 247 | 393 | 245 | 522 | 239 | 639 | 2810 | 734 | 268 | 856 | 282 | 977 | 1336 |
| 034 | 1718 | 099 | 1719 | C30 | 2798 | F32 | 2769 | 137 | 224 | 280 | 247 | 394 | 245 | 523 | 239 | 640 | 2810 | 736 | 269 | 857 | 282 | 978 | 1336 |
| 035 | 1718 | 100 | 1719 | C31 | 2798 | F33 | 2769 | 138 | 224 | 281 | 247 | 395 | 1895 | 524 | 186 | 641 | 2810 | 737 | 269 | 858 | 282 | 979 | 1340 |
| 4Y036 | 1718 | 4Y101 | 1719 | 4ZC32 | 2798 | 4ZF34 | 2769 | 4Z140 | 185 | 4Z282 | 247 | 4Z398 | 2702 | 4Z525 | 186 | 4Z642 | 2810 | 4Z742 | 1483 | 4Z859 | 282 | 4Z980 | 2807 |
| 037 | 1718 | 102 | 1719 | C33 | 2798 | F35 | 2769 | 141 | 185 | 283 | 247 | 399 | 2226 | 527 | 192 | 643 | 2810 | 747 | 2704 | 860 | 282 | 986 | 2780 |
| 038 | 1718 | 103 | 1719 | C34 | 2798 | F36 | 2769 | 142 | 185 | 284 | 268 | 400 | 2226 | 528 | 185 | 644 | 2810 | 749 | 2850 | 861 | 282 | 987 | 2825 |
| 039 | 1718 | 104 | 1719 | C35 | 2798 | F37 | 2769 | 143 | 185 | 285 | 268 | 401 | 2226 | 529 | 185 | 645 | 2810 | 750 | 2850 | 878 | 1880 | 999 | 2232 |
| 040 | 1718 | 105 | 1719 | C36 | 2798 | F38 | 2769 | 144 | 185 | 286 | 268 | 402 | 1518 | 530 | 221 | 646 | 2810 | 751 | 2850 | 879 | 1880 | | |
| 4Y041 | 1718 | 4Y106 | 1719 | 4ZC37 | 2798 | 4ZF39 | 2768 | 4Z145 | 185 | 4Z287 | 268 | 4Z405 | 2982 | 4Z531 | 221 | 4Z647 | 2810 | 4Z752 | 2850 | 4Z885 | 3465 | | |
| 042 | 1718 | 107 | 1719 | C38 | 2798 | F41 | 2768 | 146 | 229 | 288 | 268 | 406 | 2963 | 532 | 221 | 648 | 2810 | 753 | 2850 | 886 | 246 | **5A** | |
| 043 | 1718 | 108 | 1719 | C39 | 2798 | F43 | 2771 | 147 | 229 | 289 | 269 | 411 | 2961 | 533 | 221 | 649 | 2810 | 754 | 3003 | 887 | 246 | 5AC02 | 2441 |
| 044 | 1718 | 109 | 1719 | C40 | 2798 | F44 | 2771 | 148 | 232 | 290 | 269 | 412 | 2961 | 534 | 216 | 650 | 2810 | 757 | 2248 | 888 | 246 | C08 | 2340 |
| 045 | 1718 | 110 | 1719 | C41 | 2798 | F45 | 359 | 149 | 232 | 291 | 269 | 425 | 1578 | 535 | 216 | 651 | 2810 | 758 | 2248 | 889 | 246 | C18 | 2466 |
| 4Y046 | 1718 | 4Y111 | 1719 | 4ZC42 | 2798 | 4ZF46 | 2771 | 4Z150 | 232 | 4Z292 | 268 | 4Z429 | 1979 | 4Z536 | 216 | 4Z652 | 2810 | 4Z759 | 2248 | 4Z890 | 246 | 5AC21 | 2544 |
| 047 | 1718 | 112 | 1719 | C59 | 1974 | F47 | 2771 | 154 | 1506 | 293 | 268 | 430 | 1979 | 537 | 216 | 653 | 2810 | 760 | 2248 | 891 | 246 | C22 | 2512 |
| 048 | 1718 | 113 | 1719 | C60 | 1974 | F48 | 2771 | 171 | 2801 | 294 | 268 | 436 | 2861 | 538 | 216 | 654 | 2810 | 761 | 2248 | 892 | 246 | C26 | 2452 |
| 049 | 1718 | 114 | 1719 | C72 | 1970 | F49 | 2771 | 172 | 2801 | 296 | 268 | 437 | 2861 | 539 | 216 | 655 | 2810 | 762 | 1535 | 893 | 251 | C31 | 2437 |
| 050 | 1718 | 115 | 1719 | C74 | 1975 | 001 | 268 | 174 | 3016 | 297 | 269 | 438 | 2861 | 540 | 3000 | 656 | 2810 | 763 | 1534 | 894 | 251 | C32 | 2552 |
| 4Y051 | 1718 | 4Y116 | 1719 | 4ZC75 | 2842 | 4Z002 | 268 | 4Z175 | 3016 | 4Z298 | 269 | 4Z439 | 2249 | 4Z541 | 2992 | 4Z657 | 2810 | 4Z764 | 1534 | 4Z895 | 251 | 5AC50 | 2437 |
| 052 | 1718 | 117 | 1719 | C78 | 2825 | 003 | 268 | 183 | 2257 | 299 | 269 | 447 | 263 | 542 | 2980 | 658 | 2810 | 765 | 1533 | 896 | 251 | C56 | 2406 |
| 053 | 1718 | 118 | 1719 | C79 | 2825 | 004 | 268 | 185 | 2792 | 300 | 268 | 448 | 2808 | 543 | 2967 | 659 | 2810 | 766 | 1533 | 897 | 251 | C71 | 2484 |
| 054 | 1718 | 119 | 1719 | C80 | 2825 | 005 | 269 | 186 | 2792 | 301 | 268 | 449 | 2808 | 545 | 2916 | 661 | 1338 | 776 | 2988 | 898 | 3019 | C74 | 2448 |
| 055 | 1718 | 120 | 1719 | C81 | 2828 | 006 | 269 | 187 | 2793 | 302 | 268 | 451 | 231 | 546 | 2917 | 663 | 1884 | 777 | 3000 | 899 | 3019 | C77 | 2452 |
| 4Y056 | 1718 | 4Y121 | 1719 | 4ZC82 | 2828 | 4Z007 | 269 | 4Z188 | 2793 | 4Z303 | 268 | 4Z452 | 231 | 4Z547 | 2918 | 4Z667 | 1375 | 4Z778 | 2984 | 4Z903 | 3011 | 5AC88 | 2362 |
| 057 | 1718 | 122 | 1719 | C83 | 2828 | 008 | 268 | 189 | 2808 | 304 | 268 | 453 | 231 | 549 | 2668 | 672 | 1506 | 779 | 2966 | 906 | 1882 | C89 | 2422 |
| 058 | 1718 | 123 | 1719 | C84 | 2828 | 009 | 268 | 190 | 2808 | 305 | 269 | 454 | 231 | 550 | 3465 | 679 | 2894 | 780 | 2963 | 908 | 1506 | C98 | 2385 |
| 059 | 1718 | 124 | 1719 | C85 | 2828 | 010 | 268 | 191 | 2808 | 306 | 269 | 455 | 231 | 551 | 3465 | 680 | 2894 | 782 | 3011 | 909 | 1506 | D08 | 2446 |
| 060 | 1718 | 125 | 1719 | C86 | 2828 | 011 | 268 | 192 | 2808 | 307 | 269 | 456 | 231 | 554 | 3465 | 681 | 2894 | 791 | 2860 | 910 | 1506 | D13 | 2381 |




Grainger—more ways to get stuff faster.

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5AD15 | 2281 | 5AJ49 | 2579 | 5AP24 | 2451 | 5AX85 | 2445 | 5A073 | 710 | 5A197 | 1764 | 5A310 | 695 | 5A387 | 2268 | 5A472 | 2060 | 5A539 | 370 | 5A715 | 2898 | 5A908 | 1590 |
| D18 | 2481 | J56 | 2367 | P39 | 2552 | X87 | 2442 | 074 | 710 | 198 | 1764 | 311 | 692 | 388 | 2268 | 473 | 2060 | 540 | 1774 | 716 | 2898 | 909 | 1590 |
| D19 | 2478 | J62 | 2597 | P52 | 2430 | X89 | 2460 | 075 | 688 | 199 | 1764 | 312 | 1049 | 389 | 2268 | 474 | 2060 | 543 | 2945 | 717 | 2894 | 910 | 1590 |
| D39 | 2549 | J72 | 2352 | P60 | 2468 | X90 | 2362 | 076 | 709 | 200 | 1764 | 313 | 1049 | 390 | 2268 | 475 | 2060 | 544 | 2945 | 718 | 2894 | 911 | 1590 |
| D40 | 2367 | J79 | 2385 | P73 | 2375 | Z18 | 2413 | 077 | 709 | 201 | 1764 | 314 | 1047 | 391 | 2268 | 476 | 2060 | 545 | 2945 | 719 | 2248 | 912 | 1590 |
| 5AD49 | 2479 | 5AJ92 | 2430 | 5AP83 | 2594 | 5AZ31 | 2479 | 5A078 | 686 | 5A202 | 1764 | 5A315 | 590 | 5A392 | 2268 | 5A477 | 2060 | 5A546 | 2945 | 5A720 | 2249 | 5A918 | 1591 |
| D65 | 2462 | K24 | 2562 | P84 | 2352 | Z40 | 2362 | 079 | 687 | 203 | 1765 | 316 | 589 | 393 | 2268 | 478 | 2060 | 547 | 309 | 721 | 2249 | 919 | 1591 |
| D68 | 2456 | K31 | 2363 | P85 | 2451 | Z56 | 2335 | 080 | 712 | 204 | 1765 | 317 | 1381 | 394 | 2268 | 479 | 2060 | 548 | 309 | 722 | 2249 | 920 | 1591 |
| D76 | 2549 | K35 | 2501 | R08 | 2595 | Z65 | 2433 | 081 | 712 | 205 | 1764 | 318 | 1381 | 408 | 2296 | 480 | 2060 | 551 | 302 | 723 | 2251 | 921 | 1607 |
| D84 | 2371 | K45 | 2597 | R14 | 2430 | Z67 | 2594 | 082 | 718 | 206 | 1732 | 319 | 1381 | 409 | 2296 | 481 | 2060 | 552 | 302 | 724 | 1505 | 922 | 1607 |
| 5AF06 | 2422 | 5AK63 | 2577 | 5AR16 | 2447 | 5AZ69 | 2542 | 5A083 | 688 | 5A228 | 1780 | 5A320 | 1381 | 5A410 | 2296 | 5A482 | 2060 | 5A553 | 302 | 5A725 | 1505 | 5A923 | 1607 |
| F15 | 2455 | K75 | 2327 | R22 | 2478 | Z72 | 2551 | 084 | 686 | 230 | 1780 | 321 | 1381 | 411 | 2296 | 483 | 2060 | 554 | 302 | 726 | 1505 | 924 | 1607 |
| F31 | 2433 | K79 | 2474 | R39 | 2450 | Z79 | 2363 | 085 | 687 | 231 | 1780 | 322 | 1381 | 412 | 2296 | 484 | 2060 | 555 | 298 | 771 | 1428 | 925 | 1607 |
| F35 | 2423 | K82 | 2477 | R46 | 2376 | Z80 | 2461 | 086 | 712 | 232 | 1789 | 323 | 1381 | 413 | 2296 | 485 | 2060 | 556 | 298 | 772 | 1428 | 926 | 1607 |
| F39 | 2594 | K85 | 2472 | R47 | 2504 | Z81 | 2337 | 087 | 712 | 233 | 1789 | 324 | 1381 | 414 | 2296 | 486 | 2060 | 557 | 2238 | 773 | 1429 | 927 | 1607 |
| 5AF41 | 2363 | 5AK86 | 2455 | 5AR48 | 2448 | 5AZ90 | 2617 | 5A088 | 718 | 5A234 | 1780 | 5A325 | 1380 | 5A415 | 2296 | 5A487 | 2060 | 5A558 | 2238 | 5A774 | 1429 | 5A928 | 1607 |
| F44 | 2474 | K91 | 2455 | R62 | 2597 | Z91 | 2499 | 121 | 2622 | 236 | 1782 | 326 | 1380 | 419 | 2290 | 488 | 2060 | 559 | 2238 | 775 | 1294 | 929 | 1607 |
| F45 | 2478 | K99 | 2422 | R76 | 2363 | Z95 | 2514 | 122 | 2622 | 237 | 1782 | 327 | 1380 | 420 | 2290 | 489 | 2060 | 560 | 2238 | 847 | 1251 | 930 | 1607 |
| F50 | 2466 | L07 | 2461 | R91 | 2581 | Z96 | 2408 | 123 | 2622 | 238 | 1785 | 328 | 1380 | 421 | 2291 | 490 | 2060 | 561 | 2238 | 858 | 3010 | 931 | 1607 |
| F56 | 2389 | L08 | 2371 | R94 | 2462 | 013 | 1776 | 124 | 2622 | 239 | 1785 | 329 | 1380 | 422 | 2290 | 491 | 2060 | 562 | 2238 | 859 | 3010 | 932 | 1607 |
| 5AF65 | 2341 | 5AL09 | 2448 | 5AR98 | 2393 | 5A014 | 444 | 5A125 | 2622 | 5A246 | 3024 | 5A330 | 1380 | 5A423 | 2290 | 5A492 | 2060 | 5A563 | 2248 | 5A860 | 3010 | 5A933 | 1606 |
| F80 | 2433 | L12 | 2512 | T01 | 2447 | 015 | 1776 | 126 | 2622 | 247 | 3024 | 331 | 1380 | 424 | 2291 | 493 | 2060 | 564 | 2248 | 861 | 2249 | 935 | 1606 |
| F81 | 2488 | L18 | 2451 | T08 | 2552 | 016 | 444 | 128 | 2267 | 248 | 3024 | 332 | 1380 | 425 | 2290 | 494 | 2060 | 565 | 2249 | 863 | 1602 | 936 | 1606 |
| F85 | 2375 | L21 | 2403 | T15 | 2509 | 017 | 1776 | 129 | 2267 | 249 | 3024 | 335 | 1507 | 426 | 2290 | 495 | 2060 | 566 | 2249 | 864 | 1602 | 939 | 1606 |
| F86 | 2445 | L29 | 2375 | T20 | 2448 | 018 | 2895 | 130 | 2267 | 250 | 3024 | 336 | 1549 | 427 | 2291 | 496 | 2060 | 651 | 261 | 865 | 1602 | 940 | 1606 |
| 5AF91 | 2451 | 5AL31 | 2439 | 5AT31 | 2342 | 5A019 | 1774 | 5A131 | 2288 | 5A251 | 3024 | 5A342 | 1523 | 5A428 | 2291 | 5A497 | 2060 | 5A652 | 261 | 5A866 | 1602 | 5A942 | 1619 |
| F95 | 2597 | L33 | 2597 | T51 | 2384 | 020 | 2895 | 132 | 2288 | 252 | 3024 | 343 | 1525 | 429 | 2291 | 498 | 2060 | 657 | 1774 | 867 | 1602 | 943 | 1619 |
| G10 | 2437 | L38 | 2367 | T56 | 2466 | 021 | 317 | 133 | 2288 | 253 | 3024 | 344 | 1509 | 430 | 2293 | 499 | 2060 | 658 | 444 | 868 | 1602 | 944 | 1619 |
| G19 | 2617 | L41 | 2375 | T64 | 2367 | 022 | 198 | 134 | 2289 | 254 | 3024 | 345 | 1578 | 431 | 2293 | 500 | 2326 | 659 | 1774 | 869 | 1602 | 945 | 1619 |
| G25 | 2499 | L51 | 2458 | T66 | 2586 | 023 | 198 | 135 | 2288 | 255 | 3024 | 346 | 1578 | 432 | 2290 | 501 | 2325 | 665 | 1774 | 870 | 1602 | 946 | 1619 |
| 5AG38 | 2550 | 5AL66 | 2463 | 5AT68 | 2594 | 5A024 | 198 | 5A136 | 2288 | 5A256 | 3025 | 5A347 | 2309 | 5A433 | 3494 | 5A502 | 2325 | 5A671 | 413 | 5A871 | 1602 | 5A947 | 1619 |
| G41 | 2362 | L70 | 2542 | T73 | 2456 | 038 | 901 | 137 | 2288 | 257 | 3025 | 348 | 2309 | 434 | 3494 | 503 | 2325 | 672 | 413 | 872 | 1602 | 948 | 1619 |
| G42 | 2458 | L96 | 2385 | V06 | 2455 | 039 | 901 | 138 | 2289 | 258 | 3027 | 349 | 2308 | 435 | 3494 | 504 | 2325 | 673 | 413 | 873 | 1602 | 949 | 1619 |
| G45 | 2479 | M01 | 2448 | V09 | 2363 | 040 | 901 | 141 | 2288 | 259 | 3025 | 350 | 2308 | 436 | 3494 | 505 | 2325 | 674 | 413 | 874 | 1602 | 950 | 1619 |
| G52 | 2461 | M23 | 2450 | V10 | 2352 | 041 | 868 | 142 | 2289 | 260 | 1989 | 351 | 2311 | 437 | 3494 | 506 | 2328 | 675 | 413 | 875 | 1602 | 951 | 1619 |
| 5AG62 | 2550 | 5AM41 | 2393 | 5AV18 | 2367 | 5A042 | 868 | 5A143 | 2288 | 5A261 | 1989 | 5A352 | 2311 | 5A438 | 3494 | 5A507 | 2327 | 5A676 | 736 | 5A876 | 1602 | 5A952 | 1619 |
| G65 | 2420 | M43 | 2566 | V28 | 2448 | 043 | 868 | 144 | 2276 | 262 | 1989 | 354 | 2302 | 439 | 3494 | 509 | 2269 | 677 | 736 | 877 | 1602 | 953 | 1619 |
| G68 | 2594 | M49 | 2387 | V31 | 2341 | 044 | 868 | 145 | 2276 | 264 | 1989 | 355 | 2302 | 440 | 3494 | 510 | 2269 | 678 | 736 | 878 | 1602 | 954 | 1619 |
| G85 | 2597 | M53 | 2408 | V68 | 2550 | 045 | 868 | 146 | 2278 | 265 | 1989 | 359 | 2302 | 441 | 3494 | 511 | 2269 | 679 | 736 | 879 | 1603 | 955 | 1619 |
| G98 | 2367 | M58 | 2448 | V75 | 2490 | 046 | 868 | 168 | 1956 | 266 | 1989 | 360 | 2271 | 442 | 3494 | 512 | 2269 | 680 | 736 | 880 | 1596 | 956 | 1619 |
| 5AH08 | 2586 | 5AM65 | 2452 | 5AV90 | 2468 | 5A047 | 679 | 5A169 | 1956 | 5A267 | 1989 | 5A361 | 2271 | 5A443 | 3494 | 5A513 | 2269 | 5A681 | 736 | 5A881 | 1596 | 5A957 | 1619 |
| H17 | 2363 | M78 | 2462 | V92 | 2495 | 048 | 679 | 171 | 1950 | 268 | 1989 | 362 | 2271 | 444 | 3494 | 514 | 2269 | 682 | 736 | 882 | 1596 | 958 | 1619 |
| H18 | 2450 | M79 | 2474 | V99 | 2458 | 049 | 679 | 172 | 1955 | 270 | 1989 | 363 | 2271 | 445 | 3494 | 515 | 2269 | 683 | 736 | 883 | 1596 | 959 | 1619 |
| H20 | 2597 | M80 | 2460 | W27 | 2575 | 050 | 677 | 173 | 1955 | 271 | 1989 | 364 | 2271 | 446 | 3495 | 516 | 2269 | 684 | 736 | 884 | 1596 | 960 | 1619 |
| H22 | 2594 | M93 | 2342 | W31 | 2423 | 051 | 677 | 175 | 1797 | 272 | 1989 | 365 | 2271 | 447 | 1348 | 517 | 2269 | 685 | 581 | 885 | 1596 | 961 | 1619 |
| 5AH26 | 2451 | 5AM96 | 2479 | 5AW36 | 2455 | 5A052 | 677 | 5A176 | 1803 | 5A273 | 1989 | 5A366 | 2271 | 5A448 | 1348 | 5A518 | 2269 | 5A686 | 581 | 5A886 | 1596 | 5A962 | 1619 |
| H27 | 2578 | N17 | 2481 | W39 | 2423 | 053 | 678 | 177 | 1813 | 274 | 1989 | 367 | 2271 | 449 | 1348 | 519 | 2269 | 688 | 571 | 887 | 1596 | 963 | 1619 |
| H33 | 2457 | N20 | 2478 | W52 | 2461 | 054 | 678 | 178 | 1819 | 279 | 1998 | 368 | 2271 | 450 | 2784 | 520 | 2269 | 689 | 571 | 890 | 1596 | 964 | 1619 |
| H40 | 2376 | N21 | 2461 | W54 | 2327 | 056 | 676 | 179 | 1806 | 283 | 2780 | 369 | 2271 | 451 | 1781 | 521 | 2269 | 690 | 570 | 891 | 1596 | 965 | 1619 |
| H44 | 2594 | N27 | 2393 | W67 | 2508 | 057 | 732 | 180 | 1800 | 284 | 2780 | 370 | 2271 | 452 | 2784 | 522 | 2269 | 691 | 572 | 892 | 1596 | 966 | 1619 |
| 5AH46 | 2460 | 5AN32 | 2622 | 5AW69 | 2448 | 5A058 | 732 | 5A181 | 1820 | 5A285 | 524 | 5A371 | 2271 | 5A453 | 1788 | 5A523 | 2269 | 5A692 | 1774 | 5A893 | 1596 | 5A967 | 1619 |
| H48 | 2515 | N34 | 2621 | W94 | 2363 | 059 | 731 | 182 | 1798 | 286 | 524 | 372 | 2271 | 454 | 1788 | 524 | 2269 | 701 | 260 | 894 | 1596 | 968 | 1619 |
| H53 | 2393 | N41 | 2621 | W97 | 2488 | 060 | 731 | 183 | 1804 | 287 | 524 | 373 | 2271 | 455 | 1788 | 525 | 2269 | 702 | 260 | 895 | 1596 | 969 | 1619 |
| H59 | 2362 | N65 | 2594 | X05 | 2445 | 061 | 728 | 184 | 1799 | 288 | 524 | 374 | 2271 | 456 | 1788 | 526 | 2269 | 703 | 2896 | 896 | 1589 | 970 | 1619 |
| H67 | 2478 | N66 | 2474 | X07 | 2450 | 062 | 728 | 185 | 1797 | 289 | 524 | 375 | 2271 | 457 | 1788 | 527 | 2269 | 704 | 2896 | 897 | 1589 | 971 | 1619 |
| 5AH71 | 2457 | 5AN83 | 2370 | 5AX09 | 2441 | 5A063 | 728 | 5A186 | 1814 | 5A290 | 306 | 5A376 | 2271 | 5A458 | 1788 | 5A528 | 2268 | 5A705 | 2896 | 5A898 | 1589 | 5A972 | 1620 |
| H93 | 2550 | N88 | 2448 | X17 | 2452 | 064 | 731 | 188 | 1723 | 291 | 306 | 377 | 2271 | 459 | 1787 | 529 | 2164 | 706 | 2896 | 899 | 1589 | 973 | 1620 |
| J01 | 2518 | N95 | 2466 | X19 | 2376 | 065 | 731 | 189 | 1334 | 292 | 306 | 378 | 2271 | 460 | 1787 | 530 | 2164 | 707 | 2898 | 900 | 1589 | 974 | 1620 |
| J08 | 2552 | N97 | 2362 | X23 | 2377 | 066 | 731 | 190 | 1338 | 293 | 306 | 379 | 2271 | 461 | 1787 | 531 | 2164 | 708 | 2898 | 901 | 1589 | 975 | 1620 |
| J09 | 2376 | P05 | 2341 | X38 | 2445 | 067 | 731 | 191 | 1336 | 294 | 306 | 381 | 2268 | 462 | 1785 | 532 | 2164 | 709 | 2898 | 902 | 1589 | 980 | 1617 |
| 5AJ17 | 2510 | 5AP11 | 2478 | 5AX42 | 2594 | 5A068 | 730 | 5A192 | 1336 | 5A295 | 306 | 5A382 | 2268 | 5A467 | 1794 | 5A533 | 2164 | 5A710 | 2898 | 5A903 | 1589 | 5A981 | 1617 |
| J20 | 2474 | P12 | 2433 | X43 | 2458 | 069 | 730 | 193 | 1343 | 301 | 2895 | 383 | 2268 | 468 | 1794 | 534 | 2164 | 711 | 2898 | 904 | 1589 | 982 | 1617 |
| J31 | 2454 | P18 | 2560 | X61 | 2375 | 070 | 732 | 194 | 1335 | 306 | 628 | 384 | 2268 | 469 | 1795 | 535 | 2164 | 712 | 2898 | 905 | 1589 | 983 | 1617 |
| J47 | 2451 | P20 | 2597 | X72 | 2430 | 071 | 732 | 195 | 1336 | 308 | 603 | 385 | 2268 | 470 | 2060 | 537 | 2895 | 713 | 2898 | 906 | 1589 | 984 | 1617 |
| J48 | 2409 | P22 | 2442 | X79 | 2594 | 072 | 710 | 196 | 1336 | 309 | 695 | 386 | 2268 | 471 | 2060 | 538 | 1774 | 714 | 2898 | 907 | 1590 | 985 | 1617 |

# STOCK NUMBER—PAGE NUMBER

## 5A9 — 5B8

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5A986 | 1617 | 5BR35 | 1653 | 5B066 | 535 | 5B131 | 442 | 5B211 | 554 | 5B277 | 540 | 5B360 | 411 | 5B430 | 543 | 5B502 | 511 | 5B577 | 515 | 5B652 | 454 | 5B735 | 372 |
| 987 | 1617 | R36 | 1653 | 067 | 535 | 132 | 442 | 212 | 554 | 278 | 543 | 361 | 410 | 431 | 515 | 503 | 511 | 578 | 515 | 653 | 454 | 738 | 370 |
| 988 | 1617 | R37 | 1653 | 068 | 535 | 133 | 442 | 213 | 554 | 279 | 543 | 362 | 410 | 432 | 515 | 504 | 511 | 579 | 515 | 654 | 454 | 739 | 371 |
| 989 | 1617 | R38 | 1653 | 069 | 535 | 134 | 442 | 214 | 554 | 280 | 543 | 363 | 410 | 433 | 515 | 505 | 511 | 580 | 515 | 655 | 454 | 740 | 371 |
| 990 | 1617 | R39 | 1653 | 070 | 534 | 135 | 468 | 215 | 554 | 281 | 543 | 364 | 410 | 434 | 515 | 506 | 511 | 591 | 401 | 656 | 454 | 741 | 370 |
| 5A991 | 1617 | 5BR40 | 1653 | 5B071 | 534 | 5B136 | 468 | 5B216 | 554 | 5B282 | 543 | 5B365 | 412 | 5B435 | 515 | 5B507 | 511 | 5B592 | 401 | 5B657 | 454 | 5B742 | 371 |
| 992 | 1617 | R41 | 1653 | 072 | 534 | 137 | 468 | 217 | 554 | 283 | 543 | 366 | 412 | 436 | 515 | 508 | 511 | 593 | 401 | 658 | 454 | 743 | 370 |
| 993 | 1617 | R42 | 1653 | 073 | 534 | 138 | 468 | 218 | 554 | 284 | 543 | 367 | 412 | 437 | 515 | 509 | 511 | 594 | 401 | 659 | 454 | 744 | 370 |
| 994 | 1617 | R43 | 1653 | 074 | 534 | 139 | 468 | 219 | 554 | 285 | 542 | 368 | 412 | 438 | 515 | 510 | 511 | 595 | 401 | 660 | 454 | 753 | 370 |
| 995 | 1618 | R44 | 1653 | 075 | 534 | 140 | 468 | 220 | 554 | 286 | 542 | 369 | 412 | 439 | 515 | 511 | 512 | 596 | 401 | 661 | 454 | 754 | 370 |
| 5A996 | 1618 | 5BR45 | 1653 | 5B076 | 534 | 5B141 | 468 | 5B221 | 554 | 5B287 | 542 | 5B370 | 412 | 5B440 | 515 | 5B512 | 512 | 5B597 | 401 | 5B662 | 393 | 5B755 | 369 |
| 997 | 1618 | R46 | 1653 | 077 | 534 | 142 | 468 | 222 | 554 | 288 | 542 | 371 | 412 | 441 | 515 | 513 | 512 | 598 | 401 | 663 | 392 | 756 | 368 |
| 998 | 1618 | R47 | 1653 | 078 | 534 | 144 | 468 | 223 | 554 | 289 | 542 | 372 | 412 | 442 | 515 | 514 | 512 | 599 | 401 | 664 | 364 | 759 | 2925 |
| 999 | 1618 | R48 | 1653 | 079 | 534 | 145 | 468 | 224 | 554 | 290 | 542 | 373 | 412 | 443 | 514 | 515 | 512 | 600 | 401 | 665 | 364 | 760 | 370 |
| | | R49 | 1653 | 080 | 534 | 146 | 468 | 225 | 548 | 291 | 542 | 374 | 411 | 444 | 513 | 516 | 512 | 601 | 448 | 666 | 364 | 761 | 370 |
| **5B** | | 5BR50 | 1653 | 5B081 | 534 | 5B147 | 468 | 5B226 | 548 | 5B292 | 542 | 5B375 | 411 | 5B445 | 513 | 5B517 | 512 | 5B602 | 448 | 5B667 | 364 | 5B762 | 370 |
| | | R51 | 1653 | 082 | 534 | 148 | 468 | 227 | 548 | 293 | 542 | 378 | 410 | 446 | 513 | 518 | 512 | 603 | 448 | 668 | 364 | 763 | 370 |
| 5BP80 | 1661 | R52 | 1653 | 083 | 534 | 149 | 468 | 228 | 548 | 294 | 542 | 379 | 410 | 447 | 513 | 519 | 512 | 604 | 448 | 669 | 365 | 764 | 370 |
| P81 | 1661 | R53 | 1653 | 084 | 534 | 150 | 552 | 229 | 540 | 295 | 542 | 380 | 411 | 448 | 513 | 520 | 512 | 605 | 407 | 672 | 364 | 766 | 369 |
| P82 | 1661 | R54 | 1653 | 085 | 534 | 151 | 552 | 230 | 540 | 296 | 541 | 381 | 500 | 449 | 513 | 521 | 512 | 606 | 407 | 673 | 364 | 767 | 369 |
| 5BP83 | 1661 | 5BR55 | 1653 | 5B086 | 534 | 5B166 | 557 | 5B231 | 540 | 5B297 | 541 | 5B382 | 500 | 5B452 | 514 | 5B522 | 512 | 5B607 | 407 | 5B675 | 364 | 5B769 | 369 |
| P84 | 1661 | R56 | 1653 | 087 | 534 | 167 | 557 | 232 | 541 | 298 | 541 | 383 | 500 | 453 | 514 | 523 | 512 | 608 | 407 | 676 | 364 | 770 | 369 |
| P85 | 1661 | R57 | 1653 | 088 | 534 | 168 | 557 | 233 | 541 | 299 | 541 | 384 | 500 | 454 | 514 | 524 | 512 | 609 | 463 | 677 | 364 | 773 | 372 |
| P86 | 1661 | R58 | 1653 | 089 | 533 | 169 | 557 | 234 | 541 | 300 | 541 | 385 | 500 | 455 | 514 | 525 | 517 | 610 | 407 | 678 | 364 | 774 | 372 |
| P87 | 1661 | R59 | 1653 | 090 | 533 | 170 | 557 | 235 | 541 | 301 | 541 | 386 | 500 | 456 | 514 | 526 | 517 | 611 | 407 | 679 | 364 | 775 | 372 |
| 5BP88 | 1661 | 5BR60 | 1653 | 5B091 | 444 | 5B171 | 552 | 5B236 | 538 | 5B302 | 541 | 5B387 | 500 | 5B458 | 514 | 5B527 | 517 | 5B612 | 407 | 5B680 | 365 | 5B776 | 372 |
| P89 | 1661 | R61 | 1653 | 092 | 444 | 172 | 552 | 237 | 538 | 303 | 541 | 388 | 500 | 459 | 515 | 528 | 517 | 613 | 407 | 684 | 365 | 777 | 372 |
| P96 | 1661 | R62 | 1653 | 093 | 444 | 173 | 552 | 238 | 538 | 304 | 540 | 389 | 500 | 461 | 515 | 529 | 517 | 614 | 456 | 685 | 365 | 778 | 371 |
| P97 | 1661 | R63 | 1653 | 094 | 443 | 174 | 552 | 239 | 538 | 305 | 540 | 390 | 500 | 462 | 515 | 530 | 517 | 615 | 2925 | 686 | 365 | 779 | 407 |
| P98 | 1661 | R64 | 1653 | 095 | 443 | 175 | 552 | 240 | 538 | 306 | 540 | 391 | 500 | 463 | 515 | 531 | 517 | 616 | 457 | 687 | 364 | 782 | 503 |
| 5BP99 | 1661 | 5BR65 | 1653 | 5B096 | 443 | 5B176 | 552 | 5B241 | 546 | 5B307 | 540 | 5B392 | 500 | 5B464 | 515 | 5B532 | 517 | 5B617 | 456 | 5B688 | 364 | 5B784 | 508 |
| R01 | 1653 | R66 | 1653 | 097 | 443 | 177 | 552 | 242 | 546 | 308 | 540 | 393 | 500 | 465 | 515 | 533 | 513 | 618 | 407 | 689 | 364 | 785 | 508 |
| R02 | 1653 | R67 | 1653 | 098 | 443 | 178 | 552 | 244 | 543 | 309 | 540 | 394 | 500 | 466 | 515 | 534 | 513 | 619 | 454 | 690 | 364 | 786 | 449 |
| R03 | 1653 | R68 | 1653 | 099 | 443 | 179 | 557 | 245 | 543 | 310 | 448 | 395 | 500 | 469 | 515 | 535 | 513 | 620 | 454 | 691 | 364 | 787 | 449 |
| R04 | 1653 | 032 | 398 | 100 | 443 | 180 | 557 | 246 | 543 | 311 | 448 | 396 | 500 | 470 | 515 | 536 | 513 | 621 | 454 | 692 | 364 | 788 | 449 |
| 5BR05 | 1653 | 5B033 | 398 | 5B101 | 443 | 5B181 | 557 | 5B247 | 543 | 5B312 | 448 | 5B397 | 500 | 5B471 | 515 | 5B537 | 513 | 5B622 | 454 | 5B693 | 364 | 5B789 | 449 |
| R06 | 1653 | 034 | 398 | 102 | 443 | 182 | 557 | 248 | 542 | 313 | 448 | 398 | 500 | 472 | 515 | 538 | 516 | 623 | 454 | 694 | 364 | 790 | 449 |
| R07 | 1653 | 035 | 398 | 103 | 443 | 183 | 557 | 249 | 542 | 314 | 448 | 399 | 500 | 473 | 515 | 539 | 517 | 624 | 454 | 695 | 364 | 791 | 449 |
| R08 | 1653 | 036 | 398 | 104 | 443 | 184 | 557 | 250 | 542 | 315 | 448 | 400 | 500 | 474 | 515 | 540 | 448 | 625 | 454 | 696 | 364 | 792 | 449 |
| R09 | 1653 | 037 | 398 | 105 | 443 | 185 | 556 | 251 | 542 | 316 | 448 | 401 | 500 | 475 | 516 | 541 | 516 | 626 | 454 | 697 | 364 | 793 | 449 |
| 5BR10 | 1653 | 5B038 | 398 | 5B106 | 443 | 5B186 | 556 | 5B252 | 541 | 5B317 | 552 | 5B402 | 500 | 5B476 | 516 | 5B542 | 516 | 5B627 | 454 | 5B698 | 364 | 5B794 | 448 |
| R11 | 1653 | 039 | 398 | 107 | 443 | 187 | 556 | 253 | 541 | 318 | 552 | 403 | 500 | 477 | 516 | 543 | 516 | 628 | 454 | 700 | 364 | 795 | 383 |
| R12 | 1653 | 040 | 398 | 108 | 443 | 188 | 556 | 254 | 541 | 319 | 552 | 404 | 500 | 478 | 516 | 544 | 516 | 629 | 454 | 701 | 364 | 796 | 383 |
| R13 | 1653 | 041 | 387 | 109 | 443 | 189 | 556 | 255 | 541 | 320 | 552 | 405 | 500 | 479 | 512 | 545 | 512 | 630 | 454 | 702 | 364 | 797 | 383 |
| R14 | 1653 | 042 | 387 | 110 | 443 | 190 | 556 | 256 | 541 | 339 | 3236 | 408 | 2895 | 480 | 512 | 546 | 511 | 631 | 454 | 703 | 364 | 798 | 383 |
| 5BR15 | 1653 | 5B043 | 387 | 5B111 | 443 | 5B191 | 556 | 5B257 | 540 | 5B340 | 2895 | 5B409 | 3236 | 5B481 | 512 | 5B547 | 511 | 5B632 | 454 | 5B704 | 364 | 5B799 | 383 |
| R16 | 1653 | 044 | 387 | 112 | 443 | 192 | 556 | 258 | 540 | 341 | 402 | 410 | 3236 | 482 | 511 | 548 | 511 | 633 | 454 | 706 | 365 | 800 | 383 |
| R17 | 1653 | 045 | 387 | 113 | 443 | 193 | 556 | 259 | 540 | 342 | 402 | 411 | 3236 | 483 | 511 | 549 | 511 | 634 | 454 | 707 | 365 | 801 | 383 |
| R18 | 1653 | 046 | 387 | 114 | 443 | 194 | 551 | 260 | 543 | 343 | 402 | 412 | 3236 | 484 | 511 | 550 | 511 | 635 | 454 | 708 | 365 | 802 | 383 |
| R19 | 1653 | 047 | 387 | 115 | 443 | 195 | 551 | 261 | 542 | 344 | 402 | 413 | 3236 | 485 | 511 | 559 | 515 | 636 | 454 | 709 | 365 | 803 | 383 |
| 5BR20 | 1653 | 5B048 | 387 | 5B116 | 442 | 5B196 | 551 | 5B262 | 542 | 5B345 | 402 | 5B414 | 3236 | 5B486 | 511 | 5B560 | 515 | 5B637 | 454 | 5B710 | 365 | 5B804 | 383 |
| R21 | 1653 | 052 | 533 | 117 | 443 | 197 | 551 | 263 | 542 | 346 | 402 | 415 | 3236 | 487 | 511 | 561 | 515 | 638 | 454 | 711 | 372 | 805 | 383 |
| R22 | 1653 | 053 | 533 | 118 | 442 | 198 | 551 | 264 | 541 | 347 | 402 | 416 | 3236 | 488 | 511 | 562 | 515 | 639 | 454 | 713 | 372 | 806 | 383 |
| R23 | 1653 | 054 | 533 | 119 | 442 | 199 | 551 | 265 | 541 | 348 | 402 | 417 | 2895 | 489 | 511 | 563 | 515 | 640 | 454 | 714 | 372 | 807 | 383 |
| R24 | 1653 | 055 | 533 | 120 | 442 | 200 | 551 | 266 | 541 | 349 | 402 | 418 | 2895 | 490 | 511 | 564 | 515 | 641 | 454 | 715 | 372 | 808 | 383 |
| 5BR25 | 1653 | 5B056 | 533 | 5B121 | 442 | 5B201 | 551 | 5B267 | 541 | 5B350 | 402 | 5B419 | 2895 | 5B491 | 511 | 5B567 | 515 | 5B642 | 454 | 5B716 | 372 | 5B809 | 383 |
| R26 | 1653 | 057 | 533 | 122 | 442 | 202 | 557 | 268 | 541 | 351 | 402 | 420 | 526 | 492 | 511 | 568 | 515 | 643 | 454 | 717 | 372 | 810 | 383 |
| R27 | 1653 | 058 | 535 | 123 | 443 | 203 | 557 | 269 | 541 | 352 | 402 | 421 | 526 | 493 | 511 | 569 | 515 | 644 | 454 | 718 | 372 | 811 | 383 |
| R28 | 1653 | 059 | 535 | 124 | 442 | 204 | 554 | 270 | 540 | 353 | 402 | 422 | 526 | 494 | 511 | 570 | 515 | 645 | 454 | 719 | 372 | 812 | 383 |
| R29 | 1653 | 060 | 535 | 125 | 442 | 205 | 554 | 271 | 543 | 354 | 402 | 423 | 526 | 495 | 511 | 571 | 515 | 646 | 454 | 720 | 370 | 813 | 383 |
| 5BR30 | 1653 | 5B061 | 535 | 5B126 | 442 | 5B206 | 554 | 5B272 | 543 | 5B355 | 402 | 5B425 | 526 | 5B496 | 511 | 5B572 | 515 | 5B647 | 454 | 5B723 | 370 | 5B814 | 383 |
| R31 | 1653 | 062 | 533 | 127 | 442 | 207 | 554 | 273 | 542 | 356 | 412 | 426 | 526 | 497 | 511 | 573 | 515 | 648 | 454 | 726 | 370 | 815 | 383 |
| R32 | 1653 | 063 | 535 | 128 | 442 | 208 | 554 | 274 | 542 | 357 | 412 | 427 | 526 | 498 | 511 | 574 | 515 | 649 | 454 | 727 | 370 | 816 | 383 |
| R33 | 1653 | 064 | 535 | 129 | 442 | 209 | 554 | 275 | 541 | 358 | 410 | 428 | 543 | 499 | 511 | 575 | 515 | 650 | 454 | 728 | 371 | 817 | 383 |
| R34 | 1653 | 065 | 535 | 130 | 442 | 210 | 554 | 276 | 540 | 359 | 411 | 429 | 543 | 501 | 511 | 576 | 515 | 651 | 454 | 734 | 372 | 818 | 383 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5B819 | 383 | 5B885 | 384 | 5B950 | 384 | 5C014 | 3671 | 5C100 | 3550 | 5C177 | 3601 | 5C247 | 732 | 5C337 | 731 | 5C403 | 935 | 5C496 | 1772 | 5C589 | 1312 | 5C654 | 1322 |
| 820 | 383 | 886 | 384 | 951 | 384 | 015 | 3671 | 105 | 3561 | 178 | 3601 | 248 | 732 | 338 | 731 | 404 | 935 | 497 | 1772 | 590 | 1312 | 655 | 1322 |
| 821 | 383 | 887 | 384 | 952 | 384 | 016 | 3671 | 106 | 3561 | 179 | 3601 | 249 | 732 | 339 | 733 | 405 | 935 | 499 | 1771 | 591 | 1312 | 656 | 1322 |
| 822 | 383 | 888 | 384 | 953 | 384 | 017 | 3671 | 107 | 3540 | 180 | 3601 | 250 | 732 | 340 | 733 | 406 | 733 | 500 | 1771 | 592 | 1312 | 657 | 1807 |
| 823 | 383 | 889 | 390 | 954 | 384 | 018 | 3671 | 108 | 3540 | 181 | 3601 | 251 | 732 | 341 | 733 | 407 | 733 | 502 | 1772 | 593 | 1367 | 658 | 1807 |
| 5B824 | 383 | 5B890 | 384 | 5B956 | 384 | 5C019 | 3671 | 5C109 | 3540 | 5C182 | 3601 | 5C252 | 732 | 5C342 | 733 | 5C408 | 732 | 5C504 | 1773 | 5C594 | 1367 | 5C659 | 1807 |
| 825 | 383 | 891 | 384 | 957 | 384 | 020 | 3671 | 110 | 3639 | 183 | 3601 | 253 | 732 | 343 | 733 | 409 | 732 | 505 | 1773 | 595 | 1367 | 660 | 1803 |
| 826 | 383 | 892 | 384 | 958 | 384 | 021 | 3673 | 111 | 3639 | 184 | 3601 | 254 | 732 | 344 | 733 | 410 | 729 | 506 | 1773 | 596 | 1293 | 661 | 1803 |
| 827 | 383 | 893 | 384 | 959 | 384 | 022 | 3673 | 112 | 3639 | 185 | 3601 | 255 | 732 | 345 | 733 | 411 | 729 | 507 | 3632 | 597 | 1293 | 662 | 1803 |
| 828 | 383 | 894 | 390 | 960 | 385 | 023 | 3673 | 113 | 3639 | 186 | 3601 | 256 | 732 | 346 | 733 | 412 | 733 | 508 | 3632 | 598 | 1312 | 663 | 1803 |
| 5B829 | 383 | 5B895 | 390 | 5B961 | 385 | 5C024 | 3673 | 5C114 | 3627 | 5C187 | 3551 | 5C257 | 732 | 5C347 | 733 | 5C417 | 3515 | 5C516 | 3639 | 5C599 | 1766 | 5C664 | 1803 |
| 830 | 383 | 896 | 390 | 962 | 385 | 025 | 3673 | 115 | 3627 | 188 | 3551 | 258 | 732 | 348 | 733 | 418 | 3510 | 517 | 3639 | 600 | 1766 | 665 | 1803 |
| 831 | 383 | 897 | 390 | 963 | 385 | 026 | 3673 | 124 | 3657 | 189 | 3551 | 259 | 732 | 349 | 730 | 419 | 3523 | 518 | 3639 | 601 | 1766 | 666 | 1803 |
| 832 | 383 | 898 | 390 | 964 | 385 | 027 | 3673 | 125 | 3657 | 190 | 3562 | 260 | 732 | 350 | 730 | 420 | 3523 | 519 | 3639 | 602 | 1766 | 667 | 1803 |
| 833 | 383 | 899 | 390 | 965 | 385 | 028 | 3673 | 126 | 3670 | 191 | 3562 | 261 | 732 | 351 | 730 | 421 | 3519 | 520 | 3639 | 603 | 1230 | 668 | 1804 |
| 5B834 | 383 | 5B900 | 384 | 5B966 | 390 | 5C029 | 3673 | 5C127 | 3670 | 5C192 | 3562 | 5C262 | 732 | 5C352 | 730 | 5C422 | 3519 | 5C521 | 3639 | 5C604 | 1230 | 5C669 | 1773 |
| 835 | 383 | 901 | 384 | 967 | 390 | 030 | 3673 | 128 | 3670 | 193 | 3592 | 263 | 732 | 353 | 730 | 423 | 3519 | 522 | 3639 | 605 | 1236 | 670 | 1804 |
| 836 | 383 | 902 | 384 | 968 | 390 | 032 | 3629 | 129 | 3670 | 194 | 3592 | 264 | 732 | 354 | 730 | 424 | 3519 | 523 | 3639 | 606 | 1231 | 671 | 1804 |
| 838 | 383 | 903 | 384 | 969 | 390 | 033 | 3629 | 130 | 3670 | 195 | 3587 | 265 | 732 | 355 | 730 | 425 | 3516 | 524 | 3639 | 607 | 1232 | 672 | 1804 |
| 839 | 383 | 904 | 384 | 970 | 390 | 034 | 3629 | 131 | 3670 | 196 | 3587 | 266 | 701 | 356 | 730 | 427 | 3530 | 525 | 3639 | 608 | 1234 | 673 | 1801 |
| 5B840 | 383 | 5B905 | 384 | 5B971 | 390 | 5C035 | 3629 | 5C132 | 3670 | 5C197 | 3641 | 5C267 | 701 | 5C357 | 730 | 5C428 | 3530 | 5C526 | 3639 | 5C609 | 1231 | 5C674 | 1801 |
| 841 | 383 | 906 | 384 | 972 | 390 | 036 | 3629 | 133 | 3670 | 198 | 3641 | 268 | 701 | 358 | 730 | 431 | 3530 | 529 | 3586 | 610 | 1231 | 675 | 1801 |
| 842 | 383 | 907 | 384 | 973 | 390 | 037 | 3629 | 134 | 3670 | 201 | 3561 | 269 | 701 | 359 | 730 | 432 | 3530 | 530 | 3586 | 611 | 1231 | 676 | 1801 |
| 843 | 383 | 908 | 384 | 974 | 390 | 038 | 3629 | 135 | 3670 | 203 | 3561 | 270 | 732 | 360 | 730 | 434 | 3530 | 531 | 3586 | 612 | 1231 | 677 | 1797 |
| 844 | 383 | 909 | 384 | 975 | 390 | 039 | 3629 | 136 | 3670 | 204 | 3561 | 271 | 732 | 361 | 730 | 435 | 3532 | 532 | 3586 | 613 | 1231 | 678 | 1797 |
| 5B845 | 383 | 5B910 | 385 | 5B976 | 390 | 5C040 | 105 | 5C137 | 3670 | 5C205 | 3561 | 5C272 | 732 | 5C362 | 730 | 5C436 | 3532 | 5C533 | 3586 | 5C614 | 1231 | 5C679 | 1797 |
| 846 | 383 | 911 | 385 | 977 | 390 | 041 | 3568 | 138 | 3670 | 207 | 3553 | 273 | 732 | 363 | 730 | 437 | 3532 | 534 | 3586 | 615 | 1233 | 680 | 1797 |
| 847 | 383 | 912 | 385 | 978 | 390 | 042 | 3568 | 139 | 3670 | 209 | 3562 | 274 | 732 | 364 | 730 | 438 | 3528 | 536 | 1349 | 616 | 1233 | 681 | 1797 |
| 848 | 383 | 913 | 385 | 979 | 390 | 052 | 3569 | 140 | 3670 | 210 | 3598 | 275 | 732 | 365 | 730 | 439 | 3528 | 538 | 1349 | 617 | 1233 | 682 | 1797 |
| 849 | 383 | 914 | 385 | 980 | 390 | 053 | 3546 | 141 | 3671 | 211 | 3598 | 276 | 732 | 366 | 730 | 440 | 3530 | 547 | 1349 | 618 | 1233 | 683 | 1797 |
| 5B850 | 383 | 5B915 | 385 | 5B981 | 390 | 5C054 | 3546 | 5C142 | 3671 | 5C212 | 3598 | 5C277 | 732 | 5C367 | 729 | 5C441 | 3530 | 5C548 | 1357 | 5C619 | 1233 | 5C684 | 1797 |
| 851 | 390 | 916 | 385 | 982 | 390 | 055 | 3547 | 143 | 3671 | 213 | 3598 | 278 | 732 | 369 | 728 | 442 | 3530 | 549 | 1357 | 620 | 1233 | 685 | 1797 |
| 852 | 390 | 917 | 385 | 983 | 390 | 056 | 3547 | 144 | 3671 | 214 | 3598 | 279 | 732 | 370 | 728 | 443 | 3530 | 550 | 1357 | 621 | 1233 | 686 | 1797 |
| 853 | 383 | 918 | 385 | 984 | 390 | 057 | 3547 | 145 | 3671 | 215 | 3598 | 280 | 732 | 371 | 728 | 444 | 3530 | 551 | 1357 | 622 | 1233 | 687 | 1797 |
| 854 | 390 | 919 | 390 | 985 | 390 | 063 | 3545 | 146 | 3671 | 216 | 3598 | 281 | 732 | 372 | 728 | 447 | 3528 | 552 | 1357 | 623 | 1233 | 688 | 1797 |
| 5B855 | 383 | 5B920 | 390 | 5B986 | 390 | 5C064 | 3545 | 5C147 | 3671 | 5C217 | 3598 | 5C282 | 732 | 5C373 | 728 | 5C451 | 3528 | 5C553 | 1357 | 5C624 | 1233 | 5C689 | 1797 |
| 856 | 383 | 921 | 390 | 987 | 390 | 065 | 3545 | 148 | 3671 | 218 | 3598 | 286 | 1774 | 374 | 728 | 452 | 3528 | 554 | 1357 | 625 | 1222 | 690 | 1798 |
| 857 | 390 | 922 | 385 | 988 | 390 | 066 | 3545 | 149 | 3671 | 219 | 3598 | 296 | 1774 | 375 | 728 | 453 | 3528 | 555 | 1350 | 626 | 1224 | 691 | 1798 |
| 858 | 383 | 923 | 385 | 989 | 390 | 067 | 3545 | 150 | 3671 | 220 | 3598 | 297 | 1774 | 376 | 728 | 457 | 3528 | 556 | 1350 | 627 | 1224 | 692 | 1798 |
| 859 | 383 | 924 | 385 | 990 | 390 | 068 | 3545 | 151 | 3671 | 221 | 3598 | 298 | 1774 | 377 | 728 | 460 | 3528 | 563 | 1307 | 628 | 1766 | 693 | 1799 |
| 5B860 | 390 | 5B925 | 385 | 5B991 | 390 | 5C072 | 3545 | 5C152 | 3626 | 5C222 | 3598 | 5C299 | 1774 | 5C378 | 728 | 5C461 | 3528 | 5C564 | 1307 | 5C629 | 1766 | 5C694 | 1799 |
| 861 | 390 | 926 | 385 | 992 | 390 | 073 | 3545 | 153 | 3626 | 223 | 700 | 310 | 1772 | 379 | 735 | 462 | 3528 | 565 | 1307 | 630 | 1766 | 695 | 1799 |
| 862 | 383 | 927 | 385 | 993 | 390 | 074 | 3545 | 154 | 3626 | 224 | 700 | 311 | 1772 | 380 | 735 | 463 | 3528 | 566 | 1307 | 631 | 1766 | 696 | 1799 |
| 863 | 383 | 928 | 385 | 994 | 390 | 075 | 3545 | 155 | 3626 | 225 | 700 | 312 | 1772 | 381 | 735 | 468 | 3528 | 567 | 1388 | 632 | 1324 | 697 | 1799 |
| 864 | 383 | 929 | 385 | 995 | 390 | 076 | 3545 | 156 | 3626 | 226 | 700 | 313 | 1772 | 382 | 735 | 469 | 3528 | 568 | 1388 | 633 | 1324 | 698 | 1799 |
| 5B865 | 383 | 5B930 | 385 | 5B996 | 390 | 5C077 | 3545 | 5C157 | 3626 | 5C227 | 700 | 5C314 | 1772 | 5C383 | 735 | 5C470 | 3528 | 5C569 | 1388 | 5C634 | 1324 | 5C699 | 1799 |
| 866 | 383 | 931 | 385 | 997 | 390 | 078 | 3545 | 158 | 3601 | 228 | 700 | 315 | 1772 | 384 | 735 | 471 | 1771 | 570 | 1388 | 635 | 1327 | 700 | 1805 |
| 867 | 390 | 932 | 385 | 998 | 390 | 079 | 3545 | 159 | 3601 | 229 | 700 | 317 | 715 | 385 | 731 | 472 | 1771 | 571 | 1388 | 636 | 1327 | 701 | 1805 |
| 868 | 390 | 933 | 385 | 999 | 390 | 080 | 3545 | 160 | 3601 | 230 | 700 | 319 | 731 | 386 | 731 | 474 | 1772 | 572 | 1388 | 637 | 1327 | 702 | 1805 |
| 869 | 383 | 934 | 385 | | | 082 | 3545 | 161 | 3601 | 231 | 701 | 320 | 731 | 387 | 735 | 475 | 1772 | 573 | 1388 | 638 | 1327 | 703 | 1806 |
| 5B870 | 383 | 5B935 | 385 | | | 5C083 | 3638 | 5C162 | 3601 | 5C232 | 700 | 5C321 | 731 | 5C388 | 735 | 5C476 | 1772 | 5C574 | 1358 | 5C639 | 1322 | 5C704 | 1806 |
| 871 | 383 | 936 | 385 | 5C | | 085 | 3634 | 163 | 3601 | 233 | 700 | 322 | 731 | 389 | 735 | 477 | 1772 | 575 | 1367 | 640 | 1328 | 705 | 1808 |
| 872 | 383 | 937 | 385 | 5C001 | 3671 | 086 | 3634 | 164 | 3601 | 234 | 700 | 323 | 731 | 390 | 735 | 478 | 1772 | 576 | 1367 | 641 | 1328 | 706 | 1809 |
| 873 | 383 | 938 | 384 | 002 | 3671 | 087 | 3634 | 165 | 3601 | 235 | 700 | 324 | 731 | 391 | 735 | 479 | 1772 | 577 | 1367 | 642 | 1328 | 707 | 1809 |
| 874 | 383 | 939 | 384 | 003 | 3671 | 088 | 3634 | 166 | 3601 | 236 | 700 | 325 | 731 | 392 | 735 | 480 | 1772 | 578 | 1367 | 643 | 1328 | 708 | 1813 |
| 5B875 | 383 | 5B940 | 384 | 5C004 | 3671 | 5C089 | 3634 | 5C167 | 3601 | 5C237 | 732 | 5C326 | 731 | 5C393 | 729 | 5C481 | 1772 | 5C579 | 1367 | 5C644 | 1328 | 5C709 | 1813 |
| 876 | 383 | 941 | 384 | 005 | 3671 | 090 | 3641 | 168 | 3601 | 238 | 732 | 327 | 731 | 394 | 729 | 485 | 1771 | 580 | 1367 | 645 | 1328 | 711 | 1810 |
| 877 | 383 | 942 | 384 | 006 | 3671 | 091 | 3641 | 169 | 3601 | 239 | 732 | 329 | 731 | 395 | 729 | 486 | 1772 | 581 | 1367 | 646 | 1328 | 712 | 1813 |
| 878 | 383 | 943 | 384 | 007 | 3671 | 092 | 3641 | 170 | 3601 | 240 | 732 | 330 | 731 | 396 | 729 | 487 | 1772 | 582 | 1367 | 647 | 1331 | 713 | 1813 |
| 879 | 383 | 944 | 384 | 008 | 3671 | 093 | 3641 | 171 | 3601 | 241 | 732 | 331 | 731 | 397 | 729 | 488 | 1772 | 583 | 1367 | 648 | 1330 | 714 | 1813 |
| 5B880 | 384 | 5B945 | 384 | 5C009 | 3671 | 5C094 | 3641 | 5C172 | 3601 | 5C242 | 732 | 5C332 | 731 | 5C398 | 729 | 5C490 | 1771 | 5C584 | 1367 | 5C649 | 1330 | 5C715 | 1826 |
| 881 | 384 | 946 | 384 | 010 | 3671 | 095 | 3516 | 173 | 3601 | 243 | 732 | 333 | 731 | 399 | 935 | 491 | 1772 | 585 | 1367 | 650 | 1330 | 716 | 1826 |
| 882 | 384 | 947 | 384 | 011 | 3671 | 097 | 3553 | 174 | 3601 | 244 | 732 | 334 | 731 | 400 | 935 | 492 | 1772 | 586 | 1367 | 651 | 1330 | 717 | 1806 |
| 883 | 384 | 948 | 384 | 012 | 3671 | 098 | 3562 | 175 | 3601 | 245 | 732 | 335 | 731 | 401 | 935 | 493 | 1772 | 587 | 1312 | 652 | 1330 | 718 | 1806 |
| 884 | 384 | 949 | 384 | 013 | 3671 | 099 | 3554 | 176 | 3601 | 246 | 732 | 336 | 731 | 402 | 935 | 495 | 1772 | 588 | 1312 | 653 | 1330 | 721 | 1799 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5C722 | 1800 | 5C827 | 1378 | 5C927 | 1354 | 5C995 | 718 | 5D595 | 645 | 5D715 | 669 | **5E** | | 5E142 | 1783 | 5E225 | 1784 | 5E355 | 1789 | 5E425 | 3068 | 5E492 | 3062 |
| 723 | 1800 | 828 | 1378 | 928 | 1354 | 996 | 713 | 596 | 645 | 716 | 669 | | | 143 | 1783 | 226 | 1785 | 356 | 3461 | 426 | 3068 | 493 | 3062 |
| 724 | 1800 | 829 | 1378 | 930 | 1361 | 999 | 3551 | 597 | 645 | 717 | 669 | 5E022 | 3471 | 144 | 1784 | 227 | 1781 | 357 | 3461 | 428 | 3068 | 494 | 3062 |
| 725 | 1805 | 830 | 1378 | 931 | 1358 | **5D** | | 598 | 645 | 718 | 669 | 023 | 3471 | 145 | 1784 | 229 | 2788 | 358 | 3461 | 429 | 3068 | 495 | 3062 |
| 726 | 1827 | 831 | 1378 | 932 | 1358 | | | 599 | 645 | 719 | 669 | 024 | 3471 | 146 | 1784 | 230 | 2788 | 359 | 3461 | 430 | 3068 | 496 | 3062 |
| 5C727 | 1827 | 5C832 | 1378 | 5C933 | 1358 | 5D513 | 670 | 5D600 | 645 | 5D721 | 669 | 5E025 | 3471 | 5E147 | 1788 | 5E231 | 2788 | 5E360 | 3461 | 5E431 | 3068 | 5E497 | 3062 |
| 728 | 1823 | 833 | 1378 | 934 | 1358 | 514 | 670 | 601 | 645 | 722 | 669 | 028 | 3471 | 148 | 1788 | 232 | 2788 | 361 | 3461 | 432 | 3068 | 498 | 3062 |
| 729 | 1823 | 834 | 1379 | 935 | 1358 | 515 | 670 | 602 | 645 | 723 | 669 | 029 | 3471 | 149 | 1788 | 263 | 3443 | 362 | 3461 | 433 | 1772 | 499 | 3062 |
| 730 | 1824 | 839 | 1379 | 936 | 1392 | 520 | 670 | 603 | 645 | 724 | 669 | 030 | 3471 | 150 | 1787 | 264 | 3443 | 363 | 3461 | 434 | 3068 | 500 | 3062 |
| 731 | 1825 | 840 | 1379 | 937 | 1392 | 521 | 670 | 604 | 645 | 725 | 669 | 031 | 3471 | 151 | 1787 | 265 | 3443 | 364 | 3461 | 435 | 3068 | 501 | 3062 |
| 5C732 | 1825 | 5C843 | 1379 | 5C938 | 1392 | 5D522 | 670 | 5D605 | 645 | 5D726 | 669 | 5E032 | 3471 | 5E152 | 1787 | 5E266 | 3329 | 5E365 | 3461 | 5E436 | 3068 | 5E502 | 3108 |
| 733 | 1825 | 844 | 1379 | 939 | 1392 | 523 | 670 | 606 | 645 | 731 | 669 | 033 | 3471 | 154 | 1787 | 267 | 3310 | 366 | 3461 | 437 | 3068 | 503 | 3108 |
| 734 | 1825 | 845 | 1379 | 940 | 1367 | 524 | 670 | 608 | 645 | 732 | 669 | 034 | 3471 | 155 | 1787 | 268 | 3438 | 367 | 3461 | 439 | 3068 | 504 | 3108 |
| 735 | 1825 | 846 | 1379 | 941 | 1367 | 525 | 670 | 609 | 647 | 733 | 669 | 035 | 3471 | 156 | 1785 | 269 | 3438 | 368 | 3461 | 440 | 3068 | 505 | 3108 |
| 736 | 1825 | 847 | 1379 | 942 | 1367 | 528 | 670 | 610 | 647 | 735 | 669 | 036 | 3471 | 157 | 1785 | 270 | 3438 | 369 | 3461 | 441 | 3068 | 506 | 3108 |
| 5C747 | 1801 | 5C848 | 1221 | 5C943 | 1367 | 5D529 | 670 | 5D611 | 645 | 5D736 | 669 | 5E037 | 3471 | 5E158 | 1785 | 5E271 | 3438 | 5E370 | 3461 | 5E442 | 3068 | 5E507 | 3108 |
| 749 | 1812 | 849 | 1221 | 944 | 1352 | 530 | 670 | 612 | 645 | 738 | 669 | 038 | 3471 | 159 | 3409 | 272 | 3438 | 371 | 3461 | 443 | 3068 | 508 | 3108 |
| 750 | 1812 | 850 | 1221 | 945 | 1352 | 531 | 670 | 613 | 645 | 739 | 669 | 039 | 3471 | 160 | 3409 | 273 | 3438 | 372 | 3461 | 444 | 3068 | 509 | 3108 |
| 751 | 1812 | 851 | 1221 | 946 | 1352 | 544 | 670 | 614 | 645 | 740 | 669 | 040 | 3471 | 161 | 3409 | 274 | 3438 | 373 | 3461 | 445 | 3068 | 510 | 3104 |
| 752 | 1812 | 852 | 1221 | 947 | 1352 | 545 | 670 | 615 | 645 | 741 | 669 | 041 | 3471 | 162 | 3409 | 275 | 3438 | 374 | 3461 | 446 | 3068 | 511 | 3104 |
| 5C753 | 1812 | 5C853 | 1222 | 5C948 | 1352 | 5D546 | 670 | 5D616 | 645 | 5D798 | 669 | 5E048 | 3471 | 5E163 | 3409 | 5E276 | 3438 | 5E375 | 3461 | 5E447 | 3068 | 5E512 | 3102 |
| 754 | 1812 | 854 | 1222 | 949 | 1352 | 548 | 670 | 617 | 646 | 799 | 669 | 050 | 3471 | 164 | 3409 | 277 | 3438 | 376 | 3461 | 448 | 3068 | 513 | 3102 |
| 760 | 1799 | 855 | 1222 | 950 | 1352 | 549 | 670 | 618 | 646 | 800 | 669 | 056 | 3476 | 165 | 3409 | 278 | 3438 | 377 | 3060 | 449 | 3068 | 514 | 3105 |
| 771 | 1773 | 856 | 1222 | 951 | 1352 | 552 | 646 | 619 | 646 | 801 | 669 | 057 | 3476 | 168 | 3380 | 279 | 3438 | 378 | 3060 | 450 | 3068 | 515 | 3105 |
| 772 | 1773 | 857 | 1222 | 952 | 1352 | 553 | 646 | 620 | 646 | 804 | 669 | 058 | 3476 | 169 | 3455 | 280 | 3438 | 379 | 3060 | 451 | 3068 | 516 | 3105 |
| 5C774 | 414 | 5C858 | 1223 | 5C953 | 1352 | 5D554 | 646 | 5D621 | 646 | 5D805 | 669 | 5E076 | 1794 | 5E176 | 3387 | 5E281 | 3438 | 5E380 | 3060 | 5E452 | 3068 | 5E517 | 3105 |
| 778 | 723 | 859 | 1224 | 954 | 1352 | 555 | 646 | 622 | 646 | 827 | 669 | 079 | 1794 | 177 | 3387 | 282 | 3438 | 381 | 3060 | 453 | 1778 | 518 | 3105 |
| 779 | 723 | 864 | 1221 | 955 | 1353 | 556 | 646 | 625 | 646 | 828 | 669 | 080 | 1794 | 178 | 3387 | 283 | 3438 | 382 | 3060 | 454 | 3061 | 519 | 3105 |
| 780 | 723 | 865 | 1221 | 956 | 1388 | 557 | 646 | 626 | 646 | 829 | 669 | 086 | 1794 | 179 | 3387 | 284 | 3438 | 383 | 3111 | 455 | 3061 | 520 | 3118 |
| 781 | 723 | 866 | 1223 | 957 | 1388 | 558 | 646 | 627 | 646 | 831 | 669 | 087 | 1794 | 180 | 3387 | 285 | 3438 | 384 | 3110 | 456 | 3061 | 521 | 3118 |
| 5C789 | 713 | 5C867 | 1223 | 5C958 | 1388 | 5D559 | 646 | 5D639 | 647 | 5D832 | 669 | 5E089 | 1796 | 5E181 | 3387 | 5E286 | 3438 | 5E386 | 3109 | 5E457 | 3061 | 5E522 | 3118 |
| 790 | 706 | 868 | 1223 | 961 | 1384 | 560 | 646 | 640 | 647 | 865 | 669 | 090 | 1796 | 182 | 3387 | 287 | 3438 | 389 | 3064 | 458 | 3061 | 523 | 3118 |
| 791 | 707 | 869 | 1223 | 962 | 3605 | 561 | 646 | 641 | 647 | 881 | 670 | 094 | 1796 | 183 | 3387 | 288 | 3438 | 390 | 3064 | 459 | 3061 | 524 | 3118 |
| 792 | 707 | 872 | 1223 | 963 | 3638 | 562 | 646 | 642 | 647 | 882 | 670 | 095 | 1796 | 184 | 3387 | 289 | 3438 | 391 | 3114 | 460 | 3061 | 525 | 3118 |
| 793 | 706 | 873 | 1223 | 964 | 3638 | 563 | 646 | 643 | 647 | 883 | 670 | 096 | 1796 | 185 | 3387 | 290 | 3438 | 392 | 3064 | 461 | 3061 | 526 | 3118 |
| 5C794 | 706 | 5C874 | 1223 | 5C965 | 3638 | 5D565 | 646 | 5D644 | 647 | 5D884 | 670 | 5E100 | 1796 | 5E186 | 3387 | 5E291 | 3438 | 5E393 | 3064 | 5E462 | 3061 | 5E527 | 3118 |
| 795 | 706 | 875 | 1223 | 966 | 3638 | 566 | 645 | 645 | 647 | 885 | 670 | 104 | 1796 | 187 | 3387 | 292 | 3438 | 395 | 3059 | 463 | 3061 | 528 | 3118 |
| 796 | 707 | 878 | 1225 | 967 | 3638 | 567 | 645 | 646 | 647 | 886 | 670 | 106 | 1796 | 188 | 3387 | 293 | 3438 | 396 | 3059 | 464 | 3061 | 529 | 3118 |
| 797 | 707 | 881 | 1225 | 968 | 3638 | 568 | 645 | 647 | 647 | 887 | 670 | 108 | 1796 | 189 | 3387 | 294 | 3508 | 397 | 3114 | 465 | 3061 | 530 | 3118 |
| 798 | 711 | 882 | 1225 | 969 | 713 | 569 | 645 | 648 | 647 | 888 | 670 | 111 | 1796 | 196 | 3377 | 295 | 3426 | 398 | 3059 | 466 | 3061 | 531 | 3118 |
| 5C799 | 687 | 5C883 | 1225 | 5C970 | 713 | 5D570 | 645 | 5D649 | 647 | 5D889 | 670 | 5E113 | 1796 | 5E197 | 3377 | 5E296 | 3426 | 5E399 | 3059 | 5E467 | 3061 | 5E532 | 3118 |
| 800 | 671 | 887 | 1226 | 971 | 713 | 571 | 645 | 650 | 647 | 892 | 670 | 115 | 1796 | 198 | 3377 | 297 | 3426 | 400 | 3059 | 468 | 3061 | 533 | 3118 |
| 801 | 671 | 888 | 1226 | 972 | 713 | 572 | 645 | 652 | 647 | 893 | 670 | 116 | 1795 | 200 | 2784 | 298 | 3426 | 401 | 3059 | 469 | 3061 | 534 | 3118 |
| 802 | 671 | 890 | 1227 | 973 | 593 | 573 | 645 | 653 | 647 | 894 | 670 | 117 | 1792 | 201 | 1780 | 299 | 3426 | 402 | 3114 | 470 | 3061 | 535 | 3118 |
| 804 | 1374 | 891 | 1226 | 974 | 593 | 574 | 645 | 683 | 644 | 899 | 670 | 118 | 1792 | 202 | 2784 | 300 | 3426 | 403 | 3059 | 471 | 3061 | 536 | 3118 |
| 5C807 | 1374 | 5C893 | 1227 | 5C975 | 593 | 5D575 | 645 | 5D684 | 644 | 5D900 | 670 | 5E119 | 1791 | 5E203 | 2784 | 5E301 | 3426 | 5E404 | 3059 | 5E472 | 3061 | 5E537 | 3118 |
| 808 | 1375 | 894 | 1227 | 976 | 593 | 576 | 645 | 685 | 644 | 901 | 670 | 120 | 1791 | 205 | 1789 | 302 | 3426 | 405 | 3059 | 473 | 3061 | 538 | 3118 |
| 809 | 1375 | 895 | 1226 | 977 | 593 | 577 | 645 | 686 | 644 | 903 | 670 | 121 | 1791 | 206 | 1789 | 303 | 3426 | 406 | 3059 | 474 | 3061 | 541 | 3116 |
| 810 | 1375 | 896 | 1226 | 978 | 593 | 578 | 645 | 687 | 644 | 904 | 670 | 122 | 1791 | 207 | 1789 | 304 | 3426 | 407 | 3059 | 475 | 3061 | 542 | 3116 |
| 811 | 1375 | 897 | 1226 | 979 | 593 | 579 | 645 | 688 | 644 | 912 | 670 | 123 | 1790 | 208 | 1789 | 305 | 3426 | 408 | 3059 | 476 | 3061 | 543 | 3116 |
| 5C812 | 1375 | 5C900 | 1227 | 5C980 | 593 | 5D580 | 645 | 5D689 | 644 | 5D922 | 669 | 5E124 | 1790 | 5E209 | 1789 | 5E306 | 3426 | 5E409 | 3059 | 5E477 | 3061 | 5E544 | 3117 |
| 813 | 1375 | 902 | 1227 | 981 | 593 | 581 | 645 | 690 | 644 | 923 | 669 | 125 | 1793 | 210 | 1789 | 307 | 3426 | 410 | 3059 | 478 | 3061 | 545 | 3117 |
| 814 | 1375 | 903 | 1227 | 982 | 593 | 582 | 645 | 691 | 644 | 924 | 669 | 126 | 1793 | 211 | 1789 | 308 | 3426 | 411 | 3059 | 479 | 3061 | 546 | 3117 |
| 815 | 1375 | 904 | 1227 | 983 | 593 | 583 | 645 | 692 | 644 | 925 | 669 | 127 | 1793 | 212 | 1780 | 309 | 3426 | 413 | 1772 | 480 | 3061 | 547 | 3111 |
| 816 | 1375 | 907 | 1227 | 984 | 593 | 584 | 645 | 693 | 644 | 931 | 669 | 128 | 1793 | 213 | 1780 | 310 | 3426 | 414 | 3059 | 481 | 3061 | 548 | 3111 |
| 5C817 | 1378 | 5C908 | 1228 | 5C985 | 593 | 5D585 | 645 | 5D694 | 644 | 5D932 | 669 | 5E129 | 1793 | 5E214 | 1780 | 5E311 | 3426 | 5E415 | 3059 | 5E482 | 3061 | 5E550 | 3056 |
| 818 | 1378 | 909 | 1228 | 986 | 593 | 586 | 645 | 695 | 644 | 933 | 669 | 130 | 1793 | 215 | 1780 | 312 | 3426 | 416 | 3059 | 483 | 3061 | 551 | 3056 |
| 819 | 1378 | 910 | 1228 | 987 | 593 | 587 | 645 | 696 | 644 | 934 | 669 | 132 | 3417 | 216 | 1780 | 313 | 3426 | 417 | 3059 | 484 | 3062 | 552 | 3056 |
| 820 | 1378 | 911 | 1228 | 988 | 593 | 588 | 645 | 697 | 644 | 935 | 669 | 134 | 3417 | 217 | 1780 | 314 | 3426 | 418 | 3059 | 485 | 3062 | 553 | 3056 |
| 821 | 1378 | 913 | 1228 | 989 | 593 | 589 | 645 | 698 | 644 | 936 | 669 | 135 | 3417 | 219 | 1782 | 315 | 3426 | 419 | 3059 | 486 | 3062 | 554 | 3056 |
| 5C822 | 1378 | 5C914 | 1226 | 5C990 | 593 | 5D590 | 646 | 5D699 | 644 | 5D966 | 669 | 5E136 | 3417 | 5E220 | 1784 | 5E316 | 3376 | 5E420 | 3068 | 5E487 | 3062 | 5E555 | 3056 |
| 823 | 1378 | 915 | 1226 | 991 | 685 | 591 | 645 | 700 | 644 | 967 | 669 | 137 | 3417 | 221 | 1784 | 317 | 3376 | 421 | 3068 | 488 | 3062 | 556 | 3056 |
| 824 | 1378 | 918 | 1224 | 992 | 714 | 592 | 645 | 712 | 669 | 971 | 669 | 138 | 3417 | 222 | 1784 | 352 | 3460 | 422 | 3068 | 489 | 3062 | 557 | 3056 |
| 825 | 1378 | 920 | 1355 | 993 | 708 | 593 | 645 | 713 | 669 | 972 | 669 | 139 | 3417 | 223 | 1784 | 353 | 3460 | 423 | 3068 | 490 | 3062 | 558 | 3056 |
| 826 | 1378 | 925 | 1354 | 994 | 708 | 594 | 645 | 714 | 669 | 973 | 669 | 141 | 1783 | 224 | 1784 | 354 | 3460 | 424 | 3068 | 491 | 3062 | 559 | 3056 |

# STOCK NUMBER—PAGE NUMBER



| Stock No. | Page No. |
|---|---|
| 5E560 | 3056 |
| 561 | 3056 |
| 562 | 3057 |
| 563 | 3057 |
| 565 | 3057 |
| 5E566 | 3057 |
| 567 | 3057 |
| 568 | 3057 |
| 569 | 3057 |
| 570 | 3057 |
| 5E571 | 3057 |
| 572 | 3057 |
| 573 | 3057 |
| 574 | 3057 |
| 575 | 3057 |
| 5E576 | 3057 |
| 577 | 3057 |
| 578 | 3057 |
| 579 | 3057 |
| 580 | 3057 |
| 5E581 | 3057 |
| 582 | 3057 |
| 583 | 3057 |
| 584 | 3057 |
| 585 | 3057 |
| 5E586 | 3057 |
| 587 | 3057 |
| 588 | 3057 |
| 589 | 3057 |
| 590 | 3057 |
| 5E591 | 3057 |
| 592 | 3057 |
| 593 | 3057 |
| 594 | 3057 |
| 595 | 3057 |
| 5E596 | 3058 |
| 597 | 3058 |
| 598 | 3058 |
| 599 | 3058 |
| 600 | 3058 |
| 5E601 | 3046 |
| 602 | 3046 |
| 603 | 3046 |
| 604 | 3046 |
| 605 | 3046 |
| 5E606 | 3046 |
| 607 | 3046 |
| 608 | 3046 |
| 609 | 3046 |
| 610 | 3046 |
| 5E611 | 3046 |
| 612 | 3046 |
| 613 | 1772 |
| 617 | 1772 |
| 618 | 1772 |
| 5E621 | 1772 |
| 622 | 1772 |
| 633 | 1773 |
| 634 | 1773 |
| 635 | 1773 |
| 5E636 | 1773 |
| 637 | 1773 |
| 638 | 1773 |
| 639 | 1778 |
| 640 | 1778 |
| 5E641 | 1778 |
| 642 | 1778 |
| 643 | 1778 |
| 644 | 1778 |
| 645 | 1778 |
| 5E646 | 1778 |
| 647 | 1778 |
| 648 | 1778 |
| 649 | 1778 |
| 650 | 1770 |
| 5E651 | 1770 |
| 652 | 1769 |
| 653 | 1770 |
| 654 | 1767 |
| 655 | 1767 |
| 5E656 | 1769 |
| 657 | 1768 |
| 658 | 1770 |
| 659 | 1769 |
| 660 | 1768 |
| 5E661 | 1770 |
| 663 | 1767 |
| 664 | 1770 |
| 665 | 1769 |
| 666 | 1768 |
| 5E668 | 1770 |
| 669 | 1769 |
| 670 | 1767 |
| 671 | 1767 |
| 672 | 1767 |
| 5E673 | 1770 |
| 674 | 1769 |
| 675 | 1768 |
| 676 | 1770 |
| 677 | 1768 |
| 5E678 | 1769 |
| 679 | 1768 |
| 680 | 1768 |
| 681 | 1769 |
| 682 | 1770 |
| 5E683 | 1767 |
| 684 | 1767 |
| 685 | 1768 |
| 686 | 1768 |
| 687 | 1768 |
| 5E690 | 1777 |
| 692 | 1777 |
| 693 | 1777 |
| 694 | 1777 |
| 695 | 1777 |
| 5E696 | 1777 |
| 697 | 1777 |
| 698 | 1777 |
| 700 | 1777 |
| 701 | 1777 |
| 5E702 | 1777 |
| 703 | 1777 |
| 704 | 1777 |
| 705 | 1777 |
| 706 | 1777 |
| 5E707 | 1777 |
| 708 | 1777 |
| 709 | 1777 |
| 710 | 1777 |
| 711 | 1777 |
| 5E712 | 1777 |
| 713 | 1777 |
| 714 | 1777 |
| 716 | 1777 |
| 717 | 1777 |
| 5E718 | 1692 |
| 719 | 1692 |
| 720 | 1692 |
| 721 | 1692 |
| 722 | 1694 |
| 5E732 | 458 |
| 734 | 458 |
| 736 | 458 |
| 738 | 458 |
| 740 | 458 |
| 5E742 | 458 |
| 744 | 458 |
| 746 | 458 |
| 748 | 458 |
| 750 | 458 |
| 5E752 | 458 |
| 756 | 3317 |
| 757 | 3348 |
| 758 | 3348 |
| 759 | 3478 |
| 5E760 | 3478 |
| 761 | 3348 |
| 763 | 3344 |
| 764 | 3344 |
| 765 | 3344 |
| 5E766 | 3344 |
| 788 | 663 |
| 789 | 663 |
| 790 | 663 |
| 791 | 663 |
| 5E792 | 663 |
| 793 | 663 |
| 794 | 663 |
| 795 | 663 |
| 796 | 663 |
| 5E797 | 663 |
| 798 | 663 |
| 799 | 663 |
| 800 | 663 |
| 801 | 662 |
| 5E802 | 662 |
| 803 | 662 |
| 804 | 662 |
| 805 | 662 |
| 806 | 662 |
| 5E807 | 662 |
| 808 | 662 |
| 809 | 3342 |
| 810 | 3342 |
| 811 | 3342 |
| 5E812 | 3342 |
| 813 | 3342 |
| 816 | 3526 |
| 817 | 3526 |
| 818 | 3526 |
| 5E819 | 3526 |
| 820 | 3526 |
| 821 | 3511 |
| 822 | 3511 |
| 823 | 3517 |
| 5E824 | 3509 |
| 825 | 3509 |
| 826 | 3509 |
| 827 | 3552 |
| 828 | 3552 |
| 5E829 | 3552 |
| 830 | 3552 |
| 831 | 3554 |
| 832 | 3554 |
| 833 | 3554 |
| 5E834 | 3554 |
| 835 | 3563 |
| 836 | 3536 |
| 838 | 3536 |
| 839 | 3536 |
| 5E840 | 3536 |
| 841 | 3536 |
| 842 | 3536 |
| 844 | 3536 |
| 845 | 3536 |
| 5E848 | 3536 |
| 850 | 3536 |
| 854 | 3536 |
| 855 | 3536 |
| 858 | 3536 |
| 5E874 | 3532 |
| 875 | 3532 |
| 876 | 3532 |
| 877 | 3532 |
| 878 | 3532 |
| 5E879 | 3532 |
| 880 | 3532 |
| 892 | 3539 |
| 894 | 3539 |
| 895 | 3539 |
| 5E897 | 3539 |
| 898 | 3539 |
| 900 | 3539 |
| 910 | 3333 |
| 911 | 3333 |
| 5E912 | 3333 |
| 913 | 3333 |
| 914 | 3333 |
| 915 | 3333 |
| 916 | 3333 |
| 5E917 | 3333 |
| 947 | 1917 |
| 948 | 1917 |
| 949 | 1917 |
| 950 | 1917 |
| 5E951 | 1917 |
| 952 | 1917 |
| 957 | 3115 |
| 958 | 3115 |
| 959 | 3115 |
| 5E960 | 3115 |
| 962 | 3113 |
| 963 | 3113 |
| 964 | 3113 |
| 965 | 3112 |
| 5E966 | 3113 |
| 967 | 3113 |
| 969 | 3112 |
| 970 | 3112 |
| 971 | 3112 |
| 5E972 | 3112 |
| 973 | 3112 |
| 974 | 3113 |
| 975 | 3113 |
| 976 | 3113 |
| 5E979 | 3113 |
| 980 | 3113 |
| 981 | 3113 |
| 982 | 3113 |
| 983 | 3113 |
| 5E985 | 3113 |
| 986 | 3113 |
| 987 | 3113 |
| 988 | 3113 |
| 989 | 3113 |
| 5E990 | 3117 |
| 991 | 3117 |
| 992 | 3117 |
| 993 | 3117 |
| 994 | 3113 |
| 5E995 | 3113 |
| 998 | 3532 |
| 999 | 3114 |
| 5F | |
| 5FT94 | 2388 |
| T95 | 2388 |
| T96 | 2388 |
| T97 | 2388 |
| T98 | 2388 |
| 5FT99 | 2388 |
| V03 | 2391 |
| V06 | 2391 |
| V07 | 2392 |
| V09 | 2387 |
| 5FV12 | 2387 |
| V14 | 2387 |
| V17 | 2387 |
| V18 | 2389 |
| V19 | 2389 |
| 5FV20 | 2389 |
| V21 | 2389 |
| V22 | 2388 |
| V23 | 2388 |
| V24 | 2388 |
| 5FV25 | 2388 |
| V26 | 2391 |
| V51 | 1908 |
| V53 | 1908 |
| V58 | 1908 |
| 5FV63 | 1908 |
| V67 | 1908 |
| V70 | 1908 |
| V85 | 1907 |
| V87 | 1907 |
| 5FV90 | 1907 |
| V91 | 1907 |
| V93 | 1907 |
| V97 | 1908 |
| V99 | 1908 |
| 5FW04 | 1908 |
| W12 | 1907 |
| W13 | 1907 |
| W15 | 1907 |
| W65 | 2473 |
| 5FW66 | 2473 |
| W67 | 2473 |
| W68 | 2473 |
| W69 | 2473 |
| W70 | 2473 |
| 5FW71 | 2473 |
| W72 | 2473 |
| W73 | 2473 |
| W74 | 2473 |
| W75 | 2473 |
| 5FW76 | 2473 |
| W77 | 2473 |
| W78 | 2473 |
| W79 | 2473 |
| W80 | 2473 |
| 5FW81 | 2473 |
| W82 | 2473 |
| W83 | 2473 |
| W84 | 2473 |
| W85 | 1913 |
| 5FW86 | 1913 |
| W87 | 2004 |
| W88 | 2004 |
| W89 | 2004 |
| W90 | 2004 |
| 5FW91 | 2004 |
| W92 | 2004 |
| W93 | 2004 |
| W94 | 2004 |
| W95 | 2004 |
| 5FW96 | 2004 |
| W97 | 2004 |
| W98 | 2004 |
| W99 | 2004 |
| X01 | 2004 |
| 5FX02 | 2004 |
| X03 | 2004 |
| X04 | 2004 |
| X05 | 2004 |
| X06 | 2004 |
| 5FX07 | 2004 |
| X08 | 2004 |
| X09 | 2004 |
| X10 | 2004 |
| X11 | 2004 |
| 5FX12 | 2004 |
| X23 | 1935 |
| X26 | 1935 |
| X27 | 1935 |
| X40 | 1934 |
| 5FX41 | 1934 |
| X42 | 1934 |
| X43 | 1934 |
| X44 | 1936 |
| X46 | 1936 |
| 5FX48 | 1936 |
| X49 | 1936 |
| X50 | 1936 |
| X51 | 1936 |
| X52 | 1937 |
| 5FX53 | 1937 |
| X58 | 1936 |
| X61 | 1936 |
| X62 | 1936 |
| X63 | 1936 |
| 5FX66 | 1938 |
| X67 | 1938 |
| X68 | 1938 |
| X70 | 1860 |
| X88 | 1860 |
| 5FZ07 | 1858 |
| Z08 | 1858 |
| Z25 | 1860 |
| Z69 | 2336 |
| Z70 | 2336 |
| 5FZ71 | 2336 |
| Z72 | 2336 |
| Z73 | 2336 |
| Z74 | 2336 |
| Z76 | 2337 |
| 5FZ77 | 2337 |
| Z78 | 2337 |
| Z79 | 2337 |
| Z80 | 2337 |
| Z83 | 2337 |
| 5FZ84 | 2337 |
| 001 | 458 |
| 019 | 458 |
| 021 | 458 |
| 023 | 458 |
| 5F025 | 458 |
| 027 | 458 |
| 029 | 458 |
| 031 | 458 |
| 033 | 458 |
| 5F035 | 458 |
| 037 | 458 |
| 039 | 458 |
| 041 | 458 |
| 059 | 458 |
| 5F061 | 458 |
| 063 | 458 |
| 065 | 458 |
| 067 | 459 |
| 069 | 459 |
| 5F071 | 459 |
| 073 | 459 |
| 075 | 458 |
| 077 | 458 |
| 079 | 458 |
| 5F081 | 458 |
| 099 | 458 |
| 101 | 458 |
| 103 | 458 |
| 105 | 458 |
| 5F107 | 459 |
| 109 | 459 |
| 111 | 459 |
| 113 | 459 |
| 115 | 458 |
| 5F117 | 458 |
| 119 | 458 |
| 121 | 458 |
| 139 | 458 |
| 141 | 458 |
| 5F143 | 458 |
| 145 | 458 |
| 147 | 459 |
| 149 | 459 |
| 151 | 459 |
| 5F153 | 459 |
| 155 | 458 |
| 157 | 458 |
| 159 | 458 |
| 161 | 458 |
| 5F171 | 459 |
| 173 | 459 |
| 175 | 459 |
| 177 | 459 |
| 179 | 459 |
| 5F181 | 459 |
| 183 | 459 |
| 185 | 459 |
| 187 | 459 |
| 189 | 459 |
| 5F191 | 459 |
| 193 | 459 |
| 195 | 459 |
| 197 | 459 |
| 199 | 459 |
| 5F201 | 459 |
| 203 | 459 |
| 205 | 459 |
| 207 | 459 |
| 209 | 459 |
| 5F219 | 2869 |
| 222 | 2865 |
| 229 | 2877 |
| 231 | 2877 |
| 233 | 2877 |
| 5F235 | 2888 |
| 236 | 2888 |
| 237 | 2865 |
| 241 | 2850 |
| 242 | 2850 |
| 5F243 | 2850 |
| 244 | 2851 |
| 245 | 2851 |
| 246 | 2851 |
| 247 | 2851 |
| 5F248 | 2851 |
| 249 | 2851 |
| 250 | 2851 |
| 251 | 2851 |
| 252 | 2866 |
| 5F331 | 459 |
| 333 | 459 |
| 335 | 1390 |
| 336 | 1390 |
| 337 | 1242 |
| 5F338 | 1242 |
| 339 | 1242 |
| 340 | 1242 |
| 341 | 1242 |
| 342 | 1242 |
| 5F343 | 1242 |
| 344 | 1247 |
| 360 | 1247 |
| 364 | 1230 |
| 365 | 1230 |
| 5F366 | 1230 |
| 367 | 1230 |
| 368 | 1230 |
| 369 | 1230 |
| 370 | 1230 |
| 5F371 | 1230 |
| 372 | 1230 |
| 373 | 1230 |
| 374 | 1230 |
| 375 | 1230 |
| 5F376 | 1230 |
| 377 | 1230 |
| 378 | 1230 |
| 379 | 1230 |
| 380 | 1230 |
| 5F381 | 1230 |
| 382 | 1230 |
| 383 | 1230 |
| 384 | 1230 |
| 385 | 1230 |
| 5F386 | 1231 |
| 387 | 1222 |
| 394 | 1231 |
| 395 | 1231 |
| 396 | 1231 |
| 5F397 | 1231 |
| 398 | 1231 |
| 399 | 1231 |
| 400 | 1231 |
| 401 | 1231 |
| 5F402 | 1231 |
| 403 | 1231 |
| 404 | 1231 |
| 405 | 1231 |
| 406 | 1233 |
| 5F407 | 1233 |
| 408 | 1232 |
| 409 | 1233 |
| 410 | 1232 |
| 411 | 1233 |
| 5F412 | 1232 |
| 413 | 1233 |
| 414 | 1232 |
| 415 | 1233 |
| 416 | 1225 |
| 5F417 | 1233 |
| 418 | 1233 |
| 419 | 1233 |
| 420 | 1232 |
| 421 | 1233 |
| 5F422 | 1232 |
| 423 | 1233 |
| 424 | 1232 |
| 425 | 1233 |
| 426 | 1232 |
| 5F427 | 1233 |
| 428 | 1231 |
| 429 | 1231 |
| 430 | 1231 |
| 431 | 1231 |
| 5F432 | 1231 |
| 433 | 1233 |
| 434 | 1233 |
| 435 | 1233 |
| 436 | 1233 |
| 5F437 | 1233 |
| 438 | 1233 |
| 439 | 1233 |
| 440 | 1233 |
| 441 | 1232 |
| 5F442 | 1233 |
| 443 | 1232 |
| 444 | 1233 |
| 445 | 1232 |
| 446 | 1233 |
| 5F447 | 1232 |
| 448 | 1233 |
| 449 | 1235 |
| 450 | 1235 |
| 451 | 1235 |
| 5F452 | 1235 |
| 453 | 1235 |
| 454 | 1235 |
| 455 | 1235 |
| 456 | 1235 |
| 5F457 | 1235 |
| 458 | 1235 |
| 459 | 1235 |
| 460 | 1235 |
| 461 | 1235 |
| 5F462 | 1235 |
| 463 | 1235 |
| 464 | 1235 |
| 466 | 1227 |
| 467 | 1235 |
| 5F468 | 1235 |
| 469 | 1235 |
| 470 | 1235 |
| 471 | 1235 |
| 472 | 1235 |
| 5F473 | 1235 |
| 474 | 1235 |
| 475 | 1235 |
| 476 | 1235 |
| 477 | 1235 |
| 5F478 | 1235 |
| 479 | 1235 |
| 480 | 1235 |
| 481 | 1234 |
| 482 | 1234 |
| 5F483 | 1234 |
| 484 | 1236 |
| 485 | 1239 |
| 486 | 1239 |
| 487 | 1239 |
| 5F488 | 1239 |
| 489 | 1239 |
| 490 | 1239 |
| 491 | 1239 |
| 492 | 1239 |
| 5F493 | 1239 |
| 494 | 1239 |
| 495 | 1239 |
| 496 | 1239 |
| 497 | 1239 |
| 5F498 | 1239 |
| 499 | 1239 |
| 500 | 1239 |
| 501 | 1239 |
| 502 | 1239 |
| 5F503 | 1240 |
| 504 | 1240 |
| 505 | 1240 |
| 506 | 1240 |
| 507 | 1240 |
| 5F508 | 1240 |
| 509 | 1240 |
| 513 | 1428 |
| 514 | 1428 |
| 515 | 1428 |
| 5F516 | 1428 |
| 517 | 1430 |
| 518 | 1430 |
| 519 | 1429 |
| 520 | 1428 |
| 521 | 1428 |
| 522 | 1428 |
| 523 | 1428 |
| 524 | 1428 |
| 525 | 1428 |
| 526 | 1428 |
| 527 | 1428 |
| 528 | 1428 |
| 529 | 1428 |
| 530 | 1429 |
| 531 | 1441 |
| 532 | 1441 |
| 533 | 1441 |
| 534 | 1441 |
| 535 | 1441 |
| 536 | 1441 |
| 537 | 1441 |
| 538 | 1441 |
| 540 | 1469 |
| 541 | 1469 |
| 542 | 1469 |
| 543 | 1469 |
| 545 | 1469 |
| 546 | 1469 |
| 547 | 1469 |
| 548 | 1469 |
| 549 | 1469 |
| 550 | 1469 |
| 551 | 1469 |
| 552 | 1469 |
| 555 | 1457 |
| 556 | 1457 |
| 557 | 1457 |
| 558 | 1457 |
| 559 | 1457 |
| 560 | 1457 |
| 562 | 2865 |
| 563 | 2878 |
| 564 | 2871 |
| 565 | 2878 |
| 566 | 2888 |
| 567 | 2878 |
| 569 | 1795 |
| 570 | 1795 |
| 571 | 1795 |
| 573 | 459 |
| 575 | 459 |
| 577 | 459 |
| 579 | 459 |
| 583 | 459 |
| 585 | 459 |
| 587 | 459 |
| 592 | 462 |
| 593 | 462 |
| 594 | 462 |
| 595 | 462 |
| 596 | 462 |
| 597 | 462 |
| 598 | 462 |
| 599 | 462 |
| 600 | 462 |
| 629 | 364 |
| 630 | 364 |
| 640 | 364 |
| 641 | 364 |
| 642 | 364 |
| 645 | 369 |
| 647 | 368 |
| 649 | 369 |
| 650 | 368 |
| 651 | 369 |
| 652 | 368 |
| 653 | 369 |
| 655 | 368 |
| 656 | 369 |
| 657 | 368 |
| 658 | 369 |
| 659 | 369 |
| 661 | 368 |
| 662 | 369 |
| 664 | 369 |
| 672 | 369 |
| 674 | 369 |
| 676 | 368 |
| 677 | 369 |
| 678 | 368 |
| 679 | 369 |
| 680 | 369 |
| 681 | 369 |
| 682 | 368 |
| 683 | 369 |
| 684 | 369 |
| 685 | 369 |
| 687 | 368 |
| 688 | 369 |
| 690 | 369 |
| 691 | 368 |
| 692 | 369 |
| 693 | 368 |
| 694 | 369 |
| 696 | 368 |
| 697 | 369 |
| 699 | 368 |
| 700 | 369 |
| 702 | 368 |
| 703 | 369 |
| 704 | 369 |
| 705 | 368 |
| 706 | 368 |
| 707 | 368 |
| 708 | 368 |
| 766 | 2420 |
| 767 | 2387 |
| 768 | 2387 |
| 770 | 2335 |
| 771 | 2335 |
| 772 | 2335 |
| 776 | 2335 |
| 778 | 2409 |
| 779 | 2419 |
| 787 | 2419 |
| 788 | 2419 |

# STOCK NUMBER—PAGE NUMBER

## 5F7 — 5L3


| Stock No. | Page No. |
|---|---|
| 5F789 | 2418 |
| 790 | 2418 |
| 791 | 2418 |
| 792 | 2418 |
| 793 | 2418 |
| 5F794 | 2418 |
| 795 | 2418 |
| 797 | 2335 |
| 798 | 2335 |
| 801 | 2420 |
| 5F804 | 2335 |
| 821 | 2408 |
| 822 | 2408 |
| 823 | 2408 |
| 824 | 2391 |
| 5F825 | 2391 |
| 826 | 2392 |
| 834 | 2334 |
| 835 | 2334 |
| 836 | 2334 |
| 5F837 | 2334 |
| 846 | 2433 |
| 855 | 2433 |
| 856 | 2433 |
| 862 | 2433 |
| 5F863 | 2433 |
| 879 | 2433 |
| 880 | 2433 |
| 881 | 2433 |
| 894 | 1743 |
| 5F895 | 1743 |
| 896 | 1743 |
| 897 | 1743 |
| 914 | 1747 |
| 915 | 1747 |
| 5F916 | 1747 |
| 917 | 1747 |
| 918 | 1747 |
| 919 | 1747 |
| 920 | 1747 |
| 5F921 | 1747 |
| 922 | 1747 |
| 923 | 1747 |
| 924 | 1747 |
| 925 | 1747 |
| 5F926 | 1747 |
| 927 | 1747 |
| 928 | 1747 |
| 929 | 1747 |
| 930 | 1738 |
| 5F931 | 1738 |
| 932 | 1738 |
| 933 | 1738 |
| 934 | 1738 |
| 935 | 1738 |
| 5F936 | 1738 |
| 937 | 1738 |
| 938 | 1738 |
| 939 | 1738 |
| 940 | 1738 |
| 5F941 | 1738 |
| 942 | 1738 |
| 943 | 1738 |
| 944 | 1738 |
| 945 | 1738 |
| 5F946 | 1738 |
| 947 | 1738 |
| 948 | 1738 |
| 949 | 1738 |
| 950 | 1738 |
| 5F951 | 1738 |
| 952 | 1738 |
| 953 | 1738 |
| 954 | 1738 |
| 955 | 1738 |
| 5F956 | 1738 |
| 957 | 1738 |
| 958 | 1738 |
| 959 | 1738 |
| 960 | 1738 |
| 5F961 | 1738 |
| 962 | 1738 |
| 963 | 1738 |
| 964 | 1738 |
| 965 | 1738 |
| 5F966 | 1738 |
| 967 | 1738 |
| 968 | 1738 |
| 969 | 1738 |
| 970 | 1738 |
| 5F971 | 1738 |
| 972 | 1738 |
| 973 | 1738 |
| 974 | 1738 |
| 975 | 1738 |
| 5F976 | 1738 |
| 977 | 1738 |
| 978 | 1738 |
| 979 | 1738 |
| 980 | 1738 |
| 5F981 | 1738 |
| 982 | 1738 |
| 983 | 1738 |
| 984 | 1738 |
| 985 | 1738 |
| 5F986 | 1738 |
| 987 | 1738 |
| 988 | 1738 |
| 997 | 1750 |
| 998 | 1750 |
| 5F999 | 1750 |
| **5G** | |
| 5GH53 | 1899 |
| H54 | 1899 |
| 5GH72 | 1898 |
| 890 | 1462 |
| **5H** | |
| 5H070 | 1879 |
| 5H098 | 908 |
| 100 | 908 |
| 300 | 3087 |
| 314 | 3384 |
| 320 | 2116 |
| 5H321 | 2116 |
| 350 | 2112 |
| 351 | 2112 |
| 352 | 2112 |
| 374 | 3407 |
| 5H418 | 2116 |
| 423 | 2079 |
| 437 | 3382 |
| 438 | 3383 |
| 439 | 3384 |
| 5H440 | 3384 |
| 443 | 3455 |
| 489 | 1882 |
| 494 | 1880 |
| 495 | 2112 |
| 5H496 | 2112 |
| 502 | 3102 |
| 535 | 2540 |
| 553 | 685 |
| 554 | 1539 |
| 5H566 | 2938 |
| 567 | 3517 |
| 568 | 3517 |
| 571 | 2112 |
| 572 | 2112 |
| 5H580 | 3050 |
| 589 | 2647 |
| 594 | 2649 |
| 595 | 2649 |
| 596 | 2649 |
| 5H598 | 902 |
| 599 | 902 |
| 619 | 907 |
| 621 | 907 |
| 650 | 900 |
| 5H651 | 900 |
| 652 | 900 |
| 653 | 901 |
| 654 | 901 |
| 655 | 2945 |
| 5H669 | 1460 |
| 670 | 685 |
| 671 | 2945 |
| 674 | 901 |
| 675 | 901 |
| 5H676 | 901 |
| 678 | 901 |
| 679 | 900 |
| 680 | 900 |
| 681 | 900 |
| 5H698 | 2116 |
| 709 | 2647 |
| 710 | 2647 |
| 711 | 2647 |
| 712 | 2112 |
| 5H713 | 2112 |
| 714 | 2112 |
| 737 | 902 |
| 753 | 907 |
| 761 | 3383 |
| 5H762 | 2649 |
| 763 | 2649 |
| 764 | 2116 |
| 765 | 2116 |
| 766 | 2116 |
| 5H784 | 901 |
| 788 | 3087 |
| 789 | 3087 |
| 790 | 3087 |
| 791 | 3087 |
| 5H792 | 3087 |
| 798 | 905 |
| 799 | 906 |
| 800 | 906 |
| 801 | 906 |
| 5H805 | 905 |
| 806 | 905 |
| 807 | 905 |
| 809 | 905 |
| 813 | 906 |
| 5H819 | 3384 |
| 833 | 901 |
| 836 | 901 |
| 837 | 901 |
| 847 | 2112 |
| 5H848 | 2112 |
| 849 | 2112 |
| 856 | 3509 |
| 868 | 2685 |
| 869 | 2685 |
| 5H885 | 2002 |
| 886 | 1998 |
| 887 | 1989 |
| 888 | 1989 |
| 890 | 1989 |
| 5H892 | 1992 |
| 893 | 1992 |
| 894 | 1992 |
| 895 | 1992 |
| 896 | 2004 |
| 5H897 | 2004 |
| 898 | 2004 |
| 899 | 2004 |
| 900 | 2004 |
| 901 | 2004 |
| 5H902 | 2004 |
| 903 | 2004 |
| 904 | 2004 |
| 905 | 2004 |
| 908 | 1984 |
| 5H909 | 1984 |
| 910 | 1984 |
| 911 | 2003 |
| 912 | 2003 |
| 913 | 2003 |
| 5H914 | 2003 |
| 915 | 2003 |
| 916 | 2003 |
| 917 | 2003 |
| 918 | 1992 |
| 5H919 | 1992 |
| 920 | 1992 |
| 921 | 1992 |
| 922 | 1992 |
| 923 | 1992 |
| 5H924 | 1992 |
| 925 | 1992 |
| 926 | 1992 |
| 927 | 1992 |
| 928 | 1989 |
| 5H929 | 1989 |
| 931 | 1989 |
| 932 | 1989 |
| 937 | 2002 |
| 938 | 2002 |
| 5H939 | 2002 |
| 940 | 2002 |
| 941 | 2002 |
| 942 | 2002 |
| 943 | 2002 |
| 5H944 | 2002 |
| 949 | 1995 |
| 952 | 1995 |
| 953 | 1995 |
| 962 | 1991 |
| 5H963 | 1991 |
| 965 | 1991 |
| 967 | 1991 |
| 968 | 1991 |
| 969 | 1991 |
| 5H970 | 1991 |
| 971 | 1991 |
| 972 | 1991 |
| 973 | 3104 |
| 974 | 3104 |
| 5H975 | 3104 |
| **5J** | |
| 5J041 | 2654 |
| 042 | 2654 |
| 5J043 | 2654 |
| 044 | 2654 |
| 045 | 2654 |
| 046 | 2654 |
| 047 | 2654 |
| 5J050 | 2651 |
| 054 | 2651 |
| 130 | 2655 |
| 131 | 2655 |
| 157 | 2655 |
| 5J158 | 2655 |
| 169 | 2655 |
| 174 | 2655 |
| 178 | 2660 |
| 185 | 2660 |
| 5J188 | 2660 |
| 190 | 2660 |
| 191 | 2660 |
| 192 | 2660 |
| 193 | 2660 |
| 5J207 | 2660 |
| 208 | 2660 |
| 209 | 2660 |
| 210 | 2660 |
| 216 | 2660 |
| 5J217 | 2660 |
| 218 | 2660 |
| 225 | 2660 |
| 226 | 2660 |
| 228 | 2660 |
| 5J231 | 2660 |
| 250 | 2660 |
| 325 | 2655 |
| 328 | 2655 |
| 336 | 2655 |
| 5J339 | 2655 |
| 355 | 2655 |
| 357 | 2655 |
| 359 | 2655 |
| 363 | 2655 |
| 5J366 | 2655 |
| 368 | 2655 |
| 372 | 2655 |
| 405 | 2655 |
| 407 | 2655 |
| 5J410 | 2655 |
| 463 | 2651 |
| 464 | 2654 |
| 465 | 2654 |
| 501 | 2653 |
| 5J502 | 2653 |
| 503 | 2653 |
| 504 | 2653 |
| 505 | 2653 |
| 575 | 2651 |
| 5J576 | 2654 |
| **5K** | |
| 5K001 | 114 |
| 002 | 114 |
| 5K003 | 114 |
| 004 | 114 |
| 006 | 114 |
| 008 | 1750 |
| 009 | 1750 |
| 5K010 | 1750 |
| 011 | 1750 |
| 013 | 1750 |
| 014 | 1750 |
| 015 | 1750 |
| 5K016 | 1750 |
| 017 | 1750 |
| 018 | 1750 |
| 019 | 106 |
| 020 | 1750 |
| 5K021 | 1750 |
| 022 | 1750 |
| 023 | 1750 |
| 024 | 1750 |
| 025 | 1750 |
| 5K026 | 1750 |
| 028 | 1750 |
| 029 | 1750 |
| 030 | 1750 |
| 032 | 1750 |
| 5K033 | 1750 |
| 034 | 1750 |
| 036 | 1750 |
| 040 | 1750 |
| 041 | 143 |
| 5K042 | 143 |
| 043 | 143 |
| 044 | 143 |
| 046 | 143 |
| 052 | 1750 |
| 5K053 | 1750 |
| 057 | 1750 |
| 060 | 1750 |
| 061 | 1750 |
| 062 | 1750 |
| 5K071 | 1750 |
| 072 | 1750 |
| 073 | 1750 |
| 079 | 1750 |
| 080 | 1750 |
| 5K081 | 1750 |
| 087 | 1750 |
| 088 | 1750 |
| 090 | 1750 |
| 094 | 1750 |
| 5K095 | 1750 |
| 096 | 1750 |
| 100 | 1750 |
| 102 | 1750 |
| 104 | 1750 |
| 5K109 | 121 |
| 110 | 121 |
| 115 | 7 |
| 116 | 7 |
| 117 | 7 |
| 5K118 | 7 |
| 121 | 9 |
| 128 | 1748 |
| 129 | 1748 |
| 130 | 1748 |
| 5K131 | 1748 |
| 132 | 1748 |
| 133 | 1748 |
| 135 | 1748 |
| 137 | 1748 |
| 5K138 | 1748 |
| 139 | 1748 |
| 144 | 1748 |
| 145 | 1748 |
| 146 | 1748 |
| 5K147 | 1748 |
| 148 | 1748 |
| 150 | 1748 |
| 155 | 1748 |
| 156 | 1748 |
| 5K157 | 1748 |
| 159 | 1748 |
| 160 | 1748 |
| 161 | 1748 |
| 163 | 1748 |
| 5K176 | 1748 |
| 177 | 1748 |
| 178 | 1748 |
| 182 | 1748 |
| 190 | 1748 |
| 5K191 | 9 |
| 192 | 9 |
| 193 | 9 |
| 195 | 1748 |
| 198 | 1748 |
| 5K200 | 1748 |
| 211 | 1748 |
| 219 | 1748 |
| 220 | 98 |
| 221 | 98 |
| 5K222 | 1748 |
| 223 | 1748 |
| 226 | 1748 |
| 227 | 1748 |
| 230 | 1748 |
| 5K233 | 1748 |
| 234 | 1748 |
| 242 | 182 |
| 258 | 98 |
| 260 | 98 |
| 5K261 | 98 |
| 262 | 9 |
| 263 | 9 |
| 279 | 52 |
| 280 | 52 |
| 5K281 | 52 |
| 283 | 52 |
| 285 | 182 |
| 286 | 182 |
| 288 | 52 |
| 5K308 | 51 |
| 310 | 53 |
| 316 | 1749 |
| 331 | 1749 |
| 335 | 1749 |
| 5K336 | 1749 |
| 339 | 121 |
| 340 | 121 |
| 341 | 121 |
| 343 | 171 |
| 5K359 | 1749 |
| 361 | 1749 |
| 364 | 1749 |
| 371 | 1749 |
| 383 | 1749 |
| 5K384 | 1749 |
| 394 | 1749 |
| 396 | 1749 |
| 400 | 1749 |
| 401 | 106 |
| 5K410 | 51 |
| 411 | 51 |
| 412 | 52 |
| 413 | 98 |
| 414 | 1749 |
| 5K415 | 1749 |
| 416 | 98 |
| 417 | 7 |
| 423 | 52 |
| 424 | 1749 |
| 5K431 | 49 |
| 432 | 49 |
| 433 | 52 |
| 435 | 121 |
| 440 | 48 |
| 5K441 | 48 |
| 442 | 48 |
| 443 | 48 |
| 444 | 48 |
| 445 | 48 |
| 5K446 | 48 |
| 447 | 48 |
| 448 | 48 |
| 449 | 49 |
| 450 | 49 |
| 5K451 | 49 |
| 452 | 49 |
| 453 | 49 |
| 454 | 49 |
| 455 | 49 |
| 5K456 | 49 |
| 457 | 49 |
| 458 | 49 |
| 459 | 49 |
| 460 | 49 |
| 5K461 | 49 |
| 474 | 162 |
| 475 | 162 |
| 476 | 162 |
| 480 | 44 |
| 5K481 | 44 |
| 482 | 44 |
| 483 | 44 |
| 484 | 44 |
| 485 | 44 |
| 5K486 | 44 |
| 487 | 44 |
| 488 | 44 |
| 489 | 44 |
| 500 | 80 |
| 5K501 | 80 |
| 502 | 9 |
| 504 | 49 |
| 523 | 106 |
| 524 | 53 |
| 5K527 | 53 |
| 529 | 96 |
| 532 | 52 |
| 535 | 250 |
| 5K537 | 250 |
| 538 | 250 |
| 539 | 250 |
| 540 | 250 |
| 5K541 | 250 |
| 542 | 250 |
| 544 | 250 |
| 545 | 250 |
| 546 | 250 |
| 5K547 | 106 |
| 554 | 52 |
| 556 | 52 |
| 557 | 106 |
| 559 | 52 |
| 5K565 | 9 |
| 574 | 52 |
| 586 | 182 |
| 594 | 53 |
| 596 | 54 |
| 5K597 | 52 |
| 598 | 48 |
| 599 | 48 |
| 600 | 182 |
| 601 | 52 |
| 5K602 | 52 |
| 617 | 7 |
| 618 | 54 |
| 620 | 99 |
| 636 | 9 |
| 5K641 | 9 |
| 645 | 8 |
| 654 | 99 |
| 657 | 160 |
| 658 | 160 |
| 5K661 | 160 |
| 662 | 160 |
| 670 | 106 |
| 5K671 | 52 |
| 672 | 9 |
| 673 | 121 |
| 675 | 7 |
| 676 | 7 |
| 5K677 | 7 |
| 681 | 1749 |
| 683 | 48 |
| 684 | 49 |
| 694 | 7 |
| 5K696 | 7 |
| 697 | 171 |
| 699 | 1749 |
| 704 | 1749 |
| 714 | 1749 |
| 716 | 1749 |
| 5K719 | 1749 |
| 722 | 80 |
| 723 | 80 |
| 724 | 80 |
| 725 | 80 |
| 5K726 | 1749 |
| 727 | 1749 |
| 729 | 1749 |
| 732 | 1749 |
| 737 | 1749 |
| 5K741 | 1749 |
| 752 | 1748 |
| 755 | 1748 |
| 759 | 1748 |
| 760 | 1748 |
| 5K765 | 1748 |
| 766 | 1748 |
| 767 | 1748 |
| 770 | 1748 |
| 772 | 1748 |
| 5K775 | 1748 |
| 776 | 1748 |
| 777 | 1748 |
| 778 | 1748 |
| 781 | 1748 |
| 5K782 | 1748 |
| 793 | 1748 |
| 794 | 1748 |
| 796 | 1748 |
| 799 | 1748 |
| 5K803 | 1748 |
| 804 | 1748 |
| 807 | 1748 |
| 809 | 1748 |
| 818 | 1748 |
| 5K821 | 1748 |
| 824 | 1748 |
| 825 | 1748 |
| 826 | 1748 |
| 827 | 1748 |
| 5K828 | 1748 |
| 829 | 1748 |
| 830 | 1748 |
| 836 | 1748 |
| 841 | 1748 |
| 5K842 | 1748 |
| 855 | 1748 |
| 857 | 1748 |
| 858 | 1748 |
| 876 | 1749 |
| 5K887 | 170 |
| 892 | 1748 |
| 893 | 1748 |
| 894 | 1748 |
| 897 | 1748 |
| 5K900 | 96 |
| 901 | 96 |
| 902 | 1748 |
| 907 | 98 |
| 911 | 52 |
| 5K912 | 1748 |
| 913 | 1748 |
| 914 | 52 |
| 915 | 98 |
| 916 | 52 |
| 5K917 | 52 |
| 918 | 98 |
| 919 | 250 |
| 921 | 7 |
| 922 | 49 |
| 5K923 | 7 |
| 933 | 243 |
| 934 | 243 |
| 935 | 243 |
| 939 | 243 |
| 5K940 | 243 |
| 941 | 243 |
| 942 | 243 |
| 953 | 7 |
| 955 | 160 |
| 5K956 | 160 |
| 960 | 9 |
| 961 | 9 |
| 966 | 9 |
| 967 | 9 |
| 5K968 | 9 |
| 969 | 1750 |
| 970 | 1750 |
| 971 | 1750 |
| 977 | 98 |
| 5K981 | 1750 |
| 982 | 49 |
| 984 | 52 |
| 987 | 48 |
| 989 | 48 |
| 5K991 | 48 |
| 992 | 1750 |
| 994 | 252 |
| 995 | 8 |
| 996 | 1750 |
| 5K997 | 8 |
| 999 | 8 |
| **5L** | |
| 5L005 | 1750 |
| 5L006 | 1750 |
| 007 | 1750 |
| 008 | 1750 |
| 018 | 1750 |
| 019 | 1750 |
| 5L020 | 1750 |
| 022 | 1750 |
| 023 | 1750 |
| 061 | 1750 |
| 062 | 1750 |
| 5L064 | 1750 |
| 068 | 1750 |
| 069 | 1750 |
| 071 | 1750 |
| 080 | 1750 |
| 5L085 | 1751 |
| 089 | 1751 |
| 092 | 1751 |
| 121 | 1751 |
| 122 | 1751 |
| 5L123 | 1751 |
| 132 | 1751 |
| 133 | 1751 |
| 134 | 1751 |
| 135 | 1751 |
| 5L137 | 1751 |
| 140 | 1751 |
| 145 | 1751 |
| 146 | 1751 |
| 147 | 1751 |
| 5L148 | 1751 |
| 150 | 1751 |
| 154 | 1751 |
| 180 | 1745 |
| 181 | 1745 |
| 5L182 | 1742 |
| 183 | 1743 |
| 184 | 1743 |
| 185 | 1743 |
| 186 | 1743 |
| 5L187 | 1743 |
| 188 | 1743 |
| 189 | 1743 |
| 190 | 1743 |
| 191 | 1743 |
| 5L192 | 1743 |
| 230 | 305 |
| 240 | 305 |
| 250 | 305 |
| 260 | 305 |
| 5L270 | 305 |
| 279 | 1751 |
| 280 | 305 |
| 281 | 1751 |
| 289 | 1751 |
| 5L290 | 305 |
| 292 | 1751 |
| 297 | 1751 |
| 300 | 305 |
| 301 | 1751 |
| 5L303 | 1751 |
| 304 | 1751 |
| 310 | 305 |
| 320 | 305 |
| 321 | 1751 |
| 5L323 | 1751 |
| 324 | 1751 |
| 326 | 1751 |
| 330 | 305 |
| 332 | 1751 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5L333 | 1751 | 5L480 | 305 | 5L584 | 1755 | 5L685 | 1752 | 5L797 | 1752 | 5L892 | 1753 | 5L990 | 1754 | 5M054 | 74 | 5M125 | 1760 | 5M205 | 3573 | 5M465 | 2714 | 5M535 | 2510 |
| 335 | 1751 | 481 | 1752 | 586 | 1755 | 689 | 1752 | 800 | 305 | 895 | 1753 | 991 | 1754 | 055 | 74 | 126 | 1760 | 206 | 3573 | 466 | 2717 | 536 | 2506 |
| 336 | 1751 | 488 | 1756 | 587 | 1755 | 690 | 305 | 806 | 1754 | 898 | 1753 | 992 | 1754 | 056 | 74 | 127 | 1760 | 207 | 3573 | 467 | 2712 | 537 | 2506 |
| 337 | 1751 | 489 | 1755 | 588 | 1755 | 692 | 1752 | 807 | 1754 | 900 | 305 | 993 | 1754 | 057 | 74 | 128 | 1760 | 208 | 3573 | 468 | 2724 | 538 | 2506 |
| 338 | 1751 | 490 | 305 | 590 | 305 | 693 | 1752 | 810 | 1754 | 901 | 1753 | 994 | 1754 | 058 | 74 | 129 | 1760 | 252 | 155 | 469 | 2725 | 539 | 2506 |
| 5L340 | 305 | 5L491 | 1755 | 5L592 | 1755 | 5L695 | 1752 | 5L811 | 1754 | 5L902 | 1753 | 5L995 | 1754 | 5M059 | 74 | 5M130 | 1747 | 5M253 | 155 | 5M470 | 2725 | 5M540 | 2506 |
| 345 | 1751 | 492 | 1756 | 593 | 1755 | 700 | 305 | 812 | 1754 | 904 | 1753 | 996 | 1754 | 060 | 74 | 131 | 1747 | 254 | 155 | 471 | 2718 | 541 | 2506 |
| 346 | 1751 | 493 | 1756 | 595 | 1755 | 701 | 1752 | 813 | 1754 | 907 | 1753 | 997 | 1754 | 061 | 154 | 132 | 1747 | 255 | 155 | 472 | 2718 | 542 | 2506 |
| 350 | 305 | 494 | 1756 | 596 | 1755 | 702 | 1752 | 814 | 1754 | 908 | 1753 | 998 | 1754 | 062 | 154 | 133 | 1747 | 256 | 155 | 473 | 2720 | 543 | 2506 |
| 352 | 1751 | 495 | 1756 | 597 | 1755 | 708 | 1752 | 815 | 1754 | 910 | 1753 | | | 063 | 154 | 134 | 1747 | 257 | 155 | 474 | 2716 | 544 | 2506 |
| 5L360 | 305 | 5L496 | 1755 | 5L598 | 1755 | 5L709 | 1752 | 5L817 | 1754 | 5L915 | 1753 | | | 5M064 | 118 | 5M135 | 1757 | 5M258 | 155 | 5M475 | 2721 | 5M545 | 2506 |
| 370 | 305 | 497 | 1755 | 600 | 305 | 710 | 305 | 820 | 305 | 916 | 1753 | **5M** | | 065 | 118 | 136 | 1757 | 259 | 155 | 476 | 1757 | 546 | 2506 |
| 380 | 305 | 498 | 1756 | 601 | 1755 | 711 | 1752 | 821 | 1754 | 918 | 1753 | 5M001 | 198 | 066 | 118 | 137 | 1757 | 261 | 155 | 477 | 1757 | 547 | 2506 |
| 390 | 305 | 499 | 1756 | 603 | 1755 | 713 | 1752 | 822 | 1754 | 919 | 1753 | 002 | 198 | 067 | 119 | 138 | 1757 | 264 | 155 | 478 | 1757 | 548 | 2513 |
| 395 | 1751 | 500 | 305 | 604 | 1755 | 714 | 1752 | 823 | 1754 | 920 | 305 | 003 | 198 | 068 | 119 | 139 | 1757 | 265 | 155 | 479 | 1757 | 549 | 2506 |
| 5L396 | 1751 | 5L501 | 1756 | 5L605 | 1755 | 5L716 | 1752 | 5L824 | 1754 | 5L921 | 1753 | 5M004 | 198 | 5M073 | 202 | 5M140 | 1757 | 5M266 | 155 | 5M480 | 1757 | 5M550 | 2506 |
| 397 | 1751 | 502 | 1756 | 606 | 1755 | 717 | 1752 | 825 | 1754 | 922 | 1753 | 005 | 198 | 074 | 196 | 141 | 1757 | 267 | 155 | 481 | 1757 | 551 | 2506 |
| 398 | 1751 | 503 | 1756 | 607 | 1755 | 718 | 1752 | 826 | 1754 | 924 | 1753 | 006 | 198 | 075 | 196 | 142 | 1757 | 268 | 155 | 482 | 1757 | 552 | 2506 |
| 399 | 1751 | 504 | 1756 | 608 | 1755 | 720 | 305 | 827 | 1754 | 925 | 1753 | 007 | 198 | 076 | 198 | 146 | 1757 | 269 | 155 | 483 | 1757 | 553 | 2506 |
| 400 | 305 | 505 | 1756 | 610 | 305 | 722 | 1752 | 828 | 1754 | 926 | 1753 | 008 | 198 | 077 | 198 | 147 | 3568 | 270 | 155 | 484 | 1757 | 554 | 2553 |
| 5L401 | 1751 | 5L506 | 1756 | 5L612 | 1755 | 5L723 | 1752 | 5L833 | 1756 | 5L929 | 1753 | 5M009 | 198 | 5M078 | 149 | 5M148 | 3569 | 5M271 | 155 | 5M485 | 1757 | 5M555 | 2553 |
| 402 | 1751 | 507 | 1755 | 613 | 1755 | 724 | 1752 | 834 | 1756 | 931 | 1753 | 010 | 198 | 079 | 149 | 149 | 3622 | 272 | 155 | 486 | 1757 | 556 | 2549 |
| 403 | 1751 | 508 | 1755 | 614 | 1755 | 725 | 1752 | 835 | 1756 | 932 | 1753 | 011 | 198 | 080 | 1754 | 150 | 3622 | 273 | 155 | 487 | 1757 | 557 | 2549 |
| 404 | 1751 | 509 | 1756 | 617 | 1755 | 727 | 1752 | 836 | 1756 | 933 | 1753 | 012 | 198 | 081 | 1754 | 151 | 3622 | 275 | 155 | 493 | 1757 | 558 | 2549 |
| 405 | 1751 | 510 | 305 | 618 | 1755 | 730 | 305 | 837 | 1756 | 934 | 1753 | 013 | 198 | 082 | 1754 | 152 | 3622 | 277 | 155 | 494 | 1757 | 559 | 2549 |
| 5L406 | 1751 | 5L511 | 1756 | 5L620 | 305 | 5L733 | 1752 | 5L838 | 1756 | 5L936 | 1753 | 5M014 | 198 | 5M083 | 1754 | 5M153 | 3573 | 5M279 | 155 | 5M495 | 1757 | 5M560 | 2549 |
| 407 | 1751 | 512 | 1755 | 621 | 1755 | 734 | 1752 | 839 | 1756 | 937 | 1753 | 015 | 198 | 084 | 1754 | 154 | 3573 | 280 | 155 | 496 | 1757 | 561 | 2549 |
| 408 | 1751 | 520 | 305 | 623 | 1755 | 736 | 1752 | 840 | 305 | 938 | 1753 | 016 | 198 | 085 | 1754 | 155 | 3567 | 281 | 155 | 497 | 1757 | 562 | 2549 |
| 409 | 1751 | 530 | 305 | 624 | 1755 | 738 | 1752 | 841 | 1752 | 940 | 305 | 017 | 198 | 086 | 1754 | 156 | 3567 | 282 | 155 | 498 | 1757 | 563 | 2553 |
| 410 | 305 | 534 | 1756 | 625 | 1755 | 739 | 1752 | 842 | 1752 | 941 | 1753 | 018 | 198 | 087 | 1754 | 164 | 3576 | 283 | 155 | 499 | 1757 | 564 | 2553 |
| 5L411 | 1751 | 5L535 | 1756 | 5L628 | 1755 | 5L740 | 305 | 5L843 | 1752 | 5L944 | 1753 | 5M019 | 198 | 5M088 | 1754 | 5M165 | 3576 | 5M284 | 154 | 5M500 | 1757 | 5M565 | 2553 |
| 412 | 1751 | 536 | 1756 | 629 | 1755 | 744 | 1752 | 844 | 1752 | 945 | 1753 | 020 | 198 | 091 | 1756 | 166 | 3576 | 285 | 154 | 501 | 1757 | 566 | 2550 |
| 413 | 1751 | 538 | 1756 | 630 | 305 | 747 | 1752 | 845 | 1752 | 946 | 1753 | 021 | 198 | 092 | 1756 | 167 | 3576 | 286 | 154 | 502 | 1757 | 567 | 2552 |
| 414 | 1751 | 539 | 1756 | 631 | 1755 | 750 | 305 | 846 | 1753 | 947 | 1753 | 022 | 198 | 093 | 1756 | 168 | 3576 | 287 | 154 | 503 | 1757 | 568 | 2551 |
| 415 | 1751 | 540 | 305 | 632 | 1755 | 752 | 1752 | 847 | 1753 | 949 | 1753 | 023 | 198 | 094 | 1756 | 169 | 3576 | 288 | 154 | 504 | 1757 | 569 | 2549 |
| 5L416 | 1751 | 5L541 | 1756 | 5L633 | 1755 | 5L753 | 1752 | 5L848 | 1753 | 5L950 | 1753 | 5M024 | 198 | 5M095 | 1756 | 5M170 | 3576 | 5M289 | 154 | 5M505 | 1757 | 5M570 | 2551 |
| 417 | 1751 | 542 | 1756 | 634 | 1755 | 755 | 1752 | 849 | 1753 | 951 | 1753 | 025 | 198 | 096 | 1756 | 171 | 3576 | 290 | 154 | 506 | 1757 | 571 | 2549 |
| 418 | 1751 | 543 | 1756 | 637 | 1755 | 756 | 1752 | 850 | 1753 | 952 | 1753 | 026 | 198 | 097 | 1756 | 172 | 3576 | 291 | 154 | 507 | 1757 | 572 | 2550 |
| 419 | 1751 | 544 | 1756 | 638 | 1755 | 758 | 1752 | 851 | 1753 | 953 | 1753 | 027 | 198 | 098 | 1756 | 173 | 3576 | 292 | 154 | 508 | 1757 | 574 | 2550 |
| 420 | 305 | 545 | 1756 | 639 | 1755 | 759 | 1752 | 852 | 1753 | 956 | 1753 | 028 | 198 | 099 | 1747 | 174 | 3576 | 293 | 108 | 509 | 1757 | 575 | 2544 |
| 5L423 | 1751 | 5L546 | 1756 | 5L640 | 305 | 5L760 | 305 | 5L853 | 1753 | 5L957 | 1753 | 5M029 | 198 | 5M100 | 1747 | 5M175 | 3576 | 5M294 | 108 | 5M510 | 1757 | 5M576 | 2543 |
| 425 | 1751 | 548 | 1754 | 643 | 1755 | 762 | 1752 | 854 | 1753 | 958 | 1753 | 030 | 198 | 101 | 1747 | 176 | 3576 | 295 | 108 | 511 | 1757 | 577 | 2546 |
| 430 | 305 | 549 | 1754 | 644 | 1755 | 766 | 1752 | 855 | 1753 | 959 | 1753 | 031 | 198 | 102 | 1761 | 177 | 3576 | 296 | 108 | 512 | 1757 | 578 | 2546 |
| 432 | 1751 | 550 | 305 | 646 | 1755 | 767 | 1752 | 856 | 1753 | 960 | 305 | 032 | 198 | 103 | 1761 | 178 | 3576 | 297 | 108 | 513 | 1757 | 579 | 2546 |
| 434 | 1751 | 551 | 1754 | 648 | 1755 | 768 | 1752 | 858 | 1753 | 961 | 1753 | 033 | 198 | 104 | 1761 | 179 | 3576 | 298 | 108 | 514 | 1757 | 580 | 2543 |
| 5L437 | 1751 | 5L552 | 1754 | 5L649 | 1755 | 5L769 | 1752 | 5L859 | 1753 | 5L963 | 1753 | 5M034 | 198 | 5M105 | 1761 | 5M185 | 3577 | 5M299 | 108 | 5M515 | 1757 | 5M581 | 2547 |
| 438 | 1751 | 553 | 1754 | 650 | 305 | 770 | 305 | 860 | 305 | 965 | 1753 | 035 | 198 | 106 | 1746 | 186 | 3577 | 300 | 108 | 516 | 1720 | 582 | 2543 |
| 440 | 305 | 554 | 1754 | 652 | 1755 | 771 | 1752 | 863 | 1753 | 966 | 1753 | 036 | 198 | 107 | 1746 | 187 | 3572 | 301 | 108 | 517 | 1720 | 583 | 2543 |
| 443 | 1751 | 557 | 1754 | 655 | 1755 | 772 | 1752 | 864 | 1753 | 968 | 1753 | 037 | 62 | 108 | 1747 | 188 | 3596 | 302 | 108 | 518 | 1720 | 584 | 2543 |
| 450 | 305 | 558 | 1754 | 656 | 1755 | 773 | 1752 | 865 | 1753 | 969 | 1753 | 038 | 62 | 109 | 1747 | 189 | 3596 | 303 | 108 | 519 | 1720 | 585 | 2543 |
| 5L453 | 1752 | 5L559 | 1754 | 5L657 | 1755 | 5L775 | 1752 | 5L868 | 1753 | 5L970 | 1753 | 5M039 | 62 | 5M110 | 1760 | 5M190 | 3596 | 5M304 | 108 | 5M520 | 1720 | 5M586 | 2543 |
| 454 | 1752 | 560 | 305 | 658 | 1755 | 778 | 1752 | 871 | 1753 | 971 | 1753 | 040 | 62 | 111 | 1760 | 191 | 3596 | 451 | 2710 | 521 | 1720 | 587 | 59 |
| 456 | 1752 | 563 | 1754 | 659 | 1755 | 779 | 1752 | 872 | 1753 | 972 | 1753 | 041 | 62 | 112 | 1760 | 192 | 3596 | 452 | 2710 | 522 | 1720 | 588 | 59 |
| 460 | 305 | 564 | 1754 | 660 | 305 | 780 | 305 | 873 | 1753 | 974 | 1753 | 042 | 62 | 113 | 1760 | 193 | 3596 | 453 | 2710 | 523 | 1720 | 589 | 59 |
| 462 | 1752 | 566 | 1754 | 661 | 1755 | 781 | 1752 | 875 | 1753 | 975 | 1753 | 043 | 62 | 114 | 1760 | 194 | 3573 | 454 | 2714 | 524 | 1720 | 590 | 53 |
| 5L463 | 1752 | 5L568 | 1754 | 5L662 | 1755 | 5L783 | 1752 | 5L877 | 1753 | 5L976 | 1753 | 5M044 | 62 | 5M115 | 1760 | 5M195 | 3573 | 5M455 | 2714 | 5M525 | 1720 | 5M591 | 100 |
| 464 | 1752 | 569 | 1754 | 664 | 1755 | 784 | 1752 | 878 | 1753 | 977 | 1753 | 045 | 62 | 116 | 1760 | 196 | 3573 | 456 | 2714 | 526 | 1720 | 592 | 53 |
| 465 | 1752 | 570 | 305 | 665 | 1755 | 785 | 1752 | 879 | 1753 | 978 | 1753 | 046 | 62 | 117 | 1760 | 197 | 3573 | 457 | 2714 | 527 | 1720 | 593 | 100 |
| 467 | 1752 | 571 | 1754 | 666 | 1755 | 787 | 1752 | 880 | 305 | 979 | 1754 | 047 | 62 | 118 | 1760 | 198 | 3572 | 458 | 2722 | 528 | 1720 | 594 | 53 |
| 468 | 1752 | 578 | 1755 | 667 | 1755 | 790 | 305 | 881 | 1753 | 980 | 305 | 048 | 62 | 119 | 1760 | 199 | 3572 | 459 | 2714 | 529 | 1720 | 595 | 101 |
| 5L469 | 1752 | 5L579 | 1755 | 5L668 | 1755 | 5L791 | 1752 | 5L883 | 1753 | 5L981 | 1754 | 5M049 | 74 | 5M120 | 1760 | 5M200 | 3572 | 5M460 | 2718 | 5M530 | 1720 | 5M596 | 53 |
| 470 | 305 | 580 | 305 | 670 | 305 | 793 | 1752 | 885 | 1753 | 982 | 1754 | 050 | 74 | 121 | 1760 | 201 | 3573 | 461 | 2722 | 531 | 1720 | 597 | 101 |
| 474 | 1752 | 581 | 1755 | 680 | 305 | 794 | 1752 | 886 | 1753 | 987 | 1754 | 051 | 74 | 122 | 1760 | 202 | 3573 | 462 | 2717 | 532 | 2510 | 598 | 55 |
| 476 | 1752 | 582 | 1755 | 682 | 1752 | 795 | 1752 | 888 | 1753 | 988 | 1754 | 052 | 74 | 123 | 1760 | 203 | 3573 | 463 | 2710 | 533 | 2510 | 599 | 55 |
| 478 | 1752 | 583 | 1755 | 684 | 1752 | 796 | 1752 | 890 | 1753 | 989 | 1754 | 053 | 74 | 124 | 1760 | 204 | 3573 | 464 | 2710 | 534 | 2510 | 600 | 74 |

# STOCK NUMBER—PAGE NUMBER

## 5M6 — 5P1

| Stock No. | Page No. |
|---|---|
| 5M622 | 1443 |
| 623 | 1443 |
| 624 | 1492 |
| 625 | 1492 |
| 627 | 1465 |
| 5M628 | 1454 |
| 630 | 912 |
| 631 | 912 |
| 632 | 912 |
| 633 | 912 |
| 5M634 | 912 |
| 635 | 912 |
| 639 | 2187 |
| 640 | 2187 |
| 641 | 2187 |
| 5M642 | 2187 |
| 643 | 2187 |
| 644 | 2187 |
| 645 | 2187 |
| 646 | 2188 |
| 5M647 | 2188 |
| 648 | 2188 |
| 649 | 2188 |
| 650 | 2188 |
| 651 | 2188 |
| 5M652 | 2188 |
| 653 | 1928 |
| 654 | 2187 |
| 655 | 2098 |
| 656 | 2098 |
| 5M657 | 2057 |
| 658 | 2057 |
| 659 | 2057 |
| 660 | 2057 |
| 663 | 2057 |
| 5M664 | 2057 |
| 665 | 2057 |
| 668 | 2057 |
| 671 | 2057 |
| 674 | 2194 |
| 5M684 | 2053 |
| 685 | 2053 |
| 686 | 2053 |
| 690 | 2191 |
| 691 | 2191 |
| 5M692 | 2191 |
| 695 | 2199 |
| 701 | 2199 |
| 703 | 2199 |
| 704 | 2199 |
| 5M708 | 2199 |
| 710 | 2199 |
| 711 | 2199 |
| 712 | 2199 |
| 714 | 2191 |
| 5M715 | 2191 |
| 716 | 2191 |
| 717 | 2191 |
| 718 | 2191 |
| 719 | 2191 |
| 5M720 | 2191 |
| 721 | 2191 |
| 722 | 2191 |
| 723 | 2191 |
| 724 | 2191 |
| 5M725 | 2191 |
| 726 | 2190 |
| 728 | 2189 |
| 733 | 1928 |
| 738 | 2192 |
| 5M741 | 1927 |
| 745 | 1927 |
| 746 | 1923 |
| 747 | 1923 |
| 748 | 1923 |
| 5M749 | 1923 |
| 765 | 1919 |
| 767 | 1919 |
| 770 | 1919 |
| 771 | 1919 |
| 5M772 | 1924 |
| 773 | 1924 |
| 776 | 1924 |
| 777 | 1928 |
| 778 | 1928 |
| 5M779 | 1928 |
| 780 | 1928 |
| 781 | 1928 |
| 785 | 1928 |
| 795 | 1924 |
| 5M807 | 1924 |
| 808 | 1924 |
| 809 | 1919 |
| 815 | 1928 |
| 816 | 1920 |
| 5M817 | 1920 |
| 818 | 1923 |
| 819 | 1923 |
| 820 | 1923 |
| 821 | 1928 |
| 5M822 | 1928 |
| 824 | 1924 |
| 825 | 1924 |
| 826 | 1924 |
| 827 | 1924 |
| 5M829 | 1921 |
| 843 | 1921 |
| 853 | 1921 |
| 862 | 1921 |
| 863 | 1921 |
| 5M864 | 1921 |
| 868 | 1851 |
| 871 | 1959 |
| 872 | 1959 |
| 875 | 1925 |
| 5M876 | 1925 |
| 877 | 1925 |
| 878 | 1925 |
| 880 | 1953 |
| 881 | 1953 |
| 5M882 | 1953 |
| 885 | 1953 |
| 887 | 1959 |
| 888 | 1944 |
| 889 | 1944 |
| 5M890 | 1925 |
| 891 | 1925 |
| 892 | 1959 |
| 893 | 1924 |
| 894 | 1924 |
| 5M895 | 1924 |
| 900 | 1944 |
| 901 | 1944 |
| 902 | 1926 |
| 904 | 1926 |
| 5M906 | 1926 |
| 907 | 1926 |
| 928 | 1942 |
| 933 | 1942 |
| 938 | 1942 |
| 5M969 | 1942 |
| **5N** | |
| 5N001 | 36 |
| 002 | 36 |
| 5N003 | 36 |
| 004 | 35 |
| 005 | 35 |
| 006 | 35 |
| 007 | 35 |
| 5N008 | 35 |
| 009 | 35 |
| 010 | 35 |
| 011 | 35 |
| 012 | 35 |
| 5N013 | 35 |
| 014 | 36 |
| 015 | 36 |
| 017 | 34 |
| 018 | 34 |
| 5N019 | 34 |
| 020 | 34 |
| 021 | 34 |
| 022 | 34 |
| 023 | 34 |
| 5N024 | 34 |
| 025 | 34 |
| 026 | 34 |
| 027 | 34 |
| 028 | 34 |
| 5N029 | 34 |
| 030 | 34 |
| 031 | 34 |
| 032 | 34 |
| 033 | 34 |
| 5N034 | 34 |
| 035 | 34 |
| 036 | 34 |
| 037 | 34 |
| 038 | 34 |
| 5N039 | 34 |
| 040 | 34 |
| 041 | 34 |
| 042 | 34 |
| 043 | 34 |
| 5N044 | 34 |
| 045 | 34 |
| 046 | 34 |
| 047 | 34 |
| 048 | 34 |
| 5N049 | 34 |
| 050 | 34 |
| 051 | 34 |
| 052 | 35 |
| 053 | 35 |
| 5N054 | 35 |
| 055 | 35 |
| 056 | 35 |
| 057 | 35 |
| 058 | 35 |
| 5N059 | 35 |
| 060 | 35 |
| 061 | 35 |
| 062 | 35 |
| 070 | 34 |
| 5N071 | 34 |
| 072 | 34 |
| 073 | 133 |
| 074 | 133 |
| 075 | 133 |
| 076 | 133 |
| 077 | 133 |
| 078 | 133 |
| 079 | 133 |
| 080 | 133 |
| 5N081 | 133 |
| 082 | 133 |
| 083 | 133 |
| 084 | 133 |
| 085 | 133 |
| 5N086 | 133 |
| 087 | 133 |
| 088 | 133 |
| 089 | 133 |
| 090 | 133 |
| 5N091 | 133 |
| 092 | 132 |
| 093 | 132 |
| 094 | 132 |
| 095 | 132 |
| 5N096 | 132 |
| 097 | 132 |
| 098 | 132 |
| 099 | 132 |
| 100 | 132 |
| 5N101 | 132 |
| 102 | 132 |
| 103 | 132 |
| 104 | 132 |
| 105 | 132 |
| 5N106 | 132 |
| 107 | 132 |
| 108 | 132 |
| 109 | 132 |
| 110 | 132 |
| 5N111 | 132 |
| 112 | 125 |
| 113 | 125 |
| 114 | 126 |
| 115 | 126 |
| 5N116 | 126 |
| 117 | 126 |
| 123 | 126 |
| 126 | 126 |
| 127 | 126 |
| 5N128 | 126 |
| 131 | 125 |
| 132 | 126 |
| 133 | 126 |
| 134 | 126 |
| 5N167 | 22 |
| 168 | 22 |
| 169 | 22 |
| 170 | 22 |
| 171 | 22 |
| 5N172 | 22 |
| 173 | 22 |
| 174 | 22 |
| 175 | 22 |
| 176 | 22 |
| 5N237 | 35 |
| 242 | 29 |
| 243 | 29 |
| 244 | 29 |
| 245 | 29 |
| 5N246 | 29 |
| 247 | 29 |
| 248 | 29 |
| 249 | 30 |
| 250 | 30 |
| 5N251 | 30 |
| 252 | 30 |
| 253 | 30 |
| 254 | 30 |
| 255 | 30 |
| 5N256 | 30 |
| 257 | 30 |
| 258 | 30 |
| 259 | 30 |
| 260 | 30 |
| 5N261 | 30 |
| 262 | 30 |
| 263 | 30 |
| 264 | 30 |
| 265 | 30 |
| 5N266 | 30 |
| 267 | 30 |
| 268 | 30 |
| 269 | 30 |
| 270 | 30 |
| 5N271 | 30 |
| 272 | 30 |
| 273 | 30 |
| 274 | 30 |
| 275 | 30 |
| 5N276 | 30 |
| 277 | 30 |
| 278 | 30 |
| 279 | 30 |
| 280 | 30 |
| 5N281 | 30 |
| 282 | 30 |
| 283 | 30 |
| 284 | 30 |
| 285 | 30 |
| 5N286 | 30 |
| 287 | 30 |
| 288 | 30 |
| 289 | 30 |
| 290 | 30 |
| 5N291 | 30 |
| 292 | 30 |
| 293 | 29 |
| 294 | 29 |
| 295 | 29 |
| 5N296 | 29 |
| 297 | 30 |
| 298 | 30 |
| 299 | 30 |
| 300 | 26 |
| 5N301 | 26 |
| 302 | 26 |
| 303 | 26 |
| 304 | 26 |
| 305 | 26 |
| 5N306 | 26 |
| 307 | 26 |
| 308 | 26 |
| 309 | 26 |
| 310 | 26 |
| 5N311 | 26 |
| 312 | 26 |
| 313 | 26 |
| 314 | 26 |
| 315 | 26 |
| 5N316 | 26 |
| 317 | 26 |
| 318 | 26 |
| 319 | 26 |
| 320 | 26 |
| 5N321 | 26 |
| 322 | 26 |
| 323 | 26 |
| 324 | 26 |
| 325 | 26 |
| 5N326 | 26 |
| 327 | 26 |
| 328 | 26 |
| 329 | 26 |
| 330 | 26 |
| 5N331 | 26 |
| 332 | 26 |
| 333 | 26 |
| 334 | 26 |
| 335 | 27 |
| 5N336 | 27 |
| 337 | 27 |
| 338 | 27 |
| 339 | 27 |
| 340 | 27 |
| 5N341 | 27 |
| 342 | 27 |
| 343 | 27 |
| 344 | 27 |
| 345 | 27 |
| 5N346 | 27 |
| 347 | 27 |
| 348 | 27 |
| 349 | 27 |
| 350 | 27 |
| 5N351 | 27 |
| 352 | 27 |
| 353 | 27 |
| 354 | 27 |
| 442 | 1952 |
| 5N443 | 1952 |
| 446 | 1952 |
| 447 | 1952 |
| 451 | 1959 |
| 461 | 1206 |
| 5N462 | 1206 |
| 463 | 1206 |
| 465 | 3626 |
| 466 | 3626 |
| 467 | 3626 |
| 5N468 | 3626 |
| 469 | 3626 |
| 470 | 3626 |
| 471 | 3626 |
| 472 | 3626 |
| 5N473 | 3626 |
| 474 | 3626 |
| 475 | 3626 |
| 476 | 3626 |
| 477 | 3626 |
| 5N618 | 27 |
| 622 | 27 |
| 624 | 28 |
| 627 | 28 |
| 630 | 28 |
| 5N633 | 28 |
| 636 | 28 |
| 638 | 28 |
| 671 | 36 |
| 672 | 36 |
| 5N673 | 36 |
| 674 | 36 |
| 675 | 36 |
| 676 | 36 |
| 677 | 36 |
| 5N678 | 36 |
| 679 | 36 |
| 680 | 36 |
| 681 | 36 |
| 682 | 36 |
| 5N688 | 132 |
| 689 | 132 |
| 690 | 132 |
| 691 | 132 |
| 692 | 132 |
| 5N693 | 132 |
| 694 | 132 |
| 695 | 132 |
| 696 | 132 |
| 697 | 132 |
| 5N698 | 132 |
| 699 | 133 |
| 700 | 133 |
| 701 | 133 |
| 702 | 133 |
| 5N703 | 133 |
| 704 | 133 |
| 705 | 133 |
| 706 | 133 |
| 707 | 133 |
| 5N708 | 133 |
| 709 | 133 |
| 710 | 133 |
| 711 | 133 |
| 712 | 133 |
| 5N713 | 133 |
| 714 | 133 |
| 715 | 133 |
| 716 | 133 |
| 717 | 133 |
| 5N718 | 133 |
| 719 | 135 |
| 720 | 135 |
| 721 | 135 |
| 722 | 135 |
| 5N723 | 135 |
| 724 | 135 |
| 725 | 135 |
| 726 | 135 |
| 727 | 135 |
| 5N728 | 135 |
| 729 | 135 |
| 730 | 135 |
| 731 | 135 |
| 732 | 135 |
| 5N733 | 135 |
| 734 | 135 |
| 735 | 135 |
| 736 | 135 |
| 737 | 135 |
| 5N738 | 135 |
| 739 | 135 |
| 740 | 135 |
| 741 | 135 |
| 742 | 135 |
| 5N743 | 135 |
| 744 | 135 |
| 745 | 135 |
| 746 | 135 |
| 747 | 135 |
| 5N748 | 135 |
| 749 | 135 |
| 750 | 135 |
| 773 | 39 |
| 774 | 39 |
| 5N775 | 39 |
| 776 | 39 |
| 777 | 39 |
| 778 | 39 |
| 779 | 39 |
| 5N780 | 39 |
| 781 | 39 |
| 782 | 39 |
| 783 | 39 |
| 784 | 39 |
| 5N785 | 39 |
| 786 | 39 |
| 787 | 39 |
| 788 | 39 |
| 789 | 39 |
| 5N790 | 39 |
| 791 | 39 |
| 792 | 39 |
| 793 | 39 |
| 794 | 39 |
| 5N795 | 33 |
| 796 | 33 |
| 797 | 33 |
| 798 | 33 |
| 799 | 33 |
| 5N800 | 33 |
| 801 | 33 |
| 802 | 33 |
| 803 | 33 |
| 804 | 33 |
| 5N805 | 33 |
| 806 | 33 |
| 807 | 33 |
| 808 | 33 |
| 809 | 33 |
| 5N810 | 33 |
| 811 | 33 |
| 812 | 33 |
| 813 | 33 |
| 814 | 33 |
| 5N815 | 33 |
| 816 | 33 |
| 817 | 33 |
| 818 | 33 |
| 819 | 33 |
| 5N820 | 33 |
| 821 | 33 |
| 822 | 33 |
| 823 | 33 |
| 824 | 33 |
| 5N825 | 33 |
| 826 | 33 |
| 827 | 33 |
| 828 | 33 |
| 829 | 33 |
| 5N830 | 33 |
| 831 | 33 |
| 832 | 33 |
| 833 | 33 |
| 834 | 33 |
| 5N835 | 33 |
| 836 | 33 |
| 837 | 33 |
| 838 | 33 |
| 839 | 33 |
| 5N840 | 33 |
| 841 | 33 |
| 842 | 33 |
| 843 | 33 |
| 844 | 33 |
| 5N845 | 33 |
| 846 | 33 |
| 847 | 33 |
| 848 | 33 |
| 849 | 33 |
| 5N850 | 33 |
| 851 | 33 |
| 852 | 33 |
| 893 | 22 |
| 894 | 22 |
| 5N920 | 28 |
| 921 | 28 |
| 922 | 28 |
| 923 | 28 |
| 924 | 28 |
| 5N925 | 28 |
| 926 | 28 |
| 927 | 28 |
| 928 | 28 |
| 929 | 28 |
| 5N930 | 28 |
| 931 | 28 |
| 932 | 28 |
| 933 | 28 |
| 934 | 28 |
| 5N935 | 28 |
| 936 | 28 |
| 937 | 28 |
| 938 | 28 |
| 939 | 28 |
| 5N940 | 28 |
| 941 | 28 |
| 942 | 28 |
| 944 | 28 |
| 945 | 28 |
| 5N947 | 28 |
| 948 | 28 |
| 955 | 17 |
| 957 | 17 |
| 958 | 17 |
| 5N959 | 17 |
| 962 | 17 |
| 964 | 17 |
| 965 | 125 |
| 966 | 125 |
| 5N967 | 125 |
| 972 | 125 |
| 973 | 125 |
| 974 | 125 |
| 975 | 125 |
| 5N976 | 32 |
| 977 | 32 |
| 978 | 32 |
| 979 | 32 |
| 980 | 32 |
| 5N981 | 32 |
| 982 | 32 |
| 983 | 32 |
| 984 | 32 |
| 985 | 32 |
| 5N986 | 32 |
| 987 | 32 |
| 988 | 32 |
| 989 | 32 |
| 990 | 32 |
| 5N991 | 32 |
| 992 | 32 |
| 993 | 32 |
| 994 | 32 |
| 995 | 32 |
| 5N996 | 32 |
| 997 | 32 |
| 998 | 32 |
| 999 | 32 |
| **5P** | |
| 5P006 | 3087 |
| 008 | 3088 |
| 009 | 3116 |
| 5P011 | 3116 |
| 012 | 3116 |
| 013 | 3116 |
| 014 | 3047 |
| 015 | 3047 |
| 5P016 | 3047 |
| 017 | 3047 |
| 018 | 3047 |
| 019 | 3047 |
| 020 | 3047 |
| 5P021 | 3047 |
| 022 | 3047 |
| 023 | 3047 |
| 024 | 3047 |
| 025 | 3047 |
| 5P026 | 3047 |
| 027 | 3047 |
| 028 | 3047 |
| 029 | 3047 |
| 030 | 3047 |
| 5P031 | 3047 |
| 032 | 3047 |
| 033 | 3047 |
| 034 | 3047 |
| 035 | 3047 |
| 5P036 | 3048 |
| 037 | 3048 |
| 038 | 3048 |
| 039 | 3048 |
| 040 | 3048 |
| 5P041 | 3048 |
| 042 | 3048 |
| 043 | 3048 |
| 044 | 3048 |
| 045 | 3047 |
| 5P046 | 3047 |
| 047 | 3047 |
| 048 | 3048 |
| 049 | 3048 |
| 050 | 3048 |
| 5P051 | 3048 |
| 052 | 3048 |
| 053 | 3048 |
| 054 | 3048 |
| 055 | 3048 |
| 5P056 | 3048 |
| 057 | 3048 |
| 058 | 3048 |
| 059 | 3048 |
| 060 | 3048 |
| 5P061 | 3048 |
| 062 | 3048 |
| 063 | 3048 |
| 064 | 3048 |
| 065 | 3048 |
| 5P066 | 3048 |
| 067 | 3048 |
| 068 | 3048 |
| 069 | 3048 |
| 070 | 3048 |
| 5P071 | 3048 |
| 072 | 3048 |
| 073 | 3048 |
| 074 | 3048 |
| 075 | 3048 |
| 5P076 | 3048 |
| 077 | 3048 |
| 078 | 3048 |
| 079 | 3048 |
| 080 | 3048 |
| 5P081 | 3048 |
| 082 | 3048 |
| 083 | 3048 |
| 084 | 3048 |
| 085 | 3048 |
| 5P086 | 3048 |
| 087 | 3048 |
| 088 | 3048 |
| 089 | 3048 |
| 090 | 3048 |
| 5P091 | 3048 |
| 092 | 3048 |
| 093 | 3048 |
| 094 | 3048 |
| 095 | 3048 |
| 5P096 | 3048 |
| 097 | 3048 |
| 098 | 3048 |
| 099 | 3049 |
| 100 | 3049 |
| 5P101 | 3049 |
| 102 | 3049 |
| 103 | 3049 |
| 104 | 3049 |
| 105 | 3049 |
| 5P106 | 3049 |
| 107 | 3049 |
| 108 | 3049 |
| 109 | 3049 |
| 110 | 3049 |
| 5P111 | 3049 |
| 112 | 3049 |
| 113 | 3049 |
| 114 | 3049 |
| 115 | 3049 |
| 5P116 | 3049 |
| 117 | 3049 |
| 118 | 3049 |
| 119 | 3049 |
| 120 | 3049 |
| 5P121 | 3048 |
| 122 | 3048 |
| 123 | 3048 |
| 124 | 3048 |
| 125 | 3048 |
| 5P126 | 3048 |
| 127 | 3049 |
| 128 | 3049 |
| 129 | 3049 |
| 130 | 3049 |
| 5P131 | 3049 |
| 132 | 3049 |
| 133 | 3049 |
| 134 | 3049 |
| 135 | 3049 |
| 5P136 | 3048 |
| 137 | 3048 |
| 138 | 3048 |
| 139 | 3048 |
| 140 | 3048 |
| 5P141 | 3048 |
| 142 | 3048 |
| 143 | 3048 |
| 144 | 3048 |
| 145 | 3048 |
| 5P146 | 3049 |
| 147 | 3049 |
| 148 | 3049 |
| 149 | 3049 |
| 150 | 3049 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 5P151 | 3049 |
| 152 | 3049 |
| 153 | 3049 |
| 154 | 3049 |
| 155 | 3049 |
| 5P156 | 3049 |
| 157 | 3049 |
| 158 | 3049 |
| 159 | 3049 |
| 160 | 3049 |
| 5P161 | 3049 |
| 162 | 3049 |
| 163 | 3049 |
| 164 | 3049 |
| 165 | 3049 |
| 5P166 | 3049 |
| 167 | 3049 |
| 168 | 3049 |
| 169 | 3049 |
| 170 | 3047 |
| 5P171 | 3047 |
| 172 | 3047 |
| 173 | 3047 |
| 174 | 3047 |
| 175 | 3047 |
| 5P176 | 3047 |
| 177 | 3047 |
| 178 | 3047 |
| 179 | 3047 |
| 180 | 3047 |
| 5P181 | 3047 |
| 182 | 3047 |
| 183 | 3047 |
| 184 | 3047 |
| 185 | 3047 |
| 5P186 | 3047 |
| 187 | 3047 |
| 188 | 3047 |
| 189 | 3047 |
| 190 | 3047 |
| 5P191 | 3047 |
| 192 | 3047 |
| 193 | 3047 |
| 194 | 3047 |
| 195 | 3047 |
| 5P196 | 3047 |
| 197 | 3047 |
| 198 | 3047 |
| 199 | 3047 |
| 200 | 3047 |
| 5P201 | 3047 |
| 202 | 3047 |
| 203 | 3047 |
| 204 | 3047 |
| 205 | 3047 |
| 5P206 | 3047 |
| 207 | 3047 |
| 208 | 3047 |
| 209 | 3047 |
| 210 | 3047 |
| 5P211 | 3116 |
| 212 | 3116 |
| 213 | 3117 |
| 217 | 3230 |
| 218 | 3230 |
| 5P219 | 3263 |
| 220 | 3263 |
| 225 | 3263 |
| 226 | 3263 |
| 227 | 3263 |
| 5P228 | 3263 |
| 229 | 3255 |
| 230 | 3255 |
| 231 | 3066 |
| 232 | 3198 |
| 5P233 | 3198 |
| 234 | 3199 |
| 235 | 3073 |
| 236 | 3071 |
| 237 | 3183 |
| 5P238 | 3183 |
| 239 | 3183 |
| 240 | 3183 |
| 241 | 3183 |
| 242 | 3183 |
| 5P244 | 3186 |
| 245 | 3186 |
| 246 | 3186 |
| 247 | 3182 |
| 248 | 3182 |
| 5P249 | 3182 |
| 250 | 3182 |
| 251 | 3182 |
| 252 | 3186 |
| 253 | 3186 |
| 5P254 | 3097 |
| 255 | 3097 |
| 256 | 3097 |
| 257 | 3097 |
| 258 | 3097 |
| 5P259 | 3097 |
| 260 | 3097 |
| 261 | 3097 |
| 262 | 3097 |
| 263 | 3097 |
| 5P264 | 3097 |
| 265 | 3097 |
| 266 | 3097 |
| 267 | 3097 |
| 268 | 3097 |
| 5P269 | 3097 |
| 270 | 3097 |
| 271 | 3097 |
| 272 | 3100 |
| 273 | 3100 |
| 5P274 | 3100 |
| 275 | 3100 |
| 276 | 3100 |
| 277 | 3100 |
| 278 | 3100 |
| 5P279 | 3100 |
| 280 | 3100 |
| 281 | 3100 |
| 282 | 3097 |
| 283 | 3097 |
| 5P284 | 3097 |
| 285 | 3097 |
| 286 | 3097 |
| 287 | 3097 |
| 288 | 3097 |
| 5P289 | 3097 |
| 290 | 3097 |
| 291 | 3097 |
| 292 | 3097 |
| 293 | 3098 |
| 5P294 | 3098 |
| 295 | 3098 |
| 296 | 3098 |
| 297 | 3097 |
| 298 | 3284 |
| 5P299 | 3284 |
| 300 | 3284 |
| 301 | 3284 |
| 302 | 3284 |
| 303 | 3284 |
| 5P304 | 3284 |
| 305 | 3284 |
| 306 | 3284 |
| 307 | 3284 |
| 308 | 3284 |
| 5P309 | 3284 |
| 310 | 3284 |
| 311 | 3284 |
| 312 | 3284 |
| 313 | 3284 |
| 5P314 | 3284 |
| 315 | 3284 |
| 316 | 3284 |
| 317 | 3283 |
| 318 | 3283 |
| 5P319 | 3283 |
| 320 | 3283 |
| 321 | 3283 |
| 322 | 3283 |
| 323 | 3283 |
| 5P324 | 3283 |
| 325 | 3283 |
| 326 | 3283 |
| 327 | 3283 |
| 328 | 3283 |
| 5P329 | 3283 |
| 330 | 3283 |
| 331 | 3283 |
| 332 | 3283 |
| 333 | 3283 |
| 5P334 | 3283 |
| 335 | 3283 |
| 336 | 3283 |
| 337 | 3283 |
| 338 | 3283 |
| 5P339 | 3283 |
| 340 | 3283 |
| 341 | 3283 |
| 342 | 3283 |
| 343 | 3283 |
| 5P344 | 3283 |
| 345 | 3283 |
| 346 | 3283 |
| 347 | 3283 |
| 348 | 3283 |
| 349 | 3283 |
| 5P350 | 3283 |
| 351 | 3283 |
| 352 | 3283 |
| 353 | 3283 |
| 354 | 3283 |
| 5P355 | 3283 |
| 356 | 3283 |
| 357 | 3283 |
| 358 | 3283 |
| 359 | 3283 |
| 5P360 | 3283 |
| 361 | 3283 |
| 362 | 3283 |
| 363 | 3283 |
| 364 | 3283 |
| 5P365 | 3157 |
| 366 | 3157 |
| 367 | 3157 |
| 368 | 3157 |
| 369 | 3157 |
| 5P370 | 3157 |
| 371 | 3157 |
| 372 | 3157 |
| 373 | 3157 |
| 374 | 3157 |
| 5P375 | 3157 |
| 376 | 3157 |
| 377 | 3157 |
| 378 | 3157 |
| 379 | 3157 |
| 5P380 | 3157 |
| 381 | 3157 |
| 382 | 3157 |
| 383 | 3157 |
| 384 | 3157 |
| 5P385 | 3157 |
| 386 | 3157 |
| 387 | 3157 |
| 388 | 3157 |
| 389 | 3157 |
| 5P390 | 3157 |
| 391 | 3157 |
| 392 | 3157 |
| 393 | 3157 |
| 394 | 3157 |
| 5P395 | 3157 |
| 396 | 3157 |
| 397 | 3157 |
| 398 | 3157 |
| 399 | 3157 |
| 5P400 | 3157 |
| 401 | 3157 |
| 402 | 3157 |
| 403 | 3157 |
| 404 | 3157 |
| 5P405 | 3157 |
| 406 | 3157 |
| 407 | 3157 |
| 408 | 3157 |
| 409 | 3157 |
| 5P410 | 3157 |
| 411 | 3157 |
| 412 | 3157 |
| 413 | 3157 |
| 414 | 3157 |
| 5P416 | 3157 |
| 417 | 3157 |
| 418 | 3157 |
| 419 | 3157 |
| 420 | 3157 |
| 5P421 | 3157 |
| 422 | 3157 |
| 423 | 3157 |
| 424 | 3157 |
| 425 | 3157 |
| 5P426 | 3157 |
| 427 | 3270 |
| 428 | 3270 |
| 429 | 3270 |
| 430 | 3270 |
| 5P431 | 3270 |
| 432 | 3270 |
| 433 | 3270 |
| 434 | 3051 |
| 435 | 3051 |
| 5P436 | 3051 |
| 437 | 3051 |
| 438 | 3051 |
| 439 | 3051 |
| 440 | 3051 |
| 5P441 | 3051 |
| 442 | 3051 |
| 443 | 3051 |
| 444 | 3051 |
| 445 | 3051 |
| 5P446 | 3051 |
| 447 | 3051 |
| 448 | 3051 |
| 449 | 3051 |
| 450 | 3051 |
| 5P451 | 3051 |
| 452 | 3051 |
| 453 | 3051 |
| 454 | 3051 |
| 455 | 3051 |
| 5P456 | 3051 |
| 457 | 3051 |
| 458 | 3051 |
| 459 | 3051 |
| 460 | 3051 |
| 5P461 | 3051 |
| 462 | 3051 |
| 463 | 3051 |
| 464 | 3051 |
| 465 | 3051 |
| 5P466 | 3051 |
| 467 | 3051 |
| 468 | 3051 |
| 469 | 3051 |
| 470 | 3051 |
| 5P471 | 3051 |
| 472 | 3051 |
| 473 | 3051 |
| 474 | 3051 |
| 475 | 3051 |
| 5P476 | 3051 |
| 477 | 3051 |
| 478 | 3051 |
| 479 | 3051 |
| 480 | 3051 |
| 5P481 | 3051 |
| 482 | 3051 |
| 483 | 3051 |
| 484 | 3051 |
| 485 | 3051 |
| 5P486 | 3051 |
| 487 | 3051 |
| 488 | 3051 |
| 489 | 3051 |
| 490 | 3051 |
| 5P491 | 3051 |
| 492 | 3051 |
| 493 | 3051 |
| 494 | 3051 |
| 495 | 3052 |
| 5P496 | 3052 |
| 497 | 3052 |
| 498 | 3052 |
| 499 | 3052 |
| 500 | 3052 |
| 5P501 | 3052 |
| 502 | 3052 |
| 503 | 3052 |
| 504 | 3052 |
| 505 | 3052 |
| 5P506 | 3052 |
| 507 | 3052 |
| 508 | 3052 |
| 509 | 3052 |
| 510 | 3052 |
| 5P511 | 3052 |
| 512 | 3052 |
| 513 | 3052 |
| 514 | 3052 |
| 515 | 3052 |
| 5P516 | 3052 |
| 517 | 3052 |
| 518 | 3052 |
| 519 | 3052 |
| 520 | 3052 |
| 5P521 | 3052 |
| 522 | 3052 |
| 523 | 3052 |
| 524 | 3052 |
| 525 | 3052 |
| 5P526 | 3052 |
| 527 | 3052 |
| 528 | 3052 |
| 529 | 3052 |
| 530 | 3052 |
| 5P531 | 3052 |
| 532 | 3052 |
| 533 | 3052 |
| 534 | 3052 |
| 535 | 3052 |
| 5P536 | 3052 |
| 537 | 3052 |
| 538 | 3052 |
| 539 | 3052 |
| 540 | 3052 |
| 5P541 | 3052 |
| 542 | 3052 |
| 543 | 3052 |
| 544 | 3052 |
| 545 | 3052 |
| 5P546 | 3052 |
| 547 | 3052 |
| 548 | 3052 |
| 549 | 3052 |
| 550 | 3052 |
| 5P551 | 3052 |
| 552 | 3052 |
| 553 | 3052 |
| 554 | 3052 |
| 555 | 3052 |
| 5P556 | 3052 |
| 557 | 3052 |
| 558 | 3052 |
| 559 | 3052 |
| 560 | 3052 |
| 5P561 | 3052 |
| 562 | 3052 |
| 563 | 3052 |
| 564 | 3052 |
| 565 | 3052 |
| 5P566 | 3052 |
| 567 | 3052 |
| 568 | 3052 |
| 569 | 3052 |
| 570 | 3052 |
| 5P571 | 3052 |
| 572 | 3052 |
| 573 | 3052 |
| 574 | 3053 |
| 575 | 3053 |
| 5P576 | 3053 |
| 577 | 3053 |
| 578 | 3053 |
| 579 | 3053 |
| 580 | 3053 |
| 5P581 | 3053 |
| 582 | 3053 |
| 583 | 3053 |
| 584 | 3053 |
| 585 | 3053 |
| 5P586 | 3053 |
| 587 | 3053 |
| 588 | 3053 |
| 589 | 3053 |
| 590 | 3053 |
| 5P591 | 3053 |
| 592 | 3053 |
| 593 | 3053 |
| 594 | 3053 |
| 595 | 3053 |
| 5P596 | 3053 |
| 597 | 3053 |
| 598 | 3053 |
| 599 | 3053 |
| 600 | 3053 |
| 5P601 | 3053 |
| 602 | 3053 |
| 603 | 3053 |
| 604 | 3053 |
| 605 | 3053 |
| 5P606 | 3053 |
| 607 | 3053 |
| 608 | 3053 |
| 609 | 3053 |
| 610 | 3053 |
| 5P611 | 3053 |
| 612 | 3053 |
| 613 | 3053 |
| 614 | 3053 |
| 615 | 3053 |
| 5P616 | 3053 |
| 617 | 3053 |
| 618 | 3053 |
| 619 | 3053 |
| 620 | 3053 |
| 5P621 | 3053 |
| 622 | 3053 |
| 623 | 3053 |
| 624 | 3053 |
| 625 | 3054 |
| 5P626 | 3054 |
| 627 | 3054 |
| 628 | 3054 |
| 629 | 3054 |
| 630 | 3054 |
| 5P631 | 3054 |
| 632 | 3054 |
| 633 | 3054 |
| 634 | 3054 |
| 635 | 3054 |
| 5P636 | 3054 |
| 637 | 3054 |
| 638 | 3054 |
| 639 | 3054 |
| 640 | 3054 |
| 5P641 | 3054 |
| 642 | 3054 |
| 643 | 3054 |
| 644 | 3054 |
| 645 | 3054 |
| 5P646 | 3054 |
| 647 | 3054 |
| 648 | 3054 |
| 649 | 3054 |
| 650 | 3054 |
| 5P651 | 3054 |
| 652 | 3054 |
| 653 | 3054 |
| 654 | 3054 |
| 655 | 3054 |
| 5P656 | 3054 |
| 657 | 3054 |
| 658 | 3054 |
| 659 | 3054 |
| 660 | 3054 |
| 5P661 | 3054 |
| 662 | 3054 |
| 663 | 3054 |
| 664 | 3054 |
| 665 | 3054 |
| 5P666 | 3054 |
| 667 | 3054 |
| 668 | 3054 |
| 669 | 3054 |
| 670 | 3054 |
| 5P671 | 3054 |
| 672 | 3054 |
| 673 | 3054 |
| 674 | 3054 |
| 675 | 3054 |
| 5P676 | 3054 |
| 677 | 3054 |
| 678 | 3054 |
| 679 | 3054 |
| 680 | 3054 |
| 5P681 | 3054 |
| 682 | 3054 |
| 683 | 3054 |
| 684 | 3054 |
| 685 | 3054 |
| 5P686 | 3054 |
| 687 | 3054 |
| 688 | 3054 |
| 689 | 3054 |
| 690 | 3054 |
| 5P691 | 3054 |
| 692 | 3054 |
| 693 | 3054 |
| 694 | 3054 |
| 695 | 3054 |
| 5P696 | 3054 |
| 697 | 3054 |
| 698 | 3054 |
| 699 | 3054 |
| 700 | 3054 |
| 5P701 | 3055 |
| 702 | 3055 |
| 703 | 3055 |
| 704 | 3055 |
| 705 | 3055 |
| 5P706 | 3055 |
| 707 | 3055 |
| 708 | 3055 |
| 709 | 3055 |
| 710 | 3055 |
| 5P711 | 3055 |
| 712 | 3055 |
| 713 | 3055 |
| 714 | 3055 |
| 715 | 3055 |
| 5P716 | 3055 |
| 717 | 3055 |
| 718 | 3055 |
| 719 | 3055 |
| 720 | 3055 |
| 5P721 | 3055 |
| 722 | 3055 |
| 723 | 3055 |
| 724 | 3055 |
| 725 | 3055 |
| 5P726 | 3055 |
| 727 | 3055 |
| 728 | 3055 |
| 729 | 3055 |
| 730 | 3055 |
| 5P731 | 3055 |
| 732 | 3055 |
| 733 | 3055 |
| 734 | 3055 |
| 735 | 3055 |
| 5P736 | 3055 |
| 737 | 3055 |
| 738 | 3055 |
| 739 | 3055 |
| 740 | 3055 |
| 5P741 | 3055 |
| 742 | 3055 |
| 743 | 3055 |
| 744 | 3055 |
| 745 | 3055 |
| 5P746 | 3055 |
| 747 | 3055 |
| 748 | 3055 |
| 749 | 3055 |
| 750 | 3055 |
| 5P751 | 3055 |
| 752 | 3055 |
| 753 | 3055 |
| 755 | 3055 |
| 756 | 3055 |
| 5P757 | 3055 |
| 758 | 3055 |
| 759 | 3055 |
| 760 | 3055 |
| 761 | 3055 |
| 5P762 | 3080 |
| 763 | 3055 |
| 764 | 3055 |
| 765 | 3055 |
| 766 | 3055 |
| 5P767 | 3055 |
| 768 | 3055 |
| 769 | 3055 |
| 770 | 3114 |
| 771 | 3056 |
| 5P772 | 3056 |
| 773 | 3056 |
| 774 | 3056 |
| 775 | 3056 |
| 776 | 3056 |
| 5P777 | 3056 |
| 778 | 3114 |
| 779 | 3056 |
| 780 | 3056 |
| 781 | 3056 |
| 5P782 | 3056 |
| 783 | 3056 |
| 784 | 3056 |
| 785 | 3056 |
| 786 | 3114 |
| 5P787 | 3056 |
| 788 | 3056 |
| 789 | 3056 |
| 790 | 3056 |
| 791 | 3056 |
| 5P794 | 3114 |
| 795 | 3051 |
| 796 | 3051 |
| 797 | 3051 |
| 798 | 3051 |
| 5P799 | 3051 |
| 800 | 3051 |
| 801 | 3051 |
| 802 | 3051 |
| 803 | 3051 |
| 5P804 | 3051 |
| 805 | 3051 |
| 806 | 3051 |
| 807 | 3051 |
| 808 | 3051 |
| 5P809 | 3051 |
| 810 | 3051 |
| 811 | 3051 |
| 812 | 3051 |
| 813 | 3051 |
| 5P814 | 3051 |
| 815 | 3051 |
| 816 | 3051 |
| 817 | 3051 |
| 818 | 3051 |
| 5P819 | 3051 |
| 820 | 3051 |
| 821 | 3051 |
| 822 | 3051 |
| 823 | 3051 |
| 5P821 | 3052 |
| 822 | 3052 |
| 823 | 3052 |
| 824 | 3051 |
| 825 | 3051 |
| 826 | 3051 |
| 827 | 3051 |
| 830 | 3051 |
| 831 | 3051 |
| 832 | 3051 |
| 833 | 3051 |
| 834 | 3051 |
| 835 | 3051 |
| 836 | 3051 |
| 837 | 3051 |
| 838 | 3051 |
| 839 | 3051 |
| 840 | 3051 |
| 841 | 3051 |
| 842 | 3051 |
| 843 | 3051 |
| 844 | 3051 |
| 845 | 3051 |
| 846 | 3051 |
| 847 | 3051 |
| 848 | 3051 |
| 849 | 3051 |
| 850 | 3051 |
| 851 | 3051 |
| 852 | 3051 |
| 853 | 3051 |
| 854 | 3051 |
| 855 | 3051 |
| 856 | 3051 |
| 857 | 3051 |
| 858 | 3051 |
| 859 | 3051 |
| 860 | 3051 |
| 861 | 3052 |
| 862 | 3052 |
| 863 | 3052 |
| 864 | 3052 |
| 865 | 3052 |
| 866 | 3052 |
| 867 | 3052 |
| 868 | 3052 |
| 869 | 3052 |
| 870 | 3052 |
| 871 | 3052 |
| 872 | 3052 |
| 874 | 3052 |
| 875 | 3052 |
| 876 | 3052 |
| 877 | 3052 |
| 878 | 3052 |
| 879 | 3052 |
| 880 | 3052 |
| 881 | 3052 |
| 882 | 3052 |
| 883 | 3052 |
| 884 | 3052 |
| 885 | 3052 |
| 886 | 3052 |
| 887 | 3052 |
| 888 | 3052 |
| 889 | 3052 |
| 890 | 3052 |
| 891 | 3052 |
| 892 | 3052 |
| 893 | 3052 |
| 894 | 3052 |
| 895 | 3052 |
| 896 | 3052 |
| 897 | 3052 |
| 898 | 3052 |
| 899 | 3052 |
| 900 | 3052 |
| 901 | 3052 |
| 902 | 3052 |
| 903 | 3052 |
| 904 | 3052 |
| 905 | 3052 |
| 906 | 3052 |
| 907 | 3052 |
| 908 | 3052 |
| 909 | 3052 |
| 910 | 3052 |
| 911 | 3052 |
| 912 | 3052 |
| 913 | 3052 |
| 914 | 3052 |
| 915 | 3052 |
| 916 | 3052 |
| 917 | 3052 |
| 918 | 3052 |
| 919 | 3052 |
| 920 | 3052 |
| 921 | 3052 |
| 922 | 3052 |
| 923 | 3052 |
| 924 | 3052 |
| 925 | 3052 |
| 926 | 3052 |
| 927 | 3052 |
| 928 | 3052 |
| 929 | 3052 |
| 930 | 3052 |
| 931 | 3052 |
| 932 | 3052 |
| 933 | 3052 |
| 934 | 3052 |
| 935 | 3052 |
| 936 | 3052 |
| 937 | 3052 |
| 938 | 3052 |
| 939 | 3052 |
| 940 | 3052 |
| 941 | 3053 |
| 942 | 3053 |
| 943 | 3053 |
| 944 | 3053 |
| 945 | 3053 |
| 946 | 3053 |
| 947 | 3053 |
| 948 | 3053 |
| 949 | 3053 |
| 950 | 3053 |
| 951 | 3053 |
| 952 | 3053 |
| 953 | 3053 |
| 954 | 3053 |
| 955 | 3053 |
| 956 | 3053 |

# STOCK NUMBER—PAGE NUMBER

## 5P9 — 5U2


| Stock No. | Page No. |
|---|---|
| 5P957 | 3053 |
| 958 | 3053 |
| 959 | 3053 |
| 960 | 3053 |
| 961 | 3053 |
| 5P962 | 3053 |
| 963 | 3053 |
| 964 | 3053 |
| 965 | 3053 |
| 966 | 3053 |
| 5P967 | 3053 |
| 968 | 3053 |
| 969 | 3053 |
| 970 | 3053 |
| 971 | 3053 |
| 5P972 | 3053 |
| 977 | 3053 |
| 978 | 3053 |
| 979 | 3053 |
| 980 | 3053 |
| 5P981 | 3053 |
| 982 | 3053 |
| 983 | 3053 |
| 984 | 3053 |
| 985 | 3053 |
| 5P986 | 3053 |
| 987 | 3053 |
| 988 | 3053 |
| 989 | 3053 |
| 990 | 3053 |
| 5P991 | 3053 |
| 992 | 3053 |
| 993 | 3053 |
| 994 | 3053 |
| 995 | 3053 |
| 5P996 | 3053 |
| 997 | 3053 |
| 998 | 3053 |
| 999 | 3053 |
| **5R** | |
| 5R669 | 1352 |
| 685 | 1352 |
| 688 | 1352 |
| 5R693 | 1352 |
| 710 | 1352 |
| 711 | 1352 |
| 763 | 1355 |
| 771 | 1355 |
| 5R775 | 1355 |
| 776 | 1355 |
| 808 | 1355 |
| 813 | 1355 |
| 820 | 2681 |
| 5R840 | 1355 |
| 862 | 1355 |
| 866 | 1354 |
| 869 | 1354 |
| 872 | 1354 |
| **5T** | |
| 5T039 | 2615 |
| 040 | 2615 |
| 048 | 2616 |
| 5T049 | 2616 |
| 050 | 2617 |
| 054 | 2616 |
| 055 | 2616 |
| 056 | 2616 |
| 5T057 | 2616 |
| 058 | 2589 |
| 059 | 2589 |
| 060 | 2551 |
| 061 | 2536 |
| 5T062 | 2536 |
| 063 | 2536 |
| 064 | 2536 |
| 087 | 2461 |
| 088 | 2461 |
| 5T090 | 2461 |
| 091 | 2461 |
| 095 | 2467 |
| 096 | 2467 |
| 097 | 2467 |
| 5T101 | 2467 |
| 102 | 2472 |
| 103 | 2472 |
| 104 | 2472 |
| 105 | 2462 |
| 5T106 | 2462 |
| 117 | 2626 |
| 118 | 2575 |
| 119 | 2581 |
| 120 | 2581 |
| 5T121 | 2575 |
| 122 | 2575 |
| 123 | 2575 |
| 124 | 2576 |
| 125 | 2576 |
| 5T126 | 2572 |
| 127 | 2575 |
| 128 | 2576 |
| 129 | 2572 |
| 130 | 2576 |
| 5T131 | 2572 |
| 132 | 2576 |
| 133 | 2573 |
| 134 | 2579 |
| 135 | 2573 |
| 5T136 | 2577 |
| 137 | 2583 |
| 138 | 2573 |
| 139 | 2573 |
| 140 | 2583 |
| 5T141 | 2573 |
| 142 | 2584 |
| 143 | 2574 |
| 144 | 2584 |
| 145 | 2574 |
| 5T146 | 2578 |
| 147 | 2574 |
| 148 | 2577 |
| 149 | 2578 |
| 150 | 2589 |
| 5T151 | 2589 |
| 152 | 2589 |
| 153 | 2589 |
| 154 | 2589 |
| 155 | 2589 |
| 5T156 | 2589 |
| 157 | 2589 |
| 158 | 2589 |
| 159 | 2580 |
| 160 | 2588 |
| 5T162 | 2384 |
| 163 | 2384 |
| 164 | 2384 |
| 165 | 2384 |
| 166 | 2384 |
| 5T170 | 2484 |
| 171 | 2484 |
| 172 | 2484 |
| 173 | 2484 |
| 174 | 2484 |
| 5T175 | 2484 |
| 176 | 2484 |
| 177 | 2484 |
| 178 | 2484 |
| 179 | 2484 |
| 5T180 | 2484 |
| 181 | 2471 |
| 182 | 2471 |
| 183 | 2471 |
| 184 | 2471 |
| 5T209 | 2479 |
| 210 | 2480 |
| 211 | 2480 |
| 212 | 2480 |
| 225 | 2487 |
| 5T231 | 2482 |
| 232 | 2488 |
| 233 | 2488 |
| 234 | 2488 |
| 235 | 2488 |
| 5T252 | 2488 |
| 253 | 2488 |
| 254 | 2488 |
| 255 | 2488 |
| 256 | 2488 |
| 5T257 | 2488 |
| 258 | 2488 |
| 259 | 2488 |
| 262 | 2345 |
| 263 | 2480 |
| 5T264 | 2417 |
| 265 | 2417 |
| 266 | 2417 |
| 276 | 2582 |
| 277 | 2386 |
| 5T278 | 2536 |
| 279 | 2417 |
| 280 | 2417 |
| 281 | 2590 |
| 282 | 2590 |
| 5T312 | 2466 |
| 313 | 2466 |
| 314 | 2466 |
| 315 | 2486 |
| 316 | 2486 |
| 5T317 | 2486 |
| 322 | 2485 |
| 323 | 2485 |
| 324 | 2485 |
| 325 | 2485 |
| 5T326 | 2485 |
| 327 | 2485 |
| 328 | 2485 |
| 332 | 2485 |
| 333 | 2485 |
| 5T334 | 2485 |
| 335 | 2485 |
| 336 | 2485 |
| 337 | 2483 |
| 338 | 2485 |
| 5T339 | 2485 |
| 340 | 2483 |
| 341 | 2483 |
| 342 | 2483 |
| 343 | 2483 |
| 5T344 | 2483 |
| 345 | 2483 |
| 346 | 2483 |
| 347 | 2483 |
| 348 | 2483 |
| 5T349 | 2483 |
| 350 | 2483 |
| 351 | 2484 |
| 352 | 2483 |
| 353 | 2484 |
| 5T354 | 2470 |
| 355 | 2470 |
| 356 | 2470 |
| 357 | 2470 |
| 358 | 2470 |
| 5T359 | 2470 |
| 360 | 2470 |
| 361 | 2470 |
| 362 | 2470 |
| 363 | 2470 |
| 5T364 | 2472 |
| 365 | 2472 |
| 366 | 2472 |
| 367 | 2472 |
| 368 | 2472 |
| 5T369 | 2472 |
| 370 | 2362 |
| 371 | 2362 |
| 372 | 2362 |
| 373 | 2412 |
| 5T374 | 2412 |
| 375 | 2412 |
| 376 | 2412 |
| 377 | 2413 |
| 378 | 2413 |
| 5T379 | 2413 |
| 380 | 2413 |
| 383 | 2413 |
| 384 | 2413 |
| 385 | 2413 |
| 5T386 | 2413 |
| 387 | 2413 |
| 388 | 2444 |
| 390 | 2443 |
| 393 | 2483 |
| 5T394 | 2483 |
| 395 | 2448 |
| 396 | 2439 |
| 397 | 2439 |
| 405 | 2542 |
| 5T395 | 2542 |
| 396 | 2542 |
| 397 | 2542 |
| 398 | 2542 |
| 399 | 2542 |
| 5T400 | 2542 |
| 401 | 2542 |
| 402 | 2542 |
| 403 | 2542 |
| 404 | 2542 |
| 5T405 | 2542 |
| 406 | 2542 |
| 407 | 2542 |
| 408 | 2542 |
| 410 | 2542 |
| 411 | 2542 |
| 412 | 2542 |
| 413 | 2542 |
| 5T418 | 2350 |
| 419 | 2350 |
| 422 | 2350 |
| 423 | 2350 |
| 434 | 1938 |
| 5T435 | 1938 |
| 436 | 2483 |
| 437 | 2483 |
| 438 | 1938 |
| 439 | 1938 |
| 5T444 | 2380 |
| 445 | 2380 |
| 446 | 2380 |
| 448 | 2345 |
| 450 | 2345 |
| 5T451 | 2345 |
| 453 | 2345 |
| 454 | 2492 |
| 455 | 2492 |
| 456 | 2492 |
| 5T457 | 2492 |
| 458 | 2492 |
| 459 | 2492 |
| 464 | 2409 |
| 474 | 2486 |
| 5T475 | 2486 |
| 476 | 2486 |
| 492 | 2394 |
| 493 | 2394 |
| 494 | 2394 |
| 5T495 | 2394 |
| 496 | 2395 |
| 497 | 2395 |
| 498 | 2394 |
| 510 | 2394 |
| 5T511 | 2394 |
| 512 | 2394 |
| 514 | 1959 |
| 516 | 2546 |
| 530 | 2513 |
| 5T536 | 2513 |
| 538 | 2494 |
| 539 | 2494 |
| 540 | 2494 |
| 541 | 2494 |
| 5T542 | 2494 |
| 543 | 2494 |
| 545 | 2500 |
| 546 | 2500 |
| 547 | 2500 |
| 5T550 | 2500 |
| 551 | 2500 |
| 552 | 2500 |
| 555 | 2500 |
| 556 | 2500 |
| 5T557 | 2500 |
| 560 | 2500 |
| 561 | 2500 |
| 562 | 2500 |
| 564 | 2402 |
| 5T565 | 2402 |
| 566 | 2402 |
| 567 | 2402 |
| 568 | 2402 |
| 569 | 2402 |
| 5T571 | 2333 |
| 573 | 2335 |
| 574 | 2335 |
| 575 | 2335 |
| 576 | 2402 |
| 5T577 | 2402 |
| 578 | 2402 |
| 579 | 2402 |
| 580 | 2402 |
| 585 | 2463 |
| 5T586 | 2347 |
| 587 | 2618 |
| 588 | 2554 |
| 589 | 2558 |
| 591 | 2562 |
| 5T611 | 2499 |
| 612 | 2499 |
| 613 | 2499 |
| 614 | 2499 |
| 615 | 2499 |
| 5T616 | 2499 |
| 617 | 2402 |
| 618 | 2402 |
| 619 | 2402 |
| 660 | 2632 |
| 5T661 | 2632 |
| 662 | 2632 |
| 663 | 2632 |
| 664 | 2632 |
| 665 | 2632 |
| 5T666 | 2632 |
| 667 | 2632 |
| 668 | 2632 |
| 669 | 2632 |
| 670 | 2632 |
| 5T671 | 2632 |
| 672 | 2632 |
| 673 | 2632 |
| 674 | 2632 |
| 675 | 2632 |
| 5T680 | 2632 |
| 681 | 2632 |
| 682 | 2632 |
| 683 | 2632 |
| 684 | 2634 |
| 5T685 | 2634 |
| 686 | 2634 |
| 687 | 2634 |
| 688 | 2634 |
| 689 | 2634 |
| 5T690 | 2634 |
| 691 | 2634 |
| 698 | 2634 |
| 699 | 2634 |
| 700 | 2635 |
| 5T701 | 2635 |
| 702 | 2635 |
| 703 | 2635 |
| 704 | 2635 |
| 705 | 2635 |
| 5T706 | 2635 |
| 707 | 2635 |
| 708 | 2635 |
| 709 | 2635 |
| 710 | 2635 |
| 5T711 | 2635 |
| 712 | 2635 |
| 713 | 2635 |
| 714 | 2635 |
| 715 | 2635 |
| 5T720 | 2634 |
| 721 | 2634 |
| 722 | 2634 |
| 723 | 2634 |
| 724 | 2634 |
| 5T794 | 2636 |
| 795 | 2636 |
| 796 | 2636 |
| 797 | 2636 |
| 798 | 2637 |
| 5T799 | 2637 |
| 800 | 2637 |
| 801 | 2637 |
| 802 | 2637 |
| 803 | 2637 |
| 5T804 | 2637 |
| 805 | 2637 |
| 806 | 2075 |
| 807 | 2562 |
| 808 | 2562 |
| 5T809 | 2562 |
| 810 | 2562 |
| 811 | 2562 |
| 812 | 2624 |
| 813 | 2562 |
| 5T814 | 2562 |
| 815 | 2562 |
| 816 | 2562 |
| 817 | 2562 |
| 818 | 2569 |
| 5T819 | 2569 |
| 820 | 2567 |
| 821 | 2567 |
| 822 | 2569 |
| 823 | 2569 |
| 5T824 | 2569 |
| 825 | 2569 |
| 826 | 2560 |
| 827 | 2560 |
| 828 | 2567 |
| 5T829 | 2567 |
| 830 | 2567 |
| 831 | 2566 |
| 832 | 2629 |
| 833 | 2629 |
| 5T834 | 2629 |
| 835 | 2629 |
| 836 | 2631 |
| 837 | 2631 |
| 838 | 2631 |
| 5T839 | 2631 |
| 840 | 2631 |
| 841 | 2631 |
| 842 | 2631 |
| 843 | 2631 |
| 5T843 | 2631 |
| 844 | 2631 |
| 845 | 2631 |
| 846 | 2631 |
| 847 | 2631 |
| 848 | 2631 |
| 5T849 | 2631 |
| 850 | 2631 |
| 851 | 2631 |
| 852 | 2631 |
| 853 | 2631 |
| 5T854 | 2631 |
| 855 | 2631 |
| 856 | 2631 |
| 857 | 2631 |
| 858 | 2631 |
| 5T860 | 2631 |
| 861 | 2631 |
| 862 | 2631 |
| 863 | 2631 |
| 864 | 2631 |
| 5T865 | 2631 |
| 866 | 2631 |
| 867 | 2631 |
| 869 | 2631 |
| 870 | 2631 |
| 5T871 | 2631 |
| 872 | 2631 |
| 873 | 2631 |
| 874 | 2631 |
| 877 | 2652 |
| 5T880 | 2652 |
| 881 | 2652 |
| 882 | 2652 |
| 883 | 2654 |
| 884 | 2654 |
| 5T885 | 2654 |
| 886 | 2652 |
| 887 | 2652 |
| 888 | 2652 |
| 892 | 2652 |
| 5T893 | 2652 |
| 899 | 2355 |
| 900 | 2355 |
| 901 | 2355 |
| 903 | 2355 |
| 5T904 | 2355 |
| 905 | 2355 |
| 906 | 2354 |
| 908 | 2354 |
| 909 | 2354 |
| 5T910 | 2537 |
| 911 | 2479 |
| 912 | 2479 |
| 913 | 2479 |
| 914 | 2479 |
| 5T915 | 2479 |
| 916 | 2478 |
| 917 | 2478 |
| 918 | 2478 |
| 919 | 2478 |
| 5T920 | 2478 |
| 921 | 2478 |
| 922 | 2478 |
| 923 | 2478 |
| 924 | 2478 |
| 5T925 | 2478 |
| 926 | 2446 |
| 927 | 2504 |
| 937 | 2449 |
| 939 | 2445 |
| 5T940 | 2451 |
| 941 | 2468 |
| 942 | 2468 |
| 943 | 2468 |
| 944 | 2468 |
| 5T945 | 2467 |
| 946 | 2467 |
| 947 | 2467 |
| 954 | 2401 |
| 955 | 2401 |
| 5T956 | 2401 |
| 957 | 2401 |
| 958 | 2401 |
| 959 | 2401 |
| 960 | 2401 |
| 5T961 | 2401 |
| 962 | 2401 |
| 963 | 2401 |
| 964 | 2401 |
| 965 | 2401 |
| 5T966 | 2401 |
| 967 | 2401 |
| 968 | 2401 |
| 969 | 2401 |
| 970 | 2401 |
| 5T971 | 2401 |
| 972 | 2401 |
| 973 | 2401 |
| 974 | 2401 |
| 975 | 2401 |
| 5T976 | 2401 |
| 977 | 2401 |
| 978 | 2401 |
| 979 | 2401 |
| 980 | 2401 |
| 5T981 | 2401 |
| 982 | 2401 |
| 983 | 2401 |
| 986 | 2651 |
| 989 | 2654 |
| 5T990 | 2654 |
| 991 | 2655 |
| 992 | 2655 |
| 993 | 2655 |
| 994 | 2655 |
| 5T995 | 2655 |
| 996 | 2655 |
| 997 | 2536 |
| **5U** | |
| 5U001 | 1175 |
| 002 | 1189 |
| 003 | 1189 |
| 008 | 1178 |
| 010 | 1178 |
| 5U012 | 1178 |
| 014 | 1178 |
| 015 | 1188 |
| 017 | 1188 |
| 019 | 1186 |
| 5U040 | 1189 |
| 041 | 1189 |
| 042 | 1189 |
| 043 | 1189 |
| 045 | 1189 |
| 5U046 | 1189 |
| 047 | 1178 |
| 049 | 1175 |
| 050 | 1185 |
| 053 | 1175 |
| 5U054 | 1175 |
| 055 | 1175 |
| 056 | 1175 |
| 057 | 1175 |
| 058 | 1175 |
| 5U059 | 1175 |
| 060 | 1175 |
| 061 | 1175 |
| 062 | 1175 |
| 063 | 1188 |
| 5U064 | 1187 |
| 065 | 1188 |
| 066 | 1188 |
| 067 | 1187 |
| 068 | 1177 |
| 5U074 | 1177 |
| 075 | 1177 |
| 076 | 1174 |
| 082 | 1177 |
| 085 | 1177 |
| 5U087 | 1177 |
| 088 | 1177 |
| 092 | 1177 |
| 093 | 1177 |
| 096 | 1177 |
| 5U097 | 1177 |
| 099 | 1177 |
| 100 | 1177 |
| 101 | 1177 |
| 103 | 1177 |
| 5U105 | 1177 |
| 109 | 1184 |
| 110 | 1184 |
| 111 | 61 |
| 113 | 61 |
| 5U114 | 61 |
| 115 | 61 |
| 116 | 165 |
| 117 | 165 |
| 118 | 165 |
| 5U119 | 165 |
| 120 | 165 |
| 121 | 165 |
| 122 | 165 |
| 123 | 165 |
| 5U124 | 164 |
| 125 | 164 |
| 126 | 164 |
| 128 | 164 |
| 129 | 156 |
| 5U130 | 156 |
| 131 | 156 |
| 132 | 156 |
| 133 | 156 |
| 134 | 156 |
| 5U135 | 164 |
| 136 | 164 |
| 137 | 164 |
| 138 | 164 |
| 139 | 164 |
| 5U140 | 164 |
| 141 | 165 |
| 142 | 165 |
| 143 | 165 |
| 144 | 165 |
| 5U145 | 169 |
| 146 | 169 |
| 147 | 169 |
| 149 | 169 |
| 150 | 169 |
| 5U151 | 165 |
| 152 | 165 |
| 153 | 165 |
| 154 | 165 |
| 155 | 165 |
| 5U157 | 164 |
| 158 | 164 |
| 159 | 164 |
| 160 | 164 |
| 161 | 164 |
| 5U162 | 164 |
| 163 | 169 |
| 164 | 169 |
| 165 | 169 |
| 166 | 140 |
| 5U167 | 140 |
| 168 | 140 |
| 169 | 140 |
| 170 | 161 |
| 171 | 161 |
| 5U172 | 161 |
| 173 | 161 |
| 174 | 161 |
| 175 | 148 |
| 176 | 148 |
| 5U177 | 140 |
| 178 | 140 |
| 179 | 140 |
| 180 | 140 |
| 192 | 41 |
| 5U193 | 41 |
| 194 | 41 |
| 195 | 41 |
| 196 | 41 |
| 197 | 41 |
| 5U198 | 41 |
| 199 | 41 |
| 200 | 41 |
| 201 | 41 |
| 202 | 156 |
| 5U203 | 156 |
| 204 | 156 |
| 205 | 156 |
| 206 | 156 |
| 210 | 156 |
| 5U211 | 156 |
| 212 | 156 |
| 213 | 156 |
| 214 | 156 |
| 218 | 156 |
| 5U219 | 156 |
| 220 | 156 |
| 221 | 156 |
| 222 | 156 |
| 223 | 156 |
| 5U224 | 156 |
| 225 | 156 |
| 226 | 156 |
| 227 | 156 |
| 228 | 156 |
| 5U232 | 156 |
| 237 | 127 |
| 238 | 127 |
| 239 | 127 |
| 240 | 127 |
| 5U241 | 127 |
| 242 | 127 |
| 243 | 127 |
| 244 | 127 |
| 245 | 127 |
| 5U246 | 127 |
| 247 | 127 |
| 248 | 127 |
| 249 | 127 |
| 250 | 127 |
| 5U251 | 127 |
| 252 | 127 |
| 253 | 170 |
| 254 | 170 |
| 255 | 170 |
| 5U256 | 170 |
| 257 | 170 |
| 258 | 170 |
| 259 | 161 |
| 263 | 55 |
| 5U264 | 158 |
| 265 | 158 |
| 266 | 149 |
| 267 | 74 |
| 268 | 74 |
| 5U269 | 265 |
| 270 | 265 |
| 271 | 265 |
| 272 | 265 |
| 273 | 265 |
| 5U274 | 265 |
| 275 | 265 |
| 276 | 265 |
| 277 | 265 |
| 278 | 265 |
| 5U279 | 265 |
| 280 | 265 |
| 281 | 265 |
| 282 | 265 |
| 283 | 265 |
| 5U284 | 265 |
| 285 | 265 |
| 286 | 265 |
| 287 | 265 |
| 288 | 265 |
| 5U289 | 265 |
| 290 | 265 |
| 291 | 265 |
| 292 | 265 |
| 293 | 267 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5U294 | 267 | 5U382 | 267 | 5U450 | 327 | 5U516 | 332 | 5U581 | 333 | 5U652 | 2663 | 5U746 | 790 | 5U864 | 46 | 5U929 | 47 | 5VC23 | 1145 | 5V237 | 950 | 5V536 | 918 |
| 295 | 267 | 383 | 266 | 451 | 327 | 517 | 332 | 582 | 328 | 653 | 2663 | 747 | 2361 | 865 | 46 | 930 | 47 | C24 | 1145 | 238 | 963 | 551 | 942 |
| 296 | 267 | 384 | 266 | 452 | 327 | 518 | 328 | 583 | 332 | 654 | 2663 | 748 | 2361 | 866 | 46 | 931 | 47 | C25 | 1152 | 240 | 968 | 552 | 942 |
| 297 | 267 | 385 | 266 | 453 | 327 | 519 | 328 | 584 | 328 | 655 | 2663 | 749 | 683 | 867 | 46 | 932 | 47 | C28 | 1141 | 241 | 972 | 561 | 962 |
| 298 | 267 | 386 | 266 | 454 | 327 | 520 | 332 | 585 | 332 | 656 | 2663 | 750 | 683 | 868 | 46 | 936 | 2735 | 002 | 972 | 243 | 973 | 563 | 920 |
| 5U299 | 267 | 5U390 | 266 | 5U455 | 327 | 5U521 | 328 | 5U586 | 332 | 5U657 | 2663 | 5U751 | 683 | 5U869 | 46 | 5U937 | 1057 | 5V012 | 972 | 5V247 | 976 | 5V564 | 920 |
| 300 | 267 | 391 | 266 | 456 | 327 | 522 | 332 | 587 | 328 | 658 | 2663 | 752 | 683 | 870 | 46 | 938 | 1057 | 014 | 972 | 248 | 964 | 565 | 923 |
| 301 | 267 | 392 | 266 | 457 | 327 | 523 | 328 | 588 | 328 | 663 | 3192 | 753 | 683 | 871 | 46 | 939 | 1057 | 015 | 954 | 249 | 976 | 566 | 922 |
| 302 | 267 | 393 | 329 | 458 | 327 | 524 | 332 | 589 | 328 | 664 | 3193 | 754 | 683 | 872 | 46 | 940 | 1057 | 023 | 973 | 256 | 950 | 567 | 921 |
| 303 | 267 | 394 | 333 | 459 | 327 | 525 | 332 | 590 | 332 | 665 | 3193 | 755 | 683 | 873 | 46 | 941 | 1059 | 025 | 973 | 259 | 950 | 571 | 917 |
| 5U304 | 267 | 5U395 | 329 | 5U460 | 327 | 5U526 | 332 | 5U591 | 328 | 5U666 | 3193 | 5U756 | 683 | 5U874 | 46 | 5U942 | 1059 | 5V026 | 973 | 5V260 | 950 | 5V572 | 918 |
| 305 | 267 | 396 | 333 | 461 | 327 | 527 | 329 | 592 | 332 | 667 | 3192 | 757 | 683 | 875 | 46 | 943 | 1059 | 027 | 973 | 272 | 952 | 576 | 945 |
| 306 | 267 | 397 | 329 | 462 | 327 | 528 | 333 | 593 | 332 | 668 | 3192 | 758 | 683 | 876 | 46 | 944 | 1059 | 028 | 973 | 273 | 953 | 589 | 958 |
| 307 | 266 | 398 | 333 | 463 | 327 | 529 | 328 | 594 | 3196 | 669 | 3192 | 759 | 683 | 877 | 46 | 945 | 1059 | 029 | 973 | 280 | 953 | 592 | 1008 |
| 308 | 266 | 399 | 329 | 464 | 327 | 530 | 332 | 595 | 3196 | 670 | 3192 | 760 | 683 | 878 | 46 | 946 | 1059 | 031 | 973 | 281 | 953 | 593 | 1008 |
| 5U309 | 266 | 5U400 | 333 | 5U465 | 327 | 5U531 | 329 | 5U596 | 3476 | 5U671 | 3193 | 5U763 | 802 | 5U879 | 46 | 5U947 | 1057 | 5V032 | 973 | 5V284 | 954 | 5V597 | 958 |
| 310 | 266 | 401 | 329 | 466 | 327 | 532 | 333 | 603 | 2387 | 672 | 3193 | 764 | 755 | 880 | 46 | 948 | 1060 | 035 | 973 | 292 | 954 | 598 | 962 |
| 311 | 266 | 402 | 333 | 467 | 327 | 533 | 329 | 604 | 2375 | 673 | 3193 | 765 | 755 | 881 | 46 | 949 | 1060 | 047 | 976 | 295 | 956 | 599 | 965 |
| 312 | 266 | 403 | 329 | 468 | 327 | 534 | 329 | 605 | 2590 | 674 | 3192 | 766 | 755 | 882 | 46 | 950 | 1060 | 051 | 976 | 296 | 970 | 600 | 968 |
| 331 | 265 | 404 | 333 | 469 | 327 | 535 | 333 | 606 | 2661 | 675 | 3192 | 767 | 755 | 883 | 46 | 951 | 1060 | 052 | 976 | 298 | 964 | 609 | 958 |
| 5U332 | 265 | 5U405 | 329 | 5U470 | 327 | 5U536 | 333 | 5U607 | 2661 | 5U676 | 3193 | 5U768 | 802 | 5U884 | 46 | 5U952 | 1060 | 5V053 | 975 | 5V303 | 957 | 5V612 | 963 |
| 333 | 266 | 406 | 333 | 471 | 327 | 537 | 329 | 608 | 2661 | 677 | 3193 | 769 | 802 | 885 | 46 | 953 | 1060 | 054 | 976 | 305 | 957 | 613 | 963 |
| 334 | 266 | 407 | 329 | 472 | 327 | 538 | 329 | 609 | 2661 | 678 | 3193 | 770 | 802 | 886 | 46 | 954 | 1060 | 055 | 976 | 307 | 960 | 615 | 965 |
| 335 | 265 | 408 | 333 | 473 | 327 | 539 | 329 | 610 | 2661 | 679 | 3192 | 771 | 802 | 887 | 46 | 955 | 1060 | 059 | 979 | 310 | 960 | 616 | 965 |
| 336 | 265 | 409 | 329 | 474 | 327 | 540 | 329 | 611 | 2661 | 680 | 3192 | 772 | 802 | 888 | 46 | 956 | 1060 | 060 | 979 | 314 | 966 | 619 | 968 |
| 5U337 | 266 | 5U410 | 333 | 5U475 | 327 | 5U541 | 333 | 5U612 | 2663 | 5U681 | 3194 | 5U773 | 802 | 5U889 | 46 | 5U957 | 1060 | 5V062 | 979 | 5V323 | 951 | 5V621 | 968 |
| 338 | 266 | 411 | 329 | 476 | 327 | 542 | 329 | 613 | 2663 | 682 | 3194 | 774 | 812 | 890 | 46 | 958 | 1062 | 065 | 969 | 324 | 951 | 626 | 918 |
| 339 | 265 | 412 | 333 | 477 | 327 | 543 | 329 | 614 | 2661 | 683 | 3196 | 775 | 812 | 891 | 46 | 959 | 1062 | 072 | 980 | 332 | 953 | 629 | 922 |
| 340 | 265 | 413 | 333 | 478 | 327 | 544 | 333 | 615 | 2661 | 684 | 3196 | 776 | 894 | 892 | 46 | 960 | 1062 | 073 | 980 | 336 | 954 | 630 | 923 |
| 341 | 266 | 414 | 329 | 480 | 327 | 545 | 329 | 616 | 2661 | 696 | 2002 | 778 | 802 | 893 | 46 | 961 | 1062 | 075 | 941 | 345 | 960 | 631 | 923 |
| 5U342 | 266 | 5U415 | 333 | 5U481 | 328 | 5U546 | 333 | 5U617 | 2661 | 5U697 | 2002 | 5U779 | 802 | 5U894 | 46 | 5U962 | 1062 | 5V090 | 982 | 5V346 | 960 | 5V633 | 922 |
| 343 | 265 | 416 | 329 | 482 | 332 | 547 | 329 | 618 | 2661 | 704 | 2004 | 786 | 577 | 895 | 46 | 963 | 1062 | 100 | 950 | 351 | 960 | 634 | 923 |
| 344 | 265 | 417 | 333 | 483 | 328 | 548 | 333 | 619 | 2661 | 705 | 2004 | 787 | 577 | 896 | 46 | 964 | 1064 | 117 | 971 | 358 | 968 | 635 | 974 |
| 345 | 266 | 418 | 329 | 484 | 332 | 549 | 329 | 620 | 2661 | 707 | 2004 | 788 | 586 | 897 | 46 | 965 | 1064 | 119 | 973 | 375 | 976 | 640 | 945 |
| 346 | 266 | 419 | 333 | 485 | 328 | 550 | 333 | 621 | 2661 | 708 | 2004 | 789 | 586 | 898 | 46 | 966 | 1067 | 121 | 973 | 380 | 979 | 645 | 980 |
| 5U347 | 265 | 5U420 | 329 | 5U486 | 332 | 5U551 | 329 | 5U622 | 2663 | 5U710 | 1445 | 5U790 | 586 | 5U899 | 46 | 5U967 | 1067 | 5V123 | 973 | 5V381 | 982 | 5V646 | 980 |
| 348 | 265 | 421 | 333 | 487 | 328 | 552 | 333 | 623 | 2663 | 711 | 1452 | 791 | 586 | 900 | 46 | 968 | 1067 | 125 | 975 | 384 | 971 | 648 | 980 |
| 349 | 266 | 422 | 329 | 488 | 332 | 553 | 329 | 624 | 2663 | 712 | 1452 | 792 | 586 | 901 | 46 | 969 | 1067 | 132 | 978 | 393 | 973 | 650 | 923 |
| 350 | 266 | 423 | 333 | 489 | 328 | 554 | 333 | 625 | 2663 | 713 | 2560 | 793 | 586 | 902 | 46 | 970 | 1067 | 141 | 950 | 400 | 978 | 658 | 939 |
| 351 | 265 | 424 | 329 | 490 | 332 | 555 | 329 | 626 | 2663 | 714 | 2568 | 794 | 2615 | 903 | 47 | 971 | 1067 | 142 | 951 | 411 | 951 | 670 | 920 |
| 5U352 | 265 | 5U425 | 333 | 5U491 | 329 | 5U556 | 333 | 5U627 | 2663 | 5U715 | 2561 | 5U795 | 2615 | 5U904 | 47 | 5U993 | 390 | 5V144 | 950 | 5V414 | 947 | 5V671 | 922 |
| 353 | 266 | 426 | 333 | 492 | 329 | 557 | 332 | 628 | 2663 | 719 | 1402 | 796 | 2615 | 905 | 47 | 994 | 390 | 149 | 976 | 430 | 946 | 685 | 940 |
| 354 | 266 | 427 | 329 | 493 | 328 | 558 | 328 | 629 | 2663 | 720 | 1402 | 797 | 2615 | 906 | 47 | 995 | 390 | 151 | 976 | 437 | 946 | 686 | 946 |
| 355 | 265 | 428 | 333 | 494 | 332 | 559 | 328 | 630 | 2663 | 722 | 1402 | 798 | 2615 | 907 | 47 | 996 | 390 | 154 | 976 | 451 | 950 | 691 | 939 |
| 356 | 265 | 429 | 329 | 495 | 328 | 560 | 332 | 631 | 2663 | 723 | 1402 | 799 | 2615 | 908 | 47 | 997 | 390 | 155 | 976 | 452 | 950 | 696 | 981 |
| 5U357 | 266 | 5U430 | 333 | 5U496 | 332 | 5U561 | 329 | 5U632 | 2663 | 5U724 | 1404 | 5U800 | 2615 | 5U909 | 47 | 5U998 | 390 | 5V157 | 979 | 5V460 | 968 | 5V705 | 957 |
| 358 | 266 | 431 | 329 | 497 | 328 | 562 | 333 | 633 | 2663 | 725 | 1404 | 813 | 1178 | 910 | 47 | 999 | 390 | 158 | 979 | 466 | 963 | 706 | 957 |
| 359 | 265 | 432 | 333 | 498 | 332 | 563 | 329 | 634 | 2663 | 726 | 1403 | 816 | 1184 | 911 | 47 | | | 163 | 951 | 474 | 916 | 711 | 982 |
| 360 | 265 | 433 | 329 | 499 | 328 | 564 | 333 | 635 | 2663 | 727 | 1402 | 817 | 1184 | 912 | 47 | 5V | | 164 | 951 | 476 | 917 | 713 | 982 |
| 361 | 266 | 434 | 333 | 500 | 332 | 565 | 329 | 636 | 2663 | 728 | 1405 | 818 | 1184 | 913 | 47 | 5VC00 | 1141 | 169 | 971 | 477 | 916 | 714 | 982 |
| 5U367 | 266 | 5U435 | 329 | 5U501 | 328 | 5U566 | 333 | 5U637 | 2663 | 5U729 | 1405 | 5U819 | 1184 | 5U914 | 47 | 5VC01 | 1138 | 5V172 | 951 | 5V479 | 916 | 5V721 | 947 |
| 368 | 266 | 436 | 333 | 502 | 332 | 567 | 329 | 638 | 2663 | 730 | 1405 | 821 | 1184 | 915 | 47 | C03 | 1147 | 173 | 951 | 489 | 916 | 728 | 968 |
| 369 | 267 | 437 | 333 | 503 | 328 | 568 | 329 | 639 | 2663 | 731 | 1405 | 822 | 1184 | 916 | 47 | C05 | 1152 | 179 | 951 | 495 | 917 | 733 | 972 |
| 370 | 267 | 438 | 333 | 504 | 332 | 569 | 329 | 640 | 2663 | 732 | 1405 | 823 | 1184 | 917 | 47 | C07 | 1138 | 186 | 977 | 496 | 917 | 735 | 972 |
| 371 | 267 | 439 | 333 | 505 | 328 | 570 | 329 | 641 | 2663 | 733 | 1405 | 824 | 811 | 918 | 47 | C08 | 1138 | 190 | 951 | 501 | 917 | 737 | 951 |
| 5U372 | 267 | 5U440 | 329 | 5U506 | 332 | 5U571 | 329 | 5U642 | 2663 | 5U734 | 2329 | 5U825 | 820 | 5U919 | 47 | 5VC09 | 1138 | 5V191 | 951 | 5V502 | 917 | 5V752 | 968 |
| 373 | 267 | 441 | 329 | 507 | 328 | 572 | 329 | 643 | 2663 | 735 | 2346 | 827 | 776 | 920 | 47 | C14 | 1152 | 210 | 977 | 506 | 918 | 753 | 968 |
| 374 | 267 | 442 | 329 | 508 | 332 | 573 | 333 | 644 | 2663 | 736 | 2346 | 829 | 811 | 921 | 47 | C15 | 1147 | 211 | 977 | 508 | 918 | 755 | 957 |
| 375 | 267 | 443 | 327 | 509 | 332 | 574 | 329 | 645 | 2663 | 737 | 2343 | 831 | 811 | 922 | 47 | C16 | 1144 | 215 | 979 | 511 | 976 | 756 | 922 |
| 376 | 267 | 444 | 327 | 510 | 328 | 575 | 329 | 646 | 2663 | 738 | 2343 | 832 | 811 | 923 | 47 | C17 | 1147 | 217 | 979 | 522 | 924 | 757 | 959 |
| 5U377 | 267 | 5U445 | 327 | 5U511 | 332 | 5U576 | 329 | 5U647 | 2663 | 5U739 | 2639 | 5U836 | 757 | 5U924 | 47 | 5VC18 | 1147 | 5V223 | 981 | 5V527 | 917 | 5V758 | 973 |
| 378 | 267 | 446 | 327 | 512 | 328 | 577 | 333 | 648 | 2663 | 740 | 2639 | 839 | 811 | 925 | 47 | C19 | 1152 | 224 | 981 | 528 | 917 | 761 | 958 |
| 379 | 267 | 447 | 327 | 513 | 332 | 578 | 329 | 649 | 2663 | 741 | 2639 | 840 | 811 | 926 | 47 | C20 | 1152 | 228 | 982 | 531 | 918 | 762 | 960 |
| 380 | 267 | 448 | 327 | 514 | 328 | 579 | 333 | 650 | 2663 | 742 | 2639 | 841 | 811 | 927 | 47 | C21 | 1152 | 229 | 982 | 533 | 918 | 763 | 963 |
| 381 | 267 | 449 | 327 | 515 | 328 | 580 | 329 | 651 | 2663 | 745 | 803 | 842 | 811 | 928 | 47 | C22 | 1140 | 235 | 982 | 534 | 918 | 774 | 946 |

# STOCK NUMBER—PAGE NUMBER

## 5V7 — 5X4

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5V780** | 917 | **5W016** | 3010 | **5W220** | 2044 | **5W329** | 2829 | **5W449** | 3536 | **5W571** | 587 | **5W668** | 2328 | **5W772** | 1907 | **5W849** | 2044 | **5W916** | 3538 | **5XC22** | 654 | **5X290** | 300 |
| **792** | 939 | **017** | 3010 | **221** | 2044 | **330** | 2829 | **450** | 3536 | **572** | 587 | **669** | 2328 | **777** | 1915 | **850** | 2044 | **917** | 3538 | **C23** | 654 | **291** | 300 |
| **793** | 939 | **018** | 3010 | **222** | 2044 | **333** | 2829 | **451** | 3536 | **573** | 587 | **670** | 2328 | **778** | 1937 | **851** | 2044 | **918** | 3538 | **C24** | 652 | **292** | 300 |
| **796** | 919 | **019** | 3019 | **223** | 2044 | **336** | 2829 | **454** | 2258 | **574** | 587 | **671** | 2089 | **779** | 1937 | **852** | 2044 | **919** | 3538 | **C25** | 652 | **293** | 300 |
| **805** | 941 | **020** | 3019 | **224** | 2044 | **342** | 2829 | **455** | 2258 | **575** | 587 | **672** | 2085 | **780** | 1937 | **853** | 2044 | **920** | 3538 | **C26** | 652 | **294** | 300 |
| **5V806** | 942 | **5W021** | 3019 | **5W225** | 2044 | **5W343** | 2829 | **5W456** | 2258 | **5W576** | 587 | **5W673** | 2085 | **5W781** | 1937 | **5W854** | 2044 | **5W921** | 3538 | **5XC27** | 653 | **5X295** | 300 |
| **815** | 957 | **022** | 1526 | **226** | 2044 | **349** | 2829 | **457** | 2258 | **577** | 587 | **674** | 2089 | **782** | 1937 | **855** | 2044 | **922** | 3538 | **C28** | 653 | **296** | 300 |
| **817** | 941 | **023** | 2704 | **227** | 2272 | **350** | 2829 | **458** | 2258 | **578** | 592 | **675** | 2089 | **783** | 1937 | **856** | 2044 | **923** | 3538 | **C29** | 653 | **297** | 300 |
| **823** | 969 | **025** | 2704 | **228** | 2272 | **351** | 2829 | **459** | 2258 | **579** | 592 | **676** | 2089 | **784** | 1937 | **857** | 2044 | **924** | 3538 | **C30** | 661 | **298** | 300 |
| **836** | 980 | **026** | 2704 | **229** | 2272 | **352** | 2829 | **460** | 2258 | **580** | 592 | **677** | 2089 | **785** | 1937 | **858** | 2044 | **925** | 3538 | **C31** | 661 | **299** | 300 |
| **5V844** | 980 | **5W027** | 2704 | **5W230** | 2044 | **5W353** | 2829 | **5W461** | 2258 | **5W581** | 2270 | **5W678** | 2089 | **5W786** | 2253 | **5W859** | 2044 | **5W926** | 3538 | **5XC32** | 661 | **5X300** | 300 |
| **849** | 980 | **028** | 2704 | **231** | 3012 | **354** | 2829 | **462** | 2258 | **582** | 2267 | **679** | 2085 | **787** | 2254 | **860** | 2044 | **935** | 2679 | **C33** | 661 | **301** | 300 |
| **860** | 981 | **029** | 2704 | **232** | 2705 | **357** | 2829 | **463** | 2258 | **585** | 2299 | **680** | 2085 | **791** | 2304 | **861** | 2044 | **936** | 2679 | **C34** | 658 | **302** | 300 |
| **871** | 917 | **030** | 2704 | **233** | 2705 | **358** | 2829 | **464** | 2258 | **587** | 2299 | **681** | 2086 | **792** | 2304 | **862** | 2044 | **937** | 2679 | **C35** | 658 | **303** | 300 |
| **872** | 916 | **035** | 3018 | **235** | 2117 | **359** | 2829 | **465** | 2258 | **588** | 2108 | **682** | 2086 | **793** | 2304 | **863** | 2044 | **938** | 2679 | **C36** | 658 | **304** | 300 |
| **5V873** | 916 | **5W036** | 3018 | **5W264** | 2108 | **5W360** | 2829 | **5W466** | 2258 | **5W589** | 2108 | **5W683** | 2320 | **5W794** | 2304 | **5W864** | 2044 | **5W939** | 2679 | **5XC37** | 658 | **5X361** | 525 |
| **875** | 920 | **037** | 3018 | **265** | 2108 | **369** | 2829 | **471** | 2109 | **590** | 2108 | **684** | 2210 | **795** | 2304 | **865** | 2046 | **940** | 2679 | **C38** | 656 | **372** | 2960 |
| **876** | 920 | **038** | 3018 | **266** | 2108 | **370** | 2829 | **472** | 2109 | **591** | 2108 | **685** | 2325 | **796** | 2304 | **866** | 2046 | **941** | 2679 | **C39** | 656 | **373** | 2379 |
| **878** | 916 | **062** | 2056 | **267** | 2108 | **374** | 2829 | **473** | 2179 | **604** | 2118 | **687** | 2210 | **797** | 2304 | **867** | 2046 | **943** | 2667 | **C40** | 656 | **386** | 3012 |
| **879** | 916 | **063** | 2056 | **268** | 2108 | **377** | 2829 | **474** | 2255 | **606** | 2118 | **688** | 2210 | **798** | 2304 | **868** | 2046 | **945** | 2667 | **C41** | 656 | **389** | 3012 |
| **5V880** | 916 | **5W069** | 3529 | **5W269** | 2108 | **5W378** | 2829 | **5W480** | 1525 | **5W613** | 1935 | **5W699** | 2166 | **5W799** | 2304 | **5W869** | 2046 | **5W956** | 1549 | **5XC42** | 662 | **5X390** | 3012 |
| **881** | 917 | **070** | 3529 | **270** | 2108 | **379** | 2829 | **481** | 1525 | **614** | 1935 | **700** | 2164 | **800** | 2304 | **870** | 2046 | **957** | 1549 | **C43** | 662 | **391** | 3012 |
| **884** | 918 | **071** | 3529 | **271** | 2108 | **382** | 2829 | **498** | 3530 | **615** | 1935 | **701** | 2272 | **801** | 2304 | **871** | 2046 | **958** | 1549 | **C44** | 662 | **392** | 3012 |
| **907** | 946 | **072** | 3529 | **272** | 2108 | **384** | 2829 | **501** | 3528 | **616** | 1937 | **702** | 2272 | **802** | 2304 | **872** | 2046 | **959** | 1549 | **C45** | 662 | **393** | 3010 |
| **908** | 959 | **073** | 3529 | **273** | 2108 | **385** | 2829 | **502** | 3528 | **617** | 1937 | **703** | 2272 | **803** | 2304 | **873** | 2046 | **961** | 2738 | **C46** | 662 | **394** | 3010 |
| **5V911** | 980 | **5W075** | 3529 | **5W274** | 1525 | **5W386** | 2829 | **5W504** | 3528 | **5W618** | 1927 | **5W704** | 2272 | **5W804** | 2315 | **5W874** | 2046 | **5W962** | 2738 | **5XC47** | 662 | **5X399** | 202 |
| **913** | 979 | **076** | 3529 | **275** | 637 | **402** | 3480 | **505** | 3528 | **619** | 1927 | **705** | 2272 | **805** | 2315 | **875** | 2046 | **963** | 2740 | **C48** | 662 | **400** | 263 |
| **916** | 973 | **079** | 3529 | **276** | 637 | **403** | 3480 | **507** | 3528 | **620** | 1927 | **706** | 2272 | **806** | 2315 | **876** | 2046 | **964** | 2740 | **C49** | 662 | **401** | 357 |
| **919** | 980 | **080** | 3529 | **277** | 637 | **404** | 1923 | **508** | 3528 | **621** | 1925 | **707** | 2272 | **807** | 2315 | **877** | 2056 | **965** | 2740 | **C50** | 662 | **402** | 357 |
| **921** | 973 | **083** | 3529 | **278** | 638 | **405** | 1923 | **509** | 3532 | **626** | 1856 | **708** | 2272 | **808** | 2315 | **878** | 2056 | **967** | 3532 | **C51** | 662 | **403** | 2914 |
| **5V922** | 973 | **5W095** | 3535 | **5W279** | 638 | **5W406** | 1924 | **5W510** | 3532 | **5W628** | 1856 | **5W709** | 2272 | **5W809** | 2315 | **5W879** | 2056 | **5W968** | 3532 | **5XC52** | 662 | **5X409** | 1154 |
| **936** | 974 | **096** | 3529 | **280** | 640 | **407** | 1924 | **511** | 3532 | **629** | 1856 | **710** | 2179 | **810** | 2315 | **880** | 2049 | **969** | 3532 | **C53** | 662 | **410** | 572 |
| **938** | 941 | **097** | 3529 | **281** | 640 | **408** | 3088 | **512** | 3532 | **630** | 1914 | **711** | 2179 | **811** | 2315 | **881** | 2049 | **970** | 3532 | **C54** | 662 | **411** | 572 |
| **940** | 943 | **098** | 3529 | **282** | 640 | **409** | 3088 | **513** | 3532 | **631** | 1914 | **712** | 1936 | **812** | 2264 | **882** | 2049 | **971** | 3532 | **C55** | 662 | **412** | 192 |
| **941** | 943 | **099** | 3529 | **283** | 2829 | **410** | 3088 | **514** | 3532 | **632** | 1914 | **713** | 1936 | **813** | 2264 | **883** | 2049 | **972** | 3532 | **C56** | 662 | **413** | 3610 |
| **5V943** | 941 | **5W100** | 3529 | **5W284** | 2829 | **5W411** | 3088 | **5W515** | 3532 | **5W633** | 1914 | **5W714** | 1936 | **5W814** | 2264 | **5W884** | 2049 | **5W973** | 3532 | **5XC57** | 662 | **5X419** | 1023 |
| **944** | 942 | **101** | 3529 | **285** | 2829 | **412** | 3088 | **516** | 3532 | **634** | 1914 | **720** | 2828 | **815** | 2264 | **885** | 2049 | **974** | 3532 | **C58** | 662 | **420** | 1025 |
| **945** | 942 | **102** | 3529 | **286** | 2829 | **413** | 3089 | **517** | 3532 | **635** | 1914 | **721** | 2828 | **816** | 2264 | **886** | 2043 | **975** | 3532 | **C59** | 662 | **423** | 571 |
| **946** | 942 | **103** | 3529 | **287** | 2829 | **414** | 3089 | **518** | 3532 | **636** | 1958 | **722** | 2828 | **817** | 2264 | **887** | 674 | **976** | 3532 | **C60** | 662 | **424** | 621 |
| **950** | 916 | **104** | 3529 | **289** | 2829 | **415** | 3089 | **522** | 1568 | **637** | 1958 | **723** | 2828 | **818** | 2264 | **888** | 2046 | **977** | 3532 | **C61** | 662 | **425** | 621 |
| **5V952** | 916 | **5W119** | 2260 | **5W290** | 2829 | **5W416** | 3089 | **5W526** | 1627 | **5W638** | 1958 | **5W725** | 2318 | **5W819** | 2264 | **5W889** | 2046 | **5W978** | 3532 | **5XC62** | 662 | **5X426** | 621 |
| **960** | 919 | **125** | 2197 | **291** | 2829 | **417** | 3089 | **535** | 1715 | **639** | 1958 | **726** | 2318 | **820** | 2262 | **890** | 3532 | **979** | 3532 | **C63** | 662 | **427** | 621 |
| **972** | 974 | **126** | 2197 | **293** | 2829 | **418** | 2618 | **536** | 1715 | **640** | 1958 | **728** | 2318 | **821** | 2262 | **891** | 3532 | **981** | 3528 | **C64** | 662 | **428** | 621 |
| **977** | 947 | **127** | 2194 | **296** | 2829 | **419** | 2615 | **537** | 1715 | **641** | 1943 | **731** | 3019 | **822** | 2262 | **892** | 3532 | **983** | 3528 | **C65** | 662 | **429** | 621 |
| **978** | 947 | **148** | 2294 | **297** | 2829 | **422** | 3534 | **538** | 1715 | **642** | 1943 | **732** | 3019 | **823** | 2308 | **893** | 3532 | **989** | 3528 | **C66** | 662 | **432** | 197 |
| **5V982** | 923 | **5W150** | 2294 | **5W298** | 2829 | **5W423** | 3534 | **5W540** | 1715 | **5W643** | 1943 | **5W738** | 2681 | **5W824** | 2308 | **5W894** | 3514 | **5W995** | 3537 | **5XC67** | 662 | **5X433** | 197 |
| **993** | 923 | **177** | 2004 | **300** | 2829 | **424** | 3534 | **542** | 1715 | **647** | 1942 | **739** | 2681 | **825** | 2308 | **895** | 3514 | **996** | 3537 | **C68** | 662 | **434** | 197 |
| **999** | 922 | **178** | 2004 | **301** | 2829 | **425** | 3534 | **543** | 1715 | **648** | 1942 | **740** | 2681 | **826** | 2308 | **896** | 3514 | | | **C69** | 662 | **435** | 197 |
| **5W** | | **179** | 2004 | **302** | 2829 | **426** | 3536 | **544** | 1959 | **649** | 1942 | **741** | 2681 | **827** | 2308 | **897** | 3514 | **5X** | | **C70** | 662 | **441** | 3039 |
| | | **180** | 2004 | **303** | 2829 | **427** | 3522 | **552** | 1902 | **652** | 1941 | **750** | 2695 | **833** | 2226 | **898** | 3514 | **5XC06** | 654 | **C71** | 662 | **442** | 3039 |
| **5W001** | 1927 | **5W181** | 2002 | **5W304** | 2829 | **5W429** | 3536 | **5W553** | 3024 | **5W653** | 1941 | **5W751** | 2696 | **5W834** | 2044 | **5W899** | 3514 | **5XC07** | 654 | **5XC72** | 662 | **5X443** | 3039 |
| **002** | 1919 | **182** | 833 | **309** | 2829 | **430** | 3536 | **554** | 3024 | **654** | 1941 | **752** | 2695 | **835** | 2044 | **900** | 3514 | **C08** | 654 | **C73** | 662 | **444** | 3039 |
| **003** | 1919 | **184** | 1385 | **310** | 2829 | **431** | 3536 | **555** | 3024 | **655** | 1941 | **753** | 2694 | **836** | 2044 | **901** | 3514 | **C09** | 655 | **C74** | 662 | **445** | 3039 |
| **004** | 1919 | **188** | 1384 | **311** | 2829 | **432** | 3536 | **556** | 2231 | **656** | 1941 | **754** | 1895 | **837** | 2044 | **902** | 3534 | **C10** | 655 | **C75** | 662 | **446** | 3039 |
| **005** | 1924 | **189** | 1384 | **313** | 2829 | **433** | 3522 | **557** | 2231 | **657** | 1941 | **755** | 2664 | **838** | 2044 | **903** | 3534 | **C11** | 655 | **C76** | 662 | **447** | 357 |
| **5W006** | 1924 | **5W194** | 2369 | **5W314** | 2829 | **5W434** | 3536 | **5W558** | 2231 | **5W658** | 2253 | **5W756** | 2664 | **5W839** | 2044 | **5W904** | 3534 | **5XC12** | 653 | **5XC77** | 662 | **5X450** | 3503 |
| **007** | 1919 | **195** | 2369 | **315** | 2829 | **435** | 3536 | **559** | 2231 | **659** | 2255 | **757** | 2678 | **840** | 2044 | **905** | 3534 | **C13** | 653 | **C78** | 662 | **451** | 3503 |
| **008** | 3510 | **197** | 3480 | **317** | 2829 | **436** | 3536 | **560** | 2231 | **660** | 2253 | **758** | 2677 | **841** | 2044 | **907** | 2004 | **C14** | 653 | **C79** | 662 | **452** | 3503 |
| **009** | 3510 | **198** | 3479 | **318** | 2829 | **438** | 3536 | **561** | 2231 | **661** | 2204 | **759** | 2679 | **842** | 2044 | **908** | 2004 | **C15** | 653 | **C80** | 662 | **453** | 3503 |
| **010** | 3510 | **208** | 1860 | **320** | 2829 | **441** | 3536 | **562** | 2321 | **662** | 2328 | **760** | 1859 | **843** | 2044 | **909** | 2004 | **C16** | 653 | **C81** | 662 | **454** | 3503 |
| **5W011** | 3012 | **5W214** | 587 | **5W324** | 2829 | **5W442** | 3536 | **5W563** | 2194 | **5W663** | 2328 | **5W767** | 1921 | **5W844** | 2044 | **5W911** | 2738 | **5XC17** | 653 | **5XC82** | 662 | **5X455** | 3503 |
| **012** | 3012 | **215** | 588 | **325** | 2829 | **443** | 3536 | **564** | 1569 | **664** | 2328 | **768** | 1921 | **845** | 2044 | **912** | 1569 | **C18** | 654 | **C83** | 662 | **456** | 3503 |
| **013** | 3010 | **216** | 2175 | **326** | 2829 | **445** | 3536 | **565** | 2801 | **665** | 2328 | **769** | 1926 | **846** | 2044 | **913** | 3530 | **C19** | 654 | **C84** | 662 | **457** | 3503 |
| **014** | 3010 | **217** | 2184 | **327** | 2829 | **446** | 3536 | **566** | 2801 | **666** | 2328 | **770** | 1908 | **847** | 2044 | **914** | 3530 | **C20** | 654 | **C85** | 662 | **458** | 3503 |
| **015** | 3010 | **219** | 2044 | **328** | 2829 | **448** | 3536 | **570** | 587 | **667** | 2328 | **771** | 1907 | **848** | 2044 | **915** | 3538 | **C21** | 654 | **247** | 201 | **459** | 3503 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5X460 | 3503 | 5X667 | 792 | 5X754 | 2136 | 5X856 | 1394 | 5X973 | 1650 | 5Z095 | 2201 | 5Z283 | 2700 | 5Z378 | 2671 | 5Z625 | 2903 | 5Z704 | 2874 | 5Z769 | 2908 | 5Z837 | 690 |
| 475 | 307 | 668 | 792 | 757 | 2130 | 857 | 1394 | 974 | 1650 | 096 | 2671 | 284 | 2700 | 382 | 2227 | 626 | 2903 | 705 | 2890 | 770 | 2908 | 839 | 706 |
| 476 | 307 | 673 | 196 | 758 | 2130 | 858 | 1394 | 975 | 1650 | 125 | 1953 | 285 | 2700 | 383 | 2227 | 627 | 2903 | 706 | 2890 | 771 | 2904 | 840 | 706 |
| 477 | 307 | 674 | 196 | 759 | 2130 | 859 | 1395 | 976 | 1650 | 131 | 2276 | 287 | 2700 | 384 | 2227 | 628 | 2875 | 707 | 2890 | 772 | 2906 | 841 | 706 |
| 478 | 307 | 682 | 342 | 760 | 2130 | 860 | 1395 | 977 | 1650 | 132 | 1937 | 288 | 2700 | 385 | 2227 | 630 | 2878 | 708 | 2890 | 773 | 2906 | 842 | 706 |
| 5X479 | 307 | 5X683 | 342 | 5X762 | 2155 | 5X863 | 1394 | 5X978 | 1650 | 5Z134 | 1502 | 5Z289 | 2700 | 5Z386 | 2227 | 5Z632 | 2888 | 5Z709 | 2890 | 5Z774 | 2906 | 5Z843 | 706 |
| 480 | 307 | 684 | 342 | 763 | 2155 | 865 | 1394 | 979 | 1650 | 136 | 1569 | 290 | 2700 | 387 | 2227 | 634 | 2877 | 710 | 2890 | 777 | 2905 | 844 | 706 |
| 481 | 307 | 685 | 342 | 764 | 2155 | 867 | 3058 | 980 | 1650 | 137 | 2226 | 291 | 2700 | 388 | 2227 | 636 | 2888 | 711 | 2890 | 778 | 699 | 845 | 690 |
| 482 | 307 | 686 | 342 | 765 | 2155 | 872 | 1890 | 981 | 1650 | 138 | 2226 | 292 | 2700 | 389 | 2227 | 637 | 2878 | 712 | 2890 | 779 | 699 | 846 | 690 |
| 483 | 307 | 687 | 342 | 777 | 2158 | 878 | 1890 | 982 | 1650 | 139 | 2226 | 293 | 2700 | 390 | 2227 | 638 | 2878 | 713 | 2890 | 780 | 699 | 848 | 690 |
| 5X484 | 307 | 5X688 | 342 | 5X778 | 2158 | 5X879 | 1890 | 5X983 | 1650 | 5Z140 | 2226 | 5Z294 | 2700 | 5Z391 | 2227 | 5Z639 | 2878 | 5Z714 | 2890 | 5Z781 | 699 | 5Z849 | 690 |
| 485 | 192 | 689 | 342 | 779 | 2158 | 882 | 1890 | 984 | 1650 | 141 | 2226 | 295 | 2700 | 392 | 2227 | 640 | 2878 | 715 | 2890 | 782 | 699 | 850 | 690 |
| 487 | 2812 | 690 | 342 | 780 | 2897 | 884 | 1630 | 985 | 1650 | 142 | 2226 | 296 | 2700 | 393 | 2227 | 641 | 2875 | 716 | 2890 | 783 | 699 | 851 | 690 |
| 488 | 2812 | 691 | 342 | 781 | 2897 | 885 | 1630 | 986 | 1650 | 143 | 2226 | 297 | 2699 | 394 | 2227 | 646 | 2860 | 717 | 2890 | 784 | 699 | 852 | 690 |
| 500 | 2254 | 692 | 342 | 782 | 2897 | 886 | 1630 | 987 | 1650 | 145 | 2684 | 298 | 2699 | 397 | 2878 | 647 | 2860 | 718 | 698 | 785 | 699 | 853 | 686 |
| 5X515 | 1717 | 5X693 | 342 | 5X783 | 2897 | 5X887 | 1630 | 5X988 | 1657 | 5Z146 | 1500 | 5Z299 | 2699 | 5Z398 | 2878 | 5Z648 | 2860 | 5Z719 | 698 | 5Z786 | 699 | 5Z854 | 686 |
| 516 | 1717 | 694 | 342 | 786 | 3026 | 888 | 1630 | 989 | 1656 | 150 | 1525 | 300 | 2699 | 399 | 2878 | 649 | 2850 | 720 | 698 | 787 | 699 | 855 | 686 |
| 517 | 1717 | 695 | 342 | 787 | 3026 | 889 | 1630 | 990 | 1656 | 151 | 2306 | 301 | 2699 | 400 | 2878 | 650 | 2850 | 721 | 698 | 788 | 699 | 856 | 686 |
| 518 | 1717 | 696 | 342 | 788 | 1022 | 890 | 1631 | 991 | 1656 | 152 | 2306 | 302 | 2699 | 401 | 2878 | 651 | 2850 | 722 | 698 | 789 | 699 | 857 | 728 |
| 519 | 1717 | 697 | 342 | 789 | 1028 | 891 | 1631 | 992 | 1656 | 153 | 2316 | 303 | 2700 | 402 | 2878 | 652 | 2851 | 723 | 698 | 790 | 699 | 858 | 728 |
| 5X520 | 1718 | 5X698 | 342 | 5X790 | 1030 | 5X892 | 1631 | 5X993 | 1656 | 5Z154 | 2317 | 5Z320 | 2682 | 5Z404 | 2888 | 5Z653 | 2851 | 5Z724 | 698 | 5Z791 | 699 | 5Z859 | 728 |
| 521 | 1718 | 699 | 342 | 791 | 1031 | 893 | 1631 | 995 | 306 | 155 | 2721 | 323 | 2670 | 405 | 2888 | 654 | 2851 | 725 | 698 | 792 | 699 | 860 | 728 |
| 522 | 1718 | 700 | 342 | 799 | 2379 | 894 | 1631 | 996 | 1656 | 156 | 2715 | 325 | 2670 | 406 | 2866 | 655 | 2851 | 726 | 698 | 793 | 699 | 861 | 728 |
| 523 | 1719 | 701 | 342 | 806 | 2544 | 895 | 1632 | 997 | 1656 | 157 | 2711 | 326 | 2670 | 412 | 1519 | 656 | 2905 | 727 | 698 | 794 | 699 | 862 | 728 |
| 524 | 1719 | 702 | 342 | 807 | 2544 | 896 | 1632 | 998 | 3061 | 158 | 2717 | 330 | 2715 | 415 | 2919 | 657 | 2905 | 728 | 698 | 795 | 699 | 863 | 728 |
| 5X528 | 620 | 5X703 | 342 | 5X808 | 2384 | 5X897 | 1633 | 5X999 | 1657 | 5Z159 | 2713 | 5Z331 | 3019 | 5Z416 | 2919 | 5Z658 | 2905 | 5Z729 | 698 | 5Z796 | 699 | 5Z864 | 728 |
| 533 | 620 | 704 | 342 | 809 | 482 | 898 | 1633 | **5Y** | | 160 | 2713 | 332 | 3019 | 417 | 2919 | 659 | 2905 | 730 | 698 | 797 | 699 | 865 | 728 |
| 534 | 620 | 705 | 342 | 810 | 482 | 903 | 2447 | | | 164 | 2720 | 333 | 3019 | 418 | 2919 | 664 | 2894 | 731 | 698 | 798 | 731 | 866 | 704 |
| 535 | 620 | 706 | 342 | 811 | 482 | 904 | 2447 | 5Y001 | 1630 | 166 | 2715 | 334 | 2985 | 419 | 2920 | 665 | 2894 | 732 | 698 | 799 | 731 | 867 | 704 |
| 538 | 620 | 707 | 342 | 813 | 474 | 914 | 684 | 002 | 1630 | 167 | 2717 | 335 | 2985 | 420 | 2920 | 666 | 2894 | 733 | 698 | 800 | 731 | 868 | 709 |
| 5X539 | 620 | 5X708 | 342 | 5X814 | 474 | 5X915 | 2144 | **5Z** | | 5Z173 | 1935 | 5Z336 | 2967 | 5Z421 | 2920 | 5Z667 | 2853 | 5Z734 | 698 | 5Z801 | 731 | 5Z869 | 709 |
| 540 | 620 | 713 | 2912 | 815 | 474 | 916 | 2144 | | | 174 | 1935 | 338 | 3017 | 422 | 2920 | 668 | 2862 | 735 | 698 | 802 | 731 | 870 | 709 |
| 541 | 620 | 714 | 2912 | 817 | 474 | 917 | 2144 | 5Z003 | 2732 | 175 | 1935 | 339 | 3017 | 573 | 2851 | 669 | 2862 | 736 | 698 | 803 | 731 | 871 | 709 |
| 565 | 196 | 715 | 2912 | 818 | 474 | 918 | 2144 | 004 | 2732 | 176 | 1935 | 340 | 3017 | 574 | 2851 | 670 | 2859 | 737 | 698 | 804 | 731 | 872 | 704 |
| 566 | 196 | 716 | 2912 | 819 | 474 | 919 | 2144 | 006 | 2732 | 177 | 1934 | 341 | 3017 | 575 | 2851 | 671 | 2863 | 738 | 698 | 805 | 731 | 873 | 709 |
| 5X567 | 196 | 5X717 | 2912 | 5X820 | 474 | 5X920 | 2144 | 5Z008 | 2732 | 5Z178 | 1934 | 5Z343 | 2989 | 5Z576 | 2851 | 5Z672 | 2863 | 5Z739 | 698 | 5Z806 | 698 | 5Z874 | 709 |
| 568 | 196 | 719 | 1716 | 821 | 474 | 921 | 2144 | 010 | 2718 | 179 | 1936 | 344 | 2989 | 577 | 2851 | 673 | 2863 | 740 | 698 | 807 | 698 | 875 | 707 |
| 569 | 196 | 720 | 1783 | 822 | 474 | 922 | 2144 | 011 | 2719 | 187 | 2850 | 345 | 2981 | 578 | 2851 | 674 | 2863 | 741 | 699 | 808 | 698 | 879 | 704 |
| 570 | 196 | 721 | 2132 | 823 | 474 | 923 | 2135 | 012 | 2713 | 188 | 2850 | 346 | 2860 | 579 | 2851 | 675 | 2863 | 742 | 699 | 809 | 698 | 880 | 704 |
| 571 | 196 | 723 | 2132 | 824 | 474 | 924 | 2135 | 025 | 2856 | 189 | 2850 | 347 | 2860 | 580 | 2851 | 676 | 2863 | 743 | 699 | 810 | 698 | 881 | 704 |
| 5X572 | 196 | 5X728 | 2134 | 5X825 | 474 | 5X925 | 2135 | 5Z026 | 3016 | 5Z192 | 2187 | 5Z348 | 2860 | 5Z581 | 2851 | 5Z677 | 2861 | 5Z744 | 699 | 5Z811 | 698 | 5Z882 | 704 |
| 573 | 196 | 729 | 2134 | 826 | 474 | 926 | 2135 | 030 | 2671 | 193 | 2187 | 349 | 2860 | 582 | 2851 | 678 | 2861 | 745 | 699 | 813 | 687 | 883 | 706 |
| 584 | 3061 | 730 | 2134 | 827 | 474 | 927 | 2135 | 031 | 1569 | 196 | 2187 | 350 | 2860 | 583 | 2851 | 679 | 2861 | 746 | 699 | 814 | 687 | 884 | 706 |
| 585 | 1783 | 731 | 2153 | 828 | 495 | 928 | 2135 | 039 | 1375 | 204 | 2190 | 351 | 2860 | 584 | 2851 | 680 | 2861 | 747 | 699 | 815 | 689 | 885 | 707 |
| 605 | 2369 | 732 | 2153 | 829 | 495 | 929 | 2135 | 041 | 1878 | 205 | 2190 | 352 | 2860 | 585 | 2851 | 681 | 2861 | 748 | 699 | 816 | 689 | 886 | 707 |
| 5X606 | 2365 | 5X733 | 2153 | 5X830 | 495 | 5X930 | 2135 | 5Z042 | 1894 | 5Z206 | 2190 | 5Z353 | 2860 | 5Z586 | 2851 | 5Z682 | 2861 | 5Z749 | 689 | 5Z817 | 689 | 5Z887 | 707 |
| 609 | 2379 | 734 | 2153 | 834 | 474 | 931 | 2148 | 043 | 1512 | 207 | 2190 | 354 | 2854 | 594 | 2866 | 683 | 2866 | 750 | 689 | 818 | 689 | 888 | 707 |
| 629 | 1305 | 735 | 2153 | 835 | 474 | 932 | 2148 | 055 | 1935 | 208 | 2189 | 355 | 2854 | 595 | 2866 | 685 | 2866 | 751 | 689 | 819 | 689 | 889 | 706 |
| 630 | 1305 | 736 | 2153 | 836 | 474 | 933 | 2167 | 056 | 1936 | 209 | 2189 | 356 | 2854 | 598 | 2865 | 687 | 2876 | 752 | 689 | 820 | 689 | 890 | 706 |
| 631 | 1306 | 737 | 2145 | 837 | 474 | 934 | 2167 | 057 | 1524 | 210 | 2189 | 357 | 2854 | 599 | 2865 | 688 | 2876 | 753 | 731 | 821 | 686 | 891 | 707 |
| 5X632 | 1306 | 5X738 | 2145 | 5X838 | 474 | 5X938 | 866 | 5Z058 | 2650 | 5Z211 | 2188 | 5Z359 | 2893 | 5Z610 | 2908 | 5Z689 | 2876 | 5Z754 | 731 | 5Z822 | 686 | 5Z892 | 707 |
| 633 | 1308 | 739 | 2145 | 839 | 474 | 939 | 866 | 061 | 1509 | 212 | 2188 | 360 | 2893 | 611 | 2908 | 690 | 2852 | 755 | 731 | 823 | 686 | 893 | 707 |
| 634 | 1308 | 740 | 2145 | 840 | 474 | 952 | 1650 | 077 | 1511 | 213 | 2188 | 361 | 2893 | 612 | 2908 | 691 | 2852 | 756 | 731 | 824 | 686 | 894 | 707 |
| 635 | 1308 | 741 | 2145 | 841 | 474 | 953 | 1650 | 078 | 2202 | 256 | 3028 | 362 | 2893 | 613 | 2908 | 692 | 2852 | 757 | 2903 | 825 | 686 | 895 | 706 |
| 636 | 1308 | 742 | 2145 | 842 | 474 | 954 | 1650 | 079 | 2202 | 257 | 3028 | 363 | 2893 | 614 | 2904 | 693 | 2852 | 758 | 2903 | 826 | 686 | 896 | 706 |
| 5X637 | 1308 | 5X743 | 2145 | 5X846 | 482 | 5X955 | 1650 | 5Z080 | 2202 | 5Z266 | 2248 | 5Z364 | 2893 | 5Z615 | 2904 | 5Z694 | 2852 | 5Z759 | 2903 | 5Z827 | 688 | 5Z897 | 706 |
| 638 | 1308 | 744 | 2145 | 847 | 482 | 956 | 1650 | 081 | 2202 | 273 | 2963 | 365 | 2893 | 616 | 2904 | 695 | 2852 | 760 | 2903 | 828 | 688 | 898 | 711 |
| 639 | 1308 | 745 | 2145 | 848 | 482 | 965 | 1650 | 082 | 2211 | 274 | 2980 | 366 | 2809 | 617 | 2904 | 696 | 2874 | 761 | 2903 | 829 | 686 | 899 | 710 |
| 640 | 1308 | 746 | 2145 | 849 | 482 | 966 | 1650 | 088 | 2191 | 275 | 1936 | 367 | 2809 | 618 | 2904 | 697 | 2874 | 762 | 2903 | 830 | 689 | 900 | 711 |
| 641 | 1305 | 747 | 2145 | 850 | 482 | 967 | 1650 | 089 | 2191 | 277 | 1872 | 368 | 2809 | 619 | 2904 | 698 | 2874 | 763 | 2852 | 831 | 689 | 901 | 718 |
| 5X643 | 350 | 5X748 | 2145 | 5X851 | 482 | 5X968 | 1650 | 5Z090 | 2199 | 5Z278 | 3011 | 5Z369 | 2809 | 5Z620 | 2904 | 5Z699 | 2874 | 5Z764 | 2852 | 5Z832 | 687 | 5Z902 | 712 |
| 644 | 350 | 749 | 2131 | 852 | 480 | 969 | 1650 | 091 | 2199 | 279 | 2828 | 370 | 2809 | 621 | 2857 | 700 | 2874 | 765 | 2852 | 833 | 687 | 903 | 711 |
| 645 | 350 | 750 | 2131 | 853 | 480 | 970 | 1650 | 092 | 2199 | 280 | 2828 | 371 | 2809 | 622 | 2857 | 701 | 2874 | 766 | 2894 | 834 | 690 | 904 | 706 |
| 646 | 350 | 751 | 2131 | 854 | 480 | 971 | 1650 | 093 | 2295 | 281 | 2828 | 372 | 2809 | 623 | 2857 | 702 | 2874 | 767 | 2894 | 835 | 690 | 906 | 718 |
| 662 | 2355 | 752 | 2131 | 855 | 730 | 972 | 1650 | 094 | 2201 | 282 | 2828 | 374 | 2892 | 624 | 2857 | 703 | 2874 | 768 | 2894 | 836 | 690 | 908 | 713 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5Z909 | 711 | 6AC98 | 2453 | 6AJ57 | 2622 | 6AP71 | 2408 | 6AX51 | 2446 | 6A057 | 1626 | 6A126 | 307 | 6A192 | 224 | 6A268 | 2056 | 6A425 | 1490 | 6A506 | 1393 | 6A633 | 1370 |
| 910 | 711 | D34 | 2518 | J60 | 2481 | P81 | 2376 | X56 | 2377 | 058 | 1626 | 127 | 307 | 193 | 220 | 269 | 2056 | 432 | 1602 | 507 | 1393 | 634 | 1370 |
| 911 | 706 | D37 | 2381 | J72 | 2488 | P94 | 2389 | X60 | 2469 | 059 | 1626 | 128 | 307 | 194 | 220 | 270 | 2056 | 433 | 1602 | 508 | 1385 | 635 | 1373 |
| 912 | 711 | D45 | 2478 | J73 | 2551 | P97 | 2552 | X76 | 2542 | 060 | 2281 | 129 | 307 | 195 | 234 | 271 | 2056 | 434 | 1600 | 509 | 1385 | 636 | 1373 |
| 913 | 723 | D51 | 2469 | J75 | 2413 | R03 | 2550 | X80 | 2503 | 061 | 2281 | 130 | 307 | 196 | 234 | 272 | 2049 | 435 | 1600 | 510 | 1385 | 637 | 1717 |
| 5Z914 | 723 | 6AD55 | 2621 | 6AJ76 | 2457 | 6AR07 | 2341 | 6AX86 | 2367 | 6A062 | 2281 | 6A131 | 307 | 6A197 | 234 | 6A273 | 2049 | 6A436 | 1599 | 6A511 | 1383 | 6A638 | 1718 |
| 915 | 723 | D56 | 2477 | J81 | 2376 | R11 | 2552 | X98 | 2549 | 063 | 2281 | 132 | 307 | 198 | 234 | 274 | 2049 | 437 | 1599 | 512 | 1383 | 639 | 1718 |
| 916 | 723 | D64 | 2485 | J93 | 2478 | R17 | 2452 | Z07 | 2553 | 064 | 2281 | 133 | 307 | 203 | 2262 | 275 | 2049 | 438 | 1599 | 513 | 1384 | 640 | 1718 |
| 917 | 723 | D92 | 2362 | K09 | 2478 | R22 | 2452 | Z24 | 2442 | 065 | 2281 | 134 | 307 | 204 | 2262 | 276 | 2049 | 439 | 1599 | 514 | 1384 | 641 | 1718 |
| 918 | 723 | D97 | 2408 | K40 | 2550 | R61 | 2549 | Z29 | 2461 | 066 | 2281 | 135 | 307 | 205 | 2262 | 277 | 2049 | 440 | 1599 | 515 | 1766 | 642 | 1719 |
| 5Z919 | 723 | 6AF07 | 2448 | 6AK46 | 2504 | 6AR71 | 2456 | 6AZ31 | 2338 | 6A067 | 2281 | 6A136 | 307 | 6A206 | 2262 | 6A278 | 2044 | 6A441 | 1599 | 6A516 | 1766 | 6A643 | 1719 |
| 920 | 723 | F21 | 2460 | K60 | 2442 | R72 | 2622 | Z32 | 2348 | 068 | 2281 | 137 | 307 | 211 | 2265 | 279 | 2073 | 442 | 1599 | 517 | 1196 | 644 | 1716 |
| 921 | 723 | F23 | 2450 | K65 | 2339 | R74 | 2550 | Z38 | 2363 | 069 | 608 | 139 | 306 | 212 | 2265 | 280 | 2073 | 443 | 1599 | 540 | 1228 | 645 | 1722 |
| 922 | 722 | F36 | 2578 | K68 | 2423 | R84 | 2504 | Z44 | 2370 | 070 | 608 | 140 | 306 | 213 | 2265 | 281 | 2073 | 444 | 1599 | 541 | 1245 | 646 | 1322 |
| 923 | 722 | F48 | 2485 | K77 | 2362 | T05 | 2433 | Z55 | 2457 | 071 | 608 | 141 | 306 | 217 | 2293 | 282 | 2073 | 445 | 1599 | 542 | 1245 | 647 | 1513 |
| 5Z924 | 722 | 6AF50 | 2445 | 6AK80 | 2375 | 6AT06 | 2379 | 6AZ81 | 2553 | 6A072 | 608 | 6A142 | 306 | 6A218 | 2293 | 6A283 | 2073 | 6A446 | 1599 | 6A543 | 1245 | 6A648 | 1339 |
| 925 | 723 | F55 | 2452 | K83 | 2551 | T18 | 2455 | Z96 | 2451 | 073 | 608 | 143 | 306 | 219 | 2293 | 284 | 2073 | 447 | 1599 | 544 | 1247 | 649 | 1339 |
| 926 | 723 | F64 | 2468 | K90 | 2536 | T25 | 2550 | 001 | 1618 | 074 | 608 | 144 | 306 | 220 | 2297 | 285 | 2073 | 448 | 1599 | 545 | 1245 | 650 | 1333 |
| 927 | 723 | F65 | 2445 | L11 | 2342 | T30 | 2453 | 002 | 1618 | 075 | 608 | 145 | 306 | 221 | 2297 | 286 | 2073 | 449 | 1599 | 546 | 2780 | 651 | 1333 |
| 928 | 723 | F74 | 2499 | L15 | 2495 | T44 | 2450 | 003 | 1618 | 076 | 1602 | 146 | 306 | 222 | 2297 | 287 | 2073 | 450 | 1599 | 547 | 604 | 652 | 1333 |
| 5Z929 | 723 | 6AF80 | 2504 | 6AL20 | 2348 | 6AT48 | 2387 | 6A004 | 1618 | 6A077 | 1602 | 6A147 | 306 | 6A223 | 2276 | 6A288 | 2073 | 6A451 | 1599 | 6A548 | 604 | 6A653 | 1333 |
| 930 | 722 | F84 | 2472 | L25 | 2451 | T53 | 2499 | 005 | 1618 | 078 | 1602 | 148 | 306 | 224 | 2276 | 289 | 2073 | 452 | 1600 | 551 | 604 | 654 | 1333 |
| 931 | 722 | F88 | 2484 | L41 | 2437 | T62 | 2376 | 006 | 1618 | 079 | 1603 | 149 | 306 | 225 | 2268 | 290 | 2073 | 453 | 1600 | 552 | 604 | 655 | 713 |
| 932 | 722 | G06 | 2553 | L49 | 2422 | T75 | 2455 | 007 | 1618 | 080 | 1603 | 150 | 306 | 226 | 2270 | 291 | 2073 | 454 | 1600 | 553 | 604 | 656 | 713 |
| 933 | 722 | G16 | 2363 | L50 | 2450 | T77 | 2433 | 008 | 1618 | 081 | 1603 | 151 | 306 | 227 | 2271 | 292 | 2073 | 455 | 1610 | 554 | 604 | 657 | 718 |
| 5Z934 | 722 | 6AG17 | 2450 | 6AL51 | 2551 | 6AT78 | 2479 | 6A009 | 1618 | 6A082 | 1596 | 6A152 | 306 | 6A228 | 2271 | 6A293 | 2073 | 6A456 | 1610 | 6A555 | 604 | 6A658 | 713 |
| 935 | 722 | G20 | 2515 | L54 | 2348 | T79 | 2461 | 010 | 1618 | 083 | 1596 | 153 | 307 | 229 | 2271 | 294 | 2073 | 457 | 1611 | 556 | 604 | 659 | 713 |
| 936 | 722 | G27 | 2455 | L66 | 2479 | T82 | 2422 | 011 | 1618 | 084 | 1596 | 154 | 307 | 230 | 2271 | 295 | 2073 | 458 | 1611 | 557 | 604 | 660 | 718 |
| 937 | 723 | G36 | 2432 | L70 | 2370 | T97 | 2515 | 012 | 1618 | 085 | 1596 | 155 | 307 | 231 | 2611 | 296 | 2073 | 459 | 1611 | 558 | 604 | 661 | 713 |
| 938 | 723 | G46 | 2455 | L71 | 2485 | V02 | 2422 | 013 | 1618 | 086 | 1596 | 156 | 307 | 232 | 2611 | 297 | 2073 | 460 | 1611 | 559 | 604 | 662 | 713 |
| 5Z939 | 723 | 6AG58 | 2501 | 6AL73 | 2363 | 6AV08 | 2367 | 6A014 | 1618 | 6A087 | 1596 | 6A157 | 307 | 6A233 | 2610 | 6A298 | 2073 | 6A461 | 1611 | 6A560 | 604 | 6A663 | 718 |
| 940 | 723 | G66 | 2377 | L79 | 2381 | V10 | 2390 | 015 | 1618 | 088 | 1596 | 158 | 307 | 234 | 2610 | 299 | 2073 | 462 | 1610 | 561 | 604 | 664 | 710 |
| 941 | 723 | G71 | 2375 | L83 | 2597 | V22 | 2542 | 016 | 1618 | 089 | 1596 | 159 | 307 | 235 | 2610 | 300 | 2073 | 463 | 1610 | 562 | 604 | 665 | 704 |
| 942 | 723 | G72 | 2365 | L88 | 2518 | V23 | 2597 | 017 | 1618 | 090 | 1596 | 160 | 307 | 236 | 2610 | 301 | 2073 | 464 | 1610 | 563 | 604 | 666 | 687 |
| 974 | 689 | G81 | 2566 | L89 | 2461 | V30 | 2423 | 018 | 1618 | 091 | 1596 | 161 | 307 | 237 | 2612 | 302 | 2073 | 465 | 1610 | 564 | 604 | 667 | 687 |
| 5Z975 | 694 | 6AG88 | 2594 | 6AL94 | 2472 | 6AV36 | 2441 | 6A023 | 1624 | 6A092 | 1596 | 6A162 | 307 | 6A238 | 2612 | 6A303 | 2073 | 6A470 | 1536 | 6A565 | 604 | 6A668 | 687 |
| 977 | 694 | G89 | 2422 | L97 | 2478 | V63 | 2477 | 024 | 1624 | 093 | 1596 | 163 | 307 | 239 | 2612 | 304 | 2073 | 471 | 1536 | 566 | 604 | 669 | 687 |
| 978 | 694 | G91 | 2422 | M02 | 2597 | V66 | 2590 | 025 | 1620 | 094 | 1596 | 164 | 307 | 240 | 2326 | 343 | 1427 | 472 | 1536 | 567 | 604 | 670 | 690 |
| 985 | 706 | G92 | 2455 | M04 | 2597 | V70 | 2342 | 026 | 1620 | 095 | 1607 | 165 | 307 | 241 | 2242 | 345 | 1443 | 473 | 1536 | 568 | 604 | 671 | 690 |
| 986 | 700 | H03 | 2474 | M19 | 2442 | V75 | 2594 | 027 | 1620 | 096 | 1607 | 166 | 307 | 242 | 2242 | 378 | 2003 | 474 | 19 | 575 | 1196 | 672 | 699 |
| 5Z987 | 700 | 6AH13 | 2437 | 6AM35 | 2478 | 6AV78 | 2340 | 6A028 | 1629 | 6A097 | 1607 | 6A167 | 307 | 6A243 | 2242 | 6A379 | 2003 | 6A475 | 19 | 6A576 | 1195 | 6A673 | 699 |
| 988 | 700 | H15 | 2281 | M36 | 2423 | V89 | 2341 | 029 | 1629 | 098 | 1607 | 168 | 307 | 244 | 2242 | 380 | 2003 | 476 | 19 | 577 | 1195 | 675 | 694 |
| 989 | 700 | H18 | 2381 | M37 | 2409 | V96 | 2551 | 030 | 1626 | 099 | 1607 | 169 | 307 | 245 | 2242 | 386 | 1989 | 477 | 19 | 578 | 1195 | 676 | 694 |
| 990 | 700 | H24 | 2463 | M62 | 2449 | V99 | 2363 | 031 | 1626 | 100 | 1607 | 170 | 307 | 246 | 2242 | 387 | 1989 | 478 | 19 | 579 | 1195 | 677 | 732 |
| 991 | 700 | H25 | 2547 | M81 | 2450 | W03 | 2340 | 032 | 1626 | 101 | 1607 | 171 | 307 | 247 | 2242 | 388 | 1989 | 479 | 19 | 611 | 453 | 678 | 731 |
| 5Z992 | 700 | 6AH28 | 2449 | 6AN08 | 2550 | 6AW06 | 2367 | 6A033 | 1626 | 6A102 | 1607 | 6A172 | 307 | 6A248 | 2242 | 6A389 | 1989 | 6A480 | 19 | 6A612 | 453 | 6A679 | 731 |
| 993 | 700 | H35 | 2450 | N12 | 2348 | W18 | 2442 | 034 | 1626 | 103 | 1607 | 173 | 226 | 249 | 2242 | 390 | 1989 | 481 | 19 | 613 | 453 | 680 | 730 |
| 994 | 700 | H52 | 2381 | N33 | 2456 | W19 | 2348 | 035 | 1620 | 104 | 1607 | 174 | 226 | 250 | 2242 | 392 | 1989 | 482 | 19 | 614 | 453 | 681 | 1047 |
| 995 | 700 | H79 | 2469 | N34 | 2499 | W20 | 2453 | 036 | 1626 | 105 | 1607 | 175 | 226 | 251 | 2239 | 394 | 1989 | 483 | 19 | 615 | 397 | 682 | 1047 |
| 996 | 700 | H81 | 2581 | N35 | 2342 | W22 | 2458 | 037 | 1626 | 106 | 1606 | 176 | 226 | 252 | 2239 | 395 | 1989 | 484 | 19 | 616 | 397 | 683 | 1047 |
| 5Z997 | 700 | 6AH87 | 2451 | 6AN42 | 2341 | 6AW24 | 2458 | 6A038 | 1626 | 6A107 | 1606 | 6A177 | 226 | 6A253 | 2239 | 6A396 | 1989 | 6A485 | 1378 | 6A617 | 397 | 6A684 | 1047 |
| 998 | 700 | J02 | 2433 | N55 | 2477 | W35 | 2448 | 039 | 1626 | 108 | 1606 | 178 | 226 | 254 | 2239 | 397 | 1990 | 486 | 1378 | 618 | 397 | 685 | 3023 |
| 999 | 700 | J08 | 2495 | N94 | 2341 | W41 | 2423 | 040 | 1626 | 111 | 2678 | 179 | 226 | 255 | 2239 | 398 | 1990 | 487 | 1378 | 619 | 397 | 686 | 3023 |
| **6A** | | J09 | 2369 | P01 | 2432 | W48 | 2422 | 041 | 1626 | 114 | 2767 | 180 | 226 | 256 | 2239 | 399 | 1990 | 488 | 1378 | 620 | 397 | 687 | 3023 |
| | | J11 | 2336 | P02 | 2479 | W50 | 2433 | 042 | 1626 | 115 | 306 | 181 | 226 | 257 | 2239 | 400 | 1990 | 494 | 1388 | 621 | 397 | 688 | 3023 |
| 6AC11 | 2422 | 6AJ13 | 2488 | 6AP10 | 2413 | 6AW51 | 2456 | 6A043 | 1626 | 6A116 | 306 | 6A182 | 226 | 6A258 | 2239 | 6A401 | 1990 | 6A495 | 1388 | 6A622 | 397 | 6A689 | 3023 |
| C21 | 2422 | J15 | 2393 | P12 | 2478 | W74 | 2362 | 044 | 1626 | 117 | 306 | 183 | 226 | 259 | 2242 | 402 | 1990 | 496 | 1388 | 624 | 1602 | 699 | 698 |
| C45 | 2478 | J16 | 2460 | P13 | 2594 | W77 | 2597 | 045 | 1626 | 118 | 306 | 184 | 226 | 260 | 2238 | 415 | 664 | 497 | 1388 | 625 | 1370 | 700 | 698 |
| C59 | 2550 | J18 | 2468 | P14 | 2597 | W78 | 2460 | 046 | 1626 | 119 | 306 | 185 | 226 | 261 | 2238 | 416 | 664 | 498 | 1388 | 626 | 1373 | 701 | 730 |
| C64 | 2362 | J29 | 2381 | P27 | 2339 | W83 | 2367 | 047 | 1626 | 120 | 306 | 186 | 226 | 262 | 2238 | 417 | 664 | 499 | 1390 | 627 | 1373 | 702 | 730 |
| 6AC72 | 2518 | 6AJ33 | 2445 | 6AP30 | 2456 | 6AX08 | 2422 | 6A048 | 1626 | 6A121 | 306 | 6A187 | 226 | 6A263 | 2238 | 6A418 | 664 | 6A500 | 1390 | 6A628 | 1370 | 6A703 | 731 |
| C73 | 2597 | J36 | 2446 | P32 | 2566 | X17 | 2393 | 049 | 1626 | 122 | 306 | 188 | 226 | 264 | 2251 | 419 | 665 | 502 | 1390 | 629 | 1370 | 704 | 731 |
| C78 | 2550 | J40 | 2594 | P44 | 2597 | X22 | 2450 | 050 | 1626 | 123 | 307 | 189 | 226 | 265 | 2250 | 420 | 665 | 503 | 1390 | 630 | 1370 | 706 | 1474 |
| C96 | 2447 | J42 | 2457 | P51 | 2448 | X37 | 2362 | 051 | 1626 | 124 | 307 | 190 | 226 | 266 | 2056 | 423 | 1490 | 504 | 1390 | 631 | 1370 | 707 | 1475 |
| C97 | 2451 | J50 | 2432 | P61 | 2381 | X46 | 2586 | 056 | 1626 | 125 | 307 | 191 | 191 | 267 | 2056 | 424 | 1490 | 505 | 1393 | 632 | 1369 | 708 | 1475 |

# STOCK NUMBER—PAGE NUMBER



| Stock No. | Page No. |
|---|---|
| 6A709 | 1475 |
| 716 | 1412 |
| 719 | 1407 |
| 720 | 1427 |
| 729 | 1412 |
| 6A766 | 3063 |
| 767 | 3063 |
| 768 | 3063 |
| 769 | 3063 |
| 770 | 3063 |
| 6A771 | 3063 |
| 772 | 3065 |
| 773 | 3074 |
| 819 | 1520 |
| 820 | 1984 |
| 6A821 | 1984 |
| 822 | 1984 |
| 825 | 1505 |
| 826 | 1505 |
| 827 | 1505 |
| 6A828 | 429 |
| 829 | 429 |
| 830 | 429 |
| 831 | 429 |
| 832 | 429 |
| 6A833 | 430 |
| 834 | 430 |
| 835 | 430 |
| 836 | 430 |
| 837 | 430 |
| 6A838 | 430 |
| 839 | 430 |
| 840 | 562 |
| 841 | 562 |
| 842 | 562 |
| 6A843 | 564 |
| 844 | 564 |
| 845 | 564 |
| 846 | 564 |
| 847 | 564 |
| 6A848 | 564 |
| 849 | 564 |
| 850 | 564 |
| 851 | 564 |
| 852 | 564 |
| 6A853 | 564 |
| 854 | 494 |
| 855 | 494 |
| 857 | 494 |
| 858 | 494 |
| 6A859 | 494 |
| 860 | 485 |
| 861 | 485 |
| 862 | 485 |
| 863 | 485 |
| 6A864 | 485 |
| 865 | 485 |
| 866 | 485 |
| 867 | 485 |
| 868 | 485 |
| 6A869 | 485 |
| 884 | 527 |
| 885 | 527 |
| 886 | 527 |
| 887 | 527 |
| 6A888 | 527 |
| 889 | 527 |
| 902 | 1534 |
| 903 | 1534 |
| 904 | 1534 |
| 6A907 | 1533 |
| 908 | 1533 |
| 909 | 1533 |
| 910 | 1533 |
| 911 | 1533 |
| 6A912 | 1533 |
| 913 | 1533 |
| 914 | 1533 |
| 915 | 1533 |
| 916 | 1533 |
| 6A917 | 1377 |
| 918 | 1377 |
| 919 | 1377 |
| 920 | 1377 |
| 921 | 1377 |
| 6A922 | 1434 |
| 923 | 1434 |
| 926 | 1989 |
| 928 | 1989 |
| 929 | 1989 |
| 6A931 | 1989 |
| 934 | 1994 |
| 935 | 1998 |
| 936 | 1998 |
| 938 | 2003 |
| 6A939 | 2003 |
| 940 | 2003 |
| 941 | 1990 |
| 942 | 1990 |
| 943 | 1990 |
| 6A944 | 1990 |
| 948 | 1990 |
| 949 | 1990 |
| 950 | 1990 |
| 951 | 1990 |
| 6A952 | 1990 |
| 953 | 1990 |
| 954 | 1990 |
| 955 | 1990 |
| 957 | 1851 |
| 6A958 | 1851 |
| 959 | 1851 |
| 960 | 2259 |
| 961 | 2259 |
| 962 | 2259 |
| 6A963 | 2259 |
| 964 | 2259 |
| 965 | 2259 |
| 966 | 2259 |
| 967 | 2259 |
| 6A968 | 2259 |
| 969 | 2259 |
| 970 | 2259 |
| 971 | 2259 |
| 972 | 2259 |
| 6A973 | 2259 |
| 974 | 2259 |
| 975 | 2259 |
| 976 | 2259 |
| 977 | 2259 |
| 6A978 | 2259 |
| 979 | 2259 |
| 980 | 2259 |
| 981 | 2259 |
| 982 | 2259 |
| 6A983 | 2259 |
| 984 | 2259 |
| 985 | 2259 |
| 986 | 2259 |
| 987 | 2259 |
| 6A988 | 2259 |
| 990 | 2644 |
| 991 | 2644 |
| 992 | 2644 |
| 993 | 2644 |
| **6B** | |
| 6BP01 | 1661 |
| P02 | 1661 |
| P03 | 1661 |
| 6BP04 | 1661 |
| P05 | 1661 |
| P06 | 1661 |
| P07 | 1661 |
| P08 | 1661 |
| 6BP09 | 1661 |
| P10 | 1661 |
| P11 | 1661 |
| P12 | 1661 |
| P13 | 1661 |
| 6BP14 | 1661 |
| P15 | 1661 |
| P16 | 1661 |
| P17 | 1661 |
| P18 | 1661 |
| 6BP19 | 1661 |
| P20 | 1661 |
| P21 | 1661 |
| P22 | 1661 |
| P23 | 1661 |
| 6BP24 | 1661 |
| P25 | 1661 |
| P26 | 1661 |
| P27 | 1661 |
| P28 | 1661 |
| 6BP29 | 1661 |
| P30 | 1661 |
| P31 | 1661 |
| P32 | 1661 |
| P33 | 1661 |
| 6BP34 | 1661 |
| P35 | 1661 |
| P39 | 1668 |
| R22 | 1654 |
| R23 | 1654 |
| 6BR24 | 1654 |
| R25 | 1654 |
| R26 | 1654 |
| R27 | 1654 |
| R28 | 1654 |
| 6BR29 | 1654 |
| R30 | 1654 |
| R31 | 1654 |
| R32 | 1654 |
| R33 | 1654 |
| 6BR34 | 1654 |
| R35 | 1654 |
| R36 | 1654 |
| R37 | 1654 |
| R38 | 1654 |
| 6BR39 | 1654 |
| R40 | 1654 |
| R41 | 1654 |
| R42 | 1654 |
| R43 | 1654 |
| 6BR44 | 1654 |
| R45 | 1654 |
| R46 | 1654 |
| R47 | 1654 |
| R48 | 1657 |
| 6BR49 | 1657 |
| R50 | 1657 |
| R51 | 1657 |
| R52 | 1657 |
| R53 | 1657 |
| 6BR54 | 1657 |
| R55 | 1657 |
| R56 | 1657 |
| R57 | 1657 |
| R58 | 1657 |
| 6BR59 | 1657 |
| R60 | 1657 |
| R61 | 1657 |
| R94 | 1658 |
| R95 | 1658 |
| 6BR96 | 1658 |
| R97 | 1658 |
| R98 | 1658 |
| R99 | 1658 |
| T82 | 2621 |
| 6BV12 | 2621 |
| V13 | 2621 |
| V14 | 2621 |
| V15 | 2621 |
| V16 | 2621 |
| 6BV17 | 2621 |
| V18 | 2621 |
| V19 | 2621 |
| V20 | 2621 |
| V21 | 2621 |
| 6BV22 | 2621 |
| V23 | 2621 |
| V24 | 2621 |
| V25 | 2621 |
| V26 | 2621 |
| 6BV27 | 2621 |
| V28 | 2621 |
| V29 | 2621 |
| V30 | 2621 |
| V31 | 2621 |
| 6BV32 | 2621 |
| V33 | 2621 |
| V34 | 1864 |
| V35 | 1864 |
| V36 | 1876 |
| 6BV37 | 1876 |
| V38 | 1876 |
| V39 | 1876 |
| V40 | 1876 |
| V41 | 1876 |
| 6BV42 | 1876 |
| V43 | 1876 |
| V47 | 1876 |
| V48 | 1876 |
| V49 | 1876 |
| 6BV50 | 1876 |
| V51 | 1876 |
| V52 | 1876 |
| V53 | 1876 |
| V54 | 1876 |
| 6BV55 | 1876 |
| V56 | 1876 |
| V57 | 1876 |
| V58 | 1876 |
| V59 | 1876 |
| 6BV60 | 1876 |
| V68 | 2621 |
| V69 | 2621 |
| V70 | 2621 |
| V71 | 2621 |
| 6B001 | 3605 |
| 002 | 3608 |
| 007 | 3608 |
| 008 | 390 |
| 009 | 390 |
| 6B010 | 390 |
| 018 | 388 |
| 019 | 388 |
| 020 | 388 |
| 021 | 388 |
| 6B022 | 389 |
| 023 | 389 |
| 024 | 389 |
| 025 | 389 |
| 026 | 389 |
| 6B027 | 389 |
| 028 | 389 |
| 029 | 389 |
| 030 | 389 |
| 031 | 389 |
| 6B032 | 389 |
| 033 | 388 |
| 034 | 388 |
| 035 | 388 |
| 036 | 388 |
| 6B037 | 389 |
| 038 | 389 |
| 039 | 389 |
| 040 | 389 |
| 041 | 389 |
| 6B042 | 389 |
| 043 | 389 |
| 044 | 389 |
| 045 | 389 |
| 046 | 389 |
| 6B047 | 389 |
| 048 | 388 |
| 049 | 388 |
| 050 | 388 |
| 051 | 389 |
| 6B052 | 389 |
| 053 | 389 |
| 054 | 389 |
| 055 | 389 |
| 056 | 389 |
| 6B057 | 389 |
| 058 | 389 |
| 059 | 389 |
| 060 | 388 |
| 061 | 388 |
| 6B062 | 388 |
| 063 | 388 |
| 064 | 388 |
| 065 | 389 |
| 066 | 389 |
| 6B067 | 389 |
| 068 | 389 |
| 069 | 389 |
| 070 | 389 |
| 071 | 389 |
| 6B072 | 389 |
| 073 | 389 |
| 074 | 389 |
| 075 | 388 |
| 076 | 388 |
| 6B077 | 388 |
| 078 | 388 |
| 079 | 389 |
| 080 | 389 |
| 081 | 389 |
| 6B082 | 389 |
| 083 | 389 |
| 084 | 389 |
| 085 | 389 |
| 086 | 389 |
| 6B087 | 389 |
| 088 | 389 |
| 089 | 388 |
| 090 | 388 |
| 091 | 388 |
| 6B092 | 388 |
| 093 | 389 |
| 094 | 389 |
| 095 | 389 |
| 096 | 389 |
| 6B097 | 389 |
| 098 | 389 |
| 099 | 389 |
| 100 | 389 |
| 101 | 389 |
| 6B102 | 389 |
| 103 | 388 |
| 104 | 388 |
| 105 | 388 |
| 106 | 388 |
| 6B107 | 389 |
| 108 | 389 |
| 109 | 389 |
| 110 | 389 |
| 111 | 389 |
| 6B112 | 389 |
| 113 | 389 |
| 114 | 389 |
| 115 | 389 |
| 116 | 389 |
| 6B117 | 388 |
| 118 | 388 |
| 119 | 388 |
| 120 | 389 |
| 121 | 389 |
| 6B122 | 389 |
| 123 | 389 |
| 124 | 389 |
| 125 | 389 |
| 126 | 389 |
| 6B127 | 389 |
| 128 | 389 |
| 129 | 389 |
| 130 | 389 |
| 131 | 388 |
| 6B132 | 388 |
| 133 | 388 |
| 134 | 389 |
| 135 | 389 |
| 136 | 389 |
| 6B137 | 389 |
| 138 | 389 |
| 139 | 389 |
| 140 | 389 |
| 141 | 389 |
| 6B142 | 389 |
| 143 | 389 |
| 144 | 449 |
| 145 | 449 |
| 146 | 449 |
| 6B147 | 449 |
| 148 | 449 |
| 149 | 449 |
| 150 | 449 |
| 151 | 449 |
| 6B152 | 449 |
| 153 | 449 |
| 154 | 450 |
| 155 | 450 |
| 156 | 450 |
| 6B157 | 450 |
| 158 | 446 |
| 159 | 446 |
| 160 | 446 |
| 161 | 446 |
| 6B162 | 446 |
| 163 | 446 |
| 164 | 446 |
| 165 | 446 |
| 166 | 446 |
| 6B167 | 446 |
| 168 | 446 |
| 169 | 446 |
| 170 | 446 |
| 171 | 446 |
| 6B172 | 446 |
| 173 | 446 |
| 174 | 446 |
| 175 | 446 |
| 176 | 447 |
| 6B177 | 447 |
| 178 | 447 |
| 179 | 447 |
| 180 | 447 |
| 181 | 447 |
| 6B182 | 447 |
| 183 | 447 |
| 184 | 447 |
| 185 | 447 |
| 186 | 447 |
| 6B187 | 447 |
| 188 | 447 |
| 189 | 447 |
| 190 | 447 |
| 191 | 447 |
| 6B192 | 447 |
| 193 | 447 |
| 194 | 447 |
| 195 | 447 |
| 196 | 447 |
| 6B197 | 447 |
| 198 | 447 |
| 199 | 447 |
| 200 | 447 |
| 201 | 447 |
| 6B202 | 447 |
| 203 | 2929 |
| 204 | 2929 |
| 205 | 2928 |
| 206 | 2928 |
| 6B207 | 2928 |
| 208 | 2926 |
| 209 | 2926 |
| 210 | 2926 |
| 211 | 2924 |
| 6B212 | 2924 |
| 213 | 2924 |
| 214 | 2923 |
| 215 | 2923 |
| 216 | 2930 |
| 6B217 | 2930 |
| 218 | 2923 |
| 219 | 2923 |
| 220 | 2923 |
| 221 | 2923 |
| 6B222 | 2923 |
| 223 | 2923 |
| 224 | 2923 |
| 225 | 2923 |
| 226 | 2929 |
| 6B227 | 2923 |
| 228 | 2929 |
| 230 | 2927 |
| 231 | 2927 |
| 232 | 2925 |
| 6B233 | 2925 |
| 234 | 2929 |
| 235 | 2925 |
| 236 | 2925 |
| 237 | 2925 |
| 6B238 | 2925 |
| 239 | 2929 |
| 240 | 2929 |
| 241 | 2927 |
| 242 | 2925 |
| 6B243 | 2927 |
| 244 | 2925 |
| 245 | 2925 |
| 246 | 2925 |
| 247 | 2925 |
| 6B248 | 2928 |
| 249 | 2928 |
| 250 | 2928 |
| 251 | 2925 |
| 252 | 2928 |
| 6B253 | 2923 |
| 254 | 2928 |
| 255 | 2928 |
| 256 | 2928 |
| 257 | 2928 |
| 6B258 | 2926 |
| 259 | 2926 |
| 260 | 2926 |
| 261 | 2924 |
| 262 | 2924 |
| 6B263 | 2924 |
| 264 | 2923 |
| 265 | 2929 |
| 266 | 2929 |
| 267 | 2928 |
| 6B268 | 2928 |
| 269 | 2926 |
| 270 | 2926 |
| 271 | 2926 |
| 272 | 2924 |
| 6B273 | 2924 |
| 274 | 2924 |
| 275 | 2923 |
| 276 | 2929 |
| 277 | 2929 |
| 6B278 | 2928 |
| 279 | 2928 |
| 280 | 2928 |
| 281 | 2928 |
| 282 | 2926 |
| 6B283 | 2926 |
| 284 | 2926 |
| 285 | 2924 |
| 286 | 2924 |
| 287 | 2924 |
| 6B288 | 2923 |
| 289 | 2923 |
| 290 | 2930 |
| 291 | 2929 |
| 292 | 2929 |
| 6B293 | 2926 |
| 294 | 2926 |
| 295 | 2926 |
| 296 | 2924 |
| 297 | 2924 |
| 6B298 | 2924 |
| 299 | 2923 |
| 300 | 2926 |
| 301 | 2926 |
| 302 | 2926 |
| 6B303 | 2924 |
| 304 | 2924 |
| 305 | 2924 |
| 306 | 2923 |
| 307 | 2929 |
| 6B308 | 2929 |
| 309 | 2926 |
| 310 | 2926 |
| 311 | 2926 |
| 312 | 2924 |
| 6B313 | 2924 |
| 314 | 2924 |
| 315 | 2923 |
| 316 | 2923 |
| 317 | 2113 |
| 6B323 | 514 |
| 325 | 513 |
| 326 | 513 |
| 327 | 513 |
| 328 | 513 |
| 6B329 | 514 |
| 330 | 514 |
| 331 | 514 |
| 332 | 514 |
| 333 | 514 |
| 6B334 | 514 |
| 335 | 514 |
| 336 | 514 |
| 337 | 514 |
| 338 | 514 |
| 6B339 | 514 |
| 340 | 514 |
| 341 | 514 |
| 342 | 514 |
| 343 | 514 |
| 6B344 | 514 |
| 345 | 514 |
| 346 | 514 |
| 347 | 514 |
| 348 | 514 |
| 6B349 | 514 |
| 350 | 514 |
| 351 | 514 |
| 353 | 512 |
| 354 | 512 |
| 6B356 | 512 |
| 357 | 512 |
| 358 | 512 |
| 360 | 511 |
| 361 | 511 |
| 6B362 | 512 |
| 363 | 512 |
| 364 | 512 |
| 365 | 517 |
| 366 | 517 |
| 6B367 | 517 |
| 368 | 517 |
| 369 | 512 |
| 370 | 512 |
| 371 | 512 |
| 6B372 | 512 |
| 373 | 512 |
| 374 | 512 |
| 375 | 512 |
| 377 | 511 |
| 6B378 | 512 |
| 379 | 512 |
| 380 | 512 |
| 381 | 512 |
| 382 | 512 |
| 6B383 | 512 |
| 384 | 512 |
| 385 | 512 |
| 386 | 457 |
| 387 | 457 |
| 6B388 | 457 |
| 389 | 457 |
| 390 | 457 |
| 391 | 457 |
| 392 | 457 |
| 6B393 | 460 |
| 394 | 446 |
| 395 | 446 |
| 396 | 446 |
| 397 | 446 |
| 6B398 | 451 |
| 399 | 450 |
| 400 | 450 |
| 401 | 460 |
| 402 | 448 |
| 6B403 | 449 |
| 404 | 449 |
| 405 | 447 |
| 406 | 461 |
| 407 | 534 |
| 6B408 | 534 |
| 409 | 509 |
| 410 | 533 |
| 412 | 513 |
| 414 | 506 |
| 6B418 | 503 |
| 419 | 503 |
| 429 | 376 |
| 436 | 374 |
| 437 | 3236 |
| 6B438 | 3236 |
| 439 | 2895 |
| 440 | 3236 |
| 441 | 3236 |
| 442 | 2895 |
| 443 | 3236 |
| 444 | 3236 |
| 445 | 2895 |
| 446 | 3236 |
| 447 | 3236 |
| 6B448 | 3236 |
| 449 | 3236 |
| 450 | 526 |
| 451 | 447 |
| 452 | 3236 |
| 6B455 | 388 |
| 456 | 388 |
| 457 | 388 |
| 458 | 759 |
| 459 | 759 |
| 6B460 | 367 |
| 461 | 2230 |
| 462 | 2230 |
| 463 | 2230 |
| 464 | 2230 |
| 6B465 | 2230 |
| 466 | 2230 |
| 467 | 2230 |
| 468 | 2230 |
| 469 | 2230 |
| 6B470 | 2230 |
| 471 | 2203 |
| 472 | 2203 |
| 473 | 2203 |
| 474 | 2203 |
| 6B515 | 2866 |
| 516 | 2867 |
| 517 | 2867 |
| 518 | 2866 |
| 524 | 899 |
| 6B525 | 899 |
| 526 | 899 |
| 527 | 899 |
| 528 | 899 |
| 529 | 899 |
| 6B531 | 899 |
| 532 | 899 |
| 533 | 759 |
| 534 | 759 |
| 545 | 759 |
| 6B546 | 759 |
| 547 | 759 |
| 548 | 763 |
| 550 | 763 |
| 551 | 763 |
| 6B576 | 761 |
| 577 | 761 |
| 580 | 763 |
| 582 | 763 |
| 590 | 3539 |
| 6B593 | 3539 |
| 597 | 3539 |
| 598 | 3539 |
| 601 | 3539 |
| 605 | 3539 |
| 6B606 | 3539 |
| 609 | 3539 |
| 613 | 3539 |
| 614 | 3540 |
| 615 | 3540 |
| 6B616 | 3540 |
| 617 | 3540 |
| 618 | 3540 |
| 619 | 3540 |
| 620 | 3540 |
| 6B621 | 3540 |
| 622 | 3540 |
| 623 | 3540 |
| 626 | 3536 |
| 627 | 3536 |
| 6B628 | 3536 |
| 630 | 3536 |
| 631 | 3536 |
| 633 | 3536 |
| 634 | 3536 |
| 6B639 | 3536 |
| 640 | 3536 |
| 641 | 3536 |
| 642 | 3536 |
| 643 | 3536 |
| 6B644 | 3536 |
| 645 | 3536 |
| 646 | 3536 |
| 648 | 3536 |
| 649 | 3536 |
| 6B650 | 3536 |
| 651 | 3536 |
| 652 | 3536 |
| 658 | 3536 |
| 659 | 3536 |
| 6B661 | 3536 |
| 662 | 3536 |
| 664 | 3536 |
| 665 | 3536 |
| 666 | 3536 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6B668 | 3536 | 6B899 | 3535 | 6B980 | 3533 | 6CX50 | 1971 | 6C087 | 730 | 6C156 | 700 | 6C225 | 1383 | 6C301 | 1819 | 6C496 | 3564 | 6C570 | 691 | 6C645 | 689 | 6C730 | 640 |
| 669 | 3536 | 916 | 3533 | 981 | 3533 | X51 | 1971 | 089 | 671 | 157 | 1348 | 226 | 1384 | 302 | 1819 | 497 | 3564 | 572 | 720 | 646 | 694 | 731 | 640 |
| 670 | 3536 | 917 | 3533 | 982 | 3533 | X52 | 1971 | 090 | 671 | 158 | 1348 | 227 | 1384 | 303 | 1819 | 498 | 3564 | 573 | 720 | 647 | 705 | 732 | 638 |
| 671 | 3536 | 918 | 3533 | 983 | 3533 | 013 | 452 | 091 | 671 | 159 | 1348 | 228 | 1384 | 304 | 1819 | 501 | 3527 | 574 | 720 | 648 | 705 | 733 | 638 |
| 673 | 3536 | 919 | 3533 | 984 | 3533 | 014 | 452 | 092 | 671 | 160 | 1348 | 229 | 1384 | 305 | 1819 | 502 | 3527 | 575 | 710 | 649 | 711 | 734 | 639 |
| 6B677 | 3536 | 6B920 | 3533 | 6B985 | 3533 | 6C015 | 452 | 6C093 | 671 | 6C161 | 1348 | 6C230 | 1383 | 6C306 | 1819 | 6C503 | 3527 | 6C576 | 710 | 6C650 | 711 | 6C735 | 640 |
| 678 | 3536 | 921 | 3533 | 986 | 3533 | 016 | 452 | 094 | 671 | 162 | 1348 | 231 | 1383 | 307 | 1819 | 504 | 3509 | 577 | 710 | 651 | 711 | 736 | 640 |
| 679 | 3536 | 922 | 3533 | 987 | 3533 | 017 | 490 | 095 | 674 | 163 | 1348 | 232 | 1384 | 308 | 1819 | 505 | 3509 | 578 | 710 | 652 | 691 | 737 | 640 |
| 691 | 3514 | 923 | 3533 | 988 | 3533 | 018 | 490 | 096 | 674 | 164 | 431 | 233 | 1383 | 309 | 1820 | 506 | 3509 | 579 | 710 | 653 | 691 | 738 | 640 |
| 711 | 3529 | 924 | 3533 | 989 | 3532 | 019 | 490 | 097 | 674 | 165 | 431 | 234 | 1383 | 310 | 1820 | 507 | 3544 | 580 | 723 | 654 | 701 | 739 | 642 |
| 6B735 | 3529 | 6B925 | 3533 | 6B990 | 3532 | 6C020 | 490 | 6C098 | 674 | 6C166 | 431 | 6C235 | 1383 | 6C311 | 1820 | 6C509 | 3549 | 6C581 | 720 | 6C655 | 721 | 6C740 | 642 |
| 736 | 3529 | 926 | 3533 | 991 | 3532 | 021 | 490 | 099 | 674 | 167 | 420 | 236 | 1383 | 312 | 1820 | 510 | 3549 | 582 | 720 | 656 | 686 | 741 | 642 |
| 761 | 3530 | 927 | 3533 | 992 | 3532 | 022 | 490 | 100 | 674 | 168 | 420 | 237 | 1297 | 313 | 1820 | 511 | 3549 | 583 | 720 | 657 | 685 | 742 | 642 |
| 762 | 3530 | 928 | 3533 | 993 | 3532 | 023 | 490 | 101 | 671 | 169 | 420 | 238 | 1297 | 315 | 1820 | 513 | 3549 | 584 | 723 | 658 | 685 | 743 | 642 |
| 763 | 3530 | 929 | 3533 | 994 | 3532 | 024 | 490 | 102 | 671 | 170 | 420 | 239 | 1297 | 316 | 1820 | 514 | 3532 | 585 | 723 | 660 | 3576 | 744 | 642 |
| 6B764 | 3530 | 6B930 | 3533 | 6B995 | 3532 | 6C025 | 490 | 6C103 | 671 | 6C171 | 420 | 6C240 | 1297 | 6C317 | 1820 | 6C515 | 3532 | 6C586 | 691 | 6C661 | 1311 | 6C745 | 642 |
| 765 | 3530 | 931 | 3533 | 996 | 3532 | 026 | 490 | 104 | 671 | 172 | 429 | 241 | 1297 | 318 | 1820 | 516 | 3532 | 587 | 691 | 662 | 1376 | 746 | 642 |
| 766 | 3530 | 932 | 3533 | 997 | 3532 | 027 | 490 | 105 | 671 | 173 | 429 | 242 | 1297 | 319 | 1820 | 517 | 3532 | 588 | 691 | 663 | 1376 | 747 | 642 |
| 767 | 3530 | 933 | 3533 | 998 | 3532 | 028 | 490 | 106 | 671 | 174 | 429 | 243 | 1297 | 320 | 1820 | 518 | 3532 | 589 | 691 | 664 | 1376 | 748 | 640 |
| 769 | 3530 | 934 | 3533 | 999 | 3532 | 029 | 490 | 107 | 674 | 175 | 429 | 245 | 1297 | 321 | 1820 | 519 | 3532 | 590 | 691 | 665 | 1376 | 749 | 642 |
| 6B770 | 3530 | 6B935 | 3533 | 6C | | 6C030 | 490 | 6C108 | 674 | 6C176 | 1304 | 6C246 | 1297 | 6C322 | 1820 | 6C520 | 3532 | 6C591 | 723 | 6C666 | 1311 | 6C750 | 642 |
| 771 | 3530 | 936 | 3533 | | | 031 | 490 | 109 | 674 | 177 | 1304 | 247 | 1297 | 323 | 1826 | 521 | 3532 | 592 | 685 | 667 | 1311 | 751 | 642 |
| 772 | 3530 | 937 | 3533 | 6CX02 | 3023 | 038 | 553 | 110 | 674 | 178 | 1304 | 248 | 1297 | 324 | 1203 | 522 | 3532 | 593 | 685 | 668 | 1311 | 752 | 642 |
| 773 | 3530 | 938 | 3533 | X03 | 3023 | 039 | 553 | 111 | 674 | 179 | 1304 | 249 | 1297 | 325 | 1203 | 523 | 3539 | 594 | 685 | 669 | 1199 | 753 | 642 |
| 774 | 3530 | 939 | 3533 | X04 | 2911 | 045 | 563 | 112 | 674 | 180 | 1304 | 250 | 1297 | 326 | 1203 | 524 | 3539 | 595 | 685 | 670 | 1199 | 754 | 638 |
| 6B775 | 3530 | 6B940 | 3533 | 6CX05 | 2911 | 6C046 | 563 | 6C113 | 672 | 6C181 | 1304 | 6C251 | 1297 | 6C328 | 1202 | 6C525 | 3531 | 6C596 | 687 | 6C671 | 1199 | 6C755 | 640 |
| 777 | 3530 | 941 | 3533 | X06 | 2911 | 047 | 563 | 114 | 672 | 182 | 1305 | 252 | 1297 | 332 | 1200 | 526 | 3531 | 597 | 687 | 672 | 1199 | 756 | 642 |
| 784 | 3534 | 942 | 3533 | X07 | 2911 | 048 | 563 | 115 | 672 | 183 | 1305 | 253 | 1297 | 334 | 1395 | 527 | 3531 | 598 | 688 | 673 | 1199 | 757 | 642 |
| 786 | 3534 | 943 | 3533 | X08 | 2911 | 049 | 563 | 116 | 672 | 184 | 1306 | 255 | 1297 | 335 | 1395 | 528 | 3531 | 599 | 687 | 675 | 1393 | 758 | 498 |
| 788 | 3534 | 944 | 3533 | X09 | 2911 | 050 | 563 | 117 | 687 | 185 | 1308 | 256 | 1297 | 336 | 1395 | 529 | 3514 | 600 | 687 | 676 | 1393 | 759 | 498 |
| 6B790 | 3534 | 6B945 | 3533 | 6CX10 | 2911 | 6C051 | 492 | 6C118 | 706 | 6C186 | 1308 | 6C257 | 1297 | 6C337 | 1395 | 6C531 | 3571 | 6C601 | 723 | 6C677 | 1393 | 6C760 | 498 |
| 791 | 3534 | 946 | 3533 | X11 | 2911 | 052 | 492 | 119 | 706 | 187 | 1309 | 258 | 1297 | 338 | 1395 | 535 | 3570 | 602 | 723 | 678 | 1393 | 769 | 553 |
| 794 | 3534 | 947 | 3533 | X12 | 2911 | 053 | 492 | 120 | 701 | 188 | 1305 | 259 | 1297 | 339 | 1196 | 536 | 3570 | 604 | 687 | 679 | 1393 | 770 | 553 |
| 797 | 3534 | 948 | 3533 | X13 | 2911 | 054 | 492 | 121 | 711 | 189 | 1308 | 260 | 1297 | 340 | 1197 | 538 | 3570 | 605 | 688 | 680 | 1393 | 771 | 553 |
| 798 | 3534 | 949 | 3533 | X14 | 2911 | 055 | 492 | 122 | 710 | 190 | 1305 | 261 | 1297 | 341 | 1196 | 539 | 3570 | 606 | 687 | 681 | 1393 | 772 | 550 |
| 6B800 | 3534 | 6B950 | 3533 | 6CX15 | 2911 | 6C057 | 492 | 6C123 | 712 | 6C191 | 1390 | 6C263 | 1297 | 6C342 | 1217 | 6C540 | 698 | 6C607 | 687 | 6C682 | 1393 | 6C773 | 550 |
| 802 | 3534 | 951 | 3533 | X16 | 2911 | 058 | 492 | 124 | 712 | 192 | 1390 | 265 | 1297 | 343 | 1217 | 541 | 698 | 608 | 720 | 683 | 1393 | 774 | 550 |
| 803 | 3534 | 952 | 3533 | X17 | 2911 | 059 | 492 | 125 | 722 | 193 | 1390 | 266 | 1297 | 344 | 1218 | 542 | 698 | 609 | 720 | 684 | 1393 | 775 | 549 |
| 812 | 3534 | 953 | 3533 | X18 | 2911 | 060 | 735 | 126 | 722 | 194 | 1390 | 267 | 1297 | 345 | 1219 | 543 | 698 | 610 | 714 | 687 | 1191 | 776 | 549 |
| 813 | 3534 | 954 | 3533 | X19 | 2911 | 061 | 735 | 127 | 722 | 196 | 1389 | 268 | 1297 | 348 | 1216 | 544 | 713 | 611 | 714 | 688 | 1191 | 777 | 549 |
| 6B817 | 3534 | 6B955 | 3533 | 6CX20 | 2911 | 6C062 | 735 | 6C128 | 722 | 6C197 | 1389 | 6C269 | 1297 | 6C350 | 1220 | 6C545 | 713 | 6C612 | 714 | 6C689 | 1191 | 6C778 | 550 |
| 818 | 3534 | 956 | 3533 | X21 | 2911 | 063 | 735 | 129 | 723 | 198 | 1348 | 270 | 1297 | 353 | 1219 | 546 | 712 | 613 | 714 | 695 | 1195 | 779 | 550 |
| 829 | 3534 | 957 | 3533 | X22 | 2913 | 064 | 735 | 130 | 722 | 199 | 1348 | 271 | 1297 | 354 | 1215 | 547 | 712 | 614 | 714 | 696 | 1195 | 780 | 555 |
| 834 | 3531 | 958 | 3533 | X23 | 2913 | 065 | 735 | 131 | 722 | 200 | 1389 | 272 | 1297 | 355 | 1214 | 548 | 712 | 615 | 708 | 697 | 1195 | 781 | 555 |
| 835 | 3531 | 959 | 3533 | X24 | 2913 | 066 | 735 | 132 | 688 | 201 | 1389 | 273 | 1297 | 364 | 1213 | 549 | 713 | 616 | 711 | 707 | 2183 | 782 | 555 |
| 6B836 | 3531 | 6B960 | 3533 | 6CX25 | 2913 | 6C067 | 735 | 6C133 | 688 | 6C202 | 1389 | 6C280 | 1296 | 6C365 | 1211 | 6C550 | 714 | 6C617 | 711 | 6C708 | 2183 | 6C783 | 555 |
| 837 | 3531 | 961 | 3533 | X26 | 2913 | 068 | 735 | 134 | 688 | 204 | 430 | 281 | 1296 | 366 | 1209 | 551 | 714 | 618 | 711 | 709 | 2183 | 784 | 555 |
| 838 | 3531 | 962 | 3533 | X27 | 2913 | 069 | 735 | 135 | 688 | 205 | 429 | 282 | 1296 | 372 | 1207 | 552 | 714 | 620 | 711 | 710 | 2183 | 785 | 555 |
| 839 | 3531 | 963 | 3533 | X28 | 2913 | 070 | 735 | 136 | 688 | 206 | 429 | 283 | 1296 | 373 | 1207 | 553 | 723 | 625 | 711 | 713 | 2183 | 786 | 555 |
| 840 | 3531 | 964 | 3533 | X29 | 2913 | 071 | 735 | 137 | 700 | 207 | 421 | 285 | 1296 | 380 | 1316 | 554 | 723 | 626 | 711 | 714 | 637 | 787 | 555 |
| 6B841 | 3531 | 6B965 | 3533 | 6CX30 | 2912 | 6C072 | 734 | 6C138 | 700 | 6C208 | 421 | 6C286 | 1296 | 6C381 | 1317 | 6C555 | 723 | 6C627 | 709 | 6C715 | 637 | 6C788 | 555 |
| 842 | 3531 | 966 | 3533 | X31 | 2912 | 073 | 734 | 139 | 700 | 209 | 421 | 287 | 1296 | 382 | 1316 | 556 | 723 | 628 | 709 | 716 | 637 | 789 | 555 |
| 843 | 3531 | 967 | 3533 | X32 | 2912 | 074 | 734 | 140 | 701 | 210 | 421 | 288 | 1293 | 383 | 1317 | 557 | 723 | 629 | 709 | 717 | 638 | 790 | 545 |
| 844 | 3531 | 968 | 3533 | X33 | 2912 | 075 | 734 | 141 | 701 | 211 | 421 | 289 | 1819 | 481 | 1316 | 558 | 723 | 630 | 706 | 718 | 638 | 791 | 545 |
| 845 | 3531 | 969 | 3533 | X34 | 2912 | 076 | 734 | 142 | 700 | 212 | 430 | 290 | 1819 | 482 | 1316 | 559 | 691 | 631 | 706 | 719 | 638 | 792 | 545 |
| 6B874 | 3535 | 6B970 | 3533 | 6CX35 | 2912 | 6C077 | 734 | 6C145 | 711 | 6C213 | 430 | 6C291 | 1819 | 6C483 | 1317 | 6C560 | 691 | 6C632 | 714 | 6C720 | 638 | 6C793 | 545 |
| 875 | 3535 | 971 | 3533 | X36 | 2912 | 078 | 734 | 146 | 711 | 214 | 430 | 292 | 1819 | 484 | 1317 | 561 | 691 | 635 | 690 | 721 | 640 | 794 | 545 |
| 876 | 3535 | 972 | 3533 | X42 | 1970 | 079 | 734 | 148 | 722 | 215 | 430 | 293 | 1819 | 486 | 1289 | 562 | 691 | 636 | 690 | 722 | 640 | 795 | 545 |
| 879 | 3535 | 973 | 3533 | X43 | 1970 | 080 | 735 | 149 | 722 | 218 | 1385 | 294 | 1819 | 487 | 1289 | 563 | 691 | 637 | 690 | 723 | 640 | 796 | 544 |
| 880 | 3535 | 974 | 3533 | X44 | 1970 | 081 | 735 | 150 | 722 | 219 | 1385 | 295 | 1819 | 488 | 1816 | 564 | 691 | 638 | 690 | 724 | 640 | 797 | 544 |
| 6B885 | 3535 | 6B975 | 3533 | 6CX45 | 1970 | 6C082 | 734 | 6C151 | 722 | 6C220 | 1385 | 6C296 | 1819 | 6C489 | 1816 | 6C565 | 691 | 6C640 | 722 | 6C725 | 638 | 6C798 | 544 |
| 886 | 3535 | 976 | 3533 | X46 | 1971 | 083 | 734 | 152 | 722 | 221 | 1385 | 297 | 1819 | 490 | 1816 | 566 | 691 | 641 | 689 | 726 | 638 | 799 | 544 |
| 893 | 3535 | 977 | 3533 | X47 | 1971 | 084 | 734 | 153 | 713 | 222 | 1385 | 298 | 1819 | 491 | 1816 | 567 | 691 | 642 | 689 | 727 | 638 | 800 | 544 |
| 894 | 3535 | 978 | 3533 | X48 | 1971 | 085 | 734 | 154 | 701 | 223 | 1385 | 299 | 1819 | 492 | 1816 | 568 | 691 | 643 | 689 | 728 | 638 | 801 | 544 |
| 898 | 3535 | 979 | 3533 | X49 | 1971 | 086 | 734 | 155 | 700 | 224 | 1385 | 300 | 1819 | 493 | 3553 | 569 | 691 | 644 | 689 | 729 | 638 | 802 | 544 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 6C803 | 544 |
| 804 | 544 |
| 805 | 544 |
| 806 | 544 |
| 807 | 544 |
| 6C808 | 544 |
| 809 | 544 |
| 810 | 544 |
| 811 | 544 |
| 812 | 544 |
| 6C817 | 546 |
| 818 | 546 |
| 819 | 546 |
| 821 | 545 |
| 822 | 545 |
| 6C823 | 545 |
| 824 | 545 |
| 825 | 545 |
| 826 | 545 |
| 827 | 545 |
| 6C828 | 539 |
| 829 | 539 |
| 830 | 539 |
| 831 | 539 |
| 832 | 539 |
| 6C833 | 539 |
| 834 | 539 |
| 835 | 547 |
| 836 | 547 |
| 837 | 548 |
| 6C838 | 548 |
| 839 | 548 |
| 840 | 548 |
| 841 | 548 |
| 842 | 548 |
| 6C843 | 548 |
| 844 | 547 |
| 845 | 548 |
| 847 | 547 |
| 854 | 563 |
| 6C855 | 567 |
| 856 | 568 |
| 857 | 567 |
| 858 | 567 |
| 859 | 567 |
| 6C860 | 567 |
| 861 | 567 |
| 873 | 475 |
| 874 | 475 |
| 875 | 475 |
| 6C876 | 475 |
| 877 | 475 |
| 878 | 475 |
| 879 | 475 |
| 880 | 475 |
| 6C881 | 475 |
| 882 | 475 |
| 883 | 475 |
| 884 | 475 |
| 885 | 475 |
| 6C886 | 475 |
| 887 | 475 |
| 888 | 475 |
| 889 | 475 |
| 890 | 479 |
| 6C891 | 479 |
| 892 | 479 |
| 893 | 479 |
| 894 | 479 |
| 895 | 479 |
| 6C896 | 479 |
| 897 | 479 |
| 898 | 481 |
| 899 | 481 |
| 900 | 486 |
| 6C901 | 486 |
| 902 | 486 |
| 903 | 486 |
| 904 | 486 |
| 905 | 486 |
| 6C906 | 486 |
| 907 | 486 |
| 908 | 486 |
| 909 | 486 |
| 910 | 486 |
| 6C911 | 486 |
| 912 | 486 |
| 913 | 484 |
| 914 | 484 |
| 915 | 484 |
| 6C916 | 529 |
| 917 | 529 |
| 918 | 529 |
| 919 | 529 |
| 920 | 528 |
| 6C945 | 1370 |
| 946 | 1370 |
| 947 | 1370 |
| 948 | 1370 |
| 949 | 1370 |
| 6C950 | 1370 |
| 951 | 1370 |
| 952 | 1370 |
| 953 | 1370 |
| 954 | 1370 |
| 6C955 | 1370 |
| 956 | 1370 |
| 957 | 1370 |
| 958 | 1370 |
| 959 | 1370 |
| 6C961 | 1373 |
| 962 | 1373 |
| 963 | 1373 |
| 964 | 1373 |
| 965 | 1373 |
| 6C966 | 1370 |
| 967 | 1370 |
| 968 | 1370 |
| 969 | 1370 |
| 970 | 1370 |
| 6C971 | 1373 |
| 972 | 1373 |
| 973 | 1373 |
| 974 | 1373 |
| 975 | 1373 |
| 6C976 | 1373 |
| 977 | 1369 |
| 978 | 1369 |
| 979 | 1369 |
| 985 | 484 |
| 6C986 | 484 |
| 987 | 484 |
| 988 | 484 |
| 989 | 484 |
| 990 | 484 |
| 6C991 | 3622 |
| 993 | 550 |
| 6D | |
| 6D001 | 1351 |
| 6D002 | 1351 |
| 003 | 1351 |
| 004 | 1351 |
| 006 | 1360 |
| 010 | 1352 |
| 6D011 | 1360 |
| 016 | 1352 |
| 018 | 670 |
| 019 | 1361 |
| 020 | 2680 |
| 6D021 | 1361 |
| 022 | 1361 |
| 023 | 1357 |
| 024 | 1357 |
| 025 | 1357 |
| 6D026 | 1357 |
| 027 | 1357 |
| 028 | 1357 |
| 029 | 1357 |
| 030 | 1357 |
| 6D031 | 1357 |
| 032 | 1357 |
| 033 | 1357 |
| 034 | 2680 |
| 035 | 2680 |
| 6D036 | 2680 |
| 037 | 2680 |
| 038 | 1347 |
| 039 | 1347 |
| 040 | 1347 |
| 6D041 | 1347 |
| 042 | 1347 |
| 043 | 1347 |
| 044 | 1347 |
| 045 | 1347 |
| 6D046 | 1347 |
| 047 | 1360 |
| 048 | 1360 |
| 049 | 1359 |
| 050 | 1359 |
| 6D051 | 1359 |
| 052 | 1359 |
| 053 | 1359 |
| 054 | 1359 |
| 055 | 1359 |
| 6D056 | 1359 |
| 058 | 670 |
| 059 | 670 |
| 060 | 670 |
| 061 | 670 |
| 6D074 | 666 |
| 075 | 666 |
| 076 | 666 |
| 077 | 666 |
| 082 | 666 |
| 6D083 | 666 |
| 084 | 666 |
| 085 | 666 |
| 089 | 666 |
| 090 | 666 |
| 6D091 | 666 |
| 092 | 666 |
| 097 | 666 |
| 098 | 666 |
| 099 | 666 |
| 6D101 | 666 |
| 102 | 666 |
| 103 | 666 |
| 104 | 666 |
| 109 | 666 |
| 6D110 | 666 |
| 111 | 666 |
| 113 | 672 |
| 114 | 672 |
| 115 | 672 |
| 6D116 | 672 |
| 117 | 672 |
| 118 | 672 |
| 119 | 672 |
| 120 | 672 |
| 6D123 | 674 |
| 124 | 671 |
| 125 | 671 |
| 126 | 671 |
| 127 | 671 |
| 6D128 | 671 |
| 131 | 671 |
| 132 | 671 |
| 133 | 671 |
| 134 | 671 |
| 6D135 | 671 |
| 136 | 671 |
| 137 | 671 |
| 138 | 671 |
| 139 | 671 |
| 6D142 | 671 |
| 143 | 671 |
| 144 | 671 |
| 152 | 671 |
| 153 | 671 |
| 6D170 | 671 |
| 171 | 671 |
| 172 | 671 |
| 173 | 671 |
| 174 | 671 |
| 6D175 | 671 |
| 176 | 671 |
| 178 | 671 |
| 179 | 671 |
| 189 | 673 |
| 6D190 | 672 |
| 191 | 672 |
| 192 | 672 |
| 193 | 672 |
| 194 | 672 |
| 6D195 | 672 |
| 196 | 672 |
| 197 | 672 |
| 198 | 672 |
| 202 | 672 |
| 6D203 | 672 |
| 204 | 672 |
| 205 | 672 |
| 206 | 672 |
| 207 | 672 |
| 6D209 | 672 |
| 210 | 672 |
| 211 | 672 |
| 212 | 674 |
| 213 | 674 |
| 6D214 | 674 |
| 215 | 674 |
| 216 | 674 |
| 217 | 674 |
| 218 | 674 |
| 6D219 | 673 |
| 220 | 673 |
| 221 | 673 |
| 222 | 673 |
| 223 | 673 |
| 6D224 | 673 |
| 225 | 673 |
| 226 | 673 |
| 227 | 673 |
| 229 | 673 |
| 6D230 | 673 |
| 231 | 673 |
| 232 | 673 |
| 233 | 673 |
| 234 | 673 |
| 6D235 | 673 |
| 236 | 673 |
| 237 | 673 |
| 240 | 673 |
| 241 | 673 |
| 6D242 | 673 |
| 243 | 673 |
| 244 | 673 |
| 245 | 673 |
| 246 | 673 |
| 6D247 | 673 |
| 248 | 673 |
| 251 | 673 |
| 252 | 673 |
| 253 | 673 |
| 6D254 | 673 |
| 255 | 673 |
| 256 | 673 |
| 257 | 673 |
| 258 | 673 |
| 6D262 | 673 |
| 263 | 673 |
| 264 | 646 |
| 265 | 648 |
| 266 | 648 |
| 6D267 | 666 |
| 268 | 666 |
| 289 | 3474 |
| 290 | 3474 |
| 291 | 3474 |
| 6D292 | 3474 |
| 293 | 3474 |
| 294 | 3474 |
| 295 | 3474 |
| 296 | 3474 |
| 6D297 | 3474 |
| 298 | 3474 |
| 299 | 3474 |
| 300 | 3474 |
| 301 | 3474 |
| 6D302 | 3474 |
| 303 | 3475 |
| 304 | 3475 |
| 305 | 3475 |
| 306 | 3475 |
| 6D307 | 3475 |
| 308 | 3475 |
| 309 | 3475 |
| 310 | 3475 |
| 311 | 3475 |
| 6D312 | 3475 |
| 313 | 3475 |
| 314 | 3475 |
| 315 | 3475 |
| 316 | 3475 |
| 6D317 | 3475 |
| 318 | 3475 |
| 319 | 3475 |
| 320 | 3475 |
| 321 | 3475 |
| 6D322 | 3475 |
| 323 | 3475 |
| 324 | 3475 |
| 325 | 3474 |
| 326 | 3474 |
| 6D327 | 3474 |
| 328 | 3474 |
| 329 | 3474 |
| 330 | 3474 |
| 331 | 3474 |
| 6D332 | 3474 |
| 333 | 3474 |
| 562 | 1504 |
| 563 | 1504 |
| 565 | 1504 |
| 6D526 | 1504 |
| 567 | 1504 |
| 568 | 1504 |
| 569 | 1504 |
| 570 | 1504 |
| 6D571 | 3589 |
| 572 | 3589 |
| 573 | 3589 |
| 574 | 3589 |
| 575 | 3589 |
| 6D576 | 3589 |
| 577 | 3589 |
| 578 | 3589 |
| 579 | 3589 |
| 580 | 3589 |
| 6D581 | 3589 |
| 582 | 3589 |
| 583 | 3589 |
| 584 | 3589 |
| 585 | 3589 |
| 6D586 | 3589 |
| 587 | 3589 |
| 588 | 3589 |
| 589 | 3589 |
| 590 | 3589 |
| 6D591 | 3589 |
| 606 | 3662 |
| 607 | 3662 |
| 608 | 3662 |
| 625 | 3436 |
| 6D626 | 3436 |
| 627 | 3436 |
| 628 | 3436 |
| 629 | 3436 |
| 630 | 3452 |
| 6D637 | 3465 |
| 638 | 3465 |
| 639 | 3465 |
| 640 | 3465 |
| 641 | 3465 |
| 6D642 | 3465 |
| 643 | 3465 |
| 644 | 3465 |
| 645 | 3465 |
| 646 | 3465 |
| 6D647 | 3465 |
| 648 | 3465 |
| 730 | 2855 |
| 731 | 2856 |
| 732 | 2855 |
| 6D733 | 2856 |
| 734 | 2855 |
| 735 | 2855 |
| 736 | 2856 |
| 737 | 2856 |
| 6D738 | 2856 |
| 739 | 2856 |
| 740 | 2856 |
| 741 | 2856 |
| 742 | 2856 |
| 6D743 | 2858 |
| 744 | 2858 |
| 745 | 2858 |
| 746 | 2858 |
| 747 | 2858 |
| 6D748 | 2858 |
| 749 | 2858 |
| 750 | 2858 |
| 751 | 2856 |
| 752 | 2856 |
| 6D753 | 2856 |
| 754 | 2856 |
| 755 | 2923 |
| 756 | 2924 |
| 757 | 2924 |
| 6D758 | 2924 |
| 759 | 2926 |
| 760 | 2926 |
| 761 | 2926 |
| 762 | 2929 |
| 6D763 | 2929 |
| 764 | 2923 |
| 765 | 2924 |
| 766 | 2924 |
| 767 | 2924 |
| 6D768 | 2926 |
| 769 | 2926 |
| 770 | 2926 |
| 771 | 2923 |
| 772 | 2924 |
| 6D773 | 2924 |
| 774 | 2924 |
| 775 | 2926 |
| 776 | 2926 |
| 777 | 2926 |
| 6D778 | 2929 |
| 779 | 2929 |
| 780 | 2923 |
| 781 | 2923 |
| 782 | 2924 |
| 6D783 | 2924 |
| 784 | 2924 |
| 785 | 2926 |
| 786 | 2926 |
| 787 | 2926 |
| 6D788 | 2928 |
| 789 | 2928 |
| 790 | 2929 |
| 791 | 2929 |
| 794 | 2923 |
| 6D795 | 2924 |
| 796 | 2924 |
| 797 | 2924 |
| 798 | 2926 |
| 799 | 2926 |
| 6D800 | 2926 |
| 801 | 2928 |
| 802 | 2928 |
| 803 | 2929 |
| 804 | 2929 |
| 6D805 | 2923 |
| 806 | 2924 |
| 807 | 2924 |
| 808 | 2924 |
| 809 | 2926 |
| 6D810 | 2926 |
| 811 | 2926 |
| 812 | 2928 |
| 813 | 2928 |
| 816 | 2950 |
| 6D817 | 2950 |
| 818 | 2950 |
| 819 | 2950 |
| 820 | 2950 |
| 821 | 2949 |
| 6D822 | 2949 |
| 823 | 2948 |
| 824 | 2948 |
| 825 | 2950 |
| 826 | 2949 |
| 6D826 | 2949 |
| 828 | 2948 |
| 829 | 2948 |
| 830 | 2950 |
| 831 | 2949 |
| 6D832 | 2949 |
| 833 | 2948 |
| 834 | 2948 |
| 835 | 2950 |
| 836 | 2949 |
| 6D837 | 2949 |
| 838 | 2948 |
| 839 | 2948 |
| 840 | 2950 |
| 841 | 2949 |
| 6D842 | 2949 |
| 843 | 2948 |
| 844 | 2948 |
| 845 | 2950 |
| 846 | 2949 |
| 6D847 | 2949 |
| 848 | 2948 |
| 849 | 2948 |
| 850 | 2950 |
| 851 | 2949 |
| 6D852 | 2949 |
| 853 | 2948 |
| 854 | 2948 |
| 855 | 2950 |
| 856 | 2949 |
| 6D857 | 2949 |
| 858 | 2950 |
| 859 | 2949 |
| 860 | 2949 |
| 861 | 2950 |
| 6D862 | 2949 |
| 863 | 2949 |
| 864 | 2950 |
| 865 | 2949 |
| 866 | 2949 |
| 6D867 | 2948 |
| 868 | 2948 |
| 869 | 2950 |
| 870 | 2949 |
| 871 | 2949 |
| 6D872 | 2948 |
| 873 | 2948 |
| 874 | 2950 |
| 875 | 2949 |
| 876 | 2949 |
| 6D877 | 2948 |
| 878 | 2948 |
| 879 | 2950 |
| 880 | 2949 |
| 881 | 2949 |
| 6D882 | 2950 |
| 883 | 2949 |
| 884 | 2949 |
| 885 | 2950 |
| 886 | 2949 |
| 6D887 | 2949 |
| 888 | 2950 |
| 889 | 2949 |
| 890 | 2949 |
| 891 | 2950 |
| 6D892 | 2949 |
| 893 | 2949 |
| 894 | 2950 |
| 895 | 2949 |
| 896 | 2949 |
| 6D897 | 2950 |
| 898 | 2949 |
| 899 | 2949 |
| 900 | 2950 |
| 901 | 2949 |
| 6D902 | 2949 |
| 903 | 2950 |
| 904 | 2949 |
| 905 | 2949 |
| 906 | 2897 |
| 6D907 | 2897 |
| 908 | 2897 |
| 909 | 2904 |
| 910 | 2904 |
| 911 | 2904 |
| 6D912 | 2904 |
| 913 | 2910 |
| 914 | 2897 |
| 915 | 2899 |
| 916 | 2897 |
| 6D917 | 2897 |
| 918 | 2897 |
| 919 | 2897 |
| 920 | 2899 |
| 921 | 2899 |
| 6D922 | 2899 |
| 923 | 2899 |
| 924 | 2898 |
| 925 | 2898 |
| 926 | 2898 |
| 6D927 | 2896 |
| 928 | 2896 |
| 929 | 2896 |
| 930 | 2896 |
| 6E | |
| 6EW64 | 2606 |
| W65 | 2606 |
| W66 | 2606 |
| 6EW67 | 2606 |
| W69 | 2606 |
| W71 | 2606 |
| W73 | 2606 |
| W75 | 2606 |
| 6EW79 | 2606 |
| W80 | 2606 |
| W84 | 2606 |
| W87 | 2606 |
| W88 | 2606 |
| 6EW95 | 2606 |
| W96 | 2606 |
| W97 | 2606 |
| W99 | 2606 |
| X01 | 2606 |
| 6EX02 | 2585 |
| X08 | 2585 |
| X09 | 2585 |
| X10 | 2585 |
| X11 | 2585 |
| 6EX12 | 2585 |
| X13 | 2585 |
| X16 | 2585 |
| X17 | 2585 |
| X18 | 2585 |
| 6EX19 | 2585 |
| X20 | 2585 |
| X21 | 2585 |
| X22 | 2585 |
| X25 | 2585 |
| 6EX28 | 2585 |
| X29 | 2585 |
| X33 | 2585 |
| X34 | 2585 |
| X35 | 2585 |
| 6EX38 | 2585 |
| X39 | 2585 |
| X40 | 2585 |
| X42 | 2585 |
| X44 | 2585 |
| 6EX45 | 2585 |
| X46 | 2585 |
| X47 | 2585 |
| X53 | 2585 |
| X54 | 2585 |
| 6EX91 | 2606 |
| X92 | 2606 |
| 014 | 3077 |
| 015 | 3077 |
| 016 | 3077 |
| 6E022 | 3078 |
| 023 | 3078 |
| 025 | 3078 |
| 028 | 1048 |
| 029 | 1048 |
| 6E030 | 1048 |
| 031 | 1048 |
| 700 | 3075 |
| 701 | 3075 |
| 702 | 3075 |
| 6E703 | 3075 |
| 704 | 3075 |
| 705 | 3075 |
| 706 | 3075 |
| 708 | 3075 |
| 6E709 | 3075 |
| 710 | 3075 |
| 711 | 3075 |
| 712 | 3075 |
| 713 | 3075 |
| 6E714 | 3080 |
| 715 | 3080 |
| 716 | 3077 |
| 717 | 3077 |
| 718 | 3076 |
| 6E719 | 3076 |
| 720 | 3076 |
| 721 | 3076 |
| 722 | 3076 |
| 723 | 3076 |
| 6E724 | 3076 |
| 725 | 3076 |
| 726 | 3076 |
| 727 | 3076 |
| 728 | 3076 |
| 6E729 | 3076 |
| 730 | 3076 |
| 731 | 3076 |
| 732 | 3076 |
| 733 | 3076 |
| 6E737 | 3079 |
| 738 | 3079 |
| 740 | 3079 |
| 741 | 3079 |
| 742 | 3079 |
| 6E743 | 3079 |
| 744 | 3079 |
| 745 | 3079 |
| 746 | 3079 |
| 747 | 3079 |
| 6E748 | 3081 |
| 749 | 3081 |
| 750 | 3081 |
| 751 | 3081 |
| 752 | 3081 |
| 6E753 | 3081 |
| 754 | 3081 |
| 755 | 3081 |
| 756 | 3081 |
| 757 | 3081 |
| 6E758 | 3081 |
| 759 | 3081 |
| 760 | 3081 |
| 761 | 3081 |
| 762 | 3081 |
| 6E763 | 3081 |
| 764 | 3081 |
| 765 | 3075 |
| 766 | 3081 |
| 767 | 3081 |
| 6E768 | 3076 |
| 769 | 3081 |
| 770 | 3081 |
| 772 | 3424 |
| 773 | 3424 |
| 6E774 | 3424 |
| 775 | 3424 |
| 776 | 3424 |
| 777 | 3424 |
| 778 | 3424 |
| 6E779 | 3424 |
| 780 | 3425 |
| 781 | 3425 |
| 782 | 3425 |
| 783 | 3425 |
| 6E784 | 3425 |
| 785 | 3425 |
| 786 | 3425 |
| 787 | 3425 |
| 788 | 3425 |
| 6E789 | 3425 |
| 790 | 3425 |
| 791 | 3425 |
| 792 | 3425 |
| 793 | 3425 |
| 6E794 | 3425 |
| 795 | 3481 |
| 796 | 3481 |
| 797 | 3480 |
| 798 | 3480 |
| 6E799 | 3436 |
| 800 | 3436 |
| 801 | 3436 |
| 802 | 3436 |
| 803 | 3430 |
| 6E804 | 3430 |
| 805 | 3430 |
| 806 | 3430 |
| 807 | 3430 |
| 808 | 3430 |
| 6E809 | 3430 |
| 810 | 3430 |
| 811 | 3646 |
| 812 | 3646 |
| 813 | 3646 |

# STOCK NUMBER—PAGE NUMBER

## 6E8 — 6G0

| Stock No. | Page No. |
|---|---|
| 6E814 | 3646 |
| 815 | 3646 |
| 816 | 3646 |
| 817 | 3646 |
| 818 | 3646 |
| 6E819 | 3646 |
| 820 | 3646 |
| 821 | 3646 |
| 822 | 3646 |
| 823 | 3646 |
| 6E824 | 3646 |
| 825 | 3646 |
| 826 | 3646 |
| 827 | 3583 |
| 840 | 3605 |
| 6E854 | 3111 |
| 855 | 3110 |
| 857 | 3110 |
| 858 | 3110 |
| 859 | 3110 |
| 6E860 | 3110 |
| 862 | 3476 |
| 868 | 3460 |
| 878 | 3383 |
| 895 | 3375 |
| 6E896 | 3375 |
| 897 | 3562 |
| 898 | 3562 |
| 899 | 3562 |
| 900 | 3562 |
| 6E901 | 3562 |
| 902 | 3562 |
| 903 | 3562 |
| **6F** | |
| 6F001 | 416 |
| 002 | 416 |
| 003 | 416 |
| 004 | 416 |
| 005 | 416 |
| 6F006 | 416 |
| 007 | 416 |
| 008 | 416 |
| 009 | 416 |
| 010 | 416 |
| 6F011 | 416 |
| 012 | 416 |
| 013 | 416 |
| 014 | 416 |
| 015 | 416 |
| 6F018 | 416 |
| 020 | 414 |
| 021 | 414 |
| 022 | 414 |
| 023 | 414 |
| 6F024 | 414 |
| 025 | 414 |
| 026 | 414 |
| 027 | 414 |
| 028 | 414 |
| 6F029 | 414 |
| 030 | 414 |
| 031 | 414 |
| 032 | 414 |
| 033 | 414 |
| 6F034 | 414 |
| 035 | 414 |
| 037 | 416 |
| 038 | 416 |
| 039 | 416 |
| 6F040 | 416 |
| 041 | 416 |
| 042 | 416 |
| 043 | 416 |
| 044 | 416 |
| 6F045 | 416 |
| 046 | 416 |
| 047 | 416 |
| 048 | 415 |
| 049 | 415 |
| 6F050 | 415 |
| 051 | 415 |
| 052 | 415 |
| 053 | 415 |
| 054 | 415 |
| 6F055 | 415 |
| 056 | 415 |
| 057 | 415 |
| 058 | 415 |
| 059 | 415 |
| 6F060 | 415 |
| 061 | 415 |
| 087 | 415 |
| 088 | 415 |
| 089 | 415 |
| 6F090 | 415 |
| 091 | 415 |
| 093 | 415 |
| 094 | 415 |
| 096 | 415 |
| 6F097 | 415 |
| 099 | 415 |
| 100 | 415 |
| 101 | 415 |
| 102 | 415 |
| 6F103 | 415 |
| 104 | 415 |
| 105 | 415 |
| 106 | 415 |
| 111 | 422 |
| 6F112 | 422 |
| 113 | 422 |
| 114 | 422 |
| 115 | 422 |
| 116 | 422 |
| 6F117 | 422 |
| 118 | 422 |
| 119 | 422 |
| 121 | 422 |
| 122 | 422 |
| 6F125 | 420 |
| 126 | 420 |
| 127 | 420 |
| 128 | 420 |
| 129 | 420 |
| 6F130 | 420 |
| 131 | 420 |
| 132 | 420 |
| 133 | 420 |
| 134 | 420 |
| 6F135 | 421 |
| 136 | 421 |
| 137 | 421 |
| 138 | 421 |
| 139 | 421 |
| 6F140 | 421 |
| 141 | 421 |
| 142 | 421 |
| 143 | 421 |
| 144 | 421 |
| 6F145 | 421 |
| 146 | 421 |
| 147 | 421 |
| 151 | 421 |
| 153 | 421 |
| 6F155 | 421 |
| 156 | 421 |
| 157 | 421 |
| 158 | 421 |
| 159 | 420 |
| 6F160 | 420 |
| 161 | 420 |
| 162 | 420 |
| 166 | 421 |
| 167 | 421 |
| 6F168 | 421 |
| 169 | 421 |
| 170 | 421 |
| 171 | 421 |
| 172 | 421 |
| 6F173 | 421 |
| 174 | 421 |
| 175 | 421 |
| 176 | 421 |
| 177 | 421 |
| 6F178 | 421 |
| 179 | 421 |
| 180 | 421 |
| 181 | 421 |
| 182 | 421 |
| 6F183 | 421 |
| 184 | 421 |
| 185 | 421 |
| 186 | 421 |
| 187 | 421 |
| 6F188 | 421 |
| 189 | 422 |
| 190 | 422 |
| 191 | 422 |
| 192 | 422 |
| 6F193 | 422 |
| 194 | 422 |
| 195 | 422 |
| 196 | 422 |
| 197 | 422 |
| 6F198 | 422 |
| 199 | 422 |
| 200 | 422 |
| 201 | 429 |
| 202 | 429 |
| 6F203 | 429 |
| 204 | 429 |
| 205 | 429 |
| 206 | 429 |
| 207 | 429 |
| 6F208 | 429 |
| 209 | 429 |
| 210 | 429 |
| 211 | 429 |
| 212 | 429 |
| 6F213 | 429 |
| 214 | 429 |
| 215 | 429 |
| 216 | 429 |
| 217 | 429 |
| 6F218 | 429 |
| 219 | 429 |
| 220 | 429 |
| 221 | 429 |
| 222 | 429 |
| 6F223 | 430 |
| 224 | 430 |
| 225 | 430 |
| 226 | 430 |
| 227 | 430 |
| 6F228 | 430 |
| 229 | 430 |
| 230 | 430 |
| 231 | 430 |
| 232 | 430 |
| 6F233 | 430 |
| 234 | 430 |
| 235 | 430 |
| 236 | 430 |
| 237 | 430 |
| 6F238 | 430 |
| 239 | 430 |
| 240 | 430 |
| 241 | 430 |
| 242 | 430 |
| 6F254 | 438 |
| 256 | 438 |
| 257 | 438 |
| 258 | 438 |
| 259 | 438 |
| 6F267 | 438 |
| 268 | 438 |
| 269 | 438 |
| 270 | 438 |
| 271 | 431 |
| 6F272 | 431 |
| 273 | 431 |
| 293 | 431 |
| 294 | 431 |
| 311 | 428 |
| 6F312 | 428 |
| 313 | 428 |
| 314 | 428 |
| 315 | 428 |
| 316 | 428 |
| 6F317 | 428 |
| 318 | 428 |
| 319 | 428 |
| 320 | 428 |
| 321 | 428 |
| 6F322 | 428 |
| 323 | 428 |
| 324 | 428 |
| 325 | 428 |
| 326 | 428 |
| 6F327 | 428 |
| 328 | 428 |
| 329 | 428 |
| 330 | 428 |
| 331 | 428 |
| 6F332 | 428 |
| 333 | 428 |
| 334 | 428 |
| 335 | 428 |
| 336 | 437 |
| 6F337 | 437 |
| 338 | 437 |
| 339 | 437 |
| 340 | 437 |
| 341 | 437 |
| 6F342 | 437 |
| 343 | 437 |
| 344 | 437 |
| 345 | 437 |
| 346 | 437 |
| 6F347 | 437 |
| 348 | 437 |
| 349 | 437 |
| 350 | 437 |
| 351 | 427 |
| 6F352 | 427 |
| 353 | 427 |
| 354 | 427 |
| 355 | 427 |
| 356 | 427 |
| 6F357 | 427 |
| 358 | 427 |
| 359 | 427 |
| 360 | 427 |
| 361 | 427 |
| 6F362 | 427 |
| 363 | 426 |
| 365 | 426 |
| 366 | 426 |
| 367 | 426 |
| 6F368 | 426 |
| 369 | 426 |
| 370 | 426 |
| 371 | 426 |
| 372 | 426 |
| 6F373 | 426 |
| 374 | 426 |
| 375 | 426 |
| 376 | 426 |
| 377 | 426 |
| 6F378 | 426 |
| 379 | 426 |
| 380 | 426 |
| 381 | 426 |
| 382 | 439 |
| 6F383 | 439 |
| 384 | 439 |
| 385 | 439 |
| 386 | 439 |
| 387 | 439 |
| 6F388 | 439 |
| 389 | 439 |
| 390 | 439 |
| 391 | 439 |
| 392 | 439 |
| 6F393 | 439 |
| 394 | 439 |
| 395 | 439 |
| 396 | 439 |
| 397 | 439 |
| 6F398 | 439 |
| 399 | 439 |
| 400 | 439 |
| 401 | 439 |
| 403 | 439 |
| 6F404 | 439 |
| 405 | 439 |
| 406 | 439 |
| 407 | 439 |
| 408 | 439 |
| 6F409 | 439 |
| 410 | 439 |
| 411 | 439 |
| 413 | 439 |
| 415 | 439 |
| 6F417 | 439 |
| 419 | 439 |
| 420 | 439 |
| 421 | 439 |
| 422 | 439 |
| 6F423 | 439 |
| 424 | 439 |
| 425 | 439 |
| 426 | 439 |
| 427 | 439 |
| 6F428 | 439 |
| 429 | 439 |
| 430 | 439 |
| 431 | 439 |
| 432 | 439 |
| 6F433 | 439 |
| 434 | 439 |
| 435 | 439 |
| 436 | 439 |
| 446 | 418 |
| 6F447 | 418 |
| 448 | 432 |
| 449 | 432 |
| 450 | 432 |
| 451 | 433 |
| 6F452 | 433 |
| 453 | 424 |
| 454 | 424 |
| 455 | 418 |
| 456 | 418 |
| 6F457 | 418 |
| 458 | 419 |
| 459 | 419 |
| 460 | 419 |
| 461 | 419 |
| 6F462 | 419 |
| 463 | 419 |
| 464 | 419 |
| 465 | 419 |
| 466 | 419 |
| 6F467 | 419 |
| 468 | 419 |
| 469 | 419 |
| 470 | 419 |
| 471 | 419 |
| 6F472 | 419 |
| 473 | 437 |
| 474 | 437 |
| 475 | 437 |
| 476 | 437 |
| 6F477 | 437 |
| 478 | 437 |
| 479 | 437 |
| 480 | 437 |
| 481 | 437 |
| 6F482 | 437 |
| 483 | 437 |
| 484 | 437 |
| 485 | 437 |
| 486 | 437 |
| 6F484 | 437 |
| 487 | 437 |
| 489 | 437 |
| 490 | 437 |
| 491 | 437 |
| 6F492 | 437 |
| 493 | 437 |
| 494 | 437 |
| 495 | 437 |
| 496 | 437 |
| 6F497 | 437 |
| 498 | 437 |
| 499 | 437 |
| 500 | 437 |
| 501 | 437 |
| 6F503 | 437 |
| 528 | 437 |
| 529 | 1072 |
| 530 | 1072 |
| 531 | 1074 |
| 6F532 | 1156 |
| 533 | 1156 |
| 534 | 1156 |
| 535 | 1156 |
| 536 | 1146 |
| 6F537 | 1146 |
| 538 | 1146 |
| 539 | 1146 |
| 550 | 1130 |
| 551 | 1129 |
| 6F552 | 1125 |
| 553 | 1064 |
| 554 | 1064 |
| 555 | 1064 |
| 556 | 1064 |
| 6F557 | 1064 |
| 558 | 1064 |
| 559 | 1057 |
| 560 | 1057 |
| 563 | 1057 |
| 6F564 | 1057 |
| 565 | 1064 |
| 569 | 2908 |
| 570 | 2908 |
| 571 | 2908 |
| 6F572 | 2908 |
| 573 | 2908 |
| 574 | 3361 |
| 582 | 2825 |
| 583 | 2825 |
| 6F584 | 2825 |
| 585 | 2825 |
| 586 | 2825 |
| 587 | 2825 |
| 588 | 2825 |
| 6F589 | 2825 |
| 590 | 2825 |
| 591 | 2825 |
| 592 | 3035 |
| 593 | 3035 |
| 6F594 | 3035 |
| 595 | 3035 |
| 596 | 3035 |
| 597 | 3035 |
| 598 | 3035 |
| 6F599 | 3035 |
| 600 | 2934 |
| 601 | 2934 |
| **6G** | |
| 6GP13 | 2604 |
| P14 | 2604 |
| P15 | 2604 |
| P16 | 2604 |
| P47 | 2598 |
| 6GP48 | 2598 |
| P49 | 2599 |
| P50 | 2599 |
| P51 | 2600 |
| P52 | 2601 |
| 6GP66 | 2598 |
| P68 | 2598 |
| P70 | 2599 |
| P72 | 2599 |
| P74 | 2600 |
| 6GP75 | 2599 |
| P76 | 2599 |
| P78 | 2598 |
| P79 | 2600 |
| P80 | 2598 |
| 6GP81 | 2598 |
| P82 | 2598 |
| P83 | 2601 |
| P86 | 2598 |
| P87 | 2598 |
| 6GP92 | 2599 |
| P94 | 2598 |
| P95 | 2599 |
| P96 | 2599 |
| P97 | 2601 |
| 6GP98 | 2601 |
| P99 | 2601 |
| R01 | 2601 |
| R02 | 2601 |
| R03 | 2601 |
| 6GR04 | 2601 |
| R05 | 2598 |
| R06 | 2598 |
| R07 | 2600 |
| R08 | 2598 |
| 6GR09 | 2598 |
| R10 | 2598 |
| T13 | 2598 |
| T14 | 2598 |
| T15 | 2598 |
| 6GT17 | 2598 |
| T19 | 2598 |
| T20 | 2598 |
| T24 | 2598 |
| T25 | 2598 |
| 6GT26 | 2598 |
| T27 | 2598 |
| T28 | 2598 |
| T29 | 2598 |
| T30 | 2598 |
| 6GT31 | 2598 |
| T32 | 2598 |
| T33 | 2598 |
| T34 | 2598 |
| T35 | 2598 |
| 6GT36 | 2598 |
| T37 | 2598 |
| T38 | 2598 |
| T39 | 2598 |
| T40 | 2598 |
| 6GT42 | 2598 |
| T44 | 2598 |
| T47 | 2598 |
| T54 | 2598 |
| T56 | 2598 |
| 6GT57 | 2598 |
| T58 | 2598 |
| T59 | 2598 |
| T62 | 2598 |
| T63 | 2598 |
| 6GT64 | 2598 |
| T65 | 2598 |
| T68 | 2599 |
| T69 | 2599 |
| T70 | 2599 |
| 6GT71 | 2599 |
| T72 | 2599 |
| T73 | 2599 |
| T74 | 2599 |
| T75 | 2599 |
| 6GT76 | 2599 |
| T77 | 2599 |
| T78 | 2599 |
| T82 | 2599 |
| T85 | 2599 |
| 6GT92 | 2599 |
| T94 | 2599 |
| T95 | 2599 |
| T96 | 2599 |
| T97 | 2599 |
| 6GV01 | 2599 |
| V02 | 2599 |
| V03 | 2599 |
| V04 | 2599 |
| V08 | 2599 |
| 6GV09 | 2599 |
| V10 | 2599 |
| V11 | 2599 |
| V12 | 2599 |
| V13 | 2599 |
| 6GV14 | 2599 |
| V15 | 2599 |
| V16 | 2599 |
| V17 | 2599 |
| V18 | 2599 |
| 6GV22 | 2599 |
| V27 | 2599 |
| V34 | 2599 |
| V36 | 2599 |
| V37 | 2599 |
| 6GV38 | 2599 |
| V39 | 2599 |
| V42 | 2599 |
| V43 | 2599 |
| V44 | 2599 |
| 6GV45 | 2599 |
| V48 | 2600 |
| V49 | 2600 |
| V50 | 2600 |
| V54 | 2600 |
| 6GV57 | 2600 |
| V58 | 2600 |
| V59 | 2600 |
| V61 | 2600 |
| V62 | 2600 |
| 6GV64 | 2598 |
| V65 | 2598 |
| V67 | 2598 |
| V68 | 2598 |
| V69 | 2598 |
| 6GV70 | 2598 |
| V88 | 2599 |
| V89 | 2599 |
| V90 | 2599 |
| V92 | 2598 |
| 6GW10 | 2599 |
| W15 | 2599 |
| W17 | 2600 |
| W18 | 2600 |
| W22 | 2600 |
| 6GW23 | 2600 |
| W24 | 2600 |
| W28 | 2600 |
| W29 | 2601 |
| W30 | 2601 |
| 6GW31 | 2601 |
| W32 | 2601 |
| W33 | 2601 |
| W34 | 2601 |
| W35 | 2601 |
| 6GW38 | 2601 |
| W40 | 2601 |
| W41 | 2601 |
| W42 | 2601 |
| W43 | 2601 |
| 6GW44 | 2601 |
| W45 | 2601 |
| W46 | 2601 |
| W48 | 2601 |
| W49 | 2601 |
| 6GW50 | 2601 |
| W51 | 2601 |
| W53 | 2601 |
| X08 | 633 |
| X09 | 633 |
| 6GX10 | 633 |
| X11 | 633 |
| X12 | 633 |
| X13 | 633 |
| X14 | 633 |
| 6GX16 | 633 |
| X17 | 633 |
| X18 | 633 |
| X19 | 633 |
| X21 | 633 |
| 6GX23 | 633 |
| X27 | 633 |
| X28 | 633 |
| X29 | 633 |
| X30 | 633 |
| 6GX33 | 633 |
| X35 | 633 |
| X39 | 633 |
| X40 | 633 |
| X41 | 633 |
| 6GX42 | 633 |
| X43 | 633 |
| X44 | 633 |
| X45 | 633 |
| X46 | 633 |
| 6GX47 | 633 |
| X49 | 633 |
| X50 | 633 |
| X51 | 633 |
| X52 | 633 |
| 6GX54 | 633 |
| X56 | 633 |
| X57 | 633 |
| X58 | 633 |
| X59 | 633 |
| 6GX60 | 633 |
| X63 | 633 |
| X72 | 633 |
| X73 | 633 |
| X74 | 633 |
| 6GX75 | 633 |
| X76 | 633 |
| X77 | 633 |
| X78 | 633 |
| X79 | 633 |
| 6GX80 | 633 |
| X82 | 633 |
| X83 | 633 |
| X84 | 633 |
| X85 | 633 |
| 6GX86 | 633 |
| X87 | 633 |
| X88 | 633 |
| X89 | 633 |
| X91 | 633 |
| 6GX94 | 633 |
| X95 | 633 |
| Z64 | 2599 |
| Z65 | 2600 |
| Z66 | 2601 |
| 6GZ67 | 2598 |
| Z68 | 2598 |
| Z69 | 2599 |
| Z70 | 2599 |
| Z71 | 2600 |
| 6GZ72 | 2601 |
| Z73 | 2598 |
| Z74 | 2599 |
| Z75 | 2599 |
| Z76 | 2600 |
| 6GZ77 | 2601 |
| 001 | 292 |
| 002 | 292 |
| 003 | 292 |
| 004 | 292 |
| 005 | 292 |
| 6G010 | 292 |
| 011 | 292 |
| 012 | 292 |
| 013 | 292 |
| 014 | 292 |
| 6G015 | 292 |
| 016 | 292 |
| 017 | 292 |
| 018 | 292 |
| 019 | 292 |
| 6G020 | 292 |
| 021 | 292 |
| 022 | 292 |
| 023 | 292 |
| 024 | 292 |
| 6G025 | 292 |
| 026 | 292 |
| 027 | 292 |
| 028 | 292 |
| 029 | 292 |
| 6G030 | 292 |
| 031 | 292 |
| 032 | 292 |
| 033 | 292 |
| 034 | 292 |
| 6G035 | 292 |
| 036 | 292 |
| 037 | 292 |
| 038 | 292 |
| 039 | 292 |
| 6G040 | 292 |
| 041 | 292 |
| 042 | 292 |
| 043 | 292 |
| 044 | 292 |
| 6G045 | 292 |
| 046 | 292 |
| 047 | 292 |
| 048 | 292 |
| 049 | 292 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6G050 | 292 | 6G115 | 292 | 6G180 | 349 | 6HF11 | 2601 | 6H387 | 1990 | 6H693 | 2600 | 6J584 | 2171 | 6K051 | 96 | 6K271 | 7 | 6K418 | 9 | 6K597 | 157 | 6K756 | 150 |
| 051 | 292 | 116 | 292 | 181 | 349 | F12 | 2601 | 388 | 1990 | 694 | 2601 | 585 | 2171 | 054 | 96 | 272 | 7 | 419 | 9 | 598 | 157 | 757 | 150 |
| 052 | 292 | 117 | 292 | 182 | 349 | F13 | 2601 | 389 | 1990 | 695 | 2601 | 586 | 2171 | 066 | 81 | 284 | 49 | 420 | 9 | 599 | 157 | 758 | 181 |
| 053 | 292 | 118 | 292 | 183 | 349 | F23 | 2598 | 390 | 1991 | 746 | 2600 | 587 | 2171 | 069 | 81 | 287 | 171 | 421 | 163 | 600 | 157 | 759 | 49 |
| 054 | 292 | 119 | 292 | 184 | 349 | F24 | 2598 | 499 | 1989 | 747 | 2601 | 588 | 2171 | 083 | 106 | 298 | 81 | 422 | 7 | 610 | 141 | 760 | 49 |
| 6G055 | 292 | 6G120 | 292 | 6G185 | 349 | 6HF25 | 2599 | 6H500 | 1989 | 6H776 | 2600 | 6J589 | 2171 | 6K084 | 106 | 6K303 | 237 | 6K424 | 7 | 6K614 | 49 | 6K761 | 52 |
| 056 | 292 | 121 | 292 | 186 | 349 | F26 | 2599 | 501 | 2600 | 777 | 2601 | 590 | 2171 | 085 | 51 | 305 | 7 | 425 | 99 | 619 | 141 | 763 | 52 |
| 057 | 292 | 122 | 292 | 187 | 349 | F27 | 2598 | 517 | 2601 | 787 | 2598 | 591 | 2171 | 089 | 180 | 306 | 9 | 426 | 99 | 622 | 141 | 764 | 52 |
| 058 | 292 | 123 | 292 | 188 | 349 | F28 | 2598 | 518 | 2601 | 788 | 2598 | 592 | 2171 | 100 | 7 | 307 | 9 | 436 | 121 | 624 | 98 | 765 | 150 |
| 059 | 292 | 124 | 292 | 189 | 349 | F29 | 2599 | 519 | 2601 | 789 | 2601 | 593 | 2171 | 109 | 129 | 308 | 9 | 438 | 48 | 628 | 7 | 767 | 97 |
| 6G060 | 292 | 6G125 | 292 | 6G190 | 349 | 6HF38 | 2598 | 6H520 | 2601 | 6H796 | 2600 | 6J594 | 2171 | 6K110 | 129 | 6K309 | 9 | 6K461 | 100 | 6K629 | 180 | 6K768 | 98 |
| 061 | 292 | 126 | 292 | 191 | 349 | F66 | 2604 | 521 | 2601 | 797 | 2601 | 598 | 2171 | 111 | 129 | 311 | 141 | 472 | 136 | 630 | 7 | 770 | 146 |
| 062 | 292 | 127 | 292 | 192 | 349 | F67 | 2604 | 528 | 2600 | 808 | 2598 | 599 | 2171 | 112 | 129 | 312 | 106 | 473 | 136 | 631 | 7 | 771 | 146 |
| 063 | 292 | 128 | 292 | 193 | 349 | 001 | 1894 | 529 | 2601 | 811 | 2599 | 600 | 2171 | 119 | 252 | 313 | 141 | 477 | 51 | 632 | 7 | 773 | 150 |
| 064 | 292 | 129 | 292 | 194 | 349 | 002 | 1894 | 530 | 2601 | 815 | 2599 | 601 | 2171 | 122 | 9 | 315 | 80 | 478 | 51 | 633 | 7 | 775 | 52 |
| 6G065 | 292 | 6G130 | 292 | 6G195 | 349 | 6H003 | 1894 | 6H531 | 2601 | 6H816 | 2599 | 6J602 | 2171 | 6K123 | 9 | 6K321 | 49 | 6K481 | 9 | 6K634 | 7 | 6K778 | 99 |
| 066 | 292 | 131 | 292 | 196 | 349 | 004 | 1882 | 532 | 2601 | 817 | 2599 | 603 | 2171 | 124 | 9 | 324 | 49 | 482 | 9 | 635 | 162 | 779 | 150 |
| 067 | 292 | 132 | 292 | 197 | 349 | 005 | 1887 | 540 | 2599 | 821 | 2599 | 604 | 2171 | 129 | 106 | 325 | 237 | 483 | 9 | 637 | 9 | 780 | 98 |
| 068 | 292 | 133 | 292 | 198 | 349 | 008 | 1890 | 541 | 2599 | 822 | 2599 | 605 | 2171 | 130 | 141 | 326 | 48 | 484 | 9 | 639 | 9 | 782 | 52 |
| 069 | 292 | 134 | 292 | 199 | 349 | 009 | 1914 | 542 | 2600 | 823 | 2600 | 606 | 2171 | 135 | 181 | 327 | 149 | 490 | 48 | 640 | 9 | 784 | 52 |
| 6G070 | 292 | 6G135 | 292 | 6G200 | 349 | 6H010 | 1914 | 6H543 | 2599 | 6H824 | 2600 | 6J607 | 2171 | 6K137 | 51 | 6K328 | 237 | 6K494 | 163 | 6K646 | 100 | 6K791 | 146 |
| 071 | 292 | 136 | 292 | 201 | 349 | 013 | 1523 | 544 | 2599 | 825 | 2600 | 608 | 2171 | 138 | 49 | 329 | 237 | 495 | 163 | 647 | 100 | 794 | 150 |
| 072 | 292 | 137 | 292 | 202 | 349 | 014 | 1890 | 545 | 2600 | 826 | 2601 | 609 | 2171 | 145 | 9 | 330 | 129 | 502 | 152 | 652 | 49 | 804 | 96 |
| 073 | 292 | 138 | 292 | 203 | 349 | 015 | 1890 | 550 | 2600 | 827 | 2601 | 610 | 2171 | 146 | 9 | 331 | 237 | 503 | 152 | 653 | 100 | 805 | 49 |
| 074 | 292 | 139 | 292 | 204 | 349 | 017 | 1890 | 551 | 2601 | 828 | 2601 | 611 | 2171 | 148 | 7 | 332 | 237 | 504 | 152 | 665 | 106 | 806 | 104 |
| 6G075 | 292 | 6G140 | 292 | 6G205 | 349 | 6H019 | 1890 | 6H557 | 2598 | 6H829 | 2601 | 6J612 | 2171 | 6K149 | 80 | 6K333 | 129 | 6K506 | 245 | 6K666 | 106 | 6K807 | 104 |
| 076 | 292 | 141 | 292 | 206 | 349 | 020 | 1890 | 558 | 2598 | 830 | 2601 | 613 | 2170 | 157 | 96 | 334 | 237 | 507 | 53 | 667 | 106 | 809 | 104 |
| 077 | 292 | 142 | 292 | 207 | 349 | 021 | 1890 | 559 | 2599 | 835 | 2601 | 614 | 2170 | 160 | 170 | 336 | 166 | 509 | 79 | 669 | 180 | 810 | 51 |
| 078 | 292 | 143 | 292 | 208 | 349 | 023 | 1989 | 560 | 2599 | 836 | 2601 | 618 | 2170 | 162 | 49 | 337 | 166 | 514 | 101 | 674 | 121 | 812 | 141 |
| 079 | 292 | 144 | 292 | 209 | 349 | 024 | 1989 | 561 | 2600 | 869 | 2598 | 628 | 2170 | 167 | 106 | 338 | 9 | 516 | 162 | 687 | 106 | 813 | 141 |
| 6G080 | 292 | 6G145 | 292 | 6G210 | 349 | 6H026 | 1989 | 6H562 | 2601 | 6H870 | 2598 | 6J631 | 2127 | 6K176 | 9 | 6K342 | 121 | 6K517 | 54 | 6K688 | 106 | 6K814 | 141 |
| 081 | 292 | 146 | 292 | 211 | 349 | 028 | 1989 | 563 | 2601 | 871 | 2599 | 632 | 2127 | 177 | 9 | 345 | 48 | 519 | 49 | 689 | 100 | 815 | 141 |
| 082 | 292 | 147 | 292 | 212 | 349 | 029 | 1992 | 599 | 2600 | 872 | 2599 | 633 | 2127 | 178 | 7 | 346 | 49 | 521 | 79 | 690 | 162 | 816 | 142 |
| 083 | 292 | 148 | 292 | 213 | 349 | 031 | 1992 | 600 | 2601 | 873 | 2600 | 634 | 2127 | 179 | 9 | 347 | 49 | 532 | 80 | 691 | 106 | 817 | 142 |
| 084 | 292 | 149 | 292 | 214 | 349 | 032 | 1992 | 617 | 2601 | 874 | 2601 | 635 | 2127 | 181 | 121 | 351 | 245 | 543 | 80 | 692 | 106 | 818 | 142 |
| 6G085 | 292 | 6G150 | 293 | 6G215 | 349 | 6H033 | 1992 | 6H618 | 2601 | 6H875 | 2601 | 6J636 | 2127 | 6K182 | 121 | 6K352 | 245 | 6K544 | 80 | 6K695 | 162 | 6K825 | 7 |
| 086 | 292 | 151 | 293 | 216 | 349 | 034 | 1992 | 619 | 2601 | 876 | 2601 | 637 | 2127 | 184 | 9 | 353 | 245 | 545 | 80 | 699 | 7 | 826 | 7 |
| 087 | 292 | 152 | 293 | 217 | 349 | 035 | 1992 | 627 | 2599 | 898 | 2598 | 638 | 2127 | 185 | 53 | 354 | 245 | 546 | 80 | 702 | 121 | 827 | 9 |
| 088 | 292 | 153 | 293 | 218 | 349 | 045 | 1991 | 628 | 2599 | 899 | 2598 | 639 | 2127 | 186 | 50 | 358 | 9 | 547 | 80 | 704 | 162 | 828 | 9 |
| 089 | 292 | 154 | 293 | 219 | 349 | 048 | 2002 | 629 | 2601 | 900 | 2599 | 640 | 2127 | 197 | 121 | 361 | 48 | 548 | 181 | 705 | 80 | 830 | 96 |
| 6G090 | 292 | 6G155 | 293 | 6G220 | 349 | 6H076 | 1993 | 6H630 | 2601 | 6H901 | 2599 | 6J641 | 2156 | 6K198 | 7 | 6K365 | 49 | 6K549 | 180 | 6K706 | 160 | 6K831 | 121 |
| 091 | 292 | 156 | 293 | 221 | 349 | 083 | 2002 | 643 | 2601 | 959 | 2599 | 642 | 2127 | 200 | 7 | 366 | 48 | 551 | 98 | 709 | 162 | 832 | 121 |
| 092 | 292 | 157 | 293 | 222 | 349 | 084 | 2003 | 644 | 2601 | 6J | | 643 | 2127 | 203 | 81 | 369 | 245 | 553 | 98 | 710 | 141 | 839 | 180 |
| 093 | 292 | 158 | 293 | 223 | 349 | 355 | 2112 | 648 | 2598 | | | 644 | 2127 | 204 | 7 | 370 | 49 | 555 | 100 | 711 | 80 | 840 | 141 |
| 094 | 292 | 159 | 293 | 224 | 349 | 356 | 2112 | 649 | 2598 | 6J559 | 2171 | 646 | 2127 | 205 | 7 | 375 | 245 | 560 | 100 | 714 | 141 | 841 | 141 |
| 6G095 | 292 | 6G160 | 293 | 6G225 | 349 | 6H358 | 2112 | 6H650 | 2600 | 6J560 | 2171 | 6J647 | 2127 | 6K214 | 81 | 6K376 | 49 | 6K561 | 101 | 6K716 | 52 | 6K842 | 141 |
| 096 | 292 | 161 | 293 | 226 | 349 | 362 | 2113 | 651 | 2601 | 561 | 2171 | 648 | 2127 | 222 | 81 | 377 | 149 | 562 | 9 | 717 | 98 | 843 | 141 |
| 097 | 292 | 162 | 293 | 227 | 349 | 363 | 2113 | 652 | 2601 | 562 | 2171 | 652 | 2127 | 223 | 149 | 383 | 245 | 563 | 97 | 718 | 52 | 844 | 182 |
| 098 | 292 | 163 | 293 | 228 | 349 | 364 | 2113 | 653 | 2601 | 563 | 2171 | 655 | 2170 | 232 | 49 | 385 | 49 | 566 | 100 | 719 | 141 | 845 | 98 |
| 099 | 292 | 164 | 293 | 229 | 349 | 365 | 2077 | 665 | 2599 | 564 | 2171 | 656 | 2170 | 233 | 264 | 388 | 140 | 568 | 181 | 720 | 182 | 847 | 141 |
| 6G100 | 292 | 6G165 | 293 | 6G230 | 349 | 6H366 | 2077 | 6H666 | 2599 | 6J565 | 2171 | 6J658 | 2170 | 6K236 | 49 | 6K393 | 7 | 6K569 | 53 | 6K722 | 98 | 6K851 | 141 |
| 101 | 292 | 166 | 293 | 231 | 349 | 367 | 2077 | 667 | 2600 | 566 | 2171 | 659 | 2170 | 237 | 49 | 394 | 99 | 570 | 52 | 725 | 52 | 854 | 7 |
| 102 | 292 | 167 | 293 | 232 | 349 | 368 | 2077 | 671 | 2598 | 568 | 2171 | | | 241 | 48 | 396 | 245 | 571 | 162 | 727 | 141 | 857 | 101 |
| 103 | 292 | 168 | 293 | 233 | 349 | 369 | 2077 | 672 | 2598 | 569 | 2171 | 6K | | 243 | 48 | 397 | 49 | 572 | 54 | 728 | 129 | 864 | 79 |
| 104 | 292 | 169 | 293 | 234 | 358 | 370 | 2077 | 673 | 2599 | 570 | 2171 | 6K005 | 121 | 244 | 48 | 398 | 163 | 573 | 162 | 729 | 98 | 865 | 80 |
| 6G105 | 292 | 6G170 | 349 | 6G239 | 319 | 6H371 | 2077 | 6H674 | 2599 | 6J571 | 2171 | 6K026 | 8 | 6K245 | 48 | 6K402 | 52 | 6K575 | 162 | 6K731 | 52 | 6K866 | 182 |
| 106 | 292 | 171 | 349 | 459 | 2588 | 372 | 2077 | 675 | 2600 | 572 | 2171 | 030 | 98 | 246 | 49 | 403 | 104 | 576 | 100 | 734 | 128 | 869 | 147 |
| 107 | 292 | 172 | 349 | 460 | 2588 | 373 | 2077 | 676 | 2601 | 573 | 2171 | 034 | 129 | 247 | 166 | 405 | 104 | 578 | 162 | 737 | 81 | 870 | 101 |
| 108 | 292 | 173 | 349 | 461 | 2588 | 374 | 2077 | 677 | 2601 | 574 | 2171 | 036 | 129 | 248 | 166 | 406 | 104 | 580 | 162 | 738 | 128 | 871 | 101 |
| 109 | 292 | 174 | 349 | 741 | 2588 | 375 | 650 | 687 | 2601 | 575 | 2171 | 039 | 129 | 249 | 166 | 407 | 9 | 581 | 162 | 740 | 141 | 872 | 101 |
| 6G110 | 292 | 6G175 | 349 | 6G742 | 2588 | 6H376 | 1989 | 6H688 | 2601 | 6J576 | 2171 | 6K040 | 129 | 6K250 | 166 | 6K408 | 136 | 6K582 | 162 | 6K744 | 98 | 6K880 | 140 |
| 111 | 292 | 176 | 349 | 743 | 2588 | 382 | 1989 | 689 | 2601 | 580 | 2171 | 041 | 129 | 255 | 166 | 409 | 136 | 583 | 245 | 745 | 150 | 881 | 142 |
| 112 | 292 | 177 | 349 | 954 | 2591 | 383 | 1989 | 690 | 2598 | 581 | 2171 | 042 | 80 | 256 | 166 | 410 | 104 | 589 | 98 | 748 | 150 | 882 | 142 |
| 113 | 292 | 178 | 349 | 6H | | 384 | 1989 | 691 | 2599 | 582 | 2171 | 045 | 121 | 266 | 166 | 411 | 104 | 592 | 141 | 754 | 150 | 883 | 142 |
| 114 | 292 | 179 | 349 | | | 385 | 1989 | 692 | 2599 | 583 | 2171 | 050 | 96 | 267 | 166 | 415 | 140 | 596 | 157 | 755 | 52 | 884 | 142 |

# STOCK NUMBER—PAGE NUMBER


| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6K885 | 142 | 6L030 | 328 | 6L096 | 298 | 6L236 | 306 | 6L301 | 307 | 6L367 | 295 | 6L432 | 294 | 6L497 | 300 | 6L562 | 296 | 6L627 | 297 | 6L692 | 317 | 6L757 | 258 |
| 886 | 142 | 031 | 328 | 098 | 204 | 237 | 306 | 302 | 307 | 368 | 295 | 433 | 294 | 498 | 300 | 563 | 296 | 628 | 297 | 693 | 317 | 758 | 258 |
| 887 | 142 | 032 | 328 | 099 | 204 | 238 | 306 | 303 | 307 | 369 | 295 | 434 | 294 | 499 | 300 | 564 | 296 | 629 | 297 | 694 | 317 | 759 | 258 |
| 890 | 102 | 033 | 328 | 100 | 352 | 239 | 306 | 304 | 307 | 370 | 295 | 435 | 294 | 500 | 300 | 565 | 296 | 630 | 297 | 695 | 317 | 760 | 258 |
| 892 | 102 | 034 | 328 | 101 | 352 | 240 | 306 | 305 | 307 | 371 | 295 | 436 | 294 | 501 | 300 | 566 | 296 | 631 | 297 | 696 | 317 | 761 | 258 |
| 6K895 | 102 | 6L035 | 333 | 6L102 | 352 | 6L241 | 306 | 6L306 | 307 | 6L372 | 295 | 6L437 | 294 | 6L502 | 300 | 6L567 | 296 | 6L632 | 297 | 6L697 | 317 | 6L762 | 258 |
| 902 | 48 | 036 | 333 | 103 | 352 | 242 | 306 | 307 | 307 | 373 | 295 | 438 | 294 | 503 | 300 | 568 | 296 | 633 | 297 | 698 | 317 | 763 | 258 |
| 912 | 48 | 037 | 333 | 104 | 204 | 243 | 306 | 308 | 307 | 374 | 295 | 439 | 294 | 504 | 300 | 569 | 296 | 634 | 297 | 699 | 317 | 764 | 259 |
| 924 | 48 | 038 | 333 | 105 | 204 | 244 | 306 | 309 | 307 | 375 | 295 | 440 | 294 | 505 | 300 | 570 | 296 | 635 | 297 | 700 | 317 | 765 | 256 |
| 927 | 48 | 039 | 333 | 106 | 204 | 245 | 306 | 310 | 307 | 376 | 295 | 441 | 294 | 506 | 300 | 571 | 296 | 636 | 297 | 701 | 317 | 766 | 256 |
| 6K937 | 9 | 6L040 | 333 | 6L107 | 204 | 6L246 | 306 | 6L311 | 307 | 6L377 | 295 | 6L442 | 294 | 6L507 | 300 | 6L572 | 296 | 6L637 | 297 | 6L702 | 317 | 6L767 | 256 |
| 938 | 9 | 041 | 333 | 182 | 306 | 247 | 306 | 312 | 307 | 378 | 295 | 443 | 294 | 508 | 300 | 573 | 296 | 638 | 297 | 703 | 317 | 768 | 256 |
| 945 | 163 | 042 | 333 | 183 | 306 | 248 | 306 | 313 | 307 | 379 | 295 | 444 | 294 | 509 | 300 | 574 | 296 | 639 | 297 | 704 | 317 | 769 | 256 |
| 946 | 163 | 043 | 333 | 184 | 306 | 249 | 306 | 314 | 307 | 380 | 295 | 445 | 294 | 510 | 300 | 575 | 296 | 640 | 297 | 705 | 317 | 770 | 309 |
| 947 | 183 | 044 | 333 | 185 | 306 | 250 | 306 | 315 | 307 | 381 | 295 | 446 | 294 | 511 | 299 | 576 | 296 | 641 | 297 | 706 | 317 | 771 | 309 |
| 6K949 | 7 | 6L045 | 333 | 6L186 | 306 | 6L251 | 306 | 6L316 | 307 | 6L382 | 295 | 6L447 | 294 | 6L512 | 299 | 6L577 | 296 | 6L642 | 297 | 6L707 | 317 | 6L772 | 309 |
| 950 | 136 | 046 | 333 | 187 | 306 | 252 | 306 | 317 | 307 | 383 | 295 | 448 | 294 | 513 | 299 | 578 | 296 | 643 | 297 | 708 | 317 | 773 | 309 |
| 951 | 48 | 047 | 333 | 188 | 306 | 253 | 306 | 318 | 306 | 384 | 295 | 449 | 294 | 514 | 299 | 579 | 296 | 644 | 297 | 709 | 317 | 774 | 291 |
| 952 | 136 | 048 | 333 | 189 | 306 | 254 | 306 | 320 | 301 | 385 | 295 | 450 | 294 | 515 | 300 | 580 | 296 | 645 | 297 | 710 | 317 | 775 | 291 |
| 958 | 48 | 049 | 333 | 190 | 306 | 255 | 306 | 321 | 301 | 386 | 295 | 451 | 294 | 516 | 300 | 581 | 296 | 646 | 297 | 711 | 317 | 776 | 291 |
| 6K959 | 136 | 6L050 | 333 | 6L191 | 306 | 6L256 | 306 | 6L322 | 301 | 6L387 | 295 | 6L452 | 294 | 6L517 | 300 | 6L582 | 296 | 6L647 | 297 | 6L712 | 317 | 6L777 | 291 |
| 965 | 48 | 051 | 333 | 192 | 306 | 257 | 306 | 323 | 301 | 388 | 295 | 453 | 294 | 518 | 300 | 583 | 296 | 648 | 297 | 713 | 317 | 778 | 291 |
| 969 | 141 | 052 | 329 | 193 | 306 | 258 | 306 | 324 | 301 | 389 | 295 | 454 | 294 | 519 | 300 | 584 | 296 | 649 | 297 | 714 | 317 | 779 | 291 |
| 970 | 141 | 053 | 329 | 194 | 306 | 259 | 306 | 325 | 301 | 390 | 295 | 455 | 294 | 520 | 300 | 585 | 296 | 650 | 297 | 715 | 317 | 780 | 291 |
| 971 | 48 | 054 | 329 | 195 | 306 | 260 | 306 | 326 | 301 | 391 | 295 | 456 | 294 | 521 | 300 | 586 | 296 | 651 | 297 | 716 | 317 | 781 | 291 |
| 6K972 | 7 | 6L055 | 329 | 6L196 | 306 | 6L261 | 306 | 6L327 | 302 | 6L392 | 295 | 6L457 | 294 | 6L522 | 300 | 6L587 | 296 | 6L652 | 297 | 6L717 | 317 | 6L782 | 291 |
| 973 | 48 | 056 | 329 | 197 | 306 | 262 | 306 | 328 | 302 | 393 | 295 | 458 | 294 | 523 | 300 | 588 | 296 | 653 | 297 | 718 | 317 | 783 | 291 |
| 974 | 121 | 057 | 329 | 198 | 306 | 263 | 306 | 329 | 302 | 394 | 295 | 459 | 294 | 524 | 300 | 589 | 296 | 654 | 297 | 719 | 317 | 784 | 291 |
| 975 | 121 | 058 | 329 | 199 | 306 | 264 | 306 | 330 | 302 | 395 | 295 | 460 | 294 | 525 | 300 | 590 | 296 | 655 | 297 | 720 | 317 | 785 | 291 |
| 981 | 149 | 059 | 329 | 200 | 306 | 265 | 306 | 331 | 302 | 396 | 295 | 461 | 294 | 526 | 300 | 591 | 296 | 656 | 297 | 721 | 317 | 786 | 291 |
| 6K988 | 181 | 6L060 | 329 | 6L201 | 306 | 6L266 | 306 | 6L332 | 302 | 6L397 | 295 | 6L462 | 294 | 6L527 | 296 | 6L592 | 296 | 6L657 | 297 | 6L722 | 317 | 6L787 | 291 |
| 993 | 243 | 062 | 312 | 202 | 306 | 267 | 307 | 333 | 302 | 398 | 295 | 463 | 294 | 528 | 296 | 593 | 296 | 658 | 297 | 723 | 317 | 788 | 291 |
| 994 | 142 | 063 | 312 | 203 | 306 | 268 | 307 | 334 | 302 | 399 | 295 | 464 | 294 | 529 | 296 | 594 | 296 | 659 | 297 | 724 | 317 | 789 | 291 |
| 996 | 78 | 064 | 312 | 204 | 306 | 269 | 307 | 335 | 302 | 400 | 295 | 465 | 294 | 530 | 296 | 595 | 296 | 660 | 297 | 725 | 317 | 790 | 291 |
| 998 | 78 | 065 | 312 | 205 | 306 | 270 | 307 | 336 | 302 | 401 | 295 | 466 | 294 | 531 | 296 | 596 | 297 | 661 | 297 | 726 | 317 | 791 | 291 |
| **6L** | | 6L066 | 312 | 6L206 | 306 | 6L271 | 307 | 6L337 | 321 | 6L402 | 295 | 6L467 | 294 | 6L532 | 296 | 6L597 | 297 | 6L662 | 297 | 6L727 | 255 | 6L792 | 291 |
| 6L001 | 343 | 067 | 312 | 207 | 307 | 272 | 307 | 338 | 321 | 403 | 295 | 468 | 294 | 533 | 296 | 598 | 297 | 663 | 297 | 728 | 255 | 793 | 291 |
| 002 | 343 | 068 | 312 | 208 | 307 | 273 | 307 | 339 | 302 | 404 | 295 | 469 | 294 | 534 | 296 | 599 | 297 | 664 | 297 | 729 | 255 | 794 | 291 |
| 003 | 343 | 069 | 312 | 209 | 307 | 274 | 307 | 340 | 302 | 405 | 295 | 470 | 294 | 535 | 296 | 600 | 297 | 665 | 297 | 730 | 255 | 795 | 291 |
| | | 070 | 298 | 210 | 307 | 275 | 307 | 341 | 302 | 406 | 295 | 471 | 294 | 536 | 296 | 601 | 297 | 666 | 297 | 731 | 255 | 796 | 291 |
| 6L004 | 343 | 6L071 | 298 | 6L211 | 307 | 6L276 | 307 | 6L342 | 362 | 6L407 | 295 | 6L472 | 294 | 6L537 | 296 | 6L602 | 297 | 6L667 | 297 | 6L732 | 255 | 6L797 | 291 |
| 005 | 343 | 072 | 298 | 212 | 307 | 277 | 307 | 343 | 362 | 408 | 295 | 473 | 294 | 538 | 296 | 603 | 297 | 668 | 297 | 733 | 255 | 798 | 291 |
| 006 | 343 | 073 | 298 | 213 | 307 | 278 | 307 | 344 | 362 | 409 | 295 | 474 | 294 | 539 | 296 | 604 | 297 | 669 | 297 | 734 | 256 | 799 | 291 |
| 007 | 343 | 074 | 298 | 214 | 307 | 279 | 307 | 345 | 362 | 410 | 295 | 475 | 294 | 540 | 296 | 605 | 297 | 670 | 297 | 735 | 256 | 800 | 291 |
| 008 | 343 | 075 | 298 | 215 | 307 | 280 | 307 | 346 | 362 | 411 | 295 | 476 | 294 | 541 | 296 | 606 | 297 | 671 | 297 | 736 | 256 | 801 | 291 |
| 6L009 | 343 | 6L076 | 298 | 6L216 | 307 | 6L281 | 307 | 6L347 | 295 | 6L412 | 295 | 6L477 | 294 | 6L542 | 296 | 6L607 | 297 | 6L672 | 297 | 6L737 | 256 | 6L802 | 291 |
| 010 | 343 | 077 | 298 | 217 | 307 | 282 | 307 | 348 | 295 | 413 | 295 | 478 | 294 | 543 | 296 | 608 | 297 | 673 | 297 | 738 | 255 | 803 | 291 |
| 011 | 343 | 078 | 298 | 218 | 307 | 283 | 307 | 349 | 295 | 414 | 295 | 479 | 294 | 544 | 296 | 609 | 297 | 674 | 297 | 739 | 255 | 804 | 291 |
| 012 | 356 | 079 | 298 | 219 | 307 | 284 | 307 | 350 | 295 | 415 | 295 | 480 | 294 | 545 | 296 | 610 | 297 | 675 | 297 | 740 | 255 | 805 | 291 |
| 013 | 356 | 080 | 298 | 220 | 307 | 285 | 307 | 351 | 295 | 416 | 295 | 481 | 299 | 546 | 296 | 611 | 297 | 676 | 297 | 741 | 255 | 806 | 291 |
| 6L014 | 356 | 6L081 | 298 | 6L221 | 307 | 6L286 | 307 | 6L352 | 295 | 6L417 | 295 | 6L482 | 299 | 6L547 | 296 | 6L612 | 297 | 6L677 | 297 | 6L742 | 255 | 6L807 | 291 |
| 015 | 356 | 082 | 298 | 222 | 307 | 287 | 307 | 353 | 295 | 418 | 295 | 483 | 299 | 548 | 296 | 613 | 297 | 678 | 297 | 743 | 255 | 808 | 291 |
| 016 | 356 | 083 | 298 | 223 | 307 | 288 | 307 | 354 | 295 | 419 | 295 | 484 | 299 | 549 | 296 | 614 | 297 | 679 | 297 | 744 | 255 | 809 | 291 |
| 017 | 356 | 084 | 298 | 224 | 307 | 289 | 307 | 355 | 295 | 420 | 295 | 485 | 299 | 550 | 296 | 615 | 297 | 680 | 297 | 745 | 255 | 810 | 291 |
| 018 | 356 | 085 | 298 | 225 | 307 | 290 | 307 | 356 | 295 | 421 | 295 | 486 | 299 | 551 | 296 | 616 | 297 | 681 | 297 | 746 | 258 | 811 | 291 |
| 6L019 | 356 | 6L086 | 298 | 6L226 | 307 | 6L291 | 307 | 6L357 | 295 | 6L422 | 295 | 6L487 | 299 | 6L552 | 296 | 6L617 | 297 | 6L682 | 297 | 6L747 | 258 | 6L812 | 291 |
| 021 | 333 | 087 | 298 | 227 | 307 | 292 | 307 | 358 | 295 | 423 | 294 | 488 | 299 | 553 | 296 | 618 | 297 | 683 | 297 | 748 | 258 | 813 | 291 |
| 022 | 328 | 088 | 298 | 228 | 307 | 293 | 307 | 359 | 295 | 424 | 294 | 489 | 299 | 554 | 296 | 619 | 297 | 684 | 297 | 749 | 258 | 814 | 291 |
| 023 | 328 | 089 | 298 | 229 | 307 | 294 | 307 | 360 | 295 | 425 | 294 | 490 | 300 | 555 | 296 | 620 | 297 | 685 | 317 | 750 | 258 | 815 | 291 |
| 024 | 328 | 090 | 298 | 230 | 307 | 295 | 307 | 361 | 295 | 426 | 294 | 491 | 300 | 556 | 296 | 621 | 297 | 686 | 317 | 751 | 258 | 816 | 291 |
| 6L025 | 328 | 6L091 | 298 | 6L231 | 307 | 6L296 | 307 | 6L362 | 295 | 6L427 | 294 | 6L492 | 300 | 6L557 | 296 | 6L622 | 297 | 6L687 | 317 | 6L752 | 258 | 6L817 | 291 |
| 026 | 328 | 092 | 298 | 232 | 307 | 297 | 307 | 363 | 295 | 428 | 294 | 493 | 300 | 558 | 296 | 623 | 297 | 688 | 317 | 753 | 258 | 818 | 291 |
| 027 | 328 | 093 | 298 | 233 | 306 | 298 | 307 | 364 | 295 | 429 | 294 | 494 | 300 | 559 | 296 | 624 | 297 | 689 | 317 | 754 | 258 | 819 | 291 |
| 028 | 328 | 094 | 298 | 234 | 306 | 299 | 307 | 365 | 295 | 430 | 294 | 495 | 300 | 560 | 296 | 625 | 297 | 690 | 317 | 755 | 258 | 820 | 291 |
| 029 | 328 | 095 | 298 | 235 | 306 | 300 | 307 | 366 | 295 | 431 | 294 | 496 | 300 | 561 | 296 | 626 | 297 | 691 | 317 | 756 | 258 | 821 | 291 |

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. |
|---|---|
| 6L822 | 291 |
| 823 | 291 |
| 824 | 291 |
| 825 | 291 |
| 826 | 291 |
| 6L827 | 291 |
| 828 | 291 |
| 829 | 291 |
| 830 | 291 |
| 831 | 291 |
| 6L832 | 291 |
| 833 | 291 |
| 834 | 291 |
| 835 | 291 |
| 836 | 291 |
| 6L837 | 291 |
| 838 | 291 |
| 839 | 291 |
| 840 | 291 |
| 841 | 291 |
| 6L842 | 291 |
| 843 | 291 |
| 844 | 291 |
| 845 | 291 |
| 846 | 291 |
| 6L847 | 291 |
| 848 | 291 |
| 849 | 291 |
| 850 | 291 |
| 851 | 291 |
| 6L852 | 291 |
| 853 | 291 |
| 854 | 291 |
| 855 | 291 |
| 856 | 291 |
| 6L857 | 291 |
| 858 | 291 |
| 859 | 291 |
| 860 | 291 |
| 861 | 291 |
| 6L862 | 291 |
| 863 | 291 |
| 864 | 291 |
| 865 | 291 |
| 866 | 291 |
| 6L867 | 291 |
| 868 | 291 |
| 869 | 291 |
| 870 | 291 |
| 871 | 291 |
| 6L872 | 291 |
| 873 | 291 |
| 874 | 291 |
| 875 | 291 |
| 876 | 291 |
| 6L877 | 291 |
| 878 | 291 |
| 879 | 291 |
| 880 | 291 |
| 881 | 291 |
| 6L882 | 291 |
| 883 | 291 |
| 884 | 291 |
| 885 | 291 |
| 886 | 291 |
| 6L887 | 291 |
| 888 | 291 |
| 889 | 291 |
| 890 | 291 |
| 891 | 291 |
| 6L892 | 291 |
| 893 | 291 |
| 894 | 291 |
| 895 | 291 |
| 896 | 291 |
| 6L897 | 291 |
| 898 | 291 |
| 899 | 291 |
| 900 | 291 |
| 901 | 291 |
| 6L902 | 291 |
| 903 | 291 |
| 904 | 291 |
| 905 | 291 |
| 906 | 291 |
| 6L907 | 291 |
| 908 | 291 |
| 909 | 291 |
| 910 | 291 |
| 911 | 291 |
| 6L912 | 291 |
| 913 | 291 |
| 914 | 291 |
| 915 | 291 |
| 916 | 291 |
| 6L917 | 291 |
| 918 | 291 |
| 919 | 291 |
| 920 | 291 |
| 921 | 291 |
| 6L922 | 291 |
| 923 | 291 |
| 924 | 291 |
| 925 | 291 |
| 926 | 291 |
| 6L927 | 292 |
| 928 | 292 |
| 929 | 292 |
| 930 | 292 |
| 931 | 292 |
| 6L932 | 292 |
| 933 | 292 |
| 934 | 292 |
| 935 | 292 |
| 936 | 292 |
| 6L937 | 292 |
| 938 | 292 |
| 939 | 292 |
| 940 | 292 |
| 941 | 292 |
| 6L942 | 292 |
| 943 | 292 |
| 944 | 292 |
| 945 | 292 |
| 946 | 292 |
| 6L947 | 292 |
| 948 | 292 |
| 949 | 292 |
| 950 | 292 |
| 951 | 292 |
| 6L952 | 292 |
| 953 | 292 |
| 954 | 292 |
| 955 | 292 |
| 956 | 292 |
| 6L957 | 292 |
| 958 | 292 |
| 959 | 292 |
| 960 | 292 |
| 961 | 292 |
| 6L962 | 292 |
| 963 | 292 |
| 964 | 292 |
| 965 | 292 |
| 966 | 292 |
| 6L967 | 292 |
| 968 | 292 |
| 969 | 292 |
| 970 | 292 |
| 971 | 292 |
| 6L972 | 292 |
| 973 | 292 |
| 974 | 292 |
| 975 | 292 |
| 976 | 292 |
| 6L977 | 292 |
| 978 | 292 |
| 979 | 292 |
| 980 | 292 |
| 981 | 292 |
| 6L982 | 292 |
| 983 | 292 |
| 984 | 292 |
| 985 | 292 |
| 986 | 292 |
| 6L987 | 292 |
| 988 | 292 |
| 989 | 292 |
| 990 | 292 |
| 991 | 292 |
| 6L992 | 292 |
| 993 | 292 |
| 994 | 292 |
| 995 | 292 |
| 996 | 292 |
| 6L997 | 292 |
| 998 | 292 |
| 999 | 292 |
| 6M | |
| 6M028 | 58 |
| 029 | 58 |
| 304 | 2602 |
| 306 | 2602 |
| 324 | 2603 |
| 6M330 | 2603 |
| 335 | 2602 |
| 336 | 2603 |
| 339 | 2602 |
| 340 | 2603 |
| 6M363 | 2602 |
| 367 | 2602 |
| 372 | 2603 |
| 385 | 2602 |
| 386 | 2602 |
| 6M394 | 2602 |
| 396 | 2603 |
| 404 | 2603 |
| 408 | 2602 |
| 409 | 2602 |
| 6M411 | 2603 |
| 412 | 2602 |
| 413 | 2603 |
| 418 | 2603 |
| 419 | 2603 |
| 6M423 | 2603 |
| 428 | 2604 |
| 441 | 2603 |
| 446 | 2603 |
| 447 | 2603 |
| 6M451 | 2604 |
| 458 | 2604 |
| 462 | 2603 |
| 464 | 2604 |
| 465 | 2603 |
| 6M466 | 2604 |
| 470 | 2602 |
| 484 | 2603 |
| 485 | 2603 |
| 490 | 2603 |
| 6M492 | 2602 |
| 493 | 2603 |
| 494 | 2602 |
| 495 | 2603 |
| 541 | 2602 |
| 6M542 | 2603 |
| 543 | 2602 |
| 544 | 2603 |
| 558 | 2604 |
| 560 | 2602 |
| 6M561 | 2603 |
| 573 | 2604 |
| 574 | 2604 |
| 577 | 2604 |
| 580 | 2602 |
| 6M584 | 2602 |
| 594 | 2602 |
| 598 | 2603 |
| 601 | 2603 |
| 602 | 2603 |
| 6M607 | 2602 |
| 634 | 2602 |
| 703 | 2602 |
| 704 | 2603 |
| 735 | 2602 |
| 6M736 | 2604 |
| 737 | 2602 |
| 738 | 2604 |
| 868 | 2604 |
| 869 | 2604 |
| 6M870 | 2604 |
| 871 | 2604 |
| 872 | 2604 |
| 874 | 2604 |
| 6N | |
| 6N020 | 155 |
| 021 | 155 |
| 022 | 155 |
| 6N023 | 155 |
| 024 | 155 |
| 025 | 155 |
| 026 | 155 |
| 027 | 155 |
| 6N028 | 155 |
| 029 | 155 |
| 030 | 155 |
| 031 | 155 |
| 032 | 32 |
| 6N034 | 32 |
| 035 | 32 |
| 036 | 32 |
| 037 | 32 |
| 040 | 32 |
| 6N041 | 32 |
| 042 | 32 |
| 045 | 125 |
| 047 | 126 |
| 048 | 126 |
| 6N049 | 126 |
| 050 | 126 |
| 051 | 126 |
| 055 | 126 |
| 056 | 126 |
| 6N057 | 126 |
| 058 | 126 |
| 059 | 126 |
| 061 | 126 |
| 204 | 2602 |
| 6N205 | 2602 |
| 210 | 2602 |
| 211 | 2602 |
| 215 | 2603 |
| 219 | 2603 |
| 6N226 | 2604 |
| 228 | 2604 |
| 232 | 2603 |
| 236 | 2604 |
| 238 | 2603 |
| 6N239 | 2604 |
| 496 | 2603 |
| 501 | 2602 |
| 502 | 2603 |
| 507 | 2604 |
| 6N513 | 2603 |
| 514 | 2604 |
| 515 | 2603 |
| 516 | 2604 |
| 517 | 2604 |
| 6N518 | 2604 |
| 523 | 2602 |
| 525 | 2603 |
| 527 | 2603 |
| 533 | 2603 |
| 6N534 | 2604 |
| 543 | 2603 |
| 546 | 2603 |
| 547 | 2603 |
| 548 | 2603 |
| 6N550 | 2603 |
| 555 | 2603 |
| 557 | 2603 |
| 561 | 2604 |
| 566 | 2603 |
| 6N567 | 2604 |
| 571 | 2603 |
| 573 | 2604 |
| 575 | 2604 |
| 576 | 2604 |
| 6N577 | 2604 |
| 578 | 2604 |
| 579 | 2604 |
| 580 | 2604 |
| 581 | 2604 |
| 6N582 | 2604 |
| 583 | 2604 |
| 584 | 2604 |
| 585 | 2604 |
| 586 | 2604 |
| 6N587 | 2603 |
| 588 | 2603 |
| 590 | 2603 |
| 596 | 2602 |
| 598 | 2602 |
| 6N600 | 2602 |
| 602 | 2602 |
| 604 | 2602 |
| 605 | 2603 |
| 606 | 2603 |
| 6N608 | 2602 |
| 609 | 2602 |
| 610 | 2602 |
| 611 | 2602 |
| 612 | 2602 |
| 6N613 | 2602 |
| 614 | 2602 |
| 615 | 2603 |
| 616 | 2603 |
| 617 | 2603 |
| 6N619 | 2603 |
| 620 | 2602 |
| 621 | 2602 |
| 622 | 2602 |
| 623 | 2603 |
| 6N624 | 2603 |
| 625 | 2603 |
| 626 | 2603 |
| 627 | 2602 |
| 628 | 2602 |
| 6N629 | 2602 |
| 630 | 2602 |
| 631 | 2602 |
| 633 | 2602 |
| 635 | 2602 |
| 6N636 | 2603 |
| 637 | 2603 |
| 640 | 2602 |
| 642 | 2602 |
| 646 | 2602 |
| 6N647 | 2603 |
| 664 | 2593 |
| 665 | 2593 |
| 666 | 2593 |
| 667 | 2593 |
| 6N668 | 2593 |
| 669 | 2593 |
| 670 | 2593 |
| 671 | 2593 |
| 672 | 2593 |
| 6N673 | 2593 |
| 674 | 2593 |
| 675 | 2593 |
| 676 | 2593 |
| 677 | 2593 |
| 6N678 | 2593 |
| 685 | 2593 |
| 686 | 2593 |
| 687 | 2593 |
| 688 | 2593 |
| 6N689 | 2593 |
| 690 | 2593 |
| 800 | 2287 |
| 801 | 2287 |
| 802 | 2287 |
| 807 | 2287 |
| 6N803 | 2287 |
| 804 | 2287 |
| 805 | 2287 |
| 806 | 2287 |
| 807 | 2607 |
| 844 | 2607 |
| 846 | 2607 |
| 847 | 2607 |
| 995 | 2607 |
| 6N834 | 2607 |
| 844 | 2607 |
| 846 | 2607 |
| 847 | 2607 |
| 808 | 3054 |
| 809 | 3054 |
| 6N997 | 2607 |
| 998 | 2607 |
| 999 | 2607 |
| 6P | |
| 6P004 | 586 |
| 005 | 586 |
| 006 | 586 |
| 007 | 586 |
| 008 | 586 |
| 6P359 | 2607 |
| 756 | 3053 |
| 757 | 3053 |
| 758 | 3053 |
| 759 | 3053 |
| 6P760 | 3053 |
| 761 | 3053 |
| 762 | 3054 |
| 763 | 3054 |
| 764 | 3054 |
| 6P765 | 3054 |
| 766 | 3054 |
| 767 | 3054 |
| 768 | 3054 |
| 769 | 3054 |
| 6P770 | 3054 |
| 771 | 3054 |
| 772 | 3054 |
| 773 | 3054 |
| 774 | 3054 |
| 6P775 | 3054 |
| 776 | 3054 |
| 777 | 3054 |
| 778 | 3054 |
| 779 | 3054 |
| 6P780 | 3054 |
| 781 | 3054 |
| 782 | 3054 |
| 783 | 3054 |
| 784 | 3054 |
| 6P785 | 3054 |
| 786 | 3054 |
| 787 | 3054 |
| 788 | 3054 |
| 789 | 3054 |
| 6P790 | 3054 |
| 791 | 3054 |
| 792 | 3054 |
| 793 | 3054 |
| 794 | 3054 |
| 6P795 | 3054 |
| 796 | 3054 |
| 797 | 3054 |
| 798 | 3054 |
| 799 | 3054 |
| 6P800 | 3054 |
| 801 | 3054 |
| 802 | 3054 |
| 803 | 3054 |
| 804 | 3054 |
| 6P805 | 3054 |
| 806 | 3054 |
| 807 | 3054 |
| 808 | 3054 |
| 809 | 3054 |
| 6P810 | 3054 |
| 811 | 3054 |
| 812 | 3054 |
| 813 | 3054 |
| 814 | 3054 |
| 6P815 | 3054 |
| 816 | 3054 |
| 817 | 3054 |
| 818 | 3054 |
| 819 | 3054 |
| 6P820 | 3054 |
| 821 | 3054 |
| 822 | 3054 |
| 823 | 3054 |
| 824 | 3054 |
| 6P825 | 3054 |
| 826 | 3054 |
| 827 | 3054 |
| 828 | 3054 |
| 829 | 3054 |
| 6P830 | 3054 |
| 831 | 3054 |
| 832 | 3054 |
| 833 | 3054 |
| 834 | 3054 |
| 6P835 | 3054 |
| 836 | 3054 |
| 837 | 3054 |
| 838 | 3055 |
| 839 | 3055 |
| 6P840 | 3055 |
| 841 | 3055 |
| 842 | 3055 |
| 843 | 3055 |
| 844 | 3055 |
| 6P845 | 3055 |
| 846 | 3055 |
| 847 | 3055 |
| 848 | 3055 |
| 849 | 3055 |
| 6P850 | 3055 |
| 851 | 3055 |
| 852 | 3055 |
| 853 | 3055 |
| 854 | 3055 |
| 6P855 | 3055 |
| 856 | 3055 |
| 857 | 3055 |
| 858 | 3055 |
| 859 | 3055 |
| 6P860 | 3055 |
| 861 | 3055 |
| 862 | 3055 |
| 863 | 3055 |
| 864 | 3055 |
| 6P870 | 3055 |
| 871 | 3055 |
| 872 | 3055 |
| 873 | 3055 |
| 874 | 3055 |
| 6P875 | 3055 |
| 876 | 3055 |
| 877 | 3055 |
| 878 | 3055 |
| 879 | 3055 |
| 6P880 | 3055 |
| 881 | 3055 |
| 882 | 3055 |
| 883 | 3055 |
| 884 | 3055 |
| 6P885 | 3055 |
| 886 | 3055 |
| 887 | 3055 |
| 888 | 3055 |
| 889 | 3055 |
| 6P890 | 3055 |
| 892 | 3055 |
| 893 | 3055 |
| 894 | 3055 |
| 895 | 3055 |
| 6P896 | 3055 |
| 897 | 3055 |
| 898 | 3055 |
| 899 | 3111 |
| 900 | 3055 |
| 6P901 | 3055 |
| 902 | 3055 |
| 903 | 3055 |
| 904 | 3055 |
| 905 | 3055 |
| 6P911 | 3056 |
| 912 | 3056 |
| 913 | 3056 |
| 914 | 3056 |
| 915 | 3114 |
| 6P916 | 3056 |
| 917 | 3056 |
| 918 | 3056 |
| 919 | 3056 |
| 920 | 3056 |
| 6P921 | 3056 |
| 922 | 3056 |
| 923 | 3114 |
| 924 | 3056 |
| 925 | 3056 |
| 6P926 | 3056 |
| 927 | 3056 |
| 928 | 3056 |
| 929 | 3056 |
| 930 | 3056 |
| 6P933 | 3053 |
| 940 | 3110 |
| 941 | 3110 |
| 942 | 3110 |
| 943 | 3110 |
| 6P944 | 3110 |
| 945 | 3110 |
| 949 | 3110 |
| 950 | 3110 |
| 951 | 3110 |
| 6P952 | 3110 |
| 953 | 3110 |
| 954 | 3110 |
| 955 | 3110 |
| 956 | 3110 |
| 6P957 | 3110 |
| 958 | 3110 |
| 959 | 3110 |
| 960 | 3110 |
| 961 | 3110 |
| 6P964 | 3060 |
| 965 | 3060 |
| 966 | 3060 |
| 967 | 3060 |
| 968 | 3060 |
| 6P969 | 3060 |
| 970 | 3060 |
| 971 | 3060 |
| 972 | 3060 |
| 973 | 3060 |
| 6P974 | 3060 |
| 975 | 3060 |
| 976 | 3060 |
| 977 | 3060 |
| 978 | 3060 |
| 6P979 | 3060 |
| 980 | 3060 |
| 981 | 3060 |
| 982 | 3060 |
| 983 | 3060 |
| 6P984 | 3060 |
| 985 | 3060 |
| 986 | 3060 |
| 987 | 3060 |
| 988 | 3060 |
| 6P989 | 3060 |
| 990 | 3060 |
| 991 | 3060 |
| 992 | 3060 |
| 993 | 3060 |
| 6P994 | 3111 |
| 995 | 3111 |
| 996 | 3111 |
| 997 | 3111 |
| 998 | 3111 |
| 6P999 | 3111 |
| 6R | |
| 6R004 | 1367 |
| 009 | 1367 |
| 6R015 | 1367 |
| 029 | 1392 |
| 061 | 1388 |
| 095 | 1388 |
| 232 | 1358 |
| 6R233 | 1358 |
| 234 | 1358 |
| 235 | 1358 |
| 283 | 1358 |
| 284 | 1358 |
| 6R285 | 1358 |
| 286 | 1358 |
| 287 | 1358 |
| 299 | 1361 |
| 402 | 1297 |
| 6R487 | 1298 |
| 489 | 1298 |
| 491 | 1298 |
| 493 | 1298 |
| 496 | 1297 |
| 6R500 | 1297 |
| 501 | 1297 |
| 502 | 1297 |
| 503 | 1297 |
| 529 | 1298 |
| 6R539 | 1298 |
| 541 | 1298 |
| 543 | 1298 |
| 585 | 1293 |
| 590 | 1361 |
| 6R658 | 1388 |
| 660 | 2607 |
| 662 | 2607 |
| 664 | 2607 |
| 666 | 2607 |
| 6R670 | 2607 |
| 672 | 2607 |
| 676 | 2607 |
| 678 | 2607 |
| 788 | 2597 |
| 6R790 | 2597 |
| 854 | 2597 |
| 904 | 2597 |
| 906 | 2597 |
| 908 | 2597 |
| 6R910 | 2597 |
| 912 | 2597 |
| 914 | 2597 |
| 6T | |
| 6T005 | 901 |
| 015 | 907 |
| 016 | 907 |
| 024 | 900 |
| 025 | 900 |
| 6T028 | 900 |
| 029 | 901 |
| 030 | 901 |
| 038 | 2115 |
| 058 | 763 |
| 6T059 | 793 |
| 060 | 793 |
| 061 | 793 |
| 062 | 793 |
| 063 | 793 |
| 6T064 | 755 |
| 065 | 755 |
| 066 | 854 |
| 067 | 854 |
| 069 | 885 |
| 6T070 | 885 |
| 071 | 885 |
| 072 | 885 |
| 073 | 885 |
| 074 | 885 |
| 6T075 | 884 |
| 076 | 884 |
| 077 | 884 |
| 078 | 884 |
| 079 | 805 |
| 6T084 | 797 |
| 087 | 771 |
| 088 | 771 |
| 089 | 771 |
| 090 | 776 |
| 6T094 | 789 |
| 095 | 803 |
| 096 | 787 |
| 098 | 787 |
| 099 | 788 |
| 6T100 | 734 |
| 104 | 3483 |
| 106 | 3483 |
| 107 | 3483 |
| 108 | 3483 |
| 6T109 | 3483 |
| 110 | 3483 |
| 111 | 3483 |
| 112 | 3483 |
| 123 | 3487 |
| 6T124 | 816 |
| 127 | 757 |
| 131 | 847 |
| 132 | 847 |
| 133 | 847 |
| 6T134 | 847 |
| 135 | 847 |
| 136 | 2521 |
| 137 | 847 |
| 138 | 847 |
| 6T139 | 844 |
| 140 | 842 |
| 141 | 844 |
| 142 | 844 |
| 143 | 842 |
| 6T144 | 842 |
| 145 | 842 |
| 147 | 842 |
| 148 | 842 |
| 149 | 843 |

# STOCK NUMBER—PAGE NUMBER

## 6T1 — 6VW


| Stock No. | Page No. |
|---|---|
| 6T150 | 843 |
| 151 | 844 |
| 152 | 844 |
| 153 | 844 |
| 154 | 844 |
| 6T155 | 844 |
| 156 | 844 |
| 157 | 844 |
| 158 | 848 |
| 159 | 848 |
| 6T160 | 848 |
| 161 | 848 |
| 162 | 848 |
| 163 | 848 |
| 164 | 848 |
| 6T165 | 848 |
| 166 | 848 |
| 167 | 848 |
| 173 | 877 |
| 174 | 877 |
| 6T175 | 877 |
| 176 | 877 |
| 177 | 855 |
| 178 | 855 |
| 179 | 855 |
| 6T180 | 855 |
| 182 | 2112 |
| 183 | 2112 |
| 184 | 2112 |
| 190 | 2112 |
| 6T195 | 2112 |
| 198 | 2113 |
| 199 | 2113 |
| 200 | 776 |
| 201 | 776 |
| 6T202 | 816 |
| 203 | 816 |
| 204 | 816 |
| 205 | 816 |
| 206 | 816 |
| 6T207 | 816 |
| 208 | 900 |
| 209 | 900 |
| 210 | 900 |
| 212 | 901 |
| 6T213 | 901 |
| 214 | 901 |
| 215 | 901 |
| 217 | 901 |
| 219 | 779 |
| 6T220 | 2517 |
| 221 | 2521 |
| 222 | 2521 |
| 223 | 2521 |
| 224 | 2521 |
| 6T225 | 2521 |
| 226 | 2521 |
| 227 | 2521 |
| 228 | 2521 |
| 229 | 2520 |
| 6T230 | 2520 |
| 231 | 2521 |
| 232 | 2521 |
| 233 | 2521 |
| 234 | 2521 |
| 6T235 | 2521 |
| 236 | 2521 |
| 237 | 2521 |
| 238 | 2521 |
| 239 | 2521 |
| 6T240 | 2521 |
| 241 | 2520 |
| 242 | 2521 |
| 243 | 2521 |
| 244 | 2521 |
| 6T245 | 2521 |
| 246 | 2521 |
| 247 | 2521 |
| 250 | 2521 |
| 251 | 2521 |
| 6T252 | 2521 |
| 254 | 2521 |
| 255 | 2521 |
| 256 | 2521 |
| 257 | 2521 |
| 6T258 | 2521 |
| 259 | 2521 |
| 260 | 2521 |
| 261 | 2521 |
| 263 | 754 |
| 6T268 | 903 |
| 270 | 2363 |
| 271 | 2363 |
| 272 | 2363 |
| 273 | 2363 |
| 6T274 | 2363 |
| 275 | 2363 |
| 276 | 2363 |
| 277 | 2363 |
| 278 | 2363 |
| 6T279 | 2363 |
| 284 | 3483 |
| 285 | 3483 |
| 286 | 3483 |
| 287 | 3483 |
| 6T288 | 3483 |
| 296 | 2335 |
| 297 | 2333 |
| 298 | 2333 |
| 299 | 2333 |
| 6T300 | 2333 |
| 301 | 2333 |
| 302 | 2333 |
| 303 | 2333 |
| 304 | 2334 |
| 6T305 | 2334 |
| 308 | 2645 |
| 309 | 2645 |
| 310 | 2645 |
| 311 | 2645 |
| 6T312 | 2644 |
| 313 | 2644 |
| 314 | 2644 |
| 315 | 2644 |
| 316 | 2644 |
| 6T317 | 2644 |
| 328 | 2075 |
| 329 | 2588 |
| 330 | 2588 |
| 331 | 2588 |
| 6T347 | 2365 |
| 348 | 2365 |
| 351 | 2365 |
| 352 | 2365 |
| 355 | 2365 |
| 6T356 | 2365 |
| 357 | 2365 |
| 358 | 2365 |
| 359 | 2371 |
| 360 | 2371 |
| 6T361 | 2371 |
| 362 | 2373 |
| 363 | 2373 |
| 364 | 816 |
| 365 | 816 |
| 6T366 | 816 |
| 367 | 816 |
| 368 | 3485 |
| 369 | 3487 |
| 370 | 3488 |
| 6T371 | 3488 |
| 372 | 748 |
| 373 | 755 |
| 374 | 778 |
| 375 | 777 |
| 6T377 | 789 |
| 378 | 803 |
| 379 | 795 |
| 380 | 795 |
| 381 | 795 |
| 6T382 | 795 |
| 383 | 795 |
| 392 | 2115 |
| 393 | 3488 |
| 394 | 2513 |
| 6T395 | 2513 |
| 396 | 2513 |
| 397 | 2629 |
| 398 | 2629 |
| 399 | 2631 |
| 6T400 | 2547 |
| 401 | 2547 |
| 402 | 2547 |
| 403 | 2627 |
| 404 | 2627 |
| 6T405 | 2627 |
| 406 | 2627 |
| 407 | 2627 |
| 408 | 2627 |
| 409 | 2627 |
| 6T410 | 2627 |
| 411 | 2627 |
| 412 | 2627 |
| 413 | 2627 |
| 414 | 2627 |
| 6T415 | 2627 |
| 416 | 2627 |
| 417 | 2627 |
| 418 | 2587 |
| 419 | 2587 |
| 6T420 | 2587 |
| 421 | 2587 |
| 423 | 2587 |
| 424 | 2587 |
| 425 | 2587 |
| 6T426 | 2587 |
| 427 | 2587 |
| 428 | 2587 |
| 429 | 2587 |
| 430 | 2587 |
| 6T431 | 2587 |
| 432 | 2587 |
| 433 | 2587 |
| 435 | 2587 |
| 436 | 2587 |
| 6T437 | 2587 |
| 438 | 2562 |
| 439 | 2562 |
| 440 | 2562 |
| 441 | 2562 |
| 6T442 | 2562 |
| 443 | 2562 |
| 444 | 878 |
| 445 | 880 |
| 451 | 2407 |
| 6T452 | 2407 |
| 453 | 2407 |
| 454 | 2407 |
| 455 | 2407 |
| 456 | 2407 |
| 6T484 | 899 |
| 483 | 899 |
| 485 | 899 |
| 486 | 899 |
| 487 | 899 |
| 6T492 | 3484 |
| 493 | 3484 |
| 494 | 3484 |
| 495 | 3484 |
| 496 | 3484 |
| 6T497 | 3484 |
| 498 | 3484 |
| 499 | 3484 |
| 500 | 3484 |
| 501 | 3484 |
| 6T502 | 3484 |
| 504 | 901 |
| 505 | 901 |
| 506 | 3484 |
| 507 | 810 |
| 6T508 | 808 |
| 509 | 3484 |
| 510 | 852 |
| 511 | 2520 |
| 512 | 2520 |
| 6T513 | 3483 |
| 515 | 3484 |
| 516 | 3484 |
| 518 | 2739 |
| 519 | 2449 |
| 6T520 | 2449 |
| 521 | 2449 |
| 522 | 2449 |
| 523 | 2445 |
| 524 | 2447 |
| 6T525 | 2447 |
| 526 | 2447 |
| 527 | 2447 |
| 528 | 2447 |
| 529 | 2447 |
| 6T530 | 2455 |
| 531 | 2455 |
| 532 | 2451 |
| 533 | 2451 |
| 534 | 2451 |
| 6T535 | 2448 |
| 536 | 2448 |
| 537 | 2448 |
| 538 | 2448 |
| 540 | 2460 |
| 6T541 | 2460 |
| 542 | 2460 |
| 543 | 2460 |
| 544 | 2363 |
| 545 | 2386 |
| 6T546 | 2386 |
| 547 | 2355 |
| 548 | 2355 |
| 549 | 2538 |
| 554 | 2495 |
| 6T555 | 2495 |
| 556 | 2495 |
| 557 | 2495 |
| 558 | 2495 |
| 559 | 2495 |
| 6T560 | 2495 |
| 561 | 2495 |
| 562 | 2495 |
| 563 | 2495 |
| 564 | 2495 |
| 6T565 | 2495 |
| 568 | 2500 |
| 569 | 2500 |
| 570 | 2500 |
| 571 | 2500 |
| 6T572 | 2501 |
| 573 | 2501 |
| 574 | 2501 |
| 575 | 2501 |
| 592 | 797 |
| 6T604 | 859 |
| 605 | 776 |
| 606 | 776 |
| 607 | 894 |
| 608 | 820 |
| 6T609 | 811 |
| 610 | 811 |
| 611 | 811 |
| 623 | 2597 |
| 624 | 2597 |
| 6T625 | 2597 |
| 626 | 2597 |
| 636 | 2597 |
| 646 | 2597 |
| 648 | 2597 |
| 6T733 | 2561 |
| 734 | 2561 |
| 737 | 2568 |
| 822 | 2561 |
| 823 | 2561 |
| 6T826 | 2561 |
| 856 | 2565 |
| 857 | 2565 |
| 859 | 2565 |
| 860 | 2565 |
| 6T864 | 2568 |
| 865 | 2567 |
| 866 | 2567 |
| 876 | 2561 |

**6U**

| Stock No. | Page No. |
|---|---|
| 6U580 | 3476 |
| 581 | 3532 |
| 582 | 3532 |
| 6U583 | 3532 |
| 585 | 3530 |
| 586 | 3530 |
| 688 | 3528 |
| 691 | 3417 |
| 6U692 | 3417 |
| 693 | 3417 |
| 694 | 559 |
| 695 | 559 |
| 696 | 559 |
| 6U697 | 559 |
| 698 | 559 |
| 702 | 559 |
| 703 | 559 |
| 704 | 559 |
| 6U705 | 559 |
| 706 | 559 |
| 707 | 559 |
| 708 | 559 |
| 709 | 559 |
| 6U710 | 559 |
| 711 | 559 |
| 712 | 559 |
| 713 | 559 |
| 714 | 559 |
| 6U715 | 559 |
| 716 | 559 |
| 717 | 559 |
| 718 | 559 |
| 719 | 559 |
| 6U720 | 559 |
| 721 | 559 |
| 722 | 559 |
| 723 | 559 |
| 724 | 559 |
| 6U725 | 559 |
| 726 | 559 |
| 727 | 559 |
| 728 | 560 |
| 729 | 560 |
| 6U737 | 560 |
| 738 | 560 |
| 739 | 560 |
| 740 | 560 |
| 742 | 560 |
| 6U743 | 560 |
| 744 | 560 |
| 745 | 560 |
| 746 | 560 |
| 747 | 560 |
| 6U748 | 560 |
| 749 | 560 |
| 750 | 560 |
| 751 | 560 |
| 752 | 560 |
| 6U753 | 560 |
| 754 | 560 |
| 755 | 560 |
| 756 | 560 |
| 757 | 560 |
| 6U758 | 560 |
| 759 | 560 |
| 760 | 560 |
| 761 | 560 |
| 762 | 560 |
| 6U763 | 560 |
| 764 | 560 |
| 765 | 560 |
| 766 | 560 |
| 767 | 560 |
| 6U768 | 560 |
| 769 | 560 |
| 834 | 2561 |

**6V**

| Stock No. | Page No. |
|---|---|
| 6VCC7 | 1120 |
| CF9 | 1131 |
| CH9 | 1129 |
| CK0 | 1129 |
| CK1 | 1129 |
| 6VCK2 | 1130 |
| CK3 | 1130 |
| CK4 | 1130 |
| CK5 | 1133 |
| CK6 | 1128 |
| 6VCK7 | 1128 |
| CM8 | 1127 |
| CM9 | 1127 |
| CN2 | 1127 |
| CN3 | 1127 |
| 6VCN6 | 1128 |
| CN7 | 1128 |
| CN8 | 1128 |
| CN9 | 1127 |
| CP0 | 1133 |
| 6VCP1 | 1133 |
| CP2 | 1133 |
| CP4 | 1133 |
| CP5 | 1133 |
| CP8 | 1133 |
| 6VCR7 | 1143 |
| CR8 | 1143 |
| CT6 | 1059 |
| C04 | 987 |
| C05 | 987 |
| 6VC09 | 987 |
| C11 | 987 |
| C25 | 987 |
| C26 | 987 |
| C27 | 987 |
| 6VC28 | 987 |
| C29 | 987 |
| C31 | 987 |
| C35 | 987 |
| C38 | 987 |
| 6VC43 | 988 |
| C44 | 988 |
| C47 | 988 |
| C48 | 988 |
| C49 | 988 |
| 6VC51 | 988 |
| C52 | 988 |
| C54 | 988 |
| C57 | 988 |
| C58 | 988 |
| 6VC62 | 988 |
| C65 | 988 |
| C69 | 988 |
| C71 | 988 |
| C76 | 988 |
| 6VC77 | 988 |
| C78 | 988 |
| C79 | 988 |
| C80 | 988 |
| C84 | 989 |
| 6VC86 | 989 |
| C91 | 989 |
| C93 | 989 |
| C98 | 989 |
| F02 | 989 |
| 6VF03 | 989 |
| F04 | 989 |
| F05 | 990 |
| F07 | 990 |
| F11 | 990 |
| 6VF12 | 990 |
| F13 | 990 |
| F15 | 990 |
| F16 | 990 |
| F17 | 990 |
| 6VF18 | 991 |
| F20 | 991 |
| F22 | 991 |
| F23 | 991 |
| F25 | 991 |
| 6VF33 | 991 |
| F34 | 991 |
| F36 | 991 |
| F37 | 991 |
| F39 | 991 |
| 6VF50 | 992 |
| F53 | 992 |
| F57 | 992 |
| F60 | 992 |
| F67 | 992 |
| 6VF71 | 992 |
| F72 | 993 |
| F74 | 993 |
| F76 | 993 |
| F80 | 993 |
| 6VF81 | 993 |
| F82 | 993 |
| F85 | 993 |
| F86 | 993 |
| F87 | 993 |
| 6VF88 | 993 |
| F91 | 993 |
| F92 | 993 |
| F93 | 993 |
| F94 | 993 |
| 6VF96 | 993 |
| F97 | 993 |
| F98 | 993 |
| H00 | 993 |
| H04 | 994 |
| 6VH14 | 995 |
| H84 | 998 |
| H91 | 998 |
| H92 | 998 |
| H93 | 998 |
| 6VH95 | 998 |
| H97 | 998 |
| H99 | 998 |
| K00 | 998 |
| K01 | 998 |
| 6VK02 | 998 |
| K04 | 998 |
| K06 | 998 |
| K09 | 998 |
| K11 | 998 |
| 6VK12 | 998 |
| K14 | 998 |
| K15 | 998 |
| K18 | 998 |
| K19 | 998 |
| 6VK21 | 999 |
| K22 | 999 |
| K23 | 999 |
| K26 | 999 |
| K28 | 999 |
| 6VK29 | 999 |
| K31 | 999 |
| K32 | 999 |
| K34 | 999 |
| K35 | 999 |
| 6VK36 | 999 |
| K37 | 999 |
| K38 | 999 |
| K39 | 999 |
| K40 | 999 |
| 6VK42 | 999 |
| K43 | 999 |
| K44 | 999 |
| K45 | 999 |
| K46 | 999 |
| 6VK48 | 999 |
| K49 | 999 |
| K50 | 999 |
| K51 | 999 |
| K52 | 999 |
| 6VK55 | 1000 |
| K56 | 1000 |
| K57 | 1000 |
| K59 | 1000 |
| K62 | 1000 |
| 6VK64 | 1000 |
| K65 | 1000 |
| K66 | 1000 |
| K67 | 1000 |
| K72 | 1000 |
| 6VK74 | 1000 |
| K75 | 1000 |
| K76 | 1000 |
| K77 | 1000 |
| K78 | 1000 |
| 6VK83 | 1001 |
| K85 | 1001 |
| K86 | 1001 |
| K88 | 1001 |
| K92 | 1001 |
| 6VK93 | 1001 |
| L13 | 987 |
| L19 | 987 |
| L60 | 1003 |
| M01 | 1003 |
| 6VM03 | 1003 |
| M13 | 1004 |
| M28 | 1004 |
| M30 | 1009 |
| M32 | 1009 |
| 6VM44 | 1004 |
| M45 | 1004 |
| M46 | 1004 |
| M47 | 1004 |
| M50 | 1004 |
| 6VM51 | 1004 |
| M52 | 1004 |
| M56 | 1004 |
| M63 | 1005 |
| M73 | 961 |
| 6VM79 | 1005 |
| M81 | 1005 |
| M91 | 1006 |
| M92 | 1006 |
| M96 | 1004 |
| 6VN04 | 1009 |
| N06 | 1006 |
| N37 | 1009 |
| N47 | 1008 |
| N49 | 1008 |
| 6VN50 | 1009 |
| N54 | 1009 |
| N59 | 1009 |
| N70 | 1008 |
| N72 | 1009 |
| 6VN76 | 1009 |
| N87 | 1008 |
| P22 | 1009 |
| P23 | 1008 |
| P25 | 1009 |
| 6VP26 | 1008 |
| P27 | 1009 |
| P28 | 1009 |
| P29 | 1009 |
| P30 | 1009 |
| 6VR35 | 916 |
| R36 | 916 |
| R37 | 918 |
| R48 | 944 |
| R49 | 943 |
| 6VR50 | 1188 |
| R52 | 943 |
| R53 | 942 |
| R55 | 917 |
| R56 | 918 |
| 6VR57 | 920 |
| R58 | 917 |
| R59 | 917 |
| R60 | 917 |
| R61 | 918 |
| 6VR62 | 918 |
| R63 | 918 |
| R64 | 918 |
| R65 | 918 |
| R66 | 918 |
| 6VR67 | 920 |
| R68 | 920 |
| R69 | 920 |
| R75 | 961 |
| R76 | 961 |
| 6VR77 | 966 |
| R79 | 966 |
| R81 | 966 |
| R82 | 966 |
| R85 | 917 |
| 6VR86 | 917 |
| R87 | 918 |
| R88 | 918 |
| R89 | 919 |
| R90 | 919 |
| 6VR91 | 919 |
| R92 | 920 |
| R93 | 920 |
| R95 | 1120 |
| R96 | 1119 |
| 6VR98 | 1119 |
| R99 | 1120 |
| T03 | 1119 |
| T04 | 1119 |
| T05 | 1119 |
| 6VT06 | 1120 |
| T07 | 1120 |
| T08 | 1121 |
| T09 | 1121 |
| T10 | 1121 |
| 6VT11 | 1121 |
| T12 | 1121 |
| T13 | 1121 |
| T14 | 1121 |
| T15 | 1121 |
| 6VT16 | 1119 |
| T17 | 1119 |
| T18 | 1119 |
| T19 | 1119 |
| T20 | 1121 |
| 6VT21 | 1119 |
| T22 | 1119 |
| T23 | 1119 |
| T24 | 1119 |
| T25 | 1119 |
| 6VT27 | 1119 |
| T28 | 1119 |
| T29 | 1120 |
| T30 | 1120 |
| T32 | 1120 |
| 6VT33 | 1120 |
| T34 | 1120 |
| T35 | 1120 |
| T36 | 1120 |
| T37 | 1121 |
| 6VT38 | 1121 |
| T39 | 1119 |
| T40 | 1121 |
| T41 | 1121 |
| T42 | 1121 |
| 6VT43 | 1121 |
| T44 | 1121 |
| T45 | 1121 |
| T47 | 1126 |
| T48 | 1126 |
| 6VT49 | 1126 |
| T50 | 1126 |
| T51 | 1126 |
| T52 | 1126 |
| T53 | 1126 |
| 6VT55 | 1120 |
| T56 | 1121 |
| T57 | 1121 |
| T58 | 1121 |
| T59 | 1121 |
| 6VT60 | 1121 |
| T61 | 1121 |
| T62 | 1121 |
| T63 | 1131 |
| T64 | 1121 |
| 6VT65 | 1121 |
| T66 | 1121 |
| T67 | 1121 |
| T68 | 1121 |
| T70 | 1121 |
| 6VT71 | 1121 |
| T72 | 1160 |
| T73 | 1155 |
| T74 | 1155 |
| T75 | 1155 |
| 6VT76 | 1172 |
| T77 | 1168 |
| T78 | 1172 |
| T79 | 1119 |
| T82 | 1129 |
| 6VT83 | 1130 |
| T84 | 1130 |
| T85 | 1127 |
| T87 | 1126 |
| T89 | 1125 |
| 6VT90 | 1125 |
| T91 | 1125 |
| T92 | 1125 |
| T93 | 1126 |
| T94 | 1126 |
| 6VT95 | 1126 |
| T96 | 1128 |
| T97 | 1126 |
| T98 | 1126 |
| W02 | 1126 |
| 6VW03 | 1119 |
| W05 | 1106 |
| W06 | 1106 |
| W43 | 1112 |
| W52 | 1112 |
| 6VW57 | 1157 |
| W58 | 1157 |
| W59 | 1156 |
| W60 | 1157 |
| W67 | 1173 |
| 6VW68 | 1166 |
| W69 | 1166 |
| W72 | 1155 |
| W73 | 1071 |
| W74 | 1071 |




Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6VW75 | 1071 | 6V040 | 940 | 6V314 | 952 | 6V624 | 1041 | 6V771 | 1042 | 6V845 | 1031 | 6V949 | 1027 | 6W024 | 2247 | 6W093 | 2949 | 6W158 | 2949 | 6W260 | 2987 | 6W469 | 2845 |
| W76 | 1075 | 041 | 940 | 319 | 952 | 625 | 1041 | 772 | 1042 | 846 | 1041 | 950 | 1023 | 025 | 2247 | 094 | 2949 | 159 | 2949 | 261 | 2987 | 470 | 2844 |
| W77 | 1075 | 042 | 944 | 320 | 952 | 626 | 1041 | 773 | 1042 | 847 | 1041 | 951 | 1034 | 026 | 2247 | 095 | 2950 | 160 | 2949 | 262 | 2973 | 471 | 2844 |
| W78 | 1069 | 051 | 968 | 327 | 920 | 627 | 1041 | 774 | 1042 | 848 | 1027 | 952 | 1034 | 027 | 2247 | 096 | 2949 | 161 | 2949 | 263 | 2973 | 472 | 2844 |
| W79 | 1069 | 061 | 923 | 331 | 973 | 628 | 1028 | 775 | 1042 | 849 | 1022 | 953 | 1035 | 028 | 2247 | 097 | 2948 | 162 | 2950 | 264 | 2973 | 473 | 2844 |
| 6VW80 | 1069 | 6V062 | 923 | 6V339 | 976 | 6V629 | 952 | 6V776 | 1042 | 6V850 | 1037 | 6V954 | 1020 | 6W029 | 2247 | 6W098 | 2948 | 6W163 | 2950 | 6W265 | 2973 | 6W474 | 2906 |
| W81 | 1069 | 063 | 923 | 345 | 976 | 630 | 940 | 777 | 1042 | 852 | 1029 | 955 | 1017 | 030 | 2247 | 099 | 2949 | 164 | 2950 | 266 | 2973 | 475 | 2906 |
| W82 | 1069 | 066 | 932 | 353 | 973 | 631 | 939 | 778 | 1043 | 853 | 1037 | 956 | 1018 | 031 | 2247 | 100 | 2949 | 165 | 2950 | 267 | 2996 | 476 | 2906 |
| W83 | 1073 | 068 | 930 | 366 | 969 | 634 | 961 | 780 | 1043 | 855 | 1030 | 957 | 1034 | 032 | 2247 | 101 | 2948 | 166 | 2950 | 273 | 1536 | 477 | 2906 |
| W84 | 1073 | 069 | 930 | 370 | 1185 | 641 | 963 | 781 | 1043 | 856 | 1037 | 958 | 1034 | 033 | 2247 | 102 | 2949 | 167 | 2950 | 275 | 1536 | 478 | 2906 |
| 6VW85 | 1073 | 6V082 | 976 | 6V371 | 1185 | 6V643 | 1028 | 6V784 | 1043 | 6V858 | 1027 | 6V959 | 1020 | 6W034 | 2247 | 6W103 | 2950 | 6W168 | 2950 | 6W276 | 1536 | 6W479 | 2906 |
| W94 | 1104 | 088 | 958 | 372 | 1185 | 647 | 978 | 785 | 1043 | 859 | 1022 | 960 | 1017 | 035 | 2251 | 104 | 2948 | 169 | 2950 | 277 | 1536 | 480 | 2906 |
| W95 | 1103 | 094 | 955 | 414 | 1069 | 649 | 952 | 786 | 1043 | 860 | 1029 | 961 | 1018 | 036 | 2251 | 105 | 2949 | 170 | 2950 | 278 | 1536 | 481 | 2906 |
| W96 | 1103 | 102 | 963 | 415 | 1069 | 650 | 952 | 787 | 1043 | 861 | 1030 | 962 | 1022 | 037 | 2251 | 106 | 2949 | 171 | 2950 | 279 | 1536 | 482 | 2906 |
| W97 | 1103 | 109 | 978 | 416 | 1070 | 651 | 952 | 788 | 1043 | 862 | 1027 | 964 | 1022 | 038 | 2251 | 107 | 2949 | 172 | 2950 | 280 | 1536 | 483 | 2906 |
| 6VW98 | 1103 | 6V111 | 947 | 6V419 | 1062 | 6V661 | 955 | 6V789 | 1043 | 6V863 | 1027 | 6V965 | 1024 | 6W039 | 2251 | 6W108 | 2948 | 6W173 | 2950 | 6W281 | 1501 | 6W484 | 2906 |
| W99 | 1103 | 112 | 946 | 421 | 1057 | 665 | 955 | 790 | 1043 | 870 | 1022 | 966 | 1022 | 040 | 2251 | 109 | 2950 | 174 | 2911 | 282 | 1501 | 503 | 1487 |
| X08 | 1092 | 113 | 947 | 422 | 1069 | 666 | 955 | 791 | 1043 | 871 | 1033 | 967 | 1023 | 041 | 2214 | 110 | 2948 | 175 | 2911 | 283 | 1482 | 507 | 1487 |
| X14 | 1086 | 115 | 982 | 423 | 1069 | 670 | 958 | 792 | 1043 | 872 | 1033 | 968 | 1023 | 042 | 2214 | 111 | 2948 | 176 | 2912 | 285 | 1443 | 513 | 3012 |
| X20 | 928 | 118 | 916 | 424 | 1069 | 671 | 958 | 793 | 1043 | 874 | 1031 | 969 | 1023 | 043 | 2214 | 112 | 2949 | 178 | 3028 | 286 | 1483 | 514 | 3012 |
| 6VX25 | 960 | 6V119 | 916 | 6V425 | 1069 | 6V672 | 958 | 6V794 | 1043 | 6V875 | 1034 | 6V971 | 1023 | 6W045 | 2257 | 6W113 | 2949 | 6W179 | 3028 | 6W287 | 1452 | 6W515 | 3012 |
| X30 | 955 | 122 | 916 | 426 | 1067 | 674 | 958 | 795 | 1043 | 877 | 1022 | 973 | 1028 | 046 | 2205 | 114 | 2949 | 180 | 3027 | 289 | 1461 | 516 | 3012 |
| X35 | 1086 | 133 | 954 | 427 | 1069 | 677 | 958 | 796 | 1043 | 879 | 1029 | 974 | 1027 | 047 | 2205 | 115 | 2950 | 181 | 3026 | 290 | 1465 | 517 | 3012 |
| X36 | 1086 | 134 | 954 | 428 | 1070 | 681 | 963 | 797 | 1044 | 880 | 1028 | 975 | 1035 | 048 | 2205 | 116 | 2948 | 182 | 3028 | 291 | 1420 | 518 | 3012 |
| X37 | 1086 | 135 | 954 | 429 | 1072 | 684 | 963 | 798 | 1044 | 884 | 1027 | 976 | 1035 | 049 | 2205 | 117 | 2948 | 183 | 3028 | 333 | 1467 | 519 | 3012 |
| 6VX38 | 1086 | 6V136 | 954 | 6V430 | 1070 | 6V693 | 955 | 6V799 | 1044 | 6V885 | 1034 | 6V978 | 1036 | 6W050 | 2205 | 6W118 | 2949 | 6W184 | 2912 | 6W355 | 1487 | 6W520 | 3012 |
| X39 | 1086 | 137 | 973 | 432 | 1070 | 698 | 937 | 800 | 1044 | 887 | 1034 | 979 | 1037 | 051 | 2205 | 119 | 2950 | 185 | 2912 | 356 | 1487 | 521 | 3012 |
| X40 | 1086 | 148 | 976 | 433 | 1070 | 699 | 938 | 801 | 1044 | 888 | 1034 | 980 | 1035 | 052 | 2205 | 120 | 2950 | 186 | 2912 | 360 | 1471 | 522 | 3012 |
| X41 | 1086 | 150 | 963 | 434 | 1070 | 700 | 982 | 802 | 1044 | 889 | 1019 | 981 | 1035 | 053 | 2205 | 121 | 2950 | 187 | 2912 | 379 | 2963 | 523 | 3012 |
| X46 | 1089 | 151 | 964 | 435 | 1069 | 701 | 969 | 803 | 1044 | 890 | 1017 | 982 | 1036 | 054 | 2211 | 122 | 2949 | 192 | 3005 | 380 | 2969 | 524 | 3012 |
| 6VX57 | 1088 | 6V152 | 964 | 6V436 | 1069 | 6V712 | 930 | 6V804 | 1044 | 6V891 | 1018 | 6V983 | 1036 | 6W055 | 2211 | 6W123 | 2949 | 6W193 | 3005 | 6W381 | 2997 | 6W525 | 3012 |
| X58 | 1088 | 154 | 964 | 437 | 1072 | 719 | 920 | 805 | 1044 | 892 | 1022 | 984 | 1035 | 056 | 608 | 124 | 2948 | 194 | 3005 | 382 | 2807 | 526 | 3013 |
| X59 | 1088 | 159 | 970 | 438 | 1058 | 720 | 922 | 806 | 1044 | 894 | 1034 | 985 | 1035 | 057 | 608 | 125 | 2949 | 195 | 3005 | 383 | 2807 | 527 | 3013 |
| X60 | 1088 | 162 | 977 | 439 | 1060 | 722 | 920 | 807 | 1044 | 895 | 1034 | 986 | 1036 | 058 | 608 | 126 | 2949 | 199 | 3003 | 384 | 2807 | 528 | 3013 |
| X61 | 1119 | 164 | 916 | 440 | 1060 | 723 | 920 | 808 | 1044 | 896 | 1017 | 987 | 1036 | 059 | 2286 | 127 | 2950 | 200 | 3003 | 385 | 2807 | 529 | 3013 |
| 6VX62 | 1119 | 6V188 | 958 | 6V441 | 1060 | 6V724 | 921 | 6V810 | 1044 | 6V897 | 1018 | 6V989 | 1036 | 6W060 | 2212 | 6W128 | 2949 | 6W201 | 3003 | 6W386 | 2807 | 6W530 | 3013 |
| X63 | 1119 | 190 | 971 | 442 | 1060 | 726 | 924 | 811 | 1044 | 898 | 1022 | 990 | 1037 | 063 | 2322 | 129 | 2949 | 202 | 3003 | 387 | 2807 | 531 | 3013 |
| X64 | 1119 | 191 | 956 | 443 | 1060 | 727 | 924 | 812 | 1044 | 901 | 1022 | 991 | 1023 | 064 | 2322 | 130 | 2949 | 203 | 3003 | 388 | 2807 | 532 | 3013 |
| X65 | 1119 | 195 | 969 | 444 | 1062 | 730 | 941 | 813 | 1044 | 903 | 1024 | 992 | 1023 | 065 | 2322 | 131 | 2950 | 204 | 3003 | 389 | 2807 | 533 | 3013 |
| X81 | 1120 | 197 | 968 | 445 | 1062 | 737 | 942 | 814 | 1044 | 904 | 1035 | 993 | 1025 | 066 | 2322 | 132 | 2950 | 206 | 3006 | 390 | 2807 | 534 | 3013 |
| 6VX82 | 1120 | 6V207 | 954 | 6V447 | 1057 | 6V739 | 942 | 6V815 | 1044 | 6V905 | 1025 | 6W | | 6W067 | 2322 | 6W133 | 2948 | 6W207 | 3006 | 6W433 | 2835 | 6W535 | 3012 |
| X83 | 1120 | 212 | 982 | 448 | 1072 | 746 | 937 | 817 | 1044 | 906 | 1024 | | | 068 | 2322 | 134 | 2948 | 208 | 3005 | 434 | 2835 | 536 | 3012 |
| X84 | 1120 | 214 | 960 | 449 | 1075 | 747 | 937 | 818 | 1044 | 907 | 1025 | 6W001 | 2201 | 070 | 2948 | 135 | 2948 | 209 | 3005 | 435 | 2835 | 537 | 3012 |
| X85 | 1120 | 217 | 976 | 542 | 2608 | 748 | 937 | 819 | 1044 | 908 | 1024 | 002 | 2201 | 071 | 2948 | 136 | 2950 | 210 | 3005 | 436 | 2835 | 538 | 3012 |
| X86 | 1120 | 239 | 957 | 543 | 2608 | 749 | 937 | 820 | 1038 | 909 | 1024 | 003 | 2201 | 072 | 2949 | 137 | 2948 | 211 | 3005 | 437 | 2835 | 539 | 3012 |
| 6VX87 | 1120 | 6V250 | 943 | 6V544 | 2608 | 6V751 | 938 | 6V821 | 1038 | 6V910 | 1024 | 6W004 | 2201 | 6W073 | 2949 | 6W138 | 2948 | 6W212 | 3005 | 6W438 | 2835 | 6W549 | 2823 |
| X88 | 1120 | 253 | 962 | 545 | 2608 | 752 | 938 | 822 | 1038 | 911 | 1025 | 005 | 2232 | 074 | 2948 | 139 | 2948 | 213 | 3005 | 439 | 2835 | 550 | 2823 |
| X89 | 1120 | 254 | 981 | 546 | 2608 | 753 | 939 | 823 | 1038 | 913 | 1027 | 006 | 2232 | 075 | 2948 | 140 | 2950 | 214 | 3005 | 440 | 2835 | 551 | 2823 |
| X90 | 1120 | 258 | 971 | 547 | 2608 | 754 | 939 | 824 | 1038 | 914 | 1022 | 007 | 2232 | 076 | 2949 | 141 | 2950 | 215 | 3005 | 441 | 2835 | 552 | 2823 |
| X94 | 1120 | 261 | 953 | 548 | 2608 | 755 | 939 | 826 | 1023 | 915 | 1037 | 008 | 2232 | 077 | 2949 | 142 | 2950 | 225 | 3015 | 442 | 2835 | 553 | 2823 |
| 6VD00 | 923 | 6V264 | 963 | 6V553 | 2287 | 6V756 | 938 | 6V827 | 1023 | 6V916 | 1029 | 6W009 | 2232 | 6W078 | 2948 | 6W143 | 2950 | 6W245 | 2978 | 6W443 | 2835 | 6W554 | 2823 |
| 001 | 923 | 270 | 959 | 556 | 1787 | 757 | 939 | 830 | 1031 | 917 | 1037 | 010 | 2232 | 079 | 2948 | 144 | 2950 | 246 | 2978 | 444 | 2835 | 555 | 2823 |
| 002 | 922 | 271 | 946 | 557 | 1787 | 758 | 939 | 831 | 1022 | 919 | 1030 | 011 | 2324 | 080 | 2949 | 145 | 2950 | 247 | 2998 | 445 | 2835 | 556 | 2823 |
| 009 | 923 | 273 | 959 | 604 | 925 | 759 | 939 | 832 | 1031 | 920 | 1027 | 012 | 2324 | 081 | 2949 | 146 | 2950 | 248 | 2998 | 446 | 2835 | 557 | 2823 |
| 011 | 924 | 275 | 957 | 605 | 925 | 760 | 1041 | 833 | 1033 | 921 | 1022 | 013 | 2210 | 082 | 2949 | 147 | 2949 | 249 | 2996 | 447 | 2835 | 558 | 2823 |
| 6V012 | 924 | 6V276 | 957 | 6V613 | 1020 | 6V761 | 1041 | 6V834 | 1030 | 6V928 | 1031 | 6W014 | 2200 | 6W083 | 2949 | 6W148 | 2949 | 6W250 | 2970 | 6W448 | 2835 | 6W559 | 2823 |
| 013 | 923 | 278 | 964 | 615 | 1040 | 762 | 1041 | 835 | 1031 | 931 | 1022 | 015 | 2199 | 084 | 2948 | 149 | 2950 | 251 | 2969 | 449 | 2835 | 560 | 2823 |
| 028 | 942 | 279 | 964 | 616 | 1040 | 763 | 1041 | 836 | 1030 | 932 | 1036 | 016 | 2211 | 085 | 2949 | 150 | 2949 | 252 | 2969 | 450 | 2835 | 561 | 2823 |
| 029 | 964 | 285 | 982 | 617 | 1040 | 764 | 1041 | 838 | 1030 | 934 | 1030 | 017 | 2211 | 086 | 2949 | 151 | 2949 | 253 | 2964 | 461 | 2842 | 562 | 2823 |
| 032 | 932 | 290 | 917 | 618 | 1040 | 765 | 1041 | 839 | 1030 | 936 | 1022 | 018 | 2247 | 087 | 2948 | 152 | 2949 | 254 | 3001 | 462 | 2842 | 563 | 2823 |
| 6V033 | 932 | 6V291 | 918 | 6V619 | 1040 | 6V766 | 1042 | 6V840 | 1033 | 6V938 | 1031 | 6W019 | 2247 | 6W088 | 2948 | 6W153 | 2950 | 6W255 | 3001 | 6W463 | 2844 | 6W564 | 2823 |
| 035 | 932 | 292 | 923 | 620 | 1040 | 767 | 1042 | 841 | 1032 | 939 | 1022 | 020 | 2247 | 089 | 2949 | 154 | 2950 | 256 | 2990 | 464 | 2844 | 565 | 2822 |
| 036 | 932 | 299 | 976 | 621 | 1040 | 768 | 1042 | 842 | 1031 | 942 | 1025 | 021 | 2247 | 090 | 2949 | 155 | 2950 | 257 | 2995 | 466 | 2845 | 566 | 2822 |
| 038 | 932 | 306 | 981 | 622 | 1041 | 769 | 1042 | 843 | 1036 | 943 | 1025 | 022 | 2247 | 091 | 2949 | 156 | 2949 | 258 | 2982 | 467 | 2845 | 567 | 2809 |
| 039 | 932 | 313 | 952 | 623 | 1041 | 770 | 1042 | 844 | 1036 | 944 | 1028 | 023 | 2247 | 092 | 2948 | 157 | 2949 | 259 | 2987 | 468 | 2845 | 568 | 2809 |

# STOCK NUMBER—PAGE NUMBER

## 6W5 — 6X8

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6W570 | 3008 | 6W637 | 2795 | 6W706 | 2182 | 6W780 | 2208 | 6W905 | 1172 | 6XC30 | 650 | 6X073 | 357 | 6X233 | 342 | 6X386 | 2956 | 6X513 | 3490 | 6X592 | 566 | 6X687 | 622 |
| 571 | 3008 | 638 | 2795 | 707 | 2182 | 781 | 2208 | 932 | 3018 | C31 | 650 | 074 | 357 | 234 | 342 | 387 | 2956 | 514 | 3490 | 594 | 566 | 688 | 622 |
| 572 | 3008 | 639 | 2795 | 708 | 2182 | 782 | 2320 | 933 | 3018 | C32 | 650 | 075 | 357 | 235 | 342 | 388 | 2956 | 516 | 3491 | 595 | 566 | 694 | 2626 |
| 573 | 3008 | 640 | 2795 | 709 | 2182 | 786 | 2218 | 934 | 3018 | C33 | 650 | 076 | 357 | 237 | 3494 | 389 | 2956 | 517 | 3491 | 596 | 565 | 700 | 2628 |
| 574 | 3009 | 641 | 2795 | 710 | 2182 | 787 | 2218 | 935 | 3018 | C34 | 650 | 077 | 1882 | 238 | 3494 | 390 | 2956 | 518 | 3491 | 597 | 485 | 717 | 3492 |
| 6W575 | 3009 | 6W642 | 2795 | 6W711 | 2182 | 6W788 | 2218 | 6W936 | 3018 | 6XC35 | 650 | 6X086 | 1309 | 6X239 | 3494 | 6X391 | 2956 | 6X519 | 3491 | 6X598 | 485 | 6X719 | 3489 |
| 576 | 3009 | 643 | 2795 | 712 | 2182 | 789 | 2218 | 937 | 3018 | C36 | 650 | 087 | 1309 | 240 | 3494 | 392 | 2956 | 520 | 3491 | 599 | 485 | 720 | 3489 |
| 577 | 3007 | 644 | 2795 | 713 | 2182 | 790 | 2218 | 938 | 3018 | C37 | 651 | 088 | 1309 | 241 | 3494 | 393 | 2956 | 521 | 3491 | 600 | 485 | 721 | 3489 |
| 578 | 3007 | 645 | 2795 | 717 | 911 | 791 | 2218 | 939 | 3018 | C38 | 651 | 089 | 1309 | 242 | 3494 | 394 | 2956 | 522 | 3492 | 601 | 495 | 722 | 3489 |
| 579 | 3007 | 646 | 2795 | 718 | 911 | 792 | 2218 | 940 | 3018 | C39 | 651 | 091 | 1308 | 243 | 3494 | 395 | 2956 | 524 | 3489 | 602 | 495 | 723 | 3489 |
| 6W580 | 3007 | 6W647 | 2823 | 6W719 | 1534 | 6W794 | 2221 | 6W941 | 3018 | 6XC40 | 651 | 6X093 | 269 | 6X244 | 3494 | 6X396 | 2956 | 6X525 | 3489 | 6X603 | 495 | 6X726 | 2177 |
| 581 | 3007 | 648 | 2840 | 720 | 1534 | 795 | 2221 | 942 | 3018 | C41 | 652 | 094 | 269 | 245 | 3494 | 397 | 2956 | 526 | 3489 | 604 | 495 | 737 | 732 |
| 582 | 3007 | 649 | 2840 | 721 | 1534 | 796 | 2221 | 943 | 3018 | C42 | 652 | 095 | 1978 | 246 | 3494 | 398 | 2956 | 527 | 3489 | 605 | 495 | 738 | 732 |
| 583 | 3007 | 650 | 2840 | 722 | 1534 | 797 | 2219 | 944 | 3018 | C43 | 652 | 096 | 1978 | 249 | 1502 | 399 | 2956 | 528 | 3489 | 617 | 2144 | 739 | 732 |
| 585 | 3007 | 651 | 2840 | 723 | 1534 | 798 | 2219 | 945 | 3018 | C44 | 651 | 099 | 1389 | 271 | 2896 | 400 | 2956 | 529 | 300 | 618 | 2144 | 740 | 732 |
| 6W586 | 3007 | 6W652 | 2840 | 6W724 | 1535 | 6W799 | 2220 | 6W946 | 3018 | 6XC45 | 651 | 6X100 | 1389 | 6X272 | 2896 | 6X409 | 3020 | 6X530 | 300 | 6X619 | 2147 | 6X750 | 628 |
| 587 | 3007 | 653 | 2840 | 725 | 1535 | 800 | 2220 | 947 | 3018 | C46 | 651 | 101 | 1389 | 279 | 730 | 410 | 3020 | 531 | 300 | 620 | 2147 | 752 | 628 |
| 588 | 3007 | 654 | 3004 | 727 | 1535 | 801 | 2220 | 948 | 3018 | C47 | 651 | 102 | 1389 | 280 | 731 | 411 | 3020 | 532 | 300 | 621 | 2147 | 753 | 628 |
| 590 | 3007 | 655 | 3004 | 728 | 1535 | 802 | 2216 | 949 | 3018 | C48 | 655 | 104 | 1389 | 283 | 528 | 412 | 3020 | 533 | 300 | 622 | 2147 | 754 | 628 |
| 591 | 3007 | 656 | 3004 | 729 | 1535 | 803 | 2216 | 950 | 3018 | C49 | 655 | 107 | 1390 | 284 | 528 | 413 | 3020 | 534 | 300 | 623 | 2147 | 755 | 1157 |
| 6W592 | 3007 | 6W657 | 3004 | 6W730 | 3514 | 6W804 | 2216 | 6W951 | 3018 | 6XC50 | 657 | 6X108 | 1390 | 6X285 | 528 | 6X414 | 3020 | 6X542 | 3361 | 6X624 | 2147 | 6X756 | 1157 |
| 593 | 3007 | 658 | 3004 | 733 | 3514 | 805 | 2213 | 952 | 3018 | C51 | 657 | 109 | 2289 | 286 | 528 | 415 | 3022 | 543 | 3361 | 625 | 2147 | 757 | 579 |
| 594 | 3007 | 659 | 3005 | 735 | 3535 | 806 | 2221 | 971 | 1039 | C52 | 657 | 112 | 2289 | 287 | 528 | 416 | 3022 | 544 | 3361 | 626 | 2147 | 758 | 576 |
| 595 | 3007 | 660 | 3005 | 736 | 3535 | 807 | 2221 | 972 | 2112 | C53 | 657 | 113 | 2289 | 288 | 528 | 417 | 3022 | 545 | 573 | 627 | 196 | 759 | 576 |
| 596 | 3007 | 661 | 3005 | 737 | 3535 | 814 | 1164 | 973 | 1171 | C54 | 679 | 114 | 866 | 289 | 528 | 418 | 3022 | 546 | 573 | 628 | 1677 | 760 | 576 |
| 6W597 | 3007 | 6W665 | 929 | 6W738 | 3535 | 6W815 | 1164 | 6W974 | 1171 | 6XC55 | 680 | 6X136 | 568 | 6X290 | 528 | 6X419 | 3023 | 6X547 | 573 | 6X629 | 3504 | 6X761 | 575 |
| 598 | 3007 | 666 | 929 | 739 | 3535 | 816 | 1164 | 983 | 1170 | C56 | 675 | 137 | 568 | 291 | 527 | 420 | 3023 | 549 | 3501 | 630 | 3504 | 762 | 575 |
| 599 | 3007 | 667 | 921 | 740 | 3535 | 817 | 1164 | 984 | 1170 | C57 | 675 | 138 | 568 | 292 | 527 | 421 | 3023 | 550 | 3501 | 631 | 3504 | 763 | 570 |
| 600 | 3007 | 669 | 1020 | 741 | 3535 | 832 | 1125 | 985 | 1169 | C58 | 675 | 139 | 568 | 293 | 527 | 423 | 3020 | 551 | 3501 | 632 | 3504 | 764 | 570 |
| 601 | 3007 | 670 | 1020 | 742 | 3535 | 833 | 1126 | 986 | 1169 | C59 | 675 | 141 | 568 | 295 | 481 | 424 | 3020 | 552 | 3501 | 633 | 3504 | 765 | 570 |
| 6W602 | 3007 | 6W671 | 2176 | 6W743 | 3535 | 6W834 | 1126 | 6W987 | 1170 | 6XC60 | 675 | 6X143 | 568 | 6X301 | 1303 | 6X425 | 3020 | 6X553 | 3501 | 6X635 | 3504 | 6X766 | 576 |
| 603 | 3007 | 672 | 2176 | 744 | 3535 | 835 | 1130 | 988 | 1170 | C61 | 675 | 144 | 568 | 302 | 1303 | 426 | 3020 | 554 | 3501 | 639 | 3487 | 767 | 583 |
| 604 | 3007 | 673 | 2176 | 745 | 3535 | 836 | 1126 | 989 | 1169 | C62 | 675 | 149 | 3256 | 303 | 1303 | 427 | 3020 | 555 | 3501 | 641 | 3488 | 768 | 583 |
| 605 | 3007 | 674 | 2176 | 746 | 3535 | 850 | 1089 | 6X | | C63 | 677 | 153 | 495 | 304 | 1303 | 452 | 109 | 557 | 3501 | 642 | 3488 | 769 | 575 |
| 606 | 3007 | 675 | 2176 | 747 | 3531 | 851 | 2203 | | | C64 | 677 | 154 | 495 | 305 | 1303 | 467 | 2956 | 559 | 3501 | 643 | 3488 | 770 | 667 |
| 6W607 | 3007 | 6W676 | 2176 | 6W748 | 3531 | 6W852 | 2203 | 6XC00 | 640 | 6XC65 | 677 | 6X155 | 495 | 6X306 | 1303 | 6X468 | 2956 | 6X560 | 3501 | 6X644 | 3488 | 6X771 | 667 |
| 608 | 3007 | 677 | 2176 | 749 | 3531 | 853 | 2206 | C01 | 640 | C66 | 676 | 156 | 480 | 307 | 1303 | 469 | 2956 | 561 | 3501 | 645 | 3488 | 772 | 667 |
| 609 | 3007 | 678 | 2176 | 750 | 3531 | 854 | 2206 | C02 | 640 | C67 | 678 | 157 | 565 | 308 | 1303 | 470 | 2957 | 562 | 3501 | 646 | 3488 | 773 | 667 |
| 610 | 3007 | 679 | 2177 | 751 | 3531 | 855 | 2207 | C03 | 640 | C68 | 678 | 158 | 565 | 309 | 1303 | 471 | 2957 | 563 | 3501 | 650 | 197 | 774 | 667 |
| 611 | 3007 | 680 | 2177 | 752 | 3531 | 856 | 2202 | C04 | 640 | C69 | 678 | 159 | 566 | 314 | 1304 | 472 | 2957 | 564 | 3501 | 651 | 197 | 775 | 667 |
| 6W612 | 3007 | 6W681 | 2180 | 6W753 | 3530 | 6W857 | 2202 | 6XC05 | 640 | 6XC70 | 678 | 6X160 | 566 | 6X315 | 1304 | 6X473 | 2957 | 6X565 | 306 | 6X652 | 197 | 6X776 | 600 |
| 613 | 3007 | 682 | 2180 | 756 | 3530 | 858 | 2202 | C06 | 639 | C71 | 677 | 161 | 566 | 316 | 1304 | 474 | 2957 | 566 | 3501 | 653 | 197 | 777 | 600 |
| 614 | 1526 | 683 | 2180 | 757 | 2179 | 873 | 2793 | C07 | 639 | C72 | 676 | 164 | 565 | 317 | 1304 | 475 | 2957 | 567 | 3501 | 654 | 197 | 778 | 600 |
| 615 | 1526 | 684 | 2180 | 758 | 2179 | 874 | 2793 | C08 | 639 | C73 | 676 | 165 | 192 | 318 | 1304 | 476 | 2957 | 568 | 3501 | 655 | 197 | 779 | 600 |
| 616 | 1526 | 685 | 2180 | 759 | 2179 | 875 | 1475 | C09 | 639 | C75 | 676 | 181 | 196 | 320 | 1364 | 477 | 2957 | 569 | 306 | 656 | 197 | 780 | 600 |
| 6W617 | 1526 | 6W686 | 2178 | 6W760 | 2179 | 6W880 | 1062 | 6XC10 | 639 | 6XC77 | 676 | 6X190 | 2253 | 6X366 | 2945 | 6X478 | 2957 | 6X570 | 306 | 6X657 | 197 | 6X781 | 600 |
| 618 | 1526 | 687 | 2178 | 761 | 2208 | 881 | 1062 | C11 | 640 | C78 | 676 | 191 | 2253 | 367 | 2945 | 479 | 2957 | 571 | 307 | 658 | 197 | 783 | 728 |
| 619 | 1526 | 688 | 2178 | 762 | 2208 | 882 | 1062 | C12 | 640 | C79 | 679 | 192 | 2254 | 368 | 2932 | 480 | 2957 | 572 | 3501 | 659 | 197 | 784 | 728 |
| 620 | 2818 | 689 | 2181 | 763 | 2208 | 883 | 1062 | C13 | 640 | C80 | 679 | 194 | 1491 | 369 | 2932 | 481 | 2957 | 573 | 3501 | 660 | 197 | 785 | 728 |
| 621 | 2840 | 690 | 2181 | 764 | 2208 | 889 | 1060 | C14 | 640 | C81 | 679 | 198 | 1491 | 370 | 2956 | 482 | 2957 | 574 | 3501 | 661 | 197 | 786 | 728 |
| 6W622 | 2840 | 6W691 | 2181 | 6W765 | 2208 | 6W890 | 1060 | 6XC15 | 638 | 6XC82 | 679 | 6X199 | 1491 | 6X371 | 2956 | 6X483 | 2957 | 6X575 | 2365 | 6X662 | 197 | 6X787 | 593 |
| 623 | 2840 | 692 | 2181 | 766 | 2208 | 891 | 1060 | C16 | 638 | C83 | 679 | 201 | 1491 | 372 | 2956 | 499 | 269 | 578 | 620 | 663 | 197 | 788 | 593 |
| 624 | 2840 | 693 | 2184 | 767 | 2208 | 892 | 1060 | C17 | 638 | C84 | 680 | 207 | 2897 | 373 | 2956 | 500 | 269 | 579 | 3490 | 664 | 197 | 789 | 593 |
| 625 | 2840 | 694 | 2184 | 768 | 2208 | 893 | 1058 | C18 | 640 | C85 | 680 | 208 | 2897 | 374 | 2956 | 501 | 269 | 580 | 3490 | 665 | 197 | 790 | 593 |
| 626 | 2840 | 695 | 2184 | 769 | 2208 | 894 | 1058 | C19 | 638 | C86 | 680 | 209 | 2897 | 375 | 2956 | 502 | 269 | 581 | 3490 | 666 | 197 | 791 | 593 |
| 6W627 | 2840 | 6W696 | 2184 | 6W770 | 2208 | 6W895 | 1062 | 6XC20 | 638 | 6X001 | 1666 | 6X210 | 2897 | 6X376 | 2956 | 6X503 | 269 | 6X582 | 3490 | 6X667 | 197 | 6X793 | 593 |
| 628 | 2840 | 697 | 2184 | 771 | 2208 | 896 | 1062 | C21 | 640 | 002 | 1657 | 211 | 2897 | 377 | 2956 | 504 | 269 | 583 | 3490 | 668 | 197 | 794 | 593 |
| 629 | 2840 | 698 | 2184 | 772 | 2208 | 897 | 1062 | C22 | 640 | 003 | 1657 | 213 | 2897 | 378 | 2956 | 505 | 3490 | 584 | 3490 | 669 | 197 | 795 | 593 |
| 630 | 2840 | 699 | 2184 | 773 | 2208 | 898 | 1062 | C23 | 638 | 004 | 1657 | 214 | 2897 | 379 | 2956 | 506 | 3490 | 585 | 3490 | 670 | 197 | 796 | 593 |
| 631 | 2840 | 700 | 2184 | 774 | 2208 | 899 | 1168 | C24 | 639 | 005 | 1657 | 215 | 2897 | 380 | 2956 | 507 | 3490 | 586 | 3490 | 671 | 197 | 797 | 593 |
| 6W632 | 2795 | 6W701 | 2184 | 6W775 | 2208 | 6W900 | 1168 | 6XC25 | 639 | 6X063 | 731 | 6X216 | 2897 | 6X381 | 2956 | 6X508 | 3490 | 6X587 | 3490 | 6X672 | 197 | 6X801 | 2242 |
| 633 | 2795 | 702 | 2184 | 776 | 2208 | 901 | 1168 | C26 | 639 | 064 | 730 | 217 | 2912 | 382 | 2956 | 509 | 3490 | 588 | 3490 | 683 | 622 | 802 | 2242 |
| 634 | 2795 | 703 | 2184 | 777 | 2208 | 902 | 1172 | C27 | 639 | 070 | 357 | 218 | 2912 | 383 | 2956 | 510 | 3490 | 589 | 3490 | 684 | 622 | 803 | 2242 |
| 635 | 2795 | 704 | 2175 | 778 | 2208 | 903 | 1168 | C28 | 639 | 071 | 357 | 219 | 2912 | 384 | 2956 | 511 | 3490 | 590 | 3489 | 685 | 622 | 804 | 2242 |
| 636 | 2795 | 705 | 2175 | 779 | 2208 | 904 | 1167 | C29 | 639 | 072 | 357 | 232 | 342 | 385 | 2956 | 512 | 3490 | 591 | 3489 | 686 | 622 | 810 | 2747 |



Grainger—more ways to get stuff faster.

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6X811 | 2747 | 6X981 | 1428 | 6Y689 | 3160 | 6Y755 | 2753 | 6Y830 | 2741 | 6Y903 | 2752 | 6ZC28 | 2916 | 6ZF22 | 1527 | 6Z076 | 234 | 6Z285 | 1450 | 6Z419 | 286 | 6Z506 | 1937 |
| 830 | 866 | 982 | 1428 | 690 | 3160 | 756 | 2753 | 831 | 2741 | 904 | 2746 | C29 | 2919 | F23 | 1527 | 077 | 234 | 291 | 1450 | 420 | 286 | 507 | 1937 |
| 833 | 2063 | 983 | 1430 | 691 | 3160 | 757 | 2753 | 832 | 2741 | 905 | 2746 | C30 | 2918 | F24 | 1527 | 078 | 234 | 293 | 1450 | 421 | 286 | 508 | 1937 |
| 842 | 2812 | 984 | 1430 | 692 | 3160 | 758 | 2753 | 833 | 2741 | 907 | 2751 | C31 | 2917 | F25 | 1527 | 079 | 234 | 296 | 1454 | 422 | 286 | 509 | 1524 |
| 843 | 2812 | 985 | 1430 | 693 | 3160 | 759 | 2753 | 834 | 2741 | 908 | 2751 | C32 | 2916 | F26 | 1527 | 080 | 234 | 297 | 1459 | 423 | 286 | 533 | 226 |
| 6X844 | 2822 | 6X986 | 1430 | 6Y694 | 3160 | 6Y760 | 2753 | 6Y835 | 2741 | 6Y909 | 2751 | 6ZC33 | 2917 | 6ZF27 | 1527 | 6Z081 | 234 | 6Z301 | 1486 | 6Z424 | 286 | 6Z534 | 226 |
| 845 | 2822 | 987 | 1664 | 695 | 3160 | 762 | 2785 | 836 | 2741 | 910 | 2752 | C34 | 2915 | F28 | 1527 | 082 | 234 | 308 | 1472 | 425 | 286 | 535 | 226 |
| 851 | 2289 | 988 | 1664 | 696 | 3160 | 763 | 2785 | 837 | 2741 | 912 | 2749 | C35 | 2915 | F29 | 1527 | 083 | 234 | 312 | 1418 | 426 | 286 | 536 | 226 |
| 852 | 2289 | 989 | 1430 | 697 | 3160 | 764 | 2785 | 838 | 2741 | 913 | 2746 | C45 | 2958 | F30 | 1527 | 084 | 234 | 314 | 1461 | 427 | 286 | 537 | 226 |
| 853 | 2339 | 990 | 1677 | 698 | 3160 | 765 | 2785 | 839 | 2753 | 914 | 2749 | C46 | 2958 | F31 | 1527 | 086 | 262 | 320 | 1415 | 428 | 286 | 539 | 226 |
| 6X854 | 1506 | 6X992 | 1385 | 6Y699 | 3160 | 6Y766 | 2785 | 6Y840 | 2753 | 6Y915 | 2749 | 6ZC47 | 2958 | 6ZF32 | 1527 | 6Z087 | 262 | 6Z321 | 1415 | 6Z429 | 286 | 6Z540 | 226 |
| 857 | 1344 | 995 | 1385 | 700 | 3160 | 767 | 2785 | 841 | 2753 | 933 | 1471 | C48 | 2958 | F33 | 1527 | 088 | 262 | 324 | 1417 | 430 | 286 | 541 | 226 |
| 858 | 1344 | 996 | 1384 | 701 | 3160 | 768 | 2785 | 842 | 2753 | 942 | 1516 | C49 | 2958 | F34 | 1527 | 089 | 262 | 330 | 1417 | 431 | 286 | 542 | 226 |
| 859 | 1345 | 998 | 307 | 702 | 3160 | 769 | 2785 | 843 | 2753 | 943 | 1514 | C50 | 2958 | F35 | 1527 | 090 | 262 | 332 | 1443 | 432 | 286 | 543 | 190 |
| 861 | 1344 | 999 | 307 | 703 | 3160 | 770 | 2785 | 844 | 2753 | 945 | 1507 | C51 | 2958 | F36 | 1527 | 091 | 262 | 335 | 1440 | 433 | 286 | 544 | 190 |
| 6X869 | 3504 | 6Y | | 6Y704 | 3160 | 6Y776 | 2766 | 6Y845 | 2753 | 6Y946 | 1514 | 6ZC52 | 2958 | 6ZF41 | 3025 | 6Z092 | 262 | 6Z337 | 1440 | 6Z434 | 286 | 6Z545 | 190 |
| 874 | 307 | | | 705 | 3160 | 777 | 2771 | 846 | 2753 | 947 | 1514 | C53 | 2958 | F42 | 3025 | 094 | 1888 | 338 | 1416 | 435 | 286 | 546 | 190 |
| 875 | 307 | 6Y001 | 1507 | 707 | 3160 | 778 | 2766 | 847 | 2753 | 948 | 1514 | C54 | 2958 | F43 | 3025 | 095 | 1888 | 339 | 1420 | 436 | 286 | 547 | 190 |
| 876 | 307 | 002 | 1516 | 708 | 3160 | 780 | 2769 | 848 | 2753 | 949 | 1514 | C55 | 2958 | F44 | 2818 | 096 | 1891 | 344 | 1452 | 437 | 286 | 548 | 190 |
| 877 | 1951 | 641 | 2749 | 709 | 3160 | 781 | 2769 | 849 | 2757 | 950 | 1514 | C56 | 2958 | F45 | 3004 | 097 | 1887 | 345 | 1452 | 439 | 286 | 549 | 190 |
| 6X878 | 1951 | 6Y642 | 2749 | 6Y710 | 3160 | 6Y782 | 2769 | 6Y850 | 2757 | 6Y951 | 1514 | 6ZC57 | 2958 | 6ZF46 | 3034 | 6Z098 | 1887 | 6Z346 | 1452 | 6Z440 | 286 | 6Z550 | 190 |
| 879 | 1890 | 643 | 2744 | 711 | 3160 | 783 | 2768 | 851 | 2757 | 976 | 1504 | C58 | 2958 | F47 | 3034 | 099 | 1889 | 353 | 1494 | 441 | 286 | 551 | 190 |
| 880 | 1890 | 644 | 2749 | 712 | 3161 | 785 | 2766 | 853 | 2746 | 978 | 1504 | C59 | 2958 | F48 | 3034 | 108 | 1467 | 354 | 1494 | 442 | 286 | 552 | 190 |
| 881 | 1890 | 645 | 2777 | 713 | 3161 | 786 | 2771 | 854 | 2746 | 979 | 1504 | C60 | 2959 | F52 | 1527 | 117 | 1507 | 355 | 1493 | 443 | 286 | 553 | 190 |
| 883 | 1890 | 646 | 2777 | 714 | 3161 | 788 | 2771 | 855 | 2742 | 980 | 1504 | C61 | 2959 | F63 | 2921 | 119 | 1976 | 357 | 1471 | 444 | 286 | 554 | 190 |
| 6X884 | 1890 | 6Y647 | 2777 | 6Y715 | 3161 | 6Y790 | 2751 | 6Y856 | 2746 | 6Y981 | 1504 | 6ZC62 | 2959 | 6ZF64 | 2921 | 6Z121 | 1426 | 6Z358 | 1423 | 6Z445 | 286 | 6Z555 | 190 |
| 885 | 1890 | 648 | 2785 | 716 | 3161 | 791 | 2751 | 857 | 2744 | 982 | 1504 | C63 | 2917 | F65 | 2921 | 122 | 1468 | 359 | 1481 | 446 | 286 | 556 | 190 |
| 886 | 1890 | 649 | 2784 | 717 | 3161 | 792 | 2751 | 858 | 2744 | 983 | 1504 | C72 | 2978 | F92 | 2998 | 128 | 270 | 360 | 1532 | 447 | 286 | 557 | 190 |
| 887 | 1890 | 650 | 2784 | 718 | 3161 | 793 | 2750 | 859 | 2744 | 984 | 1504 | C73 | 2980 | H12 | 2998 | 129 | 270 | 361 | 1450 | 448 | 286 | 558 | 190 |
| 888 | 1890 | 652 | 2785 | 719 | 3161 | 794 | 2750 | 860 | 2757 | 985 | 1504 | C74 | 2965 | H13 | 2999 | 130 | 268 | 362 | 1450 | 449 | 286 | 559 | 3000 |
| 6X889 | 2960 | 6Y653 | 2785 | 6Y720 | 3161 | 6Y795 | 2750 | 6Y861 | 2743 | 6Y986 | 1504 | 6ZC75 | 2989 | 6Z001 | 2257 | 6Z131 | 226 | 6Z364 | 2715 | 6Z450 | 286 | 6Z561 | 2970 |
| 890 | 2960 | 654 | 2785 | 721 | 3161 | 796 | 2750 | 863 | 2743 | 987 | 1504 | C88 | 2927 | 002 | 2253 | 132 | 226 | 378 | 3465 | 451 | 286 | 562 | 2992 |
| 891 | 2303 | 656 | 3160 | 722 | 3161 | 797 | 2750 | 864 | 2746 | 988 | 1504 | C89 | 2927 | 008 | 1548 | 133 | 226 | 379 | 3465 | 452 | 286 | 563 | 2982 |
| 892 | 2303 | 657 | 3160 | 723 | 3161 | 798 | 2750 | 865 | 2746 | 989 | 1504 | C90 | 2927 | 009 | 1548 | 134 | 226 | 380 | 3465 | 453 | 286 | 564 | 2990 |
| 893 | 2303 | 658 | 3160 | 724 | 3161 | 799 | 2750 | 866 | 2746 | 990 | 1504 | C91 | 2927 | 010 | 1550 | 135 | 226 | 381 | 3465 | 454 | 286 | 565 | 2981 |
| 6X895 | 2629 | 6Y659 | 3160 | 6Y725 | 3161 | 6Y800 | 2750 | 6Y867 | 2746 | 6Y991 | 1504 | 6ZC92 | 2927 | 6Z016 | 1600 | 6Z136 | 2716 | 6Z382 | 3465 | 6Z455 | 286 | 6Z566 | 2984 |
| 896 | 2629 | 660 | 3160 | 726 | 3161 | 801 | 2750 | 868 | 2746 | 992 | 1504 | C93 | 2960 | 037 | 1416 | 137 | 2716 | 385 | 193 | 456 | 286 | 567 | 2980 |
| 898 | 3499 | 661 | 3160 | 727 | 3161 | 802 | 2750 | 869 | 2746 | 994 | 1504 | C94 | 2961 | 038 | 1415 | 138 | 2711 | 386 | 193 | 457 | 286 | 569 | 2997 |
| 899 | 3499 | 662 | 3160 | 728 | 3161 | 803 | 2750 | 870 | 2746 | 995 | 1504 | C95 | 2961 | 039 | 1415 | 139 | 2711 | 387 | 193 | 458 | 286 | 570 | 2976 |
| 907 | 1340 | 663 | 3160 | 729 | 3161 | 804 | 2750 | 871 | 2746 | 997 | 1504 | C96 | 2961 | 040 | 1440 | 151 | 2807 | 388 | 193 | 459 | 286 | 571 | 3001 |
| 6X908 | 1341 | 6Y664 | 3160 | 6Y730 | 3161 | 6Y805 | 2750 | 6Y872 | 2746 | 6Y998 | 1504 | 6ZC97 | 2961 | 6Z041 | 1416 | 6Z152 | 2807 | 6Z390 | 194 | 6Z460 | 286 | 6Z572 | 3028 |
| 920 | 667 | 665 | 3160 | 731 | 3161 | 806 | 2750 | 873 | 2746 | 999 | 1504 | C98 | 2961 | 042 | 1417 | 157 | 3003 | 392 | 194 | 461 | 286 | 573 | 3028 |
| 921 | 667 | 666 | 3160 | 732 | 3161 | 807 | 2752 | 874 | 2746 | 6Z | | C99 | 3021 | 044 | 1440 | 158 | 3003 | 393 | 1375 | 462 | 286 | 574 | 3028 |
| 922 | 1023 | 667 | 3160 | 733 | 2762 | 808 | 2752 | 875 | 2746 | | | F00 | 3021 | 045 | 1481 | 160 | 3016 | 394 | 1375 | 463 | 286 | 576 | 2912 |
| 923 | 1025 | 668 | 3160 | 734 | 2762 | 809 | 2752 | 876 | 2746 | 6ZC04 | 2667 | F01 | 3021 | 046 | 1481 | 161 | 3014 | 398 | 1512 | 464 | 286 | 577 | 2912 |
| 6X925 | 1349 | 6Y669 | 3160 | 6Y735 | 2762 | 6Y810 | 2752 | 6Y877 | 2749 | 6ZC05 | 2690 | 6ZF02 | 3021 | 6Z047 | 1481 | 6Z162 | 3014 | 6Z399 | 245 | 6Z465 | 286 | 6Z578 | 2912 |
| 926 | 1349 | 670 | 3160 | 736 | 2762 | 811 | 2752 | 878 | 2749 | C07 | 2932 | F03 | 3042 | 048 | 1480 | 163 | 3014 | 400 | 245 | 466 | 286 | 579 | 2912 |
| 927 | 1349 | 671 | 3160 | 737 | 2762 | 812 | 2751 | 879 | 2749 | C08 | 2932 | F04 | 3042 | 049 | 1423 | 164 | 3014 | 401 | 245 | 467 | 286 | 580 | 2912 |
| 928 | 1349 | 672 | 3160 | 738 | 2762 | 813 | 2751 | 880 | 2749 | C09 | 2932 | F05 | 3042 | 050 | 1461 | 165 | 3014 | 402 | 245 | 468 | 286 | 581 | 2996 |
| 929 | 1349 | 673 | 3160 | 739 | 2762 | 814 | 2751 | 881 | 2744 | C10 | 2932 | F06 | 3042 | 051 | 1459 | 167 | 2731 | 403 | 245 | 469 | 286 | 583 | 3000 |
| 6X940 | 1378 | 6Y674 | 3160 | 6Y740 | 2762 | 6Y815 | 2751 | 6Y882 | 2746 | 6ZC11 | 3021 | 6ZF07 | 3042 | 6Z054 | 1412 | 6Z168 | 2731 | 6Z404 | 245 | 6Z470 | 286 | 6Z584 | 2984 |
| 941 | 1378 | 675 | 3160 | 741 | 2762 | 816 | 2751 | 883 | 2746 | C12 | 3021 | F08 | 3042 | 060 | 3012 | 169 | 2701 | 405 | 245 | 471 | 2731 | 585 | 2978 |
| 942 | 1378 | 676 | 3160 | 742 | 2762 | 817 | 2752 | 884 | 2746 | C13 | 1526 | F09 | 3042 | 061 | 3012 | 172 | 2670 | 406 | 223 | 491 | 1935 | 586 | 2977 |
| 952 | 692 | 677 | 3160 | 743 | 2781 | 818 | 2752 | 886 | 2742 | C14 | 1526 | F10 | 3042 | 062 | 3012 | 173 | 2690 | 407 | 223 | 492 | 1935 | 588 | 2997 |
| 953 | 692 | 678 | 3160 | 744 | 2781 | 819 | 2752 | 887 | 2742 | C15 | 1526 | F11 | 3033 | 063 | 3012 | 174 | 2690 | 408 | 223 | 493 | 1935 | 589 | 2990 |
| 6X966 | 3397 | 6Y679 | 3160 | 6Y745 | 2789 | 6Y820 | 2752 | 6Y890 | 2742 | 6ZC16 | 3035 | 6ZF12 | 3033 | 6Z066 | 2844 | 6Z175 | 2690 | 6Z409 | 223 | 6Z494 | 1935 | 6Z605 | 1524 |
| 967 | 3397 | 680 | 3160 | 746 | 2747 | 821 | 2752 | 891 | 2742 | C17 | 3035 | F13 | 3033 | 067 | 2844 | 176 | 2704 | 410 | 223 | 495 | 1935 | 607 | 1524 |
| 968 | 1502 | 681 | 3160 | 747 | 2747 | 822 | 2750 | 893 | 2742 | C18 | 3035 | F14 | 2914 | 068 | 2844 | 177 | 2689 | 411 | 223 | 496 | 1935 | 610 | 2796 |
| 969 | 1587 | 682 | 3160 | 748 | 2747 | 823 | 2750 | 896 | 2745 | C19 | 3035 | F15 | 2914 | 069 | 2802 | 217 | 1489 | 412 | 223 | 497 | 1935 | 611 | 2796 |
| 971 | 1154 | 683 | 3160 | 749 | 2747 | 824 | 2750 | 897 | 2745 | C20 | 3035 | F16 | 2914 | 070 | 2802 | 222 | 1489 | 413 | 223 | 498 | 1935 | 612 | 2796 |
| 6X972 | 1156 | 6Y684 | 3160 | 6Y750 | 2747 | 6Y825 | 2750 | 6Y898 | 2744 | 6ZC22 | 3015 | 6ZF17 | 3034 | 6Z071 | 2802 | 6Z269 | 2845 | 6Z414 | 223 | 6Z499 | 1934 | 6Z613 | 2796 |
| 977 | 1428 | 685 | 3160 | 751 | 2753 | 826 | 2741 | 899 | 2744 | C24 | 2915 | F18 | 3034 | 072 | 3020 | 270 | 2845 | 415 | 223 | 501 | 1934 | 614 | 2796 |
| 978 | 1428 | 686 | 3160 | 752 | 2753 | 827 | 2741 | 900 | 2746 | C25 | 2917 | F19 | 3034 | 073 | 234 | 271 | 2845 | 416 | 223 | 503 | 1936 | 615 | 2796 |
| 979 | 1428 | 687 | 3160 | 753 | 2753 | 828 | 2741 | 901 | 2746 | C26 | 2918 | F20 | 1527 | 074 | 234 | 272 | 2844 | 417 | 223 | 504 | 1936 | 616 | 2796 |
| 980 | 1428 | 688 | 3160 | 754 | 2753 | 829 | 2741 | 902 | 2752 | C27 | 2917 | F21 | 1527 | 075 | 234 | 283 | 1489 | 418 | 223 | 505 | 1937 | 617 | 2796 |

| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6Z618 | 2796 | 6Z824 | 2683 | **7A** | | 7A412 | 3622 | 7A562 | 3619 | 7A627 | 3615 | 7A692 | 3615 | 7A758 | 3615 | 7A824 | 3615 | 7A890 | 3620 | 7B031 | 1082 | 7B096 | 2026 |
| 619 | 2796 | 825 | 2683 | | | 413 | 3622 | 563 | 3619 | 628 | 3615 | 693 | 3615 | 759 | 3615 | 825 | 3615 | 891 | 3620 | 032 | 1080 | 097 | 2026 |
| 620 | 2797 | 826 | 2683 | 7A052 | 1217 | 414 | 3622 | 564 | 3619 | 629 | 3615 | 694 | 3615 | 760 | 3615 | 826 | 3615 | 892 | 3620 | 033 | 1082 | 098 | 2026 |
| 621 | 2797 | 829 | 2966 | 053 | 1217 | 415 | 3622 | 565 | 3619 | 630 | 3615 | 695 | 3615 | 761 | 3615 | 827 | 3615 | 893 | 3620 | 034 | 1084 | 099 | 2026 |
| 622 | 2797 | 830 | 2968 | 054 | 1218 | 416 | 3622 | 566 | 3619 | 631 | 3615 | 696 | 3615 | 762 | 3615 | 828 | 3615 | 894 | 3620 | 035 | 1084 | 100 | 2026 |
| 6Z623 | 2797 | 6Z831 | 2994 | 7A055 | 1219 | 7A417 | 3622 | 7A567 | 3619 | 7A632 | 3615 | 7A697 | 3615 | 7A763 | 3615 | 7A829 | 3615 | 7A895 | 3620 | 7B036 | 1080 | 7B101 | 2026 |
| 624 | 2797 | 832 | 2979 | 058 | 1216 | 418 | 3622 | 568 | 3619 | 633 | 3615 | 698 | 3615 | 764 | 3615 | 830 | 3615 | 896 | 3620 | 037 | 1080 | 102 | 2026 |
| 625 | 2797 | 833 | 2999 | 060 | 1220 | 419 | 3622 | 569 | 3619 | 634 | 3615 | 699 | 3615 | 765 | 3615 | 831 | 3615 | 897 | 3620 | 038 | 1080 | 103 | 2026 |
| 626 | 2797 | 834 | 2861 | 063 | 1219 | 420 | 3622 | 570 | 3619 | 635 | 3615 | 700 | 3615 | 766 | 3615 | 832 | 3615 | 898 | 3620 | 039 | 1080 | 104 | 2026 |
| 627 | 2797 | 835 | 2861 | 064 | 1215 | 421 | 3622 | 571 | 3619 | 636 | 3615 | 701 | 3615 | 767 | 3615 | 833 | 3615 | 899 | 3620 | 040 | 1080 | 105 | 2026 |
| 6Z628 | 2812 | 6Z836 | 2861 | 7A065 | 1214 | 7A422 | 3622 | 7A572 | 3619 | 7A637 | 3615 | 7A702 | 3615 | 7A768 | 3615 | 7A834 | 3615 | 7A900 | 3620 | 7B041 | 1080 | 7B106 | 2026 |
| 629 | 2812 | 837 | 2861 | 074 | 1213 | 423 | 3622 | 573 | 3619 | 638 | 3615 | 703 | 3615 | 770 | 3615 | 835 | 3615 | 901 | 3620 | 042 | 1080 | 107 | 2026 |
| 630 | 2812 | 838 | 2861 | 075 | 1211 | 424 | 3622 | 574 | 3619 | 639 | 3615 | 704 | 3615 | 771 | 3615 | 836 | 3615 | 902 | 3620 | 043 | 1080 | 108 | 2026 |
| 631 | 1859 | 839 | 2861 | 076 | 1209 | 425 | 3622 | 575 | 3619 | 640 | 3615 | 705 | 3615 | 772 | 3615 | 837 | 3615 | 903 | 3620 | 044 | 1080 | 109 | 2026 |
| 632 | 1859 | 840 | 2861 | 082 | 1207 | 426 | 3622 | 576 | 3619 | 641 | 3615 | 706 | 3615 | 773 | 3615 | 838 | 3615 | 904 | 3620 | 045 | 1080 | 110 | 2026 |
| 6Z635 | 1859 | 6Z841 | 2861 | 7A083 | 1207 | 7A427 | 3622 | 7A577 | 3619 | 7A642 | 3615 | 7A707 | 3615 | 7A774 | 3615 | 7A839 | 3615 | 7A905 | 3620 | 7B046 | 1080 | 7B111 | 2026 |
| 638 | 1860 | 844 | 1503 | 143 | 1895 | 428 | 3622 | 578 | 3619 | 643 | 3615 | 708 | 3615 | 775 | 3615 | 840 | 3615 | 906 | 3620 | 047 | 1078 | 112 | 2026 |
| 662 | 1978 | 845 | 1503 | 155 | 510 | 429 | 3622 | 579 | 3619 | 644 | 3615 | 709 | 3615 | 776 | 3615 | 841 | 3615 | 907 | 3620 | 048 | 1078 | 113 | 2026 |
| 663 | 2997 | 846 | 1503 | 156 | 510 | 430 | 3622 | 580 | 3619 | 645 | 3615 | 710 | 3615 | 777 | 3615 | 842 | 3615 | 908 | 3620 | 049 | 1078 | 114 | 2026 |
| 664 | 2973 | 847 | 1503 | 157 | 510 | 431 | 1073 | 581 | 3619 | 646 | 3615 | 711 | 3615 | 778 | 3615 | 843 | 3615 | 909 | 3620 | 050 | 1078 | 115 | 2026 |
| 6Z665 | 2973 | 6Z848 | 1503 | 7A158 | 510 | 7A432 | 1073 | 7A582 | 3619 | 7A647 | 3615 | 7A712 | 3615 | 7A779 | 3615 | 7A844 | 3615 | 7A910 | 3620 | 7B051 | 1078 | 7B116 | 2026 |
| 666 | 2973 | 849 | 1502 | 159 | 510 | 433 | 1073 | 583 | 3619 | 648 | 3615 | 713 | 3615 | 780 | 3615 | 845 | 3615 | 911 | 3620 | 052 | 1078 | 117 | 2026 |
| 667 | 2993 | 850 | 1498 | 160 | 510 | 434 | 1065 | 584 | 3619 | 649 | 3619 | 714 | 3615 | 781 | 3619 | 846 | 3615 | 912 | 3620 | 053 | 1077 | 118 | 2026 |
| 668 | 3011 | 851 | 1506 | 161 | 510 | 435 | 1065 | 585 | 3619 | 650 | 3619 | 715 | 3615 | 782 | 3619 | 847 | 3615 | 913 | 3620 | 054 | 1077 | 119 | 2026 |
| 763 | 2728 | 899 | 1969 | 162 | 510 | 441 | 2418 | 586 | 3619 | 651 | 3619 | 716 | 3615 | 783 | 3619 | 848 | 3615 | 914 | 3620 | 055 | 1077 | 120 | 2026 |
| 6Z765 | 1518 | 6Z906 | 229 | 7A163 | 510 | 7A442 | 2418 | 7A587 | 3615 | 7A652 | 3619 | 7A717 | 3615 | 7A784 | 3619 | 7A849 | 3615 | 7A942 | 2111 | 7B056 | 1077 | 7B121 | 2026 |
| 766 | 1518 | 907 | 229 | 164 | 510 | 443 | 2418 | 588 | 3615 | 653 | 3619 | 718 | 3615 | 785 | 3619 | 850 | 3615 | 943 | 2111 | 057 | 1077 | 122 | 2026 |
| 768 | 1889 | 908 | 229 | 165 | 510 | 472 | 2418 | 589 | 2077 | 654 | 3619 | 719 | 3615 | 786 | 3619 | 851 | 3615 | 944 | 2111 | 058 | 1077 | 123 | 2026 |
| 769 | 1889 | 909 | 229 | 166 | 510 | 473 | 2418 | 590 | 2077 | 655 | 3619 | 720 | 3615 | 787 | 3619 | 852 | 3615 | 945 | 1199 | 059 | 1077 | 124 | 2026 |
| 770 | 1889 | 910 | 217 | 316 | 3413 | 474 | 2418 | 591 | 2077 | 656 | 3619 | 721 | 3615 | 788 | 3619 | 853 | 3615 | 946 | 1200 | 060 | 1090 | 125 | 2026 |
| 6Z772 | 1536 | 6Z911 | 217 | 7A317 | 3413 | 7A475 | 2418 | 7A592 | 2077 | 7A657 | 3619 | 7A722 | 3615 | 7A789 | 3619 | 7A854 | 3615 | 7A965 | 1993 | 7B061 | 1090 | 7B126 | 2026 |
| 773 | 1536 | 912 | 217 | 318 | 3413 | 476 | 2418 | 593 | 3615 | 658 | 3619 | 723 | 3615 | 790 | 3619 | 855 | 3615 | 969 | 1996 | 062 | 1090 | 127 | 2026 |
| 775 | 1536 | 913 | 217 | 319 | 3413 | 477 | 2418 | 594 | 3615 | 659 | 3619 | 724 | 3615 | 791 | 3619 | 856 | 3615 | 975 | 1996 | 063 | 2026 | 128 | 2026 |
| 776 | 1891 | 914 | 217 | 346 | 1199 | 509 | 3414 | 595 | 2077 | 660 | 3619 | 725 | 3619 | 792 | 3619 | 857 | 3620 | 978 | 1996 | 064 | 2026 | 129 | 2026 |
| 777 | 274 | 915 | 217 | 347 | 1199 | 510 | 3414 | 596 | 2077 | 661 | 3619 | 726 | 3619 | 793 | 3619 | 858 | 3620 | 983 | 1994 | 065 | 2026 | 130 | 2026 |
| 6Z778 | 274 | 6Z916 | 217 | 7A349 | 1200 | 7A513 | 3413 | 7A597 | 2077 | 7A662 | 3619 | 7A727 | 3619 | 7A794 | 3619 | 7A859 | 3620 | 7A984 | 1994 | 7B066 | 2026 | 7B131 | 2026 |
| 779 | 274 | 917 | 2967 | 350 | 1200 | 514 | 3413 | 598 | 2077 | 663 | 3619 | 728 | 3619 | 795 | 3619 | 860 | 3620 | 985 | 407 | 067 | 2026 | 132 | 2026 |
| 780 | 274 | 918 | 2978 | 357 | 1201 | 515 | 3413 | 599 | 2077 | 664 | 3619 | 729 | 3619 | 796 | 3619 | 861 | 3620 | 986 | 407 | 068 | 2026 | 133 | 2026 |
| 781 | 275 | 926 | 1937 | 361 | 1993 | 516 | 3413 | 600 | 2077 | 665 | 3619 | 730 | 3619 | 797 | 3619 | 862 | 3620 | 987 | 407 | 069 | 2026 | 135 | 2026 |
| 782 | 2845 | 927 | 1937 | 362 | 1993 | 523 | 3414 | 601 | 2077 | 666 | 3619 | 731 | 3619 | 798 | 3619 | 863 | 3620 | 988 | 407 | 070 | 2026 | 136 | 2026 |
| 6Z783 | 2844 | 6Z933 | 1857 | 7A363 | 1993 | 7A524 | 3414 | 7A602 | 2077 | 7A667 | 3619 | 7A732 | 3619 | 7A799 | 3619 | 7A864 | 3620 | 7A989 | 407 | 7B071 | 2026 | 7B137 | 2026 |
| 784 | 3016 | 935 | 1568 | 365 | 1996 | 525 | 3414 | 603 | 2077 | 668 | 3619 | 733 | 3619 | 800 | 3619 | 865 | 3620 | 990 | 407 | 072 | 2026 | 138 | 2026 |
| 785 | 3016 | 948 | 2910 | 366 | 1996 | 526 | 3414 | 604 | 2077 | 669 | 3619 | 734 | 3619 | 801 | 3619 | 866 | 3620 | **7B** | | 073 | 2026 | 139 | 2026 |
| 786 | 3016 | 949 | 2915 | 368 | 1996 | 527 | 3414 | 605 | 2077 | 670 | 3619 | 735 | 3619 | 802 | 3619 | 867 | 3620 | | | 074 | 2026 | 140 | 2026 |
| 787 | 3019 | 952 | 2930 | 369 | 1996 | 528 | 3414 | 606 | 2077 | 671 | 3619 | 736 | 3619 | 803 | 3619 | 868 | 3620 | 7B010 | 1080 | 075 | 2026 | 141 | 2026 |
| 6Z788 | 3019 | 6Z953 | 2930 | 7A370 | 1996 | 7A529 | 3421 | 7A607 | 2077 | 7A672 | 3619 | 7A737 | 3619 | 7A804 | 3619 | 7A869 | 3620 | 7B011 | 1082 | 7B076 | 2026 | 7B142 | 2017 |
| 789 | 3019 | 955 | 2930 | 371 | 1996 | 530 | 3421 | 608 | 2077 | 673 | 3619 | 738 | 3619 | 805 | 3619 | 870 | 3620 | 012 | 1080 | 077 | 2026 | 143 | 2026 |
| 790 | 2780 | 957 | 2930 | 372 | 1996 | 531 | 3421 | 609 | 2077 | 674 | 3619 | 739 | 3619 | 806 | 3619 | 871 | 3620 | 013 | 1082 | 078 | 2026 | 144 | 2026 |
| 791 | 186 | 960 | 1509 | 374 | 1996 | 532 | 3421 | 610 | 2077 | 675 | 3619 | 741 | 3619 | 807 | 3619 | 872 | 3620 | 014 | 1080 | 079 | 2026 | 145 | 2017 |
| 792 | 2715 | 983 | 2711 | 375 | 1996 | 533 | 3421 | 611 | 2077 | 676 | 3619 | 742 | 3619 | 808 | 3619 | 873 | 3620 | 015 | 1082 | 080 | 2026 | 146 | 2026 |
| 6Z801 | 189 | 6Z984 | 2711 | 7A377 | 1996 | 7A547 | 3619 | 7A612 | 2077 | 7A677 | 3619 | 7A743 | 3619 | 7A809 | 3619 | 7A874 | 3620 | 7B016 | 1080 | 7B081 | 2026 | 7B147 | 2017 |
| 802 | 189 | 985 | 2711 | 398 | 3622 | 548 | 3619 | 613 | 2077 | 678 | 3619 | 744 | 3619 | 810 | 3619 | 875 | 3620 | 017 | 1082 | 082 | 2026 | 148 | 2026 |
| 803 | 189 | 986 | 2711 | 399 | 3622 | 549 | 3619 | 614 | 2077 | 679 | 3619 | 745 | 3619 | 811 | 3619 | 876 | 3620 | 018 | 1080 | 083 | 2026 | 149 | 2017 |
| 812 | 192 | 987 | 2711 | 400 | 3622 | 550 | 3619 | 615 | 3615 | 680 | 3619 | 746 | 3619 | 812 | 3619 | 877 | 3620 | 019 | 1082 | 084 | 2026 | 150 | 2026 |
| 813 | 192 | 988 | 2711 | 401 | 3622 | 551 | 3619 | 616 | 3615 | 681 | 3619 | 747 | 3619 | 813 | 3619 | 878 | 3620 | 020 | 1080 | 085 | 2026 | 151 | 2026 |
| 6Z814 | 263 | 6Z989 | 2711 | 7A402 | 3622 | 7A552 | 3619 | 7A617 | 3615 | 7A682 | 3619 | 7A748 | 3619 | 7A814 | 3619 | 7A879 | 3620 | 7B021 | 1082 | 7B086 | 2026 | 7B152 | 2017 |
| 815 | 263 | 990 | 2711 | 403 | 3622 | 553 | 3619 | 618 | 3615 | 683 | 3619 | 749 | 3619 | 815 | 3619 | 880 | 3620 | 022 | 1080 | 087 | 2026 | 153 | 2026 |
| 816 | 239 | 991 | 2711 | 404 | 3622 | 554 | 3619 | 619 | 3615 | 684 | 3619 | 750 | 3619 | 816 | 3619 | 881 | 3620 | 023 | 1082 | 088 | 2026 | 154 | 2026 |
| 817 | 239 | 992 | 2721 | 405 | 3622 | 555 | 3619 | 620 | 3615 | 685 | 3619 | 751 | 3619 | 817 | 3619 | 882 | 3620 | 024 | 1080 | 089 | 2026 | 155 | 2026 |
| 818 | 239 | 993 | 2721 | 406 | 3622 | 556 | 3619 | 621 | 3615 | 686 | 3619 | 752 | 3619 | 818 | 3619 | 883 | 3620 | 025 | 1082 | 090 | 2026 | 156 | 2026 |
| 6Z819 | 239 | 6Z994 | 2721 | 7A407 | 3622 | 7A557 | 3619 | 7A622 | 3615 | 7A687 | 3619 | 7A753 | 3619 | 7A819 | 3619 | 7A884 | 3620 | 7B026 | 1080 | 7B091 | 2026 | 7B157 | 2026 |
| 820 | 239 | 995 | 2721 | 408 | 3622 | 558 | 3619 | 623 | 3615 | 688 | 3619 | 754 | 3615 | 820 | 3619 | 885 | 3620 | 027 | 1082 | 092 | 2026 | 158 | 2026 |
| 821 | 239 | 996 | 2719 | 409 | 3622 | 559 | 3619 | 624 | 3615 | 689 | 3619 | 755 | 3615 | 821 | 3619 | 886 | 3620 | 028 | 1080 | 093 | 2026 | 159 | 2026 |
| 822 | 239 | 997 | 2719 | 410 | 3622 | 560 | 3619 | 625 | 3615 | 690 | 3619 | 756 | 3615 | 822 | 3615 | 887 | 3087 | 029 | 1082 | 094 | 2026 | 160 | 2026 |
| 823 | 2683 | 999 | 2248 | 411 | 3622 | 561 | 3619 | 626 | 3615 | 691 | 3615 | 757 | 3615 | 823 | 3615 | 888 | 3088 | 030 | 1080 | 095 | 2026 | 161 | 2022 |

# STOCK NUMBER—PAGE NUMBER



| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7B162 | 2026 | 7B229 | 2026 | 7B296 | 2018 | 7B362 | 2026 | 7B427 | 2014 | 7B495 | 2017 | 7B560 | 2029 | 7B625 | 2029 | 7B690 | 2028 | 7B755 | 2028 | 7B820 | 2107 | 7B885 | 2020 |
| 163 | 2026 | 230 | 2022 | 297 | 2020 | 363 | 2015 | 428 | 2014 | 496 | 2017 | 561 | 2029 | 626 | 2029 | 691 | 2028 | 756 | 2028 | 821 | 2107 | 886 | 2020 |
| 164 | 2022 | 231 | 2026 | 298 | 2020 | 364 | 2015 | 429 | 2014 | 497 | 2017 | 562 | 2029 | 627 | 2029 | 692 | 2028 | 757 | 2030 | 822 | 2107 | 887 | 2020 |
| 165 | 2026 | 232 | 2022 | 299 | 2020 | 365 | 2015 | 430 | 2014 | 498 | 2017 | 563 | 2029 | 628 | 2029 | 693 | 2028 | 758 | 2030 | 823 | 2107 | 888 | 2020 |
| 166 | 2022 | 233 | 2026 | 300 | 2020 | 366 | 2015 | 431 | 2014 | 499 | 2017 | 564 | 2029 | 629 | 2029 | 694 | 2028 | 759 | 2030 | 824 | 2107 | 889 | 2020 |
| 7B167 | 2026 | 7B234 | 2022 | 7B301 | 2020 | 7B367 | 2015 | 7B432 | 2014 | 7B500 | 2017 | 7B565 | 2029 | 7B630 | 2029 | 7B695 | 2028 | 7B760 | 2030 | 7B825 | 2107 | 7B890 | 2020 |
| 169 | 2022 | 235 | 2026 | 302 | 2020 | 368 | 2015 | 433 | 2014 | 501 | 2017 | 566 | 2029 | 631 | 2029 | 696 | 2028 | 761 | 2030 | 826 | 2042 | 891 | 2020 |
| 170 | 2022 | 236 | 2018 | 303 | 2020 | 369 | 2015 | 434 | 2014 | 502 | 2017 | 567 | 2029 | 632 | 2029 | 697 | 2028 | 762 | 2023 | 827 | 2042 | 892 | 2020 |
| 171 | 2026 | 237 | 2026 | 304 | 2020 | 370 | 2015 | 436 | 2065 | 503 | 2017 | 568 | 2029 | 633 | 2029 | 698 | 2028 | 763 | 2023 | 828 | 2042 | 893 | 2020 |
| 172 | 2026 | 238 | 2026 | 305 | 2020 | 371 | 2015 | 437 | 2014 | 504 | 2017 | 569 | 2029 | 634 | 2029 | 699 | 2028 | 764 | 2023 | 829 | 2042 | 894 | 2020 |
| 7B173 | 2022 | 7B239 | 2022 | 7B306 | 2020 | 7B372 | 2015 | 7B438 | 2014 | 7B505 | 2018 | 7B570 | 2029 | 7B635 | 2029 | 7B700 | 2028 | 7B765 | 2023 | 7B830 | 2042 | 7B895 | 2016 |
| 174 | 2026 | 240 | 2022 | 307 | 2020 | 373 | 2015 | 439 | 2014 | 506 | 2018 | 571 | 2029 | 636 | 2029 | 701 | 2028 | 766 | 2023 | 831 | 2042 | 896 | 2016 |
| 176 | 2026 | 241 | 2026 | 308 | 2018 | 374 | 2015 | 440 | 2014 | 507 | 2018 | 572 | 2029 | 637 | 2029 | 702 | 2028 | 767 | 2023 | 832 | 2042 | 897 | 2016 |
| 177 | 2017 | 242 | 2026 | 309 | 2018 | 375 | 2015 | 441 | 2014 | 508 | 2018 | 573 | 2029 | 638 | 2029 | 703 | 2028 | 768 | 2023 | 833 | 2042 | 898 | 2016 |
| 178 | 2017 | 243 | 2022 | 310 | 2018 | 376 | 2015 | 442 | 2014 | 509 | 2018 | 574 | 2029 | 639 | 2029 | 704 | 2028 | 769 | 2023 | 834 | 2042 | 899 | 2016 |
| 7B179 | 2026 | 7B244 | 2022 | 7B311 | 2018 | 7B377 | 2015 | 7B443 | 2015 | 7B510 | 2018 | 7B575 | 2029 | 7B640 | 2029 | 7B705 | 2028 | 7B770 | 2023 | 7B835 | 2042 | 7B900 | 2016 |
| 180 | 2017 | 245 | 2022 | 312 | 2018 | 378 | 2015 | 444 | 2015 | 511 | 2018 | 576 | 2029 | 641 | 2029 | 706 | 2028 | 771 | 2023 | 836 | 2042 | 901 | 2016 |
| 181 | 2017 | 246 | 2026 | 313 | 2018 | 379 | 2015 | 445 | 2015 | 512 | 2018 | 577 | 2029 | 642 | 2029 | 707 | 2028 | 772 | 2023 | 837 | 2042 | 902 | 2016 |
| 182 | 2026 | 247 | 2026 | 314 | 2022 | 380 | 2015 | 446 | 2015 | 513 | 2018 | 578 | 2029 | 643 | 2029 | 708 | 2028 | 773 | 2023 | 838 | 2042 | 903 | 2016 |
| 183 | 2017 | 248 | 2026 | 315 | 2022 | 381 | 2014 | 447 | 2015 | 514 | 2018 | 579 | 2029 | 644 | 2029 | 709 | 2028 | 774 | 2023 | 839 | 2042 | 904 | 2016 |
| 7B184 | 2026 | 7B249 | 2026 | 7B316 | 2022 | 7B382 | 2014 | 7B448 | 2015 | 7B515 | 2018 | 7B580 | 2029 | 7B645 | 2029 | 7B710 | 2028 | 7B775 | 2023 | 7B840 | 2042 | 7B905 | 2016 |
| 185 | 2021 | 250 | 2026 | 317 | 2022 | 383 | 2014 | 449 | 2019 | 516 | 2018 | 581 | 2029 | 646 | 2029 | 711 | 2028 | 776 | 2023 | 841 | 2042 | 906 | 2016 |
| 186 | 2021 | 251 | 2026 | 318 | 2022 | 384 | 2014 | 450 | 2019 | 517 | 2018 | 582 | 2029 | 647 | 2029 | 712 | 2028 | 777 | 2023 | 842 | 2042 | 907 | 2016 |
| 187 | 2026 | 252 | 2026 | 319 | 2022 | 385 | 2014 | 451 | 2019 | 518 | 2018 | 583 | 2029 | 648 | 2029 | 713 | 2028 | 778 | 2023 | 843 | 2042 | 908 | 2016 |
| 188 | 2026 | 253 | 2022 | 321 | 2018 | 386 | 2014 | 452 | 2019 | 519 | 2018 | 584 | 2029 | 649 | 2028 | 714 | 2028 | 779 | 2023 | 844 | 2022 | 909 | 2016 |
| 7B189 | 2021 | 7B254 | 2022 | 7B322 | 2018 | 7B387 | 2014 | 7B453 | 2019 | 7B520 | 2018 | 7B585 | 2029 | 7B650 | 2028 | 7B715 | 2028 | 7B780 | 2023 | 7B845 | 2022 | 7B910 | 2016 |
| 190 | 2021 | 255 | 2022 | 323 | 2017 | 388 | 2014 | 454 | 2019 | 521 | 2018 | 586 | 2029 | 651 | 2028 | 716 | 2028 | 781 | 2023 | 846 | 2022 | 911 | 2016 |
| 191 | 2026 | 256 | 2022 | 324 | 2017 | 389 | 2014 | 455 | 2019 | 522 | 2018 | 587 | 2029 | 652 | 2028 | 717 | 2028 | 782 | 2023 | 847 | 2022 | 912 | 2016 |
| 192 | 2026 | 257 | 2022 | 325 | 2017 | 390 | 2014 | 457 | 2019 | 523 | 2018 | 588 | 2029 | 653 | 2028 | 718 | 2028 | 783 | 2023 | 848 | 2022 | 913 | 2016 |
| 193 | 2021 | 260 | 2018 | 326 | 2021 | 391 | 2014 | 458 | 2019 | 524 | 2018 | 589 | 2029 | 654 | 2028 | 719 | 2028 | 784 | 2023 | 849 | 2022 | 914 | 2016 |
| 7B194 | 2026 | 7B261 | 2018 | 7B327 | 2021 | 7B392 | 2014 | 7B459 | 2019 | 7B525 | 2018 | 7B590 | 2029 | 7B655 | 2028 | 7B720 | 2028 | 7B785 | 2023 | 7B850 | 2022 | 7B915 | 2016 |
| 195 | 2021 | 262 | 2018 | 328 | 2021 | 393 | 2014 | 460 | 2019 | 526 | 2018 | 591 | 2029 | 656 | 2028 | 721 | 2028 | 786 | 2023 | 851 | 2022 | 916 | 2016 |
| 196 | 2021 | 263 | 2018 | 329 | 2021 | 394 | 2014 | 461 | 2019 | 527 | 2018 | 592 | 2029 | 657 | 2028 | 722 | 2028 | 787 | 2023 | 852 | 2022 | 917 | 2016 |
| 197 | 2026 | 264 | 2021 | 330 | 2021 | 395 | 2014 | 462 | 2019 | 528 | 2018 | 593 | 2029 | 658 | 2028 | 723 | 2028 | 788 | 2023 | 853 | 2022 | 918 | 2016 |
| 198 | 2017 | 265 | 2021 | 331 | 2021 | 396 | 2014 | 463 | 2019 | 529 | 2018 | 594 | 2029 | 659 | 2028 | 724 | 2028 | 789 | 2023 | 854 | 2022 | 919 | 2016 |
| 7B199 | 2017 | 7B266 | 2021 | 7B332 | 2021 | 7B397 | 2014 | 7B464 | 2019 | 7B530 | 2018 | 7B595 | 2029 | 7B660 | 2028 | 7B725 | 2028 | 7B790 | 2023 | 7B855 | 2022 | 7B920 | 2016 |
| 200 | 2017 | 267 | 2021 | 333 | 2017 | 398 | 2014 | 465 | 2019 | 531 | 2018 | 596 | 2029 | 661 | 2028 | 726 | 2028 | 791 | 2023 | 856 | 2022 | 921 | 2016 |
| 201 | 2017 | 268 | 2021 | 334 | 2017 | 399 | 2015 | 466 | 2019 | 532 | 2018 | 597 | 2029 | 662 | 2028 | 727 | 2028 | 792 | 2023 | 857 | 2022 | 922 | 2016 |
| 202 | 2017 | 269 | 2021 | 335 | 2017 | 400 | 2015 | 467 | 2019 | 533 | 2018 | 598 | 2029 | 663 | 2028 | 728 | 2028 | 793 | 2023 | 858 | 2022 | 923 | 2016 |
| 203 | 2026 | 270 | 2018 | 336 | 2017 | 401 | 2015 | 469 | 2017 | 534 | 2018 | 599 | 2029 | 664 | 2028 | 729 | 2028 | 794 | 2023 | 859 | 2021 | 924 | 2016 |
| 7B204 | 2020 | 7B271 | 2021 | 7B337 | 2017 | 7B402 | 2015 | 7B470 | 2017 | 7B535 | 2018 | 7B600 | 2029 | 7B665 | 2028 | 7B730 | 2028 | 7B795 | 2023 | 7B860 | 2021 | 7B925 | 2016 |
| 205 | 2026 | 272 | 2021 | 338 | 2020 | 403 | 2015 | 471 | 2017 | 536 | 2018 | 601 | 2029 | 666 | 2028 | 731 | 2028 | 796 | 2023 | 861 | 2021 | 926 | 2016 |
| 206 | 2020 | 273 | 2021 | 339 | 2020 | 404 | 2015 | 472 | 2017 | 537 | 2018 | 602 | 2029 | 667 | 2028 | 732 | 2028 | 797 | 2023 | 862 | 2021 | 927 | 2016 |
| 207 | 2020 | 274 | 2021 | 340 | 2020 | 405 | 2015 | 473 | 2017 | 538 | 2018 | 603 | 2029 | 668 | 2028 | 733 | 2028 | 798 | 2023 | 863 | 2021 | 928 | 2016 |
| 208 | 2020 | 275 | 2021 | 341 | 2020 | 406 | 2015 | 474 | 2017 | 539 | 2018 | 604 | 2029 | 669 | 2028 | 734 | 2028 | 799 | 2023 | 864 | 2021 | 929 | 2016 |
| 7B209 | 2020 | 7B276 | 2021 | 7B342 | 2020 | 7B407 | 2015 | 7B475 | 2017 | 7B540 | 2018 | 7B605 | 2029 | 7B670 | 2028 | 7B735 | 2028 | 7B800 | 2023 | 7B865 | 2021 | 7B930 | 2016 |
| 210 | 2020 | 277 | 2021 | 343 | 2020 | 408 | 2015 | 476 | 2017 | 541 | 2029 | 606 | 2029 | 671 | 2028 | 736 | 2028 | 801 | 2023 | 866 | 2021 | 931 | 2019 |
| 211 | 2020 | 278 | 2021 | 344 | 2020 | 409 | 2015 | 477 | 2017 | 542 | 2029 | 607 | 2029 | 672 | 2028 | 737 | 2028 | 802 | 2023 | 867 | 2021 | 932 | 2019 |
| 212 | 2026 | 279 | 2021 | 345 | 2017 | 410 | 2015 | 478 | 2017 | 543 | 2029 | 608 | 2029 | 673 | 2028 | 738 | 2028 | 803 | 2023 | 868 | 2021 | 933 | 2019 |
| 213 | 2017 | 280 | 2026 | 346 | 2017 | 411 | 2015 | 479 | 2017 | 544 | 2029 | 609 | 2029 | 674 | 2028 | 739 | 2028 | 804 | 2023 | 869 | 2021 | 934 | 2019 |
| 7B214 | 2026 | 7B281 | 2021 | 7B347 | 2017 | 7B412 | 2015 | 7B480 | 2017 | 7B545 | 2029 | 7B610 | 2029 | 7B675 | 2028 | 7B740 | 2028 | 7B805 | 2023 | 7B870 | 2021 | 7B935 | 2019 |
| 215 | 2017 | 282 | 2021 | 348 | 2017 | 413 | 2015 | 481 | 2017 | 546 | 2029 | 611 | 2029 | 676 | 2028 | 741 | 2028 | 806 | 2023 | 871 | 2021 | 936 | 2019 |
| 216 | 2026 | 283 | 2021 | 349 | 2017 | 414 | 2015 | 482 | 2017 | 547 | 2029 | 612 | 2029 | 677 | 2028 | 742 | 2028 | 807 | 2023 | 872 | 2021 | 937 | 2019 |
| 217 | 2017 | 284 | 2018 | 350 | 2017 | 415 | 2015 | 483 | 2017 | 548 | 2029 | 613 | 2029 | 678 | 2028 | 743 | 2028 | 808 | 2023 | 873 | 2021 | 938 | 2019 |
| 218 | 2026 | 285 | 2018 | 351 | 2022 | 416 | 2015 | 484 | 2017 | 549 | 2029 | 614 | 2029 | 679 | 2028 | 744 | 2028 | 809 | 2023 | 874 | 2021 | 939 | 2019 |
| 7B219 | 2026 | 7B286 | 2018 | 7B352 | 2022 | 7B417 | 2014 | 7B485 | 2017 | 7B550 | 2029 | 7B615 | 2029 | 7B680 | 2028 | 7B745 | 2028 | 7B810 | 2107 | 7B875 | 2021 | 7B940 | 2019 |
| 220 | 2017 | 287 | 2018 | 353 | 2022 | 418 | 2014 | 486 | 2017 | 551 | 2029 | 616 | 2029 | 681 | 2028 | 746 | 2028 | 811 | 2107 | 876 | 2021 | 941 | 2019 |
| 221 | 2026 | 288 | 2018 | 354 | 2026 | 419 | 2014 | 487 | 2017 | 552 | 2029 | 617 | 2029 | 682 | 2028 | 747 | 2028 | 812 | 2107 | 877 | 2020 | 943 | 2019 |
| 222 | 2017 | 289 | 2018 | 355 | 2026 | 420 | 2014 | 488 | 2017 | 553 | 2029 | 618 | 2029 | 683 | 2028 | 748 | 2028 | 813 | 2107 | 878 | 2020 | 944 | 2019 |
| 223 | 2018 | 290 | 2020 | 356 | 2026 | 421 | 2014 | 489 | 2017 | 554 | 2029 | 619 | 2029 | 684 | 2028 | 749 | 2028 | 814 | 2107 | 879 | 2020 | 945 | 2019 |
| 7B224 | 2022 | 7B291 | 2020 | 7B357 | 2026 | 7B422 | 2014 | 7B490 | 2017 | 7B555 | 2029 | 7B620 | 2029 | 7B685 | 2028 | 7B750 | 2028 | 7B815 | 2107 | 7B880 | 2020 | 7B946 | 2019 |
| 225 | 2026 | 292 | 2020 | 358 | 2026 | 423 | 2014 | 491 | 2017 | 556 | 2029 | 621 | 2029 | 686 | 2028 | 751 | 2028 | 816 | 2107 | 881 | 2020 | 947 | 2019 |
| 226 | 2022 | 293 | 2020 | 359 | 2026 | 424 | 2014 | 492 | 2017 | 557 | 2029 | 622 | 2029 | 687 | 2028 | 752 | 2028 | 817 | 2107 | 882 | 2020 | 948 | 2019 |
| 227 | 2022 | 294 | 2020 | 360 | 2026 | 425 | 2014 | 493 | 2017 | 558 | 2029 | 623 | 2029 | 688 | 2028 | 753 | 2028 | 818 | 2107 | 883 | 2020 | 949 | 2019 |
| 228 | 2026 | 295 | 2020 | 361 | 2026 | 426 | 2014 | 494 | 2017 | 559 | 2029 | 624 | 2029 | 689 | 2028 | 754 | 2028 | 819 | 2107 | 884 | 2020 | 950 | 2019 |

# STOCK NUMBER—PAGE NUMBER

## 7B9 — 7D0

| Stock No. | Page No. |
|---|---|
| 7B951 | 2019 |
| 952 | 2019 |
| 953 | 2019 |
| 955 | 2019 |
| 956 | 2019 |
| 7B957 | 2019 |
| 958 | 2019 |
| 959 | 2019 |
| 960 | 2019 |
| 961 | 2019 |
| 7B962 | 2019 |
| 963 | 2019 |
| 964 | 2019 |
| 965 | 2019 |
| 967 | 2017 |
| 7B968 | 2017 |
| 969 | 2018 |
| 970 | 2018 |
| 971 | 2018 |
| 972 | 2018 |
| 7B973 | 2018 |
| 974 | 2018 |
| 975 | 2018 |
| 976 | 2018 |
| 977 | 2018 |
| 7B978 | 2018 |
| 979 | 2018 |
| 980 | 2018 |
| 981 | 2018 |
| 982 | 2018 |
| 7B983 | 2016 |
| 984 | 2016 |
| 985 | 2016 |
| 986 | 2016 |
| 987 | 2016 |
| 7B988 | 2016 |
| 989 | 2016 |
| 990 | 2016 |
| 991 | 2016 |
| 992 | 2016 |
| 7B993 | 2016 |
| 994 | 2016 |
| 995 | 2016 |
| 996 | 2016 |
| 997 | 2016 |
| 7B998 | 2016 |
| 999 | 2016 |
| **7C** | |
| 7CC01 | 3595 |
| 7CC02 | 3595 |
| C03 | 3595 |
| C04 | 3595 |
| C05 | 3595 |
| C06 | 3595 |
| 7CC07 | 3595 |
| C08 | 3595 |
| C09 | 3595 |
| C10 | 3595 |
| C11 | 3595 |
| 7CC12 | 3595 |
| C13 | 3595 |
| C14 | 3595 |
| C15 | 3595 |
| C16 | 3595 |
| 7CC17 | 3595 |
| C18 | 3595 |
| C19 | 3595 |
| C20 | 3595 |
| C21 | 3595 |
| 7CC22 | 3595 |
| C23 | 3595 |
| C24 | 3595 |
| C25 | 3595 |
| C26 | 3595 |
| 7CC27 | 3595 |
| C28 | 3595 |
| C29 | 3595 |
| C30 | 3595 |
| C31 | 3595 |
| 7CC32 | 3595 |
| C33 | 3595 |
| C34 | 3595 |
| C35 | 3595 |
| C36 | 3595 |
| 7CC37 | 3595 |
| C38 | 3595 |
| C39 | 3595 |
| C40 | 3595 |
| C41 | 3595 |
| 7CC42 | 3595 |
| C43 | 3595 |
| C44 | 3595 |
| C45 | 3595 |
| C46 | 3595 |
| 7CC47 | 3595 |
| C48 | 3595 |
| C49 | 3595 |
| C50 | 3595 |
| C51 | 3595 |
| 7CC52 | 3595 |
| C53 | 3595 |
| C54 | 3595 |
| C58 | 3595 |
| C59 | 3595 |
| 7CC60 | 3595 |
| C61 | 3595 |
| C62 | 3595 |
| C63 | 3595 |
| C64 | 3595 |
| 7CC65 | 3595 |
| C66 | 3595 |
| C67 | 3595 |
| C68 | 3595 |
| C69 | 3595 |
| 7CC70 | 3595 |
| C71 | 3595 |
| C72 | 3595 |
| C73 | 3594 |
| C74 | 3594 |
| 7CC75 | 3594 |
| C76 | 3594 |
| C77 | 3594 |
| C78 | 3594 |
| C79 | 3594 |
| 7CC80 | 3594 |
| C81 | 3594 |
| C82 | 3594 |
| C83 | 3594 |
| C84 | 3594 |
| 7CC85 | 3594 |
| C86 | 3594 |
| C87 | 3594 |
| C88 | 3594 |
| C89 | 3594 |
| 7CC90 | 3594 |
| C91 | 3594 |
| C92 | 3594 |
| C93 | 3594 |
| C94 | 3594 |
| 7CC95 | 3594 |
| C96 | 3594 |
| C97 | 3594 |
| C98 | 3594 |
| C99 | 3594 |
| 7CF01 | 3594 |
| F02 | 3594 |
| F03 | 3594 |
| F04 | 3594 |
| F05 | 3594 |
| 7CF06 | 3594 |
| F07 | 3594 |
| F08 | 3594 |
| F09 | 3594 |
| F10 | 3594 |
| 7CF11 | 3594 |
| F12 | 3594 |
| F13 | 3594 |
| F14 | 3594 |
| F15 | 3594 |
| 7CF16 | 3594 |
| F17 | 3594 |
| F18 | 3594 |
| F19 | 3594 |
| F20 | 3594 |
| 7CF21 | 3594 |
| F22 | 3594 |
| F23 | 3594 |
| F24 | 3594 |
| F25 | 3594 |
| 7CF26 | 3594 |
| F27 | 3594 |
| F31 | 3594 |
| F32 | 3594 |
| F33 | 3594 |
| 7CF34 | 3594 |
| F35 | 3594 |
| F36 | 3594 |
| F37 | 3594 |
| F38 | 3594 |
| 7CF39 | 3594 |
| F40 | 3594 |
| F41 | 3594 |
| F42 | 3594 |
| F43 | 3594 |
| 7CF44 | 3594 |
| F45 | 3594 |
| F46 | 3624 |
| F47 | 3624 |
| F48 | 3624 |
| 7CF49 | 3624 |
| F50 | 3624 |
| F51 | 3624 |
| F52 | 3624 |
| F53 | 3624 |
| 7CF54 | 3624 |
| F55 | 3624 |
| F56 | 3624 |
| F57 | 3624 |
| F58 | 3624 |
| 7CF59 | 3624 |
| F60 | 3624 |
| F61 | 3624 |
| F62 | 3624 |
| F63 | 3624 |
| 7CF64 | 3624 |
| F65 | 3624 |
| F66 | 3624 |
| F67 | 3624 |
| F68 | 3624 |
| 7CF69 | 3624 |
| F70 | 3624 |
| F71 | 3624 |
| F72 | 3624 |
| F73 | 3624 |
| 7CF74 | 3624 |
| F75 | 3624 |
| F76 | 3624 |
| F77 | 3624 |
| F78 | 3624 |
| 7CF79 | 3624 |
| F80 | 3624 |
| F81 | 3624 |
| F82 | 3624 |
| F83 | 3624 |
| 7CF84 | 3624 |
| F85 | 3624 |
| F86 | 3624 |
| F87 | 3624 |
| F88 | 3624 |
| 7CF89 | 3624 |
| F90 | 3624 |
| F91 | 3624 |
| F92 | 3624 |
| F93 | 3624 |
| 7CF94 | 3624 |
| F95 | 3624 |
| F96 | 3624 |
| F97 | 3624 |
| F98 | 3624 |
| 7CF99 | 3624 |
| H03 | 3624 |
| H04 | 3624 |
| H05 | 3624 |
| H06 | 3624 |
| 7CH07 | 3624 |
| H08 | 3624 |
| H09 | 3624 |
| H10 | 3624 |
| H11 | 3624 |
| 7CH12 | 3624 |
| H13 | 3624 |
| H14 | 3624 |
| H15 | 3624 |
| H16 | 3624 |
| 7CH17 | 3624 |
| H18 | 3625 |
| H19 | 3625 |
| H20 | 3625 |
| H21 | 3625 |
| 7CH22 | 3625 |
| H23 | 3625 |
| H24 | 3625 |
| H25 | 3625 |
| H26 | 3625 |
| 7CH27 | 3625 |
| H28 | 3625 |
| H29 | 3625 |
| H30 | 3625 |
| H31 | 3625 |
| 7CH32 | 3625 |
| H33 | 3625 |
| H34 | 3625 |
| H35 | 3625 |
| H36 | 3625 |
| 7CH37 | 3625 |
| H38 | 3625 |
| H39 | 3625 |
| H40 | 3625 |
| H41 | 3625 |
| 7CH42 | 3625 |
| H43 | 3625 |
| H44 | 3625 |
| H45 | 3625 |
| H46 | 3625 |
| 7CH47 | 3625 |
| H48 | 3625 |
| H49 | 3625 |
| H50 | 3625 |
| H51 | 3625 |
| 7CH52 | 3625 |
| H53 | 3625 |
| H54 | 3625 |
| H55 | 3625 |
| H56 | 3625 |
| 7CH57 | 3625 |
| H58 | 3625 |
| H59 | 3625 |
| H60 | 3625 |
| H61 | 3625 |
| 7CH62 | 3625 |
| H63 | 3625 |
| H64 | 3625 |
| H65 | 3625 |
| H66 | 3625 |
| 7CH67 | 3625 |
| H68 | 3625 |
| H69 | 3625 |
| H70 | 3625 |
| H71 | 3625 |
| 7CH75 | 3625 |
| H76 | 3625 |
| H77 | 3625 |
| H78 | 3625 |
| H79 | 3625 |
| 7CH80 | 3625 |
| H81 | 3625 |
| H82 | 3625 |
| H83 | 3625 |
| H84 | 3625 |
| 7CH85 | 3625 |
| H86 | 3625 |
| H87 | 3625 |
| H88 | 3625 |
| H89 | 3625 |
| 7CK23 | 3625 |
| K24 | 3625 |
| K25 | 3625 |
| K26 | 3625 |
| K27 | 3625 |
| 7CK28 | 3625 |
| K29 | 3625 |
| K30 | 3625 |
| K31 | 3625 |
| K32 | 3625 |
| 7CK33 | 3625 |
| K34 | 3625 |
| K35 | 3625 |
| K36 | 3625 |
| K37 | 3625 |
| 7CK38 | 3596 |
| K39 | 3596 |
| K40 | 3596 |
| K41 | 3596 |
| K42 | 3596 |
| 7CK43 | 3596 |
| K44 | 3596 |
| K45 | 3596 |
| K46 | 3596 |
| K47 | 3596 |
| 7CK48 | 3596 |
| K49 | 3596 |
| K50 | 3596 |
| K51 | 3596 |
| K52 | 3596 |
| 7C029 | 3667 |
| 030 | 3667 |
| 031 | 3667 |
| 032 | 3667 |
| 033 | 3667 |
| 7C039 | 3663 |
| 040 | 3667 |
| 041 | 3667 |
| 042 | 3667 |
| 043 | 3667 |
| 7C044 | 3667 |
| 045 | 3667 |
| 046 | 3667 |
| 047 | 3667 |
| 048 | 3667 |
| 7C050 | 3667 |
| 052 | 3667 |
| 053 | 3642 |
| 054 | 3667 |
| 055 | 3642 |
| 7C056 | 3667 |
| 057 | 3667 |
| 058 | 3667 |
| 059 | 3667 |
| 060 | 3667 |
| 7C061 | 3667 |
| 062 | 3643 |
| 063 | 3642 |
| 064 | 3642 |
| 065 | 3642 |
| 7C066 | 3642 |
| 067 | 3642 |
| 068 | 3642 |
| 069 | 3642 |
| 071 | 3643 |
| 7C072 | 3643 |
| 073 | 3643 |
| 074 | 3643 |
| 075 | 3643 |
| 076 | 3667 |
| 7C085 | 3667 |
| 086 | 3667 |
| 087 | 3667 |
| 088 | 3667 |
| 089 | 3667 |
| 7C090 | 3667 |
| 091 | 3667 |
| 092 | 3667 |
| 093 | 3667 |
| 095 | 3667 |
| 7C097 | 3667 |
| 098 | 3667 |
| 099 | 3667 |
| 100 | 3667 |
| 101 | 3667 |
| 7C102 | 3667 |
| 103 | 3667 |
| 104 | 3667 |
| 105 | 3667 |
| 106 | 3667 |
| 7C107 | 3667 |
| 108 | 3667 |
| 109 | 3667 |
| 110 | 3667 |
| 111 | 3667 |
| 7C112 | 3667 |
| 113 | 3667 |
| 114 | 3667 |
| 158 | 3623 |
| 159 | 3623 |
| 7C160 | 3623 |
| 161 | 3623 |
| 164 | 3623 |
| 165 | 3623 |
| 166 | 3623 |
| 7C167 | 3623 |
| 168 | 3623 |
| 169 | 3623 |
| 176 | 3623 |
| 177 | 3623 |
| 7C178 | 3623 |
| 179 | 3623 |
| 180 | 3623 |
| 181 | 3623 |
| 182 | 3665 |
| 7C183 | 3665 |
| 184 | 3665 |
| 185 | 3665 |
| 186 | 3665 |
| 187 | 3665 |
| 7C188 | 3665 |
| 189 | 3665 |
| 190 | 3665 |
| 191 | 3665 |
| 192 | 3665 |
| 7C193 | 3665 |
| 194 | 3665 |
| 195 | 3665 |
| 196 | 3665 |
| 198 | 3665 |
| 7C199 | 3665 |
| 203 | 3665 |
| 204 | 3665 |
| 206 | 3623 |
| 208 | 3623 |
| 7C213 | 3623 |
| 218 | 3623 |
| 220 | 3623 |
| 223 | 3623 |
| 225 | 3623 |
| 7C240 | 3669 |
| 241 | 3669 |
| 242 | 3669 |
| 243 | 3669 |
| 244 | 3669 |
| 7C245 | 3669 |
| 246 | 3669 |
| 247 | 3669 |
| 248 | 3669 |
| 249 | 3669 |
| 7C250 | 3669 |
| 251 | 3669 |
| 252 | 3669 |
| 253 | 3669 |
| 255 | 3623 |
| 7C257 | 3669 |
| 260 | 3669 |
| 261 | 3669 |
| 262 | 3669 |
| 263 | 3669 |
| 7C264 | 3669 |
| 265 | 3669 |
| 266 | 3669 |
| 267 | 3669 |
| 268 | 3669 |
| 7C269 | 3669 |
| 270 | 3669 |
| 271 | 3669 |
| 272 | 3669 |
| 273 | 3669 |
| 7C274 | 3669 |
| 275 | 3669 |
| 276 | 3669 |
| 277 | 3669 |
| 279 | 3669 |
| 7C280 | 3669 |
| 281 | 3669 |
| 282 | 3669 |
| 313 | 3669 |
| 314 | 3669 |
| 7C319 | 3669 |
| 321 | 3669 |
| 322 | 3669 |
| 325 | 3669 |
| 329 | 3669 |
| 7C331 | 3669 |
| 333 | 3669 |
| 334 | 3669 |
| 335 | 3669 |
| 336 | 3669 |
| 7C341 | 3669 |
| 342 | 3669 |
| 343 | 3669 |
| 344 | 3669 |
| 348 | 3623 |
| 7C350 | 3623 |
| 351 | 3669 |
| 352 | 3669 |
| 354 | 3623 |
| 356 | 3623 |
| 7C358 | 3623 |
| 359 | 3669 |
| 361 | 3623 |
| 363 | 3669 |
| 364 | 3669 |
| 7C365 | 3623 |
| 366 | 3623 |
| 367 | 3623 |
| 368 | 3623 |
| 369 | 3669 |
| 7C370 | 3623 |
| 371 | 3623 |
| 372 | 3623 |
| 373 | 3623 |
| 374 | 3623 |
| 7C375 | 3623 |
| 376 | 3623 |
| 377 | 3623 |
| 378 | 3623 |
| 386 | 3669 |
| 7C406 | 3657 |
| 407 | 3657 |
| 408 | 3655 |
| 409 | 3655 |
| 413 | 3657 |
| 7C414 | 3657 |
| 415 | 3657 |
| 416 | 3657 |
| 417 | 3657 |
| 418 | 3657 |
| 7C419 | 3657 |
| 425 | 3657 |
| 426 | 3657 |
| 427 | 3657 |
| 428 | 3657 |
| 7C429 | 3657 |
| 432 | 3657 |
| 433 | 3657 |
| 434 | 3657 |
| 435 | 3657 |
| 7C437 | 3657 |
| 438 | 3657 |
| 439 | 3657 |
| 440 | 3657 |
| 447 | 3664 |
| 7C453 | 3663 |
| 454 | 3663 |
| 481 | 3664 |
| 483 | 3664 |
| 487 | 3664 |
| 7C488 | 3659 |
| 489 | 3659 |
| 490 | 3659 |
| 491 | 3659 |
| 492 | 3659 |
| 7C493 | 3659 |
| 494 | 3659 |
| 495 | 3659 |
| 496 | 3659 |
| 497 | 3659 |
| 7C504 | 3664 |
| 505 | 3659 |
| 506 | 3659 |
| 507 | 3659 |
| 508 | 3659 |
| 7C509 | 3659 |
| 510 | 3659 |
| 511 | 3659 |
| 512 | 3659 |
| 552 | 3663 |
| 7C510 | 3663 |
| 554 | 3663 |
| 555 | 3663 |
| 556 | 3663 |
| 561 | 3664 |
| 7C562 | 3664 |
| 567 | 3655 |
| 568 | 3655 |
| 604 | 3643 |
| 639 | 3663 |
| 7C647 | 3663 |
| 648 | 3663 |
| 649 | 3663 |
| 650 | 3664 |
| 651 | 3655 |
| 7C652 | 3655 |
| 653 | 3655 |
| 654 | 3642 |
| 655 | 3643 |
| 656 | 3642 |
| 7C657 | 3643 |
| 658 | 3642 |
| 659 | 3643 |
| 660 | 3642 |
| 661 | 3643 |
| 7C662 | 3642 |
| 663 | 3643 |
| 664 | 3642 |
| 665 | 3643 |
| 666 | 3642 |
| 7C667 | 3643 |
| 668 | 3642 |
| 669 | 3642 |
| 670 | 3643 |
| 708 | 3659 |
| 7C709 | 3659 |
| 710 | 3659 |
| 711 | 3659 |
| 712 | 3659 |
| 713 | 3659 |
| 7C714 | 3659 |
| 715 | 3659 |
| 717 | 3659 |
| 718 | 3659 |
| 719 | 3659 |
| 7C720 | 3663 |
| 741 | 3664 |
| 808 | 3657 |
| 810 | 3657 |
| 818 | 3657 |
| 7C824 | 3657 |
| 888 | 3659 |
| 889 | 3659 |
| 890 | 3659 |
| 891 | 3659 |
| 7C892 | 3659 |
| 893 | 3659 |
| 894 | 3659 |
| 895 | 3659 |
| 896 | 3659 |
| 7C898 | 3659 |
| 899 | 3659 |
| 900 | 3659 |
| 901 | 3659 |
| 902 | 3659 |
| 7C928 | 3593 |
| 929 | 3593 |
| 930 | 3593 |
| 931 | 3593 |
| 932 | 3593 |
| 7C933 | 3593 |
| 934 | 3593 |
| 935 | 3593 |
| 936 | 3593 |
| 937 | 3593 |
| 7C938 | 3593 |
| 939 | 3593 |
| 940 | 3593 |
| 941 | 3593 |
| 942 | 3593 |
| 7C943 | 3593 |
| 944 | 3593 |
| 945 | 3593 |
| 946 | 3593 |
| 947 | 3593 |
| 7C950 | 3593 |
| 951 | 3593 |
| 952 | 3593 |
| 953 | 3593 |
| 954 | 3593 |
| 7C955 | 3593 |
| 956 | 3593 |
| 957 | 3593 |
| 958 | 3593 |
| 959 | 3593 |
| 7C964 | 3593 |
| 965 | 3593 |
| 966 | 3593 |
| 967 | 3593 |
| 968 | 3593 |
| 7C969 | 3593 |
| 970 | 3593 |
| 971 | 3593 |
| 972 | 3593 |
| 973 | 3593 |
| 7C980 | 3593 |
| 981 | 3593 |
| 982 | 3593 |
| 983 | 3593 |
| 984 | 3593 |
| 7C985 | 3593 |
| 986 | 3593 |
| 987 | 3593 |
| 988 | 3593 |
| 989 | 3593 |
| 7D0026 | 2016 |
| 027 | 2016 |
| 028 | 2016 |
| 7D0029 | 2016 |
| 030 | 2016 |
| 031 | 2016 |
| 032 | 2016 |
| 033 | 2016 |
| 7D0034 | 2016 |
| 035 | 2016 |
| 036 | 2016 |
| 037 | 2016 |
| 038 | 2016 |
| 7D0039 | 2016 |
| 040 | 2016 |
| 041 | 2016 |
| 042 | 2016 |
| 043 | 2016 |
| 7D0044 | 2016 |
| 045 | 2019 |
| 046 | 2019 |
| 047 | 2019 |
| 048 | 2019 |
| 7D0049 | 2019 |
| 050 | 2019 |
| 051 | 2019 |
| 052 | 2019 |
| 053 | 2019 |
| 7D0054 | 2019 |
| 055 | 2019 |
| 057 | 2019 |
| 058 | 2019 |
| 059 | 2019 |
| 7D0060 | 2019 |
| 061 | 2088 |
| 062 | 2088 |
| 063 | 2088 |
| 064 | 2088 |
| 7D0065 | 2088 |
| 066 | 2088 |
| 067 | 2088 |
| 068 | 2088 |
| 069 | 2088 |
| 7D0070 | 2088 |
| 071 | 2088 |
| 072 | 2088 |
| 073 | 2088 |
| 074 | 2088 |
| 7D0075 | 2088 |
| 076 | 2088 |
| 077 | 2088 |
| 078 | 2088 |
| 079 | 2088 |
| 7D0080 | 2088 |
| 081 | 2088 |
| 082 | 2088 |
| 083 | 2088 |
| 084 | 2088 |
| 7D0085 | 2088 |
| 086 | 2088 |
| 087 | 2088 |
| 088 | 2088 |
| 089 | 2088 |

**7D**

# STOCK NUMBER—PAGE NUMBER




| Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. | Stock No. | Page No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7D090 | 2088 | 7D155 | 2088 | 7D220 | 2089 | 7D304 | 2034 | 7D377 | 2031 | 7D442 | 2017 | 7F734 | 3640 | 7F901 | 3658 | 7F993 | 3667 | 7H085 | 3657 | 7H160 | 3661 | 7H364 | 3592 |
| 091 | 2088 | 156 | 2088 | 221 | 2089 | 305 | 2034 | 378 | 2031 | 443 | 2017 | 735 | 3640 | 902 | 3658 | 994 | 3667 | 086 | 3657 | 161 | 3661 | 365 | 3592 |
| 092 | 2088 | 157 | 2088 | 222 | 2089 | 306 | 2034 | 379 | 2031 | 444 | 2017 | 736 | 3640 | 903 | 3658 | 995 | 3667 | 087 | 3657 | 162 | 3661 | 366 | 3592 |
| 093 | 2088 | 158 | 2088 | 223 | 2080 | 307 | 2034 | 380 | 2031 | 445 | 2017 | 737 | 3640 | 904 | 3658 | 996 | 3667 | 088 | 3657 | 163 | 3661 | 368 | 3592 |
| 094 | 2088 | 159 | 2088 | 226 | 2032 | 308 | 2034 | 381 | 2031 | 446 | 2017 | 738 | 3640 | 905 | 3658 | 997 | 3667 | 089 | 3657 | 164 | 3661 | 369 | 3592 |
| 7D095 | 2088 | 7D160 | 2088 | 7D227 | 2032 | 7D309 | 2034 | 7D382 | 2031 | 7D447 | 2017 | 7F739 | 3640 | 7F906 | 3658 | 7F998 | 3667 | 7H090 | 3657 | 7H165 | 3661 | 7H370 | 3592 |
| 096 | 2088 | 161 | 2088 | 228 | 2032 | 310 | 2034 | 383 | 2031 | 448 | 2017 | 740 | 3640 | 907 | 3658 | 999 | 3667 | 091 | 3657 | 166 | 3661 | 371 | 3592 |
| 097 | 2088 | 162 | 2088 | 229 | 2032 | 311 | 2034 | 384 | 2031 | 449 | 2017 | 770 | 3642 | 908 | 3658 | 7H | | 092 | 3657 | 167 | 3661 | 373 | 3592 |
| 098 | 2088 | 163 | 2088 | 230 | 2032 | 312 | 2034 | 385 | 2031 | 450 | 2018 | 771 | 3643 | 909 | 3658 | | | 094 | 3657 | 168 | 3661 | 374 | 3592 |
| 099 | 2088 | 164 | 2088 | 231 | 2032 | 313 | 2034 | 386 | 2031 | 451 | 2018 | 772 | 3643 | 910 | 3658 | 7H001 | 3592 | 098 | 3657 | 169 | 3661 | 375 | 3592 |
| 7D100 | 2088 | 7D165 | 2088 | 7D232 | 2032 | 7D314 | 2034 | 7D387 | 2031 | 7D452 | 2018 | 7F773 | 3643 | 7F911 | 3658 | 7H002 | 3592 | 7H099 | 3657 | 7H170 | 3661 | 7H376 | 3592 |
| 101 | 2088 | 166 | 2088 | 233 | 2032 | 315 | 2034 | 388 | 2031 | 453 | 2018 | 830 | 3649 | 912 | 3658 | 003 | 3592 | 100 | 3657 | 171 | 3661 | 377 | 3592 |
| 102 | 2088 | 167 | 2088 | 234 | 2032 | 316 | 2034 | 389 | 2031 | 454 | 2018 | 831 | 3649 | 913 | 3658 | 004 | 3592 | 101 | 3657 | 172 | 3661 | 378 | 3592 |
| 103 | 2088 | 168 | 2088 | 235 | 2032 | 317 | 2034 | 390 | 2031 | 455 | 2018 | 832 | 3649 | 914 | 3658 | 005 | 3592 | 102 | 3657 | 173 | 3661 | 379 | 3592 |
| 104 | 2088 | 169 | 2095 | 236 | 2032 | 318 | 2034 | 391 | 2031 | 456 | 2018 | 833 | 3649 | 915 | 3658 | 006 | 3592 | 103 | 3657 | 174 | 3661 | 380 | 3592 |
| 7D105 | 2088 | 7D170 | 2095 | 7D237 | 2032 | 7D319 | 2034 | 7D392 | 2031 | 7D457 | 2018 | 7F834 | 3649 | 7F916 | 3658 | 7H007 | 3592 | 7H104 | 3657 | 7H175 | 3661 | 7H381 | 3592 |
| 106 | 2088 | 171 | 2095 | 238 | 2032 | 320 | 2034 | 393 | 2031 | 458 | 2018 | 835 | 3649 | 918 | 3643 | 008 | 3592 | 105 | 3657 | 176 | 3661 | 382 | 3592 |
| 107 | 2088 | 172 | 2095 | 239 | 2032 | 321 | 2034 | 394 | 2031 | 459 | 2018 | 840 | 3649 | 919 | 3643 | 009 | 3592 | 106 | 3657 | 177 | 3661 | 383 | 3592 |
| 108 | 2088 | 173 | 2095 | 240 | 2032 | 322 | 2034 | 395 | 2031 | 460 | 2018 | 841 | 3649 | 924 | 3649 | 010 | 3592 | 107 | 3657 | 178 | 3661 | 384 | 3592 |
| 109 | 2088 | 174 | 2095 | 241 | 2032 | 323 | 2034 | 396 | 2031 | 461 | 2018 | 842 | 3649 | 925 | 3649 | 011 | 3592 | 108 | 3657 | 179 | 3661 | 385 | 3592 |
| 7D110 | 2088 | 7D175 | 2084 | 7D242 | 2032 | 7D324 | 2034 | 7D397 | 2031 | 7D462 | 1140 | 7F843 | 3649 | 7F927 | 3649 | 7H012 | 3592 | 7H109 | 3657 | 7H180 | 3661 | 7H386 | 3592 |
| 111 | 2088 | 176 | 2084 | 243 | 2032 | 325 | 2034 | 398 | 2031 | 466 | 2011 | 844 | 3649 | 928 | 3649 | 013 | 3592 | 110 | 3657 | 181 | 3661 | 387 | 3592 |
| 112 | 2088 | 177 | 2084 | 244 | 2032 | 326 | 2034 | 399 | 2031 | 470 | 1980 | 845 | 3649 | 930 | 3649 | 014 | 3592 | 111 | 3657 | 182 | 3661 | 388 | 3592 |
| 113 | 2088 | 178 | 2084 | 245 | 2032 | 327 | 2034 | 400 | 2031 | 471 | 1980 | 846 | 3649 | 931 | 3649 | 015 | 3592 | 112 | 3657 | 183 | 3661 | 389 | 3592 |
| 114 | 2088 | 179 | 2084 | 246 | 2032 | 328 | 2034 | 401 | 2031 | 472 | 1980 | 847 | 3649 | 933 | 3649 | 016 | 3592 | 113 | 3657 | 184 | 3661 | 390 | 3592 |
| 7D115 | 2088 | 7D180 | 2084 | 7D247 | 2032 | 7D329 | 2034 | 7D402 | 2031 | 7D473 | 1980 | 7F851 | 3649 | 7F934 | 3649 | 7H017 | 3592 | 7H114 | 3657 | 7H185 | 3661 | 7H391 | 3623 |
| 116 | 2088 | 181 | 2084 | 248 | 2032 | 330 | 2035 | 403 | 2031 | 474 | 1980 | 852 | 3649 | 936 | 3649 | 018 | 3592 | 115 | 3657 | 186 | 3661 | 392 | 3623 |
| 117 | 2088 | 182 | 2084 | 249 | 2032 | 331 | 2035 | 404 | 2031 | 7F | | 853 | 3649 | 937 | 3649 | 019 | 3592 | 116 | 3657 | 187 | 3661 | 393 | 3623 |
| 118 | 2088 | 183 | 2084 | 250 | 2032 | 332 | 2035 | 405 | 2031 | | | 854 | 3649 | 939 | 3649 | 020 | 3592 | 117 | 3657 | 188 | 3661 | 394 | 3623 |
| 119 | 2088 | 184 | 2084 | 251 | 2032 | 333 | 2035 | 406 | 2031 | 7F666 | 3565 | 855 | 3649 | 940 | 3649 | 021 | 3592 | 118 | 3657 | 189 | 3661 | 395 | 3623 |
| 7D120 | 2088 | 7D185 | 2084 | 7D252 | 2032 | 7D334 | 2035 | 7D407 | 2031 | 7F667 | 3565 | 7F856 | 3649 | 7F942 | 3649 | 7H022 | 3592 | 7H119 | 3657 | 7H190 | 3661 | 7H454 | 3653 |
| 121 | 2088 | 186 | 2084 | 253 | 2032 | 335 | 2035 | 408 | 2031 | 676 | 3652 | 860 | 3649 | 943 | 3649 | 023 | 3592 | 120 | 3657 | 191 | 3661 | 455 | 3653 |
| 122 | 2088 | 187 | 2084 | 254 | 2032 | 336 | 2035 | 409 | 2031 | 677 | 3652 | 861 | 3649 | 945 | 3649 | 048 | 3592 | 121 | 3657 | 192 | 3661 | 456 | 3653 |
| 123 | 2088 | 188 | 2084 | 255 | 2032 | 337 | 2035 | 410 | 2031 | 678 | 3652 | 862 | 3649 | 946 | 3649 | 049 | 3657 | 122 | 3657 | 193 | 3661 | 457 | 3653 |
| 124 | 2088 | 189 | 2084 | 256 | 2032 | 338 | 2035 | 411 | 2031 | 679 | 3652 | 863 | 3649 | 948 | 3649 | 050 | 3657 | 123 | 3661 | 194 | 3661 | 458 | 3653 |
| 7D125 | 2088 | 7D190 | 2084 | 7D257 | 2032 | 7D339 | 2035 | 7D412 | 2045 | 7F680 | 3652 | 7F864 | 3649 | 7F949 | 3649 | 7H051 | 3657 | 7H124 | 3661 | 7H195 | 3661 | 7H459 | 3653 |
| 126 | 2088 | 191 | 2084 | 258 | 2033 | 340 | 2035 | 413 | 2045 | 681 | 3652 | 865 | 3649 | 951 | 3649 | 052 | 3657 | 125 | 3661 | 214 | 3607 | 460 | 3653 |
| 127 | 2088 | 192 | 2084 | 259 | 2033 | 341 | 2035 | 414 | 2045 | 682 | 3652 | 870 | 3649 | 952 | 3649 | 053 | 3657 | 126 | 3661 | 215 | 3607 | 461 | 3653 |
| 128 | 2088 | 193 | 2084 | 260 | 2033 | 342 | 2035 | 415 | 2045 | 683 | 3652 | 871 | 3649 | 954 | 3649 | 054 | 3657 | 127 | 3661 | 316 | 3607 | 462 | 3653 |
| 129 | 2088 | 194 | 2084 | 261 | 2033 | 343 | 2035 | 416 | 2045 | 684 | 3652 | 872 | 3649 | 955 | 3649 | 055 | 3657 | 128 | 3661 | 325 | 3592 | 463 | 3653 |
| 7D130 | 2088 | 7D195 | 2084 | 7D262 | 2033 | 7D344 | 2035 | 7D417 | 2045 | 7F685 | 3652 | 7F873 | 3649 | 7F957 | 3649 | 7H057 | 3657 | 7H129 | 3661 | 7H326 | 3592 | 7H464 | 3653 |
| 131 | 2088 | 196 | 2084 | 263 | 2033 | 345 | 2035 | 418 | 2045 | 686 | 3652 | 874 | 3649 | 958 | 3649 | 061 | 3657 | 130 | 3661 | 327 | 3592 | 465 | 3653 |
| 132 | 2088 | 197 | 2084 | 264 | 2033 | 346 | 2035 | 419 | 2045 | 687 | 3652 | 875 | 3649 | 960 | 3649 | 062 | 3657 | 131 | 3661 | 328 | 3592 | 466 | 3653 |
| 133 | 2088 | 198 | 2084 | 265 | 2033 | 347 | 2035 | 420 | 2021 | 688 | 3652 | 876 | 3649 | 961 | 3649 | 063 | 3657 | 132 | 3661 | 329 | 3592 | 467 | 3653 |
| 134 | 2088 | 199 | 2048 | 274 | 2033 | 348 | 2035 | 421 | 2021 | 712 | 3643 | 877 | 3649 | 966 | 3667 | 064 | 3657 | 133 | 3661 | 330 | 3592 | 468 | 3653 |
| 7D135 | 2088 | 7D200 | 2048 | 7D275 | 2033 | 7D349 | 2035 | 7D422 | 2021 | 7F713 | 3642 | 7F881 | 3649 | 7F967 | 3667 | 7H065 | 3657 | 7H134 | 3661 | 7H331 | 3592 | 7H469 | 3653 |
| 136 | 2088 | 201 | 2048 | 276 | 2033 | 350 | 2035 | 423 | 2021 | 714 | 3642 | 882 | 3649 | 968 | 3667 | 066 | 3657 | 135 | 3661 | 332 | 3592 | 470 | 3653 |
| 137 | 2088 | 202 | 2048 | 277 | 2033 | 351 | 2035 | 424 | 2021 | 715 | 3643 | 883 | 3649 | 969 | 3667 | 067 | 3657 | 136 | 3661 | 333 | 3592 | 471 | 3653 |
| 138 | 2088 | 203 | 2048 | 278 | 2033 | 352 | 2035 | 425 | 2021 | 716 | 3642 | 884 | 3649 | 970 | 3667 | 068 | 3657 | 137 | 3661 | 340 | 3592 | 472 | 3653 |
| 139 | 2088 | 204 | 2048 | 279 | 2033 | 353 | 2035 | 426 | 2021 | 717 | 3643 | 885 | 3649 | 971 | 3667 | 069 | 3657 | 138 | 3661 | 341 | 3592 | 473 | 3653 |
| 7D140 | 2088 | 7D205 | 2048 | 7D280 | 2033 | 7D354 | 2035 | 7D427 | 2021 | 7F718 | 3642 | 7F886 | 3649 | 7F972 | 3667 | 7H070 | 3657 | 7H140 | 3661 | 7H342 | 3592 | 7H474 | 3653 |
| 141 | 2088 | 206 | 2048 | 290 | 2034 | 355 | 2035 | 428 | 2021 | 719 | 3643 | 887 | 3643 | 973 | 3667 | 071 | 3657 | 141 | 3661 | 343 | 3592 | 475 | 3653 |
| 142 | 2088 | 207 | 2048 | 291 | 2034 | 356 | 2035 | 429 | 2021 | 720 | 3642 | 888 | 3643 | 974 | 3667 | 072 | 3657 | 142 | 3661 | 345 | 3592 | 476 | 3653 |
| 143 | 2088 | 208 | 2048 | 292 | 2034 | 357 | 2035 | 430 | 2021 | 721 | 3643 | 889 | 3658 | 975 | 3667 | 073 | 3657 | 145 | 3661 | 346 | 3592 | 477 | 3653 |
| 144 | 2088 | 209 | 2048 | 293 | 2034 | 358 | 2035 | 431 | 2021 | 722 | 3642 | 890 | 3658 | 976 | 3667 | 074 | 3657 | 146 | 3661 | 348 | 3592 | 478 | 3653 |
| 7D145 | 2088 | 7D210 | 2048 | 7D294 | 2034 | 7D359 | 2035 | 7D432 | 2021 | 7F723 | 3643 | 7F891 | 3658 | 7F977 | 3667 | 7H075 | 3657 | 7H150 | 3661 | 7H349 | 3592 | 7H479 | 3653 |
| 146 | 2088 | 211 | 2048 | 295 | 2034 | 360 | 2035 | 433 | 2021 | 725 | 3642 | 892 | 3658 | 979 | 3667 | 076 | 3657 | 151 | 3661 | 350 | 3592 | 480 | 3653 |
| 147 | 2088 | 212 | 2048 | 296 | 2034 | 361 | 2035 | 434 | 2021 | 726 | 3642 | 893 | 3658 | 980 | 3667 | 077 | 3657 | 152 | 3661 | 354 | 3592 | 481 | 3653 |
| 148 | 2088 | 213 | 2081 | 297 | 2034 | 370 | 2031 | 435 | 2021 | 727 | 3643 | 894 | 3658 | 981 | 3667 | 078 | 3657 | 153 | 3661 | 355 | 3592 | 482 | 3653 |
| 149 | 2088 | 214 | 2081 | 298 | 2034 | 371 | 2031 | 436 | 2021 | 728 | 3642 | 895 | 3658 | 983 | 3667 | 079 | 3657 | 154 | 3661 | 356 | 3592 | 483 | 3653 |
| 7D150 | 2088 | 7D215 | 2081 | 7D299 | 2034 | 7D372 | 2031 | 7D437 | 2021 | 7F729 | 3643 | 7F896 | 3658 | 7F985 | 3667 | 7H080 | 3657 | 7H155 | 3661 | 7H359 | 3592 | 7H484 | 3653 |
| 151 | 2088 | 216 | 2081 | 300 | 2034 | 373 | 2031 | 438 | 2017 | 730 | 3640 | 897 | 3658 | 986 | 3667 | 081 | 3657 | 156 | 3661 | 360 | 3592 | 485 | 3653 |
| 152 | 2088 | 217 | 2081 | 301 | 2034 | 374 | 2031 | 439 | 2017 | 731 | 3640 | 898 | 3658 | 989 | 3667 | 082 | 3657 | 157 | 3661 | 361 | 3592 | 486 | 3653 |
| 153 | 2088 | 218 | 2081 | 302 | 2034 | 375 | 2031 | 440 | 2017 | 732 | 3640 | 899 | 3658 | 991 | 3667 | 083 | 3657 | 158 | 3661 | 362 | 3592 | 487 | 3653 |
| 154 | 2088 | 219 | 2089 | 303 | 2034 | 376 | 2031 | 441 | 2017 | 733 | 3640 | 900 | 3658 | 992 | 3667 | 084 | 3657 | 159 | 3661 | 363 | 3592 | 488 | 3653 |

# STOCK NUMBER—PAGE NUMBER

## 7H4 — 7Z9

| Stock No. | Page No. |
|---|---|
| 7H489 | 3653 |
| 490 | 3653 |
| 491 | 3644 |
| 492 | 3644 |
| 493 | 3644 |
| 7H494 | 3644 |
| 495 | 3644 |
| 496 | 3644 |
| 497 | 3644 |
| 498 | 3644 |
| 7H499 | 3644 |
| 500 | 3644 |
| 501 | 3644 |
| 502 | 3644 |
| 503 | 3644 |
| 7H504 | 3644 |
| 505 | 3644 |
| 506 | 3644 |
| 507 | 3644 |
| 508 | 3644 |
| 7H509 | 3644 |
| 510 | 3644 |
| 511 | 3644 |
| 512 | 3644 |
| 513 | 3644 |
| 7H514 | 3644 |
| 515 | 3644 |
| 516 | 3644 |
| 517 | 3644 |
| 518 | 3644 |
| 7H519 | 3644 |
| 520 | 3644 |
| 521 | 3644 |
| 522 | 3644 |
| 523 | 3644 |
| 7H524 | 3644 |
| 525 | 3644 |
| 526 | 3644 |
| 527 | 3644 |
| 528 | 3644 |
| 7H560 | 3644 |
| 561 | 3644 |
| 562 | 3644 |
| 563 | 3644 |
| 564 | 3644 |
| 7H565 | 3644 |
| 566 | 3644 |
| 567 | 3644 |
| 568 | 3644 |
| 569 | 3644 |
| 7H570 | 3644 |
| 571 | 3644 |
| 572 | 3644 |
| 573 | 3644 |
| 574 | 3644 |
| 7H575 | 3653 |
| 580 | 1993 |
| 581 | 1993 |
| 582 | 1993 |
| 584 | 1993 |
| 7H585 | 1993 |
| 586 | 1993 |
| 587 | 1993 |
| 588 | 1993 |
| 589 | 1993 |
| 7H590 | 1993 |
| 591 | 1993 |
| 592 | 1993 |
| 593 | 1993 |
| 594 | 1993 |
| 7H595 | 1993 |
| 596 | 1993 |
| 597 | 1993 |
| 598 | 1993 |
| 600 | 1993 |
| 7H601 | 1995 |
| 602 | 1995 |
| 603 | 1995 |
| 605 | 1995 |
| 606 | 1995 |
| 7H607 | 1995 |
| 608 | 1995 |
| 609 | 1995 |
| 610 | 1995 |
| 612 | 1995 |
| 7H613 | 1995 |
| 614 | 1995 |
| 615 | 1995 |
| 616 | 1995 |
| 618 | 1997 |
| 7H619 | 1997 |
| 620 | 1997 |
| 621 | 1997 |
| 622 | 1997 |
| 625 | 1997 |
| 7H626 | 1997 |
| 627 | 1997 |
| 628 | 1997 |
| 629 | 1997 |
| 666 | 1993 |
| 7H667 | 1993 |
| 668 | 1993 |
| 669 | 1993 |
| 670 | 1993 |
| 671 | 1993 |
| 7H672 | 1993 |
| 673 | 1993 |
| 674 | 1993 |
| 676 | 1993 |
| 710 | 3654 |
| 7H711 | 3654 |
| 712 | 3654 |
| 713 | 3654 |
| 714 | 3654 |
| 715 | 3654 |
| 7H716 | 3654 |
| 717 | 3654 |
| 718 | 3654 |
| 719 | 3654 |
| 720 | 3654 |
| 7H721 | 3654 |
| 722 | 3654 |
| 723 | 3654 |
| 724 | 3654 |
| 725 | 3654 |
| 7H726 | 3654 |
| 727 | 3654 |
| 728 | 3654 |
| 729 | 3654 |
| 730 | 3654 |
| 7H729 | 3654 |
| 731 | 3654 |
| 732 | 3654 |
| 733 | 3654 |
| 734 | 3654 |
| 735 | 3654 |
| 736 | 3654 |
| 737 | 3654 |
| 738 | 3654 |
| 739 | 3654 |
| 740 | 3654 |
| 741 | 3654 |
| 742 | 3654 |
| 743 | 3654 |
| 744 | 3654 |
| 745 | 3654 |
| 746 | 3654 |
| 747 | 3654 |
| 748 | 3654 |
| 749 | 3654 |
| 750 | 3654 |
| 751 | 3654 |
| 752 | 3654 |
| 753 | 3654 |
| 754 | 3654 |
| 755 | 3654 |
| 756 | 3654 |
| 757 | 3654 |
| 758 | 3654 |
| 759 | 3654 |
| 760 | 3654 |
| 929 | 3662 |
| 930 | 3662 |
| 931 | 3662 |
| 932 | 3662 |
| 933 | 3662 |
| 934 | 3662 |
| 935 | 3662 |
| 936 | 3662 |
| 937 | 3662 |
| 938 | 3662 |
| 939 | 3662 |
| 940 | 3662 |
| 941 | 3662 |
| 942 | 3662 |
| 943 | 3662 |
| 944 | 3662 |
| 945 | 3662 |
| 946 | 3662 |
| 947 | 3662 |
| 948 | 3662 |
| 949 | 3662 |
| 950 | 3662 |
| 951 | 3662 |
| 952 | 3662 |
| 953 | 3662 |
| 954 | 3662 |
| 7M | |
| 7M001 | 189 |
| 002 | 189 |
| 003 | 189 |
| 7M004 | 189 |
| 005 | 189 |
| 006 | 189 |
| 007 | 189 |
| 7P | |
| 7P008 | 3164 |
| 020 | 3258 |
| 022 | 3165 |
| 7P041 | 3171 |
| 042 | 3171 |
| 043 | 3171 |
| 044 | 3171 |
| 045 | 3171 |
| 7P046 | 3171 |
| 047 | 3171 |
| 048 | 3171 |
| 049 | 3171 |
| 050 | 3171 |
| 7P071 | 3201 |
| 072 | 3207 |
| 073 | 3199 |
| 074 | 3199 |
| 075 | 3278 |
| 7P076 | 3278 |
| 077 | 3278 |
| 078 | 3166 |
| 079 | 3166 |
| 080 | 3166 |
| 7P081 | 3166 |
| 082 | 3166 |
| 083 | 3166 |
| 084 | 3166 |
| 085 | 3202 |
| 7P086 | 3172 |
| 087 | 3172 |
| 088 | 3172 |
| 089 | 3172 |
| 090 | 3172 |
| 7P091 | 3172 |
| 092 | 3172 |
| 093 | 3172 |
| 094 | 3172 |
| 095 | 3172 |
| 7P096 | 3172 |
| 097 | 3172 |
| 098 | 3172 |
| 128 | 3213 |
| 130 | 3213 |
| 7P131 | 3213 |
| 132 | 3213 |
| 133 | 3213 |
| 134 | 3213 |
| 135 | 3278 |
| 7P136 | 3278 |
| 137 | 3278 |
| 7U | |
| 7U001 | 1996 |
| 7U002 | 1996 |
| 003 | 1996 |
| 004 | 1996 |
| 005 | 1996 |
| 006 | 1996 |
| 7U007 | 1996 |
| 7V | |
| 7V171 | 1079 |
| 172 | 1079 |
| 7V173 | 1079 |
| 197 | 1079 |
| 205 | 1081 |
| 206 | 1081 |
| 207 | 1081 |
| 7V216 | 1085 |
| 217 | 1085 |
| 219 | 1090 |
| 220 | 1081 |
| 221 | 1081 |
| 7V222 | 1081 |
| 223 | 1085 |
| 224 | 1085 |
| 229 | 1077 |
| 230 | 1077 |
| 7V231 | 1077 |
| 236 | 1102 |
| 237 | 1102 |
| 238 | 1102 |
| 239 | 1102 |
| 7V240 | 1138 |
| 241 | 1081 |
| 242 | 1081 |
| 243 | 1078 |
| 244 | 1078 |
| 7V261 | 1061 |
| 262 | 1061 |
| 263 | 1061 |
| 264 | 1061 |
| 265 | 1081 |
| 7V266 | 1081 |
| 267 | 1081 |
| 268 | 1081 |
| 269 | 1079 |
| 270 | 1079 |
| 7V271 | 1079 |
| 272 | 1079 |
| 7W | |
| 7W027 | 2045 |
| 7W028 | 2045 |
| 029 | 2045 |
| 066 | 2195 |
| 067 | 2195 |
| 068 | 2195 |
| 7W193 | 2041 |
| 194 | 2041 |
| 195 | 2041 |
| 196 | 2041 |
| 197 | 2041 |
| 7W338 | 2186 |
| 343 | 2077 |
| 344 | 2077 |
| 7Z | |
| 7Z019 | 189 |
| 066 | 270 |
| 067 | 270 |
| 068 | 270 |
| 069 | 270 |
| 7Z070 | 270 |
| 071 | 270 |
| 072 | 270 |
| 073 | 270 |
| 074 | 270 |
| 7Z075 | 270 |
| 077 | 270 |
| 078 | 270 |
| 079 | 270 |
| 080 | 270 |
| 7Z081 | 270 |
| 082 | 270 |
| 083 | 270 |
| 084 | 270 |
| 085 | 270 |
| 7Z089 | 270 |
| 219 | 189 |
| 220 | 189 |
| 221 | 189 |
| 222 | 189 |
| 7Z223 | 189 |
| 224 | 189 |
| 225 | 189 |
| 226 | 189 |
| 227 | 189 |
| 7Z228 | 270 |
| 229 | 270 |
| 230 | 270 |
| 231 | 270 |
| 232 | 270 |
| 7Z233 | 270 |
| 234 | 270 |
| 235 | 270 |
| 236 | 270 |
| 237 | 270 |
| 7Z238 | 270 |
| 239 | 270 |
| 240 | 270 |
| 241 | 270 |
| 242 | 270 |
| 7Z243 | 270 |
| 244 | 270 |
| 245 | 270 |
| 246 | 270 |
| 247 | 270 |
| 7Z248 | 270 |
| 249 | 270 |
| 250 | 270 |
| 251 | 270 |
| 252 | 270 |
| 7Z253 | 270 |
| 254 | 270 |
| 255 | 270 |
| 256 | 270 |
| 257 | 270 |
| 7Z258 | 270 |
| 259 | 270 |
| 260 | 270 |
| 261 | 270 |
| 262 | 270 |
| 7Z263 | 270 |
| 264 | 270 |
| 265 | 270 |
| 266 | 270 |
| 267 | 270 |
| 7Z268 | 270 |
| 269 | 270 |
| 270 | 270 |
| 271 | 270 |
| 274 | 189 |
| 7Z275 | 189 |
| 276 | 189 |
| 277 | 214 |
| 278 | 214 |
| 279 | 214 |
| 7Z280 | 214 |
| 281 | 214 |
| 282 | 214 |
| 283 | 214 |
| 284 | 214 |
| 7Z285 | 214 |
| 286 | 214 |
| 287 | 214 |
| 288 | 214 |
| 289 | 214 |
| 7Z290 | 214 |
| 291 | 214 |
| 292 | 214 |
| 293 | 214 |
| 294 | 214 |
| 7Z295 | 214 |
| 296 | 214 |
| 297 | 214 |
| 298 | 214 |
| 299 | 214 |
| 7Z300 | 214 |
| 310 | 214 |
| 311 | 214 |
| 316 | 214 |
| 317 | 214 |
| 7Z318 | 214 |
| 320 | 214 |
| 322 | 214 |
| 324 | 214 |
| 325 | 214 |
| 7Z326 | 214 |
| 331 | 214 |
| 332 | 214 |
| 333 | 214 |
| 334 | 214 |
| 7Z335 | 214 |
| 336 | 214 |
| 337 | 214 |
| 338 | 214 |
| 339 | 214 |
| 7Z340 | 214 |
| 341 | 214 |
| 342 | 214 |
| 343 | 214 |
| 344 | 214 |
| 7Z345 | 214 |
| 346 | 214 |
| 347 | 214 |
| 348 | 214 |
| 349 | 214 |
| 7Z350 | 214 |
| 351 | 214 |
| 352 | 214 |
| 353 | 214 |
| 354 | 214 |
| 7Z355 | 214 |
| 356 | 214 |
| 357 | 214 |
| 360 | 214 |
| 361 | 214 |
| 7Z365 | 214 |
| 366 | 214 |
| 371 | 2725 |
| 372 | 2725 |
| 374 | 2267 |
| 7Z375 | 2186 |
| 376 | 2186 |
| 403 | 2879 |
| 407 | 2879 |
| 435 | 2879 |
| 7Z437 | 2879 |
| 440 | 2879 |
| 459 | 2879 |
| 460 | 2879 |
| 462 | 2879 |
| 7Z463 | 2879 |
| 464 | 2879 |
| 466 | 2879 |
| 579 | 189 |
| 580 | 189 |
| 7Z581 | 189 |
| 701 | 189 |
| 702 | 189 |
| 703 | 189 |
| 704 | 214 |
| 7Z705 | 214 |
| 706 | 214 |
| 707 | 214 |
| 708 | 214 |
| 709 | 214 |
| 7Z710 | 214 |
| 711 | 214 |
| 712 | 214 |
| 713 | 214 |
| 714 | 214 |
| 7Z715 | 270 |
| 716 | 270 |
| 717 | 270 |
| 718 | 270 |
| 719 | 270 |
| 7Z720 | 270 |
| 721 | 270 |
| 722 | 270 |
| 723 | 270 |
| 724 | 270 |
| 7Z725 | 270 |
| 726 | 270 |
| 727 | 270 |
| 728 | 270 |
| 729 | 270 |
| 7Z730 | 270 |
| 731 | 270 |
| 732 | 270 |
| 733 | 270 |
| 734 | 270 |
| 7Z735 | 270 |
| 736 | 270 |
| 745 | 214 |
| 746 | 214 |
| 747 | 214 |
| 7Z751 | 189 |
| 752 | 189 |
| 753 | 189 |
| 778 | 2853 |
| 780 | 2853 |
| 781 | 2853 |
| 782 | 2853 |
| 783 | 2853 |
| 784 | 189 |
| 785 | 189 |
| 793 | 189 |
| 817 | 2689 |
| 818 | 2689 |
| 819 | 2671 |
| 820 | 2725 |
| 821 | 2725 |
| 858 | 189 |
| 859 | 189 |
| 860 | 189 |
| 861 | 189 |
| 862 | 189 |
| 863 | 189 |
| 864 | 189 |
| 865 | 189 |
| 866 | 189 |
| 867 | 189 |
| 868 | 189 |
| 869 | 189 |
| 870 | 189 |
| 871 | 189 |
| 872 | 189 |
| 875 | 214 |
| 876 | 214 |
| 877 | 214 |
| 878 | 214 |
| 879 | 214 |
| 880 | 214 |
| 881 | 214 |
| 882 | 214 |
| 883 | 214 |
| 884 | 214 |
| 885 | 214 |
| 886 | 214 |
| 887 | 214 |
| 888 | 214 |
| 889 | 214 |
| 890 | 214 |
| 891 | 214 |
| 892 | 214 |
| 893 | 214 |
| 894 | 214 |
| 895 | 214 |
| 896 | 214 |
| 897 | 214 |
| 898 | 214 |
| 899 | 214 |
| 900 | 214 |
| 901 | 214 |
| 902 | 214 |
| 903 | 214 |
| 904 | 214 |
| 909 | 214 |
| 910 | 214 |
| 7Z911 | 214 |
| 912 | 214 |
| 913 | 214 |
| 914 | 214 |
| 925 | 214 |
| 7Z926 | 214 |
| 927 | 214 |
| 928 | 214 |
| 929 | 214 |
| 930 | 214 |
| 7Z931 | 214 |
| 932 | 214 |
| 933 | 214 |
| 934 | 214 |
| 935 | 214 |
| 7Z936 | 214 |
| 937 | 214 |
| 938 | 214 |
| 939 | 214 |
| 940 | 214 |
| 7Z941 | 214 |
| 942 | 214 |
| 943 | 214 |
| 944 | 214 |
| 945 | 214 |
| 7Z946 | 214 |
| 947 | 214 |
| 948 | 214 |
| 949 | 214 |
| 950 | 214 |
| 7Z951 | 214 |
| 952 | 214 |
| 953 | 214 |
| 954 | 214 |
| 955 | 214 |
| 7Z956 | 214 |
| 957 | 214 |
| 958 | 214 |
| 959 | 214 |
| 960 | 214 |
| 7Z961 | 214 |
| 962 | 214 |
| 963 | 214 |
| 964 | 214 |
| 965 | 214 |
| 7Z966 | 214 |
| 967 | 214 |
| 968 | 214 |
| 969 | 214 |
| 970 | 214 |
| 7Z971 | 214 |
| 972 | 214 |
| 973 | 214 |
| 974 | 214 |
| 975 | 214 |
| 7Z976 | 214 |
| 977 | 214 |
| 978 | 214 |
| 979 | 214 |
| 980 | 214 |
| 7Z981 | 214 |
| 982 | 214 |
| 983 | 214 |
| 984 | 214 |
| 985 | 2725 |
| 7Z986 | 2725 |
| 7Z986 | 2725 |



Grainger—more ways to get stuff faster.

**Product cross-reference comparisons do not imply that all products compared are available, or in the case of functional equivalency, that performance and other characteristics are perfectly comparable. For critical applications, review specifications prior to purchase.**

## A


**Abrasives**

Toolroom Wheel Selection Guide . . . . . .1588

Wheel Application and Troubleshooting Guide . . .1594

**Air Compressor**

Guide to Air Compressor Selection . . . . . .2849

Regenerative Blower Reference . . . . . .2850

**Air Conditioning & Refrigeration**

Cooler and Freezer Sizing Guide . . . . . .3691-3692

Defrost Timer Reference . . . . . .3504

Heat Pump Filter/Dryer Core Reference . . . . . .3492

Heating & Cooling Matching Guide . . . . . .3440-3441

R12, R22, R502 Compressor Reference . . . . . .3467

R22 AC and Compressor Reference . . . . . .3468-3469

Room AC Size Selection . . . . . .3456

Terminology . . . . . .3684, 3688

**Air Moving**

Axial Fan Comparison . . .3626

Bathroom Ventilator Reference . . . . . .3552

Commercial/Industrial Ceiling Fan Placement Data . . . .3583

Direct-Drive Supply Ventilator Reference . . . . . .3623

Fasco Blower Reference . . . . . .3634

Kitchen Ventilator Reference . . . . . .3548

Roof Exhaust Ventilator Reference . . . . . .3622

Terminology . . . . . .3693-3694

**Air Treatment**

AHAM Dehumidification . . . . . .3511

Air Handler Filter Cross Reference . . . . . .3514

How To Select Fume Exhausters . . . . . .3527

Paint Overspray Selection Guide . . . . . .3531

Sizing a Commercial Electronic Air Cleaner . . . . . .3520

**Auto Shop**

Battery Charger Selection . . . . . .2726

Trailer Hitch Selection Guide . . . . . .2707


## C


**Chemical Resistance Charts** . . . . . .3702-3711

**Cleaning Supplies & Equipment**

Filter-To-Vacuum Reference . . . . . .1889

Pressure Washer Selection Guide . . . . . .1896

Vacuum Selection Guide . . . . . .1883

Waste Receptacle Liner Selection Guide . . . . . .1929

**Communications Equipment**

AiPhone Intercom System Wire Chart . . . . . .908

Bogen Speaker Selection Guide . . . . . .904

Two-Way Radio Fundamentals . . . . . .897

**Cutting Tools**

Metalworking Milling and Turning Grades . . . . . .1634

Metalworking Terminology and Technical Data . . . . . .1634

Twist Drill Technical Data . . . . . .1649

Twist Drill Terminology . . .1649


## E


**Electric Control & Distribution**

Circuit Breaker . . . . . .363

Fuse Cross Reference . . . .436

Limit Switch Cross Reference . . . . . .530

Limit Switch Definitions . . .532

Pushbutton Selection . . . . .510

Relay and Snap Action Switch Reference . . . . . .472

Relay Cross Reference . . .473

Relay Socket Compatibility Chart . . . . . .481

Switch Terminology . . . . . .522

Time Delay Relay Guide . . . . . .493

Timer Cross Reference . . .569

**Product cross-reference comparisons do not imply that all products compared are available, or in the case of functional equivalency, that performance and other characteristics are perfectly comparable. For critical applications, review specifications prior to purchase.**


***Electrical Supplies***

*Electrical Box Guide .....681*

***Engines & Generators***

*Circuit Breaker Selection Guide .....2738*

*Dayton Portable Generator Features Comparison Chart .....2735*

*Generator Selection Guide .....2733*

*Portable Generator Features Chart .....2735*

*Standby Generator Selection Guide .....2737*

## G

***Glossary of Hazard Communication Terms .....3698-3700***

## H

***Hand Tools***

*Steel File Selection Guide .....1368*

***Heating***

*Blower-Type Gas Heater Cross Reference .....3404*

*Determining Heat Loss . . .3399*

*Floor Furnace Cross Reference .....3422*

*Gas-Fired Powered-Vented Unit Heater Reference .....3403*

*Gas-Fired Propeller Unit Heater Reference .....3402*

*Heat Cable Selection Guide .....3375*

*Heating & Cooling Matching Guide .....3440-3441*

*Hydrotherm Boiler Accessory Selection Guide .....3424*

*Indoor/Outdoor Infrared Heater Selection Guide . . .3408-3409*

*National Electrical Code Classifications for Hazardous Locations .....3393*

*Q-Mark Unit Heater Accessory Selection Guide .....3396*

*Residential Heat Equipment Sizing Guide .....3684-3690*

*Terminology .....3684-3688*

*Unit Heater Control Selection Guide .....3398*

***HVAC***

*Air Sensing Switch Cross Reference .....3358*

*Hot Surface Ignition Cross Reference .....3342*

*Ignition Module Cross Reference .....3343*

*Redundant Gas Valve Cross Reference .....3347*

*Terminology .....3684-3688*

***Hydraulics***

*Formulas .....2791*

*Pump and Cylinder Matching Guide .....2841*

*System Components .....2791*

## L

***Lighting***

*Ballast Selection Guide .....1013*

*Compact Fluorescent Lamp Selection Guide .....927*

*Definitions .....1011-1012*

*Emergency Selection and Application Guide .....1134-1135*

*Fluorescent Lamp Color Selection Guide .....915*

*Fluorescent Lamp Selection Guide .....914*

*HID Ballast Application Guide .....1039*

*HID Ballast Cross Reference .....1039*

*HID Lamp Selection Guide .....936*

*IES Footcandle Levels .....1055*

*Incandescent/Halogen Lamp Selection Guide .....949*

*Lamp and Sizing Guide .....913*

*Landscape Lighting Selection Guide .....1107-1108*

*Lighting Magnification Definitions .....1171*

*Miniature Lamp Selection Guide .....986*

*Outdoor Fixtures Guide .....1087*

*Projection Lamp Selection Guide .....1002*

*Recessed Downlighting .....1122-1123*

*Sealed Beam Lamp Selection Guide .....997*

*Stage and Studio Lamp Selection Guide .....1007*

*Track Lighting Selection Guide .....1117-1118*

Product cross-reference comparisons do not imply that all products compared are available, or in the case of functional equivalency, that performance and other characteristics are perfectly comparable. For critical applications, review specifications prior to purchase.

## M


**Material Handling**

Caster Application . . .2119-2123

Caster Interchange . . . . . .2123-2124

Caster Wheel Material . . . . . .2125-2126

Electric Chain Hoist Guide . . . . . .2222

Ladder Guide . . . . . .2175

**Motor**

Circulating Pump Motors . . . . . .79

Dimensions for NEMA Frames . . . . . .4-5

Direct OEM Replacement Motors . . . . . .82-93

Electric Motor Terminology . . . . . .3674-3675

Regulatory Information . . . . . .6

Selection . . . . . .3


## N


**Nat'l Electrical Code Expls. Atmosphere Classification Guide** . . . . . .3615


## O


**Outdoor Equipment**

Bar and Chain Replacement . . . . . .2685

Chain Saw Cross Reference . . . . . .2686

Saw Chain Replacement . . . . . .2687-2688


## P


**Paint & Painting Supplies**

Airless Sprayer and Coating Material Compatibility Cross Reference . . . . . .1973

Choosing Right Spray Tip . . . . . .1973

Spray Gun Selection Guide . . . . . .1962

Rust-Oleum System Selector . . . . . .1985-1987

VOC Regulations . . . . . .1988

**Plumbing**

Codes and Standards . . .3683

Derating High Altitude Setting on Water Heaters . . . . . .3082

Filter Bag Reference . . . . . .3099-3100

Filter Housing Reference . . . . . .3098

How To Order Filter Cartridges . . . . . .3100

Resin Bonded Filter Cartridges Reference . . . . . .3096

Sizing Commercial Water Softeners . . . . . .3072

Waste Disposer Mounting Adapter Selection Guide . . . . . .3104

Water Filter Selection Guide . . . . . .3073

Wound Filtration Cartridges Reference . . . . . .3097

**Pneumatics**

Air Cylinder Interchange Guide . . . . . .2951-2953

Air Impact Wrench Terminology . . . . . .2964

Collet Type Grinder Terminology . . . . . .2991

Compressed Air Treatment Products . . . . . .2902

Grinding Wheel Terminology . . . . . .2995

Screwdriver Clutch Selection Chart . . . . . .2976

Valve and Cylinder Terminology . . . . . .2931

Wilkerson Modular Terminology . . . . . .2922

**Power Transmission**

Bearing Cross Reference . . . . . .327-335, 336-339

Calculating Sheave Pitch Diameters . . . . . .313

Gearmotor Selection . .206-214

Gearmotor/Motor Direct Mount Speed Controls . . . . . .191

Pulleys Selection Chart . . .311

Spur Gear Cross Reference . . . . . .324

Terminology . . . . . .3676-3677

Universal Joint Interchange . . . . . .355

V-Belt Selection Guide . . . . . .303-304

**Pumps**

Air Operated Diaphragm Reference . . . . . .3192-3193

Booster Pump Selection Guide . . . . . .3132

**Product cross-reference comparisons do not imply that all products compared are available, or in the case of functional equivalency, that performance and other characteristics are perfectly comparable. For critical applications, review specifications prior to purchase.**


*Chemical Resistance Chart for Pump Materials . . .3702-3711*
*Couplings Reference . . . .3274*
*In-Line Circulator Data . . . . . .3275*
*Liquid Pump Terminology . . . . . .3682*
*Oil Coolant Reference . . .3163*
*Rotary Gear/Screw Information . . . . . .3179*
*Rotary Gear Pump Selection Guide . . . . . .3171*
*Rotary Vane Reference Guide . . . . . .3177*
*Seal Bearing Assemblies . . . . . .3273*
*Shaft Seals Reference . . .3159*
*Submersible Selection . . .3248*
*Water Tank Selection . . . .3253*

## S

***Safety Equipment***
*Aspects of Fall Protection . . . . . .2502*
*Canister Selection . . . . . .2416*
*Cartridge Filter Selection . . . . . .2411*
*Dual Cartridge and Filter Guide . . . . . .2412*
*Fire Alarm Ordering Reference . . . . . .2358*
*Fire Extinguisher Definitions . . . . . .2354*
*First Aid Kit and Cabinet Contents . . . . . .2545*
*Guide to Ergonomics . . . .2493*
*Guide to Respirator Selection . . . . . .2396*
*OSHA Respirator Requirements/Particulate Filter Chart . . . . . .2397*

***Security Equipment***
*CCTV Systems . . . . . .2648*
*Camera Lens Selection Guide . . . . . .2649*
*Electromechanical Lock Ordering Guide . . . . . .2640*
*Wire Length Selection Guide . . . . . .2649*

***Shop Machinery***
*Parts Washer Selection Guide . . . . . .1522*

***Standards and Approval Agency Acronyms . . . . .3701***

***Storage Equipment***
*Rack Selection Guide . . . . . .2005*
*Shelving Selection Guide . . . . . .2024*

## T

***Temperature Control Terminology . . . . . .3688***

***Test Instruments***
*Amprobe Digital Clamp-on Meters Comparison Chart . . . . . .755*
*Fluke Accessory Compatibility Charts . . . . . .769, 770, 780*
*Fluke Multimeter Comparison Chart . . . . . .770*
*Multimeter Selection Considerations . . . . . .765*
*Fluke Digital Oscilloscope Selection Guide . . . . . .813*
*Simpson Analog Mulitimeter Feature Comparison Chart . . . . . .762*
*Strip Chart Recorder Speed Cross Reference . . . . . .792*
*Wavetek Multimeter Selection Guides . . . . . .766*


Using Grainger as a single source to purchase and service products can save you time and money. Rely on our quality service providers for lighting retrofits and other comprehensive services for motors, compressors, pumps and generators. Products covered are flagged in this Catalog with the icon shown at left. Also available is a new service, Express Finance™, a flexible leasing service program that helps you acquire what you need, when you need it, at a manageable cost. Ask your local branch for details.

Grainger Parts Operations (GPO) can supply you with a huge selection of quality repair and replacement parts for more than 550 brand name manufacturers (see manufacturer line listing below). So if you check with GPO first, you won't have to look anywhere else.

## All The Services You Need...

- A time-saving source for hundreds of thousands of OEM replacement parts
- Easy ordering using your Grainger account number
- No minimum order requirements
- No-hassle returns
- Knowledgeable representatives trained in parts identification (they'll even fax parts diagrams to you at no extra charge to help you make the right selection)

## The Place To Start For Parts

**1 Just Call GPO: 1-800-323-0620**
24 hours a day, 7 days a week.

**2 Tell Us...**
Manufacturer's model no. from the unit's nameplate, & either the part number or a complete description.

**3 We'll Ship!**
Same-day shipment for all in-stock orders placed by 9:00 PM (CST) Monday-Friday. Overnight shipping available.

### Air Compressors
Abanacki
Busch
Campbell Hausfeld*
Champion
Control Devices
Dayton*
DeVilbiss
F.L. Pneumotive
Fuji Electric
Gast Manufacturing
Hankison*
Ingersoll-Rand
JB Industries
Leybold
McNaught*
Pneumotive*
Powerex
Soldberg
Speedaire*
Thomas Industries*
Welch

### Air Moving
Acme
Air Conditioning Products
Air King (Lasko)
Broan*
Certain Teed
Cincinnati Fan
Climate Control
Dayton*
Delhi Industries
Dust Master
Empire Vent
Fasco*
Fume-Master
Heat Craft
Lau Industries
Multifan
Nautilus
Nutone*
Peerless Aire
Peerless Winsmith*
Penn Ventilator
Tjernlund Products*

### Cleaning Supplies and Equipment
3M-Adhesive Division
Advance Machine Company
Bobrick
Breuer Tornado
Clarke*
Eureka*
Euroclean
Hoover*
Hydro Systems
Knight Equipment
Minuteman Int'l.
Oberdorfer Inc.
Pullman Holt
Ramsey Corp.
Shop Vac Corp.
United Marketing

### Electric Control Equipment
Brooks Mfg. Group*
Intermatic*
Lutron
Paragon*
Relay & Control Corp.
Square D*
Thomas & Betts

### Engines
Briggs & Stratton*
Honda
Kohler*

### Gearmotors
Bison Gear
Boston Gear
Browning Manufacturing
Dayton
Dings Company
Duff Norton
Durham Products
Emerson
Gearmaster
Jakel
Magnetek
Molon Motors
NTN Bearing
RAE Corporation
Stearns
Sterling Electric
U.S. Electric Motors
Vibco Inc.
Von Weise Gear

### Generators
Central Power Distributors
Coleman Powermate
Dayton*
Desa
Generac
Goodall Manufacturing
Midwest Engine
Onan*
Winco

** Full line availability* *^ Full line for power tools* *a Full line for pneumatic tools* *° Keyed alike, master keyed & specials/replacement parts*

## All The Services You Need...

- A time-saving source for hundreds of thousands of OEM replacement parts
- Easy ordering using your Grainger account number
- No minimum order requirements
- No-hassle returns
- Knowledgeable representatives trained in parts identification (they'll even fax parts diagrams to you at no extra charge to help you make the right selection)

### Hand Tools
Challenger*
Cooper Tools
Enderes
Greenlee
Hargrave*
Holo Krome
Imperial Eastman
Jacobs Chucks
Lufkin*
Magna
OTC
Payload Plus
Posi-Lock
Ridgid/Ridgid Kollman*
Stanley/Proto*
Triumph
Westward*
Wilton
Woodings Verona Tool

### Hoists/Winches
C.M. Hoist*
Coffing*
Dayton*
Duff Lynx*
Duff Norton*
Dutton-Lainson*
Superwinch

### HVAC
Alco Controls
Amca*
Amco*
Amoco Sta-Warm
ASCO
Autoflo*
Beacon-Morris
Blue Angel
Bristol
Broan*
Bulldog*
CENEX
Climate Control
Co-op
Comfort Aire
Comfort Glow
Consolidated Industries
Copeland
Cozy
Dart
Dayton*
Desa*
Detroit Radiant*
Emerson
Essick
Fasco
Federal Pacific*
Fenwal
Fostoria*
Fraser-Johnston*
Friedrich
GE A/C*
GE Zoneline*
Handymaster
Heat Controller
Heil Quaker
Honeywell
Hydrotherm*
Imperial Eastman
Intertherm
Knipco*
Koehring*
Lakso*
Louisville Tin & Stove*
Markel*
Marley*
Movin' Cool
Nippondenso
Perfection*
Porta-A-Cool
Q-Mark*
Queen B*
Raywall*
Reddy*
Reznor
Rival Manufacturing
Slant Fin
Space Guard
Sunburst
Sunwarm*
Tomcat*
TPI*
Trion*
Ungar
Vanguard
White Rodgers
White Westinghouse
Williams Furnace

### Hydraulics
Barnes Corporation
Dayton*
Enerpac
Fenner Fluid Power
Legacy
Miller Fluid Power
Nichols Gray
Parker Hannifin
Plews
Prince
Thermal Transfer
Vickers

### Industrial Pumps
ABS Pumps
Alldos
American Products*
Armstrong Pumps*
ARO*
Barnes Pumps
Beckett*
Bell & Gossett
Blackmer Pumps
Fill-Rite*
Flojet
Goulds
Interpump
ITT Jabsco
Little Giant*
Peabody Barnes
Proven Pump*
Pulsafeeder/Mec-O-Matic*
Sherwood*
Simer
Teel*
Wayne Home Equipment
Zoeller Pumps

### Lighting
Alert Stamping
American Flourescent
Appleton Electric*
Brinkman Corp.
Crouse Hinds
Dual-Lite
Electrix
Fail Safe
Fostoria*
General Electric
Grandrich Corp.
Hadco
Halo Lighting*
Harvey Hubbell
Intermatic*
Lithonia
Lumapro
Lumark*
Maglite
McGraw-Edison*
Metalux*
Regent Lighting
Stonco Corp.
Sure-Lites*
Woodhead*

### Locks
Masterlock*°
Yale*°

### Maintenance Equipment
Clarke*
Dayton*
Eureka*
Euroclean
Hoover*
Hydro Systems
Minuteman

** Full line availability* *^ Full line for power tools* *[a] Full line for pneumatic tools* *° Keyed alike, master keyed & specials/replacement parts*



## ...So Getting Parts Is Easy!



**Just Call GPO:**
**1-800-323-0620**
24 hours a day,
7 days a week.



**Tell Us...**
Manufacturer's model no. from the unit's nameplate, & either the part number or a complete description.



**We'll Ship!**
Same-day shipment for all in-stock orders placed by 9:00 PM (CST) Monday-Friday. Overnight shipping available.

### Material Handling
Aleco
ATW
BT Pallet Truck
C.H. Hanson*
Dayton*
Genie
Graymills
Louisville Ladder*
Marsh Company*
Midwest Pacific
MTD Material Handling*
Neptune Mixer Company
Ritron Inc.
Royal Basket
Rubbermaid*
Scotch Code
Signode*
Telectron
Wagner Casters & Wheels
Wesco Manufacturing Co.

### Motors
Ametek Lamb Electric*
Dayton*
ECM Motors Company
Emerson*
Franklin
Fuji Electric
G.S. Electric
General Electric*
Leeson Electric
Motor Specialty Company
NTN Bearing*
Rexnord-Stearns*
Sterling Electric
U.S. Electrical Motors*

### Outdoor Equipment (Buglight Bulbs)
Armatron*
Bugbuster*
Bug Fighter*
Bug-O-Way*
Bug Popper*
Bug Snuffer*
Bugwacker*
Charmglow*
Davis*
Earthway*
El-Zoppo*
Evergro*
Fi-Shock*
Flintrol*
Flowtron*
Galaxie*
Gardian 1*
Harmony*
Insect-Aside*
John Deere*
Katlan*
Magic Lamp*
Patio Guard*
Pow'r*
Rid-O-Ray*
Stinger*
Sun*
Sunbeam*
Web*
Yard Sentry*
Yardmaster*

### Outdoor Equipment
Agri-Fab
Baird & Company
Beaird Poulan
Blitz USA
Briggs & Stratton*
Chapin*
Earthway
Flowtron*
General Equipment
Hein Werner
Homelite
Lincoln
MTD
Noma
Parker Sweeper
Poulan
Remington
Tanaka
Turfmaster
Weed Eater
Yardman*
Yardpro*

### Plumbing
Aqua Pure
Chicago Faucets*
Cordley*
Cuno
Dayton*
Delta Faucets
Ebco*
Elkay*
Fisher*
Halsey Taylor*
In-Sink-Erator
Marathon Water
Oasis*
Sloan Valve*
Temprite*
Vanguard*
Watts Regulator
World Dryer

### Pneumatics
Aero Motive
ALC/Sandy Jet
Amflo
ARO
Arrow Fasteners
Atro
Badger Air Brush
Binks
Campbell Hausfeld*
Carton Closing Company*
Caulk Master
Chicago Pneumatic
Clements National
Dayton*
Dee Blast Corp.
Dyna Quip
Econoline
Emhart
Florida Pneumatic*
Gast Manufacturing*
Ingersoll-Rand[a]
International Staple & Machine*
Krebs
Milwaukee Sprayer
Norgren
Parker Hannifin
Pop Fasteners
Raider Air Tools*
Reelcraft Industries Inc.
Roean
Senco*
Sioux Tools*
Speedaire*
Stanley Bostitch*
Titan Tool
Universal Tool
Wagner Spray Tech
Wilkerson

### Portable Tools
AEG^
Black & Decker^
DeWalt^
Dremel Manufacturing*
Hitachi^
Makita*
Marson
Milwaukee Electric*
Porter Cable*
Ryobi^
Skil-Bosch^

### Power Transmission
Bison Gear
Boston Gear
Browning Manufacturing
Dayton*
Dings Company
Duff-Norton
Durham Products
Emerson
Gearmaster

** Full line availability* *^ Full line for power tools* *[a] Full line for pneumatic tools* *° Keyed alike, master keyed & specials/replacement parts*





**Just Call GPO:**
**1-800-323-0620**
24 hours a day,
7 days a week.



**Tell Us...**
Manufacturer's model no. from the unit's nameplate, & either the part number or a complete description.

**We Make It Easy!**



**We'll Ship!**
Same-day shipment for all in-stock orders placed by 9:00 PM (CST) Monday-Friday. Overnight shipping available.

Hurst Machine Components
Jakel
Magnatek/Indiana General
Molon Motors
NTN Bearing*
RAE Corporation
Rexnord-Stearns*
Sterling Electric
U.S. Electrical Motors
Vibco
Von Weise Gear
Winsmith*

## Precision Measuring Equipment

Fred V. Fowler
Mitutoyo
Starrett*

## Pressure Washers

Air Systems Inc.
Dayton*
Dema Engineering
Electro Magic
France Division
Gail Industries
Hotsy Corp
ITW Devilbiss
Landa, Inc.*
Northeast Industries
Oberdorfer Inc.
Spartan Manufacturing Co.
Spraying Systems Co.

## Range Hood Filters

Amana
General Electric
Hotpoint
Kitch-N-Vent
Maytag
Mercury
Miami-Carey
Modernaire
Montgomery Ward
Nautilus
Nutone*
Range Master
Rangeaire
Roper
Sears
Swanson
Tappan
Whirlpool
White Westinghouse

## Safety Equipment*

3M
Alarm Lock Systems*
Barnaby & Sutcliff
Biosystems*
Blitz USA
Bradley*
Crews Inc.
Dalloz Safety
E.D. Bullard
Eagle*
Edwards Signaling
Federal Signal
G&K Hardware Inc.
H.L. Bouton
Howard Leight
HPC Inc.
Igloo*
International Safety Inst.
Justrite*
Master Lock*°
Micro Essential Labs
MSA*
Nexus Plastics
North Hand Protection
North Health Care*
North Safety*
Norton Door Controls
Peltor Inc.
Prinzing Enterprise*
Rainfair
Rixon-Firemark
Sellstrom
Service and Materials
Simplex Access Controls
Stanley Hardware
Strong Life Products
Tri-Lite
Uvex
Willson Safety Products

## Stationary Tools

Biesemeyer*
Dayton*
Delta International Machine
Wilton*

## Storage Equipment

Akro Mills
Bloomfield
Dayton*
Delta Truck Box
Durham
Edsal*
Frick-Gallagher*
H.K. Porter*
Jarke Corp.
Justrite
KI
Krueger
Lista*
Metro*
Penco*
Sharp*
Tennsco
United Chair Company
Waterloo Industries

## Test Instruments

AEMC Corp.
Amprobe*
Atkins*
Bacharach*
Cooper Instruments*
Dickson*
Gastech
Kane May*
Stewart Warner
TIF Instruments
Wavetech*

## Welding

Century
Dayton*
ESAB
Harris Calorific
JC Goss Company
Master Appliance
Miller Electric

** Full line availability* *^ Full line for power tools* *[a] Full line for pneumatic tools* *° Keyed alike, master keyed & specials/replacement parts*

## Call GPO Anytime!

We want to make sure you're satisfied with our products and service.

We welcome your feedback, so call us, or go online at gpo.comments@grainger.com.

**U.S./Canada/Puerto Rico** **1-800-323-0620**
Fax: 1-800-722-3291

**Mexico** **95-800-527-2331**
Fax: 847-559-6301

**All Other International** **847-498-1920**
Fax: 847-559-6301

## A


**A.O. Smith**
- Commercial Motors .....51
- Heating/Cooling Motors .....65-66
- Motor Mounting Latches .....202
- Motor Rings .....202

**Abanaki**
- Oil Skimmers .....2753

**Abco Products**
- Brooms .....1948

**Ace**
- Air Cleaners .....3524
- Filters .....3524

**Action Pump**
- Containers .....3206
- Pump Adapters .....3204
- Pump Hose .....3202
- Pumps .....1961, 3202-3207

**Adapto Storage Products**
- Storage Cabinets .....2065, 2082

**Adjust-A-Link**
- Chain Slings .....2238

**Advance Controls**
- Disconnect Switches .....397
- Switches .....452-453

**Advance Transformer**
- Ballasts .....1013, 1017-1025, 1027-1044
- Dimmers .....1019

**Advanced Technology Products**
- Tubing .....3041

**Advantage Plus**
- Drill Drifts .....1707
- Magnetic Bases .....1812
- Test Indicator Holders .....1809
- Thread Measuring Wire Sets .....1823
- Tool Bits .....1646-1648
- Tool Sets .....1647
- Transfer Punch Sets .....1802

**Advil**
- Pain Relievers .....2552

**AEMC**
- Artificial Neutral .....753
- Current Probes .....778, 820
- Earth/Ground Leads .....752
- Earth/Ground Testers .....751-752
- Ground Fault Detectors .....753
- Kelvin Clips .....751
- Kelvin Probes .....751
- Leak Detector Cases .....753
- Megohmmeters .....747-750
- Micro-Ohmmeters .....751
- Power Factor Meters .....758
- Test Lead Carry Bags .....751

**Aero M**
- Capacitors .....196-197

**Aero-Motive**
- Cable Reels .....2236
- Cable/Hose Carriers .....2236
- Cord Reels .....1156, 1158
- Hand Lamps .....1156
- Tool Balancers .....3003
- Workbench Retrofit Kits .....2087

**Aeroquip**
- Hydraulic Couplers .....2830, 2837
- Hydraulic Hose .....2832-2833
- Hydraulic Hose Adapters .....2835-2836
- Hydraulic Hose Assemblies .....2830-2831
- Hydraulic Hose Crimpers .....2833
- Hydraulic Hose Fittings .....2832-2833, 2836
- Hydraulic Pipe Thread Adapters .....2838

**Aerovox**
- Capacitor Accessories .....197, 234
- Capacitors .....196-198

**Agri-Fab**
- Dump Carts .....2671
- Spreaders .....2672
- Tractor Attachments .....2670

**Aigner/Cel-U-Dex**
- Label Holders .....2007, 2030

**Aiphone Corp.**
- Communications Equipment .....909
- Door Strikes .....909
- Power Supplies .....909

**Air Cap**
- Bubble Packaging .....2270

**Air Drive**
- Fan Blades .....3600

**Air Handler**
- Air Filter Frames .....3529
- Air Filters .....3514, 3522, 3528-3540
- Paint Liner Paper .....3530

**Air King**
- Fans .....3541-3544

**Air Movement & Cont. Assc.**
- AMCA Fan Manuals .....3628

**Air Systems International**
- Air Duct .....2515
- Air Filter Kits .....2436
- Air Filters .....2436
- Air Pumps .....2437
- Blowers .....2515
- Breathing Air Compressors .....2436
- Breathing Air Hose .....2436
- Calibration Kits .....2436
- Compressor Filters .....2437
- Duct Carriers .....2515
- Duct Couplers .....2515
- Point Of Attachment Manifold .....2436
- Saddle Vent Elbows .....2515
- Saddle Vent Mounts .....2515
- Saddle Vents .....2514
- Vent Adapters .....2515
- Ventilation Kits .....2514-2515

**Air Works**
- Clip-On Blow Gun Kits .....3025

**Airstream By Penn Ventilator**
- Intake Louvers .....3597

**Ajax Tools**
- Air Hammer Chisels .....3004-3005
- Air Tool Retainers .....3004

**AK Limited**
- Earplug Dispensers .....2374
- Eyewear Dispensers .....2374
- Eyewear Holders .....2374
- Glove Dispensers .....2374
- Suggestion Boxes .....2374

**Akro-Mils**
- Bench Racks .....2046
- Bin Carts .....2046
- Bin Cups .....2044
- Bin Dividers .....2044
- Bin Mounting Panels .....2046
- Bin Racks .....2046
- Part Storage Cabinets .....2051
- Rack Bin Mobile Kits .....2046
- Rotabins .....2053
- Shelf Bins .....2044
- Shipping Containers .....2057
- Stack And Nest Container Lids .....2056

Stack And Nest Containers .....2056
Storage Bins .....2046, 2057
Tote Box Dividers .....2056
Tote Box Lids .....2056
Tote Boxes .....2056

**Alarm Lock**
Battery Packs .....2646
Exit Alarm Cylinders .....2638
Exit Door Alarms .....2638, 2646
Exit Door Locks .....2638
Mortise Cylinders .....2646
Pushbutton Locks .....2638

**Albion**
Caster Brakes .....2143
Caster Locks .....2143
Casters .....2139, 2143, .....2147-2149, 2154
Wheels .....2161, 2163

**ALC**
Sandblast Guns .....1527
Sandblast Nozzles .....1527
Sandblasters .....1527
Siphon Blasters .....1527
Siphon Gun Kits .....1527

**Aleco**
Impact Doors .....2305
Strip Doors .....2305
Vinyl Strips .....2305

**Alert**
Cord Reels .....1157
Hand Lamps .....1154-1157

**Alka Seltzer**
Antacids .....2552

**All Metal Designs Inc.**
Monitor Arms .....2094
Outlet Strips .....2094
Overhead Frames .....2094
Overhead Lights .....2094
Storage Bins .....2094
Tack Board .....2094
Tool Rails .....2094
Tote Holders .....2094
Workstation Arms .....2094
Workstation Braces .....2094
Workstations .....2094

**All-Vu**
Safety Mirrors .....2622

**All-Vu By Brossard**
Security Mirrors .....2622-2623

**Alldos**
Pressure Retention Valves .....3282
Pumps .....3278, 3282

**Allen**
Hex Keys .....1302

**Allibert/Contico**
Container Lids .....2059
Container Pallets .....2007
Containers .....2059

**Allied Tube And Conduit**
Conduit .....650

**Alnor**
Air Velocity Probes .....854
Anemometer Printer Paper .....852
Anemometer Printers .....852
Anemometers .....851-853
Balometer Hoods .....856
Balometer Probes .....854
Balometers .....856
Duct Plugs .....858
Fume Hood Monitors .....850
Hood Expansion Kits .....856
Hood Extender Kits .....856
Manometers .....858
Meters .....797, 850
Micromanometers .....858-859
Temperature Adapters .....892
Temperature Jacks .....893
Temperature Probes .....854, 892-893
Thermoanemometer Cable .....854
Thermoanemometer Microprinters .....854
Thermoanemometers .....854
Velometers .....850

**Alpha**
Electronic Message Signs .....903

**Alpha Metals**
Pipe Sealants .....3118

**Alsons**
Shower Heads .....3114
Shower Hose .....3114
Showers .....3114

**Amano Cincinnati**
Time Clocks .....2113
Time Recorder Accessories .....2112-2113
Time Recorders .....2112-2113

**Ameri-Flow**
Air Vents .....3437
Ceiling Registers .....3437
Dampers .....3436
Diffuser Collars .....3436
Diffusers .....3436-3437
Furnace Vents .....3430-3432
Heater Vent Kits .....3420
Registers .....3437

**American Fluorescent**
Fluorescent Fixtures .....1058, 1066, 1069-1075
Stem And Canopy Sets .....1062
Undercabinet Lighting .....1073-1074

**American Technical Publishers**
Technical Manuals .....685, 1460, 2945

**Ames**
Asphalt Lutes .....2677
Hoes .....2677
Ice Scrapers .....2679
Post Hole Diggers .....2678
Rakes .....2677-2678
Scoops .....2678
Shovels .....2677-2679
Spading Forks .....2677
Weed Whips .....2678

**Ametek**
Appliance/Tool Motors .....174-178
Blower Controllers .....178
Brushless Motors .....178
Motor Brushes .....174
Motor Controllers .....178
Stroboscope Bulbs .....837
Stroboscope Power Packs .....837
Stroboscope/Tachometers .....837
Stroboscopes .....837
Tachometer Pickups .....835
Tachometers .....834-835

**Ametek/U.S. Gauge**
Air Volume Controls .....3258
Diaphragm Seals .....875-876
Gauges .....866-868, 870-874

**Amflo**
Tire Inflator/Gauges .....3028

**Amiad**
Filter Housings .....3101
Mesh Filters .....3101

**AMP**
Wire Connectors .....604

**Ampco**
Brushes .....1401
Chisels .....1399

Crate Openers .....1401
Hammers .....1399
Knives .....1400
Pliers .....1399
Pry Bars .....1401
Scrapers .....1400
Screwdrivers .....1399
Shovels .....1401
Socket Sets .....1399
Spatulas .....1400
Tool Kits .....1401
Wedges .....1399
Wrenches .....1400

**Amprobe**
AC Voltage Detectors .....789
AC/DC Recharger/Converters .....802
Advanced Wire Tracers .....802
Ammeters .....755
Capacitance Adapters .....763
Chart Recorder Paper .....792-794, 806
Chart Recorders .....792-794
Chartless Recorders .....775
Circuit Breaker Tracers .....803
Circuit Tracer Transmitters ....802
Circuit Tracers .....802-803
Clamp-On Meters .....754-755
Digital Scales .....3486
Ground Adapters .....754
Harmonic Analyzers .....812
Humidity Adapters .....763
Humidity Testers .....877
Kilowatt-Hour Meters ....759, 794
Leak Detectors .....840
Leakage Clamps .....753
Line Splitters .....754
Load Signal Generators .....802
Megohmmeters .....747-748
Multimeter Jaw Adapters .....763
Multimeters .....761, 763-764
Phase Rotation Meters .....791
Power Factor Meters .....760
Probes .....778, 894
Psychrometers .....877
Temperature Probes .....792
Testers .....752, 786-787, 791
Thermocouple Adapters .....763
Transducers .....763, 794, 802
Transformers .....760
Transmitter Battery Boosters .....802
Vacuum Gauges .....3486
Voltage Detectors .....789
Voltage Recorders .....806
Voltage Testers .....789

**AMS**
Electronic Message Signs ....903
Message Loaders .....903

**AML**
Pumps .....3164, 3202, 3211

**Amtrol**
Air Purgers .....3277
Air Vents .....3277
Expansion Tanks .....3277
Liquid Level Sensors .....3478
Pressure Boosters .....3277
Pressureizers .....3277
Refrigeration Recovery Tanks .....3478

**Anacin**
Pain Relievers .....2552

**Anchor Swan**
Hose .....2692, 3018

**Anderson Brass**
Tube Cutters .....3041

**Ansell Edmont**
Chemical Protection Aprons .....2486
Chemical Protection Gloves .....2457, 2459, 2461, 2466
Latex Gloves .....2460, 2462
Neoprene Gloves .....2466
Nitrile Gloves .....2454-2455, 2461-2462
PVC Gloves .....2457
Rubber Gloves .....2456, 2460
Vinyl Disposable Gloves ....2463
Vinyl Gloves .....2458
Work Gloves .....2453-2458, 2461, 2469

**Anti-Seize**
Flange Joint Sealant .....1783
Pipe Sealant .....1783, 3061
Plumbing Putty .....1783
Silicone Adhesive/Sealant ...1784
Silicone Adhesives .....1784
Teflon Tape .....3061
Valve Stem Packing .....1783

**AO Safety**
Faceshields .....2378
Protective Clothing .....2384
Respirators .....2399
Safety Eyewear .....2364, 2369-2370, 2372

**Appleton Electric**
Box Covers .....1104
Brackets .....1103
Conduit Bodies .....662
Conduit Body Covers .....662
Conduit Box Covers .....663
Conduit Gaskets .....662
Conduit Outlet Boxes .....663, 1103-1104
Cord Reels .....1156
Hanger Couplings .....1104
Hangers .....1104
Hazardous Location Lighting .....1103-1104
Lens Guards .....1103
Mounting Hoods .....1103
Mounting Kits .....1104
Receptacles .....705
Switches .....519

**Aqua-Pure**
Filter Cartridges .....3093
Filter Housings .....3091
Filter Sumps .....3091
Filters .....3090, 3092-3095
Percent Rejection Monitors .....3095
Scale Inhibitors .....3094

**Ariston**
Water Heaters .....3077

**Arm-A-Lite**
Lamp Safety Sleeves .....925

**Armor All**
Protectants .....1866

**ARO**
Air Valves .....2934-2936, ....2938-2942, 2944, 2946-2947
Airless Sprayers .....1971
Airline Connection Kits .....3196
Airline Couplers .....3025
Anti-Tie-Down Packages ....2944
Base Manifolds .....2937
Coil Connectors .....2935
Diaphragm Pumps ....3192-3194
Drum Covers .....2748, 3196
Drum Pumps .....3195
End Plates .....2939
Exhaust Valves .....2932
Flow Control Valves ...2932-2933
Fluid Regulators .....1971
Fluid Transfer Pumps .....3195

Foot Guards .....2947
Foot Pedal Valves .....2947
Gear Oil Pumps .....2743
Glue Pumps .....3195
Grease Control Handles ....2749
Grease Dispensers .....2743
Grease Guns .....2743
Grease Pumps .....2743, 2745
Hand Lever Valves .....2947
HV/LP Paint Sprayers .....1970
Isolator Plates .....2943
Limit Switches .....2933
Locking Pin Connectors .....2937
Oil Pumps .....2748
Orbital Sanders .....2981
Paint Drum Covers .....1972
Paint Pumps .....1970, 3195
Paint Siphon Hose .....1972
Paint Tank Agitators .....1972
Pencil Grinders .....2989
Pressure Regulators .....2939
Pulsation Dampeners .....3196
Pump Controls .....3196
Pump Drum Kits .....3196
Pump Mounting Kits .....3196
Pump Mufflers .....3196
Pump Pulsation Dampers ...3196
Pump Repair Kits .....3192, 3194
Pump Siphon Tubes .....3196
Pump Switches .....3196
Raceway Breakout Boxes ...2937
Raceway Conversion Kits ...2937
Raceway Junction Boxes ....2943
Raceway Ribbon Connectors .....2937
Raceway Wire Harnesses ...2937
Sewage Pumps .....3193
Shuttle Valves .....2933
Siphon Tubes .....1972, 3196
Solenoid Coil .....2935
Solenoid Valves .....2935, 2944
Speed Control Valves .....2939
Speed Regulators .....2941
Spray Pumps .....1971
Stacking End Plates .....2943
Supply Plugs .....2942
Swivel Fittings .....3025
Tie Rod Kits .....2935
Transfer Pumps .....3193, 3195
Treadle Valves .....2947
Valve Actuators .....2933
Valve Blanking Kits .....2941
Valve Blanking Plates .....2937
Valve Brackets .....2943
Valve Coil .....2937
Valve Connectors .....2937
Valve Manifolds .....2937-2939, 2941
Valve Stacking Kits .....2935

**Arrow**
Glue Guns .....1382
Glue Sticks .....1382
Stapler Parts Kits .....1393
Staplers .....1393
Staples .....1393

**Asco**
Solenoid Valves .....3364-3368

**Ashcroft**
Pressure Gauges .....866, 869-871, 875-876
Pressure Transducers .....864
Refrigeration Gauges .....872
Temperature Gauges ....884-885
Test Gauges .....876
Thermometers .....880
Thermowells .....885
Transmitters .....864

**Atco**
Flexible Duct .....3438

**Attack Pac**
Spill Control Kits .....2336

**Atwood**
Water Heaters .....3080

**Audiomaster**
Intercoms .....2558

**Aurora**
Refrigeration Valves .....3499

**Autoflo**
Humidifier Pads .....3507-3508
Humidifiers .....3507-3508
Humidistats .....3357


## B


**B & K Precision**
Analyzers .....819
Clamp-On Meters .....756
Frequency Counters .....809
Function Generators .....810
Interface Software .....819
Isolation Transformers .....807
Megohmmeters .....748-749
Meters .....790, 805
Multimeters .....765, 775
Oscilloscopes .....817-819
Power Supplies .....807-808
Probes .....807, 820
Testers .....734, 805, 809

**Bacharach Inc.**
Air Velocity Indicators .....855
Analyzer Printer Kits .....845
Analyzer Printer Paper .....845
Analyzer Printers .....845
Analyzers .....842, 844-845, 847
Aspirator Assemblies .....848
Aspirator Valves .....848
Battery Eliminators .....844
Battery Packs .....2521
Calibration Kits .....847, 2521
Carbon Dioxide Tester Fluid .....844
Carbon Monoxide Sensors ...847
Carbon Monoxide Testers ....842
Combustion Tester Filters ....847
Draft Gauges .....848
Filter/Water Traps .....2521
Fire Efficiency Finders .....848
Fyrite Cases .....844
Gas Combustion Test Kits ....843
Gas Detector Alarms .....2521
Gas Detector Bulbs .....2521
Gas Detector Calibration Kits .....2521
Gas Detector Cases .....2521
Gas Detector Filters .....2521
Gas Detector Hose .....2521
Gas Detector Probes .....2521
Gas Detector Sensors .....2521
Gas Detectors .....2517, 2520
Leak Detectors .....2520
Monitor Battery Chargers .....841
Monitor Probe And Hose Assemblies .....841
Monitors .....841
Oil Combustion Test Kits .....843
Oxygen Sensors .....842, 847
Oxygen Tester Fluid .....844
Psychrometers .....877
Sensors .....841-842
Smoke Testers .....848
Thermal Paper .....847
Thermometers .....848

**Ball**
Air Fresheners .....1852
All Purpose Cleaners .....1846, 1868, 1870
Bacterial Digestants .....1865
Bathroom Cleaners .....1870
Bonnet Cleaners .....1870

Bus/Truck Wash .....1866
Carpet Shampoo .....1844
Carpet Stain Removers .....1844
Cleaner/Degreasers ...1848, 2783
Creme Cleaners .....1854
Delimers .....1862
Deodorizers .....1870
Dishwashing Liquid .....1862
Disinfectant/Cleaners .....1850, 1868
Disinfectants .....1854
Dust Mop Treatment .....1864
Extraction Cleaners .....1844
Floor Finish .....1838
Floor Finish/Sealers ...1838-1839
Floor Sealers .....1838-1839
Floor Strippers .....1839,1870
Flying Insect Spray .....1866
Furniture Polish .....1863
Glass Cleaners .....1863
Graffiti Removers .....1865
Grill Cleaners .....1862
Gum Removers .....1844
Neutral Cleaners .....1870
Neutral Floor Cleaners .....1839
Oven Cleaners .....1862
Penetrating Lubricants .....2783
Roach Spray .....1866-1867
Sanitizers .....1850, 1862, .....1870
Secondary Labels ....1837-1844, .....1846, 848-1850, 1852, .....1854-1855, 1862-1863, .....1869-1870
Shower Room Cleaners .....1855
Spray Buff/Restorer .....1838
Stainless Steel Cleaners ....1864
Stainless Steel Polish .....1864
Toilet Bowl Cleaners .....1854
Wasp And Hornet Spray ....1866

**Barber Colman**
Temperature Controllers .....562
Thermocouples .....564

**Basement Watchdog**
High Water Alarms .....3213
Pump Batteries .....3213
Pumps .....3212-3213

**Bassick**
Broom Holders .....2678
Caster Locks .....2147
Caster Sockets .....2167
Caster Stems .....2128
Casters ...2128, 2134-2135, 2138, ...2142, 2144, 2146-2148, 2154, .....2157, 2160, 2162
Floor Locks .....2167
Levelizing Jacks .....2168
Stem Adapters .....2138
Wheels .....2160, 2162

**Bausch & Lomb**
Anti-Fog Lens Liquid .....2377
Eyewear Lens Tissue .....2377
Lens Cleaning Stations .....2377
Loupes .....1833
Magnifiers .....1833-1834
Measuring Scales .....1833

**Bayer**
Aspirin .....2552

**Beacon Morris**
Baseboard Heaters ....3426-3427
Cover Assemblies .....3426
End Covers .....3426
Heater Corners .....3426
Wall Sleeves .....3426

**Bear Lok**
Nuts .....1743

**Bear-A-Cade (VBCO)**
Barricades .....2614

**Beckett**
Centrifugal Pumps .....3146
Condensate Overflow Protectors .....3263
Condensate Pumps .....3263
Coolant/Recirculating Pumps .....3165
Float Switches .....3276
Ice Machine Pumps .....3190
Pump Inlet Filters .....3180
Pump Kits .....3165

**Bell & Gossett**
Adapter Flanges .....3266
Motor Mount Rings .....3275
Pump Bearing Assemblies ...3273
Pump Couplers .....3274
Pump Flanges .....3274-3275
Pumps ....3266-3267, 3273-3275

**Bemis**
Toilet Seats .....3115

**Bernzomatic**
Brazing Rods .....1550
Brazing/Cutting Outfits .....1550
Cutting Orifices .....1549
Leak Detectors .....3485
Propane Cylinder Stands ....1550
Propane Torches .....1548, 1550
Soldering Tip Sets .....1548
Soldering Torches .....1548
Welding Gas .....1550
Welding Hose .....1549

**Best Glove**
Chemical Protection Gloves .....2460, 2466
Disposable Gloves .....2463
Latex Gloves .....2460, 2462
Nitrile Gloves ...2454, 2461, 2463
PVC Gloves .....2457
Rubber Gloves .....2456
Work Gloves ....2455, 2457-2458

**Bestflex**
Conveyor Accessories .....2262
Conveyors .....2262

**Bettcher Industries Inc.**
Gloves .....2452

**Biddle**
Corona Detectors .....849
Gauges .....786
Locators .....804
Megohmmeters .....747-750
Meter Cases .....804
Meters .....757
Testers .....747, 750, 752-753
Time Domain Reflectometers .....804

**Biesemeyer**
Arbor Saw Accessories .....1514
Rip Saw Fence .....1514
Saw Blade Guards .....1514

**Big D**
Aerosol Dispensers .....1851
Deodorants .....1851-1852
Toilet Bowl Deodorizers .....1853

**Bilsom**
Ear Muffs .....2390, 2392-2393
Ear Plugs .....2387, 2390

**Bionaire**
Air Cleaner Filters .....3517
Air Cleaners .....3517
Air Filters .....3509
Humidifier Wicks .....3509
Humidifiers .....3509
Humidity Monitors .....3510

**BioSystems Inc.**
Battery Charger Brackets ....2524

Battery Packs .....2524
Computer Link Kits .....2528
Datalink Kits .....2524
Gas Detection Systems .....2530-2531
Gas Detector Accessories .....2524
.....2528-2529, 2531
Gas Detectors .....2519,
..... 2523, 2527-2528

**Black & Decker**
Chop Saw Wheels .....1466
Cordless Screwdrivers .....1412
Dado Plates .....1515
Drill Bits .....1410, 1424, 1448
Grinders .....1492-1493
Miter Saw Workstations .....1464
Rotary Hammers .....1442
Saw Blades .....1462-1463,
.....1466, 1468, 1470
Saws .....1410, 1454, 1466-1467
Screwdriver Battery Packs .....1426

**Blackburn**
Connectors .....614-615

**Blackhawk**
Chain Wrenches .....1251
Feeler Gauges .....1312
Inspection Mirrors .....1312

**Blackjack**
Bushings .....659

**Blackmer**
Drip Pans .....3203
Hand Pumps .....3203
Oil Pumps .....3203
Pump Repair Kits .....3203

**Blitz U.S.A.**
Gas Cans .....2664

**Block**
Pulley Blocks And Sheaves .....2256

**Bloomfield**
Coffee Brewers .....2116
Coffee Filters .....2116
Decanters .....2116

**Blue Angel Plus**
Oil Burners .....3430

**Blue Ribbon Ladder**
Ladder Casters .....2179
Ladders .....2179

**Bobrick**
Soap Dispensers .....1855, 1860
Toilet Paper Holder Spindles .....1902

**Bogen**
Public Address Systems .....905-906

**Booster Pac**
Battery Boosters .....2730

**Boston Gear**
Ball Bearings .....348
Gear Racks .....323
Geardrives .....289-290
Miter Gears .....323
Shaft Couplings .....358
Speed Controls .....44
Speed Reducer Bases .....273
Speed Reducer Fans .....273
Speed Reducers .....271-272, 281, 287
Spiral Bevel Gear Sets .....326
Spur Gears .....324
Washers .....348

**Bouton**
Eyewear Cords .....2375
Eyewear Sideshields .....2375
Safety Eyewear .....2365-2367
Safety Goggles .....2372

**Bradley Corp.**
Drench Hose .....2536
Drench Shower Curtains .....2539
Drench Shower Testers .....2539
Drench Showers .....2536-2539
Eyewash Concentrate .....2537
Eyewash Fountains .....2536, 2539
Eyewash Stations .....2537
Wash Station Alarms .....2538

**Brady**
Air Volume Controls .....3258
Check Valves .....3256

**Brady USA**
Alphabet Labels .....2605
Anti-Skid Tape .....2619
Braille Safety Signs .....2588
Circuit Breaker Lockouts .....2565
Clip Sleeves .....632
Component Labels .....636
Conduit Markers .....633
Confined Space Permits .....2512
Confined Space Tags .....2512
Directional Tape .....2287
Entry Permit Holders .....2512
Glow-In-The-Dark Tape .....2287
Hard Hat Labels .....2606
Label Machine Accessories .....2596-2597
Label Machines .....2596-2597
Label Printers .....2596
Label Tape .....2596-2597, 2600
Laminator Machines .....2600
Lockout Hasps .....2562
Lockout Kits .....2567-2568
Lockout Lock Boxes .....2568
Lockout Stations .....2560
Lockout Tags .....2569
Lockout Tool Boxes .....2568
Lockout Wall Switches .....2561
Lockouts .....2565-2567
Manuals .....2561
Numeric Labels .....2594, 2605
Pipe Markers .....2598-2604
Placards .....2607
Printer Accessories .....634
Printers .....634
Reflective Tape .....2287
Right-To-Know Labels .....2591, 2597
Right-To-Know Signs .....2594
Right-To-Know Software .....2592
Right-To-Know Stations .....2591
Right-To-Know Symbols .....2594
Right-To-Know Tags .....2595
Safety Labels .....2578, 2594
Safety Signs .....2572-2584,
.....2587-2588, 2600
Safety Tags .....2589
Self-Laminating Labels .....635
Sign Machines .....2596
Sign Mounts .....2596
Sign Posts .....2587
Signs .....2585,
.....2588, 2592-2593, 2608
Software Machines .....2596-2597
Software Tags .....2593
Symbols Cards .....2597
Tape .....2604
Traffic Signs .....2586
Training Videos .....2561
Valve Lockouts .....2567
Wallet Cards .....2595
Warning Post Chain .....2618
Warning Posts .....2618
Wire Marker Books .....632
Wire Marker Cards .....631
Wire Marker Tape .....636
Wire Marker Tape Dispensers .....636
Wire Marking Labels .....635
Wire Marking Sleeves .....636

**Bramec**
Elevation Units .....3451

**Brass Craft**
Copper Risers .....3108
Disposer Elbows .....3102
Disposer Gaskets .....3102
Disposer Installation Kits .....3104
Faucet Connectors .....3108
Gas Ball Valves .....3084
Gas Connectors .....3084
Plungers .....3105
Sink Installation Kits .....3105
Valve Stop Escutcheon .....3108
Valve Stops .....3107
Water Connectors .....3084

**Bretford**
Office Furniture .....2118

**Breuer/Tornado**
Blower/Vacuums .....1892
Vacuum Cleaner Attachments .....1892-1893
Vacuum Cleaners .....1892-1893

**Briggs & Stratton**
Gas Engines .....2731

**Brink & Cotton**
Clamps .....1380-1381

**Brinkmann**
Spotlights .....1188

**Bristol**
Valves .....3473

**Broan**
Bathroom Heaters .....3553
Control Switches .....3552
Dampers .....3557
Duct Transitions .....3563
Duct Tubing .....3563
Fan Accessories .....3557
Fan Metal Grille Kits .....3557
Fan Adapters .....3557
Fan Controls .....3551, 3562
Fan Dampers .....3546, 3557
Fan Toggles .....3551, 3562
Fans .....3457, 3546-3548, 3550-3554
Range Hood Filter Kits .....3564
Range Hoods .....3564
Roof Caps .....3563
Roof Jacks .....3563
Vent Kits .....3561
Ventilator Fans .....3560
Ventilators .....3552, 3554-3556, 3568-3569
Wall Caps .....3563

**Brossard**
Mirror Brackets .....2623

**Browning**
Bearing Frames .....346
Bearings .....342-346
Belt Rules .....308
Belt Tensioners .....301, 308
Bushings .....301, 317
Coupling Chain .....362
Flat Face Idlers .....302
Gearbelt Pulleys .....320-321
Gearbelts .....319, 321-322
Roller Chain Tools .....298
Shaft Coupler Covers .....361
Shaft Coupler Grids .....361
Shaft Couplers .....361
Shaft Couplings .....362
Sheaves .....302, 311-316
Sprockets .....296-297, 302, 318
V-Belt Racks .....308
V-Belts .....305-309

**BT Lift Inc.**
Pallet Trucks .....2212

**Buck Knives**
Pocket Knives .....1350

**Bullard**
Air Pump Filters .....2437
Air Pump Splitters .....2437
Air Pumps .....2423, 2437
Breathing Air Supply Hose .....2423
Bump Caps .....2384
Faceshield Brackets .....2379
Faceshield Visors .....2379
Faceshields .....2379
Hard Hat Accessories .....2379-2380, 2384-2385
Hard Hats .....2381, 2384
Respirator Hoods .....2422-2423
Respirators .....2422-2423

**Bullet**
Refrigeration Line Piercing Valves .....3499

**Bulman Products Inc.**
Packing Tables .....2267
Paper Cutters .....2267

**Burch**
Liquid Storage Tanks .....3155

**Busch**
Vacuum Pumps .....2854

**Bussmann**
Box Covers .....419
Cord Protectors .....418
Din Mount Kits .....424
Fuse Blocks .....414-415, 424, 427, 434, 436
Fuse Covers .....434
Fuse Holders .....417-418, 424
Fuse Links .....432-433
Fuse Pullers .....418
Fuse Reducers .....432-433
Fuse Switches .....425
Fuses .....414-423, 426-433, 435-440
Power Distribution Block Covers .....413
Power Distribution Blocks .....413


## C


**C.H. Hanson**
Brass Tags .....2610, 3062
Hand Stamps .....2609
Key Rings .....2609
Sealing Presses .....2610
Stencils .....2611-2612

**Cadillac**
Blower/Cleaners .....1891

**Cadillac Products**
Pallets .....2058, 2326

**California-Aire**
Dampers .....3433

**Campbell Hausfeld**
Airless Paint Sprayers .....1967, 1975
Airless Spray Gun Tips .....1976
Paint Rollers .....1976
Paint Sprayer Filters .....1967
Paint Sprayer Valves .....1976
Paint Sprayer Wands .....1976
Paint Sprayers .....1967
Pump Lubrication .....1976
Spray Gun Filters .....1976
Spray Guns .....1975

Suction Tube Filters .....1976

**Campbell/Cooper Tools**
Chain .....2248
Chain Slings .....2238
Clamps .....2237
Clevis Hooks .....2249
Connecting Links .....2249
Load Binders .....2249
Tow Chain .....2251

**Canberra**
Toilet Bowl Cleaners .....1854

**Capitol**
Table Ranges .....2116

**Capitol Wire And Cable**
Electrical Cable And Wire ....593

**Carlingswitch**
Circuit Breakers .....391
On-Off Plates .....520
Switch Boots .....520
Switches .....520-522

**Carol Cable**
Building Wire .....600
Cable
.....592-593, 597-602, 1113
Cord .....592
Cord Adapters .....589
Cord Sets .....589, 591
Cube Taps .....590
Extension Cords .....587-590
Hand Lamps .....1155
Jumper Cables .....2727
Task Lights .....1159
Thermostat Cable .....600

**Carr Lane**
Bolts .....1778
Buttons .....1773
Cams .....1778
Clamps .....1767-1771
Construction Ball Covers ....1773
Construction Balls .....1773
Dowels .....1774
Hand Wheels .....1775
Handles .....1775-1776
Hoist Rings .....2243
Knobs .....1775-1776
Leveling Feet .....1779
Nuts .....1772, 1777-1778
Pads .....1772
Pins .....1771, 1774
Plunger Wrenches .....1772
Plungers .....1771-1772
Screws .....1772, 1775, 1778
Spindles .....1767
Studs .....1778
Washers .....1777

**Carton Closing Corp.**
Staplers .....3014
Staples .....3014

**Casio**
Calculators .....2114-2115
Cash Registers .....2117
Data Banks .....2115
Digital Diaries .....2115

**Castle Metals**
Bar Stock .....1697-1699

**Castrol**
Cleaners .....2790
Grinding Fluids .....2774
Metalworking Fluids
.....2773, 2778

**Caulk Master**
Caulk Guns .....3015

**Cellucap/Franklin Disposables**
Beard Restraints .....2476
Bouffant Dispensers .....2476
Bouffants .....2476
Hairnets .....2476

**CertainTeed**
Fan Shutters .....3569
Fan Switches .....3566
Fans .....3566-3567
Gable Vents .....3569
Ventilators
.....3565, 3568-3569

**Challenger**
Screwdrivers .....1298

**Champ Cable Products**
Cable .....2247, 2251
Cable Clip/Thimble Kits .....2247
Cable Cradles .....2247
Cable Hooks .....2247
Cable Slings .....2251
Cable Swagers .....2247
Pulley Blocks .....2257
Sleeve-N-Thimble Kits .....2247
Winch Cable .....2257
Winch Straps .....2257

**Channellock**
Pliers .....1306

**Chapin**
Sprayer Accessories .....2703
Sprayers .....2701-2702

**Chateau By Moen**
Faucets .....3109

**Chatillon**
Gauges .....2302
Hanging Scales .....2302

**Check-It**
Cable .....891
Multimeters .....891
Temperature Probes .....893
Test Leads .....891
Testers .....888
Thermometers .....878, 882,
.....888, 891

**Chem-Tech**
Pump Tubing .....3280
Pumps .....3280

**Cherry**
Switches .....527

**Chicago Faucet**
Faucets .....3112-3113
Grid Strainers .....3113
Laboratory Electrical Boxes
.....3113
Urinal Stops .....3117
Water Fountain Bubblers ....3113

**Chicago Hardware**
Bolts .....1760
Eyebolts .....1760, 2244-2245
Eyenuts .....2245
Hooks .....1760
Shackles .....2246
Threaded Rods .....1761
Turnbuckles .....2246
Wire Rope Clips .....2246

**Chicago-Latrobe**
Drill Bit Sets .....1665-1669
Drill Bits
.....940, 1650-1658,
.....1660, 1662
Screw Extractors .....1664
Tap And Drill Sets .....1678

**Chill STOP'R**
Air Conditioner Covers .....3455

**Chloraseptic**
Sore Throat Lozenges .....2551

**Chromalox**
Water Heater Elements .....3082

**Cincinnati Fan**
Fume Exhauster Hose .....3527

**Clarke**
Backpack Vacuums .....1881
Carpet Cleaner Extractors ...1877
Carpet Extractor Accessories .....1877
Floor Burnishers .....1872
Floor Machine Scrubbers ....1876
Floor Polishers .....1871
Outdoor Vacuums .....1895
Solution Tank Dispensers ...1871
Solution Tanks .....1871
Sweepers .....1894
Vacuum Cleaner Attachments .....1878, 1881
Vacuum Cleaner Belts .....1878
Vacuum Cleaners .....1878

**Clauss**
Scissors .....1349
Shears .....1349
Trimmers .....1349

**Clean Funnel**
Funnels .....2750

**Clear-Flex**
Strip Doors .....2304
Vinyl Strips .....2304

**Clesco**
Wheel Adapters .....1607

**Cleveland Controls**
Air Sensing Switches .....3358

**Climate Control**
Unit Coolers .....3474-3475

**Clorox**
Bleach .....1850

**CM (Columbus McKinnon)**
Chain Containers .....2226
Chain Hoists .....2231
Hoist Trolleys .....2234-2235

**CM Hoist**
Swivel Hooks .....2237

**CM Lodestar**
Chain Hoists .....2227

**CM Max**
Balancer/Positioners .....2229

**CM Shopstar**
Electric Chain Hoist Chain Containers .....2223, 2226
Electric Chain Hoists .....2223

**CM Valustar**
Chain Hoists .....2226

**Coast Foundry**
Toilet Tank Repair Kits .....3114

**Cobra Coil**
Spill Control Sorbents .....2337

**Coffing**
Beam Clamps .....2235

**Coffing "EC"**
Electric Chain Containers ...2228
Electric Chain Hoists .....2228

**Coffing "LBS"**
Lever Hoists .....2232

**Coffing "IHH"**
Hand Chain Hoists .....2231

**Coffing "WRT"**
Electric Wire Rope Hoists ...2228

**Cold Seal**
Bubble Packaging .....2270

**Collins**
Striking Tools .....1361, 2680

**Color-Keyed**
Connector Sealants .....612
Connector Tools ....612-613, 619
Connectors .....605-611
Disconnect Boots .....612
Joint Compounds .....613
Pipe Hangers .....651

**Columbus Electric**
Air Switches .....3357
Thermostats .....3310, 3327, 3329-3330

**Comair Rotron**
Axial Fans .....3626

**COMET**
Abrasive Cleaners .....1855

**Comfort Flame**
Fireplace Accessories .....3422-3423

**Comfort Glow**
Heaters .....3419

**Congress**
Sheaves .....310

**Conntrol International**
Foot Switches .....524

**Continental**
Trigger Sprayers .....1961

**Control Devices**
Air Safety Valves .....2898-2899
Air Tank Manifolds .....2896
Air Tank Valves .....3028
Check Valves .....2896-2898
Drain Valves .....2904, 2910
Pressure Control Valves ....2896
Relief Valves .....2852
Throttle Controls .....2896
Unloader Valves .....2896

**Cook**
Check Valves .....3256
Drive Caps .....3247
Pump Accessories ....3247, 3257
Well Points .....3247

**Cooper**
Humidity Meters .....878
Prover Kits .....887
Reader Tabs .....888
Thermometers .....880, 882, 887-888, 891

**Cooper Lighting**
Batteries .....1152
Brackets .....1092
Bypass Switches .....1143
DC Lamp Kits .....1152
Decorative Lighting .....1096
Emergency Battery Packs ...1152
Emergency Exit Signs ...1136-1137, 1144, 1147, 1150
Emergency Lights .....1138-1143, 1150-1151
Exit Signs .....1144-1147, 1150-1151
Fixture Shields .....1152
Floodlights .....1088-1089, 1091
Fluorescent Lighting Fixtures .....1062, 1065-1066, 1068
Fluorescent Power Packs ...1143
HID Fixtures .....1077-1079, ...1081, 1083, 1085-1086, 1090
HID Wallpacks .....1092-1094
High Abuse Lighting Fixtures .....1098
Industrial Lighting .....1077-1078
Lamp Adapters .....1149
Light Sticks .....1143
Lighting Heads .....1138
Mounting Brackets .....1095
Mounting Shelves .....1152
Recessed Lighting Fixtures .....1059, 1124-1125, .....1127, 1129, 1131, 1133

Roadway Lighting .....1095
Safety Glass Bottoms .....1086
Strip Fixtures .....1059-1063
Surface Modular Lighting Fixtures .....1066
Track Lighting .....1119-1121, 1124-1125
Trims ....1126, 1128, 1130, 1132
Troffer Fixtures .....1056-1058
277V Conversion Kits .....1152
Wall Fixtures .....1093
Wet Location Lighting Fixtures .....1064
Wire Guards .....1086, 1152
Wraparound Lighting Fixtures .....1067-1068

**Cooper Tools**
Cutter Heads .....1318-1320
Cutters ...1309, 1318-1320, 1466
File Handles .....1373
Jaws .....1318-1320
Measuring Tapes .....1389-1390
Pliers .....1309
Rules .....1390
Shears .....1349
Snips .....1348
Tweezers .....1310

**Copeland**
Compressor Oil .....3478
Condensing Unit Hoods .....3472
Refrigeration Compressors .....3466-3467, 3472
Refrigeration Condensing Units .....3469, 3471

**Cotto-Waxo**
Sweeping Compound .....1863

**Cozy**
Console Heaters .....3415
Floor Furnaces .....3422
Heater Vent Extensions .....3416
Wall Furnace Accessories .....3415-3416, 3421
Wall Furnaces ...3416, 3420-3421

**CP Industries**
Ice Melter Compounds .....2679
Laundry Detergents .....1865

**Cramer**
Desk Chairs .....2105
Hour Meters .....568
Step Stools .....2098

**Cratex**
Blocks And Sticks Kits .....1615
Point Test Kits .....1615

**CRC**
Aerosol Can Puncturing Systems .....2790
Anti-Spatter Spray .....1546
Battery Cleaners .....2790
Belt Dressings .....2782
Brake Cleaners .....2790
Carb And Choke Cleaners ...2790
Contact Cleaners .....2786
Cutting Oil .....2779
Degreasers .....2786
Dielectric Grease .....2785
Mold Release .....2779
Penetrating Oil .....2781
Smoke Detector Aerosol Testers .....2356
Spray Lubricants .....2781-2782, 2785, 2789
Terminal Protectors .....2789

**Crescent**
Fence Tools .....1305
Nippers .....1305
Pliers .....1305-1306, 1308-1309
Wrenches .....1304

**Crescent Lighting**
Hazardous Location Lighting .....1104

**Cresline**
Pipe Fittings .....3069
Plastic Pipe .....3069

**Crouzet**
Time Delay Relays .....497

**Crowe Rope/Duraline**
Rope .....2258
Twine .....2258

**Cuno**
Filter Cartridges .....3091, 3093, 3096
Filter Housings .....3092, 3096
Filters .....3092-3093

**Curtis Universal Joint**
Universal Joints .....355

**Cyklop**
Strapping .....2293
Strapping Buckles .....2293


## D


**Daman**
Hydraulic Manifolds .....2815

**Danfoss Fluid Power**
Hydraulic Motors .....2804, 2806

**Dap**
Adhesives .....1796
Caulk .....1794, 1796
Caulk Guns .....1795
Glazing .....1796
Sealants .....1794, 1796
Spackling .....1796
Wood Fillers .....1796

**Darex**
Drill Sharpeners .....1670

**Dart Controls**
Motor Speed Controllers .....193
Tachometers .....194

**Davson**
Cork Bulletin Boards .....2117
Dry Erase Boards .....2117
Dry Erase Markers .....2117

**Dawn Industries**
Tube Cutters .....3041

**Dayton**
Air Circulator Accessories .....3570-3571, 3575
Air Circulator Motors ...108, 3570
Air Circulators .....3570-3572, 3575-3576
Air Cleaners .....3522
Air Compressor Motors .....150
Air Compressor Pumps .....2885, 2887-2888
Air Conditioners .....3442, 3449
Air Curtain Accessories .....3647
Air Curtains .....3646-3647
Air Hammer Chisels .....2999
Air Handlers .....3444, 3449
Air Polishers .....2987
Air Tool Accessories .....3004, 3006, 3012
Air Tools .....2963-2970, .....2973, 2977-2982, .....2984-2985, 2987-2990, .....2992-3001, 3013, 3015
Air Vents .....3413
Appliance/Tool Motors .....179, 181-182, 184-185
Arbor Presses .....1511

# NATIONAL BRANDS BY MANUFACTURER




Arc Welders .....1567
Arc Welding Stabilizers .....1568
Axial Fans .....3627-3628
Band Saw Stands .....1520
Band Saws .....1516
Battery Chargers .....2727-2729
Battery Chargers/Engine Starters .....2728-2729
Battery Testers .....2727
Bearing Tools .....352
Bearings .....340-341, 347, 352
Belt Sander Stands .....1507
Belt Sanders .....1507
Bench Grinders .....1506
Bench Presses .....2724
Blade Welders .....1696
Blower Nozzles .....1890
Blower Shafts .....3644
Blower Supports .....3641
Blowers .....1877, 3631-3635, .....3641-3644, 3652, 3655, ...3657-3659, 3661-3665, 3667, .....3669
Body/Frame Kits .....2722
Bottle Jacks .....2710
Buffers .....1505
Buffing Wheels .....1505
Bushing Tools .....352
Bushings .....109, 352
Capacitor Mounting Kits .....197
Ceiling Fan Guards .....3584
Ceiling Fan Switches .....3583
Chain Hoists .....2232
Circulator Stands .....3576
Circulators .....3574
Commercial Motors ....11, 48-49, .....51-52, 54, 98, 128
Compressor Motors .....170
Condensate Pump Kits .....3428
Condenser Mounting Pads ...3444
Conduit Boxes .....234
Convection Gas Heaters ....3379
Cranes .....2720
DC Drives .....189
DC Motors ....185-186, 189, 216
Dividing Heads .....1497
Dividing Plates .....1498
Dollies .....2197
Drain Pans .....3444
Drill Chucks .....204
Drill Presses .....1500-1501
Drill Stop Collars .....346
Drive Mandrels .....204
Drum Mixers .....1984
Dry Vacuums .....1878, 1886
Duct Fan Adapters .....3559
Duct Fans .....3651
Dust Collectors .....1882, 3527
Economizers ...3446, 3448, 3450
Electric Chain Containers ...2225
Electric Chain Hoists ...2224-2225
Electric Water Heaters .....3081
Electric Wire Rope Hoists ...2224
Engine Stands .....2716
Evaporator Coil .....3444
Evaporator Coil Casings ....3444
Exhaust Fans .....3586-3588, 3594-3596
Exhaust Ventilators .....3624
Exhaust/Intake Indicators ....3625
Exhaust/Intake Ventilators .....3596, 3625
Expansion Valves .....3444
Eyeshields .....1506
Fan Blades ....3570, 3574, 3600, .....3602-3604, 3608, 3651
Fan Dampers .....3598, 3617
Fan Guards .....3570, 3574, 3588-3589
Fan Motor Kits .....119
Fan Motors .....105, 129
Fan Mounting Hardware ....3573
Fan Shutters .....3597-3599
Fan Speed Controllers .....3561
Fan Switches .....3570, 3622
Fan/Blower Motors .....49, 52, .....94, 96, 98-99, 101-104, .....106, 109-115, 118-119
Fans ....3544, 3567, 3573, 3576, ...3584-3585, 3589-3591, 3596, .....3605-3607, 3609
Farm Duty Motors .....141-149
Filters .....1890
Flange/Coupling Kits .....286
Flanges .....3651
Floor Bases .....3419
Floor Burnishers .....1872
Floor Cranes .....2718
Floor Polishers .....1871-1872
Floor Sweepers .....1894
Flux Chippers .....2999
Flux Core Wire .....1568
Foam Sleeves .....1890
Food Processing Motors .....153-155
Furnaces .....3428-3429
Garage Heater Vents .....3414
Gas Heaters .....3412-3414
Gearmotor Brackets .....222
Gearmotor Footplates .....222
Gearmotor Mounting Brackets .....234
Gearmotor/DC Controller .....189, 214
Gearmotors .....191, 215-225, 227-249
Generator PTO Shafts .....2739
Generator Trailers .....2739
Generator Transfer Switches .....2738
Generators .....2735, 2737-2740
Grease Traps .....3616
Grinder Stands .....1506
Grinders .....1506
Grinding Wheel Dressers ....1506
Hand Truck Accessories .....2203-2205
Hand Trucks .....2198, 2202-2207, 2211
Hand Vacuums .....1882
Hazardous Location Fans ...3586
Heat Pumps ....3443, 3446, 3450
Heat Slingers .....3668
Heat/Cool Units .....3445, 3447-3448
Heater Kits .....3450
Heater Outlet Packages .....3413
Heater Vents .....3405, 3413
Heaters .....3377-3380, 3419
Heating/Cooling Motors .....13, 55-58, 62-67, 69-70, .....73-74, 76-77, 79-81, 83, ....85, 87, 89, 91, 93, 108-109
Hex Hubs .....3600
Hoist Trolleys .....2234
Hose .....1882, 1890
Hydraulic Presses .....2725
Hydraulic Pump/Motor Adapters .....2802
Hydraulic Pumps .....2722
Hydraulic Valves .....2818, 2820
Hydronic Heaters .....3406
Industrial Motors .....7, 9, 11-15, 18-19, 23, .....26-27, 29-30, 33, 37-39, .....44-47, 121, 123-124, 129, .....131, 134, 136, 140, 170
Intake Ventilators .....3625
Jack Stands .....2721
Jacks ...2710, 2712, 2714, 2716-2718
Jointer Stands .....1512

Jointers .....1512
Leaf Blowers .....1887
Light Traps .....3609
Linear Actuator Boots .....262
Linear Actuators .....260-262
Louver Panel Kits .....3445-3446
Low Ambient Kits .....3442-3443, 3448, 3450
LP Gas Heaters .....3378
Mig Welders .....1568-1569
Milling Machine Accessories .....1497
Milling Table Accessories .....1498
Milling Tables .....1502
Mini-Hoist Chain Containers .....2224
Motor Arbors .....204
Motor Bases .....182, 199-200
Motor Brackets .....201
Motor Brakes .....263-264
Motor Brushes .....179
Motor Conduit Boxes .....129
Motor Conversion Kits .....19
Motor Mounting Bases .....199
Motor Mounting Rings .....202
Motor Mountings .....199
Motor Rails .....199
Motor Rainshields .....202
Motor Ring Adapters .....202
Motor Rings .....202
Motor Shaft Adapters .....202
Motor Speed Controllers .....40
Motor Springs .....179
Motor Switch Boxes .....203
Motor Switches .....203
Motor/Reducer Combinations .....270
Needle Scalers .....2998-2999
Neutralizer Kits .....3428
Oil Coolers .....2826-2827
Oil Reservoirs .....2807
Oil-Fired Heaters .....3377
Pallet Trucks .....2212
Paper Filter Bags .....1890
Pillow Blocks .....3610
Pipe Wrap .....3376
Planer Blades .....1509
Planers .....1509
Plasma Cutter Accessories .....1569
Plasma Cutters .....1569
Pneumatic Fasteners .....3012
Polishing Compounds .....1505
Precision Parallels .....1822
Pulleys .....313
Pump Motors .....79, 114, 121, .....124, 150-152, 154-155, .....157, 159-160, 162-163, .....166-168, 170-171
Ram Kits .....2722
Ratchet Pullers .....2233
Relay Covers .....482
Relay Sockets .....480
Relays .....474, 482, 484-485, 494-495
Remote Control Switches .....2254
Rip Fence .....1514
Roof Curbs .....3446, 3448, 3450, 3616-3617
Roof Ventilators .....3613-3615, 3618-3622
Rotary Table Accessories .....1497-1498
Rotary Tables .....1498
Rug Shoes .....1890
Safety Shields .....1506
Sanders .....1507
Saw Stands .....1518
Saws .....1514, 1516-1517
Service Nut Kits .....3361
Shaft Adapters .....204
Shaft Collars .....350-351
Shaft Couplers .....356
Shaft Couplings .....356
Shaft Sleeves .....352
Shear And Roll .....1511
Sheaves .....312, 3616
Sheet Metal Notchers .....1511
Shutter Motors .....3597, 3599
Solenoid Coils .....3361
Solenoid Valves .....3363
Speed Controllers .....40, 187, 191-192, 194
Speed Controls .....3574, 3583
Speed Drives .....252
Speed Reducer Bases .....268-269
Speed Reducers .....268-270, 282-286
Squeegee Shoes .....1890
Supply Ventilators .....3623
Switches .....452
Table Saws .....1514
Tachometers .....194
Thermostats .....3312
Tig Torches .....1568
Timers .....574
Tire/Tubes .....2164
Tires .....2164
Tool Balancers .....3003
Tool Cabinets .....1195
Tool Chests .....1195
Tool Posts .....1498
Transfer Switches .....2738
Tube Heater Extensions .....3413
Tubeaxial Fans .....3649-3650
Tubes .....2164
Tune-Up Service Kits .....3377
Unit Heaters .....3395, 3397, 3400-3405
Utility Cut-Off Tool Kits .....2996
V-Belt Tensioners .....3608
Vacuum Attachments .....1890
Vacuum Cleaners .....1881-1883, 1886, 1888, 1894
Vacuum Pumps .....2854
Vehicle Stands .....2721
Ventilation Controls .....3330
Ventilator Birdscreens .....3616
Ventilator Hinge Kits .....3616
Ventilators .....3558-3559, 3565, 3622
Venturi Fan Frames .....3567, 3601
Vises .....1503
Wall Ventilators .....3613
Wall Venting Kits .....3428
Wands .....1890
Welder Conversion Kits .....1568
Welder Wheel Kits .....1567
Welding Accessory Kits .....1579
Wet/Dry Vacuum Accessories .....1885, 1889-1891
Wet/Dry Vacuums .....1882-1889, 1891
Wheels .....2164-2166
Winch Control Switches .....2254
Winch Mounting Plates .....2254
Winches .....2253-2255

**Dayton By Elkay**
Sinks .....3105

**Delhi Ind. Inc.**
Blowers .....3654
Filter Racks .....3654

**Delta**
Planers .....1509

**Delta Consolidated Ind.**
Truck Boxes .....1190-1194

**Delta Faucet**
Faucets .....3110-3111
Soap Dispensers .....3109
Valves .....3111

**Dem-Kote**
- Can Handlers .....2790
- Lubricants .....2783
- Oil .....2772, 2783
- Paint .....2004
- Zoom Spout Oilers .....2747

**Devcon**
- Adhesives .....1787
- Chemical Sorbents .....2338
- Epoxies .....1785, 1787-1788
- Epoxy Applicators .....1785
- Epoxy Mixing Nozzles .....1785
- Primers .....1787
- Putty .....1787-1788
- Rubber Repair .....1785, 1787

**DeVilbiss Co.**
- Air Cap Test Kits .....1964
- Air Compressors .....2864
- Air Valves .....1963
- Air/Fluid Hose .....1963
- Aircap Test Kits .....1964
- Conversion Kits .....1964
- Filters .....1963
- Generators .....2734
- Gun Cup Liners .....1963
- Regulators .....1963
- Spray Gun Cups .....1963
- Spray Guns .....1963-1964

**DeWalt**
- Annular Cutters .....1451
- Backing Pads .....1494
- Batteries .....1426
- Battery Chargers .....1426
- Belt Sander Stands .....1487
- Bit Locators .....1424
- Blades .....1475
- Chisels .....1446, 1448
- Demolition Hex Insert Tools .....1448
- Diamond Dressers .....1424
- Drill Accessories .....1446
- Drill Batteries .....1426
- Drill Bit Sharpeners .....1670
- Drill Bits .....1424, 1447-1448
- Drill Presses .....1450
- Drill/Saw Combo .....1410
- Drills .....1406, 1408-1409, .....1413-1414, 1416-1418
- Drive Adapters .....1447
- Flashlights .....1426
- Gauge Shears .....1481
- Grinder Accessories .....1493
- Grinder Guards .....1494
- Grinder Wheels .....1424
- Grinders .....1489
- Hammer Bits .....1446
- Hammer Drills .....1441
- Hammers .....1444-1445
- Impact Drivers .....1412
- Impact Wrenches .....1422-1423
- Laminate Trimmer Accessories .....1474
- Laminate Trimmers .....1474
- Miter Box Saw Accessories .....1464
- Nibblers .....1480
- Planer Knives .....1509
- Planer Stands .....1509
- Planers .....1509
- Plate Joiners .....1475
- Polishers .....1495
- Polishing Pads .....1496
- Router Motors .....1471
- Routers .....1471
- Sander/Grinders .....1492-1494
- Sander/Polishers .....1495
- Sanders .....1482-1483, 1487
- Sanding Frames .....1487
- Sandpaper .....1482
- Saw Blades .....1462-1463, .....1466, 1470, 1515, 1606
- Saw Stands .....1513
- Saw Supports .....1513
- Saw Worklights .....1513
- Saws .....1411, 1452, 1460, .....1464, 1466-1467, 1513
- Screwdrivers .....1412, 1419
- Shear Blades .....1481
- Taper Adapters .....1447

**Dial**
- Hand Cleaners .....1855
- Soap Pads .....1957

**Diamond Machining Technology**
- Sharpening Stones .....1595

**Dickson**
- Calibration Kits .....797, 841
- Carbon Dioxide Recorders .....841
- Chart Paper .....795
- Chart Recorder Accessories .....2361
- Chart Recorders .....795-800
- Data Logger Software .....797, 800
- Data Loggers .....800
- Fire Hydrant Recorder Adapters .....798
- Humidity Monitors .....878
- Input Recorders .....798
- Pressure Recorder Filters .....798
- Pressure Recorder Fittings .....798
- Pressure Recorders .....798
- Sensor Extension Cords .....797
- Temperature Data Loggers .....801
- Temperature Recorders .....795-797
- Thermocouple Extension Cable .....796
- Thermocouple Extensions .....796
- Thermocouple Fittings .....796
- Thermocouple Probes .....796
- Thermometers .....895

**Diversitech**
- Condenser Mounting Pads .....3451-3452

**Dixon**
- Air Hose Coupler Clips .....3029
- Air Hose Couplers .....3029
- CAM And Groove Fittings .....3036
- Clamp Hose Tools .....3038
- Fire Hose Pin Racks .....3034
- Fog Nozzles .....3034
- Hose Clamps .....3029, 3038
- Hose Fittings .....3029, 3037
- Hose Rack Covers .....3034
- Hose Reel Covers .....3034
- Hose Valves .....3034
- Hydrant Adapters .....3037
- Hydrant Wrenches .....3038
- Lanyards .....3029
- Pin Rack Nipples .....3034
- Safety Hose Cables .....3020
- Shank Couplings .....3037
- Spanner Wrenches .....3038
- Steam Fittings .....3029
- Wall Brackets .....3034
- Wall Reels .....3034
- Washers .....3029
- Water Fittings .....3037

**DML**
- Router Bits .....1476-1477

**Dormeyer**
- Solenoids .....488-489
- Transformer Mounting Plates .....403
- Transformers .....403

**Dow Corning**
- Silicone Lubricants .....2785

**Drager**
- Bio-Check Badges .....2534

Gas Detector Hose Extensions .....2532
Gas Detector Probes .....2533
Gas Detector Pumps .....2532
Gas Detector Test Kits .....2534
Gas Detector Tubes ...2533-2534
Rubber Caps .....2534
Test Set Adapters .....2532
Tube Openers .....2533

**DRANO**
Drain Opener .....1865

**Dremel**
Chain Saw Sharpeners .....2688
Engravers .....1487
Grinder Accessories ...1490-1491
Grinders .....1490-1491
Rotary Tool Battery Packs ...1490
Rotary Tools .....1490
Saws .....1513

**Duoseal**
Vacuum Pumps .....2855-2856

**Dupont Krytox**
Grease .....2771

**Durakool**
Contactors .....485

**Durham**
Bin Storage Units .....2043, 2050
Medicine Cabinets .....2544
Parts Cabinet Drawers .....2049
Parts Cabinets .....1758, 2049-2050
Spill Control Cabinets .....2336
Storage Cabinets .....2054, 2067
Storage Trays .....2054
Threaded Rod Racks .....2054
Welding Rod Cabinets .....2054
Wire Spool Racks .....674

**Dust-Master**
Dust Collector Bags .....3527
Dust Collectors .....3526-3527

**Dutton Lainson**
Winches .....2257

**Dwyer**
Air Balancers .....850
Air Filter Kits .....862
Air Velocity Meters .....850, 853
Air Velocity Monitors ....848, 852
Air Velocity Transmitters .....863
Anemometers .....852
Combustion Test Kits .....843
Gas Pressure Testers .....843
Gauge Fluid .....862
Hygrometers .....877
Indicating Transmitters .....861
Magnehelic Adapters .....862
Magnehelic Gages .....860
Manometer Stands .....857
Manometers .....857-858
Meter Cases .....859
Photohelic Gages .....861
Pitot Tube Accessories .....862
Pitot Tubes .....862
Pressure Gauges .....859
Pressure Sensing Fittings ....862
Pressure Sensors .....862
Pressure Switches .....863
Pressure Transmitters .....863
Probe Adapters .....863
Testers .....858
Transformers .....848

**Dymo**
Label Making Kits .....2289
Label Tape .....2289

**Dymon**
Cleaner Cloths .....1861
Degreaser Towels .....1861
Disinfectant Wipes .....1861
Graffiti Removers .....1861
Scrub Towels .....1861

**Dynaquip**
Ball Valves .....2911-2913
Blow Gun Adapters .....3026
Blow Gun Nozzles .....3026
Blow Guns .....3027
Check Valves .....3067
Coupler Plugs .....3023
Couplers .....3022-3023
Exhaust Couplers .....3023
Gate Valves .....3066
Hose Barb Plugs .....3023
Plugs .....3023
Swivel Fittings .....3025


## E


**E.A.R.**
Ear Muffs .....2392-2393
Ear Plugs .....2386-2389

**Eagle**
Barrel Dollies .....2329
Drum Cabinets .....2351
Drum Overpack .....2329
Drum Pallets .....2331
Drum Tray Dollies .....2329
Drum Trays .....2329
Funnels .....2339
Gas Cans .....2664
IBC Spill Units .....2331
Kerosene Cans .....2342
Lab Safety Cans .....2344
Oily Waste Cans .....2343
Ramps .....2331
Safety Bench Cans .....2344
Safety Butt Cans .....2345
Safety Cabinets .....2350
Safety Cans .....2339
Safety Disposal Cans .....2343
Safety Plunger Cans .....2344
Safety Storage Cabinet Shelves .....2346-2347, 2350
Safety Storage Cabinets .....2346-2347, 2350-2351
Salvage Drums .....2329
Sorbent Drip Pans .....2329
Spill Control Pallets .....2331
Spill Control Stations .....2331
Waste Cans .....2343
Workstation Dollies .....2331

**Earthway**
Salt Deflector Kits .....2672
Spreaders .....2670, 2672

**Easy Paks**
Bowl Cleaners .....1868
Cleaner/Degreasers .....1868
Floor Chemicals .....1868

**Ebco**
Headlights .....1189

**Ecologizer**
Air Cleaner Filters .....3517
Air Cleaners .....3517

**Econoline**
Abrasive Blast Cabinet Accessories .....1529
Abrasive Blast Cabinets .....1528
Blast Cabinet Gloves .....1529
Blast Cabinet Windows .....1529
Dust Collector Bags .....1529
Dust Collectors .....1529
Gloves .....1529
Gun Mounting Brackets .....1528
Light Shields .....1529
Sandblast Cabinets .....1528
Sight Windows .....1529
Turntables .....1529

**Edsal**
Bench Drawers .....2083, 2089

Bench Legs . . . . . .2086
Bin Shelving Units . . . . . .2045
Cabinet Benches . . . . . .2081
Cabinet Shelves . . . . . .2064
Cabinets . . . . . .2048, 2064, 2096
Cart Bases . . . . . .2096
Commercial Shelving . . . . . .2031
Computer Bases . . . . . .2096
Computer Stands . . . . . .2096
Desk Top Stations . . . . . .2096
Electrical Panel Kits . . . . . .2089
Industrial Shelving . . . . . .2082
Lockers . . . . . .2074-2075
Pick Racks . . . . . .2045
Service Carts . . . . . .2194
Service Counters . . . . . .2082
Shelving Door Sets . . . . . .2082
Shop Desks . . . . . .2080
Stock Trucks . . . . . .2195, 2201
Tool Cabinets . . . . . .2082
Tool Toters . . . . . .2195
Work Stands . . . . . .2083
Work Table Cabinets . . . . . .2081
Workbench Doors . . . . . .2081
Workbench Drawers . . . . . .2081
Workbench Edge Stops . . . . .2089
Workbench Legs . . . . . .2089
Workbench Risers . . . .2085, 2089
Workbench Shelves . . . . . .2085
Workbench Tops . . . . . .2086
Workbench Wiring Kits . . . . .2089
Workbenches
. . . . . .2083-2084, 2088-2089
Workstations . . . . . .2095

**Edwards Co.**
Door Bells . . . . . .2559
Door Chimes . . . . . .2559
Door Holders . . . . . .2360
Door Openers . . . . . .2360
Fire Alarm Batteries . . . . . .2358
Fire Alarm Bells . . . . . .2359
Fire Alarm Chimes . . . . . .2359
Fire Alarm City Tie Modules
. . . . . .2358
Fire Alarm Horns . . . . . .2359
Fire Alarm Panels . . . . . .2358
Fire Alarm Pull Stations . . . . .2359
Fire Alarm Strobes . . . . . .2359
Heat Detectors . . . . . .2359
Smoke Detectors . . . . . .2359
Smoke Sampling Tubes . . . . .2359

**Efson**
Bushings . . . . . .353
Idler Sprockets . . . . . .302

**Eklind**
Hex Key Stands . . . . . .1303
Hex Keys . . . . . .1303

**Elco**
Anchors . . . . . .1720, 1722
Screws . . . . . .1757
Threaded Rod Anchoring Systems
. . . . . .1720
Toggle Bolts . . . . . .1720

**Eldon James**
Fittings . . . . . .3069

**Electri-Flex**
Conduit . . . . . .665

**Electric Motors And Specialties**
Fan/Blower Motors . . . . . .117, 119

**Electrix**
Desk Lights . . . . . .1167-1169
Halogen Lamps . . . . . .1165
Lamp Bases . . . . . .1168
Light Floor Stands . . . . . .1168
Light Mounting Brackets . . . .1168
Machine Light Clamps . . . . . .1165
Machine Tool Lights . . . . . .1168
Magnifier Lights . . . . . .1172
Task Lights . . . . .1165, 1167-1168

**Electro-Air**
Air Cleaner Kits . . . . . .3513
Electronic Air Cleaners
. . . . . .3512-3513

**Electro-Flex**
Drum Heaters . . . . . .2328

**Electrocorp**
Air Cleaners . . . . . .3525
Odor Controllers . . . . . .3525

**Elkay**
Water Chillers . . . . . .3087
Water Coolers . . . . . .3085-3087
Water Fountains . . . . . .3087

**Elkhart Brass**
Fire Hose Nozzles . . . . . .3034

**Ellwood Safety**
Foot Guards . . . . . .2492
Shin Guards . . . . . .2492

**Emerson**
Air Cleaner Brackets . . . . . .3519
Air Cleaner Filters . . . .3516, 3519
Air Cleaners
. . . . . .3512, 3516, 3519, 3523
Appliance/Tool Motors . . .180-181
Ceiling Fan Lights . . . . . .3545
Fan Controls . . . . . .3545
Fan Down Rods . . . . . .3545
Fans . . . . . .3545
Humidifier Filters . . . . . .3509
Humidifiers . . . . . .3509

**Empax**
Plastic Strapping . . . . . .2295

**Empire**
Roof Ventilators . . . . . .3565
Ventilator Bases . . . . . .3565

**Enderes**
Chisels . . . . . .1364
Punch And Chisel Sets . . . . .1364
Screwdriver Kits . . . . . .1294
Screwdrivers . . . . . .1294

**Enerpac**
Cutter Blades . . . . . .2848
Cutters . . . . . .2848
Gauge Adapters . . . . . .2847
Hydraulic Couplers . . . . . .2843
Hydraulic Cylinders . . . .2844-2845
Hydraulic Oil . . . . . .2846
Hydraulic Presses . . . . . .2724
Hydraulic Pumps . . . . .2842, 2847
Maintenance Sets . . . . . .2723
Needle Valves . . . . . .2845
Nut Splitter Blades . . . . . .2848
Nut Splitters . . . . . .2848
Pressure Gauges . . . . . .2847
Pressure Hose . . . . . .2843
Pumps . . . . . .2846
Punch And Die Sets . . . . . .2848
Punches . . . . . .2848

**Enerpack**
Hydraulic Couplers . . . . . .2843

**Enviracaire**
Air Cleaners . . . . . .3518

**Ergodyne**
Anti-Vibration Gloves
. . . . . .2498-2499
Back Cushions . . . . . .2501
Back Supports . . . . . .2494-2495
Ergonomic Review Kits . . . . .2494
Lumbo Rolls . . . . . .2501
Wrist Rests . . . . . .2501
Wrist Supports . . . . . .2500

**Ergotron**
Command Post Systems . . . .2097
Riser Mounting Systems . . . .2097
Wall Track Systems . . . . . .2097

**Ertco**
Psychrometers .....877

**ESAB**
Cable Connectors .....1570
Check Valves .....1566
Collet Bodies .....1583-1585
Collets .....1584-1585
Electrodes .....1585
Flash Arrestors .....1566
Flint Renewal Units .....1565
Friction Lighters .....1565
Gas Cups .....1584-1585
Gas Lenses .....1584-1585
Hose Line Flash Arrestors ...1566
Regulators .....1563
Soapstone Markers .....1565
Tig Torch Bodies .....1584
Tig Torches .....1583-1584
Tip Cleaner Sets .....1565
Torch Cable Assemblies ....1584
Torch Caps .....1584
Torch Cup Gaskets .....1584
Torch Gas Hose .....1584
Torch Handles .....1584
Torch Power Cable .....1584
Torch Power Cable Adapters .....1584
Torch Water Hose .....1584
Universal Wrenches .....1565
Welding Clamps .....1570
Welding Hose .....1553
Welding Torch Parts .....1584
Welding Valves .....1565

**ESAB All-State**
Arc Gouging Rods .....1541
Brazing Alloys .....1545-1546
Brazing Flux .....1547
Brazing Paste Syringes .....1545
Brazing Rods .....1545-1546
Chamfer Rods .....1541
Cutting Rods .....1541
Electrodes .....1539-1543
Galvanizing Rods .....1537
Heat Sink Compound .....1547
Hot Spray Powders .....1547
Nozzle Protectors .....1547
Powder Torch Kits .....1547
Solder .....1537
Soldering Flux .....1547
Welding Flux .....1547
Welding Rods ....1538-1539, 1543-1544, 1546
Welding Wire .....1542-1544

**ESAB Prest-O-Lite**
Air Fuel Gas Appliances ....1553
Air Fuel Gas Torches .....1552
Air Gas Outfits .....1554
Gas Outfits .....1554
Oxy-Acetylene Kits .....1554
Regulators .....1562-1563
Swirljet Tips .....1552
Torch Handles .....1553, 1557
Torch Tips .....1553, 1557
Welding Carriers .....1552

**ESAB Purox**
Adapters .....1552
Cutting Attachments ...1558, 1560
Cutting Outfits .....1555
Hand Cutting Torches .....1556
Regulator/Flowmeters .....1564
Regulators .....1562-1563
Welding Attachments .....1559
Welding Heads .....1558-1560
Welding Nozzles .....1561
Welding Torches .....1556, 1558-1559
Welding/Cutting Outfits .....1555

**Essick Air Products**
Evaporative Cooler Accessories .....3464
Evaporative Coolers .....3464

**Etcon**
Circuit Tracers .....803
Gas Lamp Testers .....840
Meters .....806
Test Leads .....788
Testers .....788, 790
Wire Sorters .....806

**Eureka**
Vacuum Cleaner Accessories .....1879
Vacuum Cleaners .....1879

**Extech**
AC Adapters .....742, 785-786, 809, 831
Ammeters .....742, 756, 758
Analyzers .....758
Anemometer Adapters .....851
Anemometer Cases .....791
Anemometers .....851, 853
Buffer Tripaks .....830
Cable And Software .....742, 896
Calibration Conductivity Solutions .....831
Calibration Testers .....741
Calibrator Cases .....741
Calibrator Software .....742
Calibrators ....741-742, 826, 896
Clamp-On Adapters .....778
Current Line Splitters .....754
Data Acquisition Software ....785
Data Loggers .....785, 826, 831
Electrodes .....830-831
ELF Meters .....840
Force Gauges .....786
Frequency Counters .....809
Frequency Probes .....809
KCL Solution .....832
Light Meters .....828
Megohmmeters .....750
Membranes .....832
Meter Cases .....791, 828
Meter Electrodes .....830
Meters ....756, 826, 830-832, 851, 879
Modules .....758
Moisture Indicators .....786
Multimeters .....758, 785
Multiplexers .....785
Noise Dosimeters .....826
Ohmmeters .....751
PH Checker .....830
PH Meters .....830
Phase Indicators .....785
Phase Rotation Indicators ....791
Power Analyzers .....758
Pressure Meters .....874
Recorder Cable .....826
Refractometers .....832
RH Meters .....877, 881
Stopwatch/Timers .....829
Stopwatches .....829
Tachometer Adapters .....834
Tachometers .....834
Temperature Meters .....879
Temperature Probes ....831, 893
Tester Cases .....830
Testers .....753, 791, 815
Thermo-Hygrometer Clocks ...881
Thermocouple Connectors ....893
Thermocouple Lead Wire .....893
Thermometer-Clocks .....881
Thermometers .....880, 883, 889-890
Three-Phase Adapters .....758

## F


**F-Matic**
Air Fresheners . . . . . .1851

**Fail-Safe**
Conduit Boxes . . . . . .1101
Exit Lighting . . . . . .1099
Fluorescent Fixtures . . . . . .1101
High Abuse Lighting Fixtures . . . . . .1098, 1100-1101, 1162
Troffer Fixtures . . . . . .1099

**Fanon/Courier**
Intercom Systems . . . . . .908
Megaphones . . . . . .902

**Fantech**
Exhaust Fans . . . . . .3549
Ventilators . . . . . .3549

**Fasco**
Blower Duct Extensions . . . . .3645
Blower Heater Units . . . . . .3645
Duct . . . . . .3645
Duct Connectors . . . . . .3645
Portable Blowers . . . . . .3645

**Federal Hose**
Blower Hose . . . . . .3035

**Federal Signal**
Alarms . . . . . .2554-2558
Horns . . . . . .2555
Signal Lights . . . . . .2555
Signaling Devices . . . . . .2558
Stackable Lights . . . . . .2554-2555
Strobe Lights . . . . . .2554, 2557
Visual Lights . . . . . .2555
Warning Lights . . . . . .2556

**Fein Power Tools**
Dust Extractors . . . . . .1485
Hacksaw Blade Guides . . . . .1457
Hacksaw Pipe Clamps . . . . . .1457
Hacksaws . . . . . .1457
Sander Pads . . . . . .1485
Sanders . . . . . .1485
Sandpaper . . . . . .1485
Saw Blades . . . . . .1457, 1485
Scraper Blades . . . . . .1485

**Fel-Pro**
Adhesives . . . . .1781, 1789, 2784
Aerosols . . . . . .1781
Lapping Paste . . . . . .1627
Lubricants . . . . . .1780, 2784
Pipe Repair Tape . . . . . .1782
Sealants . . . . . .1780-1782, 1794

**Fellowes**
Paper Shredders . . . . . .2118

**Fenner**
Flow Controls . . . . . .2812
Hydraulic Power Units . . . . . .2792-2793
Oil Reservoirs . . . . . .2793

**Fenwal**
Gas Burner Controls . . . . . .3346

**Fernco**
Flexible Couplings . . . . . .3058

**Fibre Materials**
Fibre Washer Kits . . . . . .202

**Fill-Rite**
Flow Meters . . . . . .3198
Pumps . . . . . .3198-3199, 3201

**Flambeau**
Parts Boxes . . . .2049, 2052-2053
Parts Cases . . . . . .2052

**Flo-Pac**
Broom Handles . . . . . .1947
Carpet Bonnets . . . . . .1875
Clutch Plates . . . . . .1874
Floor Pad Holders . . . . . .1875
Pad Drivers . . . . . .1874-1875
Rotary Brushes . . . . . .1875
Showerfeed Brushes . . . . . .1875

**Flojet**
Carpet Cleaner Pumps . . . . .3190
Pumps . . . . . .3262

**Flotec**
Pumps . . . . . .3213

**Flowtron**
Blacklight Bulbs . . . . . .2675
Electronic Bug Killers . . . . . .2674-2675
Insect Attractants . . . . . .2675
Wall Brackets . . . . . .2675

**Fluke**
Battery Chargers . . . . . .774, 816
Battery Eliminators . . . . . .774, 779
Battery Packs . . . . . .774, 816
Cable Identifiers . . . . . .811
Cablemeter Cable Sets . . . . . .811
Cablemeter Cases . . . . . .811
Cablemeter Remote Units . . . .811
Calibrators . . . . . .743
Carrying Cases . . . . . .776
Clamp-On Meters . . . . . .757
Fiber Optic Cable . . . . . .777
Fiber Optic Connectors . . . . . .777
Fiber Optic Meters . . . . . .777
Harmonic Analyzers . . . . . .812
Harmonic Meters . . . . . .812
LAN Cablemeters . . . . . .811
Meter Cases . . . . . .776
Meter Holsters . . . . . .776
Meters . . . . . .842
Multimeter Accessories . . . . . .774-776, 779
Multimeters . . . . . .771-775
Oscilloscope Accessories . . . . . .816, 820
Oscilloscopes . . . . . .814-815
Pneumatic Test Pumps . . . . . .743
Pressure Gauges . . . . . .859
Pressure/Vacuum Modules . . .777
Probes . . . . .777, 779-780, 841, 893-894
Recorders . . . . . .799
Temperature Probes . . . . . .894
Test Clips . . . . . .780
Test Lead Cases . . . . . .776
Test Leads . . . . . .780-781
Testers . . . . . .771, 788
Thermocouple Adapters . . . . . .893
Thermocouple Connectors . . . .893
Thermocouple Modules . . . . . .777
Thermometers . . . . . .888
Voltage Detectors . . . . . .789
Wire Tracers . . . . . .811

**Folding Guard**
Cabinets . . . . . .2076
Folding Gates . . . . . .2305
Locker Tops . . . . . .2075
Lockers . . . . . .2075-2076
Wire Decking . . . . . .2009
Wire Partition Transoms . . . .2077
Wire Partitions . . . . . .2077

**Folger Adam**
Electric Strikes . . . . . .2643
Power Supply Rectifiers . . . . .2643

**Fomo Products**
Adhesives . . . . . .1795
Dispensing Units . . . . . .1795
Foam Guns . . . . . .1795

**Forane**
Refrigerants . . . . . .3476

**Fort James**
Dust Cloths . . . . . .1912
Dust Wipes . . . . . .1912
Facial Tissue . . . . . .1901
Paper Napkins . . . . . .1906

Paper Towels . . .1903-1906, 1912
Toilet Tissue . . . . . .1901-1903
Toilet Tissue Dispensers . . . . . .1901-1903
Towel Dispensers . . . . . .1903-1906, 1912
Wipes . . . . . .1910-1912

**Fostoria**
Dock Light Lenses . . . . . .1162
Dock Lights . . . . . .1162-1163
Floodlight Stands . . . . . .1160
Floodlights . . . . . .1159-1160
Heater Frames . . . . . .3410
Heaters . . .3380-3381, 3407-3410
Light Stands . . . . . .1161
Lightcarts . . . . . .1160
Machine Tool Lights . . .1164-1165
Task Lights . . . . . .1159
Utility Lights . . . . . .1159-1160

**Fowler**
Calipers . . . . . .1802-1804
Center Gages . . . . . .1824
Combination Squares . . . . . .1820
Indicators . . . . . .1809-1810
Magnetic Base And Indicator Sets . . . . . .1813
Magnetic Bases . . . . . .1813
Micrometers . . . . . .1797-1800
Precision Gages . . . . . .1824
Protractors . . . . . .1822
Radius Gages . . . . . .1823
Steel Rules . . . . . .1819
Telescoping Gages . . . . . .1806
Universal Measuring Sets . . .1814

**France**
Ignition Controls . . . . . .3352
Oil Ignition Transformers . . . .3352

**Franklin**
Motor Control Boxes . . . . . .3252
Pump Motors . . . . . .172-173

**Franklin Brass**
Bottle Openers . . . . . .1915
Paper Towel Dispensers . . . .1915
Retractable Clothesline . . . . .1915
Robe Hooks . . . . . .1916
Safety Grab Bars . . . . . .3115
Shower Rods . . . . . .1916
Soap Dishes . . . . . .1916
Soap Dispensers . . . . . .1915
Tissue Holders . . . . . .1915
Toilet Paper Holders . . .1915-1916
Toilet Seat Cover Cabinets . . . . . .1915
Toilet Seats . . . . . .3115
Toilet Tissue Dispensers . . . .1902
Towel Bars . . . . . .1915-1916
Towel Rings . . . . . .1916
Towel Shelves . . . . . .1915
Tub/Shower Seats . . . . . .1917
Wall Urn Ashtrays . . . . . .1915

**Frick-Gallagher**
Rotabins . . . . . .2041

**Friedrich**
Air Conditioner Grilles . . . . . .3456
Air Conditioner Subbases . . .3456
Air Conditioner Window Kits . . . . . .3458
Air Conditioners . . . . . .3452, 3456, 3458
Baffle Adapter Kits . . . . . .3456
Copper Tubing . . . . . .3452
Drain Kits . . . . . .3456
Electric Heaters . . . . . .3459
Wall Sleeves . . . . . .3456

**Fuji**
Compressor Mufflers . . . . . .2851
Inlet Filters . . . . . .2851
Oil Coolant Pumps . . . . . .3163
Pressure Relief Valves . . . . .2851
Regenerative Blowers . . . . . .2850
Vacuum Relief Valves . . . . . .2851

**Fulton**
Jack Footplates . . . . . .2704
Sawhorses . . . . . .1458
Trailer Couplings . . . . . .2705
Trailer Jack Wheels . . . . . .2704
Trailer Jacks . . . . . .2704
Trailer Stands . . . . . .2704

**Fulton Performance Products Inc.**
Winches . . . . . .2256

**Fume-Master**
Fume Exhausters . . . . . .3527

**Fyrnetics**
Carbon Monoxide Detectors . . . . . .2357
Heat Detectors . . . . . .2357
Relay Modules . . . . . .2357
Smoke Alarms . . . . . .2357
Strobe Lights . . . . . .2357


## G


**G.W. Russell**
Shoe Spikes . . . . . .2490

**Gast**
Air Compressor/Vacuum Pumps . . . . . .2859
Air Compressors . . . . . .2862-2863
Air Gearmotors . . . . . .2961
Air Motor Flange Mounts . . . .2960
Air Motor Foot Mounts . . . . . .2960
Air Motors . . . . . .2960-2961
Vacuum Pumps . . . . . .2853

**Gastech**
Gas Detector Accessories . . .2518
Gas Detectors . . . . . .2518

**Gatorade**
Dispensers . . . . . .2542
Thirst Quencher . . . . . .2542

**GE Silicones**
Caulk . . . . . .1784, 1794-1796

**Geerpres**
Buckets . . . . . .1945
Housekeeping Carts . . . . . .1953
Mop Wringers . . . . . .1945
Replacement Mop Heads . . .1954
Vacuum Carrier Kits . . . . . .1953
Vinyl Bags . . . . . .1953
Wall Washing Kits . . . . . .1954

**General**
Earth Augers . . . . . .2668
Post Hole Diggers . . . . . .2668

**General Cable**
Cable . . . . . .596
Wire . . . . . .593

**General Electric**
AC Inverter Converters . . . . . .43
AC Inverter Keypad Cable . . . . .43
Air Conditioner Grilles . . . . . .3454
Air Conditioner Wall Cases . . . . . .3454
Air Conditioners . . . . . .3453-3454
Appliance/Tool Motors . . . . . .180-181, 183, 191
Ballasts . . . . . .939
Commercial Motors . . . . . .50-51, 53-54, 97, . . . . . .100-101, 120, 128, 137
DC Motor Accessory Kits . . . . .190
DC Motors . . . . . .186, 190, 195
Drain Kits . . . . . .3453

Fan/Blower Motors .....95-97, .....100-103, 107, 116-117, 119
Farm Duty Motors .....141-144, 146-149
Heat Pumps .....3453
Heating/Cooling Motors .....55-56, 59-61, 66, 68, .....70-72, 74-75, 78, 80, .....83, 85, 87, 89, 91, 93, 140
Industrial Motors ....8, 10, 16-17, ....20-25, 27-28, 31-32, 34-36, .....53, 96, 103, 114, 122, .....125-128, 130, 132-133, .....135-136, 138-140, 156, 158
Lamp Starters .....933
Lamps .....916-924, 928-932, .....937-947, 950-982, 987-995, .....998-1001, 1003-1006, .....1008-1009
Motor Bases .....200
Motor Brackets .....201
Motor BX Connectors .....203
Motor Conduit Boxes .....203
Motor Mounting Rings .....202
Motor Mounting Studs ....203-204
Motor Rainshields .....202
Motor Speed Controllers ....41-42
PTAC Grilles .....3453
PTAC Wall Cases .....3453
Pump Motors .....150, 156-159, .....161, 164-166, 169-171
Relays .....3501
Tachometer Generators .....195

**General Electric/Motorola**
Ballasts ...1017-1025, 1028, 1035

**General Pump**
Chemical Injectors .....3186
Plunger Pump Gun And Lance .....3184
Plunger Pumps .....3183
Pressure Valves .....3186-3187
Pump Savers .....3186
Pump Unloaders .....3186
Rotating Nozzles .....3186
Spray Guns .....3184
Spray Nozzles .....3185
Trigger Gun And Lance .....3184
Unloader Valves .....3186

**General Tools**
Alligator Clips .....1814
Center Punches .....1816
Circle Cutters .....1342
Compasses .....1386
Cotter Pin Pullers .....1301
Drill Bit Sharpeners .....1670
Drill Depth Stops .....1425
Drill Guides .....1425
Edge Finders .....1818
Fastener Refills .....1366
Fasteners .....1366
Flaring Tools .....1346
Gages .....1387
Grommet Kits .....1366
Grommet Refills .....1366
Hex Drivers .....1301
Inspection Mirrors .....1830
Knife Blades .....1353
Knives .....1353
Magnetic Pickups .....1832
Magnetic Tape .....1830
Magnetizer/Demagnetizers .....1301
Magnets .....1830-1832
Nut Splitters .....1364
Pipe Brushes .....1342
Pipe Cutters .....1344
Pocket Tool Sets .....1817
Precision Measuring Equipment .....1814
Punches .....1366
PVC Cutters .....1342
Reamers .....1346
Screw Starters .....1298
Screwdrivers .....1295
Scribers .....1816
Sharpeners .....1364
Swaging Tools .....1346
Tap And Drill Tables .....1814
Tap Wrenches .....1679
Trammel Sets .....1387, 1817
Tube Benders .....1346
Tube Cutter Wheels .....1344
Tubing Bender Sets .....1346
Tubing Cutters .....1344
Tweezers .....1831
Vises .....1374
Welding Link Protractors ....1830
Welding Links .....1830
Wrenches .....1342, 1346

**Genetron**
Refrigerants .....3476

**George Basch**
Metal Polish .....1864

**Gillis/Amco**
Wire Carts .....2197

**Gilson**
Concrete Mixers .....2689
Gas Engine Conversion Kits .....2689
Mixer Trailers .....2689

**Glacier-Cor**
Evaporative Cooler Pads ....3577

**Glade**
Air Fresheners .....1852

**Glit**
Burnisher Pads .....1874
Clean/Shine Pads .....1874

**Global**
Arm Rests .....2103
Chairs .....2103-2104
File Cabinet Accessories ....2106
File Cabinets .....2106
Stools .....2103

**Gojo**
Barrier Lotion .....1856, 1859
Bath Shampoo .....1860
Hand Cleaner Dispensers ...1859
Hand Cleaners .....1855
Hand Cream .....1861
Hand Sanitizer Dispensers ...1856
Hand Sanitizers .....1861
Hand Soap .....1856-1860
Hand Soap Dispensers .....1856
Sanitizers .....1856
Shampoo .....1856, 1858
Skin Lotion .....1859
Soap .....1861
Soap Dispensers .....1858

**Goldblatt**
Concrete Hand Tools .....1398
Drywall Hand Tools .....1396
Masonry Hand Tools .....1397

**Golden Needles**
Cut-Resistant Gloves .....2453
Glove Liners .....2467
Heat-Resistant Gloves .....2469
Work Gloves .....2449

**Goodheart Willcox**
Technical Manuals .....685, 1539, 3050

**Goodwrappers**
Pallet Top Sheeting .....2276
Stretch Wrap .....2297
Stretch Wrap Brackets .....2276

**Goodyear**
Agricultural Spray Hose .....3030

Food Hose .....3040
Gasoline Pump Hose .....3030
Gorilla Air Hose .....3018-3019
Multipurpose Hose .....3024
Pressure Washer Hose .....3031
Push-On Hose .....3024
Snubber Hose .....3021
Steam Hose .....3030
Steam Hose Assemblies .....3030
Suction Hose .....3033
Washer Hose .....3031
Water Discharge Hose .....3033
Welding Hose .....3021

**Gorilla**
Water Heater Stands .....3083

**Goulds Pumps Inc.**
Pumps .....3125-3126, 3136

**Graymills**
Parts Cleaners .....1525
Parts Washer Accessories .....1523-1525
Parts Washers .....1522-1525

**Greenfield**
Carbide Inserts .....1635-1637
Die Stock .....1680
End Mills .....1683
Gun Plug Taps .....1674
Gun Taps .....1673
Hand Taps .....1672-1673
Pipe Taps .....1671
Tap And Die Sets .....1675-1676, 1678
Tap Wrenches .....1679

**Greenlee**
Abrasion Shields .....1332
Anchors .....1332
Bits .....1332
Cable Cutters .....1322
Cable Dispensers .....1331
Cable Slitters .....1322
Conduit Benders .....1326
Conduit Cutter Blades .....1322
Conduit Cutters .....1322
Conduit Pistons .....1328
Conduit Racks .....1330
Conical Anchor Kits .....1722
Crimpers .....1323
Cutters .....1322
Drill Bit Placement Tools .....1332
Fish Line .....1329
Fish Tape .....1329
Fish Tape Leaders .....1329
Gas Lamp Testers .....840
Hand Bender Handles .....1327
Hand Benders .....1327
Light Meters .....828
Lubricants .....1331
Measuring Tape .....1331
Mechanical Benders .....1327
Meters .....791
Offset Benders .....1327
Poly Line .....1331
Power Fishing Systems .....1328
Punch Driver Sets .....1324
Punch Drivers .....1324
Punches .....1324-1326
PVC Heaters .....1327
Reel Stand Spindles .....1330
Reel Stands .....1330
Rod Cutters .....1322
Screw Anchors .....1332
Sound Level Meters .....825
Stud Bushings .....1326
Testers .....788, 790-791
Voltage Detectors .....789
Wire Carts .....1330
Wire Cutters .....1322
Wire Pulling Grips .....1332
Wire Reel Stands .....1330
Wire Sorters .....806
Wire Strippers .....1322
Wire Tracers .....803

**Grinnell**
Pipe .....3055-3056
Pipe Hangers .....3046, 3057-3058
Plumbing Fittings .....3051-3055

**Grundfos**
Pumps .....3227, 3272
Union Sets .....3272

**Guardtec**
Fan Filters .....3629
Fan Guards .....3629


## H


**H.K. Porter**
Slotted Angle Cutters .....2063
Strapping Cutters .....2293

**Hadco**
Fluorescent Sign Lights .....1114
Landscape Lighting .....1109-1115
Transformers .....1113

**Hadees**
DC Fans .....3544

**Haldex Barnes Hydraulics**
Flow Dividers .....2806
Gear Pumps .....2799-2800
Manifold Adapters .....2794
Motor/Pumps .....2799
Oil Reservoirs .....2794
Power Units .....2794-2795

**Hale**
Fire Pumps .....3155

**Halo**
Decorative Lighting .....1096
Recessed Lighting Fixtures .....1059, 1124-1125, 1127, 1129, 1131, 1133
Strip Fixtures .....1063
Track Lighting .....1119-1121, 1124-1125
Trims .....1126, 1128, 1130, 1132

**Halsey Taylor**
Water Coolers .....3088
Water Fountains .....3089

**Halstead**
Contact Adhesive .....3433
Copper Tubing .....3046, 3451-3452
Pipe Insulation .....3376, 3433

**Handi-Chek**
Clevis Pins .....1764
Cotter Pins .....1764
E-Rings .....1765
Expanpins .....1764
Key Stock .....1764
O-Ring Tools .....1766
Retaining Rings .....1765
Springs .....1766
Woodruff Keys .....1764

**Handi-Foam**
Foam Cleaners .....1795
Foam Guns .....1795

**Hankison**
Air Bypass Valves .....2905
Desiccant Dryers .....2908-2909
Refrigerated Air Dryers .....2905-2906

**Hanna Instruments**
Calibration Solutions .....831
Chlorine Colorimeters .....832
Conductivity Meters .....831
Dissolved Oxygen Meters .....832
Electrolyte Solutions .....832
Glass Cuvets .....832

Infrared Transmitters .....889
Membranes .....832
Meter Printing Ink Cartridges .....889
Meter Printing Paper Rolls ...889
PH Electrodes .....830
PH Testers .....830
Probes .....878
Reagent Tablets .....832
Thermocouples .....889
Thermohygrometers .....878
Thermometers .....879
Zero Oxygen Solutions .....832

**Hargrave**
Bar Clamps .....1380

**Hays**
Flow Computers .....3284
Flow Meters .....3284

**Heat Stream**
Heaters .....3382-3384

**Heatrim American**
Baseboard Heaters .....3427

**Heliarc**
Gas Cups .....1584

**Highland**
Box Sealing Tape ....2274, 2276
Cloth Duct Tape .....2280
Filament Tape .....2285
Packaging Tape .....2274

**Highlight**
Hi-Tech Handwrapper .....2296
Stretch Wrap Stands .....2296

**Highside Chemical**
Epoxy .....3482
Leak Detectors .....3482
Refrigerants .....3482
Thread Sealants .....3482

**Hilman Rollers**
Roller Kits .....2214

**Hobbs**
Hour Meters .....568

**Hollaender**
Structural Fittings .....2061

**Holland**
Carton Sealing Tape .....2277
Gummed Tape .....2277

**Holo-Krome/Allen**
Dowel Pins .....1733
Shoulderbolts .....1733
Socket Screws .....1730-1732

**Homelite**
Saw Dollies .....2690
Saws .....2690

**Honeywell**
Actuator Ball Joints .....3299
Adjustment Knobs .....3299
Aspirator Boxes .....3299
Calibration Kits .....3299
Calibration Tools .....3299
Controller Covers .....3299
Controllers .....3300
Damper Actuators .....3305-3307
Damper Motors .....3349-3350
Gas Burner Controls .....3349
Gas Valves .....3344, 3347
Heat Controls .....3338
Humidistat Covers .....3299
Humidistats .....3301, 3357
Humidity Controls .....3357
HVAC Controls .....3311, .....3325, 3330, 3335-3336, .....3338, 3351, 3354, 3357
Ignition Controls .....3343
Ignition Systems .....3344
Immersion Wells .....3356
In-Line Restrictors .....3299
Load Analyzers .....3304
Motors .....3349
Pilot Ignition Systems .....3344, 3347-3348
Pneumatic Calibration Kits ...3299
Pneumatic Fittings .....3299
Pneumatic Mod Kits .....3298
Relay Switches .....3336
Relays .....3300, 3302-3304
Sensors .....3301, 3322
Slide Rules .....3299
Switches .....3302, 3307
Temperature Controllers .....3299, 3496
Temperature Controls .....3325, 3330
Temperature Sensors .....3309, 3325
Thermocouples .....3346
Thermostat Accessories .....3298-3299, 3311, 3313, .....3320, 3322-3323
Thermostats ....3297-3298, 3301, .....3310-3311, 3313, 3315, ...3318-3320, 3322, 3326-3329, .....3331, 3350, 3356
Valves .....3308-3309
Vent Dampers .....3350
Zone Valves .....3353

**Honeywell Braukmann**
Air Vents .....3355
Valves .....3355

**Hoover**
Vacuum Cleaner Bags .....1880-1882
Vacuum Cleaners .....1880-1882

**Hospeco**
Sanitary Napkin Dispensers .....1913
Sanitary Napkins .....1913
Tampons .....1913
Toilet Seat Dispensers .....1901
Wax Bags .....1913

**Howard Leight**
Ear Muffs .....2391-2392
Ear Plugs .....2387-2389

**HPC**
Fire Extinguisher Cabinets ...2356
Key Blanks .....2631
Key Boxes .....2629
Key Cabinets .....2629
Key Drop Boxes .....2629
Key Duplicating Machines ...2631
Key Tags .....2629
Wall Safes .....2650

**Hubbell**
Adapter Plates .....691, 708
Adapters .....715
Auxiliary Contacts .....720-721
Back Boxes .....699, 722-723
Basetrak .....646
Boxes .....708
Cable Protectors .....644
Connectors .....708, 719
Cord Connectors ...704, 709-714, .....718, 720, 722-723
Cord Plugs .....694, 704, .....706-707, 709-714, 722-723
Enclosures .....721, 727
Fire-Rated Poke-Through Fittings .....649
Fixture Hangers .....1065
Floodlights .....1088, 1090-1092
Floor Box Covers .....648
Floor Box Fittings .....648
Floor Boxes .....648
Floortrak .....644
Fluorescent Lighting .....1065
Four Outlet Cluster .....690

GFCI Line Cord . . . . . .694
Ground Fault Interrupters . . . . .694
Ground Fault Receptacles . . . .689
Ground Fault Testers . . . . . .694
Hazardous Fixture Guards . . .1102
Hazardous Location Lighting . . . . . .1102
HID Fixture Accessories . . . .1086
HID Fixture Safety Chain . . . .1086
HID Fixtures . . . .1080, 1082-1084, . . .1086, 1090, 1094-1095, 1097
Inlets . . . . . .719
Interlock Devices . . . . . .720
Lampholders . . . . . .934, 1106
Landscape Lighting . . .1063, 1116
Locking Devices . . . . . .711
Locking Switch Covers . . . . . .701
Lockout Devices . . . . . .705
Mechanical Interlock . . . . .719-720
Motion Sensors . . . . . .696-697
Motor Controllers . . . . . .702
Pendant Stations . . . . . .715
Pin And Sleeve Devices . . . . . .722-723, 727
Plug Lockouts . . . . . .705
Plugs . . . . . .694, 708, 718-719
Plugtrak . . . . . .646, 648
Power Poles . . . . . .693
Power Strips . . . . . .649
Premisetrak . . . . . .645
Pulling Grips . . . . . .674
Raceway Systems . . . . . .646
Receptacle Circuit Testers . . . .709
Receptacles . . . . . .685-691, 704, . . . . .706-708, 710-714, 718-726
Shrouds . . . . . .719
Surge Suppressors . . . . . .649
Switch Plates . . . . . .700
Switches . .697-699, 702, 716, 721
Switchout/Lockouts . . . . . .705
Toggle Switches . . . . . .703
Torx Drivers . . . . . .701
Truktrak . . . . . .644
Twist-Lock Devices . . . .710, 712-714, 716, 718, 725
Wall Fixtures . . . . . .1094, 1096
Wall Plates . . . . . .700-701
Wallpacks . . . . . .1094, 1096
Walltrak . . . . . .645
Weatherproof Boots . . . . . .709, 711, 714, 716
Weatherproof Covers . . . . . .685, 701, 708, 726
Weatherproof Plates . . . . . .707

**Hubbell/Kellems**
Cable Grips . . . . . .671-674
Conduit . . . . . .666
Conduit Fittings . . . . . .666
Conduit Grips . . . . . .672-673
Conduit Kits . . . . . .666
Cord Connectors . . . . . .670
Cord Grips . . . . . .671
Face Plates . . . . . .647
Raceway Fittings . . . . . .645-646
Raceways . . . . . .644-648
Safety Springs . . . . . .673
Strain Relief Connectors . . . . .669
Tubing . . . . . .666

**Hurst**
AC Motors . . . . . .226
Gearmotors . . . . . .226

**Hydac**
Hydraulic Accumulators . . . . .2840
Pulsation Dampeners . . . . . .3187
Shut-Off Blocks . . . . . .2839

**Hydro**
Chemical Dispensers . . . . . .1960
Chemical Proportioners . . . . .1960
Foam Guns . . . . . .1960

**Hydrotherm**
Water Boilers . . . . . .3424-3425

**ICM**
Monitor Bases . . . . . .3505
Monitors . . . . . .3505
Pressure Controls . . . . . .3506
Time Delay Relays . . . .3505-3506

**Ideal Corp.**
Hose Clamps . . . . . .3039

**Ideal Ind.**
Circuit Identifier Receivers . . . .803
Circuit Identifier Transmitters . . . . . .803
Circuit Identifiers . . . . . .803
Grounding Systems . . . . . .824
Tester Cases . . . . . .787-788
Testers . . . . . .786-788, 790

**Ideal Ind. Inc.**
Commutator Cleaners . . . . . .205
Commutators . . . . . .205

**Ideal Steel**
Guard Post Covers . . . . . .2315

**Identi-Wrap**
Stretch Film . . . . . .2297

**Igloo**
Hot/Cold Bottles . . . . . .2541
Ice Chests . . . . . .2541
Paper Cup Dispensers . . . . . .2541
Paper Cups . . . . . .2541
Water Containers . . . . . .2541
Water Cooler Racks . . . . . .2541
Water Cooler Truck Racks . . .2541
Water Coolers . . . . . .2540

**Impact**
Deodorant Cabinets . . . . . .1853
Soap Dispensers . . . . . .1857
Toilet Bowl Brush Caddies . . .1958
Toilet Bowl Brushes . . . . . .1950

**Imperial**
Charging Hose . . . . . .3488
Flaring And Swagging Tools . . . . . .1345
Hose Couplers . . . . . .3488
Manifold Gauge Sets . . . . . .3487
Manifold Gauges . . . . . .3487
Tube Benders . . . . . .1344
Tube Cutters . . . . . .1344

**Imperial Eastman**
Airless Paint Spray Hose . . . .1979

**Import Generic**
Drill Bit Sets . . . . . .1665-1669
Drill Bits . . . . . .1650, 1654

**In-Sink-Erator**
Disposer Adapters . . . . . .3104
Disposer Cartridges . . . . . .3103
Disposers . . . . . .3102-3104
Hot Water Dispensers . . . . . .3085
Waste Disposers . . . . . .3102

**Independent Energy**
HVAC Controls . . . . . .3324

**Industrial Noise Control**
Acoustic Panels . . . . . .2395
Acoustical Foam . . . . . .2394
Baffle Hanging Kits . . . . . .2395
Foam Adhesive . . . . . .2394
Sound Baffles . . . . . .2395
Wall Blankets . . . . . .2394

**Ingersoll-Dresser**
Diaphagm Pumps . . . . . .3200
Gear Pumps . . . . . .3200
Pumps . . . . . .3173

# NATIONAL BRANDS BY MANUFACTURER




**Ingersoll-Rand**
Air Chain Hoist Containers . . .2230
Air Chain Hoists . . . . . .2230
Air Compressor Accessories . . . . . .2883, 2889
Air Compressors . . .2871, 2875, 2880-2882, 2889
Air Dryers . . . . . .2907
Air Filters . . . . . .2914
Air Motors . . . . . .2962
Air Tools . . . .1422, 2963-2971, 2973-3002
Allen Screws . . . . . .2901
Ball Valves . . . . . .2901
Canopy Kits . . . . . .2883
Chain Hoists . . . . . .2229
Compressor Pipe . . . .2900-2901
Diggers . . . . . .3002
Drain Valves . . . . . .2901, 2910
Drill Chucks . . . . . .2978
Dryer Brackets . . . . . .2907
Electric Screwdrivers . . . . . .2972
Filter Elements . . . . . .2914
Impact Wrench Lubrication . . . . . .2967-2968
Maintenance Kits . . . . . .2883
O-Ring Kits . . . . . .2901
Pavement Breaker Mufflers . .3002
Pavement Breakers . . . . . .3002
Pipe Brackets . . . . . .2901
Pipe Connectors . . . . . .2901
Pipe Tool Kits . . . . . .2900-2901
Pump Compressor Repair Kits . . . . . .2889
Sander Conversion Kits . . . . .2983
Sander Kits . . . . . .2984
Sander Pads . . . . . .2983
Sander Vacuum Adapters . . .2983
Sander Vacuum Bags . . . . . .2983
Sander Vacuum Hose . . . . . .2983
Saw Blades . . . . . .2997
Trolleys . . . . . .2234

**ntech**
Hose Fastening Clips . . . . . .3042

**ntermatic**
Landscape Lighting . . . . . .1112
Photocontrols . . . . . .586
Sprinkler Timers . . . . . .584
Swimming Pool Timers . . . . . .583
Timer Surge Suppressors . . . .580
Timer Trippers . . . . . .574
Timers . . . . . .570-573, . . . . . .575-577, 579-580, 585

**International Steel Wool**
Sponges . . . . . .1957
Steel Wool . . . . . .1984

**IRD Mechanalysis**
Vibration Meters . . . . . .827
Vibration/Sound Meters . . . . . .827

**Irwin**
Carpenter's Pencils . . . . . .1386
Chalk . . . . . .1386
Chalkline . . . . . .1386

**ISI**
Air Hose . . . . . .2432
Air Supply Systems . . . . . .2437
Breathing Apparatus . . . . . .2439, 2442
Breathing Apparatus Accessories . . . . . .2442
Respirators . . . . . .2432

**ITW Bee Leitzke**
Key Stock . . . . . .1762-1763
Woodruff Keys . . . . . .1763

**Ives**
Door Trim And Protection . . . . . .2661-2663

**IVORY**
Bar Soap . . . . . .1855


## J


**J.B. Industries**
Core Tools . . . . . .3500
Evacuation Tools . . . . . .3500
Extension Hose . . . . . .3500
Refrigeration Fittings . . . . . .3500
Refrigeration Valves . . . . . .3500
Valve Core . . . . . .3500

**J.C. Goss**
Drop Cloths . . . . . .1984
Tarpaulins . . . . . .2260
Welding Screens . . . . . .1587

**Jabsco**
Drum Adapters . . . . . .3205
Drum Pumps . . . . . .3205
Hand Pumps . . . . . .3260
Impeller Pumps . . . . . .3175
Pump Brackets . . . . . .3205
Pump Motors . . . . . .3205
Pump Nozzles . . . . . .3205
Pump Strainers . . . . . .3205
Pump Tubes . . . . . .3205
Pumps . . . . . .3260

**Jabsco-PAR Brand**
Blowers . . . . . .3635

**Jackson**
Mortar Mixing Boxes . . . . . .2673
Mortar Pans . . . . . .2673
Wheelbarrows . . . . . .2673

**Jacobs**
Arbors . . . . . .1706-1707
Chuck Keys . . . . . .1704
Chuck Wedges . . . . . .1704
Chucks . . . . . .1702-1706
Drill Chucks . . . . . .1705
Drill Sleeves . . . . . .1708
Extension Sockets . . . . . .1708
Retaining Nuts . . . . . .1601

**Jarke**
Cantilever Racks . . . . . .2010-2011
Stacking Racks . . . . . .2012
Vertical Bar Racks . . . . . .2011

**Jiffy**
Padded Mailers . . . . . .2271

**Jiffylite**
Bubble Mailers . . . . . .2271

**Jobcom**
Two-Way Radio Accessories . .901
Two-Way Radios . . . . . .900-901

**John Crane**
Pump Shaft Seals . . . . . .3157

**John Guest Speedfit**
Tubing Fittings . . . . . .3042
Valves . . . . . .3042

**Johnson Controls/Penn**
Pressure Controls . . . . .3497-3499
Thermostats . . . .3327, 3329, 3331
Ventilation Controls . . .3330, 3339
Water Valves . . . . . .3496

**Johnson Level**
Bevels . . . . . .1383
Chalk . . . . . .1386
Chalkline . . . . . .1386
Cutting Guides . . . . . .1383
Gauges . . . . . .1384, 1387
Level Cases . . . . . .1385
Levels . . . . . .1383, 1385
Pencil Lead . . . . . .1386
Pencils . . . . . .1386
Plumb Bobs . . . . . .1383
Protractors . . . . . .1383
Rules . . . . . .1383
Squares . . . . . .1383-1384
Straight Edges . . . . . .1383

Yardsticks . . . . . .1383

**Jomac**
Glove Covers . . . . . .2470
Heat Protective Mittens . . . . .2470
Heat Protective Pads . . . . . .2470
Sleeves . . . . . .2469
Work Gloves . . . .2468-2469, 2471

**Justrite**
Accumulation Center Links . .2330
Accumulation Center Ramps . . . . . .2330
Bench Cans . . . . . .2341
Cabinet Ramps . . . . . .2353
Cabinet Shelves . . . . . .2349, 2353
Cease Fire Cans . . . . . .2345
D.O.T. Cans . . . . . .2341
Dip Tanks . . . . . .2342
Dispenser Cans . . . . . .2341
Disposal Cans . . . . . .2342
Disposal Systems . . . . . .2338
Drum Cabinets . . . . . .2352-2353
Drum Cradles . . . . . .2352
Drum Funnel Covers . . . . . .2327
Drum Funnels . . . . . .2327
Drum Pallets . . . . . .2330
Drum Rollers . . . . . .2352
Drum Storage Rack Shelves . . . . . .2332
Drum Storage Racks . . . . . .2332
Faucet Cans . . . . . .2340
Fire Suppression Systems . . .2353
Funnel Cans . . . . . .2340
Oily Waste Cans . . . . . .2342
Plunger Cans . . . . . .2341
Safety Cabinets . . . . . .2348, 2352
Safety Cans . . . . . .2340
Safety Storage Cabinet Shelves . . . . . .2349
Safety Storage Cabinets . . . . . .2348-2349
Spill Control Caddies . . . . . .2332
Spill Control Caddy Well Liners . . . . . .2332
Spill Control Centers . . . . . .2330
Spill Control Pallets . . . . . .2330
Storage Drum Overpack . . . .2330


## K


**Kadon**
Storage Boxes . . . . . .2047, 2055-2056

**Kal-Equip**
Battery Testers . . . . . .838
Brake Bleed Kits . . . . . .839
Compression Testers . . . . . .839
Gas Analyzers . . . . . .839
Pressure Testers . . . . . .839
Timing Lights . . . . . .838

**Kanalflakt**
Air Duct Boosters . . . . . .3639
Backdraft Dampers . . . . . .3639
Duct Fans . . . . . .3639
Exhaust Fans . . . . . .3549
Fan Grille . . . . . .3639
Ventilators . . . . . .3639

**Kane-May**
Anemometers . . . . . .852
CO Gas Analyzers . . . . . .841
Combustion Analyzers . . . . . .846
Combustion Tester Paper And Ribbon . . . . . .846
Computer Interface Kits . . . . . .846
Humidity Meters . . . . . .878

**Kappler**
Protective Clothing . . . .2475, 2477

**Karman Rubber**
Vibration Isolators . . . . .201, 3672

**Kee Klamp**
Structural Pipe Fittings . . . . . .2060

**Kennametal**
Boring Bar Sets . . . . . .1645
Boring Bars . . . . . .1641
Boring Head Adapters . . . . . .1645
Boring Heads . . . . . .1645
Boring Kits . . . . . .1643
End Mill Kits . . . . . .1643
End Mills . . . . . .1642
Lathe Turning Inserts . . . . . .1635-1638
Milling Cutters . . . . . .1642
Milling Inserts . . . . . .1639
On Edge Grooving Inserts . . .1639
Shank Tools . . . . . .1644
Threading And Grooving Toolholders . . . . . .1641
Toolholders . . . . . .1640-1641
Turning Kits . . . . . .1643

**Kennedy**
Drill Dispensers . . . . . .1204
End Mill Dispensers . . . . . .1204
Tap Dispensers . . . . . .1204
Tool Box Shelves . . . . . .1204
Tool Boxes . . . . . .1204
Tool Cabinets . . . . . .1204
Tool Carts . . . . . .1205
Tool Chests . . . . . .1205

**KEO**
Twist Drills . . . . . .1663

**Kester Solder**
Solder . . . . . .1536
Solders And Flux . . . . . .1536

**Key Instruments**
Flow Meters . . . . . .3283

**KI**
Benches . . . . . .2100
Chair Trucks . . . . . .2101
CPU Holders . . . . . .2111
File Cabinets . . . . . .2111
Folding Chairs . . . . . .2101
Shop Stools . . . . . .2100
Stack Chair Dollies . . . . . .2101
Stack Chairs . . . . . .2101
Tables . . . . . .2100-2101, 2111
Work Table Drawers . . . . . .2111
Work Table Riser Shelves . . .2111

**Kidde**
Fire Extinguisher Brackets . . .2354
Fire Extinguishers . . . . .2354-2355

**Kimberly-Clark**
Buckets . . . . . .1909
Disposable Clothing . . . . . .2473
Paper Towels . . . . . .1907
Wipes . . . . . .1907-1908

**Klear-Vu By Brossard**
Safety And Security Mirrors . . . . . .2622-2623

**Klein Tools**
Awls . . . . . .1367
Cable Cutters . . . . . .1313, 1321
Crimpers . . . . . .1313
Insulated Tool Kits . . . . . .1315
Knives . . . . . .1313
Nut Drivers . . . . . .1300, 1314
Plier Handles . . . . . .1307
Pliers . . . . . .1307, 1313
Screwdrivers . . . . . .1301, 1314
Tapping Tools . . . . . .1367
Wire Strippers . . . . . .1313, 1321

**Kohler**
Gas Engines . . . . . .2732
Muffler Mounting Kits . . . . . .2732
Mufflers . . . . . .2732

**Kraft**
Protection Paper Padding . . .2267

Wrapping Paper .....2267

**Krylon**
Cleaners .....2776, 2788, 2790
Coatings .....2788-2789
Insulating Varnish .....2788
Layout Spray .....2776

**Kuriyama**
Tubing .....3041

## L

**LaCrosse**
Rainfair Chemical Protection Clothing .....2481, 2487
Rainfair Cold Weather Clothing .....2482
Rainfair Foot Protection .....2488-2491
Rainfair Rainwear Clothing .....2478-2480, 2482

**Lamba Systems**
Floor Cones .....2608
Message Labels .....2608

**Landa Inc.**
Pressure Washer Accessories .....1898
Pressure Washers ....1896-1899

**Landis & Staefa**
Actuators .....3296
Calibration Wrenches .....3294
Controllers .....3294
External Restrictors .....3297
Pneumatic Valves ....3297, 3305
Relays .....3295
Switches .....3296-3297
Test Probes .....3294
Thermostat Covers .....3294
Thermostats .....3293-3294
Tubing .....3294
Tubing Adapters .....3294

**Lasko**
Fan Joist Hangers .....3545

**LAVA**
Hand Soap .....1855

**Lavallee & IDE**
Chucking Reamers .....1662

**Ledu**
Desk Lights .....1170
Lamp Bases .....1169
Machine Tool Lights .....1165
Magnifier Lights .....1171, 1173
Task Lights ....1166, 1169, 1173

**Legacy**
Funnel Systems .....2748
Grease Gun Accessories ....2741
Grease Guns .....2741, 2749
Grease Pump Dollies .....2745
Grease Pumps .....2743, 2745
Oil Suction Tubes .....2744
Oil Transfer Pumps .....2744

**Leigh**
Bathroom Cabinets .....1917
Mirrors .....1917

**Lensclean**
Anti-Fog Lens Liquid .....2376
Eyewear Lens Tissue .....2376
Lens Cleaning Stations .....2376
Respirator Sanitizing Concentrate .....2443
Respirator Wipes .....2443

**Leviton**
Cord Connectors .....728
Cord Plugs .....728
GFCI Outlets .....729
Lampholders .....733, 934-935
Light Dimmers .....733
Plug Adapters .....590
Receptacles .....729-730
Switch Plates .....732
Switches .....730, 934
Wall Plates .....732
Wall Switches .....728, 731

**Leviton Telcom**
Backboxes .....735
Telephone Adapters .....734-735
Telephone Cord .....734
Telephone Jacks .....735
Telephone Wires .....734

**Leybold Trivac A**
Vacuum Pumps .....2857

**Lift-All**
Load Huggers .....2250, 2311
Roundslings .....2240
Slings .....2239, 2242
Tow Straps .....2251
Winch Straps .....2250

**Lil-Mister**
Mist Coolant Systems .....2753

**Lincoln**
Fluid Control Handles .....2749
Funnel Drain Pans .....2752
Gear Oil Pumps .....2744
Grease Bearing Packers ....2751
Grease Fittings .....2746
Grease Gun Accessories .....2742-2743, 2746, 2749
Grease Guns ...2742, 2745, 2749
Grease Pump Accessories ...2746
Grease Pumps .....2744-2745
Lubrication Pumps .....2749
Lubrication Systems .....2757
Oil Drains .....2752
Oil Transfer Pumps .....2744
Transfer Pumps .....2744

**Lincoln Automotive**
End Lifts .....2720
Engine Stands .....2716
Floor Cranes .....2719
Fork Lift Stands .....2715
Jacks .....2711, 2713, 2715
Transmission Jacks .....2717
Vehicle Stands .....2721
Wheel Dollies .....2720

**Lincoln Automotive Winner Series**
Body/Frame Kits .....2723
Crane Jacks .....2719
Jacks .....2711, 2713
Vehicle Stands .....2721

**Linemaster**
Foot Switch Guards .....525
Foot Switches .....525

**Liquid Tight**
Connector Whips .....3451

**Lista**
Cabinets .....2040, 2096
Mobile Modular Drawer Cabinets .....2193
Modular Drawer Cabinets ...2040
Work Centers .....2193
Workbench Backstops And Endstops .....2090
Workbench Pedestals .....2090
Workbench Risers .....2090
Workbenches .....2092

**Lithonia Lighting**
Emergency Lighting Accessories .....1139, 1143, 1148, 1153
Emergency Lights .....1139-1142, 1148, 1150
Exit Signs ....1137, 1144-1145, 1147-1149

**Little Giant**
Check Valves .....3265
Coil Cleaners .....3165

Pumps . . .3130, 3141-3143, 3145, . . . . . .3165-3166, 3190, 3208, . . . . . .3216, 3264-3265, 3285
Switches . . . . . .3216
Tubing . . . . . .3143, 3265
Water Garden Anodes . . . . . .3144
Water Garden Clamps . . . . . .3144
Water Garden Filters . . . . . .3143
Water Garden Fountain Heads . . . . . .3144
Water Garden Fountain Nozzles . . . . . .3144
Water Garden Hose Kits . . . .3143
Water Garden Lighting . . . . . .3143
Water Garden Pond Kits . . . .3142
Water Garden Pond Liners . .3143
Water Valves . . . . . .3144

**Loc-Line**
Modular, Flexible Hose Systems . . . . . .3160-3161

**Locknetics**
Entry Key Programmers . . . . .2642
Entry Keys . . . . . .2642
Entry Reader Devices . . . . . .2642
Exit Devices . . . . . .2642
Exit Switches . . . . . .2642
Glass Door Brackets . . . . . .2641
Lock Batteries . . . . . .2641
Lock Devices . . . . . .2642
Lock Mounting Kits . . . . . .2641
Lock Power Supplies . . . . . .2641
Locks . . . . . .2640-2641

**Loctite**
Adhesive Clean-Up Solvents . . . . . .1789
Adhesives . . . . . .1785-1786, 1789
Corrosion Inhibitors . . . . . .639
Curing Aerosols . . . . . .1781
Epoxy . . . . . .1786
Epoxy Guns . . . . . .1786
Gasket Removers . . . . . .1784
Mix Nozzles . . . . . .1786
O-Ring Kits . . . . . .1780
Pipe Sealants . . . . . .1782
Retaining Compounds . . . . . .1781
Sealants . . . .1781-1782, 1784-1785, 1789
Threadlocker . . . . . .1780

**Louisville Ladder**
Ladder Accessories . . . . . .2182
Ladder Stands . . . . . .2186
Ladder Tags . . . . . .2183
Ladders . . . . . .2175, 2177-2178, . . . . . .2180-2181, 2184-2185
Safety Training Kits . . . . . .2183
Scaffold . . . . . .2186
Scaffold Planks . . . . . .2182
Step Stands . . . . . .2175
Stepladders . . . . .2176-2178, 2184

**Lovejoy**
Belt Tensioners . . . . . .300
Gear Couplers . . . . . .360
Shaft Couplings . . . . . .357, 359
U-Joint Couplings . . . . . .354
Universal Joint Boots . . . . . .354
Universal Joints . . . . . .354

**LPS**
Cleaners . . . . . .2781, 2787, 2790
Corrosion Inhibitors . . . . . .2789
Cutting Fluids . . . . . .2778-2779
Degreaser/Solvents . . . . . .2787
Lubricants . . . . . .2770, 2778, . . . . . .2781, 2787, 2789
Mold Release . . . . . .2779

**LTD**
Battery Chargers . . . . . .2318

**Lube Devices**
Air Vents . . . . . .2763
Ball Valves . . . . . .2754
Chain Oilers . . . . . .2758
Filter Vents . . . . . .2763
Flow Sights . . . . . .2765
Fluid Level Gages . . . . . .2807
Grease Cups . . . . . .2762
Hydraulic Filler Breathers . . . .2807
Hydraulic Suction Strainers . .2807
Liquid Filters . . . . . .2763
Needle Valve Manifolds . . . . .2760
Needle Valves . . . . . .2761
Oil Filler Cups . . . . . .2754
Oil Level Gages . . . . . .2764
Oil Reservoirs . . . . . .2754-2758
Pressure Relief Valves . . . . .2763
Pressure Relief Vents . . . . .2763
Pump Lubricators . . . . . .2758
Shank Brushes . . . . . .2759
Sight Glasses . . . . . .2763
Solenoid Valves . . . . . .2760
Spray Valves . . . . . .2759
Toggle Valves . . . . . .2760
Valve Brushes . . . . . .2759

**Lubesite**
Grease Feeders . . . . . .2762
Grease Refill Kits . . . . . .2762

**Lufkin**
Measuring Tapes . . . . .1389-1390
Wood Rules . . . . . .1390

**LumaPro**
Magnifier Lights . . . . . .1171, 1173
Portable Lighting . . . . .1159, 1161
Task Lighting . . .1166, 1169-1170

**Lumark**
Brackets . . . . . .1092
Floodlights . . . . . .1088-1089, 1091-1092
HID Fixtures . . . . . .1077-1079, . . . . . .1081, 1083, 1085, 1090
HID Wallpacks . . . . . .1092-1094
Industrial Lighting . . . . .1077-1078
Mounting Brackets . . . . . .1095
Roadway Fixtures . . . . . .1095
Roadway Lighting . . . . . .1095
Safety Glass Bottoms . . . . . .1086
Wall Fixtures . . . . . .1093
Wire Guards . . . . . .1086

**Lutron**
Ballasts . . . . . .1050
Dimmer Knobs . . . . . .1049
Light Dimmers . . . . . .1047-1049, 1051-1054
Switches . . . . . .1047

**Luxo**
Desk Lights . . . . . .1170
Exhaust Fan Filters . . . . . .1171
Exhaust Fans . . . . . .1171
Magnifier Lights . . . . . .1173
Task Lights . . . . . .1170


## M


**MacClean**
Filter Media . . . . . .3074
Water Filters . . . . . .3073
Water Softeners . . . . . .3071-3073
Water Test Kits . . . . . .3074
Water Treatment Chemicals . . . . . .3074

**MacNaught**
Grease Guns . . . . . .2749
Oil Meters . . . . . .2749

**Madison**
Float Switches . . . . . .3233

**Mag-Lite**
Flashlight Accessories . . . . . .1183
Flashlights . . . . . .1182-1183

**Magna**
Chuck Keys . . . . . .1441
Drill Bits . . . . . .1432
Fin Combs . . . . . .3443
Jig Saw Blades . . . . . .1469
Nutsetters . . . . . .1430
Router Bits . . . . . .1473, 1476
Saw Blades . . . . . .1457, 1469
Screw Extractors . . . . . .1664
Screwdriver Bits . . . . . .1428-1431
Screwdrivers . . . . . .1430
Tap And Die Sets . . . . .1675, 1677

**Malco**
Sheet Metal Tools . . . . . .1347

**Maple Chase**
Enclosures . . . . . .3339
Sampling Tubes . . . . . .3339
Smoke Detectors . . . . . .3339
Thermostats
. . . . . .3314, 3317, 3319, 3321

**Mar Mac**
Protective Clothing . . . .2474, 2481

**Marathon**
Electric Water Heaters . . . . . .3078

**Markal**
Lumber Crayons . . . . . .1715
Markers . . . . . .1715
Railroad Chalk . . . . . .1715

**Marsh**
Ink Cleaners . . . . . .2288
Ink Markers . . . . . .2289
Ink Rollers . . . . . .2288
Marker Ink . . . . . .2289
Oil Stencil Boards . . . . . .2288
Spray Adhesives . . . . . .2289
Stencil Brushes . . . . . .2289
Stencil Cover-Up . . . . . .2289
Stencil Ink . . . . . .2288-2289
Stencil Machines . . . . . .2288
Tape Machines . . . . . .2277

**Marson**
Rivet Tools . . . . . .1716
Rivet Washers . . . . . .1719
Rivets . . . . . .1716-1719

**Master Appliance**
Heat Blowers . . . . . .1532
Heat Gun Elements . . . . . .1532
Heat Guns . . . . . .1530-1532
Heat Tools . . . . . .1531
Microtorches . . . . . .1530

**Master Lock**
Combination Locks . . . . . .2626
Hasps . . . . . .2628
Locker Locks . . . . . .2075
Lockouts . . . . . .2562
Locks . . . . . .2563, 2626
Padlock Collars . . . . . .2569
Padlock Control Keys . . . . . .2626
Padlock Tags . . . . . .2569
Padlocks
. . . . . .2562-2563, 2624-2627
Trailer Locks . . . . . .2630
U-Bar Locks . . . . . .2626

**Master Manufacturing**
Caster Stems . . . . . .2129
Casters . . . . . .2129
Doorstops . . . . . .2171

**Masterack**
Ladder Racks . . . . . .2183
Tie Down Kits . . . . . .2183

**Matsushita**
Air Conditioner Compressors
. . . . . .3465
Coil Cleaners . . . . . .3480

**Max-Torque**
Clutches . . . . . .264

**Maxitrol**
Pressure Regulators . . . . . .3340

**Maxon**
Two-Way Radios . . . . . .902

**McClane**
Edger/Trimmers . . . . . .2682

**McCulloch**
Chain Saws . . . . . .2684

**McDonnell & Miller**
Flow Switches . . . . . .3237

**McGill Manufacturing Co.**
Lamp Changers . . . . . .983

**Mec-O-Matic**
Chemical Solution Tanks . . . .3278
Flow Indicators . . . . . .3278
Pump Systems . . . . . .3278
Pump Tubing . . . . . .3280
Pump Valves . . . . . .3278
Pumps . . . . . .3278, 3280

**Merit**
Abrasive Belt Cleaners . . . . .1627
Bore Polishers . . . . . .1613
Cartridge Mandrels . . . . . .1628
Cartridge Rolls . . . . . .1629
Drum Sanding Kits . . . . . .1627
Flap Wheel Adapters . . . . . .1612
Flap Wheels . . . . . .1612-1614
Grinding Wheels . . . . . .1601
Mandrels . . . . . .1613
Power-Lock Discs . . . . .1621-1623
Power-Lock Holders . . .1621-1623
Sandpaper . . . . . .1625
Shank Adapters . . . . . .1612
Spiral Bands . . . . . .1628
Spiral Rolls . . . . . .1628
Test Kits . . . . . .1614, 1629

**Merlin Gerin**
Circuit Breaker Panel Brackets
. . . . . .388
Current Limiting Protectors
. . . . . .388-389
Pushbutton Bulbs . . . . . .509

**Metal Removal**
Carbide Burs . . . . . .1689
Drill Bits . . . . . .1664
End Mills . . . . . .1682
Twist Drills . . . . . .1664

**MetalPro**
Ironworker Brakes . . . . . .1510
Ironworkers . . . . . .1510
Notchers . . . . . .1510
Punch And Die Sets . . . . . .1510

**Metalux**
Fluorescent Lighting Fixtures
. . . . . .1062, 1064-1066, 1068
Strip Fixtures . . . . . .1059-1063
Surface Modular Lighting Fixtures
. . . . . .1066
Troffer Fixtures . . . . . .1056-1058
Wet Location Lighting Fixtures
. . . . . .1064
Wraparound Lighting Fixtures
. . . . . .1067-1068

**Metro**
Carts . . . . . .2196
Industrial Shelving . . . .2032-2035
Security Trucks . . . . . .2196
Wire Carts . . . . . .2196

**Mettler Toledo**
Beam Scales . . . . . .2300
Counting Scales . . . . . .2300
Floor Scales . . . . . .2300
Parcel/Shipping Scales . . . . .2300

**Metzgar**
Ball Transfer Balls . . . . . .2265
Conveyors . . . . . .2265-2266

**MFG Tray Co.**
Tote Boxes .....2055

**MGE UPS Systems**
Batteries .....400
UPS Systems .....400

**Micro-Drop**
Mist Coolant Systems .....2753

**Midwest Pacific**
Impulse Sealers .....2268
Shrink Wrap .....2298
Shrink Wrap Systems .....2298

**Miller Electric**
Amp/Volt Meter Kits .....1574
Arc Starter/Stabilizer .....1575
Arc Starters .....1572
Cutters .....1579
Cylinder Carts .....1571, 1575
Mig Gun Accessories .....1575
Mig Guns .....1575
Plasma Cutters .....1579
Spool Guns .....1573, 1575
Spot Welder Accessories .....1572, 1577-1578
Spot Welders .....1577-1578
Water Coolant Systems .....1579
Welder/Generators .....1580-1582
Welders .....1571-1574, 1576
Welding Accessories .....1570, 1579-1580
Welding Accessory Kits .....1572, 1581
Welding Cord Sets .....1573
Welding Extension Cord .....1575
Welding Remote Controls .....1572, 1575
Wire Feeder Digital Meters .....1574
Wire Feeder Drive Rolls .....1574
Wire Feeder Wire Reel Assemblies .....1574
Wire Feeders .....1574, 1582

**Miller Equipment**
Anchorage Connectors .....2511
Body Belts .....2503, 2506
Body Harnesses .....2504-2507
Bos'n Chairs .....2503
Carabiners .....2510
Cross-Arm Straps .....2511
Harness Shoulder Pads .....2506
Lanyard Clips .....2506
Lanyards .....2508-2510
Lifelines .....2507, 2510-2511
Nylon Rope .....2509
Rebar Chain Assemblies .....2510
Retrieval Systems .....2511, 2513
Roof Mount Systems .....2507
Rope Grabs .....2510
Safety Anchorage .....2511
Tripods .....2513
Work Winches .....2513

**Miller Fluid Power**
Hydraulic Cylinders .....2810
Hydraulic End Mounts .....2811

**Millhiser**
Cloth Mailing Bags .....2269
Cloth Parts Bags .....2269
Plastic Bags .....2269

**Milton**
Blow Guns .....3028
Tire Gauges .....3028
Tire Inflator/Gauges .....3028

**Milwaukee**
Angle Drive Kits .....1417
Backing Pads .....1494
Bandfiles .....1488
Battery Chargers .....1427
Battery Packs .....1427
Caulk Guns .....1409
Clamps .....1465
Cord Sets .....1441
Demolition Hammers .....1445
Drain Cleaners .....1338
Drill Accessories .....1427
Drill Batteries .....1427
Drill Bit Arbors .....1433
Drill Bit Extensions .....1433
Drill Bits .....1433, 1449
Drill Chucks .....1427, 1433
Drill Cords .....1441
Drill Presses .....1450
Drill Stands .....1450
Drills .....1407-1409, .....1415-1417, 1443, 1449-1450
Drive Bits .....1421
Flashlights .....1427
Gauge Shears .....1481
Grinder Pads .....1494
Grinders .....1489, 1492-1493
Hammer Dollies .....1445
Hammer Drills .....1440
Hammers .....1408, 1443, 1445
Heat Guns .....1532
Impact Drivers .....1412
Impact Wrenches .....1423
Jig Saws .....1409
Miter Saw Stands .....1465
Miter Saw Supports .....1465
Nibblers .....1480
Polishers .....1496
Polishing Pads .....1496
Routers .....1471
Sander/Grinder Guards .....1494
Sander/Grinders .....1492, 1494
Sanders .....1482-1483, 1486
Saw Blades .....1455-1456
Saw Tables .....1452
Saws .....1411, 1452, 1454, .....1459, 1461, 1465-1466, 1468
Sawzalls .....1454
Screwdriver Accessories .....1421, 1427
Screwdrivers .....1412, 1420-1421
Screws .....1421
Self Feed Screws .....1433

**Milwaukee Steel Hawg**
Hole Cutters .....1451

**Minute Man**
Broach Sets .....1688

**Mitutoyo**
Bore Gage Sets .....1826
Calipers .....1803-1804
Center Gages .....1824
Combination Squares .....1820
Dial Indicators .....1808-1810, 1813
Dial Thickness Gages .....1813
Drill Gages .....1825
Gage Blocks .....1826
Height Gages .....1805-1806
Indicator Stands .....1812
Measuring Tools .....1807
Micrometer Stands .....1812
Micrometers .....1797-1801
1-2-3 Blocks .....1827
Protractors .....1820
Radius Gages .....1823
Steel Rules .....1819
Tap And Drill Gages .....1825
Telescoping Gages .....1806
Wire Gages .....1825

**Mobil**
Master Wrap .....2296

**Mobil Oil**
Air Compressor Oil .....2768
Air Tool Oil .....2768
Compressor Oil .....2768
Cutting Fluid .....2777
Cutting Oil .....2777

Engine Oil .....2767
Gear Lubricants .....2766
Gear Oil .....2766
Grease .....359, 2771
Hydraulic Oil .....2769
Machine Tool Oil .....2769, 2777
Metalworking Coolants .....2777
Refrigeration Compressor Oil .....2768
Transmission Fluid .....2766
Transmission Oil .....2766
Vacuum Pump Oil .....2768

**Mobilrap**
Hand Wrap .....2296

**Modern Aids**
Finger Safety Tape .....2472

**Modicon**
Logic Controllers .....560

**Moen**
Faucet Cartridges .....3109
Faucets .....3109
Soap Dispensers .....3109

**Monarch**
Reflective Tape .....833
Sensors .....836
Strobe Lamps .....836
Stroboscope Cases .....836
Stroboscope Chargers .....836
Stroboscopes .....837
Tachometers .....833, 836

**Morrill**
Fan/Blower Motors .....115
Motor Brackets .....201

**Motorola**
Headsets .....899
Radio Batteries .....899
Radio Battery Packs .....899
Radio Chargers .....899
Radio Coded Squelch Modules .....899
Two-Way Radio Antenna .....899
Two-Way Radio Belt Clips .....899
Two-Way Radio Cases .....899
Two-Way Radio Earpieces .....899
Two-Way Radio Speakers .....899
Two-Way Radios .....898
UHF Antenna .....899
VHF Antenna .....899
VOX Adapters .....899

**Movincool**
Air Chambers .....3461
Air Conditioner Casters .....3461
Air Duct Extensions .....3461
Air Flanges .....3461
Air Plenum Kits .....3461
Condenser Air Pipe .....3461
Duct Kits .....3461
Pump Kits .....3461
Spot Cooler Remote Control Kits .....3461
Spot Cooler Roller Kits .....3461
Spot Cooler Stand Kits .....3461
Spot Cooler Trim Rings .....3461
Spot Cooler Wagon Kits .....3461
Spot Coolers .....3460

**MSA**
Calibration Gas .....2526
Calibration Gas Regulators .....2526
Calibration Test Kits .....2526
Ear Muffs .....2391
Gas Detector Accessories .....2517, 2519, .....2525-2526, 2528, 2530, 2535
Gas Detectors .....2519, 2527-2528, 2530
Hard Hat Accessories .....2378, 2382-2383, 2385, 2392
Hard Hats .....2382-2383
Respirator Accessories .....2405, 2410-2411, 2413, .....2421, 2426-2429, 2432, .....2435, 2437, 2440, 2443-2444
Respirators .....2400, 2405, 2410, 2413, .....2421, 2426-2427, 2429, .....2432, 2439-2440

**MTD**
Chipper/Shredders .....2682
Conveyor Stands .....2263-2264
Conveyors .....2263-2264
Leaf Blowers .....2665

**Multifan**
Fans .....3605, 3610
Speed Controls .....3612
Thermostats .....3612

**Myers**
Pumps .....3215, 3221, 3223, 3231


## N


**Nashua**
Cloth Tape .....2281
Duct Tape .....2281, 3439
Masking Tape .....2284
Pipe Insulation Tape .....2281

**Nashville**
Wire Containers .....2059

**National Fire Hose**
Fire Hose .....3034

**National Partitions**
In-Plant Office Doors .....2079
In-Plant Office Glass .....2079
In-Plant Office Light Fixtures .....2079
Modular In-Plant Offices .....2078-2079

**Nelson**
Hose Adapters .....2696-2697
Hose Nozzles .....2694
Lawn Sprinklers .....2695-2696
Water Hose Connectors .....2697
Water Hose Quick Connectors .....2696
Water Hose Repair .....2696
Water Timers .....2697

**Neosporin**
Antibiotic Ointment .....2549

**Neptune Mixer Company**
Drum Tank Mixers .....2322

**Newborn**
Caulk Guns .....1795

**Niagara**
End Mills .....1683
Milling Cutters .....1685
Saws .....1686-1687

**Nibco**
Boiler Drain Valves .....3064
Butterfly Valves .....3062
Drain Valves .....3059
Garden Valves .....3068
Gas Ball Valves .....3068
Gate Valves .....3060-3061, 3068
Globe Valves .....3061
Hose Bibbs .....3059
In-Line Check Valves .....3060
Lawn Faucets .....3068
Plumbing Fittings .....3047-3049
Sill Faucets .....3059
Sillcocks .....3059
Stop And Waste Valves .....3059
Swing Check Valves .....3060
Waste Valve Caps .....3059

**Nicholas**
Aprons .....1394-1395
Belts .....1395

Bucket Caddys .....1395
Hammer Holders .....1394
Holsters .....1394
Knee Pads .....1395
Nail Bags .....1394
Suspenders .....1395
Tape Holders .....1394
Tool Bags .....1395
Tool Belts .....1395
Tool Pouches .....1394-1395

**Nicholson**
File Accessories .....1373
Files .....1368-1373
Restoring File Sets .....1368

**Nighthawk Industries**
Carbon Monoxide Detectors .....2361

**Nippondenso**
Air Conditioners .....3460
Condensate Pumps .....3461
Flange Reducers .....3461

**North Chemical Protection**
Aprons .....2486
Sleeves .....2486

**North Hand Protection**
Chemical Protection Gloves .....2459, 2461, 2464
Disposable Gloves .....2462
Drivers Gloves .....2448
Finger Cots .....2472
Glove Bags .....2467
Glove Liners .....2467
Glove Protectors .....2467
Latex Gloves .....2462, 2464
Nitrile Gloves .....2461
Rubber Gloves .....2467
Vinyl Gloves ....2458, 2463, 2465
Work Gloves .....2445-2449, .....2451-2452, 2455-2457, .....2459-2460, 2465, .....2467-2468, 2471

**North Health Care**
Alcohol Screening Kits .....2548
Bandages .....2550
Body Flush Stations .....2536
Ear Canal Caps .....2390
Ear Muffs .....2391-2392
Ear Plugs .....2386-2389
Eye Treatment .....2536
First Aid Cabinets .....2544
First Aid Kits .....2543-2544, .....2546-2549, 2551-2552
First Aid Refills .....2536, 2547, 2549-2553
Occupational Health Products .....2549-2550, 2552

**North Safety**
Air Hose .....2438
Air Pumps .....2435
Faceshield Visors .....2379
Faceshields .....2379
Hard Hat Suspensions .....2384
Hard Hats .....2384
PAPR Respirators .....2417
Respirator Air Hose .....2438
Respirator Bulk Heads .....2441
Respirator Cartridges .....2407
Respirator Conversion Kits .....2414, 2417, 2431, 2434
Respirator Couplers .....2438
Respirator Cylinders ...2434, 2441
Respirator Detergent .....2443
Respirator Filter Adapters ...2407
Respirator Filter Covers .....2407
Respirator Filter Holders ....2407
Respirator Filter/Cartridges ..2407
Respirator Filters .....2397, 2407
Respirator Fit Test Kits .....2444
Respirator Hoods .....2424
Respirator Pump Packages ..2425
Respirator Training Tapes ...2443
Respirator Video Tapes .....2443
Respirator Wipe Pads .....2443
Respirators .....1579, 2397, ...2401, 2406, 2414-2415, 2424, ...2431, 2434, 2439-2441, 2444
Safety Glasses .....2365, 2369
Supplied Air Hose .....2438
Vortex Tubes .....2424

**Norton**
Abrasive Belts .....1616-1618
Abrasive Discs ..1605, 1608-1609
Abrasive Hand Pad Holders ..1608
Abrasive Rolls .....1625
Abrasive Sheets .....1626
Abrasive Wheels .....1610
Backup Pads .....1605, 1608
Bear-Tex Belts .....1611
Body File Strips .....1629
Bushings .....1611
Dressing Sticks .....1593
Flap Wheels .....1611
Grinding Wheels .....1589-1594, .....1596-1598, 1602-1603, ...1606-1607, 1610, 1619-1620, .....1624
Hand Pads .....1608
Knife Sharpeners .....1600
Mandrels .....1610
Sharpening Stone Oil .....1600
Sharpening Stones ....1599-1600

**Norton Door Controls**
Door Closers .....2644

**Notrax**
Anti-Fatigue Mats .....1936-1938
Entrance Mats .....1934-1935
Floor Mats .....1935-1938

**NTN**
Ball Bearings .....327-329, .....332-333, 336-337, 347
Roller Bearings .....338

**Nu Way**
Cargo Boxes .....2671
Utility Trailers .....2671

**Nupla**
Asphalt Kumalongs .....2676
Hammer Handles .....1360
Hammer Tips .....1359
Hammers .....1359-1360
Hoes .....2676
Pick Handles .....2680
Pick/Mattocks .....2680
Post Hole Diggers .....2676
Pry Bars .....2680
Rakes .....2676
Rubber Mallets .....1360
Scoops .....2676
Shovel Handles .....2676
Shovels .....2676
Sledge Hammers .....1360
Soil Probes .....2676


## O


**Oasis**
Dehumidifiers .....3511
Water Coolers .....3088

**Oetiker**
Clamp Kits .....3039
Crimp Clamps .....3039
Jaw Pincers .....3039

**Off**
Insect Repellents .....1867

**Ohaus**
Scales . . . . . .2301

**Olympus Flag And Banner**
U.S. Flags . . . . . .903

**Omron**
Controllers . . . . . .558, 561, 563
Din Mounting Rails . . . . . .481
Electronic Counters . . . . . .567
Flush Mount Adapters . . . . . .498
Hour Meters . . . . . .568
Input Modules . . . . . .558
Output Modules . . . . . .558
Relay Heat Sinks . . . . . .486
Relay Sockets . . . . . .481
Relays . . . . . .475, 479, . . . . . .484, 486, 495, 498, 550
Switch Terminal Enclosures . . .528
Switches . . . . . .528-530, 539, . . . . . .544-550, 553, 555, 563
Temperature Controllers . . . . .563
Timers . . . . . .578
Transformers . . . . . .563

**Onan**
Generator Wheels . . . . . .2736
Generators . . . . . .2736

**Opto-Matic**
Oilers . . . . . .2757

**Oregon**
Chain Saw Bar And Chain . . .2685
Chain Saw Breakers . . . . . .2688
Chain Saw Chain . . . . . .2685
Chain Saw Rivet Spinners . . .2688
Chain Saw Sharpeners . . . . .2688

**OTC**
Bearing Separators . . . . . .1404
Jaw Pullers . . . . . .1402
Puller Sets . . . . . .1402-1404
Pulling Attachments . . . . . .1404
Push-Pullers . . . . . .1405
Shaft Protector Sets . . . . . .1405
Step Plate Adapters . . . . . .1405
Thread Chasers . . . . . .1403

**Outland Engineering**
A/C Window Supports . . . . . .3455

**P**

**Pac-Seal Inc.**
Pump Shaft Seals . . . . . .3158

**Packless**
Vibration Absorbers . . . . . .3473

**PAK Sak**
Foam Packaging . . . . . .2270
Plastic Bags . . . . . .2268
Twist Ties . . . . . .2268

**Panasonic**
Camera Brackets . . . . . .2649
Camera Housings . . . . . .2649
Camera Lenses . . . . . .2649
Camera Switchers . . . . . .2648
CCTV Cameras . . . . . .2647-2648
CCTV Housing Fan/Heater Units . . . . . .2649
CCTV Monitors . . . . . .2647
CCTV Power Supplies . . . . . .2647
CCTV Video Recorders . . . . .2647
Closed-Circuit Televisions . . .2647
Television Lenses . . . . . .2649

**Paragon**
Timers . . . . . .575-576, 579, . . . . . .581-582, 585, 3503-3504

**Parker**
Air Hose . . . . . .3021
Brass Fittings . . .3043-3045, 3050
Cartridge Valves . . . . . .2817
Check Valves . . . . . .2814
Flow Control Valves . . .2814, 2932
Hydraulic Gear Pumps . . . . . .2798
Needle Valves . . . . . .2814
O-Ring Kits . . . . . .2914
Outdoor Vacuums . . . . . .1895
Saddle Valves . . . . . .3058
Technical Manuals . . . . . .2818, 2938, 2945

**Parker Filtration**
Bag Filters . . . . . .3098-3100
Dryer Cores . . . . . .3492
Expansion Valves . . . . .3493-3495
Filter Housings . . . . . .3098
Filter/Dryers . . . . . .3490
Filtration Cartridges . . . . . .3097
Fuel Filters . . . . . .3201
Heat Pump Filter/Dryers . . . . . .3491-3492
Hydraulic Filter Carts . . . . . .2825
Hydraulic Filters . . . . . .2825, 2828-2829
Refrigeration Dryers . . . . . .3490
Refrigeration Filter/Dryers . . . . . .3489-3491
Sight Glasses . . . . . .3489
Solenoid Valves . . . . . .3493

**Parker Products**
Furnace Cement . . . . . .3443

**Payload Plus**
Truck Tool Boxes . . . . . .1191

**Peabody Barnes**
Fountain Pumps . . . . . .3127

**Pelican Products Inc.**
Flashlight Accessories . . . . . .1180-1181
Flashlights . . . . . .1179-1181
Lanterns . . . . . .1180

**Pelouze**
Scales . . . . . .2299

**Peltor**
Ear Muffs . . . . . .2392-2393

**Penco**
Bulk Storage . . . . . .2014
Drawer Dividers . . . . . .2027
Industrial Shelving . . . . . .2026
Locker Bases . . . . . .2072
Locker Benches . . . . . .2072
Locker Room Bench Tops . . .2072
Locker Sloping Tops . . . . . .2072
Lockers . . . . . .2068-2072
Modular Drawers . . . . . .2027
Pallet Rack . . . . . .2008-2009
Pallet Rack Accessories . . . . . .2008-2009
Particleboard Decking . . . . . .2015
Particleboard Shelving . . . . . .2015
Shelf Bulk Steel . . . . . .2014
Shelf Dividers . . . . . .2027
Shelving . . . . . .2027
Shelving Bin Fronts . . . . . .2027
Shelving Doors . . . . . .2027
Storage Cabinets . . . . . .2065
Wire Decking . . . . . .2014

**Penn Ventilator**
Blowers . . . . . .3653
Duct Fans . . . . . .3653
Exhaust Fans . . . . . .3592-3593
Intake Louvers . . . . . .3597

**Pepto Bismol**
Antacids . . . . . .2552

**Perfect Fit Glove Co.**
Arm Guards . . . . . .2451, 2453
Gloves . . . . . .2450-2451, . . . . . .2453-2454, 2457, 2468

**Perfect-Line**
Couplings . . . . . .655
Cover Plates . . . . . .679, 683-684

# NATIONAL BRANDS BY MANUFACTURER

## Perfect-Line — Precision Brand


Electrical Boxes .....682-683

**Perfection-Schwank**
Gas Heaters ....3379, 3414, 3417
Gas Infrared Heaters .....3411
Heat Tube Fittings .....3414
Heater Floor Pads .....3417
Vent Kits .....3417

**Perma Power**
Surge Suppressors .....695

**Perma-Patch**
Asphalt Patching .....2690

**Permatex**
Adhesives .....1784
Gasket Sealers .....1785
Layout Fluid .....2776
Pipe Sealant .....1782
Sealants .....2788

**Permatite**
Seal Strips .....3443

**Phason**
Temperature Controls .....3612

**Phillips-Aire**
Access Doors .....3435
Dampers .....3434-3435

**Plastic Oddities**
Water Heater Pans .....3083

**Pledge**
Furniture Polish .....1863

**Plews**
Battery Carriers .....2751
Battery Fillers .....2751
Battery Testers .....2751
Bench Oilers .....2747
Funnels .....2750
Grease Gun Fittings .....2741
Liquid Measures .....2750
Oil Drains .....2752
Oil Filter Wrenches .....2751
Pistol Oilers .....2747
Radiator Fillers .....2751
Spray Cleaners .....2747

**Plugmold**
Raceway Fittings .....692
Raceways .....692

**Plumbshop**
Tubular Brass .....3106
Tubular Plastic .....3106

**Polar Plastics**
Poly Sheeting .....2261

**Polaroid**
Camera Film .....911
Camera Refill Kits .....910
Cameras .....910-911
Computer Glare Filters .....912
Computer Software .....910
ID Cameras .....910
Jobsite Cameras .....911

**Polaview**
Projection Panels .....912

**Poly-Cord**
Tie-Down Straps .....2259

**Poly-Strap**
Tie-Down Straps .....2259

**Pomona**
Alligator Clips .....783
Banana Jacks .....823
Banana Plugs .....823
Binding Post Adapters .....823
BNC Adapters .....823
Cable Assemblies .....782, 784
Coaxial Connectors .....823
Connector Adapters .....822
Ground Lugs .....824
Ground Terminals .....824
Oscilloscopes .....821
Patch Cords .....784
Probes .....821
Snap Stud/Screws .....824
Static Control Cord .....824
Static Control Kits .....824
Test Clips .....783, 822
Test Instrument Adapters .....822
Test Lead Holders .....822
Test Leads .....782-784, 816
Test Probes .....784
Wrist Strap Testers .....824
Wrist Straps .....824

**Pop Fasteners**
Air Riveters .....3015

**Port-A-Cool**
Caster Sets .....3577
Duct Connectors .....3577
Evaporative Cooler Covers .....3577
Evaporative Cooler Pads ....3577
Evaporative Cooling Systems .....3577
Water System Treatments ...3577

**Port-A-Filler**
Evaporative Cooler Water Tanks .....3577

**Porter Cable**
Band Saw Stands .....1453
Boring Jigs .....1472
Cutout Tools .....1418
Dovetail Machines .....1473
Dovetail Templates .....1473
Laminate Trimmers .....1474
Plate Joiner Biscuits .....1475
Plate Joiner Blades .....1475
Plate Joiners .....1475
Polisher Bonnets .....1495
Polishers .....1495
Router Accessories ....1473-1474
Router Bits .....1478-1479
Router Tables .....1473
Routers .....1472
Sander Pads .....1482
Sanders .....1482-1484, 1486
Sandpaper .....1484
Saws .....1453-1454, 1459
Wet/Dry Vacuum Dust Filters .....1484
Wet/Dry Vacuum Filter Bags .....1484
Wet/Dry Vacuums .....1484

**Posi-Lock**
Hub Puller Adapters .....1402
Pullers .....1402

**Potter & Brumfield**
Circuit Breakers .....391
Relays .....476-479, 483, ....486-487, 492, 496-497, 499

**Potters Ind.**
Blasting Media .....1526

**Poulan**
Chain Saw Cases .....2683
Chain Saws .....2683

**Power Twist**
V-Belts .....309

**Power/Flex**
Conveyors .....2262

**Powerpress**
Pipe Clamps .....1377

**Powerstream**
Water Heaters .....3077

**Powr-Grip**
Vacuum Cups .....2259

**Precision Brand**
Feeler Gauges .....1312
Hot Melt Coating .....1715
Piano Wire .....1713

Punch And Die Sets .....1715
Shim .....1710-1713, 1733
Tool Black Kits .....1715
Tool Wrap .....1715

**Premier**
Appliance/Tool Motors .....176

**Premier Telephone**
Telephone Line Testers .....734

**Pressol**
Pump Oilers .....2747

**Prince**
Gear Pumps .....2801
Hydraulic Cylinders ....2808-2809
Hydraulic Valves
.....2809, 2812, 2822-2823
Port Reliefs .....2824
Tie Rod Cylinders .....2808
Tie Rod Kits .....2824
Valves .....2813, 2822, 2824

**Prinzing Enterprises**
Ball Valve Lockouts .....2567
Battery Safety Kits .....2334
Circuit Breaker Lockouts ....2564
Dust Mask Dispensers .....2403
Ear Plug Dispensers .....2387
Gate Valve Lockouts .....2567
Jobsite Document Boxes ....2595
Lockout Centers .....2560
Lockout Kits .....2564, 2568
Lockout Lock Boxes .....2564
Lockout Procedure Stations ..2568
Lockout Safety Posters .....2590
Lockout Wall Switches .....2561
OSHA Record Kits .....2595
Plug Lockouts .....2566
PPE Dispensers .....2375
Right-To-Know Binders .....2590
Right-To-Know Centers
.....2560, 2590
Safety Eyewear Dispensers
.....2375
Safety Lockout Boards .....2560
Safety Posters .....2590
Safety Tag Displays .....2564
Valve Lockouts .....2567

**Pro-Line**
Air Quick Disconnects .....2093
Bin Arms .....2093
Bin Holders .....2093
Drawer Hanging Kits .....2093
Electrical Strips .....2093
ESD Ground Kits .....2093
ESD Wrist Straps .....2093
Modular Drawers .....2093
Monitor Arms .....2093
Overhead Lights .....2093
Shelves .....2093
Tool Balancers .....2093
Tool Trolley .....2093
Uprights .....2093
Workbenches .....2093

**Proflex**
Anti-Vibration Gloves
.....2498-2499
Back Supports .....2494-2495
Elbow Supports .....2500
Ergonomic Review Kits .....2494
Wrist Supports .....2500

**Progress**
Ceiling Lights .....1071
Wall Sconces .....1073

**Prosser**
Pumps .....3226

**Protectoseal**
Drum Faucets .....2325
Drum Funnels .....2327
Drum Valves .....2325
Drum Vents .....2328

**Protege**
Floor Finish .....1838

**Proto**
Chisel Holders .....1362
Chisels .....1365
Drive Socket Accessories
.....1230-1231, 1234, 1236
Drive Socket Sets .....1221-1228
Drive Sockets .....1230-1236
Feeler Gauges .....1312
Hammers .....1358
Hex Bit Socket Sets .....1229
Hex Bit Sockets .....1233, 1235
Hex Bits .....1231, 1235
Impact Socket Accessories
.....1238-1240, 1242-1243
Impact Sockets .....1237-1243
Knife Blade Disposal Containers
.....1352
Magnetic Tool Holders .....1197
Pliers .....1308, 1766
Pry Bars .....1361
Punch And Chisel Sets .....1365
Punches .....1362-1363
Ratchet Repair Kits
.....1231, 1234, 1236, 1288
Retrieving Tools .....1312
Roller Cabinets .....1196
Saws .....1354, 2681
Scrapers .....1392
Screwdriver Bits .....1293
Socket Drivers .....1230
Socket Ratchets
.....1230-1231, 1288
Socket Sets
...1223, 1225-1227, 1229, 1237
Socket Universal Joints .....1230
Spark Plug Sockets ...1231, 1234
Stud Removers .....1234
Tape Measures .....1388
Tool Boxes .....1217
Tool Cabinets .....1196
Tool Chests .....1196-1197, 1218
Tool Sets
...1207, 1209, 1211, 1213-1220
Torque Multipliers .....1290
Torque Screwdrivers .....1289
Torque Wrenches .....1288-1289
Wrench Sets ....1230, 1245-1247
Wrench Sockets .....1230
Wrenches
...1233, 1235, 1244, 1247-1251

**Provon**
Skin Care Systems ....1856-1857
Soap .....1861
Soap Dispensers .....1857

**Pulsafeeder**
Chemical Solution Tanks ....3280
Pump Brackets .....3280
Pump Valves .....3279

**Pulsatron**
Pump Repair Kits .....3279
Pumps .....3279

**Purox**
Welding Heads .....1558, 1560

**Putnam**
End Mills .....1681


## Q


**Qmark**
Baseboard Heater Corners
.....3391-3392
Baseboard Heaters ....3391-3392
Built-In Heaters .....3390
Ceiling Heaters .....3385, 3389
Ceiling Mount Brackets .....3397
Convectors .....3388, 3393
Cord Sets .....3395

Diffusers .....3395, 3398
Disconnect Switches .....3389, 3398
Fan Switches .....3398
Heater Brackets .....3397
Heater Mounting Frames .....3385-3387, 3389
Heater Trim Kits .....3389
Portable Heaters .....3382, 3384
Radiant Ceiling Panels .....3389
Radiant Heaters .....3388
Thermostats .....3387, 3389-3392, 3398
Transformer Relays .....3389
Unit Heaters ....3394, 3396, 3399
Utility Heaters .....3395
Wall Heater Frames .....3387
Wall Heaters .....3385-3387
Well House Heaters .....3390

**Quality Container**
Bin Dividers .....2044
Mailing Boxes .....2272
Shelf Bins .....2044
Stock Boxes .....2272
Tote Boxes .....2057

**Qualtech**
Document Stands .....2097
Document Stations .....2097
Inspection Stands .....2097

**Qualtek Electronics Corp.**
Axial Fan Accessories .....3629

**Quantum Storage Systems**
Bin Dividers .....2047
Bin Rails .....2051
Bins .....2047, 2051
Conductive Panels .....2047

**Quick-Grip**
Clamps .....1377


## R


**Raasm**
Oil Changers .....2752
Oil Dispensers .....2752
Oil Extractors .....2752
Waste Oil Drains .....2752

**RAE Systems**
Gas Detectors .....2516

**Raid**
Insecticides .....1867

**Rain Bird**
Underground Sprinkling Equipment .....2699-2700

**Rainfair**
Rainwear Clothing ....2478, 2480

**Ramsey**
Air Deodorizers .....1840, 1852
All Purpose Cleaners .....1837
Baseboard Strippers .....1837
Bonnet Cleaners .....1842, 1869
Buff Spray .....1836
Carpet Cleaners .....1843
Carpet Protectors .....1843
Carpet Shampoo .....1842
Carpet Spot Brushes .....1950
Carpet Sprays .....1843
Chemical Bottles .....1869
Cleaner/Degreasers .....1840, 1846, 1869
Defoaming Liquid .....1843
Deodorizers .....1869
Disinfectants .....1849, 1869
Extraction Cleaners .....1841, 1844, 1869
Floor Cleaners .....1837, 1869
Floor Finish .....1835
Floor Restorers .....1835-1836
Floor Sealers .....1835
Floor Strippers .....1837
Glass Cleaners .....1869
Odor Controllers .....1950
Pre-Spotters .....1841, 1869
Proportioners .....1869
Spot Removers .....1840, 1879
Upholstery Cleaners .....1844
Washroom Cleaners .....1855, 1869

**Ranco**
Cold Controls .....3503
Constant Cut-In Controls ....3502
Defrost Termination .....3502
Heat Controls .....3332-3333
Heat Pump Valves .....3333
Humidistats .....3357
Ice Bank Controls .....3496
Ice Bin Level Controls .....3496
Ice Harvest Controls .....3496
Oil Pressure Controls .....3498
Pressure Controls .....3497-3498
Refrigeration Controls .....3502
Solenoid Coil .....3333
Temperature Controls .....3325, 3330, 3495, 3502

**Rayovac**
Batteries .....1174-1178
Battery Chargers .....1176
Battery Testers .....1175
Flashlight Bulbs .....1189
Flashlight Holsters .....1189
Flashlight Wands .....1189
Flashlights .....1184-1188
Headlights .....1187-1188
Lanterns .....1184-1185, 1187

**Raytek**
Adapters .....895
Data Printers .....895
Infrared Thermometers ...894-895
Pouch Carrying Kits .....894
Printer Paper .....895
Thermometer Accessories ....895

**Readylite By First Alert**
Flashlight Batteries .....1176
Flashlights .....1176
Lanterns .....1176
Motion Sensors .....696

**Recoil Inc.**
Installation Tools .....1729
Screw Thread Taps .....1729
Thread Inserts .....1729
Thread Repair Kits .....1729

**Red Head**
Anchor Screens .....1728
Anchor Setting Tools .....1726
Concrete Anchors .....1721-1722, 1724-1726
Drive Pins .....1726
Epoxies .....1727-1728
Epoxy Brushes .....1728
Epoxy Injection Tools ..1727-1728
Epoxy Nozzles .....1727-1728
Epoxy Screens .....1728
Hammer Drive Tools .....1726

**Red-Hat**
Solenoid Valves .....3364-3368

**Redi-Measure By Redington**
Measuring Wheels .....1391

**Redington**
Counters .....565-566

**Reelcraft Ind.**
Hose Reel Carts .....3017
Hose Reels .....3016-3017

**Reese Inc.**
Ball Mounts .....2706
Brake Controllers .....2708

Chain Clips .....2709
Hitch Ball Covers .....2705
Hitch Balls .....2705
Hitch Bars .....2706
Hitch Box Covers .....2709
Hitch Coupler Locks .....2708
Hitch Pin Locks .....2706
Hitch Pull Pin And Clips .....2706
Hitch T-Connectors .....2709
Hitches .....2707
Pintle Adapters .....2706
Pintle Hook Mount Plates .....2706
Pintle Hooks .....2706
Plug Wiring Adapters .....2708
Safety Chain .....2709
Tow Draw Bars .....2706
Tow Pin/Clips .....2706
Trailer Couplers .....2708
Trailer Hitch Wiring .....2708
Trailer Locking Devices .....2708
Truck Hitches .....2707

**Regent Lighting**
Area Lighting Fixtures .....1097
Motion Detectors .....697, 1105

**Reliance Electric**
DC Motors .....188-189

**Remington**
Caliber Loads .....1439
Caliber Strips .....1439
Chain Saws .....2684
Conduit Clips .....1439
Control Discs .....1439
Fastening Pins .....1439
Powder Actuated Tools .....1438
Power Hammers .....1438

**Revvo**
Casters .....2149-2152

**Reznor**
Oil Heaters .....3399

**Rheem**
Drain Pans .....3444
Filter Racks .....3428
Floor Bases .....3428
Pressure Switch Kits .....3428
Propane Conversion Kits .....3428
Water Heaters .....3075-3077, 3079-3081

**Ridgid**
Drain Cleaners .....1339-1341
Drain Cleaning Cables .....1339-1341
Drain Guns .....1338
Flaring Tools .....1345
Machine Dies .....1336-1337
Pipe Cutter Wheels .....1342
Pipe Cutters .....1342
Pipe Die Heads .....1336
Pipe Freezing Units .....1335
Pipe Reamers .....1333
Pipe Stands .....1335
Pipe Threader Cases .....1334
Pipe Threader Stands .....1336
Pipe Threaders .....1334, 1336-1337
Pipe Threading Machine Stands .....1336
Pipe Threading Oilers .....1335
Pipe Vises .....1335
Power Drives .....1334
Soldering Guns .....1335
Swaging Tools .....1345
Tube Benders .....1343
Tube Expander Kits .....1345
Tubing Cutter Wheels .....1343
Tubing Cutters .....1343
Vises .....1335
Wrenches .....1333

**Ridgid/Kollmann**
Drain Cleaner Drums .....1339-1340
Drain Cleaner Hose .....1341
Drain Cleaner Nozzles .....1341
Drain Cleaner Tool Sets .....1339
Drain Cleaners .....1338-1339, 1341
Drain Machines .....1339

**Rinnai**
Heater Accessories .....3418
Heaters .....3417-3418
Vent Extension Kits .....3417
Wall Venting Kits .....3417

**Rixson-Firemark**
Door Closers .....2645
Door Holders .....2645

**Robertshaw**
Gas Burner Ignitors .....3348
Gas Valves .....3341, 3344
Ignition Modules .....3348
Sampling Tubes .....3339
Smoke Detectors .....3339

**Robinair**
Refrigeration Recovery Units .....3478

**Robitussin**
Cough Syrup .....2551

**Rockford**
Bolts .....1734-1741, 1750-1751
Chain .....1761
Cotter Pins .....1760
Fasteners .....1736, 1742, 1744, 1758-1759
Lag Shields .....1761
Nuts .....1741-1745, 1761
Screws .....1734-1735, .....1737-1738, 1741, 1748-1757
Washers .....1746-1747

**Rockite**
Anchor Cement .....2690

**Roean**
Air Caulk Guns .....3015

**Rohm**
Drill Chucks .....1504

**Rol-Lift**
Pallet Trucks .....2213

**Rol-Out**
Coreless Liners .....1933
Trash Bags .....1931-1933

**Romex Brand**
Building Wire .....593

**Rosta**
Belt Tensioners .....300

**Royal**
Basket Trucks .....2190

**Royal Products**
Collets .....1701
Deburring Tool Blades .....1709
Deburring Tools .....1709
Live Centers .....1701

**Rubbermaid**
Air Freshener Dispensers .....1851
Air Fresheners .....1851
Baby Changing Station Liners .....1959
Baby Changing Stations .....1959
Baskets .....1928
Brooms .....1958-1959
Buckets .....1944, 1956
Caddy Bags .....1919
Can Liners .....1923, 1925
Carpet Bonnets .....1845
Carpet Sweepers .....1958
Cart Shelves .....2191
Carts .....2189
Cleaning Caddies .....1958
Cleaning Tool Racks .....1958
Closet Organizer Kits .....1958

Container Tops .....1928
Dollies
...1919-1921, 1928, 2197, 2321
Dust Mop Frames .....1941
Dust Mop Handles .....1941
Dust Mops .....1941
Dust Pans .....1958
Dusters .....1952
Finish Mops .....1942
Flat Mopping Systems .....1942
Floor Signs .....1959
Hoppers .....2188
Housekeeping Cart Bags ....1953
Housekeeping Carts .....1953
Laundry Nets .....1959
Mop Frames .....1941
Mop Handles .....1943
Mop Heads .....1942-1943, 1954
Mop Wringers .....1944
Plastic Bins .....2053
Recycle Boxes .....1928
Recycle Containers .....1928
Safety Cans .....1924
Sanitary Napkin Receptacles
.....1913
Service Cart Shelves .....2191
Service Carts .....2191, 2194
Smoking Urns .....1926
Sponge Mops .....1943
Spring Platform Kits .....2190
Step Cans .....1925
Step Stools .....2098
Tool Boxes .....1206
Tote Boxes .....2057
Trash Cans .....1919
Trash Carts .....1953
Trash Container Lids
.....1919-1921, 1923-1924
Trash Containers
.....1919-1921, 1925
Truck Lids .....2187-2189
Trucks
...1928, 2187-2190, 2199, 2210
Utility Carts .....2191-2192
Wall Washing Kits .....1954
Waste Receptacle Lids
.....1919, 1924
Waste Receptacles
...1921, 1923-1924, 1926, 1928
Wastebasket Lids .....1927
Wastebaskets .....1925, 1927
Work Centers .....2192

**Rule Industries**
Float Switches .....3261
Pumps .....3259-3260, 3285
Shower Drain Systems .....3259

**Rust-Oleum**
Activators .....1997
Block Filler .....2002
Caulk .....2000-2001
Cleaner/Degreasers .....2002
Concrete Patching .....1998
Floor Cleaners .....1998
Floor Coatings .....1997-1998
Floor Sealers .....1998
Galvanizing Compound .....2004
Marking Wands .....2003
Paint .....1989-1999, 2002-2004
Paint Thinner
....1989-1991, 1993-1995, 2002
Primer ....1989-1995, 2002, 2004
Roof Cement .....2000-2001
Roof Coatings .....2000-2001
Roof Patch .....2000
Rust Converter .....2002
Sealants .....1998
Spray Paint .....1999, 2004
Striping Machines .....2003

**Rustlick**
Cleaners .....2790
Coolants .....2776
Corrosion Inhibitors .....2789
Drum Mixers .....2775
Grinding Fluids .....2775
Oil .....2775
Oil Skimmers .....2775
Refractometers .....2775
Rust Preventative .....2789


## S


**S & W**
Leveling Mounts .....2168

**Safco**
Arm Rests .....2099
Bookcases .....2110
Cabinet Bases .....2108
Casters .....2099
Chairs .....2098-2099
Desk Organizers .....2110
Drafting Chairs .....2098
File Hanging Clamps .....2108
File Wall Racks .....2108
Filing Cabinet Bases .....2108
Flat File Locks .....2108
Flat Files .....2108
Flat Filing Cabinets .....2108
Foot Rests .....2099
Hanging File Clamps .....2108
Literature Organizers .....2109
Mobile File Stands .....2108
Roll Files .....2109
Stools .....2098-2099
Vertical Filing Systems .....2108

**Safety First**
Grab Bars .....3115
Toilet Safety Bars .....1917
Tub Safety Bars .....1917
Tub Safety Chairs .....1917
Tub/Shower Seats .....1917

**Safeway**
Hydraulic Couplers .....2837

**Sarvac**
Vacuum Pumps .....2856

**Schaefer Systems**
Containers .....2043, 2055
Industrial Shelving ....2013, 2025
Industrial Systems .....2013

**Schwarz Paper Co.**
Labeling Tags .....2269

**Scotch**
Adhesive Transfer Tape .....2283
Box Sealing Tape .....2276
Double Coated Tape .....2282
Double Coated Tape Pads ..2282
Electrical Tape .....624
Lithograph Tape .....2280
Marking Tape .....2286
Masker Apron Tapers .....2279
Masking Tape .....2284
Packaging Tape
....939, 2274, 2278-2280, 2285
Pouch Tape Pads .....2278
Stretchable Tape .....2285
Tape Dispensers
...2275, 2279-2280, 2283, 2285
Wire Marker Tape .....633

**Scotchmate**
Hook And Loop Fasteners ...2283

**Scott**
Paper Hand Towels .....1909
Paper Towels .....1900
Paper Wipes .....1907-1909
Toilet Seat Covers .....1901
Toilet Tissue .....1900
Toilet Tissue Dispensers ....1900

Wipe Dispensers .....1909
Wipes .....1907-1911

**Scratch-Guard**
Strip Doors .....2304
Vinyl Strips .....2304

**Seco**
Mop Handles .....1941, 1943
Mops .....1942

**Securvue**
Drill Press Guards .....1504

**Selecto**
Lead Removal Filters .....3090

**Sellstrom**
Eyewear Lens Cleaning Tissue .....2376
Faceshield Windows .....2379
Faceshields .....2379
Fire Blankets .....2542
Lens Cleaning Stations .....2376
Safety Goggles .....2373
Spill Control Stations .....2334
Welding Faceshields .....1586
Welding Goggles .....1585
Welding Helmets .....1586

**Senco**
Air Nailers .....3008
Air Staplers .....3009
Pneumatic Fasteners .....3007
Pneumatic Nailers .....3008
Pneumatic Nails .....3007
Pneumatic Staples .....3007

**Sensor Flexonics**
Metal Hose .....3185

**Sentrex**
Surge Suppressors .....695

**Sentry**
Fire Resistant Safes .....2650

**Services & Materials**
Barricade Lights .....2615
Barricade Systems .....2613
Barrier Tape .....2619
Delineator Posts .....2618
Flagging Tape .....2619
Motorist Safety Kits .....2617
Plastic Fence .....2618
Road Flares .....2617
Safety Flags .....2616
Safety Signs .....2613
Safety Vests .....2617
Sign Stands .....2613
Sign Weights .....2613
Stop And Slow Paddles .....2616
Traffic Barrels .....2615
Traffic Barricades .....2615
Traffic Cones .....2615
Traffic Pennants .....2616
Traffic Vests .....2617
Underground Tape .....2619
Warning Flags .....2616
Warning Labels .....2589
Warning Triangles .....2617
Wide Load Banners .....2616

**Set Products**
Asphalt Patching .....2691
Concrete Repair Materials .....2691

**Seth Thomas**
Clocks .....2112

**Sharp**
Microwaves .....2115

**Shat-R-Shield**
Lamps .....925, 984

**Shepherd**
Caster Sockets .....2170
Casters .....2127, 2156
Felt Backing .....2170
Felt Proctectors .....2170
Floor Protection Cups .....2170
Furniture Glides .....2171
Furniture Leg Tips .....2170-2171

**Sherman**
Hose Couplings .....2697

**Sherwood**
Pumps .....3261

**Shrink-Kon**
Tubing .....625

**Signode**
Anchor Strapping .....2290
Dispensi-PAK .....2293
Hand Tensioners .....2295
Handy Strappers .....2293
Metal Buckles .....2293
Plastic Edge Protectors .....2293
Plastic Strapping .....2294
Plastic Strapping Machines .....2295
Sealer Tools .....2295
Sealing Tools .....2291
Steel Strapping .....2290
Strap Cutting Tools .....2291
Strapping Dispensers .....2290, 2294
Strapping Seals .....2290, 2294
Strapping Tensioners .....2291, 2295
Strapping Tools .....2291-2292, 2295

**Simer Pump Co.**
Pumps .....3213

**Simmons**
Yard Hydrants .....3238

**Simple Green**
Cleaner/Degreasers .....1847
Limescale Removers .....1847

**Simple Green D**
Chemical Labels .....1850
Disinfectants .....1850

**Simplex Access Controls**
Deadbolts .....2639
Lock Frame Adapters .....2639
Pushbutton Latches .....2639
Pushbutton Locks .....2639
Spring Latches .....2639

**Simpson Electric**
Alligator Clips .....762
Ammeters .....737, 739, 744-745
Bezel Kits .....746
Calibrator Cases .....825
Calibrators .....825-826
Compression Fittings .....746
Current Transducers .....746
Current Transformers .....746
Leak Detectors .....849
Meter Cases .....762
Meter Covers .....746
Meter Filters .....825
Meter Shunts .....746
Meters .....738, 744-745
Multimeters .....762
Noise Dosimeters .....825-826
Panel Controllers .....745
Panel Meters .....738-740, 744-745
Probes .....779
Process Controllers .....737
Process Indicators .....737, 740
Process Meters .....740
RTD Sensors .....746
Sound Meters .....825
Temperature Meters .....737, 741
Temperature Transmitters .....741
Test Leads .....762
Testers .....753
Voltmeters .....737-740, 745

# NATIONAL BRANDS BY MANUFACTURER

## Singer Safety — Speedaire


**Singer Safety**
Acoustical Foam .....2394
Acoustical Screens .....2394
Fire Extinguisher Covers ....2356
First Aid Blankets .....2542

**Sipco Products**
Hard Hat Racks .....2380
Smoking Receptacles .....2345

**Skil**
Drills .....1426
Saws .....1459, 1468
Screwdrivers .....1412

**Slip Plate**
Chain/Cable Lubricants .....2784
Graphite Lubricants .....2785
Penetrating Oil .....2784

**Sloan**
Faucets .....3117
Flush Valves .....3116
Shower Heads .....3111
Stop Caps .....3116
Toilet Flush Kits .....3116
Toilet Handles .....3117
Toilet Vacuum Breaker Kits .....3117
Valve Retrofits .....3115
Valves .....3115-3116

**SMC**
Hose Reels .....2693

**SMH**
Wire/Cable Connectors .....608

**Solberg**
Compressor Filter Adapters .....2894
Compressor Filter Elements .....2894
Compressor Filter/Silencers .....2894

**Sonin**
Distance Meters .....1391

**Space Guard**
Air Cleaners .....3516, 3521

**SPC**
Sorbent Blankets .....2336
Sorbent Booms .....2336
Sorbent Drum Covers .....2337
Sorbent Pads .....2336
Sorbents .....2337
Universal Sorbent Blankets .....2337
Universal Sorbent Booms ...2337
Universal Sorbent Pads .....2337

**Specified Technologies Inc.**
Elastomeric Spray .....1790
Foil Tape .....1790
Metal Collars .....1790
Mortar .....1790
Putty .....1790
Sealants .....1790
Wrap Strips .....1790

**Spectronics Corporation**
AR-GLO 1 .....3483
AR-GLO 2 .....3483
AR-GLO 3 .....3483
AR-GLO 4 .....3483
Dye Cleaner/Removers .....3483
Lamps .....3483
Leak Detection Capsules ....3484
Leak Detector Bleed Valves .....3484
Leak Detector Kits .....3483
Mist Infusers .....3483
UV-Absorbing Goggles .....3483

**Speedaire**
Air Brush Kits .....1974
Air Chucks .....3028
Air Compressor Air Tank Kits .....2892
Air Compressor Battery Tray Kits .....2871
Air Compressor Maintenance Kits .....2890
Air Compressor Pumps .....2875, 2884, 2886, 2888
Air Compressor Repair Kits .....2886, 2890
Air Compressor Tanks .....2891-2893
Air Compressors ....2864-2865, 2868-2879, 2888
Air Cylinder End Mounts .....2954-2955, 2957
Air Cylinders ....2948-2950, 2954-2956, 2958
Air Hose .....3019
Air Hose Assemblies .....1969, 3019
Air Line Filter Mounting Brackets .....2921
Air Line Filter Panel Nuts ....2921
Air Line Filter/Regulator/Gauges .....2919
Air Line Filter/Regulator/Lubricators .....2920
Air Line Filter/Regulators ....2919
Air Line Filters .....2915-2916
Air Line Lubricators .....2918
Air Line Plugs .....3023
Air Line Quick Couplers .....3022-3023
Air Line Regulator Mounting Brackets .....2921
Air Line Regulators .....2917
Air Valves .....2945
Air-Cooled Aftercoolers ....2903
Automatic Filters .....2921
Ball Valve Drains .....2911
Ball Valves .....2912-2913
Blow Gun And Nozzle Kits ...3027
Blow Gun Nozzles .....3026
Blow Guns .....3026
Compressor Carry Tank Kits .....2892
Compressor Flywheels .....2886
Compressor Intake Manifolds .....2894
Compressor Low Oil Monitors .....2890
Couplers .....2956
Cylinder Brackets .....2950
Cylinder End Mounts .....2957
Cylinder Mounts .....2959
Cylinder Rod Clevis With Pins .....2950
Desiccant Filter/Dryers .....2917
Drain Valves .....2910, 2921
Ducting Hose .....3035
Exhaust Mufflers .....2921, 2934
Filter Elements .....2915-2916
Flow Controls .....2932
Gate Valves .....2902
Hose Barbs .....3020
Hose Crimpers .....3020
Hose Ferrules .....3020
Hose Fittings .....3024
Hose Manifolds .....3025
Hose Reels .....3016-3017
In-Line Filters .....3006
Lockout Valves .....2921
Oil Filters .....2890
Oil Removal Filters .....2915
Paint Canisters .....1969
Paint Spray Booths .....1980
Paint Tank Gaskets .....1969
Paint Tanks .....1969
Pneumatic Hose Fittings ....3020
Pump Compressor Repair Kits .....2886




*For The Brands You Depend On, Call Grainger Today!*

Pump Gasket Repair .....2886
Refrigerated Air Dryers .....2906
Sandblast Guns .....1526
Sandblast Nozzles .....1526
Sandblasters .....1526
Spray Gun Cups .....1965-1966
Spray Guns .....1965-1966, 1974
Three-In-One Air Dryers .....2905
Water-Cooled Aftercoolers .....2903

**Spirax Sarco Inc.**
Pressure Pilots .....3360
Release Valves .....3360
Steam Traps .....3359
Strainers .....3360
Vacuum Breakers .....3360

**Spraymaster-SS**
Mist Coolant Systems .....2753

**Square D**
AC Drives .....43
Alarm Contacts .....443
Auxiliary Contacts .....466
Breaker Enclosures .....386
Busway Hooksticks .....408
Busway Plugs .....408
Cable Pull Switch Clamps .....537
Cable Pull Switch Kits .....537
Cable Pull Switch Supports .....537
Cable Pull Switches .....537
Circuit Breaker Fuse Holders .....461
Circuit Breaker Handle Ties .....366, 372
Circuit Breaker Lock Offs .....372
Circuit Breaker Padlocks .....366, 372, 379
Circuit Breaker Retaining Kits .....366, 372
Circuit Breakers .....365, 370-372, .....375, 377, 379-386, 390
Contact Block Power Reeds .....513
Contact Block Screwdrivers .....513
Contact Blocks .....462-463, 513
Contactor Coil .....443, 463
Contactor Pilot Lights .....461
Contactors .....441-443
Control Relay Adder Decks .....471
Control Relay Contact Cartridges .....471
Control Relay Enclosures .....471
Control Relay Latch Kits .....471
Control Relay Mounting Track .....471
Control Relay Time Delays .....471
Control Relay Transient Suppressors .....471
Control Relays .....470
Control Stations .....519
Disconnect Switches .....387, 392, 394, 398-399, 460
Drum Switches .....452
Duct Wireways .....409
Equipment Grounding Kits .....392
Float Switches .....3233
Foot Switches .....524
Fuse Pullers .....405
H-O-A Selector Switch Kits .....443
Heater Coils .....454
Indicating Bank Audible Sounders .....523
Indicating Banks .....523
Indicating Beacon Adapters .....523
Indicating Beacon Base Units .....523
Indicating Beacon Gaskets .....523
Indicating Beacon Lamps .....523
Indicating Beacon Tube Supports .....523
Indicating Beacon Tubes .....523
Indicating Beacons .....523
Joysticks .....517
Lighting Contactor Coil .....468
Lighting Contactors .....468
Limit Switch Levers .....532, 535
Limit Switches .....532, 534-535
Load Center Covers .....372
Load Center Filler Plates .....366, 372
Load Center Ground Kits .....372, 396
Load Center Insulator Kits .....372
Load Center Lock Kits .....372
Load Center Main Lugs .....372
Load Center Neutral Lugs .....366, 372
Load Centers .....364, 367-369
Logic Controllers .....559
Magnetic Coil .....471
Magnetic Contact Kits .....461
Motor Starter Baseplates .....462
Motor Starter Modification Kits .....461
Motor Starter Overload .....463
Motor Starter Reset Kits .....463
Motor Starter Suppressors .....450-451
Motor Starters .....444, 448, 454-460, 466-467
Motor Switch Handles .....460
Motor Switches .....453, 460-461
Operating Mechanism Handles .....387
Overload Relay Din Adapters .....462
Overload Relay Lug Kits .....462
Overload Relay Remote Reset .....462
Overload Relays .....459
Paint .....372
Panelboard Covers .....376, 378
Panelboard Filler Plates .....376
Panelboards .....374-376, 378
Pendant Stations .....518
Photoelectric Sensors .....554, 557
Pilot Lights .....512, 514
Potentiometers .....511
Pressure Switches .....526, 2895, 3236
Pump Float Kits .....3233
Pushbutton Boots .....515
Pushbutton Bulbs .....502
Pushbutton Caps .....515
Pushbutton Closing Plates .....516
Pushbutton Enclosures .....516
Pushbutton Knobs .....515
Pushbutton Modules .....517
Pushbutton Nameplates .....517
Pushbutton Padlock Attachments .....516
Pushbutton Switch Knobs .....515
Pushbutton Wrenches .....502, 515
Pushbuttons .....502, 508, 511-512, 514
Relays .....469, 500
Rotary Handles .....399
Safety Switches .....392-396, 408, 466
Selector Switches .....461, 502, 510, 513
Sensor Connect Cable .....540
Solid Neutrals .....386
Solid State Starters .....467
Start Stop Pushbutton Kits .....443
Suppression Modules .....463
Switch Levers .....533
Terminal Blocks .....410-412
Thermal Units .....445, 455, 465
Transformer Finger Protectors .....404

Transformer Secondary Fuse Kits .....405
Transformer Weathershields .....407
Transformers .....404-407
Voltage Tester Cases .....787
Voltage Testers .....787

**SSAC**
Line Monitors .....492
Relays .....492
Sensors .....492

**Sta-Bil**
Gasoline Stabilizers .....2767

**Sta-Kon**
Connector Tools .....619
Splice Connectors .....618
Wire Disconnects .....618
Wire Terminals .....616-617

**Stanley**
Awls .....1367
Carpenter's Tool Sets .....1272
Electrician's Tool Sets .....1272
Flex Handles .....1278
Glass Cutters .....1353
Hammers .....1358
Hand Saws .....1354
Levels .....1389
Measuring Tapes .....1388
Nail Pullers .....1361
Nail Sets .....1358
Nut Drivers .....1300
Planes .....1367
Plumber's Tool Sets .....1272
Pocket Knives .....1352
Push Drills .....1293
Putty Knives .....1392
Ratchet Wrenches .....1278
Ratchets .....1278
Saw Blades .....1354-1355
Saws .....1355, 2681
Scrapers .....1392
Screwdriver Sets .....1293, 1298-1299
Screwdrivers .....1293, 1296-1298, 1300
Socket Adapters .....1277-1278
Socket Bit Sets .....1274
Socket Drivers .....1278
Socket Extensions .....1278
Socket Flex Handles .....1278
Socket Handles .....1278
Socket Sets .....1269-1271, 1273-1277
Socket Speeders .....1278
Socket T-Bars .....1278
Sockets .....1277-1278, 1280-1284
Squares .....1384
Surform Tools And Blades .....1367
Tack Claws .....1361
Tool Sets .....1252, 1254, .....1256, 1258, 1260, 1262-1269
Universal Joints .....1278
Utility Knives .....1352
Wood Chisel Sets .....1367
Wood Chisels .....1367
Wrench Sets .....1285
Wrenches .....1278, 1286-1287

**Stanley Bostitch**
Air Nailers .....3011
Air Tackers .....3011
Pneumatic Fasteners .....3010, 3012

**Stanley Hardware**
Bolts .....2655, 2657
Cabinet Catches .....2660
Chest Handles .....2657
Closet Rods .....2656
Coat Hooks .....2659
Corner Braces .....2655
Door Brackets .....2658
Door Closers .....2655
Door Guards .....2659
Door Guides .....2658
Door Handles .....2657
Door Hangers .....2658
Door Holders .....2659
Door Stops .....2659
Door Viewers .....2659
End Caps .....2658
Gate Springs .....2655
Handrail Brackets .....2659
Hanger And Bracket Kits .....2658
Hasp Staples .....2660
Hasps .....2660
Hinges .....2651-2655
Hooks .....2656, 2659
Latches .....2657
Mending Plates .....2655
Pulleys .....2656
Pulls .....2657
Quick Links .....2656
Safety Hasps .....2660
Shelf Brackets .....2656
Sliding Door Track .....2658
Splice Collars .....2658
Stay Rollers .....2658
Storage Hangers .....2656
Swivel Snaps .....2656
T-Plates .....2655
Track Brackets .....2658
Track Hangers .....2658
Window Sash Locks .....2659

**Stanley Storage**
Cabinets .....2038
Drawer Dividers .....2039

**Staplex**
Electric Staplers .....2271
Staples .....2271

**Starrett**
Angle Plates .....1827
Automotive Tools .....1807
Beam Splitters .....1821
Blocks .....1818, 1827
Caliper Cases .....1803
Calipers .....1803-1804
Center Gage Attachments .....1803
Center Punches .....1815
Clamps .....1827
Code Tape .....1389
Combination Square Blades .....1820
Combination Square Heads .....1820
Combination Squares .....1820
Dial Indicators .....1808-1810, 1813
Die Stock .....1828
Digitape Batteries .....1388
Dividers .....1817
Edge Finders .....1818
Electronic Tape .....1388
Gauge Blocks .....1826
Gauges .....1693, 1800, 1805-1806, .....1813, 1818, 1822-1825
Hacksaw Frames .....1354
Height Gage Cases .....1806
Hole Saw Accessories .....1435, 1437
Hole Saws .....1435-1437
Indicator Holders .....1811
Industrial Tool Sets .....1807
Jack Screws .....1805
Key Caddies .....1388
Level Tripods .....1821
Levels .....1385, 1821
Lubricants .....2772, 2781
Measuring Rules .....1819

Measuring Tapes .....1388
Micrometer Ball Attachments .....1801
Micrometer Cases .....1797-1799
Micrometers .....1797-1801
Parallels .....1822
Pilot Drills .....1437
Protractors .....1822
Punches .....1802, 1815
Saw Blades ...1458, 1470, 1521, 1690-1696
Saws .....1353
Screwdrivers .....1814
Scribers .....1815
Steel Rules .....1819
Surface Plate Cleaners .....1829
Surface Plates .....1829
Vises .....1818, 1828
Wrenches .....1679

**Start-All**
Generators .....2740

**Stearns**
Magnetic Disc Brakes .....265
Motor Brakes .....265-267

**Steel City**
Bar Hangers .....680
Beam Clamps .....650-651
Box Spacers .....680
Bushings .....658, 660
Conduit Blanks .....680
Conduit Fittings .....655
Conduit Nipples .....657
Conduit Straps .....651-652
Connectors ....653-654, 656, 664
Couplings .....653-657
Cover Plates .....678-679
Electrical Boxes .....675-677, 679-680
Electrical Covers .....675
Extension Rings .....675, 679
Locknuts .....661
Pipe Spacers .....652
Straps .....652
Switch Box Supports .....676
Switch Boxes .....676
Threaded Rods .....650
Washers .....660
Weatherproof Covers ....683-684
Weatherproof Plugs .....683

**Steel Grip**
Arm Guards .....2456
Finger Guards .....2472
Hand Guards .....2472
Heat Protective Clothing .....2469-2470, 2483-2486
Work Gloves .....2448

**Steel King**
Center Posts .....2315
Containers .....2058
Corner Posts .....2315
Guard Rail Posts .....2315
Guard Rails .....2315
Rack Posts .....2012
Stack Racks .....2012

**Steiner**
Cloth Rags .....1906

**Steiner Industries**
Protective Clothing .....2482
Welding Clothing .....2484
Welding Curtains .....1585
Welding Gloves .....2471
Work Gloves .....2446
Work Hats .....2484

**Sterling Radiator**
Vent Caps .....3405

**Steveco**
Fan Centers .....3335
Fan Relays .....3335
Heat Controls .....3336
Refrigeration Relays .....3501
Relays .....3335

**Stewart-Warner**
Tachometers .....834

**Stonco**
Cover Plates .....677
Floodlights .....1092
Lampholders .....1106
Mounting Standards .....1113
Vapor-Tight Lighting Fixtures .....1102
Wall Lights .....1096
Wiring Boxes .....677

**Stor-A-File**
File Boxes .....2105

**Stor-More**
Wire Containers .....2059
Wire Pallet Rack Decking ...2009

**Strom Closures**
Peel And Stick Zippers .....2261

**Stronghold**
Benches .....2083
Cabinets .....2064

**Structural Plastics**
Plastic Shelving Systems ....2036

**Summit Training Source**
Facilitator Guides .....2570-2571
Interactive CD-ROMS .....2570-2571
Safety Training Handbooks .....2570-2571
Safety Training Videos .....2570-2571

**Sun Hydraulics**
Valves .....2815

**Sunne Controls**
Ventilation Controls .....3330

**Sunon**
Axial Fans .....3628

**Suntec**
Oil Burner Pumps .....3352

**Supco**
Data Logger Sensors .....801
Data Loggers .....801
Electronic Refrigeration Gauges .....3486
Hard Start Kits .....3506
HVAC Relays .....3506
Megohmmeters .....748
Relays .....3506
Temperature Alarm Receivers .....883
Temperature Alarm Transmitters .....883
Temperature Alarms .....883
Testers .....790
Thermometers .....887
Vacuum Gauges .....3486

**Superior Linkage**
Rod Ends .....349

**Superior Mfg.**
Matting .....1934-1935

**Sure Shot**
Rechargeable Sprayers .....2780

**Sure Trac**
Tile Cleaners .....1862

**Sure-Lites**
Batteries .....1152
Bypass Switches .....1143
DC Lamp Kits .....1152
Emergency Battery Packs ...1152
Emergency Exit Signs ...1136-1137, 1144, 1147, 1150

Emergency Lights .....1138-1142, 1150-1151
Exit Signs ..1144-1147, 1150-1151
Fluorescent Power Packs ...1143
Light Sticks .....1143
Lighting Heads .....1138
Mounting Shelves .....1152
Power Packs .....1143
227V Conversion Kits .....1152
Wire Guards .....1152

**Surefire**
Acetylene Torches .....1551
Brazing Torches .....1551
Oxyfuel Torches .....1550
Propane Torches .....1548-1549, 1551
Self-Igniting Torches .....1549

**Swiss Army**
Knives .....1351

**Symcom**
Motor Protectors .....3235

## T

**3M**
Aircraft Cleaners .....1870
Baseboard Pads .....1956
Bathroom Cleaners .....1870
Brushes .....1876
Buffing Pads .....1873
Cellulose Sponges .....1957
Chemical Dispensers .....1870
Chemical Sorbents ....2333, 2335
Cleaning Block Holders .....1956
Cleansing Sponges .....1957
Crimping Tools .....621
Disinfectants .....1870
Dusting Cloth Holders .....1952
Dusting Cloths .....1952
Edge Sealing Compound ....2621
Entrance Mats .....1939
Extraction Cleaners .....1870
Floor Burnisher Pads .....1874
Floor Polisher Pads ...1873-1874
Floor Stripping Pads .....1873
Glass Cleaners .....1870
Intercom Back Boxes .....907
Intercom Foot Switches .....907
Intercom Pedestal Mounts ....907
Intercom Speakers .....907
Intercoms .....907
Magnetic Loop Detectors .....907
Magnetic Loop Saw-In Kits ...907
Master Intercoms .....907
Oil Sorbents .....2333, 2335
Petroleum Sorbents .....2335
Pretreatment Cleaners .....1870
Respirator Cartridges .....2409, 2418, 2420
Respirator Faceshield Covers .....2408, 2433
Respirator Filters .....2409
Respirator Fit Tests .....2444
Respirator Masks .....2399, 2408, 2430
Respirator Prefilters .....2409
Respirator Spectacle Kits ....2408
Respirator Wipe Pads .....2443
Respirators .....2398-2399, .....2402-2403, 2408-2409, .....2418-2420, 2430, 2433
Safety Compliance Software .....2444
Safety Mats .....2621
Safety Strips .....2621
Safety Tape .....2621
Safety Treads .....2621
Safety Walk .....2621
Scouring Pads .....1957
Scrubber Sponges .....1957
Solderless Terminals ....620-621
Sorbent Dispenser Racks ...2335
Spill Kits .....2334
Stainless Steel Cleaners ....1864
Stripping Pads .....1873
Universal Sorbents .....2335
Wire Connectors .....620-621

**3M-Adhesives**
Adhesives .....1791-1793
Glue Guns .....1790
Glue Sticks .....1791
Heat Gun Extension Tips ....1790
Heat Gun Stands .....1790

**3M-Matic**
Box Taping Machines .....2276

**T & S**
Bench Top Turntables .....2216
Bumper Installation Kits ....2308
Bumper Stops .....2308
Cargo Bars .....2311
Cargo Hoops .....2311
Carts .....2200
Chock Signs .....2309
Cranes .....2233
Cylinder Caddies .....2211
Cylinder Dollies .....2211
Dock Bumpers .....2308
Dock Levelers .....2306
Dock Seals .....2306
Dock Shelters .....2306
Dockboards .....2307
Dockplates .....2307
Drum Carriers .....2319
Drum Covers .....2327
Drum Crushers .....2321
Drum Dollies .....2321
Drum Dumpers .....2319
Drum Locks .....2326
Elevating Carts .....2216
Emergency Stop Buttons ....2317
Fork Extensions .....2317
Fork Truck Booms .....2316
Fork Truck Lifting Hooks ....2317
Hose/Cable Ramps .....2314
Hydraulic Caster And Handle Kits .....2218
Hydraulic Lift Carts .....2216
Hydraulic Lifts .....2214
Hydraulic Table Foot Controls .....2221
Hydraulic Table Skirts .2218, 2221
Hydraulic Tables .....2218, 2221
Installation Kits .....2308
Lane Tape Applicators .....2286
Lift Tables .....2217, 2220
Lift Trucks .....2213
Pallet Dollies .....2312
Pallet Movers .....2213
Pallet Pullers .....2312
Pallet Stands .....2220
Pallet Turns .....2312
Panel Rack Carts .....2200
Parking Curbs .....2310
Platform Steps .....2220
Platform Trucks .....2199
Platforms .....2220
Pry Bars .....2312
Safety Bollards .....2315
Speed Bump Signs .....2310
Speed Bumps .....2310
Stabilizer Jack Signs .....2310
Stabilizer Truck Jacks .....2310
Stretch Wrap Machine Ramps .....2297
Stretch Wrap Machines .....2297

Support Braces .....2313
Tilt Tables .....2219, 2221
Tilters .....2219
Trailer Bumpers .....2308
Walk Ramps .....2314
Web Belt Barriers .....2313
Wheel Chair Ramps .....2314
Wheel Chock Chain And Hangers .....2309
Wheel Chocks .....2309
Wheel Risers .....2306
Work Platforms .....2220, 2317
Work Stands .....2220

**Taco**
Timers .....3271

**Talk-A-Phone**
ADA Compliant Phones .....904

**Tanaka**
Hedge Trimmers .....2667
Leaf Blowers .....2665
Line Trimmers .....2666

**Tap Magic**
Cutting Fluids .....2777

**Tapcon**
Carbide Drill Bits .....1723
Concrete Anchors .....1723
Drive Tools .....1723
Screws .....1723

**Tapmatic Corp.**
Collets .....1700
Tapping Heads .....1700

**Tartan**
Paper Tape .....2284

**Taylor**
Digital Humidiguides .....881
Hygrometers .....881
Psychrometers .....877
Thermometers .....879-882, 886-887
Timers .....829

**Taylor Tarp**
Tarpaulins .....2260

**Teel**
Basin Covers .....3229
Basin Fittings .....3229
Centrifugal Pumps .....3120-3123, .....3128-3129, 3131-3135, ...3138-3140, 3148, 3288, 3290
Check Valves .....3230, 3256
Diaphragm Pumps .....3188, 3191, 3197
Drum Pumps .....3201-3202, 3204-3205, 3207
Engine-Driven Pumps .....3147, 3149-3154
EPDM Seal Kits .....3150
Flexible Impeller Pumps .....3174-3175, 3206
Float Switches .....3232
Gear Pumps .....3168-3172
Hand Pumps .....3261
Jet Pump Systems .....3245-3246
Jet Pumps .....3239-3240, 3244
Light Niches .....3292
Machine Tool Pumps .....3162, 3164
Marine/RV Pumps .....3261-3262
Piston Pumps .....3181
Plunger Pumps .....3181-3182
Pool Accessories .....3290-3291
Pool Filters .....3289
Pool Junction Boxes .....3292
Pool Pumps .....3286-3288
Pool Trap/Baskets .....3290
Pool/Spa Lights .....3292
Pump Accessories ...3129, 3162, 3171, 3209, 3287
Pump Ejectors .....3240-3242
Pump Heads .....3167, 3171
Pump Motor Adapters .....3177
Pump Pedestals .....3124
Pump Repair Kits .....3180, 3191, 3197
Pump Stators .....3178
Pump Strainers .....3189, 3191
Pump Switches .....3230
Pump Trap/Baskets .....3290
Pump Union Kits .....3291
Pumps .....3217
Relief Valves .....3187
Roller Pumps .....3180
Rotary Vane Pumps .....3176
Saltwater Pumps .....3130
Sewage Basins .....3229
Sewage Ejectors .....3225
Sewage Package Systems .....3222
Sewage Pumps .....3220, 3222, 3225
Sink Pump Systems .....3215
Slurry Pumps .....3178
Spray Guns .....3189
Spray Pumps .....3180
Sprinkler Pumps .....3137
Submersible .....3251
Submersible Pumps .....3146, 3208, 3214, 3251
Suction Tubes .....3201
Sump Basins .....3229
Sump Pumps ...3208, 3210-3211, .....3214, 3217-3218, 3220
Turbine Pumps .....3268-3269
Utility Pumps ...3208-3209, 3262
Water Tanks .....3253-3255
Well Packers .....3241, 3244
Well Pumps .....3238-3244, 3246, 3251

**Telectron**
Garage Door Controls .....2303
Garage Door Openers .....2303
Garage Door Transmitters ...2303

**Telemecanique**
Connector Cables .....540
Contact Blocks .....447, 450, 469, 505, 508
Contact Kits .....450
Contactors .....449-450
Control Stations .....519
Fiber Optic Amplifiers .....556
Fiber Optic Cable .....556-557
IEC Modules .....451
IEC Relays .....469
Lampholder Blocks .....509
Legend Plates .....518
Limit Switch Levers .....531-533
Limit Switches .....531, 533, 536
Motor Starter Contacts .....446
Motor Starter Enclosures .....446
Motor Starter Mounting Kits .....447, 450
Motor Starter Voltage Trips ...446
Motor Starters .....446-448, 451
Overload Relays .....447
Pendant Stations .....518
Photoelectric Sensor Reflectors .....552
Photoelectric Sensors ...554, 557
Photoelectric Switch Reflective Tape .....551
Photoelectric Switches .....551-552, 557
Pilot Light Keys .....507
Pilot Lights .....504, 507
Proximity Sensor Brackets ....541

Proximity Switches .....538, 540-543, 546, 548
Pushbutton Adapters .....509
Pushbutton Bases .....508
Pushbutton Bulbs .....509
Pushbutton Closing Plates .....509
Pushbutton Contact Blocks .....509
Pushbutton Enclosures .....509
Pushbutton Lampholder Blocks .....509
Pushbutton Pilot Lights .....507
Pushbuttons .....503-504, 506, 508-509
Relays .....448
Selector Switches .....504, 507
Sensor Brackets .....543

**Tenax**
Strapping .....2294

**Tenneco**
F-Film .....2297
Hand Wrap .....2296
Stretch Film .....2296

**Tennsco**
Bin Shelving .....2042
Bookcase Shelves .....2110
Bookcases .....2110
Cabinets .....2066-2067
Locker Bases .....2073
Locker Tops .....2073
Lockers .....2073
Parts Storage Units .....2042
Shelves .....2017-2018, 2021
Shelving .....2023, 2028-2030, 2043, 2107
Slotted Angle Kits .....2063
Storage Racks .....2016-2022
Workbenches .....2195

**Texas Feathers**
Feather Dusters .....1952
Wax Applicators .....1952

**The Andersen Co.**
Mats .....1940

**Thermal Transfer**
Oil Coolers .....2826-2827

**Thermoplastic Processes**
Lamp Safety Sleeves .....925

**Thomas & Betts**
Bar Hangers .....680
Beam Clamps .....650-651
Box Spacers .....680
Bushings .....658-660
Cable Clips .....630
Cable Installation Tools .....603
Cable Straps .....594
Cable Tie Cradles .....630
Cable Tie Pads .....630
Cable Tie Tools .....627, 629
Cable Ties .....626-628
Conduit Blanks .....680
Conduit Fittings .....651, 655, 657
Conduit Nipples .....657
Conduit Straps .....651-652
Connector Sealants .....612
Connector Tools .....612-613, 619
Connectors .....594, 605-611, .....614-615, 622-623, 652-654, .....656, 663-664, 667-668
Couplings .....653-657
Cover Plates .....678-679, 683-684
Disconnect Boots .....612
Electrical Boxes .....675-677, 679-680, 682-683
Electrical Covers .....675
Extension Rings .....675, 679
Feeder Cable Fittings .....668
Gaskets .....668
Grounding Fittings .....668
Insulating Covers .....625
Insulating Sleeves .....661
Joint Compounds .....613
Locknuts .....661
Marking Pens .....629
Pipe Hangers .....651
Pipe Spacers .....652
Plugs .....661
Sealing Rings .....661
Splice Connectors .....618
Threaded Rods .....650
Tubing .....625
Washers .....660
Wire Connectors .....622-623
Wire Disconnects .....618
Wire Terminals .....616-617
Wiring Duct .....736
Wiring Duct Covers .....736

**Thomas Industries**
Air Compressors .....2860, 2867

**Thomas Industries Air-Pac**
Air Compressor Dollies .....2866
Air Compressors .....2866-2867

**Thomas Industries Ultra**
Air Compressors .....2866

**Thomas Pneumotive**
Air Compressors .....2861
Vacuum Pumps .....2852

**Thorgren**
Fan Blades And Impellers .....3601

**TIDE**
Laundry Soap .....1865

**TIF**
Auto Tracers .....838
Battery Testers .....838
Charging Hose .....3488
Charging Meters .....3485
Combustible Leak Detectors .....849
Compressor Analyzers .....3485
Gas Detector Batteries .....849
Leak Detector Adapters .....849
Leak Detector Cases .....849
Leak Detector Rechargers .....849
Leak Detectors .....849
Manifold Gauge Sets .....3487
Meter Cases .....789
Power Factor Meters .....760
Reflective Tape .....834
Refrigerant Hose .....3488
Refrigerant Leak Detector Maintenance Kits .....3484
Refrigerant Leak Detectors .....3484
Refrigerant Vacuum Pumps .....3485
Sightglasses .....3485
Tachometers .....834
Temperature Probes .....893
Testers .....789-790
Thermometer Kits .....891
Voltage Detectors .....789
Voltage Hot Sticks .....789
Volume-Aire Balancers .....855
Wattmeters .....758-759

**Titan**
Airless Paint Sprayers .....1977
Airless Pump Lube .....1977
Airless Spray Gun Extensions .....1979
Airless Spray Guns .....1978
Airless Sprayer Tip Guards .....1978
Airless Sprayer Tips .....1978

HV/LP Air Supply Hose .....1968
HV/LP Atomizing Kits .....1968
HV/LP Paint Sprayers .....1974
Paint Rollers .....1979
Paint Spray Filters .....1977
Paint Sprayers .....1968
Spray Gun Safety Guards ...1978
Spray Guns .....1968

**Tjernlund**
Draft Inducers .....3636-3637
Duct Booster Fans .....3638
Fan Switches .....3637-3638
Vent Hoods .....3636
Water Heater Vents .....3638

**Tolco**
Filler Tubes .....1961
Funnels .....1961
Measuring Scoops .....1961
Pail Openers .....1961
Pail Pumps .....1961
Plastic Bottles .....1870, 1961
Secondary Labels .....1870
Spray Bottle Baskets .....1961
Trigger Sprayers .....1961
Wire Shelving .....1870

**Topaz**
Isolation Transformers .....402
Power Conditioners .....401

**Torin**
Blower Wheels .....3635
Blowers .....3640

**Tough Guy**
Trash Bags .....1930-1931, 1933

**TPI Corporation**
Thermostats .....3329

**Transport Security**
Trailer Locks .....2630

**Trerice**
Temperature Gauges .....886
Thermometer Sockets .....886

**Trico**
Mist Coolant Systems .....2753
Oilers .....2757

**Trion**
Air Cleaner Absorber Kits ...3521
Air Cleaner Filters
.....3515, 3520-3521
Air Cleaners ....3515, 3520-3521

**Triumph**
Drill Bit Sets .....1665-1668
Drill Bits .....1650-1654,
....1656-1659, 1661, 1665-1669
Drill Chucks .....1661
Drill Dispenser Cabinets ....1663

**True Temper**
Wheelbarrows .....2673

**Tuskin**
Pumps .....3179, 3281
Tube Lube .....3281
Tubing .....3281

**Tutco**
Crankcase Heaters .....3473

**Ty-Rap**
Cable Tie Tools .....627, 629
Cable Ties .....626-627
Connectors .....652
Marking Pens .....629

**Tylenol**
Pain Relievers .....2552

**Tyvek**
Protective Clothing ....2474-2475


## U


**U.S. Gauge**
Pressure Transducers .....865
Pressure Transmitters .....865

**U.S. Tsubaki**
Conveyor Chain .....299
Roller Chain .....298-300
Roller Chain Detachers .....298
Roller Chain Links .....298-300
Sprockets .....291-295

**U-Line**
Drain Pumps .....3463
Ice Cube Makers .....3462-3463
Refrigerators .....3462

**UEI**
Calibration Gas .....841
CO Detector Adapters .....841
Gas Calibration Kits .....841

**Unarco Material Handling**
Pallet Rack Accessories
.....2006-2007, 2079
Pallet Rack Beams .....2006

**Ungar**
Desoldering Stations .....1534
Heat Guns .....1532
Soldering Accessories
.....1533-1534
Soldering Heaters .....1533
Soldering Irons .....1533
Soldering Stations .....1534

**Unger**
Buckets .....1955
Gripper Arms .....1954
Light Bulb Changers .....1954
Scrapers .....1954
Squeegee Handles .....1956
Squeegees .....1955-1956
Telescoping Paint Poles
.....1954-1955
Trash Pickers .....1954
Window Cleaning Brushes ...1954
Window Cleaning Clamps ...1954
Window Cleaning Kits .....1954
Window Scrubbers .....1955

**Unibit**
Carbide Hole Cutters .....1434
Step Drills .....1434

**Union Camp**
Paper Bags .....2269

**Unistrut**
Framing Channel .....2062
Metal Framing Clamps .....2062
Metal Framing Fittings .....2062
Metal Framing Nuts .....2062
Metal Framing Screws .....2062

**United Receptacle**
Drum Tops .....1923
Sanitary Napkin Receptacles
.....1913
Waste Receptacles
.....1922, 1924-1926
Wastebaskets .....1927

**Universal Tool**
Air Drills .....2978, 2980
Air Hammer Kits .....3000
Air Hammers .....3000
Air Sanders .....2982, 2984
Angle Grinders .....2994
Angle Sanders .....2987
Cut-Off Tools .....2996
Die Grinder Kits .....2990
Die Grinders .....2990, 2992
Impact Wrench Kits .....2966
Impact Wrenches .....2966
Pneumatic Blowers .....3035
Pneumatic Oilers .....3006
Ratchet Wrench Kits .....2963
Ratchet Wrenches .....2963
Sander Kits .....2984

**USEM**
Gearmotors .....246, 250-251
Industrial Motors .....23

Motor Canopy Caps .....23
Motor Conversion Kits .....23
Speed Drives .....253-254

**Uvex**
Anti-Fog Lens Liquid .....2376
Eyewear Cases .....2375
Eyewear Lens Tissue .....2376
Lens Cleaning Stations .....2376
Lens Towelettes .....2376
Safety Cords .....2375
Safety Glasses
. . .2363, 2365, 2367-2368, 2371
Safety Goggles .....2372-2373

## V

**Valeo**
Back Supports .....2496
Gloves .....2497
Wrist Supports .....2496

**Vanguard By Rheem**
Water Heaters
.....3075-3077, 3079-3081

**Varia**
Socket Fuse Holders .....203

**Vaughan**
Axe Handles .....2680
Hammer Handles .....1357, 2680
Hammer Tips .....1357
Hammers .....1357
Hatchet Handles .....1357
Hatchets .....1357
Mallets .....1357
Pick/Mattock Handles .....2680

**Vibco**
Vibrator Brackets .....259
Vibrators .....255-259

**Vibration Mounting & Cont.**
Leveling Mounts .....3673
Mounting Pads .....3673
Vibration Isolators .....3670-3671

**Vickers**
Bolt Flanges .....2798
Bolt Kits .....2819, 2821
Foot Brackets .....2802
Hydraulic Power Units .....2796
Manifold Blocks .....2796
Piston Pumps .....2801
Valve Subplates .....2818, 2820
Valves .....2812, 2818-2821
Vane Pumps .....2797
Wiring Connectors .....2818

**Vicks**
Cough Drops .....2551

**Vidmar**
Back Stops .....2091
Bench Legs .....2091
Bench Risers .....2091
End Stops .....2091
Parts Cabinets
.....2038-2039, 2091, 2193
Workbench Tops .....2091

**Virginia KMP**
Acid Test Kits .....3479
Cell Cleaner .....3513
Coil Cleaner .....3480
Compressor Oil .....3477
Evaporator Pan Descalers . . .3481
Heat Sink Compound .....3481
Ice Machine Cleaners .....3479
Insulation Tape .....3481
Leak Detectors .....3479
Oil Pumps .....3479
Oil Test Kits .....3479
Pipe Anti-Freeze .....3481
Pump Oil .....3479
Refrigeration Lube .....3477
Scale Remover .....3481
Sealing Tape .....3481

**Vise-Grip**
Clamps .....1311, 1376-1377
Pliers .....1310-1311

**Visine**
Eye Redness Relievers .....2551

**Vista**
Humidifier Chemicals .....3510

**Von Weise**
Linear Actuators .....261

**Vulcan Electric**
Bayonet Adapters .....3374
Cartridge Heaters .....3369
Electric Heaters .....3369-3373
Immersion Heaters .....3372
Spa/Hot Tub Heaters .....3372
Strip Heaters .....3370-3372
Thermocouple Connectors . . .3374
Thermocouple Probes .....3373
Thermocouple Wire .....3374
Thermostat Housings .....3373
Thermostat Knobs .....3373
Thermostats .....3372-3373

## W

**Wagner Casters And Wheels**
Brake Kits
. . .2138-2140, 2145, 2155, 2157
Caster Adapters .....2156
Casters . . .2129-2134, 2136-2137,
.....2139-2141, 2145,
.....2153, 2155-2157
Drum Dollies .....2321
Stem Caster Sockets .....2167
Wheels .....2158-2159, 2163

**Wallace**
Loppers .....2681
Pruners .....2681-2682
Saws .....2681
Shears .....2681

**Waterloo**
Tool Box Liners .....1201
Tool Box Touch-Up Paint .....1201
Tool Boxes .....1201, 1203, 1206
Tool Cabinets .....1199-1201
Tool Carts .....1199-1202
Tool Chests .....1199-1202

**Watts Regulator**
Backflow Valves .....3063
Boiler Valves .....3064-3065
By-Pass Valves .....3074
Check Valves .....3064
Dielectric Unions .....3083
Dual Control Valves .....3065
Float Adapters .....3067
Float Valves .....3066-3067
Flow Controls .....3065
Pressure Reducing Valves . . .3067
Pressure Valves .....3065
Purge Valves .....3064
Steam Valves .....3065
Strainers .....3065, 3067
T And P Valves .....3083
Tempering Valves .....3065
Vacuum Breaker Hose .....3063
Vent Valves .....3064
Water Valves .....3065, 3083

**Wavetek**
Multimeters .....761, 767-768

**WD-40**
Aerosol .....2780
Gallon Container .....2780
Lubricants .....2780

Spray Applicators .....2780
Three-In-One Drip Oil .....2780
Three-In-One Motor Oil .....2780

**Wear-Flex Slings**
Slings .....2241

**Weed Eater**
Leaf Blowers .....2665
Line Trimmer Line .....2667
Line Trimmers .....2667

**Weiler**
Abrasive Discs .....1604
Arbor Hole Adapters .....1631
Broom Braces .....1947
Broom Handles .....1947
Brooms .....1946, 1948
Brushes .....1948-1951, 1955
Dusters .....1948
Extension Poles .....1947
Floorsweep .....1946
Mandrels .....1604
Sandpaper .....1604
Scrapers .....1951
Squeegees .....1949-1950, 1956
Tube Brushes .....1633
Wire Brushes .....1631-1633
Wire Wheels .....1630-1633

**Welch Vacuum Technology**
Vacuum Pumps .....2855-2856

**Weller**
Fume Extraction Systems .....1535
Soldering Guns .....1534
Soldering Irons .....1533, 1535
Soldering Stations .....1535

**Wells Lamont**
Gloves .....2445-2448, .....2450, 2452, 2468, 2471

**Welsh**
Cold Traps .....2858
Exhaust Filters .....2856
Thermocouples .....2858
Vacuum Pump Hose .....2858
Vacuum Pump Oil .....2856
Vacuum Pump Valves .....2858
Vacuum Pumps .....2855-2856

**Wesco International**
Desk Dollies .....2209
Drum Tools .....2325-2328
Hand Trucks .....2210

**Wesco Manufacturing**
Drum Carriers .....2323
Drum Cradles .....2323
Drum Grabbers .....2319-2320
Drum Lifters .....2320, 2323
Drum Racks .....2322
Drum Trucks .....2324
Hand Truck Accessories .....2208
Hand Trucks .....2199, .....2201, 2208-2210, 2215, 2324
Lift Tables .....2217

**Westaflex**
Air Duct .....3561
Duct Tubing .....3561

**Westward**
Bench Grinders .....1505
Drill Presses .....1499
Pin Punch Sets .....1363
Punch And Chisel Sets .....1364
Screwdriver Sets .....1299
Socket Sets .....1292
Tool Sets .....1291, 1304-1306, .....1308, 1310, 1318, 1333, .....1347, 1361
Wrench Sets .....1291

**Wheatland**
Pipe .....3056

**Whirlpool**
Dehumidifiers .....3510

**White**
Dust Pans .....1958
Mop Buckets .....1945
Mop Wringers .....1945

**White-Rodgers**
Air Cleaner Kits .....3513
Blower Relays .....3335
Cooling Controls .....3356
Electronic Air Cleaners .....3513
Fan/Heat Sequencers .....3337
Gas Burner Controls .....3345-3346
Gas Burner Ignitors .....3348
Gas Valves .....3341, 3345, 3347
Heat Controls .....3311, .....3332, 3334-3339, 3345, 3354
Hot Surface Ignitors .....3342
Hot Water Controls .....3353
Ignition Controls .....3342-3343
Immersion Controls .....3354
Oil Primaries .....3351
Sensors .....3348
Snap-Disc Controls .....3334
Solenoid Valves .....3345
Solenoids .....490
Thermocouples .....3346
Thermostat Guards .....3323
Thermostat Sensors .....3321
Thermostat Subbases .....3312-3313, 3328
Thermostat Wall Plates .....3312
Thermostats .....3310-3314, .....3316-3321, 3327-3329, .....3331-3332, 3341, 3354, 3496
Transformers .....403
Wiring Harnesses .....3342
Zone Valves .....3353

**White-Westinghouse**
Air Conditioner Window Kits .....3455
Air Conditioners .....2079, 3455, 3457, 3459
Dehumidifier Drip Trays .....3510
Dehumidifiers .....3510
Wall Sleeves .....2079, 3455

**Wiegmann**
Computer Cabinet Bases .....643
Computer Cabinet Caster Kits .....643
Computer Cabinet Leveling Kits .....643
Computer Cabinets .....643
Electrical Enclosures .....637-642
Enclosure Brackets .....642
Enclosure Clamps .....642
Enclosure Cylinder Locks .....642
Enclosure Key Locks .....642
Enclosure Keys .....642
Enclosure Padlocks .....642
Enclosure Panels .....637-638, 640
Enclosure Windows .....643
Hole Seals .....642

**Wilkerson**
Air Line Filter Drains .....2923, 2925
Air Line Filter Mounting Brackets .....2923, 2925, 2927, 2929
Air Line Filter/Regulators .....2923-2924, 2926, 2929-2930
Air Line Filters .....2923-2924, 2926, 2928-2930
Air Line Lubricators .....2923-2924, 2926, 2928-2929
Air Line Pressure Gauges .....2929

Air Line Regulators .....2923-2924, 2926, 2928-2930
Automatic Drains .....2904
Desiccant Dryers .....2908
Drain Valves .....2904
End Blocks .....2923, 2925
Exhaust Mufflers .....2930
Filter Elements .....2923, 2925, 2927-2929
Filter/Regulator/Lubricators .....2923-2924, 2926, 2929
In-Line Lubricators .....2930
Lockout Valves .....2925
Modular Connection Sets .....2923, 2925, 2929
Oil Removal Filters .....2923-2924, 2926, 2928
Pressure Springs .....2923, 2925, 2927
Water Separators .....2904

**Williams**
Heater Outlet Packages .....3420
Wall Furnaces .....3420

**Willson**
Air Hose .....2430
Ear Plugs .....2389
Faceshields .....2378
Filter Retainers .....2403
Hearing Protector .....2389
Respirator Cartridges .....2404, 2413, 2415
Respirator Facepieces .....2430
Respirator Fit Test Kits .....2444
Respirator Prefilters .....2403, 2413, 2415
Respirator Training Tapes .....2443
Respirators .....2403-2404, 2412, .....2415-2417, 2430, 2432
Safety Eyewear .....2362, 2367, 2369-2370, 2372

**Wilton**
Angle Clamps .....1379
Band Clamps .....1382
Bar Clamps .....1380
C-Clamps .....1378
Chuck And Arbor Kits .....1502
Clamp Handles .....1378
Clamp Pads .....1381
Clamp Stands .....1381
Corner Clamps .....1382
Drill Presses .....1502
Drills .....1502
End Mill Holders .....1502
F-Clamps .....1379
Hand Screws .....1381
L-Clamps .....1379
Lever Clamps .....1379
Milling Tables .....1502
Pipe Clamps .....1381
Sander/Grinders .....1508
Sanders .....1508
Saw Accessories .....1518
Saw Blades .....1518
Saws .....1518-1521
Spring Clamps .....1381
Vise Jaw Caps .....1375
Vise Jaw Faces .....1375
Vises .....1374-1375

**WINDEX**
Glass Cleaner .....1863

**Windjammer**
Blowers .....177-178

**Windpro**
Air Circulator Heads .....3571

**Windy Fan**
Fans .....3544

**Winsmith**
Flange Kits .....278
Speed Reducer Bases .....276
Speed Reducer Books .....276
Speed Reducer Brackets .....278
Speed Reducers .....274-275, 277, 279-280, 288
Torque Arm Rod Kits .....277

**Wiremold**
Outlet Strips .....692, 2091
Surge Suppressors .....695

**Wispercool**
Turbine Ventilator Dampers .....3565

**Wiss**
Crimpers .....1347
Notchers .....1347
Seamers .....1347
Snips .....1348

**Woodhead**
Hand Lamps .....1154-1155
Lamp Guards .....1158
Light Sockets .....1158
String Lights .....1158

**Wooster Brush Co.**
Extension Poles .....1947
Paint Brushes .....1949, 1951, 1981
Paint Buckets .....1983
Paint Roller Frames .....1983
Paint Rollers .....1982
Paint Trays .....1983
Painter's Mitts .....1982
Spreader Screens .....1983
Wire Brushes .....1951

**Wooster Products**
Anti-Skid Paint .....2620
Anti-Skid Tape .....2620
Floor Preparation Compound .....2620
Resurfacer Epoxy Kits .....2620
Sealing Compound .....2620

**Worksmart**
Back Cushions .....2501
Foot Rests .....2501
Wrist Rests .....2501

**World**
Hand Dryers .....1914

## X

**Xcelite**
Electronics Tools .....1316-1317

## Y

**Yale Security**
Boltlocks .....2634
Bored Deadbolts .....2635
Bored Deadlocks .....2635
Cylindrical Locksets .....2632-2635
Exit Device Handles .....2637
Exit Devices .....2636-2637
Latchbolts .....2633

**Yardman**
Chipper/Shredders .....2669
Grass Catchers .....2664
Lawn Mowers .....2664
Vacuum Hose Kits .....2669

## Z

**Zoeller**
Basins .....3229
Check Valves .....3231
Filters .....3228
Hose Floats .....3225
Pumps .....3209, 3219, 3224-3225
Toilet Installation/Sewage Systems .....3228

# PRODUCT INDEX



## A


**A-Clamps** . . . . . .1827

**Abrasion**
Shields . . . . . .1332

**Abrasive**
Belt And Disc Cleaners . . . . . .1627
Belt Sanders . . . . . .1508
Blast Cabinet Attachments . . . . .1529
Blast Cabinets . . . .1528
Disc Mandrels . . . . .1604
Hose . . . . . .1529
Surface Paint . . . . .2620
Wheel Adapters . . .1607

**Abrasives,**
Backup Pads . . . . .1605, . . . . . 1608, 1620, 1624
Bear-Tex Belts . . . .1611
Bear-Tex Bushings . . . . . .1611
Bear-Tex Convolute Wheels . . . . . .1610
Bear-Tex Hand Pad Holders . . . . . .1608
Bear-Tex Hand Pads . . . . . .1608
Bench Wheels . . . .1596
Blasting . . . . . .1526
Body File Strips . . .1629
Bonded . . . . .1589-1591
Bore Polisher Mandrels . . . . . .1613
Bore Polishers . . . .1613
Cartridge Mandrels .1628
Cartridge Rolls . . . .1629
CBN Wheels . . . . . .1594
Cloth Belts . . .1616-1618
Coated . . . . .1619, 1626
Cut-Off Wheels . . . . . .1592, 1606-1607
Depressed Center . .1602
Diamond Blades . . .1606
Diamond Wheels . . . . . .1594, 1606
Disc Rolls . . . . . .1624
Discs . .1605, 1608-1609
Dressing Tools . . . .1593
Drum Sanding Kits .1627
Fibre Discs . . . . . .1608, 1619-1620
Flap Discs . . . . . .1604
Flap Wheels . .1611-1614
Grinding Wheels . . . . . .1589-1591
Handy Rolls . . . . . .1625
Mounted Wheels . . . . . .1596-1598
Pedestal Wheels . . .1596
Plumber's Rolls . . . .1625
Portable Wheels . . . . . .1602-1603
Power-Lock Discs . . . . . .1621-1623
Power-Lock Holders . . . . . .1621-1623
Powerwheels . . . . .1601
PSA Discs . . . . . .1620
Rubbing Bricks . . . .1600
Sandpaper . . . . . .1485
Sandpaper Sheets .1626
Sharpening Stones . . . . . .1595, 1599-1600
Shop Rolls . . . . . .1625
Speed-Lok Discs . .1620
Spiral Bands . . . . . .1628
Spiral Rolls . . . . . .1628
Test Kits . . . . . .1629
Toolroom Wheels . . . . . .1589-1591
Wire Brushes .1630-1633
Wire Wheels . . . . . .1633

**AC**
Adapters . . . . . .742, . . . . .785-786, 809, 831
Adjustable Speed Motors . . . . . .39
Ammeters . . . . .744-745
Brakes . . . . . .265, 267
Controllers . . . . . .44
Gearmotors . . . .238, 242
Inverter Extension Cable . . . . . .43
Inverter Keypad Cable . . . . . .43
Inverter Relay Output Units . . . . . .43
Inverters . . . . .40-42, 44
Linear Actuators . . . .261
Panel Meters . . .744-745
Power Supplies . . . .909
Tachometer Generators . . . . . .195
Voltage Detectors . . .789
Welders . . . . . .1571

**AC Drives,**
Adjustable Frequency .43
Industrial Motors . .40-42
Power Transmission . .40, 44, 195, 238, 242

**AC/DC**
Welder/Generators . . . . . .1580-1582
Welders . . . . . .1571-1572, 1576

**Access**
Control Phones . . . . .904
Doors, Duct . . . . . .3435

**Accordian**
Skirts . . . . . .2218, 2221

**Accumulation Center**
Links . . . . . .2330
Pallets . . . . . .2330
Racks . . . . . .2330

**Accumulator**
Shut-Off Blocks . . . .2839

**Accumulators,**
Hydraulic . . . . . .2840
Pump . . . . . .3187

**Acid**
Aprons . . . . . .2487
Brushes . . . . . .1949
Cabinets . . . . . .2348
Gloves . . . . . .2464
Paste Flux . . . . . .1536
Pumps . . . . .1961, 3170, 3201, . . . . . 3204-3205, 3207
Resistant Hose . . . .3161
Sleeves . . . . . .2487
Sprayers . . . . . .2702
Test Kits . . . . . .3479

**Acoustic**
Panels . . . . . .2395

**Acoustical**
Baffles . . . . . .2395
Foam . . . . . .1795, 2394
Screens . . . . . .2394
Wall Blankets . . . . .2394

**Activators,**
Floor Coating . . . . .1997

**Actuator**
Ball Joints . . . . . .3299

**Actuators,**
Damper . . . . . .3296, 3305-3307
Lever . . . . . .2933
Limit Switch . . .533, 535
Linear . . . . . .260-262
Pneumatic . . .2934, 3296
Roller Lever . . . . . .2933
Valve . . . . . .2933

**ADA Compliant**
Telephones . . . . . .904

**Adapter**
Kits, Speed Reducer .286
Plates, Hubbellock . .708
Plates, 4-PLEX . . . . .691

**Adapters,**
AC . . . . . .742, 785-786, . . . . . 809, 831
Aerosol Can . . . . . .2790
Air Pump . . . . . .2437
Air Supply . . . . . .2428
Airline . . . . . .2442
Anemometer . . . . . .851
Arbor . . . . . .1437
Arbor Hole . . . . . .1631
Bayonet Thermocouple . . . . . .3374
Bearing . . . . . .352
Binding Post . . . . . .823
Blow Gun . . . . . .3026
Blower Step Plate . .1405
Boring Head . . . . . .1645
Capacitance . . . . . .763
Charger . . . . . .901
Chemical . . . . . .2839
Clamp-On . . . . . .778
CO Detector . . . . . .841
Compressor Filter . .2894
Data Download . . . .2525
Data Logger . . . . . .895
Digital Multimeter . . .841
Disposer . . . . . .3104
Drill Bit . . . . . .1447
Drill Chuck . . . . . .1446
Drive . . . . . .1447
Drum . . . . . .3205
Duct Fan . . . . . .3559
End Mill . . . . . .1644
Exit Sign . . . . . .1149
Extension Cord . . . . .589
Fan . . . . . .3557
Fan Blade Step Plate . . . . . .1405
Fan Inline . . . . . .3557
Fire Hydrant Recorder . . . . . .798
Flap Wheel . . . . . .1612

# PRODUCT INDEX




Float . . . . . .3067
Fresno Trowel . . . .1398
Gauge . . . . . .2847
Grease Gun . . . . . .2746
Grease Gun Needle . . . . . .2741, 2746
Grinding Wheel . . . .1612
Humidity . . . . . .763
Hydrant . . . . . .3037
Hydraulic Hose .2835-2836, 2838-2839
Hydraulic Manifold .2794
Hydraulic Motor . . .2802
Hydraulic Pump . . .2802
Impact .1240, 1242-1243
Indicating Beacon . . .523
Lamp . . . . . .1149
Leak Detector . . . . . .849
Lock Frame . . . . . .2639
Lubrication . . . . . .2746
Magnehelic Portable .862
Mig Gun Tip . . . . . .1575
Motor Ring . . . . . .202
Motor Shaft . . . . . .202
Multimeter . . . . . .778
Multimeter Jaw . . . . .763
Oscilloscope Automotive . . . . . .816
Oscilloscope Interface . . . . . .816
Overload Relay Din .462
Pail . . . . . .3204
Panelboard Breaker .375
Petrochemical Vent . . . . . .2515
Pintle . . . . . .2706
Pipe Thread . . . . . .2838
Pitless Well . . . . . .3257
PL Lamp . . . . . .1149
Plug . . . . . .590
Plug To Receptacle .715
Plug Wiring . . . . . .2708
Pump . . . . . .3204
Pump Motor . . . . . .3177
Pushbutton . . . . . .509
Ratchet . . . . . .1234
Regulator . . . . . .1552
Respirator . . .2411, 2444
Respirator Filter . . . . . .2405, 2407
Saddle Vent . . . . . .2515
Sample Draw . . . . .2518
Sander Vacuum . . .2983
Screwdriver . . . . . .1427
Shaft . . . . . .109, 204
Shank . . . . . .1612
Shank Chuck . . . . .1447
Shell Mill . . . . . .1644
Socket . . . . .1230-1231, . . . . . 1234, 1236, . . . . . 1277-1278
Spline Drive . . . . . .1447
Tachometer . . . . . .834
Telephone Plug .734-735
Temperature . . . . . .892
Test Instrument . . . . . .816, 822-823
Test Set . . . . . .2532
Tester . . . . . .778
Thermocouple . .763, 893
Three Phase . . . . . .758
Tig Power Cable . . .1584
Tubing . . . . . .3294
Ventilator . . . . . .3559
VOX . . . . . .899
Water Hose . .2696-2697
Welding . . . . . .1552
Wheel . . . . . .1607
Wiring . . . . . .590

**Additives,**
Diesel . . . . . .2767
Gasoline . . . . . .2767
Masonry . . . . . .2691

**Adhesive**
Applicators . .1785, 1795
Bandages . . . . . .2550
Clean-Up Solvents .1789
Insulating Covers . . .625
Mix Nozzles . . . . . .1786
Pads . . . . . .2283
Pumps . . . . . .3193-3194
Reader Tabs . . . . . .888
Removers . . .1861, 2788
Tape . . . . . .2550

**Adhesives,**
Aerosol . . . . .1792-1793
Aluminum . . . . . .1793
Bearing . . . . .1780-1781
Bonding . . . .1781, 1789, . . . . . .1793, 1795
Cardboard . . . . . .1793
Carpenter's . . . . . .1796
Cartridge . . . . . .1796
Caulk . . . . . .1790, 1794
Ceramic . . . .1787, 1793
Circuit Board . . . . . .1789
Cloth . . . . . .1793
Concrete . . . . . .1793
Construction .1793-1796
Contact . . . . .1793, 1796, 3433
Contact Cement . . .1796
Cork . . . . . .1793
Drywall . . . . . .1795
Epoxy . . . . . .1785-1788
Fabric . . . . . .1792
Fast Cure . . .1785, 1789
Felt . . . . . .1793
Fiberglass . . . . . .1793
Filler . . . . . .1781, 1785, . . . . . 1787, 1789
Firestop . . . . . .1790
Foam . . . . . .1792-1793, . . . . . 1795, 2394
Gasket . . . . . .1793
Gel . . . . . .1785, 1789
General Purpose . .1785, . . . . .1787, 1789, 1795
Glass . . . . . .1793
Glue . .1382, 1787, 1789, . . . . .1791, 1793, 1796
High Impact .1785, 1789
High Strength . . . . .1780
High Temperature . . . . . .1780-1781
Hot Melt . . . . .1790-1791
Industrial Spray . . . .1792
Instant . . . . . .1789, 2784
Insulation . . .1793, 1795
Joint Sealants . . . . .1783
Joint Spray . . . . . .1790
Leather . . . . . .1793
Low Odor . . . . . .1789
Mechanical . .1780-1781
Metal . . . . . .1789, 1793
Multi-Purpose . . . . .1780, 1785, 1796
Non-Flammable . . .1796
Packaging . . . . . .2289
Panel . . . . . .1793
Paper . . . . . .1793
Patch . . . . . .1787-1788
Penetrating . . . . . .1789
Pipe . . . . . .1782
Plastic . . . . . .1785, . . . . . 1789, 1793, 2784
Plywood . . . . . .1795
Polyurethane . . . . .1795
Putty . . . . . .1788, 1790
Retaining Compound . . . . . .1781
Rubber . . . . .1785, 1787, . . . . . 1789, 1794, 2784
Sealant . . . . .1780, 1794, 1795
Silicone . . . . .1784-1785
Spray . . . . . .1792
Steel . . . . . .1793
Structural . . . .1785-1786
Super Glue . . . . . .1789
Threadlocker . . . . .1780
Vinyl . . . . . .1793
Wall Panels . . . . . .1795
Water Base . . . . . .1792
Weather Stripping . . . . . .1382, 1794
Wood . . . . . .1793, 1795

**Aerosol**
Can Adapters . . . . .2790
Can Disposal Systems . . . . . .2338
Can Puncturing Systems . . . . . .2790

**Aftercoolers,**
Air-Cooled . . . . . .2903
Water-Cooled . . . . . .2897, 2903

**Agitators,**
Paint . . . . . .1972

**Agricultural**
Cylinders . . . . . .2808
Liquid Tanks . . . . . .3155
Pumps . . . . .2801, 3121
Soil Probes . . . . . .2676

**Air**
Acetylene Outfits . .1554
Acetylene Tips . . . .1552
Balancers . . . . . .850
Blow Gun Nozzles . . . . . .3026
Blow Guns . . .3025-3028
Brush Kits . . . . . .1974
Bubble Packaging . .2270
Bypass Valves . . . .2905
Cap Test Kits . . . . .1964
Chain Hoist Baskets . . . . . .2230
Chain Hoist Buckets . . . . . .2230
Chain Hoists . . . . . .2230
Chucks . . . . . .3028
Concrete Vibrators . .259
Coupling Manifolds .3025
Curtain Brackets . . .3647
Curtain Controllers .3647
Curtains . . . . .3646-3647

# PRODUCT INDEX




Dampers .....3435
Deodorizers .1840, 1852
Doors .....3646-3647
Dryers .....2905-2909
Duct ..2515, 3438, 3561
Duct Boosters
.....3638-3639, 3650
Emission Testers ...841
Filters, Spray Gun ..1963
Flow Indicator Kits .2535
Flow Smoke Tubes .2535
Flow Switches
.....3237, 3358
Freshener Dispensers
.....1851
Fresheners
.....1851-1852, 1869
Fuel Torches .1551, 1553
Gas Outfits ..1553-1554
Gearmotors .....2961
Hacksaws .....1457
Hammer Chisels
.....3004-3005
Handler Drain Pans
.....3444
Handlers ....3444, 3449
Heaters .....3377-3378
Horns .....2515
Hose .1969, 2430, 2432,
.....2438, 2515, 2834,
.....3018-3019, 3021
Hose Clamps
.....3029, 3038
Hose Coupler Plugs
.....3023, 3025
Hose Couplers
.....3022-3023
Hose Fittings .3022-3023,
.....3029, 3036-3037
Hose Safety Clips ..3029
Hose, Breathing ...2436
Intake Filters .....2851
Jets, Abrasive Blast
Cabinet .....1529
Motor Mounts .....2960
Motors .....2960-2962
Movement Recorders
.....800
Mover Hose .....3035
Movers, Pneumatic
.....2515, 3035
Operated End Lifts .2720
Operated Jacks
.....2710, 2713-2715,
.....2717-2718
Outlets .....3437
Panels .....2436
Powered Grease Guns
.....2743
Powered Hydraulic
Pumps .....2722
Pressure Switches .3358
Probes .....893
Proving Switches ..3358
Purgers .....3277
Purifiers .....3518
Quality Testers
.....841, 2535
Quick Connect Washers
.....3029
Quick Disconnects .2093
Receivers ...2891-2893
Reels .....3016
Sensing Switches ..3358
Supply Adapters ...2428
Supply Hose .1968, 2428
Supply Manifolds ..2428
Supply Systems ...2435
Switches .....3357
Tubing .....3041
Valves, Adjusting ..1963
Velocity Gauges
.....855, 858, 860-861
Velocity Meters
.....850-853, 855
Velocity Monitors
.....848, 852
Velocity Probes ....854
Velocity Transmitters
.....863
Vents .....2763, 3277,
.....3355, 3413, 3437
Volume Calculators ..855
Volume Controls ...3258
Volume/Flow Meters
.....855-856

**Air Circulator**
Bases .....3571
Blades .....3570, 3574
Brackets .....3571
Ceiling Mounts ....3571
Extension Cord .....3570
Floor Pedestals ....3570
Guards .....3570, 3574
Motors ...105, 108, 3570
Switches .....3570

**Air Circulators,**
Assembled ...3570-3571
Ceiling .....3573, 3576
Clip-On .....3544
Floor .....3541,
.....3543-3544, 3576
Hazardous Location
.....3572
Industrial .....3570,
.....3572-3573, 3576
Mobile .....3571, 3575
Pedestal ....3542-3543
Personal ....3541, 3544
Roll-About .....3543
Special Voltage ....3573
Table .....3541
208V .....3573
277V .....3573
Transformer .....3573
Vehicle .....3544
Wall Mounted
.....3542, 3572-3573
Washdown .....3572

**Air Cleaner**
Brackets .....3519
Filters ..3515-3517, 3519
Probes .....777

**Air Cleaners,**
Ceiling Mounted ...3520
Commercial .3516, 3518,
.....3520-3521, 3525
Duct Mount .....3513
Electronic .....3512,
.....3515-3516, 3519
Furnace .....3512-3514
HEPA .....3515
Industrial ....3522-3524
Media Filter
.....3513, 3516-3517,
.....3520-3522, 3524
Odor .....3525
Oil Mist .....3523
Portable ....3515, 3518
Residential .....3513
Water-Wash .....3513
Whole House .....3513

**Air Compressor**
Battery Tray Kits ...2871
Belts .....306
Canopy Kits .....2883
Capacitor Panels ..3235
Check Valves .....2897
Combination Starters
.....3235
Condensation Heaters
.....3235
Controls
.....2896-2898, 3235
Dollies .....2866
Filter Adapters ....2894
Filter Elements ....2894
Filters/Silencers ...2894
Heads .2875, 2884-2885,
.....2887-2888
Intake Filters .....2894
Low Oil Guards ....2890
Maintenance Kits
.....2883, 2890
Motor Starters .....444
Motors .....8-9, 12-13,
.....28, 31, 35-36, 49,
.....53, 97, 101, 103,
.....114, 126-127, 150
Mounts .....2892
Oil .....2768, 2883
Oil Monitors .....2890
Pipe .....2900-2901
Pipe Brackets .....2901
Pipe Connectors ...2901
Pipe Tool Kits
.....2900-2901
Pressure Switches
.....2895, 3236
Pumps .2875, 2884-2889
Repair Kits ..2886, 2890
Simplex Control Panels
.....3234-3235
Start-Up Kits .....2889
Tank Conversion Kits
.....2892
Tanks, Air-Carry ...2892
Tanks, Portable
.....2891-2892
Tanks, Stationary ..2893
Throttle Controls ...2896
Vacuum Pumps
.....2859-2861

**Air Compressors,**
Climate Control ....2874
Contractor ...2865-2867,
.....2869-2870
Diaphragm ...2859-2860
Dry Air System ....2879
Duplex .....2874, 2876
Electric .....2853,
.....2862-2868, 2871,
.....2873-2881, 2889
Gas Powered .2868-2871
Hand Held .....2864

# PRODUCT INDEX

## Air Compressors — Air Tank


Oil-Less .....2853, 2859-2860, .....2862-2868, 2874
Oil-Lubricated .....2869, 2871, 2878
Portable .....2435, 2864-2869
Pressure Lubricated .....2877
Pump .2865, 2868-2870, .....2872-2873, 2877
Regenerative Blowers .....2850
Rotary Screw .....2882
Stationary ..2868-2871, .....2873-2879
Tank-Mounted .....2863-2864, .....2868, 2871, 2873
Two-Stage ..2868, 2871
Vacuum ....2853, 2862

**Air Conditioner**
Blowers .....3640-3643
Casters .....3461
Compressors .....3465
Covers .....3455
Cycling Controls ...3502
Drain Kits .....3456
Filters .....3514, 3522, .....3528, 3530, 3532, .....3534, 3537-3539
Gauges .....3487
Grilles .....3454-3456
Motors .....57, 60-66
Mounting Subbases .....3456
Pads .....3451
Pump Compressors .....3465
Refrigerants .....3476
Time Delay Relays .3235
Wall Cases .....3454
Wall Sleeves .....2079, 3455-3456
Whips .....3451
Window Frames ...3455
Window Mount Kits .3458
Window Supports ..3455

**Air Conditioners,**
Backbreathers ....3455
Builder .....3455
Central Units .....3442, 3449, 3452
Dual Zone .....3452
Gas/Electric .....3445, 3447-3448
Hazardous Location .....3459
Heat And Cool .....3455, 3459
Heavy-Duty .....3459
Industrial .....3460
Mobile Home .....3452
Non-Side Louvered .3455
Portable .....3460
Residential .....3442, 3449, 3452
Room ..2079, 3452-3460
Solid Side .....3455
Split Systems .....3452
Thru-The-Wall .....3455-3456
Wall Mounted .....3452
Window ....2079, 3454, .....3457-3459

**Air Conditioning**
Air Handlers .3444, 3449
Charging Valves ...3499
Coil Cleaners .....3480
Condensation Heaters .....3235
Condensers .3442, 3449
Disconnect Switches .392
Evaporator Coil Casings .....3444
Evaporator Coils ...3444
Fittings .....3049
Pads .....3444
Post Purge Timers .3505
Relays .....3506
Simplex Control Panels .....3234-3235
Tags .....3062
Time Delay Relays .....3505-3506
Timers .....571
Tubing .....3451
Wrenches .....1250

**Air Cylinder**
Carriers .....2435
Compact Mounts ..2954
Couplers .....2956
Mounts .....2950
Pressure Regulators .....2428
Small Bore Mounts .2955
Tie-Rod Mounts .....2955, 2957, 2959

**Air Cylinders,**
Compact .....2954
Disposable ...2948-2950
Non-Rotating Rod ..2958
SCBA .....2442
Stainless Steel .....2948-2950
Tie-Rod .....2955-2956
Twin-Rod .....2958

**Air Filter**
Frames .....3529
Gasketing .....3539
Kits ....862, 2436, 3513
Paint Collector Frames .....3531
Support Rods .....3531

**Air Filters,**
Air Cleaner .....3513, .....3515-3517, 3519
Air Conditioner .....3522, 3528, .....3530, 3532, 3537
Bag Type ...3522, 3536
Carbon .....3535
Cartridge ....3538-3539
Cube .....3534
Electronic .....3512
Electrostatic .....3514
Extended Surface .....3532-3533
Fiberglass .....3531
Furnace ....3512, 3514
Heating ....3522, 3528, .....3530, 3532, 3537
HEPA .....3540
Humidifier .....3509
Kitchen .....3540
Mini-Pleat .....3539
Paint .....3531
Paint Collector Grid .....3531
Panel .....3534
Polyester ....3529, 3535
Polyester Links ....3534
Polyester Panels ...3534
Portable .....2436
Restaurant .....3540
Rigid Cell .....3538
Steel Mesh .....3540
Trim-To-Fit .....3528

**Air Line**
Compressors .....2426
Connection Assemblies .....3196
Couplers .....3022-3023, 3025
Drain Valves .....2921
Exhaust Mufflers .....2921, 2930, 2934
Filter Drains .....2921, 2923, 2925
Filter Elements .....2914-2916, 2923, .....2925, 2927-2929
Filter/Regulator/ Lubricators .....2920
Filter/Regulators .....2919, 2923-2924, .....2926, 2929-2930
Filters .....2428, 2437, .....2914-2916, 2919, .....2923-2924, 2926, .....2928-2930, 3006
Flexible Hose .....3185
Hose Fittings .3022-3023, .....3025, 3029
Lubricators ..2917-2918, .....2923-2924, 2926, .....2928-2930, 3006
Mounting Brackets .....2921, 2923, .....2925, 2927, 2929
Noise Mufflers .....2930, 2934
Oil Removal Filters .....2915, 2923-2924, .....2926, 2928
Pressure Gauges ..2929
Quick Disconnect Assemblies .....2428
Regulators .....2917, 2923-2924, .....2926, 2928-2930
Respirators .....2419, .....2426-2427, 2432

**Air Pump**
Adapters .....2437
Filters .....2437
Splitters .....2437

**Air Pumps,**
Ambient .....2437
Breathing .....2423, 2436-2437
Drum .....3207
Oil-Less .....2437
Respirator .....2435

**Air Tank**
Conversion Kits ...2892

# PRODUCT INDEX




Dollies .....2866
Manifolds .....2896
Valves .....3028

**Air Tanks** ....2891-2893

**Air Tool**
Abrasive Discs ....1604
Balancers .....3003
Die Grinder Kits ...2990
Drill Chucks .....2978
Hammer Kits .....3000
Hammer Retainers .3004
Impact Wrench Kits .2966
Impact Wrench Lubrication ..2967-2968
Mandrels .....1604
Moil Points ...3004-3005
Nails ..3007, 3010, 3012
Needle Sets .....3006
Oil .....2768
Oilers .....3006
Ratchet Wrench Kits .....2963
Retainers .....3004
Sander Conversion Kits .....2983
Sander Kits .....2984
Sander Pads .....2983
Sander Vacuum Adapters .....2983
Sander Vacuum Bags .....2983
Sander Vacuum Hose .....2983
Saw Blades .....2997
Staples .....3007, 3010, 3012
Swivel Fittings ....3025

**Air Tools,**
Angle Grinders ....2995
Belt Sanders .....2985
Buffers .....2984-2987
Caulk Guns .....3015
Chipping Hammers .3001
Chisels .2999, 3004-3005
Cut-Off Tools .....2996
Die Grinders .....2990, 2992-2993
Diggers .....3002
Drills ..2963, 2977-2980
Engraving Pens ...2989
Files .....2997
Flux Chippers .....2999
Grinders .....2984, 2987-2988, .....2990-2995
Hammers ....3000-3001
Impact Wrenches .....2965-2970
Jack Hammers ....3002
Nailers .....3007-3008, .....3011, 3013
Needle Scaler/Chisels .....2999
Needle Scalers .....2998-2999
Nibblers .....2996
Nutrunners .....2971
Pavement Breakers .....3002
Pencil Grinders ....2989
Polishers .....2987
Ratchet Wrenches .....2963-2964
Rivet Guns .....3015
Rivet Hammers ....3000
Riveters .....3000
Sanders .....2981-2988
Saws .....2997
Scalers .....2998-2999
Screwdrivers .2973-2976
Shears .....2997
Staplers .....3009, 3013-3014
Tackers .....3008, 3011, 3013
Tool Type .....2963

**Air Valves,**
Directional Control .2945
Flow Control .2932-2933
Heavy Duty Limit ..2933
Manual .....2945-2947
Mechanical ..2946-2947
Mini Limit .....2934
Pilot .....2940-2942
Plumbing .....3042
Pneumatic .....2936
Release .....3360
Safety .....2898-2899
Shuttle .....2933
Solenoid ....2935-2936, .....2939-2942, 2944

**Aircraft**
Cable .....2247
Cable Blocks .....2256
Cable Clips .....2247
Cable Hooks .....2247
Cable Sleeve-N-Thimble .....2247
Cable Swagers ....2247
Cleaners .....1870
Drill Bits .....1659
Ladders .....2178

**Airless**
Paint Hose .....1979
Paint Rollers .1976, 1979
Paint Spray Hose ..1979
Paint Sprayer Valves .....1976
Paint Sprayers .....1968, 1975, 1977
Pump Lube .....1977
Spray Gun Extensions .....1976, 1979
Spray Gun Poles ..1979
Spray Gun Tips ...1976
Spray Guns .....1968, 1975, 1978
Sprayer Tip Guards .....1978
Sprayer Tips .....1978
Sprayers .....1967

**Alarm**
Batteries .....1175
Contacts .....443
Panels .....2358
Thermometers .883, 890

**Alarms,**
Air Velocity .....848
Audible .2556-2558, 3230
Back-Up .....2556
Basement Water .....3213, 3230
Bell .....2558
Carbon Monoxide ..2357
Emergency Exit ...2638
Exit Door .....2646
Fire .....2357
Fluid Level .....3230
Fumehood .....848
Gas Detector .....2521
High Water ..3213, 3230
Horn .....2557-2558
Low Pressure Warning .....2428
Smoke .....2357
Temperature ...882-883
Vehicular .....2556
Visual .....2554-2557
Wash Station .....2538
Water .....3230

**Alcohol**
Pads .....2549
Screening Training Kits .....2548

**Alkaline**
Batteries .....1174
Cleaners ....1848, 2790

**Allen Wrenches**
.....1302-1303

**Alloys,**
Brazing .....1545
Overlay .....1541

**Aluminized**
Garments .....2485

**AMCA**
Fan Manuals .....3628

**Ammeters,**
Analog .....754, 762
Appliance .....753
Calibrator ..741-742, 896
Clamp-On .....753-758
Current Leakage ....753
Digital ....753, 755-758, .....763, 765, 767-768, .....771-775, 815, 891
Panel Mount .....737, 739, 744-745
Tool .....753
True RMS ....755, 757, .....767-768, 773-775

**Ammonia**
Gauges .....871
Inhalants .....2552

**Amplifiers,**
Fiber Optic .....556
Public Address ....906
Respirator Voice ...2410

**Anaerobics** .....1781

**Analgesics** .....2551

**Analog**
Ammeters .....744-745
Balometers .....856
Multimeters .....761
Oscilloscopes ..817-819
Panel Meters ...744-745
Signal Recorders ...799
Sound Level Meters .826
Stroboscopes .....837
Vacuum Gauges ...3486

**Analyzer**
Printer Kits .....845

# PRODUCT INDEX

## Analyzer — Arm


Printer Paper .....845
Printers .....845

**Analyzers,**
Air Quality .....841-842
CO .....842
Combustion ....845-846
Harmonic .....812
Load .....758, 3304
Noise .....826
Power .....758
Power Factor .....758
Power Harmonics ...812
Spectrum .....819
Watt .....758

**Anchor**
Bits .....1723
Bolts .....1740
Cement .....2690-2691
Screens .....1728
Setting Tools .1726-1728

**Anchorage**
Connectors .....2511

**Anchors,**
Beam .....2511
Brick ..1721, 1725-1726
Caulking .....1332
Cement .....1724
Concrete .....1721, 1724-1726
Concrete Block .....1721-1722
Concrete Screw ...1723
Drywall .....1720-1722
Expansion ...1724-1726
Lag Screw .....1761
Masonry Screw ....1723
Multi-Set .....1726
Nail Drive .....1721
Plastic .....1720
Screw ..1332, 1720-1722
Sleeve .....1725
Stone .....1725-1726
Stud .....1726
Tapcon Screw ....1723
Wallboard ...1720-1722
Wedge .....1723-1724

**Anemometer**
Adapters .....851
Cases .....791
Printer Paper .....852
Printers .....852

**Anemometers** ...850-853

**Angle**
Brooms .....1948
Clamps .....1379
Finders .....1383
Grinder Abrasive Discs .....1604
Grinder Brushes ...1632
Grinders, Air .....2995
Grinders, Electric .....1492-1493
Hose Valves .....3034
Iron, Slotted .....2063
Irons .....2655
Plates .....1827
Sanders .....2984

**Angles,**
Bar Stock ....1697-1698

**Annular**
Cutters .....1451

**Anodes,**
Water Garden .....3144

**Ant**
Baits .....1867
Spray .....1866

**Antacids** .....2552

**Antenna,**
Two-Way Radio .....899, 901

**Anti-Corrosion**
Battery Terminals ..2789

**Anti-Fatigue**
Mats .....1936-1938
Matting .....1936-1937

**Anti-Fog**
Lens Liquid ..2376-2377

**Anti-Freeze**
Pipe .....3481
Pumps .....3195

**Anti-Rust,**
CRC ...2781-2782, 2789

**Anti-Seize**
Lubricants ...1781, 2784

**Anti-Skid**
Additives .....1998
Coatings .....2620
Tape .....2620

**Anti-Spatter,**
CRC .....1546

**Anti-Tie-Down**
Packages .....2944

**Anti-Vibration**
Gloves .....2497-2499

**Antiseptics,**
Alcohol .....2549
Antibiotic .....2549
Cream .....2549
Green Soap Swabs .2549
Green Soap Wipes .2549
Hydrocortisone ....2549
Iodine .....2549
Pads .....2549
Spray .....2549
Swabs .....2549
Towelettes .....2549
Wipes .....2549

**Anvil**
Loppers .....2681
Pruners .....2681

**Appliance**
Casters .....2141, 2156
Connectors .....3084
Cords .....588
Dollies .....2207
Lamps .....916-917, 953, 956, 962
Motors .....180-181
Timers ....570-571, 829
Vacuum Motors .174-176

**Applicators,**
Adhesive .....1785
Blacktop .....1950
Lambswool .....1952
Tape .....2286
Urethane ....1785, 1787
Wax .....1952
WD-40 .....2780

**Aprons,**
Acid .....2487
Belly Patch .....2487
Bib .....2484
Canvas .....1394
Carpenter's ..1394-1395
Chemical Protection .....2486-2487
Coat .....2487
Construction .....1395
Cotton .....2487
Denim .....1394, 2487
Disposable ..2474, 2486
Flame Retardant ...2483
Heat Protective .....2484-2485
Leather .....1394, 2484
Machinist's .....1394
Nail .....1394
Neoprene .....2487
Nitrile .....2487
Nylon .....2487
Protective .....2474
PVC .....2487
Rubber .....2487
Silver Shield .....2486
Vinyl .....2487
Welding .....2484

**Arbor**
Adapters .....1437
Hole Adapters .....1631
Presses .....352, 1511
Saw Guide Rails ...1514
Saw Legs .....1514
Saw Rip Fence ....1514
Saw Tables .....1514
Saws .....1514
Shim .....1713
Shim Assortments ..1713

**Arbors,**
Bridgeport .....1707
Drill Bit .....1433
Hole Saw .....1437
Morse .....1707
Motor Shaft .....204
Self Feed .....1433
Straight Shank ....1707
Taper .....1706-1707
Tool .....204
Wheel .....1607

**Arc**
Gouging Electrodes .....1541
Gouging Rods ....1541
Starters .....1572
Welder Wheels ....1567
Welders .....1567
Welding Accessory Kits .....1579, 1581
Welding Stabilizers .1568

**Arch**
Punches .....1366

**Arm**
Chairs .....2104
Guards .....2451, 2453, 2456
Lights .....1166

# PRODUCT INDEX




Rests .....2099, 2103

**Arms,**
Bin .....2093
Drain .....3106
Monitor .....2093-2094
Workstation .....2094

**ARO PAK** .....2743

**Arrestors,**
Hose Line Flash ...1566

**Articulating**
Bin Holders .....2093
Ladders .....2181
Monitor Arms .....2093

**Artificial Neutral** ....753

**Ash Cans** ....1926, 2345

**Ashtrays,**
Wallmount .....1915

**Asphalt**
Coatings .....2003
Kumalongs .....2676
Lutes .....2677
Patching ....2690-2691
Rakes .....2676-2677
Repair Materials ...2691

**Aspirator**
Boxes .....3299

**Aspirin** .....2552

**Assembly**
Stations .....2093
Workstations .....2094

**Atomizers,**
Rechargeable .....2780

**Atomizing Kits,**
HV/LP .....1968

**Attractants,**
Insect .....2675

**Auger**
Bit Files .....1372
Bits .....1332
Drive Motors .....143

**Augers,**
Closet .....1338
Earth .....2668, 2678

**Automotive**
Battery Chargers .....2727-2729
Battery Testers ....2727
Cranes .....2718-2719
Diesel Engine Oil ..2767
Engine Stands ....2716
Grease .....2771
Jacks .....2710-2714
Keyless Entry Batteries .....1177
Lamps ....987-995, 998-1001
Oil Filter Wrenches .2751
Refrigerants .....3476
Repair Kits ...2722-2723
Stands .....2721
Starting System Testers .....2727
Tools .....1404, 1807
Transmission Fluid .2766
Transmission Oil ...2766

**Auxiliary Contacts,**
Pin And Sleeve .720-721
Twist-Lock .....721

**Awls,**
Scratch .....1367

**Axe**
Handles .....2680

**Axes,**
Michigan .....2680

## B

**Back**
Belts .....2494-2495
Boxes, Intercom ....907
Boxes, Nonmetallic ..722
Boxes, Pin And Sleeve .....722-723
Boxes, Telephone ...735
Cushions .....2501
Rests .....2501
Safety Facilitator Guides .....2570
Safety Interactive CD-ROMS .....2570
Safety Training Handbooks .....2570
Stops, Cabinet ....2091
Stops, Workbench .2089
Supports ....2494-2496

**Back-Up**
Alarms .....2556
Pads, Fiber Disc ...1620

**Backflow**
Preventer Valves ..3063

**Backing**
Pads, Rubber .....1493

**Badges,**
Bio-Check .....2534

**Baffle**
Adapter Kits .....3456
Hanging Kits .....2395

**Baffles,**
Acoustical .....2395
Heat Gun .....1532
Sound .....2395

**Bag**
Closures .....2268
Dollies .....2206
Filters .....3098-3100
Sealing Machines ..2268
Type Air Filters .....3522, 3536

**Bags,**
Abrasive Blast Cabinet Vacuum .....1529
Bio-Hazard .....1933
Bubble .....2271
Caddy .....1919
Can Liners .....1932
Canvas .....1395
Cloth .....2269
Drawstring .....2269
Dust Collector .....1529, 3527
Filter .....1890
Garbage ....1930-1933
Glove .....2467
Hospital .....1932-1933
Housekeeping Cart .1953
Identification .....2269
Infectious Waste ...1933
Lawn .....1930-1933
Mailing .....2269
Mesh .....1959
Minigrip .....2269
Miter Saw .....1464
Nail .....1394-1395
Order Picking .....2269
Outdoor Vacuum Cleaner .....1895
Padded Mailer ....2271
Paper .....2269
Parts .....2268-2269
Plastic .....2268-2269
Polyethylene .2268-2269
Reusable .....2269
Shipping .....2269
Test Lead Carry ....751
Tool .....1395
Trash .....1930-1933
Vacuum Cleaner ..1878, .....1880-1882, 1890
Vinyl .....1953
Waxed .....1913
Zipseal .....2269

**Baits,**
Ant .....1867

**Balancers,**
Air .....850
Electronic .....2301
Rail .....2094
Tool ...2093, 2229, 3003

**Ball**
Attachments, Micrometer .....1801
Covers, Construction .....1773
End Hex Keys .....1303
Joints, Actuator ....3299
Knobs .....1776
Lock Pins .....1771
Mounts, Trailer Hitch .....2706
Pein Hammers .....1357-1358, 1399
Plungers .....1772

**Ball Bearing**
Chucks .....1702
Hinges .....2651-2652
Wheels .....2165-2166

**Ball Bearings,**
Double Row .....327
Metric .....336-337
Motor Ball .....332-333
Open .....327
Sealed Ball .....328-329, 332-333
Sealed Beam ..329, 333
Single Row .....328-329, 332-333
Tapered Roller ..336-337
Thrust .....348

**Ball Transfer**
Balls .....2265
Conveyors .....2265
Drop-In Plates ....2265
Tables .....2265

**Ball Valve**
Lockouts .....2567

**Ball Valves,**
Air Actuated .....2911
Air Operated .....2911

Automatic .....2911
Brass ..2911-2912, 3066
Carbon Steel .....2913
Compact .....2912
Electric .....2911
Gas .....3068, 3084
High Pressure .....2913
Hydraulic .....2913
Medium Pressure ..2913
Mini .....2912
Plated .....2754
Plumbing .....3042
Pneumatic .....2911
Safety Exhaust ....2912
Stainless Steel
.....2901, 2911, 2913

**Ballast**
Brackets .....1041
Control Devices ...1019
Ignitors .....1039

**Ballasts,**
Bi-Level Switching .1021
Circline ....1022, 1031,
..... 1033-1034, 1036
Controllable .....939,
.....1018-1020, 1023
Core And Coil
.....1040-1041
Dimming
.....939, 1018-1020,
..... 1023, 1035, 1050
Discrete ....1013, 1027
Electronic ....939, 1013,
.1017-1025, 1027-1029,
.1034-1035, 1057-1058
Energy Right .939, 1013,
.1017-1025, 1027-1028,
.....1031, 1034-1035
F-Can .....1042
Fluorescent .....939,
..... 1013, 1017-1025,
..... 1027-1038, 1050
HID .....1039-1044
High Output .1027-1028,
.....1037-1038
High Pressure Sodium
.....1041-1044
Hybrid Electromagnetic
.....1020, 1022-1024
Indoor Enclosed ...1043
Integrated Circuit
.....1018-1019
Magnetic
.....1020, 1022-1025,
..... 1027-1031, 1034,
..... 1036-1038
Mercury Vapor
.....1040, 1042-1044
Metal Halide ..1040-1044
Outdoor .....1044
PL Lamp ...1018, 1020,
.....1022-1023,
. 1030-1031, 1033-1037
Postline .....1035, 1042
Sign .....1038
VHO Magnetic
.....1029-1030, 1037
Weatherproof
.....1037, 1044

**Balls,**
Construction .....1773
Hitch .....2705
Trailer Hitch .....2705

**Balometer**
Hoods .....856
Probes .....854

**Balometers** .....856

**Banana**
Jacks .....823
Oil Fit Test Kits ....2444
Plugs .....816, 822-823

**Band Saw**
Alignment Gauges .1693
Blade Welders ....1696
Blades .1521, 1690-1696
Roller Heads .....1518
Stands .....1453
Support Stands
.....1518, 1520
Tables .....1452
Tension Gauges ...1693
Cutoff .....1521
Horizontal .....1453,
..... 1518-1519, 1521
Metal Cutting .1516-1521
Portable .....1452-1453
Stationary ...1516-1521
Vertical .....1516-1517
Wet .....1521
Wet/Dry ....1518, 1520

**Bandages** .....2550

**Bandanas** .....2384

**Bandfiles** .....1488

**Banding**
Buckles .....2293
Material .....2293
Sealing Tools .....2291
Seals .....2290
Stands .....2296
Strapping .....2295
Tape .....2291
Tools ..2291-2292, 2295

**Bandoliers,**
Screwdriver Bit ....1430

**Bands,**
Heat .....3375-3376
Spiral .....1628

**Banks,**
Data .....2115

**Banners,**
Wide Load .....2616

**Bar**
Clamps .....1376-1377,
..... 1379-1380
Code Software ....2597
Faucets .....3110
Hangers .....680
Magnets .....1832
Racks .....2011
Sinks .....3105
Soap .....1855
Solder, Galvanizing .1537
Stock .....1697-1699

**Barbs,**
Hose .....3020, 3024

**Barrel**
Bolts .....2657
Carriers ....2206, 2321,
.....2323-2324
Cradles .....2323
Deheader Blades ..2326
Deheaders .....2326
Dollies .....2206, 2321,
..... 2324, 2329
Faucets .....2325
Funnels .....2327
Grabbers
.....2319-2320, 2323
Grounding Wires ...2328
Level Gauges .....2327
Lifters ..2319-2320, 2323
Plug Wrenches ....2326
Pumps
.....1961, 2744, 3199,
..... 3201-3205, 3207
Safety Vents .....2328
Sight Tubes .....2327
Spigots .....2325
Spout Wrenches ...2326
Trucks .2206, 2321, 2324

**Barrels,**
Channelizer .....2615
Traffic .....2615

**Barricade**
Batteries .....1175
Fence .....2613
Lights .....2615
Systems .....2613

**Barricades,**
Chain .....2618
Mini .....2614
Plastic .....2614
Safety .....2614
Traffic .....2614-2615

**Barrier**
Lotion .....1856, 1859
Tape .....2619

**Barrier,**
Belt .....2313
Safety .....2315
Vapor .....2261
Web Belt .....2313

**Bars,**
Boring .....1641
Cargo .....2311
Chain Saw .....2685
Circuit Breaker Jumper
.....390
Crash .....2636-2637
Crow .....1361, 1401
Digging .....2680
Draw .....2706
Exit .....2642
File Cabinet .....2106
Gooseneck .....1361
Grab .....3115
Grip .....1917
Hanging .....2656
Hitch .....2706
Pallet Rack .....2009
Panic .....2636-2637
Pinch Point .....1361
Pry .....1361, 1401,
..... 2312, 2680
Roller .....2312
Socket .1234, 1236, 1278

# PRODUCT INDEX




Tamping .....2680
Toilet .....1917
Towel .....1915-1916
Tub .....1917
Utility .....1361
Wrecking ....1361, 1401

**Base**
Manifolds .....2937

**Baseboard**
Diffusers .....3437
Heater Corners .....3391-3392, 3426
Heater Cover Assemblies .....3426
Heater End Covers .3426
Heater Thermostats .....3392
Heaters .....3391-3392, 3426-3427
Pads .....1956
Strippers .....1837

**Basement**
Vent Kits .....3417
Water Alarms .....3213

**Baseplates,**
Motor Starter .....462

**Bases,**
Air Circulator .....3571
Cart .....2096
Computer .....2096
Computer Cabinet ..643
File Cabinet .....2108
Flat File .....2108
Floor .....3428
Granite .....1829
Hearth .....3423
Heater .....3418
Indicator .....1812-1813
Laminate Trimmer ..1474
Locker .....2072-2073
Magnetic .....1812
Micrometer .....1812
Milling Machine ....1497
Monitor .....3505
Motor .....182, 199-201
Motor Mounting ....199
Pedestal .....2096
Pump Mounting .....3124, 3196
Pushbutton .....508
Selector Switch ....508
Speed Reducer .....269, 273, 276
Turbine Ventilator ..3565

**Basetrak**
Raceway Systems ..646

**Basin**
Covers .....3229
Fittings .....3229
Wrenches .....1333

**Basins,**
Radon .....3229
Sewage .....3229
Sink/Laundry Tray ..3229
Sump .....3229

**Baskets,**
Parts Washer .....1524
Pool Strainer .....3287
Sink Strainer .....3106
Soak Tank .....1524
Spray Bottle .....1961

**Bathroom**
Cabinets .....1917
Cleaners ....1855, 1870
Exhaust Fans .3549-3551, 3555, 3639
Fan/Lights .....3551-3552, 3554
Fans .....3457, 3550, 3552-3555
Heaters .....3386-3387, 3553
Ventilators .....3550-3553, 3558

**Batteries,**
Alarm .....1175
Alkaline .....1174, 1176
Barricade .....1175
Calculator .....1177
Coin Cell .....1178
Computer Clock ...1178
Deep Cycle .....3213
Digitape .....1388
Drill .....1426-1427
Electronic ....1177-1178
Emergency .....1175
Emergency Lighting .....1152-1153, 1175
Exit Lighting ..1152-1153
Fence .....1175
Fire Alarm .....2358
Flashlight ...1174, 1180
Gas Detector .....849
General Purpose ..1175
Hearing Aid .....1178
Heavy Duty .....1174
Hobby .....1175
Hospital ....1175, 1178
Industrial .....1174
Keyless Entry .....1177
Lantern .....1175
Lithium .....1177
Lock .....2641
Marine .....3213
Medical .....1175, 1178
Nine Volt .....1174
Oscilloscope .....816
Photo .....1178
Power Supply .....400
Pump .....3213
Rechargeable .....1176, 1180, 1183
Renewal .....1176
Reusable .....1176
Screwdriver .....1427
Six Volt .....1175, 1178, 2358
Standby Pump ....3213
Three Volt .....1177
Transistor .....1174
Twelve Volt ..1177, 2358
Two-Way Radio ....899
Versa-Pack .....1426
Watch .....1177

**Battery**
Boosters .....802, 2730
Cabinets, UPS .....400
Cable Connectors ...608
Cables .....2727
Carriers .....2751
Charger Brackets ..2524
Cleaners .....2790
Eliminators .....774, 779, 844
Fillers .....2751
Fuses .....440
Portable Power Packs .....2730
Powered Lifts .....2214
Powered Tilters ....2219
Recharger/Converters .....802
Smoke Alarms ....2357
Spill Kits .....2334
Terminal Protectors .....2789

**Battery Chargers,**
Automatic .....2728
Automotive ...2727-2729
Booster .....2727-2729
Charger/Starter .....2728-2729
Complete Cutoff ...2728
Cordless Tool .....1426
Drill .....1426-1427
Engine Starter .....2728-2729
Gas Detector .....2524
Heavy Duty ..2728-2729
I.D. Pro .....634
Industrial .....2318
Manual .....2727
Manual-To-Automatic .....2729
Monitor .....841
Motorcycle .....2727
Multi-Voltage .....2727
Multimeter .....774
Oscilloscope .....816
Portable .....2727-2728
Portable Printer ....634
Renewal .....1176
Respirator .....2421
Small Engine .....2727
Smart .....2728-2729
Trickle .....2727-2728
Twelve Volt .....634
Twenty-Four Volt ..2728
Two-Way Radio .....899, 901
Vehicle .....2727-2729
Wheel Type .....2729

**Battery Packs,**
Alarm Lock .....2646
Cordless Drill .....1427
Cordless Screwdriver .....1426
Emergency Lighting .....1143
Gas Detector .2521, 2524
Mag Charger .....1183
Multimeter .....774
Oscilloscope .....816
Portable Printer ....634
Respirator .....2421
Rotary Tool .....1490
Two-Way Radio .....899, 901

**Battery Testers,**
All Purpose .....1175
Automotive ...838, 2751
Load .....2727
Starting System ...2727

# PRODUCT INDEX

## Bayonet — Bins


**Bayonet**
Thermocouple Adapters .....3374
**Beads,**
Glass .....1526
**Beam**
Anchors .....2511
Clamps ...650-651, 1379, 2235
Scales .....2300
Splitters .....1821
**Beams,**
Pallet Rack ..2006, 2008
**Beard**
Covers .....2476
Restraints .....2476
**Bearing**
Adapters .....352
Adhesives ...1780-1781
Assemblies, Pump .3273
Frames .....346
Gap Filler .....1781
Grease .....2770
Inserts .....347
Mount Compounds .1781
Mount Sealants ....1781
Packer Pumps ....2751
Packers .....2751
Puller Step Plate Adapters .....1405
Pullers .....1402-1405
Quick Repair .....1781
Retaining Compounds .....1781
Sealant .....1781
Separators .....1404
**Bearings,**
Ball .....329
Bearing Unit .....347
Blower .....347
Double Row .....327
FDA Compliant .....340-341, 352
Flange ....340-345, 347
Insert .....347
Metric .....328-329, .... 332-333, 336-337
Motor Ball .....328-329, 332-333
Mounted ..340-347, 3610
Nickel Plated .....343
Open .....327
Pillow Block .....340-345, 347
Plastic ....340-341, 352
Sealed Ball .....328-329, 332-333
Shielded Ball .....328-329, 332-333
Single Row .....328-329, 332-333
Spherical .....338
Stainless Steel .....347
Take-Up .....346
Tapered Roller ..336-337
Thrust .....348
UHMW-PE Plastic .....340-341, 352
USDA Approved .....340-341, 352
Washdown .....340-341, ..... 343, 347, 352
Washer .....348
**Bed**
Casters .....2156
Pan Valve Retrofits .3115
Pan Washer Valves .....3115
**Bell**
Alarms .....2558
**Bells,**
Door .....2559
Fire Alarm .....2359
**Belt**
Barriers .....2313
Bolts .....1740
Clips, Two-Way Radio .....899, 901
Conveyors .....2266
Dressing .....2782
Grinder Stands ....1507
Holders, Two-Way Radio .....901
Holsters, Portable Printer .....634
Rules .....308
Sander Stands ....1487
Sanders, Air ..2984-2987
Sanders, Electric .....1486-1487, 1507
Sanders, Metalworking .....1508
Sanders, Stationary .....1507-1508
Sanders, Woodworking .....1508
Tensioners ....300, 308
**Belts,**
Abrasive ....1616-1618
Bear-Tex Abrasive .1611
Blower .....305-309
Body .....2503, 2506
Compressor .....306
Drive .....305-309
Fan .305-309, 312, 3616
Leather .....1394-1395
Lifting .....2495-2496
Padded .....1395
Poly Web .....1395
Protective ...2503, 2506
Safety .2496, 2503, 2506
Suspender .....2496
Synchronous .....319, 321-322
Tool .....1394-1395
V- .....305-309
Vacuum Cleaner .....1878-1879
Work .....1395
**Bench**
Back And End Stops .....2089
Blocks .....1818
Buffers .....1505
Cabinet Pedestals ..2090
Cans .....2341
Grinder Stands ....1506
Grinder Wire Brushes .....1630-1631
Grinders .....1505-1507
Legs .....2091
Levels .....1821
Lights .....1164
Milling Machines ...1497
Oilers .....2747
Planes .....1367
Presses ....1511, 2724
Risers .....2091
Safety Cans .....2344
Sanders .....1507-1508
Saws .....1518
Tops, Locker Room .....2072
Vises .....1374-1375
**Benches,**
Adjustable ...2083-2084, .....2092, 2094
Cabinet .....2081
Cafeteria .....2100
Electronic Work .....2089, 2094
Electronics .....2092
Folding Table ....2100
Locker .....2072
Mobile Work .....2193
Modular ....2092-2093
Repair .....2092
Steel .....2083
Technical .....2092
Work .....2083-2084, .... 2088-2089, 2195
**Benders,**
Conduit .....1326-1327
Mechanical .....1327
Pipe .....1343
Tube ..1343-1344, 1346
Tubing .....1343
**Bevels,**
T- .....1383
**Bezel Kits** .....746
**Bibbs,**
Hose .....3059
**Bin**
Arms .....2093
Carts .....2046
Cups .....2044
Dividers .....2044, 2047, 2056
Fronts .....2027
Holders .....2093-2094
Rack Conversion Kits .....2046
Rails .....2051, 2093
Shelving Units ....2045
**Binders,**
Load .....2249
MSDS .....2590
**Bins,**
Conductive .....2047
Corrugated ..2044, 2057
Mounted ....2046, 2057
Multi-Purpose ....2043, ..... 2047, 2051, 2053
Parts Storage ....2041, ..... 2043, 2046-2047, ..... 2051, 2053, 2057
Plastic .2044, 2046-2047, .....2051, 2053, 2057
Revolving ...2041, 2053
Rota .....2041, 2053
Rotary .....2041, 2053

# PRODUCT INDEX




Steel .....2042-2043, ..... 2050, 2058
Storage .....2041, 2044, .....2047, 2051, 2053, ..... 2055-2056, 2094
Tote .....2056

**Bio-Hazard**
Bags .....1933
Labels .....2578
Liners .....1933
Training Posters ...2590
Waste Cans .....2343

**Birdscreens** .....3616

**Biscuit**
Cutters .....1475

**Biscuits,**
Plate Joiner .....1475

**Bit**
Holders .....1430
Locators .....1424

**Bits,**
Anchor .....1723
Auger .....1332, 1432
Carbide .....1446-1448, ..... 1646-1648
Cement Board ....1418
Concrete ....1447-1448
Core .....1448
Drill .....940, 1424, ..... 1433-1434, 1447, ..... 1449, 1650-1669
Drive .....1421
Drywall .....1418
Extra Long .....1332
Flat .....1432
Flexible .....1332
Hammer Drill .....1410, ..... 1447-1448, 1661
Hex .....1235
Masonry .....1447-1448, 1661
Percussion ...1447-1448
Rotary Hammer ...1446
Router .1473, 1476-1479
Screw .....1432
Screwdriver .....1234, ..... 1428-1429, 1431
Shank .....1448
Ship Auger .....1432
Socket .....1233
Socket Screwdriver .1231
Spade .....1432
Spline Shank .....1447
Star .....1222, 1231
Tool .....1646-1648
Torx .....1233
Wall Tile .....1418
Wood Boring .....1432

**Blacktop**
Coater/Applicators .1950

**Bladder Tanks**
.....3155, 3255

**Blade**
Disposal Containers .....1352
Micrometers .1798, 1800
Sharpeners .....1364
Welders .....1696

**Blades,**
Air Circulator .3570, 3574
Band Saw .....1521, 1690-1696
Bi-Metal ....1457, 1469, .....1521, 1694-1696
Carbide Grit .....1458
Carbon .....1690-1694
Chain Saw .....2685
Circular Saw .....1462-1463, 1518
Coil ...1690, 1692, 1694
Cold Saw .....1518
Combination Square .....1820
Conduit Cutter ....1322
Coping Saw .....1355
Deburring Tool ....1709
Diamond .....1606
Drum Deheader ...2326
Fan .....3570, 3574, ..... 3600-3604, 3651
File .....1367
Flex-Back ...1692-1694
Hacksaw .....1457
Hardback ....1690-1691
High Speed Steel ..1696
High Volume .....3608
Hook .....1352
Hydraulic .....2848
Jig Saw .....1468-1470
Jointer .....1475
Knife .....1353
Label Machine Cutting .....2596
Nut Splitter .....2848
Planer .....1509
Plate Joiner .....1475
Portable Band Saw .1692
Poultry Fan .....3608
Powerband .....1521, 1694-1696
Powered .....1521
Razor .....1352
Reciprocating Saw .....1455-1458, 2997
Saw .....1354
Sawzall .....1455-1456
Scraper .....1485
Scroll Saw .....1470
Shaver Tool .....1367
Shear .....1481
Single Edge .....1352
Table Saw .....1462-1463, 1515
Utility .....1352
Utility Knife .....1352
Weedwhip .....2678
Welded .....1521, 1690-1696
X-Acto .....1353

**Blankets,**
Acoustical .....2394
Felt Backing .....2170
Fire .....2542, 2553
First Aid .....2542
Noise Absorbing ...2394
PVC .....1327
Rescue .....2550
Sorbent .....2336-2337
Welding .....1585

**Blanking Kits,**
Valve .....2941

**Blanks,**
Conduit .....680
Key .....2631

**Blast Cabinet**
Attachments .1528, 1529

**Blast Cabinets** .....1528

**Blasting Media** ....1526

**Bleach** .....1850

**Block**
Filler .....2002
Planes .....1367

**Block And Sticks Kits** .....1615

**Blocks,**
Accumulator .....2839
Aircraft Cable .....2256
Airplane .....2309
Bench .....1818
Brick Line .....1397
Contact .....450, .... 462-463, 505, 513
Fuse .....414-415, ..... 424, 427, 434
Gauge .....1826
Lampholder .....509
Manifold .....2796
One-Two-Three ...1827
PARA .....1853
Power Distribution ..413
Pulley .....2256-2257
Shut-Off .....2839
Terminal .....410-412
Toilet .....1853
Trailer .....2309
Urinal .....1853
V- .....1827
Wall .....1853
Wire Rope ...2256-2257

**Bloodborne Pathogens,**
Facilitator Guides ..2570
First Aid Kits .....2547
Interactive CD-ROMS .....2570
Safety Videos .....2570
Training Handbooks .....2570
Training Posters ...2590

**Blow Gun**
Attachments .....3026

**Blow Guns,**
Air .....3025-3028
Pocket .....3028

**Blower**
Air Duct Boosters ..3638
Attachments .....1891
Bearing Kits .....347
Belts .....305-309
Brackets ....3632, 3641
Controllers .....178
Draft Inducers .....3637
Duct Connectors ...3645
Duct Extensions ...3645
Elements .....1532
Exhaust Duct .....3645
Fan Switches .....3637
Filters .....3654
Fishing Systems ...1328
Heat Slingers .....3668
Heater Units .....3645
Hose .....2515, 3035
Housing Supports .....3632, 3641

# PRODUCT INDEX

## Blower — Books


Intake Ducts .....3645
Motor Mounts .....201
Motors ....7-13, 16-17, ..... 20, 22-23, 25-36, .. 39, 44-45, 48-53, 94, ..99, 103, 114, 121-139
Packages ....2514-2515
Regenerative Mufflers .....2851
Shafts .....3644
Step Plate Adapters .....1405
Vacuum Motors .174-178
Vent Hoods .....3636
Vibration Isolators .....3670-3671, 3673
Wheel Hub Puller Adapters .....1402
Wheel Shaft Protectors .....1405
Wheels .....3635

**Blowers,**
(See Fans)
Air Conditioner .....3640-3643
Axial Fan ....3626-3628
Back-Pack .....2665
Backward Incline ..3549, .....3639, 3661, 3667
Ball Bearing .....3644
Belt-Drive ...3642-3643, .3657-3658, 3665, 3669
Brushless .....177-178
C-Frame .....3631
Carpet Drying .....1877
Centrifugal .....3549, ..... 3555-3556, ..... 3631-3632, .....3634-3635, 3639, ..... 3652-3655, 3663
Confined Space ...2515
Direct-Drive .....3549, 3639-3641, ..... 3655, 3663
Double Inlet .....3642-3644, 3658
Draft Inducer .....3635
Duct .....3654
Electric .....2515
Equipment Cooling .3633
Explosion-Proof ...2515
Fiberglass .....3662
Flange Mount .....3635
Forward Curve .....3555-3556, ..... 3643, 3655, ..... 3657-3659, 3663
Four Speed .....3641
Furnace .....3640-3644
Gas .....2515
Hand .....1891-1892
Hand-Held .....2665
Heat .....1532
Heater .....3419
Heating/Cooling .....3631-3632
High Pressure .....3664-3665, 3669
High Temperature .....3635-3636
High Volume .3658-3659
In-Line .3639, 3652-3654
Induced Draft .....3634
Inducer Draft .....3636
Industrial .....3644
Leaf .....1887, 2665
Low Profile .....3633
Marine .....3635
Material Handling ..3669
Non-Overloading .....3661, 3667
Permanent Split Capacitor .....3632
Plastic .....3635
Pneumatic .....3035
Portable ....1877, 1887, .....1891-1892, 3645
Radial Blade .....3663-3665, 3669
Regenerative .....2850
Shaded Pole .3631-3633
Side Channel .....2850
Single Inlet .....3655, 3657, 3659
Spark Resistant ...3667
Squirrel Cage .....3642
Three Speed .....3641
Transflow .....3633
Two Speed .....3632
Venturi .....2515
Vortex .....2850
Wall Furnace .3415-3416

**Blueprint**
Filing Systems ....2108
Racks .....2108

**Boards,**
Bulletin .....2117
Circuit Breaker Lockout .....2560
Cork .....2117
Dry Erase Marker ..2117
Lockout .....2560
Message .....2117
MSDS .....2590
Right-To-Know .....2097, 2590
Safety Tag .....2564
Tack .....2094

**Body**
Belts .....2503, 2506
File Strips .....1629
Files .....1371
Flush Refills .....2536
Flush Stations .....2536
Harnesses ...2504-2506

**Boiler**
Cement .....3443
Draft Gauges .....848
Drain Valves .....3064
Expansion Tanks ..3276
Feed Pumps .3268-3269
Gauges .....872
Hot Water Tanks ...3276
Relays .....3336
Tankless Heaters ..3424
Testers .....842-844, 847-848
Thermometers .....848
Thermostats .....3330
Valves .....3064-3065

**Boilers** .....3424-3425

**Bollards,**
Safety .....2315

**Bolt**
Cutters .....1318-1320
Dies .....1677
Flanges .....2798
Kits, Hydraulic Valve .....2823
Kits, Stak Valve .....2819, 2821
Snaps .....2656
Threadlocker .....1782

**Boltlocks** .....2634

**Bolts,**
Anchor .....1740
Barrel .....2657
Belt .....1740
Cane .....2655
Carriage ....1736, 1741
Concrete .....1740
Door ..2655, 2657, 2661
Elevator .....1740
Eye .....1760, ..... 1778, 2244-2245
Flange .....1736
Flat Head .....1751
Flush .....2661
Gate .....2655
Hex Head ...1734-1740
Latch .....2633
Metric .....1739-1740
Motor Thru .....203
Round Head .....1741, 1750-1751
Security .....2657
Shoulder .....1733
Slide Action .....2655
Stainless Steel ....1738
Stove .....1750-1751
Surface .....2661
Swing .....1778
Toggle .....1720-1721
U- .....1760
Window .....2657

**Bond Wire** .....2328

**Bonnet**
Cleaners .....1842, 1869-1870

**Bonnets,**
Carpet .....1845, 1875

**Bookcase**
Shelves .....2110

**Bookcases** .....2110

**Booklets,**
Lockout ....2560, 2590
Right-To-Know ....2590

**Books,**
Air Moving .....3628
Carpentry .....1460
Electricity .....685
Electronics .....685
Fluid Power .....2945
Hydraulics ...2818, 2945
Label .....632
Plumbing .....3050
Pneumatics .....2938
Reference .....2945
Speed Reducer ....276
Welding .....1539
Wire Marker .....632

# PRODUCT INDEX




**Boomers** .....2249

**Booms,**
Fork Truck .....2316
Oil Sorbent .....2336
Universal Sorbent ..2337

**Booster**
Cables .....2727

**Boosters,**
Battery ..802, 2727-2730
Pac .....2730
Pressure .....3277
Pump .....3273-3275

**Boot**
Covers, Heat Protective .....2485
Socks .....2488

**Booths,**
Paint Spray .....1980

**Boots,**
Chemical Protection .....2488
Disconnect .....612
Galoshes .....2490
Grit .....2491
Linear Actuator .....262
Over-The-Shoe .....2488
Over-The-Sock .....2488-2491
Plug .....714
Pushbutton .....515
Switch .....520
Universal Joint .....354

**Bore**
Die Cast Pulleys .....310
Gage Sets .....1826
Polisher Mandrels ..1613
Polisher Test Kits ..1614
Polishers .....1613

**Boring**
Bar Sets .....1645
Bars .....1641
Head Adapters .....1645
Heads .....1645
Jigs .....1472
Kits .....1643
Machines .....1497

**Boron Nitride,**
CRC .....2779

**Bos'n**
Chairs .....2503

**Bottle**
Baskets .....1961
Jacks .....2710-2711
Openers .....1915

**Bottles,**
Chemical .....1869-1870, 1961
Hot/Cold .....2541
Plastic .....1961
Spray .....1870, 1961
Thermal .....2541

**Bouffant**
Dispensers .....2476

**Bouffants** .....2475-2476

**Bowl**
Brushes .....1950
Cleaners .....1853-1855, 1868
Mops .....1950

**Box**
Covers .....419
Cutters .....1352
End Wrench Sets ..1285
End Wrenches .....1287
Fans .....3543
Frame Solenoids ...488
Levels .....1385
Lockers .....2073
Spacers .....680
Track .....2658
Track Hanger And Bracket Kits .....2658
Track Hangers .....2658
Wrenches ...1250, 1287

**Boxes,**
Aspirator .....3299
Breaker ...364, 367-369, .....374, 376, 378
Button .637-638, 640-641
Cabinet .....1196
Compartment .2049-2052
Conductive .....2047
Conduit ..203, 234, 1101
Corrugated ..2057, 2272
Corrugated Bin .....2044, 2057
Decorative .....677
Double Lock .....2272
Dust Mask Storage .2403
Electrical ..637-641, 663, .....675-677, 679-680, .....682-683, 699
Electrical Faucet ...3113
Fiberboard .....2272
File .....2105
Filter .....3654
Fire Extinguisher ...2356
Fireplace .....3423
Gang .....699
Group Lockout .....2564
Hopper .....2058
Hubbellock .....708
Intercom Back .....907
Jobsite .....1195
Junction .....3292
Key .....2629
Key Drop .....2629
Lockout Lock .2564, 2568
Lockout Tool .....2568
Mortar Mixing .....2673
Motor Conduit .....129
Motor Control .....3252
Outlet .....663
Packing .....2272
Panelboard .....374, 376
Parts Storage .....2049, .....2052-2053, .....2056-2057, 2272
Pin And Sleeve .....722
Plastic .....1206
Plastic Bin .....2044, .....2046-2047, .....2051, 2057
Plastic Tool .....2053
Plastic Tote ..2056-2057
PPE Dispenser .....2375
Pump Control .....3252
Raceway Breakout .2937
Raceway Junction ..2943
Recycle .....1928
Shipping .....2057, 2272
Steel .....1201, .....1203-1204, 2058
Stock .....2272
Storage .....2047, .....2055-2056, 2105
Suggestion .....2374
Switch Mounting .....203, 676
Tool .....1196, 1201, .....1203-1204, 1206
Tote .....2056-2057
Trailer Cargo .....2671
Truck .....1190-1194
Utility .....2053
Weatherproof .....677

**Braces,**
Broom .....1947
Corner .....2655
Flat .....2655
Floor Brush .....1947
T- .....2655
Workstation .....2094

**Brackets,**
Abrasive Blast Cabinet Gun .....1528
Air Circulator .....3571
Air Cleaner .....3519
Air Curtain .....3647
Ballast .....1041
Battery Charger ...2524
Blower .....3632, 3641
Bug Killer .....2675
Bull Float .....1398
CCTV .....2649
Circuit Breaker Panel .....388
Conveyor .....2262
Dryer .....2907
Enclosure .....642
Faceshield .....2379
Filter Mounting .....2921, 2923, .....2925, 2927, 2929
Fire Extinguisher ...2354
Flashlight .....1180-1181
Flexible Band .....201
Floodlight .....1092
Foot .....2802
Gearmotor .....222, 234
Glass Door .....2641
Grease Gun .....2742
Handrail .....2659, 2662
Hard Hat .....2379
Heater .....3397, 3409
Lantern .....1180
Mirror .....2623
Motor .....201
Pallet Rack .....2009
Pin Rack Wall .....3034
Pipe .....2901
Proximity Sensor .....541, 543
Pump .....3205, 3280
Regulator Mounting .....2921
Roadway Lighting ..1095
Shelf .....2656
Sliding Track .....2658
Speed Reducer .....278
Torsion-Flex .....201
Valve .....2943
Vibrator .....259
Warning Light .....2554

# PRODUCT INDEX

## Brake — Brushes


**Brake**
Bleed Kits .....839
Casters .....2141-2142, 2144, 2155
Cleaners .....2790
Controllers .....2708
Gearmotors .....220, 230-232
Motors .....22, 25
Parts Aerosol Cleaner .....2790
Winches, Manual .....2256-2257

**Brakes,**
AC .....265, 267
C-Face .....265, 267
Caster .....2138, 2143, 2145, 2155, 2157
Close Coupled .265, 267
Coupler .....265, 267
DC .....266
Direct Acting .....266
Electrically Released .....265, 267
Electrically Set .....266
Electromagnetic .....266
Fail-Safe .....265, 267
Gearmotor .....263-264
In-Line .....265, 267
Ironworker .....1510
Magnetic Disc .263-264
Motor .....263-265, 267
Safety .....265, 267
Spring-Set .....265, 267

**Brakleen,**
CRC .....2790

**Brazing**
Alloys .....1545
Flux .....1547
Hose .....1549
Kits .....1545
Orifices .....1549
Paste .....1547
Paste Syringes .....1545
Propane Torches .....1548-1549
Rods .1545-1546, 1550
Torch Tips .....1549
Torches .....1551

**Breaker**
Bars .....1231
Box Lockouts .2564-2565
Boxes .....364, 367-369, 374, 376, 378
Hammers .....1445
Lockout Centers .2560
Lockouts .....2564

**Breakers,**
(See Circuit Breakers)
Chain Saw .....2688
Circuit Breaker Panel .....388
Pavement .....3002
Vacuum .....3360

**Breakout Boxes,**
Ribbon .....2937

**Breather Boxes** .....2436

**Breathers,**
Filter Vent .....2763
Protected Vent .....2763

**Breathing Air**
Hose .....2436
Pumps .....2436
Supply Hose .....2423
Systems .....2435, 2437

**Breathing Apparatus**
Air Cylinders .2440, 2442
Air Hose .....2432
Air Supply .....2437
Airline Adapters .2442
Cases .....2442
Tool Kits .....2442

**Breathing Apparatus,**
Emergency Escape .....2439
Self-Contained .....2440-2442

**Brewers,**
Coffee .....2116

**Brick**
Anchor Kits .....1728
Anchors .....1721, 1725-1726
Brushes .....1876
Hammers .....1357
Line Stretchers .....1397
Nylon Line .....1397
Trowels .....1397

**Bridges,**
Hose And Cable .2314
Tester .....805

**Broach Sets** .....1688

**Bronze**
Ball Valves .....3066
Bushings .....352
Pumps .....3167-3169, 3171, 3174-3175, 3206
Strainers .....3065

**Bronze,**
Flux Coated .....1546

**Brooder**
Lamps .....1159

**Broom**
Braces .....1947
Handles .....1947
Holders .....2678

**Brooms,**
Angle .....1948
Corn .....1948
Dust Pan .....1948, 1958
Floor .1946, 1948-1949
Lobby .....1948, 1958
Push .....1946, 1949
Street .....1946
Upright .....1948
Water .....1959
Whisk .....1948

**Brush**
Braces .....1947
Cutters, Line Trimmer .....2666-2667
Handle Adapters .1954
Handles .....1947, 1950, 1955
Oilers .....2758

**Brushes,**
Acid .....1949
Angle Grinder .....1632
Baseboard .....1948
Bench .....1948
Bowl .....1950
Brick .....1876
Can Scrub .....1949
Car Wash .....1950
Carbon Steel .....1951
Carpet Cleaning .....1875, 1950
Ceramic .....1876
Chip .....1949
Cleaner .....1951
Cleaning .....1523
Concrete .....1876
Copper Tube .....1951
Corner .....1948
Counter .....1948
Deck .....1949
Dust .....1948
Epoxy .....1728
Fitting .....1342
Floor .....1875-1876, 1946, 1949
Floor Machine .....1875
Flux .....1949
Garage .....1946
Grit Filled .....1875
Hand Grinder .....1491
Hand Scratch .....1951
Ink .....2289
Long Handle .....1401
Lubrication .....2759
Maintenance .....1948-1951, 1955
Marble .....1876
Masonry .....1951
Motor .....174, 179
Nail .....1949
Nylo-Grit .....1875
Nylon .....1728
Paint .1949, 1951, 1981
Parts .....1523
Pipe .....1342
Pipe Cleaning .....1951
Plane Handle .....1951
Polisher .....1875
Pool .....3291
Power Tube .....1633
Radiator .....1950
Rotary .....1875
Round Wire .....1401
Scraper .....1951
Scratch .....1951
Scrub .....1875, 1949
Scrubbing .....1876
Shank .....2759
Shoe Handle .....1401
Showerfeed .....1875
Spot .....1950
Stainless Steel .....1951
Stencil .....2289
Stripping .....1875
Toilet Bowl .....1950
Truck Wash .....1950
Tube .....1728
Utility .....1948
Vacuum Cleaner .1890
Valve .....2759
Vehicle .....1955
Wall Cleaning .....1954
Window .....1955
Wire .....1630-1633, 1728, 1951

# PRODUCT INDEX




**Brushless**
Blowers .....177-178
Motors .....178
**Bubblers** .....3113
**Bucket**
Caddies .....1395
Steam Traps .....3359
**Buckets,**
Air Chain Hoist ....2230
Chain ..2224-2225, 2228
Combination .....1944
Double .....1944-1945
Half-Round .....1945
Hoist ..2224-2225, 2228
Metal .....1945
Mop .....1944-1945
Oval .....1945
Paint .....1983
Plastic .1909, 1944, 1956
Round .....1945
Stainless Steel ....1945
Steel .....1945
Window Cleaning ..1955
**Buckles,**
Banding .....2293
Strapping .....2293
**Buddy Jugs** .....1961
**Buff Spray** ...1836, 1838
**Buffers,**
Air .....2984-2987
Angle .....2984-2987
Belt .....2984-2987
Bench .....1505
Floor .....1871-1872
**Buffing**
Compounds .....1505
Pads .....1873-1874
Wheels .....1505
**Bug**
Killer Brackets ....2675
Killers, Electronic .....2674-2675
Lights ....963, 967-968, 2674
Lures .....2675
Spray .....1866-1867
**Buildings,**
In-Plant .....2078-2079
Modular .....2078-2079
**Bulb**
Base Removers .....983, 1954
**Bulbs,**
Airport .....959, 973-974, 981
Appliance .....916-917, .... 921, 953, 956, 962
Audio Visual .....961, ..... 1003-1006, 1009
Automotive ....987-995, 998-1001
Blacklight .....2675
Bug Light .....963, ... 967-968, 991, 2675
Circline .....924
Compact ..928-932, 937
Decorative ....952, 954-955, 958, .... 960-961, 963-964, ..... 966, 968, 970
Display Low Voltage .....954, 960-961
Dual Filament .....1181
Energy Right ...916-924, ....928-932, 937, 944, ..... 954, 956-962, .... 964-967, 969-970
Extended Service ..962, ....965, 967, 970-972, ..... 976, 979-980
Flashlight ...1180-1181, .....1183, 1189
Fluorescent ....916-925, ..... 928-932, 984
Gas Detector .....2521
Halogen .....924, 950, .... 954, 957, 959-962, .... 964-967, 969, 974, .... 977, 980-982, 998, .....1000-1001
Halogen Burner .....954, 960-961, 964
Halogen MR-16 .....954, 960-961
Heat .....972, 975, 984
HID .....937-947, 990
High Color Rendering .....916-924, 928, .... 930-932, 937-942
High Intensity Discharge .....937-947, 990
High Output ...916-918, .....920-924, 937, 940
High Pressure Sodium .....941-944
Incandescent ....920, 950-982, 984, .....987-995,1000, . 1003-1004, 1008-1009
Lamp Module .....1181
Low Pressure Sodium .....944-945
Low Temperature Jacketed .920, 922, 924
Low Voltage ...954-955, .....957, 960-961
Low Voltage Display .....954, 957, .... 959-961, 965, 969
Mercury Vapor ..945-947
Metal Halide ...937-941, .....943, 990
Miniature ..920, 987-995
MR-16 Halogen .....954, 957, .... 959-961, 965, 969
PAR .....937, 955, 957, .... 959, 961, 964-971, .... 973, 975, 977-978, ..... 998, 1000-1001
Photo .....961, ..... 1003-1006, 1009
Pilot Light .....509
PL Compact .....924, 928-932
Projector ..961, 966-967, .1003-1006, 1008-1009
Pushbutton ....502, 509
Quartz Infrared ....977, 979, 981-982
Reflector .....928, 937, ..... 952, 954-962, .... 964-967, 970, 972, .... 975-977, 979-980
Rough Service .958, 960, ....962-963, 965-966, ..... 968, 970-972
Sealed Beam .....989, 998-1001
Shatterproof .....925, ..... 970-971, 984
Silicone Coated ....958, ..... 960, 963-964, .... 966, 968, 970-973
SL Compact .....924, 928-932
Soft White ....956, 960, ..... 962-963, 965, .... 968, 971-973, 975
Specialty .....916, 918, .... 920-921, 924, 928, .... 937, 950, 987-995
Stage/Studio/TV ....969, 972, 975-976, .. 979, 981, 1003-1004, .....1008-1009
Street Lighting .....944, 969, .... 973-975, 977-978
Stroboscope .....837
Teflon Coated .....970-971, 984
Three-Way ....956, 960
Tungsten/Halogen/Quartz .....951, 954, 957, .... 959-962, 964, 967, ..... 969, 972-982, .....1008-1009
U-Bent .....918-919, 922-924
Ultra Violet .....2675
Xenon .....1180-1181
**Bull**
Floats .....1398
Horns .....902
**Bullet-Nose**
Dowel Pins .....1774
**Bulletin**
Boards .....2094, 2117
**Bump**
Caps .....2384
Gas .....2526
Gas Testers .....2526
**Bumper**
Installation Kits ....2308
Post Covers .....2315
Stops .....2308
**Bumpers,**
Crane .....2308
Dock .....2308
Fender .....2308
Laminated Dock ...2308
Molded Dock .....2308
Pad .....2308
Rubber .....2308
Tire .....2308
Trailer .....2308
Truck .....2308
Wall .....2661
**Bumps,**
Speed .....2310

# PRODUCT INDEX

## Buna-O-Ring — Cabinets


**Buna O-Ring**
Kits .2914
**Bundling**
Kits .2293
Machines .2295
Straps .2294-2295
Tape .2285
**Bung Wrenches**
.1400, 2326
**Bungee Cords** .2259
**Burn Care,**
Dressings .2553
Fire Blankets .2553
First Aid Kits .2547-2548
Gel .2553
Heat Shields .2553
Ointment .2550, 2553
Spray .2553
Water Jel Products .2553
**Burners,**
Cooking .2116
Oil .3430
**Burnisher**
Brushes .1875
Floor Pads .1874
**Burnishers,**
Floor .1872
**Burnishing**
Pads .1873
**Burs,**
Carbide .1689
**Bus**
Bars .692
Drop Cord .592
Duct Fuses .427
Grips .674
Wash .1866
**Bushel**
Spring Platform Kits
.2190
Truck Lids .2189
Trucks .1928, 2190
**Bushing**
Kits, Gas Valve .3345
Tools .352
**Bushings,**
Bear-Tex Wheel .1611
Bronze .352
Capped .659
Conduit .658-660
Grounding .659
Idler .301
Insulated .658
Keyless .353
Knockout .660
Malleable Iron .317
Metallic .658
Motor .352
Pulley .317
QD .317
Reducing .660
Sheave .317
Split Taper .317
Sprocket .317
Stud .1326
UHMW-PE Plastic .352
**Busway**
Hooksticks .408
Plugs .408
**Butane** .1531
Heat Tools .1531
**Butt**
Cans .2345
Connectors .620
Gauges .1387
Markers .1387
Splices .618
**Button**
Box Panels
.637-638, 640
Boxes .637-638, 640-641
Magnets .1830
Snap Fastener Kits .1366
Snap Fastener Refills
.1366
**Buttons,**
Adjustable Locating
.1773
Jig Rest .1773
Spring Stop .1773
Stop .2317
Threaded .1773
**Buzzers,**
Door .2559
**BX**
Connectors .203
Cutters .1320-1322


## C


**C-Clamps**
.1311, 1376, 1378
**Cabinet**
Benches .2081
Catches .2660
Fans .3559
Latches .2662
Locks .2626
Pulls .2662
Ramps .2353
Rollers .2352
Sandblasters .1528
Shelves .2064, 2346,
.2349-2350, 2353
Suppression Systems
.2353
Tip Screwdrivers
.1298, 1314
Unit Heaters .3399
Ventilators .3559
**Cabinets,**
Abrasive Blast .1528
Acid .2348, 2350
Assembled .2065
Assortment Box
.1758, 2049
Bath .1917
Bench .2064
Blueprint .2108
Bookcases .2110
Commercial .2066
Compartment Box
.1758, 2049
Computer .643, 2096
Corrosives .2348, 2350
Cylinder .2076
Desk .2080
Desk Top .2096
Drawer .2049-2051
Drawing File .2108
Drill Bit Dispenser .1663
Drum .2351-2353
Dry Blast .1528
Economy .2067
Fastener Assortment
.1758, 2049
File .2106, 2108, 2111
Fire Extinguisher .2356
First Aid .2544
Flammable Liquid
.2346-2352
Flammable Storage
.2353
Flat File .2108
Gear Puller .1403
Industrial .2065, 2082
Jobsite .1195
Jumbo .2064, 2066
Key .2629
Kickspace Heater .3426
Locking .2064
Medicine .2544
Mobile .2096, 2193
Mobile Parts .2193
Mobile Tool .2193
Modular Drawer .2040
Modular Parts .2038
MSDS Storage .2595
Non-Metallic .2348
Outdoor .2353
Paint .2348, 2350
Parts .2038-2039,
2091, 2193
Parts Storage .2040,
2049-2051, 2082
Polyethylene .2348
Preassembled
.2066-2067
Quick View .2065, 2082
Roller .1196-1197,
1199-1202, 1205
Safety Storage
.2346-2352
Security .2064-2065,
2082, 2096
Shelf .2040
Side Tool
.1199-1200, 1204
Sidemount .1199
Sliding Door .2040
Sliding Drawer Parts
.1758, 2049
Spill Control .2336
Spray .1525
Stackable .2040
Steel .2067, 2348
Steel Bin .2043, 2050
Steel Parts .2049-2050
Storage
.1195, 2064-2067,
2081-2082, 2346-2353
Supply .2065-2067
Table Top .2082
Threaded Rod .2054
Toilet Seat Cover .1915
Tool .1195-1197,
1199-1202,
1204-1205,
.2081-2082
Truck .2054
Unassembled .2065-2067
UPS Battery .400

Van .....2054
Wall-Hung .....2082
Wardrobe .....2066
Welded .....2064
Welded Bin .....2048
Welding Rod .....2054

**Cable**
Assemblies, Test Instrument ....782, 784
Assemblies, Tig Torch .....1584
Cablemeter Sets ....811
Calibrator .....742
Carriers .....2236
Clip And Thimble Kits .....2247
Clips .....630, 782
Connector Handles ..608
Connectors .....594, 604-610, ..... 663-664, 1570
Cradles .....2247
Cutters .1313, 1319-1322
Dispensers .....1331
Fittings .....668
Grips .....671-674
Guards, Pump Cable .....3258
Hooks .....2247
Identifiers .....811
Installation Tools ....603
Locators .....804
Lockouts .....2567
Lubricants .....1331
Lugs .....605-608, 610
Protectors .....644
Pull Switch Clamps ..537
Pull Switch Kits .....537
Pull Switch Supports .537
Pull Switches .....537
Pullers .....2233
Pulley Blocks .....2257
Pulling Grips .....1332
Ramps .....2314
Reels .....2236
Safety Hose .....3020
Sleeve-N-Thimble ..2247
Slings .....2251
Slitters .....1322
Sorters .....806
Splice Kits .....3252
Staplers .....1393
Staples .....594, 1393
Straps .....594
Swagers .....2247
Tie Installation Tools .....627, 629
Tie Mounting Cradles .....630
Tie Mounting Pads ..630
Ties .....626-628

**Cable,**
AC Inverter .....43
Aircraft .....2247
Armored .....593
Audio .....597-599
Calibrator .....742, 896
Circuit .....601
Coaxial .....602
Computer .....597-598, 602, 846
Connector .....540
Control .....599
Current .....891
Data .....596
Drain Cleaner .....1339
Electrical .....592
Electronic .....597-599, 601-602
Feeder .....593
Fiber Optic .555-557, 777
Flame Simulator ....891
Floortrak .....644
Galvanized .....2247
Gutter Heating ....3375
Heat .....3375-3376
Heat Tracing .....3375
Instrument .....598
Intercom .....599
Interface .....825
LAN .....596
Length Meters .....806
Metal Clad .....593
Multimeter .....774, 777
Pipe Heating .....3375
Printer Adapter .....816
Pump .....593
Recorder .....826
Romex .....593
Roof Heating .....3375
Sensor Connect ....540
Signal .....602
Speaker .....599
Steel .....2247
Telephone .....598-599
Testing/Tracing .....802-803, 811
Thermoanemometer .854
Thermocouple Extension .....796
Thermometer .....895
Thermostat .....600
Tig Torch Power ...1584
Voice .....596
Welding .....600
Winch .....2257
Wire Rope .....2247

**Cablemeter**
Cable Identifiers ....811
Cable Sets .....811
Cases .....811
Remote Units .....811

**Cablemeters,**
LAN .....811

**Cables,**
Battery .....2727
Towing .....2251

**Caddies,**
Baggage .....2210
Bucket .....1395
Cleaning .....1958
Cylinder .....2211
Drum .....2321
Folding Chair .....2101
Hose .....2693
Key .....1388
Spill Control .....2332
Toilet Bowl Brush ..1958

**Caddy**
Bags, Receptacle ..1919

**Cadmium Free**
Silver Brazing .....1545
Solder .....1537

**Cages,**
Wire .....2077

**Calculator**
Batteries .....1177

**Calculators** ..2114, 2115

**Caliber**
Loads .....1439
Strips .....1439

**Calibration**
Gas Regulators .....2524, 2526
Gases ..839, 841, 2526, 2529
Kits, Breather Box ..2436
Kits, Carbon Dioxide .841
Kits, Carbon Monoxide .....841
Kits, C02 Gas Cylinder .....841
Kits, Gas Detector .2521, .....2526, 2529, 2531
Kits, Humidity .....797
Kits, Pneumatic ....3299
Pumps .....743
Regulators .....839
Solutions .....831
T/C Checker .....896
Testers .....741, 887
Tools .....3299
Wrenches ...3294, 3299
Zero Oxygen .....832

**Calibrator**
Cable .....742, 896
Cases .....741, 825
Software .....742, 896

**Calibrators,**
Current .....741-743, 773, 896
Loop .....743, 773
Noise Dosimeter .....825-826
Noise Monitor .....826
PH .....830
Pressure .....743
RTD .....742-743, 896
Sound Level Meter .....825-826
Thermocouple .....742-743, 896
Voltage ...742-743, 896

**Caliper**
Cases .....1803

**Calipers** .....1802-1804

**CAM**
Switches .....453

**Camera**
Film .....911

**Cameras,**
Closed Circuit .....2647-2648
Documentation .....910
ID Refill Kits .....910
Identification .....910
Jobsite .....911
Single Use .....911

**Cams,**
Double .....1778

**Can**
Brushes .....1949
Funnels .....2339
Handlers .....2790

# PRODUCT INDEX

## Can — Carton


Lids, Trash .....1923
Liners .....1923, 1925, .....1930-1933
Scrub Brushes ....1949

**Canister**
Mufflers .....2732

**Canisters,**
Gas Mask .....2413
Paint .....1969

**Canopy**
Cap Kits .....23
Kits, Air Compressor .....2883
Lighting Fixtures ...1097

**Cans,**
Ash .....1926, 2345
Bench .....2341, 2344
Bio-Hazardous Waste .....2343
D.O.T. Approved .....2341, 2664
Dispenser .....2341
Disposal .....2342-2343
Faucet .....2340
Flammable Liquid .....2339-2344
Flammable Material .....1924, 2343
Funnel .....2340
Galvanized Metal ..2664
Garbage .1921, 1924, 1927-1928
Gasoline ....2341, 2664
Jeep Style .....2664
Kerosene .....2342
Lab .....2340, 2344
Lighting .....1124-1125, .....1127, 1129, .....1131, 1133
Oil .....2747
Oily Waste .....1924, 2342-2343
Plunger .....2341, 2344
Polyethylene .2343, 2664
Recycle .....1925, 1927-1928
Safety .1924, 2339-2340, .....2342-2344
Sanitary Napkin ...1913
Step .....1925, 2343
Trash .....1919-1928
Waste .....1921, 1924, .....1927-1928

**Cantilever**
Racks .....2010-2011
Shelves .....2093

**Cap**
Fittings .....3048
Screw Assortments .....1758-1759
Test Kits .....1964

**Capacitance**
Adapters .....763
Meters ...765, 767-768, ....771-774, 805, 815

**Capacitor**
Mounting Kits ..197, 234
Panels .....3235
Testers .....789-790

**Capacitor-Run**
Pump Starters ....3235

**Capacitor-Start**
Pump Starters ....3235

**Capacitors,**
Motor Run .....197-198
Motor Start .....196

**Caps,**
Bump .....2384
Drive .....3247
Ear Canal .....2390
End .....2658
Floor Protector ....2171
Furniture Leg .....2171
Gas Detector .....2534
Plug .....590
Pushbutton .....515
Stop .....3116
Tig Torch .....1584
Vandal Resistant ..3116
Vent .....3405
Wall .....3563
Welding .....2484

**Capsules,**
Leak Detection ....3484

**Car**
Cleaners .....1861
Lamps, Miniature ....987-995, 998, 1000
Lamps, Sealed Beam .....998-1001
Stands .....2721
Stops .....2310
Wash Brushes ....1950
Wash Door Strips ..2304
Wash Motors .....152
Wash Pumps .3181-3183
Wash Strip Doors ..2304

**Carabiners** .....2510

**Carb And Choke**
Aerosol Cleaners ..2790
CRC Cleaners ....2790

**Carbide**
Bits .....1447-1448
Drill Bits .....1723
End Mills .....1642
Hole Cutters .....1434
Inserts .....1635-1637
Router Bits .....1473, 1476-1477
Tipped Drill Bits ...1661
Tipped Drill Sets ...1669
Tool Bits ....1646-1648

**Carbon**
Air Filters .....3535
Media .....3535
Steel Brushes .....1951

**Carbon Dioxide**
Calibration Cylinders .841
Calibration Kits .....841
Recorders .....841
Tester Fluid .....844
Testers ...843-844, 847

**Carbon Monoxide**
Analyzers .....841-842
Calibration Kits .....847, 2521
Detectors .....842, 847, .....2357, 2361
Probes .....841
Sensors .....841, 847
Testers ...842-843, 847

**Cards,**
File .....1373
Symbols .....2597
Time Clock ..2112-2113
Wallet .....2595
Wire Marker .....631

**Cargo**
Bars .....2311
Boxes .....2671
Hoops .....2311
Restraints .....2311
Stabilizers .....2311
Tie-Down Equipment .....2250, 2311

**Carousel**
Pallet Turns .....2312

**Carpenter's**
Glue .....1796
Pencils .....1386
Tool Sets .....1272

**Carpet**
Anti-Static Sprays ..1843
Bonnets ....1845, 1875
Brushes .....1875
Cleaner Extractors .1877
Cleaner Pumps ....3190
Cleaners .....1841-1844, 1869
Defoamer .....1843
Deodorizers .1840, 1852
Extraction Cleaners .....1841, 1844, 1869
Mats .....1939-1940
Matting .....1935
Pre-Spotters .1841, 1869
Protectors ...1843, 1870
Rotary Brushes ....1875
Shampoo ...1842, 1844
Shears .....1349
Spot Brushes .....1950
Spot Removers .....1840, 1879
Stain Removers ...1844
Sweepers .....1958
Tape .....2280

**Carriers,**
Air Cylinder .....2435
Battery .....2751
Beverage .....2116
Cable .....2236
Chair .....2101
Cylinder .....2211
Drum .....2206, 2319, .....2321, 2324, 2329
Duct .....2515
Hose .....2236
Ladder .....2183
Luggage .....2210
Vacuum Cleaner ...1953
Welding .....1552

**Carry Caddies** .....1958

**Cart**
Bags .....1953
Bases .....2096
Casters .....2127, 2141
Components .....2061
Shelves .....2191

**Carton**
Cover-Up .....2289

# PRODUCT INDEX




Filler .....2270
Packing .....2270
Sealing Machines ..2276
Strapping Machines .....2295
Strapping Supplies .....2290, 2293-2295

**Cartons,**
Corrugated Bin ....2044
Double Lock .....2272
Packing ....2057, 2272
Plastic Bin .....2044, .....2046-2047, 2057
Shipping ....2057, 2272
Stock .....2272

**Cartridge**
Adhesives .....1796
Filter Housings ....3096
Filters .....3091-3093, .....3097, 3538-3539
Heaters .....3369, 3373
Housings ....3091-3092
Mandrels .....1628
Rolls .....1629
Sealants .....1784, 1794, 1796
Thermostats .....3373
Valves .....2815, 2817

**Cartridges,**
Epoxy .....1728
Faucet .....3109
Laminate ....2596, 2600
Resin-Bonded .....3096
Respirator ..2404, 2407, .....2409, 2413, .....2415, 2418, 2420

**Carts,**
A-Frame .....2200
Audio Visual .....2118
Big Wheel .....2189
Bin .....2046
Cleaning .....1953
Computer .....2096
Counter Elevating ..2220
Desk .....2209
Die .....2217
Dump .1928, 2187, 2671
Elevating .....2216
Hand .....2197
Heater .....3381
Heavy Duty .....2196
Hose Reel ...2693, 3017
Housekeeping .....1953
Hydraulic .....2216
Hydraulic Filtration .2825
Industrial ....2196-2197
Janitor .....1953
Laboratory .....2197
Landscaper .....2671
Laundry .....2197
Lift .....2216
Lumber .....2200
Mobile .....2196, 2220
Modular Drawer ...2193
Panel Rack .....2200
Pipe .....2200
Platform .....2200
Polymer .....2196
Security .....2096
Self Elevating .....2220
Service .....2189, 2191-2192, .....2194, 2197, 2201
Shelf Service .2191, 2194
Shop .....2194-2195
Spring Loaded ....2220
Stock .....2197, 2200
Storage Bin .....2046
Tall .....1953
Tool ..1197, 1199-1202, .....1205, 2193-2195
Tractor .....2671
Trades .....2192
Two Wheel .....2189
Utility ..2189, 2191-2192, .....2194, 2197
Utility Trailer .....2671
Warehouse .....2200
Welding ....1571, 1575
Wire ...1330, 2196-2197

**Cases,**
Anemometer .....791
Breathing Apparatus .....2442
Calibration .....741
Calibrator .....825
Caliper .....1803
Chain Saw .....2683
Clamp-On Meter ....776
Current Leak Detector .....753
Drill .....1427
Electronics Tool .....1316-1317
Eyewear .....2375
Fyrite .....844
Gas Detector .849, 2521
Height Gage .....1806
I.D. Pro .....634
Label Machine .....2596-2597
LAN Cablemeter ....811
Level .....1385
Meter ....791, 804, 828, 859
Micrometer ...1797-1799
Miter Box Saw ....1464
Multimeter .762, 774, 776
Oscilloscope .....816
Pipe Threader .....1334
Plastic Parts .....2052
Printer .....634
Respirator .....2426
Stroboscope .....836
Test Lead .....776
Tester .....830
Two-Way Radio ....899
Voltage Detector ....789
Voltage Tester .....787
Voltage/Continuity Tester .....787-788

**Cash Registers** ....2117

**Casings,**
Evaporator Coil ....3444

**Caster**
Brakes .....2138, 2143, .....2145, 2155, 2157
Locks .....2147
Sockets .....2170
Stems .....2129
Swivel Locks .....2143
Wheels .....2158-2160, .....2162-2163

**Casters,**
Air Conditioner ....3461
All-Terrain .....3577
Appliance ...2141, 2156
Basket Truck .....2141
Bed .....2156
Brake .....2141-2142, .....2144, 2146, .....2150-2152, 2155
Business Equipment .....2141, 2157
Cart .....2127, 2141
Cast Iron .....2143
Chair .....2128-2130
Commercial .....2128-2132, .....2141, 2156
Computer ...2141, 2157
Computer Cabinet ..643
Copier .....2141, 2157
Decorative .....2127, 2130, 2156
Dual Wheel ..2129, 2143
Food Service .....2134 2136, .....2138, 2141-2142
Freezer .....2141, 2156
Furniture .....2127, 2129-2130
Gurney .....2156
Hard Floor .....2099
Health Care .2141, 2156
Heavy Duty ..2141-2144, .....2146-2152, 2154
Hooded .....2128-2130
Hospital .....2136-2142, 2156
Institutional ..2128-2132, .....2136-2142, 2156
Inverted .....2152
Jack Wheel .....2704
Ladder .....2155, 2179
Light Duty ...2127-2128, .....2130-2132, .....2134, 2153, 2155
Light-Medium Duty .....2153, 2156
Low Level .....2152
Low Profile .....2157
Mail Cart ....2141, 2157
Manufacturing ....2134, .....2141-2148, 2154
Material Handling .....2133-2135, .....2141, 2147-2148
Medium Duty .....2127, .....2133-2142, 2147, .....2153-2155, 2157
Medium Heavy Duty .....2141
Metal .....2144-2148
Metal Ball .....2127
Metal Fabricator ...2141, .....2144, 2146-2147, .....2149-2152, 2154
Mobile Tool Bench .2141
Mobile Tool Chest ..2141
Mobile Work Bench .2141
NSF Listed .....2139, 2141-2142
Nylon .....2152
Octagon Stem ....2131
Office Equipment .....2127, 2141, 2157

Phenolic .....2141, 2143-2147, ..... 2154, 2157
Plastic .....2127-2128, ..... 2134, 2141
Platform Ladder ...2179
Pneumatic ...2143, 2149
Polyolefin ...2131-2133, .....2137, 2141, ..... 2145, 2153, 2157
Polypropylene .....2141, 2157
Polyurethane .....2131, ..... 2133-2134, ..... 2136-2137, .....2141-2152, 2157
Radial Disc .....2155
Refrigerator ..2141, 2156
Replacement Wheel .....2158-2163
Restaurant ...2136-2142
Rubber .....2130-2137, ..... 2139-2147, ..... 2149-2151, 2153, ..... 2155-2157
Semi-Pneumatic ...2147
Shock Absorbing ..2149
Specialty ...2131, 2136, .....2141, 2147-2148, ..... 2153, 2155-2157
Stainless Steel ....2139
Steel ..2135, 2147, 2151
Stem .....2128
Stretcher .....2156
Swivel .....2152
Textile .....2141, 2144, ..... 2146-2147, ..... 2149-2152, 2154
Thread Guard .....2141, 2153
Tool Chest .....2141
Transportation ....2141, .....2144, 2146-2147, ..... 2149-2152, 2154
Utility Cart .....2141
V-Groove .....2148
Warehouse .....2134, ..... 2141-2147, 2154
Wood Pallet .....2141

**Catches,**
Cabinet .....2660
Transom .....2657

**Caulk Guns,**
Air .....3015
Cordless .....1409
Hex Rod .....1795
Manual .....1795
Ratchet .....1795

**Caulk,**
Contractor Grade ..1794
Firestop .....1790
Glazing .....1794
Indoor/Outdoor ....1794
Latex .....1794
Paintable .....1795
Painter's .....1794
Roof .....2000-2001
Sealant .....1790, 1796, 1998
Sealing .....3481
Silicone .1784, 1794-1796, 1998
Tile .....1794
Tub .....1794
Urethane .....2000
Waterproof ...1795-1796

**Caution Signs** .....2310, . 2572-2574, 2579, 2614

**CD-ROMS,**
Back Safety .....2570
Bloodborne Pathogens .....2570
Confined Space Entry .....2570
Cumulative Trauma Disorders .....2570
Ergonomics .....2570
Fall Protection ....2571
Fork Lift Safety ....2571
Hazard Communication .....2571
HIV .....2570
Lockout/Tagout ....2570
Permits .....2570
Personal Protective Equipment .....2571
Right-To-Know ....2571
Safety Orientation ..2571

**Ceiling**
Diffusers ....3436, 3639
Heaters .....3385, 3389
Hooks .....2662
Mount Brackets ....3397
Mounts, Air Circulator .....3571
Panels, Radiant ...3389
Registers .....3437
Shutters .....3597
Speakers .....905
Ventilators .....3558

**Ceiling Fan**
Controls .....3583
Down Rod Kits ....3545
Guards .....3584
Joist Hanger Kits ..3545
Lights .....3545
Switches .....3583

**Ceiling Fans** ..3545-3546, .....3550-3552, 3554, ..3570-3571, 3584-3585

**Cellar Drainers** .....3210-3211, ..... 3214-3216, ..... 3218-3219, 3221

**Cement**
Anchors .....1724
Edgers .....1398
Floats .....1398
Groovers .....1398
Hoes .....2676
Mixers .....2689
Placers .....1398, 2676
Rub Brick .....1398
Shovels .....2676
Trowels .....1398

**Cement,**
Adhesive .....1796
Anchor .....2690-2691
Boiler .....3443
Contact .....1796
Firestop .....1790
Float .....1398
Furnace .....3443
Patching ....2690-2691
PVC .....3118
Roof .....2000-2001
Solvent .....3118

**Center**
Gage Attachments .1803
Gages .....1824
Punches ....1363, 1366, .....1815-1816

**Centers,**
Battery Charger Spill Clean-Up .....2334
Circuit Breaker Lockout .....2560
Group Lockout ....2564
Lockout .....2560
MSDS Jobsite .....2595
OSHA Recordkeeping .....2595
Right-To-Know ....2590
Safety Tag .....2564

**Central**
Lubrication Systems .....2757

**Centrifugal Pumps** .....3125-3126, 3133, . 3136-3137, 3147, 3151

**Chain**
Barricades .....2618
Clamps .....1376
Clips .....2709
Connecting Links ..2249
Containers ..2223, 2226
Containers, Electric .....2224-2226, 2228
CRC Lube .....2782
Doorstops .....2663
Falls ...2224-2228, 2231
Grab Hooks .....2249
Hoist Swivel Hooks .2237
Hoists ..2223, 2225-2232
Nose Pliers .....1308
Oilers .....2758
Pullers, Ratchet Lever .....2232
Slings, Lifting .....2238
Slip Hooks .....2249
Tensioners ....300, 302
Wrenches ...1251, 1333

**Chain Roller**
Connecting Links ...298
Detachers .....298
Offset Links .....298

**Chain Saw**
Bars And Chains ...2685
Breakers .....2688
Cases .....2683
Chain .....2685
Chaps .....2481
Files .....1373
Leggings .....2481
Rivet Spinners ....2688
Sharpeners .....2688

**Chain Saws** ...2683-2684

**Chain,**
Conveyor .....299
Delrin Coupling ....362
Double Loop .....1761
HID Fixture .....1086
Jack .....1761

# PRODUCT INDEX




Roller .....298-299
Safety .....2709
Saw .....2685
Steel .....2248

**Chainfalls** .....2231

**Chains,**
Towing .....2251
Transport .....2248

**Chair**
Carriers .....2101
Casters .....2128-2130
Leg Glides .....2171
Trucks .....2101

**Chairs,**
Arm .....2104
Bos'n .....2503
Contour .....2101
Desk .....2105
Drafting .....2098
Folding .....2101
Guest .....2104
Industrial .....2098-2099
Shower .....1917
Stack .....2101
Task .....2103-2104
Tilter .....2103-2104
Tub .....1917

**Chalk** .....1386, 1715

**Chalkline** .....1386

**Chamfer**
Rods .....1541

**Changers,**
Incandescent Lamp .983
Lamp .....1954

**Channellocks** .....1306

**Channels,**
Terminal Block .....412

**Chaps,**
Chain Saw .....2481

**Charger**
Adapters .....901

**Chargers,**
Automatic .....2728
Automotive .....2727-2729
Battery .634, 816, 1176, 1426, 2318, 2727-2729
Booster .....2728-2729
Cutoff .....2728-2729
Drill .....1427
Engine Starter .....2728-2729
Heavy Duty .....2729
Manual .....2727
Manual-To-Automatic .....2729
Motorcycle .....2727
Multi-Voltage .....2727
Portable .....2727-2728
Portable Starter .....2728-2729
Power Stations .....1176
Small Engine .....2727
Smart .....2728-2729
Stroboscope .....836
Trickle .....2727-2728
Twenty-Four Volt .2728
Two-Way Radio .....899, 901
Vehicle .....2727-2729
Wheel Type .....2729

**Charging**
Hose .....3488
Hose Couplers .....3488
Manifolds .....3487

**Chart Recorder**
Paper .....792-795, 806, 2361

**Chart Recorders,**
Analog Input .....799
Chartless Digital Display .....775
Current .....793
Flow .....799
Gases .....799
Humidity .....797, 800
Kilowatt/Ampere .....794
Kilowatt/Ampere Transducer .....794
On/Off Event .....799
Pressure .....798
Spike-Sag-Surge .....806
Temperature .....792, 795-797, 799-800
Voltage .....793

**Charts,**
Bio-Hazard .....2590
Confined Space Training .....2590
Flammable Liquid Handling .....2590
Right-To-Know .....2590
Warning Label Posters .....2590

**Chasers,**
Thread .....1403

**Cheater Plugs** .....590

**Check Valves,**
Air Compressor .....2896-2898
Backflow .....1566
Hydraulic .....2813-2814, 2819-2821
Inline .....2820, 3256
Pilot Operated .....2813, 2819, 2821
Pump .....3256, 3265
Ring .....3060
Spring .....3256
Sump Pump .3230-3231
Swing .3060, 3067, 3230
Two-Way Flow .....3064
Y-Pattern .....3060

**Chemical**
Bottles .1869-1870, 1961
Dispensers .....1960
Drier Refrigerants .3482
Filters .....3095-3097
Fittings .....3042
Foam Guns .....1960
Goggles .....2372-2373
Hose .....2834
Injectors .....3186
Labels .....1837-1844, 1846, 1848-1850, 1852, 1854-1855, 1862-1863, 1869-1870
Proportioners .....1869, 1960
Protection Gloves .....2457, 2459-2461, 2464, 2466
Pumps .....1961, 3129, 3139, 3141, 3145-3146, 3170, 3174-3175, 3192, 3194, 3201-3202, 3204-3205, 3207, 3278-3280, 3282
Resistant Fittings .3069
Solution Tanks .....3278, 3280
Sorbents .....2333, 2335, 2338
Spill Kits .....2334
Spray Guns .....3189
Sprayers .....1961
Tubing .....3041
Valves .....3042
Warning Label Posters .....2590

**Chemicals,**
Cleaners .....2783
Cleaning .....2776, 2788, 2790
Decal Removers .....2788
Degreasers .....2776, 2783, 2790
Delimers .....1862
Foaming Sprayers .1961
Furniture Polish .....1863
Humidifier Treatment .....3510
Insecticides .....1867
Layout .....2776
Maintenance .1781, 2784
Neutral Cleaners .....1868-1869
Paint Removers .....2776, 2788
Parts Washer .....1523, 1525

**Chest**
Handles .....2657
Latches .....2657
Pulls .....2657

**Chests,**
Ice .....2541
Jobsite .....1195
Storage .....1195
Tool .....1195-1196, 1199-1202, 1205
Truck Storage .....1192-1193

**Chimes,**
Door .....2559
Electronic .....2359
Fire Alarm .....2359
Signaling Device .....2359

**Chin**
Straps .....2381, 2384

**Chipper/Shredders** .....2669, 2682

**Chisel**
And Punch Sets .....1364
Gasket Removers .1784
Holders .....1362
Retainers .....3004
Sets .....1364
Sharpeners .....1364

# PRODUCT INDEX

## Chisels — Clamps


**Chisels,**
Air Hammer . .3004-3005
Air Tool . . . . .3004-3005
Asphalt . . . . . .1448
Asphalt Cutter . . . . .3005
Bull Point . . .1446, 1448
Bush Tool . . . . . .1448
Cape . . . . . .1365
Cold Steel
. . . . .1365, 1446, 1448
Demolition . . . . . .1448
Demolition Hammer
. . . . . .1446, 1448
Diamond Point
. . . . . .1365, 1399
Ground Rod Driver .1448
Hand . . . . . .1367, 1399
Offset Ripping . . . . .1361
Paving Breaker . . . .3005
Rotary Hammer
. . . . . .1446, 1448
Round Nose . . . . . .1365
Router . . . . . .1474
Scaling . . . . .1446, 1448
Slotting . . . . . .1448
Super Duty . . . . . .1365
Weld Flux . . .2999, 3005
Wide . . . . . .1448
Wood . . . . . .1367

**Chlorine**
Colorimeters . . . . . .832
Reagents . . . . . .832

**Chock**
Signs . . . . . .2309

**Chocks** . . . . . .2309

**Chop Saw**
Blades . . . . . .1466
Wheels . . . . . .1466

**Chop Saws** . . . . . .1466

**Chuck**
Adapters . . . . . .1446
And Arbor Kits . . . .1502
Key Holders . . . . . .1441
Keys . . . . . .1441, 1704
Wedges . . . . . .1704

**Chucking Reamers** .1662

**Chucks,**
Air . . . . . .3028
Ball Bearing . . . . . .1702
Coil Spring . . . . . .1704
Dividing Head . . . . .1497
Drain . . . . . .1704
Drill . . . . . .1427, 1504,
. . . . . 1661, 2978
Hammer Drill
. . . . . .1446, 1705-1706
Heavy Duty . .1702-1703
High Precision . . . .1704
High Torque . . . . . .1704
Industrial . . . . . .1704
Keyed . . . . . .1504
Keyless . . . . .204, 1427,
. . . . . 1504, 1704-1706
Lathe . . . . . .1497
Medium Duty . . . . .1703
Multi-Craft . . . . . .1706
Plain Bearing .1702-1703
Power Tool . . . . . .1706
Production Drilling . .1702
Quick Change . . . . .1433
Rotary Table . . . . . .1498
Scroll . . . . . .1498
Special Purpose . . .1705
Stainless Steel . . . .1705
Super Chuck . . . . . .1702
Taper Mounted
. . . . . .1702-1703
Thread Mounted . . .1703

**Circuit**
Board Adhesives . .1789
Cable . . . . . .601
Centers, Timing/Heating
. . . . . .583
Identifier Receivers . .803
Identifier Transmitters
. . . . . .803
Identifiers . . . . . .803
Tracer Transmitters .802
Tracers . . . . . .802-803

**Circuit Breaker**
Enclosure Neutrals . .386
Enclosures . . . . . .386
Handle Padlocks
. . . . . .366, 372, 379
Handle Ties . . .366, 372
Jumper Bars . . . . . .390
Load Centers
. . . . . .364, 367-369
Lock Offs . . . . . .372
Lockout Centers . . .2560
Lockouts . . . .2564-2565
Main Adapters . . . . .375
Panel Brackets . . . . .388
Panelboards
. . . . . .374, 376, 378
Retaining Kits . .366, 372
Tracers . . . . . .803

**Circuit Breakers,**
Din Mount . . . . .388-390
EH . . . . . .377
Homeline . . . . . .365
I-Line . . . . . .379-382
Load Center
. . . . . .365, 370-372
Mag-Guard . . . . . .390
Magnetic Trip . . .388-391
Molded Case . . .383-386
NEHB Main . . . . . .376
NQOD Main . . . . . .374
Panel Mount
. . . . . .388-389, 391
Panelboard
. . . . .374-377, 379-382
QO . . . . . .370-371
QO Bolt-On . . . . . .375
QO Main . . . . . .372
Thermal . . . . . .391
Thermal Magnetic
. . . . . .383-386, 390

**Circular**
Chart Recorders
. . . . . .796, 799-800
Saw Blades . . . . . .1518
Saws . . . . . .1410,
. . . . . 1459-1461, 1518

**Circulator**
Pump Kits . . . . . .3272
Pumps . . . . . .3275
Stands . . . . . .3576
Timers . . . . . .3271

**Circulators,**
Air . . . . . .3541-3544,
. 3570-3573, 3575-3576
Greenhouse . . . . . .3574
Water . .3267, 3272-3275

**City Tie Modules,**
Fire Alarm . . . . . .2358

**Clamp**
Handles . . . . . .1378
Hose Tools . . . . . .3038
Kits . . . . . .3039
Pads . . . . . .1381
Stands . . . . . .1381
Tranducers . . . . . .802

**Clamp-On**
Adapters . . . . . .778
Cases . . . . . .776
Meters . . . . . .757
Probes . . . . . .778-779

**Clamp-Ons,**
Analog . . . . . .754
Current . . . . . .753-760
Current Probes
. . . . . .778-779, 820
Digital . . . .753, 755-758
Multi-Wire . . . . . .757
Power . . . . . .758-760
Power Factor . . . . . .758
Resistance . . . . .754-757
True RMS .755, 757-758
Voltage . . . . . .753-760
Wattmeter . . . . .758-759
Watts . . . . . .758

**Clamping**
Studs . . . . . .1778

**Clamps,**
A- . . . . . .1827
Adjustable . . .1771, 3144
Air Hose . . . .3029, 3038
Air-Powered . . . . . .1770
Angle . . . . . .1379
Band . . . . . .1382
Bar . . . . . .1376-1377,
. . . . . .1379-1380
Beam . . . . . .650-651,
. . . . . 1379, 2235
C- . . . .1311, 1376, 1378
Cable Pull Switch . . .537
CAM Action . . . . . .1379
Chain . . . . . .1376
Compact . . . . . .1771
Corner . . . . . .1382
Crimp . . . . . .3039
Digital Leakage . . . . .753
Drop Forged . . . . . .2246
Duplex . . . . . .2237
Enclosure . . . . . .642
Extra Heavy Duty . .1769
Extra Large . . . . . .1770
F- . . . . . .1379
File Hanging . . . . . .2108
Forged Steel .1379, 1771
Frame . . . . . .1382
Framing . . . . . .2062
GX . . . . . .2237
GXI . . . . . .2237
Hacksaw Pipe . . . . .1457
Hand Grip . . . . . .2237
Heavy Duty . . . . . .1769
High Nose . . . . . .1771
Hold Down . . . . . .1376
Hook . . . . . .1771

Horizontal Handle .....1767-1768
Hose .....3039
L- .....1379
Large .....1769
Latch .....1770
Lever .....1379
Linear Actuator .....262
Locking .....1311, 1376-1377
Machine Light .....1165
Malleable Iron .....650
Medium .....1769-1770
Metal Pipe .....2062
Mini .....1377
Miniature .....1769
Miter Box .....1464
Mounting .....1465
Multi-Purpose .....2237
Multimeter .....763
Panel .....1376
Pinch-Off .....1311
Pipe .....1377, 1381
Plate .....2237
Plunger .....1769
Pneumatic .....1770
Push/Pull .....1769
Riser .....3058
Sac .....2237
Serrated .....1771
Sheet Metal .....1376
Spreader .....1377
Spring .....1377, 1381
Stepless .....3039
Strap .....1382
Toggle .....1767-1770
Two Ear .....3039
V-Belt .....1404
V-Blocks .....1827
Vertical Handle .....1768
Water Garden .....3144
Welding .....1376-1377
Welding Ground .....1570, 1579
Window Cleaning ..1954
Wire Rope .....2246
Wood .....1381

**Cleaners,**
Adhesive Solvent ..1789
Aerosol .....1781, 2776, 2781, .....2787-2788, 2790
Air ....3512, 3515-3516, .3518-3519, 3521, 3525
Air Electronic .....3512, 3515, 3523
Air Media .....3517, .....3520-3522, 3524
Aircraft .....1870
Alkaline .....2790
All Purpose .....1837, .1846-1847, 1868-1870
Bacteria .....2790
Bathroom .....1855, 1869-1870
Battery .....2790
Blower .....1891-1892
Body .....1860
Bonnet .1842, 1869-1870
Brake .....2790
Bus .....1866
Carpet .....1840-1844, .....1869, 1877, 1879
Citrus-Based .1840, 1861
Coil .....3165, 3480
Commercial Vacuum .1878-1880, 1884, 1886
Commutator .....205
Concrete .....2691
Condenser Coil ....3480
Contact .....2781, 2786-2787
Degreasers .....1837, .....1840, 1846-1848, .....1868-1870, .....2002, 2776, .....2783, 2787, 2790
Dishwashing .....1862
Disinfectant Wipes .1861
Disinfectants .1849-1850, .1854, 1862, 1868-1870
Drain ..1338-1341, 1865
Electronic Cell ....3513
Electronics .....2790
Engine .....2790
Evaporator Coil ....3480
Evaporator Pan ....3481
Extraction .....1870
Filter .....3513
Floor .....1837, 1839, .....1869, 1998
Foam .....1795
Fogproof .....2443
Gasket Remover ...1784
Glass ..1863, 1869-1870
Grill .....1862
Gum Removers ...1844
Hand .....1855-1860
Hand Sanitizers .....1856, 1860
Ice Machine .....3479
Industrial .....2790
Ink .....1840, 2288
Metal .....2790
Multi-Purpose .....1861, 2783, 2787
Neutral .....1837, .....1839-1840, .....1868-1870, 1879
Non-Chlorinated ...2790
Non-Flammable ...2787
Oven .....1862
Parts .....1522-1525
Pipe .....1338-1341
Powdered Abrasive .1855
Pre-Measured .....1868
Pressure Spray .....1896-1899
Pretreatment .....1870
Quarry Tile .....1862
Respirator Lens ...2443
Restroom .....1854
Rust .....1840, 3074
Sanitizers .....1870
Sewer .....1339-1341
Shower Room .....1855
Simple Green .....1847
Stainless Steel ....1864
Steam .....1898
Surface Plate .....1829
Toilet Bowl .....1854-1855, 1868
Truck .....1866
Upholstery .....1844
Vacuum .....1878, .....1880-1883, 1888
Vehicle .....1866
Vinyl .....1861
Washroom .....1855
Waterless Hand .....1859, 1861
Welding Fume .....3520-3522, 3524
Wipes .....1861

**Cleansers,**
Hand .....1855
Powdered .....1855

**Clevis Pins** .....1764

**Climate**
Controls, Pneumatic .....3293-3294

**Climbers,**
Dolly Step .....2205

**Clinchers,**
Drywall .....1396

**Clip**
And Thimble Kits ..2247
Rules .....1383
Sleeves .....632

**Clips,**
Air Hose .....3029
Alligator .....762, 780, .....783, 816, 1814
Cable .....630, 782
Chain .....2709
Conduit .....1439
Dip .....822
Drop Forged .....2246
Harness .....2506
Hook .....816
Hose Fastening ...3042
Jiffy .....651-652
Kelvin .....751
Kwik-Klips .....630
Roof .....3375
Test .....780, 783, 822
Test Lead .....751
Wire Rope .....2246

**Clock**
Batteries .....1178
Receptacles .....687

**Clocks,**
Alarm .....881
Commercial ..881, 2112
Decorator ....881, 2112
Digital .....829, 881
Electric .....2112
Indoor-Outdoor .....881, 2112
Office .....881, 2112
Payroll .....2112-2113
Quartz .....829, 2112
Recorder .....881, 2112-2113
School .....2112
Thermo-Hygrometer .881
Thermometer-Clock .881
Time .....576, 580, .....829, 881, 2113
Twenty-Four-Hour .....829, 2112
Wall .....2112

**Closed-Circuit Television**
Camera Brackets ..2649

Camera Housings . .2649
Camera Switchers .2648
Housing Fan/Heater Units .2649
Lenses .2649
Mirrors .2623

**Closed-Circuit Televisions** .2647-2648

**Closers,**
Door . . .2644-2645, 2655

**Closet**
Augers .1338
Locksets .2633
Organizer Kits .1958
Rods .2656

**Cloth**
Duct Tape .2280
Heat Protective Pads .2470
Labels .635
Tape .2281

**Cloth,**
Dust .1912
Rags .1906
Towels .1906
Wipes .1906, 1912

**Clothesline,**
Retractable .1915

**Clothing,**
Boot Covers .2485
Bouffants .2475
Chemical Protection .2477, 2486-2487
Coveralls . . .2473-2475, .2481, 2483
Disposable . .2475, 2477
Flame Resistant . . .2486
Flame Retardant . . .2483
Glove Covers .2485
Gloves .2485
Heat Protective .2485
Hoods .2474, 2485-2486
Insulated .2482
Jackets .2481, 2483-2485
Lab Coats .2474
Leggings .2483
Overalls .2478, 2481
Pants .2474, 2483, 2485
Parkas .2482
Protective . . .2475, 2477
Rain Hoods .2480
Rainwear .2478-2480, 2488
Shirts .2474
Shoe Covers .2474
Sleeves .2474, 2483-2484
Socks .2488
Spats .2483
Tyvek .2474-2475
Welding .2484

**Clutch**
Brakes .266
Plates .1874

**Clutches,**
Centrifugal .264
DC .266
Disc .266
Electrically Set .266
Electromagnetic .266
Engine .264
Pulley Drive .264
Sprocket Drive .264

**Coat**
Aprons .2487
Hooks .2659, 2662

**Coaters,**
Blacktop .1950

**Coatings,**
Abrasion Resistant .1788
Acrylic .1790, 1992
Aerosol .1999, 2004, 2788
Alkyd Enamel .1989-1990
Anti-Seize .2784
Anti-Skid .2620
Anti-Skid Additive . .1998
Anti-Slip .2620
Clear .2788
Electrical .2788
Enamel .1989-1990, 1992
Epoxy .1788, 1993
Fast Dry .1994
Firestop .1790
Floor .1996-1999
Heat Resistant .2784
Hot Melt .1715
Industrial .1989-1990, 1992
Lacquer .2788
Low VOC . . .1990, 1992
Low VOC Spray .1999, 2004
Maintenance .1989-1990, .1992, 1995, 2004
Non-Slip .2620
Paint .2002, 2004
Plastic .2788
Polyurethane .1785, 1787, 1994-1997
Primer .1990, 1995, 2002
Roof .2000-2001
Rubber Protective . .2788
Rust Converter .2002
Spray .1999, 2004
Spray Primers .2004
Urethane .1785, 1787, 1996
Varnish .2788
Wall .1994
Water-Based .1994
Waterproof .2788
Weatherproof .2788

**Coats,**
Flame Resistant . . .2486

**Coaxial**
Cable .602
Connectors . . .604, 823

**Code**
Tape .1389

**Coffee**
Decanters .2116
Filters .2116
Makers .2116

**Cog Belts** .306-309

**Cogs** .291-297

**Coil**
Bulb Controls .3330
Cleaners . . .3165, 3480
Connectors .2935
Hose .3021
Suppressors . . .450-451

**Coil,**
Air Conditioning . . .3444
Contactor .443, 463
De-Ice .3333
Evaporative .3469, 3471, 3474-3475
Evaporative Coils . .3474
Evaporator .3444
Furnace .3444
Heat Pump .3333
Heater .445, 454-455, 465
Lighting Contactor . .468
Magnetic .471
Solenoid .2935, 3333, 3361
Valve .2935, 2937

**Cold**
Packs, Instant .2552
Patch .2690
Remedies .2551
Steel Chisels .1365
Traps .2858

**Collars,**
Diffuser .3436
Drill Stop .346
Firestop .1790
Padlock .2569
Shaft .350-351
Splice .2658

**Collectors,**
Data .785, 888
Dust .1529, 1882, 3526-3527

**Collet**
Bodies .1583-1585

**Collets,**
Round .1701
Router .1474
Rub-Flex .1700
Tig Torch .1583-1585

**Colorimeters,**
Chlorine .832

**Combination**
Wrench Sets .1285
Wrenches .1286

**Combination Square**
Blades .1820
Heads .1820

**Combination Squares** .1384, 1820

**Combustion**
Analyzer Printer Kits .845
Analyzer Printer Paper .845
Analyzer Printers . . .845
Analyzer Software . .846
Analyzers .845-846
Efficiency Finders . . .848
Tester Filters .847
Tester Paper . . .846-847
Tester Ribbon .846
Testers .842-844, 847-848

# PRODUCT INDEX




**Come-Alongs** .2232-2233
**COMET Cleanser** . . .1855
**Communication Equipment** . . . . . .904
**Commutator**
Cleaners . . . . . .205
**Commutators,**
Motor Maintenance . .205
**Compact**
Fluorescent Ceiling Fixtures . . . . . .1071
Fluorescent Downlights . . . . . .1127
Fluorescent Lamps . .928
Fluorescent Portable Lighting . . . . . .1154-1155, 1157
Fluorescent Task Lighting . . . . . .1169
Lampholders . . . . . .934
Welder/Generators .1581
**Compactors,**
Drum . . . . . .2321
**Compasses,**
Pencil . . . . . .1386
**Component**
Labels . . . . . .636
**Compound**
Milling Tables . . . . .1502
Tube Benders . . . . .1346
**Compounds,**
Anaerobic . . . . . .1781
Buffing . . . . . .1505
Cold Galvanizing . .2004
Edge Sealing . . . . .2621
Glazing . . . . . .1796
Grinding . . . . . .1627
Ice Melters . . . . . .2679
Joint . . . . . .613
Pipe . . . . . .1782
Retaining . . . . . .1781
Silicone . . . . . .2785
Spackling . . . . . .1796
Sweeping . . . . . .1863
**Compressed Gas** . .1550
**Compression**
Cable . . . . . .608
Connectors . . . . .605-611, 654, 656
Couplings . . . . .654-656
Fittings, Temperature Probe . . . . . .746
Testers . . . . . .839
**Compressor**
Air Tanks . . . .2891-2893
Belts . . . . . .306
Carry Tank Kits . . . .2892
Condensation Heaters . . . . . .3235
Filter Adapters . . . .2894
Filter Elements . . . .2894
Filters . . . . . .2437
Flywheels . . . . . .2886
Gasket Repair . . . .2886
Heaters . . . . . .3473
Hermetic Analyzers . . . . . .3485
Hose . . . . . .2436
Intake Filters . . . . . .2894
Maintenance Kits . .2890
Motors . . . . . .150
Oil . . . .2768, 2883, 3477
Oil Monitors . . . . . .2890
Pipe . . . . . .2900-2901
Pipe Tool Kits . . . . . .2900-2901
Protection Controls .3235
Pumps . . . . . .2884
Refrigeration Oil . . . . . .3477-3478
Repair Kits . . . . . .2886, 2889-2890
Ring Mufflers . . . . .2851
Simplex Control Panels . . . . . .3234-3235
Tank Mounting Kits .2892
Vacuum Pumps . . . . . .2852-2853
**Compressors,**
Air . . . . . .2435, 2850, . . . . . 2853, 2859-2882, .2884-2885, 2887-2889
Air Conditioner . . . .3465
Air Line . . . . . .2426
Breathing . . . . . .2436
Climate Control . . . .2874
Contractor .2865-2867, 2869-2870
Diaphragm . . .2859-2860
Dry Air System . . . .2879
Duplex . . . . .2874, 2876
Electric . . . . .2862-2868, . . . . . 2874, 2878
Engine Driven . . . . . .2869-2871
Gas . . . . . .2867
Gas Powered .2868-2871
HVAC . . . . . .2874
Low Pressure . . . . .2437
Oil-Free . . . . . .2874
Oil-Less . . . . . .2853, . . . . . 2859-2868, 2874
Oil-Lubricated . . . . . .2869-2871, . . . . .2873, 2875-2879, . 2884-2885, 2887-2888
Piston . . . . . .2861-2863
Portable . . . . . .2435, 2864-2869
Pressure Demand . .2426
Pressure Lubricated . . . . . .2877
Pump . . . . .2875, 2884-2885, . . . . . 2887-2888
Refrigeration . . . . . .3466-3467, 3472
Refrigeration Compressors . . . . .3467
Ring . . . . . .2850
Rotary . . . . . .2853, 3465
Rotary Vane . .2852-2853
Single-Stage .2863-2870, .2873-2874, 2884-2885
Stationary . . .2869-2871, . . . . . .2873-2879
Tank-Mounted . . . . . .2863-2871, . . . . .2873-2874, 2878
Two-Stage . . . . .2871, 2875-2879, . . . . . 2887-2888
Vacuum Pump .2852-2853, 2859-2862
**Computer**
Air Conditioners . . .3460
Bases . . . . . .2096
Cabinet Bases . . . . .643
Cabinet Caster Kits . .643
Cabinet Leveling Kits . . . . . .643
Cabinets . . . . .643, 2096
Cable .597-598, 602, 846
Carts . . . . . .2096
Casters . . . . . .2157
Desks . . . . . .2096
Furniture . . . . . .2097
Glare Filters . . . . . .912
Link Kits . . . . .846, 2528
Mobile Stands . . . . .2118
Monitor Arms . . . . .2094
Mounting Systems .2097
Projector Panels . . . .912
Software . . . . . .910
Stands . . . . . .2096
Work Tables . . . . . .2111
**Computers,**
Flow . . . . . .3284
**Concrete**
Additives . . . . . .2691
Adhesives . . .1785, 1793
Anchors . . . . . .1721, . . . . . 1723-1724, 1728
Apprentice Kits . . . .1398
Bits . . . . . .1447-1448
Bolts . . . . . .1740
Brushes . . . . . .1876
Cleaners . . . . . .2691
Curing Sprayers . . .2701
Cutoff Saws . . . . . .2690
Drill Bits . . . . . .1449
Edgers . . . . . .1398
Floats . . . . . .1398
Form Release Oil Sprayers . . . . . .2701
Groovers . . . . . .1398
Hoes . . . . . .2676
Mixer Hoes . . . . . .2677
Mixers . . . . . .2689
Paint . . . . . .2003
Patching . . . . . .2691
Patching Compound . . . . . .1998, 2002
Placers . . . . . .1398
Repair Materials . . .2691
Rub Brick . . . . . .1398
Shovels . . . . . .2676
Stain Removers . . .2691
Tapcon Screws . . . .1723
Trowels . . . . . .1398
Vibrators . . . . . .259
**Condensate**
Overflow Protectors . . . . . .3263
Pump Kits . . . . . .3428
Removal Pumps . . . . . .3263-3265
Return Systems . . .3266
**Condenser**
Coil Cleaners . . . . .3480
Fan Blades . . . . . .3600

Mounting Pads .....3444, 3451-3452

**Condensers,**
Air Conditioning .....3442, 3449
Coil Cleaner .....3480
Energy Right .3442, 3449
Refrigeration .3469, 3471

**Conditioners,**
Medicated Skin .....1856, 1859
Power .....401
Water .....3074

**Conductance**
Meters ....768, 773-774

**Conductive**
Bins .....2047
Panels .....2047

**Conductivity**
Meters .....831-832
Solutions .....831

**Conduit**
Bender Handles ...1327
Benders .....1326-1327
Blanks .....680
Bodies .....662
Box Spacers .....680
Boxes .....129, 203, ..... 234, 662, 1101
Bushings .....659
Clips .....1439
Connectors .....663-664, 667
Covers .....662
Cutter Blades .....1322
Fitting Screwdrivers .....1301
Fittings ....651-661, 680
Gaskets .....662
Grips .....672
Handle Benders ...1327
Hangers .....651
Liquidtight Fittings ...667
Markers .....633
Measuring Tape ...1331
Mice .....1328
Nipples .....657
Nonmetallic Fittings .666
Pistons .....1328
Storage Racks ....1330
Straps .....651

**Conduit,**
Electrical .....665
EMT .....650
Extra Flexible .....666
Flexible .....666
Flexible Metal .....665
IMC .....650
Liquidtight .....665-666
Nonmetallic .....666
Thinwall .....650

**Cones,**
Floor .....2608
Safety .....2608
Traffic .....2615

**Confined Space**
Air Supply .....2437
Blowers .....2515
Entry Facilitator Guides .....2570
Entry Interactive CD-ROMS .....2570
Entry Safety Videos .....2570
Entry Training Handbooks .....2570
Gas Detectors .....2516, 2520, 2523
Gas Monitors .....2518
Permits .....2512
Respirators .....2432
Retrieval Systems .....2511, 2513
Signs .....2575, 2578
Tag Holders .....2512
Tags .....2512
Training Posters ...2590
Tripods .....2513
Ventilation ...2514-2515
Winches .....2513

**Connector**
Cables .....540
Crimpers .....1323
Sealants .....612
Tools .....612-613, 619

**Connectors,**
Anchorage .....2511
Angled .....667
Appliance .....3084
Armored Cable .....664
Battery Cable .....608
Butt .....620
BX .....203
Cable .....594, ....604-610, 663-664
Charger .....608
Clamp-Type .....664
Closed End .....620
Coaxial .....604, 823
Coil .....2935
Compression .....605-611, 654, 656
Conduit ...663-664, 667
Copper .....3084
Cord .....594, 669-670, ..... 704, 709-710, .....712-713, 718, 728
Corrugated .....3084
Cylinder .....2428
Din .....2818
Duct .....3577, 3645
Electrical .....704, .....709-710, 712-713, ..... 718, 728, 3451
Extended Range ....622
Faucet .....3042, 3108
Fiber Optic .....777
Flexible .....666, 3084
Flexible Metal .....3473
Floor Mat .....1937
Gas .....3084
Grounding Wire ....623
Hitch Light .....2709
Hitch T- .....2709
Hospital Grade .....709
Hubbellock .....708
Liquidtight .....667-668
Locking Plug .....2937
Male .....3042
Malleable Iron .....663
Mechanical ....614-615
Miniature Strain Relief .....669-670
Motor Pigtail .....611
Nonmetallic .....666
Pin And Sleeve .....720, 722-723
Pin Type .....2937
Pipe .....2901
Power Cable .....668
Quick Disconnects .....620, 2428
Raceway Ribbon ..2937
Ring .....620
Screw Terminal ....620
Self-Stripping .....621
Set Screw .....623, 652-653, 656
Solenoid Coil .....2935
Spade .....620
Splice .....618
Split Bolt .....614
Squeeze-Type .....664
Stainless Steel .....3084, 3108
Steel .....663
Straight .....667
Straight Blade ..704, 706
Strain Relief ....668-670
Sweat Water .....3084
Thermocouple .893, 3374
Thermocouple Thermometer .....893
Threadless .....656
Twist-Lock .....707, 710-714, .....716, 718-719, 725
Two-Screw .....594
Type 4X .....719
Union .....3042
Valise .....704, 709
Valve .....2937
Water Heater .....3084
Water Hose .....2697
Watertight .....719
Welding Cable ....1570
Wire .....604, .....608, 618, 620-623
Wiring .....2818

**Constant Level Oilers**
.....2757

**Construction**
Film .....2261

**Consumables,**
Mig Gun .....1575
Welding .....1538, 1540, 1542

**Contact**
Adhesives .....1793, 1796, 3433
Cement .....1796
Cleaners .....2781, 2786-2787
Reticles .....1833
Tip Adapters .....1575
Tips .....1575

**Contact Block**
Power Reeds .....513
Screwdrivers .....513

**Contact Blocks,**
Auxiliary .....462-463
IEC .....450
Motor Starter .....447
Pushbutton ....505, 513

Time Delay . . . . . .469
22mm . . . . . .505, 508

**Contactor**
Coils . . . . .443, 463, 468
Contact Kits . . . . . .450
H-O-A Selector Switch Kits . . . . . .443
Kits . . . . . .1570
Modification Kits . . . .461
NC/NO Isolated Relays . . . . . .443
Pilot Lights . . . . . .461
Protection Controls .3235
Start Stop Pushbutton Kits . . . . . .443

**Contactors,**
Contact Block . .450, 463
Definite Purpose . . . . . .442-443
Hoist . . . . . .441
IEC . . . . . .449
Lighting . . . . . .468
Mercury . . . . . .485
Motor . . . . . .449
Refrigeration . . . . . .3501
Time Delay . . . . . .450

**Contacts,**
Alarm . . . . . .443
Auxiliary . . . . . .466
Motor Starter . . . . . .446

**Container**
Lids . . . . . .2059
Pallets . . . . . .2007
Tops . . . . . .1928

**Containers,**
Adjustable Chute . .2058
Blade Disposal . . . .1352
Bulk . . . . . .2059
Chain . .2224-2225, 2228
Collapsible . . .2058-2059
Conductive . . . . . .2047
Corrugated . . . . . .2058
Diesel Cans . . . . . .2339
Electric Chain Hoist . . . . . .2223, 2226
Flammables . . . . . .2339
Fold Down . . . . . .2058
Galvanized Steel . .2043
Hoist . .2224-2225, 2228
Hoist Chain . . . . . .2226
Hopper Front . . . . .2043
Industrial . . . . . .2055
Injection Molded . . .2055
Kerosene Cans . . . .2339
Plastic . . . . . .1961, . . . . . 2047, 2051, 2059
Recycle . . . . . .1925, 1927-1928
Round Corner . . . . .2058
Shipping . . . . . .2055, . . . . . 2057-2058, 3206
Square . . . . . .1920-1921
Stack And Nest . . . .2056
Stacking . . . .2055, 2058
Steel . . . . . .2058
Storage . . . . . .2055
Straight Wall . . . . . .2055
Trash . . . . . .1919-1928
Type I Cans . . . . . .2339
Waste .1924, 1927-1928
Water . . . . . .2541
Wire . . . . . .2059
Wire Mesh . . . . . .2058

**Contour Gauges** . . .1387

**Contractor**
Air Compressors . . . . . .2865-2867, 2869
Grade Caulk . . . . . .1794
Heaters . . . . . .3382
Pumps . . . . . .3151

**Control**
Cable . . . . . .599
Centers, Timing . . . .583
Discs . . . . . .1439
Fluid Handles . . . . .2749
Metered Handles . .2749
Stations . . . . . .518-519
Valves . . . . . .2822

**Control Panels,**
Capacitor . . . . . .3235
Combination Starter . . . . . .3235
Simplex . . . . . .3234

**Control Relay**
Adder Decks . . . . . .471
Contact Cartridges . .471
Enclosures . . . . . .471
Latch Kits . . . . . .471
Mounting Track . . . . .471
Time Delays . . . . . .471
Transient Suppressors . . . . . .471

**Control Relays** . . . . .470

**Controller**
Covers . . . . . .3299
Fuses . . . .422, 429-430
Thermocouples . . . . .564

**Controller/DC**
Motor Combinations .189

**Controllers,**
AC . . . . . .43-44
Analog . . . . . .745
Blower . . . . . .178
Calibrator . . . . .742, 896
DC Motor . .189, 191-193
DC Speed . . . . .191-193
Digital . . . . . .737
Electro-Mechanical .3330
Electronic . . . . . .3325
Hitch Brake . . . . . .2708
Hydronic . . . . . .3356
Input Module . . . . . .558
Keyboard . . . . . .558
Low Voltage . . . . . .191
Motor . . . . . .40-42, . . . . . 178, 467, 702
Odor . .1840, 1851-1852, . . . . . .1869-1870, 1950
On-Off . . . . . .737
Output Module . . . . .558
Panel Mount . . .737, 745
PLC . . . . . .559-560
Pneumatic . . .3294, 3300
Program Transfer Unit . . . . . .558
Reduced Voltage . . .467
Remote . . . . . .3331
Sensor . . . . . .558
Speed . . . . . .40-42, . . . . . 44, 189, 3561
Temperature . . .561-563, . . . . . .3299, 3325, . . . . . 3330-3331, . . . . . 3350, 3496

**Controls,**
Air . . . . . .2898
Air Compressor . . . .444, .2895-2898, 3234-3236
Air Conditioner . . . .3502
Air Curtain . . . . . .3647
Air Velocity Transmitter . . . . . .863
Air Volume . . . . . .3258
Alternating Relays . .492
Attic Fan . . . . . .3357
Attic Humidity . . . .3357
Attic Ventilator . . . .3357
CAM Switches . . . . .453
Ceiling Fan . . . . . .3583
Coil Bulb . . . . . .3330
Condensation Heaters . . . . . .3235
Constant Cut-In . . .3502
Contactors . . . .468, 485, . . . . . .3234-3235
Cycle-Pilot . . . . . .3348
Definite Purpose Contactors . . . .442-443
Dehumidifier . . . . . .3357
Differential Temperature . . . . . .3324
Disconnect Switches . . . . . .392, 394-395
Drum Switches . . . . .452
Ejector Pump .3234-3235
Electronic Temperature . . . . . .3324-3325
Enclosed Switches . .530
Evaporative Cooler .3356
Fan . . .3545, 3551, 3562
Fan And Limit . . . . . .3338-3339
Fan Centers . . . . . .3335
Fire Safety . . . . . .3339
Firestat . . . . . .3339
Flush Mount . . . . . .3338
Foot Switches . .524-525
Garage Door . . . . . .2303
Gas Burner . . . . . .3344-3346, 3349
Gas Pressure . . . . .3340
Gas Regulators . . . .1563
General Purpose Relays . . . . . .474-479
Hand . . . . . .1575
Head Pressure . . . .3506
Heat Pump De-Ice .3333
Heating/Cooling .3310-3313, 3315-3321, .3324-3329, 3331-3334, . . . . . .3336-3339, 3352
Hoist Contactors . . . .441
Hot Water . . . . . .3353-3354, 3356
Humidifier . . . . . .3357
HVAC .3310, 3328, 3496
Hydraulic Flow . . . .2812
Hydronic . . . . . .3356
Ice Bank . . . . . .3496
Ice Bin Level . . . . . .3496
Ice Harvest . . . . . .3496
IEC . . . . . .447-448
Ignition . . . . . .3342-3343
Ignition System . . . .3348

Industrial Garage Door .....2303
Insertion-Type .....3338
Joysticks .....517
Latching Relays ....486
Level Temperature .3332
Light-Sensitive .....586
Lighting .....580-581
Lighting Contactor ..468
Limit Switches ..531-536
Line Pressure .....3297
Liquid Level .....3233
Low Ambient .....3506
Manual Reset .....3339
Manual Switches .....453, 460-461
Mercury Relays ....485
Motor .....191, 194, .... 447-448, 455-456, .... 459, 463, 466-467
Motor Protection Monitor .....3505
Motor Starters .....444, 446-448, .... 454-459, 463, 466
NEMA ....454-457, 466
NEMA Starters ..458-459
Oil Burner ...3351-3352
Oil Pressure ..3498-3499
Output .....563
Overload Relay .....447
Pendant Stations ...518
Photoelectric Switches .....549-555, 557, 586
Pilot Lights ....512, 514
Pneumatic .....3297
Potentiometers .....511
Power Relays ..482-484
Pressure .....2895, 3497-3499
Pressure Switches ..526, 863, 2895, 3236
Pressure Transmitters .....863
Protection .....3235
Proximity Switches .....538-548
PTAC Heat/Cool ...3332
Pump .....2895, 3196, ..... 3234-3236, ..... 3252, 3258
Pushbuttons ...502-506, .....508-509, 512-514
Refrigeration .....3324, 3496-3498
Refrigerator Cycling .....3502
Relays ...469, 474-479, ..481, 486, 3235, 3335
Selector Switches .....511, 513
Sensors ...538-555, 557
Sewage Pump .....3234-3235
Sewing Machine ....313
Single Stage .....3325
Snap Action Switches .....527-529
Snap-Disc .....3334
Solar Temperature .3324
Speed ....44, 191, 194, .....2941, 3574
Sump Pump ..3234-3235
Swamp Cooler ....3356
Switches ..502-504, 506, .508, 511-514, 530-536, .....539, 2895, 3236
Temperature ...561-563, .....3310, 3312, 3314, .....3316-3321, 3329, ..... 3373, 3495, ..... 3502, 3612
Temporary Cold ...3503
Throttle .....2896
Time Delay Relays .....494-499
Timers .....3503
Transformer/Relay .3335
Transformers .....403
Two-Stage .....3325
Ventilation .....3330
Voltage Sensor Relays .....492, 3235
Waste Water Pump .....3234-3235
Water Cooler .....3502
Water Heater .....3341, 3354, 3356
Water Pump ..3234-3235
Water Temperature .3354
Weld .....1570
Welding ....1572, 1575
Well .....3235, 3258
Well Immersion .....3235, 3354
Winch .....2254

**Convectors,**
Explosion-Resistant .....3393
Institutional .....3388
Tamper-Resistant ..3388

**Conversion Kits,**
JGA To HV/LP ....1964

**Converters,**
AC Inverter .....43-44
AC To DC .....2643
Rust .....2002

**Conveyor**
Ball Transfer Balls .2265
Chain .....299
DC Motors .....185-186, 188, 190
Extend-A-Sticks ...2262
H-Stands .....2264
Motors ....9-11, 13, 20, ..22-23, 25, 28-36, 39, .44-45, 53-54, 100-101, .121-122, 124, 126-127, .135-136, 154-155, 190
Package Stops ....2262
Panels .....2265
Quick Connect Brackets .....2262
Stands .....2263
Tables .....2265

**Conveyors,**
Accordion .....2262
Ball Transfer .....2265
Belt .....2266
Expandable .....2262
Flexible .....2262
Floor-To-Floor .....2266
Gravity .....2262-2264
Horizontal Belt ....2266
Motorized .....2266
Portable ....2262, 2266
Portable Press ....2266
Powered Belt .....2262, 2266
Roller .....2264
Self-Tracking .....2262
Skate Wheel .2262-2263
Steel .....2264
Stretch .....2262

**Coolant**
Dispensers .....2753
Hose .....3160-3161
Oil Skimmers .....2753
Pumps .....3127, 3130, .3145-3146, 3162-3166

**Coolants,**
Biodegradable ....2777
Metalworking Fluids .....2773, 2778
Synthetic .....2776
Water Soluble .....2777
Welding .....1579

**Cooler**
Chests .....2541

**Coolers,**
Bottled Water .....3085
Drinking Water .....3086-3088
Evaporative .....3464
Oil .....2826-2827
Spot .....3460
Swamp .....3464, 3577
Water .....2540, 3087

**Cord**
Adapters .....589
Connectors .....704, 709-710, .... 712-713, 718, 728
Lockouts .....2566
Outlet Strips .....648
Plugs ....704, 706-707, .709-710, 712-714, 728
Protectors .....418
Receptacles .....710, 712-713
Reel Lights .....1154, 1156-1157
Reels .....1156-1158
Sets, Axial Fan ....3629
Sets, Generator ....589
Sets, Power Supply .591
Sets, Welding .....1573
Strain Relief Fittings .....669-670

**Cord,**
Air Circulator Extension .....3570
All Purpose .....592
Appliance .....588
Axial Fan .....3629
Bungee .....2259
Drill .....1441
Drop ....592, 692, 2091
Electrical .....592
Extension .....587-590
Fan Power .....3629
Heater .....3395
Hook-Up .....600
Outlet Strip ...692, 2091
Patch .....784, 816
Plastic .....592, 600

# PRODUCT INDEX




Power Center . .588, 590
Power Supply . . . . . .591
Quick Lok . . . . . .1441
Retractable Coiled . .588
Rubber . . . . . .592
Safety Glasses . . . .2375
Static Control . . . . . .824
Strapping . . . . . .2293
Telephone . . . . . .734
Test . . . . . .589
Tie-Down . . . . . .2259

**Cordless**
Caulk Guns . . . . . .1409
Drill/Saw Combo . . .1410
Drills . . . . . .1406-1409
Hammer Drills . . . . .1408
Impact Drivers . . . .1412
Jig Saws . . . . . .1409
Mini Torches . . . . . .1531
Rotary Tools . . . . . .1490
Saws . . . . . .1409-1411
Screwdrivers . . . . . .1412
Staplers . . . . . .1393
Tool Battery Chargers . . . . . .1426

**Cords,**
GFCI Line . . . . . .694
Pigtail . . . . . .591
Safety Glasses . . . .2375

**Core**
And Coil Ballasts . . . . . .1040-1041
Filters . . . . . .3492
Tools . . . . . .3500
Valve . . . . . .3500

**Cork**
Bulletin Boards . . . .2117
Tape . . . . . .3481

**Corner**
Braces . . . . . .2655
Brushes . . . . . .1948
Clamps . . . . . .1382
Guards . . . . . .2315
Saw Blades . . . . . .1485
Work Tables . . . . . .2111

**Corners,**
Baseboard Heater . . . . . .3391-3392, 3426

**Corrosion Inhibitors**
. . .639, 2781-2782, 2789

**Cots,**
Finger . . . . . .2472

**Cotter**
Pin Assorments . . . . . .758-1759
Pin Pullers . . . . . .1301
Pins . . . . . .1760, 1764

**Cotton**
Gloves . . . . . .2469

**Cotton,**
First Aid . . . . . .2550

**Cough**
Drops . . . . . .2551
Syrup . . . . . .2551

**Counter**
Doors . . . . . .2082
Dusters . . . . . .1948

**Counters,**
Digital . . . . . .566-568, . . . . . .815, 829, 836
Electrical . . . . . .566
Electromechanical . .565
Electronic . . . . .566-568, 829, 836
Frequency . . . .809, 815
Hand Tally . . . . . .565
Manual . . . . . .565
Mechanical . . . . . .565
Miniature . . . . . .567-568
Nonresettable . .565, 567
Predetermining .566-568
Resettable . . . . .565-567
Service . . . . . .2082
Steel . . . . . .2082

**Countersinks** .1346, 1663

**Coupler**
Brakes . . . . . .265, 267
Plugs . . . . . .3023

**Couplers,**
Air Cylinder . . . . . .2956
Air Hose . . . .3022-3023, .3025, 3029, 3036-3037
Air Line . . . . . .3023
C-Type . . . . . .360
Charging Hose . . . .3488
Continuous Sleeve . .360
Duct . . . . . .2515
Flexible . . . . . .3177
Gear . . . . . .360
Grease Gun . . . . . .2741
Grease Pump . . . . .2746
High Pressure . . . . .2843
Hose Barb . . .3022-3023
Hydraulic . . . . .2830, 2837, 2843
Manifolds . . . . . .3025
Motor . . . . . .3177
Pneumatic . . . . . .3023
Pressure Washer . .1898
Pump . . . . . .3274
Quick . . . . . .2830, 2837, . . . . . 2843, 3023, 3029
Quick Connect . . . . . .3022-3023
Ram . . . . . .2844-2845
Respirator . . . . . .2438
Safety Exhaust . . . .3023
Shaft . . . . . .361
Steam Hose . . . . . .3029
Three Piece Circulator . . . . . .3274
Three Way . . . . . .3023
Trailer . . . . . .2705, 2708
Universal . . . .3023, 3029

**Coupling**
Balls, Trailer . . . . . .2705
Chain . . . . . .362
Inserts . . . . . .359
Nuts . . . . . .1778

**Couplings,**
C-Type . . . . . .360
Capped Corner . . . . .655
Combination . . . . . .655
Compression . . .654-656
Continuous Sleeve . .360
Drain . . . . . .3106
Flexible . .356-359, 3058
Gear . . . . . .360
Hose . . . . . .2697
Merchant . . . . . .3053
PTO . . . . . .3180
PVC . . . . . .3058
Rigid Type . . . . . .356
Set Screw .653, 655-656
Shaft . . . . .354-359, 362
Shank . . . . . .3037
Spider . . . . . .357-359
Stud Anchor . . . . . .1761
Suction . . . . . .3037
Threaded Rod . . . .1761
Threadless . . . . . .656
Three Piece . . . . . .657
Trailer . . . . . .2705
U-Joints . . . . . .354-355
Well Drive . . . . . .3247

**Cover**
Assemblies, Baseboard Heater . . . . . .3426
Plates, Decorative . .677
Plates, Electrical . . . .663, 675, 677-679, . . . . . 683-685, 708
Plates, Transformer .403
Plates, Weatherproof . . . . . .677
Removers . . . . . .3299

**Coveralls,**
Chemical Protection . . . . . .2481
Disposable . . .2473-2475
Flame Retardant . . .2483
Protective . . .2473-2475

**Covers,**
Air Conditioner . . . .3455
Ball . . . . . .1773
Baseboard Heater End . . . . . .3426
Basin . . . . . .3229
Beard . . . . . .2476
Box . . . . . .419
Conduit . . . . . .662
Controller . . . . . .3299
Drop Cloth . . . . . .1984
Drum . .2327, 2748, 3196
Drum Funnel . . . . . .2327
Dust . . . . . .482
Evaporative Cooler .3577
Fire Extinguisher . . .2356
Floor Box . . . . . .648
Floortrak . . . . . .644
Fuse . . . . . .434
Glove . . . . . .2470, 2485
Hitch Ball . . . . . .2705
Hitch Box . . . . . .2709
Hose Rack . . . . . .3034
Hose Reel . . . . . .3034
Humidistat . . . . . .3299
Insulating . . . . . .625
Load Center . . . . . .372
Paint Roller . . . . . .1982
Panel Meter . . . . . .746
Panelboard . . . . . .374, 376, 378
Post Sleeve . . . . . .2315
Power Distribution Block . . . . . .413
Power Relay . . . . . .482
Receptacle . . . . . .685, 708, 726

Relay .....482
Respirator Faceshield .....2408, 2433
Respirator Filter .....2405, 2407, 2411
Shaft Coupler .....361
Sorbent Drum .....2337
Switch .....701
Thermostat .....3294, 3298, 3323
Toilet Seat .....1901
Tote Box .....2056
Weatherproof .....683-685, 707
Wiring Duct .....736

**CPR**
Microshields .2547, 2551

**Cradles,**
Cable .....2247
Cable Tie .....630
Drum .....2323, 2352

**Crane**
Bumpers .....2308
Jacks .....2718-2719
Scales .....2302
Slings . .2238-2239, 2242

**Cranes,**
Automotive . . .2718-2719
Dock .....2720
Floor .....2718-2719
Gantry .....2233
Hydraulic . . . .2718-2720
Mobile .....2718-2719
Platform .....2720
Portable .....2233, 2718-2719
Space Saver .....2718
Truck .....2720
Utility .....2718-2719

**Crayons,**
Lumber .....1715

**CRC,**
Aerosol Can Puncturing Systems .....2790
Anti-Spatter .....1546
Belt Dressing .....2782
Boron Nitride .....2779
Brakleen .....2790
Carb And Choke Cleaner .....2790
Chain Lube .....2782
Contact Cleaners . .2786
Cutting Oil .....2779
Degreasers .....2786
Dielectric Grease . .2785
Food Grade Machine Oil .....2782
Food Grade Silicone .....2782
Mold Release .....2779
Moly Lube .....2782
Penetrating Oil . . .2781
Power Lube .....2782
Smoke Detector Aerosol Testers .....2356
SP350 .....2789
Tech Grade 3-36 . .2781
Ultra-Lite 3-36 . . . .2781
White Lithium Grease .....2785
Wire Rope Lube . . .2782

**Cream,**
Hand .....1861
Medicated Skin .....1856, 1859

**Crescent Wrenches**
.....1304, 1400

**Crimpers,**
Coax .....1323
Connector .....1323
Die Set .....1323
General Purpose . .1323
Hose .....3020
Ratchet .....1323
Sheet Metal .....1347
Telcom .....1323

**Crimping Tools**
.....621, 1313

**Crop Dryer**
Motors .....148

**Cross**
Arm Straps .....2511
Bars, Pallet Rack . .2007
Pein Hammers . . . .1360
Vises .....1503

**Crow Bars** . . .1361, 1401

**Crushers,**
Drum .....2321

**Cube**
Filters .....3534
Taps .....590

**Cup**
Dispensers .....2541
Wheel Guards . . . .1493

**Cups,**
Bin .....2044
Filler .....2754
Floor Protection . . .2170
Gas Tig Torch .....1583-1585
Gravity .....1963
Grease .....2762
Oil .....2755
Paint .....1963
Paper .....2541
Pressure Feed . . . .1963
Siphon .....1965-1966
Siphon Feed .....1963
Spray Gun .....1963, 1965-1966
Suction .....2259
Suction Feed .....1963
Vacuum .....2259

**Curb**
Stops .....2310

**Curbs,**
Parking .....2310
Roof .....3446, 3448, 3450, 3616-3617
Vented .....3616-3617

**Current**
Cable .....891
Calibrators .741-742, 896
Chart Recorders . . . .793
Leak Detector Cases .....753
Leakage Detectors . .753
Probes .....778, 820
Sensors .....492
Testers .....771
Tracers .....802-803
Transducers .....746
Transformers .....563, 746, 3235

**Curtains,**
Air .....3646-3647
Drench Shower . . . .2539
Welding . . . .1585, 1587

**Cushions,**
Back .....2501

**Cut-Off**
Saw Dollies .....2690
Saws .....1521, 2690

**Cut-Off Wheels,**
Gas Saw .....1606
High Speed .....1606
Non-Reinforced . . .1592
Reinforced .....1592
Small Diameter . . . .1607
Toolroom .....1592

**Cutout Tools** .....1418

**Cutter**
Heads .....1318-1320

**Cutters,**
ACSR .....1320
Angle Iron .....2063
Angled Diagonal . . .1309
Angled Head .....1309
Angled Tip .....1309
Annular .....1451
Biscuit .....1475
Bolt .....1318
Box .....1352
Brush .....2666
BX .....1320-1322
Cable . .1313, 1319-1322
Circle .....1342
Conduit .....1322
Diagonal .....1307-1309, 1466
Drywall .....1396
Flexible Duct .....1347
General Purpose . .1309
Glass .....1353
Hand Grinder .....1491
Hard Wire .....1309
Hole .....1434, 1451
Hose .....1342, 3041
Hydraulic .....2848
Insulated .....1313
Insulated Diagonal .1313
Insulated Side .....1313
Key .....2631
Lead .....1309, 1466
Metal .....1349
Milling .....1685
Piano .....1309
Pipe .....1342-1344
PVC .....1322, 1342
Ratchet Type .....1319
Roll Paper .....2267
Screw-On Insert . . .1642
Shear .....1309
Side .....1307-1308
Steel Wire . . .1309, 1322
Strapping .....2293
Threaded Rod . . . .1322
Tubing .1343-1344, 3041
Wire .....1319, 1322
Wire Rope . . .1319-1320

# PRODUCT INDEX




**Cutting**
Electrodes .....1541
Fluids .....2753, ..... 2773, 2778-2779
Guides .....1383
Lubricants .....2753, 2778-2779
Oil .....2753, 2769, . 2772-2773, 2777-2779
Oil Skimmers .....2753
Outfits .....1555
Rods .....1541
Tool Mist-Coolant Devices .....2753

**Cuvets,**
Glass .....832

**Cylinder**
Cabinets .....2076
Caddies .....2211
Carriers .....2211, 2435
Connectors .....2428
Dollies .....2211
Stands .....1550

**Cylinders,**
Agricultural .....2808
Air ....2432, 2948-2950, .....2954-2956, 2958
Breathing Apparatus .....2442
Disposable ...2948-2950
Double Acting .....2808
Exit Alarm .....2638
Exit Door .....2646
Hydraulic ...2808-2811, .....2844-2845
MAPP .....1550
Mortise .....2646
Oxygen .....1550
Propane .....1550
Ram .....2808
Respirator .....2432, 2434, 2441
Rim .....2638
SCBA .....2440-2441
Single-Acting .2844-2845
Stainless Steel .....2948-2950
Tie Bolt .....2808
Tie Rod .....2808
Welded .....2809

## D

**D-Bolts** .....2511

**Dado**
Plates .....1515

**Damper**
Actuators ....3305-3307
Motors .....3349-3350

**Dampers,**
Air Control .....3435
Backdraft .....3639
Balancing .....3435
Butterfly ....3436, 3639
Diffuser .....3436
Duct .....3435
Fan .....3557, ..... 3597-3598, 3617
Fire ...3433-3434, 3557
Furnace .....3350
Leakage Rated ....3433
Motorized ....3597-3598
Pump Pulsation ...3196
Radiation .....3557
Roof .....3617
Round .....3436, 3639
Smoke .....3433
Snap-On .....3436
Turbine Ventilator ..3565
Vent .....3350
Volume Control ....3435
Wall .....3617

**Danger Signs**
..2575-2578, 2581, 2585

**Data**
Acquisition Software ....785, 797, 800, 815
Acquisition Temperature .....796, 799-800
Banks .....2115
Cable .....596
Collectors .....785
Download Adapters .....2525
Printers .....895
Tables .....2111

**Data Logger**
Adpaters .....895
Sensors .....801
Software .....797, 800

**Data Loggers,**
Analog Input .....799
Conductivity .....799
Current Loop .....800
Event .....801
Humidity .....800-801
Load .....758
Multimeter .....785, 815
Noise .....826
Power .....758
Pressure .....801
Service .....801
Sound Level .....826
Temperature .....796, .... 800-801, 888-889
Temperature/Pressure .....801
Two Temperature ...801
Voltage .....800

**Datalink Kits** .....2524

**DC**
Clutch/Brakes .....266
Drive Magnetic Reversing Kits .....192
Drives, Power Transmission ..185-186, .....188-195, 218, 222
Gearmotors ....215-225
Linear Actuators ....261
Motor Accessory Kits .....190
Motor Controllers .....189, 191-193
Motor/Controller Combinations .....189
Power Supplies .....808, 906, 909
Solenoids .....490
Speed Controllers .....191-193
Speed Controls .....191
Tachometer Generators .....195
Tachometers .....194

**DC Motors,**
C-Frame .....186
Conveyor .....186
End-Mounted .....186
Fan .....186
Permanent Magne .....185-186, 188
Pump .....186
Shunt Wound .....190
TEFC .....186

**Deadlocks** .....2635

**Deburring**
Reamers .....1346
Sanders .....1508
Tool Blades .....1709
Tools .....1709

**Decanters,**
Coffee .....2116
Oil Skimmer .....2753

**Deck**
Brushes .....1949
Scrapers .....1400
Screws .....1421, 1757
Scrubs .....1949

**Decking,**
Bulk Storage .2016-2019
Pallet Rack .....2009
Particleboard .2015-2023
Storage Racks ....2018
Wire .....2009, ..... 2014, 2016-2022

**Defrost**
Termination .....3502
Timers .3324, 3503-3504

**Degreaser**
Solvents .....2787
Sprayers .....2702
Towels .....1861

**Degreasers,**
Aerosol .....2776, 2790
Cleaners .....1837, ..... 1846-1848, ..... 1868-1870, 2002, ..... 2776, 2783, 2787
Heavy Duty .....2786

**Deheaders,**
Drum .....2326

**Dehumidifier**
Controls .....3357
Drip Trays .....3510

**Dehumidifiers** .3510-3511

**Delimer,**
Chemical .....1862

**Delineator**
Posts .....2618

**Demagnetizer/ Magnetizers** .....1301

**Demolition**
Bits .....1448
Hammers .....1445

Hex Insert Tools . . .1448
Tools, Spline Drive .1448

**Deodorant**
Dispensers . . . . . .1851
Screens . . . . . .1853
Soap . . . . . .1858

**Deodorants,**
Aerosol . . . . . .1851
Air Freshener . . . . .1852
Chemical . . . . . .1865
Fire . . . . . .1852

**Deodorizers,**
Air . . . . . .1869
Liquid .1840, 1852, 1870
Toilet . . . . . .1853
Urinal . . . . . .1853

**Depressors,**
Tongue . . . . . .2550

**Descalers,**
Evaporator Pan . . . .3481
Humidifier . . . . . .3510
Ice Machine . . . . . .3479

**Desiccant Dryers**
. . . . . .2908, 2917

**Desk**
Chairs . . . . . .2105
Dollies . . . . . .2209
Lighting . . . . .1166-1173
Movers . . . . . .2209
Organizers . . . . . .2110
Top Calculators . . .2114
Top Workstations . .2096

**Desks,**
Computer . . . . . .2096
Service . . . . . .2080
Shop . . . . . .2080
Wall-Hung . . . . . .2080

**Desoldering**
Stations . . . . . .1534

**Detector**
Adapters . . . . . .849
Batteries . . . . . .849
Cases . . . . . .849
Rechargers . . . . . .849
Test Kits . . . . . .2534
Tube Openers . . . .2533
Tube Pumps . . . . . .2535
Tubes . . . . . .2533-2535

**Detectors,**
Basement Water Alarms
. . . . . .3230
Carbon Monoxide
. .842, 847, 2357, 2361
CO . . . . . .842
Combustible Gas
. . . . . .849, 2517, 2519
Conductivity . . . . . .831
Corona . . . . . .849
Current Leakage . . . .753
Fire Alarm . . . . . .2359
Fluorescent Leak . .3483
Gas . . .2516, 2518-2520,
. . . . .2523, 2527-2528,
. . . . . 2530, 3479
Ground Fault . . . . . .753
Halogen Leak
. . . . . .3484-3485
Heat . . . . . .2357, 2359
High Water Alarms .3230
Leak . . . . . .2519, 3482
Magnetic Loop . . . . .907
Microwave Leakage .849
PH . . . . . .830
Pressure Leak . . . . .840
Smoke .2357, 2359, 3339
Vacuum Leak . . . . . .840
Vehicle . . . . . .907
Voltage . . . . . .789
Water . . . . . .3230

**Detent Pins** . . . . . .1771

**Detergent**
Neutralizer . . . . . .1525

**Detergents,**
Laundry . . . . . .1865

**Dethatchers,**
Tractor Attachments
. . . . . .2670

**Dial**
Calipers . . . . .1803-1804
Indicators
. . . . . .1808-1810, 1813
Scales . . . . . .2302
Thermometers
. . . . . .879-880, 886
Thickness Gages . .1813

**Dials,**
Timer . . . . . .576

**Diaper**
Changing Station Liners
. . . . . .1959
Changing Stations .1959

**Diaphragm Seals**
. . . . . .875-876

**Diaries,**
Digital . . . . . .2115

**Die**
Cast Sheaves
. . . . . .310-312, 315
Chasers . . . . . .1403
Heads, Threading
. . . . . .1334, 1336-1337
Set Crimpers . . . . .1323
Sets . . . . . .1677, 1680
Stock . . . . . .1680, 1828

**Die Grinder**
Kits . . . . . .2990

**Die Grinders,**
Air . . . .2990, 2992-2993
Angle . . . . . .2992
Electric . . . . . .1490
Hand . . . . . .1489, 1491

**Dielectric**
CRC Grease . . . . . .2785
Oil . . . . . .2775
Unions . . . . . .3083

**Dies,**
Adjustable . . . . . .1680
Bolt . . . . . .1680
Hexagon . . . .1677, 1680
High Speed . . . . . .1680
Pipe . . . . . .1680
Rethreading . . . . . .1680
Round . . . . . .1680
Round Split . . . . . .1677
Threading
. . . . .1334, 1336, 1677

**Diesel**
Cans . . . . . .2339
Engine Oil . . . . . .2767

**Differential**
Input Oscilloscopes . .819
Pressure Gauges
. . . . . .857-861
Pressure Switches .3358
Temperature Testers
. . . . . .878

**Diffuser**
Collars . . . . . .3436
Dampers . . . . . .3436

**Diffusers,**
Anemostat . . . . . .3398
Baseboard . . . . . .3437
Ceiling . . . . .3436, 3639
Heater . . . . . .3395, 3398
Radial . . . . . .3398
Round . . . . . .3436, 3639
T-Bar . . . . . .3436

**Digestants,**
Chemical . . . . . .1865

**Diggers,**
Earth Auger . . . . . .2668
Gasoline . . . . . .2668
Post Hole
. . . . .2668, 2676, 2678
Power Head . . . . . .2668

**Digital**
Ammeters . . . . . .755
Balometers . . . . . .856
Clocks . . . . . .881
Diaries . . . . . .2115
Display Signs . . . . . .903
Flow Meters . . . . . .3198
Force Gauges . . . . . .786
Frequency Meters . . .739
Height Gauges . . . .1806
Leakage Clamps . . . .753
Manometers . . .858-859
Megohmmeters . . . . .750
Meters, Conductivity .831
Meters, Data Loggers
. . . . . .826
Meters, PH . . . . . .830
Meters, Wire Feeder
. . . . . .1574
Micrometers . .1798-1799
Multimeter Adapters .841
Multimeters . . .758, 761,
. . . .763-764, 767-768,
. . . . 773, 775, 785, 891
Oscilloscopes . .818-819
Panel Meters . . . . . .739
Psychrometers . . . . .877
Scales . . . . . .2301, 3486
Stopwatches . . . . . .829
Stroboscopes . . . . . .837
Timers . . . . . .829

**Digitape**
Batteries . . . . . .1388
Measuring Tapes . .1388

**Dimmer**
Knobs . . . . . .1049

**Dimmers,**
Fixture Mounted . . .1051
Fluorescent
. . . . . .1051-1052, 1054

# PRODUCT INDEX




Incandescent .....1047-1049, 1052
Low Voltage .1019, 1048
Multi-Zone ...1052-1053
Power Booster .....1053-1054
Remote Control .....1051, 1053

**Dimming Ballasts**
.....939, 1018-1020, ..... 1023, 1035, 1050

**Din**
Connectors .....2818
Rail Fuse Mount Kits .....424
Rails .....481

**Dip**
Clips .....822
Tanks .....2342

**Disc**
Brakes .....263-267
Clutch/Brakes .....266
Rolls, Abrasive ....1624

**Disconnect Switch**
Door Mounts ...397-398
Flange Mounts .....399
Fuse Kits .....399
Grounding Kits .....392
Handles .....387
Hardware .....395-396, 408, 466
Rotary Handles .....399

**Disconnect Switches**
.....392-395, 397-399, ..... 460, 716, 721, ..... 3389, 3398

**Disconnects,**
Wire .....618

**Discs,**
Abrasive .....1482, 1604, 1620
Bear-Tex Abrasive .....1605, 1608-1609
Power-Lock ..1621-1623

**Dishes,**
Soap .....1916

**Dishwasher**
Motors .....180

**Disinfectant,**
Cleaners ....1849-1850, .1854, 1862, 1868-1870
Simple Green .....1850
Wipes .....1861, 2443

**Dispenser**
Cans .....2341
Racks, Sorbents ...2335

**Dispensers,**
Adhesive .....1785
Aerosol .....1851
Air Fresheners ....1851
Barrier Cream .....1856
Bouffant .....2476
Box Sealing Tape ..2279
C-Fold Towel .....1903, 1915
Cable .....1331
Cellophane Tape ..2279
Chemical ....1869, 1960
Cleaning Chemical .1870
Coolant .....2753
Deodorant .....1851
Deodorizer .....1853
Disposable Wipe ...1909
Drill .....1204
Drill Bit .....1663
Drink .....2542
Drum ..2320, 2323-2324
Dust Mask .....2403
Earplug .....2374, 2387
Electric Tape .....2275
End Mill .....1204
Eyewear ....2374-2375
Filament Tape ....2285
Five Gallon .....1961
Fluid .....2753
Flux .....1534
Foam .....1795
Gatorade .....2542
Glove .....2374
Grease .....2743, 2762
Hand Cleaner .....1856, 1859
Handwrap .....2296
Hot Water .....3085
Insulation .....1795
Lotion .....1857
Mending Tape ....2279
Multi-Fold Towel ....1903
Packaging Tape ...2275
Paper .....2541
Paper Cup .....2541
Paper Towel .1904-1906, .....1912, 1915
Polyurethane .....1795
Portion Control ....1870
Pouch Tape .....2280
PPE .....2375
Push .....1960
Refillable Tape ....2279
Roll Towel ...1905, 1915
Safety Eyewear ...2375
Safety Glasses ....2375
Safety Tag .....2564
Sanitary Napkins ..1913
Sanitizer ....1856, 1960
Scotch Tape .....2279
Shampoo .....1857
Soap .....1855-1860, ..... 1915, 3109
Solder .....1534
Solution Tank .....1871
Solvent .....1534
Strapping ...2290, 2294
Stretch Wrap .....2296
Tampon .....1913
Tap .....1204
Toilet Seat Cover ..1901
Toilet Tissue .1900-1903
Top Sheeting .....2276
Towel .....1903, 1905-1906, ..... 1912, 1915
Urethane .....1795
Wall Blocks .....1853
Wipe .....1909
Wire Marker Tape ...636

**Display**
Sign Message Loaders .....903

**Disposable**
Air Cylinders .2948-2950
Clothing ....2473-2475, ..... 2477, 2486
Gloves .....2462-2463
Respirators ..2398-2402

**Disposal**
Cans .....2342
Systems, Aerosol Can .....2338
Systems, Propane .2338

**Disposer**
Adapters .....3104
Bio-Charge Septic Refills .....3103
Elbows .....3102
Gaskets .....3102
Installation Kits ....3104

**Disposers** ....3102-3104

**Distance Meters** ...1391

**Dividers,**
Bin .....2056
Compass .....1386
Corrugated Bin ....2044
Drawer .....2027, 2039
File Cabinet .....2106
Plastic Bin ...2044, 2047
Plastic Box .....2056
Sheet Metal .....1347
Shelf .....2027
Shelving .....2025
Six Inch .....1817

**Dividing**
Head Chucks .....1497
Heads .....1497
Plates .....1498

**Dock**
Bumper Installation Kits .....2308
Bumpers .....2308
Chain And Hangers .....2309
Cranes .....2720
Fans .....3576
Gates .....2305
Levelers .....2306
Light Lenses .....1162
Lighting .....1162
Lights .....1162-1163
Pads .....2308
Ramps .....2307
Safety Mirrors .....2622
Scales .....2302
Seals .....2306
Shelters .....2306

**Dockboards** .....2307

**Dockplates** .....2307

**Document**
Stands .....2097
Stations .....2097

**Dollies,**
Appliance ...2205, 2207
Bag .....2206
Barrel Drum .2206, 2321, .....2324, 2329
Bellman .....2201
Case .....2204
Compressor .....2866
Convertible .....2205, 2207, 2209

Cutoff Saw .....2690
Cylinder .....2211
Desk .....2209
Drum .....2321
Drum Tray .....2329
Foldable .....2210
Garment .....2201
Giraffe .....2206
Grease Pump .....2745
Hammer .....1445
Hardwood .....2197
High Stack .....2206
Hotel .....2201
Hydraulic .....2720
Hydraulic Lift .....2215
Industrial ....2206, 2209
Keg .....2204
Luggage .....2201
Machinery .....2214
Pallet .....2312
Plastic .....2197
Roller .....2214
Sack .....2206
Stack Chair .....2101
Tire .....2720
Trash Can ...1919-1921, .....1928, 2321
Vending Machine ..2209
Wheel .....2720
Wood Platform ....2197
Workstation .....2331

**Dome**
Mirrors .....2622-2623
Stops .....2661

**Doodlebugs** .....1956

**Door**
Bells .....2559
Bolts ..2655, 2657, 2661
Brackets .....2658
Buzzers .....2559
Chimes .....2559
Close Coordinators .2661
Closers .....2644-2645, 2655
Closers, Hydraulic ..2645
Corner Guards ....2663
Exit Alarms ..2638, 2646
Floor Guides .....2658
Guards .....2659
Handles .....2657
Hangers .....2658
Hardware .....2075, 2624-2628, .....2632-2639, .....2641-2646, .....2651-2655, .....2657-2659, .....2661, 2663
Hinges .....2651-2655
Holders .....2645, 2659- 2661
Lock Guards .....2663
Magnets .....2645
Mail Slots .....2663
Mats .....1940
Openers, Chain Driven .....2303
Openers, Electric ..2360
Openers, Garage ..2303
Plates .....2663
Pulls ...2657, 2662-2663
Pushes .....2663
Releases .....909, 2360, 2645
Rollers .....2658
Sights .....2659
Silencers .....2661
Stops .....2171, 2645, .....2659, 2661, 2663
Strikes .....909, 2643
Strip Rolls .....2304
Surface Bolts .....2661
Tracks .....2658
Trim .....2663
Viewers .....2659, 2663
Vinyl Strips ..2304-2305
Wall Stops .....2661

**Doors,**
Air .....3646-3647
Cabinet .....2027, 2082
Cooler Strip .....2305
Counter .....2027, 2082
Dock Seal .....2306
Duct Access .....3435
Dust .....2261
Freezer .....2305
Heat Retaining .....2304-2305
Impact .....2305
In-Plant Office .....2079
Low Temperature Strip .....2305
Plastic Strip .....2304
Shelving .....2025
Swinging .....2305
Traffic .....2305
Vinyl Strip .....2304
Wire Partition .....2077
Workbench .....2081

**Doorways,**
Temporary .....2261

**Dosimeters,**
Noise .....825-826

**DOT Matrix**
Printer Ribbons .....634
Printers .....634

**Dovetail**
Machines .....1473
Templates .....1473

**Dowel Pins** ...1733, 1774

**Downlights** ...1124-1125, .....1127, 1129, .....1131, 1133

**Draft**
Gauges .....848
Inducers .....3637

**Drafting**
Chairs .....2098
Stools .....2103

**Drain**
Arms .....3106
Ball Valves .....2911
Bends .....3106
Chucks .....1704
Cleaner Drums .....1339-1340
Cleaner Hose .....1341
Cleaner Nozzles ...1341
Cleaner Tool Sets ..1339
Cleaners, Hand ....1338
Cleaners, Liquid ...1865
Cleaners, Pipe .....1338, 1340
Cleaners, Toilet ...1338
Cleaners, Water Jet .....1341
Cleaning Cable .....1339-1341
Cleaning Drums ...1339
Cleaning Machines .....1339-1341
Cocks .....2904, 2910
Couplings .....3106
Elbows .....3106
Extension Tubes ...3106
Guns .....1338
Kits, Air Conditioner .....3456
Kits, PTAC .....3453
Line Heaters .....3375
Maintainers .....1865
Openers .....1865
Outlets .....3106
Pans .....3083, 3444
Pumps .....3164, .....3208-3209, .....3211, 3260
Repair Traps .....3106
Spades .....2677
Tailpieces .....3106
Tees .....3106
Valves .....2901, 2904, .....2910-2911, .....2921, 3059, 3064
Wall Tubes .....3106

**Drains,**
Air Line Filter .....2921, 2923, 2925
Automatic .....2904
Oil .....2752
Sink .....3106

**DRANO** .....1865

**Draw Bars** .....2706

**Drawer**
Boxes, Shelving ...2025
Dividers ....2027, 2039
Hanging Kits .....2093
Liners .....1201

**Drawers,**
Bench .....2083, 2089
Cabinet Storage ...2049
Hanging .....2093
Locking .....2093
Modular ....2027, 2093
Parts Cabinet .....2049
Shelving .....2025
Tool Stand .....2083
Work Table .....2111
Workbench .....2081, 2083, 2089

**Drawing**
Fluids .....2778

**Drench Shower**
Curtains .....2539
Hose .....2536
Testers .....2539

**Drench Showers** .....2536-2539

**Dressers,**
Diamond .....1424
Grinding Wheel ....1506

# PRODUCT INDEX



**Dressing Sticks,**
Abrasive .....1593

**Drift**
Pins .....1764
Punch Sets .....1362
Punches .....1363

**Drifts,**
Drill .....1707

**Drill**
Batteries ....1426-1427
Battery Chargers .....1426-1427
Bit Dispenser Cabinets .....1663
Cases .....1427
Chuck Keys .....1446
Chucks .....204, ..... 1427, 1433,1504, .....1661, 1705, 2978
Cords .....1441
Depth Stops .....1425
Dispensers .....1204
Drifts .....1707
Drum Mixers .....1984
Gauges .....1825
Grinding Attachments .....1670
Grinding Wheels ...1424
Guides .....1425
Jobbers .....1825
Mills .....1497
Motor Drills ..1415, 1426
Points .....1293
Pump Kits .....3209
Right Angle Kits ...1417
Screws .....1755-1756
Sleeves .....1708
Stop Collars .....346
Wire Brush Wheels .....1632-1633
Wire Brushes .....1630, 1632-1633

**Drill Bit**
Adapters .....1447
Arbors .....1433
Dispenser Cabinets .....1663
Extensions .....1433
Placement Tools ...1332
Sharpeners .....1670

**Drill Bit Sets**
.....1447, 1665-1669

**Drill Bits,**
Aircraft .....1659
Aircraft Extension ..1662
Auger .....1432
Black Oxide .....1424
Carbide .....1723
Carbide Tipped .....1650, 1661, 1669
Combination .....1668
Concrete .....1449
Contractor's .....1433
Countersinks .....1663
Diamond Core ....1449
Double End ..1656, 1659
Fractional Sizes ...1424, .1650-1651, 1653-1654, .1656-1657, 1659-1661, .1665-1666, 1668-1669
General Purpose .....1424,1650-1654, ..... 1656-1660, .....1662-1664
Glass .....1661
Hammer .....1410, 1448, 1661
Heavy Duty ..1650-1654, .....1656-1659
Hex Shank ..1661, 1669
High Speed .....1424, 1650-1654, ..... 1656-1659, ..... 1661, 1665-1667
Jobber Length .....940, 1650-1655, ..... 1659, 1664-1668
Letter Sizes ..1654, 1658
Masonry ....1661, 1669
Metric .....1655
Pilot Point .....1424
Plumber's .....1433
Reduced Shank ...1656, .....1659, 1668-1669
Screw Machine .....1657-1658, 1669
Self Feed .....1433
Ship Auger .....1432
Silver And Deming .....1656, 1669
Split Point .....1651, 1653-1654, ..... 1656, 1659
Spotting .....1660
Step Drill .....1434
Tapcon .....1723
Taper Shank .....1660
Thunderbits .....1651, ..... 1653-1654, 1659, ..... 1665-1666, 1668
Tile .....1661
Tin Coated ...1650-1652
Twist ..1424, 1650-1654, .....1656-1659, 1661, ..... 1664-1669
Wire Sizes .....940, 1651-1653, ..... 1657-1658, ..... 1667, 1669
Wood Boring .1432-1433

**Drill Press**
Annular Cutters ....1451
Chuck And Arbor Kits .....1502
Clamp Kits .....1498
Cross Vises .....1503
Guards .....1504
Hole Cutters .....1451
Motors .....1450
Stands .....1450
Vises .....1503

**Drill Presses,**
Bench Top ...1499-1500
Floor .....1499-1502
Magnetic .....1450
Production .....1502

**Drills,**
Air ....2963, 2977-2980
Angle Drive .....1409
Center-Grip ..1406-1408
Corded .....1413-1418
Cordless .1406-1407, 1409-1410
D-Handle ....1417-1418
Diamond Coring ...1449
Drill Motor .....1413-1415, 1426
Drive .....1409
Electric .....1413-1418, 1426, ..... 1440-1441, 1443
Ergonomic ..2977, 2979
Hammer .....1408, ..... 1440-1441, 1443
Pilot .....1437
Pistol-Grip ...1406-1408, .....1413-1415, 1426
Push .....1293
Reversible .....2979
Right Angle ..1409, 1416
Variable Speed ....1443

**Drinking Water Systems**
.....3091

**Drip**
Pans, Pump .....3203
Pans, Sorbent .....2329
Trays, Dehumidifier .3510

**Dripproof Motors** ...7-8, .11-13, 16-17, 23, 26-28, ....39, 44-45, 48-53, 97, .101, 103, 114, 120-123, ..... 125, 137-140

**Drive**
Adapters .....1447
Bits .....1421
Caps .....3247
Mandrels .....204
Pin Punches .1363, 1802
Pins .....1726

**Drivers,**
Cordless Impact ...1412
Hex .....1301
Hydraulic Foot Pump .....1324
Hydraulic Hand Pump .....1324
Nut .....1300, 1314
Pad .....1874-1875
Punch .....1324
Socket .1230-1231, 1278
Torx .....701

**Drives,**
AC .....40-44
Adjustable Frequency .43
Adjustable Speed .....44, 252-254
Power .....1334

**Drop**
Cloths .....1984, 2261
Cords ...592, 692, 2091
Lights .....1154-1157

**Drum**
Adapters .....3205
Cabinets ....2351-2353
Caddies .....2321
Carriers ....2206, 2319, .2321, 2323-2324, 2329
Compactors .....2321
Covers, Paint .....1972, 3196

Covers, Plastic . . . .2327
Covers, Pump . . . . . .2748, 3196
Cradles . . . . .2323, 2352
Crushers . . . . . .2321
Deheader Blades . .2326
Deheaders . . . . . .2326
Dispensers . . . . . .2320, 2323-2324
Dollies . . . . . .2321
Dumpers . . . . . .2319
Faucets . . . . . .2325
Funnel Covers . . . .2327
Funnels . . . . . .2327
Grabbers . . . . . .2319-2320, 2323
Grounding Wires . . .2328
Hand Trucks . . . . .2206, 2321, 2324
Heaters . . . . . .2328
Level Gauges . . . . .2327
Lids . . . . . .1923
Lifters . .2319-2320, 2323
Locks . . . . . .2326
Mixers .1984, 2322, 2775
Oil Skimmers . . . . .2753
Overpack . . . .2329-2330
Pallets . . . . . .2326
Proportioners . . . . .1960
Pump Assemblies . .3196
Pump Sprayers . . . .2702
Pumps .1961, 3201-3207
Rollers . . . . . .2352
Rotators . . . . . .2319
Safety Cabinets . . .2351
Safety Vents . . . . . .2328
Sanding Kits . . . . . .1627
Sight Tubes . . . . . .2327
Spigots . . . . . .2325
Storage Rack Shelves . . . . . .2332
Storage Racks . . . . . .2322, 2332
Switches . . . . . .452
Tops . . . . . .1923
Tray Dollies . . . . . .2329
Trays . . . . . .2329
Wrenches . . .1400, 2326

**Drums,**
Closed Head . . . . . .3206
Drain Cleaner 1339-1340
Plastic . . . . . .3206
Salvage . . . . . .2329
Storage . . . . . .3206

**Dry**
Blast Cabinet Accessories . . . . .1529
Blast Cabinets . . . .1528
Lubricants . . .2784-2785

**Dryer**
Brackets . . . . . .2907
Cores . . . . . .3492
Motors . . . . . .181
Shells, Refrigeration . . . . . .3492

**Dryers,**
Air . . . . . .2907
Air Conditioning . . . . . .3489-3491
Compressed Air . . . . . .2905-2908
Desiccant . . . . . .2908-2909, 2917
Hand . . . . . .1914
Refrigeration .3489-3491

**Drywall**
Adhesives . . . . . .1795
Anchors . . . . . .1720
Circle Cutters . . . . .1396
Clinchers . . . . . .1396
Cut-Out Tools . . . . .1418
Fasteners . . .1721-1722
Knives . . . . . .1396
Lifters . . . . . .1396
Mud Mixers . . . . . .1396
Mud Pans . . . . . .1396
Paint Mixers . . . . . .1396
Pattern Guns . . . . .1396
Repair Patch . . . . . .1396
Sander Pads . . . . . .1484
Sanders . . . .1396, 1484
Sanding Sponges . .1396
Screwdrivers . . . . . .1419-1421, 2972
Screws .1720-1722, 1757
Spray Gun Repair Kits . . . . . .1396
Spray Guns . . . . . .1396
Tape . . . . . .1396
Taping Guns . . . . . .1396
Taping Knives . . . . .1396
Tools . . . . . .1396
Vacuums . . . . . .1484

**Duct**
Access Doors . . . . .3435
Air Cleaners . . . . . .3513
Blowers . . . . . .3654
Canisters . . . . . .2515
Carriers . . . . . .2515
Connectors . .3577, 3645
Couplers . . . . . .2515
Cutters . . . . . .1347
Dampers . . . . . .3435
Detector Sampling Tubes . . . . . .2359
Extensions . . . . . .3645
Fan Adapters . . . . .3559
Fans . .3639, 3650-3651
Filters . . . . . .3654
Free Fans . . . . . .3554
Heater Elements . . .3371
Heaters . . . . . .3371
Insulation . . . . . .3433
Plugs . . . . . .858
Screws . . . . . .1756
Smoke Detectors . .2359
Stretchers . . . . . .1347
Tape . .2280-2281, 3439
Transitions . . . . . .3563
Tubing . . . . .3561, 3563

**Duct,**
Air . . . . . .2515, 3561
Blower Exhaust . . . .3645
Blower Intake . . . . .3645
Exhaust . . . .3438, 3645
Flexible . . . . . .3438
Return Air . . . . . .3438
Supply . . . . . .3438
Wireway . . . . . .409
Wiring . . . . . .736

**Dump**
Cart Lids . . . . . .2187
Carts . . . . . .1928, 2187

**Dumpers,**
Drum . . . . . .2319

**Dust**
Bags, Miter Saw . . .1464
Cloths . . . . . .1912
Collector Bags . . . . . .1529, 3527
Collectors, Blast Cabinet . . . . . .1529
Collectors, Industrial . . . . . .3526-3527
Collectors, Workshop . . . . . .1882
Covers, Relay . . . . . .482
Doors . . . . . .2261
Filters . . . . . .1484
Mask Dispensers . .2403
Mop Frames . . . . . .1941
Mop Handles . . . . .1941
Mop Treatment . . . .1864
Mops . . . . . .1941
Pans . . . . . .1958
Respirators . . . . . .2399
Sampling Pumps . .2519
Wipes . . . . . .1912

**Duster**
Dusting Cloth Holders . . . . . .1952
Dusting Cloths . . . .1952
Heads . . . . . .1952

**Dusters** . . . . .1948, 1952

**Dye**
Cleaner/Removers .3483

**Dye,**
Layout . . . . . .2776


## E


**E-Ring**
Kits . . . . . .1765

**Ear**
Canal Caps . . . . . .2390
Muffs . . . . . .2390-2393
Plug Dispensers . . . . . .2374, 2387
Plugs . . . . . .2386-2390

**Earphones,**
Gas Detector . . . . .2518
Two-Way Radio . . . .901

**Earpieces,**
Two-Way Radio . . . .899

**Earth Augers** . . . . . .2668

**Economizers,**
Fresh Air . . . . . .3446, 3448, 3450

**Edge**
Finders . . . . . .1818
Guides, Router . . . .1473
Sealers . . . . . .2620
Sealing Compound .2621

**Edgers,**
Cement . . . . . .1398
Lawn . . . . . .2682

**Edges,**
Straight . . . . . .1383

**Edging,**
Floor Mat . . . . . .1937

**Ejector**
Packages . . . . . .3241
Pump Controls . . . . . .3234-3235

# PRODUCT INDEX




Pump Systems . . . .3231
Springs, Hole Saw .1437

**Ejectors,**
Sewage . . . . . .3225
Well . . . . . .3240, 3242

**Elastomeric**
Spray . . . . . .1790

**Elbow**
Supports . . . . . .2500

**Elbows,**
Conduit . . . . . .657
Disposer . . . . . .3102
Drain . . . . . .3106
Plastic Fixed . . . . . .3042
Saddle Vent . . . . . .2515
Union . . . . . .3042

**Electrical**
Box Covers . . . . . .419
Boxes . . . . . .637-641, . . . . . 663, 675-677, . . . . . 679-680, 682-683
Coatings . . . . . .2788
Connectors . . . . . .3451
Corrosion Inhibitors . .639
Counters . . . . . .566
Cover Plates . . . . . .663
Data Loggers . . . . . .800
Disconnects . . . . . .425
Enclosures . . . . .637-641
Markers . . . . . .633
Outlet Testers . . . . . .790
Panel Kits . . . . . .2089
Panels . . . .637-638, 640
Receptacle Testers . .790
Receptacles . . . . . .823
Sealants . . . . . .2788
Strips . . . . . .2093
Switches . . . . . .425
Tape . . . . . .624
Voltage Testers . . . .753, 756, 758, 790
Wire . . . . . .593

**Electrically**
Released Brakes . . . . . .265, 267
Set Brakes . . . . . .266
Set Clutch/Brakes . . .266
Set Clutches . . . . . .266

**Electrician's**
Scissors . . . . . .1349
Shears . . . . . .1349
Tap And Drill Sets . .1675
Tool Sets . . . . . .1272

**Electrodes,**
Alloy Steels . . . . . .1540
Aluminum Flux Coated . . . . . .1540
Build-Up . . . . . .1541
Cast Iron Welding . .1541
Chamfering . . . . . .1541
Copper Base . . . . .1539
Covered . . . . . .1540
Cutting . . . . . .1541
Dissimilar Metals Joining . . . . . .1539
Flux Cored . . . . . .1542
Gouging . . . . . .1541
Hard Facing . . . . . .1541
Heavy Castings . . .1541
High Alloy . . . . . .1539
High Nickel . . . . . .1541
High Strength . . . . .1539
High Temperature . .1540
Low Alloy Steel . . . .1539
Low Voltage . . . . . .1539
Machinable . .1539, 1541
Maintenance Welding . . . . . .1539
Manganese Steel . .1541
Meter . . . . . .830
Mig . . . . . .1542-1543
Mig Welding . . . . . .1543
Mild Steel Maintenance . . . . . .1539
PH . . . . . .830-831
Pure . . . . . .1585
Severe Abrasion . . .1541
Small Diameter . . . .1539
Stainless Steel . . . . . .1540, 1543
Steel . . . . . .1542
Stud Removal . . . . .1541
Tack Welding . . . . .1539
Thin Gauge Steel . .1539
Thoriat . . . . . .1585
Tig Welding . . . . . .1543
Tungsten . . . .1583, 1585
Wear Resistant . . . .1541
Welding . . . . . .1538-1543, 1585

**Electrolyte**
Solutions . . . . . .832

**Electromagnetic**
Brakes . . . . . .265-267
Clutch/Brakes . . . . . .266
Clutches . . . . . .266
Locks . . . . . .2641

**Electronic**
Air Cleaners .3512-3513, . . . . . .3515-3516, . . . . . 3519, 3523
Ballast Fixtures . . . . . .1057-1058, . . . . . 1060-1062, 1067
Ballasts . . . . .939, 1013, . . . . . 1017-1025, . . . . . 1027-1029, . . . . . 1034-1035
Batteries . . . . . .1178
Bug Killers . . .2674-2675
Cable .597-598, 601-602
Cell Cleaners . . . . .3513
Chimes . . . . . .2359
Cleaners . . . . . .2790
Controls . . . . . .3325
Corrosion Inhibitors . .639
Counters . . . . . .566-568
Display Signs . . . . . .903
Fuses . . . . . .415-416
Height Gauges . . . .1806
Hex Drivers . . . . . .1301
Horns . . . . . .2359
Intercoms . . . . . .909
Manometers . . .858-859
Measuring Tapes . .1388
Micrometers . . . . . .1799
Precision Screwdrivers . . . . . .1295
Punches . . . . . .1326
Scales . . . . . .2301
Sirens . . . . . .2558
Smoke Alarms . . . .2357
Speed Controls . . . . .194
Temperature Controls . . . . . .3235, 3324-3325
Thermostats . . . . . .3314, 3317, 3319, . . . . . 3321-3322, 3326
Timers . . . .578, 580-582
Tool Cases . . . . . .1316
Workstations . . . . . .2095

**Electronics**
Storage . . . . . .2047
Tool Cases . . . . . .1317
Tool Kits . . . .1316-1317
Workbenches . . . . .2092
Workstations . . . . . .2094

**Electrostatic**
Discharge Systems . .824
Precipitators . . . . . .3513
Probes . . . . . .777

**Elements,**
Air Line Filter . . . . .2914-2916, 2923, . . . . . 2925, 2927-2929
Blower . . . . . .1532
Duct Heater . . . . . .3371
Electric . . . . . .3082
Heat Gun . . . . . .1532
Heater . . .445, 455, 465, 3371
Immersion . . . . . .3082
Soapstone . . . . . .1565
Water Heater . . . . .3082

**Elevation**
Tools . . . . . .1389
Units . . . . . .3451

**Elevator**
Bolts . . . . . .1740
Emergency Phones .904

**Eliminators,**
Air/Gas . . . . . .3360

**Emblems,**
Hard Hat . . . . . .2606

**Emergency**
Batteries . . . . . .1175
Burn Kits . . . . . .2548
Escape Breathing Apparatus . . . . . .2439
Escape Respirators . . . . . .2418, 2420
Eyewash Stations . .2537
Key Boxes . . . . . .2629
Phones . . . . . .904
Power Generators . .2734
Roof Patch . . . . . .2000
Spill Kits . . . . . .2336
Starting Generators . . . . . .2740
Stop Buttons, Work Platform . . . . . .2317
Wash Station Testers . . . . . .2539
Wash Stations . . . . . .2536-2539

**Emergency Lighting**
Batteries . . . . . .1152-1153, 1175
Battery Packs . . . . . .1143, 1152
Bypass Switches . .1143
Fixture Wire Guards . . . . . .1153
High Abuse . . . . . .1098
Lamp Heads . . . . . .1139

# PRODUCT INDEX

## Emergency Lighting — Energy Right Lamps


Mounting Shelves .....1148, 1152-1153
Remote Heads .....1138-1139
Wire Guards .....1152

**Emergency Lighting,**
Chicago Approved .1151
Fixtures .....1136-1144, .....1148, 1150-1151
NEMA 4X .....1150
Remote .....1139
Self Diagnostic .....1136-1137, 1144

**Emery**
Cloth .....1625
Rolls, Abrasive ....1625

**EMT**
Conduit .....650
Conduit Fittings ....655
Straps .....652

**Enamels,**
Acrylic .....1992
Alkyd .....1989-1990
Coating .....1989-1990, 1992
Fast Dry .....1999
Industrial ....1989-1992
Low VOC .....1989-1990, 1992
Paint ..1989-1992, 1999
Primer .....1989-1992
Water-Based .....1992

**Enclosure**
Brackets .....642
Clamps .....642
Condensation Heaters .....3235
Cylinder Locks .....642
Heaters .....3235
Hole Seals .....642
Interiors ...637-638, 640
Key Locks .....642
Keys .....642
Latch Kits .....642
Louvers .....642
Padlocks .....642
Panels ....637-638, 640
Solid Neutrals .....386
Windows .....643

**Enclosures,**
Back Boxes .....722
Circuit Breaker .....386
Computer .....2096
Control Relay .....471
Electrical .....637-641
Flange Disconnect .....638, 640
Indoor .....637
JIC .....640
Mechanical Interlock .....721, 727
Modification .....461
Motor Starter .....446
NEMA .....638
NEMA 1 .....702
NEMA 12/13 ...638, 640
Outdoor .....638-639
Pushbutton .....509, 516, 641
Raintight .....638
Smoke Detector ...3339
Speaker .....905
Stainless Steel .....639
Switched Twist-Lock .721
Wall Furnace Vent .3421
Watertight .....638
Weatherproof .....3339
Wire .....2077

**End**
Caps, Track .....2658
Covers, Baseboard Heater .....3426
Mounts, Hydraulic ..2811
Plates, Stacking Valve .....2943
Plates, Valve Manifold .....2939
Stops, Cabinet ....2091
Stops, Workbench .2089

**End Mill**
Adapters .....1644
Dispensers .....1204
Holders .....1502
Kits .....1643

**End Mills,**
Carbide .....1642, 1684
Double End .....1681
Four Flute ...1681-1682
Multiple Flute .....1681
Roughing .....1683
Single End ...1681-1682
Solid Carbide .....1682
Tapered .....1684
Two Flute ....1681-1682

**Energy Right**
Air Conditioners ...2079, .....3454, 3457, 3459
Attic Ventilators ...3565, .....3568-3569
Bulk Vinyl Strips ...2304
Ceiling Fans .3545, 3585
Exhaust Ventilations .....3542
Fans ..3566-3567, 3584
Heat/Cool Package Units .....3445, 3447-3448
Heaters .....3400, 3402-3404
HVAC .....3442, 3449, .....3453, 3464
Pipe Insulation .....3376, 3433
Strip Doors ..2304-2305
Thermostats .3315-3321, .....3327, 3332
Timers .....570-573, .....575, 577, 580-582
Turbine Ventilators .3565
Vinyl Strips ..2304-2305
Water Heaters ....3077

**Energy Right Ballasts,**
Control Devices ...1019
Controllable .....939, 1018-1020
Dimming .....939, 1018-1020
Discrete ....1013, 1027
Electronic ....939, 1013, .1017-1025, 1027-1029, .....1034-1035
Energy Right .1024, 1028
Fluorescent ..939, 1013, .....1017-1025, .....1027-1031, .....1033-1037
High Output ..1027-1028
Hybrid Electromagnetic .....1020, 1022-1024
Integrated Circuit .....1018-1019
Magnetic .....1020, .....1022-1025, 1028, .....1030-1031, 1034
PL Lamp ...1018, 1020, .....1022-1023, .1030-1031, 1033-1037

**Energy Right Fixtures,**
Area .....1095, 1097
Area Lights .....1101
Canopy .....1097
Closet/Hallway ....1075
Emergency .....1143
Exit ...1137, 1144-1151
Floodlights ...1088-1090
Hand Lamps .....1154-1155, 1157
Hazardous Location .....1102-1104
Highbay .....1077-1079, 1085
Indoor Ceiling .....1071
Landscape ..592, 1109-1113, 1116
Lowbay .....1081-1083
Machine Tool Lights .....1164
Magnifier Lights .....1172-1173
Recessed Downlighting .....1133
Recessed Housing Trims .....1126, 1128
Recessed Housings .....1127, 1129
Sensors ....697, 1105
Small Aperture Trims .....1130
Strip .....1059-1062
Task Lights ..1168-1170
Track Lighting .....1120
Troffer .....1057-1058
Vapor-Tight .....1102
Wall Fixtures .....1096
Wall/Ceiling .....1096
Wallpacks ...1092-1094
Wraparound .....1067

**Energy Right Lamps,**
Compact .....928-932
Display Low Voltage .....954, 957, ....959-961, 965, 969
Extended Service ....962, 965, 967, 970
Fluorescent ....916-925, ....928-932, 970, 984
Halogen ....954, 957, 959-962, ....964, 966-967, 969
Halogen MR-16 .....954, 957, ....959-961, 965, 969
Heat ....972, 975, 984
HID .....937, 941-945
High Color Rendering .....917-924, 928, .....930-932, 937
High Intensity Discharge .....937, 941-944
High Output ....916-918, 920-924
High Pressure Sodium .....941-944
Incandescent .....950, ....956-962, 964-970

# PRODUCT INDEX




Low Pressure Sodium .944-945
Low Voltage . . .954-955, .960-961
Low Voltage Display .954, 957, . . . . 959-961, 965, 969
MR-16 Halogen .954, 957, . . . . 959-961, 965, 969
PAR . . . . .928, 937, 957, . . . . . 959, 961, 964, . . . . 966-967, 969, 971
PL Compact .924, 928-932
Shatterproof . . . . .925, 970-971, 984
SL Compact .924, 928-932
Tungsten/Halogen/Quartz .951, 954, 957, . . . . . 959-962, 964, . . . . 967, 969, 972-982, .1008-1009
U-Bent . . . . .918-919, 922-924

**Engine**
Centrifugal Clutches .264
Cleaners . . . . . .2790
Cranes . . . . . .2718-2719
Degreasers . . . . . .2776
Diesel Oil . . . . . .2767
Driven Generators .1581
Fuel Treatment . . . .2767
Lubricants . . . . . .2767
Muffler Mounting Kits .2732
Mufflers . . . . . .2732
Oil . . . . . .2767
Pulley Clutches . . . . .264
Sprocket Clutches . .264
Stands . . . . . .2716
Starters . . . . .2728-2730
Throttle Controls . . .2896

**Engines,**
Command Pro Series .2732
Command Series . .2732
Gas . . . . . .2731-2732
Geared Reduction . .2731
General Purpose .2731-2732
I/C Series . . . . . .2731
Industrial . . . . . .2732
Magnum Series . . .2732
Mixer . . . . . .2731
Mower . . . . . .2731
Pump . . . . . .2731

**Engravers,**
Electric . . . . . .1487

**Engraving**
Pens . . . . . .2989

**Entrance**
Mats . . .1935, 1939-1940

**Entry**
Key Programmers . .2642
Keys, Touch . . . . . .2642
Phones . . . . . .904
Reader Devices . . .2642

**Envelopes** . . . . . .2271

**Environmental**
Testers . . . . . .830

**Epoxy**
Brushes . . . . . .1728
Cartridges . . . . . .1728
Guns . . . . . .1786
Injection Systems . .1728
Injection Tools .1727-1728
Kits . . . . . .1786
Mixing Nozzles . . . .1785
Nozzles . . . . .1727-1728
Pouches . . . . . .1786
Screens . . . . . .1728

**Epoxy,**
Abrasion Resistant .1788
Adhesives . . .1785-1786
Aluminum Repair . .3482
Brushable . . . . . .1788
Cartridges . . . . . .1785
Ceramic . . . . . .1788
Chemical Resistant .1788
Coating . . . . .1788, 1993
Filler . . .1785, 1787-1788
Floor Paint . . .1997-1999
Glass Capsules . . .1727
High Strength . . . . .3482
High Water . . . . . .1788
Industrial . . . . . .1993
Insulating . . . . . .2788
Low Temperature . .1993
Low VOC . . . . . .1993, 1997-1999
Patch . . . . . .1785, . . . . . 1787-1788, 3482
Primer . . . . . .1993
Resurfacer . . . . . .2620
Thinner . . . . .1993-1994
Water Immersion .1785, 1993
Water-Based . . . . .1993

**Ergonomic**
Air Engraving Pens .2989
Air Files . . . . . .2997
Air Impact Wrenches .2966, 2968
Air Saws . . . . . .2997
Computer Stations .2097
Drills . . . . . .2977, 2979
Gloves . . . . . .2497
Hand Trucks . . . . . .2208
Hazards . . . . . .2494
Lift Carts . . . . . .2216
Lift Tables . . .2218, 2220
Lift Trucks . . . . . .2213
Mats . . . . . .1936
Pallet Stands . . . . .2220
Shovel Handles . . .2676
Stools . . . . . .2098
Supports . . . . . .2496
Tilters . . . . . .2219
Work Stands . . . . . .2220
Workstations .2093-2094
Wringers . . . . . .1945

**Ergonomics,**
Anti-Vibration Gloves .2498-2499
Back Cushions . . . .2501
Back Supports .2494-2495
Facilitator Guides . .2570
Foot Rests . . . . . .2501
Interactive CD-ROMS .2570
Lumbo Rolls . . . . . .2501
Safety Videos . . . . .2570
Task Analysis . . . . .2494
Tennis Elbow Supports .2500
Training Handbooks .2570
Wrist Rests . . . . . .2501
Wrist Supports . . . .2500

**Evacuation**
Hose . . . . . .3488
Tools . . . . . .3500

**Evaporative**
Coils . . . . . .3469, . . . . . 3471, 3474-3475
Cooler Covers . . . .3577
Cooler Grill Kits . . .3464
Cooler Pads .3464, 3577
Cooler Switches . . .3464
Cooler Water Tanks .3577
Cooling Systems .3464, 3577

**Evaporator**
Coil Cleaners . . . . .3480
Coils . . . . . .3444
Pads, Humidifier .3507-3508
Pan Cleaners . . . . .3481

**Excavation**
Facilitator Guides . .2571
Safety Training Videos .2571
Training Handbooks .2571

**Exhaust**
Duct . . . . . .3438, 3645
Fan Filters . . . . . .1171
Fans . .1171, 3549-3552, . . . . . .3590-3591, . . . . . 3596, 3650
Filters . . . . . .2856
Gas Analyzers . . . . .839
Mufflers, Air Line .2921, 2930, 2934
Valves . . . . . .2932

**Exit**
Alarm Cylinders . . .2638
Alarm Locks . . . . . .2638
Alarms . . . . . .2646
Bars . . . . . .2642
Device Handles . . .2637
Devices . . . . .2636, 2642
Door Cylinders . . . .2646
Lighting Battery Packs .1143
Switches . . . . . .2642

**Exit Lighting**
Batteries . . . . . .1153
Battery Packs . . . . .1143
DC Lamp Kits . . . . .1152
DC Socket Kits . . . .1152
Power Packs . . . . .1152
Shields . . . . . .1152
277V Conversion Kits .1152

**Exit Lighting,**
Chicago Approved .1151
Fixtures . . . . . .1099, . . . . . 1136-1137, . . . . . 1139-1142, . . . . . 1144-1151
High Abuse . .1099, 1148

L.E.D. . . . . .1099, 1137, . . . . . 1144-1145, . . . . . 1147-1149
NEMA 4X . . . . . .1099
Quick Mount . . . . .1144, 1147, 1149
Self Diagnostic . . . . . .1136-1137, 1144
Vandal-Resistant . . . . . .1147-1149

**Expanders,**
Screw Anchor . . . . .1332
Tube . . . . . .1345

**Expanpin Kits** . . . . .1764

**Expansion**
Joint Fillers . .1785, 1787
Shields . . . . . .1761
Tanks . . . . . .3277
Valves .3444, 3493-3495

**Explosion-Proof**
Blowers . . . . . .2515
Motors . . . . . .128-136

**Extenders,**
Dolly Frame . . . . . .2205
Hood . . . . . .856
Socket . . . . . .1119

**Extension**
Cord Adapters . . . . .589
Cords . . . . . .587-591
Ladders . . . . . .2180
Poles, Paint . . . . . .1947
Rings . . . . . .675, 679
Sockets . . . . . .1708

**Extensions,**
Blow Gun . . . . . .3026
Dolly Nose . . . . . .2204
Drill Bit . . . . . .1433
Duct . . . . . .3645
Fork Lift . . . . . .2317
Heater Vent . . . . . .3416
Impact . . . . . .1242
Noseplate . . .2203, 2208
Socket . . . . .1230-1231, . . . . . 1234, 1236, 1278
Spray Gun . . . . . .1979
Tube Heater . . . . . .3413

**Extinguishers,**
Fire . . . . . .2354-2355

**Extractors,**
Carpet Cleaner . . . .1877
Cotter Pin . . . . . .1301
Screw . . . . . .1664, 1675

**Eye**
Dressing Kits . . . . .2551
Dressing Pads . . . .2551
Protection Glasses .2366
Protection Goggles .2373
Protectors . . . . . .1506
Redness Relievers .2551
Slings . . . . . .2242
Wash . .2536-2537, 2551
Wash Fountains . . .2539
Wash Stations . . . . . .2536-2539

**Eyebolts** . . . .1760, 1778, . . . . . .2244-2245, 2511

**Eyeglass**
Loupes . . . . . .1833

**Eyenuts** . . . . . .2245

**Eyewear**
Anti-Fog Liquid . . . . . .2376-2377
Cases . . . . . .2375
Cords . . . . . .2375
Dispensers . . .2374-2375
Holders . . . . . .2374
Lens Cleaning Stations . . . . . .2376-2377
Lens Tissue . .2376-2377
Lens Towelettes . . .2376
Sideshields . . . . . .2375

**Eyewear,**
Chemical Goggles . . . . . .2372-2373
Safety Glasses . . . . . .2362-2372
Safety Goggles . . . . . .2372-2373
Visitor Spectacles . .2369


## F


**F-Clamps** . . . . . .1379

**Fabrication Equipment** . . . . . .1510, 2094

**Facepieces,**
Respirator . . . . . .2430

**Faceshield**
Brackets . . . . . .2379
Covers . . . . .2408, 2433
Visors . . . . . .2379
Windows . . . . . .2379

**Faceshields,**
Flat Fold . . . . . .2379
Full . . . . . .2378-2379
Heat Protection . . . . . .2378-2379, 2485
Heat Resistant . . . .2379
Welding . . . . . .1586

**Facial Tissue** . . . . . .1901

**Facilitator Guides** . . . . . .2570-2571

**Fan**
Adapters . . . . . .3557
Application Manuals . . . . . .3628
Axial Cord Sets . . . .3629
Backdraft Damper Reducers . . . . . .3546
Belt Tensioners . . . .3608
Belts . . . . . .305-309
Blade Adapters . . . . . .1402, 1405
Blade Hubs . . . . . .3600
Blade Shaft Protector Sets . . . . . .1405
Blades . . . . .3570, 3571 . . . . . .3600-3604, 3651
Centers . . . . . .3335
Control Panels . . . .3234
Control Switches . . .3552
Controls . . . .3235, 3335, . . . . .3545, 3551, 3562
Cords . . . . . .3629
Dampers . . . . . .3557, . . . . . 3597-3598, 3617
DC Motors .185-186, 188
Delay, Defrost . . . . .3502
Down Rod Kits . . . .3545
Filters . . . . . .3629
Flanges, Tubeaxial .3651
Frames . . . . . .3601
Grille Kits . . . . . .3557
Guards . . . . .3570, 3574, . . . . . 3589, 3597, 3629
Inline Adapter Kits .3557
Joist Hanger Kits . .3545
Lights . . . . . .3545
Motors . . . .9-10, 13, 20, . . . . . 22-23, 31, 39, . . . . . 44-45, 105, 108, . . . 129, 136, 139, 3570
Mounting Hardware . . . . . .3573
Panels . . . . . .3601
Proving Switches . .3358
Pulleys . . . . . .310-316
Relays . . . . . .3335
Roof Ducting Kits . .3561
Sheaves . .310-316, 3616
Shutters . . . . . .3569, 3597-3599
Speed Controls . . . . .733
Starters . . . . . .3234
Switches . . . . . .3398, . . . . 3551, 3562, 3566, . . . . .3570, 3622, 3637
Tilt Kits . . . . . .3575
Toggles . . . . .3551, 3562
Wall Ducting Kits . .3561

**Fan/Heat**
Element Sequencers . . . . . .3337

**Fans,**
(See Blowers)
AC . . . . . .3628
Adjustable Speed . .3610
Agricultural . . . . . .3585, . . . . . 3605-3607, . . . . . 3609-3610
Air Curtains . .3646-3647
Assembled . . . . . .3567
Attic Exhaust . . . . .3569
Auto Dash . . .3544, 3628
Axial . . . . . .3626-3628
Bathroom . . . . . .3457, . . . . . 3549-3555, 3639
Belt-Drive . . .3592-3593, . . . . . .3614-3615, . . . . . 3620, 3649
Box . . . . . .3543
Cabinet . . . . .3556, 3559, 3589
Ceiling . . . . .3545-3548, . . . . . 3550-3552, . . . . . 3555-3556, . . . . . 3570-3571, . . . . . 3576, 3584-3585
Circulator . . .3541-3544, . . . . . .3570-3573, 3575
Clip-On . . . . . .3544
Commercial .3555-3556, . . . . . .3584-3585
Compact . . . . . .3544
Corrosion Resistant . . . . . .3586, 3605, . . . . . 3607, 3610
DC . . . . . .3544, 3628
Decorative . . . . . .3545
Direct Drive . .3590-3591, . . . . . .3609, 3650
Dock . . . . . .3576
Duct . . .3639, 3650-3651

# PRODUCT INDEX




Duct-Free .....3554
Energy Right .3566-3567, .....3584-3585
Equipment Cooling .....3626-3628
Exhaust .....1171, .....3546-3556, 3576, ..... 3586-3588, ..... 3590-3596, ....3605, 3607, 3610, ..... 3613-3615, ..... 3618-3621, ..... 3639, 3650
Explosion-Proof ...3591
Exterior Mount ....3549
Floor .....3541-3544, ..... 3570-3571, 3576
Floor/Table .....3543
Food Service .....3570
Guard-Mounted ...3588
Hassock .....3544
Hazardous Location .....3586, 3591
Heater .....3418
Heavy Duty .....3588
High Velocity .....3541, ..... 3543-3544, 3576
High Volume .3576, 3650
Hog House ..3605, 3607
Horizontal .....3595
In-Line .3550, 3556, 3650
Industrial ....3570-3571, .....3576, 3584-3588, ..... 3590-3596, ..... 3613-3615, ..... 3620-3621, .....3624-3625, 3649
Intake/Exhaust ....3625
Kitchen .....3457, ..... 3546-3549, 3639
Lavatory .....3554-3556
Livestock .....3605-3608, 3610
Mobile .3543, 3571, 3575
Motion Sensor ....3552
Motordor .....3548
Muffin .....3626-3628
Oscillating ...3541-3543, .....3570-3571
Paddle .3545, 3584-3585
Pedestal ....3542-3543
Personal ....3541, 3544
Pivot ..3541, 3543-3544
Poultry .....3605-3610
Remote Mount ....3549
Reversible .....3596
Ring Frame .....3587
Roll-About .....3543
Roof .....3622
Room-To-Room .....3546, 3548
Shutter .....3586-3587
Slantwall .....3607
Spark-Resistant .....3586, 3649
Special Voltage ....3573
Specialty .....3572
Speed Reducer ....273
Spray Booth .....3649
Straight Wall .3606, 3609
Supply .....3596, 3650
Three Phase .3590-3591
Three Speed .....3584
Transformer .....3573
Tubeaxial .....3626-3627, 3649
Unit Bearing .....3628
Velocity .....3576
Ventilator ...3555-3556, .....3560, 3613-3615, ..... 3620-3621
Venturi .....3588
Vertical .....3592-3594
Wall ..3542, 3546-3548, .....3570-3571, ..... 3590-3591
Wall-Mount .....3589
Washdown .....3572
Whole House .....3544, 3566-3567
Window .....3542, 3544

**Farm Duty**
Motors .....141-149

**Fasteners,**
Adhesive .....1727, ..... 1780-1785, ..... 1787-1789, .....1794-1795, ..... 2784, 3061
Anchor .....1720-1722, ..... 1724, 1726
Bolts .1734-1737, 1739-1741, .....1750-1751, 1760
Bond Seal Screws .1756
Cap Screws ..1758-1759
Carriage Bolts .....1741
Chain .....1761
Concrete .....1723-1724, 1726
Concrete Anchor .....1725-1726
Cotter Pins .....1758-1760, 1764
Dowel Pins .....1733
Drill Screws ..1758-1759
Drywall .....1720-1722
Dual Lock .....2283
Epoxy Injection ....1728
Flange Lock .....1744
Flatwashers .....1746
Framing .....2062
Hammer Drive Pin .1726
Hex Key .....1302
Hook And Loop ....2283
Lag Screws .....1741
Lag Shields .....1761
Lock Washers .....1747
Locknuts .....1743-1744, 1758
Machine Screws .....1748, 1759
Masonry Screws ...1723
Molly .....1721-1722
Nuts ...1741-1745, 1761
Recloseable .....2283
Retaining Rings ...1765
Rivet Washers ....1719
Rivets .....1717-1719
S-Hook .....1760
Scotchmate .....2283
Screw Snap .....1366
Screws .....1421, 1730, ..... 1732-1735, ..... 1737-1738, .....1747-1757
Sealant .....1780-1785, ..... 1787-1789, ..... 1794-1795, .....2784, 3061
Sheet Metal Screws .....1758-1759
Snap .....1366
Spring Pins .....1759
Staples .....1393
Stove Bolts ..1750-1751
Threadlocker .....1782
Turnbuckles .....2246
U-Bolt .....1760
Washers .....1746-1747, 1758
Wood Screws .....1751-1752
Woodruff Keys .....1759, 1764

**Fastening**
Pins .....1439
Tools .....1438

**Faucet**
Cans .....2340
Cartridges .....3109
Connectors ..3042, 3108
Electrical Boxes ...3113
Proportioners .....1960
Seat Wrenches ....1342

**Faucets,**
ADA Approved .....3110, 3112
Automatic Battery ..3117
Backmount .....3113
Bar .....3110
Brass .....2325
Commercial ..3110-3113
Double Handle ....3112
Drum .....2325
Gooseneck ..3112-3113
Hose .....3113
Institutional ..3112-3113
Kitchen .....3109-3110, .....3112-3113
Laboratory ...3112-3113
Lavatory .....3109-3110, 3112
Lawn .....3068
Mop Sink .....3113
Pedal Valve .....3113
Pre-Rinse ...3112-3113
Residential .....3109
Safety Barrel .....2325
Shower .....3111
Sillcocks .....3059
Single Handle .....3112-3113
Stainless Steel ....2325
Tub .....3111
Wall Mount .....3113

**Feather**
Dusters .....1952

**Feeder**
Cable .....593
Cable Fittings .....668

**Feeders,**
Grease .....2762

**Feeler Gauges** .....1312

**Feet,**
Leveling .....1779

# PRODUCT INDEX

## Felt — Filters


**Felt**
Floor Protectors . . .2170
Padding . . . . . .2170

**Feminine Hygiene**
Receptacles . . . . . .1913
Sanitary Napkin Dispensers . . . . . .1913
Sanitary Napkins . .1913
Tampons . . . . . .1913
Wax Bags . . . . . .1913

**Fence**
Batteries . . . . . .1175
Post Levels . . . . . .1383
Tools . . . . . .1305

**Fence,**
Barricade . . . . . .2613
Plastic . . . . . .2618
Rip Saw . . . . . .1514
Safety . . . . . .2618
Wire . . . . . .2077

**Fender**
Bumpers . . . . . .2308
Washers . . . . . .1746

**Ferrules,**
Hose . . . . . .3020

**Fertilizer**
Spreaders . . .2670, 2672
Transfer Pumps . . .3150

**Fiber**
Optic Amplifiers . . . .556
Optic Cable . . . . . .555-557, 777
Optic Connectors . . .777
Optic Meters . . . . . .777

**Fiberglass**
Blowers . . . . . .3662
Extension Ladders .2180
Filters . . . . . .3528, 3530
Fish Tape . . . . . .1329
Ladders . . . . .2175, 2177, 2185
Paint Arrestor Pads .3531
Paint Arrestor Rolls .3531
Pick Handles . . . . .2680
Platform Ladders . .2177
Post Hole Diggers . .2676
Pry Bars . . . . . .2680
Rakes . . . . . .2676
Stepladders . . . . . .2176
Traffic Signs . . . . . .2586

**Fibre**
Discs, Abrasive . . . . . .1619-1620

**File**
Blades . . . . . .1367
Boxes . . . . . .2105
Cabinet Bars . . . . . .2106
Cabinet Bases . . . .2108
Cabinets . . . . .2106, 2108, 2111
Cards . . . . . .1373
Handles . . . . . .1373
Hanging Clamps . . .2108
Holders . . . . . .1373
Locks . . . . . .2106, 2108
Sets . . . . . .1369

**Files,**
Air . . . . . .2997
Aluminum . . . . . .1371
Auger And Bit . . . . .1372
Babbitt . . . . . .1370
Blueprint . . . . . .2108
Body . . . . . .1371
Cantsaw Cut . . . . . .1372
Chain Saw . . . . . .1373
Corrugated Roll . . .2109
Crochet . . . . . .1370
Cross Cut . . . . . .1372
Crossing . . . . . .1370
Die Sinker . . . . . .1373
Equaling . . . . . .1370
Flat . . . . . .2108
Flat Bastard . . . . . .1370
Flat Rigid . . . . . .1370
Flat Secondcut . . . .1370
Flat Smooth . . . . . .1370
Four-In-Hand . . . . .1371
Half Round Bastard . . . . . .1373
Half Round Second Cut . . . . . .1373
Half Round Smooth . . . . . .1373
Hand . . . . . .1370
Handy . . . . . .1372
Hanging . . . . . .2108
Hobby . . . . . .1369
Knife . . . . . .1372
Knife Bastard . . . . .1372
Knife Second Cut . .1372
Knife Smooth . . . . .1372
Lathe . . . . . .1371
Machinist Taper . . .1373
Machinist's . . . . . .1369
Magicut . . . . . .1372
Maintenance . . . . . .1369
Mill Bastard . . . . . .1370
Mill Round Edge . . .1370
Mill Secondcut . . . .1370
Mill Smooth . . . . . .1370
Mobil Roll . . . . . .2109
Needle . . . . . .1369
Pillar . . . . . .1371
Pippin . . . . . .1370
Plastic . . . . . .1372
Rasp Cabinet . . . . .1371
Restoring . . . . . .1368
Rifflers . . . . . .1369
Round . . . . . .1370
Round Bastard . . . .1370
Round Second Cut .1370
Round Smooth . . . .1370
Scraper . . . . . .1372
Slim Taper . . . . . .1373
Square Bastard . . . .1371
Square Second Cut . . . . . .1371
Steel . .1370-1371, 1373
Steel Roll . . . . . .2109
Super Shear . . . . . .1372
Surform . . . . . .1367
Taper . . . . . .1373
Thread Restoring . .1368
Three Square . . . . .1371
Tungsten Point . . . .1372
Veneer Knife . . . . . .1372
Warding . . . . . .1372
Welder's . . . . . .1369
Wood . . . . . .1371

**Filler**
Breathers, Hydraulic . . . . . .2807
Cups . . . . . .2754
Plates, Load Center . . . . . .366, 372
Tubes . . . . . .1961

**Fillers,**
Battery . . . . . .2751
Radiator . . . . . .2751
Spackling . . . . . .1796
Wood . . . . . .1796

**Film,**
Camera . . . . . .911
ID Refill Kits . . . . . .910
Plastic . . . . . .2297
Poly . . . . . .2261
Polyethylene . . . . . .2276
PVC . . . . . .2298
Shrink . . . . . .2298
Stretch . . . . . .2296

**Filter**
Adapters, Compressor . . . . . .2894
Adapters, Respirator . . . . . .2407
Backwash Valves . .3290
Bags, Vacuum Cleaner . . . . . .1890
Bags, Wet/Dry Vacuum . . . . . .1484
Boxes . . . . . .3654
Carts, Hydraulic . . .2825
Cleaners . . . . . .3513
Covers, Respirator . . . . .2405, 2407, 2411
Drain Kits . . . . . .2921
Elements . . .2914-2916, .2923, 2925, 2927-2929
Frames . . . . . .3529
Gasketing . . . . . .3539
Gauges . . . . . .871
Holders . . . . . .2407
Housings . . .3091-3092, . . . . . .3096, 3098-3100
Material . . . . . .842
Media .3074, 3529, 3535
Mounting Brackets . . . . . .2921, 2923, . . . . . 2925, 2927, 2929
Panels . . . . . .2436
Paper . . . . . .848
Racks . . . . . .3428, 3654
Retainers . . . . . .2403
Support Rods . . . . .3531
Vents . . . . . .2763

**Filter Dryers,**
Air Conditioning . . . . . .3489-3491
Heat Pump . . . . . .3492
Refrigeration .3489-3491

**Filter/Cartridges,**
Respirator . . .2405, 2411

**Filter/Regulator/ Lubricators** .2923-2924, . . . . . .2926, 2929

**Filter/Regulators,**
Air Line . . . . .2919, 2923-2924, . . . . . 2926, 2929-2930

**Filter/Silencer**
Elements . . . . . .2894

**Filter/Silencers,**
Compressor . . . . . .2894

**Filters,**
Air Cleaner . . . . . .3513, . . . . . 3515-3517, 3519

# PRODUCT INDEX




Air Conditioner . . . .3514, . . . . . .3522, 3528, . . . . . 3530, 3532, . . . . .3534, 3536-3539
Air Conditioning . . . . . .3489-3491, 3536
Air Line . . . .2428, 2437, . . . . .2914-2916, 2919, . . . . . 2923-2924, 2926, . . . . . 2928-2930, 3006
Air Pump . . . . . .2437
Airless Sprayer . . . .1976
Airline . . . . . .1963
Bag . . . . . .3098-3100
Beverage . . . . . .3090
Blower . . . . . .3654
Carbon . . . . .3073, 3535
Cartridge . . . .3091-3093, . . . . . .3096-3097, . . . . . 3538-3539
Charcoal . . . .3515, 3519
Chemical . . . .3095-3100
CO Tester . . . . . .842
Coalescing . .2914-2915, . . . . . .2923-2924, . . . . . 2926, 2928
Coffee . . . . . .2116
Combustion Tester . .847
Compressor .2437, 2894
Computer Glare . . . .912
Contaminant . . . . .3091, 3093, 3095
Core . . . . . .3492
Cube . . . . . .3534
Duct . . . . . .3654
Dust . . . . . .1484
Effluent . . . . . .3228
Electrostatic . . . . . .3514
Exhaust . . . . . .2856
Exhaust Fan . . . . . .1171
Extended Surface . . . . . .3522, 3532-3533
Fan . . . . . .3629
Fiberglass . . .3528, 3530
Foam Roll . . . . . .3530
Fuel . . . . . .3201
Furnace . . . .3512, 3514, . . . . . .3519, 3522, . . . . . 3528, 3530, 3532
Gas Detector . . . . .2521
Grease . . . . . .3540
Heating . . . . .3522, 3528, 3532, . . . . . 3534, 3536-3538
HEPA . . . . . .2409, 3540
High Efficiency . . . .3537
Hog Hair . . . . . .3530
Hospital Grade . . . .3537
Humidifier . . . . . .3509
Hydraulic . . . . . .2825, 2828-2829
Ice Maker . . . . . .3090
Industrial . . . .3096-3100
Inert . . . . . .2894
Inlet . . . . . .2437, 2851
Inline . . . . . .1963, 2763
Intake . . . . . .2894
Intake Air . . . . . .2851
Iron . . . . . .3073
Kitchen . . . . . .3540
Lead-Removal . . . . . .3090-3091, 3093
Liquid . . . . . .2763
Low Pressure Drop .3537
Mesh . . . . . .3540
Mini-Pleat . . . . . .3539
N95 . . . . . .2409
Odor Removal . . . .3519
Oil . . . . . .2890
Oil Removal . . . . . .2915
On-Site . . . . . .3228
Paint . . . . . .3096, 3531
Paint Collector Frame . . . . . .3531
Paint Collector Grid .3531
Paint Spray . .1963, 1977
Paint Sprayer . . . . .1967
Panel . . . . . .3534
PH . . . . . .3073
Polyester . . . . . .3530
Polyester Links . . . .3534
Polyester Panels . . .3534
Pool . . . . . .3289
Pressure Recorder . .798
Pump Inlet . . . . . .3180
P100 . . . . . .2409
Refrigeration .3489-3491
Replacement . . . . .2894
Residential . . . . . .3228
Resin-Bonded . . . . . .3093, 3096
Respirator . .2397, 2407, . . . . .2409, 2411, 2421
Restaurant . . . . . .3540
Reverse Osmosis . .3095
Rigid Cell . . . .3538-3539
Roll . . . . . .3530
Scale . . . . . .3093-3094
Septic Tank . . . . . .3228
Sound Level Meter . .825
Spa . . . . . .3289
Spray Gun . . . . . .1976
Suction Tube . . . . .1976
Sulfur . . . . . .3073
Sump . . . . . .3091-3092
Swim Pool . . . . . .3289
Taste . . . . . .3073
Trim-To-Fit . . . . . .3528
Turbidity . . . . . .3073
Undersink . . .3090, 3094
Vacuum Cleaner . . . . .1881, 1890, 1893
Water . . . . . .3073-3074, . 3090-3095, 3097-3101
Water Garden . . . . .3143
Water Heater . . . . .3094
Wet/Dry Vacuum . .1889
Whole House . . . . .3092
Wound . . . . . .3097

**Finders,**
Edge . . . . . .1818

**Finger**
Cots . . . . . .2472
Guards . . . . . .2472
Safety Tape . . . . . .2472

**Finish**
Applicators . . . . . .1952
Nails . . . . . .3007
Removers . . . . . .1837

**Finish,**
Floor . .1835, 1838-1839

**Fins,**
Comb . . . . . .3443

**Fire**
Blankets . . . .2542, 2553
Caulk . . . . . .1790
Dampers . . . . . .3433-3434, 3557
Deodorants . . . . . .1852
Equipment Signs . .2588
Hose . . . . . .3034
Hose Nozzles . . . . .3034
Hose Pin Racks . . .3034
Hydrant Recorder Adapters . . . . . .798
Pumps . . . . .3147, 3155
Resistant Safes . . .2650
Suppression Systems . . . . . .2353

**Fire Alarm**
Batteries . . . . . .2358
Bells . . . . . .2359
Chimes . . . . . .2359
City Tie Modules . . .2358
Heat Detectors . . . .2359
Horns . . . . . .2359
Panels . . . . . .2358
Pull Stations . . . . . .2359
Strobes . . . . . .2359

**Fire Alarms,**
Smoke Detector . . . . . .2359, 3339

**Fire Extinguisher**
Brackets . . . . . .2354
Cabinets . . . . . .2356
Covers . . . . . .2356

**Fire Extinguishers** . . . . . .2354-2355

**Fire-Rated Poke-Through**
Fittings . . . . . .649
Plates . . . . . .649

**Fireplace**
Boxes . . . . . .3423
Firebrick Liners . . . .3423
Hearth Bases . . . . .3423
Hearth Trim . . . . . .3423
Hoods . . . . . .3422
Logs, Gas . . . . . .3422
Mantels . . . . . .3423
Volcanic Rock . . . . .3422

**First Aid Cabinets** . .2544

**First Aid Kits,**
Bloodborne Pathogen . . . . . .2547
Bodily Fluid . . . . . .2547
Burn . . . . . .2547-2548
Compact . . . . . .2546
Construction . . . . . .2543
Contractor . . . . . .2543
CPR . . . . . .2547, 2551
Dept. Of Transportation . . . . . .2546
Electrician's . . . . . .2543
Empty . . . . . .2549
Food Service . . . . .2546
Heat Stress . . . . . .2543
Indoor . . . . . .2544, 2546
Mobile . . . . . .2543-2544, . . . . . 2546-2547
Office . . . . . .2546
Outdoor . . . . .2543-2544
Snake Bite Kits . . . . . .2547, 2552
Welder's . . . . . .2543

**First Aid Refills,**
Acid Relief . . . . . .2552
Alcohol Antiseptics .2549
Ammonia Inhalants .2552

# PRODUCT INDEX

## First Aid Refills — Flashlights


Antacids .2552
Antibiotic Antiseptics .2549
Antibiotic Ointment .2549
Antiseptic Spray .2549
Aspirin .2552
Bandages .2550
Blankets .2542, 2550
Bloodborne Pathogen .2547, 2551
Bodily Fluid .2547, 2551
Body Flush .2536
Burn Care .2550, 2553
Cold Packs .2552
Cotton .2550
Cough Drops .2551
Cough Syrup .2551
Cream .2549
Eye Dressing Pads .2551
Eye Redness Relievers .2551
Eye Wash .2536, 2551
First Aid Guides .2551
Forceps .2550
Forceps And Scissors .2550
Green Soap Swabs .2549
Green Soap Wipes .2549
Hydrocortisone Cream .2549
I-Pro Tabs .2552
Iodine .2549
Medical Gloves .2551
Medicinals .2552
OHP .2549
Ointments .2549
Pain Relievers .2552
Pain-A-Rest .2552
PVP .2549
Scissors .2550
Sore Throat Lozenges .2551
Sting Kill Swabs .2552
Sting Kill Wipes .2552
Swabs .2549
Tape .2550
Tongue Depressors .2550
Tourniquets .2550
Tourniquets And Forceps .2550
Towelettes .2549, 2553

**Fish**
Line, Line Packages .1329
Tape .1329, 1331
Tape Leaders .1329
Tape Line .1329

**Fishing Systems** .1328

**Fit Test Kits** .2444

**Fittings,**
Air .3042
Air Conditioning .3049
Air Hose .3029, 3036-3037
Air Line Hose .3022-3023, 3025, 3029
Air Tool .3025
Air Tool Swivel .3025
Aluminum .2061, 3036
Barbed .3069
Basin .3229
Black Malleable .3051-3053
Brass .3044-3045, 3050
Bushings .659
CAM And Groove .3036
Cap .3048
Cast .3049
Chemical .3042
Chemical Resistant .3069
Compression .746, 3044
Conduit .651-661, 666, 680
Copper .3047-3049
ELL .3047-3049
EMT .655
FDA Approved .3042
Feeder Cable .668
Flare Tubing .3045
Flexible .666
Food Grade .3042
Galvanized .3051-3053
Grease .2746
Grease Gun .2741, 2746, 2749
Grounding .668
Hanging Strap .3049
Heat Tube .3414
Hose .2697, 3020, 3024, .3029, 3036-3037
Hose Barb .3022-3023
Hydraulic Hose .2832-2833, 2835-2836, 2838-2839
Liquidtight .668
Malleable .3051
Metal Framing .2062
Nonmetallic .666
NPT .3050
Pipe .3051-3053, 3069, 3083
Plastic .3069
Plumbing .3047-3049, .3051-3053
Pneumatic .3299
Poly Tubing .3042-3043
Pressure Recorder .798
Pressure Sensing .862
PVDF .3069
Quick Connect .3022-3023, 3029, 3043
Raceway .692
Refrigeration .3047-3049, 3500
Right Angle .668
Service Entrance Cable .668
Slip-On .2061
Stainless Steel .3036
Steam Hose .3029
Strain Relief .669-670
Structural Pipe .2060
Suction .3037
Swage .2247
Swivel .3025
Thermocouple .796
Tube .3069
Tube Straps .3049
Tubing .3042, 3044
Underground Feeder Cable .668
Water .3037, 3042
Water Heater .3083
Wrot .3047-3049
Zerk .2746

**Flag**
Terminals .617

**Flags,**
Safety .2616
Traffic .2616
U.S. .903
Warning .2616

**Flame**
Simulator Cable .891

**Flammable**
Bench Cans .2341
Liquid Cabinets .2350-2351
Liquid Handling Posters .2590
Plunger Cans .2341

**Flange**
Bolts .1736
Kits, Speed Reducer .278
Nuts .1744, 1777
Reducers .3461
Sealants .1784-1785
Wedges .1399

**Flanges,**
Bolt .2798
Companion .3651
Fan .3651
Floor .3053
Pump 3274-3275
Pump Adapter .3266

**Flap**
Discs .1604
Wheel Adapters .1612
Wheels .1611-1614

**Flappers,**
Toilet .3114

**Flare Nut**
Wrench Sets .1285
Wrenches .1287

**Flares,**
Road .2617

**Flaring Tools** .1345-1346

**Flash**
Arrestors .1566

**Flashing**
Lights .2555, 2615
Vests .2617

**Flashlight**
Accessory Packs .1183
Auto Clamps .1183
Batteries .1174, 1176, 1180
Belt Holders .1183
Brackets .1180-1181
Bulbs .1180-1181, 1183, 1189
Helmet Lite Holders .1181
Holders .1183
Holsters .1183, 1189
Krypton Bulbs .1183
Lamp Modules .1180-1181
Lamps .1183, 1189
Light Holders .1181
Wands .1189

**Flashlights,**
AA-Cell .1179, 1181, 1185-1187
AAA-Cell .1179, 1186

# PRODUCT INDEX




Aluminum .....1182
Bulk .....1185-1186
C-Cell .....1179, 1182
D-Cell .....1180, 1182, .....1185-1187
Disposable .....1188
Economy ....1186, 1188
Firefighter ...1179-1180
Flexible .....1426
FM Approved .....1180
Hands Free .....1180-1181, 1186
Headlights ...1187-1189
Heavy Duty .....1426
Holster Light .....1179
Industrial ....1179-1182, .....1184-1187, 1427
Knife/Lite Combo ..1179
Lantern .....1180, 1185, 1187
Laser Spot ...1179-1181
Mag-Lite .....1182
Magnum .....1179
Medical .....1186
Metal .....1182
Mini Mag .....1182
Penlight .....1179, 1186, 1188
Pilot Light .....1179
Pocket Light ..1179-1181
Rechargeable .....1176, 1180, 1183, .....1426-1427
Rubber .....1185, 1187
Safety .1179, 1181, 1185
Six Volt .....1185, 1187
Solitaire .....1182
Standard Size .....1182
Steel .....1186
Submersible ..1179-1180
Swivel-Lite .....1186
Utility .....1179-1181, .....1186-1187
Versalite .....1181
Water Resistant .....1181, 1187
Waterproof ...1179-1180
Xenon .....1179, 1181

**Flat**
Cars .....2198-2199
Cushion Spindles ..1767
Face Idlers .....302
File Locks .....2108
Files .....2108
Mirrors .....2623
Mopping Systems ..1942
Roof Caps .....3563
Stock .....1828
Washers ....1746, 1777

**Flats,**
Aluminum .....1698
Bar Stock ....1697-1699

**Flex-Tred**
Edge Sealer .....2620
Floor Prep .....2620

**Flint**
Renewal Units ....1565

**Float**
Adapters .....3067
Brackets .....1398
Handles .....1398
Kits, Pump .....3233
Pumps .....3225
Switches .....3216, ..... 3232-3233, 3261
Traps .....3359
Type Air Vents ....3277
Valves .2822, 3066-3067

**Floats,**
Concrete .....1398
Hose .....3225
Pool Safety .....3291

**Floodlight**
Brackets .....1092
Slip Fitters .....1092

**Floodlights,**
HID .....1088-1090
Portable/Task .1159-1161
Quartz Halogen .....1091-1092

**Floor**
Bases .....3428
Box Covers .....648
Box Fittings .....648
Boxes .....648
Broom Braces .....1947
Brooms .....1948-1949
Brush Braces .....1947
Brushes ....1875-1876, .....1946, 1949
Buff Spray .....1836
Buffers .....1871-1872
Buffing Pads .....1873
Burnisher Pads ....1874
Burnishers .....1872
Caulk .....1998
Cleaner Caddy Bags .....1919
Cleaners ...1837, 1839, .1862, 1868-1869, 1998
Coating Activators ..1997
Coatings .....1994, 1996-1999
Compounds .....1863
Cones .....2608
Cranes .....2718-2719
Drill Presses .1500-1501
Dust Mops .....1941
Epoxy Paint ..1997-1999
Etching Solution ...1998
Fans .....3541-3544, ..... 3570-3571, 3576
Felt Protectors ....2170
Finish ..1835, 1838-1839
Finish Mops .....1942
Flanges, Galvanized .....3053
Furnaces .....3422
Glides .....2171
Guides .....2658
Jacks ..2313, 2712-2715
Locks .....2167
Mat Connectors ...1937
Mat Edging .....1937
Mats .....1935-1940
Matting .....1934-1938
Mount Isolators ....3670
Pad Holders .....1875
Pads .....1873
Pads, Heater .....3417
Patching .....1998
Polisher Pads .....1873-1874
Polishers ....1871-1872
Prep, Flex-Tred ....2620
Protection Cups ...2170
Protectors ...2170-2171
Receptacles .....687
Registers .....3437
Restorers ....1835-1838
Runners .....1938
Scales .....2300
Scrapers .....1400
Screws .....1757
Scrubbers .....1871
Scrubbing Pads ...1873
Scrubs .....1949
Sealants .....1998
Sealers .....1835, .....1838-1839, 1998
Signs ..1959, 2608, 2614
Spray Buff .....1838
Squeegees ..1949, 1956
Stencils .....2612
Stops .....2661
Strippers .....1837, 1839, 1870
Stripping Pads ....1873
Sweepers ...1894, 1958
Sweeps .....1946
Treads .....2621
Water Coolers ....3088

**Floor Machine**
Brushes .....1875
Scrubbers .....1876

**Floortrak**
Cable Positioning Duct .....644

**Flow**
Computers .....3284
Control Air Valves .....2932-2933
Control Hydraulic Valves .....2819, 2821
Controls, Hydraulic .....2812, 2814
Dividers, Hydraulic .2806
Indicators .....3278
Meters .3198, 3283-3284
Sights .....2765
Switches .....3237

**Flue**
Gas Analyzers .....845

**Fluid**
Control Handles ...2749
Dispensers, Metalworking .....2753
Dispensing Handles .....2749
Level Gauges .....2807
Regulators ..1971, 3196
Socks, Non-Aggressive .....2337
Transfer Equipment .....2752

**Fluids,**
Cutting .....2777-2779
Grinding .....2773-2775, 2778
Hydraulic .....2846
Layout .....2776
Tap And Die .....2777
Transmission .....2766

# PRODUCT INDEX

## Fluorescent — Foot


**Fluorescent**
Additives .....3483
Battery Packs .....1143
Ceiling Fixtures ....1071
Cord Reels
.....1154, 1156-1157
Dimmers ....1051, 1054
Drop Lights ..1154-1157
Hand Lamps .1154-1157
Leak Detectors
.....3483-3484
Light Dimmers
.....1051-1052
Machine Tool Lights
.....1164-1165
Magnifier Lights
.....1172-1173
Task Lighting .1169-1170
Trouble Lights
.....1154-1157

**Fluorescent Ballasts,**
Circline ....1022, 1031,
..... 1033-1034, 1036
Control Devices ...1019
Controllable .....939,
..... 1018-1020, 1023
Dimming
.....939, 1018-1020,
..... 1023, 1035, 1050
Discrete ....1013, 1027
Electronic ....939, 1013,
.....1017-1025,
.....1027-1029,
.....1034-1035
Energy Right .939, 1013,
.1017-1025, 1027-1028,
.1030-1032, 1034-1035
Fluorescent
.....1019-1020, 1024
High Output ..1027-1028
Hybrid Electromagnetic
.....1020, 1022-1024
Integrated Circuit
.....1018-1019
Magnetic .....1020,
..... 1022-1025,
..... 1027-1031,
.....1034, 1036-1038
PL Lamp ...1018, 1020,
.....1022-1023,
..... 1030-1031,
..... 1033-1037
Plastic Sign .....1038
VHO Magnetic ....1037
Weatherproof .....1037

**Fluorescent Fixtures,**
Bracket .....1072
Ceiling .....1065-1066,
..... 1069-1071, 1073
Closet .....1075
Cloud .....1066, 1073
Commercial .....1058
Decorative
.....1066, 1070, 1073
Fixtures .....1057
Fluorescent .....1067
Guards .....1102
Hazardous Location
.....1102, 1104
Health Care .....1072
Industrial
.....1059-1060, 1064
Low Profile .....1065
Modular .....1066
Overbed .....1072
Shielded .....1064
Shielded Strip .....1060
Sign Light .....1114
Stem And Canopy Sets
.....1062
Strip ...1060-1064, 1075
Troffer .....1056-1059,
..... 1099, 1101
Undercabinet .1073-1074
Vanity .....1072-1073
Vapor-Tight .....1064
Wood Frame .....1070
Wraparound
.....1062, 1067-1068

**Fluorescent Lamp**
Safety Sleeve Tubes
.....925
Starters .....933

**Fluorescent Lamps,**
Appliance ..916-917, 921
Circline .....924
Compact .....928-932
Energy Right ...916-924,
.....928-932
High Color Rendering
.....916-924,
..... 928, 930-932
High Output
.....916-918, 920-924
Leak Detector .....3483
Longlife .....920,
..... 922-923, 928
Low Temperature
Jacketed
.....920, 922, 924
PL Compact
.....924, 928-932
Shatterproof ...925, 984
SL Compact
.....924, 928-932
U-Bent
.....918-919, 922-924

**Fluorescent Lighting,**
Desk .....1169-1170,
..... 1172-1173
Fixtures .....1056-1068,
..... 1072-1075,
..... 1096, 1101
Food Processing ...1064
Hazardous Location
.....1104, 1155
Hose Down .....1064
Industrial
.....1059-1060, 1064
Office .....1173
Outdoor .....1114
Portable/Task
.....1154-1157,
..... 1169-1170,
.....1172-1173
Vandal-Resistant
.....1098, 1100-1101
Vapor-Tight .....1064
Waterproof .....1064
Workshop .....1061

**Fluorescents,**
Paint .....2003-2004

**Flush**
Bolts .....2661
Valve Repair Kits
.....3116-3117
Valves .....3116

**Flux**
Chippers, Air .....2999
Coated Brazing Rods
.....1546
Coated Silver Brazing
Alloys .....1545
Core Welding Wire .1542
Dispensers .....1534

**Flux,**
Brazing .....1547
Soldering .....1547
Welding .....1547

**Flying Insect**
Spray .....1866

**Flywheels,**
Compressor .....2886

**Foam**
Adhesives
.....1792-1793, 1795
Cleaners .....1795
Cushioning .....2270
Dispensers .....1795
Guns .....1795, 1960
Rubber Knee Pads .1395
Sealants ....1794-1796

**Foam,**
Acoustical ...1795, 2394
Adhesive .....2394
Closed Cell .....1795
Convoluted .....2394
Insulation .....1795
Noise Absorbing
.....1795, 2394
Polyurethane .....1795
Spray .....1795
Spray-In-Place ....1795
Straw .....1795
Thermal .....1795
Urethane .....1795
Weatherization ....1795

**Fog**
Nozzles .....3034

**Foil,**
Stainless Steel ....1715

**Folding**
Chairs .....2101
Gates .....2305

**Food**
Hose .....3040
Service Burn Kits ..2548
Service Carts .....2141
Service Casters ...2141
Service Cleaners ..1870
Service Equipment
.....2115-2116
Service Gloves ....2462
Service Wipes ....1912

**Food Grade**
CRC Silicone .....2782
Grease .....2771, 2785
Hose Assemblies ..2834
Lubricants ...2784-2785
Machine Oil .....2782
Oil .....2769
Plastic Fittings ....3042
Tubing .....3041
Valves .....3042

**Foot**
Brackets .....2802
Candle Meters .....828
Controls, Lift Table .2221
Controls, Remote ..1575
Guards .....2492, 2947
Pedal Valves .....2947
Plates, Gearmotor ..222

# PRODUCT INDEX




Protection . . .2488-2492
Pump Scissor Tables . . . . . .2218
Rests . . . . . .2099, 2501
Supports, Jack . . . .2704
Switch Guards . .524-525
Switches . . . . . .524-525, . . . . . 907, 2221
Valves . . . . . .3256

**Forceps** . . . . . .2550

**Fork**
Lifts . . . . . .2214
Terminals . . . . . .616

**Fork Lift**
Booms . . . . . .2316
Cages . . . . . .2317
Extensions . . . . . .2317
Interactive CD-ROMS . . . . . .2571
Jacks . . . . . .2715
Mirrors . . . . . .2623
Pallet Pullers . . . . .2312
Platforms . . . . . .2317
Safety Facilitator Guides . . . . . .2571
Safety Handbooks .2571
Safety Training Videos . . . . . .2571
Stands . . . . . .2715

**Fork Truck**
Attachments . .2316-2317
Booms . . . . . .2316
Lifting Hooks . . . . . .2317

**Forks,**
Spading . . . . . .2677

**Fountain**
Control Panels . . . .3234
Flow Control . . . . . .3235
Flow Control Valves . . . . . .3144
Heads, Water Garden . . . . . .3144
Pumps . . . . . .3127, 3130, . . . . . 3142-3143, . . . . . 3145-3146, 3235
Starters . . . . . .3234

**Fountains,**
Eyewash . . . . . .2539
Remote . . . . . .3087
Water . . . . . .3087-3089

**Four Wheelers** . . . . . .2198-2199, 2210

**Fractional**
Gearmotors . . . . . .218

**Frame**
Clamps . . . . . .1382
Extenders, Hand Truck . . . . . .2205
Extensions, Hand Truck . . . . . .2208

**Frames,**
Air Conditioner . . . .3455
Air Filter . . . . . .3529
Bearing . . . . . .346
Fan . . . . . .3601
Hacksaw . . . . . .1354
Hard Hat Visor . . . .2378
Heater . . . . . .3385, 3410
Lighting . . . . . .2062
Mop . . . . . .1941
Overhead . . . . . .2094
Paint Collector . . . .3531
Paint Roller . . . . . .1983
Pallet Rack . .2006, 2079
Sanding . . . . . .1487
Venturi Fan . . . . . .3601
Wall Heater . . . . . .3386-3387, 3389

**Framing**
Clamps . . . . . .2062
Fasteners . . . . . .2062
Fittings . . . . . .2062
Hammers . . . . . .1358
Nailers . . . . . .3008
Nuts . . . . . .2062
Pipe Clamps . . . . . .2062
Saws . . . . . .1460
Screws . . . . . .2062

**Framing,**
Metal Channel . . . .2062
Unistrut . . . . . .2062

**Freezer**
Casters . . . . . .2156
Door Strips . . . . . .2305
Strip Doors . . . . . .2305
Thermometers . . . . . .879, 886

**Frequency**
Counters . . . . . .809
Digital Meters . . . . . .739
Meters . . . .758, 765, 767-768, . . . . . 772-775, 809
Panel Meters . . . . . .739
Probes . . . . . .809

**Fresheners,**
Air . . . . . .1851-1852

**Friction Lighters,**
Welding . . . . . .1565

**Frogeyes** . . . .1138, 1141, . . . . . .1150-1151

**Fuel**
Filters, Pump . . . . .3201
Hose . . . . . .3030
Transfer Pumps . . . . .3194, 3199, 3202
Treatment . . . . . .2767

**Fuel,**
Butane . . . . . .1531

**Fume**
Exhauster Hose . . .3527
Exhausters . . . . . .3527
Extraction Systems, Soldering . . . . . .1535
Extractor Irons . . . .1535
Hood Monitors . . . . .850

**Function Generators** .810

**Funnel**
Cans . . . . . .2340
Drain Pans . . . . . .2752
Systems . . . . . .2748

**Funnels,**
Can . . . . . .2339
Drum . . . . . .2327
Flex Spout . . . . . .2750
Liquid . . . . . .2327
Offset . . . . . .2750
On/Off Spout . . . . .2748
Plastic .1961, 2339, 2750
Steel . . . . . .2750
Tin . . . . . .2750
Utility . . . . . .2750

**Furnace**
Air Cleaners . .3513-3514
Blower Motors . . .52, 55, . . . . 61, 66-76, 96-102
Blowers . . . . .3415-3416, . . . . . 3640-3644
Casters . . . . . .2129
Cement . . . . . .3443
Coils . . . . . .3444
Controls, Integrated . . . . . .3343
Draft Gauges . . . . . .848
Evaporator Coils . . .3444
Fan Kits . . . . . .3420
Filter Racks . . . . . .3428
Filters . . . . . .3512-3514, . . . . 3519, 3522, 3528, . . . . . .3530, 3532
Floor Bases . . . . . .3428
Free Standing Kits .3420
Heater Kits . . . . . .3450
Humidifiers . . .3507-3508
Outlets . . . . . .3421
Pilot Ignition Systems . . . . . .3344, 3348-3349
Pressure Switch Kits . . . . . .3428
Registers . . . . . .3420
Testers . . . . .842-844, 847-848
Thermometers . . . . .848
Thermostats . . . . . .3420
Trim Kits . . . . . .3421
Vent Dampers . . . .3350
Vent Enclosures . . .3421
Vents . . . . . .3430-3432

**Furnaces,**
Electric . . . . . .3420
Floor . . . . . .3422
Gas . . . . . .3420, 3422, . . . . . 3428-3429
Induced Draft .3428-3429
Medium Efficiency . . . . . .3428-3429
Oil . . . . . .3429
Vented . . . . . .3422
Wall . . .3416, 3420-3421

**Furniture**
Casters . . . . . .2127, 2129-2130
Felt Protectors . . . .2170
Floor Protection Cups . . . . . .2170
Glides . . . . . .2171
Leg Caps . . . . . .2171
Leg Tips . . . .2170-2171
Polish . . . . . .1863
Vises . . . . . .1374

**Furniture,**
Computer . . . . . .2097
Industrial . . . . . .2094
Lockers . . . . .2074-2075
Shop . . . . . .2080

**Fuse**
Blockout Lockouts . .2565
Covers . . . . . .434
Din Mount Kits . . . . .424
Holders . . . . .417-418, 424, 461
Holders, Motor . . . . .203
Links . . . . . .432-433
Lockouts . . . . . .2565

Pullers .....405, 418
Reducers .....432-433

**Fuse Blocks,**
Class H Fuses .....434
Class J Fuses .....427
Class K Fuses .....434
Class T Fuses .....436
Glass Body .....415
Glass/Ceramic .....414
Midget Fuses .....424
Modular .....427
Segmented .....434

**Fused**
Disconnects .....425
Holders .....425
Switches .....425

**Fuses,**
Battery .....440
Buss .....431, 435
Canadian Style .....435
Ceramic .....416
Class CC .....421-423
Class G .....435
Class H .....432-433
Class J .....426-427
Class K-5 .....431, 435
Class RK1 .....428
Class RK5 .....429-430
Class T .....436-437
Controller . .422, 429-430
Current Limiting .....437
Edison Base .....419
Electronic .....415-416
Fast-Acting .....415-416, 420, 422-423, 427, 438-440
Fluorescent Lighting .435
Fusetron .....429-430
Glass .....414-417
Limitron .....427
Low-Peak .....426, 428
Midget .....420-423
Motor .....414, 421, 423, 429-430
Motor Starter . . .426, 428
Multimeter .....779
One-Time .....431, 435
Panelboard .....427, 437
Plug .....419
Rejection .....421-422, 426-428
Renewable .....432-433
Replacement .....418
Semiconductor . .438-439
Slow Blow .421, 428-429
Specialty .....440
Stud Mount .....440
Surge Protector .....418
Switchboard . . .427, 437
Test Instrument .....779
Time Delay . . .414, 417, .....421-423, 426, 428-430
Transformer .....414, 421-422

**Fyrite**
Aspirator Valves . . . .848
Combustion Testers .....843-844
$CO_2$ Fluid .....844
Hose Assemblies . . .848
$O_2$ Fluid .....844
Repair Kits .....844


## G


**Gage**
Block Sets .....1826

**Gages,**
Center .....1824
Dial Thickness .....1813
Drill .....1825
Fluid Level .....2764
Fluid Temperature .2764
Height .....1805-1806
Nail .....1387
Oil Level .....2764
Pitch .....1824
Precision .....1824
Radius .....1823
Router Depth .....1387
Saw Depth .....1387
Tap And Drill .....1825
Telescoping .....1806
Thread .....1824
Wire .....1825

**Galoshes** .....2490

**Galvanizing**
Rods .....1537
Solder .....1537

**Gang**
Boxes .....699
Switches .....728, 732

**Gantry Cranes** .....2233

**Garage**
Door Control Systems .....2303
Door Openers .....2303
Heater Vents .....3414
Heaters .....3414
Jacks .....2714

**Garbage**
Bags .....1930-1933
Can Dollies . .1919-1921
Can Tops .....1923
Cans .....1919-1928
Disposers . . .3102-3104

**Garden**
Hoes .....2676
Rakes .....2676
Shovels .....2676
Sprayers .....2702
Tractor Attachments .....2670
Valves .....3068

**Garments,**
Aluminized .....2485

**Gas**
Adapter Kits .....3345
Air Compressors . . .2867
Ball Valves .....3084
Blowers .....2515
Boilers .....3425
Burner Controls .....3343-3346, 3348-3349
Burner Ignitors .....3344, 3347-3348
Burners .....3346
Calibration Kits .....841
Check Valves .....1566
Combustion Testers .....841-844, 847
Compressors .....2867
Connectors .....3084
Cups .....1584-1585
Detection Systems .....2530-2531
Engine Conversion Kits .....2689
Engine Pumps .....3148
Engines .....2731-2732
Exhaust Analyzers . .839
Fireplace Logs .....3422
Furnace Conversion Kits .....3428
Furnace Drain Pans .....3444
Furnaces . . .3420, 3422, .....3428-3429
Heaters .....3378-3379, 3400-3404, 3411-3414, .....3417-3420
Hose, Tig Torch . . .1584
Leak Detectors .....3479, 3482
Lenses .....1584-1585
MAPP Canisters . . .1550
Mask Canisters .....2413
Mask Respirators . .2413
Monitors .....2518
Outfits, Hose .....1553
Oxygen Canisters . .1550
Pilot Safety Valves .3345
Pressure Regulators .....3340
Pressure Testers . . .843
Propane Canisters .1550
Recorders .....800
Regulators .....1563
Tags .....2610
Valve Bushing Kits .3345
Valves .....3068, 3341, 3344-3345, .....3347, 3349, 3360
Vents .....3430-3432
Water Heaters .....3075, 3079-3081
Welding Outfits .....1553

**Gas Detector**
Alarms .....2521
Aspirator Bulbs .....2521
Battery Charger Brackets .....2524
Battery Chargers . .2524
Battery Packs .....2521, 2524
Bio-Check Badges .2534
Calibration Gases . .2529
Calibration Kits .....2518, 2521, 2526, 2529, 2531
Caps .....2534
Cases .....2521
Computer Link Kits .2528
Earphones .....2518
Filters .....2521
Hose .....2521
Hose Extensions . . .2532
Kits .....2517, 2525, 2528, 2530
Probes .....2521, 2533
Pumps .....2532
Regulators .....2529

# PRODUCT INDEX




Sample Draw Adapters .....2518
Sample Draw Pumps .....2524
Sensors ....2521, 2524, .....2528-2529, 2531
Test Kits .....2534
Test Set Adapters ..2532
Test Units .....2526
Tube Openers ....2533
Tubes .....2533-2534

**Gas Detectors,**
CL2 .....2528
CO .....2527-2528
Combustible Gas .....849, 2517
Confined Space .....2516, 2518, .....2520, 2523
H2S .....2527-2528
LEL .....2519, 2530
NH3 .....2528
NO .....2528
NO2 .....2528
O2 ....2527-2528, 2530
SO2 .....2527-2528
O2 .....2527

**Gas,**
Bump .....2526
Calibration .....2526
CO Calibration .....841

**Gasket**
Adhesives .....1793
Punches .....1366
Removers ...1784, 2788
Sealants ....1783-1785
Sealers .....1785

**Gasketing,**
Air Filter .....3539

**Gaskets,**
Conduit .....662
Disposer .....3102
Indicating Beacon ...523
Liquidtight .....668
Paint Tank .....1969
Sealing .....668
Tig Torch .....1584

**Gasoline**
Cans .....2664
Engine Chain Saws .....2683-2684
Engine Earth Augers .....2668
Engine Post Hole Diggers .....2668
Generators .....2734
Hose .....3030
Pumps .....2846, 3194, .....3199, 3201-3203
Treatment .....2767
Welder/Generators .1581

**Gate**
Bolts .....2655
Hinges .....2655
Springs .....2655
Valve Lockouts ....2566
Valves .....2567, .....2902, 3060-3061, .....3066, 3068

**Gates,**
Folding .....2305
Retractable Steel ..2305
Security ....2251, 2305

**Gatorade** .....2542
Dispensers .....2542

**Gauge**
Adapters .....2847
Blocks .....1826
Fluid .....862
Panel Mounting Kits .868
Shears .....1481

**Gauges,**
Agricultural .....870
Air Conditioner ....3487
Air Velocity ....851, 853, 860, 862
Ammonia .....870-871
Analog Signal .....800
Analog Vacuum ...3486
Boiler .....872
Butt .....1387
Center .....1824
Compound ....866, 868, 871, 873
Conductivity .....831
Contour .....1387
Contractor's .....870
Copy-Cat .....1387
Depth .1800, 1805, 1822
Dial Thickness ....1813
Diaphragm Type ....869
Differential Pressure .....857-861
Draft .....848
Drill .....1825
Drill Point .....1825
Drum Level .....2327
Edge Finders .....1818
Feeler .....1312
Fillet .....1823
Filter .....871
Fluid Level .....2807
Force .....786
General Equipment ..866
Glycerin Filled .....2847
Height .....1805-1806
Humidity .797, 800, 3510
Hydraulic .....2847
Industrial .....869, 871
Iron .....1825
Letter Size Drill ....1825
Liquid Filled ...868, 871, .....874, 2847
Low Pressure ..869, 873
Magnehelic ....860-861
Manifold .....3487
Manometers ...857-859
Panel Mounted .....867
PH .....830
Photohelic .....861
Pitot Tubes .....862
Pressure ..798, 866-871, .....873-876, 2929
Process .....873-875
Protractors .....1822
Push-Pull .....2302
Radius .....1823
Receiver .....870
Refrigeration .....872, .....3486-3487
Regulator .....872
Rule .....1805
Sanitary .....875
Saw Alignment ....1693
Saw Tension .....1693
Screw Pitch .....1824
Sprinkler .....872
Stainless Steel .....869-871, 875
Stair .....1384
Steel .....1825
Surface .....1818
Tap And Drill .....1825
Taper .....1824
Telescoping .....1806
Temperature ...796-797, .....800, 884-886
Test .....876
Thickness .....786, 1312, 1823
Tire .....3028
Vacuum ..866-869, 871, ..873, 876, 2858, 3486
Voltage .....800
Water Tank .....3253
Welding .....872
Wire .....1825
Wood Moisture ....786

**Gauntlets,**
Abrasive Blast Cabinet .....1529

**Gear**
Couplers .....360
Oil .....2766
Oil Pumps .....2743-2744, 2801
Puller Step Plate Adapters .....1405
Pullers .....1402-1405
Pumps .....2801, .....3167-3173, 3200
Pumps, Hydraulic .....2798-2800
Racks .....323

**Gearbelt**
Pulleys .....321

**Gearbelts,**
Synchronous .....319, 321-322

**Geardrives,**
Spiral Bevel .....290
Straight Bevel .....289

**Gearmotor**
Brackets .....222, 234
Brakes .....263-264
Foot Plates .....222

**Gearmotor/DC**
Controls .....214

**Gearmotors,**
AC ...227-228, 232-250
AC/DC .....225
Air Powered .....2961
Brake .....220, 229-232
DC .....215-225
Fractional .....218, 222, .....227-228, 238, 242
High Torque ...222, 238
Parallel Shaft ..215-223, .....227-230, .....232-246, 249
Permanent Magnet .....215-225

PSC .....228-230, ..... 232-246, 249
Right Angle ....223-225, ..... 247-251
Shaded Pole ...227-229
Synchronous .....226
Three Phase .....245-246, 251
Universal .....225

**Gears,**
Miter .....323
Spiral Bevel .....326
Spur .....324
Steel .....326

**Generator**
Cord Sets .....589
Lubricants .....2767
PTO Shafts .....2739
Trailers .....2739
Transfer Switches ..2738
Wheels .....2735-2736

**Generators,**
Agri-Duty .....2739
Automatic Standby .2737
Belt Driven .....2740
Brushless .....2734
Commercial Duty ..2737
Contractor Duty .....2735-2736
Diesel Powered ...2735
Electric .....2734-2736
Emergency Power .....2734-2737, 2739
Emergency Starting .....2740
Engine Driven .....2740
Engine Starter ....2740
Function .....810
Gasoline ....2734-2736
Heavy Duty .....2734
Home ..2734-2735, 2737
Load Signal .....802
Natural/LP Gas ....2737
Portable .....2734-2736
Power Plant .2735, 2737
Pressure Washer ..2740
Prime Power .....2737
Professional Duty .....2735-2736
PTO .....2739
Pulse .....194
Residential .....2737
Service .....2740
Sport .....2735
Stationary .....2737
Tachometer .....195
Tow Truck .....2740
Tractor Driven .....2739
Truck Starting .....2740
Two Bearing .....2740
Vehicle Starting ...2740

**Germicidal**
Cleaners ...1849, 1854, .....1861, 1869
Detergent .....2443
Lamps ....916, 918, 921

**GFCI**
Line Cords .....694
Outlets .....729
Testers .....790, 803

**Glands,**
Mounting .....862

**Glass**
Adhesives .....1793
Beads .....1526
Cleaners .....1863, 1869-1870
Cutters .....1353
Cuvets .....832
Door Brackets .....2641
Drill Bits .....1661
Fuses .....414-417
In-Plant Office .....2079
Mirrors .....2622-2623
Safety Cords .....2375
Washer Motors .....171

**Glasses,**
Safety .....2362-2372
Sight .....2763-2765

**Glazing**
Compound .....1796

**Glide**
Sockets .....2170

**Glides,**
Floor Protector ....2171
Leveling .....2171

**Globe**
Valves .....3061

**Glove**
Bags .....2467
Covers .....2470, 2485
Dispensers .....2374
Liners ..2467, 2498-2499
Protectors .....2467

**Gloves,**
Abrasion-Resistant .....2461, 2468
Abrasive Blast Cabinet .....1529
Acid .....2464
Anti-Vibration .2497-2499
Bead Blaster .....1529
Blast Cabinet .....1529
Canvas .....2445
Chemical Protection .....2454, 2457, ..... 2459-2461, .....2464, 2466
Chemical Resistant .....2457, 2461, ..... 2463, 2466
Chore .....2445
Clean Room .2450, 2464
Cold Weather .....2446, 2448
Controlled Environment .....2464
Cotton .2450, 2465, 2469
Cut-Resistant .....2446, ..... 2451-2454, 2456, ..... 2461, 2468-2469
Disposable ...2462-2463
Dotted Canvas ....2445
Dotted Cotton .....2450
Double Palm .....2445
Drivers .....2446, 2448, 2454
Dry Blast Cabinet ..1529
Dry Box .....2456
Firefighting .....2471
Fleece Lined .....2457
Food Service .....2462
General Maintenance .....2450, ..... 2454-2456, 2458
General Purpose .....2453-2455
Gripper .....2450
Heat Mitt .....2470
Heat Protective .....2468-2470, 2485
Heat Resistant .....2451, 2468-2471
Heavy Duty ..2446-2448, .....2451-2458, 2468
High Voltage .....2467
Hot-Mill .....2468-2469
Impact .....2498-2499
Impact Absorbing .....2497-2499
Industrial ....2445-2448, .....2450-2451, ..... 2453-2460, 2468
Inspector's ..2450, 2465
Insulated .....2446, 2457, 2466
Jersey .....2445
Kevlar .2451, 2468-2469
Latex .....2451, ..... 2454, 2460-2462, ..... 2464, 2551
Leather .....2451
Leather Palm .2446-2447
Light Duty .....2445, 2449-2450, ..... 2454-2455, 2458
Lineman's .....2467
Liner .....2450
Lint-Free ....2450, 2465
Liquid Proof .....2454, 2457, 2461
Machine Knit .....2450
Medical .....2551
Medium Duty .2452-2453
Neoprene .....2466
Nitrile .....2453-2455, ..... 2461-2464, 2468
Nylon .....2450, 2465
Oil Grip .....2451
Palm Coated .....2454
Polyethylene .....2462
Powder Free .....2462
Puncture-Resistant .....2446, 2451, 2454, ..... 2456, 2461, 2463
PVC ..2454, 2457-2458
PVC Coated .....2450-2451, 2458
Reversible .....2468
Rubber .....2456, ..... 2459-2460, ..... 2464, 2467
Seamless .....2463
Seamless Knit ....2450
Slash-Resistant .....2451, 2453
Solvent .....2464
Static Dissipative ..2464
Steel Knit .....2453
Steel Reinforced .....2448, 2452
String Knit .....2450, 2454, 2468
Terry Cloth ..2468-2471
Thermal Protection .2468
Vinyl ..2458, 2463, 2465
Welding .....2471
Wet Grip .....2451

Work .....2445-2460, 2468-2471

**Glue**
Guns .....1382, 1790
Pumps .....3193, 3195

**Glue,**
Adhesive .....1787
Aerosol .....1792-1793
Carpenter's .....1796
Contact .....1793, 3433
Craft .....1796
Gasket .....1793
Hobby .....1796
Hot Melt .....1791
Instant Adhesives .1789
Non-Flammable ...1796
PVA .....1796
Sticks .....1382, 1791
Super Glue .....1789
White .....1796
Woodworking .....1796
Yellow .....1796

**Goggle**
Retainers, Hard Hat .....2382

**Goggles,**
Chemical ....2372-2373
Safety .....2372-2373
UV-Absorbing .....3483
Welding .....1585

**Golf Cart**
Motors .....191

**Gouging**
Electrodes .....1541
Rods .....1541

**Grab**
Bars .....3115
Hooks, Clevis .....2249

**Grabbers,**
Arm Extension ....1954
Barrel ..2319-2320, 2323

**Grabs,**
Rope .....2510

**Graffiti Removers**
.....1861, 1865

**Granite**
Surface Plates ....1829

**Graphite**
Aerosols ....2784-2785
Paint .....2784-2785

**Grass**
Catchers, Lawn Mower .....2664
Shears .....2681
Trimmers .....2666

**Grease**
Bearing Packers ...2751
Cups .....2762
Dispensers ..2743, 2762
Feeders .....2762
Filters .....3540
Fittings .....2746
Pumps .....2745
Reels .....3016
Removers ...1861, 2790
Traps .....3616

**Grease Gun**
Adapters .....2746
Brackets .....2742
Couplers .....2741
Filler Pumps .....2743
Fittings .....2741, 2746, 2749
Hose .....2741
Needle Adapters .....2741, 2746
Needle Injectors ...2741

**Grease Guns,**
Action Lever .....2741
Air Powered .....2743
Dual Pressure .....2742
High Pressure .....2742
Lever Action ..2741-2742
Mini .....2742
Pistol .....2741
Suction .....2741
Vehicle Service ....2749

**Grease Pump**
Bearing Packers ...2751
Couplers .....2746
Dollies .....2745
Hose .....2746
Swivels .....2746

**Grease Pumps**
.....2743-2745, 3195

**Grease,**
Aerosols .....2785
Anti-Seize .....2784
Automotive ..2742, 2771
Bearing .359, 2770-2771
Cartridge .....2742
Central Lubrication .2757
Conductive .....2785
Dielectric ....1780, 2785
Extreme Pressure ..2771
Extreme Temperature .....2771
Fluorinated .....2771
Food Grade .2771, 2785
Grade-Z .....2785
Gun Cartridge .359, 2771
High Load Bearing .2771
High Temperature ..2771
High Temperature Silicone ....1780, 2785
High Vacuum .....2771
Inert .....2771
Krytox .....2771
Lithium .....359, 2771
Low Temperature ..2785
Low Vapor Pressure .....2771
Mobil .....359, 2771
Molybdenum Disulfide .....2771, 2784
Multi-Purpose .....359, 2770, 2771
Non-Ozone Depleting .....2785
Sealant .....2771
Silicone .....2785
Synthetic .....2771
USDA Approved ...2785
USDA H1 .....2771
White Lithium .....2785

**Grid**
Strainers .....3113

**Grids,**
Shaft Coupler .....361

**Grill**
Cleaners .....1862
Thermometers .....879

**Grilles,**
Air Conditioner .....3454-3456
Fan .....3557, 3629
Plastic .....3639
PTAC .....3453
PTHP .....3453
Return Air .....3437

**Grinder**
Guards .....1493
Pumps .....3223
Safety Shields ....1506

**Grinder/Sanders** ...1494

**Grinders,**
Air ....2984, 2987-2989, .....2991-2995
Angle .....1492-1493, .....2991-2994
Bandfile .....1488
Bench .....1505-1506
Die .....2991-2994
Electric .....1492-1493
Extended ....2991-2995
Hand .....1489-1491
Heavy-Duty .1492, 2988, .....2993, 2995
Pencil .....2989
Side ...1489, 1492-1494
Small .....2991-2994
Vertical .....2993, 2995

**Grinding**
Compound .....1627
Discs .....1604
Drill Attachments ..1670
Fluids ..2773-2775, 2778
Respirators .....2433

**Grinding Wheel**
Adapters .....1612
Dressers .....1506
Truing Devices ....1593

**Grinding Wheels,**
Bench .....1596
Brake Control .1589-1591
CBN .....1594
Cones And Plugs ..1603
Cut-Off .....1606-1607
Diamond .....1594
Dish .....1589-1591
Flap .....1612
Flaring Cup ..1589-1591
Internal .....1589-1591
Mounted Points .....1597-1598
Notcher .....1602
Pedestal .....1596
Plate Mounted .....1589-1591
Powerwheels .....1601
Raised Hub ..1602-1603
Resin Mounted Points .....1596
Ring .....1589-1591
Rough .....1603
Shop Roll .....1625
Surface .....1589-1591
Toolroom ....1589-1592

**Grip**
Bars . . . . . .1917
Tape . . . . . .2620

**Grips,**
Arm Extension . . . .1954
Bus Drop . . . . . .674
Cable . . . . . .671, 673
Cable Support . .673-674
Conduit . . . . . .672-673
Cord . . . . . .671
Dust Tight . . . . .671-672
Flexible Metal . . . . . .672
Flexible Nonmetallic .673
Hubbell Power Connector . . . . . .672
Liquidtight . . . . .671-673
Pulling . . . . . .673-674
Strain Relief . . . .671-674
Wire Mesh . . . . .671-674
Wire Pulling . . . . . .1332

**Grit**
Boots . . . . . .2491
Paint . . . . . .2620

**Grommet**
Kits . . . . . .1366
Refills . . . . . .1366

**Groovers,**
Concrete . . . . . .1398

**Ground**
Kits, ESD . . . . . .2093
Kits, Load Center . . . . . .372, 396
Kits, Panelboard . . . .378
Lift Tables . . . . . .2221
Lugs . . . . . .824
Rod Drivers . . . . . .1448
Terminals . . . . . .824
Wires, Drum . . . . . .2328

**Ground Fault**
Detectors . . . . . .753
Interrupters . . . . . .689, 694, 729
Interrupting Plugs . . .694
Receptacles . . . . . .689
Testers . . . . . .694, 790

**Grounding**
Bushings . . . . . .659
Fittings . . . . . .668
Systems . . . . . .824
Wire Connectors . . . .623

**Grout**
Cleaners . . . . . .1847

**Guard**
Post Sleeves . . . . .2315
Rail Posts . . . . . .2315
Rails . . . . . .2315

**Guards,**
Air Circulator .3570, 3574
Airless Sprayer Tip .1978
Arm . . . . . .2456
Cable . . . . . .3258
Ceiling Fan . . . . . .3584
Corner . . . . . .2315
Cup Wheel . . . . . .1493
Door . . . . . .2659, 2663
Door Lock . . . . . .2663
Drill Press . . . . . .1504
Emergency Lighting Fixture . . . . . .1153
Equipment . . . . . .2315
Fan . .3570, 3574, 3589, . . . . . .3597, 3629
Finger . . . . . .2472
Foot . . . . . .2492, 2947
Foot Switch . . . .524-525
Grinder . . . . . .1493
Hand . . . . . .2472
HID Fixture . . . . . .1086
Instep . . . . . .2492
Knee . . . . . .2492
Level . . . . . .1385
Machinery . . . . . .2315
Metatarsal . . . . . .2492
OSHA . . . . . .3574
Rack . . . . . .2315
Sander/Grinder . . . .1494
Saw Blade . . . . . .1514
Shin . . . . . .2492
Thermostat . .3298, 3323
Toe . . . . . .2492

**Guides,**
Bio-Hazard . . . . . .2590
Cutting . . . . . .1383
Drill . . . . . .1425
First Aid . . . . . .2551
Floor . . . . . .2658
Hacksaw Blade . . . .1457
Router . . . . . .1383
Saw . . . . . .1383

**Gum**
Removers . . . . .1840, 1844, 2790

**Gum,**
Sealing . . . . . .3481

**Gun**
Brackets, Abrasive Blast Cabinet . . . . . .1528
Cup Liners . . . . . .1963
Cups, Paint Spray . . . . . .1963, 1966
Foam Cleaners . . . .1795
Plug Taps . . . . . .1674
Taps . . . . . .1673

**Guns,**
Abrasive Blast Cabinet . . . . . .1529
Adhesive . . . . . .1795
Air Caulk . . . . . .3015
Air Rivet . . . . . .3015
Airless Spray . . . . .1975
Bead Blaster . . . . . .1529
Blow . . . . . .3025-3028
Caulk . . . . . .1409, 1795
Drain . . . . . .1338
Dry Blast Cabinet . .1529
Drywall Pattern . . . .1396
Drywall Taping . . . .1396
Epoxy . . . . . .1786
Foam . . . . . .1795, 1960
Glue . . . . . .1382, 1790
Gravity Feed .1963-1964
Grease . . . . . .2741-2743, 2749
Heat . . . . . .1530-1532
Mig . . . . . .1573, 1575
Paint Spray . . . . . .1963-1965, 1974
Paint Spray HV/LP . . . . . .1964, 1966, . . . . . 1968, 1974
Pest Control . . . . . .3189
Pressure Feed . . . . . .1963-1964
Rivet . . . . . .3000
Sandblast . . .1526-1527
Soldering . . .1335, 1534
Spool . . . . . .1573, 1575
Spray . . . . . .1964, 1978, . . . . . 3184, 3189
Staple . . . . . .1393
Suction Feed .1963-1964

**Gurney**
Casters . . . . . .2156

**Gutter**
Heating Cable . . . . .3375

## H

**H-Stands,**
Conveyor . . . . . .2264

**Hacksaw**
Blade Guides . . . . .1457
Blades . . . . .1354, 1457
Frames . . . . . .1354
Pipe Clamps . . . . . .1457

**Hacksaws** . . .1354-1355, . . . . . .1457, 2681

**Hairnets,**
Sanitary . . . . . .2476

**Hairpin Cotters** . . . .1764

**Halogen**
Desk Lighting . . . . . .1167-1169, 1172
Lamps . . . . . .1165
Leak Detectors . . . . . .3484-3485
Low Voltage Lamps . . . . .954, 957, 960-961
Magnifier Lights . . .1172
PAR Lamps . . .957, 959, . . . . . .961, 964, . . . . . 966-967, 969
Portable/Task Lighting . . . . . .1159-1161, . . . . . 1167-1168, 1172

**Hammer**
Bits, Demolition . . . .1448
Bits, Rotary . . . . . .1446
Dollies . . . . . .1445
Drill Bits . . . . . .1447
Drill Chucks . . . . . .1446, 1705-1706
Drills . . . . . .1408, . . . . . 1440-1441, 1443
Drive Pins . . . . . .1726
Drive Tools . . . . . .1726
Handles . . . . .1357, 1360, 2680
Holders . . . . . .1394
Tackers . . . . . .1393
Tips . . . . . .1357, 1359

**Hammers,**
Air . . . . . .3000-3001
Ball Pein . . . . . .1357-1358, 1399
Brass . . . . . .1360
Breaker . . . . . .1445
Brick . . . . . .1357

# PRODUCT INDEX




Chipper .....1445
Chipping ....1357, 3001
Claw ..1357-1358, 1399
Cross Pein .....1360
Dead Blow ...1358-1360
Demolition .....1445
Double Face .1361, 1399
Electric .1408, 1443-1445
Electrician's .....1357
Engineer's ...1361, 1399
Framing .....1358
Hand Drilling .1360-1361
Jack .....3002
Power .....1438
Rip .....1357-1358
Riveting ....1357, 3000
Rotary .1408, 1442-1444
Rubber .....1360
Scaling .....1357
Sheet Metal .....1347
Sledge .1360, 1399, 2680
Soft Face ....1357-1360
Tinner's .....1357
Welder's .....1357

**Hand**
Benders .....1327
Boxes, Plastic .....1206
Boxes, Steel .....1203
Brake Winches ....2256
Chain Hoists .....2231
Cleaner Dispensers .....1858-1859
Cleaners, Industrial .1858
Cleaners, Powdered .....1855
Cleaners, Waterless .....1859, 1861
Controls .....1575
Cream .....1861
Drain Cleaners ....1338
Dryers .....1914
Files .....1370
Guards .....2472
Impact Drivers ....1239
Jacks .....2710-2711
Knobs .....1775
Lamps, Fluorescent .....1154-1157
Lamps, Incandescent .....1154-1155
Lamps, Reel .....1154, 1156-1157
Lever Valves .....2947
Lotion .....1856
Lotion Dispensers ..1857
Notchers .....1347
Pad Holders, Abrasive .....1608
Pads, Bear-Tex Abrasive .....1608
Presses .....1511
Pumps .....1961, 2842, 3199, . 3201-3205, 3260-3261
Rail Brackets ....2662
Rails .....3115
Ratchet Winches ..2256
Reamers .....1346
Sanitizer Dispensers .....1856
Sanitizers .....1856, 1860-1861
Saws .....1355
Screws .....1381
Soap .....1855-1861
Soap Dispensers ..1856
Stamp Sets .....2609
Taps .....1672-1673
Towels .....1903-1906, ..... 1909, 1912
Trimmers .....1349
Wheels, Angled-Spoke .....1775
Winches .....2256
Wrap .....2296-2297

**Hand Grinder**
Cut-Off Wheels ....1491
Cutters .....1491
Flex Shafts .....1491
Grinding Points ....1491
Grinding Stones ...1491
Wire Brushes .....1491

**Hand Grinders**
.....1489-1491

**Hand Truck**
Curb Climbers ....2205
Folding Chair Moving Kits .....2203
Frame Extenders ..2205
Frame Extensions ..2208
High Stack Frame Kits .....2203
Load Remover Kits .2203
Log Carrier Kits ...2203
Nose Extensions ...2204
Noseplate Extensions .....2203, 2208
Noseplates .....2205
Stair Climbers .....2205
Stair Glides .....2208
Toe Plate Expander Kits .....2203

**Hand Trucks,**
Aluminum ...2204-2205
Appliance ...2205, 2207
Bag .....2206
Bellman .....2201
Convertible .....2205, 2207, 2209
Drum ..2206, 2321, 2324
Easy-Tilting .....2208
Ergonomic .....2208
Foldable .....2210
Garment .....2201
General Purpose ..2202, .....2204-2206, 2209
Giraffe .....2206
Hydraulic Lift .....2215
Industrial .....2206
Keg/Case .....2204
Luggage ....2201, 2210
Magnesium .....2208
Pallet .....2212-2213
Platform .....2198-2199, 2210
Sack .....2206
Vending Machine ..2209
Welding .....2211
Wire .....1330

**Hand-Held Lighting,**
Fluorescent ..1154-1157
Hazardous .....1155
Incandescent .....1154-1157, 1188
Spotlights .....1188

**Handbooks,**
Back Safety .....2570
Bloodborne Pathogens .....2570
Confined Space Entry .....2570
Cumulative Trauma Disorders .....2570
Ergonomics .....2570
Excavation Training .....2571
Fall Protection ....2571
Fork Lift Safety ....2571
Hazard Communication .....2571
HIV .....2570
Lockout Training ...2561
Lockout/Tagout ....2570
Permits .....2570
Personal Protective Equipment Training .....2571
Right-To-Know ....2571
Safety Orientation ..2571
Shoring Training ...2571
Trenches Training ..2571

**Handicap**
Ramps .....2314
Signs .....2587

**Handle**
Ties, Circuit Breaker .....366, 372

**Handlers,**
Air .....3444, 3449

**Handles,**
Axe .....2680
Broom .....1947
Brush .1947, 1950, 1955
Bull Float .....1398
Cable Connector ....608
Chest .....2657
Clamp .....1378
Conduit Bender ....1327
Disconnect Switch ..387
Door .....2657
Dust Mop .....1941
Exit Device .....2637
Fiberglass .....1947
File .....1373
Flex .....1230
Fluid Control .....2749
Fountain Tube ....1950
Hammer ....1357, 1360
Hatchet .....1357
Maul .....2680
Metered Control ...2749
Mop .....1941, 1943
Motor Switch .....460
Operating Mechanism .....387
Pick .....2680
Pick/Mattock .....2680
Plier .....1307
Pull .....2663
Revolving .....1775
Rotary .....399
Scoop .....2676
Screw-On File .....1373
Shovel .....2676
Sledge Hammer .....1360, 2680

Socket . . . . .1230-1231, . . . . . 1234, 1236, 1278
Soldering . . . . . .1533
Solid . . . . . .1775
Speed Ball . . . . . .1776
Squeegee . . .1947, 1956
T- . . . . . .1776
Tapered . . . . . .1776
Tapered Tip . . . . . .1947
Tee . . . . . .1236
Telescoping . .1954-1955
Threaded Tip . . . . .1947
Tig Torch . . . . . .1584
Toilet . . . . . .3117
Torch . . . . . .1553, 1557
Wet Mop . . . . . .1943
Window . . . . . .2663
Wood . . . . . .1947

**Handrail**
Brackets . . . . . .2659

**Handy Rolls,**
Abrasive . . . . . .1625

**Hanger**
And Bracket Kits . . .2658

**Hangers,**
Bar . . . . . .680
Conduit . . . . . .651
Door . . . . . .2658
EDP Paper . . . . . .2106
Lighting Fixture . . . .1065
Pipe . . . . . .651, 3046, . . . . . 3057-3058
Pipe Downspout . . .3375
Saddle Vent . . . . . .2515
Sliding Door . . . . . .2658
Storage . . . . . .2656
Track Door . . . . . .2658

**Hard Hat**
Brackets . . . . . .2379
Chin Straps . .2381, 2384
Ear Muffs . . . .2391-2392
Emblems . . . . . .2606
Goggle Retainers . .2382
Labels . . . . . .2606
Light Holders . . . . .2382
Light Straps . . . . . .2382
Lights . . . . . .2382
Plugs . . . . . .2383
Racks . . . . . .2380
Suspensions . . . . .2380, 2382, 2384
Sweatbands . . . . . .2383
Visor Frames . . . . .2378
Visors . . . . . .2378
Winter Liners . . . . .2385

**Hard Hats** . . . .2381-2384

**Hard Start Kits** . . . .3506

**Hardware, Door**
(See Door Hardware)

**Harmonic**
Analyzers . . . . . .812
Current Probes . . . . .820
Meters . . . . . .812

**Harness**
Lanyard Clips . . . . .2506
Shoulder Pads . . . .2506

**Harnesses,**
Back Pad . . . . . .2506
Body . . . . . .2504-2507
Fall Protection . . . . . .2504-2505, 2507
Raceway . . . . . .2937
Retrieval . . . .2504-2505
Saddle Seat . . . . . .2506
Stretchable . . . . . .2505
Wiring . . . . . .3342

**Hasps,**
Lockout . . . . . .2562
Padlock . . . . . .2628
Safety . . . . . .2660
Security . . . .2628, 2660
Staple . . . . . .2660

**Hassock**
Fans . . . . . .3544

**Hatcher**
Fan Motors . . . . . .149

**Hatchery/Setter**
Motors . . . . . .149

**Hatchet**
Handles . . . . . .1357

**Hatchets,**
Rig Builders . . . . . .1357

**Hats,**
Hard . . . . . .2381-2384
Welding . . . . . .2484

**Hazardous**
Area Plugs . . . . . .705
Area Receptacles . . .705
Communication Binders . . . . . .2590
Communication Jobsite Centers . . . . . .2595
Communication Training Posters . . . . . .2590
Communication Warning Label Posters . . . .2590
Waste Labels . . . . . .2578, 2594

**Hazardous Location**
Air Circulators . . . . .3572
Air Conditioners . . .3459
Fans . . . . . .3591
Fluorescent Lighting . . . . . .1102, 1104
Hand Lamps . . . . . .1155
Heaters . . . . . .3394
HID Lighting . . . . . .1103
Incandescent Lighting . . . . . .1103
Lighting Fixture Guards . . . . . .1102
Lighting Fixtures . . . . . .1102-1104
Portable/Task Lighting . . . . . .1155
Relays . . . . . .477
Signal Lights . . . . . .2557
Strobe Lights . . . . .2557
Switches . . . . . .519

**Hazardous Material**
Accumulation Center Links . . . . . .2330
Accumulation Center Ramps . . . . . .2330
Disposal Systems . .2338
Drum Storage Rack Shelves . . . . . .2332
Pallet Accumulation Centers . . . . . .2330
Spill Control Caddies . . . . . .2332
Spill Control Caddy Well Liners . . . . . .2332
Storage Racks . . . .2332
Tool Kits . . . . . .1401
Work Centers . . . . .2330

**Head**
Pressure Controls . .3506

**Head Protection**
Bandanas . . . . . .2384
Bump Caps . . . . . .2384
Hard Hats . . .2381-2384
Neck Wraps . . . . . .2384
Sweatbands . . . . . .2385
Winter Liners . . . . .2385

**Headgear,**
Faceshields . . . . . .2378

**Heads,**
Boring . . . . . .1645
Combination Square . . . . . .1820
Dividing . . . . . .1497
Dust Mop . . . . . .1941
Duster . . . . . .1952
Mop . . . . . .1941-1943
Protractor . . . . . .1820
Shower . . . . .3111, 3114
Tapping . . . . . .1700
Vacuum Cleaner . . .1891
Welding . . . . .1558-1560

**Headsets,**
Two-Way Radio . . . . . .899, 901

**Headwear,**
Protective . . .2382-2383, . . . . . .2385, 2476
Sanitary . . . . . .2476

**Hearing Aid**
Batteries . . . . . .1178

**Hearing Protection**
Ear Muffs . . . .2390-2393
Ear Plug Pods . . . .2389
Ear Plugs . . . .2386-2390

**Hearth**
Bases . . . . . .3423
Trim . . . . . .3423

**Heat**
Bands . . . . . .3375-3376
Blowers . . . . . .1532
Cable . . . . . .3375-3376
Controls . . . .3310-3313, . . . . . .3315-3321, . . . . . 3324-3329, . . . . . .3331-3339, . . . . . 3345, 3354
Detectors . . .2357, 2359
Gun Baffles . . . . . .1532
Gun Elements . . . . .1532
Gun Extension Tips . . . . . .1790
Gun Stands . . . . . .1790
Guns . . . . . .1530-1532
Lamps . . . .972, 975, 982, 984
Protective Pads . . .2470
Retaining Doors . . . . . .2304-2305
Sealers . . . . .2268, 2298
Shrink Torches . . . .1549
Shrinkable Tubing . . .625

# PRODUCT INDEX




Sink Compound .....1547, 3481
Sinks, Relay .....486
Slingers .....3668
Tape .....3375-3376
Tool Fuel Refills ...1531
Tools .....1530-1531
Tube Fittings .....3414

**Heat Pump**
De-Ice Coils .....3333
Economizers .....3446, 3448, 3450
Filter/Dryers .....3492
Motors .....57-59
Solenoid Coils ....3333
Split Pumps .....3452
Thermostats .....3314, ..... 3317, 3319, 3321
Valves .....3333

**Heat Pumps,**
Packaged Terminal .....3443, 3446, ..... 3450, 3453
Wall Mounted .....3452

**Heat/Cool Units,**
Energy Right .....3445, 3447-3448
Package .....3445, 3447-3448
Rooftop .....3445, 3447-3448
Room .....3458

**Heater**
Bases .....3418
Blowers .....3419
Brackets ....3397, 3409
Carts .....3381
Ceiling Mount Brackets .....3397
Coils, Motor Starter .....445, 454-455, 465
Coils, NEMA .....445, 455, 465
Control Panels ....3235
Controls .....3373
Cord .....3395
Diffusers ....3395, 3398
Elements .....3371
Expansion Tanks ..3078
Fans .....3418
Floor Mounting Kits .3419
Floor Pads .....3417
Frames .....3385
Heat Tube Fittings .3414
Hot Water Tanks ...3078
Kits, Furnace .....3450
Mounting Frames ..3410
Outlet Packages .....3413, 3420
Registers .....3420
Sensors .....3301
Service Kits .....3377
Thermostats .....3298, 3311, 3315, ..... 3322, 3326-3327, ..... 3373, 3387, ..... 3389-3390, 3398
Trim Kits .....3389
Tune-Up Kits .....3377
Vent Extension Kits .3417
Vent Extensions ...3416
Vent Kits .....3417, 3420, 3428
Vents ..3405, 3413-3414
Wall Sleeves .....3426

**Heaters,**
Air .....3377-3378
Architectural .....3387
Barrel Band .....2328
Baseboard ..3391-3392, .....3426-3427
Bathroom .....3386-3387, 3553
Belly Band .....3473
Blower-Type .....3404
Boiler .....3424
Built-In .3385, 3387, 3390
Bulb-Type .....3553
Cable .....3375
Cartridge .....3369
Ceiling .....3385, 3389
Ceramic .....3383
Commercial ..3378, 3387
Compact .....3383
Compressor .....3473
Condensation .....3235
Console .....3415
Construction .3380, 3382
Contractor .....3382
Control Cubicle ....3371
Convection ..3379-3380, .....3383, 3418
Cove .....3388
Crankcase .....3473
Deep Tank Immersion .....3372
Direct Vent .....3417
Drum Band .....2328
Dual-Heat .....3382
Duct .....3371
Electric .....3369-3372, ..... 3380-3385, ..... 3387-3388, .....3390-3392, .....3395-3397, .....3407-3410, 3553
Enclosure .....3371
Energy Right .....3400, 3402-3404
Explosion-Resistant .....3393
Fan Forced ..3378, 3380
Finned Strip .....3371
Finned Tubular ....3371
Floor Drop-In .....3390
Forced Air ...3377-3378
Garage .....3414
Gas .....3400-3404, ..... 3411-3414, ..... 3417-3419
Gas Forced .....3378
Hazardous Location .....3394
Heavy Duty ..3382, 3407
High Bay .....3407
High Density .....3408
Hydronic ...3384, 3406, .....3426-3427
Immersion .....3372
Indoor/Outdoor .....3408-3410
Industrial ....3369-3372
Infrared .....3380-3381, ..... 3407-3414, ..... 3419, 3553
Institutional .....3388
Kickspace ...3426-3427
LP Forced .....3378
LPG .....3378-3380, ..... 3417-3419
Metal Sheath .....3407
Milkhouse .....3382
Motor Starter .....445, ..... 454-455, 465
Mul-T-Mount .3408, 3410
Multi-Purpose .....3383
Natural Gas .....3379, ..... 3413-3414, ..... 3417-3419
Oil .....3399
Oil-Fired .....3377
Over-The-Side Immersion .....3372
Pipe .....1327, 3375
Portable .....3377-3384
Power Vented .....3400, 3403
Propane ....3378-3379, .....3413-3414
Pump House .....3390
PVC .....1327
Quartz .....3408, 3410
Radiant ....3379, 3384, ..... 3388, 3413-3414, ..... 3418-3419
Residential .....3414
Room .3380, 3382-3385, .....3387, 3417-3419
Salamander .....3380
Self-Regulating ....3235
Separated Combustion .....3405
Soldering .....1533
Spa/Hot Tub .....3372
Space .....3417, 3419
Stainless Steel .....3408, 3410
Strip .....3370-3372
Tamper-Proof .....3387
Tank Top .....3380
Three-Heat .....3382
Three-Lamp Infrared .....3408
Thru-The-Wall .....3417
Toe Space .....3390
Torpedo .....3377-3378
Tube .....3413-3414
U-Rod .....3407
Unit .....3394-3397, ..... 3399-3406
Unvented ...3411-3412, .....3418-3419
Utility .....3395
Vent-Free ...3418-3419
Vented .3413-3414, 3417
Wall .....3385-3387, ..... 3418-3419
Wall Hugger .....3383
Washdown .....3394
Water .....3075-3077, ..... 3079-3081
Well House .....3390

**Heating**
Air Fuel Outfits ....1553
Elements .....1533
Fuses .....431, 435

**Hedge**
Shears .....2681

# PRODUCT INDEX

## Hedge — Hoists


Trimmers .....2667

**Height**
Gage Cases .....1806
Gages .....1805-1806

**Helmets,**
Welding .....1586

**Hex**
Bit Socket Sets ...1229, .....1274-1275
Bits, Socket .....1231
Bolts .....1734-1737, .....1739-1740
Cap Screw Assortments .....1758-1759
Drill Screw Assortments .....1758-1759
Key Assortments ..1302
Key Stands .....1303
Keys .....1302-1303
Nuts ...1741-1742, 1745
Precision Drivers ..1301
Screws .....1754-1756
Shank Drill Bits .....1661, 1669
Wrenches .....1303

**Hexagons,**
Bar Stock ...1697, 1699

**HID**
Aislelighter, Reflector Type .....1085
Dock Lights .....1162
Downlights .....1133
Floodlights ...1088-1090
Ignitors .....1039
Portable/Task Lighting .....1101
Wallpacks ...1092-1094

**HID Ballasts,**
Core And Coil .....1040-1041
Enclosed .....1043
F-Can .....1042
High Pressure Sodium .....1041-1044
Indoor Enclosed ...1043
Mercury Vapor .....1040, 1042-1044
Metal Halide ..1040-1044
Outdoor .....1044
Postline .....1042
Weatherproof .....1044

**HID Fixture**
Brackets .....1041
Cord And Plug ....1086
Hooks .....1086
Loops .....1086
Safety Cable .....1086
Safety Chain .....1086
Wire Guards .....1086

**HID Fixtures,**
Area .....1095
Canopy .....1097
Damp Location .....1080, 1082
Fixtures .....1086
Hazardous Location .....1103
High Pressure Sodium .....1080, 1082, 1084, ..... 1094-1095, 1097
Highbay ....1077-1080, .....1085-1086
Industrial .....1080, 1082, 1084
Lowbay .....1081-1084, 1086
Mercury Vapor ....1095
Metal Halide .....1080, ..... 1082, 1084, 1090
Sports .....1090
Wall .....1094
Warehouse .....1080, 1082, 1084
Wet Location .....1080, 1084

**HID Lamps,**
High Pressure Sodium .....941-944
Low Pressure Sodium .....944-945
Mercury Vapor ..945-947
Metal Halide ...937-941, .....943, 990

**HID Lighting,**
Area ..1095, 1097, 1101
Canopy .....1097
Damp Location .....1080, 1082
Fixtures .....1077-1079, ..... 1081-1083, ..... 1085-1086
High Pressure Sodium .....1080, 1082, 1084, ..... 1094-1095, 1097
Highbay .....1080
Industrial ....1077-1086
Lowbay .....1082, 1084
Mercury Vapor ....1095
Metal Halide .....1080, ..... 1082, 1084, 1090
Prismatic .....1077
Roadway ....1095, 1097
Sports .....1090
Vandal-Resistant .....1100-1101
Vapor-Tight ..1064, 1102
Wall .....1094
Warehouse .....1080, 1082, 1084
Wet Location .....1080, 1084

**High Abuse**
Lighting Fixtures .....1098, 1100-1101, ..... 1148, 1150, 1162

**Highbay**
Lighting Fixtures .....1077-1080, ..... 1085-1086

**Highway**
Safety Kits .....2617
Triangles .....2617

**Hinge**
Hasps .....2660
Kits .....3616

**Hinges,**
Adjustable Spring ..2654
Ball Bearing ..2651-2652
Broad .....2654
Commercial .....2651-2652, 2654
Concealed Bearing .2651
Continuous ..2652-2653
Cuff Port .....2651
Door .....2651-2655
Double Acting .....2654-2655
Double Weight ....2651
Electric .....2652
Executive .....2651
Fixed Pin .....2654
Full Mortise .....2651-2652, 2654
Full Surface .2652, 2654
Gate .....2655
Half Mortise .....2651
Half Surface ..2651-2652
Heavy Gauge .....2653
Heavy Weight .....2651-2652
Institutional .....2651
Loose Pin .....2654
Medium Gauge ....2653
Narrow .....2654
No Hole ....2651, 2654
Non-Ferrous .....2652
Non-Removable Pin .....2651
Piano .....2653
Pivot .....2655
Prison .....2651
Screen Door .....2654
Spring .....2654
Standard Weight .....2651-2652, 2654
Strap .....2655
Swing Clear .....2652
Tee .....2655
Triple Weight .....2651
Utility .....2654

**Hitch**
Ball Covers .....2705
Balls .....2705
Bars .....2706
Box Covers .....2709
Brake Controllers ..2708
Coupler Locks ....2708
Light Connectors ..2709
Pin Locks .....2706
Plug Wiring Adapters .....2708
Pull Pin And Clips ..2706
Receivers .....2707
T-Connectors .....2709
Wiring .....2708

**Hitches,**
Industrial Tow .....2706
Step Bumper .....2707
Trailer .....2707

**Hoes,**
Concrete Placer ...2676
Garden .....2676
Mortar .....2676-2677

**Hoist**
Chain Containers .....2223-2226, 2228
Eyebolts .....2244
Rings .....2243
Swivel Hooks .....2237
Trolleys .....2234-2235

**Hoists,**
Air .....2230
Auto .....2794

# PRODUCT INDEX




Automotive . . .2718-2719
Chain . . . . . .2224-2232
Dual Speed . . . . . .2229
Electric . . . . .2224-2229
Electric Chain . . . . .2223
Engine . . . . . .2718-2719
Hand . . . . . .2231
Lever . . . . . .2232
Manual . . . . . .2231
Manual Chain . . . . .2231
Mobile . . . . . .2718-2719
Pneumatic . . . . . .2230
Ratchet Chain . . . . .2232
Ratchet Lever . . . . .2232
Trolley . . . . . .2234
Wire Rope . . .2224, 2228

**Holders,**
Bin . . . . . .2093-2094
Bit . . . . . .1430
Blast Cabinet Nozzle . . . . . .1529
Broom . . . . . .2678
Chisel . . . . . .1362
Chuck Key . . . . . .1441
Cleaning Block . . . .1956
CPU . . . . . .2111
Door . . . . . .2171, 2645, . . . . . 2659, 2661
Dry Blast Cabinet Gun . . . . . .1528
Dust Mask . . . . . .2403
End Mill . . . . . .1502
Entry Permit . . . . . .2512
Eyewear . . . . . .2374
File . . . . . .1373
Flashlight . . .1181, 1183
Floor Pad . . . . . .1875
Fuse .417-418, 424, 461
Fused . . . . . .425
Hammer . . . . . .1394
Hand Pad . . . . . .1608
Hard Hat Light . . . .2382
Indicator . . . . . .1811
Key . . . . . .1388, 2609
Label . . . . . .2007, 2030
Ladder . . . . . .2183
Lamp . . . . .733, 934-935
Leather Tool . . . . . .1394
Measuring Tape . . .1394
Mop . . . . . .2678
Motor Bulb/Fuse . . . .203
MSDS Jobsite . . . . .2595
OSHA Recordkeeping . . . . . .2595
Pad . . . . . .1875
Plier . . . . . .1394
Power-Lock . .1621-1623
PPE . . . . . .2375
Punch . . . . . .1362
Respirator Filter . . .2407
Safety Tag . . . . . .2564
Screwdriver Bit . . . .1430
Shovel . . . . . .2678
Sorbent Tube . . . . .2535
Test Indicator . . . . .1809
Test Lead . . . . . .822
Tissue . . . . . .1915
Toilet Tissue . . . . . .1903, 1915-1916
Tool . . . . . .1197, 1394
Wire Spool . . . . . .2247

**Hole**
Adapters, Arbor . . .1631
Cutters . . . . .1434, 1451
Diggers . . . . . .2668
Pullers . . . . . .1404
Punches . . . . . .1715
Shooters . . . . . .1426

**Hole Saw**
Arbor Adapters . . . .1437
Arbors . . . . . .1437
Ejector Springs . . . .1437
Extension Shafts . . .1437
Kits . . . . . .1435-1437
Pilot Drills . . . . . .1437

**Hole Saws** . . . .1435-1437

**Holsters,**
Flashlight . . .1183, 1189
Multimeter . . . . . .776
Printer Belt . . . . . .634
Tool . . . . . .1394
Two-Way Radio . . . .901

**Hood**
Expansion Kits . . . . .856
Extenders . . . . . .856

**Hoods,**
Balometer . . . . . .856
Condensing Unit . . .3472
Disposable . . . . . .2474
Fireplace . . . . . .3422
Flame Resistant . . .2486
Heat Protective . . . .2485
Protective . . .2474, 2480
Range . . . . . .3564
Respirator . . . . . .2421-2424, 2427

**Hook**
Anchors, Fall Protection . . . . . .2511
Clamps . . . . . .1771
Clips . . . . . .816
Fasteners . . . . . .2283
Test Clips . . . . . .822

**Hooks,**
Binding Rope . . . . .2656
Bolt . . . . . .2656
Cable . . . . . .2247
Ceiling . . . . . .2662
Clevis Grab . . . . . .2249
Clevis Slip . . . . . .2249
Coat . . . . . .2659, 2662
Eye . . . . . .2247
Fall Protection . . . .2511
Fork Truck . . . . . .2317
Garment . . . . . .2662
Hat . . . . . .2659
HID Fixture . . . . . .1086
Hoist Swivel . . . . . .2237
Hoisting . . . . . .2317
Lifting . . . . . .2317
Pintle . . . . . .2706
Robe . . . . . .1916
S- . . . . . .1760
Steel . . . . . .2249
Storage . . . . . .2656
Tarp Rope . . . . . .2656
Utility . . . . . .2656
Wardrobe . . .2659, 2662
Winch . . . . . .2247

**Hooksticks,**
Busway . . . . . .408

**Hoops,**
Cargo . . . . . .2311

**Hopper**
Boxes . . . . . .2047, 2058

**Hoppers,**
Self-Dumping . . . . .2188

**Hornet Spray**
. . . . . .1866-1867

**Horns,**
Air . . . . . .2515
Alarm . . . . . .2557-2558
Electronic . . . . . .2359
Explosion-Proof . . .2557
Fire Alarm . . . . . .2359
Litestak . . . . . .2555
Piezo . . . . . .2555
Resonating . . . . . .2558

**Horseshoe**
Magnets . . . . . .1831

**Hose**
Adapters . . . . . .2696-2697, 2839
Assemblies, High Pressure . . .2830, 2843
Barbs . .3020, 3022-3024
Bibbs . . . . . .3059
Cannisters . . . . . .2515
Carriers . . . . .2236, 2515
Charging Couplers .3488
Clamps . . . . .3029, 3038
Connectors . . . . . .2697
Couplers . . . .3022-3023, . . . . . .3025, 3029, . . . . . 3036-3037
Couplings . . . . . .2697
Crimpers . . . .2833, 3020
Cutters . . . . .1342, 3041
Extensions, Gas Detector . . . . . .2532
Fastening Clips . . . .3042
Faucets . . . . . .3113
Ferrules . . . . . .3020
Fitting Tie Lanyards . . . . . .3029
Fittings . . . . . .2697, . . . . . 3020, 3022-3025, . . . . . 3029, 3036-3037
Fittings, Hydraulic . .2835
Floats . . . . . .3225
Kits, Water Garden .3143
Line Flash Arrestors . . . . . .1566
Manifolds . . . . . .3025
Nozzles . . . . .2694, 3034
Quick Connectors . .2696
Rack Covers . . . . . .3034
Ramps . . . . . .2314
Repair . . . . . .2696
Safety Cables . . . . .3020
Tools, Clamp . . . . .3038
Valves . . . . . .3034

**Hose Reel**
Caddies . . . . . .2693
Carts . . . . . .2693, 3017
Covers . . . . . .3034

**Hose Reels,**
Automatic . . .3016-3017
Hand Crank . . . . . .3017
High Pressure . . . . .3016
Manual . . . . . .3017
Motor Driven . . . . . .3017

Retractable . .3016-3017
Stainless Steel . . . .3016
Wall Mount . .2693, 3034
Welding . . . . . .3017

**Hose,**
Abrasive Blast Cabinet . . . . . .1529
Acid Resistant . . . .3161
Agricultural Fuel . . .3030
Agricultural Spray . .3030
Air . . .1969, 2430, 2432, . . . .2438, 2515, 2834, . . . . 3018-3019, 3021
Air Line . . . . . .3185
Air Mover . . . . . .3035
Air Supply . . . . . .2428
Air-Fuel . . . . . .1553
Air/Fluid . . . . . .1963
Airless Paint Sprayer . . . . . .1979
Bead Blaster . . . . . .1529
Blower . . . . .2515, 3035
Braid . . . . . .2834
Brass . . . . . .3030
Brazing . . . . . .1549
Breathing Air . . . . . .2436
Breathing Air Supply . . . . . .2423
Chemical . . . . . .2834
Chrome . . . . . .3030
Cleaning Equipment . . . . . .3031
Coil . . . . . .3021
Compressor . . . . . .2436
Coolant . . . . .3160-3161
Drain Cleaner . . . . .1341
Drench . . . . . .2536
Dry Blast Cabinet . .1529
Ducting . . . . . .3035
EPDM . . . . . .3019
Evacuation . . . . . .3488
FDA Approved . . . .2834
Fire . . . . . .3034
Flexible . . . . . .3160-3161, 3185
Flexible Metal . . . . .3473
Food . . . . . .3040
Fume Exhauster . . .3527
Garden . . . . .2692, 2694
Gas Detector . . . . .2521
Gas Outfits . . . . . .1553
Gasoline Pump . . . .3030
Grease Gun . . . . . .2741
Grease Pump . . . . .2746
Herbicide . . . . . .3030
High Pressure . . . . .2830, 2843, 3031
HV/LP Air Supply . .1968
Hydraulic . . . . . .2830-2834, 2843
Liquid Propane . . . .2830
Metal . . . . . .3185
Multipurpose . . . . .1969, . . . . . 3018-3019, 3024
Nylon . . . . . .3030, 3041
Nylon Coil . . . . . .3021
Oxy Fuel . . . . . .1553
Paint . . . . . .1979
Paint Siphon . . . . . .1972
Plastic . . . . .3041, 3069, . . . . . 3160-3161
Plating . . . . . .3161
Poly Tube . . . . . .3041
Polyurethane Coil . .3021
Pressure Washer . .3031
Propane Torch . . . . . .1549, 1553
Pump . .3160-3161, 3202
Push-On . . . . . .3024
PVC . . . . . .3018, 3033
Refrigerant . . . . . .3488
Refrigeration . . . . . .3500
Respirator . . . . . .2427
Rubber . . . . .2692, 3033
Sander Vacuum . . .2983
Self-Storing Air . . . .3021
Shower . . . . . .3114
Snow Plow . . . . . .2830
Snubber . . . . . .3021
Soaker . . . . . .2692
Sprayer . . . . . .2703
Stainless Steel . . . .2834
Steam . . . . . .3030
Steam Cleaner . . . .3031
Suction . . . . . .3033
Sump Pump . . . . . .3210
Supplied Air .2430, 2438
Teflon . . . . . .2834
Thermoplastic Air . .3018
Tig Torch Gas . . . . .1584
Tig Torch Water . . .1584
Truck Lift Line . . . .2830
Vacuum Breaker . . .3063
Vacuum Cleaner . . . . .1882, 1890, 1893
Vacuum Pump . . . . . .2856, 2858
Ventilation . . . . . .2515
Vinyl . . . . . .2692
Washdown . . . . . .3031
Washer . . . . . .3031
Water . . . . . .2692, 2834
Water Discharge . . .3033
Water Saving . . . . .2692
Water Suction . . . . .3033
Welding . . . .1553, 3021
Wet/Dry Vacuum . .1890

**Hospital**
Bags . . . . . .1932-1933
Batteries . . . .1175, 1178
Can Liners . . .1932-1933
Casters . . . . . .2136-2142, 2156
Cleaners . . . . . .1870
Grade Connectors . .709
Grade Plugs . . . . . .709
Grade Receptacles . .686
Trash Bags . . . . . .1933

**Hot**
Melt Adhesives . . . . . .1382, 1790-1791
Melt Coating . . . . . .1715
Melt Weather Stripping . . . . . .1382
Plates . . . . . .2116
Spray Powder Torches . . . . . .1547
Spray Powders . . . .1547
Sticks . . . . . .789
Surface Ignitors . . .3342
Tub Pumps . .3214, 3287
Wire Anemometers . . . . . .852-854

**Hot Water**
Boilers . . . . . .3424-3425
Circulator Pump Motors . . . . . .13, 78-79
Controls . . . . . .3353-3354, 3356
Dispensers . . . . . .3085
Nozzles . . . . . .2694
Tanks . . . . . .3078
Valves . . . . . .3065

**Hotel**
Dollies . . . . . .2201

**Hour Meters** . . . . . .568

**Housekeeping**
Cart Bags . . . . . .1953
Cart Vacuum Carriers . . . . . .1953
Carts . . . . . .1953

**Housings,**
Cartridge . . . .3091-3092
Filter . .3092, 3096, 3098
Temperature Control . . . . . .3373

**Hubbellock**
Connectors . . . . . .708
Plugs . . . . . .708

**Hubs,**
Conduit . . . . . .657
Coupling . . . . . .357
Fan Blade . . . . . .3600
Safety Switch . . . . . .396

**Huggers,**
Ratchet Load . . . . .2250

**Humidifier**
Air Filters . . . . . .3509
Chemicals . . . . . .3510
Controls . . . . . .3357
Evaporative Wicks .3509
Filters . . . . . .3509
Pads . . . . . .3507-3508
Water Treatment . . .3510

**Humidifiers,**
Furnace . . . . .3507-3508
Portable . . . . . .3509
Residential . . .3507-3508

**Humidistat**
Covers . . . . . .3299

**Humidistats,**
Duct Mounted . . . . .3357
Pneumatic . . . . . .3301

**Humidity**
Adapters . . . . . .763
Calibration Kits . . . . .797
Chart Recorders . . . .800
Meters . . . .877-879, 881
Monitors . . .877-878, 881
Probe Membranes . .832
Probes . . . . . .878
Recorders . . . . . .797
Testers . . .877-878, 881

**HV/LP**
Air Cap Test Kits . .1964
Air Supply Hose . . .1968
Atomizing Kits . . . . .1968
Paint Sprayers . . . .1964, . . . . . .1967-1968, . . . . . 1970, 1974
Spray Guns . .1966, 1968

**HVAC**
Air Velocity Monitors .852
Capacitor Panels . .3235

# PRODUCT INDEX




Combination Starters .....3235
Control Panels ....3234
Control Transformers .....403
Controls .....69, 3310, ..... 3315, 3328, 3496
Drain Pans .....3444
Duct Tape ..2281, 3439
Louver Panel Kits .....3445-3446
Motor Protection Controls .....3505
Motor Protectors ...3235
Motors ...13, 52, 55-75, ..... 77-81, 94, ..... 96-102, 108
Nonmetallic Conduit .666
Pressure Switches ..863
Psychrometers .....877
Relays .....3335
Sealants .....1782
Thermohygrometers .878
Timers .....579
Tools ..1347, 1402, 1405

**Hydrant**
Adapters .....3037
Wrenches .....3038

**Hydrants,**
Yard .....3238

**Hydraulic**
Accumulators .....2840
Adapters ....2835, 2839
Air-Powered Pumps .....2722, 2847
Ball Valves .....2913
Battery Pumps ....2846
Bench Presses ....2724
Benches .....2093
Biodegradable Oil ..2769
Books .....2818
Cartridge Valves .....2815, 2817
Carts .....2216
Check Valves .....2813-2814, 2820
Closers .....2655
Control Valves .....2812, 2814, 2822
Couplers ....2837, 2843
Cranes .....2718-2720
Cutter Blades .....2848
Cutters .....2848
Cylinder End Mounts .....2811
Cylinders ...2808-2810, .....2844-2845
Dollies .....2720
Door Closers .2644-2645
Drum Crushers ....2321
Electric Pumps ....2842
End Lifts .....2720
Filler Breathers ....2807
Filters ..2825, 2828-2829
Filtration Carts ....2825
Flow Control Valves .....2814
Flow Controls .....2814
Flow Dividers .....2806
Fluid Level Gages ..2764
Fluids .....2846
Food Grade Oil ....2769
Gasoline Pumps ...2846
Gauge Adapters ...2847
Gear Pumps .2798-2800
Hand Pumps .....2842
Hose ..2830-2833, 2843
Hose Adapters .....2835-2836, 2838
Hose Crimpers ....2833
Hose Fittings .2832-2833
Jack Oil .....2769
Jacks .....2710-2719
Lift Carts .....2216
Lift Tables .....2221
Lifts .....2214, 2218
Maintenance Sets ..2723
Manifold Adapters ..2794
Manifolds .....2815
Motor Adapters ....2802
Motors .2799, 2804, 2806
Needle Valves ....2814
Nut Splitter Blades .2848
Nut Splitters .....2848
Oil .....2769, 2846
Oil Coolers ...2826-2827
Oil Reservoirs .....2793-2794, 2807
Pallet Trucks .....2213
Pipe Sealants ....1782
Piston Pumps .....2801
Power Units ..2792-2796
Presses .....1510, 2724-2725
Pressure Gauges ..2847
PTO Pumps .....2801
Pullers .....1403
Pump Adapters ....2802
Pumps ....2842, 2847
Punch And Die Sets .....2848
Punch Drivers ....1324
Punches .....2848
Quick Couplers .....2830, 2837
Ram Kits .....2722
Reducing Valves .....2819, 2821
Relief Valves .2812-2813, .....2819, 2821
Repair Kits ...2722-2723
Sandwich Valves ..2815
Solenoid Valves .....2818, 2820
Stak Valves ..2819, 2821
Suction Strainers ..2807
Table Caster/Handle Kits .....2218
Table Foot Controls .....2221
Table Skirts ..2218, 2221
Tables .2218, 2220-2221
Transmission Jacks .....2717
USDA H1 Oil .....2769
Valve Subplates ...2818
Valve Wiring .....2818
Valves ....2809, 2812, .....2819-2820, ..... 2822-2823, 2913
Vane Pump Foot Brackets .....2802
Vane Pumps .....2797
Vibrators .....256
Wheel Pullers .....1402
Winches .....2254

**Hydronic**
Baseboard Heaters .3392
Controllers .....3356
Expansion Tanks ..3276
Fan Connectors ...3426
Heaters ....3384, 3406, .....3426-3427
Pump Kits .....3272
Pumps .....3267, 3273-3275
Valves .....3063

**Hygro-Thermometers** .....877

**Hygrometers** .....800

## I

**I-Beam**
Clamps .....2235

**I/O**
Modules ...487, 559-560

**IBC**
Spill Units .....2331

**Ice**
Bank Controls .....3496
Bin Level Controls .3496
Chests .....2541
Cube Makers .3462-3463
Harvest Controls ...3496
Machine Cleaners ..3479
Machine Descalers .3479
Machine Pumps .....3190, 3463
Maker Filters .....3090
Melter Compounds .2679
Melter Spreaders .....2670, 2672
Scrapers .....2679
Water Coolers ....2540

**Identification**
Labels .....636

**Identifiers,**
Circuit Breaker ....803

**Idler**
Bushings .....301
Sheaves .....302
Sprockets .....302

**Idlers,**
Flat Face .....302
Gearbelt Pulley .....321

**IEC**
Contactors ....447, 450
Modules .....451
Motor Starters ..447-448
Overload Relays ....447
Relays .....469
Reversing Contactors .....447, 449

**Ignition**
Controls .....3342-3343
Modules ....3344, 3348
Systems, Pilot .....3344, 3348-3349

Transformers .....3352

**Ignitors,**
Ballast .....1039
Hot Surface .....3342

**IMC Conduit** .....650

**Immersion**
Heaters .....3372
Wells .....3356

**Impact**
Drivers, Cordless ..1412
Gloves .....2499

**Impact Socket**
Adapters
.....1240, 1242-1243
Bit Holders ...1238-1240
Bits .....1242
Extensions ..1239-1240,
.....1242-1243
O-Rings .....1242-1243
Retaining Pins
.....1242-1243
Retaining Rings ...1242
Sets .....1277, 1237
Shanks .....1238-1240
Universal Joints
.....1239, 1242-1243

**Impact Sockets**
.....1238-1243, 1277

**Impact Wrench**
Kits .....2966
Lubrication ...2967-2968

**Impact Wrenches,**
Air .....2965-2970
Electric .....1422-1423

**Impulse**
Lawn Sprinklers
.....2695-2696
Sealers .....2268

**In-Plant**
Office Doors .....2079
Office Glass .....2079
Office Light Fixtures
.....2079
Offices .....2078-2079

**Incandescent**
Ceiling Fixtures ....1071
Cord Reels ..1156-1157
Dock Lights .....1163
Downlights ..1124-1126,
.....1129, 1131, 1133
Drop Lights ..1154-1157
Hand Lamps
.....1154-1157, 1188
Lampholders .....1106
Light Dimmers
.....1047-1049, 1052
Lightstands .....1160
Magnifier Lights ...1171
Parholders .....1106
Task Lighting .....1166
Trouble Lights
.....1154-1157

**Incandescent Lamp**
Base Removers ....983
Changers .....983

**Incandescent Lamps,**
Appliance .953, 956, 962
Aquarium .....953
Audio Visual .....961,
.....1003-1006, 1009
Automotive ....987-995,
.....998-1001
Bug Light ..963, 967-968
Clear .....951-954, 958,
.....962, 965, 969,
.....975-976,
.....979-980, 982
Decorative ....952, 955,
.....958, 963-964,
.....966, 968, 970
Display Low Voltage
.....954, 957,
....959-961, 965, 969
Energy Right ..941, 950,
.....954, 956-973,
.....975, 979-981
Exit Sign .....950, 954
Extended Service ..962,
....965, 967, 970-972,
.....976, 979-980
Floodlight .....955, 959,
.....961, 964, 968,
.....970-971,
.....973, 976-978
Frosted ...951-952, 954,
.....960, 962-963,
....968, 976, 979-981
Halogen .....954, 957,
.....959-962, 964,
....966-967, 969, 977,
.....981-982, 998,
.....1000-1001, 1003
Halogen Burner ....950,
....954, 957, 960-961,
.....964, 969
Halogen MR-16
.....954, 960-961
Heat ....972, 975, 984
Industrial Service
....970-971, 976-978
Infrared .....975, 977
Landscape .....991
Low Voltage ...954-955,
.....957, 960-961
Low Voltage Display
....954, 957, 959-961,
.....965, 969
Marine ...957, 960, 982
Miniature ..920, 987-995
MR-16 Halogen
.....954, 957,
....959-961, 965, 969
Night Light ....950-951
Orange .....951
PAR .....955, 957, 959,
....961, 964-971, 973,
....975, 977-978, 998,
.....1000-1001
Photo .....956, 961,
.....1003-1006, 1009
Projector ..961, 966-967,
.....1003-1006, 1009
Quartz Infrared
.....977, 979, 981-982
Reader Light ...972, 975
Red ..950-952, 963, 971
Reflector ..952, 955-960,
.....962, 964-967,
.....970, 972,
....975-977, 979-980
Refrigerator .....953
Roadway Lighting
....950-951, 953-955
Roadway Lighting Signal
.....952-954
Rough Service .958, 960,
....962-963, 965-966,
....968, 970-972, 976
Sealed Beam
.....989, 998-1001
Shatterproof
.....970-971, 984
Showcase .....956
Sign .....951-954, 956
Sign Reflector ..954, 962
Silicone Coated
....958, 960, 963-964,
....966, 968, 970-973
Silver Bowl ....968, 976
Soft White ....952, 956,
....960, 962-963, 965,
....968, 971-973, 975
Specialty
....916, 918, 920-921,
....950, 962, 987-995
Spotlight ..953-954, 957,
....960-961, 964-965,
.....968-971, 975
Stage/Studio/TV
....969, 972, 975-976,
..979, 981, 1003-1004,
.....1008-1009
Street Lighting .....969,
....973-975, 977-978
Swimming Pool
.....969, 976, 978
Three-Way
....952, 956, 960, 967
Traffic Signal ..962-963,
.....965, 967, 970-972
Train .....950, 952-954,
.....957, 960, 966
Transparent .....952
Tubular .....953-954,
.....956, 959, 964
Tungsten/Halogen/Quartz
.....951, 954, 957,
.....959-962,
.....964, 967, 969,
...972-982, 1008-1009
Yellow .....952

**Incandescent Lighting,**
Desk .....1166, 1171
Fixtures .....1063, 1096
Hazardous Location
.....1103, 1155
Industrial .....1063
Machine Tool .....1164
Outdoor .....1096
Pedestal .....1160
Portable/Task
.....1154-1157,
.....1159-1160, 1164,
.....1166, 1171, 1188
Showcase .....959, 966
Track ..1119-1120, 1131
Vapor-Tight .....1102

**Incubator**
Fan Motors .....149

**Indicating**
Bank Audible Sounders
.....523
Banks .....523

# PRODUCT INDEX




Beacon Adapters . . .523
Beacon Base Units . .523
Beacon Gaskets . . . .523
Beacon Lamps . . . . .523
Beacon Tube Supports . . . . . .523
Beacon Tubes . . . . .523
Beacons . . . . . .523
Lights . . . .504, 512, 514

**Indicator**
Bases . . . . . .1812-1813
Holders . . . . .1809, 1811

**Indicators,**
Conductivity . . . . . .831
Dial . . .1808-1810, 1813
Dial Test . . . .1808-1809
Digital . . . . . .739
Double Range . . . .1809
Elapsed Time . .568, 829
Electronic . . . . . .1810
Flow . . . . . .3278
Frequency . . . . . .739
Humidity . . . . . .800
Infrared . . . . . .895
Moisture . . . . . .3489
Paper . . . . . .1813
PH . . . . . .830
Pocket . . . . . .1813
Temperature . . . . . .741, 796, 800
Test . . . . . .1808
Thickness Gauges .1813
Wood Moisture . . . . .786

**Indoor/Outdoor**
Thermometers . . . . .883
Wall Lights . . . . . .1096

**Infectious**
Linen Liners . . . . . .1933
Waste Liners . . . . .1933

**Inflators,**
Tire . . . . . .3028

**Information**
Phones . . . . . .904
Stands . . . . . .2097

**Infrared**
Heaters . . . . .3407-3408, . . . . . 3410, 3413-3414, . . . . . 3419, 3553
Sensors . . . . . .696
Thermometers . .894-895
Transmitters . . . . . .889
Tube Heater Extensions . . . . . .3413

**Infusers,**
Fluorescent Mist . . .3483

**Inhalants,**
Ammonia . . . . . .2552

**Inhibitors,**
Corrosion . . . .639, 2789

**Injector**
Heads, Liquid . . . . .3187

**Injectors,**
Chemical . . . . . .3186
Grease Gun Needle . . . . . .2741

**Ink**
Cartridges, Meter Printing . . . . . .889
Cleaners . . . . . .1840
Markers . . . .1715, 2289
Pens . . . . . .629

**Ink,**
Marker . . . . . .2289
Roller Stencil . . . . .2288

**Inlet**
Filters . . . . . .2851

**Inlets,**
Pin And Sleeve . . . . .723
Straight Blade . . . . . .707
Twist-Lock . . . .710-711, . . . . . 713-714, . . . . . 716, 718-719
Type 4X . . . . . .719

**Inner Tubes** . . . . . .2164

**Input Modules** . . . . . .558

**Insect**
Attractants . . . . . .2675
Bite Repellent Towelettes . . . . . .2553
Bite Sting Kill Swabs . . . . . .2552
Bite Sting Kill Wipes . . . . . .2552
Killers, Electronic . . . . . .2674-2675
Repellents . . . . . .1867
Sprays . . . . . .1866-1867

**Insecticide**
Pumps . . . . . .3180
Sprayers . . . . . .2701

**Insert**
Bearings . . . . . .347
Cutters . . . . . .1642

**Insertion-Type**
Controls . . . . . .3338

**Inserts,**
ANGT . . . . . .1639
Carbide . . . . .1635-1637
CCMT . . . . . .1638
CNMG . . . . . .1635
Coupling . . . . . .359
CPMT . . . . . .1638
DCMT . . . . . .1638
DNMG . . . . . .1635
Helically Wound . . .1729
Lathe Turning . . . . . .1635-1638
Milling . . . . . .1639
On Edge Grooving .1639
RNMG . . . . . .1635
Screw Thread . . . . .1729
SEHN . . . . . .1639
SNMG . . . . . .1635
SPG . . . . . .1637
TCMT . . . . . .1638
Thread . . . . . .1729
TNG . . . . . .1637
TNMA . . . . . .1639
TNMG . . . . . .1635-1636
TNMP . . . . . .1636
TPG . . . . . .1637-1638
VBMT . . . . . .1638
VNMG . . . . . .1636
WNMG . . . . . .1636

**Inspection**
Mirrors . . . . .1312, 1830
Stands . . . . . .2097

**Installation**
Tools, Cable Tie . . . . . .627, 629
Tools, Screw Thread . . . . . .1729

**Instant Adhesives** . . . . . .1789, 2784

**Instep Guards** . . . . .2492

**Instrument**
Cable . . . . . .598
Motors, Synchronous . . . . . .226
Oil . . . . . .2772

**Instruments,**
Forceps . . . . . .2550
Forceps And Scissors . . . . . .2550
Scissors . . . . . .2550
Tourniquets . . . . . .2550
Tourniquets And Forceps . . . . . .2550

**Insulated**
Cable Cutters . . . . .1313
Clothing . . . . . .2482
Crimpers . . . . . .1313
Duct Tubing . . . . . .3563
Glove Liners . . . . . .2467
Gloves . . . . .2446, 2457, 2466
Knives . . . . . .1313
Long Nose Pliers . .1313
Nut Drivers . . . . . .1314
Pliers . . . . . .1313
Pump Pliers . . . . . .1313
Screwdrivers .1314-1315
Side Cutters . . . . . .1313
Tool Kits . . . . . .1315
Wire Cutters . . . . . .1313
Wire Strippers . . . . .1313

**Insulating**
Covers . . . . . .625
Sleeves . . . . . .661
Sprays . . . . . .2788

**Insulation**
Dispensers . . . . . .1795
Testers . . . . . .747

**Insulation,**
Closed Cell . .1795, 3376
Duct . . . . . .3433
Energy Right .3376, 3433
Fiberglass . . . . . .3376
Foam . . . . . .1795
Pipe . .3376, 3433, 3481
Polyurethane . . . . .1795
Sheet . . . . . .3433
Spray-In-Place . . . .1795
Tape . . . . . .3481
Thermal . . . . . .1795, 3376, 3481
Tube . . . . . .3376
Urethane . . . . . .1795

**Insulator**
Kits, Load Center . . .372

**Insulators,**
Heat Shrinkable . . . .625

**Intake**
Guards . . . . . .3597
Louvers . . . . . .3597

**Interactive CD-ROMS** . . . . . .2570-2571

**Intercom**
Back Boxes . . . . . .907
Cable . . . . . .599
Call Switch Assemblies . . . . . .907
Foot Switches . . . . . .907
Pedestal Mounts . . . .907
Speakers/Microphones . . . . . .907

**Intercoms,**
Industrial . . . . . .2558
Multiple Station . . . . .909
Open Voice . . . . . .909
Six Channel . . . . . .907
Voice Activated . . . . .907
Wired . . . . . .908, 2558
Wireless . . . . . .907-908

**Interface**
Cable . . . . . .825
Software . . . . . .819

**Inverter**
Duty Motors . . . . . .39

**Inverters,**
AC . . . . . .40-42, 44

**Iron**
Filters . . . . . .3073
Wheels . . . . . .2162

**Irons,**
Soldering . . . . .1531, 1533, 1535

**Ironworker**
Brakes . . . . . .1510

**Ironworkers** . . . . . .1510

**Irrigation**
Motors . . . . . .144
Pump Protectors . . .3235

**Isolation Transformers** . . . . . .402

**Isolator**
Plates . . . . . .2943

**Isolators,**
Cylindrical . . . .201, 3672
Floor Mount . . . . . .3670
Hanger Mount . . . . .3671
Spring . . . . . .3670-3671
Vibration . . . . . .3670-3671, 3673

**IVORY Bar Soap** . . .1855


## J


**Jack**
Chain . . . . . .1761
Foot Supports . . . . .2704
Oil . . . . . .2769
Presses . . . . . .2725
Screws . . . . . .1805
Stands . . . . .2715, 2721
Wheel Casters . . . .2704

**Jackets,**
Chemical Protection . . . . . .2481
Flame Retardant . . .2483
Heat Protective . . . .2485
Leather . . . . . .2484
Rainwear . . . .2479-2480
Welding . . . . . .2484

**Jacks,**
Agricultural . . . . . .2704
Air-Operated . . . . .2710, 2713-2715, . . . . .2717-2718, 2720
Automotive . . .2710-2714
Banana . . . . . .823
Basement . . . . . .2313
Bottle . . . . . .2710-2711
Construction .2710-2711
Crane . . . . . .2718-2719
Floor . .2313, 2712-2715
Fork Lift . . . . . .2715
Garage . . . . .2712-2715
Hand . . . . . .2710-2711
High Lift . . . . . .2715
Hydraulic . . . .2710-2719
Industrial . . . . . .2704
Ladder . . . . . .2182
Levelizing . . . . . .2168
Pallet . . . . . .2212
Pit . . . . . .2717
Portable . . . . . .2715
Ratcheting . . . . . .2715
Service . . . . .2712-2715
Telephone . . . . .734-735
Temperature . . . . . .893
Trailer . . . . . .2704
Transmission .2716-2717
Truck Service .2714-2715
Truck Stabilizer . . . .2310
Utility . . . . . .2715
Vehicle End Lift . . .2720
Vehicle Stand . . . . .2721

**Jam Nuts** . . . .1744, 1777

**Janitor Cart**
Vacuum Carriers . . .1953

**Jaw**
Caps, Vise . . . . . .1375
Faces . . . . . .1375
Pincers . . . . . .3039

**Jaws,**
Bolt Cutter . . .1318-1320

**Jelly Jars** . . . . . .1096

**Jet Pump Systems** . . . . . .3245-3246

**Jeweler's**
Screwdrivers . . . . . .1814

**Jig**
Leveling Feet . . . . .1779
Rest Buttons . . . . . .1773
Saw Blades . . . . . .1468

**Jig Saw**
Blades . . . . . .1468-1470

**Jig Saws,**
Cordless . . . . . .1409
Electric . . . . .1467-1468

**Jigs,**
Boring . . . . . .1472

**Jobsite**
Boxes . . . . . .1195
Cabinets . . . . . .1195
Cameras . . . . . .911
Lighting . . . . .1101, 1158
MSDS Centers . . . .2595
Saws . . . . . .1513

**Johnson Bars** . . . . .2312

**Joiner**
Plates . . . . . .1475
Sealants . . . . . .1782

**Joiners,**
Plate . . . . . .1475

**Joint**
Compounds . . . . . .613
Sealants . . . . . .1783
Spray . . . . . .1790

**Jointer**
Blades . . . . . .1475
Stands . . . . . .1512

**Jointers,**
Wood Working . . . .1512

**Jugs,**
Plastic . . . . . .1961

**Jumper**
Bars, Circuit Breaker .390
Cables . . . . . .2727

**Jumpers,**
DC Portable . . . . .2730

**Junction**
Boxes, Pool . . . . . .3292


## K


**Kee Klamp**
Pipe Fittings . . . . . .2060

**Kerosene**
Cans . . . . . .2339

**Key**
Blanks . . . . . .2631
Boxes . . . . . .2629
Cabinets . . . . . .2629
Caddies . . . . . .1388
Drop Boxes . . . . . .2629
Duplicating Machines . . . . . .2631
Holders . . . . . .1388
Keepers . . . . . .2629
Pad Lock Devices . .2642
Rings . . . . . .2609
Stock . . . . . .1762-1763
Switches . . . . . .698
Tags . . . . . .2610, 2629

**Keyless**
Bushings . . . . . .353
Chucks . . . . .1704-1706
Drill Chucks . . . . .1427, 1504, 1705
Entry Batteries . . . .1177

**Keys,**
Balldriver Hex . . . . .1303
Chuck . . . . . .1441, 1704
Combination Padlock . . . . . .2626
Drill Chuck . . . . . .1446
Enclosure . . . . . .642
Fold-Up Hex . . . . . .1303
Fold-Up Torx . . . . .1303
Half Moon . . . . . .1763
Hex . . . . . .1302-1303
L-Shaped Hex . . . . . .1302-1303
Machinery . . . . . .1762
Metric Hex . . . . . .1303
Padlock . . . . . .2626
Pilot Light . . . . . .507
Shaft . . . . . .1764
Stock . . . . . .1764

T-Handle .....1303
T-Handle Hex .....1303
Torx .....1302-1303
Touch Entry .....2642
Woodruff ....1763-1764

**Keyway**
Punches .....1326

**Kick Plates** .....2663

**Kickspace**
Heater Cabinets ...3426
Heaters .....3427

**Kilowatt-Hour**
Meters .....759, 794

**Kitchen**
Fans ..3457, 3546-3547, .....3549, 3639
Faucets .....3109-3110, ..... 3112-3113
Filters .....3540
Range Hoods .....3564
Sinks .....3105
Wall Ventilators ....3547

**Knee**
Guards .....2492
Pads .....1395

**Knife**
Blade Disposal Containers .....1352
Blades .....1352-1353
Files .....1372
Sharpeners ..1595, 1600

**Knives,**
Buck .....1350
Contractor's .....1350
Drywall .....1396
Drywall Taping ....1396
Electrician's .....1350
Fixed Blade .....1350
Folding .1179, 1350-1351
Hobby .....1353
Insulated .....1313
Knife/Lite Combo ..1179
Lineman's ...1313, 1350
Planer .....1509
Pocket .1179, 1350-1351
Putty .....1392, 1400
Razor .....1350, 1352
Scraper .....1400
Serrated .....1350
Skinning .....1313
Swiss Army ..1350-1351
Utility .....1350-1352
X-Acto .....1353

**Knobs,**
Adjustment .....3299
Ball .....1776
Fluted .....1776
Four-Prong .....1776
Hand .....1775
Knurled .....1775
Light Dimmer .....1049
Oval Tapered .....1776
Palm-Grip .....1775
Pushbutton .....515
Pushbutton Switch ..515
Quick-Acting .....1776
Thermostat .....3373

**Knockout**
Bushings .....660
Plugs .....661
Punches ....1324-1326

**Koronets** .....2476

**Kraft**
Liners .....1913
Wrapping Paper ...2267

**Krytox Grease** .....2771


## L


**L-Clamps** .....1379

**Lab**
Coats .....2474
Pack .....2329

**Label**
Books .....632
Holders .....2007, 2030
Machine Cases .....2596-2597
Machine Cutting Blades .....2596
Machine Memory ..2596
Machine Ribbon ...2596
Machine Squeegees .....2596
Machine Symbols Cards .....2597
Machine Weeding Tools .....2596
Machines ....2596-2597
Making Kits .....2289
Printers .....2596
Software .....2597
Tape ..2596-2597, 2600

**Labels,**
Alphabet .....2605
Asbestos .....2578
Biohazard .....2578
Bloodborne Pathogens .....2578
Chemical ...1837-1844, .....1846, 1848-1850, ..... 1852, 1854-1855, . 1862-1863, 1869-1870
Cloth .....635
Component .....636
Electrical .....633
Hard Hat .....2606
Hazardous Material .....2589
Hazardous Waste .....2578, 2594
Identification .....636
Load Center .....632
Message .....2608
Numeric ....2594, 2605
Overlaminate ....2600
PCB .....2578
Pipe .....2598-2601
Right-To-Know .....2591, 2597
Safety .....2589
Secondary ..1837-1844, .....1846, 1848-1850, ..... 1852, 1854-1855, . 1862-1863, 1869-1870
Self-Laminating ....635
Tamper-Proof .....636
Warning ....2589, 2608
Wire Marking .....635

**Laboratory**
Faucets .....3112-3113

**Lacquer**
Aerosols .....2788

**Ladder**
Carriers .....2183
Casters .....2155, 2179
Holders .....2183
Jacks .....2182
Levelers .....2182
Outriggers .....2184
Racks .....2183
Safety Training Kits .....2183
Stand-Offs .....2182
Surface Protection Kits .....2182
Tags .....2183
Tie Down Kits .....2183
Wall Guards .....2182
Work Platforms ....2186

**Ladders,**
Aluminum .....2178, 2180-2181
Articulating .....2181
De-Icing .....2178
Extension .....2180
Fiberglass .....2175, ..... 2177, 2181, 2185
Fiberglass Platform .2177
Folding .....2181
Mechanic .....2178
Platform .....2177-2179
Rolling Steel .....2184
Steel .....2185
Step .....2176-2179
Step Stands .....2175
Wood Platform ....2179
Work Platforms ....2185

**Lag Shields** .....1761

**Lambswool**
Applicators .....1952
Dusters .....1952

**Laminate**
Cartridges ...2596, 2600
Trimmer Bases ....1474
Trimmer Motors ...1474
Trimmer Skis .....1474
Trimmers .....1474

**Laminated**
Solenoids .....488

**Laminator**
Machines .....2600

**Lamp**
Adapters .....1149
Base Removers .....983, 1954
Changers ....983, 1954
Heads, Emergency Lighting .....1139
Modules, Flashlight .....1180-1181
Safety Sleeve Tubes .925
Shields, Abrasive Blast Cabinet .....1529
Starters .....933
Testers .....840
Timers .....570, 572

**Lampholder**
Blocks .....509

**Lampholders,**
Bi-Pin .....935

Compact . . . . . .934
Fluorescent . . . .934-935
High Output . . . . . .935
Incandescent/PAR .1106
Motion Detector . . . . . .697, 1105
Porcelain . . . . . .733
Single Pin . . . . . .935
Slimline . . . . . .935
Socket . . . . . .1158

**Lamps,**
Airport . . . . .959, 973-974, 981
Appliance . . . . .916-917, . . . . 921, 953, 956, 962
Audio Visual . . . . . .961, . . . . . 1003-1006, 1009
Automotive . . . .987-995, . . . . . 998-1001
Bug Light . .963, 967-968
Circline . . . . . .924
Compact . .928-932, 937
Decorative . . . .952, 955, . . . . . 958, 963-964, . . . . . 966, 968, 970
Display Low Voltage . . . . . .954, 957, . . . . 959-961, 965, 969
Energy Right . . . .917-924, 928-932, . . . 937, 940, 944, 950, . . . . . .954, 956-962, . . . . 964-967, 969-970
Extended Service . .962, . . . .965, 967, 970-972, . . . . . 976, 979-980
Fluorescent . . . .916-925, . . . . . 928-932, 984
Fluorescent Leak Detector . . . . . .3483
Germicidal .916, 918, 921
Halogen . . . . . .954, 957, . . . . 959-962, 964-967, . . . . 969-970, 974, 977, . . . . . 980-982, 998, . . . . . 1000-1001, 1165
Halogen Burner . . . .950, . . . . 954, 960-961, 964
Halogen MR-16 . . . . . .954, 960-961
Heat . . . . .972, 975, 984
HID . . . . . .937-947, 990
High Color Rendering . . . .916, 918-924, 928, . . . . 930-932, 937-942
High Intensity Discharge . . . . . .937-947, 990
High Output . . .916-918, . . . . . .920-924, 940
High Pressure Sodium . . . . . .941-944
Incandescent . . . .920, 950-982, 984, . . 987-995, 1003-1004, . . . . . .1008-1009
Indicating Beacon . . .523
Low Pressure Sodium . . . . . .944-945
Low Temperature Jacketed .920, 922, 924
Low Voltage . . .954-955, . . . . . .957, 960-961
Low Voltage Display . . . .954, 957, 959-961, . . . . . 965, 969
Mercury Vapor . .945-947
Metal Halide . . .937-941, . . . . . .943, 990
Miniature . .920, 987-995
MR-16 Halogen . . . . . .954, 957, . . . . 959-961, 965, 969
Oven . . . . . .957, 968
PAR . . . . .955, 957, 959, . . . . 961, 964-971, 973, . . . . 975, 977-978, 984, . . . . . 998, 1000-1001
Photo . . . . . .961, . . . . . 1003-1006, 1009
PL Compact . . . . . .924, 928-932
Pool . . . . . .969, 976, . . . . . 978-979, 982
Projector . . . . . .961, . . . . . 1003-1006, 1009
Quartz Infrared . . . .977, . . . . . 979, 981-982
Reflector . . . . .928, 937, . . . . 952, 955-960, 962, . . . 964, 966, 970, 972, . . . . .975-977, 979-980
Rough Service . . . .958, 960, 962-963, . . . . . 965-966, . . . . . 968, 970-972
Sealed Beam . . . . . .989, 998-1001
Shatterproof . . . . . .925, . . . . . 970-971, 984
Sign . . . . . .938, . . . . 950-954, 956-957
Silicone Coated . . . .958, . . . . 960, 963-964, 966, . . . . . 968, 970-973
SL Compact . . . . . .924, 928-932
Soft White . . . .956, 960, . . . . 962-963, 965, 968, . . . . . 971-973, 975
Specialty . . . .916, 918, 920-921, . . . 924, 950, 962, 974, . . . . . .980, 987-995
Stage/Studio/TV . . . .969, 972, 975-976, . . 979, 981, 1003-1004, . . . . . .1008-1009
Street Lighting .944, 969, . . . .973-975, 977-978
Stroboscope . . . . . .836
Swim Pool . . . .969, 976, . . . . . 978-979, 982
Three-Way . . . .956, 960
Traffic . . . .958, 962-963, . . . . 965-967, 970-972
Tungsten/Halogen/Quartz . . . . . .951, 954, 957, . . . . . 959-962, 964, . . . . . 967, 969, . . .972-982, 1008-1009
U-Bent . . . . .918-919, 922-924

**LAN**
Cable . . . . . .596
Cablemeter Remote Units . . . . . .811
Cablemeters . . . . . .811
Testers . . . . . .811

**Landscape Lighting**
Cable Connectors . .1116
Spikes . . . . . .1116
Transformers . . . . .1113

**Landscape Lighting,**
Line Voltage . .1114-1116
Low Voltage . . . . . .592, . . . . . 1109-1113, 3143

**Lane**
Marking Tape . . . . .2286

**Lantern**
Batteries . . . . . .1175
Brackets . . . . . .1180

**Lanterns** . . . .1176, 1180, . . . . . .1184-1185, 1187

**Lanyard**
Clips, Harness . . . .2506

**Lanyards,**
Aircraft Cable . . . . .2509
Hose Fitting Tie . . .3029
Nylon Rope . .2509-2510
Nylon Webbing . . . . . .2509-2510
Retractable . .2509, 2511
Rope . . . . . .2510
Shock Absorbing . . . . . .2508, 2510
Two-Legged . . . . . .2508

**Lapping**
Paste . . . . . .1627

**Laser**
Levels . . . . . .1385, 1821
Printable Signs . . . .2593

**Latch**
Bolts . . . . . .2633
Clamps . . . . . .1770

**Latches,**
Cabinet . . . . . .2662
Chest . . . . . .2657
Motor Mounting . . . .202

**Latching Relays** . . . .486

**Lateral**
File Cabinets . . . . .2106

**Latex**
Gloves . . . . .2451, 2454, . . . . . 2460-2462, 2464

**Lathe**
Chucks . . . . . .1497
Files . . . . . .1371
Turning Inserts . . . . . .1635-1638

**Laundry**
Detergent . . . . . .1865
Nets . . . . . .1959
Tray Pumps .3209, 3215
Trucks . . . . . .2190
Type Solenoids . . . . .489

**LAVA Bar Soap** . . . .1855

**Lavatory**
Fans . . . . . .3554
Faucets . . . . . .3109-3110, 3112

**Lawn**
Bags . . . . . .1930-1933

# PRODUCT INDEX




Edger/Trimmers . . .2682
Edgers . . . . . .2682
Faucets . . . . . .3068
Mower Engines . . . .2731
Mower Grass Catchers . . . . . .2664
Mower Wheels . . . .2165
Mowers . . . . . .2664
Seed Spreaders . . .2672
Sprinkler Pumps . . . . . .3136-3137, . . . . . 3147, 3149, 3209
Sprinklers . . .2695-2696
Tractor Attachments . . . . . .2670

**Layout**
Fluid . . . . . .2776
Sprays . . . . . .2776
Tools, Trammel . . . .1387

**Lazer**
Protection Safety Glasses . . . . . .2372

**Lazy Susan**
Pallet Turns . . . . . .2312

**Lead**
Cutters . . . . .1309, 1466
Removal Filters . . . .3090
Solder . . . . . .1537

**Lead Wire,**
Thermocouple . . . . . .893, 3374

**Lead,**
Pencil . . . . . .1386

**Leaders,**
Fish Tape . . . . . .1329

**Leads,**
Test . . . . . .762, . . . . 780-784, 788, 816

**Leaf**
Blower Vacuum Kits . . . . . .2665
Blowers . . . . .1887, 2665
Rakes . . . . . .2678
Skimmers . . . . . .3291

**Leak Detection**
Capsules . . . . . .3484

**Leak Detector**
Automotive Adapters . . . . . .849
Batteries . . . . . .849
Bleed Valves . . . . .3484
Cases . . . . . .849
Dye Cleaner/Removers . . . . . .3483
Lamps . . . . . .3483
Maintenance Kits . .3484
Rechargers . . . . . .849

**Leak Detectors,**
Combustible Gas . . . . . .849, 2519
Corona . . . . . .849
Gas . . . . . .2516-2517, . . . . . 2519-2520, 3482
Internal . . . . . .3482
Low Temperature . .3482
Microwave . . . . . .849
Pressure . . . . . .840
Refrigerant . . . . . .3479, 3482-3485
Vacuum . . . . . .840

**Leather**
Aprons . . . . .1394, 2484
Belts . . . . . .1394-1395
Cleaners . . . . . .1861
Glove Protectors . . .2467
Leggings . . . . . .2483
Sleeves . . . . . .2484
Spats . . . . . .2483

**Legend**
Plates . . . . . .518

**Legends,**
22mm . . . . . .509

**Leggings,**
Chain Saw . . . . . .2481
Leather . . . . . .2483

**Legs,**
Arbor Saw . . . . . .1514
Bench . . . . . .2086, 2091
Workbench . . . . . .2089

**Lens**
Anti-Fog Liquid . . . . . .2376-2377
Cleaners, Respirator . . . . . .2443
Cleaning Stations . . . . . .2376-2377
Protectors, Respirator . . . . . .2427, 2429
Tissue . . . . . .2376-2377

**Lenses,**
Closed Circuit Television . . . . . .2649
Dock Light . . . . . .1162
Gas . . . . . .1584-1585
Polycarbonate . . . . .1162

**Letters,**
Self-Adhesive . . . . .2605
Symbols . . . . . .2594

**Level**
Cases . . . . . .1385
Switches . . . . . .3233
Tripods . . . . . .1821

**Levelers,**
Dock . . . . . .2306
Ladder . . . . . .2182

**Leveling**
Feet . . . . . .1779
Glides, Furniture . . .2171
Kits, Computer Cabinet . . . . . .643
Mounts . . . . . .2168

**Levelizing Jacks** . . .2168

**Levels** . . . . . .1383, 1385, . . . . . 1389, 1821

**Lever**
Clamps . . . . . .1379
Handles . . . . . .2637
Hoists . . . . . .2232
Locksets . . . .2633, 2635

**Levers,**
Limit Switch . . .533, 535
Pry . . . . . .2312

**Lid**
Openers . . . . . .1961

**Lids,**
Bushel Truck . . . . .2189
Container . . . . . .2059
Drum . . . . . .1923, 2327
Dump Cart . . . . . .2187
Parts Storage Box .2056
Tilt Truck . . . . . .2187
Tote Box . . . . . .2056
Trash Can . . . . . .1919-1921, 1924
Trash Container . . .1924
Truck . . . . . .2189
Wastebasket . . . . . .1927

**Lifelines**
. . . . . .2507, 2510-2511

**Lift**
Carts . . . . . .2216
Pumps . . . . . .3179
Table Caster/Handle Kits . . . . . .2218
Table Foot Controls . . . . . .2221
Table Skirts . .2218, 2221
Tables, Hydraulic . . . . . .2216-2218, 2221
Tables, Mechanical .2217
Tables, Mobile . . . .2220
Tables, Pallet . . . . .2220
Tables, Portable . . .2217

**Lifters,**
Drum . .2319-2320, 2323
Drywall . . . . . .1396
Vacuum . . . . . .2259

**Lifting**
Belts . . . . . .2494-2496
Hooks, Fork Truck .2317
Slings . .2238-2240, 2242

**Lifts,**
Air-Operated . . . . . .2720
Battery Powered . . . . . .2213-2214
Fork . . . . . .2214
High Rise . . . . . .2213
Hydraulic . . . . . .2214
Mechanical . . . . . .2094
Portable . . . . . .2214
Truck . . . . . .2213
Vehicle End . . . . . .2720

**Light**
Dimmer Knobs . . . .1049
Dimmers . . . . . .733, 1047-1049, . . . . . 1051-1054
Holders, Hard Hat . .2382
Meter Cases . . . . . .828
Meters . . . . . .828
Shields, Abrasive Blast Cabinet . . . . . .1529
Stands . . . . . .1160-1161
Straps, Hard Hat . . .2382
Traps . . . . . .3609

**Light Bulb**
Base Removers . . . .983
Changers . . . . . .983
Safety Sleeve Tubes .925
Starters . . . . . .933

**Light Bulbs,**
Airport . . . . .959, 973-974, 981
Appliance . . . . .916-917, . . . . 921, 953, 956, 962
Audio Visual . . . . .961, . . . . . 1003-1006, 1009

Automotive . . . .987-995, . . . . . 998-1001
Bug Light . .963, 967-968
Circline . . . . . .924
Compact . .928-932, 937
Decorative . . . .952, 955, . . . . . 958, 963-964, . . . . . 966, 968, 970
Display Low Voltage . . . . . .954, 957, . . . . 959-961, 965, 969
Energy Right . . .917-924, . . . . . .928-932, 937, . . . 950, 954, 956-962, . . . . . .964-967, . . . . . 969-970, 970
Extended Service . .962, . . . .965, 967, 970-972, . . . . . 976, 979-980
Fluorescent . . . .916-925, . . . . . 928-932, 984
Halogen . . . . . .954, 957, . . . . 959-962, 964-967, . . . . 969, 977, 981-982, . 998, 1000-1001, 1165
Halogen Burner . . . .950, . . . . 954, 960-961, 964
Halogen MR-16 . . . . . .954, 957, . . . . 959-961, 965, 969
Heat .972, 975, 982, 984
HID . . . . . .937-947, 990
High Color Rendering . . . . . .916-924, 928, . . . . 930-932, 937-942
High Intensity Discharge . . . . . .937-947, 990, . . . . . 998, 1000-1001
High Output . . .916-918, . . . . . .920-924, 940
High Pressure Sodium . . . . . .941-944
Incandescent . . . . . .920, . . . . . 950-982, 984, . . . . . 987-995, 1000, . 1003-1004, 1008-1009
Low Pressure Sodium . . . . . .944-945
Low Temperature Jacketed .920, 922, 924
Low Voltage . . .954-955, . . . . . .957, 960-961
Low Voltage Display . . . . . .954, 957, . . . . 959-961, 965, 969
Mercury Vapor . . . . . .916, 945-947
Metal Halide . . .937-941, . . . . . .943, 990
Miniature . .920, 987-995
MR-16 Halogen . . . .954, 957, 959-961, . . . . . 965, 969, 987
PAR . . . . .937, 955, 957, . . . . 959, 961, 964-971, . . . . 973, 975, 977-978, . . . . . 998, 1000-1001
Photo . . . . . .961, . . . . . 1003-1006, 1009
PL Compact . . . . . .924, 928-932
Projector . .961, 966-967, . . . . . .1003-1006, 1009
Quartz Infrared . . . .977, . . . . . 979, 981-982
Reflector . .952, 955-960, . . . .962, 964, 966, 970, . 972, 975-977, 979-980
Rough Service . . . . .958, . . . . . 960, 962-963, . 965-966, 968, 970-972
Sealed Beam . . . . . .989, 998-1001
Shatterproof . . . . . .925, . . . . . 970-971, 984
Silicone Coated . . . .958, . . . . . 960, 963-964, . . . . 966, 968, 970-973
SL Compact . . . . . .924, 928-932
Soft White . . . .956, 960, 963, 965, . . . . 968, 971-973, 975
Specialty . . . .916, 918, 920-921, . . . 924, 950, 962, 974, . . . . . .980, 987-995
Stage/Studio/TV . . . .969, 972, 975-976, . . 979, 981, 1003-1004, . . . . . .1008-1009
Street Lighting .944, 969, . . . .973-975, 977-978
Three-Way . . . .956, 960
Tungsten Halogen . .928
Tungsten/Halogen/Quartz . . . .928, 937, 951, 954, . . . . 957, 959-962, 964, . . . . 967, 969, 972-982, . . . . . .1008-1009
U-Bent . . . . .918-919, 922-924

**Lightcarts** . . . . . .1160

**Lighters,**
Friction . . . . . .1565

**Lighting Fixture**
Connectors . . . . . .1121
Guards . . . . . .1096
Hangers . . . . . .1065
Junction Boxes . . . .3292
Mounting Standards . . . . . .1113
Shields . . . . . .1096
Trims . . . . . .1126

**Lighting Fixtures,**
Area . . . . . .1095, 1097
Bracket . . . . . .1072
Canopy . . . . . .1097
Cans . . . . . .1124-1127, . . . . . 1129, 1131, 1133
Ceiling . . . . . .1066, . . . . . 1070-1071, 1073
Closet . . . . . .1075
Cloud . . . . . .1066, 1073
Compact Fluorescent . . . . . .1071, 1127
Damp Location . . . . . .1080, 1082
Decorative . .1066, 1070, . . . . . .1073, 1096
Dock Lights . .1162-1163
Downlights . . . . . .1120, 1124-1127, . . . . . 1129-1131, 1133
Electronic Ballast . . . . . .1057-1058, . . . . . 1060-1062, 1067
Emergency . .1138-1143, . . . . . .1148, 1150-1151
Emergency/Exit . . . . . .1136-1137, . . . . . 1144, 1151
Exit . . .1137, 1144-1151
Exit NEMA 4X . . . . . .1099, 1150
Floodlights . . .1088-1092
Fluorescent . .1056-1075, . . . . .1096, 1101, 1104, . . . . . 1114, 1165, 2094
Food Processing . . .1064
Guards . . . . . .1102
Hazardous Location . . . . . .1102-1104
Health Care . . . . . .1072
HID . . . . . .1077-1079, . . . . . 1081-1083, . . . . . 1085-1086, . . . . . 1088, 1096-1097
HID Downlights . . . . . .1130, 1133
High Abuse . . . . . .1098, . . . . . 1100-1101, 1150
High Pressure Sodium . . . . . .1080, 1082, 1084, . . . . . 1094-1095, 1097
Highbay . . . .1077-1080, . . . . . .1085-1086
Hose Down . . . . . .1064
In-Plant Office . . . . .2079
Incandescent . . . . .1063, 1071, 1096, . . . . . 1119-1120, . . . . . .1124-1126, . . . . . 1128-1129, . . . . . .1131, 1133
Industrial . . . . .1063-1064, 1080, . . . . . 1082, 1084, 2094
Jelly Jars . . . . . .1096
Lampholders . . . . . .1106
Landscape . . . . . .592, 1109-1116
Linear . . . . . .1065
Low Profile . . . . . .1065
Low Voltage .1120, 1129
Lowbay . . . . . .1081-1084, 1086
Mercury Vapor . . . .1095
Metal Halide .1080, 1082, . . . . .1084, 1090, 1164
Motion Detector . . . . . .697, 1105
Niches . . . . . .3292
Overbed . . . . . .1072
Parabolic Fluorescent . . . . . .1056
Parholders . . . . . .1106
Pool Lights . . . . . .3292
Prismatic . . . . . .1077
Recessed . . .1056-1059, . . . . .1062, 1124-1127, . . . . . 1129, 1131, 1133
RLM . . . . . .1063
Roadway . . . .1095, 1097
Shielded Strip . . . . . .1059-1061, 1064
Shop . . . . . .2094
Sign . . . . . .1114

Silver Lined .....1058, 1060-1062
Small Aperture .....1124, 1129
Sports .....1090
Strip ...1060-1064, 1075
Task .....2094
Track ..1119-1121, 1131
Trims ..1120, 1124-1126, .....1128, 1130, .....1132-1133
Troffers .....1056-1058, 1101
Undercabinet .1073-1074
Vandal-Resistant .....1098, 1100-1101
Vanity .....1072-1073
Vapor-Tight ..1064, 1102
Wall .....1094
Wall Lights .....1096
Wallpacks .....1092-1094, 1096
Warehouse .....1080, 1082, 1084
Waterproof .....1064
Wet Location .1080, 1084
Wood Frame .....1070
Workstation .....2094
Wraparounds .....1062, 1067-1068

**Lighting,**
Area .....1095
Ballast Kits .....1040
Brooder Lamps ....1159
Clamp-On ..1159, 1164, .....1166-1173
Cleanroom .....1099
Combination .1166, 1170
Compact Fluorescent .....1127, 1154-1155, .....1157, 1169
Conduit Boxes ....1101
Construction .1101, 1158
Contactors .....468
Controls .....468
Cord Reel Lights .....1154, 1156-1157
Cutoff .....1095
Decorative .....1096
Desk .....1166-1173
Dock .....1162
Dock Lights ..1162-1163
Drafting Table .....1167-1168
Drop Light Reels .....1154, 1156-1157
Drop Lights ..1154-1157
Emergency .....1139
Energy Management .....1054
Floodlights ...1159-1161
Fluorescent .1051, 1068, .....1099, 1154-1157, .....1169-1170, 2094
Fluorescent Controls .....1051, 1054
Fluorescent Fuses .....417, 435
Fuses .....420-421, ..... 423, 431, 435
Halogen .....1159-1161
Hand Carry .....1159
Hand Held .....1154-1157, 1188
Hand Lamps .....1154-1157, 1188
Hazardous Location .....1155
HID Aislelighter ....1085
HID Fixture Safety Chain .....1086
High Abuse ..1101, 1162
High Bay ....1077-1078
Incandescent .....1096, 1155-1157, .....1159-1160, .....1166, 1188
Indoor .....1127
Industrial ....1077-1078, .1154-1156, 1159-1160, .....1164-1165, 1173, .....1185, 1188
Inspection ...1171-1173
Jobsite .....1101, 1158
Lampholders .....733, 934-935
Light Stands ..1160-1161
Lightcarts .....1160
Linear .....1162
Low Bay .....1078
Low Voltage .....1155, 1167-1168
Machine Tool .1164-1165
Magnetic Base ....1101
Magnifiers ...1171-1173
Metal Halide .....1164
Office .....1172-1173
Outdoor .....1096
Panelboards ...374, 376
Pedestal .....1160
Photocontrols .....586
Portable .....1160
Portable/Task .....1101, 1154-1164, .....1166-1173, 1188
Quartz .....1159-1161
Railcar .....1163
Recessed .....1127
Reel Lights .....1154, 1156-1157
Reflectors .....1159
Retail .....1077-1078
Roadway .....1095
Safety .....1162, 1185
Security .....1096
Sockets .....1158
Spotlights .....1188
Stringlights .....1158
Surface .....1068
Task ..1165, 1169, 2094
Temporary .....1158
Trouble Lights .....1154-1157
Water Garden .....3143
Waterproof .....1165
Wire Guards .....1086

**Lights,**
Arm .....1166
Barricade .....2615
Ceiling Fan .....3545
Flashing .....2555-2556, 2615
Fluorescent .....2094
Hard Hat .....2382
Indicating .....504
Indicator .....2555
Magnifier ....1171, 1173
Modular .....2093
NEMA 4X .....2557
Overhead .....2093
Shop .....2094
Signaling ....2555-2557
Stackable .....2555
Strobe .2357, 2554-2557
Swim Pool .....3292
Task .....2094
Traffic .....2615
Vehicle .....2554, 2556
Warning .....2554-2557
Workstation .....2094

**Limescale**
Removers .....1847

**Limit Switch**
Lever Arms .....531
Levers .....533, 535

**Limit Switches,**
Compact .....533
Electromagnetic ....536
General Purpose ...530
Heavy Duty .....2933
Interlocking .....532
Locking .....536
Miniature .....531-532
Oiltight .....533-535
Pneumatic ...2933-2934
Type AW .....535

**Limit Valves,**
Pneumatic ...2946-2947

**Line**
Cords, GFCI .....694
Levels .....1383
Sets .....3451-3452
Splitters .....754
Strainers .....3101
Trimmers ....2666-2667

**Line,**
Brick .....1397
Fish Tape .....1329
Trimmer .....2667

**Linear**
Actuator Boots .....262
Actuator Clamps ....262
Actuator Tubes .....262
Actuators .....260-262
Lighting .....1162

**Lineman's**
Pliers .....1307-1308

**Liners,**
Bio-Hazard .....1933
Blue .....1933
Can .....1923, 1925, .....1930-1933
Diaper Changing Station .....1959
Drawer .....1201
Firebrick .....3423
Glove .....2450, ..... 2467, 2498-2499
Green .....1933
Grey .....1925
Hard Hat .....2385
Hospital .....1932-1933
Infectious Linen ...1933
Infectious Waste ...1933
Mig Gun .....1575

Red .....1933
Roll .....1933
Spill Control Caddy .2332
Spray Gun Cup ....1963
Step Can .....1925
Tool Box .....1201
Water Garden Pond .....3143
Wax .....1913
Winter .....2385
Yellow .....1933

**Linings,**
Abrasion Resistant .1788
Epoxy .....1788
Urethane ....1785, 1787

**Links,**
Accumulation Center .....2330
Connecting Chain ..2249
Fuse .....432-433
Quick .....2656
Roller Chain ...298, 300
Welding .....1830

**Liquid**
Filters .....2763
Flow Switches ....3237
Level Sensors ....3478
Level Switches ....3233
Line Service Dryers .....3489
Measures .....2750
Probes .....893
Propane Hose ....2830
Transfer Pumps .....1961, 3125-3126, ..... 3133-3134, 3136, ..... 3142-3143, ..... 3145, 3201, .....3203-3205, 3207

**Liquidtight**
Conduit .....665
Connectors ....667-668
Fittings .....668
Gaskets .....668
Sealing Rings .....668

**Liquidtight,**
Flexible .....666

**Literature**
Organizers .....2109

**Lithograph**
Tape .....2280

**Live Centers** .....1701

**Load**
Analyzers .....3304
Bracers .....2311
Data Loggers .....758
Gauges, Hydraulic .2847
Genies .....2896
Huggers, E-Track ..2311
Huggers, Ratchet ..2250
Huggers, Strap ....2311
Huggers, Winch ...2250
Remover Kits ....2203
Retainers .....2311

**Load Center**
Filler Plates ....366, 372
Fuses ....427, 436-437
Ground Kits ...372, 396
Homeline Breakers ..365
Insulator Kits .....372
Labels .....632
Lock Kits .....372
Main Lugs .....372
Neutral Lugs ...366, 372
QO Breakers ...370-371
QO Covers .....372
QO Main Breakers ..372

**Load Centers,**
Homeline .....364
Outdoor .....367-369
QO .....367-369
Single-Phase .....364, 368-369
Three-Phase .....367

**Lobby**
Brooms .....1948

**Locating Buttons** ...1773

**Location**
Identifiers .....888

**Locators,**
Bit .....1424
Cable .....804
Split Box .....804

**Lock**
Batteries .....2641
Boxes .....2564, 2568
Devices, Keypad ...2642
Frame Adapters ...2639
Hasps .....2628
Kits, Load Center ...372
Mounting Kits .....2641
Offs, Circuit Breaker .372
Power Supplies ....2641
Valves .....2813
Washers .....1747

**Locker**
Bases .....2072-2073
Benches .....2072
Locks .....2075, 2626
Room Bench Tops .2072
Sloping Tops .2072-2073
Tops .....2075

**Lockers,**
Assembled .....2070
Bathroom ....2074-2075
Box ...2071, 2073-2075
Bulk .....2075
Double Tier .....2074
Preassembled .....2073
School .2068-2070, 2072
Shop .....2068-2070, ..... 2072-2075
Single Tier .....2074
Six Person .....2070
Sixteen Person .....2070-2071, 2075
Storage .....2068-2069, ..... 2072-2075
Unassembled .....2071, 2073-2075
Wall Mount .....2071
Wardrobe ....2068-2075
Warehouse ..2074-2075
Wire .....2076

**Locking**
Clamps .....1376-1377
Pliers .....1310-1311

**Locknut**
Assortments .....1758

**Locknuts,**
Conduit .....661
Flange .....1744
Hex .....1744
Insert .....1743
Torque .....1743

**Lockout**
Boards .....2560
Booklets ....2560, 2590
Centers .....2560
Group Boxes .....2564
Kits ...2564, 2567-2568
Plug Devices .....705
Procedure Stations .2568
Safety Posters ....2590
Signs ..2573-2574, 2579
Stations .....2560
Tags .....2569
Tool Boxes .....2568
Training Manuals ..2561
Training Videos ....2561
Valves .....2921, 2925
Wall Switches ....2561

**Lockouts,**
Aluminum .....2563
Ball Valve .....2567
Cable .....2567
Circuit Breaker .....2564-2565
Circuit Breaker Centers .....2560
Cord .....2566
Fuse .....2565
Fuse Blockout ....2565
Gate Valve ...2566-2567
Hasp .....2562
Multi-Pole ...2564-2565
Padlock ....2562-2563
Plug .....2566
Pneumatic .....2566
Pump .....3204
Round Handle ....2567
Safety .....2562-2563
Valve .....2567

**Locks,**
Aluminum .....2563
Automatic .....2641
Auxilary .....2634
Boltlocks .....2634
Brass .....2563
Briefcase .....2626
Cabinet .....2626
Caster .....2143, 2147
Color-Coded .2562-2563
Combination .....2626, 2638-2639
Concealed Shackle .....2624
Cylindrical .....2632-2635, 2640
Deadbolts .....2635
Deadlocks .....2635
Drum .....2326
Electric .....2641
Electromagnetic ...2641
Enclosure Cylinder ..642
Enclosure Key ....642
Exit Alarm .....2638
File Cabinet .....2106
Flat File .....2108
Floor .....2167

# PRODUCT INDEX




High Security .....2641
Hitch Coupler .....2708
Hitch Pin .....2706
Keyless Access .....2638-2639
Locker .....2075, 2626
Luggage .....2626
Mechanical .....2639
Padlocks ....2562-2563, .....2624-2627
Pushbutton ..2638-2639
Tool Box .....2626
Trailer .....2630
U-Bar .....2626
Window .....2663
Window Sash .....2659

**Locksets,**
Closet .....2633
Cylindrical ...2632-2635
Heavy-Duty ..2634-2635
Lever .....2633, 2635
Standard-Duty .....2632-2633
Storeroom .....2635

**Logger**
Software .....797, 800

**Loggers,**
Air Movement .....800
Data .....758, 785, ....801, 826, 888-889
Temperature .....796, 799-800

**Logic**
Controllers .....559-560
Probes .....807

**Logistic**
Straps .....2311

**Logs,**
Gas Fireplace .....3422

**Loop**
Calibrators .....773
Fasteners .....2283

**Loops,**
Chain Saw .....2685

**Loppers,**
Anvil .....2681

**Lotion**
Dispensers .....1857
Hand .....1857, 1859
Moisturizing .....1857
Soap ..1856-1858, 1860

**Lotion,**
Barrier .....1856, 1859
Hand .....1856

**Loupes,**
Coddington .....1833
Eyeglass .....1833
Illuminating .....1834
Lenscope .....1834
Triplet Measuring ..1833
Watchmaker's .....1833

**Louver**
Panel Kits ...3445-3446

**Louvers,**
Enclosure .....642
Exhaust Fan .3598-3599
Intake Fan .....3597

**Low**
Ambient Controls ..3506
Ambient Kits .3442-3443, .....3448, 3450
Bay Lighting Fixtures .....1078, 1081-1084
Flow Balometers ....856
Meters .....3198

**Low VOC**
Coatings ....1990, 1992
Enamels .....1989-1990, 1992
Epoxy .....1993
Floor Coatings .....1997-1999
Paints ..1989-1990, 1992
Primers .....1991
Spray Coatings ....2004
Spray Paints .....2004

**Low Voltage**
Dimmers .....1048
Display Lamps .....954, 960-961
Downlights .....1129
Electrodes .....1539
Hand Lamps .....1155
Landscape Lighting .....592, 1109-1113
Motors .....3349
PAR Lamps ....955, 957, 961, 964
Portable Lighting ...1155
Task Lighting .1167-1168
Thermostats .....3310, 3315, 3322
Track Lighting .....1120

**Lozenges,**
Sore Throat .....2551

**Lubricants,**
Aerosol .....2772, .....2779-2785, 2789
Air Compressor ....2883
Air Compressor Oil .2768
Air Tool Oil .....2768
Alkyl Benzene .....3477
All Purpose .....2772, 2781, 2787
Anti-Seize .....1331, 1781, 2784
Automotive .....2767, 2771, 2781
Bearing .359, 2770-2771
Biodegradable .....2769, 2777
Cable Pulling .....1331
Chain And Cable .....2784-2785
Chain Drive .....2782
Compressor .....2883
Compressor Oil ....2768
Coolant .....2773, 2777-2778
CRC .....2781-2782, .....2785, 2789
Cutting .2753, 2778-2779
Cutting Oil ...2769, 2777
C5A .....2784
Diesel .....2767
Drawing Fluids ....2778
Drip Oils .....2780
Dry Film .....2781, 2784-2785
Engine Oil .....2767
Extreme Temperature .....2771
FDA Approved .....2781-2782
Fluorinated .....2771
Food Grade .2769, 2771, .....2782, 2784-2785
Gear Oil ....2766, 2783
Graphite Paint ....2785
Grease .....359, 2771
H-L Rated .....2782
Hand Pump Oil ....2769
High Pressure .....2782, 2789
High Temperature .....2779, 2784-2785
High Vacuum .....2771
Hoist .....2782
Hydraulic Oil .2766, 2769
Industrial .....2778
Inert .....2771
Jack Oil .....2769
Krytox .....2771
Lithium .....359, 2771
Low Temperature ..2785
Low Vapor Pressure .....2771
Metal Free .....2784
Mobil-1 .....2767
Moly .....2782, 2784
Molybdenum Disulfide .....2771, 2784
Multi-Purpose .....359, 2770-2771
M1 .....2781
Non-Chlorinated .....2781-2782
Non-Ozone Depleting .....2781-2782
O-Ring .....1780, 2785
Oil ....2766, 2772, 2781
Open Gear .....2782
Paste .....2784
Penetrating .....2783
Penetrating Oil .....2784-2785
Plastic Safe .....2781
Polyol Ester .....3477
Potable Water ....2785
Pulley .....2782
Pulling .....1331
Refrigeration .....3477
Refrigeration Oil ...2768
Rust Preventative ..2781
Scissor Jack Oil ...2769
Sealant .....2771
Silicone .....1780, 2785, 2787
Silicone Free .....2781
Silicone Spray ....2783
Specialty Bearing ..2785
Spindle .....2769
Sprocket .....2782
Start-Up .....2789
Synthetic .....2753, 2766-2767, .....2771, 2782
TAL5 .....2780
Teflon .....2787
Teflon Spray .....2781, 2783, 2789
Threading Oil .....2777
Three-In-One .....2780

Tractor .....2766
Transmission .....2766
USDA Approved .....2781-2782, .....2784, 2789
USDA H1 ...2769, 2771
Vacuum Pump .....2768, 3479
Valve .....2785
Vegetable Based ..2753
Water Soluble .....2777
Way Oil .....2769
WD-40 .....2780
Wire Rope ...2782-2783
Zoom Spout .....2747

**Lubrication**
Adapters .....2746
Brushes .....2759
Central Systems ...2757
Impact Wrench .....2967-2968
Needle Valves .....2760-2761
Oil Level Gages ...2764
Pumps .....1976, 2748, 3195
Spray Valves .....2759
Toggle Valves .....2760
Valve Brushes ....2759
Valves .....2759-2760

**Lubricators,**
Air Line .....2917-2918, .....2923-2924, 2926, .....2928-2930, 3006
Air Operated .2758, 3006
Chain .....2758
Electro Full Flow ...2755
Electro Multiple Feed .....2756
Electro Single Feed .....2755
Gravity .....2755
Grease .....2762
Manual Drop Feed .2757
Manual Full Flow ..2755
Manual Multiple Feed .....2756
Oilers .....2757, 3006
Pump .....2757
Pump Oilers .....2747
Pump Operated ...2758

**Luggage**
Dollies .....2201
Hand Trucks .....2210
Locks .....2626

**Lugs,**
Cable .....605-608, 610
Ground .....824
Load Center .....366
Panelboard .....375

**Lumbar Supports** ..2496

**Lumber**
Carts .....2200
Crayons .....1715

**Lumbo Rolls** .....2501

**Lunch**
Tables .....2100

**Lures,**
Bug .....2675

**Lutes,**
Asphalt .....2677
Kumalong .....2677

**LUX Meters** .....828


## M


**Machine**
Bolts .....1734
Light Clamps .....1165
Movers .....2214
Nuts .....1745
Screw Assortments .1759
Screw Nuts .....1741, 1744-1745
Screws .....1748-1750
Stands .....2083
Tape .....2596-2597

**Machine Tool**
Lighting .....1164-1165
Pumps .3162-3164, 3166

**Machine Tools,**
Calipers .....1803-1804
Combination Blades .....1820
Combination Sets ..1820
Combination Squares .....1820
Dial Indicators .....1808-1809, 1813
Dial Thickness Gages .....1813
Digimatic Indicators .....1810
Gage Block Sets ...1826
Height Gages .1805-1806
Micrometer Sets ...1801
Micrometers ..1797-1801
Protractor Heads ..1820
Steel Rules .....1819
Telescoping Gages .1806

**Machinery**
Eyebolts .....2244
Guards .....2315
Keys .....1762
Motors .....7-13, 16-17, ..20, 22-23, 25-36, 39, .....44-45, 48-54, 94, .....97, 100-101, 103, .....114, 120-136, .....138-139, 154-155

**Machines,**
Dovetail .....1473
Key Duplicating ....2631
Labeling .....2596-2597
Laminator .....2600
Sign .....2596
Signage .....2596
Software .....2596-2597
Stencil .....2288
Stretch Wrap .....2297
Striping .....2003
Tape .....2277

**Machining**
Micro-Dispensers ..2753
Mist-Coolant Devices .....2753

**Machinist's**
Vises .....1375

**Magnehelic**
Air Filter Kits .....862
Portable Adapters ...862

**Magnehelics** ....860-861

**Magnetic**
Ballasts .....1020, 1022-1025, .....1027-1031, .....1034, 1037-1038
Bases .....1812
Coil .....471
Contact Kits .....461
Drill Presses .....1450
Drive Pumps .....3141
Flexible Tape .....1830
Inspection Mirrors ..1830
Levels .....1385
Line Relays .....3501
Loop Detectors .....907
Loop Saw-In .....907
Pickups ..835-836, 1832
Refrigeration Contactors .....3501
Screwdriver Bits ...1293
Screwdrivers .....1430
Sensors .....836
Starters ...448, 456-459
Strips .....1830
Tape .....1830
Tool Holders .....1197

**Magnetizer/ Demagnetizers** ...1301

**Magnets,**
Alnico .....1830-1832
Bar .....1832
Button .....1830
Ceramic Pot .....1831
Door .....2645
Horseshoe .....1831
Pocket .....1831
Pot .....1832
Retangular Bar ....1832
Round Bar .....1832
Shallow Pot ..1831-1832

**Magnifier**
Lights .....1171-1173
Tweezers .....1831

**Magnifiers** ....1833-1834

**Mail**
Cart Casters .....2141
Slots, Door .....2663

**Mailers,**
Bubble .....2271
Double Lock .....2272
Padded .....2271

**Mailroom**
Trucks .....2190

**Maintenance**
Brushes .....1948-1949
Buckets .....1945
Files .....1369
Kits, Air Compressor .....2883
Platforms .....2317
Pumps .....3204
Sets, Hydraulic ....2723
Welding Electrodes .1539
Wringers .....1945

**Mallets,**
Rawhide .....1357
Rubber .....1360

# PRODUCT INDEX




**Mancoolers** . . . . . .3576

**Mandrels,**
Abrasive Disc . . . . .1604
Bear-Tex . . . . . .1610
Bore Polisher . . . . .1613
Cartridge . . . . . .1628
Drive . . . . . .204
Unified Wheel . . . . .1610
Wheel . . . . . .1607

**Manganese**
Steel Electrodes . . .1541

**Manifold**
Blocks . . . . . .2796
Raceway Converters . . . . . .2937
Refrigeration Gauges . . . . . .3487
Valve Bases . . . . . .2937

**Manifolds,**
Air Coupling . . . . . .3025
Air Supply . . . . . .2428
Air Tank . . . . . .2896
Base . . . . . .2937
Hose . . . . . .3025
Hydraulic . . . . . .2815
Needle Valve . . . . .2760
Plug-In Valve . . . . .2939
Pneumatic Valve . . .2937
Valve . . . . . .2938, 2941

**Manometer**
Cases . . . . . .859
Fluid . . . . . .862
Stands . . . . . .857

**Manometers**
. . . . . .850, 857-859

**Mantels,**
Fireplace . . . . . .3423

**Manuals,**
Lockout Training . . .2561

**MAPP**
Cylinder Stands . . .1550
Cylinders . . . . . .1550
Gas Torches .1549, 1551
Regulators . . . . . .1563

**Marble**
Brushes . . . . . .1876

**Marine**
Batteries . . . . . .3213
Blowers . . . . . .3635
Pumps . . . . .3121, 3123, . . . . 3130, 3175, 3206, . . . . . .3259, 3261
Receptacles . . . .724-726
Toggle Switches . . . .703
Winch Straps . . . . .2257
Winchline . . . . . .2257

**Marker**
Ink . . . . . .2289

**Markers,**
Annealing . . . . . .1715
Ball Paint . . . . . .1715
Butt . . . . . .1387
Conduit . . . . . .633
Crayon . . . . . .1715
Dry Erase . . . . . .2117
Felt Tip . . . . . .2289
High Temperature . .1715
Industrial . . . .1715, 2289
Ink . . . . . .1715, 2289
Lumber . . . . . .1715
Paint . . . . . .1715
Paint Stick . . . . . .1715
Pipe . . . . . .2598-2604
Soapstone . .1565, 1715
Voltage . . . . . .633
Welding . . . . . .1715
Wire . . . . . .632, 635-636

**Marking**
Chalk . . . . . .1386
Paint . . . . . .2003
Pencils . . . . . .1386
Pens . . . . . .629, 2289
Wands . . . . . .2003

**Masker**
Apron Tapers . . . . .2279

**Masking**
Tape . . . . . .2284

**Masks,**
Eyeshield Face . . . .2551
Medical Face . . . . .2551
Nuisance Dust . . . .2403
Respirator . . . . .2399, 2408, 2430

**Masonry**
Additives . . . . . .2691
Concrete Repair . . .2691
Drill Bits . . . .1447-1448, . . . . . 1661, 1669
Paint Brushes . . . . .1951
Screws . . . . . .1723
Stopleak . . . . . .2691
Tools . . . . . .1397
Trowels . . . . . .1397

**Master Tool Sets**
. . . . . .1207, 1209, 1211, . . . . . 1213-1220, 1291

**Material**
Handling Casters . .2141

**Materials,**
Asphalt Repair . . . .2691
Concrete Repair . . .2691

**Mats,**
Anti-Fatigue . .1936-1939
Anti-Static . . . . . .1938
Carpet .1935, 1939-1940
Door . . . . . .1940
Entrance . . . .1934-1935, . . . . . .1939-1940
Ergonomic . . . . . .1936
Floor . . . . . .1935-1940
Foyer . . . . . .1939-1940
Hallway . . . . .1939-1940
Indoor . . . . . .1939-1940
Safety .1936-1939, 2621
Scraper . . . . .1934-1935, . . . . . 1939-1940
Slip-Resistant . . . . . .1940, 2621

**Matting,**
Anti-Fatigue . .1936-1937
Carpet . . . . . .1935
Entrance . . . . . .1934-1935, 1939
Ergonomic . . . . . .1936
Floor . . . . . .1934-1938
Safety . . . . . .1937-1938
Scrape And Dry . . .1934

**Mattock/Picks** . . . . .2680

**Maul**
Handles . . . . . .2680

**Mauls** . . . . . .2680

**Measuring**
Devices . . . . . .1389
Rules . . . . . .1390, 1819
Scales . . . . . .1833
Scoops . . . . . .1961
Tapes . . . . . .1388-1390
Wheels . . . . . .1391

**Measuring,**
Electronic . . . . . .1391
Precision . . . . . .1807

**Mechanic's**
Chain Slings . . . . . .2238
Ladders . . . . . .2178
Tool Sets . . . . . .1207, . . . . . 1213-1220, 1252, . . . . . 1254, 1256, . . . . . 1258, 1260, . . . . . 1262-1267, 1269
Vises . . . . . .1374

**Mechanical**
Benders . . . . . .1327
Connectors . . . .614-615
Dock Ramps . . . . . .2306
Interlock . . .719-721, 727
Lift Tables . . . . . .2217
Pencils . . . . . .1386
Post Tables . . . . . .2217
Timers . . . . . .829

**Media,**
Filter . . . . . .3074
Paint Arrestor . . . . .3531
Sandblast . . . . . .1526

**Medicinals** . . .2549-2552

**Medicine**
Cabinets . . . . . .2544

**Megaphones** . . . . . .902

**Meggers,**
Battery Operated . . . . . .748-750
Hand Cranked . . . . .747

**Megohmmeter**
AC Modules . . . . . .749

**Megohmmeters** .747-750

**Membranes,**
Humidity Probe . . . . .832

**Mending Plates** . . . .2655

**Mercury**
Displacement Relays . . . . . .485
Vapor Ballasts . . . . . .1040, 1043-1044
Vapor HID Lighting .1095
Vapor Lamps . . .945-947

**Mesh**
Bags . . . . . .1959
Filters . . . . . .3540

**Message**
Boards, Cork . . . . .2117
Boards, Dry Erase .2117
Boards, Electronic . .903
Labels . . . . . .2608
Loaders, Display Sign . . . . . .903

**Metal**
Cans .....2664
Channels .....2062
Cleaners .....2790
Firestop Collars ...1790
Halide Ballasts .....1040-1044
Halide Lamps .....937-941, 943, 990
Halide Lighting Fixtures .....1080, 1082, .....1084, 1090
Halide Work Lights .1164
Hose .....3185
Lubricants ...1780, 2784
Mirrors .....2623
Polish .....1864
Powder Spray Kits .1547
Primers .....1787
Punches ....1325-1326
Sealant Repair ....1781
Water Coolers ....2540
Wheels .....1466
Window Glazing ...1796

**Metalcutting**
Fluid Dispensers ...2753
Mist-Coolant Devices .....2753

**Metalizing**
Powders .....1547

**Metalworking**
Fluid Dispensers ...2753
Fluids .....2773, 2778

**Metatarsal Guards** ..2492

**Metric**
Eyebolts .....2244
Flatwashers .....1746
Hex Cap Screws .....1739-1740
Hex Nuts .....1741
Lock Washers .....1747
Locknuts .....1743
Socket Sets .....1276
Sockets .....1280

**Micro-Dispensers,**
Metalworking .....2753

**Micro-Ohmmeters** ...751

**Micromanometers** .....858-859

**Micrometer**
Ball Attachments ...1801
Bases .....1812
Cases .....1797-1799
Sets .....1801

**Micrometers,**
Ball Anvil .....1801
Blade .....1798, 1800
Depth Gauges ....1800
Digimatic .....1799
Digital .....1798, 1800
Disc Type .....1800
Electronic .....1799
Inside .....1798
Multi-Anvil .....1800
Outside .....1797-1801
Screw Thread .....1799
SPC .....1799
Vernier .....1798

**Microphones,**
Public Address .....906

**Microprinters,**
Thermoanemometer .854

**Microswitches** .....528

**Microtorches** .....1530

**Microwave**
Leakage Detectors ..849

**Microwaves,**
Office Service .....2115

**Midget**
Fuses .....421

**Mig**
Cable Connectors ..1570
Ground Clamps ...1570
Gun Consumables .1575
Gun Liners .....1575
Gun Nozzles .....1575
Gun Outlet Guides .1575
Gun Tip Adapters ..1575
Guns .....1573, 1575
Welder/Generators .....1580-1582
Welders .1568-1569, 1573-1574
Welding .....1542
Welding Wire .....1543, 1568
Wire Feeders .....1574, 1582

**Milling**
Cutters .....1642, 1685
Inserts .....1639
Machine Bases ....1497
Machines .....1497
Table Clamp Kits ..1498
Tables .....1502
Vises .....1503

**Mirror**
Brackets .....2623

**Mirrors,**
Aisle .....2622
Blind Corner .....2622
CCTV .....2623
Ceiling .....2623
Circular .....2622
Convex .....2622
Dome .....2622-2623
Flat .....2623
Fork Lift .....2623
Glass .....2622-2623
Inspection ...1312, 1830
Magnetic .....1830
Metal .....2623
Rectangular .....2622
Safety .....2622-2623
Security .....2622-2623
Stainless Steel ....1917
Vehicle .....2623

**Mist Coolant**
Systems .....2753

**Miter**
Box Saw Attachments .....464
Box Saws ...1464-1465
Gears .....323
Saw Dust Bags ....1464
Saw Stands .....1465
Saw Supports .....1465
Saw Workstations ..1464
Saws .....1518

**Mittens** .....2470

**Mitts,**
Painters .....1982

**Mixer**
Engines .....2731
Trailers .....2689

**Mixers,**
Cement .....2689
Concrete .....2689
Drum ..1984, 2322, 2775
Drywall Mud .....1396
Drywall Paint .....1396
Steel Drum .....2689
Tank .....2322
Utility .....2689

**Mobil-1**
Engine Oil .....2767
Gear Oil .....2766
Grease .....2771
SAE 10W-30 .....2767
Transmission Fluid .2766

**Mobile**
Work Centers .....2193
Work Stands .....2186

**Modular**
Drawers .....2093
In-Plant Offices .....2078-2079
Lights .....2093
Scales .....2301
Shelving .....2025
Soldering Irons ....1533
Stacking Racks ....2012
Workbenches .....2092
Workstations .....2093

**Modular FRL**
Automatic Drains .....2923, 2925
Connection Sets .....2923, 2925, 2929
End Blocks ..2923, 2925
Lockout Valves ....2925
Mounting Brackets .2923, .....2925, 2927, 2929

**Modules,**
City Tie .....2358
Controller .....558
IEC .....451
Ignition .....3344, 3348
Input .....558
Output .....558
Plug-In .....758
Pushbutton .....517
Reduction .....279
Relay .....487
RS-232 .....758
Smoke Alarm Relay .....2357
Suppression .....463

**Moil Points** ...3004-3005

**Moisture**
Displacers, CRC .....2781-2782
Indicators ....786, 3489
Inhibitors .....639

**Moisturizers,**
Hand .....1857

**Mold**
Release .....2779

**Molded Case**
Circuit Breaker Enclosures .....386
Circuit Breakers .383-386

**Molly Fasteners**
.....1721-1722

**Moly Lube,**
Aerosol .....2782
CRC .....2782
Paste .....2784

**Monitor**
Arms .....2093
Bases .....3505
Battery Chargers ...841
Mounting Systems .2094
Probe And Hose Assemblies .....841

**Monitors,**
Air Quality .....841
Air Velocity .848, 851-853
Analog Signal .....800
CO .....842
Confined Space ...2518
Dew Point .....878
Fume Hood .....850
Gas .....2518
Humidity .797, 878, 3510
HVAC Motor Control .....3505
Infrared .....895
Line .....775, 794, 806
Load .....758
Low Oil Guard ....2890
Noise .....826
Portable .....2518
Power .....758
Power Factor .....758
Pressure .....798
Pressure/Vacuum ...874
Reverse Osmosis ..3095
Single-Phase .....3505
Temperature ...795-797, .....800-801, 878, 895
Three-Phase .....492, 3235, 3505
Voltage .....800
Water .....3095
Wood Moisture .....786

**Monkey Wrenches** ..1333

**Mop**
Buckets .....1944-1945
Frames .....1941
Handles ....1941, 1943
Heads .....1941-1943
Holders .....2678
Sink Faucets .....3113
Wringers ....1944-1945

**Mops** ...1941-1943, 1954

**Morse**
Arbors .....1707
Taper Drill Sleeves .1708
Taper Extension Sockets .....1708

**Mortar**
Hoes .....2676
Mixer Hoes .....2677
Mixing Boxes .....2673
Pans .....2673

**Mortar,**
Firestop .....1790

**Mortise**
Cylinders .....2646

**Motion**
Detector Lighting Fixtures .....697, 1105
Sensor Switches ....697
Sensors .....696-697

**Motor**
Adapters, Hydraulic .....2802
Ball Bearings .....328-329, 332-333
Bases ....182, 199-201
Brackets .....201
Brakes ....263-265, 267
Brush Seater .....205
Brushes .....174, 179
Bushings .....352
BX Connectors .....203
Canopy Cap Kits ....23
Capacitor Panels ..3235
Capacitors .....196-198
Combination Starters .....3235
Commutator Cleaners .....205
Conduit Boxes .129, 203
Connector Sealants .612
Contactors .....449
Control Boxes .....3252
Control Panels ....3234
Control Switches ....702
Controllers ....178, 702
Controls .....191, 194, .....3234-3235
Controls, Solenoids ..490
Conversion Kits ..19, 23
Couplers .....3177
Disconnect Boots ...612
Fan Blades ..3600-3601
Fiber Washer Kits ...202
Fuse Holders .....203
Fuses .....414, 421, .....423, 429-430
Heaters .....3235
Maintenance Tools ..205
Mount Rings .....3275
Mounting Bases ....199
Mounting Latches ...202
Mountings .....199-201
Oil, Three-In-One ..2780
Overload Protection .....458-459
Pigtail Connectors ..611
Rainshields .....202
Relief Valves .....2813
Ring Adapters .....202
Rings .....202
Rotating Switches ...203
Rotation Testers ....791
Routers .....1471
Shaft Adapters .....109, 202, 204
Shaft Arbors .....204
Shaft Coupling Kits ..204
Shaft Sleeves .....352
Shim .....1712
Speed Controllers .40-42, .....187, 189, 191-194
Speed Controls .....43-44, 733
Springs .....179
Starting Switches .....698, 702
Stationary Switches .203
Switch Handles .....460
Switch Mounting Boxes .....203
Switches .....453, .....460-461, 698-699
Thru-Bolts .....203

**Motor Starter**
Baseplates .....462
Coil Suppressors .....450-451
Contact Blocks .447, 463
Contacts .....446
Control Panels .....3234-3235
Enclosures .....446
Fuses .....426, 428
Heater Coils .....445, 454-455, 465
Heaters .....445, 454-455, 465
Modification Kits ....461
Mounting Kits ..447, 450
Mounting Plates ....462
Overload Blocks ....463
Overload Relays .....448, 459
Protectors .....3235
Replacement Coils ..463
Reset Kits .....463
Thermal Overload ...463
Thermal Units .....445, 455, 465
Voltage Trips .....446

**Motor Starters,**
Combination ...451, 466
Compressor .....444
Definite Purpose ....444
Disconnect Type ....466
Enclosed .....456-457, 466-467
Fractional .....454
IEC Combination ...451
IEC Magnetic .....448
IEC Manual .....446
IEC Miniature .....447
IEC Self-Protected ..451
Magnetic .....447-448, .....456-459, 466
Manual .....454-455
Miniature .....447
NEMA ....454-459, 466
Non-Reversing .....456, 458-459, 466
Open .....456
Overload Relays ....448
Reduced Voltage ...467
Reversing .....447, 456-457, 459
Self-Protected .....451
Single-Phase .....456
Soft Start .....467
Solid State .....467
Solid State Overload .....458-459
Three-Phase .....456-457, 466

**Motor/Reducer**
Combinations .....270

**Motors,**
AC/DC .....179

# PRODUCT INDEX

## Motors


AC/DC Vacuum .174-176
Adjustable Speed .....145, 216
Aeration Fan .....148
Agitator .....119
Agricultural Fan .145-147
Air .....2962
Air Circulator .....104-105, 3570
Air Compressor ....150
Air Powered . .2960-2961
Appliance/Tool .....94, 174-183
Audio Visual .....118
Auger Drive .....143
Automotive Duty . .46-47
Belt Drive . . .52, 94-102, 105, 129
Beverage .....170
Beverage Machine . .119
Brake .....22, 25
Brushless .....178
C-Face .....22-23, .... 103, 120-127, 156
C-Frame .....118
Capacitor-Start Farm Duty .141-143, 147-149
Capacitor-Start General Purpose . .7-11, 44, 114
Capacitor-Start Washdown . . .154, 156
Car Wash .....152
Carbonator Pump . . .170
Center Pivot .....144
Centrifugal Pump .....121, 124, 157-159
Circulator Pump .....13, 78-79
Closed Coupled Pump .....151
Commercial .....11, 48-54, 97-98, .... 100-101, 182-183
Condenser Fan .....55-59, 94
Crop Dryer .....148
Damper .....3349-3350
DC .....184-187, 216
Deep Well Pump .....172-173
Direct Current .....184-185, 216
Direct Drive ....106-108
Dishwasher .....180
Double Shaft . .53, 60-66, .....112, 181-182
Draft Booster .....76
Drill Press .....1450
Dryer .....181
Dust Tight .....149
Evaporative Cooler . . .81
Exhaust Fan . . .105, 129
Explosion-Proof (See Hazardous Location) .....128-136
Face Mount .....103
Fan .....105, 129
Fan/Blower . .52, 94-119
Farm Duty .....141-149
Federal Efficiency .....14-22, 24-25, ..... 96, 125-127, 156
50Hz .....94, 136-139
Food Processing .....153-156
4.4 Diameter .....109
Furnace Blower .....52, 55, 61, . . . 65-76, 96-102, 182
General Purpose ....17
Glass Washer .....171
Golf Cart .....191
Halo Mount .....66
Hatchery .....149
Hatchery/Setter .....149
Hazardous Location .....128-136
Heat Pump .....57-59
Heating/Cooling .....13, 55-81, 83, ..... 85, 87, 89, 91, ..... 93, 108-109, 140
High Temperature .58-59
High Torque ....141-142
Hydraulic .....2799, 2804, 2806
IEEE-841 .....37-38
Industrial . . .7-39, 44-47, 53, 96, .... 114, 125-127, 156
Instant Reverse ....140
Inverter Duty .....39
Irrigation .....144
J-Shaft .....121, 124, ..... 130, 157-159
Jet Pump . .160-162, 165
Kitchen Exhaust .112-113
Laminate Trimmer . .1474
Laundry .....180-181
Low Voltage .....3349
Mobile Home .....76
Modutrol ....3349-3350
Modutrol IV .....3349
Moisture Resistant . . .81
OEM Replacement .....65-66, 71, 83, 85, .... 87, 89, 91, 93, 109
Oil Burner .....80
Open Dripproof Capacitor-Start .....7-8, 11, 44, . . . 48-51, 97, 114, 182
Open Dripproof Federal Efficiency .....16
Open Dripproof Split-Phase .....52-53, ..... 98-102, 182-183
Open Dripproof Three-Phase .....12-13, 16-17, 23, .... 45, 53, 94-96, 125
Oscillating .....105
Paint Free .....124, 153
Pedestal Fan . . .104-105
PMDC ....184-185, 216
Poultry Fan ....145-147
Poultry Feed .....143
Power Nozzle .....178
Power Tool .....182
Premium Efficiency .....26-38, 46-47, ..... 126-127, 135
Pressure Washer . . .152
PSC Condenser Fan .....55-59
PSC Furnace Blower .....61, 67-72
PSC Room Air Conditioner .....60-66
PSC Unit Heater . .77-78
Pump .....3205
Refrigerator Fan .....115-119
Reversing .....3349
Severe Duty . .24-25, 28, .....33-38, 126-127
Sewing Machine .94, 183
Shaded Pole 3.3 Diameter .....110-114
Shaded Pole 4.4 Diameter .....109
Shutter .....3597
Solution Pump .....85
Spa .....165, 168-169
Split-Phase Belt Drive .....52, 98-102
Split-Phase Commercial .....52-54, 98, .....100-101, 182-183
Split-Phase Direct Drive .....106-108
Square Flange . .163-164
Stainless Steel .124, 153
Submersible Pump .....172-173
Sump Pump .....171
Swim Pool .....163-169
Switch .....76
Synchronous .....226
TEAO .....106-108
TEFC Capacitor-Start .....9-11, 44, 51
TEFC Split-Phase ....54
TEFC Three-Phase .....13, 20-25, 31, ..... 45, 126-127, 156
TENV .....13, 20
3.3 Diameter . . .110-114
Thee-Phase General Purpose .....17
Three-Phase Farm Duty .....144
Three-Phase Federal Efficiency .....14-22, 24-25, ..... 96, 125-127, 156
Three-Phase General Purpose .....12-13, ..... 16-17, 20-23, 31, . . . 45, 53, 96, 125-127
Three-Phase Premium Efficiency .....26-38
Three-Phase Severe Duty .....24-25
Three-Phase Washdown .....155-156
Torsion Flex .....68, 72
Totally Enclosed Air-Over (See TEAO) . . .106-108
Totally Enclosed Fan Cooled (See TEFC) .....9-11, 13, 20, ..... 22-23, 31, .... 44-45, 51, 54, 142
Totally Enclosed Non-Ventilated (See TENV) .....13, 20
Transformer Cooling Fan .....74, 140

277 Volt .....65-66
Two Speed Capacitor-Start ....50-51, 96-97
Two Speed Split-Phase .....52-54, 99, ..... 101, 106-108
Two Speed Three-Phase .....95
U-Frame .....45-47
ULI507 Approved ...108
Uncased .....119
Unit Bearing .....115-117, 119
Unit Heater Blower .....73, 77-78
Universal .....179
Vacuum .....174-178
Vibration .....182
Washdown .153-156, 186
Well Pump .....172-173
Wet Environment .....152, 154-156
Whole House .....99
Yoke Mount .....104-105, 145, 154

**Mounted**
Points, Resin .....1596

**Mounting**
Brackets, Dryer ....2907
Brackets, Filter .....2921, 2923, ..... 2925, 2927, 2929
Brackets, Heater ...3409
Brackets, Regulator .....2921
Brackets, Vibrator ...259
Clamps .....1465
Cradles, Cable Tie ..630
Din Rails .....481
Pads, Air Conditioner .....3444, 3451
Pads, Cable Tie ....630
Pads, Condenser .....3444, 3451-3452
Systems, Computer .....2097

**Mountings,**
Decorative Caster ..2128
Motor .....199-200

**Mounts,**
Air Compressor ....2871
Air Cylinder .....2950, ..... 2954-2957, 2959
Air Motor .....2960
Drum/Oil Skimmer .2753
Leveling ....2168, 3673
Sign .....2596
Tank/Oil Skimmer ..2753

**Movers,**
Machine .....2214
Pallet .....2213

**Mower**
Grass Catchers ....2664

**Mowers,**
Lawn .....2664

**MSDS**
Binders .....2590
Boards .....2590
Centers .....2097, 2590
Jobsite Centers ....2595
Posters .....2590

**Mud**
Mixers, Drywall ....1396
Pans, Drywall .....1396

**Muffler**
Mounting Kits .....2732

**Mufflers,**
Air Line Exhaust .....2921, 2930, 2934
Canister .....2732
Engine .....2732
Pavement Breaker .3002
Pump .....3196
Regenerative Blower .....2851
Ring Compressor ..2851
Vacuum Pump ....2856

**Muffs,**
Ear .....2390-2393

**Mule**
Pry Bars .....2312

**Multimeter**
Adapters .....778, 834
Battery Chargers ...774
Battery Eliminators .....774, 779
Battery Packs .....774
Cable .....774, 777
Cable Assemblies .....782, 784
Cases ....762, 774, 776
Clamps ....753, 756, 758, 763
Current Probes .....778
Fuses .....779
High Frequency Probes .....777
Holsters .....776
Jaw Adapters .....763
Light Level Adapters .....828
Patch Cords ...784, 816
Probes ....777, 780, 782, 784
Software ..774-775, 815
Test Clips .780, 783, 822
Test Leads .....762, ....780-782, 784, 891
Thermocouple Modules .....777
Transducers .....794

**Multimeters,**
Analog .....761-762
Bench Type .....775
Computer Interface ..785
Digital ...742, 758, 761, ....763-765, 767-768, ..... 771-775, 785, ..... 814-815, 891
Hand-Held ....742, 761, ....763, 765, 767-768, ..... 771-774, 815
Phase Indication ....785
Pocket Size .....765
Portable ..742, 762, 815
Wide Range ...815, 891

**Multiplexers,**
RS-232 .....785

**Multipliers,**
Ratio .....279
Torque .....1290

**Music**
Wire .....1713


## N


**Nail**
Aprons .....1394
Bags .....1394-1395
Brushes .....1949
Gages .....1387
Pullers .....1361
Sets .....1358
Straps .....652

**Nailers,**
Air Powered .....3008, 3011, 3013
Coil-Fed .....3011
Finish .3008, 3011, 3013
Framing .....3008, 3011, 3013
Pneumatic .....3008
Roofing .....3008, 3011, 3013
Sheathing .....3008

**Nails,**
Air Tool .....3007, 3010, 3012
Brad ..3007, 3010, 3012
Coil ...3007, 3010, 3012
Common ....3007, 3012
Finish .3007, 3010, 3012
Framing .....3007
Full Round Head ...3007
Galvanized ..3007, 3010
Pneumatic .....3007
Ring Shank .....3007
Roofing .....3012

**Nameplates,**
Pushbutton ....509, 517
Selector Switches ...509
22mm .....509

**Napkins,**
Feminine .....1913
Paper .....1906

**Naps,**
Paint .....1976

**Neck**
Wraps .....2384

**Needle**
Files .....1369
Nose Pliers ..1307-1309
Probes .....893
Scaler/Chisels, Air .2999
Scalers, Air ..2998-2999
Sets, Air Tool .....3006
Valve Manifolds ...2760
Valves, Heavy-Duty Vented .....2761
Valves, Hydraulic .....2814, 2845
Valves, Sight Feed .2761

**NEMA**
Contact Blocks ....463
Enclosures .....638
Heater Coils .....445, 455, 465
Motor Starters .....454-459, 466

**Neoprene**
Gloves .....2466

Pads . . . . . .3673

**Nets,**
Laundry . . . . . .1959

**Neutral Cleaners**
. . . . . .1837, 1839, . . . . . 1849, 1868, 1870

**Neutralizer**
Kits . . . . . .3428

**Nibblers,**
Air . . . . . .2996
Electric . . . . . .1480

**Nipples,**
Conduit . . . . . .657
Pin Rack . . . . . .3034
Pipe . . . . . .3053-3055
Pressure Washer . .1898

**Nitrile**
Aprons . . . . . .2487
Gloves . . . . .2454-2455, . . . . . .2461-2462, . . . . . .2464, 2468

**Noise**
Analyzers . . . . . .826
Data Loggers . . . . . .826
Dosimeters . . . .825-826
Monitor Calibrators . .826
Monitors . . . . . .826
Reduction . . . . . .2395

**Noise Absorbing**
Baffles . . . . . .2395
Blankets . . . . . .2394
Foam . . . . . .2394
Screens . . . . . .2394

**Non-Ozone Depleting**
Aerosol Cleaners . .2790
Chemicals . . . . . .2781

**Noseplates,**
Dolly . . . . . .2205
Truck . . . . . .2205

**Notchers,**
Heavy Duty . . . . . .1510
Sheet Metal .1347, 1511

**Notice Signs** . .2579-2580

**Nozzles,**
Adhesive Mix . . . . .1786
Air Gun . . . . . .3026
Backwash . . . . . .3257
Bead Blaster . . . . . .1529
Blast Cabinet . . . . .1529
Blow Gun . . . . . .3026
Drain Cleaner . . . . .1341
Epoxy . .1727-1728, 1785
Fan Spray . . . . . .2694
Filter . . . . . .3257
Fire Hose . . . . . .3034
Fog . . . . . .3034
Garden Hose . . . . .2694
Garden Spray . . . . .2694
High Pressure . . . . .2694
Hot Water . . . . . .2694
Insulated . . . . . .2694
Mig Gun . . . . . .1575
Pump . . . . . .3185-3186, . . . . . 3205, 3257
Rotating . . . . . .3186
Safety . . . . . .3026
Sandblast . . . . . .1526-1527, 1529
Spray . . . . . .3185
Spray Wand . . . . . .2694
Sprayer . . . . . .2703
Stainless Steel . . . .3257
Thermoplastic . . . . .3034
Vacuum Cleaner . . . . . .1890, 1893
Water Garden Fountain . . . . . .3144
Water Sweeper . . . .2694
Welding . . . . . .1561
Wet/Dry Vacuum . .1890

**Numbers,**
Self-Adhesive . . . . . .2594, 2605

**Nut**
Assortments . . . . . .1758
Busters . . . . . .2781
Cutters, Hydraulic . .2848
Lockers . . . . . .1780
Setters . . . . . .1430
Splitters . . . . . .1364
Splitters, Hydraulic .2848
Threadlocker . . . . .1782

**Nut Driver**
Sets . . . . . .1300

**Nut Drivers,**
Hollow Shaft . . . . . .1300
Insulated . . . . . .1314
Metric . . . . . .1300

**Nutrunners,**
Air . . . . . .2971

**Nuts,**
Carriage Bolt . . . . .1742
Coupling . . . .1761, 1778
Eye . . . . . .2245
Fasteners . . .1742-1745
Flange . . . . . .1777
Flange Lock . . . . . .1744
Framing . . . . . .2062
Grade Eight . . . . . .1742
Hex . . .1741-1742, 1745
Hex Cap Screw . . . . . .1742, 1744
Hex Machine . . . . .1745
Jam . . . . . .1744, 1777
K-Lock . . . . . .1744
Knurled . . . . . .1777
Locking . . . . . .1601
Locknuts . . . .1743-1744
Machine Screw . . . . . .1741-1742, 1745
Metric . . . . . .1741, 1743
Nylon Insert . . . . . .1743
Retaining . . . . . .1601
Speed . . . . . .1744
Spherical . . . . . .1777
Stainless Steel . . . . . .1742-1743, 1745
Steel . . . . . .2245
Swivel . . . . . .1772
T- . . . . . .1778
Threaded Rod . . . .1742
Torque . . . . .1743, 1746
Wing . . . . . .1744
Wire . . . . . .622

**Nylon**
Aprons . . . . . .2487
Brick Line . . . . . .1397
Brushes . . . . . .1728
Casters . . . . . .2152
Fish Tape . . . . . .1329
Glides . . . . . .2171
Gloves . . . . . .2465
Rope . . . . . .2258
Wallplates . . . . .700-701


## O


**O-Ring**
Kits . . . . . .1780
Lubricants . . .1780, 2785
Tools . . . . . .1766

**O-Rings** . . . . .2901, 2914

**Occupational Health Products** . . . .826, 2519, . . . . . .2546, 2550, 2552

**Odor**
Controllers . . . . . .1840, 1851-1852, . . . . . 1869-1870, 1950
Counteractants . . . . . .1840, 1852
Eliminators . . . . . .3525

**Office**
Clocks . . . . . .881
Refrigerators . . . . . .3462
Safes . . . . . .2650
Scissors . . . . . .1349
Stools . . . . . .2098

**Offices,**
Modular In-Plant . . . . . .2078-2079

**Offset**
Benders . . . . . .1327
Pipe Wrenches . . . .1333
Screwdrivers . . . . . .1295

**Ohmmeter**
AC Modules . . . . . .749

**Ohmmeters,**
Analog . . . .754, 761-762
Clamp-On . . . . .754-757
Digital . . . .751, 755-757, . . . . 763-765, 767-768, . . . . . 771-775, 815
Line-Operated . . . . .750
Megohmmeters .747-750
Micro . . . . . .751

**Oil**
Acid Test Kits . . . . .3479
Board Stencil . . . . .2288
Burner Controls . . . . . .3351-3352
Burner Motors . . . . . .80
Burner Pumps . . . .3352
Burners . . . . . .3430
Cans . . . . . .2747
Combustion Testers . . . . . .843, 848
Coolant Pumps . . . .3163
Coolers, Hydraulic . . . . . .2826-2827
Cups . . . . . .2755
Drains . . . . . .2752

# PRODUCT INDEX




Drum Pumps .....2748, 3201, 3203
Fillers .....2754
Filter Wrenches ...2751
Filters .....2890
Flow Control Handles .....2749
Furnaces .....3429
Heaters .....3377, 3399
Level Gages .....2764
Meters .....2749
Monitors, Compressor .....2890
Pressure Controls .....3498-3499
Primaries .....3351
Pumps .....3164, 3167-3169, .....3194, 3199, .....3201-3203, 3479
Reels .....3016
Removal Filters ...2915, .....2923-2924, .....2926, 2928
Reservoirs ..2754-2758, .....2793-2794, 2807
Separators .....2753
Skimmer Decanters .....2753
Skimmer Drum/Tank Mounts .....2753
Skimmer Storage Stands .....2753
Skimmers ...2753, 2775
Sorbent Booms ....2336
Sorbent Pads .....2336
Sorbents .....2333, 2335, 2337
Spill Kits .....2334
Test Kits .....3479
Transfer Pumps .....2743-2744, 3195

**Oil,**
Aerosol .....2772, .....2779, 2781-2783, .....2785, 2789
Air Compressor .....2768, 2883
Air Tool .....2768
All Purpose ..2772, 2781
Automotive ...2766-2767
Biodegradable .....2769, 2777
Castor .....3281
Chain And Cable ..2784
Circulating .....2769
Compressor .....2883, 3477-3478
Conduit Threading .2779
Coolant .....2777
CRC .....2779, .....2781-2782, 2785
Cutting .....2769, 2772-2773, .....2777-2778
Dark Cutting .....2779
Dielectric .....2775
Drilling .....2772, 2779
Engine .....2767
FDA Approved ....2782
Food Grade .2769, 2782
Gear .....2766
Graphite .....2784
H-L Rated .....2782
Hand Pump .....2769
Hydraulic .....2766, 2769, 2846
Instrument .....2772
Jack .....2769
Light Cutting .....2779
Machine .....2782
Machine Tool .....2769, 2777
Metal Cutting .....2779
Mobil-1 .....2766-2767
Penetrating .....2781, .....2783-2784, 2789
Pipe Threading ....2779
Reaming .....2779
Refrigeration .3477-3478
Refrigeration Compressor .....2768
Sawing .....2779
Scissor Jack .....2769
Screw Machine ....2779
Sharpening Stone ..1600
Soluble .....2775
Speed Reducer ....2766
Straight .....2773
Synthetic .....2766-2768, 2777
Three-In-One Motor .....2780
Tool .....2772
Tractor .....2766
Transmission .....2766
Turning .....2779
USDA Approved .....2781-2782
Vacuum Pump .....2768, 2856, 3479
Water Soluble .....2777
Way .....2769
WD-40 .....2780

**Oilers,**
Air Line .....3006
Bench .....2747
Bottle .....2757
Chain .....2758
Constant Level .....2756-2757
Electro Brush .....2758
Electro Full Flow ...2755
Electro Multiple Feed .....2756
Electro Single Feed .....2755
Glass .....2757
Handled .....2747
In-Line .....3006
Manual Drop Feed .....2757
Manual Full Flow ..2755
Manual Multiple Feed .....2756
Pipe Threading ....1335
Pistol .....2747
Pneumatic ...2917-2918, .....2923-2924, 2926, .....2928-2930, 3006
Pump .....2747
Single Point .....2757
Zoom Spout .....2747

**Oiltight**
Pilot Lights .....504, 512, 514
Punches .....1326
Pushbuttons ...502-504, .....508, 512, 514
Selector Switches .....504, 513

**Ointment,**
Antibiotic .....2549
Burn Care .....2550
Medicated Skin .....1856, 1859

**Openers,**
Bottle .....1915
Chain Driven Door .2303
Crate .....1401
Door .....2360
Drain .....1865
Garage Door .....2303
Lid .....1961
Overhead Door ....2303
Pail .....1961

**Organizers,**
Desk .....2110
Dual Access .....1201, 1203-1204
Literature .....2109
Parts .....2049-2052

**Oscillating**
Fans .....3542-3543, .....3570-3571

**Oscilloscope**
Accessories .....815-817 820-821

**Oscilloscopes**
.....814-815, 818-819

**Outdoor**
Lighting .....1096

**Outlet**
Boxes .....663
Guides, Mig Gun ...1575
Packages, Heater ..3413
Raceways, Prewired .647
Raceways, Strips ...647
Strips .....646, 648, .....692, 2091, 2094

**Outlets,**
Air .....3437
Cord .....707
Drain .....3106
Duplex .....686-687, 690, 730
Electrical .....686-687, 689-691, .....694, 707, 729-730
GFCI .....729
Straight Blade .....707
Strip .....646
Twist-Lock .....710-714
Wall Furnace .....3421
Weatherproof .....707

**Output Modules** .....558

**Outriggers,**
Ladder .....2184

**Oven**
Cleaners .....1862
Lamps .....957, 968
Testers .....891
Thermometers .879, 886

**Ovens,**
Microwave .....2115
**Overalls,**
Chemical Protection .....2481
Rain Protection .....2479-2480
**Overhead**
Dusters .....1952
Frames .....2094
Lights .....2093
Riser Shelves .....2111
**Overlay**
Alloys .....1541
**Overload Relay**
Contact Blocks .....462
Din Adapters .....462
Lug Kits .....462
Remote Reset .....462
**Overload Relays** ....459
**Overpack,**
Drum .....2329-2330
Storage Drum .....2329
**Oxyfuel**
Torches .....1550
**Oxygen**
Concentration .....832
Cylinders .....1550
Electrolyte Solutions .832
MAPP Kits .....1550
Meters .....832
Propane Kits .....1550
Regulators .....1563
Sensors .842, 847, 2519
Tester Fluid .....844
Testers .....842-844, .....847, 2519

**P**

**Packaged Terminal**
Air Conditioners ...3453
Controls .....3332
Heat Pumps .....3443, .....3446, 3450, 3453
**Packaging,**
Adhesives .....1790-1791, 2289
Bubble .....2270
Case Sealers .....2276
Cloth Bags .....2269
Double-Lock Mailers .....2272
Foam Cushioning ..2270
Ink Rollers .....2288
Label Tape .....2278
Labeling Tags .....2269
Mailing Bags .....2271
Markers .....2289
Oilboard .....2288
Packing Tables .....2094, 2267
Padded Bags .....2271
Padding .....2267
Paper Bags .....2269
Paper Cutters .....2267
Plastic Bags .....2269
Polybag Sealers ...2268
Polyethylene Bags .2268
Polyethylene Foam .2270
Pouch Tape .....2278
Pouch Tape Dispensers .....2280
Pouch Tape Pads ..2278
Roller Inks .....2288
Roller Replacements .....2288
Scales .....2299
Shrink Wrap Systems .....2298
Solvents .....2288
Spray Cover-Up ...2289
Spray Inks .....2289
Staplers ....2271, 3014
Staples .....2271, 3014
Stencil Machines ..2288
Stock Boxes .....2272
Strapping .....2290, 2293-2295
Strapping Buckles ..2293
Strapping Cutters ..2293
Strapping Kits .....2293
Strapping Machines .....2295
Strapping Seals .....2290, 2294
Strapping Tools .....2290-2292, .....2294-2295
Stretch Wrap .2296-2297
Stretch Wrap Dispensers .....2296
Stretch Wrap Machines .....2297
Stretch Wrap Stands .....2296
Tape .....2274, .....2276-2279, 2285
Tape Dispensers .....2275, 2279, 2285
Tape Machines ....2277
Top Sheeting .....2276
Top Sheeting Brackets .....2276
Twist Ties .....2268
Wrapping Paper ...2267
**Packers,**
Bearing Grease ...2751
Well .....3241, 3244
**Pad**
Bumpers .....2308
Drivers .....1874-1875
Holders .....1875
**Padding,**
Felt Adhesive .....2170
**Paddle**
Fans ..3545, 3584-3585
**Paddles,**
Stop And Slow ....2616
**Padlock**
Collars .....2569
Control Keys .....2626
Hasps .....2628
Tags .....2569
**Padlocks,**
Aluminum .....2563
Brass .....2563, 2625
Break-Away .....2627
Circuit Breaker .....366, 372, 379
Color-Coded .2562-2563
Combination .....2626
Enclosure .....642
Extra Reach .....2627
Heavy Duty .....2627
High Security .....2627
Keyed Alike .....2624-2625, 2627
Laminated .....2562, 2624, 2627
Luggage .....2626
Rekeyable .....2563, 2625, 2627
Safety Lockout .....2562-2563
Weather Resistant .....2563, 2627
**Pads,**
Adhesive .....2283
Air Conditioner .....3444, 3451
Alcohol .....2549
Backup .....1605, 1608
Baker's .....2470
Baseboard .....1956
Buffing .....1873-1874
Burnisher .....1874
Burnishing .....1873
Cable Tie .....630
Clamp .....1381
Cleaning .....1957, 1984
Condenser ..3444, 3451
Dock .....2308
Evaporative Cooler .....3464, 3577
Eye Dressing .....2551
Felt Backing .....2170
Feminine .....1913
Fiber Disc .....1620
Floor .....1873-1874
Gauze .....2550
Hand .....1957
Harness Shoulder ..2506
Heat Protective ....2470
Heater Floor .....3417
Humidifier ...3507-3508
Knee .....1395
Lambswool .....1952
Mounting ....3670, 3673
Nylon .....1957
Oil Absorbent .....1525
Oil Sorbent .....2336
Paint Arrestor .....3531
Paper Disc .....1624
Polisher .....1485, 1495-1496, .....1873-1874
Pouch Tape .....2278
Refinishing .....1984
Respirator Wipe ...2443
Sander .....1485, 2983
Sander/Grinder ....1494
Sandpaper .....1484
Sanitary .....1913
Scouring .....1957
Scrubbing .....1873
Soap .....1957
Sorbent .....2337
Sponge .....1957
Steel Wool .....1984
Stripping .....1873
Swivel .....1772
Terry Cloth .....2470
Triangle Sander ...1485

# PRODUCT INDEX




**Pail**
Adapters .....3204
Openers .....1961
Pumps .....1961

**Pails,**
Combination .....1944
Double .....1945, 1956
Half-Round .....1945
Metal .....1945
Mop .....1944-1945
Oval .....1945
Round .....1956
Stainless Steel .....1945
Window Cleaning ..1955

**Pain Relievers** .....2552

**Paint**
Aerosol .....2004
Airless Sprayers ...1971
Arrestor Pads .....3531
Arrestor Rolls .....3531
Brushes
.....1949, 1951, 1981
Buckets .....1983
Cabinets ....2348, 2350
Canisters .....1969
Collector Frames ..3531
Collector Grids ....3531
Collector Support Rods
.....3531
Drop Cloths .....1984
Drum Covers .....1972
Extension Poles ...1947
Filters .....3096
Hose .....1979
Liner Paper .....3530
Markers .....1715
Marking Fluorescent
.....2003
Masking Tape .....2284
Mixers, Drywall ....1396
Naps, Airless Roller
.....1976, 1979
Pumps .1970-1971, 3195
Removers
.....1861, 2776, 2788
Respirators .....2401
Roller Frames .....1983
Rollers
.....1976, 1979, 1982
Siphon Hose .....1972
Siphon Tubes .....1972
Spray Guns .....1964
Spray Hose .....1979
Sprayer Wands ....1976
Spreader Screens ..1983
Stick Markers .....1715
Striping Machine ...2003
Supply Packages ..1970
Tank Agitators ....1972
Tank Gaskets .....1969
Tanks .....1969
Thickness Gauges ..786
Thinners ....1989-1991,
.....1993-1995, 2002
Trays .....1983

**Paint Spray**
Booths .....1980
Cup Liners .....1963
Filters .....1977
Gun Conversion To
HV/LP Kits .....1964
Gun Cups
.....1963, 1965-1966
Guns ..1963-1965, 1974
Guns, Airless
.....1975, 1978
Pumps .....1970
Respirators .....2433
Tips .....1978

**Paint Sprayer**
Airline Filters .....1963
Filters .....1967
Valves .....1976

**Paint Sprayers,**
Airless .....1975, 1977
Conventional .....1963
HV/LP
.....1964, 1967-1968,
.....1970, 1974

**Paint,**
Acrylic .....1992, 2003
Aerosol .....1999, 2004
Alkyd Enamel
.....1989-1990
Concrete .....2003
Corrosion Resistant
.....1996
Enamel
.....1989-1992, 1999
Epoxy .....1993
Fast Dry ....1994, 1999
Floor .....1997
Floor Epoxy ..1997-1999
Fluorescent .....2004
Grit .....2620
Heat Resistant ....2002
High Temperature ..2004
Industrial
.....1989-1993, 1995,
.....1997, 1999, 2002
Low Temperature ..1993
Low VOC ...1989-1990,
.....1992-1993,
.....1996-1997, 1999
Low VOC Spray
.....1999, 2004
Marking .....2003
Marking Fluorescent
.....2003
Marking Wand ....2003
Polyurethane .1995-1997
Primer .....1989-1993,
.....1995, 2002
Roof Coatings
.....2000-2001
Safety .....2620
Spray .....372,
.....1999, 2003-2004
Striping .....2003
Touch-Up ....372, 1201
Traffic .....2003
Urethane .....1996
Wall .....1994
Water Immersion ..1993
Water-Based
.....1992-1994, 2003

**Painter's**
Mitts .....1982

**Pallet**
Accumulation Centers
.....2330
Carousels .....2312
Dollies .....2312
Grabs .....2312
Lifts, Battery Powered
.....2213
Lifts, High Rise ....2213
Movers .....2213, 2312
Rack Beams .2006, 2008
Rack Brackets ....2009
Rack Column Protectors
.....2007
Rack Cross Bars
.....2007, 2009
Rack Decking .....2009
Rack Frame Protectors
.....2009
Rack Frames
.....2006, 2079
Rack Row Spacers .2007
Rack Spacers .....2009
Rack Wall Ties ....2007
Racks .....2008
Ramps .....2331
Servers .....2213
Stands .....2220
Strapping .....2290
Strapping Tools
.....2291-2292, 2295
Truck Lift Tables ...2221
Trucks, Hand
.....2212-2213
Trucks, Hydraulic
.....2212-2213
Turns .....2312
Unitizing Tape ....2285

**Palletainers** .....2059

**Pallets,**
Container .....2007
Drum .....2326, 2331
Plastic .....2058, 2326
Polyethylene .2330-2331
Secondary Containment
.....2330-2331
Spill Control ..2330-2331
Thermoformed ....2058
Twin Sheet .....2058

**Palm**
Sanders .....1482-1483

**Panel**
Adhesives .....1795
Air Filters .....3534
Clamps .....1376
Meter Calibrators ...742
Meters .....835
Mount Chart Recorders
.....796
Mount Fuse Holders .418
Mount Gauges .....867
Mount Thermometers
.....882
Mounting Kits .....868
Projectors .....912
Saws .....1461

**Panel Meter**
Bezel Kits .....746
Calibrators .741-742, 896
Covers .....746
Current Transducers .746
Current Transformers
.....746, 3235
Shunts .....746
Temperature Probes .746

**Panel Meters,**
Ammeters .....737-739, 744-745
Analog .....744-745
Digital ....737-741, 882
Elapsed Time .....745
Frequency .....739
Percent Load .....745
Tachometers .....836
Temperature .....737, 741, 882
Temperature Transmitters .....741
Thermometers .741, 882
Voltmeters .....737-740, 744-745

**Panel Mount**
Calibrators .....741

**Panelboard**
Breaker Adapters ...375
Distribution Panels ..378
Filler Blanks .....378
Filler Plates ....376, 378
Fuses .....427, 437
Ground Kits .....378
I-Line Boxes .....378
I-Line Breakers .379-382
I-Line Covers .....378
Main Breakers .374, 376
NEHB Boxes .....376
NEHB Breakers ....377
NEHB Covers .....376
NQOD Boxes ..374, 376
NQOD Covers .....374
QOB Bolt On .....375
QOB Breakers .....375
Solid Neutral .....378
Sub Feed Lugs .375, 378

**Panelboards,**
Appliance .....374, 376
I-Line .....378
Lighting .....374, 376
NEHB .....376
NQOD .....374

**Panels,**
Acoustic .....2395
Air .....2436
Bin Mounting .....2046
Button Box .637-638, 640
Conductive .....2047
Conveyor .....2265
Electrical ..637-638, 640
Fan .....3601
Filter .....2436
Fire Alarm .....2358
Panelboard Distribution .....378
Radiant Ceiling ....3389
Wall Storage .2046-2047

**Panic Bars** ..2636-2637

**Pans,**
Drain .....3444
Drip .....2329, 3203
Drywall Mud .....1396
Dust .....1958
Funnel Drain .....2752
Lobby Dust ..1948, 1958
Mortar .....2673

**Pants,**
Disposable .....2474
Flame Retardant ...2483
Heat Protective ....2485
Protective .....2474

**Paper**
Adhesives .....1793
Cup Dispensers ...2541
Cups .....2541
Cutters .....2267
Hangers, EDP ....2106
Rolls, Meter Printing .889
Shredders .....2118
Tape .....2282
Towel Dispensers .....1904, 1915
Twist Ties .....2268

**Paper,**
Anemometer Printer .852
Bags .....2269
Chart Recorder ....792-795, 806, 2361
Combustion Analyzer Printer .....845
Combustion Tester .....846-847
Floor Protective ...2267
Hand Towels .....1909
Kraft Wrapping ....2267
Napkins .....1906
Padding .....2267
Pads .....3531
Paint Liner .....3530
Printer .....895
Roll Towels .....1900
Toilet .....1900-1903
Toilet Seat Covers .1901
Towels .1900, 1906-1912
Wall Protective ....2267
Wax Liners .....1913
Wipes .....1907-1911
Wrapping .....2267

**PAR Lamps** ....937, 955, ....957, 959, 961, 964, .....966-967, 969, 971, .....973, 975, 977-978, .....998, 1000-1001

**PARA Blocks** .....1853

**Parallel**
Shaft Gearmotors ...218

**Parallels** .....1822

**Parholders,**
Incandescent .....1106
Motion Detector .....697, 1105

**Parkas,**
Cold Weather .....2482

**Parking**
Curbs .....2310

**Particleboard**
Screws .....1756

**Partitions,**
Wire .....2077

**Parts**
Cabinets .....1758, 2038-2039, .....2049, 2091, 2193
Plastic Boxes .....2047, 2053
Storage Bins .....2044, 2047, 2051
Storage Shelving Units .....2042
Storage Systems ..2047

**Parts Washer**
Baskets .....1524
Brushes .....1523
Chemicals ...1523, 1525
Cleaners ....1523, 1525
Oil Skimmers .....2753
Pump Agitation Units .....1524
Pumps .....3166
Soak Tanks ..1522-1524
Solvents .....1523
Sprays .....1525
Wipes .....1861

**Parts Washers** .....1522-1525

**Paste**
Sealants .....1782-1783, 3061

**Paste,**
Flux .....1547
Lapping .....1627
Solder .....1536-1537

**Patch**
Cords, Test Instrument .....784, 816

**Patch,**
Drywall .....1396
Epoxy .....3482
Roof .....2000

**Patching Compound** .....1998, 2002

**Patio**
Pond Kits .....3142

**Pavement**
Breaker Mufflers ...3002
Breakers .....3002

**Payroll**
Clocks .....2112-2113

**Pedestal**
Fans .....3542-3543
Pumps ....3168, 3170

**Pedestals,**
Air Circulator .....3570
Pump .....3124
Welder .....1578
Workbench .....2090

**Pencil**
Compasses .....1386
Grinders, Air .....2989
Lead .....1386

**Pencils,**
Carpenter's .....1386

**Pendant Stations,**
Pushbutton .....518
Pushbutton Switch ..715

**Penetrants,**
Aerosol .....2781, 2789
CRC .....2781
Oil .....2781, 2789

**Pennants,**
Traffic .....2616

**Pens,**
Engraving .....2989

# PRODUCT INDEX




Ink . . . . . .629
Marking . . . . . .629, 2289

**Perma-Patch** . . . . . .2690

**Permanent**
Magnet Gearmotors .218

**Permits,**
Confined Space . . .2512

**Pesticide**
Cabinets . . . . . .2350
Respirators . .2401, 2414

**Petrochemical**
Vent Adapters . . . . .2515
Vents . . . . . .2515

**Petroleum**
Sorbents . . . . . .2335
Spill Kits . . . . . .2334

**PH**
Electrodes . . . . . .830
Testers . . . . . .830

**Phase Rotation**
Meters . . . . . .791

**Phenolic**
Caster Wheels . . . .2159
Casters . . . . .2143-2147, . . . . . 2154, 2157
Cleaners . . . . . .1849

**Phillips Screwdrivers**
. . . . . .1296-1298, . . . . . 1300-1301, . . . . . 1314, 1399

**Phones,**
Access . . . . . .904
Emergency . . . . . .904
Information . . . . . .904

**Photocontrols,**
Lighting . . . . . .586

**Photoelectric**
Pickups . . . . . .835
Sensor Reflectors . . .552
Sensors . . .549-555, 557
Switch Reflective Tape . . . . . .551
Switches . . . . . .549-557

**Photoeyes**
. . . . . .549-555, 557, 586

**Photohelics** . . . . . .861

**Physically Challenged**
Ramps . . . . . .2314

**Piano**
Cutters . . . . . .1309
Hinges . . . . . .2653
Wire . . . . . .1713

**Pick**
Handles . . . . . .2680

**Pick/Mattock**
Handles . . . . . .2680

**Pick/Mattocks** . . . . .2680

**Pickup**
Hitches . . . . . .2707

**Pickups,**
Tachometer . . . .835-836

**Pigtail Cords** . . . . . .591

**Pillow Blocks**
. . . . . .340-345, 3610

**Pilot**
Devices . . . . . .502, 508
Drills . . . . . .1437
Ignition Systems . . . . . .3344, 3347-3348

**Pilot Light**
Bulbs . . . . . .509
Keys . . . . . .507

**Pilot Lights,**
Contactor . . . . . .461
Corrosion Resistant .514
Incandescent . . . . . .504
Instrument . . . . . .504
Pushbutton . . . . . .504
16mm . . . . . .502, 508
22mm . . . . . .507
30mm . . . . . .512, 514

**Pilots,**
Pressure . . . . . .3360

**Pin**
Punch Sets . .1362, 1364
Punches . . . .1363-1364
Rack Nipples . . . . .3034
Rack Wall Brackets .3034
Racks, Fire Hose . .3034
Vises . . . . . .1818

**Pin And Sleeve**
Boxes . . . . . .722
Connectors . . . .722-723
Devices . . . . . .727
Inlets . . . . . .723
Mechanical Interlock .720
Plugs . . . . . .722-723
Receptacles . . . .722-723

**Pincers,**
Jaw . . . . . .3039

**Pins,**
Ball Lock . . . . . .1771
Bullet-Nose . . . . . .1774
Clevis . . . . . .1764
Cotter . . . . . .1760, 1764
Detent . . . . . .1771
Dowel . . . . . .1733, 1774
Drift . . . . . .1764
Fastening . . . . . .1439
Roll . . . . . .1764
Round . . . . . .1774
Tension . . . . . .1764

**Pintle**
Adapters . . . . . .2706
Hook Mount Plates .2706
Hooks . . . . . .2706

**Pipe**
Arrow Tape . . . . . .2604
Banding Tape . . . . .2604
Benders . . . . . .1343
Brackets . . . . . .2901
Brushes . . . . . .1342
Cable . . . . . .3375
Carts . . . . . .2200
Cement . . . . . .3118
Clamps . . . .1377, 1381, . . . . . 2062, 3057
Clamps, Hacksaw . .1457
Cleaners . . . .1338-1341
Compounds . . . . . .1782
Connectors . . . . . .2901
Cutter Wheels . . . . .1342
Cutters . . . . . .1342-1344
Die Heads . . . . . .1334
Dies . . . . . .1677, 1680
Downspout Hangers . . . . . .3375
Freezing Units . . . .1335
Hangers . . . . .651, 3046, . . . . . 3057-3058
Heaters . . . . .1327, 3375
Heating Tape . . . . .3375
Insulation . . . . .3376, 3433, 3481
Joint Compound . . .3482
Labels . . . . . .2599
Marker Software . . .2597
Markers, Self-Sticking . . . . . .2602-2604
Markers, Snap-On . . . . . .2598-2600
Markers, Strap-On .2601
Nipples . . . . .3053-3055
Power Connection Kits . . . . . .3375
Racks . . . . . .1330, 2011
Reamers . . . . . .1333
Repair Tape . . . . . .1782
Roof Clips . . . . . .3375
Saw Blades . . . . . .1457
Sealants . . . .1782-1783, . . . . .3061, 3118, 3482
Spacers . . . . . .652
Splice And Tee Kits . . . . . .3375
Stands . . . . . .1335
Supports . . . . . .651
Tags . . . . . .2610, 3062
Taps . . . . . .1671, 1677
Thread Adapters . . .2838
Threader Cases . . .1334
Threader Die Heads . . . . . .1336
Threader Stands . . .1336
Threaders . . . . . .1334, . . . . . 1336-1337, 1677
Threading Machine Stands . . . . . .1336
Threading Oilers . . .1335
Tool Kits . . . .2900-2901
Vises . .1335, 1374-1375
Wrap . . . . . .3376
Wrenches . . . . .1333, 1346, 1400

**Pipe Fittings,**
Brass . . . . . .3050
Kee Klamp . . . . . .2060
Plastic . . . . . .3069
Structural . . . .2060-2061
Water Heater . . . . .3083

**Pipe,**
Air Compressor . . . . . .2900-2901
Anti-Freeze . . . . . .3481
Black . . . . . .3056
Black Steel . .3055-3056
Galvanized . . .3055-3056
Plastic . . . . . .3069
Polyethylene . . . . . .3069

**Piston Pumps,**
High Pressure . . . . .3181
Hydraulic . . . . . .2801

**Pit**
Jacks . . . . . .2717

**Pitless Adapters,**
Stainless Steel . . . .3257
**Pitot**
Tube Flange Assembly . . . . . .862
Tube Mounting Glands . . . . . .862
Tubes . . . . . .862
**Pivot**
Fans . .3541, 3543-3544
Hinges . . . . . .2655
Tables, Bead Blaster . . . . . .1529
**Pivots,**
Horizontal Floor . . .2655
**PL Lamp**
Adapters . . . . . .1149
**Placards,**
Right-To-Know . . . .2594
Vehicle . . . . . .2607
**Placement**
Tools, Drill Bit . . . . .1332
**Placers,**
Cement . . . . .1398, 2676
**Plane**
Sharpeners . . . . . .1364
**Planer**
Blades . . . . . .1509
Knives . . . . . .1509
Stands . . . . . .1509
**Planers** . . . . . .1509
**Planes** . . . . . .1367
**Planks,**
Scaffold . . . . . .2182
**Plasma**
Cutter Replacement Kits . . . . . .1569
Cutters . . . . .1569, 1579
**Plaster**
Mixer Hoes . . . . . .2677
**Plate**
Clamps . . . . . .2237
Dividers, File Cabinet . . . . . .2106
Joiner Biscuits . . . .1475
Joiner Blades . . . . .1475
Joiner Kits . . . . . .1475
Joiners . . . . . .1475
**Plates,**
Angle . . . . . .1827
Clutch . . . . . .1874
Dado . . . . . .1515
Dividing . . . . . .1498
Door . . . . . .2663
Isolator . . . . . .2943
Legend . . . . . .518
Mending . . . . . .2655
Panelboard Filler . . .376
Pintle Hook Mount .2706
Pushbutton Closing . . . . . .509, 516
Raceway . . . . . .647
Surface . . . . . .1829
Switch . . . . . .520, 691, . . . . . 700-701, 732
T- . . . . . .2655
Valve Isolator . . . . .2943
Winch Mounting . . .2254
**Platform**
Cranes . . . . . .2720
Ladders . . . . .2177-2178
Monitors . . . . . .2093
Pallets . . . . . .2220
Trucks .2198-2199, 2210
**Platforms,**
Fork Lift . . . . . .2317
Maintenance . . . . . .2186
Personnel . . . . . .2220
Work . . . . . .2220
Worker . . . . . .2220
**Plating Hose** . . . . . .3161
**PLC**
I/O Modules . . . .559-560
**Plier**
Handles . . . . . .1307
Holders . . . . . .1394
Punches . . . . . .1366
**Pliers,**
Adjustable . . . . . .1399
Bent Nose . . .1308, 1311
Chain Nose . .1308-1309
Channel Lock . . . . .1399
Combination . . . . . .1399
Curved Jaw . . . . . .1311
Curved Nose . . . . .1309
Diagonal . . . .1307-1309
Diagonal Cutting . . .1313
Duckbill . . . . . .1308
End Nipper . . . . . .1305
Fence . . . . . .1305
Flat Nose . . . . . .1309
Groove Joint . . . . . .1399
High Leverage . . . .1307
Insulated . . . . . .1313
Lineman's . . .1307-1308
Locking . . . . . .1310-1311, 1376
Long Nose . .1307-1309, . . . . .1311, 1313, 1399
Long Reach . . . . . .1308
Miniature . . . .1309-1310
Needle Nose . . . . . .1307-1309, 1399
Nut Buster . . . . . .1306
Pump . . . . . .1313
Retaining Ring . . . .1766
Round Nose . . . . . .1309
Side Cutting .1308-1309, . . . . . .1313, 1399
Slip Joint . . . .1305, 1399
Snap Ring . . . . . .1766
Solid Joint . . .1307-1309
Special Application .1305
Subminiature . . . . .1309
Tongue And Groove . . . . . .1306
Universal . . . . . .1308
**Plug**
Adapters . . . . . .590
Boots . . . . . .714
Fuses . . . . . .419
Lockouts . . . . .705, 2566
Taps . . . . . .1677
Wiring Adapters . . .2708
**Plugs,**
Air Hose Coupler . . . . . .3023, 3025
Banana . . .816, 822-823
Busway . . . . . .408
Cord . . . . . .590, 704, . . . . 706-707, 709-710, . . . . . 712-714, 728
DC . . . . . .608
Dryer . . . . . .706
Duct . . . . . .858
Ear . . . . . .2386-2390
Electrical . . . . . .704, . . . . 706-707, 709-710, . . . . . 712-714, 728
External Supply . . .2942
Ground Fault Interrupting . . . . . .694
Hard Hat . . . . . .2383
Hazardous Area . . . .705
Hose Barb . . . . . .3023
Hospital Grade . . . . .709
Hubbellock . . . . . .708
Knockout . . . . . .661
Pin And Sleeve .722-723
Range . . . . . .706
Safety Shroud . .718-719
Solenoid . . . . . .2818
Straight Blade . . . . . .704, 706-707
Twist-Lock . . . . . .707, . . . . . 710-714, 716, . . . . . 718-719, 725
Type 4X . . . . . .719
Valise . . . . . .704, 709
Watertight . . . . . .719
Weatherproof . . . . . .683
**Plugtrak**
Hardwired Raceway Strips . . . . . .646
Portable Power Strips . . . . . .648
**Plumb Bobs** . . . . . .1383
**Plumber's**
Tool Sets . . . . . .1272
Torches . . . .1549, 1551
**Plumbing,**
Backflow Valves . . .3063
Ball Valves . . . . .2912, 3068, 3084
Bath Cabinets . . . . .1917
Bed Pan Washer Valves . . . . . .3115
Black Malleable Fittings . . . . . .3051-3053
Boiler Valves .3064-3065
Brass Fittings . . . . .3043, 3045, 3050
Butterfly Valves . . . .3062
Cartridges . . . . . .3109
Check Valves . . . .3060, . . . . . 3064-3065, 3231
Copper Fittings . . . . . .3047-3049
Copper Tubing . . . .3046
Crimp Clamps . . . . .3039
Cut Pipe . . . .3055-3056
Disposer Elbows . . .3102
Disposer Gaskets . .3102
Disposer Installation Kits . . . . . .3104
Disposers . . .3102-3104
Drain Valves .3059, 3064
Faucet Connectors .3108
Faucet Electrical Boxes . . . . . .3113

# PRODUCT INDEX




Faucets .....3109-3113, 3117
Flare Fittings .....3045
Flexible Connectors .....3185
Flexible Couplings .3058
Flexible Hose .....3185
Float Valves .....3066
Floor Flanges .....3053
Flow Control Valves .....3065
Flush Valves .....3116
Galvanized Fittings .....3051-3053
Garden Valves ....3068
Gas Connectors ...3084
Gate Valves .....3060-3061, 3068
Globe Valves .....3061
Grab Bars .....3115
Grid Strainers ....3113
Grip Bars .....1917
Hose Bibbs .....3059
Hose Clamps .....3039
Hot Water Dispensers .....3085
Jaw Pincers .....3039
Lawn Faucets .....3068
Mirrors .....1917
NPT Fittings .....3050
Pipe .....3056
Pipe Cement .....3118
Pipe Freezing Units .....1335
Pipe Hangers .....3046, 3057-3058
Pipe Nipples .3053-3055
Pipe Repair Tape ..1782
Pipe Sealants .....1782, 3118
Plungers .....3105
Poly Tubing .....3041
Pressure Reducing Valves .....3067
Purge Valves .....3064
Putty .....1783
PVC Couplings ....3058
PVC Tubing .....3041
Relief Valves .....3065
Robe Hooks .....1916
Shower Heads .....3111, 3114
Shower Hose .....3114
Shower Rods .....1916
Shower Seats .....1917
Showers .....3114
Sill Faucets .....3059
Sillcocks .....3059
Sink Installation Kits .....3105
Sinks .....3105
Soap Dishes .....1916
Solder .....1537
Soldering Outfits ...1553
Stepless Clamps ...3039
Stop And Waste Valves .....3059
Stop Caps .....3116
Swing Check Valves .....3060
T And P Valves ....3083
Tags .....2610
Tempering Valves ..3065
Threaded .....3057
Tissue Holders ....1915
Toilet Flush Kits ...3116
Toilet Handles ....3117
Toilet Paper Holders .....1915-1916
Toilet Safety Bars ..1917
Toilet Seat Cover Cabinets .....1915
Toilet Seats .....3115
Towel Bars ..1915-1916
Towel Rings .....1916
Tub Bars .....1917
Tub Chairs .....1917
Tub Seats .....1917
Tube Fittings .....3043
Tubing Cutters ....3041
Tubing Fittings ....3042
Two Ear Clamps ...3039
Urinal Stops .....3117
V-Strainers .....3065
Vacuum Breaker Kits .....3117
Valve Retrofits ....3115
Valves .....3042, 3111, 3116
Vent Valves .....3064
Waste Valve Caps .3059
Water Chillers ....3087
Water Connectors ..3084
Water Coolers .....3085-3088
Water Fountain Bubblers .....3113
Water Fountains .....3087, 3089
Water Heater Connectors .....3084
Water Heater Drain Pans .....3083
Water Heater Elements .....3082
Water Heater Stands .....3083
Water Heaters .....3075-3077, .....3079-3081
Y-Strainers .....3067

**Plunger**
Cans .....2341, 2344
Clamps .....1769
Pumps .....3181, 3183
Wrenches .....1772

**Plungers,**
Ball .....1772
Force Cup .....3105
Hand-Retractable ..1771
Knurled Head .....1771
Plumbing .....3105
Spring .....1772
Stainless Steel ....1772

**Pneumatic**
Actuator Ball Joints .....3299
Actuators .....2911, 2934, 3296
Air Movers .....3035
Aspirator Boxes ...3299
Ball Valves ...2911-2912
Blowers .....3035
Buffers .....2984-2987
Calibration Kits ....3299
Calibration Tools ...3299
Calibration Wrenches .....3294
Casters .....2143, 2149
Clamps .....1770
Climate Controls .....3293-3294
Compressors .....2865, 2868-2870, .....2872-2873, 2877
Control Tubing ....3294
Controller Covers ..3299
Controllers ..3294, 3300
Couplers .....3023
Cover Removers ...3299
Cylinders .....2956
Damper Actuators .....3305-3307
Drain Valves .....2910
Drills .....2977-2980
Engraving Pens ...2989
Exhaust Mufflers ...2934
Fittings .....3299
Grinders .....2988, 2991-2995
Hacksaws .....1457
Hammers .....3000
Humidistats .....3301
In-Line Restrictors ..3299
Limit Switches ....2933
Line Pressure Controls .....3297
Load Analyzers ....3304
Lockouts .....2566
Mod Kits .....3298
Nailers .....3008
Nails .....3007
Nutrunners .....2971
Oilers .2923-2924, 2926, .....2928-2929, 3006
Pipe .....2900-2901
Pumps .....2884, 2888
Relays .....3295, 3300, .....3302-3304
Rivet Hammers ....3000
Riveters .....3000
Sanders .....2984-2988
Scalers .....2998-2999
Sensors .....3301
Slide Rules .....3299
Staplers .....3009
Staples .....3007
Switches .....2934, 3296-3297, .....3302, 3307
Technical Manuals .2938
Temperature Controllers .....3299
Temperature Sensors .....3309
Thermostat Cover Kits .....3298
Thermostat Tool Kits .....3299
Thermostats .3293-3294, .....3297-3298, 3301
Tie-Down Packages .....2944
Tires .....2164
Valve Foot Guards .2947

Valves .....2934-2936, ..... 2939-2942, ..... 2946-2947, 3297, ..... 3305, 3308-3309
Vibrators .....257-259
Wheels .....2163

**Pocket**
Knives .....1350-1351
Levels .....1383, 1821
Magnetic Pickups ..1832
Magnets, Alnico ...1831
Magnifiers .....1834
Planes .....1367
Rules .....1383
Screwdrivers .....1295
Scribers .....1815
Tool Sets .....1817

**Point**
Of Attachment Manifold .....2436
Test Kits .....1615

**Points,**
Drill .....1293
Moil .....3004-3005

**Polaroid**
Cameras .....911
Film .....911

**Pole**
Pruners .....2682
Sanders .....1484

**Poles,**
Fall Protection ....2511
Paint Extension ....1947
Paint Telescoping .....1954, 1979
Power .....693

**Polish,**
Commutator .....205
Furniture .....1863
Metal .....1864
Stainless Steel ....1864

**Polisher**
Brushes .....1875
Pads ..1485, 1495-1496

**Polishers,**
Air .....2987
Bore .....1613
Detail .....1485
Electric .....1495-1496
Floor .....1871-1872

**Polishing**
Pads .....1873-1874

**Poly Line** .....1331

**Polyester**
Air Filters ...3530, 3534
Media .....3529-3530
Panels .....3534

**Polyethylene**
Can Liners .....1932
Gasoline Cans ....2664
Water Heaters ....3078

**Polyolefin**
Caster Wheels ....2159
Casters .....2131-2133, ..... 2137, 2145, ..... 2153, 2157

**Polypropylene**
Caster Wheels .....2158-2159
Casters .....2157
Knee Pads .....1395
Pumps .....1961, 3201, 3204

**Polyurethane**
Caster Wheels ....2158
Casters .....2131, ..... 2133-2134, ..... 2136-2137, ..... 2142-2152
Coatings ....1994-1997
Tubing .....3281
Wheels .....2161

**Pond**
Liners, Water Garden .....3143

**Pony Pumps** .....3262

**Pool**
Brushes .....3291
Filters .....3289
Junction Boxes ....3292
Lamps .....969, 976, ..... 978-979, 982
Leaf Skimmers ....3291
Lighting Fixtures ...3292
Pump Trap/Baskets .....3290
Pumps .3214, 3285-3288
Safety Floats .....3291
Signs .....3291
Thermometers ....3291
Vacuum Heads ....3291
Vacuum Poles ....3291

**Porcelain**
Cleaners ...1847, 1849, .....1854-1855, 1869
Lampholders .....733

**Port A Bands** .1452-1453

**Portable Lighting,**
Floodlights ..1159, 1161
Hand-Held .....1154-1157, 1188
Industrial ....1154-1156
Spotlights .....1188

**Posiprinters** .....2289

**Positioning**
Belts .....2503, 2506
Lanyards .....2509

**Post**
Extensions, Wire Partition .....2077
Kits, Steel .....2063
Purge Timers .....3505
Sleeve Covers ....2315

**Post Hole Diggers** .....2668, 2676, 2678

**Posters,**
Safety .....2590

**Posts,**
Delineator .....2618
Guard Rail .....2315
Rack .....2012
Sign .....2587
Tool .....1498
Traffic .....2618
U-Channel .....2587
Wire Partition .....2077

**Pot**
Hole Repair Compounds .....2690
Magnets .....1832

**Potassium Permanganate** ....3074

**Potentiometers** .....511

**Pouches,**
Electrician's ..1394-1395
Epoxy .....1786
Leather .....1394
Maintenance .....1394
Oscilloscope .....816
Thermometer .....895
Tool .....1394-1395

**Poultry**
Fan Blades .....3608
Fan Motors ....145-147
Fans ..3605-3608, 3610
Feed Motors .....143
Shears .....1349

**Powder**
Actuated Tools ....1438
Torch Kits .....1547

**Powder,**
Metalizing .....1547
Nickel Base .....1547

**Power**
Adapters .....839
Analyzers .....758
Bars .....2094
Cable Connectors ...668
Chain Tensioners ...301
Data Loggers .....758
Distribution Block Covers .....413
Distribution Blocks ..413
Drives .....1334
Hammers .....1438
Leads .....1439
Loads .....1439
Meter Probes .....820
Meters .....758
Off Brakes ....265, 267
On Brakes .....266
On Clutch/Brakes ...266
On Clutches .....266
Packs .....1426
Packs, Drill ..1426-1427
Packs, Portable ...2730
Packs, Snow Plow .2793
Packs, Stroboscope .....836-837
Pole T-Bars .....693
Poles, Aluminum ....693
Reeds, Contact Block .....513
Relay Covers .....482
Relays .....482-484
Roof Ventilators ...3565, .....3622-3625
Supplies, AC ...807, 909
Supplies, DC ..808, 906, .....909, 2730
Supplies, Lock ....2641
Supplies, Portable ..2730
Supplies, Rectifiers .2643
Supplies, Regulated .....400-401
Supplies, Standby ...400
Supplies, Triple .....808

# PRODUCT INDEX




Supplies, Uninterruptable .....400
Supply Batteries ....400
Supply Cords .....591
Tool Chucks .....1706
Transformers .....403
Units, Auto Hoist ...2794
Units, Auxiliary ....2793
Units, Hydraulic .....2792-2796
Units, Pallet Truck .2793
Wrenches ...1422-1423

**Power Transmission**
AC Drives ....40, 43-44, ..... 195, 238, 242
AC Gearmotors .238, 242
AC High Torque ....238
AC Inverter Converters .....43-44
AC Inverter Keypad Cable .....43
AC Linear Actuators .261
Ball Bearings .....329
Bearing Adapters ...352
Bearing Frames ....346
Bearing Retaining Compounds .....1781
Bearing Tools .....352
Bearings .....338, ..... 340-347, 352
Belt Rules .....308
Belt Tensioners .301, 308
Blower Bearing Kits .347
Boots, Universal Joint .....354
Brake Gearmotors .....220, 230-232
Bronze Bushings ...352
Bushing Tools .....352
Bushings, Keyless ..353
Bushings, Pulley ....317
Bushings, Split Taper .....317
Bushings, Sprocket ..317
Chain Links .....300
Chain Pullers .....298
Chain Tensioners ...301
Collars, Shaft ...350-351
Conduit Boxes .....234
Conveyor Chain ....299
Coupling Chain .....362
Couplings, Flexible ..356
Couplings, Rigid Type .....356
Couplings, Shaft ....362
Couplings, Spider .....357-359
Couplings, U-Joints .....354-355
DC Drives .....185-195, ..... 218, 222
DC Gearmotors .215-225
DC Linear Actuators .261
DC Motors .....186
Double Row Bearings .....327
Electric Brakes ..263-267
Electric Motor Protectors .....3235
Flange Coupling Kits .....286
Flat Face Idlers .....302
Gear Racks .....323
Geardrives .....289-290
Gearmotor Brackets .222
Gearmotor/DC Control .....214
Gearmotors ...215-217, .... 219-225, 227-230, .... 232-237, 239-251
Idler Bushings .....301
Idler Sheaves .....302
Idler Sprockets .....302
Linear Actuator Boots .....262
Linear Actuator Tubes .....262
Linear Actuators .....260, 262
Magnetic Disc Brakes .....263-264
Metric Bearings .328-329, .....332-333, 336-337
Miter Gears .....323
Motor Ball Bearings .....328-329, 332-333
Motor/Reducer Combinations .....270
Open Bearings .....327
Pillow Blocks ...340-341
Pneumatic Vibrators .258
Pulley Bushings ....317
Pulleys .....310-316, 318-322
Ratio Multipliers ....279
Rod Ends .....349
Roller Chain ....298-299
Roller Chain Connecting Links .....298
Roller Chain Detachers .....298
Roller Chain Links ..300
Roller Chain Offset Links .....298
Roller Chain Pullers .298
Roller Chain Sprockets .....291-297
Satellite Dish Linear Actuators .....261
Sealed Ball Bearings .....328-329, 332-333
Shaft Collars ...350-351
Shaft Coupler Covers .....361
Shaft Coupler Grids .361
Shaft Couplers .....361
Shaft Couplings .....356, 362
Sheave Bushings ...317
Sheaves .....310-316
Shielded Ball Bearings .....328-329, 332-333
Single Row Bearings .....328-329, 332-333
Speed Controls .....44, 191, 194
Speed Drives ...252-254
Speed Reducer Bases .....268-269, 273, 276
Speed Reducer Brackets .....278
Speed Reducer Fan Kits .....273
Speed Reducer Flange Coupling Kits .....286
Speed Reducer Flange Kits .....278
Speed Reducers .....268-272, 274-275, ..... 277, 280-281, ..... 283, 285-288
Spherical Bearings ..338
Spider Couplings .....357-359
Spiral Bevel Gears ..326
Split Taper Bushings .317
Sprocket Bushings ..317
Sprockets, Idler Type .....302
Spur Gears .....324
Steel Sleeves .....352
Synchronous Gearbelt Pulleys ...319-320, 322
Synchronous Gearbelts .....318-319, 321-322
Synchronous Motors .226
Synchronous Sprockets .....318
Tachometers ...194, 836
Tapered Roller Bearings .....336-337
Tensioners, Chain/Belt .....300
Thrust Bearings ....348
Thrust Washers ....348
Torque Arm Rod Kits .....277
Universal Joint Boots .....354
Universal Joints .354-355
V-Belt Racks .....308
V-Belts .....305-309
Vibrators .....255-259

**Power-Lock**
Discs .....1621-1623
Holders .....1621-1623

**Powerwheels** .....1601

**Precharged Tanks** ..3255

**Precipitators,**
Electrostatic .....3513

**Precision**
Ground Flat Stock ..1828
Hex Drivers .....1301
Screwdriver Sets ..1295

**Precision Bearings,**
Double Row .....327
Metric .....328-329, .... 332-333, 336-337
Motor Ball ....328-329, ..... 332-333
Open .....327
Sealed Ball ....328-329, ..... 332-333
Shielded Ball ..328-329, .....332-333
Single Row ....328-329, ..... 332-333
Tapered Roller ..336-337

**Precision Measuring,**
Alligator Clips .....1814
Automotive Tool Sets .....1807
Blocks .....1827
Bore Gage Sets ...1826
Caliper Cases .....1803
Calipers .....1802-1804

Center Gages .....1824
Center Punches .....1815-1816
Combination Square Blades .....1820
Combination Square Heads .....1820
Combination Squares .....1820
Depth Gauges .....1805, 1822
Dial Indicators .....1808-1809
Dial Thickness Gauges .....1813
Drill Gages .....1825
Edge Finders .....1818
Electronic .....1804
Electronic Measuring Tapes .....1388
Gauge Block Sets ..1826
Gauges ....1800, 1806, .....1813, 1823-1825
Height Gauges .....1805-1806
Indicator Bases ....1813
Indicator Holders ..1811
Indicator Stands ...1812
Indicators .....1808-1810, 1813
Industrial Tool Sets .1807
Level Tripods .....1821
Levels .....1385, 1821
Loupes .....1833
Magnetic Pickups ..1832
Magnetic Strips ....1830
Magnets .....1830-1832
Magnifiers ...1833-1834
Measuring Scales ..1833
Micrometer Ball Attachments .....1801
Micrometer Cases .....1797-1799
Micrometer Sets ...1801
Micrometer Stands .1812
Micrometers ..1797-1801
Mirrors .....1830
Parallels .....1822
Precision Measuring Kits .....1814
Protractors .....1822
Radius Gauges ....1823
Rules .....1819
Screw Pitch Gauges .....1824
Screwdrivers .....1814
Scribers .....1815-1816
Squares .....1820
Surface Gauges ...1818
Tap And Drill Gauges .....1825
Tap And Drill Tables .....1814
Tap Wrenches ....1679
Taper Gauges ....1824
Telescoping Gauges .....1806
Thickness Gauges .....786, 1823
Tool Kits .....1807
Tool Sets .....1817
Toolmaker Measuring Sets .....1814
Trammel Sets .....1817
Tweezers .....1831
Welding Link Protractors .....1830
Welding Links .....1830
Wire Gauges .....1825

**Prefilters,**
Respirator ..2403, 2409, .....2413, 2415

**Premisetrak**
Nonmetallic Raceway Systems .....645

**Presses,**
Arbor .....352, 1511
Bench .....1511, 2724
Drill ...1450, 1499-1502
Garage .....2725
H-Frame ....2724-2725
Hand .....1511
Hydraulic .....1510, 2724-2725
Jack .....2725
Sealing .....2610
Shop .....2725

**Pressure**
Blast Cabinets ....1528
Booster Pumps .....3131-3132, 3176
Boosters, Water ...3277
Calibrators .....743
Control Valves ....2896
Controls, Dual .....3498
Controls, Fan Cycle .....3497
Controls, Refrigeration .....3502
Controls, Single ...3497
Cups .....1963
Gas Regulators ....1563
Gauges .....857-861, .....866-871, .....873-876, 2929
Gauges, Hydraulic .2847
Gauges, Tire .....3028
Meters ....743, 858-859
Paint Spray Guns .....1963-1964
Pilots .....3360
Pots .....1969
Recorder Filters ....798
Recorder Fittings ...798
Recorders .....798
Regulators .....2428, 2939, 3340
Relief Valves .....2763, 2851-2852, .....2898-2899, 3187
Relief Vents .....2763
Retention Valves ..3282
Sensing Fittings ....862
Sensitive Tape ....2274
Sensors .....862
Sprayers .....2780
Springs .....2923, 2925, 2927
Switch Kits .....3428
Testers .....839, 843
Transducers ..864-865
Transmitters ..863-865
Valves, Water .....3256, 3496
Vents .....2763

**Pressure Switches,**
Air .....3358
Air Compressor .....2895, 3236
HVAC .....863
Industrial .....526
Machine Tool .....526
Pump .2895, 3196, 3236

**Pressure Washer**
Couplers .....1898
Generators .....2740
Hose .....3031
Motors .....152
Nipples .....1898
Wands .....1898

**Pressure Washers** .....1896-1899

**Pressure/Vacuum**
Modules .....777

**Preventatives,**
Rust .....2789

**Primers,**
Acrylic Enamel ....1992
Aerosol .....1781
Coating .....1990, 1995
Enamel .....1989-1991
Epoxy .....1994
Low VOC .....1991
Metal .....1787
Paint .....1989-1993, .....1995, 2002
Polyurethane .....1995
Rubber .....1787
Spray .....2004

**Print**
Calculators .....2114

**Printer**
Adapter Cable .....816
Battery Chargers ...634
Battery Packs .....634
Cart Bases .....2096
Cases .....634
Kits, Combustion Analyzer .....845
Paper .....895
Paper, Combustion Analyzer .....845
Ribbons .....634
Thermometers .....889

**Printers,**
Anemometer .....852
Combustion Analyzer .....845
Data .....895
DOT Matrix .....634
Label .....2596
Portable .....634
Wire Identification ...634

**Probe**
Membranes .....832
Thermocouple Fittings .....796

**Probes,**
Air .....893
Air Cleaner .....777
Balometer .....854
Carbon Monoxide ...841

# PRODUCT INDEX




Clamp-On Current .....778-779
Conductivity .....831
Current .....778, 820
D.O. .....832
Electrostatic .....777
Frequency .....809
Gas Detector .....2521, 2533
Hi-Temp .....893
High Frequency .....777, 821
High Voltage .....777
Humidity .....854, 878
Hygrometer .....878
Infrared Temperature .....894
Kelvin .....751
Liquid .....893
Logic .....807
Meter .....777, 782
Multi-Purpose .....893
Multimeter .....782
Needle .....893
Oscilloscope .....816, 820-821
PH .....830-831
Power Meter .....820
Psychrometric .....893
Pulser .....807
Soil .....2676
Superheat .....893
Surface .....893
Temperature ..564, 746, .....777, 796, 854, .....878, 892-894
Test .....777, 780, 784, ...809, 831, 893, 3294
Test Lead .....751, 891
Thermistor .....878
Thermistor Thermometer .....792
Thermocouple ..796, 893
Thermocouple Bayonet .....3373
Thermocouple Extensions .....796
Thermocouple Thermometer ..792, 893
Thermometer ..893, 895
Tire .....893
Universal .....893
Wire .....893

**Programmers,**
Entry Key .....2642

**Projectors,**
LCD Panel .....912

**Propane**
Conversion Kits ...3428
Cylinder Stands ...1550
Cylinders .....1550
Disposal Systems ..2338
Heaters .....3378-3379, .....3413-3414
Hose .....1549
Regulators .....1563
Torch Kits ...1550, 1553
Torch Tips .....1549
Torches .....1548-1549, 1551
Welding Hose .....1553

**Proportioners,**
Chemical ....1869, 1960
Faucet .....1960
Mixing .....1960
Wall Mounted .....1960

**Protectants,**
UV- .....1866

**Protective**
Clothing ....2384, 2469, .2473-2475, 2477-2487
Harnesses .....2506
Headwear ...2382-2383
Lanyards ....2508-2510
Sleeves .....2453, 2469

**Protectors,**
Cable .....644
Carpet .....1843, 1870
Condensate Overflow .....3263
Cord .....418
Corner .....2293
Electric Motor .....3235
Glove .....2467
Pallet Edge .....2293
Pallet Rack .....2007
Pallet Rack Frame .2009
Respirator Lens .....2427, 2429
Surge/Noise .....695
Transformer Finger ..404

**Protractor**
Heads .....1820
Scales .....1833

**Protractors,**
Depth Gauges ....1822
Magnetic .....1383
Precision Measuring .....1822
Steel .....1822
Welding Link .....1830

**Proximity Sensor**
Mounting Brackets .....541, 543

**Proximity Sensors**
.....538-548, 836

**Proximity Switches,**
Capacitive .....547-548
Cylindrical .538, 540-548
Flat Pack .....539, 544
Inductive .....538-547

**Pruners** .....2681-2682

**Pry Bars** .....1361, 2680

**PSC**
Gearmotors ....238, 242

**Psychrometers** ..877-878

**Psychrometric**
Probes .....893

**PTAC**
Drain Kits .....3453
Grilles .....3453
Heat/Cool Controls .3332
Units .....3453
Wall Cases .....3453

**PTHP**
Drain Kits .....3453
Grilles .....3453
Units .....3443, 3446, .....3450, 3453

**Public Address**
AM/FM Tuners .....906
Amplifiers .....906
Intercoms .....909
Megaphones .....902
Microphones .....906
Speaker Enclosures .905
Speakers .....905
Transformers .....905
Zone Controllers ....906

**Pull**
Handles .....2663
Plates .....2663
Stations, Fire Alarm .....2359

**Puller**
Step Plate Adapters .....1405
Storage Cabinets ..1403

**Pullers,**
Bearing .....1402-1403, 1405
Blower Wheel .....1402
Chain .....2232
Cotter Pin .....1301
Fan .....1402
Flange Type .....1405
Fuse .....405, 418
Gear .....1402-1405
Hole .....1404
Hydraulic ....1402-1403
Nail .....1361
Pallet .....2312
Pulley .....1402
Push .....1405
Ratchet .....2232-2233
Ratchet Lever .....2232
Roller Chain .....298
Slide Hammer .....1404
Wheel .....1402
Wire Mesh Grip ....674

**Pulley**
Blocks .....2257
Blocks And Sheaves .....2256
Bushings .....317
Pullers .1402-1403, 1405

**Pulleys,**
Adjustable .....313
Bore Die Cast .....310
Fan .....310-316
Fixed Eye .....2656
Four Groove .....315
Gearbelt .....321
Sewing Machine ....313
Swivel Eye .....2656
Synchronous .....318
Synchronous Gearbelt .....319-320, 322
Three Step .....310
Variable Pitch .....313
Wire Rope .....2256

**Pulling Attachments,**
V-Belt .....1404

**Pulls,**
Cabinet .....2662
Chest .....2657
Door .....2657, 2663
Sliding Door .....2662

**Pulsation Dampeners** . . . . . .3187, 3196

**Pulse**
Generators . . . . . .194
Nutrunners . . . . . .2971

**Pulser Probes** . . . . . .807

**Pump**
Accumulators . . . . .3187
Adapter Flanges . . .3266
Adapters . . . . . .3204
Adapters, Hydraulic . . . . . .2802
Air Compressors . . . . .2865, 2868-2870, . . . . . 2872-2873, 2877
Air Line Connection Assemblies . . . . . .3196
Base Alarms . . . . . .3230
Batteries . . . . . .3213
Bearing Assemblies . . . . . .3273
Brackets . . . .3205, 3280
Cable . . . . . .593
Cable Guards . . . . .3258
Capacitor Panels . .3235
Check Valves . . . .3067, . . . . . 3230, 3256, 3265
Chemical Injectors .3186
Clamps . . . . . .3039
Combination Starters . . . . . .3235
Compressor Repair Kits . . . . . .2886, 2889
Control Boxes . . . . .3252
Control Panels . . . . . .3234-3235
Controls . . . .3196, 3258
Coolant Tanks . . . .3166
Couplers . . . . . .3274
Couplings . . . . . .3180
DC Motors .185-186, 188
Drill Pump Kits . . . .3209
Drive Caps . . . . . .3247
Ejectors . . . . .3240-3242
Engines . . . . . .2731
Expansion Tanks . .3277
Fittings . . . . . .3044-3045
Flanges . . . . . 3274-3275
Float Kits . . . . . .3233
Float Switches . . . .3232
Flow Indicators . . . .3278
Flowmeters . . . . . .3198
Gasket Repair . . . .2886
Heads . . . . . .3121, 3129
High Water Alarms .3230
Hose . . . . . .2858, 3033, . . . . . 3069, 3160-3161, . . . . . 3202, 3210
Hose Assemblies . .3196
Hose Clamps . . . . .3039
Inlet Filters . . . . . .3180
Installation Kits . . . .3272
Installation Packages . . . . . .3258
Lining . . . . . .1788
Liquid Injector Heads . . . . . .3187
Lockouts . . . . . .3204
Lubrication . . . . . .1976
Motor Adapters . . . .3177
Motors . .7-13, 16-17, 20, . . . . .22-23, 25-36, 39, . . 44-45, 48-54, 79, 94, .97, 100-101, 103, 114, .120-139, 144, 150-152, . . . . . .154-173, 3205
Mounting Bases . . .3124
Mounting Kits . . . . . .3152, 3196
Mufflers . . . . . .3196
Nozzles . . . . .3186, 3205, 3257
Oil . . . . . .2856
Oilers . . . . . .2747
Packages, Respirator . . . . . .2425
Packers . . . . . .3241
Pedestals . . . . . .3124
Pipe . . . . . .3069
Pipe Sealants . . . . . .1783, 3061
Pitless Adapters . . .3257
Pliers . . . . . .1313
Pressure Switches . . . . .2895, 3196, 3236
Protection Controls .3235
Pulsation Dampeners . . . . . .3187
Pulsation Dampers .3196
Repair Kits . . . . . .3180, . . . . 3191, 3194, 3197, . . . . .3203, 3262, 3279
Roller Kits . . . . . .3180
Safety Valves . . . . . .3186-3187
Savers . . . . . .3186
Screens . . . . . .3180
Seals . . . . . .3129, 3150
Shaft Seals . .3157-3158
Siphon Tubes . . . . .3196
Splice Kits . . . . . .3252
Spray Guns . . . . . .3184
Starters . . . . . .3234-3235, 3252
Stators . . . . . .3178
Strainers . . .3153, 3189, . . . . . .3191, 3205
Suction Tubes . . . .3201
Sump Pump Control Panels . . . . .3234-3235
Switches . . . . .3210, 3216, 3230
Tank Tees . . . . . .3257
Tanks . . . . . .3278
Thermal Protectors .3186
Thermoplastic Kits .3150
Timers . . . . . .3271
Tools . . . . . .33
Torque Arrestors . . .3257
Tubing . . . . . .3069, . . . . . 3143, 3265, 3280
Union Kits . . . . . .3291
Unloader Valves . . .3186
Vacuum-On Swith . .3171
Valve Kits . . . . . .3278
Valves . . . . . .3058, . . . . . 3066-3067, 3231, . . . . . 3256, 3279, 3282
Washer Motors . . . . .152
Waste Water Control Panels . . . . .3234-3235
Water Alarms . . . . .3230
Water Tanks .3253, 3255
Well Couplings . . . .3247
Well Ejectors .3240, 3242
Well Packers . . . . .3244
Well Points . . . . . .3247
Well Seals . . . . . .3258
Wheel Kits . . . . . .3152

**Pumps,**
Acid . . . . . .1961, 3170, . . . . . 3176, 3201-3202, . . . . . 3204-3205, 3207
Adhesive . . . .3193-3195
Agricultural . . . . . .2801, . . . . . 3120-3121, 3128, . . . . 3150, 3176, 3180, . . . . .3188, 3199, 3201, . . . . . 3205-3206, 3225
Agricultural Spray . . . . . .3180, 3191
Air . . . .2423, 2437, 3207
Air Compressor . . . . . .2852-2853, . . . . . 2859-2862, . . . . .2875, 2884-2889
Air Operated . . . . .2748, 3192-3194, . . . . . 3197-3198, 3207
Air-Powered Hydraulic . . . . . .2722, 2847
Aluminum . . .3135, 3206
Anti-Freeze .3176, 3191, . . . . .3195, 3202, 3207
Aquaculture . . . . . .3120-3121, 3128
Automatic . . .3191, 3197, . . . . .3211, 3260, 3463
Back-Up . . . . . .3212
Barrel . . . . . .1961, 2744, . . . . . 3176, 3199, . . . . . 3201-3205, 3207
Bathtub . . . . . .3288
Battery Powered . . .3199
Battery-Operated . . . . . .2846, 3212
Bearing Packer . . . .2751
Bellow . . . . . .1961, 3205
Beverage . . . . . .3145-3146, 3176
Bilge . . . . . .3259-3262
Boiler Feed .3176, 3266, . . . . . .3268-3269
Booster Feed . . . . .3269
Booster Pressure . . . . . .3131-3132, . . . . . 3268-3269, 3290
Bronze . . . . . .3139, . . . . . 3167-3169, 3171, . . . . . 3174-3175, 3206
Camper . . . . .3259, 3262
Canned Motor . . . . .3140
Car Wash . . . . . .3176, . . . . . 3181-3183, 3197
Carbonator . .3172, 3176
Carpet Cleaner . . . . . .3176, 3190-3191
Cellar Drainer . . . . . .3210-3211, . . . . . 3214-3216, . . . . .3218-3219, 3221

# PRODUCT INDEX




Centrifugal . .3120-3123, . . . . . .3125-3126, . . . . . 3128-3143, . . . .3145-3152, 3154, . . . .3164, 3214, 3261, .3267-3269, 3273-3275, . . . . .3286-3288, 3290
Chemical . . .1961, 3129, . . . . .3135, 3139-3141, . . . . .3145-3146, 3170, . . . . . 3174-3176, 3188, . . . . . 3192-3194, . . . . . 3201-3202, . . . . . 3204-3205, 3207, . . . . . 3278-3280, 3282
Chemical Injection . . . . . .3170, 3174-3175
Chemical Metering .3170, . . . .3278, 3280, 3282
Chemical Transfer . . . .3120-3121, 3128, . . . . . 3135, 3140-3141, . . . . . 3170, 3174-3175, . . . .3180, 3191, 3197, . . . . . .3202, 3204
Chlorinator . . . .3278, 3280, 3282
Circulating . . . . . .3140
Circulator . . .3140, 3176, . . . . . .3267, 3272-3275
Circulator Oil . . . . . .3172
Close Coupled . . . .3169, . . . . .3171-3172, 3267
Close Coupled Centrifugal . . . . . .3122
Close Coupled Gear . . . . . .3169-3170, 3172
Compact . . . . .3188, 3194, 3463
Condensate . . . . . .3461
Condensate Removal . . . . . .3263-3266, 3463
Condensate Return . . . . .3120, 3128, 3266
Contractor . . . . . .3147, 3149-3154
Convertible . .3240, 3245
Coolant . . . .3127, 3130, . . . . . .3145-3146, . . . . . 3162-3166, . . . . .3176, 3206-3207
DC . . . .3259, 3261-3262
Deep Well . . . . .3240, 3244, 3251
Delivery . . . . . .3179
Dewatering . .3219, 3224, . . . . . .3226, 3193
Diaphragm . . . . .3153, 3192-3194, . . . . . 3198, 3279
Diesel . . . . . .3199
Dispensing . . . . . .3203
Display . . . . . .3190
Double Diaphragm . . . . .3188, 3193, 3198
Double Seal .3219, 3225
Drain . .3164, 3208-3209, . . . . .3211, 3260, 3463
Drip System . . . . . .3219
Drum . .1961, 3201-3207
Dust Sampling . . . .2519
Effluent . . . . . .3216, . . . . . 3219-3221, 3224
Electric . . . . .2842, 3207
Engine-Driven . . . . . .3147, 3149-3155
Environmental . . . . . .3219, 3224
Evaporative Coolant . . . . . .3165
Evaporative Cooler .3164
External Gear . . . . . .3168-3170, 3172
Fat Fryer . . . . . .3172
Feed Water . .3268-3269
Fertilizer Spray . . . .3180
Fertilizer Transfer . . . . . .3120-3121, . . . . . 3128, 3150, 3206
Filtration . . . .3120, 3128
Fire Fighting .3147, 3155
Flange Mount . . . .3123, . . . . . 3169-3172, . . . . . 3174-3175
Flex Vane . . .3174-3175
Flexible Impeller . . . . . .3174-3175, 3206
Float . . . . . .3225
Fountain . . . . . .3120, . . . . . 3127-3128, 3130, . . . . . 3140, 3142-3143, . . . . . 3145-3146, 3190
Fuel Transfer . . . . .3194, . . . . . 3199, 3201, 3203
Gallon . . . . . .1961
Gas Detector . . . . .2532
Gas Engine . . . . . .3148
Gasoline . . . . .2846, 3188, 3194, . . . . . 3199, 3201-3203
Gear . . . . . .2798-2801, . . . . . 3167-3173, 3200
Gear Oil . . . .2743-2744, . . . . . .2801, 3203
Glue . . . . . .3193, 3195
Grease . . . . . .2743-2745, 3195
Grease Gun Filler . .2743
Grinder . . . . . .3223
Hand .1961, 2842, 3199, .3201-3205, 3260-3261
Herbicide . . . . . .3201
Herbicide Transfer . . . . . .3199, 3205
High Head . .3121-3123, . . . . .3134, 3137, 3147, . . . . 3149, 3151, 3219, . . . . . .3224-3225
High Speed . . . . . .3224
High Temperature . .3209
Hog Pump . . . . . .3225
Hot Oil . . . . . .3172
Hot Tub . . . . .3214, 3287
Hydraulic . . . . .2722, 2797-2798, . . . . . 2800-2801, 2842, . . . . . 2846-2847, 3176
Hydronic . . .3176, 3267, . . . . . .3272-3275
Ice Machine . . . . .3176, 3190, 3463
Impeller . . . . . .3174
In Line . . . . . .3267
Industrial . . .3195, 3202, . . . . . .3204, 3206
Insecticide . . .3180, 3191
Intravane . . . . . .2797
Jet . . . .3238-3246, 3251
Kerosene . . . . . .3199
Lagoon . . . . . .3225
Laundry Tray . . . . .3129, 3209, 3215
Lawn Sprinkler . . . . . .3136-3137, . . . . . 3147, 3149, 3209
Lever Action . .3202-3204
Lift . . . . . .3179
Liquid Transfer . . . . .1961, 3120-3121, . . . . . 3125-3126, 3128, . . . . . 3133-3134, 3136, . . . . . 3140, 3142-3143, . . . . . 3145, 3167-3172, . . . . . 3174-3175, . . . . . 3201-3207
Liquid Vacuum . . . .3206
Low Flow . . . . . .3194
Lubrication . . . . .2744, 2748-2749, . . . . . 3195, 3207
Machine Tool . . . . .3145, 3162-3166, . . . . . 3176, 3206
Magnetic Drive . . . .3141
Maintenance .3202, 3204
Marine . . . . .3120-3121, . . . . 3123, 3128, 3130, . . . . .3175, 3206, 3259, . . . . . 3261-3262
Metering . . . .3168, 3179, . . . . . .3278, 3282
Mini-Lube . . . . . .2743
Motor . . . . . .3120, 3128
Mud Hog . . . . . .3153
Multi-Stage . . . . .3120, 3131-3132, . . . . . 3137, 3147, 3199
Neoprene Impeller .3174
Nitrile Impeller . . . .3174
OEM . . . . . .3140, 3164, . . . . . 3188, 3194
Oil . . . . . .2748, . . . . . 3164, 3167-3169, . . . . . 3194-3195, 3199, . . . . . 3201-3203, 3207
Oil Burner . . . . . .3352
Oil Transfer . .2743-2744, . . . . . .3176, 3207
Paddle Impeller . . . .3174
Pail . . . . . .1961
Paint . . . . . .1970
Paint Supply . . . . . .1970-1971, 3195
Parts Washer . . . . .3166
Pedestal . . . .3120-3121, . . . . .3128, 3167-3168, . . . . . 3170, 3211
Perchlorethylene Transfer . . . . . .3120-3121, 3135
Peristaltic . . . .3280-3281
Pesticide . . . . . .3201
Photographic Chemical . . . . . .3120-3121, . . . . . 3128, 3141
Pint Stroke . .3202, 3204
Piston . . . . . .1971, . . . . . 2801, 3181, 3195
Plastic . . . . . .1961, . . . . 3128, 3140, 3192, . . . . . .3201, 3204-3205

Plunger . . . . .3181-3183
Pneumatic Test . . . .743
Polypropylene . . . .1961, . . . .3128, 3201, 3204
Pony . . . . . .3262
Pool . . . . . .3214, . . . . . 3285-3288, 3290
Portable . . . .3147, 3151, . . . . .3155, 3174, 3200
Positive Displacement . . . . .3167-3170, 3172, . . . . . 3174-3175, . . . . . 3178-3179, . . . . . .3206, 3279
Pressure Booster . . . . .3120-3121, 3123, . . . . . 3128, 3131-3132, . . . . . 3268-3269, 3290
Pressure Wash . . . .1971
Pressure Washer . . . . . .3181-3182
Process . . . . .3168, 3170, 3193
Progressing Cavity . . . . . .3178-3179
PTO . . . . . .2801
Quart Stroke . . . . . .3201
Ratio . . . . . .3207
Recirculating .3120-3121, . . . . .3127-3128, 3130, . . . . . 3133, 3140, . . . . . 3145-3146, . . . . . .3164-3165, . . . . . 3168-3170, . . . . . .3174-3175
Refrigerant Evacuation . . . . . .3485
Refrigeration Oil . . .3479
Roller . . . . . .3180
Rotary . . . . . .3168-3170, . . . . . 3174-3175, 3202
Rotary Gear . .3167-3173
Rotary Screw . . . . .3178
Rotary Vane .2852-2853, . . . . . .3176, 3202-3203
Rubber Impeller . . . . . .3174-3175
RV . . . . . .3259, 3262
Salt Water . .3123, 3130, . . . . .3140, 3167-3169, . . . . . 3174, 3261
Sample Draw . . . . .2524
Sediment . . . . . .3179
Self Priming Centrifugal . . . . . .3133-3137, . . . . . 3139, 3147, . . . . . 3149-3152, 3154
Self-Priming . . . . . .3138, 3147, . . . . . .3167-3172, . . . . . 3174-3175, . . . . .3188, 3197, 3206
Sewage . . . . . .3193, . . . . . 3222-3225, 3227
Sewage Ejector . . . . . .3222, 3225
Shallow Well .3238-3239, . . . . . .3242-3246
Single Phase .3132, 3140
Single Phase Fuel .3199
Sink Tray . . . . . .3215
Siphon . . . . .1961, 3205
Slurry . . . . . .3178-3179, . . . . . 3188, 3192-3194, . . . . . 3198, 3206
Solar . .3267, 3272-3275
Solids Handling . . . . .3149-3151, 3154, . . . . . 3206, 3224-3225
Solvents . . . . . .3140, . . . . . 3167-3169, . . . . . 3192-3193, . . . . . .3195, 3207
Spa . . . . . .3286-3288
Spray . . . . . .1971, . . . . . 3164, 3180, 3190
Sprinkler . . . . . .3138
Spur Gear . . . . . .3168-3170, 3172
Stainless Steel . . . .1971, . . . .3120-3121, 3129, . . . . . 3135, 3139-3140, . . . . 3170, 3193, 3195, . . . . . .3202, 3207, . . . . . 3211, 3214, 3251
Standby . . . . .3212-3213
Straight Centrifugal . . . . . .3120-3123, . . . . . 3125-3126, . . . . . 3128, 3138, 3267
Stub . .2744, 3195, 3207
Submersible . . . . .3127, . . . . . 3130, 3142-3143, . . . . . 3145-3146, 3166, . . . . . 3208, 3214, . . . . . 3219-3220, . . . . . 3223-3226, 3251, . . . . . 3260, 3285
Sump . . . . . .3192, . . . . . 3208-3221, 3225, . . . . . 3227, 3260, 3463
Sump Pit . . . . . .3225
Swim Pool . . . . . .3214, . . . . . 3280, 3286-3287
Swim Pool Cover . .3285
Thermoplastic . . . . . .3150, 3154
Transfer . . . . . .2744, . . . . . 3120-3121, 3123, . . . . . 3125-3126, 3128, . . . . . 3136, 3140, . . . . . 3167-3171, . . . . . 3174-3175, 3188, . . . . . 3192-3195, 3198, . . . . . 3202-3203, . . . . . 3206-3207, . . . . . .3279-3280
Transmission Fluid . . . . . .3195, 3207
Trash . . . . . .3150-3154
Turbine . . . . .3268-3269
Twelve VDC . . . . . .3259
Twelve Volt Fuel . . .3199
Twin Piston . . . . . .3181
Utility . . . . . .3120, 3128, . . . . 3133, 3142, 3147, . . . . . 3169-3170, 3174, . . . . . 3206, 3208-3209, . . . . . 3217-3218, 3220, . . . . .3260, 3262, 3463
Vacuum . . . . . .743, . . . . . 2852-2857, . . . . . 2859-2862, . . . . . 3206, 3485
Vane . . . . . .2797
Viscous Liquids . . .3168, . . . . .3195, 3203, 3207
Volumetric . . . . . .3201
Waste Handling . . . . . .3223-3225
Water Garden . . . . . .3142-3143, 3145
Water System . . . . . .3244, 3251
Well . . . . . .3239-3240, . . . . . 3244-3246, 3251
Yellow Dog . .3149, 3151

**Punch**
And Chisel Sets . . . . . .1364-1365
And Die Sets . . . . .1510, 1715, 2848
Drivers . . . . . .1324
Holders . . . . . .1362

**Punches,**
Arch . . . . . .1366
Brass . . . . . .1362
Center . . . . . .1363, . . . . . 1366, 1815-1816
Drift . . . . . .1362-1363
Drive Pin . . . .1363, 1802
Electronic . . . . . .1326
Gasket . . . . . .1366
Hollow Steel . . . . . .1366
Hydraulic . . . . . .2848
Industrial . . . . . .1324
Keyway . . . . . .1326
Knockout . . . .1324-1325
Long Alignment . . . .1363
Long Drive Pin . . . .1363
Metal . . . . . .1325-1326
Oiltight Switch . . . . .1326
Panel . . . . . .1326
Pin . . . . . .1362
Pin Connector . . . . .1326
Pin Sets . . . . . .1364
Plier . . . . . .1366
Prick . . . . . .1363
Revolving Hole . . . .1366
Roll Pin . . . . . .1363
Round . . . . . .1325
Self-Centering . . . . .1366
Sheet Metal . . . . . .1347
Slug Splitter . . . . . .1324
Stainless Steel . . . . . .1324-1325
Starting . . . . . .1363
Stud . . . . . .1326

**Purgers,**
Air . . . . . .3277

**Push**
Brooms . . . . . .1949
Drills . . . . . .1293
Lawn Mowers . . . . .2664
On Hose . . . . . .3024
Plates, Door . . . . . .2663
Pullers . . . . . .1405
Switches . . . . . .520-521

**Pushbutton**
Adapters . . . . . .509
Bases . . . . . .508
Boots . . . . . .515
Bulbs . . . . . .502, 509
Caps . . . . . .515
Closing Plates . .509, 516
Contact Blocks . . . . . .505, 509, 513

Enclosures .....509, 516, 641
Knobs .....515
Lampholder Blocks ..509
Modules .....517
Padlock Attachments .....516
Pilot Lights .....502-504, 507-508
Ring Nut Wrenches .....502, 515
Selector Switches .....504, 507
Switch Knobs .....515

**Pushbuttons,**
Chrome .....506
Corrosion Resistant .....513-514
Illuminated .....502-504, .....506, 508, 512, 514
Indicating Light .503-504
Nameplate .....509, 517
Non-Illuminated .....503, 506, 512-514
Oiltight .....502-504, 506, .....508, 513-514
Pendant Station .....518
Plastic .....503-504
Round .....502-504, 506, 508
16mm .....502, 508
Square .....503-504
Station .....519
22mm .....503-504, 506
30mm .....512-514

**Putty**
Knives .....1392, 1400

**Putty,**
Aluminum .....1788
Firestop .....1790
Plastic Steel .....1788
Plumbing .....1783
Sealing .....3481
Stainless Steel .....1788
Titanium .....1788
Window .....1796

**PVA**
Glue .....1796

**PVC**
Aprons .....2487
Blankets .....1327
Cement .....3118
Couplings .....3058
Cutters .....1322, 1342
Gloves .2454, 2457-2458
Heaters .....1327
Tubing .....3041
Work Gloves .....2450

## Q

**Quick**
Change Adapters ..3026
Connectors, Hose ..2696
Couplers .....2830, 2837, 2843, .....3022-3023, 3029
Disconnect Assemblies .....2428
Exhaust Valves ....2932
Links .....2656
Mount Exits .....1144, 1147, 1149

## R

**Raceway**
Breakout Boxes ...2937
Conversion Kits ...2937
Junction Boxes ....2943
Ribbon Connectors .2937
Wire Harnesses ...2937

**Raceway Fittings,**
Adapters .....692
Face Plates .....647
Multi-Channel .....646
Outlet Strips .....645
Single Channel .645-646
Surface Nonmetallic .....645-646

**Raceways,**
Floor .....644
Multi-Channel .....646
Nonmetallic .....645-646, 648
Portable .....648
Prewired ..646, 648, 692
Single Channel .....645
Surface Nonmetallic .....644-646

**Rack**
Bin Mobile Kits ....2046
Components .....2061
Guards .....2315
Posts .....2012

**Racks,**
Bench .....2046
Bin Storage .....2046
Bin Workstation ...2046
Blueprint .....2108
Boltless Bulk Storage .....2017-2018, .....2020-2022
Boltless Storage ...2017
Bulk Storage .2016-2019
Cantilever ...2010-2011
Cleaning Tool .....1958
Conduit Storage ...1330
Drum Storage .....2322, 2332
Dunnage .....2036
Filter .....3428, 3654
Gear .....323
Hard Hat .....2380
Ladder .....2183
Modular Storage ...2012
Pallet .....2008
Pallet Decking ....2009
Parts Bin Storage ..2045
Pipe .....1330
Plastic .....2036
Portable .....2012
Safety Tag .....2564
Sorbent Dispenser .2335
Stacking .....2012
Stationary Bin .....2046
Storage ....1958, 2012, .....2032-2035
Tabletop Bin .....2046
Thinwall .....1330
Threaded .....2054
Time Card .....2112
Tool And Die .....2030
V-Belt .....308
Vertical Bar .....2011
Wall .....1958
Water Cooler .....2541
Wire Spool .....674
Workstation .....2046

**Radiant**
Ceiling Panels ....3389
Heaters ....3379, 3388, .....3414, 3418-3419

**Radiator**
Brushes .....1950
Fillers .....2751
Steam Traps .....3359
Valves .....3355

**Radiators**
.....1579, 3426-3427

**Radio**
Control Systems ...2303
Holsters .....901

**Radios,**
Two-Way .898, 900, 902

**Radius Gauges** ....1823

**Rags** .....1906, 1908

**Railings** .....2061

**Railroad**
Chalk .....1715

**Rails,**
Arbor Saw .....1514
Bin .....2051
Din .....481
Guard .....2315
Hand .....3115
Safety .....2315
Tool .....2094
Warehouse .....2315

**Rain Suits** ....2478-2480

**Rainshields,**
Motor .....202

**Rakes** .....2676-2678

**Ram Kits,**
Hydraulic ....2722-2723

**Ramps,**
Accumulation Center .....2330
Cable .....2314
Dock .....2306-2307
Hose .....2314
Loading .....2314
Outdoor Cabinet ...2353
Spill Pallet .....2331
Stretch Wrap Machine .....2297
Truck .....2307, 2314
Walk .....2314
Wheel Chair .....2314

**Random Orbit**
Sanders .....1482

**Range**
Hood Filter Kits ....3564
Hoods .....3564
Kits .....1729

**Ranges,**
Portable .....2116
Table .....2116

**Ratchet**
Cable Cutters .....1322
Chain Hoists .....2232
Crimpers .....1323

Lever Hoists .....2232
Pipe Reamers .....1333
Pullers .....2232-2233
Repair Kits
.....1231, 1234, 1236
Screwdrivers .....1295
Sockets .....1236
Spinners .....1231
Tap Wrenches ....1679
Wrench Kits .....2963
Wrenches .....1278

**Ratchet Wrenches,**
Air .....2963-2964
Female Drive
.....1231, 1234
Hinge Handle .....1234
Long Handle .....1234
Miniature .....1231
Pushbutton ..1231, 1234
Reversible ...1230-1231,
.....1234, 1288
Round Head .1230, 1234
Spud Handle .....1234

**Ratcheting**
Screwdrivers .....1293
Wrench Sets .1246, 1285

**Ratchets,**
Quick Release ....1278
Round Head .....1278
Socket .....1230-1231,
.....1234, 1236

**Ratemeters,**
Digital .....194, 836

**Ratio**
Multipliers .....279

**Rawhide**
Mallets .....1357

**Razor**
Blade Scrapers ....1392
Blades .....1352
Knives .....1350, 1352

**Reader**
Devices, Entry ....2642

**Reagents,**
Chlorine .....832

**Reamers,**
Chucking .....1662
Countersink .....1346
Deburring .....1346
Hand .....1346
Pipe .....1333
Straight Flute .....1662
Tapered .....1346

**Rebar**
Chain Assemblies ..2510

**Receivers,**
Air .....2891-2893
Circuit Identifier ....803
Temperature Alarm ..883

**Receptacle**
Caddy Bags .....1919
Covers .....685
Testers .....790, 803

**Receptacles,**
Angle .....718-719
Ash .....2345
Clock Hanger .....687
Commercial Grade ..690
Cord .....710, 712-713
Decorative
.....686, 690, 730
Dryer .....706
Electrical .....686-688,
.....690-691, 700,
....706-707, 710-713,
.....721, 730, 823
Floor .....687
Flush .....718-719
4-PLEX .....691
GFI .....689, 694, 729
Hazardous Area ....705
Hospital Grade .....686
Hubbellock .....708
Isolated Ground
.....688, 701, 711
Marine .....724-726
Open Terminal .....690
Pin And Sleeve
.....720, 722-723
Range .....706
Recycle
.....1925, 1927-1928
Safety Shroud ..718-719
Sanitary Napkin ...1913
Smoking .....2345
Specification Grade
.....687-688, 690,
.....706-707, 710
Step Can .....1925
Straight .....718-719
Straight Blade
.....707, 724-726
Strip .....649
Style Line .....686, 690
Surge Suppression
....688, 691, 695, 700
Tamper Resistant ...686
Twist-Lock ....710-714,
.....716, 718-719
Type 4X .....719
Wall .....686-688,
....690-691, 711, 730
Waste .....1919-1928

**Recessed Lighting,**
Compact Fluorescent
.....1127
Frame-In .....1133
HID .....1133
Low Voltage .....1129
Small Aperture
.....1124, 1129
Special Application .1131
Standard
.....1124-1126, 1129
Trims .....1120,
.....1124-1126, 1128,
.....1130, 1132-1133
Troffers
.....1056-1059, 1101

**Rechargeable**
Flashlights ...1426-1427
Sprayers .....2780

**Reciprocating**
Saw Blade Pack
Assortments .....1456
Saw Blades
.....1457-1458, 2997
Saws ..1410-1411, 1454

**Record**
Archive Storage ...2107
Storage Boxes ....2105

**Recorder**
Cable .....826
Chart Paper
.....792-794, 806

**Recorders,**
AC Watt .....758
Air Movement .....800
Carbon Dioxide .....841
Chart .....793-799, 806
Chartless .....775
Current .....758, 775,
.....793, 798
Differential Pressure .798
Digital Display ..775, 881
Humidity .....797
Kilowatt .....794
Load .....758
On/Off Event .....799
Power .....758
Power Factor .....758
Power Quality .....799
Pressure .....798, 874
Spike-Sag-Surge ...806
Temperature
.....792, 795-797,
.....799-800, 888
Time ...881, 2112-2113
Universal Input .....798
Variable Input .....798
Voltage .....758, 775,
.....793, 798-799
Voltage/Frequency ..806
Watt .....758

**Recovery Units,**
Refrigeration .....3478

**Rectifiers,**
Power Supply .....2643

**Recycle**
Boxes .....1928
Containers
.....1925, 1927-1928
Trucks .....2190

**Reducer/Motor**
Combinations .....270

**Reducers,**
C-Face .....268-269,
....271-272, 274-275,
.....280, 283, 288
Flange .....3461
Fuse .....432-433
Indirect Drive ..277, 288
Right Angle ....268-269,
....271-272, 274-275,
.....277, 280, 288
Speed
....268-272, 274-275,
.....277, 280-288

**Reel**
Lights .....1156
Stands .....1330

**Reels,**
Air .....3016
Chalkline .....1386
Chassis .....3016
Chip Blowoff .....3016
Electric Cable .....2236
Extension Cord
.....1156-1158
Grease .....3016
High Pressure .....3016
Hose ..3016-3017, 3034

# PRODUCT INDEX




Light . . .1154, 1156-1157
Lube . . . . . .3016
Meter . . . . . .3016
Oil . . . . . .3016
Spring Retractable . . . . . .3016-3017
Wall . . . . . .3034
Water . . . . . .3016
Water Hose . .2693, 3016
Welding . . . . . .3017

**Reference**
Tables . . . . . .1814

**Reflective**
Signs . . . . . .2613
Tape, Photoelectric Switch . . . . . .551
Tape, Tachometer . . . . . .833-834
Tape, Warning . . . .2287

**Reflector**
Lamps . . . .952, 955-957, . . . . 959-960, 962, 964, . . . . . 966, 970, 972, . . . . 975-977, 979-980

**Reflectors,**
High Bay Glass . . . .1077
Lighting . . . . . .1159
Photoelectric Sensor .552
Prismatic . . . . . .1078

**Refractometers,**
Salinity . . . . . .832
Sucrose . . . . . .832
Sump Maintenance .2775

**Refrigerant**
Charging Meters . . .3485
Compressor Analyzers . . . . . .3485
Evacuation Pumps .3485
Filter/Dryers . .3489-3491
Float Switches . . . .3478
Fluorescent Additives . . . . . .3483
Gauge Sets . . . . . .3487
Leak Detectors . . . . . .3479, 3482-3485
Line Sets . . . . . .3452
Sightglasses . . . . . .3485
Vacuum Pumps . . .3485

**Refrigerants,**
Air Conditioner . . . .3476
Alternative . . . . . .3476
Drier Additive . . . . .3482

**Refrigerated**
Air Dryers . . . . . .2907

**Refrigeration**
Access Valves . . . .3500
Capacitor Panels . .3235
Casters . . . . . .2141
Charging Meters . . .3485
Coils . . . . . .3474-3475
Combination Starters . . . . . .3235
Compressor Analyzers . . . . . .3485
Compressor Protection . . . . . .3235
Compressors . . . . . .3466-3467, 3472
Condensation Heaters . . . . . .3235
Condensing Unit Hoods . . . . . .3472
Condensing Units . . . . . .3469, 3471
Control Panels . . . .3234
Controls . . . . . .3496
Core Tools . . . . . .3500
Defrost Timers . . . . . .3324, 3503-3504
Dryer Shells . . . . . .3492
Dryers . . . . . .3489
Evacuation Pumps . . . . . .2854, 2856
Evacuation Tools . .3500
Expansion Valves . . . . . .3444, 3493-3495
Extension Hose . . .3500
Filter Dryers . . . . . .3489
Fittings .3047-3049, 3500
Gauges .872, 3487-3488
Hoses . . . . . .3488
Ice Machine Cleaners . . . . . .3479
Installation Tools . . . . . .1343-1346
Line Piercing Valves . . . . . .3499
Lube . . . . . .3477
Manifold Gauges . .3487
Oil . . . .2768, 3477-3478
Oil Acid Test Kits . .3479
Oil Pump . . . . . .3479
Oil Test Kits . . . . . .3479
Pressure Controls . . . . . .3497-3499
Recovery Tanks . . .3478
Recovery Units . . . .3478
Relays . . . . .3335, 3501
Sightglasses .3485, 3489
Solenoid Valves . . .3493
Temperature Controls . . . . . .3324, 3330, . . . . . 3495, 3502
Thermostats . . . . . .3496
Time Delay Relays . . . . . .3505-3506
Unit Coolers . .3474-3475
Vacuum Gauges . . .3486
Vacuum Pumps . . . . . .2854, 2856
Valve Core . . . . . .3500
Valves . . . . . .3473, 3496

**Refrigerator**
Casters . . . . .2141, 2156
Cycling Controls . . .3502
Thermometers .879, 886

**Refrigerators** . . . . . .3462

**Refrigerators/Freezers** . . . . . .3462-3463

**Regenerative**
Blowers . . . . . .2850

**Registers,**
Cash . . . . . .2117
Ceiling . . . . . .3437
Floor . . . . . .3437
Furnace . . . . . .3420
Heater . . . . . .3420
Sidewall . . . . . .3437

**Regulator**
Adapters . . . . . .1552
Mounting Brackets .2921

**Regulators,**
Air Line . . . . .2917, 2923-2924, . . . . . 2926, 2928-2930
Airline . . . . . .1963
Calibration Gas . . . . . .2524, 2526
Fluid . . . . . .1971
Gas Detector . . . . .2529
MAPP . . . . . .1563
Oxygen . . . . . .1563
Pressure . . . .2939, 3340
Respirator Pressure . . . . . .2428
Speed . . . . . .2941
Spray Gun . . . . . .1963
Welding . . . . .1562-1563

**Relay**
Contacts . . . . . .796
Covers . . . . . .482
Knobs . . . . . .3299
Modules . . . . . .487
Modules, Smoke Alarm . . . . . .2357
Sockets . . . . . .480-481
Switches . . . . . .3336

**Relays,**
Adjustable . . . . . .3506
Air Conditioning . . .3506
Alternating . . . . . .492
Aquastat . . . . . .3356
Blower . . . . . .3335
Boiler . . . . . .3336
Capacity . . . . . .3303
Control . . . . . .470
Current Sensor . . . . .492
Digital . . . . . .498
Electric . . . . . .3302
Electromechanical . .497
Enclosed Fan . . . . .3335
Fan . . . . . .3335
General Purpose . . . . . .474-479
Hazardous Location .477
Heat Sink . . . . . .486
Heavy Duty . . . . . .3335
Hockey Puck . . .482-483
HVAC . . . . . .3335, 3506
Ice Cube . . . . . .474-479
IEC Control Type . . .469, . . . . . .475, 479, 481
Input/Output . . . . . .487
Interval . . . . . .495
Latching . . . . . .486
Line Monitor . .492, 3235
Line Voltage . . . . . .3336
Load Sharing . . . . . .492
Low Voltage . . . . . .3335
Magnetic . . . . . .486
Magnetic Line . . . . .3501
Mercury Displacement . . . . . .485
Multifunction . . . . . .494, 498-500
Off Delay . .494-496, 498
On Delay . .494-498, 500
Open Type . . . . .474, 477, 482-483
Opto-Isolated . . . . . .486
Over/Under Current Sensor . . . . . .492
Overload . . . . . .447, 450

# PRODUCT INDEX

## Relays — Respirators


Paging .....906
PC Board .....478-479
Photoelectric Switch .550
Plug In .....474-479, .....497, 3235
Pneumatic ..3295, 3300, .....3302-3304
Potential ....3501, 3506
Power .....482-484
Quick Connect ....479
Ration .....3304
Recycle .....497
Refrigeration .....3335, .....3501, 3505-3506
Repeat Cycle .....495
Reset Timer .....497
Reversing .....3303
Sensor .....492
Snap Acting .....3304
Solder Terminal .....475-476, 478
Solid-State .486-487, 494
Spud Mount .....3335
Starting .....3506
Switching ...3300, 3303, .....3335-3336
Three-Phase ..492, 3235
Time Delay ....494-500, .....3505-3506
Transformer .....3389
Universal Potential .3506
Voltage Sensor .486, 492

**Relief Valves,**
Boiler .....3064
Double .....2813
Hydraulic .....2813, 2819, 2821
Motor .....2813
Pump .....3187
Single .....2813
T And P .....3083
Thermal .....3186

**Remote**
Controls, Winch ...2254
Extension Cords ...1575
Foot Controls .....1575
Hand Controls ....1575
Lighting .....1139

**Removers,**
Adhesive ....1861, 2788
Bulb Base .....1954
Cover .....3299
Decal .....2788
Floor Finish .....1837
Gasket .....1784, 2788
Graffiti .....1861, 1865
Grease .....1861
Gum .....1844
Limescale ...1847, 1862
Paint ..1861, 2776, 2788
Scale .....3481
Screw .....1664, 1675
Sealants .....2788
Stain .....1844
Stud .....1234
Tape .....2788

**Renewal**
Batteries .....1176
Power Stations ....1176

**Repair**
Kits, Compressor .....2886, 2890
Kits, Flush Valve .....3116-3117
Kits, Pump .....3180, 3191, 3194, .....3197, 3203, 3279
Kits, Ram ....2722-2723
Workbenches .....2092

**Repair,**
Water Hose .....2696

**Repellents,**
Insect .....1867

**Rescue**
Blankets .....2550

**Reservoirs,**
Air Operated .....2758
Air/Oil .....2754
Constant Level ....2756
Electro Full Flow ...2755
Electro Multiple Feed .....2756
Electro Single Feed .....2755
Gravity .....2755
Horizontal Gravity ..2754
Hydraulic Oil .....2793-2794, 2807
Manual Drop Feed .2757
Manual Full Flow ..2755
Manual Multiple Feed .....2756
Oil .....2754-2758

**Reset Timers** .....497

**Respirator**
Adapters ....2411, 2444
Air Hose .....2438
Air Pumps .....2435
Battery Chargers ..2421
Battery Packs .....2421
Breathing Tubes .....2421, 2427
Bulk Heads .....2441
Cartridges ..2404, 2407, .....2409, 2413, .....2415, 2418, 2420
Cases .....2426
Conversion Kits ...2414, .....2417, 2431, 2434
Couplers .....2438
Cylinder Connectors .....2428
Cylinders .....2432, 2434, 2441
Facepieces .....2430
Faceshield Covers .....2408, 2433
Filter Adapters .....2405, 2407
Filter Covers .....2405, 2407, 2411
Filter Holders .....2407
Filter/Cartridges ...2405, .....2407, 2409, 2411
Filters .....2397, 2407, .....2409, 2411, 2421
Fit Test Kits .....2444
Fit Tests .....2444
Germicidal Detergent .....2443
Heating/Cooling Systems .....2424
Hood Suspensions .2427
Hoods .2421-2424, 2427
Lens Cleaners ....2443
Lens Protectors .....2427, 2429
Masks .2399, 2408, 2430
Prefilters ...2403, 2409, .....2413, 2415
Pressure Regulators .....2428
Pump Packages ...2425
Sanitizing Concentrate .....2443
Spectacle Kits .....2408, 2429
Training Tapes ....2443
Video Tapes .....2443
Voice Amplifiers ...2410
Vortex Tubes .....2424
Welder Shields ....2429
Wipe Pads .....2443
Wipes .....2443

**Respirators,**
Acid Gas ....2401-2402
Air Line ....2419, 2424, .....2426-2427, .....2431-2432, 2434
Air Purifying .....2401-2404, 2406, .....2412, 2414-2418, .....2421, 2424
Air Supplied .2422-2423, .....2430, 2433
Ammonia ....2401-2402
Back Pack .....2406
Blasting Helmet .....2423, 2433, 2437
Canister .....2416
Confined Space ...2432
Continuous Flow .....2424, 2431
Disposable .....1579, 2397-2403
Dual Air Line .....2409
Dual Cartridge ....2401, .....2404-2406, 2412, .....2414-2415, 2424
Dust .....2397, 2399
Emergency Escape .....2418, 2420, 2439
Enamel Mists .....2401
Escape .2432, 2439-2440
Formaldehyde .....2401-2402
Full Facepiece .....2405-2406, .....2408, 2410, .....2429, 2431, 2434
Gas Mask .....2413
Grinding .....2433
Half Mask ...2401-2402, .....2405-2406, 2410, .....2415, 2419, 2431
Lacquer .....2401
Low Maintenance .....2405, 2408, 2415
Maintenance Free .....2400, 2402
Methylamine .2401-2402
Mist .....2397, 2399
Mouthpiece ..2439-2440
Multi-Gas Vapor ...2402
Organic Gases ....2401

# PRODUCT INDEX




Organic Vapor .2401-2402
Paint . .2401, 2423, 2437
Paint Spray . .2403, 2433
PAPR .2420-2421
Particulate .2398-2399, 2403
PDAR .2434
Pesticide .2401, 2403, 2414
Positive Pressure .2422, 2430, 2433
Powered .2417-2418, 2421
Pressure Demand .2426, 2432
SCBA .2440-2441
Supplied Air .2409, 2419, .2424, 2426-2427, 2430-2432, 2434
Twin Cartridge .2410
Vehicle Mount .2420
Welder .1579
Welder's .2397
Welding .2398, 2406, .2415, 2430-2431
Welding Helmet . .2433

**Rest**
Buttons .1773

**Restaurant**
Casters .2136-2142
Filters .3540

**Restorers,**
Floor . .1835-1836, 1838

**Restraints,**
Beard .2476
Metal Collars .1790

**Restrictors,**
Pneumatic In-Line . .3299

**Restroom**
Baby Changing Station Liners .1959
Baby Changing Stations .1959
Cleaners .1854
Dispensers .1853

**Rests,**
Arm .2099, 2103
Back .2501
Foot .2099, 2501
Wrist .2501

**Resurfacer**
Epoxy .2620

**Resurfacers,**
Commutator .205

**Retainers,**
Air Tool .3004
Chisel .3004
Filter .2403
Hammer .3004
Hard Hat Goggle . .2382

**Retaining**
Compounds .1781
Nuts .1601
Ring Pliers .1766
Rings .1765

**Reticles** .1833

**Retractable**
Clothesline .1915
Hose Reels .3017

**Retrieval**
Systems, Confined Space .2511, 2513
Tools, Flexible .1312
Tools, Magnetic .1312, 1832

**Retrofit**
Kits, Workbench . .2087

**Retrofits,**
Bed Pan Valve .3115

**Reversing Valves,**
Heat Pump .3333

**RH Meters** . .877-879, 881

**Ribbons,**
Combustion Tester . .846
Label Machine .2596
Portable Printer .634
Time Clock . .2112-2113

**Right-To-Know**
Binders .2590
Booklets .2590
Centers .2097, 2590
Facilitator Guides . .2571
Interactive CD-ROMS .2571
Jobsite Centers .2595
Labels .2591, 2597
Numbers .2594
Placards .2594
Posters .2590
Safety Training Videos .2571
Signs . .2592, 2594, 2597
Software .2592, 2597
Stations .2591
Symbols .2594
Tags .2595
Training Handbooks .2571
Wallet Cards .2595

**Rim**
Cylinders .2638

**Rimlocks** .2634

**Ring**
Compressors .2850
Connectors .620
Fans .3587
Frames .3587
Terminals .617

**Rings,**
E- .1765
Extension .675, 679
External .1765
Hoist .2243
Internal .1765
Key .2609
Motor Mount .3275
Motor Mounting .202
Retaining .1765
Sealing .661, 668
Towel .1916

**Rip**
Fence, Arbor Saw . .1514
Hammers .1357-1358

**Riser**
Clamps .3058
Shelves .2111

**Risers,**
Bench .2091
Copper .3108
Wheel .2306
Workbench .2085, 2089-2090

**Rivet**
Guns .3000
Guns, Air .3015
Spinners, Chain Saw .2688
Tools .1716
Washers .1719

**Riveter**
Jaw Kits .1716

**Rivets** .1717-1719

**Roach**
Spray .1866

**Road**
Bumps .2310
Flares .2617
Rakes .2677
Salt .2679

**Roadway Lighting,**
Brackets .1095
Cobrahead .1095
HID .1095, 1097

**Robe**
Hooks .1916

**Rocker**
Switches .521-522

**Rocks,**
Volcanic .3422

**Rocksalt**
Spreaders .2672

**Rod**
Ends .349
Saws .1353

**Rods,**
Arc Gouging .1541
Brazing .1545-1546, 1550
Chamfer .1541
Closet .2656
Filter Support .3531
Galvanizing .1537
Gouging .1541
Shower .1916
Threaded .650, 1761, 3057
Tig Welding . .1543-1544
Welding .1538-1540, 1544, 1546, 1550

**Roll**
Files .2109
Pin Punches .1363
Towel Dispensers .1905-1906, 1912
Towels .1905

**Roller**
Bearings . .329, 336-338
Cabinets .1196-1197, .1199-1202, 1205
Covers .1982
Frames .1983
Heads, Band Saw . .1518
Kits, Pump .3180

**Roller Chain**
Chain .....299
Chain Lengths ..298-299
Connecting Links ...298
Detachers .....298
Links .....300
Offset Links .....298
Pullers .....298
Repair Links .....298
Sprockets ..291-297, 302
Tensioners .....300

**Rollers,**
Door .....2658
Drum Cabinet ....2352
Fountain .....2288
Ink .....2288
Lawn Tractor ....2670
Machinery .....2214
Moving Equipment .2214
Paint ..1976, 1979, 1982
Stay .....2658
Stencil .....2288

**Rolls,**
Abrasive .....1625
Cartridge .....1629
Paint Arrestor ....3531
Spiral .....1628

**Roof**
Caps, Flat .....3563
Caulk .....2000-2001
Cement ....2000-2001
Coatings ....2000-2001
Curbs .....3446, 3448, ....3450, 3616-3617
Dampers .....3617
Ducting Kits .....3561
Heating Cable ....3375
Mount Systems ....2507
Patch .....2000
Ripping Spades ...2676
Ventilators ....3565, 3613-3615, .....3618-3623
Vents .....3563, 3565, ....3568, 3624-3625

**Room**
Air Conditioners ...2079, .....3452-3459
Heat Pump Units ..3458
Heaters ....3380, 3382-3385, ....3387, 3417-3419

**Rope** .....2258
Grabs .....2510

**Rotabins** ....2041, 2053

**Rotary**
Brushes .....1875
Gear Pumps .....3167, 3171-3173
Hammers .....1408, 1442-1444
Pumps ....3168-3170, .....3174-3175, .....3201-3202
Screw Air Compressors .....2882
Screw Pumps ....3178
Seals .....3157-3158
Switches .....521
Table Chucks ....1498
Table Clamp Kits ..1498
Tables .....1498
Tool Battery Packs .1490
Tools, Cordless ....1490
Vane Air Motors .....2960-2961
Vane Anemometers .851
Vane Pumps .3176, 3203

**Rotators,**
Drum .....2319

**Rouge** .....1505

**Rounds,**
Bar Stock ....1697-1699

**Roundslings,**
Polyester .....2240

**Router**
Bits ...1473, 1476-1479
Collets .....1474
Corner Chisels ....1474
Depth Gages ....1387
Guides .....1383
Motors .....1471
Tables .....1473
Template Guides ..1473

**Routers** .1471-1472, 1474

**RTD**
Calibrators .742-743, 896
Sensor Assemblies ..746
Thermometers ..890-891

**Rub Brick,**
Cement .....1398

**Rug**
Shoes, Vacuum Cleaner .....1890

**Rugs,**
Sorbent ....2336-2337

**Rule**
Gauges .....1805

**Rules,**
Aluminum .....1383
Belt .....308
Clip .....1383
Folding .....1390
Measuring ....1388, 1390, 1819
Metric .....1819
Pneumatic Slide ...3299
Pocket .....1819
Steel .....1819
Tape .....1388-1389
Wood .....1390

**Runners,**
Floor .....1938

**Rust**
Converters .....2002
Inhibitors ....639, 2781
Preventative Kits ...1715
Preventatives .....2789
Removers ...1840, 3074


## S


**S-Hooks** .....1760

**Saddle**
Seat Harnesses ...2506
Valves .....3058
Vent Adapters ....2515
Vent Elbows .....2515
Vent Mounts .....2515
Vents .....2514

**Safes,**
Fire .....2650
Wall .....2650

**Safety**
Anchorage .....2511
Banners .....2616
Barricades .....2614
Belts .....2503, 2506
Bollards .....2315
Brakes .....265, 267
Cabinets ....2346-2352
Cans ..1924, 2339-2345
Chain .....2709
Chain, HID Fixture .1086
Clips, Air Hose ....3029
Compliance Software .....2444
Cones .....2608
Drench Showers ...2539
Drum Cabinets .....2351-2353
Electrical Lockouts .2564
Exhaust Couplers ..3023
Eyewear Dispensers .....2375
Fence .....2618
Flags .....2616
Flashlights .....1185
Glasses ....2362-2372
Goggles ....2372-2373
Grab Bars .....3115
Grip Bars .....1917
Group Lockout Boxes .....2564
Guards, Spray Gun .1978
Hasps .....2660
Headgear .....2378
Hose Cables .....3020
Kits, Ladder .....2183
Labels .2578, 2589, 2594
Lanyards, Hose Fitting Tie .....3029
Lifelines ....2507, 2511
Lighting .....1162
Lockout Kits .....2564
Lockouts .....2562
Mats ...1936-1939, 2621
Mirror Brackets ....2623
Mirrors .....2622-2623
Oily Waste Cans .....2342-2343
Orientation CD-ROMS .....2571
Orientation Facilitator Guides .....2571
Orientation Handbooks .....2571
Overpack ....2329-2330
Padlocks .....2562
Paint .....2620
Pennants .....2616
Posters .....2590
Rail .....2061
Right-To-Know Centers .....2590
Shrouds .....718-719
Shut-Off Blocks ....2839
Sign Kits .....2580
Signs .....2572-2584, ....2587-2588, 2600, ....2608, 2613-2614
Skirts .....2218, 2221

Storage Cabinet Shelves .....2346, 2350
Storage Cabinets .....2346-2353
Switches .....392-396, ..... 408, 466
Tag Centers .....2564
Tags .....2589, 2595
Tape ..2286, 2619-2621
Tie-Down Packages .....2944
Toilet Bars .....1917
Traffic Signs .....2616
Training Videos .....2570-2571
Treads .....2621
Tub Bars .....1917
Tub Chairs .....1917
Tub Seats .....1917
Valves, Air .....2898
Valves, Pressure ..2851
Valves, Vacuum ...2851
Vests .....2617
Walk .....2621

**Salamanders** .3377, 3380

**Salt**
Deflector Kits .....2672

**Salvage**
Drums .....2329

**Sampling Tubes,**
Duct Detector .....2359
Smoke Detector ...3339

**Sand**
Urns .....1922, 1926

**Sandblast**
Guns .....1526-1527
Media .....1526
Nozzles .....1526-1527, 1529

**Sandblasters** .1526-1528

**Sander**
Backing Pads .....1624
Conversion Kits ...2983
Drum Sanding Kits .1627
Dust Extractors ....1485
Pads .....1485, 2983
Vacuum Adapters ..2983
Vacuum Bags .....2983
Vacuum Hose .....2983

**Sander/Grinder**
Abrasive Discs ....1604
Brushes .....1631-1633
Guards .....1494
Pads .....1494
Wire Brushes .1631-1632

**Sander/Grinders** .....1489, 1492-1494, ..... 1507-1508, 2984

**Sander/Polishers** ...1495

**Sanders,**
Air .....2981-2988
Angle .....2984-2987
Bandfile .....1488
Belt .....1486-1487, ..... 1507-1508, ..... 2984-2987
Bench .....1507-1508
Deburring .....1508
Detail .....1485
Drywall .....1396, 1484
Dual-Action .....2982
Dust Free .....1485
Electric .....1483
Heavy-Duty .....2988
High-Speed .....2984
Orbital .1483, 2981-2982
Palm .....1482-1483
Pole .....1484
Random Orbit .....1482, 2981, 2983
Stationary .....1508
Straight-Line .2981, 2987
Triangle .....1485
Vacuum .....1484
Vertical .....2988

**Sanding Frames** ...1487

**Sandpaper,**
Belt .....1616-1618
Discs .....1604
Fibre Discs ..1619-1620
Handy Rolls .....1625
Hook And Loop Discs .....1482
Pads .....1484
Paper Disc Rolls .....1619, 1624
PSA Discs ...1482, 1620
Random Orbit .....1482
Screen Bak .....1626
Sheets .....1626
Speed-Lok Discs ..1620
Triangle Sander ...1485

**Sanitary**
Hairnets .....2476
Headwear .....2476
Napkin Dispensers .1913
Napkin Receptacles .....1913
Napkins .....1913
Pressure Gauges ...875

**Sanitizers,**
Bleach .....1850
Cleaner .....1850, 1862
Hand ..1856, 1860-1861

**Sanitizing**
Concentrate, Respirator .....2443
Soap .....1858

**Saw**
Alignment Gauges .1693
Blade Guards .....1514
Blade Guides .....1457
Depth Gages .....1387
Extension Kits .....1464
Guides .....1383
Scroll Stands .....1513
Supports .....1513
Table Stands .....1513
Tension Gauges ...1693
Worklights .....1513

**Saw Blades,**
Band ..1521, 1690-1696
Bi-Metal ....1457, 1521, .....1694-1696
Bond .....1696
Carbide Grit .....1457
Carbide Tipped .....1462-1463
Carbon .....1690-1694
Chop Saw .....1466
Circular .....1462-1463, 1518
Coil ...1690, 1692, 1694
Cold Saw .....1518
Coping .....1355
Corner Saw .....1485
Diamond .....1606
Flex-Back ...1692-1694
Hacksaw ....1354, 1457
Hardback ....1690-1691
High Speed Steel ..1696
Jig Saw .....1468-1470
Pipe Saw .....1457
Portable .....1692
Powerband .....1521, 1694-1696
Reciprocating .1455-1458
Sabre Saw .....1469
Sawzall .....1456
Scroll .....1470
Steel .....1462-1463
Table .....1515
Table Saw ...1462-1463
Trim Saw .....1485
Welded .....1521, 1690-1696

**Sawhorses** .....1458

**Saws,**
Air .....2997
Arbor .....1514
Band .....1452-1453, .....1516-1521
Bench .....1518
Bow ...1354-1355, 2681
Carbide Grit .....1353
Chain .....2683-2684
Chop .....1466
Circular .....1459-1461, 1518
Cold Cutting .....1518
Compass .....1354-1355, 2681
Compound Miter ...1464
Concrete .....2690
Coping .1354-1355, 2681
Cordless ....1409-1411
Corner .....1485
Cutoff .....1466, 1518, .....1521, 2690
Drill/Saw Combo ...1410
Fastcut .....1355
Framing .....1460
Hacksaws ...1354-1355, .....1457, 2681
Hand .....1355
Hole Saws ...1435-1437
Horizontal .....1521
Jab ....1354-1355, 2681
Jig .....1467-1468
Jobsite .....1513
Keyhole .....1354-1355, 2681
Metal Cutting .1518, 1521
Miter .....1465, 1518
Miter Box ....1464-1465
Multipurpose .....2690
Panel .....1461
Pipe .....1457
Portable .....1518
Pruning .....1354-1355, 2681
Reciprocating .....1411, 1454, 2997

# PRODUCT INDEX

## Saws — Screwdrivers


Rescue .....2690
Rod .....1353
Sabre .....1467-1468
Scroll .....1513
Slitting .....1687
Steel Cutting .....1354
Straight Side Tooth .1686
Table .....1513-1514
Tiger .....1454
Tool Box .....1355
Trim .....1411, 1485
Wallboard .....1354-1355, 2681
Woodworking .....1355
Worm Drive .....1459

**Sawzall**
Blades .....1455-1456

**Scaffold** .....2186
Planks .....2182

**Scale**
Filters .....3093-3094
Gauges .....2302
Removers .....3481

**Scalers,**
Air .....2998-2999
Recoilless ..2998-2999

**Scales,**
Beam .....2300
Commercial .....2302
Crane .....2302
Dial .....2302
Digital ..2301-2302, 3486
Digital Counting ...2300
Dock .....2302
Electronic ....2300-2301
Floor .....2300
Force Measurement .....2302
General Purpose .....1833, 2299, 2302
Hanging .....2302
Hoist .....2302
Horizontal .....2302
Inch .....1833
Industrial ....2299-2300
Laboratory ...2301-2302
Legal For Trade .....2301-2302
Mailroom .....2299
Measuring .....1833
Mechanical .....2300
Memory .....2299
Metric .....1833
Modular .....2301
Parcel Post .....2299
Parcel/Shipping ...2300
Postal .....2299
Protractor .....1833
Receiving .....2299
Shipping Room ....2300
Smoke .....848
Straight .....2302
Utility .....2299
Vertical .....2302
Warehouse ..2299, 2302
Weighing ....2299-2300

**Scaling Hammers** ..1357

**SCBA**
Cylinders ....2440-2441
Respirators ..2440-2441

**Scissor**
Lifts .....2218
Tables .....2218, 2221

**Scissors,**
First Aid .....2550
Industrial .....1349
Office .....1349
Poultry .....1349

**Sconces,**
Wall .....1073

**Scoop**
Handles .....2676

**Scoops,**
Aluminum ...2676, 2678
Eastern Pattern ....2678
Measuring .....1961
Street .....2678
Western Pattern ...2678

**Scopemeters** ...814-815
Western Pattern ...2678

**Scouring Pads** .....1957

**SCR Controller/DC**
Gearmotor .....214

**Scraper**
Blades .....1485
Files .....1372
Knives .....1400
Mats .....1934-1935, 1939-1940

**Scrapers,**
Burn-Off .....1392
Carpet .....1950
Deck .....1400
Floor .....1400
Gasket .....1392
Ice .....2679
Painters .....1392
Paper Hangers ....1392
Razor Blade .....1392
Refinishing .....1392
Spray Booth .....1400
Window .....1954

**Scratch Awls** .....1367

**Screen Door**
Closers .....2655
Hinges .....2654

**Screens,**
Acoustical .....2394
Anchor .....1728
Epoxy .....1728
Noise Absorbing ...2394
Urinal .....1853
Welding .....1587

**Screw**
Anchors .....1332, 1720-1721
Assortments ..1758-1759
Extractors ...1664, 1675
Machine Drill Bits .....1657-1658, 1669
Pin Shackles .....2246
Pitch Gauges .....1824
Snap Fasteners ...1366
Starters .....1298
Thread Repair Kits .1729
Thread Taps .....1729
Thread Tools .....1729

**Screwdriver**
Adapters .....1427
Batteries .....1427
Battery Packs .....1426
Kits .....1294
Nut Setters .....1430
Screwshooter Extension Kits .....1421
Screwshooter Magazines .....1421
Sets ...1293, 1298-1299

**Screwdriver Bit**
Bandoliers .....1430
Extensions .....1428
Holders .....1430

**Screwdriver Bits,**
Driver .....1429
Insert .....1429, 1431
Magnetic .....1293
Phillips .....1428, 1431
Power .....1431
Pozidriv .....1428
Sets .....1429
Slotted .....1428, 1431
Socket Head .....1428
Square Recess ....1428
Tamperproof .....1428
Torx .....1428

**Screwdrivers,**
Air ....2971, 2973-2976
Cabinet Tip .....1297-1298, 1314
Combination .1296, 1299
Conduit Fitting ....1301
Contact Block .....513
Cordless .....1412
Cushion Grip .....1294, 1298
Drywall .1419-1421, 2972
Electric .1419-1421, 2972
Electronic .....1295
Flat Head .....1399
Four-In-One .....1294
Four/Two-In-One ..1294
Insulated ....1314-1315
Jeweler's .....1814
Keystone Tip .....1314
Magnetic ....1293, 1430
Miniature ....1294, 1814
Multi-Bit ....1294, 1430
Offset .....1295
Phillips .....1296-1298, 1300-1301, 1314, 1399
Pocket .....1295, 1297
Pozidriv .....1297
Precision .....1295
Ratchet .....1293, 1295
Reversible .....1294
Reversing .....1419-1421, 2972
Six-In-One .....1294
Slotted .1296-1298, 1300
Slotted Tip .....1301
Spiral Ratchet .....1293
Square Recess ....1294
Square Recess Tip .1314
Square Shank .....1296, 1298, 1301
Standard .....1296-1298, 1399
Straight Blade .....1297
Stubby .....1294
Tapping Tool .....1367
Technician's .....1295

Torque .....1289
Torx ...1294-1295, 1300
Two-In-One .....1294

**Screws,**
Allen .....2901
Bond Seal .....1756
Buttonhead Socket .1731
Cap .....1734-1735, .....1737-1740
Carriage ....1736, 1741
Coarse Thread ....1433
Deck .....1421, 1757
Drill .....1755-1756
Drywall .....1421, 1721, 1757
Duct .....1756
Fasteners .....1751
Flat Head ...1749-1752, .....1754-1756
Flat Head Socket ..1731
Floor .....1757
Half-Turn .....1778
Hand .....1381
Hex Cap ....1734-1735, .....1737-1738
Hex Head ...1734-1740, .....1754-1756
Hex Lag .....1741
Jack .....1805
Knurled Head .....1775
Lag .....1741
Machine .....1748-1750
Masonry .....1723
Metric ..1739-1740, 2901
Oval Head .....1750, 1752, 1755
Pan Head ...1752-1755
Particleboard .....1421, 1756-1757
Piercing Tip .....1756
Round Head .....1750
Self-Drilling ..1755-1756
Self-Piercing .....1756
Self-Tapping .1753-1755
Set .....1732
Sheet Metal .....1747, 1752-1756
Shoulder .....1733
Slotted .....1748
Snap Stud .....824
Socket .....1731-1732
Socket Head Cap ..1730
Stainless Steel ....1738, .....1750, 1754-1755
Steel ..1734, 1748-1749, .....1752-1754
Stove Bolt ...1750-1751
Swivel Head .....1772
Trailer Floor .....1757
Truss Head .....1749
U-Bolt .....1760
Wallboard ...1421, 1757
Wood .....1751-1752
Zip .....1756

**Scribers**
.....1386, 1815-1816

**Scroll**
Chucks .....1498
Saw Blades .....1470
Saw Stands .....1513
Saw Worklights ....1513
Saws .....1513

**Scrub**
Brushes ....1875, 1949

**Scrub Brush/Squeegees**
.....1949

**Scrubbers,**
Automatic .....1876
Electric .....1876
Floor .....1871
Floor Machine .....1876
Window .....1955

**Scrubbing**
Brushes .....1876
Pads .....1873

**Scrubs,**
Deck .....1949
Floor .....1949

**Seal**
Strips .....3443

**Sealant**
Removers .....2788

**Sealants,**
Adhesive .....1795
Cartridge ....1794, 1796
Caulk .....1784, .....1794-1796, 1998
Connector .....612
Electrical .....2788
Epoxy ..1785, 1787-1788
Expanding Foam .....1794, 1796
Firestop .....1790
Fitting .....1782
Flange .....1784-1785
Foam .....1794-1796
Gasket .....1783-1785
High Temperature .....1780, 1784
HVAC .....1782
Hydraulic .....1782
Latex .....1796
Mechanical .....1780-1782, 1785
Metal Repair .....1781
Packing .....1783
Paste ..1782-1783, 3061
Pipe .....1782-1783, ..... 3061, 3118, 3482
Rubber Coating ..2788
Silicone .....1784-1785, 1998
Tape Thread .1783, 3061
Threadlocker .....1780
Valve .....2785
Window .....1794, 1796

**Sealers,**
Case .....2276
Dust Control .....1998
Edge .....2620
Film .....2268
Floor .....1835, ..... 1838-1839, 1998
Gasket .....1785
Heat .....2268
Impulse .....2268
Thread .....1783, 3061, 3482

**Sealing**
Gaskets .....668
Gum .....3481
Machines, Case ..2276
Machines, Plastic Bag .....2268
Machines, Plastic Strapping .....2295
Presses .....2610
Rings .....661, 668
Tape ..2274, 2276-2277
Tools .....2291

**Seals,**
Banding .....2290
Diaphragm .....875-876
Dock .....2306
Enclosure Hole .....642
O-Ring .....2901, 2914
Plastic Strapping .....2290, 2294
Pump .....3129, 3258
Pump Shaft ..3157-3158
Rotary .....3157-3158
Steel Strapping ....2290
Well .....3258

**Seamers** .....1347

**Seat**
Covers .....1901
Wrenches .....1342

**Seating,**
Desk .....2105
Industrial ....2098-2100
Office .....2103-2105

**Seats,**
Shower .....1917
Toilet .....3115
Tub .....1917

**Security**
Bolts .....2657
Cabinets .....2064
Cable .....2251
Camera Systems .....2647-2648
Carts .....2196
Gates .....2305
Hasps .....2628, 2660
Lighting .....1096
Mirrors .....2622-2623
Photocontrols .....586
Tape .....2274
Timers .....572
Trucks .....2196
Wall Plates .....701
Wire Partitions ....2077

**Seeder/Spreaders**
.....2670, 2672

**Selector Switch**
Bases .....508
Contact Blocks .505, 513
Enclosures .....516
Padlock Attachments .....516

**Selector Switches,**
Corrosion Resistant .504
H-O-A .....443
NEMA .....461
Oiltight .....511
16mm .....502
22mm ....504, 507, 510
30mm ....510-511, 513

**Self Diagnostic**
Emergency Lights .....1136-1137, 1144

Exit Signs .....1136-1137, 1144

**Sensor**
Connect Cable .....540
Controllers .....558

**Sensors,**
Base Alarm .....3230
Carbon Monoxide .....841, 847
CO .....2531
Conductivity .....831
Current .....753, 778
Data Logger .....801
Electronic .....3322
Foot .....524-525
Gas Detector .....2521, 2524, .....2528-2529, 2531
Heating/Cooling ...3301
High Water Alarm ..3230
Infrared .....696
Limit .....526
Limit Switches .....530, 533-535
Line Monitor ..492, 3235
Liquid Level .....3478
Magnetic .....836
Mercury Plug-In ...3348
Motion .....696-697
NOX .....842
Occupancy .....696
Over/Under Current .....492, 3235
Oxygen .....842, 847
PH .....830
Photoelectric .....549-555, 557
PLC .....559-560
Pneumatic .....3301
Pressure .....526
Pressure Static Pick-Up .....862
Proximity ..538-548, 836
Remote Optical .....836
Remote Temperature .....3321
Temperature ...561-563, .....831, 893, 3309, ..... 3322, 3325, 3355
Three-Phase ..492, 3235
Universal Current ...492
Voltage .....492
Water Alarm .....3230

**Separators,**
Bearing .....1404
Dust .....1529
Oil .....2753
Water .....2904

**Septic**
Disposer Bio-Charge Refills .....3103

**Sequencers,**
Electric Heat .....3337

**Service**
Carts .....2191-2192
Desks .....2080
Entrance Cable Fittings .....668
Jacks .....2712-2715
Logger Sensors ....801
Loggers .....801
Manifold Sets .....3487
Nut Kits .....3361

**Set Screw**
Connectors .....623, 652-653, 656
Couplings ..653, 655-656

**Sewage**
Basins .....3229
Ejector Pump Systems .....3231
Ejectors .....3225
Package Systems ..3222
Removal Systems ..3228

**Sewage Pump**
Capacitor Panels ..3235
Combination Starters .....3235
Condensation Heaters .....3235
Control Panels ....3234
Controls .....3234-3235
High Water Alarms .3230
Starters .....3234-3235

**Sewage Pumps** ....3193, .....3222-3225, 3227

**Sewer**
Cleaners ....1339-1341

**Sewing Machine**
Controls .....313
Motors .....183

**Shackles,**
Screw Pin .....2246

**Shaft**
Adapters ..109, 202, 204
Collars .....350-351
Coupler Covers ....361
Coupler Grids .....361
Couplers .....361
Coupling Kits .....204
Couplings ..354-359, 362
Keys .....1764
Protector Sets .....1405
Seals .....3157-3158
Sleeves .....352

**Shafts,**
Blower .....3644
Hole Saw .....1437

**Shampoo**
Dispensers .....1857

**Shampoo,**
Body .....1856-1858, .....1860-1861
Carpet .....1842, 1844
Hair ...1856-1858, 1860

**Shank**
Adapters .....1612
Couplings .....3037

**Shank Tools,**
BT .....1644
CV .....1644
End Mill Adapters ..1644
Shell Mill Adapters .1644

**Shanks,**
Socket .....1238-1240

**Sharpeners,**
Chain Saw .....2688
Chisel .....1364
Drill Bit .....1670
Knife .....1595, 1600
Plane .....1364

**Sharpening Stone**
Oil .....1600

**Sharpening Stones**
.....1595, 1599-1600

**Shaver**
Tool Blades .....1367
Tools, Surform ....1367

**Shear**
Blades .....1481
Brake And Roll ....1511
Cutters .....1309

**Shears,**
Air .....2997
All Purpose .....1349
Carpet .....1349
Drapery .....1349
Electric .....1481
Fabric .....1349
Gauge .....1481
Grass .....2681
Hedge .....2681
High Leverage ....1349
Industrial .....1349
Left Hand .....1349
Lightweight .....1349
Metal Cutting .....1349
Poultry .....1349
Sheet Metal .....1511
Straight .....1349
Strapping ...2293, 2295
Upholstery .....1349

**Sheave**
Bushings .....317

**Sheaves,**
Adjustable .....310-315, 3616
Cast Iron .....310-316
Double Groove .....311
Fan .....310-316, 3616
Four Groove .....315
Idler .....302
Single Groove .....310-312, 315
Three Groove ..314-315
Two Groove ....313-316
V-Belt .....314-316
Variable Pitch .....310-311, 313-315
Wire Rope .....2256

**Sheet**
Insulation .....3433

**Sheet Metal**
Clamps .....1376
Crimpers .....1347
Notchers ....1347, 1511
Punches .....1347
Screws .....1747, 1752-1756, ..... 1758-1759
Seamers .....1347
Shears .....1511
Tools .....1347

**Sheeting,**
Poly .....2261
Top .....2276

**Sheets,**
Abrasive Sandpaper .....1626

# PRODUCT INDEX




Drywall Abrasive Screen .....1626

**Shelf**
Bins . . .2047, 2055-2056
Brackets .....2656
Bulk Steel .....2014
Cabinets .....2040
Dividers .....2027

**Shelters,**
Dock .....2306

**Shelves,**
Bench .....2085
Boltless . . . .2015, 2023
Bookcase .....2110
Cabinet . . . .2064, 2349
Cantilever .....2093
Cart .....2191
Drum Storage Rack .....2332
Emergency Lighting .....1148, 1153
Outdoor Cabinet . . .2353
Particleboard . . . .2023
Plastic Laminate . . .2093
Riser .....2111
Safety Cabinet .....2346, 2350
Storage . . . .2015, 2023, .....2025, 2027
Tool Box .....1204
Wire . .1870, 2009, 2014
Workbench . .2085, 2089

**Shelving,**
Add-On . . . .2013, 2025-2026, .....2032-2035
Adjustable . . .2032-2035
Angle Post .....2028-2030, 2043
Archive Storage . . .2107
Assembly Line . . . .2013
Beaded Post .....2028-2030, 2043
Bin Fronts . . .2025, 2027
Bin Storage .....2046
Boltless . . . .2009, 2025
Boltless Bulk Storage .....2022
Boltless Storage .....2017-2018, .....2020-2022
Bookcase .....2110
Box Post .....2026
Brace Sets .....2025
Bulk Storage . . . .2014, . . . . 2016-2019, 2036
Cantilever .....2010
Clip Type .....2028-2030, 2043
Closed .....2025
Commercial . .2031-2035
Components .....2061
Dividers .....2025
Doors .2025, 2027, 2082
Drawer Boxes . . . .2025
Drawer Dividers . . .2027
Drawers .....2025
Dunnage .....2036
Framing .....2062
Heavy Duty .2025, 2030, .....2032-2035
Industrial . . . .2017-2018, . . . .2021, 2025-2026, .....2028-2030, . . . . 2032-2035, 2043
Modular .....2025
Modular Drawers . .2027
Open .....2025
Pallet Rack .....2008
Parts Bin .....2045
Parts Storage .....2041-2042, 2045
Pass Thru .....2027
Pick-Rack .....2045
Plastic .....2036
Polymer .....2032
Production .....2013
Rail .....2061
Record Storage . . .2107
Shelf Dividers . . . .2027
Side Panel .....2013
Starter .2013, 2025-2026
Steel Bin .....2042
Storage . . . .2013, 2018, .....2025-2026, . . . . 2028-2035, 2043
Tool And Die . . . .2030
Wire . . .2032-2035, 2196
Wire Mesh .....2025
Worktable .....2013

**Shields,**
Abrasion .....1332
Exit Lighting .....1152
Grinder .....1506
Lag .....1761
Respirator Welder . .2429

**Shim,**
Aluminum .....1711
Arbor .....1713
Blue Tempered . . . .1710
Brass .....1710
Color Coded .....1712
Copper .....1711
I.D./O.D. .....1713
Lengthening .....1733
Non-Conductive . . .1712
Non-Metallic .....1712
Plastic .....1712
Pre-Cut .....1712
Punch And Die Sets .....1715
Round .....1713
Shortening .....1733
Shoulder Screw . . .1733
Slotted .....1711-1712
Stainless Steel .....1710-1712
Steel .....1710
Stripper Bolt .....1733
Washer .....1713

**Shin Guards** .....2492

**Shipping,**
Box Sealing Tape .....2274, 2276
Bubble Pack Material .....2270
Carton Sealing Tape .....2277
Carton Sealing Tools .....2291
Carton Strapping . .2290
Carton Strapping Supplies .....2290, 2293-2295
Cartons .....2272
Case Sealers . . . .2276
Cloth Bags .....2269
Containers .....2047, . . . . 2055-2057, 2329
Double Lock Mailers .....2272
Foam Cushioning . .2270
Hand Wrap . .2296-2297
Hand Wrap Dispensers .....2296
Ink Rollers .....2288
Kraft Wrapping Paper .....2267
Label Tape .....2278
Labeling Tags . . . .2269
Mailing Envelopes . .2271
Markers .....2289
Masking Tape . . . .2284
Oilboard .....2288
Packaging Tape .....2278, 2285
Paper Bags .....2269
Postal Scales . . . .2299
Pouch Tape .....2278
Pouch Tape Pads . .2278
Roll Paper Cutters .2267
Roller Inks .....2288
Roller Replacements .....2288
Scales .....2300
Solvents .....2288
Spray Cover-Up . . .2289
Spray Inks .....2289
Staplers .....2271
Staples .....2271
Stencil Brushes . . .2289
Stencil Machines . .2288
Strapping . . . .2294-2295
Strapping Cutters . .2293
Strapping Kits . . . .2293
Strapping Machines .....2295
Strapping Tools . . .2290
Stretch Wrap .2296-2297
Stretch Wrap Machines .....2297
Stretch Wrap Stands .....2296
Tape .....2279
Tape Dispensers . .2275, . . . . .2279-2280, 2285
Tape Machines . . . .2277
Top Sheeting . . . .2276
Top Sheeting Brackets .....2276

**Shirts,**
Tyvek .....2474

**Shock**
Mounts . . . . .201, 3672

**Shoe**
Covers .....2474
Spikes .....2490

**Shop**
Desks .....2080
Lockers .....2073
Presses .....2725
Rolls, Abrasive . . . .1625
Stools .....2100
Towels .....1908
Vacuums .....1882-1886, 1889

# PRODUCT INDEX

## Shoulder — Skin


**Shoulder**
Pads, Harness . . . .2506
Screw Shim . . . . . .1733
**Shovel**
Handles . . . . . .2676
Holders . . . . . .2678
**Shovels,**
Cement . . . . . .2676
Coal . . . . . .2678
D-Handle . . . . . .1401
Ditch . . . . . .2677
Drain . . . . . .2676-2677
Forged . . . . . .2677
Garden . . . . . .2676
General Service . . .2677
Long Handled . . . . .2678
Roof Spade . . . . . .2676
Round Point
. . . . . .1401, 2676-2677
Scoop . . . . . .1401, 2678
Snow . . . . . .2678
Snow Pusher . . . . .2679
Spade . . . . . .2676-2677
Spading Fork . . . . .2677
Square Point
. . . . . .1401, 2676-2677
Street . . . . . .2678
Trench . . . . . .2676
**Shower**
Chairs . . . . . .1917
Drain Systems . . . .3259
Faucets . . . . . .3111
Heads . . . . . .3111, 3114
Hose . . . . . .3114
Rods . . . . . .1916
Room Cleaners
. . . . . .1847, 1855
Seats . . . . . .1917
Soap . . . . . .1860-1861
Strips . . . . . .2621
Treads . . . . . .2621
**Showers,**
ADA Approved . . . .3114
Drench . . . . . .2536-2539
Hand Held . . . . . .3114
Massage . . . . . .3114
**Shredders,**
Paper . . . . . .2118
**Shrink Wrap** . . . . . .2298
**Shrouds,**
Five Wire . . . . . .719
Four Wire . . . . . .719
Receptacle . . . .718-719
Twist-Lock . . . . . .719
**Shunts,**
Panel Meter . . . . . .746
**Shutter**
Fans . . . . . .3586
Motors . . . . . .3597
**Shutters,**
Ceiling . . . . . .3597
Fan . . .3569, 3597-3599
**Shuttle**
Valves . . . . . .2933
**Side Cutters**
. . . . . .1307-1308, 1313
**Sideshields,**
Eyewear . . . . . .2375
**Sidewalk**
Ice Melt Kits . . . . . .2672
**Sight**
Glasses, Bullseye . .2763
Glasses, Electronic .3485
Glasses, Flow . . . . .2765
Glasses, Fluid Level
. . . . . .2763-2764
Glasses, Moisture
Indicator . . . . . .3489
Glasses, Refrigeration
. . . . . .3489
Levels . . . . . .1383
Lubricators . . . . . .2762
Plugs . . . . . .2763
Windows, Abrasive Blast
Cabinet . . . . . .1529
**Sights,**
Flow . . . . . .2765
Inline . . . . . .2765
**Sign**
Ballasts . . . . . .1038
Kits . . . . . .2580
Lamps . . . . . .938,
. . . . 950-954, 956-957
Lighting Fixtures . . .1114
Machines . . . . . .2596
Mounts . . . . . .2596
Posts . . . . . .2587
Software . . . . . .2597
Stands . . . . . .2613
Tape . .2588, 2596, 2600
Weights . . . . . .2613
**Signal**
Cable . . . . . .602
Lights . . . . . .2555-2557
Option, Time Recorder
. . . . . .2113
Tone Modules . . . . .2558
**Signs,**
Aluminum . . .2572-2584
Blank Panel . . . . . .2581
Braille . . . . . .2588
Caution
. . . . .2310, 2572-2574,
. . . . . 2579, 2614
Confined Space
. . . . . .2575, 2578
Danger . . . . .2575-2578,
. . . . . 2581, 2585
Digital Display . . . . . .903
Egress . . . . . .2585
Electronic . . . . . .903
Fiberglass . . .2572-2584
Fire Alarm . . . . . .2585
Fire Equipment . . . .2588
Fire Extinguisher . . .2585
Fire Hose . . . . . .2585
Floor . .1959, 2608, 2614
Glow-In-The-Dark . .2585
Handicap . . . . . .2587
Laser Printable . . . .2593
Lockout . . . . .2574, 2579
Lockout Procedure .2590
Mesh . . . . . .2613
No Smoking . . . . . .2585
Notice . . . . . .2579-2580
OSHA Regulation . .2310
Overlaminate . . . . .2600
Plastic . . . . . .2572-2584
Pool/Spa . . . . . .3291
Reflective . . .2586, 2613
Right-To-Know
. . . . . .2592, 2594, 2597
Roll-Up . . . . . .2613
Safety .1959, 2572-2584,
. . . . .2587-2588, 2600,
. . . . . 2608, 2613-2614
Security . . . . .2309-2310
Self-Sticking . .2572-2584
Smoking . . . . . .2583
Software . . . . . .2593
Speed Bump . . . . . .2310
Stabilizer Jack . . . .2310
Stop And Slow . . . .2616
Superbright . . . . . .2613
Traffic . . . . . .2586, 2616
Vinyl . . . . . .2613
Wet Floor . . . . . .1959
Wheel Chock . . . . .2309
**Silencers,**
Compressor . . . . . .2894
Door . . . . . .2661
Vacuum Cleaner . . .1892
**Silicone**
Adhesives . . .1784-1785
Caulk, Rubber
. . . . . .1784, 1794
Compounds . . . . . .2785
Grease . . . . .1780, 2785
Lubricants
. . . . .1780, 2785, 2787
Spray Lubricants . . .2782
**Sillcocks** . . . . . .3059
**Silver**
Bearing Solder . . . .1537
Brazing Alloys . . . . .1545
Brazing Kits . . . . . .1545
Brazing Rods . . . . .1546
Brazing Wire Coil . .1545
Solder . . . . . .1537
Solder Kits . . . . . .1537
**Simple Green** . . . . . .1847
**Simple Green D** . . . .1850
**Simulators,**
PH . . . . . .830
Thermocouple . . . .896
**Sink**
Drains . . . . . .3106
Installation Kits . . . .3105
Strainer Baskets . . .3106
Tray Systems . . . . .3209
**Sinks** . . . . . .3105
**Siphon**
Cups . .1963, 1965-1966
Hose, Paint . . . . . .1972
Paint Spray Guns
. . . . . .1963-1964
Pumps . . . . .1961, 3205
Tubes . . . . . .3196
Tubes, Paint . . . . . .1972
**Sirens,**
Electronic . . . . . .2558
**Skates,**
Roller Dolly . . . . . .2214
**Skimmers,**
Leaf . . . . . .3291
Oil . . . . . .2753, 2775
**Skin**
Cream, Medicated
. . . . . .1856, 1859

# PRODUCT INDEX




**Skirts,**
Safety .....2218, 2221
**Sledge**
Hammer Handles
.....1360, 2680
Hammers
.....1360, 1399, 2680
**Sleeve**
Anchors .....1725
Mounting Sealants .1781
**Sleeves,**
Acid .....2487
Chemical Protection
.....2486-2487
Clip .....632
Cut-Resistant
.....2451, 2453
Denim .....2487
Disposable .....2474
Drill .....1708
Heat Resistant ....2451
Insulating .....661
Kevlar .....2451
Leather .....2484
Permasleeve .....636
Protective ...2469, 2474
Rubber .....2487
Shaft .....352
Terry Cloth .....2469
Vinyl .....2487
Wall .....3426
Welding .....2484
Wire Marking .....636
**Slide Rules** .....3299
**Sliding Door**
Cabinets .....2040
Hangers .....2658
Pulls .....2662
Track .....2658
**Sliding Track**
Brackets .....2658
**Sling**
Psychrometers ....877
**Slings,**
Cable .....2251
Chain .....2238
Crane ..2238-2239, 2242
Endless .....2241
Endless Loop
.....2240, 2242
Eye .....2242
Hardware Web ....2239
Hoist .....2239, 2242
Lifting ..2238-2240, 2242
Mechanic's .....2238
Nylon .....2241-2242
Polyester .....2240
Reverse Eye .....2241
Roundslings .....2240
Webbing .....2241
Winch .....2239, 2242
Wire Mesh .....2239
Wire Rope ...2239, 2251
**Slip Hooks,**
Clevis .....2249
**Slitters,**
Cable .....1322
**Slotted**
Angle Cutters ....2063
Angle Kits .....2063
Angle Posts .....2063
Screwdrivers .....1300
Shim .....1711-1712
**Slug Busters** ..1324-1325
**Smoke**
Alarm Relay Modules
.....2357
Alarms .....2357
Dampers .....3433
Eliminators .....3512,
.....3515-3517,
.....3519-3524
Exhausters .....3527
Scale .....848
Testers .....843, 848
**Smoke Detector**
Enclosures .....3339
Sampling Tubes ...3339
**Smoke Detectors,**
Duct .....2359
Duct Mount .....3339
Electronic .....2357
Fire Alarm .....2359
Ionization .....2359
Photoelectric .....2359
**Smoking**
Receptacles .....2345
Signs .....2583
Urns .....1926
**Snake Socks,**
Absorbent .....2337
**Snakes** .1338-1341, 2337
**Snap**
Action Switch
Thermostats ....3310
Action Switches .527-530
Fastener Refills ....1366
Fasteners .....1366
**Snaps,**
Bolt .....2656
Swivel .....2656
Trigger .....2656
**Snips** .....1347, 1348
**Snow**
Plow Hose .....2830
Plow Power Packs .2793
Plow Quick Couplers
.....2837
Scoops .....2678
Shovels .....2678-2679
**Snubber Hose** .....3021
**Soak Tanks** ...1522-1524
**Soap**
Dishes .....1916
Dispensers ..1855-1860,
.....1915, 3109
Pads .....1957
**Soap,**
Antibacterial
.....1858, 1860-1861
Antimicrobial .1857, 1861
Antiseptic .....1860
Bar .....1855
Body .....1858, 1860
Deodorant .....1858
Food Industry
.....1856, 1858
Hair .....1858, 1860
Hand .....1855-1861
IVORY .....1855
Laundry .....1865
LAVA .....1855
Lotion ..1856-1858, 1860
Medicated .....1857
Moisturizing .....1857
Sanitizer ....1856, 1860
Sanitizing .....1858
Shower .....1860-1861
**Soapstone**
Elements .....1565
Markers ....1565, 1715
**Sock**
Absorbents .....2337
**Socket**
Adapters ...1230, 1234,
.....1236, 1240,
.....1242-1243,
.....1277-1278
Bar Handles .....1236
Bit Holders ...1238-1240
Bit Sets .....1274
Bits .....1242
Breaker Bars .....1230
Drivers .1230-1231, 1278
Ell Handles .....1236
Extenders .....1119
Extension Bars
.....1230-1231,
.....1234, 1236
Extensions .....1231,
.....1239-1240,
.....1242-1243, 1278
Flex Handles .....1278
Handles .....1278
Hinge Handles
.....1230-1231,
.....1234, 1236, 1278
O-Rings .....1242-1243
Ratchet Adapters
.....1231, 1234, 1236
Ratchet Spinners ..1231
Ratchets ....1230-1231,
.....1234, 1236, 1288
Retaining Pins
.....1242-1243
Retaining Rings ...1242
Screw Sets .....1732
Screwdriver Bits
.....1231, 1234
Screws .....1730-1732
Set Repair Kits
.....1231, 1234, 1236
Shanks .....1238-1240
Speed Handles
.....1230-1231, 1234
Speeders .....1278
T-Bars .....1278
Tee Handles .1230-1231,
.....1234, 1236
Universal Joints
.....1230-1231, 1234,
.....1236, 1239-1240,
.....1242-1243, 1278
Wrenches
.....1221-1229, 1231
**Socket Sets,**
Black Oxide .1224, 1226
Combination .....1222

# PRODUCT INDEX

## Socket Sets — Spacers


Crowfoot . . . . . .1224
Deep . . . . . .1223, . . . . . 1225-1227, 1237
1/2" Drive . . .1226-1227, . . . . . .1237, 1276, . . . . . 1292, 1399
Hex Bit .1229, 1274-1275
Impact . . . . . .1237, 1277
Mechanic's . . . . . .1292
Metric . . . . . .1222, 1225, . . . . . 1227-1229, . . . . . 1237, 1276, 1292
1" Drive . . . . . .1228
1/4" Drive . . .1221-1222, . . . . . .1273, 1292
Standard . . . . . .1225, 1269-1271
3/4" Drive . . .1223-1224, . . . . . .1228, 1276
3/8" Drive . . . 1223-1225, . . . . . 1274-1275, 1292
Universal . . . . . .1224
Wrench . . . . . .1274
Torx Bit . . . . .1222, 1224

**Sockets,**
Bar Handle . . . . . .1236
Black . .1232, 1234-1235
Caster . . . . . .2170
Crowfoot . . . . . .1233
Deep . . . . . .1230-1236, . . . . . 1239-1243, 1280
Extension . . . . . .1708
Glide . . . . . .2170
1/2" Drive . . .1277, 1283
Hex Bit . . . . .1231, 1233, 1235
Impact .1238-1243, 1277
Metric . . . . . .1230-1233, . . . . . .1235-1236, 1280
1/4" Drive . . . . . .1280
Relay . . . . . .480-481
7/16" Drive . . . . . .1277
Spark Plug . . . . .1231, 1234, 1282
Standard . . . .1230-1232, . . . . . .1234-1236
Stem Caster . . . . . .2167
Thermometer . . .885-886
3/4" Drive . . . . . .1284
3/8" Drive . . .1277-1278, . . . . . .1281-1282
Torx Bit . . . . .1231, 1233, 1238
Universal . . .1231-1234, . . . . . .1280-1282
Wrench . . . . .1230-1236

**Socks,**
Boot . . . . . .2488

**Softeners,**
Commercial . . . . . .3072
Residential . . . . . .3071
Water . .3071-3072, 3074

**Software**
Machines . . . .2596-2597
Signs . . . . . .2593
Tags . . . . . .2593

**Software,**
Bar Code . . . . . .2597
Calibrator . . . . .742, 896
Combustion Analyzer . . . . . .846
Data Acquisition . . . . . .785, 797, 800
Data Logger . . .797, 800
Digital Imaging . . . . .910
Interface . . . . . .819
Multimeter . . . . .774-775
Oscilloscope . . . . . .816
Pipe Marker . . . . . .2597
Right-To-Know . . . . . .2592, 2597
Safety Compliance .2444
Sign . . . . . .2597

**Soil**
Probes . . . . . .2676

**Solar**
Temperature Controls . . . . . .3324

**Solder**
Dispensers . . . . . .1534

**Solder,**
Acid Core . . . . . .1536
Aluminum . . . . . .1537
Galvanizing . . . . . .1537
Lead . . . . . .1537
Lead Free . . .1536-1537
Low Temperature . .1537
Paste . . . . . .1536-1537
Rosin Core . . . . . .1536
Self-Fluxing . . . . . .1537
Silver . . . . . .1536-1537
Solid Wire . . . . . .1536
Syringe . . . . . .1536
Tin . . . . . .1537

**Soldering**
Flux . . . . . .1547
Flux Pen . . . . . .1536
Fume Extraction Systems . . . . . .1535
Guns . . . . . .1335, 1534
Handles . . . . . .1533
Heaters . . . . . .1533
Irons . .1531, 1533, 1535
Stations . . . . .1534-1535
Tip Sets . . . . . .1548
Tips . . . . . .1533
Torches . . . . . .1548

**Solders And Flux** . .1536

**Solenoid**
Air Valves . . .2935, 2944
Coils, Air . . . . . .2935
Coils, Heat Pump . .3333
Coils, Valve . .2935, 3361
Connectors . . . . . .2935
Plugs . . . . . .2818

**Solenoid Valve**
Junction Boxes . . . .2937

**Solenoid Valves,**
Angle Pattern Flow .2760
General Purpose . . . . . .3363-3368
High Pressure . . . . .3363
Hydraulic . . . .2818, 2820
Low Pressure . . . . .3363
Miniature . . . . . .2935
Refrigeration . . . . . .3493
Steam . . . . . .3363
Straight Pattern Flow . . . . . .2760

**Solenoids,**
Box Frame . . . . . .488
C-Frame . . . . . .488
DC . . . . . .490
Laminated Type . . . .488
Laundry Type . . . . . .489
Machine Tool . . . . . .489
Motor Control . . . . . .490
Pull Type . . . . . .488-489
Push-Pull Type . . . . .489
Tubular . . . . . .489

**Solution**
Tanks . . . . . .1871

**Solutions,**
Calibration . . . . . .831
Electrolyte . . . . . .832
Etching . . . . . .1998
KCL . . . . . .832
Zero Oxygen . . . . . .832

**Solvent**
Dispensers . . . . . .1534
Gloves . . . . . .2464
Pumps . . . . . .3192
Sprayers . . . . . .2702

**Solvents,**
Adhesive Clean-Up .1789
Cement . . . . . .3118
Cleaner . . . . . .2002
Degreaser . . . . . .2787
Degreasing . .1840, 2002
Gasket Remover . . .1784
Parts Cleaner . . . . .1525
Parts Washer 1523, 1525
Stencil Cleaning . . .2288

**Sorbent**
Blankets . . . . .2336-2337
Dispenser Racks . .2335
Drip Pans . . . . . .2329
Drum Covers . . . . .2337
Pads . . . . . .1525
Rugs . . . . . .2336-2337
Tube Holders . . . . .2535

**Sorbents,**
Boom . . . . . .2336-2337
Chemical . . . . . .2333, . . . . . 2335-2336, 2338
Control Stations . . .2334
Dyke . . . . . .2337
Economy . . . . . .2336
Half-Pack . . . . . .2336
Oil . . . .2333, 2335-2337
Pad . . . . . .2336-2337
Petroleum . . . . . .2335
Spill Control . . . . . .2333, 2335-2338
Static Resistant . . . .2335
Universal . . . .2335-2338

**Sound**
Baffles . . . . . .2395
Level Meter Calibrators . . . . . .825-826
Level Meter Filters . .825
Level Meters . . .825-827

**Spa/Hot Tub**
Heaters . . . . . .3372
Motors . . . .165, 168-169
Thermostats . . . . . .3372

**Space**
Heaters . . . . . .3417

**Spacers,**
Box . . . . . .680
Pallet Rack . .2007, 2009

Pipe .....652
Thrust Washer .....348

**packling**
Compounds .....1796

**pade**
Connectors .....620

**pades** .....2676-2677

**panner**
Wrenches ...1400, 3038

**park Plug**
Sockets
.....1231, 1234, 1282

**pats,**
Leather .....2483

**patulas** .....1400

**PC,**
Calipers .....1804
Electronic Indicators
.....1810
Electronic Micrometers
.....1799
Outside Micrometers
.....1799

**peaker**
Cable .....599
Enclosures .....905
Wire .....599

**peakers,**
Ceiling .....905
Intercom .....907
Paging Horn .....905
Public Address .....905
Talk-Back .....905
Two-Way Radio
.....899, 901

**pectacle**
Kits, Respirator ....2429
Loupes .....1833

**pectacles,**
Safety .....2362-2372
Visitor .....2369

**pectrum**
Analyzers .....819

**peed**
Bumps .....2310
Control Kits .....2941
Control Valves ....2939
Controllers ...40-42, 44,
....189, 191-194, 3561
Controls, Circulator .3574
Controls, DC .....191
Controls, Motor .187, 733
Controls, Temperature
Sensitive .....3506
Controls, Transformer
.....3612
Drives, Adjustable
.....43-44, 252-254
Nuts .....1744
Signs .....2310
Squares .....1384
Tester Reflective Tape
.....833-834
Testers .....833-837

**Speed Reducer**
Bases .268-269, 273, 276
Books .....276
Brackets .....278
Fan Kits .....273
Flange Coupling Kits
.....286
Flange Kits .....278
Torque Arm Rod Kits
.....277

**Speed Reducers,**
C-Face
....268-272, 274-275,
..... 280, 282-284
Helical Inline .....281
Indirect Drive
.....277, 282-288
Parallel Shaft ...282-284
Right Angle ....268-272,
..... 274-275, 277,
..... 280, 285-288

**Speeders,**
Socket .....1278

**Spherical**
Nuts .....1777
Roller Bearings .....338
Washers .....1777

**Spigots,**
Barrel .....2325
Brass .....2325
Drum .....2325
Stainless Steel ....2325
Valve Type Barrel ..2325

**Spikes,**
Shoe .....2490
Water .....2695

**Spill Control**
Accumulation Centers
.....2330
Cabinets .....2336
Caddies .....2332
Caddy Well Liners .2332
Drum Management
Systems .....2332
Drum Trays .....2329
IBC .....2331
Kits, Chemical ....2334
Pallets .....2330-2331
Stations .....2331

**Spindles,**
Flat Cushion .....1767
Toilet Paper Holder .1902
Toilet Tissue .....1903
Wire Stand .....1330

**Spiral**
Bands .....1628
Bevel Gears .....326
Rolls .....1628

**Splice**
Collars .....2658
Connectors .....618

**Splicers,**
Cable .....3252

**Splitters,**
Air Pump .....2437
Current .....754
Line .....754
Nut .....1364

**Sponge**
Mops .....1943
Pads .....1957

**Sponges,**
Cellulose .....1957
Cleansing .....1957
Drywall Sanding ...1396
Scrubbing .....1957
Stainless Steel ....1957

**Spool**
Guns .....1573, 1575
Holders .....2247

**Spot**
Brushes .....1950
Removers, Carpet
.....1840, 1879

**Spot Cooler**
Air Plenum Kits ....3461
Chamber Extenders
.....3461
Condensate Pump Kits
.....3461
Condenser Pipe ...3461
Duct .....3461
Extension Duct ....3461
Extension Duct Flange
.....3461
Flange/Clamps ....3461
Remote Control Kits
.....3461
Roller Kits .....3461
Stand Kits .....3461
Three-Way Chambers
.....3461
Trim Rings .....3461
Two-Way Chambers
.....3461
Wagon Kits .....3461

**Spot Coolers** .....3460

**Spot Welder**
Timers .....1578
Tip Dressers .....1577
Tips .....1577-1578
Tongs .....1577-1578

**Spot Welders,**
Air-Cooled .....1578
Gyro Bail ....1577-1578
Portable .....1577-1578
Resistance .....1578
Sheet Metal .....1578
Stationary .....1577
Water Cooled ....1577
Wire Feed .....1569

**Spotlights,**
Hand Held .....1188

**Spouts,**
Chemical .....2748
Oil .....2748
On/Off .....2748

**Spray**
Applicators, WD-40 .2780
Booth Fans .....3649
Booth Liner Paper ..3530
Booth Scrapers ....1400
Booths .....1980
Bottle Baskets ....1961
Bottles .....1870, 1961
Cabinets .....1525
Can Puncturing Systems
.....2790
Cleaners .....2747
Lubricants ...2779, 2782
Nozzles .....3185
Paint Removers ...1861
Paint Tips .....1978
Pumps .3164, 3180, 3190
Valves .....2759

Washers . . . .1896-1899

**Spray Gun**
Airline Filters . . . . . .1963
Conversion To HV/LP Kits . . . . . .1964
Cup Liners . . . . . .1963
Cups, Dripproof . . .1963
Cups, Gravity . . . . .1963
Cups, Siphon . . . . . .1963, 1965-1966
Extensions . .1976, 1979
Filters . . . . . .1976
HV/LP Test Kits . . .1964
Poles, Telescoping .1979
Pressure Feed Cups . . . . . .1963
Regulators . . . . . .1963
Safety Guards . . . .1978
Tips . . . . . .1976
Tips, Airless . . . . . .1978

**Spray Guns,**
Agricultural . . . . . .3189
Airless . . . . . .1975, 1978
Conventional . . . . . .1963, 1965, 1974
Convertible . . . . . .1965
Drywall . . . . . .1396
HV/LP .1964, 1966, 1974
Industrial . . . .1963-1965
Paint . . . . . .1963-1965
Paint HV/LP . . . . . .1968
PSI . . . . . .3184
Touch-Up . . . . . .1974
Trigger . . . . . .3184
Turbine . . . . . .1968
Water . . . . . .3184

**Spray,**
Acrylic . . . . . .1790
Adhesives . . . . . .1792-1793, 2289
Air Fresheners . . . . . .1852, 1869
Ant . . . . . .1866-1867
Anti-Seize . . . . . .2784
Anti-Spatter . . . . . .1546
Antiseptic . . . . . .2549
Buff . . . . . .1836, 1838
Bug . . . . . .1866-1867
Coating . . . . . .2004
Disinfectants . . . . . .1849, 1854, 1869
Dust Mop . . . . . .1864
Elastomeric . . . . . .1790
Firestop . . . . . .1790
Fluorescent . . . . . .2004
Fluorescent Marking . . . . . .2003
Foam . . . . . .1795
Grill Cleaners . . . . .1862
Gum Removers . . .1844
Hornet . . . . . .1866
Insect . . . . . .1866-1867
Insulation . . . . . .1795
Joint . . . . . .1790
Layout . . . . . .2776
Low VOC Paint . . . .2004
Marking Paint . . . . .2003
Oven Cleaners . . . .1862
Paint . . . . . .372, 1999, . . . . . 2003-2004
Primers . . . . . .2004
Roach . . . . . .1866-1867
Stencil Ink . . . . . .2289
Striping Paint . . . . .2003
Wasp . . . . . .1866
Zinc . . . . . .2004

**Sprayer**
Extension Wands . .2703
Hose . . . . . .2703
HV/LP Test Kits . . .1964
Nozzles . . . . . .2703
Repair Kits . . . . . .2703
Shut-Offs . . . . . .2703
Tip Guards . . . . . .1978
Tips, Airless . . . . . .1978

**Sprayers,**
Acid . . . . . .2702
Air Brush . . . . . .1974
Back Pack . . . . . .2702
Chemical . . . . . .1961
Cleaning . . . .2701-2702
Compressed Air .1963-1964, 2701-2702
Concrete Curing . . . . . .2701-2702
Degreaser . . . . . .2702
Drum Pump . . . . . .2702
Foaming . . . . . .1961
Form Release Oil . .2701
Funnel Top . . . . . .2701
Garden . . . . . .2702
Gravity Feed .1963-1964
HV/LP . . . . . .1964, 1970
Industrial . . . .2701-2702
Insecticide . . . . . .2701
Liquid . . . . . .2701-2702
Open Head . .2701-2702
Paint . .1963-1965, 1970, . . . . . .1974-1975, 1977
Paint HV/LP . . . . . .1964, . . . . . 1967-1968, 1974
Pest Control . . . . . .2701
Poly . . . . . .2702
Pressure . . . . . .2701-2702, 2780
Pressure Feed . . . . . .1963-1964
Pump Cart . . . . . .2701
Rechargeable . . . . .2780
Solvent . . . . .2701-2702
Stainless Steel . . . .2701
Steel . . . . . .2701
Suction Feed .1963-1964
Tow . . . . . .2670
Trigger . . . . . .1961
Turbine . . . . . .1968
Viton Seals . . . . . .2702

**Spreader**
Clamps . . . . . .1377
Screens, Paint . . . .1983

**Spreaders,**
Broadcast . . .2670, 2672
Lawn . . . . . .2670, 2672
Manual . . . . . .2672
Push . . . . . .2672
Tow . . . . . .2670
Tractor . . . . . .2670

**Spring**
Clamps . . . . .1377, 1381
Hinges . . . . . .2654
Pin Assortments . . .1759
Platform Kits . . . . . .2190
Plungers . . . . . .1772
Steel . . . . . .1710, 1713
Stop Buttons . . . . . .1773
Tubing Benders . . .1346
Wound Timers . . . . .573

**Springs,**
Cable Support . . . . .673
Compression . . . . .1766
Extension . . . . . .1766
Gate . . . . . .2655
Main Regulating . . . . .2923, 2925, 2927
Motor . . . . . .179
Pressure . . . . .2923, 2925, 2927
Shock Absorbing . . .673

**Sprinkler**
Gauges . . . . . .872
Pumps . . . . . .3138
Timers . . . . . .584, 2697

**Sprinklers,**
Lawn . . . . . .2695-2696

**Sprinkling Equipment,**
Underground . . . . . .2698-2700

**Sprocket**
Bushings . . . . . .317

**Sprockets,**
Idler . . . . . .302
Roller Chain . . . .291-297
Synchronous . . . . . .318

**Spur Gears** . . . . . .324

**Squares,**
Adjustable . . . . . .1384
Bar Stock . . . .1697-1699
Carpenter's . . . . . .1384
Combination .1384, 1820
Drywall . . . . . .1384
Framing . . . . . .1384
Rafter . . . . . .1384
Speed . . . . . .1384
T- . . . . . .1384
Try . . . . . .1383

**Squeegee**
Handles . . . .1947, 1956

**Squeegees,**
Floor . . . . . .1949, 1956
Label Machine . . . .2596
Vacuum Cleaner . . . . . .1890, 1893
Wet/Dry Vacuum . .1885
Window . . . . . .1955

**Squirrel**
Cage Wheels . . . . .3635

**Sta-Bil** . . . . . .2767

**Stabilizer**
Jack Signs . . . . . .2310
Jacks . . . . . .2310

**Stabilizers,**
Arc Welding . . . . . .1568
Cargo . . . . . .2311
Diesel . . . . . .2767
Gasoline . . . . . .2767

**Stack**
Chair Dollies . . . . . .2101
Chairs . . . . . .2101
Gas Analyzers . . . . .845

**tack-Ons** . . . . . .620

**tacking**
Containers . .2055, 2058
End Plates . . . . . .2943
Kits, Tie Rod . . . . . .2935
Kits, Valve . . . . . .2935
Racks . . . . . .2012
Totes . . . . . .2055

**tages** . . . . . .2182

**tain**
Removers, Carpet . .1844

**tair**
Gauges . . . . . .1384
Glides, Hand Truck .2208
Treads . . . . . .2621

**tak**
Valve Bolt Kits
. . . . . .2819, 2821

**tamp**
Sets . . . . . .2609

**tamping**
Tools . . . . . .2609

**tamps,**
Identification . . . . . .2609

**tand Pipe**
Threaders . . . . . .1337

**tand-Offs,**
Ladder . . . . . .2182

**tandard**
Socket Sets . .1270-1271

**tands,**
Automotive . . . . . .2721
Automotive Engine
. . . . . .2716
Band Saw
. . . . .1453, 1518, 1520
Banding . . . . . .2296
Belt Grinder . . . . . .1507
Belt Sander . . . . . .1487
Bench Grinder . . . .1506
Car . . . . . .2721
Clamp . . . . . .1381
Computer . . .2096, 2118
Conveyor . . . . . .2263
Conveyor Support . .2264
Document . . . . . .2097
Drill Press . . . . . .1450
Engine . . . . . .2716
Fork Lift . . . . . .2715
H-Stand . . . . . .2264
Handwrap . . . . . .2296
Heat Gun . . . . . .1790
Hex Key . . . . . .1303
Indicator . . . . . .1812
Industrial Circulator .3576
Information . . . . . .2097
Inspection . . . . . .2097
Jack . . . . . .2715, 2721
Jointer . . . . . .1512
Machine . . . . . .2083
Manometer . . . . . .857
Micrometer . . . . . .1812
Miter Saw . . . . . .1465
Mobile Work . . . . . .2186
Oil Skimmer . . . . . .2753
Pallet . . . . . .2220
Pipe . . . . . .1335
Pipe Threader . . . . .1336
Pipe Threading Machine
. . . . . .1336
Planer . . . . . .1509
Propane Cylinder . .1550
Reel . . . . . .1330
Scroll Saw . . . . . .1513
Sign . . . . . .2613
Step . . . . . .2175, 2220
Support . . . . . .2264
Table Saw . . . . . .1513
Tilting . . . . . .2220
Trailer . . . . . .2704
Tripod . . . . . .2263
Vehicle . . . . .2715, 2721
Video Equipment . .2118
Water Heater . . . . .3083
Work . . . . . .2083, 2220

**Staple**
Gun Tackers . . . . . .1393
Guns . . . . . .1393
Hasps . . . . . .2660

**Stapler**
Parts Kits . . . . . .1393

**Staplers,**
Air Packaging . . . . .3014
Air Powered . . . . . .3013
Air Tool . . . . .3009, 3013
Battery Operated . .1393
Cable . . . . . .1393
Cordless . . . . . .1393
Decking . . . . . .3009
Electric . . . . .1393, 2271
Hammer Tacker . . .1393
Lathing . . . . . .3009
Manual . . . . . .1393
Packaging . . . . . .3014
Plier-Type . . . . . .1393
Pneumatic . . . . . .3009
Professional . . . . . .1393
Roofing . . . . .3009, 3013
Sheathing . . .3009, 3013
Tackers . . . . . .1393
Trim . . . . . .3009
Upholstery . . . . . .3009

**Staples,**
Air Tool
. . . . .3007, 3010, 3012
Cable . . . . . .594, 1393
Coated . . . . . .1393
Electric Stapler . . . .2271
Fine Wire . . . . . .3007
Heavy Duty . . . . . .1393
Insulated Wire . . . .1393
Packaging . . .2271, 3014
Plier-Type . . . . . .1393
Pneumatic . . . . . .3007
Wide Crown . . . . . .1393
Wire . . . . . .1393, 2271

**Star Drivers** . . . . . .1222

**Starter**
Capacitor Panels . .3235
Capacitor Starters . .3235
Condensation Heaters
. . . . . .3235
Control Panels . . . .3234
Tool Sets . . . .1218-1220

**Starters,**
Arc . . . . . .1572
Combination . . . . . .3235
Compressor Motor . .444
Engine . . . . . .2728-2729
Fluorescent Lamp . . .933
IEC Manual . . . . . .446
Motor . . . .444, 447-448,
. . . . . 451, 454-457,
. . . . . 459, 466-467
Motor NEMA . . .458-459
Pump . . . . . .3252
Reduced Voltage . . .467
Screw . . . . . .1298

**Static**
Control Cord . . . . . .824
Control Ground Lugs
. . . . . .824
Control Ground Terminals
. . . . . .824
Control Kits . . . . . .824
Control Snap
Stud/Screws . . . . . .824
Control Wrist Strap
Testers . . . . . .824
Control Wrist Straps .824
Discharge Systems . .824

**Station**
Blanks . . . . . .2937

**Stations,**
Body Flush . . . . . .2536
Circuit Breaker Lockout
. . . . . .2560
Computer . . . .2096-2097
Desoldering . . . . . .1534
Diaper Changing . . .1959
Document . . . . . .2097
Eye Wash . . . . . .2536
Group Lockout . . . .2564
Jobsite MSDS . . . . .2595
Lockout . . . . . .2560
Lockout Procedure .2568
OSHA Recordkeeping
. . . . . .2595
Pendant . . . . . .518
Portable Lockout . . .2564
Pushbutton . . . . . .519
Right-To-Know
. . . . . .2590-2591
Safety Tag . . . . . .2564
Soldering . . . .1534-1535
Spill Control .2331, 2334
Two Drum . . . . . .2331

**Stators,**
Pump . . . . . .3178

**Stay Rollers** . . . . . .2658

**Steam**
Cleaner Hose . . . . .3031
Cleaners, Hot Water
. . . . . .1898
Fittings . . . . . .3029
Hose . . . . . .3030
Hose Assemblies . .3030
Hose Fittings . . . . .3029
Trap Testers . . . . . .888
Traps . . . . . .3359
Valves . . . . . .3065, 3355

**Steamers** . . . . . .1898

**Stem**
Caster Sockets . . . .2167

**Stems,**
Caster . . . . . .2128-2129

**Stencil**
Brushes . . . . . .2289
Characters . . . . . .2611

# PRODUCT INDEX

## Stencil — Straps


Cover-Up .....2289
Inks .....2288-2289
Machines .....2288
Markers .....2289
Oilboard .....2288
Rollers .....2288
Symbols .....2612

**Stencils** .....2612

**Step**
Can Liners .....1925
Cans .....1925
Drills .....1434
Stands .....2175, 2220
Stools .....2098

**Stepladders**
.....2176-2179, 2184

**Steps,**
Worker Platform ...2220

**Stick**
Welder/Generators
.....1580-1582
Welders
.....1567, 1571-1572,
..... 1574, 1576

**Sticks,**
Glue .....1382, 1791
Grinding Wheel Dressing
.....1593

**Stock**
Boxes .....2047,
..... 2055-2056, 2272
Cartons .....2272
Carts .....2200
Truck Trays .....2194
Trucks .2194-2195, 2201

**Stockroom**
Trucks .....2190

**Stones,**
Sharpening
.....1595, 1599-1600

**Stools,**
Drafting .....2103
Ergonomic .....2098
Industrial .....2099
Kick Step .....2175
Mechanical .....2100
Office .....2098
Shop .....2100
Sit/Stand .....2099
Step .....2098
Swivel .....2100

**Stop**
Caps .....3116

**Stops,**
Back .....2091
Bumper .....2308
Car .....2310
Collar .....346
Conveyor .....2262
Dome .....2661
Door .....2659, 2661
Drill .....1425
End .....2091
Floor .....2661
Goose Neck .....2661
Kick Down .....2661
Miter Box Saw ....1464
Urinal .....3117
Valve .....3107
Wall .....2661

**Stopwatches** .....829

**Storage**
Archive .....2107
Bin Cabinets .2043, 2050
Bin Carts .....2046
Bin Dividers .....2044
Bin Racks .....2046
Bins .....2094
Bins, Corrugated ...2044
Bins, Plastic
.....2044, 2046, 2057
Bins, Revolving
.....2041, 2053
Bookcases .....2110
Boxes .....2047,
..... 2055-2056, 2105
Bulk .....2014
Cabinets, Assembled
.....2065
Cabinets, Combination
.....2066
Cabinets, Commercial
.....2065, 2082
Cabinets, Industrial
.....2065, 2082
Cabinets, Jobsite ..1195
Cabinets, Jumbo
.....2065-2066
Cabinets, Mobile ...2193
Cabinets, Modular
Drawer ....2040, 2193
Cabinets, Paint ....2350
Cabinets, Pesticide .2350
Cabinets, Preassembled
.....2067
Cabinets, Quick View
.....2065, 2082
Cabinets, Safety
.....2346-2353
Cabinets, Security ..2064
Cabinets, See-Thru
.....2065, 2082
Cabinets, Steel ....2067
Cabinets, Table Top
.....2082
Cabinets, Truck/Van
.....2054
Cabinets, Unassembled
.....2065-2067
Cabinets, Wall-Hung
.....2082
Cabinets, Wardrobe
.....2066
Cabinets, Work Table
.....2081
Chests .....1195
Component Parts ..2042
Container Lids ....2056
Containers .....2055
Containers, Fiberglass
.....2055
Containers, Wire ...2059
Drum Overpack
.....2329-2330
Drum Racks .2322, 2332
Framing .....2062
Hooks .....2656
Lockers .....2073-2075
Lockets .....2074
Pallet Racks .....2008
Parts Cabinets ....2193
Pick-Racks .....2045
Racks,
.....2010-2012
Record .....2107
Shelves
.....2015, 2023, 2025
Shelving
.....2013, 2015-2023,
..... 2025-2026,
..... 2028-2035,
.....2043, 2196
Tool Cabinets .....2193
Totes, Plastic .....2056
Trays, Truck/Van ..2054
Truck Boxes ..1190-1194
Trucks .....2196
Water Tanks .....3155

**Stove**
Bolts .....1750-1751

**Straight**
Blade Connectors ...704
Blade Outlets .....707
Blade Plugs
.....704, 706-707
Edges .....1383
Oils .....2773

**Strainers,**
Bronze .....3065
Cast Iron ....3067, 3360
Grid .....3113
Line .....3101
Pump .....3153,
..... 3189, 3191, 3205
Suction .....3153
V- .....3065
Y- .....3067, 3360

**Strap**
Clamps .....1382
Cutters, Steel .....2293
Hinges .....2655
Wrenches .....1333

**Strapping**
Buckles .....2293
Dispensers ..2290, 2294
Edge Protectors ...2293
Hand Tools .....2295
Machines .....2295
Sealing Tools
.....2291, 2295
Seals .....2290, 2294
Shears .....2295
Tape .....2285, 2294
Tensioners .....2295
Tools, Pallet .....2290

**Strapping,**
Anchor .....2290
Apex .....2290
Pallet .....2293-2294
Plastic .....2293-2295
Poly .....2293-2294
Steel .....2290

**Straps,**
Antistatic Wrist .....824
Cable .....594
Chin .....2381, 2384
Conduit .....651-652
Cross-Arm .....2511
EMT .....652
Hard Hat Light ....2382
Logistic .....2311
Nail .....652
One Hole .....651-652

# PRODUCT INDEX




Tie-Down .....2259
Towing .....2251
Two Hole .....651-652
Winch .....2257
Wrist .....2093
Dispensers .....2296
Machine Ramps ...2297
Machines .....2297
Mounting Brackets .2276

**tretch Wrap** ..2296-2297
Stands .....2296

**tretchers,**
Brick Line .....1397
Duct .....1347

**triker**
Flints .....1565

**trikers** .....1565

**trikes,**
Door .....909, 2643
Electric .....2643

**trip**
Aluminum .....1711
Brass .....1710
Copper .....1711
Door Replacements
.....2304-2305
Doors, Bulk Roll ...2304
Doors, Clear Vinyl ..2304
Doors, Freezer ....2305
Heaters .....3370-3372
Lighting Fixtures
.....1060-1064, 1075
Stainless Steel ....1710
Steel .....1710

**triping**
Machines .....2003
Paint .....2003

**tripper**
Bolt Shim .....1733

**trippers,**
Baseboard .....1837
Floor ..1837, 1839, 1870
Non-Ammoniated ..1870
Wire .....1321-1322

**tripping**
Brushes .....1875
Pads .....1873, 1956

**trips,**
Body File .....1629
Cooler Door .....2305
Electrical .....2093
Firestop .....1790
Freezer Door .....2305
Magnetic .....1830
Outlet .....2094
Plastic Bulk .....2304
Plastic Door .....2305
Seal .....3443
Shower .....2621
Slip-Resistant .....2621
Sponge Rubber ...3443
Tub .....2621
Vinyl Bulk .....2304
Vinyl Door .....2305
Weather .....3443

**Strobe**
Lights ..2357, 2554-2557

**Strobes,**
ADA .....2357
Fire Alarm .....2359

**Stroboscope**
Bulbs .....837
Chargers .....836
Lamps .....836
Power Packs ...836-837

**Stroboscopes** ..834, 837

**Structural**
Pipe Fittings ..2060-2061

**Stud**
Anchor Couplings ..1761
Anchors .....1726
Bushings .....1326
Leveling Feet .....1779
Punches .....1326
Removal Electrodes
.....1541
Removers .....1234

**Stud/Screws** .....824

**Studs,**
Clamping .....1778
Mounting .....203
Threaded .....1439

**Subbases,**
Air Conditioner ....3456
Thermostat ..3311-3313,
.....3320, 3322, 3328

**Subplates,**
Hydraulic Stak Valve
.....2820
Valve .....2818

**Suction**
Couplings .....3037
Cups .....2259
Cups, Spray Gun ..1963
Feed Cups .....1963
Fittings .....3037
Hose .....3033
Paint Spray Guns
.....1963-1964
Strainers .....2807
Tube Filters .....1976
Tubes .....2744, 3201

**Suggestion Boxes** ..2374

**Sump**
Basin Covers .....3229
Basins .....3229
Refractometers ....2775

**Sump Pump**
Basement Alarms ..3230
Capacitor Panels ..3235
Combination Starters
.....3235
Control Panels ....3234
Controls .....3234-3235
Drain Hose .....3210
High Water Alarms .3230
Motors .....171
Starters .....3234-3235
Switches
.....3210, 3216, 3218
Valves .....3231

**Sump Pumps,**
Automatic ...3209-3211,
.....3214-3216,
.....3218-3219,
.....3221, 3260
Back-Up .....3212-3213
Commercial .....3218
Heavy Duty .....3217
High Temperature ..3209
Industrial ....3211, 3218
Manual .....3216, 3218,
.....3221, 3260
Marine .....3260
Residential ..3208, 3210,
.....3214-3217
Submersible .3214-3216,
.....3219-3221,
.....3225, 3260
Upright .....3210-3211

**Supplied Air**
Hood Systems
.....2422-2423, 2427
Respirators .2409, 2419,
.....2426-2427, 2432

**Supply**
Cabinets ....2066-2067
Plugs .....2942

**Support**
Braces, Telescoping
.....2313

**Supports,**
Air Conditioner ....3455
Back .....2494-2496
Miter Saw .....1465
Pipe .....651
Saw .....1513
Switch Box .....676
Tennis Elbow .....2500
Tube .....3042
Workstation .....2094
Wrist ..2496, 2499-2500

**Suppression**
Modules .....463
Systems, Cabinet ..2353

**Suppressors,**
Noise .....695
Surge .....580, 695

**Surface**
Levels .....1383
Planers .....1509
Plate Cleaners ....1829
Plates .....1829
Probes .....893

**Surge Suppressor**
Receptacles .....688

**Surge Suppressors,**
Fluid Regulator ....3196
Plug-In .....649, 695
Power Strip .....649
Timer .....580

**Surveyor's**
Tape .....2619
Vests .....2617

**Suspender**
Belts .....2496

**Suspenders,**
Work .....1395

**Suspension**
Frame Tools .....2093

**Suspensions,**
Hard Hat
.....2380, 2382, 2384
Respirator Hood ...2427

**Swage**
Fittings .....2247
Tools .....2247

**Swaging Tools** . . . . . .1345-1346
**Swamp Coolers** . . . .3464
**Sweatbands** . .2383, 2385
**Sweepers,**
Battery Powered . . .1894
Carpet . . . . . .1958
Engine Powered . . .1894
Floor . . . . . .1894, 1958
Shop . . . . . .1894
**Sweeping Compound** . . . . . .1863
**Sweeps,**
Floor . . . . . .1946
**Swim**
Pool Lamps . . .969, 976, . . . . . .978-979, 982
**Swim Pool**
Cover Pumps . . . . .3285
Pump Motors . . .163-169
Pumps .3214, 3286-3287
Strainer Baskets . . .3287
Timers . . . . . .583
**Swing**
Bolts . . . . . .1778
**Swinging Doors** . . . .2305
**Swiss Army Knives** .1351
**Switch**
Boots . . . . . .520
Box Supports . . . . . .676
Boxes . . . . . .676
Motors . . . . . .76
Mounting Boxes . . . .203
Plates . . . . . .520, 691, . . . . . 700-701, 732
Relays . . . . . .550
**Switchboard**
Fuses . . . . . .427, 437
**Switchers,**
CCTV Camera . . . .2648
Water Hose . .2696-2697
**Switches,**
Air Circulator . . . . . .3570
Air Compressor Pressure . . . . . .2895, 3236
Air Conditioning . . . .392
Air Flow Sensing . . . . . .3357-3358
Air Pressure . . . . . .3358
Air Proving . . . . . .3358
Alternating Relay . . .492
Basic . . . . . .527-529
Bilge Pump . . . . . .3261
Board . . . . . .522
Cable Pull . . . . . .537
CAM . . . . . .453
Ceiling Fan . . . . . .3583
Combination . . .728-729
Commercial . . . . . .699
Compact Limit . . . . .533
Condensate Pan . . .3276
Contact Blocks . . . . .505
Cord . . . . . .730
Curvette . . . . . .522
Decorative . . . . .728, 730-731, 733
Dehumidifier . . . . . .3357
Differential Pressure . . . . . .3358
Dimmer . . . . . .733, 1047
Disconnect . . . .392-399, . . . . . 408, 460, 716, . . . . . 721, 3389, 3398
Diverting . . . . . .3307
Drum . . . . . .452
Duplex . . . . . .728
Enclosed . . . . . .530
Energy Right . .733, 1047
Evaporative Cooler .3464
Exit . . . . . .2642
Fan . . . . . .3570, 3622
Fan Control . .3552, 3562
Fan Light . . . . . .3551
Fan Proving .3358, 3637
Feed Thru . . . . . .730
Fixture . . . . . .934
Float . .3216, 3232-3233, . . . . . .3261, 3276
Flow . . . . . .3237
Foot .524-525, 907, 2221
Fused . . . . . .425
Gang . . . . . .728, 732
General Purpose . . . . . .520-522, 533
Hazardous Location .519
Heavy Duty . . . . . .2933
Illuminated . . . . . .503
Joysticks . . . . . .517
Key . . . . . .698
Light-Sensitive . . . . .586
Limit . . . . . .534-536
Limit Electromagnetic . . . . . .536
Liquid Level . . . . . .3233
Locking Cover . . . . .701
Lockout . . . . . .2561
Manual Motor Rated . . . . . .453, 460-461
Marine . . . . . .3261
Miniature . .527, 531, 533
Motion Sensor . . . . .697
Motor . . . . . .698-699
Motor Control . . . . . .702
Motor Starting . .698, 702
Oiltight Limit . . . . . .533
Pendant Push . . . . . .715
Pendant Stations . . .518
Photoelectric . . .549-553, . . . . . .555, 557
Pilot Devices . . .502, 508
Pilot Light . . . . . .728
Pneumatic . . . . .2934, 3296-3297, . . . . . 3302, 3307, 3358
Pneumatic Limit . . . . . .2933-2934
Position . . . . . .3307
Pressure .526, 863, 3358
Proximity . . . . . .538-548
Pull Cord . . . . . .934
Pump . . . . . .3196, 3216, . . . . . 3230, 3232
Pump Pressure . . . .3236
Pump Vacuum . . . .3171
Push . . . . . .521
Pushbuttons . . .502-504, . . . . .506-508, 511-514
Refrigerant Float . . .3478
Relay . . . . . .3336
Rocker . . . . . .521-522, . . . . . 1570, 3562
Rotary . . . . . .521
Rotary CAM . . . . . .453
Rotating Motor . . . . .203
Safety . . . .392-396, 466
Selector . . . . . .443, 461, . . . . . 502, 507, 510
Snap Action . . . .527-530
Sound . . . . . .696
Specification Grade . . . . . .698, 702, 1047
Stationary Motor . . . .203
Style Line . . . . . .699
Summer Fan . . . . . .3398
Sump Pump . . . . . .3210, . . . . . 3216, 3218, 3232
Three Speed . . . . . .3583
Time .575-576, 580, 3562
Tippette . . . . . .521
Toggle . . .520, 698-699, . . . . . 703, 3562
22mm . . . . . .503
Vacuum Sensing . .3358
Wall .698-699, 702, 728, . . .730-731, 1047, 3566
Winch Remote . . . .2254
**Switchout/Lockouts** .705
**Swivel**
Fittings, Air Tool . . .3025
Head Screws . . . . .1772
Hoist Rings . . . . . .2243
Nuts . . . . . .1772
Pads . . . . . .1772
Pulleys . . . . . .2656
Snaps . . . . . .2656
**Swivels,**
Grease Pump . . . . .2746
**Symbols,**
Cards . . . . . .2597
Right-To-Know . . . .2594
**Synchronous**
Gearbelt Pulleys . . . . . .319-320, 322
Gearbelts . .319, 321-322
Gearmotors . . . . . .226
Motors . . . . . .226
Pulleys . . . . . .318
Sprockets . . . . . .318
**Synthetic**
Compressor Oil . . . .2768
Coolants . . . . . .2776
Engine Oil . . . . . .2767
Gear Oil . . . . . .2766
Grease . . . . . .2771
Lubricants . . . . . .2753
Transmission Fluid .2766
Transmission Oil . . .2766
**Syringes,**
Brazing Paste . . . . .1545


## T


**T-Bevels** . . . . . .1383
**T-Handles** . . . . . .1776
**T-Nuts** . . . . . .1778
**T-Plates** . . . . . .2655
**T-Squares** . . . . . .1384
**Table**
Napkins . . . . . .1906
Pallets . . . . . .2220
Ranges . . . . . .2116

Saw Blades .....1515
Saws .....1513-1514
Skirts .....2218, 2221

**ables,**
Arbor Saw .....1514
Ball Transfer .....2265
Band Saw .....1452
Banquet .....2100
Bench .....2100
Cafeteria ....2100-2101
Computer .....2111
Counter Balance ...2220
Data .....2111
Electric .....2218, 2221
Ergonomic ..2094, 2218
Folding .....2100
Hydraulic ...2216, 2218, .....2220-2221
Hydraulic Pump ...2218
Lift .....2094, .....2216-2218, 2220
Lunch .....2100
Mailing .....2267
Milling .....1502
Mobile .....2220
Packing .....2094, 2267
Reference .....1814
Rolling .....2220
Rotary .....1498
Router .....1473
Scissor .....2218, 2221
Self Elevating .....2220
Shaper .....1473
Spring Loaded ....2220
Tap And Drill .....1814
Tilt .....2219-2221
Utility .....2267
Work .....2083, 2094, .....2111, 2220

**Tablets,**
Reagent .....832

**Tachometer**
Adapters .....834
Generators .....195
Pickups .....835-836
Reflective Tape .833-834

**Tachometers,**
C-Face .....194
DC .....194
Digital .....194, 836
Panel Mount .....836
Programmable .194, 836
Speed Measuring .....833-837
Stroboscopes .....834

**Tack**
Boards .....2094
Claws .....1361
Welding Electrodes .1539

**Tacker**
Stapleguns .....1393

**Tackers,**
Air Powered .....3008, 3011, 3013
Hammer .....1393
Staple Gun .....1393
Wire .....1393

**Tags,**
Accident Prevention .....2589
Air Conditioning ...3062
Brass .....2610
Cold Water .....2610
Confined Space ...2512
Damaged Ladder ..2183
Gas .....2610
Heating .....2610
Hot Water .....2610
Identification .2269, 2610
Key .....2610, 2629
Labeling .....2269
Lockout .....2569
Numbered .....2610
Padlocks .....2569
Pipe .....2610, 3062
Plumbing .....2610
Right-To-Know ....2595
Safety .....2589
Software .....2593
Valve .....2610
Wired .....2269

**Tailpieces,**
Drain .....3106

**Tampon**
Dispensers .....1913

**Tampons** .....1913

**Tank**
Carriers .....1552
Conversion Kits ...2892
Dispensers .....1871
Mixers .....2322
Oil Skimmers .....2753
Tees, Stainless Steel .....3257
Valves .....3028
Vents .....2514

**Tanks,**
Air Compressor .....2891-2893
ASME .....2892
Bladder .....3155
Chemical Solution .....3278, 3280
Dip .....2342
Evaporative Cooler Water .....3577
Expansion .....3078, 3276-3277
Liquid Storage .....3155, 3280
Machine Tool Coolant .....3166
Paint .....1969
Portable .....2891
Precharged .....3254
Pressure ....2892-2893
Refrigeration Recovery .....3478
Soak .....1522-1524
Solar .....3276
Solution .....1871
Stationary Air .2892-2893
Water .....3253-3255

**Tap**
And Die Fluids ....2777
And Die Sets .1675-1678
And Drill Gauges ..1825
And Drill Sets .....1675, 1678
And Drill Tables ...1814
Dispensers .....1204
T-Handle .....1679
Wrenches .....1679

**Tapcon**
Condrive Tools ....1723
Drill Bits .....1723

**Tape**
Applicators .....2286
Dispensers ..2275, 2277, .....2279-2280, 2285
Dispensers, Wire Marker .....636
Holders .....1394
Label Making Kits ..2289
Machines .....2277
Measures .....1388
Removers .....2788
Rules .....1389
Shooters .....2277

**Tape,**
Adhesive .....2550
Anti-Skid ....2619-2620
Anti-Slip .....2621
Arrow Pipe .....2604
Barrier .....2619
Box Sealing .2274, 2276
Bundling .....2285
Carpet .....2280
Carton Sealing .....2274, 2276-2277
Case Sealing .....2276
Caution .....2619
Cloth .....2281
Cloth Duct .....2280
Code .....1389
Cold Temperature ..2274
Conduit Measuring .1331
Convention .....2280
Cork .....3481
Detectable Marking .2619
Digitape .....1388
Directional .....2287
Document .....2278
Double Coated .....2282-2283
Drywall .....1396
Duct .....2281, 3439
Electrical .....624
Electronic .....1388
Embossing .....2289
Filament .....2285
Film ....939, 2280, 2282
Finger Safety .....2472
Firestop .....1790
Fish .....1329, 1331
Flagging .....2619
Floor Marking .....2286
Foam .....2282-2283
Foil .....1790
General Purpose ..2274
Glass Filament ....2285
Glow-In-The-Dark ..2287
Gummed Paper ...2277
Hazardous Area ...2287
Heat .....3375-3376
High Performance .....2274, 2276
Insulation .....3481
Keychain .....1388
Kraft .....2277
Label .....2596, 2600
Label Making .....2289
Label Protection ...2278
Labeling .....2596-2597

# PRODUCT INDEX

## Tape — Terminal


Lane Marking . . . . .2286
Lithograph . . . . . .2280
Machine . . . . .2596-2597
Magic . . . . . .2279
Magnetic . . . . . .1830
Mailing . . . . . .2277
Masking . . . . . .2284
Measuring . . .1388-1390
Medical . . . . . .2550
Mending . . . . . .2279
Outdoor Masking . .2284
Packaging . . . . . .2274, . . . . . 2276, 2278, 2285
Packing List . . . . . .2278
Pallet Unitizing . . . .2285
Paper . . . . . .2282
Photoelectric Switch
Reflective . . . . . .551
Pipe . . . . . .1782
Pipe Banding . . . . .2604
Pipe Heating . . . . . .3375
Pipe Sealant .1783, 3061
Polypropylene . . . .2274, . . . . . .2278-2279, 2285
Posiprinter . . . . . .2289
Pressure Sensitive .2274
Printed Box Sealing
. . . . . .2274
Professional Long . .1390
Reflective . . . . . .2287
Reinforced . .2277, 2285
Roll Document . . . .2278
Roll Pouch . . . . . .2278
Rule . . . . . .1388
Safety .2286, 2619-2621
Scotch . . . . . .2279
Sealing . . . . .2274, 2276
Security . . . . . .2274
Self-Adhesive . . . . .1388
Sign . .2588, 2596, 2600
Sticky . . . . . .2620
Strapping
. . . . . .2285, 2293-2294
Stretchable . . . . . .2285
Surveyor's . . . . . .2619
Tachometer Reflective
. . . . . .833-834
Tan . . . . . .2274
Teflon . . . . . .1783, 3061
Tissue . . . . . .2282-2283
Transparent .2274, 2279
Tri-Cut . . . . . .2550
Underground . . . . .2619
Utility . . . . . .2274, 2276
Vinyl . . . . . .2282, 2286
Waterproof . . . . . .2550
Wire Marker . . .633, 636

**Taper**
Arbors . . . . . .1706-1707
Extension Sockets .1708
Files . . . . . .1373
Gauges . . . . . .1824
Sleeves . . . . . .1708

**Tapered End Mills** . .1684

**Tapers,**
Electric . . . . . .2277
Hand . . . . . .2277
Masker Apron . . . . .2279

**Tapes,**
Measuring . . . . . .1388
Respirator Training .2443

**Tapewriter**
Kits . . . . . .2289

**Tapping**
Fluids . . . . . .2778
Heads . . . . . .1700
Systems . . . . . .1700
Tools . . . . . .1367

**Taps,**
Cube . . . . . .590
Gun . . . . . .1673
Gun Plug . . . . . .1674
Hand . . . . . .1672-1673
Pipe . . . . . .1671
Screw Thread . . . . .1729
Spiral Point . . . . . .1674
STI . . . . . .1729

**Tarpaulins,**
Canvas . . . . . .2260
Polyethylene . . . . . .2260

**Task**
Chairs . . . . . .2103-2104
Lighting
. . . . . .1159, 1165-1173

**Technical**
Manuals . . . . .685, 1460, . . . . . 1539, 2818, . . . . . 2938, 2945, 3050
Workbenches . . . . .2092

**Technician's**
Screwdrivers . . . . . .1295

**Tees,**
Drain . . . . . .3106
Union . . . . . .3042

**TEFC**
DC Motors .185-188, 190
Motors . . . .9-11, 13, 20, . . 22-23, 25, 28-36, 39, . . . . .44-45, 51, 53-54, . . . . 100-101, 121-122, . . . . 124, 126-127, 131, . . . . 134, 136, 138, 186

**Teflon**
Hose Assemblies . .2834
Lubricants . . .2781-2783, . . . . .2785, 2787, 2789
Sealants . . . . . .3061

**Telephone**
Adapter Plugs . .734-735
Backboxes . . . . . .735
Cable . . . . . .598-599
Cords . . . . . .734
Line Analyzers . . . . .734
Testers . . . . . .734
Wire . . . . . .734

**Telephones,**
Access . . . . . .904
Emergency . . . . . .904
Information . . . . . .904

**Telescoping**
Gages . . . . . .1806
Paint Poles . .1954, 1979

**Televisions,**
Closed Circuit
. . . . . .2647-2648

**Temperature**
Adapters . . . . . .892
Alarm Receivers . . . .883
Alarm Transmitters . .883
Alarms . . . .882-883, 890
Chart Recorders
. . . . .792, 796-797, 800
Control Housings . .3373
Controllers . . . .561-563, . . . . . 737, 3299, 3325, . . . . . 3330-3331, . . . . . 3350, 3496
Controls, Constant Cut-In
. . . . . .3502
Controls, Electronic
. . . . . .3235, 3324-3325
Controls, Modulating
. . . . . .3612
Controls, Refrigeration
. . . . . .3495, 3502
Controls, Solar . . . .3324
Controls, Thermocouples
. . . . . .3373
Controls, Thermostat
Knobs . . . . . .3373
Controls, Thermostats
. . . . . .3310, 3312, . . . . . 3314, 3316-3321, . . . . . 3329, 3373
Controls, Variable . .3612
Controls, Water Cooler
. . . . . .3502
Data Loggers . . . . . .801
Displays
. . . . .740-741, 881-882
Gauges . . . . . .884-886
Jacks . . . . . .893
Loggers . . . . . .800
Meters . . .741, 756, 793, . . . . . .815, 831, . . . . 878-879, 881-882, . . . . . 888-890, 895
Monitors
. . .878, 881, 890, 3510
Probes . . .564, 746, 777, . . . . . .792, 796, 831, . . . . 854, 878, 892-894
Recorder Chart Paper
. . . . . .795
Recorders
. . . . .795-797, 881, 888
Sensitive Speed Controls
. . . . . .3506
Sensors . . . . . .561-563, . . . . . 831, 893, 3309, . . . . . 3322, 3325, 3355
T/C Checker . . . . . .896
Testers . . . . . .878, 881
Thermocouple Modules
. . . . . .777
Thermocouples
. . . .564, 878, 888, 893
Transmitters . . . . . .741

**Templates,**
Cross Bore . . . . . .1472
Dovetail . . . . . .1473

**Tennis Elbow**
Supports . . . . . .2500

**Tensioners,**
Adjusting . . . . . .301
Belt . . . . . .301, 308
Chain . . . . . .301-302
Chain/Belt . . . . . .300
Elastomeric . . . . . .300
Strapping . . . . . .2295

**Terminal**
Block Channels . . . .412

Blocks, Channel Mount .....410-412

**erminals,**
Flag .....617
Fork .....616
Ground .....824
Insulated .....621
Ring .....617
Solderless .....620-621
Wire .....616-617

**est Instruments And Meters**
AC Adapters .....758, 786, 809, 831
Adapters ..742, 763, 892
Air Balancers .....855
Air Conditioning .....840, 3483-3485
Air Filter Kits .....862
Air Quality Testers .2535
Air Velocity .....850, 851, 853
Air Velocity Adapters .....851
Air Velocity Indicators .....855
Air Velocity Monitors .....848, 852
Air Volume/Flow ....855
Alligator Clips .....762, 783, 816
Ammeters .....737-740, 744-745, 753, 755-756, 758, 771-775, 794
Analyzers .758, 819, 845
Anemometer Printer Paper .....852
Anemometer Printers .....852
Anemometers ..850-853
Appliance .....753
Aspirator Assemblies .....848
Aspirator Valves ....848
Auto Tracers .....838
Automotive ....838-839
Balometer Hoods ...856
Balometers .....856
Banana Jacks .....823
Banana Plugs ..816, 823
Battery Charger Brackets .....2524
Battery Chargers ...774, ...802, 816, 841, 2524
Battery Eliminators .....774, 779, 844
Battery Packs ..774, 816, 2521, 2524
Battery Testers .....838
Bezel Kits .....746
Binding Post Adapters .....823
Bio-Check Badges .2534
Bleed Valves .....3484
BNC Adapters .....823
Boiler .....842-843, 848
Boiler Gauges .....872
Bore Polisher Test Kits .....1614
Brake Bleed Kits ....839
Bridges .....805
Buffer Tripaks .....830
Cable Assemblies ...784
Cable Identifiers ....811
Cable Locators .....804
Cablemeter Cases ..811
Calibration Gas ....2529
Calibration Gas Regulators .....2524
Calibration Kits ....797, 841, 847, 2518, 2521, 2529, 2531
Calibration Solutions .831
Calibrator Cable .....742, 896
Calibrator Cases ....825
Calibrator Software .....742, 896
Calibrators ....741-743, 826, 896
Capacitance .....768, 772-774, 805
Capacitor .....790
Capacitor Testers ...789
Carbon Dioxide .843-844
Carbon Dioxide Tester Fluid .....844
Carbon Monoxide .....842-843, 847, 2361, 2519
Cases .....788, 828
Charging Meters ...3485
Chart Recorder Paper .....792-794, 806
Chart Recorders .....792-793, 795-799, 806
Chlorine Colorimeters .....832
Chlorine Reagents ..832
Circuit Board Testers .....809
Circuit Breaker Tracers .....803
Circuit Breaker Transmitters .....802
Clamp Transducers .802
Clamp-On Adapters .778
Clamp-Ons .....753-758, 778-779
CO Calibration Gas .....2519, 2521
CO Detector Adapters .....841
CO Gas Analyzers ..841
Combustion Analyzers .....844, 846-847
Combustion Test Kits .....843
Combustion Tester Paper .....846
Combustion Tester Ribbons .....846
Combustion Testers .842
Compression .....786
Compression Testers .....839
Compressor Analyzers .....3485
Computer Interface Kits .....846
Computer Link Kits .2528
Conductance .....768, 773-774
Conductivity ....830-832
Connector Adapters .822
Continuity .....762-765, 767-768, 771-775, 786, 788-789
Corona Detectors ...849
Current .....754-760, 762-763, 765, 767-768, 771-775
Current Cable .....891
Current Leakage ....753
Current Loops .....741
Current Splitters ....754
Current Transducers .....746
Current Transformers .....746
Data Acquisition Software .....785
Data Logger Sensors .....801
Data Loggers ...800-801
Datalink Kits .....2524
DBM .....775
DC Power Supplies .808
Detector Tubes .....2533-2534
Detectors .....849
Detectors, Voltage ..789
Dewpointers .....797
Diaphragm Seals .....875-876
Dielectric .....750
Differential Pressure .....857-861, 863
Digital Scales ....3486
Diode .....771-774
Disc Test Kits .....1629
Dissolved Oxygen ...832
Draft Gauges .....848
Duct Plugs .....858
Duty Cycle .768, 773-774
Earth/Ground Leads .752
Earth/Ground Resistance .....751-752
Elapsed Time .....745
Electrolyte Solutions .832
Electronic Components .....805, 809
Electrostatic Discharge Systems .....824
ELF Magnetic Field ..840
ELF Meters .....840
Energizers .....754
Exhaust Analyzers ..839
Extender Hoods ....856
Fiber Optic .....777
Fiber Optic Cable ...777
Fiber Optic Connectors .....777
Fire Efficiency .....848
Fire Hydrant Recorder Adapters .....798
Flame Simulator Cable .....891
Flow Meters .....3198, 3283-3284
Fuel .....3198
Force Gauges .....786
Frequency .....773-775

# PRODUCT INDEX

## Test Instruments And Meters


Frequency Counters .809
Fume Hood Meters . .850
Function Generators .810
Furnace . . . . . .842-844, . . . . 847-848, 850, 855
Fuses . . . . . .779
Fyrite . . . . . .843-844
Fyrite Cases . . . . . .844
Gas Analyzers . . . .839, 842-844, 2519
Gas Calibration . . . . .841
Gas Combustion . . . . . .842-844, 847
Gas Detection Systems . . . . . .2530-2531
Gas Detector Accessories . .252, 849, . . . . . .2518, 2521, . . . . . 2524-, 2534
Gas Detectors . . . .849, . . . . . 2516-2520, 2523, . . . . . 2527-2528, 2530
Gas Pressure Testers . . . . . .843
Gauge Fluid . . . . . .862
Gaussmeters . . . . . .840
General Purpose Test Kits . . . . . .1614
GFCI Testers . . . . . .790
Glass Cuvets . . . . . .832
Grind-O-Flex Test Kits . . . . . .1614, 1629
Ground Fault Detectors . . . . . .753
Ground Lugs . . . . . .824
Ground Terminals . . .824
Halogen Leak Detectors . . . . . .3484-3485
Harmonic Analyzers .812
Herbicide . . . . . .3198
Holsters . . . . . .776
Hood Expansion Kits . . . . . .856
Hook Clips . . . . . .816
Hour Meters . . . . . .568
Humidity . . . . .797, 877-879, 881
Inductance . . . . . .805
Infrared Transmitters . . . . . .889
Insulation Breakdown . . . . . .750
Interface Software . .819
Isolation Transformers . . . . . .807
KCL Solutions . . . . . .832
Kelvin Clips . . . . . .751
Kilowatt-Hour . .759, 794
Lamp Testers . . . . . .840
LAN Cable Sets . . . .811
LAN Cablemeters . . .811
Lead Wire, Thermocouple . . . . . .893
Leak Detection Capsules . . . . . .3484
Leak Detector Batteries . . . . . .849
Leak Detector Cases . . . . . .753, 849
Leak Detectors . . . . . .840, 849, 2517, . . . . . 2519-2520, 3483
Leakage Clamps . . . .753
Light Meters . . . . . .828
Line Splitters . . . . . .754
Liquid Flow . . . . . .3198
Load Signal Generators . . . . . .802
Location Identifiers . .888
Logic . . . . . .765
LUX Meters . . . . . .828
Magnehelic . . . .860-861
Magnehelic Adapters . . . . . .862
Maintenance Kits . .3484
Manometer Stands . .857
Manometers . . .857-859
Meggers . . . . . .747-749
Megohmmeters .747-750
Meter Cases . .762, 774, . . . .776, 791, 804, 859
Meter Electrodes . . .830
Meter Filters . . . . . .825
Micor Mini Test Kits . . . . . .1614
Micro-Ohmmeters . . .751
Micromanometers . . . . . .858-859
Microwave . . . . . .849
Modules . . . . . .758
Moisture Indicators . .786
Monitor Hose Assemblies . . . . . .841
Monitors . . . . . .841
Motor Rotation . . . . .791
Multimeter Cable . . .774
Multimeter Software . . . . . .774-775
Multimeters . . . . . .758, . . . . 761-765, 767-768, . . . . . 771-775, 785, . . . . . 814-815, 891
Multiplexers . . . . . .785
MV . . . . . .831
Non-Demand . . . . . .759
NOX . . . . . .842, 847
Ohmmeters . . . .747-751, . . . . 754-757, 761-765, . . . . 767-768, 771-775
Oil . . . . . .2749
Oil Combustion Test Kits . . . . . .843
Oscilloscope Batteries . . . . . .816
Oscilloscope Cases .816
Oscilloscope Software . . . . . .816
Oscilloscopes . . . . .814-815, 817-819
Oxygen . . .832, 842-844, . . . . . .847, 2519
Oxygen Sensors . . . .842
Oxygen Tester Fluid .844
Panel Controllers . . . . . .737, 745
Panel Meter Covers .746
Panel Meters . .737-741, . . . . . .744-745, 882
Panel Mount . . .737, 745
Parts Testers . . . . . .805
Patch Cords . . .784, 816
Percent Load Meters . . . . . .745
PH . . . . . .831
PH Checkers . . . . . .830
PH Meters . . . . . .830
PH Testers . . . . . .830
Phase Indicators . . . .785
Phase Rotation . . . . .791
Phase Rotation Indicators . . . . . .791
Phase Sequence . . .791
Photoelectric . . . . . .861
Photohelic . . . . . .861
Pitot Tubes . . . . . .862
Power Analyzers . . . .758
Power Factor . .758, 760
Power Harmonics . . .812
Power Supplies .807-808
Pressure Fittings . . . .862
Pressure Gauges . . . . .866-871, 873-876
Pressure Recorder Filters . . . . . .798
Pressure Recorder Fittings . . . . . .798
Pressure Recorders .798
Pressure Sensors . . .862
Pressure Switches . .863
Pressure Transducers . . . . . .864-865
Pressure Transmitters . . . . . .864-865
Pressure/Vacuum . . .874
Pressure/Vacuum Modules . . . . . .777
Printer Adapter Cable . . . . . .816
Printer Kits . . . . . .845
Printer Paper . . . . . .845
Printers . . . . . .845
Printing Ink Cartridges . . . . . .889
Printing Paper Rolls .889
Probe Adapters . . . .863
Probe Membranes . .832
Probes, Balometer . .854
Probes, Carbon Monoxide . . . . . .841
Probes, Clamp-On . .778
Probes, Conductivity .831
Probes, Current . . . . . .778-779, 820
Probes, DMM . . . . . .782
Probes, Electrode . . .830
Probes, Frequency . . . . . .777, 809
Probes, Gas Detector . . . . . .2521, 2533
Probes, High Voltage . . . . . .777
Probes, Hygrometer .878
Probes, Kelvin . . . . .751
Probes, Logic . . . . . .807
Probes, Monitor . . . .841
Probes, Oscilloscope . . . . . .816, 820-821
Probes, PH . . . .830-831
Probes, Pulser . . . . .807
Probes, Temperature . . . .746, 777, 792, 831, . . . . 854, 878, 892-894
Probes, Test . .780, 784, . . . . . .809, 893, 3294
Probes, Thermocouple . . . . . .796, 893
Process . . . . . .737, 740

# PRODUCT INDEX

## Test Instruments And Meters — Testers


Prover Kits .....887
Psychrometers .....877
Receptacle Testers ..790
Recorder Cable ....826
Recorders .....775, .... 792-799, 806, 888
Reduction Transformers .....760
Reflective Tape .833-834
Reflectometers .....804
Refractometers .....832
Refrigeration .....840, 3483-3485
Refrigeration Oil Test Kits .....3479
Remote Units .....811
Resistance ....754-757, .... 761-765, 767-768, ..... 771-775, 805
RH Meters .878-879, 881
Rubber Caps .....2534
Sample Draw Adapters .....2518
Sand-O-Flex Test Kits .....1629
Sensors .....841
Sewer Gas .....2517, 2519-2520
Shunts .....746
Sightglasses .....3485
Smoke .....843
Smoke Testers .....848
Snap Stud/Screws ..824
Sound Level Meters .....825-827
Speed Measuring .....833-837
Spike Energy .....827
Spike-Sag-Surge ...806
Sprinkler Gauges ...872
Static Control Cord ..824
Static Control Kits ...824
Stopwatches .....829
Strain .....786
Strobe Lamps .....836
Stroboscope Bulbs ..837
Stroboscope Cases .836
Stroboscope Chargers .....836
Stroboscope Power Packs .....837
Stroboscopes .....837
Sulfur Dioxide .847, 2519
T/C Checker .....896
Tachometer Adapters .....834
Tachometer Pickups .....835-836
Tachometer Tape .....833-834
Tachometers ...833-837
TDS .....830-831
Telephone .....734
Temperature .....771, ..... 795-797, 800, ..... 831, 878, .... 881-882, 887-889, ..... 891, 894-895
Temperature Alarm Receivers .....883
Temperature Alarm Transmitters .....883
Temperature Alarms .....882-883
Temperature Data Loggers .....801
Temperature Jacks ..893
Temperature Meters ....737, 740-741, 761, .... 768, 795, 797, 879
Temperature Transmitters .....741
Test Clips .780, 783, 822
Test Cords .....589
Test Lead Carry Bags .....751
Test Lead Cases ...776
Test Lead Holders ..822
Test Leads .....762, 780-783, ..... 788, 816, 891
Test Set Adapters ..2532
Tester Cases ..787, 830
Thermal Paper .....847
Thermoanemometer Cable .....854
Thermoanemometer Microprinters .....854
Thermoanemometers .....851, 854
Thermocouple Adapters .....763, 893
Thermocouple Cable .....796
Thermocouple Connectors .....893
Thermocouple Extensions .....796
Thermocouple Fittings .....796
Thermocouple Modules .....777
Thermocouples .....889
Thermohygrometers .878
Thermometers .741, 848, .....877-891, 894-895
Thermowells .....885
Timers .....829
Timing Lights .....838
Tool .....753
Tracers ...802-803, 811
Transducers .....763
Transformers .....848
Transistor .....765, 805
Transmitter Battery Boosters .....802
Transmitters, Air Velocity .....863
True RMS .....755, .... 757-758, 767-768, ..... 773-775, 793
Tube Openers ....2533
Universal Cases ....776
Vacuum Gauges .....866-869, 871, ..... 873, 876, 3486
Vacuum Leak .....840
Vacuum/Pressure ...874
Vacuum/Pressure Testers .....839
Velometers .....850
Vibration .....827
Voltage .....754-765, .... 767-768, 771-775, .... 787, 789-790, 793, ..... 798, 805-806
Voltage Detector ....789
Voltage/Continuity .....771, 787-788
Voltmeters ....737-740, ..... 744-745, 756
Water Test Kits ....3074
Wattmeters .....758-759, 794
Welding Gauges ....872
Wind Velocity .....858
Wire Length Meters .806
Wire Sorters .....806
Wire Tracers .....802
Wrist Strap Testers ..824
Wrist Straps .....824
Zero Oxygen Solutions .....832

**Test Leads,**
Continuity Tester ...788
Deluxe .....783
Flexible .....783
Silicone .....783

**Tester**
Adapters .....778
Cases ....762, 776, 789, 830
Earth/Ground Leads .752
Holsters .....776
Reflective Tape .833-834
Tachometer Tape .....833-834
Temperature Probes .777
Test Clips .....780
Test Leads .....762, 780-782, ..... 784, 788, 816
Thermocouple Connectors .....893
Thermocouple Modules .....777

**Testers,**
Air Conditioning .....840, 3483-3485
Air Quality .....2535
Air Velocity ....850-853, 855, 860
Air Volume/Flow .....855-856
Ammeters ....756, 758, ..... 762-763, 765, .... 767-768, 771-775
Analog Multimeters .....761-762
Anemometers ..850-853
Appliance .....753
AQL .....841
Automotive ....838-839
B.O.D. .....832
Balometers .....856
Battery .....805, 838, ..... 1175, 2727, 2751
Boiler .842-844, 847-848
Bridges .....805
Bump Gas .....2526
Calibration .....741-742, 887, 896
Calibrators .....742
Capacitance ...765, 768, .....771-774, 805, 815
Capacitor .....789-790
Capacity .....768

Carbon Dioxide .....843-844, 847
Carbon Monoxide .....842, 847
CFM .....855-856
CO .....842
Coal-Fired Heating ..843
Combustion .....845
Compression ..786, 839
Compressor Analyzers .....3485
Conductance .....768, 773-774
Conductivity ....830-831
Confined Space ...2520
Continuity .....763-765, ..... 768, 771-775, .... 786, 788-789, 815
Corona Detectors ...849
Current .....762-763, ..... 765, 767-768, ..... 771-775, 815
Current Leakage .....750, 753
DBM .....775
Detectors .....3483
Dielectric .....750
Differential Pressure .....857-861
Digital .....768
Digital Multimeters .....758, 763-765, .... 767-768, 771-775
Diode .....763, 765, ..... 768, 771-775
Dissolved Oxygen ...832
Draft Gauges .....848
Drench Shower ....2539
Duty Cycle .768, 773-774
Earth/Ground Resistance .....751-752
Electronic Components .....805, 809
ELF Meters .....840
Exhaust Analyzers ..839
Flame Safety Control .....891
Force .....786
Frequency ....765, 768, ..... 772-775, 809
Frequency Probes ..809
Furnace .....842-844, .... 847-848, 850, 855
Fyrite .....843-844
Gas Analyzers .....839
Gas Combustion .....841-844, 847
Gas Detectors .849, 2516
Gas Pressure .....843
Gaussmeters .....840
GFCI .....790, 803
Halogen Leak .....3484-3485
High Potential .....750
High Voltage .....805
Humidity .....797, 800, ..... 877-879, 881
Inductance .....805
Insulation Breakdown .....750
Lamp Testers .....840
Leak Detector .....840, ..... 849, 2517, 2520, ..... 3479, 3483-3485
Light Meters .....828
Magnehelic ....860-861
Magnetic Field .....840
Manometers ...857-859
Megohmmeters .748-750
Multimeters .....758, .... 761-765, 767-768, ..... 771-775, 785
MV .....831
NOX .....842
Ohmmeters .....751, 761-765, .... 767-768, 771-775
Oil Combustion .....843
Oven .....891
Oxygen ...842-844, 847
PH .....830-831
PH Checker .....830
Phase Sequence ...791
Photohelic .....861
Pitot Tubes .....862
Pressure .....798
Pressure Leak .....840
Pressure/Vacuum ...874
Receptacle ....790, 803
Receptacle Polarity ..709
Refrigeration .....840, 3483-3485
Relative Humidity ...879
Resistance .....751, 761-765, ..... 767-768, ..... 771-775, 805
RH .....879, 881
Smoke .....843
Sound Level ...825-827
Speed Measuring .....833-837
Steam Trap .....888
Strain .....786
Stroboscopes ..834, 837
T/C Checker .....896
Tachometers ...833-837
TDS .....831
Telephone .....734
Telephone Line .....734
Temperature ..761, 768, .....771, 796-797, ..... 800, 831, 880, .... 882-883, 887-890
Temperature Probes .....792, 831, 893
Thermometers .....878, .... 880-891, 894-895
Three-Phase Rotation .....785, 791
Timing Lights .....838
Tool .....753
Transistor .....805, 809
True RMS .....758, 767
Vacuum Leak .....840
Vacuum/Pressure .....839, 874
Vibration .....827
Voltage .....756, 758, .... 761-765, 767-768, .... 771-775, 787-790, ..... 805, 815
Voltage Detectors ...789
Voltage/Continuity .....771, 787-788
Wind Velocity .....858
Wood Moisture .....786
Wrist Strap .....824

**Textile**
Casters .....2141

**Thermal**
Anemometers ..852-853
Bottles .....2541
Foam .....1795
Insulation ...1795, 3481
Pump Protectors ...3186
Units .....445, 455, 465

**Thermistor**
Probes .....792
Thermometers .882, 887

**Thermoanemometer**
Cable .....854
Microprinters .....854

**Thermoanemometers**
.....851, 853-854

**Thermocouple**
Adapters .....763, 893
Bayonet Adapters ..3374
Bayonet Probes ...3373
Calibrators .742-743, 896
Connectors ...893, 3374
Extension Cable ....796
Extensions .....796
Fittings .....796
Instruments .....888
Lead Wire ....893, 3374
Modules .....777
Probes ...792, 796, 893
Recorders .....796
Thermometers .878, 882, .....888-889, 891
Wire .....3374

**Thermocouples,**
Checker .....896
Gas Pilot Relighter .3346
Lead Wire .....564
Logging .....889
Pilot .....3346
Pilot Switch .....3346
Power Generator ..3346
Replacement .....3346
Temperature .....564, 882, 888
Type J- .....564, 893
Type K- .....889, 893
Type T- .....893
Vacuum Pump ....2858

**Thermohygrometers**
.....878

**Thermometer**
Cable .....895
Cases .....776
Pouch Carrying Kits .894
Pouches .....895
Probes ...792, 893, 895
Sockets .....886
Thermowells .....885

**Thermometers,**
Alarm .....882-883, 890
Aquarium .....879
Bi-Metal .....880, 890
Candy .....879
Dial .....880
Digital .....880
Freezer .....879
Grill .....879

High Temperature .....879, 891
Indoor/Outdoor .881, 883
Industrial Dial . . .884-885
Industrial Liquid . . . .886
Infrared .....894-895
Maximum/Minimum . .879
Mercury Free .....884-885, 890
Non-Contact .....894
Oven .....879, 886
Panel Mount . . .741, 882
Pocket Test .....878, 880, 890
Pool .....3291
Refrigerator .....879
Refrigerator/Freezer .886
Remote Reading .....885, 890
RTD .....890-891
Stem .....880
Thermistor . . . .882, 887
Thermocouple .878, 882, .....888, 890-891
Thermometer-Clock .881
Wall Mount .....881
Waterproof . . . .879, 888
Welding .....888

**Thermostat**
Cable .....600
Covers .....3294, 3298, 3323
Guards .....3298, 3323
Housings .....3373
Knobs .....3373
Remote Sensors . . .3321
Subbases . . .3311-3313, .....3320, 3322, 3328
Wall Plates . .3311-3312

**Thermostatic**
Expansion Valves .....3444, 3493-3494
Steam Traps .....3359
Valves .....3355

**Thermostats,**
Airstream .....3301
Attic Fan .....3329
Automatic Change-Over .....3311, 3317, .....3319, 3321
Baseboard Heater . .3392
Boiler .....3330
Built-In Heater . . . .3390
Bushing .....3373
Cal-Stat .....3373
Cartridge .....3373
Commercial . .3321-3322
Cool Only .....3310
DPST .....3392
Drop-In Floor Heater .....3390
Duct Mount .....3297
Economy .....3310
Electric Heat .....3326-3327, 3373
Electromechanical .....3313, 3320
Electronic . . .3314-3319, .....3321-3322
Energy Right .3315-3321, .....3327, 3332
Fan .....3329
Fan Coil .....3329
Fan Switch .....3398
Food Equipment . . .3373
Freeze Protection . .3373
Furnace .....3420
Hazardous Location .....3329
Heat Only .....3310
Heat Pump .....3314, .....3317-3319, 3321
Heat Recovery . . . .3398
Heater .....3315, 3322, .....3326, 3373, 3387, .....3389-3390, 3398
Heating/Cooling . . .3298, .3310-3312, 3314-3322, .....3331, 3350
Heavy-Duty .....3328
Hot Water Sensing .....3332, 3355
Industrial .....3373
Light-Duty .....3328
Line Voltage . .3324-3332
Low Voltage .3310-3322, .....3331, 3350
Manual Control . . . .3612
Mercury Switch .....3311-3312, 3320
Microelectronic .3315-3317, 3319, 3321
Moisture Resistant .3612
Multi-Purpose . . . .3329
Multi-Stage .....3315, .....3317, 3319-3322
Non-Programmable .3314
Outdoor .....3332
Pipe Thread .....3373
Pneumatic . . .3293-3294, .....3297-3298, 3301
Portable .....3327
Process Control . . .3373
Programmable .....3315-3317, 3319, .....3321-3322, 3326
Proportional .3331, 3350
Refrigeration .....3496
Remote Bulb .3324-3325, .....3330-3332, 3496
Residential .....3310
Setback . . . .3314-3317, .....3319, 3321-3322, .....3326-3327
Snap Action Switch .3310
Snap-Disc .....3334
Spa/Hot Tub .....3372
SPDT Type .....3329
Temperature .....3373
Unit Mount .....3398
Wall . .3310, 3312, 3314, .....3316-3321, 3328, .....3387, 3389, 3391
Wall Mount .....3398
Water Heater .....3341, 3354, 3356

**Thermowells** .....885

**Thickness Gauges** .....786, 1312, 1823

**Thinners,**
Epoxy .....1993-1994
Immersion .....1993
Paint .....1989-1991, .....1994-1995, 2002
Polyurethane .1990, 1995

**Thinwall Conduit** . . . .650

**Thirst Quencher Mix** .....2542

**Thread**
Chasers .....1403
Cutters .....1403
Gages .....1824
Guard Casters . . . .2141
Inserts .....1729
Measuring Wire Sets .....1823
Repair Kits .....1729
Restoring Files . . . .1368
Sealants .....3061
Sealers .....3482

**Threaded**
Rod Anchoring Systems .....1720
Rod Couplings . . . .1761
Rod Cutters .....1322
Rod Racks .....2054
Rods . . .650, 1761, 3057
Studs .....1439

**Threaders,**
Pipe .....1334, .....1336-1337, 1677
Stand Pipe .....1337

**Threading**
And Grooving Toolholders .....1641
Compounds .....3061
Oilers .....1335

**Threadlockers** .....1780

**Three-Phase**
Fans .....3590-3591
Motors . . .12-19, 23, 39, .....45, 53, 103, 123, . . . . 125, 131-133, 135, . . . . 139, 156, 158-159

**Throat Lozenges** . . .2551

**Throttle**
Controls .....2896
Valves .....2947

**Thru-Bolts** .....203

**Thunderbolt**
Cartridge Heaters . .3369

**TIDE Laundry Soap** .1865

**Tie Rod**
Cylinders .....2808
Kits, Stacking . . . . .2935
Kits, Valve .....2824

**Tie-Down**
Equipment . .2250, 2311
Packages .....2944
Straps .....2259

**Ties,**
Cable .....626-628
Wire .....628

**Tig**
Cable Connectors . .1570
Ground Clamps . . .1570
Rods .....1543-1544
Welder/Generators .....1580-1582
Welders . . . .1572, 1576

# PRODUCT INDEX

## Tig Torch — Toilet


**Tig Torch**
Bodies .....1584
Cable Assemblies ..1584
Caps .....1584
Collet Bodies .1584-1585
Collets .....1584-1585
Cup Gaskets .....1584
Gas Cups ...1584-1585
Gas Hose .....1584
Gas Lenses ..1584-1585
Handles .....1584
Power Cable .....1584
Power Cable Adapters .....1584
Water Hose .....1584

**Tig Torches**
.....1568, 1583-1584

**Tile**
Caulk .....1794
Cleaners .....1847, 1861-1862
Drill Bits .....1661

**Tilt**
Tables .....2219, 2221
Truck Lids .....2187
Trucks .....1928, 2187

**Tilter**
Baskets .....2219
Chairs .....2103-2104
Crates .....2219
Trucks .....2219

**Tilters,**
Container .....2219
Ergonomic ...2219-2220
Portable .....2219

**Time**
Card Racks .....2112
Clock Cards ..2112-2113
Clock Ribbons .....2112-2113
Clocks ...576, 580, 2113
Delay Relays ...494-500, 3505-3506
Domain Reflectometers .....804
Indicators .....568
Meters, Panel Mount .745
Recorder Signal Option .....2113
Recorders ...2112-2113
Switches ..575-576, 580

**Timer**
Trippers .....574

**Timers,**
Air Conditioner .....571
All Season .....571
Appliance .....570-571
Astronomic ....580-581
By Pass .....573
Circulator .....3271
Control Center .....583
Cycle .....585
Decorative .....573
Defrost .3324, 3503-3504
Dial Mechanism ....576
Digital ....498, 570, 572, 829
Electromechanical .....576, 579, 585
Electronic .....577-578, 580-582
Enclosed ..571, 575-577, .....579, 582, 584
Energy Right ...570-573, .....575, 577, 580-582
Four-Channel .....582
Four-Circuit .....580
Fourteen-Day .....584
HVAC ....577, 579, 582
Indoor .....576
Interval ...495, 573, 585
Irrigation .....584
Lamp .....570, 572
Lawn .....584
Lighting .....577, 582
Mechanical ....573, 829
Mechanism .....576
Module .....574
Multifunction .....494, 498-500
Multioperational ....575
Multiple Day .....570
Off Delay ..494-496, 498
On Delay ..494-498, 500
One-Channel .....581
One-Circuit ....577, 580
Outdoor .....571, 576
Panel Mount .....574
Percentage Cycle ...585
Post Purge .....3505
Poultry .....585
Programmable .570, 572, .....576, 578, 580-582
Pump .....3271
Raintight .....583
Recycle .....497
Relay Type ....494-500
Repeat Cycle ..495, 498
Replacement Dial ...576
Residential .....570-572
Security .....572
Seven-Channel .....582
Seven-Day .574, 577-580
Short Range .....585
Solid-State .....494
Spot Welder .....1578
Spring Wound .....573
Sprinkler .....584, 2697
Stopwatch .....829
Surge Suppressor ...580
Swim Pool .....583
Three-Way .....572
Time Limit .....572
Twelve-Channel ....582
Twenty-Four-Hour .....574-578
Two-Channel .....578, 580-581
Universal .....498
Wall Switch ....570, 572
Water .....2697, 3271
Water Heater .....575
Water Resistant ....571
Yearly .....580-582

**Timing**
Centers .....583
Lights .....838

**Tin**
Funnels .....2750
Solder .....1537

**Tip**
Cleaner Sets .....1565
Dressers, Spot Welder .....1577
Sets, Soldering ....1548

**Tips,**
Abrasive Blast Cabinet .....1529
Airless Spray Gun ..1978
Airless Sprayer ....1978
Contact .....1575
Floor Protection ...2171
Fountain Brush ....2289
Furniture Leg .2170-2171
Hammer ....1357, 1359
Heat Gun Extension .....1790
Ink Brush .....2289
Paint Spray .....1978
Soldering .....1533
Spot Welder ..1577-1578
Spray Gun .....1976
Torch .....1549, .....1552-1553, 1557

**Tire**
Bumpers .....2308
Cleaners .....1861
Dollies .....2720
Inflators/Gauges ...3028
Pressure Gauges ..3028
Probes .....893

**Tires,**
Industrial ....2165-2166
Pneumatic .....2164
Replacement .....2164
Semi-Pneumatic ...2166
Tubes .....2164

**Tissue**
Dispensers ...1900-1903
Holders .....1915
Tape .....2282-2283

**Tissue,**
Facial .....1901
Lens Cleaning .....2376-2377
Toilet .....1900-1903

**Toe**
Guards .....2492

**Toggle**
Bolts .....1720-1721
Clamps .....1767-1770
Switch Boots .....520
Switches ..520, 698-699, .....703, 2934
Valves .....2760, 2934

**Toggles,**
Fan .....3551, 3562

**Toilet**
Bowl Blocks .....1853
Bowl Brush Caddies .....1958
Bowl Cleaners .....1854, 1868
Brushes .....1950
Deodorizers .....1853
Drain Cleaners ....1338
Flappers .....3114
Flush Kits .....3116
Handles .....3117
Installation Systems .....3228
Safety Bars .....1917
Seat Cover Cabinets .....1915

# PRODUCT INDEX




Seat Cover Dispensers .....1901
Seat Covers .....1901
Seats .....3115
Tissue .....1900-1903
Tissue Dispensers .....1900-1903
Tissue Holders .....1903, 1915-1916
Tissue Spindles ...1903
Vacuum Breaker Kits .....3117
Valves .....3114, 3116

**ongs,**
Spot Welder ..1577-1578
Water-Cooled .....1577

**ongue**
Depressors .....2550

**ool**
Bags .....1395
Balancers .....2093, 2229, 3003
Belts .....1394-1395
Bits .....1646-1648
Black Kits .....1715
Bucket Caddies ...1395
Cabinets ....1195-1197, .....1199-1202, ..... 1204-1205, 2082
Carts .....1197, 1199-1202, .....1205, 2194-2195
Cases, Electronic Tool .....1316
Chests .....1195-1196, ..... 1199-1206
Chests, Portable .....1201, 1203-1204
Holders .....1197
Kits, Electronics .....1316-1317
Kits, Insulated .....1315
Kits, Non-Sparking .1401
Motors ....9-11, 13, 20, ..22-23, 25, 28-36, 39, ...44-45, 121-122, 136
Motors, AC/DC .....179
Motors, Power .....182
Motors, Universal ...179
Oil .....2772
Positioners .....2229
Posts .....1498
Pouches ....1394-1395
Rails .....2094
Sets, Drain Cleaner .....1339
Sets, Pocket .....1817
Stands .....2195
Storage Boxes ....1191
Storage Cabinets .....1199-1201, 1204
Storage Chests .....1199-1202, 1205
Storage Systems .....1199-1201
Toters .....2193, 2195
Totes .....1206
Trollies .....2093
Wrap .....1715

**Tool Box**
Liners .....1201
Locks .....2626
Shelves .....1204
Touch-Up Paint ....1201

**Tool Boxes,**
Cabinet .....1196
Hand .....1206
Jobsite .....1195
Mobile .....2193
Plastic .....1206, 2053
Portable .....1206
Steel .....1203

**Tool Sets,**
Automotive .....1807
Bolt Cutter .....1318
Carpenter's .....1272
Electrician's .....1272
General Purpose .....1269, 1291
Heavy Equipment ..1207
Industrial .....1807
Intermediate ..1214-1215
Master .....1207, 1209, ..... 1211, 1213-1220, ..... 1268, 1668
Mechanic's .....1207, 1213-1220, .... 1252, 1254, 1256, .....1258, 1260, ..... 1262-1267, 1269
Metric .....1219-1220
Miniature .....1310
Pliers .....1305-1306, ..... 1308, 1310
Plumber's .....1272
Pry Bar .....1361
Snips .....1347
Starter .....1216-1220
Wrench .....1245-1247, ..... 1304, 1333

**Toolholders,**
KI-Combination ....1640
Screw-On .....1641
Threading And Grooving .....1641

**Toolmaker's Dye** ...2776

**Toolroom**
Diamond Dressing Tools .....1593
Dressing Sticks ....1593
Wheels .....1589-1592, ..... 1594, 1597-1598

**Tools,**
Anchor Setting ....1726
Anchoring ...1727-1728
Automotive .....1404
Banding .....2291
Banding Buckles ...2293
Banding Seals .....2290, 2294
Bearing .....352
Bushing .....352
Cable Installation ...603
Carton Banding ....2291
Chipping .....1448
Clamping ....1378-1379
Connector .612-613, 619
Cutting .....1345-1346
Drive Pin .....1726
Drywall .....1396
Electronics .....1309-1310, 1466
Elevation .....1389
Embossing .....2289
Epoxy Injection ....1727
Fastening .....1438
Fence .....1305
Flaring .....1345-1346
Flexible Duct .....1347
Hammer Drive ....1726
Hand Stamp Sets ..2609
Heat .....1530
Identification Stamps .....2609
L-Clamps .....1379
Machine ....1797-1801, .....1803-1806, .....1808-1810, 1813, ..... 1819-1820, 1826
Marking .....2609
Masonry .....1397
Non-Magnetic/Non-Sparking ....1399-1401
O-Ring .....1766
Pallet Strapping ...2290
Pick/Mattocks .....2680
Retrieval .....1312
Rivet .....1716
Sealing .....2291
Stamping .....2609
Strapping ...2291, 2295
Strapping Cutters ..2293
Swaging .....1345-1346, 2247
Tapping .....1367
Tensioning .....1347
Tubing .....1345-1346
Vacuum Cleaner ...1890
Vacuum Cups .....2259

**Top**
Sheeting .....2276
Sheeting Brackets ..2276

**Tops,**
Bench .....2086
Container .....1928
Drum .....1923
Locker .2072-2073, 2075
Maple .....2086
Plastic .....2086
Steel .....2086
Wood .....2086
Workbench ..2086, 2091

**Torch**
Bodies, Tig .....1584
Collets .....1584-1585
Cup Gaskets .....1584
Handles .....1553, 1557, 1584
Replacement Parts .1584
Tips .....1549, ..... 1552-1553, 1557

**Torches,**
Acetylene .....1551
Air Fuel .....1551
Aluminum .....1568
Brazing .....1548-1549, 1551
Butane Powered ...1530
Hand Cutting .....1556
Heat Shrink .....1549
MAPP Gas .....1548-1549, 1551
Oxyfuel .....1550
Plumber's ...1549, 1551
Powder Metal .....1547

# PRODUCT INDEX

## Torches — Transformer


Propane .....1551
Propane Gas .1548-1549
Self-Igniting .....1530, ..... 1548-1549, 1551
Soldering .....1548
Specialty .....1548
Table Top .....1530
Tig ....1568, 1583-1584
Welding ....1548-1550, ..... 1556, 1558-1559, ..... 1583-1584

**Torpedo**
Heaters .....3377-3378

**Torque**
Arrestors .....3257
Multipliers .....1290
Nuts .....1746
Screwdrivers .....1289
Wrench Repair Kits .1288
Wrenches ...1288-1289

**Torx**
Bit Sockets ..1222, 1224, .....1231, 1233, 1238
Drivers .....701
Screwdrivers .1295, 1300
Socket Bits .....1231

**Totalizers** .567, 836, 3284

**Tote**
Box Dividers .2047, 2056
Box Lids .....2056
Boxes .....2055-2057
Holders .....2094
Tool Trays .....1206

**Toters,**
Mobile Tool .....2195

**Totes,**
Plastic .....2056-2057

**Touch**
Entry Keys .....2642
Tapers .....2277

**Touch-Up Paint**
.....372, 1201

**Tourniquets** .....2550

**Tow**
Cables .....2251
Chains .....2251
Dethatchers .....2670
Draw Bars .....2706
Hitches .....2707
Lawn Sweepers ...2670
Pin/Clip Assemblies .....2706
Sprayers .....2670
Spreaders .....2670
Straps .....2251

**Towel**
Bars .....1915-1916
Dispensers ..1903-1906, .....1912, 1915
Rings .....1916
Shelves .....1915

**Towelettes,**
Insect Repellent ...2553
Ivy Screen .....2553
Lens Cleaning ....2376
Sunscreen .....2553

**Towels,**
C-Fold .1900, 1903-1904
Cleaner .....1861
Cloth .....1906
Degreaser .....1861
Disinfectant .....1861
Disposable ...1907-1911
Folded Paper .....1900
Hand .....1903-1906, ..... 1909, 1912
Hand Cleaner .....1861
Multi-Fold .....1904
Paper ..1900, 1905-1912
Reinforced .....1908
Roll .....1900, ..... 1905-1906, 1912
Shop .....1908
Singlefold .....1904
Turkish .....1906
Washroom .....1900
Wiper .....1907-1911

**Tracers,**
Automotive .....838
Circuit Breaker .....803
Circuit/Cable .....803
Current .....803
LAN Cable .....811
Open .....802
Voltage .....803
Wire .....802

**Track**
Brackets .....2658
Dock Seals .....2306
End Caps .....2658
Hangers .....2658
Lighting .....1119-1120, 1131
Lighting Connectors .....1121
Lighting Sections ..1121
Lighting Socket Extenders .....1119
Splice Collars .....2658

**Track,**
Sliding Door .....2658
Tool .....2094
Trolley .....2094

**Tractor**
Attachments .....2670

**Traffic**
Barrels .....2615
Barricade Lights ...2615
Barricades .....2614-2615, 2618
Bumps .....2310
Cones .....2615
Dock Seals .....2306
Doors .....2305
Fence .....2618
Lamps ....958, 962-963, ..... 965-967, 970-972
Paint .....2003
Pennants .....2616
Posts .....2618
Signs .....2586
Stencils .....2612
Triangles .....2617
Vests .....2617

**Trailer**
Blocks .....2309
Bumpers .....2308
Cargo Boxes .....2671
Couplers .....2708
Coupling Balls ....2705
Couplings .....2705
Floor Screws .....1757
Hitch Ball Mounts ..2706
Hitch Balls .....2705
Hitch Bars .....2706
Hitch Draw Bars ...2706
Hitch Pin/Clip Assemblies .....2706
Hitch Pull Pin And Clips .....2706
Hitch Wiring .....2708
Hitches .....2707
Jacks .....2704
Locking Devices ...2708
Locks .....2630
Stabilizer Jacks ....2310
Stands .....2704

**Trailers,**
Dump Cart .....2671
Generator .....2739
Landscaper .....2671
Mixer .....2689
Tilt Bed .....2671
Tow Behind .....2671
Tractor .....2671
Utility .....2671
Utility Cart .....2671

**Training**
Aids, Safety .....2590
Facilitator Guides .....2570-2571
Handbooks, Safety .....2570-2571
Kits, Alcohol Screening .....2548
Videos, Safety .....2570-2571

**Trammel Sets** .1387, 1817

**Transducers,**
Compound .....864
Current .....746
Differential Pressure .864
Kilowatt/Ampere ....794
Low Pressure .....864
LVDT Type .....865
Microamp .....763
Pressure .....864
Solid State .....865
Vacuum .....864

**Transfer**
Pumps .....3167-3171, ..... 3174-3175, 3188, .... 3193, 3195, 3203, .....3206, 3279-3280
Punch Sets .....1802
Switches .....2738

**Transformer**
Cooling Fan Motors .....59, 74, 140
Cooling Fans .....3573
Cover Plates .....403
Fan Mounting Hardware .....3573
Finger Protectors ...404
Fuses ....414, 421-422
Relays .....3335, 3389
Secondary Fuse Kits .405
Speed Controls ....3612
Weathershields .....407

# PRODUCT INDEX




**Transformers,**
AC . . . . . .909
Buck Boost . . . . . .406
Control . . . . . .403
Control Power . .404-405
Current . . . . . .746, 3235
Current Reduction . .760
Disconnect . . . . . .406
Dry Type . . . . . .404-407
Electric . . . . . .403
General Purpose . . .407
HVAC . . . . . .403
Ignition . . . . . .3352
Isolation . . . . . .402, 807
Landscape Lighting .1113
Low Voltage . . .403, 848
Machine Tool . . .404-405
Oil Burner . . . . . .3352
Power . . . . . .403
Power Conditioner . .401
Public Address . . . . .905
Single-Phase . . .406-407
Step Down . . . . . .403
Three-Phase . . . . . .407

**Transistor**
Batteries . . . . . .1174
Testers . . . . . .805

**Transitions,**
Duct . . . . . .3563

**Transmission**
Fluid . . . . . .2766
Fluid Pumps . . . . . .3195
Jacks . . . . . .2716-2717
Oil . . . . . .2766

**Transmitter**
Battery Boosters . . . .802

**Transmitters,**
Air Velocity . . . . . .863
Circuit Identifier . . . .803
Circuit Tracer . . . . . .802
Differential Pressure .864
Garage Door . . . . . .2303
Humidity . . . . . .877
Infrared . . . . . .889
Low Pressure . . . . . .864
Pressure . . . . . .863-865
Temperature . . . . . .741
Temperature Alarm . .883

**Transom**
Catches . . . . . .2657

**Transoms,**
Wire Partition . . . . .2077

**Transparent**
Tape . . . . . .2274, 2279

**Traps,**
Drain Repair . . . . . .3106
Grease . . . . . .3616
Light . . . . . .3609
Steam . . . . . .3359
Vacuum Pump . . . .2858
Wall Drain . . . . . .3106

**Trash**
Bags . . . . . .1930-1933
Can Dollies . .1919-1921, . . . . . .1928, 2321
Can Lids . . . .1919-1921, . . . . . .1923-1924
Cans . . . . . .1919-1928
Cans, Plastic . . . . . .1921, 1924, 1927
Cans, Recycle . . . . . .1927-1928
Collectors . . . . . .1954
Containers . . . . . .1924, 1927-1928
Pickers . . . . . .1954
Pumps .3150-3152, 3154
Receptacles . . . . . .1927

**Trays,**
Paint . . . . . .1983

**Treadle**
Valves . . . . . .2947

**Treads,**
Safety . . . . . .2621

**Triangles,**
Reflective . . . . . .2617

**Trigger**
Spray Bottles . . . . . .1870, 1961
Sprayers . . . . . .1961

**Trim**
Kits, Wall Furnace .3421

**Trimmer**
Line . . . . . .2667

**Trimmers,**
Bent Handle . . . . .1349
Brush Cutter .2666-2667
Gasoline Powered . . . . . .2666-2667
Grass . . . . . .2666
Hand . . . . . .1349
Hedge . . . . . .2667
Laminate . . . . . .1474
Line . . . . . .2666-2667
Poultry . . . . . .1349
Professional Duty . .2666
Straight . . . . . .1349

**Trims,**
Recessed Lighting .1120, . . . . .1124-1126, 1128, . . . . . 1130, 1132-1133

**Triplets** . . . . . .1833-1834

**Tripod**
Stands . . . . . .2263

**Tripods,**
Confined Space . . .2513
Level . . . . . .1821

**Trippers,**
Timer . . . . . .574

**Troffers,**
Drywall . . . . . .1058-1059
Flange Type . .1058-1059
Fluorescent Fixture . . . . . .1056-1059, . . . . . 1099, 1101

**Trolley**
Trucks . . . . . .2210, 2658

**Trolleys,**
Hoist . . . . . .2234-2235
Motor Driven . . . . . .2235

**Trouble Lights**
. . . . . .1154-1157

**Trowel**
Adapters . . . . . .1398

**Trowels** . . . . . .1397-1398

**Truck**
Boxes . . . . . .1190-1194
Bumpers . . . . . .2308
Cleaners . . . . . .1861
Cranes . . . . . .2720
Lids . . . . . .2189
Lifts . . . . . .2213
Ramps . . . . .2307, 2314
Risers, Aluminum . .2306
Rope . . . . . .2258
Service Jacks . . . . .2714
Stabilizer Jacks . . . .2310
Storage Boxes . . . . . .1190-1194
Storage Trays . . . . .2054
Wash . . . . . .1866
Wash Brushes . . . .1950
Wet Line Hose . . . .2830
Wet Line Quick Couplers . . . . . .2830

**Trucks,**
Air Tank . . . . . .2866
Aluminum Platform .2199
Appliance . . . . . .2207
Audio Visual . . . . . .2118
Bag . . . . . .2206
Barrel .2206, 2321, 2324
Basket . . . . . .2190
Bellman . . . . . .2201
Big Wheel . . . . . .2189
Bushel . . . . .1928, 2190
Canvas . . . . . .2190
Cleaning . . . . . .1953
Compressor . . . . . .2866
Cube . . . . . .2190
Cylinder . . . . . .2211
Desk . . . . . .1953, 2209
Die . . . . . .2217
Drum . .2206, 2321, 2324
Dump . . . . . .1928, 2187
Ergonomic . . . . . .2208
Folding Chair . . . . .2101
Four Wheeler . . . . .2198
Garment . . . . . .2201
Giraffe . . . . . .2206
Hand . .2202, 2204-2210, . . . . . 2213, 2321, 2324
Hotel . . . . . .2201
Housekeeping . . . . .1953
Hydraulic Lift .2213, 2215
Janitor . . . . . .1953
Laundry . . . . . .2190
Luggage . . . .2201, 2210
Magnesium . . . . . .2208
Maid . . . . . .1953
Mailroom . . . . . .2190
Mobile . . . . . .2196
Mobile Chair Carrier . . . . . .2101
Modular Drawer . . .2193
Pallet . . . . . .2212-2213
Panel Rack . . . . . .2200
Platform . . . . . .2198-2199, 2210
Recycle . . . . . .2190
Security . . . . . .2196
Service . . . . . .1928, . . . . . 2187-2188, 2190
Shop . . . . . .2195
Shovel Nose . . . . . .2209
Stock . . . . . .2194-2195, . . . . . 2197, 2201
Stockroom . . . . . .2190
Storage Bin . . . . . .2046

Tilt .....1928, 2187
Tool .....2193-2195
Towable .....2189
Tray Stock .....2194
Trolley .....2210, 2658
Two Wheel .....2189
Utility .....2188-2189
Valet .....2201
Vending Machine ..2209
Vinyl .....2190
Warehouse ..2209-2210
Welding Cylinder ..2211
Wire .....2196-2197
Wood Platform ....2198

**Truing**
Devices, Grinding Wheel .....1593

**Truktrak**
Cable Protection Systems .....644

**Tub**
Bars .....1917
Caulk .....1794
Chairs .....1917
Faucets .....3111
Seats .....1917
Strips .....2621

**Tube**
Bender Sets .....1346
Benders .....1343-1344, 1346
Brushes ....1633, 1728
Cutter Wheels .....1344
Expanders .....1345
Fittings .....3069
Heater Extensions .....3413
Heaters .....3413-3414
Insulation .....3376
Lube .....3281
Openers, Gas Detector .....2533
Pump Kits, Detector .....2535
Pumps, Detector ...2535
Replacements .....2164
Supports .....3042

**Tubes,**
Air Flow Smoke ...2535
Appliance .....916-917, 921
Circline .....924
Compact .....928-932
Detector .....2533-2535
Drain Extension ...3106
Drain Wall .....3106
Drum Sight .....2327
Energy Right ...917-924, .....928-932
Filler .....1961
Fluorescent ....916-925, ..... 928-932, 984
High Color Rendering .....917-924, ..... 928, 930-932
High Output .....916-918, 920-924
Indicating Beacon ...523
Linear Actuator .....262
Low Temperature Jacketed .....920, 922, 924
PL Compact .....924, 928-932
Pump Siphon .....3196
Respirator .....2421, 2424, 2427
Safety Sleeve .....925
Sampling .....3339
Shatterproof ...925, 984
Siphon .....1972, 3196
SL Compact .....924, 928-932
Suction .....2744, 3201
Tire .....2164
U-Bent .....918-919, 922-924
Ultra Violet .....2675
Ventilation Smoke .....2535

**Tubing**
Adapters .....3294
Benders .....1343
Cutter Wheels .....1343
Cutters .....1343-1344, 3041
Fastening Clips ....3042
Fittings .....3042-3045
Racks .....2011
Tools .....1345-1346

**Tubing,**
Air Conditioning .....3046, 3451
Braided .....2834, 3041
Car Wash .....3041
Cilran .....3281
Copper .....3046, 3451
Duct .....3561, 3563
ED PLEX .....3281
Flexible ....3041, 3143, ..... 3265, 3561
Food Grade .....3041
Heat Shrinkable ....625
Nylon II .....3041
Pneumatic Control .....3041, 3294
Polyethylene .....3041
Polyurethane .....3281
Potable Water .....3041
Pump .....3143, 3265, 3280
PVC .....3041
Refrigeration .....3046
Stainless Steel ....2834
Teflon .....2834
Thin Wall .....625
Type L- .....3046
Vinyl ..3041, 3143, 3265

**Tubs,**
Steel .....2058

**Tubular**
Brass .....3106
Plastic .....3106
Solenoids .....489

**Tuckpointing**
Trowels .....1397

**Tune-Up Kits,**
Heater .....3377

**Tungsten**
Electrodes .....1585

**Turbine**
Pump Protection ...3235
Pumps .....3268-3269
Ventilator Bases ...3565
Ventilator Dampers .....3565
Ventilators .....3565

**Turnbuckles** .....2246

**Turning**
Kits .....1643

**Turntables,**
Abrasive Blast Cabinet .....1529
Bench Top .....2216

**Tweezers,**
Anti-Acid .....1310
Anti-Magnetic .....1310
Broad Tip .....1310
Carbon Cutting ....1310
Toolmaker's .....1831

**Twenty-Four-Hour**
Clocks .....2112

**Twine** .....2258

**Twist Drill Bits,**
Carbide Tipped .....1661, 1669
Heavy Duty .....1664
Hex Shank ..1661, 1669
Jobber Length .....1650-1654, ..... 1659, 1664-1668
Masonry ....1661, 1669
Reduced Shank ...1656, .....1659, 1668-1669
Screw Machine .....1657-1658, 1669
Silver And Deming .....1656, 1669

**Twist-Lock**
Connectors .....707, .... 710-714, 718-719
Inlets .....711, 718-719
Outlets .....711, 713
Plugs .....707, .... 710-714, 718-719
Receptacles ...710-714, .....718-719
Shrouds .....719
Switched Enclosures .....721

**Twist-Ties** .....2268

**Two-Way Radio**
Antenna .....899, 901
Batteries .....899
Battery Chargers .....899, 901
Battery Packs .....899, 901
Belt Clips .....899, 901
Belt Holders .....901
Cases .....899
Charger Adapters ...901
Chargers .....899, 901
Earphones .....901
Earpieces .....899
Headsets .....899, 901
Holsters .....901
Microphones ...899, 901
Quiet-Call Modules .....899, 901
Speakers .....899, 901
VOX Adapters .....899

**Two-Way Radios** . . . . . .898, 900, 902

**Two-Wheelers** . . . . . .2202, 2205

**U**

**U.S. Flags** . . . . . .903

**U-Bar**
Locks . . . . . .2626

**U-Bolts** . . . . . .1760

**Undercabinet**
Lighting Fixtures . . . . . .1073-1074

**Underground**
Feeder Cable Fittings . . . . . .668
Sprinkling Equipment . . . . . .2698-2700
Tape . . . . . .2619

**Underlayment,**
Abrasive Blast Cabinet . . . . . .1529

**Union**
Connectors . . . . . .3042
Elbows . . . . . .3042
Tees . . . . . .3042

**Unions,**
Dielectric . . . . . .3083
Plastic . . . . . .3042

**Unit**
Coolers . . . . .3474-3475
Heater Low Ambient Kits . . . . . .3442-3443, . . . . . 3448, 3450
Heater Vent Caps . .3405
Heaters . . . . .3394-3397, . . . . . 3399-3406

**Universal**
Couplers . . . .3023, 3029
Gearmotors, AC/DC .225
Joint Boots . . . . . .354
Joints . . . . . .354-355
Joints, Socket . . . . .1278
Potential Relays . . .3506
Probes . . . . . .893
Snakes . . . . . .2337
Sock Absorbents . .2337
Socket Joints . . . . . .1230-1231, . . . . . 1234, 1236, 1240
Sockets . . . . .1280, 1282
Sorbent Booms . . . .2337
Sorbent Pads . . . . .2337
Sorbents . . . .2335-2338
Timers . . . . . .498
Wrenches . . . . . .1565

**Upholstery**
Cleaners . . . .1844, 1861
Shears . . . . . .1349
Staplers . . . . . .3009

**UPS**
Battery Cabinets . . . .400
Systems . . . . . .400

**Urethane**
Applicators . .1785, 1787

**Urinal**
Blocks . . . . . .1853
Screens . . . . . .1853
Stops . . . . . .3117
Valves . . . . . .3116

**Urns,**
Sand . . . . . .1922, 1926
Smoking . . . . . .1926

**Utility**
Bars . . . . . .1361
Burn Kits . . . . . .2548
Carts . . . . . .2191-2192, . . . . . 2194, 2671
Cranes . . . . . .2718-2719
Flashlights . . . . . .1186
Funnels . . . . . .2750
Hinges . . . . . .2654
Hooks . . . . . .2656
Jacks . . . . . .2715
Knife Blades . . . . . .1352
Knives . . . . . .1350-1352
Lights . . . . . .1160
Mixers . . . . . .2689
Pumps . . . . .3142, 3147, . . . . . 3169-3170, 3174, . . . . . 3208-3209, . . . . . 3217-3218, 3220, . . . . . 3260, 3262, 3463
Trailer Cargo Boxes . . . . . .2671
Trailers . . . . . .2671
Trucks . . . . . .2189
Vacuums . . . . . .1882-1886, 1889

**UV-**
Absorbing Goggles .3483
Protectants . . . . . .1866

**V**

**V-Belt**
Dressing . . . . . .2782
Pulleys . . . . . .310-316
Pulling Attachments . . . . . .1404
Racks . . . . . .308
Sheaves . . . . . .310-316
Tensioners . . . . .300-301

**V-Belts,**
Classic Type . . .305-309
Cog Type . . . . . .306-309

**V-Blocks** . . . . . .1827

**Vacuum**
Bags, Sander . . . . .2983
Breaker Hose . . . . .3063
Breakers . . . . . .3360
Carrier Kits . . . . . .1953
Cups . . . . . .2259
Filter Bags . . . . . .1484
Fishing Systems . . .1328
Gauges . . .866-869, 871, . . . . . .873, 876, 3486
Heads, Pool . . . . . .3291
Hose Kits . . . . . .2669
Leaf Blower Kits . . .2665
Leak Detectors . . . . .840
Motors . . . . . .174-178
Poles, Pool . . . . . .3291
Portable Gauges . . .3486
Pumps . . . . . .743
Relief Valves .2851, 3065
Sanders . . . . . .1484
Sensing Switches . .3358
Testers . . . . . .839
Transducers . . . . . .864
Triangle Attachments . . . . . .1485
Vents . . . . . .2763
Vises . . . . . .1374

**Vacuum Cleaner**
Attachments .1879, 1891
Bags . . . . . .1878, . . . . . .1880-1882, 1890
Belts . . . . . .1878-1879
Blower Attachments . . . . . .1891
Brush Shoes . . . . . .1890
Conversion Kits . . .1881
Crevice Tools . . . . .1890
Filter Bags . . . . . .1893
Filters . . . . . .1881, 1890
Gulper Tools .1890, 1893
Heads . . . . . .1891
Hose . .1882, 1890, 1893
Hose Adapters . . . .1893
Nozzles . . . . .1890, 1893
Pipe Cleaning Tools . . . . . .1890
Round Brushes . . . .1890
Rug Shoes . . . . . .1890
Silencers . . . . . .1892
Squeegees . .1890, 1893
Wands . . . . .1890, 1893

**Vacuum Cleaners,**
Aircraft . . . . . .1881
Backpack . . . . . .1881
Chip Vac . . . .1892-1893
Commercial .1878-1884, . . . . . .1886, 1889
Contractor . . . . . .1882-1883, 1888
Drum Mount . .1892-1893
Dry Pickup . . . . .1878, 1880, 1886
External Filter . . . . . .1892-1893
Hand . .1882, 1891-1892
Industrial . . . .1881-1883, . . . . . .1888, 1892-1893
Litter . . . . . .1894
Outdoor . . . . .1894-1895
Plastic Tank . . . . .1878, 1882-1883, . . . . . 1885-1889
Portable . . . .1881-1882, .1885-1886, 1891-1892
Professional . . . . . .1884
Pump Vac . . . . . .1883
Shop . .1878, 1883-1884, . 1886-1889, 1892-1893
Sludge Vac . .1892-1893
Space Vac . . . . . .1878
Stainless Steel Tank . . . . . .1884, 1888-1889
Steel Tank . . .1887-1889
Upright . . . . . .1878-1880
Wall-Mount . . . . . .1882
Wet/Dry Pickup .1882-1889, 1892-1893
Wide Area . . . . .1878, 1880, 1888

**Vacuum Pump**
Cold Traps . . . . . .2858
Hose . . . . . .2856, 2858
Oil . . . .2768, 2856, 3479

Thermocouples . . . .2858
Valves . . . . . .2858

**Vacuum Pumps,**
Belt-Drive . . . .2855-2856
Diaphragm . . .2859-2860
Electronic . . . . . .3485
High . . . . . .2854-2857
Medium . . . . . .2854
Piston . . . . . .2861-2862
Pump Corrosive Gas . . . . . .2855
Refrigeration Service . . . . . .2854, 2856
Rotary Vane . .2852-2853

**Vacuums,**
Abrasive Blast Cabinet . . . . . .1529
Drywall . . . . . .1484

**Valve**
Actuators . . . . . .2933
Blanking Kits . . . . . .2941
Blanking Plates . . . .2937
Brackets . . . . . .2943
Brushes . . . . . .2759
Coil . . . . . .2935, 2937
Connectors . . . . . .2937
Cores . . . . . .3500
Faucets . . . . . .2325
Isolator Plates . . . . .2943
Lockouts . . . . . .2567
Manifold End Plates . . . . . .2939
Manifolds . . . . . .2937-2939, 2941
Mounts . . . . . .2943
Packing . . . . . .1783
Port Reliefs . . . . . .2824
Slide Rules . . . . . .3299
Stacking Kits . . . . . .2935
Stem Packing . . . . .1783
Stop Escutcheon . .3108
Stops . . . . . .3107
Subplates . . . . . .2820
Tags . . . . . .2610
Tie Rod Kits . . . . . .2824
Wiring . . . . . .2818

**Valves,**
Access . . . . . .3500
Actuated . . . . . .2911, 3308-3309
Air . . . . . .2934-2936, . . . . . 2938-2942, . . . . . 2945-2947, 3042, . . . . . 3065, 3360, . . . . . 3363-3368
Air Actuated . . . . . .2911
Air Adjusting . . . . . .1963
Air Flow Control . . .2932
Air Safety . . . .2898-2899
Air Tank . . . . . .3028
Angle Hose . . . . . .3034
Antiscald . . . . . .3111
AR . . . . . .3366
Automatic . . .2760, 2911
Automatic Retro . . .3116
Back Pressure . . . .3282
Backflow Preventer .3063
Balancing . . . . . .3064
Ball . . . . . .2754, 2901, . . . . . 2911-2913, . . . . . 3042, 3068, 3084
Ball Refrigerant . . . .3499
Ball Shutoff . . . . . .3499
Ball Solder . . . . . .3066
Barrel . . . . . .2325
Base-Mounted . . . .2936
Bath Tempering . . .3111
Bed Pan Washer . .3115
Blast Cabinet . . . . .1529
Body-Ported Solenoid . . . . . .2936, 2940
Boiler . . . . . .3064-3065
Boiler Drain . . . . . .3064
Boiler Feed . . . . . .3064
Brass . . . . . .2325, . . . . . 2911-2912, 3084
Bullet Piercing . . . .3499
Butterfly . . . . . .3062
By-Pass . . . .2905, 3074
Carbon Steel . . . . .2913
Cartridge . . . .2815, 2817
Check .2814, 2819-2821, . . . . . .2896-2898, . . . . . 3060, 3064-3065, . . . . . 3230-3231, 3256
Chemical . . . . . .3042
Circuit Balancing . . . . . .3064, 3067
Closet Flush . . . . . .3116
Combinable . . . . . .2824
Combination .3344, 3348
Compact . . . . . .2938
Control . . . . . .2938
Counterbalance . . . . . .2819, 2821
Directional . . . . .2818, 2820, 2938
Directional Control . . . . .2809, 2822-2823, . . . . . 2936, 2939-2942, . . . . . 2946-2947
Drain . . . . . .2901, 2904, . . . . . 2910-2911, . . . . . 2921, 3059, 3064
Drain Cock . .2904, 2910
Drum . . . . . .2325
Dual Control . . . . . .3065
Electrically Activated . . . . . .2911
Electro-Pneumatic .3297
Exhaust . . . . . .2932
Expansion . . . . . .3444, 3493-3495
Filter Backwash . . .3290
Float . .2822, 3066-3067
Flow Check . . . . . .3067
Flow Control .2812, 2814, . . . . .2819, 2821-2822, . . . . . 2933, 3065
Flush . . . . . .3116
Food Grade . . . . . .3042
Foot . . . . . .3256
Foot Pedal . . . . . .2947
Foot-Actuated . . . . . .2946-2947
Garden . . . . . .3068
Gas . .3068, 3084, 3341, . . . . .3344-3345, 3347, . . . . . 3349, 3360
Gas Check . . . . . .1566
Gas Pilot Safety . . .3345
Gate . . . . . .2325, 2567, . . . . . 2902, 3060-3061, . . . . . 3066, 3068
Globe . . . . . .3061
Hand Actuated . . . . . .2946-2947
Hand Lever . . . . . .2947
Hand Operated . . . . . .2946-2947
Heat Pump . . . . . .3333
Heavy Duty . . . . . .2933
High Pressure . . . . .2913
Hot Water . . . . . .3065
Hydraulic . . .2809, 2812, . . . . . .2814-2815, . . . . . 2817-2823, . . . . . .2845, 2913
Hydraulic Check . . . . . .2813, 2820
Hydraulic Control . . . . . .2814, 2822
Hydraulic Relief . . .2812
Hydronic Pressure . . . . . .3063-3065, 3067
Hydronic Zone . . . .3353
Leak Detector Bleed . . . . . .3484
Limit . . .2933, 2946-2947
Line Piercing . . . . . .3499
Line Pressure . . . . .3499
Load Genie . . . . . .2896
Lock . . . . . .2813
Lockout . . . . .2567, 2921, 2925
Lubrication . . .2759-2761
Manifold . . . . . .2760
Manifold-Mounted . .2941
Media . . . . . .1529
Medium Pressure . .2913
Mini . . .2912, 2934-2935
Mini Limit . . . . . .2934
Miniature . . . . . .2936
Multi-Orifice . . . . . .3065
Needle . . . . .2761, 2814, 2845
Paint Sprayer . . . . .1976
Palm Button Actuated . . . . . .2946-2947
Pilot-Actuated . . . . . .2940-2942
Pilot-Operated Check . . . . . .2819, 2821
Plastic . . . . . .3042, 3144
Plumbing . . . . . .3042
Pneumatic . . .2933-2936, . . . . . .2939-2942, . . . . . 2946-2947, . . . . . .3305, 3308-3309
Pneumatic Limit . . . . . .2946-2947
Pop-Off . . . . .2898-2899
Pressure . . . .3186-3187, . . . . . .3256, 3496
Pressure Control . . .2896
Pressure Reducing . . . . . .3065, 3067
Pressure Regulator .3065
Pressure Relief . . . . . .2851-2852, . . . . . 3064-3065, 3083
Pressure Retention .3282
Pressure/Balance . .3111

# PRODUCT INDEX




Pump .3058, 3066-3067, .3187, 3231, 3256, 3278-3279
Purging .3064
Quick Exhaust .2932
Radiator .3355
Reducing .2819, 2821
Refrigeration .3473, 3493, 3496
Release .3360
Relief .2812-2813, 2819, .2821, 2898-2899, 3065, 3083, 3187
Reversing .3333
Roller Cam-Actuated .2946-2947
Rotalock .3473
Saddle .3058, 3499
Safety .2851, 2898-2899, .3065, 3186-3187
Sandwich .2815, 2824
Section .2824
Sequence .2819, 2821
Service .3500
Shock Arrestor .3064, 3067
Shutoff .1565, 3042, 3499
Shuttle .2933
Sight Feed .2760-2761
Single Function Gauge .3345
Solar .3064-3065
Solenoid .2760, 2818, 2820, 2935, 2944, 3345, .3363-3368, 3493
Solenoid Air .2935
Solenoid-Actuated .2936, 2939-2942
Speed Control .2939
Spray .2759
Stack .2823-2824
Stacking .2939, 2942
Stainless Steel .2901, 2911, 2913
Stak .2819, 2821
Steam .3065, 3355
Stop And Waste .3059
Sump Pump .3231
Swing Check .3060, 3067
T And P .3083
Tempering .3064-3065, 3067
Thermal Relief .3186
Thermostatic .3355
Throttle .2947
Toggle .2760, 2934
Toilet .3116
Toilet Repair .3114
Treadle .2947
Two Way Flow .3064
Unloader .2896, 3186
Urinal .3116
Urinal Flush .3116
Vacuum Breaker .3063
Vacuum Pump .2858
Vacuum Relief .2851, 3065
Vacuum/Pressure Relief .2852
Vent .3064
Wafer .2824
Water .3042, 3064-3065, .3083, 3144, 3355, 3363-3368, 3496
Welding .1565

**Van**
Storage Boxes .1192, 1194
Storage Trays .2054

**Vandal-Resistant**
Back Boxes .1101
Lighting Fixtures .1098, 1100-1101

**Vane**
Anemometers .851
Pump Foot Brackets .2802
Pumps .2797

**Vanity**
Lighting Fixtures .1072-1073

**Vapor**
Barrier .2261

**Vapor-Tight**
HID Lighting .1064, 1102
Incandescent Lighting .1064, 1102

**Variable**
Speed AC Motors .39
Temperature Heat Guns .1530

**Varnish**
Removers .2790

**Varnish,**
Insulating .2788

**VCR**
Cabinet Stands .2118

**Vehicle**
Cleaners .1866
Detectors .907
End Lifts .2720
Lights .2554
Mirrors .2623
Placards .2607
Recovery Straps .2251
Stands .2715, 2721
Starting Generators .2740
Warning Lights .2556
Water Cooler Racks .2541

**Vent**
Adapters .2515
Caps, Unit Heater .3405
Dampers .3350
Enclosures, Wall Furnace .3421
Extension Kits .3417
Extensions, Heater .3416
Hoods .3636
Kits, Basement .3417
Kits, Heater .3417, 3420, 3428
Valves .3064

**Ventilation**
Kits .2514-2515
Smoke Tubes .2535
Temperature Controls .3330-3331

**Ventilator**
Adapters .3559
Birdscreens .3616
Fans, Energy Recovery .3560
Fans, Heat Recovery .3560
Grease Collector Boxes .3616
Hinge Kits .3616
Roof Curbs .3446, 3448, .3450, 3616-3617

**Ventilators,**
Agricultural .3609
Attic .3565, 3568-3569
Axial .3620, 3622, 3650
Bathroom .3549, 3552-3555, 3558, 3639
Belt-Drive .3614-3615, .3618-3620
Cabinet .3556, 3559
Ceiling .3555-3556, 3558
Centrifugal .3555-3556, .3613-3615, 3618-3619, 3621
Direct Drive .3613, 3650
Downblast .3618-3619, 3621
Energy Right .3565, 3568-3569
Exhaust .3549, 3555-3556, 3613-3615, 3618-3622, .3639, 3650
Explosion-Proof .2515
Filtered Supply .3623
Humidity Sensor .3552
In-Line .3556
Kitchen .3547, 3549, 3639
Livestock .3609
Motion Sensor .3552
Poultry .3609
Power Roof .3622, 3624-3625
Roof .3565, 3613-3615, .3618-3623
Supply .3623, 3650
Turbine .3565
Upblast .3613-3615, 3620
Wall .3613, 3622-3623

**Vents,**
Air .2763, 3277, 3355, 3413, 3437
Attic .3569
Drum Safety .2328
Filter .2763
Furnace .3430-3432
Gable .3569
Garage Heater .3414
Gas .3430-3432
Heater .3405, 3413
Package Water Heater .3430-3432
Petrochemical .2515
Pressure Relief .2763
Roof .3563, 3565, 3568, 3624-3625
Saddle .2514
Tank .2514
Type B Gas .3430-3431

Vacuum .....2763
Wall .....3563
Water Heater .....3638

**Venturi**
Blowers .....2515

**Versa-Pack**
Batteries .....1426

**Vertical**
Filing Cabinets ....2106
Filing Systems ....2108

**Vests, Safety** .....2617

**Vibration**
Absorbers .....3473
Isolators .201, 3670-3673
Testers .....827

**Vibrator**
Brackets .....259

**Vibrators,**
Air .....259
Concrete .....259
Electric ....255-256, 259
Hydraulic .....256
Pneumatic .....257-259

**Video**
Equipment Stands .2118

**Videos,**
Bloodborne Pathogens Safety .....2570
Confined Space Entry .....2570
Cumulative Trauma Disorders .....2570
Ergonomics Safety .2570
Excavation Safety ..2571
Fall Protection ....2571
Fork Lift Safety ....2571
Hazard Communication .....2571
Hi-Lo Safety .....2571
HIV Safety .....2570
Ladder Safety .....2183
Lockout Training ...2561
Lockout/Tagout ....2570
Permits .....2570
Personal Protective Equipment .....2571
Respirator Training .2443
Right-To-Know ....2571
Safety Orientation ..2571

**Viewers,**
Door .....2659, 2663

**Vise**
Jaw Faces .....1375

**Vise-Grips** ...1311, 1376

**Vises,**
Angle .....1503
Bench .....1374-1375
Cross .....1503
Drill Press .....1503
Engineer's .....1374
Grinding .....1828
Jaw Cap .....1375
Machinist's .....1375
Mechanic's .....1374
Milling .....1503
Pin .....1818
Pipe ...1335, 1374-1375
Precision .....1828
Quick Release ....1503
Tradesman .....1374
Utility Work Shop ..1374
Vacuum .....1374
Woodworker's .....1374

**Visitor**
Spectacles .....2369

**Visor**
Frames, Hard Hat ..2378

**Visors,**
Faceshield ...2378-2379
Hard Hat .....2378

**Volcanic**
Rock .....3422

**Voltage**
Calibrators .....742-743
Chart Recorders ....793
Detectors .....789
Hot Sticks .....789
Markers .....633
Monitors .....3235
Recorders .798-799, 806
Sensors .....492
Tester Cases .....787
Testers .....756, 758, 771, 787-790
Tracers .....802-803
Trips .....446

**Voltmeter**
Cases .....789

**Voltmeters,**
Analog .....761-762
Digital .....756, 758, 763-765, 767-768, 771-775, 891
Panel Mount .....737-740, 744-745

**Vortex**
Tubes .....2424


## W


**Walk**
Ramps, Aluminum .2314

**Walkboards** .....2182

**Walkie-Talkies** .....898, 900, 902

**Wall**
Block Dispensers ..1853
Brackets, Bug Killer .....2675
Brackets, Pin Rack .3034
Bumpers .....2661
Caps .....3563
Cases, Air Conditioner .....3454
Cases, PTAC ....3453
Charts, Safety ....2590
Clocks .....2112
Dampers .....3617
Drain Traps .....3106
Ducting Kits .....3561
Exhaust Fans .....3546-3548
Fans ..3542, 3550-3551, .....3570-3571, 3590-3591
Furnace Blowers .....3415-3416
Furnace Outlets ...3421
Furnace Trim Kits ..3421
Furnace Vent Enclosures .....3421
Furnaces .....3416, 3420-3421
Heater Frames .....3386-3387, 3389
Heaters .....3385-3387, 3418-3419
HID Lighting .....1094
Kits, Wire Partition .2077
Lights, Indoor/Outdoor .....1096
Paint .....1994
Receptacles ...686-688, .....690-691, 711, 730
Safes .....2650
Sconces .....1073
Sleeves, Air Conditioner .....2079, 3455-3456
Sleeves, Heater ...3426
Stations, Pushbutton .519
Stops .....2661
Switch Timers ..570, 572
Switches ..698-699, 702, ....728, 730-731, 1047
Thermostats .....3310, 3312, 3314, .....3316-3321, 3328, .....3387, 3389, 3391
Ties, Pallet Rack ...2007
Urn Ashtrays .....1915
Ventilators ...3613, 3623
Vents .....3563
Washing Cotton Pads .....1954
Washing Kits .....1954

**Wallet**
Cards, Right-To-Know .....2595

**Wallpacks,**
Lighting Fixture .....1092-1094

**Wallplates,**
Anodized Aluminum .700
Brass .....700
Electrical .....691, 700-701, 732
Lockout .....2561
Nylon .....700-701
Security .....701
Stainless Steel ..700-701
Thermostat ..3311-3312

**Walltrak**
Nonmetallic Raceway Systems .....645

**Wands,**
Flashlight .....1189
Marking .....2003
Paint Sprayer .....1976
Pressure Washer ..1898
Spray .....3184
Sprayer Extension .2703
Vacuum Cleaner .....1890, 1893

**Wardrobe**
Cabinets ....2065-2066
Hooks .....2659, 2662
Lockers .....2068-2075

**Warehouse**
Carts .....2200

# PRODUCT INDEX




Casters .....2134, 2141-2142, .....2144-2147, 2154
Ladders .....2185
Lighting Fixtures .....1080, 1082, 1084

**Warning**
Alarms, Low Pressure .....2428
Labels .....2608
Light Brackets .....2554
Lights .....2554-2557

**Wash**
Pumps .....1971
Station Alarms .....2538
Stations .....2536-2539

**Wash,**
Body .....1857

**Washer**
Assortments .1713, 1758
Bearings .....348
Hose .....3031
Shim .....1713

**Washers,**
Air Quick Connect ..3029
Bonded Neoprene ..1747
Cold Water ..1896-1897
Fender .....1746
Fiber .....202
Finishing .....1747
Flat Steel .....1746
Flat Surface .....1899
Flatwashers .1746, 1777
Grade Eight .....1746
Ground .....348
Hardened .....348
Hot Water ...1898-1899
Lock Washers .....1747
Metric .....1746
Parts .....1522-1525
Parts Baskets .....1524
Pressure ....1896-1899
Reducing .....660
Rivet .....1719
SAE Flatwashers ..1746
Spherical .....1777
Split Lock .....1747
Spray ..1525, 1896-1899
Stainless Steel .....1746-1747
Steel .....348
Thrust .....348
Tooth .....1747
USS Flatwashers ..1746

**Washroom**
Cleaners ....1855, 1869
Disinfectants .....1861
Tissue .....1900
Tissue Dispensers .....1900, 1902
Towel Dispensers ..1915
Towels .....1900

**Wasp Spray** ..1866-1867

**Waste**
Can Dollies ..1919-1921
Can Tops .....1923
Cans .....1919-1928, .....2342-2343
Containers ..1921, 1924, .....1927-1928
Control Panels .....3234-3235
Disposers ...3102-3104
Handling Pumps .....3223-3225
Receptacle Dollies .1928
Receptacle Lids .....1919, 1924
Receptacle Tops ...1923
Receptacles .....1919, 1923-1925, .....1927-1928
Valve Caps .....3059

**Waste Water**
Capacitor Panels ..3235
Combination Starters .....3235
Condensation Heaters .....3235
Control Panels ....3234
Controls .....3234-3235
PH Testers .....831
Starters .....3234-3235

**Wastebasket**
Lids .....1927
Shredders .....2118

**Wastebaskets**
.....1925, 1927-1928

**Watch**
Batteries .....1177

**Watches,**
Stopwatch .....829

**Watchmaker's**
Loupes .....1833

**Water**
Boilers .....3424-3425
Brooms .....1959
Chillers .....3087
Chlorinators .3278, 3282
Circulators .....3267, 3272-3275
Conditioners .....3074
Containers .....2541
Control Panels .....3234-3235
Discharge Hose ...3033
Dispensers .....3085
Expansion Tanks ..3078
Filter Systems .....3093
Filters .....3073-3074, .....3090-3095, .....3097-3101
Fittings .....3037, 3042
Fountain Bubblers ..3113
Fountains, Barrier Free .....3088-3089
Fountains, Remote .....3087, 3089
Garden Anodes ...3144
Garden Clamps ...3144
Garden Filters .....3143
Garden Fountain Heads .....3144
Garden Fountain Nozzles .....3144
Garden Hose Kits ..3143
Garden Lighting ...3143
Garden Pond Kits ..3142
Garden Pond Liners .....3143
Garden Pumps .....3142-3143, 3145
Hose .....2692, 2834, .....3033, 3210
Hose Adapters .....2696-2697
Hose Connectors .....2696-2697
Hose Repair .....2696
Hose Switchers .....2696-2697
Hose, Tig Torch ...1584
Hydrants .....3238
Levels .....1383
Monitors .....3095
Nozzles .....2694
Oil/Water Skimmers .....2753
Pressure Boosters .3277
Reels .....3016
Resistant Timers ....571
Separators .....2904
Softeners .....3071-3072, 3074
Spikes .....2695
Spray Guns .....3184
Sprinklers ...2695-2696
Storage .....3155
System Pumps ....3251
System Treatments .3577
Tank Gauges .....3253
Tanks .....3254
Test Kits .....3074
Timers .....2697
Treatment, Humidifier .....3510
Tubing .....3041
Valves .....3042, 3083, .....3144, 3355, 3496
Well Systems .3245-3246
Well Tank Tees ...3257

**Water Cooler**
Controls .....3502
Cup Dispensers ...2541
Paper Cups .....2541
Racks .....2541

**Water Coolers,**
ADA Approved ....3087
Barrier Free .....3088
Bottled Water .....3085
Construction Use ..2540
Explosion Proof ...3088
Floor .....3086-3088
Gatorade .....2540
Hot And Cold .....3085, 3087
Ice Water .....2540
Jobsite .....2540
Metal .....2540
Outdoor .....2540
Portable ....2540, 3085
Split Level .....3087
Wall Hung ...3087-3088
Wall Mount .....3088
Wheelchair Access .....3087-3088

**Water Heater**
Connectors .....3084
Controls .....3341
Drain Pans .....3083
Elements .....3082
Filters .....3094
Fittings .....3083

Stands .....3083
Thermostats .3341, 3354
Timers .....575
Vent Package .....3430-3432, 3638

**Water Heaters,**
Booster .....3081
California NOX Code .....3075, 3081
Commercial .....3079
Compact ....3076, 3081
Electric .3076-3079, 3081
Energy Right .....3077
Gas ...3075, 3079-3081
High Efficiency ....3075
High Performance ..3076
Immersion .....3372
Instantaneous .....3077
L/P Gas ....3075, 3079
Lifetime .....3078
Massachusetts Code .....3081
North Carolina Code .....3081
Point-Of-Use .....3077
Polyethylene .....3078
Power Vent .....3080
Residential ..3075-3076, .....3080-3081
RV .....3080
Tabletop .....3076
Under-Counter .....3076, 3081
Undersink .....3077

**Water Tanks,**
ASME Certified ....3255
Evaporative Cooler .3577
Liquid Storage ....3155
Precharged .....3255
Standard .....3253

**Waterfall**
Hose Kits .....3143

**Wattmeters,**
Chart Recorders ....794
Clamp-On .....758
Digital .....758-759

**Wax**
Applicators .....1952
Liners .....1913

**WD-40** .....2780

**Weather**
Insulation .....1795
Strips .....3443

**Weatherproof**
Boots .....709, ..... 711, 714, 716
Caulk .....1794
Covers, Inlet/Outlet .....685, 707
Covers, Receptacle .....685, 708, 726
Covers, Switch .....683-684, 701
Fluorescent Ballasts .....1037
HID Ballasts .....1044
Plug Boots .....714
Plugs .....683
Receptacle Covers .....685, 708
Smoke Detector Enclosures .....3339

**Weathershields,**
Transformer .....407

**Web**
Belt Barriers .....2313
Slings .....2239

**Wedge**
Anchors .....1723-1724

**Wedges,**
Chuck .....1704
Flange .....1399
Striking .....2680

**Weedwhips** .....2678

**Weights,**
Sign .....2613

**Weld Flux**
Chisels .....2999, 3005

**Welder**
Amp/Volt Meter Kits .....1574
Arc Cutting Systems .....1569, 1579
Arc Stabilizers ....1568
Gas Conversion Kits .....1568
Pedestals .....1578
Plasma Consumable Kits .....1569
Plasma Cutter Nozzles .....1569
Shields, Respirator .2429
Wheel Accessory Kits .....1571-1572
Wheels .....1567

**Welder/Generators** .....1580-1582

**Welders,**
AC .....1571
AC/DC .....1567, ..... 1571-1572, 1576
Anti-Spatter .....1546
Arc .....1567
Blade .....1696
Continuous Wire .....1568-1569
Engine Driven .....1580-1582
FCAW .....1573-1574
First Aid Kits .....2548
Gasless .....1568
Heavy Duty .....1569
Metal Inert Gas .....1568-1569
Mig .....1568-1569, ..... 1573-1574
Millematic .....1573
Multiprocess .....1574
Portable ....1568-1569, .....1572-1573, ..... 1576, 1578
Resistance ...1577-1578
Shoe Box .....1572
Shop .....1567-1568
Spot ...1569, 1577-1578
Stick ..1567, 1571-1572, .....1574, 1576
Stitch .....1569
Tig .....1572, 1576
Wire .....1573
Wire Feed .....1568-1569, 1573

**Welding**
Accessory Kits .....1572, 1581
Adapters .....1552
Air Fuel Appliances .1553
Air Fuel Gas Torches .....1552
Air Gas Outfits ....1554
Arc Stabilizers ....1568
Blankets .....1585
Brazing Rods .....1550
Brazing/Cutting Outfits .....1553
Cable .....600
Cable Connectors ..1570
Caps .....2484
Carriers .....1552
Clamps .....1376-1377
Clothing .....2484
Collet Bodies .1584-1585
Collets .....1584-1585
Consumables .....1538, 1540, 1542
Contact Tip Gel ...1547
Contactor Kits .....1570
Coolant .....1579
Cord Sets .....1573
Curtains .....1585
Cutting Attachments .....1558-1560
Cylinder Carts .....1571, 1575
Cylinder Trucks ....2211
Electrodes ...1538-1543, .....1550, 1585
Extension Cord ....1575
Faceshields .....1586
Flint Renewal Units .1565
Flux .....1547
Friction Lighters ...1565
Gas .....1550
Gas Conversion Kits .....1568
Gas Cups ...1584-1585
Gas Hose .....1584
Gas Lenses ..1584-1585
Gas Regulators ....1563
Gas Rods .....1546
Gasless Wire Kits ..1568
Gauges .....872
Gloves .....2471
Goggles .....1585
Ground Clamps ....1570
Hand Cutting Torches .....1556
Heads .....1558-1560
Heat Sink Compounds .....1547
Helmet Respirators .2433
Helmets .....1586
High Frequency Devices .....1575
Hose .....1553, 3021
Hose Reels .....3017
Lift Eye Kits .....1580
Link Protractors ...1830
Links .....1830
MAPP Canisters ...1550
Markers .....1715
Mig .....1542
Nozzle Protectors ..1547
Nozzles .....1561

# PRODUCT INDEX




Outfits . . . . . .1555
Oxy-Acetylene Kits .1554
Oxy-Fuel Rods . . . .1546
Oxygen Canisters . .1550
Plasma Cutters . . . . . .1569, 1579
Positioners . . . . . .1547
Propane Canisters .1550
Regulator/Flowmeters . . . . . .1564
Regulators . . .1562-1563
REM Control Facilities . . . . . .1570
Remote Controls . . . . . .1572, 1575
Respirator Conversion Kits . . . . . .2414, 2417, . . . . . 2431, 2434
Respirators . . . . . .1579, . . . . . 2398, 2415, 2430
Rocker Switches . . .1570
Rod Cabinets . . . . .2054
Rods, Brazing . . . . .1550
Rods, Covered . . . .1538
Rods, Gas . . . . . .1546
Rods, Oxy-Fuel . . . .1546
Rods, Phos-Bronze . . . . . .1539, 1544
Rods, Stainless Steel . . . . . .1540
Rods, Steel . . . . . .1546
Rods, Tig . . . .1543-1544
Screens . . . . . .1587
Shutoff Valves . . . .1565
Smoke Eliminators . . . . . .3522, 3524
Soapstone Elements . . . . . .1565
Soapstone Markers .1565
Soldering Guns . . . .1534
Soldering Heaters . .1533
Soldering Irons . . . .1533
Soldering Stations . . . . . .1534-1535
Soldering Tips . . . .1533
Spot . . . . . .1578
Swirljet Tips . . . . . .1552
Technical Manuals .1539
Thermometers . . . . .888
Tig Outfits . . . . . .1584
Tig Torch Bodies . .1584
Tig Torch Caps . . . .1584
Tig Torch Cup Gaskets . . . . . .1584
Tig Torches . .1568, 1583
Tip Cleaner Sets . . .1565
Torch Cable Assemblies . . . . . .1584
Torch Handles . . . . . .1557, 1584
Torch Parts . . . . . .1584
Torch Power Cable .1584
Torch Power Cable Adapters . . . . . .1584
Torch Tips . . .1553, 1557
Torches . . . .1548, 1550, . . . . . .1556, 1558-1559
Universal Wrenches . . . . . .1565
Water Coolants . . . .1579
Water Hose . . . . . .1584
Weld Controls . . . . .1570
Wire . . .1542-1544, 1568

**Well**
Cable Guards . . . . .3258
Controls . . . . .3235, 3252, 3258
Drive Caps . . . . . .3247
Drive Couplings . . .3247
Ejectors . . . . .3240-3242
House Heaters . . . .3390
Installation Packages . . . . . .3258
Liners, Spill Control Caddy . . . . . .2332
Packers . . . .3241, 3244
Pitless Adapters . . .3257
Points . . . . . .3247
Pump Starters . . . .3252
Pumps .3238-3243, 3251
Rope . . . . . .2258
Seals . . . . . .3258
Splice Kits . . . . . .3252
Torque Arrestors . . .3257

**Wet**
Location Lighting Fixtures . . . . . .1080, 1084
Mop Handles . . . . .1943
Mops, Screw Top . .1943

**Wet/Dry**
Vacuum Attachments . . . . . .1891
Vacuum Cleaners . . . . . .1484, 1882-1889
Vacuum Dust Filters . . . . . .1484
Vacuum Filter Bags . . . . . .1484
Vacuum Filters . . . .1889
Vacuum Floor Nozzle Squeegees . . . . . .1885
Vacuum Hose . . . . .1890
Vacuum Nozzles . . .1890

**Wheel**
Adapters . . . . . .1607
Arbors . . . . . .1607
Blocks . . . . . .2309
Casters, Jack . . . . .2704
Chair Ramps . . . . .2314
Chock Chain . . . . . .2309
Chock Hangers . . . .2309
Chock Warning Signs . . . . . .2309
Chocks . . . . . .2309
Dollies . . . . . .2720
Mandrels . . . . . .1607
Pullers . . . . . .1402
Risers . . . . . .2306

**Wheelbarrow**
Wheels . . . . . .2166

**Wheelbarrows** . . . . .2673

**Wheels,**
Abrasive Mounted Points . . . . . .1597-1598
Arc Welder . . . . . .1567
Ball Bearing . .2165-2166
Bear-Tex Abrasive . . . . . .1610-1611
Bench . . . . . .1596
Blower . . . . . .3635
Buffing . . . . . .1505
Canaphin . . . . . .2162
Cast Iron . . . . . .2161
Caster .2158-2160, 2163
Chop Saw . . . . . .1466
Contractor's . . . . . .2166
Cut-Off Saw . .1606-1607
Drill Grinding . . . . . .1424
Flap . . . . . .1613-1614
Forged Steel . . . . . .2162
Garden Equipment .2165
Generator . . .2735-2736
Grinding . . . . . .1589-1591, 1603
Hand . . . . . .1775
Iron . . . . . .2162
Lawn Mower . . . . . .2165
Measuring . . . . . .1391
Metal . . . . . .1466
Notcher . . . . . .1602
Phenolic . . . . . .2159, 2161, 2163
Pipe Cutter . . . . . .1342
Pneumatic . . . . . .2163
Polyolefin . . .2159, 2164
Polypropylene . . . . . .2158-2159
Polyurethane . . . . .2158, 2161, 2163
Raised Hub . .1602-1603
Replacement .2164-2166
Replacement Caster . . . . . .2161, 2163
Roller Bearing . . . . . .2165-2166
Rubber . . . . .2159, 2161, . . . . . 2163-2166
Semi-Steel . .2159, 2162
Toolroom . . . .1589-1591
Tubing Cutter .1343-1344
V-Groove . . . . . .2162
Wheelbarrow . . . . .2166

**Whips,**
Air Conditioner . . . .3451

**Whisk Brooms** . . . . .1948

**Wicks,**
Humidifier . . . . . .3509

**Wide Load Banners** . . . . . .2616

**Winch**
Blocks . . . . . .2257
Cable . . . . . .2257
Hooks . . . . . .2247
Load Huggers . . . . .2250
Mounting Plates . . .2254
Remote Control Switches . . . . . .2254
Slings . . . . . .2239, 2242
Straps . . . . . .2257

**Winches,**
Automatic Brake . . .2256
Confined Space . . .2513
Dual-Drive . . . . . .2256
Electric . . . . .2253-2255
Hand Brake . .2256-2257
Hand Ratchet . . . . .2257
Hydraulic . . . . . .2254
Load Binder . . . . . .2249
Manually Operated . . . . . .2256-2257
Multi-Purpose . . . . . .2253, 2255
Poultry . . . . . .2256
Single Speed . . . . .2256
Split Drum . . . . . .2256
Worm Gear . .2256-2257

# PRODUCT INDEX

## Wind — Wiring


**Wind**
Meters .....858
Speed Indicators ....858
Turbines .....3565
Velocity Indicators ..858

**WINDEX** .....1863

**Window**
Air Conditioners ...2079, .....3454, 3457-3459
Bolts .....2657
Brushes .....1955
Cleaning Brushes ..1954
Cleaning Buckets ..1955
Cleaning Clamps ..1954
Cleaning Kits .....1954
Fan Motors .....73
Fans .....3542, 3544
Glazing .....1796
Handles .....2663
Locks .....2663
Mount Kits, Air Conditioner .....3458
Protectors, Abrasive Blast Cabinet .....1529
Putty .....1796
Sash Locks .....2659
Scrapers .....1954
Scrubbers .....1955
Sealants .....1794
Squeegees .....1955
Supports, Air Conditioner .....3455

**Windows,**
Blast Cabinet .....1529
Enclosure .....643
Faceshield .....2379

**Wing Nuts** .....1744

**Winter**
Gloves .....2457
Liners .....2385, 2450

**Wintergard** .....3375

**Wipe**
Dispensers .....1909

**Wipes,**
Cloth .....1906
Degreaser .....1861
Disinfectant ..1861, 2443
Disposable ...1907-1911
Dust .....1912
Extra Strength ....1911
Food Service .....1912
General Industry ...1910
General Purpose ..1911
Graffiti Remover ...1861
Heavy Duty ..1908, 1911
Non-Woven .....1908
Paper .....1907-1911
Respirator .....2443
Roll .....1909
Sponge .....1957
Wettask .....1908

**Wire**
Brushes ....1630-1633, .....1728, 1951
Cable Clips .....630
Cages .....2077
Carts ..1330, 2196-2197
Connector Handles ..608
Connectors ...604, 608, .....618, 620-623
Containers .....2059
Cord Sets .....591
Crimping Tools .....621
Cutters .....1313, 1319, 1322
Decking ....2009, 2014, .....2020-2022, 2066
Disconnects .....618
Drum Bonding ....2328
Drum Grounding ...2328
Enclosures .....2077
Feeder Drive Rolls .1574
Feeder Wire Reel Assemblies .....1574
Feeders ....1574, 1582
Fencing .....2077
Gauges .....1825
Guards .....1086
Guards, Emergency Lighting .....1153
Harnesses, Raceway .....2937
Hooks, Fall Protection .....2511
Identification Printers .....634
Lockers .....2076
Management Busway Hooksticks .....408
Management Busway Plugs .....408
Management Duct ..409
Marker Books .....632
Marker Cards .....631
Marker Tape ...633, 636
Marker Tape Dispensers .....636
Markers ...632, 635-636
Marking Sleeves ....636
Mesh Grips ....671-674
Mesh Slings .....2239
Nuts .....622
Partition Transoms .2077
Partitions .....2077
Probes .....893
Pulling Grips .....1332
Reel Stands .....1330
Rope Blocks .....2256
Rope Cable .....2247
Rope Clips .....2246
Rope CRC Lube ...2782
Rope Cutters .....1319
Rope Grabs .....2510
Rope Hoists .2224, 2228
Rope Hooks .....2247
Rope Pulley Blocks .2257
Rope Pulleys ....2256
Rope Sheaves ....2256
Rope Sleeve-N-Thimble .....2247
Rope Slings .2239, 2251
Rope Swagers ....2247
Rope Winch Assemblies .....2257
Sets, Thread Measuring .....1823
Shelving ....1870, 2009, .....2032-2035, 2196
Size Drills .....1652
Sorters .....806
Spool Racks .....674
Stand Spindles ....1330
Staples .....1393, 2271
Storage .....2035
Strippers .....1313, 1321-1322
Tackers .....1393
Terminals .....616-617
THHN .....593
Ties .....628
Tracers ...802-803, 811
Trucks .....2197
Welders .....1573

**Wire,**
Building .....593, 600
Carbon Steel .....1542
Electrical .....592-593, 599-600
Electronic ..597-599, 602
Floortrak .....644
Flux Core .....1568
High Carbon .....1713
Hook-Up .....600
Length Meters .....806
Mig .....1542
Piano .....1713
Romex .....593
Spring Steel .....1713
Steel .....1542
Telephone .....734
Testing/Tracing ....811
Thermocouple .893, 3374
THHN .....593
Welding .....1542-1544, 1568

**Wireless**
Intercoms .....907-908

**Wireways,**
Square Duct .....409

**Wiring**
Adapters .....590
Boxes .....675-677, .....679-680, .....682-683, 699
Combination Switches .....728
Conduit .....665
Connectors .....621-622, 2818
Cord Switches .....730
Cover Plates .....675, 677-679, .....683-685, 708
Crimping Tools .....621
Devices ...644-645, 686, .....690, 694, 702, ....705, 718-722, 727
Dimmer Switches .....733, 1047
Duct .....736
Duct Covers .....736
Electrical Tape .....624
Fixture Switches ....934
Harnesses .....3342
Insulated Terminals .621
Kits .....3451
Locking Devices .....710-714, 718, 721
Pin And Sleeve Devices .....720, 722-723, 727
Receptacles ...686-688, .....690-691, .....700, 706-707, ....710-711, 721, 730
Solderless Terminals .....620-621

Square Duct .....409
Straight Blade Devices .....704, 706-707, ..... 709, 728
Surface Raceways ..646
Switch Plates .....691, 700-701, 732
Switches ....698, 715, 728, 731
Trailer Hitch .....2708
Valise Devices .....704
Wall Switches ..698-699, .....702, 728, 730-731
Wire Marker Tape ...633
Workbench .....2089

**Wood**
Adhesive Guns .....1790, 1795
Adhesives ...1790-1791, .....1793, 1795
Chisels .....1367
Clamps .....1381
Files .....1371
Fillers .....1796
Moisture Indicators ..786
Planers .....1509
Planes .....1367
Platform Ladders ..2179
Rules .....1390
Screws .....1751-1752

**Woodruff Key**
Assortments .....1759

**Woodruff Keys**
.....1763-1764

**Work**
Belts .....1395
Centers .....2192-2193
Centers, Computer .2097
Gloves .....2445-2449, ..... 2451-2460, ..... 2468-2471
Hats .....2484
Lights .....1160, 1164
Mittens .....2470
Platform Emergency Stop Buttons .....2317
Platforms ...2185-2186, .....2220, 2317
Stands .....2083
Stands, Portable ...2220
Suspenders .....1395
Table Cabinets ....2081
Table Drawers ....2111
Tables .2083, 2111, 2220

**Workbench**
Back And End Stops .....2089, 2090
Carousels .....2216
Doors .....2081
Drawers .....2081, 2083, 2089
Electrical Panel Kits .....2089
Legs .....2086, 2089
Pedestals .....2090
Retrofit Kits .....2087
Risers .2085, 2089-2090
Shelves .....2085, 2089
Storage Racks ....2046
Tops .....2086, 2091
Turntables .....2216
Uprights .....2093
Wiring Kits .....2089

**Workbenches,**
Adjustable ...2083-2084
Commercial .....2083
Electronic .....2089, 2092, 2095
Ergonomic .....2093
Flared Leg .....2084
Industrial .....2084
Mobile .....2195
Modular ....2088-2089, ..... 2092-2093
Packaging .....2267
Repair .....2092
Technical .....2092

**Worker**
Platform Steps ....2220
Platforms .....2220

**Worklights,**
Saw .....1513

**Workstation**
Arms .....2094
Braces .....2094
Dollies .....2331
Platforms .....2220
Steps .....2220

**Workstations,**
Computer .....2096
Electronic .....2047, 2089, 2095
Ergonomic .....2093
Miter Saw .....1464
Modular .....2094
Two Drum .....2331

**Wrap**
Machines, Shrink ..2298
Strips, Firestop ....1790

**Wrap,**
Identifying .....2297
Pallet .....2296-2297
Shrink .....2298
Tool .....1715

**Wraparound**
Lighting Fixtures .....1062, 1067-1068

**Wrench**
Repair Kits .....1288
Sets .....1245-1247, ..... 1285, 1291
Socket Sets .....1274
Sockets .....1231

**Wrenches,**
Adjustable .....1304, ..... 1310-1311, 1400
Adjustable Hook .....1251, 1400
Air Conditioning ...1250
Air Impact ...2965-2970
Air Ratchet ...2963-2964
Allen .....1302-1303
Basin .....1333
Box ...1249-1250, 1287
Box End ....1287, 1400
Bung .....1400, 2326
Calibration ..3294, 3299
Chain .....1251, 1333
Combination .....1244, 1247-1249, ..... 1286, 1400
Crescent ....1304, 1400
Crowfoot ....1224, 1233
Dial Torque .....1289
Double End .....1247
Drum Plug ...1400, 2326
End .....1400
Extra Thin ...1247, 1250
Faucet Seat .....1342
Flare Nut ....1247, 1287
Flex Head .....1249
Fractional Angle ...1250
Full Polish .....1244
Half Moon .....1250
Hex .....1303
Hydrant .....3038
Impact .....1422-1423
Internal Pipe .....1346
Locking .....1310-1311
Metric .....1233, 1248
Monkey .....1333
Obstruction .....1250
Offset ..1248-1249, 1251
Offset Pipe .....1333
Oil Filter .....2751
Open End .....1250, 1287, 1400
Pipe ..1333, 1346, 1400
Plunger .....1772
Power .....1422-1423
Pushbutton ....502, 515
Ratchet .....1230-1231, ..... 1234, 1278, 1288
Ratcheting ..1247, 1250
Short Box .....1249
Short Offset .....1249
Socket .....1221-1228
Spanner .....1251, 1400, 3038
Standard .....1233
Stillson .....1400
Strap .....1333
Striking .....1251
Structural .....1251
Swivel Head .....1249
T-Handle .....1679
Tap .....1679
Torque .....1288-1289
Universal .....1565

**Wringers,**
Mop .....1944-1945

**Wrist**
Rests .....2501
Strap Testers .....824
Straps, Antistatic ....824
Straps, ESD .....2093
Supports .....2496, 2499-2500


## Y


**Yardsticks,**
Aluminum .....1383


## Z


**Zerk Fittings** .....2746
**Zero Oxygen Solutions** .....832
**Zippers,**
Peel And Stick .....2261
**Zone Valves** .....3353
**Zoneline** .....3453
**Zoom Spout Oilers** .2747

# Grainger Limited Warranty

**LIMITED WARRANTY.** All products sold are warranted by W. W. Grainger, Inc. (Grainger), only to purchasers for resale or for use in business or original equipment manufacture, against defects in workmanship or materials under normal use for one year after date of purchase from Grainger, unless otherwise stated in product listing in this catalog. Any part which is determined by Grainger to be defective in material or workmanship and returned to a Grainger branch or authorized service location, as Grainger designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced, at Grainger's option.

**WARRANTY DISCLAIMER.** Grainger has made a diligent effort to illustrate and describe the products in this catalog accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are MERCHANTABLE, or FIT FOR A PARTICULAR PURPOSE, or that the products will necessarily conform to the illustrations or descriptions. No warranty or affirmation of fact, express or implied, other than as set forth in the limited warranty statement above is made or authorized by Grainger. Grainger reserves the right to correct publishing errors.

**LIMITATION OF LIABILITY.** Any liability for consequential and incidental damages is expressly disclaimed. Grainger's liability in all events is limited to, and shall not exceed, the purchase price paid.

**PROMPT DISPOSITION.** Grainger will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within warranty period. Before returning any product, write or call the Grainger branch from which the product was purchased, giving date and number of original invoice, and describing nature of defect. Title and risk of loss pass to buyer on delivery to the common carrier. If the product was damaged in transit, recipient must file claim with the carrier.

**PRODUCT SUITABILITY.** Many states and localities have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Grainger attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, please review the product application, and national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

**NO WARRANTIES TO CONSUMERS.** Grainger makes no warranties to those defined as consumers in the Magnuson-Moss Warranty-Federal Trade Commission Improvement Act.

## Manufacturers' Warranties & Sales Literature

Most of the products listed in this catalog are warranted to the final consumer by their manufacturer; copies of such warranties are supplied with the product or are available from the manufacturer. As a service, Grainger will obtain copies of consumer warranties from the warrantor and will furnish them free of charge to customers who request them. Address requests to: Grainger, Dept. K434, 333 Knightsbridge Parkway, Lincolnshire, IL 60069-3690 U.S.A. Requests must include the Grainger stock number and the manufacturer's model number (if shown) of each product for which a copy of the warranty is requested. Grainger may also furnish sales brochures and other literature of the manufacturer. Grainger assumes no responsibility for the content of such warranties or sales literature by performing this service.

## Cross-Reference Information

Product cross-reference comparisons do not imply that all products compared are available, or in the case of functional equivalency, that performance and other characteristics are perfectly comparable. For critical applications, review specifications prior to purchase.

## OSHA Hazardous Substance & California Proposition 65 Product Information

Material Safety Data Sheets (MSDS) for OSHA defined hazardous substances and a list of products known to the state of California to cause cancer or reproductive harm are available at your local Grainger branch or by contacting Grainger, Dept. KW467, 455 Knightsbridge Parkway, Lincolnshire, IL 60069-3620 U.S.A.

The information and recommendations contained on the MSDS supplied by the manufacturer is considered to be accurate and reliable. Grainger, however, makes no warranty with respect to the accuracy or reliability of the information or the suitability of the recommendations. Grainger disclaims any and all liability to any user thereof.

# Sales and Freight Terms

## Sales Policy

**WHOLESALE ONLY.** Identification required from all purchasers. Possession of this wholesale catalog does not constitute the right to purchase from Grainger.

**PRICES HEREIN** are net wholesale prices effective February 1, 1999 and are subject to change without notice. Market sensitive commodity items will be priced according to current market conditions.

**QUOTATIONS** on large quantities are available on request. Contact your Grainger sales representative or Grainger branch.

**FORCE MAJEURE.** Grainger shall not be liable for any delay in or impairment of performance resulting in whole or in part from Acts of God, labor disruptions, shortages, inability to procure product, supplies or raw materials, severe weather conditions, or any other circumstances or cause beyond the control of Grainger in the conduct of it's business.

**CANCELLATION.** Any cancellation must be approved by Grainger, and may be subject to restocking and other charges.

**SALES TAX.** Grainger is required to charge state and local tax on items for which sales tax exemption certification has not been provided. When ordering please indicate clearly which items are tax exempt.

**PAYMENT TERMS.** For purchasers with established credit, terms are net 30 days from date of shipment. At Grainger's option, export orders may be subject to special export payment terms and quotations. If credit is not established, please include payment with order or purchase through Visa, MasterCard or American Express. Cash or anticipation discounts are not allowed. All payments must be in U.S. dollars.

## Freight Policy

**SHIPPING CHARGES ARE PREPAID ON A SINGLE SHIPMENT OF** $900 or more, before tax and freight, unless otherwise stated, to customer's place of business anywhere in the contiguous United States, using carrier of our choice. Other terms apply to Alaska, Hawaii, Puerto Rico, and export orders. Contact your local branch for further information.

Any extra charges incurred for additional services, such as customer's carrier or special handling by the carrier, must be paid by the consignee.

Items backordered from an order qualifying for prepaid shipping charges will be shipped prepaid.

Title and risk of loss pass to the customer upon tender of shipment to the carrier. If product is damaged in transit, consignee must file claim with the carrier.

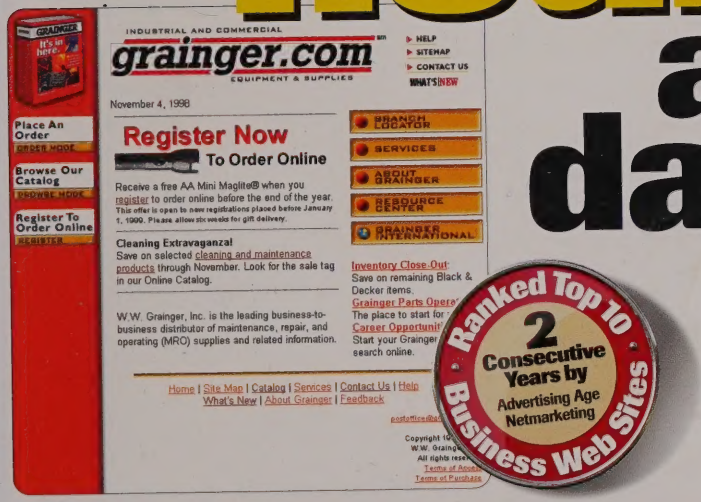
# Order online on *your* time – anytime –

# 24 hours a day.



"I've started to order all my Grainger stuff from their Web site. The time and paperwork I've saved has been great. Best of all, I don't have to repeat any information, including how to spell my last name."

*– Kim Leleniewski*
*MRO Buyer*




***grainger.com works around your schedule, around the clock.***

It's the quickest, easiest way to look up information on more than 200,000 products, check availability at your branch, access your contract or volume price and place your order. If you're into saving time, click onto **grainger.com** today and every day.



# GRAINGER®

Industrial Supply

Access to

# 560,000+

brand name products.

plus

# Same day

pick-up, delivery, or shipping for in-stock items.






**Cool racing stuff**

*See pages A13-A16*

Printed in USA